Possible role of Arctic amplification on weather extremes in the Himalayan region

One of the prominent manifestations of climate change is the rapid warming of the Arctic in recent decades as compared to rest of the globe. This accelerated warming of the Arctic, also referred to as Arctic Amplification (AA), is associated with strong reductions in the Arctic snow cover, sea-ice extent and decrease of poleward temperature gradient. A number of recent studies have drawn attention to the impacts of AA on changes in the boreal summer atmospheric circulation and high-impact extreme events over the Northern Hemispheric (NH) mid-latitudes. Although the Himalayan region has witnessed several flood-producing precipitation extremes in recent times, it is not yet clear whether the Himalayan precipitation extremes have linkages to climate change and AA. This talk will focus on this scientific issue and present future plans related to climate change attribution of Himalayan precipitation extremes using the IITM Earth System Model (IITM ESM).