Research of geodynamic phenomena in the vicinity of Obří Hrad, Šumava Mts.

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Goals and Methods
- Research is aimed at estimating possible endangerment of the archaeological site as well as understanding the relief past and current development.
- Chief investigation methods: geomorphological mapping, numerical modeling, GIS-assisted analyses, cooperation with archaeologists, geophysicists.

Keywords
- Geomorphological mapping, archaeological site-exodynamics, dilatometric measurements, landslides, Šumava Mts.

Introduction
- Area of interest: catchment of the Losenice R.
- Geological situation: various pressures with rare introductions of split, quartz, schists, etc.
- Strongly developed foliation.

Archaeology
- Remains of rocky terraces in the Saale area, from Eocene-Holocene.
- Archaeological research since 20th century (Dr. Schrader, Horváth, Stabura).
- Trace of repair in the wall (possibly?)
- Unclear function of the site (village, burial site, religious centre...), possibly between 6th and 1st century B.C.
- Saale period: 7,8,9,10,11,12.
- Terraces formation up to 5 m in nearby localities.

Monitoring
- Hole dilatometric measurements targeting on 2 events: "The Gale" - 12 measurements in 7 groups.
- Study area, originally considered as an entrance to the citadel (but movements too low to be readable - maybe developed after the collapse?)

Geomorphology
- Mapping: GPS-assisted geomorphological mapping.
- Research: orientation in difficult terrain documentation points.
- Geomorphological inventory map: first step towards a synthetic general map.

Landslides
- Conditions of sliding under Obří Hrad:
  - Significant load-bearing construction of the site.
  - Erosion of the barrier - around 40% of the area.
  - Water loss due to the weakening or delamination zones.
  - Understanding of the slope by the lateral erosion of the Losenice R.

Sediments
- Main interests:
  - Mapping and evaluation of the flood sediments (particular in 2002 flood).
  - Research of the silurian cover, particular its numerous block fields.

Valley profiles
- Longitudinal profiles: identification of titrations anomalies.
- Transversal profiles: input for slope development analysis and comparison with structural parameters (blades).

Extreme events
- August 2002: severe long-lasting rain in the whole Šumava hills.
  - Losenice R.: estimated discharge 150 m³/s (average 0.7 m³/s).
  - Significant damage on the parallel road.
  - Symmetry of the morphology consequences (2002-03) and remapping of their changes after 2 years (2004).

Discussion of results
- General plan of valleys is strongly influenced by the fault system.
- Morphology of the site is in result of asynchronous activity of the inner rock structure and exogenous processes, in particular river incision and slope processes.
- Three processes are at work; although this has been the site.
- It is necessary to evaluate the study.

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References


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