

Interactive comment on “Brief Communication: Contending estimates of early 21st century glacier mass balance over the Pamir-Karakoram-Himalaya” by A. Kääb et al.

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Kääb et al (2014) provide a comprehensive look at glacier mass balance in the high mountains of central Asia using ICESat. The uniformity of the approach in yielding the results is important. Relating the observed losses to river runoff is also a crucial step. I have two comments on this well written brief paper.

- 1) There should be a mention of the difference between the dominantly summer accumulation type glaciers and the glaciers that receive considerable winter accumulation.
- 2) There are nine regions listed in Table 1, most do not get mentioned, but should be to provide a balanced comprehensive assessment at the start of section 2. Seven of the

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nine regions have substantial negative balances, one a slight negative balance and one a positive balance. From the eastern end of the study area the ENS range through the main Himalaya of Bhutan, Nepal, India and Tibet, China to the Split-Lahaul Region the mass balance losses are consistently significantly negative. This area is dominated by summer accumulation type glaciers with the majority of the snowfall occurring during the summer monsoon. There is then a sector of less negative mass balance in the Western Kunlun Shun and Karakoram and Eastern Pamir. The mass balance is again negative in the Hindu Kush and Western Pamir range. This western end of the study area features glaciers less influenced by the summer monsoon. This paper does not need to fully explore the issue just comment on it in the review of data in Section 2. Might be worth referencing the recent paper by Li (2014), which discusses some of these regional variations in Tibet.

LI Z.. Glacier and Lake Changes across the Tibetan Plateau during the Past 50 Years of Climate Change. *Journal of Resources and Ecology*, 5(2): 123-131, 2014.

Interactive comment on The Cryosphere Discuss., 8, 5857, 2014.