CURRICULUM VITAE

Elizabeth J. Thompson

NOAA OAR PSL
National Oceanic and Atmospheric Administration
Oceanic and Atmospheric Research, Physical Sciences Laboratory
325 Broadway, Boulder, CO 80305
elizabeth.thompson@noaa.gov
office: 303-497-6930
Google Scholar Profile

Citizenship: United States of America

Research Interests

Air-sea fluxes and their role in the co-evolution of atmospheric and oceanic boundary layers; Studies of meteorology, precipitation, and clouds using observations from dual- and single-polarization radars for clouds and rain, satellites, and disdrometers; Algorithms for quantitative precipitation estimation and precipitation classification; Investigations of meteorological and physical oceanographic processes with satellite and in-situ observations; Observation-based research on atmospheric dynamics, physical oceanography, as well as synoptic-scale and mesoscale meteorology; Use of in-situ measurements to improve environmental prediction models and remote sensing products.

Education

2012-2016 Ph.D. Atmospheric Science, Colorado State University
Advisor: Steven A. Rutledge; co-advisor: James N. Moum (Oregon State Univ.)
Dissertation: "*Tropical warm pool rainfall variability and impact on upper ocean variability throughout the Madden-Julian Oscillation*"

2010-2012 M.S. Atmospheric Science, Colorado State University
Advisor: Steven A. Rutledge
Thesis: "*Development of a Polarimetric-Radar Based Hydrometeor Classification Algorithm for Winter Precipitation*"

2006-2010 B.S. Meteorology, minors in Mathematics and Geography, Valparaiso University
Advisor: Bart Wolf

Professional Experience

2019-present Research Meteorologist, NOAA OAR Physical Sciences Laboratory
Boundary Layer Observations and Processes Team

2019-present Affiliate Scientist, Applied Physics Laboratory at Univ. of Washington, Air-Sea Interaction and Remote Sensing Dept.

2018-2019 Senior Meteorologist, Applied Physics Laboratory at Univ. of Washington, Air-Sea Interaction and Remote Sensing Dept.

2016-2018 Postdoctoral Research Associate, Applied Physics Laboratory at Univ. of Washington, Air-Sea Interaction and Remote Sensing Dept. Mentors: Kyla Drushka, William E. Asher, Andrew T. Jessup

2010-2016 Graduate Research Assistant, Colorado State Univ., Radar Meteorology Group, Advisor: Steven A. Rutledge

2014 Graduate Teaching Assistant, Atmospheric Thermodynamics and Cloud Physics, Supervisor: Prof. Steven A. Rutledge, Colorado State Univ.

2011-2012 Graduate Student Representative, Colorado State Univ.

2010 Environmental Science Interpretation and Visitor Services Assistant, U.S. Forest Service, Chugach National Forest, Glacier Ranger District, Alaska. Mentor: Lezlie Murray

2009-2010 Undergraduate Teaching Assistant, Atmospheric Dynamics, Supervisor: Prof. Teresa Bals-Elsholz, Valparaiso Univ.

2009 Undergraduate Research Assistant. NOAA OAR National Severe Storms Lab, Mentor: Kenneth Howard

2008 Student Volunteer, NOAA National Weather Service Weather Forecast Office Baltimore/Washington D.C., Mentor: Steven Zubrick

2007 Undergraduate Research Assistant, NASA/Texas Commission for Environmental Quality and Valparaiso Univ. Tropospheric Ozone Pollution Project, Mentor: Gary Morris

Field Experiments

2020 Atlantic Tradewind Ocean- Atmosphere Mesoscale Interaction Campaign (ATOMIC), Jan 6 - Feb 13, role: collected and analyzed observations from SWIFT buoys (Surface Wave Instrument Float with Tracking), wave gliders, R/V Ronald H. Brown, and NOAA P3 aircraft. Observations were taken from the upper ocean mixed layer, ocean surface, air-sea fluxes, clouds, and rain. These were analyzed for gaining a better understanding of coupled boundary layer processes. Gave science presentation at Outreach Day on the ship with Barbados students, Barbados/US Embassy, NOAA Assistant Secretary and Program Managers, EUREC4A scientists, Barbados Coast Guard, scientists from Caribbean Institute of Meteorology and Hydrology. Chief Scientists: Patricia Quinn (NOAA PMEL) and Janet Intieri (NOAA PSL)

2019 Propagation of Intra-Seasonal Tropical Oscillations II (PISTON-2), Sept 2 – Sept 27, role: collected ship-based oceanographic, air-sea flux, cloud, and rain measurements, analyzed observations for better understanding of coupled boundary layer processes, R/V Sally Ride, Chief Scientist: James N. Moum (OSU)

2018 Propagation of Intra-Seasonal Tropical Oscillations I (PISTON-1), Sept 14 – Oct 15, role: collected ship-based oceanographic and rain measurements, analyzed all observations for better understanding of coupled boundary layer processes, R/V Thomas G. Thompson, Chief Scientist: James N. Moum (OSU)

2017 Salinity Processes in the Upper Ocean Regional Study 2 (SPURS-2), Oct 16 – Nov 17, role: collected and analyzed ship-based observations of the upper ocean and lower atmosphere, including radar-based rainfall; also analyzed air-sea fluxes, R/V Roger Revelle, Chief Scientist: Kyla Drushka (APL-UW)

2017 UNOLS Chief Scientist Training Cruise: Diurnal Warm Layers in the Great Lakes, June 8 -11, role: collected and analyzed upper ocean and meteorological observations, R/V Blue Heron, co-Chief Scientist: Elizabeth J. Thompson (APL-UW)

2016 Salinity Processes in the Upper Ocean Regional Study 2 (SPURS-2), Aug 13 – Sept 23, role: collected and analyzed ship-based observations of the upper ocean and lower atmosphere, including radar-based rainfall; also analyzed air-sea fluxes, R/V Roger Revelle, Chief Scientist: Andrew T. Jessup (APL-UW)

2011 Dynamics of the Madden-Julian Oscillation (DYNAMO), Nov 3 – Dec 13, role: lead radar scientist operating NASA TOGA C-Band Doppler radar used to measure precipitation; analyzed measurements of rain, the upper ocean, the lower atmosphere, and air-sea fluxes, R/V Roger Revelle, Chief Scientist: James N. Moum (OSU)

2011 Midlatitude Continental Convective Clouds Experiment (MC3E), May –June, role: launched radiosondes for DOE to test NASA Global Precipitation Measurement satellite algorithms; PI: Steven A. Rutledge (CSU)

2009 Engineers Without Borders Valparaiso Univ. Assessment Trip to Tanzania, Africa, May 15-24, role: designed and conducted Geographic Information System (GIS) project to map demographics and deteriorating water canal in primitive village

2008 Plains Convective Storms Student Field Study, May 2008, role: lead Doppler radar data interpreter for the forecasting and interception of severe storms in 20-student team; Supervisor: Bart Wolf (Valparaiso Univ.)

2007 Texas Commission for Environmental Quality Study (TexAQS II), June-July 2007, role: launched daily ozonesondes to study the atmospheric boundary layer and tropospheric ozone in urban environment of Houston; Supervisor: Gary Morris (Valparaiso Univ.)

Publications

Jackson, R., Collis, S., Louf, V., Protat, A., Wang, D., Giangrande, S., Thompson, E.J., Dolan, B., Powell, S.W., 2021. The development of rainfall retrievals from radar at Darwin. Atmospheric Measurement Techniques 14, 53–69. https://doi.org/10.5194/amt-14-53-2021

Quinn, P. K., Thompson, E.J., Coffman, D. J., Baidar, S., Bariteau, L., Bates, T. S., Bigorre, S., Brewer, A., de Boer, G., de Szoeke, S. P., Drushka, K., Foltz, G. R., Intrieri, J., Iyer, S., Fairall, C. W., Gaston, C. J., Jansen, F., Johnson, J. E., Krüger, O. O., Marchbanks, R. D., Moran, K. P., Noone, D., Pezoa, S., Pincus, R., Plueddemann, A. J., Pöhlker, M. L., Pöschl, U., Quinones Melendez, E., Royer, H. M., Szczodrak, M., Thomson, J., Upchurch, L. M., Zhang, C., Zhang, D., and Zuidema, P.: 2020. Measurements from the RV Ronald H. Brown and related platforms as part of the Atlantic Tradewind Ocean-Atmosphere Mesoscale Interaction Campaign (ATOMIC), Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2020-331, in review.

Pincus, R., Fairall, C.W., Bailey, A., Chen, H., Chuang, P.Y., de Boer, G., Feingold, G., Henze, D., Kalen, Q.T., Kazil, J., Leandro, M., Lundry, A., Moran, K., Naeher, D.A., Noone, D., Patel, A., Pezoa, S., PopStefanija, I., Thompson, E.J., Warnecke, J., and Zuidema, P.: 2020. Observations from the NOAA P-3 aircraft during ATOMIC, Earth Syst. Sci. Data Discss., in review.

Stevens, B., and 292 coauthors including Thompson, E.J., 2020: EUREC^{4}A. AGU Advances, in https://owncloud.gwdg.de/index.php/s/Sz6o3DgGA1iMYHs/download, in review.

Brizuela, N., S. Johnston, M. H. Alford, O. Asselin, D. L. Rudnick, J. N. Moum, and E. J. Thompson, 2020 submitted: Mixing, upwelling, and internal wave generation beneath Super Typhoon Mangkhut: a vorticity-divergence view of the ocean response to tropical cyclones. J. Phys. Ocean., submitted.

Reverdin, G., A. Supply, K. Drushka, E. J. Thompson, W. E. Asher, 2020. Intense and small freshwater pools from rainfall investigated during SPURS-2 on November 9 2017 in the eastern tropical Pacific. Journal of Geophysical Research: Oceans. 125, e2019JC015558. https://doi.org/10.1029/2019JC015558

Hagos, S., G.R. Foltz, C. Zhang, E. Thompson, H. Seo, S. Chen, A. Capotondi, K.A. Reed, C. DeMott, and A. Protat, 2020: Atmospheric Convection and Air-Sea Interactions over the Tropical Oceans: Scientific Progress, Challenges and Opportunities. Bull. Amer. Meteor. Soc., 101, E253–E258, https://doi.org/10.1175/BAMS-D-19-0261.1

Thompson E. J., W. E. Asher, A. T. Jessup, K. Drushka, 2019: High-resolution rain maps from an X-band marine radar and their use in understanding ocean freshening. Oceanography 32(2):58–65, https://doi.org/10.5670/oceanog.2019.213

Asher, W. E., K. Drushka, A. T. Jessup, E. J. Thompson, D. Clark, 2019: Estimating rain-generated turbulence at the ocean surface using the Active Controlled-Flux Technique. Oceanography 32(2):108–115, https://doi.org/10.5670/oceanog.2019.218

Drushka, K., W.E. Asher, A.T. Jessup, E.J. Thompson, S. Iyer, and D. Clark, 2019: Capturing fresh layers with the Surface Salinity Profiler. Oceanography 32(2):76–85, https://doi.org/10.5670/oceanog.2019.215

Thompson, E. J., Moum, J. N., Fairall, C. W., & Rutledge, S. A. 2019: Wind limits on rain layers and diurnal warm layers. Journal of Geophysical Research: Oceans, 124, 897-924. https://doi.org/10.1029/2018JC014130

Dolan, B., B. Fuchs, S. A. Rutledge, E. A. Barnes, E. J. Thompson, 2018: Primary modes of global drop-size distributions. J. Atmos. Sci., 75, 1453–1476, https://doi.org/10.1175/JAS-D-17-0242.1

Thompson, E. J., S. A. Rutledge, B. Dolan, M. Thurai, and V. Chandrasekar, 2018: Dual-polarization radar rainfall estimation over tropical oceans. J. Appl. Meteor. Climatol., 57, 755–775, https://doi.org/10.1175/JAMC-D-17-0160.1

Thompson, E. J., S. A. Rutledge, B. Dolan, and M. Thurai, 2015: Drop size distributions and radar observations of convective and stratiform rain over the equatorial Indian and west Pacific Oceans. J. Atmos. Sci., 72, 4091-4125. https://doi.org/10.1175/JAS-D-14-0206.1

Moum, J. N., S. P. de Szoeke, W. D. Smyth, J. B. Edson, H. L. DeWitt, A. J. Moulin, E. J. Thompson, C. J. Zappa, S. A. Rutledge, R. H. Johnson, and C. W. Fairall, 2014: Air-sea interactions from MJO westerly wind bursts. Bull. Am. Meteorol. Soc., 95, 1185-1199. https://doi.org/10.1175/BAMS-D-12-00225.1

Thompson, E. J., S. A. Rutledge, B. Dolan, V. Chandrasekar, and B.-L. Cheong, 2014: A dual-polarization radar hydrometeor classification algorithm for winter precipitation. J. Atmos. Oceanic Technol., 31, 1457-1481. https://doi.org/10.1175/JTECH-D-13-00119.1

Willingham, K. M., E. J. Thompson, K. W. Howard, and C. L. Dempsey, 2010: Characteristics of Sonoran Desert microbursts. Weather Forcast., 26, 94-108. https://doi.org/10.1175/2010WAF2222388.1

Research Grants

Awarded:

- PI: NOAA CPO CVP, FY18-21*co-mentor PhD student
  "Spatial structure of air-sea interaction in the tropical Atlantic Ocean"
- PI: NASA Precipitation Measurement Mission, FY18-21*mentor early career scientist
  "Comparison of oceanic acoustic rain measurements with downscaled IMERG rainfall for the study of air-sea interaction"

- PI: NASA Ocean Salinity Science Team, FY17-21 *mentor early career scientist
  "Bridging satellite and in-situ scales of near-surface salinity stratification"
- PI: University of Washington Royalty Research Fund, FY19-20
  "The skin and subskin temperature of seas surrounding the Maritime Continent"
- Co-PI: NOAA WPO Precipitation Prediction Grand Challenge, FY20-21.
  "Identifying physical processes responsible for tropical UFS errors and their relation to UFS week 2-4 precipitation predictability in the western US" with J. Dias NOAA PSL
- Co-I: ONR NOPP, FY21-24
  "Air-Deployed Wave Buoys for Hurricane Forecast Improvements": led by J. Thomson APL-UW *providing unfunded effort
- Co-I: NASA Salinity Science Team, FY17-21
  "The Generation and Evolution of Near-Surface Salinity Stratification" led by J. Schanze, ESR * *providing unfunded effort*
- Co-I: NASA Physical Oceanography, FY18-21 *mentor postdoc
  "SPURS-2 Synthesis: Multi-scale Integration of Freshwater into the Upper Eastern Pacific Ocean" led by A. Shcherbina, APL-UW
- Collaborator: NSF Physical Oceanography, FY19-21 *co-mentor MS student
  "Formation of rain layers in the Warm Pool and their feedbacks to atmospheric convection in an idealized modeling framework" led by C. DeMott, CSU
- Collaborator: NSF Oceanography Technology, FY19-21
  "Simultaneous Remote Measurement of Skin and Sub-skin Temperature for USVs and Ships Buoys" by A. Jessup, APL-UW
- Collaborator: NOAA WPO Precipitation Precip Grand Challenge, FY20-21.
  "Boundary-layer and Microphysical Properties of Convective Precipitation in VORTEX-SE" by R. Cifelli NOAA PSL

White Papers

2021 NOAA-DOE Workshop Report on Interdisciplinary Processes session from 2020 Workshop on Precipitation Predictability and Processes
2020 NOAA Precipitation Prediction Grand Challenge: Chapter 5 Observations
2019 ATOMIC Field Experiment Implementation Plan: Science Themes chapter
2019 US CLIVAR Workshop Report (later a published manuscript *Hagos et al. 2020*) on Atmospheric Convection and Air-Sea Interaction over Tropical Oceans

Awards and Honors

2019 US CLIVAR Early Career Scientist Leadership Award: Processes, Observations, Synthesis (US Climate Variability and Predictability Program)
2016-2018 APL-UW SEED Postdoctoral Research Fellowship
2012-2015 NSF Graduate Research Fellowship
2010-2011 AMS Graduate Research Fellowship
2010 NSF Graduate Research Fellowship Program Honorable Mention
2010 Valparaiso Univ. Eugene M. Rasmussen Meteorology Scholarship and Service Award
2008-2010 NOAA Ernest F. Hollings Undergraduate Scholarship Program

2009 AMS John R. Hope Endowed Scholarship in Atmospheric Sciences
2009 NWA Arthur C. Pike Scholarship in Meteorology
2008-2009 Valparaiso Univ. Swim Team Captain

Invited Seminars

2020 NOAA-DOE Precipitation Processes and Predictability Workshop, Keynote Speaker of Interdisciplinary Processes session: "Atmosphere-Ocean Interactions Related to Precipitation Predictability"
2020 AGU Fall Meeting session on Tropical Pacific Observing System (TPOS) In Situ and Remote Sensing Technology: "Observing rain layers, diurnal warm layers, and their impacts in tropical oceans"
2018 NASA Coupled Ocean Surface Variables Workshop: "Outstanding questions regarding air-sea interaction and near-surface processes: How can satellites be used to find answers?"
2014 University of Oklahoma School of Meteorology: "Development of a Polarimetric Radar Based Hydrometeor Classification Algorithm for Winter"

Science Teams and Committee Service

co-Chair Ocean Best Practices Workshop Session for Surface Solar Radiation. 2020-present
co-Chair 3-day Data Analysis Hackathon from the NOAA ATOMIC field campaign, including converting, organizing, and posting all field campaign datasets into common data format on shared website, planning and leading 3-day virtual event during pandemic, co-leading communication and planning announcements. 2020
Scientific Steering Committee, US CLIVAR workshop on Atmospheric Convection and Air-Sea Interaction over Tropical Oceans, including co-leading the workshop agenda, breakout discussions, and published summary report; encouraged participation and representation from oceanography. 2018-2020
Member, NASA Ocean Salinity Science Team. 2018-present
Member, NASA Precipitation Measurement Mission Team. 2018-present
Convener, AGU Fall Meeting Session

Public Science Article Contributions

CBS This Morning Saturday: Study aims to examine links between climate change and clouds
NOAA Research: Barbadian students tour NOAA Ship Ronald H. Brown
NOAA Research: Wave gliders, ocean drifters and drones to help international researchers solve key climate question
NOAA Research: NOAA launches major field campaign to improve weather and climate prediction
NOAA Research: From the ocean to the clouds: Life on the NOAA ATOMIC mission
NOAA PSL: The ATOMIC Field Project
NASA Notes from the Field: The Salinity Processes in the Upper Ocean Regional Study (SPURS2)

Science Mentoring and Outreach

Volunteer Presenter: NOAA ATOMIC field campaign Outreach Day in Barbados aboard NOAA ship Ronald H. Brown. Gave guided tour of ship oceanographic and atmospheric instrumentation and mission goals to Barbados high school students, Barbados/US Embassy, NOAA Assistant Secretary and Program Managers, EUREC4A scientists, Barbados Coast Guard, and scientists from Caribbean Institute of Meteorology and Hydrology. 2020

Volunteer Presenter: NOAA PSL "Funtastic" virtual presentation during pandemic to children on "Ocean Robots". 2020

Volunteer Presenter: CU CIRES at Home presentation to children during pandemic on "Ocean-Atmosphere Interactions: Amphibious Science". Shared on multiple media platforms. 2020

Volunteer Presenter: NOAA/ONR PISTON field campaign Outreach Day in Taiwan aboard R/V Sally Ride. Gave guided tour of ship oceanographic and atmospheric instrumentation and science mission goals to National Taiwan University students, faculty, and researchers, as well as Taiwan/US Embassy. 2019.

Mentor and Project Manager: co-mentoring 1 PhD student and 1 postdoc, co-supervising 3 early career scientists. 2019-present

Steering Committee: NOAA ESRL Workplace Advisory Committee, understanding workplace interpersonal issues and promoting workplace respect, unity, and efficiency. 2019-present

Steering Committee: APL-UW Early Career Principal Investigators, raising awareness about challenges, building community, and advocating for opportunities for early-career oceanographers, meteorologists, and engineers. 2018-present

Steering Committee and still current member: SeaTalk at APL-UW aimed at building community between fieldgoers in APL and Oceanography" by addressing and preventing sexual harassment, improving communication techniques and effectively planning for field work at sea. 2017-2019

Volunteer Presenter at Seattle's Polar Science Weekend: "Waves in the Arctic". 2017

Volunteer Presenter at Bush School 5th grade: "Life as a Scientist". 2016

Volunteer Presenter for PROGRESS: Promoting Geoscience Research, Education and Success, PI: Emily Fischer, CSU. Workshops open up valuable professional development opportunities to undergraduate women in the geosciences. 2015

Mentor of student between middle and high school in meteorology and preparation for college education. 2012-2016

Tutor: two 7th grader girls for meteorology Olympiad contest, weekly meetings. 2010

Project co-lead for Engineers Without Border: developing water resources project between Valparaiso University students and community in Tanzania, Africa. 2008-2009

Workshop Participation

2021 NOAA GOMO Integrating Ocean Observations to Improve NOAA's Hurricane Intensity Forecasts *session moderator

2020 NOAA-DOE Precipitation Processes and Predictability Workshop *keynote speaker

2020 ATOMIC Data Analysis Hackathon *co-Lead

2020 NOAA Diversity and Inclusion workshop on Implicit Bias

2020 NASA Planetary Boundary Layer Workshop

2019 US CLIVAR Atmospheric Convection and Air-Sea Interaction over Tropical Oceans Workshop (NCAR) *Scientific Steering Committee Member

2019 NOAA Engineering Forum (NOAA PMEL): learning to work more successfully with engineers, advocate for their success, retention, and innovation

2018 NASA Coupled Ocean Surface Variables Workshop (APL-UW)
2017 NASA Global Ocean Salinity and Water Cycle Workshop (WHOI)
2017 NASA/GPM OLYMPEX Science Workshop (UW)
2017 Cross-cultural Communication Workshop (UW)
2016 NASA Coupled Ocean Surface Variables Workshop (APL-UW)
2014 NASA Jet Propulsion Laboratory (JPL) Summer School: Using Satellite Observations to Advance Climate Models
2011 American Meteorological Society Summer Policy Colloquium (Washington D.C.)

Reviews

- 1-2 proposal panel reviews per year
- Approximately 10 journal article reviews total per year for: *Journal of the Atmospheric Sciences, Journal of Oceanic and Atmospheric Technology, Journal of Applied Meteorology and Climatology, Monthly Weather Review, Journal of Climate, Journal of Physical Oceanography, Weather and Forecasting, Journal of Geophysical Research: Atmospheres, EGU Atmospheric Measurement Technique, Institute of Electrical and Electronics Engineers Sensors Journal*

Technological and Instrumentation Expertise

Led the collection, quality-controlling, processing, and analysis of measurements from sea/land:

- W-, X-, C-, and S-band single and dual polarization Doppler radars and ceilometer lidars (precipitation, clouds, wind, atmospheric boundary layer)
- X-band marine navigation radar (precipitation)
- 2D-video and optical disdrometers: ground and ship-based (raindrop size distributions)
- air-sea turbulent fluxes over ocean (bulk, eddy covariance, inertial dissipation)
- surface meteorology over ocean (wind, humidity, pressure, temperature)
- surface radiation over ocean (solar, infrared)
- sea surface temperature (infrared radiometer, sea snake, throughflow ports)
- radiosondes (meteorological data and ozone concentration as functions of height)
- ocean CTDs: underway, profiling, through-flow on hull, towed from ship (ocean temperature, salinity, velocity)

Presentations

Chen, H., E. J. Thompson, 2021: Reducing uncertainty in satellite precipitation estimates using machine learning. AMS Annual Meeting, virtual, poster

Thompson, E.J., and many coauthors, 2020: Observing rain layers, diurnal warm layers, and their impacts in tropical oceans. AGU Fall Meeting, virtual, poster *invited

Fairall, C.W., E. J. Thompson, B. Blomquist, L. Bariteau, S. Pezoa, 2020: Surface Energy Budgets in MISOBOB and PISTON. AGU Fall Meeting, virtual, oral.

Maring, H. B., J. S. Ried, and many coauthors including E. J. Thompson, 2020: The Rock Matrix Around CAMP^{2}Ex's Gemstones: The Value of the Apparently Mundane in Shaping Earth System Observation. AGU Fall Meeting, virtual, oral.

Thomson, J.M., S. Iyer, K. Drushka, E.J. Thompson, 2020: Mesoscale Air-Sea Interactions Observed by Autonomous Platforms During ATOMIC. AGU Fall Meeting, virtual, poster.

Chen, H., R. Cifelli, P. Xie, E.J. Thompson, 2020: Improving GOES-R/ABI rainfall estimates with ground-based radar observations using machine learning. AGU Fall Meeting, virtual, poster.

Thompson, E.J. 2020: Air Sea Interactions Related to Precipitation Predictability and Bias. NOAA-DOE Workshop on Precipitation Predictability and Processes, virtual, oral *invited

Thompson, E. J., and coauthors, 2020: Spatial Variability of Air-Sea Interaction and Coupled Boundary Layers Observed During ATOMIC. NOAA PSL Flash Seminar, oral.

Thompson, E.J., J. N. Moum, C. W. Fairall, S. A. Rutledge, 2020: Wind Limits on Rain Layers and Diurnal Warm Layers. Ocean Sciences Meeting, San Diego, CA, poster.

Thompson, E.J., J. N. Moum, C. W. Fairall, S. A. Rutledge, 2020: Wind Limits on Rain Layers and Diurnal Warm Layers. Ocean Sciences Meeting, San Diego, CA, poster.

Schanze, J. J., S. R Springer, E. J. Thompson, G. S. E. Lagerloef, and R. W. Schmitt, 2020: Salinity Physics in the ITCZ - Modelling of Freshwater Lenses Constrained by In Situ Observations. Ocean Sciences Meeting, San Diego, CA, oral.

Thompson, E. J., and coauthors, 2020: Ship observations and autonomous ocean/air-sea observations during ATOMIC. NOAA PSL Flash Seminar, oral

Jackson, R. C., S. M. Collis, Y. Feng, V. Louf, A. Protat, E. J. Thompson, B. Dolan, S. W. Powell, S. E. Giangrande, R. J. Warren, 2019: The influence of large scale forcing on the diurnal cycle of rainfall over Darwin: observations and modeling. AGU Fall Meeting, San Francisco, CA, poster.

Thompson, E.J., J. N. Moum, C. W. Fairall, S. A. Rutledge, 2019: Wind Limits on Rain Layers and Diurnal Warm Layers. CLIVAR Workshop: Atmospheric Convection and Air-Sea Interactions over Tropical Oceans, Boulder, CO, poster

Thompson, E. J., J. Thomson, 2018: Air-Sea Interaction during EUREC4A: Spatially distributed observations. Planning Workshop for the Atlantic Trade wind Ocean-Atmosphere Mesoscale Interaction Campaign (ATOMIC), Boulder, CO, oral

Thompson, E. J., and M. Bourassa, 2018: Outstanding questions regarding air-sea interaction and near-surface processes, and how satellites can be used to find answers. NASA Coupled Surface Variables Workshop, Seattle, WA, oral (invited)

Thompson, E. J., 2018: Salinity Stratification by Rain during SPURS-2. Synthesis Meeting for the Salinity Processes Upper Ocean Regional Study 2 Experiment, La Jolla, CA, oral.

Thompson, E. J., K. Drushka, W. E. Asher, A. T. Jessup, J. J. Schanze and D. Clark, 2018: How is salinity stratification affected by surrounding precipitation variability? AGU Ocean Sciences, Portland, OR, oral

K. Drushka, W. E. Asher, E. J. Thompson, S. Iyer, A. T. Jessup, and D. Clark, 2018: A mechanistic synthesis of turbulence measurements made during SPURS-2. AGU Ocean Sciences, Portland, OR, oral

W. E. Asher, Kyla Drushka, E. J. Thompson, S. Iyer, A. T. Jessup, and D. Clark, 2018: Rain-generated ocean surface turbulence and salinity stratification. AGU Ocean Sciences, Portland, OR, poster

Schanze, J. J., S. R Springer, G. S E. Lagerloef, and E. J. Thompson, 2018: The Physics of Very-Near Surface Salinity Stratification and its Effects on Satellite Salinity. AGU Ocean Sciences, Portland, OR, oral

Thompson, E. J., J. Thomson, 2017: Air-Sea Interaction during EUREC4A: SWIFT Buoys, Wave Glider, and Underway Ship Measurements, Meeting for the Elucidating the Role of Cloud-Circulation Coupling in Climate Campaign (EUREC4A), New Orleans, LA, oral

Thompson, E. J., K. Drushka, W. E. Asher, A. T. Jessup, J. J. Schanze and D. Clark, 2017: Utility of shipborne disdrometer and marine navigation radar observations during convective and stratiform rain. AMS 38th Conference on Radar Meteorology, Chicago, IL, oral: https://ams.confex.com/ams/38RADAR/meetingapp.cgi/Paper/321223

Thompson, E. J., K. Drushka, W. E. Asher, J. J. Schanze, A. T. Jessup, and D. Clark, 2017: Predictability of tropical freshwater lenses due to convective and stratiform rain during SPURS-2. Global Ocean Salinity and Water Cycle Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA, oral

Thompson, E. J., K. Drushka, W. E. Asher, J. J. Schanze, A. T. Jessup, and D. Clark, 2017: Satellite Rain Rate from IMERG as a Predictor for Salinity Stratification in the Upper Meter of the Ocean during SPURS-2 Rain Events. AMS Annual Meeting, Seattle, WA, poster

Drushka, K., W. E. Asher, E. J. Thompson, A.T. Jessup, D. Clark, 2017: Observations of near-surface fresh layers during SPURS-2. European Geophysical Union General Assembly Conference Abstracts 19, 10658, oral

Thompson, E. J., S. A. Rutledge, B. Dolan, M. Thurai, V. Chandrasekar, 2017: Dual-polarization radar rainfall estimation over warm tropical oceans. AMS Annual Meeting, Seattle, WA, poster

Asher, W. E., E. J. Thompson, K. Drushka, A. T. Jessup, J. J. Schanze, D. Clark, 2016: Comparing spatial scales of IMERG rain with depth-resolved near-surface salinity structure as measured during the SPURS-2 experiment. AGU Fall Meeting, San Francisco, CA, poster

Thompson, E. J., W. E. Asher, K. Drushka, A. T. Jessup, J. J. Schanze, D. Clark, 2016: Rain Rate from IMERG as a Predictor for Salinity Stratification in the Upper Meter of the Ocean during SPURS-2 Rain Events. AGU Fall Meeting, San Francisco, CA, oral

Thompson, E. J., S. A. Rutledge, J. N. Moum, C. W. Fairall, 2016: Rain-formed and diurnal warming-formed near-surface ocean mixed layers: impacts on SST throughout the MJO. AMS 31st Conference on Hurricanes and Tropical Meteorology, San Juan, PR, oral: https://ams.confex.com/ams/32Hurr/webprogram/meeting.html#Friday1

Timothy J. Lang, NASA/MSFC, Huntsville, AL; and B. Dolan, B. Fuchs, P. Hein, E. J. Thompson, S. Collis, J. Helmus, and N. Guy, 2015, Marshall Space Flight Center and the open-source radar software revolution. AMS 37th Conference on Radar Meteorology, Norman, OK, oral

Michael J. Dixon, NCAR, Boulder, CO; and J. W. Wilson, T. M. Weckwerth, D. Albo, and E. J. Thompson, 2015, A dual-polarization QPE method based on the NCAR Particle ID algorithm - description and preliminary results. AMS 37th Conference on Radar Meteorology, Norman, OK, oral

Thompson, E. J., S. A. Rutledge, 2015: Potential Benefits of Dual-Polarization Radar during SPURS-2: Mesoscale Precipitation Patterns in the Eastern Pacific Ocean. Planning Meeting for the NASA Salinity Processes Upper Ocean Regional Study 2 Experiment, La Jolla, CA, oral

Thompson, E. J., S. A. Rutledge, J. N. Moum, C. W. Fairall, 2014 Influence of precipitating systems on upper Indian Ocean stability during DYNAMO. AGU Fall Meeting, San Francisco, CA, poster

Thompson, E. J., J. M. Peters, R. S. Schumacher, S. A. Rutledge, 2014: Explaining low convective echo top heights during a strong DYNAMO westerly wind burst. AMS 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA, poster

Thompson, E. J., S. Rutledge, J. N. Moum, C. W. Fairall, S. P. de Szoeke, A. Brewer, 2014 Oceanic influence of atmospheric cold pools during DYNAMO. AMS 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA, oral

Thompson, E. J., S. A. Rutledge, B. Dolan, R. A. Rilling, M. Dixon, S. M. Ellis, and W. Xu, 2013: Radar Rainfall estimation during DYNAMO. AMS 36th Conference on Radar Meteorology, Breckenridge, CO, poster

Thompson, E. J., S. A. Rutledge, B. Dolan, V. Chandrasekar, and B. L. Cheong, 2013: A dual-polarization radar hydrometeor classification algorithm for winter precipitation. AMS 36th

Conference on Radar Meteorology, Breckenridge, CO, oral: https://ams.confex.com/ams/36Radar/webprogram/Paper228449.html

Thompson, E. J., S. Rutledge, Timothy. J. Lang, 2012. Radar analysis of precipitation influenced by tropical cyclone-MJO interaction during DYNAMO. AGU Fall Meeting, San Francisco, CA, oral

Morris, G.A., D. Martins, A. Thompson, A. Reed, E. Joseph, and E. Thompson, 2012: The impact of radiosonde pressure sensor errors on ozone profiles and columns as reported by ozonesondes, Quadrennial Ozone Symposium, Toronto, Canada.

Thompson E. J., K. M. Willingham, K. W. Howard, 2010. Characteristics of Sonoran Desert Microbursts. AMS Annual Meeting, Atlanta, GA, oral

Thompson, E. J., Brian J. Lasorsa and Steven M. Zubrick, 2009: The February 2007 Valentine's Day Storm: Diagnosis and Impact on the Washington, DC Area. AMS Annual Meeting, Student Conference, Phoenix, AZ, poster

Thompson, E. J., S. A. Rogowski, S. M. Zubrick, S. A. Listemaa, 2008: Analysis of 4 July 2006 Washington, DC Severe Thunderstorm: Overview with Synoptic and Mesoscale Assessment, 33rd Annual National Weather Association Meeting, Student Conference, Louisville, KY, poster (award winner)

Ford, B. G. A. Morris, X. Li, B. Rappenglueck, D. Byun, B. Lefer, R. Perna, R. Boudreaux, B. McEvoy-Day, L. Pedemonte, E. Thompson, 2008: The impact of residual layer ozone on surface ozone levels in Houston, Texas during TexAQS II, 10th Conference on Atmospheric Chemistry, 88th Annual AMS Meeting, New Orleans, LA, poster