

Dr. Fred Martin Ralph

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Education

1991 Ph.D. in Atmospheric Sciences, University of California at Los Angeles
1987 M.S. in Atmospheric Sciences, University of California at Los Angeles
1984 B.S. in Meteorology, with Highest Honors, University of Arizona

Professional experience

2013-present Director, Center for Western Weather and Water Extremes, Scripps Inst. of Oceanography
2005-2013 Chief, Water Cycle Branch of the NOAA/Earth System Research Lab./Physical Sciences Division
2009-2013 Research Associate, Scripps Inst. of Oceanography, Climate, Atmos. Sci., and Phys. Ocean. Group
2002-2013 Leader of NOAA's Hydrometeorology Testbed (HMT) – roles: founding director, sponsor...
2004-2010 Program Manager, NOAA/Weather & Water/Science, Technology & Infusion Matrix Program
2005-2008 Program Manager (founding), NOAA's Unmanned Aircraft Systems Program
2001-2005 Chief, NOAA/Environmental Technology Lab./Weather & Climate Applications Division
1997-2002 Chief Scientist of the CALJET and PACJET field experiments
1992-2001 Research Meteorologist, NOAA Environmental Technology Laboratory

Honors

2013 Climate Science Service Award, California Dept. of Water Resources
2012 Dept. of Commerce Bronze Medal...for flood mitigation efforts for Howard Hansen Dam
2009 NOAA Administrator's Award "...leadership of the NOAA Unmanned Aircraft System Program"
2008 Elected a Fellow of the American Meteorological Society
2007 NOAA/OAR Outstanding Scientific Paper Award, Geophys. Res. Lett., 2006, Vol. 33
2004 NOAA/OAR Outstanding Scientific Paper Award, J. Hydrometeorology, 2003, Vol. 4.
2003 Department of Commerce Bronze Medal to PACJET Research and Development Team

Selected Committee and Professional Memberships

2013-present Fellow of Cooperative Institute for Research on Environmental Sciences/Univ. of Colorado
2011-2013 Member, NESDIS/GOES-R Science and Development Executive Board
2010-2013 Member, Management Board, Developmental Testbed Center (DTC)
2011-2012 Co-Chair, NOAA's Water Cycle Science Challenge Interagency Workshop
2004-2012 Chair, NOAA/United States Weather Research Program (USWRP) Executive Committee
2006-2007 Co-Organizer, Symposium on Connections between Mesoscale Processes and Climate Variability
2003-2004 Chair, NSF/NCAR Observing Facilities Advisory Panel
2003-2005 Chair, American Meteorological Society Committee on Mesoscale Meteorology

Recent Refereed Publications (75 peer-reviewed publications starting in 1990 with 1600 citations; 25 as lead author)

Ralph, F.M., and coauthors, 2013: The emergence of weather-focused testbeds linking research and forecasting operations. *Bull. Amer. Meteor. Soc.*, **94**, 1187-1210.
Ralph, F. M., T. Coleman, P.J. Neiman, R. Zamora, and M.D. Dettinger, 2013: Observed impacts of duration and seasonality of atmospheric-river landfalls on soil moisture and runoff in coastal northern California. *J. Hydrometeor.*, **14**, 443-459.
Wick, G. A., P.J. Neiman, and F.M. Ralph, 2013: Description and validation of an automated objective technique for identification and characterization of the integrated water vapor signature of atmospheric rivers. *IEEE Trans. Geosci. Remote Sensing*, **51**, 2166-2176.
Ralph, F. M., and M. D. Dettinger, 2012: Historical and national perspectives on extreme West Coast precipitation associated with atmospheric rivers during December 2010. *Bull. Amer. Meteor. Soc.*, **93**, 783-790.
Moore, B.J., P.J. Neiman, F.M. Ralph, F. Barthold, 2012: Physical processes associated with heavy flooding rainfall in Nashville, Tennessee and vicinity during 1-2 May 2010: The role of an atmospheric river and mesoscale convective systems. *Mon. Wea. Rev.*, **140**, 358-378.
Newman, M., G. N. Kiladis, K. M. Weickman, F. M. Ralph and P.D. Sardeshmukh, 2012: Relative contributions of synoptic and low-frequency eddies to time-mean atmospheric moisture transport, including the role of atmospheric rivers. *J. Climate*, **25**, 7341-7361.
Ralph, F. M., P. J. Neiman, G. N. Kiladis, K. Weickman, and D. W. Reynolds, 2011: A multi-scale observational case study of a Pacific atmospheric river exhibiting tropical-extratropical connections and a mesoscale frontal wave. *Mon. Wea. Rev.*, **139**, pp. 1169-1189, doi: 10.1175/2010MWR3596.1.
Dettinger, M.D., Ralph, F.M., Das, T., Neiman, P.J., and Cayan, D., 2011: Atmospheric rivers, floods, and the water resources of California. *Water*, **3**, 455-478.