

I commend the authors on a large amount of work, a well-written manuscript, and a thoughtful response to previous reviewers. I acknowledge how challenging it is to have a new reviewer come in mid-review and empathize with the authors on this. After reviewing the original and revised manuscripts as well as the response to reviewers. With that I've got some minor comments and some more major comments on figures.

Abstract/Introduction:

I find these sections very well-written. In general, I think a clearer statement of why we need to know about runoff processes in the Antarctic Peninsula would increase readability. Specifically, after the first sentence in the abstract and around line 30. I think there's a degree of the importance that's implicit, but I think clearly stating why runoff processes matter would help your reader. I'm more familiar with why runoff processes matter in populated/agricultural settings in terms of food production, water supply, infrastructure, and hazards (drought/floods) so having a clear statement would be helpful to reorient myself.

Methods:

I have concerns about the limitations in data availability for calibration, but recognize the limitations of field work and also commend the authors on a comprehensive response to previous questions. I have a few minor questions:

1. On line 153 is the single threshold temperature 0 deg C?
2. I'm still unclear about the role of PET as it appears to be estimated in the results, but I don't see any mention of how those data are estimated in methods. What are the key components of water vapor losses (i.e., is it sublimation given the relative aridity and temperature in the region)?

Results

1. Are you assuming that any KGE value > 0 is "good" consistent with Knoben (line 195)? <https://hess.copernicus.org/articles/23/4323/2019/> If so, I'd state that as I think it's also somewhat common to assume that > 0.5 is "good" for KGE.
2. Since you define the WY as beginning on June 1, I would suggest just adopting a single year to describe each WY consistent with common practice outside the Antarctic to simplify labeling on figures.
3. Most units are presented in mm, but SWE is sometimes in cm. Not clear if there's a reason for that, but flagging just in case.
4. I find all figures in the results to be very challenging to read/interpret given the overlap between daily and cumulative reporting and labeling. I know figures are such a challenge and that this was flagged in the previous review, but I think the readability of these figures is my largest issue with the manuscript.
 - a. Figure 4: Cyan is a very challenging color to read and it took me a very long time to understand how to interpret the columns for panel a versus the line. There is so much going on in this figure that grasping the relationships between WE and SWE and T is really hard. Specific thoughts:

- i. at a minimum that there is greater space between panel a and b as I don't think that will disrupt the readers' ability to view relationships, but may make the figure less overwhelming.
 - ii. Do you need to report annual WE since all other variables are daily or 10-day? I
 - iii. t looks as though the figure has two grey bars on the right and left.
- b. Figure 5: Again, there's simply too much packed into this figure for me to grasp the key points and the presentation of both daily and cumulative results is sort of challenging. Specific thoughts:
 - i. Could you separate the cumulative curves out and construct a panel b presenting all cumulative curves, including P with T plotted on top as is?
 - ii. I think the filled in area graphs are really tough to read since Q_snow and Q_glacier overlap so much at the beginning of the water year.
 - 1. I don't fully understand how the cumulative curve for Q_glacier is so close to Q_rain when the area plots seem to imply that it's closer to Q_snow unless they're stacked in which case I still find the plots confusing.
- c. Figure 6: I appreciate the attempt to include the contributing factors to Q within the Q_total, but I find this to be a challenging figure to read as well. This may be the best way to present this figure and I'm sure it took the authors a tremendous amount of work to get here, but it's still really hard to read. Specific thoughts:
 - i. think part of it relates to color and in many cases the lower bound of the error bars is very hard to determine.
 - ii. I would recommend adding discussion of uncertainty to your discussion around lines 255 since based on my read of this figure, uncertainty around total Q for peaks is close to 2x the estimated Q in some cases (e.g., Dec).
 - iii. Also explaining why uncertainties in Q_snow are so large relative to other components would be helpful.
- d. Table 3: Can you explain bolded values in the caption. Also I don't know if this is an EGU formatting point, but usually I see table captions above tables.
- e. Figure 7: Same comments about cumulative and daily values and area graphs as above. It seems like daily values are most important give the text? Could you create a third panel comparing cumulative curves to highlight the role of Q_glacier?
- f. Figure 9: Why doesn't panel a have all the same boxes as panel b? Can you explain this in the text.
 - i. I'm confused on Line 310 (the text implies three pairs, but the reporting is for only two? I'm not sure which pairing the reported stats correspond to. I would also say that it's slightly confusing to report a spearman's of 0.68 as 'strong,' but a spearman's of 0.63 as weaker. I would argue that both indicate moderate correlation with 0.82 indicating strong correlation.
- g. Table 4: Could this be combined with previous tables/figures somehow. It's quite a lot of have 4 tables and 10 figures.
 - i. I also don't follow line 321-323 completely. If Q_snow is the dominant driver of runoff (76% by my read) and Q_glacier drops as low as 1% per Section 3.4 couldn't it also be that smaller changes in Q_snow drive variability. That seems

like at least one plausible explanation. I don't see the direct line between inter-annual variability and runoff based on results and it seems like a big leap to me to state that that's the primary driver based on coefficients of variation when the proportional contributions of those components are so different.

- h. Figure 10: I think this figure is really interesting, but also challenging to read. I'd suggest renaming WY to a single year to reduce text here. I'm also not immediately sure what the quadrants are supposed to represent other than deviations from $x=0$, $y=0$? I think I understand that circles are meant to emphasize positive anomalies in T in recent years, but honestly I find it confusing. I'd rather have the color scale be consistent and the y-axis vary since it really takes a while to see how these points diverge. Also I think relative anomaly needs to be more clearly explained as it is in the text above Figure 10. This figure takes a lot of thinking to digest and I think anything you can do to help your reader get to the main point sooner would be very helpful
- 5. I sincerely appreciate the author's transparency in their discussion of limitations. It makes me trust your science and results to be so upfront. With that said, I do think that it distracts from your key findings to have it take up such a prominent role in your discussion (e.g., that's what I get to first, so I immediately am thinking about your limitations rather than what you're showing). Could you move this lower in your discussion (at the end)?