

CYNTHIA L. CHANDLER

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Information systems professional with over thirty-five years of experience integrating information systems technology with oceanographic research

EDUCATION:

Adobe Acrobat 9 Professional Training Class ... September 2010, WHOI
 Geospatial Metadata Training Course, NOAA NCDDC ... 8-9 March 2010, Woods Hole
 drupal CMS Core Expertise ... May 2008, WHOI
 SQL with MySQL ... November 2007, WHOI
 drupal Boot Camp ... October 2007, Cambridge, MA
 Plone: Basics, Organization and Design ... September 2006, WHOI
 Cyber-infrastructure Summer Institute for Geoscientists ... August 2006, UCSD, CA
 Introduction to Photoshop ... June 2006, WHOI
 Cascading Style Sheets and DreamWeaver Templates ... March 2005, WHOI
 Cascading Style Sheets ... December 2004, WHOI
 Advanced XML and XSLT ... October 2004, WHOI
 Introduction to XML ... June 2004, WHOI
 MATLAB ... Spring 2002, WHOI
 JAVA Programming ... December 2001, WHOI
 Introduction to DreamWeaver ... November 2001, WHOI
 Presenting Data and Information ... April 2001, Edward Tufte, Yale University
 Perl Programming ... Spring 1998, WHOI
 UNIX Shell Programming ... Spring 1994, University of Massachusetts Lowell
 Variety of Computer Science courses ... 1982 - 1993
 Marine Ecology ... June - August 1975, Harvard University/Marine Biological Laboratory
 B.A., Zoology, SUNY at Geneseo, NY ... May 1975

PROFESSIONAL SKILLS:

experienced user of information technology systems; relational database design and management;
 UNIX / linux / Windows System Administration
 Programming/Coding: perl, UNIX shell (variety), MATLAB, HTML, XML/XSLT, C, JAVA
 Applications: DreamWeaver, Fireworks, Live Access Server, ferret, GMT, Acrobat, Photoshop,
 MATLAB, Microsoft Office, OpenOffice, EndNote, Web Services, MySQL, drupal, various text editors
 Teaching: course modules for management of oceanographic data

PROFESSIONAL EXPERIENCE:

June 2014-present. Information Systems Specialist, Marine Chemistry and Geochemistry

(MC&G), co-manager of Biological and Chemical Oceanography Data Management Office (BCO DMO), providing comprehensive data management support for select U.S. NSF OCE, PLR ANT and ARC funded projects; database design and management; data processing and quality control; collaboration with data curators from US and International ocean research projects; integration of Semantic Web technologies (e.g. controlled vocabularies, ontologies, Linked Open Data).

March 2007-June 2014. Information Systems Associate III, Marine Chemistry and Geochemistry (MC&G), co-manager of Biological and Chemical Oceanography Data Management Office (BCO DMO), providing comprehensive data management support for select U.S. NSF OCE and OPP funded projects; database design and management; management of Microsoft Windows, RedHat linux systems; data processing and quality control; Web site design and maintenance; collaboration with data managers from US and International ocean research projects and open source software development teams; and continued support for US JGOFS and OCB data systems.

May 2005. Information Systems Associate II, Marine Chemistry and Geochemistry (MC&G), responsible for supporting information systems needs of Ocean Carbon and Biogeochemistry Coordination and Data Management Office (OCB CDMO), including: database design and management, management of Microsoft Windows, IRIX UNIX and RedHat linux systems, data processing and quality control, Web site design and maintenance and collaboration with data managers from other ocean science projects and open source software development teams (<http://ocb.whoi.edu>).

September 2000. Information Systems Associate II, Marine Chemistry and Geochemistry (MC&G), responsible for supporting information processing needs of U.S. Joint Global Ocean Flux Study (JGOFS), including: database design and management, management of Microsoft Windows platforms and SGI IRIX and Sun Solaris UNIX and RedHat linux systems, data processing and quality control, Web site design and maintenance and collaboration with U.S. GLOBEC data management staff and software development teams based at PMEL in Seattle, WA and University of Rhode Island (<http://usjgofs.whoi.edu>).

October 1994. Information Systems Associate I, Marine Chemistry and Geochemistry (MC&G), responsible for supporting information processing needs of Dr. Jean Whelan's Petroleum Organic Geochemistry Group (POGG) including: database design and management, management of MacOS, Windows NT and Solaris UNIX systems, processing of organic geochemistry data, Web site design and maintenance (<http://dynatog.whoi.edu/>).

June 1993. Information Systems Associate I, Computer and Information Services (CIS). Member of Desktop and Workstation Services Team responsible for providing WHOI with technical assistance in selecting, using and maintaining UNIX workstations and related hardware and software.

March 1991. Information Systems Associate I, Information Systems Center (ISC). VAX/VMS Software Manager responsible for installation and support of operating system and layered software.

June 1987. Programmer II, Information Processing and Communications Laboratory (IPCL), Department of Applied Ocean Physics and Engineering. Assistant System Manager of VAX/VMS

computer systems responsible for installation and support of operating system and layered software, development and maintenance of system software, system tuning and performance issues, security and consulting.

March 1986. Senior Research Assistant, Department of Physical Oceanography, Woods Hole Oceanographic Institution. Principal areas of responsibility: 1) DEC microVAX system manager, 2) software specialist and data analyst for the C-SALT (Caribbean Sheets And Layers Transects) and FASINEX (Frontal Air-Sea Interaction Experiment) oceanographic field research programs and 3) consultant to the WHOI CTD Group

January 1985. Senior Research Assistant, CTD Group, Department of Physical Oceanography, Woods Hole Oceanographic Institution: position involved similar areas of responsibility as previous RA III position, but with less supervision.

January 1981. Research Assistant III, CTD Group, Department of Physical Oceanography, Woods Hole Oceanographic Institution: position involved five main areas of responsibility: 1) software specialist - responsible for maintenance and some development of both shore-based and sea-going software systems associated with CTD data acquisition, processing and archiving, 2) system manager: Hewlett-Packard 1000 and 2000 series computer systems running Real Time Executive operating system, 3) principal data analyst responsible for overseeing quality of CTD data and accuracy of calibration efforts, 4) supervisor of shipboard operations responsible for training and supervision of CTD watch standers and 5) liaison between CTD Group and scientists

June 1979. Research Assistant, Data Processing II, CTD Group, Physical Oceanography, Woods Hole Oceanographic Institution: involved in acquisition and processing of Neil Brown Instrument Systems Conductivity Temperature Depth (NBIS-CTD) data ashore and at sea

September 1975-June 1979. Various positions as Biology Research Assistant at University of Massachusetts Lanesville Research Station, Gloucester, MA, Marine Biological Laboratory and Woods Hole Oceanographic Institution, Woods Hole, MA.

AWARDS:

Recipient of WHOI's 2008 Linda Morse-Porteous award for outstanding technical staff service and dedication to discovery and excellence

HONORS: 2016 Leptoukh Lecturer at Fall AGU Meeting, December, San Francisco, CA

PROFESSIONAL AFFILIATIONS:

Member, American Society of Information Science and Technology (ASIS&T), 2003-2010

Member, The Oceanographic Society (TOS), 2010 - present

Member, Association for the Sciences of Limnology and Oceanography (ASLO), 2010 - present

Member, AGU 2005- present

Member, ACM 2007- 2012

Voting member, Earth Science Information Partners, representing BCO-DMO, December 2012 – present

RESEARCH INTERESTS:

ocean informatics, database design, data management, online data systems, development of marine ontologies, marine metadata standards, use of information technology especially Semantic Web Technologies to facilitate the process by which information becomes knowledge

PROFESSIONAL ACTIVITIES:**Ongoing and Multi-year**

Member, AGU Earth Space Science Informatics Focus Group Exec. Committee, Nov 2008 – 2013

Invited Member, European COST (European Cooperation in Science and Technology) Action ES0801 Working Group 3 - Data Management, April 2009 - 2013

Member, Belmont Forum E-Infrastructures and Data Management Collaborative Research Action, Work Package 3, Harmonization of global data infrastructure for sharing environmental data, 2013-2015

Appointed Member, Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) Data Management Committee, December 2009 - present

Invited member, US Ocean Acidification Data Management Steering Committee, 2011 - present

Invited member, Ocean Acidification International Coordination Centre Data Management Technical Group, 2013 – present

WHOI and BCO-DMO representative, and invited member, Semantics and Ontologies Community Group, NSF Earth Cube Initiative, 2011 – present

Member, EarthCube Semantics Network (ESN), of the NSF EarthCube Research Coordination Network, May 2012 – present

Voting member, Earth Science Information Partners, representing BCO-DMO, December 2012 – present

Invited member, World Data System (WDS)/Research Data Alliance (RDA) Data Publication Working Group (WG) and on the WG's Bibliometrics sub-group

Co-chair, Research Data Alliance (RDA) Marine Data Harmonization Interest Group

Member, Woods Hole Ocean Informatics Advisory Committee, May 2013 - present

Co-chair elect, UNESCO IOC International Oceanographic Data and Information Exchange (IODE), 2015-2017

PROFESSIONAL ACTIVITIES by YEAR:**2016 (through 31 August 2016)**

Reviewer. Reviewed two book chapters to be published September 2016 by IGI Global in "Oceanographic and Marine Cross-Domain Data Management for Sustainable Development" (1) "Semantic Search Engine for Data Management and Sustainable Development: Marine Planning Service Platform", and (2) "Repositioning Data Management Near Data Acquisition" (<http://www.igi-global.com/book/oceanographic-marine-cross-domain-data/148510>)

Participant. **Earth Science Information Partners (ESIP) 2016 Winter Meeting.** 6-8 January 2016. Washington, DC. Participated in GeoLink project meeting, several break out groups and a meeting of the Council for Data Facilities.

Participant, IODE co-chair. **IODE Officers Meeting.** 20-22 January. Oostende, Belgium. Planned and moderated the meeting; prepared the final report.

Session convener, presenter and participant. **2016 Ocean Sciences Meeting.** February 2016. New Orleans, LA. (<http://osm.agu.org/2016/>) Session co-covener, co-chair, moderator: OD23A: Science at Sea: Marine Data Stewardship from Proposal to Preservation (Oral; <https://agu.confex.com/agu/os16/meetingapp.cgi/Session/11445> and OD24B Posters <https://agu.confex.com/agu/os16/meetingapp.cgi/Session/9307>). Hosted meetings with national and international committee representatives (ESIP, EarthCube, LTER, JCOMM, WMO, IQuOD, etc.) and participated in an emergency meeting to address the future plans for CDIAC.

Prepared and contributed slide deck. **C-DEBI Project Site Visit.** UC Santa Cruz, CA. February 2016. Prepared slides with Shannon Rauch (BCO-DMO Data Manager) for the C-DEBI PIs to share during the project site visit. Slides explained the way BCO-DMO manages data for C-DEBI project PIs "BCO-DMO and C-DEBI ~ Providing Improved Access to Geoscience Research".

Presenter and participant. **EGU General Assembly 2016.** 18-22 April 2016. Vienna, Austria. Presented a talk and 2 posters; participated in several splinter meetings for project updates and planning.

Presenter and participant. **R2R Annual National Data Center Meeting.** NCEI Boulder, CO. 28-29 April 2016. Represented BCO-DMO as an exemplar downstream data center and consumer of R2R cruise metadata, raw and processed data products, R2R-WHOI CTD QA and ELOG Event Logger System, and WHOI as a vessel operator.

Presenter and participant. **Ocean Data Interoperability Platform II, Workshop 1.** NCAR, Boulder, CO. 2-5 May 2016. Gave several project update presentations; hosted several side meetings related to Linked Data, vocabulary development, event logger system, and data publication and citation.

Presenter, panel moderator, participant. **2016 NSF EarthCube All Hands Meeting,** Denver, CO. 4-9 July 2016. Represented BCO-DMO (charter member of the EarthCube Council for Data Facilities)

and the EarthCube funded GeoLink project. Moderated a panel in final day plenary, "Sustainability of EarthCube Infrastructure".

Invited presenter and participant. **DATA CITATION WORKSHOP: DEVELOPING POLICY AND PRACTICE** sponsored by the U.S. National Committee (USNC) Committee on Data for Science and Technology (CODATA) CODATA/ICSTI Task Group on Data Citation. Represented Research Data Alliance (RDA) work on Data Citation, via report on progress to date by BCO-DMO on our recent work funded by the MacArthur Foundation via RDA-US. (<http://www.codata.org/task-groups/data-citation-standards-and-practices/international-series-of-data-citation-workshops/usa-data-citation-workshop-2016>) This was an opportunity to talk with national leaders for this work and influence the direction of the NSF response to the PARR directive.

Presenter, participant. **Earth Science Information Partners (ESIP) 2016 Summer Meeting**, Durham, NC. 19-22 July 2016. First viewing of the new BCO-DMO Data Collection movie "It's not the Size of the Data, It's the Impact of the Science". I commissioned this work done by Katherine Joyce and Jack Cook and coordinated contributions from others at BCO-DMO. During the ESIP meeting week I participated in GeoLink project meeting, several break out groups for sustainable data management facilities, semantics, data stewardship, and a meeting of the Council for Data Facilities.

2015

Reviewer. L.-Q. Jiang¹, S. A. O'Connor², K. M. Arzayus³, and A. R. Parsons. 2015. "A metadata template for ocean acidification data". *Earth Syst. Sci. Data*, 7, 117-125, 2015. doi:10.5194/essd-7-117-2015
<http://www.earth-syst-scidata.net/7/117/2015/>

Invited participant. **RENCI Data Citation and Attribution Workshop** (Washington, DC; 29-30 Jan 2015; <https://softwaredatacitation.org/>) Theme: Supporting Scientific Discovery through Norms and Practices for Software and Data Citation and Attribution; workshop outcomes will inform the Science of Science and Innovation Policy (SciSIP) and Software Infrastructure for Sustained Innovation (SI2) NSF programs

Participant. **Research Data Alliance Fifth Plenary Meeting** (San Diego, CA; 8-11 March 2015; <https://www.rd-alliance.org/plenary-meetings/rda-fifth-plenary-meeting.html>); participated in the World Data System (WDS)/Research Data Alliance (RDA) Data Publication Interest Group (IG) and the IG's Bibliometrics Working Group; discussions with other data managers regarding promotion of ORCIDs and increasing concern over 'data junkyards', e.g. Dryad, Figshare and other repositories that provide DOIs for any submitted object (no minimum metadata requirements)

Invited keynote plenary talk: **Chandler, C** (2015) "Data Management for 21st Century Ocean Research". Invited keynote plenary talk, Scientific Conference Celebrating the Occasion of the 10th Anniversary of the Opening of the IOC Project Office for IODE in Oostende, Belgium; Provincial Court, Bruges, Belgium; 16 March 2015.

Plenary talk: **Chandler, C** (2015) "Better Science through Better Data". Plenary talk in support of my candidacy for co-chair, IODE XXIII: 23rd Session of the IODE Committee of the UNESCO IOC; Provincial Court, Bruges, Belgium; 17-20 March 2015.

Member of the US Delegation, presenter. IODE XXIII: 23rd Session of the IODE Committee of the UNESCO IOC (Provincial Court, Bruges, Belgium; 17-20 March 2015) and *Invited Keynote Plenary speaker* at the Scientific Conference Celebrating the Occasion of the 10th Anniversary of the Opening of the IOC Project Office for IODE in Oostende, Belgium (Provincial Court, Bruges, Belgium; 16 March 2015); gave two talks, formed and accepted co-chair position for the IODE IIOE-2 (IIIOE-2) Data Management Working Group and was elected to a two year term as co-chair of IODE for the next session (2015-2017)

PICO talk. **Chandler, Cynthia**; Robert Groman, Molly Allison, Nancy Copley, Stephen Gegg, Danie Kinkade, Shannon Rauch, David Glover, and Peter Wiebe (2015) "Indian Ocean Research Data: Past, Present and Future". Abstract EGU2015-2435. PICO presentation in Session BG3.2 "Understanding the Indian Ocean System: Past, Present and Future" at EGU General Assembly 2015; Vienna, Austria; 17 April 2015; <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-2435-1.pdf>

PICO talk. Arko, R; Suzanne Carbotte, Cynthia **Chandler**, Shawn Smith, and Karen Stocks (2015) "Rolling Deck to Repository (R2R): Standards and Semantics for Open Access to Research Data". Abstract EGU2015-7943. PICO presentation in Session ESSI2.11/SSS11.8 "Metadata, Data Models, and Semantics" at EGU General Assembly 2015; Vienna, Austria; 14 April 2015; <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-7943-2.pdf>

PICO talk. Shepherd, A; Robert Arko, Adila Krisnadhi, Pascal Hitzler, Krzysztof Janowicz, Cynthia **Chandler**, Tom Narock, Michelle Cheatham, Mark Schildhauer, Matt Jones, Lisa Raymond, Audrey Mickle, Tim Finin, Doug Fils, Suzanne Carbotte, and Kerstin Lehnert (2015) "Ontology Design Patterns: Bridging the Gap Between Local Semantic Use Cases and Large-Scale, Long-Term Data Integration". Abstract EGU2015-8413. PICO presentation in Session ESSI2.11/SSS11.8 "Metadata, Data Models, and Semantics" at EGU General Assembly 2015; Vienna, Austria; 14 April 2015; <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-8413-2.pdf>

Member of the US Delegation, presenter. IODE XXIII: 23rd Session of the IODE Committee of the UNESCO IOC (Provincial Court, Bruges, Belgium; 17-20 March 2015) and *Invited Keynote Plenary speaker* at the Scientific Conference Celebrating the Occasion of the 10th Anniversary of the Opening of the IOC Project Office for IODE in Oostende, Belgium (Provincial Court, Bruges, Belgium; 16 March 2015); gave two talks, formed and accepted co-chair position for the IODE IIOE-2 (IIIOE-2) Data Management Working Group and was elected to a two year term as co-chair of IODE for the next session (2015-2017)

Session convener, presenter, participant. **ODIP Fourth Workshop** (Liverpool, UK; April 2015; <http://odip.org/>) Represented ODIP-USA; Session convener and presenter: Data Publication and Citation; Controlled Vocabularies; Event logger sampling activity vocabulary terms and definitions

Session talk. **Chandler**, Cynthia L. (2015) "Data Publication: Update USA". Data Publication & Citation Session, ODIP IV Workshop. 23 April 2015, Liverpool, England.

Invited presentation at BODC. **Chandler**, Cynthia L. (2015) "Data Management for 21st Century Ocean research". Invited talk, BODC/NERC Special Seminar. 24 April 2015, BODC, Liverpool, England.

Invited participant. RDA-US Leadership Meeting (Troy, NY; 19-21 May 2015; <https://rd-alliance.org/>)

Presenter and participant. **R2R National Data Facilities Meeting** (Silver Spring, MD; May 2015; <http://rvdata.us/meetings/>)

Presenter. **Chandler**, Cynthia, et al. (2015) "Biological and Chemical Oceanography Data Management Office". Invited talk. EarthCube All-Hands Meeting; Arlington, VA; 26-29 May 2015.

Presenter. **Chandler**, Cynthia, et al. (2015) "BCO-DMO & GeoLink: IMPROVING DATA DISCOVERY AND ACCESS FOR OCEAN SCIENCE RESEARCH RESULTS". Poster. EarthCube All-Hands Meeting; Arlington, VA; 26-29 May 2015.

Talk. **Chandler**, Cynthia. (2015) "R2R QA for CTD Profile Data: Annual Status Update Report. R2R National Data Centers Meeting. NCEI-Silver Spring; Silver Spring, MD; 3 June 2015.

Invited participant and presenter. **Chandler**, Cynthia and Yutaka Michida. (2015) "Report on IODE Intercessional Activities". IOC 68, 17-25 June 2015, UNESCO Headquarters, Paris, France.

Participant. ESIP summer meeting (Asilomar Conference Center, Monterey, CA; 10-18 July 2015; <http://commons.esipfed.org/2015SummerMeeting>)

Participant, tutorial presentation, and booth. 2015 OCB Summer Workshop (WHOI, Woods Hole, MA; 20-23 July 2015; <http://www.whoi.edu/workshops/ocbworkshop2015/>)

Participant, workshop coordinator. 2015 LTER All Scientists Meeting "From Long-Term Data to Understanding: Toward a Predictive Ecology". (Estes Park, CO; 28 Aug-3 Sep 2015; <http://asm2015.lternet.edu/content/2015-lter-all-scientists-meeting>) Coordinated the marine site interoperability workshop between BCO-DMO and 6 LTER Marine Site Information Managers.

Participant, IG co-chair, joint session co-convener: **Research Data Alliance Sixth Plenary Meeting** (Paris, France; 22-25 September 2015; (<https://www.rd-alliance.org/rda-sixth-plenary-meeting.html>)); co-chair of the Marine Data Harmonization IG; co-convended several joint working sessions with selected working groups; participated in the World Data System (WDS)/Research Data Alliance (RDA) Data Publication Interest Group (IG) and the IG's Bibliometrics Working Group

Participant and presenter. **Ocean Data Interoperability Platform, Workshop 5** (Paris, France; 28 Sep-1 Oct 2015)

*Invited participant, member IMBER Data Management Committee. **Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) IMBIZO IV**; Abdus Salam International Centre for Theoretical Physics (ICTP) and Istituto Nazionale di Oceanografia e Geofisica Sperimentale (OGS), Trieste, Italy; 26-30 October 2015.*
(<http://www.imber.info/index.php/Meetings/IMBIZO/IMBIZO-IV>)

*Invited presenter and participant. **GEO XII: DATA SHARING PRINCIPLES, REQUIREMENTS AND IMPLEMENTATION IN LMICs**. As co-chair of the UNESCO/Intergovernmental Oceanographic Commission, International Oceanographic Data & Exchange (IODE) Committee I represented IODE at this event and presented a talk in the data sharing principles workshop. **GEO XII Meeting**. Mexico City, Mexico. 9-10 November 2015 (travel funded by IODE).*

*Invited presenter and participant. **Collaborative Strategies for Sustained Environmental Data Management**; ASU, Tempe, AZ; 17-19 November 2015. Workshop with representation from LTER, NSF and NSF-funded researchers.*

*Invited participant. **CyberInfrastructure for NSF Large Facilities**. I was invited by NSF GEO and ACI program managers to represent BCO-DMO at this workshop with representation from NSF ACI and GEO program managers and NSF-funded infrastructure facilities. (NSF, Arlington, VA, December 2015)*

*Invited presenter, panel participant and session convener. **2015 Fall AGU Meeting**. December 2015; San Francisco, CA (<http://fallmeeting.agu.org/2015/>) Two invited talks, presented a talk for another speaker (Fontaine, Kathy. "The Research Data Alliance" in session: "An Interoperability Challenge for the Geosciences" (<http://abstractsearch.agu.org/meetings/2015/FM/PA51D-07.html>), convened a session (oral and posters) "IN13D: Collaborations and Partnerships in Informatics: Exemplars of Creating and Sustaining a Framework for Integrating and Accessing Environmental Data on a National and Global Scale", with Helen M Glaves (British Geological Survey), Timothy Owen (NOAA), Jonathan Hodge (Commonwealth Scientific and Industrial Research Organisation (CSIRO) (<https://agu.confex.com/agu/fm15/meetingapp.cgi/Session/10583>); and participated in a panel for the AGU Data Fair sponsored by AGU Publications and ESSI, panelists: Cyndy Chandler (BCO-DMO, WHOI), Peter Fox (DCO, TWC-RPI), Ted Habermann (HDF Group) Jeff de La Beaujardiere (NOAA) and Michelle Chang (USGS).*

2014

Participant: Ontology Summit 2014: Big Data and Semantic Web Meet Applied Ontology. Virtual Conference, Thursday afternoons at 12:30 EDT, 16 January - 24 April 2014.
<http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2014>.

Project PI, meeting coordinator: NSF EarthCube Data Facilities (15-17 January 2014; Washington, DC; URL) Project PI and planning committee member.

Session convener, presenter, participant. 2014 Joint Ocean Sciences Meeting (23-28 February 2014; Honolulu, HI; <http://www.sgmeet.com/osm2014>); Session Title: Big Data for a Big Ocean: Progress in Data Availability and Interoperability; co-conveners: Cynthia Chandler (WHOI), Edward Kearns (NOAA), Kenneth Casey (NOAA), Benjamin Hamlington (UC Boulder), Andrew Bingham (NASA, JPL, PO-DACC), Robert Leben (UC Boulder)

Participant. Research Data Alliance Third Plenary: The Data Sharing Community: Playing YOUR part (26-28 March 2014; Dublin, Ireland; <https://www.rda-alliance.org/plenary3/programme.html>)

RDA member and co-chair of Marine Data Harmonization Interest Group
member WDS/RDA Publishing Data Interest Group
and Data Publication Bibliometrics Working Group

Participant, presenter. OA ICC Technical meeting on Management of Biological Data Related to Ocean Acidification: International Cooperation and Development of Standards (23-24 April 2014; IAEA Environment Laboratories, Monaco Cedex, Monaco; http://ioc-unesco.org/index.php?option=com_oe&task=viewEventRecord&eventID=1493)

Presenter, participant. R2R National Data Center Annual Meeting (14-16 May 2014; NGDC, Boulder, CO; URL: <http://rvdata.us>)

Presented updates on WHOI-R2R work: shipboard event logger and CTD data QA

Discussion lead, participant. OCB Scoping Workshop: Improving predictive biogeochemical models through single cell-based analyses of marine plankton physiological plasticity, genetic diversity and evolutionary processes (28-30 May 2014; Bigelow Laboratory for Ocean Sciences; Boothbay, ME; <http://www.whoi.edu/website/taxon-specific-bigeochemistry/>)

Invited lecturer. UNOLS Chief Scientist Training (9 June 2014; BIOS, Bermuda; <http://csw.unols.org/>)

Two presentations: "Rolling Deck to Repository (R2R) Program: a Brief Overview" and "Introduction to Data Management"

Meeting coordinator, participant. Semantics Smackdown: an Agile exercise in smacking down and marking up ocean science research data (best workshop of the year by far !!) (10-13 June 2014; RPI/TWC, Troy, NY; <http://www.bco-dmo.org/meetings/semantics-smackdown-2014>)

Workshop Planning Committee Member, Session coordinator and lead, presenter and participant. GeoData 2014: Strengthening the connections, building the inter-agency network (17-19 June 2014; NCAR, Boulder, Colorado; <http://tw.rpi.edu/web/Workshop/Community/GeoData2014>)
Coordinator and discussion lead for two breakout groups:

1. Social, political and financial issues of connecting geodata in and between governmental agencies: Feedback from the academic and commercial sectors.
2. Technical issues of connecting geodata in and between governmental agencies: Vocabularies for data annotation and service

Pre-conference workshop convener, presenter, participant. **IMBER OSM 2014: Future Oceans** (22-27 June 2014, Bergen, Norway, <http://www.imber.info/index.php/Meetings/IMBER-OSC-2014>)
Pre-conference event: Data Management Data Management for IMBER
Convener(s): Cyndy **Chandler** (BCO-DMO, WHOI), Todd D. O'Brien (NMFS-NOAA), Alberto Piola (SHN/UBA, Argentina); Presented workshop results in plenary.

Session convener, presenter, participant. **ESIP Summer Meeting 2014: Linking It Together: Sustainable Software Advancing Science Data and Services** (8-11 July 2014; Frisco, CO; <http://commons.esipfed.org/taxonomy/term/1245>); Session co-convener: EarthCube Rapid Prototype Activities in Support of Improved Access to Ocean Science Data, session co-conveners: D. Kinkade; R. Arko; C. Chandler; A. Shepherd and S. Diggs; and Session co-convener: Schema.org Dataset Extension Hack-a-Thon, Conveners: D. Fils, A. Shepherd and C. Chandler

Session convener, presenter, participant. **ODIP Workshop #3**
(5-8 August 2014; AIMS, Townsville, Queensland, Australia; (URL: <http://www.odip.org/>)
Representative ODIP-USA;
Session lead, coordinator: Data Publication and Citation
Presenter: Data Publication and Citation: Regional Update on Projects in the USA

Participant: **Research Data Alliance Fourth Plenary Meeting** (Amsterdam, The Netherlands; 22 - 24 September 2014; <https://www.rd-alliance.org/rda-fourth-plenary-meeting.html>); participated in the World Data System (WDS)/Research Data Alliance (RDA) Data Publication Interest Group (IG) and the IG's Bibliometrics Working Group

Participant: **3rd EUDAT Conference:** Bringing Data Infrastructures to Horizon 2020
Co-located with RDA-4, <http://www.eudat.eu/3rd-eudat-conference>

Participant. GeoLink Workshop #1 (UCSB, Santa Barbara, CA; 4-7 Nov 2014; <http://team.geo-link.org/>)
Modified essential ontology design patterns and developed new ones for use by DataONE and LTER marine site partners.

Participant, presenter: **2nd International Ocean Research Conference** (TOS-UNESCO/IOC), Barcelona, Spain; 16-21 Nov 2014; Workshop 1: Scientists sharing data: existing databases, improving access, data poor areas

Abstract and slides prepared. **INMARTECH 2014: 9th International Marine Technician Symposium;** Oregon State University, Corvallis, OR; 18-21 November 2014 (<http://inmartech2014.com/>); CTD QA and event logger project status updates presented; sponsored attendance by Carolina Nobre (WHOI PO)

Participant. GeoLink Workshop #1 (UCSB, Santa Barbara, CA; 4-7 Nov 2014; <http://team.geo-link.org/>)
Modified essential ontology design patterns and developed new ones for use by DataONE and LTER marine site partners.

Meeting with NSF program manager. I met with Hedy Edmonds (NSF PLR ARC) to discuss ARC data management. After a 'virtual tour' of BCO-DMO, she agreed that BCO-DMO should manage the marine biogeochemistry data as appropriate from NSF ARC funded awards. December 2014.

Participant. GeoLink Workshop #2 (USGS, Reston, VA; 1-3 Dec 2014; <http://team.geo-link.org/>) Finalized essential ontology design patterns and developed new ones for use by marine geology (physical samples) and library partners.

Invited panel participant. **Ocean Observations Research Coordination Network Workshop**, co-located with Fall AGU, San Francisco, CA - 14 Dec 2014

Presenter and participant. **2014 AGU Fall Meeting** (San Francisco, CA; 15-19 December 2014; <http://fallmeeting.agu.org/2014/>)

Reviewer, Earth Systems Science Data; <http://www.earth-syst-sci-data-discuss.net/8/1/2015/> doi:10.5194/essdd-8-1-2015

2013

Session convener and lead. Research Data Life Cycle. interactive session with 33 on site and 6 remote participants at the Federation of Earth Science Information Partners (ESIP) 2013 Winter meeting. 8-10 January 2013. Washington, DC.

Instructor. IOC IODE-XXII Pre-Conference Training Course & Workshop, Ensenada, Mexico, March 2013. 2-day Training Course & Workshop to familiarize data managers and information managers with new issues and latest developments in their domain. I presented the module on "Publication of Oceanographic Research Data" including details about the SCOR/IODE funded project. IOC/IODE-XXII/3 IOC Committee on International Oceanographic Data and Information Exchange, Twenty-second Session, 11-15 March 2013, Ensenada, Mexico, <http://www.iode.org/iode22>
IOC = INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)
IODE = International Oceanographic Data and Information Exchange

Co-coordinator and participant. Workshop for ADCP data handling/processing offered by Jules Hummond (JASADCP, UH). WHOI. Woods Hole, MA. May 2013.

Served as Information Management Specialist on NSF Site Review Team for the 2013 Moorea Coral reef LTER site review (per request of NSF OCE program manager); Moorea, French Polynesia, July 2013.

Invited participant, presenter and panel member: 2nd U.S. Ocean Acidification Principal Investigators' Meeting (Gallaudet Univ., Washington, DC; 17-20 September 2013;)
Invited by NSF OCE program managers; served as an invited panel member

Participant and presenter: International Conference on Marine Data and Information Systems (IMDIS) 2013 (Lucca, Italy; 23-25 September 2013; <http://imdis2013.seadatanet.org/>)

Co-chair of Session 2: Marine Environmental Data Bases: Infrastructures and Data Access Systems; Helped to prepare and distribute a flier for the newly created IODE Associate Data Unit opportunity.

Convener, presenter, participant. NSF EarthCube End-User Domain Workshop: Articulating the Needs of the Ocean Ecosystem Dynamics Community (WHOI, Woods Hole, MA; 7-8 October 2013; <http://workspace.earthcube.org/sites/default/files/files/document-repository/OcanEcosystemDynamicsEndUserWorkshop.pdf>)
project co-PI and member of the Workshop Planning Committee
presentation on Use Case Methodology for Ocean Scientists

Instructor: UNOLS Chief Scientist Training Program (URI, Narragansett, RI; 20 October 2013)
presentations on data management best practices for shipboard data and the R2R event logger system

Invited participant. NSF EarthCube End-User Domain Workshop: Developing a Community Vision of Cyberinfrastructure Needs for Coral Reef Systems Science (Santa Barbara, CA; 23-24 October 2013; <https://projects.nceas.ucsb.edu/nceas/projects/coral-reef-workshop-oct-2013>)
Participant: Ontology Summit 2014: Big Data and Semantic Web Meet Applied Ontology. Virtual Conference, Thursday afternoons at 12:30 EDT, 16 January - 24 April 2014.
<http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2014>.
Project PI, meeting coordinator: NSF EarthCube Data Facilities (15-17 January 2014; Washington, DC; URL) Project PI and planning committee member.

Session convener, presenter, participant. UNOLS Research Vessel Technical Enhancement Committee (RVTEC) 2013 (TAMU, Corpus Christi, TX; 18 -21 November 2013; http://www.unols.org/meetings/2013/201311rvt/201311rvt_announce.html)
Convened sessions on the R2R Event Logger System and CTD QA Processing

Session convener, presenter, participant. ODIP Second Workshop (La Jolla, CA; 3-6 December 2013; <http://odip.org/>)
Representative ODIP-USA; Session convener: Data Publication and Citation

Session co-convener, 2013 AGU Fall Meeting (San Francisco, CA; 8-13 December 2013; <http://fallmeeting.agu.org/2013/>)
Co-convener of sessions IN51D and IN53C. Data Stewardship in Theory and in Practice. December 13, 2013. Conveners: Cynthia Chandler (Woods Hole Oceanographic Institution), D.L. McGuinness (Tetherless World Constellation, Rensselaer Polytechnic Institute), D.J. Wright (Environmental Systems Research Institute), and L.A. Wyborn (Geosciences Australia)

2012

Session co-convener. "077: Data Systems that Support the US National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes ". 2012 Ocean Sciences Meeting. Park City, Utah. 20-24 February 2012

Invited participant at EVS03: Ocean Policy and Management: Workshop Complementing Session 139; Sunday, February 19. The workshop was organized by Hal Batchelder (OSU); Suzanne Lawrence and Peter Fox (RPI/TWC). The purpose of the workshop was to foster partnerships in support of a Global Large Marine Ecosystem Knowledge Network.

Invited participant at the SPM1.1 Splinter Meeting: NETMAR - Open Service Network for Marine Environmental Data (discuss potential future collaborations between US, EU and Australia in the areas of standards, vocabularies and Linked Open Data). EGU General Assembly 2012, Vienna, Austria.

Prepared and taught 3 tutorial sessions during the OCB Summer PI Workshop, Woods Hole, MA. July 2012.

Participant. 2012 Long Term Ecological Research Information Managers Meeting. Estes Park, CO. 9 September, 2012.

Participant. 2012 Long Term Ecological Research All Scientists Meeting. Estes Park, CO. 10-12 September 2012.

Co-convener. Inaugural meeting of BCO-DMO and LTER Information Managers from marine sites. Estes Park, CO. 11 September 2012.

Participant. The Ocean in a High CO₂ World, Third Symposium. 24-27 September 2012. Monterey, CA. Web site: <http://www.highco2-iii.org> BCO-DMO hosted a booth, "US Ocean Acidification Research Support", which included participation by the Ocean Carbon and Biogeochemistry Project Office and the NOAA Ocean Acidification Program; worked with conference participants to develop use cases related to ocean acidification research.

Invited participant. SCOR/IODE/MBLWHOI Library Workshop on Data Publication, 5th Session, WHOI, Woods Hole, MA. October 2012. Chandler and Raymond presented a joint presentation on the status of work done by BCO-DMO and the MBLWHOI Library.

Instructor, Oceanography Short Course for BP Researchers. Updated and taught two modules: "Data Management 101" and "Better Practices for Management of Marine Field Data" (One of two instructors specifically invited to teach the course again.). October 2012.

Invited participant. Second IODE Workshop on Quality Control of Chemical and Biological Oceanographic Data Collections. Oostende, Belgium. 22-25 October 2012. Presentation: "Examples of Data Quality Indicators for Data Contributed to BCO-DMO". During the workshop Chandler worked with a small International team of experts to draft and submit v2.3 of the "Proposal to adopt a quality flag scheme standard for data exchange in oceanography and marine meteorology" by Sergey Konovalov, Hernan Garcia, Reiner Schlitzer, Laure Devine, Cyndy Chandler, Gwen Moncoiffé, Toru Suzuki, and Alex Kozyr to the Ocean Data Standards Committee.

Co-convener, AGU Ocean Sciences session OS53E. Science at Sea: Innovative Results From the Oceanographic Research Fleet. Co-convener: Shawn Smith (Florida State University), Robert Arko (Columbia University), Cynthia Chandler (Woods Hole Oceanographic Institution) and Karen Stocks (University of California San Diego). 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012.

2011

Served as Information Management Specialist on NSF Site Review Team for the 2011 North Temperate Lakes LTER site review (per request of NSF OCE program manager). July 2011.

Provided slides presented by Chris German (WHOI), "U.S. GEOTRACES: Data Management for the Pacific Basin", at the U.S. GEOTRACES Pacific Workshop, Location: Scripps Institution of Oceanography - La Jolla, CA - U.S. 12-14 September 2011

Instructor, Oceanography Short Course for BP Researchers. Prepared and taught two modules: "Data Management 101" and "Better Practices for Management of Marine Field Data" (One of two instructors specifically invited to help teach the course again in October 2012). 12-23 September 2011

2010

NSF Award OCE-1031253 funded. A Data Management System and Portal for Access to Ecological and Biogeochemical Ocean Data. Sep 2010 – August 2014.

Invited participant; BCO-DMO representative. OCB Scoping Workshop on Ocean Time-series Sites, Honolulu, HI; "Sea Change: Charting the course for ecological and biogeochemical ocean time series research". 21-23 Sep 2010.

Invited lecturer and coordinator of the pre-workshop data management course. IMBER IMBIZO II Workshop; Hellenic Centre for Marine Research, 10-14 October 2010, in Heraklion, Crete, Greece; two lectures presented: Data Management for IMBER Researchers and Better Practices for Shipboard Data Management.

Workshop participant; 1-3 December 2010, Woods Hole, MA; Coastal Marine Spatial Planning Discovery Vocabularies Workshop: A Joint WHOI/USGS/NOAA Workshop

2000 - 2009

NSF Award OCE-0947822 funded. Collaborative research: Rolling Deck to Repository (R2R): Transforming the Academic Fleet Into an Integrated Global Observing System". September 2009 – August 2014.

Manuscript Review: Earth Science Informatics (Springer); Manuscript Number: ESIN-D-11-00003; Title: DigitalOcean: Building a platform for scientific collaboration and social and media sharing on the Drupal content management system

Member, WHOI Cyberinfrastructure coordinator Search Committee, November 2007 - 2008

NSF Award OCE-0646353 funded. A Data Management System and Portal for Access to Ecological and Biogeochemical Ocean Data. Sep 2006 – August 2010.

Co-chair, WHOI Women's Committee. Oct 2004 – Oct 2006

Information Systems Specialist, NSF LTER Review Panel, April 2006

Member, WHOI Data Portal Pilot Project Team. Feb 2006 – Feb 2007

Co-coordinator, Woods Hole Area Informatics Network, Feb 2006 – Feb 2008

Founding member and Membership coordinator, WHOI Women Technical Staff CIG
Nov 2005 – April 2008

Member, WHOI Gender Equity Program Advisory Committee. May 2005 – Dec 2006

Participant, Data Management / Data Policy Workshop, NSF, Washington, DC. May 2005
Member, WHOI Ocean Informatics and Cyber-infrastructure Steering Committee
and co-chair of the Data Portal Working Group, October 2004 – September 2005
Member, WHOI 75th Anniversary Steering Committee
and member of the 75th Anniversary Public Open House sub-committee
Instructor, Tutorial, Introduction to US JGOFS Live Access Server, WHOI, July 2002.
Leader, US JGOFS Final Data Report: Design Consideration Workshop, WHOI, July 2002.
Volunteer, Volunteer in Public Schools (Falmouth), 1994 – 2009
Judge, Falmouth Science Fair, 2000 – 2008

SUPERVISION AT WHOI (from 3-12 months per year):

Dave Schneider (MCG) Sep 2000 - May 2003; Sep 2008-2013. Data specialist US JGOFS.
George Heimerdinger (MCG) September 2000 - May 2003. Data specialist, US JGOFS.
Terri MacEachern (U Mass Dartmouth) June 2002 - May 2003. temporary employee hired to assist with publication of US JGOFS final data report series.
Alex Dorsk (WHOI DLA) 2009-2011. R2R event log developer.
Tobias Work (Biology) Sep 2009 – March 2012. BCO-DMO programmer.
Steve Gegg (MCG) May 2008 – May 2016. Data manager with BCO-DMO.
Terry McKee (Physical Oceanography). July 2005-present. Data specialist with BCO-DMO.
Nancy Copley (Biology Department) Nov 2006 – present. Data specialist with BCO-DMO.
Adam Shepherd (CIS). June 2012 – present. BCO-DMO/GeoLink programmer.
Danie Kinkade (Biology Department) June 2012 – present. BCO-DMO data manager.
Shannon Rauch (Biology Department) June 2012 – present. BCO-DMO data manager.
Carolina Nobre (PO Dept) April 2013 – present. Research Associate II, R2R event logger project.
Cindy Sellers (AOP&E) April 2012 – present. Research Associate III, R2R event logger project.
Amber York (MC&G) May 2016 – present. Data manager with BCO-DMO.
Hannah Ake (MC&G) June 2016 – present. Data manager with BCO-DMO.

OCEANOGRAPHIC RESEARCH CRUISE PARTICIPATION:

Summary: October 1979 – June 2000. experience comprises total of 468 days at sea on 18 oceanographic research cruises aboard six UNOLS vessels, sailing predominantly as scientific watch leader/CTD software technician doing CTD/XBT profiling, hydrography and mooring work

October 1979 (21 days) R/V KNORR 75, WH/WH, scientific watch stander, CTD software trainee, deep-sea mooring experiment and CTD profiling in the North Atlantic

March 1980 (28 days) R/V OCEANUS 78 leg IV, Recife, Brazil/Azores, Portugal, scientific watch leader/CTD software technician, CTD profiling, hydrography, helium/tritium sampling, Beta-spiral triangle study area in the mid-Atlantic

April 1980 (18 days) R/V OCEANUS 78 leg V, Azores/WH, scientific watch leader/CTD software technician, CTD profiling, hydrography, Labrador and Norwegian Sea

Sept-Oct 1980 (34 days) R/V ATLANTIS II 107 leg XI, Punta Arenas, Chile/Punta Arenas, scientific watch leader/CTD software technician, CTD profiling, hydrography, Southern Atlantic

June 1981 (31 days) R/V ATLANTIS II 109 leg I, WH/Cadiz, Spain, scientific watch leader/CTD software technician, CTD profiling, hydrography, west-east transect at 36 North

August 1981 (30 days) R/V ATLANTIS II 109 leg III, Las Palmas, Canary Is./WH, scientific watch leader/CTD software technician, CTD profiling, hydrography, east-west transect at 24 North

June 1982 (18 days) R/V KNORR 95, WH/WH, scientific watch leader/CTD software technician, CTD profiling, hydrography, Warm Core Rings Experiment, Gulf Stream

July-August 1982 (17 days) R/V THOMAS G. THOMPSON 169, Adak, Alaska/Adak, scientific watch leader/CTD software technician, CTD profiling, hydrography, Aleutian Trench in the North Pacific

March 1983 (32 days) R/V OCEANUS 133 leg V, Walvis Bay, SA/Recife, scientific watch leader/CTD software technician, CTD profiling, hydrography, east-west transect at 11 South

April-May 1983 (31 days) R/V OCEANUS 133 leg VII, Recife/WH, scientific watch leader/CTD software technician, CTD profiling, hydrography, south-north transect at 53 West

July-Sept 1983 (46 days) R/V KNORR 104, WH/Azores/Recife, scientific watch leader/CTD software technician, CTD profiling, hydrography, north-south transect along 35 West

Nov-Dec 1983 (28 days) R/V THOMAS G. THOMPSON 178, Midway Is./Guam Is., scientific watch leader/CTD software technician, CTD profiling, hydrography, deep-sea mooring deployment and recovery (ZONAL experiment)

Sep-Oct 1984 (28 days) R/V THOMAS G. THOMPSON 184, Honolulu, HI/Midway Is., scientific watch leader/CTD software technician, CTD pro-filing, hydrography, deep-sea mooring deployment and recovery (ZONAL experiment)

Nov-Dec 1984 (21 days) R/V THOMAS WASHINGTON 3 leg 9, Montevideo, Uruguay/Rio de Janeiro, Brazil, scientific watch leader/ CTD software technician, CTD/XBT profiling, hydrography, (Brazil Current Experiment)

Mar-Apr 1985 (18 days) R/V ENDEAVOR 128, Bridgetown, Barbados/Bridgetown, scientific watch leader/CTD software technician, CTD/XBT profiling, hydrography, mooring deployment, (C-SALT experiment)

Jun-Jul 1985 (35 days) R/V THOMAS G. THOMPSON 189, Guam Is./Guam, scientific watch leader/CTD software technician, CTD profiling, hydrography, pressure gauge deployment (WEPOCS-I experiment)

Nov-Dec 1985 (18 days) R/V KNORR 118, Bridgetown, Barbados/Bridgetown, scientific watch leader/CTD software technician, CTD/XBT profiling, hydrography, mooring deployment, (C-SALT experiment)

May-June 2000 (14 days) R/V KNORR 161-7, Recife, Brazil/Norfolk,VA, , scientific watch/CTD software technician, CTD profiling, CTD data processing, hydrography

PUBLICATION RECORD:

ORCID: <http://orcid.org/0000-0003-2129-1647>

PAPERS IN REFEREED JOURNALS AND BOOKS:

Glover, D.M., **C.L. Chandler**, S.C. Doney, K.O. Buesseler, G. Heimerdinger, J.K.B. Bishop, and G.R. Flierl. 2006. The U.S. JGOFS Data Management Experience, *Deep-Sea Res., II*, 53(5-7), 793-802. doi:10.1016/j.dsr2.2006.01.018

Baker, KS; **Chandler, CL**. 2008. Enabling long-term oceanographic research: Changing data practices, information management strategies and informatics. *Deep Sea Research Part II*. 55 (18-19) : 2132-2142. doi:10.1016/j.dsr2.2008.05.009

Glover, David M., Wiebe, Peter H., Chandler, Cynthia L., and Levitus, Sydney. 2010. "IOC Contributions to International, Interdisciplinary Open Data Sharing". *Oceanography* 23(3):140–151, doi:10.5670/oceanog.2010.29.

Wiebe, P H, Groman, R G and Chandler, C L. 2011. "Data Management in US GLOBEC". *Current: The Journal of Marine Education* (27) 2: 30-33.

Boyd, Philip W.; Bakker, Dorothee C. E.; Chandler, Cynthia (2012). A New Database to Explore the Findings from Large-Scale Ocean Iron Enrichments Experiments. *OCEANOGRAPHY*. 25 (4), 64-71. DOI: <http://dx.doi.org/10.5670/oceanog.2012.10> (Database curated by BCO-DMO from work done by SCOR Working Group 131)

Leadbetter, A., Raymond, L., Chandler, C., Pikula, L., Pissierssens, P., Urban, E. (March 2013). *Ocean Data Publication Cookbook*. Intergovernmental Oceanographic Commission, Manuals and Guides, number 64, (IOC/MG/64; <http://www.iode.org/mg64>). 45 pp. and annexes.

Leadbetter, A., R. Arko, C. Chandler, A. Shepherd and R. Lowry. 2013. "Linked Data: An Oceanographic Perspective". *The Journal of Ocean Technology* 8(3). September 2013.

Leadbetter, A; Arko, R.; Chandler, C.; Shepherd, A.; Lowry, R. (2014) "Loose integration of local information to generate collaborative marine science knowledge" Chapter 1.7 in "Collaborative Knowledge in Scientific Research Networks", Diviacco, P; Fox, P; Pshenichy, C; Leadbetter, A. eds. IGI Global. 424 pages. DOI: 10.4018/978-1-4666-6567-5

Garcia, Hernan E., Cathy Cosca, Alex Kozyr, Emilio Mayorga, Cynthia Chandler, Robert. W Thomas, Kevin O'Brien, Ward Appeltans, Steve Hankin, Jan Newton, Angelica Gutierrez, Jean-Pierre Gatusso, Lina Hansson, Melissa Zweng, Benjamin Pfeil. (2015) "Data Management Strategy to Improve Global Use of Ocean Acidification Data and Information". *Oceanography*, 28 (2). June 2015. pgs 226-228. <http://dx.doi.org/10.5670/oceanog.2015.45>

Belmont Forum e-Infrastructures and Data Management Collaborative Research Action. (2014) "Interim Report v. 1.1: Belmont Forum e-Infrastructures and Data Management Collaborative Research Action" <http://www.bfe-inf.org/document/interim-report-v-11-belmont-forum-e-infrastructures-and-data-management-collaborative>) September 2014. pp. 193.

Leadbetter, A., A. Shepherd, R. Arko, **C. Chandler**, Y Chen, N Dockery, R Ferreira, L Fu, R Thomas, P West, S Zednik (19 February 2016) "Experiences of a Semantics Smackdown". Earth Science Informatics. Ms. No. ESIN-D-15-00161R2. <http://link.springer.com/article/10.1007/s12145-016-0252-8>

Jiang, L., K. Arzayus, J-P. Gattuso, H. Garcia, **C. Chandler**, A. Kozyr, Y. Yang, R. Thomas, B. Beck, T. Spears. (in press June 2016) "How to Document Ocean Acidification Data". Limnology and Oceanography: e-Lectures. Manuscript ID LOLEC-2015-0002.R2.

OTHER PUBLICATIONS and PROFESSIONAL PRESENTATIONS:

United States JGOFS Final Data Report: Process Study Data 1989-1998. CD-ROM. volume 1, version 2, Woods Hole Oceanographic Institution, USA: U.S. JGOFS Data Management Office, April 2003.

United States JGOFS Final Data Report: Synthesis and Modeling Project Results: part 1. CD-ROM. volume 2, version 1. Woods Hole Oceanographic Institution, USA: U.S. JGOFS Data Management Office, June 2004.

United States JGOFS Final Data Report: Synthesis and Modeling Project Results: part 2. DVD-ROM. volume 3, version 1. Woods Hole Oceanographic Institution, USA: U.S. JGOFS Data Management Office, November 2005.

United States JGOFS Final Data Report: Synthesis and Modeling Project Results: part 3. DVD-ROM. volume 4, version 1. Woods Hole Oceanographic Institution, USA: U.S. JGOFS Data Management Office, December 2005.

JGOFS International Collection DVD, Volume 1: Discrete Datasets (1989-2000). JGOFS Data Management Task Team, WDC-MARE, Bremen/Bremerhaven, Germany, ` May 2003.

International Collection of JGOFS (Joint Global Ocean Flux Study)
Volume 2: Integrated Data Sets (1989-2003). Sieger, R et al., JGOFS DMTT & IPO, WDC-MARE Reports 0003, 15 pp with DVD-ROM, World Data Center for Marine Environmental Sciences, Bremen/Bremerhaven, Germany, 2005 (ISSN 1611-6577).

OCE-0097291

(U.S. Joint Global Ocean Flux Study: Planning and Data Management)

Chandler, C. 2001. U.S. JGOFS DMO Status Report. presentation at U.S. JGOFS Steering Committee Meeting. Woods Hole, MA. October 2001.

Chandler, C. 2002. U.S. JGOFS DMO Status Report. US representative, presentation at JGOFS DMTT

Meeting. Alexandria, VA. February 2002.

Chandler, C. 2002. U.S. JGOFS DMO: Activities Status Report. Presentation at US JGOFS SMP PI Workshop. Woods Hole, MA. July 2002.

Chandler, C. 2002. U.S. JGOFS DMO Final Status Report. presentation at U.S. JGOFS Steering Committee Meeting. Alexandria, VA. October 2002.

Chandler, C. 2003a. U.S. JGOFS DMO CD-ROM Status Report. US representative, presentation at JGOFS DMTT Meeting. Bremen, Germany. February 2003.

Chandler, C. 2003b. U.S. JGOFS U.S. JGOFS DMO Final Update. US representative, presentation at JGOFS DMTT Meeting. Bidston, UK. March 2003.

Chandler, C. 2003c. U.S. JGOFS DMO: Activities Update and Final Status Report. Presentation at US JGOFS SMP PI Workshop. Woods Hole, MA. July 2003.

Chandler, C. 2003d. Adventures in Data Management: The U.S. JGOFS Experience. Engineering and Research Briefs presentation. Woods Hole, MA. September 2003.

Chandler, C. 2003e. Making Use of Current Technology to Publish a Scientific Data Report or The 21st Century WHOI Blue Cover. Hole Information and Technology Seminar Series. Woods Hole, MA. September 2003.

Chandler, C. 2003f. U.S. JGOFS Data Management. poster at JGOFS Final Open Science Conference. Washington, DC. May 2003.

Chandler, C. 2003g. Ocean Informatics: the U.S. JGOFS Experience, invited speaker at Ocean Informatics Exchange Workshop I. SIO, San Diego, CA. December 2003.

Chandler, C. 2003h. JGOFS: Reflections on Challenges Past, Present and Future, invited speaker at Ocean Informatics Exchange Workshop I. SIO, San Diego, CA. December 2003.

Chandler, C. 2003i. Tools Developed and Implemented by the U.S. JGOFS Data Management Office, poster at AGU Conference, Session U04: New Advances in Data and Service Access for Support of Science Research and Decision Support. San Francisco, CA. December 2003.

Chandler, C. 2004a. U.S. JGOFS DMO: Activities Update and Final Status Report, presentation at U.S. JGOFS SMP Workshop. Woods Hole, MA. July 2004.

Chandler, C. 2004b. Data Management at WHOI ~ the U.S. JGOFS contribution, invited speaker and participant, Joint LDEO-WHOI-SIO-SDSC Workshop. SIO, San Diego, CA. November 2004.

Chandler, C. 2005a. U.S. JGOFS Data Management ~ a retrospective, Plenary Session, invited speaker, NACP Data Management Planning Workshop. New Orleans, LA. January 2005. (trip canceled due to NE blizzard; presentation contributed electronically)

OCE-0510046

(Coordination and Data Management for Ocean Carbon Cycle Research)

Chandler, C. 2005b. Reconstituting the Ocean: A Tale from U.S. JGOFS. Participant, CTD Team Leader, Featured Speaker. MMI Workshop: Advancing Domain Vocabularies. UCAR, Boulder, CO. August 2005.

Chandler, C. and D.M. Glover. 2006. U.S. JGOFS Data Management Lessons Learned ~ *Data Management in the Wild*. poster at OCB Workshop. WHOI, Woods Hole, MA. July 2006.

Chandler, C. 2006a. EDDIES data ~ *OCB database status update*. presentation at EDDIES PI Workshop. WHOI, Woods Hole, MA. August 2006.

Chandler, C. 2006b. VERTIGO data ~ *OCB database status update*. presentation at VERTIGO Final PI Workshop. National Academy of Sciences Jonsson Conference Center, Woods Hole, MA. October 2006.

QARTOD IV – Final Report of the Fourth Workshop on the QA/QC of Real-Time Oceanographic Data. October 2006.

http://nautilus.baruch.sc.edu/twiki/pub/Main/WebHome/QARTOD2006_v9.pdf

Chandler, C. 2007a. VERTIGO data ~ OCB database status update. presentation to VERTIGO PI Workshop. National Academy of Sciences Jonsson Conference Center, Woods Hole, MA. October 2006.

2007

Chandler, C. 2007b. An Introduction to the BCO-DMO and Status Update for US SOLAS data. presentation to SOLAS Data Management Workshop. BODC, Liverpool, England. July 2007.

Chandler, C., Glover, D., Groman, R. and Wiebe, W. 2007. An Introduction to the BCO-DMO. poster at OC&B PI Workshop. Woods Hole, MA. July 2007.

Baker, K., Chandler, C., Gold, A., Millerand, F. and Wanetick, J. 2007. Long Term Informatics. poster at Annual LTER Information Managers' Meeting. San Jose, CA. August 2007.

Chandler, C. 2007c. An Introduction to the BCO-DMO for GEOTRACES. presentation to GEOTRACES Data-Model Synergy Workshop. Hanse Wissenschaftskolleg, Delmenhorst, Germany. September 2007.

Chandler, C. Glover, D., Groman, R., Wiebe, P. 2007. An Introduction to the Biological and Chemical Oceanography Data Management Office (BCO-DMO). poster OS41A-0164 at AGU Fall Meeting. San Francisco, CA. December 2007.

Groman, R., Chandler, C., Allison, M.D., Glover, D., Wiebe, P. 2007. A New Data Management System for Biological and Chemical Oceanography. poster IN41A-0068 at AGU Fall Meeting. San Francisco, CA. December 2007.

2008

Chandler, C. 2008a. CTD Data QA/QC: Status Update Summary. Report to QARTOD to OGC Workshop. Stennis Space Center, Stennis, MS. February, 2008.

Chandler, C. Groman, R., Allison, M.D., Glover, D., Wiebe, P. 2008a. Toward Improved Data Availability: the Biological and Chemical Oceanography Data Management Office. Poster at NASA CC&E Workshop, University of Maryland, MD, April, 2008.

Chandler, C. 2008b. The Biological and Chemical Oceanography Data Management Office (BCO-DMO). Presented at the Ocean Carbon and Biogeochemistry Summer Workshop. Woods Hole, MA. July, 2008.

Chandler, C., Glover, D., Groman, R., Allison, M.D., Wiebe, P. 2008. The Biological and Chemical Oceanography Data Management Office (BCO-DMO): Where will the Data be Published? Poster at the Ocean Carbon and Biogeochemistry Summer Workshop. Woods Hole, MA. July, 2008.

Chandler, C. 2008c. Interoperability: An Introduction. Invited talk. OOS Interoperability Planning Workshop. National Space Science and Technology Center. University of Alabama at Huntsville, AL. August, 2008.

Chandler, C. 2008d. The Biological and Chemical Oceanography Data Management Office (BCO-DMO): A Brief Overview. Presented at the Legacy of Ocean Exploration (LOE) Project Fleet Data Management Meeting. Lamont-Doherty Earth Observatory (LDEO). Palisades, NY. September 3-5, 2008.

Chandler, C. 2008e. Rolling Deck to Repository: Sampling Event Log. Presented at the Legacy of Ocean Exploration (LOE) Project Fleet Data Management Meeting. Lamont-Doherty Earth Observatory (LDEO). Palisades, NY. September 3-5, 2008.

Groman, R.C., C.L. **Chandler**, M.D. Allison, P.H. Wiebe, and D.M. Glover. 2008. Discovery, access, interoperability, and visualization features of a web interface to oceanographic data. ICES CM 2008/R:02. 8 pages. [<http://www.ices.dk/products/CMdocs/CM-2008/R/R0208.pdf>]

Groman, R.C., C.L. Chandler, M.D. Allison, P.H. Wiebe, and D.M. Glover. Discovery, access, interoperability, and visualization features of a web interface to oceanographic data. ICES CM 2008/R:02. [This is the abstract - the citation above is for a gray literature manuscript].

Wiebe, P.H., R.C. Groman, M.D. Allison, and C.L. **Chandler**. 2008. Data Integration and Interoperability in the Biological and Chemical Oceanography Data Management System and CMarZ. World Conference on Marine Biodiversity book of abstracts. pg 58.

Groman, R.C., M.D. Allison, C.L. **Chandler**, D.M. Glover, and P.H. Wiebe. 2008. Making Data Available via the Biological and Chemical Oceanography Data Management Office – Overview. Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract IN51D-07.

Allison, M.D., R.C. Groman, R.C., C.L. **Chandler**, D.M. Glover, and P.H. Wiebe. 2008. Making Data Available via the Biological and Chemical Oceanography Data Management Office – Implementation Details. Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract IN53A-1189.

2009

R. A. Arko; S. M. Carbotte; S. P. Miller; C. L. Chandler; V. Ferrini; K. Stocks; A. R. Maffei; S. R. Smith; M. A. Bourassa; S. J. McLean; J. C. Alberts (2009), Rolling Deck to Repository (R2R): Technical Design - Experiences and Lessons, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN14A-02.

S. M. Carbotte; V. Ferrini; R. A. Arko; C. L. Chandler; A. R. Maffei; S. P. Miller; K. Stocks; S. R. Smith; M. A. Bourassa (2009), Rolling Deck to Repository (R2R): Transforming the Academic Fleet Into an Integrated Global Observing System, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN21B-1045.

C. L. Chandler; A. Dorsk (2009), Rolling Deck to Repository (R2R): A Research Cruise Prototype Event Logging System, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN21B-1050.

A. R. Maffei; C. L. Chandler; T. Work; J. Allen; R. C. Groman; P. A. Fox (2009), Legacy2Drupal - Conversion of an existing oceanographic relational database to a semantically enabled Drupal content management system, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN21B-1051.

M. D. Allison; C. L. Chandler; R. C. Groman (2009), Developing an Ontology for Ocean Biogeochemical Data, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN21B-1052.

R. C. Groman; M. D. Allison; C. L. Chandler; D. M. Glover; P. H. Wiebe; S. R. Gegg (2009), Further Enhancements of the Geospatial Interface to the Biological and Chemical Oceanography Data Management System, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract IN21B-1053.

Allison, M.D., R.C. Groman, C.L. **Chandler**, D.M. Glover, P.H. Wiebe, and S.R. Gegg. 2009. A Geographic Focus of the Biological and Chemical Oceanography Data Management System. Poster contribution to Spring AGU – Session IN05 (GIS Science, Peter Fox & Olga Wilhelmi).

2010

P. West; C. L. Chandler; M. D. Allison; P. Fox; R. C. Groman; A. R. Maffei. (2010) Incorporation of Semantically-enabled features into an Existing Oceanographic Data Management System. Eos Trans. AGU, 91(26), Ocean Sci. Meet. Suppl., Abstract MT15A-08.

V. Ferrini; S. M. Carbotte; A. R. Maffei; S. P. Miller; S. R. Smith; R. A. Arko; C. L. Chandler; K. Stocks; M. A. Bourassa (2010) Transforming the Academic Fleet Into an Integrated Global Observing System: The Rolling Deck to Repository (R2R) Program (Invited). Eos Trans. AGU, 91(26), Ocean Sci. Meet. Suppl., Abstract MT23A-04.

R. Maffei; P. Fox; S. Lawrence; C. L. Chandler. (2010) The Integrated Ecosystems Assessment Initiative - Enabling the Assessment of Climate Impacts on Large Marine Ecosystems: Bringing Informatics to the Forefront of Science Based Decision Support. Eos Trans. AGU, 91(26), Ocean Sci. Meet. Suppl., Abstract IT45D-01.

Cynthia L. Chandler, Robert A. Arko, M. Dickson Allison, Tobias T. Work, Scott V. Mowery. (2010) "Shipboard Data Stewardship: From Ship to Shore to Archive". International Conference on Marine Data and Information Systems (IMDIS), Paris, France, March 29-31, 2010

Allison, M.D., Groman, R.C., Chandler, C.L., Galvarino, C.R., Glover, D.M., Wiebe, P.H., and Gegg, S.R.. (2010) The Geospatial Interface to the Biological and Chemical Oceanography Data Management System. International Conference on Marine Data and Information Systems (IMDIS) Conference. 29 to 31 March 2010. Paris - France.

Carbotte, Arko, Ferrini, Miller, Stocks, Chandler, Maffei, Smith, Bourassa. (2010) The Rolling Deck to Repository (R2R) Program: Transforming the Academic Fleet Into an Integrated Global Observing System. International Conference on Marine Data and Information Systems (IMDIS), Paris, France, March 29-31, 2010

Chandler, Cynthia L, Peter Fox, Andrew Maffei, M.D. Alison, Robert Groman, Patrick West, and Stephan Zednik (2010) "Evolving the BCO-DMO search interface - experience with semantic and smart search", Geophysical Research Abstracts. Vol. 12, EGU2010-14621, EGU General Assembly 2010.

R.A. Arko; A. Milan; C.L. Chandler; S.P. Miller; V. Ferrini; S. Mesick; J. Mize; C. Paver; B. Sullivan; A. Sweeney (2010), Shared Semantics for Oceanographic Research: Development of Standard "Cruise-Level" Metadata, Abstract IN11A-1067 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 December.

L.M. Raymond; C.L. Chandler; R.K. Lowry; E.R. Urban; G. Moncoiffe; P. Pissierssens; C. Norton, (2010), Data Publication: Addressing the Issues of Provenance, Attribution, Citation, and Accessibility, Abstract IN11A-1068 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 December.

A.R. Maffei; C.L. Chandler; L. Stolp (2010), Rolling Deck to Repository (R2R): Research Cruise Event Logging System Update, Abstract OS13C-1244 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 December.

S.P. Miller; S.M. Carbotte; K. Stocks; V. Ferrini; R.A. Arko; C.L. Chandler; A.R. Maffei; S.R. Smith; M.A. Bourassa; P.D. Clark; A.D. Sweeney; S.H. O'hara; J.J. Morton (2010), Rolling Deck to Repository (R2R): Next Steps in Ocean Exploration for Data Dissemination and Discovery, Abstract OS13C-1245 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 December.

M.D. Allison; C.L. Chandler; N. Copley; C. Galvarino; S.R. Gegg; D.M. Glover; R.C. Groman; P.H. Wiebe; T.T. Work (2010), NSF-Sponsored Biological and Chemical Oceanography Data Management Office, Abstract OS13C-1248 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 December.

T.T. Work; C.L. Chandler; R.C. Groman; M.D. Allison; S.R. Gegg (2010), Automating Data Submission to a National Archive, Abstract IN21A-1324 presented at 2010 Fall Meeting, AGU, San Francisco,

CA, 14 December.

C.L. Chandler; M.D. Allison; R.C. Groman; P. West; S. Zednik; A.R. Maffei (2010), Developing an Ontology for Ocean Biogeochemistry Data, Abstract IN41C-1370 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 16 December.

A.R. Maffei; C.L. Chandler; T.T. Work; D. Shorthouse; J. Furfey; H. Miller (2010), Uses of the Drupal CMS Collaborative Framework in the Woods Hole Scientific Community (Invited), Abstract IN52A-02 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 17 December.

2011

Chandler, C. L., Allison, M. D., Groman, R. C., Gegg, S. R., Wiebe, P. W., Glover, D. M. (2011) CARIACO TIME-SERIES DATA MANAGEMENT, poster ID 243 presented at Session S02: Ocean Biogeochemistry Time-Series and Climate, ASLO 2011 Aquatic Sciences Meeting, Puerto Rico, 17 February.

Allison, M. D., Chandler, C. L., Groman, R. C., Wiebe, P. W., Gegg, S. R., Glover, D. M. (2011), MANAGEMENT OF PLANKTON DISTRIBUTION AND ABUNDANCE DATA, poster ID 402 presented at Session S30: Mechanistic Descriptions of Diverse Plankton Communities: From Observations to Models, ASLO 2011 Aquatic Sciences Meeting, Puerto Rico, 17 February.

Wiebe, P.H., M.D. Allison, R.C. Groman and C.L. Chandler (2011) Data management in support of zooplankton research. 5th International Zooplankton Production Symposium. Pucon, Chile 14-18 March 2011. GP-7107, p 258.

Chandler, C.L., M.D. Allison, R. Groman, P. West, S. Zednick, and A. Maffei (2011), "Developing an Ontology for Ocean Biogeochemistry Data", Geophysical Research Abstracts, Vol. 13, EGU2011-8578, presented in Session "ESSI1: Informatics in Oceanography" at EGU General Assembly 2011, Vienna, Austria. http://bcodmo.org/sites/default/files/event/BCO_ontology_110329_prePrint.pdf

Raymond, L, C. Chandler, R. Lowry, E. Urban, G. Moncoiffe, P. Pissierssens, and C. Norton (2011), "Data Publication: An Example of Data Repository and Library Cooperation", Geophysical Research Abstracts, Vol. 13, EGU2011-1599, presented in Session "ESSI2: International Geoscience Informatics Partnerships", Projects, and Collaboration Technologies at EGU General Assembly 2011, Vienna, Austria. http://bcodmo.org/sites/default/files/event/Raymond_EGU_DataPub_poster_prePrint.pdf

Maffei, A., C.L. Chandler, L. Stolp, J. Fredericks, and N. Galbraith (2011), "Rolling Deck to Repository (R2R): A Controlled Vocabulary and Ontology Development Effort for Oceanographic Research Cruise Event Logging", Geophysical Research Abstracts, Vol. 13, EGU2011-12341, presented in Session "ESSI2: International Geoscience Informatics Partnerships", Projects, and Collaboration Technologies at EGU General Assembly 2011, Vienna, Austria. http://bcodmo.org/sites/default/files/event/EGU2011_R2R_evLog-110330-1pre.pdf

Miller, S., Glaves, H., Carbotte, S., Arko, A., Chandler, C. Clark, D., Sweeney, A., Stocks, K. (2011), "Rolling Deck to Repository: Opportunities for US-EU Collaboration", Geophysical Research

Abstracts, Vol. 13, EGU2011-3939, presented in Session "ESSI2: International Geoscience Informatics Partnerships", Projects, and Collaboration Technologies at EGU General Assembly 2011, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2011/EGU2011-3939.pdf>

Chandler, C. L., Allison, M. D., Groman, R. C., Gegg, S. R., Wiebe, P. W., Glover, D. M. (2011) Talk, "BCO-DMO Data Management: Featuring NAB08 Data" and poster, "Data Resources for OCB and CLIVAR Researchers". OCB Summer Science Workshop Joint Session: OCB and U.S. CLIVAR, 18-21 July, Woods Hole, MA.

Chandler, C. L., Allison, M. D., Groman, R. C., Gegg, S. R., Wiebe, P. W., Glover, D. M. (2011) Invited speaker and discussion participant. "Introduction to the Biological and Chemical Oceanography Data Management Office" and "Data Management in Support of Biodiversity Research". SOST IWG-OP Biodiversity Ad Hoc Committee Meeting, Washington, DC. 22 July 2011.

Carbotte, Miller, Maffei, Smith, Ferrini, Arko, Stocks, Chandler, Bourassa, Clark, Sweeney, O'Hara, Morton. 2011. "From Rolling Deck to Repository: Creating a national pipeline for underway shipboard data". Poster #45. Proceedings of the Environmental Information Management Conference (EIM) 2011, September 28-29, 2011, Santa Barbara, CA (<http://www.rvdata.us/team/presentations/eim11>).

Suzanne Carbotte, Stephen Miller, Andrew Maffei, Shawn Smith, Robert Arko, Vicki Ferrini, Karen Stocks, Cynthia Chandler, Mark Bourassa, Dru Clark, Suzanne O'Hara, Aaron Sweeney. 2011. Rolling Deck to Repository (R2R): Progress in Systematically Capturing Underway Data from the US Academic Fleet, including Multibeam. Poster presented at the 6th GEBCO Science Day Event, SIO, UCSD, La Jolla, CA. October 2011.

Raymond, L. and C. Chandler. 2011. "Woods Hole Data Publication Activities with Elsevier and BCO-DMO". SCOR/IODE/WHOIMBL Library Data Publication Workshop IV at the British Oceanographic Data Centre, Liverpool, UK. November 3-4, 2011.

Chandler, C.L.; A.R. Maffei; L. Stolp; D. Dubois (2011), Rolling Deck to Repository (R2R): Research Cruise Event Logger, Abstract OS13A-1510 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5 December 2011.

Allison, M.D.; C.L. Chandler; R.C. Groman; P.H. Wiebe; D.M. Glover; S.R. Gegg (2011), The Biological and Chemical Oceanography Data Management Office, Abstract OS31A-1602 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 7 December 2011.

Work, T.; A.R. Maffei; Chandler, C.L.; R.C. Groman (2011) Legacy2Drupal: Conversion of an existing relational oceanographic database to a Drupal 7 CMS; Abstract IN31B-1436 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 7 December.

Arko, R.; C.L. Chandler; P.D. Clark; A. Milan; J. Mize (2011), Rolling Deck to Repository (R2R): A Linked Data Approach for the U.S. Academic Research Fleet, Abstract IN33E-03 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 7 December.

Carbotte; S.; S. O'Hara; V. Ferrini; R. Arko; J. Morton; A. Sweeney; P.D. Clark; S. Miller; K. Stocks; C.L. Chandler; A.; S. Smith; M. Bourassa (2011), Quality Assessment of Marine Geoscience Data Collected with the U.S. Academic Oceanographic Research Fleet, Abstract U21C-06 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 6 December 2011.

2012

Chandler, C. L.; Groman, R. C.; Allison, M. D.; Glover, D. M.; Wiebe, P. H.; Gegg, S. R.; BIOLOGICAL AND CHEMICAL OCEANOGRAPHY DATA RESOURCES FOR COASTAL AND MARINE SPATIAL PLANNING; poster ID 1079 presented at Session S077: Data Systems that Support the US National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes. 2012 Ocean Sciences Meeting, Salt Lake City, Utah, 22 February 2012.

Allison, M. D., Chandler, C. L., Groman, R. C., Wiebe, P. W., Galvarino, C.R. (2012) DATA MANAGEMENT AND DATA AVAILABILITY IN SUPPORT OF ECOSYSTEM BASED MANAGEMENT AND MARINE SPATIAL PLANNING; poster ID 1089 presented at Session S077: Data Systems that Support the US National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes. 2012 Ocean Sciences Meeting, Salt Lake City, Utah, 22 February 2012.

Presented by C. Chandler: Fox, P. A.; Batchelder, H.; Lawrence, S. J.; Maffei, A.; Young, O.: INFORMATION MODELS FOR DEVELOPMENT AND EVOLUTION OF COMPLEX MULTI-SCALE KNOWLEDGE NETWORKS FOR MARINE ECOSYSTEMS; poster ID A0522 presented at Session S139: Governing Across Scales: Innovative Stewardship of Earth Systems. 2012 Ocean Sciences Meeting, Salt Lake City, Utah, 22 February 2012.

Chandler, C. L., Allison, M. D., Groman, R. C., Gegg, S. R., Wiebe, P. W., Glover, D. M. (2012) The Biological and Chemical Oceanography Data Management Office (BCO-DMO). Ocean Acidification Data Management Workshop. Seattle, WA.

C.L. Chandler, R.C. Groman, M.D. Allison, P.H. Wiebe, D.M. Glover, and S.R. Gegg. 2012. "Effective Management of Ocean Biogeochemistry and Ecological Data: the BCO-DMO Story". Geophysical Research Abstracts, Vol. 14, EGU2012-1258, solicited oral presentation in Session "ESS11.2/OS4.7 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2012, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2012/EGU2012-1258.pdf>

L. Raymond, C Chandler, R Lowry, E Urban, G Moncoiffe, P Pissierssens, C Norton, and H Miller. 2012. "Data Publication: A Partnership between Scientists, Data Managers and Librarians". Geophysical Research Abstracts, Vol. 14, EGU2012-1440, poster presented in Session "GI 1.3 Data publishing: paving the way to data-intensive science" at EGU General Assembly 2012, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2012/EGU2012-1440.pdf>

R. Arko, C. Chandler, P. Clark, A. Milan, and J. Mize. 2012. "Rolling Deck to Repository (R2R): A "Linked Data" Approach for the U.S. Academic Research Fleet" Geophysical Research Abstracts, Vol. 14, EGU2012-13062, poster presented in Session "ESS11.2/OS4.7 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2012, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2012/EGU2012-13062-1.pdf>

Raymond, L, C. Chandler, R. Lowry, E. Urban, G. Moncoiffe, P. Pissierssens, C. Norton, H. Miller. 2012. "Emerging Role of Librarians in Data Publication". Poster presented at University of Massachusetts and New England Area Librarian e-Science Symposium. April, 2012, UMass Medical Center, Shrewsbury, MA, USA. http://escholarship.umassmed.edu/escience_symposium/2012/; poster PDF: http://escholarship.umassmed.edu/cgi/preview.cgi?article=1030&=&context=escience_symposium&cc=c64m4rj3&login=1654102

Chandler, C. 2012. Invited speaker: INTEGRATING DATA: A CASE STUDY FROM THE BCO-DMO PROJECT. NOAA 3rd Annual 2012 Environmental Data Management Conference. University of Maryland, MD. May 2102

Fox, P., Maffei, A., Di Stefano, M., Lawrence, S., and Chandler, C. 2012. The Integrated Ecosystems Assessment Initiative – Enabling the Assessment Of Impacts on Large Marine Ecosystems: Informatics to the Forefront of Science Based Decision Support . In Proceedings of Data 2012 - Int'l Conf. on Data Technologies and Applications (July 25-27 2012, Rome, Italy; <http://www.dataconference.org/>).

Fox,P.; Maffei,A.; DiStefano,M.; Lawrence,S.; Beaulieu,S. and Chandler, C. 2012. "The Integrated Ecosystems Assessment Initiative - enabling the assessment of impacts on Large Marine Ecosystems: informatics to the forefront of science based decision support". Poster R:27 presented in Theme Session R: Mapping and modelling of planktonic ecosystems for better monitoring and future projections of responses to global change during the ICES ASC in Bergen, Norway, September 2012.

Carbotte, S., S. Miller, A. Maffei, S. Smith, V. Ferrini, R. Arko, K. Stocks, S. O'Hara, C. Chandler, M. Bourassa, D. Clark, A. Sweeney, J. Morton. 2012. From Rolling Deck to Repository (R2R): Progress in Systematically Capturing Underway Data from the US Academic Fleet. Geo-Seas International Workshop, University College, Cork, Ireland. Oct 9-10, 2012. URL: http://www.geo-seas.eu/content/news_details.asp?menu=0220000_000026

Fredericks, J,; R. Arko, C. Chandler, H. Glaves, A. Maffei, J. Pearlman, K. Stocks, C. Waldmann (2012). OUTREACH AND COLLABORATION - EMERGING ACTIVITIES. 2012 SUMMIT WHITE PAPERS: A NEW DECADE OF THE INTEGRATED OCEAN OBSERVING SYSTEM. IOOS Summit, Herndon, VA.

Chandler, C.L., R.C. Groman, M.D. Allison, P.H. Wiebe, and D.M. Glover (12/3/12). Improving Access to Ocean Research Data throughout the Data Life Cycle. AGU 2012 Fall Meeting. San Francisco, CA. Allison, M.D., R.C. Groman, C.L. Chandler, C.R. Galvarino, P.H. Wiebe, and D.M. Glover (12/3/12). Visualization Beyond the Map: The Challenges of Managing Data for Re-Use. 2012 AGU Fall Meeting. San Francisco, California.

Lisa M. Raymond; Cynthia L. Chandler; Roy K. Lowry; Edward R. Urban; Gwenaelle Moncoiffe; Adam Leadbetter; Peter Pissierssens; Cathy Norton; Linda Pikula (2012) "Data Citation: An International Oceanographic Collaboration", Poster IN23C-1526 presented at 2012 Fall Meeting,

AGU, San Francisco, CA, 6 December 2012.

(<http://fallmeeting.agu.org/2012/eposters/eposter/in23c-1526/>)

Adam Shepherd; Robert A. Arko; Andrew R. Maffei; Cynthia L. Chandler (2012) "Maintaining Scientific Community Vocabularies in Drupal through Consumption of Linked Open Data and Web Services", Poster IN51C-1698 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012. (<http://fallmeeting.agu.org/2012/eposters/eposter/in51c-1698/>)

Elizabeth Coburn; Andrew R. Maffei; Cynthia L. Chandler; Lisa M. Raymond (2012) "Controlled Vocabularies and Ontologies for Oceanographic Data: The R2R Eventlogger Project", Poster IN51C-1699 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012. (<http://fallmeeting.agu.org/2012/eposters/eposter/in51c-1699/>)

Robert A. Arko; Cynthia L. Chandler; Paul D. Clark; Adam Shepherd; Carla Moore (2012) "Rolling Deck to Repository (R2R): Linking and Integrating Data for Oceanographic Research". Invited presentation IN51C-1700 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012. (<http://fallmeeting.agu.org/2012/eposters/eposter/in51c-1700/>)

Andrew R. Maffei; Cynthia L. Chandler; Laura Stolp; Stephen Lerner; James Avery; Tim Thiel (2012) "R2R Eventlogger: Community-wide Recording of Oceanographic Cruise Science Events" , Poster OS51E-1921 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012. (<http://fallmeeting.agu.org/2012/eposters/eposter/os51e-1921/>)

Robert A. Arko; Paul D. Clark; Cynthia L. Chandler; Shawn R. Smith (2012) "Rolling Deck to Repository (R2R): Building a Reference Cruise Catalog for the Research Fleet" , Poster OS51E-1920 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 6 December 2012. (<http://fallmeeting.agu.org/2012/eposters/eposter/os51e-1920/>)

2013

Chandler, C.L. (2013). The Data Life Cycle - Oceanographic Research Data. IMBER IMBIZO III pre-conference workshop. National Institute of Oceanography, Goa, India. January 2013.

Chandler, C.L. (2013). DATA MANAGEMENT IN SUPPORT OF IMBER RESEARCH. IMBER IMBIZO III. National Institute of Oceanography, Goa, India. January 2013.

Chandler, C.L., M.D. Allison, R.C. Groman, S.R. Gegg, P.H. Wiebe, D.M. Glover (2013). BCO-DMO: AN OCEAN BIOGEOCHEMISTRY DATA RESOURCE. ASLO 2013 Aquatic Sciences Meeting. New Orleans, LA. February 2013.

Allison, M. D., Groman, R. C., Gegg, S. R., Chandler, C. L., Sterner, R. W., Brovold, S., Galvarino, C. R., Wiebe, P. H., Glover, D. M (2013). MANAGING DATA FOR THE LONG HAUL: THE BCO-DMO PERSPECTIVE. ASLO 2013 Aquatic Sciences Meeting. New Orleans, LA. February 2013

Chandler, CL. 2013. Cyber-infrastructure for Oceanographic Research Data". Invited presentation: Ocean OMICS Workshop Planning Meeting. Hosted by the Consortium for Ocean Leadership, sponsored by GBMF and NSF OCE, Washington DC. 5 March 2013.

Chandler, C.L., R.C. Groman, M.D. Allison, P.H. Wiebe, D.M. Glover (March 2013). The Biological and Chemical Oceanography Data Management Office. IOC IODE XXII Conference. Ensenada, Mexico.

Arko, R.; C. Chandler, K.Stocks, S. Smith, PD Clark, A. Shepherd, C. Moore, S. Beaulieu (April 2013). Rolling Deck to Repository (R2R): Collaborative Development of Linked Data for Oceanographic Research. EGU General Assembly 2013. Vienna, Austria.

Chandler, C., R. Groman, M. Allison, P. Wiebe, and D. Glover (April 2013). Data Stewardship throughout the Ocean Research Data Life Cycle. EGU General Assembly 2013. Vienna, Austria.

Leadbetter, A; Lowry, R.K.; Arko, R.; Chandler, C.L.; and Shepherd, A. (April 2013). Adding Value to Semantics Through Vocabulary Extension and Mapping. EGU General Assembly. Vienna, Austria.

Poster: **Chandler**, C., R. Groman, D. Allison, P. Wiebe and D. Glover (2013) The Biological and Chemical Oceanography Data Management Office and Support for Ocean Acidification Research. poster. 2nd U.S. Ocean Acidification Principal Investigators' Meeting; Washington, DC;. 17-20 September 2013.

Talk: **Chandler**, C., R. Groman, D. Allison, P. Wiebe and D. Glover (2013) One Approach to Ensuring Long-term Access to Ocean Research Data, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #138, pgs. 213-215.

Talk: **Chandler**, C., S. Konovalov, H. Garcia, R. Schlitzer, L. Devine, G. Moncoiffé, T. Suzuki, A. Kozyr and G. Reed (2013) IODE Data Quality Flag Scheme, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #171, pgs. 197-199.

Poster: **Chandler**, C., A. Maffei, L. Stolp, C. Sellers, E. Coburn, T. Thiel, R. Arko (2013), R2R Science Eventlogger: Supporting Data Interoperability with Controlled Vocabularies, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #170, pgs. 276-278.

Poster: Raymond, L., C. **Chandler**, A. Leadbetter, E. Urban, P. Pissierssens and L. Pikula (2013) Publishing and Citing Ocean Data, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #057, pgs. 233-234.

Poster: Allison, D., R. Groman, C. **Chandler**, S. Rauch, D. Kinkade, P. Wiebe, D. Glover and C. Galvarino (2013) Are the Data Really Available?, Proceedings of IMDIS 2013 Intl. Conf. on Marine

Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #168, pgs. 184-185.

Talk: Leadbetter, A., R. Arko, C. **Chandler**, R. Lowry (2013), Linked Data: An Oceanographic Perspective, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #032, pgs. 18-20.

Talk: Carbotte, S., R. Arko, V. Ferrini, K. Stocks, S. Miller, A. Maffei, C. **Chandler**, S. Smith, M. Bourassa (2013), Rolling Deck to Repository (R2R): Working with International Partners to Improve Data Discovery and Access, Proceedings of IMDIS 2013 Intl. Conf. on Marine Data and Info. Sys., Lucca, Italy, Sept. 23-25, 2013. Bollettino di Geofisica Teorica ed Applicata, An Intl. Journal of Earth Sciences. Abstract #139, pgs. 38-39.

Copley, NJ, MD Allison, C **Chandler**, R Groman, A Shepherd, P Wiebe and D Glover. 2013. Biodiversity Vocabulary Management at BCO-DMO. Poster presented at the Biodiversity Information Standards (TDWG) 2013 Annual Conference. Florence, Italy. 28 Oct - 1 Nov 2013.

Presenter: **UNOLS Chief Scientist Training Program** (URI, Narragansett, RI; 20 October 2013) presentations on data management best practices for shipboard data and the R2R event logger system

2013 AGU Fall Meeting (San Francisco, CA; 8-13 December 2013; <http://fallmeeting.agu.org/2013/>)

Co-convenor of sessions IN51D and IN53C. Data Stewardship in Theory and in Practice. December 13, 2013. Conveners: **Cynthia Chandler** (Woods Hole Oceanographic Institution), D.L. McGuinness (Tetherless World Constellation, Rensselaer Polytechnic Institute), D.J. Wright (Environmental Systems Research Institute), and L.A. Wyborn (Geosciences Australia)

Invited talk: **Chandler**, C.L.; R.C. Groman; M.D. Allison; P.H. Wiebe; D.M. Glover (2013) "Using Controlled Vocabularies and Semantics to Improve Ocean Data Discovery". (Invited Talk) Abstract IN52B-05, presented at 2013 Fall Meeting, AGU, San Francisco, CA, 13 December 2013. (<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN52B/abstracts/IN52B-05.html>)

Poster: Arko, R.A.; K. Stocks; SP Miller; CL **Chandler**, AR Maffei, SR Smith; HM Glaves (2013) "Rolling Deck to Repository (R2R): Supporting Global Data Access Through the Ocean Data Interoperability Platform (ODIP)". Abstract IN53C-1574, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 13 December 2013. (<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN53C/abstracts/IN53C-1574.html>)

Poster: Kinkade, Danie; Molly D. Allison; Cynthia L. **Chandler**; Robert C. Groman; Shannon Rauch; Adam Shepherd; Stephen R. Gegg; Peter H. Wiebe; David M. Glover (2013) "BCO-DMO: Enabling Access to Federally Funded Research Data". Abstract PA31A-1814, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 11 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/PA/sessions/PA31A/abstracts/PA31A-1814.html>)

Poster: Narock, Thomas W.; Pascal Hitzler; Robert A. Arko; Cynthia L. **Chandler**; Eric A. Rozell (2013) "Leveraging Crowdsourcing and Linked Open Data for Geoscience Data Sharing and Discovery". Abstract IN23B-1431, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 10 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN23B/abstracts/IN23B-1431.html>)

Poster: Narock, Thomas W.; Robert A. Arko; Cynthia L. **Chandler**; Eric A. Rozell (2013) "Improved Access to Scientific Data Through Technology, Standards, and Best Practices". Abstract PA31A-1821, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 11 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/PA/sessions/PA31A/abstracts/PA31A-1821.html>)

Talk: Rauch, Shannon; Molly D. Allison; Robert C. Groman; Cynthia L. **Chandler**; Charlton Galvarino; Stephen R. Gegg; Danie Kinkade; Adam Shepherd; Peter H. Wiebe; David M. Glover. (2013) "Improved Discovery and Re-Use of Oceanographic Data through a Data Management Center". Abstract ED43E-03, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 12 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/ED/sessions/ED43E/abstracts/ED43E-03.html>)

Poster: Rauch, Shannon; Molly D. Allison; Robert C. Groman; Cynthia L. **Chandler**; Charlton Galvarino; Stephen R. Gegg; Danie Kinkade; Adam Shepherd; Peter H. Wiebe; David M. Glover (2013) "Improving the User Experience of Finding and Visualizing Oceanographic Data". Abstract IN31C-1508, poster presented at 2013 Fall Meeting, AGU, San Francisco, CA, 11 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN31C/abstracts/IN31C-1508.html>)

Invited talk: Shepherd, Adam; Robert C. Groman; Cynthia L. **Chandler**; David Gaylord; Miao Sun (2013) "Sustainable Software Decisions for Long-term Projects (Invited Talk) Abstract IN31D-03 presented at 2013 Fall Meeting, AGU, San Francisco, CA, 11 December 2013.

(<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN31D/abstracts/IN31D-03.html>)

2014

Poster: **Chandler**, CL, RC Groman, MD Allison, PH Wiebe and DM Glover (2014) "The Biological and Chemical Oceanography Data Management Office". Poster presented 8 January 2014 at Winter ESIP 2014, Washington, DC. <http://commons.esipfed.org/node/1907>

Session convener, presenter, participant. **2014 Joint Ocean Sciences Meeting** (23-28 February 2014; Honolulu, HI; <http://www.sgmeet.com/osm2014>)

I convened a session with Edward Kearns (NOAA), Kenneth Casey (NOAA), Benjamin Hamlington (UC Boulder), Andrew Bingham (NASA, JPL, PO-DACC), Robert Leben (UC Boulder)
Session Title: Big Data for a Big Ocean: Progress in Data Availability and Interoperability

Chandler, C. L.; Groman, R. C.; Allison, M. D.; Wiebe, P. H.; Glover, D. M. (2014) "BCO-DMO: IMPROVING DATA DISCOVERY AND ACCESS FOR OCEAN SCIENCE RESEARCH". poster ID 15007 presented at Session 113: Big Data for a Big Ocean: Progress in Data Availability and Interoperability. 2014 Ocean Sciences Meeting, Honolulu, HI. 27 February 2014. Abstract: <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=15007>

Groman, R. C.; Allison, M. D.; **Chandler**, C. L.; Glover, D. M.; Kinkade, D. B. (2014) "PROGRESS IN DATA DISCOVERY AND ACCESS". poster ID 17766 presented at Session 071: Frontiers of oceanographic data and methods. 2014 Ocean Sciences Meeting, Honolulu, HI. 27 February 2014. Abstract: <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=17766>

Kinkade, D. B.; Allison, M. D.; **Chandler**, C. L.; Groman, R. C.; Galvarino, C. (2014) "ACCESS TO MARINE PRIMARY PRODUCTION DATA AND METADATA IN THE BCO-DMO REPOSITORY". poster ID 17770 presented at Session 048: Ocean primary productivity: Variability and influence. 2014 Ocean Sciences Meeting, Honolulu, HI. 24 February 2014. Abstract: <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=17770>

Rauch, S. M.; Allison, M. D.; **Chandler**, C. L.; Gegg, S. R.; Groman, R. C. (2014) "BCO-DMO MANAGEMENT OF U.S. GEOTRACES TRACE ELEMENT AND ISOTOPE DATA". poster ID 17687 presented at Session 080: Biogeochemistry of Trace Elements and their Isotopes. 2014 Ocean Sciences Meeting, Honolulu, HI. 27 February 2014. Abstract: <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=17687>

Participant, presenter. **OA ICC Technical meeting on Management of Biological Data Related to Ocean Acidification: International Cooperation and Development of Standards** (23-24 April 2014; IAEA Environment Laboratories, Monaco Cedex, Monaco; http://ioc-unesco.org/index.php?option=com_oe&task=viewEventRecord&eventID=1493)

Presentation: **Chandler**, CL. (2014) "One Approach to Ensuring Long-term Access to Ocean Research Data"

Coordinator, discussion lead: Data Policy, Data Publication & Citation, and Early Involvement of Scientists

Chandler, C., R. Groman, A. Shepherd, M. Allison, R. Arko, Y. Chen, P. Fox, D. Glover, P. Hitzler, A. Leadbetter, T. Narock, P. West, and P. Wiebe. 2014. "Enhancing Ocean Research Data Access", Geophysical Research Abstracts, Vol. 16; EGU2014-2439. Presented in session "ESS11.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-2439.pdf>

Chandler, C. 2014. "Data Publication and Permanent Identifiers". Invited presentation, "Connecting Research Infrastructures through Brokering Services – A Joint COOPEUS – ODIP Workshop". EGU Splinter Meeting SPM 2.11. EGU General Assembly 2014, Vienna, Austria.

R. Arko, C. **Chandler**, K.Stocks, S. Smith, PD Clark, A. Shepherd, C. Moore, S. Beaulieu. 2014. "Rolling Deck to Repository (R2R): Collaborative Development of Linked Data for Oceanographic Research", Geophysical Research Abstracts, Vol. 16, EGU2014-9564, presented in Session "ESSI 1.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-9564.pdf>

Chen, Y, A. Shepherd, C. **Chandler**, R. Arko, A. Leadbetter (2014), "Ontology Based Vocabulary Matching for Oceanographic Instruments", Geophysical Research Abstracts, Vol. 16, EGU2014-12909-2. Presented in session "ESSI 1.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-12909-2.pdf>

Leadbetter, Lowry, Arko, **Chandler**, Shepherd. 2014. "Adding Value to Semantics Through Vocabulary Extension and Mapping", Geophysical Research Abstracts, Vol. 16, EGU2014-4868, presented in Session "ESSI 2.2 Metadata, Data Models, and Semantics" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-4868.pdf>

Leadbetter, A., R. Arko, C. **Chandler**, A. Shepherd (2014), "Linked Ocean Data", Geophysical Research Abstracts, Vol. 16, EGU2014-2101. Presented in session "ESSI1.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-2101.pdf>

Shepherd, A., C. **Chandler**, R. Arko, Y. Chen, A. Krisnadhi, P. Hitzler, R. Groman, S. Rauch (2014), "Semantic Entity Pairing for Improved Data Validation and Discovery", Geophysical Research Abstracts, Vol. 16; EGU2014-2476. Presented in session "ESSI1.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-2476.pdf>

Presenter, participant. **R2R National Data Center Annual Meeting** (14-16 May 2014; NGDC, Boulder, CO; URL: <http://rvdata.us>)
Presented updates on WHOI-R2R work: shipboard event logger and CTD data QA

Invited presenter. **UNOLS Chief Scientist Training** (9 June 2014; BIOS, Bermuda; <http://csw.unols.org/>)

Two presentations:

"Rolling Deck to Repository (R2R) Program: a Brief Overview"
"Introduction to Data Management"

Meeting coordinator, participant. **Semantics Smackdown**: an Agile exercise in smacking down and marking up ocean science research data (best workshop of the year by far !!) (10-13 June 2014; RPI/TWC, Troy, NY; <http://www.bco-dmo.org/meetings/semantics-smackdown-2014>)

Poster: Helen Glaves, Dick Schaap, Robert Arko, Karen Stocks, Cynthia **Chandler**, Shawn Smith, Suzanne Carbotte, Roger Proctor. 2014. "Towards a Global Framework to Support the Interoperability of Marine Data Management Infrastructures: ODIP and R2R Efforts". Poster presented at NSF EarthCube All-Hands Meeting, Washington, DC. 24-26 June 2014.

Invited plenary talk. **Chandler**, CL. (2014) "Technical Issues of Connecting GeoData within and Between Governmental Agencies: Focus on NSF Research Data". Presentation as part of panel of experts: "Technical issues of connecting geodata in and between governmental agencies". GeoData 2014. 18 June 2014.

Pre-conference workshop convener, presenter, participant. **IMBER OSM 2014: Future Oceans** (22-27 June 2014, Bergen, Norway, <http://www.imber.info/index.php/Meetings/IMBER-OSC-2014>)
Pre-conference event: Data Management Data Management for IMBER
Convener(s): Cyndy **Chandler** (BCO-DMO, WHOI), Todd D. O'Brien (NMFS-NOAA), Alberto Piola (SHN/UBA, Argentina); Presented workshop results in plenary.

Presenter and participant: **OCB Summer PI Meeting** (21-24 July 2014; WHOI, Woods Hole, MA; URL: <http://www.whoi.edu/workshops/ocbworkshop2014/>)

Poster presentation series: Biological and Chemical Oceanography Data Management Office
And also provided information resources for R2R and NSF EarthCube projects.

Session convener, presenter, participant. **ESIP Summer Meeting 2014: Linking It Together: Sustainable Software Advancing Science Data and Services** (8-11 July 2014; Frisco, CO; <http://commons.esipfed.org/taxonomy/term/1245>)

Poster: **Chandler**, C.L. (2014) "Linking Us Together: the GeoScience Knowledge Network". poster presentation at Summer ESIP 2014, Frisco, Colorado. July 2014.

Session co-convener: EarthCube Rapid Prototype Activities in Support of Improved Access to Ocean Science Data; Conveners: D. Kinkade; R. Arko; C. **Chandler**; A. Shepherd and S. Diggs

Session co-convener: Schema.org Dataset Extension Hack-a-Thon Conveners: D. Fils, A. Shepherd and C. **Chandler**

Session convener, presenter, participant. **ODIP Workshop #3**
(5-8 August 2014; AIMS, Townsville, Queensland, Australia; (URL: <http://www.odip.org/>)
Representative ODIP-USA;

Session lead, coordinator: Data Publication and Citation

Presenter: Data Publication and Citation: Regional Update on Projects in the USA

Invited talk: **Chandler**, Cynthia; Adam Shepherd; Tom Narock; Pascal Hitzler; Adila Krisnadhi; Michelle Cheatham; Krzysztof Janowicz; Robert Arko; Suzanne Carbotte; Lisa Raymond; Timothy Finin; Peter Wiebe (2014) 2nd International Ocean Research Conference (TOS-UNESCO/IOC). Oral Presentation: "OceanLink: Improving Ocean Science Data Discovery Through Semantics and

Linked Open Data", Workshop 1: Scientists sharing data: existing databases, improving access, data poor areas. 16 November 2014. Barcelona, Spain.

Poster: **Chandler**, Cynthia L.; Robert C. Groman, Adam Shepherd, Molly D. Allison, Danie B. Kinkade, Shannon M. Rauch, Stephen R. Gegg, Nancy Copley, Peter H. Wiebe and David M. Glover (2014) 2nd International Ocean Research Conference (TOS-UNESCO/IOC). Abstract #298, Poster Presentation: "BCO-DMO and the Evolving Data Management Paradigm", 18 November 2014. Barcelona, Spain.

Talk: Nobre, C; C **Chandler**; R Arko; L. Stolp; A Maffei (2014) "Understanding and Assessing CTD Data Quality: better data for better science". INMARTECH 2014: 9th International Marine Technician Symposium; Oregon State University, Corvallis, OR; 18-21 November 2014 (<http://inmartech2014.com/>)

Talk: Arko, R.; S. Carbotte, C. **Chandler**, S. Smith, K. Stocks, and the R2R Program Team (2014) "Rolling Deck to Repository (R2R): Data Stewardship for the U.S. Academic Research Fleet". Project status update for INMARTECH 2014: 9th International Marine Technician Symposium; Oregon State University, Corvallis, OR; 18-21 November 2014 (<http://inmartech2014.com/>)

Panel presentation: **Chandler**, C. (2014) "Interoperability & Ocean Science Data ~ the BCO-DMO Perspective". Panel presentation. Ocean Observations Research Coordination Network Interop Panel and Workshop. San Francisco, CA; 14 December 2014

Invited talk: **Chandler**, C.L.; R.C. Groman; A Shepherd; D Allison, D Kinkade, S Rauch, PH Wiebe, DM Glover and Biological and Chemical Oceanography Data Management Office staff (2014) "Provenance Through Time". (Invited Talk) Abstract IN34B-06, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 17 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN34B-06.html>)

Poster: **Chandler**, C.L.; R.C. Groman; D. Kinkade; A. Shepherd; M.D. Allison; S. Rauch; P.H. Wiebe; D.M. Glover (2014) "Partnerships: One Strategy for Meeting Big Data Challenges" (poster) Abstract IN11C-3625, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN11C-3625.html>)

Poster: Kinkade, D; CL **Chandler**; RC Groman; A Shepherd; MD Allison; S Rauch; PH Wiebe; DM Glover (2014) "Navigating a Sea of Big Data" (poster) Abstract IN11C-3622, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN11C-3622.html>)

Poster: Arko, RA; SM Carbotte; CL **Chandler**; SR Smith; KI Stocks and the R2R Program Team (2014) "Rolling Deck to Repository (R2R): Big Data and Standard Services for the Fleet Community" (poster) Abstract IN11C-3626, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 15 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN11C-3626.html>)

Talk: Narock,T; RA Arko; SM Carbotte; CL **Chandler**; M Cheatham; T Finin; P Hitzler ; A Krisnadhi; LM Raymond; A Shepherd; PH Wiebe (2014) "The OceanLink Project" (talk) Abstract IN34B-02,

presented at 2014 Fall Meeting, AGU, San Francisco, CA, 17 December 2014.
(<http://abstractsearch.agu.org/meetings/2014/FM/IN34B-02.html>)

Poster: Narock, T; RA Arko; SM Carbotte; CL **Chandler**; M Cheatham; D Fils; T Finin; P Hitzler; K Janowicz; M Jones; A Krisnadhi; KA Lehnert; A Mickle; LM Raymond; H Schildhauer; A Shepherd; PH Wiebe (2014) "Provenance Usage in the OceanLink Project" (poster) Abstract IN31C-3733, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 17 December 2014.
(<http://abstractsearch.agu.org/meetings/2014/FM/IN31C-3733.html>)

Poster: Stocks, KI; Y Chen; A Shepherd; CL **Chandler**; N Dockery; JL Elya; SR Smith; R Ferreira; L Fu; RA Arko (2014) "Facilitating Semantic Interoperability Among Ocean Data Systems: ODIP-R2R Student Outcomes" (poster) Abstract IN32A-03, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 17 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN32A-03.html>)

Poster: Mickle A; LM Raymond; A Shepherd; R Arko; SM Carbotte, CL **Chandler**; M Cheatham; D Fils; P Hitzler; K Janowicz; M Jones; A Krisnadhi; KA Lehnert; T Narock; H Schildhauer; PH Wiebe (2014) "Using Linked Open Data and Semantic Integration to Search Across Geoscience Repositories" (poster) Abstract IN53B-3807, presented at 2014 Fall Meeting, AGU, San Francisco, CA, 19 December 2014. (<http://abstractsearch.agu.org/meetings/2014/FM/IN53B-3807.html>)

2015

Invited keynote plenary talk: **Chandler**, C (2015) "Data Management for 21st Century Ocean Research". Invited keynote plenary talk, Scientific Conference Celebrating the Occasion of the 10th Anniversary of the Opening of the IOC Project Office for IODE in Oostende, Belgium; Provincial Court, Bruges, Belgium; 16 March 2015.

Plenary talk: **Chandler**, C (2015) "Better Science through Better Data". Plenary talk in support of my candidacy for co-chair, IODE XXIII: 23rd Session of the IODE Committee of the UNESCO IOC; Provincial Court, Bruges, Belgium; 17-20 March 2015.

PICO talk. **Chandler**, Cynthia; Robert Groman, Molly Allison, Nancy Copley, Stephen Gegg, Danie Kinkade, Shannon Rauch, David Glover, and Peter Wiebe (2015) "Indian Ocean Research Data: Past, Present and Future". Abstract EGU2015-2435. PICO presentation in Session BG3.2 "Understanding the Indian Ocean System: Past, Present and Future" at EGU General Assembly 2015; Vienna, Austria; 17 April 2015;
<http://meetingorganizer.copernicus.org/EGU2015/EGU2015-2435-1.pdf>

PICO talk. Arko, R; Suzanne Carbotte, Cynthia **Chandler** (presenter), Shawn Smith, and Karen Stocks (2015) "Rolling Deck to Repository (R2R): Standards and Semantics for Open Access to Research Data". Abstract EGU2015-7943. PICO presentation in Session ESS12.11/SSS11.8 "Metadata, Data Models, and Semantics" at EGU General Assembly 2015; Vienna, Austria; 14 April 2015;
<http://meetingorganizer.copernicus.org/EGU2015/EGU2015-7943-2.pdf>

PICO talk. Shepherd, A; Robert Arko, Adila Krisnadhi, Pascal Hitzler, Krzysztof Janowicz, Cynthia **Chandler**, Tom Narock, Michelle Cheatham, Mark Schildhauer, Matt Jones, Lisa Raymond, Audrey Mickle, Tim Finin, Doug Fils, Suzanne Carbotte, and Kerstin Lehnert (2015) "Ontology Design Patterns: Bridging the Gap Between Local Semantic Use Cases and Large-Scale, Long-Term Data Integration". Abstract EGU2015-8413. PICO presentation in Session ESSI2.11/SSS11.8 "Metadata, Data Models, and Semantics" at EGU General Assembly 2015; Vienna, Austria; 14 April 2015; <http://meetingorganizer.copernicus.org/EGU2015/EGU2015-8413-2.pdf>

Session convener, presenter, participant. ODIP Fourth Workshop (Liverpool, UK; April 2015; <http://odip.org/>) Representative ODIP-USA; Session convener and presenter: Data Publication and Citation; Controlled Vocabularies; Sampling Event terms. ODIP IV Workshop. 23 April 2015, Liverpool, England.

Session talk. **Chandler**, Cynthia L. (2015) "Data Publication: Update USA". Data Publication & Citation Session, ODIP IV Workshop. 23 April 2015, Liverpool, England.

Invited presentation at BODC. **Chandler**, Cynthia L. (2015) "Data Management for 21st Century Ocean research". Invited talk, BODC/NERC Special Seminar. 24 April 2015, BODC, Liverpool, England.

Presenter. **Chandler**, Cynthia, et al. (2015) "Biological and Chemical Oceanography Data Management Office". Invited talk. EarthCube All-Hands Meeting; Arlington, VA; 26-29 May 2015.

Presenter. **Chandler**, Cynthia, et al. (2015) "BCO-DMO & GeoLink: IMPROVING DATA DISCOVERY AND ACCESS FOR OCEAN SCIENCE RESEARCH RESULTS". Poster. EarthCube All-Hands Meeting; Arlington, VA; 26-29 May 2015.

Talk. **Chandler**, Cynthia. (2015) "R2R QA for CTD Profile Data: Annual Status Update Report. R2R National Data Centers Meeting. NCEI-Silver Spring; Silver Spring, MD; 3 June 2015.

Invited participant and presenter. **Chandler**, Cynthia and Yutaka Michida. (2015) "Report on IODE Intercessional Activities". IOC 68, 17-25 June 2015, UNESCO Headquarters, Paris, France.

Poster. **Chandler, Cynthia L**, Adam Shepherd, Peter H. Wiebe, Danie B. Kinkade, Shannon M. Rauch, Molly D. Allison, Nancy J. Copley, Stephen R. Gegg, David M. Glover, Robert C. Groman, Robert Arko, Suzanne Carbotte, Kerstin Lehnert, Peng Ji, Douglas Fils, Lisa Raymond, Audrey Mickle, Thomas Narock, Pascal Hitzler, Michelle Cheatham, Adila Alfa Krisnadhi, Timothy Finin, Krzysztof Janowicz, Matthew Jones, Mark Schildhauer, Yingjie Hu (2015) "BCO-DMO & GeoLink: Smart Data, Brilliant research". 2015 Summer ESIP Meeting. July 2015. Asilomar, CA.

Talk. **Chandler, C.** and R. Arko. (2015) "Big Data Challenges: Variety and Veracity". Ocean Data Interoperability Platform, Workshop 5, 28 Sep - 1 Oct 2015. Paris, France.

Talk. **Chandler, C.** (2015) "Use of Controlled Vocabularies by ODIP II USA Partners". Ocean Data

Interoperability Platform, Workshop 5, 28 Sep - 1 Oct 2015. Paris, France.

Invited plenary talk. **Chandler, CL** (2015) "Opportunities and Challenges for Marine Data Management to Support Future Ocean Research". First Open Conference of the European Marine Observation and Data Network (EMODnet); Oostende, Belgium; 20 October 2015 (<http://www.emodnet.eu/conference>).

Poster. **Chandler, CL** (2015) "Data Management in Support of IMBER Research". Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) IMBIZO IV; Abdus Salam International Centre for Theoretical Physics (ICTP) and Istituto Nazionale di Oceanografia e Geofisica Sperimentale (OGS), Trieste, Italy; October 2015. (<http://www.imber.info/index.php/Meetings/IMBIZO/IMBIZO-IV>)

Talk. **Krisnadhi**, Adila A, Robert Arko, Suzanne Carbotte, Cynthia Chandler, Michelle Cheatham, Pascal Hitzler, Yingjie Hu, Krzysztof Janowicz, Peng Ji, Nazifa Karima, Adam Shepherd and Peter Wiebe (2015) "R2R+BCO-DMO - Linked Oceanographic Datasets". Paper 4 presented at 14th International Semantic Web Conference (ISWC) 2015; Bethlehem, Pennsylvania; 11-15 October 2015 (<http://iswc2015.semanticweb.org/>)

Talk. **Krisnadhi**, Adila A, Yingjie Hu, Krzysztof Janowicz, Pascal Hitzler, Robert Arko, Suzanne Carbotte, Cynthia Chandler, Michelle Cheatham, Douglas Fils, Tim Finin, Peng Ji, Matthew Jones, Nazifa Karima, Kerstin Lehnert, Audrey Mickle, Tom Narock, Margaret O'Brien, Lisa Raymond, Adam Shepherd, Mark Schildhauer and Peter Wiebe (2015) "The GeoLink Modular Oceanography Ontology". Paper 30 presented at 14th International Semantic Web Conference (ISWC) 2015; Bethlehem, Pennsylvania; 11-15 October 2015 (<http://iswc2015.semanticweb.org/>)

Talk. **Krisnadhi**, Adila A., Yingjie Hu, Krzysztof Janowicz, Pascal Hitzler, Robert Arko, Suzanne Carbotte, Cynthia Chandler, Michelle Cheatham, Douglas Fils, Tim Finin, Peng Ji, Matthew Jones, Nazifa Karima, Kerstin Lehnert, Audrey Mickle, Tom Narock, Margaret O'Brien, Lisa Raymond, Adam Shepherd, Mark Schildhauer and Peter Wiebe (2015) "The GeoLink Framework for Pattern-based Linked Data Integration". Paper 99 presented at 14th International Semantic Web Conference (ISWC) 2015; Bethlehem, Pennsylvania; 11-15 October 2015 (<http://iswc2015.semanticweb.org/>)

Talk. **Chandler, CL** (2015) "IOC-UNESCO IODE Data and Information System". DATA SHARING PRINCIPLES, REQUIREMENTS AND IMPLEMENTATION IN LMICs. GEO XII Meeting. Mexico City, Mexico. 9-10 Nov 2015 (<http://www.earthobservations.org/geo12.php>).

Invited plenary talk. **Chandler, CL** (2015) "Data Discovery". Invited talk was 1 of a 5 part series on data management presented at Collaborative Strategies for Sustained Environmental Data Management; ASU, Tempe, AZ; 17-19 November 2015.

Talk. **Chandler, C.**, R. Arko and A. Shepherd (2015) "Toward Adoption of RDA Outcomes by US Ocean Science Data Repositories" Talk presented at the Fourth Research Data Alliance IG/WG Collaborations Workshop at National Institute of Standards and Technology (NIST), Gaithersburg, MD; 8-9 December 2015

Talk. **Chandler**, C. and A. Shepherd (2015) "Adoption of Data Citation Outcomes by BCO-DMO". Fourth Research Data Alliance IG/WG Collaborations Workshop at National Institute of Standards and Technology (NIST), Gaithersburg, MD; 8-9 December 2015

Invited talk. **Chandler**, Cynthia L., Robert C Groman, Danie Kinkade, Adam Shepherd, Shannon Rauch, Molly D Allison, Stephen R Gegg, Peter H Wiebe, David M Glover (2015) "Improved Access to NSF Funded Ocean Research Data". Abstract PA13B-02, presented in Session: Linking Climate Resources for Community Resilience. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 14 December 2015.
(<http://abstractsearch.agu.org/meetings/2015/FM/PA13B-02.html>)

Invited Talk. **Chandler**, Cynthia L. (2015) "Data Management in the Wild". Abstract IN24A-04, presented in session: Toward a Career in Data Science: Pathways and Perspectives. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 15 December 2015.
(<http://abstractsearch.agu.org/meetings/2015/FM/IN24A-04.html>)

Invited Talk. **Shepherd**, A., CL. Chandler, R. Arko, M. Jones, P. Hitzler, K. Janowicz, AA Krisnadhi, M. Schildhauer, D. Fils, T. Narock (2015) "Linked Data: Forming Partnerships at the Data Layer". Abstract IN12A-03 (Abstract ID: 60533), presented in session: IN12A Collaborations and Partnerships in Informatics 2: Policy, Social, Cultural, and Technical Issues of Data Facilities in a Big Data World. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 14 December 2015. (<http://abstractsearch.agu.org/meetings/2015/FM/IN12A-03.html>)

Poster. **Rauch**, S.; Allison, Molly D.; Chandler, Cynthia L.; Copley, Nancy J.; Gegg, Stephen R.; Glover, David M.; Groman, Robert C.; Kinkade, Danie; Shepherd, Adam; and Wiebe Peter H. ; (2015) "BCO-DMO: Supporting the Management and Sharing of Marine Trace Metal Data". Abstract GC51F-1155, presented in session GC076: Trace Metal Cycling in the Environment – 40 Years of Advancements. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 18 December 2015. (<http://abstractsearch.agu.org/meetings/2015/FM/GC51F-1155.html>)

Poster. **Kinkade**, D.; Allison, Molly D.; Chandler, Cynthia L.; Copley, Nancy J.; Gegg, Stephen R. and Groman, Robert C. (2015) "Essential Partnerships in the Data Management Life Cycle". Abstract IN21C-1705, presented in session: IN21C Collaborations and Partnerships in Informatics 2: Policy, Social, Cultural, and Technical Issues of Data Facilities in a Big Data World. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 15 December 2015.
(<http://abstractsearch.agu.org/meetings/2015/FM/IN21C-1705.html>)

Poster. **Arko**, RA, SM Carbotte, CL Chandler, M Cheatham, D. Fils, P. Hitzler, K. Janowicz, P Ji, MB. Jones, A Krisnadhi, KA Lehnert, A Mickle, T Narock, M O'Brien, LM Raymond, M Schildhauer, A Shepherd, PH Wiebe (2015) "EarthCube GeoLink: Semantics and Linked Data for the Geosciences". Abstract IN41C-1710, paper 79033, presented in session: IN41C Semantics for the Discovery, Access, and Integration of Geoscience Data. 2015 Fall AGU Meeting (<http://fallmeeting.agu.org/2015/>), San Francisco, CA. 17 December 2015.
(<http://abstractsearch.agu.org/meetings/2015/FM/IN41C-1710.html>)

2016

Invited talk. **Chandler**, CL and A Shepherd (2016) "BCO-DMO and GeoLink: Leveraging Semantic Web Technologies for Geoscience Research Data". Gulf of Mexico Oil Spill and Ecosystem Science Conference. Tampa, Florida. 1-4 February 2016. (<http://gulfresearchinitiative.org/2016-gulf-of-mexico-oil-spill-and-ecosystem-science-conference-call-for-abstracts-is-now-open/>)

Poster. **Chandler**, CL, Robert C Groman, Danie Kinkade, Shannon Rauch, Molly D Allison, Stephen R Gegg, Adam Shepherd, Peter H Wiebe, David M Glover (2016) "Interested in Pelagic Food Webs? BCO-DMO has your Data". Poster ME24E-0764 presented in session: Ocean Deoxygenation: Integrating Coastal and Oceanic Perspectives in a Changing World. 2016 Ocean Sciences. New Orleans, LA. 23 February 2016 (<http://osm.agu.org/2016/>; <https://agu.confex.com/agu/os16/meetingapp.cgi/Paper/88340>)

Poster. **Chandler**, CL, Robert C Groman, Danie Kinkade, Adam Shepherd, Shannon Rauch, Molly D Allison, Stephen R Gegg, Peter H Wiebe, David M Glover (2016) "BCO-DMO: Stewardship of Marine Research Data from Proposal to Preservation". Poster OD24B-2457 presented in session: Science at Sea: Marine Data Stewardship from Proposal to Preservation. 2016 Ocean Sciences. New Orleans, LA. 23 February 2016 (<http://osm.agu.org/2016/>; <https://agu.confex.com/agu/os16/meetingapp.cgi/Paper/87782>)

Poster. **Arko**, R, Suzanne M Carbotte, Cynthia L Chandler, Shawn R Smith, Karen I Stocks (2016) "Rolling Deck to Repository (R2R): Products and Services for the U.S. Research Fleet Community". Poster OD24B-2468 presented in session: Science at Sea: Marine Data Stewardship from Proposal to Preservation. 2016 Ocean Sciences. New Orleans, LA. 23 February 2016 (<http://osm.agu.org/2016/>)

Poster. **Rauch**, Shannon M., Allison, Molly D., Chandler, Cynthia L., Copley, Nancy J., Gegg, Stephen R., Glover David M., Groman, Robert C., Kinkade, Danie, Shepherd, Adam, and Wiebe, Peter H. (2016). Abstract CT14B-0136, "BCO-DMO: Providing Access to Trace Element and Isotope Data from the Atlantic Ocean and Beyond". Ocean Sciences Meeting. New Orleans, LA. 22 February 2016.

Talk. **Chandler, C**, A Shepherd, R Arko, A Leadbetter, R Groman ... (2016) "Building the Internet of Research Things". ESSI /GI Session: 20 years of Persistent Identifiers. EGU General Assembly 2016. Vienna, Austria. 21 April 2016.

Talk. **Chandler, CL**; C. Sellers and L. Stolp (2016) "Shipboard Event Logger System". R2R Advisory Meeting. Scripps Institution of Oceanography, La Jolla, CA. 5-6 April 2016.

Talk. **Chandler, CL** and C. Nobre (2016) "CTD Quality assessment and Data products". R2R Advisory Meeting. Scripps Institution of Oceanography, La Jolla, CA. 5-6 April 2016.

Talk. **Chandler, C** and A Shepherd (2016) "BCO-DMO and Use of PIDs" Talk presented at Ocean Data Interoperability Platform II, Workshop 1. NCAR, Boulder, CO. 2-5 May 2016

Talk. **Chandler, C**, and Team BCO-DMO (2016) " Leveraging semantic web technologies for marine

biology research data" Talk presented at Ocean Data Interoperability Platform II, Workshop 1. NCAR, Boulder, CO. 2-5 May 2016

Talk. **Chandler, C**, A Shepherd, D Bassendine (2016) "Adoption of Data Citation Outcomes by BCO-DMO" Talk presented at Ocean Data Interoperability Platform II, Workshop 1. NCAR, Boulder, CO. 2-5 May 2016

Poster. **Wiebe**, Peter H., Robert Groman, Nancy J. Copley, Dicky Allison, Danie B. Kinkade, Cynthia L. Chandler, Shannon M. Rauch, Stephen R. Gegg, and David Glover (2016) "Integrating DNA barcodes into oceanographic data management systems: the BCO-DMO approach". ZPS 2016 Workshop 7 "Toward a taxonomically-comprehensive global reference database for DNA barcodes of marine zooplankton". ICES/PICES 6th Zooplankton Production Symposium. 9-13 May 2016, Bergen, Norway.

Invited panel presentation. **Chandler, CL.** (2016) "Management of NSF-funded Ocean research Data". US CLIVAR Process Study and Model Improvement Panel Annual Meeting. Woods Hole, MA. 15 June 2016. Note: closed meeting, but presentations will eventually be shared online.

Invited presenter and participant. **Chandler, CL.** (2016) "Research Data Alliance (RDA) Dynamic Data Citation Recommendations". DATA CITATION WORKSHOP: DEVELOPING POLICY AND PRACTICE sponsored by the U.S. National Committee (USNC) Committee on Data for Science and Technology (CODATA) CODATA/ICSTI Task Group on Data Citation. National Academy of Sciences. Washington, DC. 12 July 2016 (<http://www.codata.org/task-groups/data-citation-standards-and-practices/international-series-of-data-citation-workshops/usa-data-citation-workshop-2016>)

Movie. WHOI Graphics, **C. Chandler** and Team BCO-DMO. (2016) "It's not the Size of the Data, It's the Impact of the Science". Movie shown at the 'Science as Art' event during 2016 ESIP Summer Meeting, Durham, NC. 19-22 July 2016.

Poster. Chandler, CL, Groman R, Wiebe P, Glover D, Allison M, Copley N, Gegg S, Kinkade D, Rauch S, Shepherd A (2016) "BCO-DMO: Southern Ocean Data and more". 2016 XXXIV Scientific Committee on Antarctic Research (SCAR) Meeting. Kuala Lumpur, Malaysia. 22 August 2016.