

Global carbon observations by GOSAT series

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Greenhouse gases Observing SATellite (GOSAT) has been monitoring atmospheric column carbon dioxide (XCO_2) and methane (XCH_4) concentrations from space since its launch in January 2009. The primary goal of GOSAT project is to successfully estimate global carbon budget on subcontinental scales using spatiotemporal distribution of XCO_2 and XCH_4 . GOSAT observations have provided the basis for assessments of the values of space-based measurements of CO_2 and CH_4 concentrations. This work summarizes the benefit of GOSAT observations for the study of global carbon cycle based on previous studies using GOSAT data, together with limitations in data coverage and density. Then we discuss scientific issues that should be addressed in future missions of greenhouse gases satellites observations.

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