EMS Annual Meeting Abstracts
Vol. 14, EMS2017-879, 2017
© Author(s) 2017. CC Attribution 3.0 License.

CrowDat@ssimilation: Assimilation of crowdsourced meteorological data in NWP models to improve small-scale weather forecasts

Gert-Jan Steeneveld and Sytse Koopmans
Wageningen University, Wageningen, Netherlands)

Crowdsourcing in meteorology has become more and more a valuable approach. Hobby meteorologists put forward their collected data on websites as netatmo.com, weathersignal.com, wunderground.com. Moreover air temperatures can be estimated from smartphone battery temperatures. This development helps to understand the weather in data-scarce regions. So far, crowdsourced data has mainly been used for academic research by evaluating them against routine observations, and for model validation. However, here we propose to develop the CrowDat@ssimilation tool to evaluate the value of crowdsourced observations in numerical weather prediction via data-assimilation into initial fields of the NWP model WRF. The highest relevance is expected in small-scale processes, and therefore the CrowDat@ssimilation tool will explore three weather phenomena with strong horizontal gradients: 1) the urban heat island effect,
2) a squall line, and 3) a sea breeze.