

Jennifer Nakamura

Curriculum Vitae

Ocean and Climate Physics

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Professional Appointments

2022–present Research Scientist, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.

2006–2022 Senior Staff Associate, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.

1998–2006 Staff Associate, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY.

1997–1998 Research Assistant, Department of Meteorology, Pennsylvania State University, University Park, PA.

1996–1997 Teaching Assistant, Department of Meteorology, Pennsylvania State University, University Park, PA.

Education

2014 Ph.D., Earth and Environmental Engineering, Columbia University, New York, NY.

2008 M.Phil., Earth and Environmental Engineering, Columbia University, New York, NY.

1998 M.Sc., Meteorology, Pennsylvania State University, University Park, PA.

1996 B.Sc., Meteorology, Pennsylvania State University, University Park, PA.

Submitted

Cottier, F., Wrathall, D., Devine, J. A., Arellano-Thompson, E., Gustine, R., Leglang, D., Magliocca, N., **Nakamura, J.**, Tellman, E., and de Sherbinin, A. (2026). Heterogeneous Effects of Climate, Narco-Trafficking, and Violence on Central American Migration to the United States. Accepted for publication in Proceedings of the National Academy of Sciences; awaiting special issue release. Preprint: SocArXiv. https://doi.org/10.31235/osf.io/kyu9x_v1

Nakamura, J., Nakamura, X., and Lall, U. (2026). Probabilistic streamflow forecasts for Mississippi River navigation risk and parametric insurance. Submitted to PLOS Water. Preprint: EarthArXiv. <https://doi.org/10.31223/X5G51V>

Nakamura, J., and Lall, U. (2026). A 10,000-Year Global Stochastic Tropical Cyclone Catalog with Wind-Dependent Track Transitions (WHITS). Submitted to Stochastic Environmental Research and Risk Assessment. Preprint: arXiv:2605.20494. <https://doi.org/10.48550/arXiv.2605.20494>

Bartusek, S., Ting, M., Seager, R., Cremers, E., **Nakamura, J.**, and Li, C. (2026). Extreme Persistence of the 2023–2025 Tropical North Atlantic Marine Heatwave. Submitted to Communications Earth & Environment.

Nakamura, J., Seager, R., Anderson, W., Puma, M. J., de Sherbinin, A., Biasutti, M., Cottier, F., Adamo, S. B., and Liu, H. (2026). Crop gains in West Africa track hydroclimate recovery and monsoon changes. Submitted to International Journal of Climatology.

Publications

Seager, R., Liu, H., Osborn, T., Kushnir, Y., **Nakamura, J.**, and Wu, Y. (2026). Reply to “Comments on ‘Mediterranean Drying by a Positive North Atlantic Oscillation Trend over the Last 65 Years Is an Extreme Outlier in the CMIP6 Multimodel Ensemble’”. *Journal of Climate*, 39(10), 2847–2848. <https://doi.org/10.1175/jcli-d-26-0138.1>

- Seager, R., Liu, H., Osborn, T. J., Kushnir, Y., **Nakamura, J.**, and Wu, Y. (2026). Mediterranean Drying by a Positive North Atlantic Oscillation Trend over the Last 65 Years Is an Extreme Outlier in the CMIP6 Multimodel Ensemble. *Journal of Climate*, 39(2), 785–804. <https://doi.org/10.1175/jcli-d-25-0359.1>
- Seager, R., Ting, M., Alexander, P., Liu, H., Li, C., and **Nakamura, J.** (2025). Dynamics of future soil moisture drought in southwest North America: Linkages across seasons in the ocean–atmosphere–land system. *Journal of Climate*, 38(9), 2139–2154. <https://doi.org/10.1175/JCLI-D-24-0235.1>
- Seager, R., Wu, Y., Cherchi, A., Simpson, I. R., Osborn, T. J., Kushnir, Y., Lukovic, J., Liu, H., and **Nakamura, J.** (2024). Recent and near-term future changes in impacts-relevant seasonal hydroclimate in the world's Mediterranean climate regions. *International Journal of Climatology*, 44(11), 3792–3820. <https://doi.org/10.1002/joc.8551>
- Nakamura, J.**, Seager, R., Liu, H., Cottier, F., Puma, M. J., Wrathall, D. J., Katz, B., de Sherbinin, A., and Adamo, S. B. (2024). Recent trends in agriculturally relevant climate in Central America. *International Journal of Climatology*, 44(8), 2701–2724. <https://doi.org/10.1002/joc.8476>
- Nakamura, J.**, Lall, U., Kushnir, Y., and Harr, P. A. (2024). A saturated stochastic simulator: synthetic US Gulf coast tropical cyclone precipitation fields. *Natural Hazards*, 120(2), 1295–1318. <https://doi.org/10.1007/s11069-023-06245-x>
- Seager, R., Ting, M., Alexander, P., Liu, H., **Nakamura, J.**, Li, C., and Newman, M. (2023). Ocean-forcing of cool season precipitation drives ongoing and future decadal drought in southwestern North America. *npj Climate and Atmospheric Science*, 6, 141. <https://doi.org/10.1038/s41612-023-00461-9>
- Seager, R., Ting, M., Alexander, P., **Nakamura, J.**, Liu, H., Li, C., and Simpson, I. R. (2022). Mechanisms of a Meteorological Drought Onset: Summer 2020 to Spring 2021 in Southwestern North America. *Journal of Climate*, 35(22), 7367–7385. <https://doi.org/10.1175/jcli-d-22-0314.1>
- Reed, C., Anderson, W., Kruczkiewicz, A., **Nakamura, J.**, Gallo, D., Seager, R., and McDermid, S. S. (2022). The impact of flooding on food security across Africa. *Proceedings of the National Academy of Sciences*, 119(43), e2119399119. <https://doi.org/10.1073/pnas.2119399119>
- Seager, R., Henderson, N., Cane, M. A., Zhang, H., and **Nakamura, J.** (2021). Atmosphere–Ocean Dynamics of Persistent Cold States of the Tropical Pacific Ocean. *Journal of Climate*, 34(13), 5195–5214. <https://doi.org/10.1175/JCLI-D-20-0694.1>
- Nakamura, J.**, Lall, U., Kushnir, Y., Harr, P. A., and McCreery, K. (2021). Early Season Hurricane Risk Assessment: Climate-Conditioned HITS Simulation of North Atlantic Tropical Storm Tracks. *Journal of Applied Meteorology and Climatology*, 60(4), 559–575. <https://doi.org/10.1175/jamc-d-20-0237.1>
- Seager, R., **Nakamura, J.**, and Ting, M. (2020). Prediction of Seasonal Meteorological Drought Onset and Termination over the Southern Great Plains in the North American Multimodel Ensemble. *Journal of Hydrometeorology*, 21(10), 2237–2255. <https://doi.org/10.1175/jhm-d-20-0023.1>
- Seager, R., Liu, H., Kushnir, Y., Osborn, T. J., Simpson, I. R., Kelley, C. R., and **Nakamura, J.** (2020). Mechanisms of Winter Precipitation Variability in the European–Mediterranean Region Associated with the North Atlantic Oscillation. *Journal of Climate*, 33(16), 7179–7196. <https://doi.org/10.1175/jcli-d-20-0011.1>
- Seager, R., Osborn, T. J., Kushnir, Y., Simpson, I. R., **Nakamura, J.**, and Liu, H. (2019). Climate Variability and Change of Mediterranean-Type Climates. *Journal of Climate*, 32(10), 2887–2915. <https://doi.org/10.1175/jcli-d-18-0472.1>
- Seager, R., **Nakamura, J.**, and Ting, M. (2019). Mechanisms of Seasonal Soil Moisture Drought Onset and Termination in the Southern Great Plains. *Journal of Hydrometeorology*, 20(4), 751–771. <https://doi.org/10.1175/jhm-d-18-0191.1>

- Seager, R., Feldman, J., Lis, N., Ting, M., Williams, A. P., **Nakamura, J.**, Liu, H., and Henderson, N. (2018). Whither the 100th Meridian? The Once and Future Physical and Human Geography of America's Arid–Humid Divide. Part II: The Meridian Moves East. *Earth Interactions*, 22(5), 1–24. <https://doi.org/10.1175/ei-d-17-0012.1>
- Seager, R., Lis, N., Feldman, J., Ting, M., Williams, A. P., **Nakamura, J.**, Liu, H., and Henderson, N. (2018). Whither the 100th Meridian? The Once and Future Physical and Human Geography of America's Arid–Humid Divide. Part I: The Story So Far. *Earth Interactions*, 22(5), 1–22. <https://doi.org/10.1175/ei-d-17-0011.1>
- Seager, R., Henderson, N., Cane, M. A., Liu, H., and **Nakamura, J.** (2017). Is There a Role for Human-Induced Climate Change in the Precipitation Decline that Drove the California Drought? *Journal of Climate*, 30(24), 10237–10258. <https://doi.org/10.1175/jcli-d-17-0192.1>
- Nakamura, J.**, Camargo, S. J., Sobel, A. H., Henderson, N., Emanuel, K. A., Kumar, A., LaRow, T. E., Murakami, H., Roberts, M. J., Scoccimarro, E., Vidale, P. L., Wang, H., Wehner, M. F., and Zhao, M. (2017). Western North Pacific Tropical Cyclone Model Tracks in Present and Future Climates. *Journal of Geophysical Research: Atmospheres*, 122(18), 9721–9744. <https://doi.org/10.1002/2017jd027007>
- Seager, R., Hoerling, M., Schubert, S., Wang, H., Lyon, B., Kumar, A., **Nakamura, J.**, and Henderson, N. (2015). Causes of the 2011–14 California Drought. *Journal of Climate*, 28(18), 6997–7024. <https://doi.org/10.1175/jcli-d-14-00860.1>
- Nakamura, J.**, Lall, U., Kushnir, Y., and Rajagopalan, B. (2015). HITS: Hurricane Intensity and Track Simulator with North Atlantic Ocean Applications for Risk Assessment. *Journal of Applied Meteorology and Climatology*, 54(7), 1620–1636. <https://doi.org/10.1175/jamc-d-14-0141.1>
- Seager, R., Hooks, A., Williams, A. P., Cook, B., **Nakamura, J.**, and Henderson, N. (2015). Climatology, Variability, and Trends in the U.S. Vapor Pressure Deficit, an Important Fire-Related Meteorological Quantity. *Journal of Applied Meteorology and Climatology*, 54(6), 1121–1141. <https://doi.org/10.1175/jamc-d-14-0321.1>
- Robertson, A. W., Kushnir, Y., Lall, U., and **Nakamura, J.** (2015). Weather and Climatic Drivers of Extreme Flooding Events over the Midwest of the United States. In *Extreme Events: Observations, Modeling, and Economics*, Geophysical Monograph Series, pp. 113–124. John Wiley & Sons. <https://doi.org/10.1002/9781119157052.ch9>
- Ballard, T., Seager, R., Smerdon, J. E., Cook, B. I., Ray, A. J., Rajagopalan, B., Kushnir, Y., **Nakamura, J.**, and Henderson, N. (2014). Hydroclimate Variability and Change in the Prairie Pothole Region, the “Duck Factory” of North America. *Earth Interactions*, 18(14), 1–28. <https://doi.org/10.1175/ei-d-14-0004.1>
- Seager, R., Goddard, L., **Nakamura, J.**, Henderson, N., and Lee, D. E. (2014). Dynamical Causes of the 2010/11 Texas–Northern Mexico Drought. *Journal of Hydrometeorology*, 15(1), 39–68. <https://doi.org/10.1175/jhm-d-13-024.1>
- Seager, R., Hoerling, M., Schubert, S., Wang, H., Lyon, B., Kumar, A., **Nakamura, J.**, and Henderson, N. (2014). Causes and predictability of the 2011–14 California drought: Assessment report. NOAA Drought Task Force, Modeling, Analysis, Predictions, and Projections Program. <https://doi.org/10.7289/V58K771F>
- Nakamura, J.** (2014). Hydroclimatology of Extreme Precipitation and Floods Originating from the North Atlantic Ocean. Ph.D. dissertation, Department of Earth and Environmental Engineering, Columbia University. <https://doi.org/10.7916/D86H4FM1>
- Seager, R., Ting, M., Li, C., Naik, N., Cook, B., **Nakamura, J.**, and Liu, H. (2013). Projections of declining surface-water availability for the southwestern United States. *Nature Climate Change*, 3(5), 482–486. <https://doi.org/10.1038/nclimate1787>

- Nakamura, J.**, Lall, U., Kushnir, Y., Robertson, A. W., and Seager, R. (2013). Dynamical Structure of Extreme Floods in the U.S. Midwest and the United Kingdom. *Journal of Hydrometeorology*, 14(2), 485–504. <https://doi.org/10.1175/jhm-d-12-059.1>
- Ziv, B., Kushnir, Y., **Nakamura, J.**, Naik, N. H., and Harpaz, T. (2013). Coupled climate model simulations of Mediterranean winter cyclones and large-scale flow patterns. *Natural Hazards and Earth System Sciences*, 13(3), 779–793. <https://doi.org/10.5194/nhess-13-779-2013>
- Seager, R., Pederson, N., Kushnir, Y., **Nakamura, J.**, and Jurburg, S. (2012). The 1960s Drought and the Subsequent Shift to a Wetter Climate in the Catskill Mountains Region of the New York City Watershed. *Journal of Climate*, 25(19), 6721–6742. <https://doi.org/10.1175/jcli-d-11-00518.1>
- Robertson, A. W., Kushnir, Y., Lall, U., and **Nakamura, J.** (2011). On the connection between low-frequency modulation of large-scale weather regimes and springtime extreme flooding over the Midwest of the United States. *Science and Technology Infusion Climate Bulletin*, pp. 150–152. NOAA National Weather Service. <https://repository.library.noaa.gov/view/noaa/9380>
- Kushnir, Y., Seager, R., Ting, M., Naik, N., and **Nakamura, J.** (2010). Mechanisms of Tropical Atlantic SST Influence on North American Precipitation Variability. *Journal of Climate*, 23(21), 5610–5628. <https://doi.org/10.1175/2010jcli3172.1>
- Seager, R., Naik, N., Baethgen, W., Robertson, A., Kushnir, Y., **Nakamura, J.**, and Jurburg, S. (2010). Tropical Oceanic Causes of Interannual to Multidecadal Precipitation Variability in Southeast South America over the Past Century. *Journal of Climate*, 23(20), 5517–5539. <https://doi.org/10.1175/2010jcli3578.1>
- Seager, R., Kushnir, Y., **Nakamura, J.**, Ting, M., and Naik, N. (2010). Northern Hemisphere winter snow anomalies: ENSO, NAO and the winter of 2009/10. *Geophysical Research Letters*, 37(14), L14703. <https://doi.org/10.1029/2010gl043830>
- Nakamura, J.**, Lall, U., Kushnir, Y., and Camargo, S. J. (2009). Classifying North Atlantic Tropical Cyclone Tracks by Mass Moments. *Journal of Climate*, 22(20), 5481–5494. <https://doi.org/10.1175/2009jcli2828.1>
- Seager, R., Tzanova, A., and **Nakamura, J.** (2009). Drought in the Southeastern United States: Causes, Variability over the Last Millennium, and the Potential for Future Hydroclimate Change. *Journal of Climate*, 22(19), 5021–5045. <https://doi.org/10.1175/2009jcli2683.1>
- Seager, R., Ting, M., Davis, M., Cane, M., Naik, N., **Nakamura, J.**, Li, C., Cook, E., and Stahle, D. W. (2009). Mexican drought: an observational modeling and tree ring study of variability and climate change. *Atmósfera*, 22(1), 1–31. <https://www.scielo.org.mx/pdf/atm/v22n1/v22n1a1.pdf>
- Seager, R., Burgman, R., Kushnir, Y., Clement, A., Cook, E., Naik, N., and **Miller (Nakamura), J.** (2008). Tropical Pacific Forcing of North American Medieval Megadroughts: Testing the Concept with an Atmosphere Model Forced by Coral-Reconstructed SSTs. *Journal of Climate*, 21(23), 6175–6190. <https://doi.org/10.1175/2008jcli2170.1>
- Seager, R., Kushnir, Y., Ting, M., Cane, M., Naik, N., and **Miller (Nakamura), J.** (2008). Would Advance Knowledge of 1930s SSTs Have Allowed Prediction of the Dust Bowl Drought? *Journal of Climate*, 21(13), 3261–3281. <https://doi.org/10.1175/2007jcli2134.1> Corrigendum (2009): *Journal of Climate*, 22(1), 193–199. <https://doi.org/10.1175/JCLI2869.1>
- Seager, R., Ting, M., Held, I., Kushnir, Y., Lu, J., Vecchi, G., Huang, H. P., Harnik, N., Leetmaa, A., Lau, N. C., Li, C., **Velez (Nakamura), J.**, and Naik, N. (2007). Model Projections of an Imminent Transition to a More Arid Climate in Southwestern North America. *Science*, 316(5828), 1181–1184. <https://doi.org/10.1126/science.1139601>
- Seager, R., Kushnir, Y., Herweijer, C., Naik, N., and **Velez (Nakamura), J.** (2005). Modeling of Tropical Forcing of Persistent Droughts and Pluvials over Western North America: 1856–2000. *Journal of Climate*, 18(19), 4065–4088. <https://doi.org/10.1175/jcli3522.1>

- Seager, R., Harnik, N., Robinson, W. A., Kushnir, Y., Ting, M., Huang, H.-P., and **Velez (Nakamura), J.** (2005). Mechanisms of ENSO-forcing of hemispherically symmetric precipitation variability. *Quarterly Journal of the Royal Meteorological Society*, 131(608), 1501–1527. <https://doi.org/10.1256/qj.04.96>
- Seager, R., Karspeck, A. R., Cane, M. A., Kushnir, Y., Giannini, A., Kaplan, A., Kerman, B., and **Velez (Nakamura), J.** (2004). Predicting Pacific Decadal Variability. In C. Wang, S. P. Xie, and J. A. Carton (Eds.), *Earth Climate: The Ocean–Atmosphere Interaction*, Geophysical Monograph Series, vol. 147, pp. 105–120. American Geophysical Union. <https://doi.org/10.1029/147GM06>
- Seager, R., Harnik, N., Kushnir, Y., Robinson, W., and **Miller (Nakamura), J.** (2003). Mechanisms of Hemispherically Symmetric Climate Variability. *Journal of Climate*, 16(18), 2960–2978. [https://doi.org/10.1175/1520-0442\(2003\)016<2960:mohscv>2.0.co;2](https://doi.org/10.1175/1520-0442(2003)016<2960:mohscv>2.0.co;2)
- Seager, R., Murtugudde, R., Naik, N., Clement, A., Gordon, N., and **Miller (Nakamura), J.** (2003). Air–Sea Interaction and the Seasonal Cycle of the Subtropical Anticyclones. *Journal of Climate*, 16(12), 1948–1966. [https://doi.org/10.1175/1520-0442\(2003\)016<1948:aiatsc>2.0.co;2](https://doi.org/10.1175/1520-0442(2003)016<1948:aiatsc>2.0.co;2)
- Kushnir, Y., Seager, R., **Miller (Nakamura), J.**, and Chiang, J. C. H. (2002). A simple coupled model of tropical Atlantic decadal climate variability. *Geophysical Research Letters*, 29(23), 2133. <https://doi.org/10.1029/2002gl015874>
- Miller (Nakamura), J. A.**, Kovacs, T. A., and Bannon, P. R. (2001). A Shallow-Water Model of the Diurnal Dryline. *Journal of the Atmospheric Sciences*, 58(22), 3508–3524. [https://doi.org/10.1175/1520-0469\(2001\)058<3508:aswmot>2.0.co;2](https://doi.org/10.1175/1520-0469(2001)058<3508:aswmot>2.0.co;2)
- Seager, R., Kushnir, Y., Naik, N. H., Cane, M. A., and **Miller (Nakamura), J.** (2001). Wind-Driven Shifts in the Latitude of the Kuroshio–Oyashio Extension and Generation of SST Anomalies on Decadal Timescales. *Journal of Climate*, 14(22), 4249–4265. [https://doi.org/10.1175/1520-0442\(2001\)014<4249:wdsitl>2.0.co;2](https://doi.org/10.1175/1520-0442(2001)014<4249:wdsitl>2.0.co;2)
- Seager, R., Kushnir, Y., Chang, P., Naik, N., **Miller (Nakamura), J.**, and Hazeleger, W. (2001). Looking for the Role of the Ocean in Tropical Atlantic Decadal Climate Variability. *Journal of Climate*, 14(5), 638–655. [https://doi.org/10.1175/1520-0442\(2001\)014<0638:lftrot>2.0.co;2](https://doi.org/10.1175/1520-0442(2001)014<0638:lftrot>2.0.co;2)
- Seager, R., Kushnir, Y., Visbeck, M., Naik, N., **Miller (Nakamura), J.**, Krahmann, G., and Cullen, H. (2000). Causes of Atlantic Ocean Climate Variability between 1958 and 1998. *Journal of Climate*, 13(16), 2845–2862. [https://doi.org/10.1175/1520-0442\(2000\)013<2845:coaocv>2.0.co;2](https://doi.org/10.1175/1520-0442(2000)013<2845:coaocv>2.0.co;2)