



Precipitation tendencies and temperature rise evidences in ten watersheds in Mexico

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Recent observations from diverse studies have shown a global scale temperature rise which in consequence, have brought up the need to propose various impact scenarios of this change on the planet and its life forms.

Climate changes have a direct effect on human activities. Particularly these alterations have a negative impact on economy which in turn affects the most vulnerable and marginal population on developing nations.

With the purpose of knowing the tendencies of temperature and pluvial precipitation in Mexico, 30 years of climatological data were analyzed from the period between 1970 and 1999, for 10 watersheds. At each watershed we selected at least 10 climatological stations from the net that operates the National Meteorological Service (Servicio Meteorologico Nacional), through the CLICOM database (Computerized Climate database). The climatological stations have at least 70% valid data per decade. The analyzed variables were pluvial precipitation, maximum and minimum daily temperature, which were integrated by watershed and thereafter, by decades (1970s, 1980s y 1990s). From data analysis, in general a temperature rise is evidenced at all basins, as well as longer periods of hot weather. The temperature rise oscillates between 0.5 to 1 °C every 20 years with a 95% confidence level, which is more evident in the case of maximum temperatures. As for pluvial precipitation, the numbers of precipitation days have a negative tendency.

The result of the study suggests that there is a risk in the water availability, given that there are evidences from a tendency of temperature rise and pluvial precipitation decrease. It also indicates the need to carry out more detailed studies at each watershed, as well as a constant climate monitoring and its variability.