Reviewer comment: The authors are steadily improving the manuscript but I still cannot recommend it for publication. They really must validate their method in the deep ocean - the Beaufort Gyre, specifically - using BPRs. If they do not, then their approach is only very weakly validated, with correlations (R) <0.5, therefore R^2, the fraction of variance captured, is <0.25, which is not convincing.

They correctly observe in their replies to reviews that BPRs are not useful for long-term trends as a consequence of the well-known problem of instrument drift. However they *are* useful when de-trended for assessing seasonal cycles, as demonstrated by Peralta-Ferriz & Morison (GRL 2010). Now the biggest seasonal cycles in SSH & mass (from spin-up / spin-down) are seen in the Beaufort Gyre, and if their method can capture this seasonal cycle, then I will be convinced that the method has skill and that the paper is worth publishing.

We thank the reviewer for another review.

The reconstructed mass estimate is only reconstructed annually, since it is (partly) based on annual mass balance data from ice sheets and glaciers. Therefore, it is not meaningful to validate the reconstruction against seasonal BPR.

Instead, we have subtracted the steric estimate from altimetry and compared that with the BPR-record (and GRACE) in the Beaufort Sea, even though it feels that it is going away from the objective of this study to investigate contributions to *long term* sea level change in the Arctic. As you will see, the correlation to the BPR-record is quite good and better than the seasonal mean from GRACE.