V I T A

ROBERT A. HOUZE, JR.

Professor Emeritus of Atmospheric Sciences, University of Washington

Education

1967	B.S.	Meteorology	Texas A & M University
1969	S.M.	Meteorology	Massachusetts Institute of Technology
1972	Ph.D.	Meteorology	Massachusetts Institute of Technology

Position History

1972-78	Assistant Professor, Atmospheric Sciences, University of Washington
1978-83	Associate Professor, Atmospheric Sciences, University of Washington
1983-2017	Professor of Atmospheric Sciences, University of Washington
2015-	Joint appointment with the Pacific Northwest National Laboratory as Laboratory Fellow
2017-	Professor Emeritus of Atmospheric Sciences

Guest and Joint Appointments

1988-89	Guest Professor, Atmospheric Physics, Swiss Federal College of Technology, Zürich
2008	Guest Professor, Rosenstiel School of Marine and Atmospheric Science, Univ. of Miami
2015-17	Laboratory Fellow, Pacific Northwest National Laboratory

Honors and Awards

2025	Honorary Member, American Meteorological Society
2014	Symons Gold Medal of the Royal Meteorological Society
2006	Carl-Gustaf Rossby Research Medal, American Meteorological Society
2001	Highly Cited Researcher, Institute of Scientific Information
1989	Distinguished Authorship Award, National Oceanic and Atmospheric Administration
1982	Clarence Leroy Meisinger Award, American Meteorological Society
1982	Editor's Award, American Meteorological Society

Fellowships of Scientific Societies

2014	Fellow of the Royal Meteorological Society
2012	Fellow of the American Geophysical Union
2013	Fellow of the American Association for the Advancement of Science
1983	Fellow of the American Meteorological Society

Honorary Lectureships

2012	Bjerknes Lecturer, American Geophysical Union
2006	Thompson Lecturer, National Center for Atmospheric Research
1996	Houghton Lecturer, Massachusetts Institute of Technology

Field Programs

1974	GATE: Global Atmospheric Research Program's Atlantic Tropical Experiment (Africa)
1974-9	CYCLES: Cyclonic Extratropical Storms Project (Washington State and Pacific Coast)
1978-9	MONEX: Monsoon Experiment (Malaysia and India)
1984	Hurricane Norbert airborne observational study (eastern tropical Pacific)
1985	PRE-STORM: Preliminary Regional Experiment for STORM-Central (Kansas, Oklahoma)
1987	EMEX: Equatorial Mesoscale Experiment (Australia)
1991	CaPE: Convective and Precipitation Electrification field project (Florida)
1992-3	TOGA COARE: Tropical Ocean Global Atmosphere Program Coupled Ocean Atmosphere Response Experiment (Solomon Islands)
1993	COAST: Coastal Observations & Simulation with Topography Exp. (Pacific NW Coast)

1999	KWAJEX: Kwajalein Experiment (Marshall Islands)
1999	MAP: Mesoscale Alpine Programme (European Alps)
2001	IMPROVE II: Improvement of Microphysical Parameterization through Observational Verification Experiment (Oregon)
2005	RAINEX: Hurricane Rainband and Intensity Change Experiment (Gulf of Mexico & Atlantic Ocean)
2010	GRIP: Hurricane Genesis and Rapid Intensification Processes Experiment (Gulf of Mexico)
2011	DYNAMO/AMIE: Dynamics of the MJO/ARM MJO Investigation Experiment (Maldives)
2012-14	HS3: NASA Hurricane and Severe Storm Sentinel program (Atlantic Ocean)
2015	OLYMPEX: NASA Ground Validation Experiment for GPM (Olympic Mountains)

Service

1977-82	American Meteorological Society, Committee on Radar Meteorology (Chair)
1983-86	National Science Foundation Advisory Committee for Atmospheric Sciences
1984-86	American Meteorological Society Committee on Cloud Physics
1985-88	National Center for Atmospheric Research Advisory Panel, Field Observing Facility (Chair)
1986-	NASA Tropical Rainfall Measuring Mission (TRMM) and Precipitation Measurement Mission (TRMM and GPM) Science Team
1991-93	Scientific Working Group, Tropical Ocean Global Atmosphere Coupled Ocean-Atmosphere Response Experiment (TOGA COARE)
1998-2007	Steering Committee Mesoscale Alpine Programme (MAP), U. S. Co-Chair
2005-14	Department of Energy Atmospheric System Research Program (ASR) Science Team
2007-15	NASA CloudSat Science Team
2009-14	NASA Hurricane Science Program Science Team
2012-17	American Meteorological Society Researcher Involvement Committee
2013-16	American Geophysical Union, Chair, Atmos. Sci. Section, Fellows Committee
2017-19	American Geophysical Union, Union Fellows Committee

Editorship

1979-91	Associate Editor, *Journal of the Atmospheric Sciences*
2002-03	Guest Associate Editor, *Quarterly Journal of the Royal Meteorological Society*, Special Issue on the Mesoscale Alpine Programme
2002-03	Co-Editor, AMS Monograph on Richard Reed
2010-14	Editor, *Journal of the Atmospheric Sciences*
2014-17	International Advisory Board, *Terrestrial, Atmospheric, and Oceanic Sciences*

Books

Houze, R. A., Jr., 1993: *Cloud Dynamics.* Academic Press, San Diego, 573 pp.

Johnson, R. H., and R. A. Houze, Jr., Eds, 2003: *A Half Century of Progress in Meteorology: A Tribute to Richard Reed. Meteor. Monogr.,* No. 53, American Meteorological Society, Boston, 139 pp.

Houze, R. A., Jr., 2014: *Cloud Dynamics 2nd Edition,* Academic Press/Elsevier, 431 pp.

H-Index

ISI 87
Google Scholar 107

OTHER PUBLICATIONS

1964

Houze, R. A., Jr., 1964: An introduction to the Weather Bureau. Student Trainee Report, U.S. Dept. of Commerce, Weather Bureau, p. 25.

1969

Houze, R. A., Jr., 1969: *Characteristics of Mesoscale Precipitation Areas.* S. M. thesis, Dept. of Meteorology, Massachusetts Institute of Technology, Cambridge, MA, 77 pp.

1970

Austin, P. M., and R. A. **Houze**, Jr., 1970: Analysis of mesoscale precipitation areas. Proceedings, *14th Conference on Radar Meteorology,* Boston, American Meteorological Society, 329-334. Abstract in *Bull. Amer. Meteor. Soc.,* **51**, p. 780.

1972

Austin, P. M., and R. A. **Houze**, Jr., 1972: Analysis of the structure of precipitation patterns in New England. *J. Appl. Meteor.,* **11**, 926-935.

Houze, R. A., Jr., 1972: *Development and Application of a Method for Computing Cumulus Transports.* Ph.D. thesis, Department of Meteorology, Massachusetts Institute of Technology, Cambridge, MA, 184 pp.

1973

Austin, P. M., and R. A. **Houze**, Jr., 1973: A technique for computing vertical transports by precipitating cumuli. *J. Atmos. Sci.,* **30**, 1100-1111.

Houze, R. A., Jr., 1973: A climatological study of vertical transports by cumulus-scale convection. *J. Atmos. Sci.,* **30**, 1112-1123.

1974

Hobbs, P. V., R. A. **Houze**, Jr., and T. J. Matejka, 1974: Air motions and cloud structure in a frontal system in the Pacific Northwest. Preprints, *Conference on Cloud Physics,* Tucson, American Meteorological Society, 418-423.

Hobbs, P. V., R. A. **Houze**, Jr., T. J. Matejka, L. F. Radke, D. G. Atkinson, and R. R. Weiss, 1974: The dynamical and microphysical structure of an occluded front and its modification by orography. Contributions from the Cloud Physics Group, University of Washington, Research Report IX.

1975

Hobbs, P. V., R. A. **Houze**, Jr., and T. J. Matejka, 1975: The dynamical and microphysical structure of an occluded frontal system and its modification by orography. *J. Atmos. Sci.,* **32**, 1542-1562.

Houze, R. A., Jr., 1975: Squall lines observed in the vicinity of the researcher during phase III of GATE. Proceedings, *16th Radar Meteorology Conference,* Houston, American Meteorological Society, 206-209.

1976

Baynton, H. W., C. L. Frush, R. J. Serafin, P. V. Hobbs, R. A. **Houze**, Jr., and J. D. Locatelli, 1976: Wind and divergence measurements in extratropical cyclones from Doppler radar. Preprints, *17th Conference on Radar Meteorology,* Seattle, American Meteorological Society, 232-238.

Hobbs, P. V., and R. A. **Houze**, Jr., 1976: Mesoscale structure of precipitation in extratropical cyclones. Preprints, *International Conference on Cloud Physics,* Boulder, American Meteorological Society, 488-493.

Hobbs, P. V., R. A. **Houze**, Jr., J. D. Locatelli, P. H. Herzegh, L. F. Radke, D. G. Atkinson, R. R. Weiss, and K. R. Biswas, 1976: Dynamical and microphysical structures of cyclonic storms in the Pacific Northwest (the CYCLES Project). Research Report XI, Cloud Physics Group, University of Washington, 166 pp.

Houze, R. A., Jr., 1976: GATE radar observations of a tropical squall line. Preprints, *17th Conference on Radar Meteorology,* Seattle, American Meteorological Society, 384-389.

Houze, R. A., Jr., and C. A. Leary, 1976: Comparison of convective mass and heat transports in tropical easterly waves computed by two methods. *J. Atmos. Sci.,* **33**, 424-429.

Houze, R. A., Jr., J. D. Locatelli, and P. V. Hobbs, 1976: Dynamics and cloud microphysics of the rainbands in an occluded frontal system. *J. Atmos. Sci.,* **33**, 1921-1936.

Houze, R. A., Jr., P. V. Hobbs, K. R. Biswas, and W. M. Davis, 1976: Mesoscale rainbands in extratropical cyclones. *Mon. Wea. Rev.,* **104**, 868-878.

Houze, R. A., Jr., P. V. Hobbs, K. R. Biswas, and W. M. Davis, 1976: Mesoscale structure of rainfall in occluded cyclones. Preprints, *Sixth Conference on Weather Forecasting and Analysis,* Albany, American Meteorological Society, 310-317. (Invited paper)

Leary, C. A., and R. A. **Houze**, Jr., 1976: Analysis of GATE radar data for a tropical cloud cluster in an easterly wave. Preprints, *17th Conference on Radar Meteorology,* Seattle, American Meteorological Society, 376-383.

Matejka, T. J., and R. A. **Houze**, Jr., 1976: The internal structure of mesoscale precipitation features in extratropical cyclonic storms. Preprints, 17th Conference on Radar Meteorology, Seattle, American Meteorological Society, 264-269.

1977

Baynton, H. W., R. J. Serafin, C. L. Frush, G. R. Gray, P. V. Hobbs, R. A. **Houze**, Jr., and J. D. Locatelli, 1977: Real-time wind measurement in extratropical cyclones by means of Doppler radar. *J. Appl. Meteor.,* **16**, 1022-1028.

Houze, R. A., Jr., 1977: Structure and dynamics of a tropical squall-line system. *Mon. Wea. Rev.,* **105**, 1540-1567.

Houze, R. A. Jr., and C. -P. Cheng, 1977: Radar characteristics of tropical convection observed during GATE: Mean properties and trends over the summer season. *Mon. Wea. Rev.,* **105**, 964-980.

1978

Hobbs, P. V., J. D. Locatelli, T. J. Matejka, and R. A. **Houze**, Jr., 1978: Air motions, mesoscale structure, and cloud microphysics associated with a cold front. Preprints, *Conference on Cloud Physics and Atmospheric Electricity,* Issaquah, American Meteorological Society, 277-283.

Houze, R. A., Jr., P. V. Hobbs, P. H. Herzegh, and D. B. Parsons, 1978: Airborne measurements of the size distributions of precipitation particles in frontal clouds. Preprints, *Conference on Cloud Physics and Atmospheric Electricity,* Issaquah, American Meteorological Society, 168-172.

Leary, C. A., and R. A. **Houze**, Jr., 1978: Mesoscale vertical air motions in intense tropical convection. Preprints, *Conference on Cloud Physics and Atmospheric Electricity*, Issaquah, American Meteorological Society, 435-442.

Leary, C. A., and R. A. **Houze**, Jr., 1978: Observations of horizontally uniform precipitation and radar bright bands in the tropics. Preprints, *18th Conference on Radar Meteorology,* Atlanta, American Meteorological Society, 1-8.

Matejka, T. J., and R. A. **Houze**, Jr., 1978: Doppler-radar measurements of the airflow within a mesoscale cold-frontal rainband. Preprints, *18th Conference on Radar Meteorology,* Atlanta, American Meteorological Society, 17-22.

Matejka, T. J., R. A. **Houze**, Jr., and P. V. Hobbs, 1978: Microphysical and dynamical structure of mesoscale cloud features in extratropical cyclones. Preprints, *Conference on Cloud Physics and Atmospheric Electricity,* Issaquah, American Meteorological Society, 292-299.

1979

Cheng, C.-P., and R. A. **Houze**, Jr., 1979: The distribution of convective and mesoscale precipitation in GATE radar echo patterns. *Mon. Wea. Rev.,* **107**, 1370-1381.

Houze, R. A., Jr., 1979: Cloud and precipitation structure of mesoscale systems in GATE. Proceedings, *Impact of GATE on Large-scale Numerical Modeling of the Atmosphere and Ocean,* Woods Hole, National Academy of Sciences, 100-108. (Invited paper)

Houze, R. A., Jr., P. V. Hobbs, P. H. Herzegh, and D. B. Parsons, 1979: Size distributions of precipitation particles in frontal clouds. *J. Atmos. Sci.,* **36**, 156-162.

Leary, C. A., and R. A. **Houze**, Jr., 1979: Melting and evaporation of hydrometeors in precipitation from the anvil clouds of deep tropical convection. *J. Atmos. Sci.,* **36**, 669-679.

Leary, C. A., and R. A. **Houze**, Jr., 1979: The structure and evolution of convection in a tropical cloud cluster. *J. Atmos. Sci.,* **36**, 437-457.

1980

Cheng, C.-P., and R. A. **Houze**, Jr., 1980: Sensitivity of diagnosed convective fluxes to model assumptions. *J. Atmos. Sci.,* **37**, 774-783.

Hobbs, P. V., T. J. Matejka, P. H. Herzegh, J. D. Locatelli, and R. A. **Houze**, Jr., 1980: The mesoscale and microscale structure and organization of clouds and precipitation in midlatitude cyclones. I: A case study of a cold front. *J. Atmos. Sci.,* **37**, 568-596.

Houze, R. A., Jr., 1980: Review of *The Atmosphere-An Introduction to Meteorology*, by F. K. Lutgens and E. J. Tarbuck, *EOS*, **61**, 34-35.

Houze, R. A., Jr., C.-P. Cheng, C. A. Leary, and J. F. Gamache, 1980: Diagnosis of cloud mass and heat fluxes from radar and synoptic data. *J. Atmos. Sci.,* **37**, 754-773.

Houze, R. A., Jr., P. V. Hobbs, D. B. Parsons, and P. H. Herzegh, 1980: Reply to comments on 'Size distributions of precipitation particles in frontal clouds'. *J. Atmos. Sci.,* **37**, 699-700.

Houze, R. A., Jr., S. A. Rutledge, T. J. Matejka, and P. V. Hobbs, 1980: Air motions and water budget of a warm frontal rainband. Preprints, *19th Conference on Radar Meteorology,* Miami, American Meteorological Society, 23-29.

Houze, R. A., Jr., S. G. Geotis, F. D. Marks, Jr., and A. K. West, 1980: Observations of winter monsoon clouds and precipitation in the vicinity of north Borneo. *Communications à la VIII eme Conference Internationale sur la Physique des Nuages*, Vol. II, La Commission Internationale de Physique de Nuages Clermont-Ferrand, France, 619-622, Abstract in *Journal de Recherches Atmospheriques,* **13**, p. 328.

Houze, R. A., Jr., S. G. Geotis, F. D. Marks, Jr., and D. D. Churchill, 1980: Comparison of airborne and land-based radar measurements of precipitation during the winter monsoon experiment. Preprints, *19th Conference on Radar Meteorology,* Miami, American Meteorological Society, 162-168.

Leary, C. A., and R. A. **Houze**, Jr., 1980: The contribution of mesoscale motions to the mass and heat fluxes of an intense tropical convective system. *J. Atmos. Sci.,* **37**, 784-796.

Matejka, T. J., R. A. **Houze**, Jr., and P. V. Hobbs, 1980: Microphysics and dynamics of clouds associated with mesoscale rainbands in extratropical cyclones. *Quart. J. Roy. Meteor. Soc.,* **106**, 29-56.

1981

Gamache, J. F., and R. A. **Houze**, Jr., 1981: The water budget of a tropical squall-line system. Preprints, *20th Conference on Radar Meteorology,* Boston, American Meteorological Society, 346-352.

Houze, R. A., Jr., 1981: Quality of GATE radar data. Statement prepared for *WMO International GATE Monograph,* 9 pp.

Houze, R. A., Jr., 1981: Structures of atmospheric precipitation systems–A global survey. *Radio Science,* **16,** 671-689. (Invited paper)

Houze, R. A., Jr., and A. K. Betts, 1981: Convection in GATE. *Rev. Geophys. Space Phys.,* **19**, 541-576.*

Houze, R. A., Jr., and C.-P. Cheng, 1981: Inclusion of mesoscale updrafts and downdrafts in computations of vertical fluxes by ensembles of tropical clouds. *J. Atmos. Sci.*, **38**, 1751-1770.

Houze, R. A., Jr., and D. D. Churchill, 1981: Development and structure of winter monsoon cloud systems. Proceedings, *International Conference on Scientific Results of the Monsoon Experiments,* Denpasar, Bali, Indonesia, World Meteorological Organization, 2-36–2-39.

Houze, R. A., Jr., S. A. Rutledge, T. J. Matejka, and P. V. Hobbs, 1981: The mesoscale and microscale structure and organization of clouds and precipitation in midlatitude cyclones. III: Air motions and precipitation growth in a warm-frontal rainband. *J. Atmos. Sci.,* **38**, 639-649.

Houze, R. A., Jr., S. G. Geotis, F. D. Marks, Jr., and A. K. West, 1981: Winter monsoon convection in the vicinity of north Borneo. Part I: Structure and time variation of the clouds and precipitation. *Mon. Wea. Rev.,* **109**, 1595-1614.

Houze, R. A., Jr., S. G. Geotis, F. D. Marks, Jr., and A. K. West, 1981: Convection over the southern south China Sea during December 1978. Part I: Structure of the clouds and precipitation. Proceedings, *International Conference on Early Results of FGGE and Large-scale Aspects of its Monsoon Experiments,* Global Atmospheric Research Program, World Meteorological Organization, Geneva, 10-36–10-40.

* Reprinted as an invited chapter in *The GARP Atlantic Tropical Experiment (GATE) Monograph,* GARP Publication Series, No. 25, World Meteorological Organization, Geneva, April, 1982, 275-343.

Houze, R. A., Jr., S. G. Geotis, F. D. Marks, Jr., D. D. Churchill, and P. H. Herzegh, 1981: Comparison of airborne and land-based radar measurements of precipitation during winter MONEX. *J. Appl. Meteor.,* **20**, 772-783.

1982

Gamache, J. F., and R. A. **Houze**, Jr., 1982: Mesoscale air motions associated with a tropical squall line. *Mon. Wea. Rev.,* **110**, 118-135.

Houze, R. A., Jr. 1982: Cloud clusters and large-scale vertical motions in the tropics. *J. Meteor. Soc. Japan,* **60**, 396-410. (Invited paper)

Houze, R. A., Jr., and B. F. Smull, 1982: Comparison of an Oklahoma squall line to mesoscale convective systems in the tropics. Preprints, *12th Conference on Severe Local Storms,* San Antonio, American Meteorological Society, 338-341.

Houze, R. A., Jr., and P. V. Hobbs, 1982: Organization and structure of precipitating cloud systems. *Adv. Geophys.*, **24**, 225-315.

1983

Gamache, J. F., and R. A. **Houze**, Jr., 1983: Water budget of a mesoscale convective system in the tropics. *J. Atmos. Sci.*, **40**, 1835-1850.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1983: Three-dimensional wind field in the developing inner core of Hurricane Debby. Preprints, *21st Conference on Radar Meteorology,* Edmonton, Alberta, American Meteorological Society, 298-304.

1984

Churchill, D. D., and R. A. **Houze**, Jr., 1984: Development and structure of winter monsoon cloud clusters on 10 December 1978. *J. Atmos. Sci.,* **41**, 933-960.

Churchill, D. D., and R. A. **Houze**, Jr., 1984: Mesoscale updraft magnitude and cloud-ice content deduced from the ice budget of the stratiform region of a tropical cloud cluster. *J. Atmos. Sci.,* **41**, 1717-1725.

Hartmann, D. L., H. H. Hendon, and R. A. **Houze**, Jr., 1984: Some implications of the mesoscale circulations in tropical cloud clusters for large-scale dynamics and climate. *J. Atmos. Sci.,* **41**, 113-121.

Houze, R. A., Jr., and D. D. Churchill, 1984: Microphysical structure of precipitating clouds in winter MONEX. Postprints, *15th Technical Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 527-532.

Houze, R. A., Jr., and D. D. Churchill, 1984: Microphysical structure of winter monsoon cloud clusters. *J. Atmos. Sci.,* **41**, 3405-3411.

Houze, R. A., Jr., and E. N. Rappaport, 1984: Air motions and precipitation structure of an early summer squall line over the eastern tropical Atlantic. *J. Atmos. Sci.,* **41**, 553-574.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1984: Airborne Doppler-radar observations of the mesoscale air motion field in the developing inner core of Hurricane Debby. Postprints, *15th Technical Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 95-102.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1984: Airborne Doppler-radar observations in Hurricane Debby. *Bull Amer. Meteor. Soc.,* **65**, 569-582.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1984: Airborne Doppler-radar observations in Hurricane Alicia. Preprints, *22nd Conference on Radar Meteorology,* Zürich, American Meteorological Society, 578-583.

Smull, B. F., and R. A. **Houze**, Jr., 1984: Dual-Doppler radar analysis of an Oklahoma squall-line system. Preprints, *22nd Conference on Radar Meteorology,* Zürich, American Meteorological Society, 43-48.

1985

Churchill, D. D., and R. A. **Houze**, Jr., 1985: Precipitation mechanisms in a Bay of Bengal depression. Extended Abstracts, *16th Conference on Hurricanes and Tropical Meteorology,* Houston, American Meteorological Society, 18-19.

Gamache, J. F., and R. A. **Houze**, Jr., 1985: Further analysis of the composite wind and thermodynamic structure of the 12 September GATE squall line. *Mon. Wea. Rev.,* **113**, 1241-1259.

Geotis, S. G., and R. A. **Houze**, Jr., 1985: Rain amounts near and over north Borneo during Winter MONEX. *Mon. Wea. Rev.,* **113**, 1824-1828.

Houze, R. A., Jr., F. D. Marks, Jr., R. A. Black, P. T. Willis, and J. F. Gamache, 1985: Airborne Doppler radar and cloud microphysical measurements in Hurricane Norbert. Extended Abstracts, *16th Conference on Hurricanes and Tropical Meteorology,* Houston, American Meteorological Society, 5-6.

Smull, B. F., and R. A. **Houze**, Jr., 1985: A midlatitude squall line with a trailing region of stratiform rain: Radar and satellite observations. *Mon. Wea. Rev.,* **113**, 117-133.

1986

Houze, R. A., Jr., and D. D. Churchill, 1986: Precipitation growth mechanisms in a Bay of Bengal depression. Extended Abstracts, *Conference on Cloud Physics,* Snowmass, American Meteorological Society, **3**, J147-J151.

Houze, R. A., Jr., and S. A. Rutledge, 1986: A squall line with trailing stratiform precipitation observed during the Oklahoma-Kansas PRE-STORM experiment. Preprints, *23rd Conference of Radar Meteorology,* Snowmass, American Meteorological Society, **3**, J167-J170.

Smull, B. F., and R. A. **Houze**, Jr., 1986: The rear inflow jet in mesoscale convective systems. Preprints, *23rd Conference of Radar Meteorology,* Snowmass, American Meteorological Society, **3**, J163-J166.

1987

Houze, R. A., Jr., and D. D. Churchill, 1987: Mesoscale organization and cloud microphysics in a Bay of Bengal depression. *J. Atmos. Sci.,* **44**, 1845-1867.

Johnson, R. H., and R. A. **Houze**, Jr., 1987: Precipitating cloud systems of the Asian monsoon. In *Monsoon Meteorology* (C.-P. Chang and T. N. Krishnamurti, Eds.), 298-353.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1987: Inner core structure of Hurricane Alicia from airborne Doppler radar observations. *J. Atmos. Sci.,* **44**, 1296-1317.

Marks, F. D., Jr., and R. A. **Houze**, Jr., 1987: Three-dimensional structure of the eyewall of Hurricane Norbert as determined from an airborne Doppler radar. Preprints, *17th Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 347-350.

Rutledge, S. A., and R. A. **Houze**, Jr., 1987: A diagnostic modeling study of the trailing stratiform region of a midlatitude squall line. *J. Atmos. Sci.,* **44**, 2640-2656.

Smull, B. F., and R. A. **Houze**, Jr., 1987: Dual-Doppler radar analysis of a midlatitude squall line with a trailing region of stratiform rain. *J. Atmos. Sci.,* **44**, 2128-2148.

Smull, B. F., and R. A. **Houze**, Jr., 1987: Rear inflow in squall lines with trailing stratiform precipitation. *Mon. Wea. Rev.,* **115**, 2869-2889.

Wei, T., and R. A. **Houze**, Jr., 1987: The GATE squall line of 9-10 August 1974. *Advances in Atmospheric Sciences* (Academica Sinica, Beijing), **4**, 85-92.

Williams, M., and R. A. **Houze**, Jr., 1987: Satellite-observed characteristics of winter monsoon cloud clusters. *Mon. Wea. Rev.,* **115**, 505-519.

1988

Biggerstaff, M. I., R. A. **Houze**, Jr., and S. A. Rutledge, 1988: Vertical drafts in the convective regions of mesoscale convective systems in Kansas. Proceedings, *Tenth International Cloud Physics Conference,* Bad Homburg, Federal Republic of Germany, 705-707.

Gamache, J. F., F. D. Marks, Jr., R. A. Black, and R. A. **Houze**, Jr., 1988: The bulk water budget of Hurricane Norbert (1984) as determined from thermodynamic and microphysical analyses retrieved from airborne Doppler radar. Proceedings, *Tenth International Cloud Physics Conference,* Bad Homburg, Federal Republic of Germany, 711-713.

Houze, R. A., Jr., 1988: Convective and stratiform precipitation in the tropics. In *Tropical Rainfall Measurements* (J. S. Theon and N. Fugono, Eds.), 27-35.

Houze, R. A., Jr., F. D. Marks, Jr., and R. A. Black, 1988: Mesoscale patterns of ice particle characteristics in Hurricane Norbert. Proceedings, *Tenth International Cloud Physics Conference,* Bad Homburg, Federal Republic of Germany, 708-710.

Houze, R. A., Jr., S. J. Bograd, and B. E. Mapes, 1988: *An Atlas of Horizontal Patterns of Radar Reflectivity Observed During EMEX Aircraft Missions.* Department of Atmospheric Sciences, University of Washington, Seattle, WA 98195.

Rutledge, S. A., R. A. **Houze**, Jr., A. J. Heymsfield, and M. I. Biggerstaff, 1988: Dual-Doppler and airborne microphysical observations in the stratiform region of the 10-11 June MCS over Kansas during PRE-STORM. Proceedings, *Tenth International Cloud Physics Conference,* Bad Homburg, Federal Republic of Germany, 702-704.

Rutledge, S. A., R. A. **Houze**, Jr., M. I. Biggerstaff, and T. Matejka, 1988: The Oklahoma-Kansas mesoscale convective system of 10-11 June 1985: Precipitation structure and single-Doppler radar analysis. *Mon. Wea. Rev.,* **116**, 1409-1430.

1989

Biggerstaff, M. I., and R. A. **Houze**, Jr., 1989: Use of dual-Doppler radar analyses in a composite study of a midlatitude squall line observed during PRE-STORM. Preprints, *24th Conference on Radar Meteorology,* Tallahassee, American Meteorological Society, 455-458.

Ferrier, B. S., and R. A. **Houze**, Jr., 1989: One-dimensional time-dependent modeling of GATE cumulonimbus convection. *J. Atmos. Sci.,* **46**, 330-352.

Houze, R. A., Jr. 1989: Observed structure of mesoscale convective systems and implications for large-scale heating. *Quart. J. Roy. Meteor. Soc.,* **115**, 425-461.

Houze, R. A., Jr., S. A. Rutledge, M. I. Biggerstaff, and B. F. Smull, 1989: Interpretation of Doppler weather radar displays in midlatitude mesoscale convective systems. *Bull. Amer. Meteor. Soc.,* **70**, 608-619.

Mapes, B., M. I. Biggerstaff, and R. A. **Houze**, Jr., 1989: The structure of vertical drafts in nocturnal oceanic tropical cloud clusters observed during EMEX. Preprints, *18th Conference on Hurricanes and Tropical Meteorology,* San Diego, American Meteorological Society, 194-195.

Rutledge, S. A., and R. A. **Houze**, Jr., 1989: Single and dual-Doppler radar observations of a mesovortex in the 28 May 1985 mesoscale convective system observed during PRE-STORM. Preprints, *24th Conference on Radar Meteorology,* Tallahassee, American Meteorological Society, 498-501.

1990

Churchill, D. D., and R. A. **Houze**, Jr., 1990: Radiatively driven stratosphere-troposphere interactions near the tops of tropical cloud clusters. Preprints, *Seventh Conference on Atmospheric Radiation,* San Francisco, American Meteorological Society, J125-J128.

Goldenberg, S. B., R. A. **Houze**, Jr., and D. D. Churchill, 1990: Convective and stratiform components of a winter monsoon cloud cluster determined from geosynchronous infrared satellite data. *J. Meteor. Soc. Japan,* **68**, 37-63.

Houze, R. A., Jr., B. F. Smull, and P. Dodge, 1990: Mesoscale organization of springtime rainstorms in Oklahoma. *Mon. Wea. Rev.,* **118**, 613-654.

Mapes, B., and R. A. **Houze**, Jr., 1990: Divergence profiles in tropical mesoscale convective systems. Preprints, *Fourth Conference on Mesoscale Processes,* Boulder, American Meteorological Society, 202-203.

Schmid, W., H. -H. Schiesser, R. A. **Houze**, Jr., and R. G. Fovell, 1990: Severe left-moving hailstorms in central Switzerland. Preprints, *16th Conference on Severe Local Storms,* Kananaskis Provincial Park, Alberta, American Meteorological Society, 467-472.

1991

Biggerstaff, M. I., and R. A. **Houze**, Jr., 1991: Kinematic and precipitation structure of the 10-11 June 1985 squall line. *Mon. Wea. Rev.,* **119**, 3034-3065.

Biggerstaff, M. I., and R. A. **Houze**, Jr., 1991: Kinematic structure of the transition-zone downdraft in the 10-11 June 1985 squall line observed over Kansas and Oklahoma. Preprints, *25th Conference on Radar Meteorology,* Paris, American Meteorological Society, 505-508.

Biggerstaff, M. I., and R. A. **Houze**, Jr., 1991: Midlevel vorticity structure of the 10-11 June 1985 squall line. *Mon. Wea. Rev.,* **119**, 3066-3079.

Churchill, D. D., and R. A. **Houze**, Jr., 1991: Coastal mesoscale convective systems of the Australian monsoon. Preprints, *19th Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 531-536.

Churchill, D. D., and R. A. **Houze**, Jr., 1991: Effects of radiation and turbulence on the diabatic heating and water budget of the stratiform region of a tropical cloud cluster. *J. Atmos. Sci.,* **48**, 903-922.

Houze, R. A., Jr., and B. E. Mapes, 1991: Oceanic mesoscale convective systems of the Australian monsoon. Preprints, *19th Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 527-530.

Schiesser, H.-H., and R. A. **Houze**, Jr., 1991: Mesoscale organization of precipitation systems in Switzerland. Preprints, *25th Conference on Radar Meteorology,* Paris, American Meteorological Society, 509-512.

Sun, J., and R. A. **Houze**, Jr., 1991: Application of a thermodynamic retrieval technique to a numerical model. Preprints, *25th Conference on Radar Meteorology*, Paris, American Meteorological Society, 131-134.

Webster, P. J., and R. A. **Houze**, Jr., 1991: The Equatorial Mesoscale Experiment (EMEX): An overview. *Bull. Amer. Meteor. Soc.,* **72**, 1481-1505.

1992

Braun, S. A., and R. A. **Houze**, Jr., 1992: The heat budget of a midlatitude squall line determined from a thermodynamic and microphysical retrieval. Proceedings, *11th International Conference on Clouds and Precipitation,* Montreal, American Meteorological Society, **2**, 750-753.

Houze, R. A., Jr., F. D. Marks, Jr., and R. A. Black, 1992: Dual-aircraft investigation of the inner core of Hurricane Norbert. Part II: Mesoscale distribution of ice particles. *J. Atmos. Sci.,* **49**, 943-962.

Mapes, B. E., and R. A. **Houze**, Jr., 1992: An integrated view of the 1987 Australian monsoon and its mesoscale convective systems. Part I: Horizontal structure. *Quart. J. Roy. Meteor. Soc.,* **118**, 927-963.

Mapes, B. E., and R. A. **Houze**, Jr., 1992: Satellite-observed cloud clusters in the TOGA-COARE domain. *TOGA Notes,* April, 5-8.

Marks, F. D., Jr., R. A. **Houze**, Jr., and J. F. Gamache, 1992: Dual-aircraft investigation of the inner core of Hurricane Norbert. Part I: Kinematic structure. *J. Atmos. Sci.,* **49**, 919-942.

Schiesser, H.-H., R. A. **Houze**, Jr., and A. Waldvogel, 1992: Mesoscale organization of precipitation systems causing severe damage by intense or long-lasting rain in Switzerland. Preprints, *Interpraevent, Schutz des Lebensraumes vor Hochwasser,* Muren und Lawmen, Bern, Switzerland, 71-82.

Sun, J., and R. A. **Houze**, Jr., 1992: Validation of a thermodynamic retrieval technique by application to a simulated squall line with trailing stratiform precipitation. *Mon. Wea. Rev.,* **120**, 1003-1018.

Yang, M.-J., and R. A. **Houze**, Jr., 1992: A numerical study of the momentum budget of a squall line. Proceedings, *11th International Conference on Clouds and Precipitation,* Montreal, American Meteorological Society, **2**, 719-722.

1993

Biggerstaff, M. I., and R. A. **Houze**, Jr., 1993: Kinematics and microphysics of the transition zone of the 10-11 June 1985 squall line. *J. Atmos. Sci.,* **50**, 3091-3110.

Braun, S. A., and R. A. **Houze**, Jr., 1993: The secondary band and reflectivity trough in a midlatitude squall line: Insights from thermodynamic and microphysical retrieval. Preprints, *26th Conference on Radar Meteorology,* Norman, American Meteorological Society, 447-450.

Gamache, J. F., R. A. **Houze**, Jr., and F. D. Marks, Jr., 1993: Dual-aircraft investigation of the inner core of Hurricane Norbert. Part III: Water budget. *J. Atmos. Sci.,* **50**, 3221-3243.

Houze, R. A., Jr., 1993: *Cloud Dynamics.* Academic Press, San Diego, 573 pp.

Houze, R. A., Jr., W. Schmid, R. G. Fovell, and H.-H. Schiesser, 1993: Hailstorms in Switzerland: Left movers, right movers, and false hooks. *Mon. Wea. Rev.,* **121**, 3345-3370.

Mapes, B. E., and R. A. **Houze**, Jr., 1993: An integrated view of the 1987 Australian monsoon and its mesoscale convective systems. Part II: Vertical structure. *Quart. J. Roy. Meteor. Soc.,* **119**, 733-754.

Mapes, B. E., and R. A. **Houze**, Jr., 1993: Cloud clusters and superclusters over the oceanic warm pool. *Mon. Wea. Rev.,* **121**, 1398-1415.

Schmid, W., L. Li, H.-H. Schiesser, and R. A. **Houze**, Jr., 1993: Rotation in Swiss hailstorms: Doppler-radar structure and the environmental wind field. Preprints, *17th Conference on Severe Local Storms,* St. Louis, American Meteorological Society, 196-200.

Steiner, M., and R. A. **Houze**, Jr., 1993: Three-dimensional validation at TRMM ground truth sites: Some early results from Darwin, Australia. Preprints, *26th Conference on Radar Meteorology,* Norman, American Meteorological Society, 417-420.

Sun, J., S. Braun, M. I. Biggerstaff, R. G. Fovell, and R. A. **Houze**, Jr., 1993: Warm upper-level downdrafts associated with a squall line. *Mon. Wea. Rev.,* **121**, 2919-2927.

Yuter, S. E., and R. A. **Houze**, Jr., 1993: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus. Preprints, *26th Conference on Radar Meteorology,* Norman, American Meteorological Society, 176-179.

1994

Braun, S. A., and R. A. **Houze**, Jr., 1994: The heat and potential vorticity budgets of a midlatitude squall line. Preprints, *Sixth Conference on Mesoscale Processes,* Portland, American Meteorological Society, 335-338.

Braun, S. A., and R. A. **Houze**, Jr., 1994: The transition zone and secondary maximum of radar reflectivity behind a midlatitude squall line: Results retrieved from Doppler-radar data. *J. Atmos. Sci.,* **51**, 2733-2755.

Chen, S. S., R. A. **Houze**, Jr., and B. E. Mapes, 1994: Satellite-observed cloud clusters during TOGA COARE. Preprints, *Ninth Conference on the Middle Atmosphere* and *Seventh Conference on Satellite Meteorology and Oceanography,* Monterey, American Meteorological Society, 22-25.

Steiner, M., R. A. **Houze**, Jr., and S. E. Yuter, 1994: Three-dimensional climatological rainfall characteristics from operational radar and raingauge networks. *AGU 1994 Spring Meeting*, Baltimore, *EOS, Transactions,* **75**, April 19/Supplement, p. 168.

Steiner, M., S. E. Yuter, D. E. Kingsmill, and R. A. **Houze**, Jr., 1994: Prototype TRMM radar (ARMAR) validation techniques using NASA DC-8 and NOAA WP-3D airborne measurements. *NASA TOGA COARE Science Data Workshop II,* Albuquerque, NASA, 30-33.

Yang, M.-J., and R. A. **Houze**, Jr., 1994: Multicell squall line structure as a manifestation of vertically trapped gravity waves. Preprints, *Sixth Conference on Mesoscale Processes,* Portland, American Meteorological Society, 619-622.

1995

Braun, S. A., and R. A. **Houze**, Jr., 1995: Diagnosis of hydrometeor profiles from area-mean vertical-velocity data. *Quart. J. Roy. Meteor. Soc.,* **121**, 23-53.

Braun, S. A., and R. A. **Houze**, Jr., 1995: Melting and freezing in a mesoscale convective system. *Quart. J. Roy. Meteor. Soc.,* **121**, 55-77.

Chen, S. S., C. Zhang, and R. A. **Houze**, Jr., 1995: Surface diurnal variations - a link between solar heating and diurnal cycle of tropical convection? Preprints, *21st Conference on Hurricanes and Tropical Meteorology,* Miami, American Meteorological Society, 518-520.

Chen, S. S., R. A. **Houze**, Jr., B. E. Mapes, S. R. Brodzik, and S. E. Yuter, 1995: TOGA COARE satellite data summaries available on the World Wide Web. *Bull. Amer. Meteor. Soc.,* **76**, 329-333.

Kingsmill, D. E., and R. A. **Houze**, Jr., 1995: Airborne Doppler-radar observations of gust fronts and midlevel inflow in COARE mesoscale convective systems. Preprints, *27th Conference on Radar Meteorology,* Vail, American Meteorological Society, 737-739.

Mapes, B. E., and R. A. **Houze**, Jr., 1995: Diabatic divergence profiles in western Pacific mesoscale convective systems. *J. Atmos. Sci.,* **52**, 1807-1828.

Schiesser, H.-H., R. A. **Houze**, Jr., and H. Huntrieser, 1995: The mesoscale structure of severe precipitation systems in Switzerland. *Mon. Wea. Rev.,* **123**, 2070-2097.

Steiner, M., and R. A. **Houze**, Jr., 1995: Sensitivity of monthly convective rain fraction to the choice of *Z-R* relation. Preprints, *27th Conference on Radar Meteorology,* Vail, American Meteorological Society, 230-232.

Steiner, M., R. A. **Houze**, Jr., and S. E. Yuter, 1995: Climatological characterization of three-dimensional storm structure from operational radar and rain gauge data. *J. Appl. Meteor.,* **34**, 1978-2007.

Yang, M.-J., and R. A. **Houze**, Jr., 1995: Multicell squall-line structure as a manifestation of vertically trapped gravity waves. *Mon. Wea. Rev.,* **123**, 641-661.

Yang, M.-J., and R. A. **Houze**, Jr., 1995: Sensitivity of squall-line rear inflow to ice microphysics and environmental humidity. *Mon. Wea. Rev.,* **123**, 3175-3193.

Yuter, S. E., and R. A. **Houze**, Jr., 1995: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus. Part I: Spatial distribution of updrafts, downdrafts, and precipitation. *Mon. Wea. Rev.,* **123**, 1921-1940.

Yuter, S. E., and R. A. **Houze**, Jr., 1995: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus. Part II: Frequency distribution of vertical velocity, reflectivity, and differential reflectivity. *Mon. Wea. Rev.,* **123**, 1941-1963.

Yuter, S. E., and R. A. **Houze**, Jr., 1995: Three-dimensional kinematic and microphysical evolution of Florida cumulonimbus. Part III: Vertical mass transport, mass divergence, and synthesis. *Mon. Wea. Rev.,* **123**, 1964-1983.

Yuter, S. E., R. A. **Houze**, Jr., B. F. Smull, F. D. Marks, Jr., J. R. Daugherty, and S. R. Brodzik, 1995: TOGA COARE aircraft mission summary images: An electronic atlas. *Bull. Amer. Meteor. Soc.,* **76**, 319-328.

1996

Braun, S. A., and R. A. **Houze**, Jr., 1996: The heat budget of a midlatitude squall line and implications for potential vorticity production. *J. Atmos. Sci.,* **53**, 1217-1240.

Braun, S. A., R. A. **Houze**, Jr., and M.-J. Yang, 1996: Comments on 'The impact of the ice phase and radiation on a midlatitude squall line system'. *J. Atmos. Sci.,* **53**, 1343-1351.

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.

Schiesser, H.-H., W. Schmid, R. A. **Houze**, Jr., and B. Bauer, 1996: A tornado-producing mesoscale convective system in northern Switzerland. Preprints, *Seventh Conference on Mesoscale Processes,* Reading, UK, American Meteorological Society, 459-461.

Yang, M.-J., and R. A. **Houze**, Jr., 1996: Momentum budget of a squall line with trailing stratiform precipitation: Calculations with a high-resolution numerical model. *J. Atmos. Sci.,* **53**, 3629-3652.

1997

Bond, N. A., C. F. Mass, B. F. Smull, R. A. **Houze**, Jr., M.-J. Yang, B. A. Colle, S. A. Braun, M. A. Shapiro, B. R. Colman, P. J. Neiman, J. E. Overland, W. D. Neff, and J. D. Doyle, 1997: The Coastal Observation And Simulation with Topography (COAST) experiment. *Bull. Amer. Meteor. Soc.,* **78**, 1941-1955.

Braun, S. A., and R. A. **Houze**, Jr., 1997: The evolution of the 10-11 June 1985 PRE-STORM squall line: Initiation, development of rear inflow, and dissipation. *Mon. Wea. Rev.,* **125**, 478-504.

Braun, S. A., R. A. **Houze**, Jr., and B. F. Smull, 1997: Airborne dual-Doppler observations of an intense frontal system approaching the Pacific Northwest coast. *Mon. Wea. Rev.,* **125**, 3131-3156.

Chen, S. S., and R. A. **Houze**, Jr., 1997: Diurnal variation and life-cycle of deep convective systems over the tropical Pacific warm pool. *Quart. J. Roy. Meteor. Soc.,* **123**, 357-388.

Chen, S. S., and R. A. **Houze**, Jr., 1997: Interannual variability of deep convection over the tropical warm pool. *J. Geophys. Res.,* **102**, 25,783-25,795.

Houze, R. A., Jr., 1997: Stratiform precipitation in regions of convection: A meteorological paradox? *Bull. Amer. Meteor. Soc.,* **78**, 2179-2196.

Kingsmill, D. E., and R. A. **Houze**, Jr., 1997: Inflow and outflow characteristics of convection in TOGA COARE. Preprints, *22nd Conference on Hurricanes and Tropical Meteorology,* Fort Collins, American Meteorological Society, 45-46.

Steiner, M., and R. A. **Houze**, Jr., 1997: Sensitivity of the estimated monthly convective rain fraction to the choice of *Z-R* relation. *J. Appl. Meteor.,* **36**, 452-462.

Yuter, S. E., and R. A. **Houze**, Jr., 1997: Measurements of raindrop size distributions over the Pacific warm pool and implications for *Z-R* relations. *J. Appl. Meteor.,* **36**, 847-867.

1998

Chen, S. S., C. Zhang, and R. A. **Houze**, Jr., 1998: The diurnal cycle of atmospheric convection and surface and boundary-layer conditions over the warm pool. *COARE98*: Proceedings*, Conference on TOGA-COARE*, Boulder, World Meteorological Organization, WCRP-107, WMP/TD 940, p. 323.

Fritsch, J. M., R. A. **Houze**, Jr., R. Adler, H. Bluestein, L. Bosart, J. Brown, F. Carr, C. Davis, R. H. Johnson, N. Junker, Y.-H. Kuo, S. Rutledge, J. Smith, Z. Toth, J. W. Wilson, E. Zipser, and D. Zrnic, 1998: Quantitative precipitation forecasting: Report of the Eighth Prospectus Development Team, U.S. Weather Research Program. *Bull. Amer. Meteor. Soc.,* **79**, 285-299.

Godfrey, J. S., R. A. **Houze**, Jr., K.-M. Lau, R. Lukas, P. J. Webster, and R. A. Weller, 1998: TOGA-COARE: How well have we progressed towards understanding air-sea coupling in the warm pool? *COARE98*: Proceedings, *Conference on TOGA-COARE*, Boulder, World Meteorological Organization, WCRP-107, WMP/TD 940, 1-15.

Godfrey, J. S., R. A. **Houze**, Jr., R. H. Johnson, R. Lukas, J.-L. Redelsperger, A. Sumi, and R. Weller, 1998: Coupled Ocean-Atmosphere Response Experiment (COARE): An interim report. *J. Geophys. Res.,* **103**, 14,395-14,450.

Houze, R. A., Jr., S. S. Chen, D. E. Kingsmill, Y. Serra, and S. E. Yuter, 1998: Convection over the Pacific warm pool in relation to the atmospheric Kelvin-Rossby wave. *COARE98*: Proceedings, *Conference on TOGA-COARE*, Boulder, World Meteorological Organization, WCRP-107, WMP/TD 940, 389-390.

James, C., S. Brodzik, H. Edmon, R. A. **Houze**, Jr., and S. E. Yuter, 1998: MountainZebra: Real-time archival and 4-D visualization of radar volumes over complex terrain. Preprints, *COST-75 Final International Seminar on "Advanced Weather Radar Systems,"* Locarno, Switzerland, 297-306.

Schumacher, C., and R. A. **Houze**, Jr., 1998: Comparison of TRMM precipitation radar and Kwajalein ground validation 3-D radar reflectivity fields. Proceedings, *Symposium on the Precipitation Observation from Non-Sun Synchronous Orbit*, Nagoya, Japan, Nagoya University & Earth Science Technology Organization, 115-119.

Serra, Y. L., and R. A. **Houze**, Jr., 1998: Mean thermodynamic profiles in COARE in relation to the eastern Pacific. *COARE98*: Proceedings, *Conference on TOGA-COARE*, Boulder, World Meteorological Organization, WCRP-107, WMP/TD 940, 401-402.

Steiner, M., and R. A. **Houze**, Jr., 1998: Sensitivity of monthly three-dimensional radar-echo characteristics to sampling frequency. *J. Meteor. Soc. Japan,* **76**, 73-95.

Yu, C.-K., B. F. Smull, R. A. **Houze**, Jr., and B. A. Colle, 1998: Airborne dual-Doppler observations of a coastal wind maximum associated with a landfalling cold front. Preprints, *2nd Conference on Coastal Atmospheric and Oceanic Prediction and Processes,* Phoenix, American Meteorological Society, 206-209.

Yuter, S. E., and R. A. **Houze**, Jr., 1998: The natural variability of precipitating clouds over the western Pacific warm pool. *Quart. J. Roy. Meteor. Soc.,* **124**, 53-99.

1999

Kingsmill, D. E., and R. A. **Houze**, Jr., 1999: Kinematic characteristics of air flowing into and out of precipitating convection over the west Pacific warm pool: An airborne Doppler radar survey. *Quart. J. Roy. Meteor. Soc.,* **125**, 1165-1207.

Kingsmill, D. E., and R. A. **Houze**, Jr., 1999: Thermodynamic characteristics of air flowing into and out of precipitating convection over the west Pacific warm pool. *Quart. J. Roy. Meteor. Soc.,* **125**, 1209-1229.

2000

Chong, M., J.-F. Georgis, O. Bousquet, S. R. Brodzik, C. Burghart, S. Cosma, U. Germann, V. Gouget, R. A. **Houze**, Jr., C. N. James, S. Prieur, R. Rotunno, F. Roux, J. Vivekanandan, and Z.-X. Zeng, 2000: Real-time wind synthesis from Doppler-radar observations during the Mesoscale Alpine Programme. *Bull. Amer. Meteor. Soc.*, **81**, 2953-2962.

Houze, R. A., Jr., S. Medina, and M. Steiner, 2000: Two cases of heavy rain on the Mediterranean side of the Alps in MAP. Preprints, *Ninth Conference on Mountain Meteorology*, Aspen, American Meteorological Society, 1-5.

Houze, R. A., Jr., S. S. Chen, D. E. Kingsmill, Y. Serra, and S. E. Yuter, 2000: Convection over the Pacific warm pool in relation to the atmospheric Kelvin-Rossby wave. *J. Atmos. Sci.*, **57**, 3058-3089.

James, C. N., S. R. Brodzik, H. Edmon, R. A. **Houze**, Jr., and S. E. Yuter, 2000: Radar data processing and visualization over complex terrain. *Wea. Forecasting*, **15**, 327-338.

Schumacher, C., and R. A. **Houze**, Jr., 2000: Comparison of radar data from the TRMM satellite and Kwajalein oceanic validation site. *J. Appl. Meteor.*, **39**, 2151-2164.

Steiner, M., J. A. Smith, B. F. Smull, and R. A. **Houze**, Jr., 2000: Airflow within major river valleys on the south side of the Alps as observed during the MAP special observing period. Preprints, *Ninth Conference on Mountain Meteorology*, Aspen, American Meteorological Society, 11-14.

Yuter, S. E., and R. A. **Houze**, Jr., 2000: The 1997 Pan American Climate Studies Tropical Eastern Pacific Process Study. Part I: ITCZ region. *Bull. Amer. Meteor. Soc.*, **81**, 451-481.

Yuter, S. E., Y. L. Serra, and R. A. **Houze**, Jr., 2000: The 1997 Pan American Climate Studies Tropical Eastern Pacific Process Study. Part II: Stratocumulus region. *Bull. Amer. Meteor. Soc.*, **81**, 483-490.

2001

Bougeault, P., P. Binder, A. Buzzi, R. Dirks, R. A. **Houze**, Jr., J. Kuettner, R. B. Smith, R. Steinacker, and H. Volkert, 2001: The MAP special observing period. *Bull. Amer. Meteor. Soc.*, **82**, 433-462.

Houze, R. A., Jr., 2001: Orographic control of precipitation: What are we learning from MAP? *The Mesoscale Alpine Programme Newsletter,* March, No. 14, 3-5.

Houze, R. A., Jr., and S. Medina, 2001: Alpine precipitation mechanisms in MAP IOP2b and 8. *The Mesoscale Alpine Programme Newsletter,* June, No. 15, 47-50.

Houze, R. A., Jr., C. N. James, and S. Medina, 2001: Radar observations of precipitation and airflow on the Mediterranean side of the Alps: Autumn 1998 and 1999. *Quart. J. Roy. Meteor. Soc.*, **127**, 2537-2558.

Houze, R. A., Jr., S. Medina, and S. E. Yuter, 2001: Orographic precipitation mechanisms: New data from the Mesoscale Alpine Programme. Preprints, *International Conference on Mesoscale Meteorology and Typhoons in East Asia,* Taipei, Taiwan, 26-28 September, 88-93.

James, C. N., and R. A. **Houze**, Jr, 2001: A real-time four-dimensional Doppler dealiasing scheme. *J. Atmos. Oceanic Technol.*, **18**, 1674-1683.

Steiner, M., J. A. Smith, M. L. Baeck, Y. Zhang, and R. A. **Houze**, Jr., 2001: Space-time variability of heavy orographic rainfall. Preprints, *30th International Conference on Radar Meteorology*, Munich, 19-24 July, American Meteorological Society, 527-529.

Yuter, S. E., and R. A. **Houze**, Jr., 2001: Microphysical modes of precipitation growth determined by vertically pointing radar at Locarno-Monti during MAP. *The Mesoscale Alpine Programme Newsletter,* June, No. 15, 110-113.

Zeng, Z., S. E. Yuter, R. A. **Houze**, Jr., and D. E. Kingsmill, 2001: Microphysics of the rapid development of heavy convective precipitation. *Mon. Wea. Rev.*, **129**, 1882-1904.

2002

Houze, R. A., Jr., and S. Medina, 2002: Comparison of orographic precipitation in MAP and IMPROVE II. Preprints, *10th Conference on Mountain Meteorology and MAP Meeting*, Park City, UT, 17-21 June, American Meteorological Society.

Mechem, D. B., R. A. **Houze**, Jr., and S. S. Chen, 2002: Layer inflow into precipitating convection over the western tropical Pacific. *Quart. J. Roy. Meteor. Soc.*, **128**, 1997-2030.

Serra, Y., and R. A. **Houze**, Jr., 2002: Observations of variability on synoptic timescales in the east Pacific ITCZ. *J. Atmos. Sci.*, **59**, 1723-1743.

Webster, P. J., E. F. Bradley, C. W. Fairall, J. S. Godfrey, P. Hacker, R. A. **Houze**, Jr., R. Lukas, Y. Serra, J. M. Hummon, T. D. M. Lawrence, C. A. Russell, M. N. Ryan, K. Sahami, and P. Zuidema, 2002: The JASMINE pilot study. *Bull. Amer. Meteor. Soc.*, **83**, 1603-1630.

Yuter, S. E., and R. A. **Houze**, Jr., 2002: Comment on "Partitioning tropical oceanic convective and stratiform rains by draft strength" by David Atlas et al. *J. Geophys. Res.*, **107**, 10.1029/2000JD000205.

Yuter, S. E., and R. A. **Houze**, Jr., V. Chandrasekar, E. Foufoula-Georgiou, M. Hagen, R. Johnson, D. Kingsmill, R. Lawrence, F. Marks, S. Rutledge, and J. Weinman, 2002: *GPM Draft Science Implementation Plan: Ground Validation Chapter*. ArXiv:physics/0211095, 22 pp.

2003

Bougeault, P., R. A. **Houze**, Jr., R. Rotunno, and H. Volkert, 2003: Editorial. *Quart. J. Roy. Meteor. Soc.*, special MAP issue, **129**, 341-343.

Houze, R. A., Jr., 2003: From hot towers to TRMM: Joanne Simpson and advances in tropical convection. *Cloud Systems, Hurricanes, and the Tropical Rainfall Measuring Mission (TRMM): A Tribute to Dr. Joanne Simpson, Meteorological Monograph,* No. 51, American Meteorological Society, 37-47.

Houze, R. A., Jr., and S. Medina, 2003: Orographic enhancement of precipitation in midlatitudes: Results from MAP and IMPROVE II. Preprints, *ICAM/MAP Meeting*, Brig, Switzerland, 19-23 May.

Johnson, R. H., and R. A. **Houze**, Jr., Eds, 2003: *A Half Century of Progress in Meteorology: A Tribute to Richard Reed. Meteor. Monogr.,* No. 53, American Meteorological Society, Boston, 139 pp.

Medina, S., and R. A. **Houze**, Jr., 2003: Air motions and precipitation growth in Alpine storms. *Quart. J. Roy. Meteor. Soc.*, special MAP issue, **129**, 345-371.

Medina, S., and R. A. **Houze**, Jr., 2003: Orographic enhancement of precipitation in midlatitudes: Results from MAP and IMPROVE II. Preprints, *10th Conference on Mesoscale Processes*, Portland, OR, 23-27 June, American Meteorological Society.

Medina, S., and R. A. **Houze**, Jr., 2003: Orographic precipitation in potentially unstable Alpine storms. Preprints, *ICAM/MAP Meeting*, Brig, Switzerland, 19-23 May.

Schumacher, C., and R. A. **Houze**, Jr., 2003: Stratiform rain in the tropics as seen by the TRMM Precipitation Radar. *J. Climate*, **16**, 1739-1756.

Schumacher, C., and R. A. **Houze**, Jr., 2003: The TRMM Precipitation Radar's view of shallow, isolated rain. *J. Appl. Meteor.*, **42**, 1519-1524.

Steiner, M., O. Bousquet, R. A. **Houze**, Jr., B. F. Smull, and M. Mancini, 2003: Airflow within major Alpine river valleys under heavy rainfall. *Quart. J. Roy. Meteor. Soc.*, special MAP issue, **129**, 411-431.

Stoelinga, M. T., P. V. Hobbs, C. F. Mass, J. D. Locatelli, B. A. Colle, R. A. **Houze**, Jr., A. L. Rangno, N. A. Bond, B. F. Smull, R. M. Rasmussen, G. Thompson, and B. R. Colman, 2003: Improvement of Microphysical Parameterizations through Observational Verification Experiments (IMPROVE). *Bull. Amer. Meteor. Soc.*, **84**, 1807-1826.

Tao, W.-K., J. Halverson, M. LeMone, R. Adler, M. Garstang, R. A. **Houze**, Jr., R. Pielke, Sr., and W. Woodley, 2003: The research of Dr. Joanne Simpson: Fifty years investigating hurricanes, tropical clouds, and cloud systems. *Cloud Systems, Hurricanes, and the Tropical Rainfall Measuring Mission (TRMM): A Tribute to Dr. Joanne Simpson*, *Meteorological Monograph,* No. 51, American Meteorological Society, 1-16.

Yuter, S. E., and R. A. **Houze**, Jr., 2003: Microphysical modes of precipitation growth determined by S-band vertically pointing radar in orographic precipitation during MAP. *Quart. J. Roy. Meteor. Soc.*, special MAP issue, **129**, 455-476.

2004

Houze, R. A., Jr., 2004: Mesoscale convective systems. *Rev. Geophys.*, **42**,10.1029/2004RG000150, 43 pp.

Houze, R. A., Jr., S. Brodzik, C. Schumacher, S. E. Yuter, and C. R. Williams, 2004: Uncertainties in oceanic radar rain maps at Kwajalein and implications for satellite validation. *J. Appl. Meteor.*, **43**, 1114-1132.

Kim, M.-J., J. A. Weinman, and R. A. **Houze**, Jr., 2004: Validation of maritime rainfall retrievals from the TRMM-microwave radiometer. *J. Appl. Meteor.*, **43**, 847-859.

Schumacher, C., R. A. **Houze**, Jr., and I. Kraucunas, 2004: The tropical dynamical response to latent heating estimates derived from the TRMM Precipitation Radar. *J. Atmos. Sci.*, **61**, 1341-1358.

2005

Houze, R. A., Jr., and S. Medina, 2005: Turbulence as a mechanism for orographic precipitation enhancement. *J. Atmos. Sci.,* **62**, 3599-3623.

James, C. N., and R. A. **Houze**, Jr., 2005: Modification of precipitation by coastal orography in storms crossing northern California. *Mon. Wea. Rev.*, **133**, 3110-3131.

Medina, S., B. F. Smull, R. A. **Houze**, Jr., and M. Steiner, 2005: Cross-barrier flow during orographic precipitation events: results from MAP and IMPROVE. *J. Atmos. Sci.,* **62**, 3580-3598.

Yuter, S. E., R. A. **Houze**, Jr., E. A. Smith, T. T. Wilheit, and E. Zipser, 2005: Physical characterization of tropical oceanic convection observed in KWAJEX. *J. Appl. Meteor.*, **44**, 385-415.

2006

Cetrone, J., and R. A. **Houze**, Jr., 2006: Characteristics of tropical convection over the ocean near Kwajalein. *Mon. Wea. Rev.*, **134,** 834-853.

Houze, R. A., Jr., S. S. Chen, W.-C. Lee, R. Rogers, J. Moore, G. Stossmeister, M. Bell, J. Cetrone, W. Zhao, and S. Brodzik, 2006: The Hurricane Rainband and Intensity Change Experiment: Observations and modeling of hurricanes Katrina, Ophelia, and Rita. *Bull. Amer. Meteor. Soc.*, **87**, 1503-1521.

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. *Quart. J. Roy. Meteor. Soc.,* **132**, 709-736.

Schumacher, C., and R. A. **Houze**, Jr., 2006: Stratiform precipitation production over sub-Saharan Africa and the tropical East Atlantic as observed by TRMM. *Quart. J. Roy. Meteor. Soc.,* **132**, 2235-2255.

2007

Houze, R. A., Jr., S. S. Chen, B. F. Smull, W.-C. Lee, and M. M. Bell, 2007: Hurricane intensity and eyewall replacement. *Science,* **315**, 1235-1239.

Houze, R. A., Jr., D. C. Wilton, and B. F. Smull, 2007: Monsoon convection in the Himalayan region as seen by the TRMM Precipitation Radar. *Quart. J. Roy. Meteor. Soc.*, **133**, 1389-1411.

Medina, S., E. Sukovich, and R. A. **Houze**, Jr., 2007: Vertical structures of precipitation in cyclones crossing the Oregon Cascades. *Mon. Wea. Rev.*, **135**, 3565-3586.

Rotunno, R., and R. A. **Houze**, Jr., 2007: Lessons on orographic precipitation from the Mesoscale Alpine Programme. *Quart. J. Roy. Meteor. Soc.*, **133**, 811-830.

Medina, S., R. A. **Houze**, Jr., and N. Asencio, 2007: Detailed structure of moist, sheared, statically stable, orographic flows. Preprints, *International Conference on Alpine Meteorology*, 4-8 June 2007, Chambéry, France.

2008

Hence, D.A., and R. A. **Houze**, Jr., 2008: Kinematic structure of convective-scale elements in the rainbands of Hurricanes Katrina and Rita (2005). *J. Geophys. Res.*, **113,** 10.1029/2007JD009429.

2009

Cetrone, J., and R. A. **Houze**, Jr., 2009: Anvil clouds of tropical mesoscale convective systems in monsoon regions. *Quart. J. Roy. Meteor. Soc.*, **135**, 305-317.

Didlake, A. C., Jr., and R. A. **Houze**, Jr., 2009: Convective-scale downdrafts in the principal rainband of Hurricane Katrina (2005). *Mon. Wea. Rev.*, **137**, 3269-3293.

Houze, R. A. Jr., W.-C. Lee, and Michael M. Bell, 2009: Convective contribution to the genesis of Hurricane Ophelia (2005). *Mon. Wea. Rev.*, **137**, 2778–2800.

2010

Houze, R. A., Jr., 2010: Clouds in tropical cyclones. *Mon. Wea. Rev.,* **138**, 293–344.

Houze, R. A., Jr., 2010: Joanne Simpson (1923-2010): Meteorologist who brought the study of clouds to the forefront of Earth science. *Nature*, **464**, 696.

Medina, S., R. A. **Houze**, Jr., A. Kumar, and D. Niyogi, 2010: Summer monsoon convection in the Himalayan region: Terrain and land cover effects. *Quart. J. Roy. Meteor. Soc.,* **136**, 593-616.

Romatschke, U., and R. A. **Houze**, Jr., 2010: Extreme summer convection in South America. *J. Climate*, **23**, 3761-3791.

Romatschke, U., S. Medina, and R. A. **Houze**, Jr., 2010: Regional, seasonal, and diurnal variations of extreme convection in the South Asian region. *J. Climate,* **23**, 419-439.

Yuan, J., and R. A. **Houze**, Jr., 2010: Global variability of mesoscale convective system anvil structure from A-train satellite data. *J. Climate,* **23**, 5864-5888.

2011

Cetrone, J., and R. A. **Houze**, Jr., 2011: Leading and trailing anvil clouds of West African squall lines. *J. Atmos. Sci.,* **68**, 1114-1123.

Didlake, A. C., Jr., and R. A. **Houze**, Jr., 2011: Kinematics of the secondary eyewall observed in Hurricane Rita (2005). *J. Atmos. Sci.,* **68,** 1620-1636.

Hence, D. A., and R. A. **Houze**, Jr., 2010: Vertical structure of hurricane eyewalls as seen by the TRMM Precipitation Radar. *J. Atmos. Sci.,* **68,** 1637-1652.

Houze, R. A., Jr., K. L. Rasmussen, S. Medina, S. R. Brodzik, and U. Romatschke, 2011: Anomalous atmospheric events leading to the Summer 2010 floods in Pakistan. *Bull. Amer. Meteor. Soc.*, **92,** 291–298.

Rasmussen, K. L., and R. A. **Houze**, Jr., 2011: Orogenic convection in South America as seen by the TRMM satellite. *Mon. Wea. Rev.,* **8**, 2399-2420.

Romatschke, U., and R. A. **Houze**, Jr., 2010: Characteristics of precipitating convective systems in the premonsoon season of South Asia. *J. Hydrometeorol.,* **12**, 157-180.

Romatschke, U., and R. A. **Houze**, Jr., 2010: Characteristics of precipitating convective systems in the South Asian monsoon. *J. Hydrometeorol.,* **12**, 3-26.

Yuan, J., R. A. **Houze**, Jr., and A. Heymsfield, 2011: Vertical structures of anvil clouds of tropical mesoscale convective systems observed by CloudSat. *J. Atmos. Sci.,* **68,** 1653-1674.

2012

Hence, D. A., and R. A. **Houze**, Jr., 2012: Vertical structure of tropical cyclones with concentric eyewalls as seen by the TRMM Precipitation Radar. *J. Atmos. Sci.,* **69,** 1021-1036.

Hence, D. A., and R. A. **Houze**, Jr., 2012: Vertical structure of tropical cyclone rainbands as seen by the TRMM Precipitation Radar. *J. Atmos. Sci.,* **69,** 2644–2661.

Houze, R. A., Jr., 2012: Orographic effects on precipitating clouds. *Rev. Geophys.,* **50,** RG1001, 47pp., doi:10.1029/2011RG000365.

Powell, S. W., **Houze**, R. A., Jr., A. Kumar, and S. A. McFarlane, 2012: Comparison of simulated and observed continental tropical anvil clouds and their radiative heating profiles. *J. Atmos. Sci.,* **69**, 2662-2681**.**

Rasmussen, K. L., and R. A. **Houze**, Jr., 2012: A flash flooding storm at the steep edge of high terrain: Disaster in the Himalayas. *Bull. Amer. Meteor. Soc.*, **93**, 1713-1724.

2013

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.*, **118**, 6996-7023, doi:10.1002/jgrd.50375.

Didlake, A. C., Jr., and R. A. **Houze**, Jr., 2013: Convective-scale variations in the inner-core rainbands of a tropical cyclone. *J. Atmos Sci.*, **70,** 504-523.

Didlake, A. C., Jr., and R. A. **Houze**, Jr., 2013: Dynamics of the stratiform sector of a tropical cyclone rainband. *J. Atmos Sci.*, **70**, 1891-1911.

Powell, S. W., and R. A. **Houze**, Jr., 2013: The cloud population and onset of the Madden-Julian Oscillation over the Indian Ocean during DYNAMO-AMIE. *J. Atmos. Sci.,* **118**, 11,979-11,995, doi:10.1002/2013JD020421.

Rasmussen, K. L., S. L. Choi, M. D. Zuluaga, and R. A. **Houze**, Jr., 2013: TRMM precipitation bias in extreme storms in South America. *Geo. Res. Lett.*, **40**, 3457–3461, doi:10.1002/grl.50651. *("AGU Editors Research Spotlight" Precipitation underestimated in extreme storms in South America, EOS, Vol. 94, No. 35, 27 August 2013, DOI: 10.1002/2013EO350009.)*

Romatschke, U., and R. A. **Houze**, Jr., 2013: Characteristics of precipitating convective systems accounting for the summer rainfall of tropical and subtropical South America. *J. Hydrometeorol.*, **14**, 25-46.

Viale, M., K. L. Rasmussen, and R. A. **Houze**, Jr., 2013: Upstream orographic enhancement of a narrow cold-frontal rainband approaching the Andes. *Mon. Wea. Rev.,* **141**, 1708-1730.

Yuan, J., and R. A. **Houze**, Jr., 2013: Deep Convective Systems Observed by A-Train in Regions Affected by the Madden-Julian Oscillation. *J. Atmos Sci.,* **70**, 465–486.

Zeng, X., W.-K. Tao, S. W. Powell, R. A. **Houze**, Jr., P. Ciesielski, N. Guy, H. Pierce, and T. Matsui, 2013: A comparison of the water budgets between clouds from AMMA and TWP-ICE. *J. Atmos Sci.,* **70**, 487-503.

Zuluaga, M. D., and R. A. **Houze**, Jr., 2013: Evolution of the population of precipitating convective systems over the Equatorial Indian Ocean in Active Phases of the Madden-Julian Oscillation. *J. Atmos Sci.*, **70**, 2713–2725.

2014

Barnes, H. C., and R. A. **Houze**, Jr., 2015: Precipitation hydrometeor type relative to the mesoscale airflow in oceanic deep convection of the Madden-Julian Oscillation. *J. Geophys. Res. Atmos.*, **119,** 13,990–14,014, doi:10.1002/2014JD022241.

DeHart, J. C., R. A. **Houze**, Jr., and R. F. Rogers, 2014: Quadrant distribution of tropical cyclone inner-core kinematics in relation to environmental shear. *J. Atmos Sci.*, **71**, 2713-2732.

Houze, R. A., Jr., 2014: *Cloud Dynamics,* 2nd Ed., Academic Press/Elsevier, 432 pp.

Kumar, A., R. A. **Houze**, Jr., K. L. Rasmussen, and C. Peters-Lidard, 2014: Simulation of a flash flooding storm at the steep edge of the Himalayas. *J. Hydrometeorol.*, **15**, 212-228.

Rasmussen, K. L., M. D. Zuluaga, and R. A. **Houze** Jr., 2014: Severe convection and lightning in subtropical South America. *Geophys. Res. Lett.,* **41**, 7359–7366, doi:10.1002/2014GL061767.

Rowe, A. K., and R. A. **Houze**, Jr., 2014: Microphysical characteristics of MJO convection over the Indian Ocean during DYNAMO. *J. Geophys. Res. Atmos.*, **119**, 2543-2554, doi:10.1002/2013JD020799.

2015

Barnes, H. C., M. D. Zuluaga, 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.

Houze, R. A., Jr., K. L. Rasmussen, M. D. Zuluaga, and S. R. Brodzik, 2015: The variable nature of convection in the tropics and subtropics: A legacy of 16 years of the Tropical Rainfall Measuring Mission (TRMM) satellite. *Rev. Geophys.,* **53**, doi:10.1002/2015RG000488.

Medina, S., and R. A. **Houze**, Jr., 2015: Small-scale precipitation elements in midlatitude cyclones crossing the California Sierra Nevada. *Mon. Wea. Rev.*, **143,** 2842-2870.

Powell, S. W., and R. A. **Houze**, Jr., 2015: Evolution of precipitation and convective echo top heights observed by TRMM radar over the Indian Ocean during DYNAMO. *J. Geophys. Res. Atmos.*, **120,**3906–3919, doi:10.1002/2014JD022934.

Powell, S. W., and R. A. **Houze**, Jr., 2015: Effect of dry large-scale vertical motions on initial MJO convective onset. *J. Geophys. Res. Atmos.*, **120,** 4783-4805, doi:10.1002/2014JD022961.

Rasmussen, K. L., A. J. Hill, V. E. Toma, M. D. Zuluaga, P. J. Webster, and R. A. **Houze**, Jr., 2015: Multiscale analysis of three consecutive years of anomalous flooding in Pakistan. *Quart. J. Roy. Meteor. Soc.*, **141,** 1259–1276, doi:10.1002/qj.2433.

Rowe, A. K., and R. A. **Houze**, Jr., 2015: Cloud organization and growth during the transition from suppressed to active MJO conditions. *J. Geophys. Res. Atmos.*, **120**, 10,324–10,350, doi:10.1002/2014JD022948.

Virts, K. S., and R. A. Houze, Jr., 2015: Clouds and water vapor in the tropical tropopause transition layer over mesoscale convective systems. *J. Atmos. Sci.,* **72**, 4739–4753, doi: dx.doi.org/10.1175/JAS-D-15-0122.1.

Virts, K. S., and R. A. **Houze**, Jr., 2015: Variation of lightning in mesoscale convective systems within the Madden-Julian Oscillation. *J. Atmos. Sci.,* **72,** 1932-1944, doi:10.1175/JAS-D-14-0201.1.

Zuluaga, M. D., and R. A. **Houze**, Jr., 2015: Extreme convection of the near-equatorial Americas, Africa, and adjoining oceans as seen by TRMM. *Mon. Wea. Rev.,* **143**, 298-316.

2016

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**, doi:10.1002/2016JD025074.

Feng, Z., L.-Y. Leung, S. Hagos, R. A. **Houze**, Jr., C. Burleyson, and K. Balaguru, 2016: More frequent intense and long-lived storms dominate the springtime trend in central U.S. rainfall. *Nature Communications*, 10.1038/NCOMMS13429.

Medina, S., and R. A. **Houze**, Jr., 2016: Kelvin-Helmholtz waves in extratropical cyclones passing over mountain ranges. *Quart. J. Roy. Meteor. Soc.*, **142**, 1311-1319, doi:10.1002/qj.2734.

Powell, S. W., R. A. **Houze**, Jr., and S. R. Brodzik, 2016: Rainfall-type categorization of radar echoes using polar coordinate reflectivity data. *J. Atmos. Oceanic Technol.*, **17**, 523-538, doi:dx.doi.org/10.1175/JTECH-D-15-0135.1.

Rasmussen, K. L., and R. A. **Houze**, Jr., 2016: Convective initiation near the Andes in subtropical South America. *Mon. Wea. Rev.*, **144**, 2351–2374.

Rasmussen, K. L., M. M. Chaplin, M. D. Zuluaga, and R. A. **Houze**, Jr., 2016: Contribution of extreme convective storms to rainfall in South America. *J. Hydrometeorol.*, **17**, 353-367.

Virts, K. S., and R. A. **Houze**, Jr., 2016: Seasonal and intraseasonal variability of mesoscale convective systems over the South Asian monsoon region. *J. Atmos. Sci.*, **73**, 4753-4774, doi:10.1175/JAS-D-16-0022.1.

2017

DeHart, J. C., and R. A. **Houze**, Jr., 2017: Orographic modification of precipitation processes in Hurricane Karl (2010). *Mon. Wea. Rev.*, **145**, 4171-4186.

Houze, R. A., Jr., L. McMurdie, K. L. Rasmussen, A. Kumar, and M. M. Chaplin, 2017: Multiscale Aspects of the Storm Producing the June 2013 Flooding in Uttarakhand, India. *Mon. Wea. Review,* **145**, 4447-4466.

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, H. Barnes, 2017: The Olympic Mountains Experiment (OLYMPEX). *Bull. Amer. Meteor. Soc.*, **98**, 2167-2188.

Priya, P., R. Krishnan, M. Mujumdar, R. A. **Houze**, Jr., 2017: Changing monsoon and midlatitude circulation interactions over the Western Himalayas and possible links to occurrences of extreme precipitation. *Clim. Dynam.*, published online: 21 November 2016, doi:10.1007/s00382-016-3458-z. *(Accepted version.)*

Yang, Q., R. A. **Houze**, Jr., L. R. Leung, and Z. Feng, 2017: Environments of long-lived mesoscale convective systems over the central United States. *J. Geophys. Res. Atmos.,* Early View.

2018

Barnes, H. C., J. P. Zagrodnik, L. A. McMurdie, A. K. Rowe, and R. A. **Houze**, Jr., 2018: Kelvin-Helmholtz Waves in precipitating stratiform clouds of midlatitude cyclones. *J. Atmos. Sci.*, **75**, 2763–2785, https://doi.org/10.1175/JAS-D-17-0365.1.

Feng, Z., L. R. Leung, R. A. **Houze**, Jr., S. Hagos, J. Hardin, Q. Yang, B. Han, and J. Fan, 2018: Structure and evolution of mesoscale convective systems: Sensitivity to cloud microphysics in convection-permitting simulations over the United States. *JAMES.*, **10**, 1470–1494, https://doi.org/10.1029/2018MS001305.

Hagos, S., Z. Feng, R. S. Plant, R. A. **Houze**, Jr., and H. Xiao, 2018: A stochastic framework for modeling the population dynamics of convective clouds. *JAMES,* **10**, 448–465. https://doi.org/10.1002/2017MS001214.

Houze, R. A., Jr., 2018: 100 years of research on mesoscale convective systems. *Meteorological Monographs,* **59**, 17.1–17.54, https://doi.org/10.1175/AMSMONOGRAPHS-D-18-0001.1.

McMurdie, L. A., A. K. Rowe, R. A. **Houze**, Jr., S. R. Brodzik, J. P. Zagrodnik, and T. M. Schuldt, 2018: Terrain-enhanced precipitation processes above the melting layer: Results from OLYMPEX. *J. Geophys. Res. Atmos.,* **123,** https://doi.org/10.1029/2018JD029161.

Zagrodnik, J. P., L. A. McMurdie, and R. A. **Houze**, Jr., 2018: Stratiform precipitation processes in cyclones passing over a coastal mountain range. *J. Atmos. Sci.*, **75**, 983–1004, doi:10.1175/JAS-D-17-0168.1.

2019

Feng, Z., R. A. **Houze**, Jr., L. R. Leung, F. Song,J. C. Hardin, J. Wang, W. I. Gustafson, Jr., and C. R. Homeyer, 2019: Spatiotemporal characteristics and large-scale environments of mesoscale convective systems east of the Rocky Mountains. *J. Clim.*, accepted.

Fletcher, J. K., D. J. Parker, A. G. Turner, A. Menon, G. M. Martin, C. E. Birch, A. K. Mitra, G. Mrudula, K. M. R. Hunt, C. M. Taylor, R. A. **Houze**, Jr., S. R. Brodzik, G. S. Bhat, and J. H. Marshama, 2019: The dynamic and thermodynamic structure of the monsoon over southern India: New observations from the INCOMPASS IOP. *Quart. J. Roy. Meteor. Soc.,* INCOMPASS Special Collection 1-24, doi:10.1002/qj.3439.

Houze, R. A., Jr., and R. D. Houze, 2019: Cloud and Weather Symbols in the Historic Language of Weather Map Plotters. *Bull. Amer. Meteor. Soc.*, Vol. 100, No. 12, ES423-ES443. (Published online.)

Houze, R. A., Jr., J. Wang, J. Fan, S. Brodzik, and Z. Feng, 2019: Extreme convective storms over high-latitude continental areas where maximum warming is occurring. *Geophys. Res. Lett.*, **46**, 4059-4065. https://doi.org/10.1029/2019GL082414.

Riihimaki, L. D., R. A. **Houze**, Jr., L. A. McMurdie and K. Dorsey, 2019: Training a new generation of data-savvy atmospheric researchers. *EOS*, **100**, https://doi.org/10.1029/2019EO114793.

Rowe, A. K., R. A. **Houze**, Jr., S. Brodzik, and M. D. Zuluaga, 2019: The diurnal and microphysical characteristics of MJO rain events during DYNAMO. *J. Atmos. Sci.*, **76,** 1975-1988, doi:10.1175/JAS-D-18-0316.1.

Song, F., Z. Feng, L. R. Leung, R. A. **Houze**, Jr., J. Wang, J. Hardin, and C. R. Homeyer, 2019: Contrasting Spring and Summer Large-Scale Environments Associated with Mesoscale Convective Systems over the U.S. Great Plains. *J. Clim.*, **32**, 6749–6767, https://doi.org/10.1175/JCLI-D-18-0839.s1.

Wang, J., R. A. **Houze**, Jr., J. Fan, S. R. Brodzik, Z. Feng, and J. C. Hardin, 2019: The detection of mesoscale convective systems by the GPM Ku-band spaceborne radar. *J. Meteor. Soc. Japan,* **97**, 1059–1073, doi:10.2151/jmsj.2019-058.

Wang, D., S. E. Giangrande, K. A. Schiro, M. P. Jensen, and R. A. **Houze**, Jr., 2019: The characteristics of tropical and midlatitude mesoscale convective systems as revealed by radar wind profilers. *J. Geophys. Res. Atmos.,* **124**, 4601–4619. *("AGU Editors' Highlights" New Observations of Thunderstorm Updrafts and Downdrafts)*

Zagrodnik, J. P., L. A. McMurdie, R. A. **Houze**, Jr., and S. Tanelli, 2019: Vertical structure and microphysical characteristics of frontal systems passing over a three-dimensional coastal mountain range. *J. Atmos. Sci.*, **76**, 1521–1546, doi:10.1175/JAS-D-18-0279.1.

2021

Feng, Z., L. R. Leung, N. Liu, J. Wang, R. A. **Houze**, Jr., J. Li, J. C. Hardin, D. Chen and J. Guo, 2021: A global high-resolution mesoscale convective system database using satellite-derived cloud tops, surface precipitation, and tracking. *Journal of Geophysical Research: Atmospheres,* , **126**, e2020JD034202, https://doi. org/10.1029/2020JD034202.

Wang, J., J. Fan, R. A. **Houze**, Jr., S. R. Brodzik, K. Zhang, G. J. Zhang, and P.-L. Ma, 2021: Using radar observations to evaluate 3D radar echo structure simulated by the

Global Model E3SM. *Geosci. Model Dev.*, 719-734, https://doi.org/10.5194/gmd-14-719-2021.

2022

Zhang, C., J. M. Wallace, R. A. **Houze**, E. J. Zipser, and K. A. Emanuel, 2022: Relocation of GATE 1 from the Pacific to the Atlantic. *Bulletin of the American Meteorological Society, in press.*

OLYMPEX. *J. Geophys. Res. Atmos.,* **123,** https://doi.org/10.1029/2018JD029161.

Zagrodnik, J. P., L. A. McMurdie, and R. A. **Houze**, Jr., 2018: Stratiform precipitation processes in cyclones passing over a coastal mountain range. *J. Atmos. Sci.*, **75**, 983–1004, doi:10.1175/JAS-D-17-0168.1.

2019

Feng, Z., R. A. **Houze**, Jr., L. R. Leung, F. Song,J. C. Hardin, J. Wang, W. I. Gustafson, Jr., and C. R. Homeyer, 2019: Spatiotemporal characteristics and large-scale environments of mesoscale convective systems east of the Rocky Mountains. *J. Clim.*, accepted.

Fletcher, J. K., D. J. Parker, A. G. Turner, A. Menon, G. M. Martin, C. E. Birch, A. K. Mitra, G. Mrudula, K. M. R. Hunt, C. M. Taylor, R. A. **Houze**, Jr., S. R. Brodzik, G. S. Bhat, and J. H. Marshama, 2019: The dynamic and thermodynamic structure of the monsoon over southern India: New observations from the INCOMPASS IOP. *Quart. J. Roy. Meteor. Soc.,* INCOMPASS Special Collection 1-24, doi:10.1002/qj.3439.

Houze, R. A., Jr., and R. D. Houze, 2019: Cloud and Weather Symbols in the Historic Language of Weather Map Plotters. *Bull. Amer. Meteor. Soc.,* Vol. 100, No. 12, ES423-ES443. (Published online.)

Houze, R. A., Jr., J. Wang, J. Fan, S. Brodzik, and Z. Feng, 2019: Extreme convective storms over high-latitude continental areas where maximum warming is occurring. *Geophys. Res. Lett.*, **46**, 4059-4065. https://doi.org/10.1029/2019GL082414.

Riihimaki, L. D., R. A. **Houze**, Jr., L. A. McMurdie and K. Dorsey, 2019: Training a new generation of data-savvy atmospheric researchers. *EOS*, **100**, https://doi.org/10.1029/2019EO114793.

Rowe, A. K., R. A. **Houze**, Jr., S. Brodzik, and M. D. Zuluaga, 2019: The diurnal and microphysical characteristics of MJO rain events during DYNAMO. *J. Atmos. Sci.*, **76,** 1975-1988, doi:10.1175/JAS-D-18-0316.1.

Song, F., Z. Feng, L. R. Leung, R. A. **Houze**, Jr., J. Wang, J. Hardin, and C. R. Homeyer, 2019: Contrasting Spring and Summer Large-Scale Environments Associated with Mesoscale Convective Systems over the U.S. Great Plains. *J. Clim.*, **32**, 6749–6767, https://doi.org/10.1175/JCLI-D-18-0839.s1.

Wang, J., R. A. **Houze**, Jr., J. Fan, S. R. Brodzik, Z. Feng, and J. C. Hardin, 2019: The detection of mesoscale convective systems by the GPM Ku-band spaceborne radar. *J. Meteor. Soc. Japan,* **97**, 1059–1073, doi:10.2151/jmsj.2019-058.

Wang, D., S. E. Giangrande, K. A. Schiro, M. P. Jensen, and R. A. **Houze**, Jr., 2019: The characteristics of tropical and midlatitude mesoscale convective systems as revealed by radar wind profilers. *J. Geophys. Res. Atmos.,* **124**, 4601–4619. *("AGU Editors' Highlights" New Observations of Thunderstorm Updrafts and Downdrafts)*

Zagrodnik, J. P., L. A. McMurdie, R. A. **Houze**, Jr., and S. Tanelli, 2019: Vertical structure and microphysical characteristics of frontal systems passing over a three-dimensional coastal mountain range. *J. Atmos. Sci.*, **76**, 1521–1546, doi:10.1175/JAS-D-18-0279.1.

2021

Feng, Z., L. R. Leung, N. Liu, J. Wang, R. A. **Houze**, Jr., J. Li, J. C. Hardin, D. Chen and J. Guo, 2021: A global high-resolution mesoscale convective system database using satellite-derived cloud tops, surface precipitation, and tracking. *Journal of Geophysical Research: Atmospheres,* , **126**, e2020JD034202, https://doi. org/10.1029/2020JD034202.

Wang, J., J. Fan, R. A. **Houze**, Jr., S. R. Brodzik, K. Zhang, G. J. Zhang, and P.-L. Ma, 2021: Using radar observations to evaluate 3D radar echo structure simulated by the Global Model E3SM. *Geosci. Model Dev.*, 719-734, https://doi.org/10.5194/gmd-14-719-2021.

2022

Zhang, C., J. M. Wallace, R. A. **Houze**, E. J. Zipser, and K. A. Emanuel, 2022: Relocation of GATE 1 from the Pacific to the Atlantic. *Bulletin of the American Meteorological Society, in press*.

2023

Houze, Robert, 2023: *Hawai'i Journal 1991-2017, 54 pp*.
Available from lulu.com bookstore:
https://www.lulu.com/search?page=1&sortBy=RELEVANCE&q=hawaii+journal&pageSize=10&adult_audience_rating=00

2024

Houze, Robert, 2024: *Tropical Sojourns 1974-2011, 199 pp*.
Available from:
Amazon: https://a.co/d/f8181yo
Barnes and Noble: https://www.barnesandnoble.com/w/tropical-sojourns-1974-2011-robert-houze/1146584357?ean=9798989102624

Jenney, A. M., R. A. **Houze**, Jr., M. LeMone, E. J. Thompson, K. M. Núñez Ocasio, C. Zhang, and T. R. Nathan, 2024: Celebrating 50 years since GATE. *Bulletin of the American Meteorological Society*, submitted