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

## [A-CG36]Satellite Earth Environment Observation

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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.

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## [ACG36-P24]ENSO Tropical Cloud and TOA radiative signatures from CERES observation

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The Clouds and the Earth's Radiant Energy System (CERES) project now has over 17 years accurately observed top-of-the-atmosphere (TOA) flux record for climate monitoring and diagnostic studies. The *CERES FluxByCldTyp* dataset, which contains cloud properties and radiative fluxes for 42 cloud types sorted by cloud top pressure and cloud optical depth, is used to investigate the clouds and their associated TOA (top-of-the-atmosphere) fluxes changes over the tropical area during ENSO events during the observed period. Unlike past studies, this study shows the impact of ENSO on cloud properties like optical depth, cloud top effective pressure and temperature and TOA LW and SW fluxes for each sub cloud type. The study reveals the detailed contributions from different cloud types for radiative characteristics during different regimes of ENSOs. This is especially important for very small net TOA radiative balance due to the cancellation of the fluxes from different cloud types. *The dataset serves as a more stringent validation of climate models for cloud properties and radiative fluxes.*