

## PROF Matthias Roth

Geography, ARTS & SOC SC

Total Publications: 196 ( From 06-Jul-1943 to 31-Jul-2023 )

### Journal Article (59)

#### 57 Authored

- 1 *Velasco E; Segovia E; Roth M (2023)*  
High-resolution maps of carbon dioxide and moisture fluxes over an urban neighborhood  
ENVIRONMENTAL SCIENCE-ATMOSPHERES (14 pages)  
Publisher: ROYAL SOC CHEMISTRY  
10.1039/d2ea00108j
- 2 *Lipson M; Grimmond S; Best M; Chow WTL; Christen A; Chrysoulakis N; Coutts A; Crawford B; Earl S; Evans J; Fortuniak K; Heusinkveld BG; Hong JW; Hong J; Järvi L; Jo S; Kim YH; Kotthaus S; Lee K; Masson V; McFadden JP; Michels O; Pawlak W; Roth M; Sugawara H; Tapper N; Velasco E; Ward HC (2022)*  
Harmonized gap-filled datasets from 20 urban flux tower sites  
Earth System Science Data Vol. 14 (11) pp. 5157 - 5178  
10.5194/essd-14-5157-2022
- 3 *Doan QV; Chen F; Kusaka H; Dipankar A; Khan A; Hamdi R; Roth M; Niyogi D (2022)*  
Increased Risk of Extreme Precipitation Over an Urban Agglomeration With Future Global Warming  
Earth's Future Vol. 10 (6)  
10.1029/2021EF002563
- 4 *Roth M; Sanchez B; Li R; Velasco E (2022)*  
Spatial and temporal characteristics of near-surface air temperature across local climate zones in a tropical city  
INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 42 (16) pp. 9730 - 9752 (23 pages)  
Publisher: WILEY  
10.1002/joc.7862
- 5 *Jongen HJ; Steeneveld GJ; Beringer J; Christen A; Chrysoulakis N; Fortuniak K; Hong J; Hong JW; Jacobs CMJ; Jarvi L; Meier F; Pawlak W; Roth M; Theeuwes NE; Velasco E; Vogt R; Teuling AJ (2022)*  
Urban Water Storage Capacity Inferred From Observed Evapotranspiration Recession  
GEOPHYSICAL RESEARCH LETTERS Vol. 49 (3) (11 pages)  
Publisher: AMER GEOPHYSICAL UNION  
10.1029/2021GL096069
- 6 *Sanchez B; Roth M; Simón-Moral A; Martilli A; Velasco E (2021)*  
Assessment of a meteorological mesoscale model's capability to simulate intra-urban thermal variability in a tropical city  
Urban Climate Vol. 40  
10.1016/j.uclim.2021.101006
- 7 *Meili N; Manoli G; Burlando P; Carmeliet J; Chow WTL; Coutts AM; Roth M; Velasco E; Vivoni ER; Fatichi S (2021)*  
Tree effects on urban microclimate: Diurnal, seasonal, and climatic temperature differences explained by separating radiation, evapotranspiration, and roughness effects  
URBAN FORESTRY & URBAN GREENING Vol. 58 (13 pages)  
Publisher: ELSEVIER GMBH

10.1016/j.ufug.2020.126970

- 8 *Simon-Moral A; Dipankar A; Doan Q-V; Sanchez C; Roth M; Becker E; Huang X-Y (2021)*  
Urban intensification of convective rainfall over the Singapore - Johor Bahru region  
QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Vol. 147 (740) pp. 3665 - 3680 (16 pages)  
Publisher: WILEY  
10.1002/qj.4147
- 9 *Doan QV; Dipankar A; Simón-Moral A; Sanchez C; Prasanna V; Roth M; Huang XY (2021)*  
Urban-induced modifications to the diurnal cycle of rainfall over a tropical city  
Quarterly Journal of the Royal Meteorological Society Vol. 147 (735) pp. 1189 - 1201  
10.1002/qj.3966
- 10 *Meili N; Manoli G; Burlando P; Bou-Zeid E; Chow WTL; Coutts AM; Daly E; Nice KA; Roth M; Tapper NJ; Velasco E; Vivoni ER; Fatichi S (2020)*  
An urban ecohydrological model to quantify the effect of vegetation on urban climate and hydrology (UT&C v1.0)  
GEOSCIENTIFIC MODEL DEVELOPMENT Vol. 13 (1) pp. 335 - 362 (28 pages)  
Publisher: COPERNICUS GESELLSCHAFT MBH  
10.5194/gmd-13-335-2020
- 11 *Yang Y; Zheng Z; Yim SYL; Roth M; Ren G; Gao Z; Wang T; Li Q; Shi C; Ning G; Li Y (2020)*  
PM<sub>2.5</sub> Pollution Modulates Wintertime Urban Heat Island Intensity in the Beijing-Tianjin-Hebei Megalopolis, China  
Geophysical Research Letters Vol. 47 (1)  
10.1029/2019GL084288
- 12 *Martilli A; Roth M; Chow W; Demuzere M; Lipson M; Krayenhoff S; Sailor D; etc (2020)*  
Summer average urban-rural surface temperature differences do not indicate the need for urban heat reduction  
OSF Preprints Vol. DOI: 10.31219/ofs.io/8gnbf (13 pages)
- 13 *Simon-Moral A; Dipankar A; Roth M; Sanchez C; Velasco E; Huang X-Y (2019)*  
Application of MORUSES single-layer urban canopy model in a tropical city: Results from Singapore  
QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Vol. 146 (727) pp. 576 - 597 (22 pages)  
Publisher: WILEY  
10.1002/qj.3694
- 14 *Harshan S; Roth M; Velasco E; Demuzere M (2018)*  
Evaluation of an urban land surface scheme over a tropical suburban neighborhood  
Theoretical and Applied Climatology Vol. 133 (3-4) pp. 867 - 886  
10.1007/s00704-017-2221-7
- 15 *Seow MXC; Roth M (2018)*  
Influence of climate oscillations on urban and rural temperature variability in the Kanto region of Japan  
Climate Research Vol. 75 (1) pp. 65 - 80  
10.3354/cr01507
- 16 *Middel A; Lukasczyk J; Maciejewski R; Demuzere M; Roth M (2018)*  
Sky View Factor footprints for urban climate modeling  
Urban Climate Vol. 25 pp. 120 - 134  
10.1016/j.uclim.2018.05.004

- 17 *Liu X; Li X-X; Harshan S; Roth M; Velasco E (2017)*  
Evaluation of an urban canopy model in a tropical city: the role of tree evapotranspiration  
ENVIRONMENTAL RESEARCH LETTERS Vol. 12 (9) (12 pages)  
Publisher: IOP Publishing Ltd  
10.1088/1748-9326/aa7ee7
- 18 *Roth M; Lim VH (2017)*  
Evaluation of canopy-layer air and mean radiant temperature simulations by a microclimate model over a tropical residential neighbourhood  
BUILDING AND ENVIRONMENT Vol. 112 pp. 177 - 189 (13 pages)  
Publisher: PERGAMON-ELSEVIER SCIENCE LTD  
10.1016/j.buildenv.2016.11.026
- 19 *Demuzere M; Harshan S; Järvi L; Roth M; Grimmond CSB; Masson V; Oleson KW; Velasco E; Wouters H (2017)*  
Impact of urban canopy models and external parameters on the modelled urban energy balance in a tropical city  
Quarterly Journal of the Royal Meteorological Society Vol. 143 (704) pp. 1581 - 1596  
10.1002/qj.3028
- 20 *Roth M; Jansson C; Velasco E (2017)*  
Multi-year energy balance and carbon dioxide fluxes over a residential neighbourhood in a tropical city  
INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 37 (5) pp. 2679 - 2698 (20 pages)  
Publisher: WILEY  
10.1002/joc.4873
- 21 *Tan SH; Roth M; Velasco E (2017)*  
Particle exposure and inhaled dose during commuting in Singapore  
ATMOSPHERIC ENVIRONMENT Vol. 170 pp. 245 - 258 (14 pages)  
Publisher: PERGAMON-ELSEVIER SCIENCE LTD  
10.1016/j.atmosenv.2017.09.056
- 22 *Chow WTL; Akbar SNABA; Heng SL; Roth M (2016)*  
Assessment of measured and perceived microclimates within a tropical urban forest  
URBAN FORESTRY & URBAN GREENING Vol. 16 pp. 62 - 75 (14 pages)  
Publisher: ELSEVIER GMBH  
10.1016/j.ufug.2016.01.010  
WBS: R-109-000-162-133
- 23 *Velasco E; Roth M; Norford L; Molina LT (2016)*  
Does urban vegetation enhance carbon sequestration?  
LANDSCAPE AND URBAN PLANNING Vol. 148 pp. 99 - 107 (9 pages)  
Publisher: ELSEVIER  
10.1016/j.landurbplan.2015.12.003
- 24 *Sugawara H; Inagaki A; Roth M; Kanda M (2016)*  
Evaluation of scintillometry measurements of fluxes of momentum and sensible heat in the roughness sublayer  
THEORETICAL AND APPLIED CLIMATOLOGY Vol. 126 (3-4) pp. 673 - 681 (9 pages)  
Publisher: SPRINGER WIEN  
10.1007/s00704-015-1556-1

- 25 *Georgescu M; Chow WTL; Wang ZH; Brazel A; Trapido-Lurie B; Roth M; Benson-Lira V (2015)*  
Prioritizing urban sustainability solutions: coordinated approaches must incorporate scale-dependent built environment induced effects  
ENVIRONMENTAL RESEARCH LETTERS Vol. 10 (6) (5 pages)  
Publisher: IOP PUBLISHING LTD  
10.1088/1748-9326/10/6/061001
- 26 *Roth M; Inagaki A; Sugawara H; Kanda M (2015)*  
Small-scale spatial variability of turbulence statistics, (co)spectra and turbulent kinetic energy measured over a regular array of cube roughness  
ENVIRONMENTAL FLUID MECHANICS Vol. 15 (2) pp. 329 - 348 (20 pages)  
Publisher: SPRINGER  
10.1007/s10652-013-9322-3
- 27 *Bueno B; Roth M; Norford L; Li R (2014)*  
Computationally efficient prediction of canopy level urban air temperature at the neighbourhood scale  
URBAN CLIMATE Vol. 9 pp. 35 - 53 (19 pages)  
Publisher: ELSEVIER SCIENCE BV  
10.1016/j.uclim.2014.05.005
- 28 *Li X-X; Koh T-Y; Entekhabi D; Roth M; Panda J; Norford LK (2013)*  
A multi-resolution ensemble study of a tropical urban environment and its interactions with the background regional atmosphere  
JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES Vol. 118 (17) pp. 9804 - 9818 (15 pages)  
Publisher: AMER GEOPHYSICAL UNION  
10.1002/jgrd.50795
- 29 *Velasco E; Roth M; Tan SH; Quak M; Nabarro SDA; Norford L (2013)*  
The role of vegetation in the CO<sub>2</sub> flux from a tropical urban neighbourhood  
ATMOSPHERIC CHEMISTRY AND PHYSICS Vol. 13 (20) pp. 10185 - 10202 (18 pages)  
Publisher: COPERNICUS GESELLSCHAFT MBH  
10.5194/acp-13-10185-2013
- 30 *Roth M; Chow WTL (2012)*  
A historical review and assessment of urban heat island research in Singapore  
SINGAPORE JOURNAL OF TROPICAL GEOGRAPHY Vol. 33 (3) pp. 381 - 397 (17 pages)  
Publisher: WILEY-BLACKWELL  
10.1111/sjtg.12003
- 31 *Salmond JA; Roth M; Oke TR; Christen A; Voogt JA (2012)*  
Can Surface-Cover Tiles Be Summed to Give Neighborhood Fluxes in Cities?  
JOURNAL OF APPLIED METEOROLOGY AND CLIMATOLOGY Vol. 51 (1) pp. 133 - 149 (17 pages)  
Publisher: AMER METEOROLOGICAL SOC  
10.1175/JAMC-D-11-078.1
- 32 *Quah AKL; Roth M (2012)*  
Diurnal and weekly variation of anthropogenic heat emissions in a tropical city, Singapore  
ATMOSPHERIC ENVIRONMENT Vol. 46 pp. 92 - 103 (12 pages)

Publisher: PERGAMON-ELSEVIER SCIENCE LTD

10.1016/j.atmosenv.2011.10.015

33 *Velasco E; Roth M (2012)*

Review of Singapore's air quality and greenhouse gas emissions: Current situation and opportunities

JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION Vol. 62 (6) pp. 625 - 641 (17 pages)

Publisher: TAYLOR & FRANCIS INC

10.1080/10962247.2012.666513

34 *Koh T-Y; Bhatt BC; Cheung KKW; Teo CK; Lee YH; Roth M; Purnawirman (2012)*

Using the spectral scaling exponent for validation of quantitative precipitation forecasts

METEOROLOGY AND ATMOSPHERIC PHYSICS Vol. 115 (1-2) pp. 35 - 45 (11 pages)

Publisher: SPRINGER WIEN

10.1007/s00703-011-0166-4

35 *Roth M; Emmanuel R; Ichinose T; Salmond J (2011)*

ICUC-7 Urban Climate Special Issue

INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 31 (2) pp. 159 - 161 (3 pages)

Publisher: WILEY-BLACKWELL

10.1002/joc.2289

36 *Velasco E; Roth M (2010)*

Cities as Net Sources of CO<sub>2</sub>: Review of Atmospheric CO<sub>2</sub> Exchange in Urban Environments Measured by Eddy Covariance Technique

GEOGRAPHY COMPASS Vol. 4 (9) pp. 1238 - 1259 (22 pages)

Publisher: WILEY

10.1111/j.1749-8198.2010.00384.x

37 *Grimmond CSB; Roth M; Oke TR; Au YC; Best M; Betts R; Carmichael G; Cleugh H; Dabberdt W; Emmanuel R; Freitas E; Fortuniak K; Hanna S; Klein P; Kalkstein LS; Liu CH; Nickson A; Pearlmutter D; Sailor D; Voogt J (2010)*

Climate and More Sustainable Cities: Climate Information for Improved Planning and Management of Cities (Producers/Capabilities Perspective)

WORLD CLIMATE CONFERENCE - 3 Vol. 1 pp. 247 - 274 (28 pages)

Editors: Sivakumar MVK; Nyenzi BS; Tyagi A, (Procedia Environmental Sciences)

Publisher: ELSEVIER SCIENCE BV

10.1016/j.proenv.2010.09.016

38 *Shi C; Roth M; Zhang H; Li Z (2008)*

Impacts of urbanization on long-term fog variation in Anhui Province, China

ATMOSPHERIC ENVIRONMENT Vol. 42 (36) pp. 8484 - 8492 (9 pages)

Publisher: PERGAMON-ELSEVIER SCIENCE LTD

10.1016/j.atmosenv.2008.08.002

39 *Roth M (2007)*

Review of urban climate research in (sub)tropical regions

INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 27 (14) pp. 1859 - 1873 (15 pages)

Publisher: WILEY

10.1002/joc.1591

- 40 *Newton T; Oke TR; Grimmond CSB; Roth M (2007)*  
The suburban energy balance in Miami, Florida  
GEOGRAFISKA ANNALER SERIES A-PHYSICAL GEOGRAPHY Vol. 89A (4) pp. 331 - 347 (17 pages)  
Publisher: BLACKWELL PUBLISHING  
10.1111/j.1468-0459.2007.00329.x
- 41 *Roth M; Salmond JA; Satyanarayana ANV (2006)*  
Methodological considerations regarding the measurement of turbulent fluxes in the urban roughness sublayer:  
The role of scintillometry  
BOUNDARY-LAYER METEOROLOGY Vol. 121 (2) pp. 351 - 375 (25 pages)  
Publisher: SPRINGER  
10.1007/s10546-006-9074-4
- 42 *Vogt R; Christen A; Rotach MW; Roth M; Satyanarayana ANV (2006)*  
Temporal dynamics of CO2 fluxes and profiles over a central European city  
THEORETICAL AND APPLIED CLIMATOLOGY Vol. 84 (1-3) pp. 117 - 126 (10 pages)  
Publisher: SPRINGER WIEN  
10.1007/s00704-005-0149-9
- 43 *Chow WTL; Roth M (2006)*  
Temporal dynamics of the urban heat island of Singapore  
INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 26 (15) pp. 2243 - 2260 (18 pages)  
Publisher: JOHN WILEY & SONS LTD  
10.1002/joc.1364
- 44 *Rotach MW; Vogt R; Bernhofer C; Batchvarova E; Christen A; Clappier A; Feddersen B; Gryning SE; Martucci G; Mayer H; Mitev V; Oke TR; Parlow E; Richner H; Roth M; Roulet YA; Ruffieux D; Salmond JA; Schatzmann M; Voogt JA (2005)*  
BUBBLE - An urban boundary layer meteorology project  
THEORETICAL AND APPLIED CLIMATOLOGY Vol. 81 (3-4) pp. 231 - 261 (31 pages)  
Publisher: SPRINGER WIEN  
10.1007/s00704-004-0117-9
- 45 *Kanda M; Moriwaki R; Roth M; Oke T (2002)*  
Area-averaged sensible heat flux and a new method to determine zero-plane displacement length over an urban surface using scintillometry  
BOUNDARY-LAYER METEOROLOGY Vol. 105 (1) pp. 177 - 193 (17 pages)  
Publisher: SPRINGER  
10.1023/A:1019668424982
- 46 *Roth M (2001)*  
New Approach to Studying Urban Climatology  
Innovation Magazine - The Magazine of Research & Technology Vol. 2 (2)  
Publisher: NUS & World Scientific Publishing
- 47 *Roth M (2000)*  
Review of atmospheric turbulence over cities  
QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Vol. 126 (564) pp. 941 - 990 (50 pages)  
Publisher: WILEY

- 48 *Kanda M; Moriwaki R; Suzuki J; Roth M; Oke TR (2000)*  
Study on similarity functions of turbulent statistics in urban boundary layers  
Tenki Vol. 47 pp. 493 - 501 (9 pages)  
Publisher: The Meteorological Society of Japan
- 49 *Kanda M; Moriwaki R; Suzuki J; Roth M; Oke TR (2000)*  
Turbulent flux measurement in an urban boundary layer by using scintillometer  
Tenki Vol. 47 pp. 453 - 462 (10 pages)  
Publisher: The Meteorological Society of Japan
- 50 *Grimmond CSB; King TS; Roth M; Oke TR (1998)*  
Aerodynamic roughness of urban areas derived from wind observations  
BOUNDARY-LAYER METEOROLOGY Vol. 89 (1) pp. 1 - 24 (24 pages)  
Publisher: SPRINGER  
10.1023/A:1001525622213
- 51 *ROTH M; OKE TR (1995)*  
RELATIVE EFFICIENCIES OF TURBULENT TRANSFER OF HEAT, MASS, AND MOMENTUM OVER A PATCHY URBAN SURFACE  
JOURNAL OF THE ATMOSPHERIC SCIENCES Vol. 52 (11) pp. 1863 - 1874 (12 pages)  
Publisher: AMER METEOROLOGICAL SOC  
10.1175/1520-0469(1995)052<1863:REOTTO>2.0.CO;2
- 52 *Roth M; Oke TR (1994)*  
Comparison of modelled and "measured" heat storage in suburban terrain  
Contributions to Atmospheric Physics Vol. 67 (2) pp. 149 - 156
- 53 *ROTH M; OKE TR (1993)*  
TURBULENT TRANSFER RELATIONSHIPS OVER AN URBAN SURFACE .1. SPECTRAL CHARACTERISTICS  
QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Vol. 119 (513) pp. 1071 - 1104 (34 pages)  
Publisher: ROYAL METEOROLOGICAL SOC  
10.1002/qj.49711951311
- 54 *ROTH M (1993)*  
TURBULENT TRANSFER RELATIONSHIPS OVER AN URBAN SURFACE .2. INTEGRAL STATISTICS  
QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Vol. 119 (513) pp. 1105 - 1120 (16 pages)  
Publisher: ROYAL METEOROLOGICAL SOC  
10.1002/qj.49711951312
- 55 *Oke TR; Cleugh HA; Grimmond CSB; Schmid H-P; Roth M (1989)*  
Evaluation of spatially-averaged fluxes of heat, mass and momentum in the urban boundary layer  
Weather and Climate Vol. 9 pp. 14 - 21 (8 pages)
- 56 *ROTH M; OKE TR; EMERY WJ (1989)*  
SATELLITE-DERIVED URBAN HEAT ISLANDS FROM 3 COASTAL CITIES AND THE UTILIZATION OF SUCH DATA IN URBAN CLIMATOLOGY  
INTERNATIONAL JOURNAL OF REMOTE SENSING Vol. 10 (11) pp. 1699 - 1720 (22 pages)  
Publisher: TAYLOR & FRANCIS LTD

10.1080/01431168908904002

- 57 *ROTH M; OKE TR; STEYN DG (1989)*  
VELOCITY AND TEMPERATURE SPECTRA AND COSPECTRA IN AN UNSTABLE SUBURBAN ATMOSPHERE  
BOUNDARY-LAYER METEOROLOGY Vol. 47 (1-4) pp. 309 - 320 (12 pages)  
Publisher: KLUWER ACADEMIC PUBL  
10.1007/BF00122336

## **2 Edited**

- 58 *ROTH M (2011)*  
INTERNATIONAL JOURNAL OF CLIMATOLOGY  
Vol. 31  
Publisher: JOHN WILEY & SONS LTD
- 59 *Grimmond CSB; Kuttler W; Lindqvist S; Roth M (2007)*  
Special issue: Urban Climatology ICUC6  
INTERNATIONAL JOURNAL OF CLIMATOLOGY Vol. 27 (14) pp. 1847 - 1848 (2 pages)  
Publisher: WILEY-BLACKWELL  
10.1002/joc.1638

## **Conference Paper (128)**

### **112 Authored**

- 60 *Patel P; Roth M (2023)*  
A High-Resolution Dataset of Global Urban Fraction for Mesoscale Modelling  
103rd American Meteorological Society Annual Meeting Denver, USA (08 Jan 2023 - 12 Jan 2023)
- 61 *Lipson M; Grimmond S; Best M; Roth M (2023)*  
A new open collection of 20 urban flux tower datasets, harmonized and gap filled for land surface model evaluation  
iLEAPS – OzFlux conference Auckland, New Zealand (31 Jan 2023 - 03 Feb 2023)
- 62 *Patel P; Chen S; Dipankar A; Roth M; Lean H; Zhang H; Moise A (2023)*  
Comparison of 300 m and 100 m uSINGV clear-day simulations for Singapore  
EGU 2023 Vienna, Austria (23 Apr 2023 - 28 Jul 2023)
- 63 *Politakos K; Stagakis S; Feigenwinter C; Roth M; Chrysoulakis N (2023)*  
Dynamic changes in urban form and function affect Carbon Dioxide Fluxes in a Mediterranean city  
JURSE2023 Heraklion, Greece (17 May 2023 - 19 May 2023)
- 64 *So HK; Roth M (2023)*  
Seasonal and diurnal variation of urban park surface temperatures and park cooling effects in different cities: a preliminary study  
JURSE2023 Heraklion, Greece (17 May 2023 - 19 May 2023)
- 65 *Roth M (2022)*  
(Excess) heat in cities  
(invited paper)  
Cooling Asia: technology, environment and society in hot climates NUS-ARI, Singapore (17 Nov 2022 - 17 Nov 2022)



- 66 *Patel P; Chen S; Dipankar A; Roth M; Moise A (2022)*  
100m urban simulations over Singapore using uSINGV  
IAUC Virtual Poster Conference IAUC (01 Sep 2022 - 01 Sep 2022)
- 67 *Roth M (2022)*  
Effects of land use and land cover changes on local climates in urban settings and implications for monitoring air temperature  
(invited paper)  
Asia Summit on Global Environmental Measurement & Monitoring (GEMM Asia) NUS–Faculty of Law, Singapore  
(05 Dec 2022 - 06 Dec 2022)
- 68 *Roth M (2022)*  
Evaluating urban climate models over a low-rise residential neighbourhood of Singapore  
(invited presentation - online)  
FORTH - RSLab Annual Workshop Heraklion, Greece (22 Dec 2022 - 22 Dec 2022)
- 69 *Polidakos K; Stagakis S; Kogxylakis G; Feigenwinter C; Roth M; Chrysoulakis N (2022)*  
Five years of urban eddy covariance CO2 emissions correlated with dynamic shifts in urban structure and traffic regulations in the city center of Heraklion, Greece  
ICOS Conference 2022 Utrecht, Netherlands (14 Sep 2022 - 14 Sep 2022)
- 70 *Song C; Pratiman P; Dipankar A; Roth M; Moise A (2022)*  
The impact of urban-scale grid on the representation of the urban convective boundary layer over Singapore  
AOGS2022 Singapore (01 Aug 2022 - 05 Aug 2022)
- 71 *Roth M (2022)*  
Urban climate change considerations for Singapore  
Beating the Heat Conference 2022 Bern, Switzerland (16 Sep 2022 - 16 Sep 2022)
- 72 *Doan V; Chen F; Kusaka H; Khan A; Dipankar A; Hamdi R; Roth M; Gupta A; Niyogi D (2021)*  
Response of Extreme Convective Rainfall in a Tropical City to the Future Warming Climat  
18TH ANNUAL MEETING Asia Oceania Geosciences Society Singapore (01 Aug 2021 - 06 Aug 2021)
- 73 *Roth M (2021)*  
Urban climate research in support of mitigating climate change impacts in Singapore  
(Invited paper)  
NUS Climate Change Defense Workshop University Hall, NUS (24 Feb 2021 - 24 Feb 2021)
- 74 *Jongen H; Steeneveld G; Beringer J; Christen A; Chrysoulakis N; Fortuniak K; Hong J; Hoong J; Jacobs C; Järvi L; Meier F; Roth M; Theeuwes N; Velasco E; Teuling A (2021)*  
Urban Water Storage Capacity Inferred from Observed Evapotranspiration Recession  
AGU Fall Meeting 2021 New Orleans, USA (13 Dec 2021 - 17 Dec 2021)
- 75 *Jongen H; Steeneveld G; Beringer J; Fortuniak K; Hong J; Hoong J; Jakobs C; Järvi L; Meier F; Roth M; Theeuwes N; Velasco E; Teuling R (2021)*  
Urban water storage capacity inferred from observed evapotranspiration recession  
EGU General Assembly 2021 Vienna, Austria (19 Apr 2021 - 30 Apr 2021)
- 76 *Roth, Matthias (2019)*  
Losing our Cool: Cities and Climate Change  
(Invited paper)

1st International Workshop on Climate Change, Air pollution, and Public Health (CAPH) CUHK, Hong Kong (30 May 2019 - 31 May 2019)

- 77 *Roth, Matthias; Li R (2018)*  
Spatiotemporal characteristics of the urban canopy-layer temperature in Singapore using a sensor network  
10th International Conference on Urban Climate (ICUC-10)/14th Symposium on the Urban Environment New York City (06 Aug 2018 - 10 Aug 2018)
- 78 *Roth, Matthias (2017)*  
Evaluating urban climate models over a low-rise residential neighbourhood of Singapore  
(Invited paper)  
Urban Microclimate: From Research To Application HDB Centre of Building Research, Singapore (26 Apr 2017 - 26 Apr 2017)
- 79 *Roth, Matthias (2017)*  
Impact of urbanisation on the energy and carbon exchange over a residential neighbourhood in a tropical Asian city  
(Invited paper)  
Urban Meteorology and Climate Conference City University Hong Kong, Hong Kong (25 May 2017 - 26 May 2017)
- 80 *Roth, Matthias (2017)*  
Long-term Observations of Energy Balance Fluxes Over a Tropical Residential Neighborhood and Application to Urban Microclimate Modeling  
13th Symposium of the Urban Environment Washinton State Convention Center, Seattle, United States (23 Jan 2017 - 26 Jan 2017)
- 81 *Roth, Matthias (2016)*  
Building a Climate Resilient, "Sustainable" City - Singapore's Response to Climate Change  
(Invited paper)  
The 5th Asia-Pacific International Conference Westin Chosun Seoul, Seoul, South Korea (24 Nov 2016 - 25 Nov 2016)
- 82 *ROTH MATTHIAS (2016)*  
Measuring and modeling the urban microclimate over a residential neighbourhood  
Urban Microclimate: Opportunities & Challenges
- 83 *Roth, Matthias (2016)*  
Urban Climate Research: Applications to Real-World Problems  
(Invited paper)  
6th International Conference on Sustainable Energy and Environment Dusit Thani Bangkok, Bangkok, Thailand (28 Nov 2016 - 30 Nov 2016)
- 84 *ROTH MATTHIAS (2015)*  
A multi-model and -namelist ensemble for a tropical urban energy balance  
9th International Conference on Urban Climate
- 85 *ROTH MATTHIAS (2015)*  
Commuter exposure to particles pollution on public transport and at bus stops in Singapore  
The 13th International Conference on Atmospheric Sciences and Applications to Air Quality (ASAAQ13)
- 86 *ROTH MATTHIAS (2015)*  
Does urban vegetation enhance carbon sequestration?

- 87 *ROTH MATTHIAS (2015)*  
Energy balance observations in two residential neighborhoods of Singapore and Mexico City  
Croucher Advanced Study Institute 2015-2016: Changing Urban Climate & the Impact on Urban Thermal Environment and Urban Living
- 88 *ROTH MATTHIAS (2015)*  
Sensitivity analysis and optimization of an urban surface energy balance parameterization at a tropical suburban site  
9th International Conference on Urban Climate
- 89 *ROTH MATTHIAS (2015)*  
Thermal stratification and vegetation effects on the urban micro-climate – a CFD study  
9th International Conference on Urban Climate
- 90 *ROTH MATTHIAS (2014)*  
Hot Cities: Battleground for Climate Change  
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- 91 *ROTH MATTHIAS (2014)*  
Impact of an unusual dry spell on the energy balance of a residential neighbourhood in a tropical city  
AGU Fall Meeting
- 92 *ROTH MATTHIAS (2014)*  
Parameter Estimation and Sensitivity Analysis of an Urban Surface Energy Balance Parameterization at a Tropical Suburban Site  
AGU Fall Meeting
- 93 *ROTH MATTHIAS (2013)*  
Atmospheric CO<sub>2</sub> exchange in urban neighborhoods measured by eddy covariance  
9th International Carbon Dioxide Conference
- 94 *ROTH MATTHIAS (2013)*  
Carbon dioxide sequestration by urban vegetation at neighbourhood scale in tropical cities  
AGU Fall Meeting
- 95 *ROTH MATTHIAS (2013)*  
Commuter exposure to aerosol pollution on public transport in Singapore  
AGU Fall Meeting
- 96 *ROTH MATTHIAS (2013)*  
Evaluation of an urban microclimate model in Humid Tropical Singapore  
Annual Meeting of the Association of American Geographers
- 97 *ROTH MATTHIAS (2013)*  
Source attribution of fossil-fuel emissions at the urban scale using stable isotopologues of carbon-dioxide  
AGU Fall Meeting
- 98 *ROTH MATTHIAS (2013)*  
The Role of Vegetation in the Urban Carbon Dioxide Exchange  
WISE 2013 International Workshop

- 99 *ROTH MATTHIAS (2012)*  
Climate processes and measurements in cities  
Intl Workshop on the Digitization of Historical Climate Data
- 100 *ROTH MATTHIAS (2012)*  
How much CO<sub>2</sub> does vegetation capture in tropical cities? Case study of a residential neighborhood in Singapore  
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- 101 *ROTH MATTHIAS (2012)*  
How much CO<sub>2</sub> does vegetation capture in tropical cities? Case study of a residential neighbourhood in Singapore  
AGU Fall Meeting
- 102 *ROTH MATTHIAS (2012)*  
Impact of urban characteristics on carbon dioxide emissions  
Urban Environmental Pollution
- 103 *ROTH MATTHIAS (2012)*  
Review of recent urban climate studies and climate change for Singapore  
AAG 2012 Annual Meeting
- 104 *ROTH MATTHIAS (2012)*  
The role of vegetation in the CO<sub>2</sub> flux from a tropical neighbourhood  
8th International Conference on Urban Climate
- 105 *ROTH MATTHIAS (2012)*  
Understanding scales and layers in the urban environment for meaningful observations  
Urban and Rural Meteorology Workshop 2012
- 106 *ROTH MATTHIAS (2012)*  
Urban flux measurements by eddy covariance: a tool to evaluate emissions inventories  
ACCENT-IGAC-GEIA Conference: Emissions to address science and policy needs
- 107 *ROTH MATTHIAS (2011)*  
An investigation on the temporal spectral analysis of gauge rainfall and model rainfall  
8th Annual Meeting of the Asia Oceania Geosciences Society
- 108 *ROTH MATTHIAS (2011)*  
Cities as drivers of climate change from local to global scales  
8th Annual Meeting of the Asia Oceania Geosciences Society
- 109 *ROTH MATTHIAS (2011)*  
CO<sub>2</sub> fluxes from a tropical neighborhood: sources and sinks  
AGU Fall Meeting 2011
- 110 *ROTH MATTHIAS (2011)*  
Direct measurements of the evaporation rate from a tropical urban water reservoir  
Singapore International Water Week
- 111 *ROTH MATTHIAS (2011)*  
Direct measurements urban CO<sub>2</sub> concentration and fluxes: advantages and challenges

- 112 *ROTH MATTHIAS (2011)*  
Diurnal and weekly variation of anthropogenic heat emission in a Southeast Asian city  
19th International Congress of Biometeorology
- 113 *ROTH MATTHIAS (2011)*  
Measurements of carbon dioxide fluxes and energy balance over a suburban ecosystem in a tropical city  
AsiaFlux Workshop 2011
- 114 *ROTH MATTHIAS (2011)*  
Physical characteristics of particles and particles-bound polycyclic aromatic hydrocarbons in selected urban environments of Singapore  
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- 115 *ROTH MATTHIAS (2011)*  
Review of urban climate research in (sub)tropical regions  
CASI: Urban Climatology on Tropical and Sub-Tropical Regions
- 116 *ROTH MATTHIAS (2010)*  
Airflow Effects: Boundary Layer and Roughness Sublayer  
WMO INTER-REGIONAL CLIPS TRAINING WORKSHOP ON URBAN CLIMATOLOGY
- 117 *ROTH MATTHIAS (2010)*  
Cities and Climate Change  
International Conference on Recent Advances in Space Technology Services & Climate Change
- 118 *ROTH MATTHIAS (2010)*  
DOES SINGAPORE HAVE CLEAN AIR? Review of Singapore's air quality and climate change mitigation: current situation and future possibilities  
BETTER AIR QUALITY (BAQ) 2010 CONFERENCE
- 119 *ROTH MATTHIAS (2010)*  
Eddy covariance flux measurements of carbon dioxide in urban environments  
EGU General Assembly
- 120 *ROTH MATTHIAS (2010)*  
Evaporation measurements by eddy covariance from a tropical urban water reservoir  
AGU Fall Meeting
- 121 *ROTH MATTHIAS (2010)*  
Mapping the Urban Thermal Environment in Singapore using a GIS Framework  
GSDI 12 World Conference
- 122 *ROTH MATTHIAS (2010)*  
Meteorological Measurements in Cities  
WMO INTER-REGIONAL CLIPS TRAINING WORKSHOP ON URBAN CLIMATOLOGY
- 123 *ROTH MATTHIAS (2010)*  
Review of urban CO<sub>2</sub> flux measurements using eddy covariance technique: Methodological considerations and results  
Western Pacific Geophysics Meeting (AGU)

- 124 *ROTH MATTHIAS (2010)*  
The Science of Climate Change  
Business Leadership on Climate Change Programme
- 125 *ROTH MATTHIAS (2010)*  
Use of GIS and Remote Sensing Products in support of large area mapping of the canopy-layer urban heat island:  
Application to Singapore  
First International Conference on Sustainable Urbanization (ICSU 2010)
- 126 *ROTH MATTHIAS (2009)*  
Can canyon and rooftop heat fluxes be combined into neighborhood fluxes?  
Association of American Geographers
- 127 *ROTH MATTHIAS (2009)*  
Carbon dioxide concentration and fluxes in a tropical city  
Eighth Symposium on the Urban Environment, AMS
- 128 *ROTH MATTHIAS (2009)*  
Eddy covariance flux measurements of pollutant gases in urban areas  
Asia Oceania Geosciences Society (AOGS) Meeting
- 129 *ROTH MATTHIAS (2009)*  
Effects of cities on the local climate and the relationship with climate change mitigation and adaptation  
Climate Change: Global Risks, Challenges & Decisions
- 130 *ROTH MATTHIAS (2009)*  
ICUC-7 Presidential Address  
The 7th International Conference on Urban Climate
- 131 *ROTH MATTHIAS (2009)*  
Microclimate in a high-rise residential development in Singapore  
The 7th International Conference on Urban Climate
- 132 *ROTH MATTHIAS (2009)*  
Spatial and temporal distribution of anthropogenic heat emissions in Singapore  
The 7th International Conference on Urban Climate
- 133 *ROTH MATTHIAS (2009)*  
Spatial variation of the canopy-layer urban heat island in Singapore  
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- 134 *ROTH MATTHIAS (2009)*  
The IAUC Urban Flux Network 2 An International Network of Micrometeorological Flux Towers in Urban  
Ecosystems  
AGU Fall Meeting
- 135 *ROTH MATTHIAS (2009)*  
Urban climates and the urban surface: a review of T.R. Oke's contributions arising from conceptual  
representations of the urban surface  
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- 136 *ROTH MATTHIAS (2008)*  
Temporal variability of energy and mass fluxes at a residential site in a tropical city  
18th Symposium on Boundary Layers and Turbulence
- 137 *ROTH MATTHIAS (2007)*  
Review of (sub)tropical urban energy balance studies  
The 2007 Meeting of the Association of American Geographers
- 138 *ROTH MATTHIAS (2007)*  
Temporal and spatial patterns of near-surface CO<sub>2</sub> concentrations in Singapore  
The 10th International Conference on Atmospheric Sciences and Applications to Air Quality
- 139 *ROTH MATTHIAS (2006)*  
Measurements of CO<sub>2</sub> fluxes in a tropical city (Singapore)  
AsiaFlux Workshop
- 140 *ROTH MATTHIAS (2006)*  
Observations of Atmospheric Turbulence in Cities  
NATO Advanced Research Workshop on Atmospheric Boundary Layers
- 141 *ROTH MATTHIAS (2006)*  
Some characteristics of turbulent CO<sub>2</sub> exchange above a tropical urban industrial area  
International Conference on Mesoscale Processes in Atmosphere, Ocean and Environmental Systems
- 142 *ROTH MATTHIAS (2006)*  
Urban climate research in tropical regions  
Sixth International Conference on Urban Climate
- 143 *ROTH MATTHIAS (2005)*  
First results of energy and carbon fluxes over a tropical city  
AOGS 2nd Annual Meeting
- 144 *Roth M; Salmond JA; Satyanarayana ANV (2004)*  
Application of scintillometry in the urban atmosphere  
5th Symposium on the Urban Environment pp. 477 - 480
- 145 *ROTH MATTHIAS (2004)*  
Detailed wind tunnel measurements of turbulence parameters within a regular array of cube roughness  
Tenth Asian Congress of Fluid Mechanics
- 146 *ROTH MATTHIAS (2004)*  
Historical progression and geographical contribution of urban climate studies in Singapore  
100th American Association of Geographers Annual Meeting
- 147 *ROTH MATTHIAS (2004)*  
Intermittent exchange of heat and pollutants between the urban canopy and the above-roof boundary layers at night  
Fifth Conference on Urban Environment, AMS
- 148 *ROTH MATTHIAS (2003)*

Comparison of turbulent fluxes from roof top versus street canyon location using scintillometers and eddy covariance techniques

Fifth International Conference on Urban Climate, ICUC-5

149 *ROTH MATTHIAS (2003)*

Fluxes and profiles of CO<sub>2</sub> in the urban roughness sublayer

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150 *ROTH MATTHIAS (2003)*

Methodological considerations regarding the use of scintillometers in the urban roughness sub-layer

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151 *ROTH MATTHIAS (2003)*

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152 *ROTH MATTHIAS (2003)*

Vertical profiles of CO<sub>2</sub> in an urban street canyon

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153 *ROTH MATTHIAS (2002)*

Effects of cities on local climates

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154 *ROTH MATTHIAS (2002)*

Urban heat island dynamics in Singapore

Proceedings of the Fourth Symposium on the Urban Environment

155 *ROTH MATTHIAS (2001)*

Turbulent transfer in the urban boundary layer

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156 *ROTH MATTHIAS (2000)*

The heat balance of a residential suburb of Miami, Florida

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157 *ROTH MATTHIAS (2000)*

The Tokyo-98 urban turbulence experiment

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158 *ROTH MATTHIAS (1999)*

A novel dual-scintillation method to estimate area-averaged turbulent fluxes over an urban surface

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159 *ROTH MATTHIAS (1998)*

A wind tunnel study of turbulent flow over a rough surface

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160 *ROTH MATTHIAS (1998)*

Vertical structure of turbulence over cities

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- 161 *ROTH MATTHIAS (1997)*  
Future topics in urban climatology  
International Symposium on Monitoring and Management of Urban Heat Island
  - 162 *ROTH MATTHIAS (1997)*  
Review of urban turbulence measurements  
Twelfth Symposium on Boundary Layers and Turbulence, AMS
  - 163 *ROTH MATTHIAS (1996)*  
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  - 164 *ROTH MATTHIAS (1995)*  
Efficiencies of turbulent transfer of heat, mass and momentum over a patchy urban surface - controls on urban diffusion  
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  - 165 *ROTH MATTHIAS (1994)*  
Turbulent transfer over an urban surface  
Fourth International Conference on Atmospheric Sciences and Applications to Air Quality
  - 166 *ROTH MATTHIAS (1992)*  
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  - 167 *ROTH MATTHIAS (1992)*  
Equality of eddy diffusivities over cities  
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  - 168 *ROTH MATTHIAS (1992)*  
Turbulent transfer of moisture over cities  
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  - 169 *ROTH MATTHIAS (1990)*  
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  - 170 *ROTH MATTHIAS (1988)*  
Spectral analysis of turbulence in an unstable suburban atmosphere  
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  - 171 *ROTH MATTHIAS (1987)*  
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- 172 *Song C; Pratiman P; Dipankar A; Roth M; Moise A (2022)*  
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  - 173 *Doan V; Chen F; Kusaka H; Khan A; Dipankar A; Hamdi R; Roth M; Gupta A; Niyogi D (2021)*

- 174 *Jongen H; Steeneveld G; Beringer J; Fortuniak K; Hong J; Hoong J; Jakobs C; Järvi L; Meier F; Roth M; Theeuwes N; Velasco E; Teuling R (2021)*  
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- 175 *Jongen H; Steeneveld G; Beringer J; Christen A; Chrysoulakis N; Fortuniak K; Hong J; Hoong J; Jacobs C; Järvi L; Meier F; Roth M; Theeuwes N; Velasco E; Teuling A (2021)*  
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- 176 *Meili N; Burlando P; Carmeliet J; Chow W; Coutts A; Manoli G; Roth M; Velasco E; Vivoni E; Fatichi S (2020)*  
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- 177 *Simón-Moral A; Dipankar A; Doan VQ; Sanchez C; Roth M; Huang X-Y (2020)*  
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- 178 *Simón-Moral A; Dipankar A; Doan Q-V; Sanchez C; Roth M; Huang X-Y (2019)*  
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EGU General Assembly 2019 Vienna (07 Apr 2019 - 12 Jul 2019)
- 179 *Simón-Moral A; Roth M (2019)*  
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- 180 *Meili N; Fatichi S; Manoli G; Burlando P; Roth M; Velasco E; Nice K; Tapper N; Daly E; Coutts A; Chow W; Vivoni E (2019)*  
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- 181 *Meili N; Roth M (2018)*  
A new Urban Ecohydrological Model to quantify the effect of vegetation on microclimate and water fluxes in cities  
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- 182 *Schubert S (2018)*  
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10th International Conference on Urban Climate (ICUC-10)/14th Symposium on the Urban Environment New York City (06 Aug 2018 - 10 Aug 2018)
- 183 *Venkatraman J; Roth M (2018)*  
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- 184 *Simón-Moral A; Dipankar A; Matthias R; Claudio S; Hans H (2018)*  
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- 185 *Kohler M; Chow W; Roth M (2018)*

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- 186 *Simon A; Dipankar S; Roth M; Huang XY (2017)*

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- 187 *Kawano N; Varquez A; Dong Y; Kanda M; Roth M (2017)*

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- 190 *Roth M (2007)*

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- 192 *Roth M (2021)*

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- 193 *Roth M (1993)*

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- 195 *Velasco E; Roth M (2009)*

Measuring emissions of greenhouse gases and air pollutants in cities

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- 196 *ROTH MATTHIAS; WONG N (2009)*

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