

Abstract: The presented thesis deals with the flowing of air in the tertiary circulation. We divide tertiary circulation into two categories: local winds and local wind systems. Local wind systems arise from different absorption of solar radiation of two different surfaces which border together and the phenomena classified in this category are breeze circulation, mountain-valley circulation, country breeze, glacier wind and forest wind. Local winds arise from local impacts on secondary circulation. Flowing of foehn, flowing of bora, desert wind and mountain gap wind are classified in this category. Then we deal with specific manifestation of winds and with their names. The names of the winds are frequently derivatives of the names of the localities or cardinal points from which the wind is blowing, of the winds' localities or manifestation of the wind. It is difficult to understand the names. For example, in south Africa they call the foehn „Berg Wind“, which means mountain wind, because it is blowing from the direction where the mountain range is situated. Then we have chosen some eminent cases of occurrence of the local winds. We have worked out case studies of Föhn in Altdorf, Switzerland (April, 2012), of Bura in the city of Senj, Croatia (November, 2004), of breeze circulation in Vigo, Spain (July, 2012) and of mountain-valley circulation in Torbole near Garda Lake, Italy (May, 2013).