

Figure S1. Rectilinear branchwork patterns with different conduit densities in scenario B. a, b, c, and d represent the base rectilinear branchwork model, 25%, 50%, and 75% reduction in the length of conduits, respectively.

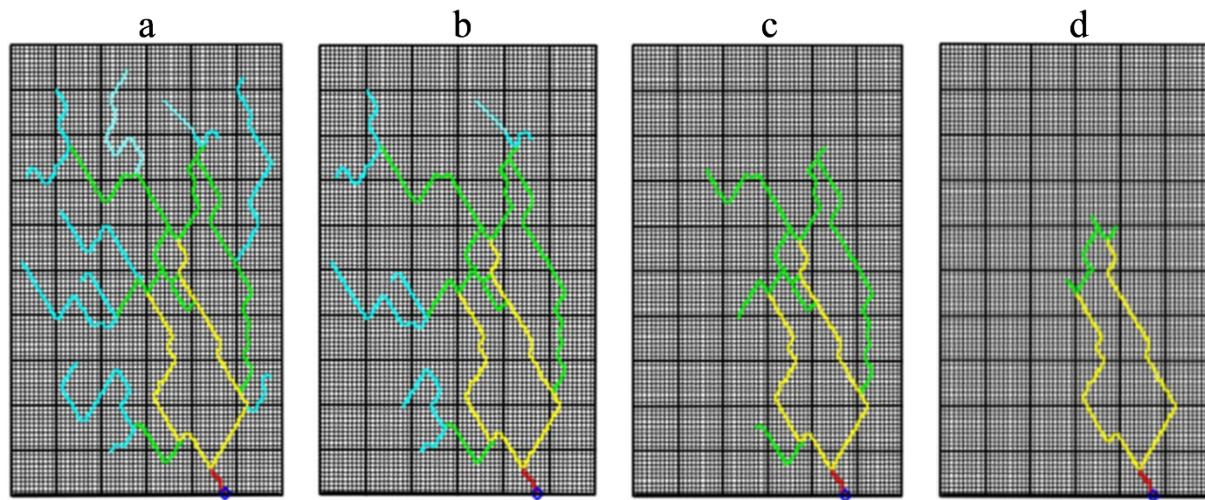


Figure S2. Network maze patterns with different conduit densities in scenario B. a, b, c, and d represent the base network maze model, 25%, 50%, and 75% reduction in the length of conduits, respectively.

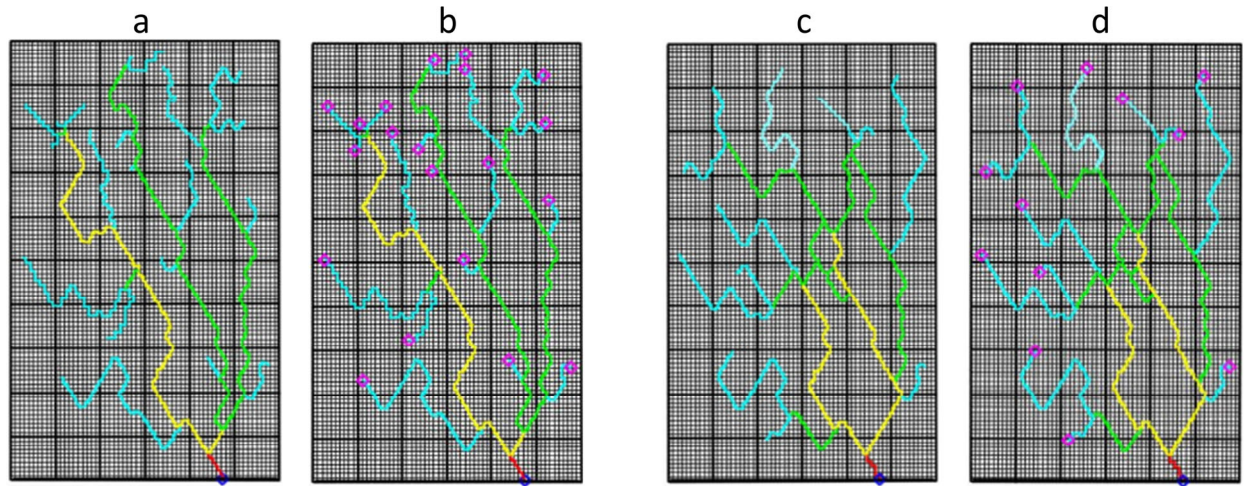


Figure S3. The conduit patterns (a, b: rectilinear branchwork; c and d: network maze) used in scenario C. Models b and d run under two different modes of the point recharge. The purple squares represent the location of point recharge as sinkholes.