

CURRICULUM VITAE

GEOFFREY K. VALLIS

Education

1977. B.A., Physics, Oxford University

1981. Ph. D., Physics, London University (Imperial College).

Professional History

2013 – . Professor, Dept. of Mathematics, University of Exeter.

1998 – 2013. Professor/Senior Research Scientist, AOS Program, Princeton Univ.

1989 – 1998. Associate Professor–Professor of Ocean Sciences.

Director, Center for Nonlinear Science, UC Santa Cruz

1983 – 1988. Assistant–Associate Researcher. SIO, UCSD.

1981 – 1983. Post-doctoral Researcher, SIO, UCSD.

Research Interests

Climate dynamics.

Atmospheric and oceanic circulation and dynamics.

Honors and Awards

Honorary Visiting Professor, University of Liverpool, 2015.

Adrian Gill Prize, Royal Meteorological Society, 2014.

Royal Society Wolfson Research Merit Award, 2014.

Proudman Lecturer, NOC, Liverpool, 2014

Philip Thompson Lecturer, NCAR, 2013.

Stanislaw Ulam Distinguished Scholar, Los Alamos Nat'l Lab, 2013.

Distinguished Visiting Scientist, University of Washington, 2013.

Victor Starr Memorial Lecturer, MIT, 2008.

Outreach, teaching and synergistic activity

Numerous public lectures on climate and climate change.

Author of non-specialist book *Climate and the Oceans*.

Former editor, *J. Atmos. Sci., Revs. Geophysics, Fluid Dynamics Research*

Taught numerous courses at postgraduate and undergraduate levels.

Former Graduate and Postdoctoral Advisees:

M. Maltrud (LANL), A. Pares-Sierra (CICESE), P. Olla (U. Sardinia), J. Wang (Silicon Valley), K. Oetzel (Silicon Valley), J. Aroyan (unknown), M. Mundt (Seagate), R. Raskin (JPL), T. Huck (U. Brest), K. S. Smith (NYU), R. Scott (U. Brest), J. Loving (unknown), C. Cartwright (ICF Inc.), N. Grianik (Financial), B. Fox-Kemper (Brown), B. Cash (COLA), R. Zhang (GFDL), E. Gerber (NYU), R. Zhao (Goldman Sachs), N. Fuckar (Barcelona), J. Mitchell (UCLA), A. Venaille (ENS, Lyon), J. Kidston (UNSW), M. Nikurashin (U. Hobart), G. Badin (U. Hamburg), S. Zhang (Qingdao).

Publications

Over 100 research articles in the peer-reviewed literature, with a sample below.

Books

Vallis, G. K. 2006. *Atmospheric and Oceanic Fluid Dynamics: Fundamentals and Large-Scale Circulation*. Cambridge University Press. 745 pp. <http://www.vallisbook.org>

Vallis, G. K. 2011. *Climate and the Oceans*. Princeton University Press. 232 pp. <http://www.princeton.edu/~gkv/climoce>

Selection of Recent Articles

Vallis, G.K., Zurita-Gotor, P., Cairns, C. and Kidston, J. 2014. Response of the large-scale structure of the atmosphere to global warming. *Quart. J. Roy. Meteor. Soc.*, in press.

Farneti, R. and Vallis, G.K., 2013. Meridional energy transport in the coupled atmosphere-ocean system: Compensation and partitioning. *J. Climate*. <http://dx.doi.org/10.1175/JCLI-D-12-00133.1>.

Jucker, M., Fueglistaler, S. and Vallis, G.K., 2013. Maintenance of stratospheric structure in an idealized general circulation model. *J. Atmos. Sci.* <http://dx.doi.org/10.1175/JAS-D-12-0305.1>

O'Rourke, A. and Vallis, G.K., 2013. Jet interaction and the influence of a minimum phase speed bound on the propagation of eddies. *J. Atmos. Sci.*, 70, 2614–2628. <http://dx.doi.org/10.1175/JAS-D-12-0303.1>.

Zurita-Gotor, P. and Vallis, G.K., 2013. The determination of extratropical tropopause height in an idealized gray-radiation model. *J. Atmos. Sci.* <http://dx.doi.org/10.1175/JAS-D-12-0209.1>.

Nikurashin, M. and Vallis, G.K., 2012. A theory of deep stratification and interhemispheric overturning circulation and associated stratification. *J. Phys. Oceanogr.*, 42, 1652–1667.

Kidston, J., Vallis, G.K., Dean, S.M. and Renwick, J.A., 2011. Can the increase in the eddy length scale under global warming cause the poleward shift of the jet streams? *J. Climate*, 24, 3764–3780. <http://dx.doi.org/10.1175/2010JCLI3738.1>.

Zurita-Gotor, P. and Vallis, G.K., 2011. Dynamics of midlatitude tropopause height in an idealized model. *J. Atmos. Sci.*, 68, 823–838.

Held, I.M., Winton, M., Takahashi, K., Delworth, T., Zeng, F. and Vallis, G.K., 2010. Probing the fast and slow components of global warming by returning abruptly to preindustrial forcing. *J. Climate*, 23, 2418–2427. [10.1175/2009JCLI3466.1](http://dx.doi.org/10.1175/2009JCLI3466.1).

Gerber, E. and Vallis, G.K., 2009. On the zonal structure of the NAO and annular modes. *J. Atmos. Sci.*, 66, 332–352.

Kidston, J. and Vallis, G.K., 2010. The relationship between eddy-driven jet latitude and width. *Geophys. Res. Lett.*, 37, L21809. [10.1029/2010GL044849](http://dx.doi.org/10.1029/2010GL044849).

Mitchell, J. and Vallis, G.K., 2010. The transition to superrotation in terrestrial atmospheres. *J. Geophys. Res. (Planets)*, p. 18. [10.1029/2010JE003587](http://dx.doi.org/10.1029/2010JE003587).

Vallis, G.K., 2009. Mechanisms of climate variability from years to decades. In T. Palmer and P. Williams, eds., *Stochastic Physics and Climate Modelling*, pp. 1–35. Cambridge University Press.

Vallis, G.K. and Gerber, E.P., 2008. Local and hemispheric dynamics of the North Atlantic Oscillation, annular patterns and the zonal index. *Dyn. Atmos. Oceans*, 44, 184–212.