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## CURRICULUM VITAE – Glenn S. Carter

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### Profession preparation

University of Auckland	Applied Math	BSc	1992
University of Auckland	Engineering science	BE(hons)	1994
University of Washington	Oceanography	MSc	2001
University of Washington	Oceanography	Ph.D	2005
University of Hawai'i	Oceanography	Postdoc	2005–2008

### Appointments

2013 – Present	Associate Professor, Department of Oceanography, University of Hawai'i
2008 – 2013	Assistant Professor, Department of Oceanography, University of Hawai'i
2005 – 2008	JIMAR Assistant Researcher, University of Hawai'i
1998 – 2005	Research Assistant, Applied Physics Lab, University of Washington
1994 – 1998	Junior scientist, National Institute of Water and Atmospheric Research Limited (NIWA), Christchurch New Zealand

### Courses currently taught

OCN 201	Science of the sea (Spring)
OCN 310	Global environmental change for GES majors (Fall)
OCN 490	Communication of research results for GES majors (Spring even years)
OCN 665	Small-scale air-sea interaction (Spring even years)

### Advising

Sherry Chou (current PhD); Adam Jenkins (MS); Joseph Martinelli (Undergraduate); Kelly Pearson (MS, current PhD)

Becky Baltes (MS committee); Jake Cass (MS committee); Alma Castillo-Trujillo (MS, Comp committees); Victoria Futch (MS, Comp, PhD committees); Colette Kerry (Comp, PhD committees); Charina Repollo (PhD committee); Christopher Schvarcz (Comp committee); Katie Smith (Comp, PhD committees); Saulo Soares (Comp, PhD committees); Seth Travis (Comp committee); Nathalie Zilberman (PhD committee)

Rob Hall (Post-doctoral researcher)

### Publications

46. Voet, G., J. B. Girton, M. H. Alford, **G. S. Carter**, J. M. Klymak, J. B. Mickett (2016), Warming and weakening of the abyssal flow through Samoan Passage. *Journal of Physical Oceanography*, 46(8), 2389-2401.
45. Mathur, M., **G. S. Carter**, and T. Peacock (2016) Internal Tide Generation Using Green Function Analysis: To WKB or Not to WKB?, *Journal of Physical Oceanography*, 46(7), 2157–2168.
44. Richards, K. J., A. Natarov, E. Firing, Y. Kashino, S. M. Soares, M. Ishizu, **G. S. Carter**, J. H. Lee, and K. I. Chang (2015), Shear-generated turbulence in the equatorial pacific produced by small vertical scale flow features, *Journal of Geophysical Research*, 120, 3777–3791.
43. Voet, G., J. B. Girton, M. H. Alford, **G. S. Carter**, J. M. Klymak, and J. B. Mickett (2015),

- Pathways, volume transport and mixing of abyssal water in the Samoan Passage, *Journal of Physical Oceanography*, 45(2), 562–588.
42. Alford, M. H., J. M. Klymak, and **G. S. Carter** (2014), Breaking internal lee waves at Kaena Ridge, Hawaii, *Geophysical Research Letters*, 41(3), 906–912, doi:10.1002/2013GL059070.
41. Chou, S. H., D. S. Luther, M. D. Guiles, **G. S. Carter**, and T. Decloedt (2014), An empirical investigation of nonlinear energy transfer from the m2 internal tide to diurnal wave motions in the Kauai Channel, Hawaii, *Geophysical Research Letters*, 41(2), 505–512.
40. Hall, R. A., M. H. Alford, **G. S. Carter**, M. C. Gregg, R.-C. Lien, D. J. Wain, and Z. Zhao (2014), Transition from partly standing to progressive internal tides in Monterey Submarine Canyon, *Deep Sea Research Part II*, 104, 164–173
39. Kerry, C. G., B. S. Powell, and **G. S. Carter** (2014), The impact of subtidal circulation on internal tide generation and propagation in the philippine sea, *Journal of Physical Oceanography*, 44(5), 1386–1405.
38. Mathur, M., **G. S. Carter**, and T. Peacock (2014), Topographic scattering of the low-mode internal tide in the deep ocean, *Journal of Geophysical Research: Oceans*, 119(4), 2165–2182.
37. Waterhouse, A. F., J. A. MacKinnon, J. D. Nash, M. H. Alford, E. Kunze, H. L. Simmons, K. L. Polzin, L. C. St. Laurent, O. M. Sun, R. Pinkel, L. D. Talley, C. B. Whalen, T. N. Huussen, **G. S. Carter**, I. Fer, S. Waterman, A. C. Naveira Garabato, T. B. Sanford, and C. M. Lee (2014), Global patterns of diapycnal mixing from measurements of the turbulent dissipation rate, *Journal of Physical Oceanography*, 44(7), 1854–1872.
36. Alford, M. H., J. B. Girton, G. Voet, **G. S. Carter**, J. B. Mickett, and J. M. Klymak (2013), Turbulent mixing and hydraulic control of abyssal water in the Samoan Passage, *Geophysical Research Letters*, 40(17), 4668–4674.
35. Kerry, C. G., B. S. Powell, and **G. S. Carter** (2013), Effects of remote generation sites on model estimates of M2 internal tides in the Philippine Sea, *Journal of Physical Oceanography*, 43(1), 187–204.
34. Tanaka, T., I. Yasuda, Y. Tanaka, and **G. S. Carter** (2013), Numerical study on tidal mixing along the shelf break in the Green Belt in the southeastern Bering Sea, *Journal of Geophysical Research*, 118, 6525–6542.
33. Van Uffelen, L. J., E. M. Nosal, B. M. Howe, **G. S. Carter**, P. F. Worcester, M. A. Dzieciuch, K. D. Heaney, R. L. Campbell, and P. S. Cross (2013), Estimating uncertainty in subsurface glider position using transmissions from fixed acoustic tomography sources, *Journal of Acoustical Society of America*, 134, 3260–3271.
32. Wain, D. J., M. C. Gregg, M. H. Alford, R.-C. Lien, R. A. Hall, and **G. S. Carter** (2013), Propagation and dissipation of the internal tide in upper Monterey Canyon, *Journal of Geophysical Research*, 118(10), 4855–4877.

31. Qiu, B., S. Chen, and **G. S. Carter**, 2012, Time-Varying Parametric Subharmonic Instability from Repeat CTD Surveys in the Northwestern Pacific Ocean *Journal of Geophysical Research*, **117**, C09012, doi:10.1029/2012JC007882.
30. Zhao, Z., M. H. Alford, R.-C. Lien, M. C. Gregg, and **G. S. Carter**, 2012, Internal tides and mixing in a submarine canyon with time-varying stratification, *Journal of Physical Oceanography*, **42**(12), 2121–2142.
29. **Carter, G. S.**, O. B. Fringer, and E. D. Zaron, 2012, Regional Models of Internal Tides, *Oceanography*, **25**(2), 56–65.
28. Powell, B. S., I. Janeković, **G. S. Carter**, and M. A. Merrifield, 2012, Sensitivity of internal tide generation in Hawaii, *Geophysical Research Letters*, **39**, L10606, doi:10.1029/2012GL051724.
27. Foster, J. H., B. A. Brooks, D. Wang, **G. S. Carter**, and M. A. Merrifield, 2012, Improving tsunami warning using commercial ships, *Geophysical Research Letters*, **39**, L09603, doi:10.1029/2012GL051367.
26. Zilberman, N. V., M. A. Merrifield, **G. S. Carter**, D. S. Luther, M. D. Levine and T. J. Boyd, 2011 Incoherent nature of M<sub>2</sub> internal tides at the Hawaiian Ridge. *Journal of Physical Oceanography*. **41**, 2021–2036.
25. Zhao, Z., M. H. Alford, J. Girton, T. M. S. Johnston and **G. S. Carter**, 2011, Internal tides around the Hawaiian Ridge estimated from multi-satellite altimetry. *Journal of Geophysical Research*, **116**, C12039, doi:10.1029/2011JC007045,
24. Gregg, M. C., R. A. Hall, **G. S. Carter**, M. H. Alford, R.-C. Lien, D. P. Winkel, and D. J. Wain, 2011, Flow and mixing in Ascension, a steep, narrow canyon, *Journal of Geophysical Research*, **116**, C07016, doi:10.1029/2010JC006610.
23. Johnston, T. M. S., D. L. Rudnick, **G. S. Carter**, R. E. Todd, and S. T. Cole, 2011, Internal tidal beams and mixing near Monterey Bay, *Journal of Geophysical Research*, **116**, C03017, doi:10.1029/2010JC006592.
22. Hall, R.A., and **G. S. Carter**, 2011, Internal tides in Monterey Submarine Canyon, *Journal of Physical Oceanography*, **41**, 186-204.
21. **Carter, G. S.**, 2010: Bartropic and baroclinic M<sub>2</sub> tides in the Monterey Bay region. *Journal of Physical Oceanography*, **40**, 1766–1783.
20. Chavanne, C., P. Flament, **G. S. Carter**, M. A. Merrifield, D. S. Luther, E. D. Zaron, and K.-W. Gurgel, 2010: The surface expression of semi-diurnal internal tides near a strong source at Hawai‘i. Part I: observations and numerical predictions. *Journal of Physical Oceanography*, **40**, 1155–1179.
19. Rainville, L., T. M. S. Johnston, **G. S. Carter**, M. A. Merrifield, R. Pinkel, B. D. Dushaw, and P. F. Worcester, 2010: Interference pattern and propagation of the M<sub>2</sub> internal tide south of the Hawaiian Ridge. *Journal of Physical Oceanography*, **40**, 311–325.

18. Zilberman, N. V., M. A. Merrifield, and **G. S. Carter**, 2009: Model estimates of  $M_2$  internal tide generation over Mid-Atlantic Ridge topography. *Journal of Physical Oceanography*, **39**, 2635–2651.
  17. Foster, J. H., **G. S. Carter**, and M. A. Merrifield, 2009: Ship-based measurements of sea surface topography. *Geophysical Research Letters*, **36**, L11605, doi:10.1029/2009GL038324.
  16. **Carter, G. S.**, M. A. Merrifield, J. M. Becker, K. Katsumata, M. C. Gregg, D. S. Luther, M. D. Levine, and T. J. Boyd and Y. L. Firing, 2008: Energetics of  $M_2$  barotropic to baroclinic tidal conversion at the Hawaiian Islands. *Journal of Physical Oceanography*, **38**, 2205 – 2223.
  15. **Carter, G. S.** and M. A. Merrifield, 2007: Open boundary conditions for regional tidal simulations. *Ocean Modelling*, **18**, 194–209.
  14. **Carter, G. S.**, M. C. Gregg, and M. A. Merrifield, 2006: Flow and mixing around a small seamount on Kaena Ridge, Hawaii. *Journal of Physical Oceanography*, **36**(6), 1036–1052.
  13. **Carter, G. S.** and M. C. Gregg, 2006: Persistent near-diurnal internal waves observed above a site of  $M_2$  barotropic-to-baroclinic conversion. *Journal of Physical Oceanography*, **36**(6), 1136–1147.
  12. Klymak, J. M., J. N. Moum, J. D. Nash, E. Kunze, J. B. Girton, **G. S. Carter**, C. Lee, T. B. Sanford, and M. C. Gregg, 2006: An estimate of energy lost to turbulence at the Hawaiian Ridge. *Journal of Physical Oceanography*, **36**(6), 1148–1164.
  11. Gregg, M. C., **G. S. Carter**, and E. Kunze, 2005: Corrigendum: Corrections to mixing rates in two papers about Monterey Submarine Canyon, Carter and Gregg (2002) and Kunze et al. (2002). *Journal of Physical Oceanography*, **35**, 1712–1715.
  10. **Carter, G. S.**, M. C. Gregg, and R.-C. Lien, 2005: Internal waves, solitary-like waves, and mixing on the Monterey Bay shelf. *Continental Shelf Research*, **25**, 1499–1520.
  9. Rudnick, D. L., T. J. Boyd, R. E. Brainard, **G. S. Carter**, G. D. Egbert, M. C. Gregg, P. E. Holloway, J. M. Klymak, E. Kunze, C. M. Lee, M. D. Levine, D. S. Luther, J. P. Martin, M. A. Merrifield, J. N. Moum, J. D. Nash, R. Pinkel, L. Rainville, and T. B. Sanford, 2003: From tides to mixing along the Hawaiian Ridge. *Science*, **301**, 355–357.
  8. **Carter, G. S.** and M. C. Gregg, 2002: Intense, variable mixing near the head of Monterey Submarine Canyon. *Journal of Physical Oceanography*, **32**(11), 3145–3165.
  7. Kunze, E., L. K. Rosenfeld, **G. S. Carter**, and M. C. Gregg, 2002: Internal waves in Monterey Submarine Canyon. *Journal of Physical Oceanography*, **32**(6), 1890–1913.
  6. Black, K. P., R. G. Bell, J. W. Oldman, **G. S. Carter**, and T. M. Hume, 2000: Features of 3-dimensional barotropic and baroclinic circulation in the Hauraki Gulf, New Zealand. *New Zealand Journal of Marine and Freshwater Research*, **34**, 1–28.
  5. Macky, G. H., A. I. McKerchar, A. K. Laing, **G. S. Carter**, and A. M. Chater, 2000: Synthesis of extreme wave climate for the Canterbury Bight, New Zealand. *New Zealand Journal of Marine and Freshwater Research*, **34**, 71–85.
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4. Chikita, A. K., I. Halstead, and **G. S. Carter**, 2000: Sedimentary environments in Lake Pukaki, New Zealand. *Journal of the sediment Society, Japan*, **51**, 55–66.
3. **Carter, G. S.** and U. Shankar, 1997: Creating rectangular bathymetry grids for environmental numerical modelling of gravel-bed rivers. *Applied Mathematical Modelling*, **21**, 699–708.
2. **Carter, G. S.** and M. R. Lane, 1996: Modelling surface oscillations in New Zealand lakes. *New Zealand Journal of Marine and Freshwater Research*, **30**, 341–353.
1. **Carter, G. S.**, 1996: Interaction of surface seiche and recording frequency in lake level records (note). *Journal of Hydrology (N.Z.)*, **35**, 123–130.

**Cruise experience:**

December 1998	PRISM hydrographic cruise in Puget Sound aboard R/V Thompson (4 days).
January 2000	Student cruise from San Diego to Honolulu aboard R/V Thompson (10 days).
October 2000	HOME Survey cruise along Hawaiian Ridge aboard R/V Revelle (29 days).
November 2000	Seafloor mapping of Keana Ridge, Hawaii aboard R/V Revelle (4 days).
March 2001	Puget Sound intrusion study aboard R/V Miller (3 days returning to port each night).
April 2001	Study of flow over Hood canal sill aboard R/V Miller (6 days returning to port each night).
September 2001	EPIC cruise to 98°W 10°N aboard R/V Brown (32 days).
May 2002	Puget Sound intrusion study aboard R/V Barnes (4 days).
May 2002	Admiralty Inlet seafloor mapping aboard R/V Thompson (3 days).
September 2002	HOME Nearfield cruise to Kaena Ridge, Hawaii aboard R/V Revelle (25 days).
March 2003	Black Sea mixing cruise, Turkey aboard R/V Knorr (30 days).
April 2003	Seafloor mapping of Black Sea shelf aboard R/V Knorr (3 days).
February 2004	Central Pacific restratification cruise to 150°W, 30°N aboard R/V Welcoma (29 days).
October 2004	Aegean Sea cruise, Greece aboard R/V Oceanus (24 days).
October 2005	University of Hawaii Student cruise aboard RV Kilo Moana (8 days).
August 2006	Monterey Bay mixing cruise aboard RV Revelle (17 days).
January 2008	Southwest Indian Ocean aboard RV Revelle (23 days).
February 2009	Monterey Bay aboard RV Wecoma (10 days).
April 2009	Monterey Bay aboard RV Wecoma (24 days).
November 2010	Central Pacific aboard RV Thompson (32 days).
January 2011	Central Pacific aboard RV Kilo Moana (11 days).
April 2011	Central Pacific aboard RV Kilo Moana (19 days).
January 2012	HOT profiler, North Pacific aboard RV Kilo Moana (3 days)
Apr 2012	Equatorial mixing aboard RV Kilo Moana (24 days)
Jul 2012	Samoan Passage deep transport and mixing aboard RV Revelle (39 days)

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Nov 2012	Equatorial mixing aboard RV Kilo Moana (24 days)
Jan 2014	Samoa Passage deep transport and mixing aboard RV Thompson (40 days)
Apr 2014	Student cruise, Hydraulic jump over Kaena Ridge aboard RV Falkor (4 days)
Jun 2014	HoeBoe, North Pacific aboard RV Ka'imikai-O-Kamaloa (4 days)
Jun 2014	HoeBoe, North Pacific aboard RV Kilo Moana (5 days)
Nov 2015	HOT, North Pacific aboard RV Kilo Moana (4 days)
Jun 2016	WHOTS mooring turn around aboard Hi'ialakai (9 days)