

Hannah C. Vagasky (nee Barnes)

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Metrics

H-Index	5
Number of Career Publications	6

Education

Ph.D.	Atmospheric Science, University of Washington, Seattle, WA	2016
M.S.	Atmospheric Science, University of Washington, Seattle, WA	2013
B.S.	Atmospheric Science, University of Wisconsin, Madison, WI	2010

Research Experience

Research Scientist I

- Cooperative Institute for Research in Environmental Sciences at the University of Colorado – Boulder, Boulder, CO Apr. 2019 - Present
- NOAA Global Systems Laboratory – Earth Prediction Advancement Division, Boulder, CO

National Research Council Post-Doctoral Research Associate

- NOAA Global Systems Laboratory – Earth Prediction Advancement Division, Boulder, CO Apr. 2018 - Apr. 2019
- Supervised by Dr. John Brown and Dr. Georg Grell

Post-Doctoral Research Associate

- Pacific Northwest National Laboratory, Atmospheric Sciences & Global Change Division, Richland, WA Aug. 2016 – Mar. 2018
- Supervised by Dr. Samson Hagos

Graduate Student Research Associate

- University of Washington, Department of Atmospheric Sciences, Seattle, WA 2010 – 2016
- Supervised by Professor Robert A. Houze, Jr.

Undergraduate Student Research Associate

- University of Wisconsin – Madison, Department of Atmospheric and Oceanic Sciences, Madison, WI 2009 – 2010
- Senior thesis supervised by Professor Daniel J. Vimont

National Weather Center – Research Experience for Undergraduates 2009

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- National Weather Center, Norman, OK
- Supervised by Dr. Jerry Brotzge and Dr. Somer Erickson

Teaching Experience

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|---|------|
| Teaching Assistant for Hurricanes and Thunderstorms (ATMS 103) | 2015 |
| <ul style="list-style-type: none">• University of Washington, Seattle, WA | |
| Teaching Assistant for Global Warming (ATMS 111) | 2012 |
| <ul style="list-style-type: none">• University of Washington, Seattle, WA | |

Field Experience

- | | |
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| Olympics Mountain Experiment (OLYPMEX) | 2015 |
| <ul style="list-style-type: none">• Olympic Peninsula, Washington, USA | |
| Dynamics of the Madden-Julian Oscillation field project (DYNAMO) | 2011 |
| <ul style="list-style-type: none">• Addu Atoll, Maldives | |

Projects Led or Contributed

- | | |
|--|----------------|
| <ul style="list-style-type: none">• Principal Investigator of NOAA Hurricane Supplemental Project, Award Number NA19OAR0220149, which focuses on improving the communication between different physical parameterizations in computer weather models | 2019 - Present |
| <ul style="list-style-type: none">• Contributing to a United Forecast System (UFS) Research-to-Operations (R20) Project on model physics development | 2020- Present |
| <ul style="list-style-type: none">• Contributing to a Weather Program Office (WPO) Precipitation Prediction Grand Challenge Project to improve medium- and long-range forecasts | 2020- Present |

Research to Operations Activities

- | | |
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| <ul style="list-style-type: none">• Member of team that released RAPv5/HRRRv4 | 2019-2020 |
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Honors and Awards

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| <ul style="list-style-type: none">• Editors' Citation for Excellence in refereeing for <i>JGR-Atmospheres</i> | 2016 |
| <ul style="list-style-type: none">• Hilldale Undergraduate/Faculty Research fellowship | 2009-2010 |
| <ul style="list-style-type: none">• UW-Madison Horn Award for excellence in overall performance | 2009 |

Outreach and Service

- Reviewer for Journal of Geophysical Research – Atmospheres, Monthly Weather Review, Journal of Applied Meteorology and Climatology, Earth

and Space Science, International Journal of Remote Sensing, Bulletin of the American Meteorological Society, Journal of Atmospheric and Oceanic Technology, Geophysical Research Letters, Journal of Atmospheric Sciences, Journal of Climate

- Proposal reviewer for the National Science Foundation 2017
- Member of the UFS Physics Working Group and the Sub-grid Convection subgroup 2020 – present
- Member of the 1st UFS Medium-Range Release Team and the Testing sub-team 2019
- Co-chair of the Young Scientist Paper Discussion Group at the Pacific Northwest National Laboratory 2017
- Student poster judge for the Robert A. Houze Jr. Symposium at the 2017 Annual AMS Meeting 2017
- Member of forecast team supporting OAR Northwest Rowers during their exhibitions on the Salish Sea (2012), Atlantic Ocean (2013), and Mississippi River (2014) 2012, 2013, 2014
- Education Director for the University of Wisconsin – Madison campus chapter of Habitat for Humanity 2009 – 2010

Affiliations/Memberships

- American Meteorological Society 2009 – Present
- American Geophysical Union 2012 – Present
- National Postdoctoral Association 2016 – 2018

Professional Media Coverage

- Palus, S., 2015. Radar shows where water and ice occur in large storms, *EOS*, 96, doi:10.1029/2015EO026847. Published 30 March 2015.
- Interviewed by Sensing Our Planet: NASA Earth Science Research Features 2014 about using NASA data to study the Madden-Julian Oscillation.

First Author Publications

- **Barnes, H. C.**, J. P. Zagrodnik, L. A. McMurdie, A. K. Rowe, and R. A. Houze, Jr., 2018: Kelvin-Helmholtz Waves in Precipitating Mid-Latitude Cyclones. *J. Atmos. Sci.*, 2018, doi: 10.1175/JAS-D-17-0365.1.
- **Barnes, H. C.**, and R. A. Houze, Jr., 2016: Comparison of observed and simulated spatial patterns of ice microphysical processes in tropical oceanic mesoscale convective systems. *J. Geophys. Res. Atmos.*, 121, 8269-8296, doi:10.1002/2016JD025074.

- **Barnes, H. C.**, and R. A. Houze, Jr., 2015: Latent Heating Characteristics of the MJO computed from TRMM Observations. *J. Geophys. Res. Atmos.*, 120, 1322-1334, doi: 10.1002/2014JD022530
- **Barnes, H. C.**, and R. A. Houze, Jr., 2014: Precipitation Hydrometeor Type Relative to the Mesoscale Airflow in Mature Oceanic Deep Convection of the Madden-Julian Oscillation. *J. Geophys. Res. Atmos.*, 119, 13990-14014, doi: 10.1002/2014JD022241.
- **Barnes, H. C.**, and R. A. Houze, Jr., 2013: The precipitating cloud population of the Madden-Julian Oscillation over the Indian and West Pacific Oceans. *J. Geophys. Res. Atmos.*, 118, 6996-7023, doi:10.1002/jgrd.50375

Other Refereed Publications

- Houze, R. A., Jr., L. A. McMurdie, W. A. Petersen, M. R. Schwaller, W. Baccus, J. Lundquist, C. Mass, B. Nijssen, S. A. Rutledge, D. Hudak, S. Tanelli, G. G. Mace, M. Poellot, D. Lettenmaier, J. Zagrodnik, A. Rowe, J. DeHart, L. Madaus, and **H. C. Barnes**, 2017: The Olympic Mountains Experiment (OLYMPEX). *Bull. Amer. Meteor. Soc.*, 98, 2167-2188, doi: 10.1175/BAMS-D-16-0182.1.

Invited Presentations

- Meteorology and Climate – Modeling for Air Quality Conference, Davis, CA Sept 2019
- NOAA Earth System Research Laboratory, Boulder, CO July 2017
- 97th AMS Annual Meeting, Seattle, WA January 2017
- Special Colloquium, University of Washington, Seattle, WA May 2016
- Pacific Northwest National Laboratory Seminar, Richland, WA February 2016
- University of Miami: Meteorology and Physical Oceanography Seminar, Miami, FL December 2015
- Pacific Northwest National Laboratory Seminar, Richland, WA October 2015
- Pennsylvania State University, State College, PA August 2014
- Pacific Northwest National Laboratory Seminar, Richland, WA May 2014
- University of Washington Dynamics Seminar, Seattle, WA January 2013

Conference Presentations

- United Forecast System (UFS) Users' Workshop, Boulder, CO July 2020
- Convection Parameterization: Progress and Challenges Workshop, Exeter, UK July 2019
- Pacific Northwest National Laboratory Post-Graduate Symposium, Richland, WA July 2017

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- 37th AMS Conference on Radar Meteorology, Norman, OK September 2015
- TRMM GPM Science Team Meeting, Baltimore, MD August 2014
- 2013 AGU Annual Meeting, San Francisco, CA December 2013
- ASR Fall Working Group Meeting, Rockville, MD November 2013
- 36th AMS Conference on Radar Meteorology Conference, Breckenridge, CO September 2013
- MJO Field Data and Science Workshop, Waimea, HI March 2013
- 29th AMS Hurricane and Tropical Meteorology Conference, Tucson, AZ May 2010
- 91st AMS Annual Meeting, Atlanta, GA January 2010

Conference Posters

- 2018 ARM/ASR PI Meeting, Tysons, VA March 2018
- 2017 AGU Fall Meeting, New Orleans, LA December 2017
- ASR Joint User Facility and PI Meeting, Tyson, VA March 2017
- 31st AMS Hurricane and Tropical Meteorology Conference, San Diego, CA April 2014
- MJO Field Data and Science Workshop, Waimea, HI March 2013