

## ASP Publications for 22-23 FY

Note: Examples of media & outreach info not listed here but can be found [on the ASP website](#).

### Peer Reviewed Journal Papers [47]

1. **Bahamondes Dominguez, A.A., Macdonald, H.S., Rickard, G.,** & Hammond, M.L. (2022). Seasonal nutrient co-limitation in a temperate shelf sea: A modelling approach. *Continental Shelf Research*, 249. <https://doi.org/10.1016/j.csr.2022.104855>
2. **Baldacchino, F.**, Morlighem, M., **Golledge, N.R.**, Horgan, H., & Malyarenko, A. (2022). Sensitivity of the Ross Ice Shelf to environmental and glaciological controls. *Cryosphere*, 16(9), 3723-3738. <https://doi.org/10.5194/tc-16-3723-2022>
3. Behrens, B.C., Yokoyama, Y., Miyairi, Y., Sproson, A.D., Yamane, M., Jimenez-Espejo, F.J., **McKay, R.M.**, Johnson, K.M., Escutia, C., & Dunbar, R.B. (2022). Beryllium isotope variations recorded in the Adélie Basin, East Antarctica reflect Holocene changes in ice dynamics, productivity, and scavenging efficiency. *Quaternary Science Advances*, 7. <https://doi.org/10.1016/j.qsa.2022.100054>
4. Bollen, M., **Riesselman, C.R., Ohneiser, C.**, Albot, O., **McKay, R.**, Lee, M.K., Yoo, K.C., Kim, S., Lee, J.I., & **Levy, R.** (2022). Pleistocene oceanographic variability in the Ross Sea: A multiproxy approach to age model development and paleoenvironmental analyses. *Global and Planetary Change*, 216. <https://doi.org/10.1016/j.gloplacha.2022.103901>
5. Burada, G.K., **McDonald, A., Renwick, J.**, & Jolly, B. (2023). Delineating Polynya Area Using Active and Passive Microwave Sensors for the Western Ross Sea Sector of Antarctica. *Remote Sensing*, 15(10). <https://doi.org/10.3390/rs15102545>
6. Cassano, J.J., Nigro, M.A., Seefeldt, M.W., **Katurji, M.**, Guinn, K., Williams, G., & Duvivier, A. (2021). Antarctic atmospheric boundary layer observations with the Small Unmanned Meteorological Observer (SUMO). *Earth System Science Data*, 13(3), 969-982. <https://doi.org/10.5194/essd-13-969-2021>
7. Chorley, H., **Levy, R., Naish, T.**, Lewis, A., Cox, S., Hemming, S., **Ohneiser, C., Gorman, A.**, Harper, M., Homes, A., Hopkins, J., **Prebble, J.**, Verret, M., Dickinson, W., Florindo, F., **Golledge, N.**, Halberstadt, A.R., Kowalewski, D., **McKay, R.**, Meyers, S., Anderson, J., Dagg, B., & Lurcock, P. (2023). East Antarctic Ice Sheet variability during the middle Miocene Climate Transition captured in drill cores from the Friis Hills, Transantarctic Mountains. *Bulletin of the Geological Society of America*, 135(5-6), 1503-1529. <https://doi.org/10.1130/B36531.1>
8. Civel-Mazens, M., Cortese, G., Crosta, X., Lawler, K.A., Lowe, V., Ikebara, M., & Itaki, T. (2023). New Southern Ocean transfer function for subsurface temperature prediction using radiolarian assemblages. *Marine Micropaleontology*, 178. <https://doi.org/10.1016/j.marmicro.2022.102198>
9. Clem, K.R., Bozkurt, D., Kennett, D., King, J.C., & Turner, J. (2022). Central tropical Pacific convection drives extreme high temperatures and surface melt on the Larsen C Ice Shelf, Antarctic Peninsula. *Nature Communications*, 13(1). <https://doi.org/10.1038/s41467-022-31119-4>
10. Colesie, C., Pan, Y., **Cary, S.C.**, Gemal, E., Brabyn, L., Kim, J.H., Green, T.G.A., & **Lee, C.K.** (2022). The Longest Baseline Record of Vegetation Dynamics in Antarctica Reveals Acute Sensitivity to Water Availability. *Earth's Future*, 10(8). <https://doi.org/10.1029/2022EF002823>
11. Colleoni, F., **Naish, T.**, Deconto, R., De Santis, L., & Whitehouse, P.L. (2022). Uncertain Future of Antarctica's Melting Ice The. *Eos (United States)*, 103. <https://doi.org/10.1029/2022EO220014>

12. Crosta, X., Kohfeld, K.E., Bostock, H.C., Chadwick, M., Vivier, A.D., Esper, O., Etourneau, J., Jones, J., Leventer, A., Müller, J., Rhodes, R.H., Allen, C.S., Ghadi, P., Lamping, N., Lange, C.B., Lawler, K.A., Lund, D., Marzocchi, A., Meissner, K.J., Menvil, L., Nair, A., Patterson, M., Pike, J., **Prebble, J.G.**, **Riesselman, C.**, Sadatzki, H., Sime, L.C., Shukla, S.K., Thöle, L., Vorrath, M.E., Xiao, W., & Yang, J. (2022). Antarctic sea ice over the past 130 000 years - Part 1: a review of what proxy records tell us. *Climate of the Past*, 18(8), 1729-1756. <https://doi.org/10.5194/cp-18-1729-2022>
13. **Duncan, B.**, **McKay, R.**, **Levy, R.**, **Naish, T.**, **Prebble, J.G.**, Sangiorgi, F., Krishnan, S., Hoem, F., Clowes, C., Dunkley Jones, T., Gasson, E., Kraus, C., Kulhanek, D.K., Meyers, S.R., Moossern, H., Warren, C., Willmott, V., Ventura, G.T., & Bendle, J. (2022). Climatic and tectonic drivers of late Oligocene Antarctic ice volume. *Nature Geoscience*, 15(10), 819-825. <https://doi.org/10.1038/s41561-022-01025-x>
14. Fan, S., Wheeler, J., Prior, D.J., Negrini, M., Cross, A.J., Hager, T.F., Goldsby, D.L., & Wallis, D. (2022). Using Misorientation and Weighted Burgers Vector Statistics to Understand Intragranular Boundary Development and Grain Boundary Formation at High Temperatures. *Journal of Geophysical Research: Solid Earth*, 127(8). <https://doi.org/10.1029/2022JB024497>
15. **Fraser, C.I.**, Dutoit, L., Morrison, A.K., Pardo, L.M., Smith, S.D.A., Pearman, W.S., Parvizi, E., Waters, J., & Macaya, E.C. (2022). Southern Hemisphere coasts are biologically connected by frequent, long-distance rafting events. *Current Biology*, 32(14), 3154-3160.e3. <https://doi.org/10.1016/j.cub.2022.05.035>
16. Gales, J.A., **McKay, R.M.**, De Santis, L., Rebesco, M., Laberg, J.S., Shevenell, A.E., Harwood, D., Leckie, R.M., Kulhanek, D.K., King, M., Patterson, M., Lucchi, R.G., Kim, S., Kim, S., Dodd, J., Seidenstein, J., Prunella, C., Ferrante, G.M., Ash, J., Beny, F., Browne, I.M., Cortese, G., Dodd, J.P., Esper, O.M., Gales, J.A., Harwood, D.M., Ishino, S., Keisling, B.A., Kim, S., Kim, S., Laberg, J.S., **McKay, R.M.**, Müller, J., Patterson, M.O., Romans, B.W., Romero, O.E., Sangiorgi, F., Seki, O., Singh, S.M., Cordeiro de Sousa, I.M., Sugisaki, S.T., van de Flierdt, T., van Peer, T.E., Xiao, W., & Xiong, Z. (2023). Climate-controlled levysubmarine landslides on the Antarctic continental margin. *Nature Communications*, 14(1). <https://doi.org/10.1038/s41467-023-38240-y>
17. Gomez-Fell, R., Marsh, O.J., Rack, W., Wild, C.T., & **Purdie, H.** (2023). Basal mass balance and prevalence of ice tongues in the Western Ross Sea. *Frontiers in Earth Science*, 11. <https://doi.org/10.3389/feart.2023.1057761>
18. Gunn, K.L., Rintoul, S.R., England, M.H., & **Bowen, M.M.** (2023). Recent reduced abyssal overturning and ventilation in the Australian Antarctic Basin. *Nature Climate Change*, 13(6), 537-544. <https://doi.org/10.1038/s41558-023-01667-8>
19. **Hawes, I.**, Howard-Williams, C., Gilbert, N., Hughes, K.A., Convey, P., & Quesada, A. (2023). The need for increased protection of Antarctica's inland waters. *Antarctic Science*, 35(2), 64-88. <https://doi.org/10.1017/S0954102022000463>
20. Hayward, A., **Pinkerton, M.H.**, & **Gutierrez-Rodriguez, A.** (2023). phytoClass: A pigment-based chemotaxonomic method to determine the biomass of phytoplankton classes. *Limnology and Oceanography: Methods*, 21(4), 220-241. <https://doi.org/10.1002/lom3.10541>
21. Hofsteenge, M.G., **Cullen, N.J.**, Reijmer, C.H., Van Den Broeke, M., **Katurji, M.**, & Orwin, J.F. (2022). The surface energy balance during foehn events at Joyce Glacier, McMurdo Dry Valleys, Antarctica. *Cryosphere*, 16(12), 5041-5059. <https://doi.org/10.5194/tc-16-5041-2022>
22. Hughes, K.A., Santos, M., Caccavo, J.A., Chignell, S.M., Gardiner, N.B., Gilbert, N., Howkins, A., Van Vuuren, B.J., Lee, J.R., Liggett, D., Lowther, A., Lynch, H., Quesada, A., Shin, H.C., Soutullo, A., & Terauds, A. (2022). Ant-ICON - 'Integrated Science to Inform Antarctic and Southern Ocean Conservation': A new SCAR Scientific Research Programme. *Antarctic Science*, 34(6), 446-455. <https://doi.org/10.1017/S0954102022000402>

23. Jones, C.A., Closset, I., **Riesselman, C.R.**, Kelly, R.P., Brzezinski, M.A., & Robinson, R.S. (2022). New Constraints on Assemblage-Driven Variation in the Relationship Amongst Diatom-Bound, Biomass, and Nitrate Nitrogen Isotope Values. *Paleoceanography and Paleoclimatology*, 37(8). <https://doi.org/10.1029/2022PA004428>
24. Kim, S., Bak, Y.S., **Prebble, J.G.**, Kang, M.I., Kim, S., Park, J., Lee, M.K., Lee, J.I., Yoo, K.C., & Moon, H.S. (2023). Glacial-interglacial changes in oceanic conditions and depositional process in the continental rise in response to ice sheet (shelf) variation in Bellingshausen Sea, Antarctica. *Frontiers in Marine Science*, 10. <https://doi.org/10.3389/fmars.2023.1183516>
25. Koerich, G., Fraser, C.I., **Lee, C.K.**, **Morgan, F.J.**, & **Tonkin, J.D.** (2023). Forecasting the future of life in Antarctica. *Trends in Ecology and Evolution*, 38(1), 24-34. <https://doi.org/10.1016/j.tree.2022.07.009>
26. Kopp, R.E., Oppenheimer, M., O'Reilly, J.L., Drijfhout, S.S., Edwards, T.L., Fox-Kemper, B., Garner, G.G., **Golledge, N.R.**, Hermans, T.H.J., Hewitt, H.T., Horton, B.P., Krinner, G., Notz, D., Nowicki, S., Palmer, M.D., Slanger, A.B.A., & Xiao, C. (2023). Communicating future sea-level rise uncertainty and ambiguity to assessment users. *Nature Climate Change*, 13(7), 648-660. <https://doi.org/10.1038/s41558-023-01691-8>
27. Kvale, K., & Oschlies, A. (2023). Recovery from microplastic-induced marine deoxygenation may take centuries. *Nature Geoscience*, 16(1), 10-12. <https://doi.org/10.1038/s41561-022-01096-w>
28. Lawrence, J.D., Washam, P.M., **Stevens, C.**, **Hulbe, C.**, Horgan, H.J., **Dunbar, G.**, Calkin, T., **Stewart, C.**, **Robinson, N.**, Mullen, A.D., Meister, M.R., Hurwitz, B.C., Quartini, E., Dichek, D.J.G., Spears, A., & Schmidt, B.E. (2023). Crevasse refreezing and signatures of retreat observed at Kamb Ice Stream grounding zone. *Nature Geoscience*, 16(3), 238-243. <https://doi.org/10.1038/s41561-023-01129-y>
29. Lewis, A.S.L., Rollinson, C.R., Allyn, A.J., Ashander, J., Brodie, S., Brookson, C.B., Collins, E., Dietze, M.C., Gallinat, A.S., Juvigny-Khenafou, N., Koren, G., McGinn, D.J., Moustahfid, H., Peters, J.A., Record, N.R., Robbins, C.J., **Tonkin, J.**, & Wardle, G.M. (2023). The power of forecasts to advance ecological theory. *Methods in Ecology and Evolution*, 14(3), 746-756. <https://doi.org/10.1111/2041-210X.13955>
30. Liu, X.P., Duffy, G.A., Pearman, W.S., Perttierra, L.R., & Fraser, C.I. (2022). Meta-analysis of Antarctic phylogeography reveals strong sampling bias and critical knowledge gaps. *Ecography*, 2022(12). <https://doi.org/10.1111/ecog.06312>
31. Malyarenko, A., Gossart, A., Sun, R., & Krapp, M. (2023). Conservation of heat and mass in P-SKRIPS version 1: The coupled atmosphere-ice-ocean model of the Ross Sea. *Geoscientific Model Development*, 16(11), 3355-3373. <https://doi.org/10.5194/gmd-16-3355-2023>
32. McCormack, S.A., Melbourne-Thomas, J., Trebilco, R., Griffith, G., Hill, S.L., Hoover, C., Johnston, N.M., Marina, T.I., Murphy, E.J., Pakhomov, E.A., **Pinkerton, M.**, Plagányi É., Saravia, L.A., Subramaniam, R.C., Van de Putte, A.P., & Constable, A.J. (2021). Southern Ocean Food Web Modelling: Progress, Prognoses, and Future Priorities for Research and Policy Makers. *Frontiers in Ecology and Evolution*, 9. <https://doi.org/10.3389/fevo.2021.624763>
33. Mokus, N.G.A., & **Montiel, F.** (2022). Wave-triggered breakup in the marginal ice zone generates lognormal floe size distributions: A simulation study. *Cryosphere*, 16(10), 4447-4472. <https://doi.org/10.5194/tc-16-4447-2022>
34. Monteiro, M.R., Marshall, A.J., **Lee, C.K.**, McDonald, I.R., & **Cary, S.C.** (2023). Bringing Antarctica to the lab: a polar desert environmental chamber to study the response of Antarctic microbial communities to climate change. *Polar Biology*, 46(5), 445-459. <https://doi.org/10.1007/s00300-023-03135-7>
35. **Montiel, F.**, & Mokus, N. (2022). Theoretical framework for the emergent floe size distribution in the marginal ice zone: The case for log-normality. *Philosophical Transactions of the Royal*

- Society A: Mathematical, Physical and Engineering Sciences*, 380(2235).  
<https://doi.org/10.1098/rsta.2021.0257>
36. **Ohneiser, C., Hulbe, C.L., Beltran, C., Riesselman, C.R., Moy, C.M.**, Condon, D.B., & Worthington, R.A. (2023). West Antarctic ice volume variability paced by obliquity until 400,000 years ago. *Nature Geoscience*, 16(1), 44-49. <https://doi.org/10.1038/s41561-022-01088-w>
37. Olmedo-Rojas, P., Jeunen, G.J., **Lamare, M.**, Turnbull, J., Terauds, A., Gemmell, N., & Fraser, C.I. (2023). Soil environmental DNA metabarcoding in low-biomass regions requires protocol optimization: a case study in Antarctica. *Antarctic Science*, 35(1), 15-30.  
<https://doi.org/10.1017/S0954102022000384>
38. **Purdie, H., Zawar-Reza, P., Katurji, M.**, Schumacher, B., Kerr, T., & Bealing, P. (2023). Variability in the vertical temperature profile within crevasses at an alpine glacier. *Journal of Glaciology*, 69(274), 410-424. <https://doi.org/10.1017/jog.2022.73>
39. Pérez, I.F., **McKay, R.M.**, De Santis, L., Larter, R.D., **Levy, R.H.**, **Naish, T.R.**, Anderson, J.B., Bart, P.J., Busetti, M., **Dunbar, G.**, Sauli, C., Sorlien, C.C., & Speece, M. (2022). Early to middle Miocene ice sheet dynamics in the westernmost Ross Sea (Antarctica): Regional correlations. *Global and Planetary Change*, 216. <https://doi.org/10.1016/j.gloplacha.2022.103891>
40. **Rickard, G.J., Behrens, E., Bahamondes Dominguez, A.A., & Pinkerton, M.H.** (2023). An Assessment of the Oceanic Physical and Biogeochemical Components of CMIP5 and CMIP6 Models for the Ross Sea Region. *Journal of Geophysical Research: Oceans*, 128(3).  
<https://doi.org/10.1029/2022JC018880>
41. Rosevear, M., Galton-Fenzi, B., & **Stevens, C.** (2022). Evaluation of basal melting parameterisations using in situ ocean and melting observations from the Amery Ice Shelf, East Antarctica. *Ocean Science*, 18(4), 1109-1130. <https://doi.org/10.5194/os-18-1109-2022>
42. **Roudier, P., O'Neill, T.A., Almond, P., & Poirot, C.** (2022). Soil priorities for Antarctica. *Geoderma Regional*, 29. <https://doi.org/10.1016/j.geodrs.2022.e00499>
43. Smellie, J.L., Martin, A.P., Di Vincenzo, G., Townsend, D.B., Heizler, M.T., & Ruth, D.C.S. (2022). Eruptive history of Mason Spur, a Miocene—Pleistocene polygenetic volcanic complex in southern Victoria Land, West Antarctic Rift System, Antarctica. *Bulletin of Volcanology*, 84(10). <https://doi.org/10.1007/s00445-022-01601-4>
44. **Stevens, C., Robinson, N., O'Connor, G., & Grant, B.** (2023). Ocean turbulent boundary-layer influence on ice crystal behaviour beneath fast ice in an Antarctic ice shelf water plume: The “dirty ice”. *Frontiers in Marine Science*, 10. <https://doi.org/10.3389/fmars.2023.1103740>
45. Truax, O.J., Otto-Bliesner, B.L., Brady, E.C., **Stevens, C.L.**, Wilson, G.S., & **Riesselman, C.R.** (2022). Drivers of Last Millennium Antarctic Climate Evolution in an Ensemble of Community Earth System Model Simulations. *Geosciences (Switzerland)*, 12(8).  
<https://doi.org/10.3390/geosciences12080299>
46. Verret, M., Trinh-Le, C., Dickinson, W., Norton, K., Lacelle, D., Christl, M., **Levy, R.**, & **Naish, T.** (2023). Late Miocene onset of hyper-aridity in East Antarctica indicated by meteoric beryllium-10 in permafrost. *Nature Geoscience*, 16(6), 492-498. <https://doi.org/10.1038/s41561-023-01193-4>
47. Whiteford, A., Horgan, H.J., Leong, W.J., & Forbes, M. (2022). Melting and Refreezing in an Ice Shelf Basal Channel at the Grounding Line of the Kamb Ice Stream, West Antarctica. *Journal of Geophysical Research: Earth Surface*, 127(11). <https://doi.org/10.1029/2021JF006532>

## Reports (for external body) [7]

1. Chown, S.L., Leihy, R.I., **Naish, T.R.**, Brooks, C.M., Convey, P., Henley, B.J., Mackintosh, A.N., Phillips, L.M., Kennicutt, M.C. II., Grant, S.M. (Eds.) (2022). Antarctic Climate Change and the Environment: A Decadal Synopsis and Recommendations for Action. Scientific Committee on Antarctic Research, Cambridge, United Kingdom. [www.scar.org](http://www.scar.org).
2. Howard-Williams, C., Gilbert, N., **Hawes, I.** (2022) Scoping report on a ‘New Zealand Antarctic Environmental Assessment’. Report prepared for Antarctica New Zealand.
3. Ministry for the Environment. (2022a). Aotearoa New Zealand’s First National Adaptation Plan. Wellington, Ministry for the Environment. NZ SeaRise pg. 69. <https://environment.govt.nz/publications>.
4. Ministry for the Environment. (2022b). Interim Guidance on the Use of New Sea-Level Rise Projections. Wellington, Ministry for the Environment. Compiled by R.G. Bell, Lawrence, J., **Naish, T.**, Levy, R., Allan, S. <https://environment.govt.nz/publications>.
5. Mountjoy, J. **Pinkerton, M** (2023). Research vessel Tangaroa 2023 Ross Sea Antarctic voyage, 15 January – 23 February 2023. CCAMLR document WG-EMM-2023/09, Hobart, Australia.
6. O’Neill, T., Robinson, E., and **Verret, M.** (2022). New Zealand. International Permafrost Association Country Reports 2021, p.43-44
7. **Pinkerton, M.**, Adams, C.I.M., Behrens, E., Devine, J., Eisert, R., Finucci, B., Grüss, A., **Halfter, S.**, **Hawes, I.**, Moore, B., Mountjoy, J., Pardo, E., Robinson, E., **Robinson, N.**, Stevens, C., Thompson, D., (2023). New Zealand research and monitoring in support of the Ross Sea region Marine Protected Area: 2022–2023 update. CCAMLR document WG-EMM-2023/07, Hobart, Australia.

## Science Reports (publicly accessible) [4]

1. **Clem, K.**, Massom, R., Stammerjohn, S. and Reid, P. (2022) – Antarctic Sea Ice: Biological Importance submitted to SCAR’s Environmental Portal.  
<https://environments.aq/publications/antarctic-sea-ice-2-biological-importance/>
2. **Clem, K.**, Massom, R., Stammerjohn, S. and Reid, P. (2022) – Antarctic Sea Ice: Physical Role and Function submitted to SCAR’s Environmental Portal.  
<https://environments.aq/publications/antarctic-sea-ice-1-physical-role-and-function/>
3. **Clem, K.**, Massom, R., Stammerjohn, S. and Reid, P. (2022) – Antarctic Sea Ice: Trends and Future Projections submitted to SCAR’s Environmental Portal.  
<https://environments.aq/publications/antarctic-sea-ice-3-trends-and-future-projections/>
4. **Hawes, I.**, **Climo, M.** (2023) Funding Aotearoa New Zealand’s commitment to the Ross Sea region Marine Protected Area. ASP Report ASP-007. 19p.  
<https://d1e7mq055r7tid.cloudfront.net/knowledge-hub/Funding-Aotearoa-New-Zealand's-commitment-to-the-Ross-Sea-region-Marine-Protected-Area.pdf>

## Invited / Keynote @Conferences [19]

1. **Cummings, V.J.** (2023) Environmental drivers of Antarctic coastal benthic communities. Invited presentation to the 13<sup>th</sup> Gordon Research Conference on Polar Marine Science, Integrating ocean physics and biogeochemistry to assess polar ecosystem sensitivity to rapid change. Ventura Beach, USA, 5-10 March.
2. **Duffy, M.**, **C.R. Riesselman**, O. Esper. Diatom transfer functions for sea surface temperature reconstructions from the Southern Ocean, Pacific Sector, University of Otago Department of Geology Seminar Series, March 2023, Dunedin, NZ.
3. **Fabien Montiel**: invited speaker at the conference “Multiscale Dynamics and the Southern Ocean” held in Canberra, Australia. Part of the Australian Academy of Science Elizabeth and Frederick White Research Conference series. Talk: “Exploring emergent wave and ice dynamics in the marginal ice zone”, 4 July 2022.
4. **Fraser, C.I** (2022). Southern Ocean diversity and connectivity: surprises and new directions. Invited keynote plenary speaker (The David Walton Antarctic Science Lecture) at the major biennial SCAR

- OSC conference, 2022
5. **Fraser, CI** (2023). Drifting on shifting seas: frequent, long-distance dispersal of plants and animals across Southern Hemisphere oceans revealed by genomic data and modelling. Gordon Research Conference (GRC), Movement Ecology of Animals, Tuscany, Italy
  6. **Golledge, N.R.** Oceanic control of the Antarctic Ice Sheet: inferences from data-constrained modelling. Invited seminar for the US-NZ Antipodal Oceanography group (APOG), Oct 2022
  7. **Inga Smith**: invited speaker as part of the Antarctic Sea Ice and Southern Ocean Seminar Series (international weekly Zoom seminar series, with hour-long slots for one talk and discussions): **Inga Smith**, "The influence of ice shelves on sea ice formation: insights from McMurdo Sound and the Ross Sea", 9 March 2022.
  8. **Jeunen, G-J.** (2023) Invited speaker for ICG Conservation Genomics and eDNA satellite meeting: From genomes to identifications: enhancing Antarctic eDNA surveys with curated reference databases. ICG conference: International congress of genetics, Melbourne.
  9. **Jeunen, G-J.** (2023) Invited speaker for the Antarctic Working Group (MPI) online Teams: Environmental DNA (eDNA) monitoring in the Southern Ocean. Antarctic working group, MPI, Online.
  10. **Jeunen, G-J.** (2022) Invited speaker for eDNA Seminar Series: Biodiversity monitoring through environmental DNA obtained from filter-feeding organisms. Southern eDNA Society, Online.
  11. **Jeunen, G-J.** (2022) Invited speaker for Genomics Aotearoa Seminar Series: Can the natural accumulation of eDNA in filter feeders be used to monitor the Ross Sea marine ecosystem?. Genomics Aotearoa, Online.
  12. **N. J. Robinson, L. Keller, J. Renwick**, Project 4 – Reflections and future priorities, Antarctic Science Platform Hui, Rutherford House, VUW, 29 August – 2 September 2022
  13. **N. J. Robinson, C. L. Stevens, M. Pinkerton**, (Physical) Ocean Controls of Ecosystems, Antarctic Science Platform Hui, Rutherford House, VUW, 29 August – 2 September 2022
  14. **Pinkerton, M.H.** (2023). Antarctic toothfish: Science, fishing, climate change and politics in the Ross Sea region. Presentation to British Antarctic Survey (Cambridge, UK), Thursday 13 April 2023.
  15. **Pinkerton, M.H.** (2022). New Zealand Research and Monitoring in the Ross Sea region. Presentation to US Ross Sea workshop ([www.rosssearesearch.org](http://www.rosssearesearch.org)). Tuesday 4 October 2022 (Boulder, Colorado, USA).
  16. **Seabrook, S.** "Antarctic Submarine Groundwater Discharge: A synthesis of current knowledge" Invited presentation, Coffs Harbour Marine Laboratory, Coffs Harbour, Australia, Sept. 2022.
  17. **Stevens C.** Univ. Akl Inaugural Professorial Lecture, Frozen Oceans, Oct 2022
  18. **Stevens, C.** Kyungpook National University (Invited), Challenges in Antarctic Ice-Ocean Interaction Science in the Anthropocene, Aug 2022
  19. **Stevens, C.** Brown University (online) Ice shelf cavity mechanics, Aug 2022

### Conference Proceedings Papers [1]

1. **Seabrook, S., Law, C., Druce, M., Cummings, V., Deppeler, S., Cox, S., Westerhoff, R., Hillman, J., Paytan, A., Mikucki, J., Ladroit, Y., Maurice, A., Spain, E., and Safi, K.**: Antarctic subglacial flux: a driver of climate sensitivity on coastal margins, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-2517, 2023. <https://doi.org/10.5194/egusphere-egu23-2517>

### Conference / Workshop Presentations [90]

*Student presentations with an \**

1. **A.G., Thomas, M., Ridley, J., Martin, T., Langhorne, P.J., Rack, W., Fraser, A.D., Lieser, J.L.** From observations to climate modelling: what is the influence of ice shelves on sea ice and climate? Verbal presentation (Presenter: **Inga Smith**) at the Forum for Research into Ice Shelf Processes (FRISP) 2023 workshop, Stalheim, Norway, 19-22 June 2023.
2. **\*Alevropoulos-Borrell, Alanna, Nicholas R. Golledge, Daniel Lowry**, and Stephen L. Cornford. "Capturing the Bedrock Dependent Sensitivity of Amundsen Sea Ice Streams to Calving Front

- Migration, Basal Sliding and Ice Shelf Melting." In *Fall Meeting 2022*. AGU, 2022.
3. \***Balfoort, L., Dunbar, G., Naehler, S., Horgan, H.** (2022). Environmental conditions of the West Antarctic Ice Sheet during the Miocene: Insights from organic biomarker distributions. In: Zernack A.V., Palmer, J. eds. Geoscience Society of New Zealand Annual Conference 2022: Programme & Abstracts Volume. Geoscience Society of New Zealand Miscellaneous Publication 161A. Geoscience Soc
  4. \***Balfoort, L., Dunbar, G., Horgan, H.,** Naehler, S. Sub-Ice Shelf Sedimentary Event Deposits: Insights into Subglacial Hydrological Systems from Kamb Ice Stream, West Antarctica. SCAR Open Science Conference, online 1-10 August, 2022
  5. \* **Bendix Nielsen, E., Katurji, M., Zawar-Reza, P.,** Meyer, H (2023) Extreme temperature events for the past 19 years in the McMurdo Dry Valleys, Antarctica linked to mesoscale meteorological variability, EGU General Assembly 2023, Vienna, Austria, EGU23-8805, <https://doi.org/10.5194/egusphere-egu23-8805>
  6. **Brett, G., Hawes, I.,** Kim, S. (2023). Preliminary observations of platelet ice ecosystems in Terra Nova Bay. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
  7. Bury, S.J., **Pinkerton, M., Williams, M., Fernandez, D., Hayward, A., Brown, J.C.S., Trueman, C., Schwarz, J., Gall, M., O'Driscoll, R.** (2023) Combining multiple stable isotope methods elucidates Southern Ocean hydrographic processes and ecogeochemistry. Oral presentation to New Zealand Marine Sciences Society Conference, Wellington, New Zealand
  8. \*Caldarella, N., **Leonard, G.H., Smith, I.J., Smedsrud, L.H., Thomas, M.,** Frazer, E. Quantifying frazil ice using retrievals from an acoustic profiler, a camera and plume models. Verbal presentation (Presenter: Nina Caldarella) at the biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
  9. \*Caldarella, N., **Leonard, G.H., Smith, I.J., Smedsrud, L.H., Thomas, M.,** Frazer, E. Towards quantifying frazil ice using retrievals from an acoustic profiler, a camera and plume models. Verbal presentation (Presenter: Nina Caldarella) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
  10. \*Caldarella, N., **Leonard, G.H., Smith, I.J., Smedsrud, L.H., Thomas, M.,** Frazer, E. How frazil ice concentration, size, and velocities can be quantified using retrievals from an acoustic profiler, a camera and plume models. Verbal presentation (Presenter: Nina Caldarella) at the Forum for Research into Ice Shelf Processes (FRISP) 2023 workshop, Stalheim, Norway, 19-22 June 2023.
  11. \*Caldarella, N., **Leonard, G.H., Smith, I.J., Smedsrud, L.H., Thomas, M.,** Frazer, E. Using an acoustic profiler, a camera and plume models to research frazil ice. Verbal presentation (Presenter: Nina Caldarella) at the New Zealand Snow and Ice Research Group (SIRG) 2023 Annual Workshop, Coronet Peak, Queenstown, New Zealand, 9-11 February 2023.
  12. Cate, B., **Thomas, M.,** Garnett, J., **Smith, I.J.,** Vancoppenolle, M. The effect of partial dissolution on the transport of chemicals in sea ice. Verbal presentation (Presenter: Briana Cate) at the biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
  13. Cate, B., **Thomas, M.,** Garnett, J., **Smith, I.J.,** Vancoppenolle, M. Investigating the effect of partial dissolution on the transport of chemicals in sea ice. Verbal presentation (Presenter: Briana Cate) at the New Zealand Snow and Ice Research Group (SIRG) 2023 Annual Workshop, Coronet Peak, Queenstown, New Zealand, 9-11 February 2023.
  14. **Cristi A, Deppeler S, Barr N, Druce M, Gall M, Safi K, Seabrook S, Gorbunov MY, Gutiérrez-Rodríguez A., Law C.S.** Response of Ross Sea phytoplankton communities to projected future increases in iron and sea surface temperature. Gordon Research Conference, Switzerland, July 2022. *Student Oral presentation*
  15. Datta, S. Misson, J., **Pinkerton, M.** (2022). Investigating the impacts of seasonality on size-based ecosystem models. Oral presentation to NZ Marine Sciences Society, Auckland University of Technology.

16. \***de Jong, E.**, Winton, H., Naehler, S., **Duncan, B.**, **McKay, R.**, Atkins, C., **Lee, J.**, Deppler, S. (2022). Lipid biomarkers of marine phytoplankton variability in modern snow and marine sediments from the southwestern Ross Sea, Antarctica. SCAR Open Science Conference, online 1-10 August, 2022.
17. **Golledge, N.R.** & Luczak-Roesch, M. Velocity of the Antarctic Ice Sheet: signatures of scale-invariance & self- organization. SCAR Open Science conference, August 2022
18. **Golledge, N.R.** & Luczak-Roesch, M. Velocity of the Antarctic Ice Sheet: signatures of scale-invariance & self- organization. PALSEA, July 2022
19. **Golledge, Nicholas.** "Velocity of the Antarctic Ice Sheet: signatures of scale-invariance & self-organization." In Capital City Complex Systems Symposium, 2023.
20. **Golledge, N.R.** & Luczak-Roesch, M. Velocity of the Antarctic Ice Sheet: signatures of scale-invariance & self-organization. SCAR Open Science conference, August 2022
21. **Golledge, N.R.** & Luczak-Roesch, M. Velocity of the Antarctic Ice Sheet: signatures of scale-invariance & self-organization. PALSEA, July 2022
22. Gomez Fell, R., **Rack, W.**, **Purdie, H.**, Marsh, O., Wild, C. (2023). Ice tongues stabilised by fast ice along the Victoria Land Coast. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
23. **Gorman, A.R.**, Hall, C., van Haastrecht, L., **Black, J.A.**, **Horgan, H.**, **Dunbar, G.**, Wilson, G.S., **Tankserley, M.**, Dagg, B. (2022). Seismic and gravity constraints on the stratigraphy of the Siple Coast region underlying the Kamb Ice Stream, Antarctica. In: Zernack A. V., Palmer, J. eds. Geoscience Society of New Zealand Annual Conference 2022: Programme & Abstracts Volume. Geoscience Society of New Zealand Miscellaneous Publication 161A. Geoscience Society of New Zealand, Wellington, pp. 123.
24. **Gossart, A.**, **Malyarenko, A.**, Sun, R., **Krapp, M.** Conserving the radiative and freshwater fluxes through PWRF - MITgcm interface in the Scripps-KAUST model for the Ross Sea Region. SCAR Open Science Conference, online 1- 10 August, 2022
25. **Gossart, A.**, **Malyarenko, A.**, Sun, R., and **Krapp, M.**: Conserving the radiative and freshwater fluxes though PWRF-MITgcm interface in the SCRIPPS-KAUST model for the Ross Sea Region, SCAR 2022, 8 August 2022 (online)
26. **Gossart, A.**, **Malyarenko, A.**, Sun, R., and **Krapp, M.**: Conserving the radiative and freshwater fluxes though PWRF-MITgcm interface in the SCRIPPS-KAUST model for the Ross Sea Region, Cryosphere 2022, 25 August 2022, Reykjavik, Iceland
27. **Halfter, S.** et al. (2022). Impact of the amphipod *Themisto gaudichaudii* on ecology and carbon export in the Southern Ocean. Oral presentation to NZ Marine Sciences Society, Auckland University of Technology.
28. Harwood, David M., **Linda Balfoort, Gavin B. Dunbar**, Sebastian Naehler, and **Huw Joseph Horgan**. "Evidence for Sub-Ice Sheet 'Floods' and Miocene Diatomite from beneath the Kamb Ice Stream, West Antarctica." In *AGU Fall Meeting Abstracts*, vol. 2022, pp. C45D-1119. 2022.
29. \* **Hayward A.**, **Pinkerton M.**, **Gutierrez-Rodriguez A.**, **Law C.S.** The evaluation of a novel chemotaxonomic method and its application to the Southern Ocean pigment data. Gordon Research Conference: Marine Biogeochemistry. Barcelona, Spain. May 2022 *Student Oral presentation*
30. \* **Hayward A.**, **Pinkerton M.**, **Gutierrez-Rodriguez A.**, **Law C. S.** The evaluation of a novel chemotaxonomic method and its application to the Southern Ocean pigment data. Gordon Research Seminar: Marine Biogeochemistry. Barcelona, Spain. May 2022 *Student Oral presentation (different content to above)*
31. \* **Hayward A.**, **Pinkerton M.**, **Gutierrez-Rodriguez A.**, **Law C. S.** Characterising the Southern Ocean's microbial community through novel pigment analysis. Scientific Committee of Antarctic Research. September 2022 Online. *Student Oral presentation*
32. \* **Hayward A.**, **Pinkerton M.**, **Gutierrez-Rodriguez A.**, S. Wright, P. Wongpan, **Law C. S.** Drifting through time and space: Modelling the biomass of key phytoplankton groups in the Southern Ocean. NZMSS Conference, Wellington, July 2023 *Student Oral presentation*

33. **Horgan, Huw, Gavin Dunbar, Christine Hulbe**, Britney Schmidt, **Craig Stevens, Craig Stewart**, and Mauro Werder. *Subglacial drainage across Kamb Ice Stream's Grounding Zone, West Antarctica*. No. EGU23-1820. Copernicus Meetings, 2023.
34. **Jeunen, G-J.** (2022) Oral presentation at NZMSS conference (New Zealand Marine Science Society), Auckland, New Zealand: Monitoring the Southern Ocean through marine sponge bycatch specimens as natural eDNA samplers.
35. **Jeunen, G-J.** (2022) Oral presentation at Queenstown Research Week conference, Queenstown, New Zealand: Squeezing out ecological insights from contemporary and historic sponge borne eDNA.
36. **Jeunen, G-J.** (2022) eDNA workshop co-lead at Antarctic Science Platform, Wellington: Current eDNA research in the Ross Sea
37. Jolly, B. (2023) A datacube over the Ross Sea region. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
38. **Keller, E., Golledge N., Levy, R., and Jendersie, S.** Sensitivity of climate to the West Antarctic Ice Sheet extent in past interglacials. *International Partnerships in Ice Core Sciences Open Science Conference*, Crans-Montana, Switzerland 2–7 Oct 2022.
39. **Lamare M.D., Sewell M.A., et al.** Antarctic cushion star *Odontaster validus* larval performance is negatively impacted by long-term parental acclimation to elevated temperature. 4<sup>th</sup> International Ross Sea Conference, Naples, Italy 5-9 July 2023.
40. **Langhorne, P.J., Haas, C., Price, D., Rack, W., Leonard, G.H., Brett, G.M., Urbini, S.** (2023). Fast ice thickness distribution in the Western Ross Sea in Late Spring. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
41. **Leonard, G.H., Richter, M.E., Smith, I.J., Turner, K.E., Whittaker, M.S.** Assessing the vulnerability of fast ice in McMurdo Sound, Antarctic to winter storms. Poster presentation (Presenter: **Greg Leonard**) at the Forum for Research into Ice Shelf Processes (FRISP) 2023 workshop, Stalheim, Norway, 19-22 June 2023.
42. **Levy, Richard H., Hannah Chorley, Tim Naish, Adam R. Lewis, Stephen Cox, Sidney R. Hemming, Christian Ohneiser** et al. "East Antarctic Ice Sheet variability during the middle Miocene Climate Transition captured in drill cores from the Friis Hills, Transantarctic Mountains." In AGU Fall Meeting Abstracts, vol. 2022, pp. PP55B-03.2022.
43. **Lewis, C., Turnbull, J., Corran, R., Moss R.** Updated assessment of  $\Delta^{14}\text{CO}_2$  measurement intercomparability using atmospheric records and standard materials, oral presentation, WMO Greenhouse Gas Measurement Techniques Conference, Wageningen, Netherlands, Sept 2022.
44. **Lewis, C., Turnbull, J., Corran, R., Moss R.** Updated assessment of  $\Delta^{14}\text{CO}_2$  measurement intercomparability using atmospheric records and standard materials, oral presentation, WMO Greenhouse Gas Measurement Techniques Conference, Wageningen, Netherlands, Sept 2022.
45. Lin, D., Katurji, M., Purdie, H. (2023) Impact of crevasses on surface energy balance at an alpine glacier, EGU General Assembly 2023, Vienna, Austria, EGU23-10981, <https://doi.org/10.5194/egusphere-egu23-10981>
46. **Lowry, Daniel.** "The Antarctic Ice Sheet's uncertain future." In Capital City Complex Systems Symposium, 2023.
47. **Lowry, Daniel, Stefan Jendersie, and Nicholas R. Golledge.** "Solid earth versus climatic controls on Holocene grounding line migration of the Siple Coast, Antarctica." In AGU Fall Meeting Abstracts, vol. 2022, pp. C16B-05. 2022.
48. **Macdonald, H.** et al. (2022). Coupled biophysical modelling of the Hauraki Gulf system. Oral presentation to NZ Marine Sciences Society, Auckland University of Technology.
49. **Marshall, A., Dunbar, G., Hulbe, C., Cary, S.C** Conference: SCAR Biology. Title: Examining the connectivity of Ross Ice Shelf habitats through the lens of the benthic microbial communities.
50. **Marshall, A., Dunbar, G., Hulbe, C., Cary, S.C** Conference: New Zealand – Australian Antarctic Conference Title: Illuminating Ross Ice Shelf ecosystem connectivity through the lens of the benthic microbial communities, Authors:
51. **Mckay, Robert M., Molly Patterson, Georgia R. Grant, Nikita Turton, Tina van de Flierdt,**

- Francisco J. Jimenez, **Elizabeth D. Keller** et al. "Eccentricity modulation of East Antarctic Ice Sheet in Wilkes Land over the past 6 million years." In *AGU Fall Meeting Abstracts*, vol. 2022, pp. PP52E-0472. 2022.
52. **Montiel, F.**, and Mokus, N. Theoretical framework for the emergent floe size distribution: the case for log-normality. Online oral presentation (Presenter: **Fabien Montiel**) at the Mathematics of sea ice in the twenty-first century workshop. Hybrid conference
  53. Mountjoy, J. et al. (2023) TAN2302: New Zealand's 2023 voyage to the Ross Sea region. Presentation to Antarctic Working Group
  54. **Naish, T.**, et al. Incorporating Antarctic ice sheet dynamics and vertical land movements into location-specific probabilistic sea-level projections. SCAR Open Science Conference, online 1-10 August, 2022.
  55. \***Oliver, W.J., Gorman, A.R., Bowman, M.H., Black, J.A., Tankersley, M.** (2022). Seismic and gravity surveys characterise Discovery Deep, Antarctica. In: Zernack A. V., Palmer, J. eds. Geoscience Society of New Zealand Annual Conference 2022: Programme & Abstracts Volume. Geoscience Society of New Zealand Miscellaneous Publication 161A. Geoscience Society of New Zealand, Wellington, pp. 123.
  56. **Pauling, A. G., Thomas, M., Smith, I.J.,** Ridley, J., Martin, T. Sea ice and climate impacts from Antarctic ice-mass loss in a multi-model experiment. Verbal presentation (Presenter: **Andrew Pauling**) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
  57. **Pauling, A.G., Thomas, M., Smith, I.J.,** Ridley, J., Martin, T. Upcoming research into climate impacts from Antarctic ice-mass loss in a multi-model experiment. Verbal presentation (Presenter: **Andrew Pauling**) at the New Zealand Snow and Ice Research Group (SIRG) 2023 Annual Workshop, Coronet Peak, Queenstown, New Zealand, 9-11 February 2023.
  58. **Pinkerton, M., Adams, C., Behrens, E.,** et al. (2023). New Zealand research and monitoring in the Ross Sea region in support of the Ross Sea region Marine Protected Area: 2022-2023 update. Presentation to Antarctic Working Group
  59. **Pinkerton, M., Adams, C., Behrens, E.,** et al. (2023). New Zealand research and monitoring in the Ross Sea region in support of the Ross Sea region Marine Protected Area: 2022-2023 update. Presentation to Antarctic Working Group
  60. **Pinkerton, M.H.** (2022). What's special about foodwebs? Exploring trophic structure in the Hauraki Gulf, Chatham Rise and Ross Sea to understand the potential effects of fishing and climate change. Department of Marine Science Seminar, University of Otago, Dunedin.
  61. \***Pletzer, T., Cullen, N., Conway, J., Eidhammer, T., Katurji, M.** (2023) Adapting a snowpack model to simulate cold-based glacial hydrological processes in the McMurdo Dry Valleys, Antarctica, EGU General Assembly 2023, Vienna, Austria, EGU23-9243, <https://doi.org/10.5194/egusphere-egu23-9243>
  62. **Price, D., Rack, W., Haas, C., Langhorne, P., Leonard, G., Tan, A., Kurtz, N., Heil, P., Hajnsek, I.** (2023). Pack ice thickness in the Western Ross Sea and beyond. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
  63. Richter, M.E., **Leonard, G.H., Smith, I.J., Langhorne, P.J.,** Parry, M. An investigation of drivers of interannual fast-ice variability in McMurdo Sound on multiple scales. Verbal presentation (Presenter: Maren Richter) at the Forum for Research into Ice Shelf Processes (FRISP) 2023 workshop, Stalheim, Norway, 19-22 June 2023.
  64. Richter, M.E., **Leonard, G.H., Smith, I.J., Langhorne, P.J.,** Russell, P. Drivers of interannual fast-ice thickness variability on McMurdo Sound. Verbal presentation (Presenter: Maren Richter) at the biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
  65. Richter, M.E., **Leonard, G.H., Smith, I.J., Langhorne, P.J.,** Russell, P. Drivers of interannual fast-ice thickness variability on McMurdo Sound. Verbal presentation (Presenter: Maren Richter) at the New Zealand Snow and Ice Research Group (SIRG) 2023 Annual Workshop, Coronet Peak, Queenstown, New Zealand, 9-11 February 2023.

66. Richter, M.E., **Leonard, G.H., Smith, I.J., Langhorne, P.J.**, Parry, M. Drivers of interannual fast-ice variability in McMurdo Sound: an investigation on multiple scales. Verbal presentation (Keynote. Presenter: Maren Richter) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
67. **Robinson, N. J, Craig Stewart**, Steve Parker, **Ken Ryan, Greg Leonard**, Brett Grant, Ollie Twigge, **Svenja Halfter**, Neill Barr, Jacqui Stuart, Nina Caldarella, Vanessa Wells, Adam Jones, A novel system for coring sub-ice platelet layers, PIPERS team, 16 February 2023.
68. **Robinson, N. J, Craig Stewart**, Steve Parker, **Ken Ryan, Greg Leonard**, Brett Grant, Ollie Twigge, **Svenja Halfter**, Neill Barr, Jacqui Stuart, Nina Caldarella, Vanessa Wells, Adam Jones, An update on the new platelet coring system, NIWA staff meeting, 15 February 2023.
69. **Robinson, N. J,Craig Stewart**, Steve Parker, **Ken Ryan, Greg Leonard**, Brett Grant, Ollie Twigge, **Svenja Halfter**, Neill Barr, Jacqui Stuart, Nina Caldarella, Vanessa Wells, Adam Jones, First season with a platelet coring system, NZ Sea Ice Symposium, Christchurch, 13 – 14 February 2023.
70. **Robinson, N. J** An overview of sea ice in NZ's Antarctic Science Platform & Introducing a novel system for sampling sub-ice platelet layers, UK sea ice group meeting, Cambridge, 26 – 27 September 2022.
71. **Robinson, N. J, Craig Stewart, Steve Parker, Ken Ryan, Greg Leonard**, Brett Grant, A novel system for coring sub-ice platelet layers, LIONESS Meeting, The Suites Hotel, Jeju Island, South Korea, 13 – 16 September 2022.
72. **Robinson, N. J, C. L. Stewart**, S. Parker, **K. Ryan, G. H. Leonard**, B. S. Grant, A novel system for coring sub-ice platelet layers, Scientific Committee on Antarctic Research Open Science Conference, Online Everywhere, 1 – 10 August 2022.
73. **Robinson, N. J**, An update on ASP Project 4, Objective #4, Workshop: "Sea ice across the platform", July 26 & 27 2022.
74. **Schmidt, Britney**, Peter Washam, Justin Lawrence, **Huw Horgan, Craig Stevens, Craig Stewart, Gavin Dunbar** et al. *Exploring a subglacial channel beneath Kamb Ice Stream with Icefin*. No. EGU23-16781. Copernicus Meetings, 2023.
75. **Seabrook, Sarah**. "Antarctic subglacial flux: A driver of climate sensitivity on coastal margins." EGU(*highlighted talk*), Vienna, Austria. April 2023.
76. **Seabrook, Sarah**. "Antarctic Seafloor Seeps: Future research potential". HYDEE Science Workshop.Wellington, New Zealand. May 2023.
77. **Smith, I.J., Leonard, G.H.**, Richter, M.E., Turner, K.E., Whittaker, M.S., **Rack, W.**, Fraser, A.D., Lieser, J.L. The vulnerability of Antarctic last-fast sea ice to winter storms: lessons from McMurdo Sound in 2019 and 2022. Verbal presentation (Presenter: **Inga Smith**) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
78. **Smith, I.J., Leonard, G.H., Rack, W.**, Fraser, A.D., Lieser, J.L. McMurdo Sound 2022: what happened to cause the significantly thinner-than-usual sea ice? Verbal presentation (Presenter: **Inga Smith**) at the biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
79. **Smith, I.J., Leonard, G.H., Rack, W.**, Fraser, A.D., Lieser, J.L. Sea ice in McMurdo Sound in 2022 was dramatically thinner than usual: what happened? Verbal presentation (Presenter: **Inga Smith**) at the New Zealand Snow and Ice Research Group (SIRG) 2023 Annual Workshop, Coronet Peak, Queenstown, New Zealand, 9-11 February 2023.
80. **Smith, I.J., Leonard, G.H., Langhorne, P.J.**, McLeod, T.L. Sea ice mass balance stations: 25 years of data from McMurdo Sound, Antarctica. Invited talk (Presenter: **Inga Smith**) at the Physics Symposium in Honour of Joe Trodahl's 80th Birthday. Nelson, New Zealand, 8-10 December 2022.
81. **Smith, I.J.** The influence of ice shelves on sea ice formation: insights from McMurdo Sound and the Ross Sea. On-line seminar in the Antarctic Sea Ice and Southern Ocean seminar series hosted by the University of Texas at San Antonio, 10 March 2022.

82. **Stewart, C., Horgan, H., Schmidt, B., Mullen, A., Robinson, N., Hulbe, C.** Mixing and transport in a subglacial coastal cavity: Observations from the Kamb Ice stream grounding zone. SCAR Open Science Conference, online 1-10 August, 2022.
83. \*Sullivan, Nicholas Benetti, Stephen Richard Meyers, **Richard H. Levy, Robert M. McKay**, Tina van de Flierdt, James Marschalek, Matteo Perotti et al. "The astronomical evolution of Antarctica's ice sheets." In AGU Fall Meeting Abstracts, vol. 2022, pp. C45D-1113. 2022.
84. **Tan, A., Rack, W.,** Haas, C., Rohde, J., Barnsdale, K., Platt, I., Woodhead, I., Taylor, A., McCulloch, J., Bealing, P., Kind, A., Woodward, G., **Leonard, G.,** Farooq, U. (2023). Airborne snow radar measurements as a basis for sea ice thickness estimation. Biennial New Zealand Sea Ice Symposium 2023, Christchurch, New Zealand, 13-14 February 2023.
85. \***Tankersley, Matthew.** "Antarctic-Plots: A Python package to help download, visualize, and present Antarctic datasets." In *SCAR INSTANT Workshop 2022: The Future of Geodetic-Geophysical Observational Networks in Antarctica*, 2022.
86. **Thomas, M.,** Ridley, J.K., **Smith, I.J.,** Stevens, D.P., Holland, P.R., Mackie, S. Future response of Antarctic continental shelf properties to ice sheet melting and calving. Verbal presentation (Presenter: **Max Thomas**) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
87. **Thomas, M.,** Cate, B., Garnett, J., **Smith, I.J.,** Halsall, C., Vancoppenolle, M. Chemical transport in sea ice: a case study. Verbal presentation (Presenter: **Max Thomas**) at the International Glaciological Society's International Symposium on Sea Ice Across Spatial and Temporal Scales, Bremerhaven, Germany, 4-9 June 2023.
88. **Thomas, M., Smith, I.J.,** Mackie, S., Ridley, J.K., Stevens, D.P., Bitz, C.M. Climate impacts from Antarctic freshwater fluxes investigated using HadGEM3-GC3.1. Oral presentation (Presenter: **Max Thomas**) at the Ocean Sciences Meeting 2022 (OSM 2022) conference. Virtual conference (hosted out of Hawaii, USA), 24 February to 4 March 2022.
89. \***Xiahou, Y., Stevens, C., Malyarenko, A., Bowen, M.** Regime shifts in central Ross Ice Shelf cavity ocean processes between mid-1970s and contemporary observations. SCAR Open Science Conference, online 1-10 August, 2022
90. \***Zou, Huiling, Elizabeth Keller, Nancy Bertler**, Louise Sime. Different Impacts of Antarctic Last Interglacial Ice Sheet Changes on West and East Antarctic Isotope Records. SCAR Open Science Conference, online 1-10 August, 2022.

## Conference / Workshop Presentations – poster presentation [18]

*Student presentations with a \**

1. **Bahamondes Dominguez, A., Macdonald, H., & Rickard, G.** (2022, December). Effects Of Sea Ice Concentration And Dissolved Iron Variability On Phytoplankton Dynamics Of The Ross Sea Using A 1-D Model. In AGU Fall Meeting Abstracts (Vol. 2022, pp. C54B-01).
2. \***Bollen, M.R., C.R. Riesselman, C. Ohneiser, O. Albott, R.M. McKay, M.K. Lee, K.C.** Yoo, S.H. Kim, J.I. Lee and **R.H. Levy.** Pleistocene oceanographic variability in the Ross Sea: a multiproxy approach to age model development and paleoenvironmental analyses. 14<sup>th</sup> International Conference on Paleoceanography (*poster*), August 2022, Bergen, Norway.
3. \***Duffy, M., C. Riesselman, F. Battaglia, B. Santos, K. DeLong, C. Ravelo, G. Winckler, J. Middleton, E. Malinverno, and M. Saavedra-Pellitero.** Linking East Antarctic temperature with Southern Ocean productivity: Preliminary diatom and geochemical proxy records from IODP Site U1539, Pacific Sector, Antarctic Circumpolar Current. 14<sup>th</sup> International Conference on Paleoceanography (*poster*), August 2022, Bergen, Norway.
4. \***Duffy, M., C.R. Riesselman, O. Esper, and IODP Exp. 383 Scientists.** Biogenic silica and diatom proxy records from IODP 383 Site U1539. IODP 383 Post-cruise meeting (*poster*), May 2023, Palisades, NY, USA.
5. **Escobar-Flores, P.C.** (2022). Shaping the landscape of mid-trophic level organisms in the Ross Sea region. E-poster presentation (accepted for oral presentation but dates did not work) Presentation given at the 10th SCAR Open Science Conference held virtually between 1- 10th

August 2022.

6. \***Frazer, J. M.** and **C. R. Riesselman**. Reconstructing Quaternary sea surface conditions from sediment multicores along a Southern Ocean latitudinal transect. ECORD Summer School (oral), September 2022, Bremen, Germany.
7. \* **Hayward A., Pinkerton M.,** Wright S., Wongpan P., **Gutierrez-Rodriguez A., Law C.** Southern Ocean phytoplankton and the class divide. Poster presented at the Gordon Research Conference on Polar Marine Science. Ventura Beach, USA, 5-10 March.
8. \* **Hofsteenge, M., Cullen, N., Conway, J., Katurji, M.,** Reijmer, C., and van den Broeke, M. (2023) Comparing the response to meteorological drivers at Taylor and Commonwealth glacier, McMurdo Dry Valleys, Antarctica., EGU General Assembly 2023, Vienna, Austria, EGU23-10672, <https://doi.org/10.5194/egusphere-egu23-10672>
9. **Juenen, G.-A., Lamare, M.D., et al. (2023)** Marine sponges caught as bycatch in Ross Sea fisheries hold eDNA signals that can aid with biodiversity monitoring. 4<sup>th</sup> International Ross Sea Conference, Naples, Italy 5-9 July 2023.
10. Li, Stevens, **Malyarenko & Bowen**, 2022. Regime shifts in central Ross Ice Shelf cavity ocean processes between mid-1970s and contemporary observations. SCAR22 Conference (online).
11. \* **Montes-Herrera, J.** Cimoli, E., **Cummings, V.**, Nelson, W., D'Archino, R., Lucieer, A., **Lucieer, V.** (2023). Mapping photosynthetic pigments in Antarctic coralline algae (*Tethysphymum antarcticum*) with hyperspectral imaging. Poster presented at the International Seaweed Symposium, Hobart, Tasmania, February.
12. \* Milz, T., **Hofsteenge, M., Katurji, M.,** and Vetrova, V. (2023) Foehn Wind Analysis using Unsupervised Deep Anomaly Detection, EGU General Assembly 2023, Vienna, Austria, EGU23-10256, <https://doi.org/10.5194/egusphere-egu23-10256>,
13. **Riesselman, C.R.** et al., Magneto-biostratigraphic integration of Neogene sequences from IODP Exp. 383: An opportunity for improved Southern Ocean chronostratigraphy. IODP 383 Post-cruise meeting (*poster*), May 2023, Palisades, NY, USA.
14. **Seabrook, Sarah.** "Antarctic Subsurface Fluid Regimes: A major driver of change?" ASP 2022 Hui. Wellington, New Zealand. August, 2022.
15. Stevens et al 2023. Baroclinicity near grounding lines: Observations from the Kamb Ice stream. FRISP Workshop June 2023. Norway.
16. Stevens et al 2023. Observations of stratified flow near grounding lines: Observations from the Kamb Ice stream ACEAS Ice Ocean Workshop May 2023. Online workshop presentation.
17. Stevens Horgan, Schmidt, Mullen, Washam, **Robinson, Hulbe & Stevens** 2022. Mixing and transport in a subglacial coastal cavity: Observations from the Kamb Ice stream grounding zone, SCAR22 Conference
18. \***Truax, O., C.R Riesselman**, A. Shemesh, R. Yam, R.L. Parker, J.I. **Lee, K.-C.** Yoo, M.K. **Lee, C. Stevens**, and G. Wilson. Modern freshening of Ross Sea surface waters outside the range of natural variability over the last 5,500 years. American Geophysical Union Fall Meeting (*poster*), December 2022, Chicago, USA.

## Student Theses [8]

1. \***Alevropoulos-Borrill, Alanna.** "Future Evolution of the Amundsen Sea Embayment, West Antarctica: Exploring the Modelled Ice Stream Sensitivity to Numerical Representation." PhD diss., Open Access Te Herenga Waka- Victoria University of Wellington, 2022.
2. \***Baldacchino, Francesca.** "Present and future Ross Ice Shelf dynamics from observations and modelling, and implications for the Antarctic Ice Sheet." PhD diss., Open Access Te Herenga Waka-Victoria University of Wellington, 2023.
3. \***Baldacchino, F.** Present and future Ross Ice Shelf dynamics from observations and modelling, and implications for the Antarctic Ice Sheet. Ph.D Thesis (VUW). Awarded April 2023. (ASP Project 1 output, supervised by **N.R. Golledge**)
4. \***Balfoort, Linda.** "Sedimentology and biomarker geochemistry of a Kamb Ice Stream subglacial channel, West Antarctica." M.Sc. thesis submitted to Te Herenga Waka-Victoria University of

- Wellington, May 2023.
5. \***Cristi, A** (2023, PhD thesis submitted) *Ross Sea Phytoplankton Diversity in a Changing Climate*. University of Otago
  6. \***Olivia J. Truax**, 2023. Holocene paleoceanography of the western Ross Sea, Antarctica, Ph.D. Univ. Otago.
  7. \***Tankersley, Matthew**. "Airborne Geophysical Investigation beneath Antarctica's Ross Ice Shelf." PhD thesis submitted to Te Herenga Waka-Victoria University of Wellington, June 2023.
  8. \***Whiteford, Arran**. "Ice and ocean dynamics at a subglacial river mouth on the Siple Coast, Antarctica." PhD diss., Open Access Te Herenga Waka-Victoria University of Wellington, 2022.

### **Talks, Lectures & Webinars [14]**

1. **Cummings, V.J., Tait, L., Massuger, J., Bremner, D., Pryor Rogers, L.** Understanding coastal benthic communities and habitats in a changing climate. Presentation at Scott Base, Antarctica
2. **Fraser, C.** Invited talk to members of the South Dunedin Rotary Club to present Antarctic research findings
3. **Fraser, C.** Talk about marine and Antarctic science, livestreamed to >180 individuals and classes - all Princess Chulabhorn Science Thai schools.
4. **Hawes, I., Doran, PD, Sumner DY.** Antarctic Lakes – Sentinels of change. Presentation at Scott Base, Antarctica
5. **Lamare, M.D.** The Ross Sea Ecosystem and a Warming World: New Zealand Marine Studies Centre
6. **Naish, Tim.** Facilitated session and panel discussion “Destination our planet: How do we become stewards of sustainability & intergenerational wellbeing? | Kaitiaki” at 2022. Navigating a stormy world, Te Ao Maori perspectives, Anchoring Māori.
7. **Naish, Tim.** Public talk: “Urgency of Antarctic science and climate change.” <https://www.antarcticanz.govt.nz/media/news/godspeed-with-hope-urgency>
8. **Pinkerton, M.H.** Weddell seals and Antarctic toothfish: Science, fishing, climate change and politics in the Ross Sea region. Otago Museum, Dunedin, NZ Sealion Trust.
9. **Robinson, Natalie.** An unprecedent season for sea ice science'. New Zealand Antarctic Society (Wellington), March 2023.
10. **Robinson, Natalie.** Featured speaker: 'Antarctica's Role and Response in Global Climate' Hutt Valley Tramping Club. April 2023.
11. **Robinson, Natalie.** Invited speaker: 'Sea ice and the Southern Ocean'. New Zealand Antarctic Society (Wellington). June 2023.
12. **Robinson, Natalie.** 'K892: Coring Platelet Ice'. Scott Base Bar Talk. November 2022.
13. **Robinson, Natalie.** 'Zooplankton in the Ross Sea'. New Zealand Antarctic Society (Wellington) 'Fresh off the Ice.'
14. **Smith, Inga.** 'What do scientists do at Scott Base?' Antarctica NZ and Venture Timaru, An Evening With Scott Base. November 2022.