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B.S., Clarkson College of Technology, 1980 (Mechanical Engineering)

M.S., Clarkson College of Technology, 1982 (Mechanical Engineering)

S.M., Harvard University, 1984 (Applied Mathematics)

Ph.D., Harvard University, 1988 (Applied Mathematics)

PROFESSIONAL EXPERIENCE:

Senior Scientist June 2002–present; Associate Scientist, 1993–June 2002; tenure awarded 1997; Assistant Scientist, 1990–1993; Woods Hole Oceanographic Institution

Visiting Scientist, Institut für Meerskunde, Kiel, Germany, 1992

Visiting Scientist, National Center for Atmospheric Research, Boulder, Colorado, 1988–1989

Research Assistant, Harvard University, 1984–1988

Staff Engineer, TRW, Redondo Beach, California, 1982–1983

AWARDS:Citation for Excellence in refereeing, *Journal of Geophysical Research* 2002

Bjerknes Visiting Fellow, Bergen, Norway, November 2011

Henry Bryant Bigelow Chair for Excellence in Oceanography, WHOI, 2017-2019

PROFESSIONAL AFFILIATIONS:Editorial Board Member, *Dynamics of Atmospheres and Oceans*, 1998–2007Associate Editor, *Journal of Geophysical Research: Oceans*, 1999–2004Guest editor, Special Issue on Ocean Fronts, *Dynamics of Atmospheres and Oceans*, 2002Editor, *Journal of Physical Oceanography*, 2002–2016 (Chief Editor 2009–2016)

Member, Ocean Research Priorities Plan Implementation Team for the Atlantic Meridional Overturning Circulation Near Term Priority 2007–2008

Editorial Board Member, *Journal of Marine Science and Engineering*, 2012–2015

Member, American Geophysical Union

Member, American Meteorological Society

Member, AMOC Science Team 2015–present

Member, AMOC Executive Committee, 2017–present

Vice Chair, AMOC Task Team 3, 2017

Member, Assessment Board for the University of Oslo Associate Professor search, Dept. of Geosciences, 2015

RESEARCH INTERESTS:

Dynamics of mid-latitude subtropical and subpolar gyres, frontal dynamics and mesoscale variability, thermohaline circulation, water mass transformation in marginal seas.

PAPERS IN REFEREED JOURNALS AND BOOKS:

Author or co-author of 90 refereed scientific publications.

Robinson, A. R., M. A. Spall, and N. Pinardi, 1988. Gulf Stream simulation and the dynamics of ring and meander processes. *Journal of Physical Oceanography*, **18**(12), 1811–1853, doi: [http://dx.doi.org/10.1175/1520-0485\(1988\)018<1855:TWMOTC>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1988)018<1855:TWMOTC>2.0.CO;2).

Robinson, A. R., M. A. Spall, L. J. Walstad, and W. G. Leslie, 1989. Data assimilation and dynamical interpolation in GULFCASTING experiments. *Dynamics of Atmospheres and Oceans*, **13**, 301–316, doi:10.1016/0377-0265(89)90043-2.

Spall, M.A., 1989. Regional primitive equation modeling and analysis of the POLYMODE data set. *Dynamics of Atmospheres and Oceans*, **14**(1–2), 125–174, doi:10.1016/0377-0265(89)90060-2.

Spall, M. A., and A. R. Robinson, 1989. A new hybrid coordinate open ocean primitive equation model. *Mathematics and Computers in Simulation*, **31**, 241–269, doi:10.1016/0378-4754(89)90162-6.

Spall, M. A., 1990. Circulation in the Canary Basin: a model/data analysis. *Journal of Geophysical Research*, **95**(C6), 9611–9628, doi: 10.1029/JC095iC06p09611.

Spall, M. A., and A. R. Robinson, 1990. Regional primitive equation studies of the Gulf Stream meander and ring formation region. *Journal of Physical Oceanography*, **20**(7), 985–1016, doi: [http://dx.doi.org/10.1175/1520-0485\(1990\)020<0985:RPESOT>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1990)020<0985:RPESOT>2.0.CO;2).

Spall, M. A., 1991. A diagnostic study of the wind and buoyancy driven North Atlantic Circulation. *Journal of Geophysical Research*, **96**(C10), 18,509–18,518, doi: 10.1029/91JC01957.

Spall, M. A., and W. R. Holland, 1991. A nested primitive equation model for oceanic applications. *Journal of Physical Oceanography*, **21**(2), 205–220, doi: [http://dx.doi.org/10.1175/1520-0485\(1991\)021<0205:ANPEMF>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1991)021<0205:ANPEMF>2.0.CO;2).

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Spall, M. A., 1992. Rossby wave radiation in the Cape Verde Frontal Zone. *Journal of Physical Oceanography*, **22**(7), 796–807, doi: [http://dx.doi.org/10.1175/1520-0485\(1992\)022<0796:RWRITC>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1992)022<0796:RWRITC>2.0.CO;2).

Spall, M.A., and J. C. McWilliams, 1992. Rotational and gravitational influences on the degree of balance in the shallow water equations. *Geophysical and Astrophysical Fluid Dynamics*, **64**, 1–29, doi: 10.1080/03091929208228083.

Spall, M. A., 1993. Variability of sea surface salinity in stochastically forced systems. *Climate Dynamics*, **8**, 151–160, doi:10.1007/BF00208094.

Spall, M. A., P. L. Richardson, and J. Price, 1993. Advection and eddy mixing in the Mediterranean salt tongue. *Journal of Marine Research*, **51**(4), 797–818, doi:<http://dx.doi.org/10.1357/0022240933223882>.

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- Spall, M. A., 1994. Mechanism for low frequency variability and salt flux in the Mediterranean salt tongue. *Journal of Geophysical Research*, **99**(C5), 10,121–10,129, doi: 10.1029/93JC03587.
- Spall, M. A., 1994. Wave-induced abyssal recirculations. *Journal of Marine Research*, **52**, 1051–1080, DOI: <http://dx.doi.org/10.1357/0022240943076830>.
- Spall, M.A., 1995. Frontogenesis, subduction, and cross-front exchange at upper ocean fronts. *Journal of Geophysical Research*, **100**(C2), 2543–2557, doi: 10.1029/94JC02860.
- Williams, R. G., M. A. Spall, and J. C. Marshall, 1995. Does Stommel's mixed-layer 'demon' work? *Journal of Physical Oceanography*, **25**(12), 3089–3102, doi: [http://dx.doi.org/10.1175/1520-0485\(1995\)025<3089:DSMLW>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1995)025<3089:DSMLW>2.0.CO;2).
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- Spall, M. A., 1997. Baroclinic jets in confluent flow. *Journal of Physical Oceanography*, **27**(6), 1054–1071, doi: [http://dx.doi.org/10.1175/1520-0485\(1997\)027<1054:BJICF>2.0.CO;2](http://dx.doi.org/10.1175/1520-0485(1997)027<1054:BJICF>2.0.CO;2).
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- Spall, M. A., and R. S. Pickart, 2003. Wind-driven recirculations and exchange in the Labrador and Irminger Seas. *Journal of Physical Oceanography*, **33**, 1829–1845, doi: <http://dx.doi.org/10.1175/2384.1>.

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- Spall, M. A., 2005. Buoyancy-forced circulations in shallow marginal seas. *Journal of Marine Research*, **63**, 729–752, doi: <http://dx.doi.org/10.1357/0022240054663204>.
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- Pickart, R. S., and M. A. Spall, 2007. Impact of Labrador Sea Convection on the North Atlantic Meridional Overturning Circulation. *Journal of Physical Oceanography*, **37**(9), 2207–2227, doi: <http://dx.doi.org/10.1175/JPO3178.1>.
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- Spall, M. A., 2007. Effect of sea surface temperature-wind stress coupling on baroclinic instability in the ocean. *Journal of Physical Oceanography*, **37**(4), 1092–1097, doi: <http://dx.doi.org/10.1175/JPO3045.1>.
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- Spall, M. A., R. S. Pickart, P. S. Fratantoni, and A. J. Plueddemann, 2008. Western Arctic shelfbreak eddies: Formation and transport. *Journal of Physical Oceanography*, **38**, 1644–1668, doi: <http://dx.doi.org/10.1175/2007JPO3829.1>.

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