

## David Nicholson

Associate Scientist  
Marine Chemistry and Geochemistry  
Woods Hole Oceanographic Institution  
Woods Hole, MA 02543

508-289-3547  
[dnicholson@whoi.edu](mailto:dnicholson@whoi.edu)  
[www.whoi.edu/profile/dnicholson](http://www.whoi.edu/profile/dnicholson)

### EDUCATION

---

- 10/2009     **Ph.D.** in Oceanography  
University of Washington, Seattle, WA  
**Advisor:** Professor Steve Emerson  
**Thesis:** *Nitrogen, oxygen and the noble gases as tracers of upper-ocean productivity and air-sea gas fluxes*
- 1/2004     **M.S.** in Geological and Environmental Sciences  
Stanford University, Stanford, CA  
**Advisor:** Professor Adina Paytan  
**Thesis:** *Phosphorus status of phytoplankton in Monterey and San Francisco Bays*
- 6/2003     **B.S.** in Geological and Environmental Science, Chemistry Minor,  
Stanford University, Stanford, CA

### PROFESSIONAL EXPERIENCE

---

- 8/2016     **Associate Scientist**  
- Present     Woods Hole Oceanographic Institution, Woods Hole, MA
- 8/2011     **Assistant Scientist**  
- Present     Woods Hole Oceanographic Institution, Woods Hole, MA
- 10/2009    **Postdoctoral Investigator, Supervisor: Scott Doney**  
- 8/2011     Woods Hole Oceanographic Institution, Woods Hole, MA
- 6/2009     **Visiting Graduate Student, Supervisor: Scott Doney**  
- 10/2009    Woods Hole Oceanographic Institution, Woods Hole, MA
- 5/2004     **Research Assistant, Supervisor: Steve Emerson**  
- 10/2009    School of Oceanography, University of Washington, Seattle, WA
- 5/2001     **Research Assistant, Supervisor: Adina Paytan**  
- 12/2003    Geological and Environmental Sciences, Stanford University, Stanford, CA
- 8/2000     **NSF REU, Supervisor: Dennis Hansell**  
- 11/2000    Bermuda Biological Station for Research, Ferry Reach, Bermuda

## RESEARCH INTERESTS

---

- Autonomous platforms and sensors for biogeochemistry
- Biogeochemical and ecosystem models of varying complexity
- Air-sea gas exchange
- Primary productivity
- Dissolved gas tracers

## AWARDS AND HONORS

---

- WHOI Early Career Scientist Award, July 2019
- Best Poster, PICES/ICES Young Investigator Symposium, April 2012, Mallorca, Spain
- NASA Earth System Science Graduate Fellow, Fall 2006 – Fall 2009
- Organizer/Founder: The Graduate Climate Conference, April 2006, Seattle, WA
- UW Program on Climate Change Graduate Fellow, June 2004 – June 2005
- Scripps Institute of Oceanography Reagents Fellowship (declined), 2004

## PUBLICATIONS IN REVIEW

---

- Dever, M., **D.P. Nicholson**, M.M. Omand and A. Mahadevan. (in review) Size-differentiated Export in Different Dynamical Regimes in the Ocean, *Global Biogeochemical Cycles*
- Huang, Y., **D.P. Nicholson**, B. Huang and N. Cassar. (in review) Machine-learning estimates of global marine gross primary production, *Global Biogeochemical Cycles*

## PEER REVIEWED PUBLICATIONS

---

- Benway, H. M., Lorenzoni, L., White, A. E., Fiedler, B., Levine, N. M., **Nicholson, D. P.**, DeGrandpre, M. D., Sosik, H. M., Church, M. J., O'Brien, T. D., Leinen, M., Weller, R. A., Karl, D. M., Henson, S. A. and Letelier, R. M. (2019) Ocean Time Series Observations of Changing Marine Ecosystems: An Era of Integration, Synthesis, and Societal Applications, *Front. Mar. Sci.*, 6, doi:10.3389/fmars.2019.00393
- <sup>†</sup>Manning, C.C., R. H. R. Stanley, **D. P. Nicholson**, B. Loose, A. Lovely, P. Schlosser, and B. G. Hatcher (2019) Changes in gross oxygen production, net oxygen production, and air-water gas exchange during seasonal ice melt in the Bras d'Or Lake, a Canadian estuary. *Biogeosciences*. doi:10.5194/bg-2017-428.
- R.C. Hamme, **D.P. Nicholson**, W.J. Jenkins and S.R. Emerson (2019) Using Noble Gases to Assess the Ocean's Carbon Pumps. *Annu. Rev. Mar. Sci.* 11:18.1–18.29. doi:10.1146/annurev-marine-121916-063604
- Nicholson, D.P.**, A.P.M Michel, S.D. Wankel, K. Manganini, R.A. Sugrue, Z.O. Sandwith, S.A. Monk (2018) Rapid Mapping of Dissolved Methane and Carbon Dioxide in Coastal Ecosystems using the ChemYak Autonomous Surface Vehicle. *Environmental Science and Technology*. doi: 10.1021/acs.est.8b04190

- Nicholson, D.P.**, R.H.R. Stanley, S.C. Doney (2018). A Phytoplankton Model for the Allocation of Gross Photosynthetic Energy Including the Trade-offs of Diazotrophy. *J. Geophys. Res., Biogeosci.* 2017JG004263. doi:10.1029/2017JG004263
- Martínez-García, S., R.R. Bidigare, D.A. del Valle, L.W. Juranek, **D.P. Nicholson**, D.A. Viviani, S.T. Wilson, M.J. Church (2018) Control of net community production by microbial community respiration at Station ALOHA, *J. Mar. Sys.*, doi:10.1016/j.jmarsys.2018.03.007
- †Palevsky, H.I. and **D.P. Nicholson** (2018) The North Atlantic biological pump: Insights from the Ocean Observatories Initiative Irminger Sea Array, *J. Oceanography*. doi:10.5670/oceanog.2018.108
- Long, M.H. and **D.P. Nicholson** (2018) Air-Sea Gas Exchange Determined from an Aquatic Eddy Covariance Floating Platform. *Limnology and Oceanography, Methods*, doi:10.1002/lom3.10233
- †Manning, C.C., E.M Howard, **D.P. Nicholson**, B. Ji, Z.O. Sandwith, and R.H.R. Stanley (2017) Revising estimates of aquatic gross oxygen production by the triple oxygen isotope method to incorporate the local isotopic composition of water. *Geophys. Res. Lett.*, 2017GL074375. doi:10.1002/2017GL074375
- Nicholson, D. P.** and M. Feen (2017) Air calibration of an oxygen optode on an underwater glider, *Limnol. Oceanogr. Methods*, doi:10.1002/lom3.10177, 2017.
- †Manning, C. C., Stanley, R. H. R., **Nicholson, D. P.**, Smith, J. M., Timothy Pennington, J., Fewings, M. R., et al. (2017). Impact of recently upwelled water on productivity investigated using in situ and incubation-based methods in Monterey Bay. *J. Geophys. Res. Oceans*, doi:10.1002/2016JC012306.
- †Palevsky, H. I., P. D. Quay, and **D. P. Nicholson** (2016), Discrepant estimates of primary and export production from satellite algorithms, a biogeochemical model, and geochemical tracer measurements in the North Pacific Ocean, *Geophys. Res. Lett.*, 43(16), 2016GL070226, doi:10.1002/2016GL070226.
- †Manning, C. C., R. H. R. Stanley, **D. P. Nicholson**, and M. E. Squibb (2016), Quantifying air-sea gas exchange using noble gases in a coastal upwelling zone, *IOP Conf. Ser. Earth Environ. Sci.*, 35(1), 012017, doi:10.1088/1755-1315/35/1/012017.
- Nicholson, D. P.**, S. Khatiwala, and P. Heimbach (2016), Noble gas tracers of ventilation during deep-water formation in the Weddell Sea, *IOP Conf. Ser. Earth Environ. Sci.*, 35(1), 012019, doi:10.1088/1755-1315/35/1/012019.
- †Palevsky, H. I., P. D. Quay, D. E. Lockwood, and D. P. Nicholson (2016), The annual cycle of gross primary production, net community production and export efficiency across the North Pacific Ocean, *Glob. Biogeochem. Cycles*, 2015GB005318, doi:10.1002/2015GB005318.
- Nicholson, D. P.**, S.T. Wilson, S.C. Doney, and D.M Karl (2015) Quantifying subtropical North Pacific gyre mixed layer primary productivity from Seaglider

observations of diel oxygen cycles, *Geophys. Res. Lett.*, 42(10), 2015GL063065, doi:10.1002/2015GL063065, 2015.

Wilson, S. T., B. Barone, F. Ascani, R. R. Bidigare, M. J. Church, D. A. del Valle, S. T. Dyhrman, S. Ferrón, J. N. Fitzsimmons, L. W. Juranek, Z. S. Kolber, R. M. Letelier, S. Martínez-García, **D. P. Nicholson**, K. J. Richards, Y. M. Rii, M. Rouco, D. A. Viviani, A. E. White, J. P. Zehr, and D. M. Karl (2015), Short-term variability in euphotic zone biogeochemistry and primary productivity at Station ALOHA: A case study of summer 2012, *Global Biogeochem. Cycles*, 2015GB005141, doi:10.1002/2015GB005141.

**Nicholson, D.**, R. H. R. Stanley, and S. C. Doney (2014), The triple oxygen isotope tracer of primary productivity in a dynamic ocean model, *Global Biogeochem. Cycles*, 28(5), 2013GB004704, doi:10.1002/2013GB004704.

**Nicholson, D.**, R. H. R. Stanley, E. Barkan, D. M. Karl, B. Luz, P. D. Quay, and S. C. Doney (2012), Evaluating triple oxygen isotope estimates of gross primary production at the Hawaii Ocean Time-series and Bermuda Atlantic Time-series Study sites, *J. Geophys. Res. Oceans*, doi:10.1029/2010JC006856.

**Nicholson, D. P.** (2011), Comment on: "Technical note: Consistent calculation of aquatic gross production from oxygen triple isotope measurements" by Kaiser (2011), *Biogeosciences*, 8(10), 2993–2997, doi:10.5194/bg-8-2993-2011.

**Nicholson, D.**, S. Emerson, S. Khatiwala, R. C. Hamme. (2011) An inverse approach to estimate bubble-mediated air-sea gas flux from inert gas measurements. *Proceedings on the 6th International Symposium on Gas Transfer at Water Surfaces*. Kyoto University Press.

**Nicholson, D.**, S. R. Emerson, N. Caillon, J. Jouzel, and R. C. Hamme (2010), Constraining ventilation during deep-water formation using deep-ocean measurements of the dissolved gas ratios  $^{40}\text{Ar}/^{36}\text{Ar}$ ,  $\text{N}_2/\text{Ar}$  and  $\text{Kr}/\text{Ar}$ , *J. Geophys. Res. Oceans*, 115(C11), C11015, doi:10.1029/2010JC006152.

**Nicholson, D.**, S. Emerson, and C. C. Eriksen (2008), Net community production in the deep euphotic zone of the subtropical North Pacific gyre from glider surveys, *Limnology and Oceanography*, 53(5\_part\_2), 2226–2236, doi:10.4319/lo.2008.53.5\_part\_2.2226.

Emerson, S., C. Stump, and **D. Nicholson** (2008), Net biological oxygen production in the ocean: Remote in situ measurements of  $\text{O}_2$  and  $\text{N}_2$  in surface waters, *Global Biogeochem. Cycles*, 22, GB3023, doi:10.1029/2007GB003095.

**Nicholson, D.**, Sonya Dyhrman, Francisco Chavez and Adina Paytan. (2006) Alkaline phosphatase activity in the phytoplankton communities of Monterey Bay and San Francisco Bay. *Limnology and Oceanography*. 51(2), 874-883.

† - indicates author is a current or former advisee

## OTHER PRODUCTS

---

- Hamme, R. C., Jenkins, W. J., Emerson, S. R., & **Nicholson, D. P.** (2018). A compilation of dissolved noble gas and N<sub>2</sub>/Ar ratio measurements collected from 1999-2016 in locations spanning the globe [Data set]. <https://doi.org/10.1575/1912/bco-dmo.744563>.
- Bushinsky, S. M., Hamme, R. C., **Nicholson, D. P.**, & Johnson, K. S. (2017). Oxygen Measurements from Autonomous Vehicles: Applications and Challenges, 11. In ALPS II: Autonomous and Lagrangian Platforms and Sensors.
- Buesseler, K. O., Adams, A., Bellingham, J. G., Dever, M., Edgcomb, V. P., Estapa, M. L., Frank, A., Gallager, S. M., Govindarajan, A. F., Horner, T. J., Hunter, J., Jakuba, M. V., Kapit, J., Katija, K., Lawson, G. L., Lu, Y., Mahadevan, A., **Nicholson, D. P.**, Omand, M. M., Palevsky, H. I., Rauch, C., Sosik, H. M., Ulmer, K. M., Wurgaft, E., & Yoerger, D. R. (2017). *Pump it Up workshop report* (Working Paper). Woods Hole Oceanographic Institution. <https://doi.org/10.1575/1912/9328>
- Manning, C. C., & **Nicholson, D. P.** (2016). gas\_toolbox: MATLAB code used in Manning et al. GTWS-7 proceedings. Presented at the Gas Transfer at Water Surfaces, Seattle, WA. <https://doi.org/doi:10.5281/zenodo.45293>
- Sabine, C. L., Juranek, L., Lee, C., **Nicholson, D.P.**, & Ver, A. (2004). Understanding North Pacific carbon cycle changes. *Eos, Transactions American Geophysical Union*, 85(42), 419–421. <https://doi.org/10.1029/2004EO420006>.

## PROFESSIONAL ACTIVITIES

---

### *Outside WHOI:*

- † NASA/IOCCG Aquatic Primary Productivity Workshop (Dec 2018 – Present)
- † BCO-DMO Strategic Planning Committee (Summer 2018 – Present)
- MIT Kaufman Certificate Teaching Program (Spring, 2018)
- † OCB Ocean Time Series Committee Member (2016 – Present)
- † NSF COME-ABOARD workshop organizing committee (2016), Honolulu, HI
- † NASA EXPORTS Science Definition Team Member (2015-2016)
- Contributor: QARTOD Manual for Real-Time Quality Control of Dissolved Oxygen Observations
- † Ocean Science Meeting Session Organizer. (48 – Ocean Primary Productivity: Variability and Influence.) Honolulu, HI, (2014).
- † PICES/ICES Young Investigators Symposium (2012) Mallorca, Spain
- † Dissertations Symposium on Chemical Oceanography (DISCO) (2008) Honolulu, HI
- † Surface Ocean Lower Atmosphere Studies (SOLAS) Summer School. (2007) Corsica, France.

### *At WHOI:*

- MIT/WHOI Joint Program Admissions Committee (2013-2016)
- General Exam organizer for Joint Program Chemistry Students (2015)

## *Curriculum Vitae, David Nicholson*

- Panel reviewer for internal proposals
- Participant in WHOI OCCI Workshops
- Organizer MCG Department Seminar Series (2013-2015)
- Organizer for OCCI Lecture Series on Southern Ocean and Climate (2011)

*† - indicates that participation was invited/competitively selected*

### **TEACHING**

---

Fall 2018	<b>Modeling, Data Analysis, and Numerical Techniques for Geochem.</b> WHOI/MIT Joint Program, Woods Hole, MA
Spring 2006	<b>TA, The Carbon Cycle and Greenhouse Gases</b> University of Washington, Seattle, WA
Spring 2003	<b>TA, Introductory Geology</b> Stanford University, Stanford, CA
Fall 2002	<b>TA, Scientific Writing in Earth Sciences</b> Stanford University, Stanford, CA

### **MENTORSHIP**

---

#### **Advisor:**

##### *Postdoctoral:*

Hilary Palevsky, Postdoctoral Scholar (2016-2018)  
Mathieu Dever, Postdoctoral Investigator (2017-2019)

##### *Graduate:*

Shawnee Traylor, WHOI-MIT Joint Program Ph.D. candidate (2019 – Present)  
Tyler Rohr, WHOI-MIT Joint Program Ph.D. (2017-2019)  
Cara Manning, WHOI-MIT Joint Program Ph.D. (2014-2017)

##### *Undergraduate:*

William Pardis, Montana St. (WHOI Summer Student Fellow) 2018  
Beth Connors, UC Berkeley (Guest student) 2018  
Kanieka Neal, U Maryland Eastern Shore (WHOI Summer Student Fellow) 2017  
Rebecca Sugrue, MIT (WHOI Summer Student Fellow) 2016  
Melanie Feen, Skidmore College (WHOI Winter Term and Summer Guest Student) 2016  
Alexis Wood, Stanford University (WHOI Summer Student Fellow) 2014  
Cole Stites-Clayton, Stanford University (Visiting Summer Undergraduate Student) 2012

#### **Committee Member:**

Cara Manning, 2013-2014  
Beckett Colson 2019 - Present

**Other Mentorship Activities:**

WHOI-MIT Joint Program Class of 2014 Faculty Mentor for Chemical Oceanography  
Ocean Science Meeting Mentorship Program. 2014  
ASLO Meeting Mentorship Program. Feb 2019

**SELECTED TALKS**

---

\*ExxonMobil–WHOI Joint Workshop, Mar 2019 “The carbon cycle as seen from the NASA EXPORTS program”

\*NASA/IOCCG Aquatic Primary Productivity Workshop, Columbia, MD. Dec 2018  
“Scaling up: Autonomous in situ budgets of Productivity”

ASLO Aquatic Science Meeting, Feb 2019, San Juan, PR. The annual cycle of the biological carbon pump in the Irminger Sea.

\*SMAST Seminar Series November 2018, UMASS, Dartmouth, MA. Assessing rates of ocean productivity using autonomous platforms

\*The Ocean Outlook Conference, May 2018, Woods Hole, MA. The North Atlantic Biological Carbon Pump

Coastal and Estuarine Research Federation, November 2017, Providence RI. The Coastal Carbon Jetyak

WHOI Summer Student Fellow speaker series, June 2017, Woods Hole, MA. New technology for mapping greenhouse gas fluxes across the river to sea continuum

WHOI Marine Chemistry and Geochemistry Seminar, November 2016, Woods Hole, MA. Glider-based observations of ocean productivity.

\*OCB Summer Workshop, July, 2016. Woods Hole, MA. Introduction and overview of EXPORTS Science Plan in context of NASA mission

Ocean Sciences Meeting, February 2016. Honolulu, HI. Biogeochemistry from Gliders at the Hawaii Ocean Times-Series

Ocean Sciences Meeting, February 2016. Honolulu, HI. The Metabolic Tradeoffs of Diazotrophy in a Flexible Phytoplankton Cell Allocation Model

Fall AGU Meeting December 2015, San Francisco, CA. Subtropical Productivity from Profiling Floats and Gliders

Gas Transfer at Water Surfaces, May 2015, Seattle, WA. Noble gas tracers of ventilation during deep-water formation

WHOI Marine Chemistry and Geochemistry Seminar, June 2014, Woods Hole, MA. The triple oxygen isotope tracer of primary production in a dynamic ocean.

Ocean Sciences Meeting, February 2014, Honolulu, HI. Noble gas constraints on bubble-mediated air-sea gas flux.

NCAR ASP Colloquium Carbon-Climate Connections in the Earth System, August 2013, Boulder, CO. A cellular allocation modeling approach for representing the ecophysiology of marine primary producers.

Liege Colloquium: Primary Production in the Ocean, May 2013, Liege, Belgium. Dissolved gas tracers of gross primary production and net community production: perspectives from a global ecosystem and biogeochemistry model.

\*Bigelow Laboratory for Ocean Sciences, April 2011, Boothbay Harbor, Me. Applying Dissolved Gas Tracers to Constrain the Ecophysiology of Ocean Primary Productivity

\*WHOI Marine Chemistry and Geochemistry Seminar, March 2011, Woods Hole, MA. Applying Dissolved Gas Tracers to Constrain the Ecophysiology of Ocean Primary Productivity

ASLO Aquatic Sciences Meeting, February 2011, San Juan, Puerto Rico. Evaluating triple oxygen isotope tracer estimates of gross primary production at the Hawaii Ocean Time-series and Bermuda Atlantic Time-series Study sites.

\*Lamont Doherty Earth Observatory Geochemistry Seminar, February 2011, New York, NY Evaluating isotopic tracers of primary production in the ocean

WHOI Biogeochemistry Seminar Series, August 2010, Woods Hole, MA. Evaluating triple oxygen isotope tracer estimates of gross primary productivity at BATS and HOT.

6th International Symposium on Gas Transfer at Water Surfaces, May 2010, Kyoto, Japan. Parameterizing bubble-mediated gas fluxes using observations and modeling of inert gases in the deep ocean

AGU Ocean Sciences Meeting, February 2010, Portland, OR. Constraining ventilation during deep water formation using deep ocean inert gas measurements.

WHOI Marine Chemistry and Geochemistry Departmental Seminar, June 2009, Woods Hole, MA. Inert gas tracers of gas exchange and bubble fluxes during deep-water formation

University of Washington Chemical Oceanography Seminar, May 2009, Seattle, WA. Inert gas tracers of ventilation during deep-water formation

\*M.I.T. Earth and Planetary Sciences PAOC Lunch Seminar, April 2009, Cambridge, MA. Constraining ventilation during deepwater formation using deep-ocean measurements of the inert gas ratios  $^{40}\text{Ar}/^{36}\text{Ar}$ ,  $\text{Kr}/\text{Ar}$ ,  $\text{N}_2/\text{Ar}$

Dissertations in Chemical Oceanography, October 2008, Honolulu, HI. Quantifying net community production and the influence of Rossby waves at Station Aloha using autonomous Seagliders

University of Washington Chemical Oceanography Seminar, December 2007, Seattle, WA. A Seaglider survey of oxygen, temperature, and salinity: biological oxygen production in the subtropical North Pacific



1<sup>st</sup> Graduate Climate Conference, April 2006, Seattle, WA. Biologically produced oxygen in the subtropical North Pacific

AGU/ASLO Ocean Sciences Meeting, February 2006, Honolulu, HI. Biologically produced oxygen in the subtropical North Pacific: a 4-D Seaglider survey of oxygen, temperature and salinity.

\* indicates invited presentation

## **SELECTED POSTER PRESENTATIONS**

---

Ocean Sciences Meeting, Feb 2018. **DP Nicholson**, APM Michel, SD Wankel, V Preston, R Sugrue, Z Sandwith, and K Manganini. The ChemYak ASV for greenhouse gases and biogeochemistry.

Chemical Oceanography Gordon Conference, July 2017. **Nicholson, DP** and M Feen. Air Calibration of Optodes on Gliders.

<sup>†</sup>Chemical Oceanography Gordon Conference, July 2017. R. Sugrue, A Michel, **DP Nicholson**. Autonomous greenhouse gas sensing with a JetYak.

<sup>†</sup>OCB Summer Workshop, June, 2017. M. Dever, A. Mahadevan, **DP Nicholson**, M Omand. Interactions between submesoscale dynamics and sinking particles: a pre-EXPORTS study.

OCB Summer Workshop, July, 2015. **Nicholson, DP**, R Curry, B Barone, ST. Wilson, SC Doney, DM Karl. Biogeochemistry from gliders at HOT and BATS

<sup>†</sup>OCB Summer Workshop, July, 2015. Manning, CC, RHR Stanley, **DP Nicholson**, JM Smith, FP. Chavez, JT Pennington. Net and gross productivity during a Lagrangian experiment in coastal California.

<sup>†</sup>Gas Transfer at Water Surfaces, May 2015, CC Manning, RHR Stanley, **DP Nicholson**. Quantifying air-sea gas exchange and biological productivity during a Lagrangian experiment in coastal California.

<sup>†</sup>Fall AGU Meeting, December 2014, Wood, A, **DP Nicholson** and S Laney. Elucidating the springtime North Atlantic phytoplankton bloom and the biological pump from ship of opportunity and satellite data.

Ocean Carbon and Biogeochemistry Summer Meeting, July 2012, Woods Hole, MA. **Nicholson, DP**, RHR Stanley, I Lima and SC Doney Modeling dissolved gas tracers of primary productivity.

PICES/ICES Young Investigators Symposium, April, 2012, Mallorca, Spain. **Nicholson, DP**, RHR Stanley, I Lima and SC Doney. Modeling dissolved gas tracers of primary productivity

AGU/ASLO Ocean Sciences Meeting, February 2012, Salt Lake City, UT. **Nicholson, DP**, RHR Stanley, I Lima and SC Doney. Assessing the triple oxygen isotope tracer of photosynthesis in a global model.

## *Curriculum Vitae, David Nicholson*

Chemical Oceanography Gordon Conference, August 2009, Tilton, NH. **Nicholson, DP**, S Emerson, RC Hamme, N Callion and J Severinghaus. Inert gas tracers of gas exchange during deepwater formation

Fall American Geophysical Union Meeting, December 2008, San Francisco, CA. **Nicholson, DP** and S Emerson. Noble gas constraints on gas exchange during deepwater formation

AGU/ASLO Ocean Sciences Meeting , March 2008, Orlando, FL **Nicholson, DP**, S Emerson, C Stump, CC Eriksen. Net community production in the deep euphotic zone of the subtropical North Pacific from glider surveys: the role of Rossby waves.

2<sup>nd</sup> Graduate Climate Conference, October 2007, Seattle WA. **Nicholson, DP**, S Emerson, C Stump, CC Eriksen. Biological oxygen production in the subtropical North Pacific gyre from autonomous Seaglider measurements.

Chemical Oceanography Gordon Conference, August, 2007, Tilton, NH. **Nicholson, DP**, S Emerson, C Stump, CC Eriksen. Rossby waves and biological oxygen production in the subtropical North Pacific: observations from the Seaglider.

PICES Line P Symposium, July, 2006, Victoria, Canada. **Nicholson, DP**, S Emerson, CC Eriksen. In Situ measurements of oxygen in the upper ocean: biological productivity on diurnal to annual scales

Fall American Geophysical Union Meeting, December 2002, San Francisco, CA. **Nicholson, DP** and A Paytan. Poster presentation on Alkaline phosphatase activity in Monterey and San Francisco Bays

AGU/ASLO Ocean Sciences Meeting, February 2002, Honolulu, HI. **DP Nicholson** and A Paytan. Poster presentation on methods for quantifying alkaline phosphatase activity

*† indicates that author is a current or former advisee*

## **OTHER ACTIVITIES**

---

### **REVIEWER**

National Science Foundation, Natural Environment Research Council (UK), Geophysical Research Letters, Global Biogeochemical Cycles, Biogeosciences, Journal of Geophysical Research – Oceans, Journal of Geophysical Research – Atmosphere, Water Resources Research, Deep-Sea Research I, Proceeding of the 6th International Symposium on Gas Transfer at Water Surfaces, Nature Communications

### **PROFESSIONAL ORGANIZATIONS**

American Geophysical Union  
American Society of Limnology and Oceanography  
European Geophysical Union  
Estuarine Research Federation

**FIELD EXPERIENCE**

R/V Falkor. 2018. Oregon Margin. 10 days.

CCGS John P. Tully. 2007. Northeast Pacific. Line Papa Cruise. ~3 weeks

R/V Ka`imikai-o-Kanaloa. 2004. Hawaii Ocean Time-series #162

R/V Point Lobos. 2002-2003. Monterey Bay, CA. Numerous day cruises

R/V New Horizon. 2001. California Margin/Eastern North Pacific. ~2 weeks

**SKILLS**

Autonomous instruments and sensors

Ocean biogeochemistry and ecosystem modeling

Isotope Ratio Mass Spectrometry