

EUGENE C. CORDERO

Professor

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EDUCATION

California State University, Northridge	Physics	B.S., 1988
California State University, Northridge	Physics	M.S., 1991
University of California, Davis	Atmospheric Science	Ph.D., 1995
Monash University, Australia		
Graduate Certificate in Higher Education Teaching		2002

APPOINTMENTS

Department of Meteorology and Climate Science, San Jose State University, USA
2002-present: Professor

Department of Mathematics and Statistics, Monash University, Australia
1997-2001: Scientist and Lecturer

Atmospheric Chemistry and Dynamics: NASA Goddard Space Flight Center, USA
1995-1996: Visiting Scientist

RESEARCH

REFEREED PUBLICATIONS AND BOOKS

- Brown*, P. T., E. C. Cordero, and S. A. Mauget, 2012: Reproduction of 20th Century Inter- to Multi-decadal Surface Temperature Variability in Radiatively Forced Coupled Climate Models, *J. Geophys. Res.*, doi:10.1029/2011JD016864.
- Mauget, S. A., E. C. Cordero and P. T. Brown*, 2011: Evaluating Modeled Intra- to Multidecadal Climate Variability Using Running Mann–Whitney Z Statistics, *J. Climate*, **25**, doi: 10.1175/JCLI-D-11-00211.1.
- Cordero, E. C., W. Kessomkiat*, J. Abatzoglou and S. Mauget, 2011: The identification of distinct patterns in California temperature trends, *Climatic Change*, DOI 10.1007/s10584-011-0023-y.
- McCormack, J. P., T. R. Nathan, and E. C. Cordero, 2011: The effect of zonally asymmetric ozone heating on the Northern Hemisphere winter polar stratosphere, *Geophys. Res. Lett.*, **38**, L03802, doi:10.1029/2010GL045937.
- Nathan, T. R., J. R. Albers and E. C. Cordero, 2011: Role of wave–mean flow interaction in sun–climate connections: historical overview and some new interpretations and results, *J. Atmospheric and Solar-Terrestrial Physics*, **73**, 1594-1605.
- Butchart, N., I. Cionni, V. Eyring, T. G. Shepherd, D. W. Waugh, H. Akiyoshi, J. Austin, C. Bruhl, M. P. Chipperfield, E. Cordero, M. Dameris, R. Deckert, S. Dhomse, S. M. Frith, R. Garcia, A. Gettelman, M. A. Giorgetta, D. E. Kinnison, F. Li, E. Mancini, C. McLandress, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, F. Sassi, J. F. Scinocca, K. Shibata, B. Steil, W. Tian, 2010: Chemistry-climate model simulations of 21st century

- stratospheric climate and circulation changes, *J. Clim.*, **23**, 5349-5374, doi: 10.1175/2010JCLI3404.1.
- Rhee, J, E. C. Cordero and L. R. Quill, 2010: Pilot Implementation of an Interdisciplinary Course on Climate Solutions, *Int. J. Eng. Ed.* **26**, 391-400.
- Stec, L and E. Cordero, *Cool Cuisine: Taking the Bite out of Global Warming* (Utah: Gibbs Smith, 2008), 244 pages.
- Cordero, E. C., A. M. Todd, D. Abellera, 2008: Climate change education and the ecological footprint, *Bull. Amer. Meteorol. Soc.*, **89**, 865-872.
- Eyring, V., D. W. Waugh, G. E. Bodeker, E. Cordero, H. Akiyoshi, J. Austin, S. R. Beagley, B. Boville, P. Braesicke, C. Bruhl, N. Butchart, M. P. Chipperfield, M. Dameris, R. Deckert, M. Deushi, S. M. Frith, R. R. Garcia, A. Gettelman, M. Giorgetta, D. E. Kinnison, E. Mancini, E. Manzini, D. R. Marsh, S. Matthes, T. Nagashima, P. A. Newman, J. E. Nielsen, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, M. Schraner, J. F. Scinocca, K. Semeniuk, T. G. Shepherd, K. Shibata, B. Steil, R. Stolarski, W. Tian, and M. Yoshiki, 2007: Multimodel projections of stratospheric ozone in the 21st century, *J. Geophys. Res.*, **112**, D16303, doi:10.1029/2006JD008332, 2007.
- Badwin, M and M. Dameris (Lead Authors), J. Austin, S. Bekki, B. Bregman, N. Butchart, E. Cordero, N. Gillet, H. -F. Graf, C. Grainier, D. Kinnison, S. Lal, T. Peter, W. Randel, J. Scinocca, D. Shindell, H. Struthers, M. Takahashi, D. Thompson, Ozone climate interactions, Chapter 5 in *Scientific Assessment of Ozone Depletion: 2006*, Global Ozone Research and Monitoring Project—Report No. 50, 572 pp., World Meteorological Organization, Geneva, Switzerland, 200.
- Nathan, T. R. and E. C. Cordero, 2007: An ozone-modified refractive index for vertically propagating planetary waves. *J. Geophys Res.*, **112**, D02105, doi:10.1029/2006JD007357.
- Cordero, E. and P. M. d. F. Forster, 2006: Stratospheric Variability and Trends in Models used for the IPCC AR4. *Atmos. Chem and Phys.* **6**, 5369–5380.
- Eyring, V., N. Butchart, D. W. Waugh, H. Akiyoshi, J. Austin, S. Bekki, G. E. Bodeker, B. A. Boville, C. Bruhl, M. P. Chipperfield, E. Cordero, M. Dameris, M. Deushi, V. E. Fioletov, S. M. Frith, R. R. Garcia, A. Gettelman, M. A. Giorgetta, V. Grewe, L. Jourdain, D. E. Kinnison, E. Mancini, E. Manzini, M. Marchand, D. R. Marsh, T. Nagashima, P. A. Newman, J. E. Nielsen, S. Pawson, G. Pitari, D. A. Plummer, E. Rozanov, M. Schraner, T. G. Shepherd, K. Shibata, R. S. Stolarski, H. Struthers, W. Tian, and M. Yoshiki, 2006: Assessment of temperature, trace species, and ozone in chemistry-climate model simulations of the recent past, *J. Geophys. Res.*, **111**, D22308, doi:10.1029/2006JD007327.
- Cordero, E. C. and T. R. Nathan, 2005: A New Pathway for Communicating the 11-Year Solar Cycle Signal to the QBO. *Geo. Res. Lett.*, **32**, 10.1029/2005GL023696
- Tabazadeh, A. and E. C. Cordero, 2004: New directions: stratospheric ozone recovery in a changing atmosphere. *Atmos. Env.*, **38**, 647-649.
- Li, S., E. C. Cordero, and D. J. Karoly, 2003: Three-dimensional simulations of springtime breakup of the Antarctic ozone hole. *Aust. Met. Mag.*, **52**, 1-9.
- Cordero, E. C., 2002: Is the ozone hole over your classroom? *Aust. Sci. Teach. J.*, **48**, 34-39.
- Cordero, E. C. and S. Grainger, 2002: Low ozone concentrations over Macquarie Island during 1997 Part I: trajectory analysis. *Aust. Met. Mag.*, **51**, 85-94.
- Cordero, E. C. and T. R. Nathan, 2002: An Examination of Anomalously Low Column Ozone in the Southern Hemisphere Midlatitudes During 1997. *Geo. Res. Lett.*, **29**, doi: 10.1029/2001GL013948.
- Grainger, S. and E. C. Cordero, 2002: Low ozone concentrations over Macquarie Island during 1997. Part II: Satellite Ozone Analysis. *Aust. Met. Mag.*, **51**, 95-106.
- Li, S., E. C. Cordero, and D. J. Karoly, 2002: Transport out of the Antarctic polar vortex from a three-dimensional transport model. *J. Geophys Res.*, **107**, doi: 10.1029/2001JD000508.

- Cordero, E. C. and S. R. Kawa, 2001: Ozone and tracer transport variations in the summer Northern Hemisphere stratosphere. *J. Geophys Res.*, **106**, 12227-12239.
- Cordero, E. C., 2000: Misconceptions in Australian students' understanding of ozone depletion. *Melbourne Studies in Education*, **41**, 85-97.
- Cordero, E. C. and T. R. Nathan, 2000: The influence of wave- and zonal-mean ozone feedbacks on the quasi-biennial oscillation. *J. Atmos. Sci.*, **57**, 3426-3442.
- Nathan, T. R., E. C. Cordero, L. Li, and D. J. Wuebbles, 2000a: Effects of planetary wave breaking on the seasonal variation of total column ozone. *Geophys. Res. Lett.*, **27**, 1907-1910.
- Nathan, T. R., E. C. Cordero, L. Long, and D. J. Wuebbles, 2000b: Effects of planetary wave-breaking on the seasonal variation of total column ozone. *Geo. Res. Lett.*, **27**, 1907-10.
- Cordero, E. C., 1999: The quasi-biennial oscillation as observed by the Upper Atmosphere Research Satellite. *Recent Advances in Stratospheric Processes*, 77-92.
- Nathan, T. R. and E. C. Cordero, Eds., 1999: *Recent advances in stratospheric processes*. Research Signpost, 206 pp.
- Cordero, E. C., T. R. Nathan, and R. S. Echols, 1998: An analytical study of ozone feedbacks on Kelvin and Rossby-gravity waves: Effects on the QBO. *J. Atmos. Sci.*, **55**, 1051-1062.
- Cordero, E. C., S. R. Kawa, and M. R. Schoeberl, 1997: An analysis of tropical transport: Influence of the quasi-biennial oscillation. *J. Geophys Res.*, **102**, 16,453-16,461.
- Nathan, T. R., E. C. Cordero, and L. Li, 1994: Ozone heating and the destabilization of traveling waves during summer. *Geo. Res. Lett.*, **21**, 1531-1534.
- * SJSU Student

CONFERENCE PRESENTATIONS

Selected recent papers have been presented at the following conferences:

- Reproduction of 20th Century Inter- to Multidecadal Surface Temperature Variability in CMIP5 historical simulations, March, 2012 by E. Cordero, WCRP Workshop on CMIP5 Climate Model Analyses, Honolulu, Hawaii.
- An evaluation of surface temperature variability in CMIP5 simulations by E. Cordero, P. Brown and S. Mauget, January 2012, American Meteorological Society Annual Meeting, New Orleans, Louisiana.
- The use of social media to improve climate literacy: The Green Ninja Project, January 2012 by E. Cordero, American Meteorological Society Symposium on Education, New Orleans, Louisiana.
- Calculating the carbon emissions associated with San José's Green Vision goals, by E. Cordero and L. Prada, January 2011, American Meteorological Society Symposium on Education, Seattle, Washington.
- Assessment of Inter- to Multi-Decadal Temperature Variability in Coupled Climate Models by P. Brown, E. Cordero and S. Mauget, Dec 2010, American Geophysical Union Fall Meeting, San Francisco.
- The Identification of distinct patterns in California temperature trends by E. Cordero, W. Kessomkiat, S. A. Mauget, and J. Abatzoglou, January 2010, American Meteorological Society Climate Variability and Change Conference, Atlanta.
- Regime Changes in California Temperature Trends by E. Cordero, W. Kessomkait and S. Mauget, Dec 2008, American Geophysical Union Fall Meeting, San Francisco.
- Twentieth Century Climate in the Stratosphere and Upper Troposphere, by S. Tesfai and E. Cordero, Dec 2008, American Geophysical Union Fall Meeting, San Francisco.

Longitudinal Variations in Stratospheric Ozone: Effects on "Downward Control" by T. Nathan and E. Cordero, Dec 2008, American Geophysical Union Fall Meeting, San Francisco

Temperature Trends in the Upper Troposphere and Lower Stratosphere as Revealed by CCMs and AOGCMs by E. Cordero and S. Tesfai, September 2007, Chapman Conference on The Role of the Stratosphere In Climate and Climate Change, Santorini, Greece.

A Perspective on Climate Change Education and Directions Forward by E. Cordero, May 2007, American Geophysical Union Joint Assembly, Acapulco, Mexico.

Stratospheric variability and trends in climate model simulations by E. Cordero, January 2007, American Meteorological Society Climate Variability and Change Conference, San Antonio.

Stratospheric trends in IPCC model simulations, Cordero, E. and F. Snively, February 2006, American Meteorological Society Climate Variability and Change, Atlanta.

SELECTED RECENT PUBLIC PRESENTATIONS

24 Hours of Reality Panel with Al Gore (2011)	New York, NY
2010 San Jose 01 Biennial: Carbon Footprint Game with Future Farmers (2010)	San Jose, CA
Sorenson's Resort: Cool Cuisine science and cooking workshop (2010)	Hope Valley, CA
San Jose Via Velo: Carbon Footprint Game (2010)	San Jose, CA
Lifetech Earth Day Event: Food Climate Interactions (2010)	Foster City, CA
Silicon Valley Reads: Cool Cuisine Talks (Evergreen College, Los Gatos, Almaden, Mountain View and Santa Clara; 2010)	Santa Clara County, CA
Full Circle Farm: Carbon Footprint Game (2010)	Sunnyvale, CA
Ecofarm conference: Food Climate Interactions (2010)	Pacific Grove, CA
UC Davis LAWR Seminar Series: Cool Cuisine (2009)	Davis, CA
SJSU Academic Senate Retreat: Sustainability at SJSU (2009)	San Jose, CA
San Francisco State University: Cool Cuisine (2009)	San Francisco, CA
California Academy of the Arts: Nightlife, Cool Cuisine (2009)	San Francisco, CA
Slow Food USA Eat In: Cool Cuisine (2009)	San Jose, CA
Commonwealth Club of San Francisco, Environmental Action Thru Eating - Best Bang for the Buck (2009)	San Francisco, CA
Stanford Linear Accelerator Center, Cool Cuisine	Menlo Park, CA
Tijuana Estuary Visitor Center: Cool Cuisine (2009)	Imperial Beach, CA
Career Prep Workshop: Cool Cuisine: Food climate interactions (2009)	UNLV, NV
View From The Bay – Channel 7, TV variety show, Cool Cuisine (2009)	ABC Local Television, San Francisco, CA
Palo Alto Research Center Speaker Series, Cool Cuisine (2009)	Palo Alto, CA
Environmental Studies Institute, Santa Clara University, Cool Cuisine (2009)	Santa Clara, CA
Student Affairs Division-wide meeting: Sustainability at SJSU (2009)	SJSU, CA
San Jose MLK Library in-service day: Sustainability at SJSU (2009)	San Jose, CA
University Advancement in-service day, Sustainability at SJSU (2009)	SJSU, CA
San Francisco Zoo Talks, Cool Cuisine (2009)	San Francisco Zoo, CA
University Scholars Talk, Cool Cuisine (2009)	SJSU, CA
Global Warming Debate: Conservative Forum of Silicon Valley (2008)	San Jose, CA
National Center for Atmospheric Research, Cool Cuisine (2008)	Boulder, CO

TEACHING AND RELATED EXPERIENCE

COURSES OFFERED

San Jose State University (10 courses)

METR 10: Weather and Climate (2002-2005): Lower division general education course.

METR 12: Global Warming: Science and Solutions (2009-present): Lower division general education course.

METR 40: Weather Seminar (2002 – 2006): Required course for Freshmen/Sophomores METR majors.

METR 60: Meteorology I (2011): Required course for sophomore level majors.

METR 61: Introduction to Meteorology (2003- 2009): Required course for sophomore level majors.

METR 112: Global Climate Change (2003 – current): Upper division general education course

METR 136: Statistical Climatology (2008): Upper division course for majors

METR 173: Climate Modeling (2010): Upper division course for majors

METR 205A: Advanced atmospheric dynamics (2002, 2006, 2011): Required course for graduate student majors.

UNVS 196D: Climate Solutions Initiative: Experimental course with six faculty teaching climate science from different perspectives

COMM/ENVS/METR 168/168W: Global Climate Change (2009, 2011): Team taught upper division general education course (9 units over a year, counts for all SJSU studies requirements) that focuses on climate change from multiple perspectives.

Monash University, Australia

Atmospheric Science 1010: The dynamic Atmosphere 1999-2000. Lower division general education course.

EDUCATIONAL TRAINING:

Graduate Certificate in Higher Education Teaching, Monash University, 2/00 – 2/02. An internationally accredited course designed to assist university teachers in acquiring a range of knowledge and skills to develop and advance their professional teaching practice. The learning modules have both theoretical and practical components that utilize the lecturer's current teaching environment. The course is offered on a part time basis over four semesters.

Program in College Teaching Participant, Teaching Resource Center, UC Davis, 6/94 – 6/95. Program aimed to provide graduate students with the opportunity to prepare themselves more fully for careers as college and university instructors. Participation included: i) teaching an atmospheric science course under the guidance of a faculty mentor; ii) regularly scheduled meetings focusing on academic issues such as student motivation, designing effective learning materials and classroom gender inequities and; iii) completion of seven individualized activity reports focusing on various topics related to teaching.

Professors for the Future Fellow, Graduate Division, UC Davis 6/92 - 6/93. Program examined the principles of teaching, mentoring and professionalism through activities focusing on the roles of educators and scholars. Activities include ethics seminars, roundtable meetings with various members of the administration, service on administrative committees, and projects intended to examine the various components of academia. As a founding fellow, helped in the initial development of the program's goals and methods.

SERVICE

SJSU COMMITTEES

College of Science: Curriculum Committee (2003 – present)
University Sustainability Board of the Academic Senate (2011 present)
University Sustainability Fellow (2009/2010)

PROFESSIONAL AFFILIATIONS

American Meteorological Society (1992-present)
American Geophysical Union (1993-present)