
[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-P28] Validation for summer precipitation of GPM/DPR in Mongolian and Siberian regions

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North eastern Eurasia PMM Terrestrial UNited validation Experiment (NEPTUNE project) aims for comprehensive validation of precipitation (rain) in summer, precipitation (snow fall) in winter and their spatial distribution based on ground truth data obtained by our observation network which has been improved in Northeast Eurasia. We could get certain numbers of synchronised events between GPM/DPR and surface observation in 3 summers (2014-2016) at 2 gauge sites in Siberia, 10 gauge sites and 1 radar region near Ulaanbaatar in Mongolia, respectively.

The GPM/DPR, KuPR and KaPR ES data showed good correspondence with rain records of surface observation. For gauge station, most of rain events correspond to each other within a few hours. Rain events in Mongolia were detected as stratiform with higher clutter free bottom with more than 1000m above surface. In case of rain in mountainous region observed by precipitation radar in Ulaanbaatar, GPM failed to detect the precipitated region likely due to higher topography. Extended convective rain events could be observed in Yakutsk in July 2016. The event showed lower clutter free bottom (530m above surface) with higher storm top height (9200m) thick intensive rain layer (530m to 3375m with 15mm/hour of rainfall intensity), which was never found in case of Mongolia.