

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-25 (02:30)

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]	0.641 ± 0.376	17283944	0.995	0.600	0.840	0.0	1.000
cloud fraction [1]	0.572 ± 0.345	17283944	0.995	0.730	0.558	5.374×10^{-3}	1.000
cloud top height [m]	$(0.389 \pm 0.268) \times 10^4$	17283944	1.425×10^3	3.497×10^3	3.312×10^3	0.0	2.000×10^4
cloud optical thickness [1]	23.3 ± 42.6	17283944	9.77	12.6	10.3	1.000	250
cloud fraction crb [1]	0.571 ± 0.345	17283944	0.995	0.730	0.556	8.381×10^{-3}	1.000
cloud height crb [m]	$(0.309 \pm 0.225) \times 10^4$	17283944	975	3.021×10^3	2.660×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.599 ± 0.205	17283944	0.995	0.253	0.579	0.0	1.000
surface albedo fitted [1]	0.203 ± 0.262	17283944	2.500×10^{-2}	0.244	5.717×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.190 ± 0.249	17283944	1.500×10^{-2}	0.244	4.619×10^{-2}	0.0	1.000
fitted root mean square [1]	$(5.922 \pm 7.763) \times 10^{-4}$	17283944	5.000×10^{-5}	6.941×10^{-4}	3.568×10^{-4}	1.171×10^{-6}	0.386
fitted root mean square crb [1]	$(5.117 \pm 7.434) \times 10^{-4}$	17283944	5.000×10^{-5}	6.102×10^{-4}	2.594×10^{-4}	1.100×10^{-6}	0.923
wavelength shift [nm]	$(8.373 \pm 7.037) \times 10^{-3}$	17283944	9.000×10^{-4}	1.017×10^{-2}	7.824×10^{-3}	-4.736×10^{-2}	7.138×10^{-2}
cloud fraction apriori [1]	0.576 ± 0.351	17283944	0.995	0.759	0.565	0.0	1.000
reflectance blue ocra [1]	0.559 ± 0.225	17283944	0.275	0.370	0.533	0.119	2.03
reflectance green ocra [1]	0.506 ± 0.252	17283944	0.175	0.437	0.485	6.775×10^{-2}	2.23
reflectance continuum aband [1]	0.458 ± 0.274	17283944	4.500×10^{-2}	0.440	0.451	1.214×10^{-2}	5.02

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	0.0	0.350	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.668×10^{-2}	6.870×10^{-2}	0.107	0.156	0.245	0.975	1.000	1.000	1.000	1.000
cloud top height [m]	295	789	1.135×10^3	1.403×10^3	1.805×10^3	5.302×10^3	6.472×10^3	7.558×10^3	9.043×10^3	1.220×10^4
cloud optical thickness [1]	1.12	2.99	4.07	5.02	6.40	19.0	29.5	44.7	87.5	250
cloud fraction crb [1]	2.621×10^{-2}	6.795×10^{-2}	0.106	0.155	0.245	0.974	1.000	1.000	1.000	1.000
cloud height crb [m]	16.2	407	681	909	1.276×10^3	4.297×10^3	5.316×10^3	6.270×10^3	7.553×10^3	9.791×10^3
cloud albedo crb [1]	6.880×10^{-2}	0.265	0.370	0.427	0.473	0.727	0.813	0.900	1.000	1.000
surface albedo fitted [1]	0.0	9.484×10^{-3}	1.505×10^{-2}	1.985×10^{-2}	2.685×10^{-2}	0.271	0.530	0.684	0.798	0.953
surface albedo fitted crb [1]	0.0	7.478×10^{-3}	1.136×10^{-2}	1.513×10^{-2}	2.075×10^{-2}	0.265	0.517	0.647	0.734	0.897
fitted root mean square [1]	1.508×10^{-5}	3.005×10^{-5}	4.862×10^{-5}	7.664×10^{-5}	1.258×10^{-4}	8.199×10^{-4}	1.115×10^{-3}	1.422×10^{-3}	1.923×10^{-3}	3.119×10^{-3}
fitted root mean square crb [1]	7.833×10^{-6}	1.736×10^{-5}	2.990×10^{-5}	4.789×10^{-5}	8.315×10^{-5}	6.934×10^{-4}	1.009×10^{-3}	1.333×10^{-3}	1.848×10^{-3}	2.991×10^{-3}
wavelength shift [nm]	-6.660×10^{-3}	-4.567×10^{-4}	2.941×10^{-4}	1.201×10^{-3}	2.920×10^{-3}	1.309×10^{-2}	1.552×10^{-2}	1.761×10^{-2}	2.037×10^{-2}	2.637×10^{-2}
cloud fraction apriori [1]	2.950×10^{-2}	6.541×10^{-2}	0.100	0.149	0.241	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.232	0.257	0.284	0.315	0.365	0.735	0.800	0.851	0.923	1.14
reflectance green ocra [1]	0.152	0.173	0.193	0.220	0.273	0.710	0.786	0.840	0.913	1.09
reflectance continuum aband [1]	2.926×10^{-2}	5.409×10^{-2}	8.937×10^{-2}	0.138	0.229	0.668	0.753	0.814	0.892	1.06

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]	0.637 ± 0.379	9252931	0.650	0.840	0.0	1.000	0.300	0.950
cloud fraction [1]	0.594 ± 0.353	9252931	0.753	0.616	5.919×10^{-3}	1.000	0.245	0.999
cloud top height [m]	$(0.403 \pm 0.251) \times 10^4$	9252931	3.325×10^3	3.578×10^3	0.0	2.000×10^4	2.065×10^3	5.391×10^3
cloud optical thickness [1]	22.4 ± 36.5	9252931	14.8	10.6	1.000	250	6.63	21.4
cloud fraction crb [1]	0.593 ± 0.353	9252931	0.754	0.613	8.381×10^{-3}	1.000	0.244	0.998
cloud height crb [m]	$(0.328 \pm 0.218) \times 10^4$	9252931	2.885×10^3	2.960×10^3	0.0	2.000×10^4	1.553×10^3	4.438×10^3
cloud albedo crb [1]	0.586 ± 0.195	9252931	0.244	0.578	0.0	1.000	0.469	0.713
surface albedo fitted [1]	0.168 ± 0.198	9252931	0.202	7.937×10^{-2}	0.0	1.000	2.960×10^{-2}	0.232
surface albedo fitted crb [1]	0.161 ± 0.197	9252931	0.204	6.359×10^{-2}	0.0	1.000	2.264×10^{-2}	0.226
fitted root mean square [1]	$(5.603 \pm 8.605) \times 10^{-4}$	9252931	6.191×10^{-4}	2.789×10^{-4}	1.171×10^{-6}	0.386	1.116×10^{-4}	7.306×10^{-4}
fitted root mean square crb [1]	$(5.109 \pm 8.611) \times 10^{-4}$	9252931	6.113×10^{-4}	2.113×10^{-4}	1.100×10^{-6}	0.923	6.495×10^{-5}	6.763×10^{-4}
wavelength shift [nm]	$(7.576 \pm 6.849) \times 10^{-3}$	9252931	9.713×10^{-3}	6.780×10^{-3}	-4.736×10^{-2}	7.138×10^{-2}	2.232×10^{-3}	1.194×10^{-2}
cloud fraction apriori [1]	0.598 ± 0.358	9252931	0.761	0.624	0.0	1.000	0.239	1.000
reflectance blue ocra [1]	0.538 ± 0.218	9252931	0.343	0.509	0.119	1.98	0.354	0.696
reflectance green ocra [1]	0.483 ± 0.244	9252931	0.408	0.456	6.775×10^{-2}	1.99	0.262	0.670
reflectance continuum aband [1]	0.443 ± 0.264	9252931	0.405	0.426	1.220×10^{-2}	4.89	0.230	0.636

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]	0.646 ± 0.372	8031013	0.570	0.820	0.0	1.000	0.400	0.970
cloud fraction [1]	0.547 ± 0.335	8031013	0.673	0.504	5.374×10^{-3}	1.000	0.245	0.918
cloud top height [m]	$(0.373 \pm 0.285) \times 10^4$	8031013	3.615×10^3	2.938×10^3	0.0	2.000×10^4	1.575×10^3	5.190×10^3
cloud optical thickness [1]	24.2 ± 48.7	8031013	10.5	10.1	1.000	250	6.15	16.6
cloud fraction crb [1]	0.546 ± 0.335	8031013	0.671	0.502	8.510×10^{-3}	1.000	0.245	0.917
cloud height crb [m]	$(0.286 \pm 0.231) \times 10^4$	8031013	3.068×10^3	2.238×10^3	0.0	2.000×10^4	1.042×10^3	4.110×10^3
cloud albedo crb [1]	0.614 ± 0.215	8031013	0.271	0.580	0.0	1.000	0.478	0.749
surface albedo fitted [1]	0.242 ± 0.315	8031013	0.539	4.542×10^{-2}	0.0	1.000	2.469×10^{-2}	0.563
surface albedo fitted crb [1]	0.224 ± 0.294	8031013	0.521	3.756×10^{-2}	0.0	1.000	1.910×10^{-2}	0.540
fitted root mean square [1]	$(6.289 \pm 6.642) \times 10^{-4}$	8031013	7.330×10^{-4}	4.556×10^{-4}	1.877×10^{-6}	9.299×10^{-2}	1.586×10^{-4}	8.916×10^{-4}
fitted root mean square crb [1]	$(5.125 \pm 5.789) \times 10^{-4}$	8031013	5.962×10^{-4}	3.092×10^{-4}	2.459×10^{-6}	1.653×10^{-2}	1.122×10^{-4}	7.084×10^{-4}
wavelength shift [nm]	$(9.292 \pm 7.137) \times 10^{-3}$	8031013	1.028×10^{-2}	9.137×10^{-3}	-4.338×10^{-2}	6.205×10^{-2}	3.877×10^{-3}	1.416×10^{-2}
cloud fraction apriori [1]	0.551 ± 0.340	8031013	0.701	0.510	0.0	1.000	0.243	0.944
reflectance blue ocra [1]	0.583 ± 0.229	8031013	0.393	0.567	0.135	2.03	0.380	0.773
reflectance green ocra [1]	0.532 ± 0.258	8031013	0.464	0.523	8.250×10^{-2}	2.23	0.289	0.753
reflectance continuum aband [1]	0.475 ± 0.283	8031013	0.474	0.487	1.214×10^{-2}	5.02	0.227	0.701

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]	0.664 ± 0.361	11861755	0.560	0.850	0.0	1.000	0.400	0.960
cloud fraction [1]	0.572 ± 0.344	11861755	0.720	0.570	7.529×10^{-3}	1.000	0.240	0.961
cloud top height [m]	$(0.353 \pm 0.238) \times 10^4$	11861755	3.081×10^3	2.982×10^3	0.0	2.000×10^4	1.680×10^3	4.761×10^3
cloud optical thickness [1]	22.6 ± 39.8	11861755	12.1	10.7	1.000	250	7.14	19.2
cloud fraction crb [1]	0.570 ± 0.344	11861755	0.720	0.568	8.426×10^{-3}	1.000	0.239	0.959
cloud height crb [m]	$(0.282 \pm 0.211) \times 10^4$	11861755	2.812×10^3	2.362×10^3	0.0	2.000×10^4	1.131×10^3	3.943×10^3
cloud albedo crb [1]	0.567 ± 0.187	11861755	0.218	0.551	0.0	1.000	0.460	0.677
surface albedo fitted [1]	0.121 ± 0.214	11861755	4.233×10^{-2}	3.523×10^{-2}	0.0	1.000	2.098×10^{-2}	6.331×10^{-2}
surface albedo fitted crb [1]	0.112 ± 0.207	11861755	3.528×10^{-2}	2.767×10^{-2}	0.0	1.000	1.599×10^{-2}	5.127×10^{-2}
fitted root mean square [1]	$(5.109 \pm 7.272) \times 10^{-4}$	11861755	6.080×10^{-4}	2.606×10^{-4}	1.171×10^{-6}	0.386	9.447×10^{-5}	7.025×10^{-4}
fitted root mean square crb [1]	$(4.549 \pm 6.932) \times 10^{-4}$	11861755	5.444×10^{-4}	1.989×10^{-4}	1.100×10^{-6}	0.579	6.466×10^{-5}	6.091×10^{-4}
wavelength shift [nm]	$(7.969 \pm 7.200) \times 10^{-3}$	11861755	1.045×10^{-2}	7.151×10^{-3}	-4.736×10^{-2}	7.138×10^{-2}	2.367×10^{-3}	1.282×10^{-2}
cloud fraction apriori [1]	0.574 ± 0.349	11861755	0.764	0.574	0.0	1.000	0.234	0.998
reflectance blue ocr [1]	0.533 ± 0.209	11861755	0.332	0.505	0.159	2.03	0.355	0.687
reflectance green ocr [1]	0.474 ± 0.235	11861755	0.398	0.449	8.682×10^{-2}	1.97	0.259	0.657
reflectance continuum aband [1]	0.403 ± 0.264	11861755	0.453	0.392	1.214×10^{-2}	4.89	0.155	0.608

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]	0.549 ± 0.414	3901777	0.930	0.700	0.0	1.000	0.0	0.930
cloud fraction [1]	0.532 ± 0.341	3901777	0.715	0.447	5.919×10^{-3}	1.000	0.234	0.949
cloud top height [m]	$(0.507 \pm 0.322) \times 10^4$	3901777	4.013×10^3	4.616×10^3	0.0	2.000×10^4	2.698×10^3	6.711×10^3
cloud optical thickness [1]	23.4 ± 48.8	3901777	10.9	8.15	1.000	250	5.09	15.9
cloud fraction crb [1]	0.532 ± 0.340	3901777	0.713	0.446	8.564×10^{-3}	1.000	0.235	0.948
cloud height crb [m]	$(0.394 \pm 0.249) \times 10^4$	3901777	3.300×10^3	3.532×10^3	0.0	2.000×10^4	2.035×10^3	5.335×10^3
cloud albedo crb [1]	0.690 ± 0.231	3901777	0.359	0.685	0.0	1.000	0.532	0.891
surface albedo fitted [1]	0.442 ± 0.273	3901777	0.500	0.312	0.0	1.000	0.210	0.709
surface albedo fitted crb [1]	0.419 ± 0.247	3901777	0.457	0.311	7.171×10^{-3}	1.000	0.205	0.662
fitted root mean square [1]	$(8.399 \pm 8.481) \times 10^{-4}$	3901777	7.602×10^{-4}	6.434×10^{-4}	1.490×10^{-6}	0.181	3.348×10^{-4}	1.095×10^{-3}
fitted root mean square crb [1]	$(6.715 \pm 7.355) \times 10^{-4}$	3901777	7.309×10^{-4}	4.275×10^{-4}	2.567×10^{-6}	3.872×10^{-2}	1.772×10^{-4}	9.080×10^{-4}
wavelength shift [nm]	$(9.267 \pm 6.516) \times 10^{-3}$	3901777	9.097×10^{-3}	9.023×10^{-3}	-3.760×10^{-2}	5.647×10^{-2}	4.464×10^{-3}	1.356×10^{-2}
cloud fraction apriori [1]	0.539 ± 0.347	3901777	0.767	0.454	0.0	1.000	0.233	1.000
reflectance blue ocra [1]	0.634 ± 0.259	3901777	0.437	0.675	0.119	1.99	0.390	0.827
reflectance green ocra [1]	0.598 ± 0.283	3901777	0.508	0.653	7.487×10^{-2}	2.23	0.313	0.821
reflectance continuum aband [1]	0.602 ± 0.254	3901777	0.410	0.620	1.976×10^{-2}	5.02	0.380	0.790

3 Granule outlines

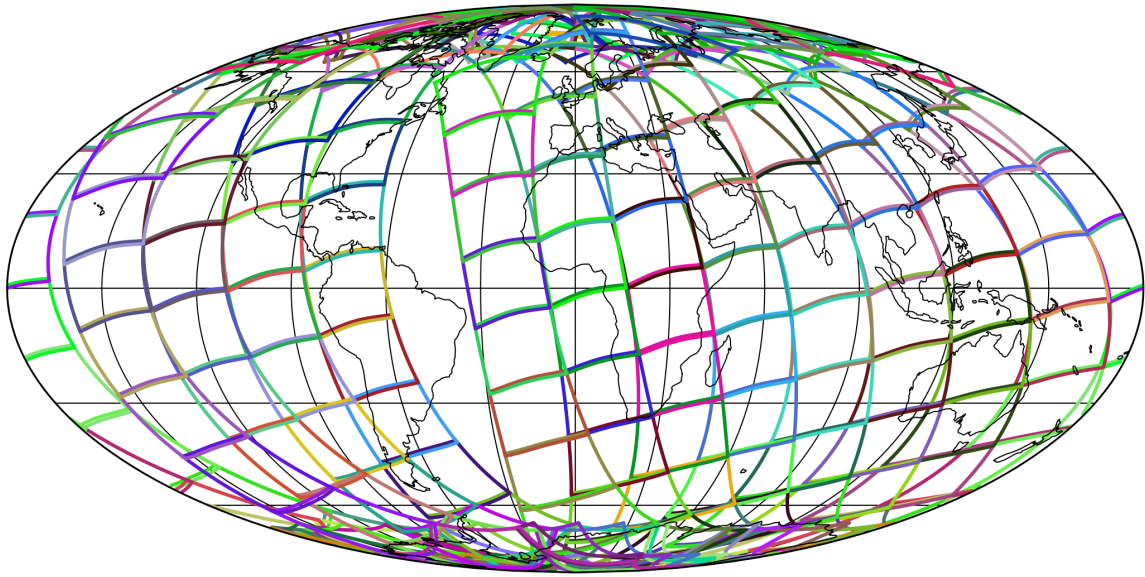


Figure 1: Outline of the granules.

4 Input data monitoring

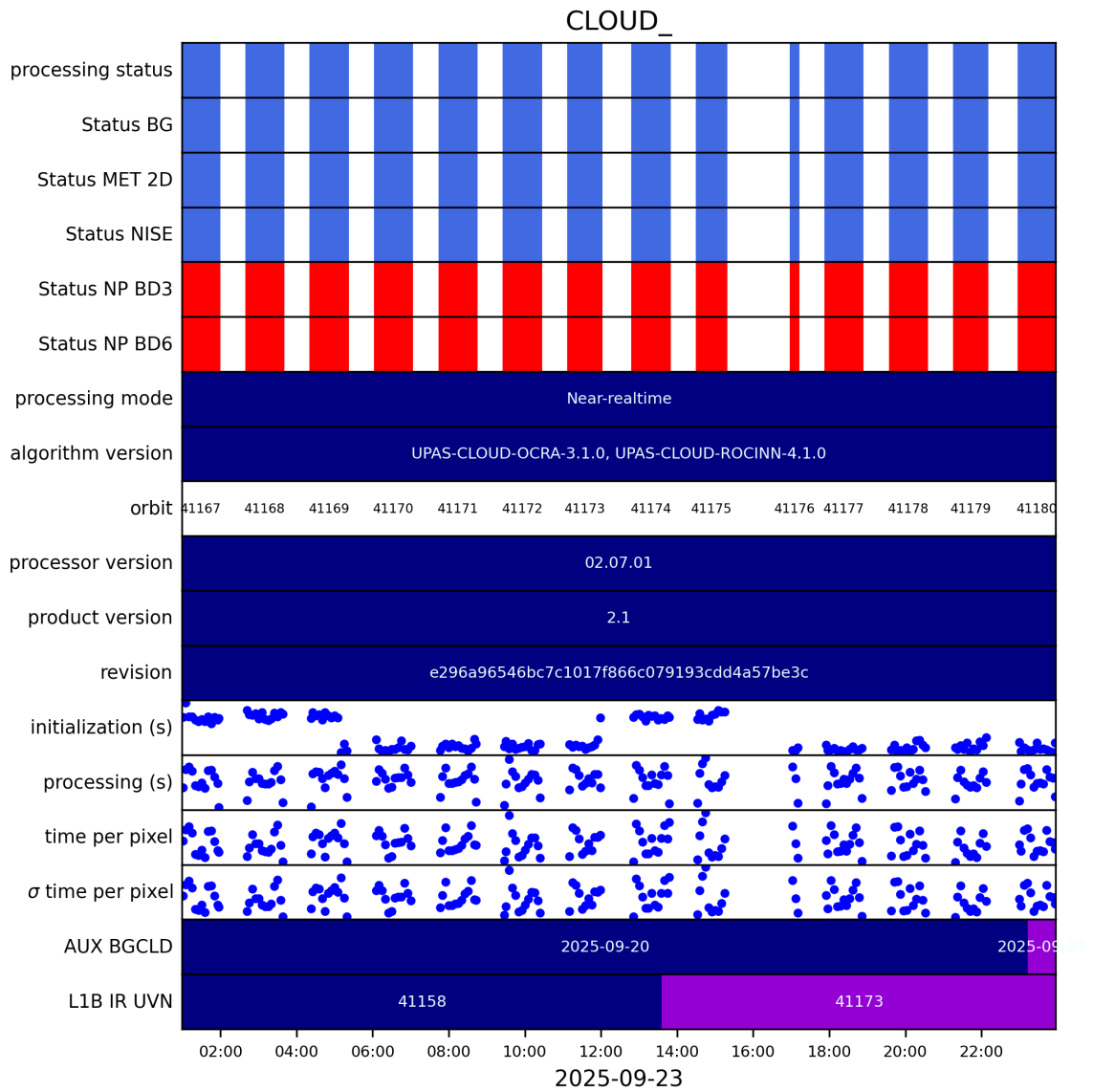


Figure 2: Input data per granule

5 Warnings and errors

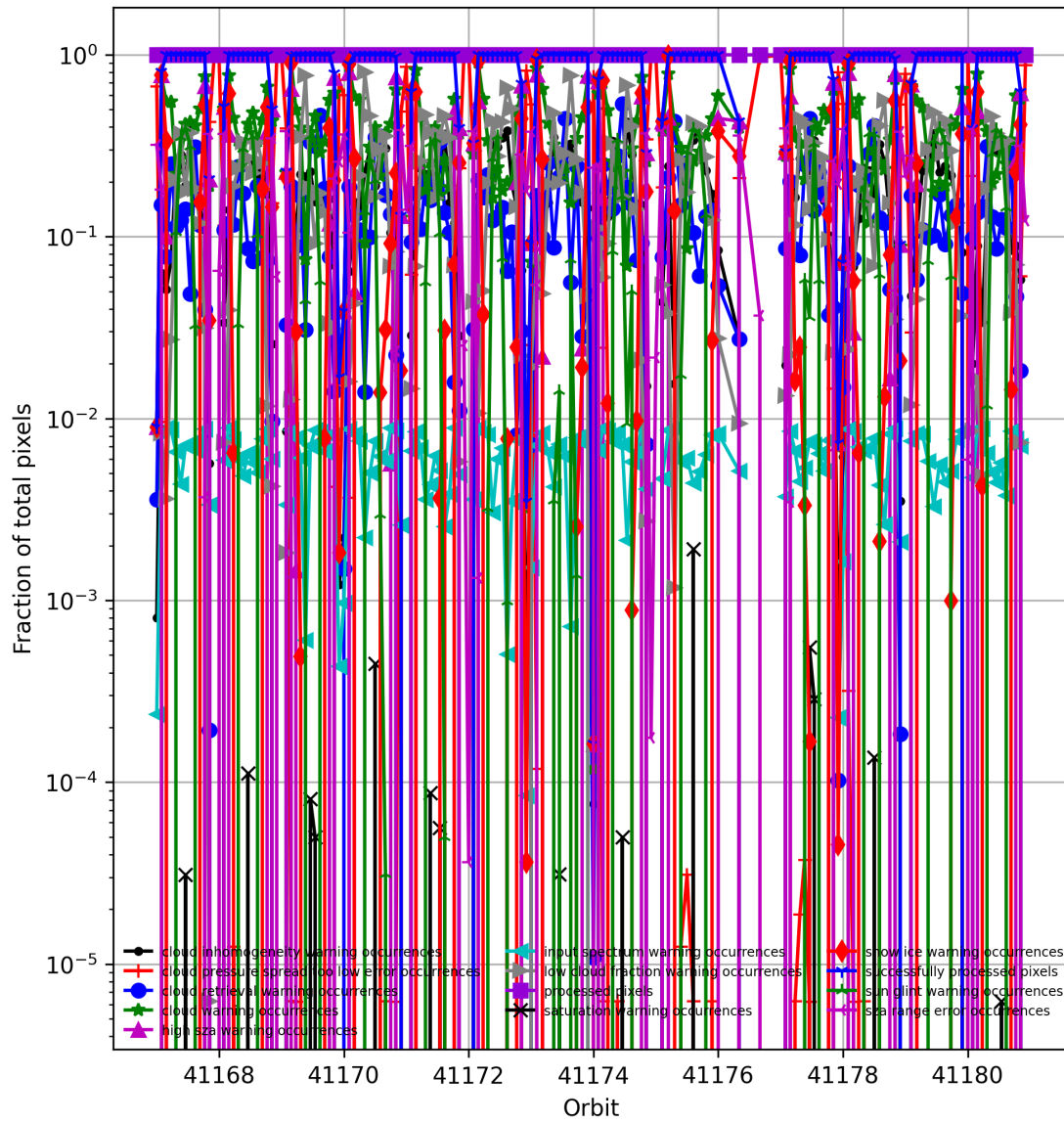


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

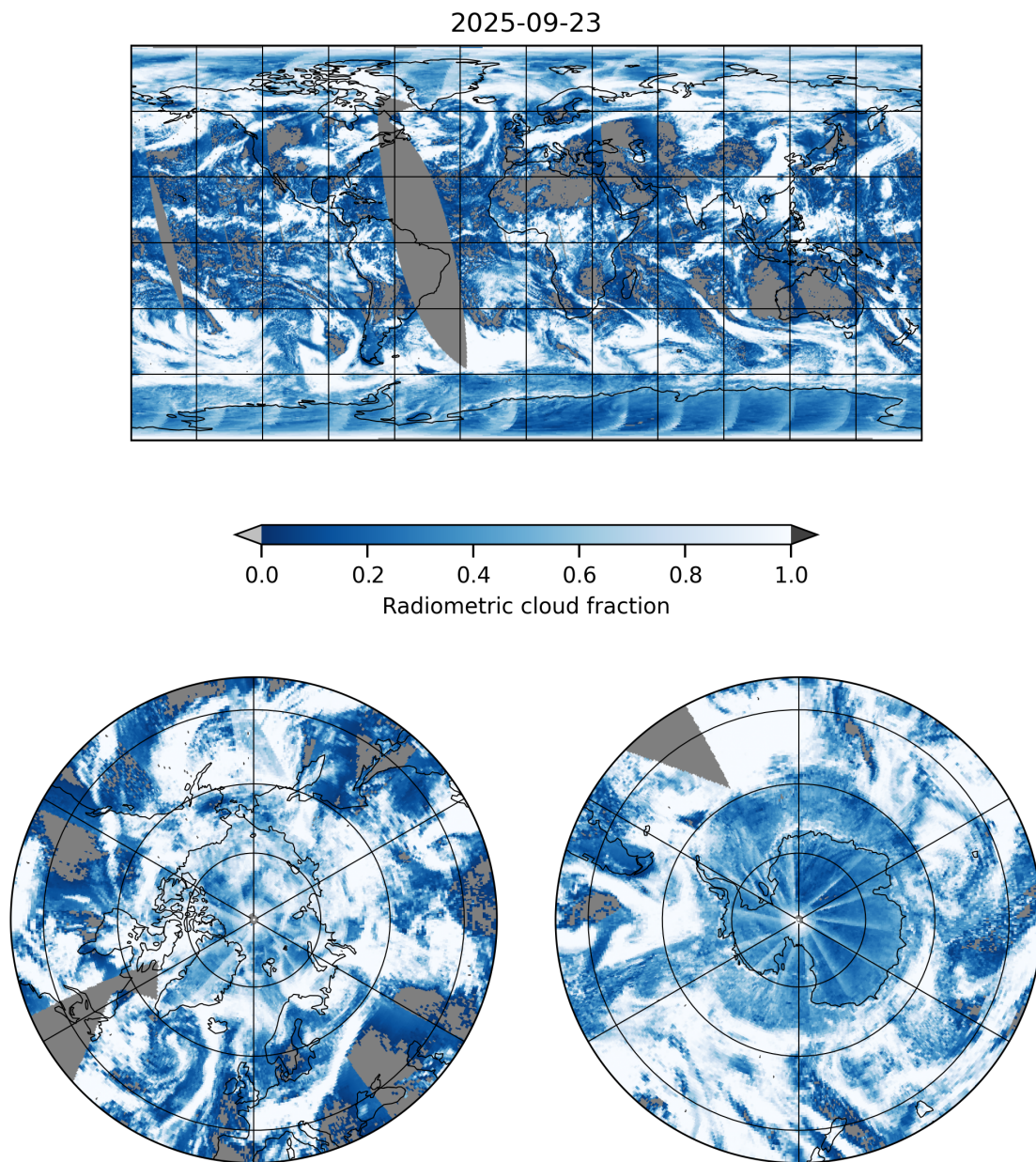


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-23 to 2025-09-23

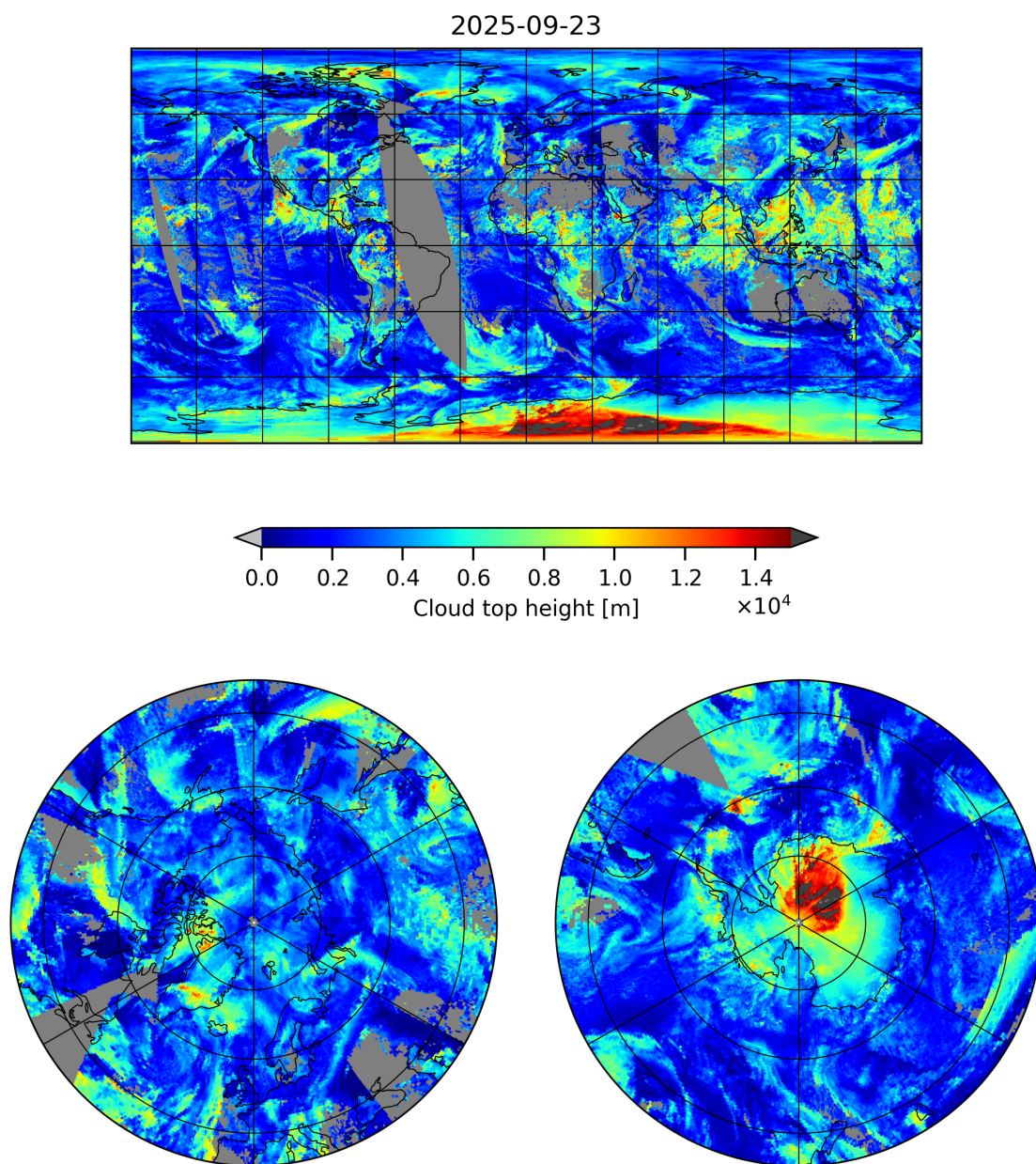


Figure 5: Map of “Cloud top height” for 2025-09-23 to 2025-09-23

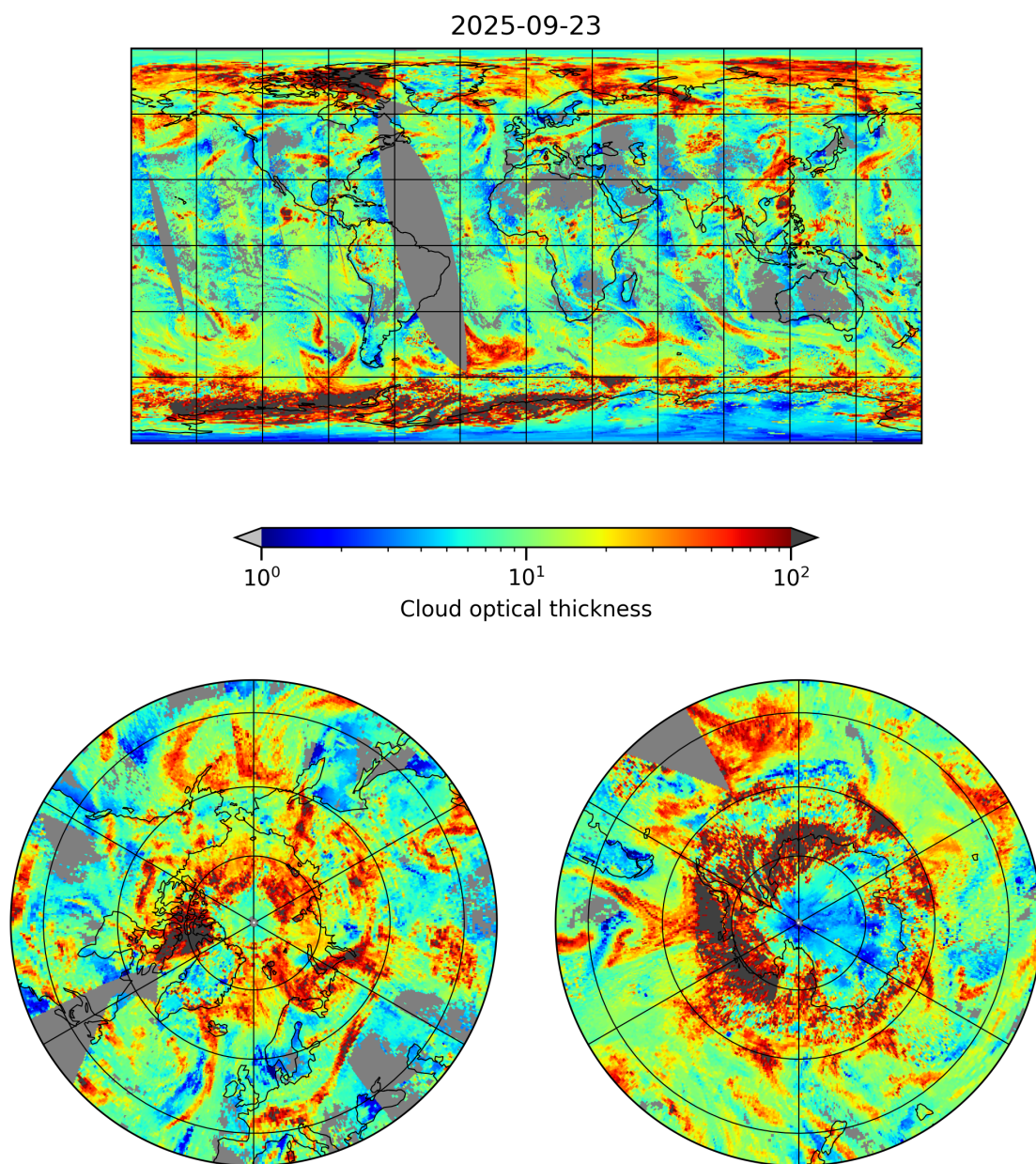


Figure 6: Map of “Cloud optical thickness” for 2025-09-23 to 2025-09-23

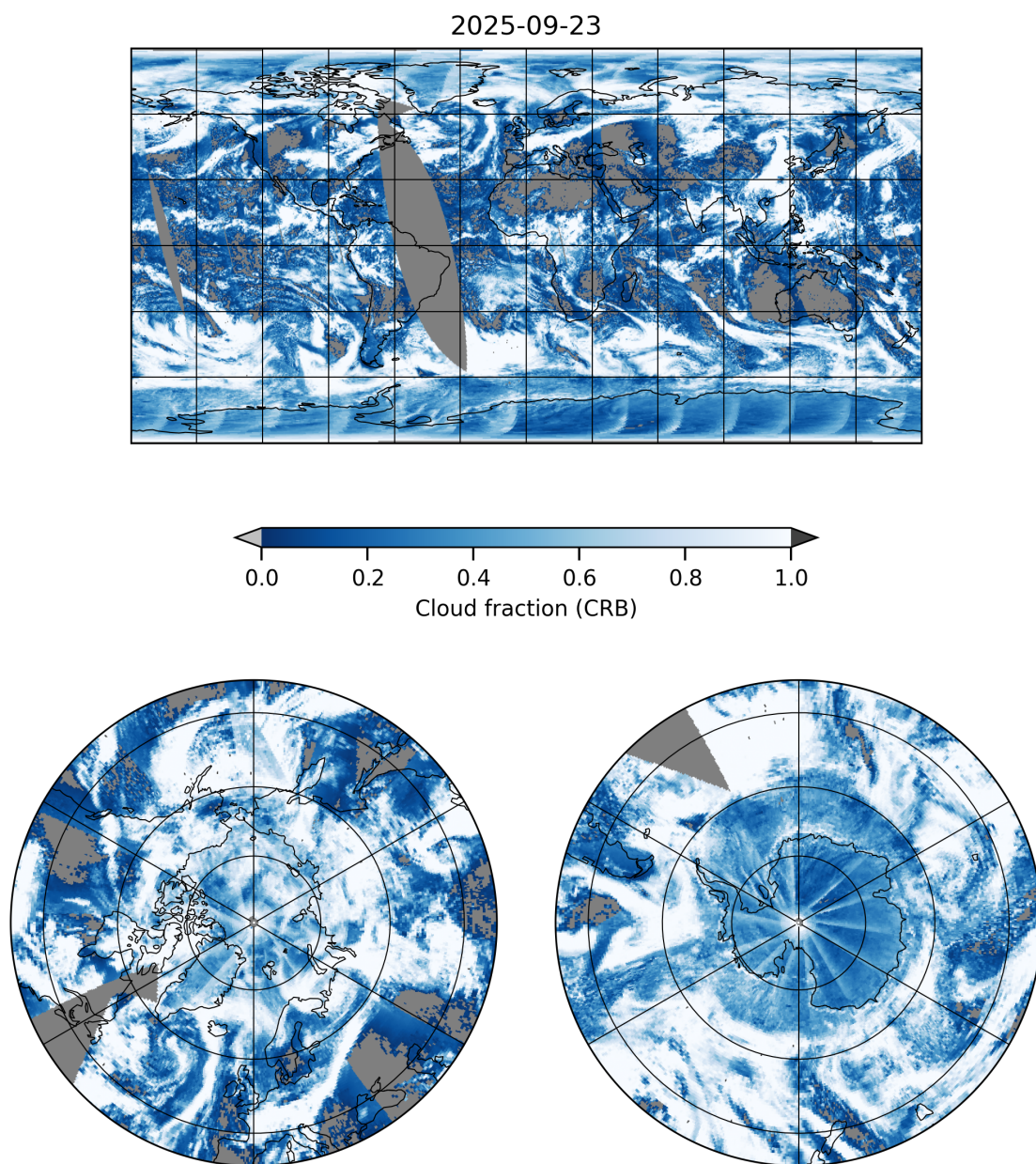


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-23 to 2025-09-23

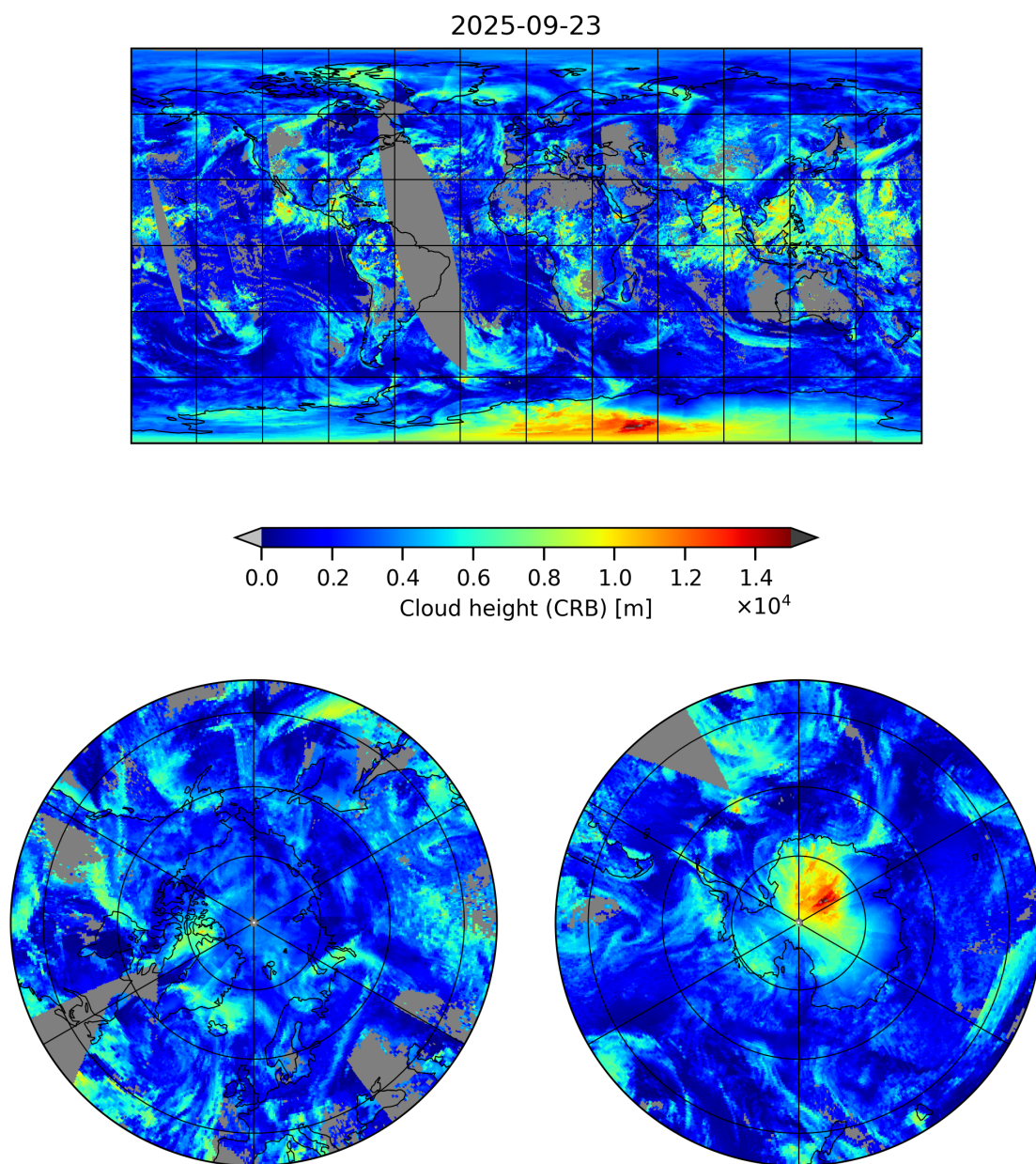


Figure 8: Map of “Cloud height (CRB)” for 2025-09-23 to 2025-09-23

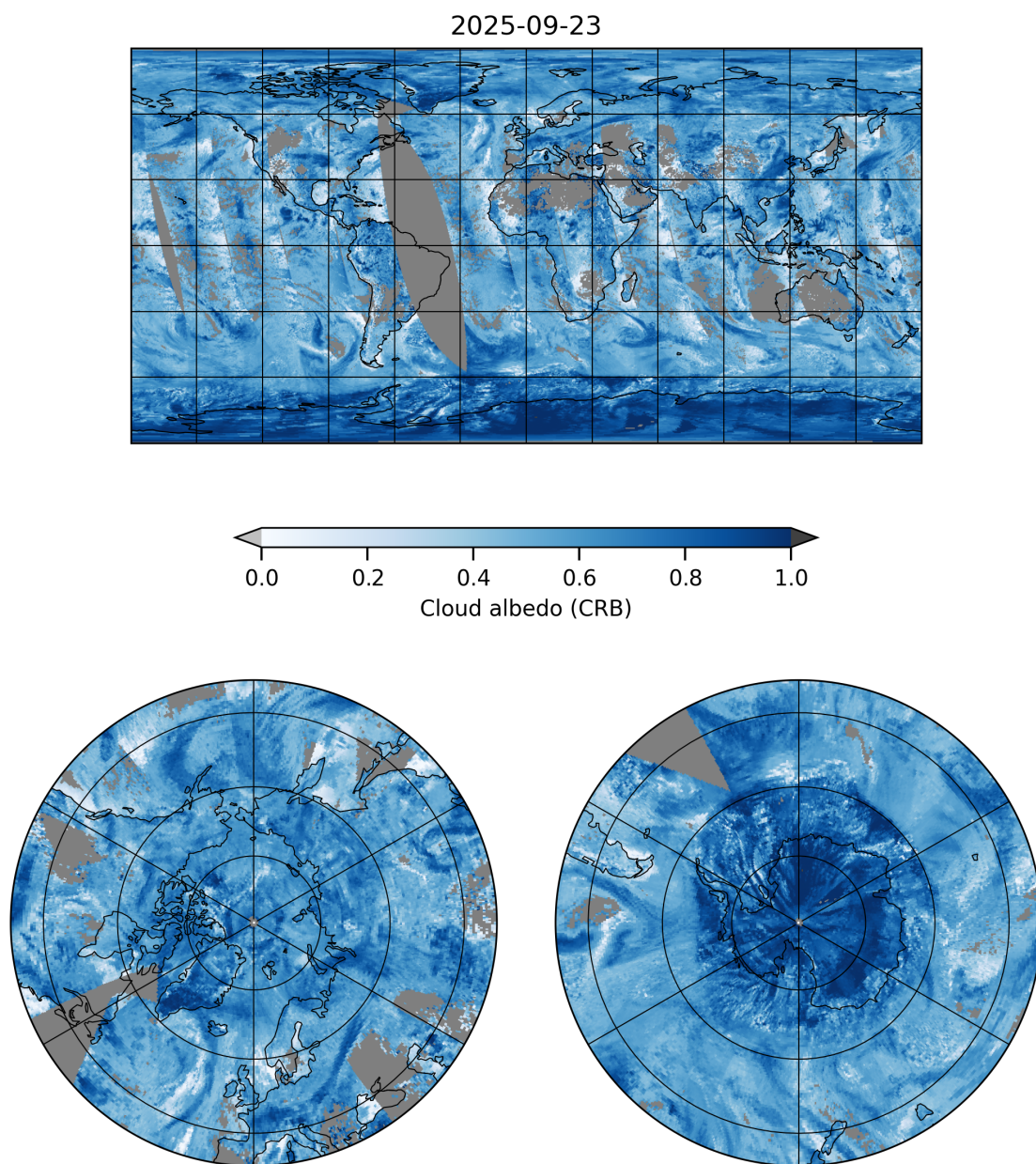


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-23 to 2025-09-23

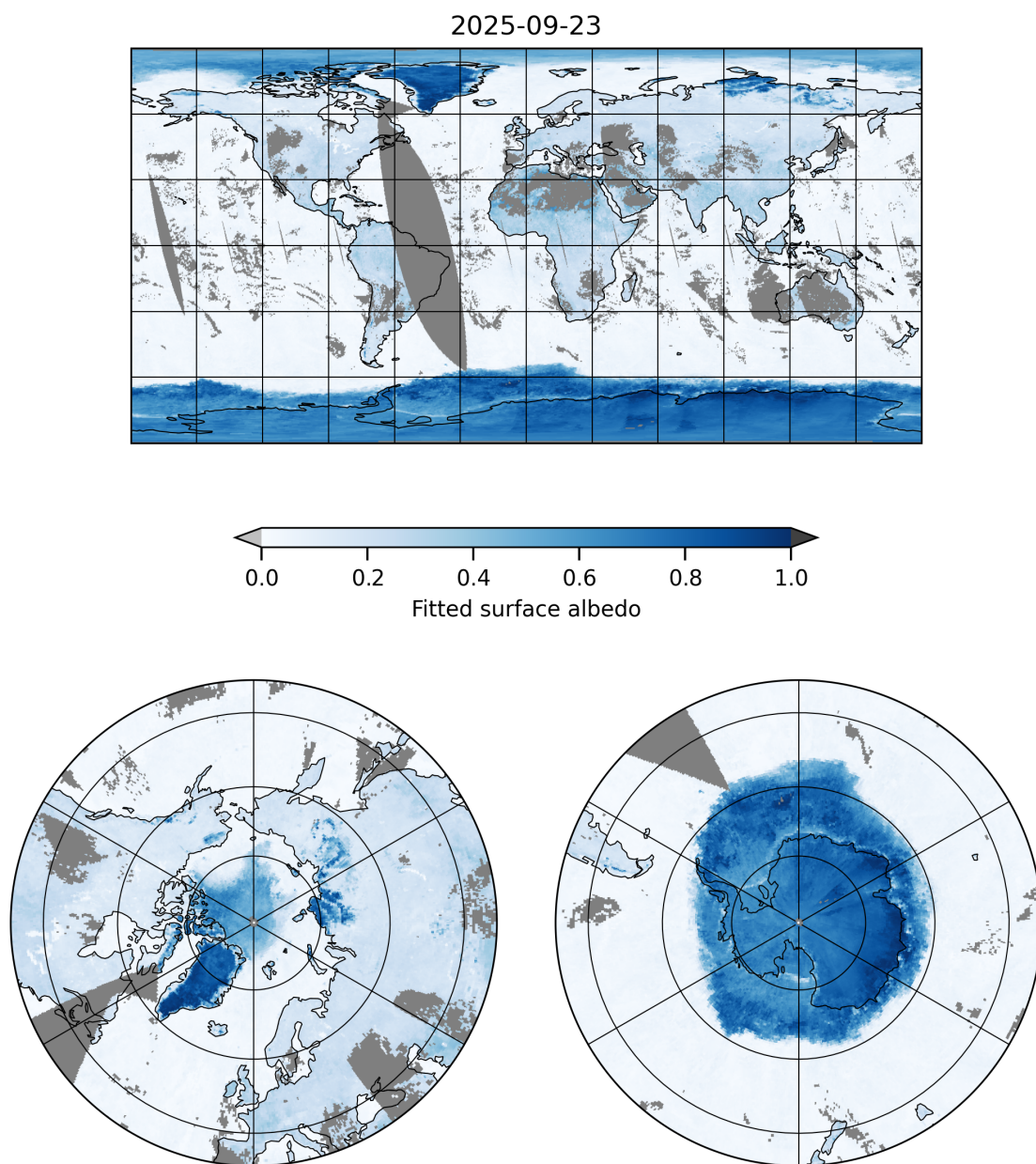


Figure 10: Map of “Fitted surface albedo” for 2025-09-23 to 2025-09-23

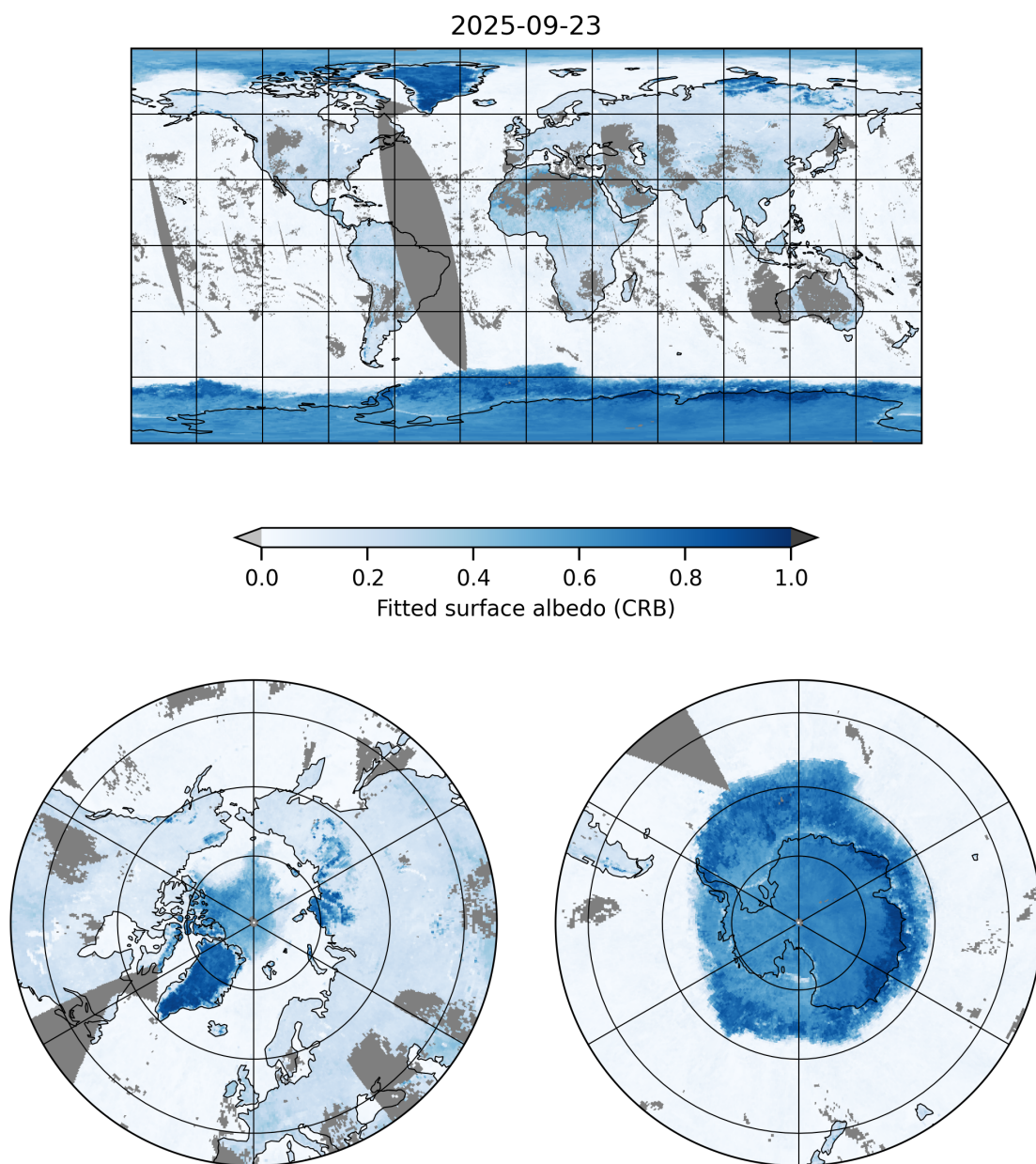


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-23 to 2025-09-23

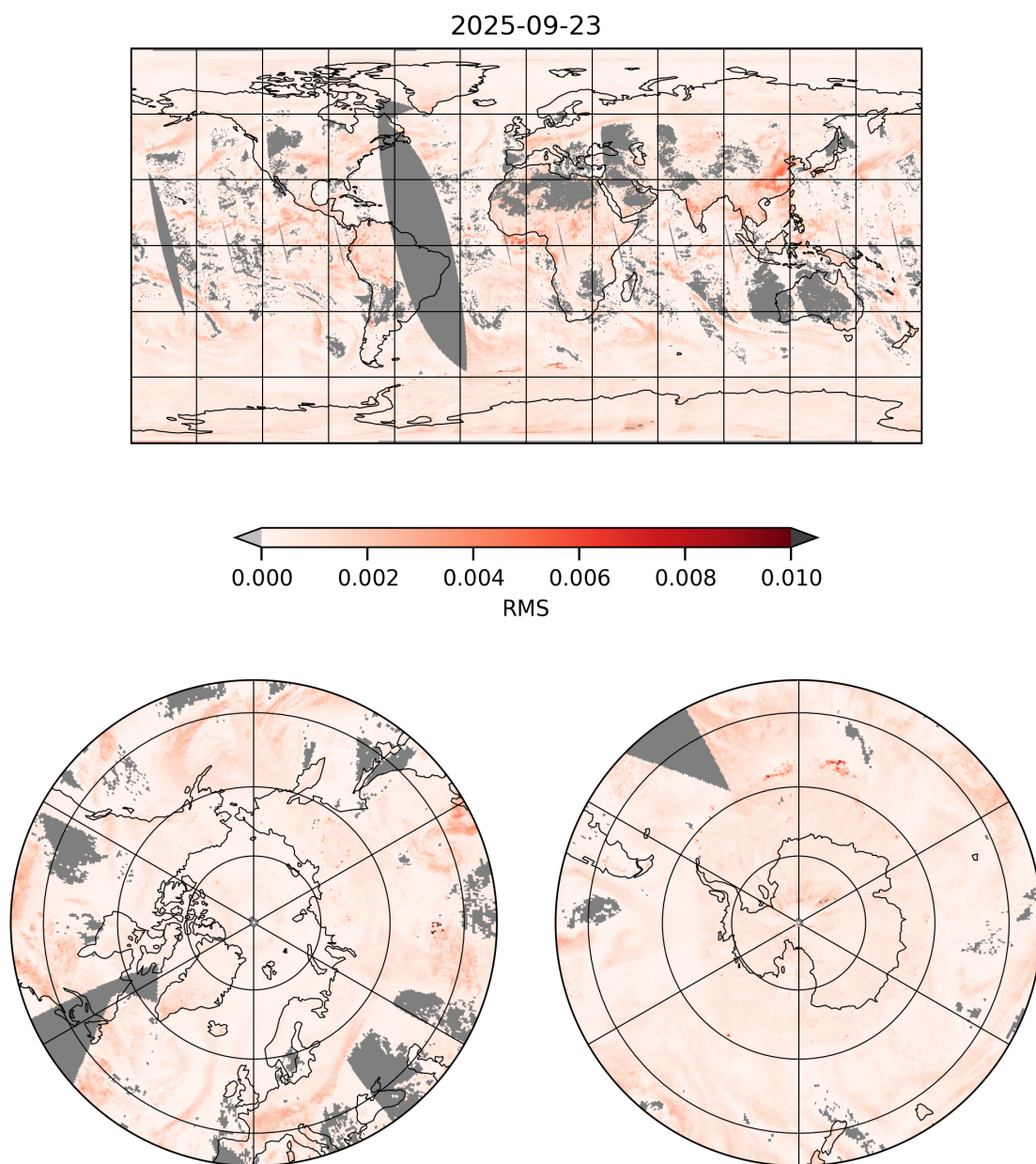


Figure 12: Map of “RMS” for 2025-09-23 to 2025-09-23

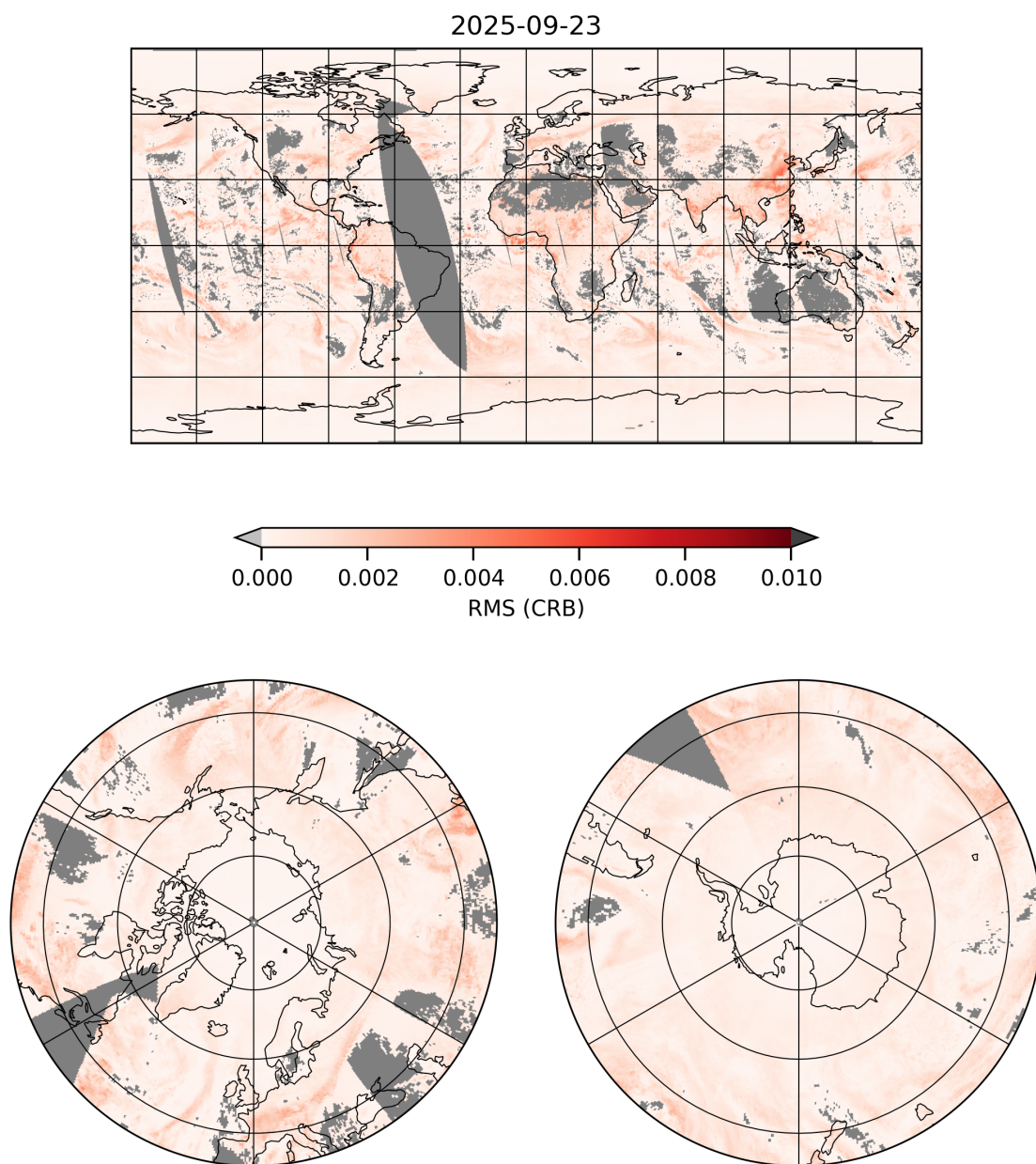


Figure 13: Map of “RMS (CRB)” for 2025-09-23 to 2025-09-23

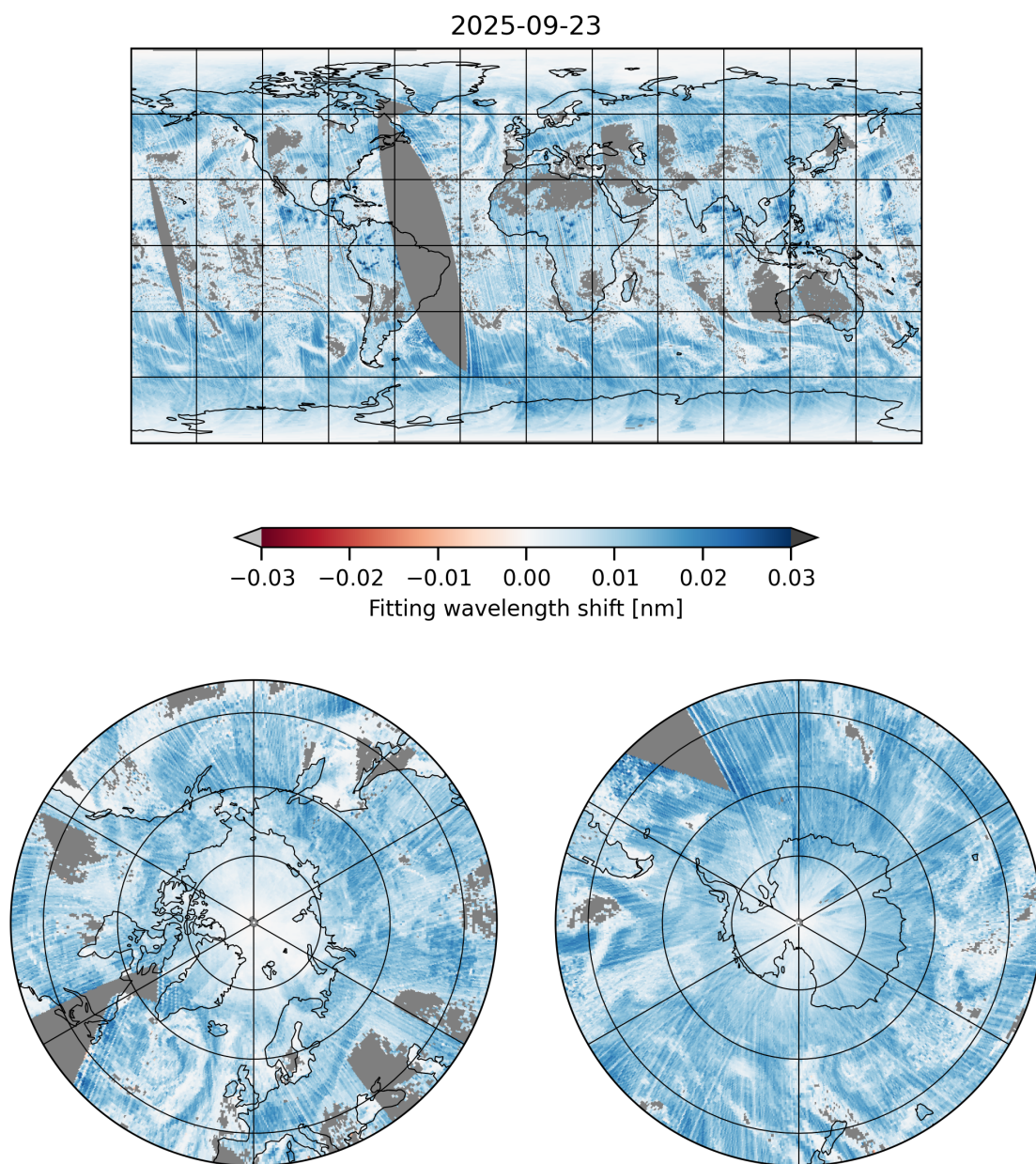


Figure 14: Map of “Fitting wavelength shift” for 2025-09-23 to 2025-09-23

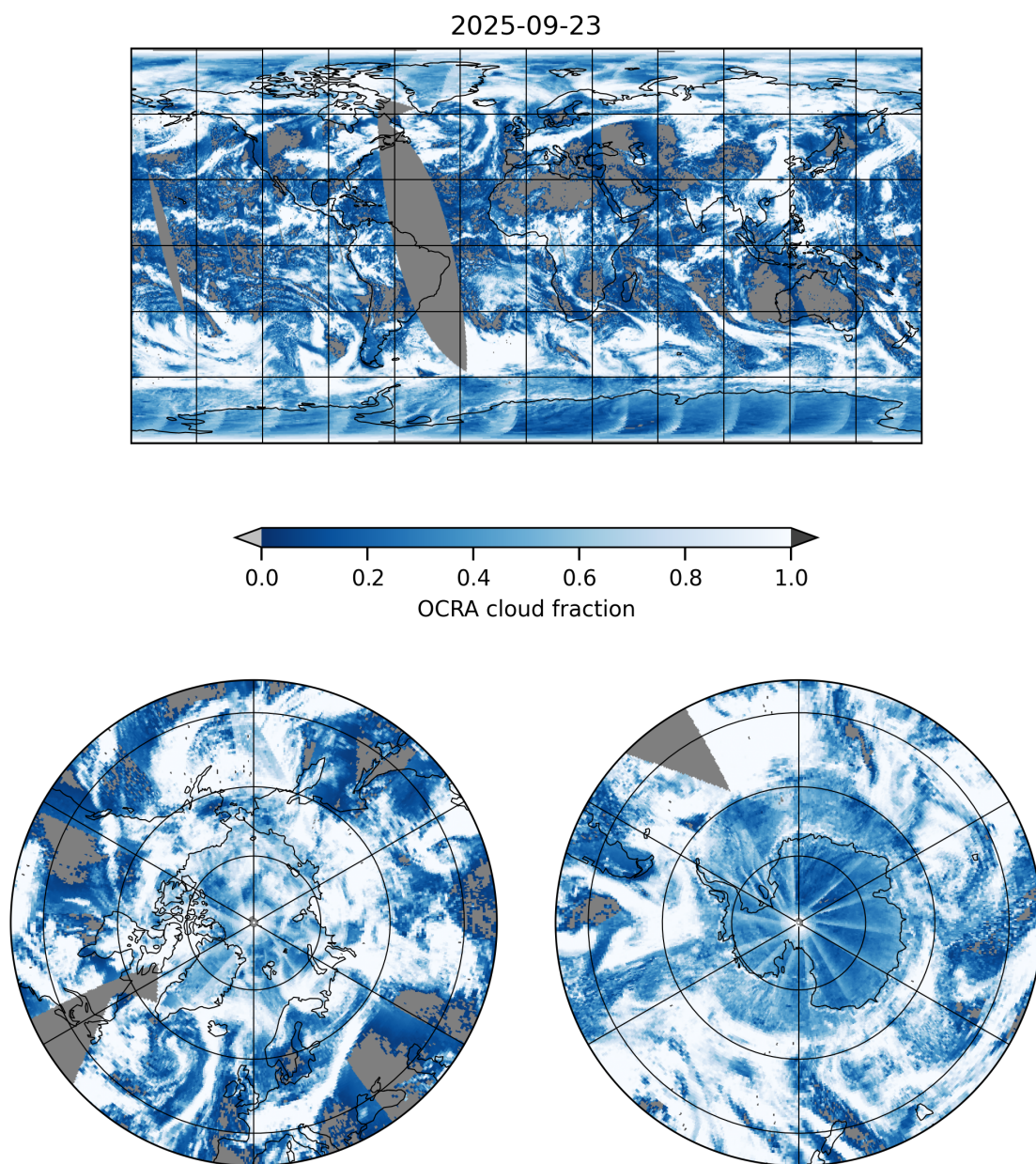


Figure 15: Map of “OCRA cloud fraction” for 2025-09-23 to 2025-09-23

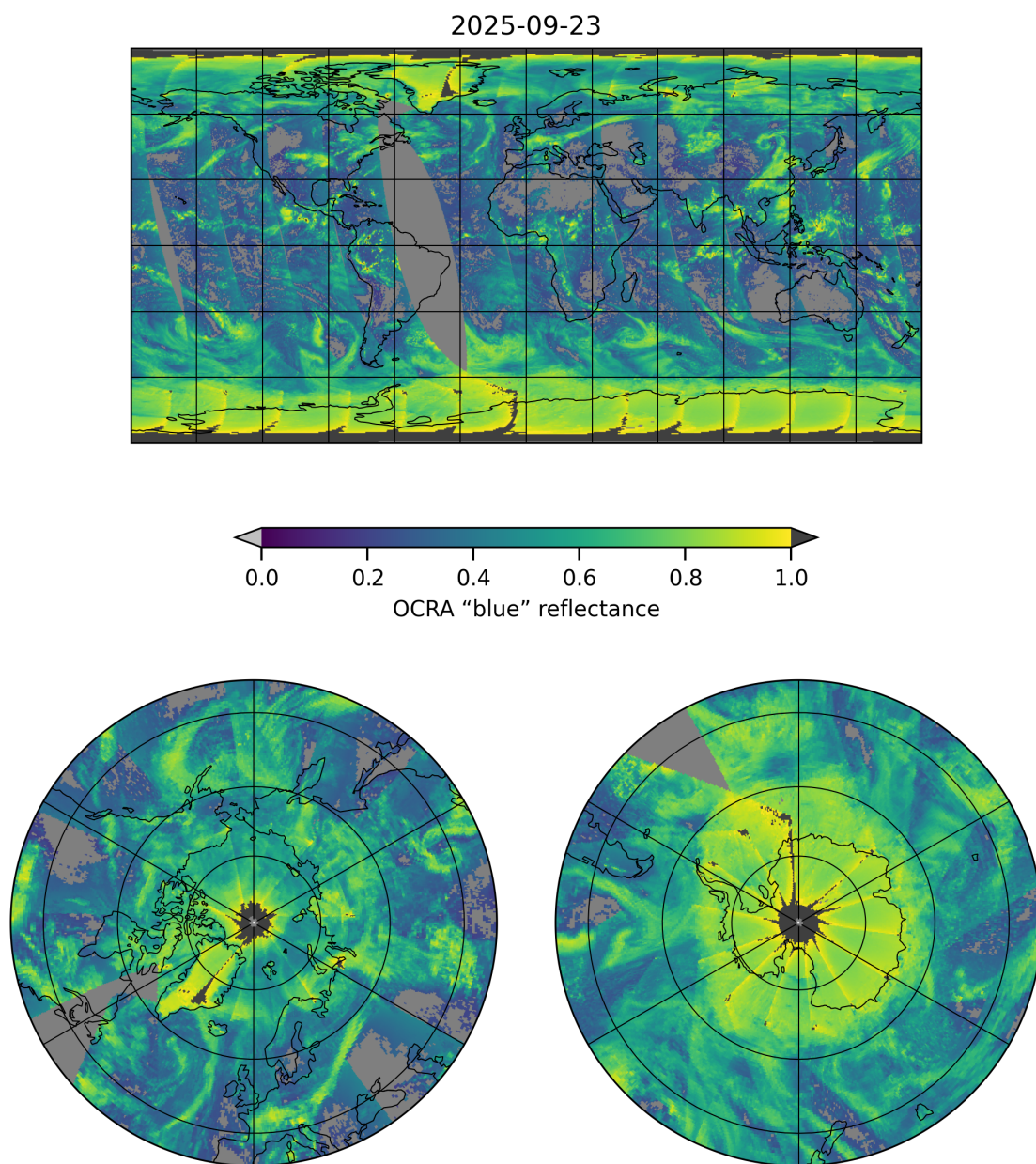


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-23 to 2025-09-23

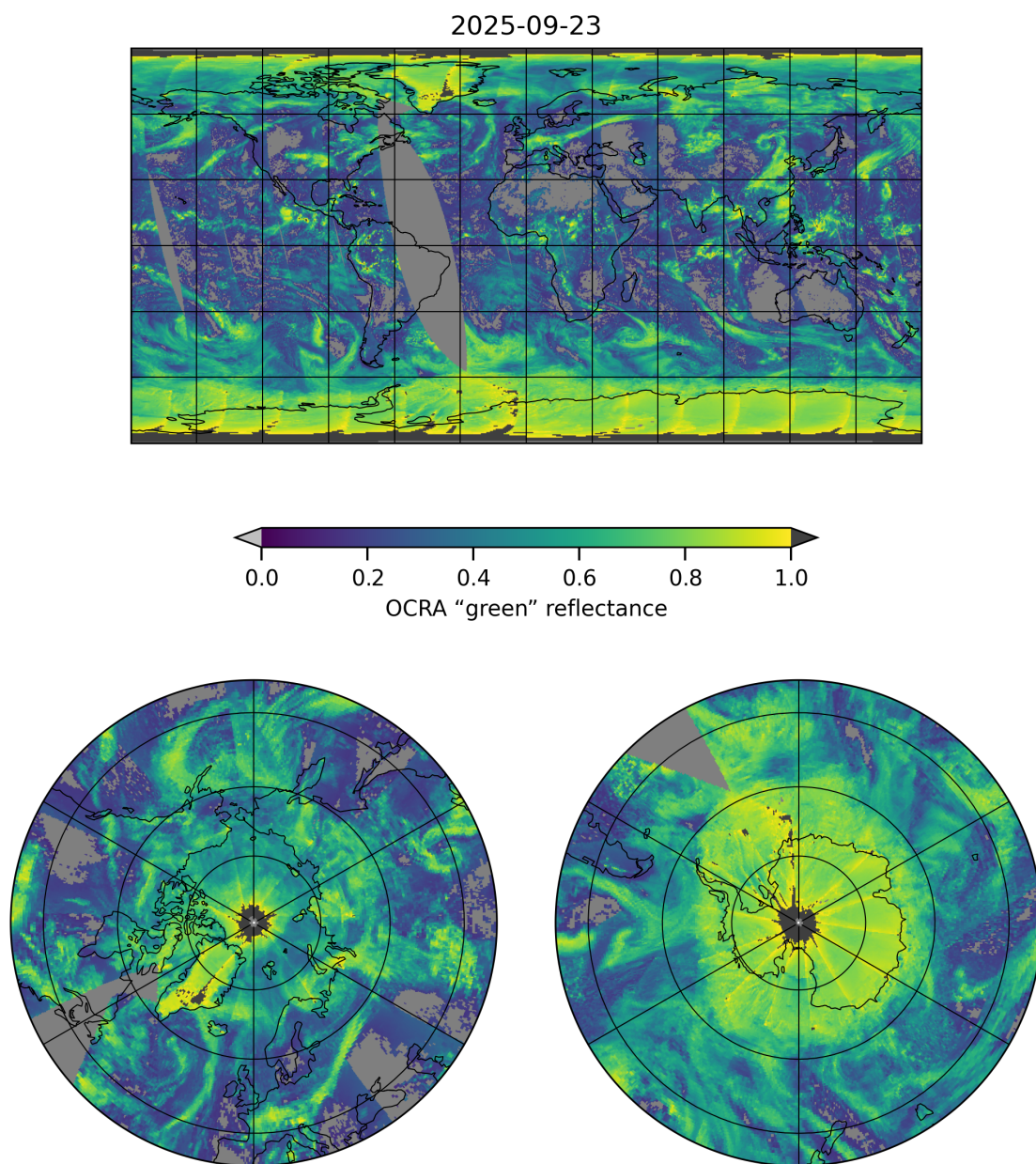


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-23 to 2025-09-23

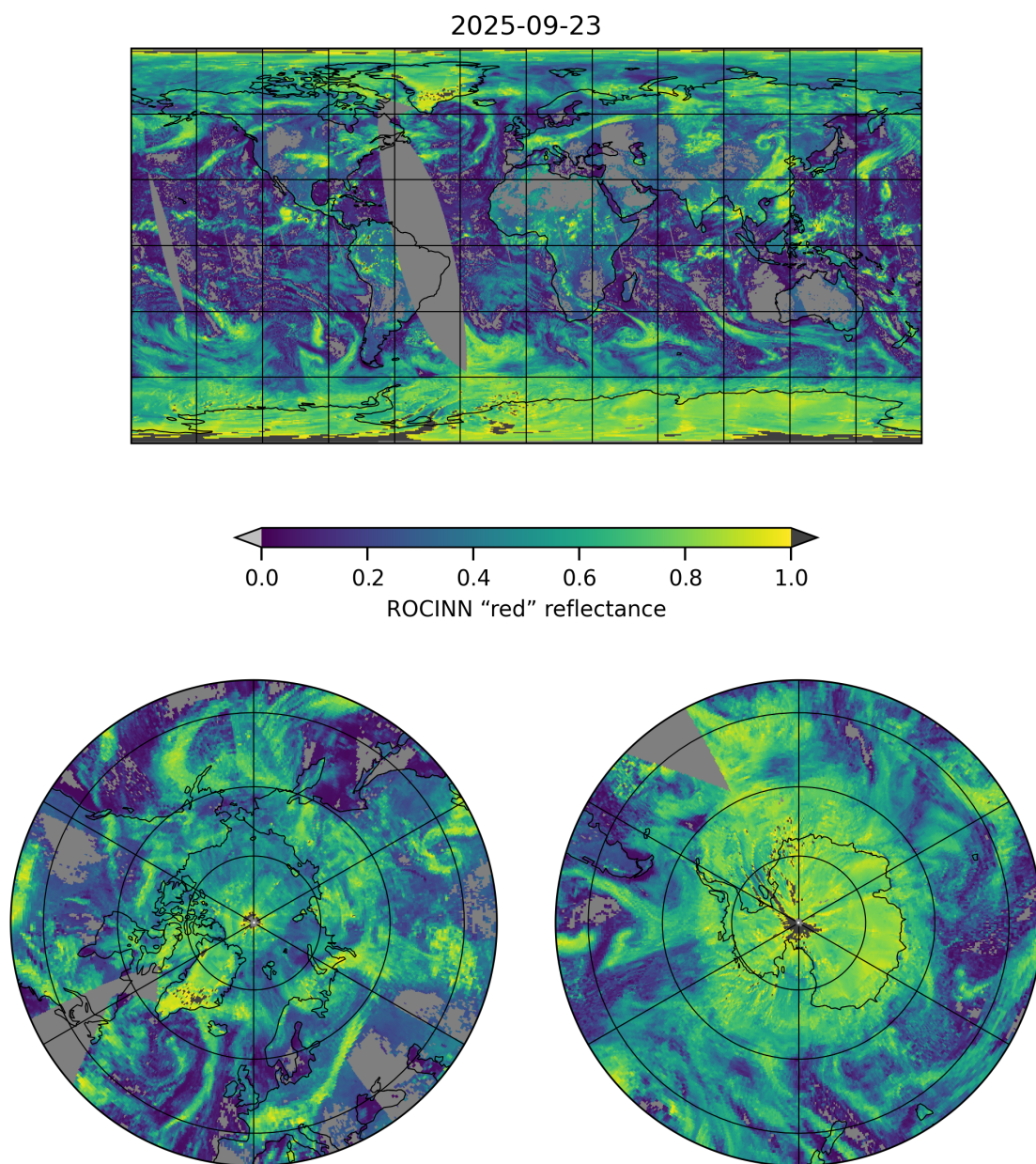


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-23 to 2025-09-23

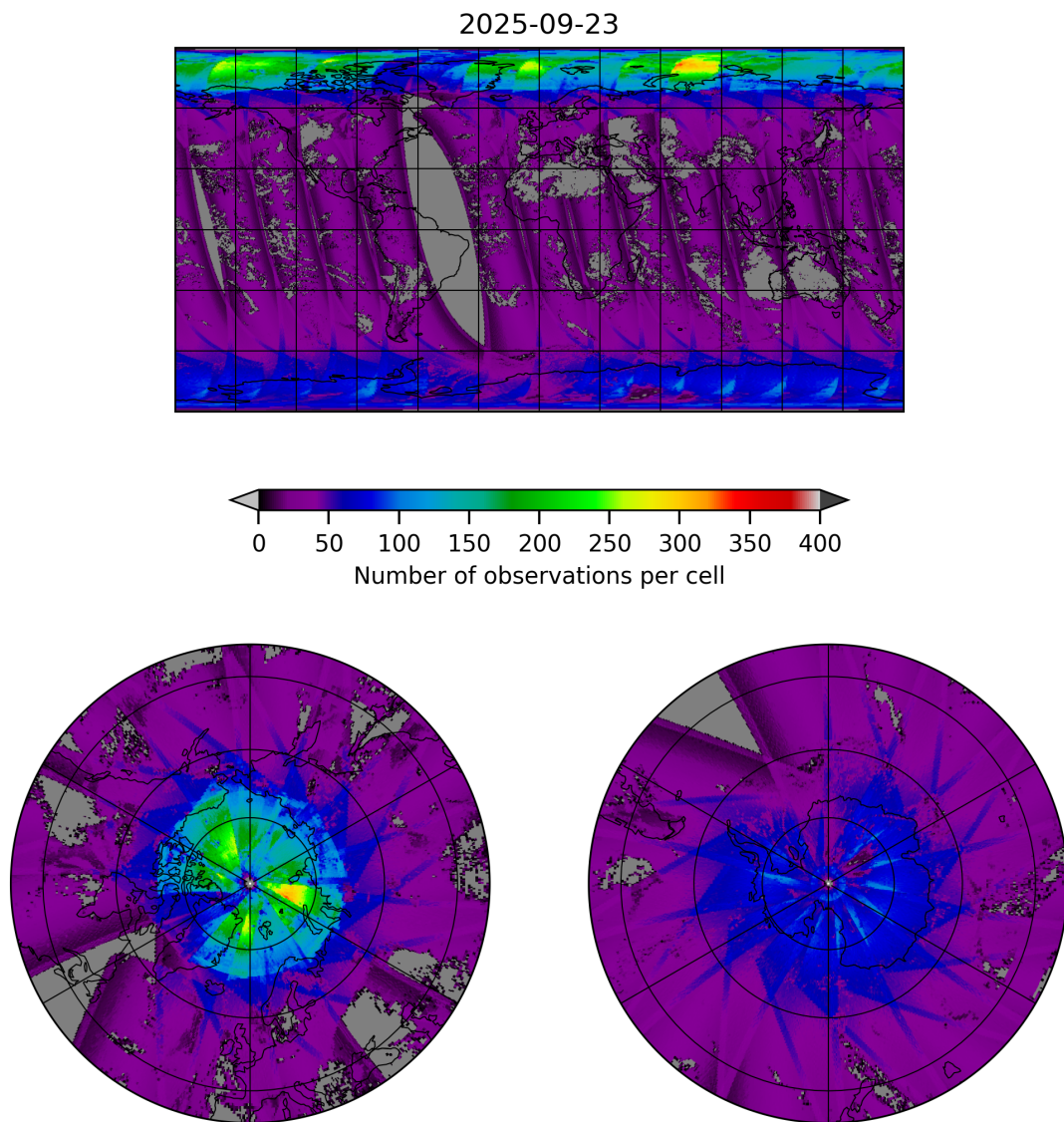


Figure 19: Map of the number of observations for 2025-09-23 to 2025-09-23

7 Zonal average

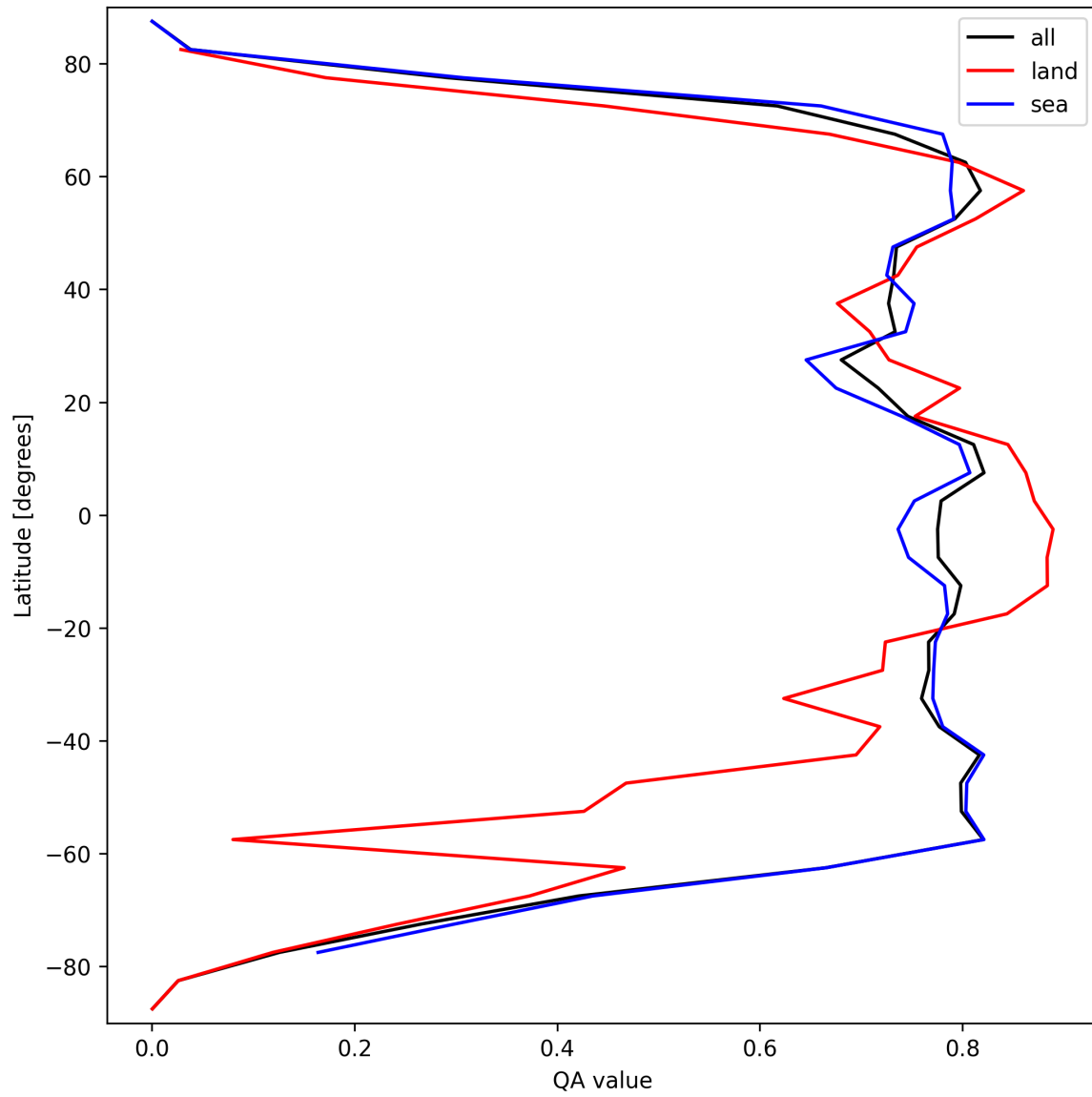


Figure 20: Zonal average of “QA value” for 2025-09-23 to 2025-09-23.

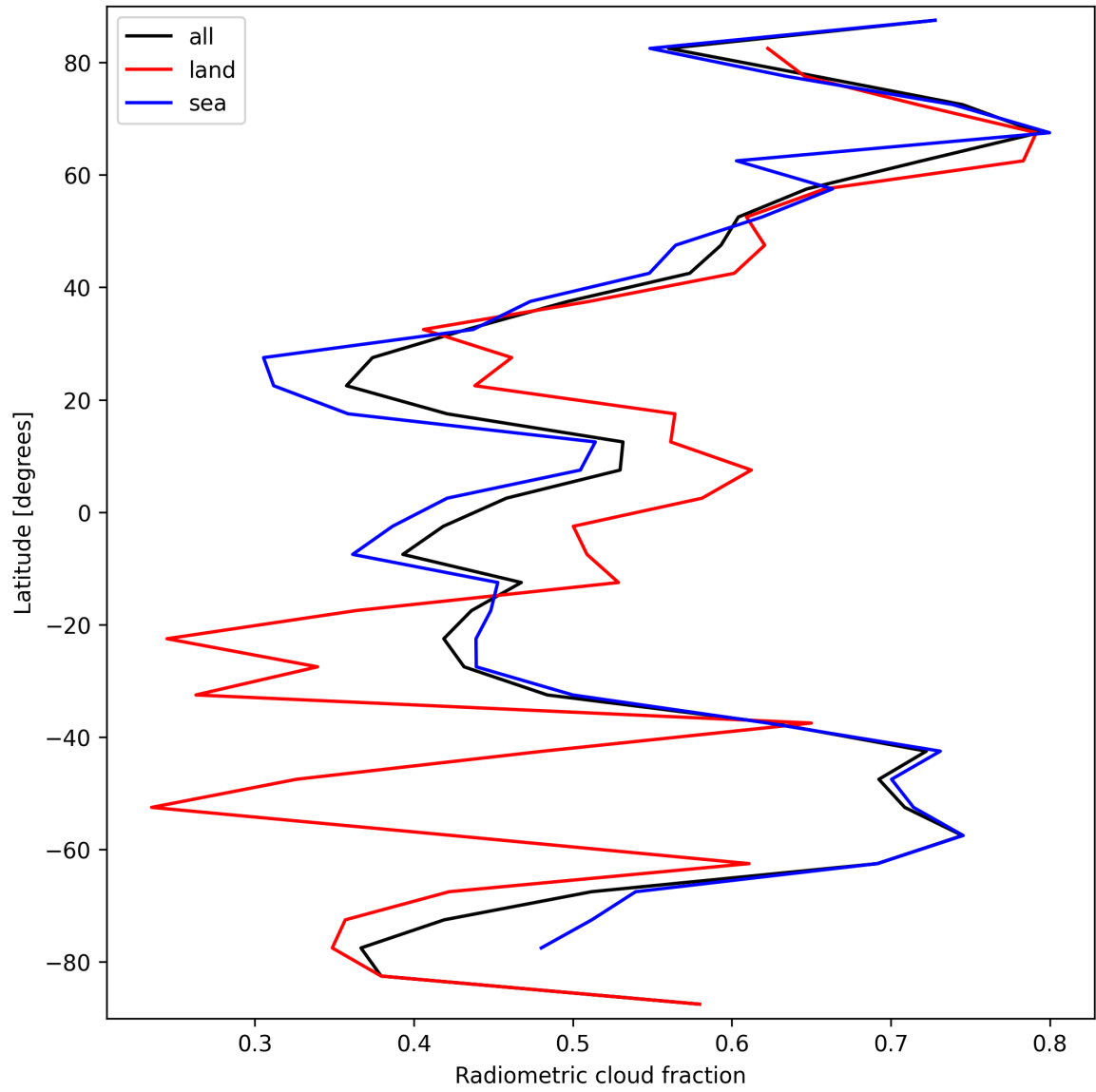


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-23 to 2025-09-23.

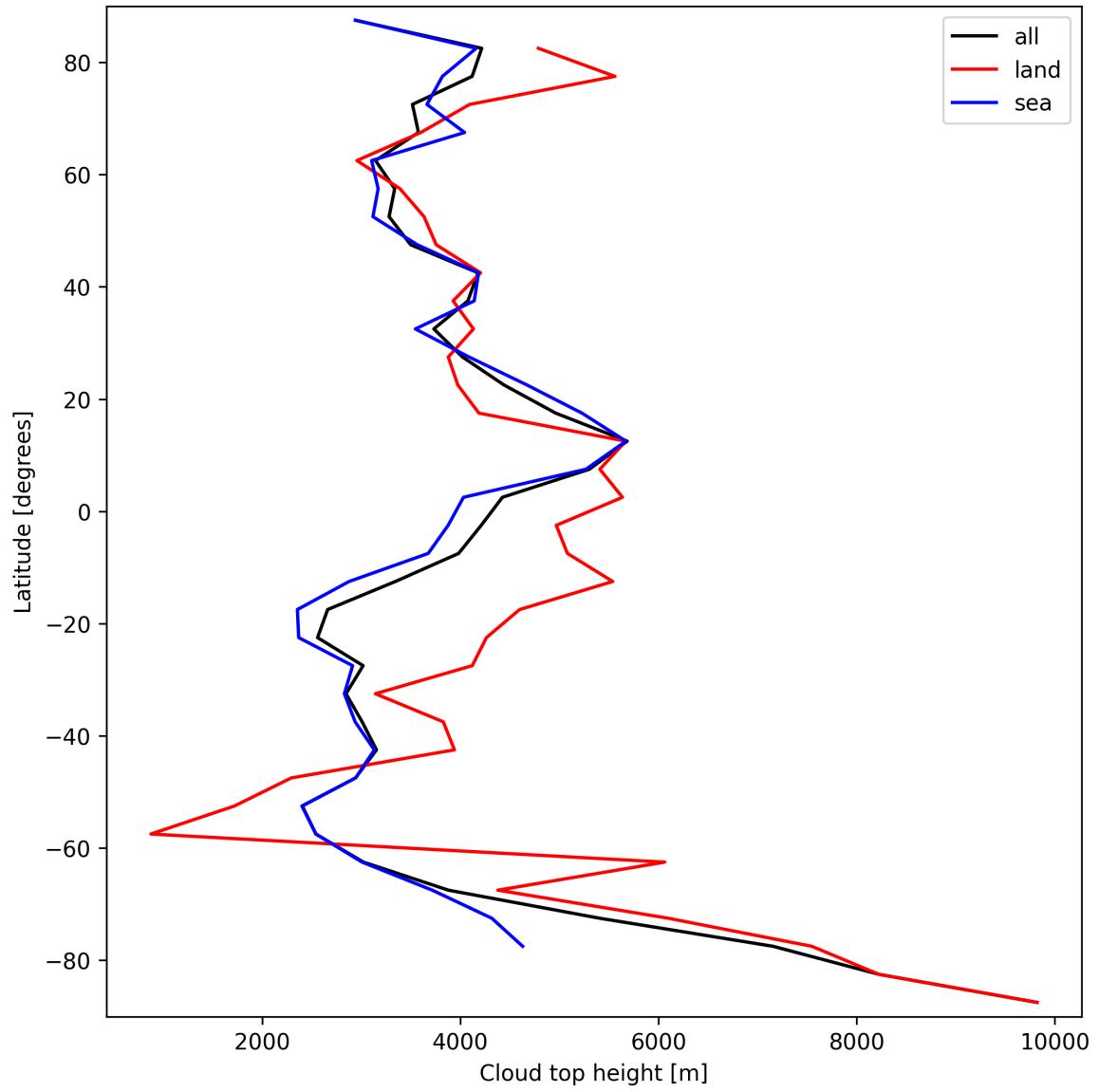


Figure 22: Zonal average of “Cloud top height” for 2025-09-23 to 2025-09-23.

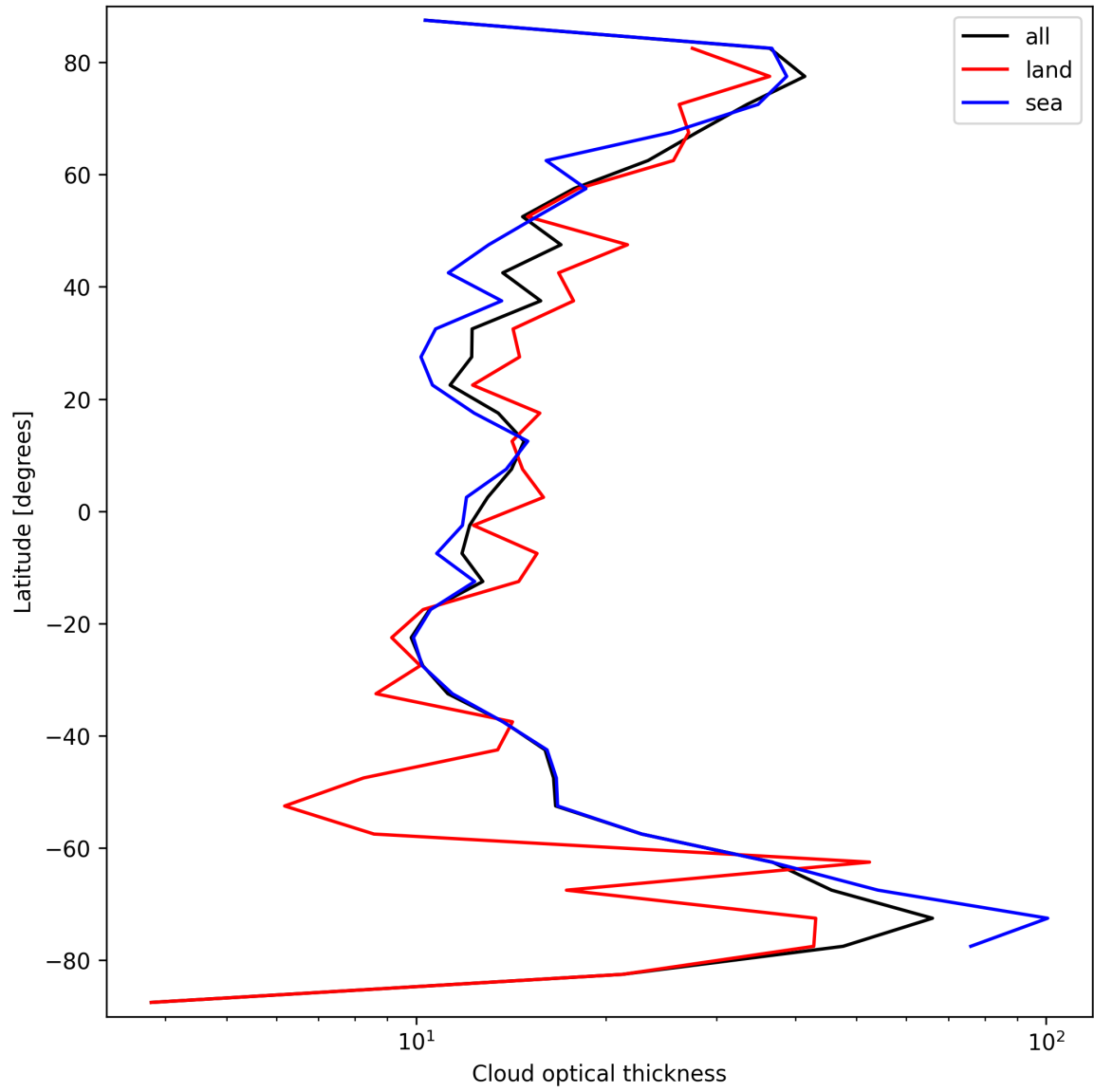


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-23 to 2025-09-23.

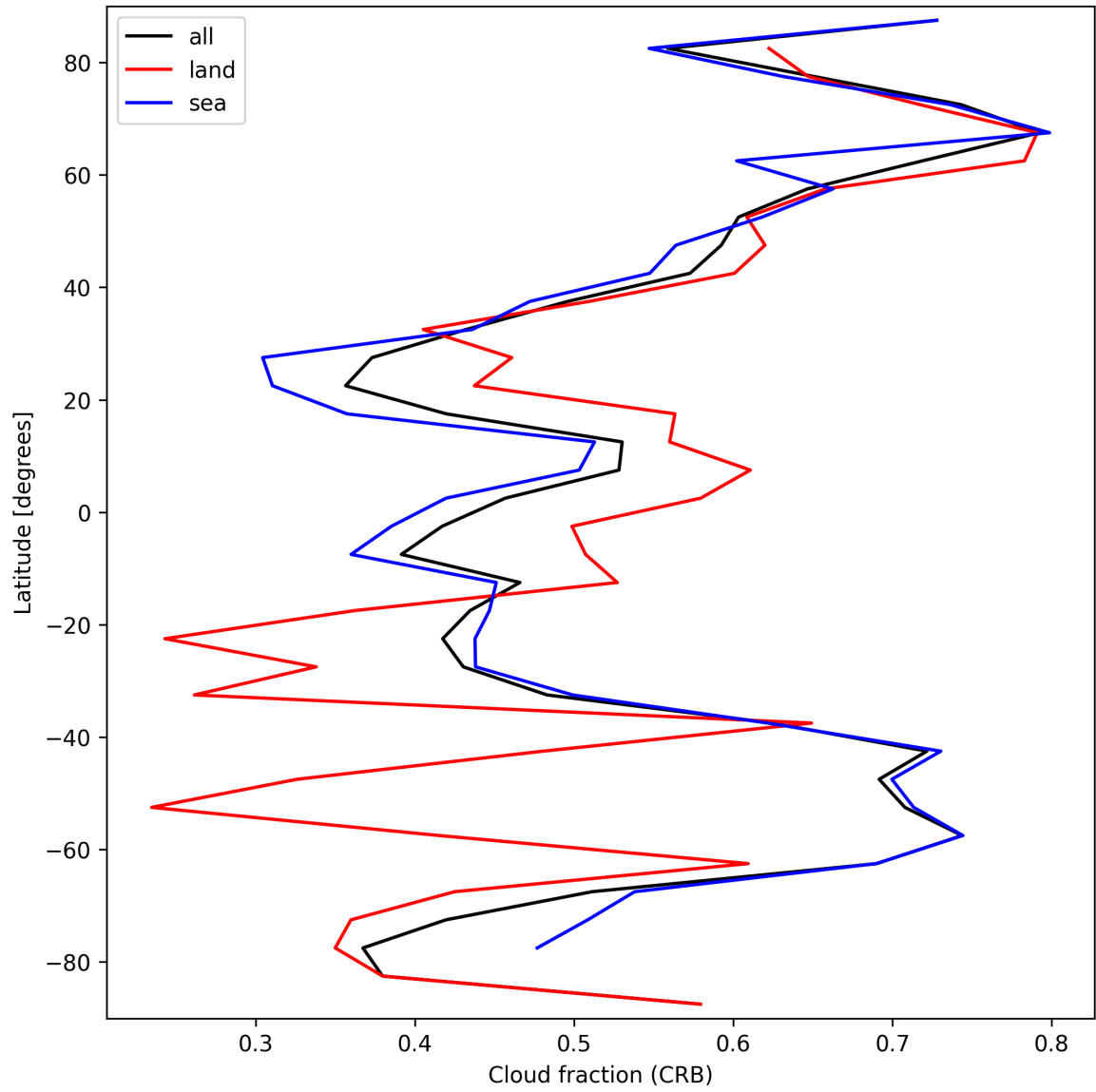


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-23 to 2025-09-23.

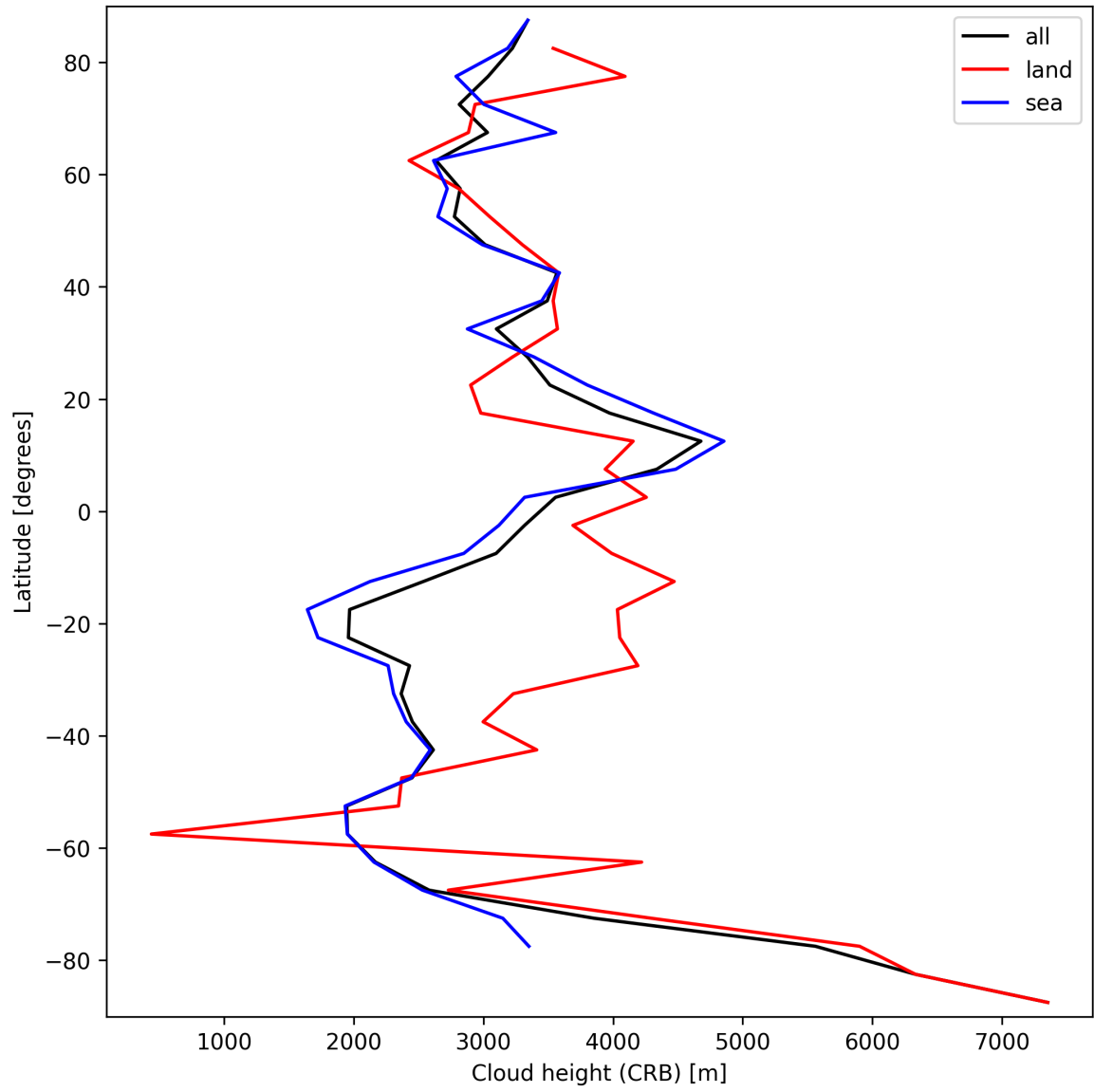


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-23 to 2025-09-23.

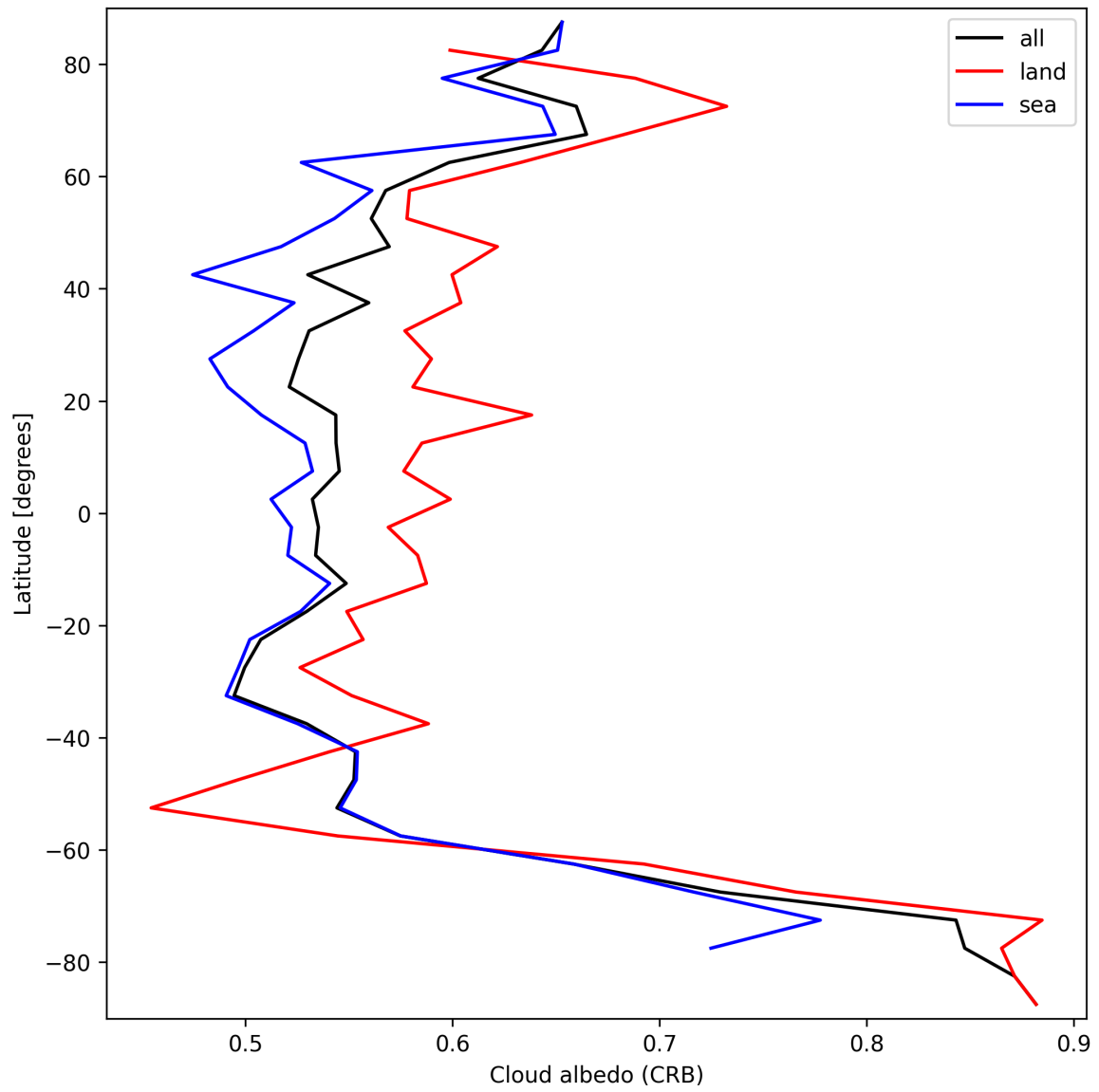


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-23 to 2025-09-23.

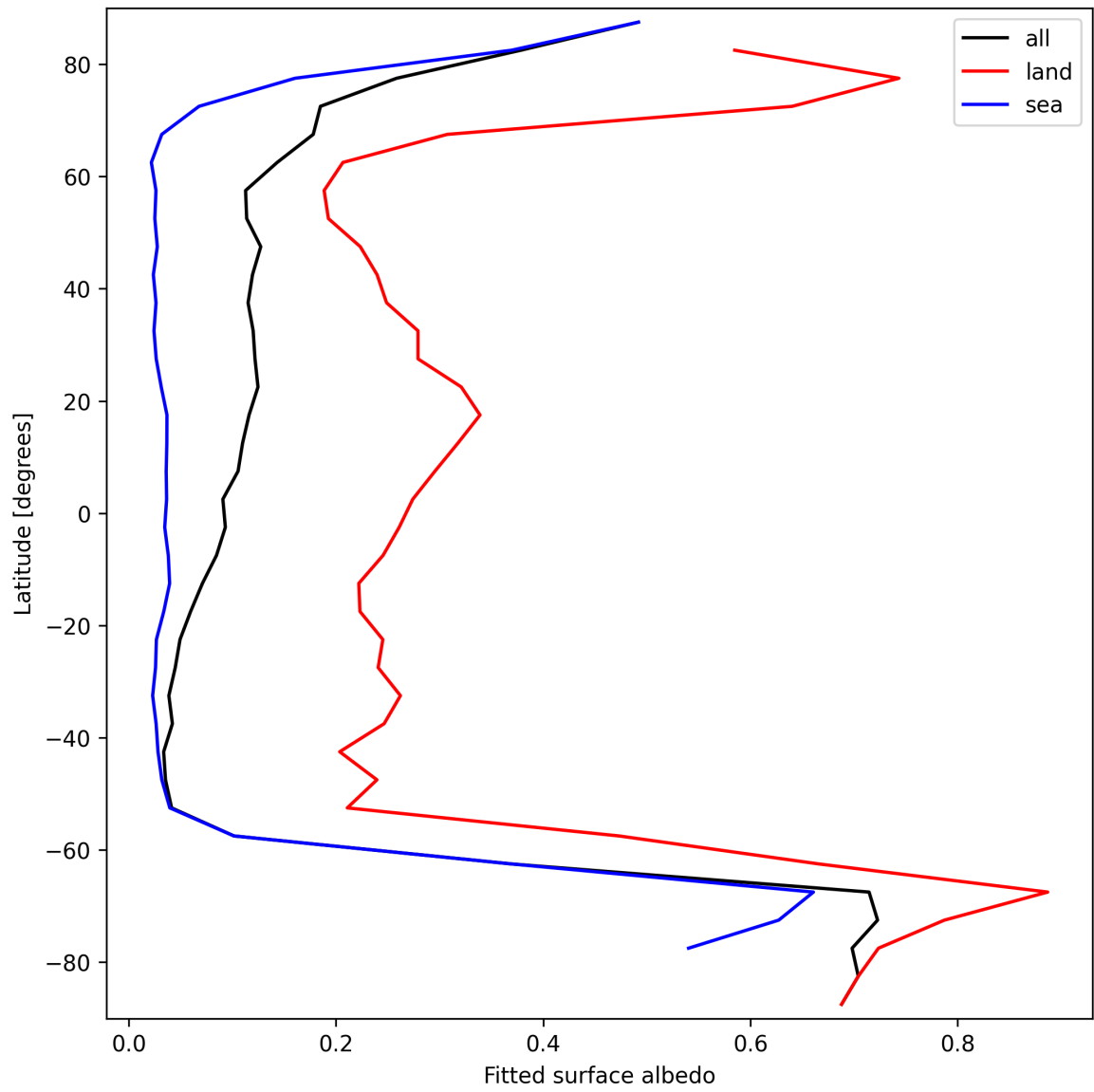


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-23 to 2025-09-23.

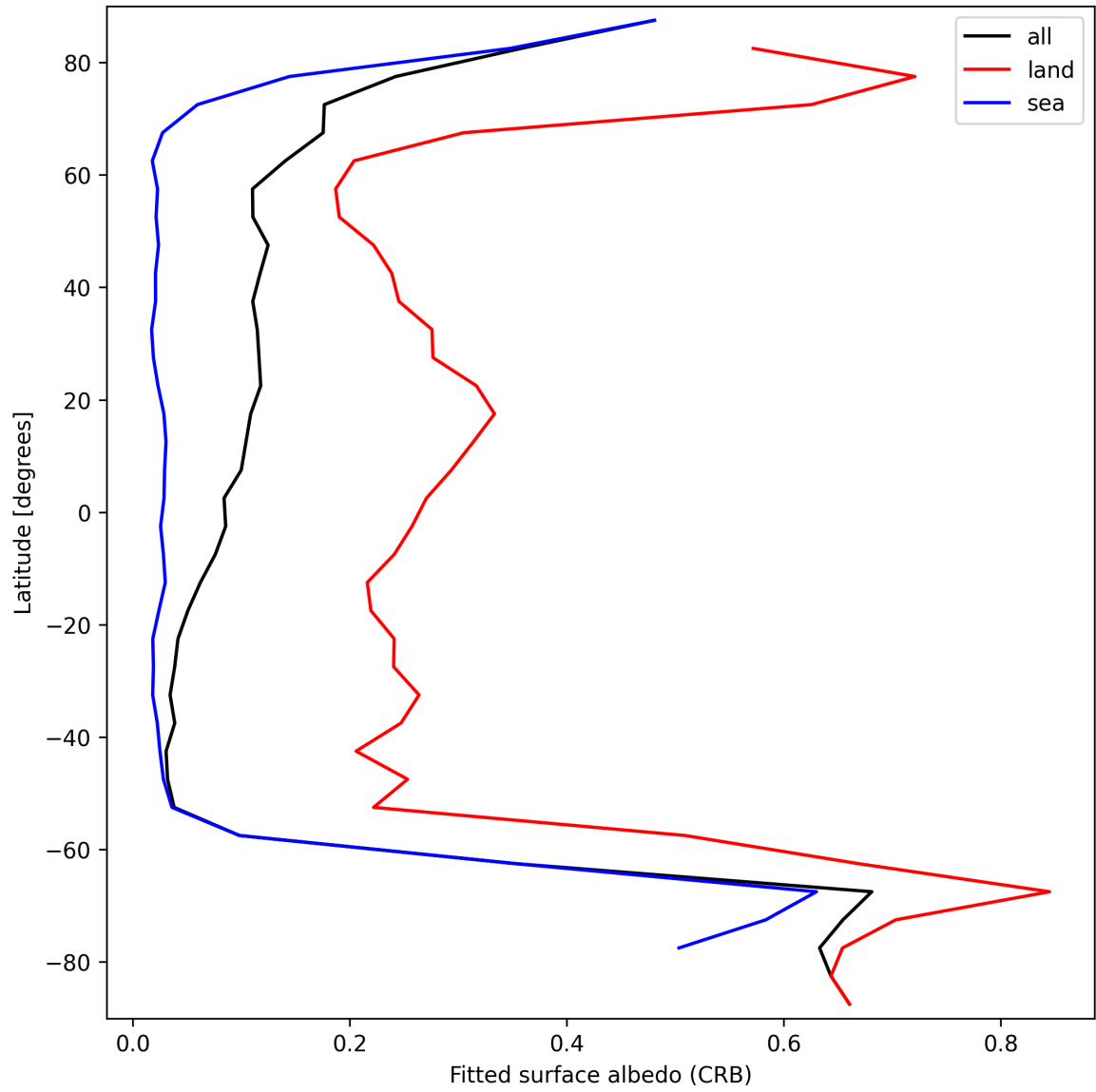


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-23 to 2025-09-23.

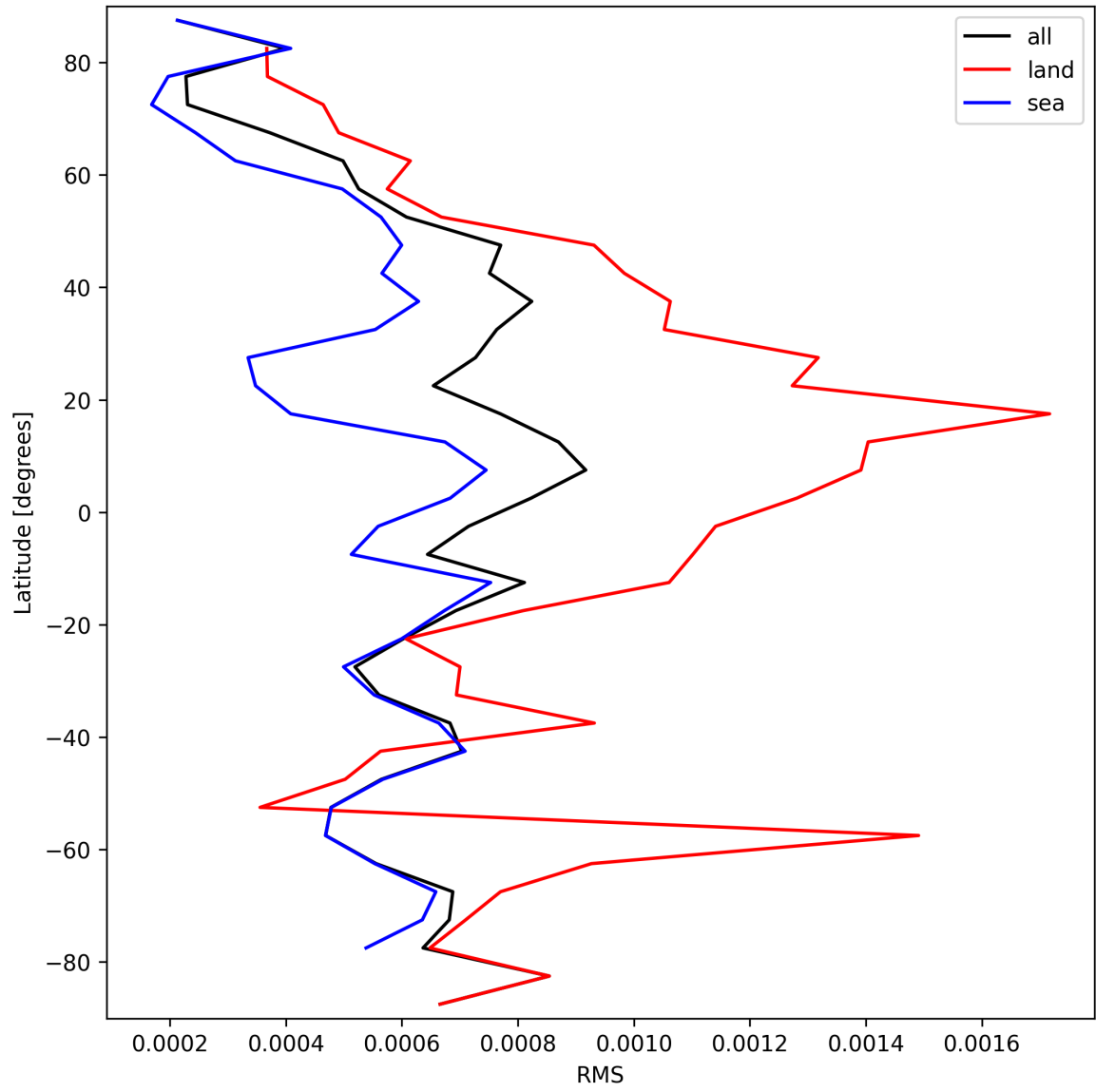


Figure 29: Zonal average of “RMS” for 2025-09-23 to 2025-09-23.

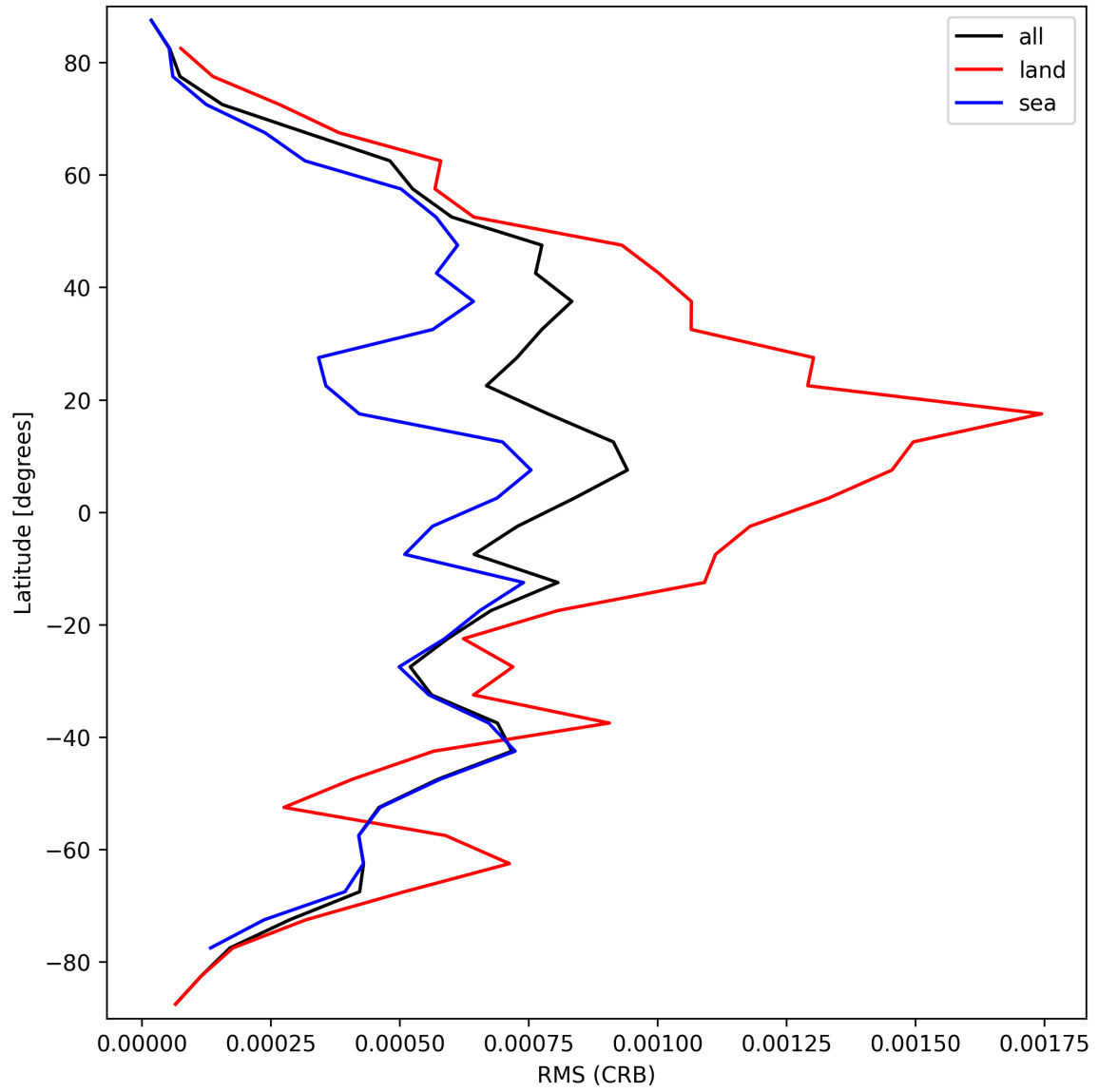


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-23 to 2025-09-23.

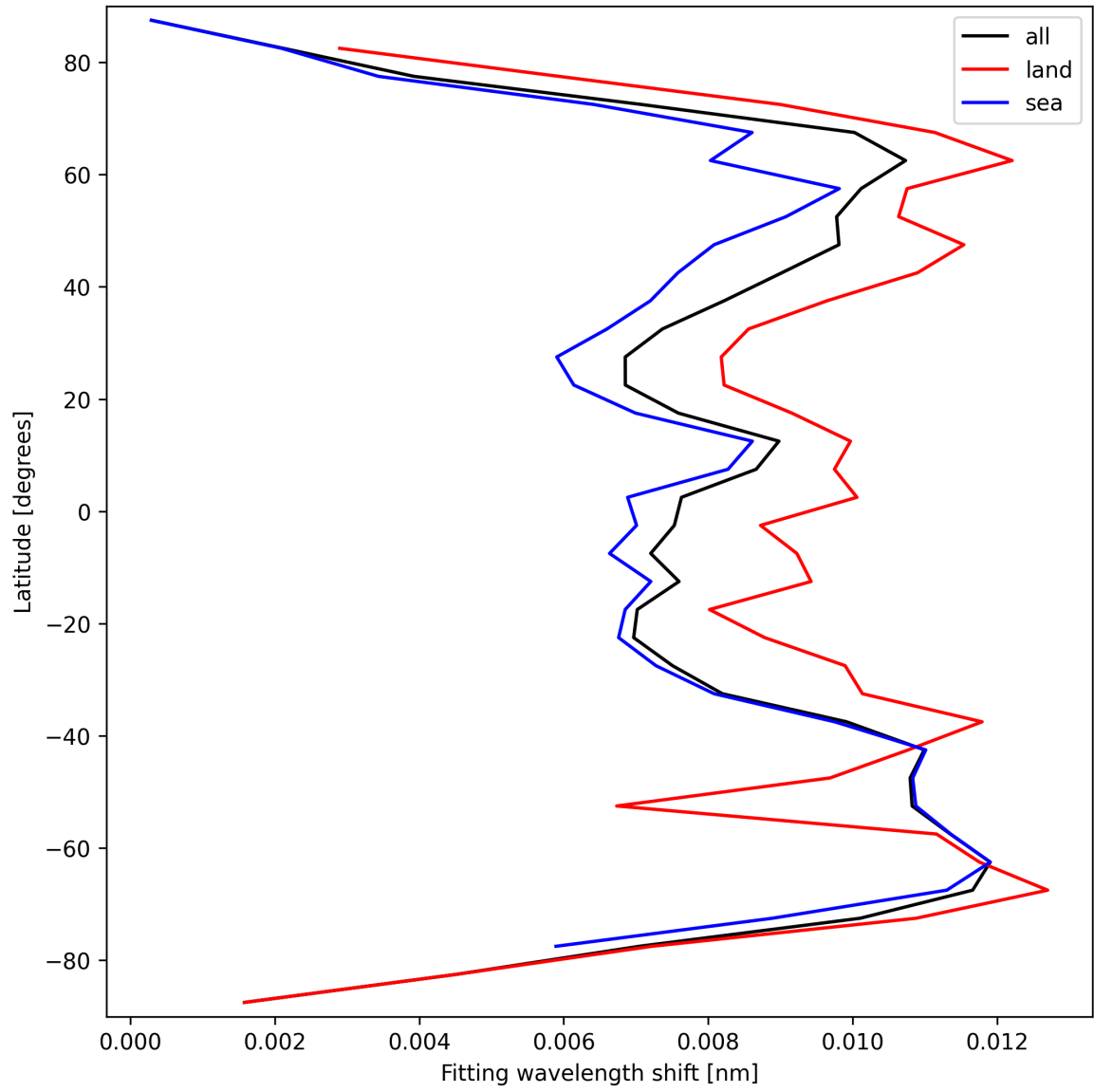


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-23 to 2025-09-23.

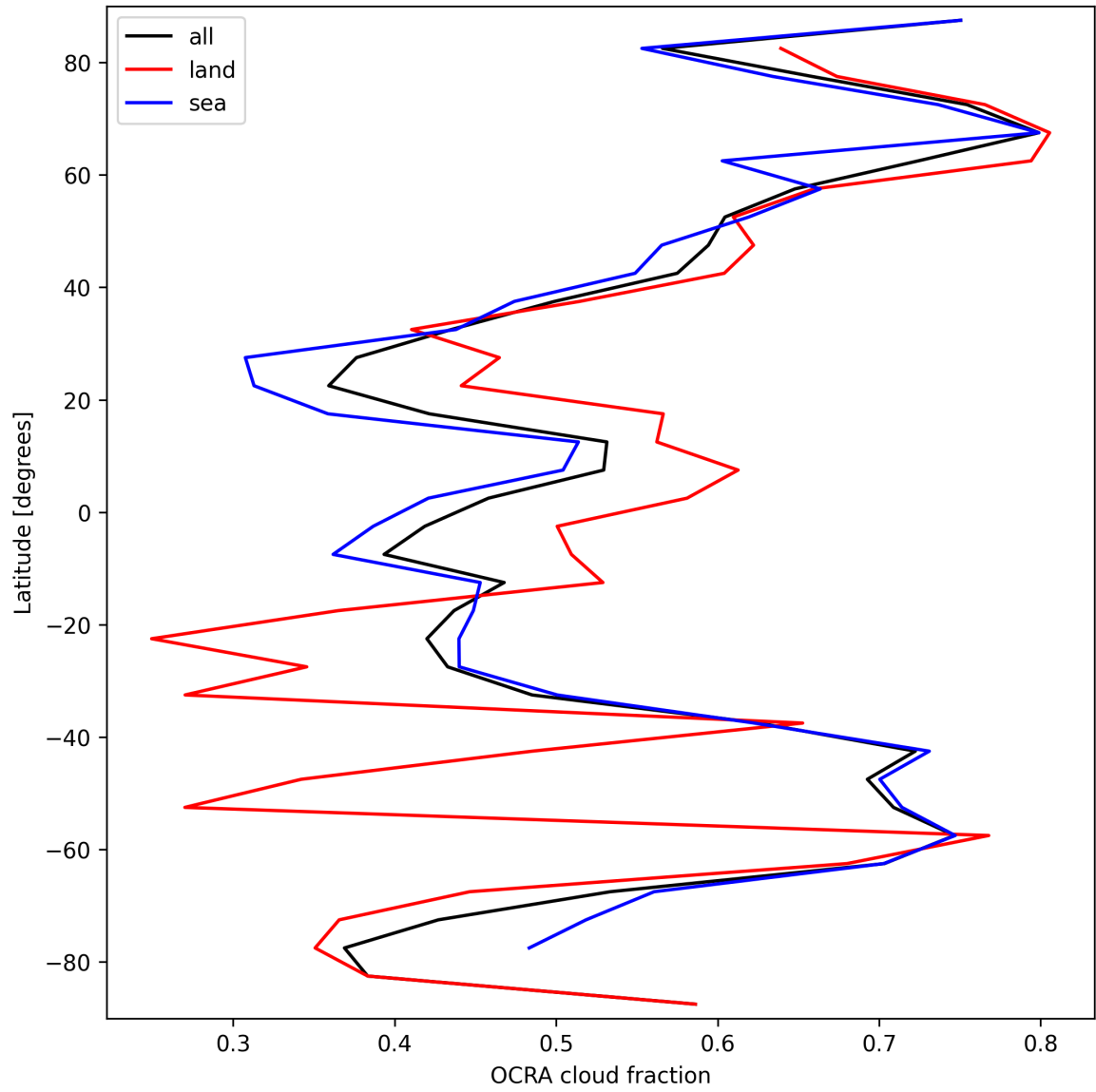


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-23 to 2025-09-23.

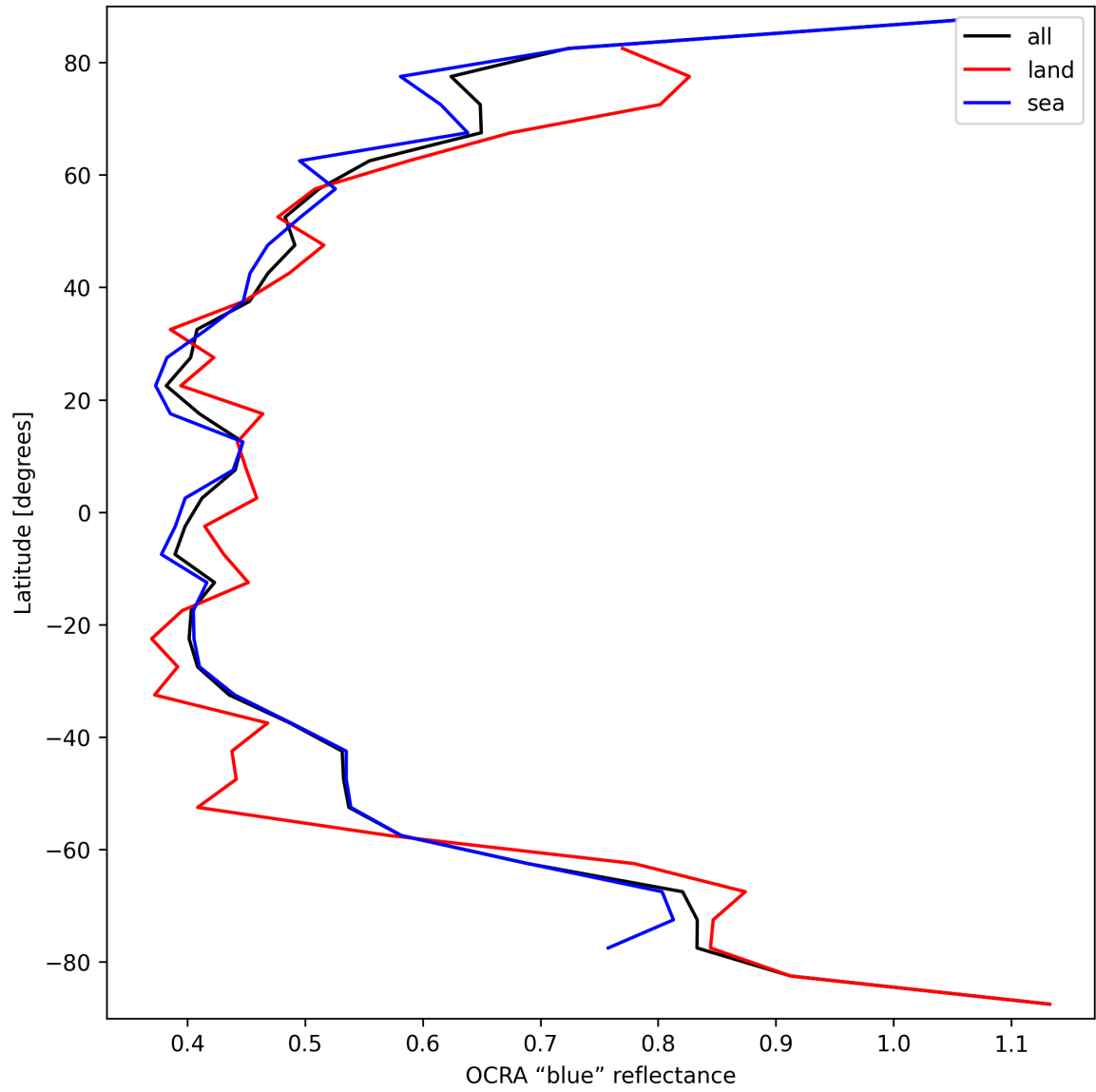


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-09-23 to 2025-09-23.

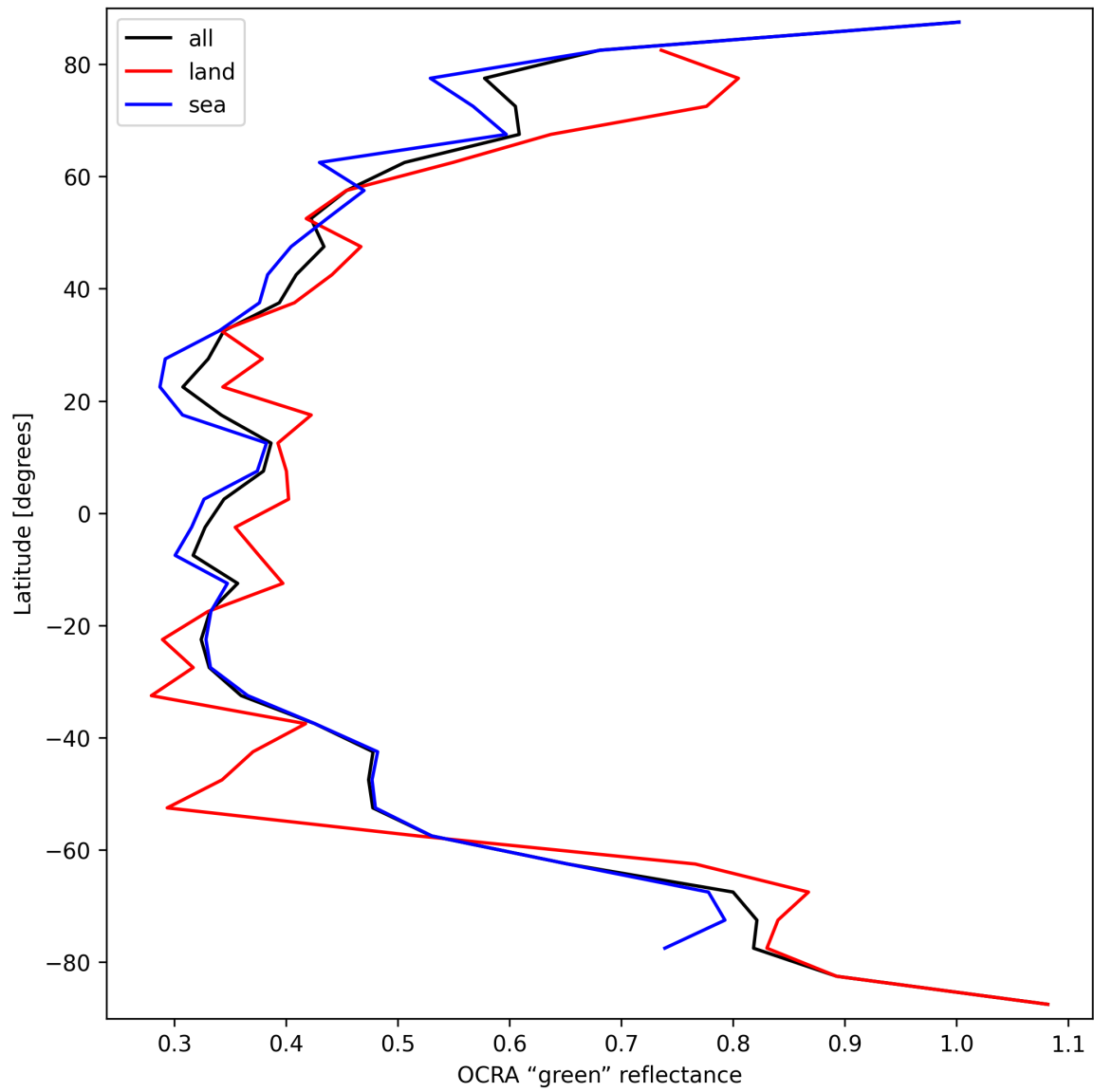


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-23 to 2025-09-23.

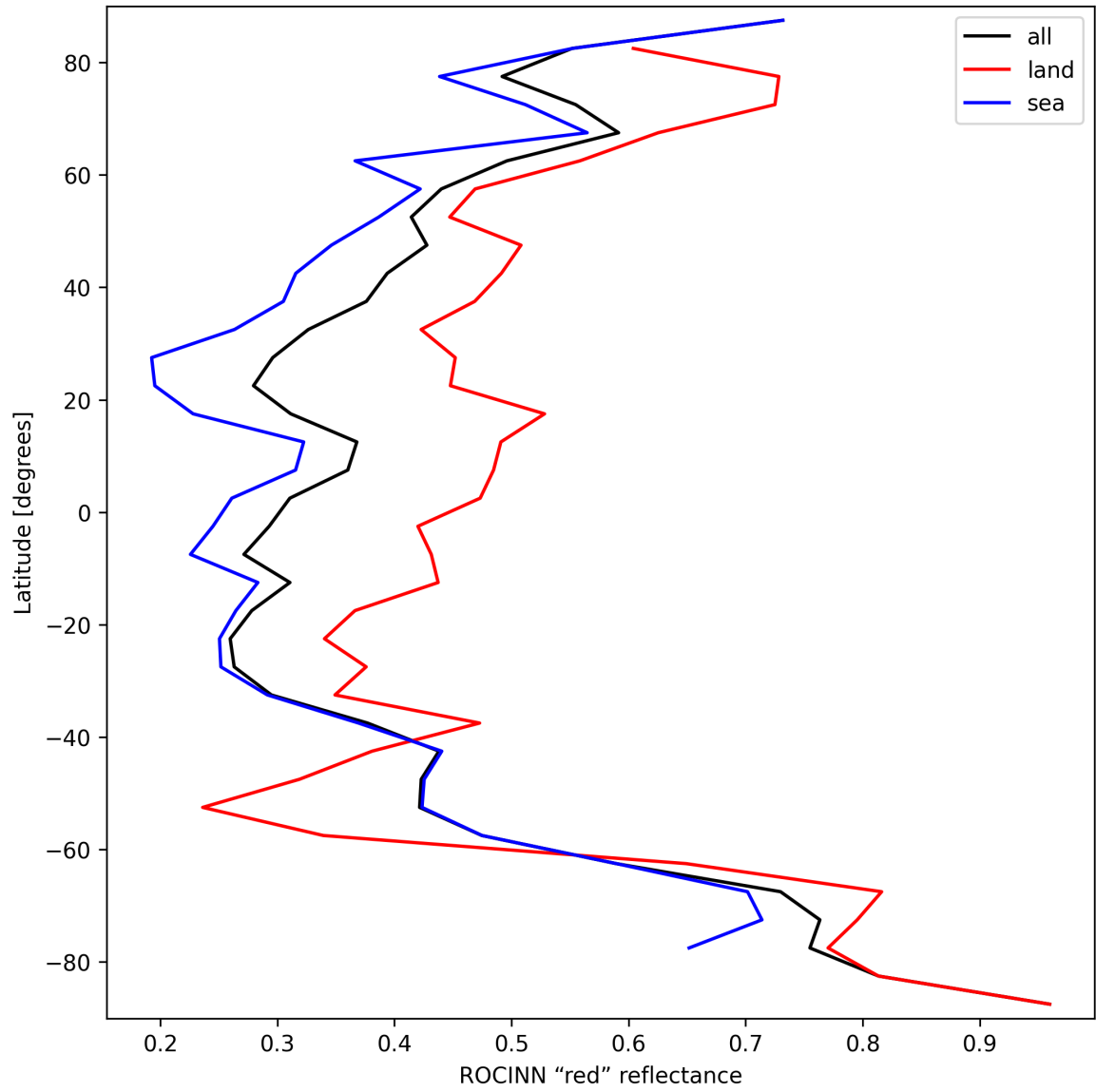


Figure 35: Zonal average of "ROCINN "red" reflectance" for 2025-09-23 to 2025-09-23.

8 Histograms

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

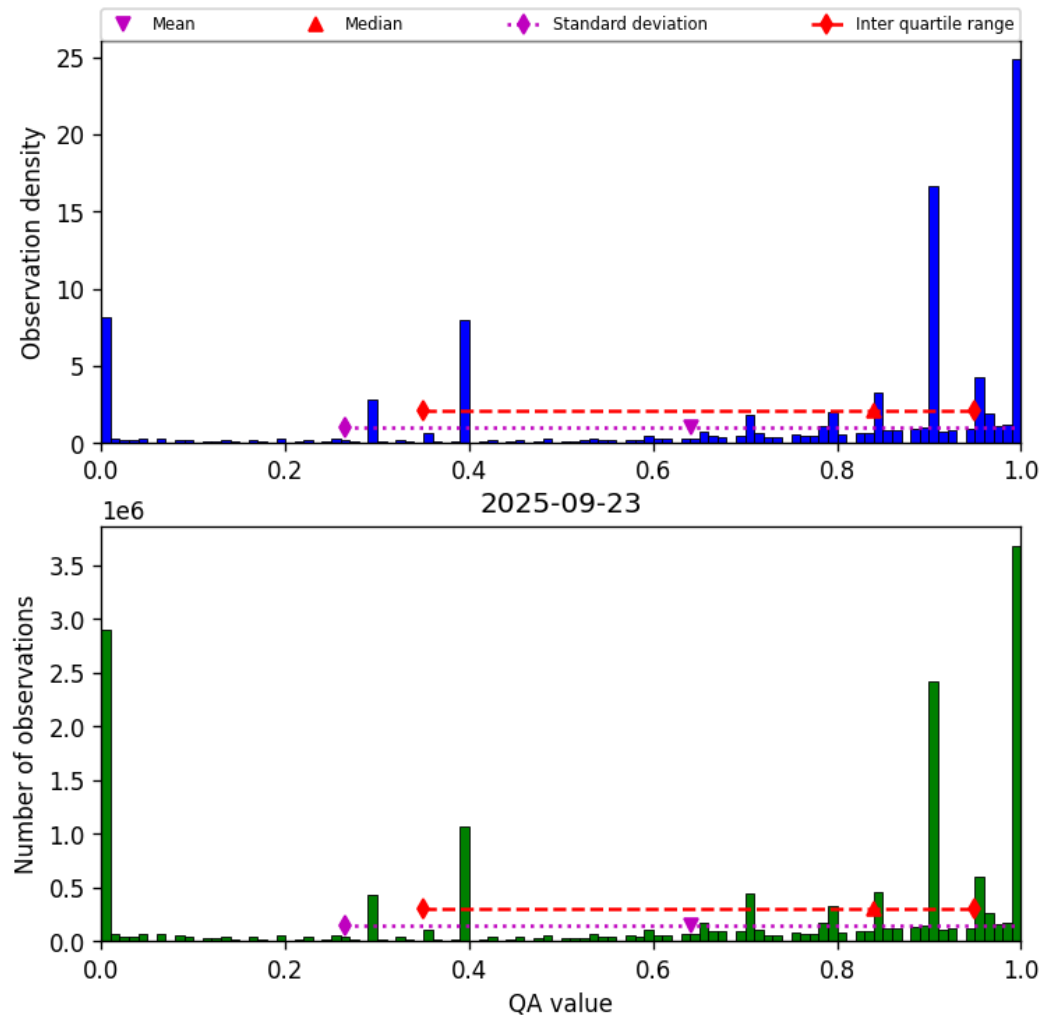


Figure 36: Histogram of “QA value” for 2025-09-23 to 2025-09-23

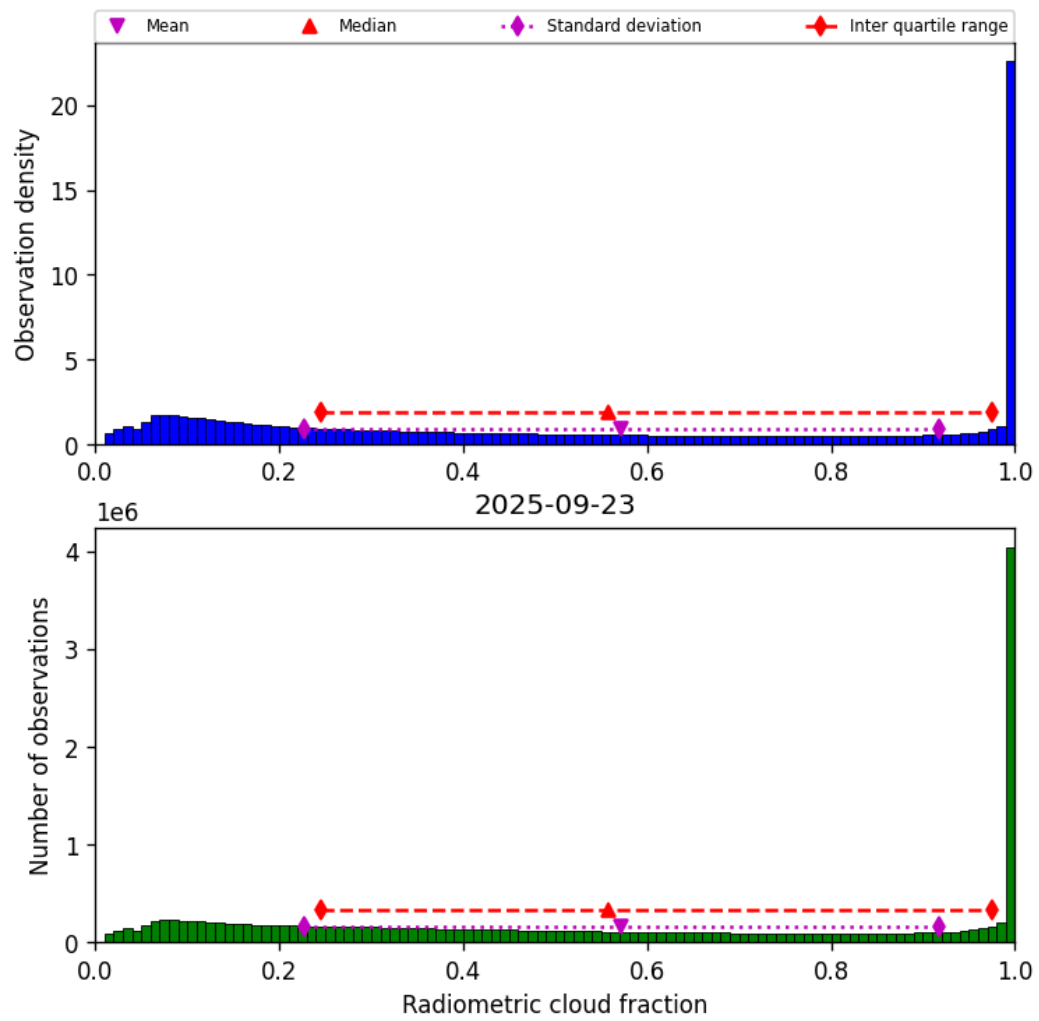


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-23 to 2025-09-23

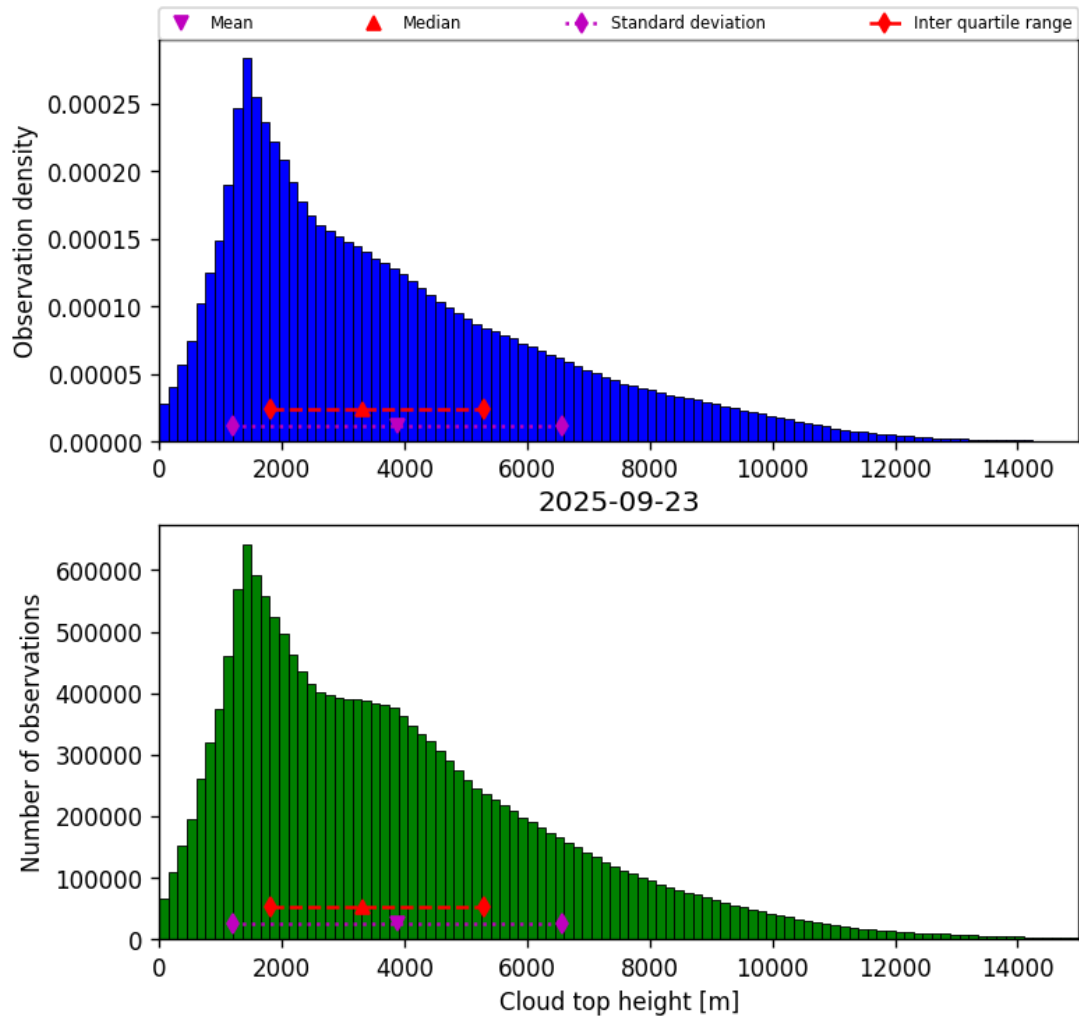


Figure 38: Histogram of “Cloud top height” for 2025-09-23 to 2025-09-23

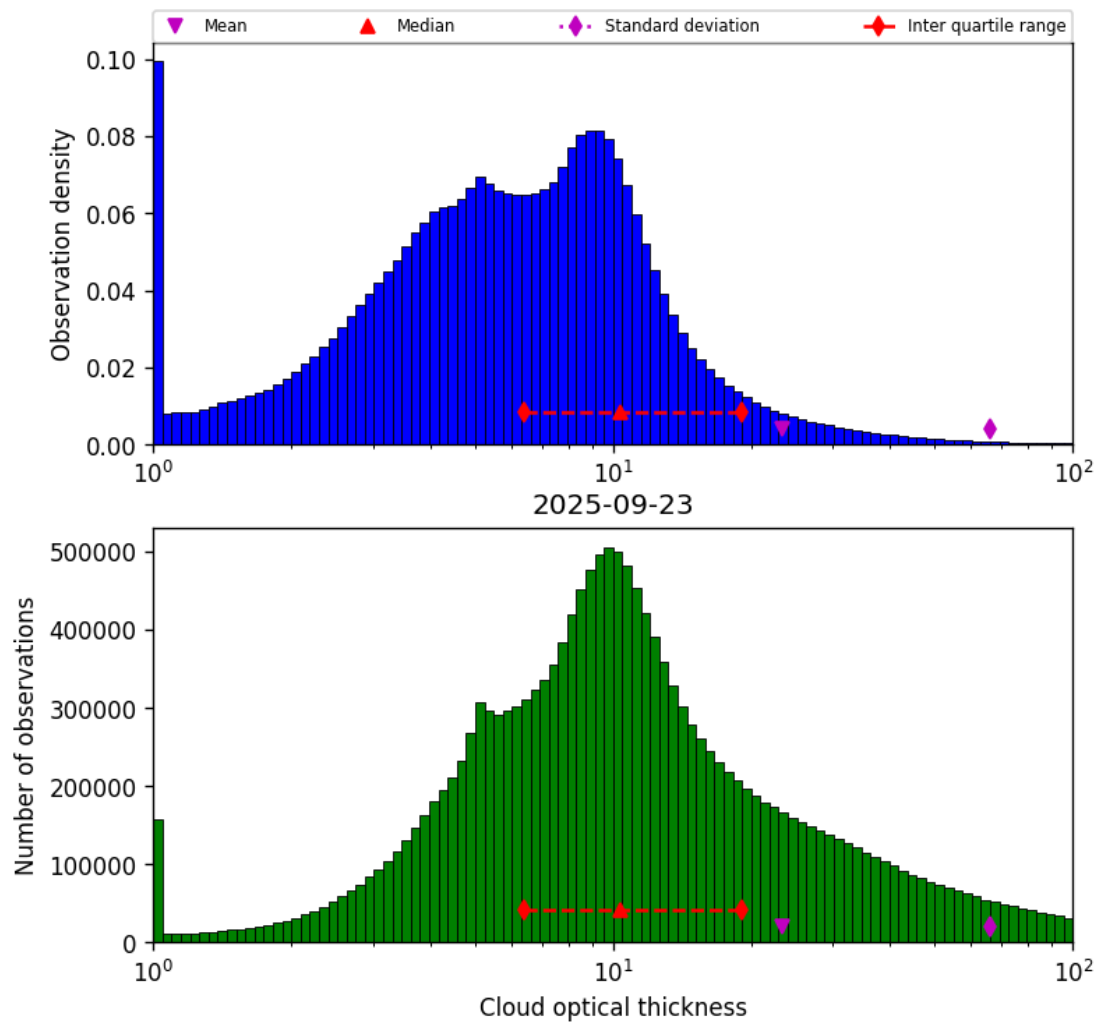


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-23 to 2025-09-23

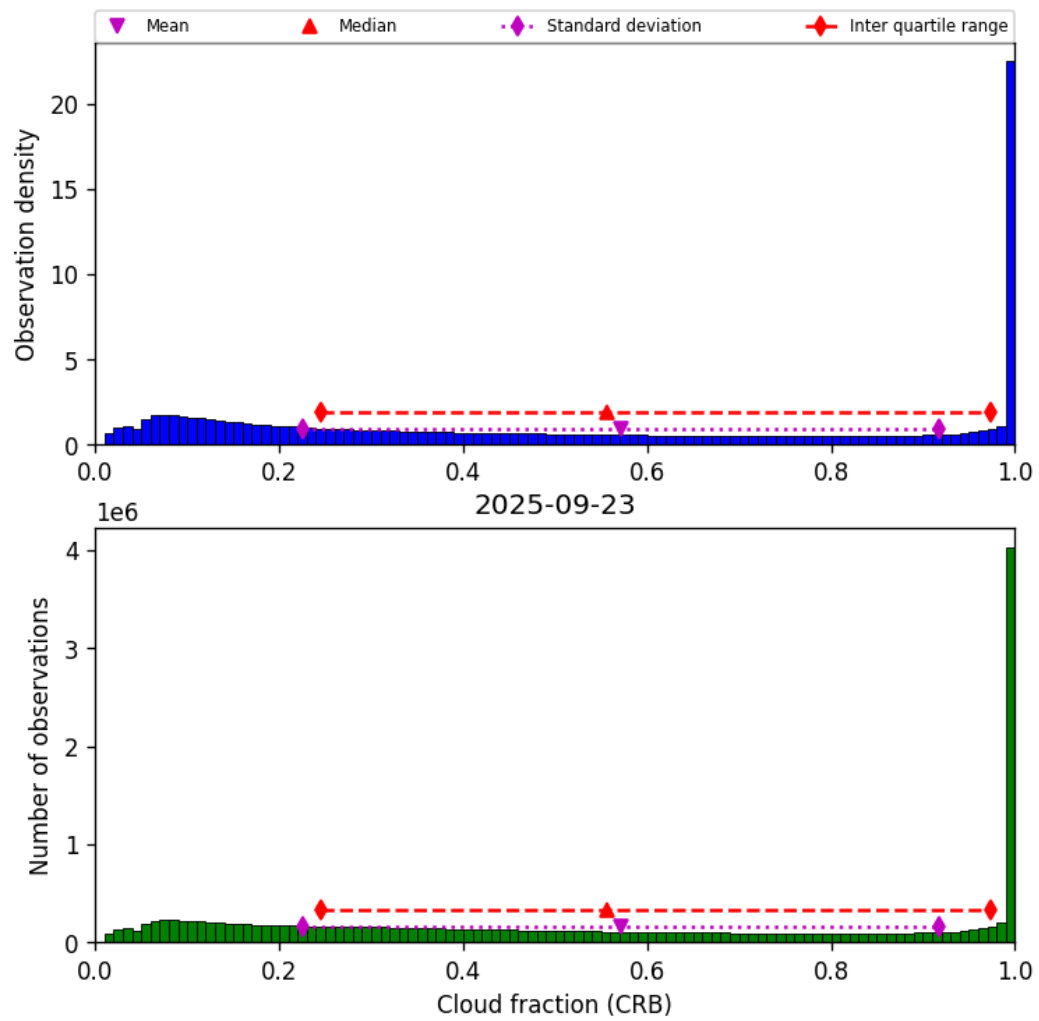


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-09-23 to 2025-09-23

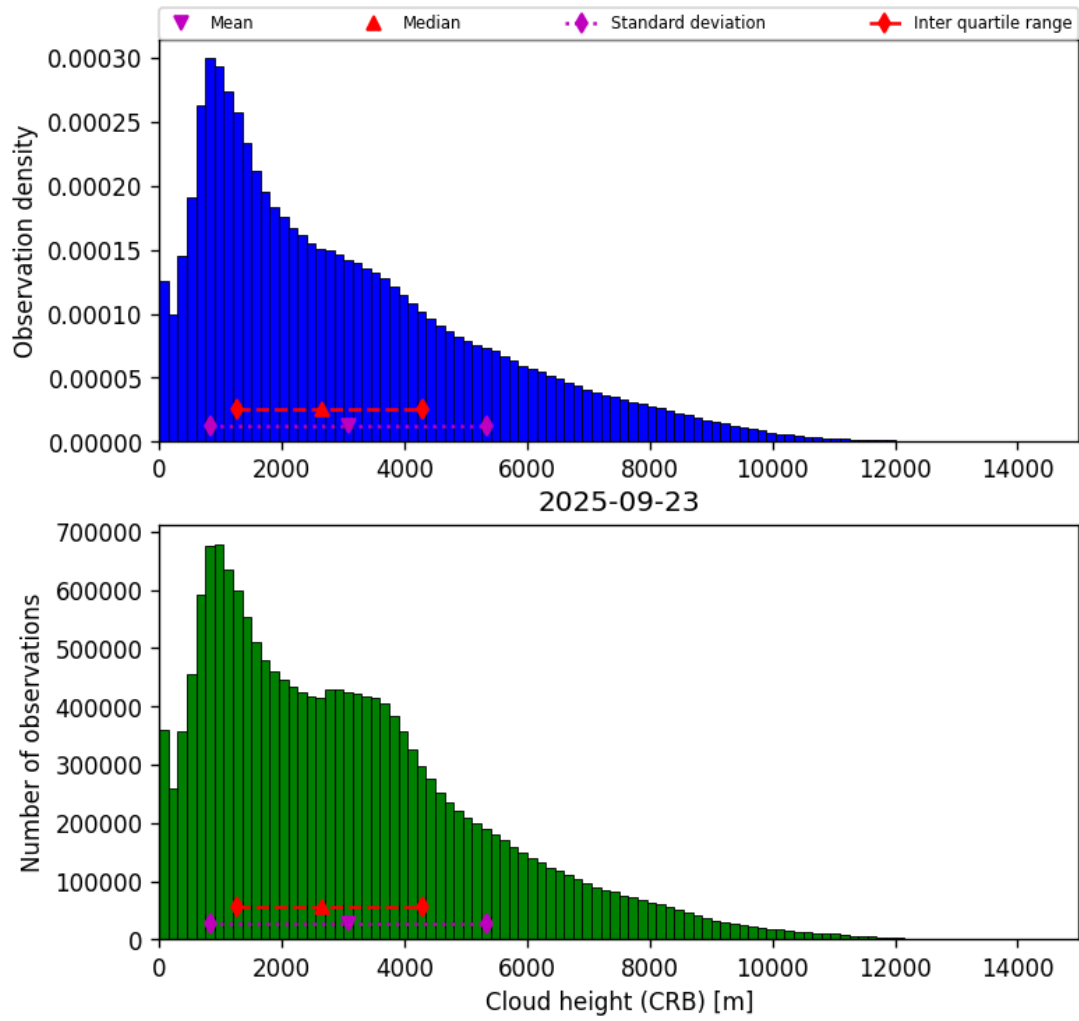


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-23 to 2025-09-23

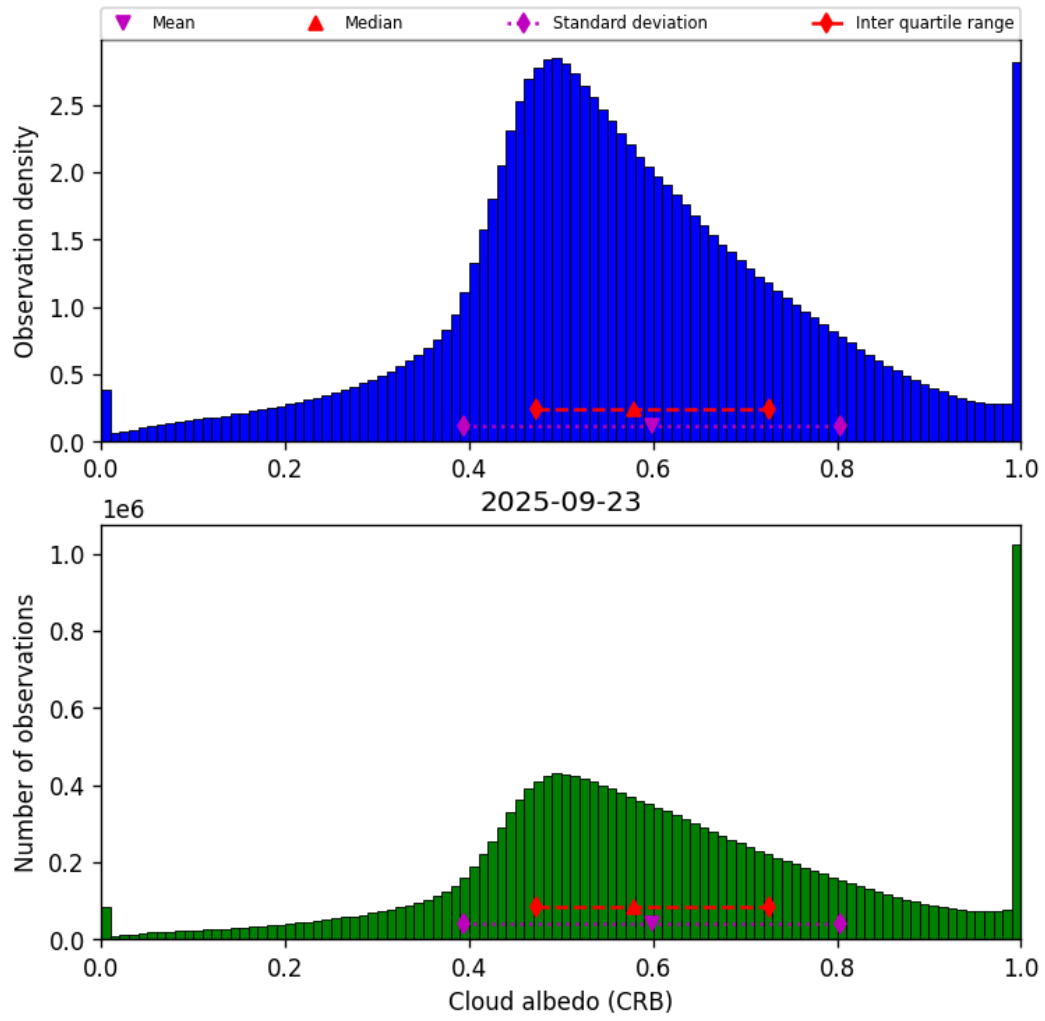


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-23 to 2025-09-23

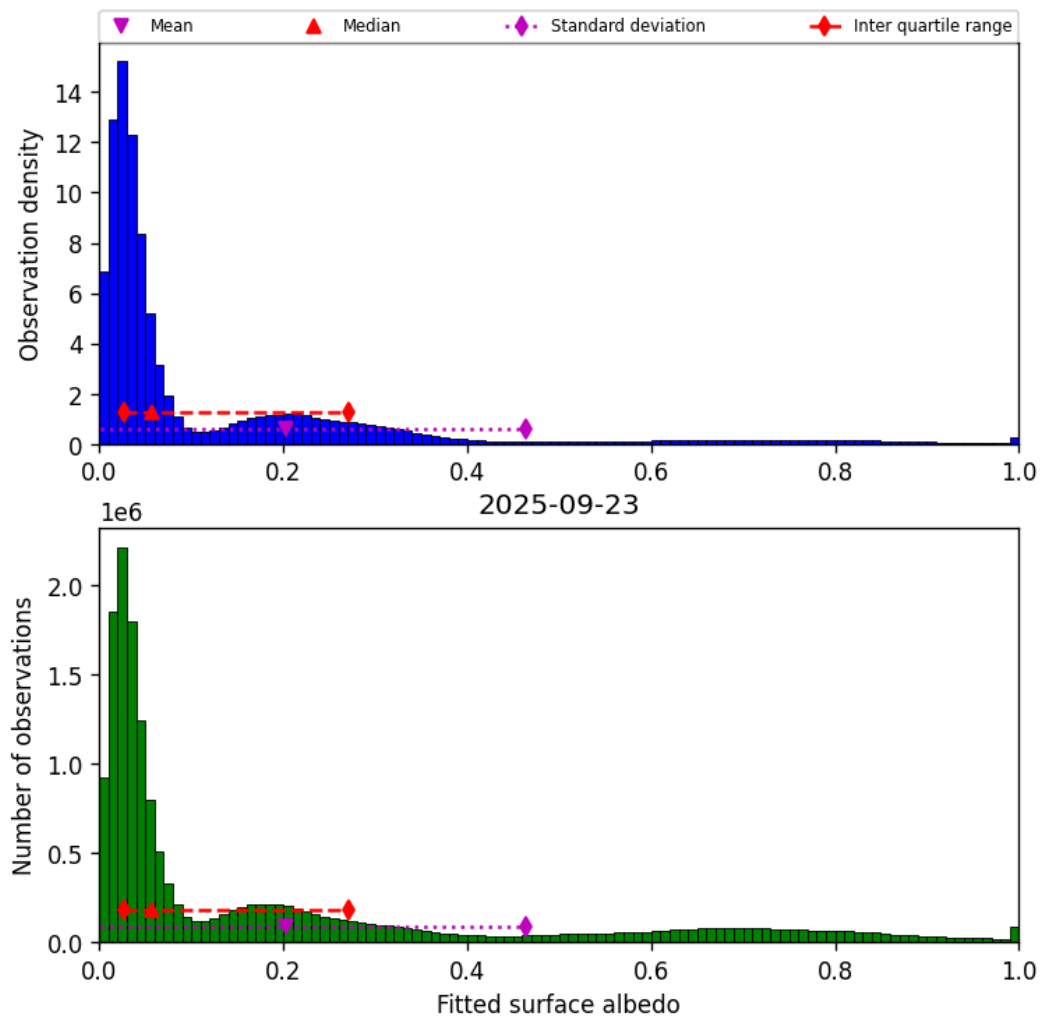


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-23 to 2025-09-23

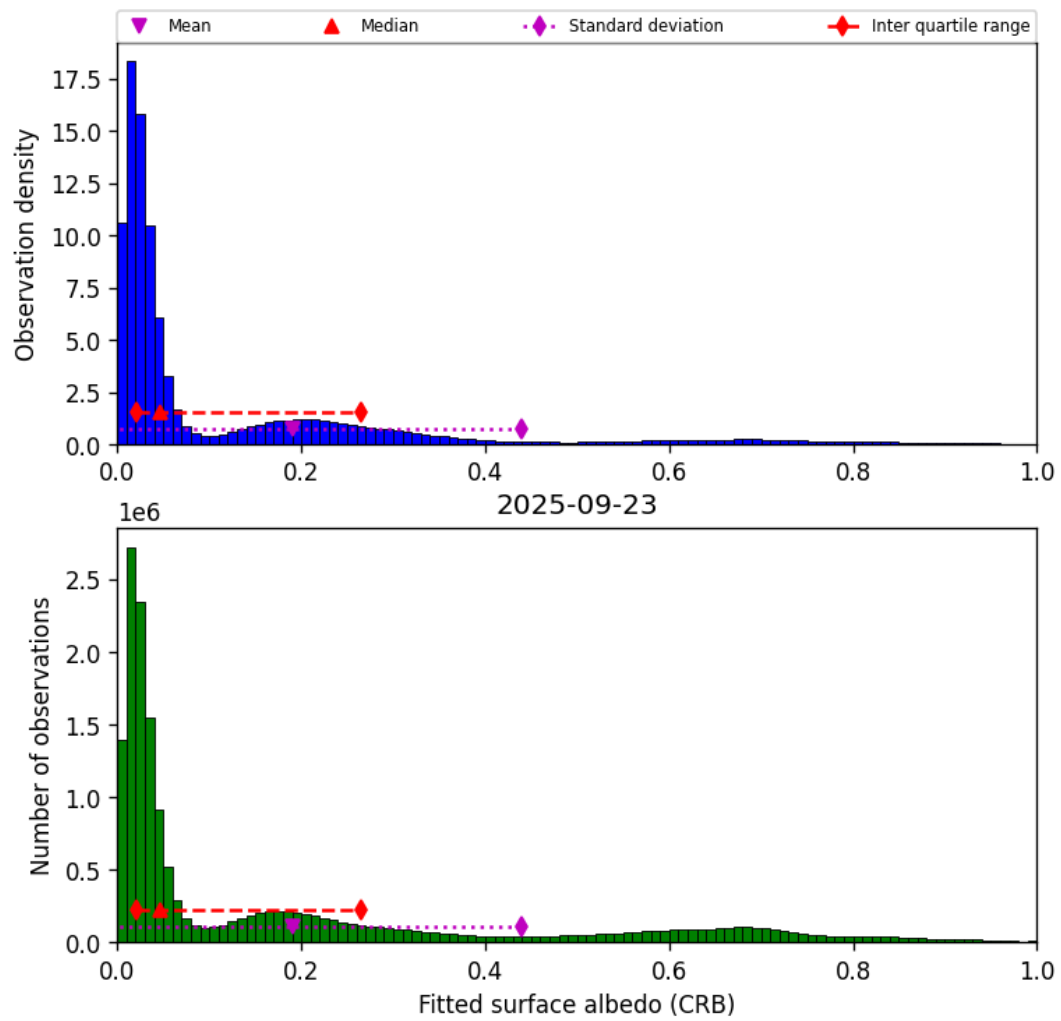


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-23 to 2025-09-23

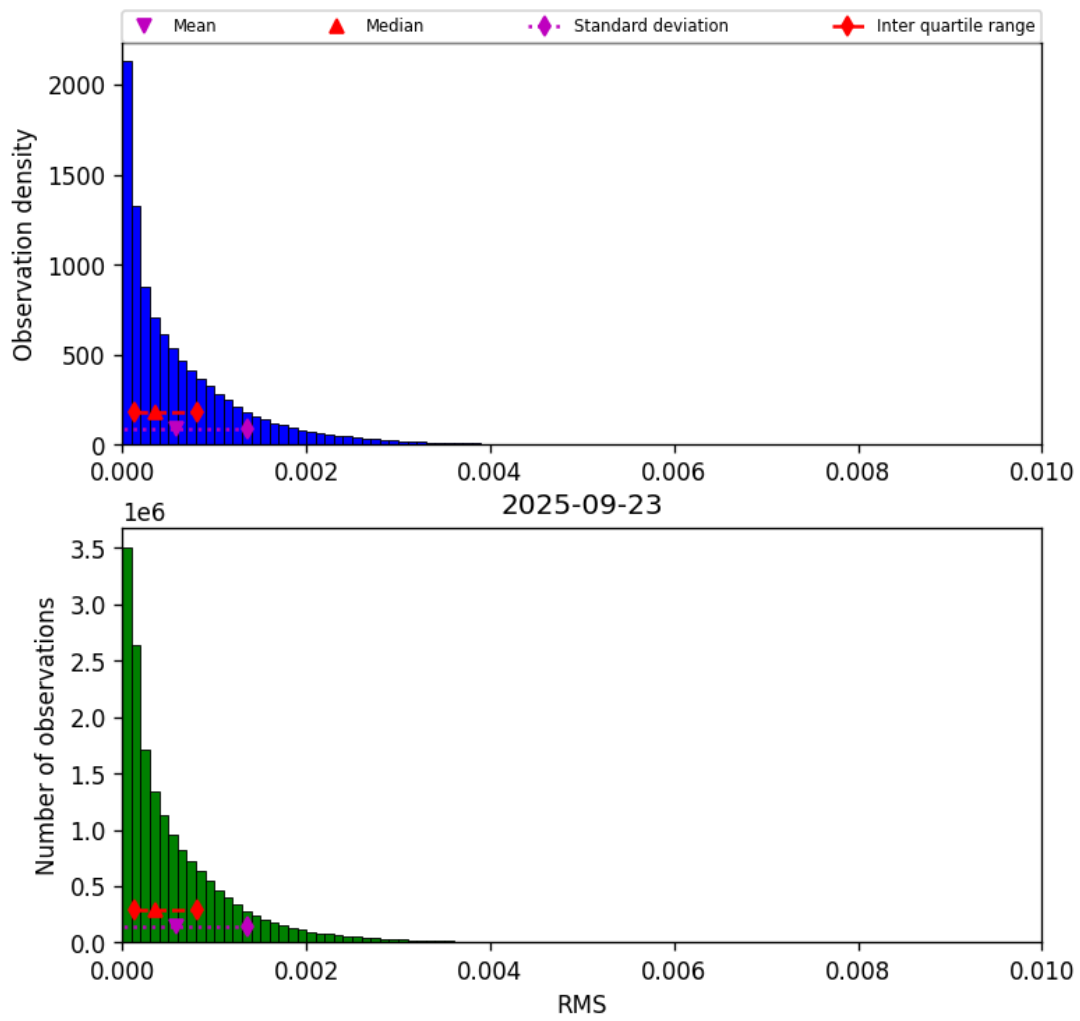


Figure 45: Histogram of “RMS” for 2025-09-23 to 2025-09-23

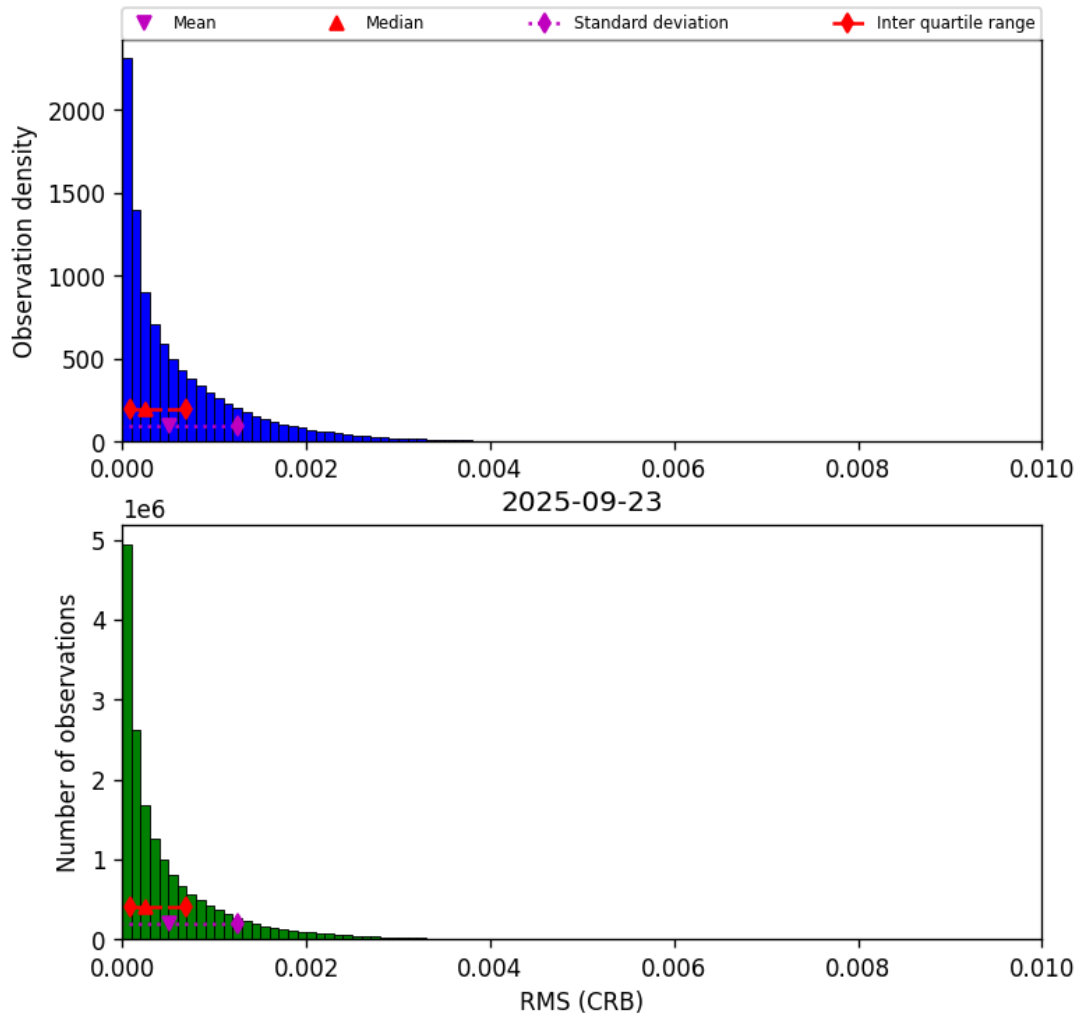


Figure 46: Histogram of “RMS (CRB)” for 2025-09-23 to 2025-09-23

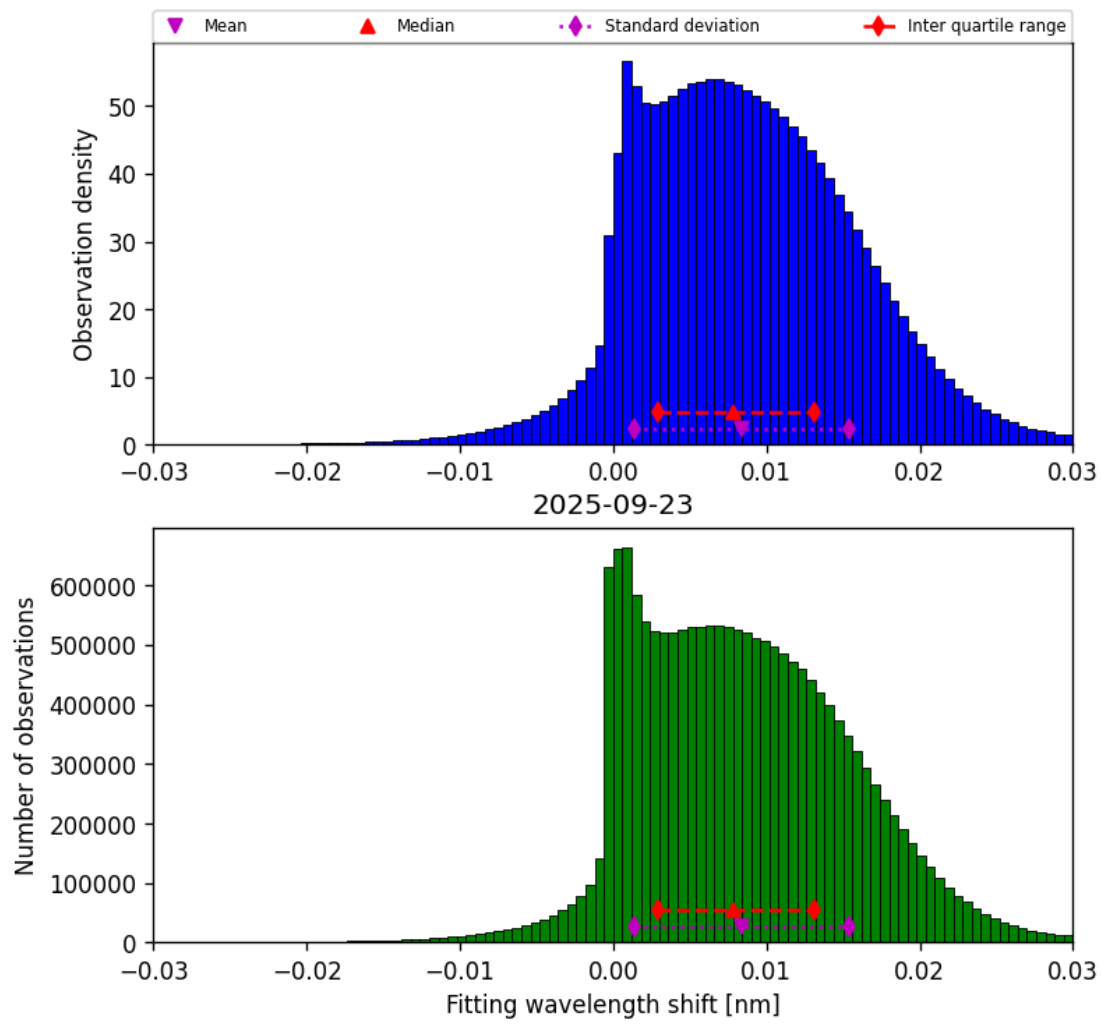


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-23 to 2025-09-23

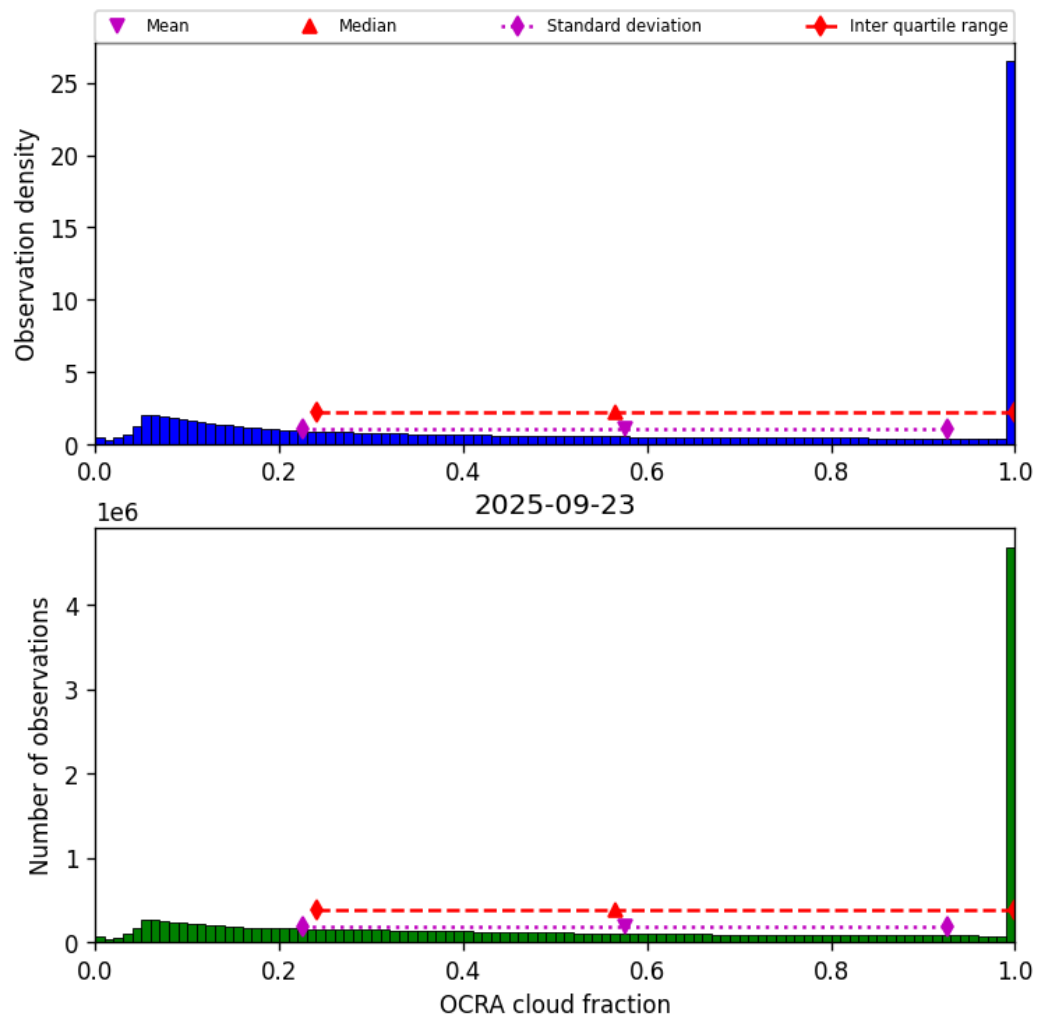


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-23 to 2025-09-23

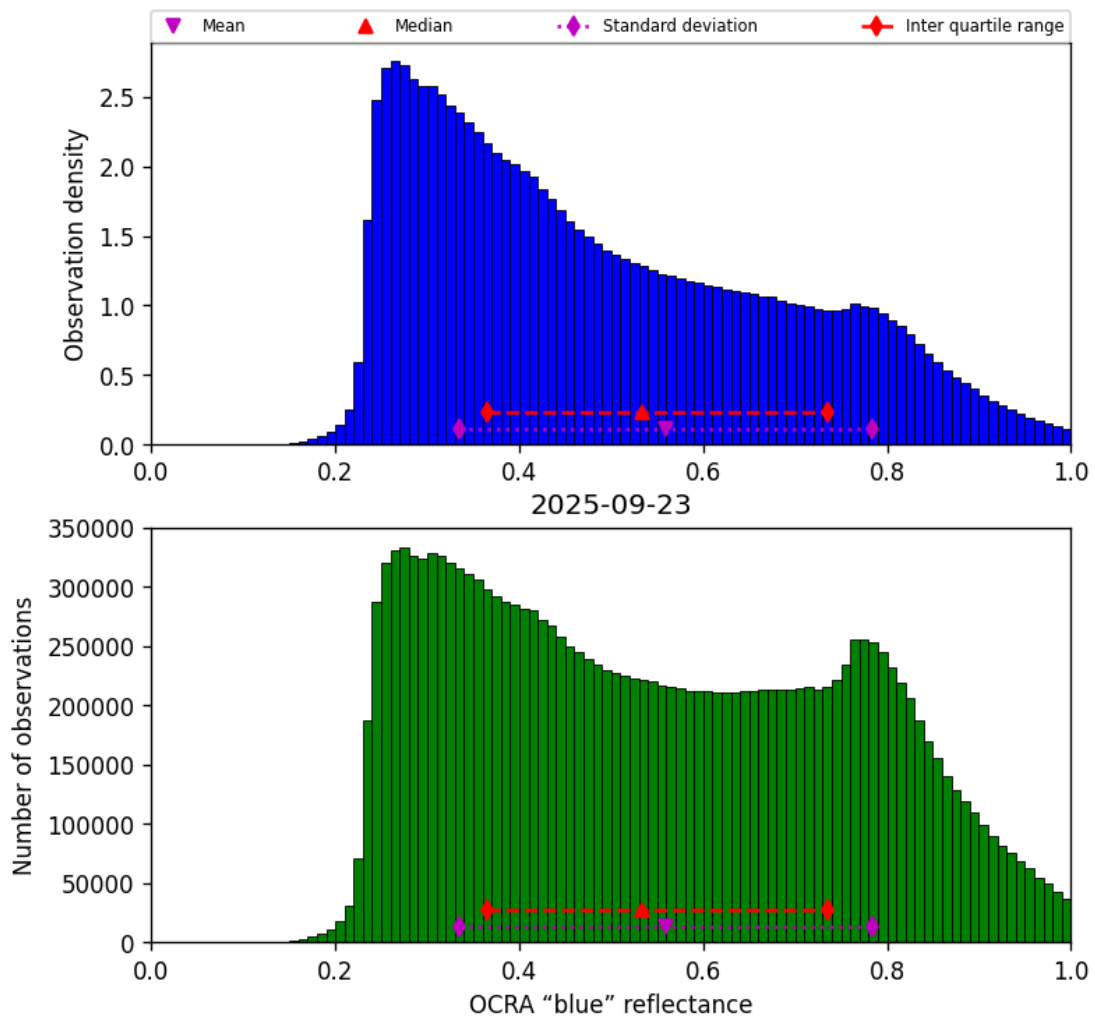


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-23 to 2025-09-23

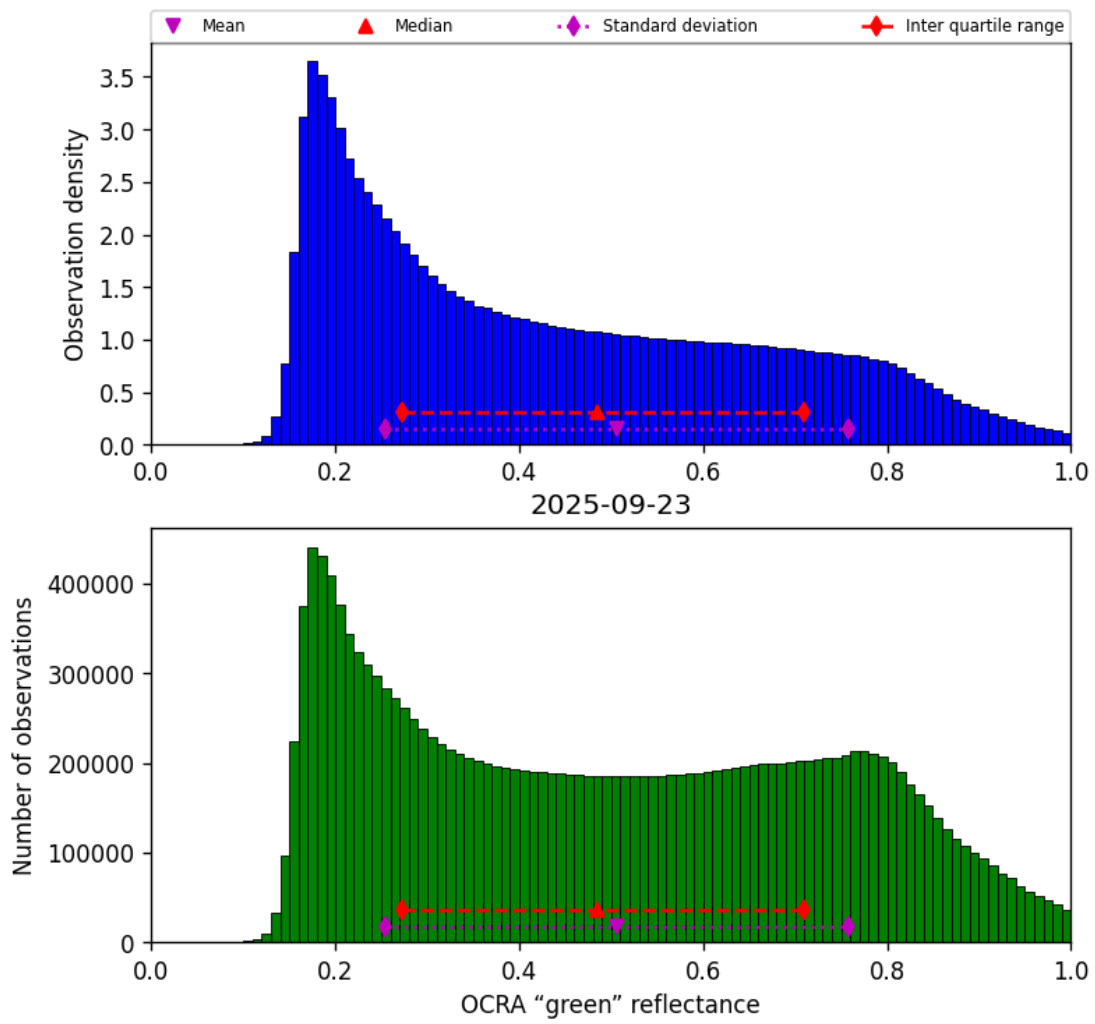


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-23 to 2025-09-23

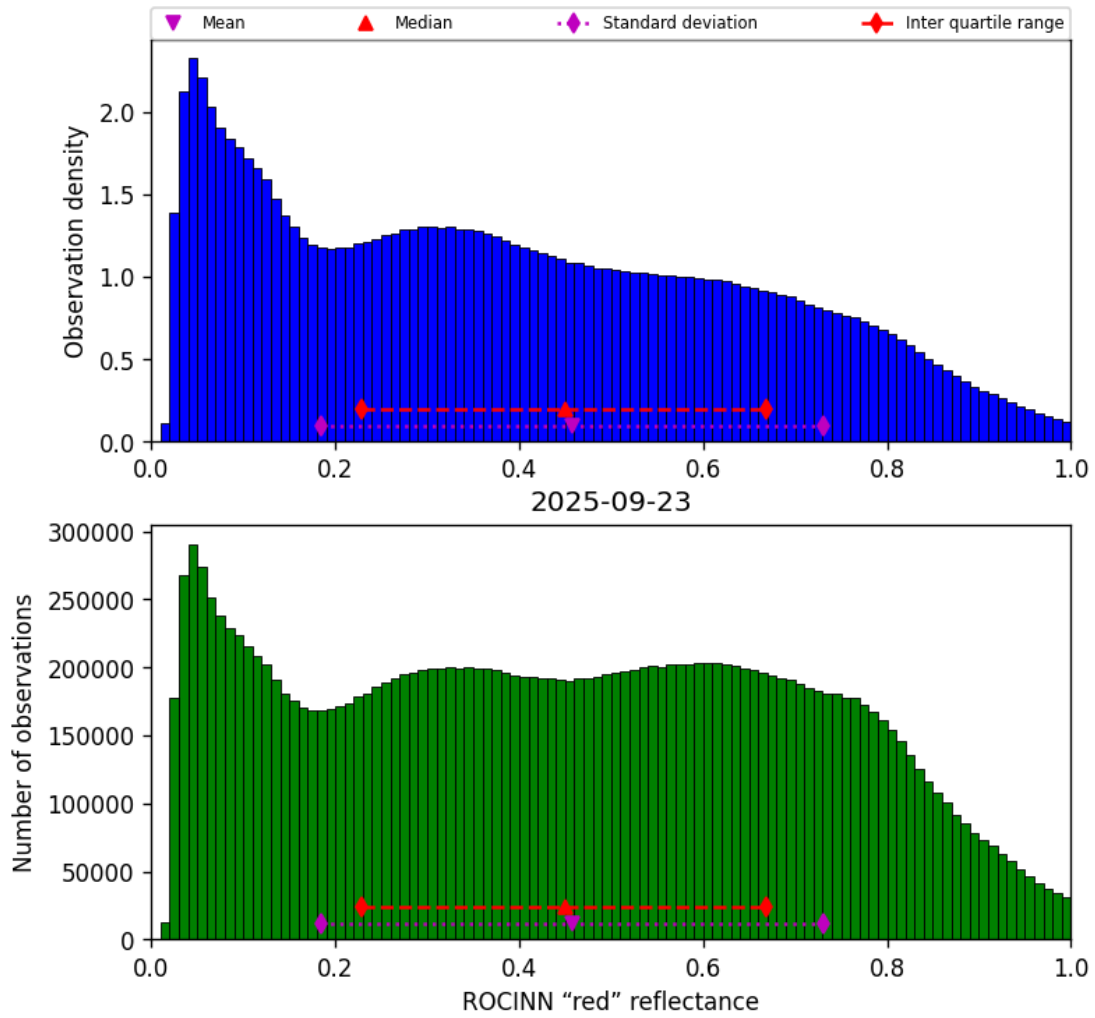


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-09-23 to 2025-09-23

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.

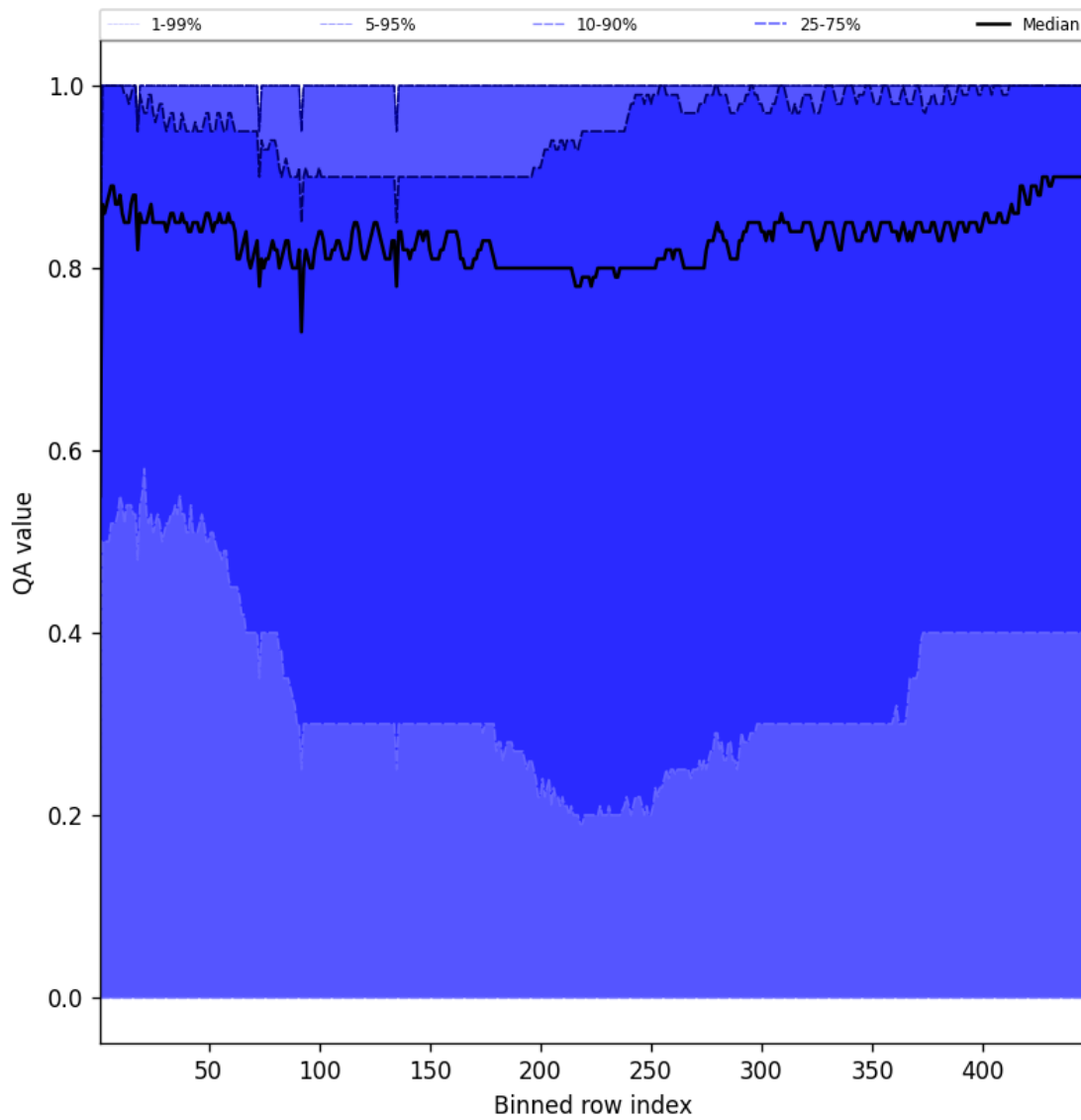


Figure 52: Along track statistics of “QA value” for 2025-09-23 to 2025-09-23

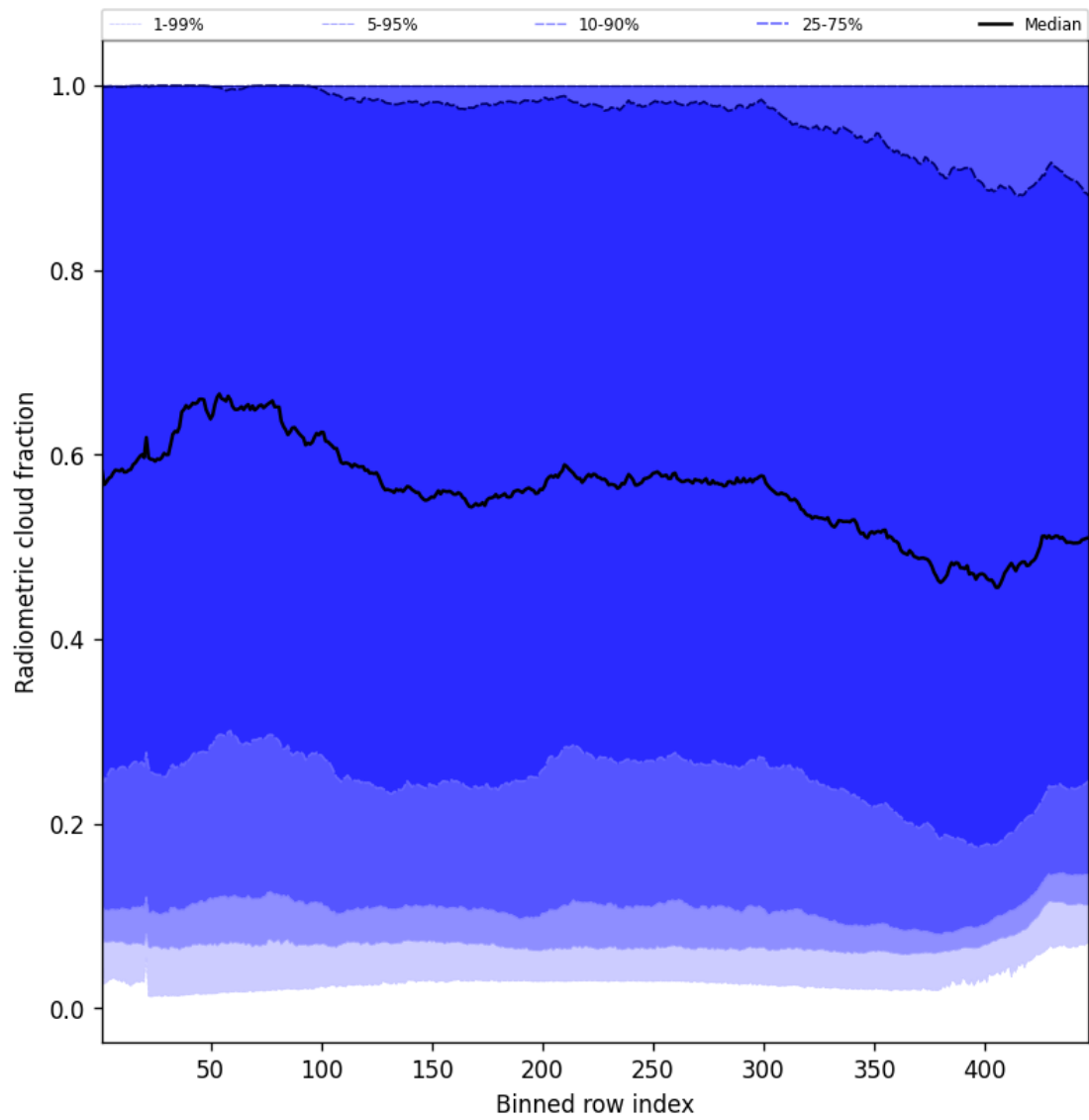


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-23 to 2025-09-23

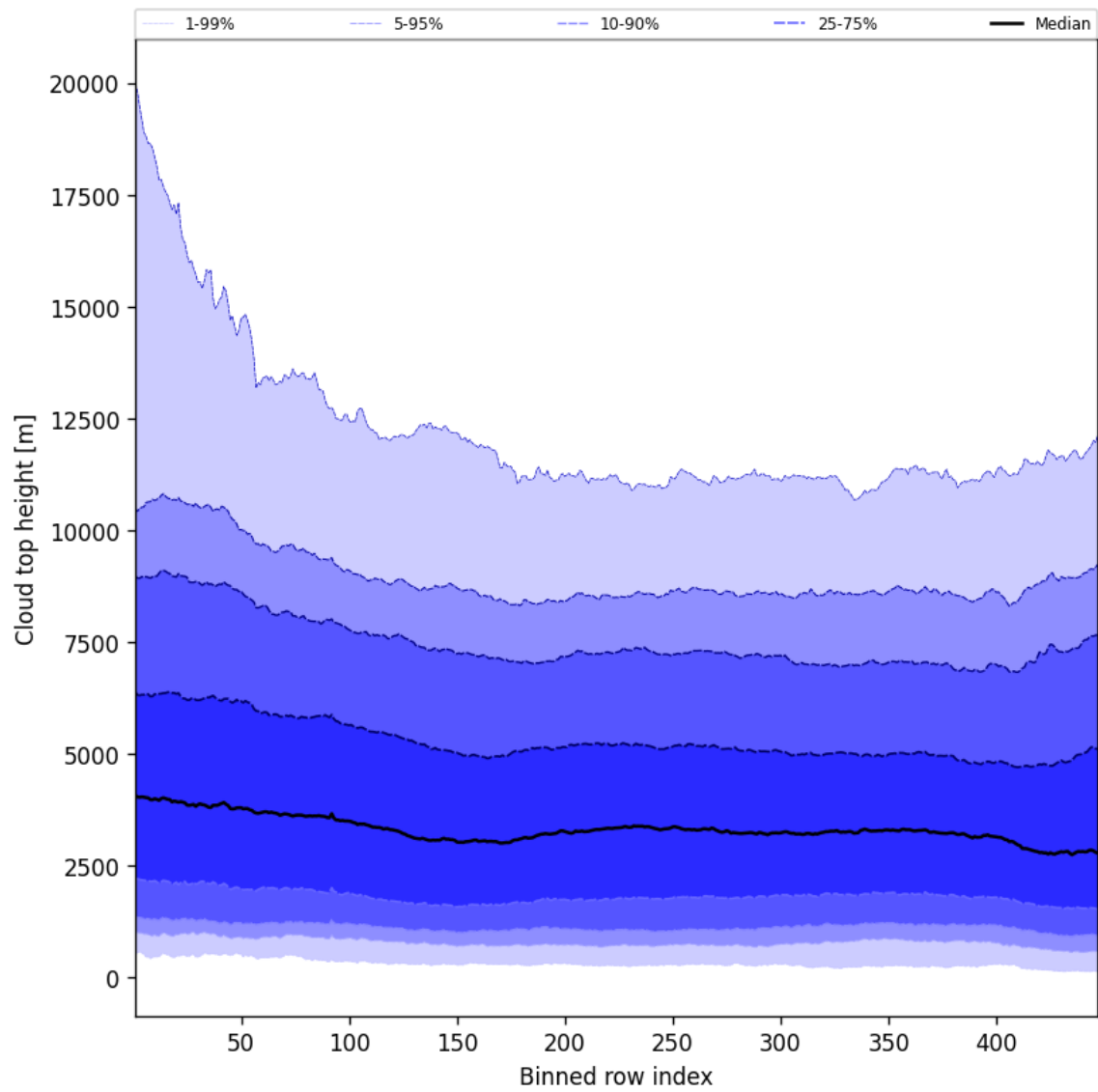


Figure 54: Along track statistics of “Cloud top height” for 2025-09-23 to 2025-09-23

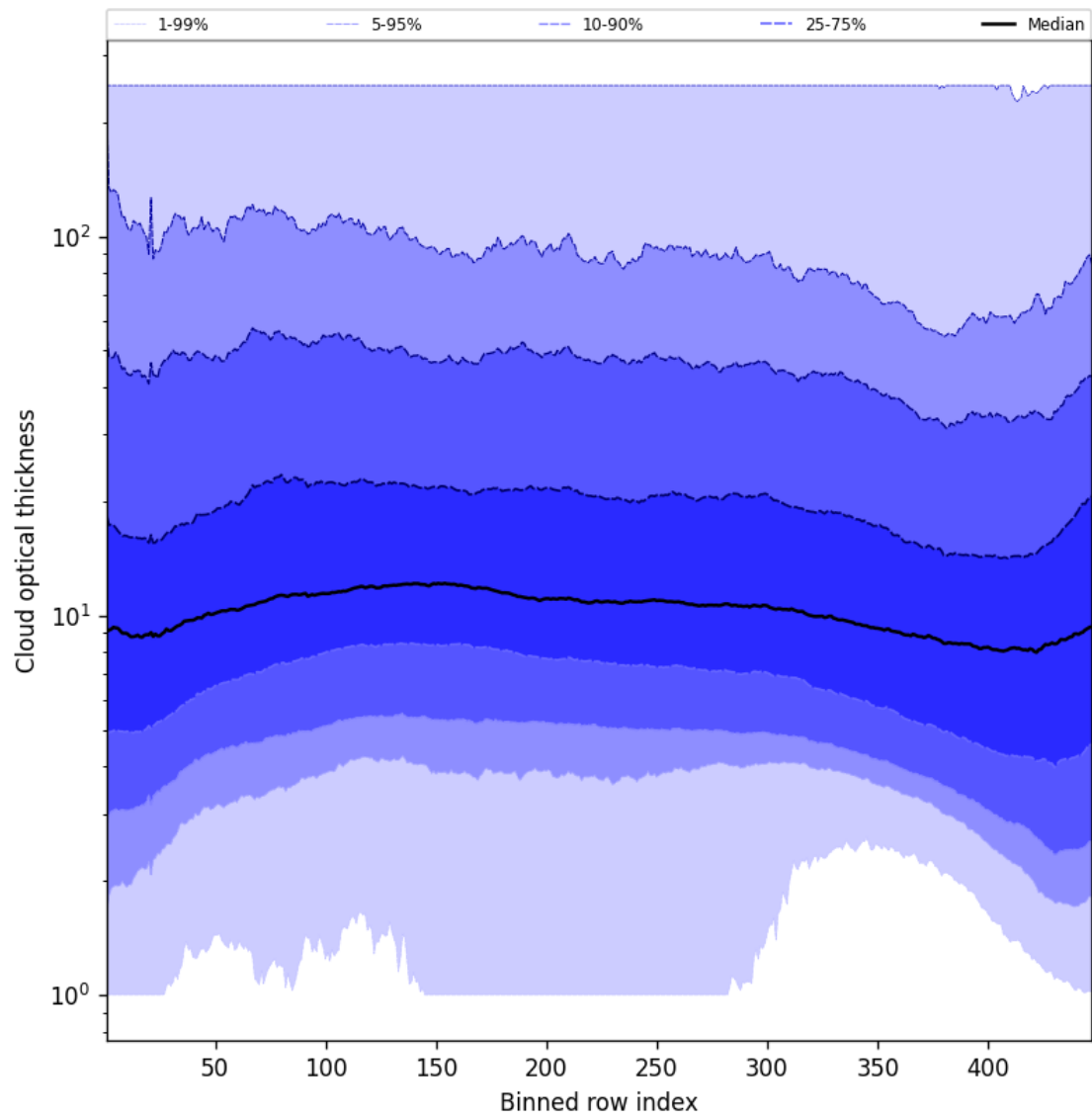


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-23 to 2025-09-23

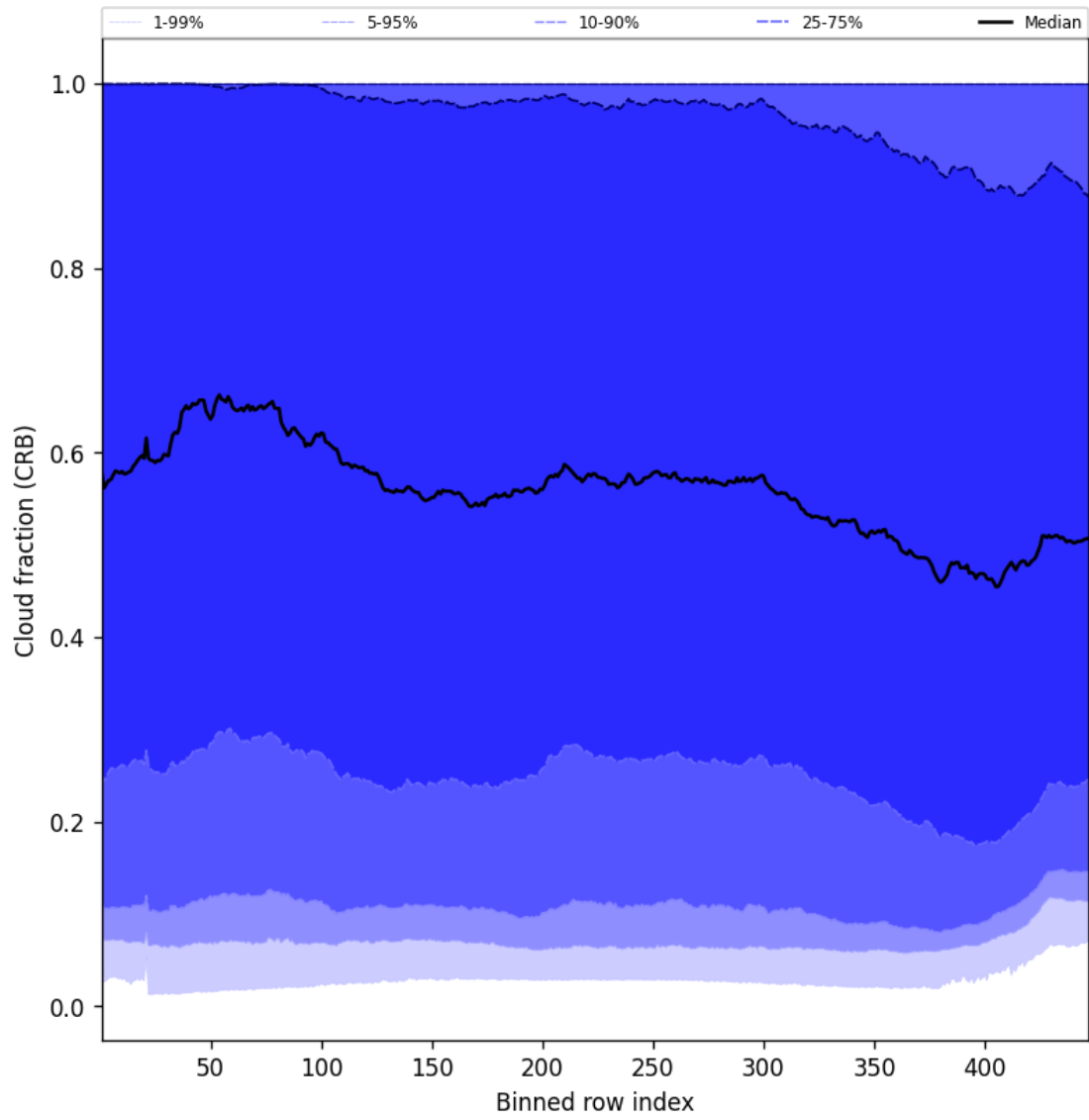


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-23 to 2025-09-23

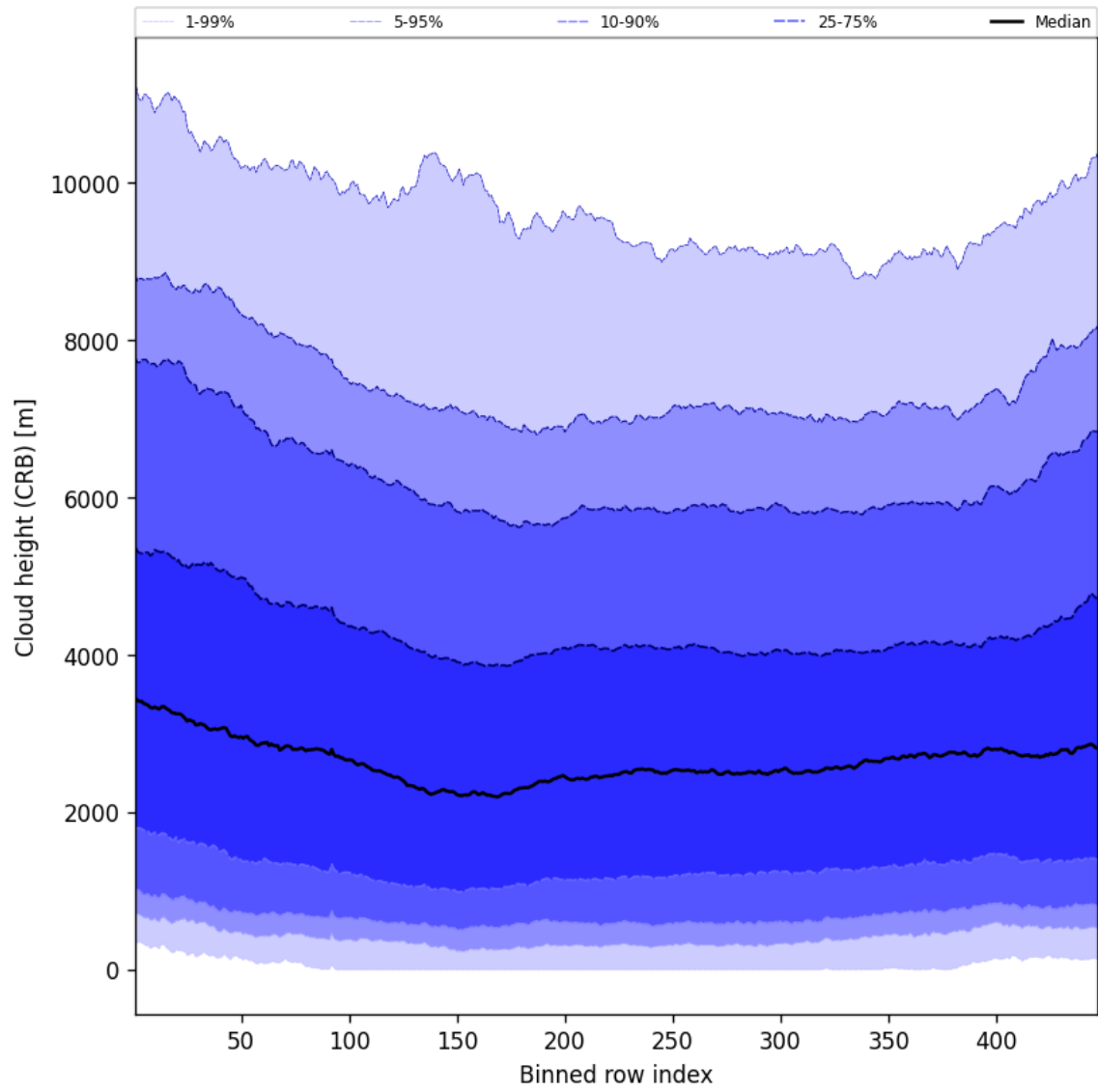


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-23 to 2025-09-23

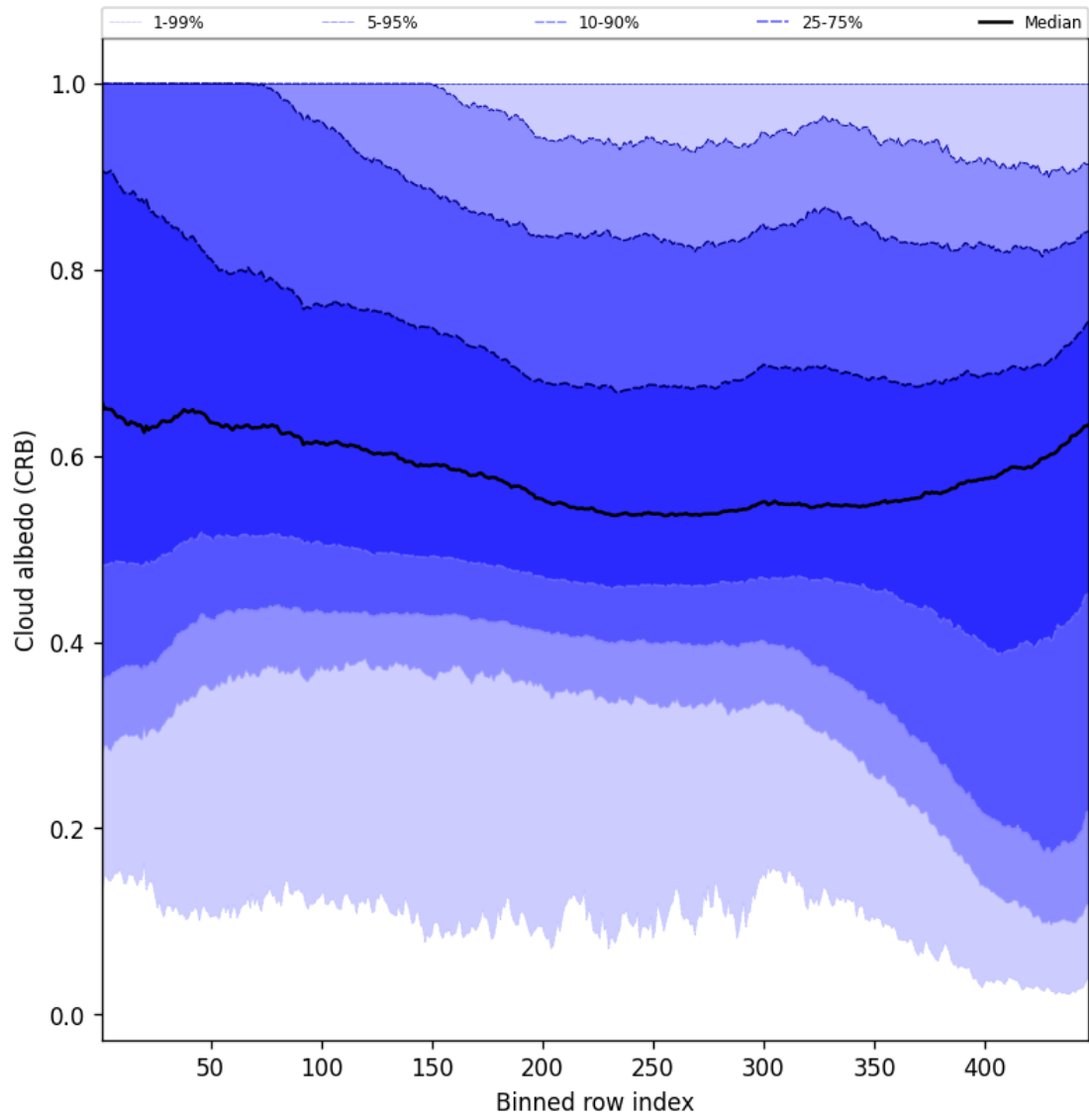


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-23 to 2025-09-23

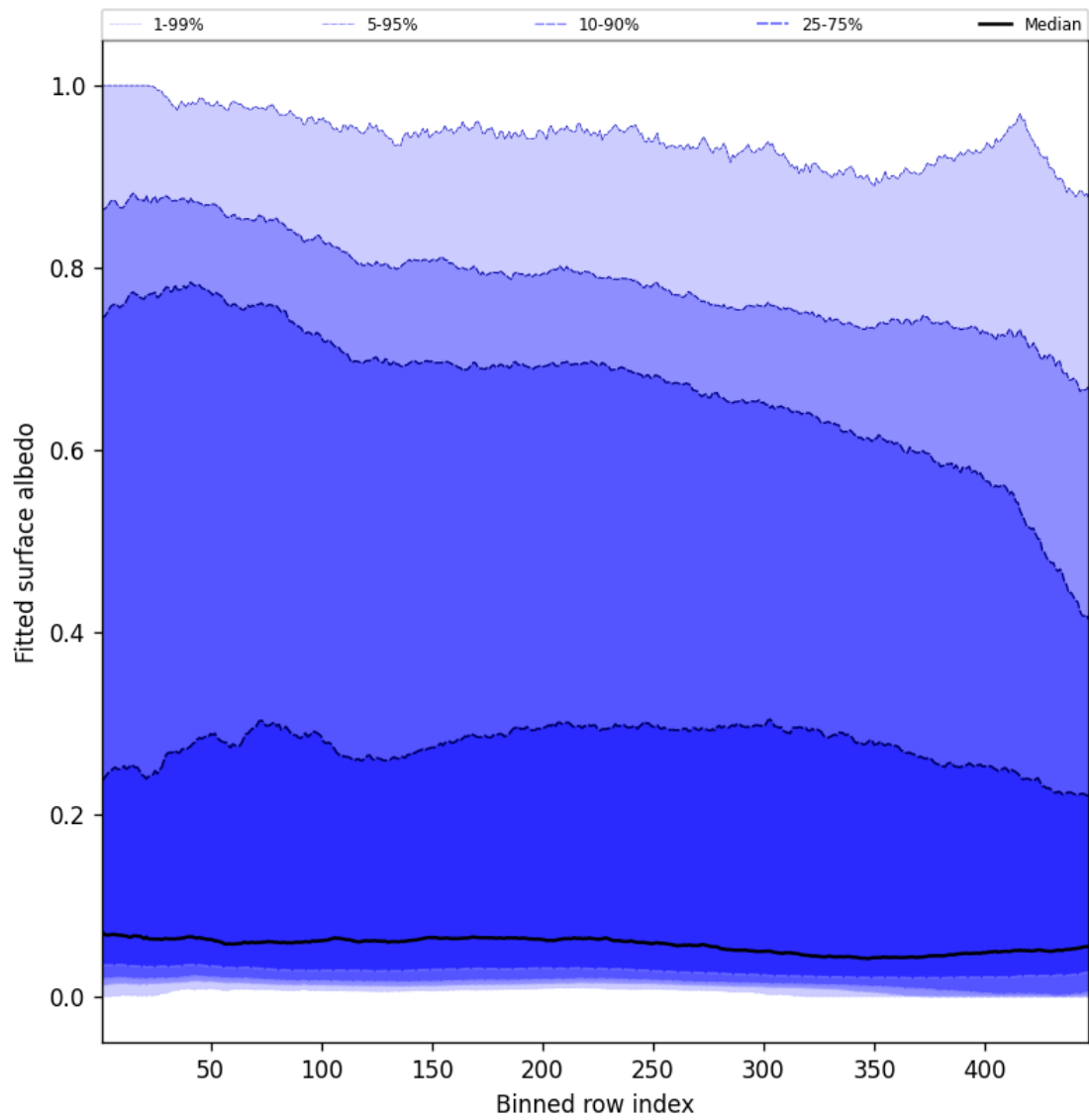


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-09-23 to 2025-09-23

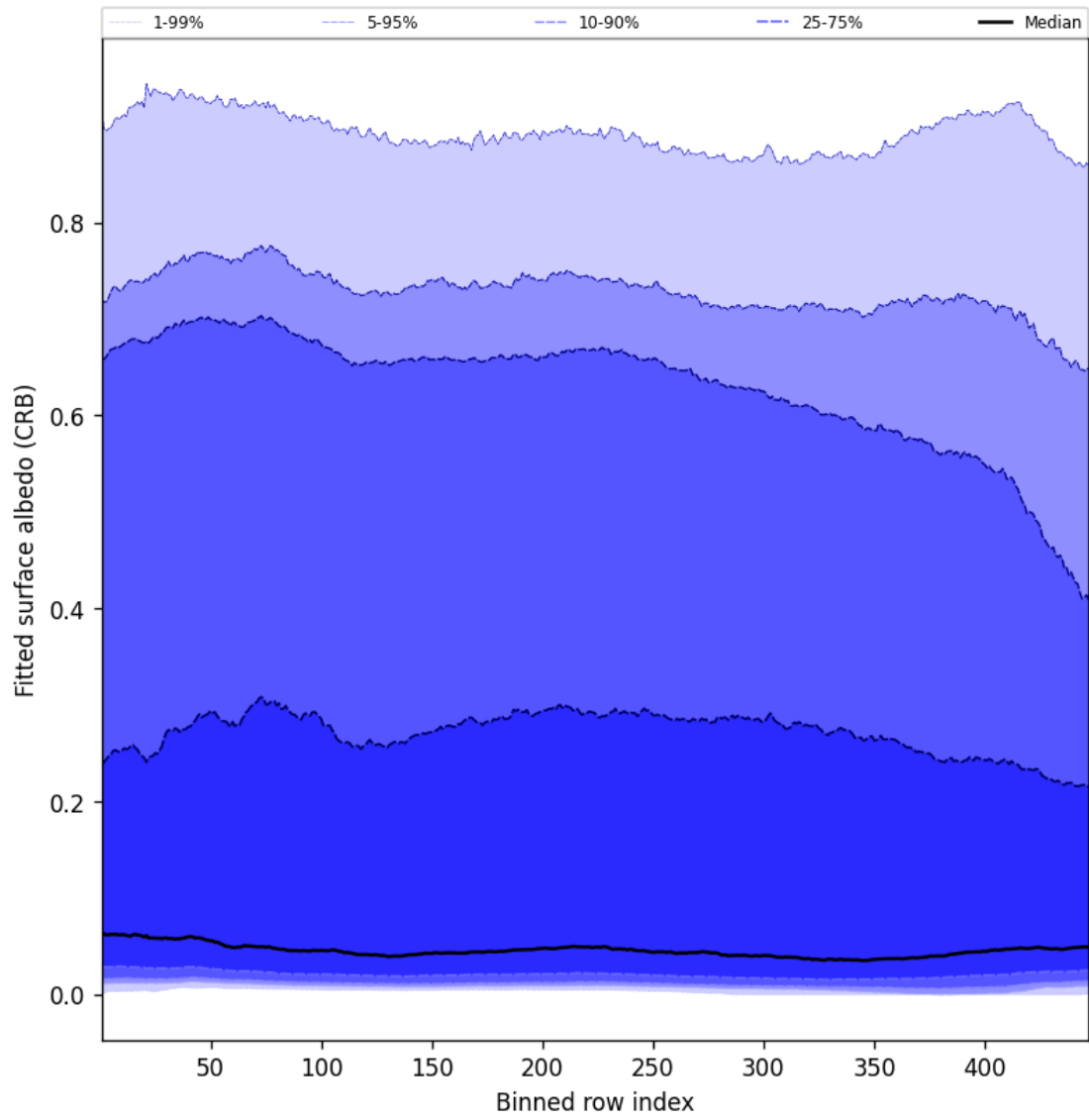


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-23 to 2025-09-23

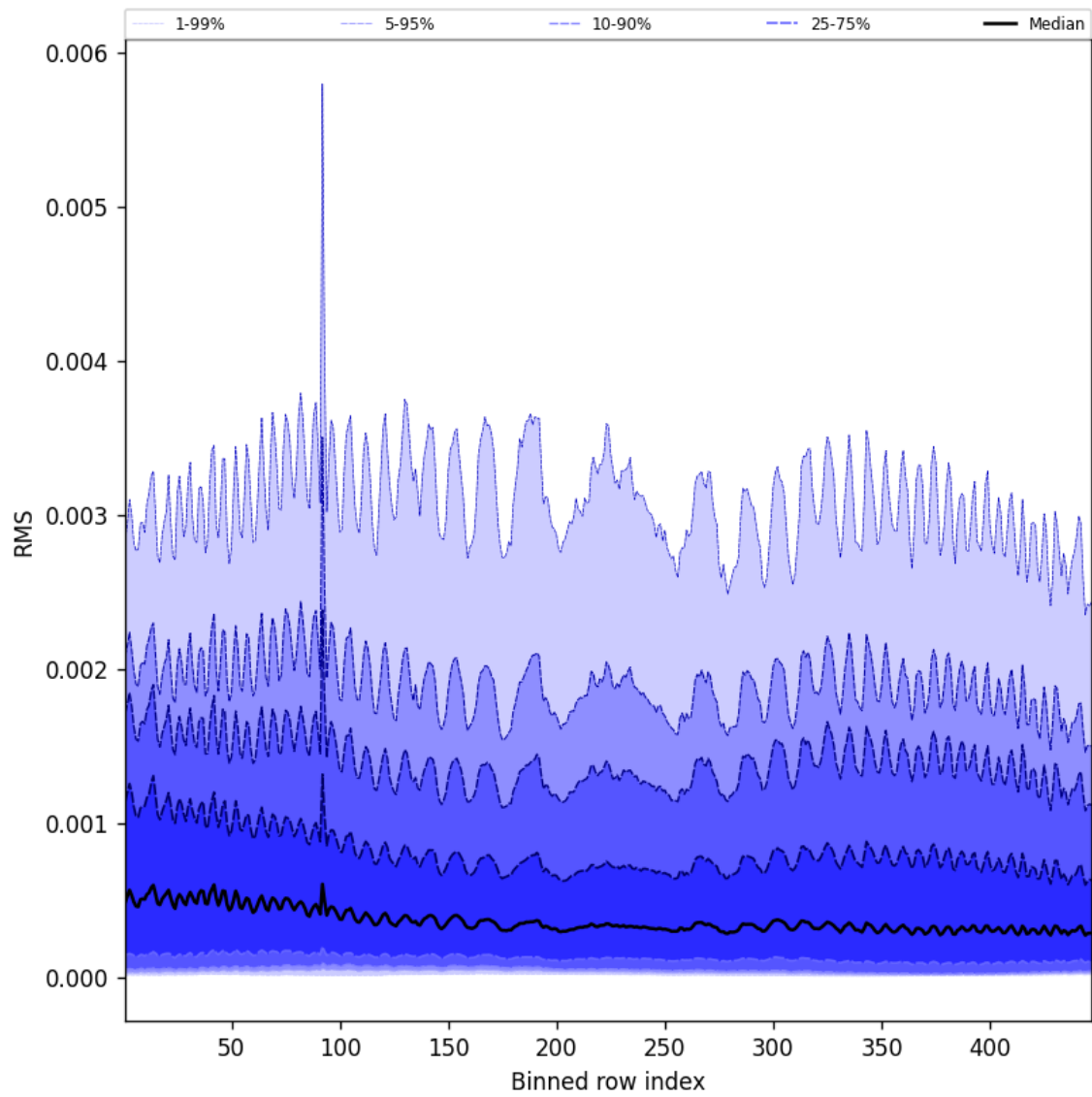


Figure 61: Along track statistics of “RMS” for 2025-09-23 to 2025-09-23

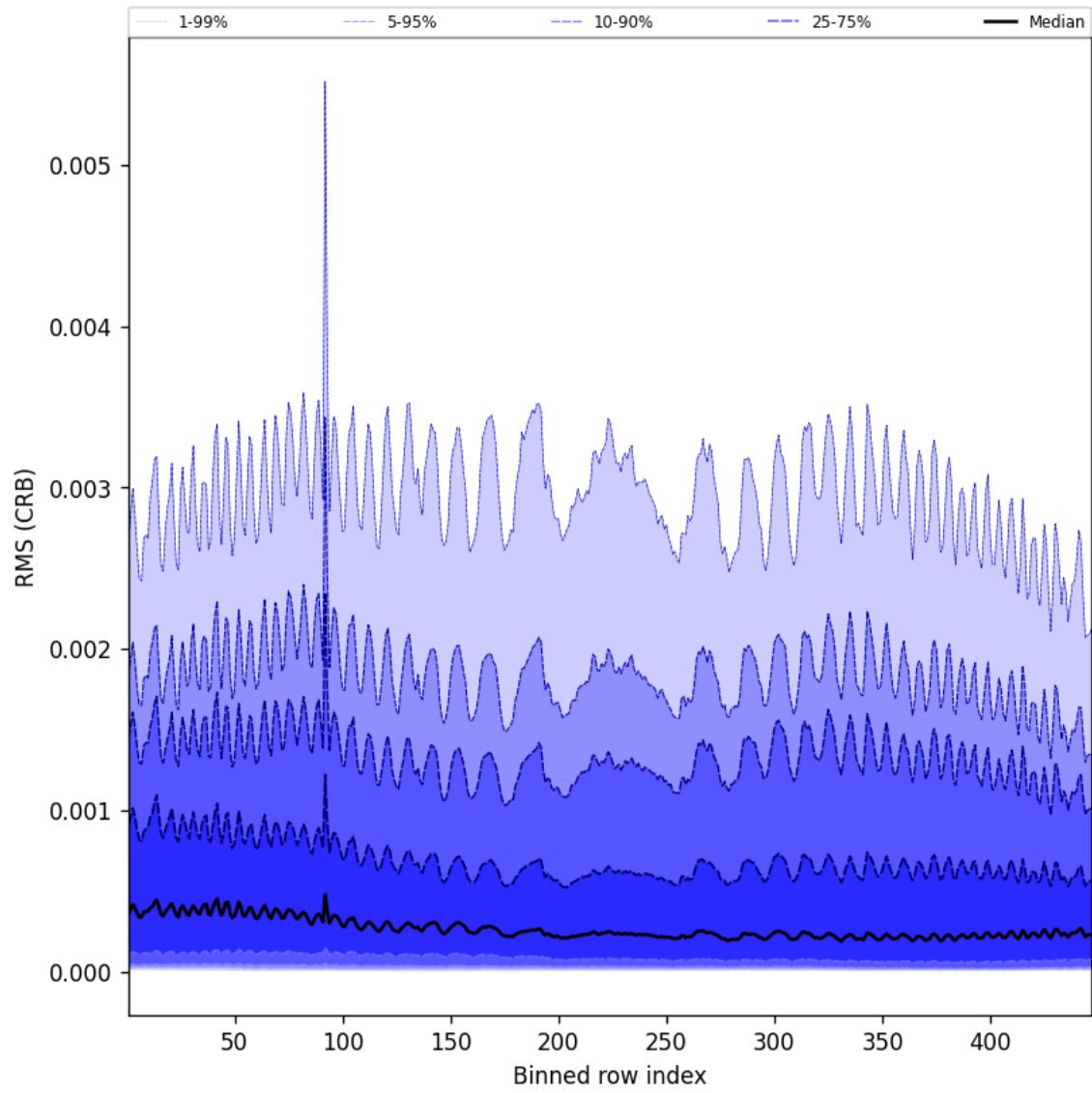


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-23 to 2025-09-23

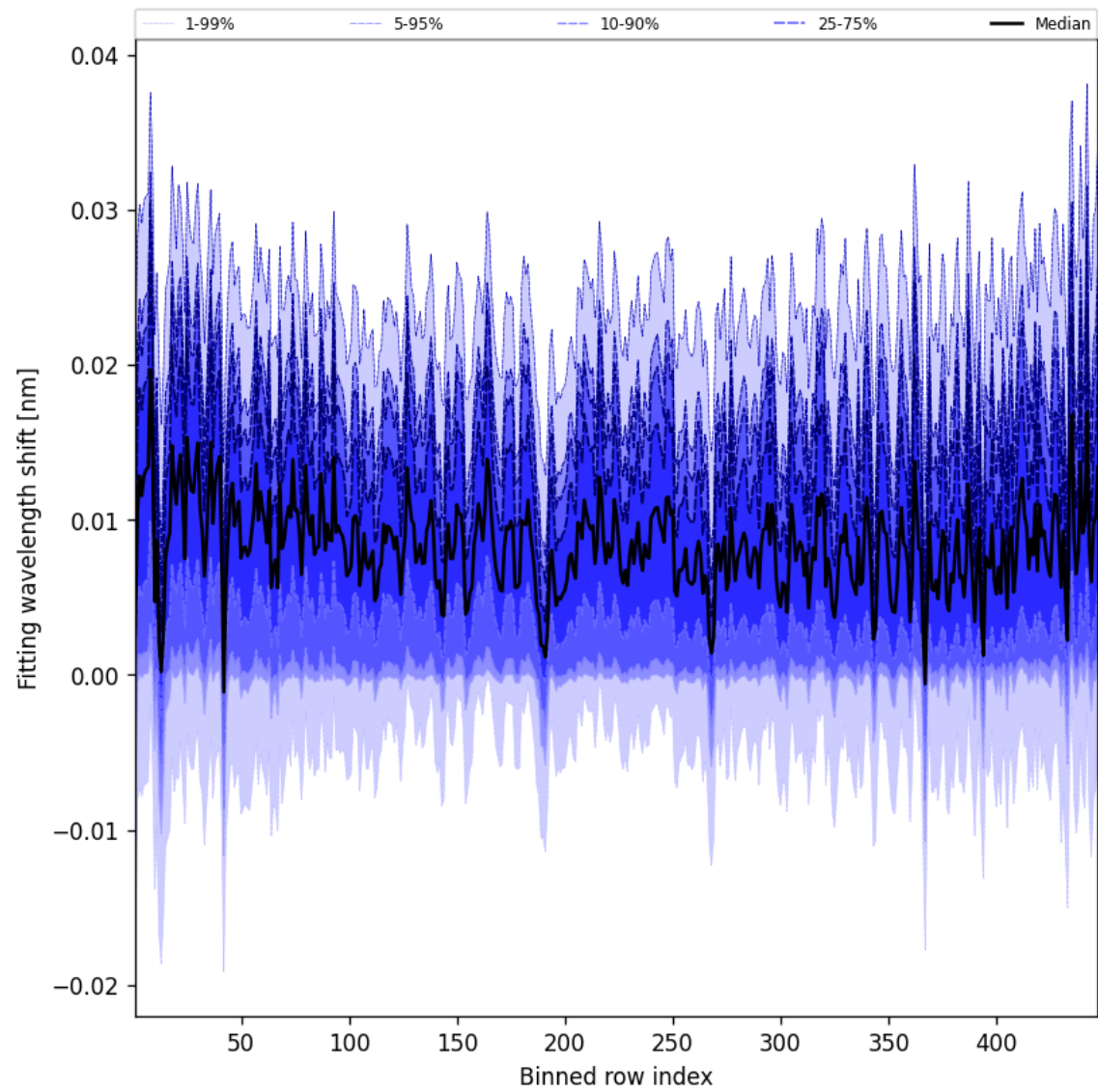


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-23 to 2025-09-23

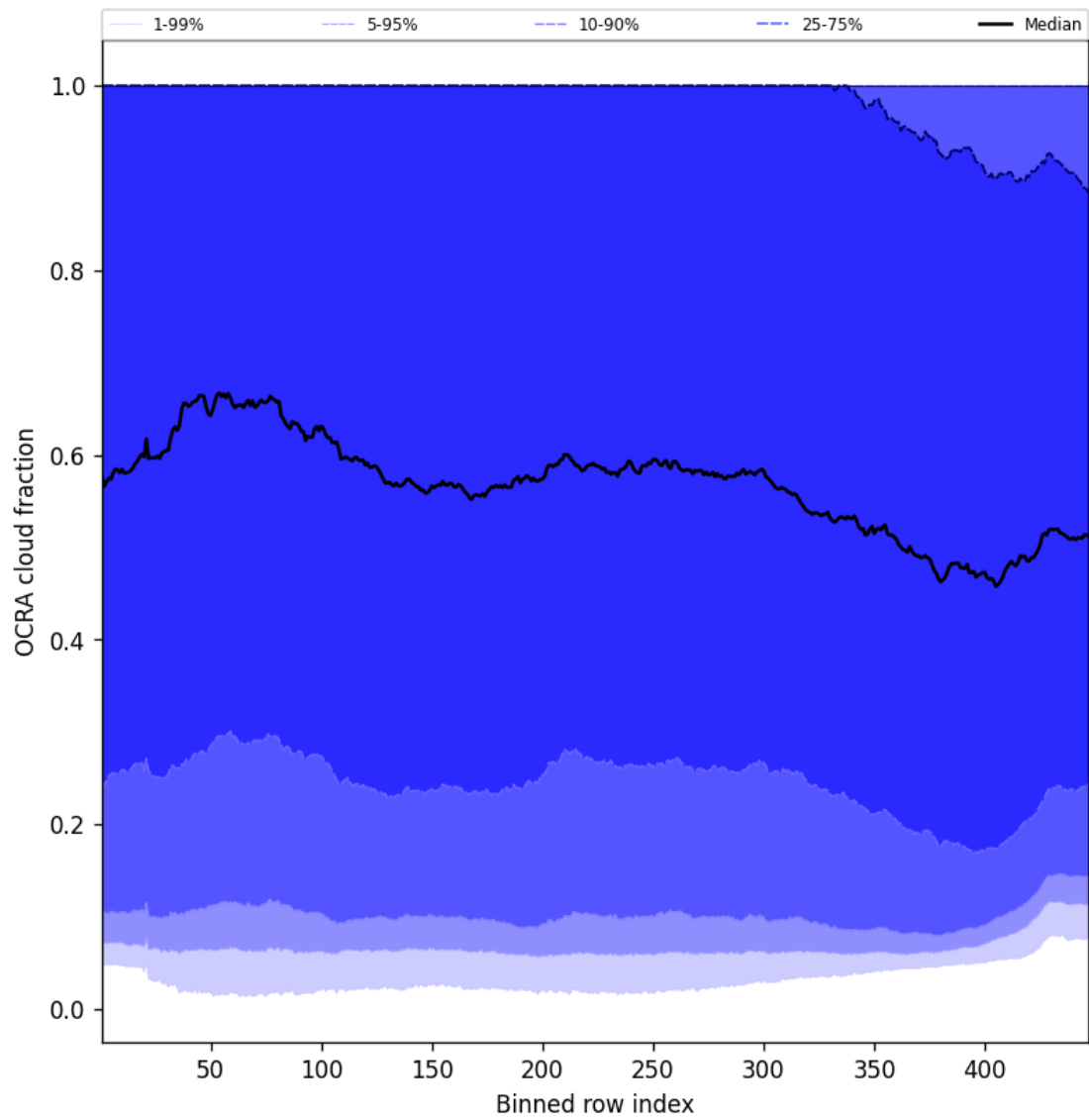


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-23 to 2025-09-23

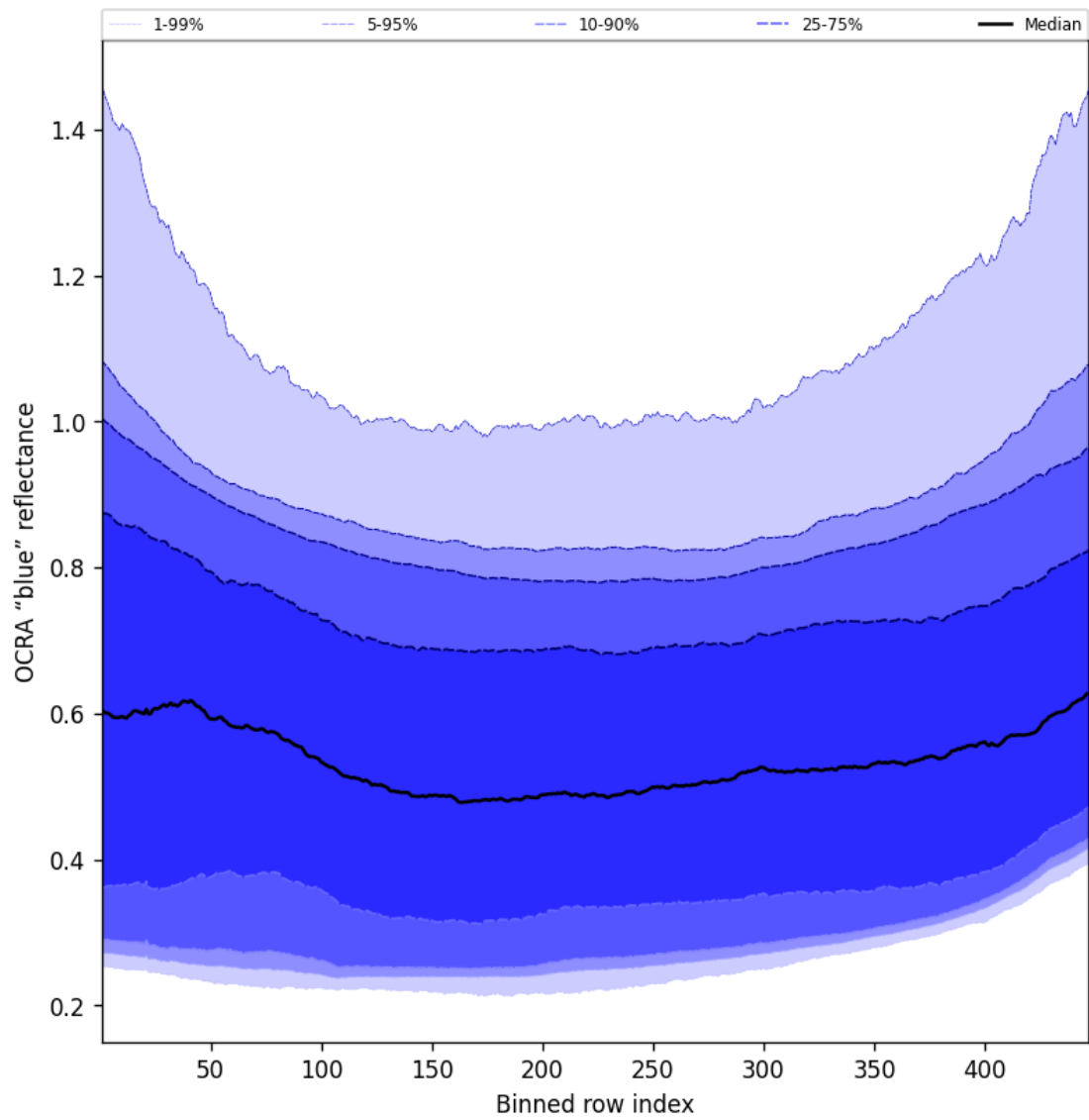


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-23 to 2025-09-23

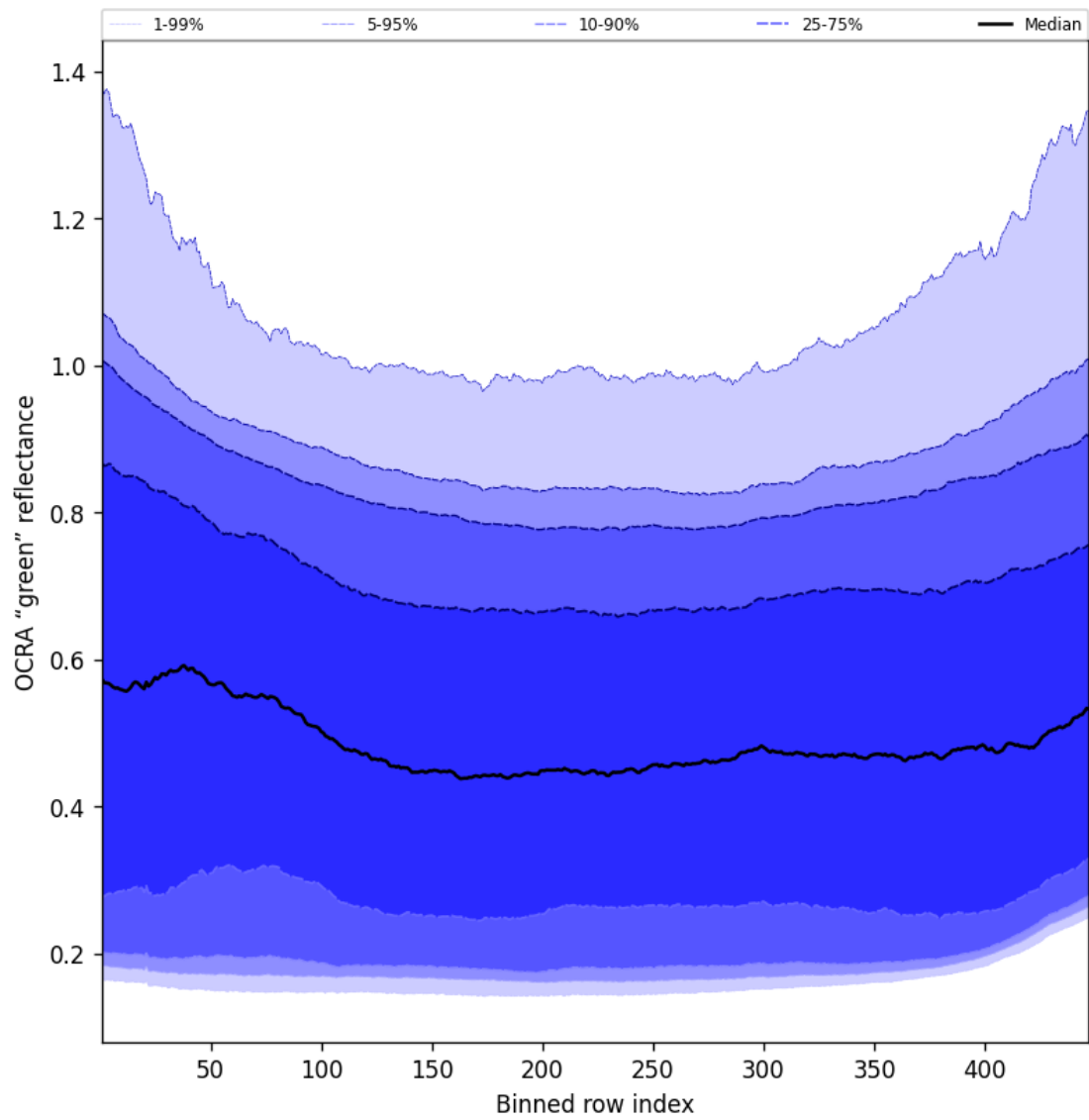


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-23 to 2025-09-23

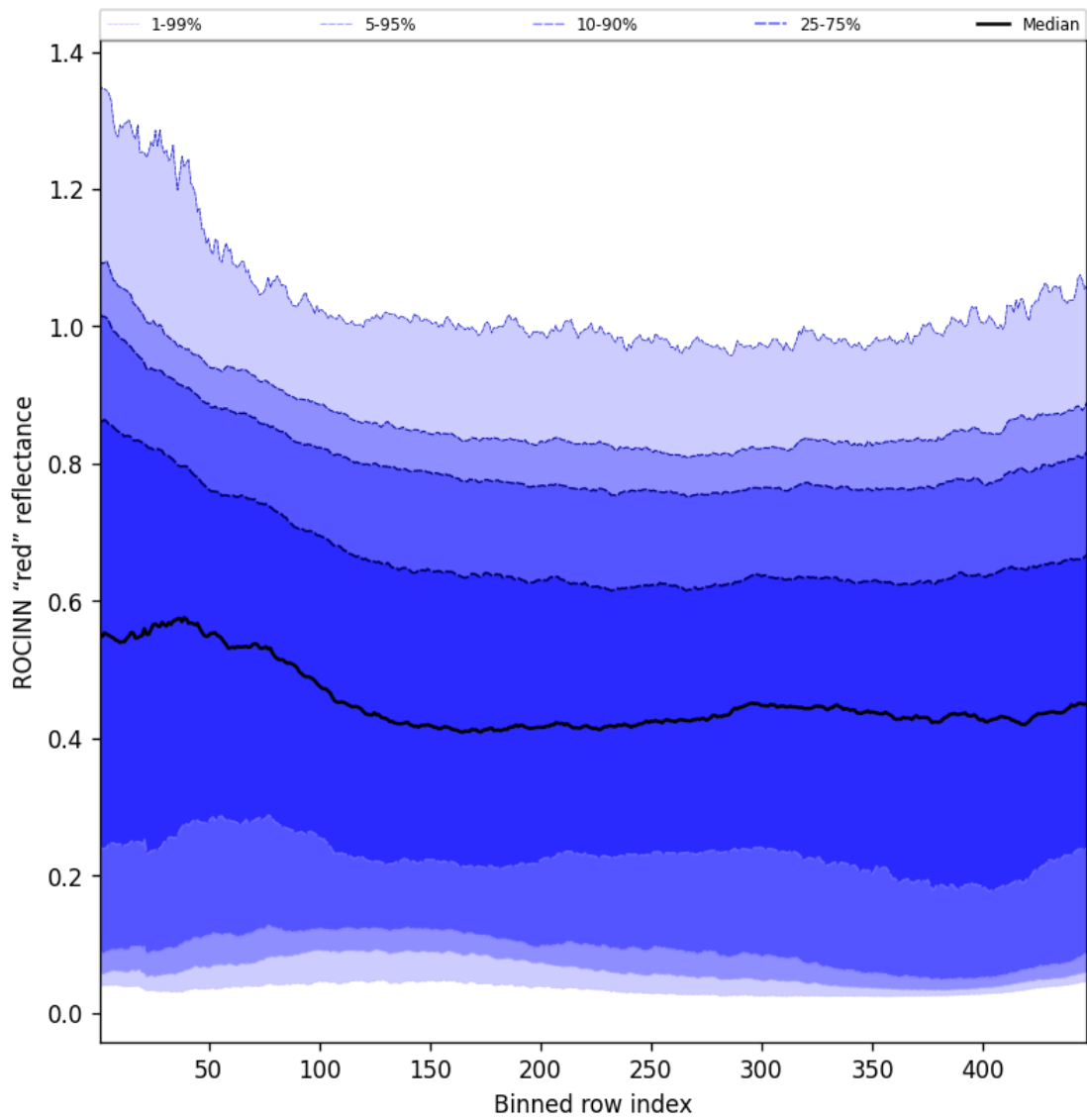


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-09-23 to 2025-09-23

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.

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Maarten Sneep (maarten.sneep@knmi.nl).