

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-08-21 (02:45)

1 Short Introduction

1.1 The list of parameters

You may want to keep the list given in table 1 at hand when viewing the results.

2 Definitions

The averages shown here are *unweighed* averages:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

with N the number of observations in the dataset.

The spread of the measurements is indicated with the variance $V(x)$, or rather the standard deviation $\sigma(x) = \sqrt{V(x)}$.

$$V(x) = \frac{1}{N-1} \sum_{i=1}^N (x_i - \bar{x})^2 \quad (2)$$

We also report the more robust statistics median, minimum, maximum, various percentiles and inter quartile range.

The median m is the value of parameter x for which half of the observations of x is smaller than m :

$$P(x \leq m) = P(x \geq m) = \int_{-\infty}^m f(x) dx = \frac{1}{2} \quad (3)$$

with $f(x)$ the probability density function.

The median is a special case of a percentile. Instead of 1/2 in equation 3, other threshold values can be used. We report results for 1 %, 5 %, 10 %, 15.9 %, 25 %, 75 %, 84.1 %, 90 %, 95 % and 99 %. The inter quartile range is the difference between the 75 % and 25 % percentiles. Similarly the minimum and maximum values correspond to the 0 % and 100 % percentiles respectively.

For normally distributed parameters the mean and median are the same, while the $\mu \pm \sigma$ values and the 15.9 % and 84.1 % percentiles coincide.

To get a measure for the relation of one variable $x_{(k)}$ with another $x_{(l)}$, we calculate the covariance matrix C_{kl} .

$$C_{kl} = C(x_{(k)}, x_{(l)}) = \frac{1}{N-1} \sum_{i=1}^N (x_{(k),i} - \bar{x}_{(k)})(x_{(l),i} - \bar{x}_{(l)}) \quad (4)$$

Rather than a dimensionally dependent covariance, it is often easier to interpret a correlation matrix R_{kl} , a matrix of Pearson's r coefficients:

$$R_{kl} = R(x_{(k)}, x_{(l)}) = \frac{C_{kl}}{\sqrt{C_{kk}C_{ll}}} = \frac{C_{kl}}{\sqrt{V(x_k)V(x_l)}} \quad (5)$$

The diagonal elements of the covariance matrix are the variances of the elements, $V(x_{(k)}) = C_{kk}$ and obviously $R_{kk} = 1$.

Table 1: Parameterlist and basic statistics for the analysis

Variable	mean $\pm \sigma$	Count	Mode	IQR	Median	Minimum	Maximum
qa value [1]	0.642 ± 0.373	18736119	0.995	0.600	0.820	0.0	1.000
cloud fraction [1]	0.579 ± 0.346	18736119	0.995	0.731	0.581	5.360×10^{-3}	1.000
cloud top height [m]	$(0.383 \pm 0.261) \times 10^4$	18736119	1.425×10^3	3.459×10^3	3.294×10^3	0.0	2.000×10^4
cloud optical thickness [1]	23.2 ± 41.5	18736119	9.34	12.7	10.3	1.000	250
cloud fraction crb [1]	0.578 ± 0.346	18736119	0.995	0.731	0.579	7.935×10^{-3}	1.000
cloud height crb [m]	$(0.304 \pm 0.223) \times 10^4$	18736119	975	3.064×10^3	2.614×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.565 ± 0.197	18736119	0.995	0.231	0.552	0.0	1.000
surface albedo fitted [1]	0.167 ± 0.209	18736119	2.500×10^{-2}	0.228	5.119×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.159 ± 0.203	18736119	1.500×10^{-2}	0.232	4.032×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.176 \pm 8.790) \times 10^{-4}$	18736119	5.000×10^{-5}	7.077×10^{-4}	3.178×10^{-4}	1.067×10^{-6}	0.831
fitted root mean square crb [1]	$(5.457 \pm 8.864) \times 10^{-4}$	18736119	5.000×10^{-5}	6.503×10^{-4}	2.358×10^{-4}	7.837×10^{-7}	1.19
wavelength shift [nm]	$(7.514 \pm 6.838) \times 10^{-3}$	18736119	-3.000×10^{-4}	9.660×10^{-3}	6.895×10^{-3}	-6.787×10^{-2}	6.685×10^{-2}
cloud fraction apriori [1]	0.582 ± 0.352	18736119	0.995	0.761	0.587	0.0	1.000
reflectance blue ocra [1]	0.522 ± 0.203	18736119	0.305	0.321	0.497	0.133	1.93
reflectance green ocra [1]	0.465 ± 0.229	18736119	0.185	0.383	0.440	7.329×10^{-2}	2.34
reflectance continuum aband [1]	0.422 ± 0.258	18736119	4.500×10^{-2}	0.397	0.405	1.022×10^{-2}	7.00

Table 2: Percentile ranges

Variable	1 %	5 %	10 %	15.9 %	25 %	75 %	84.1 %	90 %	95 %	99 %
qa value [1]	0.0	0.0	0.0	4.000×10^{-2}	0.350	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.608×10^{-2}	6.785×10^{-2}	0.105	0.154	0.247	0.978	1.000	1.000	1.000	1.000
cloud top height [m]	190	708	1.063×10^3	1.353×10^3	1.780×10^3	5.239×10^3	6.412×10^3	7.525×10^3	8.979×10^3	1.144×10^4
cloud optical thickness [1]	1.06	2.93	4.05	5.00	6.38	19.1	29.9	47.3	91.7	250
cloud fraction crb [1]	2.551×10^{-2}	6.686×10^{-2}	0.104	0.153	0.245	0.977	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	326	621	868	1.242×10^3	4.306×10^3	5.307×10^3	6.219×10^3	7.458×10^3	9.451×10^3
cloud albedo crb [1]	5.400×10^{-2}	0.229	0.326	0.397	0.452	0.683	0.760	0.831	0.930	1.000
surface albedo fitted [1]	0.0	7.985×10^{-3}	1.296×10^{-2}	1.753×10^{-2}	2.422×10^{-2}	0.252	0.365	0.498	0.622	0.885
surface albedo fitted crb [1]	0.0	5.450×10^{-3}	8.893×10^{-3}	1.233×10^{-2}	1.756×10^{-2}	0.249	0.362	0.485	0.588	0.844
fitted root mean square [1]	9.357×10^{-6}	2.305×10^{-5}	3.860×10^{-5}	6.096×10^{-5}	1.060×10^{-4}	8.138×10^{-4}	1.196×10^{-3}	1.607×10^{-3}	2.202×10^{-3}	3.633×10^{-3}
fitted root mean square crb [1]	6.187×10^{-6}	1.429×10^{-5}	2.534×10^{-5}	4.054×10^{-5}	7.116×10^{-5}	7.215×10^{-4}	1.116×10^{-3}	1.528×10^{-3}	2.098×10^{-3}	3.383×10^{-3}
wavelength shift [nm]	-7.274×10^{-3}	-7.934×10^{-4}	-3.418×10^{-5}	7.243×10^{-4}	2.252×10^{-3}	1.191×10^{-2}	1.433×10^{-2}	1.645×10^{-2}	1.932×10^{-2}	2.574×10^{-2}
cloud fraction apriori [1]	2.707×10^{-2}	6.404×10^{-2}	9.804×10^{-2}	0.145	0.239	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.231	0.257	0.279	0.305	0.347	0.667	0.739	0.797	0.872	1.04
reflectance green ocra [1]	0.149	0.171	0.190	0.214	0.256	0.639	0.717	0.780	0.859	1.01
reflectance continuum aband [1]	2.905×10^{-2}	5.245×10^{-2}	8.463×10^{-2}	0.128	0.211	0.607	0.696	0.768	0.855	1.02

Table 3: Parameterlist and basic statistics for the analysis for observations in the northern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.626 ± 0.372	11446780	0.640	0.800	0.0	1.000	0.300	0.940
cloud fraction [1]	0.594 ± 0.352	11446780	0.749	0.610	5.360×10^{-3}	1.000	0.250	0.999
cloud top height [m]	$(0.389 \pm 0.259) \times 10^4$	11446780	3.433×10^3	3.479×10^3	0.0	2.000×10^4	1.870×10^3	5.303×10^3
cloud optical thickness [1]	20.0 ± 36.6	11446780	11.0	9.57	1.000	250	5.89	16.9
cloud fraction crb [1]	0.593 ± 0.352	11446780	0.750	0.608	8.183×10^{-3}	1.000	0.249	0.999
cloud height crb [m]	$(0.311 \pm 0.224) \times 10^4$	11446780	3.003×10^3	2.795×10^3	0.0	2.000×10^4	1.319×10^3	4.321×10^3
cloud albedo crb [1]	0.549 ± 0.204	11446780	0.247	0.542	0.0	1.000	0.432	0.679
surface albedo fitted [1]	0.192 ± 0.210	11446780	0.260	0.122	0.0	1.000	2.675×10^{-2}	0.287
surface albedo fitted crb [1]	0.186 ± 0.206	11446780	0.264	0.120	0.0	1.000	2.055×10^{-2}	0.285
fitted root mean square [1]	$(7.108 \pm 10.041) \times 10^{-4}$	11446780	8.676×10^{-4}	3.777×10^{-4}	1.067×10^{-6}	0.831	1.109×10^{-4}	9.786×10^{-4}
fitted root mean square crb [1]	$(6.512 \pm 10.374) \times 10^{-4}$	11446780	8.461×10^{-4}	3.020×10^{-4}	7.837×10^{-7}	1.19	8.053×10^{-5}	9.267×10^{-4}
wavelength shift [nm]	$(7.707 \pm 6.753) \times 10^{-3}$	11446780	9.713×10^{-3}	7.255×10^{-3}	-6.787×10^{-2}	6.685×10^{-2}	2.423×10^{-3}	1.214×10^{-2}
cloud fraction apriori [1]	0.599 ± 0.357	11446780	0.755	0.620	0.0	1.000	0.245	1.000
reflectance blue ocra [1]	0.515 ± 0.201	11446780	0.324	0.492	0.133	1.91	0.338	0.662
reflectance green ocra [1]	0.461 ± 0.226	11446780	0.385	0.437	7.329×10^{-2}	2.34	0.251	0.636
reflectance continuum aband [1]	0.429 ± 0.252	11446780	0.383	0.411	1.022×10^{-2}	7.00	0.229	0.612

Table 4: Parameterlist and basic statistics for the analysis for observations in the southern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.666 ± 0.375	7289339	0.600	0.890	0.0	1.000	0.400	1.000
cloud fraction [1]	0.556 ± 0.335	7289339	0.665	0.543	7.393×10^{-3}	1.000	0.242	0.908
cloud top height [m]	$(0.373 \pm 0.263) \times 10^4$	7289339	3.445×10^3	2.994×10^3	0.0	2.000×10^4	1.685×10^3	5.130×10^3
cloud optical thickness [1]	28.3 ± 47.8	7289339	16.0	11.6	1.000	250	7.26	23.2
cloud fraction crb [1]	0.554 ± 0.335	7289339	0.664	0.540	7.935×10^{-3}	1.000	0.241	0.905
cloud height crb [m]	$(0.295 \pm 0.221) \times 10^4$	7289339	3.109×10^3	2.304×10^3	0.0	2.000×10^4	1.167×10^3	4.276×10^3
cloud albedo crb [1]	0.589 ± 0.184	7289339	0.211	0.566	0.0	1.000	0.478	0.689
surface albedo fitted [1]	0.128 ± 0.201	7289339	6.360×10^{-2}	3.697×10^{-2}	0.0	1.000	2.199×10^{-2}	8.559×10^{-2}
surface albedo fitted crb [1]	0.116 ± 0.190	7289339	5.612×10^{-2}	2.718×10^{-2}	0.0	1.000	1.498×10^{-2}	7.109×10^{-2}
fitted root mean square [1]	$(4.712 \pm 6.063) \times 10^{-4}$	7289339	5.039×10^{-4}	2.572×10^{-4}	1.492×10^{-6}	6.981×10^{-2}	9.989×10^{-5}	6.038×10^{-4}
fitted root mean square crb [1]	$(3.802 \pm 5.334) \times 10^{-4}$	7289339	4.027×10^{-4}	1.727×10^{-4}	1.591×10^{-6}	2.647×10^{-2}	6.298×10^{-5}	4.657×10^{-4}
wavelength shift [nm]	$(7.211 \pm 6.959) \times 10^{-3}$	7289339	9.455×10^{-3}	6.316×10^{-3}	-4.442×10^{-2}	6.173×10^{-2}	2.058×10^{-3}	1.151×10^{-2}
cloud fraction apriori [1]	0.556 ± 0.343	7289339	0.697	0.543	0.0	1.000	0.231	0.928
reflectance blue ocra [1]	0.533 ± 0.206	7289339	0.316	0.503	0.154	1.93	0.360	0.676
reflectance green ocra [1]	0.473 ± 0.234	7289339	0.380	0.445	8.496×10^{-2}	1.92	0.264	0.644
reflectance continuum aband [1]	0.411 ± 0.266	7289339	0.419	0.393	1.304×10^{-2}	3.92	0.182	0.601

Table 5: Parameterlist and basic statistics for the analysis for observations over water

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.637 ± 0.369	13372598	0.600	0.800	0.0	1.000	0.350	0.950
cloud fraction [1]	0.568 ± 0.343	13372598	0.711	0.564	6.430×10^{-3}	1.000	0.240	0.951
cloud top height [m]	$(0.374 \pm 0.261) \times 10^4$	13372598	3.464×10^3	3.132×10^3	0.0	2.000×10^4	1.685×10^3	5.149×10^3
cloud optical thickness [1]	25.8 ± 45.2	13372598	13.6	11.0	1.000	250	7.11	20.7
cloud fraction crb [1]	0.567 ± 0.343	13372598	0.711	0.562	7.935×10^{-3}	1.000	0.238	0.949
cloud height crb [m]	$(0.297 \pm 0.226) \times 10^4$	13372598	3.100×10^3	2.486×10^3	0.0	2.000×10^4	1.141×10^3	4.241×10^3
cloud albedo crb [1]	0.557 ± 0.189	13372598	0.215	0.543	0.0	1.000	0.450	0.665
surface albedo fitted [1]	0.116 ± 0.191	13372598	4.351×10^{-2}	3.338×10^{-2}	0.0	1.000	1.915×10^{-2}	6.266×10^{-2}
surface albedo fitted crb [1]	0.107 ± 0.184	13372598	3.717×10^{-2}	2.491×10^{-2}	0.0	1.000	1.354×10^{-2}	5.071×10^{-2}
fitted root mean square [1]	$(4.778 \pm 7.041) \times 10^{-4}$	13372598	4.986×10^{-4}	2.288×10^{-4}	1.067×10^{-6}	6.919×10^{-2}	8.242×10^{-5}	5.810×10^{-4}
fitted root mean square crb [1]	$(4.059 \pm 6.130) \times 10^{-4}$	13372598	4.037×10^{-4}	1.666×10^{-4}	7.837×10^{-7}	6.973×10^{-2}	5.946×10^{-5}	4.632×10^{-4}
wavelength shift [nm]	$(7.215 \pm 6.869) \times 10^{-3}$	13372598	9.487×10^{-3}	6.404×10^{-3}	-4.442×10^{-2}	6.284×10^{-2}	2.040×10^{-3}	1.153×10^{-2}
cloud fraction apriori [1]	0.569 ± 0.348	13372598	0.748	0.566	0.0	1.000	0.232	0.980
reflectance blue ocr [1]	0.519 ± 0.192	13372598	0.308	0.503	0.164	1.90	0.352	0.660
reflectance green ocr [1]	0.460 ± 0.218	13372598	0.373	0.447	8.825×10^{-2}	2.34	0.256	0.629
reflectance continuum aband [1]	0.389 ± 0.256	13372598	0.431	0.379	1.046×10^{-2}	7.00	0.151	0.583

Table 6: Parameterlist and basic statistics for the analysis for observations over land

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.661 ± 0.378	3445763	0.610	0.850	0.0	1.000	0.350	0.960
cloud fraction [1]	0.588 ± 0.352	3445763	0.748	0.587	7.258×10^{-3}	1.000	0.250	0.998
cloud top height [m]	$(0.435 \pm 0.273) \times 10^4$	3445763	3.534×10^3	3.911×10^3	0.0	2.000×10^4	2.332×10^3	5.867×10^3
cloud optical thickness [1]	15.9 ± 28.3	3445763	9.09	8.18	1.000	250	5.16	14.2
cloud fraction crb [1]	0.588 ± 0.352	3445763	0.748	0.587	8.183×10^{-3}	1.000	0.250	0.998
cloud height crb [m]	$(0.341 \pm 0.224) \times 10^4$	3445763	3.075×10^3	2.973×10^3	0.0	2.000×10^4	1.681×10^3	4.755×10^3
cloud albedo crb [1]	0.607 ± 0.219	3445763	0.285	0.598	0.0	1.000	0.477	0.762
surface albedo fitted [1]	0.347 ± 0.216	3445763	0.145	0.268	0.0	1.000	0.216	0.361
surface albedo fitted crb [1]	0.340 ± 0.204	3445763	0.148	0.265	4.401×10^{-3}	1.000	0.213	0.361
fitted root mean square [1]	$(1.105 \pm 1.205) \times 10^{-3}$	3445763	1.103×10^{-3}	8.401×10^{-4}	1.745×10^{-6}	0.831	4.147×10^{-4}	1.517×10^{-3}
fitted root mean square crb [1]	$(1.018 \pm 1.380) \times 10^{-3}$	3445763	1.135×10^{-3}	7.761×10^{-4}	1.600×10^{-6}	1.19	3.156×10^{-4}	1.451×10^{-3}
wavelength shift [nm]	$(8.450 \pm 6.456) \times 10^{-3}$	3445763	9.016×10^{-3}	8.330×10^{-3}	-5.912×10^{-2}	6.064×10^{-2}	3.671×10^{-3}	1.269×10^{-2}
cloud fraction apriori [1]	0.599 ± 0.359	3445763	0.755	0.614	0.0	1.000	0.245	1.000
reflectance blue ocra [1]	0.538 ± 0.245	3445763	0.406	0.480	0.133	1.93	0.327	0.732
reflectance green ocra [1]	0.495 ± 0.270	3445763	0.467	0.430	7.329×10^{-2}	1.92	0.253	0.720
reflectance continuum aband [1]	0.529 ± 0.243	3445763	0.393	0.477	1.677×10^{-2}	4.09	0.328	0.721

3 Granule outlines

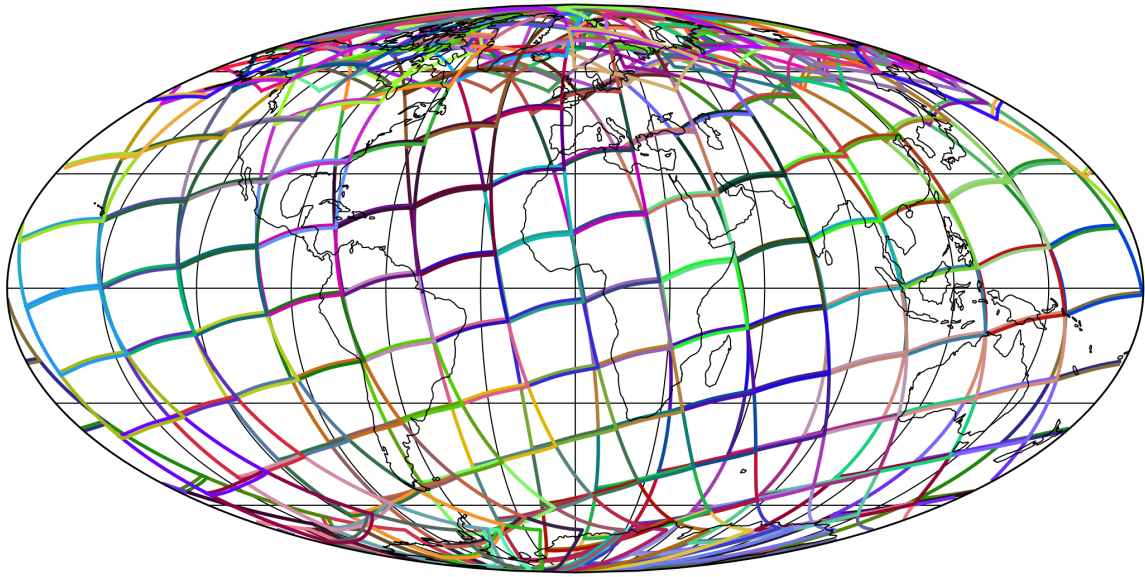


Figure 1: Outline of the granules.

4 Input data monitoring

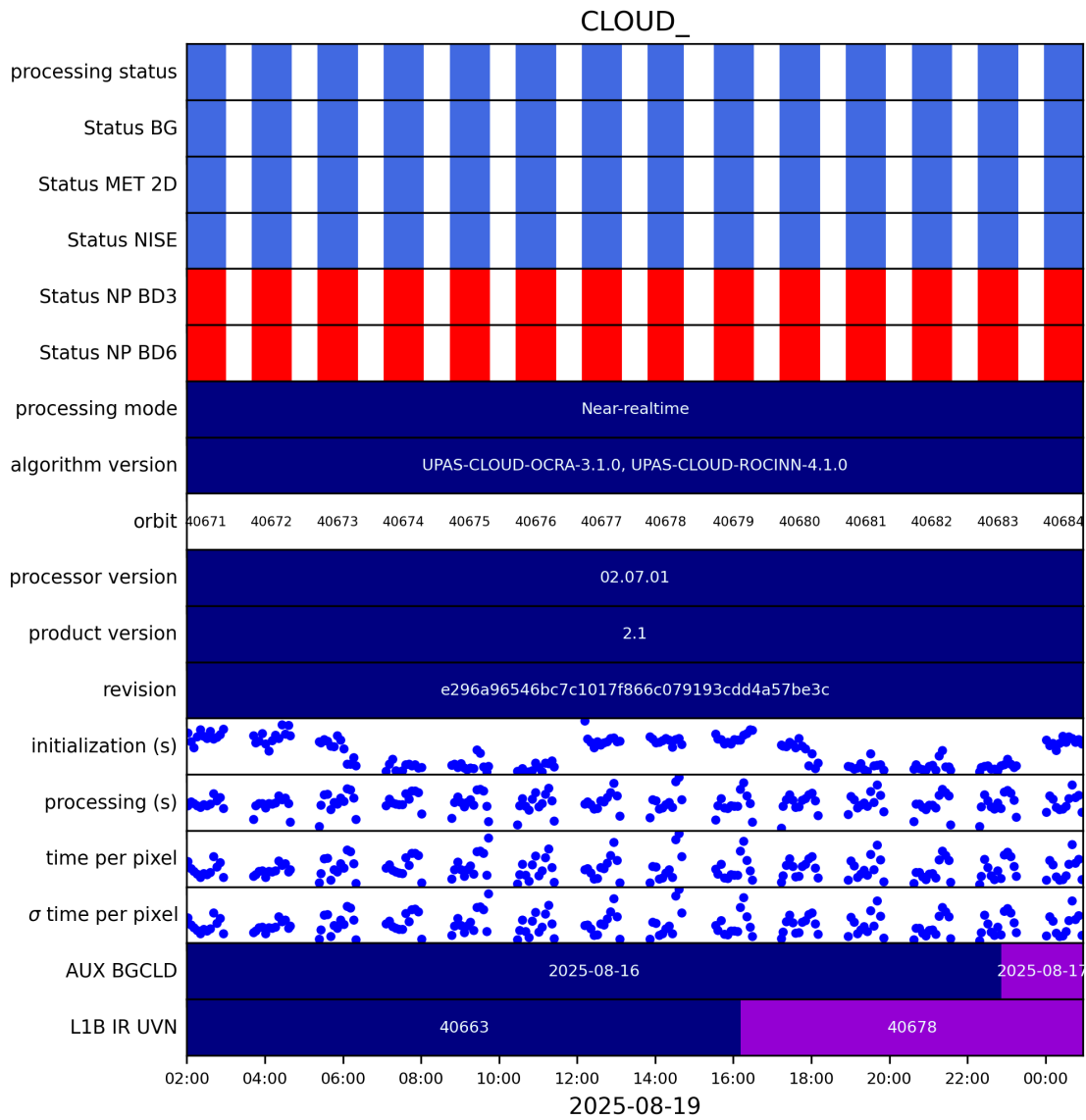


Figure 2: Input data per granule

5 Warnings and errors

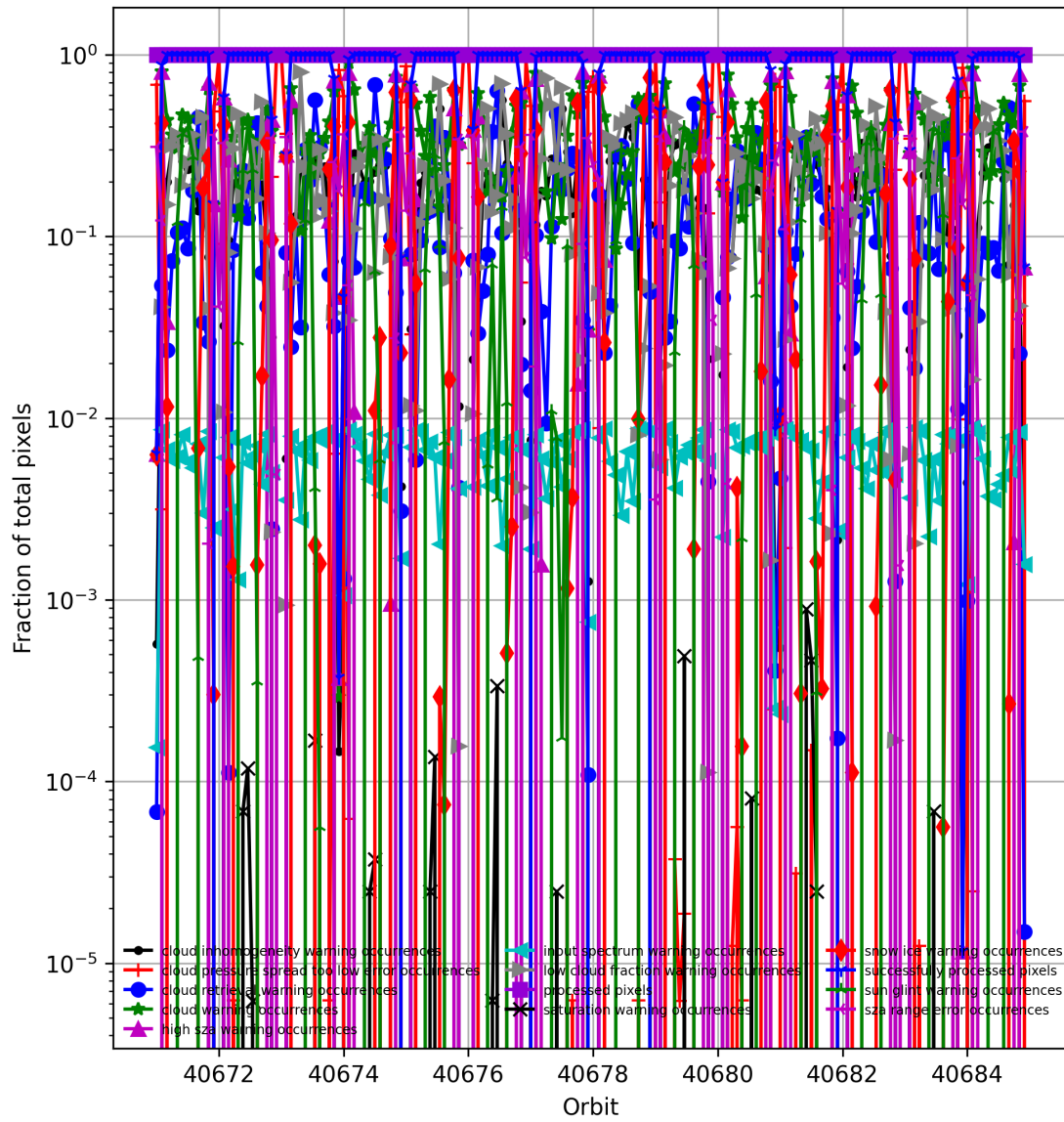


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

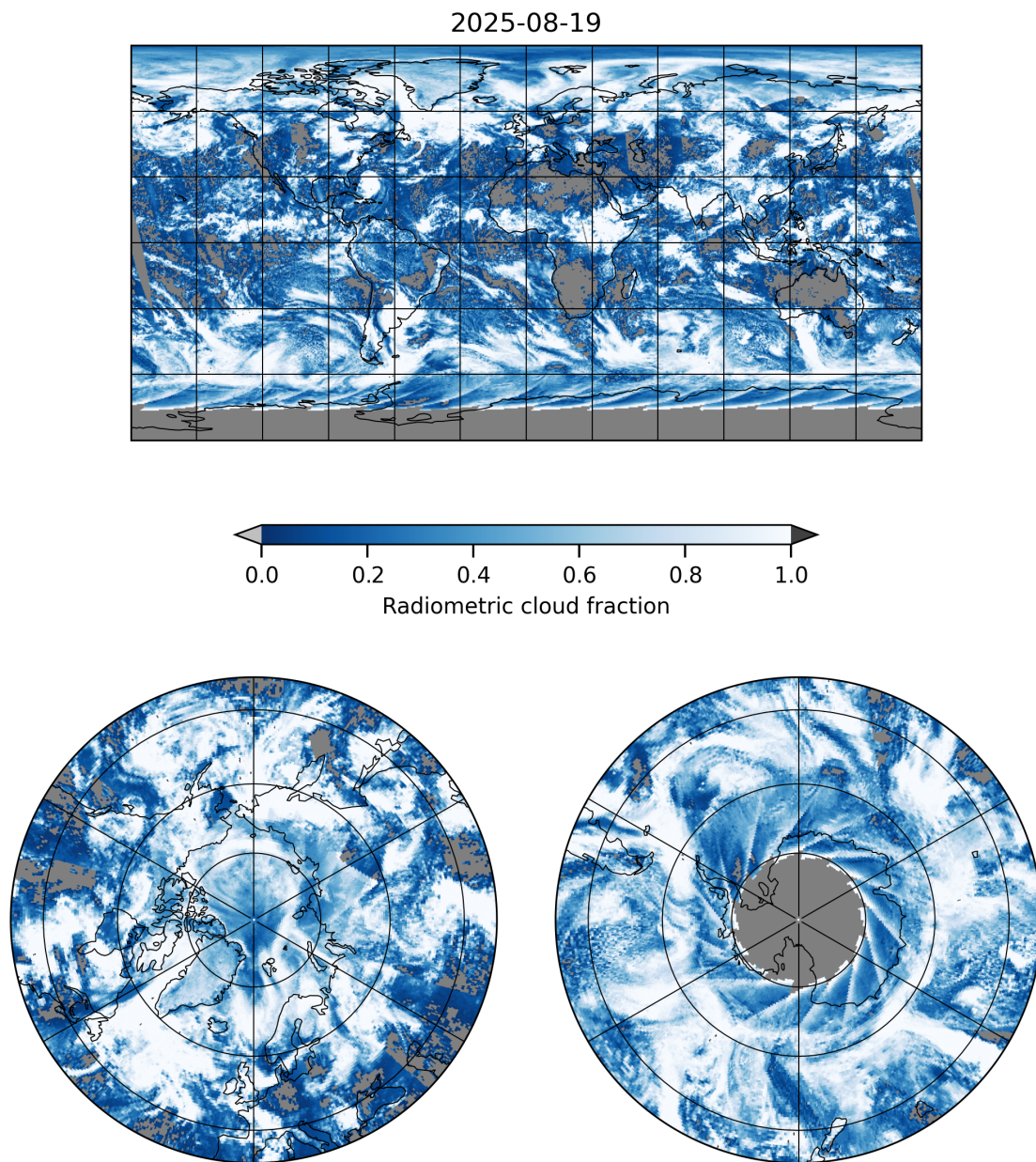


Figure 4: Map of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20

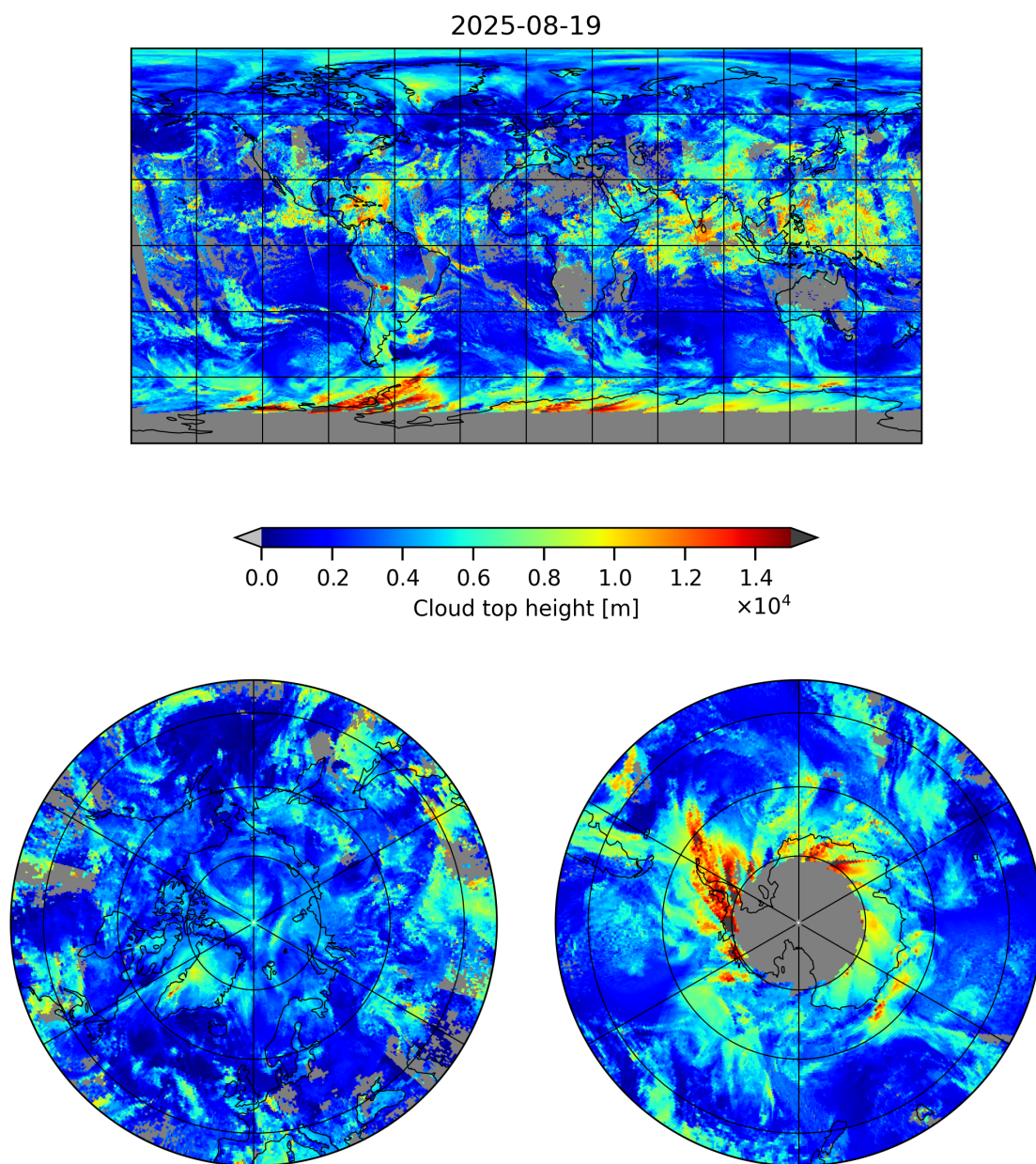


Figure 5: Map of “Cloud top height” for 2025-08-19 to 2025-08-20

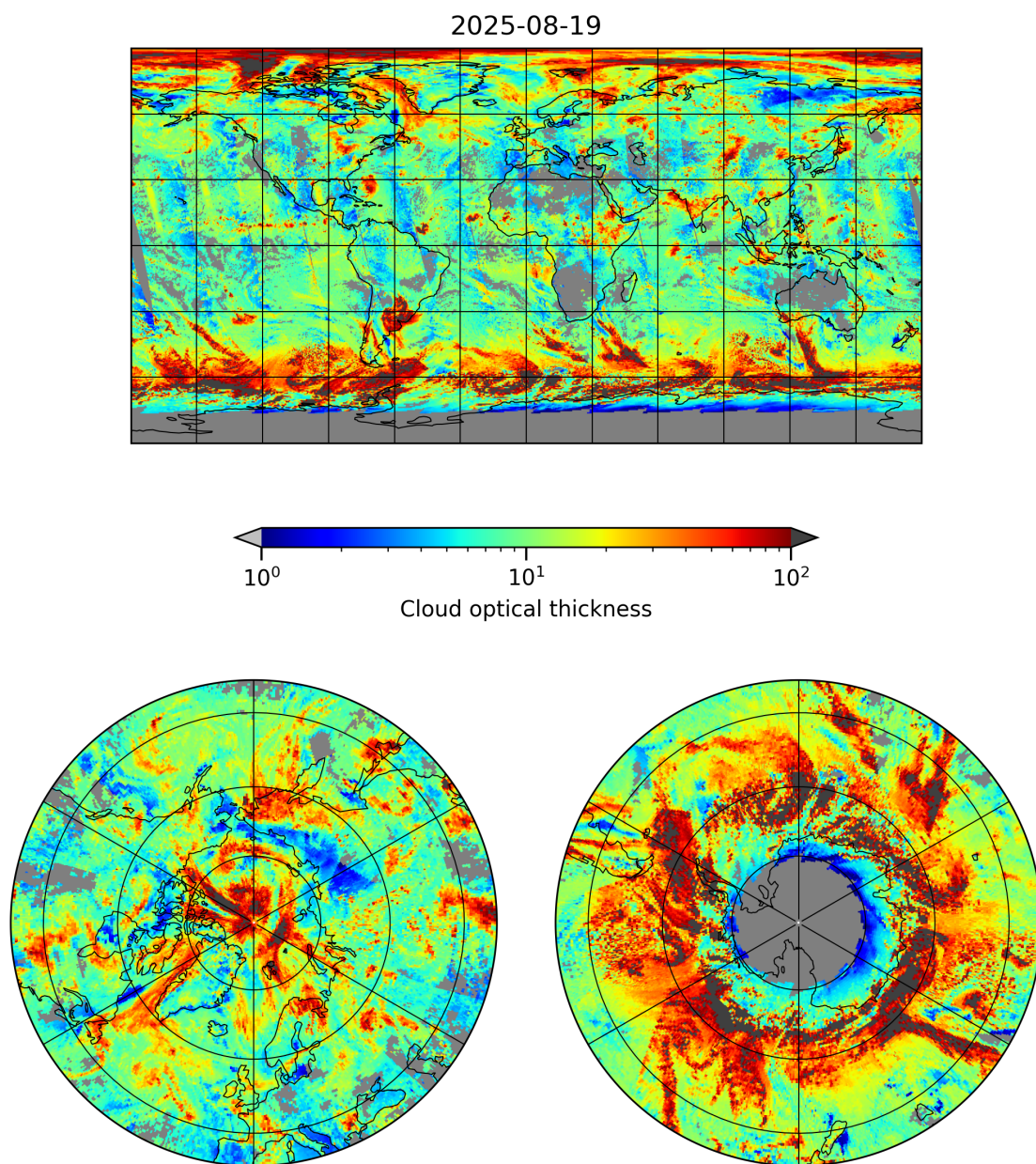


Figure 6: Map of “Cloud optical thickness” for 2025-08-19 to 2025-08-20

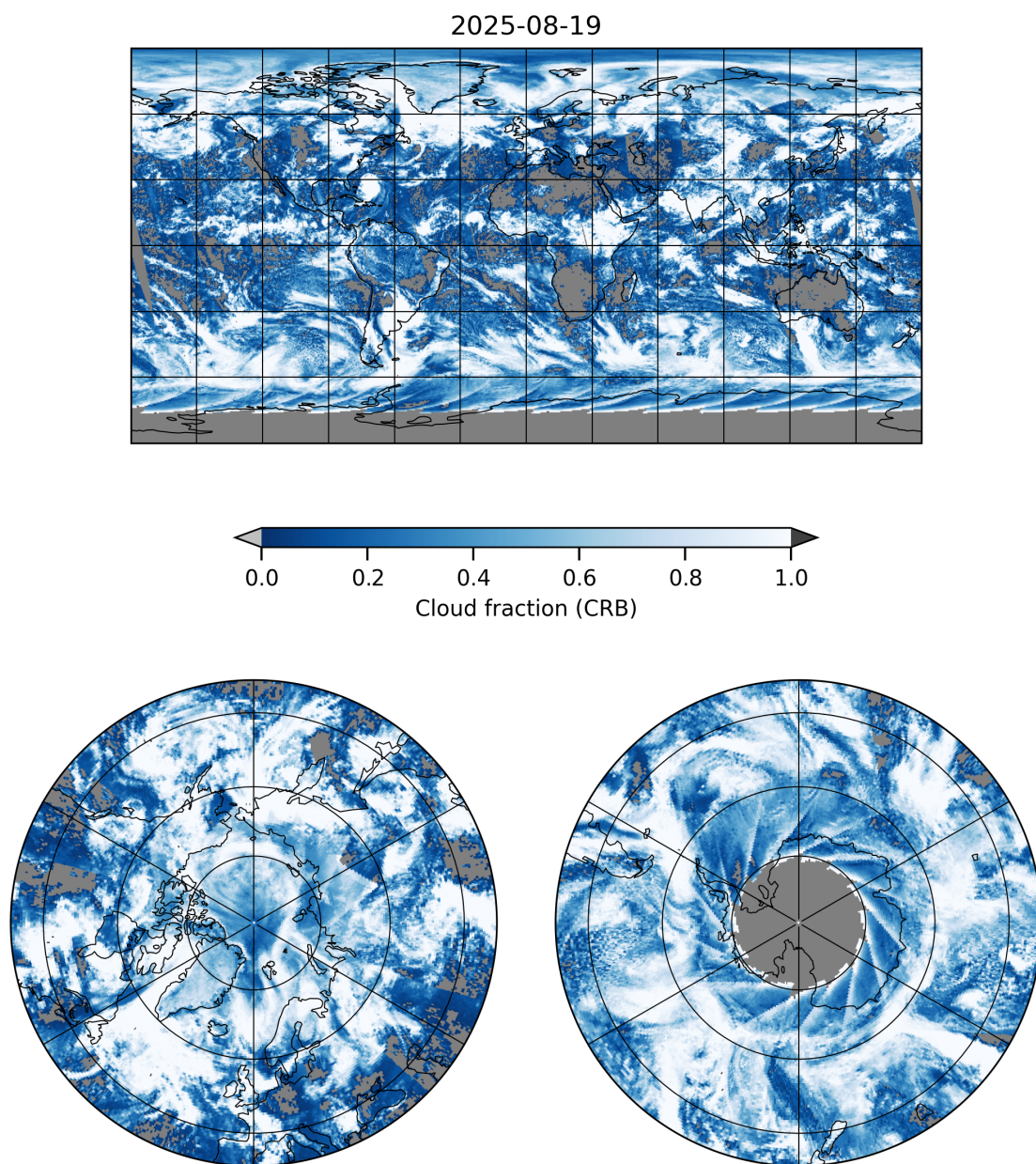


Figure 7: Map of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20

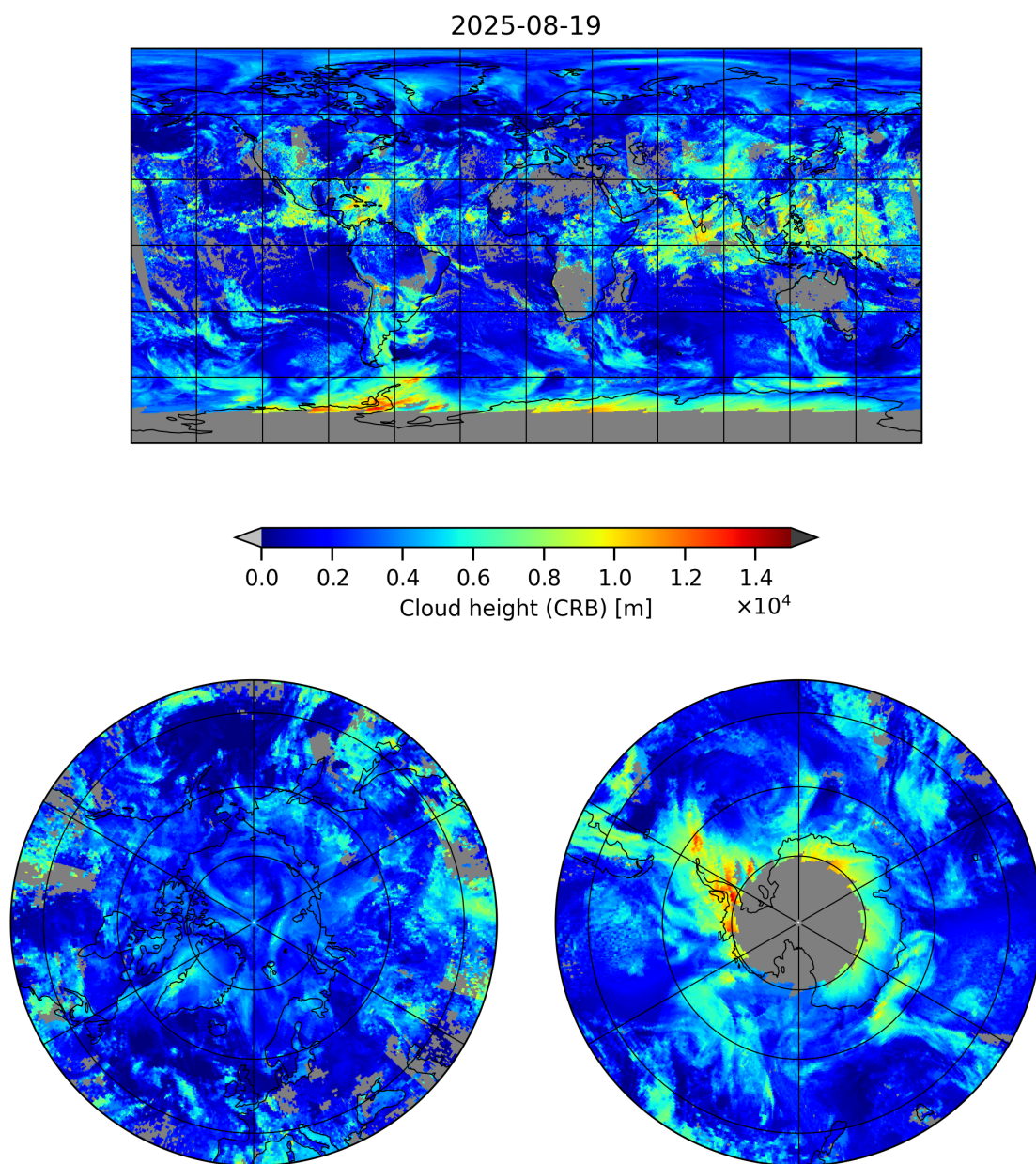


Figure 8: Map of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20

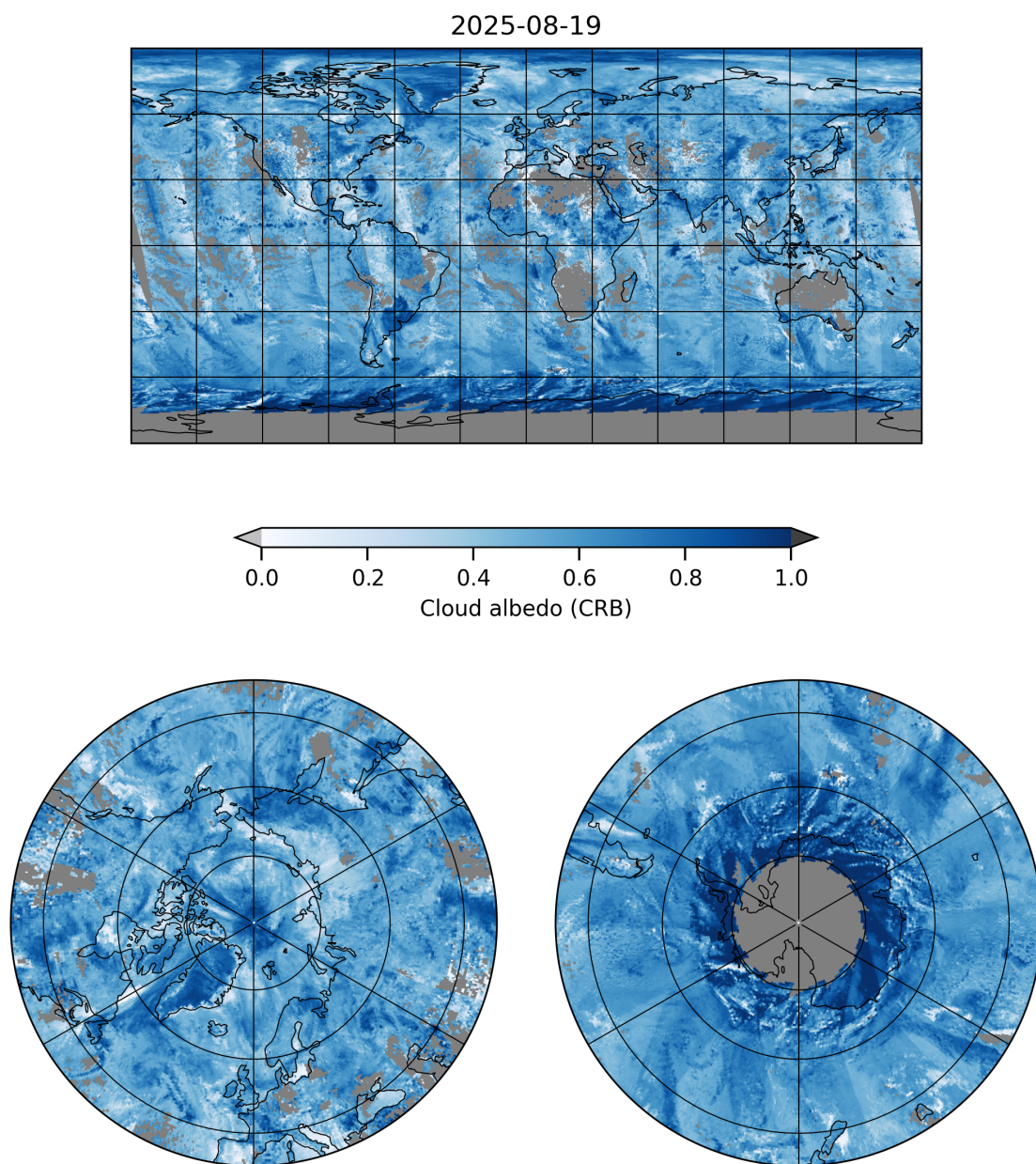


Figure 9: Map of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20

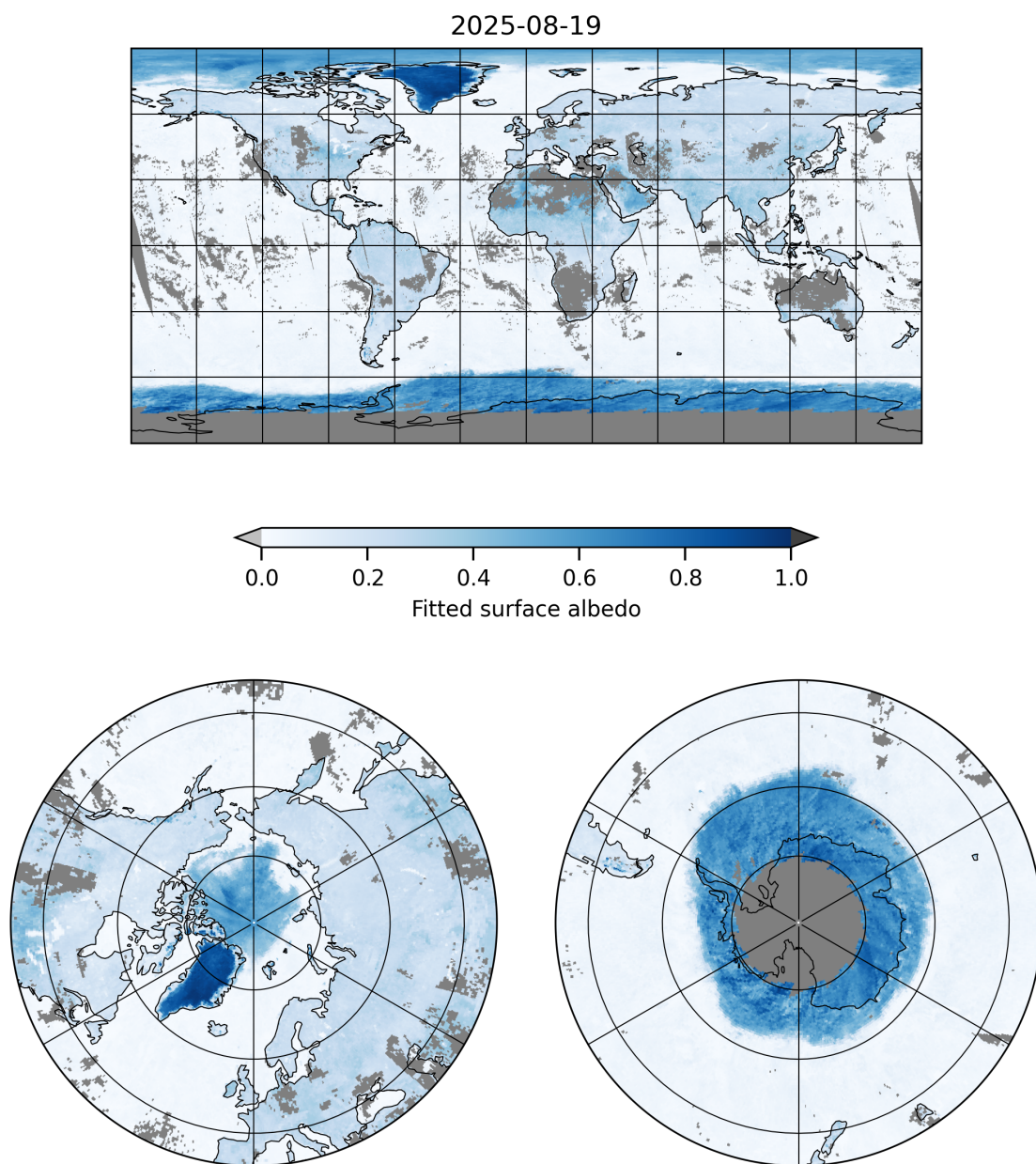


Figure 10: Map of “Fitted surface albedo” for 2025-08-19 to 2025-08-20

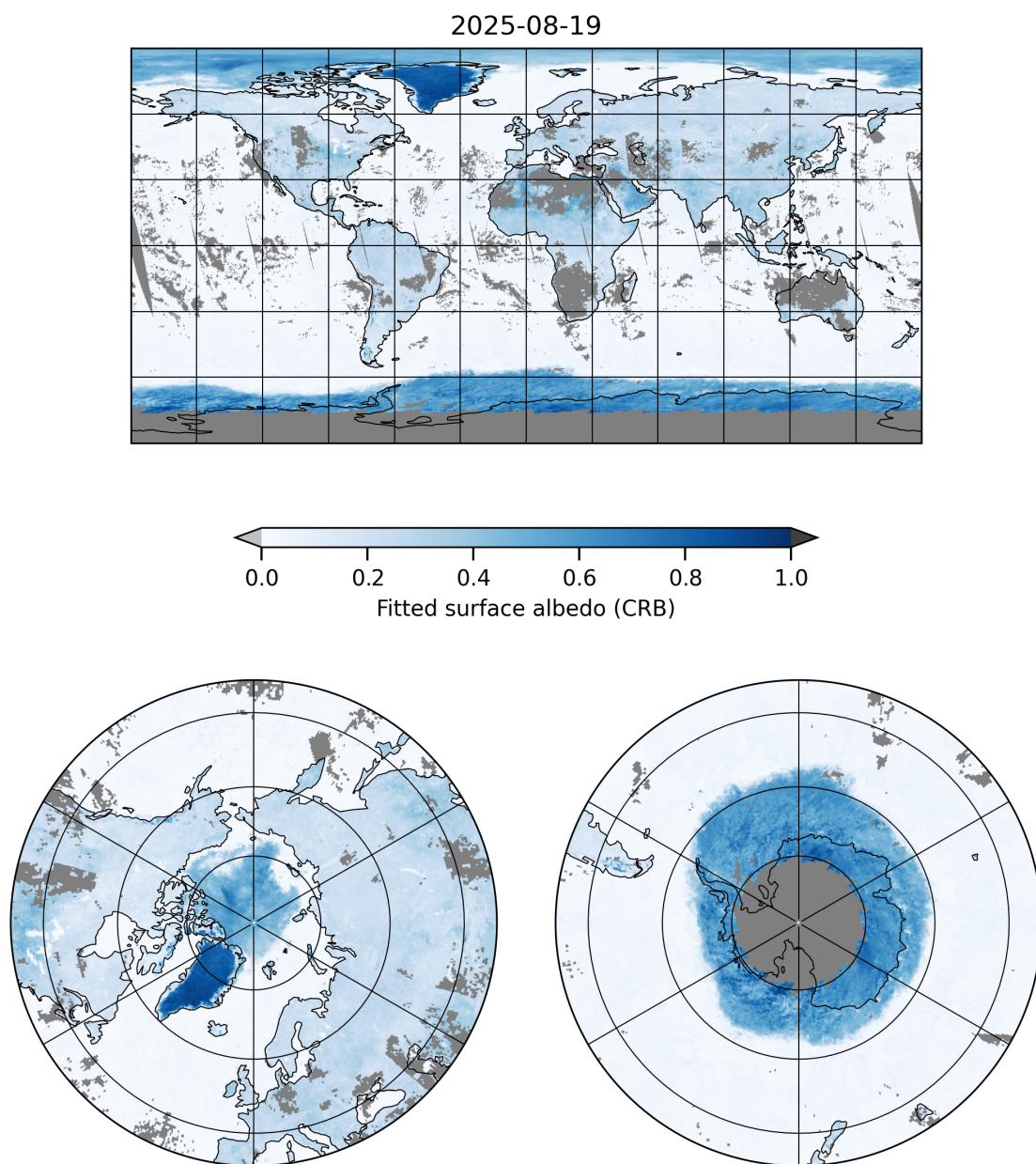


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20

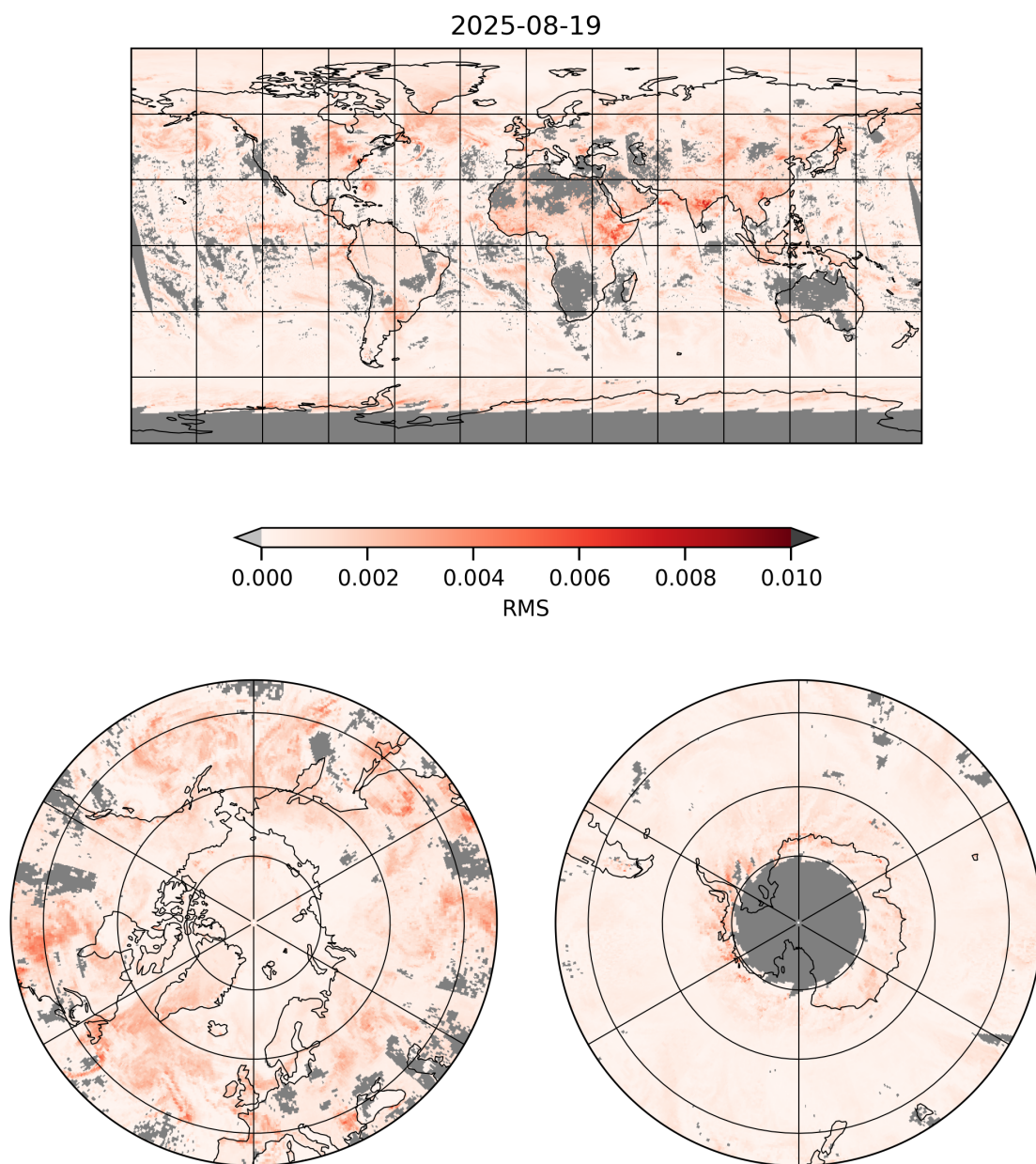


Figure 12: Map of “RMS” for 2025-08-19 to 2025-08-20

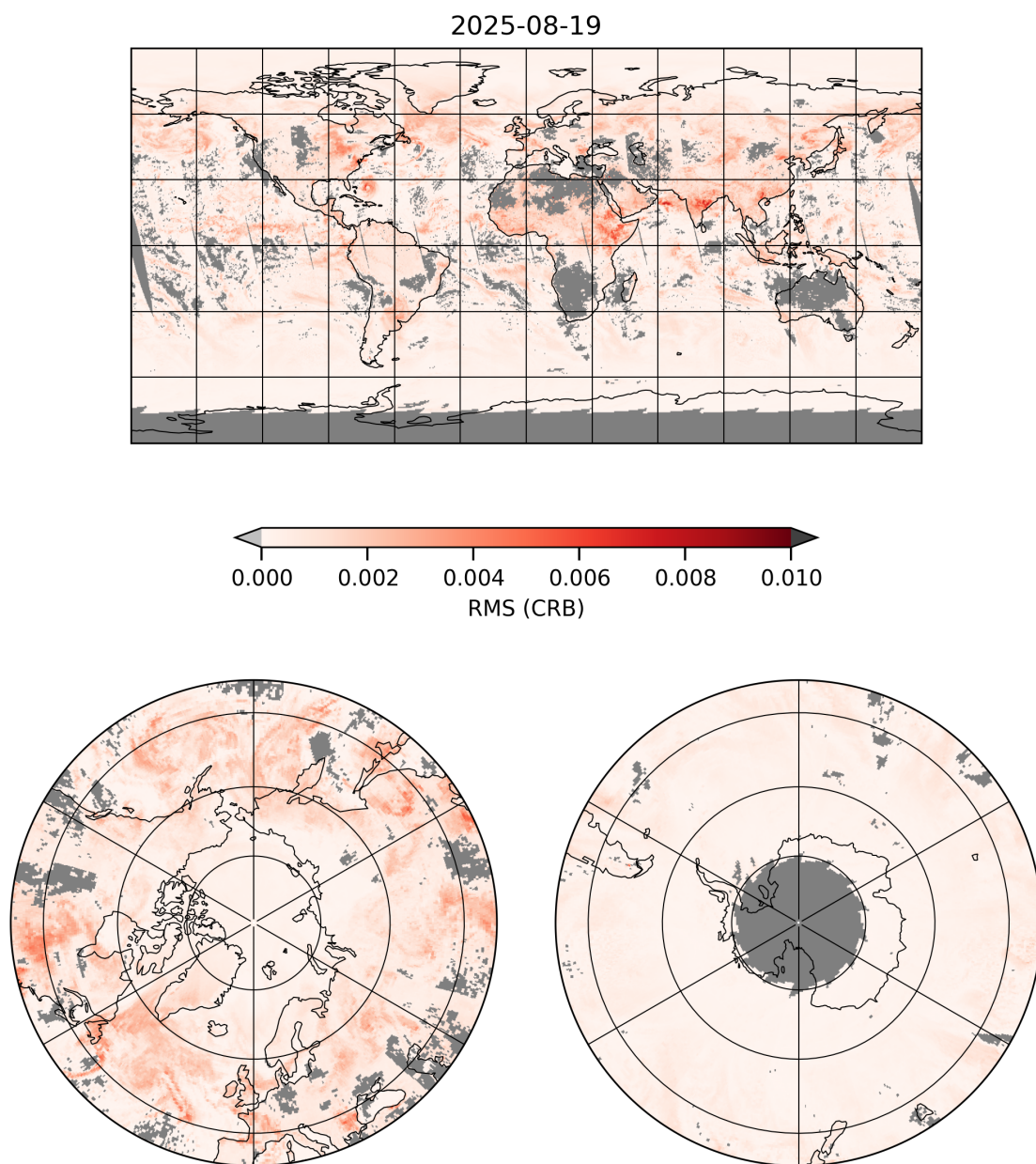


Figure 13: Map of “RMS (CRB)” for 2025-08-19 to 2025-08-20

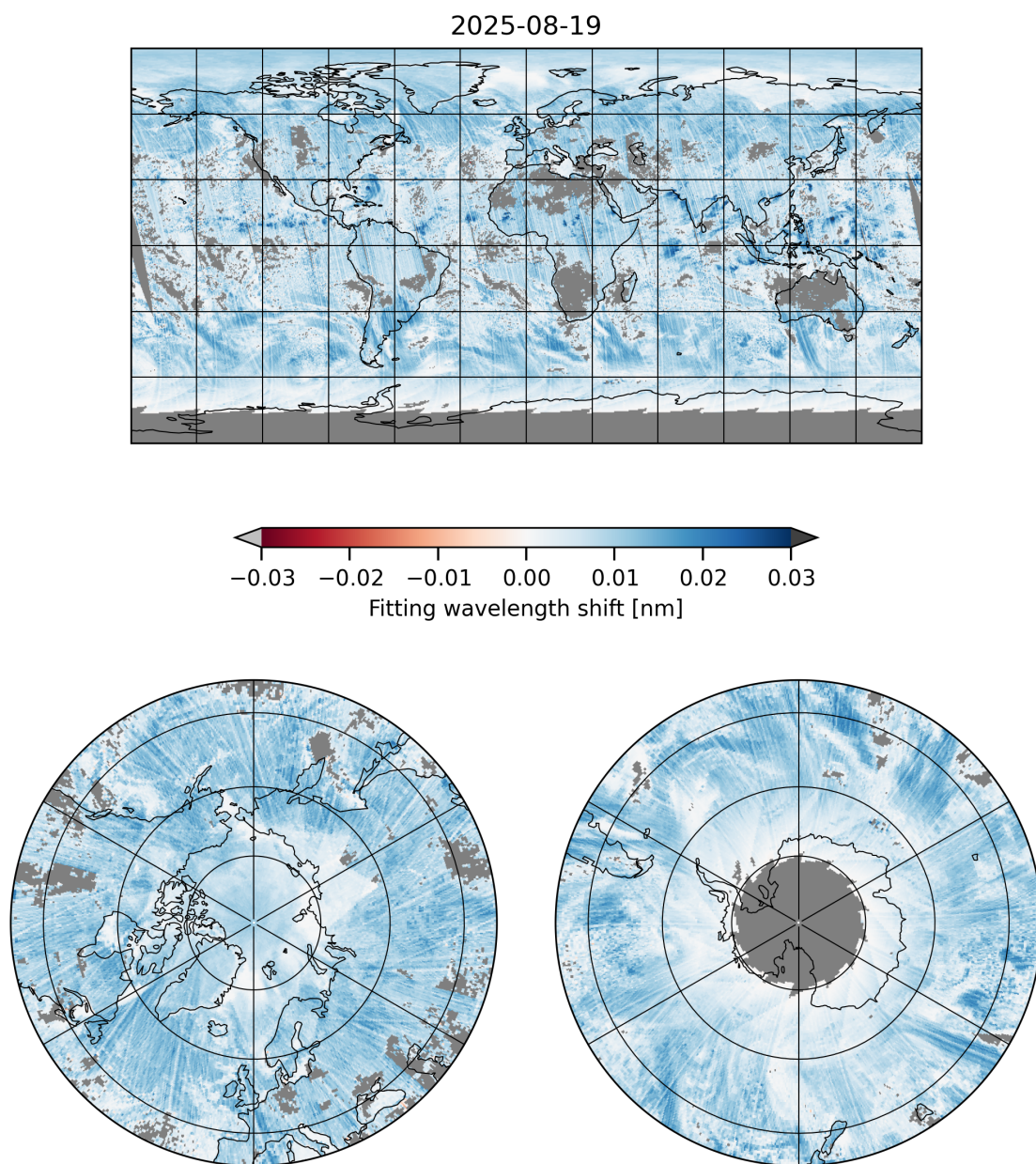


Figure 14: Map of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20

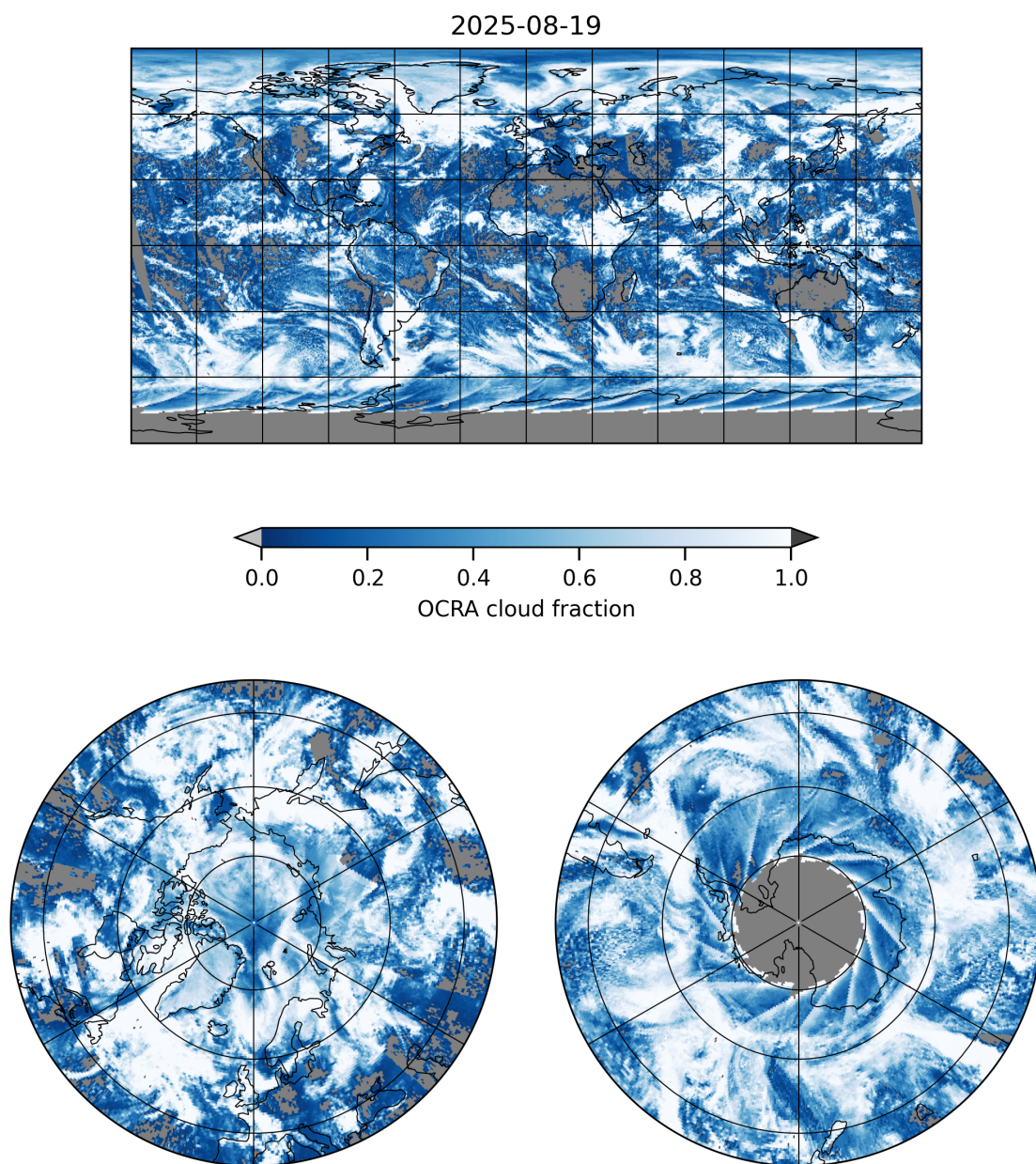


Figure 15: Map of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20

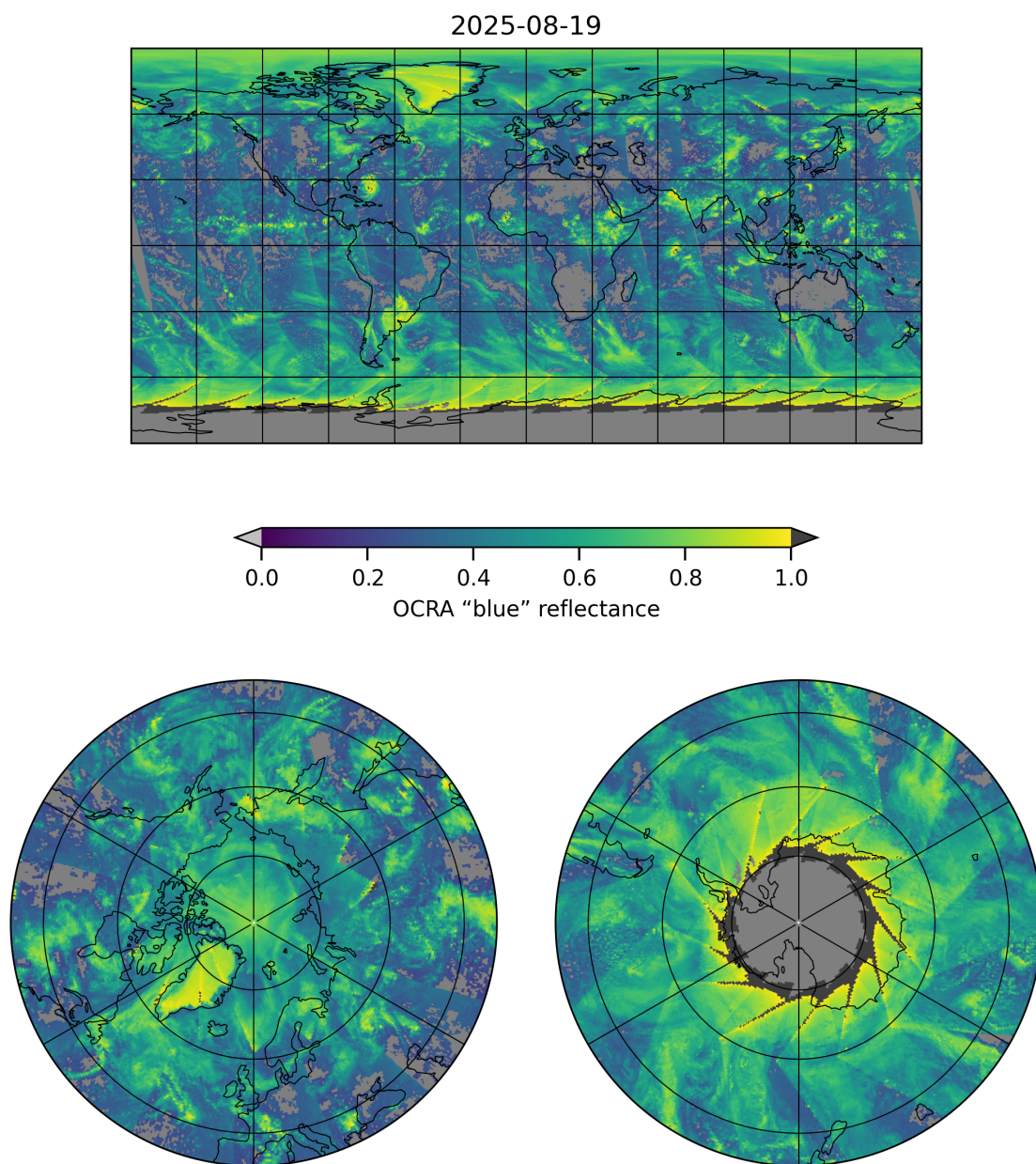


Figure 16: Map of "OCRA "blue" reflectance" for 2025-08-19 to 2025-08-20

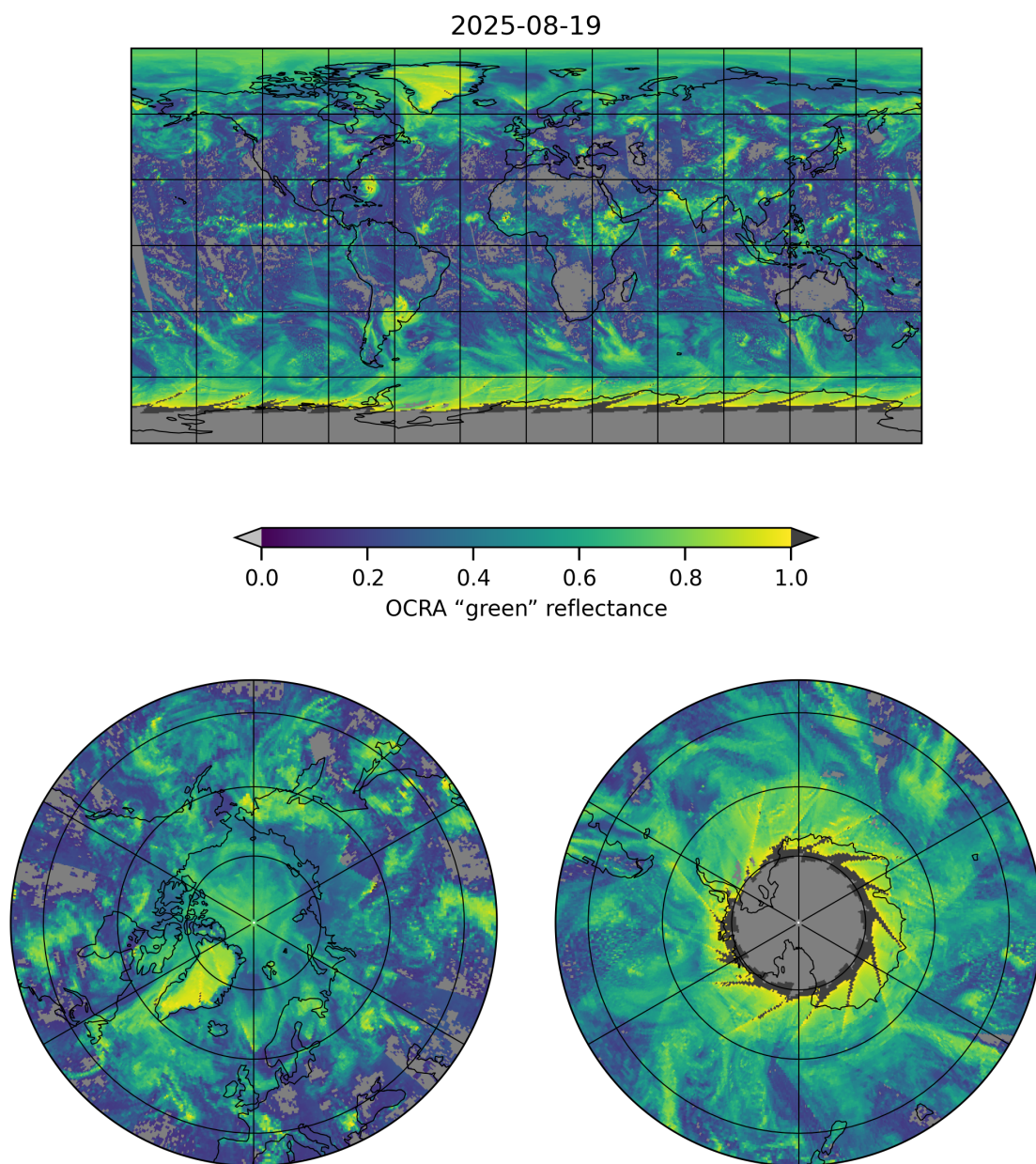


Figure 17: Map of "OCRA "green" reflectance" for 2025-08-19 to 2025-08-20

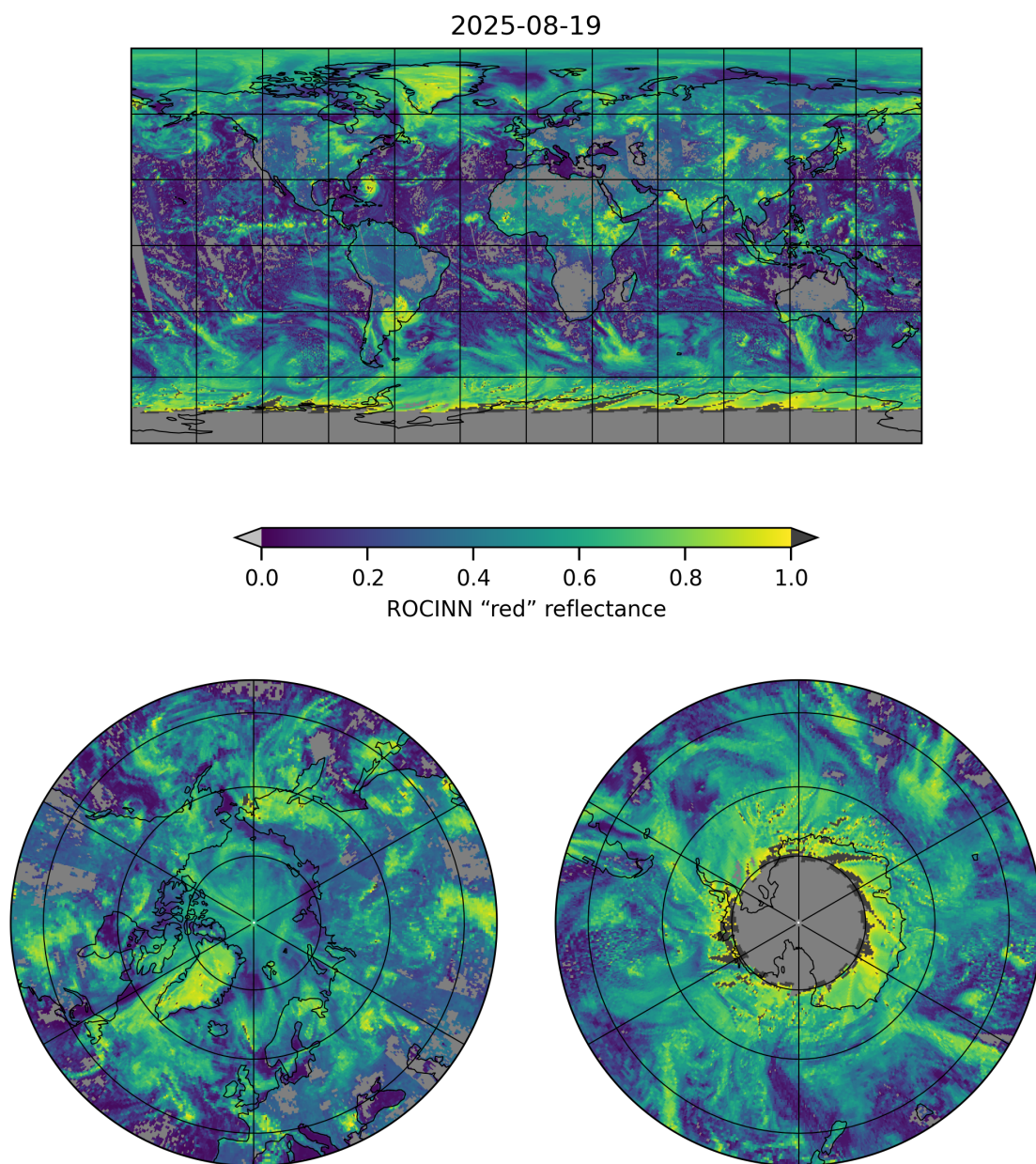


Figure 18: Map of "ROCINN "red" reflectance" for 2025-08-19 to 2025-08-20

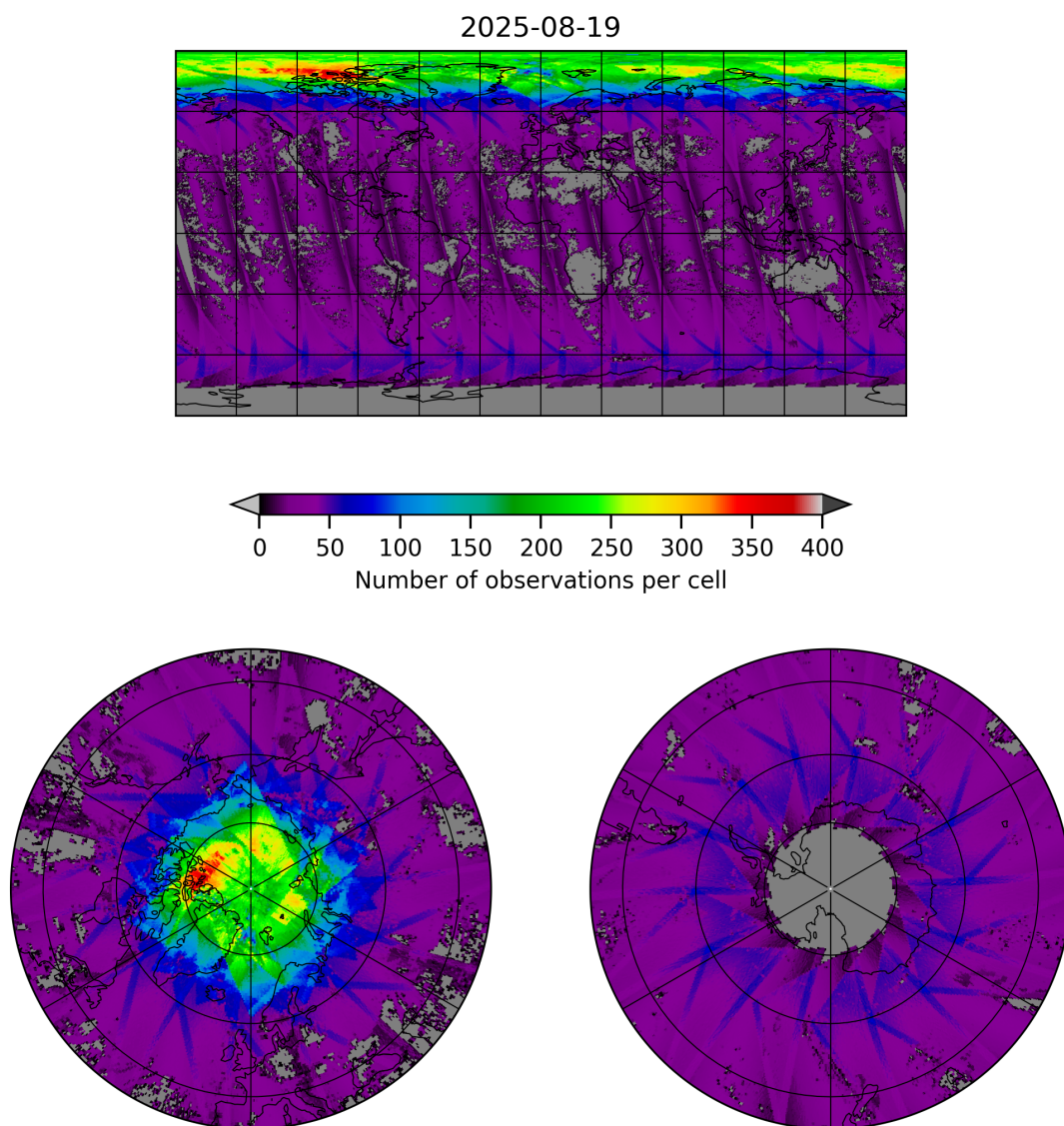


Figure 19: Map of the number of observations for 2025-08-19 to 2025-08-20

7 Zonal average

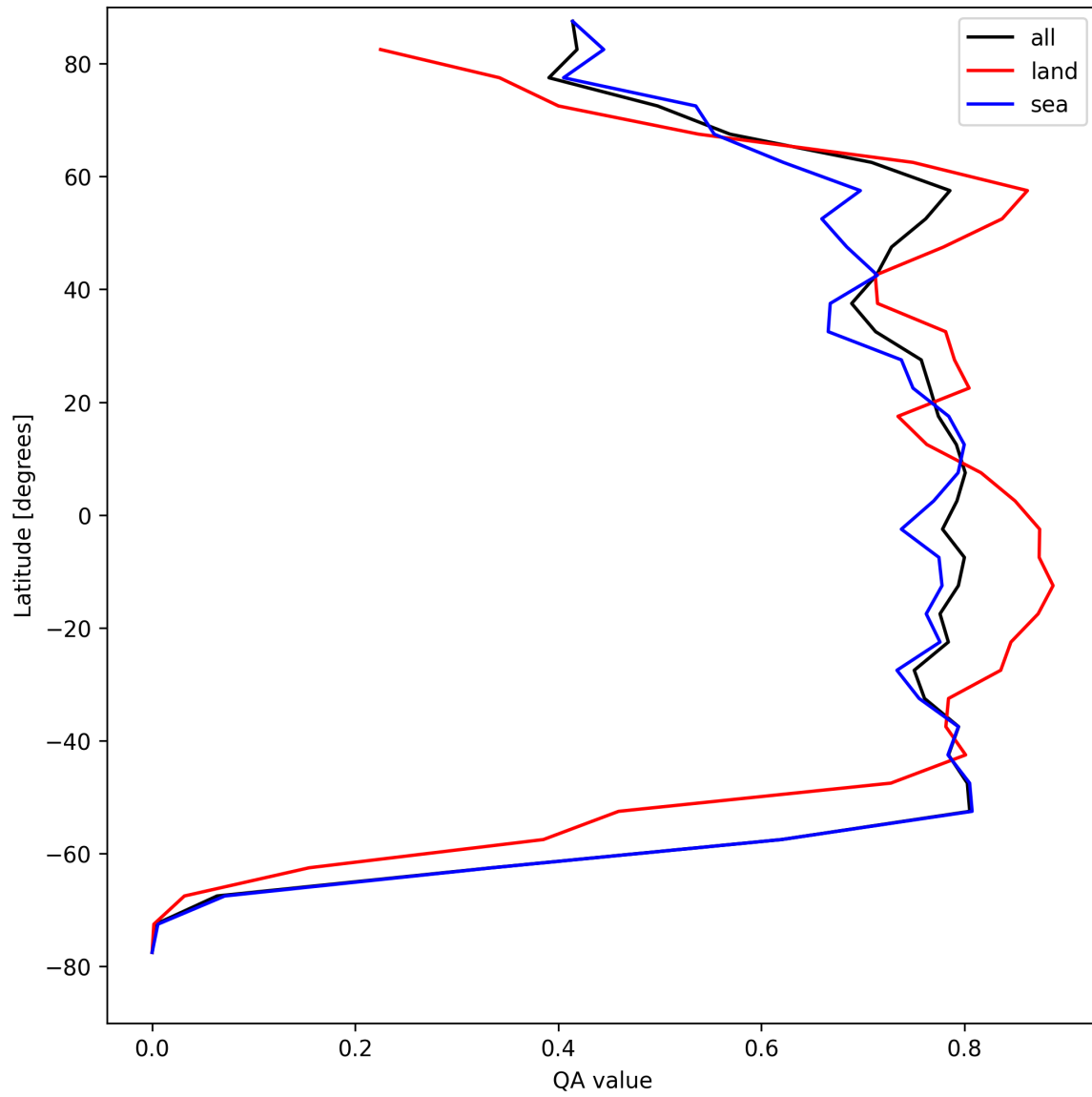


Figure 20: Zonal average of “QA value” for 2025-08-19 to 2025-08-20.

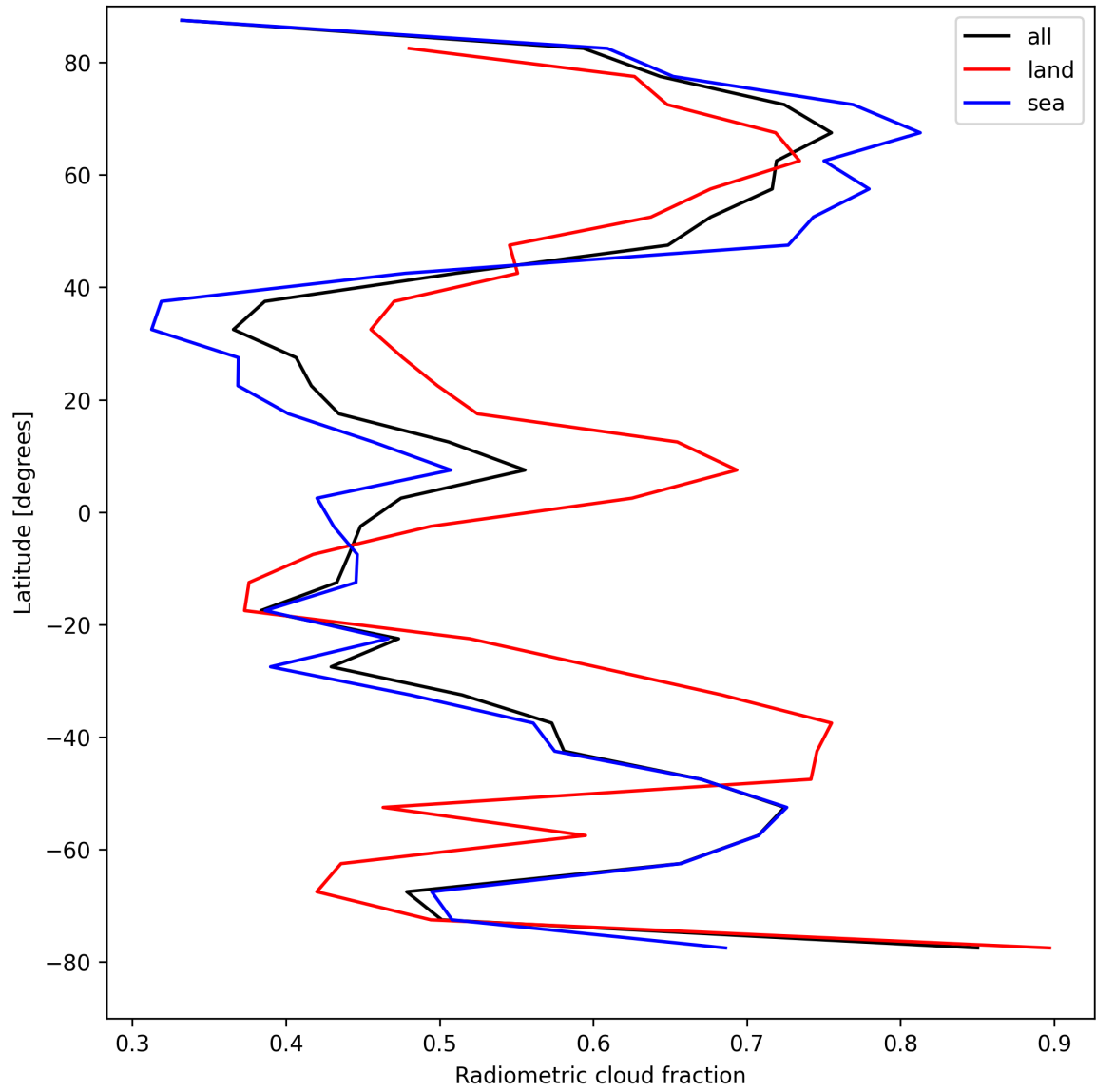


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20.

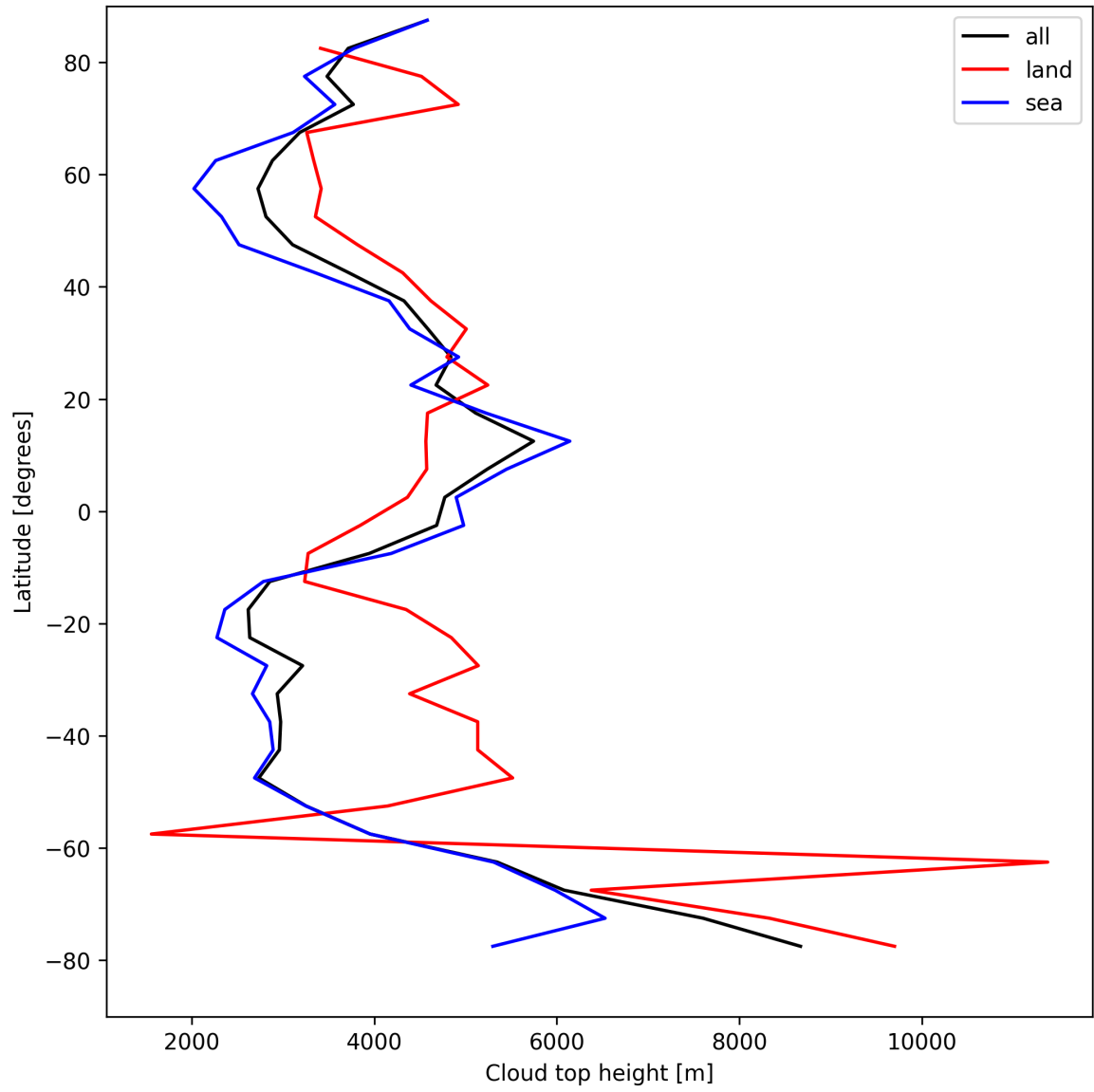


Figure 22: Zonal average of “Cloud top height” for 2025-08-19 to 2025-08-20.

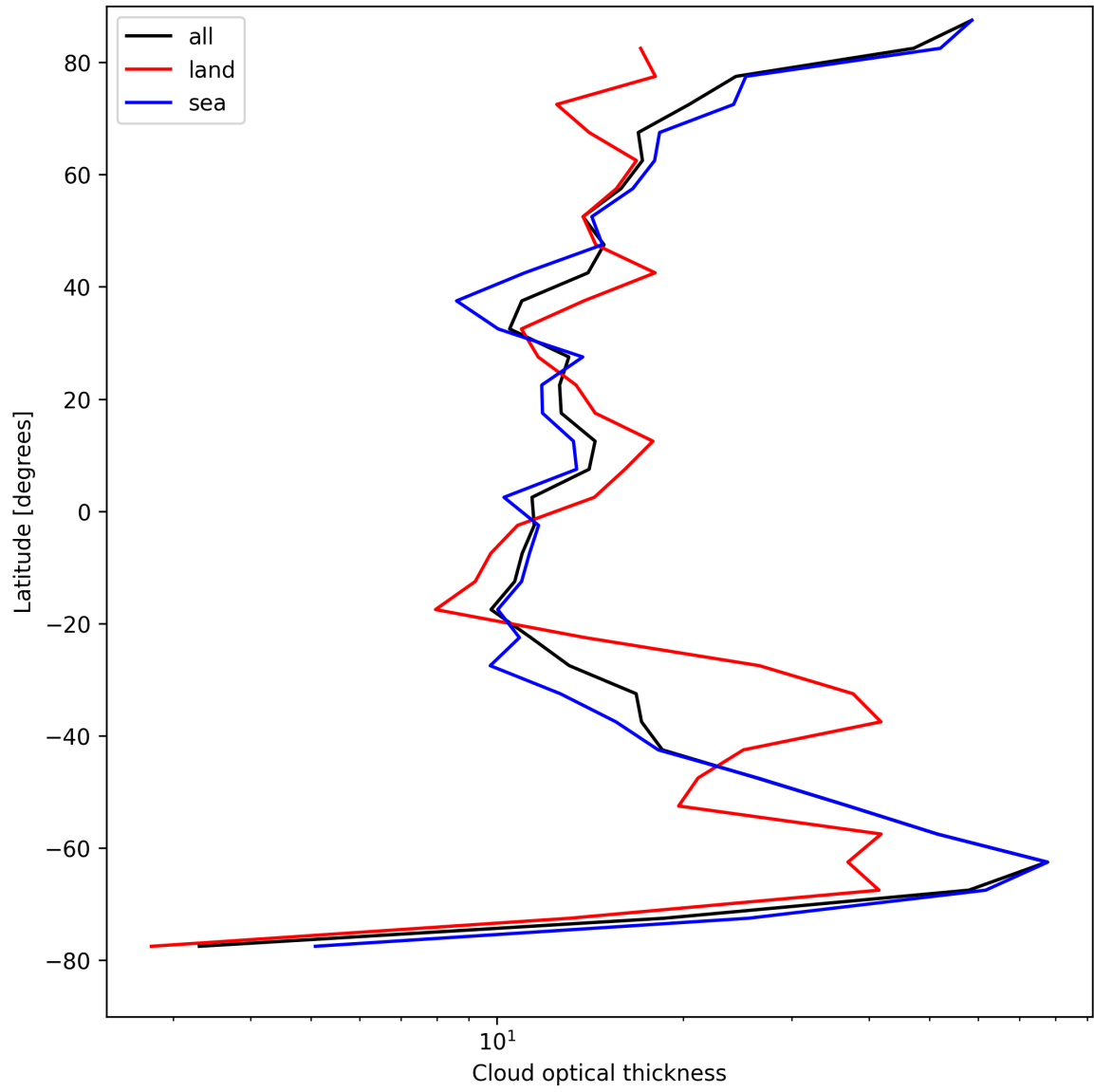


Figure 23: Zonal average of “Cloud optical thickness” for 2025-08-19 to 2025-08-20.

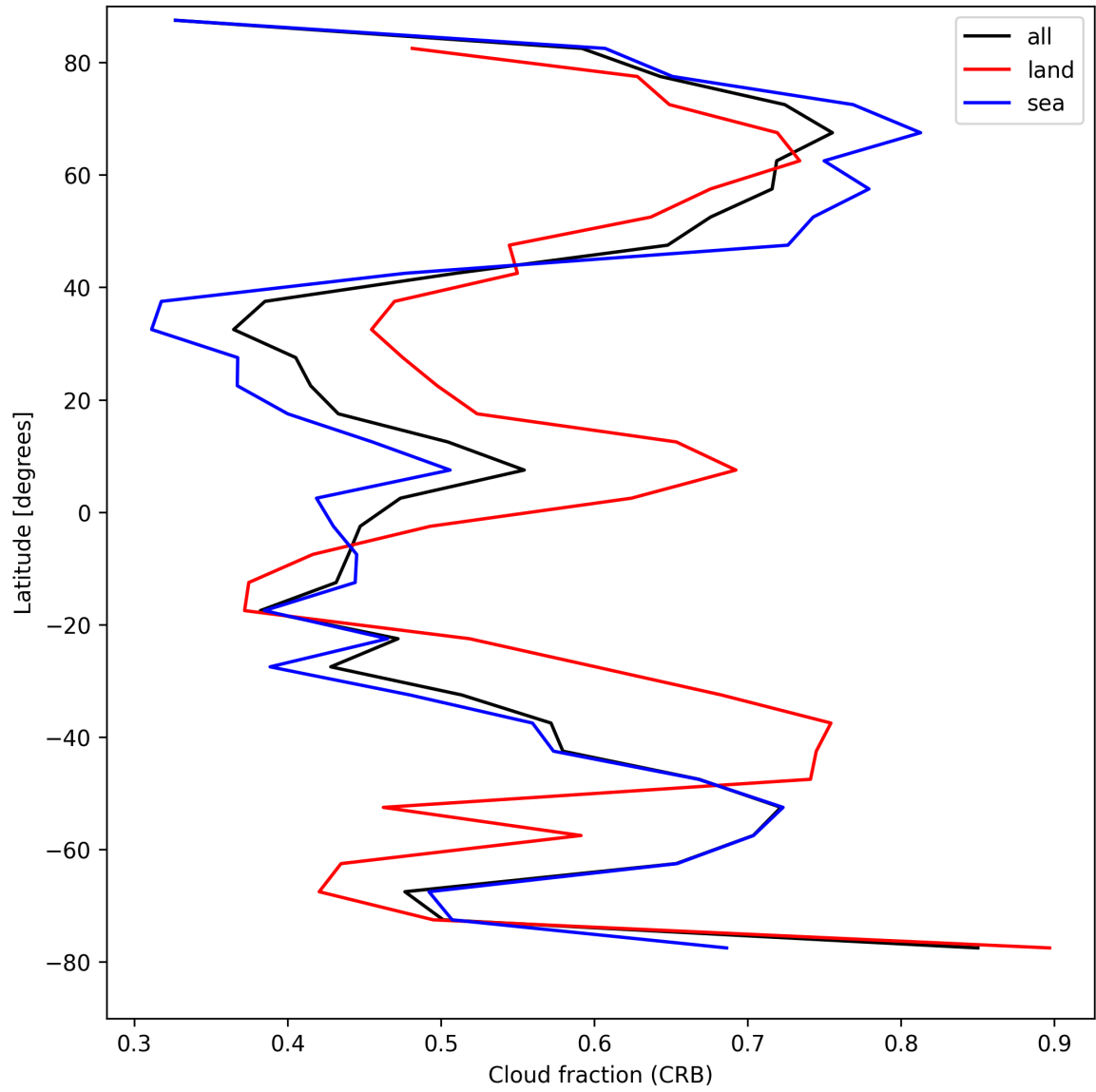


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20.

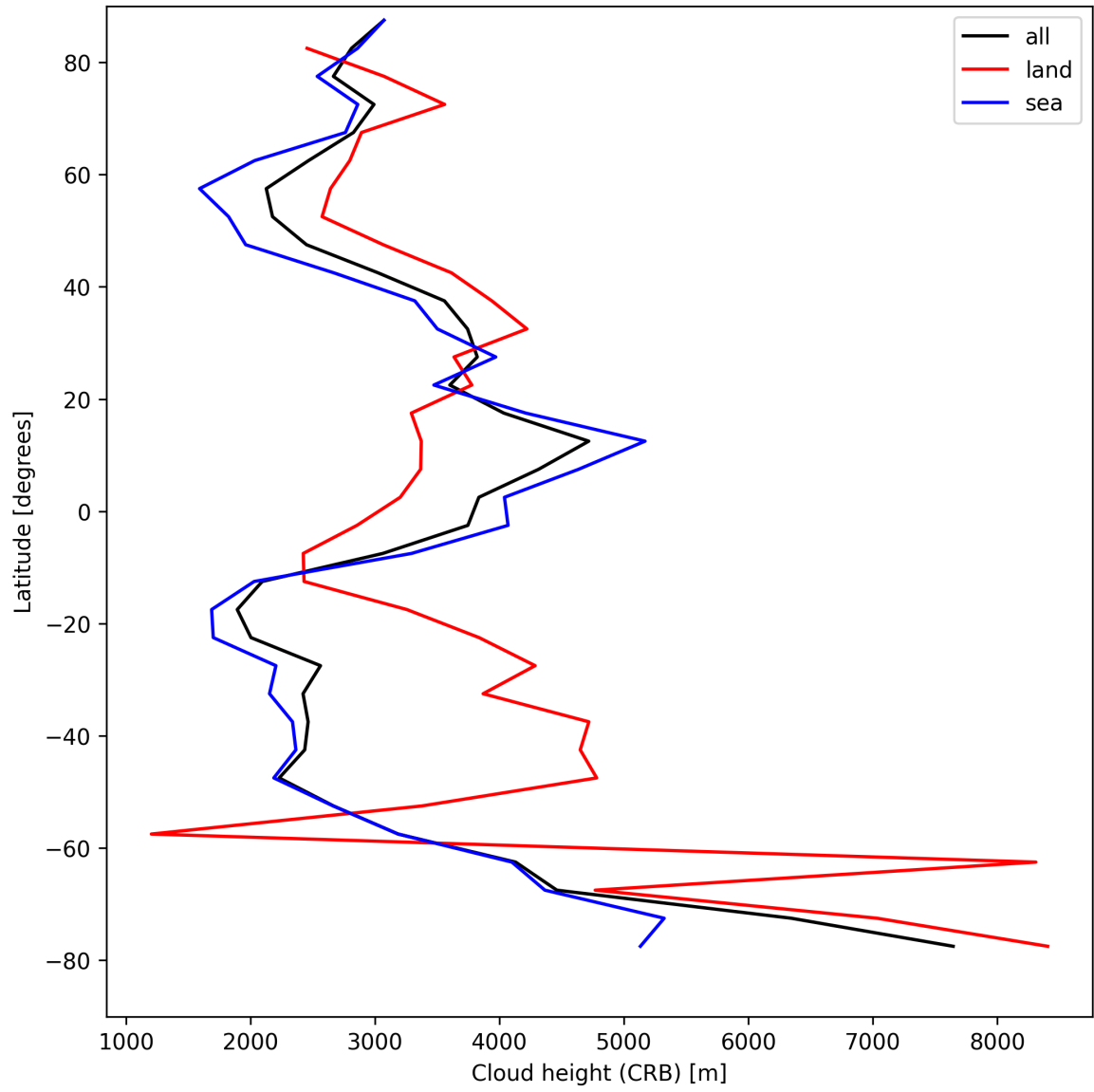


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20.

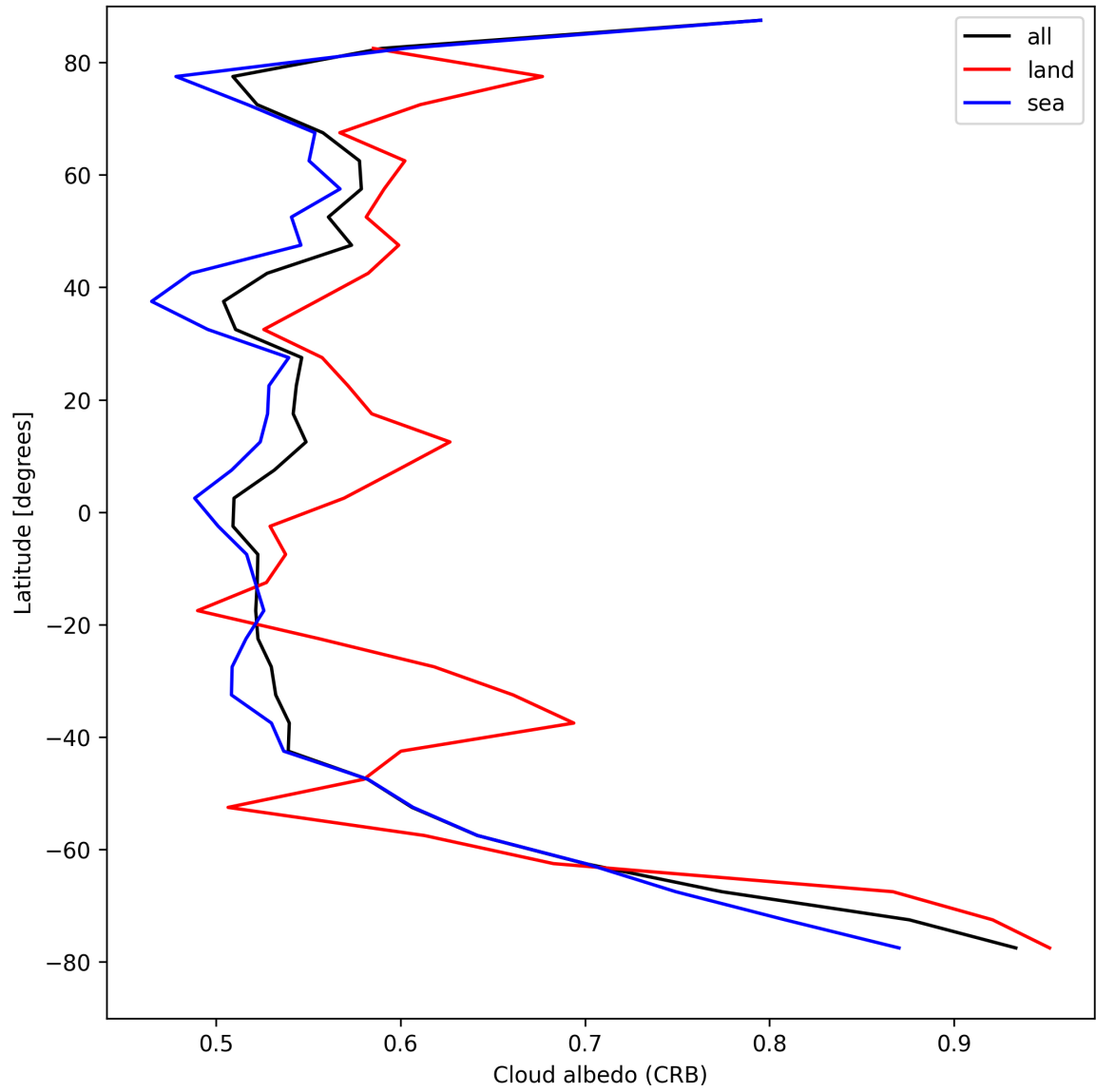


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20.

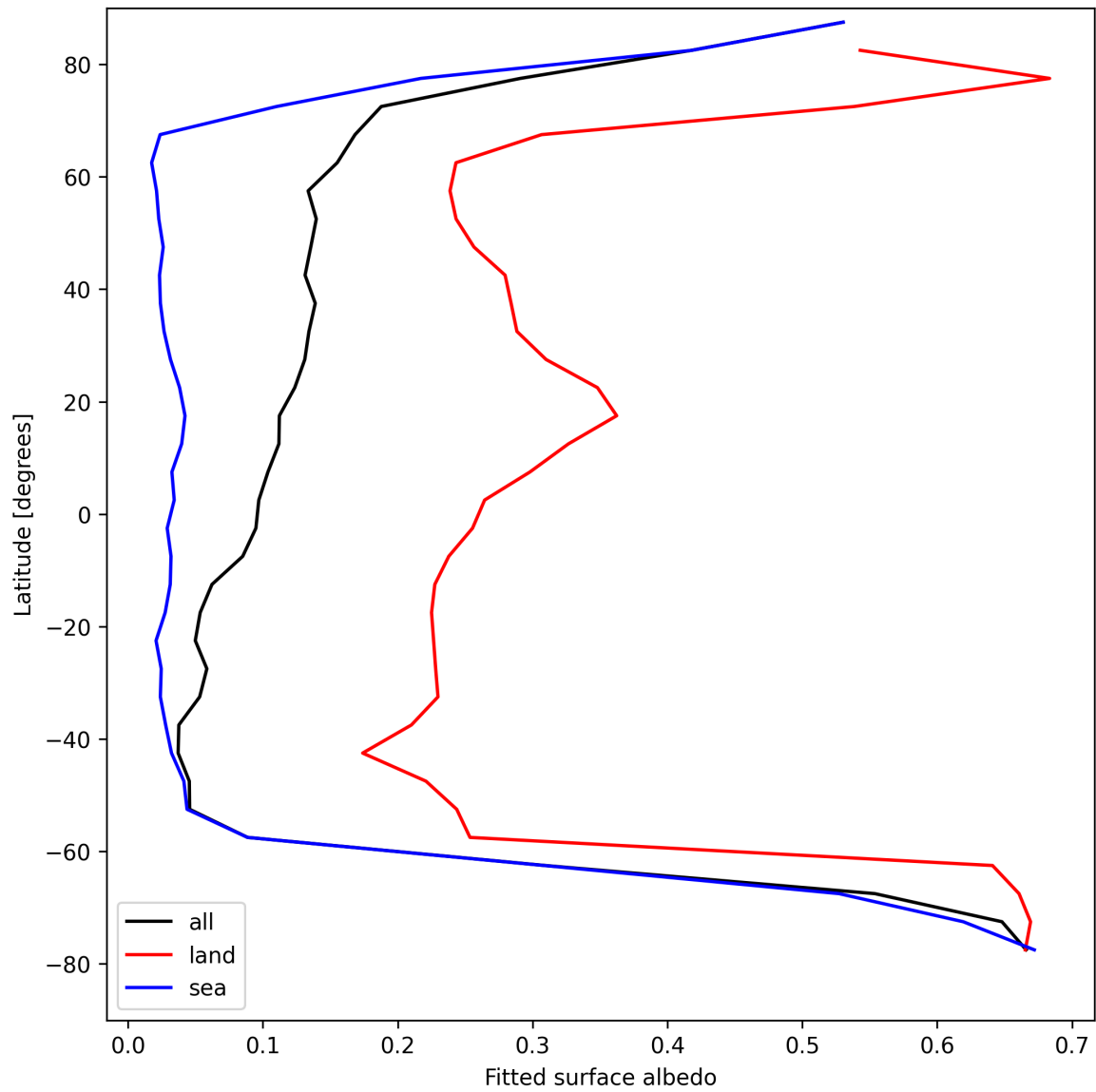


Figure 27: Zonal average of “Fitted surface albedo” for 2025-08-19 to 2025-08-20.

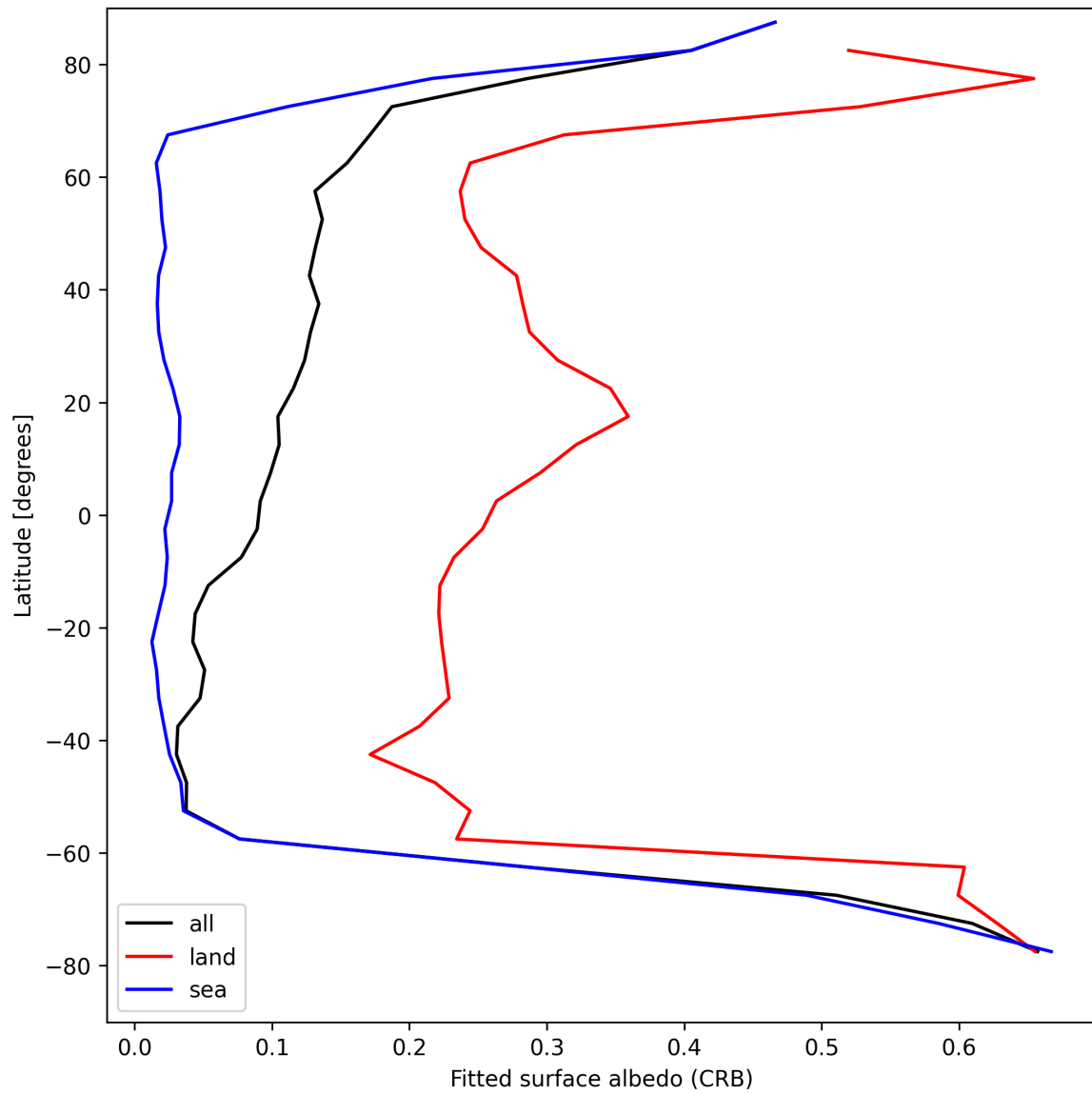


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20.

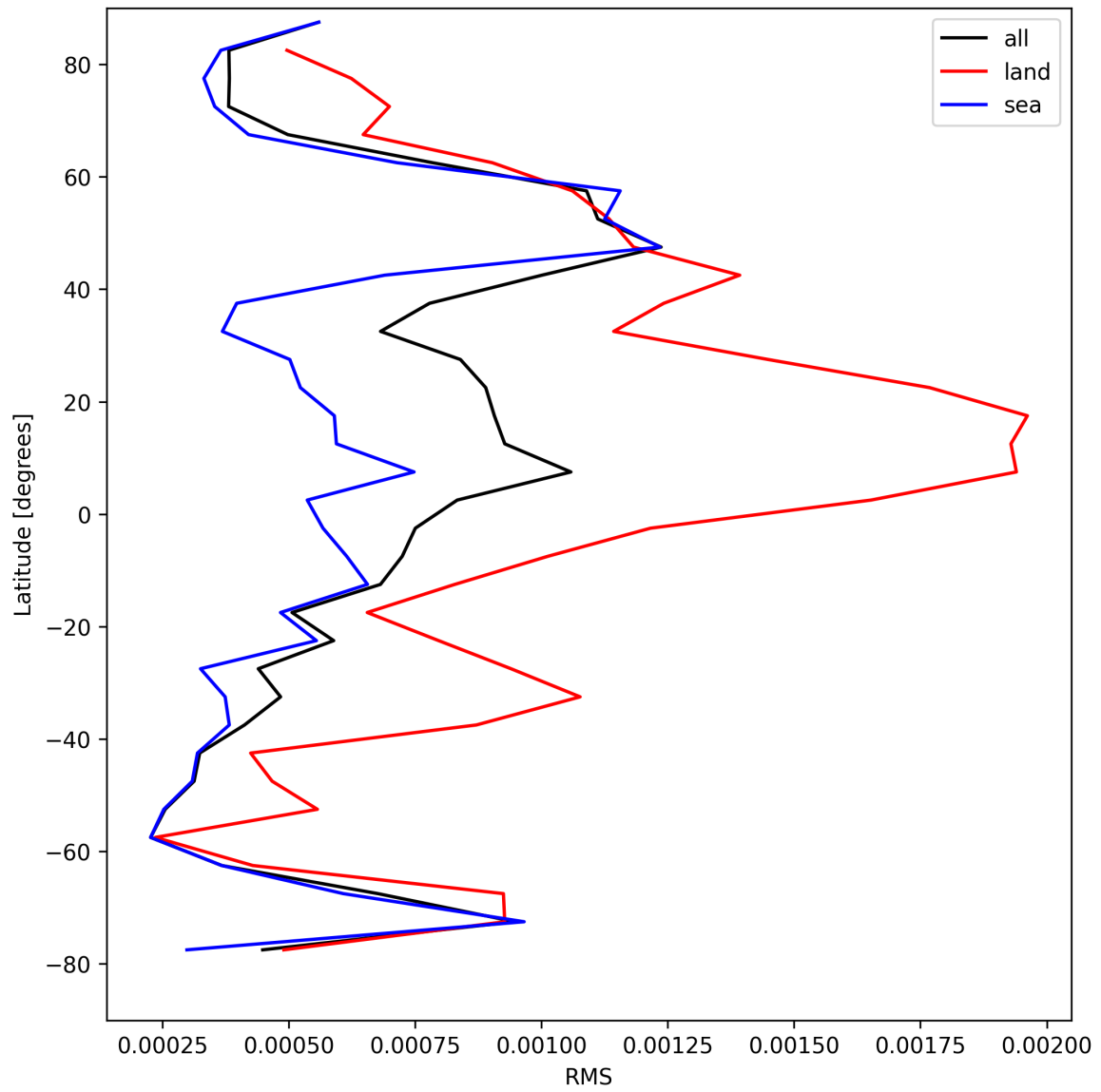


Figure 29: Zonal average of “RMS” for 2025-08-19 to 2025-08-20.

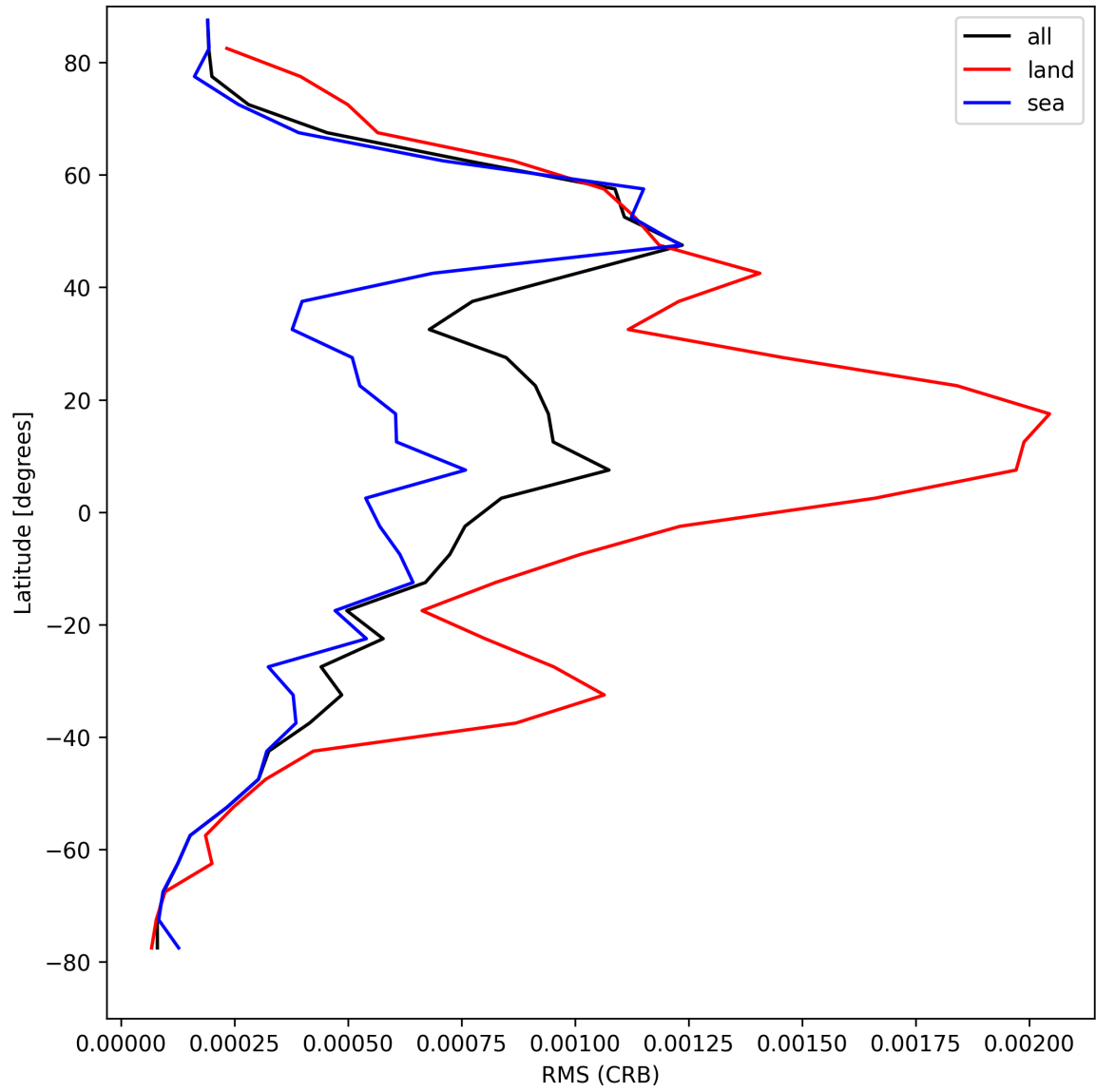


Figure 30: Zonal average of “RMS (CRB)” for 2025-08-19 to 2025-08-20.

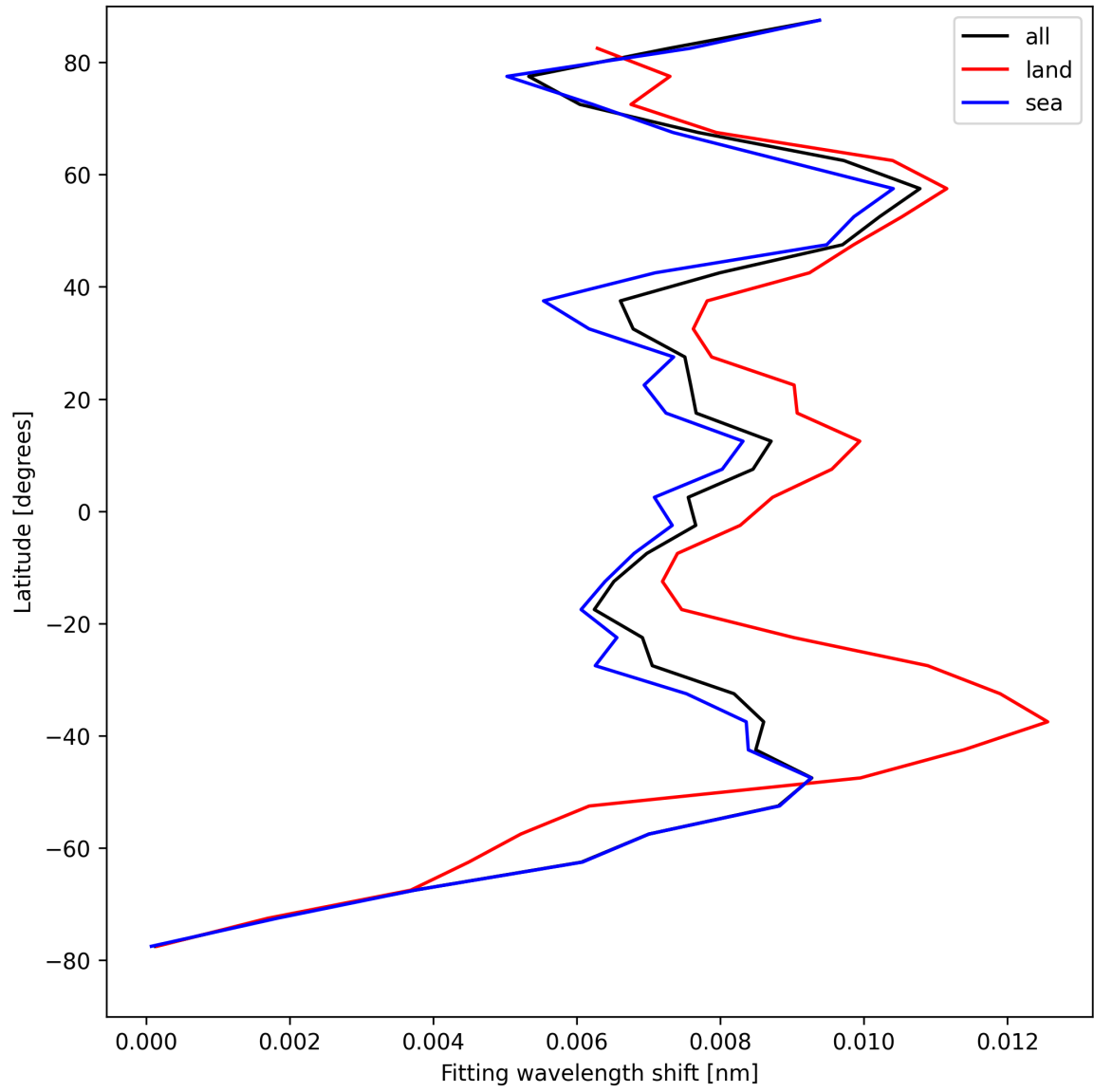


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20.

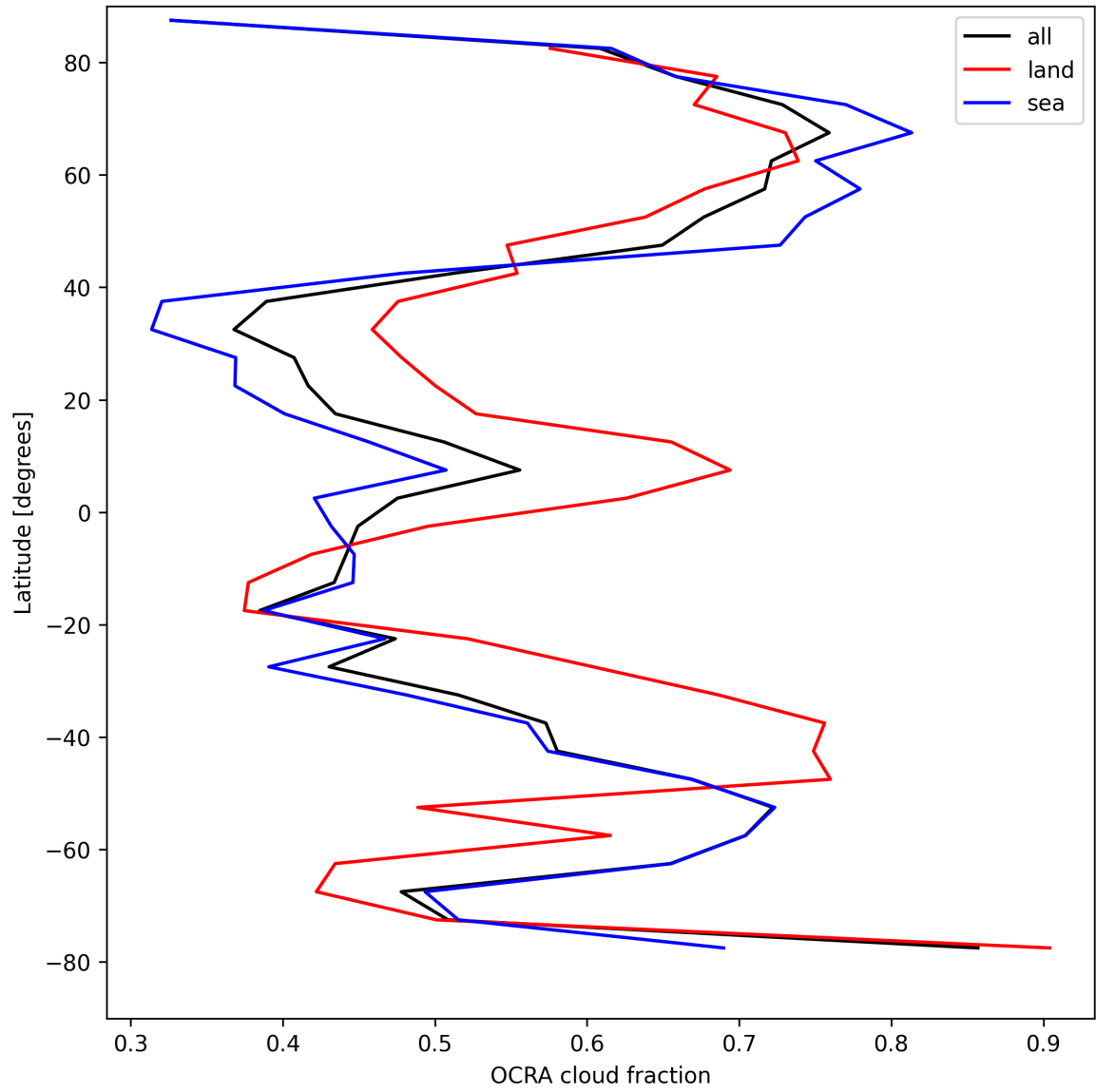


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20.

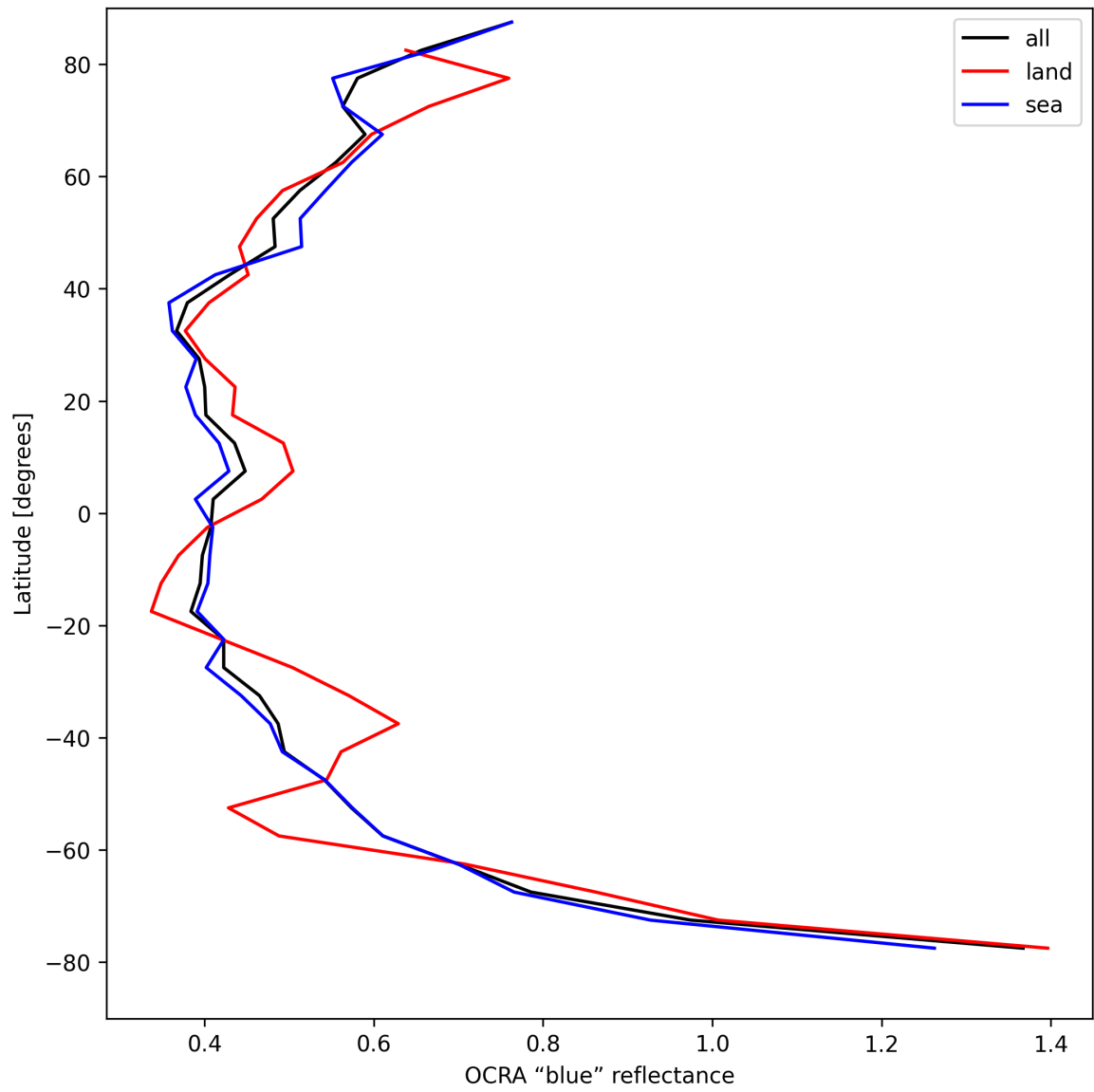


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20.

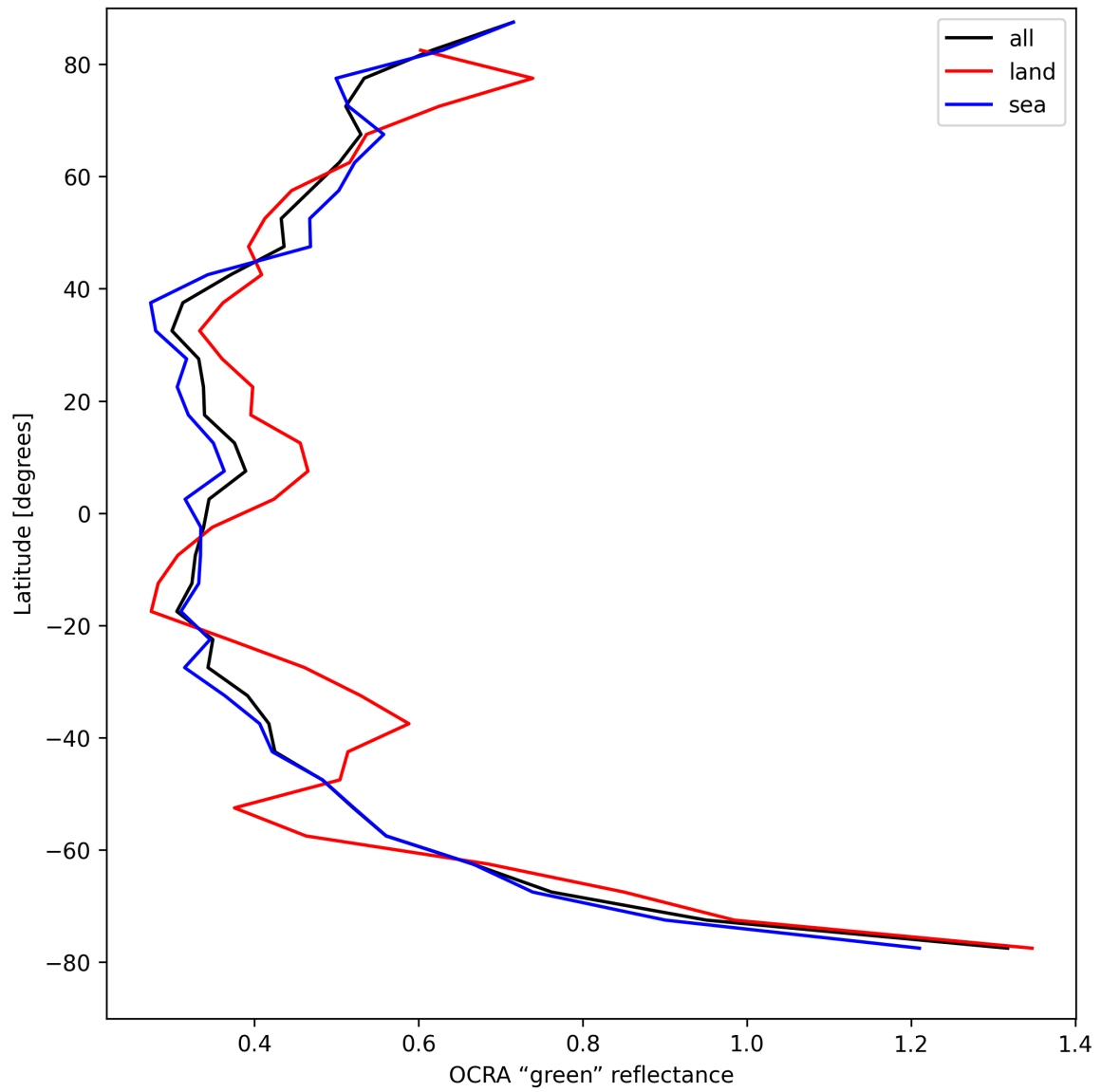


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20.

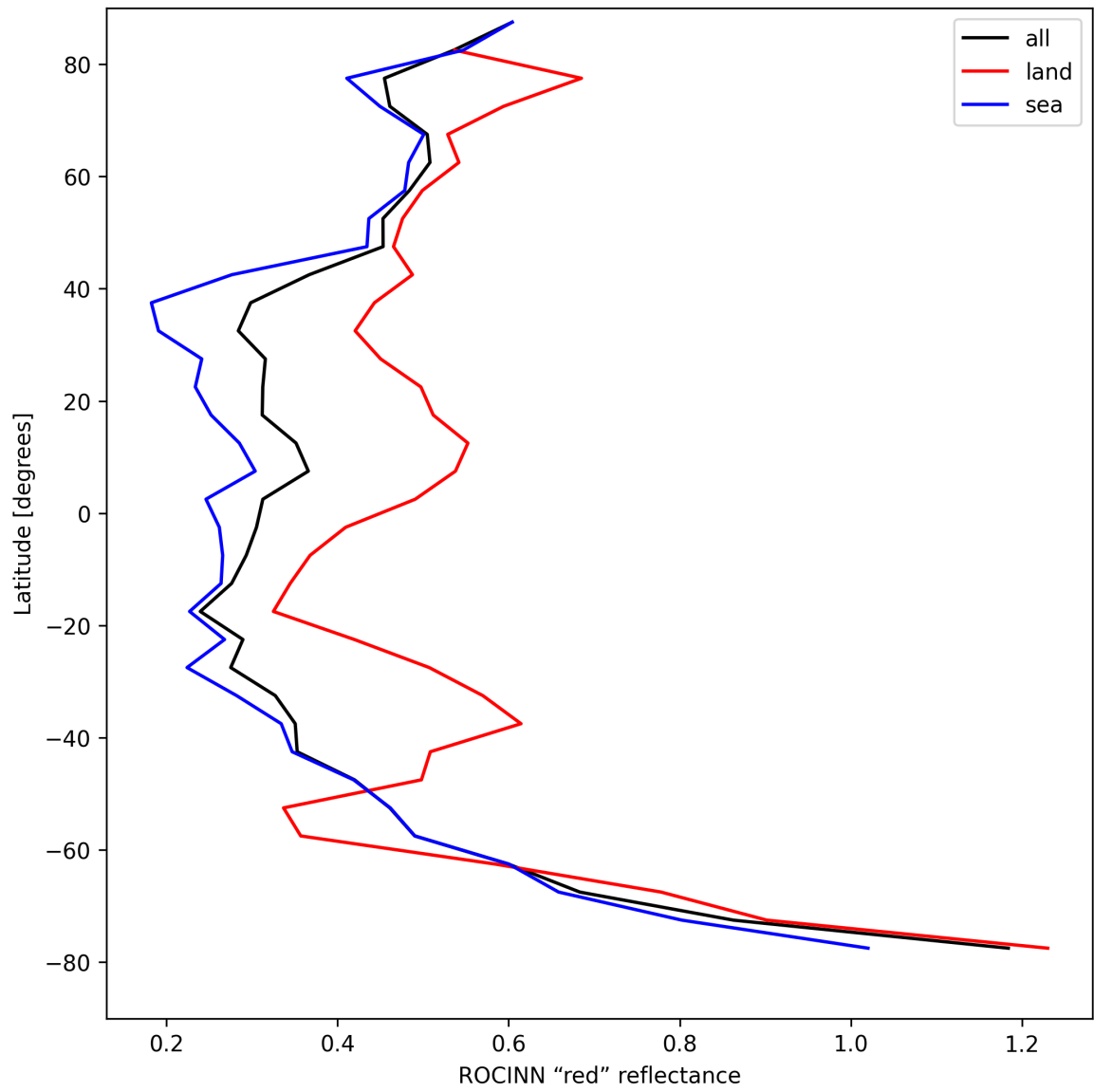


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20.

8 Histograms

The definitions of the parameters given in this section can be found in section 2.

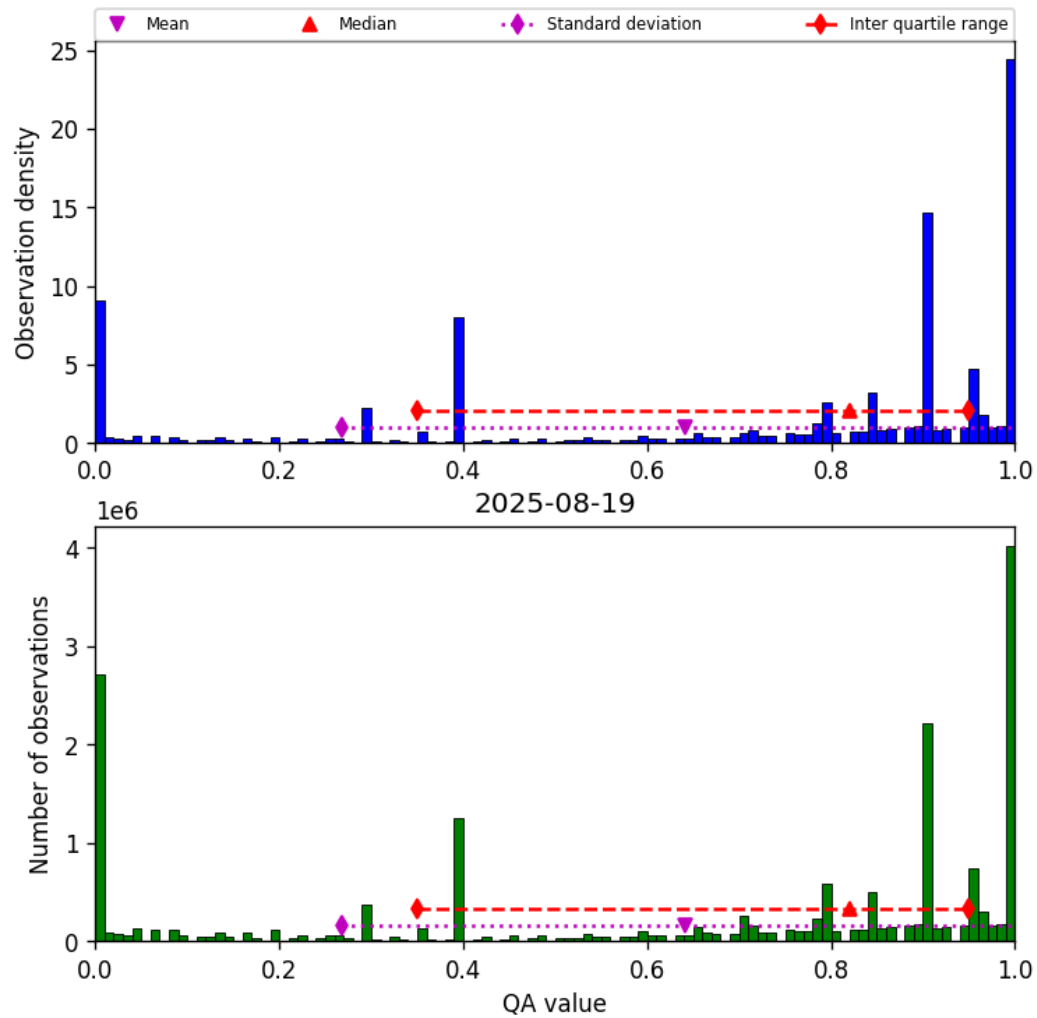


Figure 36: Histogram of “QA value” for 2025-08-19 to 2025-08-20

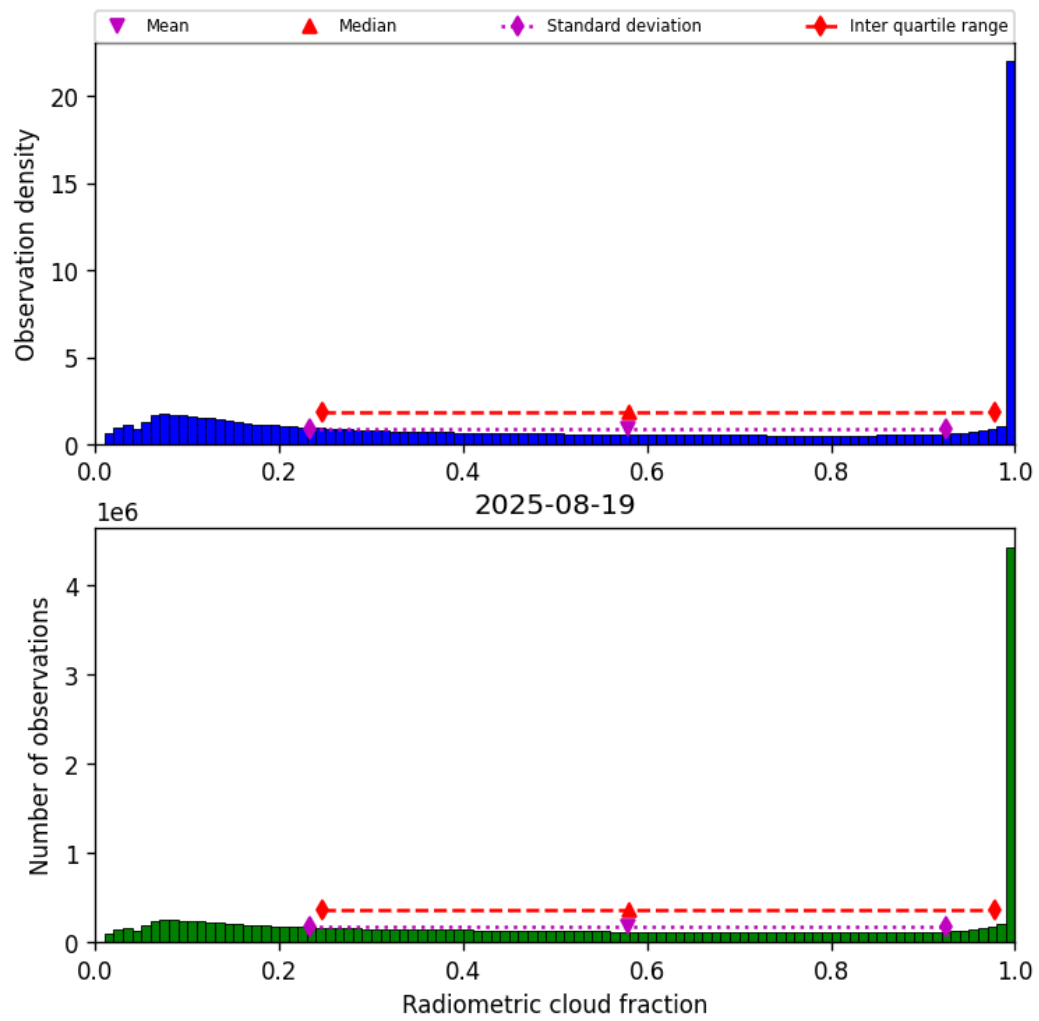


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20

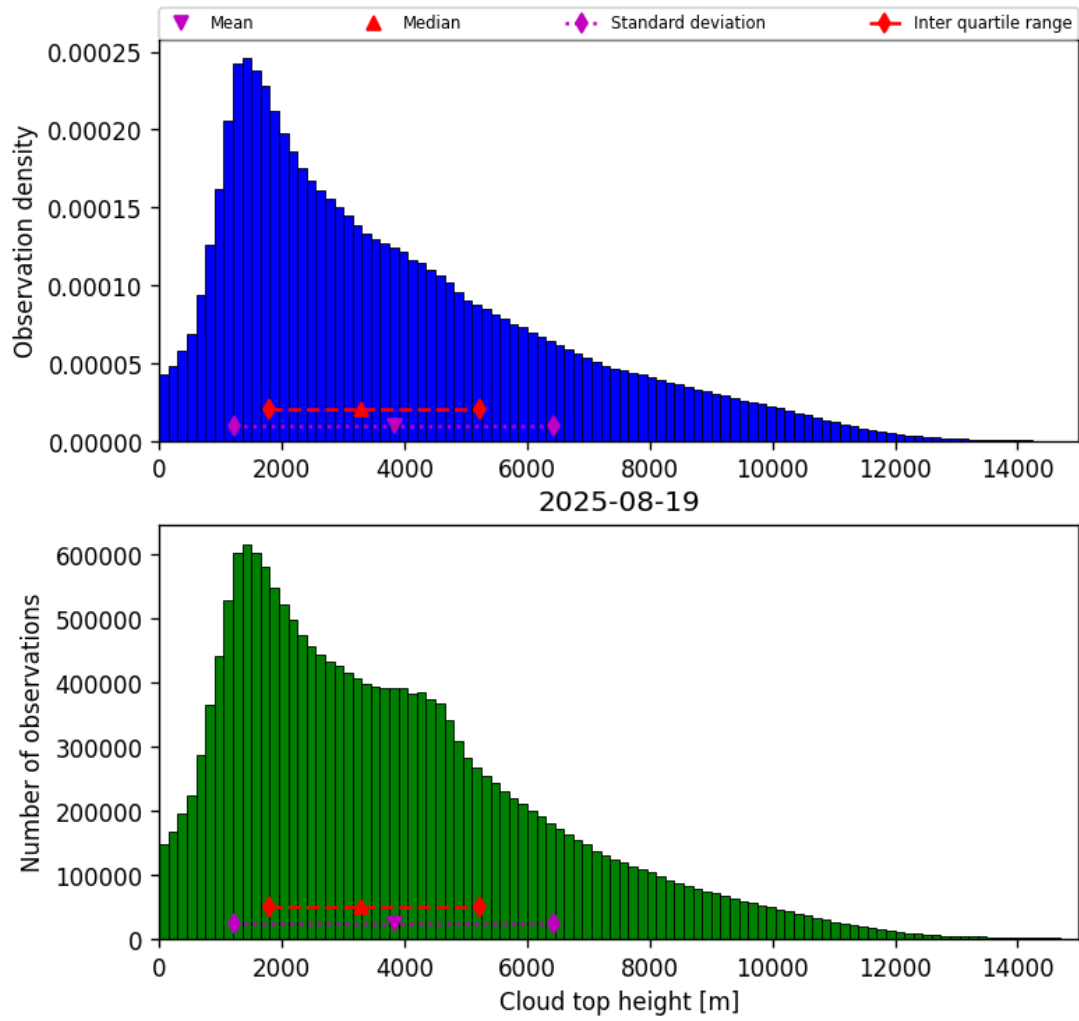


Figure 38: Histogram of “Cloud top height” for 2025-08-19 to 2025-08-20

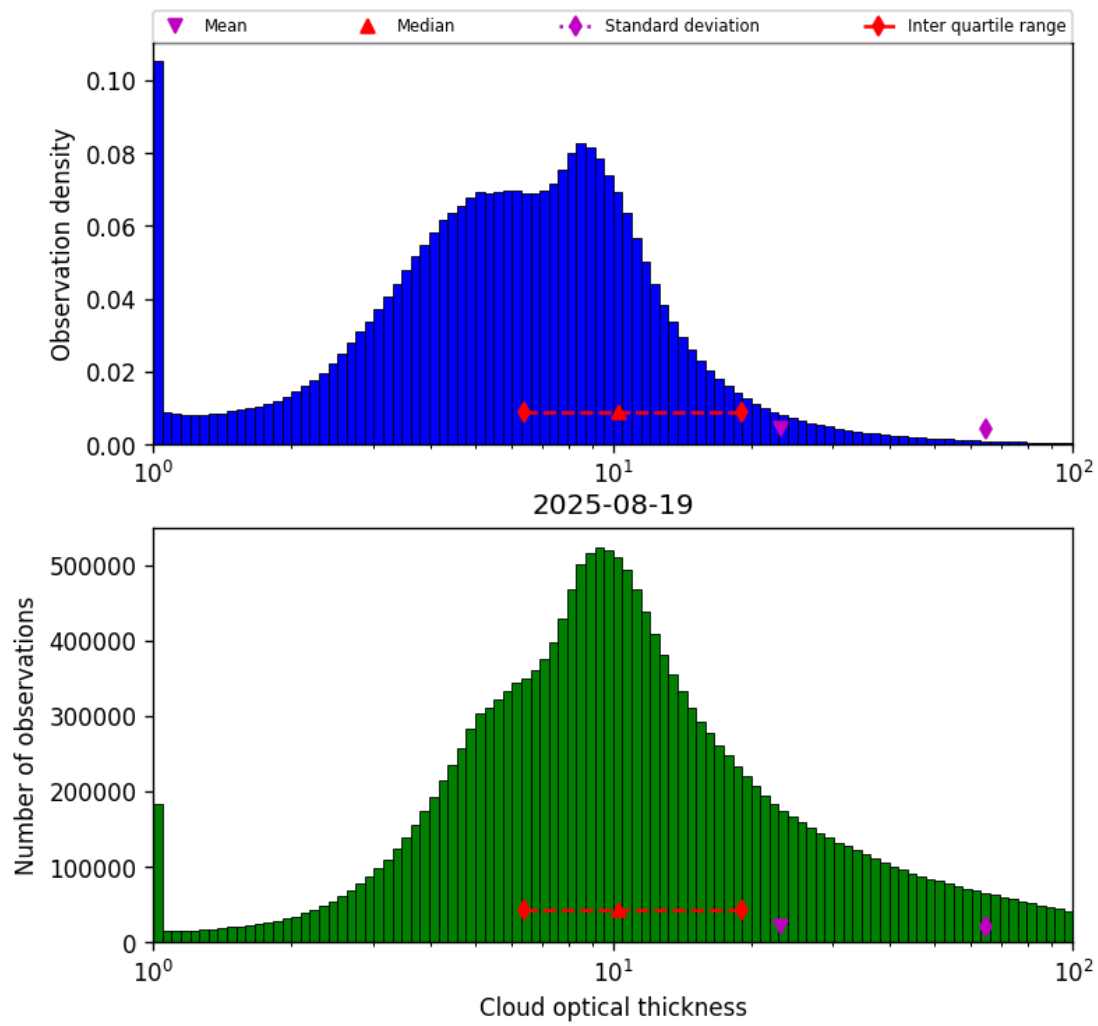


Figure 39: Histogram of “Cloud optical thickness” for 2025-08-19 to 2025-08-20

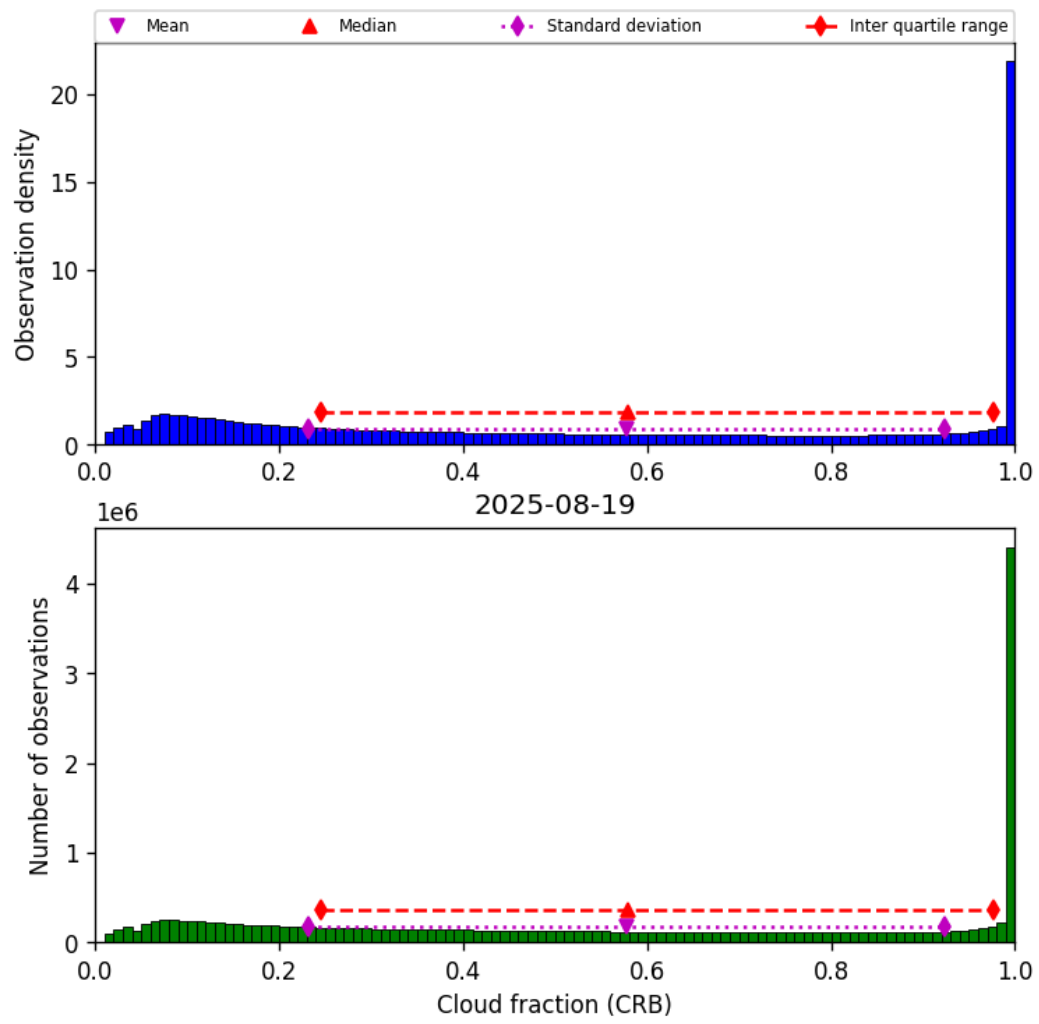


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20

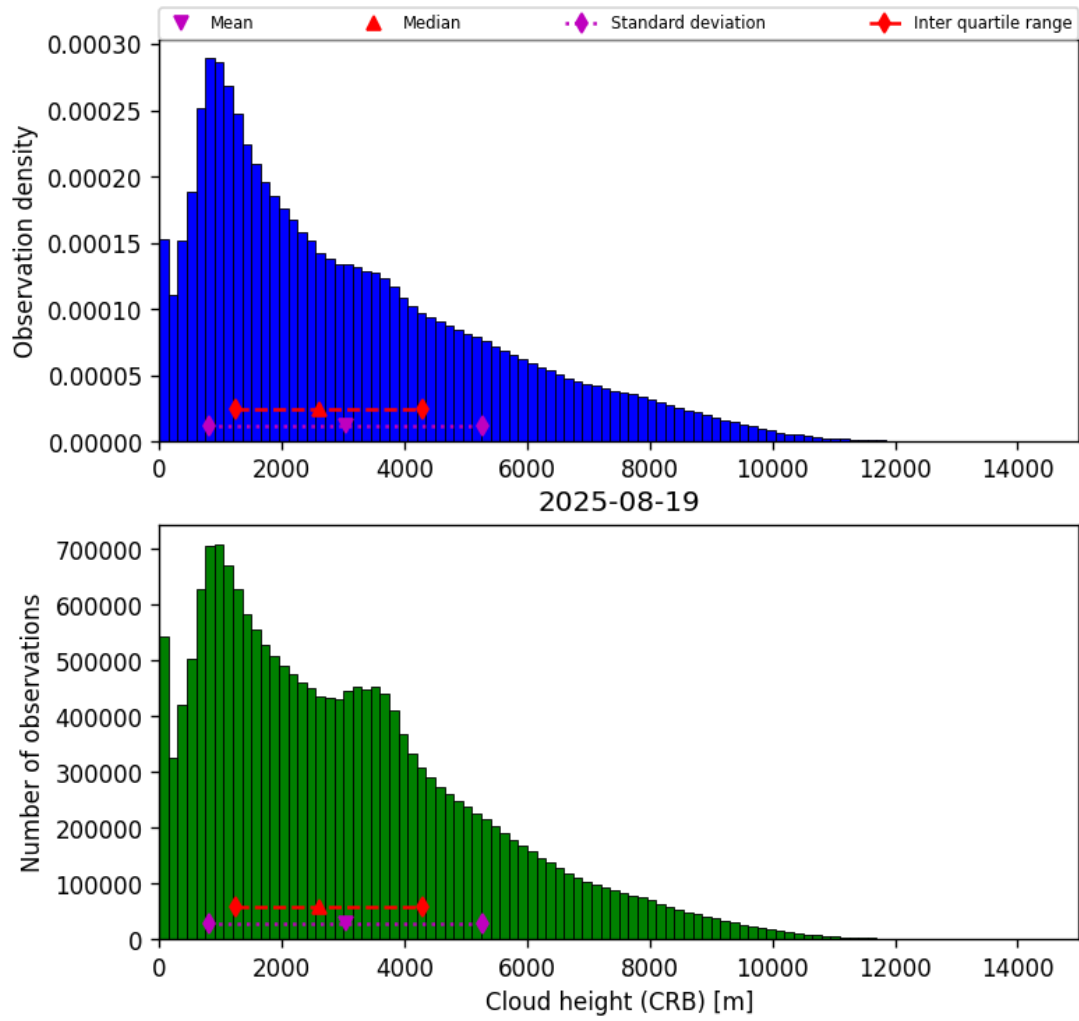


Figure 41: Histogram of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20

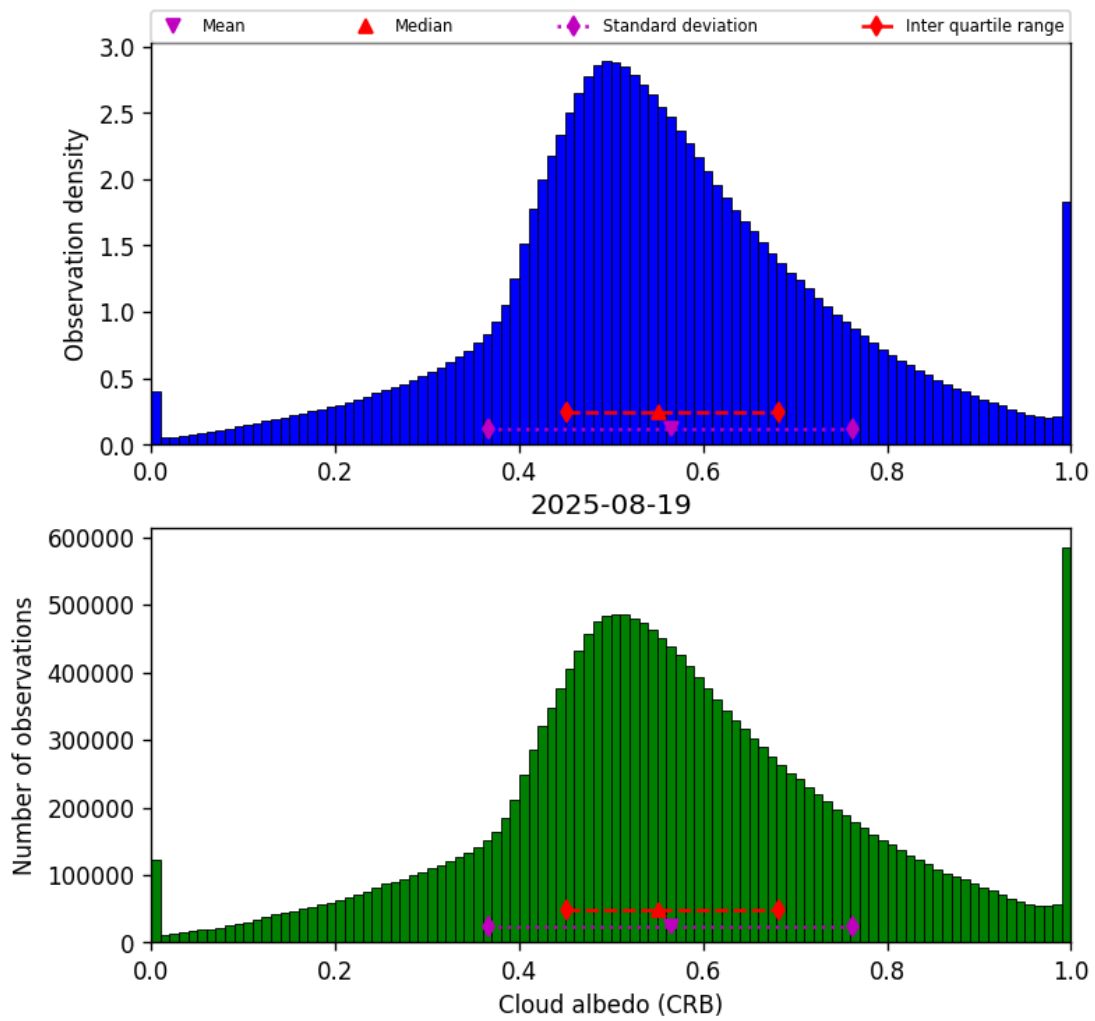


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20

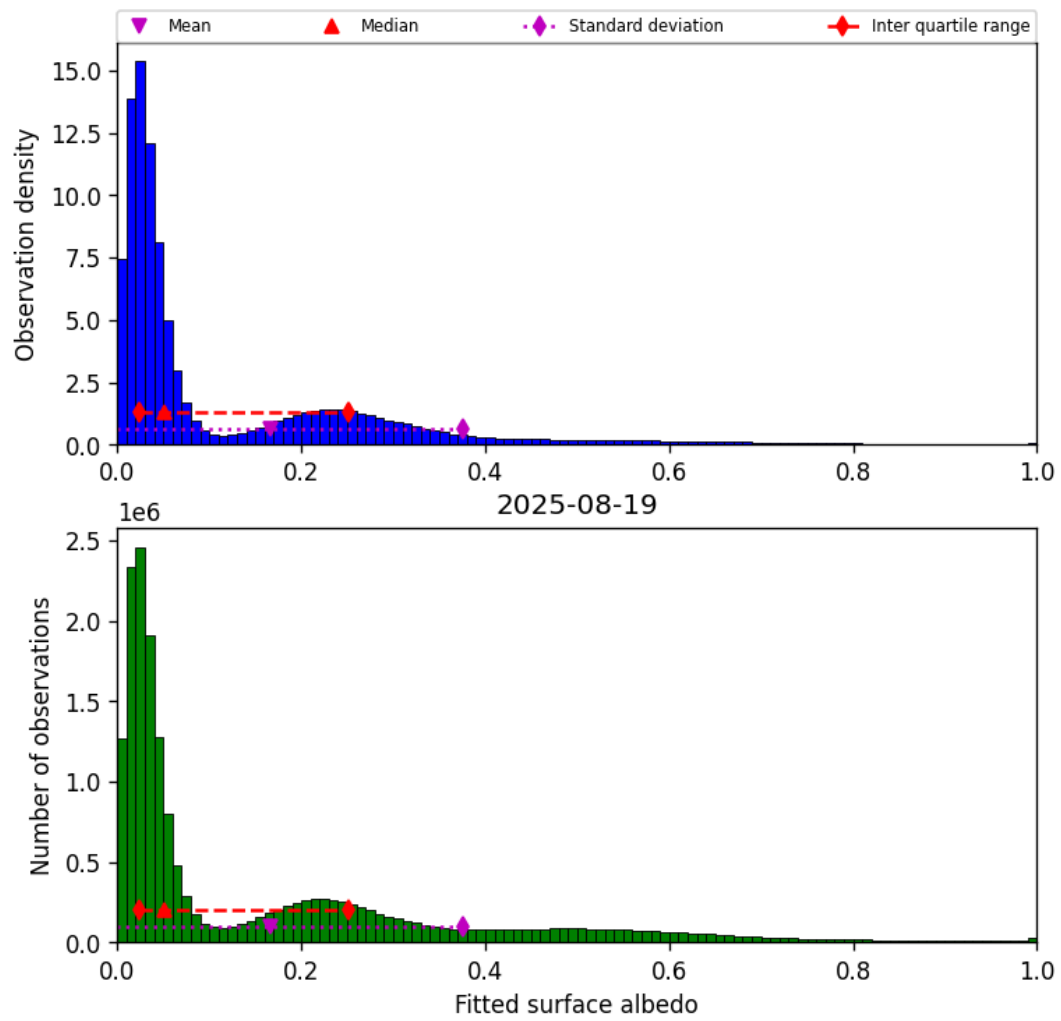


Figure 43: Histogram of “Fitted surface albedo” for 2025-08-19 to 2025-08-20

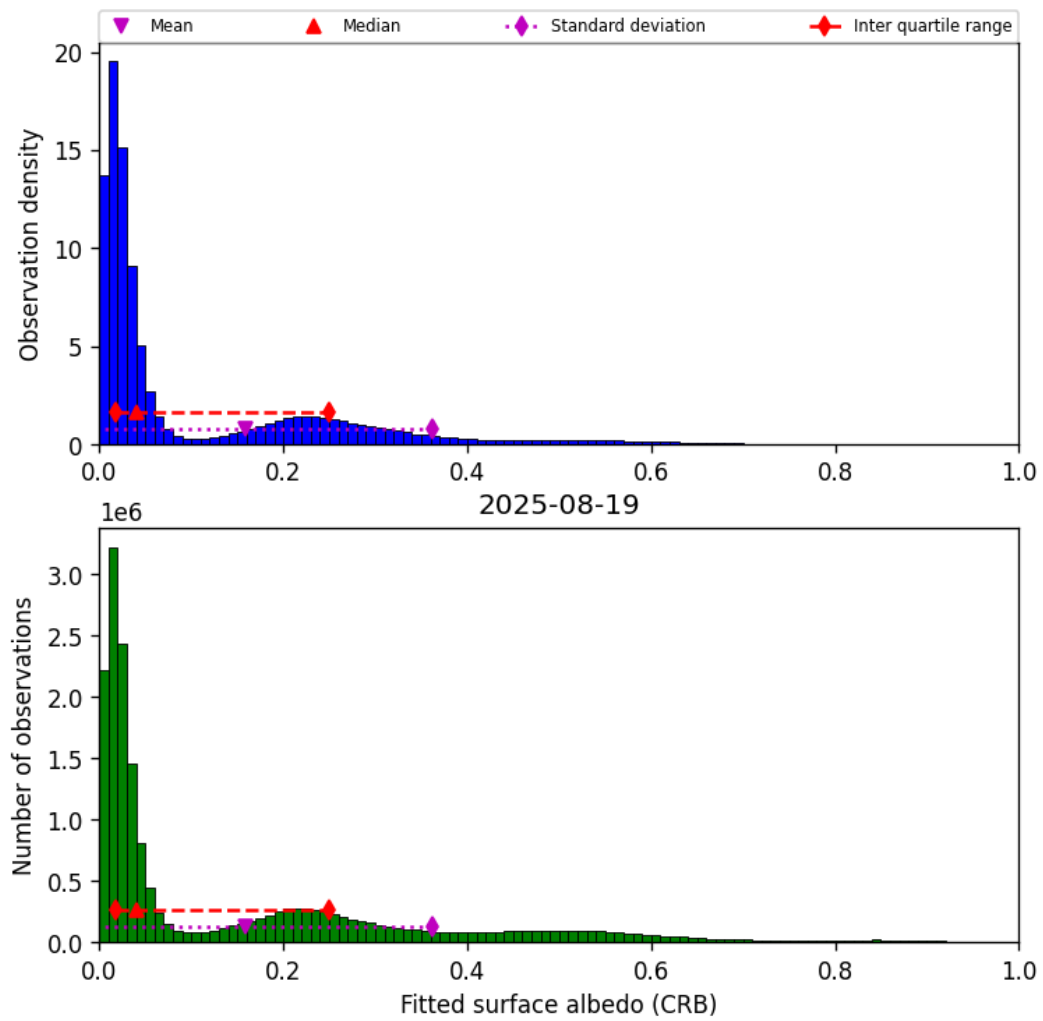


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20

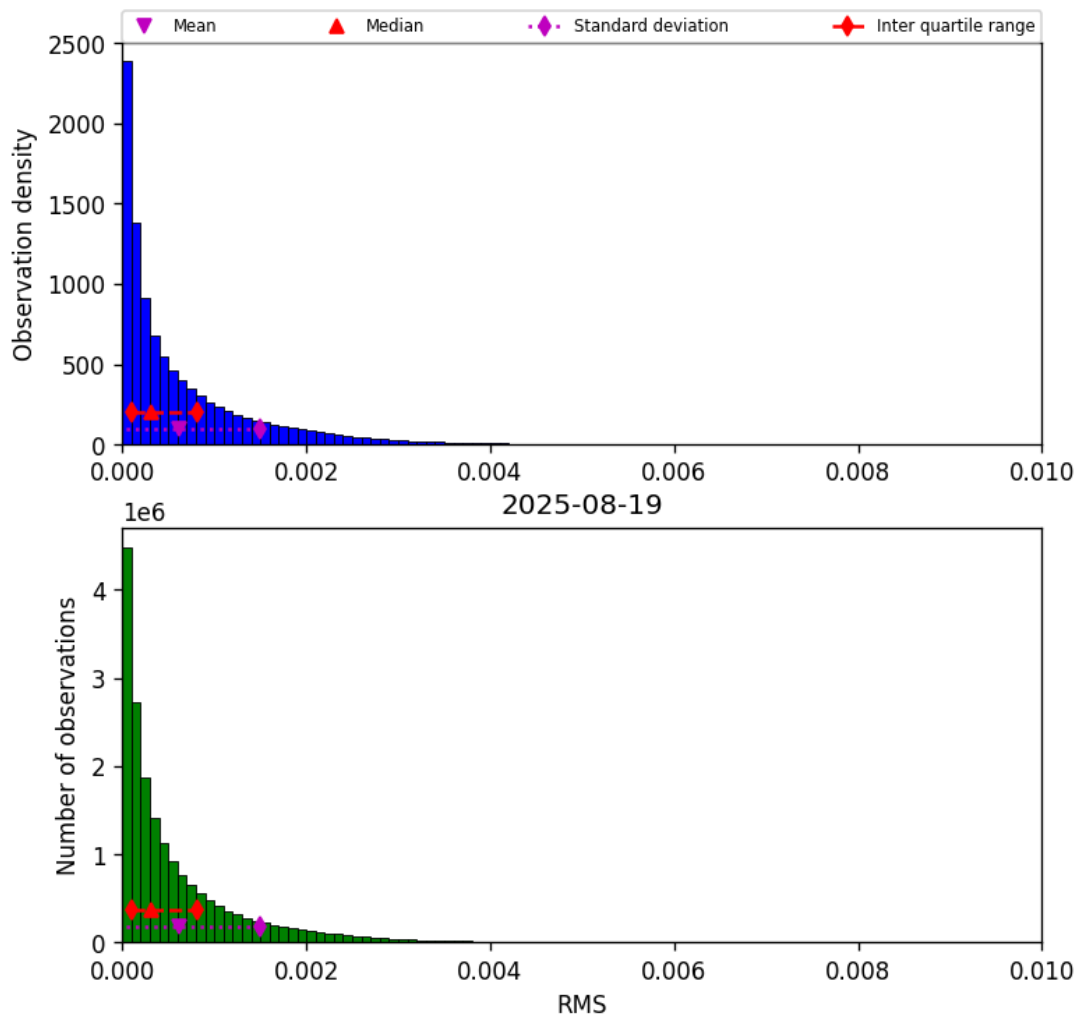


Figure 45: Histogram of “RMS” for 2025-08-19 to 2025-08-20

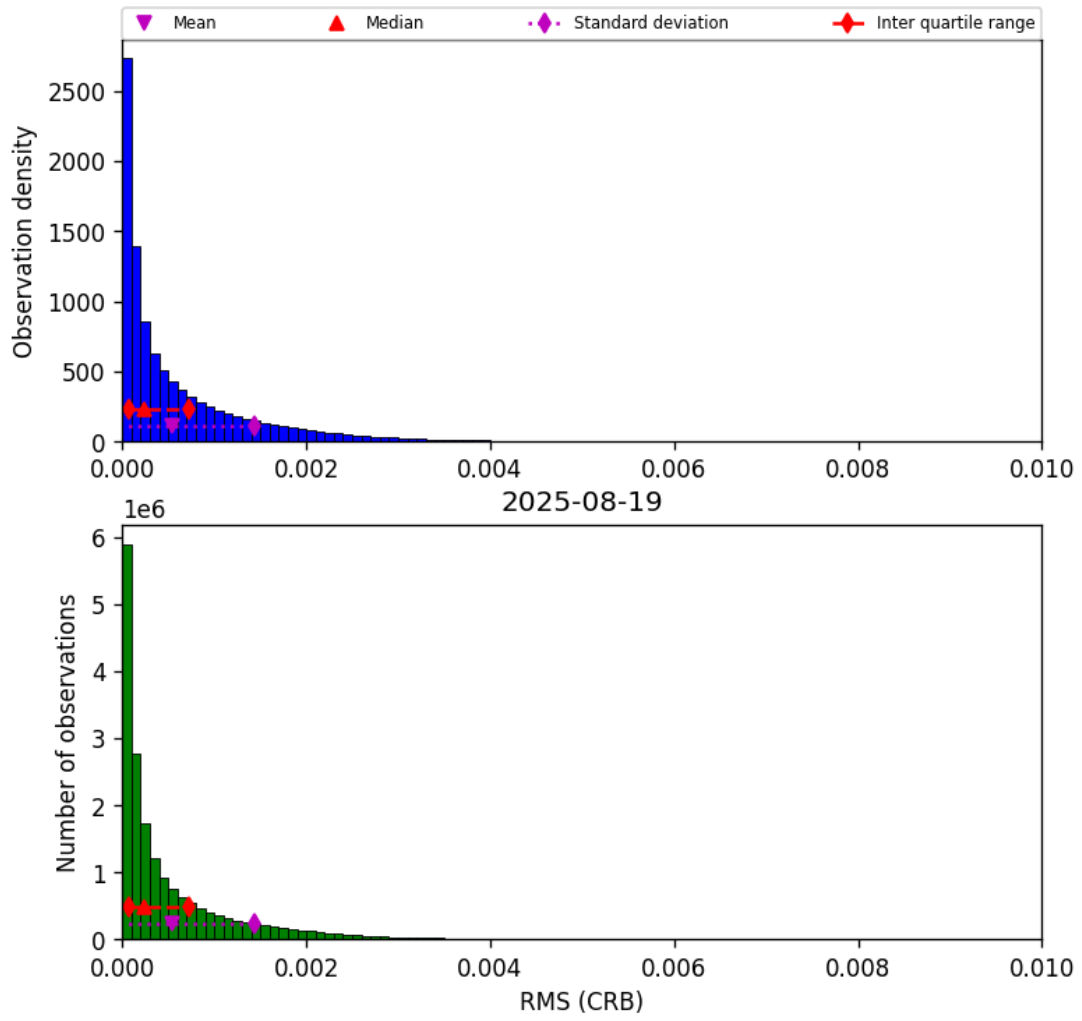


Figure 46: Histogram of “RMS (CRB)” for 2025-08-19 to 2025-08-20

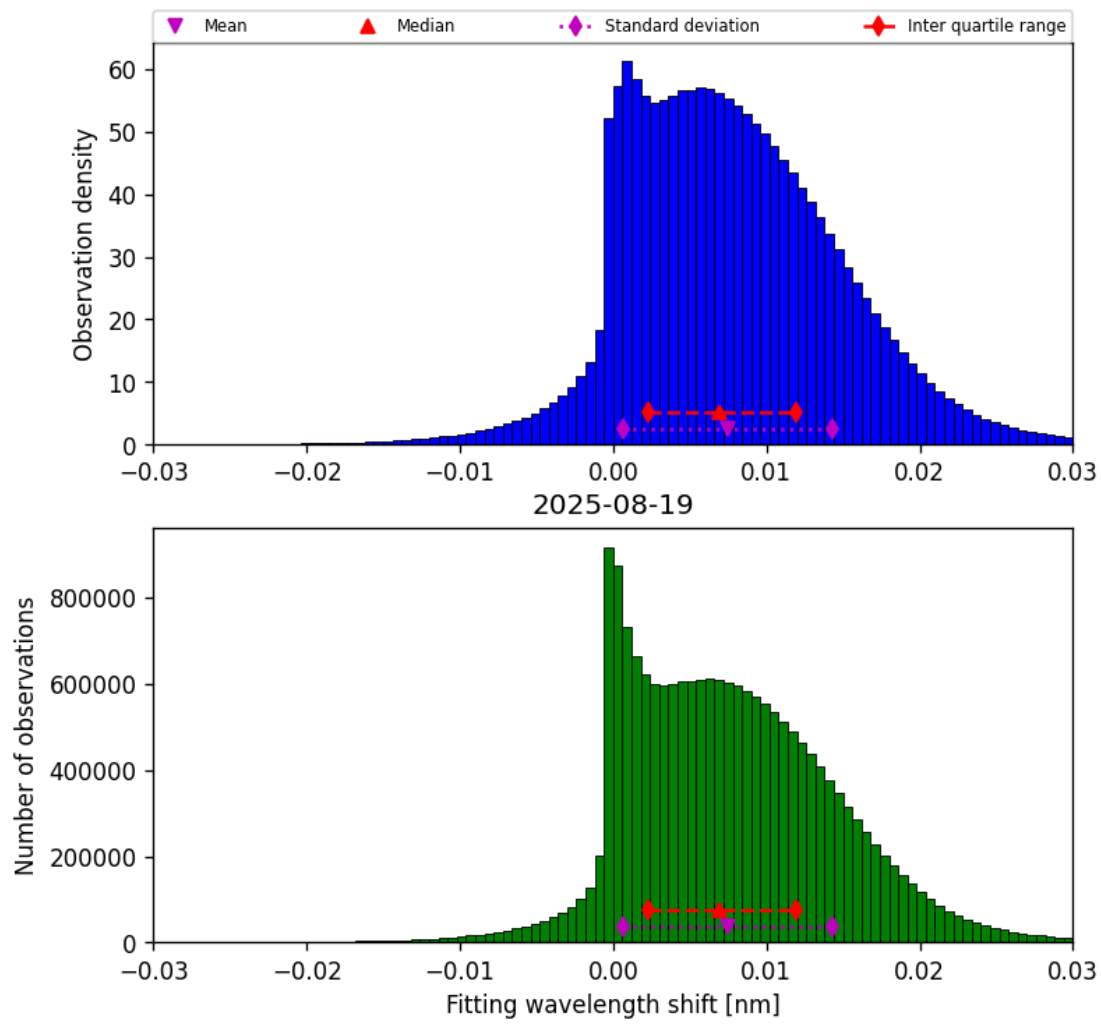


Figure 47: Histogram of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20

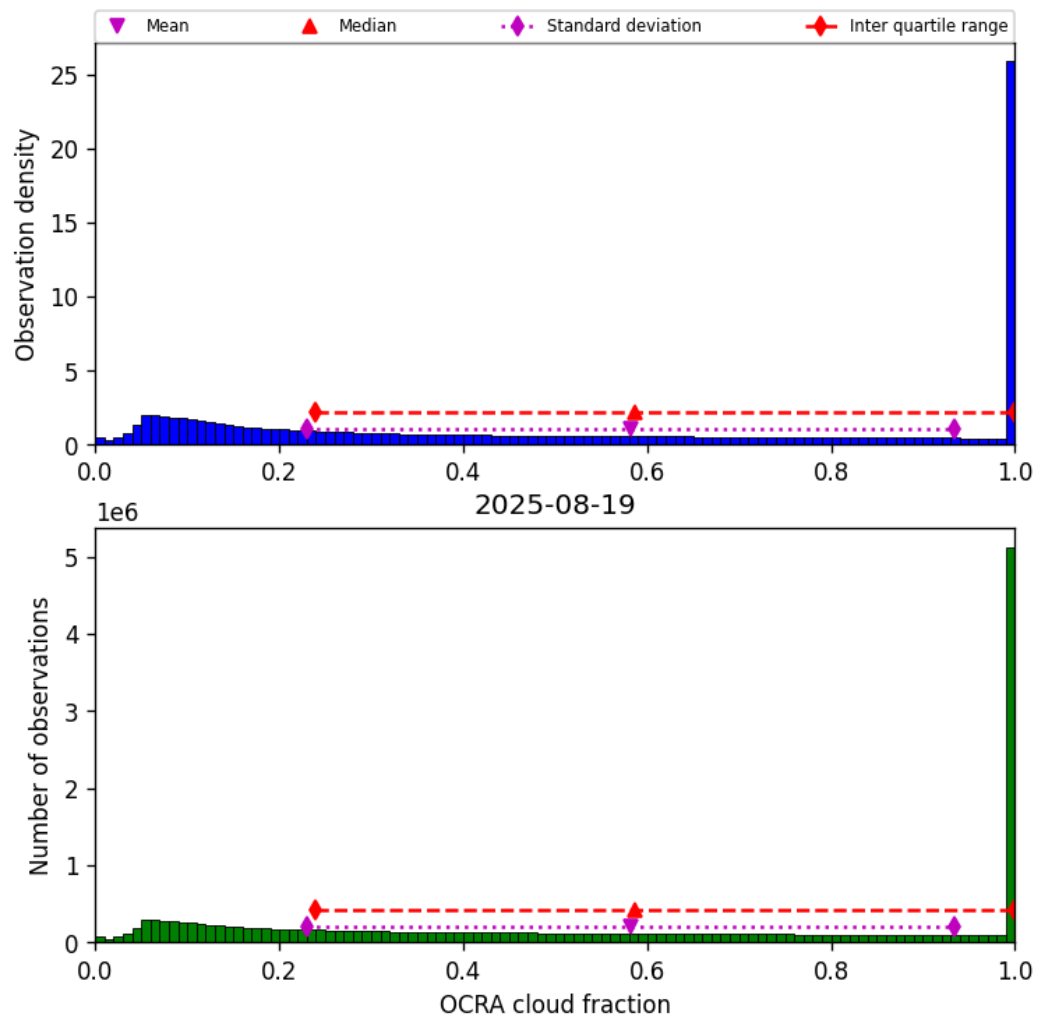


Figure 48: Histogram of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20

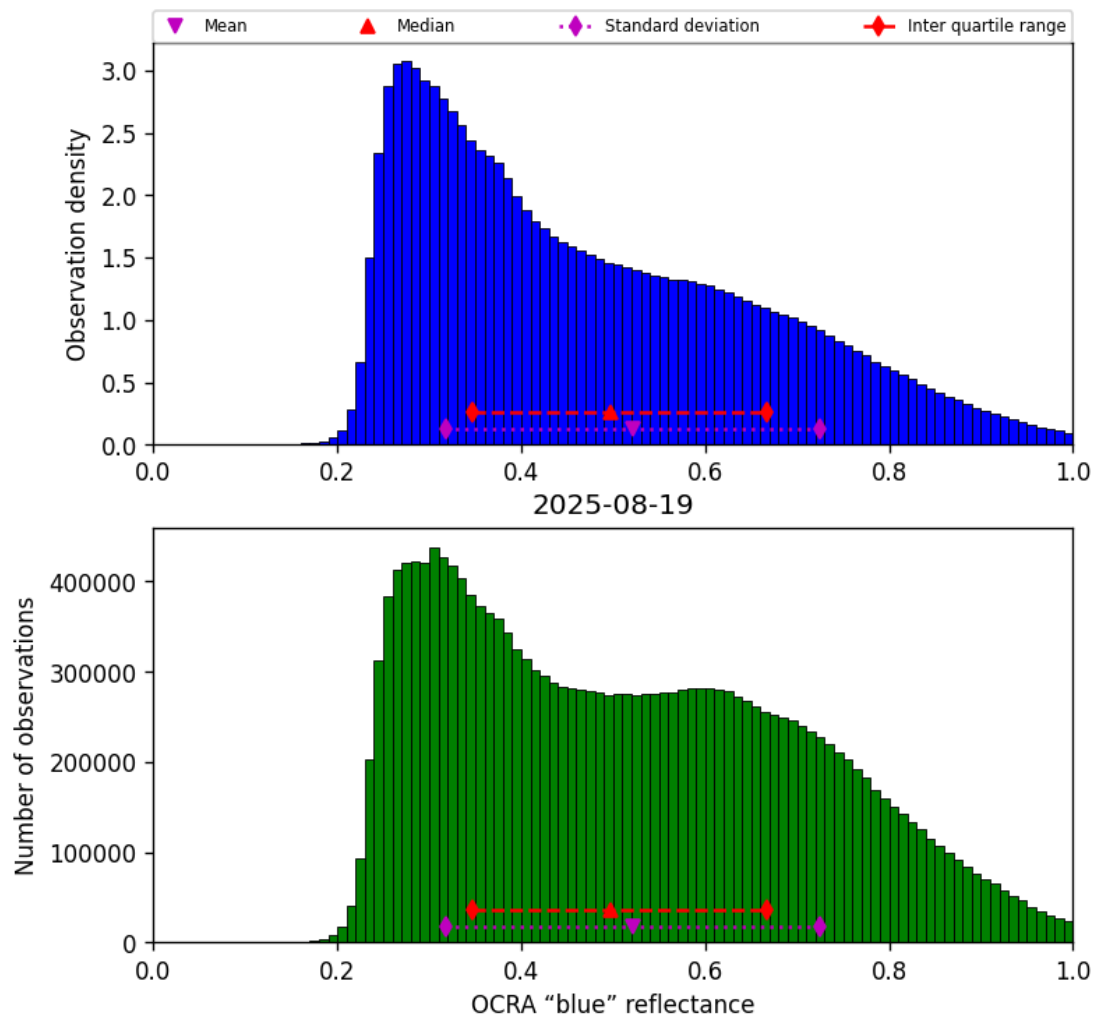


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20

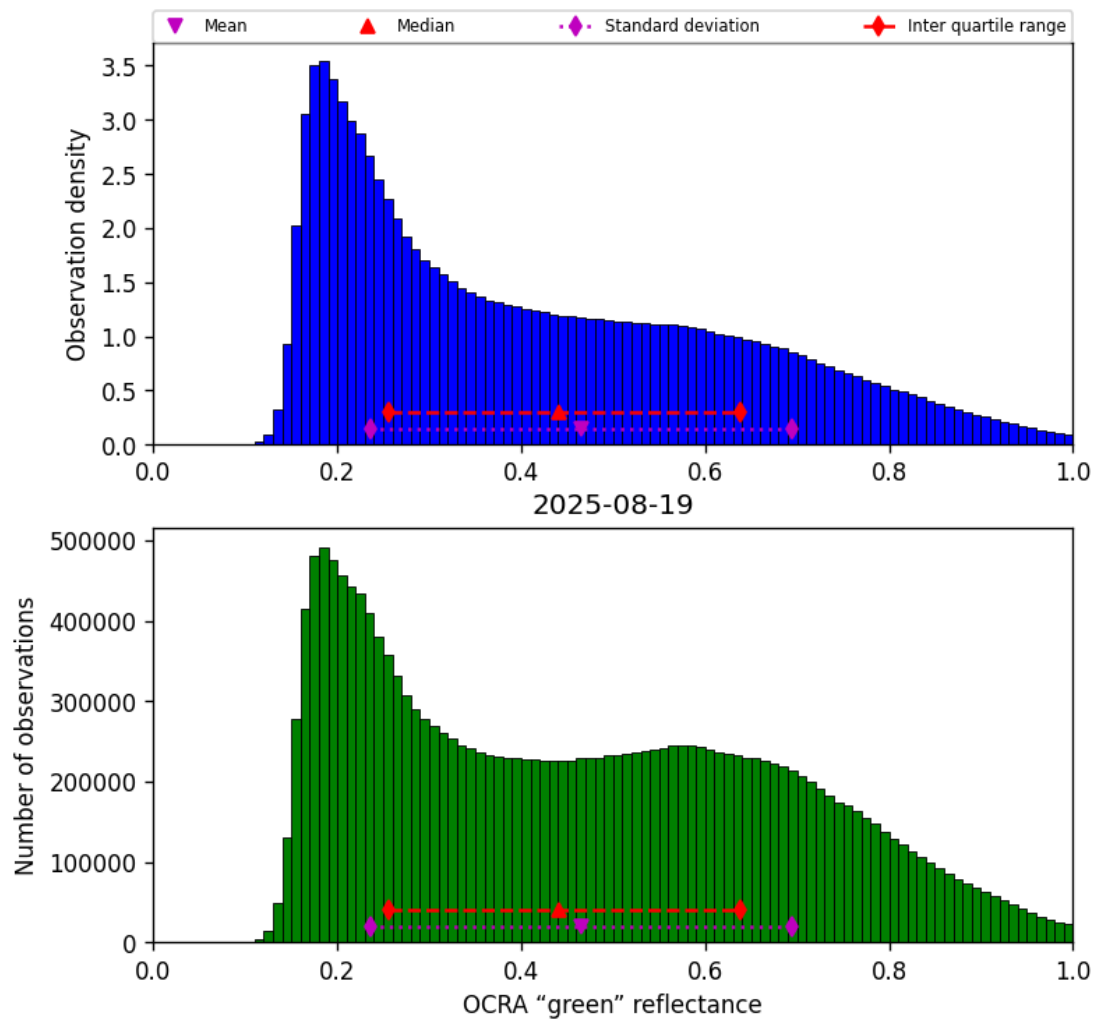


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20

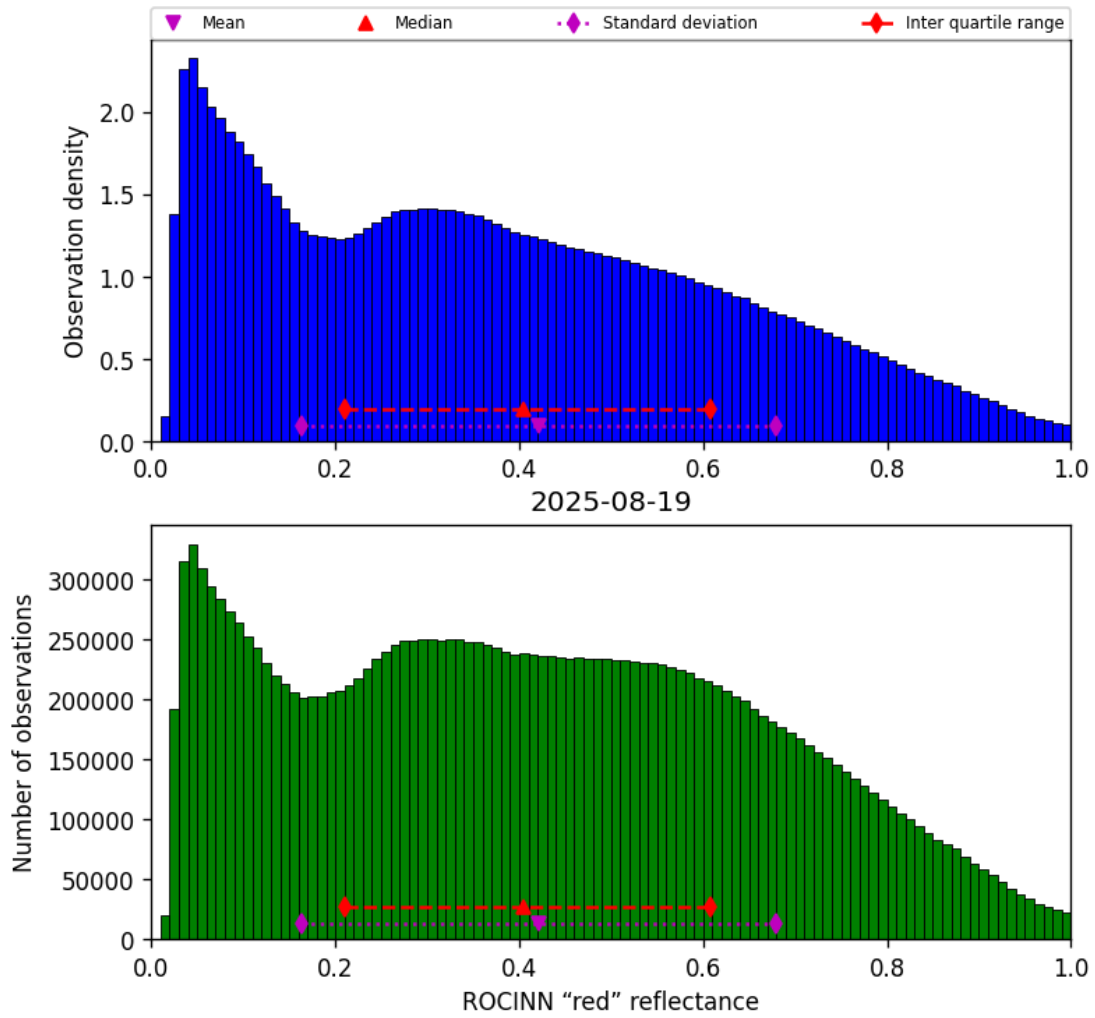


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20

9 Along track statistics

The TROPOMI instrument uses different binned detector rows for different viewing directions. In this section statistics are presented for each of the binned rows in the instrument.

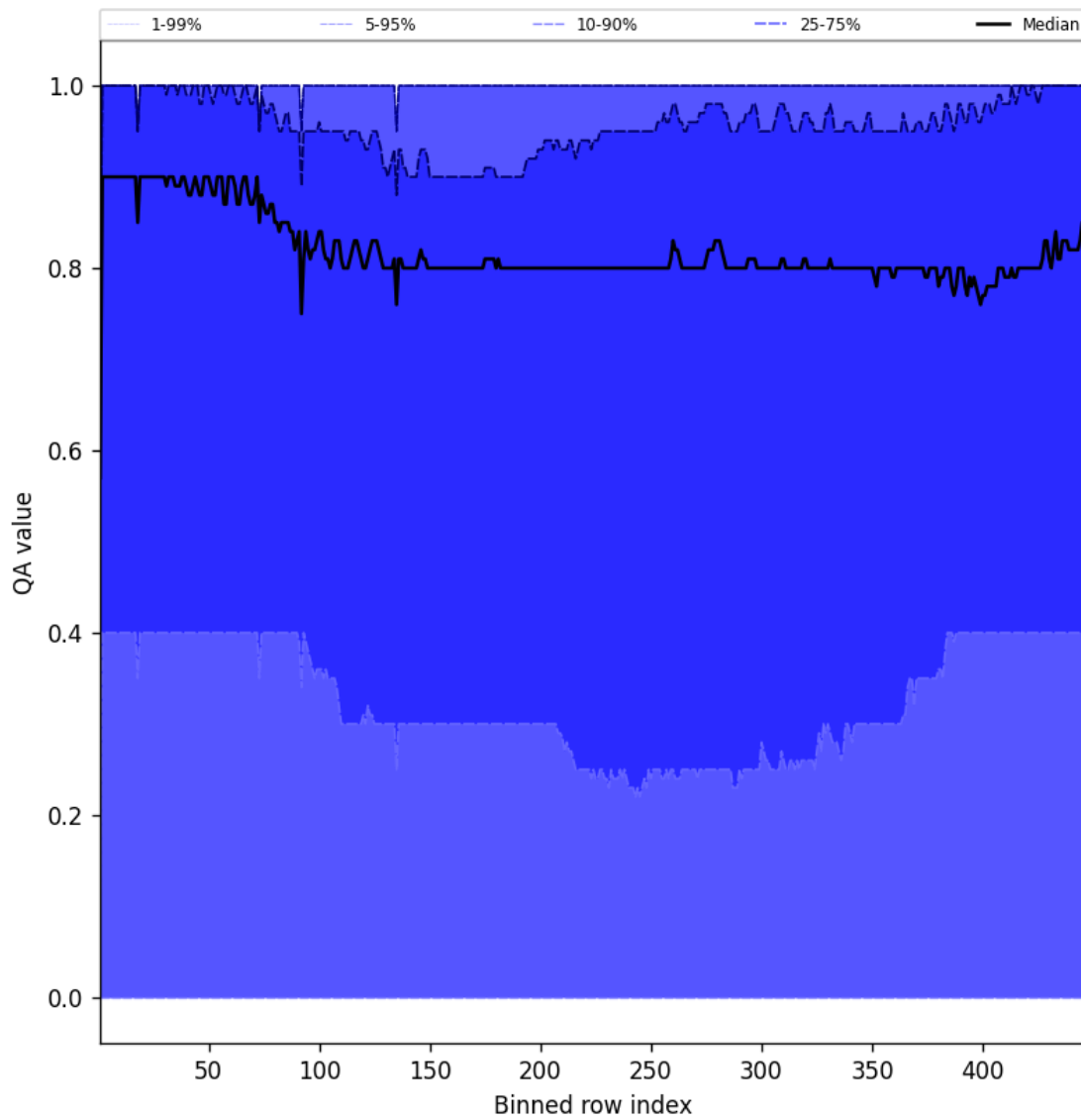


Figure 52: Along track statistics of “QA value” for 2025-08-19 to 2025-08-20

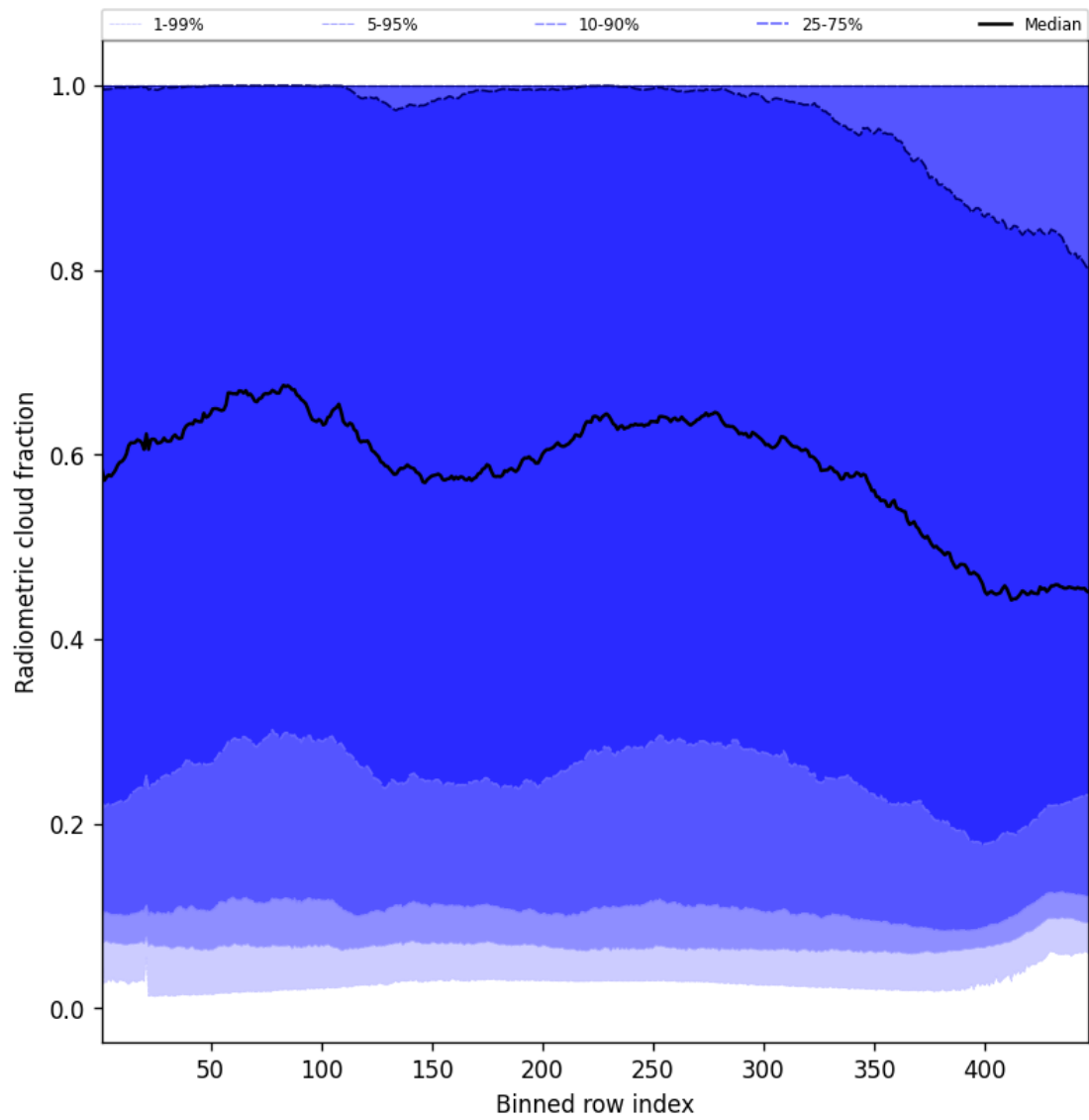


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20

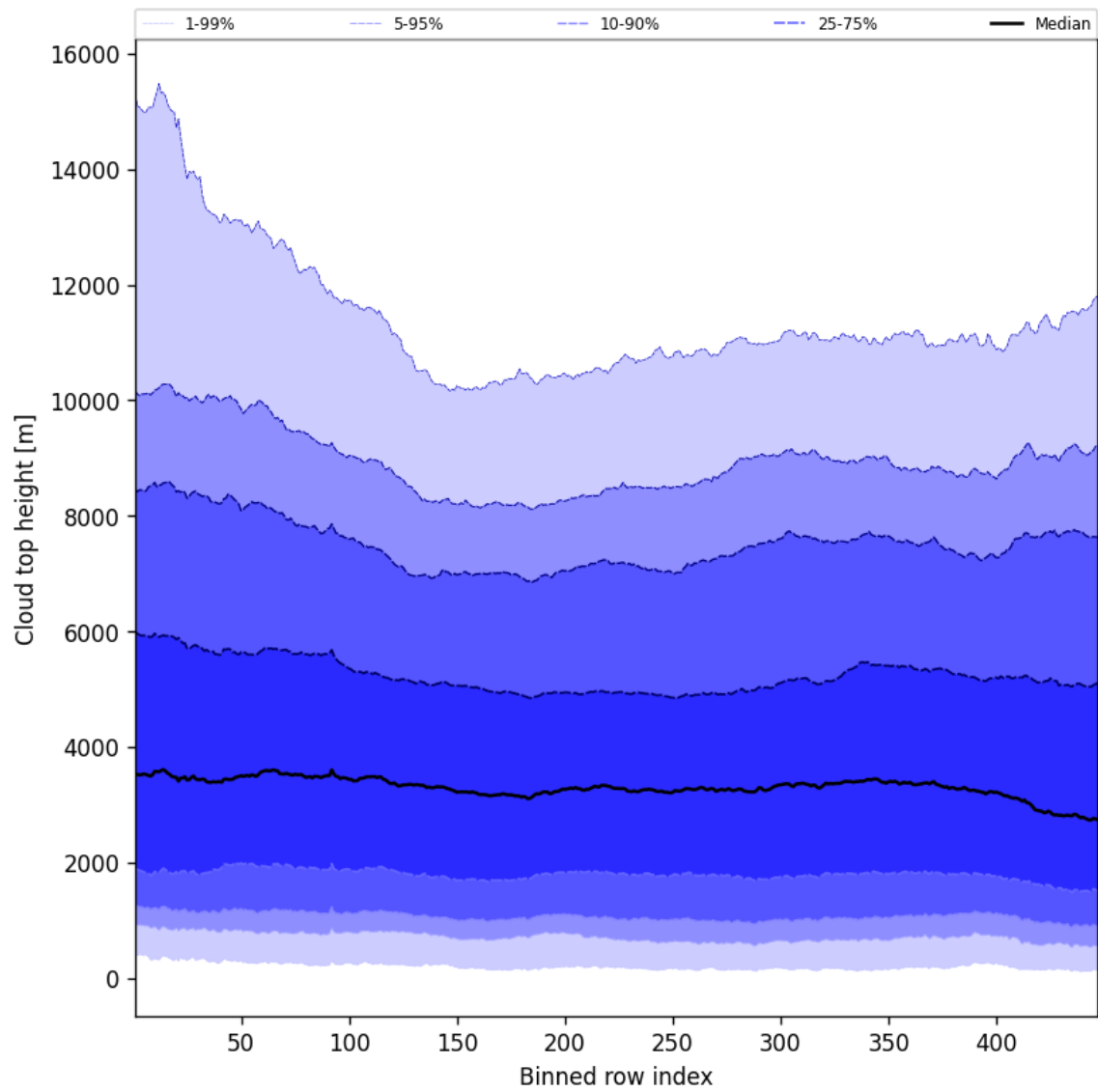


Figure 54: Along track statistics of “Cloud top height” for 2025-08-19 to 2025-08-20

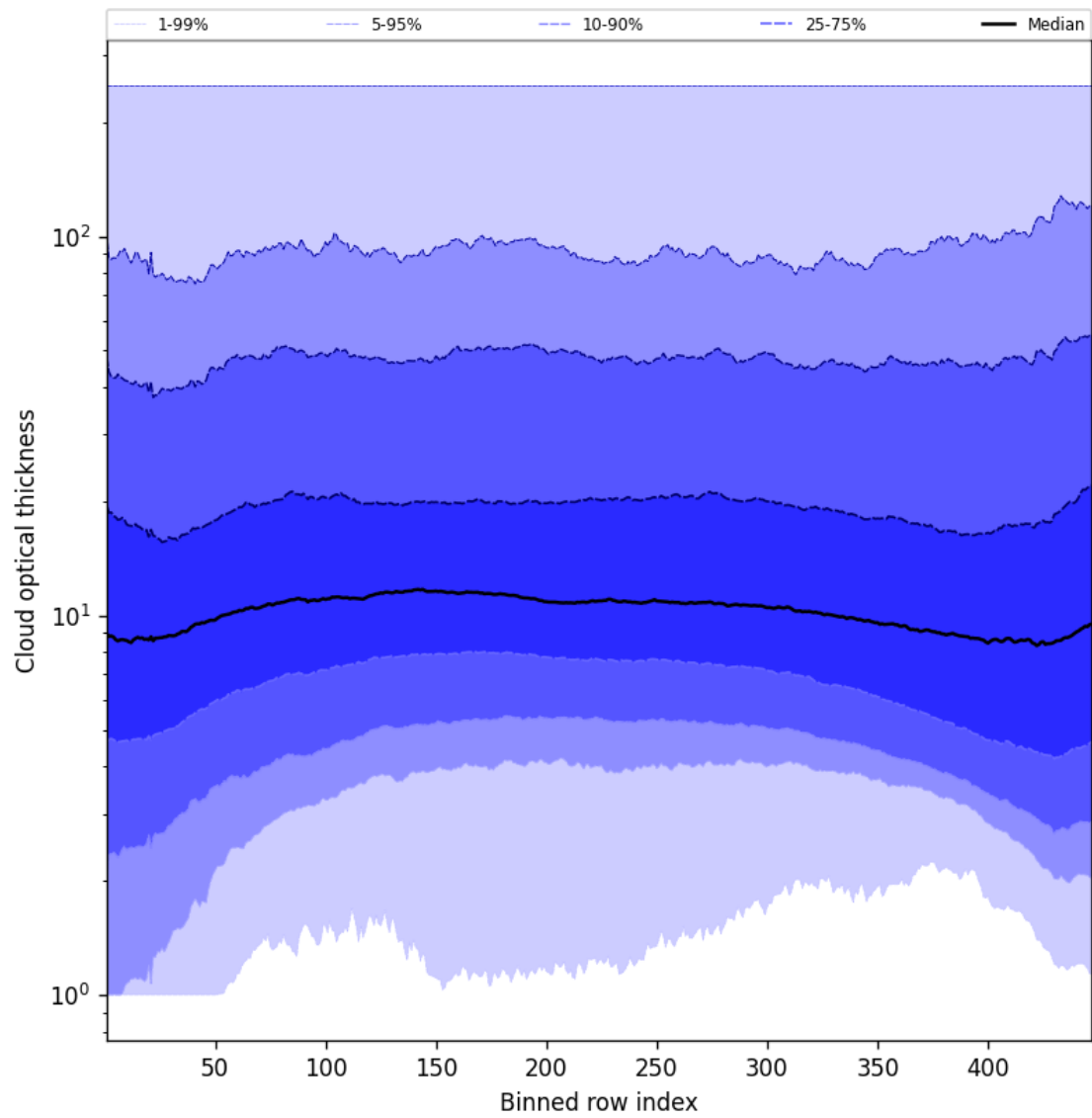


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-08-19 to 2025-08-20

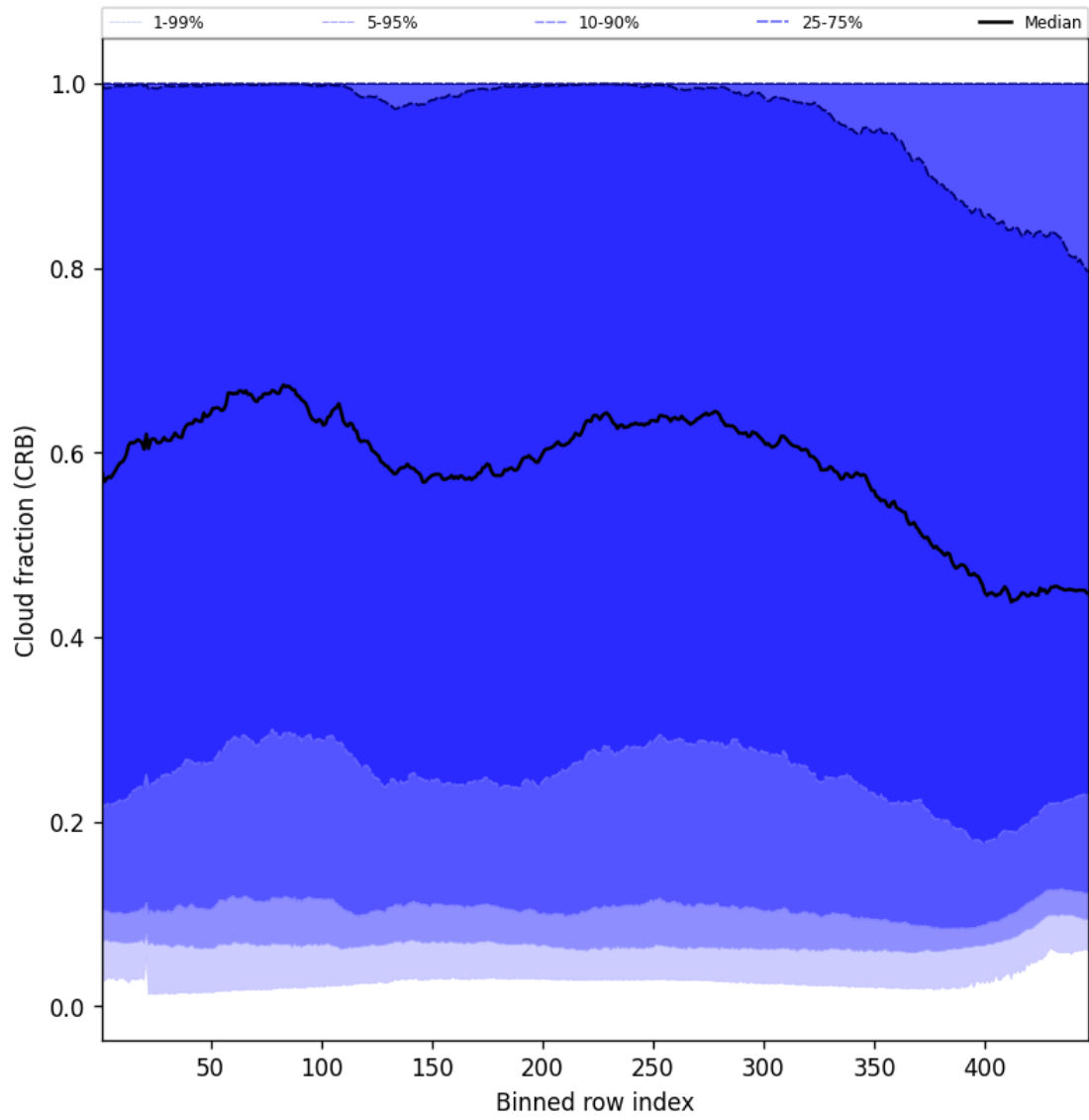


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20

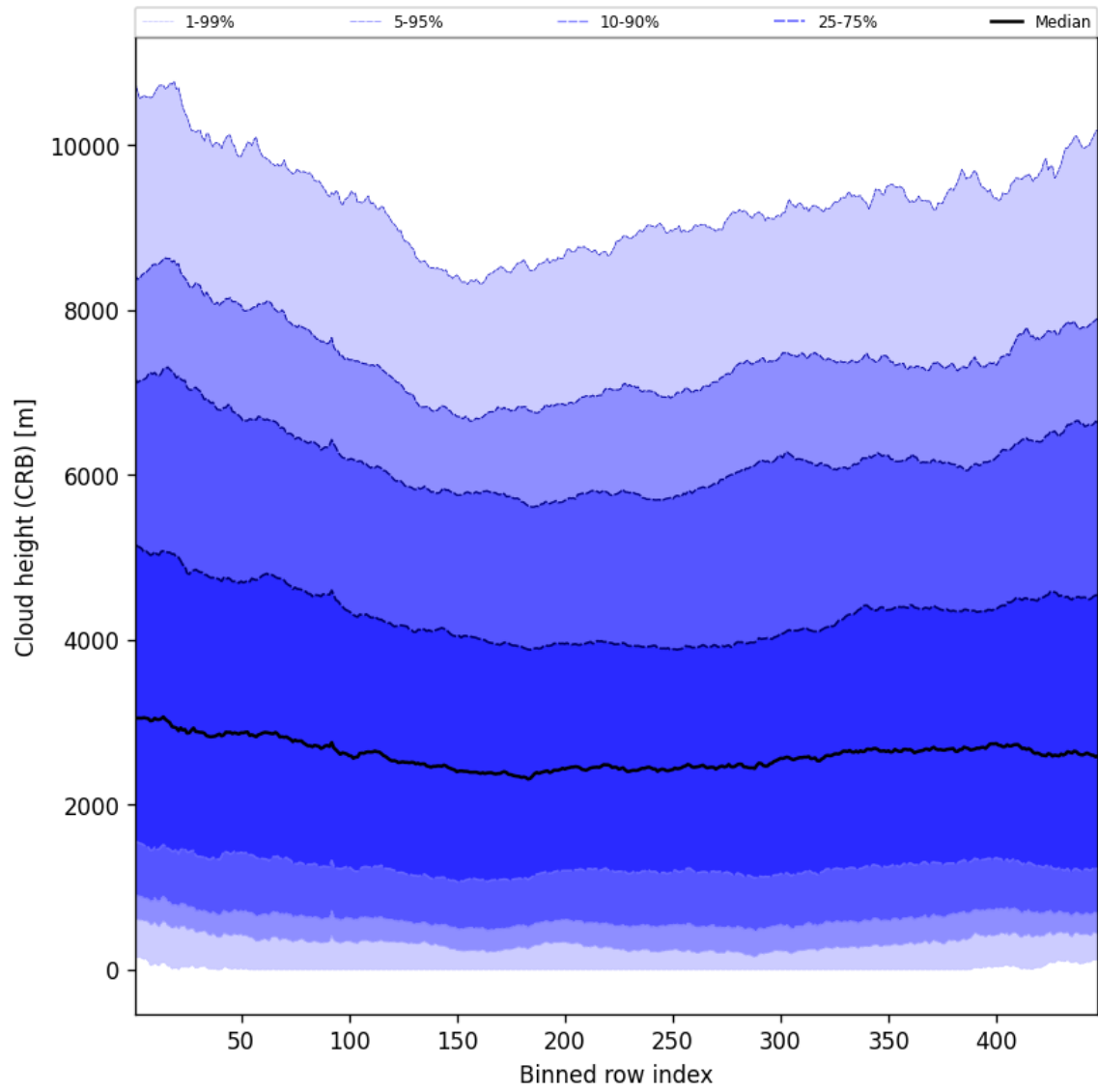


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20

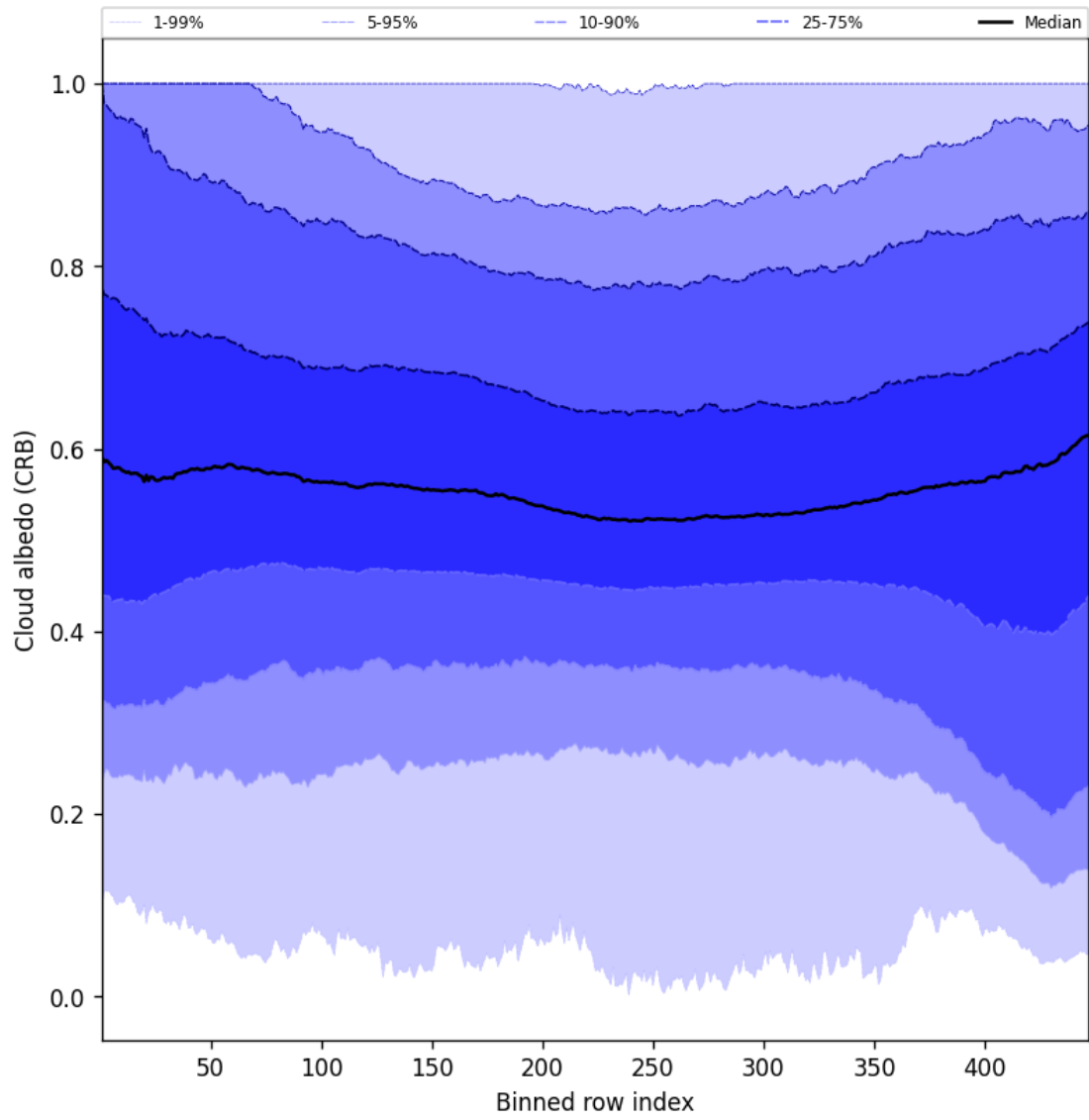


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20

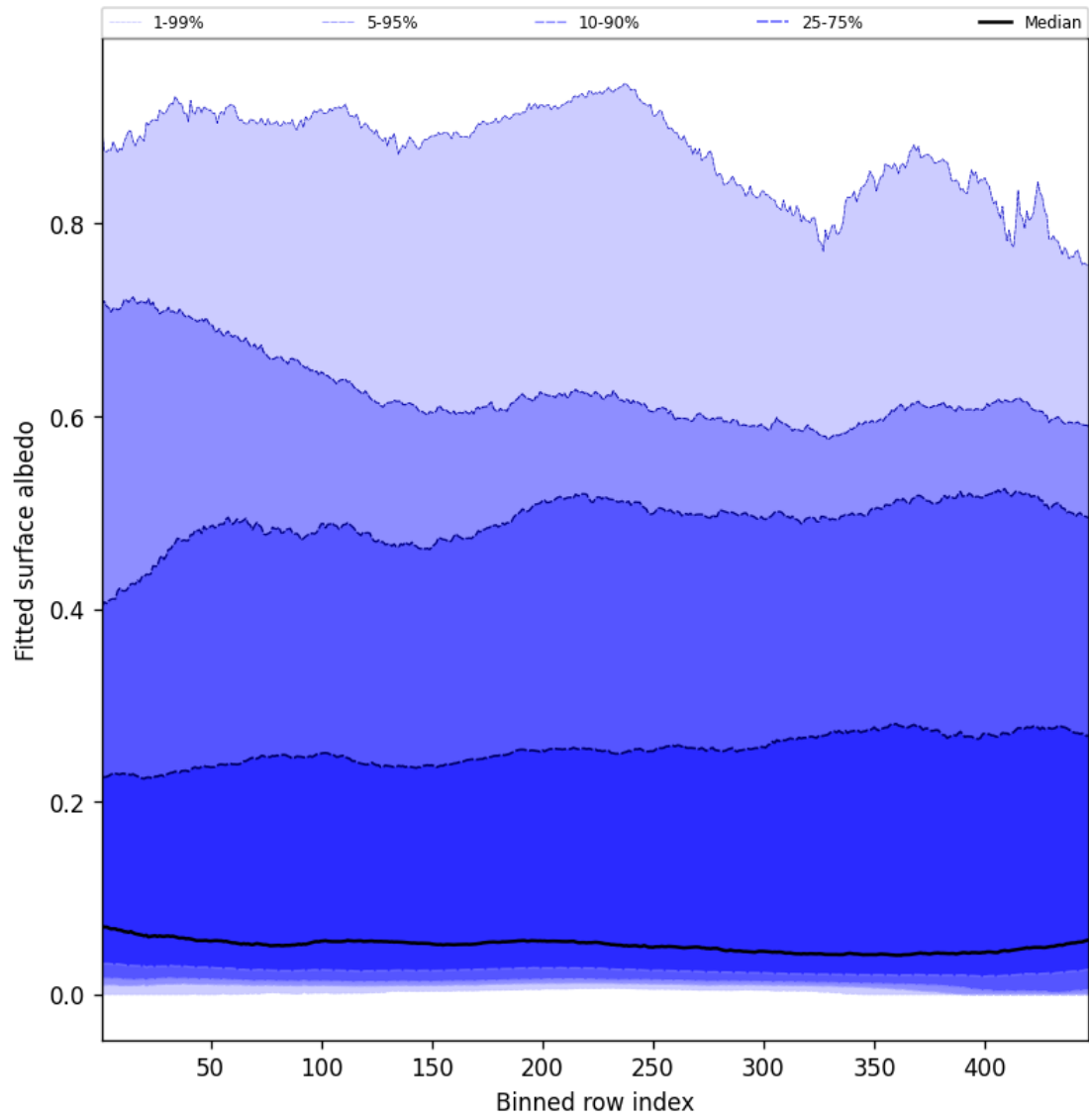


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-08-19 to 2025-08-20

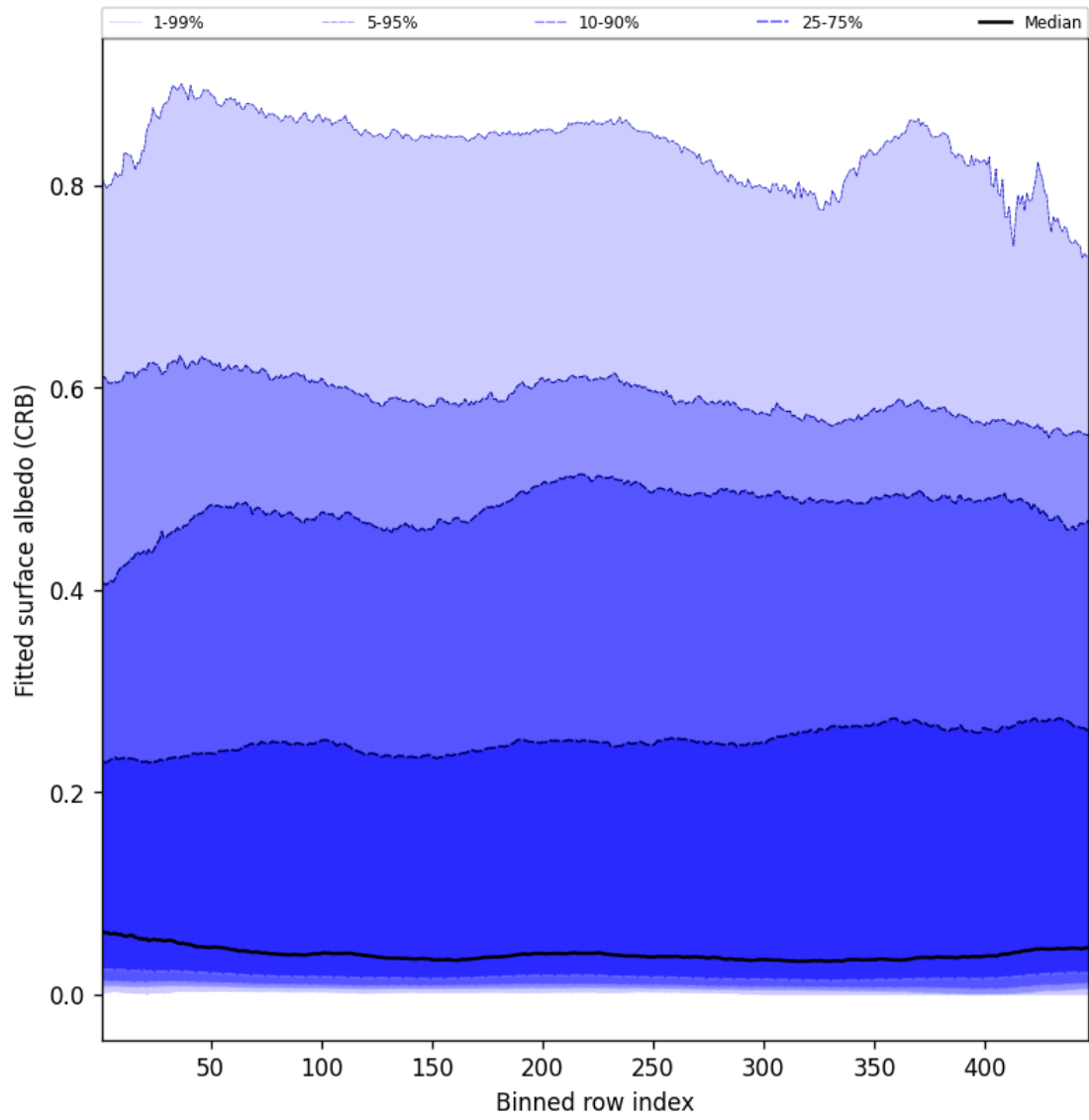


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20

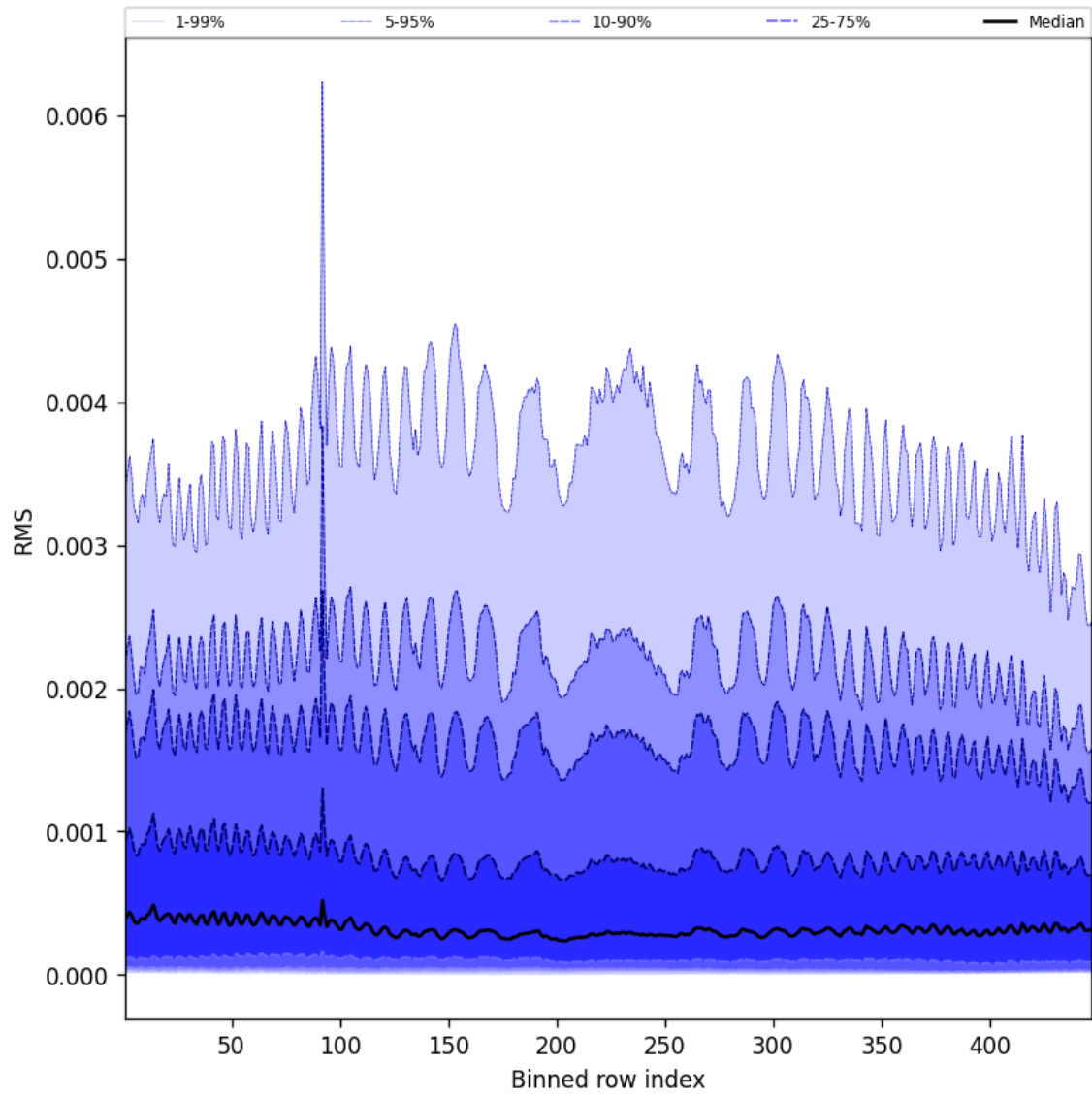


Figure 61: Along track statistics of “RMS” for 2025-08-19 to 2025-08-20

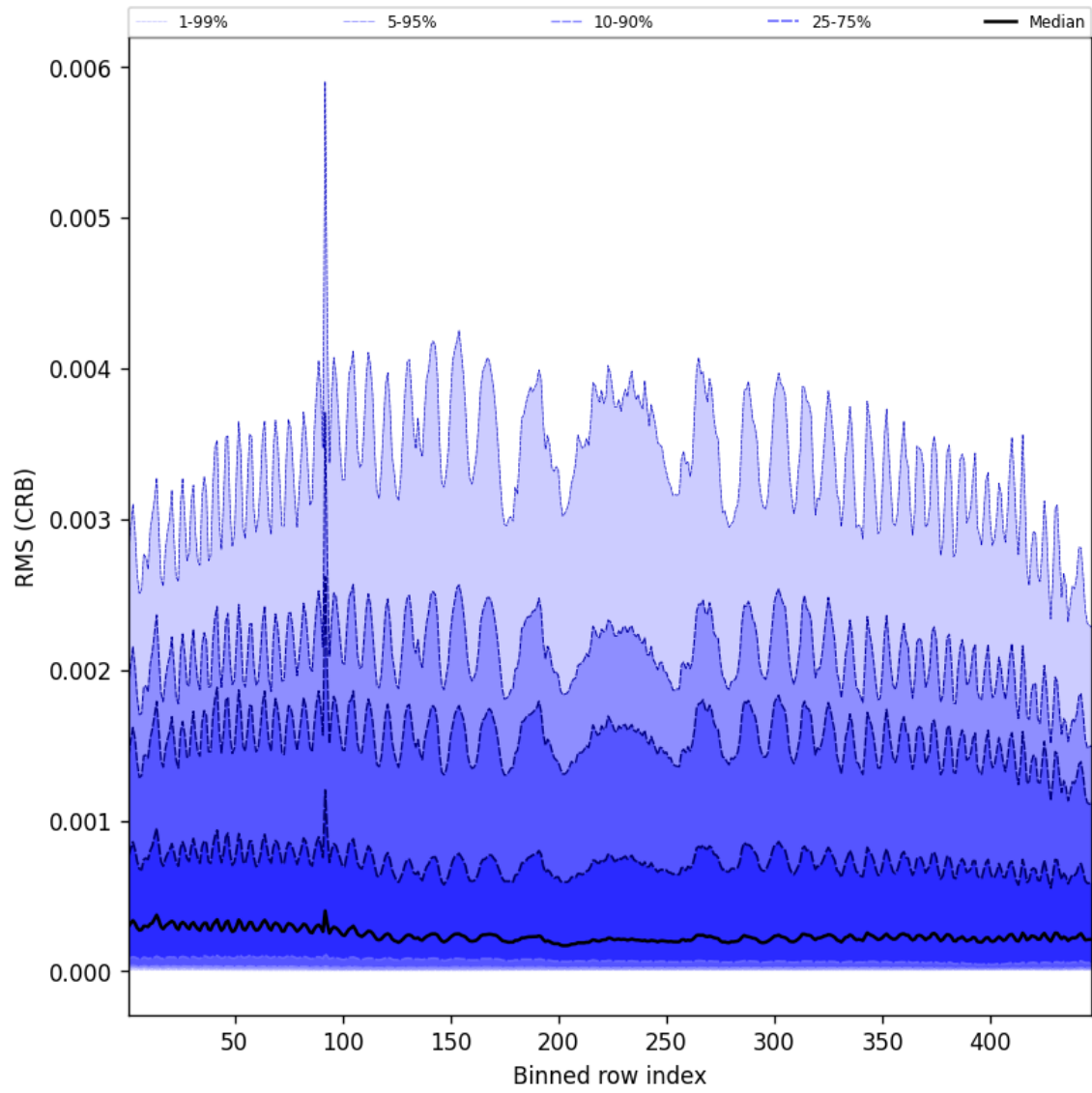


Figure 62: Along track statistics of “RMS (CRB)” for 2025-08-19 to 2025-08-20

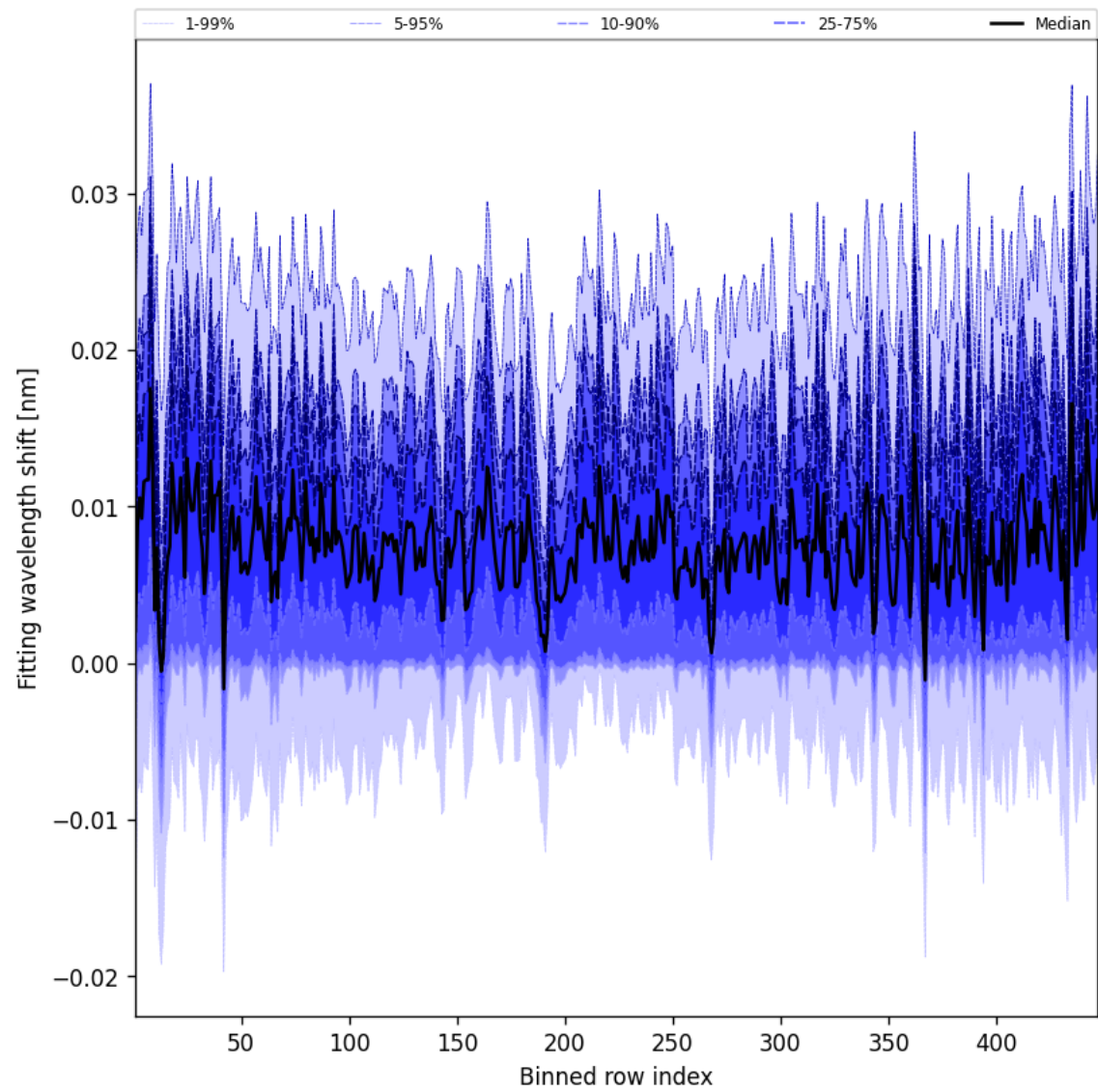


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20

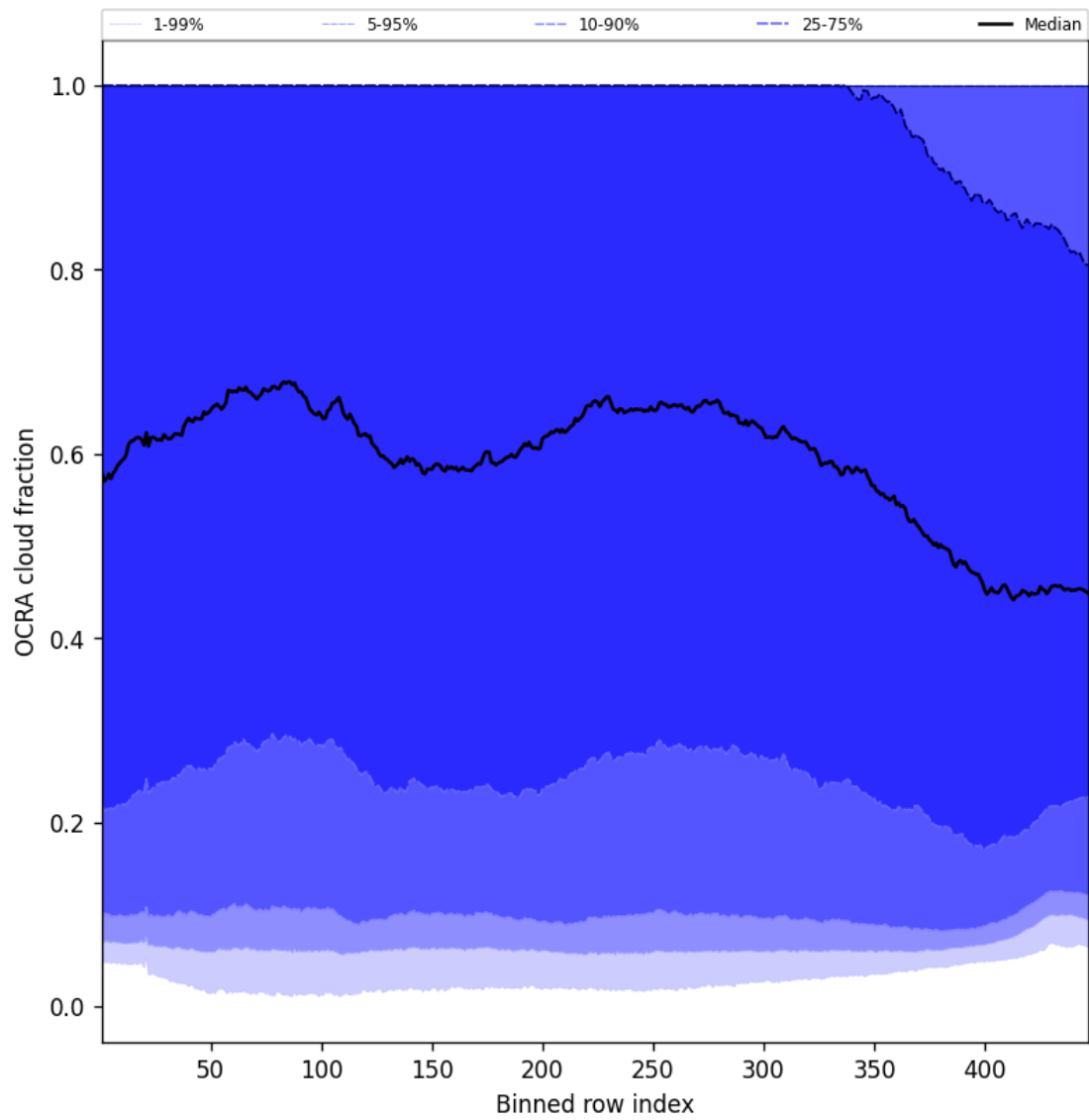


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20

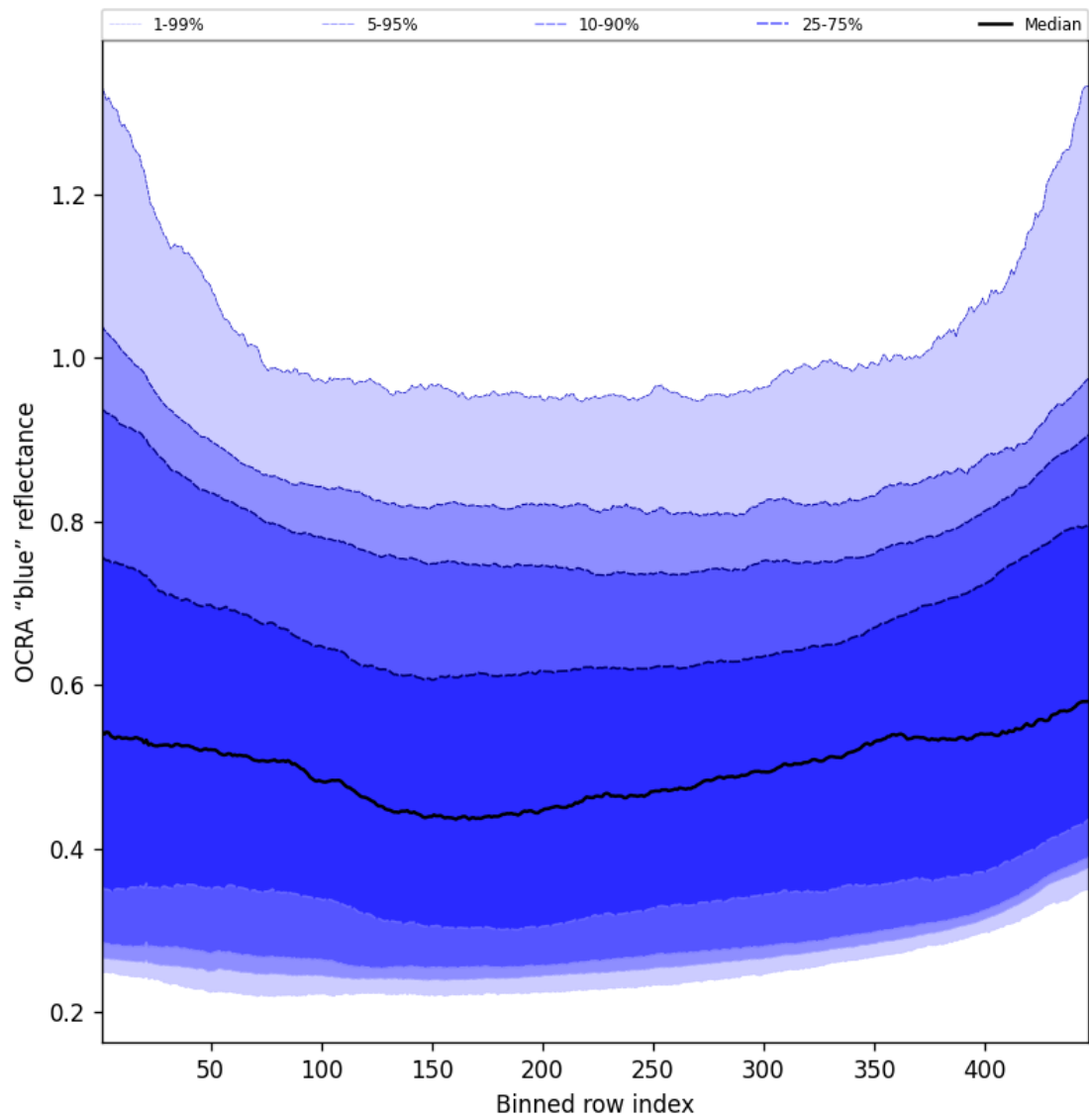


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20

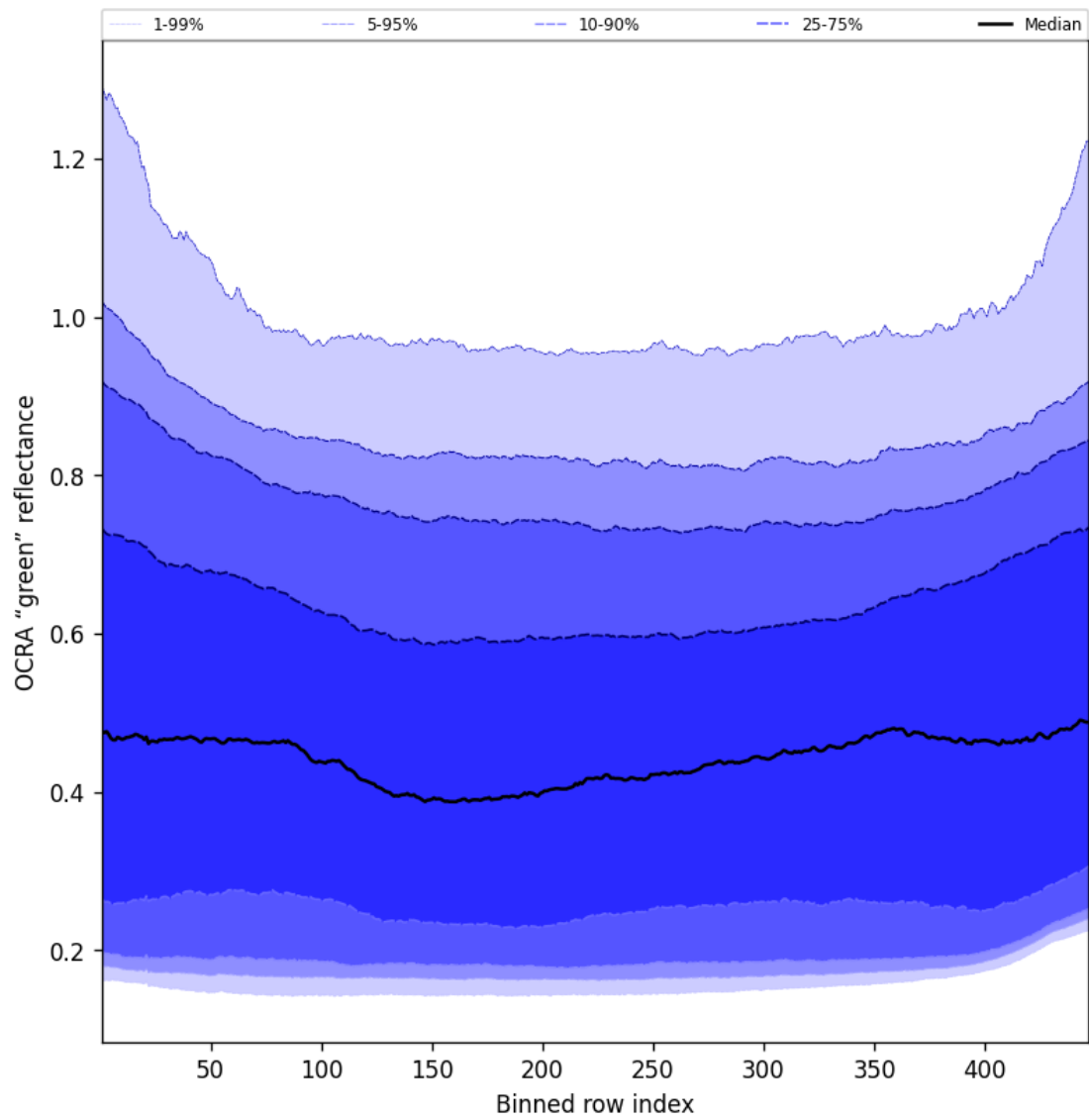


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20

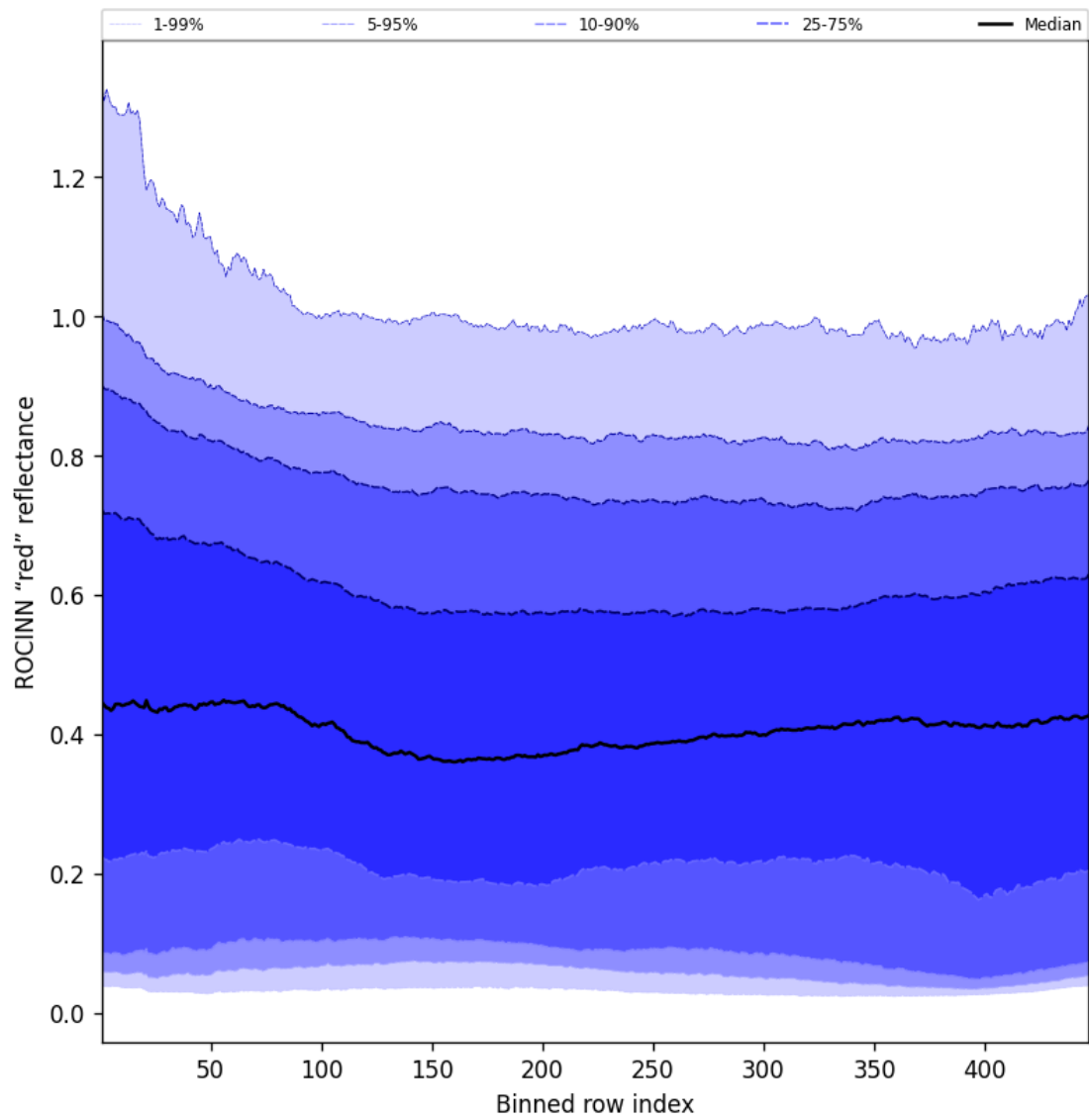


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20

10 Coincidence density

To investigate the relation between parameters scatter density plots are produced. These include some ‘hidden’ parameters, latitude and the solar- and viewing geometries, in addition to all configured parameters. All combinations of pairs of parameters are included *once*, in one direction alone.

Contents

1	Short Introduction	1
1.1	The list of parameters	1
2	Definitions	1
3	Granule outlines	8
4	Input data monitoring	9
5	Warnings and errors	10
6	World maps	11
7	Zonal average	27
8	Histograms	43
9	Along track statistics	59
10	Coincidence density	75
11	Copyright information of ‘PyCAMA’	75

List of Figures

1	Outline of the granules.	8
2	Input data per granule	9
3	Fraction of pixels with specific warnings and errors during processing	10
4	Map of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20	11
5	Map of “Cloud top height” for 2025-08-19 to 2025-08-20	12
6	Map of “Cloud optical thickness” for 2025-08-19 to 2025-08-20	13
7	Map of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20	14
8	Map of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20	15
9	Map of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20	16
10	Map of “Fitted surface albedo” for 2025-08-19 to 2025-08-20	17
11	Map of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20	18
12	Map of “RMS” for 2025-08-19 to 2025-08-20	19
13	Map of “RMS (CRB)” for 2025-08-19 to 2025-08-20	20
14	Map of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20	21
15	Map of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20	22
16	Map of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20	23
17	Map of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20	24
18	Map of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20	25
19	Map of the number of observations for 2025-08-19 to 2025-08-20	26
20	Zonal average of “QA value” for 2025-08-19 to 2025-08-20.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20.	28
22	Zonal average of “Cloud top height” for 2025-08-19 to 2025-08-20.	29
23	Zonal average of “Cloud optical thickness” for 2025-08-19 to 2025-08-20.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20.	31
25	Zonal average of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20.	33
27	Zonal average of “Fitted surface albedo” for 2025-08-19 to 2025-08-20.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20.	35
29	Zonal average of “RMS” for 2025-08-19 to 2025-08-20.	36

30	Zonal average of “RMS (CRB)” for 2025-08-19 to 2025-08-20.	37
31	Zonal average of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20.	38
32	Zonal average of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20.	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20.	40
34	Zonal average of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20.	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20.	42
36	Histogram of “QA value” for 2025-08-19 to 2025-08-20	43
37	Histogram of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20	44
38	Histogram of “Cloud top height” for 2025-08-19 to 2025-08-20	45
39	Histogram of “Cloud optical thickness” for 2025-08-19 to 2025-08-20	46
40	Histogram of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20	47
41	Histogram of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20	48
42	Histogram of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20	49
43	Histogram of “Fitted surface albedo” for 2025-08-19 to 2025-08-20	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20	51
45	Histogram of “RMS” for 2025-08-19 to 2025-08-20	52
46	Histogram of “RMS (CRB)” for 2025-08-19 to 2025-08-20	53
47	Histogram of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20	54
48	Histogram of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20	55
49	Histogram of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20	56
50	Histogram of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20	57
51	Histogram of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20	58
52	Along track statistics of “QA value” for 2025-08-19 to 2025-08-20	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-08-19 to 2025-08-20	60
54	Along track statistics of “Cloud top height” for 2025-08-19 to 2025-08-20	61
55	Along track statistics of “Cloud optical thickness” for 2025-08-19 to 2025-08-20	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-08-19 to 2025-08-20	63
57	Along track statistics of “Cloud height (CRB)” for 2025-08-19 to 2025-08-20	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-08-19 to 2025-08-20	65
59	Along track statistics of “Fitted surface albedo” for 2025-08-19 to 2025-08-20	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-08-19 to 2025-08-20	67
61	Along track statistics of “RMS” for 2025-08-19 to 2025-08-20	68
62	Along track statistics of “RMS (CRB)” for 2025-08-19 to 2025-08-20	69
63	Along track statistics of “Fitting wavelength shift” for 2025-08-19 to 2025-08-20	70
64	Along track statistics of “OCRA cloud fraction” for 2025-08-19 to 2025-08-20	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-08-19 to 2025-08-20	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-08-19 to 2025-08-20	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-08-19 to 2025-08-20	74

List of Tables

1	Parameterlist and basic statistics for the analysis	2
2	Percentile ranges	3
3	Parameterlist and basic statistics for the analysis for observations in the northern hemisphere	4
4	Parameterlist and basic statistics for the analysis for observations in the southern hemisphere	5
5	Parameterlist and basic statistics for the analysis for observations over water	6
6	Parameterlist and basic statistics for the analysis for observations over land	7

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