

Interactive comment on “Shallow rainwater lenses in deltaic areas with saline seepage” by P. G. B. de Louw et al.

M. Antonellini (Referee)

m.antonellini@unibo.it

Received and published: 11 October 2011

I find this an excellent manuscript and a great contribution to the hydrogeology literature. My following comments are just relative to the form. The paper is a bit too long in the presentation of the results, which makes it a little hard to read. The methods used and analysis done are sound and they show a very nice integration among different datasets.

A point that the authors should address is the apparent confusion between confining layer, aquitard and low permeability layer within the aquitard. Sometimes the authors refer to a confining layer but it is not clear if it is an acquiclude or an aquitard. Given that the concept of aquifer is a relative one, some better explanation (maybe only a

C4373

better indexing of fig. 1 would suffice. (see pages 7678 lines 21-24)

Another point to address would be the fact if saline seepage in low-lying polders is only vertical or also lateral, this is not completely clear to me from the paper.

I would suggest to the authors to avoid some jargon as "salt loads", which is not clear to all hydrogeologists; also the extensive use of acronyms make the paper difficult to read.

Dispersivity values in the models seem to be very small to be realistic.

Some specific comments:

p. 7672 line 23-26 Is this vertical seepage in the ditch that hinders the infiltration of fresh water or the difference in head? Not clear.

p. 7661 peat cutting → peat mining? dewatering of land by man → land reclamation?

p. 7662 line 4 subside → sink p. 7665 extracted all the water → flushed the water?

p. 7669 line 5 year 30 → 30 years p. 7680 lines 19-23 The sentence is not clear, a figure might better explain the processes that the authors would like to describe; the same for p. 7682 lines 3-10

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 7657, 2011.