



The relative importance of relief, hydroclimate and human activity as drivers of environmental change in mountain regions

O. Slaymaker
(olav.slaymaker@ubc.ca)

At longer, geological time scales relief is the dominant driver of environmental change and is a function of the rate of movement of global tectonic plates. At shorter, anthropocene time scales, hydroclimate and human activity vie for the role of dominant driver. It is anticipated that at future time scales human activity will become progressively more dominant. Mountain regions, representing about 20% of the terrestrial surface area of the globe, are by definition steep, high elevation regions which differ spatially in their absolute rates of change as a function of relief, hydroclimate and human activity. Global relief variations are characterized in terms of elevation and local elevation range. Superimposed on relief variations are global climate variations which are often closely correlated with relief.

The question which engages greatest attention today is the extent to which environmental disturbances, whether hydroclimatic or anthropogenic, are indexed by sediment flux. In order to answer this question at global scale it is necessary to invoke a typology of mountain regions which is equally sensitive to both hydroclimatic and anthropogenic disturbances.

Examples are drawn from tropical, temperate and polar mountain environments.