

# Cooperative LBA Airborne Regional Experiment (LBA-CLAIRE)



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Click here for background information on [LBA-CLAIRE](#)

The first LBA-CLAIRE campaign was CLAIRE-98. For more information on this campaign click [here](#) .

**The CLAIRE-98 campaign took place from 1 March to 20 April 1998. Lots of exciting results were obtained on biological emissions of trace gases (esp. VOC), on atmospheric transformations of trace gases, on aerosol properties over the rain forest, and on long range transport of biomass smoke and mineral dust. The following papers have been published based on CLAIRE-98 results:**

[Andreae, M. O., P. Artaxo, et al., Transport of biomass burning smoke to the upper troposphere by deep convection in the equatorial region, Geophys. Res. Lett., 28, 951-954, 2001.](#)

Artaxo, P., E. Swietlicki, J. Zhou, H. C. Hansson, W. Maenhaut, M. Claeys, M. O. Andreae, J. Ström, J. V. Martins, M. A. Yamasoe, and R. V. Grieken, Aerosol properties in the central Amazon Basin during the wet weason during the LBA/CLAIRE experiment, Eos Trans. AGU, 79, F155, 1998.

Crutzen, P. J., J. Williams, U. Pöschl, P. Hoor, H. Fischer, C. Warneke, R. Holzinger, A. Hansel, W. Lindinger, B. Scheeren, and J. Lelieveld, High spatial and temporal resolution measurements of primary organics and their oxidation products over the tropical forests of Surinam, Atmos. Environ., 34, 1161-1165, 2000.

Formenti, P., M. O. Andreae, L. Lange, G. Roberts, J. Cafmeyer, I. Rajta, W. Maenhaut, B. N. Holben, P. Artaxo, and J. Lelieveld, Saharan dust in Brazil and Suriname during the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA)- Cooperative LBA Regional Experiment (CLAIRE) in March 1998, J. Geophys. Res., 106, 14,919-14,934, 2001.

Freitas, S. R., M. A. F. S. Dias, P. L. S. Dias, K. M. Longo, P. Artaxo, M. O. Andreae, and H. Fischer, A convective kinematic trajectory technique for low-resolution atmospheric models, J. Geophys. Res., 105, 24,375-24,386, 2000.

Grégoire, J.-M., B. Glénat, P. Janvier, E. Janodet, A. Tournier, and J. M. N. Silva (1998). Fire Activity in the Guiana Shield, the Orinoco and Amazon Basins During March 1998 ( No. EUR 18091). EC Joint Research Centre, Space Applications Institute.

Kesselmeier, J., U. Kuhn, A. Wolf, M. O. Andreae, P. Ciccioli, E. Brancaleoni, M. Frattoni, A. Guenther, J. Greenberg, P. de Castro Vasconcellos, S. de Oliva, T. Tavares, and P. Artaxo, Atmospheric volatile organic compounds (VOC) at a remote tropical forest site in central Amazonia, *Atmos. Environ.*, 34, 4063-4072, 2000.

[Roberts, G. C., M. O. Andreae, J. Zhou, and P. Artaxo, Cloud condensation nuclei in the Amazon Basin: "Marine" conditions over a continent?, \*Geophys. Res. Lett.\*, 28, 2807-2810, 2001.](#)

Williams, J., H. Fischer, P. Hoor, U. Pöschl, P. J. Crutzen, M. O. Andreae, and J. Lelieveld, Influence of the tropical rain forest on atmospheric CO and CO<sub>2</sub> as measured by aircraft over Surinam, South America, *Chemosphere - Global Change Science*, 3, 157-170, 2001.

Williams, J., U. Pöschl, P. J. Crutzen, A. Hansel, R. Holzinger, C. Warneke, W. Lindinger, and J. Lelieveld, An atmospheric chemistry interpretation of mass scans obtained from a proton transfer mass spectrometer flown over the tropical rainforest of Surinam, *J. Atmos. Chem.*, 38, 133-166, 2001.

Zhou, J., E. Swietlicki, H.-C. Hansson, and P. Artaxo, Sub-micrometer aerosol particle size distribution and hygroscopic growth measured in the Amazon rain forest during the wet season, *J. Geophys. Res.*, 2001, in press.

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## **CLAIRE-2001**

CLAIRE-2001 was conducted in the Manaus region during July 2001. Background information is available in the form of the [Draft Science Plan](#) . Click here for a [report on the CLAIRE-2001](#) campaign (in Portuguese).

Initial results were discussed during a data workshop in Mainz, 2-3 November 2001. The following ideas for data analysis and publication projects have been submitted based on discussions at the workshop (project coordinator in parentheses):

[Characterisation of the atmospheric aerosol at Balbina, Amazonia, during the CLAIRE 2001 campaign: 1\) Sources and daytime-nighttime variations \(Graham\)](#)

[Characterisation of the atmospheric aerosol at Balbina, Amazonia, during the CLAIRE 2001 campaign: 2\) Size distribution and identification of primary biogenic particles \(Graham\)](#)

[Using Radon measurements to analyze and parametrize turbulent transport within an amazonian rainforest canopy \(Simon\)](#)

[Evaluation of surface trace gas exchanges in a single column model using the CLAIRE-2001 observations \(Ganzeveld\)](#)

[Vertical distribution of reactive trace gases over Amazonia during the LBA-CLAIRE 2001 campaign \(Meixner\)](#)

[What can we say about the impact of anthropogenic pollution in the formation of secondary organic aerosols? Observations from a boat platform downwind of Manaus \(Mayol-Bracero\)](#)