Taking the Pedler catchment as an example, authors first proposed hypotheses for the generation of flow in different subdomains, and then conducted numerical modeling to further address the hypotheses. This work focused on the mechanisms of flow generation in non-perennial networks which should be a good contribution. Some general questions are:

1. I am interested in how does surface-water and groundwater exchange in this coupling code? What does the coupling length in table 2 mean?

2. There is a clay layer in this study area. It prevents the further infiltration of water into deep subsurface. Hence it is obvious that the top soil and the topography will be the main factors in the generation of flow. Thus, the results are somewhat case specific. What do you think about other areas where there is no such a clay layer?

3. Is the clay layer in this area continuous? Are there any windows in the clay layer that will cause the water to infiltrate deeper?

4. How do you conceptualize the fault indicated in figure 3 in the model? What do you think its role? What do you think the fault would cause the infiltration of perched groundwater from steep hills into deep subsurface? Then the water will enter the flat valley which means the contribution from GW would be a main component in flat valley?

5. The difficulties of running ISSHMs were discussed at the end of discussion. This study used the HGS, so what do you think other codes which has been well parallelized?

6. The land use is also variable in space especially the steep hills where the land cover is obviously different from other area. Does the land cover/manning coefficient affect the generation of flow in different subdomains?

7. The preprocess of river channel including the location and connection based on DEM is not that easy. How do you perform it in this study?

8. I am also curious why the sequence is hypothesis first and then modeling. Why it is not the modeling first and then analyzing the results to get some conclusions?

Some details:

1. Some words are hard to see in Figure 2.
2. Lines 7-9 might mislead readers that this is a paper about code development.
3. Line 292, details of 6 CPUs? How many cores of each CPU?
4. Section 2.4.1, why so many layers? It looks the process in subsurface under the clay layer is not that important in this study. Can the deep layers be reduced to decrease the computational burden?