

DAVID W. J. THOMPSON

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Department of Atmospheric Science
Colorado State University
Fort Collins, Co. 80523 USA
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EDUCATION

Ph.D. Dep't. of Atmospheric Sciences, University of Washington, Seattle, Wa. 2000
M.S. Dep't. of Atmospheric Sciences, University of Washington, Seattle, Wa. 1998
B.S. Dep't. of Aerospace Engineering, University of Colorado, Boulder, Co. 1994

POSITIONS

2011 - present. Professor, Dept. of Atmospheric Sciences, Colorado State University.
2006 - 2011. Associate Professor, Dept. of Atmospheric Sciences, Colorado State University.
2001 - 2006. Assistant Professor, Dept. of Atmospheric Sciences, Colorado State University.

AWARDS / HONORS

Selection for Geophysical Research Letters 40th Anniversary Collection, 2014
Meisinger Award, American Meteorological Society, 2008.
Monfort Professor Award, Colorado State University, 2006
Popular Science Brilliant 10, 2006
Abell Outstanding Early-Career Faculty Award, Colorado State University, 2006
Charney Lecturer, American Geophysical Union, 2005.
Fellow, American Geophysical Union, 2004.
James B. Macelwane Medal, American Geophysical Union, 2004.
NOAA OAR Outstanding Scientific Paper Award for 2003.
National Science Foundation, Faculty Early Career Development (CAREER), 2001.
NASA Earth System Science Fellowship, 1999.

TEACHING / MENTORING*Graduate students/postdoctoral scientists*

Current students:

Samantha Wills (Ph. D.)
Jingyuan Li (Ph. D.)
Luke Davis (M. S.; co-advised with Thomas Birner)
Casey Patrizio (M. S.; co-advised with David Randall)

Research scientists:

Ying Li (Ph. D. GFDL/Princeton)

Completed degrees (primary thesis advisor):

Jingyuan Li (M. S. 2016)
Brian Crow (M. S. 2016)
Samantha Wills (M. S. 2015)
Elliott Foust (M. S. 2014)
Jonathan Woodworth (M. S. 2013)
Kevin Grise (M. S. 2007; Ph. D. 2011)
Kate Mullen (M. S. 2011)
Amy Butler (M. S. 2005; Ph. D. 2009)
Katie Argo (M. S. 2009)
Laura Ciasto (M. S. 2004; Ph. D. 2008)
Jason Furtado (M. S. 2005)
Michelle L'Heureux (M. S. 2004; co-advisor with D. Randall)
Anthony Worsham (M. S. 2002)

Graduate student committees, member (external to CSU):

Claudio Saffioti (ETH, Zurich; Ph. D. 2016)
Albert Osso (Univ. of Barcelona; Ph. D. 2014)
Ying Li (Princeton University/GFDL; Ph.D. reading committee member 2011)
Cegeon Chan (MIT; Ph. D. 2009)
Ivar Seierstad (University of Bergen; Ph.D. 2008)

Graduate student committees, member (CSU):

Robert Anthony (Ph. D. 2016; Earth Sciences)
Nick Davis (M. S. 2013)
Stephanie Slade (M. S. 2012; Ph. D. in progress)
Jeremiah Sjoberg (Ph. D. 2014)
David Duncan (M. S. 2013)
Kate Musgrave (Ph.D. 2011)
Levi Silvers (M. S. 2006; Ph.D. 2011)
Todd Jones (M. S. 2010)
Yohei Takano (M. S. 2011)
James Benedict (M.S. 2005; Ph.D. 2009)
Dan Lindsey (Ph. D. 2008)
Josh Horstman (M. S. 2008; Department of Statistics)
Paul Quelet (M.S. 2006)
Christopher Castro (Ph.D. 2005)
Christiana Stan (Ph.D. 2005)
Maike Ahlgrimm (M. S. 2004)
Russ Schumacher (M.S. 2004)
Eric Gilleland (Ph. D. 2004; Department of Statistics)
Wesley Terwey (M.S. 2003)
Philip Klotzbach (M.S. 2002)

Classes taught:

AT350: Weather and Climate
(2001, 2003, 2005, 2009, 2011, 2012, 2013)
AT602: Atmospheric Dynamics II (Synoptic dynamics)
(2013, 2014, 2015)
AT606: Introduction to Climate
(2005, 2015)
AT655: Objective Analysis in the Atmospheric Sciences
(2002, 2003, 2004, 2005, 2007, 2009, 2010, 2011, 2012)
AT750: Analysis and Diagnosis of Climate Variability
(2002, 2004, 2006, 2008, 2011, 2012)
Short course in large-scale dynamics: University of Bergen, Norway June 2009.

Other mentoring:

Claudette Ojo (undergraduate CMMAP summer internship)
Erlend Knudsen (visiting Fullbright scholar from Univ. of Bergen)

Dept. of Atmospheric Sciences, University of Washington (1995-2000)

Teaching Assistant, Climate (ATMS211)
Teaching Assistant, Weather (ATMS101)
Department Lead Teaching Assistant, 1996-1998

Seattle Public Schools

Served as a Science Resource Teacher on five occasions, 1997-1999.

REFEREED PUBLICATIONS

2017/in review

- Thompson, D. W. J., S. Bony, and Y. Li, 2016: A thermodynamic constraint on the global tropopause and large-scale extratropical dynamics. *Proceedings of the Nat. Academy Sci.*, in review.
- Thompson, D. W. J., B. R. Crow, and E. A. Barnes, 2017: Intraseasonal periodicity in the Southern Hemisphere circulation on regional spatial scales. *J. Atmos. Sci.*, in press.
- Gerber, E. P. and D. W. J. Thompson, 2017 :What makes an annular mode “annular”? *J. Atmos. Sci.* **74**, 317-332.
- Li, Y., D. W. J. Thompson, Y. Huang, 2017: The influence of atmospheric cloud radiative effects on the large-scale stratospheric circulation. *J. Climate*, in review.
- Li, J., D. W. J. Thompson, E. A. Barnes, and S. Solomon, 2017: Quantifying the lead time required for a linear trend to emerge from natural climate variability. *J. Climate*, in review.
- Ivy, D. J., C. Hilgenbrink, D. Kinnison, R. A. Plumb, A. Sheshadri, S. Solomon, D. W. J. Thompson, 2017: Observed Changes in the Southern Hemispheric Circulation in May. *J. Climate*, **30**, 527-536.
- Ivy, D. J., S. Solomon, N. Calvo, D. W. J. Thompson, 2017: Observed Connections of Arctic Stratospheric ozone extremes to Northern Hemisphere surface climate. *Environmental Research Letters*, **12**, doi:10.1088/1748-9326/aa57a4.

2016

- Li, Y. and D. W. J. Thompson, 2016: Observed signatures of the barotropic and baroclinic annular modes in cloud vertical structure and cloud radiative effects. *J. Climate*, **29**, 4723-4740.
- Wills, S. M., D. W. J. Thompson, and L. M. Ciasto, 2016: On the Observed Relationships between Variability in Sea Surface Temperatures and the Atmospheric Circulation in the North Atlantic. *J. Climate*, **29**, 3719-3730.
- Seidel, D. J., J. Li, C. Mears, I. Moradi, J. Nash, W. J. Randel, R. Saunders, D. W. J. Thompson, C.-Z. Zou, 2016: Stratospheric Temperature Changes during the Satellite Era. *J. Geophys. Res. Atmos.*, **121**, doi:10.1002/2015JD024039.
- Marshall, G. J., and D. W. J. Thompson, 2016: The signatures of large-scale patterns of atmospheric variability in Antarctic surface temperatures. *J. Geophysical Res.*, **121**, doi: 10.1002/2015JD024665.

2015

- Li, Y., D. W. J. Thompson, and S. Bony, 2015: The influence of atmospheric cloud radiative effects on the large-scale atmospheric circulation. *J. Climate*, **28**, 7263-7278.
- Thompson, D. W. J., E. A. Barnes, C. Deser, W. E. Foust, and A. S. Phillips, 2015: Quantifying the role of internal climate variability in future climate trends. *J. Climate*, **28**, 6443-6456.
- Thompson, D. W. J., and Y. Li, 2015: Baroclinic and barotropic annular variability in the Northern Hemisphere. *J. Atmos. Sci.*, **72**, 1117-1136.

2014

- Thompson, D. W. J., and E. A. Barnes, 2014: Periodic variability in the large-scale Southern Hemisphere atmospheric circulation. *Science*, **343**, 641-645.
- Thompson, D. W. J., and J. D. Woodworth, 2014: Barotropic and baroclinic annular variability in the Southern Hemisphere. *J. Atmos. Sci.*, **71**, 1480-1493.
- Barnes, E. A., and D. W. J. Thompson, 2014: Comparing the roles of barotropic versus baroclinic feedbacks in the atmosphere's response to mechanical forcing. *J. Atmos. Sci.*, **71**, 177-194.
- Li, Y., D. W. J. Thompson, G. L. Stephens, and S. Bony 2014: A global survey of the linkages between cloud vertical structure and large-scale climate *J. Geophys. Res.*, **119**, doi: 10.1002/2013JD020669.

- Li, Y., D. W. J. Thompson, Y. Huang, and M. Zhang, 2014: Observed Linkages between the Northern Annular Mode/North Atlantic Oscillation, Cloud Incidence, and Cloud Radiative Forcing. *Geophys. Res. Lett.*, **41**, 1681-1688, doi:10.1002/2013GL059113.
- Ivy, D. J., S. Solomon, and D. W. J. Thompson, 2014: On the Identification of the Downward Propagation of Arctic Stratospheric Climate Change over Recent Decades. *J. Climate*, **27**, 2789-2799.
- Bandoro, J., S. Solomon, A. Donahue, D. W. J. Thompson, and B. D. Santer, 2014: Influences of the Antarctic Ozone Hole on Southern Hemispheric Summer Climate Change. *J. Climate*, **27**, 6245-6264.

2013

- Grise, K. M., and D. W. J. Thompson, 2013: On the signatures of equatorial and extratropical wave forcing in tropical tropopause layer temperatures. *J. Atmos. Sci.*, **69**, 857-874.
- Li, Y., and D. W. J. Thompson, 2013: The signature of the stratospheric Brewer-Dobson circulation in tropospheric clouds. *J. Geophys. Res.*, **118**, 3486-3494.
- Birner, T., D. W. J. Thompson, and T. G. Shepherd, 2013: Up-gradient eddy fluxes of potential vorticity near the subtropical jet. *Geophys. Res. Lett.*, **40**, 5988-5993. doi: 10.1002/2013GL057728.

2012

- Grise, K. M., and D. W. J. Thompson, 2012: Equatorial Planetary Waves and Their Signature in Atmospheric Variability. *J. Atmos. Sci.*, **69**, 857-874.
- Simpkins, G. R., L. M. Ciasto, M. H. England, and D. W. J. Thompson, 2012: Observed Relationships Between Large-Scale Climate Variability and Antarctic Sea Ice Concentration. *J. Climate*, **25**, 5451-5469.
- Thompson, D. W. J., and T. Birner, 2012: On the linkages between the tropospheric isentropic slope and eddy fluxes of heat during Northern Hemisphere winter. *J. Atmos. Sci.*, **69**, 1811-1823.
- Thompson, D. W. J., D. J. Seidel, W. J. Randel, C.-Z. Zou, A. H. Butler, C. Mears, A. Osso, C. Long, R. Lin, 2012: The mystery of recent stratospheric temperature trends. *Nature*. **491**, 692-697

2011

- Roff, G., D. W. J. Thompson, and H. H. Hendon, 2011: Does increasing model stratospheric resolution improve extended-range forecast skill? *Geophys. Res. Lett.*, **38**, L05809, doi: 10.1029/2010GL046515.
- Thompson, D. W. J., S. Solomon, P. J. Kushner, M. H. England, K. M. Grise, and D. J. Karoly, 2011: The Antarctic ozone hole, the Southern Annular Mode, and Southern Hemisphere Climate Change. *Nature Geosciences*, doi:10.1038/ngeo1296.
- Butler, A. H., D. W. J. Thompson, and T. Birner, 2011: Isentropic slopes, down-gradient eddy fluxes, and the extratropical atmospheric circulation response to tropical tropospheric heating. *J. Atmos. Sci.*, **68**, 2282-2305.
- Kidston, J., A.S. Taschetto, D.W.J. Thompson, M.H. England, 2011: The Influence of Southern Hemisphere Sea Ice Extent on the Latitude of the Mid-Latitude Jet Stream. *Geophys. Res. Lett.*, **38**, L15804, doi:10.1029/2011GL048056.
- Young, P. J., S. Solomon, D. W. J. Thompson, K. H. Rosenlof, and J. -F. Lamarque, 2011: The seasonal cycle and interannual variability in stratospheric temperatures and links to the Brewer-Dobson circulation: An analysis of MSU and SSU data, 1979-2005. *J. Climate*, **24**, 6243-6358.
- Verlinden, K. L., D. W. J. Thompson, and G. L. Stephens, 2011: The three-dimensional distribution of clouds over the Southern Hemisphere high latitudes. *J. Climate*, **24**, 5799-5811.

2010

- Grise, K., D. W. J. Thompson, and T. Birner, 2010: A Global Survey of Static Stability in the Stratosphere and Upper Troposphere. *J. Climate*, **23**, 2275-2292.
- Butler, A. H., D. W. J. Thompson, and R. Heikes, 2010: The steady-state atmospheric circulation response to climate change-like thermal forcings in a simple general circulation model. *J. Climate*, **23**, 3474-3496.
- Fyfe, J. C., N. P. Gillett, and D. W. J. Thompson, 2010: Comparing variability and trends in observed and modeled global-mean surface temperature. *Geophys. Res. Lett.*, **37**, L16802, doi:10.1029/2010GL044255.
- Thompson, D. W. J., J. M. Wallace, J. Kennedy, and P. D. Jones, 2010: An abrupt drop in Northern Hemisphere sea surface temperature around 1970. *Nature*, **467**, 444-447.

2009

- Randel, W. J., et al., 2009: An update of observed stratospheric temperature trends, *J. Geophys. Res.*, 114, D02107, doi:10.1029/2008JD010421.
- Ciasto, L. M. and D. W. J. Thompson, 2009: Observational evidence of reemergence in the extratropical Southern Hemisphere. *J. Climate*, **22**, 1446-1453.
- Thompson, D. W. J. and S. Solomon, 2009: Understanding Recent Stratospheric Climate Change. *J. Climate*, **22**, 1934-1943.
- Grise, K., D. W. J. Thompson, and P. Forster, 2009: On the role of radiative processes in stratosphere/troposphere coupling. *J. Climate*, **22**, 4154-4161.
- Thompson, D. W. J., J. M. Wallace, P. D. Jones, and J. Kennedy, 2009: Identifying signatures of natural climate variability in time series of global-mean surface temperature: Methodology and Insights. *J. Climate*, **22**, 6120-6141.
- Baldwin, M.P., and D.W.J. Thompson, 2009: A critical comparison of stratosphere-troposphere coupling indices, *Q. J. R. Meteorol. Soc.*, **135**, 1661-1672.
- Austin, J. et al., 2009: Coupled chemistry climate model simulations of stratospheric temperatures and their trends for the recent past. *Geophys. Res. Lett.*, **36**, L13809, doi: 10.1029/2009GL038462.

2008

- Ciasto, L. M. and D. W. J. Thompson, 2008: Observations of large-scale atmosphere-ocean interaction in the Southern Hemisphere. *J. Climate*, **21**, 1244-1259.
- Thompson, D. W. J., J. Kennedy, J. M. Wallace and P. D. Jones, 2008: A large discontinuity in the mid-20th century in observed global-mean surface temperature. *Nature*, **453** doi:10.1038/nature06982.

2007

- Solomon, S., R. W. Portmann, and D. W. J. Thompson 2007: Contrasts between Antarctic and Arctic Ozone Depletion. *Proc. Nat. Academy of Sciences*, **104**, 445-449.
- Hendon, H. H., D. W. J. Thompson, and M. C. Wheeler 2007: Australian rainfall and surface temperature variations associated with the Southern Hemisphere annular mode. *J. Climate*, **20**, 2452-2467.
- Butler, A. H., D. W. J. Thompson, K. R. Gurney, 2007: Observed relationships between the southern annular mode and atmospheric carbon dioxide. *Global Bio. Cycles*, **21**, GB4014, doi: 10.1029/2006GB002796.
- Forster, P. M., G. Bodeker, R. Schofield, S. Solomon, D. W. J. Thompson, 2007: Effects of ozone cooling in the tropical lower stratosphere and upper troposphere. *Geophys. Res. Lett.*, **34**, L23813, doi:10.1029/2007GL031994.
- Keeley, S. P. E., N. P. Gillett, D. W. J. Thompson, S. Solomon, and P. M. de F. Forster, 2007: Is Antarctic Climate Most Sensitive to Ozone Depletion in the Mid or Lower Stratosphere? *Geophys. Res. Lett.*, **34**, L22812, doi:10.1029/2007GL031238.

2006

- L'Heureux, M. L., and D. W. J. Thompson 2006: Observed relationships between the El-Nino/Southern Oscillation and the extratropical zonal-mean circulation. *J. Climate*, **19**, 276-287.
- Solomon, S., R. W. Portmann, T. Sasaki, D. J. Hofman, D. W. J. Thompson 2006: Four decades of ozonesonde measurements over Antarctica. *J. Geophys. Res.*, **110**, D21311, doi: 10.1029/2005JD005917.
- Thompson, D. W. J., J. C. Furtado and T. S. Shepherd 2006: On The Tropospheric Response to Anomalous Stratospheric Wave Drag and Radiative Heating. *J. Atmos. Sci.*, **63**, 2616-2629.

2005

- Thompson, D. W. J., M. P. Baldwin, and S. Solomon, 2005: Stratosphere-troposphere coupling in the Southern Hemisphere. *J. Atmos. Sci.*, **62**, 708-715.
- Hall, A., A. Clement, D. W. J. Thompson, A. Broccoli, C. Jackson, 2005: The importance of atmospheric dynamics in the Northern Hemisphere wintertime climate response to changes in the Earth's orbit. *J. Climate*, **18**, 1315-1325.
- Limpasuvan, V., D. W. J. Thompson, and D. L. Hartmann, 2005: Reply. *J. Climate*, **18**, 2778-2780.
- Thompson, D. W. J., and S. Solomon, 2005: Recent stratospheric climate trends as evidenced in radiosonde data: Global structure and tropospheric linkages. *J. Climate*, **18**, 4785-4795.
- Limpasuvan, V., D. L. Hartmann, D. W. J. Thompson, K. Jeev, and Y. L. Yung 2005: Stratosphere-troposphere evolution during polar vortex intensification. *J. Geophys. Res.*, **110**, D24101, doi:10.1029/2005JD006302.
- Solomon, S., D. W. J. Thompson, R. W. Portmann, S. J. Oltmans, and A. M. Thompson 2005: On the distribution and variability of ozone in the tropical upper troposphere: Implications for tropical deep convection and chemical-dynamical coupling. *Geophys. Res. Lett.*, **32**, L23813, 10.1029/2005GL024323

2004

- Ciasto, L., and D. W. J. Thompson, 2004: North Atlantic atmosphere/ocean interaction on intraseasonal timescales. *J. Climate*, **17**, 1617-1621.
- Limpasuvan, V., D. W. J. Thompson, and D. L. Hartmann 2004: On the lifecycle of sudden stratospheric warmings. *J. Climate*, **17**, 2584-2596.
- Thompson, D. W. J., and D. J. Lorenz, 2004: The signature of the annular modes in the tropical troposphere. *J. Climate*, **17**, 4330-4342.

2003

- Thompson, D. W. J., S. Lee, M. P. Baldwin, 2003: The Northern Hemisphere annular mode/North Atlantic Oscillation: Atmospheric Processes. *AGU Monograph on the North Atlantic Oscillation*. AGU Geophysical Monograph **134**, 81-112.
- Baldwin, M. P., D. B. Stephenson, D. W. J. Thompson, T. J. Dunkerton, A. J. Charlton, and A. O'Neill, 2003: Stratospheric memory and skill of extended-range weather forecasts. *Science*, **301**, 636-640.
- Gillett, N., and D. W. J. Thompson, 2003: Simulation of recent Southern Hemisphere climate change. *Science*, **302**, 273-275.

2002

- Wallace, J. M., and D. W. J. Thompson, 2002: Annular Modes and Climate Prediction? *Physics Today*, **55**, 28-33.
- Thompson, D. W. J., M. P. Baldwin, and J. M. Wallace, 2002: Stratospheric connection to Northern Hemisphere wintertime weather: implications for prediction. *J. Climate*, **15**, 1421-1428.
- Wallace, J. M., and D. W. J. Thompson, 2002: The Pacific Center of Action of the Northern Hemisphere Annular Mode: Real or Artifact? *J. Climate*, **15**, 1987-1991.

Thompson, D. W. J., and S. Solomon, 2002: Interpretation of recent Southern Hemisphere climate change. *Science*, **296**, 895-899.

2001

Thompson, D. W. J. and J. M. Wallace, 2001: Regional climate impacts of the Northern Hemisphere annular mode. *Science*, **293**, 85-89.

2000

Thompson, D. W. J. and J. M. Wallace, 2000: Annular modes in the extratropical circulation. Part I: Month-to-month variability. *J. Climate*, **13**, 1000-1016.

Thompson, D. W. J., J. M. Wallace, and G. C. Hegerl, 2000: Annular modes in the extratropical circulation. Part II: Trends. *J. Climate*, **13**, 1018-1036.

Wallace, J. M., D. W. J. Thompson, and Z. Fang, 2000: Comments on "Northern Hemisphere teleconnection patterns during extreme phases of the zonal-mean circulation". *J. Climate*, **13**, 1037-1039.

Hartmann, D. L., J. M. Wallace, V. Limpasuvan, D. W. J. Thompson, and J. R. Holton, 2000: Can ozone depletion and global warming interact to produce rapid climate change? *Proc. of the Nat. Acad. of Sci.*, **97**, 1412-1417.

1998

Thompson, D. W. J. and J. M. Wallace, 1998: The Arctic Oscillation signature in the wintertime geopotential height and temperature fields. *Geophys. Res. Lett.*, **25**, 1297-1300.

ASSESSMENTS / REPORTS (refereed)

Forster, P. M., and D. W. J. Thompson (Coordinating Lead Authors), et al., 2011: Stratospheric changes and climate, Chapter 4 in Scientific Assessment of Ozone Depletion: 2010, Global Ozone Research and Monitoring Project-Report No. 52, 516 pp., World Meteorological Organization, Geneva, Switzerland.

National Research Council. Abrupt Impacts of Climate Change: Anticipating Surprises. Washington, DC: *The National Academies Press*, 2013.

OTHER PUBLICATIONS

Wallace, J.M., Thompson, D.W.J., Beresford, P., 2015. Overview. In: Gerald R. North (editor-in-chief), John Pyle and Fuqing Zhang (editors). Encyclopedia of Atmospheric Sciences, 2nd edition, Vol 3, pp. 33-42.

Wallace, J. M., I. M. Held, D. W. J. Thompson, K. E. Trenberth, and J. E. Walsh, 2014: Global Warming and Winter Weather, *Science*, **14**, 729-730.

Renwick, J. and D. W. J. Thompson, 2006: The Southern Annular Mode and New Zealand climate. *Water and Atmosphere (New Zealand)*.

Baldwin, M. P., D. W.J. Thompson, E. F. Shuckburgh, W. A. Norton, N. P. Gillett, 2003: Weather from the stratosphere? *Science*, **301**, 317-319.

SERVICE

National/International

- National Research Council
Member: Committee on Understanding and Monitoring on Abrupt Climate Change.
- WMO Scientific Assessment of Ozone Depletion
Chapter Editor, Scientific Assessment of Ozone Depletion 2014
Coordinating Lead Author: Chapter 4, Scientific Assessment of Ozone Depletion 2010
Coauthor: Chapter 5, Scientific Assessment of Ozone Depletion 2006
Reviewer (at Les Diablerets): Scientific Assessment of Ozone Depletion 2002
- Centre for Climate Dynamics at the Bjerknes Centre, Bergen, Norway
Scientific Advisory Committee 2011-2016.
Faculty search committee 2011

- SPARC:
 - Co-Chair: SPARC Assessment of Stratospheric Temperature Trends (2011-2015).*
 - Member: SPARC Assessment of Stratospheric Temperature Trends (2005-2010).*
- WMO Panel on “Climate impacts of ozone depletion/recovery” (2012).
- Participant: IPCC AR5: Lessons Learnt for Climate Change Research and WCRP. Bern, Switzerland (9/2014).
- Review panel: SHARP/German science foundation, Berlin, Germany (February 2012).
- CLIVAR/CLiC/SCAR Southern Ocean Scientific Steering Group (2005-current).
- AMS Climate Variability and Change (2011-current).
- AMS Middle Atmosphere Committee (2004-2009).
- WCRP/CLiC Arctic Climate Panel (2004-2006).
- Science Steering Committee, Ocean-Atmosphere-Ice Interactions, National Science Foundation Arctic System Science (2002-2004).
- Participant: National Academies Workshop on Climate Data Records. Washington, D.C. 8/2003.
- Review Panel: NOAA CLIVAR Atlantic

Journals

- Associate Editor, Journal of Climate (2004-).
- Associate Editor, Journal of Atmospheric Science (2009-).
- Guest Editor: Journal of Atmospheric Sciences special issue on Jets (2006).
- Reviewer: J. Climate, J. Atmos. Sciences, Nature, Science, JGR, GRL, JMSJ, Climate Dynamics, Int. J. of Climatology, QJRMS, WMO Scientific Assessment of Ozone Depletion, IPCC AR3, IPCC AR4, IPCC: Ozone and Climate, NASA, NOAA, NSF, Dyn. of Atmospheres and Oceans,.

Scientific meeting organization

- Co-convener: Session “Stratosphere/troposphere/hydrosphere/cryosphere coupling” at the 2013 Davos Atmosphere and Cryosphere Assembly. Davos, Switzerland 2013.
- Organizing committee: The role of the stratosphere on surface climate. Buenos Aires, Argentina, November 2012.
- Organizer (with Gabriel Lau): Wallace Symposium, Seattle, WA., Sept. 2010.
- Convener (with M. Baldwin and E. Shuckburgh): AGU Chapman conference on stratosphere/troposphere coupling. Santorini, Greece, Sept. 2007.
- Program committee: Geophysical Institute conference on polar dynamics. Bergen, Norway 2007.
- Organizing committee: AGU Chapman conference on geophysical jets. Savannah, Ga. 2006.
- Convener: Session MI05 “Large scale patterns of atmospheric variability” at the 2003 IAMAS-IUGG General Assembly, Sapporo, Japan.
- Co-organizer: “The Role of the Stratosphere in Tropospheric Climate”, Whistler, Canada, April 29- May 2, 2003.
- Co-convener of Session A08: “The Arctic Oscillation” at the 1999 AGU fall meeting, San Francisco, Ca. Session included 24 oral presentations and 12 poster presentations.

Committees (Dep’t of Atmospheric Science at CSU)

- Faculty search committee (2016-2017)
- Chair of the promotion/tenure committee (2013)
- Chair of the curriculum committee (2008-2013)
- Faculty mentoring (2011-2012)
- Faculty search committee (2011-12)
- Department Web Committee (2008-2010)
- Faculty search committee (2006-7)
- New student counselor (2005-7)

- ATS Department Head search committee (2006)
- Faculty search committee (2005)
- Colloquium coordinator (2001-7)
- Department Code Committee (2004-5)
- Department Graduate Committee (2004-6)
- Faculty search committee (2002-3)
- Qualifying exam committee (2001-4)
- Herbert Riehl award committee (2001-3)
- 40th anniversary organizing committee (2002)

Committees (CSU)

- Committee on Responsibilities and Standing of Academic Faculty (College of Engineering representative) (2013-)
- Member: Executive Council for the School of Global Environmental Sustainability (2012-)
- Voting member: College Curriculum Committee (2008-2013)
- Graduate Student Recruiting Committee (2006-7)
- Policy and Procedures Committee (2004-5)

CONFERENCE PRESENTATIONS

American Geophysical Union Fall meeting, San Francisco, CA 12/1997
 Atm. Circulation Related to Oscillations in Sea-Ice and Salinity, Reykjavik, Iceland 3/1998
 Geophysical Fluid Dynamics Laboratory consortium meeting, Princeton, NJ 7/1998
 NASA Workshop on Decadal Variability, Williamsburg, Va. 9/1998
 North Pacific Marine Science Organization annual meeting, Fairbanks, Al. 10/1998 (invited)
 NOAA Climate Diagnostics Workshop, Miami, Fla. 10/1998
 American Fisheries Society annual meeting, Vancouver, Canada 2/1999 (invited)
 The Study of Environmental Arctic Change meeting, Seattle, Wa. 6/1999 (invited)
 Geophysical Fluid Dynamics Laboratory consortium meeting, Boulder, CO. 7/1999
 Commission on Geosciences, Env., and Resources meeting, Ottawa, Canada 7/1999 (invited)
 NOAA Climate Diagnostics Workshop, Tucson, AZ. 11/1999
 Goddard Institute for Space Studies Climate Workshop, New York, NY 11/1999 (invited)
 American Meteorological Society 6th International Conference on Southern Hemisphere
 Meteorology and Oceanography, Santiago, Chile 4/2000
 NOAA Program in Climate and Global Change Summer Institute, Steamboat Spr., CO. 6/2000
 (invited)
 Royal Meteorological Society 150th Anniversary Conference, Cambridge, UK 7/2000
 Geophysical Fluid Dynamics Laboratory consortium meeting, Princeton, NJ 9/2000
 AGU Chapman Conference on the NAO, Orense, Spain 11/2000 (invited)
 American Geophysical Union Fall meeting, San Francisco, CA 12/2000
 Joint Japan-US Workshop: Coupling of the troposphere and stratosphere by dynamical, radiative
 and chemical processes, Kyoto, Japan 3/2001 (invited)
 European Geophysical Society General Assembly, Nice, France 3/2001
 US CLIVAR Atlantic Meeting, Boulder, CO. 6/2001
 Third Study Conference on BALTEX, Mariehamn, Finland 7/2001 (invited)
 8th Scientific Assembly of the International Association of Meteorology and Atmospheric
 Sciences, Innsbruck, Austria 7/2001
 131st Annual Meeting of the American Fisheries Society, Phoenix, AZ 8/2001 (invited)
 CLIVAR Workshop on the Southern Ocean, Lamont-Doherty Earth Observatory, Palisades, NY.
 10/2001 (invited)
 NOAA Climate Diagnostics Workshop, La Jolla, CA. 10/2001
 American Geophysical Union Fall meeting, San Francisco, CA 12/2001
 36th Congress of the Canadian Meteorological and Oceanographic Society, Rimouski, Canada
 5/2002 (invited)

Colorado State University, Department of Atmospheric Science 40th Anniversary, Ft. Collins, CO
 7/2002
 Bjerknes Centre for Climate Research, Workshop on High Latitude Climate, Bergen, Norway
 9/2002 (invited)
 Bermuda Biological Station for Research/RPI, Workshop on Climate Predictability, Bermuda 10/
 2002 (invited)
 WOCE and Beyond: Achievements of the World Ocean Circulation Experiment. San Antonio, TX
 11/2002 (invited)
 American Geophysical Union Fall meeting, San Francisco, CA 12/2002 (invited).
 Canadian Middle Atmosphere Modelling/Global Chemistry for Climate Annual Workshop,
 Toronto, Canada 12/2002 (invited)
 The Role of the Stratosphere in Tropospheric Climate, Whistler, Canada 4/2003.
 IUGG 2003 General Assembly, Sapporo, Japan 7/2003.
 EURESCO Conference on Achieving Climate Predictability from Paleoclimatic Data, San Feliu,
 Spain 10/2003 (invited)
 Climate Change in High Latitudes, Bjerknes Centenary, Bergen, Norway 9/2004 (invited).
 SOLAR Science Meeting: Decadal variability in the Sun and Climate, Meredith, New Hampshire
 10/2004 (invited)
 CSU Colloquium on Environmental Research, Fort Collins, CO 11/2004 (invited).
 Workshop on High Latitude Climate Change, Fairbanks, AK 12/2004 (invited).
 American Geophysical Union Fall meeting, San Francisco, CA 12/2004
 Gordon Research Conference on Polar Marine Science, Ventura, CA 3/2005 (invited).
 Climate and Cryosphere (CLiC) Science Conference, Beijing, China 4/2005 (invited).
 American Geophysical Union Spring meeting, New Orleans, LA 5/2005 (invited).
 American Meteorological Society, Middle Atmosphere Meeting, Cambridge, MA 6/2005
 (invited).
 CLIVAR Modes of SH Climate Variability Workshop, Cambridge, UK 6/2005 (invited).
 Focus group on abrupt climate change (Changeling), La Jolla, CA 3/2006 (invited).
 Climate and Cryosphere (CLiC) SSG, Boulder, CO. 12/2006.
 AMOS meeting on the SAM, Adelaide, Australia 2/2007 (invited).
 AMS Middle Atmosphere Meeting, Portland, OR. 8/2007.
 Chapman Conference on Stratosphere/Troposphere coupling, Santorini, Greece 9/2007.
 Antarctic Peninsula Climate Change, Irvine, CA 6/2008 (invited).
 SPARC General Assembly, Bologna, Italy 8/2008 (invited).
 American Geophysical Union Fall meeting, San Francisco, CA 12/2008
 American Meteorological Society International Conference on Southern Hemisphere
 Meteorology and Oceanography, Melbourne, Australia 2/2009
 CLIVAR Southern Ocean Panel Meeting, Sydney, Australia 2/2009
 Advanced Climate Dynamics Course (summer school), Bergen, Norway 6/2009
 International Association of Meteorology and Atmospheric Sciences, Montreal, Canada 7/2009
 Wallace Symposium, Seattle, WA. 9/2010
 AMS Annual Meeting, Seattle, WA. 1/2011
 Swiss Climate Change Day/Swiss Academy of Sciences, Bern, Ch. 4/2011
 Congress of the Canadian Meteorological and Oceanographic Society, Victoria, Canada 6/2011
 (invited).
 AMS AOFD meeting. Spokane, Wa. 6/2011
 CLIVAR Southern Ocean Panel Meeting, Boulder, CO 10/2011
 Centre for Climate Dynamics, Bergen, Norway, 12/2011
 American Geophysical Union Fall meeting, San Francisco, CA 12/2011
 SPARC SSG, Zurich, Ch. 2/2012
 SHARP annual meeting, DLR, Munich, Germany 7/2012
 3ICESM, Hamburg, Germany 9/2012 (invited)
 NOAA Climate Diagnostics Workshop, Ft. Collins CO 10/2012
 AGU Fall Meeting, San Francisco, CA 12/2012

CLIVAR Southern Ocean workshop, Hobart, Australia 2/2013
NCAR CVC workshop, Boulder, CO. 2/2013
NCAR Southern Ocean workshop, Boulder, CO. 5/2013
AMS AOFD meeting, Newport, RI. 6/2013
AMS Middle Atmosphere meeting, Newport, RI. 6/2013
Bjerknes Centre annual meeting, Geilo, Norway 1/2014
Australian Met. and Oceanographic Society annual meeting, Hobart, Australia 2/2014 (invited).
NCAR CVC workshop, Boulder, CO. 3/2014
AGU Fall Meeting, (Session on Large Ensembles), San Francisco, CA 12/2014
AGU Fall Meeting, (Session on Southern Ocean Clouds), San Francisco, CA 12/2014
AMS Annual Meeting, (Session on Climate Change), Phoenix, AZ 1/2015
AMS Annual Meeting, (Session on Climate Variability), Phoenix, AZ 1/2015
Bjerknes Centre annual meeting, Geilo, Norway 1/2015
SPARC Stratospheric Temperature Trends meeting, Victoria, Canada 4/2015
AMS AOFD meeting, Minneapolis, MN. 6/2015
SPARC Workshop on Stormtracks, Grindelwald, Switzerland 8/2015 (invited)
DLR Conference on Climate Change, Cologne, Germany 4/2016 (invited)
EGU annual meeting, Vienna, Austria 4/2016
PCC/UW annual workshop, San Juan Island, WA 9/2016
GFDL Model Hierarchies workshop, Princeton, NJ 11/2016
AGU Fall Meeting, San Francisco, CA 12/2016

SEMINARS

University of Washington, Department of Atmospheric Sciences 5/1997
University of Washington, Department of Atmospheric Sciences 1/1998
National Center for Atmospheric Research, Boulder, Co. 10/1998
University of Washington, Climate Impacts Group 11/1998, 10/1999
Canadian Climate Modeling Centre, Victoria, Canada 12/1998
University of Reading, Department of Meteorology, Reading UK 1/1999
University of Washington, Department of Atmospheric Sciences 3/1999
Northwest Research Associates, Bellevue, Wa. 3/1999
Scripps Institute for Oceanography, La Jolla, Ca. 11/1999
University of Washington, Department of Physical Oceanography 1/2000
University of Washington, Department of Atmospheric Sciences 1/2000
Texas A&M University, Department of Oceanography 2/2000
California Institute of Technology, Division of Geological and Planetary Sciences 2/2000
Lamont Doherty Earth Observatory, Palisades, NY 2/2000
NASA Goddard Institute for Space Studies, New York, NY 2/2000
University of Alaska, Natural Sciences, Fairbanks, AK 3/2000
International Arctic Research Center, Fairbanks, AK 3/2000
Colorado State University, Department of Atmospheric Sciences 3/2000
University of California at Los Angeles, Department of Atmospheric Sciences 5/2000
Massachusetts Institute of Technology, Dep't. of Earth, Atm., and Planetary Sciences 5/2000
University of Chicago, Dep't. of Geophysical Sciences 5/2000
University of Washington, Department of Atmospheric Sciences 8/2000
McGill University, Dep't. of Atmospheric and Oceanic Sciences, Montreal, Canada 2/2001
National Science Foundation, Arlington, Va. 2/2001
NOAA OAR division seminar, Silver Springs, Md. 2/2001
NASA Goddard Space Flight Center branch seminar, Greenbelt, Md. 2/2001
Geophysical Fluid Dynamics Laboratory, Princeton, NJ 3/2001
National Center for Atmospheric Research, ACD Division Seminar, Boulder, Co. 5/2001
Oxford University, Dep't. of Atm., Oceanic and Planetary Physics, Oxford, UK 7/2001
Colorado State University, Dept. of Atmospheric Sciences, Ft. Collins, CO 11/2001
Center for Ocean-Land-Atmosphere Studies, Calverton, MD 11/2001

Department of Physics, Colorado State University, Ft. Collins, CO 2/2002
 Max Planck Institute for Meteorology, Hamburg, Germany 3/2002
 GKSS Research Center, Geesthacht, Germany 3/2002
 Danish Meteorological Institute, Copenhagen, Denmark 3/2002
 Colorado State University, Sigma Xi Scientific Research Society 3/2002
 University of Arizona, Department of Atmospheric Sciences 4/2002
 Northwest Research Associates, Bellevue, Wa. 4/2002
 University of Washington, Joint Institute for the Study of the Atmosphere and Ocean 5/2002
 University of Colorado, CIRES, Boulder CO 5/2002
 Cornell University, Department of Earth & Atmospheric Sciences, Ithaca NY 10/2002
 Meteorological Service of Canada, Toronto, Canada 12/2002
 Colorado School of Mines, Department of Physics Colloquium, Golden, CO 2/2003
 New York University, Courant Institute of Mathematical Sciences, New York, NY 2/2003
 University of Nebraska, Department of Meteorology, Lincoln, Nebraska 4/2003.
 Northwest Research Associates, Bellevue, Wa. 11/2003
 Bureau of Meteorology Research Centre, Melbourne, Australia 1/2004
 CSIRO Marine Research, Hobart, Australia 1/2004
 CSIRO Atmospheric Research, Aspendale, Australia 1/2004
 Department of Atmospheric and Oceanic Sciences, University of Wisconsin, Madison, WI 2/2004
 College of Atmospheric and Oceanic Sciences, Oregon State University, Corvallis OR 2/2004
 Institute of Geophysics and Planetary Physics, UCLA, Los Angeles CA 5/2004
 California Institute of Technology, Pasadena CA 5/2004
 University of Bergen, Geophysics Institute, Bergen, Norway 5/2004
 Bjerknes Centre for Climate Research, Bergen, Norway 5/2004
 University of Reading, Department of Meteorology, Reading, UK 6/2004
 University of Cambridge, Department of Chemistry, Cambridge, UK 6/2004
 University of Washington, Department of Atmospheric Sciences 12/2004
 National Institute for Water and Atmospheric Research, Wellington, NZ 1/2006; 2/2006
 Victoria University, Wellington, NZ 2/2006
 National Institute for Water and Atmospheric Research, Lauder, NZ 2/2006
 University of Canterbury, Christchurch, NZ 2/2006
 University of Washington, Department of Atmospheric Sciences 9/2006
 University of New Hampshire, Dep't. of Earth Sciences 10/2006
 Massachusetts Institute of Technology, Dep't. of Earth, Atm., and Planetary Sciences 10/2006
 Golder & Associates (outreach lecture on climate change), Denver, CO. 12/2006
 Bureau of Meteorology Research Centre, Melbourne, Australia 2/2007
 CSIRO Atmospheric Research, Aspendale, Australia 2/2007
 Purdue University, West Lafayette, Indiana 3/2007
 University of Toronto, Department of Physics, 6/2007.
 ARUP (outreach lecture on climate change), San Francisco, CA. 7/2007.
 Bureau of Meteorology Research Centre, Melbourne, Australia 10/2007.
 University of Tasmania, Hobart, Australia, 12/2007.
 University of Melbourne, Melbourne, Australia, 12/2007.
 Monash University, Melbourne, Australia 12/2007.
 National Institute for Water and Atmospheric Research, Lauder, NZ 1/2008
 University of New South Wales, Sydney, Australia 1/2008
 University of Reading, Department of Meteorology, Reading, UK 3/2008
 ETH, Zurich, Switzerland 3/2008
 Univ. of Leeds, Leeds, UK 4/2008
 IFM/GEOMAR, Kiel, Germany 4/2008
 University of Reading, Department of Meteorology, Reading, UK 4/2008
 University of East Anglia, Climatic Research Unit 4/2008
 University of Cambridge, DAMTP, Cambridge, UK 5/2008
 University of Bergen, Geophysics Institute, Bergen, Norway 10/2008

University of Victoria, Victoria, Canada 11/2008
University of Washington, Department of Atmospheric Sciences 11/2008
Massachusetts Institute of Technology, Dep't. of Earth, Atm., and Planetary Sciences 1/2009
National Center for Atmospheric Research CGD Division Seminar, Boulder, Co. 1/2009
National Center for Atmospheric Research ASP Seminar, Boulder, Co. 4/2009
NOAA Aeronomy Lab, Boulder, Co. 5/2009
Department of Geophysics, University of Bergen, 6/2009
University of Stockholm, Department of Meteorology, Stockholm, Sweden 6/2009
Western Washington University, Department of Environmental Science, 4/2010
University of California, Berkeley, BASC Seminar series, 9/2010
Climate Change Research Centre, Sydney, Australia, 10/2010
Centre for Australian Weather and Climate Research, Melbourne, Australia, 11/2010
GFDL/Princeton Univ., Princeton, NJ. 2/2011
Department of Physics/University of Bern, Bern, Ch. 4/2011
Physical Sciences Division, NOAA, Boulder, CO. 5/2011
Massachusetts Institute of Technology, Dep't. of Earth, Atm., and Planetary Sciences 4/2012
Harvard, Dept. of Environmental Sciences 4/2012
University of Washington, Dept of Atmospheric Science, 5/2012
ETH, Zurich, Switzerland 6/2012
HIH, Hohenpeissenberg, Germany 7/2012
Institute of Atmospheric Physics, DLR, Germany 7/2012
University of Exeter, Exeter UK 9/2012
University of Reading, Department of Meteorology, Reading, UK 9/2012
University of Colorado, Dept. of Atmospheric Sciences, Boulder CO 10/2012
SOGES (Outreach panel on polar climate), CSU, Ft. Collins CO 2/2013
Climate Change Research Centre, Sydney, Australia, 2/2013
Department of Geophysics, University of Bergen, 4/2013
EPA Region 8 (Outreach panel on polar climate). Denver CO 5/2013
Massachusetts Institute of Technology, Dep't. of Earth, Atm., and Planetary Sciences 5/2013
University of Reading, Department of Meteorology, Reading, UK 9/2013
Imperial College, Department of Physics, London, UK 9/2013
Environmental Defense Fund: Weathering Change. Denver CO 10/2013
Climate Change Research Centre, Sydney, Australia, 2/2014
New York University, Courant Institute of Mathematical Sciences, New York, NY 4/2014
Columbia University, Department of Mathematics, New York, NY 5/2014
University of Washington, Dept. of Atmospheric Science, 5/2014
University of Barcelona, Dept. of Physics, Barcelona, Spain 7/2014
University of Barcelona, Dept. of Astronomy and Meteorology, Barcelona, Spain 7/2014
ETH, Zurich, Switzerland 9/2014
Massachusetts Institute of Technology, EAPS, Boston, MA 9/2014
GFDL/Princeton Univ., Princeton, NJ 9/2014
National Center for Atmospheric Research, ACD, Boulder, Co. 10/2014
University of New Mexico, Dept. of Earth and Planetary Sciences, Albuquerque, NM 10/2014
University of Victoria/CCCMA, Victoria, Canada 4/2015
University of California at Berkeley, Dept. of Geography, Berkeley, CA 4/2015
Stanford University, School of Earth Sciences, Palo Alto, CA 4/2015
Geosciences Dept., CSU, Ft. Collins, CO, 5/2015
ETH, Zurich, Switzerland 9/2015
Univ. of Leeds, Leeds, UK 11/2015
ETH Dept of Env. Sciences, Zurich, Switzerland 12/2015
Department of Geophysics, University of Bergen, Norway 1/2016
Institute for Atmospheric Physics, University of Mainz, Mainz, Germany 3/2016
University of Reading, Department of Meteorology, Reading, UK 3/2016
Department of Physics/University of Bern, Bern, Ch. 3/2016

Max-Planck Institute for Meteorology, Hamburg, Germany 4/2016
Institut für Meteorologie, Freie Universität, Berlin, Germany 4/2016
Laboratoire de Meteorologie Dynamique/Jussieu, Paris, France 5/2016
ETH Dept of Env. Sciences, Zurich, Switzerland 2/2017
Massachusetts Institute of Technology, PAOC Research Seminar, Boston, MA 2/2017
Massachusetts Institute of Technology, EAPS Department Seminar, Boston, MA 3/2017

FUNDED PROPOSALS (does not include pending proposals)

- 2014-2017. Thompson, D. W. J. Understanding two-way coupling between cloud radiative effects and the large-scale extratropical atmospheric circulation. NSF Climate Dynamics Program. \$635,603.
- 2014-2017. Cassano, J., M. Serreze, J. Stroeve, E. Cassano, J. A. Francis, and D. W. J. Thompson. An Integrated Observational/Modeling Assessment of the Effects of Recent and Future Arctic Change on Weather Systems in North America and the United States. NASA IDS. \$988,466 (\$73,392 to CSU).
- 2014-2017. Thompson, D. W. J. Analyses of Large-Scale Extratropical Climate Variability and Change. NSF Climate Dynamics Program. \$738,632.
- 2013-2016. Thompson, D. W. J., E. D. Maloney, M. Alexander. Understanding the influence of large gradients in the extratropical sea-surface temperature field on the tropospheric circulation. NASA Physical Oceanography. \$739,155.
- 2010-2013. Thompson, D. W. J. Analyses of Large-Scale Climate Variability. NSF Climate Dynamics Program. \$685,992.
- 2006-2009. Thompson, D. W. J. Analyses of Climate Variability and Climate Change. NSF Climate Dynamics Program. \$450,000.
- 2004-2007. Thompson, D. W. J., A. S. Denning, N. Gruber. Understanding the impacts of large scale climate variability on the global carbon cycle. NASA: Earth Science Enterprise's Earth Observing System Interdisciplinary Science Program. \$868,000.
- 2003-2006. Randall, D. A., L. D. Fowler, D. W. J. Thompson. Analysis of precipitation variability as observed by emerging satellite systems. NASA Global Precipitation Mission. \$360,000.
- 2003-2006. Thompson, D. W. J. Analysis of Annular Variability in the Global Circulation. NSF Climate Dynamics Program. \$319,460.
- 2002-2007. Thompson, D. W. J. Analysis of the Southern Hemisphere Annular Mode and its role in climate change. National Science Foundation CAREER award. \$400,000.
2000. Thompson, D. W. J. The Arctic Oscillation signature in Northern Hemisphere climate. NASA Earth System Science Fellowship Program. \$22,000.