The paper suggests that there are two drastically different climate states on an Earth-like terra-planet with limited surface water. This is a very interesting paper and it is worth publishing on ESD. I carefully read the manuscript and the comments from other three reviewers as well as the authors' responses. The paper is clear and easy to understand for readers, although the mechanism for the bi-stability between the cold wet (CW) state and the hot dry (HD) state is still unclear. The authors have done many analyses, including precipitation, precipitable water, soil moisture, clouds, convection, the Hadley cells, poleward energy transports, surface/planetary albedos, etc. These analyses make the authors speculate that the bi-stability is from a combination of cloud and hydrological feedbacks. How can cloud trigger the bi-stability? If possible, the story should not end here.

As well known, ice/snow albedo feedback causes two different climate states, a modern Earth climate state (or even hotter) and a snowball Earth state. The mechanism is clear, i.e., the step function of surface albedo, from 0.4-0.9 of ice/snow when the surface temperature is below the freezing point to < 0.1 of ice-free seawater when the surface temperature is above 0^{o}C. For the terra-planet discussed in the manuscript, the cause is likely the clouds, as addressed in the manuscript, but how clouds produce the bi-stability is unclear. Is there any step function in the cloud parameterization of the climate model used in this work?

From Figures 2, 8, 9 & B1, the main difference in cloud coverage between the CW and HD states is in the subtropics, where the atmosphere should be dry and relative humidity is low. In the deep tropics and at the Polar Regions, the difference in cloud cover is very small. So, more analyses should focus on the subtropical clouds. For example, "Cloud cover is calculated based on relative humidity" (page 3, line 10 of the manuscript). In the model, is the cloud coverage a step function of relative humidity? The authors could check this and meanwhile some analyses on atmospheric relative humidity could be added in the manuscript if it is important.

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