

Under development is the net of about 20 catchments covering the whole area of Czechoslovakia. We have collected basic information on 45 catchments out of which the final set will be carefully selected.

Long-term integrated biogeochemical research and monitoring of small catchments has proven to be a very valuable tool for assessing both natural and man-made changes in the environment. The list of environmental impacts reflected by processes in small catchments includes — among others — acidification of soils, surface and ground water, depletion of nutrients and accumulation of harmful substances in the soil, transport of atmospheric pollution, changes in physical and chemical parameters of climate, e. g. growing concentration of CO₂ or depletion of stratospheric O₃, effects of land-use on the geochemical balance, e. g. eutrofication. The monitoring can reveal the effects of the reduction of emissions of sulphur and nitrogen agreed by European countries.

The geochemical and integrated monitoring of small catchments and the investigation of biogeochemical processes within them is the main programme of the Environmental Geochemistry Group of the Prague Geological Survey. We recommend to our Austrian colleagues to start with similar research in their country. There, to our knowledge, no monitored small catchment exists yet. We offer our rather long experience. The results from Austria will be very valuable especially when related to the data from existing catchments in Switzerland, Federal Republic of Germany, and Czechoslovakia.

Table 2 — Atmospheric deposition into small catchments

Catchment	Substance	Wet deposition		Dry deposition	Total
		vertical	horizontal		
SUM	S	18	8	11	37
	H ⁺	0.5	0.2	0.9	1.6
MLL	S	15	0	39	54
	H ⁺	0.41	0	3.0	3.4
KRH	S	30	71	80	164
	H ⁺	0.79	0.4	9	6.1
TRN	S	12	0	13	25
	H ⁺	0.32	0	1.0	1.3

Units: kg ha⁻¹yr⁻¹. Wet vertical deposition: rain, snow.
Wet horizontal deposition: fog, rime-ice.
Dry deposition: absorption of acidic gases SO₂, NO_x.

Abstrakt

Malá povodí jsou vybraná území o rozloze okolo 1 km², situovaná většinou v přírodních oblastech, nesmějí být ovlivněna lokálními zdroji znečištění. Povodí jsou vybavena komplexem technických zařízení, jež umožňují integrovaný výzkum biogeochemických procesů. Jde především o látkové vstupy (například atmosférická depozice) a látkové výstupy (povrchový a podzemní odtok). Uvnitř povodí se sledují další procesy (půdní, biologické apod.). Výsledky přinášejí spolehlivé informace o celkovém stavu přírodního prostředí. Ústřední ústav geologický sleduje malá povodí ve čtyřech oblastech, v rámci ČSSR je budován systém Geomon. Rakouské straně se navrhuje zahájit obdobný výzkum.

Zusammenfassung

Kleine Einzugsgebiete (Flußbecken) sind ausgewählte Gebiete mit einer Flächenausdehnung von etwa 1 km², die meistens in Naturgebieten gelegen sind. Sie sind mit einem Komplex technischer Einrichtungen ausgestattet, die eine integrierte Erforschung der biogeochemischen Vorgänge ermöglichen. Dies betrifft vor allem die Stoffzufuhr (z. B. atmosphärische Niederschläge) und -abfuhr (ober- und unterirdischer Abfluß). Innerhalb des Einzugsgebiets werden weitere Vorgänge (Boden-, biologische Vorgänge usw.) untersucht. Die Untersuchungsergebnisse bieten eine verlässliche Auskunft über den Gesamtzustand der natürlichen Lebensumwelt. Die Geologische Zentralanstalt in Prag verfolgt kleine Einzugsgebiete in vier Regionen, im Rahmen der ČSSR wird das Geomon-System aufgebaut. Der

österreichischen Seite wird vorgeschlagen, ähnliche Forschungen aufzunehmen.

THE LOCHKOVIAN-PRAGIAN BOUNDARY IN THE LOWER DEVONIAN OF THE BARRANDIAN AREA (CZECHOSLOVAKIA)

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Six selected sections of the Lochkovian-Pragian boundary beds in the Barrandian area of central Bohemia were subjected to investigations of mega- and microfossils. Joint occurrence of different stratigraphically important fossil groups, particularly dacryoconarid tentaculites, conodonts, chitinozoans, trilobites, brachiopods, graptolites a. o. allows a correlation from different viewpoints. The Lochkovian-Pragian boundary as originally defined is drawn in a conformable succession of marine carbonate rocks which include fine-grained pelagic up to shallow-water biodetrital facies. The faunal relationships and lineages suggest an uninterrupted development and evolution. The Lochkovian-Pragian boundary interval and the boundary proper is distinguishable by means of dacryoconarid tentaculites, conodonts, chitinozoans, trilobites, brachiopods, echinoderms, etc. A proposal for a conodont-based Lochkovian-Pragian boundary is presented.

LOWER PALEOZOIC IN THE RESEARCH COOPERATION BETWEEN AUSTRIA AND CZECHOSLOVAKIA

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There are very close paleogeographic relationships between the Lower Paleozoic rocks of Czechoslovakia and Austria and this is an obvious reason for close research cooperation between the both countries. Recent cooperation started a little more than twenty years ago when after the world war the first Austrian geologists (H. Flügel et al.) realized first visits of Bohemian and Moravian Lower Paleozoic localities. In exchange J. Kříž (1969) and I. Chlupáč (1970), both from the Geological Survey, Prague, visited Austrian localities in the Carnic Alps, in Gratz Area and in the "Grauwacken Zone" where H. P. Schönlaub (Geologische Bundesanstalt, Vienna) mapped Lower Paleozoic rocks and studied conodonts for stratigraphic purposes. J. Kříž collected Silurian bivalves in the Carnic Alps during his first (1969) and further visits (1975 and 1982). Detailed study of the family Cardiolidae (Kříž 1974 and 1979) showed that bivalves represent one of important groups to correlate Silurian of Austria and Silurian of the Prague Basin. Since carbonate sedimentation occurred in the Silurian of the Carnic Alps earlier than in Bohemia, the first known Silurian epibyssate Bivalvia developed here earlier (in the middle Wenlock). Silurian bivalves of the Carnic Alps represent important ancestral forms of lineages which later (upper Wenlock, Ludlow and Přídolí) prospered in the Prague Basin as "Bohemian type" Bivalvia dominated communities (Kříž, 1984).