

Topic and aims of the thesis

Presented PhD thesis summarizes broadly conceived research of the relief development in the valley of the Losenice, a minor stream descending the steep outer slopes of the Šumava (Bohemian Forest) Mts. The thesis presents an overview of the knowledge, gathered throughout several years of intensive research in the target area, as well as in its surroundings in the Šumava and Pošumaví regions.

The conception of the thesis is based on a set of reviewed scientific publications, which were published during the almost six years and which were supported by several consequent research grants and projects, systematically aimed at the research of geodynamics and current processes in selected parts of the Šumava Mts.

The chief aim of the work was to establish a valid hypothesis on the development of the outer slope of the Šumava Mts., particularly in the catchment of the Losenice River. To fulfil this aim, following partial goals were set:

- to perform a complete, systematic and detailed geomorphological mapping of the target area, analyse the forms and processes with particular aim at current and recent dynamics Based on the character, intensity and spatial relationships between the processes formulate hypotheses on the development of the area.

- to design, build and run a monitoring network for observation of current slow gravity movements and to analyse the gathered data in order to assess present day dynamics and velocity of these processes on selected sites.

- to perform a detailed survey and mapping of the northwards outspur of the Valy Hill, where are situated remnants of Celtic fortifications of Obří Hrad, to analyse current geomorphological processes and to assess possible endangering of the cultural heritage site

- to formulate a hypothesis on the development of the area of interest, in particular to outline the valley network formation and slope development

The areas of interest

The thesis deals with three levels of target areas, on different scale, with varying methodics, extent as well as detail of elaboration. The

largest AOI included practically the whole NW Šumava and Pošumaví, approximately limited by a line Nýrsko – Horažďovice – Strakonice – Husinec – Křišťanov – Nová Pec. Here, naturally, mostly the methods of digital data analyses were employed due to the extent of the area.

The elementary level of the work is the catchment of the Losenice River above the confluence with Zlatý brook. This dissected, forested area of approximately 35 km² is situated on the outer main slope of the Šumava Mts. and was subject to detailed geomorphological mapping in the scale 1:5000.

The most detailed level of mapping was aimed at the eastern slope of the northwards outspur of Valy Hill, under the remnants of Celtic fortifications at Obří Hrad. This site is particularly interesting, primarily due to the parallel between the archaeological memorial and the active slope processes.

Structure of the thesis

The thesis consists of 9 articles, published in peer-reviewed scientific journals, connected by inset chapters, which complete the work into a logical and coherent manuscript. The articles are covering various aspects of the author's research in the area of interest, in some cases together with co-authors, either close co-operators of the author or specialists in particular discipline, necessary in the research.

Aside from the articles, the thesis includes chapters, which either contribute to the overall coherence of the thesis, or bring information on yet unpublished parts of the research.

The chapter Introduction describes the structure, goals and problematic, discussed throughout the thesis. It is followed by a second chapter describing the relevant information on the AOIs, mostly based on the published literature. The chapter is divided into two parts: first, dealing with the wider area of Šumava and Pošumaví, chiefly with its geological and climatic history and conditions. The second part, concentrated on the catchment of the Losenice R., briefly informs about its geological setting and also about the scarce geomorphological research, performed in the area. The chapter includes first of the articles (Hartvich 2005a). Following chapter Methods describes the various techniques, methods and research steps performed throughout the research in the AOI. The chapter is rather brief as many of the detailed methodics descriptions is included in the articles, referred to directly in this chapter. The fourth chapter "Geomorphological

analyses” consists basically from the published papers (Hartvich a Vilímek 2008, Hartvich 2005b, Hartvich 2005c) and includes a detailed analysis of the results, which serve as inputs into the synthesizing chapters 5 and 6. In the fifth chapter, special interest given to the recent and current processes, occurring in the AOI, particularly in the most active area around Obří Hrad site. Finally, the sixth “summary of the results” and seventh “conclusions” chapters close the thesis. The sixth chapter offers a brief and structured overview of the most important findings, ordered by the method used, which allows easy navigation and at the same time opportunity to see the possibilities of each method. The conclusions are divided according to the levels of scope (NW Šumava, Losenice valley and Obří Hrad site). The thesis also contains twelve poster-like attached supplements, which present a high-quality, colour sketches, charts, photos and maps, illustrating the text.