

David A. Rahn

Atmospheric Science Program
Department of Geography
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Education

Ph.D., 2008: Atmospheric Science, University of Wyoming, Laramie, WY
Dissertation Topic: Forcing mechanisms of coastally trapped wind reversals

M.S., 2006: Atmospheric Science, University of Wyoming, Laramie, WY
Thesis Topic: Modification of the coastal jet by Cape Mendocino

B.S., 2003: Atmospheric and Oceanic Science, University of Wisconsin, Madison, WI

Professional Positions

8 / 2012 - Present: Assistant Professor, Department of Geography, University of Kansas, Lawrence, Kansas

9 / 2008 - 9 / 2012: Postdoctoral Research Associate, University of Chile, Santiago, Chile

9 / 2004 - 8 / 2008: Graduate Research Assistant and Teaching Assistant, Department of Atmospheric Sciences, University of Wyoming, Laramie, Wyoming

Research Interests

Coastal meteorology (including coastally trapped wind reversals, coastal lows, and low level jets), synoptic and large scale influences on the marine atmospheric boundary layer, and aircraft instrumentation.

Refereed Publications

Rahn, D. A., 2012: Influence of large scale oscillations on upwelling-favorable coastal wind off central Chile. *J. Geophys. Res.*, 117, D19114, doi:10.1029/2012JD018016.

Juliá, C., D. A. Rahn, J. A. Rutllant, 2012: Assessing the influence of the MJO on strong precipitation events in subtropical, semi-arid north-central Chile (30°S). *J. Climate*, 25, 7003-7013.

Rahn, D. A., R. Garreaud, and J. Rutllant, 2011: The low-level atmospheric circulation near Tongoy Bay / point Lengua de Vaca (Chilean coast, 30°S). *Mon. Wea. Rev.*, **139**, 3628-3647.

Garreaud, R., J. Rutllant, R. Muñoz, D. Rahn, M. Ramos, and D. Figueroa, 2011: VOCALS-CUpEx: The Chilean Upwelling Experiment. *Atmos. Chem. Phys.*, **11**, 2015-2029, doi:10.5194/acp-11-2015-2011.

Rahn, D. A. and Garreaud, R., 2010: Marine boundary layer over the subtropical southeast Pacific during VOCALS-REx – Part 1: Mean structure and diurnal cycle, *Atmos. Chem. Phys.*, **10**, 4491-4506, doi:10.5194/acp-10-4491-2010.

Rahn, D. A. and Garreaud, R., 2010: Marine boundary layer over the subtropical southeast Pacific during VOCALS-REx – Part 2: Synoptic variability, *Atmos. Chem. Phys.*, **10**, 4507-4519, doi:10.5194/acp-10-4507-2010.

Rahn, D. A. and T. R. Parish, 2010: Cessation of the 22-25 June 2006 Coastally Trapped Wind Reversal. *J. Appl. Meteor. Climatol.*, **49**, 1412-1428.

Rahn, D. A. and T. R. Parish, 2008: A Study of the Forcing of the 22-25 June 2006 Coastally Trapped Wind Reversal based on Numerical Simulations and Aircraft Observations. *Mon. Wea. Rev.*, **136**, 4687–4708.

Parish, T. R., D. A. Rahn, and D. Leon, 2008: Aircraft Observations of a Coastally Trapped Wind Reversal off the California Coast. *Mon. Wea. Rev.*, **136**, 644–662.

Rahn, D. and T. R. Parish, 2007: Diagnosis of the Forcing and Structure of the Coastal Jet near Cape Mendocino Using In Situ Observations and Numerical Simulations. *J. Appl. Meteor. Climatol.*, **46**, 1455-1468.

Other Non-peer reviewed Publications

Garreaud, R., J. Rutllant, R. Muñoz, D. Rahn, M. Ramos, and D. Figueroa, 2010: VOCALS-CUPEx: The Chilean Upwelling Experiment. *CLIVAR-Exchanges Newsletter*, 15(2), 5-7.

Participation in Scientific Meetings

Rahn, D. A., 2012: Assessing intraseasonal to interannual variability of upwelling-favorable coastal winds off central Chile. *10th Symposium on the Coastal Environment*, New Orleans, LA, *Amer. Meteor. Soc.*, **3A.3**.

Rahn, D. A., and R. D. Garreaud, 2011: Climatology of the 10-m wind along the west coast of South America from 30 years of high-resolution reanalysis. *Segundo Congreso de Oceanografía Física, Meteorología y Clima*, Coquimbo, Chile.

Rahn, D. A., and J. Rutllant, 2011: Eventos de Precipitación intensa en función de la altitud en el valle del Elqui: Parte III: Eventos aislados en La Serena y en Embalse Laguna [Intense precipitation events as a function of altitude in the Elqui valley: Part III: Isolated events in La Serena and the Laguna Dam]. *Segundo Congreso de Oceanografía Física, Meteorología y Clima*, Coquimbo, Chile.

Rahn, D. A., R. Garreaud, J. Rutllant, and R. Muñoz, 2010: Daytime coastal jet maximum in central Chile (30°S) during VOCALS-CUPEx. *Eos Trans. AGU*, 91(26), Meet. Am. Suppl., Abstract A24B-04, Foz do Iguaçu, Brasil.

Rahn, D. A., 2009: Variabilidad sinóptica de la capa límite marina durante VOCALS-REx (primavera 2008) [Synoptic variability of the marine boundary layer during VOCALS-REx (spring 2008)]. *Primer Congreso de Oceanografía Física, Meteorología y Clima*, Concepción, Chile.

Rahn, D. A., and R. Garreaud, 2009: Upsidence wave during VOCALS. *2nd VOCALS Science Meeting*, Seattle, WA., **3B**.

Rahn, D. A., 2007: Aircraft observations of a coastally trapped wind reversal off the California coast, *7th Conf. on Coastal Met./7th Conf. on Urban Environ.*, San Diego, CA, *Amer. Meteor. Soc.*, **8.2**.

Current Projects:

NSF Grant: AGS-1034862, 2012-2014

Title: PREcision Atmospheric Marine Boundary Layer Experiment (PREAMBLE)

PIs: David A. Rahn and Thomas R. Parish

FONDECYT Grant: 3110100, 2010-2012

Title: Synoptic Influence on the subtropical Marine Boundary Layer in the Southeast Pacific: The SIMBL Experiment

PI: David A. Rahn

Field Work

May/June 2012: PREcision Atmospheric Marine Boundary Layer Experiment (PREAMBLE). Directed aircraft missions that investigated a variety of coastal meteorological phenomena in southern California. Total flight hours: 34.5

September 2011: Synoptic Influence on the subtropical Marine Boundary Layer (SIMBL). Radiosondes were launched twice daily for two weeks from Robinson Crusoe Island (archipelago Juan Fernández), ~700 km west of the central Chilean coast.

December 2009 – January 2011: VOCALS-CUpEx. Flew missions measuring the coastal jet along the coast of Chile. Total flight hours: 9.3.

November/December 2009: VAMOS Ocean-Cloud-Atmosphere-Land Study – Chilean Upwelling Experiment (VOCALS-CUpEx). Stationed at Talcaruca, Chile with main duties including launching radiosondes.

June 2006: Dynamics and Microphysics in Marine Stratocumulus (DMIMS). Maintained airborne aerosol instrumentation and directed missions. Total flight hours: 23.7.

Past Projects:

FONDECYT Grant: 1090412

Title: Dynamics of the Atmospheric Marine Boundary Layer off Subtropical Chile

Role: Post-doctoral researcher and technical support

2009-2010

FONDECYT Grant: 1090492

Title: Variabilidad Climática en Chile: Evaluación, Interpretación y Proyecciones (ACT19/R19)

Role: Post-doctoral researcher

2008-2009

ONR Grant N000140510720 and NSF Grant ATM-0332202

Title: Dynamics and Microphysics in Marine Stratocumulus (DMIMS)

Role: Research assistant (Ph. D. Student)

2006-2008

NSF Grant: ATM-0332202

Title: An Application of Airborne Global Positioning System (GPS) Measurements to Studies of Atmospheric Dynamics

Role: Research assistant (Masters Student)

2005-2006

Teaching Experience

ATMO105 – Introductory Meteorology, University of Kansas (Fall 2012)

ATMO505 – Weather Forecasting, University of Kansas (Fall 2012)

ATSC 2000 Lab – Introduction to Meteorology, Lab Instructor, Department of Atmospheric Science, University of Wyoming (Fall 2005, Fall 2006, Spring 2007, and Fall 2007).

ATSC 2000 Lecture – Introduction to Meteorology, Co-lecturer, Department of Atmospheric Science, University of Wyoming (Fall 2006 and Fall 2007).

Professional Activities

2012 – present: Undergraduate Affairs Committee

2006 – 2008: Member, University of Wyoming Flight Safety Committee

Professional Affiliations

2004 – present: American Meteorological Society

2007 – present: American Geophysical Union

2010 – present: European Geophysical Union

Computer Skills and Proficiency

UNIX, Windows, IDL, MatLab, GEMPAK, GrADS, IDV, VAPOR, WRF

Languages

English (native), Spanish