In the paper is studied the influence of environmental changes on four selected natural healing sources situated in the area of Františkovy Lázne spa. Two shallow and two deep natural healing sources were selected for the investigation. These natural healing sources were continually measured by the automated measuring equipment from the year 2000 to the year 2010. We compared both the air temperature with the water temperature of natural healing sources Cartellieri, Palliardi, Nový Kostelní and Stanislav and the quantity of precipitation on elevation surface of these natural healing sources. Moreover, the influence of seismic activity on the temperature and surface height of water was also measured. During the period of investigation, the analysis of measured data has not proved any fundamental influence of environmental changes on the particular natural healing sources. Stationary reaction of these natural healing sources water to the air temperature has been recorded. However, as far as the precipitation is concerned, no similar influence on the elevation water surface has been documented. In the period of monitoring there is no evidence that the observed seismic activity was influenced either the natural healing sources surface height or their temperature. Additionally, the study also specifies various anthropogenic influences on regime changes and the quality of natural healing sources in the Františkovy Lázne spa.