

Professor
Department of Atmospheric and Oceanic Sciences
University of California, Los Angeles
Los Angeles, CA 90095
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EMPLOYMENT

Jul 2023 – Present	Professor Department of Atmospheric and Oceanic Sciences University of California, Los Angeles
Jul 2020 – Jun 2023	Associate Professor Department of Atmospheric and Oceanic Sciences University of California, Los Angeles
Jul 2014 – Jun 2020	Assistant Professor Department of Atmospheric and Oceanic Sciences University of California, Los Angeles
Oct 2011 – Jun 2014	Postdoctoral Researcher in Environmental Science and Engineering Division of Geological and Planetary Sciences California Institute of Technology
Apr 2011 – Sep 2011	EPSRC PhD Plus Postdoctoral Researcher Oxford Centre for Industrial and Applied Mathematics University of Oxford
Oct 2010 – Sep 2011	College Lecturer in Applied Mathematics Corpus Christi College University of Oxford

EDUCATION

Oct 2007 – Mar 2011 Corpus Christi College, University of Oxford
DPhil in Mathematics
‘The role of the complete Coriolis force in cross-equatorial transport of abyssal ocean currents’
Supported by an EPSRC DTA award.
Received leave to supplicate on 12th July 2011.
Degree formally conferred on November 9th, 2013.

Sep 2003 – Jun 2007 University of St Andrews
MMath in Mathematics (1st Class)

PEER-REVIEWED PUBLICATIONS

1. X. Han, A. L. Stewart, Z. Wang, C. Liu, Q. Yang, and D. Chen. Tidal enhancement of Antarctic dense shelf water export via suppression of continental slope mixing. *Submitted.*
2. S. Spingin, Y. Si, and A. L. Stewart. Observed Seasonality of Mixed-Layer Eddies and Vertical Heat Transport over the Antarctic Continental Shelf. *Submitted to Journal of Geophysical Research: Oceans.*
3. J. Jeffree, A. McC. Hogg, A. K. Morrison, A. Solodoch, A. L. Stewart, and R. McGirr. GRACE satellite observations of Antarctic Bottom Water transport variability. *Submitted to Journal of Geophysical Research: Oceans.*
4. R. Chen, Y. Yang, Q. Geng, A. L. Stewart, G. Flierl, and J. Wang. A diagnostic framework linking eddy flux ellipse with eddy-mean energy exchange. *Submitted to Ocean-Land-Atmosphere Research.*
5. S. Meng, A. L. Stewart, and G. Manucharyan. Circumpolar transport and overturning strength inferred from satellite observables using Deep Learning in an eddying Southern Ocean channel model. *Accepted for publication in Journal of Advances in Modeling Earth Systems.*
6. A. L. Stewart, Y. Wang, A. Solodoch, R. Chen, and J. C. McWilliams. Formation of eastern boundary undercurrents via mesoscale eddy rectification. *Journal of Physical Oceanography*, 54:1765–1785, 2024.
7. Moscoso J. E., D. Bianchi, and A. L. Stewart. Controls of Cross-Shore Planktonic Ecosystem Structure in an Idealized Eastern Boundary Upwelling System. *Journal of Geophysical Research: Oceans.*
8. G. D. Finucane and A. L. Stewart. A Predictive Theory for Heat Transport Into Ice Shelf Cavities. *Geophysical Research Letters*, 51:e2024GL108196, 2024.
9. Y. Si, A. L. Stewart, A. Silvano, and Garabato A. C. N. Antarctic slope undercurrent and onshore heat transport driven by ice shelf melting. *Science Advances.*
10. X. Han, A. L. Stewart, D. Chen, M. Janout, X. Liu, Z. Wang, and A. L. Gordon. Circum-Antarctic bottom water formation mediated by tides and topographic waves. *Nature Communications*, 15:2049, 2024.
11. H. Jeong, S.-S. Lee, H.-S. Park, and A. L. Stewart. Future changes in Antarctic coastal polynyas and bottom water formation simulated by a high-resolution coupled model. *Communications in Earth and Environment*, 4(490).

12. A. Silvano, S. Purkey, P. Castagno, A. L. Stewart, S. Rintoul, A. Foppert, S. Aoki, A. C. Naveira Garabato, C. H. Akhondas, J.-B. Sallée, A. L. Gordon, E. P. Abrahamson, A. J. S. Meijers, M. P. Meredith, S. Zhou, T. Tamura, K. I. Ohshima, P. Falco, G. Budillon, T. Hattermann, M. A. Janout, H. H. Hellmer, M. M. Bowen, E. Darelius, S. Østerhus, K. Nicholls, C. Stevens, L. Cimoli, G. D. Williams, A. Morrison, and A. McC. Hogg. Observing Antarctic Bottom Water in the Southern Ocean. *Frontiers in Marine Science*, 10, 2023.
13. C. R. Schmidgall, Y. Si, A. L. Stewart, A. F. Thompson, and A. McC. Hogg. Dynamical Controls on Bottom Water Transport and Transformation across the Antarctic Circumpolar Current. *Journal of Physical Oceanography*, 53:1917–1940, 2023.
14. X. Han, A. L. Stewart, D. Chen, X. Liu, and T. Lian. Controls of topographic Rossby wave properties and downslope transport in dense overflows. *Journal of Physical Oceanography*, 53:1805–1820, 2023.
15. Y. Si, A. L. Stewart, and Eisenman I. Heat transport across the Antarctic Slope Front controlled by cross-slope salinity gradients. *Science Advances*, 9:eadd7049, 2023.
16. A. L. Stewart, N. K. Neumann, and A. Solodoch. “Eddy” saturation of the Antarctic Circumpolar Current by standing waves. *Journal of Physical Oceanography*, 53:1161–1181, 2023.
17. A. Solodoch, A. L. Stewart, A. McC. Hogg, and G. Manucharyan. Machine Learning-Derived Inference of the Meridional Overturning Circulation from Satellite-Observable Variables in an Ocean State Estimate. *Journal of Advances in Modeling Earth Systems*, 15:e2022MS003370, 2023.
18. A. Jagannathan, K. Srinivasan, J. C. McWilliams, M. J. Molemaker, and A. L. Stewart. Evolution of bottom boundary layers on three dimensional topography — Buoyancy adjustment and instabilities. *Journal of Geophysical Research: Oceans*, 128:e2023JC019705, 2023.
19. K. X. Zhao, A. L. Stewart, J. C. McWilliams, I. G. Fenty, and E. J. Rignot. Standing Eddies in Glacial Fjords and their Role in Fjord Circulation and Melt. *Journal of Physical Oceanography*, 53:821–840, 2023.
20. A. Silvano, P. Holland, K. A. Naughten, O. Dragomir, P. Dutrieux, A. Jenkins, Y. Si, A. L. Stewart, B. Peña-Molino, J. Janzing, T. S. Dotto, and A. C. Naveira Garabato. Baroclinic ocean response to climate forcing regulates decadal variability of ice-shelf melting in the Amundsen Sea. *Geophysical Research Letters*, 49:e2022GL100646, 2022.
21. G. E. Manucharyan and A. L. Stewart. Stirring of Interior Potential Vorticity Gradients as a Formation Mechanism for Large Subsurface-Intensified Eddies in the Beaufort Gyre. *Journal of Physical Oceanography*, 52:3349–3370, 2022.
22. H. Wei, Y. Wang, A. L. Stewart, and J. Mak. Scalings for eddy buoyancy fluxes across prograde shelf/slope fronts. *Journal of Advances in Modeling Earth Systems*, 14:e2022MS003229, 2022.
23. X. Han, A. L. Stewart, D. Chen, T. Lian, X. Liu, and X. Xie. Topographic Rossby Wave-modulated oscillations of dense overflows. *Journal of Geophysical Research: Oceans*, 127:e2022JC018702, 2022.
24. K. X. Zhao, A. L. Stewart, and J. C. McWilliams. Linking Overturning, Recirculation, and Melt in Glacial Fjords. *Geophysical Research Letters*, 49:e2021GL097211, 2022.
25. Y. Si, A. L. Stewart, and Eisenman I. Coupled ocean/sea ice dynamics of the Antarctic Slope Current driven by topographic eddy suppression and sea ice momentum redistribution. *Journal of Physical Oceanography*, 52:1563–1589, 2022.
26. A. L. Stewart and J. C. McWilliams. Gravity is Vertical in Geophysical Fluid Dynamics. *Scientific Reports*, page 6029, 2022.

27. A. Solodoch, A. L. Stewart, A. McC. Hogg, A. K. Morrison, A. E. Kiss, A. F. Thompson, S. G. Purkey, and L. Cimoli. How does Antarctic Bottom Water Cross the Southern Ocean? *Geophysical Research Letters*, page e2021GL097211, 2022.
28. J. E. Moscoso, D. Bianchi, and A. L. Stewart. Controls and characteristics of biomass quantization in size-structured planktonic ecosystem models. *Ecological Modelling*, 468:109907, 2022.
29. E. A. Wilson, A. F. Thompson, A. L. Stewart, and S. Sun. Bottom-up control of subpolar gyres and the overturning circulation in the Southern Ocean. *Journal of Physical Oceanography*, 52:205–223, 2022.
30. H.-S. Park, W.-I. Lim, A. L. Stewart, and K.-H. Seo. Suppression of Arctic sea ice growth in the Eurasian-Pacific Seas by winter clouds and snowfall. *Journal of Climate*, 35:669–686, 2022.
31. A. L. Stewart. Mesoscale, tidal and seasonal/interannual drivers of the Weddell Sea overturning circulation. *Journal of Physical Oceanography*, 51:3695–3722, 2021.
32. A. L. Stewart, X. Chi, A. Solodoch, and A. McC. Hogg. High-frequency fluctuations in Antarctic Bottom Water transport driven by Southern Ocean winds. *Geophysical Research Letters*, 8:e2021GL094569, 2021.
33. K. Cohanin, K. X. Zhao, and A. L. Stewart. Dynamics of Eddies Generated by Sea Ice Leads. *Journal of Physical Oceanography*, 51:3071–3092, 2021.
34. Y. Bai, Y. Wang, and A. L. Stewart. Does Topographic Form Stress Impede Prograde Ocean Flows? *Journal of Physical Oceanography*, 51:2617–2638, 2021.
35. A. Jagannathan, K. Srinivasan, J. C. McWilliams, M. J. Molemaker, and A. L. Stewart. Boundary layer-mediated vorticity generation in currents over sloping bathymetry. *Journal of Physical Oceanography*, 51:1757–1778, 2021.
36. A. L. Stewart, J. C. McWilliams, and A. Solodoch. On the role of bottom pressure torques in wind-driven gyres. *Journal of Physical Oceanography*, 51:1441–1464, 2021.
37. K. X. Zhao, A. L. Stewart, and J. C. McWilliams. Dynamical Controls of Fjord Circulation. *Journal of Physical Oceanography*, 51:207–228, 2021.
38. J. E. Moscoso, A. L. Stewart, D. Bianchi, and J. C. McWilliams. The Meridionally Averaged Model of Eastern Boundary Upwelling Systems (MAMEBUSv1.0). *Geoscientific Model Development*, 14:763–794, 2021.
39. A. Solodoch, A. L. Stewart, and J. C. McWilliams. Formation of anticyclones above topographic depressions. *Journal of Physical Oceanography*, 51:207–228, 2021.
40. D. E. McCoy, D. Bianchi, and A. L. Stewart. Global Observations of Submesoscale Coherent Vortices in the Ocean. *Progress in Oceanography*, 189:102452, 2020.
41. A. Solodoch, J. C. McWilliams, and A. L. Stewart. Why Does the Deep Western Boundary Current “Leak” Around Flemish Cap? *Journal of Physical Oceanography*, 50:1989–2016, 2020.
42. J. E. Hazel and A. L. Stewart. Bi-stability of the Filchner-Ronne Ice Shelf Cavity Circulation and Basal Melt. *Journal of Geophysical Research: Oceans*, 125:e2019JC015848, 2020.
43. S. Sun, I. Eisenman, L. Zanna, and A. L. Stewart. Surface constraints on the depth of the Atlantic Meridional Overturning Circulation: Southern Ocean vs North Atlantic. *Journal of Climate*, 33:3125–3149, 2020.
44. Y. Wang and A. L. Stewart. Scalings for eddy buoyancy transfer across continental slopes under retrograde winds. *Ocean Modelling*, 147:101579, 2020.

45. H.-S. Park, S.-J. Kim, A. L. Stewart, S.-W. Son, and K.-H. Seo. Mid-Holocene Northern Hemisphere warming driven by Arctic amplification and sea ice loss. *Science Advances*, 5(12), 2019.
46. A. L. Stewart. Approximating isoneutral ocean transport via the Temporal Residual Mean. *Fluids*, 4:179, 2019.
47. A. L. Stewart, A. Klocker, and D. Menemenlis. Acceleration and overturning of the Antarctic Slope Current by winds, eddies, and tides. *Journal of Physical Oceanography*, 43:2043–2074, 2019.
48. J. E. Hazel and A. L. Stewart. Multi-Decadal Trends in Easterly Wind Stress around the Antarctic Coast. *Journal of Climate*, 32:1895–1918, 2019.
49. K. X. Zhao, A. L. Stewart, and J. C. McWilliams. Sill-Influenced Exchange Flows in Ice Shelf Cavities. *Journal of Physical Oceanography*, 49:163–191, 2019.
50. A. F. Thompson, A. L. Stewart, P. Spence, and K. J. Heywood. The Antarctic Slope Front in a Changing Climate. *Reviews of Geophysics*, 56:741–770, 2018.
51. H.-S. Park, S.-J. Kim, K.-H. Seo, A. L. Stewart, and S.-Y. Kim. The impact of Arctic sea ice loss on mid-Holocene climate. *Nature Communications*, 9:4571, 2018.
52. S. Sun, I. Eisenman, and A. L. Stewart. Does Southern Ocean surface forcing shape the global ocean overturning circulation? *Geophysical Research Letters*, 45:2413–2423, 2018.
53. A. L. Stewart, A. Klocker, and D. Menemenlis. Circum-Antarctic shoreward heat transport derived from an eddy- and tide-resolving simulation. *Geophysical Research Letters*, 45:834–845, 2018.
54. H.-S. Park, A. L. Stewart, and J.-H. Son. Dynamic and thermodynamic impacts of the winter Arctic Oscillation on summer sea ice extent. *Journal of Climate*, 31:1483–1497, 2018.
55. Y. Wang and A. L. Stewart. Eddy dynamics over continental slopes under retrograde winds: Insights from a model inter-comparison. *Ocean Modelling*, 121:1–18, 2018.
56. A. L. Stewart and A. McC. Hogg. Reshaping the Antarctic Circumpolar Current via Antarctic Bottom Water export. *Journal of Physical Oceanography*, 47:2577–2601, 2017.
57. A. L. Stewart and A. F. Thompson. Eddy generation and jet formation via dense water outflows across the Antarctic continental slope. *Journal of Physical Oceanography*, 46:3729–3750, 2016.
58. A. F. Thompson, A. L. Stewart, and T. Bischoff. A multi-basin residual-mean model for the global overturning circulation. *Journal of Physical Oceanography*, 46:2583–2604, 2016.
59. S. Sun, I. Eisenman, and A. L. Stewart. Southern Ocean surface buoyancy forcing controls glacial-interglacial changes in the global deep ocean stratification. *Geophysical Research Letters*, 43:8124–8132, 2016.
60. A. Solodoch, A. L. Stewart, and J. C. McWilliams. Baroclinic instability of axially-symmetric flow over sloping bathymetry. *Journal of Fluid Mechanics*, 799:265–296, 2016.
61. Z. Su, A. Ingersoll, A. L. Stewart, and A. F. Thompson. Ocean Convective Available Potential Energy. Part I: Concept and Calculation. *Journal of Physical Oceanography*, 46:1081–1096, 2016.
62. Z. Su, A. Ingersoll, A. L. Stewart, and A. F. Thompson. Ocean Convective Available Potential Energy. Part II: Energetics of Thermobaric Convection. *Journal of Physical Oceanography*, 46:1097–1115, 2016.

63. A. L. Stewart and P. J. Dellar. An energy and potential enstrophy conserving numerical scheme for the multi-layer shallow water equations with complete Coriolis force. *Journal of Computational Physics*, 313:99–120, 2016.
64. H.-S. Park and A. L. Stewart. An analytical model for wind-driven Arctic summer sea ice drift. *The Cryosphere*, 10:227–244, 2016.
65. A. Burke, A. L. Stewart, J. F. Adkins, R. Ferrari, M. F. Jansen, and A. F. Thompson. The glacial mid-depth radiocarbon bulge and its implications for the overturning circulation. *Paleoceanography*, 30:1021–1039, 2015.
66. A. L. Stewart and A. F. Thompson. The Neutral Density Temporal Residual Mean overturning circulation. *Ocean Modelling*, 90:44–56, 2015.
67. V. C. Tsai, A. L. Stewart, and A. F. Thompson. Marine ice-sheet profiles and stability under Coulomb basal conditions. *Journal of Glaciology*, 61(226):205, 2015.
68. A. L. Stewart and A. F. Thompson. Eddy-mediated transport of warm Circumpolar Deep Water across the Antarctic Shelf Break. *Geophysical Research Letters*, 42:432–440, 2015.
69. A. L. Stewart, P. J. Dellar, and E. R. Johnson. Large-amplitude coastal shelf waves. In T. von Larcher and P. D. Williams, editors, *Modeling Atmospheric and Oceanic Flows*, pages 229–253. Wiley, Hoboken, NJ, 2014.
70. R. Ferrari, M. F. Jansen, J. F. Adkins, A. Burke, A. L. Stewart, and A. F. Thompson. Antarctic sea ice control on ocean circulation in present and glacial climates. *Proceedings of the National Academy of Sciences*, 111(24):8753–8758, 2014.
71. A. F. Thompson, K. J. Heywood, S. Schmidtko, and A. L. Stewart. Eddy transport as a key component of the Antarctic overturning circulation. *Nature Geoscience*, 7(12):879–884, 2014.
72. A. L. Stewart, R. Ferrari, and A. F. Thompson. On the importance of surface forcing in conceptual models of the deep ocean. *Journal of Physical Oceanography*, 44(3):891–899, 2014.
73. Z. Su, A. L. Stewart, and A. F. Thompson. An idealized model of Weddell Gyre export variability. *Journal of Physical Oceanography*, 44(6):1671–1688, 2014.
74. A. L. Stewart and A. F. Thompson. Connecting Antarctic Cross-Slope Exchange with Southern Ocean Overturning. *Journal of Physical Oceanography*, 43:1453–1471, 2013.
75. A. L. Stewart and P. J. Dellar. Multilayer shallow water equations with complete Coriolis force. Part 3. Hyperbolicity and stability under shear. *Journal of Fluid Mechanics*, 723:289–317, 2013.
76. A. L. Stewart and A. F. Thompson. Sensitivity of the ocean’s deep overturning circulation to easterly Antarctic winds. *Geophysical Research Letters*, 39(18):L18604, 2012.
77. A. L. Stewart and P. J. Dellar. Cross-equatorial channel flow with zero potential vorticity under the complete Coriolis force. *IMA Journal of Applied Mathematics*, 77:626–651, 2012.
78. A. L. Stewart and P.J. Dellar. Multilayer shallow water equations with complete Coriolis force. Part 2. Linear plane waves. *Journal of Fluid Mechanics*, 690:16–50, 2012.
79. A. L. Stewart and P. J. Dellar. Cross-equatorial flow through an abyssal channel under the complete Coriolis force: two dimensional solutions. *Ocean Modelling*, 40:87–104, 2011.
80. A.L. Stewart and P.J. Dellar. The rôle of the complete Coriolis force in cross-equatorial flow of abyssal ocean currents. *Ocean Modelling*, 38:187–202, 2011.

81. A. L. Stewart, P. J. Dellar, and E. R. Johnson. Numerical simulation of wave propagation along a discontinuity in depth in a rotating annulus. *Computers & Fluids*, 46:442–447, 2011.
82. A. L. Stewart and P. J. Dellar. Multilayer shallow water equations with complete Coriolis force. Part I. Derivation on a non-traditional beta-plane. *Journal of Fluid Mechanics*, 651:387–413, 2010.

OTHER PUBLICATIONS

1. E. K. M. Chang, C. L. P. Wolfe, A. L. Stewart, and J. C. McWilliams. Comments on “Horizontal gravity disturbance vector in atmospheric dynamics” by Peter C. Chu. *Dynamics of Atmospheres and Oceans*, 103:101382, 2023.
2. A. L. Stewart. Physical oceanography: Warming spins up the Southern Ocean. *Nature Climate Change*, 11:1022–1024, 2021.
3. A. L. Stewart. Oceanography: Mixed up at the sea floor. *Nature*, 551(7679):178–179, 2017.
4. A. L. Stewart. *The role of the complete Coriolis force in cross-equatorial transport of abyssal ocean currents*. PhD thesis, University of Oxford, 2011. Available from <http://tinyurl.com/3cbq65u>.
5. A. L. Stewart and P. J. Dellar. Two-layer shallow water equations with complete Coriolis force and topography. *Progress in Industrial Mathematics at ECMI 2008*, pages 1033–1038, 2010.
6. A. L. Stewart. Nonlinear shelf waves in a rotating annulus. *Technical Report of the 2009 Geophysical Fluid Dynamics Program at Woods Hole Oceanographic Institution*, 2010. Available from <http://hdl.handle.net/1912/3213>.

AWARDS

- Fofonoff Early Career Award, American Meteorological Society, 2022.
- NSF Faculty Career Development (CAREER) Award, 2018–2023
- UCLA Atmospheric and Oceanic Sciences Chi Epsilon Pi “Gaston” Award, November 2017
- University of California Hellman Fellows Award, 2016–2017
- Editor’s Award, *Journal of Atmospheric and Oceanic Technology*, American Meteorological Society, 2016
- SCAR Travel Grant Award for the XXXII SCAR Open Science Conference 2012
- Finalist, 1st biennial Lighthill–Thwaites prize at the British Applied Mathematics Colloquium 2011
- European Space Agency sponsorship for the European Geosciences Union General Assembly 2011
- Senior Scholarship, Corpus Christi College, Oxford, October 2010 – September 2011
- Garside Senior Scholarship, Corpus Christi College, Oxford, October 2008 – September 2010
- Mathematical, Physical and Life Sciences Division Prize for a Presentation at the Graduate Student Symposium, October 2009
- The Institute of Marine Engineering, Science and Technology Prize for Best Student Presentation at Challenger Society Ocean Modelling Group Meeting, September 2009

- Geophysical Fluid Dynamics Fellowship at Woods Hole Oceanographic Institution, June – August 2009
- The Quarterly Journal of Mechanics and Applied Mathematics Prize for Best Student Presentation at the British Applied Mathematics Colloquium, April 2009
- Marie Curie Scholarship for the 7th EUROMECH Fluid Mechanics Conference, September 2008
- Institute of Mathematics and its Applications prize for the Best Undergraduate Mathematics Project in Scotland, June 2007
- Institute of Mathematics and its Applications prize for Outstanding Performance in MMath Mathematics, June 2007

RESEARCH SUPPORT

- Dec 2024 – Nov 2027 *‘Parameterizing Ice Shelf Cavity Processes and Basal Melt in NASA Earth System Models’*, NASA NNH23ZDA001N-FINESST (FINESST Earth Sciences Program) \$150,000, F.I. Garrett Finucane, P.I. Andrew Stewart.
- Aug 2023– Jul 2026 *‘Estimating Spatiotemporal Meridional Overturning Circulation Variability from Satellite Observations using Machine Learning’*, NASA ROSES (Physical Oceanography Program) \$570,588, P.I. Andrew Stewart, Co-PIs. Georgy Manucharyan and Andrew Hogg.
- Sep 2022 – Aug 2025 *‘Collaborative Research: Characteristics and origins of eddies beneath Antarctic sea ice’*, NSF ANT-2220968 (Antarctic Ocean and Atmospheric Sciences) \$432,824, P.I.s Andrew Stewart, Daniele Bianchi and Georgy Manucharyan.
- Sep 2020 – Aug 2023 *‘Collaborative Research: The Antarctic Circumpolar Current: A Conduit or Blender of Antarctic Bottom Waters?’*, NSF ANT-2023244 (Antarctic Ocean and Atmospheric Sciences) \$344,969, P.I.s Andrew Stewart, Andrew Thompson and Sarah Purkey, Co-I. Andrew Hogg.
- Aug 2019 – Jul 2022 *‘Remotely Sensing Overturning Circulation Variability in the Southern Ocean’*, NASA ROSES 80NSSC19K1192 (Physical Oceanography Program) \$333,751, P.I. Andrew Stewart, Co-I. Andrew Hogg.
- Jul 2018 – Jun 2023 *‘CAREER: Circumpolar Variability and Exchanges Across the Antarctic Slope Front’*, NSF OCE-1751386 (Physical Oceanography Program) \$693,995 (of \$945,908 total), P.I. Andrew Stewart.
- Aug 2021 – Jul 2022 *‘Machine Learning of the Ocean Overturning Circulation’*, IDRE Postdoctoral Fellowship, \$5,000, Postdoctoral Investigator Aviv Solodoch, P.I. Andrew Stewart.
- Sep 2020 – Aug 2022 *‘Improving Glacial Melt Rate Estimates Using ECCO and NASA OMG’*, NASA 19-EARTH20-0153 (FINESST Earth Sciences Program) \$90,000, F.I. Ken Zhao, P.I. Andrew Stewart, Co-I James McWilliams.

- Sep 2016 – Aug 2020 ‘*Eddy/Tidal Water Mass Transformation and Transport in the Weddell Sea*’, NSF ANT-1543388 (Antarctic Ocean and Atmospheric Sciences) \$428,209, P.I. Andrew Stewart.
- Sep 2015 – Aug 2019 ‘*Parametrizing Eddy Transfer Over Continental Slopes*’, NSF OCE-1538702 (Physical Oceanography Program) \$472,412, P.I. Andrew Stewart.
- Jul 2016 – Jul 2017 ‘*Melting the Giant: Modeling Oceanic Heating of the Antarctic Ice Sheet*’, UC Hellman Fellowship \$28,812, P.I. Andrew Stewart.

COMPUTATIONAL SUPPORT

- Dec 2023 – Dec 2024 ‘*Simulating Circumpolar Variability and Exchanges Across the Antarctic Slope Front*’, ACCESS-CI Accelerate ACCESS Research Allocation, \$3,000,000 ACCESS credits, P.I. Andrew Stewart
- Oct 2021 – Mar 2023 ‘*Simulating Circumpolar Variability and Exchanges Across the Antarctic Slope Front*’, XSEDE Research Allocation Renewal, \$51,324.80 in compute resources, P.I. Andrew Stewart
- Oct 2020 – Sep 2021 ‘*Simulating Circumpolar Variability and Exchanges Across the Antarctic Slope Front*’, XSEDE Research Allocation Renewal, \$10,384.00 in compute resources, P.I. Andrew Stewart
- Apr 2019 – Sep 2020 ‘*Simulating eddy heat transport in the high-latitude oceans*’, XSEDE Research Allocation Renewal, \$44,787.23 in compute resources, P.I. Andrew Stewart
- Apr 2018 – Mar 2018 ‘*Simulating ocean eddy transfer across continental slopes and in the Weddell Sea*’, XSEDE Research Allocation Renewal, \$81,899.31 in compute resources, P.I. Andrew Stewart
- Jan 2017 – Dec 2017 ‘*Simulating ocean eddy transfer across continental slopes and in the Weddell Sea*’, XSEDE Research Allocation, \$59,526.98 in compute resources, P.I. Andrew Stewart
- Jul 2016 – Jun 2017 ‘*Melting the Giant: Modeling Oceanic Heating of the Antarctic Ice Sheet*’, San Diego Supercomputing Center HPC@UC Award, 500,000 SUs, P.I. Andrew Stewart
- Sep 2014 – Mar 2016 ‘*Eddy mixing and transport across continental slopes*’, XSEDE TG-OCE140020 (Startup Allocation), 176,500 SUs, P.I. Andrew Stewart

EDUCATION SUPPORT

- Jul 2018 – Jul 2023 ‘*CAREER: Circumpolar Variability and Exchanges Across the Antarctic Slope Front*’, NSF OCE-1751386 (Physical Oceanography Program) \$251,913 (of \$945,908 total), P.I. Andrew Stewart.
- Jul 2021 – Jun 2022 ‘*Asynchronous Rotating Tank Experiment Videos to Enhance Undergraduate Comprehension in Atmospheric and Oceanic Fluids*’, IIP #21-08 (UCLA Center for Advancement of Teaching) \$9,849.36, P.I. Andrew Stewart, Co-P.I.s Jordyn Moscoso and Gang Chen
- Jul 2019 – Jun 2020 ‘*Integrating Research Cruises into Oceanographic Undergraduate Education*’, IIP #19-03 (UCLA Center for Advancement of Teaching) \$9,870.50, P.I. Daniele Bianchi, Co-P.I.s Andrew Stewart and Jeroen Molemaker
- Jul 2018 – Jun 2019 ‘*Increasing Undergraduate Comprehension of Atmospheric and Ocean Fluids via Rotating Tank Experiments*’, IIP #18-09 (UCLA Office of Instructional Development) \$9,290, P.I. Andrew Stewart, Co-P.I. Gang Chen.

TEACHING

Numbers in parentheses indicate average student evaluations of instructor/course, on a scale of 1 to 9. I was granted a release from teaching in Fall 2014, Fall 2015, Fall 2016, Fall 2017, and Winter 2022. I was on sabbatical during Winter 2021 and Winter 2024.

Physical Oceanography (Undergraduate, upper-division)	Winter 2015 (7.86/6.88), Winter 2016 (7.49/6.65), Winter 2017 (8.01/7.16), Winter 2018 (8.39/7.84), Fall 2018 (8.20/7.85), Fall 2019 (8.49/7.82), Fall 2020 (8.24/7.81), Fall 2021 (8.20/8.16), Fall 2022 (8.13/7.54), Fall 2023 (8.14/7.16)
California’s Ocean (Undergraduate, upper-division)	Spring 2015 (8.67/8.56), Spring 2016 (8.36/8.07), Spring 2017 (8.25/7.33), Spring 2018 (8.75/8.33), Spring 2019 (8.89/8.78), Spring 2020 (8.7/8.33), Spring 2021 (7.75/6.00), Spring 2022 (9.00/9.00), Spring 2023 (8.64/8.30)
Ocean Circulation (Advanced Graduate)	Spring 2019 (9.00/9.00), Spring 2020 (9.00/9.00), Spring 2023 (N/A)
Oceanography and Climate (Graduate Seminar) <i>Topic: Dynamics of the ocean’s bottom boundary layer</i>	Winter 2016 (N/A)
Ocean Dynamics (Graduate Seminar)	Winter 2018, Spring 2018, Fall 2018, Winter 2019, Spring 2019, Fall 2019, Winter 2020, Spring 2020, Fall 2020, Spring 2021, Fall 2021, Winter 2022, Spring 2022, Fall 2022, Winter 2023, Spring 2023, Fall 2023, Winter 2024, Spring 2024 (N/A)

CURRENT RESEARCH GROUP MEMBERS

Huaiyu Wei	Postdoctoral researcher, Feb 2024–Present
Madeleine Youngs	Postdoctoral researcher, Jan 2023–Present
Kaylie Cohanin	Undergraduate researcher, Apr 2018–Dec 2019
	Research assistant, Jan 2020–Jul 2020
	PhD student, Jan 2023–Present
Garrett Finucane	PhD student, starting Sep 2021
Sunny Yeh	PhD student, starting Sep 2021
Alex Akin	Undergraduate researcher, Apr 2024–Present
Mia Thorp	Undergraduate researcher, Jan 2024–Present
Eliza Lerman	Undergraduate researcher, Jan 2024–Present
Wyatt Cottrell	Undergraduate researcher, Jan 2023–Present
Emily Murrell	Undergraduate researcher, Jan 2023–Present
Sophia Spungin	Undergraduate researcher, Jan 2022–Present

FORMER RESEARCH GROUP MEMBERS

Ruibin Xia	Visiting researcher, Sep 2019 – Sep 2020
Aviv Solodoch (PhD 2020)	PhD student, Sep 2014–Jul 2020. Thesis: “Topographic effects on mesoscale ocean circulation”
	Postdoctoral researcher, Aug 2020–Jun 2023
Yan Wang	Postdoctoral researcher, Jan 2016 – Aug 2018
Yidongfang Si (PhD 2023)	PhD student, Sep 2018 – Jun 2023. Thesis: “Ice-Ocean Interactions in the Antarctic Slope Current”
Jordyn Moscoso (PhD 2022)	PhD student, Sep 2016–Jun 2016. Thesis: “Controls on planktonic ecosystem structure in Eastern Boundary Upwelling Systems: a modeling perspective”
Ken Zhao (PhD 2021)	PhD student, Apr 2016–Dec 2021. Thesis: “Dynamics of Ocean Circulation in Glacial Fjords and Ice-Shelf Cavities”
Julia Hazel (PhD 2019)	PhD student, Apr 2015–Jun 2019. Thesis: “Exploring the wind-driven near-Antarctic circulation”
Jennifer Kosty	Undergraduate researcher, Oct 2020–Aug 2023
Jackson Wilke	Undergraduate researcher, Apr 2023–Aug 2023
Pamela Doran	Undergraduate researcher, Oct 2022–Dec 2022
Carlyn Schmidgall	Undergraduate researcher, Jan 2019–Jul 2020
	Research assistant, Aug 2020–May 2022
Nicole Neumann	Remote undergraduate researcher, Dec 2020–May 2022
Xiaoyang Chi	Undergraduate researcher, Apr 2020–Jun 2021
Yue (Luna) Bai	Undergraduate researcher, Apr 2017–Aug 2020
Yang (Kitty) Wang	Undergraduate researcher, Sep 2018–Jun 2019
Tanya Arcienega	Undergraduate researcher, Apr 2018–March 2019
Wenjia (Josslyn) Cai	Undergraduate researcher, Jan 2017–Mar 2018

Truc Pham	Undergraduate researcher, Apr 2018–Nov 2018
Zhao Hua Xu	Undergraduate research student, Aug 2015–Jun 2016
Shuai Meng	Remote graduate researcher, February 2021–June 2022
Mathieu Morvan	Visiting graduate researcher, May 2016–Aug 2016
Victor Ciaramitaro	Summer research intern, May 2016–Aug 2016
Jeff Xu	High school research intern, June 2017–Sep 2017

Leadership activities:	AMS Atmospheric and Oceanic Fluid Dynamics (AOFD) Committee, Jan 2024 – AMS Oceanic Research Awards (ORA) Committee, Apr 2024– Founder, Annual California Geophysical Fluid Dynamics (CalGFD) Meeting 2019–Present, and Lead Organizer, 2019–2020 Associate Editor, Journal of Physical Oceanography, Aug 2020–
Proposal review panelist:	NSF Physical Oceanography NSF Polar Glaciology
Proposal reviewer:	NSF Physical Oceanography NSF Arctic Natural Sciences NSF Antarctic Ocean and Atmospheric Sciences NSF Antarctic Integrated System Science Israeli–US Binational Science Foundation
Conference service:	Lead Convenor, ‘Ice-ocean interactions and circulation around the Antarctic margins’, AGU Ocean Sciences Meeting 2016, 2018, 2020 and 2022 Chair, ‘The Meridional Overturning Circulation’, IAPSO Symposium, 2023 IUGG Meeting Co-Convenor, ‘The Southern Ocean: Where Ocean, Ice and Atmosphere Meet’, IAPSO Symposium, 2019 IUGG Meeting Chair, ‘Submesoscale Ocean Dynamics — Part II’, 21 st Conference on Atmospheric and Oceanic Fluid Dynamics Chair, ‘Balance/Imbalance in the Atmosphere and Ocean’, 19 th Conference on Atmospheric and Oceanic Fluid Dynamics
Journal reviewer:	<i>Nature</i> <i>Proceedings of the National Academy of Sciences</i> <i>Science Advances</i> <i>Nature Climate Change</i> <i>Nature Communications</i> <i>AGU Advances</i> <i>Scientific Reports</i> <i>Geophysical Research Letters</i> <i>Reviews of Geophysics</i> <i>Journal of Climate</i> <i>Climate Dynamics</i> <i>Journal of Physical Oceanography</i> <i>Journal of the Atmospheric Sciences</i>

Journal of Geophysical Research — Oceans
Journal of Fluid Mechanics
Geoscientific Model Development
Biogeosciences
The Cryosphere
Philosophical Transactions A
Tellus A: Dynamic Meteorology and Oceanography
Geophysical and Astrophysical Fluid Dynamics
Annales Geophysicae
Ocean Science
Numerische Mathematik

SEMINARS AND CONFERENCE ABSTRACTS (PRESENTER)

1. *'Can we monitor Southern Ocean overturning circulation variability via remote sensing?'*, Observing the Dynamics of the Southern Ocean workshop, Scripps Institution of Oceanography, 18th April 2024.
2. *'Mesoscale eddy rectification as a driver of eastern boundary undercurrents'*, 2024 AGU Ocean Sciences Meeting, 22nd February 2024.
3. *'Mid-depth Ventilation of the Antarctic Margins'*, 2024 AGU Ocean Sciences Meeting, 20th February 2024.
4. *'Melt-driven transport of oceanic heat toward west Antarctic ice shelves'*, Icy Lunch Seminar, The University of Edinburgh, 8th August 2023.
5. *'Antarctic slope undercurrent and onshore heat transport driven by meltwater upwelling'*, 2023 IUGG Meeting, Berlin, 13th July 2023.
6. *'Indirect inference of Meridional Overturning Circulation variability using satellite observables'*, 2023 IUGG Meeting, Berlin, 13th July 2023.
7. *'Mechanisms and consequences of cross-slope exchange around the Antarctic Margins'*, 2023 Gordon Research Conference on Coastal Ocean Dynamics, Bryant University, Rhode Island, 20th June 2023.
8. *'Isolating feedbacks between polar ocean circulation and ice melt'*, Department of Earth System Science Seminar, University of California, Irvine, 25th January 2023.
9. *'Saturation of the Antarctic Circumpolar Current transport by mesoscale eddies vs. standing waves'*, 2022 Model Hierarchies Workshop, Stanford University, 31st August 2022.
10. *'"Eddy" saturation of the Antarctic Circumpolar Current by standing waves'*, 4th California Geophysical Fluid Dynamics (CalGFD) Meeting, 19th August 2022.
11. *'"Eddy" saturation of the Antarctic Circumpolar Current by standing waves'*, 23rd AMS Conference on Atmospheric and Oceanic Fluid Dynamics, 13th June 2022.
12. *'High-frequency fluctuations in Antarctic Bottom Water transport driven by Southern Ocean winds'*, 2022 AGU Ocean Sciences Meeting, 4th February 2022.
13. *'High-frequency fluctuations in Antarctic Bottom Water transport driven by Southern Ocean winds'*, AGU Fall Meeting, 13th December 2021.

14. *'High-frequency fluctuations in Antarctic Bottom Water transport driven by Southern Ocean winds'*, British Antarctic Survey Polar Oceans Seminar, 3rd November 2021.
15. *'Mesoscale, tidal and seasonal/interannual drivers of the Weddell Sea overturning circulation'*, US Scientific Committee on Antarctic Research (US-SCAR) Conference, July 2021.
16. *'Bi-stability of the Filchner-Ronne Ice Shelf Cavity Circulation and Basal Melt Rates'*, AGU Fall Meeting, December 2020.
17. *'Drivers of sea ice transport in the Antarctic Slope Current'*, 2020 Scientific Committee on Antarctic Research Online Meeting, 28th July 2020.
18. *'Bi-stability of the Filchner-Ronne Ice Shelf Cavity Circulation and Basal Melt Rates'*, 2020 Scientific Committee on Antarctic Research Online Meeting, July 2020.
19. *'Bathymetry-Aware Parameterizations of Eddy Buoyancy Fluxes'*, 2020 AGU Ocean Sciences Conference, San Diego, 17th February 2020.
20. *'Bi-stability of the Filchner-Ronne Ice Shelf Cavity Circulation and Basal Melt Rates'*, 2020 AGU Ocean Sciences Conference, San Diego, 18th February 2020.
21. *'What drives the Antarctic Slope Current?'*, 2020 AGU Ocean Sciences Conference, San Diego, 20th February 2020.
22. *'What drives the Antarctic Slope Current?'*, IAPSO Symposium, 2019 IUGG Meeting, 14th July 2019.
23. *'Tidal-/eddy-driven circulation and heat transfer around Antarctica'*, TABASCO Workshop, California Institute of Technology, 10th June 2019.
24. *'Tidal-/eddy-driven circulation and heat transfer on the continental shelf of Antarctica'*, Seminar at the National Oceanography Center, Liverpool, 9th May 2019.
25. *'Does sea ice drive the Antarctic Slope Current?'*, AGU Fall Meeting, 12th December 2018.
26. *'Ocean circulation at the Antarctic margins: local dynamics with outsized climate impacts'*, Sack Lunch Seminar, Massachusetts Institute of Technology, 17th October 2018.
27. *'Ocean circulation at the Antarctic margins: local dynamics with outsized climate impacts'*, ClimaTea Seminar, Harvard University, 16th October 2018.
28. *'Circum-Antarctic eddy/tidal overturning and shoreward heat transport'*, POLAR 2018 Meeting, Davos, Switzerland, 20th June 2018.
29. *'Dynamics of heat transfer and exchanges across the Antarctic Slope Front'*, AOPP seminar, University of Oxford, 14th June 2018.
30. *'Dynamics of heat transfer and exchanges across the Antarctic Slope Front'*, Polar ocean seminar series, British Antarctic Survey, Cambridge, 13th June 2018.
31. *'Computational Modeling Challenges at the Ocean's (Southern) High Latitudes'*, Workshop on The Future of Earth System Modeling: Atmosphere, Oceans, and Computational Infrastructure, California Institute of Technology, 17th May 2018.
32. *'Dynamics of heat transfer and exchanges across the Antarctic Slope Front'*, CASPO Seminar at Scripps Institution of Oceanography, 2nd May 2018.

33. *'Eddy/tidal overturning and heat transport across the Antarctic Slope Front'*, 2018 AGU Ocean Sciences Conference, 14th February 2018.
34. *'Reshaping the Antarctic Circumpolar Current via Antarctic Bottom Water Export'*, 21st Conference on Atmospheric and Oceanic Fluid Dynamics, 29th June 2017.
35. *'Eddy/tidal mixing and transport at the Antarctic margins'*, Southern Ocean Workshop, NCAR, 10th April 2017.
36. *'Eddy/tidal mixing and transport at the Antarctic margins'*, RSES Seminar at the Australian National University, 3rd November 2016.
37. *'Eddy/tidal mixing and transport at the Antarctic margins'*, Fluid Dynamics Seminar at the University of New South Wales, 31st October 2016.
38. *'Eddy/tidal mixing and transport at the Antarctic margins'*, ROMS Asia-Pacific Workshop, University of Tasmania, 18th October 2016.
39. *'Eddy/tidal mixing and transport at the Antarctic margins'*, AOS Seminar at GFDL, Princeton 4th October 2016.
40. *'Eddy/tidal mixing and transport at the Antarctic margins'*, Department of Marine and Coastal Sciences Seminar at Rutgers University, 3rd October 2016.
41. *'Eddy mixing and transport at the Antarctic margins'*, Jim McWilliams 70th Birthday Symposium, NCAR, 24th August 2016.
42. *'Reshaping the Antarctic Circumpolar Current via Antarctic Bottom Water Formation'*, 2016 AGU Ocean Sciences Conference, 22nd February 2016.
43. *'Turbulent Water Mass Exchanges Across the Antarctic Continental Slope'*, Submesoscale Dynamics and Biology over Steep Slopes (SYNBIOS) symposium, Ecole Normale Supérieure, Paris, 6th July 2015.
44. *'Eddy Energetics and Momentum Transfer on the Antarctic Continental Slope'*, 20th Conference on Atmospheric and Oceanic Fluid Dynamics, June 2015.
45. *'Eddy transport and mixing across the Antarctic continental slope'*, Sack Lunch Seminar at MIT, 13th May 2015.
46. *'Mesoscale Eddy Mixing Across the Antarctic Shelf Break'*, Southern Ocean Dynamics and Biogeochemistry Workshop, Caltech, 4th February 2014.
47. *'Eddy-Mediated Transport of Circumpolar Deep Water Across the Antarctic Shelf Break'*, AGU Fall Meeting, 18th December 2014.
48. *'Eddy-Mediated Transport of Circumpolar Deep Water Across the Antarctic Shelf Break'*, Caltech/JPL workshop on Sea Level Change, 4th September 2014.
49. *'Water Mass Exchange and Heat Transport Across the Antarctic Shelf Break'*, Ocean Group Seminar at the NASA Jet Propulsion Laboratory, 20th May 2014.
50. *'Water Mass Exchange and Heat Transport Across the Antarctic Shelf Break'*, Yuk Lunch Seminar at California Institute of Technology, 6th May 2014.
51. *'Water mass exchange across the Antarctic Slope Front'*, 2014 AGU Ocean Sciences Conference, February 2014.

52. *'A model for the structure and overturning of the Antarctic Slope Front'*, 19th Conference on Atmospheric and Oceanic Fluid Dynamics, June 2013.
53. *'Connecting Antarctic cross-slope exchange with Southern Ocean overturning'*, Atmospheric and Oceanic Sciences Seminar at University of California, Los Angeles, 28th February 2013.
54. *'Regulation of the ocean's deep overturning circulation by Antarctic easterly winds'*, Environmental Science and Engineering Seminar at California Institute of Technology, 20th February 2013.
55. *'Deep overturning sensitivity to easterly winds over the Antarctic continental slope'*, MIT Southern Ocean Workshop, 29th January 2013.
56. *'Export of Antarctic Bottom Water and overturning circulation in the Southern Ocean'*, Physics of Oceans and Atmospheres Seminar at Oregon State University, 19th July 2012.
57. *'Sensitivity of Antarctic Bottom Water export and overturning circulation to polar easterlies'*, XXXII SCAR Open Science Conference, 18th July 2012.
58. *'Sensitivity of Antarctic Bottom Water export and overturning circulation to polar easterlies'*, NCAR IMAGE Theme of the Year 2012: Connections between Rotating, Stratified Turbulence and Climate: Theory, Observations, Experiments, and Models, 15th May 2012.
59. *'Antarctic Bottom Water: downwelling and cross-equatorial flow'*, Ocean Group Seminar at the NASA Jet Propulsion Laboratory, 10th January 2012.
60. *'Cross-equatorial flow of the Antarctic Bottom Water under the complete Coriolis force'*, Seminar at the Summer Program in Geophysical Fluid Dynamics at Woods Hole Oceanographic Institution, 22nd July 2011.
61. *'Inertial and topographic steering of abyssal and coastal ocean currents'*, Vortex Dynamics Group Seminar, University of St Andrews, 19th April 2011
62. *'Cross-equatorial flow of abyssal ocean currents with a complete representation of the Coriolis force'* (Lighthill-Thwaites Prize mini-symposium), British Applied Mathematics Colloquium, 12th April 2011
63. *'A numerical study of cross-equatorial abyssal ocean currents with a complete representation of the Coriolis force'*, European Geosciences Union General Assembly, 4th April 2011
64. *'The role of the complete Coriolis force in cross-equatorial transport of abyssal currents: some numerical results'*, Dynamics of Rotating Fluids, University College London, 7th January 2011
65. *'Cross-equatorial flow of Antarctic Bottom Water and the complete Coriolis force'*, 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, California, 22nd November 2010
66. *'The role of the complete Coriolis force in cross-equatorial transport of the Antarctic Bottom Water'*, CASPO Seminar, Scripps Institute of Oceanography, 17th November 2010
67. *'The role of the complete Coriolis force in cross-equatorial transport of the Antarctic Bottom Water'*, Challenger Ocean Modelling Group Meeting, National Oceanography Centre, Southampton, September 2010
68. *'Experiments on nonlinear coastal shelf waves in a rotating annulus'*, European Geosciences Union General Assembly, May 2010 (*poster presentation*)
69. *'The role of the complete Coriolis force in cross-equatorial transport of the Antarctic Bottom Water'*, European Geosciences Union General Assembly, May 2010 (*solicited talk*)

70. *'Numerical simulation of wave propagation along a discontinuity in depth in a rotating annulus'*, Institute for Computational Fluid Dynamics Conference on Numerical Methods for Fluid Dynamics, April 2010
71. *'The role of the complete Coriolis force in cross-equatorial transport of the Antarctic Bottom Water'*, British Applied Mathematics Colloquium, Maxwell Institute for Mathematical Sciences, April 2010
72. *'Nonlinear Rossby shelf waves in a rotating annulus'*, Dynamics of Rotating Fluids, University College London, January 2010
73. *'"Non-traditional" shallow water models for equatorial ocean currents'*, Challenger Ocean Modelling Group Meeting, University of Oxford, September 2009
74. *'"Non-traditional" shallow water models for equatorial ocean currents'*, British Applied Mathematics Colloquium, University of Nottingham, April 2009
75. *'Multilayer shallow water equations on a nontraditional β -plane'*, Dynamics of Rotating Fluids, University College London, January 2009
76. *'Two-layer obliquely-rotating shallow water equations with complete Coriolis force'*, EUROMECH Fluid Mechanics Conference 7, University of Manchester, September 2008
77. *'Two-layer shallow water equations with complete Coriolis force and topography'*, European Consortium for Mathematics in Industry, University College London, June 2008