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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Temporal and spatial evaluation of satellite-based rainfall estimates across the complex topographical and climatic gradients of Chile" *by* M. Zambrano-Bigiarini et al.

Anonymous Referee #2

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The Authors provided a comprehensive analysis of 7 satellite-based rainfall products over Chile. The analysis was carried on by considering several continuous and categorical scores, taking into account different time scales (daily, monthly, annual and seasonal). Moreover, the assessment was carried on by considering different climatic zones and altitude ranges. The rainfall products were compared with observed rainfall obtained from 366 station over the Chilean territory. Six out seven of the analyzed products used gauge data to calibrate and correct the rainfall estimates. The paper provided useful insights on the quality of satellite-based rainfall estimates over the complex study area. The paper is well written and clear, but I have some comments that I think should be addressed before publication. 1) The analysis was carried on over a 0.25° grid,

changing the spatial resolution of some satellite products. Could the Authors explain the regridding procedure? Did they average all the pixels within a 0.25° grid box? I think that some details should be added in the manuscript; 2) Do the Authors think that the regridding procedure have any impact in the satellite products performance?; 3) Why the Authors did not consider real-time products? 4) Figure 14 description is completely missing from the text. 5) Do the Authors have an idea for the huge overestimation in the Far North region?

Minor comments: 1) P1, L16: I think that autumn should be changed in spring; 2) P5, L32: Please add the GPCC reference; 3) P6, L15: Please add some reference for the CMORPH European study; 4) P7, L20: It should be 3B43-V7; 5) P12, L1-2: I found the same sentence three times. Please check the text 6) Section 5 and 6: Please use the same name for the satellite products throughout the manuscript. 7) P41, P42: Please check the captions: the last two rainfall classes should be [10,40) and >40; 8) Table 1: The spatial resolution of CMORPH should be 0.08°.

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