GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES

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PRESS RELEASE

HIMANSH, India's remote, high-altitude station opened in Himalaya

Himalayan region has the largest concentration of glaciers outside the polar caps, as this region is aptly called the "Water Tower of Asia" is the source of the 10 major river systems that provide irrigation, power and drinking water for over 700 million people live in India, Pakistan and Bangladesh– nearly 10% of the world's population. Understanding the behaviour of these glaciers and their contribution to the sustainable supply of water for mankind and agriculture is one of the grand challenges of Indian scientific community.

As part of the Indian government's initiatives to better study and quantify the Himalayan glacier responses towards the climate change, National Centre for Antarctic and Ocean Research (NCAOR), Goa, under the Ministry of Earth Sciences has established a high altitude research station in Himalaya called HIMANSH (literally meaning, a slice of ice), situated above 13,500 ft (> 4000 m) at a remote region in Spiti, Himachal Pradesh.

The station was unveiled by Dr. M. Rajeevan, Secretary to the Ministry of Earth Sciences, Govt of India, on Sunday 9th October 2016, in presence of Dr. M. Ravichandran, Director of National Centre for Antarctic and Ocean Research. The station houses many instruments to quantify the glacier melting and its relation to changing climate. Some of the instruments that are available at this research facility include, Automatic Weather Stations for weather monitoring, water level recorder for quantifying the glacier melt, ground penetrating radar to know the thickness of glaciers, geodetic GPS systems to study the glacier movements, snow fork for studying snow thickness, steam drill, snow corer, temperature profilers, as well as various glaciological tools. Further, the researchers would be using this as a base for undertaking surveys using Terrestrial Laser Scanners (TLS) and Unmanned Aerial Vehicles (UAV) that would digitize the glacier motion and snow cover variations with exceptional precision.

The ongoing initiatives by NCAOR would contribute to the integrated study the glaciers in the upper Indus basin (Chandra basin) in Himachal Pradesh and their contribution to discharge. According to the UN data, the contribution of snow/glacier melt in annual stream runoff is substantially higher (>40%) in Indus basin as compared to Ganga and Brahmaputra basins (<10%). Therefore, understanding the glacier mass balance and their contribution to the Indus River is more critical than other basins towards the understanding on the impact of glacier retreat on the water cycle in the northern India and Pakistan. Some of the bench mark glaciers that are already being studied under this project include Bada Shigri, Samudra Tapu, Sutri Dhaka, Batal, Gepang Gath and Kunzam. An integrated study using glaciological, geodetic, glacio-hydrological methods will shed light on the glacier response to the changing climate in this region and will also quantify the contribution from glacial melt water to the river discharge in Indus basin. "Himansh" will provide the much needed fillip to the scientific research on Himalayan glaciers and its hydrological contribution.