

## Summary of the validation on GOSAT-2 TANSO-FTS-2 SWIR L2 Chlorophyll Fluorescence and Proxy-method Product

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NIES GOSAT-2 Project

The column-averaged dry-air mole fractions of methane ( $XCH_4$ ) and carbon monoxide ( $XCO$ ) in GOSAT-2 TANSO-FTS-2 SWIR L2 Chlorophyll Fluorescence and Proxy-method Product (Ver. 01.07) (hereinafter abbreviated as GOSAT-2 PROXY product) are compared with  $XCH_4$  and  $XCO$  in the previous version (GOSAT-2 PROXY product (Ver. 01.04)).

The observation period that overlaps with the previous version at this time is May 1, 2020 to May 18, 2020. The scatter plots of GOSAT-2 PROXY products ( $XCH_4$  and  $XCO$ ) by the global Land and Ocean against the previous version are shown in Figures 1 and 2. Land data are defined for data with a land ratio between 60% and 100%, and Ocean data are defined for data with a land ratio of between 0% and 10%. Only data with the quality flag “good” are used. The number of data compared and the mean and its standard deviation of the difference against the previous version are shown in the figure.

The uncertainty of GOSAT-2 PROXY product (Ver. 01.07) for  $XCH_4$  and  $XCO$  is considered to be equivalent to that of the previous version, because the mean and its standard deviation of the difference against the previous version are very small.

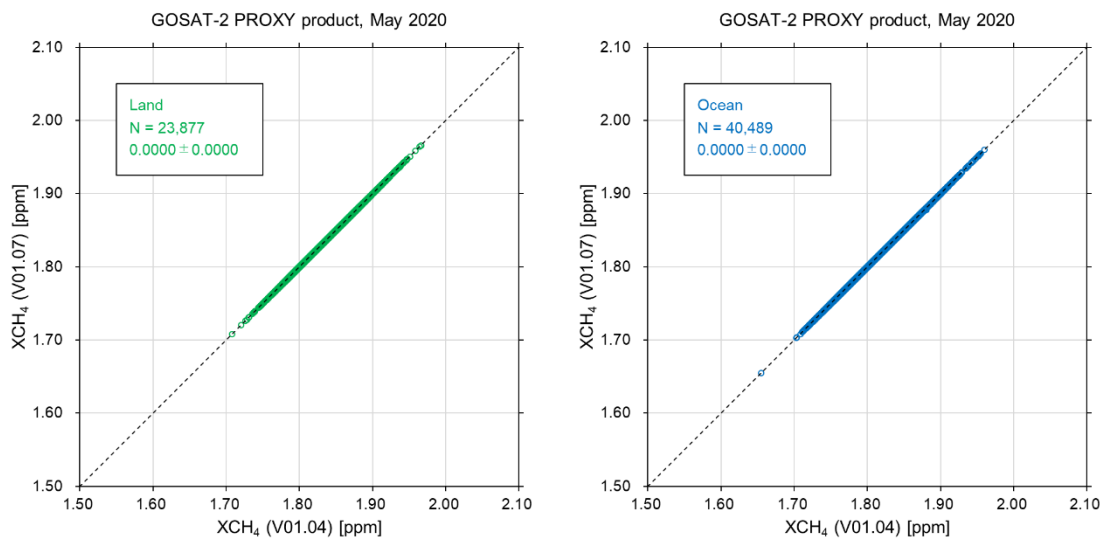


Figure 1. Scatter plots of GOSAT-2 PROXY product ( $XCH_4$ ) by the global Land and Ocean against the previous version (green: Land data, blue: Ocean data).

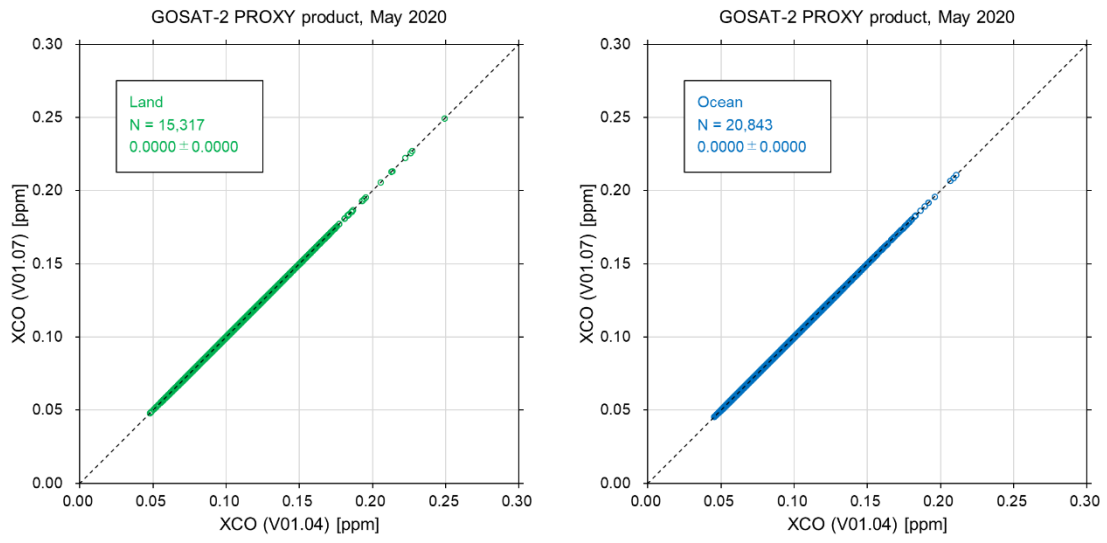


Figure 2. Scatter plots of GOSAT-2 PROXY product (XCO) by the global Land and Ocean against the previous version (green: Land data, blue: Ocean data).