

## **JOHN C. H. CHIANG**

Professor

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### **Biographical Sketch**

John Chiang is Professor in the Department of Geography at the University of California, Berkeley. He earned an M.S. in Physics at Cornell University, and a Ph.D. (awarded with distinction) in Earth and Environmental Sciences at the Lamont-Doherty Earth Observatory of Columbia University. After a two-year stint as a NOAA Climate and Global Change postdoctoral fellow at the University of Washington, he started his current faculty position at UC Berkeley. Dr. Chiang's research focus is on global climate dynamics working on both contemporary and paleoclimate research questions, and with a focus on understanding mechanisms of tropical rainfall changes. His teaching interests include earth science and climate dynamics, and the science and implications of global warming. Dr. Chiang served as co-Editor in Chief of the *Journal of Climate* 2015 to 2019.

### **Education**

2001 Ph.D., with distinction. Department of Earth and Environmental Sciences, Columbia University, New York, NY.

1996 M.S. Department of Physics, Cornell University, Ithaca, NY.

1993 B.Sc. Hons, first class. Department of Mathematics, University of the Witwatersrand, Johannesburg, South Africa.

1992 B.Sc. Hons, first class. Department of Physics, University of the Witwatersrand, Johannesburg, South Africa.

### **Primary Appointments**

July 2015 – present: Full Professor, Dept. of Geography, University of California, Berkeley, CA

July 2008 – Jun 2015: Associate Professor (with tenure), Dept. of Geography, UC Berkeley, CA

July 2001 - Jun 2008: Assistant Professor, Dept. of Geography, UC Berkeley, CA

Feb 2001-Dec 2002: NOAA/UCAR Climate and Global Change Postdoctoral Fellow, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington, Seattle.

### **Other Positions held**

July 2021- June 2022: Visiting Professor, Research Center for Environmental Changes, Academia Sinica, Taiwan

2006- Present: Faculty Scientist, Earth Science Division, Lawrence Berkeley National Laboratory

2012-2019: Adjunct Associate Professor, Dept. of Atmospheric Science, National Taiwan University, Taiwan

Jan 2014 – Jun 2014: Visiting Associate Professor, Research Center for Environmental Changes, Academia Sinica, Taiwan

## **Awards and Distinctions**

Axford Lecture, Asia Oceania Geoscience Society 20<sup>th</sup> Annual Meeting, July 2023  
Named in the [Reuters Hot List](#) of top 1000 climate scientists (2021)  
Editor's Citation for Excellence in Refereeing for Geophysical Research Letters (2020)  
Kavli Frontiers of Science Fellow (2006)  
NOAA/UCAR Climate and Global Change Postdoctoral Fellowship (2001-2002)  
Ph.D. awarded with distinction (Columbia University) (2001)  
Heezen Memorial Prize, Dept. of Earth and Environmental Science, Columbia University (2000)  
NASA Earth Systems Science Fellowship (1997-2000)  
University Council Postgraduate Scholarship (1992-1994)  
William Cullen Medal (most distinguished B.Sc. graduate, Univ. of the Witwatersrand) (1991)

## **Memberships in Professional Societies**

American Geophysical Union  
American Meteorological Society

## **Community Service (selected)**

Editorial Board member, Science Advances (2022-present)  
Member, Board on Atmospheric Sciences and Climate, The National Academies (2019-2022)  
Member, Steering Committee of the NOAA Climate and Global Change Postdoctoral Fellowship Program (2019-2022, committee chair 2020-21)  
Co-Editor in Chief, Journal of Climate (2015-2019); Editor (2011-14) and Associate Editor (2007-11), Journal of Climate  
Editor (with Andreas Schmittner and Sidney Hemming) of an AGU monograph "Ocean circulation: Mechanisms and Impacts" (2007)

## **Conference/Workshop Organizing (selected)**

Scientific committee co-chair, International Symposium on Tropical Ocean and Climate, June 15-17 2015, Huanghai Hotel, Qingdao China.  
Organizing committee co-chair: "The Tropics Rule: a Symposium Honoring Mark A. Cane's Contribution to Climate Science". Oct 20-21 2014, Columbia University  
Organizing Committee Member (with Michela Biasutti, Alessandra Giannini, Isaac Held, and Adam Sobel) of a workshop on Sahel Climate Change, Columbia University, March 2007.  
Organizing committee member, US CLIVAR Atlantic meeting, NOAA Climate Diagnostics Center, Boulder CO, June 12-14, 2001

## **University Service (selected)**

Head Graduate Advisor, Geography (2014-2021, and 2022-23)  
Member, Committee on Prizes (PRIZ) (2023-25)  
Member, Committee on Library (LIBR) (2020-2021)  
Member, Committee on Courses of Instruction (COCI) (2015-2017)

UC Berkeley Representative to University Corporation for Atmospheric Research (2004-2016)  
Member, Subcommittee on the Breadth Requirement American Cultures (2014-15)  
Equity Advisor, Geography (2013-14)  
Faculty Representative to the UC Berkeley Green Fund Committee (2012-13)  
Organizer, Berkeley Atmospheric Science Center Seminar series (2023-24, 2020-21, 2016-17, 2014-15, 2008-09)  
Organizer, Geography Colloquium series (2005-2008)

### **Graduate students served as dissertation chair (all Ph.D.)**

James Johnstone (Ph.D. 2008)  
Hyo-Seok Park (Ph.D. 2010), currently Associate Professor at Hanyang University, South Korea  
Andrew Friedman (Ph.D. 2014), most recently Marie Skłodowska-Curie fellow at University of Bern, Switzerland  
Yuwei Liu (Ph.D. 2014)  
Wenwen Kong (Ph.D. 2020), currently Data Scientist at StudioX  
Sol Kim (Ph.D. 2023), currently Research Associate at the University of Chicago

### **Other Graduate students mentored (significant mentoring involvement)**

Abigail Swann (Ph.D. 2010, UC Berkeley), currently Professor at University of Washington  
Ivana Cvijanovic (Ph.D. 2012, University of Copenhagen), currently at the French National Research Institute for Sustainable Development  
Tripti Bhattacharya (Ph.D. 2016, UC Berkeley), currently Associate Professor at Syracuse University  
Zhenning Li (Ph.D. 2019, Sun Yat-Sen University), currently Research Assistant Professor at The Hong Kong University of Science and Technology  
Jiabin Liu (Ph.D. 2020, UC Berkeley), currently at Waymo  
Jinlin Ji (Ph.D. student, Xiamen University), currently Lecturer at the Nanjing University of Information Science and Technology

### **Postdoctoral scholars mentored**

Benjamin Lintner (2003-2005), currently Professor at Rutgers University  
Yue Fang (2005-2009), currently Professor and Deputy Director, Center for Ocean and Climate Research, First Institute of Oceanography, China  
Hugo Lambert (Comer fellow, 2005-2007), currently Associate Professor at University of Exeter, UK  
Miren Vizcaino (Comer fellow, 2006-2009), currently Associate Professor at TU Delft, The Netherlands  
Shih-Yu Lee (2008-2011), currently Associate Research Fellow, Academia Sinica, Taiwan  
Ching-Yee Chang (2008-2012), currently Faculty Instructor at De Anza College  
Da Yang (Miller fellow, 2014-2018), currently Assistant Professor at the University of Chicago  
Alyssa Atwood (NOAA C&GC fellow, 2015-2019), currently Assistant Professor at Florida State University  
Michael Herman (2016-2019), currently teaching high school in Santa Rosa, CA  
Pierre Maffre (2019-2022), currently Research Engineer at Aix Marseille University

Sarah White (UC President's Postdoctoral fellow, 2020-2022)

### **Courses Taught**

GEOG 40: Introduction to Earth Systems Science

L&S 70B (w/ Nathan Sayre) Global Warming

GEOG 142: Global Climate Variability and Change

GEOG C139/ EPS C181: Atmospheric Physics & Dynamics

GEOG 147 (w/ Catherine Halversen and Lynn Tran): Communicating Climate Science

GEOG 243 (w/ Kurt Cuffey and Robert Rhew): Advances in Environmental Change Science

GEOG 249: Spatiotemporal Data Analysis in the Climate Sciences

GEOG 257: Topics in Climatology

GEOG 260 (w/ Roger Byrne): Topics in Biogeography

### **Grants Awarded**

2003-2007 NOAA CLIVAR Pacific, "Mechanisms of tropical ENSO teleconnections"

2004-2009 Comer Mentor Grant (Abrupt Climate Change research)

2005-2008 NSF Climate Dynamics, "Collaborative Research: Tropical Marine Climate Feedback to Mid-and-High Latitude Climate Change"

2007-2009 DOE, Office of Biological and Environmental Research, "The Interhemispheric Pattern in 20th century and Future Abrupt Change in Regional Tropical Rainfall"

2009-2013 NSF Paleoclimate Program, "Collaborative Research: The tropical Pacific in Glacial-Interglacial Climate Dynamics" (w/ Ping Chang, Texas A&M)

2011-2012 NSF, "RAPID: Long-term trends of the Atlantic Interhemispheric SST Gradient in the CMIP5 20th century simulations"

2012-2014 NSF AGS, "Atmospheric Teleconnection Dynamics of North Atlantic Cooling to the Tropical Climate"

2012-2015 NSF, "Collaborative Research - Future Scientists Improving the Public's Climate Literacy: Engaging in Outreach Opportunities Incorporating Strategies from the Learning and Social Sciences" [co-PI; PI is C. Halversen at LHS]

2014-2017 NSF P2C2, "Role of Westerly Jet Transitions in East Asian Paleoclimate"

2015-2018 DOE, "Paleo-Megadroughts and Abrupt Climate Changes in the Speleothem Records" [co-PI; PI is I. Fung, UC Berkeley]

2015-2017 NSF MGG, "Collaborative Proposal: Exploring Hypotheses of Southern Hemisphere Westerly Wind Changes on Southern Ocean Circulation and Biogeochemistry" (w/ K. Matsumoto, U Minnesota)

2016-2019 NOAA, "Understanding the Freshwater Budget of the Atlantic Ocean: Controls, Responses, and the Role of the AMO" (w/ Wei Cheng and Dongxiao Zhang, University of Washington; Gokhan Danabasoglu and Steve Yeager, National Center for Atmospheric Research; and Wilbert Weijer, Los Alamos National Laboratory)

2019-2022 NSF 1925990, "Collaborative Proposal: Do Arc-Continent Collisions in the Tropics Set the Earth's Climate State?" PI Nicholas Swanson-Hysell, Co-PI John Chiang

2023-2026 NSF 2303385, "The distance effect annual cycle in Earth's climate" PI John Chiang

### Publications (peer-reviewed)

[Link to Google Scholar list of publications](#)

H-index: 43 (Web of Science), 53 (Google Scholar).

Total peer-reviewed publications: >90 (30 as first author)

Underline indicates student or postdoc I supervised

- Submitted** Chiang, JCH and Kong LYL, The Seasonal Cycles of Tropical Sea Surface Temperature from Earth's Axial Tilt and Orbital Eccentricity. Submitted to *Journal of Climate*, Jan 2025
- In press** Chen, Y.-J., Hwang, Y.-T., and Chiang, J.C.H. Seasonal Dependency of Atmospheric Responses to Extratropical Forcing. In press for *Journal of Climate*, March 2025
- 2025** Yang, F., Chiang, J.C.H. and Wu, Z., 2025. What Causes the Hemispheric Difference in the Asymmetry of the Temperature Annual Cycle?. *Geophysical Research Letters*, 52(7), p.e2024GL112611.  
Cvijanovic, I., Simon, A., Levine, X., White, R., Ortega, P., Donat, M., Lucas, D.D., Chiang, J.C.H., Seidenglanz, A., Bojovic, D. and Amaral, A.R., 2025. Arctic sea-ice loss drives a strong regional atmospheric response over the North Pacific and North Atlantic on decadal scales. *Communications Earth & Environment*, 6(1), p.154
- 2024** Chiang, J.C.H., and Broccoli, A.J. Orbital eccentricity and Earth's seasonal cycle. *PLOS Climate*, 3(7), p.e0000436 (2024).  
Chiang, J.C.H., P. Maffre, N.L. Swanson-Hysell, and F.A. Macdonald. The role of Southeast Asian Island Topography on Indo-Pacific climate and silicate weathering. *Paleoceanography and Paleoclimatology*, 39(3), e2023PA004672 (2024).
- 2023** Chiang, J.C.H. and Broccoli, A.J., 2023. A role for orbital eccentricity in Earth's seasonal climate. *Geoscience Letters*, 10(1), p.58.  
Maffre, P., J.C.H. Chiang, and N.L. Swanson-Hysell. The effect of Pliocene regional climate changes on silicate weathering: a potential amplifier of Pliocene-Pleistocene cooling. *Climates of the Past* 19(7), 1461-1479.  
Wu, C.H., S.Y. Lee, J.C.H. Chiang, and P.C. Tsai. Role of precession on the transition seasons of the Asian monsoon. *npj Climate and Atmospheric Science*, 6(1), 95.  
Prohaska, A., A.W.R. Seddon, B. Meese, K.J. Willis, J.C.H. Chiang, and D. Sachse. Abrupt shift to El Niño-like mean state conditions in the tropical Pacific during the Little Ice Age. *Communications Earth and Environment* 4(1), p227  
Chen, W-H, H. Ren, J.C.H. Chiang, et al. Centennial Increase of the Western Boundary Transport in the Tropical South Pacific. *Nature Geoscience*, pp.1-7.  
Feng, Y., Negrón-Juarez, R.I., Chiang, J.C.H., and Chambers, J.Q. (2023). Case Studies of Forest Windthrows and Mesoscale Convective Systems in Amazonia. *Geophysical Research Letters*, 50, e2023GL104395.

Nicknish, P.A., J.C.H. Chiang, A. Hu and W.R. Boos, 2023. Regional Tropical Rainfall Shifts under Global Warming: an Energetic Perspective. *Environmental Research - Climate*, 2, 015007, DOI 10.1088/2752-5295/acb9b0

**2022**

Chiang, J.C.H., Atwood, A.R., Vimont, D.J., Nicknish, P.A., Roberts, W.H., Tabor, C.R. and Broccoli, A.J., 2022. Two annual cycles of the Pacific cold tongue under orbital precession. *Nature*, 611(7935), pp.295-300.

Hu, H.M., Shen, C.C., Chiang, J.C.H., Trouet, V., Michel, V., Tsai, H.C., Valensi, P., Spötl, C., Starnini, E., Zunino, M. and Chien, W.Y., 2022. Split westerlies over Europe in the early Little Ice Age. *Nature communications*, 13(1), pp.1-7.

Liu, J., Fung, I.Y. and Chiang, J.C.H., 2022. East Asian Rainbands and Associated Circulation over the Tibetan Plateau Region. *Journal of Climate*, 35(11), pp.3211-3225.

Kim, S. and Chiang, J.C.H., 2022. Atmospheric river lifecycle characteristics shaped by synoptic conditions at genesis. *International Journal of Climatology*, 42(1), pp.521-538.

Kim, S., Leung, L.R., Guan, B. and Chiang, J.C.H. , 2022. Atmospheric River Representation in the Energy Exascale Earth System Model (E3SM) Version 1.0. *Geosci. Model Dev.*, 15, 5461–5480, 2022, <https://doi.org/10.5194/gmd-15-5461-2022>

**2021**

Ao, Hong, et al. "Global warming-induced Asian hydrological climate transition across the Miocene–Pliocene boundary." *Nature communications* 12.1 (2021): 1-13.

Chiang, J.C.H., Cheng, W., Kim, W.M. and Kim, S., 2021. Untangling the relationship between AMOC variability and North Atlantic upper-ocean temperature and salinity. *Geophysical Research Letters*, p.e2021GL093496.

Hwang, Y.T., Tseng, H.Y., Li, K.C., Kang, S.M., Chen, Y.J. and Chiang, J.C.H., 2021. Relative roles of energy and momentum fluxes in the tropical response to extratropical thermal forcing. *Journal of Climate*, 34(10), pp.3771-3786.

Luković, J., Chiang, J.C.H., Blagojević, D. and Sekulić, A., 2021. A later onset of the rainy season in California. *Geophysical Research Letters*, 48(4), p.e2020GL090350.

**2020**

Kong, W. and Chiang, J.C.H., 2020. Southward shift of westerlies intensifies the East Asian early summer rainband following El Niño. *Geophysical Research Letters*, 47(17), p.e2020GL088631.

Chiang, JCH, W Kong, C-H Wu, and DS Battisti. Origins of East Asian Summer Monsoon Seasonality. *Journal of Climate*, 33(18), 7945-7965; DOI:10.1175/JCLI-D-19-0888.1

Chiang, JCH, MJ Herman, K Yoshimura, and IY Fung. Enriched East Asian oxygen isotope of precipitation indicates reduced summer seasonality in regional climate and westerlies. *Proceedings of the National Academy of Sciences*, Jun 2020, 117 (26) 14745-14750; DOI:10.1073/pnas.1922602117

Ji, J., Ma, J., Dong, C., Chiang, J.C.H. and Chen, D., 2020. Regional Dependence of Atmospheric Responses to Oceanic Eddies in the North Pacific Ocean. *Remote Sensing*, 12(7), p.1161.

Friedman, A. R. , G. C. Hegerl, A. Schurer, S.-Y. Lee, W. Kong, W. Cheng, and J.C.H. Chiang, 2020. Forced and unforced decadal behavior of the interhemispheric SST contrast during the instrumental period (1881–2012):

contextualizing the abrupt shift around 1970. *Journal of Climate*, 33(9) 3487-3509; DOI: [10.1175/JCLI-D-19-0102.1](https://doi.org/10.1175/JCLI-D-19-0102.1)

Kong, W., and J.C.H. Chiang, 2020. Interaction of the westerlies with the Tibetan Plateau in determining the mei-yu termination. *Journal of Climate*, 33, 339–363, DOI: [10.1175/JCLI-D-19-0319.1](https://doi.org/10.1175/JCLI-D-19-0319.1)

**2019**

Lamy, F., Chiang, J.C.H., Martínez-Méndez, G., Thierens, M., Arz, H.W., Bosmans, J., Hebbeln, D., Lambert, F., Lembke-Jene, L. and Stuut, J.B., 2019. Precession modulation of the South Pacific westerly wind belt over the past million years. *Proceedings of the National Academy of Sciences*, 116(47), pp.23455-23460.

Chiang, JCH, JK Fischer, W Kong, and MJ Herman, 2019: Intensification of the pre-Meiyu rainband in the late 21st century. *Geophysical Research Letters*, 46, 7536-7545

**2018**

Hongbin Zhang, Michael L. Griffiths, John C.H. Chiang, Wenwen Kong, Shitou Wu, Alyssa Atwood, Junhua Huang, Hai Cheng, Youfeng Ning, Shucheng Xie. "East Asian hydroclimate modulated by the position of the westerlies during Termination I". *Science*, 362, 580-583 (2018).

Cheng, W., W. Weijer, W. M. Kim, G. Danabasoglu, S.G. Yeager, P.R. Gent, D. Zhang, J.C.H. Chiang, and J. Zhang. Can the salt-advection feedback be detected in the internal variability of the Atlantic Meridional Overturning Circulation? *Journal of Climate*, 31, 6649-6667 (2018).

Wu, C.-H., S.-Y. Lee, and J.C.H. Chiang. Relative Influence of Precession and Obliquity in the Early Holocene: Topographic Modulation of Subtropical Seasonality during the Asian Summer Monsoon". *Quaternary Science Reviews*, 191, 238-255.

Chiang, J.C.H., K. S. Tokos, S.-Y. Lee, and K. Matsumoto. "Contrasting impacts of the wintertime South Pacific Split Jet and the Southern Annual Mode modulation on Southern Ocean circulation and biogeochemistry". *Paleoceanography and Paleoclimatology*, 33(1), 2-20 (2018).

**2017**

Moelg, T., F. Maussion, E. Collier, J. C. H. Chiang, and D. Scherer, 2017. "Prominent mid-latitude circulation signature in High Asia's surface climate during monsoon". *Journal of Geophysical Research: Atmospheres*, 122, 12702 –12712.

Cvijanovic, I., B.D. Santer, C. Bonfils, D.D. Lucas, J. C. H. Chiang, and S. Zimmerman. "Future loss of Arctic sea-ice cover could drive a substantial decrease in California's rainfall". *Nature Communications*, 8(1), 1-10 (2017)

Bhattacharya, T., J.C.H. Chiang, and W. Cheng, "Ocean-atmosphere dynamics linked to 800–1050 CE drying in mesoamerica." *Quaternary Science Reviews*, 169, 263-277 (2017)

Chiang, J. C. H., L. M. Swenson, and W. Kong (2017), Role of seasonal transitions and the westerlies in the interannual variability of the East Asian summer monsoon precipitation, *Geophysical Research Letters*, 44(8), 3788-3795; DOI: [10.1002/2017GL072739](https://doi.org/10.1002/2017GL072739).

Kong, W., L.M. Swenson, and J.C.H. Chiang, Seasonal Transitions and the Westerly Jet in the Holocene East Asian Summer Monsoon. *Journal of Climate*, 30(9), 3343-3365 (2017); DOI:10.1175/JCLI-D-16-0087.1

Cai, Y., J.C.H. Chiang, S.F.M. Breitenbach, L. Tan, H. Cheng, R.L. Edwards, and Z. An. Holocene moisture changes in western China, Central Asia, inferred from stalagmites. *Quaternary Science Reviews*, 58, 15-28 (2017),

- 2016** Lopez, A., J.C.H. Chiang, S.E. Thompson, and J.A. Dracup, Trend and Uncertainty in Spatial-Temporal Patterns of Hydrological Droughts in the Amazon Basin. *Geophysical Research Letters*, 43(7), 3307-3316 (2016); DOI :10.1002/2016GL067738  
Wu, C.-H., J.C.H. Chiang, H.-H. Hsu, and S.-Y. Lee: "Orbital Control of the Western North Pacific Summer Monsoon". *Climate Dynamics* 46, 897-911 (2016); DOI: 10.1007/s00382-015-2620-3  
Wu, C. H., Lee, S. Y., Chiang, J. C. H., & Hsu, H. H. (2016). The influence of obliquity in the early Holocene Asian summer monsoon. *Geophysical Research Letters*, 43(9), 4524-4530 (2016)
- 2015** Chiang, J.C.H: The Interhemispheric Pattern and Long-Term Variations in the Tropical Climate over the 20th and 21st Centuries. Chapter 16 of *Climate Change: Multidecadal and Beyond*, pp 255-272 (Editors: CP Chang, M Ghil, M Latif, and JM Wallace), World Scientific, 2015.  
Rhodes, RH, EJ Brook, JCH Chiang, T Blunier, OJ Maselli, JR McConnell, D Romanini, and JP Severinghaus: "Enhanced tropical methane production in response to iceberg discharge in the North Atlantic". *Science*, 348(6238),1016-1019 (2015)  
Cai Y.J., Fung I., Edwards R. L., An Z.S., Cheng H., Lee J.-E., Tan L.C., Shen C-C. Wang X.F., Day J.A., Zhou W.J., Kelly M., Chiang J.C.H., Variability of stalagmite-inferred Indian Monsoon precipitation over the past 252,000 years. *Proceedings of the National Academy of Sciences*, 112(10), 2954-2959 (2015; DOI: 10.1073/pnas.1424035112  
Lee, S.-Y., J.C.H. Chiang, and P. Chang: "Tropical Pacific Response to Continental Ice Sheet Topography". *Climate Dynamics*, 44(9), 2429-2446 (2015); DOI 10.1007/s00382-014-2162-0.  
Chiang, J.C.H., I.Y. Fung, C.-H. Wu, Y. Cai, J. P. Edman, Y. Liu, Jesse A. Day, T. Bhattacharya, Y. Mondal, and C.A. Labrousse: "Role of Seasonal Transitions and Westerly Jets in East Asian Paleoclimate". *Quaternary Science Reviews*, 108, 111-129 (2015)
- 2014** Chiang, J. C. H., S.Y. Lee, A. Putnam, and X. Wang: "South Pacific Split Jet, ITCZ shifts, and atmospheric North-South linkages during abrupt climate changes of the last glacial period. *Earth and Planetary Science Letters*, 406, 233-246 (2014)  
Swann, L. S., I. Y. Fung, Y. Liu, and J. C. H. Chiang: "Remote vegetation feedbacks and the mid-Holocene Green Sahara". *Journal of Climate*, 27, 4857-48 (2014)  
Liu, Y., J. C. H. Chiang, C. Chou, and C. M. Patricola: "Atmospheric Teleconnection Mechanisms of extratropical North Atlantic SST influence on Sahel Rainfall". *Climate Dynamics*, 43, 2797-2811 (2014); DOI 10.1007/s00382-014-2094-8  
Bhattacharya, T., and J. C. H. Chiang: "Spatial Variability and Mechanisms underlying El Nino-induced Droughts in Mexico. *Climate Dynamics*, 43(12), 3309-3326 (2014); DOI 10.1007/s00382-014-2106-8
- 2013** Chiang, J. C. H., C.-Y. Chang, and M. F. Wehner: "Long-Term Trends of the Atlantic Interhemispheric SST Gradient in the CMIP5 Historical Simulations. *Journal of Climate*, 26, 8628-8640 (2013)  
Cheng, W., J. C. H. Chiang, and D. Zhang: "Atlantic Meridional Overturning Circulation (AMOC) in CMIP5 models: RCP and Historical Simulations". *Journal of Climate*, 26, 7187-7197 (2013)



- Hsieh, W.-C., W. D. Collins, Y. Liu, J. C. H. Chiang, C.-L. Shie, K. Caldeira, and L. Cao: "Climate response due to carbonaceous aerosols and aerosol-induced SST effects in NCAR community atmospheric model CAM3.5". *Atmos. Chem. Phys. Discuss.*, 13, 7349-7396 (2013); DOI:10.5194/acpd-13-7349-2013
- Friedman, A. R., Y.-T. Hwang, J. C. H. Chiang, and D. M. W. Frierson: "The Interhemispheric Thermal Gradient over the 20th Century and in Future Projections". *Journal of Climate*, 26, 5419–5433 (2013)
- Chou, C., J. C.H. Chiang, C.-W. Lan, C.-H. Chung, Y.-C. Liao, and C.-J. Lee: Increase in the Range between Wet and Dry Season Precipitation. *Nature Geoscience*, 6(4), 263-267, (2013); doi:10.1038/ngeo1744.
- Cvijanovic, I., and J.C.H. Chiang: "Global Energy Budget Changes to High Latitude North Atlantic Cooling and the Tropical ITCZ Response". *Climate Dynamics*, 40, 1435-1452 (2013)
- 2012**
- Liu, Y., and J.C.H. Chiang: Co-ordinated abrupt weakening of the Eurasian and North African Monsoons in the 1960's and links to extratropical North Atlantic Cooling. *Journal of Climate*, 25, 3532-3548 (2012).
- Chiang, J.C.H., and A. R. Friedman: "Extratropical Cooling, Interhemispheric Thermal Gradients, and Tropical Climate Change". *Annual Review of Earth and Planetary Sciences*, 40, 383-412 (2012)
- Park, H.-S., J. C. H. Chiang, and S. Bordoni: "Mechanical impact of the Tibetan Plateau on the seasonal evolution of the South Asian Monsoon". *Journal of Climate*, 25, 2394-2407 (2012).
- Swann, A.L.S., I.Y. Fung, and J.C.H. Chiang: "Midlatitude Afforestation shifts General Circulation and Tropical Precipitation". *Proceedings of the National Academy of Sciences*, 109, 712-716 (2012).
- 2011**
- Park, H.-S., J. C. H. Chiang, and S.-W. Son: "Reply to comment on 'The role of the Central Asian Mountains on the midwinter suppression of North Pacific storminess'". *Journal of the Atmospheric Sciences*, 68, 2804-2806 (2011).
- Chang, C-Y., J.C.H. Chiang, M.F. Wehner, A. Friedman, and R. Ruedy: "Sulfate aerosol control of Tropical Atlantic climate over the 20th century." *Journal of Climate*, 24, 2540-2555 (2011)
- Lee, S.-Y., J.C.H. Chiang, K. Matsumoto, and K. Tokos: "Southern Ocean wind response to North Atlantic cooling and the rise in atmospheric CO<sub>2</sub>: Modeling perspective and paleoceanographic implications". *Paleoceanography*, 26, PA1214 (2011); DOI: 10.1029/2010PA002004.
- 2010**
- Park, H.-S., J. C. H. Chiang, and S.-W. Son: "The role of the Central Asian Mountains on the midwinter suppression of North Pacific storminess". *Journal of the Atmospheric Sciences*, 67, 3706-2720 (2010).
- Chiang, J. C. H., and Y. Fang: "Was the North Pacific wintertime climate less stormy during the mid-Holocene?", *Journal of Climate*, 23, 4025-4037 (2010)
- Vizcaíno, M., S. Rupper, and J. C. H. Chiang (2010), Permanent El Niño and the onset of Northern Hemisphere glaciations: Mechanism and comparison with other hypotheses, *Paleoceanography*, 25, PA2205 (2010); DOI:10.1029/2009PA001733.
- Park, H.-S., J. C H. Chiang, B. R. Lintner, and G. J. Zhang, The delayed effect of major El Nino events on Indian monsoon rainfall. *Journal of Climate*, 22, 932-946 (2010)
- 2009**
- Mölg, T., J.C.H. Chiang, A. Gohm, N.J. Cullen, and G. Kaser: Temporal precipitation variability versus altitude on a tropical high mountain: Observations

and mesoscale atmospheric modeling. *Quarterly Journal of the Royal Meteorological Society*, 135(643), 1439-1455 (2009); DOI: 10.1002/qj.461.

Chiang, J. C. H. The Tropics in Paleoclimate. In *Annual Review of Earth and Planetary Sciences*, 37, 263-297 (2009), eds. R. Jeanloz and K. H. Freeman, Annual Reviews, Palo Alto, CA

Chiang, J. C. H., Y. Fang, and P. Chang: Pacific Climate Change and ENSO activity in the Mid-Holocene. *Journal of Climate*, 22, 923-939 (2009); DOI: 10.1175/2008JCLI2644.1

## 2008

Chiang, J.C.H., Y. Fang, and P. Chang: The interhemispheric thermal gradient and tropical Pacific climate. *Geophysical Research Letters*, 35, L14704 (2008); DOI:10.1029/2008GL034166

Fang, Y., J. C. H. Chiang, and P. Chang: Variation of mean sea surface temperature and modulation of El Niño-Southern Oscillation variance during the past 150 years. *Geophysical Research Letters*, 35, L14709 (2008); DOI:10.1029/2008GL033761

Lambert, F. H., A. Stine, N. Y. Krakauer, and J. C. H. Chiang: How much will precipitation increase with global warming? *EOS, Transactions of the American Geophysical Union*, 69(21) (2008)

Chiang, J. C. H., W. Cheng, and C. M. Bitz: Fast teleconnections to the tropical Atlantic sector from Atlantic thermohaline adjustment. *Geophysical Research Letters*, 35, L07704 (2008); DOI:10.1029/2008GL033292

## 2007

Chang, P., L. Zhang, R. Saravanan, D.J. Vimont, J.C.H. Chiang, L. Ji, H. Seidel, and M.K. Tippett: Pacific Meridional Mode and El Niño-Southern Oscillation. *Geophysical Research Letters*, 34, L16608 (2007). DOI:10.1029/2007GL030302

Cheng, W., C. M. Bitz, and J. C. H. Chiang: Adjustment of the global climate to an abrupt slowdown of the Atlantic meridional overturning circulation. In "Ocean Circulation: Mechanisms and Impacts". *Geophysical Monograph – American Geophysical Union*, Schmittner, Chiang, and Hemming eds, 2007.

Lambert, F. H., and J. C. H. Chiang, Control of land-ocean temperature contrast by ocean heat uptake. *Geophysical Research Letters*, 34, L13704 (2007); doi:10.1029/2007GL029755

Lintner, B. R., and J. C. H. Chiang: Adjustment of the remote tropical climate to El Niño conditions. *Journal of Climate*, 20, 2544-2557 (2007).

Bitz, C. M., J. C. H. Chiang, W. Cheng, and J. J. Barsugli: Rates of thermohaline recovery from freshwater pulse in Modern, Last Glacial Maximum, and Future Climates. *Geophysical Research Letters*, 34(7), L07708 (2007); DOI:10.1029/2006GL029237.

## 2005

Vimeux, F., R. Gallaire, S. Bony, G. Hoffman, and J.C.H. Chiang: What are the climate controls on dD in precipitation in the Zongo Valley (Bolivia)? Implications for Illimani ice core interpretation. *Earth & Planetary Science Letters*, 240, 205-220 (2005)

Lintner, B.R. and J.C.H. Chiang: "Reorganization of the tropical climate during El Niño – a weak temperature gradient approach". *Journal of Climate*, 18, 5312-5329 (2005)

Chiang, J.C.H., and C.M. Bitz: "The influence of high latitude ice on the position of the marine Intertropical Convergence Zone". *Climate Dynamics*, 25, 477-496 (2005).

Chiang, J.C.H. and B.R. Lintner: "Mechanisms of remote tropical surface warming during El Niño". *Journal of Climate*, 18, 4130-4149 (2005)

- 2004** Chiang, J. C. H. : Present-day climate variability in the tropical Atlantic: a model for paleoclimate changes? In *The Hadley circulation: past, present, and future*, HF Diaz and R Bradley (eds), Springer (2004)  
Chiang, J.C.H., and D.J. Vimont: Analogous Pacific and Atlantic meridional modes of tropical atmosphere-ocean variability. *Journal of Climate*. 17, 4143-4158 (2004)
- 2003** Chiang, J.C.H., M. Biasutti, and D.S. Battisti: Sensitivity of the Atlantic ITCZ to Last Glacial Maximum boundary conditions. *Paleoceanography*, 18, 10.1029/2003PA000916 (2003).  
Lin, I.-I., W.T. Liu, C.-C Wu, J.C.H. Chiang, and C.-H. Sui: Satellite Observations of Modulation of Surface Winds by typhoon-induced ocean cooling. *Geophysical Research Letters*, 30(3), 1131 (2003); DOI 10.1029/2002GL015674
- 2002** Kushnir, Y., R. Seager, J. Miller, and J.C.H. Chiang: A simple coupled model of tropical Atlantic decadal climate variability. *Geophysical Research Letters*, 29(23), 2133 (2002); DOI: 10.1029/2002GL015874.  
Chiang, J.C.H., and A. H. Sobel: Tropical tropospheric temperature variations caused by ENSO and their influence on the remote tropical climate. *Journal of Climate*, 15, 2616-2631 (2002).  
Chiang, J.C.H., Y. Kushnir, and A. Giannini: Deconstructing Atlantic ITCZ variability: influence of the local cross-equatorial SST gradient, and remote forcing from the eastern equatorial Pacific. *Journal of Geophysical Research*, 107(D1), 10.1029/2000JD000307 (2002)
- 2001** Giannini, A., J. C. H. Chiang, M. A. Cane, Y. Kushnir, and R. Seager: The ENSO teleconnection to the tropical Atlantic Ocean: contributions of the remote and local SSTs to rainfall variability in the tropical Americas. *Journal of Climate*, 14, 4350-4543 (2001).  
Chiang, J.C.H., Y. Kushnir, and S.E. Zebiak: Interdecadal changes in eastern Pacific ITCZ variability and its influence on the Atlantic ITCZ. *Geophysical Research Letters*, 27, 3687-3690 (2000).  
Chiang, J.C.H., S.E. Zebiak, and M.A. Cane: Relative roles of elevated heating and surface temperature gradients in driving anomalous surface winds over tropical oceans. *Journal of the Atmospheric Sciences*, 58, 1371-1394 (2001).
- 2000** Chiang, J.C.H., and S.E. Zebiak: Surface winds over tropical oceans: diagnosis of the momentum balance, and modeling the linear friction coefficient. *Journal of Climate*, 13, 1733-1747 (2000).  
Orlove, B.S., J.C.H. Chiang, and M.A. Cane: Forecasting Andean rainfall and crop yield from El Niño influences on atmospheric clarity. *Nature*, 403, 68-71 (2000)
- Prior to 2000** Heiss, W.D., and J.C.H. Chiang: Random perturbation of systematic degeneracies and quantum chaos. *Phys. Rev. A*, 47, 2533-2538 (1993)  
Botha, P.J., J.C.H. Chiang, J.D. Comins, and P.M. Mjwara: Behaviour of elastic constants, refractive index, and lattice parameter of cubic zirconia at high temperatures. *J. Applied Physics*, 73, 7268-7274 (1993)

## Other Publications

Chiang, J. C. H. *Book review—Beyond Global Warming: How Numerical Models Revealed the Secrets of Climate Change*. *American Journal of Physics* **90**, 159 (2022); <https://doi.org/10.1119/5.0084647>

Seager, Richard, JCH Chiang, and J Shaman. "Do the Tropics Rule? Assessing the State of Tropical Climate Science." *Bulletin of the American Meteorological Society* **96**, ES211–ES214 (2015).

Cheng, W, J.C.H. Chiang, and D. Zhang: The Atlantic Meridional Overturning Circulation (AMOC) in CMIP5 models: RCP and historical simulations. *US CLIVAR Variations*, Spring 2013, **11**, 9-12

Chiang, J. C. H. and K. M. Cuffey: A simpler interpretation for high-resolution Greenland Ice Core Data. E-letter comment on Steffensen et al. (2008) to *Science*, 25 November 2008.

Biasutti, M, A. Giannini, A.H. Sobel, I.M. Held, and J.C.H. Chiang, 2007: Sahel Climate Change: Workshop on Sahel Climate Change, Columbia University, New York, 19-21 March 2007. *EOS*, **88**, p295, 17 July 2007.

Chiang, J.C.H., and A. Koutavas (2004): "Tropical Flip-Flop Connections" *Nature*, **432**, 864-865

Orlove, B.S., J.C.H. Chiang, and M.A. Cane: Ethnclimatology in the Andes. *American Scientist*, **90**, 428-435 (Sep-Oct 2002).

Chiang, J.C.H., and K. H. Cook, 1997: Response of the tropical atmosphere to surface heating in an idealized GCM. *Proceedings of the American Meteorological Society 22<sup>nd</sup> conference on Hurricanes and Tropical Meteorology*, Fort Collins, CO. 19-23 May, 1997.