Eric A. Hendricks, Short CV, Oct. 2024

CONTACT INFORMATION

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EDUCATION

Ph.D., Atmospheric Science, Colorado State University, Fort Collins, CO	June 2008
M.S., Atmospheric Science, Colorado State University, Fort Collins, CO	Dec. 2002
B.S.E., Mechanical Engineering, University of Michigan, Ann Arbor, MI	June 1998

EXPERIENCE

Project Scientist III, NSF National Center for Atmospheric Research, Boulder, CO	Nov. 2022-present
Project Scientist II, NSF National Center for Atmospheric Research, Boulder, CO	May 2018-Nov. 2022
Associate Professor, U. S. Naval Postgraduate School, Monterey, CA	April 2015-May 2018
Meteorologist, U. S. Naval Research Laboratory, Monterey, CA	Aug. 2010-April 2015
Postdoctoral Fellow, National Research Council, Monterey, CA	Aug. 2008-Aug. 2010
Graduate Research Assistant, Colorado State Univ., Fort Collins, CO	Aug. 2006-Aug. 2008
Principal Scientist, ITT Corporation, Colorado Springs, CO	April 2003-Aug. 2006
Graduate Research/Teaching Assistant, Colorado State Univ., Fort Collins, CO	Aug. 2000-April 2003
Product Engineer, Fort Motor Company, Dearborn, MI	June 1998-Aug. 2000

REFEREED PUBLICATIONS

1. **Hendricks, E. A.**, M. T. Montgomery and C. A. Davis, 2004: The role of "vortical" hot towers in the formation of tropical cyclone Diana (1984). *J. Atmos. Sci*., 61, 1209-1232. https://doi.org/10.1175/1520-0469(2004)061<1209:TROVHT>2.0.CO;2
2. **Hendricks, E. A.**, and M. T. Montgomery, 2006: Rapid-scan views of convectively generated mesovortices in sheared tropical cyclone Gustav (2002). *Wea. Forecasting*, 21, 1041-1050. https://doi.org/10.1175/WAF950.1
3. **Hendricks, E. A.**, S. R. Diehl, D. A. Burrows, and R. Keith, 2007: Evaluation of a fast-running urban dispersion modeling system using Joint Urban 2003 field data. *J. Appl. Met. Clim*., 46, 2165-2179. https://doi.org/10.1175/2006JAMC1289.1
4. Burrows, D. A., **E. A. Hendricks**, S. R. Diehl and R. Keith, 2007: Modeling turbulent flow in an urban central business district. J. *Appl. Met. Clim*., 46, 2147-2164. https://doi.org/10.1175/2006JAMC1282.1
5. Diehl, S. R., D. A. Burrows, **E. A. Hendricks**, and R. Keith, 2007: Urban dispersion modeling: comparisons to single building measurements. *J. Appl. Met. Clim*., 46, 2180-2191. https://doi.org/10.1175/2006JAMC1300.1
6. **Hendricks, E. A.**, R. K. Taft, and W. H. Schubert, H. Wang, and J. P. Kossin, 2009: Life cycles of hurricane-like vorticity rings. *J. Atmos. Sci*., 66, 705-722. https://doi.org/10.1175/2008JAS2820.1
7. **Hendricks, E. A.**, and W. H. Schubert, 2009: Transport and mixing in idealized barotropic hurricane-like vortices. *Q. J. Roy. Met. Soc*., 135, 1456-1470. https://doi.org/10.1002/qj.467
8. **Hendricks, E. A.**, W. H. Schubert, S. R. Fulton, and B. D. McNoldy, 2010: Spontaneous adjustment emission of inertia-gravity waves by unsteady vortical motion in the hurricane core. *Q. J. Roy. Met. Soc.*, 136, 537-548. https://doi.org/10.1002/qj.547
9. **Hendricks, E. A.**, M. S. Peng, and B. Fu, and T. Li, 2010: Quantifying environmental control on tropical cyclone intensity change. *Mon. Wea. Rev*., 138, 3243-3271. https://doi.org/10.1175/WAF-D-10-05051.1
10. **Hendricks, E. A.**, and W. H. Schubert, 2010: Adiabatic rearrangement of hollow PV towers, *J. Adv. Model. Earth Syst*., 2, Art. #8, 19pp. https://doi.org/10.3894/JAMES.2010.2.8
11. Hodyss, D., and **E. A. Hendricks**, 2010: The excitation of baroclinic waves by the divergent circulation of re-curving tropical cyclones, *J. Atmos. Sci*., 67, 3600-3616. https://doi.org/10.1175/2010JAS3459.1

12. **Hendricks, E. A.**, M. S. Peng, X. Ge, and T. Li, 2011: Performance of a dynamic initialization scheme in the Coupled Ocean/Atmosphere Mesoscale Prediction System for Tropical Cyclones (COAMPS-TC), *Wea. Forecasting*, 26, 650-663. https://doi.org/10.1175/WAF-D-10-05051.1
13. **Hendricks, E. A.**, J. R. Moskaitis, Y. Jin, R. M. Hodur, J. D. Doyle, and M. S. Peng, 2011: Prediction and diagnosis of Typhoon Morakot (2009) using the Naval Research Laboratory's mesoscale tropical cyclone prediction model. *Terrest. Atmos. Oceans*, 22, 579-594. https://doi.org/10.3319/TAO.2011.05.30.01(TM)
14. **Hendricks, E. A.**, 2012: Internal dynamical control on tropical cyclone intensity variability – a review. *Tropical Cyclone Research and Review*, 1, 97-105. https://doi.org/10.6057/2012TCRR01.11
15. Doyle, J. D., Y. Jin, R. M. Hodur, S. Chen, H. Jin, J. Moskaitis, P. Reinecke, P. Black, J. Cummings, **E. A. Hendricks**, T. Holt, C.-S. Liou, M. Peng, C. Reynolds, K. Sashegyi, J. Schmidt, and S. Wang, 2012. Real-time tropical cyclone prediction using COAMPS-TC. *Advances in Geosciences*, 28, Eds. Chun-Chieh Wu and Jianping Gan, World Scientific Publishing Company, Singapore, 15-28. https://doi.org/10.1142/9789814405683_0002
16. **Hendricks, E. A.**, B. D. McNoldy, and W. H. Schubert, 2012: Observed inner-core structural variability in Hurricane Dolly (2008). *Mon. Wea. Rev.,* 140, 4066–4077. https://doi.org/10.1175/MWR-D-12-00018.1
17. Yang, Y.-T., H.-C. Kuo, **E. A. Hendricks**, and M. S. Peng, 2013: Structural and intensity changes of concentric eyewall typhoons in the western North Pacific basin, *Mon. Wea. Rev*.,141, 2632-2648. https://doi.org/10.1175/MWR-D-12-00251.1
18. **Hendricks, E. A.**, M. S. Peng, and T. Li, 2013: Evaluation of multiple dynamic initialization schemes for tropical cyclone prediction, *Mon.Wea. Rev*., 141, 4028-4048. https://doi.org/10.1175/MWR-D-12-00329.1
19. **Hendricks, E. A.**, W. H. Schubert, Y.-H. Chen, H.-C. Kuo, and M. S. Peng, 2014: Hurricane eyewall evolution in a forced shallow water model. *J. Atmos. Sci*, 71, 1623-1643. https://doi.org/10.1175/JAS-D-13-0303.1
20. **Hendricks, E. A.**, J. D. Doyle, S. D. Eckermann, Q. Jiang, and P. A. Reinecke, 2014: What is the source of the stratospheric gravity wave belt in austral winter? *J. Atmos. Sci*, 71, 1583-1592. https://doi.org/10.1175/JAS-D-13-0332.1
21. Yang, Y.-T., **E. A. Hendricks**, H.-C. Kuo, and M. S. Peng, 2014: Long-lived concentric eyewalls in Typhoon Soulik (2013). *Mon. Wea. Rev*., 142, 3365-3371. https://doi.org/10.1175/MWR-D-14-00085.1
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23. J. Peng, M. S. Peng, T. Li, and **E. A. Hendricks**, 2014: Effect of baroclinicity on vortex axisymmetrization, Part II: Baroclinic basic vortex. *Adv. Atmos. Sci*., 31, 1267-1278. https://doi.org/10.1007/s00376-014-3238-9
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25. Yang, Y.-T., H.-C. Kuo, **E. A. Hendricks**, Y.-C. Liu, and M. S. Peng, 2015: Relationship between Concentric Eyewalls Typhoons and ENSO in the western North Pacific basin, *J. Climate*, 28, 3612-3623. https://doi.org/10.1175/JCLI-D-14-00541.1
26. **Hendricks, E. A.**, Y. Jin, J. R. Moskaitis, J. D. Doyle, M. S. Peng, C.-C. Wu and H.-C. Kuo, 2016: Numerical simulations of Typhoon Morakot (2009) using a multiply-nested tropical cyclone prediction model, *Wea. Forecasting*, 31, 627-645. https://doi.org/10.1175/WAF-D-15-0016.1
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30. Leroux, M.-D., K. Wood, R. L. Elsberry, E. O. Cayanan, **E. A. Hendricks**, M. Kucas, P. Otto, R. Rogers, C. R. Sampson, and Z. Yu, 2018: Recent Advances in Research and Forecasting of Tropical Cyclone Track, Intensity, and Structure at Landfall. *Tropical Cyclone Research and Review*, 7(2), 85-105. https://doi.org/10.6057/2018TCRR02.02
31. **Hendricks, E. A.**, A. C. Jorgensen, R. L. Elsberry, C. S. Velden, M. Jordan, and R. Creasey, 2018: Environmental factors and internal processes contributing to the interrupted rapid decay of Hurricane Joaquin (2015). *Wea. Forecasting*, 33, 1251-1262. https://doi.org/10.1175/WAF-D-17-0190.1
32. Elsberry, R. L. **E. A. Hendricks**, C. S. Velden, M.M. Bell, M. Peng, E. Casas, and Q.-Y. Zhao, 2018: Use of TCI-15 datasets to demonstrate new-generation satellite atmospheric motion vectors for improved tropical cyclone predictions. *Weather and Forecasting*, 33, 1617-1637. https://doi.org/10.1175/WAF-D-17-0168.1
33. McLay, J. G., **E. A. Hendricks**, and J. R. Moskaitis, 2019: High-resolution seeded simulations of western North Pacific Ocean tropical cyclones in two future extreme climates. *J. Climate*, 32, 309-334. https://doi.org/10.1175/JCLI-D-18-0353.1
34. **Hendricks, E. A**., S. A. Braun, J. L. Vigh, and J. B. Courtney, 2019: A summary of research advances in tropical cyclone intensity change from 2014-2018. *Tropical Cyclone Research and Review*, 8, 219-225. https://doi.org/10.1016/j.tcrr.2020.01.002
35. **Hendricks, E. A.**, J. C. Knievel, and Y. Wang, 2020: Addition of multilayer urban canopy models to a nonlocal planetary boundary layer parameterization and evaluation using ideal and real cases. *J. Appl. Meteor. Clim.*, 59, 1369-1392. https://doi.org/10.1175/JAMC-D-19-0142.1
36. Lai, T.-K., **E. A. Hendricks**, M. K. Yau, and K. Menelaou, 2021: Roles of barotropic instability across the moat in Inner eyewall decay and outer eyewall intensification: Three-dimensional numerical experiments. *J. Atmos. Sci*., 78, 473–496. https://doi.org/10.1175/JAS-D-20-0168.1
37. Lai, T.-K., **E. A. Hendricks**, M. K. Yau, and K. Menelaou, 2021: Roles of barotropic instability across the moat in inner eyewall decay and outer eyewall intensification: Essential dynamics. *J. Atmos. Sci*., 78, 1411–1428. https://doi.org/10.1175/JAS-D-20-0169.1
38. **Hendricks, E. A.**, J. C. Knievel, and D. S. Nolan, 2021: Evaluation of boundary-layer and urban-canopy parameterizations for simulating wind in Miami during Hurricane Irma (2017). *Mon. Wea. Rev.*, 149, 2321-2349. https://doi.org/10.1175/MWR-D-20-0278.1
39. Lai, T.-K., **E. A. Hendricks**, and M. K. Yau, 2021: Long-term effect of the barotropic instability across the moat on double-eyewall tropical cyclone-like vortices in forced and unforced shallow-water models. *J. Atmos. Sci*., 78, 4103–4126. https://doi.org/10.1175/JAS-D-21-0065.1
40. **Hendricks, E. A.,** J. L. Vigh, and C. M. Rozoff, 2021: Forced, balanced, axisymmetric shallow water model for understanding short-term tropical cyclone intensity and wind structure changes. *Atmosphere*, 12(10), 1308. https://doi.org/10.3390/atmos12101308
41. **Hendricks, Eric A.,** and Jason C. Knievel. 2022**:** Evaluation of Urban Canopy Models against Near-Surface Measurements in Houston during a Strong Frontal Passage. *Atmosphere* 13, no. 10: 1548. https://doi.org/10.3390/atmos13101548
42. Chen, X., C. M. Rozoff, R. F. Rogers, K. L. Corbosiero, D. Tao, J.-F. Gu, F. Judt, **E A. Hendricks**, Y. Wang, M. M. Bell, D. Stern, K. D. Musgrave, J. A. Knaff, and J. Kaplan, 2023: Research Advances on Internal Processes Affecting Tropical Cyclone Intensity Change from 2018-2022. *Trop. Cycl. Res. Review*, 12(1), 10—29. https://doi.org/10.1016/j.tcrr.2023.05.001.
43. Rozoff, C. M., D. S. Nolan, G. H. Bryan, **E. A. Hendricks,** and J. C. Knievel, 2023: Large-eddy Simulations of the Tropical Cyclone Boundary Layer at Landfall and in the Urban Environment. *J. Appl. Meteor. Clim*, 62, 1457-1478. https://doi.org/10.1175/JAMC-D-23-0024.1

44. **Hendricks EA,** Wang Y, Wu L, Didlake AC and Wu C-C (2023) Editorial: Tropical cyclone intensity and structure changes: theories, observations, numerical modeling and forecasting. *Front. Earth Sci.* 11:1275804. doi: 10.3389/feart.2023.1275804.
45. Wang, J., **E. A. Hendricks**, C. Rozoff, M. Churchfield, L. Zhu, S.Feng, W. J. Pringle, M. Biswas, S.E. Haupt, G. Deskos, C. Jung, P. Xue, L. Berg, G. Bryan, B. Kosovic, R. Kotamarthi, 2024: Modeling and Observations of North Atlantic Cyclones: Implications for U.S. Offshore Wind Energy. *Journal of Renewable and Sustainable Energy*, in press.
46. Wang, J., G. Deskos, W. J. Pringle, S. E. Haupt, S. Feng, L. Berg, M. Churchfield, M. Biswas, W. Musial, P. Muradyan, **E. A. Hendricks**, R. Kotamarthi, P. Xue, C. M. Rozoff, and G. Bryan, 2024: Impact of Tropical and Extratropical Cyclones on Future U.S. Offshore Wind Energy. *Bulletin of the American Meteorological Society*. 105(8), E1506–E1513. https://doi.org/10.1175/BAMS-D-24-0080.1.

BOOK CHAPTERS

Hendricks, E. A., Hung-Chi Kuo, M. S. Peng, and D. Hodyss, 2011: Barotropic Aspects of Hurricane Structural and Intensity Variability, Recent Hurricane Research - Climate, Dynamics, and Societal Impacts, Anthony Lupo (Ed.), ISBN: 978-953-307-238-8, InTech, https://doi.org/10.5772/15055

Hendricks, E. A. and Melinda S. Peng, 2012: Initialization of Tropical Cyclones in Numerical Prediction Systems, Advances in Hurricane Research - Modeling, Meteorology, Preparedness and Impacts, Kieran Hickey (Ed.), ISBN: 978-953-51-0867-2, InTech, https://doi.org/10.5772/51177

Yang, Y.-T., H.-C. Kuo, **E. A. Hendricks,** and M. S. Peng, 2016. Satellite Climatology of Tropical Cyclone with Concentric Eyewalls, Recent Developments in Tropical Cyclone Dynamics, Prediction, and Detection, Prof. Anthony Lupo (Ed.), InTech. https://doi.org/10.5772/64354

DATASETS

Bell, M.M., J. D. Doyle, M. Beaubien, T. Allen, B. Brown, J. P. Dunion, P. Duran, J. W. Feldmeier, L. C. Harrison**, E. A. Hendricks**, W. Jeffries, W. A. Komaromi, J. Martinez, J. Molinari, J. R. Moskaitis, D. P. Stern, and D. Vollaro, 2016: ONR Tropical Cyclone Intensity 2015 NASA WB-57 HDSS Dropsonde Data. Version 1.0. UCAR/NCAR - Earth Observing Laboratory. https://doi.org/10.5065/D6KW5D8M. Accessed 03 May 2022.

Hendricks, E. A., J. C. Knievel, and D. S. Nolan, 2020. Planetary-boundary and urban-canopy layer modeling study of the landfall of Hurricane Irma (2017) in Miami. Version 1.0. UCAR/NCAR - GDEX. https://doi.org/10.5065/86q5-hh48.

SELECTED AWARDS

UCAR Technical Advancement in Support of Science Award (team award)	2023
U.S. Naval Postgraduate School Menneken Award for Highly Meritorious Research	2017
NASA Group Achievement Award, Hurricanes and Severe Sentinel (HS3)	2015
Office of Naval Research (ONR) Arthur Bisson Prize for naval technological achievement	2014

INVITED TALKS

13 national and international invited talks.

CONFERENCE PRESENTATIONS

115 conference presentations as a lead or co-author.