Seasonal patterns of precipitation vary considerably along the Himalayan arc from substantial summer monsoon maximum in the south-east to winter precipitation maximum with drier summers in the north-west. In the south-east, river flow is reduced in summer in basins at higher elevations by snowfall raising albedo of glacier surfaces and reducing meltwater production, whereas at lower elevations river flow is augmented by monsoon rainfall. In the west, glacier ice-melt provides most of the summer flow. Year-to-year variations in river flow therefore respond to differing climatic signals. Year-to-year variability and long-term trend of precipitation and summer air temperature have been examined for stations distributed along the length of the Karakoram-Himalayan ranges. Air temperature trend varied according to location, with increases in the later part of the twentieth century only at stations at higher elevations in the south-east. Total annual precipitation showed large year-to-year fluctuations, but with little trend from the 1900s to the 1990s, though varying from area to area. Discharge data for the Ganges are limited and totally missing for India since the 1970s. For the upper Indus, runoff declined from the 1970s to the 1990s, but the trend of flow in tributaries of the Ganges arising in Nepal is not clear. It is therefore difficult to identify the overall pattern of how runoff trends have responded to changes in monsoon precipitation and air temperature along the Himalaya.