Eric P. Salathé Jr.

Assistant Professor
Climate Science and Policy · Science and Technology Program
University of Washington · Bothell

A. Education

Ph.D. in Geology and Geophysics, Yale University, 1994. (Dissertation Title: The Interaction of Upper-Tropospheric Water Vapor and the Earth's Radiation Field; Advisor: Prof. Ronald B. Smith)

B.A. with Honors in Physics, Swarthmore College, 1987.

B. Positions Held

Assistant Professor, Climate Science and Policy, Science and Technology Program, University of Washington, Bothell. September 2010 to present.

Affiliate faculty, Department of Atmospheric Sciences, University of Washington. July 2005 to present.

Senior Research Scientist and Principal for Climate Scenarios, JISAO/CSES Climate Impacts Group, University of Washington. August 1999 to August 2010.

Visiting Scientist, Chiang Mai University, Chiang Mai, Thailand. January 2009.

Research Associate, Department of Atmospheric Sciences, University of Washington. July 1995 to July 1999.

National Research Council Associate, NASA Goddard Laboratory for Atmospheres. October 1993 to June 1995.

NASA Global Change Research Fellow, Yale University. September 1990 to September 1993.

C. Field Experience

Participated in the Experiment on Rapidly Intensifying Cyclones over the Atlantic (ERICA) as part of the NCAR Sabreliner aircraft research staff, 1989.

Participated in the Chemical Layering Project in Champaign, IL and Edmonton, Alberta. Research Scientist on ten Sabreliner aircraft flights, 1991.

D. Publications

Submitted for publication:

V Dulière, Y Zhang, EP Salathé: Changes in 20th century extreme temperature and precipitation over the western United States from regional climate model simulations and observations. Submitted to *Climatic Change*.

Y. Zhang, V Dulière, Salathé Jr, E.P., Y. Qian, L.R. Leung. ENSO Anomalies over the Western United States: Present and Future Patterns in Regional Climate Simulations. Submitted to *J Climate*.

Bauman, Y, G Mauger, and EP Salathé: Climate change impacts on dairy production in the Pacific Northwest. Submitted to *Climatic Change.*

V Dulière, Y Zhang, P Mote, EP Salathé: Extreme precipitation and temperature over the U.S. Pacific Northwest : A comparison between observations, reanalysis data and regional models. Submitted to *J. Climate*.

In press:

Chotamonsak,' C, EP Salathé , J Kreasuwan, S Chantara and K Siriwitayakorn, 2010: Projected Climate Change over Southeast Asia Simulated by a WRF regional climate model. Atmospheric Research Lett., in press

Published:

Salathé, E. P., Y. Zhang, L. R. Leung, and Y. Qian, 2010: Regional Climate Model Projections for the State of Washington. *Climatic Change 102(1-2): 51-75, doi: 10.1007/s10584-010-9849-y*.

Mote, P. and E.P. Salathé, 2010: Future climate in the Pacific Northwest. *Climatic Change* 102(1-2): 29-50, doi: 10.1007/s10584-010-9848-z.

Chen, J., J. Avise, A. Guenther, C. Wiedinmyer, E. Salathe, R. B. Jackson, and B. Lamb, 2009: Future land use and land cover influences on regional biogenic emissions and air quality in the United States. *Atmospheric Environment*, **43,** 5771-5780.

Weaver, C. P., *et al.*, 2009: A Preliminary Synthesis of Modeled Climate Change Impacts on U.S. Regional Ozone Concentrations. *Bulletin of the American Meteorological Society*, **90,** 1843-1863.

Zhang, Y, V Dulière, P Mote, E.P. Salathé Jr., 2009: Evaluation of WRF and HadRM Mesoscale Climate Simulations over the United States Pacific Northwest. *J. Climate*, **22,** 5511-5526.

Avise, J., J. Chen, B. Lamb, C. Wiedinmyer, A. Guenther, E. Salathé, and C. Mass, 2009: Attribution of projected changes in US ozone and PM2.5 concentrations to global changes. *Atmos. Chem. Phys*., **9,** 1111–1124.

Chen, J., J. Avise, B. Lamb, E. Salathé, C. Mass, A. Guenther, C. Wiedinmyer, J.-F. Lamarque, S. O'Neill, D. McKenzie, and N. Larkin, 2009: The effects of global changes upon regional ozone pollution in the United States. *Atmos. Chem. Phys*., **9**, 1125–1141.

E. P. Salathé Jr, P. Zahn, R. Steed, and C.F. Mass. 2008. A high-resolution climate model for the United States pacific northwest: Mesoscale feedbacks and local responses to climate change. *J. Climate*, **21**, 5708–5726.

P. Mote, A. Hamlet, and E. Salathé, 2008: Has spring snowpack declined in the Washington Cascades? Hydrol. Earth Syst. Sci., **4**, 2073-2110.

E. P. Salathé Jr, P W Mote, M W Wiley, 2007: Considerations for selecting downscaling methods for integrated assessments of climate change impacts. *Int. J. of Climatology,* **27**, 1611-1621.

E. P. Salathé Jr, 2006: Influences of a shift in North Pacific storm tracks on Western US regional climate under global warming. *Geophys. Res. Lett.*, **33,** L19820, doi:10.1029/2006GL026882.

E. P. Salathé Jr. 2004: Methods for selecting and downscaling simulations of future global climate with application to hydrologic modeling. *International Journal of Climatology*, **25,** 419-436.

E. P. Salathé Jr., 2003: The effect of various precipitation downscaling methods on the simulation of streamflow in a rainshadow river basin, *Int. J. of Climatology,* **23,** 887-901.

M. Widmann, C. S. Bretherton, and E. P. Salathé, 2003: Statistical precipitation downscaling over the northwestern United States using numerically simulated precipitation as a predictor. *J. Climate*. **16,** 799-816

L. Garand, et al., 2001: Radiance and Jacobian intercomparison of radiative transfer models applied to HIRS and AMSU channels, *J. Geophys. Res.*, **106,** 24,017-24,031

Contributing author, SPARC Assessment of Upper Tropospheric and Stratospheric Water Vapour. Edited by D. Kley, J.M. Russell, and C. Phillips. 2000.

Contributing author, The IPCC Scientific Assessment. Report of Working Group I of the Intergovernmental Panel on Climate Change (IPCC). 2000.

B. Soden, et al., 2000: An intercomparison of radiation codes for retrieving upper-tropospheric humidity in the 6.3-micron band: a report from the 1st GVaP Workshop, *Bull. Amer. Meteorol. Soc.,* **81,** 797-808.

E. P. Salathé Jr. and D L Hartmann, 1999: Subsidence and upper-tropospheric drying along trajectories in a general circulation model, *J. Climate,* **12**.

E. P. Salathé and D. L. Hartmann, 1997: A trajectory analysis of tropical upper-tropospheric moisture and convection. *J. Climate,* **10,** 2533-2547.

E. P. Salathé Jr. and R. B. Smith, 1996: Comparison of 6.7-micron radiances computed from aircraft soundings and observed from GOES-VAS. *J. Geophys. Res.,* **101,** 21,303-21,310

E. P. Salathé Jr., D. Chesters, Y. Sud 1995: Evaluation of upper-tropospheric moisture climatology in a GCM using TOVS radiance observations. *J. Climate,* **8,** 2404

E. P. Salathé Jr. and D. Chesters, 1995: Variability of moisture in the upper troposphere, as inferred from TOVS satellite observations and ECMWF model analyses. *J. Climate,* **8,** 120.

E. P. Salathé Jr. and R. B. Smith, 1992: In situ observations of temperature microstructure above and below the tropopause. *J. Atmos. Sci.,* **49,** 2032-2036.

E. P. Salathé Jr. et al., 1990: The foot as a shock absorber. *J. Biomechanics.* **23,** 655

E. P. Salathé Jr. et al., 1989: An application of beam theory to determine the stress and deformation of long bones. *J. Biomechanics.* **22,** 189.

E. P. Salathé Jr. et al., 1986: A biomechanical model of the foot. *J. Biomechanics.* **19,** 989.

E. P. Salathé and E. P. Salathé Jr., 1986: Transcapillary exchange during arteriolar vasomotion. *Microvascular Research.* **11,** 115.

Recent technical reports:

Mote, P.W., E. P. Salathé Jr (In review). Possible future climate. Chapter 5 in A. K. Snover, E.L. Miles, and the Climate Impacts Group, Rhythms of Change: An Integrated Assessment of Climate Impacts on the Pacific Northwest, Cambridge, Massachusetts: MIT Press.

Mote, P.W., E.P. Salathé Jr., 2009. Future climate in the Pacific Northwest. Washington Climate Change Impacts Assessment: Evaluating Washington's Future in a Changing Climate.

Salathé Jr, E.P., Y. Zhang, L.R. Leung, Y. Qian, 2009. Regional Climate Model Projections for the State of Washington. Washington Climate Change Impacts Assessment: Evaluating Washington's Future in a Changing Climate.

Mote, P.W., E.P. Salathé, and C. Peacock. 2006. Energy-relevant Impacts of Climate Change in the Pacific Northwest. Report prepared for Portland General Electric by the Climate Impacts Group, University of Washington, Seattle. 19 pp.

Mote, P.W., E.P. Salathé, and C. Peacock. 2005. Scenarios of Future Climate for the Pacific Northwest. A report prepared for King County (Washington)'s October 27, 2005 climate change conference "The Future Ain't What It Used to Be: Preparing for Climate Disruption". Climate Impacts Group, University of Washington, Seattle.

E. Funded research

Current as PI or coPI:

Estimates of Changing Daily Precipitation Intensity and Flood Risk in the Pacific Northwest Using Regional Climate Simulations. US Army Corps of Engineers. $170,000, April 2010-March 2011 (PI: Salathé).

ECOHAB – Modeling favorable habitat areas for Alexandrium catenella in Puget Sound and evaluating the effects of climate changes. NOAA ECOHAB. $741,779 + ship time ($264,132) PI: Moore, NOAA/NFSC; UW Lead: Salathé.

Confronting Climate Change Health Risks in the Pacific Northwest, CDC. (PI: Richard Fenske)

Modeling the Effects of Climate Change and Variability on the Pacific Northwest: Mesoscale Processes and Climate Impacts. NSF Climate Dynamics. $393,778, Jan 2007 – May 2011. (PI: Salathé)

Ensemble Analyses of the Impact and Uncertainties of Global Change on Regional Air Quality in the U.S. EPA STAR. $313,256. Feb 2006 – Apr 2011. (PI: Salathé)

Distributed computing project: Pacific Northwest regional climate change. Microsoft Research. $172,926. (PI: Salathé). Nov 2007-April 2011.

Ensemble Analyses of the Impact and Uncertainties of Global Change on Regional Air Quality in the U.S. NCAR Climate Simulation Laboratory. 164,000 GAU, December 2007 – May 2009.

Integrating mesoscale downscaling with hydrologic and process models in the Pacific Northwest. NOAA Climate Dynamics and Environmental Prediction (CDEP). $225,000. PI: Miles, Co-PI: Salathé.

F. Teaching and outreach

Developed new core curriculum for University of Washington Program on the Environment.

ENVIR 250: Environmental Studies: Methods of Data Collection and Analysis.

5-6 lectures per year to stakeholder groups and public audiences on climate change and climate impacts.

G. Graduate students and post-docs

Current Post-docs:
Guillaume Mauger
Eric Lutz

Current Graduate Students:
Richard Steed
Michael Warner
Adam Skalenakis
Chakrit Chotomonsak (Chiang Mai University)

Past Post-docs:
Valérie Dulière (now at Royal Belgian Institute of Natural Sciences)
Yongxin Zhang (now at NCAR)

Past Graduate Students:
Patrick Zahn (M.S., now at Sonoma Technology Inc.)

H. Contact information

JISAO
University of Washington
Box 355672
Seattle WA, 98195-5672

Phone: 206-616-5351

E-mail: salathe@washington.edu

Web: <http://www.atmos.washington.edu/~salathe/>