

参考文献リスト

- Andrews, D., & McIntyre, M. E. (1978). An exact theory of nonlinear waves on a Lagrangian-mean flow. *Journal of fluid Mechanics*, 89(4), 609-646.
- Ardhuin, F., & Jenkins, A. D. (2006). On the interaction of surface waves and upper ocean turbulence. *Journal of Physical Oceanography*, 36(3), 551-557.
- Breivik, Ø., Mogensen, K., Bidlot, J. R., Balmaseda, M. A., & Janssen, P. A. (2015). Surface wave effects in the NEMO ocean model: Forced and coupled experiments. *Journal of Geophysical Research: Oceans*, 120(4), 2973-2992.
- Bühler, O. (2014). *Waves and mean flows*. Cambridge University Press.
- Cao, Y., Deng, Z., & Wang, C. (2019). Impacts of surface gravity waves on summer ocean dynamics in Bohai Sea. *Estuarine, Coastal and Shelf Science*, 230, 106443.
- Craik, A. D., & Leibovich, S. (1976). A rational model for Langmuir circulations. *Journal of Fluid Mechanics*, 73(3), 401-426.
- Czeschel, L., & Eden, C. (2023). Energy transfers in surface wave-averaged equations. *arXiv preprint arXiv:2311.13354*.
- Fujiwara, Y., Matsumura, Y., & Tamura, H. (2026). Wave-driven ocean currents: how the conservative effects of Stokes transport induce large-scale currents. *Progress in Earth and Planetary Science*, 13(1), 16.
- Fujiwara, Y., & Yoshikawa, Y. (2020). Mutual interaction between surface waves and Langmuir circulations observed in wave-resolving numerical simulations. *Journal of Physical Oceanography*, 50(8), 2323-2339.
- Fujiwara, Y., Yoshikawa, Y., & Matsumura, Y. (2018). A wave-resolving simulation of Langmuir circulations with a nonhydrostatic free-surface model: comparison with Craik–Leibovich theory and an alternative Eulerian view of the driving mechanism. *Journal of Physical Oceanography*, 48(8), 1691-1708.
- Fujiwara, Y., Yoshikawa, Y., & Matsumura, Y. (2020). Wave-resolving simulations of viscous wave attenuation effects on Langmuir circulation. *Ocean Modelling*, 154, 101679.
- Gill, A. E. (1982). *Atmosphere—Ocean Dynamics*. Academic Press.
- Guérin, T., Bertin, X., Coulombier, T., & de Bakker, A. (2018). Impacts of wave-induced circulation in the surf zone on wave setup. *Ocean Modelling*, 123, 86-97.
- Hasselmann, K. (1962). On the non-linear energy transfer in a gravity-wave spectrum Part 1. General theory. *Journal of Fluid Mechanics*, 12(4), 481-500.
- Holthuijsen, L. H. (2010). *Waves in oceanic and coastal waters*. Cambridge university press.
- Holm, D. D. (1996). The ideal Craik-Leibovich equations. *Physica D: Nonlinear Phenomena*, 98(2-

4), 415-441.

- Huang, N. E. (1979). On surface drift currents in the ocean. *Journal of Fluid Mechanics*, 91(1), 191-208.
- Iwasaki, S., Isobe, A., Kako, S. I., Uchida, K., & Tokai, T. (2017). Fate of microplastics and mesoplastics carried by surface currents and wind waves: A numerical model approach in the Sea of Japan. *Marine Pollution Bulletin*, 121(1-2), 85-96.
- Kenyon, K. E. (1969). Stokes drift for random gravity waves. *Journal of Geophysical Research*, 74(28), 6991-6994.
- Lane, E. M., Restrepo, J. M., & McWilliams, J. C. (2007). Wave-current interaction: A comparison of radiation-stress and vortex-force representations. *Journal of physical oceanography*, 37(5), 1122-1141.
- Langmuir, I. (1938). Surface motion of water induced by wind. *Science*, 87(2250), 119-123.
- Leibovich, S. (1977). On the evolution of the system of wind drift currents and Langmuir circulations in the ocean. Part 1. Theory and averaged current. *Journal of Fluid Mechanics*, 79(4), 715-743.
- Leibovich, S. (1980). On wave-current interaction theories of Langmuir circulations. *Journal of Fluid Mechanics*, 99(4), 715-724.
- Leibovich, S. (1983). The form and dynamics of Langmuir circulations. *Annual Review of Fluid Mechanics*, 15(1), 391-427.
- Leibovich, S., & Paolucci, S. (1980). The Langmuir circulation instability as a mixing mechanism in the upper ocean. *Journal of Physical Oceanography*, 10(2), 186-207.
- Li, Q. (2026). Large Eddy Simulations of Stabilizing Effects Induced by Opposing Eulerian Shear and Stokes Drift Shear in an Idealized Ocean Surface Boundary Layer. *Journal of Physical Oceanography*, e250077.
- Li, M., & Garrett, C. (1993). Cell merging and the jet/downwelling ratio in Langmuir circulation.
- Li, Q., Reichl, B. G., Fox-Kemper, B., Adcroft, A. J., Belcher, S. E., Danabasoglu, G., ... & Zheng, Z. (2019). Comparing ocean surface boundary vertical mixing schemes including Langmuir turbulence. *Journal of Advances in Modeling Earth Systems*, 11(11), 3545-3592.
- Li, Q., Webb, A., Fox-Kemper, B., Craig, A., Danabasoglu, G., Large, W. G., & Vertenstein, M. (2016). Langmuir mixing effects on global climate: WAVEWATCH III in CESM. *Ocean Modelling*, 103, 145-160.
- Longuet-Higgins, M. S. (1969, November). On the transport of mass by time-varying ocean currents. In *Deep Sea Research and Oceanographic Abstracts* (Vol. 16, No. 5, pp. 431-447). Elsevier.
- Longuet-Higgins, M. S., & Stewart, R. W. (1962). Radiation stress and mass transport in gravity waves, with application to 'surf beats'. *Journal of Fluid Mechanics*, 13(4), 481-504.
- Matsumura, Y., & Hasumi, H. (2008). A non-hydrostatic ocean model with a scalable multigrid Poisson solver. *Ocean Modelling*, 24(1-2), 15-28.

- McIntyre, M. E. (1981). On the 'wave momentum' myth. *Journal of Fluid Mechanics*, 106, 331-347.
- McWilliams, J. C., & Restrepo, J. M. (1999). The wave-driven ocean circulation. *Journal of Physical Oceanography*, 29(10), 2523-2540.
- McWilliams, J. C., Restrepo, J. M., & Lane, E. M. (2004). An asymptotic theory for the interaction of waves and currents in coastal waters. *Journal of Fluid Mechanics*, 511, 135-178.
- McWilliams, J. C., Sullivan, P. P., & Moeng, C. H. (1997). Langmuir turbulence in the ocean. *Journal of Fluid Mechanics*, 334, 1-30.
- Mellor, G. (2016). On theories dealing with the interaction of surface waves and ocean circulation. *Journal of Geophysical Research: Oceans*, 121(7), 4474-4486.
- Pierson, W. J., Neuman, G., & James, R. W. (1955). Practical Methods for Observing and Forecasting Ocean Waves by Means of Wave Spectra and Statistics.(Reprinted 1971).
- Pianezze, J., Barthe, C., Bielli, S., Tulet, P., Jullien, S., Cambon, G., ... & Cordier, E. (2018). A new coupled ocean-waves-atmosphere model designed for tropical storm studies: Example of tropical cyclone Bejisa (2013–2014) in the south-west Indian Ocean. *Journal of Advances in Modeling Earth Systems*, 10(3), 801-825.
- Pizzo, N., Deike, L., & Ayet, A. (2021). How does the wind generate waves?. *Physics Today*, 74(11), 38-43.
- Polton, J. A., Lewis, D. M., & Belcher, S. E. (2005). The role of wave-induced Coriolis–Stokes forcing on the wind-driven mixed layer. *Journal of Physical Oceanography*, 35(4), 444-457.
- Romero, L., Hypolite, D., & McWilliams, J. C. (2020). Submesoscale current effects on surface waves. *Ocean Modelling*, 153, 101662.
- Rühls, S., van den Bremer, T., Clementi, E., Denes, M. C., Moulin, A., & van Sebille, E. (2025). Non-negligible impact of Stokes drift and wave-driven Eulerian currents on simulated surface particle dispersal in the Mediterranean Sea. *Ocean Science*, 21(1), 217-240.
- Scully, M. E., & Zippel, S. F. (2024). Vertical energy fluxes driven by the interaction between wave groups and Langmuir turbulence. *Journal of Physical Oceanography*, 54(7), 1347-1366.
- Skyllingstad, E. D., & Denbo, D. W. (1995). An ocean large-eddy simulation of Langmuir circulations and convection in the surface mixed layer. *Journal of Geophysical Research: Oceans*, 100(C5), 8501-8522.
- Smith, J. A. (1992). Observed growth of Langmuir circulation. *Journal of Geophysical Research: Oceans*, 97(C4), 5651-5664.
- Stokes, G. G. (1847). On the theory of oscillatory waves. *Trans. Cam. Philos. Soc.*, 8, 441-455.
- Suzuki, N., & Fox-Kemper, B. (2016). Understanding Stokes forces in the wave-averaged equations. *Journal of Geophysical Research: Oceans*, 121(5), 3579-3596.
- Tamura, H., Miyazawa, Y., & Oey, L. Y. (2012). The Stokes drift and wave induced-mass flux in the North Pacific. *Journal of Geophysical Research: Oceans*, 117(C8).

- Thorpe, S. A. (2004). Langmuir circulation. *Annu. Rev. Fluid Mech.*, 36(1), 55-79.
- Treguier, A. M., de Boyer Montégut, C., Bozec, A., Chassignet, E. P., Fox-Kemper, B., McC. Hogg, A., ... & Yeager, S. (2023). The mixed-layer depth in the Ocean Model Intercomparison Project (OMIP): impact of resolving mesoscale eddies. *Geoscientific Model Development*, 16(13), 3849-3872.
- Uchiyama, Y., McWilliams, J. C., & Shchepetkin, A. F. (2010). Wave–current interaction in an oceanic circulation model with a vortex-force formalism: Application to the surf zone. *Ocean Modelling*, 34(1-2), 16-35.
- Ursell, F., & Deacon, G. E. R. (1950). On the theoretical form of ocean swell. On a rotating earth. *Geophysical Journal International*, 6, 1-8.
- van den Bremer, T. S., & Taylor, P. H. (2015). Estimates of Lagrangian transport by surface gravity wave groups: the effects of finite depth and directionality. *Journal of Geophysical Research: Oceans*, 120(4), 2701-2722.
- van den Bremer, T. S., Whittaker, C., Calvert, R., Raby, A., & Taylor, P. H. (2019). Experimental study of particle trajectories below deep-water surface gravity wave groups. *Journal of Fluid Mechanics*, 879, 168-186.
- van Duin, C. A., & Janssen, P. A. (1992). An analytic model of the generation of surface gravity waves by turbulent air flow. *Journal of Fluid Mechanics*, 236, 197-215.
- Vergeles, S. S., & Vointsev, I. A. (2024). Role of wave scattering in instability-induced Langmuir circulation. *Physics of Fluids*, 36(3).
- Vergeles, S. S., & Vointsev, I. A. (2026). Speed-up of Langmuir instability at large scales when the wave scattering is significant. *Physics of Fluids*, 38(2).
- Wagner, G. L., Chini, G. P., Ramadhan, A., Gallet, B., & Ferrari, R. (2021). Near-inertial waves and turbulence driven by the growth of swell. *Journal of Physical Oceanography*, 51(5), 1337-1351.
- Wu, L., Breivik, Ø., & Rutgersson, A. (2019). Ocean-wave-atmosphere interaction processes in a fully coupled modeling system. *Journal of Advances in Modeling Earth Systems*, 11(11), 3852-3874.
- 相木秀則. (2018). 海の波と渦と平均流: 相互作用理論の背景と展望. *気象研究ノート*, (235).