



Overview of the CINDI campaign

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The Cabauw Intercomparison Campaign of Nitrogen Dioxide measuring Instruments (CINDI) took place in June-July 2009 at the Cabauw meteorological observatory, a semi-rural site located in the Netherlands, 30 km South of Utrecht. Its main objective was to intercompare a broad range of NO₂ measuring instruments that can be used in support of the validation of tropospheric NO₂ column measurements from satellites with, as primary focus, the assessment of tropospheric NO₂ column and profile measurements using the DOAS and MAXDOAS techniques. The campaign included a formal semi-blind exercise following standards from the Network for the Detection of Atmospheric Composition Change (NDACC), and was followed by a number of additional activities. In total measurements from 32 NO₂ instruments, most of them of DOAS-type but also a NO₂ Lidar, in-situ sensors and a new-developed NO₂ sonde, were collected and intercompared. In addition, a number of other parameters were measured, among them aerosol, HCHO, CHOCHO and BrO. Measurements were also dedicated to the study of horizontal gradients in the NO₂ field and their impact on remote-sensing observations. Various working groups were set up to analyse results, establish uncertainties and progress towards improved and standardized retrieval algorithms. The campaign should result in consolidated trace gas and aerosol data products from both remote-sensing and in-situ techniques, thereby contributing to fulfill the needs for improved vertically-resolved monitoring of the air quality.