

(1) I highly suggest the authors' summarize the results in tabular form or at least focus of the most important results. Stating every result sentence by sentence is tedious to read and detracts from the readability. For example, the results on Page 11, lines 1-19, could be listed in tabular form. It's quite taxing to read and comprehend in an efficient manner.

1) This part (p 10, starting at line 32) has been rewritten and Tab.2 has been added.

Although the comparison of along-track measurements with areal and temporal averages does not allow for directly comparing precipitation rates, the number of events in the first period (657 for HOAPS and ERA-Interim) and in the second period (2031 for HOAPS and 6011 for ERA-Interim), the latter also including more events with no precipitation, allows for a first comparison of average precipitation rates (Table 2a and b).

In the earlier period, where precipitation is more likely, HOAPS underestimates observed precipitation by 15% and ERA-Interim by less than 10%. For the 2005-2008 period, HOAPS underestimates precipitation considerably by 40%, while ERA-Interim performs much better with a slight overestimation of 4%, only (Table 2a).

Using collocated data pairs instead of precipitation events and restricting the analysis to non-zero precipitation data, the number of data is sufficient to estimate the standard deviation by applying the bootstrap-method (Efron, 1979). For the 1995-1997 period HOAPS shows in average significantly higher and ERA-Interim significantly lower precipitation rates than observed (Table 2b). These differences in precipitation rates were in parts balanced by precipitation frequency, which is lower for HOAPS and considerably higher for ERA-Interim than observed. For the 2005-2008 period ERA-Interim shows again significantly lower precipitation rates than observed, while HOAPS compares well with observations, the deviation is within a standard deviation. However, the deficit in the average precipitation rate of ERA-Interim goes along with an extreme overestimation of precipitation frequency of more than 400%, while HOAPS shows an underestimation of precipitation frequency by about one third (Table 2b and c).

In summary, ERA-Interim overestimates the frequency of precipitation considerably, but combined with low precipitation rates the mean precipitation is close to measurements. In contrast, HOAPS underestimates the frequency of precipitation, but even the higher average precipitation rate of HOAPS cannot balance the deficit compared to measurements.

a)

Period	Average precipitation rate (mm/h)			
	Measurements coll. to HOAPS	HOAPS	Measurements coll. to ERA-I.	ERA-Interim
1995-1997	0.21	0.18	0.22	0.20
2005-2008	0.091	0.054	0.071	0.074

b)

Period	Average precipitation rate and standard deviation (mm/h)			
	Measurements coll. to HOAPS	HOAPS	Measurements coll. to ERA-I.	ERA-Interim
1995-1997	0.578±0.052	0.853±0.041	0.556±0.122	0.238±0.010
2005-2008	0.929±0.153	0.821±0.031	0.879±0.086	0.169±0.0013

c)

Period	Precipitation frequency (%)			
	Measurements coll. to HOAPS	HOAPS	Measurements coll. to ERA-I.	ERA-Interim
1995-1997	36.7	21.6	39.8	82.6
2005-2008	9.8	6.5	8.1	43.7

Table 2: Average precipitation rates of precipitation events (a) and average precipitation rates and their standard deviation for all collocated data pairs restricted to non-zero precipitation data (b) for collocated measurements and collocated HOAPS respective ERA-Interim data. (c) gives the precipitation frequencies derived from all collocated data pairs of both data sets.

(2) Being a satellite data person, I find the HOAPS comparisons quite interesting and illuminating. Satellite data sets are generally more challenging to characterize than the more predictable behavior of model and reanalysis data. I feel the manuscript would be much more interesting and useful if additional satellite-based precipitation data sets were compared with the shipboard gauges. I realize this is significant additional work, but comparisons with the shipboard gauges could be quite useful for ocean validation purposes.

We agree that it would be desirable to validate also other precipitation products. In this context the present study can be seen as a kind of a pilot study to investigate the possibility to validate areal or spatial averaged precipitation data sets with along track onboard measurements of precipitation by using ship rain gauges and optical disdrometers. Therefore we have chosen HOAPS as an example for a high resolution, necessary for collocation purposes, remote sensing data set and ERA-Interim as a representative data set for reanalysis data. Furthermore HOAPS is derived only from one sensor and given in its native resolution without any interpolation. In future it is planned to extend as well the data base, within the project Ocean Rain (Klepp et al., 2015) a number of research vessels have been equipped with optical disdrometers in recent years, as the number of data sets used to be validated.

2) I believe it's well-known that ERA-Interim overestimates precipitation frequency so the authors' could have forecast this result. I'm not quite sure how useful it is dwelling on this, but I understand the authors' need to be thorough.

You are right, indeed we forecasted in some sense this result. What we did not forecast was that the high frequencies of rain balance more or less the low rain rates and, moreover, the latitudinal differences, which, in our opinion, justify “dwelling on this”.

3) Page 2, Line 21 - “male-functions” should be “malfunctions”.

Is corrected

4) Page 9, Line 31 - “Figure 4” should be “Figure 5”.

Is corrected

Furthermore we tried to improve the English.