



New automated measurement of frozen soil depth in the Czech Republic

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Frozen soil depth relates mainly to air temperature, soil moisture, snow cover height and density, vegetation cover, soil type and terrain exposure. Due to climatic changes in central Europe, there are dependant facts of the air temperature amplitude rise and snow cover increase during winter period. These facts are reflected in higher frequency of frozen and unfrozen soil layers with various extents. These soil layers fundamentally influences precipitation infiltration and moisture distribution across soil profile. Original manual daily measurement of frozen soil layers using Danilin's cryopedometer have been replaced with automatic measuring system MRZ providing continuous measurement. Cryopedometers MRZ works on principle of electrical parameters change of water in order to change of state. Advantage of this new cryopedometer is more accurate measuring, because of measuring in separate chambers according to depth. It also provides continuous measurement. Czech hydro meteorological institute have installed automated measurements of frozen soil on 15 stations across Czech Republic so far in 2007.