Michael (Mike) Sierks

Website: mdsierks.github.io
Email: msierks@ucsd.edu
GitHub: github.com/mdsierks
8810 Shellback Way Attn: NH 427

Research Interests: Climate Change Impacts, Global Climate Model Post-Processing, Machine Learning, Mitigation and Adaptation Science, Climate Risk Analysis

EDUCATION

Scripps Institution of Oceanography — La Jolla, CA
Ph.D. in Oceanography, Advisor: Dr. F.M. Ralph — 2016- Summer 2022

University of North Carolina, Chapel Hill — Chapel Hill, NC
M.Sc. in Environmental Engineering — 2014-2015

University of California San Diego — La Jolla, CA
B.Sc. in Environmental Engineering — 2008-2013

PROFESSIONAL APPOINTMENTS

Scripps Institution of Oceanography — La Jolla, CA
Graduate Student Researcher — 2016-Current

University of California San Diego — La Jolla, CA
Interim Assistant Resident Dean - Sixth College — 2015-2016

Scripps Institution of Oceanography — La Jolla, CA
Undergraduate Research Assistant — 2012-2013

REFEREED PUBLICATIONS

[1] W. Chapman, A. C. Subramanian, S.-P. Xie, **M. Sierks**, F. M. Ralph, and Y. Kamae, "Monthly modulations of enso teleconnections: Implications for potential predictability in north america", *Journal of Climate*, pp. 1–71, Mar. 2021.

[2] B. Hatchett, [...], **M. Sierks**, and [...], "Observations of an extreme atmospheric river storm with a diverse sensor network", *Earth and Space Science*, Jul. 2020.

[3] **M. Sierks**, J. Kalansky, F. Cannon, and F. Ralph, "Characteristics, origins, and impacts of summertime extreme precipitation in the lake mead watershed", *Journal of Climate*, Apr. 2020.

NON-REFEREED PUBLICATIONS

1. **M. Sierks**, D. Eppehimer, E. Fard, J. Kemper, C. Morrisett, J. Sturtevant, A. Willis, and L. Jennings, "Climate adaptation planning to support ecosystems and people in the Gila River Watershed, Arizona", *Southwest Climate Adaptation Science Center, Mar. 2021*.

2. C. Truettner, [...], **M. Sierks**, and [...], "Bimodal Precipitation Variation Measured in Intra-Annual Tree-Ring Isotope Chronologies from Southern Nevada, USA", *University of Nevada, Reno, Aug. 2021*.

3. **M. Sierks**, P. Kolsky, "Rainwater Harvesting: Diversifying the Irrigation Supply of the Coker Arboretum", *University of North Carolina at Chapel Hill, May 2015*.

PEER-REVIEWED CONFERENCE PAPERS

1. A. Jakubisin, W. Chapman, and **M. Sierks**, "Sustainability and the Student Affairs Professional", *National Association of Student Personnel Administrators Annual Conference, Mar. 2015*.

SELECTED CONFERENCES

1. **M. Sierks**, M.D. Dettinger, W. Chapman, and F.M. Ralph, "Assessing Vulnerability and Adaptive Management Under Climate Change Scenarios: Lessons from California's Largest Reservoir", *AGU Fall Meeting 2020, 2020*.
2. **M. Sierks**, J. Kalansky, F. Cannon, and F.M. Ralph, "Summertime Rossby Wave Breaking in the Eastern North Pacific: Links to Extreme Weather in the North American Monsoon Region", *American Meteorological Society Annual Meeting 2020, 2020*.
3. **M. Sierks**, J. Kalansky, F. Cannon, and F.M. Ralph, "Characteristics and Origins of Extreme Summertime Precipitation in the Lake Mead Watershed", *American Meteorological Society Annual Meeting 2019, 2019*.
4. A. Michaelis, [...], **M. Sierks**, and [...], "Predictability of Various Dynamical Features during the 13–15 February 2019 Atmospheric River Event", *American Meteorological Society Annual Meeting 2020, 2020*.

AWARDS

Southwest Climate Adaptation Science Center NRWD Fellowship	2019–2020
UCSD School for Global Policy and Strategy Science Policy Fellowship	2018-2020
UCSD Alumni Association Outstanding Senior Award	2013
NCAA Mountain Pacific Sports Federation Men's Volleyball All-Academic Team	2011
UCSD Provost Honors 6x	2010–2012

SELECTED INVITED TALKS, LECTURES, & SEMINARS

1. **M Sierks**, "Climatology and Impacts of Extreme Summertime Precipitation in the NAM Tier II region", *National Weather Service Las Vegas, Monsoon Training Day 2021 – June 10, 2021* **Invited Speaker**.
2. **M Sierks**, and K Voss, "Atmospheric River and Adaptive Management Strategies", *Colorado Mountain College, SUS440 – February 7, 2020* ***Guest Lecturer***.
3. **M Sierks**, and K Voss, "Climate Change Impacts on Snowpack and Ski Resorts", *Steamboat Ski Resort – February 6, 2020*.
4. **M Sierks**, and K Voss, "Atmospheric River Field Science and Logistics", *Colorado Mountain College, SUS331 – February 5, 2020* ***Guest Lecturer***.
5. **M Sierks**, R Keeling, "Transient Climate Response", *UC San Diego, SIO117 – Dec. 4, 2019* ***Guest Lecturer***.
6. **M Sierks**, J Kalansky, and FM Ralph, "Characteristics and Origins of Extreme Summertime Precipitation in the Lake Mead Watershed", *Western States Water Council/California Department of Water Resources Sub-Seasonal to Seasonal (S2S) Precipitation Forecasting Workshop – May 24, 2019*.
7. **M Sierks**, J Kalansky, F Cannon, and FM Ralph, "Characteristics and Origins of Extreme Precipitation in the Lake Mead Watershed", *Southwest Extreme Precipitation Symposium - March 2019* ***Invited Speaker***.

TEACHING & MENTORING EXPERIENCE

- **Intern Program Supervisor** at Scripps Institution of Oceanography — Summer 2020, 2021
  Center for Western Weather and Water Extremes (20 interns)
- **Mentor** at Scripps Institution of Oceanography — Summer 2020
  Madison Muxworthy (Now Soil Moisture, Water, Snow Program Manager at Yampa Valley Sustainability Council)
- **Teaching Assistant/Guest Lecturer** at UC San Diego — Fall 2019
  Physical Basis of Global Warming (SIO 117)

CURRENT PROJECTS

1. **M. Sierks**, M.D. Dettinger, W. Chapman, and F.M. Ralph, "Assessing Vulnerability and Adaptive Management Under Climate Change Scenarios: Lessons from California's Largest Reservoir", *TO BE SUBMITTED 2022*.

2. **M. Sierks**, D. Pierce, W. Chapman, M.D. Dettinger, and FM Ralph, "Seasonally Anchored Bias Correction of CMIP 5 Hydrological Simulations", *TO BE SUBMITTED 2022*.

TECHNICAL SKILLS

- **Languages:** Python, Matlab, Bash, LaTex
- **Modeling Tools:** NetCDF, CDO, NCO
- **Development Tools :** Jupyter Suite, Git/GitHub
- **Scientific Visualization & Analysis:** Python (Pandas, Xarray, Scikit-Learn), NCL, Matlab