Supplement of Hydrol. Earth Syst. Sci., 19, 823–837, 2015
http://www.hydrol-earth-syst-sci.net/19/823/2015/
doi:10.5194/hess-19-823-2015-supplement

Hydrology and Earth System Sciences
Open Access

Supplement of

A high-resolution global-scale groundwater model

I. E. M. de Graaf et al.

Correspondence to: I. E. M. de Graaf (i.e.m.degraaf@uu.nl)

A High Resolution Global Scale Groundwater Model

I.E.M. de Graaf *et al.*

Supplementary material

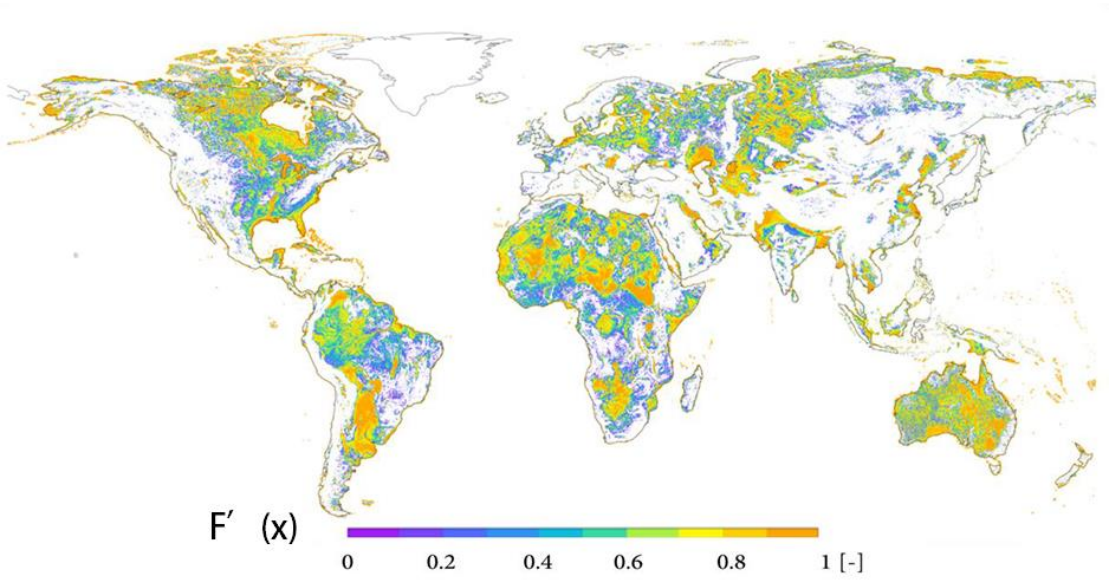

Fig. S1. Spatial distribution of F'(x), representing the likelihood of finding a thick aquifer

e-folding depth

The near surface permeability is described by the sediment-bedrock profile at a location, which depends strongly on terrain slope; the steeper the land, the thinner the regolith and the sharper the decrease in permeability with depth (e.g. Miguez-Moacho et al. 2008). This is expressed through the e-folding depth. The range of the e-folding depth (alpha) is given in the graph below, and its spatial distribution in the map below.

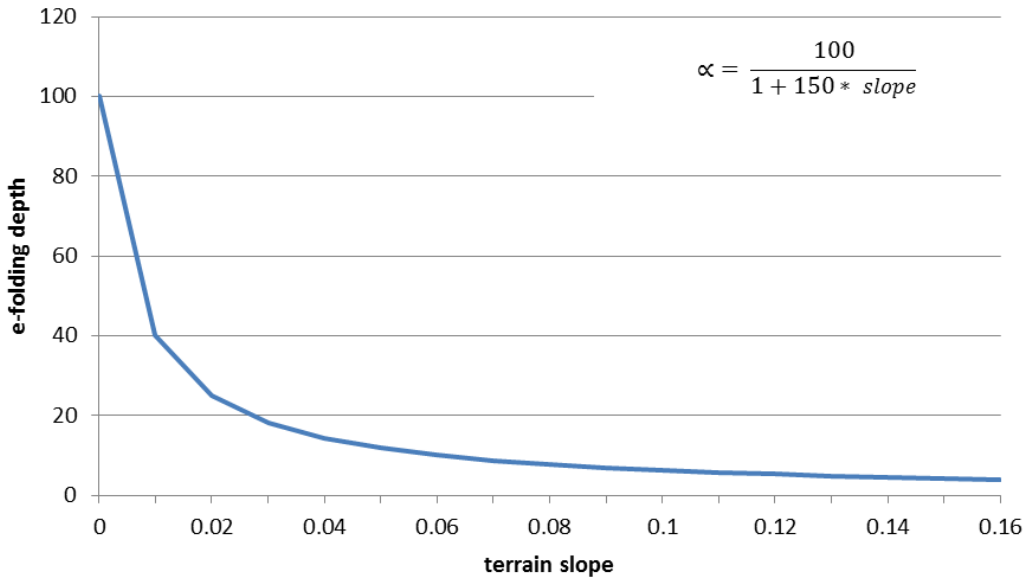

Fig. S2. e-folding depth as a function of terrain slope, using constants of Miguez-Macho *et al.* (2008).

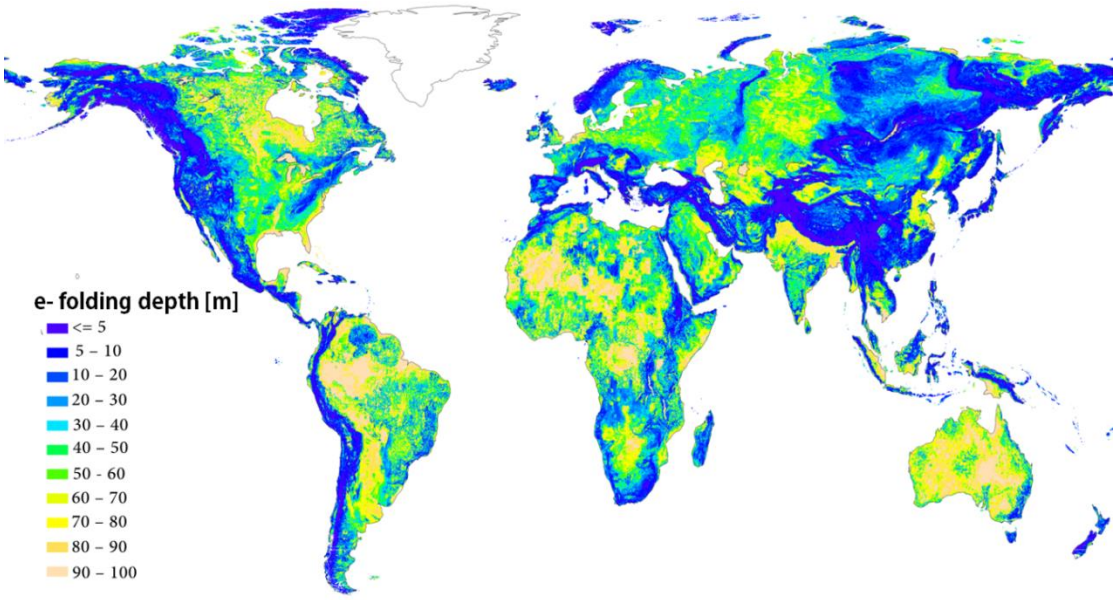

Fig. S3. e- folding depth.

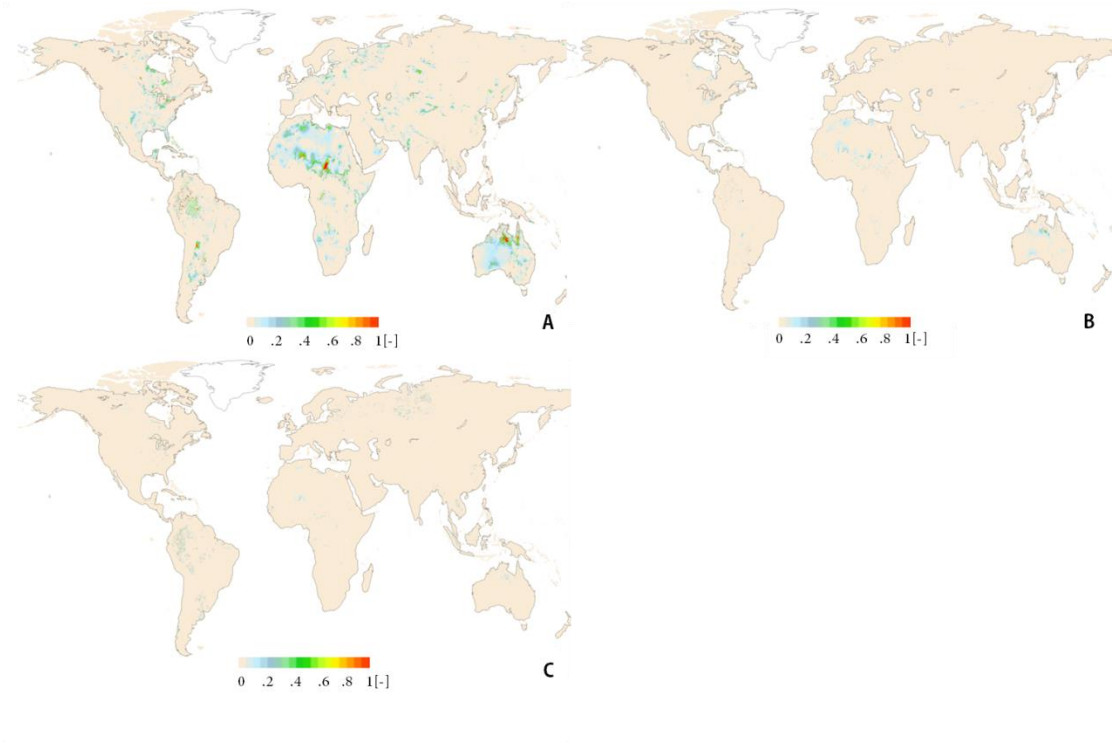

Fig. S4. Coefficient of variation of groundwater depth of 100 runs with different parameter settings for (A) saturated conductivity, (B) aquifer thickness, and (C) groundwater recharge.

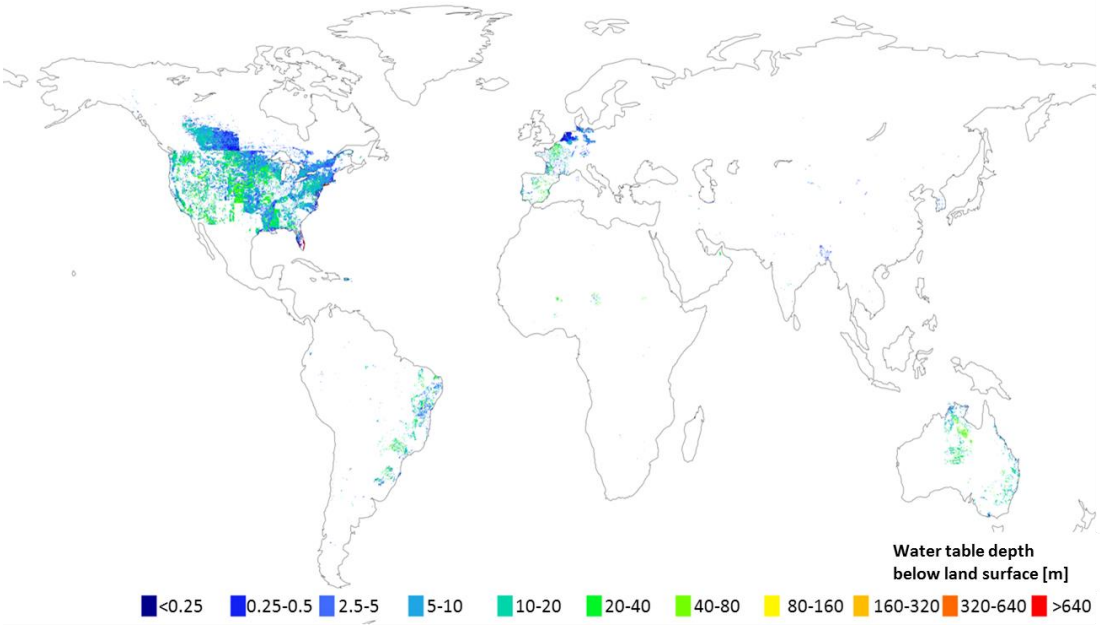

Fig. S5. Global piezometer observations; groundwater depths in meters below the land-surface (from Fan *et al.* 2013).