

## **METEOROLOGICAL DATA FROM NUMERICAL WEATHER PREDICTION OR OBSERVATIONS FOR DISPERSION MODELLING**

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In the U.K. there has been concern at the apparent decline in observing stations able to support the ADMS and like models. The use of computer generated meteorological data from numerical weather prediction (NWP) as a source of input for dispersion modelling has been possible for some years. Although the idea has attracted much interest and discussion, as at NSCA DMUG meetings, relatively few people working in regulatory modelling (RM), local air quality management (LAQM), or environmental impact (EIM) modelling, have had access to test and use these data. Meanwhile the Met Office continues to refine their NWP model known as the Unified Model (UM). This is run every day on global and mesoscale domains, now at ~ 40- and at ~ 4 km resolution. However users of dispersion models such as ADMS have mostly continued to rely upon synoptic observations (OBS). The introduction to the talk briefly summarises the results of an online survey by the NSCA and Met Office which examined model users' experiences and knowledge of NWP versus OBS amongst other issues, training to gain familiarity with and understanding of NWP was a clearly identified need. Different possible regulatory outcomes to applications arising from a change in data was of significant concern. The main part of the talk examines some parallel NWP and OBS data sets that were assembled these use 11 years' global data, or 2 recent years' mesoscale data, with parallel observations from synoptic sites. All data were formatted to suit the ADMS met pre-processor. All sites were in the British Isles. This talk compares these NWP and OBS data and discusses their implications for dispersion modellers. Future work is needed to understand the practical implications for LAQM and regulatory dispersion modelling of a switch to NWP met data. NWP and OBS data should be seen as complementary rather than contradictory, but much more experience is needed to harmonise the use of these different types of data.

**EXTENDED ABSTRACT NOT SUPPLIED**