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Dear Editor,

We have revised the paper accordingly. The details of our revision and individual response (blue) to each comment (black) are attached.

Thank you for publishing our manuscript in *Hydrology and Earth System Sciences*.

Yours sincerely,
Jun Kong

Responses to the Editor's comments

(1) I would use aquifer width (resp. length) to denote the arc width of the aquifer perpendicular to the flow direction (resp. length along the main flow direction, which is radial). I understand that this could be confusing with “width and length” of curvilinear structures of atoll islands. I leave the Authors the task of choosing the best terminology and notation.

To avoid being confusing with “width and length” of curvilinear structures of atoll islands, we keep using aquifer length to denote the arc width.

(2) Lines 153 to 155 are not yet satisfactory. May be, the sentence could be rewritten as follows: “aquifer recharge, due to rainfall infiltration, is assumed to be stationery and uniform throughout the domain”. The remark about rainfall intensity and its relationship with the saturated hydraulic conductivity of the soil is of minor relevance with respect to the work, for which the important assumption is that N in equation (1) is constant in space and time.

We modified accordingly.