

Earth Surface Processes (EH 601)

Introduction to earth surface processes and historical development in concepts, Source of energy, Mass conservation and geomorphic transport laws, Process interaction in shaping the earth surface, Nonlinear and complex behavior of earth systems. Specific Earth Surface Processes: Weathering and formation of soils, karst and speleology, slope and catchment erosion processes, fluvial, eolian, glacial, periglacial and coastal processes, and resultant landforms, Water and sediment flux in river systems, drainage pattern; rates and changes in surface processes; process measurement, Geochronology; earth system response to external controls i.e. tectonics, sea level/base level change, anthropogenic affects, Human interaction, introduction to Anthropocene; quantitative modeling of earth surface processes – Geomorphic systems; Diffusion, Advection . Analysing evolutionary trajectory of the landscapes; surface processes and natural hazards; Nonlinear behavior of earth systems and challenges in natural resource managements, Prediction of surface processes, An introduction to the earth surface of India.