

Session Programme Topic 5

Atmospheric composition and climate: Interactions from global to regional scales

Convener: Peter Braesicke, Martin Schultz

The global atmospheric composition-climate system (CCS) encompasses many scales and feedbacks. The session will explore the full chain of global to regional scale challenges in modelling and observing the CCS. For example, chemical budgets, stratosphere-troposphere exchange, tropopause structure and aerosol impacts on the global scale. On smaller scales one focus will be on the interactions of clouds, precipitation and composition. Another focus will be on the urban environment and its impact on composition and climate, in particular with respect to urban heat stresses and air quality.

Monday, 6 October 2014

Neue Mälzerei, Room MKS, Kuppelsaal Süd, 5th floor

- 14:20 TP5-O-01: Schultz, M. G., O. Stein, F. Rohrer, H. Fuchs, A. Wahner: From local process studies to global scale impacts
- 14:35 TP5-O-02: Trickl, T., H.-E. Scheel, H. Vogelmann: Is there a link between the Zugspitze ozone trend and climate change?
- 14:50 TP5-O-03: Zhu, S., T. Butler: Source attribution of tropospheric ozone using tagging techniques
- 15:05 TP5-O-04: von Schneidemesser, E., J. Coates, K. Mar, H. D. van der Gon, A. Visschedijk, T. Butler: Ozone production in models and the role of NMVOC speciation
- 15:20 TP5-O-05: Paschalidi, Z., H. Elbern, E. Friese, K. Kasradze: 4d var data assimilation for the anthropogenic emission estimation

Tuesday, 7 October 2014

Neue Mälzerei, Room MKS, Kuppelsaal Süd, 5th floor

- 10:00 TP5-O-06: Braesicke, P.: Global composition-climate interactions and regional change: The two-way interaction
- 10:15 TP5-O-07: Paukert, M., C. Hoose: Quantification of Cloud Susceptibilities to Ice Nuclei
- 10:30 TP5-O-08: Sinnhuber, B.-M., G. Krysztofiak, S. Meul: The impact of biogenic bromine emissions from the oceans on atmospheric chemistry in a changing climate
- 10:45 TP5-O-09: Konopka, P., F. Ploeger, B. Vogel, M. Tao, R. Müller: Seasonality of the mean age in the UTLS region: Hemispheric differences and impact of the Asian monsoon
- 11:00 TP5-O-10: Tummon, F., B. Hassler, N. R. P. Harris, J. Staehelin, G. E. Bodeker, S. M. Davis, D. Degenstein, S. M. Frith, L. Froidevaux, E. Kyrölä, M. Laine, C. Long, A. Penckwitt, C. Sioris, K. H. Rosenlof, C. Roth, H. J. Wang, J. Wild: Comparison of merged profile ozone satellite observations (1984-2011): Assessment and implications in terms of ozone recovery
- 11:15 COFFEE BREAK (Neue Mälzerei, Room MP, Plenary Hall, 5th floor)

Neue Mälzerei, Room MKS, Kuppelsaal Süd, 5th floor

- 11:45 TP5-O-11: Matthes, K., T. Reddman, M. Sinnhuber, R. Thieblémont, T. Fytterer, A. Vlasov: Regional Influence of Solar Variability on European Climate
- 12:00 TP5-O-12: Reddman, T., S. Versick, A. Vlasov: NO_y transport from the lower thermosphere and its impact on ozone in a chemical transport model
- 12:15 TP5-O-13: Fallmann, J., R. Grote, R. Forkel, K. Schaefer, S. Emeis: Regional air quality in European urban areas – A WRF-Chem modelling study
- 12:30 TP5-O-14: Martins, L. D., J. A. Martins, R. Y. Ynoue, E. D. Freitas, M. de Fátima Andrade: Evaluation of impact on air quality by changes on public transportation: a case study of a Brazilian city

13:00 LUNCH BREAK (Neue Mälzerei, Room MP, Plenary Hall, 5th floor)

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Neue Mälzerei, Room MKS, Kuppelsaal Süd, 5th floor

14:55 TP5-O-15: Peters, A., S. Breitner, A. Schneider, K. Wolf, K. Richter, J. Cyrus: Weather and ambient air pollution - Health Effects and potential interactions

15:10 TP5-O-16: Mentel, T. F., J. Wildt, E. Kleist, A. Kiendler Scharr, Y. Rudich, M. Hallquist, R. Bergström, D. Simpson: Secondary aerosol formation from stress-induced biogenic emissions and possible climate feedbacks

15:25 TP5-O-17: Junkermann, W., J. M. Hacker: Ultrafine particles and rainfall trends: evidences from airborne studies?

15:40 TP5-O-18: Kuik, F., A. Lauer, J. P. Beukes, P. G. van Zyl, M. Josipovic, V. Vakkari, L. Laakso: The anthropogenic contribution to black carbon concentrations in South Africa

15:55 TP5-O-19: Mues, A., A. Lauer: Air quality modeling in the Kathmandu Valley and surroundings

Poster Session:

Umweltforum, Room G, Gallery, 1st floor: 16:10 – 18:10

TP5-P-01: Schröter, J., R. Ruhnke, H. Vogel: Simulating the Ozone Distribution over Europe in May 2008 with a new Photolysis Module for COSMO-ART

TP5-P-02: Ploeger, F., G. Günther, P. Konopka, R. Müller, C. Hoppe, M. Riese: Horizontal water vapor transport in the lower stratosphere from subtropics to high latitudes during boreal summer

TP5-P-03: Brand, S., K. Dethloff, D. Handorf: Stratospheric chemistry and gravity wave drag within a coupled AOGCM

TP5-P-04: Grote, R., T. Butler: Modelling Feedbacks between Biogenic Emissions and Air Chemistry from Site to Globe

TP5-P-05: Coates, J., T. Butler: Understanding Ozone Pollution: A Comparison of Chemical Mechanisms

TP5-P-06: Mertens, M., E. Tsati, A. Kerkweg, V. Grewe, P. Jöckel: Contributions of road traffic emissions to tropospheric ozone on global and regional scale

TP5-P-07: Lyapina, O., M. Schultz, A. Hense, O. Stein, S. Waychal, S. Schröder: Cluster analysis of European surface ozone observations for evaluation of MACC reanalysis data

TP5-P-08: Otero, N., J. Sillmann, T. Butler: Effect of 'low-wind' circulation types on air pollution conditions in present and future climate

TP5-P-09: Forkel, R., J. Werhahn, A. Balzarini, R. Baró, G. Curci, M. Hirtl, L. Honzak, P. Jiménez-Guerrero, M. Langer, C. Lorenz, J. L. Pérez, G. Pirovano, R. San José, P. Tuccella, R. Žabkar: Analysis of the WRF-Chem simulations contributing to the AQMEII-Phase II exercise with respect to aerosol impact on precipitation

TP5-P-10: Ullrich, R., N. Hiranuma, C. Hoose, O. Möhler, M. Niemand, I. Steinke, R. Wagner: Development and model application of a new parameterization framework for the heterogeneous ice nucleation in tropospheric clouds

TP5-P-11: Biernath, C., C. Klein, J. Hauck, F. Heinlein, C. Thieme, R. Hentschel, J. C. Munch, E. Priesack: Improvement of atmospheric pollen load forecasts by using dynamic plant growth models: Suitability of temperature sum models to simulate birch flowering periods on regional scale

TP5-P-12: Churkina, G., R. Grote, T. Butler: Heat Waves, Urban Vegetation, and Air Pollution

TP5-P-13: Vlasov, A., T. Reddman: A study of reactive nitrogen intrusions into the stratosphere with vertically extended EMAC.

TP5-P-14: Ringer, D.: Teaching a basic understanding for the material networks of Planet Earth with simple, global, dynamic material flow models

TP5-P-15: Kolvev, N., T. Evgenieva, P. Kaleyina, P. Muhtarov, D. Petkov, E. Donev, D. Ivanov, V. Danchovski, I. Kolev: Five years observations the urban atmosphere by ceilometer, sun photometer and ozonemeter over Sofia (Bulgaria) (2009-2013)

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- TP5-P-16: Martins, L. D., C. F. H. Wikuats, J. A. Martins, M. de Fátima Andrade: Extreme values analysis of air quality pollutants in the two largest metropolitan areas of Brazil
- TP5-P-17: Venevsky, S., C. Wu: Climate change and influence of smoke from wildfires to health of population in megacities
- TP5-P-18: Beck, L., S. Gilles, S. Breitner, A. Schneider, K. Wolf, C. J. Biernath, J. Cyrys, C. Klein, E. Priesack, J. C. Munch, A. Peters, C. Traidl-Hoffmann: Influence of biogenic and anthropogenic factors on pollen allergenicity and allergic sensitization
- TP5-P-19: Mahieu E., M. P. Chipperfield, J. Notholt, T. Reddmann, J. Anderson, P. F. Bernath, T. Blumenstock, M. T. Coffey, S. Dhomse, W. Feng, B. Franco, L. Froidevaux, D. W. T. Griffith, J. Hannigan, F. Hase, R. Hossaini, N. B. Jones, I. Morino, I. Murata, H. Nakajima, M. Palm, C. Paton-Walsh, J. M. Russell III, M. Schneider, C. Servais, D. Smale, K. A. Walker: Increase in northern hemisphere stratospheric hydrogen chloride over recent years