

Interactive comment on “A Decade of GOSAT Proxy Satellite CH₄ Observations” by Robert J. Parker et al.

Anonymous Referee #2

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This is a descriptive and helpful paper on GOSAT XCH₄ proxy product developed by University of Leicester.

Two main comments: First, why have there been 9 Versions of the GOSAT XCH₄ proxy product? A table documenting the version, release date, and changes, would be very helpful. In addition, there is no forward looking discussion. . . , what can we expect for version 10 and upward? What remains or is needed in future, e.g., how will constellations be integrated, or GOSAT2. What is mission lifetime for GOSAT given degradation of instruments, orbit, etc.

For the presented v9, a table summarizing key components is needed, such as spatial and temporal parameters, overpass time, accuracy, etc. Currently, the reader has to dig around for this key information.

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Introduction - Mention/acknowledge there is also GOSAT-2 - Mention the nickname, IBUKI

Section 2.0: - What were the original measurement requirements – please list these as they provide a context for how well this product performs. - Where is the Project Science Office located – mention this as its important to acknowledge the primary data management group.

Section 3.2 - Refer to Sentinel-5 nomenclature when TROPOMI is mentioned - Also, PRISMA and HISUI should be mentioned for their CH4 retrieval potential.

Typo – systemtically

Fig 10 – given how small these figures are, and the size of the grid cel used to represent the XCH4 concentration, the images give the reader a false sense of coverage. I would recommend a new, similar paneled, figure that has something like # of observations, or the cloud mask, to highlight the geographic coverage issue more clearly.

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