**An explicit approach to capture diffusive effects in finite water-content method for solving vadose zone flow Federico**

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Talbot and Ogden developed the TO method to work around Richards’ Equations (Partial Differential Eq.) and model flow in unsaturated (=vadose) zone using an Ordinary Differential Eq. instead easier to solve, more feasible in hydrologic model, can use at larger, watershed scale. Here they add diffusivity to their model. They treat advection and diffusion separately (assumption, actually their effects are coupled). They find that TO+Diffusion produces more accurate water content profiles than just TO.

**Why it matters:** not very relevant, but part of the studies that seek a simple-to-solve, efficient and sufficiently accurate solution to the problem of water flowing in the soil (here unsaturated; our study neglects that, because we are more about saturated and water table oscillations). Values of sandy loam and other coarse soils might be of interest.

**See also, more important:** Ogden, F.L., Lai, W., Steinke, R.C., Zhu, J., Talbot, C.A., Wilson, J.L., 2015c. A new general 1-D vadose zone flow solution method. Water Resour. Res. 51, 4282–4300. http://dx.doi.org/10.1002/2015WR017126.