

FUZZY DECISION MAKING SYSTEM FOR DETERMINATION OF SOIL QUALITY

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This study works with samples of soil from every square kilometer in Czech republic. In each square we analyze three soil horizons. On these samples and statistical indicators we are doing analysis for the monitoring our goals. The goal of the work is to determine the degree of damage to soil horizons or sub-horizons. From the beginning it was all about the long-term damage caused by soil acidification, which is regarded as the main factor of soil degradation in the Czech Republic. We used the cluster analysis and fuzzy cluster analysis. From these analyzes we constructed maps that show areas with the same or similar damage of soil horizons in the whole country or in sub-landscape areas. In second part of work we are trying to determine total level of soil quality. For this problem, we created a fuzzy decision making mechanism.

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