2016 NOx measurements

- Until May 2015, an Ecophysics ANNOX analyser was deployed for system for measuring NOx but suffered repeated system failures
- Teledyne T200UP Photolytic Nitrogen Oxide Analyzer system deployed to Auchencorth Moss in January 2016
- Data presented is not fully ratified yet

Assessing contributions of other NOx species

- PAN concentrations in Springtime have been measured in the range 0.46 ppb and 1.03 ppb (Malley et al. 2016)
- HONO and HNO3 are measured hourly using the MARGA (Metrohm) instrument
- We have added the NO2, HONO and HNO3 for the period Feb-April 2016
- Slope of comparison between chemiluminescence instrument and photolytic increased from 0.67 to 0.75
- Further work on the fully ratified 2016 dataset is planned

Practicalities

- New calibration system due to be deployed in February 2017 and will calibrate all NOx analysers
- Checks and tests on jNO2 measurement planned
- From 2017 aim to be fully compliant with ACTRIS protocol
- Site ambition to have NRT data for ACTRIS in 2017
- Further investigation of speciated NOx chemistry

Planned work for 2017

- Further studies of the NOx budget at Auchencorth Moss
- Assessment of the quality of the NOx measurements with the T200UP with reference to the recent work by Reed et al. (Atmos. Chem. Phys., 16, 4707–4724, 2016)
- Development of oxidant budget and summary of impacts and relevance to monitoring stations in the UK

References: