This thesis is deals with the running geodynamic activity of NW Bohemia, where frequent earthquake swarms and natural CO_2 emanations occur as a possible fade-out of the Tertiary rift activity. The first part summarizes the nature of these geological phenomena with a focus on CO_2 escapes and its characteristics. These escapes are viewed from the viewpoint of geology and chemical and isotopic composition along with the effect of earth tides, barometric pressure and seismic activity. In the second part I analyse the records of two CO_2 monitoring stations in terms of atmospheric pressure and ambient temperature.