

Hungarian research on peat and organic matter



Photo: Centeri



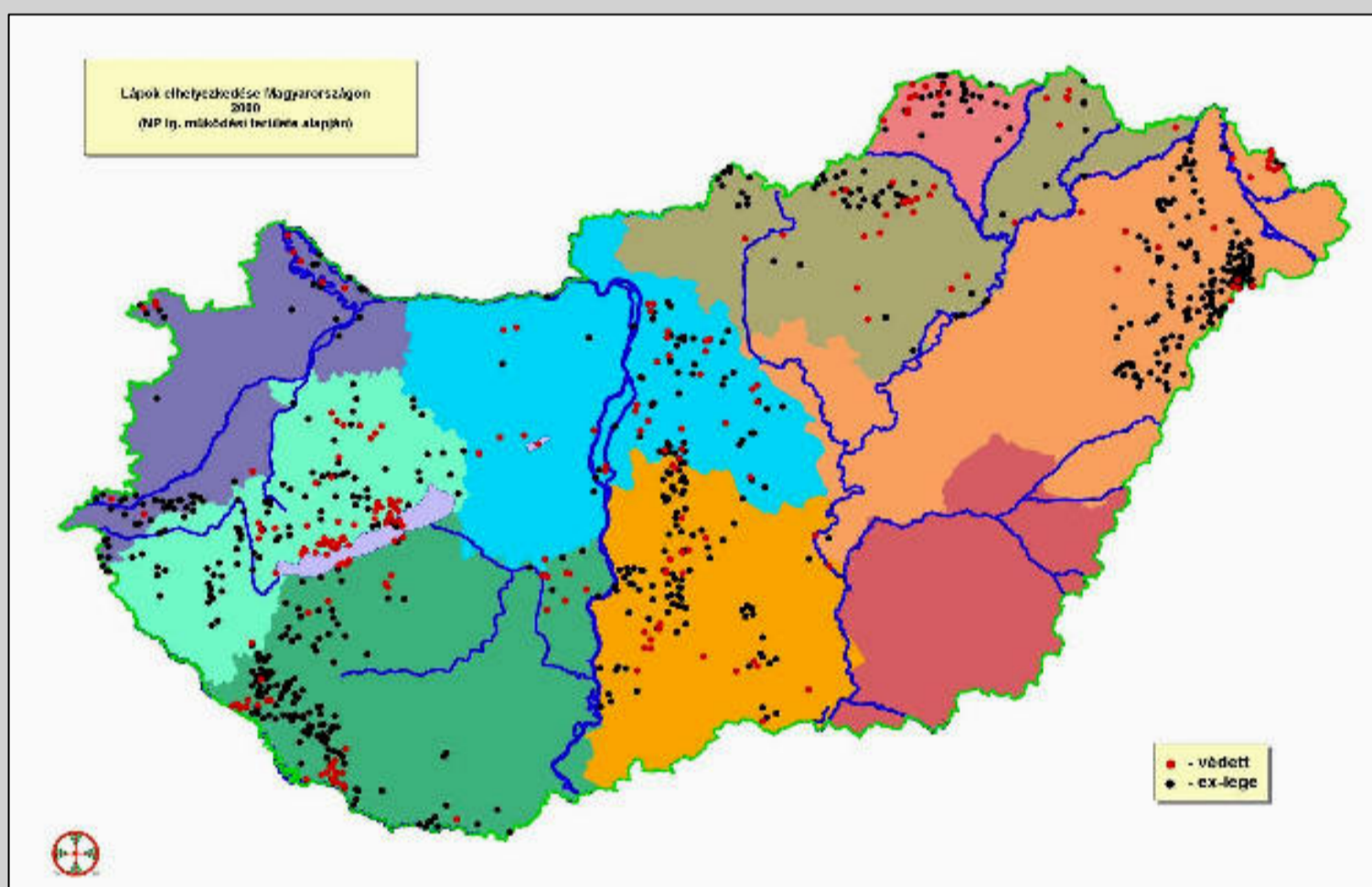
Photo: Vona

The Carpathian Basin is the most closed basin of the World – from the geo-morphological point of view – where the proportion of the surface waters was above 1/3 of the whole area, before water regulations of the 18th century. On these water effected areas a considerable amount of organic matter accumulated due to peat and meadow soil formation processes at East-Central European scale. In the last 150 years, technological based management and climatic changes reduced the organic matter content to 30%.

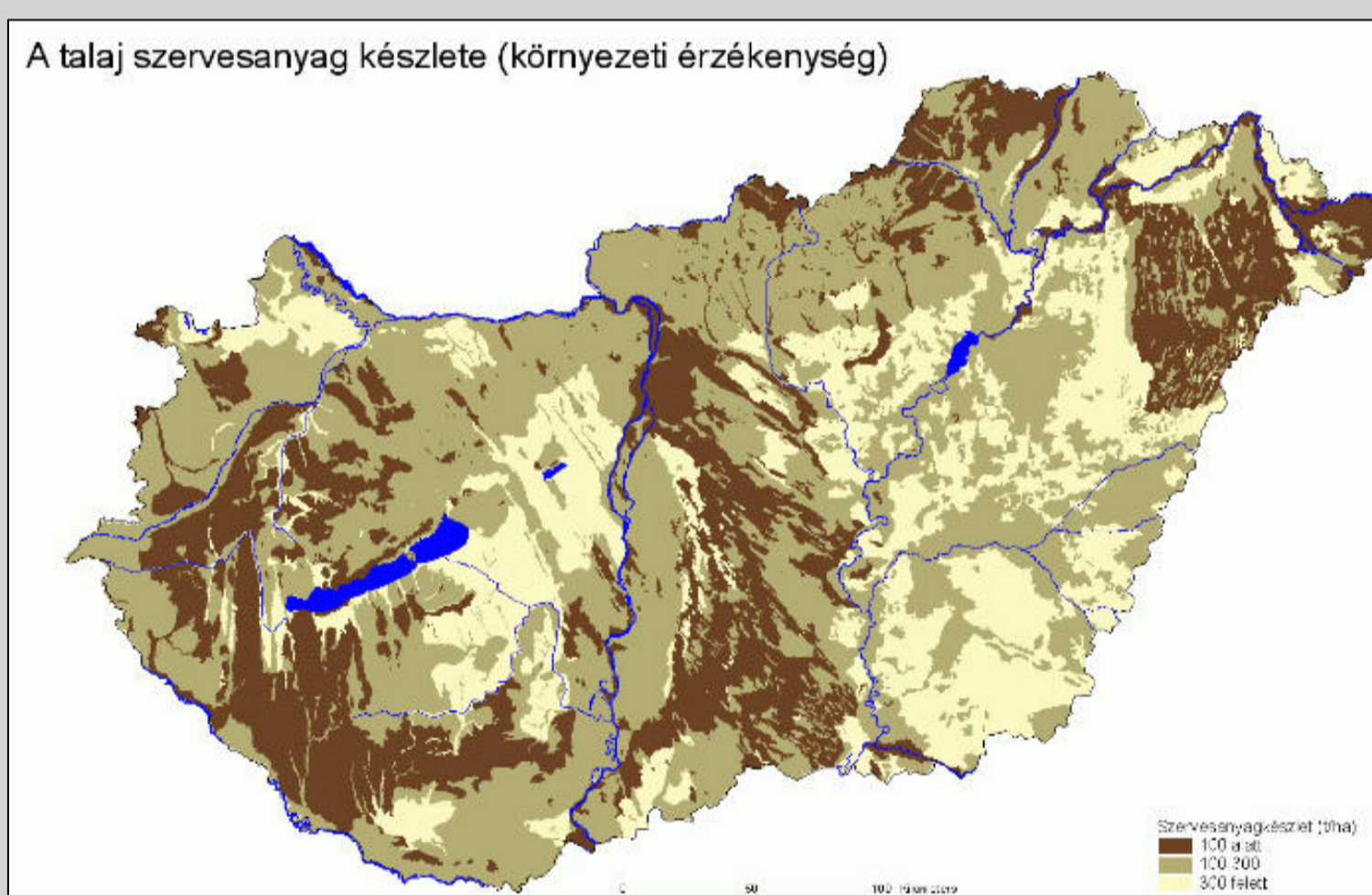
Chronological scheme of geological and soil research and mapping



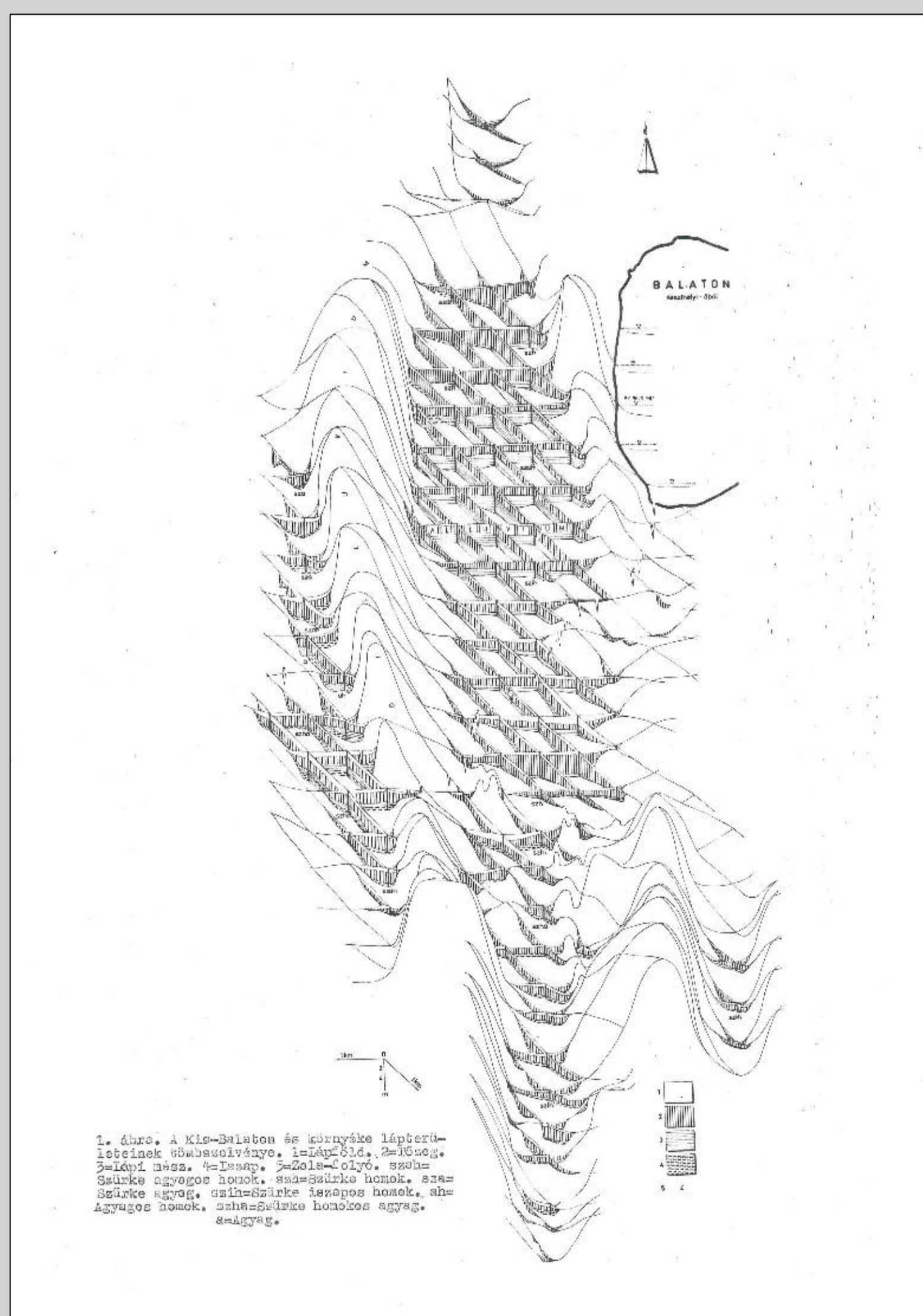
Peat map of Hungary (Pokorny 1860)



Peaty meadows in Hungary (1995)



Soil organic matter content map of Hungary, Environmental Sensitivity (2002)



Peaty areas of Smaller Balaton mapped with axonometric method (Dömsödi 1988)

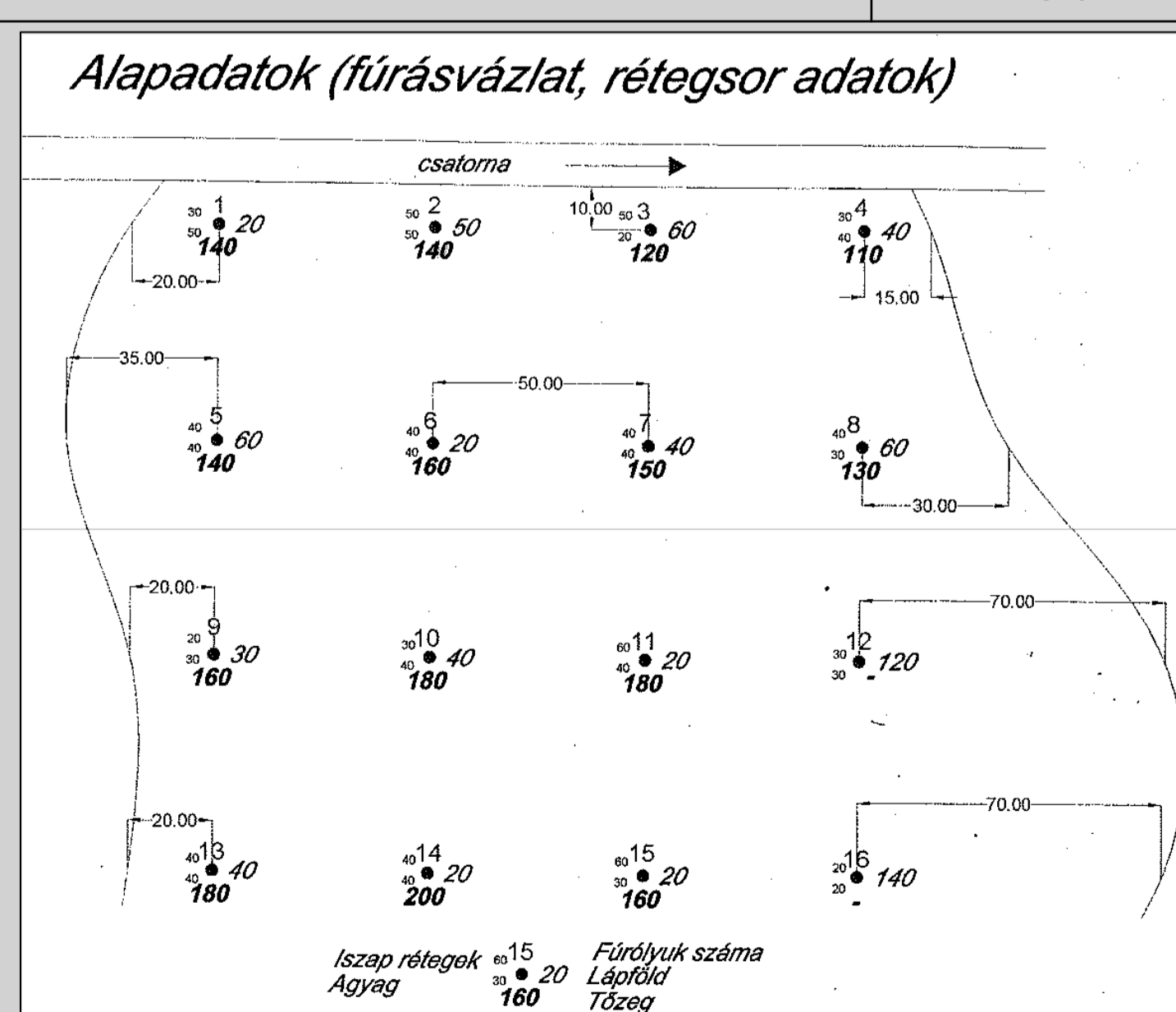
Date	Researcher	Institute	Research theme
1862	Pokorny, A.	Hungarian Academy of Sciences	Peat forms of Hungary.
1894	Staub, M.	Hungarian Geographical Society	Distribution of peat in Hungary.
1910-1915	László, G., Emszt, K.	Geological Institute of Hungary	Peaty meadows and their distribution in Hungary.
1948-1949	Dzsida, J.	Peat Research Inst., Peat Mining	Investigation of 12 peaty basins, drilling in 250 m grids, mapping at 1:25,000 scale.
1949-1951	Stefanovits, P., Eörsi, L.	Geological Institute of Hungary	Investigation of 12 peaty basins, drilling in 250 m grids, mapping at 1:25,000 scale.
1951-1954	Schenkengel, L., Kabar, Z.	Mining Research Institute	Investigation of 12 peaty basins, drilling in 100 m grids, mapping at 1:10,000 scale, physical and chemical analyses of the peat.
1965-1998	Dömsödi, J.	Soil Remediation, Stock Research and Planning Agency	Drilling of all peaty areas in 50 m grids, mapping at the scales of 1:2880, 1:2000, 1:4000. Physical and chemical analyses of the peat, making cadastre, landscape and water management.

Agricultural land use, peat use related researches, nature conservation on water effected areas

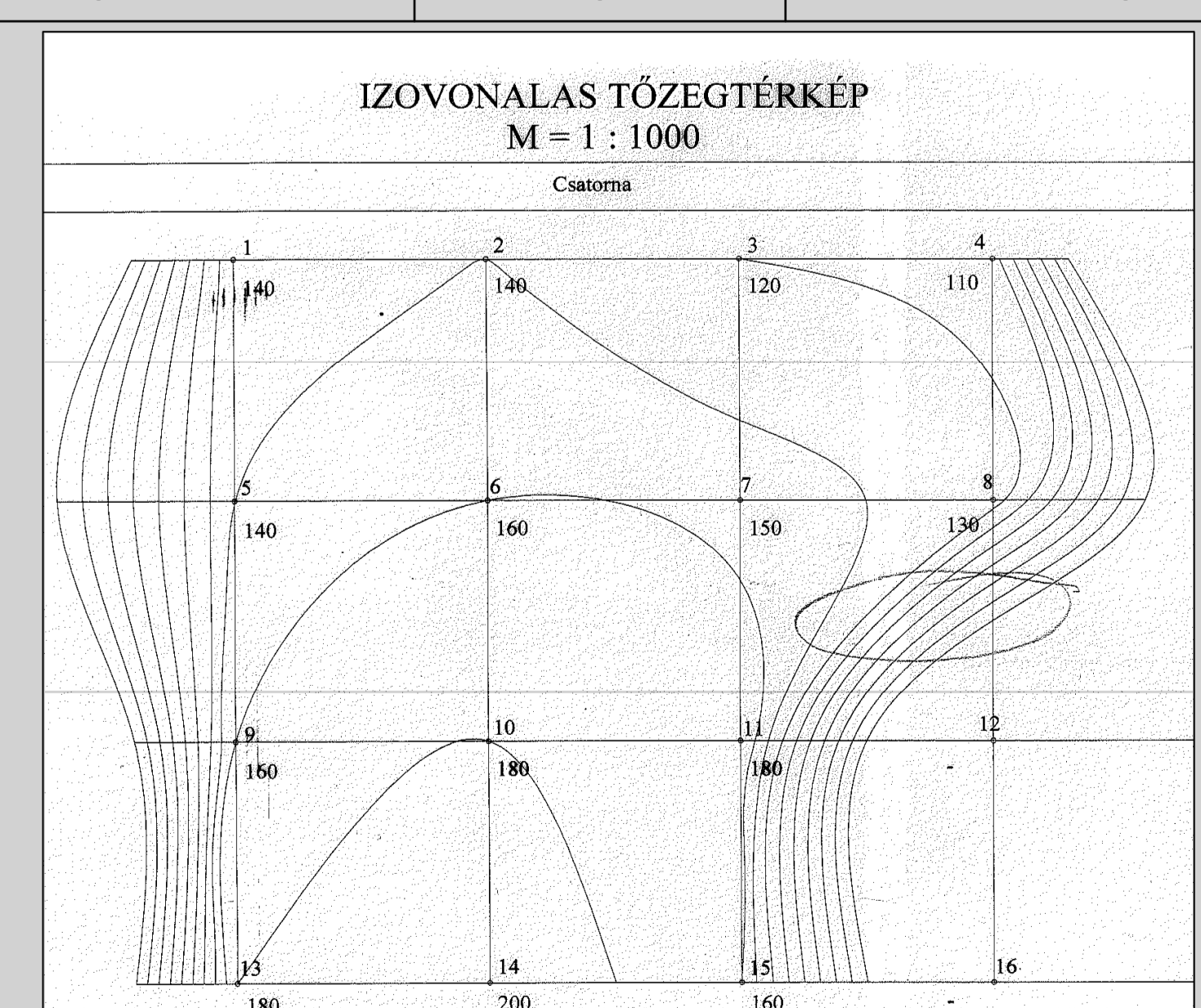
Date	Researcher	Institute	Research theme
1921-1946	Ballenegger, Ö.	Geological Institute of Hungary	Soil genetics
1941	Prettenhofer, I.	Soil Research Institute University of Szeged	Peat use, plant production, 5-years research
1945-1970	Kabar, Z.	Mining Research Institute	Peat loss, peat protection, soil science
1950-	Páter, K., Máté, F., Stefanovits, P.	RISSAC, University of Gödöllő	Soil genetics, soil classification
1950-	Belák, S., Tóth, A., Szabó, I.	University of Keszthely	Plant production, forestation experiments, nature conservation researches
1960-	Tompa, K., Tihanyi, Z., Kovács, G., Dömsödi, J.	University of Sopron	Mapping for establishing the basics for forestation, melioration planning
1970-1995	Hargitai, L.	Horticultural University, Budapest	Production of peaty soil mixes for horticultural uses

The distribution of Hungarian peaty lands decreased from 100,000ha (Ballenegger 1921) to 26,000ha until 1975. In these areas 1200 million m³ peat decreased to 306 million m³ according to the geological surveys (Dömsödi 1988).

Larger peaty areas	1921	1921	1975	1975
	Area (km ²)	Amount (million m ³)	Area (km ²)	Amount (million m ³)
Sárrét of Fehér County	16.5	40	0	0
Hanság of Moson-Sopron County	230.5	258.8	35	32
Nagyberek at Lake Balaton	92	140	32.3	22.21
Peaty group of Zala and Somogy Counties	60	250	28	86
Between Danube and Tisza Rivers	46	50	3.2	4.6
Szabolcs County peaty areas	20.9	22.4	5	1.1
Peat of Ecsed	169.7	120	0	0



Mapping of peat amount (Dömsödi 1988)



Isoline map method of peaty area (Dömsödi 1988)

Bridging the Centuries
1909–2009

Hungary – B u d a p e s t
16–17 September, 2009

