Yue Jia
Cooperative Institute for Research in Environmental Sciences (CIRES),
University of Colorado Boulder
Chemistry Sciences Laboratory, Chemistry & Climate Processes (CSL8),
National Oceanic and Atmospheric Administration (NOAA)
325 Broadway, Boulder, CO 80305
Tel: (720)960-9191 | Email: yue.jia@noaa.gov

Education

- Ph.D. in Space Physics (Middle and Upper Atmosphere), Wuhan University 2011-2016
  Dissertation: "*Variations of atmospheric waves and sea surface temperature during stratospheric sudden warming events*"
  Advisor: Prof. Shaodong Zhang
- B.Sc in Electronic Information Engineering, Wuhan University 2007-2011

Professional Experience

- Research Scientist II 2023- present
  CIRES, University of Colorado Boulder
  NOAA Chemistry Sciences Laboratory, Chemistry & Climate Processes (CSL8)
- Research Scientist I 2021- 2023
  CIRES, University of Colorado Boulder
  NOAA Chemistry Sciences Laboratory, Chemistry & Climate Processes (CSL8)
- Postdoc Fellow 2020- 2021
  Institute of Space and Atmospheric Studies, University of Saskatchewan, Canada
  Advisor: Prof. Susann Tegtmeier
- Postdoc Researcher 2016- 2019
  GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
  Advisor: Dr. Susann Tegtmeier

Research Areas

- Chemistry-climate modeling
- Lagrangian transport modeling
- Air-sea interactions
- Trace gases
- Trend of key stratospheric substances
- Environmental impact of anthropogenic pollutions
- Atmospheric dynamics

Awarded/Pending Grant

- High Performance Computing and Communications Program (HPCC) FY23 Information Technology Incubator, NOAA 2023
  Co-PI, Awarded
  Advanced Ensemble Empirical Mode Decomposition (EEMD) Toolkit for Efficient Analysis of Large Atmospheric Datasets using Parallel Computing
- NNH23ZDA001N-SAGEIII: SAGE III/ISS Science Team Grant, NASA 2023
  Co-I, Pending
  Constraining decadal variability and trends in stratospheric composition and tropospheric circulation using SAGE III/ISS and complementary satellite data sets

- NNH23ZDA010L: Request for Information for NASA's Terra, Aqua, and Aura Data Continuity Workshop, NASA 2023
  Co-author
- Earth System Science Data Analyses, Canadian Space Agency (CSA) 2020
  Key Personnel, Awarded
  Understanding lower stratospheric ozone trends from satellite data and model simulations
- Youth Science Fund Project, National Natural Science Foundation of China (NSFC) 2013
  Co-I, Awarded
  Responses of atmospheric structure and waves in the mesosphere to the stratospheric sudden warming (SSW) events

Awards and Recognitions

- First-authored paper *'Anthropogenic Bromoform at Extratropical Tropopause',* featured in *Nature Research Highlights* link. Also covered by *Science Times* link, *Science Alert* link, and *Physics.org* link 2023
- International Travel Grant for the 12th Atmospheric Limb Workshop in Brussels, Belgium 2023
- Member of American Meteorological Society Early Career Leadership Academy (ECLA) cohort 2022
- First-authored paper '*Observations of gravity wave activity during stratospheric sudden warmings in the Northern Hemisphere',* selected as a cover article for *Sci China Tech Sci Volume 58, Issue 6* link 2015
- Youth Paper Award of the 16th National Solar-terrestrial Space Physics Meeting at Changsha, China 2015
- Excellent Post-Graduate Scholarship, Wuhan University 2015
- Advanced individual of Wuhan University for Extracurricular Academic and Scientific Innovation Activities, Wuhan University 2010
- National Encouragement Scholarship, Wuhan University 2008, 2009

Publications (* for corresponding author)

- **Jia, Y.**, Hahn, J., Quack, B., Jones, E., Meghan Brehon, and Tegtmeier, S. (2023), Anthropogenic Bromoform at the Extratropical Tropopause, *Geophysical Research Letters*, 50, e2023GL102894. https://doi.org/10.1029/2023GL102894
- Tao, M., Konopka, P., Wright, J. S., Liu, Y., Bian, J., Davis, S., **Jia, Y**., Ploeger F. (2023), Multi-decadal variability controls short-term stratospheric water vapor trends, *Commun Earth Environ* **4**, 441. https://doi.org/10.1038/s43247-023-01094-9
- Peer, N., Ceppi, P., Davis, S., Chiodo, G., Ball, W., Diallo, M., Hassler, B., **Jia, Y.**, Keeble, J., and Joshi, M. (2023), Response of stratospheric water vapour to warming constrained by satellite observations, *Nature Geoscience,* https://doi.org/10.1038/s41561-023-01183-6.
- **Jia, Y.**, Quack, B., and Tegtmeier, S. (2022), Potential environmental impact of bromoform from Asparagopsis farming in Australia, *Atmos. Chem. Phys.* 22, 7631–7646, https://doi.org/10.5194/acp-22-7631-2022.
- Tegtmeier, S., Marandino, C., **Jia, Y.**, Quack, B., and Mahajan, A. S. (2022), Atmospheric gas-phase composition over the Indian Ocean, *Atmos. Chem. Phys. 22, 6625–6676,* https://doi.org/10.5194/acp-22-6625-2022.

- Maas, J., Tegtmeier, S., **Jia, Y.**, Quack, B., Durgadoo, J. V., and Biastoch, A. (2021), Simulations of anthropogenic bromoform indicate high emissions at the coast of East Asia, *Atmos. Chem. Phys*., https://doi.org/10.5194/acp-2019-1004.
- Quack, B., **Jia, Y.**, Tegtmeier, S., Kinley, R., and Battaglia, M. (2020): Environmental Risk Assessment on bromoform ($CHBr_3$) from Asparagopsis spp. as antimethanogenic feed supplement Assessment Report.
- Tegtmeier, S., Anstey, J., Davis, S., Ivanciu, I., **Jia, Y.**, McPhee, D., and Pilch Kedzierski, R. (2020): Zonal asymmetry of the QBO temperature signal in the tropical tropopause region, *Geophysical Research Letters*, 47, e2020GL089533, https://doi.org/10.1029/2020GL089533.
- **Jia, Y.***, Tegtmeier, S., Atlas, E., and Quack, B. (2019), How marine emissions of bromoform impact the remote atmosphere, *Atmos. Chem. Phys.*, 19, 11089–11103, https://doi.org/10.5194/acp-19-11089-2019.
- Li, H. Y., C. M. Huang, S. D. Zhang, K. M. Huang, F. Yi, Y. Zhang, Y. Gong, Q. Gan, and **Y. Jia** (2017), Low frequency oscillations of the gravity wave energy density in lower atmosphere at low latitudes revealed by US radiosonde data, *J. Geophys. Res*. *Atmos*, 121, 13,458-13,473, doi:10.1002/2016JD025435.
- **Jia, Y.,** S. D. Zhang, F. Yi, et al. (2016), Variations of Kelvin waves around the TTL region during the stratospheric sudden warming events in the Northern Hemisphere winter, *Ann. Geophys*., 34, 331-345, doi:10.5194/angeo-34-331-2016.
- **Jia, Y.,** S. D. Zhang, F. Yi, et al. (2015), Observations of gravity wave activity during stratospheric sudden warmings in the Northern Hemisphere, *Sci China Tech Sci*, doi: 10.1007/s11431-015-5806-3

Selected Presentations

- **Jia, Y.**, Davis, S., Tegtmeier, S., Quack, B., Pisso, I., Portmann, R., Rosenlof, K.: Underestimation of Anthropogenic $CHBr_3$ Emissions: Implications for Ozone Depletion), AGU Fall Meeting, USA, 2023
- **Jia, Y.**, Davis, S., Rosenlof, K. and Kramarova, N.: Quantifying the Trend of Ozone in Upper Troposphere and Lower Stratosphere (UTLS) by Ozone Mapping and Profiler Suite Limb Profiler (OMPS-LP) and Ozonesonde Data, AMS Annual Meeting, USA, 2023
- **Jia, Y.**, Davis, S., Kramarova, N., and Rosenlof, K.: OMPS Limb Profiles vs Ozonesonde, Updates to SWOOSH, Long-term Ozone Trends and Uncertainties in the Stratosphere (LOTUS), online, 2022
- **Jia, Y.**, Davis, S., Rosenlof, K. and Kramarova, N.: Quantifying the accuracy and stability of ozone measurements from the Ozone Mapping and Profiler Suite Limb Profiler (OMPS-LP) for inclusion into a long-term climate data record, SPARC GA, Boulder, USA, 2022
- **Jia, Y.**, Davis, S., Rosenlof, K. and Kramarova, N.: Quantifying drift and bias of ozone measurements from the Ozone Mapping and Profiler Suite Limb Profiler (OMPS-LP) in upper troposphere and lower stratosphere (UTLS), AGU Fall Meeting, USA, 2022
- Toohey, M., **Jia, Y.**, and Tegetmeier, S.: Stratospheric residence time and the lifetime of volcanic aerosol, EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-12131, https://doi.org/10.5194/egusphere-egu21-12131, 2021
- Davis, Z., Griffin, D., **Jia, Y.**, Tegtmeier, S., Loria, M., and McLinden, C. A.: Examining the accuracy of satellite retrievals of trace-gas emissions and lifetimes using high-resolution

plume modelling., EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-9897, https://doi.org/10.5194/egusphere-egu21-9897, 2021

- Davis, Z., Griffin, D., **Jia, Y.**, Tegtmeier, S., Loria, M., McLinden, C.: Examination of the Accuracy of Retrievals of Trace-gas Emissions and Lifetimes from Satellite Measurements using High-resolution Plume Modeling, AGU Fall Meeting, USA, 2020
- **Jia, Y.,** Tegtmeier, S., Atlas, E., and Quack, B.: The Impact of Oceanic Emissions of Bromoform on the Remote Atmosphere, SOLAS Open Science Conference, Sapporo, Japan, 2019
- Tegtmeier, S., **Jia, Y.**, Wu, J., and Keller, D.: Impact of Large-scale Macroalgae Production on the Ozone Layer, SOLAS Open Science Conference, Sapporo, Japan, 2019
- Maas, J., **Jia, Y.**, Biastoch, A., Quack, B., and Tegtmeier, S.: Simulating Halocarbon Concentrations in Ocean and Atmosphere from Industrial Water Treatment, SOLAS Open Science Conference, Sapporo, Japan, 2019
- **Jia, Y**., S. D. Zhang: Variations of Atmospheric Waves and Sea Surface Temperature during SSW Events, University of Oslo, Oslo, Norway, 2017
- **Jia, Y.,** Tegtmeier, S., Quack, B., and Atlas, E.: Hotspots of Very Short Lived Halocarbons in the Tropical Ocean and Atmosphere, AGU Fall Meeting, New Orleans, USA, 2017

Professional Services

- **Journal Reviewer:** *Journal of Climate, Marine Pollution Bulletin, Sci China Tech Sci*
- **Grant Reviewer:** *Research & Innovation Seed Grants for the "Geological & Environmental Sciences" of CU Boulder, FY23 NOAA Small Business Innovation Research (SBIR) Phase I Competition*
- **Member:** *American Geophysical Union (AGU), American Meteorological Society (AMS)*
- **Seminar Organizer**: *ME Lunch Seminar at GEOMAR* Helmholtz Centre for Ocean Research Kiel

Teaching and Mentoring Experience

- Post-graduate course '*Atmospheric Dynamics*', Wuhan University 2015
  Teaching assistant
- Post-graduate course '*Climate Physics: Meteorology and Physical Oceanography*', GEOMAR Helmholtz Centre for Ocean Research Kiel 2018, 2019
  Project Mentor