We thank the first referee for valuable comments on our manuscript. All comments are summarized with a numbering style and corresponding responses were followed by an arrow symbol (➔). The line numbers (Line) referenced will be changed for the final version of the revised manuscript.

Reviewer #1

Specific comments:

1.1. It looks like that the given work is the follow-up of Sharifi et al. (2016) and Lee et al. (2016) published on Catena and PLOS ONE. However, authors did not really mention much about it which I think they should. The general readers will be a lot more interested in a series of research efforts instead of a single piece.

➔ Please note that we cited most related previous work - Lee et al. (2016) published in PLON ONE (See Line 121, 123, 166, etc) and Sharifi et al. (2016) published in Journal of Hydrology in Line 123 and 128. As suggested, we will provide references to the earlier studies upfront, so that the readers can be aware of a series of research efforts made in this study site by the authors.

1.2. Based on the knowledge of 1., the given work was conducted by adding (changing) climate data with the use of the SWAT model. In the Introduction (Ln. 84), it was mentioned that other work did not demonstrate climate change impacts on hydrology and nutrient cycles. However, I actually can find some work online by using the keywords of: Climate Change, Chesapeake Bay, SWAT. I understand there may be some differences between your work and others, but I think authors should better explain/justify the uniqueness of the propose research.

➔ As pointed out, there are several previous studies investigating climate change impacts on the Chesapeake Bay Watershed region (Howarth et al. 2006, Najjar et al., 2009 and 2010, Meng et al., 2010, Lee et al. 2015). However, those previous studies showed regional-level hydrologic responses to climate change or focused on potential changes on aggregated watershed responses (e.g., stream flow and nutrient loads at the outlet of the watershed). In addition, previous studies that consider climate change impacts on agriculture did not fully consider the agricultural (including cropland location) happening at the local catchment. Generalized findings from previous studies could not provide site specific information and guideline for the coastal agricultural watersheds to reduce nutrient and sediment runoffs via best management practices.

In the CB, nutrient runoffs from agricultural coastal watersheds are one of the major causes of the water quality degradation. Hence, this study aims to investigate the climate change impacts happening at the cropland scale (including crop growth, water and nutrient cycling at the site), and their transport processes to the catchment outlet (we referred this as “internal” watershed response) considering detailed agricultural management practices. As the catchment response to the climate change can be site specific, we presented the simulation results from two adjacent catchments with contrasting hydro-geological characteristics at multiple spatial scales, describing the internal watershed processes to guide site-specific management plan to aid conservation decision making. These two watersheds showed the typical site characteristics in the coastal plain, in terms of topographic and soil characteristics, and the agricultural practices we used in simulation are commonly used in the region. Hence, the findings from this study can be applicable to other catchments in this region. We will highlight our unique contribution in the revised manuscript, as suggested by the reviewer, and further provide implication on other coastal watersheds within the CBW.

1.3. I agree with Reviewer#1 that the given work was using CMIP3 data instead of the latest climate projections of CMIP5 may be a very big issue. I suggest authors should run the scenarios accordingly (by CMIP5). I know it may sound frustrating but it's difficult to justify your work by not using the latest data.

➔ As suggested, we re-run the SWAT model using the CMIP5 data and updated all methods and results with new simulations. New results will be provided in the revised draft.

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