Curriculum Vitae (June 2017)

Nicholas H. Wolff

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Citizenship

USA and Australia

Education

- University of Queensland, School of Biological Sciences, Ph.D., Feb. 2017
- University of Rhode Island, Graduate School of Oceanography, M.S., 1996
- Bowdoin College, B.A., 1989

Employment

2016-present

Climate Change Scientist, The Nature Conservancy, Brunswick, Maine, USA

- Conduct climate change / conservation research
- Support decisions and strategy development
- Assist with and/or lead preparation of manuscripts, presentations, grants, reports
- Prepare content (maps, visualizations, data, etc) for website
- Collaborate on numerous projects, including travel and workshop presentations and committee duties

2010-2015

Research Officer, University of Queensland, School of Biological Sciences, St Lucia, Queensland, Australia

- Spatial modeler / GIS specialist
- Data analysis, visualization/mapping, management
- Conduct coral reef field research
- Assist with and/or lead preparation of manuscripts, presentations, grants, reports
- Prepare content (maps, visualizations, data, etc) for website
- Collaborate on numerous projects, including travel and workshop presentations and committee duties

2002-2010

Research Associate, University of Southern Maine, Department of Environmental Science, Aquatic Systems Group, Portland, Maine, USA

- Data analysis, visualization/mapping, management: serve as Database Manager for Gulf of Maine Census of Marine Life Project. GIS manager
- Conduct oceanographic field research: responsible for deploying, maintaining various instruments. Serve a chief scientist on many cruises
- Supervise students, staff (Research Assistants (2006 – 2009); Web Designer (2006 – 2010))
- Assist with preparation of manuscripts, presentations, grants, reports
- Prepare content (maps, visualizations, data, etc) for website
- Collaborate on numerous projects, including travel and workshop presentations and committee duties
- Laboratory Safety Officer for Aquatic Systems Group

2000-2002

Research Associate, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, Maine, USA

- Data analysis, visualization/mapping, management

- Conduct oceanographic field research: responsible for deploying, maintaining various instruments. Serve a chief scientist on many cruises
- Supervise students
- Assist with preparation of manuscripts, presentations, grants, reports
- Collaborate on numerous projects, including travel and workshop presentations
- Manage laboratory

1998-2000
Research Assistant, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, Maine, USA

- Data analysis, visualization/mapping, management
- Conduct oceanographic field research: responsible for deploying, maintaining various instruments
- Assist with preparation of manuscripts, presentations, grants, reports
- Laboratory and microscopy work

1997
Research Assistant, California Department of Fish and Game, Monterey, CA, USA

- Conduct field research (SCUBA): Fish censuses and transects along Monterey and Big Sur coasts, comparing rock fish communities inside and outside marine reserves

Research interests

In my new role at The Nature Conservancy I use climate change analysis to support decisions and strategy development across TNC's conservation programs. I search for natural solutions to the major environmental and social challenges a changing climate poses for nature and people. Current research includes investigating links between forest cover, local temperature regulation, and human health in tropical forest landscapes. My goal is to quantify the role tropical forest conservation can serve in helping people adapt to a changing climate. Additional research includes measuring the emissions mitigation potential of traditional fire management practices in global savannah landscapes.

Ph.D. (and ongoing) research focused on understanding the impacts of natural and anthropogenic disturbances on coral reefs, particularly in the context of climate change. My goal is to provide science that will deliver improved management. To do this, I integrate large-scale datasets of thermal stress, ocean acidification, cyclone tracks, terrestrial runoff (and other disturbance layers) with climate projections and ecological models to predict coral reef futures. These predictions offer insights into where local management efforts will provide the most benefit in the coming decades.

Relevant software

- ARC GIS (user since 2000)
- Matlab (user since 1998)
- Marxan (user since 2010); Official trainer in June 2015
- R (user since 2009)
- MS ACCESS (user since 1998)
- PostgreSQL (user since 2008)

Refereed publications

Hock K, **Wolff NH**, Ortiz JC, Condie SA, Anthony KRN, Blackwell PG, Mumby PJ (2017) Connectivity and systemic resilience of the Great Barrier Reef. *PLoS Biol* 15(11)

Wolff, N.H., Wong, A., Vitolo, R., Stolberg, K., Anthony, K.R.N. & Mumby, P.J. (2016). Temporal clustering of tropical cyclones on the Great Barrier Reef and its ecological importance. *Coral Reefs*, 1–11.

Hock, K., **Wolff, N.H**., Beeden, R., Hoey, J., Condie, S.A., Anthony, K.R.N., Possingham, H.P. & Mumby, P.J. (2015). Controlling range expansion in habitat networks by adaptively targeting source populations. *Conservation Biology*

Wolff, N.H., Donner, S.D., Cao, L., Iglesias-Prieto, R., Sale, P.F. & Mumby, P.J. (2015). Global inequities between polluters and the polluted: climate change impacts on coral reefs. *Glob Change Biol*, 21, 3982–3994.

Harborne, A.R., Nagelkerken, I., **Wolff, N.H**., Bozec, Y.-M., Dorenbosch, M., Grol, M.G.G. & Mumby, P.J. (2015). Direct and indirect effects of nursery habitats on coral-reef fish assemblages, grazing pressure and benthic dynamics. *Oikos*

Devlin, M.J., Petus, C., da Silva, E., Tracey, D., **Wolff, N.H**., Waterhouse, J. & Brodie, J. (2015). Water Quality and River Plume Monitoring in the Great Barrier Reef: An Overview of Methods Based on Ocean Colour Satellite Data. *Remote Sensing*, 7, 12909–12941.

Beger, M., McGowan, J., Treml, E.A., Green, A.L., White, A.T., **Wolff, N.H**., Klein, C.J., Mumby, P.J. & Possingham, H.P. (2015). Integrating regional conservation priorities for multiple objectives into national policy. *Nat Commun*, 6, 8208.

Rogers, A., Harborne, A.R., Brown, C.J., Bozec, Y.-M., Castro, C., Chollett, I., Hock, K., Knowland, C.A., Marshell, A., Ortiz, J.C., Razak, T., Roff, G., Samper-Villarreal, J., Saunders, M.I., **Wolff, N.H.** & Mumby, P.J. (2015). Anticipative management for coral reef ecosystem services in the 21st century. *Glob Change Biol*, 21, 504–514.

Ortiz, J.C., Bozec, Y.-M., **Wolff, N.H.,** Doropoulos, C. & Mumby, P.J. (2014). Global disparity in the ecological benefits of reducing carbon emissions for coral reefs. *Nature Clim. Change*, 4, 1090–1094.

Hock, K., **Wolff, N.H.,** Condie, S.A., Anthony, K.R.N. & Mumby, P.J. (2014). Connectivity networks reveal the risks of crown-of-thorns starfish outbreaks on the Great Barrier Reef. *J Appl Ecol*, 51, 1188–1196.

Mumby, P.J., Chollett, I., Bozec, Y.-M. & **Wolff, N.H.** (2014a). Ecological resilience, robustness and vulnerability: how do these concepts benefit ecosystem management? *Current Opinion in Environmental Sustainability*, 7, 22–27.

Mumby, P.J., **Wolff, N.H.**, Bozec, Y.-M., Chollett, I. & Halloran, P. (2014b). Operationalizing the Resilience of Coral Reefs in an Era of Climate Change. *Conservation Letters*, 7, 176–187.

Jordaan, A., Frisk, M.G., Incze, L.S., **Wolff, N.H**., Hamlin, L. & Chen, Y. (2012). Multivariate dissemination of species relationships for use in marine spatial planning. *Can. J. Fish. Aquat. Sci.*, 70, 316–329.

Pitcher, R.C., Lawton, P., Ellis, N., Smith, S.J., Incze, L.S., Wei, C.-L., Greenlaw, M.E., **Wolff, N.H.**, Sameoto, J.A. & Snelgrove, P.V.R. (2012). Exploring the role of environmental variables in shaping patterns of seabed biodiversity composition in regional-scale ecosystems. *Journal of Applied Ecology*, 49, 670–679.

Li, W.K.., Andersen, R.A., Gifford, D.J., Incze, L.S., Martin, J.L., Pilskaln, C.H., Rooney-Varga, J.N., Sieracki, M.E., Wilson, W.H. & **Wolff, N.H.** (2011). Planktonic microbes in the Gulf of Maine area. *PloS one*, 6, e20981.

Incze, L.S., Lawton, P., Ellis, S.L., **Wolff, N.H.** & others. (2010a). Biodiversity knowledge and its application in the Gulf of Maine area. *Life in the world's oceans: Diversity, distribution, and abundance. Oxford: Blackwell Publishing Ltd*, 43–63.

Incze, L., Xue, H., **Wolff, N**., Xu, D., Wilson, C., Steneck, R., Wahle, R., Lawton, P., Pettigrew, N. & Chen, Y. (2010b). Connectivity of lobster (Homarus americanus) populations in the coastal Gulf of Maine: part II. Coupled biophysical dynamics. *Fisheries Oceanography*, 19, 1–20.

Fautin, D., Dalton, P., Incze, L.S., Leong, J.A.., Pautzke, C., Rosenberg, A., Sandifer, P., Sedberry, G., Tunnell, J.W., Abbott, I. & others. (2010). An overview of marine biodiversity in United States waters. *PLoS One*, 5, e11914.

Stevick, P.T., Incze, L.S., Kraus, S.D., Rosen, S., **Wolff, N.** & Baukus, A. (2008). Trophic relationships and oceanography on and around a small offshore bank. *Mar Ecol Prog Ser*, 363, 15–28.

Xue, H., Incze, L., Xu, D., **Wolff, N.** & Pettigrew, N. (2008). Connectivity of lobster populations in the coastal Gulf of Maine:: Part I: Circulation and larval transport potential. *ecological modelling*, 210, 193–211.

Annis, E.R., Incze, L.S., **Wolff, N.** & Steneck, R.S. (2007). Estimates of in situ larval development time for the lobster, Homarus americanus. *Journal of Crustacean biology*, 27, 454–462.

Incze, L.S., Wahle, R.A., **Wolff**, **N**., Wilson, C., Steneck, R., Annis, E., Lawton, P., Xue, H. & Chen, Y. (2006). Early life history and a modeling framework for lobster (Homarus americanus) populations in the Gulf of Maine. *Journal of Crustacean Biology*, 26, 555.

Incze, L.S., **Wolff**, **N**. & Wahle, R.A. (2003). Can scientific observations of early life stages be scaled up to the level of a fished population? A case study using Homarus americanus. *Fisheries Research*, 65, 33–46.

Incze, L.S., Hebert, D., **Wolff**, **N**., Oakey, N. & Dye, D. (2001). Changes in copepod distributions associated with increased turbulence from wind stress. *Marine Ecology Progress Series*, 213, 229–240.

Wolff, **N**., Grober-Dunsmore, R., Rogers, C.S. & Beets, J. (1999). Management implications of fish trap effectiveness in adjacent coral reef and gorgonian habitats. *Environmental biology of fishes*, 55, 81–90.