

Curriculum Vitae

ROBERT CARL GROMAN

Data Manager and Programmer
Information Systems Specialist
Biology Department
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EDUCATION

B.A. (Physics), Clark University, 1969
Graduate work in physics, Dartmouth College, 1969-1971
M.S. (Computer Science), Worcester Polytechnic Institute, 1981
Management courses, Cape Cod Community College, 1983, 1984

PROFESSIONAL EXPERIENCE:

Woods Hole Oceanographic Institution
Co-manager and data architect of the Biological and Chemical Oceanography Data Management Office,
2006 – present
Data manager, U.S. GLOBEC Northeast Pacific and Southern Ocean Programs, 2000 – 2012
Administrator and Data Manager, U.S. GLOBEC Georges Bank Program Service & Data Management,
1994 - 2012
Data manager, Northeast Consortium (2000-2011), FleetLink (2001-2009), and CMarZ (2004-2011)
Director, Information Systems Center, 1992 – 1994
Information Systems Specialist, March 1990 - present
Research Specialist, July 1983 - March 1990
Research Associate, April 1977 - July 1983
IPCL Manager, December 1989 - 1992
IPCL Acting Manager, February - December 1989
Word Processing System Supervisor - January 1984 to 1989
Computer System Supervisor, November 1980 – 1990
Research Assistant, September 1971-1977
Programmer, June - September 1969
Laboratory Assistant, May - September 1968

Private consulting, including computer programming and teaching courses in computer science, 1980 - present.

Book Review Editor, *Forum*, a publication of the Association for Computing Machinery Special Interest Group on Information Retrieval, 1977-2010.

Teaching Assistant, Dartmouth College, 1969-1971

Teaching Assistant, Clark University, 1968-1969

Computer and Programming Assistant, Clark University and Worcester Polytechnic Institute, 1967-1969

PROFESSIONAL AFFILIATIONS

Member, Upsilon Pi Epsilon
Member, Sigma Pi Sigma
Member, Association for Computing Machinery
Member, IEEE, Computer Society

RESEARCH INTERESTS: information organization and retrieval, web data access, programming languages, user interfaces, and operating systems

PROFESSIONAL ACTIVITIES:

WHOI: Member of the Information Technology Advisory Council (ITAC), 2009-present

Outside WHOI: Member, Executive Committee the Northeast Coastal and Ocean Data Partnership (NeCODP), 2012-present.

SUPERVISION AT WHOI:

Dicky Allison: 2000 – present
Nancy Copley (part time): 2004 – present
David Dubois (part time): 2011 - present
Danie Kinkade: 2012 - present
Skip Little (casual): 2010 - present
Shannon Rauch: 2012 - present
Warren Sass (part time): 1994 - present
Adam Shepard: 2012 - present
Chip Clancy (part time): 2006 - 2013
Mary Anne Daher (part time): 2008 - 2010
George Heimberdinger: 2005 - 2007

Guest Students, Shandong University of Science and Technology, China

Shengyan Li: 2012 – 2013
Changtao Liu: 2010 - 2011
Miao Sun: 2012 – 2013
Huang-Xiang Xu: 2007 - 2009
Xiaoyan Ye: 2009 – 2010
Jundong Zhang: 2014 - present
Xinhui Zhang: 2013 - present
Yanguang Zhang: 2011 - 2012

Student Volunteers

Marshall Tyler: 2009

CRUISE PARTICIPATION:

R/V CHAIN Cruise 82
R/V ATLANTIS II 67 Legs 6 and 7
R/V KNORR 77 Leg 2
USNS LYNCH, September 1 – 15, 1976
R/V ATLANTIS II 93 Leg 7

OTHER PUBLICATIONS:

Groman, R. C., B. P. Luyendyk, D. A. Richards and C. M. Wooding, 1972, Data Processing of Geophysical Time Series Data. WHOI Reference No. 72-95 by E. Uchupi and K. O. Emery.

Richards, D. A., S. R. Gegg and R. C. Groman, 1974. Preliminary Cruise Report and Index of Geophysical Data CHAIN 115, Leg 1. WHOI Reference No. 74-38.

Richards, D., R. Groman, B. Luyendyk and C. Denham, 1974. Guide to Marine Geophysical Digital Data, 1959-1972. WHOI Reference No. 74-44.

Richards, D. A., R. C. Groman and S. R. Gegg, 1974. Cruise Data Report CHAIN 115 Leg 2 Southlant Expedition. WHOI Reference No. 74-59.

Groman, R. C., 1974. The Digital Data Library System: Library Storage and Retrieval of Digital Geophysical Data. WHOI Reference No. 74-68.

Groman, R. C., S. R. Gegg and J. D. Kroll, 1975. Cruise Data Report R/V Chain 115, Leg 5, Southlant Expedition. WHOI Reference No. 75-29.

Denham, C. R. and R. C. Groman, 1975. Programming for At-Sea Data Processing, contained in the Proceedings of the Working Conference on Oceanographic Data Systems, W.H.O.I., November 12-14, 1975

Hoskins, H. and R. C. Groman, 1976. Informal Report on Surveys at IPOD Sites AT2.2 and AT2.3. Submitted to IPOD Site Survey Management.

Groman, R. C. and H. Hoskins, 1977. A Complete Navigation and Total Geomagnetic Processing Software Package using the Hewlett-Packard 9830 Calculator. WHOI Reference No. 77-23.

The Marine Geophysical Data Exchange Format - 'MGD77', Compiled by the MGD77 Task Group KGRD No. 10, National Geophysical and Solar-Terrestrial Data Center, September 1977.

Groman, R. C. and J. A. Dunworth, 1978. Cruise Data Report R/V ATLANTIS II 93 Leg 7. WHOI Reference No. 78-38.

Groman, R. C. 1979. Process Scheduling and Memory Management in the VAX -11/780 Computer. WHOI Technical Memorandum 1-79.

- Little, William S., Robert C. Groman and Lee Grove. Data Processing and Analysis in Oceanographic Research. Sea Technology, February 1980.
- Groman, R. C., 1981. Computer Storage and Retrieval of Position-Dependent Data at WHOI, in *Frontiers in Data Storage, Retrieval and Display Proceedings of a Marine Geology and Geophysics Data Workshop*, November 5-7, 1980, Boulder, Colorado, NOAA/EDIS/NGSDC June 1981. Allen M. Hittleman, editor.
- Groman, R. C., 1982. Computer Storage and Retrieval of Position-Dependent Data. WHOI Technical Memorandum 82-27.
- Groman, R. C., 1984. The VAX Generation: Management Decisions, USA 1984 Fall Proceedings of the Digital Equipment Computer Users Society, December 10-14, 1984. WHOI contribution number 5854.
- Groman, R. C., 1985. VAXcluster Management and User Experiences, USA 1985 Fall Proceedings of the Digital Equipment Computer Users Society, December, 1985. WHOI contribution number 6111.
- Groman, R. C., 1987. VAX Systems Coexisting in a Multi-vendor Environment, USA 1987 Spring Proceedings of the Digital Equipment Computer Users Society.
- Groman, R. C., 1989. Managing Computer Resources, USA 1989 Fall Proceedings of the Digital Equipment Computer Users Society.
- Groman, R. C., 1996. CD-ROM Appendix in *Deep Sea Research Part II, Topical Studies in Oceanography, Physical-Biological Interactions on Georges Bank and Its Environs*, Volume 43, No. 7-8, 1996. This multimedia CD-ROM is formatted as a self-contained Web site viewed by any standard Web Browser Groman, R. C. and Peter H. Wiebe. Management of Biological, Physical, and Chemical Data Within the U.S. GLOBEC Program, in *Proceedings of the International Workshop on Oceanographic Biological and Chemical Data Management*, May 20 - 23, 1996; NOAA Technical Report NESDIS 8, February 1997.
- Groman, R. C. U.S. GLOBEC Georges Bank Data Management System: A Demonstration, in Boehlert, G. W. and J. D. Schumacher, Eds. 1997. *Changing Oceans and Changing Fisheries: Environmental Data for Fisheries Research and Management*. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-239. Pp 124-125.
- Groman, R.C., and P.H. Wiebe. 1998. Data management in the U.S. GLOBEC Georges Bank Program. 1998. Ocean Community Conference '98 Proceedings, Marine Technology Society, Baltimore Md. pp. 807-812
- Fogarty, M. J., P. H. Wiebe, and R. C. Groman. US GLOBEC Georges Bank Program Completes Field Studies. GLOBEC International Newsletter 6.1:14, 2000.
- Groman, Robert C. Report of the 2nd IGBP-DIS Steering Group Meeting, in GLOBEC International Newsletter 6.1:22, April 2000.
- ICES 2002, "ICES/GLOBEC Sea-going Workshop for Intercalibration of Plankton Samplers. A compilation of data, metadata and visual material". ICES Cooperative Research Report, No. 250, May 2002 compiled and edited by Peter H. Wiebe, Lutz Postel, Hein Rune Skjoldal, Tor Knutsen, Molly Dicky Allison, and Robert C. Groman.
- Wiebe, Peter H., R. Beardsley, D. Mountain, M. D. Allison, and R. C. Groman, editors. Report of the U.S. GLOBEC Georges Bank Phase IV Synthesis - Startup Planning Meeting 11-12 July 2002. On-line report, September 2002, at <http://globec.who.edu/globec-dir/phase4doc/july2002/report.shtml>.
- Wiebe, Peter H., D. Allison, and R. C. Groman, editors. Report of the U.S. GLOBEC Georges Bank Science Meeting, 18-20 November 2003. On-line report, September 2004, at <http://globec.who.edu/globec-dir/phase4doc/simeeting2003/agenda.shtml>.
- Wiebe, Peter H., D. Allison, and R. C. Groman, editors. Report of the U.S. GLOBEC Georges Bank Science Meeting, 21 - 25 June 2004. On-line report at <http://globec.who.edu/globec-dir/phase4doc/simeeting2004/report.shtml>.
- Groman, R.C., M.D. Allison, and P.H. Wiebe, New MapServer Interface to US GLOBEC Data Sets, GLOBEC International Newsletter, Vol. 13, No. 1, April 2007, pp 92-94.
- 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.
- Wiebe, P.H., R.C. Groman, C. Chandler. 2011. Data Management in US GLOBEC, in *Current, The Journal of Marine Education*, 27, 2.

ORAL and POSTER PRESENTATIONS:

- Allison, M.D., R.C. Groman, C. Manning (UNH), and R. Gallant (UNH). 2005. Northeast Consortium Fisheries Ocean Data Management System. Poster presented at the Marine Fishermen's Forum, Rockport, ME. 27 October 2005 (Presented by M.D. Allison)

- Groman, R.C., P.H. Wiebe, M.D. Allison, G.F. Heimerdinger, A. Schloss, W.J. Armstrong, W.S. Little, N.H. Vine. 2006. Interoperability Enhancements to the JGOFS/GLOBEC Data Management System, AGU, January 2006 (Poster presented by P.H. Wiebe)
- Manning, C.A., R.C. Groman, M.D. Allison, P.H. Wiebe. 2006. MapServer Interface for the Northeast Consortium Fisheries and Ocean Data Management System, poster presented at the MIT/Sea Grant GIS/Fisheries meeting in Boston, MA, 11 April 2006. (Presented by C.A. Manning)
- Groman, R.C., P.H. Wiebe, M.D. Allison, and G. Heimerdinger. 2006. Adding Interoperability Features to the U.S. JGOFS/U.S. GLOBEC Data Management System, poster presentation at the ICES 2006 Congress meeting, the Netherlands, 19 – 23 September 2006.
- Allison, M.D., R.C. Groman, P.H. Wiebe, R. Gallant, C.A. Manning, Northeast Consortium Fisheries Ocean Data Management System, poster presented at the ICES 2006 Boston meeting, October 30 – November 3, 2006, Fishing Technology in the 21st Century: Integrating Fishing and Ecosystem Conservation and at the Northeast Consortium Annual Meeting, December 5, 2006, Portsmouth, NH.
- Allison, M.D., R.C. Groman, P.H. Wiebe, R. Gallant, C.A. Manning. Northeast Consortium Fisheries Ocean Data Fishing Technology in the 21st Century: Integrating Fishing and Ecosystem Conservation and at the Northeast Consortium Annual Meeting, December 5, 2006, Portsmouth, NH.
- Groman, R.C., Chandler, C.L., Allison, M.D., Wiebe, P.H., Glover, D.M. (2008). Discovery, access, interoperability, and visualization features of a web interface to oceanographic data, prepared for the ICES Annual Science Conference, September 22-26, 2008.
- Groman, R. C. and J. Manning. Introduction and on-line demonstration of the JGOFS data management system, ATSEE Matlab utilities and event log Quattro Pro utility at the U.S. GLOBEC Scientific Investigators' Workshop, October 1994.
- Flierl, G. R., R. C. Groman, C. L. Hammond, H. D. Livingston, P. H. Wiebe. A Distributed Data and Information System for JGOFS and the GLOBEC Georges Bank Program, poster session and on-line demonstration at the Fourth Scientific Meeting of the Oceanography Society, Newport, Rhode Island, April 18-21, 1995
- Groman, R. C. Update on Data Management Issues, presented at the U.S. GLOBEC Georges Bank Program Scientific Investigators' Workshop, Woods Hole, MA, 16-18 October 1995.
- Groman, R. C. U.S. GLOBEC Data Management System Overview for Georges Bank, invited talk at the ICES/GLOBEC Cod and Climate Database Workshop, Woods Hole, MA, 14-16 November 1995
- Groman, R. C. Management of Biological, Physical, and Chemical Data Within the U.S. GLOBEC Program. International Workshop on Oceanographic Biological and Chemical Data Management, May 20 - 23, 1996 at Bundesamt für Seeschifffahrt und Hydrographie, Hamburg, Germany.
- Groman, R.C. U.S. GLOBEC Georges Bank Data Management System. Presentation to the Center for Marine Science and Technology (CMAST), University of Massachusetts Dartmouth, September 18, 1997.
- Groman, R.C. and P. H. Wiebe. The US GLOBEC Georges Bank Study: Data and Information Management System, poster session at the ICES Annual Science Conference 1997, Baltimore, Maryland.
- Groman, R.C. and Peter H. Wiebe. Data Management in the U.S. GLOBEC Georges Bank Program, presented at the Marine Technology Society's Ocean Community Conference '98, November 18, 1998.
- Groman, R.C. US GLOBEC Data Management, presented at the W3: PICES-GLOBEC Data Management Workshop: Exchange, Inventory and Archival of GLOBEC Data, Qingdao, China, October 20, 2002
- Groman, R.C. *New* MapServer Interface to the JGOFS/GLOBEC Data Management System, presented at the Geographic Visualization for Ocean Sciences Workshop, November 8/9, 2006, Woods Hole, MA
- Groman, R.C. Data Access and Associated Tools: New MapServer Interface to the JGOFS/GLOBEC Data Management System, presented at the U.S. GLOBEC Pan Regional Meeting November 28 – 30, 2006, Boulder, CO.
- Groman, R.C. Putting Your Data on the Map: GoMODP and NERACOOS; BCO-DMO; and MapServer Interface and Interoperability Enhancements. Presented at the Woods Hole area Ocean Informatics Group, April 4, 2007.
- Groman, R.C. and M.D. Allison. *GoMODP, data interoperability and the MapServer interface to U.S. GLOBEC data*, presented at the U.S. GLOBEC Georges Bank Scientific Investigators' meeting, April 23, 2007.
- Groman, R.C. and M.D. Allison. *Northeast Consortium's Fisheries and Ocean Data Management System* presented at New England Fishery Management Council, Research Steering Committee Meeting, May 30, 2007.
- Groman, R.C. FleetLink: Meteorological and Oceanographic Data Automatically Telemetered from Fishing Vessels, presented at the NOAA's New England Marine Workshop, October 30-31, 2002
- Groman, R.C. Data Management in the U.S. GLOBEC Program, September 11, 2003, presented at the NVODS Use and Future Directions in Research, Operations, and Education: The 2003 National NVODS Workshop 10-12 September 2003

- Allison, M.D., R.C. Groman, A.C. Bucklin, P.H. Wiebe, Northeast Consortium Fisheries and Data Management System, poster session presented at the Northeast Consortium Annual Conference/Workshop, Portland, Maine, December 2003.
- Groman, R.C., P.H. Wiebe, M.D. Allison, and G.F. Heimerdinger, U.S. GLOBEC Data Management. American Geophysical Union, 2004 Ocean Sciences Meeting, Portland, Oregon. January 26-30, 2004. (OS32C-24). Eos. Trans. AGU: 84(52) page OS99 [Poster]
- Groman, R.C., P.H. Wiebe, N.H. Vine, and M.D. Allison. The JGOFS/GLOBEC Data Management System for Serving Physical and Biological Oceanographic Data and Plans to Enhance It, presented at the Open Geospatial Consortium Technical Committee Meeting – Natural Resources and Environment Working Group, January 18, 2005, United Nations, New York.
- Allison, M.D., R.C. Groman, C. Manning (UNH), and R. Gallant (UNH). 2005. Northeast Consortium Fisheries Ocean Data Management System. Poster presented at the Marine Fishermen's Forum, Rockport, ME. 27 October 2005 (Presented by M.D. Allison)
- Groman, R.C. Data Management Office and NEP, talk presented at the U.S. GLOBEC Northeast Pacific Scientific Investigators' Meeting, 10 – 12 January 2006, Seattle, WA
- Groman, R.C., P.H. Wiebe, M.D. Allison, G.F. Heimerdinger, A. Schloss, W.J. Armstrong, W.S. Little, N.H. Vine. 2006. Interoperability Enhancements to the JGOFS/GLOBEC Data Management System, AGU, January 2006 (Presented by P.H. Wiebe)
- Manning, C.A., R.C. Groman, M.D. Allison, P.H. Wiebe. 2006. MapServer Interface for the Northeast Consortium Fisheries and Ocean Data Management System, poster presented at the MIT/Sea Grant GIS/Fisheries meeting in Boston, MA, 11 April 2006. (Presented by C.A. Manning)
- Groman, R.C., P.H. Wiebe, M.D. Allison, and G. Heimerdinger. 2006. Adding Interoperability Features to the U.S. JGOFS/U.S. GLOBEC Data Management System, poster presentation at the ICES 2006 Congress meeting, the Netherlands, 19 – 23 September 2006.
- Allison, M.D., R.C. Groman, C. Manning (UNH), and R. Gallant (UNH). 2006. Northeast Consortium Fisheries Ocean Data Management System. Poster and PowerPoint talk presented at the Marine Fishermen's Forum, Rockport, ME, 1 – 4 March 2006. (Presented by M.D. Allison)
- Groman, R.C., P.H. Wiebe, M.D. Allison, and G. Heimerdinger. 2006. Adding Interoperability Features to the U.S. JGOFS/U.S. GLOBEC Data Management System, poster presented at the 2006 ICES Annual Science Conference, 19 – 23 September 2006, Maastricht, the Netherlands.
- Groman, R.C. *New MapServer Interface to the JGOFS/GLOBEC Data Management System*, presented at the Geographic Visualization for Ocean Sciences Workshop, November 8/9, 2006, Woods Hole, MA
- Groman, R.C. *Data Access and Associated Tools: New MapServer Interface to the JGOFS/GLOBEC Data Management System*, presented at the U.S. GLOBEC Pan Regional Meeting November 28 – 30, 2006, Boulder, CO.
- Groman, R.C. Putting Your Data on the Map: GoMODP and NERACOOS; BCO-DMO; and MapServer Interface and Interoperability Enhancements. Presented at the Woods Hole Area Ocean Informatics Group, April 4, 2007.
- Groman, R.C. and M.D. Allison. *GoMODP, data interoperability and the MapServer interface to U.S. GLOBEC data*, presented at the U.S. GLOBEC Georges Bank Scientific Investigators' meeting, April 23, 2007.
- Groman, R.C. and M.D. Allison. *Northeast Consortium's Fisheries and Ocean Data Management System* presented at New England Fishery Management Council, Research Steering Committee Meeting, May 30, 2007.
- Groman, R.C. Has *Data Management Gone Mainstream* presented at the Biology Department Seminar, May 31, 2007
- Groman, R.C., N. Copley, A. Bucklin, P.H. Wiebe, Allison, M.D., *The Design and implementation of the CMarZ Database and Species Pages*, poster presented at the Ocean Biodiversity Informatics Conference, October 2 – 4, 2007, Bedford Institute of Oceanography, Dartmouth, Nova Scotia
- Chandler, C.L., D.M. Glover, R.C. Groman, M.D. Allison, and P.H. Wiebe (2008). *An Introduction to the Biological and Chemical Oceanography Data Management Office (BCO-DMO)*, poster presented at the 2007 Fall AGU meeting, December 13, 2007, San Francisco, California.
- Groman, R.C., C.L. Chandler, M.D. Allison, D.M. Glover, and P.H. Wiebe (2008). *A new data management system for biological and chemical oceanography*, poster presented at the 2007 Fall AGU meeting, December 13, 2007, San Francisco, California.
- Chandler, C.L., R.C. Groman, M.D. Allison, D.M. Glover, and P.H. Wiebe (2008), *The Biological & Chemical Oceanography Data management Office*, poster presented at the 2008 NASA Carbon Cycle and Ecosystems Joint Science Workshop (CC&EJSW), April 28-May 2, 2008, Adelphi, MD.
- Groman, R.C. *BCO-DMO and modeling data*, presented at the 7th Informal Workshop on Coastal Circulation Modeling Around New England, May 29, 2008, NMFS, Woods Hole, MA.

- Groman, R.C., Chandler, C.L., Allison, M.D., Wiebe, P.H., Glover, D.M. (2008). *Discovery, access, interoperability, and visualization features of a web interface to oceanographic data*, presented at the ICES Annual Science Conference, September 22-26, 2008.
- M.D. Allison, R.C. Groman, C.L. Chandler, D.M. Glover and P.H. Wiebe. Making Data Available via the Biological and Chemical Oceanography Data Management Office: Implementation Details
- Wiebe, P.H., R.C. Groman, and M.D. Allison. Oceanographic Informatics in a Collaborative Environment. *A Eos Trans. AGU*, 89 (53), Fall Meet. Suppl., Abstract IN51D-06 Invited.
- Allison, M.D., R.C. Groman, N. Copley, P.H. Wiebe. *A GeoSpatial Interface to Northeast Consortium Fisheries and Ocean Data*, poster presented at the Northeast Consortium annual meeting, March 25, 2009.
- Allison, M.D., R.C. Groman, C.L. Chandler, D.M. Glover, P.H. Wiebe, and S.R. Gegg. A Geographic Focus of the Biological and Chemical Oceanography Data Management System. Poster presentation at the Spring AGU 2009 Joint Assembly in Toronto, Canada, May 24-27, 2009.
- Cynthia, C.L. Chandler, R.C. Groman, M.D. Allison, D.M. Glover, P.H. Wiebe, S.R. Gegg. Better Practices for Management of Oceanographic Research Cruise Data, poster presentation at the Ocean Carbon & Biogeochemical Summer Workshop, July 20-23, 2009.
- Maffei, A.R., C.L. Chandler, T.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-2051 (poster).
- Allison, M.D., R.C. Groman, C.L. Chandler, C.R. Galvarino, D.M. Glover, P.H. Wiebe, S.R. Gegg. A Geographic Focus of the Biological and Chemical Oceanography Data Management System, poster presentation at the IMDIS 2010: International Conference on Marine Data and Information Systems, 29-31 March 2010, Paris, France. (poster)
- Chandler, C.L., R.C. Groman, M.D. Allison, , D.M. Glover, P.H. Wiebe. Better Practices for the Management of Ocean Biogeochemistry Data. Poster presented at the OCB Summer Workshop, July 2010, La Jolla, CA.
- Allison, M.D., R.C. Groman, N. Copley and P.H. Wiebe. Fisheries and Oceans Data Management, poster presented at the Northeast Consortium Project Participant's Meeting. October 21, 2010. Portsmouth, NH.
- Allison, M.D., C.L. Chandler, N.L. Copley, C.R. Galvarino, S.R. Gegg, D.M. Glover, R.C. Groman, P.H. Wiebe, T.T. Work. NSF-Sponsored Biological and Chemical Oceanography Data Management Office. (poster) AGU Meeting, San Francisco, CA, December. 2010.
- Chandler, C.L.; M.D. Allison; R.C. Groman; P. West; S. Zednik; A.R. Maffei. Developing an Ontology for Ocean Biogeochemistry Data. 2010. A poster presented at the AGU Fall Meeting, San Francisco, CA. December 13-17, 2010.
- Work, T.T.; C.L. Chandler; R.C. Groman; M.D. Allison; S.R. Gegg. Automating Data Submission to a National Archive. 2010. A poster presented at the AGU Fall Meeting, San Francisco, CA. December 13-17, 2010
- Chandler, C.L., M.D. Allison, R.C. Groman, T. McKee, P.H. Wiebe, and D.M. Glover. 2011. CARIACO Time-series Data Management. Poster presented at ASLO 2011 meeting, February 17, 2011.
- Allison, Molly D., Cynthia L. Chandler, Robert C. Groman, Nancy L. Copley, Stephen R. Gegg, Peter H. Wiebe, and David M. Glover. Management of Plankton Distribution and Abundance Data. 2011. A poster presented at the ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico. February 13-18, 2011.
- Wiebe, Peter H., Molly D. Allison, Robert C. Groman, Cynthia L. Chandler. Data Management in Support of Zooplankton Research. 2011. A poster presented at the 5th International Zooplankton Production Symposium, Pucon, Chile. March 14-18, 2011
- Allison, M. Dickson; Robert C. Groman; Cynthia L. Chandler; Peter H. Wiebe. Data Management and Data Availability in Support of Marine Biodiversity Research. 2011. A Digital Object (movie) presented at the World Conference on Marine Biodiversity 2011, Aberdeen, Scotland. September 26-30, 2011. ftp://globec.who.edu/pub/bcodmo/0640_allison.mov (also available as .mp4 and .wmv)
- Allison, M. Dickson, N.J. Copley, R.C. Groman and P.H. Wiebe. Current Status of the Northeast Consortium Cooperative Research Data Collection. Northeast Regional Collaborative Research Conference, Portsmouth, NH. October 27-28, 2011.
- Allison, M. Dickson, C.L. Chandler, R.C. Groman, P.H. Wiebe, D.M. Glover, and S.R. Gegg. The Biological and Chemical Oceanography Data Management Office. AGU Fall Meeting, December 5-9, 2011, San Francisco, CA. Poster, presented by C.L. Chandler.
- Chandler, C.L., Groman, R.C., Allison, M.D., Glover, D.M., Wiebe, P.H., and Gegg, S.R. 2012. Biological And Chemical Oceanography Data Resources For Coastal And Marine Spatial Planning. 2012 Ocean Sciences Meeting, Salt Lake City. Joint Ocean Sciences Meeting Session on 'Data Systems that Support the US National Policy. Abstract ID 12414. [osm2012-abstracts.pdf](#), page 9.
- Allison, M.D., Chandler, C. L., Groman, R. C., Wiebe, P. H., and Galvarino, C. R. 2012. Data Management and Data Availability in Support of Ecosystem Based Management and Marine Spatial Planning. 2012 Ocean

- Sciences Meeting, Salt Lake City. Joint Ocean Sciences Meeting Session on 'Data Systems that Support the US National Policy. Abstract ID 9722. [osm2012-abstracts.pdf](#), page 70.
- Chandler, C.L., R.C. Groman, M.D. Allison, P.H. Wiebe, D.M. Glover, and S.R. Gegg. Effective Management of Ocean Biogeochemistry and Ecological Data: the BCO-DMO Story. SECTION/FOCUS GROUP: Earth and Space Science Informatics (IN) and OS SESSION: ESS11.2/OS4.7 Informatics in Oceanography and Ocean Science (co-organized). EGU Spring 2012 (late April in Vienna, Austria).
- Groman, Robert C. Data Management Practices: BCO-DMO's Successes and Challenges. 2012. Presentation at the Northeastern Regional Association of Coastal Ocean Observing Systems and the Northeast Coastal and Ocean Data Partnership (NERACOOS/NeCODP) Data Management Workshop, September 26, 2012.
- Chandler, C.L., M.D. Allison, R.C. Groman, T. McKee, P.H. Wiebe, D.M. Glover. 2013. Data from Three NSF-funded, Ship-based, Ocean Time-series Programs, Global Intercomparability in a Changing Ocean: An International Time-series Methods Workshop, Bermuda Institute for Ocean Sciences, November 28-30, 2012.
- Allison, M.D., R.C. Groman, C.L. Chandler, C.R. Galvarino, P.H. Wiebe, D.M. Glover. 2012. Visualization Beyond the Map: The Challenges of Managing Data for Re-Use, Fall AGU meeting poster presented by M.D. Allison, 6 December 2012.
- Chandler, C.R., R.C. Groman, M.D. Allison, P.H. Wiebe, and D.M. Glover. 2012. Improving Access to Ocean Research Data Throughout the Data Life Cycle, Fall AGU, 6 December 2012.
- Groman, R.C. and M.D. Allison. 2013. Visualizing Fitness for Purpose, Workshop on Data Visualization to Support Ecosystem Based Management, NMFS North Atlantic Regional Team (NART), Portland, Maine, February 5-6, 2013.
- Allison, M.D., R.C. Groman, S.R. Gegg, C.L. Chandler, P.H. Wiebe, D.M. Glover, R.W. Sterner, S. Brovold, and C.R. Galvarino,. 2013. Managing Data for the Long Haul: The BCO-DMO Perspective, ASLO February 17-23, 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 Aquatic Sciences Meeting, New Orleans, LA, February 17-22, 2013.
- Chandler, C.L., R.C. Groman, M.D. Allison, P.H. Wiebe, D.M. Glover. 2013. The Biological and Chemical Oceanography Data Management Office, IOC IODE XXII Conference, . Ensenada, Mexico, March, 2013.
- Chandler, C.R., R.C. Groman, M.D. Allison, P.H. Wiebe, and D.M. Glover. 2013. Data Stewardship throughout the Ocean Research Data Life Cycle, EGU General Assembly, Vienna, Austria, April 2013.
- Allison, M.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.
- Allison, Dicky, Bob Groman, Cyndy Chandler and Nancy Copley. 2013. Vocabulary Management at BCO-DMO. A webinar presented to the Semantic Web Working Group within the USGS Community for Data Integration, 12 December 2013.
- Allison, M. Dickson, Charlton Galvarino, and Adam Shepherd. Data Discovery: Unleashing the power of Geospatial Linked Data. 2014. Talk presented at the Linking Geospatial Data meeting, 5-6 March 2014, Campus London, Shoreditch, UK.
- Chandler, C.R., R.C. Groman, M.D. Allison, P.H. Wiebe, and D.M. Glover. 2013. Data Management in Support of Ocean Acidification Research, U.S. Ocean Acidification Principal Investigators' Meeting, Gallaudet University, Washington, DC, September 18-20, 2013.
- 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.
- 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.
- 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>)
- 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, 9-13 December 2013.
(<http://abstractsearch.agu.org/meetings/2013/FM/sections/ED/sessions/ED43E / abstracts/ED43E-03.html>)

- 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.
- Shepherd, Adam, R. Groman, C. Chandler, D. Gaylord, M. Sun (2013). Sustainable Software Decisions for Long-term Projects (Invited). Abstract IN31D-03 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 December 2013 (<http://abstractsearch.agu.org/meetings/2013/FM/sections/IN/sessions/IN31C/abstracts/IN31C-1508.html>)
- 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>)
- 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>
- Chandler, C. L.; Groman, R. C.; Allison, M. D.; Wiebe, P. H.; Glover, D. M.: BCO-DMO: IMPROVING DATA DISCOVERY AND ACCESS FOR OCEAN SCIENCE RESEARCH, poster ID 2291, session 113 Big Data, Including Ocean Climate Data: Data Availability, Techniques, and Applications, 2014 Ocean Sciences Meeting, Honolulu, HI, 27 Feb 2014.
- 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>
- Chandler, C. L.; Groman, R. C.; Allison, M. D.; Wiebe, P. H.; Glover, D. M.; BCO-DMO: IMPROVING DATA DISCOVERY AND ACCESS FOR OCEAN SCIENCE RESEARCH <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=15007>
- Chandler, C.L., Groman, R.C., Kinkade, D.B., Shepherd, A., Allison, M.D., Rauch, S.M., Gegg, S.R., Copely, N., Wiebe, P.H., and Glover, D.M. 2014 (2014). Partnerships: One strategy for meeting big data challenges. AGU Fall Meeting. San Francisco, CA.
- Chandler, C., R. Groman, M. Allison, P. Wiebe, and D. Glover. 2014. "Data Stewardship throughout the Ocean Research Data Life Cycle", Geophysical Research Abstracts, Vol. 16, EGU2014-8280, presented in Session "ESSI 2.4 Managing data and models: full lifecycle, uncertainty and large scale analytics" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-8280.pdf>
- 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 "ESSI 1.2 Informatics in Oceanography and Ocean Science" at EGU General Assembly 2014, Vienna, Austria. <http://meetingorganizer.copernicus.org/EGU2014/EGU2014-2439.pdf>
- Copely, N.J.; M. Dickson Allison, Robert C. Groman, Cynthia L. Chandler, Peter H. Wiebe, and David M. Glover. Biodiversity Vocabulary Management at BCO-DMO. Biodiversity Information Standards Meeting, Florence, Italy, 28 Oct – 1 Nov. 2013. Poster
- Kinkade, D.B.; Allison, M. D., Chandler, C. L., Groman, R. C., Rauch, S., Shepherd, A., Gegg, S. R., Wiebe P. H., Glover, D. M. BCO-DMO: Enabling Access to Federally Funded Research Data. 2013. Abstract PA31A-1814 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 December 2013.
- 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>
- Groman, R. C.; Allison, M. D.; Chandler, C. L.; Copely, N.J.; Gegg, S.R.; Glover, D.M.; Kinkade, D.B.; Rauch, S.M.; Shepherd, A.; and Wiebe, P.H.: Progress in Data Discovery and Access: The Next Steps, poster ID 1707, session 071 Frontiers of Oceanographic Data and Methods, 2014 Ocean Sciences Meeting, Honolulu, HI, 27 Feb 2014. <http://www.sgmeet.com/osm2014/viewabstract.asp?AbstractID=17766>

- 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>
- Wiebe, Peter H., Robert C. Groman, Cynthia L. Chandler, David M. Glover, Stephen R. Gegg, Molly D. Allison, Danie B. Kinkade, Adam Shepherd and Shannon M. Rauch. 2014. BCO-DMO Supports the Ocean Carbon and Biogeochemistry Summer Workshop 2014. Poster Garden on display throughout the OCB Summer Meeting, July 21-24, 2014. (Danie Kinkade and Shannon Rauch presenting)
- Kinkade, D., Chandler, C.L., Groman, R.C., Shepherd, A., Allison, M.D., Rauch, S., Wiebe, P.H., and Glover, D.M. (2014). Navigating a Sea of Big Data. AGU2014 Fall Meeting. San Francisco, CA.
- Chandler, C.L., Groman, R.C., Shepherd, A., Allison, M.D., Kinkade, D.B., Rauch, S.M., Gegg, S.R., Copley, N., Wiebe, P.H., and Glover (2014). BCO-DMO and the Evolving Data Management Paradigm. 2nd International Ocean Research Conference (TOS-UNESCO/IOC). Workshop 1: Scientists sharing data: existing databases, improving access, data poor areas. Barcelona, Spain.
- Allison, M.D., Kinkade, D., Wiebe, P.H., Chandler, C., and Groman, R.C. (2014). Data Management Serving the Needs of Interdisciplinary Oceanographic Research. 2nd International Ocean Research Conference (TOS-UNESCO/IOC). Workshop 1: Scientists sharing data: existing databases, improving access, data poor areas. Barcelona, Spain.
- Chandler, C.L., Groman, R.C., Shepherd, A., Allison, M.D., Kinkade, D.B., Rauch, S.M., Wiebe, P.H., and Glover, D.M. (2014). Provenance through time. AGU 2014 Fall Meeting. San Francisco, CA.
- Chandler, C., Shepherd, A., Wiebe, P., Kinkade, D., Allison, M.D., Copley, N.J., Gegg, S.R., Glover, D.M., Groman, R.C., Rauch, S.M., Arko, R., Carbotte, S., Lehnert K., Ji, P., Fils, D., Raymond, L., Mickle, A., Narock, T., Hitzler, P., Cheatham, M., and Krisnadhi, A.A., Finin, T., Janowicz, K., Jones, M., Schildhauer, M., and Hu, Y. (2015). BCO-DMO and GeoLink: Improving Data Discovery and Access for Ocean Science Research Results. EarthCube All Hands Meeting. Arlington, VA.
- Chandler, C.L., Groman, R.C., Allison, M., Copley, N., Gegg, S.R., Glover, D.M., Kinkade, D., Rauch, S., Shepherd, A., Wiebe, P.H. (2015). Data Management in Support of Ocean Acidification Research. Ocean Acidification PI Meeting. Woods Hole, MA.
- Chandler, C.L., Groman, R.C., Allison, M.D., Copley, N., Gegg, S.R., Kinkade, D.B., Rauch, S.M., Glover, D., and Wiebe, P. (2015). Indian Ocean Research Data: Past, Present and Future. EGU General Assembly. Vienna, Austria.