

# THE CHANGING FREQUENCY OF DROUGHT IN NEPAL

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## ABSTRACT

Drought is a disastrous natural phenomenon that has significant impact on socio-economic, agricultural, and environmental aspects. Recent and potential future increases in global temperatures are likely to be associated with impacts on the hydrologic cycle, including changing pattern and shifting in precipitation which enhances the frequency in drought occurrence. Based on 76 meteorological stations, which cover the period of 1982-2012, we analyzed the presence of trends and frequency of drought over Nepal. In order to define drought conditions we used the Standardized Reconnaissance Drought Index ( $RDI_{st}$ ). It has been revealed that all the three kinds (moderate, severe and extreme) of droughts occurred in Nepal. During the year 1989, 1992, 1994, 2005, 2006, 2010 and 2011, most of the stations in all five development regions experienced moderate drought condition. More than 43% of the stations were affected with extreme drought conditions during the year 1982, 1984, 1987, 1988, 1989, 1990, 1991, 1992, 1994, 1998, 1999, 2000, 2004, 2005, 2006 and 2010, and were located mainly on the eastern and western development regions of Nepal. Most of the drought events that affected the great portion of Nepal were recorded during 1990s and 2000s, although prolonged period of drought were recorded during 2004-2011. A linear trend analysis between 1982 to 2012 showed increase in drought frequency in latter stage, mostly in western region of Nepal.

**KEYWORDS:** Drought, Nepal, Frequency, Standardized Reconnaissance Drought Index ( $RDI_{st}$ )