

**Gary A. Morris, Ph.D.**

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**PROFESSIONAL SUMMARY**

- Award-winning college-level Physics, Earth Science, and Astronomy professor with extensive experience developing state-of-the-art electronic educational resources and research projects with significant roles for undergraduate students
- Fulbright Scholar and NASA atmospheric scientist with more than \$1.5 million in grants and experience in modeling, field measurements, and satellite data analysis
- Project Kaleidoscope Faculty 21 member with experience in strategic planning, workshop organization, and research grant management

**EMPLOYMENT**

- 2004 – Present Associate Dean of Arts & Sciences (2010), Associate Professor (2006 - present) and Assistant Professor (2004 – 2006) of Physics & Astronomy, Valparaiso University (VU), Valparaiso, IN
- Spring 2008 Visiting Assistant Professor, Dept. of Geosciences, University of Houston (UH), Houston, TX
- 2003 – 2006 Intermittent Assistant Research Scientist, Goddard Earth Sciences and Technology Center, University of Maryland Baltimore County (UMBC), Baltimore, MD
- 2000 – 2008 Faculty Fellow, Wiess Instructor, and Clinical Assistant Professor of Physics & Astronomy (2000 – 2004); Adjunct Assistant (2004 – 2007) and Associate (2007 – 2008) Professor, Rice University (Rice), Houston, TX
- 1998 – 2000 Visiting Assistant Professor of Physics & Astronomy, VU, Valparaiso, IN
- 1997 – 1998 Research Assistant Professor, Joint Center for Earth Systems Technology (JCET), UMBC, Baltimore, MD
- Spring 1997 Astronomy Instructor, Prince George’s Community College (PGCC), Largo, MD
- 1994 – 1997 National Research Council Post-Doctoral Fellow, NASA Goddard Space Flight Center (GSFC), Greenbelt, MD

**EDUCATION**

- Ph.D. 1995 Rice University, Houston, TX – *Space Physics and Astronomy*  
Dissertation: “A Demonstration and Evaluation of Trajectory Mapping”
- M.S. 1992 Rice University, Houston, TX – *Space Physics and Astronomy*  
Thesis: “Background and Early Results from the Atmospheric Electrical Current Sensor Project”
- A.B. 1989 Washington University, St. Louis, MO – *Physics and Mathematics*  
Graduated with college honors

## **ACCOMPLISHMENTS**

### ***Research***

- Authored or co-authored 28 peer-reviewed publications, 10 other publications, more than 75 conference presentations; co-authored and contributed to two ozone-assessment documents
- Principal or co-Investigator on more than 20 funded research grant proposals totaling more than \$1.5 million
- Developer and lead scientist on Fulbright Scholar Grant field campaign to examine the outflow of pollution from China and its impact on air quality in Japan (2008 – 2009)
- Working with NASA scientists on the development of two new instruments to measure atmospheric NO<sub>x</sub> and tropospheric ozone (2003 – present)
- Developed and principal investigator of the Tropospheric Ozone Pollution Project, which has gathered the most extensive urban ozone profile data set in the world (2002 – present)
- Developed and leading the Research in Physics Education (RIPE) project (1998 – present)
- Developed a widely employed technique, trajectory mapping, for validating and understanding atmospheric trace gas observations (1992 – 1994)
- Assigned as key member of field team to South Pole Station, Antarctica to diagnose and repair electronics for an instrument measuring the atmospheric electrical conduction current (1991)

### ***Teaching***

- Developed advanced atmospheric data analysis course for the Dept. of Earth and Atmospheric Sciences at UH.
- Transformed and more than doubled the enrollment in the pre-med introductory physics course at Rice.
- Developed new science courses for majors and non-majors at VU.
- Revised physics laboratory curriculum at VU.
- Developed and managed web sites for 10 undergraduate classes (UMBC, Rice, VU, and UH).
- Mentored more than 35 students on research projects (UMBC, Rice, VU, and UH).

### ***Honors and Awards***

- Fulbright Scholar – Japan (2008 – 2009)
- Visiting Scholar, Dept. of Earth and Atmospheric Sciences, University of Houston (2009)
- NASA Group Achievement Award – Tropical Composition, Cloud and Climate Coupling (2008)
- NASA Group Achievement Award – Upper Atmosphere Research Satellite Team (2006)
- Project Kaleidoscope Faculty 21 Member (Class of 2006)
- NASA Group Achievement Award – Intercontinental Chemical Transport Experiment North America Science Team (2005)
- Rice University Pre-Medical Society Outstanding Faculty Award (2003)
- Outstanding Faculty Associate at Martel College (Rice, 2001/2002)

- Distinguished Faculty Associate at Martel College (Rice, 2000/2001)
- National Research Council Post-Doctoral Fellowship (1994 – 1996)
- Department of Energy Graduate Fellowship for Global Change (1992 – 1994)
- NASA Goddard Space Flight Center Graduate Student Summer Program, Universities Space Research Association (1992)

### ***Education Management***

- Chair, STEM Task Force, Valparaiso University, Sept. 2010 – present.
- Organized, led development of, and co-investigator on a \$500,000 NSF STEP grant for the establishment of dual undergraduate education and science majors, VU, submitted Sept. 2010.
- Organizer of and lecturer for Ozonesonde Workshop, UH, 13 – 16 June 2008
- Coordinator for Physics 141L laboratories (Fall 2005, 2006, and 2007) at VU  
Responsible for revising lab manual, introducing new experiments, writing quizzes, and coordinating the 4 faculty members teaching the laboratory
- Co-organizer of the Physics Education group at Rice (2001 – 2004)
- Coordinated NASA colleagues for the development of and authored chapters in an electronic textbook on stratospheric ozone (<http://www.ccpo.odu.edu/SEES/ozone/ozone.htm>) at NASA GSFC (1997 – 2000)
- Selected and designed atmospheric physics courses at UMBC (1997 – 1998)
- Coordinated teaching assignments at UMBC (1997 – 1998)

### **RESEARCH GRANTS**

#### ***As Principal Investigator***

- “Mathematics and Science Education Enrollment (MSEED) Program,” NSF STEP Program (submitted 2010), 5 years, \$520,000.
- “Air Quality Measurements in Support of NASA and the Texas Commission on Environmental Quality,” NASA (submitted 2010), 5 years, \$750,000.
- “HGB O3 Sonde Launches 2010-08 and Vertical Ozone Profiles in Eastern Texas 2010-10,” Texas Commission on Environmental Quality (2010), \$135,000.
- “Houston ozonesonde observations and data analysis during 2009,” Texas Commission on Environmental Quality (2009), \$120,500.
- “A study of the influence of Chinese pollution on air quality in Japan,” Fulbright Program (2008 – 2009), 5.8 million J.Y.
- “Preliminary ozone profile analysis and source partitioning,” with Marc Taylor (Sr.) and Brittini Emery (Soph.), Pierce Cedar Creek Institute (Summer 2007), \$3000 for students + \$3000 for supplies.
- “Additional Ozonesondes in Northwest Indiana in Support of INTEX-B and Aura Validation,” NASA *Earth Science Enterprise* (2006), \$50,000.

- “Additional Ozonesondes in Houston, Texas in Support of INTEX-B and Aura Validation,” NASA *Earth Science Enterprise* (2006 – 2008), \$115,000.
- “Validation of Non-Coincident Trace Species Measured by AURA Using Trajectory Mapping and Statistical Analysis,” NASA *Earth Science Enterprise* (2006 – 2008), \$495,000 (\$100,000 for Morris).
- “Tropospheric Ozone Pollution Project (TOPP): Investigating Air Quality Through Additional Ozone Sonde Launches in Houston, Beaumont, and East Texas,” Texas Commission on Environmental Quality *New Technology Research and Development Program* (2005 – 2006), \$107,000.
- “Great Lakes Region Ozone Sonde Network (GLRON),” Indiana Space Grant Consortium *Early Career Faculty Program* (2005), \$4000.
- “Rice University Tropospheric Ozone Pollution Project,” Shell Center for Sustainability (2003 – 2005), \$40,000.
- “Measuring Urban Ozone Pollution in Houston, Texas with MICROTOPS,” Rice Space Institute Seed Money Program (2002 – 2004), \$1500.
- “Research in Physics Education (RIPE) Project,” Rice University Brown Teaching Grant (2001 – 2002 and 2002 – 2003), \$5600.
- “MATCH Ozone Loss Analysis Technique,” NASA GSFC Purchase Order (2002 – 2005), \$40,000.
- “Simulation of Aircraft Exhaust Emissions Using the GSFC Trajectory Model,” NASA GSFC Purchase Order (2000), \$10,000.
- “Research in Physics Education (RIPE) Project,” Valparaiso University CELT Expense Grant (1999 – 2000), \$1200.
- “Validation of H<sub>2</sub>O and O<sub>3</sub> Measurements from SAGE III Using Trajectory Mapping and Constituent Reconstruction,” NASA Earth Observing System program (1997 – 2003), \$185,000.
- “Simulation of Aircraft Exhaust Emissions Using the GSFC Trajectory Model,” NASA GSFC Purchase Order (1999), \$14,500.

### **As Co-Investigator**

- “Air Pollution over the Eastern US: Integration of AURA/OMI NO<sub>2</sub> and SO<sub>2</sub>, Aircraft, and Ground-Based Observations with Numerical Models,” PI – Russell Dickerson – NASA Earth Science Division – Aura Science Team (2011 – 2014), \$599,911 (\$26,434 for Morris).
- “TC4: Ground-based Validation for Aura and CALIPSO with NATIVE and Sondes,” Anne Thompson, Penn State, PI – NASA Tropical Composition, Convection & Climate Coupling program (2007), \$157,000 (\$52,000 for Morris).

- “North American – North Atlantic Ozone Soundings During INTEX–A (2004),” Anne Thompson, Penn State, PI, NASA Tropospheric Chemistry Program (2004), \$150,000 (\$5000 for Morris).
- “Atmospheric Transport of Trace Gases and Aerosols: Evaluating Models and Observations,” Mark Schoeberl, NASA GSFC, PI – NASA Interdisciplinary Science Program (2003 – 2005), \$2.2 million (\$45,000 for Morris).
- “The Interaction Between the Troposphere and the Stratosphere: The Impact of Climate Change,” Mark Schoeberl, NASA GSFC – NASA Interdisciplinary Science Program (2000 – 2002), \$1.9 million (\$45,000 for Morris).
- “A Climatology of Tropospheric CO over the Central and Southeastern United States and the Southwestern Pacific Ocean Derived from Space, Air, and Ground-based Infrared Interferometer Spectra,” Wallace McMillan, UMBC, PI – NASA GSFC (1998 – 2001), \$234,000.
- “Validation of MOPITT Column and Profile CO from Spaceborne, Airborne, and Ground-based Interferometers,” Wallace McMillan, UMBC, PI – NASA GSFC (1997 – 2000), \$237,000.

## **SERVICE**

### ***Reviewer***

- Reviewer of 8 introductory physics textbooks for Prentice Hall and Addison Wesley (2002 – 2008, 2010).
- U.S. Civilian Research and Development Foundation proposals (2005).
- Proposal Review Panel Member for NASA Graduate Student Research Program: Earth Science Proposals (2002).
- NASA Earth Science Enterprise Education Product Review Panel member for the Institute for Global Environmental Strategies (June – August 2001).
- Reviewer for the following scientific journals: Atmospheric Chemistry and Physics, American Journal of Physics, Journal of Geophysical Research, Geophysical Research Letters, Journal of Climate, and Journal of Geoscience Education.

### ***Committees***

- STEM Task Force, VU (2010 – Present)
- Environmental Science Committee, VU (2007 – Present)
- Teacher Education Committee, VU (2005 – Present)
- Member, Pierce Cedar Creek Institute Advisory Board (2005 – 2008)
- Neils Science Center Vision Implementation Subcommittee, VU (2004 – 2007)
- PKAL Leadership Initiative Team, VU (2005 – 2007)
- High Performance Computing Team, VU (2005 – 2007)
- Center for Environmental Stewardship Proposal Development Subgroup, VU (2005)
- Lilly Marketing Group, VU (2005)
- Dept. of Physics & Astronomy Tenure-track Search Committee, VU (2004 – 2005)

- Dept. of Physics & Astronomy Visiting Faculty Search Committee, VU (2005)
- Committee on Education, Rice (2001 - 2004)
- Rice Space Institute Remote Sensing Group member (2000 - 2004) and chair (2001 - 2003)
- Curriculum Committee, Dept. of Physics & Astronomy, Rice (2001 – 2003)
- Founding Committee, Martel College (faculty member), Rice (2000 – 2001)
- Search Committee, Instructor of Physics & Astronomy, Rice (2000 – 2001)
- Organizing Committee, Texas Section of the American Physics Society/Texas Section of the American Association of Physics Teachers, Rice (2000)
- Environmental Science Curriculum Committee, VU (1999 – 2000)
- VU Environmental Science Teaching Circle member (1998 – 2000) and chair (1999 – 2000)
- Excellence in Geophysical Education Award Committee Member for the American Geophysical Union (1998 – 2000)
- Planning Committee for the Department of Energy Graduate Fellowships for Global Change Conference (1996)

## COURSES TAUGHT

Astronomy 101 L	Lab for Intro. Astronomy	S99, F98, S05	VU
Geosciences 4397	Atmos. Data Analysis	S08, Sum. 08	UH
Natural Science 101	Astronomy	S97	PGCC
Natural Science 102	Science of the Indiana Dunes	S07	VU
Physics 111	College Physics (premed)	F99, F98, F04	VU
Physics 111 L	Lab for College Physics (premed)	F99, F98, F04	VU
Physics 112	College Physics (premed)	F97	UMBC
Physics 112	College Physics (premed)	S00, S99, S05, S09	VU
Physics 112L	Lab for College Physics (premed)	S00, S05, S09	VU
Physics 125	General Physics (premed w/calc.)	F03, F02, F01, F00	Rice
Physics 126	General Physics (premed w/calc.)	S01, S02, S03, S04	Rice
Physics 141	Intro. Physics (majors)	S99	VU
Physics 141L	Lab for Intro. Physics (majors)	F99, F05, F06, F07	VU
Physics 141L – H	Honors Lab for Intro. Physics (majors)	F10	VU
Physics 142L	Lab for Intro. Physics (majors)	S07, S00	VU
Physics 152	Intro. Physics (honors)	S07	VU
Physics 190	Freshman seminar	S09	VU
Physics 243	Modern Physics	F06, F07	VU
Physics 380x	Intro to Air Quality (Met 490x)	S05	VU
Physics 492GM	Independent Research	F06, S07, F07, S09	VU

Rice:	Rice Univ.	VU:	Valparaiso Univ.
UMBC:	Univ. of Md. Balt. Co.	PGCC:	Prince George's Community College
UH:	Univ. of Houston		

## WORLD WIDE WEB SITES DEVELOPED

Faculty Homepage	VU	<a href="http://physics.valpo.edu/faculty/gmorris">physics.valpo.edu/faculty/gmorris</a>
Houston Ozone (2004 - 2008)	Rice	<a href="http://www.rice.edu/ozone">www.rice.edu/ozone</a>

Houston Ozone (2004 – present)	UH	<a href="http://www.imaqs.uh.edu/ozone">www.imaqs.uh.edu/ozone</a>
Physics 111 (1998/99, 2004)	VU	<a href="http://gluon.valpo.edu/courses/p111.f98">gluon.valpo.edu/courses/p111.f98</a>
Physics 112 (1997)	UMBC	<a href="http://umbc7.umbc.edu/~gmmorris/physics112">umbc7.umbc.edu/~gmmorris/physics112</a>
Physics 112 (1999/2000, 2005)	VU	<a href="http://gluon.valpo.edu/courses/p112.s00">gluon.valpo.edu/courses/p112.s00</a>
Physics 125 (2000/01/02/03)	Rice	<a href="http://www.owl.net.rice.edu/~phys125">www.owl.net.rice.edu/~phys125</a>
Physics 126 (2001/02/03/04)	Rice	<a href="http://www.owl.net.rice.edu/~phys126">www.owl.net.rice.edu/~phys126</a>
Physics 141 (1999)	VU	<a href="http://gluon.valpo.edu/courses/p141.s99">gluon.valpo.edu/courses/p141.s99</a>
Physics 141L (2005/06/07)	VU	<a href="http://physics.valpo.edu/courses/p243">physics.valpo.edu/courses/p243</a>
Physics 142L (2007)	VU	<a href="http://physics.valpo.edu/courses/p142L">physics.valpo.edu/courses/p142L</a>
Physics 152 (2007)	VU	<a href="http://physics.valpo.edu/courses/p152">physics.valpo.edu/courses/p152</a>
Physics 243 (2006/07)	VU	<a href="http://physics.valpo.edu/courses/p243">physics.valpo.edu/courses/p243</a>
Understanding Ozone (1999)	NASA	<a href="http://www.ccpo.odu.edu/SEES/ozone/ozone.htm">http://www.ccpo.odu.edu/SEES/ozone/ozone.htm</a>
Valparaiso Ozone (2006 - 2007)	VU	<a href="http://physics.valpo.edu/ozone">physics.valpo.edu/ozone</a>
Fulbright Research (2008 – present)		<a href="http://physics.valpo.edu/ozone/fulbrightdata.html">physics.valpo.edu/ozone/fulbrightdata.html</a>

## PROFESSIONAL AFFILIATIONS

- Council for Undergraduate Research (2006 – 2007 and since 2010)
- American Meteorological Society (since 2007).
- Association of American Colleges and Universities (since 2006).
- American Association of Physics Teachers (since 1998).
- American Associate of University Professors (since 1998).
- Earth System Science Education (ESSE) Program (since 1996).
- American Geophysical Union (since 1992).

## PUBLICATIONS

### *Reviewed*

1. **Morris, G.A.**, C. Boxe, V. Thouret, A.M. Thompson, B. Lefer, and B. Rappengluck, A summertime climatology of tropospheric ozone profiles over Houston, Texas (1994 – 2009), *Atmos. Chem. Phys.*, in preparation, 2010.
2. **Morris, G.A.**, G. Labow, T. Koide, M. Takigawa, and H. Akimoto, On the use of the correction factor with Japanese ozonesonde data, *Atmos. Chem. Phys.*, in preparation, 2010.
3. **Morris, G.A.**, R.R. Dickerson, N. Carbonaro, T. Koide, J. Hirokawa, M. Fujiwara, F. Hasebe, N. Krotkov, G. Labow, and H. Akimoto, Evidence of Chinese pollution in summer ozone profiles over Sapporo, Japan, *Geophys. Res. Lett.*, in preparation, 2010.
4. Taylor, M., B. Rappenglück, **G. Morris**, B. Lefer, and C. Haman, Evidence for the influence of STE on boundary layer ozone in Houston, Texas, *J. Geophys. Res.*, first draft completed Oct. 2010, to be submitted in 2011.
5. Tang, W., D.S. Cohan, **G.A. Morris**, D.W. Byun, W.T. Luke, Influence of vertical mixing uncertainties on ozone simulation in CMAQ, *Atmos. Environ.*, accepted with minor revisions, Dec. 2010.
6. **Morris, G.A.**, W. Komhyr, J. Hirokawa, J. Flynn, N. Krotkov, and B. Lefer, A balloon sounding technique for measuring SO<sub>2</sub> plumes, *J. Atmos. Ocean. Tech.*, 27 (8), 1318 – 1330, 2010.

7. **Morris, G.A.**, A.M. Thompson, K.E. Pickering, S. Chen, E.J. Bucsela, and P.A. Kucera, Observations of ozone production in a dissipating tropical convective cell during TC4, *Atmos. Chem. Phys. Discuss.*, 10, 18,953 – 19,004, 2010; *Atmos. Chem. Phys.*, 10, 11,189 – 11,208, 2010.
8. Krotkov, N.A., M.R. Schoeberl, **G.A. Morris**, S. Carn, and K. Yang (2010), Dispersion and lifetime of the SO<sub>2</sub> cloud from the August 2008 Kasatochi eruption, *J. Geophys. Res.*, 115, D00L20, doi:10.1029/2010JD013984.
9. Thompson, A.M., A.M. MacFarlane, G.A. Morris, J.E. Yorks, S.K. Miller, B.F. Taubman, G. Verver, H. Vomel, M.A. Avery, J.W. Hair, G.S. Diskin, E.V. Browell, J.V. Canossa, T.L. Kucsera, C.A. Klich, and D.L. Hlavka, Convective wave signatures in ozone profiles over the equatorial Americas: Views from TC4 (2007) and SHADOZ, *J. Geophys. Res.*, 115, D00J23, doi:10.1029/2009JD012909, 2010.
10. **Morris, G.A.**, B. Ford, B. Rappengluck, A.M. Thompson, A. Mefferd, F. Ngan, and B. Lefer, An evaluation of the interaction of morning residual layer and afternoon mixed layer ozone in Houston using ozonesonde data, *Atmos. Environ.*, 44, doi:10.1016/j.atmosenv.2009.06.057, 4024 – 4034, 2010.
11. Pierce, R.B., J. Al-Saadi, C. Kittaka, T. Schaack, A. Lenzen, K. Bowman, J. Szykman, A. Soja, T. Ryerson, A.M. Thompson, P. Bhartia, and **G.A. Morris**, Impacts of background ozone production on Houston and Dallas, TX air quality during the TexAQS field mission, *J. Geophys. Res.*, 114, D00F09, doi:10.1029/2008JD011337, 2009.
12. Rappenglück, B., R. Perna, S. Zhong, and **G.A. Morris**, An analysis of the vertical structure of the atmosphere and the upper-level meteorology and their impact on surface ozone levels in Houston, TX, *J. Geophys. Res.*, 113, D17315, doi:10.1029/2007JD009745, 2008.
13. Fishman, J., K.W. Bowman, J.P. Burrows, A. Richter, K.V. Chance, D.P. Edwards, R.V. Martin, **G.A. Morris**, R.B. Pierce, J.R. Ziemke, J.A. Al-Saadi, T.K. Schaack, and A.M. Thompson, Remote sensing of tropospheric pollution from space, *Bull. Am. Meteorol. Soc.*, 89, 6, 805 – 821, 2008.
14. Thompson, A.M., J.E. Yorks, S.K. Miller, J.C. Witte, K.M. Dougherty, **G.A. Morris**, D. Baumgardner, L. Ladino, and B. Rappenglück, Free tropospheric ozone sources and wave activity over Mexico City and Houston during MILAGRO/Intercontinental Transport Experiment (INTEX-B) ozonesonde network study, 2006 (IONS-06), *Atmos. Chem. Phys.*, 8, 5113 – 5125, 2008.
15. Nassar, R., J.A. Logan, H.M. Worden, I.A. Megretskaia, K.W. Bowman, G.B. Osterman, A.M. Thompson, D.W. Tarasick, S. Austin, H. Claude, M.K. Dubey, W.K. Hocking, B.J. Johnson, E. Joseph, J. Merrill, **G.A. Morris**, M. Newchurch, S.J. Oltmans, F. Posny, F.J. Schmidlin, H. Vömel, D.N. Whiteman, J.C. Witte, Validation of Tropospheric Emission Spectrometer (TES) Nadir Ozone Profiles Using Ozonesonde Measurements, *J. Geophys. Res.*, 113, D15S17, doi:10.1029/2007JD008819, 2008.
16. Cooper, O.R., M. Trainer, A.M. Thompson, S.J. Oltmans, D.W. Tarasick, J.C. Witte, A. Stohl, S. Eckhardt, J. Lelieveld, M.J. Newchurch, B.J. Johnson, R. W. Portmann, L. Kalnajs, M.K. Dubey, T. Leblanc, I.S. McDermid, G. Forbes, D. Wolfe, T. Carey-Smith, **G.A. Morris**, B. Lefer, B. Rappenglück, E. Joseph, F. Schmidlin, J. Meagher, F.C. Fehsenfeld, T.J. Keating, R.A. VanCuren, and K. Minschwaner, Evidence for a recurring eastern North America upper tropospheric ozone maximum during summer, *J. Geophys. Res.*, 112, D23304, doi: 10.1029/2007JD008710, 2007.



17. Jiang, Y.B., L. Froidevaux, A. Lambert, N.J. Livesey, W.G. Read, J.W. Waters, B. Bojkov, T. Leblanc, I.S. McDermid, S. Godin-Beckmann, M.J. Filipiak, R.S. Harwood, R.A. Fuller, W.H. Daffer, B.J. Drouin, R.E. Cofield, D.T. Cuddy, R.F. Jarnot, B.W. Knosp, V.S. Perun, M.J. Schwartz, W.V. Snyder, P.C. Stek, R.P. Thurstans, P.A. Wagner, M. Allaart, S.B. Andersen, G. Bodeker, B. Calpini, H. Claude, G. Coetzee, J. Davies, H. De Backer, H. Dier, M. Fujiwara, B. Johnson, H. Kelder, N.P. Leme, G. König-Langlo, E. Kyro, G. Laneve, L.S. Fook, J. Merrill, **G. Morris**, M. Newchurch, S. Oltmans, M.C. Parronondos, F. Posny, F. Schmidlin, P. Skrivankova, R. Stubi, D. Tarasick, A. Thompson, V. Thouret, P. Viatte, H. Vömel, P. von der Gathen, M. Yela, and G. Zablocki, Validation of Aura Microwave Limb Sounder ozone by ozonesonde and lidar measurements, *J. Geophys. Res.*, *112*, D24S34, doi: 10.1029/2007JD008776, 2007.
18. Schoeberl, M.R., J.R. Ziemke, B. Bojkov, N. Livesey, B. Duncan, S. Strahan, L. Froidevaux, S. Kulawik, P.K. Bhartia, S. Chandra, P.F. Levelt, J.C. Witte, A.M. Thompson, E. Cuevas, A. Redondas, D.W. Tarasick, J. Davies, G. Bodeker, G. Hansen, B.J. Johnson, S.J. Oltmans, H. Vomel, M. Allaart, H. Kelder, M. Newchurch, S. Godin-Beckmann, G. Ancellet, H. Claude, S.B. Andersen, E. Kyro, M. Parrondons, M. Yela, G. Zablocki, D. Moore, H. Dier, P. von der Gathen, P. Viatte, R. Stubi, B. Calpini, P. Skrivankova, V. Dorokhov, H. de Backer, F. J. Schmidlin, G. Coetzee, M. Fujiwara, V. Thoret, F. Posny, **G. Morris**, J. Merrill, C.P. Leong, G. König-Langlo, and E. Joseph, A trajectory-based estimate of the tropospheric column ozone column using the residual method, *J. Geophys. Res.*, *112*, D18105, doi: 10.1029/2007JD008773, 2007.
19. Tarasick, D.W., M.D. Moran, A. Thompson, T. Carey-Smith, Y. Rochon, V.S. Bouchet, W. Gong, P.A. Makar, C. Stroud, S. Ménard, L.-P. Crevier, S. Cousineau, J.A. Pudykiewicz, A. Kallaur, R. Moffet, R. Ménard, A. Robichaud, O.R. Cooper, S.J. Oltmans, J.C. Witte, G. Forbes, B.J. Johnson, J. Merrill, **G. Morris**, M.J. Newchurch, F.J. Schmidlin, and E. Joseph' Comparison of Canadian air quality forecast models with tropospheric ozone profile measurements above mid-latitude North America during IONS/ICARTT campaign: Evidence for stratospheric input, *J. Geophys. Res.*, *112*, D12S22, doi:10.1029/2006JD007782, 2007.
20. Thompson, A.M., J.B. Stone, J.C. Witte, S.K. Miller, R.B. Pierce, R.B. Chatfield, S.J. Oltmans, O.R. Cooper, A.L. Loucks, B.F. Taubman, B.J. Johnson, E. Joseph, T.L. Kucsera, J.T. Merrill, **G.A. Morris**, S. Hersey, G. Forbes, M.J. Newchurch, F.J. Schmidlin, D.W. Tarasick, V. Thouret, J.-P. Cammas, Intercontinental Chemical Transport Experiment Ozonesonde Network Study (IONS) 2004: 1 Summertime upper troposphere/lower stratosphere ozone over northeastern North America, *J. Geophys. Res.*, *112*, D12S12, doi:10.1029/2006JD007441, 2007.
21. **Morris, G.A.**, S. Hersey, A.M. Thompson, S. Pawson, J. Eric Nielsen, P.R. Colarco, W.W. McMillan, A. Stohl, S. Turquety, J. Warner, B.J. Johnson, T.L. Kucsera, D.E. Larko, S.J. Oltmans, and J.C. Witte, Alaskan and Canadian forest fires exacerbate ozone pollution over Houston, Texas, on 19 and 20 July 2004, *J. Geophys. Res.*, *111*, D24S03, doi:10.1029/2006JD007090, 2006.
22. **Morris, G.A.**, L. Branum-Martin, N. Harshman, S.D. Baker, E. Mazur, S. Dutta, T. Mzoughi, and V. McCauley, Testing the test: Item response curves and test quality, *Am. J. Phys.*, *74*, 449 – 453, 2006.
23. Cooper, O.R., A. Stohl, M. Trainer, A. Thompson, J.C. Witte, S.J. Oltmans, B.J. Johnson, J. Merrill, J.L. Moody, **G. Morris**, D. Trasick, G. Forbes, P. Nedelec, F.C. Fehsenfeld, J.

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### Other

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2. Russell, J.M., H.G.J. Smit, et al., co-authors include **G.A. Morris**, Chapter 2: Data Quality in *Assessment of Trends in the Vertical Distribution of Ozone*, WCRP-SPARC, *1*, 1998.
3. **Morris, G.A.** “A Demonstration and Evaluation of Trajectory Mapping.” *Ph.D. Thesis, Rice University*, August 1994.

4. Bering, E.A., J.R. Benbrook, R. Chadwick, G.J. Byrne, A.A. Few, and **G.A. Morris**, Feasibility of long term vertical electric current measurements in the Antarctic, *Antarctic J. of the U.S.*, *XXVIII*, 5, 314-317, 1993.
5. **Morris, G.A.** “Background and Early Results for the Atmospheric Electrical Current Sensor Project.” Master's Thesis, Rice University, 1992.
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## PRESENTATIONS

### *Invited*

Morris, G.A., Summary of Tropospheric Ozone Pollution Project Ozonesonde Data from 2004 – 2009, Texas Commission for Environmental Quality, Austin, Texas, 6 May 2010.

Morris, G.A., Assessing the influence of Chinese pollution on air quality in Japan in summer: Initial results from my Fulbright Research project

- Acid Deposition and Oxidant Research Center, Niigata, Japan, 6 Nov. 2009.
- Research Institute for Global Change, Yokohama, Japan, 22 Dec. 2009.
- Depts. of Physics & Astronomy and Chemistry, Valparaiso University, 15 Jan. 2010.
- Dept. of Chinese & Japanese Studies, Valparaiso University, 24 Feb. 2010.
- Dept. of Earth and Atmospheric Sciences, University of Houston, 31 Mar. 2010.
- Dept. of Meteorology, Texas A&M University, College Station, TX, 20 Apr. 2010.
- Dept. of Civil and Environmental Engineering, Rice University, Houston, TX, 19 May 2010.
- Dept. of Physics & Astronomy, American University, Washington, DC, 13 Sept. 2010.
- NOAA Air Resources Laboratory, Silver Spring, MD, 13 Sept. 2010.

- Morris, G.A., Texas Ozonesonde Observations: 2004 – 2009 and Beyond, Texas Commission for Environmental Quality, Austin, Texas, 22 June 2009.
- Morris, G.A., A study of the impact of China's pollution on air quality in Japan before, during, and after the Olympics: Measurement program overview and preliminary analysis, Frontier Research Center for Global Change, Yokohama, Japan, 6 Nov. 2008.
- Morris, G.A., A study of the influence of Chinese pollution on air quality in Japan, Faculty of Environmental Earth Science, Hokkaido University, Sapporo, Japan, 15 July 2008.
- Morris, G.A., Four years of ozonesonde observations in Houston, TX, Texas Commission for Environmental Quality, Austin, Texas, 2 May 2008.
- Morris, G.A., Global Climate Change Science, Focus the Nation event, Sid Richardson College, Rice University, Houston, Texas, 30 Jan. 2008.
- Morris, G.A., Comparison of satellite derived tropospheric ozone columns with balloon soundings, Dept. of Physics, Taylor University, 25 Sept. 2006.
- Morris, G.A., Providing the monitoring needed to clean tomorrow's air: A proposal for a regional network to study ozone
- Dept. of Chemistry, Chicago State University, 28 Sept. 2006.
  - Dept. of Physics, Hope College, 7 Apr. 2006.
  - Dept. of Physics and Astronomy, Ball State University, 30 Mar. 2006.
  - Dept. of Chemistry, Marietta College, 1 Mar. 2006.
  - Dept. of Chemistry, Valparaiso University, 24 Feb. 2006.
  - Dept. of Physics, Carthage College, 20 Feb. 2006.
  - Dept. of Chemistry, Ohio Northern University, 15 Feb. 2006.
  - Dept. of Physics & Astronomy, Calvin College, 14 Feb. 2006.
  - Dept. of Environmental Sciences, Taylor University, 1 Feb. 2006.
  - Dept. of Physics & Astronomy, Valparaiso University, 13 Jan. 2006.
- Morris, G.A., Alaskan Forest Fires Exacerbate Houston Ozone Pollution July 19 – 20, 2004
- Dept. of Geosciences, University of Houston, 8 Feb. 2008.
  - The Center for Atmospheric Particle Studies, Carnegie-Mellon University, Pittsburgh, PA, 2 Mar. 2006.
  - Dept. of Physics & Astronomy, Rice University, Houston, TX, 2 Mar. 2005.
  - Dept. of Physics & Astronomy, Valparaiso University, Valparaiso, IN, 18 Feb. 2005.
  - Dept. of Biology, Valparaiso University, Valparaiso, IN, 10 Jan. 2005.
- Morris, G.A., Arctic Ozone Loss in 1992 and 2000
- Dept. of Physics & Astronomy, Valparaiso University, Valparaiso, IN, 6 Feb. 2004.
  - Dept. of Physics, University of Evansville, Evansville, IN, 23 Jan. 2004.
  - Dept. of Natural Sciences, University of Virginia's College at Wise, Wise, VA, 14 Nov. 2003.
- Morris, G.A., An Overview of the Rice University Tropospheric Ozone Pollution Project (RU-TOPP)
- Dept. of Geosciences, University of Houston, Houston, TX, 30 Jan. 2004.

- Dept. of Atmospheric Science, The University of Alabama in Huntsville, Huntsville, AL, 11 Nov. 2003.

Morris, G.A., Evaluating Arctic Ozone Loss During the Winters of 1992 and 2000, Dept. of Physics & Astronomy, Rice University, Houston, TX, 24 Sept. 2003.

Morris, G.A., Using Trajectory Mapping to Diagnose Ozone Loss in the Arctic Winter, Dept. of Physics, Ithaca College, Ithaca, NY, 3 March 2003.

Morris, G.A., Using a Dynamical Model to Validate Satellite Observations of Ozone

- Dept. of Physics, James Madison University, Harrisonburg, VA, 22 Feb. 2000
- Dept. of Physics, Rice University, Houston, TX, 11 Feb. 2000.

Morris, G.A., Validating Satellite Measurements of Ozone Using Trajectory Mapping, Dept. of Physics, Ball State University, Muncie, IN, 18 Nov. 1999.

Morris, G.A., Understanding Satellite Data on Ozone, Dept. of Physics, Indiana University/Purdue University at Indianapolis, Indianapolis, IN, 21 Oct. 1999.

Morris, G.A., Ozone Depletion

- VOLTS meeting at Valparaiso University, Valparaiso, IN, 29 Oct. 1999.
- NASA Educators Conference, Seattle, WA, 31 Oct. 1998.
- Dept. of Biology, Valparaiso University, Valparaiso, IN, 12 Oct. 1998.
- Department of Physics, University of Purdue Calumet, Hammond, IN, 9 Dec. 1998.
- Educators' Workshop in Conjunction with the Launch of the NOAA-K Satellite, Vandenberg Air Force Base, Lompoc, CA, 13 May 1998.
- Mission to Planet Earth Education Products Workshop, NASA Goddard Space Flight Center, Greenbelt, MD, 12 Dec. 1997 and 7 Dec. 1996.
- NASA MTPE K - 12 Teacher Workshop for Science and Environmental Education/NASA MTPE GSFC Scientific and Educational Endeavor Product Evaluation (high school - 14), West Chester University, West Chester, PA, 17 July 1997.

Morris, G.A., The Use of Trajectory Mapping to Enhance Our Understanding of Ozone Behavior

- Dept. of Physics, Valparaiso University, Valparaiso, IN, 6 Nov. 1998.
- Dept. of Physics, University of Maryland Baltimore County, Baltimore, MD, 16 March 1998.

Morris, G.A., Understanding Ozone Data with the Use of Trajectory Analysis,

- Dept. of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, 14 April 1997.
- Dept. of Physics, University of Maryland Baltimore County, Baltimore MD, 12 March 1997.

Morris, G.A., J. Gleason, J. Ziemke, L. Sparling, M.R. Schoeberl, S. Hollandsworth, Validation of Stratospheric Ozone Measurements Using Trajectory Mapping, Joint Center for Earth System Science, University of Maryland College Park, College Park, MD, 28 Feb. 1997.

Morris, G.A., Satellite Data Analysis Using Trajectory Mapping Techniques, Dept. of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, 21 Oct. 1996.

Morris, G.A., STELLA Tutorial, ESSE Workshops, Berkeley Springs, WV, 5 – 6 Aug. 1996.

Morris, G.A., The Use of Trajectory Mapping in Atmospheric Data Analysis, Institute for Terrestrial and Planetary Atmospheres, State University of New York at Stony Brook, Stony Brook, NY, 21 June 1996.

### **Contributed**

1. Morris, G.A., B. Lefer, B. Rappenglueck, C. Haman, M. Taylor, and M.R. Schoeberl, Source attribution of ozone in Southeast Texas before and after the Deepwater Horizon accident using satellite, sonde, surface monitor, and air mass trajectory data, Abstract 31B-0056 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 – 17 Dec. 2010.
2. Haman, C., G.A. Morris, Evidence of entrainment impacting surface ozone and sulfur dioxide in Houston, TX, Abstract 31B-0050 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 – 17 Dec. 2010.
3. Taylor, M., B. Rappenglueck, G. Morris, A. Thompson, B. Lefer, C. Haman, J. Flynn, and C. Klich, Stratosphere-Troposphere exchange over Houston, Abstract 31B-0053 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 – 17 Dec. 2010.
4. Lefer, B., W. Brune, D. Collins, J. Dibb, R. Griffin, S. Herndon, L. Huey, B. Jobson, W. Luke, J. Melqvist, G. Morris, G. Mount, S. North, E. Olaguer, B. Rappenglueck, X. Ren, J. Stutz, X.-Y. Yu, and R. Zhang, Overview of major findings of the Study of Houston Atmospheric Radical Precursors (SHARP) 2009 Campaign, Abstract A34C-05 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13 – 17 Dec. 2010.
5. Tang, W., D.S. Cohan, **G.A. Morris**, and D.W. Byun, Effects of uncertainties in vertical mixing schemes on ozone simulations, Community Modeling and Analysis Systems Conference, University of North Carolina, Chapel Hill, NC, 11 – 13 October 2010.
6. Morris, G.A., Long-range and UT/LS influences on surface ozone in Houston, SHARP Data Analysis Workshop, Texas Commission for Environmental Quality, Austin, TX, 13 – 14 July 2010.
7. Krotkov, N., K. Yang, S. Carn, A. Krueger, G. Vicente, E. Hughes, P. Colarco, **G. Morris**, C. Seftor, J. Joiner, R. Kahn, and M. Pavolonis, Current capabilities and limitations of satellite monitoring and modeling forecasting of volcanic clouds: An example of Eyjafjallajokull eruption, 15<sup>th</sup> OMI Science Team Meeting, DeBilt, Netherlands, 15 – 17 June 2010.
8. Krotkov, N., K. Yang, S. Carn, A. Krueger, G. Vicente, E. Hughes, P. Colarco, **G. Morris**, C. Seftor, and J. Joiner, Current capabilities and limitations of satellite monitoring and modeling forecasting of volcanic clouds: An example of Eyjafjallajokull eruption, Air Quality Research Subcommittee Meeting, Washington, DC, 20 May 2010.

9. Taylor, M.E., **G. Morris**, B.L. Lefer, B. Rappenglueck, C. Haman, and J.H. Flynn, Influence of frontal passages on tropospheric ozone during SHARP 2009, 90th American Meteorological Society Annual Meeting, Atlanta, GA, 17 – 21 Jan. 2010.
10. Fishman, J, J.K. Creilson, X.Xu, C.Y. Gallegos, A.E. Wozniak, and **G.A. Morris**, An examination of the relationship between surface ozone observations from air quality monitoring networks and satellite-derived tropospheric ozone amounts from UV-backscatter measurements, *EOS Trans. AGU*, 90(52), Fall. Meet. Suppl., Abstract A53A-0232, San Francisco, CA, 14 - 18 Dec. 2009.
11. **Morris, G.A.**, H. Akimoto, M. Takigawa, J. Hirokawa, F. Hasebe , M. Fujiwara, K. Miyagawa, N. Krotkov, J. Witte, Y. Kanaya, N. Kellams, and T. Pietrzak, An examination of the impact of air from China on summertime air quality in Japan before, during, and after the Beijing Olympics, 15<sup>th</sup> Annual Discussion Meeting of Atmospheric Chemistry, Japan Meteorological Agency, Tsukuba, Japan, 20 – 22 October 2009.
12. **Morris, G.A.**, H. Akimoto, Y. Kanaya, M. Takigawa, J. Hirokawa, F. Hasebe, M. Fujiwara, K. Ishida, K. Miyagawa, M.R. Schoeberl, E. Celarier, N. Krotkov, S. Christensen, N. Kellams, B. Lehmann, and T.G. Pietrzak, An examination of the impact of air from China on air quality in Hokkaido Japan before, during, and after the Beijing Olympics, *EOS Trans. AGU*, 90(22), Jt. Assem. Suppl., Abs. A21B-04, Toronto, Ontario, Canada, 24 – 27 May 2009.
13. Thompson, A.M., A.M. Luzik, S.K. Miller, J.C. Witte, **G.A. Morris**, S.J. Oltmans, D. Tarasick, and B. Rappengluck, Urban ozone over North America from soundings, Mixed influences from pollution, stratosphere, lightning, and convection, 89<sup>th</sup> American Meteorological Society Annual Meeting, Phoenix, AZ, 11 – 15 Jan. 2009.
14. **Morris, G.A.**, J. Hirokawa, M. Fujiwara, F. Hasebe, K. Ishida, N. Krotkov, M.R. Schoeberl, W. Komhyr, and B. Lefer, Detection of an SO<sub>2</sub> plume over Sapporo, Japan from the eruption of Mt. Kasatochi using a balloon sounding technique, *EOS Trans. AGU*, 89, Fall Meet. Suppl., Abs. A53B-0273, San Francisco, CA, 15 – 19 Dec. 2008.
15. Miller, S.K., A.M. Thompson, A.M. Luzik, **G.A. Morris**, A.M. Bryan, J.E. Yorks, B.F. Taubman, H. Voemel, M. A. Avery, Convective and wave signatures in ozone profiles in Equatorial Americas: Views from TC4 and SHADOZ, *EOS Trans. AGU* 89, Fall Meet. Suppl., Abs. A21I-02, San Francisco, CA, 15 – 19 Dec. 2008.
16. **Morris, G.A.**, J. Hirokawa, M. Fujiwara, F. Hasebe, K. Ishida, E. Celarier, N. Krotkov, M. Schoeberl, and W. Komhyr, A study of the impact of China's pollution on air quality in Japan before, during, and after the Olympics: Measurement program overview and preliminary analysis, 14<sup>th</sup> Annual Discussion Meeting of Atmospheric Chemistry, Frontier Research Center for Global Change, Yokohama, Japan, 29 – 31 October 2008.
17. Thompson, A.M., S. Lee, S.K. Miller, A. Loucks, **G.A. Morris**, and H. Voemel, Latitudinal and longitudinal gradients in GW/KW signatures in the TTL inferred from ozonesondes, SPARC 2008 General Assembly, Bologna, Italy, 31 Aug.– 5 Sept. 2008.
18. **Morris, G.A.**, A. Bryan, A.M. Thomposon, J. Yorks, J. Gerlach, G. Osterman, E. Celarier, and M. Avery, Ozonesonde observations inside a convective cell over Panama during TC-4, TC-4 Science Team Meeting, Virginia Beach, VA, 26 – 29 Feb. 2008.

19. Thompson, A.M., J. Yorks, B.F. Taubman, **G.A. Morris**, H. Voemel, H.B. Selkirk, M.A. Avery, J. Gerlach, T.L. Kucsera, A. Pino Graell, and I. Petropavloskikh, Ground-based studies of dynamics and composition during TC4: Results from Costa Rica, Panama, and Galapagos, TC-4 Science Team Meeting, Virginia Beach, VA, 26 – 29 Feb. 2008.
20. Avery, M., K. Severance, G. Diskin, G. Sachse, **G. Morris**, C. Twohy, P. Bui, M. Rana, and J. Plant, Tracer distribution in active convective outflow in the Central American ITCZ Region: A first look at 8.5 – 12 km during the TC4 racetracks, TC-4 Science Team Meeting, Virginia Beach, VA, 26 – 29 Feb. 2008.
21. Rappenglück, B., S. Alvarez, R. Boudreaux, M. Buhr, D. Byun, F.Y. Cheng, C. Clements, J. Flynn, R. Fuller, L. Kauffman, B. Lefer, M. Leuchner, W. Luke, B. McEvoy-Day, **G. Morris**, F. Ngan, L. Pedemonte, R. Perna, M. Shauck, and G. Zanin, The vertical mixing experiment during TexAQS II, , 88<sup>th</sup> American Meteorological Society Annual Meeting, New Orleans, Louisiana, 20 – 24 Jan. 2008.
22. Ford, B.J., **G. Morris**, E. Thompson, B. Rappenglück, B. Lefer, D.W. Byun, X. Li, R. Perna, R. Boudreaux, B. McEvoy-Day, L. Pedemonte, and A. Chow, The impact of residual layer ozone on surface ozone levels in Houston, Texas during TexAQS II, 88<sup>th</sup> American Meteorological Society Annual Meeting, New Orleans, Louisiana, 20 – 24 Jan. 2008.
23. Clements, C.B., B. Rappenglück, R. Perna, B. Day, M. Patel, B. Lefer, and **G. Morris**, Evolution and structure of urban boundary layer in Houston, 88<sup>th</sup> American Meteorological Society Annual Meeting, New Orleans, Louisiana, 20 – 24 Jan. 2008.
24. Avery, M.A., D. Glenn, G. Sachse, J. Podolske, P. Bui, L. Pfister, E. Korn, R. Cohen, P. Wooldridge, A. Perring, T. Bertram, and **G.A. Morris** (added), Convective vertical redistribution of trace gases in the tropics: A first look at chemical tracer and meteorological measurements from the NASA DC-8 during TC4, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract, A22A-07, 2007.
25. Bryan, A.A., **G.A. Morris**, D. Lutz, A.M. Thompson, G. Osterman, J. Yorks, and B. Taubman, Preliminary analysis of an ozonesonde data from Panama as part of TC-4, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract A13C-1354, 2007.
26. Cooper, O.R., M. Trainer, A. Thompson, S.J. Oltmans, D.W. Tarasick, J. Witte, A. Stohl, S. Eckhardt, J. Lelieveld, R. Portmann, B. Johnson, L. Kalnajs, M. Newchurch, M. Dubey, J. Meagher, T. Leblanc, I.S. McDermid, G. Forbes, T. Carey-Smith, D. Wolfe, F. Fehsenfeld, **G. Morris**, B. Lefer, B. Rappenglück, T. Keating, E. Joseph, K. Minschwaner, F. Schmidlin, and R. VanCuren, Evidence for a recurring eastern North America upper tropospheric ozone maximum during summer, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract A44C-04, 2007.
27. Dougherty, M., A.M. Thompson, J.C. Witte, S.K. Miller, S.J. Oltmans, O.R. Cooper, D.W. Tarasick, R.B. Chatfield, B.F. Taubman, E. Joseph, D. Baumgardner, J.T. Merrill, **G.A. Morris**, B. Rappenglück, B. Lefer, G. Forbes, M.J. Newchurch, F.J. Schmidlin, R.B. Pierce, T. Leblanc, M. Dubey, and K. Minschwaner, North American tropospheric ozone profiles from IONS (INTEX Ozonesonde Network Study, 2004, 2006): Ozone budgets, pollution statistics, satellite retrievals, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., A33A-0815, 2007.



28. Ladino, L, D. Baumgardner, A. Hernandez, M. Grutter, A. Thompson, J. Yorks, J. Johnson, S. Oltmans, **G. Morris**, B. Lefer, and B. Rappenglück, Tropospheric ozone production from lightning, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract A53-1345, 2007.
29. **Morris, G.A.**, A.M. Thompson, R. Perna, J. Yorks, B. Rappenglück, G. Ostermann, B. Lefer, R. Boudreaux, A. Chow, B. Ford, E. Thompson, and S. Hersey, Construction and analysis of an ozone profile climatology over Houston, Texas, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract A53C-1365, 2007.
30. Selkirk, H.B., H. Vömel, **G. Morris**, J. Valverde, A.M. Thompson, M.S. Agama, L. Pfister, and V. Hernandez, Vertical structure and variability of ozone in the TTL from TC4 ozonesondes, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract A13C-1372, 2007.
31. **Morris, G.A.**, (presented by B. Rappenglück), Ozonesonde data from Houston and SE Texas, Moody Tower Data Analysis Workshop, U. of Houston, 16 – 18 July, 2007.
32. **Morris, G.A.**, S. Holcomb, S. Hersey, A. Thompson, and J. Yorks, Analysis of Houston and SE Texas ozonesonde data, Principal Findings Data Analysis Workshop: TexAQS II/GoMACCS, Austin, Texas, 29 May – 1 June 2007.
33. Perna, R., B. McEvoy-Day, R. Boudreaux, B. Rappenglück, and **G. Morris**, Analysis of vertical ozone distribution above the University of Houston, Principal Findings Data Analysis Workshop: TexAQS II/GoMACCS, Austin, Texas, 29 May – 1 June 2007.
34. Mefferd, A.D., **G.A. Morris**, C. Clark, S. Holcomb, B. Ford, M. Taylor, An analysis of meteorological factors that influence boundary layer ozone concentrations using ozonesonde data from Houston, Texas, Principal Findings Data Analysis Workshop: TexAQS II/GoMACCS, Austin, Texas, 29 May – 1 June 2007.
35. Mefferd, A., **G. Morris**, C. Clark, and B. Johnson, An analysis of meteorological factors that influence boundary layer ozone concentrations using ozonesonde data from Valparaiso, Indiana, Pellston, Michigan and Houston, Texas, 87<sup>th</sup> American Meteorological Society Annual Meeting, San Antonio, Texas, 13 – 18 Jan. 2007.
36. **Morris, G.A.**, D. Grosnick, C. Hight, L. Blasi, and R. Swanson, Stimulating student learning in multiple dimensions through introductory laboratories, AAC&U Meeting, New Orleans, LA, 17 – 21 Jan. 2007.
37. Perna, S. Zhong, **G. Morris**, B. Rappenglück, B. Lefer, R. Boudreaux, C. Clements, B. Day, R. Fuller, S. Hersey, B. Morris, M. Patel, L. Pedemonte, M. Leuchner, J. Flynn, B. Shaulis, P. Guerrero, B. Onakpoya, M. Jang, D. Lee, S. Street, and W. Yao, Insights into Houston Air Quality Through Rawinsonde and Ozonesonde Data, *EOS Trans. AGU*, 87, Fall Meet. Suppl., Abstract, 2006.
38. Bender, A., S. Frith, **G. Morris**, and D. Lary, PV-Theta Mapping of Aura MLS profile data, NASA Aura Science Team Meeting, Boulder, CO, 11 – 15 Sept. 2006.
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