

Dr. Arthur P. Mizzi

NASA Ames Research Center
Moffett Field, CA 94035

arthur.p.mizzi@nasa.gov
phone: 303-903-5544

Education

University of Colorado, School of Law	J.D (1997)
University of Colorado, Applied Mathematics	Ph.D. (1994), M.S. (1989)
University of Virginia, Environmental Science	M.S. (1982), B.A. (1977)

Appointments

2020-present	Senior Research Fellow, USRA/NASA Ames Research Center
2018-2020	Physical Scientist II, CDPHE/Air Pollution Control Division
2009-2018	Project Scientist II, National Center for Atmospheric Research
1995-2009	Private Environmental Attorney/Consultant, Denver, CO
1981-1995	Associate Scientist III, National Center for Atmospheric Research

Selected Fellowships and Awards

2020	Senior Research Fellow, USRA/NASA Ames Research Center
2015	Selected to organize the NCAR ASP 2016 Summer Colloquium titled: <i>Advances in Air Quality Analysis and Prediction: The Interaction of Science and Policy</i>
2015	NCAR/ACOM Outstanding Performance Award
2014	NCAR/ACOM Outstanding Performance Award
1996	Published student paper titled: <i>Caspian Sea oil, turmoil, and caviar: Can they provide a basis for a union of the Caspian states</i> in the <i>Colorado Journal of Environmental Law and Policy</i>
1995	Selected to be an editor for the <i>Colorado Journal of Environmental Law and Policy</i>
1982	Selected to attend the NATO ASI on: <i>Mesoscale Meteorology – Theories, Observations, and Models</i>
1980	Selected to teach the graduate level class titled: <i>Environmental Thermodynamics (Atmospheric Component)</i> based on academic performance.

Experience and Qualifications

Dr. Mizzi is an expert on data assimilation, regional chemical data assimilation, and numerical modeling. He developed WRF-Chem/DART and the “compact phase space retrieval” (CPSR) method for efficient assimilation of trace gas retrieval profiles. Currently, he is working on assimilation of OMI, TROPOMI, TEMPO, and MAIA retrievals in WRF-Chem/DART.

Selected Publications

- 2021 Zhang, Q., M. Li, M. Wang, **A. P. Mizzi**, Y. Huang, C. Wei, J. Jin, Q. Gu, CO₂ flux over the contiguous United States in 2016 inverted by WRF-Chem/DART from OCO-2 XCO₂ retrievals. [accepted for publication *Atmos. Remote Sensing*].
- 2021 Liu, X., **A. P. Mizzi**, J. L. Anderson, I. Fung, and R. Cohen, The potential for geostationary remote sensing of NO₂ to improve weather prediction. *Atmos. Chem. Phys. Discuss.* [preprint], <https://doi.org/10.5194/acp-2020-656>, accepted for publication, 2020.
- 2020 Zhang, Q., M. Li, C. Wei, **A. P. Mizzi**, Y. Huang, and Q. Gu, Assimilation of OCO-2 retrievals with WRF-Chem/DART: A case study for the Midwestern United States. *Atmospheric Environment*, **246**, 118106, <https://doi.org/10.1016/j.atmosenv.2020.118106>.
- 2019 Ma, C., T. Wang, **A. P. Mizzi**, and J. L. Anderson, B., Zhuang, M. Xie, R. Wu, Multiconstituent data assimilation with WRF-Chem/DART: Potential for adjusting anthropogenic emissions and improving air quality over eastern China. *Journal of Geophysical Research: Atmospheres*, **124**, 7393-7412, <https://doi.org/10.1029/2019jd03042>.
- 2018 **Mizzi, A. P.**, D. P. Edwards, and J. L. Anderson, Assimilating compact phase space retrievals (CPSRs): Comparison with independent observations (MOZAIC *in situ* and IASI retrievals) and extension to assimilation of truncated retrieval profiles. *Geosci. Model Dev.*, **11**, 3727-3745.
- 2017 Liu, X., **A. P. Mizzi**, J. L. Anderson, I. Fung, and R. C. Cohen, Assimilation of satellite NO₂ observations at high spatial resolution using OSSEs. *Atmos. Chem. Phys.* **17**, 7067-7081.
- 2016 **Mizzi, A. P.**, A. F. Arellano, D. P. Edwards, J. L. Anderson, and G. G. Pfister, Assimilating compact phase space retrievals of atmospheric composition with WRF-Chem/DART: A regional chemical transport/ensemble Kalman filter data assimilation system. *Geosci. Model Dev.* **9**, 965-978.
- 2015 Xu, D., X.-Y. Huang, H. Wang, **A. P. Mizzi**, and J. Min, Impact of assimilating radiances with WRFDA ETKF/3DVAR hybrid system on prediction of two typhoons in 2012. *Journal of Meteorological Research*, **29**, 28-40. DOI: 10.1007/s13351-014-4053-z
- 2004 **Mizzi, A. P.**, EPA's new source review and routine maintenance, repair, and replacement reforms. **33 Colo. Law.** **7**, 105-12.
- 2004 **Mizzi, A. P.**, Impact of the Supreme Court's holding in SWANCC v. U.S. Army Corps of Engineers on Tenth Circuit case law. **30 Colo. Law.** **7**, 109-12.
- 2000 **Mizzi, A. P.**, Recent trends for environmental damages under continuing tort and trespass in Colorado. **29 Colo. Law.** **7**, 111-14.
- 1999 **Mizzi, A. P.**, Review: Environmental Science Deskbook: A Comprehensive Guide, **28 Colo. Law.** **10**, 78-79.
- 1996 **Mizzi, A. P.**, Note, Caspian Sea oil, turmoil, and caviar: Can they provide a basis for a union of the Caspian states? **7 Colo. J. Int'l Envtl. L. & Pol'y** 483.