

EARTH OBSERVATION SYMPOSIUM (B1)
GEOSS and Carbon Monitoring from Space (6)

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THE RESULTS OF GOSAT ONE AND HALF YEARS OBSERVATION AND CURRENT STATUS OF
THE SATELLITE

Abstract

The GOSAT stands for Greenhouse Gases Observing Satellite and the nickname is “IBUKI” which means the breath. The GOSAT observes the carbon dioxide and Methane with FTS, Fourier Transform Spectrometer. The GOSAT is able to obtain the shortwave infrared data and thermal infrared data simultaneously. JAXA launched the GOSAT on January 23, 2009 and has been collecting observation data, the calibration and the validation since April of 2009. The calibration and validation have been performed by JAXA and NIES in participating with ACOS team. ACOS team is organized by NASA/JPL and stands for Atmospheric Carbon Dioxide Observations from Space. At the end of October an initial calibration of Level 1 data products, radiance spectrum observed by GOSAT, had been completed and we had begun to release them to general users. In mid-February of 2010 we completed an initial validation of Level 2 data, concentration of Carbon Dioxide and Methane, and we had started the distribution of the concentration data. In the initial validation phase, the results of the GOSAT data analysis were compared with the validation data obtained by the ground station and the airborne sensor. The global distributions and seasonal changes of the results of the GOSAT data analysis were broadly consistent with those of the reference data. The relative accuracy of the column-averaged volume mixing ratios of Carbon Dioxide were about 4 ppm, but the value is about 7 to 10 ppm lower than the validation data. In this presentation, I will introduce the result of the initial calibration and validation, and the products like the Column-averaged volume mixing ratios of Carbon Dioxide and Methane over each month and the initial estimation of the monthly values of regional Carbon Dioxide fluxes using both the GOSAT data and the ground-based observation data. Additionally, I would like to introduce how to obtain the Carbon Dioxide and the Methane concentration data acquired by GOSAT.