

NDACC Publications – 2017

Latest updates – 6/23/2021

2017; Bader, W.

Benoît Bovy, Stephanie Conway, Kimberly Strong, Dan Smale, Alexander J. Turner, Thomas Blumenstock, Chris Boone, Martine Collaud Coen, Ancelin Coulon, Omaira Garcia, David W. T. Griffith, Frank Hase, Petra Hausmann, Nicholas Jones, Paul Krummel, Isao Murata, Isamu Morino, Hideaki Nakajima, Simon O'Doherty, Clare Paton-Walsh, John Robinson, Rodrigue Sandrin, Matthias Schneider, Christian Servais, Ralf Sussmann, and Emmanuel Mahieu

The recent increase of atmospheric methane from 10 years of ground-based NDACC FTIR observations since 2005

Atmos. Chem. Phys., 17, 2255-2277

doi:10.5194/acp-17-2255-2017

FTIR; CH₄

2017, Barthlott, S.

Schneider, M., Hase, F., Blumenstock, T., Kiel, M., Dubravica, D., Garcia, O. E., Sepalveda, E., Mengistu Tsidu, G., Takele Kenea, S., Grutter, M., Plaza-Medina, E. F., Stremme, W., Strong, K., Weaver, D., Palm, M., Warneke, T., Notholt, J., Mahieu, E., Servais, C., Jones, N., Griffith, D. W. T., Smale, D., Robinson, J. Tropospheric water vapour isotopologue data (H₂16O, H₂18O, and HD16O) as obtained from NDACC/FTIR solar absorption spectra

Earth Syst. Sci. Data, 9, 15-29

doi: 10.5194/essd-9-15-2017

FTIR; H₂O

2017, Baylon, J. L.

Stremme, W., Grutter, M., Hase, F., and Blumenstock, T.

Background CO₂ levels and error analysis from ground-based solar absorption IR measurements in central Mexico

Atmos. Meas. Tech., 10, 2425-2434

Doi: 10.5194/amt-10-2425-2017

FTIR; CO₂; Validation

2017, Christine Bingen, et. Al

Stratospheric aerosol data records for the climate change initiative: Development, validation and application to chemistry-climate modelling

Remote Sensing of Environment, 203, 296-321

Doi: 10.1016/j.rse.2017.06.002.

Lidar; Models; Aerosol; CalVal

2017, Yann Blanchard

Alain Royer, Norman T. O'Neill, David D. Turner, and Edwin W. Eloranta

Thin ice clouds in the Arctic: cloud optical depth and particle size retrieved from ground-based thermal infrared radiometry

Atmos. Meas. Tech., 10, 2129–2147

Doi: 10.5194/amt-10-2129-2017

FTIR; Cloud; H₂O

2017, Buchholz, R. R.

Merritt N. Deeter, Helen M. Worden, John Gille, David P. Edwards, James W. Hannigan, Nicholas B. Jones, Clare Paton-Walsh, David W. T. Griffith, Dan Smale, John Robinson, Kimberly Strong, Stephanie Conway, Ralf Sussmann, Frank Hase, Thomas Blumenstock, Emmanuel Mahieu, and Bavo Langerock
Validation of MOPITT carbon monoxide using ground-based Fourier transform infrared spectrometer data from NDACC

Atmos. Meas. Tech., 10, 1927-195

FTIR; CO; Validation

2017, Bo Christiansen

Nis Jepsen, Rigel Kivi, Georg Hansen, Niels Larsen, and Ulrik Smith Korsholm

Trends and annual cycles in soundings of Arctic tropospheric ozone

Atmos. Chem. Phys., 17, 9347–9364

doi: 10.5194/acp-17-9347-2017

Sonde; Ozone; Trends

2017, Dammers E.

Shephard M., Palm M, Cady-Pereira K., Capps S., Lutsch E, Strong K., Hannigan J., Toon G., Stremme W., Grutter M., Jones N., Smale D., Siemons J., Hrpcek K., Tremblay D., Schaap M., Notholt J., and Willem-Erisman

Validation of the CrIS Fast Physical NH₃ Retrieval with ground-based FTIR

J. Atmos. Meas. Tech., 10, 2645-2667

FTIR; NH₃

2017, Terry Deshler

Rene Stübi, Francis J. Schmidlin, Jennifer L. Mercer, Herman G. J. Smit, Bryan J. Johnson, Rigel Kivi, and Bruno Nardi

Methods to homogenize electrochemical concentration cell (ECC) ozonesonde measurements across changes in sensing solution concentration or ozonesonde manufacturer

Atmos. Meas. Tech., 10, 2021–2043

doi: 10.5194/amt-10-2021-2017

Sonde; Ozone

2017, Anne R. Douglass

Susan E. Strahan, Luke D. Oman, and Richard S. Stolarski

Multi-decadal records of stratospheric composition and their relationship to stratospheric circulation change

Atmos. Chem. Phys., 17, 12081–12096

doi: 10.5194/acp-17-12081-2017

Model

2017, Valentin Duflot

Jean-Luc Baray, Guillaume Payen, Nicolas Marquestaut, Françoise Posny, Jean-Marc Metzger, Bavo Langerock, Corinne Vigouroux, Juliette Hadji-Lazaro, Thierry Portafaix, Martine De Mazière, Pierre-François Coheur, Cathy Clerbaux, and Jean-Pierre Cammas

Tropospheric ozone profiles by DIAL at Maïdo Observatory (Reunion Island): system description, instrumental performance and result comparison with ozone external data set

Atmos. Meas. Tech., 10, 3359–3373

doi: 10.5194/amt-10-3359-2017

Lidar; Ozone; Validation

2017, Evans, R.D.

Petropavlovskikh, I., McClure-Begley, A., McConville G., Quincy, D., and Miyagawa, K.

The US Dobson Station network Data Record Prior to 2015, Re-evaluation of NDACC and WOUDC archived records with WinDobson Processing Software

Atmos. Chem. Phys.

doi: 10.5194/acp-2017-383

Dobson; Ozone

2017, Robert D. Evans

Irina Petropavlovskikh, Audra McClure-Begley, Glen McConville, Dorothy Quincy, and Koji Miyagawa

Technical note: The US Dobson station network data record prior to 2015, re-evaluation of NDACC and WOUDC archived records with WinDobson processing software

Atmos. Chem. Phys., 17, 12051–12070

doi: 10.5194/acp-17-12051-2017

Dobson; Ozone

2017, Frederick, J. E.

An analysis of couplings between solar activity and atmospheric opacity at the South Pole.

J. Atmos. Solar-Terr. Phys., 164, 97-104

Spectral UV; UV Irradiance

2017, Huang, G. et al.

52/52: Validation of 10-year SAO OMI Ozone Profile (PROFOZ) product using ozonesonde observations

Atmos. Meas. Tech., 10, 2455-2475

doi: 10.5194/amt-10-2455-2017

Sonde; Satellite; Ozone; CalVal

2017, Petra Hausmann

Ralf Sussmann, Thomas Trickl, and Matthias Schneider

A decadal time series of water vapor and D / H isotope ratios above Zugspitze: transport patterns to central Europe

Atmos. Chem. Phys., 17, 7635–7651

doi: 10.5194/acp-17-7635-2017

FTIR; Lidar; H₂O

2017, Sergey M. Khaykin

Sophie Godin-Beekmann, Philippe Keckhut, Alain Hauchecorne, Julien Jumelet, Jean-Paul Vernier, Adam Bourassa, Doug A. Degenstein, Landon A. Rieger, Christine Bingen, Filip Vanhellemont, Charles Robert, Matthew DeLand, and Pawan K. Bhartia

Variability and evolution of the midlatitude stratospheric aerosol budget from 22 years of ground-based lidar and satellite observations

Atmos. Chem. Phys., 17, 1829–1845

doi: 10.5194/acp-17-1829-2017

Lidar; Satellite; Aerosol

2017, Travis N. Knepp

Richard Querel, Paul Johnston, Larry Thomason, David Flittner, and Joseph M. Zawodny

Intercomparison of Pandora stratospheric NO₂ slant column product with the NDACC-certified M07 spectrometer in Lauder, New Zealand

Atmos. Meas. Tech., 10, 4363–4372

doi: 10.5194/amt-10-4363-2017

UVVis; Satellite; NO₂; Validation

2017, Lejeune, B.

Mahieu, E., Vollmer, M. K., Reimann, S., Bernath, P. F., Boone, C. D., Walker, K. A. and Servais, C.

Optimized approach to retrieve information on atmospheric carbonyl sulfide (OCS) above the Jungfraujoch station and change in its abundance since 1995

J. Quant. Spectrosc. Radiat. Transf., 186, 81–95

doi: 10.1016/j.jqsrt.2016.06.001

FTIR; OCS

2017, Lorena Moreira

Klemens Hocke, and Niklaus Kämpfer

Comparison of ozone profiles and influences from the tertiary ozone maximum in the night-to-day ratio above Switzerland

Atmos. Chem. Phys., 17, 10259–10268

doi: 10.5194/acp-17-10259-2017

Microwave; Ozone; Diurnal

2017, Moshammer, H.
Sivic, S.; Haluza, D.
UV-Radiation: From Physics to Impacts
Int J Environ Res Public Health. 2017; 14(2)
Spectral UV; Health

2017, G. E. Nedoluha et al.
The SPARC water vapor assessment II: intercomparison of satellite and ground-based microwave measurements
Atmos. Chem. Phys., 17, 14543-14558
Microwave; Satellite; H₂O; Validation

2017, Olsen, K. S
Strong, K., Walker, K. A., Boone, C. D., Raspollini, P., Plieninger, J., Bader, W., Conway, S., Grutter, M., Hannigan, J. W., Hase, F., Jones, N., de Maziere, M., Notholt, J., Schneider, M., Smale, D., Sussmann, R., and Saitoh, N.
Comparison of the GOSAT TANSO-FTS TIR CH₄ volume mixing ratio vertical profiles with those measured by ACE-FTS, ESA MIPAS, IMK-IAA MIPAS, and 16 NDACC stations
Atmos. Meas. Tech., 10, 3697-3718
doi: 10.5194/amt-10-3697-2017
FTIR; Satellite; CH₄; Validation

2017, Enno Peters
Gaia Pinardi, André Seyler, Andreas Richter, Folkard Wittrock, Tim Bösch, Michel Van Roozendaal, François Hendrick, Theano Drosoglou, Alkiviadis F. Bais, Yugo Kanaya, Xiaoyi Zhao, Kimberly Strong, Johannes Lampel, Rainer Volkamer, Theodore Koenig, Ivan Ortega, Olga Puentedura, Mónica Navarro-Comas, Laura Gómez, Margarita Yela González, Ankie Piters, Julia Remmers, Yang Wang, Thomas Wagner, Shanshan Wang, Alfonso Saiz-Lopez, David García-Nieto, Carlos A. Cuevas, Nuria Benavent, Richard Querel, Paul Johnston, Oleg Postlyakov, Alexander Borovski, Alexander Elokhov, Ilya Bruchkouski, Haoran Liu, Cheng Liu, Qianqian Hong, Claudia Rivera, Michel Grutter, Wolfgang Stremme, M. Fahim Khokhar, Junaid Khayyam, and John P. Burrows
Investigating differences in DOAS retrieval codes using MAD-CAT campaign data
Atmos. Meas. Tech., 10, 955–978
doi: 10.5194/amt-10-955-2017
UVVis; Validation

2017, Plaza-Medina E.F.
Stremme W., Bezanilla A., Grutter M., Schneider M., Hase F., and Blumenstock, T.
Ground-based remote sensing of O₃ by high and medium resolution FTIR spectrometers over the Mexico City basin
Atmos. Meas. Tech., 10, 2703-2725, 2017. doi.org/10.5194/amt-10-2703-2017. FTIR; Ozone

2017, Rüfenacht, R.

Kämpfer, N

The Importance of Signals in the Doppler Broadening Range for Middle-Atmospheric Microwave Wind and Ozone Radiometry

Journal of Quantitative Spectroscopy and Radiative Transfer 2017, 199, 77-88

doi: 10.1016/j.jqsrt.2017.05.028.

Microwave; Ozone; wind

2017, Wolfgang Steinbrecht

Lucien Froidevaux, Ryan Fuller, Ray Wang, John Anderson, Chris Roth, Adam Bourassa, Doug Degenstein, Robert Damadeo, Joe Zawodny, Stacey Frith, Richard McPeters, Pawan Bhartia, Jeannette Wild, Craig Long, Sean Davis, Karen Rosenlof, Viktoria Sofieva, Kaley Walker, Nabiz Rahpoe, Alexei Rozanov, Mark Weber, Alexandra Laeng, Thomas von Clarmann, Gabriele Stiller, Natalya Kramarova, Sophie Godin-Beekmann, Thierry Leblanc, Richard Querel, Daan Swart, Ian Boyd, Klemens Hocke, Niklaus Kämpfer, Eliane Maillard Barras, Lorena Moreira, Gerald Nedoluha, Corinne Vigouroux, Thomas Blumenstock, Matthias Schneider, Omaira García, Nicholas Jones, Emmanuel Mahieu, Dan Smale, Michael Kotkamp, John Robinson, Irina Petropavlovskikh, Neil Harris, Birgit Hassler, Daan Hubert, and Fiona Tummon

An update on ozone profile trends for the period 2000 to 2016

Atmos. Chem. Phys., 17, 10675–10690, <https://doi.org/10.5194/acp-17-10675-2017>, 2017

Lidar; Microwave; Sonde; Satellite; Ozone; Trends

2017, Sterling, C. W.

B. J. Johnson, S. J., Oltmans, H. G. J. Smit, A., Jordan, P. D., Cullis, E. G., Hall, A. M., Thompson, and J. C. Witte

Homogenizing and Estimating the Uncertainty in NOAA's Long Term Vertical Ozone Profile Records Measured with the Electrochemical Concentration Cell Ozonesonde, Atmos. Meas. Tech.

doi: 10.5194/amt-2017-397.

Sonde; Ozone; Validation

2017, Stübi, R.

Schill, H., Klausen, J., Vuilleumier, L., and Ruffieux, D.

Reproducibility of total ozone column monitoring by the Arosa Brewer spectrophotometer triad

J. Geophys. Res.-Atmos., 122,4735–4745

doi: 10.1002/2016JD025735.

Brewer; Ozone

2017, Stübi, René

Herbert Schill, Jörg Klausen, Laurent Vuilleumier, Julian Gröbner, Luca Egli, Dominique Ruffieux

On the compatibility of Brewer total column ozone measurements in two adjacent valleys (Arosa and Davos) in the Swiss Alps

Atmos. Meas. Tech., 10, 4479–4490

doi: 10.5194/amt-10-4479-2017

Brewer; Ozone

2017, Taquet N.

Meza-Hernandez I., Stremme W., Bezanilla A., Grutter M., Campion R., Palm M., Boulesteix T
Continuous measurements of SiF₄ and SO₂ by thermal emission spectroscopy: Insight from a 6-month survey at the Popocatepetl volcano

Journal of Volcanology and Geothermal Research 341 (2017) 255-26

doi.org/10.1016/j.jvolgeores.2017.05.009

FTIR; SiF₄; SO₂

2017, Thompson, A. M.

J. C. Witte, C., Sterling, A., Jordan, B. J., Johnson, S. J. Oltmans, Thiongo, K.

First reprocessing of Southern Hemisphere Additional Ozonesondes (SHADOZ) ozone profiles (1998-2016): 2. Comparisons with satellites and ground-based instruments

Journal of Geophysical Research: Atmospheres, 122, 13,000-13,025

doi: 10.1002/2017JD027406

Sonde; Satellites; Ozone; Validation

2017, Virolainen, Y. A.

Timofeyev, Y. M., Kostsov, V. S., Ionov, D. V., Kalinnikov, V. V., Makarova, M. V., Poberovsky, A. V., Zaitsev, N. A., Imhasin, H. H., Polyakov, A. V., Schneider, M., Hase, F., Barthlott, S., and Blumenstock, T.
Quality assessment of integrated water vapour measurements at St. Petersburg site, Russia: FTIR vs. MW and GPS techniques

Atmos. Meas. Tech., 10, 4521-4536

doi: 10.5194/amt-10-4521-2017

FTIR; H₂O; Validation

2017, D. Weaver

K. Strong, M. Schneider, P.M. Rowe, C. Sioris, K.A. Walker, Z. Mariani, T. Uttal, C.T. McElroy, H. Vömel, A. Spassiani, and J.R. Drummond

Intercomparison of atmospheric water vapour measurements at a Canadian High Arctic site. Atmos.

Meas. Tech., 10, 2851-2880

doi: 10.5194/amt-10-2851-2017

FTIR; H₂O

2017, Witte, J.C.

A. M. Thompson, H. G. J. Smit, M. Fujiwara, F. Posny, Gert J. R. Coetzee, F. R. da Silva

First reprocessing of Southern Hemisphere ADDitional OZonesondes (SHADOZ) profile records (1998-2015) 1. Methodology and evaluation

J. Geophys. Res. Atmos., 122, 6611-6636

doi: 10.1002/2016JD026403

Sonde; Ozone; Validation

2017, Yela, M.

Gil-Ojeda, M., Navarro-Comas, M., Gonzalez-Bartolomé, D., Puentedura, O., Funke, B., Iglesias, J., Rodríguez, S., García, O., Ochoa, H., and Deferrari, G.

Hemispheric asymmetry in stratospheric NO₂ trends

Atmos. Chem. Phys., 17, 13373- 13389

doi: 10.5194/acp-17-13373-2017

UVVis; NO₂; Trends

2017, Guang Zeng

Olaf Morgenstern, Hisako Shiona, Alan J. Thomas, Richard R. Querel, and Sylvia E. Nichol

Attribution of recent ozone changes in the Southern Hemisphere mid-latitudes using statistical analysis and chemistry–climate model simulations

Atmos. Chem. Phys., 17, 10495–10513

doi: 10.5194/acp-17-10495-2017

Model; Sonde; Ozone