

Sen Chiao, Ph.D.

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Executive Profile

- Successful track record as a tenured professor and executive leader
- Committed to cutting-edge research, academic collaboration, and integration
- Exhibit and promote drive for vision, execution, communication, and determination as a leader
- Collaborative management style with demonstrated success at bringing multi-disciplines together to achieve common goals
- Committed to building, supporting, and sustaining a diverse community of students, faculty, and staff
- Drives strategic planning, implementing process re-engineering initiatives, and managing complex projects
- Strong budget management understanding emphasizing accountability and strategic resource management

Education

Postdoctoral (2004)	School of Engineering and Applied Sciences, Harvard University
Ph.D. (2003)	Marine, Earth and Atmospheric Sciences, North Carolina State University
M.S. (1996)	Atmospheric Physics, National Central University, Jhungli, Taiwan
B.S. (1994)	Atmospheric Science, Chinese Culture University, Taipei, Taiwan

Professional Experience

Director, NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (June 2021 – present)

- Key Accomplishments:
 - Established a new \$30M cooperative science center agreement with NOAA/EPP 2022-2027
 - Received the ceiling Increase funds of \$1.9M in 2021 of \$18.7M total from the NOAA Education Partnership Program (EPP) to provide support for more than 160 undergrad, grad students and postdocs
 - Coordinated activities between NOAA Line Offices and Howard University as a NOAA Center Champions Working Group (CCSWG) member
 - Harnessed collaborative opportunities between NCAS-M, NOAA Earth System Research Laboratories, Severe Storm Laboratory, and NWS Weather Forecast Offices
 - Hosted public events including NOAA Line Offices, and Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator
 - Conducted annual Capitol Hill briefings to advocate for the NOAA Education office and NCAS-M efforts in minority-serving institutions
 - Initiated the annual HBCUs & Friends Diversity Mixer event at the American Meteorological Society Annual meeting to promote diversity, inclusion, and equity within geosciences
 - Established the first Urban Atmospheric Boundary Observation Site in downtown Washington DC

Professor of Atmospheric Sciences, Howard University (Department of Interdisciplinary Studies, June 2021 – May 2023, Department of Earth, Environment and Equity, June 2023 – present)

- Key Accomplishments:
 - Expanded climate change and climate mitigation research capacity at Howard Climate Center
 - Created three new courses (Weather and Climate; Global Climate Change, Earth System Sciences Data Visualization and Analytics) in the Interdisciplinary Studies department in Spring 2022, and Spring 2023

- Chaired NCAS-M distinguished scientist search
- Served as the chair of the department's Appointment, Promotion & Tenure (APT) committee
- Ad-hoc APT member in the Interdisciplinary Studies Department
- Chaired faculty search in atmospheric sciences and successfully hired new faculty in Spring 2022
- Advised 7 postdocs, thesis advisor for 3 PhD students, and served as 2 grad students thesis committee

Department Chair, Meteorology and Climate Science, San José State University (2019 – 2021)

Professor of Meteorology, San José State University (2011 – 2021)

Professor Emeritus, San José State University (2022 – present)

- Key Accomplishments:
 - Created three new courses and two new minor programs (Broadcast Meteorology and Wildfire Sciences) and one BS (Climate Science) degree program in Spring 2021
 - Successfully hired two new faculty in Spring 2020
 - Managed students and faculty for online teaching and learning during COVID-19
 - Increased total student enrollment of total offered courses by 30% (>210 FTEs; 1FTE = 5 students) since 2019 Fall
 - Obtained and managed more than 7M grant dollars since 2011 for conducting research in field observations, data analysis and numerical modeling with emphasis on precipitation with atmospheric rivers, planetary boundary layer, tropical cyclones, upper air ozone spatial and temporal variability, as well as long-range transport of aerosols and biomass burning and their impacts
 - Established the first High Performance Computing (HPC) facility at San Jose State University
 - Taught 11 different courses (Hydrometeorology, Tropical Met, Regional Climate modeling, Global Climate Change, Numerical Modeling, Remote sensing, Atmospheric Data Visualization and Analytics, Atmospheric Dynamics, Weather Analysis and Forecasting, Mesoscale Modeling Weather Briefing, Senior Thesis, Weather seminar)
 - Signed two MOUs with international institutions on student and faculty exchange programs, and research collaborations.
 - Served as thesis advisor for more than 15 M.S. students, 11 grad students thesis committee, and 15 undergraduate senior theses
 - Served as the facilitator of the proposal club at SJSU that involves colleagues from science, engineering, and social sciences.

Director, NASA MIRO Center for Applied Atmospheric Research and Education (2015 – 2021)

- Key Accomplishments:
 - Over 100 students were supported by CAARE in the past 5 years in which more than 50% of underrepresented students.
 - More than 40% of CAARE fellows continued on graduate (M.S. or Ph.D.) programs.
 - Contribute to NASA Centers' research programs in urban heat islands, air quality, public health, hydrology and climate variations through the use of in situ and remotely-sensed observations, geospatial technologies and models.
 - Train underrepresented STEM students with emphasis on understanding atmospheric processes through the use of state-of-the-art atmospheric observing instruments, modeling techniques, analytical approaches and remotely-sensed data.
 - Inspire and engage community college students through outreach, expanded degree opportunities and summer internship experiences.
 - Engage in basic research with faculty members and students at Minority Serving Institutions (MSIs) with the view that the resulting knowledge will advance weather, climate and air quality prediction through intensive and long-term field atmospheric observations and measurements.

Faculty Athletics Representative of SJSU, Mountain West Conference, NCAA (2016-2019)

- Key Accomplishments:
 - Ensured institutional compliance with all NCAA and MW guidelines and policies
 - Conducted annual NCAA recruiting exams for all SJSU coaches and staff

- Ensured academic eligibility of all student athletes at SJSU
- Member of the SJSU Athletics Board
- Chair of the MW Joint Council (2016-2017)
- Chair of the MW Faculty Athletics Representatives (2016-2017)
- MW Recognition Committee (2017-2018)

Assistant, Associate Professor of Meteorology, Florida Institute of Technology (2005 – 2011)

- Key Accomplishments:

- Conducted research projects and collaborated with colleagues in Senegal and Cape Verde.
- Developed and taught 7 courses (Marine Met, Intro. Environmental Flow Modeling, Mesoscale Met, Remote sensing for Met, Numerical Weather Prediction, Planetary Boundary layer, and Marine Field Project)
- Created and implemented various meteorology program activities
- Served as thesis advisor for 11 M.S. and Ph.D. students, 4 grad students thesis committee, and 5 undergrads senior project
- Served as a member of new faculty search committee, student recruitment and curriculum committee

Visiting Professor, NCAR/ASP/RAL (summer 2008)

- Received faculty fellowship for research on Saharan dust outbreak in relation to tropical cyclone genesis processes.

Research Associate, NOAA Center for Atmospheric Sciences (NCAS), Howard University (2004 – 2005)

- Key Accomplishments:

- Established the real-time WRF 4km modeling system for the Washington DC metropolitan area
- Advised undergrad and grad students at the Howard HUPAS program
- Conducted modeling tasks to support field projects at the Howard Beltsville campus

Postdoctoral Fellow, Harvard University (2003 – 2004)

- Collaborated with colleagues in geology to investigate glacier retreat and climate change over the Himalaya mountains
- Conducted hydrometeorology modeling work to study drylines in the Indian subcontinent.
- Processing TRMM and other precipitation data for ground validation.

Honors and Awards

Certificate, Faculty Leadership Institute, Howard University, 2024

Nominee, Institutional member of the UCAR Board of Trustees, 2023

Honorable mentioned by NASA ARC during President Biden's visit to California in 2023

Professor Emeritus, San Jose State University, 2022

Certificate, Howard University Assessment Academy, 2022

Fellow, The American Meteorological Society Summer Policy Colloquium, 2022

Certificate, SJSU Deans' Leadership Academy, 2018-2019

Faculty RSCA Assigned Time Program Award, San Jose State University, 2018-2023

Release Time Award, College of Science, San Jose State University, 2015, 2016, 2017, 2018

Outstanding Alumni Award, Department of Atmospheric Physics, National Central University, Taiwan, 2019

Honoree, the 2016 Faculty Athletics Representative of the National Football Foundation

Fellowship, NSF GEO Research Experiences for Undergraduates (REU) workshop, Boulder, CO, September 2016

Fellowship, Geo for Higher Ed Summit 2013, Google Inc., July 2013

Fellowship, Geoscience and the 21th Century Workforce workshop, NSF/InTeGrate, Penn State, June 2013

Fellowship, Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, May 2013

Extreme Science and Engineering Discovery Environment (XSEDE) Computing Award, 2013-2015.

Fellowship, UCAR/COMET Integrating Satellite Data and Products into Geoscience, August 2011

Fellowship, NCAR/ECSA Junior Faculty Forum 2009, July 2009

NCAR Computational & Information Systems Laboratory Classroom Grant Award, Feb 2009
 Fellowship, NCAR/Advanced Study Program Faculty Fellowship Award, May – August 2008
 Fellowship, The 2008 Early Career Geosciences Faculty Workshop, June 2008
 NCEP High Performance Computing Resources Award, EMC, 2007 - present
 Fellowship, Applications of Multimedia to Teaching in Atmospheric Science, COMET, June 2006
 NCAR/SCD Computing Resources Award, 2005 - 2014
 Postdoctoral Fellowship, Harvard University, February 2003 – February 2004
 Fellowship, Summer School on Mountain Meteorology, University de Trento, Italy, August 2002
 Student Travel Award, The 10th Conference on Mountain Meteorology, AMS, June 2002
 Outstanding Research Award, The 4th Annual Research Exposition, NC State Univ., March 2002
 Student Travel Award, The 9th Conference on Mesoscale Processes, AMS, May 2001
 Student Travel Award, The 9th Conference on Mountain Meteorology, AMS, June 2000

Contracts and Grants

PI, "NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology II", NOAA/EPP, 2022-2027, 30M.
 PI, "A Multi-University Consortium for Advanced Data Assimilation Research and Education (CADRE)", NOAA/WPO, 2024-2027, 1.4M
 Co-PI, "Towards a NU-WRF based Mega Wildfire Digital Twin: Smoke Transport Impact Scenarios on Air Quality, Cardiopulmonary Disease and Regional Deforestation", NASA (via UMBC), 2022 – 2025, 200K.
 Co-PI, "GP-UP: Strengthening Pathways to Geoscience Degrees for Underrepresented Pre-College and Introductory Students Through Experiential Learning and Career-informed Research", NSF, 2021-2025, 204K.
 PI, "NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology", NOAA/EPP, 2016-2022, 18.7M.
 PI, "Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District", 2019-2022, 85K.
 Co-PI, "RAPID: The Diablo Wind and Extreme Fire Behavior during the 2017 Wine Country Fires", NSF, 2017-2018, 120K.
 PI, "Weekly Ozonesonde Measurements at Half Moon Bay", BAAQMD, 2017-2018, 39K
 PI, "Detailed Quantitative Precipitation Forecasts for Santa Clara Valley Water District", 2017-2019, 50K.
 PI, "A Real-Time Big Data Based Decision Support System for Water Use in California". NSF/I-Corps, 2017, 50K.
 PI, "Atmospheric Boundary Layer Responses of the 2017 North America Total Solar Eclipse", CA Space Grant Consortium, 2017-2018, 8K.
 PI, "NOAA Center for Atmospheric Sciences and Meteorology (NCAS-M)" NOAA/EPP, 2016-2021, 500K.
 PI, "QPF Forecasting for Santa Clara Valley Water District", SCVWD, 2016-2017, 25K.
 PI, "Ozonesonde Measurements in the Bay Area", BAAQMD, 2016-2017, 30K.
 PI, "Ozonesonde Measurements during CABOTS", EPA, 2016, 75K.
 PI, "MRI: Acquisition of Hybrid CPU/GPU High Performance Computing and Storage for STEM Research and Education at San Jose State University", NSF, 2016-2019, 900K
 PI, "Acquisition of Hybrid CPU/GPU High-Performance Computing and Storage for STEM Research and Education at San Jose State University", DoD, 2016-2019, \$498K
 Co-PI, "Satellite-Derived PM2.5 Grids with Dispersion Model Downscaling: PM2.5 Data to Support Community-Scale Air Quality Health Research and Policy Development", NASA, 2016-2019, 374K
 PI, "Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California's Coast", The California Air Resources Board, 2016-2019, \$281K.
 PI, "Center for Applied Atmospheric Research and Education (CAARE)", NASA/MIRO, 2015-2020, \$4630K.
 Co-I, "Weather Support for Unmanned Vehicle Systems Traffic Flow Management", NASA, 2015-2016, 98K.
 PI, "Improved Understanding of the Magnitude of Trans-Pacific Long Range Transported Ozone Aloft at California's Coast", RSCA/SJSU, 2015-2016, \$5K.
 PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", RSCA/SJSU, 2014-2015, \$5K.
 PI, "Acquisition of AWIPS II EDEX Server and CAVE Client in a Synoptic Weather and Analysis Classroom", UCAR/Unidata, 2014-2015, \$11K.

PI, "Implementation of Urbanized Weather Research and Forecasting Model (uWRF) for Bay Area Air Quality Forecast", XSEDE, computing facilities, 2013-2014.

PI, "Improving High-Resolution Fire Weather Forecasting over Complex Terrain", SJSU RSCA grant, 2012-2013, \$5K

PI, "Evaluating HWRF Forecasts of Tropical Cyclone Intensity and Structure in the North Atlantic Basin", UCAR/COMET, 2011-2012, \$12K

PI, "Improving Severe Downslope Winds and Lee Wave Rotors Forecasts using GOES-R Proving Ground Products and High-Resolution Modeling", UCAR/COMET, 2011-2012, \$15K

PI, "Understanding Oceanic/Continental Transition of Mesoscale Convective Systems and Tropical cyclogenesis during the African Monsoon Multidisciplinary Analysis Experiment (AMMA)", NSF, 2012-2014, \$196K

PI, "Numerical Simulations of Stable Boundary Layer Evolution over the Owens Valley during the Terrain-Induced Rotor Experiment (T-REX)", DOD/ARO, 2009-2014, 221K

Co-PI, "Acquisition of a Computational Science and Engineering Parallel Cluster", NSF, MRI, 2009-2012, \$258K

PI, "Quantifying uncertainties of high-resolution WRF modeling on downslope wind forecasts in the Las Vegas valley", UCAR/COMET, 2009-2010, \$11.9K

PI, "Minimum Temperatures and Diurnal Temperature Ranges in the Melbourne Area", Florida Tech, Professional Development Grant, 2009-2010, \$2.5K

Co-PI, "A real-time coupled wave/atmospheric regional forecast and analysis system: CWARFS", NOAA/CSTAR, 2007-2010, \$360K

PI, "Mobile environmental and weather observing network in Central Florida", Florida Tech, Professional Development Grant, 2007-2008, \$2.5K

Co-PI, "A multidisciplinary computer lab for meteorological and oceanographic applications at the Florida Institute of Technology", NCAR/Unidata Equipment Award, 2007-2008, \$20K

PI, "Improving the meso-gamma scale prediction in Puerto Rico region: Observation analyses and numerical experiments of streamers", UCAR/COMET, 2006-2007, \$11.5K

Co-PI, "Evaluation of boundary layer parameterizations in the Weather Research and Forecasting (WRF) model using in situ measurements", ARMY/ARL, 2005-2006, \$100K (with Howard University)

University Involvement and Community Service

Panelist, D.C. Commission on Climate Change and Resiliency Knowledge Forum (2025)

Panelist, Breaking the Cycle: Transforming diversity, outreach, and employment methods, and WCH (2025)

Panelist, National Academies, Panels on Increasing Diversity in Ocean Studies (2024)

Panelist, Grants Academy, College of Arts and Sciences, Howard University (2024)

Member of the Department of Energy (DOE) Biological and Environmental Research Advisory Committee (BERAC) (2022- present)

University Corporation for Atmospheric Research/Unidata Strategic Advisory Committee (2022 – present)

Chair, NCAS-M Distinguished Scientist search committee, the Graduate School, Howard University (2024)

Annual Assessment Academy, Howard University (2022)

Chair, new faculty search committee, Interdisciplinary Studies, Howard University (2022)

Convener of the US Climate Variability and Predictability Program (US CLIVAR) 2022 Panel meeting at Howard University

NSF STEM Content Matters (SCM) member, Morgan State University (2022)

Search Committee, National Center for Atmospheric Research (NCAR) Program Spec. DEI & MSI (2022)

Department of Interdisciplinary Studies: Appointment, Promotion, and Tenure Committee (2021 – present)

Taiwan Central Weather Bureau (CWB) Research and Development Advisory Committee (2021 – present)

Panelist, Faculty Perspectives: Open Textbooks in the Classroom and Funding Opportunities, Washington Library (2021)

Guest Editor, Atmosphere, Special Issue "Urban Heat Islands and Global Warming" (2021 – present)

Search Committee, VP IESA, SJSU (2020)

Executive Committee, CSU Council on Ocean Affairs, Science & Technology (COAST) (2019 – 2021)

Research Consultation Board, Central IT, SJSU (2019 – 2021)

Search Committee, Senior Director of Customer Service, SJSU (2019)

Convener of the 2018 Unidata Regional Workshop, San Jose State University

College of Science: Retention, Tenure, Promotion Committee (2018 – 2021)

Search Committee, VP for student affairs, SJSU (2018)
XSEDE Campus Champion, NSF (2018 – present)
NCAA Mountain West Conference Recognition Committee (2018 – 2019)
NWP Instructor, Thailand Meteorological Division, Bangkok, Thailand (2017)
Program Chair, 2017 IEEE Smart World Congress
Editorial Board member of the Open Atmospheric Science Journal (2017 – present)
Director, High Performance Computing Center, SJSU (2016 – present)
Chair, Joint Council of the NCAA Mountain West Conference (2016 – 2017)
Chair, Faculty Athletics Representatives of the NCAA Mountain West Conference (2016 – 2017)
Search committee for new coaches, San Jose State Athletics (2016 – 2017)
Faculty Athletics Representative, SJSU (2016 – 2019)
SJSU Athletics Board (2016 – 2019)
International Advisory Council member of the Institute of Urban Meteorology, Beijing, China (2015 – 2016)
University Corporation for Atmospheric Research Members Representative (2015 – 2021)
University Corporation for Atmospheric Research/Unidata Users Committee (2013 – 2016)
California State University Water Resources and Policy Initiatives (WRPI) annual conference planning committee (2015 – 2021)
SJSU International Programs and Students Committee (2015 – 2017)
SJSU University Library Board (2015 – 2016)
Review Editor, Editorial Board of Atmospheric Science, Frontiers in Earth Science (2015 - present)
Guest Editor of the Open Journal of Cloud Computing (OJCC) (2015 – 2016)
Program committee on the International Workshop on Sustainable High Performance Computing (SHPC 2015), Liverpool, UK.
Convener of the 2013 Unidata Regional Workshop, San Jose State University
College of Science: Sabbatical Committee (2013 – 2016)
College of Science: Safety Committee (2017 – 2018)
Department colloquium coordinator (2011 – 2021)
Department new faculty search committee (2014 – 2021)
Student Recruitment and Curriculum committee (2011 – 2021)
College of Science: Research Committee (2011 – 2013)
College of Science: IT Advisory Committee (2011 – 2021)

Journal Reviews

Atmosphere, Atmospheric Research, Bulletin of American Meteorological Society, Open Geosciences, Climate Dynamics, Continental Shelf Research, Earth Interactions, Estuaries and Coasts, Journal of Atmospheric Sciences, Journal of Atmospheric Chemistry, Journal of Applied Meteorology and Climatology, International Journal of Climatology, Journal of Geophysical Research-Atmosphere, Journal of Geophysical Research-Ocean, Meteorology and Atmospheric Physics, Monthly Weather Review, Journal of Hydrology, Journal of Hydrometeorology, Journal of Mountain Science, Hydrological Sciences Journal, Nature Hazards Journal of Marine Geodesy, Natural Hazards and Earth System Sciences, Geophysical Research Letters, Weather and Forecasting, International Journal of Physical Sciences, International Society of Offshore and Polar Engineers, International Journal of Remote Sensing, Weather and Climate Extremes, SpringerPlus, Int. J. of Environmental Technology and Management, Climate Dynamics, Terrestrial, Atmospheric and Oceanic Sciences

Proposal Reviews

National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), Department of Energy (DOE), The UK's Natural Environment Research Council (NERC), Georgia National Science Foundation (GNSF)

Professional Affiliations

Member, International Association of Hydrological Sciences
Member, American Meteorological Society
Member, American Geophysical Union
Member, Meteorological Society of The Republic of China
Member, Florida Academy of Sciences

Member, International Association for Urban Climate

Refereed Publications (* denote names of advised students)

Tropical Cyclones

Das*, D., S. **Chiao**, C. Roychoudhury, F. Khan, S. Chaudhuri, S. Mukherjee, 2023: Tropical Cyclonic Energy Variability in North Indian Ocean: Insights from ENSO, *Climate* 2023, 11, 232.

<https://doi.org/10.3390/cli11120232>

Patel*, M., S. **Chiao**, and Q. Tan., 2021: An Observational Study of Aerosols and Tropical Cyclones over the Eastern Atlantic Ocean Basin for Recent Hurricane Seasons, *Atmosphere* 12, no. 8: 1036.

<https://doi.org/10.3390/atmos12081036>

Green*, A., S. Gopalakrishnan, G. Alaka, S. **Chiao**, 2021: Understanding the Role of Mean and Eddy Momentum Transport in the Rapid Intensification of Hurricane Irma (2017) and Hurricane Michael (2018), *Atmosphere*, <https://doi.org/10.3390/atmos12040492>

Jury, M. and S. **Chiao**, R. Cécé, 2019: The intensification of hurricane Maria 2017 in the Antilles, *Atmosphere*, 10, 590. doi:/10.3390/atmos10100590

Rosado*, K., and S. **Chiao**, 2018: Assimilation of GPS Radio Occultation data for Tropical Cyclogenesis: A Case Study in the Eastern Atlantic, *The Open Atmospheric Science Journal*, 12, 33-47, DOI: 10.2174/1874282301812010033.

Jenkins, G., E. A. Brito, E. F. Soares, S. **Chiao** and co-authors, 2017: Hurricane Fred: Cape Verde's First Hurricane in Modern Times, preparation, observations, impacts and lessons learned, *Bulletin of American Meteorological Society*, DOI: <http://dx.doi.org/10.1175/BAMS-D-16-0222.1>

Chiao, S., and M. Jury, 2016: Southern Caribbean Hurricane Regional Observations and WRF Model Simulations, *International Journal of Marine Science*, doi:10.5376/ijms.2016.06.0039.

Folmer, M., R. Pasken, S. **Chiao**, J. Dunion, and J. Halverson, 2016: The Effect of GPS Dropwindsondes from the NAMMA 2006 Field Campaign on the Simulations of Hurricane Helene, *Meteorology and Atmospheric Physics*, DOI 10.1007/s00703-016-0452-2.

Chih* C.-H., K-H. Chou, and S. **Chiao**, 2015: The influence of Tropical cyclone structure on eyewall evolution simulation of Typhoon Sinlaku (2008) crossing Taiwan. *Terr. Atmos. Ocean. Sci.* DOI: 10.3319/TAO.2015.05.08.01(A).

Centeno*, D., and S. **Chiao**, 2015: The Footprints of Saharan Air Layer and Lightning on the Formation of Tropical Depressions over the Eastern Atlantic Ocean, *Meteorology and Atmospheric Physics*, 127, 17-32.

Pelissero*, J., and S. **Chiao**, 2013: The Impacts of Extratropical Reintensification on North Atlantic Shipping Routes, *Met. Apps.* doi: 10.1002/met.1410.

Takeuchi*, A., and S. **Chiao**, 2013: Comparative Case Studies of Tropical Cyclones and Phytoplankton Blooms over Atlantic and Pacific Regions, *Earth Interactions*, 17, 1-19. doi: 10.1175/2013EI000517.1

Tompkins*, C., and S. **Chiao**, 2012: Modeling studies of impacts from the Guinea Highlands in relation to tropical cyclogenesis along the West African coast, *Meteorology and Atmospheric Physics*, 115, 51-72.

Chiao, S., and G. Jenkins, 2010: Numerical investigations on the formation of tropical storm Debby during NAMMA-06. *Wea and Forecasting*, 25, 866-884.

Chiao, S. and Y.-L. Lin, 2003: Numerical modeling of an orographically induced precipitation event associated with tropical storm Rachel over Taiwan. *Wea. and Forecasting*, 18, 325-344.

Chiao, S., C.-Y. Huang and Y.- H. Kuo, 1996: MM5 numerical simulation of Typhoon Dot (1990). *Atmospheric Sciences*, 24, 123-144. (In Chinese with English abstract)

Upper air ozone and Air Quality

Karle, N.N., R. K. Sakai, S. **Chiao**, R. M. Fitzgerald, and W. R. Stockwell. 2024: Reinterpreting Trends: The Impact of Methodological Changes on Reported Sea Salt Aerosol Levels, *Atmosphere* 15, no. 7: 740.

<https://doi.org/10.3390/atmos15070740>

Gore*, C., and S. **Chiao**, 2020: Comparisons of Upper Air Ozone at a Coastal and Urban Site and the Impact of Local Surface Urban Emissions, *Atmospheric Environment*, doi.org/10.1016/j.aeoa.2020.100085

Faloona, I.C., S. **Chiao**, and co-authors, 2020: The California Baseline Ozone Transport Study (CABOTS). *Bull. Amer. Meteor. Soc.*, <https://doi.org/10.1175/BAMS-D-18-0302.1>

Clark*, J., and S. **Chiao**, 2019: Stratospheric Intrusions in relation to Surface Ozone over Northern California during CABOTS, *Journal of Applied Meteorology and Climatology*, doi.org/10.1175/JAMC-D-18-0322.1.

Jung, C.H., Y.J. Yoon, J. Um, S.S. Lee, J.Y. Lee, S. **Chiao**, and Y. P. Kim, 2019: Approximation of most penetrating particle size for fibrous filters considering Cunningham slip correction factor. *Environmental Eng. Res.*, doi.org/10.4491/eer.2019.058

Atmospheric Rivers and Orographic Precipitation

Quinn*, N., and S. **Chiao**, 2023: Characterization of Raindrop Size Distribution over Santa Clara Valley. *Atmosphere*, 14, 1029, <https://doi.org/10.3390/atmos14061029>.

Liner*, S., J. Ryoo, and S. **Chiao**, 2022: On the relationship of arctic oscillation with atmospheric rivers and snowpack in the western United States using long-term multi-platform dataset, *Water*, 14(15), 2392.

Zechiel*, P.R., and S. **Chiao**, 2021: Climate Variability of Atmospheric Rivers and Droughts over the West Coast of the United States from 2006 to 2019. *Atmosphere*, 12, 201. doi.org/10.3390/atmos12020201

Ryoo, J., S. **Chiao**, J.R. Spackman, L.T. Iraci, F.M. Ralph, A. Martin, R.M. Dole, J.E. Marrero, E.L. Yates, T.P. Bui, J.M. Dean-Day, and C.S. Chang, 2020: Terrain Trapped Airflows and Precipitation Variability during an Atmospheric River Event. *J. Hydrometeor.*, **21**, 355–375, doi.org/10.1175/JHM-D-19-0040.1

Bridger, A, D. Nguyen, and S. **Chiao**, 2019: Developing Spatially Accurate Rainfall Predictions for the San Francisco Bay Area through Case Studies of Atmospheric River and other Synoptic Events. *Atmosphere*, 10, 541, [doi:10.3390/atmos10090541](https://doi.org/10.3390/atmos10090541)

Liu*, C., S. **Chiao**, and J. Ryoo, 2019: Asian Long-Range Transport in Relation to Atmospheric Rivers in Northern California, <https://doi.org/10.3390/atmos10060313>.

Behringer*, D. and S. **Chiao**, 2019: Numerical Investigations of Atmospheric Rivers and the Rain Shadow over the Santa Clara Valley, *Atmosphere*, 10, 114; <https://doi.org/10.3390/atmos10030114>

Li, J., Y. Chen, H. Wang, J. Qin, J. Li, and S. **Chiao**, 2017: Extending flood forecasting lead time in a large watershed by coupling WRF QPF with a distributed hydrological model, *Hydrol. Earth Syst. Sci.*, **21**, 1279-1294, DOI:10.5194/hess-21-1279-2017

Eiserloh*, A. J, and S. **Chiao**, 2015: Modeling studies of landfalling atmospheric rivers and orographic precipitation over northern California, *Meteor. and Atmos. Phy.*, **127**, 1-16.

Richard, E., A. Buzzi, G. Zangl, N. Asencio, R. Benoit, S. **Chiao** and co-others, 2005: Quantitative precipitation forecasting in mountains regions - Pushed ahead by MAP. *Croatian Meteorological Journal*, **40**, 65 – 69.

Lin, Y.-L., S.-Y. Chen, and S. **Chiao**, 2005: Synoptic and mesoscale environments associated with MAP IOP-8 and the formation mechanisms of orographic rain. *Mon. Wea. Rev.*, **133**, 2227-2245.

Chiao, S., Y.-L. Lin, and M. L. Kaplan, 2004: Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B. *Mon. Wea. Rev.*, **132**, 2184-2203.

Chiao, S., 2003: The dynamics of orographic precipitation: A mesoscale modeling perspective. Ph.D. dissertation, North Carolina State University, 211 pp.

Lin, Y.-L., D. B. Ensley, S. **Chiao**, and C.-Y. Huang, 2002: Orographic influence on rainfall and track deflection associated with the passage of a tropical cyclone. *Mon. Wea. Rev.*, **130**, 2929-2950.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, M. L. Kaplan, 2001: Some common ingredients for orographic flooding and heavy rainfall. *Wea. and Forecasting*. **15**, 633-660.

Lin, Y.-L., J. A. Thurman and S. **Chiao**, 2001: Influence of synoptic and mesoscale environments on heavy orographic rainfall associated with MAP IOP-2B and IOP-8. MAP newsletter, **15**, 242-245.

Lin, Y.-L., S. **Chiao**, J. A. Thurman, M. L. Kaplan and T.-A. Wang, 2001: Essential ingredients for heavy orographic rainfall and their potential application for orographic rainfall prediction. MAP newsletter, **15**, 72-75.

Urban heat island and Atmospheric Boundary Layer

Karle, N.N., R. K. Sakai, S. **Chiao**, R. M. Fitzgerald, and W. R. Stockwell. 2024: Reinterpreting Trends: The Impact of Methodological Changes on Reported Sea Salt Aerosol Levels, *Atmosphere* **15**, no. 7: 740. <https://doi.org/10.3390/atmos15070740>

Mainhart*, M. R. Pasken, S. **Chiao** and M. Roark, 2020: Surface Mesovortices in relation to Urban Heat Island Effect in the Saint Louis Metropolitan Area, *Urban Climate*, doi.org/10.1016/j.uclim.2020.100580

Yasuhara* S., J. Forgeron*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2013: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. *Geophysical Research Abstracts*. **15**, EGU2013-13200-2.

Jury, M., and S. **Chiao**, 2013: Leese boundary layer confluence and afternoon thunderstorms over Mayaguez, Puerto Rico. *J. Appl. Meteor. Climatol.*, **52**, 429-454.

Pattantyus*, A., and S. **Chiao**, 2010: Numerical studies of convective and stable boundary layer evolution in mountainous regions. Proceedings of the International Symposium for the Advancement of Boundary Layer Remote Sensing (ISARS), Paris, France, June 28-30, 2010.

Chiao, S., 2006: Performance of planetary boundary layer schemes in the WRF model. Proceedings of the 25th Army Science Conference, Orlando, FL November 2006, 8 p.

Big Data Applications

Huang, Y., R. Srivastava, C. Ngo, J. Gao, J. Wu, and S. **Chiao**, 2023: Data-Driven Soil Analysis and Evaluation for Smart Farming Using Machine Learning Approaches. *Agriculture*, 13, 1777, doi.org/10.3390/agriculture13091777

Gaganjot*, K., J. Gao, S. **Chiao**, S. Lu and G. Xie, 2018: Air Quality Prediction: Big data and Machine Learning Approaches, *International Journal of Environmental Science and Development* vol. 9, no. 1, pp. 8-16, 2018, DOI: 10.18178/ijesd.2018.9.1.1066

Zhang P., J. Gao, A. G. Thomas, K. P. Alagupackiam, K Mannava, P. Bosco*, S. **Chiao**, 2017: On Building a Big Data Analysis System for California Drought, 2017 IEEE 3rd International Conference on Big Data Computing Service and Applications, San Francisco, CA, 2017, pp. 149-156. DOI: 10.1109/BigDataService.2017.23

Wildland Fires

Halem, M. and co-authors. 2024: Towards a Dynamic Data Driven Wildfire Digital Twin (WDT): Impacts on Deforestation, Air Quality and Cardiopulmonary Disease. In: Blasch, E., Darema, F., Aved, A. (eds) *Dynamic Data Driven Applications Systems. DDDAS 2022. Lecture Notes in Computer Science*, vol 13984. Springer, Cham. https://doi.org/10.1007/978-3-031-52670-1_40

Clark*, J., and S. **Chiao**, 2024: Connecting an Offshore Dry Air Stratospheric Intrusion with the Outbreak of Soberanes Fire 2016, *J. Appl. Meteor. Climatol.*, 63, 209–226, <https://doi.org/10.1175/JAMC-D-23-0043.1>.
Malik*, A.; Rao, M.R.; Puppala, N.; Koouri, P.; Thota, V.A.K.; Liu, Q.; **Chiao**, S.; Gao, J. Data-Driven Wildfire Risk Prediction in Northern California. *Atmosphere* 2021, 12, 109. doi.org/10.3390/atmos12010109

Carpenter*, D. D. and S. **Chiao**, 2010: Modeling study of 2006 Central Florida wildfires using Fire Area Simulator. *Florida Scientist*, 73, 103-119.

Regional Climate

Gao, J, A. Deo, and S. **Chiao**, 2021: Soil Evaluation Research for Salton Sea-A Survey of Available Salton Sea Soil and Sediment Evaluation Research Literature. *J Agric Forest Meteorol Res*, 4(1): 447-458.

Jury, M. and S. **Chiao**, 2011: Meso-Climates of the Central Antilles. *Earth Interactions*, 15, 1-19. doi: 10.1175/2011EI391.1.

Barros, A. P., S. **Chiao**, T. Lang, J. Putkonen, and D. Burbank, 2006: From weather to climate-- Seasonal to interannual variability of storms in the Himalayas. *Tectonics, Climate and Landscape Evolution, GSA special paper* 398, 17-38. doi:10.1130/2006.2398(02).

Chiao, S. and A. P. Barros, 2007: A numerical study of the hydrometeorological drylines in Northwest India during the monsoon. *J. of the Meteorological Society of Japan*, 85, 337-361.

Mesoscale Nexuses

Flores, A., R. Sakai, E. Joseph, N. Nalli, A. Smirnov, B. Demoz, V. Morris, D. Wolfe, S. **Chiao**, 2023: On Saharan Air Layer Stability and Suppression of Convection over the Northern Tropical Atlantic: Case Study Analysis of a 2007 Dust Outflow Event. *Atmosphere* 2023, 14, 707. <https://doi.org/10.3390/atmos14040707>
Lee, S., C. Jung, Y. Choi, S. **Chiao**, J. Um and W. Choi, 2019: Comparisons of simulations of updraft mass fluxes and their response to increasing aerosol concentration between a bin scheme and a bulk scheme in a deep-convective cloud system, *Advances in Meteorology*, <https://doi.org/10.1155/2019/9292535>

Chiao, S., and R. Dumais, 2013: Investigations of a down-valley flow event during T-REX 2006, *Meteorology and Atmospheric Physics*, 122, 75-90. doi: 10.1007/s00703-013-0279-z.

Jury, M., and S. **Chiao**, 2014: Representation of Ethiopian wet spells in global and nested models, *Advances in Meteorology*, vol. 2014, Article ID 237374, doi:10.1155/2014/237374

Whitehall*, K., S. **Chiao**, M. Mayers-Als, 2013: Numerical Investigations of Convective Initiation in Barbados, *Advances in Meteorology*, vol. 2013, doi:10.1155/2013/630263.

Pattantyus*, A., S. **Chiao**, and S. Czyzyk, 2011: Improving high-resolution model forecasts of downslope winds in the Las Vegas Valley. *J. Applied Meteorology and Clim.*, 50, 1324-1340.

Weldegaber*, M., B. Demoz, L. Sparling, and S. **Chiao**, 2011: Observational analysis of moisture evolution and variability in the boundary layer during the dryline on 22 May 2002 (IHOP 2002), *Meteorology and Atmospheric Physics*, 110, 87-102.

Pattantyus*, A., S. **Chiao**, and S. Czyzyk, 2010: Numerical model forecasting of downslope winds in the Las Vegas Valley. Proceedings of the 5th International Symposium on Computational Wind Engineering, Chapel Hill, NC, May 23-27, 2010.

Jury, M., S. **Chiao**, and E. W. Harmsen, 2009: Mesoscale structure of trade wind convection over Puerto Rico: Composite observations and numerical simulation. *Boundary Layer Meteorology*. 132, 289-313.

Conference Presentations (* denote names of advised students)

2025

2024

Chiao, S., R. K. Sakai, V. R. Morris, B. Demoz, E. Joseph, T. Adams, 2024: Towards a Quarter-Century Collaboration between NCAS-M and ARL: Priorities, Opportunities and Challenges, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Flores, A., R. K. Sakai, B. Demoz, J. Dreessen, J. Boyle, S. **Chiao**, 2024: Historical Ozone Data from Ozonesondes Launched over the Howard University Beltsville Campus, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Lara, P. H. C. Huang, J. McQueen, J. Huang, S. **Chiao**, R. K. Sakai, K. Wang, 2024: Comparison of air quality model vs. real-time ozone observations for the summer of 2022 over the Washington DC metropolitan area, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Karle, N., R. K. Sakai, S. **Chiao**, R. M. Fitzgerald, W. R. Stockwell, 2024: Comprehensive Analysis of Elevated Sea Salt Aerosols in the Baltimore-Washington Corridor Since 2017, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Green*, A., X. Zhang, S. **Chiao**, 2024: Understanding the Large Scale Environment Impacts on Tropical Cyclone Rapid Intensification in a Warming Climate, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Chiao, S. and R. Pasken, 2024: Modeling and Machine Learning Analysis of Surface Mesovortices Formation and Maintenance in the St. Louis Metropolitan Area, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Karle, N., S. **Chiao**, J. Kaney, J. Barha, G. Lundeen, 2024: Assessment of Long-term Variability on Rainfall Distribution and Extreme Flash Flood Events in the Semi-Arid Region of El Paso, Texas, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Das, D., S. **Chiao**, C. Roychoudhury, G. Persad, 2024: Variability and Trends in Atmospheric Vapor Pressure Deficit with Heat Extremes across the United States, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Clark, J. and S. **Chiao**, 2024: Connecting an Offshore Dry Air Stratospheric Intrusion with the Outbreak of Soberanes Fire 2016, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Manswell Butty, J., S. **Chiao**, T. Adams, R. K. Sakai, 2024: NCAS-M Best Practices and Next Steps – Broadening Participation of Underserved Students in the Geosciences, 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

Sakai, R., S. **Chiao**, A. Flores, N. Karle, B. Demoz, 2024: Investigating Turbulent Exchange of Scalars within the Stable Boundary Layer over an Urban and a Semi-Urban Research Site. 104th AMS annual meeting, Baltimore, MD, Jan 28-Feb 1.

2023

Sakai, R., S. **Chiao**, B. Demoz, and A. Flores, 2023: An Observational Study using Ceilometers to Investigate the Planetary Boundary Layer over Urban and Suburban Landscapes, 103rd AMS annual meeting, Denver, CO, Jan 8-12.

Manswell Butty, J., R. Sakai, S. **Chiao**, 2023: EDUCATION Successes and Lessons Learned from the NCAS-M Experiential Training Summer Program for Rising Sophomores (ETSP), 103rd AMS annual meeting, Denver, CO, Jan 8-12.

Das, Debanjana, S. **Chiao**, E. T. Swenson, G. G. Persad, and C. Roychoudhury, 2023: Past, Present and Future Humid Heat Extremes over the East Coast of the United States, 103rd AMS annual meeting, Denver, CO, Jan 8-12.

Karle, N., R. K. K. Sakai, R. M. Fitzgerald, S. **Chiao**, and W. R. Stockwell, 2023: Wind-Terrain Effects on Local Circulation, and Meteorological Drivers of Ozone Episodes in El Paso-Juarez Airshed. 103rd AMS annual meeting, Denver, CO, Jan 8-12.

Flores, A., H. Voemel, R. K. K. Sakai, B. Demoz, and S. **Chiao**, 2023: Stratospheric Water Vapor Measurements Over the Howard University Beltsville Campus During 2022 with the Cryogen Frostpoint Hydrometer, 103rd AMS annual meeting, Denver, CO, Jan 8-12.

2022

R Sakai, S **Chiao**, CM Ichoku, B Demoz, A Flores, 2022: The Climatology of the Lower Level Jet over the US Mid-Atlantic Region, American Geophysical Union Fall Meeting, Chicago, IL, 12-16, December 2022.

Chiao, S., J. Ryoo, and Liner*, S., 2022: On the Relationship of Arctic Oscillation with Atmospheric Rivers and Snowpack in the Western United States. American Geophysical Union Fall Meeting, Chicago, IL, 12-16, December 2022.

Chiao, S., J. Manswell Butty, C. Ichoku, T. Adams, 2022: NERTO Experiences for Students in the NOAA Center in Atmospheric Sciences and Meteorology, the 10th NOAA/EPP Forum, Tallahassee, FL, 5-8, April 2022.

Adams, T., **Chiao**, S. and Sakai, R., 2022: Integrated Social and Behavior Solutions of Extreme Heat to Decrease Impacts on HUSVCs, Conference on Innovations in Climate Resilience, Battelle Climate Conference, Columbus, OH, March 29-30, 2022.

Adams, T., Shivers-Williams, L. Williams, and S. **Chiao**, 2022: Building Social Science Capacity at NCAS-M: An Interdisciplinary Approach for Research and Training in the Weather Enterprise, AMS, 102nd Annual Meeting, 23-27, January 2022.

Zechiel*, P., and S. **Chiao**, 2022: Assessing WRF Precipitation Forecasts of Atmospheric Rivers in Northern California using 4D-Var Data Assimilation of COSMIC-2 GPS Radio Occultation Profiles, AMS, 102nd Annual Meeting, 23-27, January 2022.

Leung*, J., J. T. McQueen, H.C. Huang, E. Strobach, and S. **Chiao**, 2022: The Performance of GFS FV3 Planetary Boundary Layer Height in Recent Wildfires, AMS, 102nd Annual Meeting, 23-27, January 2022.

Chiao, S., J. Manswell Butty, C. Ichoku, T. Adams, 2022: NOAA Experiential Research and Training Opportunities (NERTO) Experiences for Students in the NOAA Center in Atmospheric Sciences and Meteorology, AMS, 102nd Annual Meeting, 23-27, January 2022.

Sakai, R., S. **Chiao**, T. Adams, B. Demoz, A. Flores, W. Turner, 2022: Analyzing the Performance of the New Vaisala CL-61 Ceilometer, AMS, 102nd Annual Meeting, 23-27, January 2022.

Bol, A., S. **Chiao**, B. Guarente, A. Hirsch, P. Kucera, S. Lindstrom, D. Vollmer, 2022: Application of the Flipped Classroom in an Online Meteorology Course, AMS, 102nd Annual Meeting, 23-27, January 2022.

2021

Green*, A., S. Gopalakrishnan, S. **Chiao**, X. Zhang, GJ Alaka, 2021: Eddy Vorticity Fluxes impact on the Rapid Intensification of Hurricanes Irma (2017) and Michael (2018), AMS, 34th Conference on Hurricanes and Tropical Meteorology.

Dilworth*, S., K. Pistone, S. Broccardo, S. LeBlanc, M. Kacenenbogen, L. Iraci, M. Johnson, R. Johnson, J. Podolske, R. Cohen, P. Wooldridge, S. **Chiao**, 2021: New Measurements of Column NO₂ from Pandora Spectrophotometers in the San Francisco Bay Area before and during the COVID-19 Pandemic, AMS 101th Annual Meeting, 10-15 January 2021.

Ip*, A., and S. **Chiao**, 2021; Spatial and Temporal Effects of Dry Air on TC Tracks over the Eastern Atlantic Ocean Basin, AMS 101th Annual Meeting, 10-15 January 2021.

Zechiel, P., and S. **Chiao**, 2021: Climate Variability of Atmospheric Rivers and Droughts over the West Coast of the United States from 2006 to 2020, AMS 101th Annual Meeting, 10-15 January 2021.

Liu, C., and S. **Chiao**, 2021: Improved Forecasting of PBL in Northern California Using Ceilometer Testbed Observations, AMS 101th Annual Meeting, 10-15 January 2021.

2020

Patel*, M., S. **Chiao**, Q. Tan, 2020: Relationship of Aerosols and Tropical Cyclogenesis over the Eastern Atlantic Ocean Basin for Recent Hurricane Seasons, American Meteorological Society annual meeting, Boston, MA

Clark*, J. and S. **Chiao**, 2020: Taking Another look at Low-level Stratospheric Intrusions and wildfire development during CABOTS 2016. American Meteorological Society annual meeting, Boston, MA.
Liner*, S., Ryoo, J., **Chiao**, S., 2020: Aerosol and Hydrometeor Concentrations during Rain-on-Snow Events of Atmospheric rivers in Northern California. American Meteorological Society annual meeting, Boston, MA.

Zechiel*, P. and **Chiao**, S., 2020: Assessing the Predictability of WRF Precipitation Forecasts for the Bay Area. American Meteorological Society annual meeting, Boston, MA

Green*, A. Gopalakrishnan, S., **Chiao**, S., Zhang, X, Alaka, G., 2020: Understanding the Role of Eddy Vorticity Fluxes on Rapid Intensification of Hurricanes Irma and Michael. American Meteorological Society annual meeting, Boston, MA

Liu*, C., **Chiao**, S., Smith, K., Craig, K., MacDonald, C., Hsu, Y., 2020: Validation of WRF PBL Schemes in Northern California Using Ceilometer Testbed Observations. American Meteorological Society annual meeting, Boston, MA

Pasken, R, S. **Chiao**, R. Woodford, 2020: Vertical Structure of Urban Heat Island Induced Meso-Vortices, American Meteorological Society annual meeting, Boston, MA

2019

Ryoo, J. **Chiao**, S. and co-authors, 2019: Formation of Terrain Trapped Airflows in Northern California during Atmospheric Rivers and its impact on Precipitation: A Case Study using Measurements and Model, American Geophysical Union (AGU) Fall Meeting, San Francisco, CA.

Clark*, J., S. **Chiao**, 2019: The Impacts of Wildland Fires and Lower Troposphere Ozone in relation to Air Quality during CABOTS 2016, 2019 Meteorology and Climate – Modeling for Air Quality Conference, Davis, CA

Chiao, S., D. Melendez, K. Sanchez, A. Jordan, 2019: Total Lightning Climatology in the Caribbean Region, The 99th AMS annual meeting, January 6-10, 2019.

Bridger, A., D. Nguyen, and S. **Chiao**, 2019: Examination of the Ability of the WRF Modeling System to Predict Observed Rainfall Patterns in the San Francisco Bay Area, The 99th AMS annual meeting, January 6-10, 2019.

Gore*, C., and S. **Chiao**, 2019: Comparisons of Upper Air Ozone Concentrations at Coastal and Urban Sites and the Impacts of Local Urban Greenhouse Gas Emissions, The 99th AMS annual meeting, January 6-10, 2019.

Liu*, C., and S. **Chiao**, 2019: Long-Range Aerosol Transport via Rossby Wave Breaking during Atmospheric River Events on the Western U.S., The 99th AMS annual meeting, January 6-10, 2019.

Zechiel*, P., and S. **Chiao**, 2019: Improving Forecasting of Tornadic Development in Convective Storms, The 99th AMS annual meeting, January 6-10, 2019.

Patel*, M., Q. Tan, S. **Chiao**, 2019: Probing Relation between Aerosols and Tropical Cyclogenesis over the Eastern Tropical Atlantic Ocean Basin during the Recent Hurricane Seasons, The 99th AMS annual meeting, January 6-10, 2019.

Behringer*, D., and S. **Chiao**, 2019: Effects of Drop Size Distribution Variability on QPE/QPF in the San Francisco Bay Area, The 99th AMS annual meeting, January 6-10, 2019.

Green*, A., and S. **Chiao**, 2019: A Modeling Study of Hurricane Maria Rapid Intensification and Eyewall Replacement Cycle over the Eastern Caribbean, The 99th AMS annual meeting, January 6-10, 2019.

Al-Hamdan, M., S. **Chiao**, and co-authors, 2019: Promoting STEM Literacy and Diversity through the Center for Applied Atmospheric Research and Education (CAARE), The 99th AMS annual meeting, January 6-10, 2019.

2018

Clark*, J., and S. **Chiao**, 2018: Stratospheric Intrusions in relation to Surface Ozone over Northern California during CABOTS, 9th International Workshop on Air Quality Forecasting Research (IWAQFR), 7 - 9 November 2018, Boulder, Colorado

Behringer*, D., and S. **Chiao**, 2018: Spatial Variability of Raindrop Size Distributions in the Santa Clara Valley, Unidata Users Workshop, Boulder, CO, June 25-28, 2018

Behringer*, D., S. **Chiao**, and A. Eiserloh, 2018: WRF-ARW Microphysics Sensitivity and High-Resolution Radar Data Assimilation in the Bay Area, Berkeley Atmospheric Sciences Center, Berkeley, Feb 1-2, 2018.

Gore*, C. and S. **Chiao**, 2018: California Baseline Ozone Transport Study (CABOTS): 2017 Half Moon Bay Ozone Sonde Measurements, Berkeley Atmospheric Sciences Center, Berkeley, Feb 1-2, 2018.

Song*, Y., A. Eiserloh, and S. **Chiao**, 2018: The Temporal and Spatial Variation of Tropospheric Ozone Distribution and the Corresponding Weather in the Bay Area during CABOTS. The 98th AMS annual meeting, January 6-11, 2018

Eiserloh, A., C. Keene*, and S. **Chiao**, 2018: Evaluation and Statistical Analysis of Short-Term WRF QPFs for Santa Clara Valley in Winter 2016/17, The 98th AMS annual meeting, January 6-11, 2018.

Clark*, J., S. **Chiao**, and A. Eiserloh, 2018: Probing Troposphere Ozone Variations during Stratospheric Intrusions Using MERRA-2, Potential Vorticity, and CABOTS Ozonesonde Measurements, The 98th AMS annual meeting, January 6-11, 2018.

Liu*, C., and S. **Chiao**, 2018: Asian Long-Range Transport Linkage to Atmospheric River Events in California, The 98th AMS annual meeting, January 6-11, 2018.

Ip*, A., and S. **Chiao**, 2018: SAL Dust Characteristics during Tropical Cyclone Formation, The 98th AMS annual meeting, January 6-11, 2018.

2017

Cauley*, S., and S. **Chiao**, 2017: Origins of Trans-Pacific Upper Air Ozone Concentrations over the coast of Northern California, Meteorology and Climate - Modeling for Air Quality (MAC-MAQ) Conference, September 13-15, 2017.

Clark*, J., S. **Chiao**, and A. Eiserloh, 2017: Stratospheric Intrusions during California Baseline Ozone Transport Study, MAC-MAQ Conference, September 13-15, 2017.

Liu*, C., and S. **Chiao**, 2017: Asian Long-Range Transport Linkage to Atmospheric River Events in California, MAC-MAQ Conference, September 13-15, 2017.

Ip*, A., and S. **Chiao**, 2017: SAL Dust Characteristics During Tropical Cyclone Formation, MAC-MAQ Conference, September 13-15, 2017.

Song, J., A. J. Eiserloh, and S. **Chiao**, 2017: An Investigation on Temporal and Spatial Variation of Tropospheric Ozone Distribution in the Bay Area during the California Baseline Ozone Transport Study (CABOTS), MAC-MAQ Conference, September 13-15, 2017

Pasken, R., and S. **Chiao**, 2017: An Analysis of the Relationship between High Ozone Concentrations and the Urban Heat Island in the Saint Louis Metropolitan Area, The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Freedman, F., and S. **Chiao**, 2017: HYSPLIT-STILT to Identify Source Regions of CO₂ Affecting Monitored Levels in San Jose, California, The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Chiao, S., A. J. Eiserloh, 2017: An Investigation of High-Ozone Episodes during the California Baseline Ozone Transport Study (CABOTS), The 13th Symposium of the Urban Environment, AMS annual meeting, 22-26 January, 2017.

Senff, C. J., A. O. Langford, R. J. Alvarez II, G. Kirgis, A. M. Weickmann, W. A. Brewer, T. A. Bonin, R. D. Marchbanks, S. P. Sandberg, M. Holloway, S. **Chiao**, I. Faloon, and L. T. Iraci, 2017: Investigation of the Sources of High Ozone in California's San Joaquin Valley Using Lidar, Aircraft, and Balloon-borne Observations from the 2016 California Baseline Ozone Transport Study, The 8th Symposium of Lidar Atmospheric Applications, AMS annual meeting, 22-26 January, 2017.

2016

Faloon I., S. Conley, E. Asher, D. Caputi, J. Trousdell, S. **Chiao**, and co-authors, 2016: Laminar and Their Entrainment Into a Valley Boundary Layer, as Observed From a Mountaintop Monitoring Station, Ozonesondes, and Aircraft Over California's San Joaquin Valley. AGU Fall Meeting, San Francisco, 12-16 December 2016.

Estes, M., S. Estes, R. Griffin, M. Alhammdan, S. **Chiao**, 2016: Enhancing STEM Education at Minority and Underrepresented Institutions through the Center for Applied Atmospheric Research and Education (CAARE), AGU Fall Meeting, San Francisco, 12-16 December 2016.

Eiserloh, A., S. **Chiao**, J. Clark, S. Cauley, J. Spitze, M. Roberts, 2016: California Baseline Ozone Transport Study (CABOTS): Ozonesonde Measurements, AGU Fall Meeting, San Francisco, 12-16 December 2016.

Jenkins, G., E. Brito, E. Soare, S. **Chiao**, J. P. Lima, F. Evora, B. Tavares, A. Cardoso, and M. R. Monteiro, 2016: Cape Verde's First Hurricane in Modern Times: Preparation, Observations, WRF Model Forecasts and Recommendations. 32nd Conference on Hurricanes and Tropical Meteorology, Puerto Rico, April 17-22, 2016.

Bosco*, P., A. Thomas*, K. Alagupackiam*, K. Mannava*, J. Gao, S. **Chiao**, 2016: Big data analytics - California drought prediction system, CSU WRPI-COAST Student Research Poster Reception, March 8, Long Beach, CA.

Ip*, A., and S. **Chiao**, 2016: Quantifying SAL Aerosol Concentrations During Tropical Cyclogenesis, The 15th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, Feb 8-9, 2016.

Chiao, S., G. Jenkins, Z. Ulanowski, and H. Smith, 2016: Improved Understanding of the Vertical Distribution of Simulated Dust Distribution in the Saharan Air Layer During the ICE-D Field Campaign with the WRF-CHEM Model, 8th Symposium on Aerosol-Cloud-Climate Interactions, New Orleans, LA, Jan 10-14, 2016.

Chiao, S., 2016: Center for Applied Atmospheric Research and Education (CAARE), 25th symposium on Education, New Orleans, LA, Jan 10-14, 2016.

Boring*, S., and S. **Chiao**, 2016: A Sustainable High Performance Computing System for Teaching and Research, 2nd Symposium on High Performance Computing for Weather, Water, and Climate, New Orleans, LA, Jan 10-14, 2016.

Eiserloh, A.J., and S. **Chiao**, 2016: Summer Seasonal Variation of Baseline Ozone and Source Analysis for California, 19th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, New Orleans, LA, Jan 10-14, 2016.

Ip*, A., and S. **Chiao**, 2016: Quantifying SAL Aerosol Concentrations During Tropical Cyclogenesis, 8th Symposium on Aerosol-Cloud-Climate Interactions, New Orleans, LA, Jan 10-14, 2016.

Clark*, J., and S. **Chiao**, 2016: Cloud Seeding Experiments: A New Perspective on Utilizing Aerial Drones, 18th symposium on Meteorological Observation and Instrumentation, New Orleans, LA, Jan 10-14, 2016.

2015

Lim, L., D. E. Stevens, S. **Chiao**, 2015: Data Analytics for Solar Energy Management, The 3rd International Conference Energy and Meteorology (ICEM), Boulder, CO, June 22-26, 2015.

Rosado*, K., and S. **Chiao**, 2015: Assimilation of GPS Radio Occultation data for Tropical Cyclogenesis: A Case Study in the Eastern Atlantic, The 95th AMS Annual Meeting, Phoenix, AZ, Jan 4-9, 2015.

2014

Chiao, S., 2014: The Application of HPC in Cloud for Atmospheric Modeling, NSFCLOUD Workshop on Experimental Support for Cloud Computing, Arlington, VA, December 11-12, 2014

Freedman, F., and S. **Chiao**, 2014: Atmospheric Residual Layers: WRF/HYSPLIT Modeling for Better Understanding in Complex Terrain, AGU Fall meeting, San Francisco, CA, December 15-19.

Eiserloh*, A. J., and S. **Chiao**, 2014: Modeling Studies of Landfalling Atmospheric Rivers and Orographic Precipitation over Northern California, 16th Conference on Mountain Meteorology, San Diego, CA August 17-22, 2014.

Tran*, D., and S. **Chiao**, 2014: Evaluating HWRF Modeling of Landfalling Tropical Cyclones over Florida, The 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA March 31 – April 4, 2014.

Eiserloh*, A. J., and S. **Chiao**, 2014: Modeling Studies of Landfalling Atmospheric Rivers and Orographic Precipitation over Northern California, 94th AMS Annual Meeting, Atlanta, GA, Feb 2-6, 2014.

Centeno*, D., and S. **Chiao**, 2014: Assimilating MODIS Aerosol Optical Depth using WRF-Chem on Tropical Cyclogenesis, 94th AMS Annual Meeting, Atlanta, GA, Feb 2-6, 2014.

2013

Chiao, S., K. Whitehall*, M. Mayers-Als, 2013: Numerical Investigations of Convective Initiation in Barbados. The 2013 Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, Cartagena, Colombia, May 27- June 7, 2013.

Chiao, S., and D. Centeno*, 2013: The Role of Saharan Air Layer and Lightning on the Formation of Helene (2006) and Julia (2010) over the Eastern Atlantic. The 2013 Pan American Advanced Studies Institute (PASI) on Atmospheric Processes in Latin America and the Caribbean: Observations, Analysis, and Impacts, Cartagena, Colombia, May 27- June 7, 2013.

Yasuhara* S., J. Forgeron*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2013: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. EGU General Assembly, Vienna, Austria, April 7-12, 2013.

Centeno*, D., and S. **Chiao**, 2013: Influence of SAL on Tropical Cyclogenesis: Comparative Studies of Helene (2006) and Julia (2010). The 12th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 7-8, 2013.

Tran*, D., and S. **Chiao**, 2013: Evaluating HWRF Modeling of landfalling Tropical Cyclones over Florida. 17th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), Austin, TX, January 6-10, 2013.

Reside*, A., and S. **Chiao**, 2013: WRF Microphysics Performance in Forecasting Rotor Events in Las Vegas, The 12th Annual AMS student conference, Austin, TX, Jan 6-10, 2013.

Centeno*, D., and S. **Chiao**, 2013: Influence of SAL on Tropical Cyclogenesis: Comparative Studies of Helene (2006) and Julia (2010). The Special Symposium on the Next Level of Predictions in Tropical Meteorology: Techniques, Usage, Support, and Impacts. The AMS 93rd Annual Meeting, Austin, TX, January 6-10, 2013.

2012

Forgeron*, J., S. Yasuhara*, C. Rella, P. Franz, G. Jacobson, and S. **Chiao**, 2012: Measurements of Carbon Dioxide, Methane, and Other Related Tracers at High Spatial and Temporal Resolution in an Urban Environment. AGU Fall meeting, San Francisco, CA, December 3-7, 2012.

Chiuppi*, A. J., and S. **Chiao**, 2012: A Decadal Analysis of Snow Cover and Snow Depth in the Northern Sierra Nevada Mountain Range. Climate Change and California's Water Supply Conference, Davis, CA, May 15, 2012.

Washington*, T., and S. **Chiao**, 2012: Modeling studies of rapid intensification of tropical cyclones using HWRF. The 30th Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, April 15-20, 2012.

Flaiz*, N., S. **Chiao**, C. Clements, 2012: Doppler Lidar Measurements of a Cold Front Passage Over Bay Area. The 11th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 9-10, 2012.

Onodera*, R., S. **Chiao**, C. Clements, 2012: Using WRF in the San Francisco Bay Area to predict critical fire weather. The 11th Annual Berkeley Atmospheric Sciences Symposium, Berkeley, CA, Feb 9-10, 2012.

Whitehall*, K., S. **Chiao**, and G. Jenkins, 2012: Numerical Studies of Convective Initiation in Barbados. The 11th Annual AMS student conference, New Orleans, LA, Jan 22-26, 2012.

Clark*, J., G. Jenkins, and S. **Chiao**, 2012: Assessing the Value of Coastal Stations of West Africa Through Data Assimilation Using the WRF Model During NAMMA 2006. The 16th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface, New Orleans, LA, Jan 22-26, 2012.

Onodera*, R., S. **Chiao**, C. Clements, 2012: Using WRF in the San Francisco Bay Area to predict critical fire weather. The 11th Annual AMS student conference, New Orleans, LA, Jan 22-26, 2012.

2011

Onodera*, R., K. Clifford, S. **Chiao**, C. Clements, 2011: WRF forecasts of critical fire weather conditions in the San Francisco Bay Area. The 9th Symposium on Fire and Forest Meteorology, Palm Springs, CA, Oct 18-20, 2011

Rosado*, K., and S. **Chiao**, 2011: Assimilating COSMIC GPS RO data for Investigating TC Genesis in the Eastern Atlantic Region. The 5th FORMOSAT-3 / COSMIC Data Users Workshop, the International Conference on GPS Radio Occultation (ICGPSRO), Taipei, Taiwan, April 13-15, 2011

Merritt*, A., and S. **Chiao**, 2011: A Comparative Study of Tropical Cyclones and Phytoplankton Blooms. The 1st Annual Florida Statewide Student Research Symposium, Jacksonville, FL, March 4-5, 2011.

Rosado*, K., and S. **Chiao**, 2011: Assimilating COSMIC GPS RO data for Investigating TC Genesis in the Eastern Atlantic Region. The 65th Interdepartmental Hurricane Conference (IHC), Miami, FL, February 28 - March 3, 2011.

Washington*, T., S. **Chiao**, 2011: Numerical Studies of Lower Boundary Forcing on Tropical Storm Fay (2008) over Southern Florida. The 65th Interdepartmental Hurricane Conference (IHC), Miami, FL, February 28 - March 3, 2011.

Chiao, S., and G. Jenkins, 2011: Quantifying the Impact of 0600 UTC and 1800 UTC Assimilated Upper Air Observations and COCONet Measurements in the Western Atlantic and Caribbean during the Hurricane seasons of 2011 and 2012. The COCONet Workshop: Community Science, Station Siting, and Capacity Building, San Juan, PR, Feb 2-4, 2011.

Pattantyus*, A., S. **Chiao**, S. Czyzyk, and M. Staudenmaier, 2011: Downslope Wind Forecasts in a Mountainous Region: Assessing Uncertainty in High-Resolution Modeling over the Las Vegas Forecast Zone. The 24th Conference on Weather and Forecasting/20th Conference on Numerical Weather Prediction, Seattle, WA, January 23-27, 2011.

Washington*, T., S. **Chiao**, 2011: Numerical Studies of Lower Boundary Forcing on Tropical Storm Fay (2008) over Southern Florida. The 23rd Conference on Climate Variability and Change, Seattle, WA, January 23-27, 2011.

2010

Ulrich*, W., and S. **Chiao**, 2010: Caribbean low-level jet and island topographic impacts on trade winds and convection. Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

Pattantyus*, A., and S. **Chiao**, 2010: Numerical model forecasting of downslope winds in the Las Vegas Valley. Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

Baggett*, R., and S. **Chiao**, 2010: El Niño episodes and corresponding Atlantic basin and landfalling tropical cyclones (1950-2009). Florida Academy of Sciences Annual Meeting, Ft. Pierce, FL, March 19-20, 2010.

2009

Tompkins*, C. F., and S. **Chiao**, 2009: Modeling studies of mesoscale convective systems and tropical cyclogenesis in the coast of West Africa. The 34th NWA annual meeting, Norfolk, VA, October 17-22, 2009.

Dumais, R. E., S. **Chiao**, 2009: A numerical investigation of a down-valley flow regime during EOP4 of T-REX 2006. The 10th annual WRF user's workshop, June 23-26, 2009, Boulder, CO.

Howard*, K., G. Zarillo, M. Splitt, S. Lazarus, S. **Chiao**, P. Santos, and D. Sharp, 2009: The impact of atmospheric model resolution on a coupled wind/wave forecast system. The 16th conference on air-sea interaction, Phoenix, AZ, January 11-15, 2009.

Lamberton*, N., S. Lazarus, M. Splitt, S. **Chiao**, G. Zarillo, P. Santos, and D. Sharp, 2009: Assimilation of nearshore winds into a high-resolution atmosphere/wave modeling system. The 13th conference on integrated observing and assimilation systems for atmosphere, oceans and land surface. Phoenix, AZ, January 11-15, 2009.

2008

Jenkins, G. S., E. Joseph, P. A. Kucera, J. D. Fuentes, A. Gaye, J. Gerlach, F. Roux, D. Bouniol, A. Protat, N. Viltard, and S. **Chiao**, 2008: Coastal Observations and Model Simulations associated with African Easterly Wave Passage during the 2006 AMMA SOP-3 field Campaign. The 28th conference on Hurricanes and Tropical Meteorology, Orlando, FL, April 28 – May 2, 2008.

Lazarus, S. M., M. E. Splitt, S. **Chiao**, and co-authors, 2008: A high-resolution coupled real-time atmosphere/wave forecast system for the coastal zone. Ocean Sciences Meeting, Orlando, FL, March 2008.

De Lima*, H. G., and S. **Chiao**, 2008: Modeling of the Panama Canal Watershed. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Ramirez*, E. M., and S. **Chiao**, 2008: AMMA rain gauge data with TRMM verification for Debby from August 19-24, 2006 and TD/8 Helene from September 11-14, 2006. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, Florida, March 14-15, 2008.

Starke*, S. E., and S. **Chiao**, 2008: Evaluation of nocturnal low-level jets and drainage flows during T-REX 2006. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, FL, March 14-15, 2008.

Ulrich*, W. A., and S. **Chiao**, 2008: Evaluating the formation of tropical cyclones Debby and Helen over West Africa. The 72nd Annual Meeting of the Florida Academy of Sciences, Jacksonville, FL, 14-15, 2008.

Weldegaber, M., B. Demoz, S. **Chiao**, and L. Sparling, 2008: Investigation of convective initiation along a Dryline using Observation and Numerical Weather Prediction Model. The 88th AMS Annual Meeting, New Orleans, LA, January 20-24, 2008.

Jenkins, G. S., and S. **Chiao**, 2008: WRF forecasts/simulations of tropical cyclones Debby and Helene during the SOP-3 NAMMA/AMMA field campaign. Tropical meteorology special symposium, New Orleans, LA, January 20-24, 2008.

Rivera*, E., S. **Chiao**, O. Bermudez, and I. Matos, 2008: Characterization of the Streamers over the Caribbean. The 88th AMS Annual Meeting, New Orleans, LA, January 20-24, 2008.

Sheffer*, M., S. **Chiao**, and I. Matos, 2008: Modeling studies of lower topography induced convective activities in Puerto Rico. The 88th AMS annual meeting, New Orleans, LA, January 20-24, 2008.

Bond*, D. K., E. Joseph, S. **Chiao**, T. Creekmore, and M. Robjhon, 2008: Evaluating the surface energy budget in the Weather Research and Forecasting Model. The 20th conference on climate variability and change, New Orleans, LA, January 20-24, 2008.

2007

Weldegaber, M., B. Demoz, S. **Chiao**, and L. Sparling, 2007: Investigation of Convective Initiation Along a Dryline Using Observations and Numerical Weather Prediction Model. 2007 AGU Fall Meeting. San Francisco, CA, 10-14 December 10-14, 2007.

Dumais, R. E., E. Colon, S. **Chiao**, and T. Henmi, 2007: High resolution simulations of boundary layer behavior in California's Owens Valley using the WRF-ARW model during T-REX 2006. The 12th Conference on Mesoscale Processes, 6-9 August, 2007, Waterville Valley, NH.

Dumais, R. E., T. Henmi, E. Colon, and S. **Chiao**, 2007: Boundary layer behavior in California's Owens valley using the WRF-ARE model during Apr 28-30 of T-REX 2006. The 8th annual WRF user's workshop, 11-15 June 2007, Boulder, CO.

Rivera-Acevedo*, E., and S. **Chiao**, 2007: Streamers over the Caribbean. The 71st Annual Meeting of the Florida Academy of Sciences, St. Petersburg, Florida, March 16-17, 2007.

Carpenter*, D., and S. **Chiao**, 2007: Modeling study of 2006 Central Florida wildfires using Fire Area Simulator. The 71st Annual Meeting of the Florida Academy of Sciences, St. Petersburg, Florida, March 16-17, 2007.

Chiao, S. and A. P. Barros, 2007: A Numerical Study of the Hydrometeorological Drylines in Northwest India during the Monsoon. AMS Forum: Climate Aspects of Hydrometeorology, San Antonio, TX, 14-18 Jan 2007.

Barros, A. P., P. Shrestha, S. **Chiao**, K. Tao, 2007: Land-water management at the landscape scale: toward a science basis for integrating freshwater prospecting and water harvesting in NW India. The workshop on Monsoon Climate Variability and Change, and Their Impacts on Water, Food,

2006

Clark, D. R., D. Fitzgerald, T. Baltzer, R. Ramachandran, E. Joseph, and S. **Chiao**, 2006: Early LEAD: A WRF ensemble demonstrating a data mining capability. The 22nd International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology, Atlanta, GA, Jan 23-Feb 2, 2006.

2005

Jenkins, G. S., and S. **Chiao**, 2005: Evaluation of real-time forecasts during the African Monsoon Multidisciplinary Analysis 2005 DRY runs. The 1st International AMMA Conference, Dakar, Senegal, November 28 – December 4, 2005.

Chiao, S., E. Joseph, B. Demoz, 2005: A modeling study of the dryline in May 22 during IHOP 2002. The 17th Conference on Numerical Weather Prediction. Washington, DC, August 1-5, 2005.

Robjhon, M. L., E. Joseph, S. **Chiao**, and J. D. Funetes, 2005: An evaluation of the land surface-atmosphere interactions over a heterogeneous landscape in numerical mesoscale model. The 17th Conference on Numerical Weather Prediction. Washington, DC, August 1-5, 2005.

Chiao, S., E. Joseph, P. Kucera, H. Laryea, 2005: Evolution of WRF with NASA/3B42 and polarimetric radar products. The 19th Conference on Hydrology, San Diego, California, January 9-13, 2005.

2004

Chiao, S. and A. P. Barros, 2004: Investigating the role of land-atmosphere interactions and the desert feedback mechanism during the active and break phases of the monsoon using MM5 and ARPS. The 18th Conference on Hydrology. Seattle, Washington, January 11-15, 2004.

Barros, A. P., T. Lang, S. **Chiao**, J. Putkonen, G. Kim, and E. Williams, 2004: Characterizing the space-time variability of precipitation in the Himalayan range: Analysis and synthesis. The 18th Conference on Hydrology. Seattle, Washington, January 11-15, 2004.

Barros, A. P., K-C. Harm, and S. **Chiao**, 2004: Predictive reliability and the scale-bridging capacity of regional nested models. The 20th Conference on Weather Analysis and Forecasting, Seattle, Washington, January 11-15, 2004.

2003

Chiao, S. and Y.-L. Lin, 2003: Effects of orographically-induced local circulations on the formation of heavy rainfall during MAP IOP-2B. International Conference on Alpine Meteorology and the MAP-Meeting. Zurich, Switzerland, May 19-23, 2003.

Y.-L. Lin, S.-Y. Chen, and S. **Chiao**, 2003: Numerical simulations of the orographic precipitation and mesoscale environments associated with MAP IOP-8. International Conference on Alpine Meteorology and the MAP-Meeting. Zurich, Switzerland, May 19-23, 2003.

2002

Lin, Y.-L., N. W. Witcraft, S. **Chiao**, and Y.-H. Kuo, 2002: Orographic influence on rainfall and track deflection associated with the passage of tropical cyclones over a mesoscale mountain.

International Conference on Mesoscale Convective Systems and Heavy Rainfall/Snowfall in East Asia. Tokyo, Japan, October 29-31, 2002, 351-356.

Chiao, S. and Y.-L. Lin, 2002: The relevance of instabilities with heavy orographic rainfall during MAP IOP-2B. The 10th Conference on Mountain Meteorology, Park City, Utah, June 17-21, 2002, 165-166.

Lin, Y.-L., S. **Chiao**, J. A. Thurman, and J. J. Charney 2002: Some common ingredients for heavy orographic rainfall and their potential application for prediction. Third US-Korea Joint Workshop on Storm Scale and Mesoscale Weather Analysis and Prediction. NCAR, Feb 20-22, 2002.

2001

Chiao, S. and Y.-L. Lin, 2001: Numerical simulations of an orographic rainfall event associated with the passage of a tropical storm over a mesoscale mountain. The 9th Conference on Mesoscale Processes, Ft. Lauderdale, Florida, July 30- August 2, 2001, 529-532.

2000

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, M. L. Kaplan, 2000: Heavy orography rain induced by a tropical depression over Taiwan. International Conference on Mesoscale Convective Systems and Heavy Rain in East Asia. Seoul, Korea, April 24-26, 2000.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, C.-P. Pu and C.-W. Lee, 2000: Heavy rainfall induced by a tropical depression over a mesoscale mountain range. The 9th Conference on Mountain Meteorology. Snowmass Village, Colorado, August 7-11, 2000.

Lin, Y.-L., S. **Chiao**, T.-A. Wang, B.-W. Shen, G. Lai, C.-P. Pu and C.-W. Lee, 2000: Interaction of A Tropical Depression with Taiwan Topography. The 24th Conference on Hurricanes and Tropical Meteorology. Ft. Lauderdale, Florida, May 29-June 2, 2000.

1999

Stevens, D., W. Smith and S. **Chiao**, 1999: Implementation of the MM5 on the Maui High Performance Computing Center (MHPCC) IBM SP2: agony and ecstasy. The 9th Penn State/NCAR MM5 Users' Workshop, Mesa Laboratory, NCAR, June 23-24, 1999.

Invited Presentations

2024

Success of the HFIP/NCAS-M HAFS Summer Colloquium, NOAA/HFIP Annual Meeting, Nov 2024
Your Friendly Neighborhood: Howard University Graduate Program in Atmospheric Science and NOAA Center for Atmospheric Sciences and Meteorology, University of Maryland, College Park, Nov 2024
NCAS-M: Challenges, Priorities and Opportunities, National Central University, Taiwan, June 2024

2022

Collaboration Opportunities within the NWS Science and Technology Portfolio, Central Weather Bureau, Taiwan, Nov 2022
From Weather to Climate Variability of Atmospheric Rivers in Northern California, Central Weather Bureau, Taiwan, Nov 2022

2020

Validation of WRF PBL Schemes in Northern California Using Ceilometer Testbed Observations, ARL BED Virtual Technical Exchange, Army Research Lab White Sands Missile Range, NM, August 25, 2020

2019

Stratospheric Intrusions in relation to Surface Ozone over Northern California during the California Baseline Ozone Transport Study, National Taiwan University, March 22, 2019
Asian Long-Range Transport in Relation to Atmospheric Rivers in Northern California, Taiwan Geosciences Assembly, May 14-17, 2019

2017

California Baseline Ozone Study (CABOTS), Hampton University, VA, October 25, 2017

2016

WRF QPF forecasting for Pearl River Delta and its application on a hydrological model, Guangzhou, Sun Yat-Sen University, China. November 20, 2016

California Baseline Ozone Study-Coordination and Activities with USDA Forest Service, California Air Resources Board, Sacramento, CA, October, 20, 2016

2015

Bridging Research and Education: Center for Applied Atmospheric Research and Education, NASA Ames, Sunnyvale, CA. December 3, 2015.

California Baseline Ozone Transport Study (CABOTS): Project Planning and Management, Institute of Urban Meteorology, China Meteorological Administration, Beijing, China, October 21, 2015

Introducing the Center for Applied Atmospheric Research and Education, NASA Headquarters, DC, Sep 10, 2015

Modeling Studies of Atmospheric Rivers and Orographic Precipitation over Northern California, Lawrence Berkeley National Laboratory, UC Berkeley, Feb 9, 2015

2014

The Application of HPC in Cloud for Atmospheric Modeling, NSFCLOUD Workshop on Experimental Support for Cloud Computing, Arlington, VA, December 11-12, 2014

Cloud Computing: Software for Improving Scientific Data Access, Use and Sharing. National Central University, Jungli, Taiwan, July 11, 2014

Modeling Studies of Atmospheric Rivers and Orographic Precipitation over Northern California, National Central University, Jungli, Taiwan, July 17, 2014

2013

The Footprints of Saharan Air Layer and Lightning on Tropical Cyclone Formation over the Eastern Atlantic Ocean, Chinese Culture University, Taipei, Taiwan, June 13, 2013

The Influences of Asian Aerosols on Orographic Precipitation over Northern California during the Wet Season of 2008-2009, Chinese Culture University, Taipei, Taiwan, June 13, 2013

Cloud Computing: Software for Improving Scientific Data Access, Use and Sharing. Chinese Culture University, Taipei, Taiwan, June 14, 2013

2012

Improving severe downslope winds and lee wave rotors forecasts using GOES-R Proving Ground products and high-resolution modeling, NWS/WFO Las Vegas, December 7, 2012

2011

Understanding Oceanic/Continental Transition of African Easterly Waves and Tropical Cyclone Genesis in the Eastern Atlantic Region, San Jose State University, May 9, 2011.

Modeling Studies of Impacts from the Guinea Highlands in Relation to Tropical Cyclogenesis Along the West African Coast, U. Mass Lowell, February 14, 2011.

2010

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, NC AT, December 3, 2010.

Downslope Wind Forecasts in the Las Vegas Valley: Assessing Uncertainty in High-Resolution Modeling, NWS/WFO Las Vegas, August 2, 2010.

Numerical Investigations of Severe Downslope Winds in Las Vegas, National Central University, Taiwan, July 8, 2010.

Stratified Flow over Infinitely Long Ridge, National Central University, Taiwan, July 8, 2010.

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, National Central University, Taiwan, July 7, 2010.

The Low-Level Jet and the Nocturnal Boundary Layer Wind Maximum, National Central University, Taiwan, July 6, 2010.

The Caribbean Low-level Jet and Island Topographic Impacts on Trade Winds and Convection, National Central University, Taiwan, July 6, 2010.

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, Taiwan Typhoon and Flood Research Institute, Taiwan, June 24, 2010.

Modeling studies of African easterly waves in relation to tropical cyclogenesis along the West African coast, The South Dakota School of Mines and Technology, April 16, 2010.

Observations and modeling studies of wind in mountainous regions, The Texas Tech University, April 7, 2010.

2009

Numerical Investigations of a down-valley flow regime during EOP4 of T-REX 2006, The University of North Carolina at Charlotte, March 30, 2009.

2008

From Meso-alpha to Meso-gamma Scale Processes: A Modeling Perspective, The University of Nebraska, Lincoln, November 11, 2008.

Atmospheric modeling research on nearshore coastal zone and eastern tropical Atlantic, The US Naval Academy, September 19, 2008.

A real-time coupled wave/atmospheric regional forecasting and analysis system: CWARFS, The Central Weather Bureau, Taiwan, June 26, 2008.

Numerical Investigations of a down-valley flow regime during EOP4 of T-REX 2006, National Central University, Taiwan, June 23, 2008.

2007

Sensitivity and verification of the diurnal variations of EOPs 4 and 5 during T-REX 2006, The U.S. Army Research Laboratory, White Sands Missile Range, NM. June 21, 2007.

2006

Evaluation of PBL schemes in high resolution WRF-ARW: A stable case study. University of North Dakota, December 7, 2006.

Performance of PBL schemes in high resolution WRF-ARW: A stable case study, The U.S. Army Research Laboratory, White Sands Missile Range, NM. September 20, 2006.

Evaluation of the WRF Forecasts in the African Monsoon Multidisciplinary Analysis (AMMA) DRY Runs, University of Nebraska-Lincoln, February 20, 2006.

2005

Development and implementing of the WRF modeling at the Howard University: Applications to case study and in forecast mode, University of Maryland at Baltimore County, April 13, 2005.

Numerical studies of a dryline, Florida Institute of Technology, March 2, 2005.

2004

Orographic forcing of heavy precipitation during MAP IOP-2B, NASA/GSFC, August 10, 2004.

Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B, San Jose State University, April 27, 2004.

Numerical study of the orographic forcing of heavy precipitation during MAP IOP-2B, Florida International University, March 31, 2004.

A numerical study of a permanent dryline in Northwest India. Howard University, January 7, 2004.

2003

A study of a quasi-permanent dryline in Northwest India. Harvard University, November 24, 2003.

The impact of the barrier jet in the orographic forcing of heavy precipitation. CIMMS, University of Oklahoma, January 8, 2003.

The impact of the barrier jet in the orographic forcing of heavy precipitation. Division of Engineering and Applied Sciences, Harvard University, January 21, 2003.