Did the authors try to use the LAI product instead of NDVI? They state the reason for using NDVI which I do not dispute but I was just curious to know if they have done some testing with LAI or if they plan to do so in the future.

Minor comments:

1) Line 10 page 2: the authors state that many studies observed that Eta is a major diver of hydrological records but only cite one publication.
2) I would shorten the first paragraph of section 2 (lines 22-29, page 3). I believe the authors can assume that the reader knows how Web of Knowledge works.
3) Line 7, page 4: more informative than "(the US-German satellite mission)" could be a short description of which data GRACE could provide for hydrological models.
4) Line 14, page 4: I suggest to remove "that"
5) Line 23, page 4: Please consider checking and reformulating the sentence "Those points were selected randomly or by considering the knowledge about each study site".
6) Line 28, page 4: I suggest to replace "at" with "of".
7) Line 6, page 5: I suggest to add "surfaces" between "remaining" and "of", and to replace "is" with "are"
8) Line 14, page 5: what do the authors mean with "phase of the year"?
9) Line 17-18, page 5: I would remove the sentence that mentions the tiles used in the study.
10) Lines 19-20, page 5: I would rephrase the sentence as follow: "The used NDVI products (MOD13Q1 and MYD13Q1) are level 3 products that means they are note raw satellite data."
11) Line 20, page 5: I would remove "Actually"
12) Line 25, page 5: I would replace "experience" with "experiences" and add a space after the bracket
13) Line 30, page 5: I would avoid contractions. You could replace "that's why" with "we therefore decided…"
14) General remark on the description of the used NDVI product from MODIS: I found the text a bit too long and too technical. NDVI product from MODIS is a widely used RS product and the authors do not need to prove its scientific base.
15) Line 19, page 7: I believe that not all the terms of the equation are described in the text.
16) Line 29, page 7: what are "modelling evaluations"?
17) Lines 24-25, page 9: the sentence is not clear.
18) Line 13, page 10: I would add "but" between "content" and "referred".
19) Lines 10-12, page 14: The fit between simulated and observed flow seems to improve with time. Could this fact be also related with the amount of flow (there are sensibly higher peaks 2002 than in 2000)?
20) Line 21, page 16: the use of the word "enormous" seems a bit extreme to me.
21) Line 26, page 16: the expression "in order" is used twice in the same sentence
22) Figure 1: coordinates and scale are missing. I would reduce the size of the African continent and increase the size of the analysed basin and perhaps add some more spatial information instead of just the boundaries. For instance, the author could use the elevation map (which is governing the rainfall patterns) and overlay the basin boundary and the rainfall stations.