

## Amber D. York

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## PROFESSIONAL PREPARATION

Boston University B.A., Biology with a Specialization in Marine Science, Magna Cum Laude, May 14, 2006

Boston University M.S., Computer Information Systems, Subconc. Web Application Development  
May 20, 2018

## APPOINTMENTS

2016-present	Information Systems Associate II	Woods Hole Oceanographic Institution
2007-2016	Research Associate I - II	Woods Hole Oceanographic Institution
2006-2007	Research Assistant	Advanced Habitat Imaging Consortium
2001-2004	Aquarium Worker	Woods Hole Science Aquarium

## PROFESSIONAL SKILLS

Programming Languages: Python, Perl, MATLAB, R, unix command line, HTML5, CSS, Javascript, PHP, JQuery (UI and Mobile), angular.js, node.js

Databases: postgresSQL, Oracle, MySQL, MS Access, MongoDB

Expertise areas: Data management, processing, and visualization. Web application development, image processing, and mobile development (android), database design, data warehousing, collaborative coding, and revision control management (git/svn).

Operating systems: Linux (mostly Ubuntu/CentOS), Windows, some Mac

Spoken languages: Japanese, Spanish

Dive qualifications: Nitrox, Drysuit, Advanced SCUBA (NAUI)

Fieldwork experience: Fiber-optic termination, in-situ sensor/observatory installation and maintenance, sea-going technician, benthic organism identification.

## PRODUCTS

Ake, H., Biddle, M., Copley, N., Kinkade, D., Rauch, S., Saito, M. A., ... & York, A. (2018). Biological & Chemical Oceanography Data Management Office: a domain-specific repository for oceanographic data from around the world [poster]. <https://hdl.handle.net/1912/9578>

Miller, T. J., Hart, D. R., Hopkins, K., Vine, N. H., Taylor, R., York, A. D., & Gallagher, S. M. (2018). Estimation of the capture efficiency and abundance of Atlantic sea scallops *Placopecten magellanicus* from paired photographic-dredge tows using hierarchical models. *Canadian Journal of Fisheries and Aquatic Sciences*. doi: [10.1139/cjfas-2018-0024](https://doi.org/10.1139/cjfas-2018-0024)

Kinkade, D., Shepherd, A., Saito, M. A., Wiebe, P. H., Ake, H., Biddle, M., ... & York, A. (2017, December). Seven [Data] Habits of Highly Successful Researchers. In *AGU Fall Meeting Abstracts*.

- Kaplan, K. A., Hart, D. R., Hopkins, K., Gallager, S., York, A., Taylor, R., & Sullivan, P. J. (2017). Evaluating the interaction of the invasive tunicate *Didemnum vexillum* with the Atlantic sea scallop *Placopecten magellanicus* on open and closed fishing grounds of Georges Bank. *ICES Journal of Marine Science*. doi: [10.1093/icesjms/fsx076](https://doi.org/10.1093/icesjms/fsx076)
- Kaplan, K. A., Hart, D. R., Hopkins, K., Gallager, S., York, A., Taylor, R., & Sullivan, P. J. (2017). Invasive tunicate restructures invertebrate community on fishing grounds and a large protected area on Georges Bank. *Biological Invasions*, 1-17. doi:[10.1007/s10530-017-1517-y](https://doi.org/10.1007/s10530-017-1517-y)
- Chang, J. H., Hart, D. R., Shank, B. V., Gallager, S. M., Honig, P., & York, A. D. (2016). Combining imperfect automated annotations of underwater images with human annotations to obtain precise and unbiased population estimates. *Methods in Oceanography*, 17, 169-186. doi: <https://doi.org/10.1016/j.mio.2016.09.006>
- Kinkade, D.; C. Chandler, A. Shepherd, S. Rauch, R. Groman, P. Wiebe, D. Glover, M. Allison, N. Copley, H. Ake, A. York (2016). Trustworthy Digital Repositories: Building Trust the Old Fashion Way, EARNING IT. 2016 Fall AGU Meeting. San Francisco, CA
- Hart, D., Shank, B., Gallager, S., Honig, P., York, A., & Chang, J., (2016) Combining imperfect automated annotations of underwater images with human annotations to obtain precise and unbiased population estimates. *Methods in Oceanography*. doi: [10.1016/j.mio.2016.09.006](https://doi.org/10.1016/j.mio.2016.09.006)
- Kaplan, K. Hart, D., Hopkins, K., Gallager, S., York, A., Taylor, R., & Sullivan, P. (2016) The invasive tunicate *Didemnum vexillum* limits Atlantic sea scallop *Placopecten magellanicus* habitat on fishing grounds and closed areas of Georges Bank. *Marine Ecology Progress Series*. Manuscript submitted for publication.
- Dawkins, M., Stewart, C., Gallager, S., & York, A. (2013). Automatic scallop detection in benthic environments. In *Applications of Computer Vision (WACV), 2013 IEEE Workshop on* (pp. 160–167). inproceedings.
- Futrelle, J., Maffei, A. R., Sosik, H. M., Gallager, S. M., & York, A. (2013). What Not To Do: Anti-patterns for Developing Scientific Workflow Software Components. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 1442). inproceedings.
- Futrelle, J., & York, A. (2012). Collaborative Design of an Image Annotation Tool for Oceanographic Imaging Systems. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 1688). inproceedings.
- Gallager, S., Howland, J., York, A., Lerner, S., Wilby, A., Walden, L., ... others. (2010). Characterization of Scallop Abundance and Benthic Habitat Using Optical and Acoustic Imaging Technology. *Final Report to NMFS, NEFC*. article.
- York, A. D. (2009). HabCam sheds light on invading tunicate: habitat mapping camera system monitors ecosystem change over time and space. *Sea Technology*, 50(8), 41–46. article.
- Gallager, S. M., Lerner, S., York, A. D., Miller, E., & Girard, A. (2008). Design, installation, and operation of the PLUTO observatory, Isla de Canales de Tierra, Panama. In *OCEANS 2008* (pp. 1–10). inproceedings.
- Gallager, S. M., Taylor, R., Vine, N., York, A. D., Lerner, S., Kit-Powell, H., ... others. (2008). The northeast benthic-pelagic observatory (NEBO) to support sea scallop fisheries and ecosystem approaches to management. In *JOURNAL OF SHELLFISH RESEARCH* (Vol. 27, p. 1010). inproceedings.
- Gallager, S. M., York, A. D., Longonje, Y., & White, S. (2008). Larval shell formation: Requirement for SR may be explained by amorphous calcium carbonate as a precursor phase for aragonite. In *JOURNAL OF SHELLFISH RESEARCH* (Vol. 27, pp. 1009–1010). inproceedings.
- York, A., Gallager, S., Taylor, R., Vine, N., & Lerner, S. (2008). Using a towed optical habitat mapping system to monitor the invasive tunicate species *Didemnum* sp along Georges Bank. In *JOURNAL OF SHELLFISH RESEARCH* (Vol. 27, pp. 1066–1067). inproceedings.
- Gallager, S. M., Howland, J., York, A., Taylor, R., Vine, N., Prasad, L., ... others. (2007). Development of

imaging hardware and an optical image database and processing tools for automated classification of benthic habitat and enumeration of commercially important scallop stocks. In *JOURNAL OF SHELLFISH RESEARCH* (Vol. 26, p. 1311). inproceedings.

## **SYNERGISTIC ACTIVITIES**

My background in marine biology has aided me in developing data management and visualization products that focus on serving the needs of scientists. My current work as a data manager at bco-dmo.org allows me to utilize both my data processing skills and scientific background to prepare and serve contributed datasets. I promote open-source culture and am a contributor to the pyoceans project python-ctd repository (<https://github.com/pyoceans/python-ctd>). I have designed databases for the HabCam seafloor imaging system which along with the complete HabCam system are an example of technology transfer from WHOI to NOAA Fisheries. I also design web visualizations of biological datasets for purposes of both data collection and data exploration. Other past project experience includes installation of and maintenance visits to underwater observatories. I have worked on the following projects: Panama Liquid Jungle Underwater Tropical Observatory (PLUTO), Polar Remote Interactive Marine Observatory (PRIMO), the Okinawa Ocean Cube Observatory (OIST), and Oshima Ocean Cube Observatory (Tokyo University).

## **PARTICIPATION IN SCIENTIFIC CRUISES AND EXPEDITION**

2015 - Okinawa - OIST Ocean Cube Observatory Repair  
2014 - Oshima - Tokyo University Ocean Cube Observatory maintenance  
2014 - Okinawa - OIST Ocean Cube Observatory Repair and Upgrade  
2014 - HabCam Cruise aboard the R/V Connecticut, photographic survey  
2013 - Oshima - Tokyo University Ocean Cube Observatory pre-deployment visit  
2013 - Okinawa - OIST Ocean Cube Observatory  
2012-2015 - NOAA NEFSC Scallop Survey R/V Hugh R. Sharp - HabCam photographic survey (yearly)  
2010 - Panama LJJ Underwater Tropical Observatory - node removal  
2009 - R/V Natsushima - Plankton sampling and pteropod culture across the Kuroshio Front  
2008 - Panama LJJ Underwater Tropical Observatory, maintenance, high-res UW Camera, VPR surveys  
2007 - Panama LJJ Underwater Tropical Observatory, maintenance, installed sensors  
2006-2012 - HabCam photographic cruises aboard the F/V Kathy Marie (2-5 per year)