

SPECIAL MMM/RAL JOINT SEMINAR



Urban weather observations and fine-casting in the Netherlands

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Urbanization affects human thermal comfort and health, especially for vulnerable groups such as the elderly and people with established health issues. To mitigate heat stress and accompanying excess mortality there is an urgent need of urban weather observations as well as updated tools for fine scale weather forecasting on short to medium-range time scales. In this presentation first an overview will be given of weather observations made within Dutch cities of variable size. Subsequently, experiences with the setup and use of a high-resolution forecasting system for urban areas will be discussed. The forecasting system is based on the Weather Research & Forecasting (WRF) model, which is used to make forecasts for the city of Amsterdam on a very high spatial resolution of 100 meter and which is driven by extensive and very detailed land surface information. The forecasting system has been used to make 48-hourly daily forecasts for the urban and surrounding areas for the summer period of 2015. The forecasts are validated with observations that were taken at 25 automated weather stations at different locations within the city of Amsterdam. Validation is done for parameters that are important for the well-being of citizens in cities such as the temperature, the evening temperature, the humidity and Wet Bulb Globe Temperatures (WGBT). The potential of future use and improvements of the forecasting system will be discussed.

Thursday, 27 June 2019, 3:30 PM

Refreshments 3:15 PM

NCAR-Foothills Laboratory, 3450 Mitchell Lane
FL2-1022, Large Auditorium

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