

Céline Bonfils, Research Scientist

Atmospheric Sciences
Program for Climate Model Diagnostic and Intercomparison
Climate/Carbon Science Group
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Main Highlights from CV

- Ph.D. in Meteorology, Oceanography, Environment
- Major contributor in detection and attribution (D&A) research conducted at LLNL
- 39 lifetime journal articles + 3 submitted articles + 2 articles in preparation
- 22 h-index (Web of Science/ISI), >2100 citations
- 4 articles featured in the LLNL Science and Technology Reviews

Leadership

- PI of ECRP (\$2.5M/5yrs) – 3rd year
- Co-PI of DE-FOA-0001036 (\$165K/3yrs for LLNL)
- Recruited and mentor 2 post-docs

Awards

- Early Career Research Project Award, 2012-2017
- 5 LLNL awards
- Contributor to Nobel Peace Prize Winning IPCC report

Communications with senior management

- Served as DOE expert reviewer, briefed high-profile visitors, participated to various LLNL strategic planning activities and ERC presentations

Synergetic Activities

- Deputy Group Leader, Seminar Series convener, member of Performance Appraisals Committee
- Journal reviewer, panel review, chair, represented LLNL at U.S.A. Science & Engineering Fair
- Invited talks and posters

Education and Training

	DEGREE	YEAR(s)	FIELD OF STUDY
C. Pissarro High school, Pontoise, France	Baccalaureat	1991	Chemistry, Biology
University of Cergy-Pontoise, France	B.S.	1995	Chemistry
University of Paris VI, France	M.S.	1996	Meteorol., Environment
University of Paris VI, France	Ph.D.	2001	Meteorol., Environment
University of California, Berkeley	Postdoc	2001-04	Climate Sciences
Lawrence Livermore Nat. Lab., Livermore	Postdoc	2005-09	Climate Sciences

Research and Professional Experience

Lawrence Livermore National Laboratory (2009-present), Physicist, Deputy Group Leader (since 2014)

Focusing on the D&A on the precursors of droughts / changes in hydroclimate
Evaluated the stationarity and intensification of ENSO-driven teleconnections
Inspected the human influence on the “Pacific Decadal Oscillation” mode of variability
Used model quality information in D&A studies

Used “total natural variability” estimated from millennium simulations in D&A studies
Evaluated the influence of shrub height and expansion on the northern latitude climate

U.C. Merced and Lawrence Livermore National Laboratory (2005-2009), Postdoctoral Fellow

Conducted D&A studies on recent temperature changes (California, western U.S., hurricane formation regions)

Participated to a study on human-induced changes in the western U.S. hydrology

Assessed the ability of models to simulate natural internal climate variability

Identified empirically an irrigation-induced cooling in expanding agricultural lands

Validated the consistency between daily and monthly temperature outputs in IPCC database

Projected the impact of future climate change on California perennial crop yields (PI: D. Lobell)

U.C. Berkeley (2001-2004), Postdoctoral Fellow, Berkeley Atmospheric Sciences Center

Analyzed of climate-carbon feedbacks using a long simulation of natural climate variability

Detected atmospheric signatures of interannual terrestrial photosynthesis variability

Studied CO₂ sources and sinks using tower fluxes and satellite information (PI: A. Angert)

Helped investigate the role of Arctic Oscillation on Indian monsoon intensity (PI: W. Buermann)

Atomic Energy Commission (1996-2001), Ph.D. and Research Associate

Designed innovative multivariate statistical tools for data-models comparison

Participated to the Paleoclimate Modeling Intercomparison Project (PMIP)

Studied the role of land-surface parameterizations (albedo, soil moisture, snow) on simulated climate sensitivity (monsoon systems, mid-latitudes)

Responsibilities

- PI ECRP Award for the project “Early Career: Detection and Attribution of Regional Climate Change with a Focus on the Precursors of Droughts”, 2012-2017 - \$2.5M/5 years
- Co-PI DE-FOA-0001036, Understanding recent global hydroclimate change using multivariate D&A techniques and GCM experiments - 2015-2018 (\$165K/3years for LLNL)
- PI, LLNL LDRD Program, 2010-2012
- Serves as Deputy Group Leader for the Climate Modeling and Analysis (CliMA) Group since 2014.
- Mentor two post-docs (Ivana Cvijanovic, Gemma Anderson) since January 2015
- Member of Performance Appraisals Committee (October 6-7, 2015)
- Developing and maintaining outside collaborations (K. Marvel, B. Cook, A. Capotondi, R. Leung, D. Polson)
- Participates to a graduate seminar series at UC Berkeley led by Prof. John Chiang.
- Participated to a white paper after a PI RGCM meeting (5-10 yeas vision for D&A research)

Honors, Awards, Memberships

- Early Career Research Project Award, 2012-2017
- LLNL Best Poster Award for the External Review Committee – GS/PLS Directorates, 06/2015
- LLNL Directorate Award for Excellent Publication, Physical and Life Science Directorate, 03/2014
- LLNL Outstanding Postdoc Fellow Award, Physical and Life Science Directorate, 09/2009
- LLNL Atmospheric Earth and Energy Division Spot Award, 04/2009
- LLNL Science and Technology Award, 10/2008
- Citizens Award, United Nations Association, U.S.A., 2009
- Contributing author to Nobel Peace Prize Winning IPCC report, 2007
- Ph.D. Appointment by French Atomic Energy Commission, 1997-2000
- AGU Membership

Publication highlights

- The Marvel and Bonfils (2014) article was:
 - chosen for a PLS Directorate Award for excellent publication, 03/2014
 - featured in the June 2014 LLNL Science and Technology Review (<https://str.llnl.gov/june-2014/marvel>)

- received the best poster award for GS/PLS ERC 06/2015
- featured at the joint GS and PLS External Review Committee (ERC) Showcase (Nov 10, 2015)
- Figure 3 is featured in Nature Climate change, Perspective (June 6, 2016):
<http://www.nature.com/nclimate/journal/vaop/ncurrent/full/nclimate2976.html>
- The Bonfils et al. (2012) article was:
 - featured as an “ERL Insight” web article (<http://environmentalresearchweb.org/cws/article/news/48988>)
 - chosen as a January Highlight papers ([http://iopscience.iop.org/1748-9326/page/2012 monthly highlights](http://iopscience.iop.org/1748-9326/page/2012%20monthly%20highlights))
 - chosen as an IOP select papers (<http://iopscience.iop.org/collections>)
 - featured in the June 2012 LLNL Science and Technology Review (<https://str.llnl.gov/June12/taylor.html>)
 - summarized in the 2012 ERL perspective article by Loranty and Goetz
- The Bonfils et al. (2008) article was featured in the June 2012 LLNL Science and Technology Review
- The Santer et al. (2009) article was featured in the June 2012 LLNL Science and Technology Review
- The Duffy et al. (2007) article was featured in the Jan 2008 Newslines

Synergic Activities

- **Reviewer** for refereed journals (*Nature Geoscience, Water Resource Research, Geophysical Research Letters, Climatic Change, Journal of Climate, Climate Dynamics, Climate Research, California Agriculture Journal, Journal of Geophysical Research, Climatic Change Letters*)
- **Contributed to four major DOE-led panel reviews** (Regional & Global Climate Modeling 2010, Decadal & Regional Climate Prediction using ESMs 2010, ECRP 2013 & 2015), and 1 UK panel review (QUEST)
- **Wrote multiple individual written reviews**, as requested by DOE managers
- Chaired the “ENSO and regional processes” session at the III International Conference on ENSO, Guayaquil, Ecuador, 12-14 Nov, 2014
- Participated to multiple Institutional Postdoctoral Program Symposia
- Led the LLNL “Atmospheric Seminar Series” (found speakers, facilitated contact with administrative personnel, and convened the seminar). Received an LLNL Spot Award for this “exemplary performance in response to an important organizational need” (04/2009)
- Represented the LLNL climate science at the U.S.A. Science & Engineering Fair (Washington D.C.; 500,000 visitors) with the LLNL Interactive Energy and Climate Game (<https://climatesim.llnl.gov/>), 10/2010
- Documented the 18 climate models of the Paleoclimate Modeling Intercomparison Project

Communications with senior management

- Participated to the protocol visit from Georgetown University (Bill Goldstein and Pat Falcone hosted John J. DeGioia, Georgetown University President) (Mar 16, 2016)
- Invited talk and meeting with program Managers at DOE Headquarters: overview on the ECRP research (23 Nov 2015)
- Invited to monthly “Kitchen cabinet” discussions with Glenn Fox (Associate Director of LLNL/PLS Directorate)
- Invited to discuss possible LLNL/Georgetown collaboration initiative (20 Nov 2015)
- Took LLNL Lab 101 & Supervisor I trainings
- Invited poster for the 2015 LLNL GS/PLS Directorates External Review Committee (June 8, 2015) and the ERC Poster showcase (Nov 10, 2016)
- Participant in various LLNL interview committees (e.g., DDL for S&T, 02/2015)
- Participant in the LLNL AAED Strategic Planning activity (04/2015)
- Participant in the LLNL PLS strategic planning exercise (2015)
- Participant in the LLNL Climate and Atmospheric 2014 strategic planning exercise
- Invitation to talk to Franklin “Lynn” Orr, nominee for undersecretary for science and energy on climate science (as one employee actively engaged in LLNL research activities). (07/2014)
- Participation to the Climate Change and Atmospheric Science core competency panel (2014)
- Report initiated by Bld 111 (coordinator: Doug Rotman) on CA future water (06/2014)
- Invited talk for the Board of Governors LLNL/LNAS S&T Joint Committee Meeting (01/2014)

- Invited talk for the S&T Committee of the Board of Governors LLNS (2014)
- Invited talk for meeting of the climate change adaptation consortium, organized by the CA department of Food& and Agriculture (2013)
- Invited talk (host: B. Goldstein) for the PLS AD/senior management seminars (2009)
- Invited poster for the 2008 LLNL/CMELS Directorate Review Committee (2008)
- Invited talk for Soil and Water conservation society, solicited by D. Rotman (2008)
- One slide on irrigation study featured in all-hands Director presentation (2007)

Peer-reviewed Publications (including 39 published articles, 1 Book Chapter, 2 External Reports, 3 subm. papers); h-factor: 22 (Web of Science/ISI); >2100 citations

2015

- Santer, B. D., S. Solomon, G. Pallotta, C. Mears, S. Po-Chedley, Q. Fu, F. J. Wentz, C.-Z. Zou, J. F. Painter, I. Cvijanovic, **C. Bonfils**: Comparing Tropospheric Warming In Climate Models and Satellite Data, *Nature Climate Change*, submitted.
- Cvijanovic I, **C Bonfils**, D Lucas, BD Santer, J Chiang, S. Zimmerman: Seasonally ice free Arctic favors dry California. *PNAS*, submitted.
- Santer, B. D., R. Neely III, G. Meehl, J.-F. Lamarque, S. Solomon, D. Ridley, **C. Bonfils**, J. Painter, M. Zelinka, 2015: Correspondence: Climate impact of volcanic forcing uncertainty, *Nature Geosc.*, submitted.
- Bonfils C**, G Anderson, BD Santer, B Cook, I Cvijanovic, T Phillips: Competitive influences on droughts: present and future. In preparation.
- Anderson G, **C Bonfils**, D Lucas, BD Santer: Quantifying the effect of parameter uncertainties on the simulation of drought. In preparation.
- Santer, B. D., S. Solomon, D. Ridley, J. Fyfe, F. Beltran, **C. Bonfils**, J. Painter, M. Zelinka, 2015: Correspondence: Volcanic effects on climate, *Nature Clim. Ch.*, 6, 3-4. doi:10.1038/nclimate2859.
- Bonfils, C.**, B. D. Santer, T. J. Phillips, K. Marvel, R. Leung, C. Doutriaux, A. Copotondi, 2015: Relative contributions of mean-state shifts and ENSO-driven variability to precipitation changes in a warming climate *J. Clim.*, 28, 9997-10013, <http://dx.doi.org/10.1175/JCLI-D-15-0341.1>.
- Marvel, K., G. A. Schmidt, D. Shindell, **C. Bonfils**, A. N. LeGrande, L. Nazarenko, K. Tsigaridis, 2015: Do responses to different anthropogenic forcings add linearly in climate models? *Environmental Research Letters*, **10**, 104010
- Phillips, T. J., **C. Bonfils**, 2015: Köppen bioclimatic evaluation of CMIP historical climate simulations, *Environmental Research Letters*, **10**, 064005, doi:10.1088/1748-9326/10/6/064005.
- Santer, B. D., S. Solomon, **C. Bonfils**, M. D. Zelinka, J. F. Painter, F. Beltran, J. C. Fyfe, G. Johannesson, C. Mears, D. A. Ridley, J.-P. Vernier, and F. J. Wentz, 2015: Observed multi-variable signals of late 20th and early 21st century volcanic activity, *Geophys. Res. Lett.*, 42: 500-509, doi:10.1002/2014GL062366.
- Marvel, K., M.D. Zelinka, S.A. Klein, **C. Bonfils**, P.M. Caldwell, C. Doutriaux, B.D. Santer, K.E. Taylor, 2015: External influences on modeled and observed cloud trends, *J. Clim.*, doi:10.1175/JCLI-D-14-00734.1, 28, 4820-4840, doi: 10.1175/JCLI-D-14-00734.1.

2014

- Santer, B.D., **C. Bonfils**, J.F. Painter, M. Zelinka, C. Mears, S. Solomon, G.A. Schmidt, J.C. Fyfe, J.N.S. Cole, L. Nazarenko, K.E. Taylor, F.J. Wentz, 2014: Volcanic contribution to decadal changes in tropospheric temperature, *Nature Geoscience*, 7: 185-189.

2013

- Marvel, K, **C. Bonfils**, 2013: Identifying external influences on global precipitation, *Proc. Nat. Acad. Sci.*, 110: 19301-19306, doi: 10.1073/pnas.1314382110.
- Santer, B.D., J.F.Painter, **C. Bonfils**, C.A. Mears, S. Solomon, T.M.L. Wigley, P.J. Gleckler, G.A. Schmidt, C. Doutriaux, N.P. Gillett, K.E. Taylor, P.W. Thorne, F.J. Wentz, 2013: Human and natural influences on the changing thermal structure of the atmosphere, *Proc. Nat. Acad. Sci.*, 110, 17235-17240.

2012

- Subin, Z., L. Murphy, F. Li, **C. Bonfils**, and W. Riley, 2012: Boreal Lakes Moderate Seasonal and Diurnal Temperature Variation and Perturb Atmospheric Circulation: Analyses in the Community Earth System Model 1 (CESM1), *Tellus-A*, 64, 15635, doi:10.3402/tellusa.v64i0.15639.

Bonfils, C.W.J., T.J. Phillips, D.M. Lawrence, P. Cameron-Smith, W. J. Riley, Z.M. Subin, 2012: On the influence of shrub height and expansion on northern high latitude climate. *Environmental Research Letters*, 7, 015503, doi: 10.1088/1748-9326/7/1/015503.

2011

Bonfils, C., and B.D. Santer. 2011: Investigating the possibility of a human component in various Pacific Decadal Oscillation indices. *Climate Dynamics*. 37, 1457–1468. doi: 10.1007/s00382-010-0920-1.

2009

Santer, B.D., K.E. Taylor, P.J. Gleckler, **C. Bonfils**, T.P. Barnett, D.W. Pierce, T.M.L. Wigley, C. Mears, F.J. Wentz, W. Brüggemann, N.P. Gillett, S.A. Klein, S. Solomon, P.A. Stott, and M.F. Wehner, 2009: Incorporating model quality information in climate change detection and attribution studies. *Proc. Nat. Acad. Sci.*, 35, 14778-14783. doi/10.1073/pnas.0901736106 (LLNL)

Das, T., H.G. Hidalgo, M.D. Dettinger, D.R. Cayan, D.W. Pierce, **C. Bonfils**, T.P. Barnett, G. Bala, and A. Mirin, 2009: Structure and Detectability of Trends in Hydrological Measures over the western United States. *J. Hydrometeor.*, 10, 871-892 (LLNL).

Hidalgo, H., T. Das, M.D. Dettinger, D.R. Cayan, D.W. Pierce, T.P. Barnett, G. Bala, A. Mirin, A.W. Wood, **C. Bonfils**, B.D. Santer, and T. Nozawa, 2009: Detection and attribution of streamflow timing changes to climate change in the western United States. *J. Clim.*, 22, 3838-3855. doi:10.1175/2009JCLI2470.1 (LLNL).

2008

Pierce, D., T.P. Barnett, H.G. Hidalgo, T. Das, **C. Bonfils**, B. Sander, G. Bala, M. Dettinger, D. Cayan, A. Mirin, A.W. Wood, and T. Nozawa, 2008: Attribution of declining western US snowpack to human effects. *J. Clim.*, 21, 6425-6444. (LLNL)

Bonfils, C., B.D. Santer, D.W. Pierce, H.G. Hidalgo, G. Bala, T. Das, T.P. Barnett, M. Dettinger, D.R. Cayan, C. Doutriaux, A.W. Wood, A. Mirin, and T. Nozawa, 2008: Detection and Attribution of temperature changes in the mountainous western United States. *J. Clim.*, 21:6404-6424. doi: 10.1175/2008JCLI2397.1 (LLNL)

Barnett, T., D. W. Pierce, H.G. Hidalgo, **C. Bonfils**, B.D. Santer, T. Das, G. Bala, A.W. Wood, T. Nozawa, A. Mirin, D.R. Cayan, and M. Dettinger, 2008: Human-induced changes in the hydrology of the western United States. *Science*, 319: 1080-1083. doi: 10.1126/science.1152538 (LLNL)

Lobell, D., and **C. Bonfils**, 2008: The effect of irrigation on regional temperatures: a spatial and temporal analysis of trends in California, 1934-2002. *J. Clim.*, 21:2063-2071. (UCM)

Lobell, D., **C. Bonfils**, and J.-M. Faurès, 2008: The role of irrigation expansion in past and future temperature trends. *Earth interactions*, 12:1-11. (LLNL)

Bonfils, C., P. Duffy, B. Santer, T. Wigley, D.B. Lobell, T.J. Phillips, and C. Doutriaux, 2008: Identification of external influences on temperatures in California. *Clim. Ch.*, 87:43-55. doi: 10.1007/s10584-007-9374-9 (UCM/LLNL)

Lobell, D., **C. Bonfils**, L. Kueppers, and M. Snyder, 2008: Irrigation cooling effect on temperature and heat index extremes, *Geophys. Res. Lett.*, 35, L09705, doi: 10.1029/2008GL034145. (LLNL)

2007

Bonfils, C., and D. Lobell, 2007: Empirical evidence for a recent slowdown in irrigation-induced cooling. *Proc. Nat. Acad. Sci.*, 104: 13582-13587. doi: 10.1073/pnas.0700144104. (UCM)

Maurer, E., I. Stewart, **C. Bonfils**, P. Duffy, and D. Cayan, 2007: Detection, attribution, and sensitivity of trends toward earlier streamflow in the Sierra Nevada. *J. Geophys. Res.*, 112, D11118, doi: 10.1029/2006JD008088. (UCM)

Lobell, D., **C. Bonfils**, and P. Duffy, 2007: Climate change uncertainty for daily minimum and maximum temperatures: a model intercomparison. *Geophys. Res. Lett.*, 34, L05715, doi: 10.1029/2006GL028726. (LLNL)

Duffy, P., **C. Bonfils**, P. Gleick, and D. Lobell, 2007: Interpreting recent temperature trends in California. *EOS Transactions, American Geophysical Union*, 88:409-410. (UCM/LLNL)

Bonfils, C., P. Duffy, and D. Lobell, 2007: Comment on "Methodology and results of calculating Central California surface temperature trends: evidence of human-induced climate change?" by Christy et al. (2006). *J. Clim.*, 20:4486-4489. (UCM)

2006

- Lobell, D., G. Bala, **C. Bonfils**, and P. Duffy, 2006: Potential bias of model projected greenhouse warming in irrigated regions. *Geophys. Res. Lett.*, 33, L13709, doi: 10.1029/2006GL026770. (UCM)
- Santer, B., T. Wigley, P. Gleckler, **C. Bonfils**, M. Wehner, K. AchutaRao, T. Barnett, J. Boyle, W. Bruggemann, M. Fiorino, N. Gillett, J. Hansen, P. Jones, S. Klein, G. Meehl, S. Raper, R. Reynolds, K. Taylor, and W. Washington, 2006: Forced and unforced ocean surface temperature changes in Atlantic and Pacific hurricane formation regions. *Proc. Nat. Acad. Sci.*, 103: 13905-13910. (UCM)
- Lobell, D., C. Field, K. Nicholas-Cahill, and **C. Bonfils**, 2006: Impacts of future climate change on California perennial crop yields: model projections with climate and crop uncertainties. *Ag. Forest Meteorol.*, 141: 208-218. (UCM)

2005

- Bonfils, C.**, A. Angert, C. Henning, S. Biraud, S. Doney, and I. Fung, 2005: Extending the record of photosynthetic activity in the eastern United States into the presatellite period using surface diurnal temperature range. *Geophys. Res. Lett.*, 32, L08405, doi: 10.1029/2005GL022583.
- Angert, A., C.J. Tucker, S. Biraud, **C. Bonfils**, C. Henning, W. Buermann, and I. Fung, 2005: Drier summers cancel out the CO₂ uptake enhancement induced by warmer springs. *Proc. Natl. Acad. Sci.*, 102: 10823-10827.
- Buermann, W., B. Linter, and **C. Bonfils**, 2005: A wintertime Arctic Oscillation signature on early-season Indian Ocean Monsoon intensity. *J. Clim.*, 18: 2247-2269.

2004

- Angert, A., S. Biraud, **C. Bonfils**, W. Buermann, and I. Fung, 2004: CO₂ seasonality indicates origins of post-Pinatubo sink. *Geophys. Res. Lett.*, 31: L11103, doi: 10.1029/2004GL019760.
- Levis, S., G. Bonan, and **C. Bonfils**, 2004: Soil feedback drives the mid-Holocene North African monsoon northward in fully coupled CCSM2 simulations with a dynamic vegetation model. *Clim. Dyn.*, 23: 791-802.
- Bonfils, C.**, I. Fung, S. Doney, and J. John, 2004: On the detection of summertime photosynthetic variability from its atmospheric signature. *Geophys. Res. Lett.*, 31, L09207, doi: 10.1029/2004GL019453.
- Bonfils, C.**, N. de Noblet-Ducoudré, J. Guiot, and P. Bartlein, 2004: Some mechanisms of mid-Holocene climate change in Europe, inferred from comparing PMIP models to data. *Clim. Dyn.*, 23: 79-98.

2001

- Bonfils, C.**, N. de Noblet-Ducoudré, P. Braconnot, and S. Joussaume, 2001: Hot desert albedo and climate change: mid-Holocene monsoon in North Africa. *J. Clim.*, 14: 3724-3737.

1999

- Joussaume, S., K. E. Taylor, P. Braconnot, J. F. B. Mitchell, J. Kutzbach, S. P. Harrison, I. C. Prentice, A. J. Broccoli, A. Abe-Ouchi, P. J. Bartlein, **C. Bonfils**, and 23 co-authors, 1999: Monsoon changes for 6000 years ago: results of 18 simulations from the Paleoclimate Modeling Intercomparison Project (PMIP). *Geophys. Res. Lett.*, 26: 859-862.

Peer-reviewed External Report and Ph.D. Thesis

- Cayan, D., E. Maurer, M. Dettinger, M. Tyree, K. Hayhoe, **C. Bonfils**, P. Duffy, and B. Santer, 2006: Climate scenarios for California. California Climate Change Center publication no. CEC-500-2005-203-SF, (available online through www.climatechange.ca.gov). (UCM - External Report)
- Bonfils, C.**, 2001: Paleoclimate modelling: impact of the representation of the surface on the climate sensitivity. University Paris 6, France, Ph. D. Thesis, April 2001.

Peer-reviewed IPCC Report

- Randall, D., R. Wood et al. (including **C. Bonfils**), 2007: Climate Models and their evaluation (chapter 8) of Climate Change: the Physical Science Basis, WGI, Fourth Assessment Report of the IPCC [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp. (UCM – Book Chapter)

Peer-reviewed conference proceedings, other reports, model documentation

- Bonfils, C.**, D. Lewden, K.E. Taylor (1998) A summary documentation of the PMIP models, PCMDI Report, ([http://pmip.lsce.ipsl.fr/ section 'documentation'](http://pmip.lsce.ipsl.fr/section%20documentation)).
- Bonfils, C.**, P. Duffy, B. Santer, T Wigley (2005) Report: Sub-set of IPCC models that could be used for statistically downscaling the climate over California.
- de Noblet, N., P. Bartlein, **C. Bonfils** (2000) Simulated and observed changes in the extratropics during the mid-Holocene. *Paleoclim. Model. Intercomp. Project 69-76*, WCRP-111, WMO/TD-1007, ICPO.
- Guiot, J., R. Cheddadi, **C. Bonfils**, N. de Noblet and P. Tarasov (2000) Climate reconstruction from pollen data and model-data comparison in Eurasia, *In Paleoclim. Model. Intercomp. Project 87-93*.

Selected conferences and workshops

2014-2016

- Anderson, G., **C. Bonfils**, D. Lucas, B. Santer, 2016: Quantifying the effect of parameter uncertainties on the simulation of drought in the Community Atmospheric Model, LLNL Postdoc Symposium, Livermore CA, 8 Jun, 2016 ([best poster award](#)).
- Bonfils, C.**, Anderson G., Santer B., Marvel K., Phillips T., Cvijanovic I., Leung L., Cook B., Capotondi A.: Teleconnections, droughts and global warming, IMSC Conference, Canmore, Alberta, Canada, June 6-10, 2016 ([invited talk](#))
- Bonfils C.**, G. Anderson, B. Santer, B. Cook, I. Cvijanovic, T. Phillips: Competitive influences on droughts: present and future, 2015 Fall Meet, AGU, San Francisco, CA, 14-18 Dec, H21O-02 (talk) and AMS 2016, New Orleans, Jan 2016 (poster).
- Bonfils, C.**, B. Santer, I. Cvijanovic, G. Anderson, T. Phillips, C. Doutriaux, K. Marvel, R. Leung, A. Capotondi, J. Chiang, B. Cook: ECRP Review, DOE Headquarters, Germantown, 23 nov, 2015 ([invited talk](#))
- Bonfils, C.**, B. Santer, T. Phillips, K. Marvel, I. Cvijanovic, G. Anderson, C. Doutriaux, A. Capotondi, B. Cook: Natural and human-induced changes in precipitation and droughts inferred from observations and coupled climate models, Georgetown University, 20 Nov, 2015 ([invited talk](#))
- Cvijanovic, I., **C. Bonfils**, D. Lucas, B. Santer, 2015: Can large scale sea-ice cover changes affect precipitation patterns over California? LLNL Postdoc Symposium, Livermore, CA, 17 Jun, 2015 and AGU 2015 (poster).
- Anderson, G., **C. Bonfils**, D. Lucas, B. Santer, 2015: Quantifying the effect of parameter uncertainties on the simulation of drought in the Community Atmospheric Model, LLNL Postdoc Symposium, Livermore CA, 17 Jun, 2015 and AGU 2015 (poster).
- Bonfils, C.**, B. Santer, T. Phillips, K. Marvel, R. Leung, C. Doutriaux 2014: Intensified ENSO-Driven Precipitation Teleconnections in the Future, 2014 Fall Meet, AGU, San Francisco, CA, 15-19 Dec, GC42A-09 (talk).
- Marvel, K., M. Zelinka, S. Klein, **C. Bonfils**, P. Caldwell, C. Doutriaux, B. Santer, and K. Taylor, 2014: Searching for external influences on observed cloud trends. The Climate Symposium 2014, Clouds, Circulation and Climate Sensitivity Session, Oct 2014 (talk presented by M. Zelinka).
- Bonfils, C.**, B. Santer, T. Phillips, K. Marvel, R. Leung, C. Doutriaux 2014: Future Intensification of ENSO-driven precipitation variability. III International Conference on ENSO, CIIFEN, Guayaquil, Ecuador, 11-14 Nov, 2014 (talk).
- Bonfils, C.**, K. Marvel, B. Santer, T. Phillips, R. Leung 2014: External influences on precipitation mean state and variability, Dept. of Energy Climate Modeling PI Meeting, May 2014 (poster).
- Bonfils, C.**, B. Santer, T. Phillips, K. Marvel, R. Leung 2014: Intensification of ENSO-driven precipitation teleconnections in response to global warming. Trending Now: Water, 7th international Scientific Conference on the Global Water and Energy Cycle, The Hague, The Netherlands, 14-17 July, 2014. (talk).

2013

- Bonfils, C.**, B. Santer, T.J. Phillips, 2013: Drought-conducive mode of variability and teleconnections under climate change (talk), 12th International Meeting on Statistical Climatology (IMSC), International Convention Center, Jeju, Korea, June 24-28, 2013. (talk)

- Bonfils, C.**, B. Santer, T. Phillips, K. Marvel, R. Leung 2013: Precipitation response to the current ENSO variability in a warming world. In Eos Trans. AGU, 94, Fall Meet. Suppl. GC21A-818 (poster).
- Marvel, K, **C. Bonfils**, 2013: Identifying external influences on global precipitation. In Eos Trans. AGU, 94, Fall Meet. Suppl. GC22B-01 ([invited talk](#)) and IDAG Meeting, Boulder CO, Jul 1-3 (talk).
- Bonfils C.**, Santer B. et al. 2013: Human and Natural influences on the changing thermal structure of the atmosphere using both internal and total natural variability, IDAG Meeting, Boulder, CA, Jul 1-3. (talk).
- Phillips, T., **C. Bonfils**, 2013: Evaluating CMIP5 Simulations of Historical Continental Climate with Koeppen Bioclimatic Metrics. In Eos Trans. AGU, 94, Fall Meet. Suppl.,GC43D-1072 (poster).
- Santer, B.D., J. Painter, **C. Bonfils**, et al, 2013: Human and Natural Influences on the Changing Thermal Structure of the Atmosphere. In Eos Trans. AGU, 94, Fall Meet. Suppl. U44A-01 ([invited talk](#)).
- Bonfils, C.**, B. Santer, D. Lobell, P. Duffy, D.W. Pierce, H. Hidalgo, et al. 2013: Historical changes in climate, water resources and perennial crops in western United States, Meeting of the climate change adaptation consortium, organized by the CA department of Food& and Agriculture. Modesto, CA, Nov 28 ([invited talk](#)).

2012-2010

- Lawrence D., Swenson S., and **C. Bonfils**, 2012: Will a large-scale expansion of Arctic shrub extent increase or decrease permafrost vulnerability to climate change? CESM Land Model and Biogeochemistry Working Group Meetings, 29 Feb -2 Mar, 2012, NCAR – Boulder, Colorado (talk)
- Bonfils, C.**, B. Santer, T.J. Phillips, M. Wehner, 2011: Investigating the nature and causes of historical changes in droughts: Exploration phase. WCRP Workshop on Drought Predictability and Prediction in a Changing Climate, Barcelona, Spain, 2-4 March (poster)
- Bonfils, C.**, 2011: On the influence of shrub height and expansion on boreal climate. Climate and Earth System Modeling PI Meeting September 19-22, 2011 Grand Hyatt, Washington, DC (talk)
- Bonfils, C.**, B.D. Santer, 2010: Investigating the possibility of a human component in Pacific Decadal Oscillation indices. Second International Workshop on Global Change Projection on Modeling, Intercomparison, and Impact Assessment, jointly with 3rd International Workshop on KAKUSHIN Program, Feb 25-27 ([invited talk](#)).

2009-2008

- Santer, B.D., K.E. Taylor, P.J. Gleckler, **C. Bonfils**, T.P. Barnett, D.W. Pierce, T.M.L. Wigley, C. Mears, F.J. Wentz, W. Bruggemann, N.P. Gillett, S.A. Klein, S. Solomon, P.A. Stott, M.F. Wehner, 2009: Incorporating model quality information in climate change detection and attribution studies. In Eos Trans. AGU, 90, Fall Meet. Suppl., GC44A-02 ([invited talk](#)).
- Santer, B.D., **C. Bonfils**, K.E. Taylor, P.J. Gleckler, T.P. Barnett, D.W. Pierce, T.M.L. Wigley, C. Mears, F.J. Wentz, W. Bruggemann, N.P. Gillett, S.A. Klein, S. Solomon, P.A. Stott, and M.F. Wehner, 2009: Including Model Quality Information in Detection and Attribution Studies: One Model, One Vote? 14th Annual CCSM Workshop, Breckenridge, Colorado, Jun 18 ([invited talk](#), [speaker: C. Bonfils](#)).
- Bonfils, C.**, B. Santer, D. Lobell, D.W. Pierce, H. Hidalgo, G. Bala, T. Das, T. Barnett, D. Cayan, C. Doutriaux, A. Wood, A. Mirin, and T. Nozawa: Investigating the changes in climate, water resources and perennial crops in western United States. Soil and Water Conservation Society, Livermore, CA, Oct 30 ([talk](#), [keynote speaker](#)).
- Bonfils, C.**, B. Santer, D.W. Pierce, H. Hidalgo, G. Bala, T. Das, T. Barnett, D. Cayan, C. Doutriaux, A. Wood, A. Mirin, and T. Nozawa, 2008: Human-Induced Temperature Changes in the Mountainous Western United States. Fifth Annual Climate Change Research Conference, Sacramento, CA, Sep 10 ([invited talk](#)).
- Bonfils, C.**, et al., 2008: Human-Induced Temperature Changes in the Mountainous Western United States. CMELS Directorate Review Committee (DRC), LLNL, Livermore, May 29 ([invited poster](#)).
- Lobell, D., and **C. Bonfils**, 2008: The Effects of Irrigation on Past and Future Temperatures in the Central Valley. Fifth Annual Climate Change Research Conference, Sacramento, CA, Sep 09 ([invited talk](#)).
- Santer, B., K.E. Taylor, P.J. Gleckler, **C. Bonfils**, T.P. Barnett, D.W. Pierce, T.M.L. Wigley, C. Mears, F.J. Wentz, W. Bruggemann, N.P. Gillett, S.A. Klein, S. Solomon, P.A. Stott, and M.F. Wehner: Including Model Quality Information in Detection and Attribution Studies: One Model, One Vote? Fifth Annual Climate Change Research Conference, Sacramento, CA, Sep 10 ([invited talk](#)).

Bonfils, C.: Causes of hydrologically-relevant climate trends in California and western U.S., U.C. Merced Seminar, Merced, CA, Mar 12 ([invited talk](#)).

2007-2001

Barnett, T.P., D.W. Pierce, H.G. Hidalgo, **C. Bonfils**, T. Das, B. Santer, D. Cayan, M. Dettinger, G. Bala, A. Mirin, and A. Wood, 2007: Human Induced Changes in the Hydrological Cycle of the Western United States. In Eos Trans. AGU, 88, Fall Meet. Suppl., GC24A-03 ([invited talk](#)).

Lobell, D., and **C. Bonfils**, 2006: The effects of irrigation on regional temperatures: past, present, and future. In Eos Trans. AGU, 87, Fall Meet. Suppl., B52A-01 ([invited talk](#)).

Santer, B., T. Wigley, T. Barnett, C. Bonfils, J. Meehl, D. Pierce, C. Tebaldi, and M. Wehner: Recent Advances in Detection and Attribution Studies. Third Annual Climate Change Research Conference, Sacramento, CA, Sep 13-15 ([invited talk](#)).

Bonfils, C., N. de Noblet. J Guiot, and P. Bartlein, 2001: Mid-Holocene Validation of the PMIP Models over Europe and North America. EUG XI, Strasbourg, France, Apr 08-12 ([invited talk](#)).