

David.D.Parrish, LLC

Consultant for all atmospheric chemistry issues related to air quality and climate change

4555 13th St. #2E, Boulder CO 80304

(303) 517-2963

David.D.Parrish.LLC@gmail.com

<http://DavidDParrish.com>



PROFESSIONAL EXPERIENCE

Senior Research Scientist (half-time), Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado 2014-present
Program Lead, Tropospheric Chemistry Group of the Chemical Sciences Division/National Oceanic and Atmospheric Administration (NOAA)/Earth System Research Laboratory 2009-2014
Research Chemist, NOAA
1987-2014 (part-time: 1978-1987)
Department Chair, Department of Chemistry, Metropolitan State College (Denver)
1986-1987
Professor, Department of Chemistry, Metropolitan State College (Denver) and University of Illinois at Chicago 1973-1987
Postdoctoral Research Fellow, Harvard University, Department of Chemistry
1970-1973

EDUCATION

Ph.D. in physical chemistry, University of California, Berkeley, California - 1970
B.S. degree in chemistry, Colorado College, Colorado Springs, Colorado - 1966

FIELD STUDY COORDINATOR

California Air Quality and Climate Study (CalNex 2010)
Intercontinental Transport and Chemical Transformation (ITCT 2002, ICARTT 2004)
North Atlantic Regional Experiment (NARE 1991, 1993, 1996, 1997)

SCIENTIFIC ASSESSMENTS AND COMMITTEE MEMBERSHIPS

"Science Synthesis Report: Atmospheric Impacts of Oil and Gas Development in Texas"
- Lead Author of report to Texas Commission on Environmental Quality (2017)
Science Review Group for Bureau of Ocean Energy Management funded Air Quality Modeling in the Gulf of Mexico Region - Member 2014-present
"Synthesis of Policy Relevant Findings from the CalNex 2010 Field Study" - Lead Author of report to California Air Resources Board (2014)
Independent Technical Advisory Committee of the Texas Air Quality Research Program – Member 2010-2015
IGAC Assessment on Impacts of Mega-cities on Air Quality and Climate - Coordinating Chapter lead author for 2011 Report

Task Force on Hemispheric Transport of Air Pollutants (HTAP) - Coordinating Chapter
lead author for 2010 Report

International Global Atmospheric Chemistry (IGAC) Program, Scientific Steering
Committee - 2003-2007

Texas Air Quality Study (TexAQS) Rapid Science Synthesis Team Coordinator – 2006-
2007

NARSTO Emission Inventory Assessment, Steering Committee – 2004-2005 – Author
Chapter 7

NARSTO Tropospheric Ozone Assessment – 2000 - Coauthored two critical review
papers

JOURNAL EDITORIAL BOARDS

Atmospheric Environment - 2009-2015

Journal of Atmospheric Chemistry - 2009-2016

GUEST EDITOR

Atmospheric Chemistry and Physics, CAREBEIJING special issue, 2012

Journal Geophysical Research-Atmospheres, **109**(D23), 2004; **111**(D23), 2006;
112(D10), 2007; **115**(D7), 2010

Atmospheric Environment, **29**(21), 1995; **30**(12), 1996

AWARDS

Fellow - American Geophysical Union: 2014

Colorado Governor's Award for High-Impact Research for science team involved with
research on impacts of oil and gas activities on the atmosphere- October, 2014.

Colorado Governor's Award for High-Impact Research for science team involved with
the Deepwater Horizon oil spill flights by the NOAA P-3 aircraft - October, 2012.

OAR Outstanding Scientific Paper Award: 2000, 2003, 2005, 2014

Department of Commerce Silver Medal Award: 2004

PROFESSIONAL SOCIETIES

American Geophysical Union

American Association for the Advancement of Science

PUBLICATIONS

More than 200 peer-reviewed publications (List available [here](#)).

h-index: 68

SELECTED INVITED PRESENTATIONS (2010-2017)

"A fresh look at dirty air: 40 years of effort to reach the U.S. ozone NAAQS" **ESRL/CSD Seminar** in Boulder CO - 16 August 2017.

"A distressing hypothesis: Current models cannot provide consistent and quantitatively accurate U.S. background ozone design values" at the **Background Ozone Scientific Assessment Workshop** in Denver CO - 28-29 March 2017

"Ozone Design Values in Southern California's Air Basins: Temporal Evolution and U.S. Background Contribution" at the **American Geophysical Union Fall Meeting** in San Francisco CA - 12-16 December 2016.

"Air Quality Impacts of Shale Oil and Gas Production in Texas" at the **TAMEST Shale Task Force comprehensive review of the scientific research and related findings on the impacts of shale oil and gas production in Texas** in Austin TX - 5 October 2016.

"Air Quality Improvement in Los Angeles - Perspectives for Developing Cities" at the **2016 Peak Forum of Volatile Organic Compounds** in Shijiazhuang, Hebei, China - 20-21 August 2016.

"Some intriguing aspects of tropospheric ozone in urban to remote regions" at the **colloquium Ozone Research – Quo Vadis?** in Zurich, Switzerland - 4 May 2016

"Impact of Transported Background Ozone on Western U.S. Air Quality" **California Desert Air Working Group 2015 Conference** in Big Bear Lake CA - 18-19 November 2015

"Tropospheric Ozone: Seasonal Cycles and Trends as Tests for Chemistry Climate Models" **Institute for Arctic and Alpine Research Seminar** in Boulder CO - 5 October 2015.

"Comparison of Seasonal Cycles of Tropospheric Ozone from Chemistry-Climate Models (CCMs) with Measurements" **Meteorology And Climate - Modeling for Air Quality (MAC-MAQ) Meeting** in Sacramento CA - 16-18 September 2015.

"Lessons Learned from Los Angeles: 5 Decades of Efforts, but Air Still Not as Clean as Needed" at the **19th ETH Conference on Combustion Generated Nanoparticles** in Zürich, Switzerland - 28 June - 1 July 2015.

"Comparison of seasonal cycles of tropospheric ozone from three Chemistry-Climate Models (CCMs) with measurements" **ESRL/GMD Annual Meeting** in Boulder CO - 19-20 May 2015.

"Quantitative Comparisons Between Measurements and Chemistry Climate Models, plus Other Challenges for Photochemical Models" **Harvard University Atmospheric Sciences Seminar** on 24 April 2015.

"Baseline Contributions to Surface Ozone in California's Central Valley" at the **Transboundary Ozone Pollution Conference** in Yosemite CA - 31 May - 2 April 2015.

"Baseline Ozone in Western North America: Measurements and Models" at the **Transboundary Ozone Pollution Conference** in Yosemite CA - 31 May - 2 April 2015.

"How Complete Is Our Knowledge of Tropospheric Ozone? (at Least as it is Currently Incorporated into Chemistry-Climate Models)" at the **American Geophysical Union Fall Meeting** in San Francisco CA - 14-19 December 2014.

"Air Pollution in Developing Mega-Cities - Something Old, Something New - Lessons from Los Angeles" **California Air Resources Board Chair's Lecture Series** in Sacramento CA - August 7, 2014

"Systematic Comparison Of Long-Term Tropospheric Ozone Changes Between Observations And Models" at the **IGAC/SPARC Chemistry-Climate Model Initiative (CCMI) Workshop** in Lancaster, England - 20-22 May 2014.

“Air Pollution in Developing Mega-cities: Something Old, Something New” College of Environmental Sciences and Engineering, Peking University Seminar in Beijing, China - 10 April 2014.

“Air Pollution in Developing Mega-cities: Something Old, Something New” at the Monsoon Asia Integrated Regional Study (MAIRS) Open Science Conference in Beijing, China - 7-10 April 2014.

“Long-Term Baseline Ozone Changes: Disagreement between 3 ACCMIP/CMIP5 Models and Observations” at the American Geophysical Union Fall Meeting in San Francisco CA - 9-13 December 2013.

“Long-term changes in lower tropospheric baseline ozone concentrations: Comparing chemistry-climate models and observations at northern mid-latitudes” ESRL/CSD Seminar in Boulder CO - 16 October 2013.

“Urban Air Quality Trends in a Global Context” at the RISUD International Workshop on Regional Air Quality - Linking Science to Policy in Hong Kong, China - 15 June 2013.

“Decadal Trends of VOC Toxics in the Los Angeles Urban Area” at the CRC Mobile Source Air Toxics Workshop in Sacramento CA - 4-6 February 2013.

“Ozone in the Anthropocene: Lessons from urban to remote measurements at northern mid-latitudes” Keynote speech at the The 12th International Global Atmospheric Chemistry (IGAC) Science Conference: Atmospheric Chemistry in the Anthropocene in Beijing, China - 17-21 September 2012.

“Megacity air quality: the view from satellites and other platforms” at the meeting entitled Towards an Integrated Observing System for South America: Air Quality Assessment and Forecasting in Mega Cities in Santiago, Chile - 9-12 January 2012.

“Early Results from the CalNex 2010 Field Study” at the CENRS Air Quality Research Subcommittee in Washington DC - 13 October 2011.

“Urban air quality trends in a global context” at the Final Symposium of the EU FP7 project MEGAPOLI "Megacities: Emissions, urban, regional and Global Atmospheric POLLution and climate effects, and Integrated tools for assessment and mitigation" in Paris, France - 26-28 September 2011.

“Transported Background Ozone: Impact on Air Quality at U.S. West Coast” at the Workshop on Policy Relevant Ozone Background Ozone Concentrations in the United States in Austin TX - 30 March 2011.

“Past, present and future evolution of urban air quality in developed and developing cities of the world” at The Mainland China-Taiwan-Pacific Rim Conference on Climate and Air Quality in Kona HI - 14-19 March 2011.

“Past, present and future evolution of urban air quality in developed and developing cities of the world” at the 2nd Xiamen International Forum on Urban Environment in Xiamen, China - 10-12 December 2010.

“Understanding Historical Ozone Trends at Northern Mid-Latitudes” at the 19th International Emission Inventory Conference “Emission Inventories – Informing Emerging Issues” in San Antonio TX - 28-30 September 2010.

“Comparing Chemical Transport Model Results with Measurements: Some Illuminating Approaches” NCAR/NESL Atmospheric Chemistry Division Seminar in Boulder CO - 26 April 2010.