

NEW POSSIBILITIES OF USING IVANOV'S HYDROMORPHOLOGICAL THEORY IN MODELLING MIRE-ECOLOGY AND REVITALISATION-PLANING FOR MIRES

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The hydromorphological theory was developed during and after the Second World War. An integrated overview was given in the book of Ivanov (1975), which was published in English in 1981. Ingram used the Ivanov's layer-conception and called it "akrotelm/katotelm". This became very popular in Western Europe. But the main ideas of IVANOV's theory in analysing mire-morphology in combination with hydrological modelling haven't been understood outside the former Soviet-Union. Meanwhile the theory was developed further in Sovjet Union and Russia, and is now used in hydrochemical tasks, planning gas- and oil-pipelines or fighting with oil-damages in mires.

Only in the 90th there began the use of the theory in EU-countries (Edom & Golubcov 1996; Van Der Schaaf 1996). In mountain sloped bogs and fens of Erzgebirge and Harz it is used in analysing the morphology, calculating water-fluxes, identifying potential-natural waterbodies, predicting vegetation-development and planing restauration-management. After anthropogenic use of mires the new morphological structures and water-bodies get a new hydromorphologic role.

We give an overview about the mathematical principles and theoretical backgrounds of these methods. Furthermore we propose a new hydromorphological based model of peat-growing. In front of that will be discussed aims of hydrological and telmatological research.