

Mojmír HRÁDEK, Ireneusz MALIK

**DENDROCHRONOLOGICAL RECORDS OF THE FLOODPLAIN MORPHOLOGY
TRANSFORMATION OF DESNÁ RIVER VALLEY IN THE LAST 150 YEARS, THE HRUBÝ
JESENÍK Mts. (CZECH REPUBLIC)**

A system of palaeochannels, covered with trees, was discovered in the floodplain of the Desná River Valley. In the course of previous floods, new erosion channels were formed and gradually forested. Trees were wounded or even killed by transported boulders, gravel or ice floes. As a result, ring reductions and abrupt growth releases occur in tree trunks. Eight cores and two root samples from trees growing in the floodplain were taken to investigate the origin of the palaeochannels, as well as the floods and erosion events occurring in the same period. The results of these dendrochronological investigations were compared with historical and hydrological data. These analyses have shown that the palaeochannel system was probably formed during the great flood in 1897. The morphology of palaeochannels was changed during the floods of 1921, when a lot of trees were killed and abrupt growth releases occur within surviving tree trunks. Tree ring reductions occurred after the floods in 1938 and 1947. Dendrochronological results suggest that the river floodplain was transformed in the first half of the 1950s, as well as in the second half of the 1960s. River floodplain transformation took place most recently in 1997, when the flood eroded the channel banks and exposed some tree root systems.

Jaromír KOLEJKA

**PHYSICAL GEOGRAPHY AND CRISIS MANAGEMENT –A TOPICAL CHALLENGE FOR
APPLIED GEOGRAPHIC RESEARCH**

The various possible ways in which physical geography can contribute to more effective crisis management (CM) – at the stages of prevention, planning of interventions, the operative solution of the event, short- and mid-term measures and long-term mitigation – are discussed in this paper. Current research concerns the classification of harmful phenomena in the environment (as perceived by the participants), their origins, occurrences and spatio-temporal manifestations, including scale. Current methods of geographical data acquisition and knowledge production that support crisis management, as well as their utilization at individual levels of CM activities, are described. Stress is given to the importance of presenting those elements of physical geography that support CM, in such a way that they are comprehensible for the general public.

Jan MUNZAR, Stanislav ONDRÁČEK, Tomáš ŘEHÁNEK

**THE FLOOD IN AUGUST 1880 – ONE OF THE MOST SEVERE NATURAL DISASTERS OF THE
19th CENTURY IN THE OSTRAVA REGION (CZECH REPUBLIC)**

Taking into account the high water events in the summer of 1813, the flood of August 1880 is one of the most severe natural disasters occurring in the Odra/Oder River Basin (especially on its right-bank tributary, Ostravice R.) in the 19th century. This flood is believed to be comparable with the flood disaster of July 1997. Having devastated the Ostrava region, it became for a long time a milestone for local people, who divided time into the period before and after its occurrence. This severe natural disaster is discussed in this paper with respect to its causes, contemporary local and regional experiences, and subsequent impacts and consequences.

Darko OGRIN

**OLIVE GROWING IN SLOVENIAN ISTRIA AND CLIMATIC LIMITATIONS TO ITS
DEVELOPMENT**

In Southwestern Slovenia olive trees grow at their northern climatic limit, such that they are periodically endangered by severe frosts. In the 20th century, the average recurrent period of frosts was 20 years, and in the 18th century, which is considered to have been colder it was 10-15 years. In spite of the risk of periodic frosts, olive growing is an important and profitable economic activity, which is steadily progressing due to an increasing demand for olive oil in the last few decades. An analysis of topoclimatic conditions for olive trees shows that within the existing cultivated area, the capacities are sufficient to double at least the present-day olive groves. Expansion beyond the borders of the traditional area, however, could be questionable despite a predicted climatic warming, since the same prognoses also forecast a greater possibility of weather disasters and extremes, including frosts.

Milan TRIZNA

RUNOFF MODELLING AND ITS SPATIAL VARIABILITY IN DEPENDENCE ON LAND USE

The first section of this article presents a brief overview of contributions by different authors on the runoff problematic, stressing direct runoff as one of the components of total runoff. Specific attention is paid to modelling runoff, stressing geographically-oriented rainfall-runoff models. The second part of the article deals with simulations of various rainfall-runoff events in selected drainage basins in the territory of Slovakia. The Agricultural Non-Point Source Pollution Model (AGNPS) was used for some of the basins, while other basins were modelled by the CN-curve method, an internal part of many models including AGNPS. Possible applications of this methodological procedure in land-use planning practice are then suggested.

REVIEW

Evžen QUITT - CLIMATE ATLAS OF CZECHIA