

Editorial

Special issue on METTOOLS^{VI}

STEFAN EMEIS*

¹Institut für Meteorologie und Klimaforschung, Atmosphärische Umweltforschung, Forschungszentrum Karlsruhe GmbH, Germany

Since 1990 the specialty group of the German Meteorological Society on Environmental Meteorology has been organising regular conferences in order to bring scientists and practitioners together. The sixth event of this series – called METTOOLS^{VI} – took place in April 2007 in Garmisch-Partenkirchen, Germany, and was attended by about 85 meteorologists and environmental engineers from Austria and Germany. The following Table shows dates and places of the meetings of this series. All conferences have been documented in the *Meteorologische Zeitschrift* or in its predecessor, the *Meteorologische Rundschau*.

28.3.–1.4.1990	METTOOLS ^I , Hamburg	Met. Rdsch. 44 (1-4), 1991
13.9.–17.9.1993	METTOOLS ^{II} , Hohenheim	Meteorol. Z. 3 (3), 1994
10.3.–12.3.1997	METTOOLS ^{III} , Freiburg	Meteorol. Z. 7 (1), 1998
3.4.–5.4.2000	METTOOLS ^{IV} , Stuttgart	Meteorol. Z. 10, (4), 2001
6.10.–8.10.2003	METTOOLS ^V , Essen	Meteorol. Z. 13 (5), 2004
24.4.–26.4.2007	METTOOLS ^{VI} , Garmisch-Partenkirchen	Meteorol. Z. 17 (3), 2008

The main subjects of these conferences, which are held in German language, are aspects of local air quality and urban climatology. These are the typical issues which practitioners working in environmental agencies and municipal authorities have to deal with.

A lot of progress has been reached concerning these issues in Central Europe in the last decades. The air has become much cleaner. But remaining environmental problems like atmospheric particle loads still have to be solved. Growing knowledge on health impacts of air pollution and the continuing policy of the European Union to further reduce air quality threshold values force mitigation and adaptation strategies. Also the scientific tools (measurement devices as well as simulation and forecast models) for analysing the existing situation and forecasting future developments have been enhanced in recent years considerably. This enhancement has offered new possibilities to deal with environmental issues. Additionally, insight is increasing into the connection between air quality and climate change. In a few years more than one half of the human population on our planet will live in urban agglomerations; living areas in which air quality and climate issues are closely related. These developments show the necessity for the continuation of this conference series.

Therefore the METTOOLS^{VI} conference offered a forum to discuss classical air quality issues as well as new aspects ranging from local impacts of climate change on a urban population to the usage of renewable energies. This present issue of *Meteorologische Zeitschrift* comprises seven articles which have emerged from presentations given at the conference, and which have overcome the usual peer reviewing procedure of this journal. Four out of the seven papers deal with particle loads in the atmosphere. The first paper (LITSCHKE and KUTTLER, 2008) is a literature review on the possibilities to reduce urban particle concentrations by vegetation. The second contribution (MAYER et al., 2008) analyses the thermal comfort in urban street canyons. Then three articles further highlight aspects of atmospheric particle concentrations. WEBER and WEBER (2008) investigate the linkage between particle loads in backyards and street canyons, KLINGNER and SÄHN (2008) deal with the development of a particle concentration forecast model, and HOLST et al. (2008) analyse the relation between particle concentrations and meteorological

*Correspondence address: Stefan Emeis, Institut für Meteorologie und Klimaforschung, Bereich Atmosphärische Umweltforschung, Forschungszentrum Karlsruhe GmbH, Kreuzeckbahnstr. 19, 82467 Garmisch-Partenkirchen, Germany, e-mail: Stefan.Emeis@imk.fzk.de



Figure 1: Participants of the METTOOLS^{VI} conference (photographed by Peter SUPPAN).

exchange conditions. The series of papers from this conference is closed by an article on the determination of the mixing-layer height from remote sensing and surface flux measurements (HENNEMUTH and KIRTZEL, 2008) and by a paper presenting the local variability of and atmospheric influences on the air quality in a deep Alpine valley (SCHÄFER et al. 2008).

Many thanks go to the reviewers who read the manuscripts and who made a number of valuable suggestions which helped to ameliorate the contributions to this special issue. Both reviewers and authors made it possible to keep the tight time schedule. Therefore – like in previous occasions – the articles are available one year after the meeting. The conference and thus also this special issue has been financially supported by the German Meteorological Society. The willingness of the Editorial Board and the Publisher of this journal to enable the continuation of the series of special issues on the METTOOLS conferences is very much appreciated.

Stefan EMEIS, Garmisch-Partenkirchen

(Deputy president of the specialty group on Environmental Meteorology of the German Meteorological Society.)

References

- HENNEMUTH, B., H.J. KIRTZEL, 2008: Towards operational determination of boundary layer height using sodar/RASS soundings and surface heat flux data. – *Meteorol. Z.* **17**, 283–296.
- HOLST, J., H. MAYER, T. HOLST, 2008: Effect of meteorological exchange conditions on PM₁₀ concentration. – *Meteorol. Z.* **17**, 273–282.
- KLINGNER, K., E. SÄHN, 2008: Prediction of PM₁₀ concentration on the basis of high resolution weather forecasting. – *Meteorol. Z.* **17**, 263–272.
- LITSCHKE, T., W. KUTTLER, 2008: On the reduction of urban particle concentration by vegetation – a review. – *Meteorol. Z.* **17**, 229–240.
- MAYER, H., J. HOLST, P. DOSTAL, F. IMBERY, D. SCHINDLER, 2008: Human thermal comfort in summer within an urban street canyon in Central Europe. – *Meteorol. Z.* **17**, 241–250.
- SCHÄFER, ET AL. 2008: – *Meteorol. Z.* **17**, 297–309.
- WEBER, S., K. WEBER, 2008: Coupling of urban street canyon and backyard particle concentrations. – *Meteorol. Z.* **17**, 251–261.