

Shaun Walbridge

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Research Interests

spatial ecology, marine spatial planning, geospatial processes, data mining, scientific software

Education

M.A. Ecology, Evolution and Marine Biology, University of California at Santa Barbara, 2012.

B.S. Physical Geography, University of California at Santa Barbara, 2004.

Employment

Esri

Oceans Engineer, July 2012–,

Work directly with Chief Scientist on developing new ocean science research

National Center for Ecological Analysis and Synthesis

Researcher and Software Engineer, August 2004–July 2012,

- developed web application for monitoring the effectiveness of ecosystem-based management
- developed collaborative software for working groups and distributed graduate seminars to work virtually, in a centralized web-based system for managing content
- extended the functionality of Metacat, an ecoinformatics metadata database
- global marine threats project activities included:
 - developing a global hydrologic model at 1 km^2 resolution, focused on land-sea interactions
 - developing a plume model for measuring terrestrial impacts on the near-shore
 - creating a shipping density model based on public climate data
 - running a full monte carlo simulation for a 18-hour runtime model across a cluster
 - spatializing an artisanal fishing model developed by E.M.P. Madin

University of California at Santa Barbara, Instructional Computing

Application Developer, September 2001–June 2004

- Write and manage custom web applications
- Developed new internal sites for tracking and managing business operations

Teaching Assistant, General Computing Skills, January 2002–June 2002

- Developed course curriculum for technology education of disadvantaged students
- Taught fundamental computing concepts
- Taught computer applications

Senior Consultant, January 2001–March 2002

- Managed daily business operations while directly supervising eight consultants
- Resolved computer and network issues, wrote UNIX certification tests.

Consultant, September 2000–December 2000

- Resolved computer and network issues, assisted users both PC and Macintosh labs
- Assisted users with major software packages.

Foundation for the Preservation of the Mahayana Tradition

Systems Administrator, March 1999–September 1999

Publications

Journal Articles

1. Micheli, F., Halpern, B.S., **Walbridge, S.**, Ciriaco, S., Ferretti, F., Frascchetti, S., Lewison, R., Nykjaer, L., Rosenberg, A. *In-press*. Cumulative human impacts on Mediterranean and Black Sea marine ecosystems: assessing current pressures and opportunities in seas under siege. *PLOS ONE*.
2. McKenna, M., Katz, S., Condit, C., **Walbridge, S.** 2012. Response of commercial ships to a voluntary speed reduction measure: Are voluntary strategies adequate for mitigating ship strike risk. *Coastal Management*. Vol: 40. Iss: 6. Pages 634-650.
3. Halpern, B.S., Ebert, C., Kappel, C., Madin, E.M.P., Micheli, F., Perry, M., Selkoe, K.A., **Walbridge, S.** 2009. Global priority areas for incorporating land-sea connections in marine conservation. *Conservation Letters*. Pages 1-8.
4. Selkoe, K.A., Kappel, C.V., Halpern, B., Micheli, F., D'Agrosa, C., Bruno, J.F., Casey, K.S., Ebert, C.M., Fox, H., Fujita, R., Heinemann, D., Lenihan, H.S., Madin, E.M.P., Perry, M., Selig, E.R., Spalding, M., Steneck, R.S., **Walbridge, S.**, Watson, R. 2008. Response to comment on a global map of human impact on marine ecosystems. *Science*. Vol: 321. Pages 1446c.
5. Halpern, B.S., **Walbridge, S.**, Selkoe, K.A., Kappel, C.V., Micheli, F., D'Agrosa, C., Bruno, J.F., Casey, K.S., Ebert, C.M., Fox, H., Fujita, R., Heinemann, D., Lenihan, H.S., Madin, E.M.P., Perry, M., Selig, E.R., Spalding, M., Steneck, R.S., Watson, R. 2008. A global map of human impact on marine ecosystems. *Science*. Vol: 319. Pages 948-952.

Master's Thesis

Walbridge, S. 2013. [Assessing Ship Movements Using Volunteered Geographic Information](#). University of California at Santa Barbara. California, USA.

Published Technical Reports

1. Peterman, R.M., Adams, P.B., Dorner, B., Drake D., Geiger, H.J., Holt K.R., Jordan, C., Larsen, D.P., Leider, S., Lincoln, R., Olsen, A.R., Parken, C., Rodgers, J., **Walbridge, S.** 2010. The Salmon Monitoring Advisor: A web site to help users to design and implement salmon monitoring programs. Located at <http://salmonmonitoringadvisor.org>. Developed through a grant from the Gordon and Betty Moore Foundation, Palo Alto, California, which was administered through the United States National Center for Ecological Analysis and Synthesis (NCEAS) in Santa Barbara, California. Released 3 September 2010.

Scientific Software

Benthic Terrain Modeler, seascape classification software.

PlumeBuffer, a plume distribution model utilizing GRASS GIS, with Matt Perry (2007–2011). Usage:

- Reefs at Risk: analysis of threats to coral reefs
- Massachusetts human impact analysis
- California current human impact analysis
- Global map of human impact on marine ecosystems

NCEAS Collaborative Buildout, a web-based environment for sharing working group resources (2009–2012).

Ecosystem-based management system, a web-based environment for analyzing EBM effectiveness (2005).

COASST Data Management System for citizen science (2008–)

Metacat, a flexible metadata database (2006–2010) *Contributor*.

raster package, raster algebra for R (2011–) *Contributor*.

Additional Work

Further software projects on [GitHub](#).

I contribute to the [GIS StackExchange](#), where I'm among the top 2% of contributors.

Working Groups

NCEAS working group: Pyrogeography - fire's place in earth system science

National Center for Ecological Analysis and Synthesis, April 2010–

NCEAS working group: Monitoring responses of pacific salmon to climate change

National Center for Ecological Analysis and Synthesis, March 2008–November 2011

NCEAS Distributed Graduate Seminar on measuring ecosystem-based management effectiveness

National Center for Ecological Analysis and Synthesis, August 2004–January 2005

NCEAS working group: Putting ocean wilderness on the map

National Center for Ecological Analysis and Synthesis, January–April 2005

Conference Posters

Geographic approaches to enabling ecological synthesis

Walbridge, S., Regetz, J., Leinfelder, B., Jones, M.B., Schildhauer, M. Scientific Applications with Google Earth Conference University of Michigan, Ann Arbor October 23, 2008.

Web-based collaboration in an ecology think-tank

Walbridge, S., Schildhauer, M., Regetz, J., Jones, M.B., Reeves, R. Environmental Information Management Conference 2008, pp. p. 190. 2008 University of New Mexico October 10, 2008.

Simplified deployment of the Metacat data and metadata system

Daigle, M., Jones, M.B., Leinfelder, B., **Walbridge, S.**, Tao, J. Environmental Information Management Conference 2008, pp. p. 183. 2008 University of New Mexico October 10, 2008.

Membership

Association of American Geographers

Association for Computing Machinery

American Geophysical Union

Electronic Frontier Foundation

Long Now Foundation

Technology Skills

Scientific Languages (MATLAB, Arc Macro Language, R)

Programming Languages (Python, Ruby, Javascript, Java, SQL, C, PHP)

Markup Languages (L^AT_EX, HTML, XML, Markdown)

Geospatial (ArcGIS, ArcInfo, GDAL, PostGIS, GRASS GIS)

Databases (PostgreSQL, MySQL, SQLite, ZODB, LDAP)

Version Control (Git, Subversion, CVS)

Ecoinformatics (Metacat, Kepler, Morpho, EML)

Operating Systems (FreeBSD, Linux, OS X, Windows)

References

Benjamin S. Halpern
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