Application of The Gravity Recovery and Climate Experiment(GRACE) Data in the Study of Groundwater Hydrogeology

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Abstract

The Gravity Recovery and Climate Experiment (GRACE) data helps to determine the total water storage anomalies (TWS) across the global scale. The various other important components such as Groundwater storage (GWS) and evapotranspiration for the region of South –East Asia has been determined. With the study of the gravity variation across the globe the long term changes in the hydrological cycle can be determined which can be related to climate science or the influence of anthropogenic activities. The variation between the Groundwater storage (GWS) and the Total water storage (TWS) of the study area has been calculated for the pre and post monsoon season of the study area. The variation of the groundwater storage and the total water storage can be visualized through geospatial analysis. Therefore, the regions with a substantial decrease in water storage can be related to various climate and anthropogenic factors hence implying a sustainable use of groundwater as a resource.

Keywords: Machine Learning, Remote Sensing, Groundwater Recharge, Climate science.