

Shuyi S. Chen

Dept. of Atmospheric and Climate Science, College of the Environment, University of Washington, Seattle, WA
shuyic@uw.edu, <http://orca.atmos.washington.edu/>, (305) 479-6551

EDUCATION

1990 Ph.D. Meteorology, The Pennsylvania State University
1985 M.S. Meteorology, University of Oklahoma
1982 B.S. Geophysics-Meteorology, Peking University

PROFESSIONAL APPOINTMENTS (RECENT)

2017 – Present Professor, Dept. of Atmospheric and Climate Science, Univ. of Washington
2021 – 2024 Associate Dean for Research, College of the Environment, Univ. of Washington
2006 – 2019 Affiliate Scientist, National Center for Atmospheric Research
2007 – 2017 Professor, Meteor. & Phy. Oceanography/Ocean Sciences, University of Miami
1998 – 2017 Affiliate Professor, Atmospheric Sciences, University of Washington
2000 – 2007 Associate Professor, Meteorology and Physical Oceanography, Univ. of Miami

HONORS & AWARDS

2024 Jacob Bjercknes Lecture, American Geophysical Union
2022 The Sverdrup Gold Medal, American Meteorological Society
2020 National Associate of the National Academies of Science, Engineering, and Medicine
2018 Tarbell Lecture, Penn State University
2012 Fellow of the American Meteorological Society
2007 A.P. Sloan Foundation Leadership Award for Advancing Underrepresented Minority Students in Mathematics, Science and Engineering
2006 NASA Group Achievement Award for Tropical Cloud System Processes

FIELD PROGRAMS

2021–22 PI/Lead Mission Scientist, Convective Process Experiment-Aerosol and Wind (CPEX-AW)
2017 PI/Team Leader, Convective Process Experiment (CPEX), Caribbean-Gulf-Atlantic Ocean
2012–15 Co-PI/Lead Scientist for mini-Met/Ocean surface drifters, Grand Lagrangian Deployment (GLAD) Experiment, Gulf of Mexico
2011 PI/Lead Sci., Aircraft Obs., Dynamics of MJO (DYNAMO), Diego Garcia, Indian Ocean
2010 PI, Impact of Typhoons on Ocean over Pacific (ITOP), Guam, Pacific Ocean
2005 PI/Chief Scientist, Hurricane Rainbands and Intensity Change Experiment (RAINEX)
2003–04 PI, Coupled Boundary Layers Air-Sea Transfers (CBLAST)-Hurricane, Atlantic Ocean
1992–93 Satellite & Aircraft Mission Scientist, Tropical Ocean and Global Atmosphere Coupled Ocean and Atmosphere Response Experiment (TOGA COARE), Solomon Islands, Pacific

EDITORSHIP

2012 Editorial Review Appointee for National Research Council Reports
2004–2006 Editor, *Weather and Forecasting*, AMS
2000–2003 Associate Editor, *Weather and Forecasting*, AMS

SYNERGISTIC ACTIVITIES AND SERVICE

a) Congressional Testimonies and Briefings:

- Testimony before the U.S. House Science Committee on *The Future of Forecasting: Building a Stronger U.S. Weather Enterprise*, 16 May 2019.
- Testimony before the U.S. House Committee on Science, Space, and Technology on: *Restoring U.S. Leadership on Weather Forecasting*, 26 June 2013.
- Testimony before the U.S. House Science Subcommittees on Energy and Environment & Research and Science Education Joint Hearing on: *The State of Hurricane Research and the National Hurricane Research Initiative Act of 2007*, 26 June 2008.

b) Recent & Current Science Committees:

- **Chair**, UCAR Board of Trustees (2023–present)
- UCAR Board of Trustees (2017–2018, 2021–present)

- **Co-Chair**, the National Academies Committee on the Future Use of NASA Airborne Platforms to Advance Earth Science Priorities (2020–2022)
 - **Vice Chair**, the National Academies Board on Atmospheric Sciences and Climate (BASC) (2016–2019, member 2011-2016)
 - The National Academies Steering Committee for the 2017–2027 Decadal Survey for Earth Science and Applications from Space (ESAS2017) (2015–2018)
 - **Chair**, NASEM/BASC Committee for Future Boundary Layer Observing Workshop (2017)
 - **Chair**, AGU AS FM Committee (2015-2018), Secretary for Physics, Dynamics and Climate (2014–2018),
 - Advisory Committee for the System of Integrated Modeling for the Atmosphere (SIMA) (2021–present)
 - American Meteorological Society Fellows Committee (2019-2021)
 - **Councilor**, American Meteorological Society (2021-2024)
- c) **Mentor for underrepresented students** in the University Corporation for Atmospheric Research (UCAR) Significant Opportunities in Atmospheric Research and Science (SOARS) program from 2010-2022.

BIBLIOGRAPHY (SELECTED)

Underline highlights Advisees

- Doviak, R. J., **S. S. Chen**, and D. R. Christie, 1991: A thunderstorm generated solitary wave observation compared with nonlinear wave theory for a compressible fluid. *J. Atmos. Sci.*, **48**, 87-111.
- Chen, S. S.**, and W. M. Frank, 1993: A numerical study of the genesis of extratropical convective mesovortices. Part I: Evolution and Dynamics. *J. Atmos. Sci.*, **50**, 2401 - 2426.
- Chen, S. S.**, R. A. Houze, Jr., B. E. Mapes, S. Brodzik, and S. Yuter, 1995: TOGA COARE satellite data summaries available via World Wide Web. *Bull. American Meteor. Soc.*, **76**, 329-333.
- Chen, S. S.**, R. A. Houze, Jr. and B. E. Mapes, 1996: Multiscale variability of deep convection in relation to large-scale circulation in TOGA COARE. *J. Atmos. Sci.*, **53**, 1380-1409.
- Chen, S. S.**, and R. A. Houze, Jr., 1997a: Diurnal variation and lifecycle of deep convective systems over the tropical Pacific warm pool. *Quat. J. Roy. Meteor. Soc.*, **123**, 357-388.
- Chen, S. S.**, and R. A. Houze, Jr., 1997b: Interannual variability of deep convection over the tropical warm pool. *J. Geophys. Res.*, **102**, 25,783-25,795.
- Su, H., **S. S. Chen**, and C. S. Bretherton, 1999: Three-dimension week-long simulations of TOGA COARE convective systems using the MM5 Mesoscale Model. *J. Atmos. Sci.*, **56**, 2326-2344.
- Houze, R. A. Jr., **S. S. Chen**, D. Kingsmill, Y. Serra, S. E. Yuter, 2000: Convection over the Pacific warm pool in relation to the atmospheric Kelvin-Rossby wave. *J. Atmos. Sci.*, **57**, 3058-3089.
- Mooers, C. N. K., H. S. Kang, and **S. S. Chen**, 2000: Several aspects of the simulated response of the Japan (East) Sea to synoptic atmospheric forcing due to Siberian cold air outbreaks, *La Mer*, **38**, 233-243.
- Su, H., C. S. Bretherton, and **S. S. Chen**, 2000: Self-aggregation and large-scale control of tropical deep convection: A modeling study. *J. Atmos. Sci.* **57**, 1797-1816.
- Chen, S. S.**, W. Zhao, J. E. Tenerelli, R. H. Evans, V. Halliwell, 2001: Impact of the Pathfinder sea surface temperature on atmospheric forcing in the Japan/East Sea, *Geophys. Res. Lett.*, **28**, No. 24, 4539-4542.
- Mechem, D. B., R. A. Houze, and **S. S. Chen**, 2002: Layer inflow into precipitating convection over the western tropical Pacific, *Quat. J. Roy. Meteor. Soc.*, **128**, 1997-2030.
- Rogers, R., **S. S. Chen**, J. E. Tenerelli, and H. E. Willoughby, 2003: A numerical study of the impact of vertical shear on the distribution of rainfall in Hurricane Bonnie (1998), *Mon. Wea. Rev.*, **131**, 1577-1599.
- Lonfat, M., F. D. Marks, **S. S. Chen**, 2004: Precipitation distribution in tropical cyclones using the Tropical Rainfall Measuring Mission (TRMM) microwave imager: A global perspective. *Mon. Wea. Rev.*, **132**, 1645-1660.
- Mechem, D. B., **S. S. Chen**, and R. A. Houze, Jr., 2006: Momentum transport processes in the stratiform regions of mesoscale convective systems over the western Pacific warm pool, *Quat. J. Roy. Meteor. Soc.*, **132A**, 709-736.
- Chen, S. S.**, J. Knaff, F. D. Marks, 2006: Effect of vertical wind shear and storm motion on tropical cyclone rainfall asymmetry deduced from TRMM. *Mon. Wea. Rev.*, **134**, 3190-3208.
- Houze, R. A., **S. S. Chen**, and co-authors, 2006: The Hurricane Rainband and Intensity Change Experiment (RAINEX): Observations and modeling of Hurricanes Katrina, Ophelia, and Rita (2005). *Bull. Amer. Meteor. Soc.*, **87**, 1503-1521.
- Dorman, C. E., C. A. Friche, D. Khelif, A. Scotti, J. Edson, R. C. Bearsley, **S. S. Chen**, 2006: Winter atmospheric conditions over the Japan/East Sea: Structure and impact of severe cold-air outbreaks. *Oceanography*, **19**, 3.
- Chen, S. S.**, J. F. Price, W. Zhao, M. A. Donelan, and E. J. Walsh, 2007: The CBLAST-Hurricane Program and the next-generation fully coupled atmosphere-wave-ocean models for hurricane research and prediction. *Bull. Amer. Meteor. Soc.*, **88**, 311-317.

- Houze, R. A., **S. S. Chen**, B. Smull, W.-C. Lee, M. Bell, 2007: Hurricane intensity and eyewall replacement. *Science*, **315**, 1235-1239.
- Rogers, R., M. Black, **S. S. Chen**, and R. Black, 2007: Evaluating microphysical parameterization schemes for use in hurricane environments. Part I: Comparisons with observations. *J. Atmos. Sci.*, **64**, 1811-1834.
- Chen, S. S.**, and W. Zhao, 2008: Atmospheric forcing in the Japan/East Sea during January 1997. *Asia-Pacific J. Atmos. Sci.*, **44**, 17-28.
- Davis, C., W. Wang, **S. S. Chen**, and co-authors, 2008: Prediction of landfalling hurricanes with the Advanced Hurricane WRF Model, *Mon. Wea. Rev.*, **136**, 1990-2005.
- Langousis, A., D. Veneziano, **S. S. Chen**, 2008: A boundary layer model for moving tropical cyclones, *Hurricanes and Climate Change*, Springer, 71-85.
- Chen, S. S.**, 2009: The next-generation coupled atmosphere-wave-ocean-ice-land models for ocean research and prediction, *Oceanography in 2025*, *The National Academies Press*, 26-27, pp 198.
- Ray, P., C. Zhang, J. Dudhia, and **S. S. Chen**, 2009: A Numerical Case Study on the Initiation of the Madden-Julian Oscillation, *J. Atmos. Sci.*, **66**, 310-331.
- Judt, F., and **S. S. Chen**, 2010: Convectively Generated Potential Vorticity in Rainbands and Formation of Secondary Eyewall in Hurricane Rita of 2005, *J. Atmos. Sci.*, **67**, 3581-3599.
- Tao, W.-K., J. J. Shi, **S. S. Chen**, and co-authors, 2011: The impacts of microphysical schemes on hurricane intensity and Track, *Asia-Pacific J. Atmos. Sci.*, **47**, 1-16.
- Donelan, M. A., M. Curcic, **S. S. Chen**, and A. K. Magnusson, 2012: Modeling waves and wind stress, *J. Geophys. Res.* **117**, DOI: 10.1029/2011JC007787.
- Lee, C.-Y., and **S. S. Chen**, 2012: Symmetric and asymmetric structures of hurricane boundary layer in coupled atmosphere-wave-ocean models and observations, *J. Atmos. Sci.*, **69**, 3576-3594.
- Chen, S. S.**, W. Zhao, M. A. Donelan, and H. L. Tolman, 2013: Directional wind-wave coupling in fully coupled atmosphere-wave-ocean models: Results from CBLAST-Hurricane, *J. Atmos. Sci.*, **70**, 3198-3215. <https://doi.org/10.1175/JAS-D-12-0157.1>
- Lin, I.-I., P. Black, J. F. Price, C.-Y. Yang, **S. S. Chen**, and co-authors, 2013: An ocean cooling potential intensity index for tropical cyclones, *Geophys. Res. Lett.*, **40**, 1878-1882, doi: 10.1002/grl.50091.
- Sraj, I, M. Iskandarani, A. Srinivasan, W.C. Thacker, J. Winokur, A. Alexanderian, C.-Y. Lee, **S. S. Chen**, and O. M. Knio, 2013: Bayesian inference of drag parameters using Fanapi AXBT data, *Mon. Wea. Rev.*, **141**, 2347-2367.
- Curcic, M., E. Kim, L. Emanuel, **S. S. Chen**, M. A. Donelan, and J. Michalakes, 2013: Coupled atmosphere-wave-ocean modeling to characterize hurricane load cases for offshore wind turbines, *51st AIAA Aerospace Sciences Meeting proceedings*, AIAA 2013-0198, <http://dx.doi.org/10.2514/6.2013-198>
- Kerns, B. W., and **S. S. Chen**, 2013: Cloud clusters and tropical cyclogenesis: Morphology and large-scale environment of developing and non-developing systems, *Mon. Wea. Rev.*, **141**, 190-210.
- Judt, F., and **S. S. Chen**, 2014: A convective explosion and its environmental conditions in MJO initiation observed during DYNAMO, *J. Geophys. Res.*, **119**, 2781-2795.
- Kerns, B. W., and **S. S. Chen**, 2014a: Equatorial dry air intrusion and related synoptic variability in MJO initiation during DYNAMO, *Mon. Wea. Rev.*, **142**, 1326-1343.
- Kerns, B. W., and **S. S. Chen**, 2014b: ECMWF and GFS Model Forecast Verification During DYNAMO: Multi-scale Variability in MJO Initiation over the Equatorial Indian Ocean, *J. Geophys. Res.*, **119**, 3736-3755.
- Lee, C.-Y., and **S. S. Chen**, 2014a: Stable boundary layer and its impact on tropical cyclone structure in a coupled atmosphere-ocean model, *Mon. Wea. Rev.*, **142**, 1927-1944.
- D'Asaro, E., P. G. Black, L. Centurioni, Y-T. Chang, **S. S. Chen**, and co-authors, 2014: Impact of Typhoons on the Ocean in the Pacific: ITOP, *Bull. Amer. Meteor. Soc.*, **95**, 1405-1418.
- Poje, A.C., T.M. Özgökmen., B. Lipphart, Jr., B. Haus, E.H. Ryan, A.C. Haza, G. Jacobs, A. Reniers, J. Olascoaga, G. Novelli, A. Griffa, F.J. Beron-Vera, **S. S. Chen**, et al., 2014: Submesoscale dispersion in the vicinity of the Deepwater Horizon spill. *Proceedings of the National Academy of Sciences*, **111**(35), 12693-12698.
- Jacobs, G. A., B. Bartels, D. Bogucki, F. J. Beron-Vera, **S. S. Chen**, E. F. Coelho, 2014: Data assimilation considerations for improved ocean predictability during the Gulf of Mexico Grand Lagrangian Deployment (GLAD), *Ocean Modelling*, **83**, 98-117.
- Judt, F., and **S. S. Chen**, 2015: A new aircraft hurricane wind climatology and application in assessing predictive skill of tropical cyclone intensity using high-resolution ensemble forecasts, *Geophys. Res. Lett.*, **42**, 6043-6050.
- Kerns, B. W., and **S. S. Chen**, 2015: Subsidence warming as an underappreciated ingredient in tropical cyclogenesis. Part I: Aircraft observations, *J. Atmos. Sci.*, **72**, 4237-4260.
- Coelho E., P. Hogan, G. Jacobs, ..., **S.S. Chen**, et al., 2015: Ocean current estimation using a multi-model ensemble Kalman filter during the Grand Lagrangian Deployment (GLAD) experiment. *Ocean Modelling*, **87**, 86-106.

- Chen, S. S.**, and M. Curcic, 2016: Coupled Modeling and Observations of Ocean Surface Waves in Hurricane Ike (2008) and Superstorm Sandy (2012), *Ocean Modeling*, **103**, 161-176. [doi:10.1016/j.ocemod.2015.08.005](https://doi.org/10.1016/j.ocemod.2015.08.005)
- Curcic, M.**, **S. S. Chen**, and T. M. Özgökmen, 2016: Hurricane-Induced Ocean Waves and Stokes Drift and their Impacts on Surface Transport and Dispersion in the Gulf of Mexico, *Geophys. Res. Lett.*, **43**(6), 2773-2781, doi:10.1002/2015GL067619.
- Judt, F.**, **S. S. Chen**, and J. Berner, 2016: Predictability of tropical cyclone intensity: Scale-dependent forecast error growth in high-resolution stochastic kinetic-energy backscatter ensembles, *Quat. J. Roy. Meteor. Soc.*, **142**, 43-57. DOI:10.1002/qj.2626
- Judt, F.**, **S. S. Chen**, 2016: Predictability and Dynamics of Rapid Intensification of Tropical Cyclones Deduced from High-Resolution Stochastic Ensembles, *Mon. Wea. Rev.*, **144**, 4395–4420. doi: 10.1175/MWR-D-15-0413.1
- Judt, F.**, **S. S. Chen**, and M. Curcic, 2016: Atmospheric forcing of ocean transport in the Gulf of Mexico from seasonal to diurnal scales, *J. Geophys. Res.-Oceans*, **121**, 4416-4433. DOI: 10.1002/2015JC011555.
- Kerns, B. W.**, and **S. S. Chen**, 2016: Large-scale precipitation tracking of the MJO over the Maritime Continent and Indo-Pacific warm pool. *J. Geophys. Res.-Atmospheres*, **121**, 8755–8776. DOI:10.1002/2015JD02466.
- Chen, S. S.**, and co-authors 2016: Aircraft observations of dry air, ITCZ, convective cloud systems and cold pools in MJO during DYNAMO: *Bull. Amer. Meteor. Soc.*, **97**, 405-423. <https://doi.org/10.1175/BAMS-D-13-00196.1>
- Romero, I. C., T. Özgökmen, S. Snyder, P. Schwing, B. J. O'Malley, F. J. Beron-Vera, M. J. Olascoaga, P. Zhu, E. Ryan, **S. S. Chen**, D. L. Wetzel, D. Hollander and S.A. Murawski, 2016: Tracking the Hercules 265 marine gas well blowout in the Gulf of Mexico, *J. Geophys. Res. – Oceans*, **121**, 706–724, DOI: 10.1002/2015JC011037
- Zhu, P., Y. Wang, **S. S. Chen**, M. Curcic, and G. Gao, 2016: Impact of storm-induced cooling of sea surface temperature on large turbulent eddies and vertical turbulent transport in the atmospheric boundary layer of Hurricane Isaac, *J. Geophys. Res. – Oceans*, **121**, 861–876. DOI: 10.1002/2015JC011320
- Pullen, J., R Allard, H Seo, A.J. Miller, **S. S. Chen**, L.P. Pezzi, T Smith, P Chu, 2017: Coupled ocean-atmosphere forecasting at short and medium time scales, *The Sea: The science of ocean prediction. J. of Marine Res.* **75** (6), 877-921, doi: <https://doi.org/10.1357/002224017823523991>
- Carlson, D. F., Özgökmen, ..., **S. S. Chen**, L. Bracken, J. Horstmann, 2018: Surface ocean dispersion observations from the ship-tethered aerostat remote sensing system. *Front. Mar. Sci.* **5**, 479. doi: 10.3389/fmars.2018.00479
- D'Asaro, E., A. Y. Shcherbina, J. M. Klymak, J. Molemaker, G. Novelli, C. M. Guigand, A.C. Haza, B. K. Haus, E. H. Ryan, G. A. Jacobs, H.S. Huntley, N.J. M. Laxague, **S. S. Chen**, F. Judt, J. C. McWilliams, R. Barkan, A. D. Kirwan, A. C. Poje and T. M. Özgökmen, 2018: Ocean convergence and the dispersion of flotsam, PNAS. 201718453. <https://doi.org/10.1073/pnas.1718453115>.
- Dietrich, J.C., A. Muhammad, M. Curcic, A. Fathi, C. N. Dawson, **S. S. Chen**, and R. A. Luettich, 2018: Sensitivity of Storm Surge Predictions to Atmospheric Forcing during Hurricane Isaac, *J. of Waterway, Port, Coastal, and Ocean Engineering*, **144**, [https://doi.org/10.1061/\(ASCE\)WW.1943-5460.0000419](https://doi.org/10.1061/(ASCE)WW.1943-5460.0000419)
- Haza, A.C., E D'Asaro, H Chang, **S. S. Chen**, M Curcic, et al., 2018: Drogue-loss Detection for Surface Drifters During the Lagrangian Submesoscale Experiment (LASER), *J. of Atmospheric and Oceanic Tech*, **35**, 705-725, <https://doi.org/10.1175/JTECH-D-17-0143.1>
- Kerns, B. W.**, and **S. S. Chen**, 2018a: Diurnal Cycle of Precipitation and Cloud Clusters Over the Equatorial MJO and ITCZ Regions of the Indian Ocean, *J. Geophys. Res.-Atmospheres*, **123**, 10,140–10,161. <https://doi.org/10.1029/2018JD028589>
- Kerns, B.W.**, and **S. S. Chen**, 2018b: Evaluation of Satellite Surface Winds in Relation to Weather Regimes Over the Indian Ocean Using DYNAMO Observations. *J. Geophys. Res.-Atmospheres*, **123**, 8561-8580, <https://doi.org/10.1029/2018JD028292>
- Lin, K.-L.**, S.-C. Yang, and **S. S. Chen**, 2018: Reducing TC position uncertainty in ensemble data assimilation and prediction system: A Case Study of Typhoon Fanapi (2010), *Wea. Forecasting*, **33**, 561-582, <https://doi.org/10.1175/WAF-D-17-0152.1>
- Li, G., M. Curcic, M. Iskandarani, **S. S. Chen**, O.M. Knio, 2019: Uncertainty Propagation in Coupled Atmosphere–Wave–Ocean Prediction System: A Study of Hurricane Earl (2010), *Mon. Wea. Rev.*, **147**, 221-245, <https://doi.org/10.1175/MWR-D-17-0371.1>
- Haza, A.C., N. Paldor, T.M. Ozgokmen, G. Jacobs, **S. S. Chen** and M. Curcic, 2019. Wind-Based Estimations of Ocean Surface Currents from Massive Clusters of Drifters in the Gulf of Mexico. *J. of Geophys. Res.-Oceans*, **124** (8), 5844-5869.
- Kerns, B. W.**, and **S. S. Chen**, 2020: A 20-Year Climatology of Madden-Julian Oscillation Convection: Large-Scale Precipitation Tracking From TRMM-GPM Rainfall. *J. Geophys. Res.-Atmospheres*, **125**, <https://doi.org/10.1029/2019JD032142>

- Wang, S., A. H. Sobal, C.-Y. Lee, L. Ma, **S. S. Chen**, M. Curcic, J. Pullen, 2021: Propagating Mechanisms of the 2016 Summer BSISO Event: Air-Sea Coupling, Vorticity, and Moisture. *J. Geophys. Res.-Atmospheres*, **126**, <https://doi.org/10.1029/2020JD033284>.
- Mazza, E., and **S. S. Chen**, 2021: Subsidence warming in the tropical cyclogenesis of Cindy (2017): CPEX observations and coupled modeling, [JAS-D-20-0340], *J. Atmos. Sci.*, **78**, 3385-3400, <https://doi.org/10.1175/JAS-D-20-0340.1>.
- Chen, G., **S. S. Chen**, J. Ling, 2021: Large-Scale Precipitation Systems: Essential Elements of the Madden-Julian Oscillation [2021GL093184]. *Geophys. Res Lett.*, **48**, e2021GL093184, <https://doi.org/10.1029/2021GL093184>.
- Boufadel, M., A. Bracco, E.P. Chassignet, **S.S. Chen**, E. D'Asaro, and co-authors, 2021. Physical Transport Processes affecting the distribution of oil in the Gulf of Mexico: Observations & Modelling. *Oceanography*, **34**, 58-75, <https://www.jstor.org/stable/27020061>.
- Kerns, B. W., and **S. S. Chen**, 2021: Impacts of Precipitation-Evaporation-Salinity Coupling on Upper Ocean Stratification and Momentum Over the Tropical Pacific Prior to Onset of the 2018 El Niño, *Ocean Modeling*, **168**, 101892.
- Solo-Gabrielea, H., T. Fiddamanb, C. Mauritzenc, C. Ainsworthd, D.M. Abramson I. Berenshteinf, E.P. Chassignet, **S. S. Chen**, and Co-authors, 2021: Towards integrated modeling of the long-term impacts of oil spills, *Marine Policy*, **131**, 104554, <https://doi.org/10.1016/j.marpol.2021.104554>.
- Lin, K.-L., S.-C. Yang, and **S. S. Chen**, 2022: Improving Analysis and Prediction of Tropical Cyclones by Assimilating Radar and GNSS-R Wind Observations: Ensemble Data Assimilation and Observing System Simulation Experiments Using a Coupled Atmosphere–Ocean Model, *Wea. Forecasting*, **37**, 1533–1552, DOI: <https://doi.org/10.1175/WAF-D-21-0202.1>
- Savarin, A., and **S. S. Chen**, 2022a: Pathways to Better Prediction of the MJO – Part I: Effects of Model Resolution and Moist Physics on Atmospheric Boundary Layer and Precipitation, *Journal of Advances in Modeling Earth Systems*, **14**, e2021MS002928. <https://doi.org/10.1029/2021MS002928>.
- Savarin, A., and **S. S. Chen**, 2022b: Pathways to Better Prediction of the MJO – Part II: Impacts of Atmosphere–Ocean Coupling on the Upper Ocean and MJO propagation, *Journal of Advances in Modeling Earth Systems*, **14**, e2021MS002929. <https://doi.org/10.1029/2021MS002929>.
- Savarin, A., and **S. S. Chen**, 2023: Land-Locked Convection as a Barrier to MJO Propagation across the Maritime Continent, *Journal of Advances in Modeling Earth Systems*, **15**, e2022MS003503 <https://doi.org/10.1029/2022MS003503>
- Barr, B. W., **S. S. Chen**, and C. W. Fairall, 2023: Sea-State-Dependent Sea Spray and Air–Sea Heat Fluxes in Tropical Cyclones: A New Parameterization for Fully Coupled Atmosphere–Wave–Ocean Models, *J. Atmos. Sci.*, **80**, 933 - 960, <https://doi.org/10.1175/JAS-D-22-0126.1>.
- Kerns, B. W., and **S. S. Chen**, 2023a: Compound Effects of Rain, Storm Surge, and River Discharge on Coastal Flooding during Hurricane Irene and Tropical Storm Lee (2011) in the Mid-Atlantic Region: Coupled Atmosphere-Wave-Ocean Model Simulation and Observations, *Natural Hazards*, **116**, 693-726. <https://doi.org/10.1007/s11069-022-05694-0>.
- Kerns, B. W., and **S. S. Chen**, 2023b: Inland Flooding and Rainfall from Hurricane Irene and Tropical Storm Lee (2011): Coupled Atmosphere-Wave-Ocean Model Simulations and Remote Sensing and in-Situ Observations with a Machine Learning Tool, *Wea. and Forecasting*, **38**, 677–697, <https://doi.org/10.1175/WAF-D-22-0100.1>.
- Mazza, E., and **S. S. Chen**, 2023a: Modulation of Tropical Cyclone Tracks and Rainfall by the North Atlantic Oscillation, *J. Geophys. Res.- Atmospheres*, **128**, <https://doi.org/10.1029/2022JD038107>.
- Mazza, E., and **S. S. Chen**, 2023b: Tropical Cyclone Rainfall Climatology, Extremes and Flooding Potential Over the Continental U.S., *Journal of Hydrometeorology*, **24**, in press. <https://doi.org/10.1175/JHM-D-22-0199.1>.
- Jiang, X., H. Su, **S. S. Chen**, and P. Ullrich, 2023: Simulation of African Easterly Waves in a Global Climate Model, *J. Climate*, **36**, 1415–1433, DOI: <https://doi.org/10.1175/JCLI-D-22-0090.1>
- Lin, K.-L., S.-C. Yang, and **S. S. Chen**, 2023: Sensitivity of Extreme Rainfall in Taiwan to SST over the South China Sea through Modulation of Marine Boundary Layer Jet: A mei-yu front event during 1-4 June 2017, *Geophys. Res Lett.*, **50**, 2023GL104441RR, <https://doi.org/10.1029/2023GL104441>
- Jauregui, Y. R., and **S. S. Chen**, 2024a: MJO-induced Warm Pool Eastward Extension Prior to the Onset of El Niño: Observations from 1998-2019, *J. Clim.*, **37**, 855-873, <https://doi.org/10.1175/JCLI-D-23-0234.1>.
- Jauregui, Y. R., and **S. S. Chen**, 2024b: Ocean Density Currents Induced by MJO Precipitation: A Key Player in Warm Pool Eastward Extension During Onset of El Niño, *J. Geophys. Res -Oceans*, **129**, <https://doi.org/10.1029/2023JC020424>.