Ju-Mee Ryoo, Ph.D.

Contact information

Atmospheric Science Branch, NASA Ames Research Center, Moffett Field, CA 94035
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Education

Johns Hopkins University
Ph.D. in Earth and Planetary Sciences
M.A. in Earth and Planetary Sciences
Yonsei University, South Korea
M.S. in Atmospheric Sciences
B.S. in Mathematics, Atmospheric Sciences (double major)

Research Interest

- Extreme weather (Atmospheric Rivers)) events and large-, synoptic-scale atmospheric dynamics
- Urban outflow of CO_2 and CH_4, and the meteorological impact on it.
- Investigation of Ozone sources such as long-range transport, and its relation to atmospheric dynamics using models and measurements

Awards & Honors

NASA Ames Contractor Council, Certificate of Excellence award as an ObseRvation of Aerosols above CLouds and their intEractionS (ORACLES) participant (2017, 2019)
San Jose State University Teaching faculty (2018-spring 2020)
Best poster award at the Chapman conference in convection session (2008)
Johns Hopkins University, Gillman Fellowship (2004-2005)
BK 21(Brain Korea 21 Century) Scholarship (2002)
Honor student Scholarship from the Alumni Association (1999-2000)

Selected Published & on-going Journal Publications

Ryoo, J.-M., Leonhard Pfister, Rei Ueyama, Paquita Zuidema, Robert Wood, **2020**: Meteorological overview of the ORACLES (ObseRvations of Aerosols above Clouds and their intEractionS) campaign over the southeast Atlantic during 2016-2018. *In preparation*.

Ryoo, J.-M., S. Chiao, J. R. Spackman, L. T. Iraci, R. B. Pierce, F. M. Ralph, J. E. Marrero, E. L. Yates, W. Gore, A. Martin, R. M. Dole, **2020**: Terrain Trapped Airflows and Precipitation Variability during an Atmospheric River, 355-375, *J. Hydromet*, 21, 355-375, https://doi.org/10.1175/JHM-D-19-0040.1

Langford, A.O., R. J. Alvarez II. J. Brioude, D. Caputi, S. A. Conley, S. Evan, I. C. Faloona, L. T. Iraci, G. Kirgis, J.E. Marrero, **J.-M. Ryoo**, C. J. Senff, and E.L. Yates, **2020**: Ozone production in the Soberanes smoke haze: impact on air quality in the San Joaquin Valley during the California Baseline Ozone Transport Study, *J. Geophys. Res.,* https://doi.org/10.1029/2019JD031777

Yates, E.L., L.T.Iraci, L.W.Tarnay, J.D.Burley, C. Parworth, **J.-M.Ryoo**, **2020**: The effect of an upwind non-attainment area on ozone in California's Sierra Nevada Mountains, *Atmos Environ*, 230, https://doi.org/10.1016/j.atmosenv.2020.117426

Ryoo, J.-M., L. T. Iraci, T. Tanaka, J. E. Marrero, E. L. Yates, I. Fung, Anna M. Michalak, Jovan Tadić, and W. Gore, T. Paul Bui, J. M. Dean-Day, C. S. Chang **2019**: Quantification of CO2 and CH4 emissions over Sacramento, California based on divergence theorem using aircraft measurement. *Atmos. Meas. Tech.*, **12**, 2949–2966, https://doi.org/10.5194/amt-12-2949-2019.

Faloona, I. C., S. Chiao, A. Eiserloh, R. J. Alvarez II, G. Kirgis, A. Langford, C. Senff, D. Caputi, A. Hu, L. T. Iraci, E. L. Yates, J. E. Marrero**, J.-M. Ryoo,** S. Conley, S. Tanrikulu, J. Xu, and T. Kuwayama, **2019**: The California Baseline Ozone Transport Study (CABOTS), *BAMS*, https://doi.org/10.1175/BAMS-D-18-0302.1

Liu, C., S. Chiao, **J.-M. Ryoo**, **2019**: Asian long-range transport in relation to atmospheric rivers in northern California, *Atmosphere,* 10, 313; doi:10.3390/atmos10060313.

Ryoo, J.-M., M. S. Johnson, E. L. Yates, L. T. Iraci, R. B. Pierce, T. Tanaka, W. Gore, **2017**: Investigating sources of ozone over California using AJAX airborne measurements and models: assessing the long-range transport, *Atmos. Environ*, **155**, 53-67, http://dx.doi.org/10.1016/j.atmosenv.2017.02.008.

Tadić, J., A. Michalak, L. Iraci, V. Ilić, S., Biraud, D. Feldman, B. Thaopaul, M. S. Johnson, M. Loewensterin, S. Jeong, M. Fischer, E. Yates, **J.-M. Ryoo**, **2017**: Elliptic cylinder airborne sampling and geostatistical mass balance approach for quantifying local greenhouse gas emissions, *Environ. Sci. Tech*., 51 (17), 10012-10021, DOI: 10.1021/acs.est.7b03100

Yates, E. L., M. S. Johnson, L. T. Iraci, **J.-M. Ryoo**, B. J. Johnson, M. A. Ives, T. LeBlanc, M. S. Gustin, T. Tanaka, W. Gore, **2017**: Western US tropospheric ozone: An assessment of vertical, seasonal and spatial variations over California and Nevada, *J. of Geophys. Res.: Atmos*., 122, https://doi.org/10.1002/2016JD026266.

Ryoo, J.-M., D. E. Waliser, D. W. Waugh, S. Wong, E. J. Fetzer, I. Fung, **2015**: Classification of atmospheric river events on the U.S. west coast using a trajectory model., *J. Geophys. Res. Atmos.*, 120, doi:10.1002/2014JD022023.

Ryoo, J.-M., Y. Kaspi, D. W. Waugh, G. N. Kiladis, D. E. Waliser, E. J. Fetzer, J. Kim, **2013**: Impact of Rossby Wave Breaking on U.S. West Coast Winter Precipitation during ENSO Events. *J. Climate*, **26**, 6360–6382, http://dx.doi.org/10.1175/JCLI-D-12-00297.1

Ryoo, J.-M., T. Igusa, and D. W. Waugh, **2009**: PDFs of Tropical Tropospheric Humidity: Measurements and Theory, *J. Climate*, 22, 3357-3373.

Ryoo, J.-M., D. W. Waugh, and A. Gettelman, **2008**: Variability of subtropical upper tropospheric humidity, *Atmos. Chem. Phys.*, 8, 1041-1067.

H.-Y. Chun, and **J.-M. Ryoo**, **2005**: A Case Study of Dynamical Linkage Between the Troposphere and Stratosphere Associated with Stratospheric Major Sudden Warmings in 1979 and 1984, *Journal of Korean Meteorological Society,* **41**, 3, 415-430.

Ryoo, J.-M. and H.-Y. Chun, **2005**: Stratospheric Major Sudden Warmings Revealed in NCEP Reanalysis Data for 41 years (1958-1999), *J. Korean. Meteorol. Soc.,* 41, 2, 173-190.