
[EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CG Complex & General

[A-CG36]Satellite Earth Environment Observation

convener:Riko Oki(Japan Aerospace Exploration Agency), Yoshiaki HONDA(Center for Environmental Remote Sensing, Chiba University), Yukari Takayabu(東京大学 大気海洋研究所, 共同), Tsuneo Matsunaga(Center for Global Environmental Research and Satellite Observation Center, National Institute for Environmental Studies)

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In recent years, we cannot avoid facing issues on global environmental changes that occur in various spatiotemporal scales. The earth environmental observation data by satellites became the necessary basic data to tackle and solve those issues. Due to the recent advancement in the observation sensor technique and the data processing technique, the satellite observation has been showing rapid progress, and the time is changing from examining the accuracy of the observation sensor data to the advancement of the data application, leading to broaden potential users. In these days application became synergetic, so we comprehensively pick

up this topic in the Atmospheric and Hydrospheric Sciences Session of this Union Meeting that enables to comprise the atmospheric, oceanic and land sciences; by combining the intelligence and the knowledge of the party, we propose a session that aims to prompt further studies towards the issues on earth environmental change, the advancement in the data application and future plans of Earth Observation missions.

[ACG36-P26]Recent progress of GOSAT project and preparation for GOSAT-2 at National Institute for Environmental Studies (NIES)

*Tsuneo Matsunaga¹, Kamei Akihito¹, Shamil Maksyutov¹, Isamu Morino¹, Yukio Yoshida¹, Makoto Saito¹, Hibiki M Noda¹, Hirofumi Ohyama¹, Fumie Kawazoe¹, Yukio Terao¹ (1.Center for Global Environmental Research and Satellite Observation Center, National Institute for Environmental Studies)

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GOSAT (Greenhouse Gases Observing Satellite) and GOSAT-2 are Japanese Earth observation satellites for greenhouse gas observation from space and jointly promoted by Ministry of the Environment, JAXA (Japan Aerospace Exploration Agency), and NIES (National Institute for Environmental Studies). GOSAT was launched in January 2009 and has been operating for more than nine years. GOSAT-2 will be launched in FY2018. NIES is responsible for generation, archiving, validation, and distribution of higher level standard and research products of GOSAT and GOSAT-2.

GOSAT's standard products such as FTS SWIR level 2 CO₂ / CH₄ / H₂O column amount products (V02.72, April 2009 - present), FTS TIR level 2 CO₂ / CH₄ profile products (V01.20, April 2009 - May 2014), and level 4A CO₂ / CH₄ flux products (CO₂: V02.05, June 2009 - October 2015, CH₄: V01.03, June 2009 - September 2013) are freely available from GDAS (GOSAT Data Archive Service). FTS SWIR level 2 standard products are validated using data from TCCON (Total Carbon Column Observing Network).

GOSAT-2's standard and research products similar to those of GOSAT will be generated by G2DPS (GOSAT-2 Data Processing System) which is currently being developed and available from a dedicated website, GOSAT-2 Product Archive. For validation of GOSAT-2 products, several new ground-based measurement stations, such as a TCCON (Total Carbon Column Observing Network) station in Philippines, a SIF (Solar Induced Fluorescence) station in Shiga, and urban air in-situ measurement and sampling stations in Tokyo, are established.

GOSAT RAs (Research Announcements) were issued eleven times in 2008 - 2017 to promote scientific researches using GOSAT data. GOSAT RA PIs (Principal Investigators) have several privileges such as access to GOSAT standard products earlier than general users, access to research products and other technical information, and a right to submit FTS observation requests. In total, more than 120 joint research contracts with scientists from more than twenty countries were concluded under GOSAT RA framework. GOSAT-2 RA is now being prepared and will be issued before GOSAT-2 launch.