



SOCCOM

Unlocking the mysteries
of the Southern Ocean

SOCCOM Publications

Peer-reviewed publications

2022

1. [Indo-Pacific sector dominates Southern Ocean carbon outgassing](#)
Prend, C.J., A.R. Gray, L.D. Talley, S.T. Gille, F.A. Haumann, K.S. Johnson, S.C. Riser, I. Rosso, J. Sauve, and J.L. Sarmiento (2022). Indo-Pacific sector dominates Southern Ocean carbon outgassing. *Global Biogeochemical Cycles*, 36, e2021GB007226. DOI:10.1029/2021GB007226
2. [Carbon to nitrogen uptake ratios observed across the Southern Ocean by the SOCCOM profiling float array](#)
Johnson, K. S., M.R. Mazloff, M.B. Bif, Y. Takeshita, H.W. Jannasch, T.L. Maurer, T. L., et al. (2022). Carbon to nitrogen uptake ratios observed across the Southern Ocean by the SOCCOM profiling float array. *Journal of Geophysical Research: Oceans*, 127, e2022JC018859. DOI:10.1029/2022JC018859
3. [Vertical structure in phytoplankton growth and productivity inferred from Biogeochemical-Argo floats and the Carbon-based Productivity Model](#)
Arteaga, L. A., M.J. Behrenfeld, E. Boss, & T.K. Westberry (2022). Vertical structure in phytoplankton growth and productivity inferred from Biogeochemical-Argo floats and the Carbon-based Productivity Model. *Global Biogeochemical Cycles*, 36, e2022GB007389. DOI:10.1029/2022GB007389
4. [Impact of downward longwave radiative deficits on Antarctic sea-ice extent predictability during the sea ice growth period](#)
Cerovecki, I., R. Sun, D.H. Bromwich, X. Zou, M.R. Mazloff & S.H. Wang (2022). Impact of downward longwave radiative deficits on Antarctic sea-ice extent predictability during the sea ice growth period. *Environ. Res. Lett.*, 17, 084008. DOI:10.1088/1748-9326/ac7d66
5. [The deep ocean's carbon exhaust](#)
Chen, H., F.A. Haumann, L.D. Talley, K.S. Johnson, J. Sarmiento (2022). The deep ocean's carbon exhaust. *Global Biogeochemical Cycles*, 36. DOI:10.1029/2021GB007156
6. [Sub-seasonal forcing drives year-to-year variations of Southern Ocean primary productivity](#)
Prend, C.J., M.G. Keerthi, M. Lévy, O. Aumont, S.T. Gille and L.D. Talley (2022). Sub-seasonal forcing drives year-to-year variations of Southern Ocean primary productivity. *Global Biogeochemical Cycles*. 36 (7). DOI:10.1029/2022GB007329

7. [Importance of the Antarctic Slope Current in the Southern Ocean response to ice sheet melt and wind stress change](#)
Beadling, R. L., J.P. Krasting, S.M. Griffies, W.J. Hurlin, B. Bronselaer, J.L. Russell et al. (2022). Importance of the Antarctic Slope Current in the Southern Ocean response to ice sheet melt and wind stress change. *Journal of Geophysical Research: Oceans*, 127, e2021JC017608. DOI:10.1029/2021JC017608
8. [Trophic level decoupling drives future changes in phytoplankton bloom phenology](#)
Yamaguchi, R., K.B. Rodgers, A. Timmermann et al. (2022). Trophic level decoupling drives future changes in phytoplankton bloom phenology. *Nat. Clim. Chang.* 12, 469–476. DOI:10.1038/s41558-022-01353-1
9. [Attribution of space-time variability in global-ocean dissolved inorganic carbon](#)
Carroll, D., D. Menemenlis, S. Dutkiewicz, J.M. Lauderdale, J.F. Adkins, K.W. Bowman et al. (2022). Attribution of space-time variability in global-ocean dissolved inorganic carbon. *Global Biogeochemical Cycles*, 36, e2021GB007162. DOI: 10.1029/2021GB007162
10. [Subtropical contribution to Sub-Antarctic Mode Waters](#)
Castro, B. F., M. Mazloff, R.G. Williams & A.C. Naveira Garabato (2022). Subtropical contribution to Sub-Antarctic Mode Waters. *Geophysical Research Letters*, 49, e2021GL097560. DOI: 10.1029/2021GL097560
11. [Tracer and observationally derived constraints on diapycnal diffusivities in an ocean state estimate](#)
Trossman, D. S., C.B. Whalen, T.W.N. Haine, A.F. Waterhouse, A.T. Nguyen, A. Bigdeli, M. Mazloff and P. Heimbach (2022). Tracer and observationally derived constraints on diapycnal diffusivities in an ocean state estimate. *Ocean Sci.*, 18, 729–759. DOI: 10.5194/os-18-729-2022
12. [Controls on the boundary between thermally and non-thermally driven pCO₂ regimes in the South Pacific](#)
Prend, C.J., J.M. Hunt, M.R. Mazloff, S.T. Gille, and L.D. Talley (2022). Controls on the boundary between thermally and non-thermally driven pCO₂ regimes in the South Pacific. *Geophys. Res. Lett.*, DOI: 10.1029/2021GL095797
13. [Freshwater input and vertical mixing in the Canada Basin's seasonal halocline: 1975 versus 2006-2012](#)
Rosenblum, E., J. Stroeve, S.T. Gille, L.B. Tremblay, C. Lique, R. Fajber, R. Galley, D.G. Barber, T. Loureiro, and J.V. Lukovich (2022). Freshwater input and vertical mixing in the Canada Basin's seasonal halocline: 1975 versus 2006-2012. *J. Phys. Oceanogr.*, DOI:10.1175/JPO-D-21-0116.1

2021

1. [Surface salinity under transitioning ice cover in the Canada Basin: Climate model biases linked to vertical distribution of fresh water](#)
Rosenblum, E., R. Fajber, J.C. Stroeve, S.T. Gille, L.B. Tremblay & E.C. Carmack (2021). Surface salinity under transitioning ice cover in the Canada Basin: Climate model biases linked to vertical distribution of fresh water. *Geophysical Research Letters*, 48, e2021GL094739. DOI:10.1029/2021GL094739

2. [The Role of Continental Topography in the Present-Day Ocean's Mean Climate](#)
Stouffer, R.J., J.L. Russell, R.L. Beadling, A.J. Broccoli, J.P. Krasting, S. Malyshev and Z. Naiman (2021). The Role of Continental Topography in the Present-Day Ocean's Mean Climate. *J. Climate*. DOI:10.1175/JCLI-D-20-0690.1
3. [Ocean warming and accelerating Southern Ocean zonal flow](#)
Shi, J.R., L.D. Talley, S.P. Xie, Q. Peng and W. Liu (2021). Ocean warming and accelerating Southern Ocean zonal flow. *Nat. Clim. Chang*. DOI:10.1038/s41558-021-01212-5
4. [Seasonal Modulation of Dissolved Oxygen in the Equatorial Pacific by Tropical Instability Vortices](#)
Eddebbbar, Y. A., A.C. Subramanian, D.B. Whitt, M.C. Long, A. Verdy, M.R. Mazloff & M.A. Merrifield (2021). Seasonal Modulation of Dissolved Oxygen in the Equatorial Pacific by Tropical Instability Vortices. *Journal of Geophysical Research: Oceans*, 126, e2021JC017567. DOI: 10.1029/2021JC017567
5. [Southern Ocean](#) [in "State of the Climate in 2020"]
Tamsitt, V., S. Bushinsky, Z. Li, M. du Plessis, A. Foppert, S. Gille, S. Rintoul, E. Shadwick, A. Silvano, A. Sutton, S. Swart, B. Tilbrook, and N. L. Williams, 2021. Southern Ocean [in "State of the Climate in 2020"]. *Bull. Amer. Meteor. Soc.*, 102 (8), S341-S345, DOI:10.1175/BAMS-D-21-0081.1
6. [Investigating predictability of DIC and SST in the Argentine Basin through wind stress perturbation experiments](#)
Swierczek, S., M.R. Mazloff & J.L. Russell (2021). Investigating predictability of DIC and SST in the Argentine Basin through wind stress perturbation experiments. *Geophysical Research Letters*, 48, e2021GL095504. DOI:10.1029/2021GL095504
7. [Constraint on net primary productivity of the global ocean by Argo oxygen measurements](#)
Johnson, K.S. and M.B. Bif (2021). Constraint on net primary productivity of the global ocean by Argo oxygen measurements. *Nature Geoscience*. DOI:10.1038/s41561-021-00807-z
8. [Demons in the North Atlantic: Variability of deep ocean ventilation](#)
MacGilchrist, G. A., H.L. Johnson, C. Lique, C & D.P. Marshall (2021). Demons in the North Atlantic: Variability of deep ocean ventilation. *Geophysical Research Letters*, 48, e2020GL092340. DOI:10.1029/2020GL092340
9. [Untangling local and remote influences in two major petrel habitats in the oligotrophic Southern Ocean](#)
Jones, D. C., F.R. Ceia, E. Murphy, K. Delord, R.W. Furness, A. Verdy, M. Mazloff, R.A. Phillips, P.M. Sagar, J.-B. Sallée, B. Schreiber, D.R. Thompson, L.G. Torres, P.J. Underwood, H. Weimerskirch, and J.C. Xavier (2021). Untangling local and remote influences in two major petrel habitats in the oligotrophic Southern Ocean. *Global Change Biology*, 27, 5773– 5785. DOI:10.1111/gcb.15839
10. [Delayed-Mode Quality Control of Oxygen, Nitrate, and pH Data on SOCCOM Biogeochemical Profiling Floats](#)
Maurer, T.L., J.N. Plant and K.S. Johnson (2021). Delayed-Mode Quality Control of Oxygen, Nitrate, and pH Data on SOCCOM Biogeochemical Profiling Floats. *Front. Mar. Sci.* 8:683207. DOI: 10.3389/fmars.2021.683207

11. [The impact of Southern Ocean Ekman pumping, heat and freshwater flux variability on intermediate and mode water export in CMIP models: Present and future scenarios](#)
Almeida, L., M.R. Mazloff and M.M. Mata (2021). The impact of Southern Ocean Ekman pumping, heat and freshwater flux variability on intermediate and mode water export in CMIP models: Present and future scenarios. *Journal of Geophysical Research: Oceans*, 126, e2021JC017173. DOI:10.1029/2021JC017173
12. [The effect of resolution on vertical heat and carbon transports in a regional ocean circulation model of the Argentine Basin](#)
Swierczek, S., M.R. Mazloff, M. Morzfeld, M., and J.L. Russell (2021). The effect of resolution on vertical heat and carbon transports in a regional ocean circulation model of the Argentine Basin. *Journal of Geophysical Research: Oceans*, 126, e2021JC017235. DOI:10.1029/2021JC017235
13. [Seasonal Prediction and Predictability of Regional Antarctic Sea Ice](#)
Bushuk, M., M. Winton, F.A. Haumann, T. Delworth, F. Lu, Y. Zhang, L. Jia, L. Zhang, W. Cooke, M. Harrison, B. Hurlin, N.C. Johnson, S.B. Kapnick, C. McHugh, H. Murakami, A. Rosati, K. Tseng, A.T. Wittenberg, X. Yang, & F. Zeng (2021). Seasonal Prediction and Predictability of Regional Antarctic Sea Ice. *J. Climate*, 34(15), 6207-6233, DOI:10.1175/JCLI-D-20-0965.1
14. [Quantifying errors in observationally- based estimates of ocean carbon sink variability](#)
Gloege, L., G.A. McKinley, P. Landschützer, A.R. Fay, T.L. Frölicher, J.C., Fyfe, T. Ilyina, T., S. Jones, N.S. Lovenduski, K.B. Rodgers, S. Schlunegger and Y. Takano (2021). Quantifying errors in observationally- based estimates of ocean carbon sink variability. *Global Biogeochemical Cycles*, 35, e2020GB006788. DOI:10.1029/2020GB006788
15. [Time-varying empirical probability densities of Southern Ocean surface winds: Linking the Leading mode to SAM, and Quantifying Wind Product Differences](#)
Hell, M. C., B. D. Cornuelle, S. T. Gille, and N. J. Lutsko, (2021). Time-varying empirical probability densities of Southern Ocean surface winds: Linking the Leading mode to SAM, and Quantifying Wind Product Differences. *J. Climate*, 34(13), 5497–5522 DOI: 10.1175/JCLI-D-20-0629.1
16. [On the role of the Antarctic Slope Front on the occurrence of the Weddell Sea polynya under climate change](#)
Lockwood, J. W., C. O. Dufour, S. M. Griffies, and M. Winton (2021). On the role of the Antarctic Slope Front on the occurrence of the Weddell Sea polynya under climate change. *J. Climate*, 1-56, DOI:10.1175/JCLI-D-20-0069.1
17. [Evaluation of sea-ice thickness from four reanalyses in the Antarctic Weddell Sea](#)
Shi, Q., Q. Yang, L. Mu, J. Wang, F. Massonnet and M.R. Mazloff (2021). Evaluation of sea-ice thickness from four reanalyses in the Antarctic Weddell Sea. *The Cryosphere*, 15, 31–47, DOI:10.5194/tc-15-31-2021
18. [Mixing in the Southern Ocean](#)
Gille, S. T, K. L. Sheen, S. Swart, and A. F. Thompson (2021). Mixing in the Southern Ocean. In M. Meredith and A. Naveira Garabato (eds.) *Ocean Mixing: Drivers, Mechanisms and Impacts*, Elsevier.

1. [Resolving and Parameterising the Ocean Mesoscale in Earth System Models](#)
Hewitt, H.T., M. Roberts, P. Mathiot, et al. (2020). Resolving and Parameterising the Ocean Mesoscale in Earth System Models. *Curr Clim Change Rep* 6, 137–152.
DOI:10.1007/s40641-020-00164-w
2. [ESMValTool \(v2.0\) – Part 2: an extended set of large-scale diagnostics for quasi-operational and comprehensive evaluation of Earth system models in CMIP6](#)
Eyring, V., L. Bock, A. Lauer, M. Righi, M. Schlund, B. Andela, E. Arnone, ... J.L. Russell, ... and K. Zimmermann (2020). SMValTool (v2.0) – Part 2: an extended set of large-scale diagnostics for quasi-operational and comprehensive evaluation of Earth system models in CMIP6. *Geoscientific Model Development*, 13, 3383–3438. DOI:10.5194/gmd-2019-291
3. Variability of the Oceans
Yu, J.-Y., E. Campos, Y. Du, T. Eldevik, S. T. Gille, T. Losada, M. J. McPhaden, and L. H. Semdsrud, (2020). Variability of the Oceans. In C. R. Mechoso (ed.) *Interacting Climates of Ocean Basins*, Cambridge University Press. ISBN:9781108492706
4. [The large-scale vorticity balance of the Antarctic continental margin in a fine-resolution global simulation](#)
Palóczy, A., J. L. McClean, S. T. Gille, and H. Wang, (2020). The large-scale vorticity balance of the Antarctic continental margin in a fine-resolution global simulation. *J. Phys. Oceanogr.*, 50, 2173-2188, DOI:10.1175/JPO-D-19-0307.1
5. [Optimizing mooring placement to constrain Southern Ocean air-sea fluxes](#)
Wei, Y., S. T. Gille, M. R. Mazloff, V. Tamsitt, S. Swart, D. Chen, and L. Newman, (2020). Optimizing mooring placement to constrain Southern Ocean air-sea fluxes. *J. Atmos. Ocean. Tech.*, 37, 1365-1385, DOI:10.1175/JTECH-D-19-0203.1
6. [Mooring Observations of Air–Sea Heat Fluxes in Two Subantarctic Mode Water Formation Regions](#)
Tamsitt, V., I. Cerovečki, S. A. Josey, S. T. Gille, and E. Schulz, (2020). Mooring Observations of Air–Sea Heat Fluxes in Two Subantarctic Mode Water Formation Regions. *J. Climate*, 33, 2757-2777, DOI:10.1175/JCLI-D-19-0653.1
7. [Estimating Southern Ocean storm positions with seismic observations](#)
Hell, M. C., S. T. Gille, B. D. Cornuelle, A. J. Miller, P. D. Bromirski, and A. D. Crawford, (2020). Estimating Southern Ocean storm positions with seismic observations. *J. Geophys. Res - Oceans.*, 125, e2019JC015898, DOI:10.1029/2019JC015898
8. [FluxSat: Measuring the ocean-atmosphere turbulent exchange of heat and moisture from space](#)
Gentemann, C., C. A. Clayson, S. Brown, T. Lee, R. Parfitt, J. T. Farrar, M. Bourassa, P. J. Minnett, H. Seo, S. T. Gille, and V. Zlotnicki, (2020). FluxSat: Measuring the ocean-atmosphere turbulent exchange of heat and moisture from space. *Remote Sensing*, 12, 1796, DOI:10.3390/rs12111796
9. [Self- shading and meltwater spreading control the transition from light to iron limitation in an Antarctic coastal polynya](#)
Twelves, A. G., D.N. Goldberg, S.F. Henley, M.R. Mazloff & D.C. Jones (2020). Self-

shading and meltwater spreading control the transition from light to iron limitation in an Antarctic coastal polynya. *Journal of Geophysical Research: Oceans*, 125, e2020JC016636. DOI:10.1029/2020JC016636

10. [Recent recovery of Antarctic Bottom Water formation in the Ross Sea driven by climate anomalies](#)
Silvano, A., A. Foppert, S.R. Rintoul et al. (2020). Recent recovery of Antarctic Bottom Water formation in the Ross Sea driven by climate anomalies. *Nat. Geosci.* DOI: 10.1038/s41561-020-00655-3
11. [Seasonal modulation of phytoplankton biomass in the Southern Ocean](#)
Arteaga, L.A., E. Boss, M.J. Behrenfeld et al. (2020). Seasonal modulation of phytoplankton biomass in the Southern Ocean. *Nat Commun* 11, 5364. DOI: 10.1038/s41467-020-19157-2
12. [Eddy- induced acceleration of Argo floats](#)
Wang, T., S.T. Gille, M.R. Mazloff, N.V. Zilberman, & Y. Du (2020). Eddy- induced acceleration of Argo floats. *Journal of Geophysical Research: Oceans*, 125, e2019JC016042. DOI: 10.1029/2019JC016042
13. [Supercooled Southern Ocean Water](#)
Haumann, F.A., R. Moorman, S. Riser, L. H. Smedsrud, T. Maksym, A. P. S. Wong, E. A. Wilson, R. Drucker, L. D. Talley, K. S. Johnson, R. M. Key, J. L. Sarmiento (2020). Supercooled Southern Ocean Water. *Geophysical Research Letters*, 47, e2020GL090242. DOI:10.1029/2020GL090242
14. [Time of Emergence and Large Ensemble Intercomparison for Ocean Biogeochemical Trends](#)
Schlunegger, S., K.B. Rodgers, J.L. Sarmiento, T. Ilyina, J.P. Dunne, Y. Takano, J.R. Christian, M.C. Long, T.L. Frölicher, R. Slater and F. Lehner (2020). Time of Emergence and Large Ensemble Intercomparison for Ocean Biogeochemical Trends. *Global Biogeochem. Cycles*, 34: e2019GB006453. DOI:10.1029/2019GB006453
15. [Detecting mesopelagic organisms using biogeochemical- Argo floats](#)
Haëntjens, N., A. Della Penna, N. Briggs, L. Karp- Boss, P. Gaube, H. Claustre & E. Boss (2020). Detecting mesopelagic organisms using biogeochemical- Argo floats. *Geophysical Research Letters*, 47, e2019GL086088. DOI:10.1029/2019GL086088
16. [Southern Ocean carbon export efficiency in relation to temperature and primary productivity](#)
Fan, G., Z. Han, W. Ma, S. Chen, F. Chai, M.R. Mazloff, J. Pan, and H. Zhang (2020). Southern Ocean carbon export efficiency in relation to temperature and primary productivity. *Sci Rep* 10, 13494. DOI: 10.1038/s41598-020-70417-z
17. [Biogeochemical Argo \[in “State of the Climate in 2019”\]](#)
Johnson, K.S., M.B. Bif, S.M. Bushinsky, A.J. Fassbender, and Y. Takeshita (2020). Biogeochemical Argo [in “State of the Climate in 2019”]. *Bull. Amer. Meteor. Soc.*, 101 (8), S167–S169. DOI:10.1175/BAMS-D-20-0105.1
18. [Southern Ocean \[in “State of the Climate in 2019”\]](#)
Queste, B. Y., E. P. Abrahamsen, M. D. du Plessis, S. T. Gille, L. Gregor, M. R. Mazloff, A. Narayanan, F. Roquet, and S. Swart (2020). Southern Ocean [in “State of the Climate in 2019”]. *Bull. Amer. Meteor. Soc.*, 101 (8), S307–S309. DOI: 10.1175/BAMS-D-20-0090.1
19. [Effects of Buoyancy and Wind Forcing on Southern Ocean Climate Change](#)

Shi, J.-R, L.D. Talley, S.-P. Xie, W. Liu, S.T. Gille (2020). Effects of Buoyancy and Wind Forcing on Southern Ocean Climate Change. *J. Climate*, 33(23), 10003-10020. DOI:10.1175/JCLI-D-19-0877.1

20. [Monitoring ocean biogeochemistry with autonomous platforms](#)
Chai, F., K.S. Johnson, H. Claustre et al. (2020). Monitoring ocean biogeochemistry with autonomous platforms. *Nat Rev Earth Environ*. DOI: 10.1038/s43017-020-0053-y
21. [Representation of Southern Ocean properties across Coupled Model Intercomparison Project generations: CMIP3 to CMIP6](#)
Beadling, R.L., J.L. Russell, R.J. Stouffer, M. Mazloff, L.D. Talley, P.J. Goodman, J.B. Sallée, H.T. Hewitt, P. Hyder, and A. Pandde (2020). Representation of Southern Ocean properties across Coupled Model Intercomparison Project generations: CMIP3 to CMIP6. *J. Climate*, 33(15), 6555–6581. DOI: 10.1175/JCLI-D-19-0970.1
22. [Impacts of ice-shelf melting on water mass transformation in the Southern Ocean from E3SM simulations](#)
Jeong, H., X.S. Asay-Davis, A.K. Turner, D.S. Comeau, S.F. Price, R.P. Abernathey, M. Veneziani, M.R. Petersen, M.J. Hoffman, M.R. Mazloff, and T.D. Ringler (2020). Impacts of ice-shelf melting on water mass transformation in the Southern Ocean from E3SM simulations. *J. Climate*, 33(13), 5787–5807.. DOI:10.1175/JCLI-D-19-0683.1
23. [Weddell Sea phytoplankton blooms modulated by sea ice variability and polynya formation](#)
von Berg, L., C. J. Prend, E. C. Campbell, M. R. Mazloff, L. D. Talley, and S. T. Gille (2020). Weddell Sea phytoplankton blooms modulated by sea ice variability and polynya formation. *Geophysical Research Letters*, 47, e2020GL087954. DOI:10.1029/2020GL087954
24. [Sea- ice induced Southern Ocean subsurface warming and surface cooling in a warming climate](#)
Haumann, F. A., N. Gruber, & M. Münnich (2020). Sea- ice induced Southern Ocean subsurface warming and surface cooling in a warming climate. *AGU Advances*, 1, e2019AV000132. DOI:10.1029/2019AV000132
25. [Water mass and biogeochemical variability in the Kerguelen sector of the Southern Ocean: A machine learning approach for a mixing hot spot](#)
Rosso, I., M. R. Mazloff, L.D. Talley, S.G. Purkey, N.M. Freeman & G. Maze (2020). Water mass and biogeochemical variability in the Kerguelen sector of the Southern Ocean: A machine learning approach for a mixing hot spot. *Journal of Geophysical Research: Oceans*, 125, e2019JC015877. DOI:10.1029/2019JC015877
26. [Using a regional ocean model to understand the structure and variability of acoustic arrivals in Fram Strait](#)
Geyer, F., H. Sagen, B. Cornuelle, M.R. Mazloff, and H.J. Vazquez (2020). Using a regional ocean model to understand the structure and variability of acoustic arrivals in Fram Strait. *The Journal of the Acoustical Society of America* 147, 1042. DOI: 10.1121/10.0000513
27. [The Importance of Remote Forcing for Regional Modeling of Internal Waves](#)
Mazloff, M. R., B. Cornuelle, S.T. Gille & J. Wang (2020). The Importance of Remote Forcing for Regional Modeling of Internal Waves. *Journal of Geophysical Research: Oceans*, 125. DOI:10.1029/2019JC015623

28. [Observing the Global Ocean with Biogeochemical-Argo](#)
Claustre, H., K.S. Johnson, Y. Takeshita (2020). Observing the Global Ocean with Biogeochemical-Argo. *Annual Review of Marine Science* 12:1, 23-48. DOI:10.1146/annurev-marine-010419-010956
29. [Importance of wind and meltwater for observed chemical and physical changes in the Southern Ocean](#)
Bronseleer, B., Russell, J.L., Winton, M. et al. (2020). Importance of wind and meltwater for observed chemical and physical changes in the Southern Ocean. *Nat. Geosci.* 13, 35–42. DOI: 10.1038/s41561-019-0502-8

2019

1. [Taking climate model evaluation to the next level](#)
Eyring, V., P. Cox, G. Flato, P. Gleckler, G. Abramowitz, P. Caldwell, W. Collins, B. Gier, A. Hall, F. Hoffman, G. Hurtt, A. Jahn, C. Jones, S. Klein, J. Krasting, L. Kwiatkowski, R. Lorenz, E. Maloney, G. Meehl, A. Pendergrass, R. Pincus, A. Ruane, J.L. Russell, B. Sanderson, B. Santer, S. Sherwood, I. Simpson, R. Stouffer and M. Williamson (2019). Taking climate model evaluation to the next level. *Nature Climate Change*, 9, 102–110. DOI: 10.1038/s41558-018-0355-y
2. [Assessing the quality of Southern Ocean circulation in CMIP5 AOGCM and Earth System Model simulations](#)
Beadling, R.L., J.L. Russell, R.J. Stouffer, P.J. Goodman and M. Mazloff (2019). Assessing the quality of Southern Ocean circulation in CMIP5 AOGCM and Earth System Model simulations. *J. Climate*, 32, 5915-5940. DOI:10.1175/JCLI-D-19-0263.1
3. Current Systems in the Southern Ocean
Gille, S. T., and A. L. Gordon (2019). Current Systems in the Southern Ocean. In J. K. Cochran, J. H. Bokuniewicz, and L. P. Yager (eds.) *Encyclopedia of Ocean Sciences*, 3rd Edition, vol.[3], pp. 228-235. Oxford: Elsevier.
4. [Reassessing Southern Ocean air- sea CO₂ flux estimates with the addition of biogeochemical float observations](#)
Bushinsky, S. M., P. Landschützer, C. Rödenbeck, A.R. Gray, D. Baker, M.R. Mazloff et al. (2019). Reassessing Southern Ocean air- sea CO₂ flux estimates with the addition of biogeochemical float observations. *Global Biogeochemical Cycles*, 33, 1370– 1388. DOI:10.1029/2019GB006176
5. [Temporal and Spatial Scales of Correlation in Marine Phytoplankton Communities](#)
Kuhn, A. M., S. Dutkiewicz, O. Jahn, S. Clayton, T.A. Ryneerson, M.R. Mazloff, & A.D. Barton (2019). Temporal and spatial scales of correlation in marine phytoplankton communities. Temporal and Spatial Scales of Correlation in Marine Phytoplankton Communities. *Journal of Geophysical Research: Oceans*, 124, 9417– 9438. DOI:10.1029/2019JC015331
6. [Identifying ocean swell generation events from Ross Ice Shelf seismic data](#)
Hell, M. C., B. D. Cornuelle, S. T. Gille, A. J. Miller, and P. D. Bromirski (2019). Identifying ocean swell generation events from Ross Ice Shelf seismic data. *J. Atmos. Ocean. Tech.*, 36, 2171-2189, DOI:10.1175/JTECH-D-19-0093.1

7. [Water mass characteristics of the Antarctic margins and the production and seasonality of Dense Shelf Water](#)
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2. [Physical controls on Southern Ocean biogeochemistry.](#)
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3. [Modeling Heat and Carbon in the Argentine Basin](#)
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4. [Responses of the Southern Ocean in a Changing Climate](#)
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5. [Uncertainty of spectrophotometric pH measurements in seawater and implications for ocean carbon chemistry](#)
Fong, Michael. University of California San Diego, 2021.
6. [Representation of Large-Scale Ocean Circulation in the Atlantic and Southern Ocean in Climate Model Simulations and Projected Changes under Increased Warming](#)
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10. [Expanding marine biogeochemical observations utilizing ISFET pH sensing technology and autonomous platforms](#)
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Articles

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