Edward D. Zaron

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Education

B.S., Applied Mathematics	Harvey Mudd College	1988
Ph.D., Physical Oceanography	Oregon State University	1995

Appointments & Employment

2020-present	Associate Professor (Senior Research), Oregon State University
2013-2022	Senior Scientist, Science Applications International Corporation
2018-2020	Research Associate Professor, Portland State University
2009-2018	Research Assistant Professor, Portland State University
2007-2009	Senior Research Associate, Portland State University
2006-2007	Research Associate, Portland State University
2003-2006	Research Associate (Post-Doc), Oregon State University
1995-2003	Middle- & high-school teacher: Brush Creek Montessori, Santa Rosa, CA; Montessori School of Raleigh, Raleigh, NC; and Franciscan Montessori Earth School, Portland, OR

Research Interests

Ocean surface and internal tides, sea level, and satellite altimetry.
Geophysical fluid dynamics, ocean forecasting, and data assimilation.

Current Research Projects

NSF–Collaborative Research: Ocean tides and surface drifters
NASA Ocean Surface Topography Science Team
NASA SWOT Science Team
NOAA/NOPP: Improving the Realism of MOM6-SIS2

Representative Publications

E. D. Zaron, T. A. Capuano, and A. Koch-Larrouy. Fortnightly tidal variability of Chl-*a* in the Indonesian Seas. *Ocean Science*, 19:43–55, 2023.

E. D. Zaron, B. S. Chua, P. A. Reinecke, J. Michalakes, J. D. Doyle, and L. Xu. The tangent-linear and adjoint models of the NEPTUNE dynamical core. *Tellus A*, 74(1):399–411, 2022a.

E. D. Zaron. Baroclinic tidal cusps from satellite altimetry. *Journal of Physical Oceanography*, 52(12): 3123–3137, 2022.

E. D. Zaron, R. Musgrave, and G. D. Egbert. Baroclinic tidal energetics inferred from satellite altimetry. *Journal of Physical Oceanography*, 52(5):1015–1032, 2022b.

E. D. Zaron and S. Elipot. An assessment of global ocean barotropic tide models using geodetic mission altimetry and surface drifters. *Journal of Physical Oceanography*, 51(1):63–82, 2021.

L. Carrere, B. K. Arbic, B. Dushaw, G. D. Egbert, S. Y. Erofeeva, F. Lyard, R. D. Ray, C. Ubelmann, E. Zaron, Z. Zhao, J. F. Shriver, M. C. Buijsman, and N. Picot. Accuracy assessment of global internal tide models using satellite altimetry. *Ocean Science*, 17:147–180, 2021.

B. D. Hamlington, A. S. Gardner, E. Ivins, J. T.M. Lenaerts, J.T. Reager, D. S. Trossman, E. D. Zaron, and 40 co-authors. Understanding of contemporary regional sea level change and the implications for the future. *Reviews of Geophysics*, 58:e2019RG000672, 2020.

E. D. Zaron. Predictability of non-phase-locked baroclinic tides in the Caribbean Sea. *Ocean Science*, 15: 1287–1305, 2019a.

R. Morrow, L.-L. Fu, F. Ardhuin, M. Benkiran, B. Chapron, E. Cosme, F. d'Ovidio, J. T. Farrar, S. T. Gille, B. Lepeyre, P.-Y. LeTraon, A. Pascual, A. Ponte, B. Qiu, N. Rascle, C. Ubelmann, J. Wang, and E. D. Zaron. Global observations of fine-scale ocean surface topography with the Surface Water & Ocean Topography (SWOT) mission. *Frontiers in Marine Science*, 6:232, 2019.

E. D. Zaron. Simultaneous estimation of ocean tides and underwater topography in the Weddell Sea. *Journal of Geophysical Research*, 124(5):3125–3148, 2019b.

E. D. Zaron. Ocean and ice shelf tides from CryoSat-2 altimetry. *Journal of Physical Oceanography*, 48: 975–993, 2018.

A. T. Devlin, E. D. Zaron, D. A. Jay, S. A. Talke, and J. Pan. Seasonality of tides in Southeast Asian waters. *Journal of Physical Oceanography*, 48:1169–1190, 2018.

E. D. Zaron. Mapping the non-stationary internal tide with satellite altimetry. *Journal of Geophysical Research*, 122(1):539–554, 2017.

E. D. Zaron. Laser Doppler velocimetry of a flowing soap-water film using a modified computer mouse. *American Journal of Physics*, 84(10):810–813, 2016a.

E. D. Zaron. On the observability of bottom topography from measurements of sea surface height. *Ocean Modelling*, 102:55–63, 2016b.

E. D. Zaron, P. J. Fitzpatrick, S. L. Cross, J. Harding, F. L. Bub, J. D. Wiggert, D. S. Ko, Y. Lau, K. Woodard, and C. N. K. Mooers. Initial evaluations of a Gulf of Mexico/Caribbean ocean forecast system in the context of the Deepwater Horizon disaster. *Frontiers of Earth Science*, 9(4):605–636, 2015.

E. D. Zaron and D. A. Jay. An analysis of secular change in tides at open-ocean sites in the Pacific. *Journal of Physical Oceanography*, 44(7):1704–1726, 2014.

P. Matte, D. A. Jay, and E. D. Zaron. Adaptation of classical tidal harmonic analysis to non-stationary tides, with application to river tides. *Journal of Atmospheric and Oceanic Technology*, 30:569–589, 2013.

R. D. Ray and E. D. Zaron. Non-stationary internal tides observed with satellite altimetry. *Geophysical Research Letters*, 38:L17609, 2011.

E. D. Zaron and J. N. Moum. A new look at Richardson number mixing schemes for Equatorial ocean modeling. *Journal of Physical Oceanography*, 39(10):2652–2664, 2009.

E. D. Zaron and G. D. Egbert. Estimating open-ocean barotropic tidal dissipation: The Hawaiian Ridge. *Journal of Physical Oceanography*, 36:1019–1035, 2006.