Short Course on Geospatial Technology Applications in Hydrology and Water Resources

16 October 2023 to 3 November 2023

The duration of the course is three weeks. First two days will be devoted to Remote sensing and GIS Basics, another one and a half weeks will be focusing on Applicatiosn of geospatial technology in water resources and last one week will be for project work along with educational/cultural visit.

Week – I (Days 1-2) Remote Sensing and GIS Basics

Remote Sensing, EO platforms & sensors; Digital image interpretation; fundamentals of GIS/GPS,

Week – I Days (3-5) Overview of Water Resources & Hydrology

Overview of Application of Remote Sensing in Water Resources; Surface Water, Snow, Glacier Feature Mapping and Monitoring using Remote Sensing; Quantification of Hydrological Elements using Remote Sensing (Precipitation)

Week – II Days (6-10) Advanced Lectures

Quantification of Hydrological Elements using Remote Sensing (Evapotranspiration, Soil Moisture); Application of Geospatial Technology in Irrigation Water Management; Digital Elevation Model (DEM) and its Applications in Water Resources; Hydrological Modelling using Geospatial Inputs & Assessment of LULC and Climate Change; Space Based Water Level Estimation & Applications in Hydrology ; Soil Erosion/Sediment Yield Modelling using Geospatial Inputs; Reservoir Sedimentation Assessment using Remote Sensing; Site Suitability for Water Harvesting Structure; Flood Inundation Mapping, Damage Assessment and Modelling using Remote Sensing; Assessment and Monitoring of Droughts using Remote Sensing and Modelling Inputs; Ground Water Targeting and Recharge Estimation using Geospatial Tools

Week – III Project Work

The candidates are encouraged to bring their own datasets and problem for the project work.