

Instrumentation at Mace Head

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Aerosol InstrumentationA wide range of aerosol instrumentation is deployed at Mace Head to measure aerosol micro-physics (nano-SMPS, SMPS, APS, ELPI, CPC), cloud condensation nuclei (DMT & Twomey counters), hygroscopic growth (H-TDMA), scattering (nephelometers), absorption (MAAP, Aethalometer) and Particulate Mass (TEOM). Off-line aerosol chemistry is sampled using Berner and MOUDI impactors while on-line chemistry is measured using the Aerodyne Aerosol Mass Spectrometer. AOD is measured using a precision filter radiometer.

Gas InstrumentationMonitoring of CO₂, CFC's, HFC's is achieved through deployment of gas mass spectrometers. CO₂ and ozone fluxes are also conducted on a continuous basis.

Meteorological and Profiling InstrumentationBasic meteorological products include wind speed, direction, precipitation, visibility, and UV radiation. Advanced meteorological products include micro-meteorology and fluxes. Two ceilometers (Vaisala and Jenoptik) are installed for cloud base determination and aerosol vertical profiling while a microwave radiometer (HATPRO) is deployed to provide meteorological profiles up to 15 km. A MIRA-35 (METEK) cloud radar is also installed for provision of cloud properties and precipitation.

Data InfrastructureAll measurement systems are networked locally and data is transmitted in near real time to NUIG servers. Real time data is available from the facility.