

Global patterns of nitrate storage in the unsaturated zone

The unsaturated (vadose) zone between the base of soils and the water table can be an important store of nitrate. Water moves slowly downward through the unsaturated zone and so a large store of nitrate can accumulate if this water contains nitrate derived from surface sources such as fertiliser. Release of this store can affect ground- and surface water quality for decades and it can continue for a long time after changes in farming practice that reduce nitrate leaching.