

CONTACT INFORMATION	<p>Kyoto University Disaster Prevention Research Institute Coastal Disaster Research Section Gokasho, Uji, Kyoto, 611-0011, Japan</p> <p><i>Phone:</i> (+81) 0774-38-4145 <i>E-mail:</i> adrean.webb@gmail.com <i>URL:</i> www.adreanwebb.com</p>
RESEARCH INTERESTS	Coastal hazards, climate projections and impact assessments, ocean-related phenomenon, numerical modeling, and meshless methods.
EDUCATION	<p>Ph.D. Applied Mathematics, University of Colorado Boulder, Aug 2013. Advisors: B. Fox-Kemper and K. Julien.</p> <p>M.S. Applied Mathematics, University of New Hampshire, May 2007. Advisor: M. Shubov.</p> <p>B.S. Physics, University of Oklahoma, May 1998. <i>Attended Kings College (Aberdeen, Scotland) and Ritsumeikan University (Kyoto, Japan) in 1997 and 1995.</i></p>
ACADEMIC APPOINTMENTS	<p>Specially Appointed Associate Professor: Kyoto University (Kyoto, Japan), Disaster Prevention Research Institute (DPRI), Coastal Disaster Research Section, Apr 2020–present. <i>Future climate projections of coastal hazards (Tougou).</i></p> <p>Specially Appointed Assistant Professor: Kyoto University (Kyoto, Japan), DPRI, Coastal Disaster Research Section, Sep 2017–Mar 2020. <i>Future climate projections of coastal hazards (Tougou).</i></p> <p>Specially Appointed Researcher: The University of Tokyo (Kashiwa, Japan), Department of Ocean Technology, Policy, and Environment, Oct 2014–Aug 2017. <i>Wave energy resources for Japan (NEDO); Arctic wave modeling (ArCS).</i></p> <p>Postdoctoral Fellow: Tokyo University of Marine Sciences and Technology (Tokyo, Japan), Department of Ocean Sciences under H. Yamazaki, Aug 2013–Sep 2014. <i>Estuarine dynamics in Iwate, Japan (TEAMS, CREST).</i></p> <p>Research Assistant: University of Colorado Boulder, Cooperative Institute for Research in the Environmental Sciences (CIRES) under B. Fox-Kemper, May 2008–Dec 2012. <i>Langmuir turbulence on a global scale (CIRES, NASA).</i></p>
VISITING POSITIONS	<p>Invited Participant: University of California Santa Barbara, Kavli Institute for Theoretical Physics, Jun 2018. <i>Short-term participant in the program “Planetary Boundary Layers in Atmospheres, Oceans, and Ice on Earth and Moons,”</i> https://www.kitp.ucsb.edu/activities/blayers18.</p> <p>Visiting Scientist: University of California Los Angeles, Institute for Pure and Applied Mathematics (IPAM), Mar–Jun 2010, Dec 2011, Dec 2012. <i>Supported participant and seminar coordinator in the program, “Model and Data Hierarchies for Simulating and Understanding Climate,”</i> http://www.ipam.ucla.edu/programs/long-programs/model-and-data-hierarchies-for-simulating-and-understanding-climate/.</p>
NON-ACADEMIC POSITIONS	<p>Instructor: Kyoto City Board of Education (Kyoto, Japan), Apr 2002–Mar 2005. <i>Assistant language teacher for eight junior high schools.</i></p> <p>Instructor: GEOS (Kansai & Chubu, Japan), Apr 2000–Mar 2002. <i>English instructor at two private schools.</i></p> <p>System Analyst: MCI WorldCom/EDS Communications (Tulsa, OK), Apr 1998–Mar 2000. <i>UNIX mainframe and software administrator.</i></p>

- [R.1] N. Mori, T. Takemi, Y. Tachikawa, H. Tatano, T. Shimura, T. Tanaka, T. Fujimi, Y. Osakada, A. Webb, & E. Nakakita (2021). Recent nationwide climate change impact assessments of natural hazards in Japan and East Asia. *Weather and Climate Extremes*, in press. <https://doi.org/10.1016/j.wace.2021.100309>.
- [R.2] T. Waseda, T. Nose, T. Kodaira, K. Sasmal, and A. Webb (2020). Climatic trends of extreme wave events caused by Arctic Cyclones in the western Arctic Ocean. *Polar Science*, in press. <https://doi.org/10.1016/j.polar.2020.100625>.
- [R.3] K. Sasmal, T. Waseda, A. Webb, S. Miyajima, & K. Nakano (2020). Assessment of wave energy resources and their associated uncertainties for two coastal areas in Japan. *Journal of Marine Science and Technology*. <https://doi.org/10.1007/s00773-020-00781-y>.
- [R.4] A. Webb, T. Waseda, & K. Kiyomatsu (2020). A High-Resolution, Long-Term Wave Resource Assessment of Japan with Wave-Current Effects. *Renewable Energy*, 161:1341–1358. <https://doi.org/10.1016/j.renene.2020.05.030>.
- [R.5] J. Morim, M. Hemer, X.L. Wang, N. Cartwright, C. Trenham, A. Semedo, I. Young, L. Brichenno, P. Camus, M. Casas-Prat, L. Erikson, L. Mentaschi, N. Mori, T. Shimura, B. Timmerman, O. Aarnes, Ø. Breivik, A. Behrens, M. Dobrynin, M. Menendez, J. Staneva, M. Wehner, J. Wolf, B. Kamranzad, A. Webb, J. Stopa, & F. Andutta (2019). Robustness and uncertainties in global multivariate wind-wave climate projections. *Nature Climate Change*, 9:711–718. <https://doi.org/10.1038/s41558-019-0542-5>.
- [R.6] N. Mori, T. Yasuda, T. Arikawa, T. Kataoka, S. Nakajo, K. Suzuki, Y. Yamanaka, A. Webb, & 2018 Typhoon Jebi Coastal Disaster Survey Team (2019). 2018 Typhoon Jebi Post-Event Survey of Coastal Damage in the Kansai Region, Japan. *Coastal Engineering Journal*, 61(3):278–294. <https://doi.org/10.1080/21664250.2019.1619253>.
- [R.7] W. Fujimoto, T. Waseda, & A. Webb (2018). Impact of the four-wave quasi-resonance to freak wave shapes in the ocean. *Ocean Dynamics*, 69(1):101–121. <https://doi.org/10.1007/s10236-018-1234-9>.
- [R.8] Y. Kita, T. Waseda, & A. Webb (2018). Development of waves under explosive cyclones in the Northwestern Pacific. *Ocean Dynamics*, 68(10):1403–1418. <https://doi.org/10.1007/s10236-018-1195-z>.
- [R.9] T. Nose, A. Webb, T. Waseda, J. Inoue, & K. Sato (2018). Predictability of storm wave heights in the ice-free Beaufort Sea. *Ocean Dynamics*, 68(10):1383–1402. <https://doi.org/10.1007/s10236-018-1194-0>.
- [R.10] T. Waseda, A. Webb, K. Sato, J. Inoue, A. Kohout, B. Penrose, & S. Penrose (2018). Correlated Increase of High Ocean Waves and Winds in the Ice-Free Waters of the Arctic Ocean. *Scientific Reports*, 8(4489):1–9. <https://doi.org/10.1038/s41598-018-22500-9>.
- [R.11] K. Sasmal, E. Masunaga, A. Webb, O. Fringer, E. Gross, M. Rayson, & H. Yamazaki (2018). A three-dimensional numerical study of river plume mixing processes in Otsuchi Bay, Japan. *Journal of Oceanography*, 74(2):169–186. <https://doi.org/10.1007/s10872-017-0446-9>.
- [R.12] Q. Li, B. Fox-Kemper, Ø. Breivik, & A. Webb (2017). Statistical models of global Langmuir mixing. *Ocean Modelling*, 113:95–114. <https://doi.org/10.1016/j.ocemod.2017.03.016>.
- [R.13] Q. Li, A. Webb, B. Fox-Kemper, A. Craig, G. Danabasoglu, W.G. Large, & M. Vertenstein (2016). Langmuir mixing effects on global climate: WAVEWATCH III in CESM. *Ocean Modelling*, 103:145–160. <https://doi.org/10.1016/j.ocemod.2015.07.020>.

- [R.14] S. Haney, B. Fox-Kemper, K. Julien, & A. Webb (2015). Symmetric and Geostrophic Instabilities in the Wave-Forced Ocean Mixed Layer. *Journal of Physical Oceanography*, 45(12):3033–3056. <https://doi.org/10.1175/JPO-D-15-0044.1>.
- [R.15] A. Webb & B. Fox-Kemper (2015). Impacts of wave spreading and multi-directional waves on estimating Stokes drift. *Ocean Modelling*, 96:49–64. <https://doi.org/10.1016/j.ocemod.2014.12.007>.
- [R.16] A. Webb & B. Fox-Kemper (2011). Wave spectral moments and Stokes drift estimation. *Ocean Modelling*, 40(3–4):273–288. <https://doi.org/10.1016/j.ocemod.2011.08.007>.

REFEREED
JOURNAL
PUBLICATIONS
(J-STAGE)

- [J.1] Y. Araki, T. Yasuda, A. Webb, & N. Mori (2020). Statistical prediction of storm surge height time series by convolutional neural network and its long-term projection. *Journal of Japan Society of Civil Engineers, Ser. B2 (Coastal Engineering)*, 76(2):1093–1098 (in Japanese). https://doi.org/10.2208/kaigan.76.2.I_1093.
- [J.2] A. Webb, T. Shimura, & N. Mori (2019). Global Tropical Cyclone Track Detection and Analysis of the d4PDF Mega-ensemble Projection. *Journal of Japan Society of Civil Engineers, Ser. B2 (Coastal Engineering)*, 75(2):1207–1212. https://doi.org/10.2208/kaigan.75.I_1207.
- [J.3] A. Webb, T. Shimura, & N. Mori (2018). A High-Resolution Future Wave Climate Projection for the Coastal Northwestern Atlantic. *Journal of Japan Society of Civil Engineers, Ser. B2 (Coastal Engineering)*, 74(2):1345–1350. https://doi.org/10.2208/kaigan.74.I_1345.
- [J.4] T. Waseda, A. Webb, K. Kiyomatsu, W. Fujimoto, Y. Miyazawa, S. Varlamov, K. Horiuchi, T. Fujiwara, T. Taniguchi, K. Matsuda, & J. Yoshikawa (2016). Marine energy resource assessment at reconnaissance to feasibility study stages; wave power, ocean and tidal current power, and ocean temperature power. *Journal of the Japan Society of Naval Architects and Ocean Engineers*, 23:189–198 (in Japanese). <https://doi.org/10.2534/jjasnaoe.23.189>.

REFEREED
CONFERENCE
PUBLICATIONS
(SELECTED)

- [C.1] K. Sasmal, A. Webb, T. Waseda, & S. Miyajima (2018). Wave energy resource assessment: A comparative study for two coastal areas in Japan. *Advances in Renewable Energies Offshore: Proceedings of the 3rd International Conference on Renewable Energies Offshore (RENEW 2018), October 8–10, 2018, Lisbon, Portugal*, (p. 67). CRC Press. <https://www.crcpress.com/Advances-in-Renewable-Energies-Offshore-Proceedings-of-the-3rd-International/Soares/p/book/9781138585355>.
- [C.2] T. Waseda, T. Nose, & A. Webb (2018). Comparison of the Long-Term Trends of the Largest Waves in the Ice-Free Arctic Waters from Different Reanalysis Products. *ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering; Vol. 3: Structures, Safety, and Reliability*. <https://doi.org/10.1115/OMAE2018-77971>.
- [C.3] T. Waseda, A. Webb, K. Sato, J. Inoue, A. Kohout, B. Penrose, & S. Penrose (2017). Arctic Wave Observation by Drifting Type Wave Buoys in 2016. *Proceedings of the International Offshore and Polar Engineering Conference, (2017):16–20*. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85038896140&partnerID=40&md5=a7145051b81587c884118159836d1926>.
- [C.4] A. Webb, T. Waseda, J. Inoue, & K. Sato (2017). Ocean wave forecasting system for the Northern Sea Route. *Proceedings of the Japan Society of Naval Architects and Ocean Engineers*, 24:247–249. <https://ci.nii.ac.jp/naid/40021613508/>.
- [C.5] A. Webb, T. Waseda, W. Fujimoto, K. Horiuchi, K. Kiyomatsu, K. Matsuda, Y. Miyazawa, S. Varlamov, & J. Yoshikawa (2016). A High-Resolution, Wave and

	Current Resource Assessment of Japan: The Web GIS Dataset. <i>Proceedings of the 3rd Asian Wave and Tidal Energy Conference (AWTEC 2016)</i> . http://tinyurl.com/AAWEBB002 .
OTHER PUBLICATIONS	<p>[O.1] M. Hemer, X.L. Wang, <u>A. Webb</u>, & COWCLIP contributors (2018). Report of the 2018 Meeting for the WCRP-JCOMM Coordinated Ocean Wave Climate Project (COWCLIP), Paris, 21-23 May, 2018. <i>JCOMM Technical Report, 92</i>. https://tinyurl.com/AAWEBB004.</p> <p>[O.2] Q. Li, B. Fox-Kemper, & <u>A. Webb</u> (2017). WAVEWATCH III in CESM and Langmuir mixing. <i>POP2 Reference Manual Addendum</i>, LANL Tech Note LAUR-10-018253, in press. http://tinyurl.com/AAWEBB003.</p> <p>[O.3] <u>A. Webb</u> (2013). Stokes Drift and Meshless Wave Modeling. <i>Ph.D. Thesis</i>, University of Colorado Boulder, 251 pages. http://tinyurl.com/AAWEBB001.</p>
GRANTS	Kakenhi Grant-in-Aid for Early-Career Scientists by Ministry of Education, Culture, Sports, Science and Technology (MEXT) and Japan Society for the Promotion of Science (JSPS): <u>A. Webb</u> , Apr 2020–Mar 2023 . <i>Urban shoreline amplification of storm surge during extreme tropical cyclones: Current and future flood risks</i> , 4.3M JPY.
HONORS AND AWARDS	<p>Outstanding Young Scientist Award: First Place, In <i>7th IWMO</i>. International Workshop on Modeling the Ocean (Canberra, Australia), Jun 2015.</p> <p>Best Presentation Award: Third Place, In <i>7th IWMO</i>. International Workshop on Modeling the Ocean (Canberra, Australia), Jun 2015.</p> <p>Outstanding Student Presentation Award, In <i>TOS/ALSO/AGU 2012 Ocean Sciences Meeting</i>. American Geophysical Union (Salt Lake City, UT), Feb 2012.</p>
STUDENT AWARDS	Treatise Encouragement Award , Y. Araki (Co-authors: M. Yasuda, <u>A. Webb</u> , & N. Mori), In <i>65th Coastal Engineering Lectures</i> . Japan Society of Civil Engineers, Oct 2020 .
ADDITIONAL TRAVEL AWARDS	National Science Foundation: For [P.36]; <i>IPAM Workshop on Geophysical and Astrophysical Turbulence</i> , Institute for Pure and Applied Mathematics, University of California Los Angeles (Los Angeles, CA), Oct 2014 ; <i>1st PRIMA Congress: Special Session on the Mathematics of Climate Change</i> , Pacific Rim Mathematical Association (Sydney, Australia), Jul 2009 ; <i>SIAM Conference on Mathematical and Computational Issues in the Geosciences</i> , Society for Industrial and Applied Mathematics (Leipzig, Germany), Jun 2009 ; <i>Climate Program at Joint Mathematics Meeting</i> , American Mathematical Society (San Diego, CA), Jan 2008 . Society for Industrial and Applied Mathematics: For [P.32, 1/3]. University of Colorado Boulder, Department of Applied Mathematics: For [P.39]; [P.32, 1/3]; <i>ECMWF Workshop on Ocean Waves</i> , European Centre for Medium-Range Weather Forecasts (Reading, England), Jun 2012 ; University of Colorado Boulder, CIRES: For [P.32, 1/3].
INVITED PRESENTATIONS (SELECTED)	<p>[P.1] Future Nearshore Wave Climate Projection for the Northwestern Atlantic. In <i>CASPO Seminar</i>. Scripps Institution of Oceanography, University of California San Diego (San Diego, CA), Feb 2020.</p> <p>[P.2] A Meshless Approach to Spectral Wave Modeling. In <i>Coastal Seminar</i>. Department of Civil and Construction Engineering, Oregon State University (Corvallis, OR), Feb 2018.</p> <p>[P.3] A Meshless Numerical Approach to Spectral Wave Modeling (supported). In <i>Localized Kernel-Based Meshless Methods for Partial Differential Equations</i>. Institute</p>

for Computational and Experimental Research in Mathematics, Brown University (Providence, RI), **Aug 2017**.

[P.4] A Meshless Numerical Approach to Spectral Wave Modeling. In *Workshop on Theoretical and Computational Methods of Nonlinear Water Waves*. Waseda University (Tokyo, Japan), **May 2016**.

[P.5] The role of wave-current interactions in marine renewable energy near Japan (supported). In *Coastal Disaster Research Seminar*. DPRI, Kyoto University (Kyoto, Japan), **Jul 2015**.

[P.6] Meshless and Unstructured Wave Modeling. In *Joint Wave Seminar*. JAMSTEC and The University of Tokyo (Tokyo, Japan), **Apr 2014**.

[P.7] A Meshless Approach to Global Ocean Wave Modeling (supported). In *Coastal Disaster Research Seminar*. DPRI, Kyoto University (Kyoto, Japan), **Oct 2013**.

[P.8] A Meshless Approach to Ocean Wave Modeling (supported). In *Brownbag Seminar*. Lawrence Berkeley National Laboratory Seminar (Berkeley, CA), **Apr 2013**.

SUBMITTED
PRESENTATIONS
(SELECTED)

[P.9] Future Nearshore Wave Climate Projection for the Northwestern Atlantic. In *TOS/ALSO/AGU 2020 Ocean Sciences Meeting*. American Geophysical Union (San Diego, CA), **Feb 2020**.

[P.10] Future Wave Climate Projection for the Northwestern Atlantic. In *2nd International Workshop on Waves, Storm Surges and Coastal Hazards*. International Waves Workshop (Melbourne, Australia), **Nov 2019**.

[P.11] Global Tropical Cyclone Track Detection and Analysis of the d4PDF Megaensemble Projection. In *66th Coastal Engineering Lectures*. Japan Society of Civil Engineers (Kagoshima, Japan), **Oct 2019**.

[P.12] A High-Resolution Future Wave Climate Projection for the Northwestern Atlantic. In *JpGU Meeting 2019*. Japan Geoscience Union (Chiba, Japan), **May 2019**.

[P.13] Wave Climate Projection for the Northwestern Atlantic (poster). In *WISE 2019 Meeting*. Waves In Shallow water Environment (Jyozan-kei, Japan), **May 2019**.

[P.14] A High-Resolution Future Wave Climate Projection for the Coastal Northwestern Atlantic. In *65th Coastal Engineering Lectures*. Japan Society of Civil Engineers (Tottori, Japan), **Nov 2018**.

[P.15] A High-Resolution Wave Climate Projection for the Northwestern Atlantic and Coastal Eastern USA. In *AOGS 15th Annual Meeting*. Asia Oceania Geosciences Society (Honolulu, HI), **Jun 2018**.

[P.16] A Regional Wave Climate Projection for the Coastal Northwestern Atlantic. In *2018 COWCLIP Workshop*. Coordinated Ocean Wave Climate Project (Paris, France), **May 2018**.

[P.17] A Meshless Approach to Spectral Wave Modeling. In *Mathematical Aspects and Applications of Nonlinear Wave Phenomena Workshop*. Research Institute of Mathematical Sciences, Kyoto University (Kyoto, Japan), **Oct 2017**.

[P.18] First steps toward a wave forecasting system for the Northern Sea Route (poster). In *1st International Workshop on Waves, Storm Surges and Coastal Hazards*. International Waves Workshop (Liverpool, UK), **Sep 2017**.

[P.19] Arctic wave field model analysis and observation in 2016. In *9th IWMO*. International Workshop on Modeling the Ocean (Seoul, Korea), **Jul 2017**.

[P.20] Ocean wave forecasting system for the Northern Sea Route. In *Spring 2017 Meeting*. Japan Society of Naval Architects and Ocean Engineers (Tokyo, Japan), **May 2017**.

- [P.21] Arctic wave field reanalysis and observation in 2016. In *32nd International Symposium on Okhotsk Sea & Polar Oceans*. Okhotsk Sea and Cold Ocean Research Association (Monbetsu, Japan), **Feb 2017**.
- [P.22] A High-Resolution, Wave and Current Resource Assessment of Japan: The Web GIS Dataset. In *AWTEC 2016*. Asian Wave and Tidal Energy Conference (Singapore), **Oct 2016**.
- [P.23] A Wave and Current Resource Assessment of Japan: Web GIS Dataset. In *Fall 2016 Meeting*. Oceanographic Society of Japan (Kagoshima, Japan), **Sep 2016**.
- [P.24] A 20-Year High-Resolution Wave Resource Assessment of Japan. In *Spring 2016 Meeting*. Oceanographic Society of Japan (Tokyo, Japan), **Mar 2016**.
- [P.25] A 20-Year High-Resolution Wave Resource Assessment of Japan with Wave-Current Interactions. In *TOS/ALSO/AGU 2016 Ocean Sciences Meeting*. American Geophysical Union (New Orleans, LA), **Feb 2016**.
- [P.26] Progress on a 20-Year High-Resolution Wave Resource Assessment of Japan. In *14th Wave Workshop*. International Waves Workshop (Key West, FL), **Nov 2015**.
- [P.27] Update on a 20-Year High-Resolution Wave Resource Assessment of Japan. In *Fall 2015 Meeting*. Oceanographic Society of Japan (Ehime, Japan), **Sep 2015**.
- [P.28] The role of wave-current interactions in marine renewable energy near Japan. In *7th IWMO*. International Workshop on Modeling the Ocean (Canberra, Australia), **Jun 2015**.
- [P.29] Progress on a 20-Year High-Resolution Wave Resource Assessment of Japan. In *Spring 2015 Meeting*. Oceanographic Society of Japan (Tokyo, Japan), **Mar 2015**.
- [P.30] A Meshless Approach to Global Ocean Wave Modeling. In *TOS/ALSO/AGU 2014 Ocean Sciences Meeting*. American Geophysical Union (Honolulu, HI), **Feb 2014**.
- [P.31] A First Step Towards Modeling the Impact of the 2011 Tōhoku Earthquake and Tsunami on Internal Dynamics in Ōtsuchi Bay, Japan (poster). In *6th CJK IMBER Symposium*. Integrated Marine Biosphere Research (Tokyo, Japan), **Oct 2013**.
- [P.32] A Meshless Approach to Ocean Wave Modeling. In *SIAM Conference on Mathematical and Computational Issues in the Geosciences*. Society for Industrial and Applied Mathematics (Padova, Italy), **Jun 2013**.
- [P.33] Waves and Langmuir Mixing in Climate Models. In *CESM Ocean Model Working Group Meeting*. National Center for Atmospheric Research (Boulder, CO), **Jan 2013**.
- [P.34] An Unstructured Approach to Ocean Wave Modeling. In *Frontiers in Computational Physics: Modeling the Earth System*. Journal of Computational Physics (Boulder, CO), **Dec 2012**.
- [P.35] An Unstructured Approach to Ocean Wave-Generation Modeling. In *IPAM Climate Modeling Reunion Conference*. Institute for Pure and Applied Mathematics, University of California Los Angeles (Lake Arrowhead, CA), **Dec 2012**.
- [P.36] An Unstructured Approach to Surface Ocean Wave Modeling (poster). In *IUGG Conference on Mathematical Geophysics*. International Union of Geodesy and Geophysics (Edinburgh, Scotland), **Jun 2012**.
- [P.37] Global Stokes Drift and Climate Wave Modeling. In *TOS/ALSO/AGU 2012 Ocean Sciences Meeting*. American Geophysical Union (Salt Lake City, UT), **Feb 2012**.
- [P.38] Global Stokes Drift and Climate Wave Modeling. In *IPAM Climate Modeling Reunion Conference*. Institute for Pure and Applied Mathematics, University of California Los Angeles (Lake Arrowhead, CA), **Dec 2011**.

DEPARTMENT
PRESENTATIONS
(SELECTED)

- [P.39] Global Stokes Drift and Climate Wave Modeling (poster). In *12th Wave Workshop*. International Waves Workshop (Waikoloa, Hawaii), **Nov 2011**.
- [P.40] Preliminary Linear Stability Analysis of Langmuir Circulation with Aligned and Misaligned Wind-Wave Components. In *IPAM Climate Modeling Culminating Workshop*. Institute for Pure and Applied Mathematics, University of California Los Angeles (Lake Arrowhead, CA), **Jun 2010**.
- [P.41] Demonstrated Sensitivity to Langmuir Mixing in a Global Climate Model (CCSM). In *IPAM Long Program Seminar*. Institute for Pure and Applied Mathematics, University of California Los Angeles (Los Angeles, CA), **May 2010**.
- [P.42] Demonstrated Sensitivity to Langmuir Mixing in a Global Climate Model (CCSM). In *AGU 2010 Ocean Sciences Meeting*. American Geophysical Union (Portland, OR), **Feb 2010**.
- [P.43] Global Tropical Cyclone Track Detection and Analysis of the d4PDF Mega-ensemble Projection. In *Joint Meeting*. SI-CAT and Tougou-CD Programs, Ministry of Education, Culture, Sports, Science, and Technology (Kyoto, Japan), **Jan 2020**.
- [P.44] The d4PDF Tropical Cyclone Track Dataset. In *Tougou-D Research Meeting*. Tougou Program, Ministry of Education, Culture, Sports, Science, and Technology (Kyoto, Japan), **Jul 2019**.
- [P.45] Global Track Analysis of d4PDF Tropical Cyclones. In *DPRI Annual Meeting*. DPRI, Kyoto University (Kyoto, Japan), **Feb 2019**.
- [P.46] A High-Resolution Future Wave Climate Projection for the Northwestern Atlantic. In *Joint Meeting*. SI-CAT and Tougou-CD Programs, Ministry of Education, Culture, Sports, Science, and Technology (Tokyo, Japan), **Jan 2019**.
- [P.47] Projected Changes in Ocean Wave Climate. In *Session 7: Climate*. Kyoto University-Universität Hamburg Symposium, Kyoto University (Kyoto, Japan), **Oct 2018**.
- [P.48] A High-Resolution Wave Climate Projection for the Coastal Northwestern Atlantic. In *DPRI Annual Meeting*. DPRI, Kyoto University (Kyoto, Japan), **Feb 2018**.
- [P.49] A numerical perspective on wave modeling. In *OTPE Seminar*. Department of Ocean Technology, Policy, and Environment, The University of Tokyo (Kashiwa, Japan), **Jul 2017**.
- [P.50] Arctic wave field reanalysis and observation. In *ArCS 2nd Plenary Meeting*. Arctic Challenge for Sustainability, Ministry of Education, Culture, Sports, Science and Technology (Kanagawa, Japan) **Mar 2017**.
- [P.51] An Overview of Wave Modeling for Japan and the Arctic. In *ArCS Kickoff Meeting*. Arctic Challenge for Sustainability, Ministry of Education, Culture, Sports, Science and Technology (Kanagawa, Japan) **Apr 2016**.
- [P.52] Impacts of wave spreading and multidirectional waves on estimating Stokes drift. In *Joint Wave Seminar*. JAMSTEC and The University of Tokyo (Tokyo, Japan), **Nov 2015**.
- [P.53] Updated status of the NEDO Wave Resource Assessment. In *NEDO Joint Meeting*. New Energy and Industrial Technology Development Organization (Tokyo, Japan) **Jul 2015**.
- [P.54] Current status of the NEDO Wave Resource Assessment. In *NEDO Meeting*. New Energy and Industrial Technology Development Organization (Tokyo, Japan) **Feb 2015**.

[P.55] Development of a Three-Dimensional SUNTANS Model of Ōtsuchi Bay, Japan. In *SUNTANS Symposium*. Department of Ocean Sciences, Tokyo University of Marine Science and Technology (Tokyo, Japan), **Feb 2014**.

[P.56] An Unstructured Approach to Surface Ocean Wave Modeling (poster). In *CIRES' 45th Anniversary Celebration*. Cooperative Institute for Research in the Environmental Sciences, University of Colorado Boulder (Boulder, CO), **Sep 2012**.

[P.57] Global Stokes Drift and Climate Wave Modeling (poster). In *CIRES Science Rendezvous*. Cooperative Institute for Research in the Environmental Sciences, University of Colorado Boulder (Boulder, CO), **Apr 2012**.

[P.58] Global Stokes Drift and Climate Wave Modeling. In *CIRES Graduate Student Seminar Series*. Cooperative Institute for Research in the Environmental Sciences, University of Colorado Boulder (Boulder, CO), **Feb 2012**.

[P.59] Global Stokes Drift and Climate Wave Modeling. In *Dynamical Systems Seminar*. Department of Applied Mathematics, University of Colorado Boulder (Boulder, CO), **Dec 2011**.

[P.60] Impacts of Wind-Wave Interaction on Climate. In *SIAM Graduate Student Chapter*. Department of Applied Mathematics, University of Colorado Boulder (Boulder, CO), **Apr 2011**.

DATASETS, SOFTWARE, AND TOOLBOXES

Online Interactive Dataset: Led development of “Web GIS Dataset: A High-Resolution, Wave and Current Resource Assessment of Japan,” **Oct 2016**. Maintained by The University of Tokyo. http://www.todaiww3.k.u-tokyo.ac.jp/nedo_p/en/.

Stokes Drift MATLAB Toolbox: Complete set of Stokes drift functions for calculating depth-dependent and depth-integrated approximations, **Dec 2014**. <http://www.mathworks.com/matlabcentral/fileexchange/48678-stokes-drift-for-directional-random-seas>.

SERVICE EXPERIENCE

Review Editor: Editorial board member of Coastal and Offshore Engineering, Frontiers in Built Environment, **Jan 2021–Present**.

Conference Session Moderator: Wave Modeling, virtual International Conference on Coastal Engineering (VICCE), **6 Oct 2020**.

Website Administrator: Coordinated Ocean Wave Climate Project, **Nov 2017–Present**. <https://cowclip.org/>.

Seminar Coordinator: Long Program, IPAM (Los Angeles, CA), **Mar–May 2010**. *Organized weekly seminars for visiting scholars.*

REFeree WORK

Grants: National Science Foundation Grant. **Journal:** Coastal Engineering Journal; Geoscientific Model Development; Geophysical Research Letters; Journal of Advances in Modeling Earth Systems; Journal of Climate; Journal of Geophysical Research: Oceans; Journal of Marine Science and Technology; Journal of Physical Oceanography; Journal of Waterway, Port, Coastal, and Ocean Engineering; Ocean Modelling; Physics of Fluids; Proceedings of the Royal Society A. **Proceedings:** Asian Wave and Tidal Energy Conference (2016).

ADDITIONAL EDUCATION:

Summer School Mathematical Sciences Research Institute (MSRI; Berkeley, CA), **Jul 2008**. *Supported attendee in the graduate and postdoc workshop, “MSRI Climate Change Summer School,”* https://www.msri.org/summer_schools/453.

TEACHING EXPERIENCE

Teaching Assistant: National Center for Atmospheric Research (NCAR), Institute for Mathematics Applied to Geosciences (IMAGe; Boulder, CO), **Jul 2010**. *Designed graduate lab content for the “NCAR Summer Graduate School on Mathematics of*

Climate Change,” <https://www.image.ucar.edu/Workshops/TOY2010/focus03/>.

Instructor: Department of Applied Mathematics, University of Colorado Boulder. Calculus II Workgroup (**Fall 2008**).

Teaching Assistant: Department of Applied Mathematics, University of Colorado Boulder. Calculus II (**Spring 2013, Summer 2008, Fall 2008**), Differential Equations (**Spring 2008**), Calculus III (**Fall 2007**).

Instructor: Department of Mathematics, University of New Hampshire. Calculus II (**Summer 2007**), online course in Pre-Calculus (**Summer 2006**), Pre-Calculus (**Spring 2006**).

Teaching Assistant: Department of Mathematics, University of New Hampshire. Calculus II (**Spring 2007**), Calculus I (**Fall 2006**), Finite Mathematics (**Fall 2005**).

PROFESSIONAL
ASSOCIATIONS

Society for Industrial and Applied Mathematics (**2007–2017, 2019–2021**); American Geophysical Union (**2010–2016, 2018–2021**); Oceanographic Society of Japan (**2015–2016**); Japan Society for Industrial and Applied Mathematics (**2016–2017**).

LANGUAGES

English, Japanese (JLPT N3 level certification), C, FORTRAN, HTML, Julia, \LaTeX , Mathematica, MATLAB, Python, UNIX.