Table of Contents for Dr. Simone Alin Curriculum Vitae

EDUCATION

Ph.D., University of Arizona, Department of Geosciences, 2001
Minor in Department of Ecology & Evolutionary Biology, Tucson, Arizona.
GPA 4.00, Area of Study: Paleoecology, Advisor: Dr. Andrew Cohen.
Dissertation: *Calibration and interpretation of Holocene paleoecological records of diversity from Lake Tanganyika, East Africa*

B.S., Stanford University, Department of Biological Sciences, 1993
Stanford, California. GPA 3.43, Area of Study: Neurobiology,
Advisor: Dr. Stuart Thompson. Honors thesis: *Co-localization of calcium and calcium-activated potassium currents in molluscan neuronal somata*

BIOGRAPHIES

Brief research interests statement: I am broadly interested in multiple stressor ocean change and its effects on marine ecosystems, human health, and coastal economies. My research focuses on carbon cycling and acidification in the California Current Ecosystem, Alaska Large Marine Ecosystems, Salish Sea, and northern Pacific Ocean. I am fortunate to be engaged with outstanding collaborators across many agencies and institutions in the U.S. and internationally on projects ranging from global ocean data management and synthesis, novel data and model visualizations, new approaches to communicating about ocean change with a variety of audiences for our information, experimental work on organismal impacts of ocean change, regional vulnerability assessment, and innovative observing approaches.

Blog autobiography, Chief Scientist of 2016 West Coast Ocean Acidification cruise, May 2016.
http://westcoastoa.wordpress.com/simone-alin-noaa-pmel/

Simone Alin: Understanding the ocean's changing chemistry. By Sarah Fesenmyer, NOAA Ocean & Atmospheric Research Communications, April 25, 2016.
http://research.noaa.gov/News/NewsArchive/LatestNews/TabId/684/ArtMID/1768/ArticleID/11701/Simone-Alin-Monitoring-the-rapidly-changing-chemistry-of-the-ocean.aspx

ADDITIONAL PROFESSIONAL TRAINING

NOAA Tribal Training (virtual): Tribal Cultural Awareness, Engagement, and Government to Government Status presented by Seventh Sovereign, LLC, December 10–12, 2024

NOAA Tribal Training (virtual): Co-Production of Knowledge Rooted in Equity: Bringing together Indigenous Knowledge and western science to inform research, monitoring, decision-making, and policy, September 17, 24, and 30, 2024

NOAA Indigenous Knowledge and Tribal Engagement webinars, throughout 2024

Alaska Native Governance & Protocols training, First Alaskans Institute, 8 and 10 August 2023.

Principles & Implementation of the West Coast Tribal Caucus's Guidance and Responsibilities for Effective Tribal Consultation, Communication, and Engagement Training, Udall Foundation, 22 April 2021.

Edward Tufte Course "Presenting Data and Information," Seattle, Washington, 4 August 2015.

Ocean Acidification Advanced Policy Training, COMPASS, virtual workshop, Fall 2014

Ocean Acidification Media Training Workshop, COMPASS, Oahu, Hawaii, 20–22 February 2014

Matlab Fundamentals course, The MathWorks, Kirkland, Washington, 27–29 February 2012.

PROFESSIONAL EXPERIENCE

Current Position

Supervisory Oceanographer, ZP-1360-05, NOAA Pacific Marine Environmental Laboratory (PMEL), Seattle, WA, July 2024–present
Supervisory Oceanographer, ZP-1360-04, NOAA Pacific Marine Environmental Laboratory (PMEL), Seattle, WA, March 2012–July 2024
Affiliate Assistant Professor, School of Oceanography, University of Washington, 2021–present

Affiliate Associate Professor, School of Oceanography, University of Washington, 2010–2021

Previous Professional Positions (Post-Ph.D.)

Oceanographer, Pacific Marine Environmental Laboratory, National Oceanic and Atmospheric Administration, Seattle, Washington, October 2007–March 2012

Research Associate, River Systems Research Group, School of Oceanography, University of Washington, Seattle, Washington, July 2003–October 2007

Research Associate, Alaska Salmon Program, School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington, May 2006–October 2007

NOAA Climate and Global Change Postdoctoral Fellow, Large Lakes Observatory, University of Minnesota Duluth (large lake carbon cycling), Duluth, Minnesota, December 2001–June 2003

HONORS AND AWARDS

Best Oral Presentation, Theme D: Insights form natural ocean acidification analogues, *Oceans in a High CO_2 World*, Lima, Peru, 13–16 September 2022.

Department of Commerce Bronze Medal with nine other NOAA employees, "*For creating the Global Ocean Acidification Observing Network, a collaborative international approach to document the progress of ocean acidification,*" 2017.

National Oceanic and Atmospheric Administration (NOAA) Employee of the Month, October 2011

Top-50 Most Cited Papers award from the journal *Palaeogeography, Palaeoclimatology, Palaeoecology*, 2003–2007

NOAA Climate and Global Change Postdoctoral Fellowship, 2001–2003

Dean's Doctoral Fellowship, Graduate College, University of Arizona, 2000–2001

National Science Foundation Graduate Research Fellowship, 1995–1997, 1999–2000

National Security Education Program Graduate International Fellowship, 1997–1998 (for learning Swahili in support of my Ph.D. field research on Lake Tanganyika, during which I resided in Tanzania for a year)

PUBLICATIONS

‡ denotes student or postdoc publications for which I was the primary mentor
§ denotes student or postdoc publications for which I was not the primary mentor but played a substantial role in mentoring the lead author or developing the paper
Highly cited or viewed papers that I played a lead or major role in writing are highlighted (with citation numbers). This is to facilitate differentiating these papers from the community papers with dozens of authors, which have hundreds of citations but I played a smaller role in writing.

Publication Summary Statistics (as of May 22, 2026)

Google Scholar—citations: 23,829 (career); 15,010 (since 2021); h-index: 55 (career), 44 (since 2021); i10-index: 97 (career), 90 (since 2021)
Web of Science—citing articles: 10,915 without self-citations (10,994 total); sum of times cited: 13,169 without self-citations (13,509 total), sum of times cited by patents: 2, sum of times cited by policy : 36 (32 citing policy documents); H-index: 42; publications indexed in WoS: 96; 113 total documents listed in WoS
ORCID—for full citation information for 114 publications and links to PDFs that are open access

Representative Research Publications

On empirical relationship development—**Alin, S.R.,** R.A. Feely, A.G. Dickson, J.M. Hernández-Ayón, L.W. Juranek, M.D. Ohman, and R. Goericke (2012). Robust empirical relationships for estimating the carbonate system in the southern California Current System and application to CalCOFI hydrographic cruise data (2005–2011). *Journal of Geophysical Research—Oceans*, https://doi.org/10.1029/2011JC007511. (128 citations) Link to paper

On estimates of past, present, and future ocean acidification and its biological impacts—**Alin, S.R**., S.A. Siedlecki, H. Berger, R.A. Feely, J. Waddell, B.R. Carter, J. Newton, E.J. Schumacker, and D. Ayres (2023). Evaluating the evolving ocean acidification risk to Dungeness crab on the Olympic coast of Washington, USA, using time-series observations and modeling. *Oceanography*, https://doi.org/10.5670/oceanog.2023.216. Link to paper

On data product development—**Alin, S.R.,** J.A. Newton, R.A. Feely, B. Curry, D. Greeley, J. Herndon, and M. Warner (2024a). A decade-long cruise time-series (2008–2018) of physical and biogeochemical conditions in the southern Salish Sea, North America. *Earth System Science Data,* https://doi.org/10.5194/essd-16-837-2024. Link to data package description paper Link to supplement

On seasonality and multi-stressor extremes in coastal and estuarine ecosystems—**Alin, S.R.**, J.A. Newton, R.A. Feely, S. Siedlecki, and D. Greeley (2024). Seasonality and response of ocean acidification and hypoxia to major environmental anomalies in the southern Salish Sea, North America (2014–2018). *Biogeosciences*, https://doi.org/10.5194/bg-21-1639-2024. Link to paper Link to supplement

Peer-Reviewed Journal Articles

In reverse chronological order

2026

Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Bakker, D. C. E., Hauck, J., Landschützer, P., Le Quéré, C., Li, H., Luijkx, I. T., Peters, G. P., Peters, W., Pongratz, J., Schwingshackl, C., Sitch, S., Canadell, J. G., Ciais, P., Aas, K., **Alin, S. R.**, Anthoni, P., Barbero, L., Bates, N. R., Bellouin, N., Benoit-Cattin, A., Berghoff, C. F., Bernardello, R., Bopp, L., Brasika, I. B. M., Chamberlain, M. A., Chandra, N., Chevallier, F., Chini, L. P., Collier, N. O., Colligan, T. H., Cronin, M., Djeutchouang, L., Dou, X., Enright, M. P., Enyo, K., Erb, M., Evans, W., Feely, R. A., Feng, L., Ford, D. J., Foster, A., Fransner, F., Gasser, T., Gehlen, M., Gkritzalis, T., Goncalves De Souza, J., Grassi, G., Gregor, L., Gruber, N., Guenet, B., Gürses, Ö., Harrington, K., Harris, I., Heinke, J., Hurtt, G. C., Iida, Y., Ilyina, T., Ito, A., Jacobson, A. R., Jain, A. K., Jarníková, T., Jersild, A., Jiang, F., Jones, S. D., Kato, E., Keeling, R. F., Klein Goldewijk, K., Knauer, J., Kong, Y., Korsbakken, J. I., Koven, C., Kunimitsu, T., Lan, X., Liu, J., Liu, Z., Liu, Z., Lo Monaco, C., Ma, L., Marland, G., McGuire, P. C., McKinley, G. A., Melton, J., Monacci, N., Monier, E., Morgan, E. J., Munro, D. R., Müller, J. D., Nakaoka, S.-I., Nayagam, L. R., Niwa, Y., Nutzel, T., Olsen, A., Omar, A. M., Pan, N., Pandey, S., Pierrot, D., Qin, Z., Regnier, P. A. G., Rehder, G., Resplandy, L., Roobaert, A., Rosan, T. M., Rödenbeck, C., Schwinger, J., Skjelvan, I., Smallman, T. L., Spada, V., Sreeush, M. G., Sun, Q., Sutton, A. J., Sweeney, C., Swingedouw, D., Séférian, R., Takao, S., Tatebe, H., Tian, H., Tian, X., Tilbrook, B., Tsujino, H., Tubiello, F., van Ooijen, E., van der Werf, G., van de Velde, S. J., Walker, A., Wanninkhof, R., Yang, X., Yuan, W., Yue, X., and Zeng, J.: Global Carbon Budget 2025, Earth Syst. Sci. Data, 18, 3211–3288, https://doi.org/10.5194/essd-18-3211-2026, 2026.

2025

Fischer, A.D., E. Houliez, B. Bill, M.T. Kavanaugh, **S.R. Alin**, A.U. Collins, R.M. Kudela, and S.K. Moore (2025): Nutrient limitation dampens the response of a harmful algae to a marine heatwave in an upwelling system. Limnology and Oceanography, https://doi.org/10.1002/lno.12604

Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Hauck, J., Landschützer, P., Le Quéré, C., Li, H., Luijkx, I. T., Olsen, A., Peters, G. P., Peters, W., Pongratz, J., Schwingshackl, C., Sitch, S., Canadell, J. G., Ciais, P., Jackson, R. B., **Alin, S. R.**, Arneth, A., Arora, V., Bates, N. R., Becker, M., Bellouin, N., Berghoff, C. F., Bittig, H. C., Bopp, L., Cadule, P., Campbell, K., Chamberlain, M. A., Chandra, N., Chevallier, F., Chini, L. P., Colligan, T., Decayeux, J., Djeutchouang, L. M., Dou, X., Duran Rojas, C., Enyo, K., Evans, W., Fay, A. R., Feely, R. A., Ford, D. J., Foster, A., Gasser, T., Gehlen, M., Gkritzalis, T., Grassi, G., Gregor, L., Gruber, N., Gürses, Ö., Harris, I., Hefner, M., Heinke, J., Hurtt, G. C., Iida, Y., Ilyina, T., Jacobson, A. R., Jain, A. K., Jarníková, T., Jersild, A., Jiang, F., Jin, Z., Kato, E., Keeling, R. F., Klein Goldewijk, K., Knauer, J., Korsbakken, J. I., Lan, X., Lauvset, S. K., Lefèvre, N., Liu, Z., Liu, J., Ma, L., Maksyutov, S., Marland, G., Mayot, N., McGuire, P. C., Metzl, N., Monacci, N. M., Morgan, E. J., Nakaoka, S.-I., Neill, C., Niwa, Y., Nützel, T., Olivier, L., Ono, T., Palmer, P. I., Pierrot, D., Qin, Z., Resplandy, L., Roobaert, A., Rosan, T. M., Rödenbeck, C., Schwinger, J., Smallman, T. L., Smith, S. M., Sospedra-Alfonso, R., Steinhoff, T., Sun, Q., Sutton, A. J., Séférian, R., Takao, S., Tatebe, H., Tian, H., Tilbrook, B., Torres, O., Tourigny, E., Tsujino, H., Tubiello, F., van der Werf, G., Wanninkhof, R., Wang, X., Yang, D., Yang, X., Yu, Z., Yuan, W., Yue, X., Zaehle, S., Zeng, N., and Zeng, J., 2025. Global Carbon Budget 2024, *Earth Syst. Sci. Data*, 17, 965–1039, https://doi.org/10.5194/essd-17-965-2025.

Hare, A.A., W. Evans, H.V. Dosser, J.M Jackson, **S.R. Alin**, C. Hannah, T. Ross, and J.M. Klymak, 2025. Regression-based characterization of the marine carbonate system across shelf and nearshore waters of Queen Charlotte Sound, *Marine Chemistry*, 270, 104511, https://doi.org/10.1016/j.marchem.2025.104511.

Jiang, L.-Q., Fay, A., Müller, J. D., Keppler, L., Carroll, D., Lauvset, S. K., DeVries, T., Hauck, J., Rödenbeck, C., Gregor, L., Metzl, N., Fassbender, A. J., Gattuso, J.-P., Landschützer, P., Wanninkhof, R., Sabine, C., **Alin, S. R.**, Hoppema, M., Olsen, A., Humphreys, M. P., Azetsu-Scott, K., Bakker, D. C. E., Barbero, L., Bates, N. R., Besemer, N., Bittig, H. C., Boyd, A. E., Broullón, D., Cai, W.-J., Carter, B. R., Chau, T.-T.-T., Chen, C.-T. A., Cyr, F., Dore, J. E., Enochs, I., Feely, R. A., Garcia, H. E., Gehlen, M., Gloege, L., González-Dávila, M., Gruber, N., Iida, Y., Ishii, M., Kennedy, E., Kozyr, A., Lange, N., Lo Monaco, C., Manzello, D. P., McKinley, G. A., Monacci, N. M., Padin, X. A., Palacio-Castro, A. M., Pérez, F. F., Roobaert, A., Santana-Casiano, J. M., Sharp, J., Sutton, A., Swift, J., Tanhua, T., Telszewski, M., Terhaar, J., van Hooidonk, R., Velo, A., Watson, A. J., White, A. E., Wu, Z., Yoo, H., and Zeng, J., 2026. Synthesis of data products for ocean carbonate chemistry, Earth Syst. Sci. Data, 18, 1405–1462, https://doi.org/10.5194/essd-2025-255.

Oliva-Méndez, N.L., J.M. Hernández-Ayón, J.A. Valencia-Gasti, R. Durazo, E. Santamaría-del-Ángel, **S.R. Alin**, and R.A. Feely, 2025. Seasonal and interannual variability of the aragonite saturation horizon in the California Current System of Baja California. *Journal of Geophysical Research—Oceans*, 130(6), e2024JC021653, doi: 10.1029/2024JC021653.

Stoll, M.M.V., C.A. Deutsch, H. Jurikova, J.W.B. Rae, H. Frenzel, A.M. Gothmann, **S.R. Alin**, and A.C. Gagnon, 2025. A century of change in the California Current: upwelling system amplifies acidification. *Nature Communications*, **16**, 9661, doi: 10.1038/s41467-025-63207-6. *https://www.nature.com/articles/s41467-025-63207-6*.

2024

Alin, S.R., J.A. Newton, R.A. Feely, B. Curry, D. Greeley, J. Herndon, and M. Warner (2024a). A decade-long cruise time-series (2008–2018) of physical and biogeochemical conditions in the southern Salish Sea, North America. *Earth System Science Data,* 16, 837–865, https://doi.org/10.5194/essd-16-837-2024

Alin, S.R., J.A. Newton, R.A. Feely, S. Siedlecki, and D. Greeley (2024b). Seasonality and response of ocean acidification and hypoxia to major environmental anomalies in the southern Salish Sea, North America (2014–2018). *Biogeosciences*, 21, 1639–1673, https://doi.org/10.5194/bg-21-1639-2024

Feely, R.A., B. Carter, **S.R. Alin**, N. Bednarsek, and D. Greeley (2024). The combined effects of ocean acidification and respiration on habitat suitability for marine calcifiers along the west coast of North America. *Journal of Geophysical Research: Oceans*, 129, e2023JC019892. https://doi.org/10.1029/2023JC019892

Hunt, B.P.V., **S. Alin**, A. Bidlack, H.L. Diefenderfer, J.M. Jackson, C.T. E. Kellogg, P. Kiffney, K.A. St. Pierre, E, Carmack, W.C. Floyd, E. Hood, A.R. Horner-Devine, C. Levings, and C.A. Vargas (2024). Advancing an Integrated Understanding of Land–Ocean Connections in Shaping the Marine Ecosystems of Coastal Temperate Rainforest Ecoregions. *Limnology and Oceanography* 69 (12): 3061–96. https://doi.org/10.1002/lno.12724. *Received "Wiley Top viewed article 2025" status, meaning this article*

was ranked within the top 10% of most viewed papers published by the Limnology and Oceanography journal in 2024.

Jiang, L.-Q., T.P. Boyer, C.R. Paver, H. Yoo, J.R. Reagan, **S.R. Alin**, L. Barbero, B.R. Carter, R.A. Feely, and R. Wanninkhof (2024): Climatological distribution of ocean acidification variables along the North American ocean margins. Earth Syst. Sci. Data, 16, 3383–3390, doi: 10.5194/essd-16-3383-2024

Rhodes, L.D., N. Adams, R. Gallego Simon, M.T. Kavanaugh, **S.R. Alin**, and R.A. Feely (2024). Nearshore Microbial Communities of the Pacific Northwest Coasts of Canada and the U.S. *Frontiers in Marine Science*, 11:1430930. doi: 10.3389/fmars.2024.1430930.

2023

Alin, S.R., S.A. Siedlecki, H. Berger, R.A. Feely, J. Waddell, B.R. Carter, J. Newton, E.J. Schumacker, and D. Ayres (2023): Evaluating the evolving ocean acidification risk to Dungeness crab on the Olympic coast of Washington, USA, using time-series observations and modeling. *Oceanography*, https://doi.org/10.5670/oceanog.2023.216.

§ Alma, L., C.J. Fiamengo, K. Hiromoto, **S.R. Alin**, M. Jackson, J.L. Padilla-Gamiño (2023). Differential responses of scallops and mussels to environmental variability in Puget Sound: implications for future shellfish aquaculture. *Marine Pollution Bulletin,* 194: 115356, https://doi.org/10.1016/j.marpolbul.2023.115356.

Feely, R.A., L.-Q. Jiang, R. Wanninkhof, B.R. Carter, **S.R. Alin**, N. Bednarsek, and C. Cosca (2023): Acidification of the global surface ocean: What we have learned from observations. *Oceanography, https://doi.org/10.5670/oceanog.2023.222.*

Friedlingstein, P., M. O'Sullivan, M.W. Jones, R.M. Andrew, L. Gregor, J. Hauck, C. Le Quéré, I.T. Luijkx, A. Olsen, G.P. Peters, W. Peters, J. Pongratz, C. Schwingshackl, S. Sitch, J.G. Canadell, P. Ciais, R.B. Jackson, **S. Alin,** R. Alkama, A. Arneth, V.K. Arora, N.R. Bates, M. Becker, N. Bellouin, H.C. Bittig, L. Bopp, F. Chevallier, L.P. Chini, M. Cronin, Z. Liu, W. Evans, S. Falk, R.A. Feely, T. Gasser, M. Gehlen, T. Gkritzalis, L. Gloege, G. Grassi, N. Gruber, Ö. Gürses, I. Harris, M. Hefner, R.A. Houghton, G.C. Hurtt, Y. IIda, T. Ilyina, A.K. Jain, A. Jersild, K. Kadono, E. Kato, D. Kennedy, K. Klein Goldewijk, J. Knauer, J.I. Korsbakken, P. Landschützer, N. Lefèvre, K. Lindsay, J. Liu, G. Marland, N. Mayot, M.J. McGrath, N. Metzl, N.M. Monacci, D.R. Munro, S.-I. Nakaoka, Y. Niwa, K. O'Brien, T. Ono, P.I. Palmer, N. Pan, D. Pierrot, K. Pocock, B. Poulter, L. Resplandy, E. Robertson, C. Rödenbeck, C. Rodriguez, T.M. Rosan, J. Schwinger, R. Séférian, J.D. Shutler, I. Skjelvan, T. Steinhoff, Q. Sun, A.J. Sutton, C. Sweeney, S. Takao, T. Tanhua, P.P. Tans, X. Tian, H. Tian, B. Tilbrook, H. Tsujino, F. Tubiello, G. van der Werf, A.P. Walker, R. Wanninkhof, C. Whitehead, A. Willstrand Wranne, R. Wright, W. Yuan, C. Yue, X. Yue, S. Zaehle, J. Zeng, and B. Zheng (2023): Global Carbon Budget 2023. *Earth System Science Data*, https://doi.org/ 10.5194/essd-15-5301-2023.

Gillett, D.J., S. Weisberg, **S.R. Alin,** D. Cadien, R. Velarde, K. Barwick, C. Larsen, and A. Latker (2023): Changes in the macrobenthic infaunal community of the Southern California continental margin over five decades in relation to oceanographic factors. *Marine Ecological Progress Series*. https://doi.org/ 10.3354/meps14415.

Jiang, L.-Q., J. Dunne, B.R. Carter, J.F. Tjiputra, J. Terhaar, J.D. Sharp, A. Olsen, **S. Alin**, D.C.E. Bakker, R.A. Feely, P. Hogan, T. Ilyina, N. Lange, S.K. Lauvset, T. Lovato, J. Palmieri, Y. Santana-Falcón, J. Schwinger, R. Séférian, G. Strand, N. Swart, T. Tanhua, H. Tsujino, R. Wanninkhof, M. Watanabe, A. Yamamoto, and T. Ziehn (2023): Global surface ocean acidification indicators: past, present, and future. *Journal of Advances in Modeling Earth Systems*, DOI: 10.1029/2022MS003563.

Norton, E.L., I.C. Kaplan, S. Siedlecki, A.J. Hermann, S.R. Alin, J. Newton, K. Corbett, D. Ayres, J. Schumacker, N. Bond, K. Richerson, and M.A. Alexander (2023). Seasonal forecasts to improve predictions of Dungeness crab catch rates, co-developed with state and tribal fishery managers. *ICES Journal of Marine Science*, https://academic.oup.com/icesjms/advance-article/doi/10.1093/icesjms/fsad010/7034403

Saenger, C.P., P. McElhany, E.L. Norton, D.S. Busch, S.A. Siedlecki, **S.R. Alin,** R.A. Feely, A.J. Hermann, and N. Bednaršek (2023). Evaluating environmental controls on the exoskeleton density of larval Dungeness crab via micro computed tomography. *Frontiers in Marine Science*, 10:1095253, https://www.frontiersin.org/articles/10.3389/fmars.2023.1095253/full

Siedlecki, S.A., **S.R. Alin**, E.L. Norton, N.A. Bond, A.J. Hermann, R.A. Feely, and J.A. Newton (2023). Can seasonal forecasts of ocean conditions including ocean acidification variables aid fishery managers?: Experiences from 10 years of J-SCOPE. *Oceanography,* https://doi.org/10.5670/oceanog.2023.219

2022

Boyer, T., H.-M. Zhang, K. O'Brien, J. Reagan, S. Diggs, E. Freeman, H. Garcia, E. Heslop, P. Hogan, B. Huang, L.Q. Jiang, A. Kozyr, C. Liu, R. Locarnini, A. Mishonov, C. Paver, Z. Wang, M. Zweng, **S. Alin**, L. Barbero, J.A. Barth, M. Belbeoch, J. Cebrian, K. Connell, R. Cowley, D. Dukhovskoy, N.R. Galbraith, G. Goni, F. Katz, M. Kramp, F. Katz, A. Kumar, D. Legler, R. Lumpkin, C.R. McMahon, D. Pierrot, D. J. Plueddemann, E.A. Smith, A. Sutton, V. Turpin, L. Jiang, V. Suneel, R. Wanninkhof, R.A. Weller, and A.P. Wong (2022): Effects of the pandemic on observing the global ocean. *Bulletin of the American Meteorological Society*, https://doi.org/10.1175/BAMS-D-21-0210.1.

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Alin, S., A. Sutton, R. Feely, S. Musielewicz, J. Newton, J. Mickett, and C. Sabine (2018): *Coastal ocean and Puget Sound boundary conditions: Ocean and atmospheric CO_2* in PSEMP Marine Waters Workgroup, *Puget Sound Marine Waters: 2017 Overview*. Moore, S.K., R. Wold, K. Stark, J. Bos, P. Williams, K. Dzinbal, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup. URL: http://www.psp.wa.gov/PSEMP/PSmarinewatersoverview.php.

Cooley, S.R., D.J. Moore, **S. Alin**, D. Butman, D. Clow, N.H.F. French, R.A. Feely, Z. Johnson, G. Keppel-Aleks, S. Lohrenz, I. Ocko, E. Shadwick, A. Sutton, C. Potter, Y. Takatsuka, A. Walker, and R.M.S. Yu, 2018. Chapter 17: Biogeochemical Effects of Rising Atmospheric Carbon Dioxide. In the *Second State of the Carbon Cycle Report*. U.S. Global Change Research Program, Washington, DC.

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2017

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Alin, S., A. Sutton, C. Sabine, S. Musielewicz, J. Newton, J. Mickett, and R. Feely (2017): *Coastal ocean and Puget Sound boundary conditions: Ocean and atmospheric CO_2* in PSEMP Marine Waters Workgroup, *Puget Sound Marine Waters: 2016 Overview*. Moore, S.K., R. Wold, K. Stark, J. Bos, P. Williams, K. Dzinbal, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup. URL: http://www.psp.wa.gov/PSEMP/PSmarinewatersoverview.php.

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Alin, S., A. Sutton, C. Sabine, S. Musielewicz, A. Devol, W. Ruef, J. Newton, J. Mickett, and R. Feely (2016): *Water quality—Puget Sound profiling buoys: Ocean and atmospheric CO_2* in PSEMP Marine Waters Workgroup, *Puget Sound Marine Waters: 2015 Overview*. Moore, S.K., R. Wold, K. Stark, J. Bos, P. Williams, K. Dzinbal, C. Krembs, and J. Newton (eds.), NOAA Northwest Fisheries Science Center for the Puget Sound Ecosystem Monitoring Program's (PSEMP) Marine Waters Workgroup. URL: http://www.psp.wa.gov/PSEMP/PSmarinewatersoverview.php. PMEL contribution 4490.

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Suhrbier, A., **S. Alin,** and J. Newton, 2012. *Ocean acidification and carbon chemistry: Totten Inlet*, in PSEMP Marine Waters Workgroup. *Puget Sound marine waters: 2011 overview*. S. K. Moore, R. Runcie, K. Stark, J. Newton and K. Dzinbal (Eds). URL: www.psp.wa.gov/downloads/psemp/PSmarinewaters_2011_overview.pdf

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Reports Contributed to Without Authorship

¶ denotes that individual chapters that I (co-)authored are listed in the Publications section.

Wrubel, K.R., Cannizzo, Z.J., Waddell, J., Hutto, S. 2025. Climate Vulnerability Assessment for Olympic Coast National Marine Sanctuary. NOAA's Olympic Coast National Marine Sanctuary. 575p. DOI: 10.25923/w46d-1062.

Cross, J.N., Sweeney, C., Jewett, E.B., Feely, R.A., McElhany, P., Carter, B., Stein, T., Kitch, G.D., and Gledhill, D.K., 2023. *Strategy for NOAA Carbon Dioxide Removal Research: A white paper documenting a potential NOAA CDR Science Strategy as an element of NOAA's Climate Interventions Portfolio*. NOAA Special Report. NOAA, Washington DC. DOI: 10.25923/gzke-8730 (listed as a contributing author on page 4).

Voisin, Nathalie, Deborah Rose, Dan Broman, Ning Sun, and Ian Kraucunas. 2023. *Exploring Multiscale Earth System And Human-Earth System Dynamics In The Puget Sound Region*. PNNL-33801. Richland, Washington: Pacific Northwest National Laboratory. doi:10.2172/1906804. https://climatemodeling.science.energy.gov/system/files/publications/attachments/Puget%20Sound%20Scoping%20Report_0.pdf. (See page iv)

Fujita, R.M., J.R. Collins, K.M. Kleisner, D.N. Rader, A. Mejaes, S. Auguyte, and P.A. Brittingham, 2022. Carbon sequestration by seaweed: background paper for the Bezos Earth Fund – EDF workshop on seaweed carbon sequestration. Environmental Defense Fund, New York, NY. www.edf.org/sites/default/files/2022-10/Carbon%20Sequestration%20by%20Seaweed.pdf

Office of National Marine Sanctuaries. 2022. *Olympic Coast National Marine Sanctuary Condition Report: 2008–2019*. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 453 pp. (See pages 153–157, 332, 435–436). https://sanctuaries.noaa.gov/media/docs/2008-2019-ocnms-condition-report.pdf

NOAA Pacific Marine Environmental Laboratory, 2021: *PMEL Strategic Plan 2021–2030*, U.S. Department of Commerce.

¶ Jewett, E. B., E. B. Osborne, K. M. Arzayus, K. Osgood, B. J. DeAngelo, J. M. Mintz. Eds., 2020: *NOAA Ocean, Coastal, and Great Lakes Acidification Research Plan: 2020–2029*, https://oceanacidification.noaa.gov/ResearchPlan2020

¶ Christian, J.R., and T. Ono [Eds.], 2019: *Ocean Acidification and Deoxygenation in the North Pacific Ocean*. PICES Special Publication 5, 116 pp.

Puget Sound Restoration Fund. 2019. *Summary of findings: Investigating seaweed cultivation as a strategy for mitigating ocean acidification in Hood Canal, WA*. For activities performed May 2015 – December 2019. Funded by the Paul G. Allen Family Foundation and US Navy https://restorationfund.org/wp-content/uploads/2020/06/PAFF-Summary-of-Findings-20200312.pdf. (I was a co-PI on the project for which this is the final report.)

¶ USGCRP, 2018: *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report*. [Cavallaro, N., G. Shrestha, R. Birdsey, M. A. Mayes, R. G. Najjar, S. C. Reed, P. Romero-Lankao, and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 878 pp., doi: 10.7930/SOCCR2.2018

¶ Feely, R.A., T. Klinger, J.A. Newton, and M. Chadsey (editors), 2012: *Scientific Summary of Ocean Acidification in Washington State Waters*, NOAA OAR Special Report, 157 pp.

¶ NOAA Ocean Acidification Steering Committee, 2010: *NOAA Ocean and Great Lakes Acidification Research Plan*, NOAA Special Report, 140 pp, http://pmel.noaa.gov/co2/files/feel3500_without_budget_rfs.pdf

SCIENTIFIC LEADERSHIP, MANAGEMENT, AND SERVICE

Committee Membership and Leadership: Current

U.S. member, Global Ocean Acidification Observing Network (GOA-ON) North American Hub Steering Committee, August 2025–present
Member, NOAA Office of Oceanic and Atmospheric Research Tribal Working Group, 2024–present
Contributing author, Third U.S. Carbon Cycle Science Plan writing committee, 2024–present.
U.S. member, PICES (North Pacific Marine Science Organization) Section on Carbon and Climate, 2021–present
Ocean acidification expert, Puget Sound Federal Task Force Shellfish Team, 2021–present
Member, Ocean Acidification Sentinel Site (OASeS) Steering Committee Member, 2020–present
¤ Member, Enabling Change: NANOOS (Networked Association of Northwest Ocean Observing Systems) Working Group, 2020–present.
Co-lead, Coastal Region, Surface Ocean CO_2 Atlas Project, 2012–present

Committee Membership and Leadership: Completed

Member, Olympic Coast National Marine Sanctuary Climate Vulnerability Assessment Working Group, 2021–2025

Ocean acidification expert, Oregon Department of Environmental Quality, Ocean Acidification and Hypoxia Technical Workgroup, 2022–2024
Member, Carbon Sequestration by Seaweed Working Group, Bezos Earth Fund/Environmental Defense Fund, 2022
Member, U.S. Department of Energy Puget Sound Scoping Study Science Steering Committee, 2021–2022
Member, North American Carbon Program (NACP)—Ocean Carbon & Biogeochemistry Science Focus Group, 2018–2022
Member, North American Carbon Program (NACP) Scientific Leadership Committee, 2016–2022
¤ Member, Scientific Program Committee, North American Carbon Program 7th Open Science Meeting, 2018–2021
Member, Core Review Team, PMEL Strategic Planning Committee, 2019–2020
Member, Ocean Acidification Committee, Ocean Carbon & Biogeochemistry Project, 2012–2015
Member, Scientific Program Committee, North American Carbon Program Sixth Principal Investigators Meeting, 2016–2017
Member, Coastal Carbon Synthesis (CCARS) Leadership Committee, North American Carbon Program Coastal Interim Synthesis Activity, 2009–2016
Co-lead, Coastal Carbon Synthesis (CCARS) West Coast Synthesis, North American Carbon Program Coastal Interim Synthesis Activity, 2009–2016
Co-Chair, North American Carbon Program (NACP) Fifth Principal Investigators Meeting (Jan. 2015), 2014–2015
Chair, NACP/OCB Coastal Carbon Synthesis (CCARS) West Coast Regional Workshop, Mar. 2014
Member, Technical Advisory Committee, California Current Acidification Network (C-CAN), 2013–2014
Chair, SOCAT Coastal Data QC Meeting, Seattle, Oct. 2012
Member, Science Steering Committee, Ocean Carbon & Biogeochemistry (OCB) Project, 2012–2014
Alternate Panel Member, Washington State Governor's Blue-Ribbon Panel on Ocean Acidification, 2012
Member, Planning Committee, NOAA Ocean Acidification Data Management Meeting (Seattle, WA, Mar. 2012), 2011–2012
Member, Scientific Program Committee, North American Carbon Program Fourth All-Investigators Meeting, 2012–2013
Member, Blue Carbon Team, NOAA, 2011–2020
Member, Scientific Program Committee, North American Carbon Program Third All-Investigators Meeting, 2010–2011
Co-lead, North American Carbon Program Coastal Interim Synthesis Activity, 2009–2010
Member, Surface Ocean CO_2 Atlas (SOCAT) Coastal CO_2 Climatology Working Group, COST Action 735 (an EU initiative), 2009–2012

Academic Service: Mentoring, Seminars, and Guest Lectures

Students and postdocs—Mentoring, collaboration, and other academic support

Collaborator, Dr. Larissa Dias, University of Washington Cooperative Institute for Climate, Ocean, and Ecosystem Studies postdoc (co-PI on funded Puget Sound Partnership grant proposal to develop ocean acidification information products for state and Tribal fishery managers), 2025–2027

Collaborator, Alberto Morales, University of Texas Marine Science Institute and Cooperative Institute for Satellite Earth System Studies at the University of Maryland graduate student (development of underway oxygen optode data quality control program), 2024–2026

Collaborator, Dr. Kate Hewett, University of Washington School of Oceanography postdoc (West Coast ocean acidification indicator development and manuscripts on Pacific Northwest ocean acidification drivers), 2023–present

Collaborator, Dr. Samantha Setta, University of Washington Cooperative Institute for Climate, Ocean, and Ecosystem Studies postdoc (West Coast ocean acidification and harmful algal blooms), 2023–present

Mentor, Deja Jackson, University of Washington Environmental Studies Program undergraduate capstone project (effect of research vessel emissions on ocean acidification in Puget Sound), 2024–2025

Collaborator, Ella Crotty, NOAA Hollings Scholar from Reed College (ocean acidification and environmental DNA), 2024–2025

Collaborator, Mary Margaret Stoll, University of Washington School of Oceanography PhD student (Salish Sea paleo-oceanography article), 2023–2025

Collaborator, Norma L. Oliva-Méndez, graduate student at Universidad Autónoma de Baja California, México (ocean acidification dynamics in the California Current off Baja California), 2023–2025

Collaborator, Dr. Karyn Suchy, University of British Columbia (NOAA-DFO funded project on the impact of the pre-industrial to current change in OA in the Salish Sea on copepods), 2022–2023

Mentor, Cecelia Odell, NOAA Hollings Scholar from University of San Diego (respiration and ocean acidification in the California Current System), summer 2022

Co-mentor, Monisha Sugla, NOAA Experiential Research and Training Opportunities M.S. student from Texas A&M University (invasive European green crab and Salish Sea ocean acidification), summer 2022

Co-mentor, Andrew Reed, Georgetown University Environmental Metrology & Policy Program M.S. student and summer intern (inorganic carbonate analytical chemistry), summer 2022

Mentor, Kate Hewett, NOAA Nancy Foster Scholar Ph.D. candidate from University of California Davis (ocean acidification drivers in the Olympic Coast National Marine Sanctuary), 2020–2022

NOAA Advisor, Dr. Hongjie Wang, University of Washington Cooperative Institute for Climate, Ocean, and Ecosystem Studies Postdoctoral Fellow (carbonate chemistry observations in the Arctic), 2020–2021

Collaborator, Dr. Sophie Chu, University of Washington Cooperative Institute for Climate, Ocean, and Ecosystem Studies postdoc (field testing of ocean acidification sensors), 2019–2021

Collaborator, Kelly McGarry, M.S. thesis research at University of Connecticut (development of predictive carbonate chemistry relationships for the Gulf of Maine), 2019–2021

Collaborator, Halle Berger, M.S. thesis research at University of Connecticut (ocean acidification effects on Dungeness crab in the Pacific Northwest, multiple papers), 2018–2023

Collaborator, Lindsay Alma, M.S. thesis research at University of Washington School of Fishery and Aquatic Sciences (ocean acidification effects on shellfish in the Salish Sea), 2016–2024

Postdoc advisor/host, Dr. Andrea Fassbender, NOAA Postdocs Applying Climate Expertise fellow (ocean acidification data synthesis and climatology development for Washington marine waters), 2016–2018

Co-mentor, Courcelle Stark, NOAA Hollings Scholar from Smith College (ocean acidification and seagrass in Padilla Bay National Estuarine Research Reserve), 2017

Mentor, Meghan Shea, NOAA Hollings Scholar from Stanford University (ocean acidification data synthesis in the Salish Sea and 2016 and 2021 West Coast Ocean acidification cruise participant), 2016

Collaborator, Cecilia Chapa Balcorta, PhD student at Universidad Autónoma de Baja California, México (carbonate chemistry and Tehuano winds in Pacific waters of southern México, multiple chapters), 2012–2017

De facto mentor, Dr. Jonathan Reum, NOAA Northwest Fisheries Science Center postdoc (multiple stressor conditions in Salish Sea and West Coast waters, two peer-reviewed journal articles and an Ocean Carbon & Biogeochemistry newsletter article), 2014–2016

Committee member, Hally Stone, University of Washington M.S. student 2013–2016

Committee member, Andrea Kealoha, Hawai'i Pacific University M.S. student, 2011–2014

Outside examiner/thesis reviewer, Alejandra Lara-Espinosa, University of Victoria M.S. student, 2012

Mentor, Zachary Gold, NOAA Hollings Scholar from Lafayette College (precise thermal calibration of FET-based pH sensors), summer 2012

Informal mentor, Katie Shamberger, University of Washington School of Oceanography/NOAA Pacific Marine Environmental Laboratory PhD student (helped her initiate/implement complex field project on carbonate chemistry on a coral reef in Kaneohe Bay, Hawaii), 2008

Collaborator/informal mentor, Erin Ellis, University of Washington School of Oceanography PhD student (helped guide design and implementation of her field and laboratory work in the Amazon River basin), 2004–2007

Invited seminars and guest lectures

Guest lecturer, "The global carbon cycle, climate change, ocean conditions in the NE Pacific Ocean, effects on seafood species, and ocean solutions," University of Washington Alaska Salmon Program summer field course *Aquatic Ecological Research in Alaska*, 15 July 2024.

Speaker and "virtual lunch" guest, "Past, present, and future ocean acidification and hypoxia along the Olympic Coast," Stanford (University) Ocean Networking and Research (SONAR) graduate student group, 24 May 2022.

Guest panelist, "'The Olympic Coast as a Sentinel' project," graduate-student-led class *The Social Ocean*, Stanford University, 8 March 2021.

Guest lecturer, "Ocean acidification in Puget Sound," University of Washington School of Oceanography, undergraduate–graduate course, 19 November 2020.

Seminar speaker, "Ocean acidification on Washington's Olympic Coast & southern Salish Sea," University of California, Davis Bodega Marine Laboratory graduate student-led seminar series, 9 October 2019.

Seminar speaker, “Ocean acidification on Washington’s Olympic Coast & southern Salish Sea,” University of Washington School of Aquatic and Fishery Sciences, Seattle, Washington, 23 May 2019.

Seminar speaker, “From molecules to marine mammals: Ocean acidification in the context of other stressors along the U.S. West Coast,” University of Arizona Department of Geosciences seminar, Tucson, Arizona, 13 April 2017.

Seminar speaker, Ocean acidification & the California Current System, *Chemistry Department Seminar Series*, University of Montana, Missoula, MT, 5 Dec. 2011.

Seminar speaker, Ocean Acidification and Puget Sound, *Climate Change Seminar,* Washington Department of Fish and Wildlife, Olympia, WA, 6 October 2010.

Seminar speaker, Interaction of ocean acidification & hypoxia in Pacific Northwest marine ecosystems: A case study from Puget Sound. *Biogeochemistry Seminar Series*, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis, OR, 11 March 2010.

Seminar speaker, Ocean acidification: emerging impacts on North American coastal ecosystems. Rice University, *Earth Science Department Seminar Series*, 19 November 2009.

Seminar speaker, Connecting the dots: freshwater ecosystems link the carbon cycles of land, air, and sea, *Oceanographer job candidate seminar*, NOAA Pacific Marine Environmental Laboratory, summer 2007.

Seminar speaker, Connecting the dots: freshwater ecosystems link the carbon cycles of land, air, and sea, *Faculty job candidate seminar*, University of Alaska Fairbanks, School of Ocean and Fishery Sciences. May 2007.

Seminar speaker, Carbon cycling in large tropical rivers: A tale of three basins. *Department of Geography seminar series*, University of Oregon, Eugene, OR, May 2007.

Seminar speaker, Characterizing carbon cycles in large lakes around the world, *Chemical Oceanography Program postdoctoral interview talk*, School of Oceanography, University of Washington.

Seminar speaker, The live, the dead, and the very dead: biodiversity patterns across time scales at Lake Tanganyika, East Africa, *Large Lakes Observatory seminar series*, University of Minnesota, Duluth, 2003.

Seminar speaker, Carbon cycles in large lakes of the world, *Department of Geology seminar series*, University of Minnesota, Duluth, 2003.

Seminar speaker, Calibration and interpretation of paleoecological records of biodiversity from Lake Tanganyika, East Africa**,** *Quaternary Paleoecology Program seminar series*, University of Minnesota, Twin Cities, 2002.

Guest Lecturer, The Nyanza Project (a research training program in tropical limnology), *University of Arizona and UNDP/GEF Lake Tanganyika Biodiversity Project*, Kigoma, Tanzania, 1998.

I have also contributed guest lectures and classroom visits on ocean acidification for which I have not recorded dates: Stanford University (graduate seminar on Ocean Conservation, Management, and Policy), University of Washington (School of Marine Affairs, Fisheries and Aquatic Sciences, Program on Climate Change), Seattle University, Seattle Art Institute, Bush School science class, Q&A with Ocean Acidification Expert for *Humans and a Changing Ocean* undergraduate class at University of Texas Austin

Conference Session Organizer and/or Chair

Community engagement session (organizer and panel speaker): "Ocean Acidification in Alaska: Research Insights and Dialogue on the Impacts and Implications for Communities," Alaska Forum on the Environment, Anchorage, AK, February 2025.

Science Session co-chair: "*Coastal Acidification in a Multistressor Ocean*," Ocean Sciences Meeting 2022 (virtual), March 2022.

¤ *Opening Keynote Session: "What does the carbon science community owe communities of color, future generations, and other underrepresented groups?"* 7th Open Science Meeting, North American Carbon Program (virtual), March 2021, https://www.youtube.com/watch?v=TY-6LqGD4Zc&t=2078s

¤ *Open Science Session: "Indigenous Peoples and Multinational Experiences,"* 7th Open Science Meeting, North American Carbon Program (virtual), March 2021, https://www.youtube.com/watch?v=C-rtGs7sthc&t=5079s

¤ *Breakout Session: "How can the carbon cycle science community communicate more effectively with other audiences?"* 7th Open Science Meeting, North American Carbon Program (virtual), March 2021, https://www.youtube.com/watch?v=C-rtGs7sthc&t=16194s

Opening Keynote Session: "The Global Carbon Cycle: Research, Infrastructure, and Capacity Needs" by Robert Jackson (Stanford University & the Global Carbon Project) and "How we (CCS) can best increase the efficacy of our communication to stakeholders and policy makers across levels of government" by Lexi Shultz (AGU Director of Public Affairs), 2017 Joint North American Carbon Program and AmeriFlux Principal Investigators Meeting, B.esda, Maryland, March 27–30.

Open Science Session: "Next-Gen Data Management," 2017 Joint North American Carbon Program and AmeriFlux Principal Investigators Meeting, B.esda, Maryland, March 27–30.

Technological Advances to Support Ocean Acidification Research, 3rd US Ocean Acidification PI Meeting, Ocean Carbon & Biogeochemistry Project, Woods Hole Oceanographic Institution, June 9-11, 2015.

Characterizing the natural system, 2nd US Ocean Acidification PI Meeting, Ocean Carbon & Biogeochemistry Project, Washington, DC, September 17–20, 2013.

Ecosystem Impacts of Change, 4th All Investigators Meeting, North American Carbon Program, Albuquerque, NM, Feb. 2013

Ocean acidification and shellfish, 2012 National Shellfisheries Association Annual Meeting, Seattle, WA, Mar. 2012

Ocean acidification in coastal and estuarine environments, 2012 Ocean Sciences Meeting, Salt Lake City, UT, Feb. 2012

Frontiers in ocean acidification research: Responses of marine carbon cycling and ecosystems to ocean acidification, ASLO, Feb. 2011

The linked carbon and water cycles: the atmosphere-land-ocean continuum, NACP All Investigators Meeting 3, Feb. 2011

Carbon Cycling in the Coastal Oceans and Great Lakes, AGU Ocean Sciences, Feb. 2010

NACP/OCB Coastal Interim Synthesis Activities, Ocean Carbon and Biogeochemistry, Jul. 2009

Carbon Cycling in the Coastal Ocean, Fall AGU Meeting, Dec. 2008

Reviews of Manuscripts and Proposals

Manuscript Reviewer

Dr. Alin typically provides 3–5 journal article reviews per year. These are the journals she has worked with during her NOAA tenure: *Scientific Reports, Egusphere, Frontiers in Marine Science, Proceedings of the National Academy of Sciences, Limnology & Oceanography Letters, Geophysical Research Letters, Environmental Science and Technology, Polar Research, Global Biogeochemical Cycles, Journal of Geophysical Research—Oceans, Bulletin of the American Meteorological Society, Oceanography, Biogeosciences, Estuaries and Coasts, Biogeochemistry, Limnology and Oceanography, Limnology and Oceanography: Methods, Ecohydrology, Ecology, Journal of Geophysical Research—Biogeosciences, California EPA Indicators of Climate Change, Nordic Pulp and Paper Journal.*

Proposal Reviewer

Dr. Alin typically reviews 1–2 proposals per year. These are the programs she has provided reviews for during my time at NOAA: California Sea Grant, NSF CAREER Program, Oregon Sea Grant, NASA Terrestrial Ecology Program, National Fund for Scientific Research (Belgium), Katholieke Universiteit Leuven (Belgium), University of Alaska Fairbanks Global Change Research Grant Competition, Washington Sea Grant pre-proposal review panel member, NSF Chemical Oceanography, National Environment Research Council (UK), NASA Carbon Cycle Science Program, Hollings Scholarship applications, International START Secretariat Doctoral Fellowship Program in Global Change Science.

Current Memberships in Professional Societies

Membership in professional earth sciences societies is not based on scientific merit but is based solely on the scientist paying a membership fee, which for federal employees is by law a personal expense.

North Pacific Marine Sciences Organization (PICES, 2016–present)
North American Carbon Program (2009–present)
Ocean Carbon & Biogeochemistry Project (2008–present)
Earth Science Women's Network (2011–present)
Global Ocean Acidification Observing Network (2012–present)
Global Ocean Acidification Observing Network North American Hub (2017–present)
Ocean Sciences (2008–present)—I regularly contribute to these biennial meetings, although I am not an official member of the constituent organizations
Coastal & Estuarine Research Federation (2013–present)—I frequently attend these meetings, but am not a member
Salish Sea Ecosystem Conference (2011–present)—Not a membership-based professional society, but I regularly contribute to their biennial meetings

Project Management and Funding

Sustained Projects

Surface water pCO_2 measurements from ships. NOAA Global Ocean Monitoring and Observing Program, FY2011–present. PMEL PIs: **S. Alin** and R. Feely (with AOML [lead], GML, and other institutions).
PMEL Sustained Coastal Underway Ocean Acidification Observations. NOAA Ocean Acidification Program, FY2010–present. PIs: **S. Alin**, R. Feely.
PMEL Sustained Ocean Acidification Biogeochemical and Ecological Survey Observations. NOAA Ocean Acidification Program, FY2010–present. PIs: R. Feely, **S. Alin**, B. Carter, and N. Bednaršek.

PMEL Sustained Ocean Acidification Data Management, Quality Control, and Archival for NOA-ON, West Coast, and Alaskan LME Observations. NOAA Ocean Acidification Program, FY2010–present. PIs: A. Sutton, **S. Alin**.

PMEL Sustained Seasonal Forecasts of Ocean Acidification Variability in Washington and Oregon Waters. NOAA Ocean Acidification Program, FY2018–present. PIs: S. Siedlecki, **S. Alin**, A. Hermann, R.A. Feely.

Planning FY27–29 Observations of Ocean Acidification in Alaska Coastal Seas. NOAA Ocean Acidification Program, FY2024–FY2026 (sustained funding for sampling in Alaska starting in FY2027 is the proposed outcome of this project). PIs: **S. Alin**, N. Monacci, D. Dugan.

Salish Sea cruise time-series inorganic carbon laboratory analysis. Washington Ocean Acidification Center, funded by the Washington State Legislature, 2014–present. PIs: **S. Alin**, J. Newton, R. Feely.

Shellfish grower support. Small part of Integrated Ocean Observing System (IOOS) funding to the Northwest Association of Networked Ocean Observing Systems (NANOOS), ca. 2015–present. PIs: J. Newton, **S. Alin**.

Current proposal-based projects

Synthesizing OA Information and Engaging Local Knowledge to Enhance the Efficiency of Resiliency Planning in Southeast Alaska. NOAA Ocean Acidification Program, FY2026–2027. PIs: H. Bodwitch, D. Holen, K. Lanphier. Advisory committee: R. Cash (Skagway Traditional Council), L. Pierce (Central Council of Tlingit and Haida Indian Tribes), L. Behnken (Alaska Fisheries Development Foundation). Collaborators: **S. Alin**, D. Dugan, T. Hurst, E. Kennedy, N. Monacci, A. Ord.

Puget Sound Acidification and Impacts (PSAI): An applied data product for estimating acidification and potential for ecosystem impacts in Puget Sound and adjacent marine waters. Puget Sound Partnership, 2025–2027. PIs: L. Dias, J. Sharp, **S. Alin**, J. Newton, B. Carter. Advisory group: M. McHugh (Shellfish Program Manager, Tulalip Tribes of Washington), A. Suhribier (Senior Biologist, Pacific Shellfish Institute), A. Reynolds (Environmental Programs Biologist, Skokomish Tribe Department of Natural Resources), A. Dufault (Puget Sound Shellfish Manager, Washington Department of Fish and Wildlife).

Development of OA data and model products to inform ocean change adaptation, resilience, and mitigation planning by Coastal Treaty Tribes and other Olympic Coast resource users and managers. NOAA Ocean Acidification Program, FY2026–2027. PIs: J. Newton (lead), M. Poe, S. Siedlecki, **S. Alin**, C. Countryman, K. Bray (Hoh Tribe), J. Hagen (Quileute Tribe), W. Jasper (Makah Tribe), and S. Mazzone (Quinault Indian Nation).

Integrated multi-stressor observations, modeling, and experiments to inform management in the Northern California Current. NOAA National Ocean Service, 2022–2026. PIs: F. Chan, RA. Feely, J.A. Barth, N. Bednaršek, M. Kavanaugh, P. MacCready, J. Newton, S. Siedlecki, V. Trainer, J. Waddell. Co-PIs: **S.R. Alin**, B. Carter.

Quality control of historical underway dissolved oxygen measurements collected under the auspices of the NOAA Ocean Acidification Program, NOAA National Centers for Environmental Information Strategic Investment Proposal FY 2024–2025, H. Garcia (retired), **S. Alin** (current lead), L.-Q. Jiang.

HAB-OA 2022 Salish Sea HAB response to ocean acidification and concomitant stressors of increased sea surface temperature and nutrification. NOAA National Ocean Service, 2022–2025. PIs: M. Peacock, W.P. Cochlan, V.L. Trainer, J. Newton, **S. Alin**, M. Lepori-Bui.

4-H pH afterschool program in Lingít Aaní and Sheet'ká (Sitka), southeast Alaska. NOAA Ocean Acidification Program Education Grant, 2024–2026. PIs: N. Monacci, J. Shaw, C. Buffington, **S. Alin**.

Electrolysis-driven weathering of basic minerals for long-term ocean buffering and CO_2 reduction. NOAA mCDR/OAP and Department of Energy Office of Fossil Energy and Carbon Management, Water

Power Technologies Office funding opportunity, FY2023–2026. PIs: B. Hales (lead), Y. Spitz, K. Stoerzinger, G. Waldbusser, **S. Alin**, R. Feely.

Past funded proposals

Infrastructure Proposal for Purchase of 2nd Generation General Oceanics Model 8060 pCO_2 Measuring System, with LICOR CO_2 gas analyzer (LI-7815), for Pacific coastal ocean acidification underway observations. NOAA Ocean Acidification Program, FY2023. PI: **S. Alin**.

Infrastructure Proposal for DIC Instrumentation for Ocean Acidification Research. NOAA Ocean Acidification Program, FY2020. PI: **S. Alin**.

Synthesizing and visualizing carbonate and nutrient data on the U.S. North American continental shelves. NOAA Ocean Acidification Program, FY2019–2020. PIs: L.-Q. Jiang, R.A. Feely, **S. Alin**, R. Wanninkhof, L. Barbero, T. Boyer.

Development of stress metrics for Dungeness crab megalopae from field and culture specimens and their application to regional forecasts. NOAA Ocean Acidification Program, FY2019–2020. PIs: C. Saenger, N. Bednaršek, S. Alin, R. Feely, A. Hermann, S. Siedlecki, P. McElhany, S. Busch.

Experiments with Seasonal Forecasts of ocean conditions in the Pacific Northwest to aid the crab fishery. NOAA Modelling, Analysis, Predictions and Projections Program, 2017–2020. PIs: S. Siedlecki, I. Kaplan, N. Bond, A. Hermann, J. Newton, M. Alexander. Advisory council: J. Schumacker, D. Ayres, **S. Alin**.

RVA-OA2017, The Olympic Coast as a Sentinel: An Integrated Social-Ecological Regional Vulnerability Assessment to Ocean Acidification. NOAA Ocean Acidification Program, FY2018–2019. PIs: J. Newton, M. Poe. Co-PIs: **S. Alin**, M. Chadsey, R. Feely, S. Fradkin, K. Marcus, J. Schumacker, S. Siedlecki, R. Svec, J. Waddell, M. Watkinson. Partners: J. Hagen, A. Sutton.

Developing innovative tools to connect stakeholders with NOAA's Ocean Acidification Observing Network (NOA-ON). NOAA Ocean Acidification Program, FY2016–2017. PIs: A. Sutton, **S. Alin**.

Build-out proposal: Enhancement of an existing ocean forecast system to include ocean acidification. NOAA Ocean Acidification Program, FY2015–2017. PIs: S. Siedlecki, **S. Alin**, A. Hermann, N. Bednaršek, R. Feely.

OA 2015: Integrated modeling of ocean acidification and hypoxia to support ecosystem prediction and environmental management in the California Current System. NOAA Ocean Acidification Program, 2015–2018. PIs: J. McWilliams, R. Ambrose, D. Bianchi, M. Gold, C. Deutsch, N. Bednaršek, H. Frenzel, M. Sutula, S. Weisberg, K. McLaughlin, R. Feely, **S. Alin**.

Cultivating Seaweeds to Mitigate Ocean Acidification and Generate Habitat, Fertilizer, Food and Fuel. Paul Allen Family Foundation and U.S. Navy, 2015–2018. PIs: B. Peabody, J. Davis, J. Newton, **S.R. Alin**, W. Evans, R.A. Feely, J. Mickett, N. Bednaršek, B. Allen.

Defining actionable ocean acidification water quality criteria. UCAR Postdocs Applying Climate Expertise Fellowship Program, 2014–2016. PIs: **S. Alin**, A. Sutton.

Turning the headlights on 'high': improving an ocean acidification observation system in support of Pacific coast shellfish growers. NOAA National Ocean Service, FY2014–2016 (no cost extensions to 2018). PIs: J. Newton, B. Hales, **S.R. Alin**, W. Evans, T. Hill, J. Abell, R.A. Feely.

pH XPRIZE Sensor Validation Team. Wendy Schmidt Ocean Health XPRIZE, 2014–2015. PIs: A. Sutton, R. Feely, C. Sabine, **S. Alin**.

Factors controlling the formation of hypoxic and corrosive conditions along the Cascadia Margin. NOAA Global Carbon Cycle Program, 2010–2013. PIs: **S. Alin**, B. Hales, R. Feely, C. Sabine, G. Johnson.

Oyster emergency project: water chemistry, ocean acidification, and larval oysters in Puget Sound. EPA funding through the Puget Sound Partnership, 2009–2010. PIs: B. Peabody, J. Davis, **S. Alin**, R. Feely, C. Sabine, J. Newton, A. Devol, A. Suhrbier, D. Cheney, B. Allen, B. Eudeline.

Recent Sample Analysis Contracts for PMEL Carbon Analysis Center of Excellence

Washington Department of Ecology, Olympia, Washington, 2013–present. Sample analysis in support of marine monitoring, ocean acidification indicators, and water quality assessment.

King County Water and Land Resources Division, Seattle, Washington, 2015–present. Sample analysis in support of marine monitoring and water quality assessment.

Stony Brook University, Stony Brook, New York, 2022–present. In support of geological and ocean carbon capture research project.

Tulalip Tribes of Washington, Department of Natural Resources, Tulalip, Washington, 2023–2024. Sample analysis in support of their crab fishery environmental monitoring.

Massachussetts Institute of Technology, Boston, Massachusetts, 2021–2024. Sample analysis in support of research, building a Dissolved Inorganic Carbon Extractor (DIC) for a GO-SHIP scientist/PI at MIT.

Coral Research Ecosystem Program, Pacific Island Fisheries Science Center, Honolulu, Hawai'i, 2010–2025. Sample analysis in support of NOAA Ocean Acidification Program monitoring across Pacific Islands.

Bigelow Laboratory for Ocean Sciences, Boothbay, Maine, 2018–2024. Sample analysis in support of deep sea coral research.

PRESENTATIONS, OUTREACH, AND MEDIA

Co-authored presentations are likely incomplete as one does not always know about them.

Contributed Research Presentations

Monacci, N., **S. Alin**, J. Cross, S. Danielson, W. Evans, T. Hennon, R. Hopcroft, E. Kennedy, K. Lanphier, J. Questel, and J. Womble, 2026. Observing the biogeochemistry of Alaska's subarctic fjords. 2026 Annual Science Meeting of ESSAS (Ecosystem Studies of Subarctic and Arctic Seas), University of Iceland, Reykjavík, June 25.

Alin, S., R. Feely, A. Sutton, B. Carter, S. Siedlecki, J. Newton, K. Hewett, L. Dias, N. Monacci, D. Dugan, D. Pilcher, P. Stabeno, and S. Stalin, 2026. Novel insights from NE Pacific subsurface observations of estuarine, coastal, and open ocean acidification support managers and other end users. "Human connections & looking ahead to challenges, gaps, and priorities" session, *2026 OAP Research Community Meeting*, College Park, Maryland, May 6.

Alin, S., S. Curless, J. Herndon, C. Cosca, and R. Feely, 2026. Atmospheric and seawater CO_2 at the Seattle Aquarium (2012–2025). *2025 Puget Sound Marine Waters Annual Overview Workshop*, Seattle, WA, April 16.

Alin, S., A. Sutton, and J. Newton, 2026. Surface xCO_2 at coastal and Puget Sound moored time-series stations: 2025. *2025 Puget Sound Marine Waters Annual Overview Workshop*, Seattle, WA, April 16.

Monacci, N., **S. Alin**, D. Dugan, and S. Lloyd, 2026. Ocean acidification in the Bering and Chukchi Seas. "Knowledge in partnership: how local/traditional knowledge and science work together to build resilience" session, Western Alaska Interdisciplinary Science Conference (WAISC), Bethel, Alaska, April 7–9.

CCSP3 writing team (**S. Alin** is a contributing chapter author), 2026. The Third Decadal U.S. Carbon Cycle Science Plan, *2026 Ocean Sciences Meeting*, Glasgow, Scotland, 22–27 February.

Newton, J.A., M. Poe, S. Siedlecki, **S. Alin**, J. Turner, S. Widdicombe, K. Isensee, and A. Kenworthy, 2026. Ocean acidification research for sustainability: a social-ecological regional vulnerability assessment to ocean acidification use case, *2026 Ocean Sciences Meeting*, Glasgow, Scotland, 22–27 February.

Feely, R.A., L.-Q. Jiang, R. Wanninkhof, B.R. Carter, **S.R. Alin**, and N. Bednaršek, 2026. Decadal changes in surface ocean carbon system parameters from observations and models. *2026 Ocean Sciences Meeting*, Glasgow, Scotland, 22–27 February.

Navarrete, L.J., S. Siedlecki, I.C. Kaplan, E.L. Norton, C. King, O. Yazzie, F. Soares, K. Corbet, T. Buell, D. Ayres, M. George, C.R. Biggs, J. Schumacker, A.J. Hermann, J. Newton, **S.R. Alin**, and C. Matassa, 2025. Developing a Dungeness crab (*Metacarcinus magister*) meat quality forecasting management tool. *American Geophysical Meeting Fall Meeting*, New Orleans, Louisiana, 15–19 December.

Zhu, Y., S.A. Siedlecki, F. Soares, P. MacCready, D. Hingmire, **S.R. Alin**, R.A. Feely, F. Chan, C.M. Risien, J.E. Waddell, and J. Newton, 2025. Drivers of compound change in biogeochemical conditions in the northern California Current System. *American Geophysical Meeting Fall Meeting*, New Orleans, Louisiana, 15–19 December.

Crotty, E.G., S.D. Brown, S.M. McAllister, J. Waddell, K. Hough, **S.R. Alin**, and Z.J. Gold, 2025. Using eDNA to Investigate the Effects of Hypoxia on Copepods in Olympic Coast National Marine Sanctuary. Western Society of Naturalists 107th Annual Meeting, Sacramento, California, November 12–15.

Feely, R., L-Q. Jiang, B. Carter, **S. Alin**, and N. Bednaršek, 2025. Surface ocean carbon system acidification trends from underway fCO_2 observations and models. One Ocean Science Congress, Nice, France, June 3–6.

Monacci, N.M., **S.R. Alin**, S. Cellan, J.N. Cross, W. Evans, K. Lanphier, E.G. Kennedy, and J.M. Questel, 2025. OS21D-0622: Observing the marine carbonate system in Alaska's southeast region to detect ocean acidification. *Alaska Marine Science Symposium*, Anchorage, AK, January 27–31.

Monacci, N.M., **S.R. Alin**, S.W. Bell, J.N. Cross, S.L. Danielson, J.M. Grebmeier, L.T. McRaven, C. Mordy, L. Mu, R.S. Pickart, D. Pilcher, S. Sandy, P.J. Stabeno, and H. Wang, 2024. OS21D-0622: Monitoring ocean acidification in the Pacific Arctic Region with the Distributed Biological Observatory. *American Geophysical Meeting Fall Meeting*, Washington, DC, December 9–13.

Zhu, Y., S. Siedlecki, F. Soares, P. MacCready, **S.R. Alin**, R.A. Feely, D. Hingmire, C. Risien, and J. Waddell, 2024. OS51B-0685: Long-Term Trend and Variability of Air-Sea Carbon Flux and Ocean Acidification in the Northern California Current System During 1993–2022: A Modeling Study. *American Geophysical Meeting Fall Meeting*, Washington, DC, December 9–13.

Feely, R.A., L. Jiang, R.H. Wanninkhof, B. Carter, **S.R. Alin**, and N. Bednarsek, 2024. OS53D-06: Estimates of Surface Ocean Carbon System Changes from Underway fCO_2 Observations and Models. *American Geophysical Meeting Fall Meeting*, Washington, DC, December 9–13.

Crotty, E., S. Brown, S. McAllister, J. Waddell, K. Hough, **S.R. Alin**, M. Galaska, and Z. Gold, 2024. OS01-56Using eDNA and Hypoxia Data From Olympic Coast National Marine Sanctuary to Identify Species-

specific Responses to Hypoxic Events. *American Geophysical Meeting Fall Meeting*, Washington, DC, December 9–13.

Monacci, N.M., **S. Alin**, R. Battisti, R. Bott, J. Cross, W. Evans, S. Maenner-Jones, L. Mu, S. Musielewicz, J. Osborne, D. Pilcher, P. Stabeno, A. Sutton, and H. Wang, 2024. S08 17805: Observing marine carbon dioxide in Alaska's coastal oceans. *PICES-2024: The Future of PICES: Science for Sustainability in 2030*, Honolulu, HI, October 26–November 1.

Zhu, Y., S. Siedlecki, F. Soares, D. Hingmire, P. MacCready, **S.R. Alin**, R.A. Feely, C. Risien, and J. Waddell, 2024. S08 18029: Ocean acidification and compound extreme events in the northern California Current System during 1993–2023: A modeling study. *PICES-2024: The Future of PICES: Science for Sustainability in 2030*, Honolulu, HI, October 26–November 1.

Monacci, N.M., **S. Alin**, S. Cellan, J. Cohen, P. Cook, D. Dugan, G. Ellwanger, J. Hetrick, C. Long, J. Ramsay, A. Wall, and S. Weinstein, 2024. Ocean Acidification: Community and Tribal Monitoring for Alaska. *National Tribal & Indigenous Climate Conference*, Anchorage, AK, September 9–12.

Monacci, N.M., **S. Alin**, J. Cross, W. Evans, A. Sutton, and H. Wang, 2024. Observing surface ocean carbon dioxide in Alaska's Large Marine Ecosystems. *Ocean Carbon and Biogeochemistry Summer Workshop*, Woods Hole, MA, June 10–13.

Bakker, D.C.E., T. Steinhoff, R. Sanders, A. Sutton, **S.R. Alin**, H.W. Bange, M. Becker, R.A. Feely, T. Gkritzalis, S.D. Jones, A. Kozyr, S.K. Lauvset, N. Metzl, D.R. Munro, S. Nakaoka, K. O'Brien, A. Olsen, D. Pierrot, G. Rehder, C. Sweeney, M. Telszewski, B. Tilbrook, C. Wada, R. Wanninkhof, and >SOCAT contributors, 2024. Celebrating the Surface Ocean CO_2 Atlas (SOCAT), a community-led synthesis, with WMO G3W on the horizon. *Integrated Carbon Observation System Science Conference*, Versaille, France, September 10–12.

Monacci, N., **S. Alin**, J. Cross, W. Evans, A. Sutton, and H. Wang, 2024. Observing surface ocean carbon dioxide in Alaska's Large Marine Ecosystems. *2024 Ocean Carbon and Biogeochemistry Summer Workshop*, Woods Hole, Massachusetts, June 10–13.

Alin, S., A. Sutton, and J. Newton, 2024. Carbon and ocean acidification in Puget Sound and coastal boundary waters: 2023. *2023 Puget Sound Marine Waters Annual Overview Workshop*, Seattle, WA, April 30.

Jiang, L-Q., T. Boyer, C. Paver, J.R. Reagan, **S.R. Alin**, L. Barbero, B. Carter, R.A. Feely, and R.H. Wanninkhof, 2024. Climatological distribution of ocean acidification indicators on the North American ocean margins. *2024 Ocean Sciences Meeting*, New Orleans, Louisiana, February 18-23.

Feely, R.A., L-Q. Jiang, R.H. Wanninkhof, B. Carter, **S.R. Alin**, N. Bednaršek, and C.E. Cosca, 2024. Acidification of the global surface ocean: What we have learned from observations. *2024 Ocean Sciences Meeting*, New Orleans, Louisiana, February 18-23.

Newton, J.A., S.A. Siedlecki, **S.R. Alin**, J. Mickett, J.A. Koehlinger, R.J. Carini, J. Waddell, R.A. Feely, and M.R. Poe, 2024. Bringing a focus to the nearshore: A case for refining projections to aid coastal communities. *2024 Ocean Sciences Meeting*, New Orleans, Louisiana, February 18-23.

Monacci, N., **S. Alin**, S. Bell, J. Cross, S. Danielson, J. Grebmeier, L. McRaven, C. Mordy, L. Mu, R. Pickart, S. Sandy, P. Stabeno, and H. Wang, 2024. Distributed Biological Observatory: Marine carbonate system parameters from 2017 to 2023. *2024 Alaska Marine Science Symposium*, Anchorage, Alaska, January 29–February 1.

Alin, S., R. Feely, B. Carter, S. Siedlecki, J. Newton, J.E. Waddell, and E.J. Schumacker, 2023. Buffering capacity minima in coastal–estuarine waters: implications for ocean acidification trajectories and ecosystem management. *Coastal & Estuarine Research Federation 2023: 27th Biennial Conference*, Portland, OR, November 12–16.

Pacella, S., W. Fairchild, E. Stets, **S. Alin**, B. Carter, and R. Feely, 2023. Acidification dynamics of US estuarine waters as determined by coastal stream and ocean chemistry trends. *Coastal & Estuarine Research Federation 2023: 27th Biennial Conference*, Portland, OR, November 12–16.

Newton, J.A., M. Poe, S. Siedlecki, **S. Alin**, H. Berger, R. Carini, J. Schumacker, R. Svec, J. Hagen, J.A. Koehlinger, M. Chadsey, and S. Fradkin, 2023. The value of integrating social and ecological science for regional vulnerability assessments to ocean acidification. *Coastal & Estuarine Research Federation 2023: 27th Biennial Conference*, Portland, OR, November 12–16.

Alin, S.R., J.A. Newton, R.A. Feely, D. Greeley, and S. Siedlecki, 2023. Southern Salish Sea (U.S.) ocean acidification and hypoxia extremes in response to major heat and runoff anomalies during a seasonal 2014–2018 cruise time-series: multi-stressor implications for sensitive species. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Alin, S.R., R.A. Feely, B. Carter, S. Siedlecki, J.A. Newton, J.E. Waddell, and E.J. Schumacker, 2023. Buffering capacity minima in coastal–estuarine waters: implications for ocean acidification trajectories and ecosystem management. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Hunt, B.P.V., **S.R. Alin**, A. Bidlack, H. Diefenderfer, J.M. Jackson, C. Kellogg, P. Kiffney, K. St. Pierre, E. Carmack, W.C. Floyd, E. Hood, A.R. Horner-Devine, C. Levings, and C. Vargas, 2023. Advancing an integrated understanding of land-ocean connections in shaping the marine ecosystems of Coastal Temperate Rainforest ecoregions. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Newton, J.A., M. Poe, S. Siedlecki, **S. Alin**, H. Berger, R. Carini, J. Schumacker, R. Svec, J. Hagen, J.A. Koehlinger, M. Chadsey, and S. Fradkin, 2023. The value of integrating social and ecological science for regional vulnerability assessments to ocean acidification. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Stoll, M.M., C. Deutsch, H. Jurikova, J. Rae, A. Gothmann, **S. Alin**, and A. Gagnon, 2023. A century of change in the California Current: Quantifying the impact of anthropogenic climate change on ocean acidification. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Suchy, K., D. Ianson, S. Allen, J. Newton, and **S. Alin**, 2023. Effects of ocean acidification on plankton in the Salish Sea. *PICES (North Pacific Marine Science Organization) 2023 Annual Meeting*, Seattle, WA, October 23–27.

Alin, S., A. Sutton, S. Musielewicz, J. Newton, J. Mickett, and C. Sabine, 2023. Carbon and ocean acidification in Puget Sound and coastal boundary waters: 2022. *Puget Sound Marine Waters Annual Overview Workshop*, Seattle, WA, April 26.

Alin, S.R., R.A. Feely, S. Siedlecki, B. Carter, J. Newton, and J. Waddell, 2023. Around the bend and back again: Crossing buffering capacity minima in northwest US coastal and estuarine waters and implications for future regional ocean acidification trends and patterns. *5th International Symposium on the Effects of Climate Change on the World's Ocean*, Bergen, Norway, April 17–21.

Feely, R.A., B.R. Carter, **S.R. Alin**, N. Bednaršek, J. Sharp, D. Greeley, and J. Herndon, 2023. The interactions between acidification and deoxygenation along the West Coast of North America. *5th International Symposium on the Effects of Climate Change on the World's Ocean*, Bergen, Norway, April 17–21.

Jiang, L.-Q., J. Dunne, B.R. Carter, J.F. Tjiputra, J. Terhaar, J.D. Sharp, A. Olsen, **S. Alin**, D.C.E. Bakker, R.A. Feely, P. Hogan, T. Ilyina, N. Lange, S.K. Lauvset, T. Lovato, J. Palmieri, Y. Santana-Falcón, J. Schwinger, R. Séférian, G. Strand, N. Swart, T. Tanhua, H. Tsujino, R. Wanninkhof, M. Watanabe, A. Yamamoto, and T. Ziehn, 2023. A global surface ocean acidification indicators product based on the latest CMIP6 Earth System Models and observational data. *5th International Symposium on the Effects of Climate Change on the World's Ocean*, Bergen, Norway, April 17–21.

Newton, J.A., M. Poe, S. Siedlecki, **S.R. Alin**, R.A. Feely, H. Berger, R. Carini, S. Fradkin, T. Moore, J. Schumacker, R. Svec, J.A. Koehlinger, J. Hagen, J. Waddell, M. Chadsey, and A. Sutton, 2023. The Olympic Coast as a sentinel: An integrated social-ecological regional vulnerability assessment to ocean acidification. *5th International Symposium on the Effects of Climate Change on the World's Ocean*, Bergen, Norway, April 17–21.

Siedlecki, S.A., I. Kaplan, E. Norton, A. Hermann, **S. Alin**, R. Feely, N. Bond, S. Ray, M. Malick, M. Hunsicker, F. Soares, E.J. Schumacker, D. Ayres, K. Corbett, M. Alexander, G. Hervieux, G. Williams, N. Bednarsek, J. Fisher, C. Morgan, and J. Newton, 2023. Can seasonal forecasts of ocean conditions including ocean acidification variables aid fishery managers?: Experiences from 10 years of J-SCOPE. *5th International Symposium on the Effects of Climate Change on the World's Ocean*, Bergen, Norway, April 17–21.

Cai, W.-J., Z. Wu, X. Li, R.A. Feely, B. Carter, **S. Alin**, L. Barbero, R. Wanninkhof, A. Sutton, D. Pierrot, J.E. Salisbury, and Y. Xu, 2023. A synthesis of sea surface CO_2 trends, water column carbonate chemistry, and anthropogenic carbon accumulation rates in the North American ocean margins. *NOAA Ocean Acidification Community Meeting*, San Diego, January 4–6.

Feely, R.A., B.R. Carter, **S. Alin**, D. Greeley, N. Bednaršek, and J. Newton, 2023. The interconnection of acidification and deoxygenation along the West Coast of North America. *NOAA Ocean Acidification Community Meeting*, San Diego, January 4–6.

Newton, J., M. Poe, **S. Alin**, S. Siedlecki, M. Watkinson, R. Feely, J. Schumacker, R. Svec, J.A. Koehlinger, J. Hagen, J. Ledford, R. Monette, A. Penn-Charles, J. Jaime, B. Afterbuffalo, K. Wrubel, J. Waddell, S. Fradkin, M. Chadsey, H. Berger, and R. Carini, 2021. The Olympic Coast as a Sentinel: An Integrated

Social-Ecological Regional Vulnerability Assessment to Ocean Acidification. *NOAA Ocean Acidification Community Meeting*, San Diego, January 4–6.

Peacock, M., V. Trainer, W. Cochlan, J. Newton, **S. Alin**, and T. King, 2023. Harmful algae, acidification, and climate change in the Salish Sea. *NOAA Ocean Acidification Community Meeting*, San Diego, January 4–6.

Sutton, A., R. Battisti, B. Carter, W. Evans, J. Newton, **S. Alin**, N. Bates, W.-J. Cai, K. Currie, R.A. Feely, C. Sabine, T. Tanhua, B. Tilbrook, and R. Wanninkhof, 2023. Best practices for assessing Trends of Ocean Acidification Time Series (TOATS). *NOAA Ocean Acidification Community Meeting*, San Diego, January 4–6.

Alin, S.R., S. Siedlecki, H. Berger, J. Newton, J. Waddell, B. Carter, R.A. Feely, B. Curry, and K. Hough, 2022. Past, present, and future upwelling season ocean acidification and hypoxia conditions on the Olympic Coast (Washington, USA). *5th Oceans in a High CO_2 World Meeting*, Lima, Peru, September 12–16. ***Voted best talk in one of four themes at the meeting.***

Evans, W., B. Hales, J. Newton, **S. Alin**, K. Pocock, C. Weekes, C. Whitehead, N. Monacci, J. Ramsay, S. Duesterloh, W. Fairchild, J. Abell, J. Tyburczy, 2022. A nearshore Burke-o-Lator network along the North American Pacific coast. *5th Oceans in a High CO_2 World Meeting*, Lima, Peru, September 12–16.

Feely, R.A., B. Carter, L. Jiang, **S.R. Alin**, and D. Greeley, 2022. Anthropogenic carbon concentrations in the Pacific Ocean: implications for ocean acidification since the beginning of the Industrial Era. *5th Oceans in a High CO_2 World Meeting*, Lima, Peru, September 12–16.

Jiang, L.-Q., R.A. Feely, R. Wanninkhof, **S. Alin**, D. Greeley, L. Barbero, C. Featherstone, J. Cross, T. Boyer, S. Shellito, W.-J. Cai, and Y. Xu, 2022. Synthesis and visualization of carbonate and nutrient data on North American continental shelves. *5th Oceans in a High CO_2 World Meeting*, Lima, Peru, September 12–16.

Sutton, A., J. Newton, **S. Alin**, N. Bates, W.-J. Cai, B. Carter, K. Currie, W. Evans, R.A. Feely, C. Sabine, T. Tanhua, B. Tilbrook, and R. Wanninkhof, 2022. A call for a community of practice for assessing ocean acidification trends. *5th Oceans in a High CO_2 World Meeting*, Lima, Peru, September 12–16.

Alin, S., A. Sutton, S. Musielewicz, J. Newton, J. Mickett, A. Collins, C. Cosca, B. Curry, and C. Sabine, 2022. Carbon and ocean acidification in Puget Sound and coastal boundary waters: 2021. *Puget Sound Marine Waters Annual Overview Workshop*, Seattle, Washington/Zoom, April 5, 2022.

Hunt, B., **S. Alin**, A. Bidlack, H. Diefenderfer, A. Horner-Devine, J. Jackson, C. Kellogg, P. Kiffney, K. St. Pierre, E. Carmack, W. Floyd, I. Giesbrecht, E. Hood, C. Levings, C. Vargas, 2022. Freshwater and terrestrial influence on marine ecosystems of coastal temperate rainforest ecoregions: an integrative, multi-scale review of critical factors through a northeastern Pacific case study. *2022 Ocean Science Meeting*, virtual, March 4.

Feely, R., B. Carter, N Bednarsek, **S. Alin**, J. Sharp, D. Greeley, J. Herndon, 2022. Coastal Acidification Along the West Coast of North America. *2022 Ocean Science Meeting*, virtual, February 28.

Norton, E.L., I.C. Kaplan, S. Siedlecki, A.J. Hermann, **S.R. Alin**, J. Newton, K. Corbett, D. Ayres, J. Schumacker, n. Bond, K. Richerson, S. Ray, M.A. Alexander, 2022. Seasonal ocean forecasts promote dynamic management of the Dungeness crab fishery in Washington and Oregon, U.S.A. *2022 Ocean Science Meeting*, virtual, March 3.

Newton, J., M. Poe, S. Siedlecki, **S. Alin**, H. Berger, R. Carini, S. Fradkin, T. Moore, 2022. The Olympic Coast as a Sentinel: Biological risk results from an integrated social-ecological vulnerability assessment for ocean acidification. *2022 Ocean Science Meeting*, virtual, March 4.

Siedlecki, S., P. MacCready, E. Norton, **S. Alin**, A. Sutton, J. Newton, F. Soares, 2022. Estuarine modification of regional carbon variables: the case of the Salish Sea. *2022 Ocean Science Meeting*, virtual, February 28.

Jiang, L.-Q., R. Feely, R. Wanninkhof, D. Greeley, L. Barbero, **S. Alin**, B.R. Carter, D. Pierrot, C. Featherstone, J. Hooper, C. Melrose, N. Monacci, J.D. Sharp, S. Shellito, Y.-Y. Xu, A. Kozyr, R. Byrne, W.-J. Cai, J. Cross, G.C. Johnson, B. Hales, C. Langdon, J. Mathis, J. Salisbury, D.W. Townsend, 2021. An internally consistent data product for discrete inorganic carbon, oxygen, and nutrients on the North American ocean margins (CODAP-NA). *2022 Ocean Science Meeting*, virtual, March 1.

Alin, S., J. Newton, R. Feely, D. Greeley, B. Curry, J. Herndon, S. Siedlecki, and K. Hewett, 2022. A decade-long time-series on estuarine acidification and hypoxia dynamics in the southern Salish Sea (North America): Biogeochemical response to an unprecedented marine heatwave, changing hydrology & a novel carbonate storm. *2022 Ocean Science Meeting*, virtual, March 1.

Newton, J., M. Poe, **S. Alin**, S. Siedlecki, M. Watkinson, R. Feely, J. Schumacker, R. Svec, J.A. Koehlinger, J. Hagen, J. Ledford, R. Monette, A. Penn-Charles, J. Jaime, B. Afterbuffalo, K. Wrubel, J. Waddell, S. Fradkin, M. Chadsey, H. Berger, and R. Carini, 2021. The Olympic Coast as a Sentinel: An Integrated Social-Ecological Regional Vulnerability Assessment to Ocean Acidification. *Ocean Acidification Week 2021*. Global Ocean Acidification Observing Network, September 13–17, 2021.

Jiang, L.-Q., R. Feely, R. Wanninkhof, D. Greeley, L. Barbero, **S. Alin**, B.R. Carter, D. Pierrot, J. Hooper, C. Melrose, N. Monacci, J.D. Sharp, S. Shellito, Y.-Y. Xu, A. Kozyr, W.-J. Cai, J. Cross, G.C. Johnson, B. Hales, C. Langdon, J. Mathis, J. Salisbury, D.W. Townsend, 2021. An Internally Consistent Data Product for Discrete Inorganic Carbon, Oxygen, and Nutrients on the North American Ocean Margins. *Ocean Acidification Week 2021*. Global Ocean Acidification Observing Network, September 13–17, 2021.

Siedlecki, S., D. Pilcher, E. Howard, C. Deutsch, P. MacCready, E. Norton, H. Frenzel, J. Newton, R.A. Feely, **S.R. Alin**, T. Klinger, 2021. Dynamically downscaled climate change projections of multiple marine ecosystem stressors for the California Current System. *Ocean Acidification Week 2021*. Global Ocean Acidification Observing Network, September 13–17, 2021.

Alin, S., A. Sutton, S. Musielewicz, J. Newton, J. Mickett, B. Curry, R. Feely, and C. Sabine, 2021. Carbon and ocean acidification in Puget Sound: 2020. *Puget Sound Marine Waters Annual Overview Workshop*, Seattle, Washington/Zoom, March 22, 2021.

Alin, S., A. Sutton, S. Musielewicz, J. Newton, J. Mickett, B. Curry, R. Feely, and C. Sabine, 2020. Carbon and ocean acidification in Puget Sound: 2019. *Puget Sound Marine Waters Annual Overview Workshop*, Seattle, Washington/Zoom, March 23, 2020.

Alin, S., J. Newton, J. Waddell, B. Curry, K. Hough, R. Feely, D. Greeley, and B. Carter, 2020. Estimates of change since the pre-industrial in the frequency, duration, and intensity of acidified conditions along the Olympic Coast. NOAA Ocean Acidification Program Principal Investigators Meeting, Miami, Florida, January 7–9.

Sutton, A., **S. Alin**, B. Carter, J. Cross, R. Feely, L. Jiang, and R. Wanninkhof, 2020. Ocean acidification observing in the open ocean: status and opportunities. NOAA Ocean Acidification Program Principal Investigators Meeting, Miami, Florida, January 7–9.

Newton, J., M. Poe, **S. Alin**, R. Feely, S. Siedlecki, M. Watkinson, J. Schumacker, K. Wrubel, J. Green, J. Hagen, J. Waddell, S. Fradkin, M. Chadsey, and A. Sutton, 2020. The Olympic Coast as a sentinel: an integrated social-ecological regional vulnerability assessment to ocean acidification. NOAA Ocean Acidification Program Principal Investigators Meeting, Miami, Florida, January 7–9.

Alin, S., R. Feely, D. Greeley, J. Fisher, V. Trainer, B. Cochlan, J. Herndon, and others, 2020. Current compiled and additional cruises: West Coast. *North American Coastal Data Analysis Project (CODAP-NA) PI meeting*, Miami, Florida, January 6.

Alin, S.R., J. Newton, R. Feely, D. Greeley, B. Curry, S. Musielewicz, and J. Herndon, 2020. Thinking about estuarine waters: a decade-long time-series of Puget Sound (Salish Sea) cruises. *NOAA Ocean Acidification Program coastal data synthesis project (CODAP) PI meeting*, Miami, Florida, January 6.

Alin, S., J. Newton, A. Sutton, J. Mickett, and others, 2019. Carbon (and some temperature) data on the coast and in Puget Sound—2018: preliminary moored and cruise data. *Puget Sound Marine Waters Annual Review Workshop*, Seattle, WA, May 1.

Feely, R.A., B. Carter, W.-J. Cai, **S.R. Alin**, and D. Greeley, 2019. Anthropogenic Carbon Concentrations in the North Pacific Ocean: Implications for Ocean Acidification Changes Since the Pre-industrial Era. *AGU Fall Meeting*.

Feely, R.A., B. Carter, N. Bednarsek, W.-J. Cai, **S.R. Alin**, R.R. Okazaki, and D. Greeley, 2019. The combined effects of acidification and hypoxia along the West Coast of North America. *ASLO*, Feb. 2019, Puerto Rico.

Alin, S.R., and A.J. Sutton, 2018. Interactive time-series climatologies, a new PMEL data portal, and other fun things. *NOAA Ocean Acidification Program Data Products Meeting*, Silver Spring, MD, September 12-14.

Alin, S.R., R.A. Feely, S. Siedlecki, B. Curry, B. Carter, J. Newton, J. Waddell, and K. Hough, 2018. Synthesis of a decade of moored time-series observations of hypoxia and ocean acidification in the northern California Current Ecosystem. *The Effects of Climate Change on the World's Oceans: 4th International Symposium*, Washington, DC.

Alin, S., 2018. Carbonate chemistry & air-sea CO_2 on the coast and in Puget Sound—2017: a preliminary look. *2017 Puget Sound Marine Waters Overview Workshop*. Seattle, WA, April 17.

Feely, R.A., B. Carter, N. Bednarsek, **S. Alin**, and D. Greeley, 2018. Anthropogenic carbon increases and biological impacts in the California Current Ecosystem. *The Effects of Climate Change on the World's Oceans: 4th International Symposium*, Washington, DC.

Siedlecki, S.A., **S. Alin**, A. Hermann, N. Bond, I. Kaplan, E. Norton, J. Newton, B. Hales, and R. Feely, 2018. Seasonal forecasts of hypoxia and ocean acidification in Washington and Oregon waters. *The Effects of Climate Change on the World's Oceans: 4th International Symposium*, Washington, DC.

Newton, J., J. Mickett, **S. Alin**, A. Sutton, and R. Feely, 2018. Understanding how extreme conditions and ocean acidification uniquely influence coastal upwelling zones: A case study from the Pacific Northwest U.S. *The Effects of Climate Change on the World's Oceans: 4th International Symposium*, Washington, DC.

Jewett, L., **S. Alin**, A. Sutton, S. Busch, S. Siedlecki, D. Gledhill, and K. Isensee, 2018. Making ocean acidification data accessible and useable for resource managers. *The Effects of Climate Change on the World's Oceans: 4th International Symposium*, Washington, DC.

Alin, S.R., R.A. Feely, J. Newton, J. Waddell, B. Curry, and K. Hough, 2018. Relative Prevalence of Acidified vs. Hypoxic Conditions in Pacific Northwest Coastal Environments. *2018 Ocean Sciences Meeting*, Portland, OR. Abstract OC14B-0417.

Feely, R.A., R.R. Okazaki, W.-J. Cai, N. Bednarsek, **S.R. Alin**, and R.H. Byrne, 2018. The Combined Effects of Acidification and Hypoxia on pH and Aragonite Saturation in the Coastal Waters of the California Current Ecosystem and the Northern Gulf of Mexico. *2018 Ocean Sciences Meeting*, Portland, OR. Abstract OC41A-05.

Kaplan, I., S. Officer, L. Henderson, A. Hermann, N. Bond, E. Norton, M. Hunsicker, J. Newton, R. Feely, **S. Alin**, S. Siedlecki, 2018. Seasonal ocean forecasts for US West Coast fisheries management: J-SCOPE (JISAO's Seasonal Coastal Ocean Prediction of the Ecosystem). *2018 Ocean Sciences Meeting*, Portland, OR. Abstract OC13A-09.

Norton, E.L., S. Officer, I. Kaplan, J. Fisher, C. Morgan, A. Hermann, **S. Alin**, R.A. Feely, N. Bednarsek, and S. Siedlecki, 2018. The importance of exposure history in forecasting larval Dungeness crab distribution using J-SCOPE, a high-resolution model for the US Pacific Northwest. *2018 Ocean Sciences Meeting*, Portland, OR. Abstract OC14A-0404.

Oliva-Mendez, N.L., J.M. Hernandez-Ayon, R. Durazo, J.A. Valencia-Gasti, E. Santamaria, **S.R. Alin**, and R. Feely, 2018. Temporal variability of the Aragonite Saturation Horizon in the Pacific region off Baja California peninsula, México. *2018 Ocean Sciences Meeting*, Portland, OR. Abstract OC14B-0412.

Stark, C., J. Apple, and **S. Alin**, 2018. The Effects of Temperature on Size-fractionated and Total Community Respiration in PNW Coastal Waters and Implications for Ocean Acidification. *2018 Ocean Sciences Meeting*, Portland, OR. Abstract MM44B-1521.

Jewett, L., **S. Alin**, A. Sutton, S. Busch, S. Siedlecki, and D. Gledhill, 2018. Making ocean acidification data accessible and useable for coastal managers. *2017 Joint North American Carbon Program and AmeriFlux Principal Investigators Meeting*, B.esda, Maryland, March 27–30.

Hayes, D.J., R. Vargas, **S.R. Alin**, R.T. Conant, L. Hutyra, A.R. Jacobson, W.A. Kurz, S. Liu, A.D. McGuire, B. Poulter, and C.W. Woodall, 2017. SOCCR-2, Chapter 2: A Synthesis of the North American Carbon Budget. *2017 American Geophysical Union Fall Meeting*, New Orleans, December 11–15. Presentation B41G-0295.

Bakker, D.C.E, A. Olsen, C. Sabine, B. Pfeil, **S. Alin**, C. Cosca, K. Currie, A. Kozyr, P. Landschützer, N. Lefèvre, N. Metzl, S. Nakaoka, K. O'Brien, C. Rödenbeck, U. Schuster, T. Takahashi, M. Telszewski, B. Tilbrook, R. Wanninkhof, and all >100 SOCAT contributors, 2017. Quantification of the ocean carbon sink using surface ocean observations. *10th International Carbon Dioxide Conference*, Interlaken, Switzerland, August 21–25.

Siedlecki, S.A., I. Kaplan, S. Officer, L. Henderson, A. Hermann, E.L. Norton, N. Bond, S. Alin, R. Feely, N. Bednaršek, J. Newton, J. Fisher, C.A. Morgan, and M. Hunsicker, 2017. A forecast is only as good as its ingredients: Seasonal forecasts of species distributions using J-SCOPE. *2017 Eastern Pacific Ocean Conference*, South Lake Tahoe, CA, September 18–22.

Siedlecki, S., **S. Alin**, A. Hermann, N. Bond, J. Newton, B. Hales, and R. Feely, 2017. Seasonal forecasts of ocean acidification in Washington and Oregon waters. *71st Annual Shellfish Growers Conference and Tradeshow*, Welches, OR, September 18–21.

Alin, S., and J. Newton, 2017. Insights into ocean acidification dynamics from cruises in Washington waters. *Washington Ocean Acidification Center 2017 Ocean Acidification Science Symposium*, Seattle, WA, May 22.

Alin, S., B. Curry, M. Shea, W. Ruef, J. Mickett, R.A. Feely, J. Newton, A. Devol, L. Antrim, K. Hough, C. Krembs, and S. Siedlecki, 2017. Carbon hotspots of the deep: Ocean acidification and hypoxia in coastal and estuarine waters of the North American Pacific coast and their ecological impacts. *2017 Joint North American Carbon Program and AmeriFlux Principal Investigators Meeting*, Bethesda, MD, March 27–30.

Alin, S., A. Sutton, R. Feely, J. Newton, J. Mickett, B. Hales, M. Kavanaugh, W. Evans, U. Send, T. Martz, M. Ohman, S. McClatchie, S. Siedlecki, A. Hermann, N. Bednaršek, C. Saenger, J. Fisher, C. Morgan, and others, 2017. Understanding carbonate system variability in the California Current Ecosystem: ocean observations in support of ecosystems and economy. *NOAA Ocean Acidification PI Meeting*, Seattle, WA, January 4–6.

Chapa, C., E. Beier, R. Durazo, J.M. Herndandez-Ayon, **S.R. Alin**, and A. Lopez-Perez, 2016. Wind-driven Ocean Circulation and the Spatial-temporal Variability of Dissolved Inorganic Carbon in the Gulf of Tehuantepec, North Eastern Tropical Pacific. AGU Fall Meeting, San Francisco, CA. Presentation # OS51A-2028.

Hayes, D.J., R. Vargas, **S.R. Alin**, R.T. Conant, L. Hutyra, A.R. Jacobson, W.A. Kurz, S. Liu, A.D. McGuire, B. Poulter, C.W. Woodall, 2016. The North American Carbon Budget Past, Present and Future. *AGU Fall Meeting*, San Francisco, CA. Presentation # GC23K-04.

Megonigal, P., L. Windham-Myers, W.-J. Cai, C. Hopkinson, A.Z. Wang, A.J. Andersson, A. Hinson, D. Lagomasino, D.M. Peteet, C.P. Giri, J. Howard, J. Tang, J. Crosswell, J.M. Herndandez-Ayon, K.H. Dunton, K.D., Kroeger, M.-L. Paulsen, M.A. Allison, S.A. Siedlecki, **S.R. Alin**, X. Hu, M. Tzortziou, R. Najjar, and K.V. Schafer, 2016. Coastal Carbon Dynamics as a New Chapter in SOCCR2: *Tidal Wetlands and Estuaries.* AGU Fall Meeting, San Francisco, CA. Presentation # GC23K-13.

Fennel, K., **S.R. Alin**, L. Barbero, W. Evans, J.M. Herndandez-Ayon, X. Hu, S.E. Lohrenz, F.E. Muller-Karger, R. Najjar, L.L. Robbins, E.H. Shadwick, S.A. Siedlecki, N. Steiner, D. Turk, P. Vlahos, and A.Z. Wang, 2016. Carbon fluxes in North American coastal and shelf seas: Current status and trends. AGU Fall Meeting, San Francisco, CA. Presentation # GC23K-14.

Moore, D.J., S.R. Cooley, **S.R. Alin**, M.E. Brown, D.E. Butman, N.H.F. French, Z.I. Johnson, G. Keppel-Aleks, S.E. Lohrenz, I. Ocko, E.H. Shadwick, A.J. Sutton, C.S. Potter, and R.M.S. Yu, 2016. State of the Carbon Cycle - Consequences of Rising Atmospheric CO_2. *2016 AGU Fall Meeting*, San Francisco, CA. Presentation # GC23K-16.

Shea, M., **S.R. Alin**, W. Evans, A. Sutton, B.R. Hales, J. Newton, and R.A. Feely, 2016. Use of a Land-Based, Dual-Parameter Analyzer for Tracking Ocean Acidification in Nearshore Coastal Habitats. *2016 AGU Fall Meeting*, San Francisco, CA. Presentation # OS24A-08.

Siedlecki, S.A., **S.R. Alin**, R.A. Feely, A.J. Hermann, N. Bednarsek, T. Nguyen, S. Officer, I. Kaplan, N. Bond, J. Newton, J.L. Fisher, C. Morgan, and C. Saenger, 2016. Forecasting Ocean Acidification in the coastal waters of the Pacific Northwest. *2016 AGU Fall Meeting*, San Francisco, CA. Presentation # OS42A-02.

Alin, S., B. Curry, M. Shea, W. Ruef, J. Mickett, R.A. Feely, J. Newton, A. Devol, L. Antrim, K. Hough, C. Krembs, and S. Siedlecki, 2016. Reconstructing ocean acidification in deep coastal and estuarine waters of the northeastern Pacific Ocean (Cascadia Margin): A crab's eye view. *2016 North Pacific Marine Sciences Organization (PICES) Annual Meeting*, San Diego, CA, November 2–13.

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Juranek, L.W., R.A. Feely, C.L. Sabine, P.D. Quay, D. Ianson, and **S.R. Alin**, 2008. Determination of biological carbon uptake on the North American West Coast using dissolved oxygen isotopes and the O_2/Ar gas ratio. *Eos Trans. AGU*, 89(53): Fall Meet. Suppl., Abstract OS44A-05.

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Alin, S.R., and A.S. Cohen. 2002. Little Ice Age drought history in East Africa. *American Quaternary Association, 17th Biennial Meeting,* Anchorage, Alaska.

Alin, S.R. 2002. Little Ice Age drought history at Lake Tanganyika: lake level reconstruction using ostracods. *LiMNology 2002*, Brainerd, Minnesota.

Alin, S., A. Cohen, H.D. Heuser, and M. Palacios-Fest. 2001. Late Holocene records of invertebrate diversity and turnover from Lake Tanganyika, East Africa, and their conservation implications. *PaleoBios (North American Paleontological Convention Program and Abstracts)* 21: 22.

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Alin, S. 2000. Life, death, and the sweet hereafter: a study of the spatiotemporal vagaries of life in an ostracod community, in four acts. *GeoDaze 2000 Student Symposium Abstract Volume,* University of Arizona.

Zolot, A.M., **S. Alin**, L.I. Sharp, and P.V. Schwartz. 2000. Structural investigation of ostracod (Arthropoda:Crustacea) carapaces. *Pittcon 2000, 51st Annual Pittsburg Conference on Analytical Chemistry and Applied Spectroscopy*, New Orleans, LA March 12-17, Poster 2114P.

Alin, S.R., M.R. Palacios-Fest, and A.S. Cohen. 1999. The live, the dead, and the very dead: translating live ostracod assemblages into the fossil record in Lake Tanganyika, East Africa. *Geological Society of America Abstracts with Programs* 31(7): 438.

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Alin, S., A. Cohen, and D. Dettman. 1998. A high-resolution paleoecological study of ostracod diversity in Lake Tanganyika, East Africa. *Geological Society of America Penrose Conference "Linking Spatial and Temporal Scales in Paleoecology and Ecology,"* Solomons, Maryland.

Alin, S.R., A.S. Cohen, R. Bills, and M.M. Gashagaza. 1996. Evaluation of a rapid assessment technique for monitoring sedimentation impacts on biodiversity (fish, molluscs, and ostracodes) in Lake Tanganyika, East Africa. *Bulletin of the Ecological Society of America*, 77(3): A7.

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Alin, S.R., A.S. Cohen, R. Bills, M.M. Gashagaza, E. Michel, J.J. Tiercelin, K. Martens, M. Soreghan, P. Coveliers, K. West, G. Ntakimazi, S. Mboko and S. Kimbadi. 1995. Biodiversity analysis of fish, ostracode, and mollusc census data from Lake Tanganyika with relation to sediment disturbance level. *Symposium for Lake Tanganyika Research Abstracts*, Kuopio, Finland.

Thompson, S.H., and **S. Alin**. 1994. Localized Ca accumulations subjacent to the membrane explain patch variability in Ca current inactivation in molluscan neurons. *Society for Neuroscience Abstracts,* 20(1-2): 898.

Alin, S.R. 1990. Ionic currents in nudibranch mollusc (*Doriopsilla albopunctata*) neurons investigated using electrophysiological methods. *China Point Symposium*, Hopkins Marine Station, Pacific Grove, California.

Invited Presentations or Panels

Invited keynote presentation, Decadal to long-term change in ocean acidification and hypoxia conditions in California Current Ecosystem Dungeness crab habitat, *CalCOFI Conference 2026: A Decade of Remarkable Change—Heatwaves, HABs, Hypoxia, and Other Ocean Changes off the California Coast,* Scripps Institution of Oceanography, 28 May 2026.

Invited presentation and panel, Heat, hypoxia, and acidification exposure in Olympic Coast Dungeness crab habitat across life stages (2006–2025), "Dungeness Crab in a Changing Ocean" session, *Olympic Coast Ocean Acidification Sentinel Site Symposium*, Ocean Shores, Washington, 13 May 2026.

Invited science planning presentation, Monitoring ocean acidification in the US Pacific Arctic Region, *NOAA OAR Arctic Quarterly All-Hands*, virtual, 26 September 2025.

Invited research synthesis presentation and panel, What we have learned from Pacific Coast CO_2 observing programs (and models!) about the influence of rivers, respiration, ocean acidification, and extreme events on ecosystem conditions, *Rivers to Coasts: Biogeochemical Linkages and Environmental Resilience session, Ocean Carbon & Biogeochemistry Annual Summer Meeting*, virtual, 5 June 2025.

Invited research presentation, Ocean acidification in the Salish Sea: What we have learned from a decade of Washington Ocean Acidification Center cruises (2014–2024), *Washington Ocean Acidification Center 2025 Ocean Acidification Science Symposium*, Seattle, WA, 28 May 2025.

Invited research presentation and panel, Near-future projection of acidification levels in Dungeness crab habitat along the Olympic Coast (authors: S. Alin, S.A. Siedlecki, H. Berger, R.A. Feely, J.E. Waddell, B.R. Carter, J.A. Newton, E.J. Schumacker, and D. Ayres), Panel: Dungeness crab and changing ocean conditions, *Olympic Coast Ocean Acidification Sentinel Site Symposium*, Forks, Washington, 15 May 2024.

Invited science leadership talk, SOCAT (Surface Ocean CO_2 Atlas) quality control by region. *Workshops on surface ocean pCO_2 observations, synthesis, and data products*, Oostende, Belgium, 8 November 2023.

Invited research talk, What observations on Washington's outer coast and Salish Sea are teaching us about ocean acidification change through time. *Washington Ocean Acidification Center 2023 Ocean Acidification Science Symposium*, Seattle, WA, 23 May 2023.

Invited research talk, Ocean acidification observations in Washington waters. *Washington Ocean Acidification Center Biennial Symposium*, 30 May 2019.

Invited workshop speaker, Ocean acidification in coastal ecosystems: what we are learning about 'drivers' in the California Current System and Salish Sea. *University of Washington Program on Climate Change 2013 Summer Institute* "Climate Forcing of Marine Ecosystems: Causes and Consequences," Friday Harbor Lab, San Juan Island, WA, 11–13 September 2013.

Invited presentation, Ocean acidification and Puget Sound: From water chemistry to larval oysters. *2013 University of Washington Water Center Symposium*, Seattle, WA, 30 April 2013.

Plenary session speaker, Ocean acidification in coastal waters, Human Impacts on the Aquatic Environment, *Joint Meeting of the Phycological Society of America, International Society of Protistologists & Northwest Algal Symposium*, Seattle, WA, 12–16 July 2011.

Keynote speaker, The North American Carbon Program (NACP) Coastal Interim Synthesis Activity: Carbon Synthesis Along North American Margins, *First Mexican Carbon Symposium*, Ensenada, Mexico, 7–9 October 2009.

Conference symposium speaker, Organic carbon in large lakes of the world: estimates of production, burial, and lake-atmosphere exchange, *Limnogeology: Carbon in Lake Systems session*, Geological Society of America annual meeting, fall 2003.

Conference symposium speaker, Ostracode-inferred lake-level history of Lake Tanganyika, East Africa, for the past 2500 years, *Bridging the Gap: Ostracodes in the Earth Sciences session,* Geological Society of America annual meeting, fall 2003.

Conference symposium speaker, *"New Uses for the Dead: Paleobiological Contributions to Conservation Biology,"* North American Paleontological Convention, Berkeley, California, 2001.

Policymaker, Resource Manager, and Water Quality Assessment Briefings

All presentations in this section were invited, presented by me (except where noted), and present research outcomes in support of policymaker, resource management, and water quality management processes or decisions.

Panel presentation to an audience of Tribal members, resource managers, scientists, and the community, "Heat, hypoxia, and acidification exposure in Olympic Coast Dungeness crab habitat across life stages (2006–2025)," *Olympic Coast Ocean Acidification Sentinel Site Symposium*, Ocean Shores, Washington, 13 May 2026.

Congressional staffer briefing, "Providing ocean CO_2 information to support society: Innovation to facilitate future resilience," *Senator Patty Murray's Seattle, Washington, office director*, 4 April 2025.

Resource management briefing, "Past, present, and future ocean acidification conditions in Olympic Coast Dungeness crab habitat," *Olympic Coast National Marine Sanctuary Advisory Council meeting*, virtual, 7 November 2024.

Resource management and decision-maker briefing, Briefing to "Past, present, and future ocean acidification conditions in Olympic Coast Dungeness crab habitat," *North Pacific Coast Marine Resources Committee Annual Summit*, Forks, Washington, 17 October 2024.

Resource management briefing, "The role of rivers in ocean acidification and hypoxia (OAH) events in Washington's marine waters," *Washington Marine Resources Advisory Council,* virtual, 27 October 2024.

Panel presentation to an audience of Tribal members, resource managers, scientists, and the community, "Near-future projection of acidification levels in Dungeness crab habitat along the Olympic

Coast, Panel: Dungeness crab and changing ocean conditions," *Olympic Coast Ocean Acidification Sentinel Site Symposium*, Forks, Washington, 15 May 2024.

Resource management briefing, "What we have learned about ocean acidification (OA) in Washington marine waters from the first decade of OA observations from PRISM–WOAC cruises," *Washington Marine Resources Advisory Council,* Olympia, Washington, 17 October 2023.

Water quality assessment advisory briefing, "What we know about ocean acidification (OA) natural conditions, multi-stressor occurrence, and present-day impairment in Washington marine waters," *Environmental Protection Agency Region 10 and Washington State Department of Ecology,* virtual, 6 October 2023.

Resource management briefing, "A description of a new tool for estimation of ocean acidification conditions," *Washington Marine Resources Advisory Council,* Olympia, Washington, 27 April 2023.

Water quality assessment advisory briefing, "Ocean acidification and hypoxia conditions relative to a pre-industrial reference point," *Oregon Department of Environmental Quality Ocean Acidification and Hypoxia Technical Workgroup*, virtual, 7 October 2022. *(This presentation significantly influenced Oregon's new water quality assessment methodology and impairment determinations in 2023–2024.)*

Co-author on water quality assessment advisory briefing, "Ocean acidification and hypoxia along the West Coast of North America," *Oregon Department of Environmental Quality Ocean Acidification and Hypoxia Technical Workgroup*, virtual, 7 October 2022.

Presenter (invited), "Monthly climatological values of ocean acidification parameters on the Olympic Coast for the preindustrial, present, and near future," *Olympic Coast National Marine Sanctuary Climate Vulnerability Workshop*, 2 February 2022.

Panel speaker (invited), "The Olympic Coast as a Sentinel: An Integrated Social-Ecological Regional Vulnerability Assessment to Ocean Acidification," Challenges and Lessons Learned Talk and Panel, *NOAA Ocean Acidification Program Regional Vulnerability Assessment Workshop*, virtual, 22–24 September 2021.

Invited showing of film trailer ("The Olympic Coast as a Sentinel, NOAA and Washington Sea Grant," featuring Dr. Alin and other project members) on our Olympic Coast regional vulnerability analysis project at the UN Framework Convention on Climate Change "Ocean and Climate Change Dialogue to consider how to strengthen adaptation and mitigation action" meeting (attended by high-level international ministers), 2 December 2020.

Presenter, "NOAA PMEL, OCNMS, and UW: A partnership to understand ocean acidification impacts to the region/ Evaluating changing ocean chemistry on the Olympic Coast," *National Marine Sanctuary Climate Change Priorities Virtual Workshop*, virtual, 26–28 January 2020.

Resource manager briefing, "Synthesis of a decade of moored benthic time-series observations of hypoxia and ocean acidification on the Olympic Coast (2006–2018)," *NOAA Olympic Coast National Marine Sanctuary Advisory Council quarterly meeting*, Forks, Washington, 17 May 2019.

Policymaker briefing, Washington state and ocean acidification, *Washington Congressional staffer delegation*, Seattle, Washington, 14 June 2018.

Decision-maker briefing, Washington coast ocean acidification update, *Washington State Marine Resource Committee Summit*, Cathlamet, Washington, 2 November 2017.

Policymaker briefing, Predicting ocean acidification conditions on Oregon's coast, *Oregon Congressional staffer delegation*, Newport, Oregon, 1 September 2017.

Resource manager briefing, Reconstructing carbonate chemistry in deep waters of OCNMS, *NOAA Olympic Coast National Marine Sanctuary (OCNMS) Sanctuary Advisory Council annual science meeting*, Seattle, Washington, 23 September 2016.

Science-policy panel presenter, Introduction to ocean acidification and the status of conditions in Pacific Northwest ecosystems. *Washington State Blue Ribbon Panel on Ocean Acidification*, panel convened by then-Washington Governor Christine Gregoire, Seattle, Washington, 30 March 2012.

PMEL Laboratory Review and 50th Anniversary Symposium Presentations

Alin, S., P. Quinn, R. Feely, A. Sutton, B. Carter, and Z. Gold. Future vision presentation: Science support for societal decisions and challenges, *PMEL 50th Anniversary Symposium*, Seattle, Washington, 14 March 2024.

Alin, S., R. Feely, A. Sutton, and B. Carter. Living with ocean acidification (OA) in the Pacific Northwest, *NOAA Pacific Marine Environmental Laboratory Five-Year Review*, Seattle, Washington, 4 March 2020.

Alin, S., R. Feely, A. Sutton, C. Sabine, and J. Mathis. Ecosystems: Ocean acidification, *NOAA Pacific Marine Environmental Laboratory Five-Year Review*, Seattle, Washington, 6 September 2014.

Presentations about Tribal Engagement

See also conference sessions relevant to tribal work organized in the Scientific Leadership and Service section.

Panel speaker (invited), "The Olympic Coast as a sentinel: Integrated social-ecological vulnerability assessment," PMEL Panel on Partnerships with Indigenous Communities, 4 November 2022.

Presenter (invited), "Past, present, and future ocean acidification and hypoxia along the Olympic Coast," *Olympic Coast Ocean Acidification Sentinel Site Science Meeting*, Ocean Shores, WA, 9–10 May 2022.

Webinar presenter (invited), "The Olympic Coast as a sentinel: Integrated social-ecological vulnerability assessment and co-developing ocean resource management tools with tribal and state managers," OCB (Ocean Carbon & Biogeochemistry Project)–U.S. CLIVAR (Climate Variability and Predictability Program) Ecological Forecasting Workshop webinar, 11 January 2022.
https://www.youtube.com/watch?v=8fL8YnyymAg

Science meeting presenter (contributed), "The Olympic Coast as a Sentinel: An Integrated Social-Ecological Regional Vulnerability Assessment to Ocean Acidification," 7th Open Science Meeting of the

North American Carbon Program, March 12, 2021. https://www.youtube.com/watch?v=_EoilJR-XvY&t=14120s

Plenary panel presenter (invited), Ocean acidification and West Coast ecosystems, *First Stewards: Coastal Peoples Address Climate Change* symposium, National Museum of the American Indian, Washington, DC, 17–20 July 2012.

Public Outreach and Education Presentations

Classroom visit (presented to three classes of STEM Modeling, totaling roughly 90 7th–8th grade students), "Climate change, the ocean, and technology," Madison Middle School, Seattle, WA, 30 October 2024.

Contributed text, "Supporting marine research," *Wallenius Wilhelmsen Annual Report 2023* (describing our group's partnership with this shipping company to measure surface ocean pCO_2, p. 82).

Video lesson contribution, "Introduction to ocean acidification," Garden of the Salish Sea Curriculum, 7 February 2022.

Classroom visit (presentation to second grade classrooms), "What do ocean robots do?" John Muir Elementary (a global majority school), Seattle, WA, 20 December 2019.

Twitter thread on the release of the Second State of the Carbon Cycle Report, https://threadreaderapp.com/thread/1067509830552698880.html, 27 November 2018 (3648 impressions).

Classroom visit (first grade classrooms, including a presentation and hands-on activities developed by Dr. Alin), "What does an oceanographer do?" John Muir Elementary (a global majority school), Seattle, WA, 22 June 2018.

Education/outreach lecture, "Ocean acidification & Washington's marine waters," *Volunteer Lecture Series*, Seattle Aquarium, Seattle WA, 23 May 2018.

Webinar speaker, "Visual tools for communicating complex ocean ecosystem issues to diverse audiences," *Northeast Coastal Acidification Network meeting*, 16 June 2017.

Webinar speaker, "Visual tools for communicating complex ocean ecosystem issues to diverse audiences," *NOAA Ocean Acidification Working Group meeting*, 18 May 2017.

Panel speaker, "Communicating ocean acidification with stakeholders along the U.S. West Coast," *Going Public: Sharing Research Beyond the Academy*, University of Washington Libraries, 29 April 2017.

Guest tweeter, #WomeninConservation Twitter chat for International Women's Day, hosted by Ocean Conservancy, 8 March 2017.

Cruise blog co-lead and author, 2016 West Coast Ocean Acidification cruise, http://westcoastoa.wordpress.com, May–June 2016.

Career panelist for Seattle Youth Climate Action Network, hosted by the Seattle Zoo at University of Washington, Seattle, Washington, August 23, 2016.

Public presentation at Exploratorium, "2016 West Coast Ocean Acidification Cruise," San Francisco, California, May 21, 2016.

Partnership with Seattle Aquarium, to develop middle-school education module responsive to Next Generation Science Standards as part of their grant from Institute of Museum and Library Services, 2014–2016.

Partnership with Seattle Aquarium, to develop short-format outreach module on ocean acidification as part of their grant from NOAA Office of Education, 2014–2016.

Panel member, "What we know about ocean acidification on the West Coast," Indicators of Climate Change in California Workshop, CalEPA, Sacramento, CA, June 16-17, 2015.

Cross-agency collaboration/communication on regional ocean acidification efforts, "NOAA's Pacific Northwest Ocean Acidification Monitoring and Research," EPA Region 10 Headquarters meeting, Seattle, Washington, 11 May 2015.

Adaptation workshop presentation and participation, "Ocean acidification and Hood Canal: What will the future hold?" Hood Canal Coordinating Council, Bremerton, Washington, May 7, 2015.

Plenary speaker at international ocean acidification observing network planning meeting, "U.S. National Ocean Acidification Monitoring & Research Efforts." Presented at the MEOPAR Ocean Acidification Expert Forum, Victoria, BC, February 17–18, 2015.

Public presentation, "How are changes in ocean chemistry changing sea life in Puget Sound?" Northwest Maritime Center, Port Townsend, Washington, Oct. 7, 2014.

Webinar for Interagency Blue Carbon working group, "Coastal Carbon Synthesis (CCARS) Community Workshop: An Overview of the CCARS Effort 2008–2014," Oct. 6, 2014.

Webinar for Collaborative on Health and the Environment, Climate Change: What's New and What To Do? "Oysters and ocean acidification in the Pacific Northwest," Sep. 18, 2014 (http://www.healthandenvironment.org/partnership_calls/15233).

Partnership with Seattle Aquarium, to develop interpretive material on ocean acidification in Puget Sound for the Seattle Aquarium web site based on the data we have been collecting there since 2012, 2012–2016.

Public presentations—"The Scientist is In: Ocean Acidification," Smithsonian National Museum of Natural History, Washington, DC, 18 July 2012.

Workshops on ocean acidification for middle school girls—"Carbonated oceans: will the clams still be happy?" Expanding Your Horizons Conference for Middle School Girls (STEM), Bellevue College, Mar. 27, 2010; Mar. 24, 2012; Mar. 23, 2013.

"Ocean acidification and being an oceanographer with NOAA," Seattle Girls School, Apr. 4, 2012.

Education/outreach lecture, Ocean acidification and Washington's coastal ecosystems. *Bellevue College Earth Week 2013*, 14th Annual—"Living in a Changing Climate," Bellevue, WA, 22–26 April 2013.

Education/outreach lecture, Ocean acidification & Puget Sound, *Volunteer Aquarium Docents Training Lecture Series*, Seattle Aquarium, Seattle WA, 2 November 2011.

Public science lecture, Ocean acidification: Impacts of 'the other CO_2 problem' on Puget Sound, *NOAA Science in the Pacific Northwest* lecture series, Pacific Science Center, Seattle, WA, 10 November 2010.

Public speaker, A brief overview of global ocean acidification patterns from pre-industrial to 2100, *Opening gala for the Science on a Sphere exhibit,* Pacific Science Center, Seattle, WA, 26 October 2010.

Media, Web, and NOAA Stories and Videos

Joe Selmont, 19th Century Corals Unlock a New Understanding of Ocean Acidification in the California Current and Salish Sea, CICOES In The News, Cooperative Institute for Climate, Ocean, & Ecosystem Studies, University of Washington, December 3, 2025. https://cicoes.uw.edu/2025/12/03/19th-century-corals-unlock-a-new-understanding-of-ocean-acidification-in-the-california-current-and-salish-sea/. This article was also featured in The Seattle Times, Business Intelligence for BC, earth.com, Cascadia Daily News, UW News, SciTechDaily, and the Alaska Native News.

Joe Selmont, Developing a new tool for communities to track acidification in Puget Sound, CICOES Newsletter, Cooperative Institute for Climate, Ocean, & Ecosystem Studies, University of Washington, October 8, 2025. https://cicoes.uw.edu/2025/10/08/developing-a-new-tool-for-communities-to-track-acidification-in-puget-sound/

Jasmine Shaw, Elementary kids learn about chemistry and ocean acidification in Southeast Alaska. Alaska Ocean Acidification Network September 2025 eNews. https://aoan.aoos.org/elementary-kids-learn-about-chemistry-and-ocean-acidification-in-southeast-alaska/

Bakker, D.C.E., **S.R. Alin**, T. Aramaki, L. Barbero, N.R. Bates, T. Gkritzalis, S.D. Jones, A. Kozyr, S.K. Lauvset, V. Macovei, N. Metzl, D.R. Munro, S. Nakaoka, K. O'Brien, A. Olsen, D. Pierrot, T. Steinhoff, K.F. Sullivan, A.J. Sutton, C. Sweeney, C. Wada, R. Wanninhof, and all >100 SOCAT contributors, SOCAT version 2025: Open ocean CO_2 data submissions stabilize. Data product release announcement, June 5, 2025. Featured on International Ocean Carbon Coordination Project, NOAA Ocean Acidification Program, and the Surface Ocean CO_2 Atlas web pages.

Theo Stein, As pollution increases, world falls further behind climate targets. NOAA Research, December 13, 2024. https://research.noaa.gov/no-sign-of-fossil-fuel-pollution-peak-as-the-world-falls-further-behind-climate-targets/ (featured on NOAA.gov front page)

Kyla Kelly, Discrepancies in ocean carbon sink estimates persist, how NOAA is making progress to close the gap, NOAA Global Ocean Monitoring and Observing News, November 15, 2024. https://globalocean.noaa.gov/discrepancies-in-ocean-carbon-sink-estimates-persist/

Kyla Kelly, Oceanic measurements of carbon dioxide continue to decrease, as reported in this years ocean carbon data atlas, September 9, 2024. https://globalocean.noaa.gov/oceanic-measurements-of-carbon-dioxide-continue-to-decrease-as-reported-in-this-years-ocean-carbon-data-atlas/

Interviewed by Darcy Dugan, New mapping tool: A big picture view of ocean acidification in North America. Alaska Ocean Acidification Network September 2024 newsletter. https://aoan.aoos.org/new-mapping-tool-a-big-picture-view-of-ocean-acidification-in-north-america/

Fact checker for *AP Reuters*, provided input March 5, 2024: Reuters Fact Check: Human-Produced CO_2 Claim. https://www.reuters.com/fact-check/diagram-misrepresents-human-co2-contribution-its-climate-effect-2024-03-12/

Theo Stein, November 1, 2023: The Pacific Marine Environmental Laboratory at 50, *NOAA Research News*. https://research.noaa.gov/2023/11/01/the-pacific-marine-environmental-laboratory-at-50/.

Fact checker for USA Today article, June 26, 2023: Humans are responsible for a significant amount of CO_2 in the atmosphere | Fact check. https://www.usatoday.com/story/news/factcheck/2023/06/26/humans-have-significant-impact-on-atmospheric-co2-fact-check/70278653007/.

Fact checker for *The Economist* video, February 2, 2023: Climate change: what is ocean acidification. https://www.youtube.com/watch?v=OVWZyDz--30.

Sarah Marquis, November 2022: Stressed Out: Dungeness Crabs off the Pacific Northwest Coast, https://sanctuaries.noaa.gov/news/nov22/stressed-out.html. (S. Alin is a project scientist)

Kimberly Puglise, fall 2022: Science to Support Management of the Dungeness Crab Fishery in the Northern California Current, https://coastalscience.noaa.gov/project/science-to-support-a-climate-ready-dungeness-crab-fishery-in-the-northern-california-current/. (S. Alin is a project scientist)

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Film premiere, "The Olympic Coast as a Sentinel – Tribal Communities at the Forefront of Ocean Change," The 7th Annual River and Ocean Film Festival, 24 September 2020. (S. Alin was a project scientist and featured in the film.)

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Encyclopedia of Puget Sound, November 17, 2015: State of Knowledge: Climate Change in Puget Sound. http://www.eopugetsound.org/articles/state-knowledge-climate-change-puget-sound.

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Hannah Hickey, June 22, 2016, “Ocean forecast offers seasonal outlook for Pacific Northwest waters,” UW News, https://www.washington.edu/news/2016/06/22/ocean-forecast-offers-seasonal-outlook-for-pacific-northwest-waters/.

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Eric Holthaus, August 5, 2015, “The Point of No Return: Climate Change Nightmares Are Already Here,” *Rolling Stone Magazine*, http://www.rollingstone.com/politics/news/the-point-of-no-return-climate-change-nightmares-are-already-here-20150805.

Eric Holthaus (host), “We are the people behind "The Point of No Return” climate change article in *Rolling Stone*, and here to talk about solutions. Ask Us Anything!” *Reddit Ask Me Anything*, August 12, 2015.
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Rolling Stone, August 14, 2015, “5 Things We Learned From the 'Point of No Return' Climate Solutions AMA,” *Rolling Stone Magazine*, http://www.rollingstone.com/politics/news/5-things-we-learned-from-the-point-of-no-return-climate-solutions-ama-20150814.

Paige Cornwell and Sandi Doughton, July 30, 2015, “‘The Blob’ may warm Puget Sound’s waters, hurt marine life,” *The Seattle Times*, http://www.seattletimes.com/seattle-news/weather/the-blob-warms-puget-sounds-waters-hurts-marine-life/

Author unknown, June 19, 2015: Ocean acidification update from a shellfish grower on the front line, http://www.washingtonpolicy.org/blog/post/ocean-acidification-update-shellfish-grower-front-line

Author unknown, April 6, 2015: Puget Sound Restoration Fund awarded $1.5 million grant, *Paul Allen Family Foundation News*, http://www.pgafamilyfoundation.org/news/news-articles/2015-news-items/puget-sound-ocean-acidification-grant

The Reef Tank, Ocean Acidification Q&A with PMEL, Aug. 9, 2009, www.thereeftank.com/blog/ocean-acidification-qaa-with-pmel/

The Seattle Times, Oysters in deep trouble: Is Pacific Ocean's chemistry killing sea life? Jun. 14, 2009, seattletimes.nwsource.com/html/localnews/2009336458_oysters14m.html

The Spokane Spokesman-Review, Tribes discuss climate change, Jul., 19, 2012, www.spokesman.com/stories/2012/jul/19/tribes-discuss-climate-change/

Research Highlights section. 2007. “Carbon lost from lakes,” *Nature*, 448: 390.

Dispatches section. 2007. “Carbon balance of the world’s large lakes,” by K.P. Mainali, *Frontiers in Ecology and the Environment*, 5(7): 348.

INFORMATION TRANSFER AND DISSEMINATION: DATA AND INFORMATION PRODUCTS

Website Development

Led the development of the design and content of the PMEL Carbon Dioxide Program website (https://pmel.noaa.gov/co2), which attracts ~70,000 views per year. Won NOAA Employee of the Month (October 2011) for her role in this. The PMEL website re-designed was initially inspired by our revamped page.

Contributor to the JISAO Seasonal Prediction of the Ecosystem forecasts webpage, via multiple projects led by Dr. Samantha Siedlecki and supported by NOAA Ocean Acidification Program; NOAA Modeling, Analysis, Predictions, and Projections Program; NOAA Fisheries and the Environment Program; Washington Ocean Acidification Center; and The Northwest Association of Networked Ocean Observing Systems (NANOOS) regional association of the U.S. Integrated Ocean Observing System (IOOS).

Development of Data Products

Citations in this section are for published data products. Peer-reviewed journal articles arising from these data products are listed in the Publications section.

Salish cruises time-series—Developed oceanographic data product consisting of 35 individual cruise data sets, with consistent quality control and formatting, for use by diverse researchers and other end users studying or managing resources in Washington state marine waters in 2021. Provided an update with 26 additional cruises spanning 2019–2024 in 2025:

Alin, S.R.; Newton, J.; Ikeda, C.; Boyar, A.; Greeley, D.; Herndon, J.; Curry, B.; Kozyr, A.; Feely, R.A. (2025). SalishCruiseDataPackage_v2025: An updated compiled data package of sensor profile and discrete physical and biogeochemical measurements from 61 individual cruise data sets collected from a variety of ships in the southern Salish Sea and northern California Current System (Washington state marine waters) from 2008-02-04 to 2024-10-22 (NCEI Accession 0307188). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/jgrz-v584.

Alin, S.R.; Newton, J.; Greeley, D.; Curry, B.; Herndon, J.; Kozyr, A.; Feely, R.A. (2021, updated in 2023). A compiled data product of profile, discrete biogeochemical measurements from 35 individual cruise data sets collected from a variety of ships in the southern Salish Sea and northern California Current System (Washington state marine waters) from 2008-02-04 to 2018-10-19 (NCEI Accession 0238424). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/zgk5-ep63.

Multi-stressor data product—Developed a climate-quality data product, comprising the most complete observations from the Salish cruise time-series (above), with observations relevant to marine heatwave, hypoxia, and ocean acidification events, and including all commonly used units for oxygen and nutrient measurements as well as calculated CO_2 system parameters (pH, pCO_2, aragonite and calcite saturation states). While calculated parameters are not normally submitted to data archives, their inclusion can foster broader application by both technical and non-technical end users. Original data product in 2023 included 35 cruise data sets, updated version in 2025 includes 61 cruise data sets:

Alin, S.R.; Newton, J.; Feely, R.A.; Ikeda, C.; Boyar, A.; Greeley, D.; Herndon, J.; and Kozyr, A. (2025). SalishCruiseMultistressor_v2025: An updated multi-stressor data product for marine heatwave, hypoxia, and ocean acidification research, including calculated inorganic carbon parameters from the southern Salish Sea and northern California Current System from 2008-02-04 to 2024-10-22 (NCEI Accession 0307626). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/4y18-rw26.

Alin, S.R.; Newton, J.; Feely, R.A.; Greeley, D.; Herndon, J.; and Kozyr, A. (2023). A multi-stressor data product for marine heatwave, hypoxia, and ocean acidification research, including calculated inorganic carbon parameters from the southern Salish Sea and northern California Current System from 2008-02-04 to 2018-10-19 (NCEI Accession 0283266). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/5g29-q841.

Ocean CO_2 Products github—A clearinghouse for ocean carbon dioxide data products arising from Jiang et al. (*ESSD* 2025). The Salish data products (above), along with SOCAT and GLODAPv2 data products (below), I have contributed to are all available through this *github* site: https://oceanco2.github.io/co2-products/

Surface Ocean CO_2 Atlas (SOCAT) *annual data synthesis products*—Founding member (2009), significant annual data contributor, and leader of the Coastal regional quality control team since 2012 (https://socat.info/). Annual SOCAT data releases inform annual Global Carbon Budget publications in *Earth System Science Data* and ocean carbon cycle representatives at the annual international UNFCCC Conference of Parties meetings:

Bakker, D.C.E.; **Alin, S.R.**; Aramaki, T.; Barbero, L.; Bates, N.; Gkritzalis, T.; Jones, S.D.; Kozyr, A.; Lauvset, S.K.; Macovei, V.A.; Metzl, N.; Munro, D.R.; Nakaoka, S.; O'Brien, K.M.; Olsen, A.; Pierrot, D.; Steinhoff, T.; Sullivan, K.F.; Sutton, A.J.; Sweeney, C.; Wada, C.; Wanninkhof, R.; Akl, J.; Arbilla, L.A.; Azetsu-Scott, K.; Battisti, R.; Beatty, C.M.; Becker, M.; Benoit-Cattin, A.; Berghoff, C.F.; Bittig, H.C.; Bonin, J.A.; Bott, R.; Bozzano, R.; Burger, E.F.; Brunetti, F.; Cantoni, C.; Castelli, G.; Chambers, D.P.; Chierici, M.; Corbo, A.; Cronin, M.; Cross, J.N.; Currie, K.I.; Dentico, C.; Emerson, S.R.; Enochs, I.C.; Enright, M.P.; Enyo, K.; Ericson, Y.; Evans, W.; Fay, A.R.; Feely, R.A.; Fragiacomo, E.; Fransson, A.; Gehrung, Ma.; Giani, M.; Glockzin, M.; Hamnca, S.; Holodkov, N.; Hoppema, M.; Ibánhez, J.S.P.; Kadono, K.; Kamb, L.; Kralj, M.; Kristensen, T.; Laudicella, V.A.; Lefèvre, N.; Leseurre, C.; Lo Monaco, C.; Maenner Jones, S.; Maenza, R.A.; McAuliffe, A.M.; Mdokwana, B.; Monacci, N.M.; Musielewicz, S.; Neill, C.; Newberger, T.; Nojiri, Y.; Ohman, M.D.; Ólafsdóttir, S.R.; Olivier, L.; Omar, A.M.; Osborne, J.; Pensieri, S.; Petersen, W.; Plueddemann, A.J.; Rehder, G.; Roden, N.P.; Rutgersson, A.; Sallée, J.-B.; Sanders, R.; Sarpe, D.; Schirnick, C.; Schlitzer, R.; Send, U.; Skjelvan, I.; Sutherland, S.C.; T'Jampens, M.; Tamsitt, V.; Telszewski, M.; Theetaert, H.; Tilbrook, B.; Trull, T.; Tsanwani, M.; van de Velde, S.; van Heuven, S.M.A.C.; Veccia, M.H.; Voynova, Y.G.; Weller, R.A.; Williams, N.L. (2025). Surface Ocean CO_2 Atlas Database Version 2025 (SOCATv2025) (NCEI Accession 0304549). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/648f-fv35.

Earlier annual releases can be found here:
https://doi.org/10.25921/9wpn-th28 (SOCATv2024)
https://doi.org/10.25921/r7xa-bt92 (SOCATv2023)
https://doi.org/10.25921/1h9f-nb73 (SOCATv2022)
Versions 1.5–6 and v2019–v2025: https://socat.info/index.php/previous-versions/

NOAA West Coast Ocean Acidification (WCOA) Cruises—Served as a PI on cruises during 2011–2013, 2016–2017, and will again on upcoming 2025 cruise. Data packages are integrated across physical and biogeochemical parameters and require substantially more work to coordinate, assemble, and quality control than open ocean cruises where we are responsible for a single parameter. These also include underway pCO_2 observation data sets. The ten water column and surface underway WCOA cruise data sets that Dr. Alin was a PI on can be found at:

https://www.ncei.noaa.gov/access/ocean-carbon-acidification-data-system/oceans/Coastal/WCOA.html

Coastal Ocean Data Analysis Product in North America (CODAP-NA)—Served as co-PI and data provider on project creating an internally consistent data product for discrete inorganic carbon, oxygen, and nutrients on the U.S. North American ocean margins:

Jiang, Li-Qing; Feely, Richard A.; Wanninkhof, Rik; Greeley, D.; Barbero, Leticia; **Alin, Simone R.;** Carter, Brendan R.; Pierrot, Denis; Featherstone, Charles; Hooper, James; Melrose, Donald C.; Monacci, Natalie M.; Sharp, Jonathan D.; Shellito, Shawn M.; Xu, Yuan-Yuan; Kozyr, Alex; Byrne, Robert H.; Cai, Wei-Jun; Cross, Jessica N.; Johnson, Gregory C.; Hales, Burke; Langdon, Chris; Mathis, Jeremy T.; Salisbury, Joseph E.; Townsend, David W. (2020). Coastal Ocean Data Analysis Product in North America (CODAP-NA, Version 2021) (NCEI Accession 0219960). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/531n-c230.

CODAP-NA climatologies—Served as co-PI on CODAP-NA project, an outcome of which was the creation of North American coastal climatologies of ocean acidification indicators at 1°x1° resolution:

Jiang, Li-Qing; Boyer, Tim P.; Paver, Christopher R.; Reagan, James R.; **Alin, Simone R.;** Barbero, Leticia; Carter, Brendan R.; Feely, Richard A.; Wanninkhof, Rik (2022a). Climatological distribution of ocean acidification indicators from surface to 500 meters water depth on the North American ocean margins from 2003-12-06 to 2018-11-22 (NCEI Accession 0270962). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/g8pb-zy76.

Global Ocean Data Analysis Project version 2.2022 (GLODAPv2.2022)—Collaborator and data provider for data product consisting of 1085 scientific cruises throughout the global ocean, including full depth measurements of physical and biogeochemical parameters:

Lauvset, Siv K.; Lange, Nico; Tanhua, Toste; Bittig, Henry C.; Olsen, Are; Kozyr, Alex; **Alin, Simone R.;** Álvarez, Marta; Azetsu-Scott, Kumiko; Barbero, Leticia; Becker, Susan; Brown, Peter J.; Carter, Brendan R.; Cotrim da Cunha, Leticia; Feely, Richard A.; Hoppema, Mario; Humphreys, Matthew P.; Ishii, Masao; Jeansson, Emil; Jiang, Li-Qing; Jones, Steve D.; Lo Monaco, Claire; Murata, Akihiko; Müller, Jens Daniel; Pérez, Fiz F.; Pfeil, Benjamin; Schirnick, Carsten; Steinfeldt, Reiner; Suzuki, Toru; Tilbrook, Bronte; Ulfsbo, Adam; Velo, Antón; Woosley, Ryan J.; Key, Robert M. (2022). Global Ocean Data Analysis Project version 2.2022 (GLODAPv2.2022) (NCEI Accession 0257247). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/1f4w-0t92.

Global surface ocean acidification indicators from 1750 to 2100—Collaborator and data provider for this hybrid surface OA data product using observational data products (SOCAT, GLODAP, CODAP-NA) and 14 Earth System Models from the sixth phase of the Coupled Model Intercomparison Project (CMIP6):

Jiang, Li-Qing; Dunne, John P.; Carter, Brendan R.; Tjiputra, Jerry; Terhaar, Jens; Sharp, Jonathan D.; Olsen, Are; **Alin, Simone R.;** Bakker, Dorothee C. E.; Feely, Richard A.; Hogan, Patrick; Ilyina, Tatiana; Lange, Nico; Lauvset, Siv K.; Lovato, Tomas; Palmiéri, Julien; Santana-Falcón, Yeray; Schwinger, Jörg; Séférian, Roland; Strand, Gary; Swart, Neil C.; Tanhua, Toste; Tsujino, Hiroyuki; Wanninkhof, Rik; Watanabe, Michio; Yamamoto, Akitomo; Ziehn, Tilo (2022b). Global surface ocean acidification indicators from 1750 to 2100 (NCEI Accession 0259391). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/9ker-bc48.

A compiled data product of underway pCO_2 measurements from 77 individual cruise datasets collected from NOAA Ship Ka'imimoana in the Equatorial Pacific from 1996 through 2010—Lead PI of the PMEL observing program that collected the observations since 2007, and initiator of the combined data product creation. The vision is to create combined data products for all underway platforms to facilitate their use by NOAA Fisheries colleagues and others who may not be comfortable with other data products, such as SOCAT:

Feely, R.A., C.E. Cosca, **S.R. Alin**, and A. Kozyr (2023). A compiled data product of underway pCO_2 measurements from 77 individual cruise data sets collected from the NOAA Ship *Ka'imimoana* in the Equatorial Pacific from 1996 through 2010 (NCEI Accession 0276699). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/xdzv-th29.

Development of Metadata and Time-Series Analysis Best Practices

Best practice data standards for discrete chemical oceanographic observations—Initiated and contributed to the evolving conversation at NOAA and ultimately the international ocean biogeochemistry community that led to the publication of an updated suite of best practices recommendations from for handling chemical oceanographic observational data (Jiang et al., *Frontiers in Marine Science*, 2022 in *Publications* section).

Advancing best practices for assessing trends of ocean acidification time series—Workshop participant and co-author on best practices for ocean acidification trend analysis, aimed at ensuring comparability of results across coastal and open ocean ecosystems (Sutton et al., *Frontiers in Marine Science*, 2022 in *Publications* section).

Contributions to NOAA Transition Plans: Research to Operations

NOAA's Globally Operational Surface Ocean CO_2 Observing Network: *Research to Operation Umbrella Transition Plan*—Authors: A. Sutton, R. Feely, **S. Alin**, B. Carter, K. O'Brien, E. Burger, R. Wanninkhof, D. Pierrot, L. Barbero, C. Sweeney, and D. Munro, 2023.

Ocean Acidification Program Contributions to J-SCOPE (JISAO Seasonal Coastal Ocean Prediction of the Ecosystem): Research to Operation Transition Plan—Authors: S. Siedlecki, **S. Alin**, K. Goldsmith, E. Ombres, draft 2023.

Individual Oceanographic Data Sets Published at NOAA/NCEI

Individual data sets represent either a full year's underway survey observation data for each ship we work on or individual ocean acidification cruise data sets, which are integrated physical and biogeochemical data sets. Data packages and products (above) include large numbers of oceanographic cruise data sets or multiple year to decades of underway surface observations that have been compiled and often received secondary quality control treatment.

Surface Underway Carbon Dioxide Data Sets

Cosca, C.E.; Alin, S.R.; Feely, R.A.; Lebon, G.T.; Takeshita, Y.; Martz, T.R.; Carter, B.R. 2013. Surface underway measurements of seawater and atmospheric fugacity of carbon dioxide (fCO_2), durafet pH (on total scale), temperature and salinity from 11 trans-Pacific crossings onboard container ship *Natalie Schulte* in the Pacific Ocean from 2010-10-01 to 2012-06-21 (NCEI Accession 0108233). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_natalie_schulte_lines.

Cosca, C., R. Feely, **S. Alin**, and G. Lebon. 2014. Sea Surface and Atmospheric fCO_2 measurements from the NOAA Ship *Bell M. Shimada* 2012 VOS project line. http://cdiac.ornl.gov/ftp/oceans/VOS_Bell_Shimada/BS_2012. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi: 10.3334/CDIAC/otg.VOS_Bell_Shimada/BS_2012.

Cosca, C.E.; Feely, R.A.; **Alin, S.R.**; Lebon, G.T. 2014. Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from underway - surface observations using Barometric pressure sensor, Carbon dioxide (CO_2) gas analyzer and other instruments from NOAA Ship *Bell M. Shimada* in the U.S. West Coast California Current System from 2011-06-27 to 2011-08-31 (NCEI Accession 0115710). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_bell_shimada/bs_2011.

Cosca, C., R. Feely, **S. Alin**, and G. Lebon. 2014. Sea Surface and Atmospheric fCO_2 measurements from the NOAA Ship Bell M. Shimada 2011 VOS project line. http://cdiac.ornl.gov/ftp/oceans/VOS_Bell_Shimada/BS_2011. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi: 10.3334/CDIAC/otg.VOS_Bell_Shimada/BS_2011

Cosca, C.E.; Feely, R.A.; **Alin, S.R.;** Lebon, G.T. (2014). Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from underway - surface observations using Barometric pressure sensor, Carbon dioxide (CO_2) gas analyzer and other instruments from NOAA Ship *Bell M. Shimada* in the U.S. West Coast California Current System from 2012-02-20 to 2012-09-16 (NCEI Accession 0115714). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_bell_shimada/bs_2012.

Alin, S., R. Feely, L. Juranek, and C. Cosca. 2014. Underway fCO_2 measurements from the 2011 West Coast Ocean Acidification Cruise (WCOA2011) aboard the R/V *Wecoma* (August 12 - 30, 2011). http://cdiac.ornl.gov/ftp/oceans/WCOA2011/WCOA2011_UW. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee. doi: 10.3334/CDIAC/OTG.COAST_WCOA2011_UW

Alin, S.R.; Cosca, C.E.; Feely, R.A.; Lebon, G.T. (2015). Partial pressure of carbon dioxide (pCO_2), temperature, salinity and other variables collected from surface underway observations using shower head equilibrator, carbon dioxide gas detector, and other instruments from NOAA Ship *Oscar Dyson* in the Bering Sea and coast of Alaska from 2014-03-03 to 2014-08-13 (NCEI Accession 0132046). Version 1.1. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V50V89VP.

Cosca, C.E.; Feely, R.A.; **Alin, S.R.**; Lebon, G.T. (2015). Partial pressure of carbon dioxide (pCO_2), temperature, salinity and other variables collected from surface underway observations using shower head equilibrator, carbon dioxide gas detector, and other instruments from container ship *Cap Blanche* in the Pacific Ocean from 2014-02-01 to 2014-11-26 (NCEI Accession 0132047). Version 1.1. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V5W37TCQ.

Feely, R.A.; Cosca, C.E.; **Alin, S.R.**; Lebon, G.T. (2015). Partial pressure of carbon dioxide (pCO_2), temperature, salinity and other variables collected from surface underway observations using shower head equilibrator, carbon dioxide gas detector, and other instruments from container ship *Cap Vilano* in the Pacific Ocean from 2013-02-01 to 2013-06-06 (NCEI Accession 0132054). Version 1.1. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V5GX48N3.

Alin, S.R.; Feely, R.A.; Juranek, L.W.; Cosca, C.E. (2015). Partial pressure (or fugacity) of carbon dioxide, temperature, salinity and other variables collected from surface underway observations using carbon dioxide gas analyzer, shower head equilibrator and other instruments from R/V *Wecoma* in the U.S. West Coast California Current System during the 2011 West Coast Ocean Acidification Cruise (WCOA2011) from 2011-08-12 to 2011-08-30 (NCEI Accession 0123607). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.7289/v51r6ngd.

Alin, S.R.; Cosca, C.E.; Feely, R.A.; Lebon, G.T. (2016). Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from Surface underway observations using Barometric pressure sensor, Carbon dioxide (CO_2) gas analyzer and other instruments from NOAA Ship *OSCAR DYSON* in the Bering Sea, Gulf of Alaska and North Pacific Ocean from 2014-03-03 to 2014-08-13 (NCEI Accession 0144980). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.oa_oscar_dyson_2014.

Feely, R.A.; Cosca, C.E.; **Alin, S.R.**; Lebon, G.T. (2016). Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from surface underway observations during the MV *Cap Vilano* ships of opportunity (SOOP) cruises in the Pacific Ocean from 2013-02-01 to 2013-06-06 (NCEI Accession 0157013). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_cap_vilano_2013.

Cosca, C.E.; **Alin, S.R.;** Feely, R.A.; Lebon, G.T.; Takeshita, Y.; Martz, T.R.; Carter, B.R. (2016). Partial pressure (or fugacity) of carbon dioxide, pH on total scale, temperature, salinity and other variables collected from surface underway observations during the container ship *Cap Blanche* cruises in the Pacific Ocean from 2014-02-01 to 2014-11-26 (NCEI Accession 0156923). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_cap_blanche_2014.

Cosca, C.E.; Feely, R.A.; **Alin, S.R.** (2016). Partial pressure of carbon dioxide (pCO_2), temperature, salinity and other variables collected from surface underway observations using shower head equilibrator, carbon dioxide gas detector, and other instruments from 4 trans-Pacific crossings onboard container ship *Cap Blanche* in the Pacific Ocean from 2015-03-28 to 2015-12-04 (NCEI Accession 0141304). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.7289/v5kh0kch.

Cosca, C.E.; Feely, R.A.; **Alin, S.R.** (2016). Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from Surface underway observations using Barometric pressure sensor, Carbon dioxide (CO_2) gas analyzer and other instruments from *Cap Blanche* in the North Pacific Ocean and South Pacific Ocean from 2015-03-28 to 2015-12-04 (NCEI Accession 0157235). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.vos_cap_blanche_2015.

Alin, S.R.; Feely, R.A.; Juranek, L.W.; Cosca, C.E. (2016). Partial pressure (or fugacity) of carbon dioxide, salinity and other variables collected from Surface underway observations using Barometric pressure sensor, Carbon dioxide (CO_2) gas analyzer and other instruments from *WECOMA* in the U.S. West Coast California Current System from 2011-08-12 to 2011-08-30 (NCEI Accession 0157448). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.3334/cdiac/otg.coast_wcoa2011_uw.

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08-24 (NCEI Accession 0297461). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/eyd3-aw75.

Monacci, N.M.; **Alin, S.R.**; Bell, S.W.; Danielson, S.L.; Grebmeier, J.M.; Mordy, C.; Sandy, S.; Stabeno, P.J. (2025). Dissolved inorganic carbon (DIC) and total alkalinity (TA) and other hydrographic and chemical data collected from discrete sample and profile observations during the R/V *Sikuliaq* cruise SKQ202312s (EXPOCODE 33BI20230914) in the Bering and Chukchi Sea along transect lines in the Distributed Biological Observatory (DBO) from 2023-09-14 to 2023-10-03 (NCEI Accession 0304115). NOAA National Centers for Environmental Information. Dataset. https://doi.org/10.25921/rgh8-6067.

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FIELD EXPERIENCE

Oceanographic Cruise Leadership

Co-lead PI and Chief Scientist (with Dr. Brendan Carter) the 2026 West Coast Ocean Acidification cruise, UNOLS/Univ. Alaska Fairbanks R/V *Sikuliaq*, in partnership with NOAA Ocean Acidification Program.

Led the organization and served as Chief Scientist for Leg 1 (17 days) of the 2016 West Coast Ocean Acidification cruise, NOAA Ship *Ronald H. Brown*, 34 days (5/2016 – 6/2016).

Led the organization of the 2013 West Coast Ocean Acidification cruise (Washington to California), NOAA Ship *Fairweather* and R/V *Point Sur*, 15 days (8/2013 – 9/2013).

Led the organization of the 2012 West Coast Ocean Acidification cruise (Washington to northern California), NOAA Ship *Bell M. Shimada*, 15 days (9/2012).

Co-led the organization of the 2011 West Coast Ocean Acidification cruise (Washington to southern California), UNOLS Ship *Oceanus*, 23 days (8/2011 – 9/2011).

Oceanographic Cruise Technical Experience

Inorganic carbon measurements, including spectrophotometric pH and underway pCO_2 in Puget Sound, Washington, R/V *Thomas G. Thompson* (2/2008), EPA Ocean Survey Vessel *Bold* (8/2008), R/V *Robertson* (9/2009) (8 days)

Underway pCO_2 measurements, M/V *Cap Van Diemen*, New Zealand-Tahiti-U.S., 10/2008–11/2008 (15 days)

Dissolved inorganic carbon measurements, NOAA Ship *Ronald H. Brown*, CLIVAR cruise P18, leg 1, San Diego-Easter Island, 12/2007–1/2008 (36 days)

Geological coring and seismic surveys, R/V *Explorer*, Lake Tanganyika, East Africa, 1/1997–2/1997 (30 days)

Lake and River Field Research Experience

Field salmon ecology and river biogeochemistry sampling (assisted while on vacation), Alaska Salmon Program, July 2024 (10 days)

Field limnology and coring work on large lakes in Southwest Alaska, 2005–2007 (1.5 months)

Field research on river carbon cycling in the Mekong and Chao Phraya rivers at sites in three countries (Cambodia, Thailand, Lao People's Democratic Republic) in Southeast Asia, 2003–2004 (2 months)

Field research on river carbon cycling at four sites throughout the Amazon River basin in Brazil, 2004 (2 months)

SCUBA-based research on biodiversity in Lake Tanganyika, based at the Tanzanian Fisheries Research Institute in Kigoma, Tanzania, 1997–1998 (1 year)

FUN AND TRUSTWORTHINESS

Languages Acquired (Human and Computer)

R, modest programming skills, 2015–present

Matlab, advanced beginner, 2008–2016

Portuguese, scientific reading proficiency, 2004

French, scientific reading proficiency, 2001

Swahili, Advanced Oral Proficiency Certification (American Council on the Teaching of Foreign Languages), 1998

Finnish, oral proficiency, Rotary Exchange student, 1985–1986

Background Checks

Nexus Card holder (background checks by both Canada and the U.S.), October 2, 2024–May 2030

SafeSport training and certification, U.S. Center for SafeSport (involves biennial criminal background checks to volunteer for and participate in regional hockey associations), 2021–2025

Transportation Worker Identification Card, 2008–2010 (approximately)

U.S. Government employee background check (low-risk/non-sensitive position), 2007

Background check for Brazilian research visa, 2004

Hobbies

"Hilary's Knights" hockey tournament team (novice), Seattle Pride Classic Tournament, Seattle, Washington, June 12–14, 2026

"Chillary Knights" hockey tournament team (novice), Co-Organizer/Captain/General Manager/Jersey Co-Designer, Puck Place Market 2025 Women's Tournament, Seattle, Washington, March 27–29, 2026

Kraken Women's Hockey League, Team "Rink Flamingos" (mixed level), Alternate Captain, September 2025–April 2026

Seattle Women's Hockey Club, Team "Toe Dragons" (novice), Captain/General Manager, September 2025–April 2026

3sneaks Women's Hockey Clinic, Seattle, Washington, August 15–17 2025

Kraken Women's Hockey League, Team Orange/"Goalfish" (mixed level), May 2025–August 2025

Seattle Pride Hockey League, Team "Speed"(mixed level), April 2025–August 2025

Puck Place Market 2025 Women's Tournament, Seattle, Washington, March 28–30, 2025

Seattle Women's Hockey Club, Team "Valkyries" (novice), September 2024–April 2025

Cross-country skiing, 1985–present

Hiking and/or backpacking, 1970s–present (rarely)

Swimming (mostly laps, occasionally open water, once had an Olympic coach for an instructor), 1987–present

Biking (trail, road, and former commuter—nothing too hardcore), 1987–present

Team Manager, Sno-King Amateur Hockey Association Junior Thunderbirds 12U recreational league, Kirkland, Washington, 2023–2024

Adult Learn to Play Hockey I and II, Kraken Hockey Program and Kent Valley Ice Centre, 2023–2024

Scorekeeper, Sno-King Amateur Hockey Association Junior Thunderbirds 12U recreational league, Snoqualmie, Washington, 2022–2023

Team Manager, Sno-King Amateur Hockey Association Junior Thunderbirds 10U recreational league, Renton, Washington, 2021–2022 season champions!

Telemark skiing, 1995–2004

NAUI Open Water I and II Scuba Certification, 1990–1991