

CURRICULUM VITAE

ANITA D. RAPP

AFFILIATION & ADDRESS

Department of Atmospheric Sciences
Texas A&M University
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EDUCATION

Ph.D. Atmospheric Science; Colorado State University, Fort Collins, Colorado, 2008
Dissertation: “On the Role of Warm Rain Clouds in the Tropics”
Advisor: Prof. Christian Kummerow

M.S. Atmospheric Science; Colorado State University, Fort Collins, Colorado, 2004
Thesis: “Evaluation of the Adaptive Infrared Iris Using TRMM Satellite Measurements”
Advisor: Prof. Christian Kummerow

B.S., Magna Cum Laude, Meteorology; Texas A&M University, College Station, Texas, 2000
Thesis: “On the Relationship Between Brightness Temperature and Thunderstorm Evolution”
Advisor: Prof. Michael Biggerstaff

RESEARCH INTERESTS

Clouds and Precipitation	Satellite Meteorology	Radar & Remote Sensing
Global Hydrologic Cycle	Atmospheric Radiation	Climate Change

PROFESSIONAL EXPERIENCE

Associate Professor, *Dept. of Atmospheric Sciences*, Texas A&M University, 2019–present
Assistant Professor, *Dept. of Atmospheric Sciences*, Texas A&M University, 2014–2019
Research Assistant Professor, *Dept. of Atmospheric Sciences*, Texas A&M University, 2012–2014
Assistant Research Scientist, *Dept. of Atmospheric Sciences*, Texas A&M University, 2010–2012
Visiting Postdoctoral Fellow, *Cooperative Institute for Research in Environmental Sciences*, University of Colorado, 2008–2009
Graduate Research Assistant, *Dept. of Atmospheric Science*, Colorado State University, 2002–2008
Teaching Assistant, *Dept. of Atmospheric Science*, Colorado State University, 2005
Research Scientist, *Analytical Services & Materials, Inc.*, Hampton, Virginia, 2000–2002

Intern, *Science Applications International Corporation*, Hampton, Virginia, 2000
Student Technician, Mesoscale Research Group, *Department of Atmospheric Sciences*, Texas
A&M University, 1998–2000

GRANTS & CONTRACTS

Current projects

- Elsaesser, G. (PI), **A.D. Rapp** (TAMU PI), Constraining Drivers of Tropical Precipitating Cloud Shield Areas Across Scales to Inform Climate Model Development; *NASA Precipitation Measurement Missions (PMM) Science Team*; \$518,820 (\$268K to Rapp).
- Rapp, A. D.** (PI), S. Brooks, C. Nowotarski: Targeted Mobile Measurements to Isolate the Impacts of Aerosols and Meteorology on Deep Convection; *DOE Atmospheric Systems Research*; 09/01/2020 – 08/31/2023; \$841,243.
- L'Ecuyer, T. (PI), **Rapp, A. D.** (Co-I), M. Rodell, S. Kato, W. Olson, M. Grecu, F. Robertson, J. Roberts, R. Adler, M. Bosilovich, G. Gu, and H. Beaudoin: Global and Regional Water and Energy Variations Under a Changing Climate. *NASA ROSES-2018 NEWS*; 05/01/2020–04/31/2023; \$2.4M (~\$267K to Rapp).
- Bowman, K. (PI), J. Anderson, E. Atlas, K. Bedka, P. Bui, D. Cziczo, B. Daube, J. Dykema, J. Elkins, T. Hanisco, E. Hintsa, C. Homeyer, L. Lait, C. Liu, F. Moore, P. Newman, and **A. D. Rapp** (Co-I), D. Sayres, J. Smith, J. St. Clair, R. Ueyama, D. Wilmouth, F. Keutsch, R. Hannun, A. Swanson: Dynamics and Chemistry of the Summer Stratosphere; *NASA NNH17ZDA001N-EVS3 Earth Venture Suborbital-3*; 01/01/2019–12/31/2023; \$15,488,251 (\$2.15M to TAMU shared between Bowman and Rapp).
- Rapp, A. D.** (PI); Towards understanding variability in precipitation-anvil area relationships; *NASA Precipitation Measurement Missions (PMM) Science Team*; 03/01/2019–02/28/2022; \$303,313.

Selected projects

- Rapp, A.D.**, Constraining Cloud Feedback Responses Associated with Precipitating Cloud Distribution Shifts under Changing Tropical Ascent Area; *NASA CALIPSO and CloudSat Science Team Re compete*; \$338,624.

Pending proposals

- Bombardi, R., and **A.D. Rapp** (Co-PI), Subseasonal Predictability of Tropical Cyclone Genesis; *NSF Climate and Large-Scale Dynamics*; \$389,844 (\$62K to Rapp).

Completed projects

- Loisel, J. (PI), A.G. Klein, Z. Wang, M.P. Bishop, D.M. Cairns, A.M. Filippi, C.L. Morgan, O. Frauenfeld, **A.D. Rapp** (Member), Z. Medina-Cetina: Monitoring Rapidly Changing Arctic Ecosystems Using High-Resolution Satellite-Based Datasets and Artificial Intelligence. *TAMU X-Grants*; 07/2018–07/2020; \$500,000 (~\$5400 to Rapp).
- Rapp, A.D.** (PI): Detection of Precipitation Onset with Implications for Passive Microwave Rainfall Retrievals; *NASA New Investigator Program*; 08/01/2014–12/31/2019; \$264,156 (+\$85,892 cost-shared by TAMU).
- L'Ecuyer, T., and **A.D. Rapp** (Co-I): Multi-parameter Diagnostics of Cloud Influences on the Atmospheric Energy and Water Cycle; *NASA NEWS*; 01/01/2015–12/31/2018; \$395,526 (TAMU subcontract \$122,514).

- Rapp, A. D.** (PI, transferred from S. Nasiri): Collaborative Research: Understanding Relationships between Dual-Polarimetric In-Cloud Microphysics and Satellite-Observed Cumulus Cloud Properties to Predict Lightning Character; *NSF Physical and Dynamic Meteorology*; 08/15/2013–07/31/2018 (transferred 8/26/2015); \$231,698.
- Rapp, A. D.** (PI): Local and Remote Effects of Subtropical Cumulus Convection; *NASA NNX13AC14G*; 3/15/2013–02/10/2018; \$296,035.
- Rapp, A. D.** (PI): Quantifying the Water and Energy Budgets of Marine Subsidence Regions; *NASA NNX13AC14G*; 12/01/2012–11/30/2015; \$137,107.
- Rapp, A. D.** (PI): Evaluation of Climate Models in the Southeast Pacific Marine Stratocumulus Region; *NSF AGS-1128024*; 05/01/2011–04/30/2012; \$29,996.
- Rapp, A. D.** (PI): Investigation of Precipitating Marine Stratocumulus Clouds in the Southeastern Pacific using CloudSat; *NASA NNX10AM21G*; 07/01/2010–06/30/2014; \$168,561.
- Johnson, Marston (PI), D. Chen (Co-I), S. Cooper (Co-I), T. L’Ecuyer (Collaborator), **A. D. Rapp** (Collaborator): Assessing Cloud and Precipitation Distributions and their Radiative Impacts in EC-Earth, OpenIFS, and CAM6; *Swedish National Space Board*; 2016–2018.
- Conlee, D. (PI), S. Nasiri (Co-I), **A. D. Rapp** (Co-I): Student Operational ADRAD Project, TAMU College of Geosciences High Impact Learning Proposal, Summer 2012–Summer 2014; \$60,000.

AWARDS

- Texas A&M Center for Teaching Excellence Montague Scholar, 2017–2018
- Association of Former Students at Texas A&M Distinguished Achievement Teaching Award College Level, 2016
- Outstanding Faculty Research Award, Department of Atmospheric Sciences, Texas A&M University, 2014
- Outstanding Poster Presentation, *World Climate Research Programme Open Science Conference*, October 2011
- Visiting Postdoctoral Fellowship, *Cooperative Institute for Research in Environmental Sciences*, University of Colorado, 2008–2009
- NASA Earth System Science Fellowship*, 2005–2008
- Superior Accomplishment Award, *NASA Contractors Steering Council*, 2002
- Superior Accomplishment Award, *NASA Contractors Steering Council*, 2001
- University Undergraduate Research Fellow, *Texas A&M University Honors Program*, 2000

PEER-REVIEWED PUBLICATIONS (*/#/\$ INDICATES GRADUATE/UNDERGRADUATE/POSTDOC)

30. *Wodzicki, K. R., and **A. D. Rapp**, 2022: More intense, organized deep convection with shrinking tropical ascent regions. Accepted in *Geophys. Res. Lett.*
29. *Sun, L., **A. D. Rapp**, T. L’Ecuyer, A. S. Daloz, E. A. Nelson: Environmental response in coupled energy and water cloud impact parameters derived from A-Train satellite, ERA-Interim and MERRA-2. *J. Appl. Meteor. Climatol.*, doi:10.1175/JAMC-D-21-0078.1.

28. §Chang, K.-W., K. P. Bowman, L. W. Siu, and **A. D. Rapp**: Convective influence on the North American Monsoon anticyclone at intraseasonal and interannual time scales. *J. Atmos. Sci.*, **78**, 2941–2956, doi:10.1175/JAS-D-21-0009.1.
27. *Smalley, K., and **A. D. Rapp**, 2021: The impact of rain rate, raining patch size, and spacing on southeastern Pacific cloud fraction transitions. *Environ. Res. Commun.*, **3**, 051001, doi: 10.1088/2515-7620/abf9ad.
26. *Smalley, K., and **A. D. Rapp**, 2021: A-Train estimates of the sensitivity of the cloud-to-rainwater ratio to cloud size, relative humidity, and aerosols. *Atmos. Chem. Phys.*, **21**, 2765–2779, doi:10.5194/acp-21-2765-2021. (*Selected for Editor's Choice Highlight*)
25. *Wodzicki, K. R., and **A. D. Rapp**, 2020: Variations in precipitating convective feature populations with ITCZ Width in the Pacific Ocean. *J. Climate*, **33**, 4391-4401, doi:10.1175/JCLI-D-19-0689.1.
24. *Smalley, K., and **A. D. Rapp**, 2020: The role of cloud size and environmental moisture in precipitation in shallow cumulus. *J. Appl. Meteor. and Clim.*, **59**, 535-550, doi:10.1175/JAMC-D-19-0145.1.
23. *Ren, T., **A. D. Rapp**, J. Mecikalski, and J. Apke, 2019: Lightning and associated convection features in the presence of absorbing aerosols over northern Alabama. *J. Geophys. Res. Atmos.*, **124**, 13375-13396, doi: 10.1029/2019JD031544.
22. #Bartos, E. A., **A. D. Rapp**, and *K. R. Wodzicki, 2018: Increasing frequency of midtropospheric dry layers in the Pacific Intertropical Convergence Zone. *Geophys. Res. Lett.*, **45**, 13523-13529.
21. Daloz, A. S., E. Nelson, T. L'Ecuyer, **A. D. Rapp**, *L. Sun, 2018: Assessing the coupled influences of clouds on the atmospheric energy and water cycles in reanalyses with A-Train Observations. *J. Climate*, **31**, 8241-8264.
20. Byrne, M. P., A. G. Pendergrass, **A. D. Rapp**, and *K. Wodzicki, 2018: Response of the Intertropical Convergence Zone to climate change: Location, width, and strength. *Current Climate Change Reports*, **4**, 355-370.
19. *Ren, T., **A. D. Rapp**, S. Nasiri, J. Mecikalski, and J. Apke, 2018: Is awareness of the aerosol state useful in predicting enhanced lightning for lightning-producing storms over northern Alabama? *J. Appl. Meteor. Clim.*, **57**, 1663-1681.
18. Stephens, G., M. Hakuba, M. Webb, M. Lebsock, Q. Yue, B. Kahn, S. Hristova-Veleva, **A. D. Rapp**, C. Stubenrauch, G. Elsaesser, and J. Slingo, 2018: Regional intensification of the tropical hydrological cycle during ENSO. *Geophys. Res. Lett.*, **45**, doi:10.1029/2018GL077598.
17. Yi, B., **A. D. Rapp**, P. Yang, B. Baum, and M.D. King, 2017: A comparison of Aqua MODIS ice and liquid water cloud physical and optical properties between Collection 6 and Collection 5.1: Pixel-to-pixel comparisons. *J. Geophys. Res. Atmos.*, **122**, 4528–4549, doi:10.1002/2016JD025586.
16. Yi, B., **A. D. Rapp**, P. Yang, B. Baum, and M.D. King, 2017: A comparison of Aqua MODIS ice and liquid water cloud physical and optical properties between Collection 6 and Collection 5.1: Cloud radiative effects. *J. Geophys. Res. Atmos.*, **122**, 4550–4564, doi:10.1002/2016JD025654.
15. **Rapp, A. D.**, 2016: Observational evidence linking precipitation and mesoscale cloud fraction in the southeast Pacific. *Geophys. Res. Lett.*, **43**, 7267–7273, doi:10.1002/2016GL069906.

14. *Wodzicki, K., and **A. D. Rapp**, 2016: Long-term characterization of the Pacific ITCZ using TRMM, GPCP, and ERA-Interim. *J. Geophys. Res. Atmos.*, **121**, 3153–3170, doi:10.1002/2015JD024458.
13. *Ford, T. W., S. M. Quiring, O. W. Frauenfeld, **A. D. Rapp**, 2015: Synoptic conditions related to soil moisture-atmosphere interactions and unorganized convection in Oklahoma. *J. Geophys. Res. Atmos.*, **120**, 11519–11535, doi:10.1002/2015JD023975.
12. *Ford, T. W., **A. D. Rapp**, S. M. Quiring, and J. Blake, 2015: Soil moisture–precipitation coupling: Observations from the Oklahoma Mesonet and underlying physical mechanisms. *Hydrol. Earth Syst. Sci.*, **19**, 3617–3631, doi:10.5194/hess-19-3617-2015.
11. **Rapp, A. D.**, 2015: Cloud responses of the AMIP simulations of CMIP5 models in the southeastern Pacific marine subsidence region. *Int. J. Climatol.*, **35**, 2908–2921, doi: 10.1002/joc.4181.
10. *Ford, T.W., **A. D. Rapp**, and S. M. Quiring, 2014: Does convection occur preferentially over dry or wet soils in Oklahoma? *J. Hydrometeorol.*, **16**, 874–888, doi:10.1175/JHM-D-14-0005.1.
9. **Rapp, A. D.**, A. Peterson, O. W. Frauenfeld, S. M. Quiring, and E. B. Roark, 2014: Climatology of precipitation and storm characteristics in Costa Rica using the TRMM Precipitation Radar. *J. Hydrometeorol.*, **15**, 2615–2633, doi:10.1175/JHM-D-13-0174.1.
8. *Teale, N., #H. Mahan, #S. Bleakney, #A. Berger, #N. Shibley, O. W. Frauenfeld, S. M. Quiring, **A. D. Rapp**, E. B. Roark, and R. Washington-Allen, 2014: Impacts of vegetation and precipitation on throughfall heterogeneity in a tropical pre-montane transitional cloud forest. *Biotropica*, **46**, 667–676, doi:10.1111/btp.12166.
7. *DePasquale, A., C. Schumacher, and **A. D. Rapp**, 2014: Radar observations of MJO and Kelvin wave interactions during DYNAMO/CINDY2011/AMIE. *J. Geophys. Res. Atmos.*, **119**, 6347–6367, doi:10.1002/2013JD021031.
6. **Rapp, A.D.**, M. Lebsock, and T. L’Ecuyer, 2013: Low cloud precipitation climatology in the southeastern Pacific marine stratocumulus region using CloudSat. *Environ. Res. Lett.*, **8**, 014027, doi:10.1088/1748-9326/8/1/014027.
5. **Rapp, A. D.**, C. Kummerow, and L. Fowler, 2011: Interactions between warm rain clouds and atmospheric preconditioning for deep convection in the Tropics. *J. Geophys. Res. Atmos.*, **16**, D23210, doi:10.1029/2011JD016143.
4. **Rapp, A. D.**, M. Lebsock, and C. Kummerow, 2009: On the consequences of resampling microwave radiometer observations for use in retrieval algorithms. *J. Appl. Meteor. Climatol.*, **48**, 1981–1993, doi:10.1175/2009JAMC2155.1.
3. **Rapp, A. D.**, C. Kummerow, and G. Elsaesser, 2009: A combined multi-sensor optimal estimation retrieval algorithm for warm rain clouds. *J. Appl. Meteor. Climatol.*, **48**, 2242–2256, doi:10.1175/2009JAMC2156.1.
2. **Rapp, A. D.**, C. Kummerow, W. Berg, and B. Griffith, 2005: An evaluation of the proposed mechanism of the adaptive infrared iris hypothesis using TRMM VIRS and PR measurements. *J. Climate*, **18**, 4185–4194, doi:10.1175/JCLI3528.1.
1. Dong, X., P. Minnis, G. G. Mace, W. L. Smith, Jr., M. Poellot, R. T. Marchand, and **A. D. Rapp**, 2002: Comparison of stratus cloud properties deduced from surface, GOES, and aircraft data during the March 2000 ARM Cloud IOP. *J. Atmos. Sci.*, **59**, 3265–3284.

SUBMITTED PUBLICATIONS (*/#/\$ INDICATES GRADUATE/UNDERGRADUATE/POSTDOC)

^{\$}Chang, K.-W, K. P. Bowman, and **A. D. Rapp**, 2022: Transport and confinement of plumes from tropopause-overshooting convection over the contiguous United States during the warm season. In revision for *J. Geophys. Res. Atmos.*

OTHER PUBLICATIONS

- Rapp, A. D.**, C. Kummerow, W. Berg, B. Griffith, 2002: Shedding light on the adaptive infrared iris hypothesis, *Bull. Amer. Meteorol. Soc.*, **86**, 1727–1728.
- Khaiyer, M. M., J. Huang, P. Minnis, B. Lin, W. L. Smith, Jr., A. Fan, **A. D. Rapp**: Validation of satellite-derived liquid water paths using ARM SGP microwave radiometers, *Proc. 13th ARM Science Team Meeting*, March 31–April 4, 2003.
- Ayers, J. K., P. W. Heck, **A. D. Rapp**, P. Minnis, D. F. Young, W. L. Smith, Jr., L. Nguyen: A one-year climatology of cloud properties derived from GOES-8 over the southeastern Pacific for PACS, *Proc. 11th AMS Conference on Cloud Physics*, June 3–7, 2002.
- Kawamoto, K., P. Minnis, W. L. Smith, Jr., **A. D. Rapp**: Detecting multilayer clouds using satellite solar and IR channels, *Proc. 11th AMS Conference on Atmospheric Radiation*, June 3–7, 2002.
- Rapp, A. D.**, D. R. Doelling, M. M. Khaiyer, P. Minnis, W. L. Smith, Jr., L. Nguyen: Analysis of solar absorption derived from ARM surface and satellite measurements, *Proc. 11th AMS Conference on Atmospheric Radiation*, 43–46, June 3–7, 2002.
- Smith, W. L., Jr., P. Minnis, B. C. Bernstein, **A. D. Rapp**, P. W. Heck: Supercooled liquid water cloud properties derived from GOES: Comparisons with in-situ aircraft measurements, *Proc. 10th AMS Conference on Aviation, Range, and Aerospace Meteorology*, 89–92, May 13–16, 2002.
- Chakrapani, V., D.R. Doelling, **A.D. Rapp**, P. Minnis: Cloud thickness estimation from GOES-8 satellite data over the ARM-SGP site, *Proc. 12th ARM Science Team Meeting*, April 2002.
- Khaiyer, M. M., **A. D. Rapp**, P. Minnis, W. L. Smith, Jr., D. R. Doelling, L. Nguyen, Q. Min: Evaluation of a 5-year cloud and radiative property dataset derived from GOES-8 data over the Southern Great Plains, *Proc. 12th ARM Science Team Meeting*, April 8–12, 2002.
- Minnis, P., W. L. Smith, Jr., **A. D. Rapp**, P. W. Heck, D. F. Young, L. Nguyen, M. M. Khaiyer: Near-real-time retrieval of cloud properties over the ARM CART area from GOES Data, *Proc. 12th ARM Science Team Meeting*, April 8–12, 2002.
- Nguyen, L., P. Minnis, D. F. Young, W. L. Smith, Jr., P. W. Heck, **A. D. Rapp**: Use of multi-resolution imager data to account for partially cloud-filled pixels, *Proc. 12th ARM Science Team Meeting*, April 8–12, 2002.
- Minnis, P., W. L. Smith, Jr., D. F. Young, L. Nguyen, **A. D. Rapp**, P. W. Heck, S. Sun-Mack, Q. Z. Trepte, Y. Chen: A near-real time method for deriving cloud and radiation properties from satellites for weather and climate studies, *Proc. 11th AMS Conference on Satellite Meteorology and Oceanography*, October 15–18, 2001.
- Ayers, J. K., P. W. Heck, **A. D. Rapp**, P. Minnis, W. L. Smith, Jr., C. W. Fairall, and S. Frisch: Validation of cloud properties derived from geostationary satellite data over the southeastern Pacific, *Proc. IAMAS 8th Scientific Assembly*, July 10–18, 2001.

- Khaiyer, M. M., **A. D. Rapp**, D. R. Doelling, M. L. Nordeen, P. Minnis, W. L. Smith, Jr., L. Nguyen: A 3-year climatology of cloud and radiative properties derived from GOES-8 data over the Southern Great Plains, *Proc. 11th ARM Science Team Meeting*, March, 2001.
- Nordeen, M. L., D. R. Doelling, M. M. Khaiyer, **A. D. Rapp**, P. Minnis, L. Nguyen: GMS-5 Satellite-derived cloud properties over the tropical western Pacific, *Proc. 11th ARM Science Team Meeting*, March 19–23, 2001.
- Rapp, A. D.**, D. R. Doelling, M. M. Khaiyer, P. Minnis, W. L. Smith, Jr., L. Nguyen, M. P. Haeffelin, F. P. J. Valero, S. Asano: Comparison of shortwave cloud radiative forcing derived from ARM SGP surface and GOES-8 satellite measurements during ARESE-I and ARESE-II, *Proc. 11th ARM Science Team Meeting*, March 19–23, 2001.

TEACHING EXPERIENCE

Graduate:

ATMO655: *Satellite Data in Meteorology*, Dept. of Atmospheric Sciences, Texas A&M University, Spring 2018

Undergraduate:

ATMO446: *Physical Meteorology*, Dept. of Atmospheric Sciences, Texas A&M University, Fall 2014, 2015, 2016, 2018, 2020, 2021

ATMO485: *Directed Studies*, Dept. of Atmospheric Sciences, Texas A&M University, Fall 2016, Spring 2017, Spring 2022

ATMO681: *Seminar*, Department of Atmospheric Sciences, Texas A&M University, Spring 2016

ATMO441: *Satellite Meteorology and Remote Sensing*, Dept. of Atmospheric Sciences, Texas A&M University, Spring 2015, 2016, 2017, 2019, 2020, 2021, 2022

ATMO491: *Research*, Dept. of Atmospheric Sciences, Texas A&M University, Spring 2016, Fall 2020, Spring 2021, Fall 2021

ATMO443: *Radar Meteorology*, Dept. of Atmospheric Sciences, Texas A&M University, Fall 2011, Fall 2012

GEOG324W: *Global Climate Regions (Writing Intensive)*, Dept. of Geography, Texas A&M University, Fall 2012

ATMO491: *Summer SOAP*, Dept. of Atmospheric Sciences, Texas A&M University, Summer 2012, Summer 2013

AT622: *Atmospheric Radiation*, Teaching Assistant, Dept. of Atmospheric Science, Colorado State University, Spring 2005

ADVISING & MENTORING

Ph.D. Graduate Advising:

Kyle Wodzicki, Fall 2015–Spring 2021, “Changes in tropical convection and cloud populations with ITCZ width and implications for the Hadley circulation”, supported by NASA PMM

Kevin Smalley, Fall 2016–Fall 2020, “A-train analysis of marine low cloud structure, organization and warm rain”, supported by NASA NIP, NASA PMM, returned IDC

Tong Ren, Fall 2015–Summer 2018, “Aerosol lightning enhancement over Northern Alabama: Predictions, mechanisms, and simulations”, supported by NSF

M.S. Graduate Advising:

Kassidy Lange, Fall 2021–present, supported by NASA NEWS

Harrison Miller, Fall 2021–present, supported NASA PMM

John Cole, Fall 2019–present (co-advised Bowman), supported by NASA DCOTSS

Daniel Jellis, Fall 2019–present (co-advised with Bowman), supported by NASA DCOTSS

Lu Sun, Fall 2015–Spring 2019, “Cloud impact parameters derived from A-Train satellite, ERA-Interim, MERRA-2 and their relationship to the environment”

Corey Howard, Fall 2015–Summer 2018, “How well do ERA-Interim and MERRA-2 capture ITCZ characteristics and precipitation?”

Robert Marter, Fall 2014–Fall 2017, “Passive microwave precipitation biases: Relationship to cloud properties”

Kyle Wodzicki, Fall 2013–Fall 2015, “A climatology of Pacific ITCZ characteristics from an automated, objective algorithm”

Allison Zapalac, Fall 2012–Winter 2014, “Characteristics of a marine stratocumulus to cumulus cloud transition”

Amanda DePasquale, Fall 2011–Summer 2013 (Co-advisor), “Radar observations of MJO and Kelvin wave interactions during DYNAMO/AMIE/CINDY2012”

Alisha Brooke Sutphin, Fall 2011–Summer 2013 (Co-advisor), “Characteristics of tropical midlevel clouds using A-Train”

Graduate Committees:

Dongchen Li (ATMO), 2021–present

Seth Thompson (ATMO), 2021–present

Yuheng Zhang (ATMO), 2021–present

Anirban Chakraborty (STAT), 2021–present

Dongchen Li (ATMO), 2020–present

Madison Hetlage (AERO), 2020–present

Rhett Douris (GEOG), 2017–present

Lauren Hill-Beaton (Rutgers, ATMO), 2020–2021

Lidia ChuquiHuaccha (ATMO), 2017–2021

Adam Bell (ATMO), 2018–2020

Yi Wang (ATMO), 2016–2020

John Cooney (ATMO), 2018–2019

Jiachen Ding (ATMO), 2015–2019

Wenlong Gong (STAT), 2016–2019

Emily Mason (ATMO), 2016–2018

Claire Schirle (Univ. of Utah), 2016–2018

Chia-Pang Kuo (ATMO), 2015–2018

Souichiro Hioki (ATMO), 2014–2018

Dominic Cartina (ATMO), 2015–2017

Trent Ford (GEOG), 2013–2015

Undergraduate Research Mentoring:

Brenden Bishop, Spring 2021 - 2021

Amelie Berger, Summer 2013

Kristin Walla, Fall 2020 - 2021
Samantha Nebylitsa, Summer 2018
Elissa Smith, Spring 2016–2018
Drew Koeritzer, Summer 2016–2018
Nicholas Slaughter, Summer 2017
Claire Schirle, Summer 2015
Hayden Mahan, Summer 2013

Alexander Peterson, Summer 2012
Natalie Teale, Summer 2012
Nicole Shibley, Summer 2012
Emily Morris, Summer 2012
Sarah Berry, Summer 2011
Samantha Wills, Summer 2011
Arelis Rivera, Summer 2011

Postdoctoral Research Advising:

Kai-Wei Chang, 2020–present (co-mentored with Bowman), supported by NASA DCOTSS
Kyle Wodzicki, 2021–2022 (co-mentored with Bowman), supported by NASA DCOTSS

PROFESSIONAL ACTIVITIES AND MEMBERSHIPS

Co-chair of Cloud and Radiation Working Group, NASA Energy and Water Cycle Study
(NEWS) Science Team, 2013–2015
Science team member, NASA DCOTSS, 2019–present
Science team member, NASA NEWS, 2013–present
Science team member, NASA Precipitation Measurement Missions, 2013–2017, 2019–present
Science team member, NASA CloudSat/CALIPSO, 2009–2014, 2022–present
Committee Member, *American Meteorological Society* Committee on Satellite Meteorology and
Oceanography, 2006–2009
Graduate Student Representative, *Department of Atmospheric Science*, Colorado State
University, 2005–2006
Satellite Expert, *The Case of the Phenomenal Weather*, NASA Why? Files Children’s Television
Show, 2002
President, Texas A&M Student Chapter of the American Meteorological Society, 1999–2000
Secretary, Texas A&M Student Chapter of the American Meteorological Society, 1998–1999

Editor

Journal of Applied Meteorology and Climatology, 2017–present

Peer Reviewer

Bulletin of the American Meteorological Society
Nature Climate Change
Geophysical Research Letters
Climatic Change
Journal of Applied Meteorology and Climatology
Journal of Climate
Journal of Geophysical Research Atmospheres
Journal of Hydrometeorology
International Journal of Climatology
IEEE Transactions on Geoscience and Remote Sensing
Atmospheric Research
NASA
NSF
DOE

Review Panels

DOE ANL-BNL Science Focus Area - 2020
NASA Earth Science Senior Review Panel - 2020
NASA Earth Venture Instruments 4 - 2017
DOE ASR Program 2016 Funding Opportunity
DOE ASR New Site Science Opportunities in the ENA and NSA 2014
NASA ROSES 2012 Modeling, Analysis, and Prediction
NASA ROSES 2012 Weather

Session Chair/Invited Panelist

2020 NOAA-DOE Precipitation Processes and Predictability Workshop
2016 17th International Conference on Clouds and Precipitation
2016 GEWEX Earth's Hydrological Sensitivity to Climate Change Workshop
2015, 2016 TEES Smart Grid Center Workshop
2014 14th AMS Conference on Cloud Physics and Atmospheric Radiation
2014 Precipitation Measuring Mission Science Team Meeting

Memberships

American Meteorological Society, 1998–present
American Geophysical Union, 2000–present
European Geophysical Union, 2006
Sigma Xi Research Honor Society

SERVICE/OUTREACH

Texas A&M Dept. of Atmospheric Sciences Research Faculty Search Committee, Spring 2022
Texas A&M College of Geosciences Climate and Diversity Committee Member, 2019-present
Texas A&M College of Geosciences IT Committee Member, 2019-present
Texas A&M College of Geosciences Awards Committee Member, 2019-present
Texas A&M Dept. of Atmospheric Sciences Graduate Committee Member, 2019-present
Texas A&M Dept. of Atmospheric Sciences Faculty Search Chair, Summer 2019–Spring 2020
Texas A&M Dept. of Atmospheric Sciences Open Rank Faculty Search Committee Member,
Summer 2018–Spring 2019
Texas A&M Dept. of Atmospheric Sciences Department Head Search Committee Member, 2018
Invited by NASA SMD director to organize and lead NASA Young Leaders Panel at AGU, 2017
Texas A&M Dept. of Atmospheric Sciences Academic Program Review Committee, Fall 2016–
present
Texas A&M Dept. of Atmospheric Sciences Faculty Search Committee Member, Fall 2015–
Spring 2016
Faculty mentor, *Research Experience for Undergraduates (REU): Atmospheric Science in the
Gulf Coast Region at Texas A&M University*, Summers 2015–2018
Texas A&M University Youth Adventure Program, Summer 2014, 2016
Texas A&M Dept. of Atmospheric Sciences Department Head Search Committee Member, 2012
Texas A&M Atmospheric Sciences Department IT committee member, 2012

Faculty mentor, *Research Experience for Undergraduates (REU): Eco-hydrology of a Tropical Montane Cloud Forest*, Summers 2011–2013

NASA Education and Public Outreach presentation at Metairie Academy for Advanced Studies, New Orleans, LA, October 2011

Departmental representative for Texas A&M Atmospheric Science research staff, 2010–2011

K-12 Teacher Workshop Volunteer, *Center for Ocean Sciences Education Excellence (COSEE) West Colorado Collaborative*, 2009

INVITED ORAL PRESENTATIONS (*GRADUATE STUDENT)

Rapp, A. D., Observational perspectives from the upcoming TRACER campaign, Invited panelist on Regional Precipitation for *NOAA-DOE Precipitation Processes and Predictability Workshop*, Virtual workshop, December 2020.

Rapp, A. D., and *K. Wodzicki, Shifts in deep convection distribution with tropical ascent area changes, *NASA Precipitating Measuring Missions Science Team Meeting*, short oral & poster, Virtual meeting, October 2020.

*Wodzicki, K., and **A. D. Rapp**, Variations in cloud populations with ITCZ width in the Pacific Ocean. Invited Seminar, College Station, Texas, Texas A&M University, 12 February 2020.

Rapp, A. D., and *K. Wodzicki, Variability in convective feature populations with ITCZ width in the Pacific, *NASA Precipitating Measuring Missions Science Team Meeting*, Indianapolis, November 2019.

Rapp, A. D., Overview of useful LEO observations for DCOTSS, *NASA DCOTSS Science Team Meeting*, Denver, October 2019.

Rapp, A. D., and *K. Wodzicki, Observational climatology of Pacific ITCZ characteristics, *GEWEX Earth's Hydrological Sensitivity to Climate Change Workshop*, Exeter, UK, June 20, 2016.

Rapp, A. D., Multiscale impacts of precipitation on marine boundary layer clouds, *Dept. of Atmospheric and Oceanic Sciences Seminar*, University of Wisconsin-Madison, Madison, Wisconsin, April 27, 2015.

Rapp, A. D.: Climate, climate monitoring, and climate change, *Yucutan Initiative TAMU-SIIDETAY Climate Change Workshop*, Merida, Mexico, January 26, 2015.

Rapp, A. D., Multiscale feedbacks of precipitation on marine boundary layer clouds, *Dept. of Earth, Ocean, and Atmospheric Sciences Seminar*, Florida State University, Tallahassee, Florida, February 13, 2014.

Rapp, A. D., and *K. Wodzicki: Relationship between shallow convection and lower tropospheric water vapor, *NASA Precipitating Measuring Missions Science Team Meeting*, Baltimore, Maryland, August 7, 2014.

Rapp, A. D., C. Kummerow, G. Elsaesser, M. Lebsack, and L. Fowler: On the role of warm rain clouds in the tropics, *Invited seminar, Texas A&M University*, College Station, TX, December 7, 2010.

CONTRIBUTED ORAL PRESENTATIONS (*GRADUATE STUDENT, \$POSTDOC)

Rapp, A. D., and *K. Wodzicki, Shifts in deep convection with shrinking tropical ascent area. *American Meteorological Society 102nd Annual Meeting*, January 2022.

- Rapp, A. D.**, and *K. Wodzicki, More intense, organized deep convection with shrinking tropical ascent area. *NASA Precipitating Measuring Missions Science Team Meeting*, October 2021.
- K. Bowman, **A. D. Rapp**, \$K.-W. Chang, *J.P. Cole, *D. Jellis, and \$K. Wodzicki: DCOTSS 2021 Science Team Meeting TAMU Status Report. *DCOTSS Science Team Meeting*, November 2021.
- \$Chang, K.-W., K. Bowman, L. W. Siu, **A. D. Rapp**: Convective forcing of the North American Monsoon Anticyclone at intraseasonal and interannual time scales. *AGU Fall Meeting*, December 2021.
- \$Chang, K.-W., K. Bowman, L. W. Siu, **A. D. Rapp**: Connection between North American Monsoonal precipitation and the UTLs anticyclone. *NASA DCOTSS Science Team Meeting*, October 2020.
- Rapp, A. D.**, *L. Sun, *K. Smalley, and T. L'Ecuyer: Environmental modulation of the strength of cloud-radiation-precipitation coupling, *AGU Fall Meeting*, San Francisco, California, December 2019.
- Rapp, A. D.**, *L. Sun, *K. Smalley, T. L'Ecuyer, A.S. Daloz: Thermodynamic controls on the scaling between precipitation and cloud radiative impacts, *AMS 15th Conference on Atmospheric Radiation and Cloud Physics*, Vancouver, Canada, July 2018.
- Rapp, A. D.**, *K.R. Wodzicki, and #E.A. Smith: Observed changes in ITCZ extent and the relationship to midtropospheric dry layers, *AMS 98th Annual Meeting*, Austin, TX, January 2018.
- *Wodzicki, K.R., and **A. D. Rapp**: Relating the morphology of convection to ITCZ extent, *AMS 98th Annual Meeting*, Austin, TX, January 2018.
- *Ren, T., **A. D. Rapp**, J.R. Mecikalski, and J. Apke: Lightning and associated convection features in the presence of absorbing aerosols over northern Alabama, *AMS 98th Annual Meeting*, Austin, TX, January 2018.
- Rapp, A. D.**, *L. Sun, *K. Smalley: Drivers in the scaling between precipitation and cloud radiative impacts in deep convection, *AGU Fall Meeting*, New Orleans, LA, December 2017.
- Rapp, A. D.**, *L. Sun, T. L'Ecuyer: Cloud and environmental regime dependence of precipitating cloud radiative impact parameters using CloudSat/CALIPSO, *A-Train Symposium*, Pasadena, CA, April 2017.
- Hakuba, M.Z., G.L. Stephens, B. Kahn, Q. Yue, M. Lebsock, Hristova-Velva, S., **A. D. Rapp**, C. Stubenrauch: Dynamically driven super CC intensification of the tropical hydrological cycle, *EGU General Assembly*, Vienna, Austria, April 2017.
- Rapp, A. D.** and *K. Wodzicki: Linking observed long-term changes in ITCZ characteristics and the morphology of convective systems, *AGU Fall Meeting*, San Francisco, CA, December 14, 2016.
- Rapp, A. D.**, *L. Sun, and T. L'Ecuyer: Regime dependence of precipitating cloud radiative efficiencies using CloudSat/CALIPSO, *21st AMS Conference on Satellite Meteorology and Oceanography*, Madison, WI, August, 18, 2016.
- *Wodzicki, K., and **A. D. Rapp**: Observed changes in the morphology of TRMM precipitation features in the ITCZ, *21st AMS Conference on Satellite Meteorology and Oceanography*, Madison, WI, August, 15, 2016.

- Rapp, A. D.**, *L. Sun, and T. L'Ecuyer: Regime dependence of precipitating cloud radiative impact parameters, *17th International Conference on Clouds and Precipitation*, Manchester, UK, July, 26, 2016.
- Rapp, A. D.**, and T. L'Ecuyer: Scale-dependence of precipitation impacts on radiative effects in low cloud regimes, *AGU Fall Meeting*, San Francisco, CA, December 18, 2015.
- *Wodzicki, K., and **A. D. Rapp**: Long-term variability in ITCZ characteristics from an automated objective identification algorithm, *AGU Fall Meeting*, San Francisco, CA, December 15, 2015.
- Rapp, A. D.**, and *A. Zapalac: The sensitivity of stratocumulus to shallow cumulus transitions to precipitation, *AGU Joint Assembly*, Montreal, Quebec, May 8, 2015.
- Rapp, A. D.**, and *A. Zapalac: Evidence for the importance of precipitation in closed to open cell transitions, *14th AMS Conference on Cloud Physics and Atmospheric Radiation*, Boston, MA, July 10, 2014.
- Rapp, A. D.**: Water and energy budgets of marine subsidence regions, *NASA Energy and Water Cycle Science Team Meeting*, Greenbelt, MD, May 29, 2014.
- Rapp, A. D.**, and *A. Zapalac: Impacts of precipitation on low clouds using A-Train measurements, *Joint EUMETSAT/AMS Meeting*, Vienna, Austria, September 29, 2013.
- Rapp, A. D.**, M. Lebsock, and T. L'Ecuyer: Quantifying the water and energy budgets of marine subsidence regions, *NASA Energy and Water Cycle Science Team Meeting*, Greenbelt, MD, May 1, 2013.
- *DePasquale, A., C. Schumacher, **A. D. Rapp**: Radar observations of MJO and Kelvin wave interactions during DYNAMO/CINDY2011/AMIE, *MJO Field Data and Science Workshop*, Kohala Coast, HI, March 5, 2013.
- Rapp, A. D.**, Comparison of observational and CMIP5 interannual cloud forcing response in the southeastern Pacific, *AMS Annual Meeting*, Austin, TX, January 10, 2013.
- Conlee, D. S.L. Nasiri, and **A. D. Rapp**: Teaching meteorological and observing fundamentals through high-impact learning, *AMS Annual Meeting*, Austin, TX, January 8, 2013.
- Rapp, A. D.**, M. Lebsock, and T. L'Ecuyer: On precipitation in the southeastern Pacific marine subsidence region, *AGU Fall Meeting*, San Francisco, CA, December 7, 2012.
- Rapp, A. D.**, M. Lebsock, and T. L'Ecuyer: Understanding precipitation in southeastern Pacific marine low clouds, *Joint CALIPSO CloudSat Earthcare Science Workshop*, Paris, France, June 19, 2012.
- M. Lebsock, T. L'Ecuyer, J. Haynes, and **A. D. Rapp**: A view of warm rain from CloudSat. *CloudSat/CALIPSO Science Team Meeting*, Montreal, Quebec, June 17, 2011.
- Rapp, A. D.**: View of VOCALS region from CloudSat, *NOAA PSD 3 Branch Meeting*, Boulder, CO, September 18, 2009.
- Fairall, C.F. and **A.D. Rapp**: CloudSat case study and preliminary look at observations from VOCALS, *2nd VOCALS Science Meeting*, Seattle, WA, July 12–14, 2009.
- Rapp, A. D.** and C. Kummerow: The relation between SST, precipitation and wave structures across the equatorial Pacific, *AMSR Science Team Meeting*, Telluride, CO, July 14, 2008.
- Rapp, A. D.**, C. Kummerow, G. Elsaesser: On the effects of warm rain clouds in the Tropics, *Third International NASA/JAXA TRMM Science Conference*, Las Vegas, NV, February 4–8, 2008.
- Rapp, A. D.** and C. Kummerow: Influence of SST on cloud properties of warm rain systems, *Joint EUMETSAT Meteorological Satellite & 15th AMS Satellite Meteorology and Oceanography Conference*, Amsterdam, The Netherlands, September 24–28, 2007.

- Rapp, A. D.**, C. Kummerow, T. Matsui: Impact of SST and water vapor on cloud properties of warm rain systems, *EGU General Assembly*, Vienna, Austria, April 2–7, 2006.
- Rapp, A. D.** and C. Kummerow: The role of warm rain systems in the Tropics?, *31st International Symposium on Remote Sensing of Environment*, St. Petersburg, Russia, June 20–24, 2005.
- Rapp, A. D.**, C. Kummerow, W. Berg, B. Griffith: Evaluation of the adaptive infrared iris hypothesis using TRMM satellite measurements, *AGU Fall Meeting*, San Francisco, CA, December 8–12, 2003.
- Rapp, A. D.**: Evaluation of the adaptive infrared iris using TRMM satellite measurements, Guest Lecture for *Colorado State University Dept. of Atmospheric Science AT753 Course*, Fort Collins, CO, March 12, 2003.
- Rapp, A. D.**, D. R. Doelling, M. M. Khaiyer, P. Minnis, W. L. Smith, Jr., L. Nguyen: Analysis of solar absorption derived from ARM surface and satellite measurements, *11th AMS Conference on Atmospheric Radiation*, Ogden, UT, June 3–7, 2002.
- Smith, W. L., Jr., P. Minnis, B. C. Bernstein, **A. D. Rapp**, P. W. Heck: Supercooled liquid water cloud properties derived from GOES: Comparisons with in-situ aircraft measurements, *10th AMS Conference on Aviation, Range, and Aerospace Meteorology*, Portland, OR, May 13–16, 2002.
- Rapp, A. D.**, D. R. Doelling, P. Minnis, W. L. Smith, Jr.: Comparison of TOA shortwave albedo and atmospheric solar absorption derived from GOES-8, CERES, aircraft, and surface measurements during ARESE II with model calculations, *Chapman Conference on Atmospheric Absorption of Solar Radiation*, Estes Park, CO, August 13–17, 2001.
- Heck, P. W., **A. D. Rapp**, Minnis, P., W. L. Smith, Jr., L. Nguyen: Remotely sensed cloud properties for ARM SGP, *ARM GCSS-SCM Cloud Working Group Meeting*, Boulder, CO, October, 2001.
- Doelling, D. R., **A. D. Rapp**, M. M. Khaiyer, P. Minnis, W. L. Smith, Jr., L. Nguyen, M. P. Haeffelin, T. Tooman, F. P. J. Valero, S. Asano: Cloud radiative forcing derived during ARESE-2, *IAMAS 8th Scientific Assembly*, Innsbruck, Austria, July 10–18, 2001.
- Minnis, P., W. L. Smith, Jr., L. Nguyen, **A. D. Rapp**, D. R. Doelling: Remotely sensed cloud properties and TOA validation, *ARESE II Science Team Meeting*, Atlanta, GA, February 8–9, 2001.
- Minnis, P., W. L. Smith, Jr., **A. D. Rapp**, D. R. Doelling: TOA radiation validation, radiative forcing, and atmospheric absorption estimation, *ARESE II Science Team Meeting*, San Antonio, TX, October 24–26, 2000.

CONTRIBUTED POSTER PRESENTATIONS (*GRADUATE STUDENT; #UNDERGRADUATE STUDENT)

- Rapp, A. D.**, S. Brooks, C. J. Nowotarski, *B. Chen, and *S. Thompson: TAMU TRACER: Targeted mobile measurements to isolate the impacts of aerosols and meteorology on deep convection. *ASR Science Team Meeting*, June 2021.
- Rapp, A. D.**, and K. M. Smalley*: Multiscale impacts of precipitation on a boundary layer cloud fraction transition. *AGU Fall Meeting*, Virtual, December 2020.
- *Smalley, K. M., and **A. D. Rapp**: A-Train estimates of the sensitivity of warm rain likelihood and efficiency to cloud size. *AGU Fall Meeting*, San Francisco, CA, December 2019.
- *Wodzicki, K. R., and **A. D. Rapp**: Convective population variations with ITCZ width in the Pacific and Atlantic Oceans. *AGU Fall Meeting*, San Francisco, CA, December 2019.

- *Smalley, K.M., and **A. D. Rapp**: Cloud size impacts on precipitation likelihood in different environments using CloudSat. *Gordon Research Conference on Radiation and Climate*, Lewiston, ME, July 2019.
- *Smalley, K.M., and **A. D. Rapp**: Differences in characteristics of precipitating and non-precipitating warm clouds. *AMS 98th Annual Meeting*, Austin, TX, January 2018.
- *Howard, C. S., **A. D. Rapp**, and K.R. Wodzicki: How well does ERA-Interim capture ITCZ characteristics and precipitation? *AMS 98th Annual Meeting*, Austin, TX, January 2018.
- #Slaughter, N., **A. D. Rapp**, *K. Wodzicki, and *K. Smalley: Cloud structures in the Pacific ITCZ using CloudSat-CALIPSO, *AGU Fall Meeting*, New Orleans, LA, December, 2017
- Hakuba, M.Z., G.L. Stephens, T. Lee, **A. D. Rapp**: MA Balmaseda, Does the hemispheric energy imbalance set the mean location of the ITCZ, *EGU General Assembly*, Vienna, Austria, April 2017.
- #Smith, E., **A. D. Rapp**, and *K. Wodzicki: Frequency of mid-tropospheric dry layers in the tropical Pacific ITCZ using ERA-Interim reanalysis, *16th AMS Student Conference*, Seattle, WA, January 2, 2017.
- *Sun, L., and **A. D. Rapp**: Sensitivity of precipitating cloud radiative efficiencies to the environment using A-Train and reanalysis data, *AGU Fall Meeting*, San Francisco, CA, December 12, 2016.
- #Smith, E., **A. D. Rapp**, and *K. Wodzicki: Frequency of mid-tropospheric dry layers in the tropical Pacific ITCZ using ERA-Interim reanalysis, *AGU Fall Meeting*, San Francisco, CA, December 16, 2016.
- *Ren, T., **A. D. Rapp**, J. R. Mecikalski, J. Apke, L. D. Carey, and S. L. Nasiri: Applying satellite aerosol retrievals for lightning prediction in northern Alabama, *21st AMS Conference on Satellite Meteorology and Oceanography*, Madison, WI, August, 17, 2016.
- #Schirle, C., **A. D. Rapp**, and *A. Zapalac: Assessing the southeast Pacific stratocumulus cloud fraction transition in MERRA using CloudSat/CALIPSO, *AMS 15th Annual Student Conference*, New Orleans, LA, January 10, 2016.
- #Schirle, C., **A. D. Rapp**, and *A. Zapalac: Assessing the southeast Pacific stratocumulus cloud fraction transition in MERRA using CloudSat/CALIPSO, *AGU Fall Meeting*, San Francisco, CA, December 18, 2015.
- *Marter, R., and **A. D. Rapp**: Passive microwave precipitation detection biases: Relationship to cloud morphology, *AGU Fall Meeting*, San Francisco, CA, December 14, 2015.
- *Viramontez, A., and **A. D. Rapp**: Passive microwave precipitation detection biases: Relationship to environment, *AGU Fall Meeting*, San Francisco, CA, December 14, 2015.
- Rapp, A. D.**, and *K. Wodzicki: Linking subtropical shallow convection, moisture transport, and ITCZ characteristics in the Pacific, *GEWEX ESA-ESRIN Earth Observation for Water Cycle Science*, Frascati, Italy, October 20, 2015.
- Rapp, A. D.**, and *K. Wodzicki: Automated identification and characterization of the ITCZ using TRMM, GPCP, and ERA-Interim, *NASA Precipitating Measuring Missions Science Team Meeting*, Baltimore, MD, August 5, 2015.
- Rapp, A. D.**, and *A. Zapalac: Multiscale impacts of precipitation on cloud fraction transitions, *Gordon Research Conference on Climate & Radiation*, Lewiston, ME, July 27, 2015.
- Bentamy, A., R. Pinker, B. Zhang, **A. D. Rapp**, and Y. Ma: Net energy budget at the surface interface of the "Cold Tongue" region, *EGU General Assembly*, Vienna, Austria, April 16, 2015.

- Rapp, A. D.**, R. Bennartz, J. Jiang, S. Kato, W. Olson, R. Pinker, H. Su, and P. Taylor: Subtropical low cloud responses to central and eastern Pacific El Nino events, *AGU Fall Meeting*, San Francisco, CA, December 18, 2014.
- *Wodzicki, K., and **A. D. Rapp**: Relationships between subtropical warm precipitation features and lower tropospheric water vapor, *AGU Fall Meeting*, San Francisco, CA, December 15, 2014.
- Quiring, S., *T. Ford, and **A. D. Rapp**: Does rain fall preferentially over wet or dry soils?, *AGU Fall Meeting*, San Francisco, CA, December 15, 2014.
- Rapp, A. D.**: Characteristics of the southeastern Pacific stratocumulus to cumulus transition using CloudSat/CALIPSO, *CALIPSO/CloudSat Science Team Meeting*, Alexandria, VA, November 5, 2014.
- *Wodzicki, K., and **A. D. Rapp**: Relationship between shallow convection and lower tropospheric water vapor, *NASA Precipitating Measuring Missions Science Team Meeting*, Baltimore, MD, August 5, 2014.
- Rapp, A. D.**, and T. L'Ecuyer, Cloud and precipitation impacts on the energy budget of low cloud regimes, *AGU Fall Meeting*, San Francisco, CA, December 12, 2013.
- *Teale, N.G., #H. Mahan, #S. Bleakney, #A. Berger, O.W. Frauenfeld, **A. D. Rapp**, S.M. Quiring, E.B. Roark: Impacts of vegetation and precipitation on throughfall heterogeneity in a tropical pre-montane transitional cloud forest, *AGU Fall Meeting*, San Francisco, CA, December 10, 2013.
- Rapp, A. D.**: Local and remote effects of subtropical cumulus convection, *NASA Precipitating Measuring Missions Science Team Meeting*, Annapolis, MD, March 19, 2013.
- *DePasquale, A., C. Schumacher, **A. D. Rapp**: Radar observations of MJO and Kelvin wave interactions during DYNAMO/CINDY2011/AMIE, *MJO Field Data and Science Workshop*, Kohala Coast, HI, March 5, 2013.
- *DePasquale, A., C. Schumacher, **A. D. Rapp**: Radar observations of MJO/wave interactions during DYNAMO/CINDY2011/AMIE, *AMS Annual Meeting*, Austin, TX, January 10, 2013.
- *Sutphin, A. B., S. Nasiri, **A. D. Rapp**: Determining precipitation probability of tropical midlevel clouds using satellite observations, *AMS Annual Meeting*, Austin, TX, January 9, 2013.
- #Peterson, A., **A. D. Rapp**, O. W. Frauenfeld, S. Quiring, E. B. Roark: Characteristics of precipitating systems over Costa Rica using TRMM, *AMS Annual Meeting*, Austin, TX, January 7, 2013.
- #Shibley, N., #N. Teale, #E. R. Morris, S. M. Quiring, O. W. Frauenfeld, E. B. Roark, **A. D. Rapp**: Characterizing spatial variability in precipitation and throughfall in a tropical pre-montane cloud forest, *AMS Annual Meeting*, Austin, TX, January 7, 2013.
- *DePasquale, A., C. Schumacher, **A. D. Rapp**: Radar observations of MJO/wave interactions during DYNAMO/CINDY2011/AMIE, *AGU Fall Meeting*, San Francisco, CA, December 4, 2012.

- Washington-Allen, R.A., #E.H. Buckwalter, G.W. Moore, #J.N. Burns, #A.R. Dennis, #O. Dodge, #E.C. Guffin, #E.R. Morris, #R.P. Oien, #G. Orozco, #A. Peterson, #N.G. Teale, #N.C. Shibley, #N. Tourtellotte, C. Houser, S.D. Brooks, J.K. Brumbelow, A.T. Cahill, O.W. Frauenfeld, E. Gonzalez, C.T. Hallmark, K.J. McInnes, G.R. Miller, C. Morgan, S.M. Quiring, **A. D. Rapp**, E.B. Roark, A. Delgado, J.P. Ackerson, R. Arnott: Exploratory Water budget analysis of a transitional premontane cloud forest in Costa Rica through undergraduate research, *AGU Fall Meeting*, San Francisco, CA, December 5, 2012.
- #Teale, N.G., #N.C. Shibley, #E.R. Morris, #A. Peterson, S.M. Quiring, O.W. Frauenfeld, E.B. Roark, **A. D. Rapp**: Microscale throughfall and precipitation heterogeneity in a transitional cloud forest, *AGU Fall Meeting*, San Francisco, CA, December 5, 2012.
- Houser, C., A. T. Cahill, S. Brooks, O. W. Frauenfeld, K. Lemmons, K. J. McInnes, G. Miller, G. W. Moore, S. Quiring, **A. D. Rapp**, E. B. Roark, G. W. Schade, C. Schumacher, M. Tjoelker, and R. A. Washington-Allen, 2011: Eco-hydrology of a tropical montane cloud forest: A new REU site hosted by Texas A&M University, *AGU Fall Meeting*, San Francisco, CA, December 5–9, 2011.
- Rapp, A. D.**: Evaluation of model differences in the cloud forcing response of the southeastern Pacific marine subsidence region, *World Climate Research Programme Open Science Conference*, Denver, CO, October 24–28, 2011.
- Rapp, A. D.**, and M. Lebsock: Climatology of precipitating marine stratocumulus in the southeastern Pacific, *CloudSat/CALIPSO Science Team Meeting*, Montreal, Quebec, June 14–17, 2011.
- Rapp, A. D.**: Precipitating marine stratocumulus in the southeastern Pacific with CloudSat, *A-Train Symposium*, New Orleans, LA, October 25–28, 2010.
- Rapp, A. D.**, C. Kummerow, W. Berg: On the ratio of cold cloud area to rainfall as a function of the underlying SST, *8th International Conference on Precipitation*, Vancouver, British Columbia, Canada, August 8–11, 2004.
- Dong, X., P. Minnis, G. G. Mace, W. L. Smith, Jr., M. Poellot, R. T. Marchand, **A. D. Rapp**: Comparison of stratus cloud properties deduced from surface, GOES, and aircraft data during the March 2000 ARM Cloud IOP, *13th ARM Science Team Meeting*, Broomfield, CO, March 31–April 4, 2003.
- Khaiyer, M. M., J. Huang, P. Minnis, B. Lin, W. L. Smith, Jr., A. Fan, **A. D. Rapp**: Validation of satellite-derived liquid water paths using ARM SGP microwave radiometers, *13th ARM Science Team Meeting*, Broomfield, CO, March 31–April 4, 2003.
- Kawamoto, K., P. Minnis, W. L. Smith, Jr., **A. D. Rapp**: Detecting multilayer clouds using satellite solar and IR channels, *11th AMS Conference on Atmospheric Radiation*, Ogden, UT, June 3–7, 2002.
- Dong, X., P. Minnis, G. G. Mace, W. L. Smith, Jr., M. Poellot, R. T. Marchand, **A. D. Rapp**: Comparison of stratus cloud properties deduced from surface, GOES, and aircraft data during the March 2000 ARM Cloud IOP, *11th AMS Conference on Atmospheric Radiation*, Ogden, UT, June 3–7, 2002.
- Ayers, J. K., P. W. Heck, **A. D. Rapp**, P. Minnis, D. F. Young, W. L. Smith, Jr., L. Nguyen: A one-year climatology of cloud properties derived from GOES-8 over the southeastern Pacific for PACS, *11th AMS Conference on Cloud Physics*, Ogden, UT, June 3–7, 2002.
- Chakrapani, V., D. R. Doelling, **A. D. Rapp**, P. Minnis: Cloud thickness estimation from GOES-8 satellite data over the ARM-SGP site, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.

- Heck, P. W., **A. D. Rapp**, P. Minnis, W. L. Smith, Jr., L. Nguyen: An improved technique for retrieval of cloud properties at night and in low sun conditions, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.
- Khaiyer, M. M., **A. D. Rapp**, P. Minnis, W. L. Smith, Jr., D. R. Doelling, L. Nguyen, Q. Min: Evaluation of a 5-year cloud and radiative property dataset derived from GOES-8 data over the Southern Great Plains, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.
- Minnis, P., W. L. Smith, Jr., **A. D. Rapp**, P. W. Heck, D. F. Young, L. Nguyen, M. M. Khaiyer: Near-real-time retrieval of cloud properties over the ARM CART area from GOES Data, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.
- Nguyen, L., P. Minnis, D. F. Young, W. L. Smith, Jr., P. W. Heck, **A. D. Rapp**: Use of multi-resolution imager data to account for partially cloud-filled pixels, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.
- Nordeen, M. L., D. R. Doelling, M. M. Khaiyer, **A. D. Rapp**, P. Minnis: A climatology of cloud & radiative properties derived from GSM-5 data over the Tropical Western Pacific, *12th ARM Science Team Meeting*, St. Petersburg, FL, April 8–12, 2002.
- Minnis, P., W. L. Smith, Jr., D. F. Young, L. Nguyen, **A. D. Rapp**, P. W. Heck, S. Sun-Mack, Q. Z. Trepte, Y. Chen: A near-real time method for deriving cloud and radiation properties from satellites for weather and climate studies, *11th AMS Conference on Satellite Meteorology and Oceanography*, Madison, WI, October 15–18, 2001.
- Ayers, J. K., P. W. Heck, **A. D. Rapp**, P. Minnis, W. L. Smith, Jr., C. W. Fairall, S. Frisch: Validation of cloud properties derived from geostationary satellite data over the southeastern Pacific, *IAMAS 8th Scientific Assembly*, Innsbruck, Austria, July 10–18, 2001.
- Rapp, A. D.**, D. R. Doelling, M. M. Khaiyer, P. Minnis, W. L. Smith, Jr., L. Nguyen, M. P. Haeffelin, F. P. J. Valero, S. Asano: Comparison of shortwave cloud radiative forcing derived from ARM SGP surface and GOES-8 satellite measurements during ARESE-I and ARESE-II, *11th ARM Science Team Meeting*, Atlanta, GA, March 19–23, 2001.
- Khaiyer, M. M., **A. D. Rapp**, D. R. Doelling, M. L. Nordeen, P. Minnis, W. L. Smith, Jr., L. Nguyen: A 3-year climatology of cloud and radiative properties derived from GOES-8 data over the Southern Great Plains, *11th ARM Science Team Meeting*, Atlanta, GA, March 19–23, 2001.
- Nordeen, M. L., D. R. Doelling, M. M. Khaiyer, **A. D. Rapp**, P. Minnis, L. Nguyen: GSM-5 satellite-derived cloud properties over the Tropical Western Pacific, *11th ARM Science Team Meeting*, Atlanta, GA, March 19–23, 2001.

FIELD EXPERIENCE

- PI* for TAMU TRACER mobile deployment, *Mission scientist* for DOE TRACER, Summer 2022
- Forecasting and flight planning lead, mission scientist* for NASA DCOTSS EVS, Summer 2021, Summer 2022
- Scientist* for NOAA PSD flux calibration facility onboard R/V *Kilo Moana* during WHOTS-6 mooring operation, Honolulu, Hawaii, 2009.
- Satellite retrieval team* for CRYSTAL-FACE, Key West, Florida, 2002
- Assistant scientist* for TRMM KWAJEX, Kwajalein Atoll, Rep. of the Marshall Islands, 1999
- Aggie Doppler Radar operator* for TRMM TEFLUN-A experiment, College Station, TX, 1998