

Brainstorming Session
on
Satellite Observations and Modelling of GRACE Data for Terrestrial Applications
(to be held Online on 9th February, 2021)

The terrestrial ecosystems across several parts of the world, including India are facing the impact of water scarcity, natural hazards like earth quakes, landslides, floods and droughts, climate change, crustal deformations etc. warranting the need to understand, evaluate and combat them in real time basis. A number of observation systems viz. satellite, airborne, Drone and In-situ are utilized to monitor and model the data to make an integrated assessment of the resources and the processes in time and space. Water as a natural resource is in demand by multiple stakeholders and its equitable sharing among its expanding base is becoming a major issue. Added to this the uneven distribution of the resources, and the unpredictable changes in behaviour of various hydrological components including glaciers are resulting in increased frequency of droughts and floods along with the anthropogenic impacts on quality and quantity, are making the management of water resources more complex. Similarly understanding the crustal and surface dynamics and the resulting earth quakes, landslides, crustal tectonic events, changing climate etc. still remain to be effectively addressed by the scientific community.

The GRACE and GRACE FO missions have brought in a new and innovative perception along with huge datasets and data products to address most of these challenges associated with the terrestrial processes and dynamics on a regional scale. A number of data products derived from the gravity observations focussed around 'Total Water Storage (TWS)' and its transient variations are available for these Missions. Though an intelligent use of these products has led to deal with water resources and other extreme events on a regional scale, it is rather difficult to find satisfactory solutions to the local challenges despite the scope to utilise the field data for the development and validation of suitable algorithms. At the same time use of GRACE data sets and products in conjunction with the available field observations can address many of the contemporary challenges associated with the terrestrial ecosystems at finer scale.

To deliberate these challenges and to cross-fertilise ideas to use GRACE/ GRACE FO data in conjunction with other observations, **a brainstorming session is proposed to be held on 09th February 2021 as a virtual event.** The brainstorming session is aimed to provide updated knowledge on emerging trends in the field of satellite observations and modelling for Hydrological applications, Natural disasters like earth quakes, landslides, Crustal deformations, Climate change, etc.

Researchers are invited to actively participate in the proposed event and contribute their perceptions and ideas to develop a national programme on this topic. Interested scientists are requested to send an **abstract of their ideas to address specific challenges and the approach** to address the same to Dr. V.M.Tiwari, Director, CSIR-NGRI, Uppal Road, Hyderabad. The **participants may also provide their very brief CV along with the abstract on or before 4th February 2021** to virendra.m.tiwari@gmail.com, director@ngri.res.in with a copy to Dr. Shubha Pandey, Scientist, National Geospatial Division-DST, Government of India (shubha.p@nic.in).
