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Hydropedology as a foundation for spatial planning.

J.Bouma

Emeritis professor of soil science, Wageningen Un iversity, the Netherlands (johan.bouma@planet.nl).

The so-called “three-layer”model is used in Dutch spatial planning. It consists of three layers. The first describes water regimes in the soil and geologic substrate and the associated ecological conditions. The third layer defines transport routes and the fourth, settlements. When making spatial plans, a systematic sequence from 1 to 3 should be followed and this offers an attractive opportunity for hydropedology which defines water dynamics in the soil. So far, however, soil scientists, geologists and hydrologists have not been much involved with the planning process. We propose to change this by integrating the three-layer model with the seven soil functions of the new EU Soil Protection Strategy which results in an operational procedure to define soil, water and nature qualities for actual but also, and particularly, for potential conditions in future to be realized by man. An example will be discussed using the EU- DPSIR framework which distinguishes drivers, pressures, states, impacts and responses associated with land-use change.