

Response to comments by Referee #1

Referee comments are provided in grey and author responses in *blue italic style text*.

In this paper Bastviken and colleagues present details on a low cost sensor for measuring CH₄ fluxes in chambers. They also describe a low-cost open source logger. There is a growing interest in development and use of low cost sensors for measuring key biogeochemical processes, and this paper describes a useful new sensor to add to the growing list. The paper is focused on calibration and data processing using this new sensor setup.

One thing that I would have liked to have seen was some real world data using the system - that is a demonstration of field based flux measurements. It is under field conditions where the utility of the sensor needs to be proved. In saying this, I think the paper as it stands is publishable and will make a useful contribution to the scientific literature. The detailed calibration experiments will be extremely useful for the community working on developing similar systems. look forward to seeing "real-world" data collected by the sensor system in the future.

We thank Referee #1 for all work and are glad that our work is considered valuable and important. We will provide examples of real field based measurements in the revised manuscript.