

Quality assurance and quality control of the upcoming ICOS-RI atmospheric dataset

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The Integrated Carbon Observation System European Research Infrastructure (ICOS-ERIC) was launched by the European Commission on November 2015. It integrates atmosphere, ecosystem and ocean greenhouse gas observations to provide timely and reliable data for research, policy making, and the general public. In 2016 the official station labeling process of the ICOS stations has been initiated, and first ICOS atmospheric stations will be announced during the autumn general assembly.

In this presentation we will first present the specifications established for the ICOS atmospheric stations. Those specifications have been defined during the preparatory phase and are annually revised by the Monitoring Station Assembly (MSA) which gathers station principal investigators (PIs) of the ICOS national networks, and responsible of the ICOS central facilities. The two central facilities of the atmospheric components are the Atmospheric Thematic Center (ATC) ensuring that all data are treated in near-real time (24hr) and quality controlled with the same algorithms, and the Central Analytical Laboratories in charge of providing calibration references and analyzing flasks sampled at the stations. ICOS distinguishes two classes of stations. Both class 1 and 2 stations have the same requirements in terms of quality assurance plan for continuous CO₂ and CH₄ measurements, but class 1 stations have to measure more parameters and to perform regular flask sampling. In a second part we will present the continuous time series obtained in 2016/2017 by the most advanced candidate stations to the ICOS labelling, with particular emphasis on quality control aspects of the measurements (e.g. regular target gases measurements).