**The Australian Greenhouse Gas Observation Network – where we are and where we are heading**

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This poster will provide an overview of the Australian Greenhouse Gas Observation Network (AGGON). CSIRO runs AGGON in collaboration with the Bureau of Meteorology and the Australian Antarctic Division, providing continuous in situ measurements of $CO_2$ and $CH_4$ to the World Meteorological Organisation (WMO) Global Atmosphere Watch (GAW) program via the World Data Centre for Greenhouse Gases (WDCGG).

We will describe the calibration strategies that link these data to the internationally recognised calibration scales, providing comparability with similar international datasets available through the WDCGG as hourly means.

The quality control and data processing protocols used in AGGON will be described, and we will present representative data from each site and consider issues such as the impact of moving from minutely to hourly data, the effect of the number of minutes contributing to the hourly mean and the usefulness of the minutely standard deviation information to better understand the dataset. From these examples, we hope to point to some ‘smart’ data selection tools for utilising the data that can help validate Australian terrestrial carbon cycle models.

Finally, we speculate on how we would ideally expand AGGON to provide an optimal dataset for carbon cycle model validation and to provide high quality, low uncertainty top-down estimates of greenhouse gas emissions on a regional to continental scale in support of de-carbonisation initiatives and the Paris agreement.