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Education

Ph.D. in Statistics, Institute of Statistics and Decision Sciences, *Duke University*, 1997.
M.S. in Statistics, Institute of Statistics and Decision Sciences, *Duke University*, 1995.
Laurea (cum laude) in Economics, with emphasis in Statistics, *Universita' L.Bocconi*, Milan, Italy, 1992

Experience

Adjunct Professor, *Department of Statistics*, UBC Vancouver, September 2009 – .
Research Scientist *Climate Central*, January 2008 – .
Visiting Scientist, *Department of Global Ecology*, Stanford, August 2006 – August 2008.
Project Scientist, *Institute for the Study of Society and Environment, Institute for Mathematics Applied to the Geosciences and Climate and Global Dynamics Division*, National Center for Atmospheric Research, 2001 – 2007.
Research Scientist, *Advanced Technology Group*, Athene Software inc., 2000–2001.
Postdoctoral fellow, *Geophysical Statistics Project*, National Center for Atmospheric Research, 1997 – 2000.
Teaching and Research Assistant, *ISDS*, Duke University and National Institute for Statistical Science, 1993–1997.
Summer Intern, AT&T Bell Laboratories and AT&T Research Laboratories, 1995, 1996.
Research Assistant, *Istituto di Metodi Quantitativi*, Universita' L.Bocconi, 1992–1993.

Professional Service

Referee for *Journal of the American Statistical Association*, *Statistics and Computing*, *Journal of the Royal Statistical Society*, *Journal of Computing and Graphical Statistics*, *Climate Dynamics*, *Monthly Weather Review*, *Water Resources Research*, *Journal of Geophysical Research*, *Proceeding of the National Academy of Sciences*, *International Journal of Climatology*, *American Journal of Epidemiology*, *Climatic Change*, *Journal of Climate*, *Tellus*, *Advances in Water Resources*.

NOAA, DOE, NSF and Canadian Science Foundation Grant Proposal Reviewer.

Testimony at US Senate, Science Committee Hearing on Impacts of Climate Change (September 2004).

State Department Workshop on Risky Climate Change, presenter (June 2007).

Contributing author, Intergovernmental Panel on Climate Change, Fourth Assessment Report (2007), WG1, Chapter 10, *Global climate change projections* and Chapter 11, *Regional climate change projections*, and WG2, Chapter 2, *New assessment methods and the characterization of future conditions*.

National Academy of Science, National Research Council, Reviewer of Summary and Assessment Products (SAP) by Climate Change Science Program.

Symposium organizer at the upcoming AAAS meeting in Chicago, February 2009. The symposium is titled "Risky Business: assessing and dealing with extreme events in a changing climate".

Session organizer, American Geophysical Union fall meetings, 2007 and 2008. The latest session was on "Probabilistic impact analysis".

Member of the Probability and Statistics Committee of the American Meteorological Society.

Reviewer of the UK Climate Impacts Program 2008, which is preparing to release probabilistic projections of climate change over the United Kingdom, commissioned by the UK Department of the Environment.

I am preparing as the PI the renewal proposal to fund the activities of the International Detection and Attribution Group, which has been funded for the last 6 years by two multi-year grants by DOE. IDAG is a group of about 25 researchers, from US, UK, Canada, Australia, Germany and Japan. Its activities over the years have formed the basis for much of the content of IPCC report chapters on understanding and attributing observed changes in our climate. I was asked to take the lead when the former PI moved from Duke University to Edinburgh.

Professional Awards

Contributing author for the IPCC working groups 1 and 2 of the fourth assessment report. The IPCC was awarded the Nobel Peace Prize in 2007.

Teaching

I have only informally advised students and postdocs over the years, during my work at NCAR and the two years I spent at Stanford.

Research Areas

My research has focused on the analysis of climate change projections at global and regional scale. I am particularly interested in the characterization of uncertainty in projections of temperature and precipitation from global climate models, the 'downscaling' of information to local scales, the analysis of changes in extreme events (temperature and precipitation), the characterization of similarities and differences across emission scenarios, the translation of temperature and precipitation changes in impacts on water resources (river basin management), agriculture (crop models), food security, health effects (e.g., heat wave mortality).

Results from these analyses have been incorporated/utilized by multiple research projects. In fact, I have never been in need of getting external funding through grant proposals but I have helped in many circumstances to write pieces of proposals by supplying results of my analyses, or other forms of consulting. E.g.,

- * Analysis of the impacts of climate change on the Central Gulf Coast transportation system (USGS, US-DOT and Louisiana State University);
- * California river basins water resource management (DWR, California Energy Commission's Report to the California Governor, El Dorado Irrigation District, CA, Placer County Water Agency, CA, Nevada Irrigation District, CA – all through collaboration with David Yates, NCAR);
- * Aspen region, study of vulnerabilities of the ski industry for the city of Aspen (through collaboration with Joel Smith, Stratus consulting, Boulder, CO);
- * Study of vulnerabilities and consequences for water management for the city of Boulder and NOAA (Stratus Consulting);
- * Study of vulnerabilities of forests, water resources, coastal resources and health for the National Commission on Energy Policy, funded by the Hewlett foundation (Stratus Consulting);
- * Study of vulnerability and needs for prioritization of WWF "priority places" around the world. Funded by WWF-UK (through collaboration with Robert Wilby, University of Loughborough, UK.)
- * Study of climate extremes in California, past, present and future for the California Climate Change Center (through collaboration with Stephen Schneider and Michael Mastrandrea, Stanford University).

Journal Publications

- Washington, W. M., R. Knutti, G. A. Meehl, H. Teng, C. Tebaldi, D. Lawrence, L. Buja, and W. G. Strand (2009), How much climate change can be avoided by mitigation? *Geophys. Res. Lett.*, 36, L08703, doi:10.1029/2008GL037074
- Smith, R.L., C. Tebaldi, D. Nychka and L.O.Mearns (2009), Bayesian modeling of uncertainty in ensembles of climate models. *Journal of the American Statistical Association*, Vol. 104, no. 485, pp.97116.
- Groves, D. G., D. Yates, and C. Tebaldi (2008), Developing and applying uncertain global climate change projections for regional water management planning, *Water Resour. Res.*, 44, W12413, doi:10.1029/2008WR006964.
- Tebaldi C. and B. Sanso' (2008) Joint projections of temperature and precipitation change from multiple climate models: a hierarchical Bayesian approach. *Journal of the Royal Statistical Society A*, Vol. 172, no. 1, pp. 83-106.
- Tebaldi C. and D. B. Lobell (2008), Towards probabilistic projections of climate change impacts on global crop yields. *Geophysical Research Letters*. , Vol. 35, L08705, doi:10.1029/2008GL033423
- Lobell, D.B., M.B. Burke, C. Tebaldi, M.D. Mastrandrea, W.P. Falcon, and R.L. Naylor (2008), Prioritizing climate change adaptation needs for food security in 2030. *Science*, Vol. 319, no. 5863, pp. 607-610.
- G.A.Meehl, C.Tebaldi, H. Teng and T. C. Peterson (2007), Current and future U.S. weather extremes and El Nino *Geophysical Research Letters*, Vol. 34, L20704, doi:10.1029/2007GL031027.
- G.A.Meehl, J. M. Arblaster and C. Tebaldi (2007), Contributions of natural and anthropogenic forcing to changes in temperature extremes over the U.S. *Geophysical Research Letters*, Vol. 34, L19709, doi:10.1029/2007GL030948.
- Fowler, H.J., Blenkinsop, S. and C. Tebaldi (2007), Linking climate change modelling to impacts studies: recent advances in downscaling techniques for hydrological modelling *International Journal of Climatology*, Vol. 27, no. 12, pp. 1547-1578.
- C. Tebaldi and R. Knutti (2007), The use of the multimodel ensemble in probabilistic climate projections. *Philosophical Transactions of the Royal Society* (special issue on Probabilistic Climate Change Projections), Vol. 365, pp. 2053-2075.
- C. Tebaldi, K. Hayhoe, J.M. Arblaster, and G. A. Meehl (2006), Going to the extremes: An intercomparison of model-simulated historical and future changes in extreme events. *Climatic Change*, Vol. 79, pp. 185-211.
- A. Lopez, C. Tebaldi, M. New, D. Stainforth, M. Allen and J. Kettleborough (2006), Two approaches to quantifying uncertainty in global temperature changes. *Journal of Climate*, Vol. 19, pp. 4785 - 4796.
- R. Sharman, C. Tebaldi, J. Wolff and G. Wiener (2006), An Integrated Approach to mid- and upper-level turbulence forecasting. *Weather and Forecasting*, Vol. 21, no. 3, pp. 268-287.
- A.Dobra, C.Tebaldi and M. West (2006), Bayesian Inference in incomplete multi-way tables. *Journal of Statistical Planning and Inference*, Vol. 136, pp. 355-372.

- G. A. Meehl, J. M. Arblaster and C. Tebaldi (2005), Understanding future patterns of increased precipitation intensity in climate models. *Geophysical Research Letters*, Vol. 32, L18719, doi:10.1029/2005GL023680.
- C. Tebaldi, R. W. Smith, D. Nychka and L. O. Mearns (2005), Quantifying uncertainty in Projections of Regional Climate Change: a Bayesian Approach to the Analysis of Multi-model Ensembles. *Journal of Climate*, Vol. 18, pp. 1524-1540.
- C. Tebaldi, L. O. Mearns., D. Nychka and R. W. Smith (2004), Regional probabilities of precipitation change: A Bayesian analysis of multimodel simulations. *Geophysical Research Letters*, Vol. 31, L24213, doi:10.1029/2004GL021276.
- G. Meehl, C. Tebaldi and D. Nychka (2004), Changes in Frost Days in Simulations of 21st Century Climate. *Climate Dynamics*, Vol. 23, no. 5, pp. 495-512.
- G. Meehl and C. Tebaldi (2004), More intense, more frequent and longer lasting heat waves in the 21st century. *Science*, Vol. 305, no. 5686, pp. 994-997.
- G. A. Meehl, W. M. Washington, C. M. Ammann, J. A. Arblaster, T. M. Wigley and C. Tebaldi (2004), Combinations of natural and anthropogenic forcings in 20th century climate. *Journal of Climate*, Vol. 17, pp. 3721-3727.
- R. Katz, M. Parlange and C. Tebaldi (2003), Stochastic Modeling of the Effects of Large-Scale Circulation on Daily Weather in the Southeastern U.S. *Climatic Change*, Vol. 60, pp. 189-216.
- D. Nychka and C. Tebaldi (2003), Comments on 'Calculation of Average, Uncertainty Range, and Reliability of Regional Climate Changes from AOGCM Simulations via the Reliability Ensemble Averaging (REA) Method. *Journal of Climate*, Vol. 16, pp. 883-884.
- C. Tebaldi, M. West and A. Karr (2002), Short-Term Forecasting of Freeway Traffic Flows. *Journal of Forecasting*, Vol. 21, pp. 39-68 .
- C. Tebaldi, D. Nychka, B. G. Brown and R. Sharman (2002), Flexible Discriminant Techniques for Forecasting Clear-Air Turbulence. *Environmetrics*, Vol. 13, pp. 859-878.
- C. Tebaldi, D. Nychka and G. Branstator (2001), Non linearities and Multiple Equilibria in the Atmosphere. A Statistical Description. *First SIAM International Conference on Data Mining, Refereed Proceedings*.
- G. Parmigiani, D. Berry, E. Winer, C. Tebaldi and L. Prosnitz (1999), Is Axillary Node Dissection Indicated for Early Stage Breast Cancer? A Decision Analysis. *Journal of Clinical Oncology*, Vol. 17, pp. 1465-1473 .
- C. Tebaldi and M. West (1998), Bayesian Inference on Network Traffic Using Link Count Data. With discussion. *Journal of the American Statistical Association*, Vol. 93, no. 442, pp. 557-573.

Book Chapters and Invited Publications (peer reviewed)

- C. Tebaldi (2009) *Climate Change Projections and their Uncertainty*, chapter in Climate change and food security: Adapting agriculture to a warmer world. D. Lobell and M. Burke, eds. Springer. In preparation.
- C. Tebaldi and Richard L. Smith (2008). *Characterizing the Uncertainty of Climate Change Projections Using Hierarchical Models*, chapter in The Handbook of Applied Bayesian Analysis. M. West and T. O'Hagan eds. Oxford University Press. Forthcoming.

- C. Tebaldi, M.D. Mastrandrea and Richard L. Smith (2008). *Global Warming* entry in Encyclopedia on Quantitative Risk Assessment, W. Piergosh ed., Wiley, NY. Forthcoming.
- C. Tebaldi and G.A.Meehl. (2008) Beyond mean climate change: what climate models tell us about future climate extremes. *Assessing, modeling and monitoring the impacts of extreme climate events*, H. F. Diaz and R. J. Murnane eds., Cambridge University Press.
- C. Tebaldi and D. Nychka. (2004) Discussion of 'Calibrated Probabilistic Mesoscale Weather Field Forecasting' by Gel et al. *Journal of the American Statistical Association*.
- C. Tebaldi, D. Nychka, B.G. Brown and R. Sharman (2000) Forecasting Clear-Air Turbulence. *Case studies in Statistics and the Atmospheric Sciences*, Springer-Verlag.

Conference Proceedings

- C. Tebaldi, D. Nychka, L.O.Mearns and R. Furrer. (2005) Inferring Climate from Climate Models. *55th Session of the International Statistical Institute, Sydney, Australia*.
- C. Tebaldi, D. Nychka and L.O.Mearns. (2004) From global mean responses to regional signals of climate change: simple pattern scaling, its limitations (or lack of) and the uncertainty in its results. *Probability and Statistics in the Atmospheric Sciences, AMS annual meeting, Seattle, WA*.
- C. Tebaldi. (2002) Looking far back vs. looking around enough: operational weather forecasting by spatial composition of recent observations. *Probability and Statistics in the Atmospheric Sciences, AMS annual meeting, Orlando, FL*.

Recent Invited Presentations

- Geology Department, Stanford University, January 2008. *The use of multi-model ensembles in climate projections: on uncertainty characterization and quantification*.
- Jet Propulsion Laboratories, California Institute of Technology, Pasadena, CA February, 2008. *The use of multi-model ensembles in climate projections: on uncertainty characterization and quantification*.
- CLIVAR/VAMOS Panel, NOAA AOML, Miami, FL, March 2008. *Extremes and Climate Change*.
- DIMACS Workshop on Climate and Infectious Disease, Rutgers University, April, 2008. *Inferring local climate from General Circulation Model's projections. An overview of statistical downscaling approaches*.
- NOAA NCDC Workshop on precipitation extremes, April, 2008. *About Global Climate Model projections and their uncertainty, and about translating them into regional-scale weather*.
- Aspen Global Change Institute, Meeting on Decadal Predictions, June 2008. *Decadal Prediction Information*.
- NCAR/IMAGE International Summer School on Statistics and Climate Modeling, Boulder, August 2008. *Statistics for Climate Change Projections*
- JSM 2008, Denver, August 2008. *The Role of Statisticians in Understanding Climate Change: Democracy vs. Aristocracy in Model Projections of Climate Change*.

NASA Conference on Intelligent Data Understanding, Washington DC, September 2008. *Synthesizing information from multiple climate models: a Bayesian approach to probabilistic climate change projections.*

EPA workshop on climate change and public health, Washington DC, November 2008. *Inferring local climate from General Circulation Model's projections.*