
[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-P23]Satellite Gravimetry-Land Surface Model for Evaluating Drought and Water Scarcity in Arabian Basin

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Separating drought and water scarcity particularly in region with low of water resources must be well considered. As both of these terms have different definitions, mixing up drought and water scarcity might lead to inefficient water management strategies. In this study GRACE-satellite based observation was integrated with LSM derived from GLDAS. The stated approach distinguished the natural variabilities (drought) and human influences (water scarcity) in Arabian Basin, Saudi Arabia. It's noticed that the Total Water Storage (TWS) change caused by natural variabilities was rather stationary and tend to slightly increase during the study period (2007-2016). In contrast, TWS change influenced by human activities has been continually decreasing. Several severe drought occurred and caused water deficiency. However, the drought severity is relatively low in comparison with water scarcity severity. Integration of satellite remote sensing data with global hydrological models could be an innovative tool to help decision-makers to adapt water plans in effective and practical way.