



Air and permafrost temperature at Mt. Melbourne (1989-1998)

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Ten years, from 1989 to 1998, of continuous recording of air and permafrost temperature at Mt. Melbourne has been analysed considering daily and seasonal changes. Published historical temperature observations in this area are absent. Temperature signals have been recorded by a permanent geophysical network operating since 1989 on Mt Melbourne volcano composed of five stations each equipped with four temperature sensors installed at different depths with a 48 data/day sampling. The network has been very reliable over the 10 years recording period. Four of the five stations of the network collected data are able to furnish indications on the long-term trend of temperature in this area. This analysis has been realized considering the deepest sensor data (T3 at -2.5m) that are characterized by the lowest noise. All stations show negative trends ranging between -0.3 and -0.82 °C/decade. These results fall within the framework of several studies on climate in Antarctica that report a wide cooling area recorded in Victoria Land East Antarctica during the 1980's and 90's.