

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-08-02 (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]	0.646 ± 0.368	18975835	0.995	0.600	0.800	0.0	1.000
cloud fraction [1]	0.600 ± 0.343	18975835	0.995	0.716	0.621	6.300×10^{-3}	1.000
cloud top height [m]	$(0.378 \pm 0.255) \times 10^4$	18975835	1.425×10^3	3.564×10^3	3.265×10^3	0.0	2.000×10^4
cloud optical thickness [1]	22.9 ± 38.7	18975835	9.77	13.1	10.7	1.000	250
cloud fraction crb [1]	0.599 ± 0.344	18975835	0.995	0.718	0.619	4.360×10^{-4}	1.000
cloud height crb [m]	$(0.301 \pm 0.223) \times 10^4$	18975835	75.0	3.229×10^3	2.554×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.562 ± 0.189	18975835	0.505	0.222	0.552	0.0	1.000
surface albedo fitted [1]	0.158 ± 0.194	18975835	2.500×10^{-2}	0.219	5.274×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.151 ± 0.192	18975835	1.500×10^{-2}	0.224	4.004×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.521 \pm 14.699) \times 10^{-4}$	18975835	5.000×10^{-5}	7.579×10^{-4}	3.266×10^{-4}	9.196×10^{-7}	1.21
fitted root mean square crb [1]	$(5.998 \pm 16.216) \times 10^{-4}$	18975835	5.000×10^{-5}	7.437×10^{-4}	2.718×10^{-4}	8.162×10^{-7}	1.42
wavelength shift [nm]	$(7.178 \pm 6.705) \times 10^{-3}$	18975835	-3.000×10^{-4}	9.665×10^{-3}	6.604×10^{-3}	-4.891×10^{-2}	0.669
cloud fraction apriori [1]	0.602 ± 0.349	18975835	0.995	0.731	0.627	0.0	1.000
reflectance blue ocra [1]	0.517 ± 0.196	18975835	0.305	0.304	0.493	0.128	1.95
reflectance green ocra [1]	0.462 ± 0.220	18975835	0.185	0.360	0.439	7.769×10^{-2}	2.10
reflectance continuum aband [1]	0.422 ± 0.246	18975835	3.500×10^{-2}	0.370	0.406	1.056×10^{-2}	11.1

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	7.000×10^{-2}	0.350	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.711×10^{-2}	7.070×10^{-2}	0.112	0.169	0.276	0.992	1.000	1.000	1.000	1.000
cloud top height [m]	146	624	1.002×10^3	1.308×10^3	1.734×10^3	5.298×10^3	6.425×10^3	7.461×10^3	8.769×10^3	1.095×10^4
cloud optical thickness [1]	1.13	3.17	4.30	5.27	6.75	19.9	30.8	47.1	86.2	250
cloud fraction crb [1]	2.650×10^{-2}	6.966×10^{-2}	0.111	0.167	0.274	0.991	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	244	539	804	1.179×10^3	4.408×10^3	5.386×10^3	6.250×10^3	7.326×10^3	9.113×10^3
cloud albedo crb [1]	6.499×10^{-2}	0.236	0.335	0.402	0.454	0.677	0.748	0.812	0.895	1.000
surface albedo fitted [1]	0.0	9.079×10^{-3}	1.366×10^{-2}	1.807×10^{-2}	2.474×10^{-2}	0.244	0.321	0.430	0.576	0.887
surface albedo fitted crb [1]	7.224×10^{-5}	6.289×10^{-3}	9.494×10^{-3}	1.275×10^{-2}	1.765×10^{-2}	0.242	0.321	0.428	0.549	0.849
fitted root mean square [1]	1.038×10^{-5}	2.343×10^{-5}	3.952×10^{-5}	6.152×10^{-5}	1.048×10^{-4}	8.627×10^{-4}	1.263×10^{-3}	1.697×10^{-3}	2.334×10^{-3}	3.826×10^{-3}
fitted root mean square crb [1]	5.547×10^{-6}	1.322×10^{-5}	2.381×10^{-5}	3.763×10^{-5}	6.742×10^{-5}	8.111×10^{-4}	1.217×10^{-3}	1.635×10^{-3}	2.259×10^{-3}	3.615×10^{-3}
wavelength shift [nm]	-7.348×10^{-3}	-9.408×10^{-4}	-1.528×10^{-4}	4.851×10^{-4}	1.911×10^{-3}	1.158×10^{-2}	1.391×10^{-2}	1.594×10^{-2}	1.867×10^{-2}	2.472×10^{-2}
cloud fraction apriori [1]	2.885×10^{-2}	6.640×10^{-2}	0.104	0.159	0.269	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.257	0.281	0.308	0.351	0.656	0.726	0.783	0.854	1.01
reflectance green ocra [1]	0.149	0.172	0.193	0.219	0.266	0.626	0.703	0.763	0.840	0.986
reflectance continuum aband [1]	3.041×10^{-2}	5.798×10^{-2}	9.604×10^{-2}	0.145	0.228	0.598	0.681	0.753	0.839	0.992

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]	0.635 ± 0.363	12319312	0.610	0.800	0.0	1.000	0.320	0.930
cloud fraction [1]	0.630 ± 0.345	12319312	0.696	0.685	6.300×10^{-3}	1.000	0.304	1.000
cloud top height [m]	$(0.380 \pm 0.257) \times 10^4$	12319312	3.564×10^3	3.393×10^3	0.0	2.000×10^4	1.750×10^3	5.314×10^3
cloud optical thickness [1]	20.5 ± 36.0	12319312	11.4	10.1	1.000	250	6.34	17.8
cloud fraction crb [1]	0.629 ± 0.346	12319312	0.697	0.684	4.360×10^{-4}	1.000	0.302	1.000
cloud height crb [m]	$(0.301 \pm 0.224) \times 10^4$	12319312	3.234×10^3	2.665×10^3	0.0	2.000×10^4	1.169×10^3	4.403×10^3
cloud albedo crb [1]	0.549 ± 0.199	12319312	0.240	0.540	0.0	1.000	0.434	0.675
surface albedo fitted [1]	0.194 ± 0.206	12319312	0.264	0.146	0.0	1.000	2.686×10^{-2}	0.290
surface albedo fitted crb [1]	0.189 ± 0.203	12319312	0.269	0.145	0.0	1.000	2.117×10^{-2}	0.290
fitted root mean square [1]	$(7.888 \pm 17.639) \times 10^{-4}$	12319312	9.576×10^{-4}	4.527×10^{-4}	1.186×10^{-6}	1.21	1.249×10^{-4}	1.083×10^{-3}
fitted root mean square crb [1]	$(7.389 \pm 19.651) \times 10^{-4}$	12319312	9.533×10^{-4}	3.978×10^{-4}	8.162×10^{-7}	1.42	9.376×10^{-5}	1.047×10^{-3}
wavelength shift [nm]	$(7.663 \pm 6.690) \times 10^{-3}$	12319312	9.684×10^{-3}	7.366×10^{-3}	-4.891×10^{-2}	0.669	2.434×10^{-3}	1.212×10^{-2}
cloud fraction apriori [1]	0.634 ± 0.350	12319312	0.699	0.696	0.0	1.000	0.301	1.000
reflectance blue oca [1]	0.520 ± 0.198	12319312	0.320	0.504	0.128	1.86	0.347	0.667
reflectance green oca [1]	0.470 ± 0.221	12319312	0.374	0.455	7.769×10^{-2}	2.00	0.267	0.641
reflectance continuum aband [1]	0.443 ± 0.242	12319312	0.360	0.431	1.222×10^{-2}	11.1	0.259	0.618

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]	0.664 ± 0.377	6656523	0.600	0.900	0.0	1.000	0.400	1.000
cloud fraction [1]	0.545 ± 0.332	6656523	0.646	0.527	8.221×10^{-3}	1.000	0.236	0.882
cloud top height [m]	$(0.375 \pm 0.252) \times 10^4$	6656523	3.544×10^3	3.015×10^3	0.0	2.000×10^4	1.716×10^3	5.260×10^3
cloud optical thickness [1]	27.2 ± 42.8	6656523	17.0	12.3	1.000	250	7.56	24.6
cloud fraction crb [1]	0.543 ± 0.332	6656523	0.645	0.523	8.485×10^{-3}	1.000	0.234	0.879
cloud height crb [m]	$(0.301 \pm 0.221) \times 10^4$	6656523	3.231×10^3	2.327×10^3	0.0	2.000×10^4	1.189×10^3	4.421×10^3
cloud albedo crb [1]	0.587 ± 0.166	6656523	0.194	0.569	0.0	1.000	0.486	0.680
surface albedo fitted [1]	$(9.010 \pm 14.785) \times 10^{-2}$	6656523	4.207×10^{-2}	3.692×10^{-2}	0.0	1.000	2.262×10^{-2}	6.469×10^{-2}
surface albedo fitted crb [1]	$(7.901 \pm 14.530) \times 10^{-2}$	6656523	3.217×10^{-2}	2.483×10^{-2}	0.0	1.000	1.476×10^{-2}	4.693×10^{-2}
fitted root mean square [1]	$(3.992 \pm 5.500) \times 10^{-4}$	6656523	3.988×10^{-4}	2.064×10^{-4}	9.196×10^{-7}	4.383×10^{-2}	8.369×10^{-5}	4.825×10^{-4}
fitted root mean square crb [1]	$(3.424 \pm 4.971) \times 10^{-4}$	6656523	3.746×10^{-4}	1.416×10^{-4}	1.122×10^{-6}	4.465×10^{-2}	4.912×10^{-5}	4.237×10^{-4}
wavelength shift [nm]	$(6.281 \pm 6.639) \times 10^{-3}$	6656523	8.979×10^{-3}	5.175×10^{-3}	-4.324×10^{-2}	6.111×10^{-2}	1.345×10^{-3}	1.032×10^{-2}
cloud fraction apriori [1]	0.544 ± 0.340	6656523	0.673	0.526	0.0	1.000	0.224	0.897
reflectance blue oca [1]	0.511 ± 0.192	6656523	0.276	0.477	0.135	1.95	0.358	0.634
reflectance green oca [1]	0.447 ± 0.216	6656523	0.329	0.413	8.579×10^{-2}	2.10	0.265	0.594
reflectance continuum aband [1]	0.383 ± 0.249	6656523	0.377	0.358	1.056×10^{-2}	3.93	0.176	0.553

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]	0.648 ± 0.362	13133303	0.560	0.800	0.0	1.000	0.390	0.950
cloud fraction [1]	0.585 ± 0.340	13133303	0.705	0.594	6.300×10^{-3}	1.000	0.263	0.968
cloud top height [m]	$(0.369 \pm 0.259) \times 10^4$	13133303	3.547×10^3	3.064×10^3	0.0	2.000×10^4	1.625×10^3	5.172×10^3
cloud optical thickness [1]	25.5 ± 42.3	13133303	14.5	11.6	1.000	250	7.52	22.0
cloud fraction crb [1]	0.583 ± 0.341	13133303	0.705	0.591	4.360×10^{-4}	1.000	0.261	0.966
cloud height crb [m]	$(0.294 \pm 0.228) \times 10^4$	13133303	3.223×10^3	2.401×10^3	0.0	2.000×10^4	1.074×10^3	4.297×10^3
cloud albedo crb [1]	0.560 ± 0.181	13133303	0.211	0.546	0.0	1.000	0.456	0.667
surface albedo fitted [1]	0.102 ± 0.172	13133303	4.019×10^{-2}	3.315×10^{-2}	0.0	1.000	1.928×10^{-2}	5.947×10^{-2}
surface albedo fitted crb [1]	$(9.297 \pm 16.760) \times 10^{-2}$	13133303	3.195×10^{-2}	2.394×10^{-2}	0.0	1.000	1.361×10^{-2}	4.556×10^{-2}
fitted root mean square [1]	$(5.138 \pm 15.971) \times 10^{-4}$	13133303	5.432×10^{-4}	2.357×10^{-4}	9.196×10^{-7}	1.21	8.516×10^{-5}	6.284×10^{-4}
fitted root mean square crb [1]	$(4.581 \pm 17.855) \times 10^{-4}$	13133303	4.949×10^{-4}	1.824×10^{-4}	8.162×10^{-7}	1.42	5.734×10^{-5}	5.523×10^{-4}
wavelength shift [nm]	$(6.921 \pm 6.714) \times 10^{-3}$	13133303	9.480×10^{-3}	6.157×10^{-3}	-4.655×10^{-2}	0.669	1.775×10^{-3}	1.125×10^{-2}
cloud fraction apriori [1]	0.585 ± 0.345	13133303	0.744	0.595	0.0	1.000	0.256	1.000
reflectance blue oca [1]	0.517 ± 0.188	13133303	0.293	0.500	0.148	1.88	0.359	0.651
reflectance green oca [1]	0.460 ± 0.213	13133303	0.351	0.445	7.908×10^{-2}	2.00	0.269	0.620
reflectance continuum aband [1]	0.391 ± 0.248	13133303	0.411	0.381	1.056×10^{-2}	4.44	0.167	0.578

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]	0.673 ± 0.363	3596811	0.510	0.850	0.0	1.000	0.440	0.950
cloud fraction [1]	0.607 ± 0.349	3596811	0.722	0.625	7.907×10^{-3}	1.000	0.277	1.000
cloud top height [m]	$(0.423 \pm 0.252) \times 10^4$	3596811	3.516×10^3	3.870×10^3	0.0	2.000×10^4	2.282×10^3	5.798×10^3
cloud optical thickness [1]	15.6 ± 24.9	3596811	9.19	8.83	1.000	250	5.61	14.8
cloud fraction crb [1]	0.606 ± 0.349	3596811	0.723	0.625	7.742×10^{-3}	1.000	0.276	0.999
cloud height crb [m]	$(0.330 \pm 0.214) \times 10^4$	3596811	3.159×10^3	2.870×10^3	0.0	2.000×10^4	1.581×10^3	4.740×10^3
cloud albedo crb [1]	0.588 ± 0.204	3596811	0.247	0.586	0.0	1.000	0.476	0.723
surface albedo fitted [1]	0.332 ± 0.203	3596811	0.120	0.267	2.242×10^{-3}	1.000	0.218	0.338
surface albedo fitted crb [1]	0.328 ± 0.198	3596811	0.122	0.263	4.698×10^{-3}	1.000	0.215	0.336
fitted root mean square [1]	$(1.114 \pm 1.095) \times 10^{-3}$	3596811	1.161×10^{-3}	8.333×10^{-4}	2.284×10^{-6}	0.424	3.813×10^{-4}	1.543×10^{-3}
fitted root mean square crb [1]	$(1.073 \pm 1.190) \times 10^{-3}$	3596811	1.164×10^{-3}	8.167×10^{-4}	1.275×10^{-6}	0.801	3.429×10^{-4}	1.507×10^{-3}
wavelength shift [nm]	$(8.127 \pm 6.433) \times 10^{-3}$	3596811	8.895×10^{-3}	8.015×10^{-3}	-3.361×10^{-2}	5.746×10^{-2}	3.457×10^{-3}	1.235×10^{-2}
cloud fraction apriori [1]	0.617 ± 0.357	3596811	0.728	0.654	0.0	1.000	0.272	1.000
reflectance blue ocra [1]	0.518 ± 0.227	3596811	0.367	0.466	0.128	1.95	0.326	0.693
reflectance green ocra [1]	0.473 ± 0.249	3596811	0.416	0.415	8.552×10^{-2}	2.10	0.255	0.670
reflectance continuum aband [1]	0.512 ± 0.224	3596811	0.341	0.464	1.379×10^{-2}	3.93	0.333	0.674

3 Granule outlines

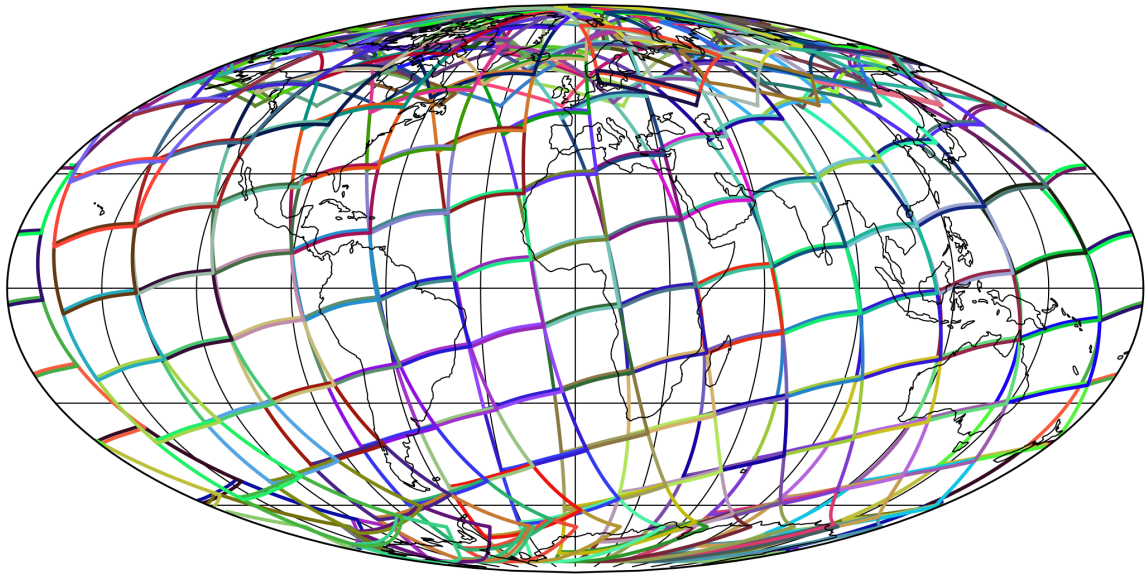


Figure 1: Outline of the granules.

4 Input data monitoring

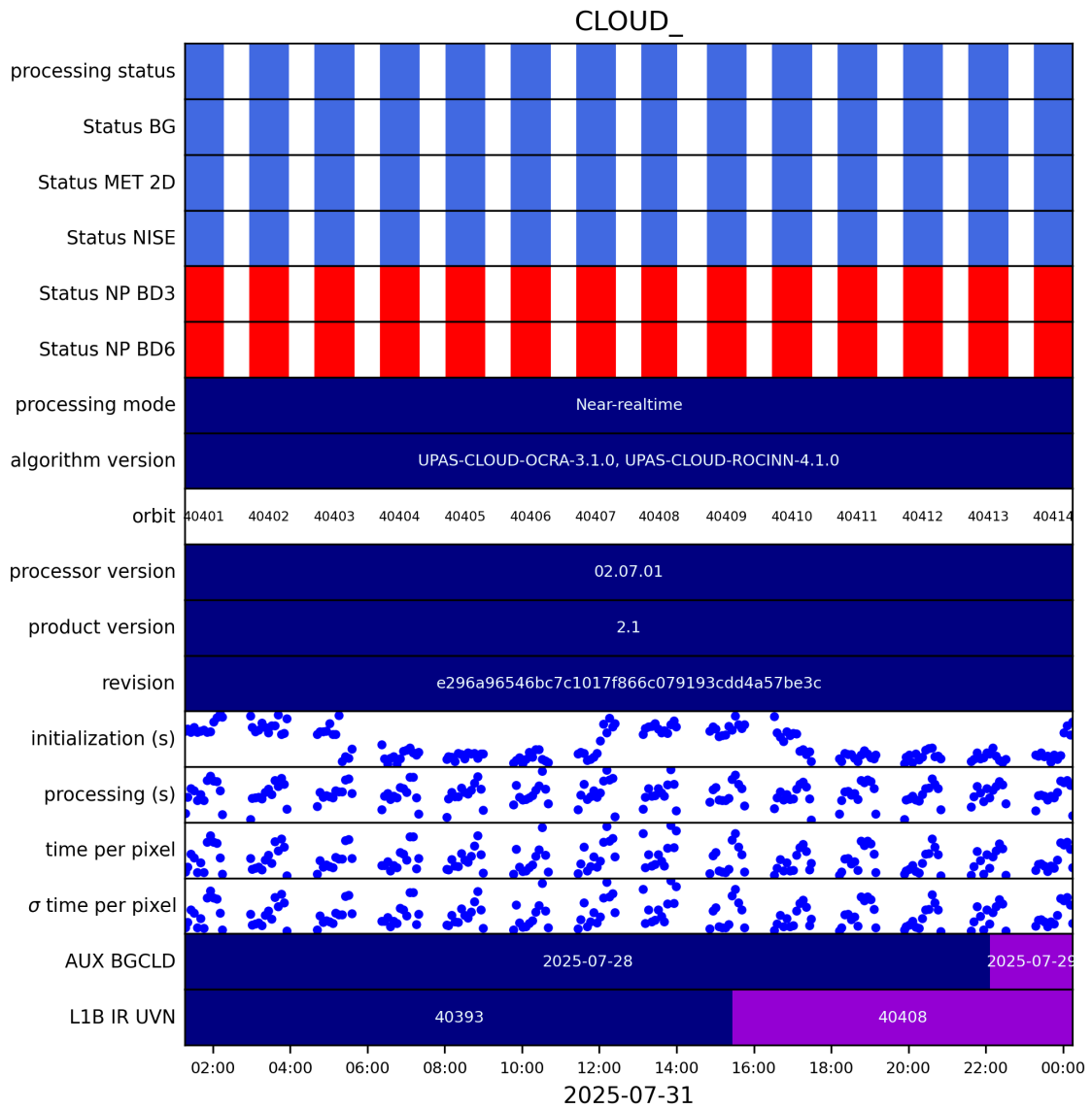


Figure 2: Input data per granule

5 Warnings and errors

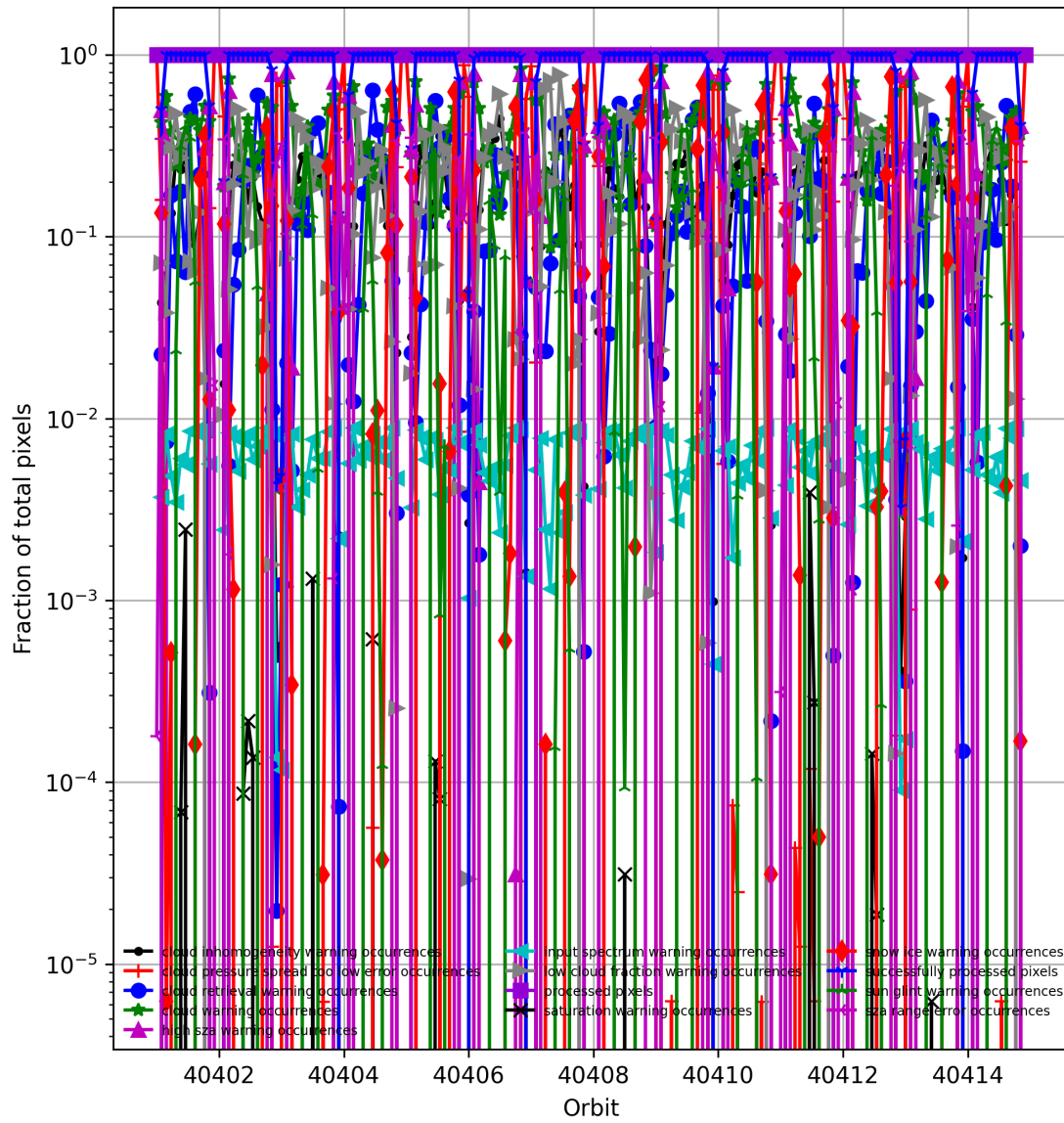


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

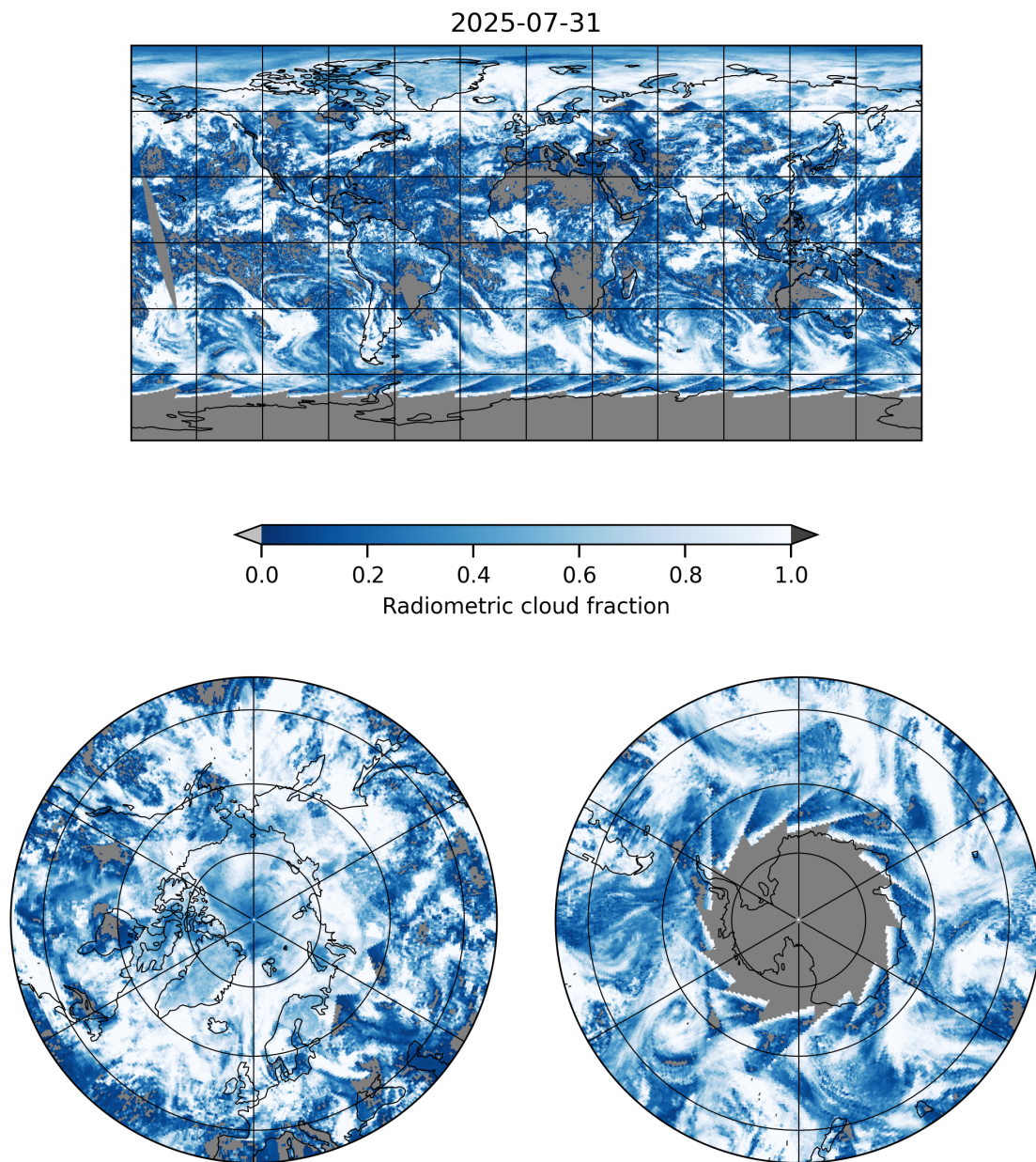


Figure 4: Map of “Radiometric cloud fraction” for 2025-07-31 to 2025-08-01

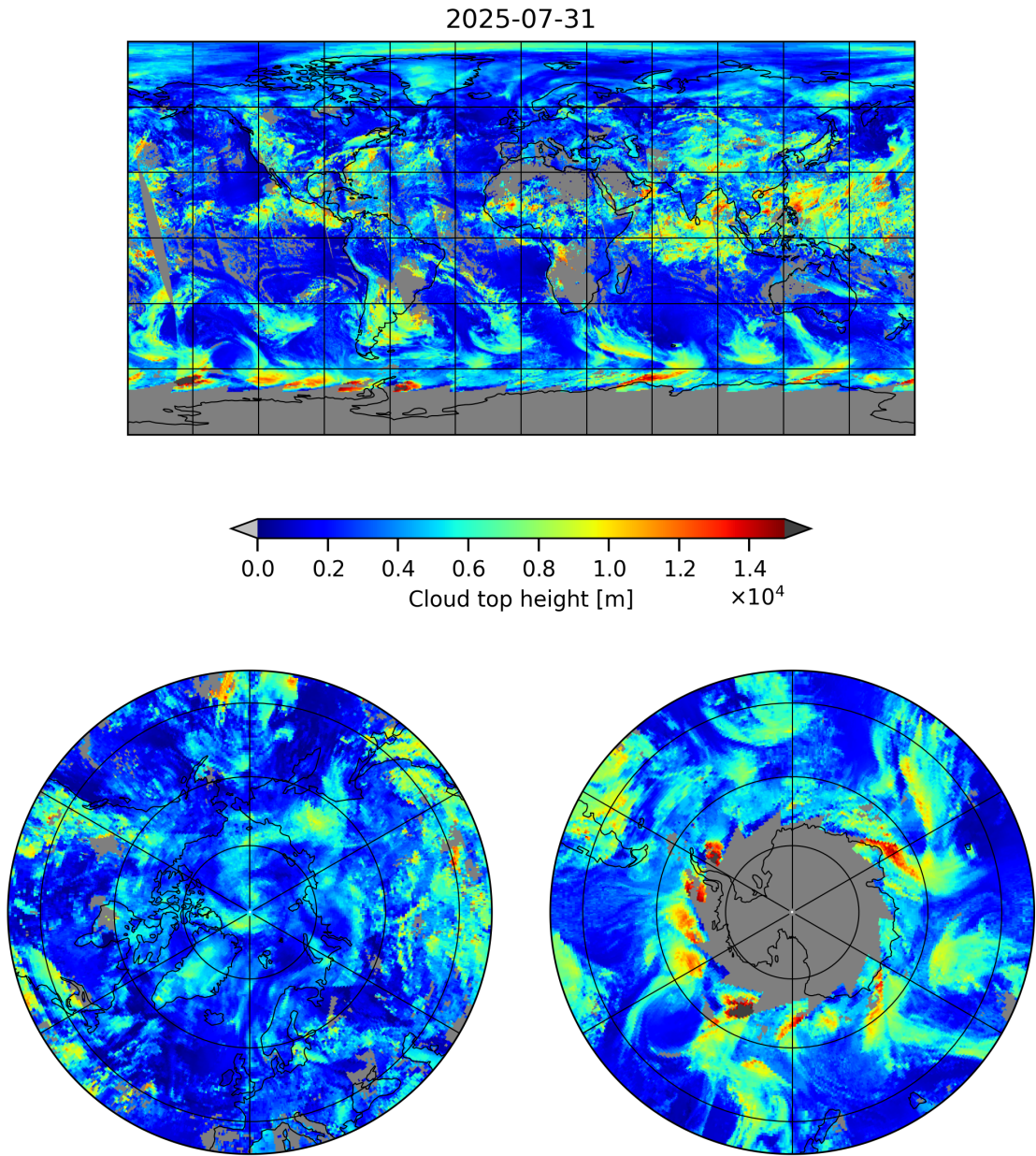


Figure 5: Map of “Cloud top height” for 2025-07-31 to 2025-08-01

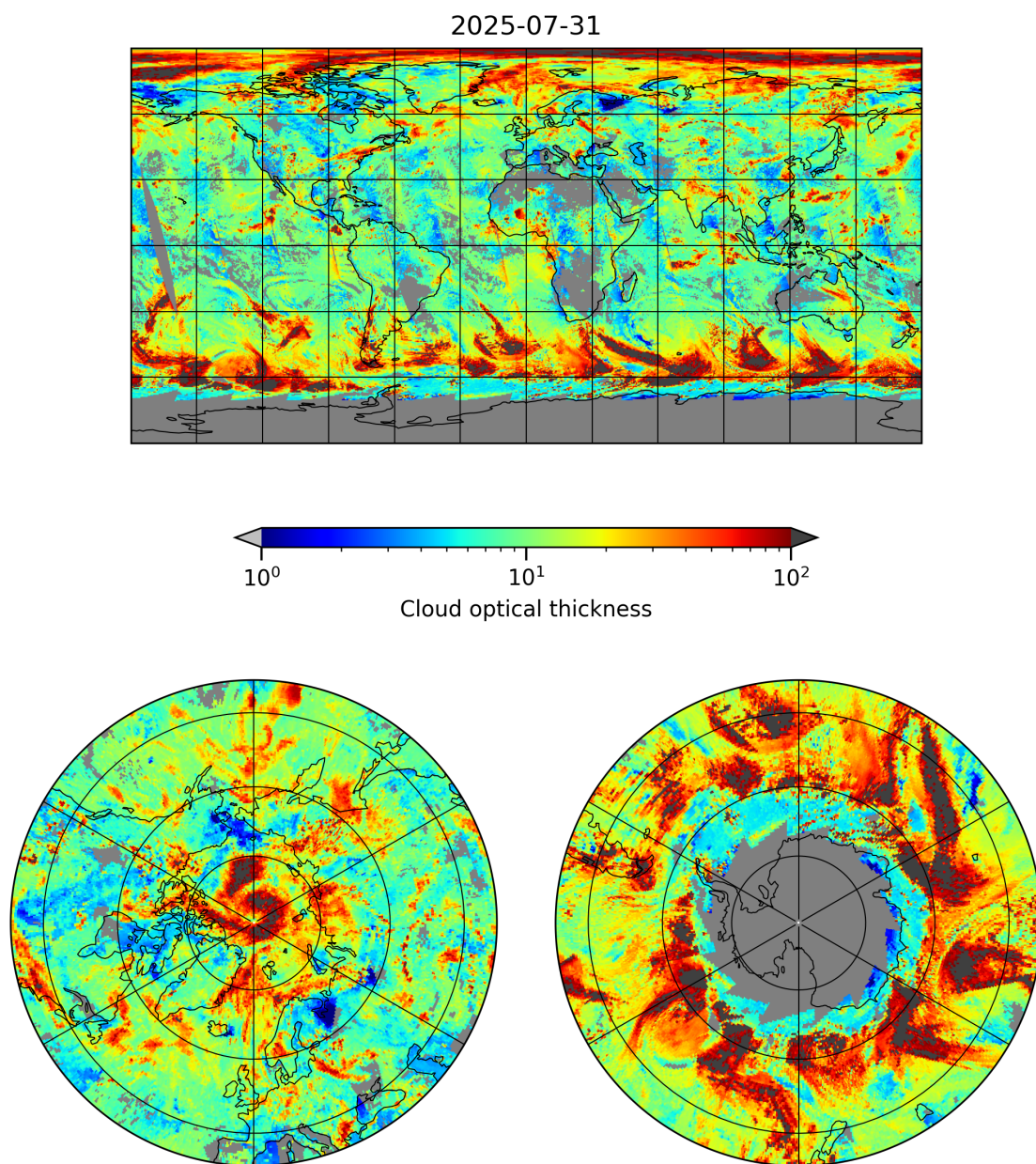


Figure 6: Map of “Cloud optical thickness” for 2025-07-31 to 2025-08-01

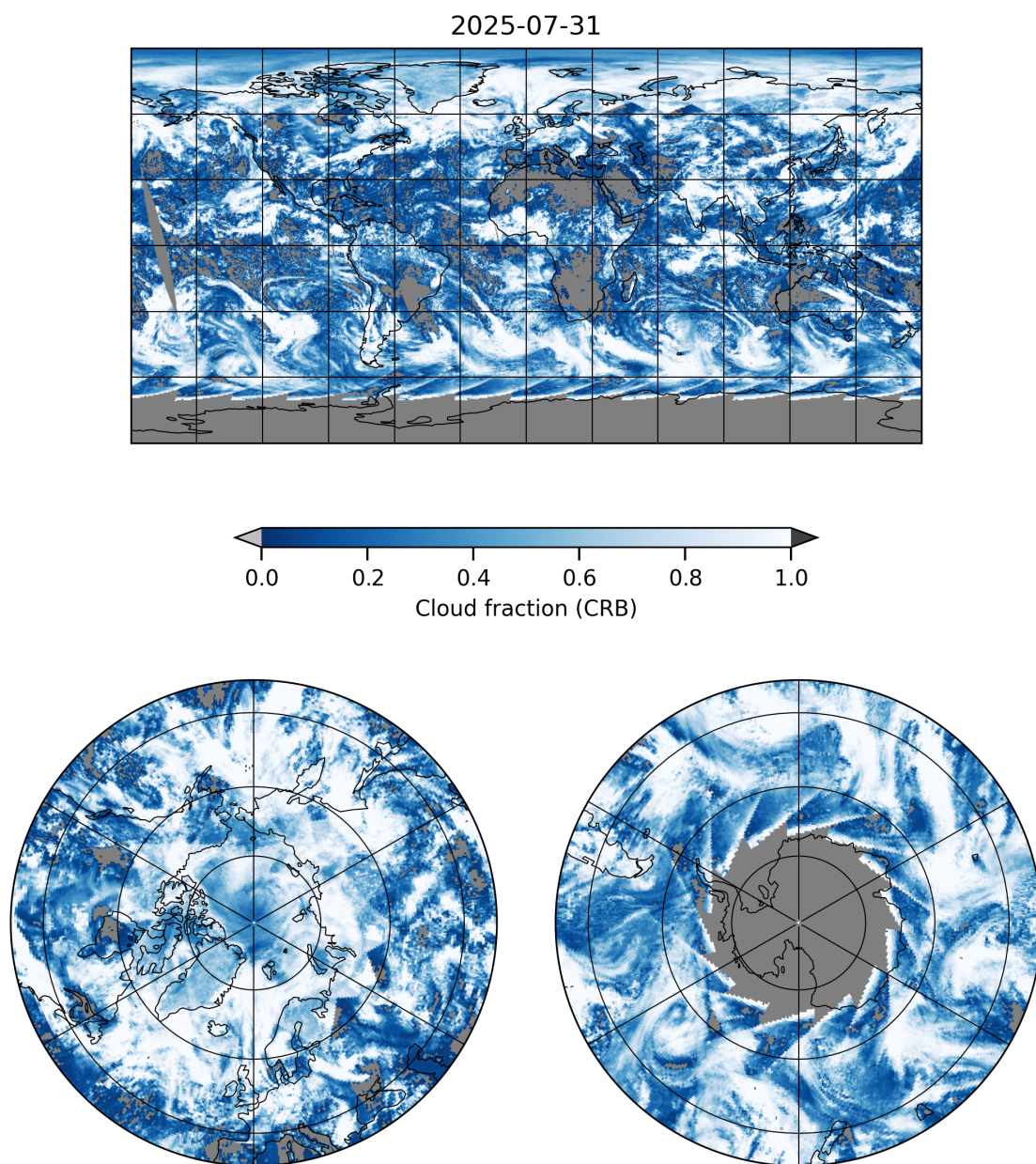


Figure 7: Map of “Cloud fraction (CRB)” for 2025-07-31 to 2025-08-01

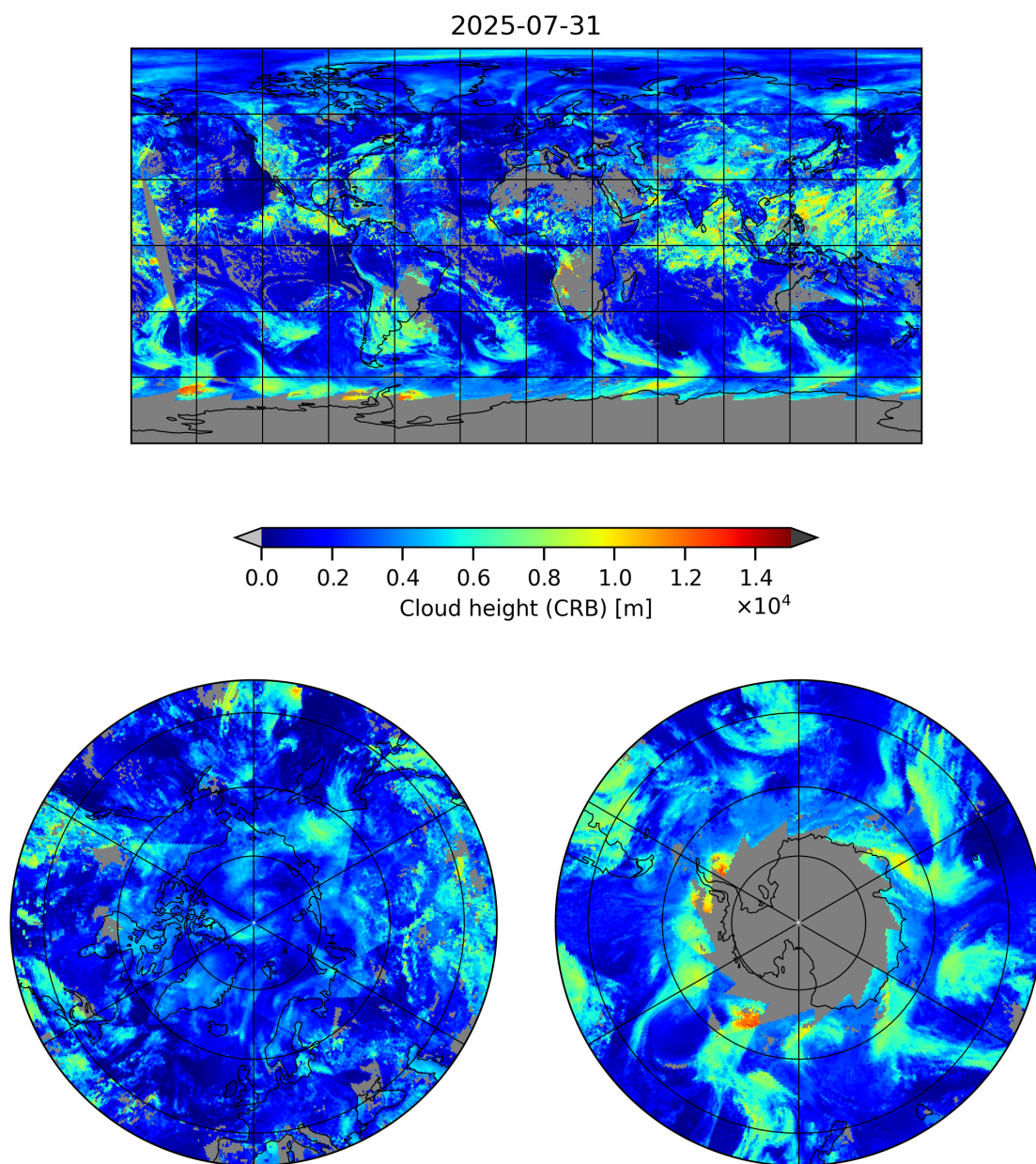


Figure 8: Map of “Cloud height (CRB)” for 2025-07-31 to 2025-08-01

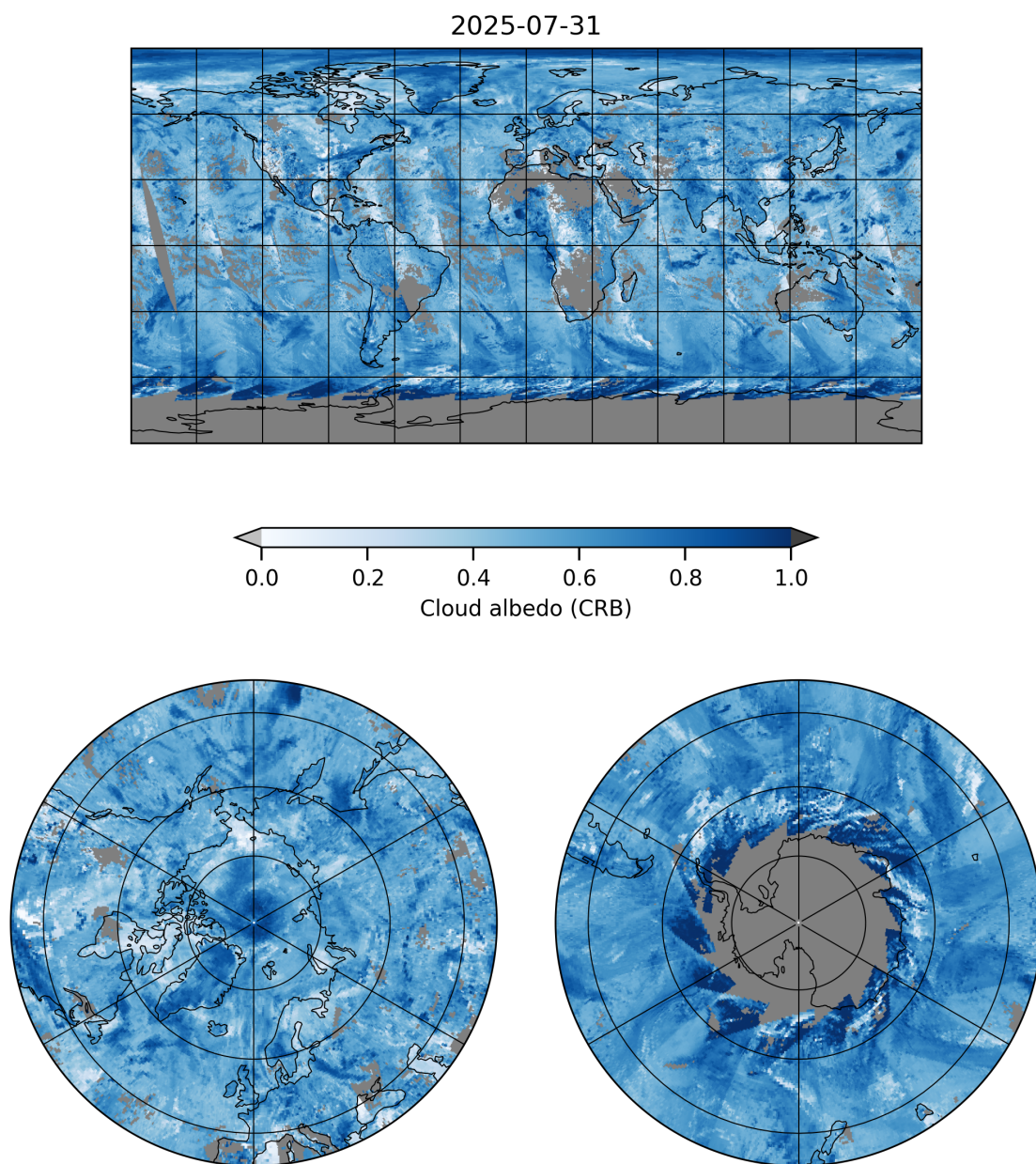


Figure 9: Map of “Cloud albedo (CRB)” for 2025-07-31 to 2025-08-01

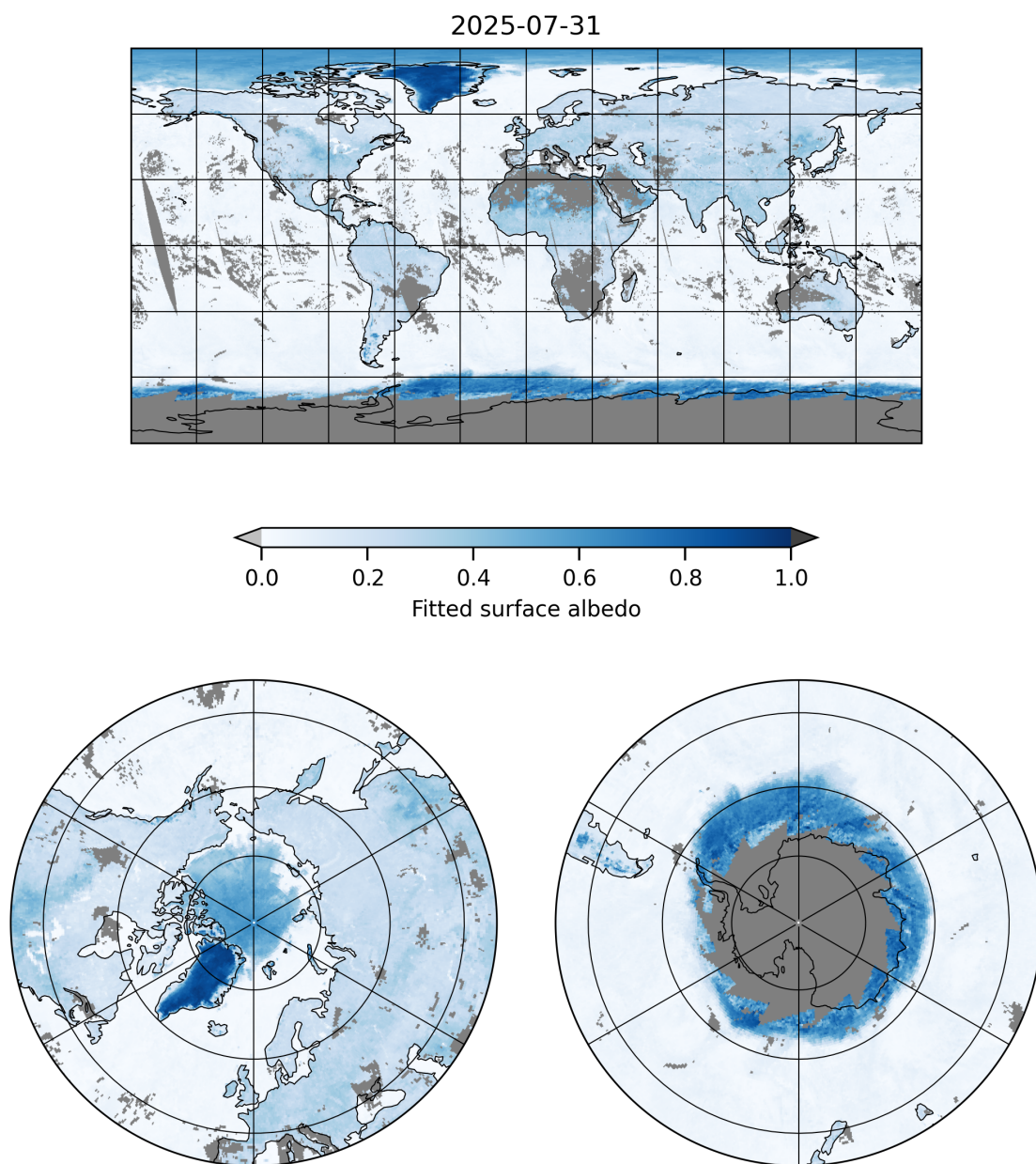


Figure 10: Map of “Fitted surface albedo” for 2025-07-31 to 2025-08-01

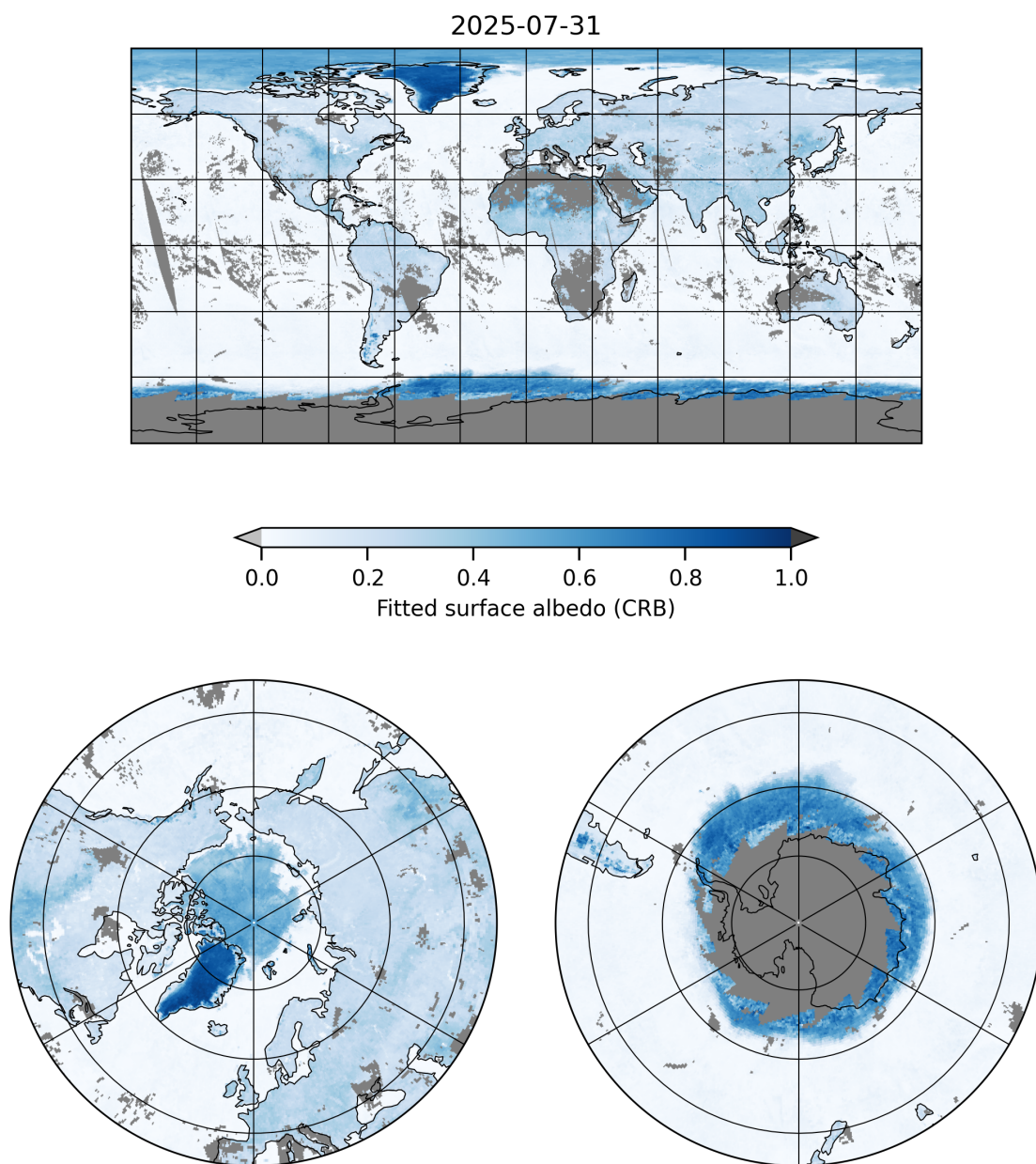


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-07-31 to 2025-08-01

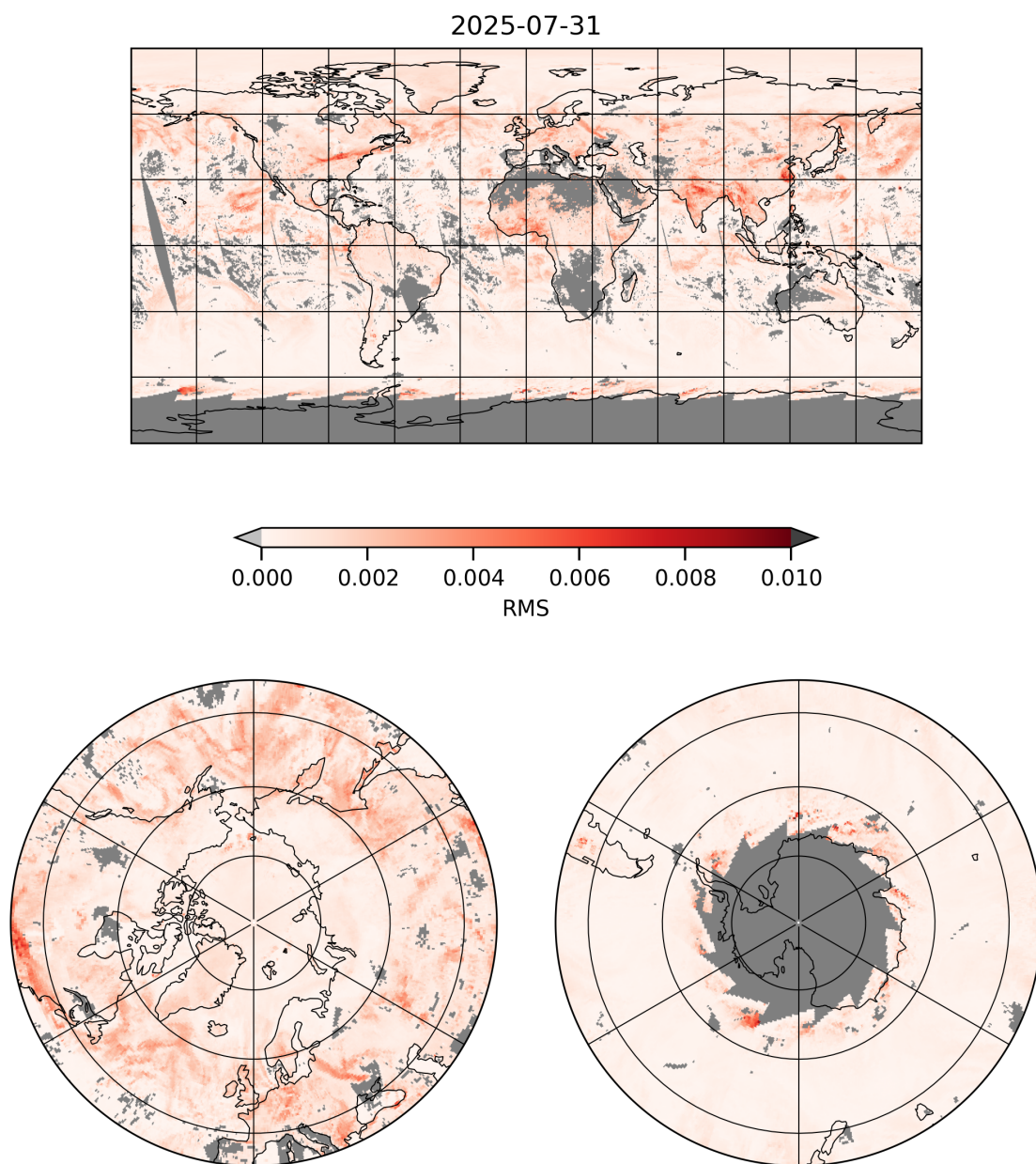


Figure 12: Map of “RMS” for 2025-07-31 to 2025-08-01

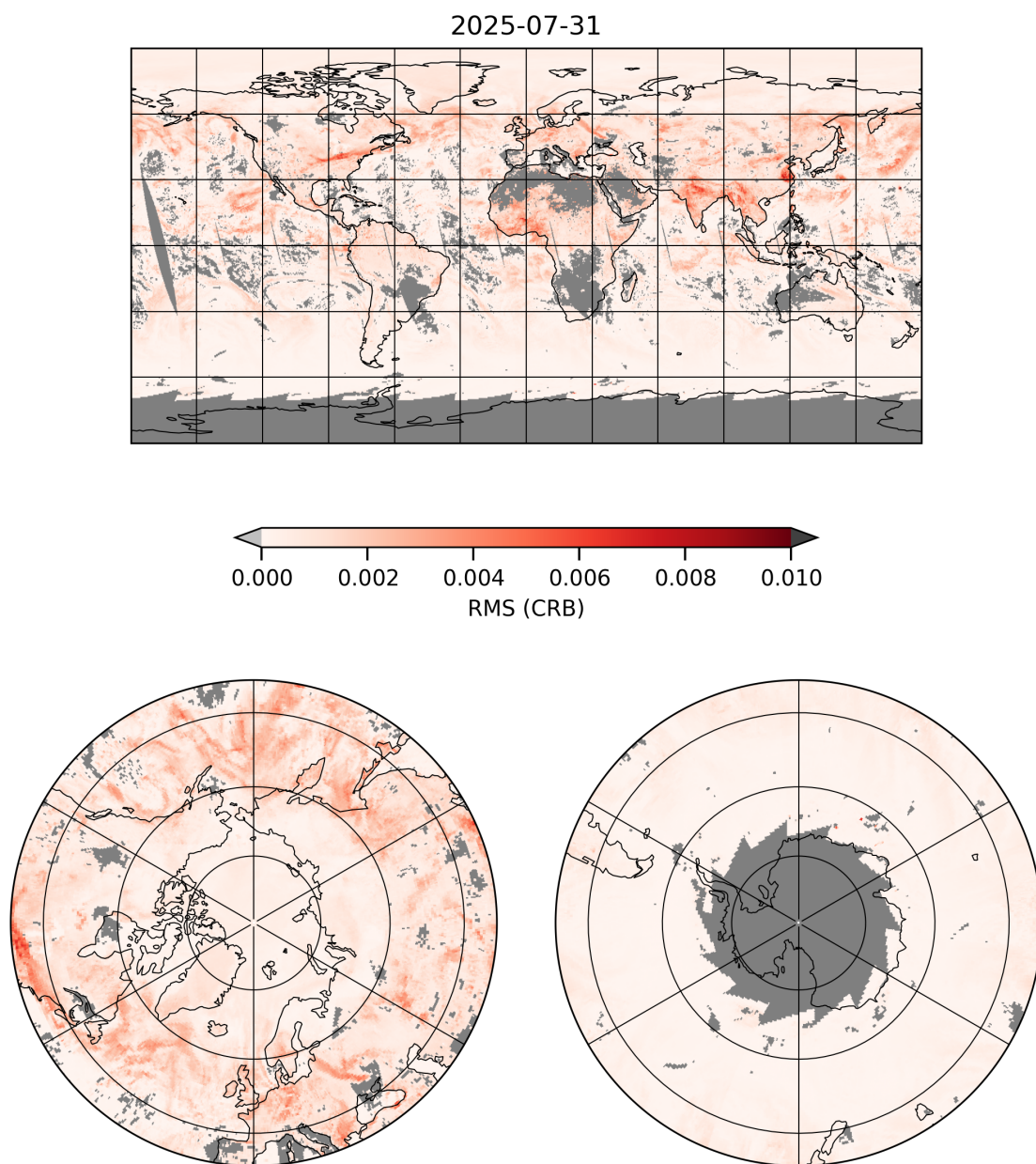


Figure 13: Map of “RMS (CRB)” for 2025-07-31 to 2025-08-01

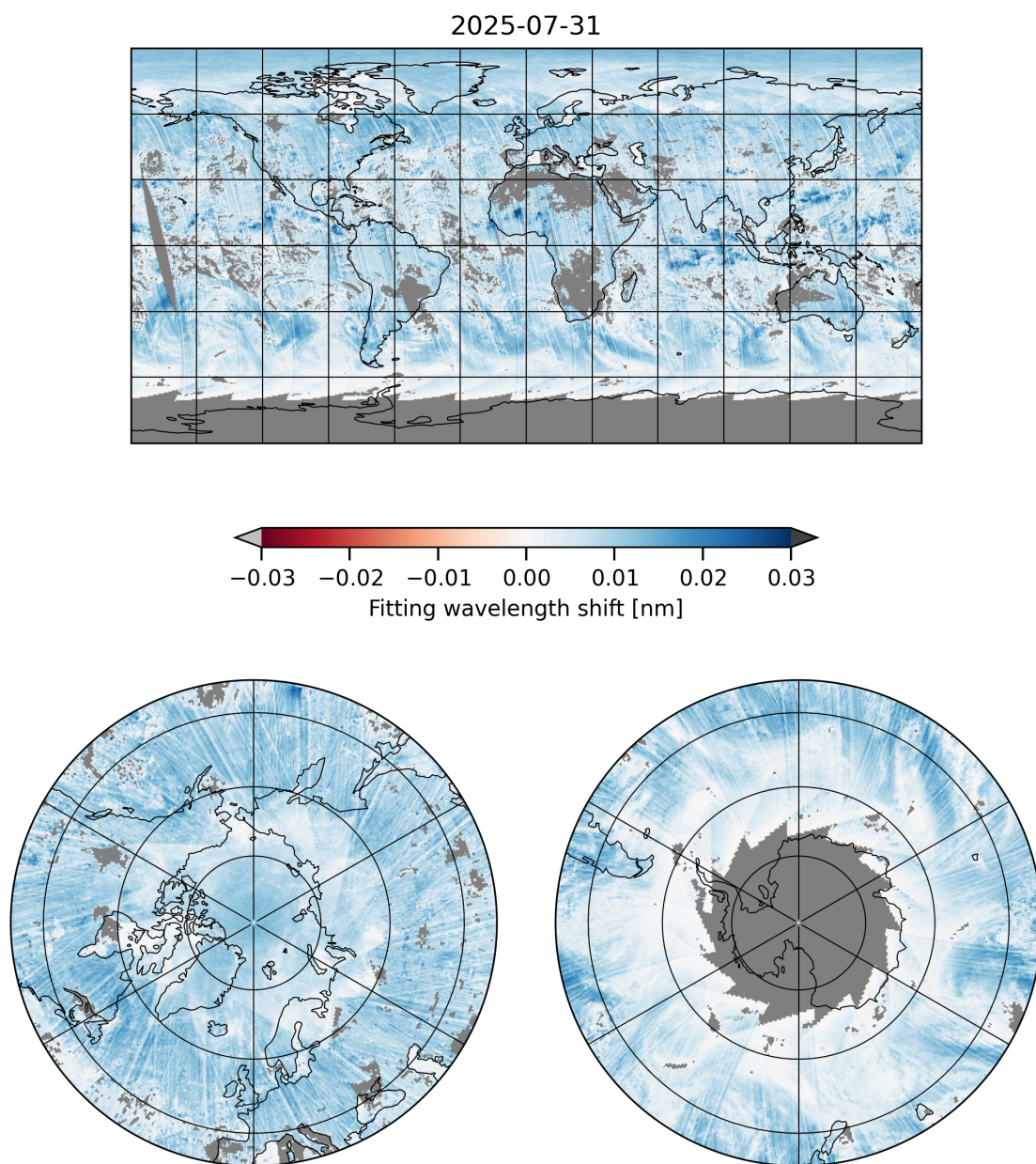


Figure 14: Map of “Fitting wavelength shift” for 2025-07-31 to 2025-08-01

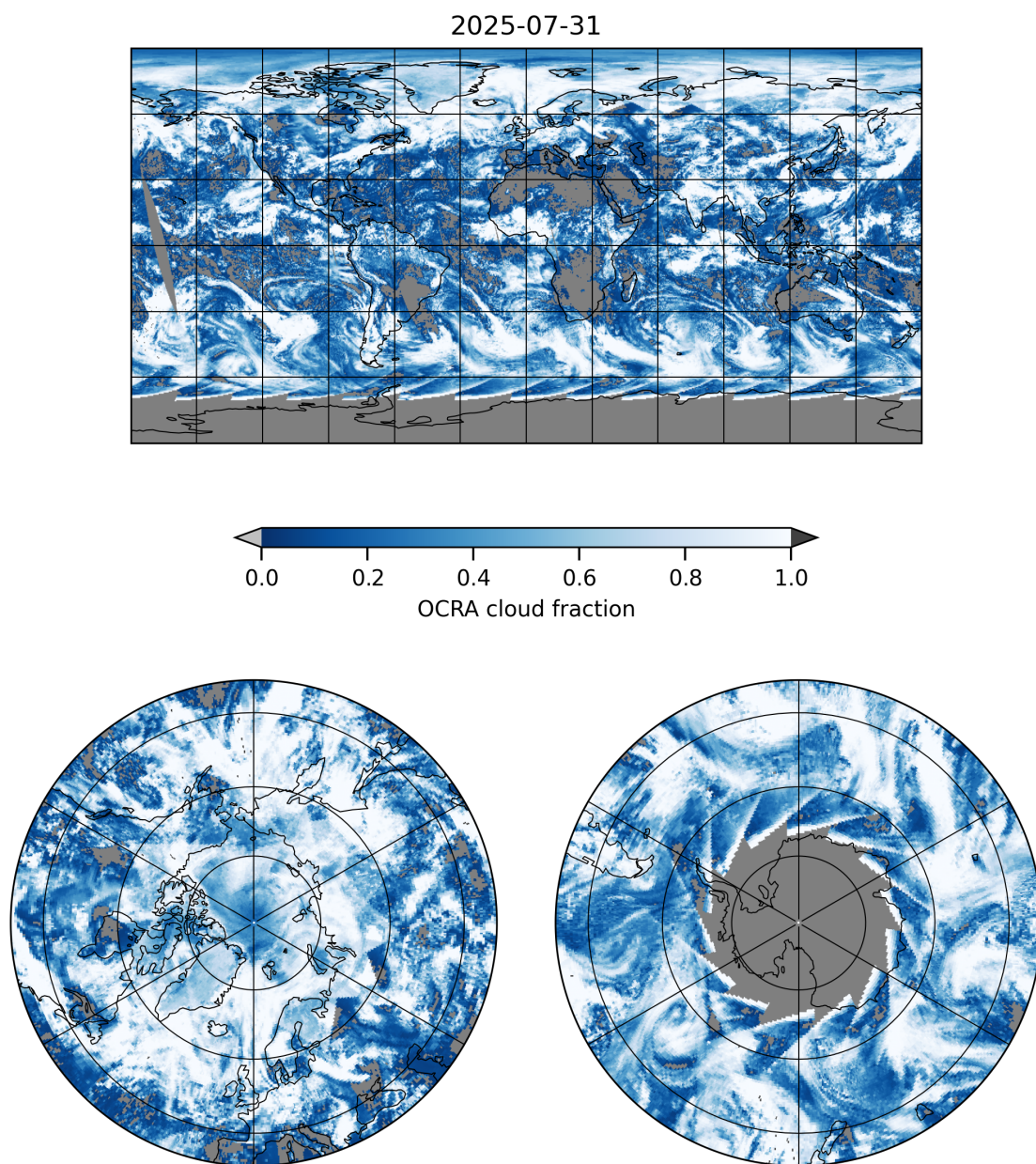
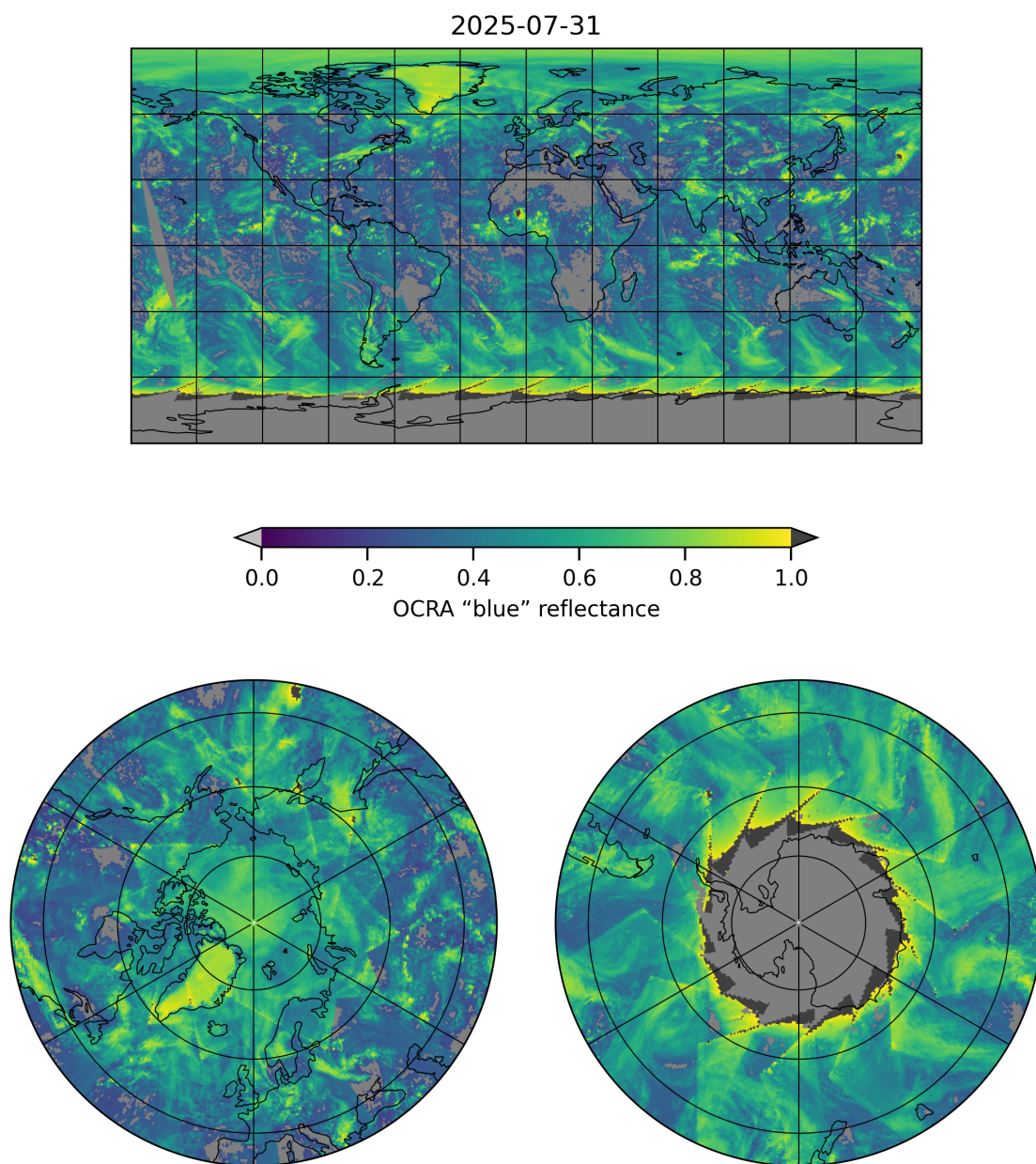


Figure 15: Map of “OCRA cloud fraction” for 2025-07-31 to 2025-08-01



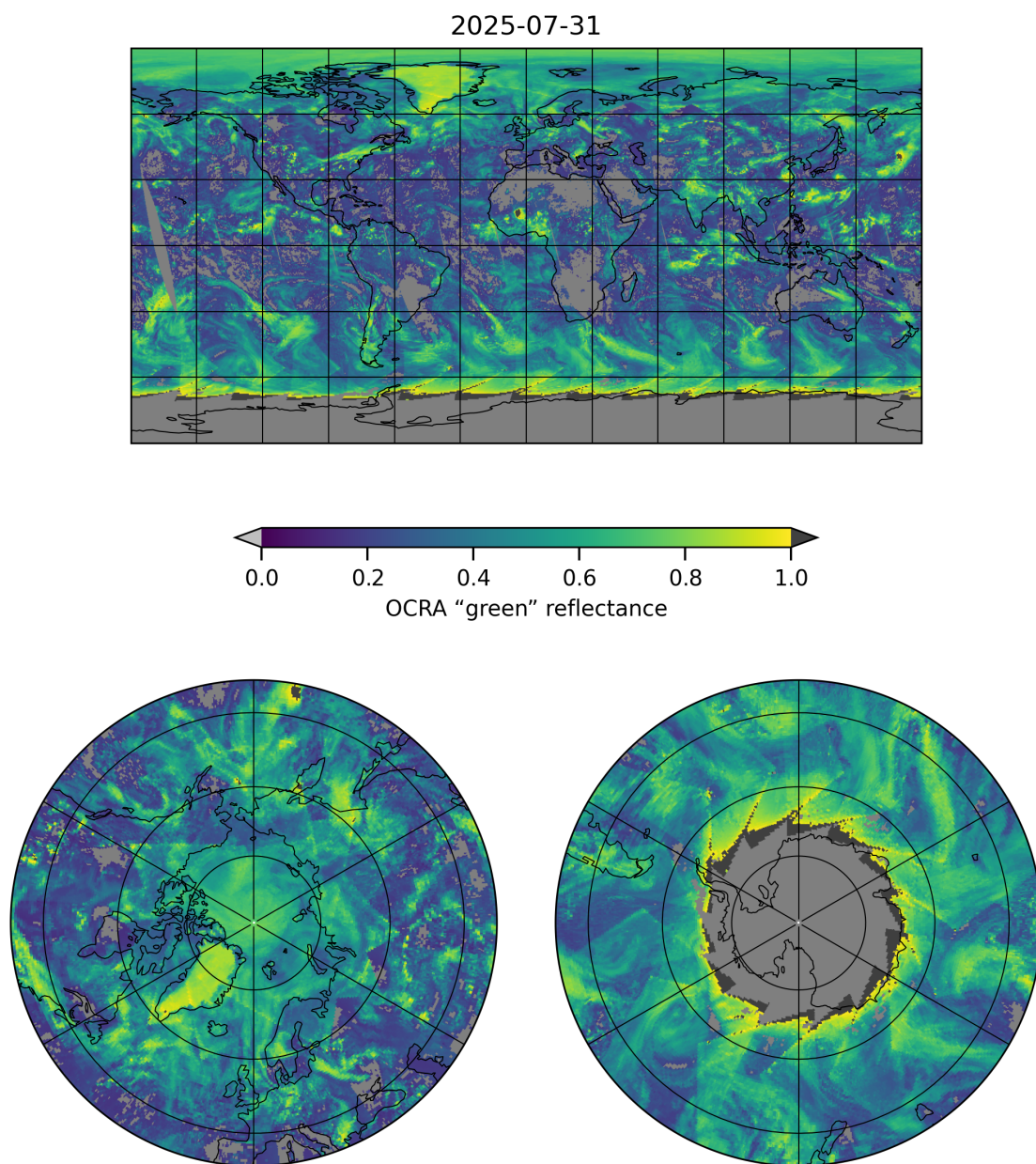


Figure 17: Map of "OCRA "green" reflectance" for 2025-07-31 to 2025-08-01

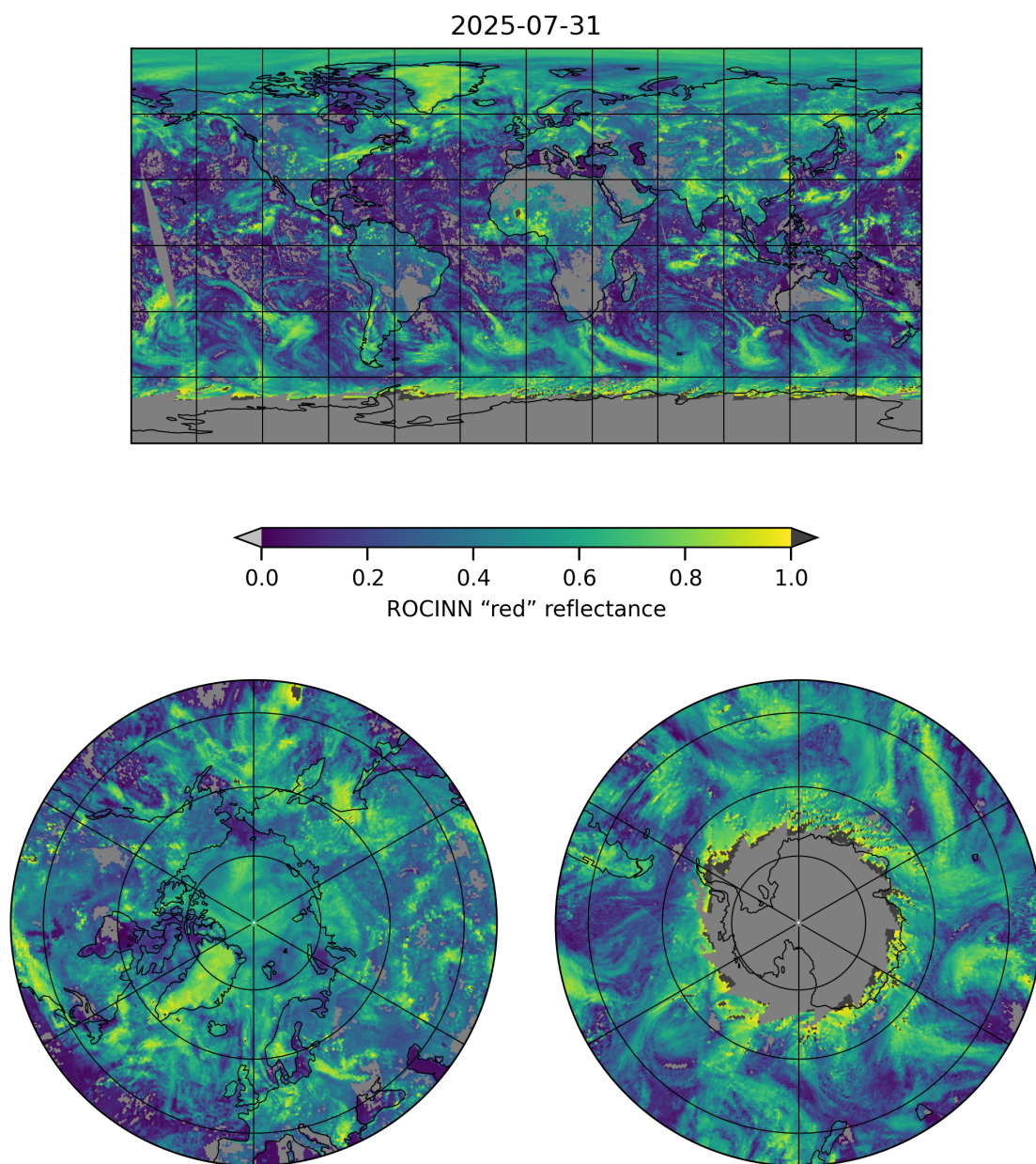


Figure 18: Map of "ROCINN "red" reflectance" for 2025-07-31 to 2025-08-01

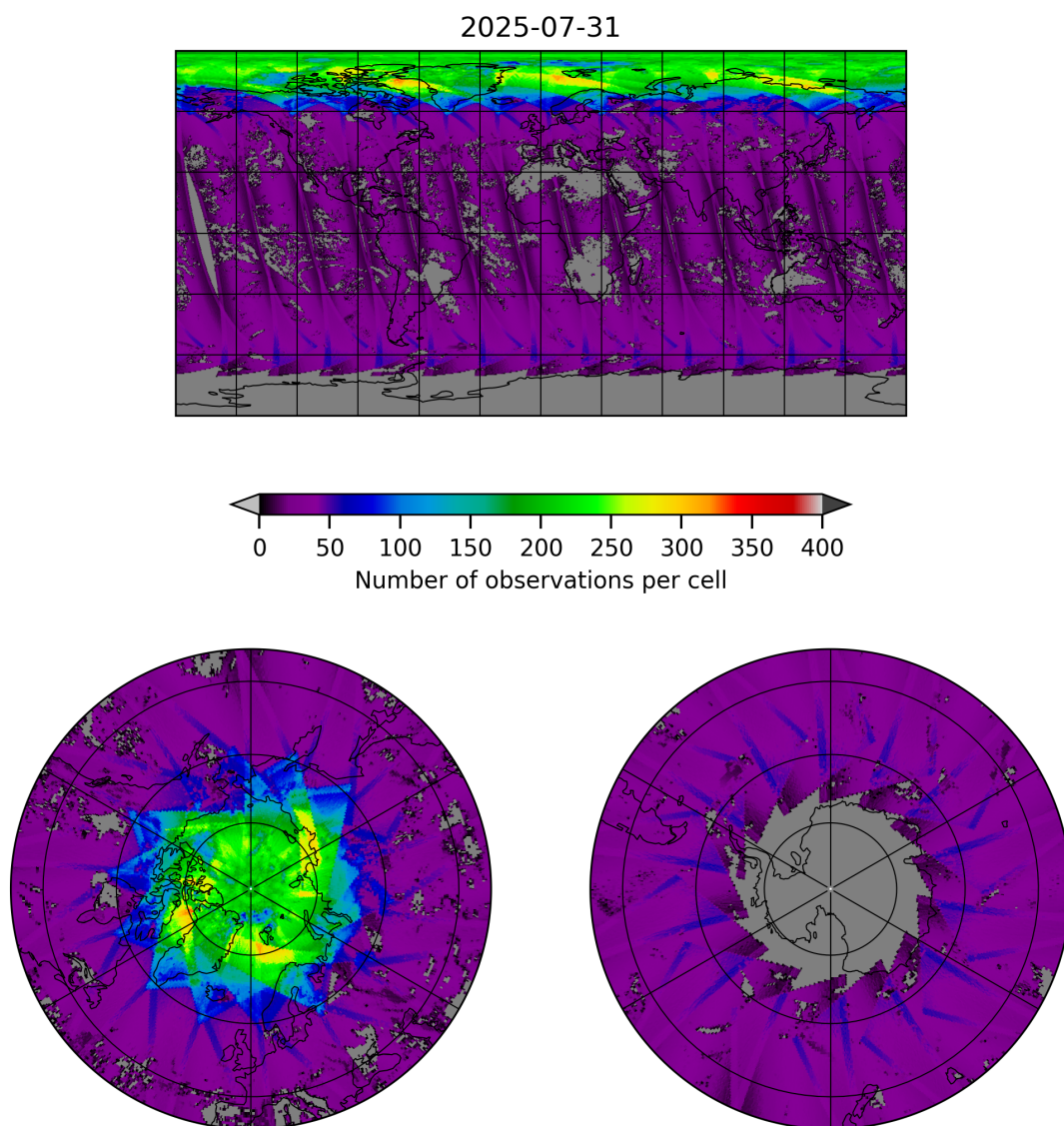


Figure 19: Map of the number of observations for 2025-07-31 to 2025-08-01

7 Zonal average

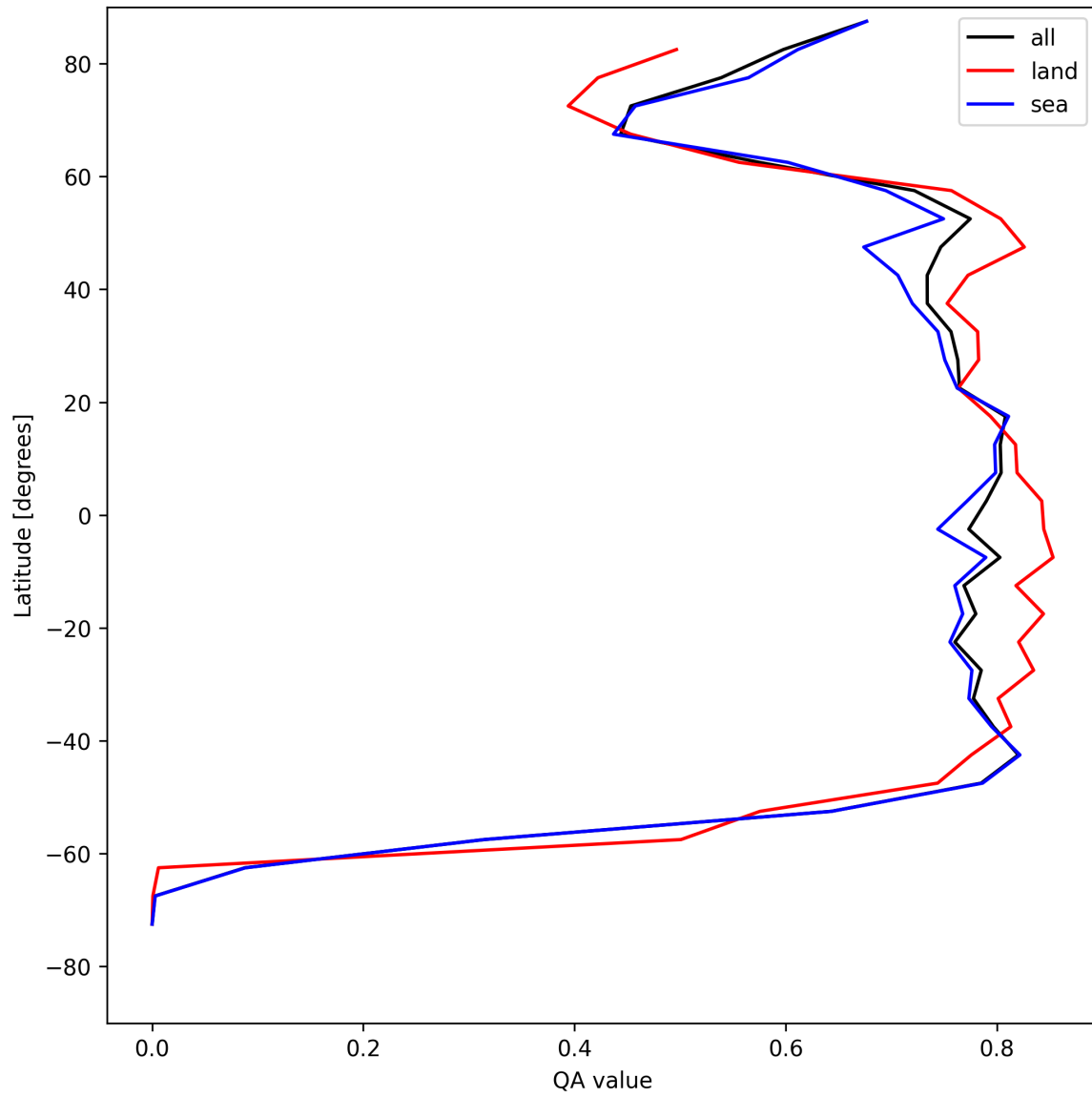


Figure 20: Zonal average of “QA value” for 2025-07-31 to 2025-08-01.

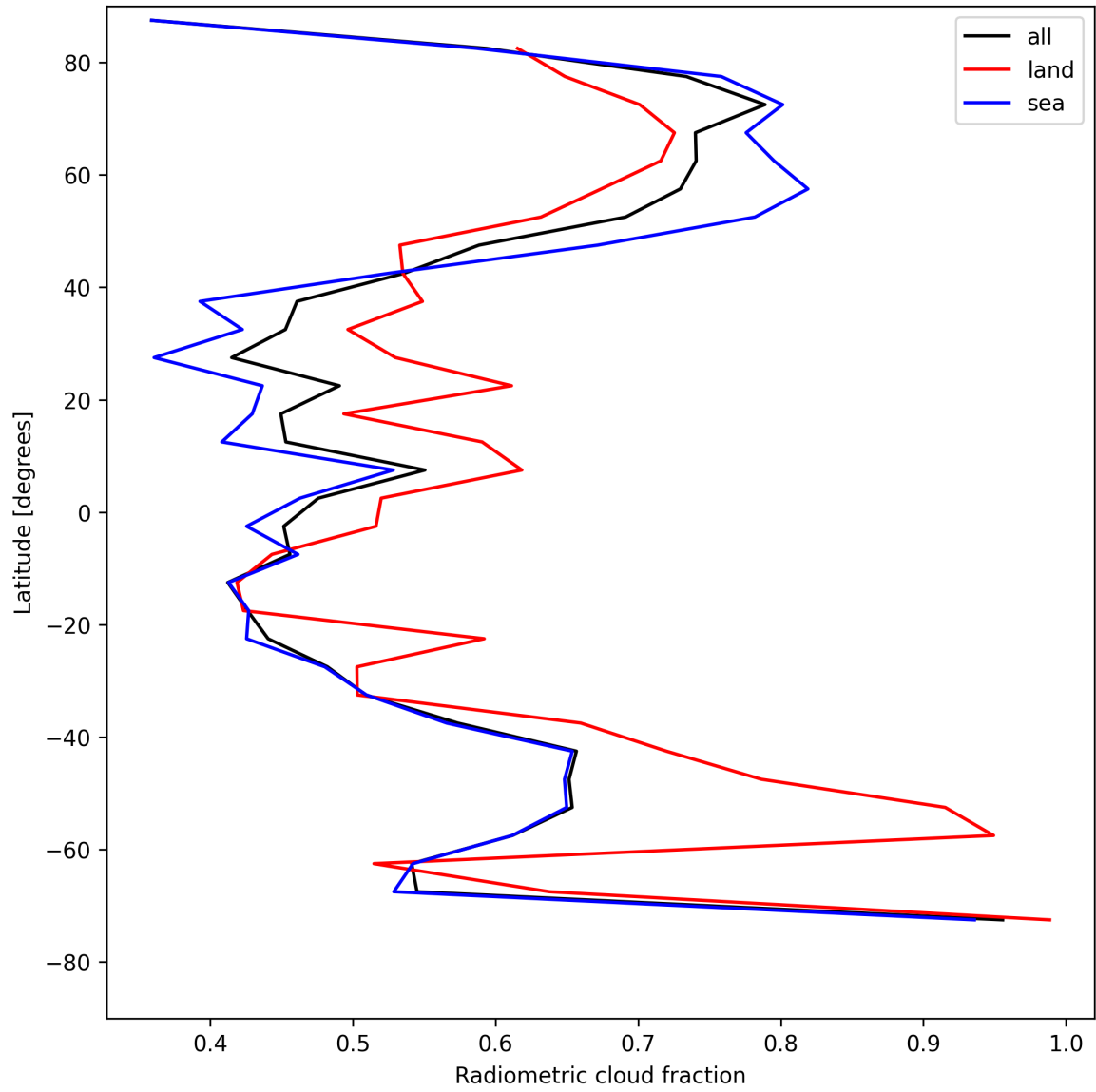


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-07-31 to 2025-08-01.

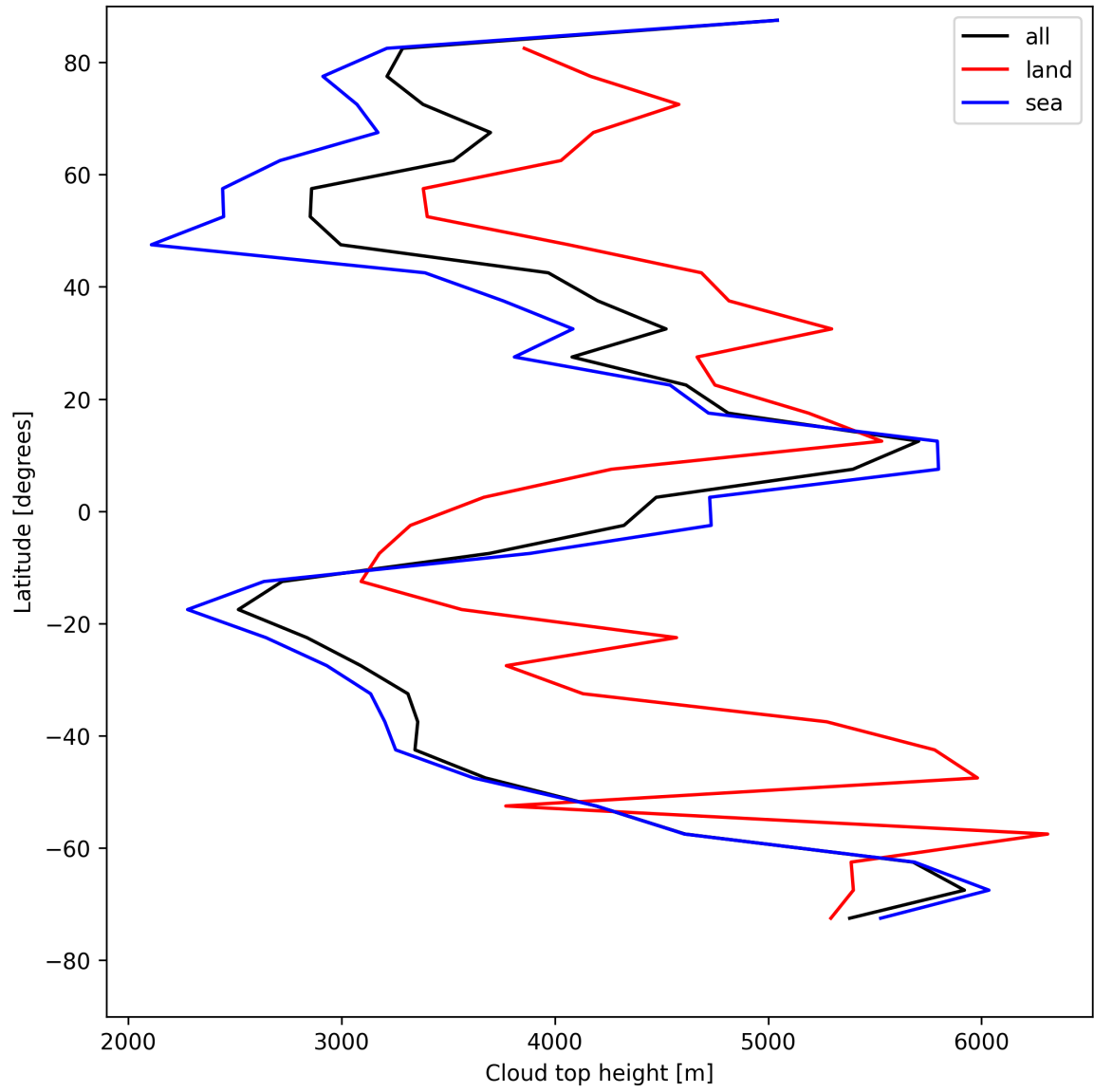


Figure 22: Zonal average of “Cloud top height” for 2025-07-31 to 2025-08-01.

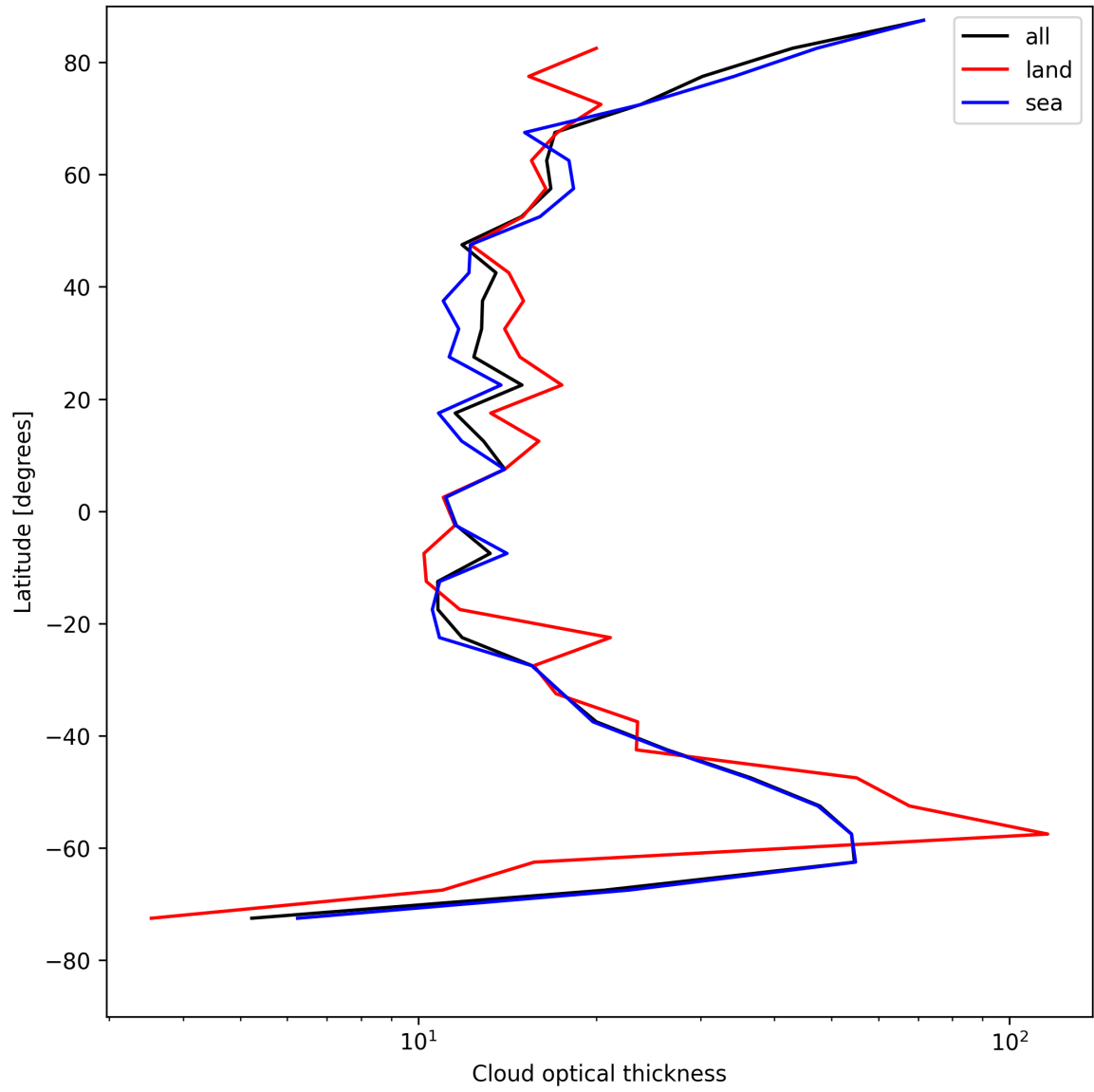


Figure 23: Zonal average of “Cloud optical thickness” for 2025-07-31 to 2025-08-01.

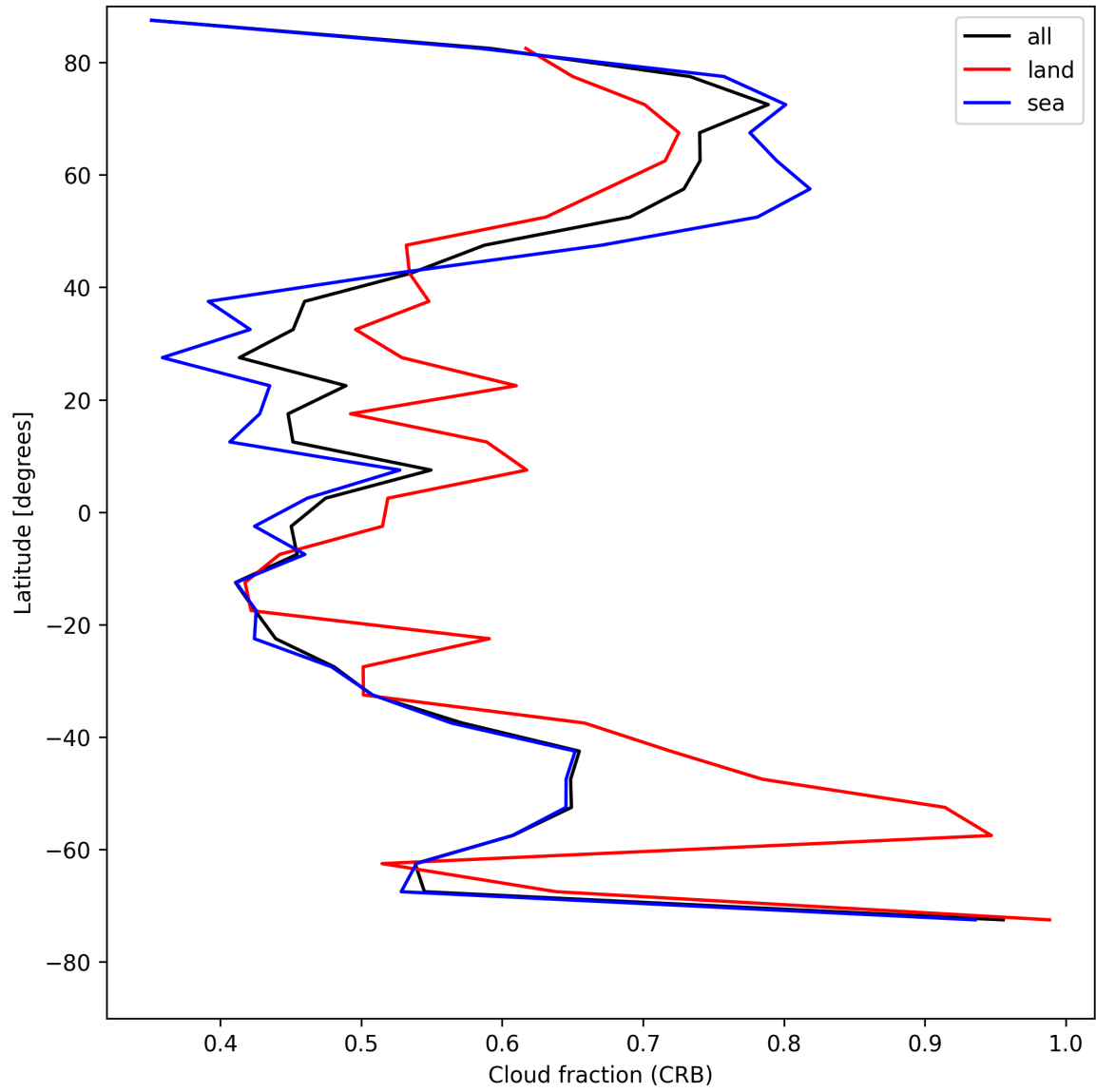


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-07-31 to 2025-08-01.

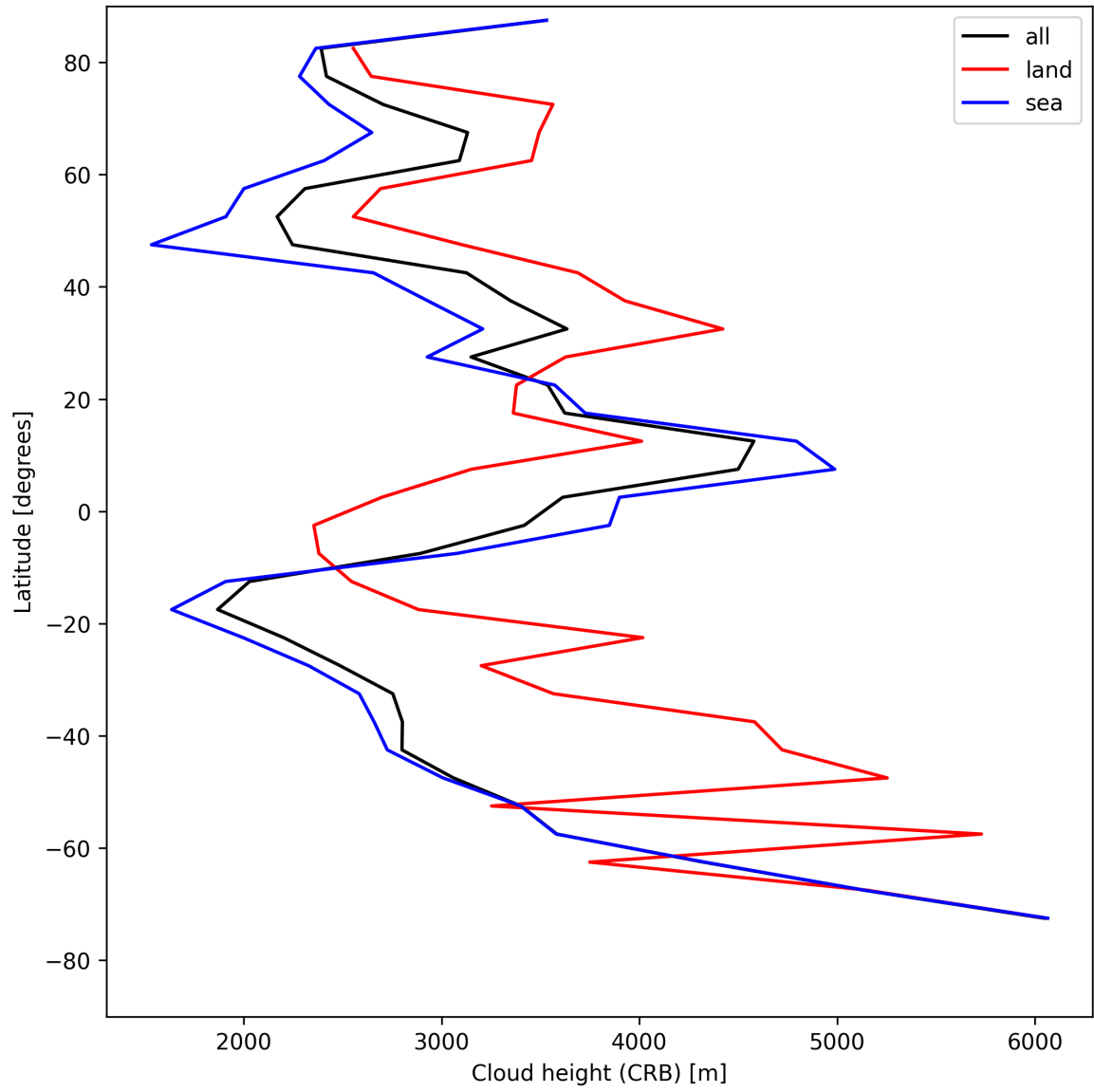


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-07-31 to 2025-08-01.

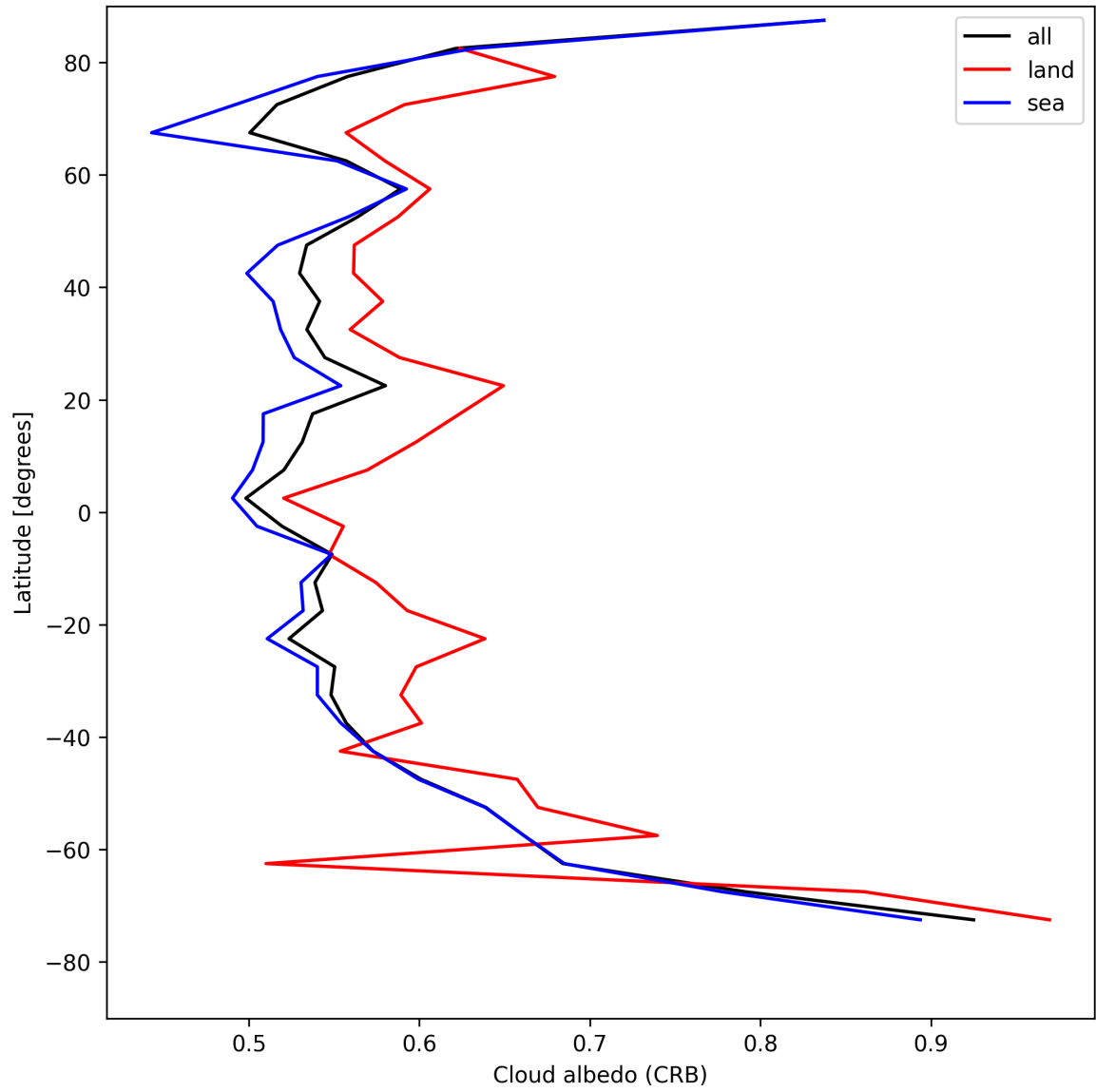


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-07-31 to 2025-08-01.

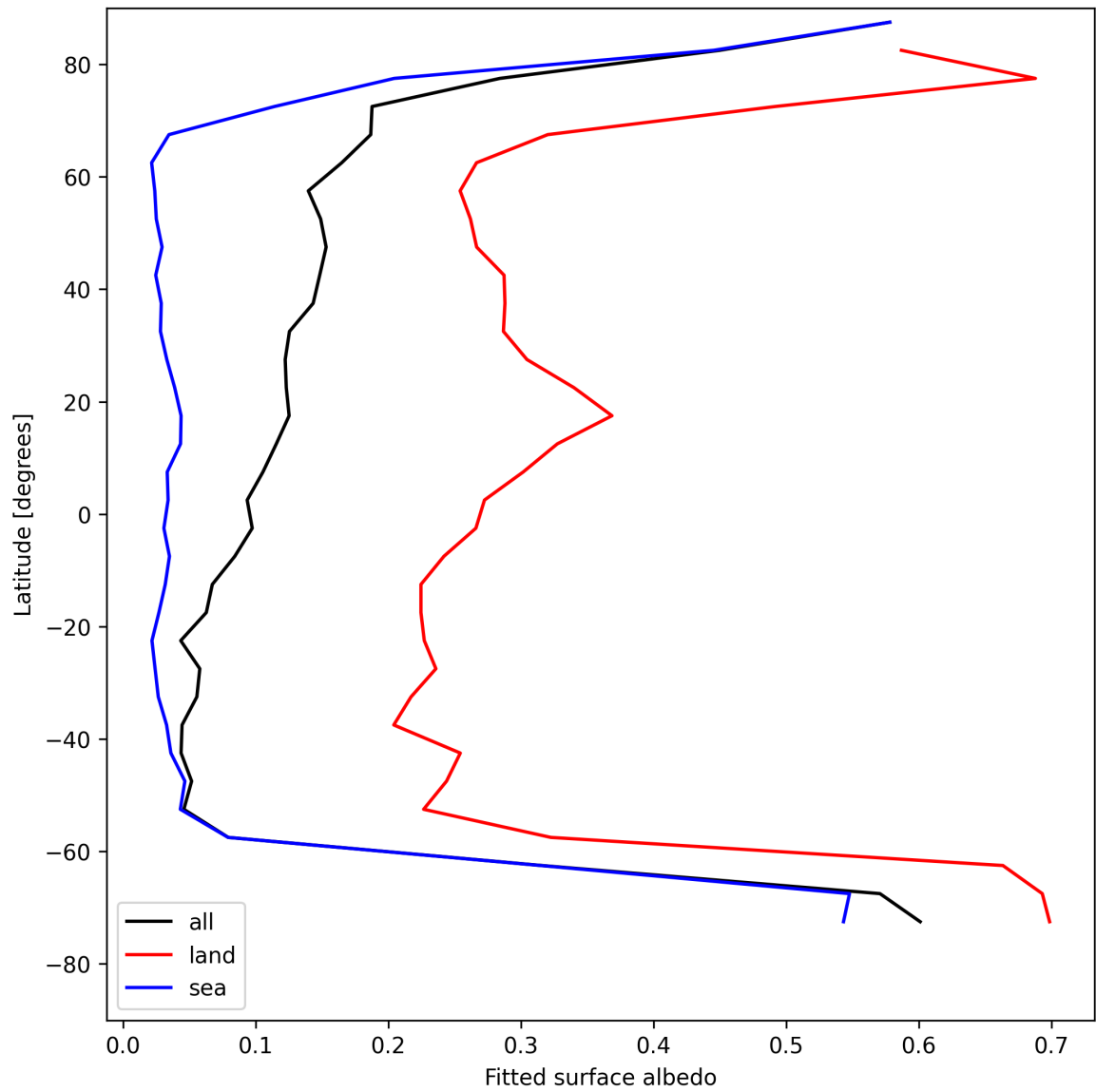


Figure 27: Zonal average of “Fitted surface albedo” for 2025-07-31 to 2025-08-01.

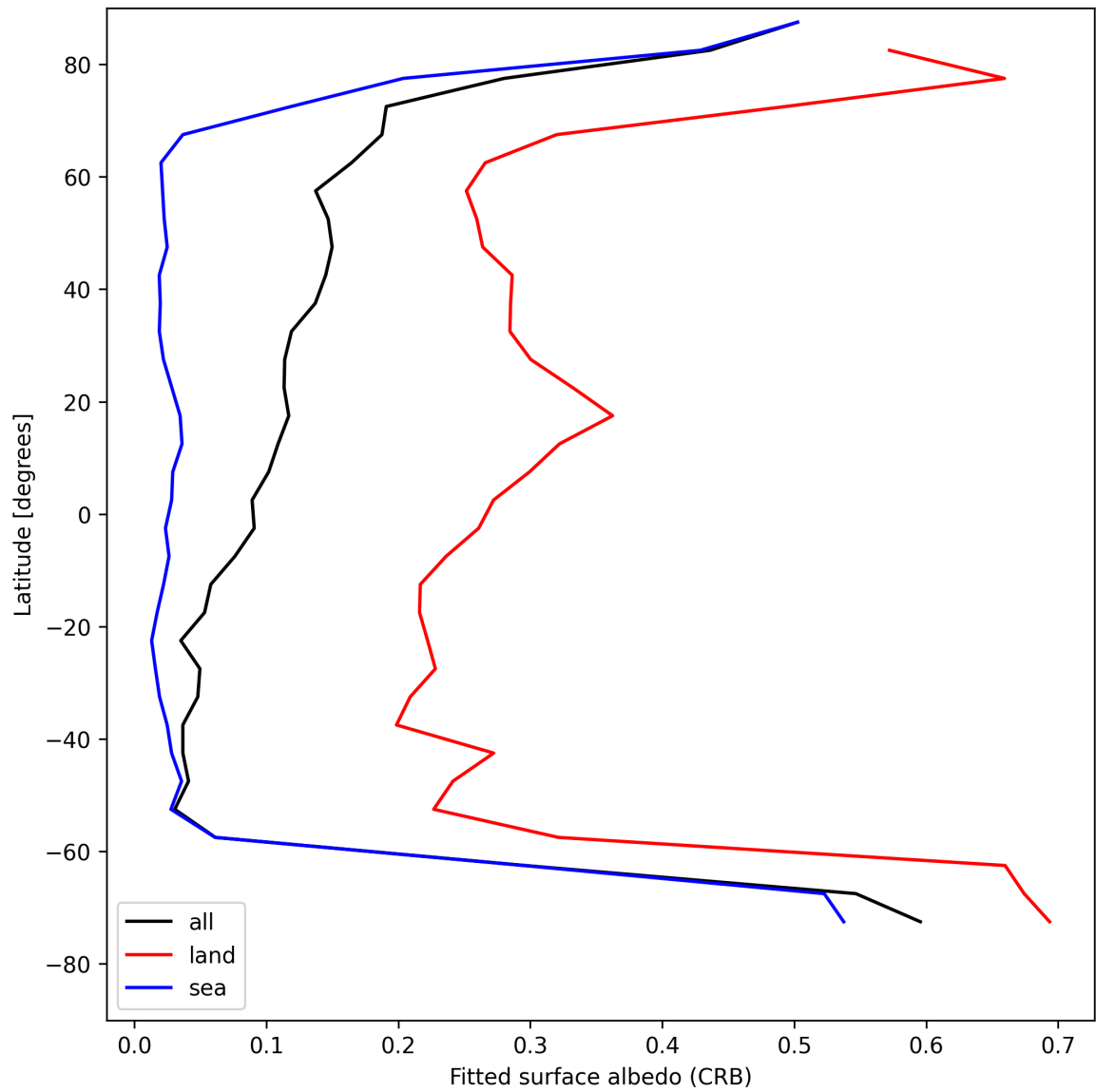


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-07-31 to 2025-08-01.

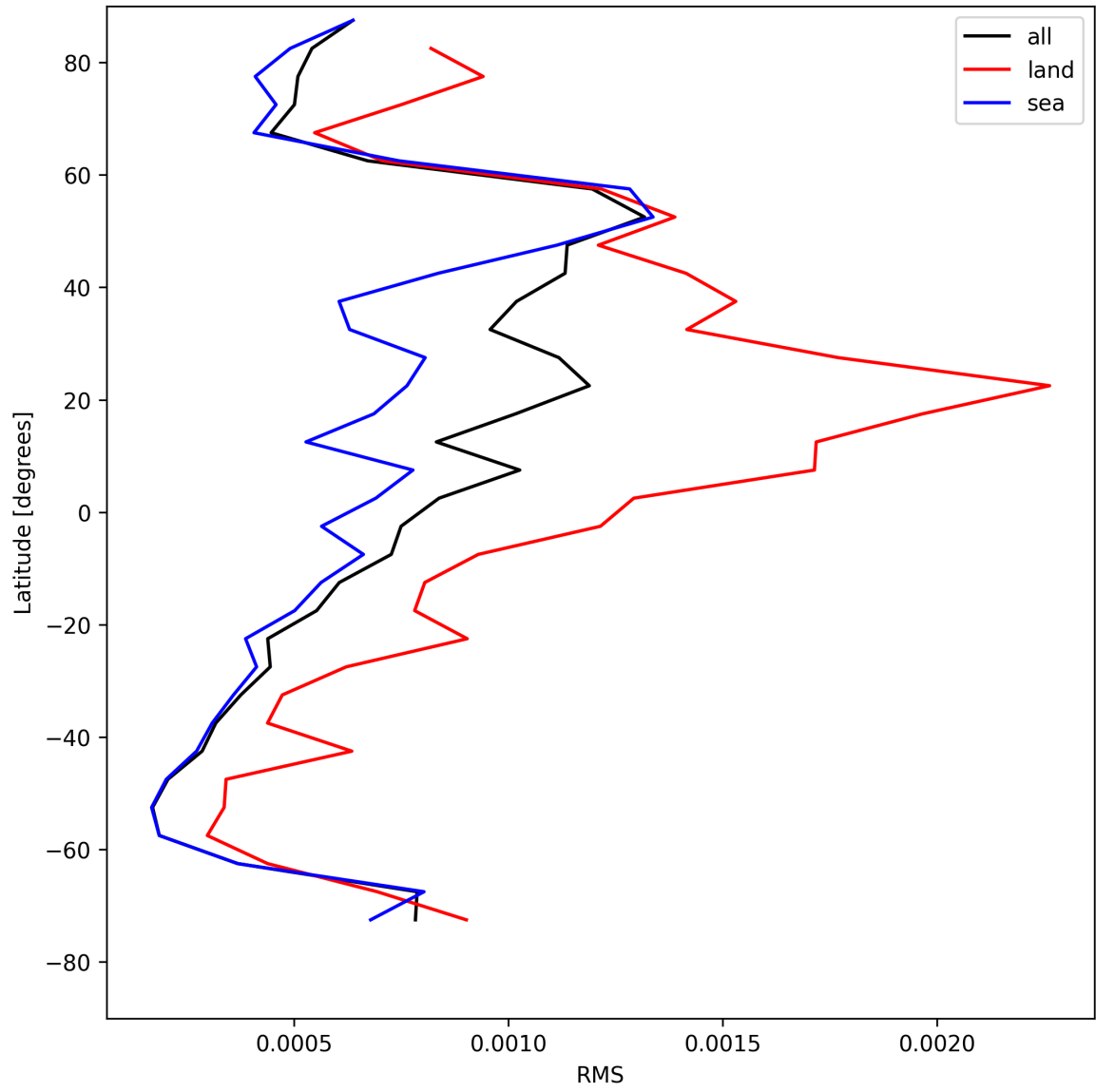


Figure 29: Zonal average of “RMS” for 2025-07-31 to 2025-08-01.

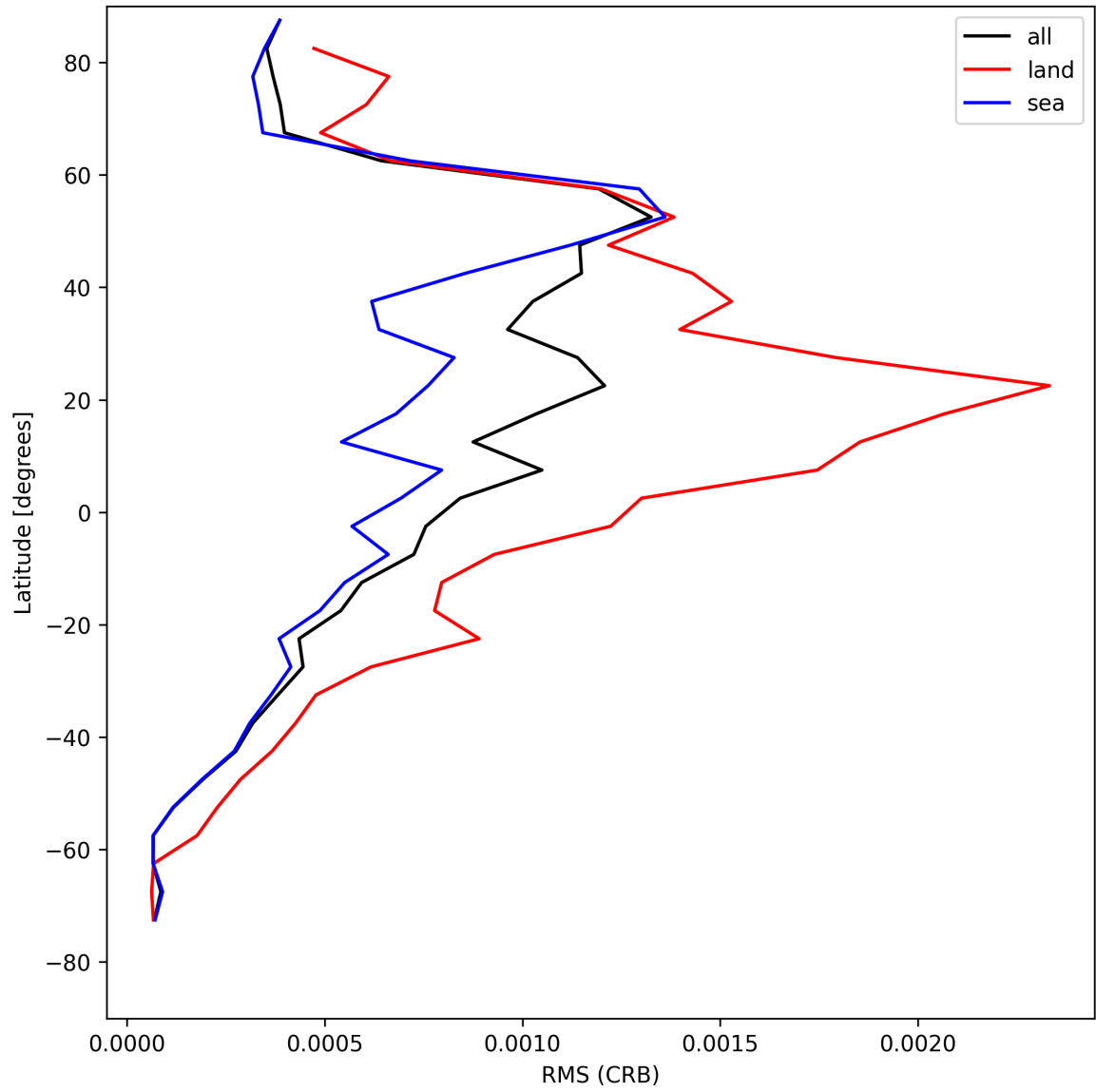


Figure 30: Zonal average of “RMS (CRB)” for 2025-07-31 to 2025-08-01.

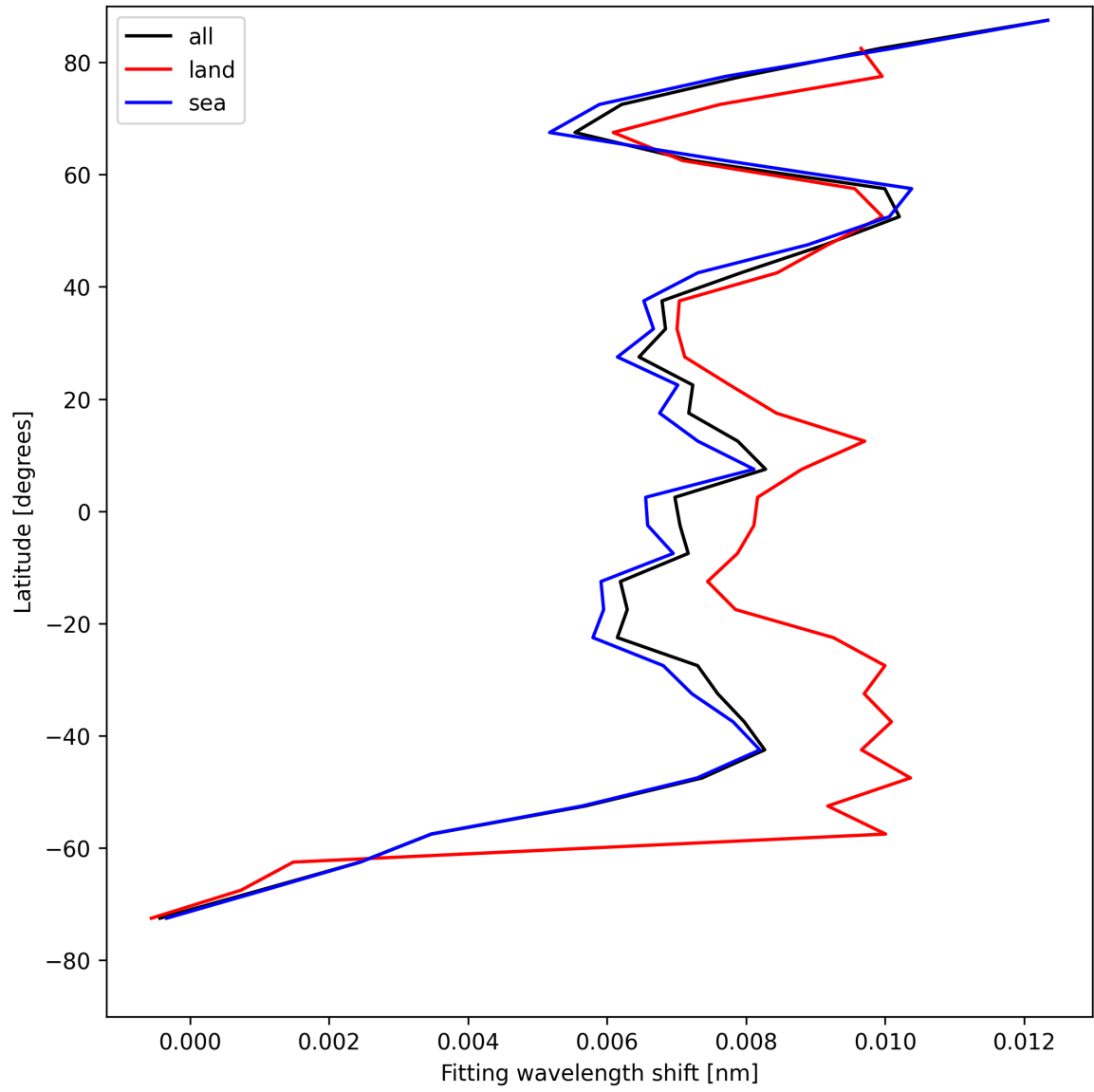


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-07-31 to 2025-08-01.

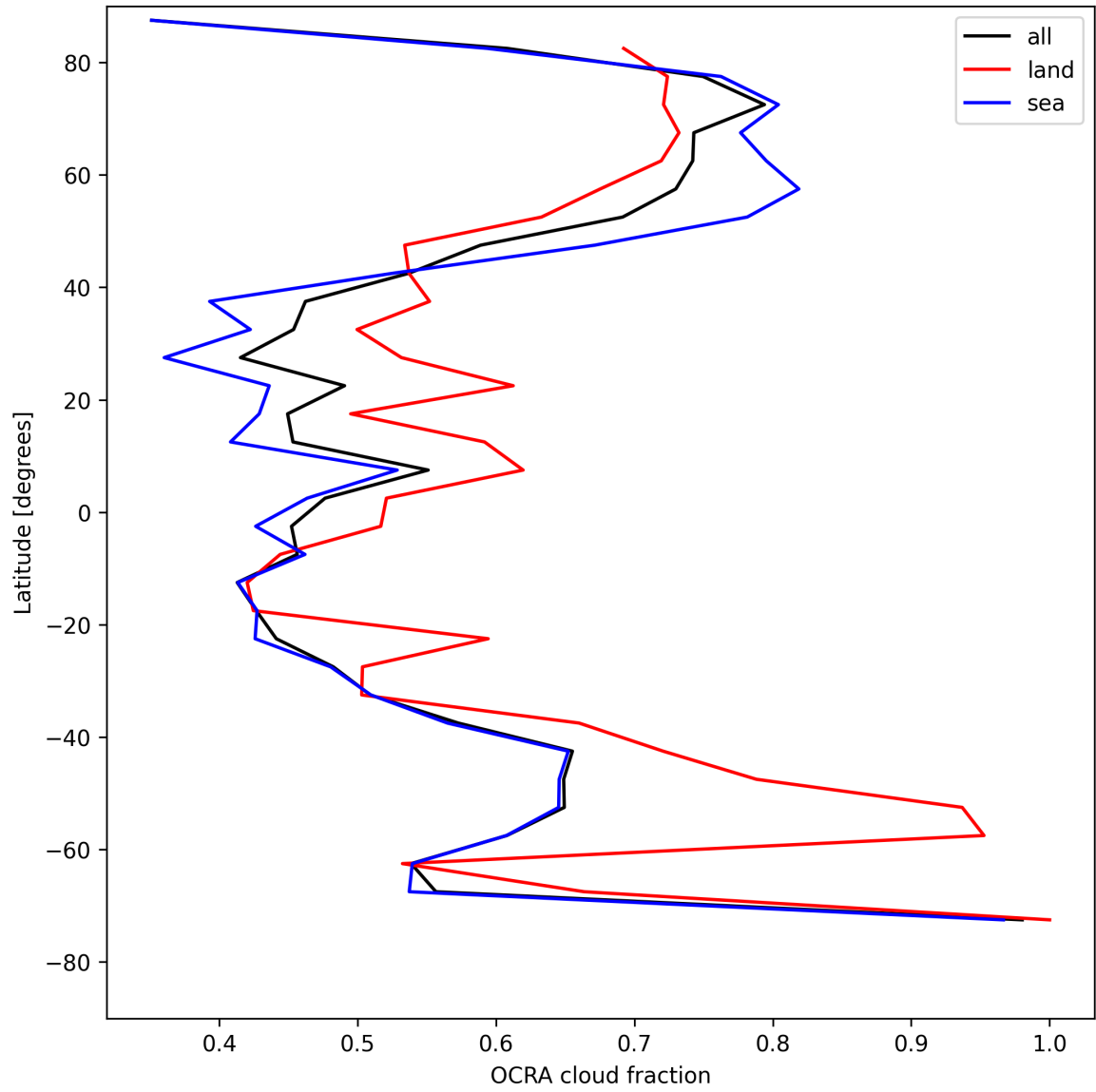


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-07-31 to 2025-08-01.

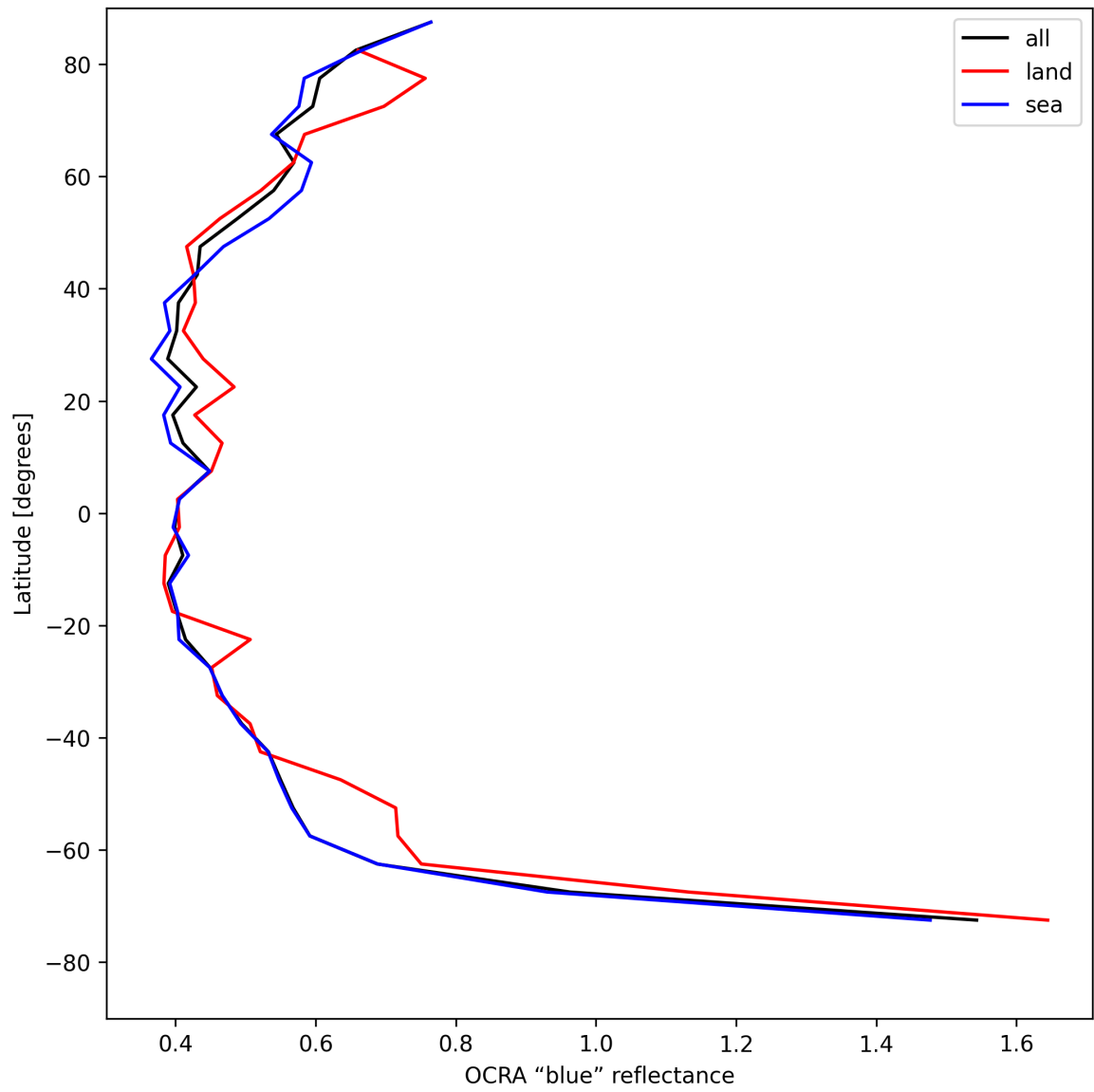


Figure 33: Zonal average of "OCRA "blue" reflectance" for 2025-07-31 to 2025-08-01.

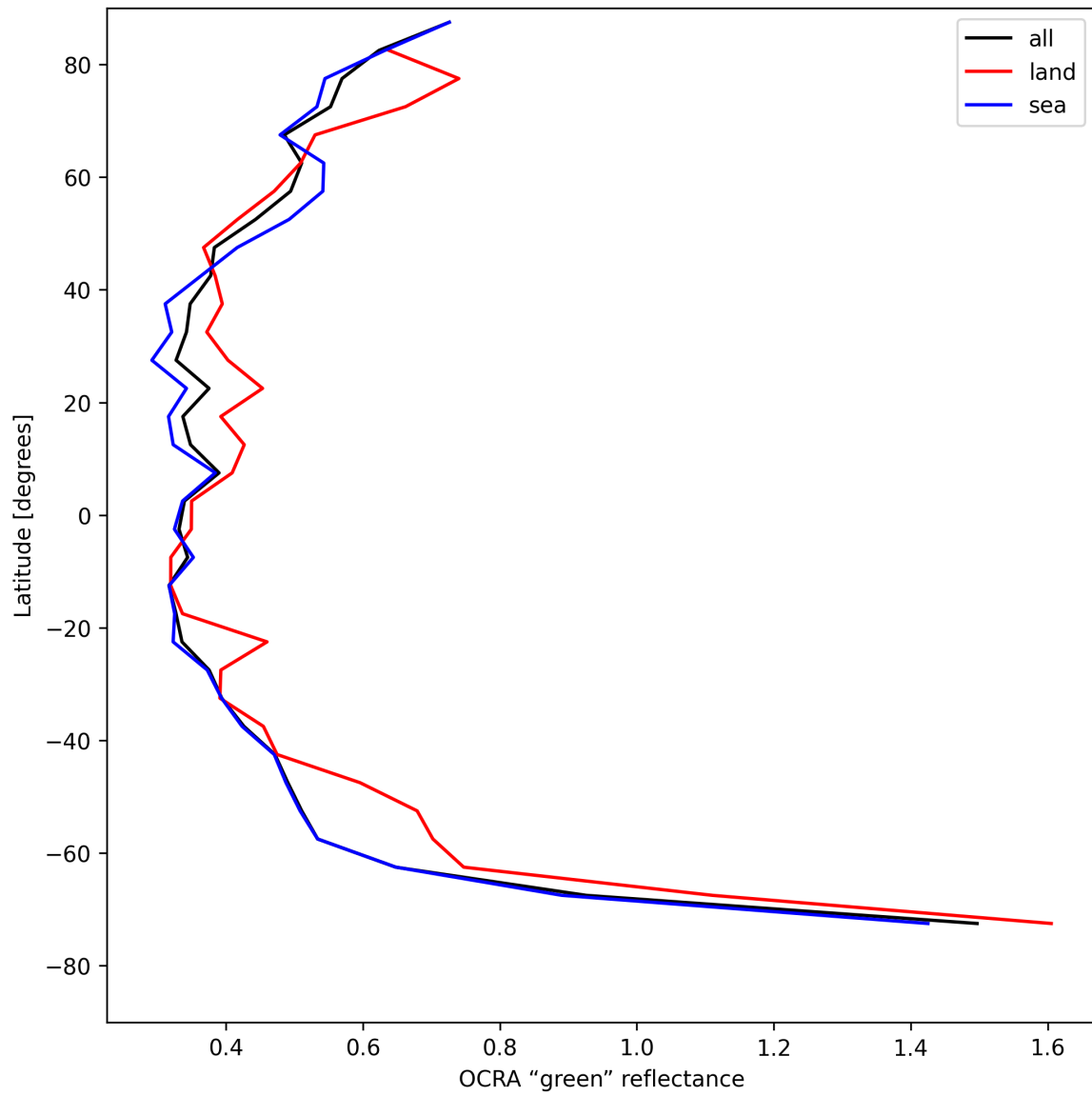


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-07-31 to 2025-08-01.

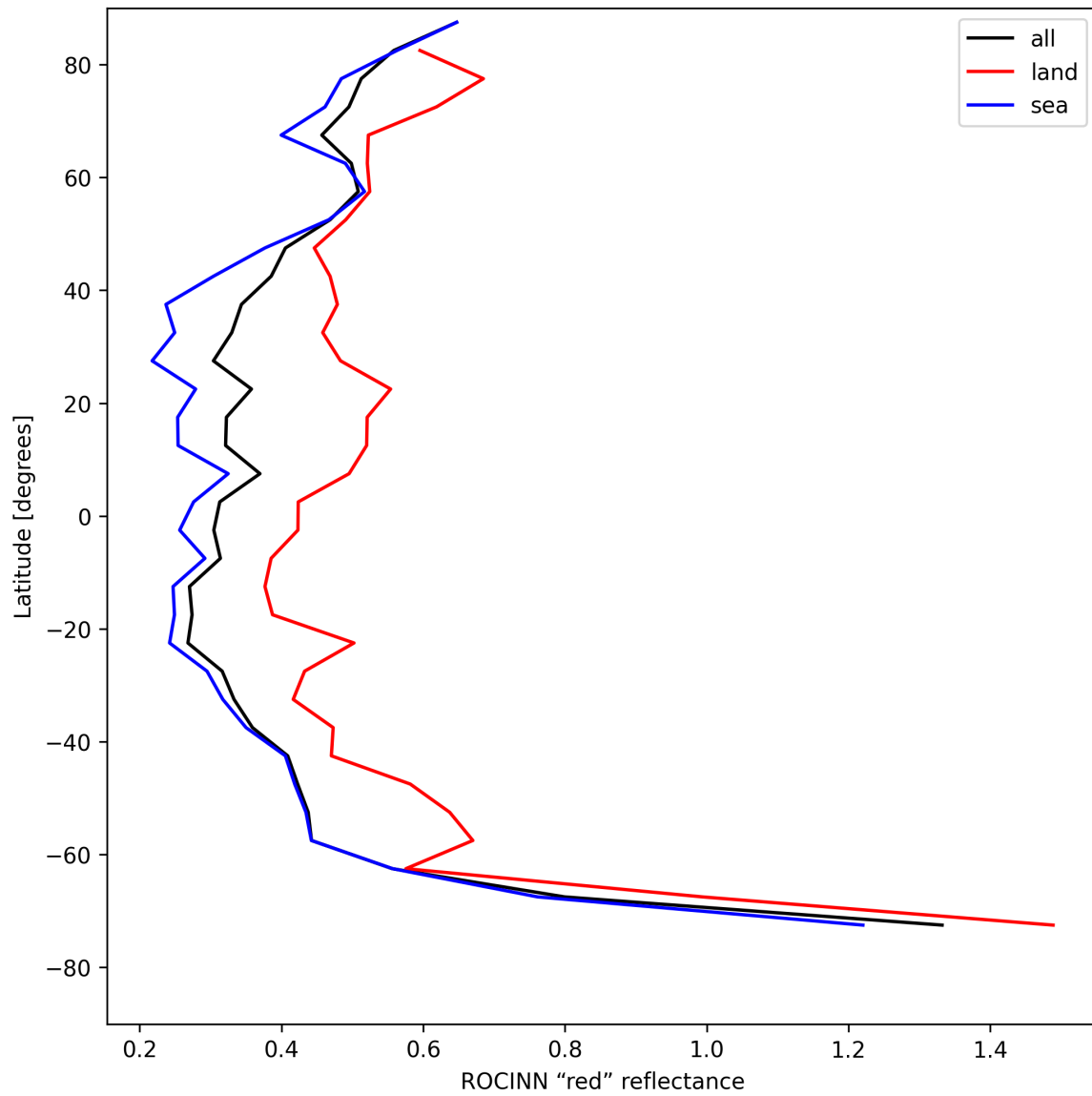


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-07-31 to 2025-08-01.

8 Histograms

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

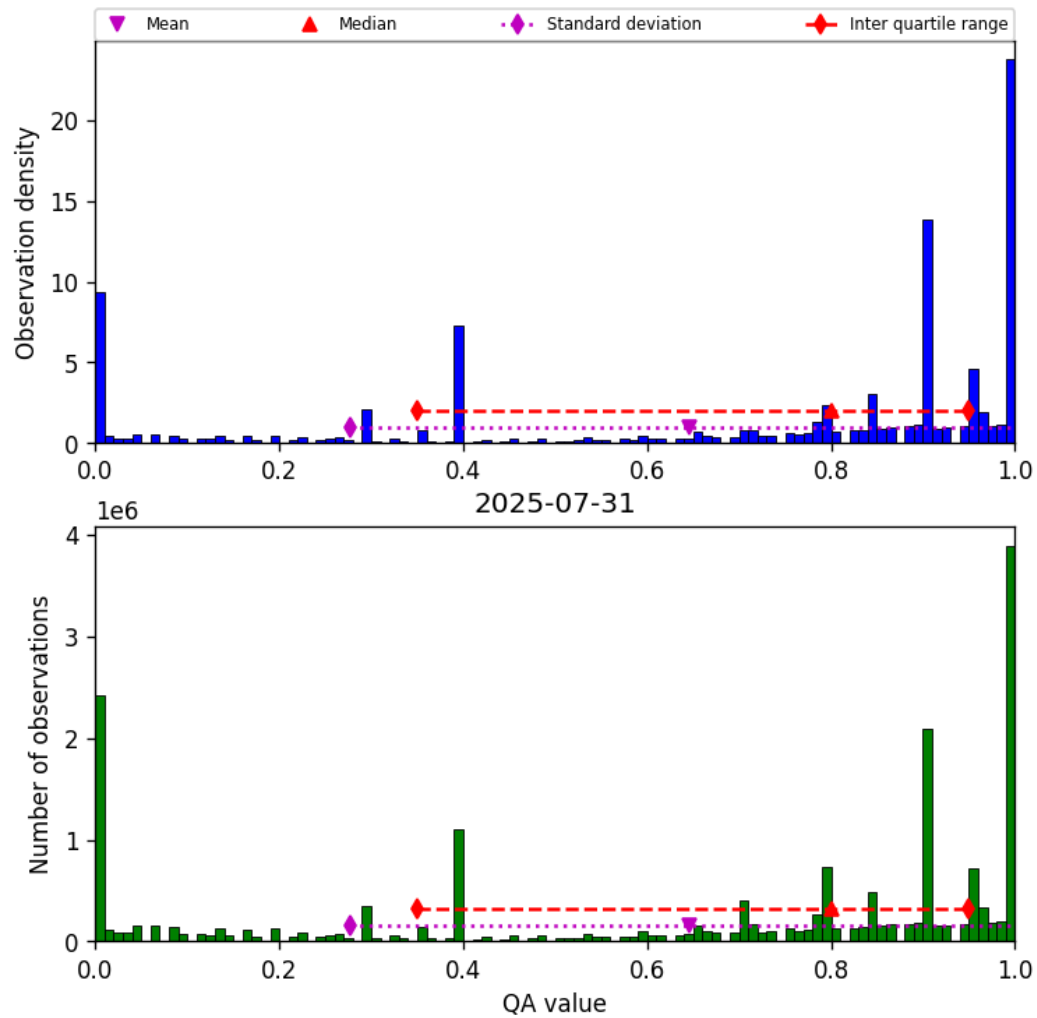


Figure 36: Histogram of “QA value” for 2025-07-31 to 2025-08-01

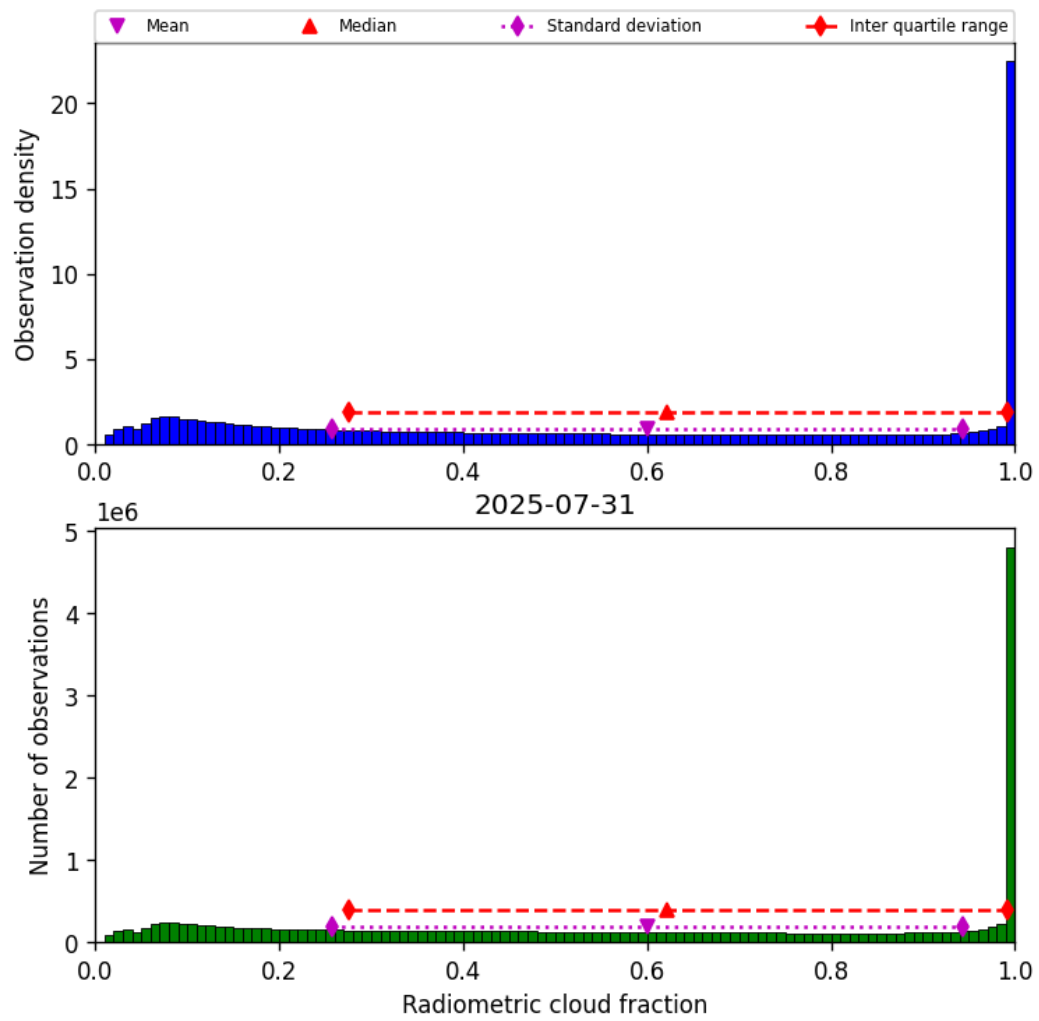


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-07-31 to 2025-08-01

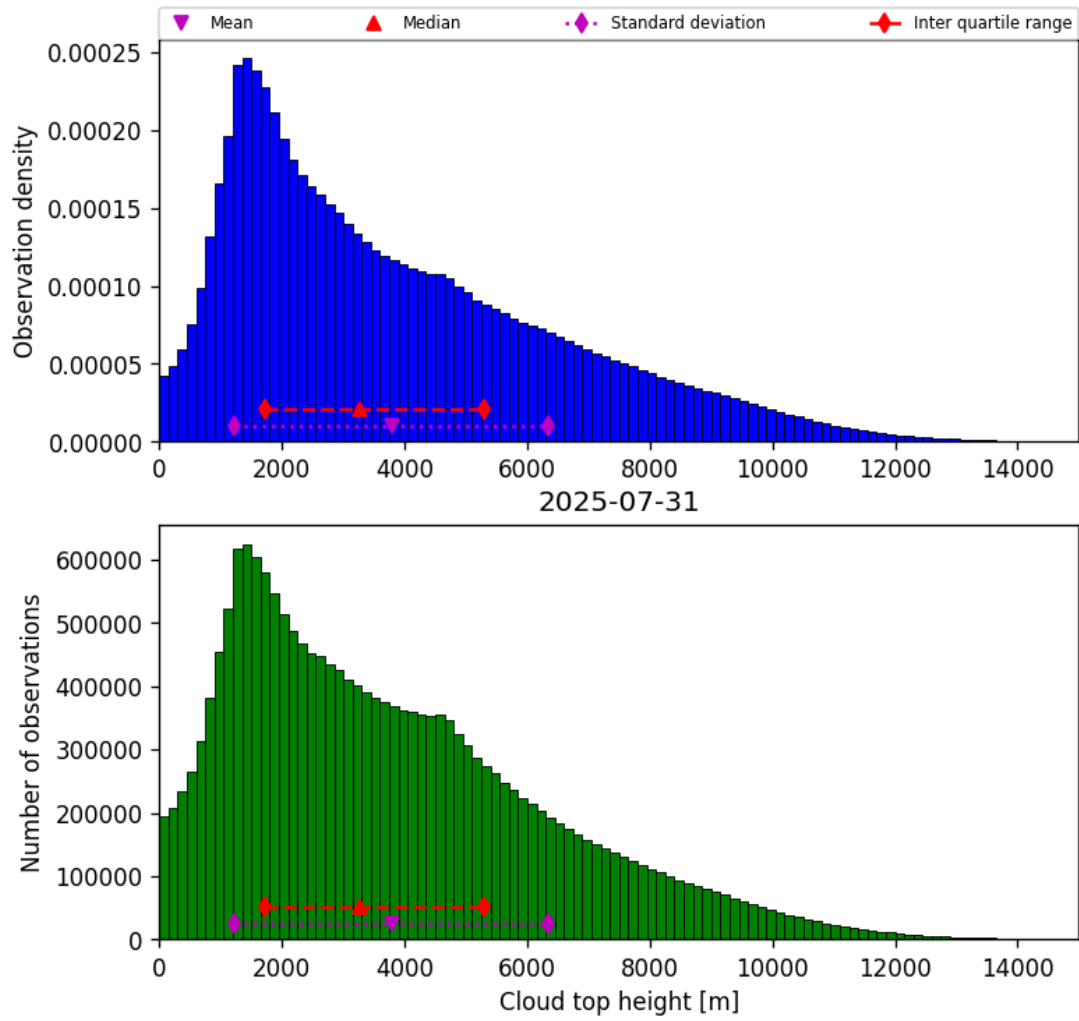


Figure 38: Histogram of “Cloud top height” for 2025-07-31 to 2025-08-01

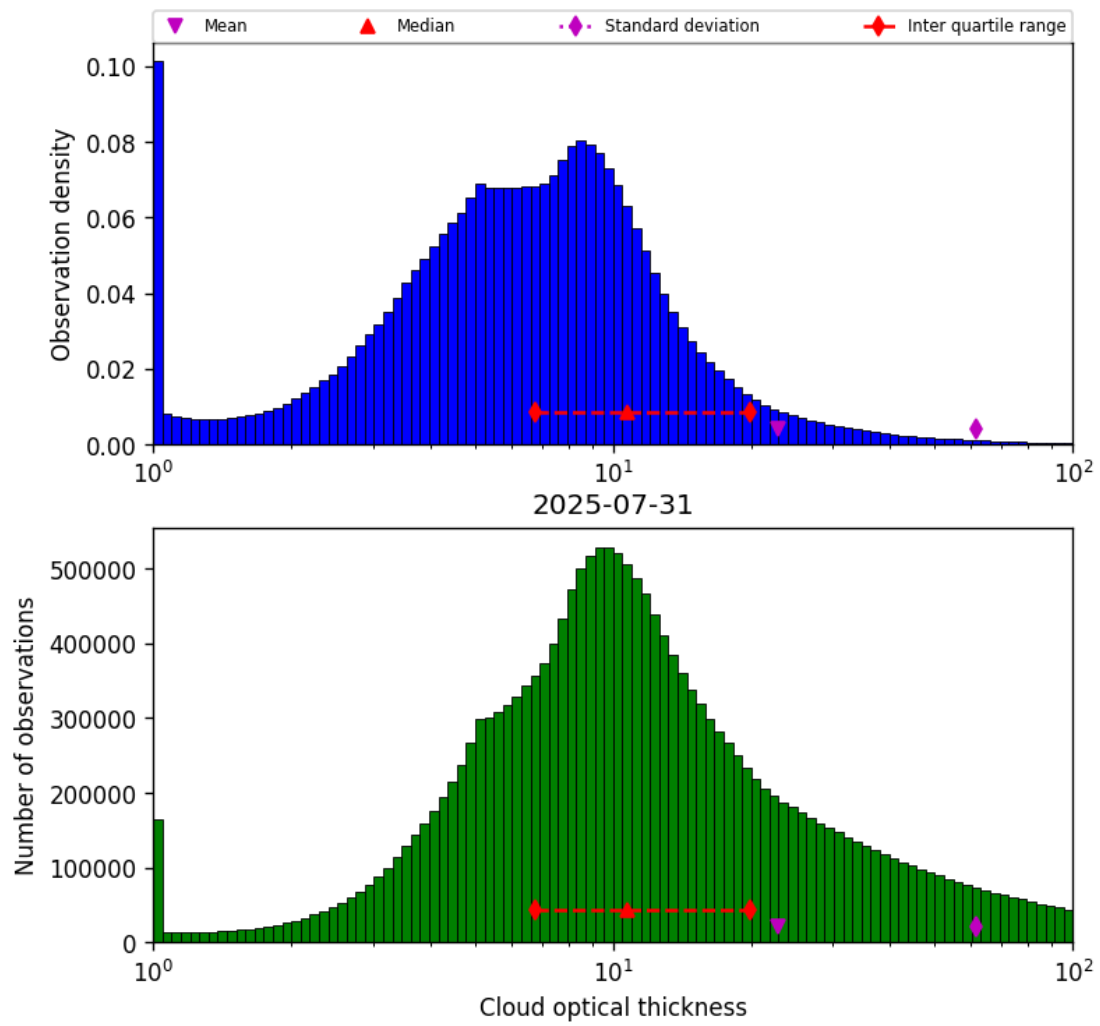


Figure 39: Histogram of “Cloud optical thickness” for 2025-07-31 to 2025-08-01

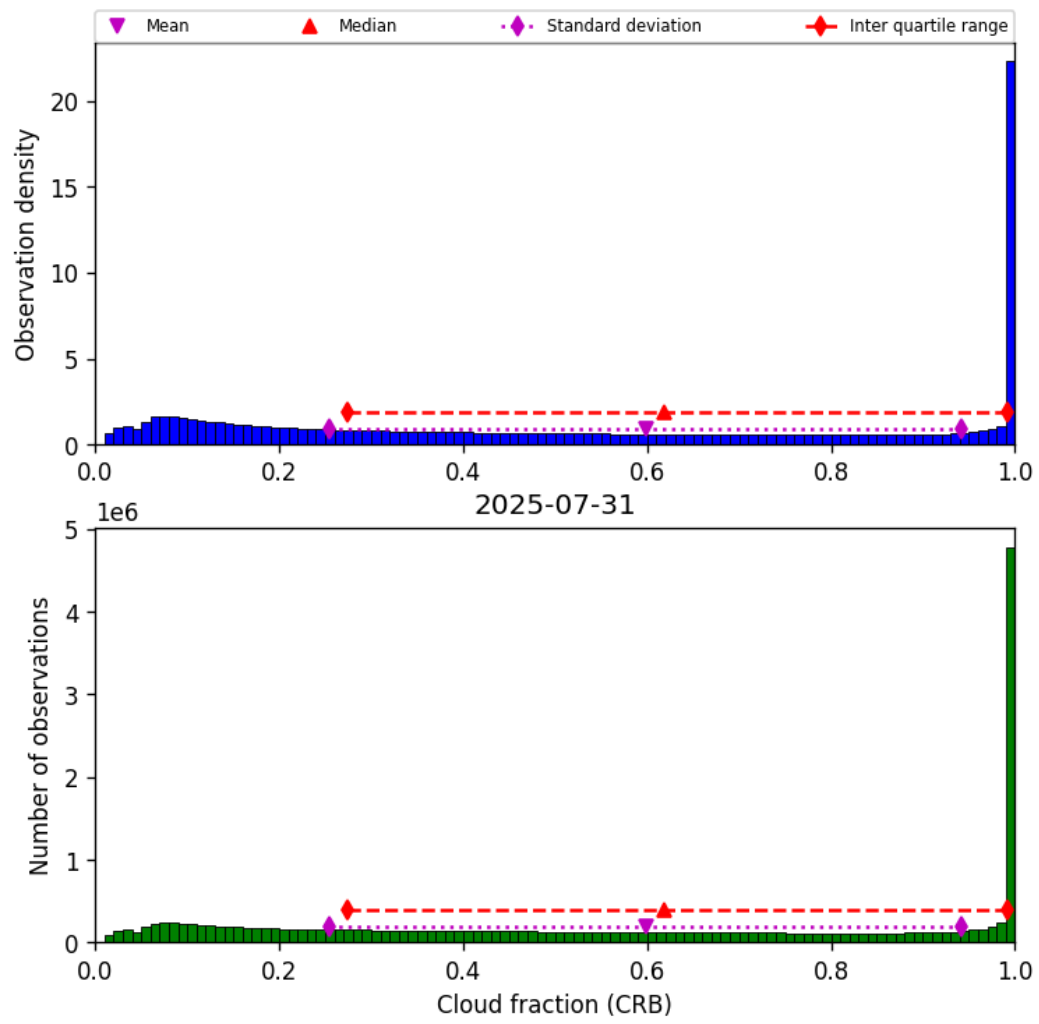


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-07-31 to 2025-08-01

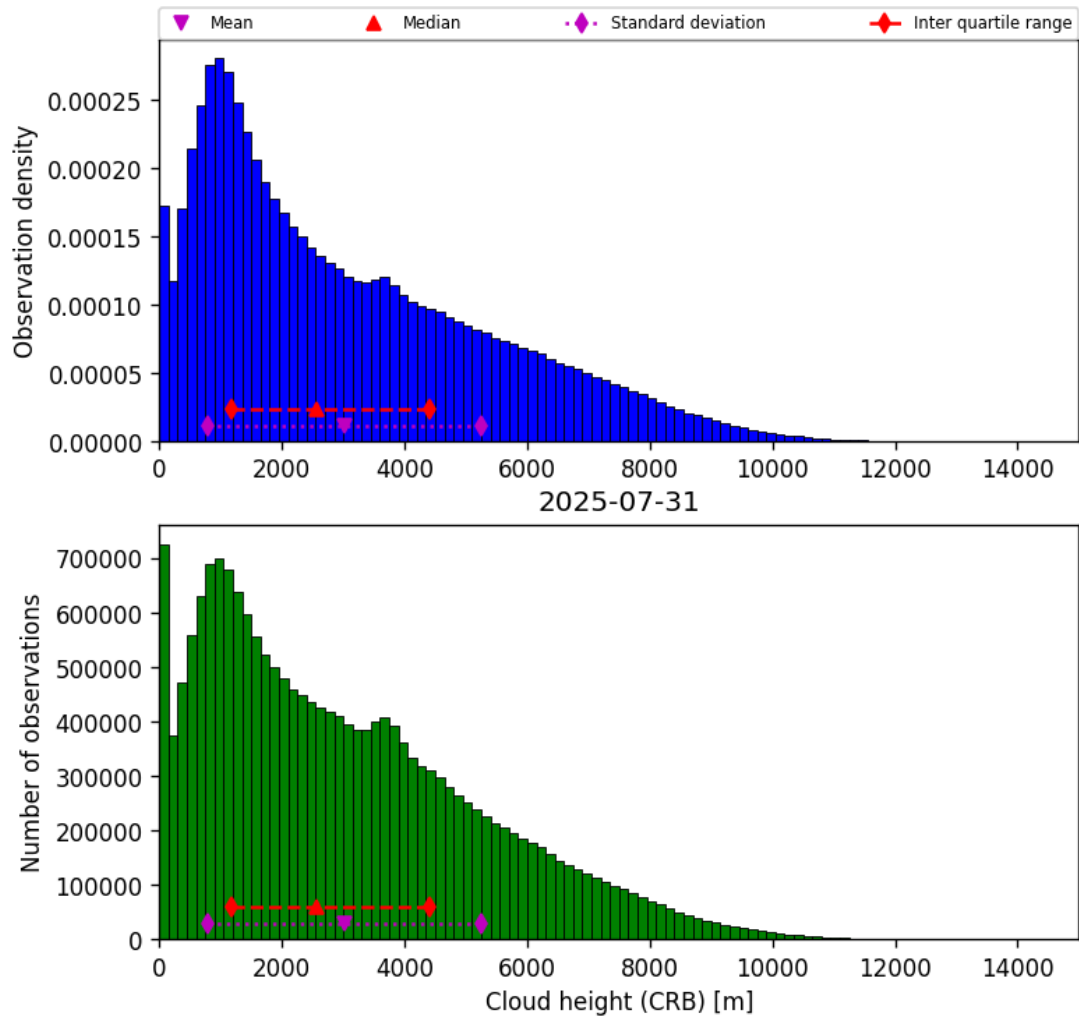


Figure 41: Histogram of “Cloud height (CRB)” for 2025-07-31 to 2025-08-01

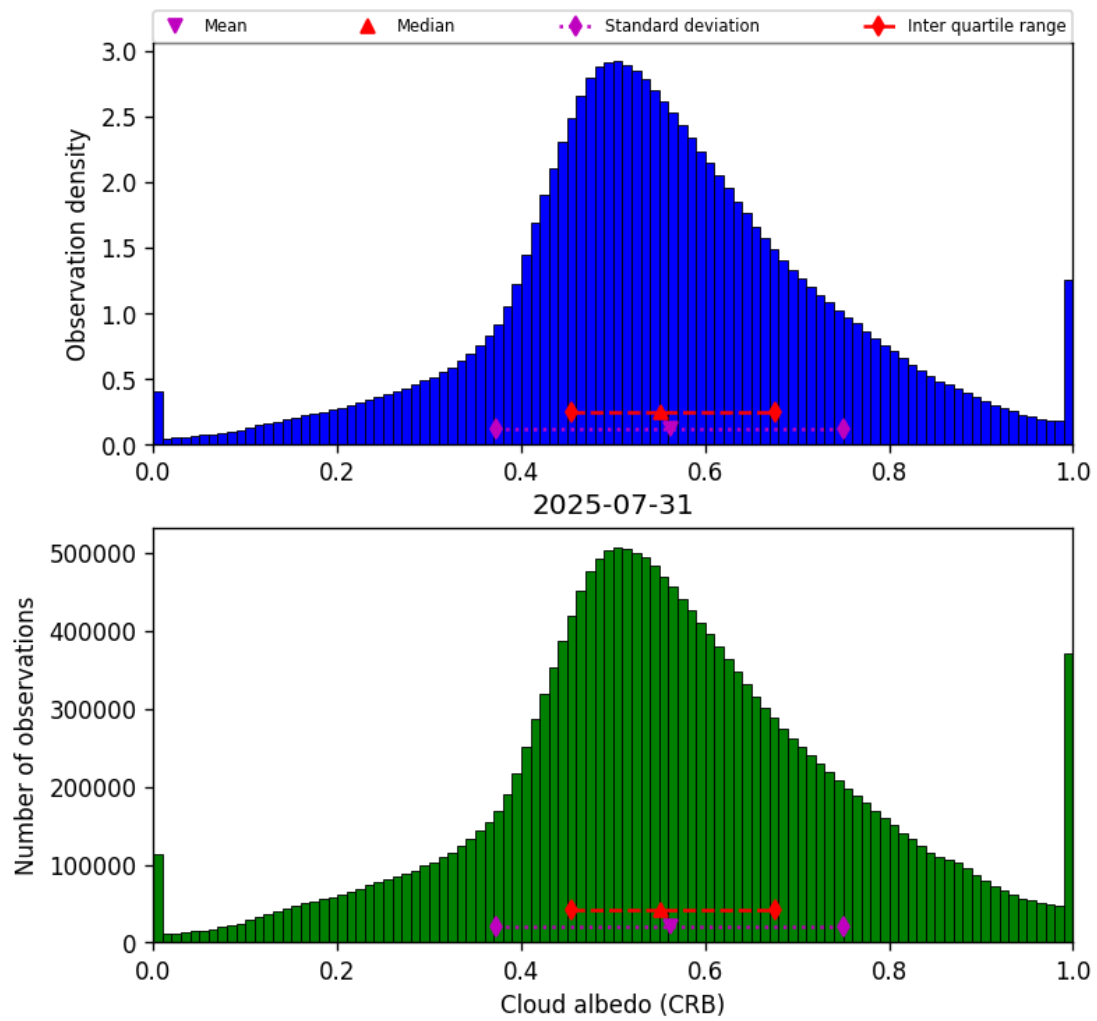


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-07-31 to 2025-08-01

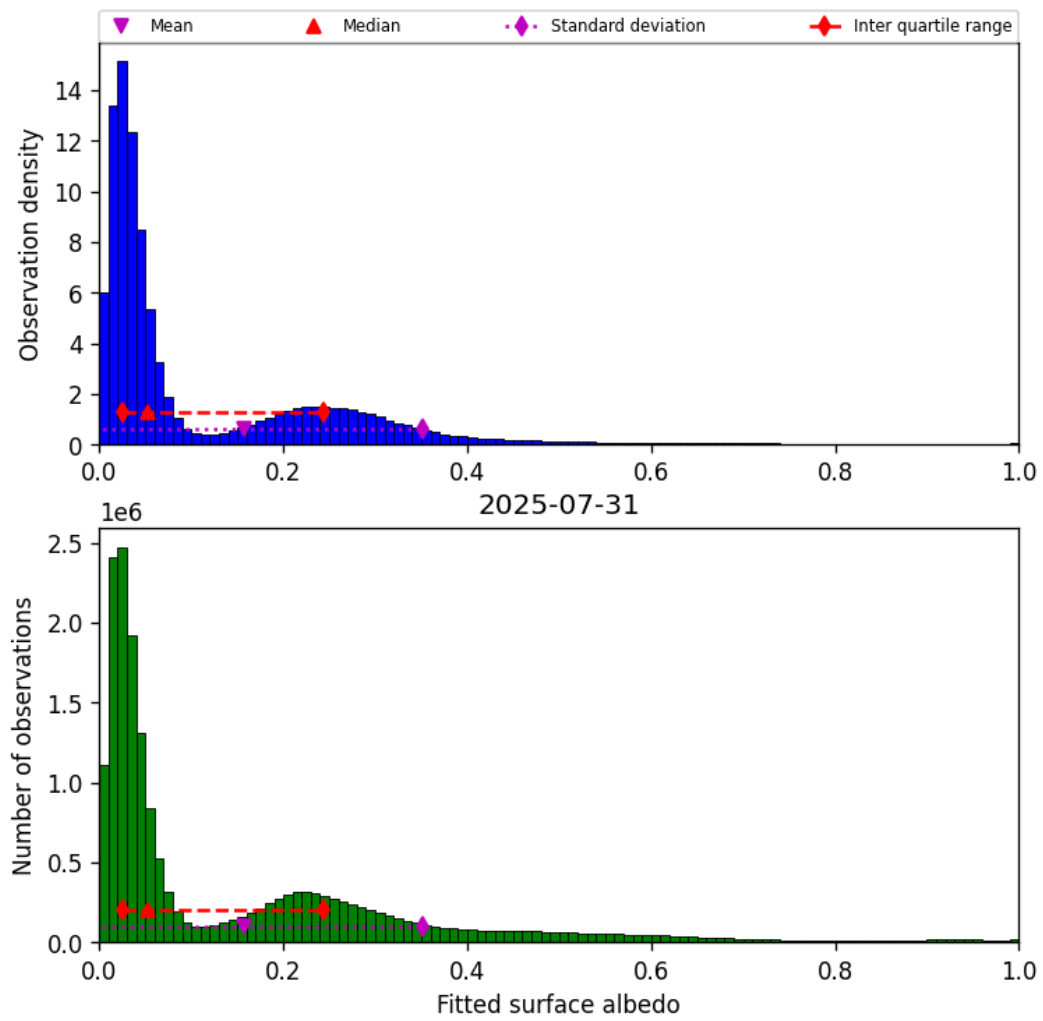


Figure 43: Histogram of “Fitted surface albedo” for 2025-07-31 to 2025-08-01

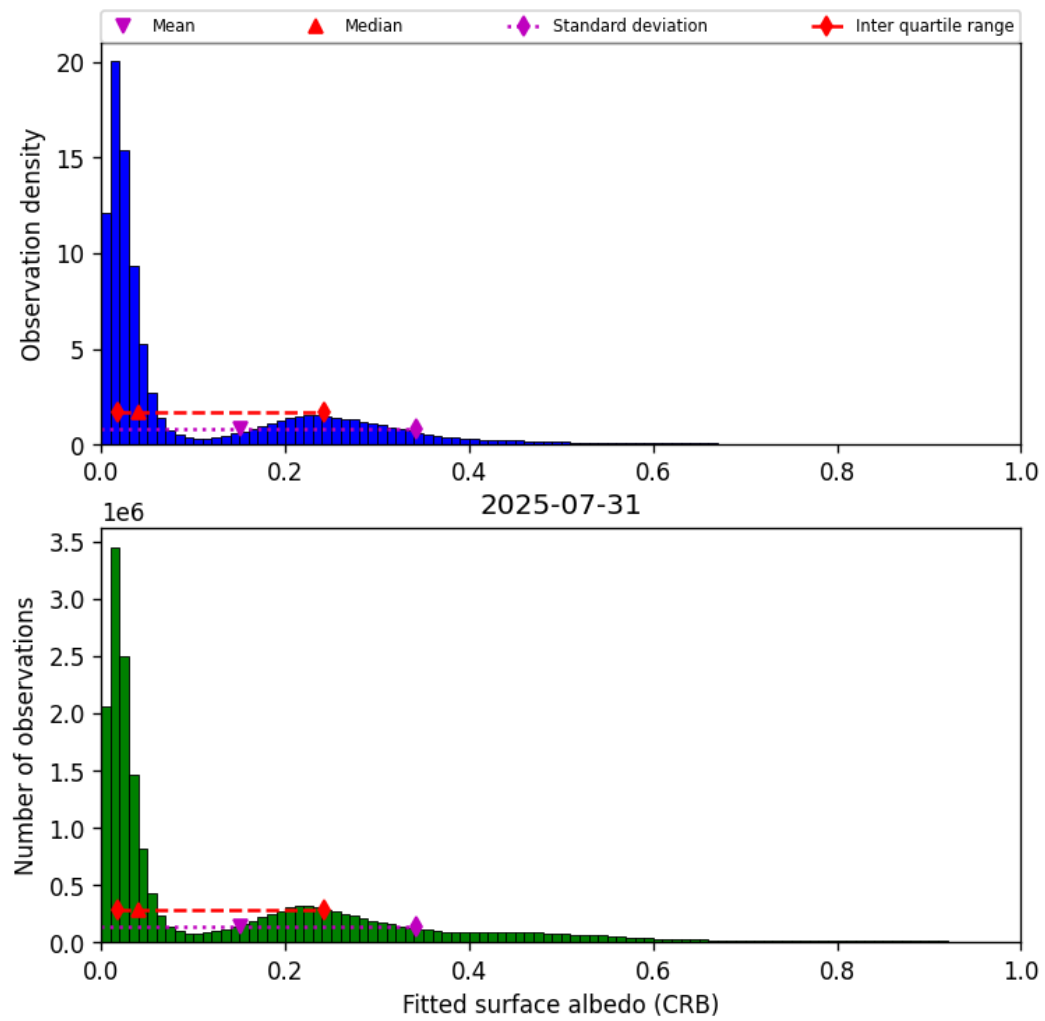


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-07-31 to 2025-08-01

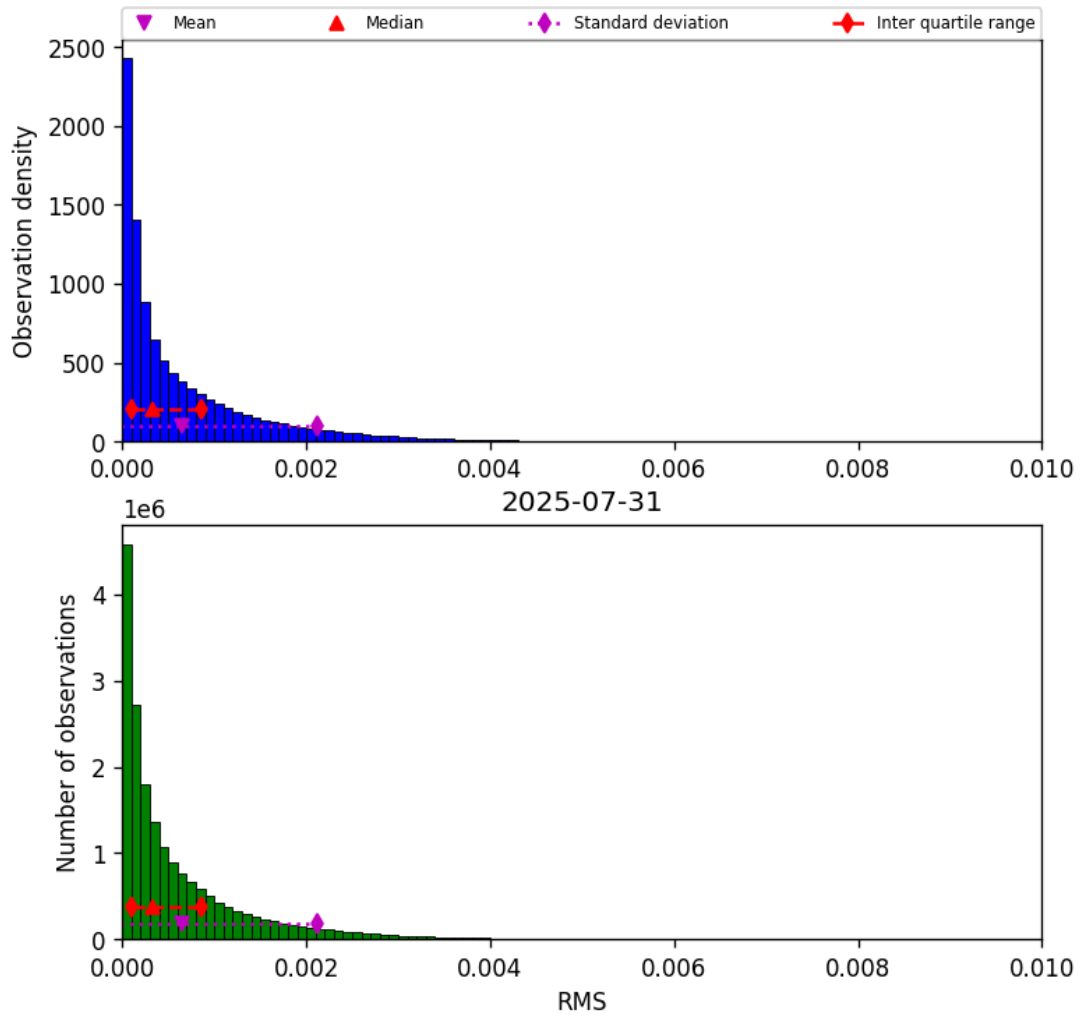


Figure 45: Histogram of “RMS” for 2025-07-31 to 2025-08-01

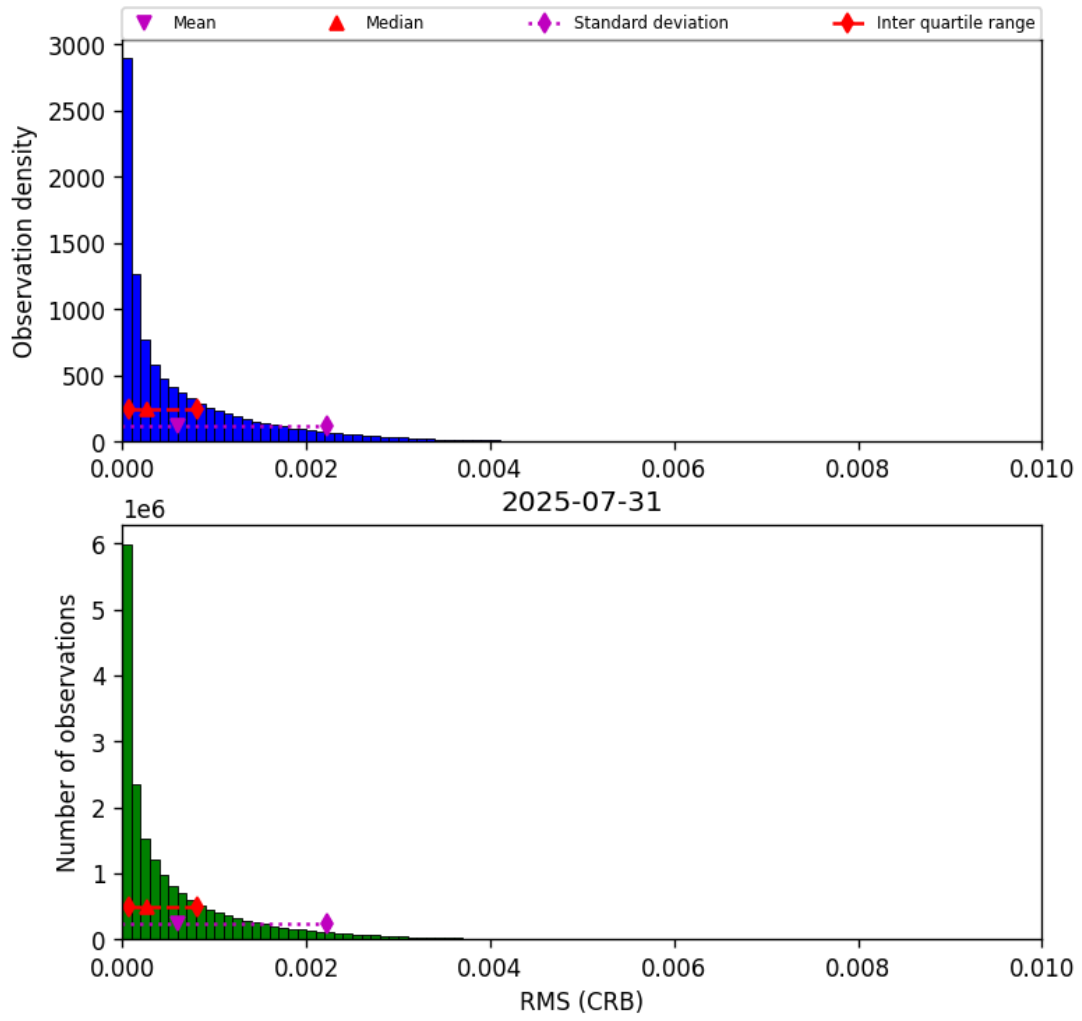


Figure 46: Histogram of “RMS (CRB)” for 2025-07-31 to 2025-08-01

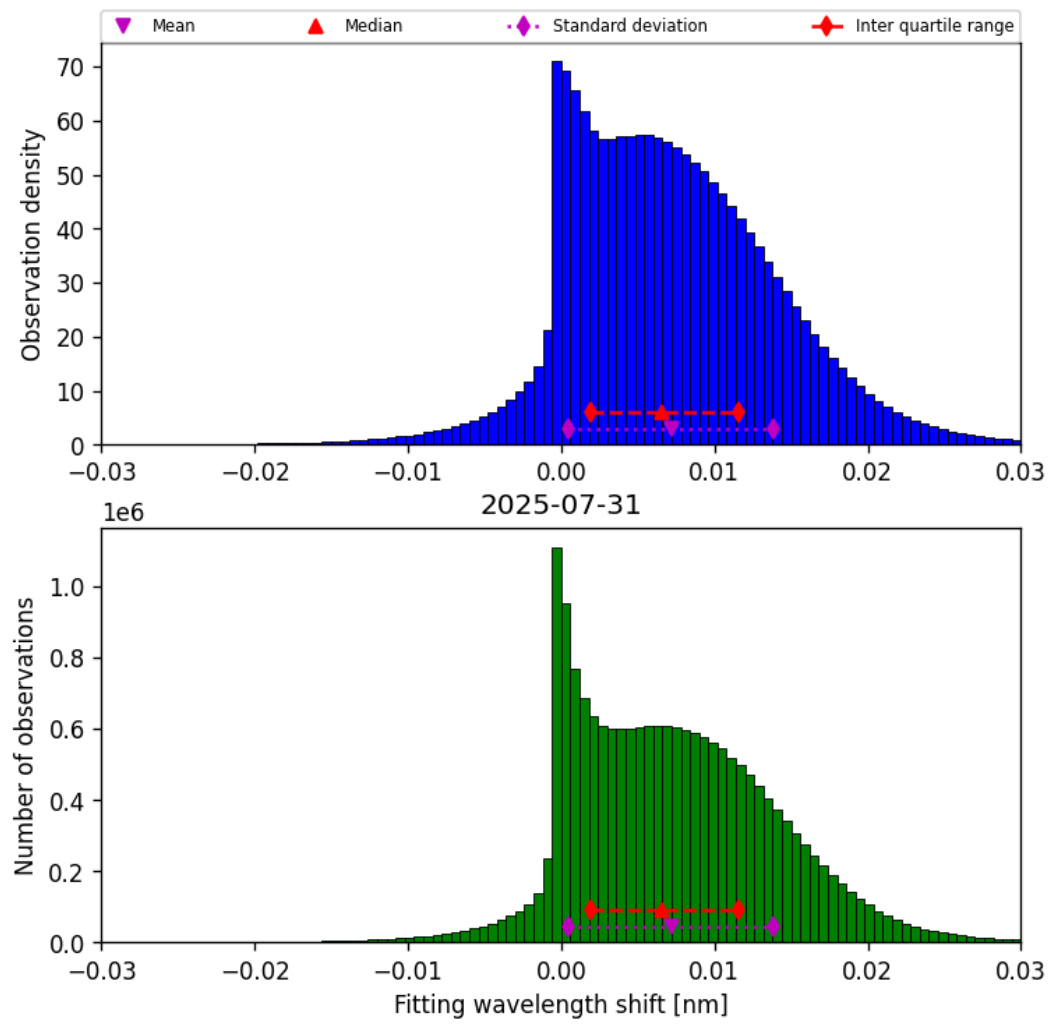


Figure 47: Histogram of “Fitting wavelength shift” for 2025-07-31 to 2025-08-01

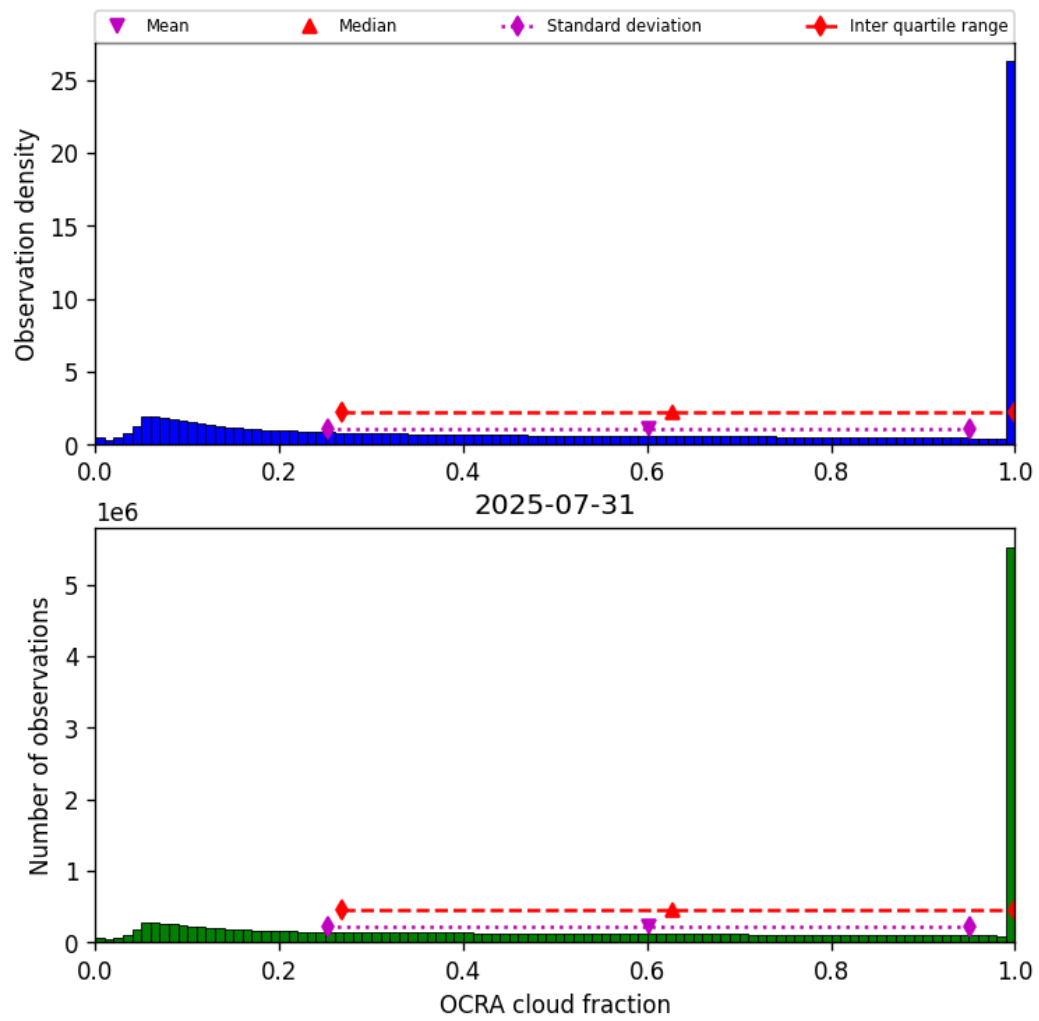


Figure 48: Histogram of “OCRA cloud fraction” for 2025-07-31 to 2025-08-01

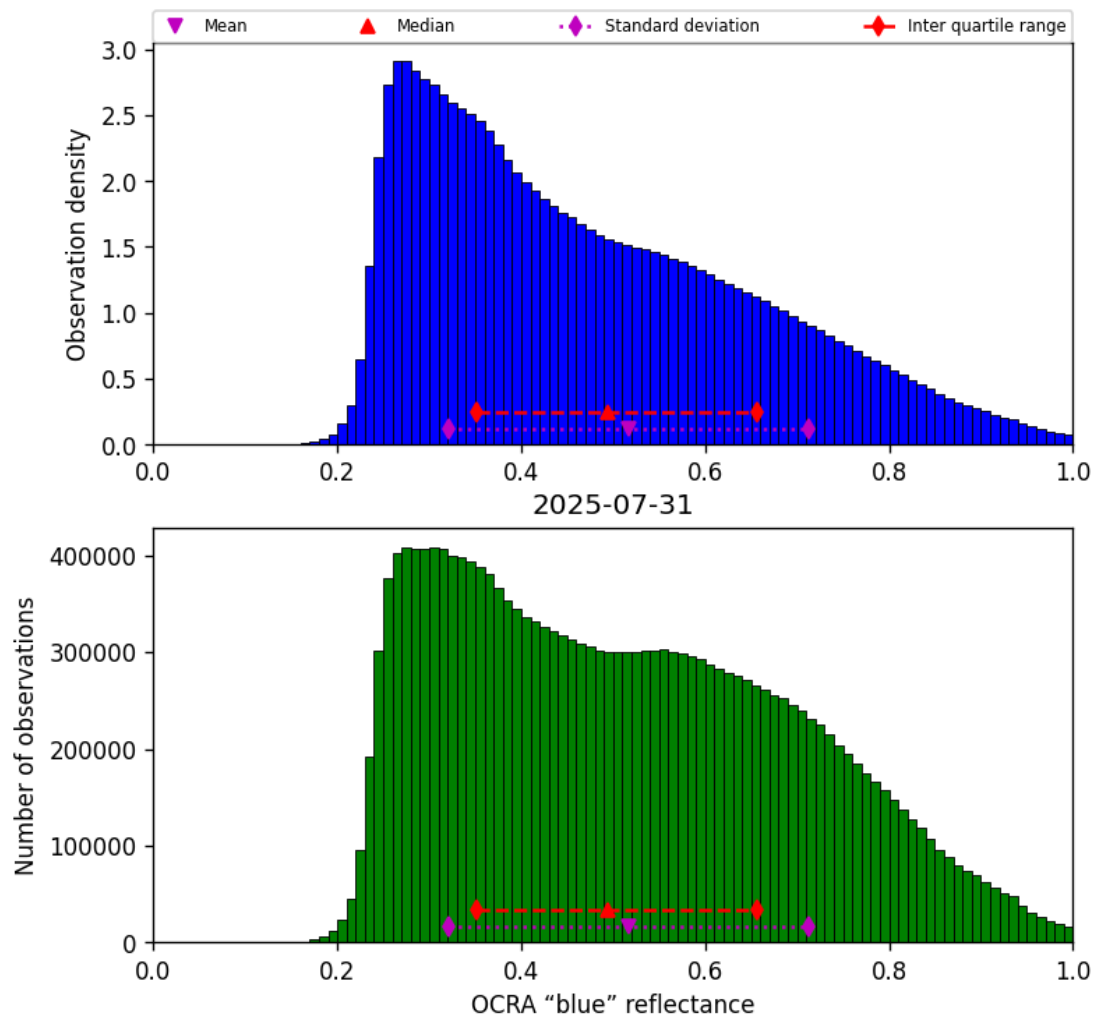


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-07-31 to 2025-08-01

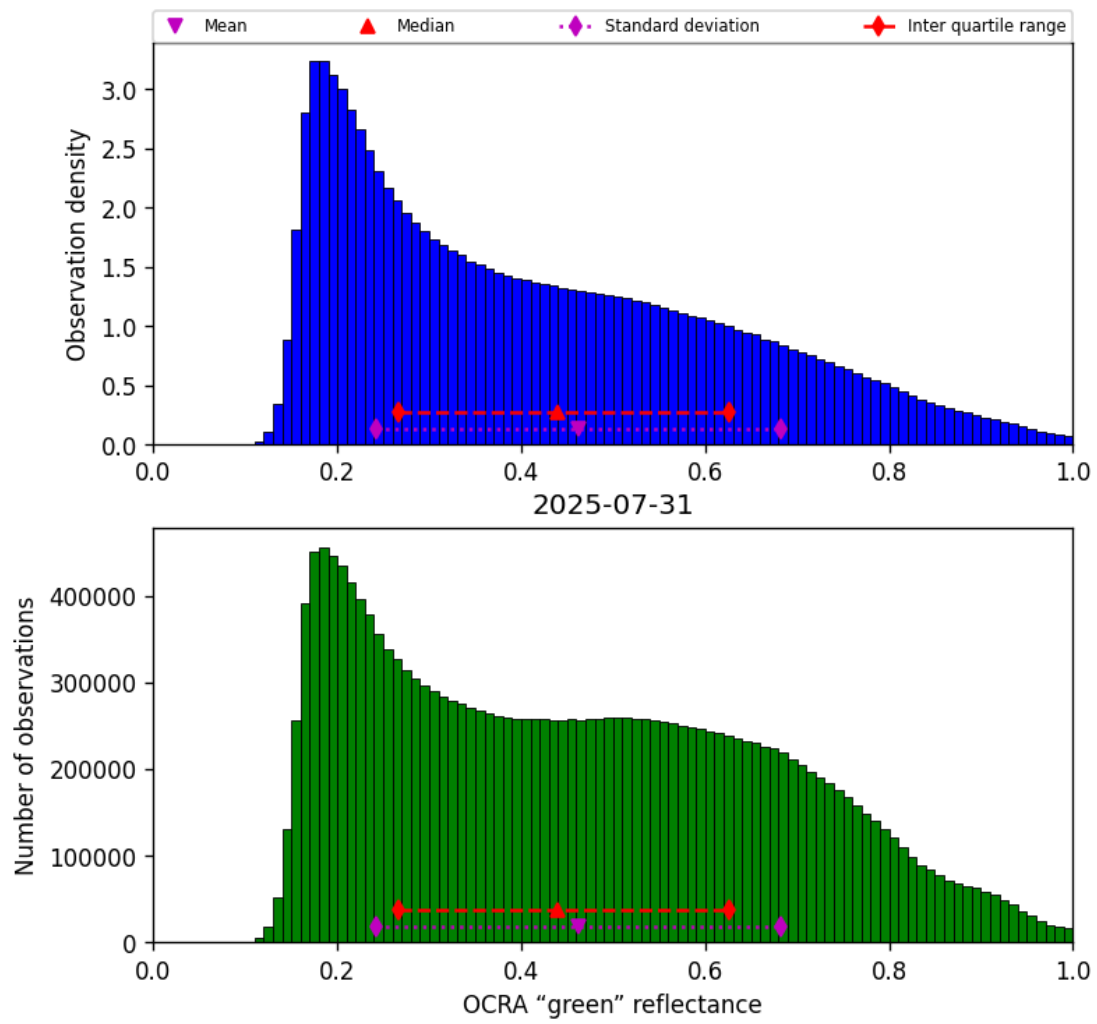


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-07-31 to 2025-08-01

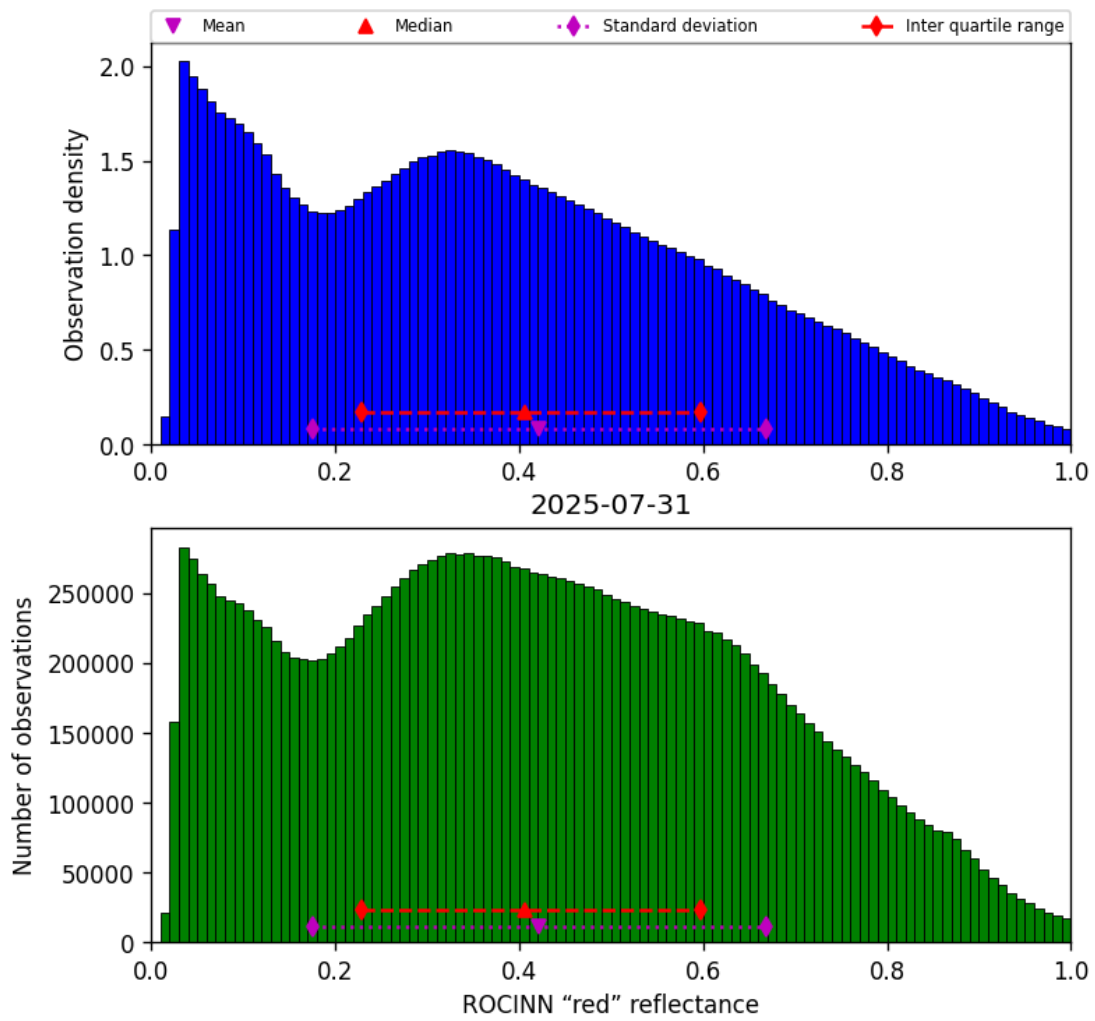


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-07-31 to 2025-08-01

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.

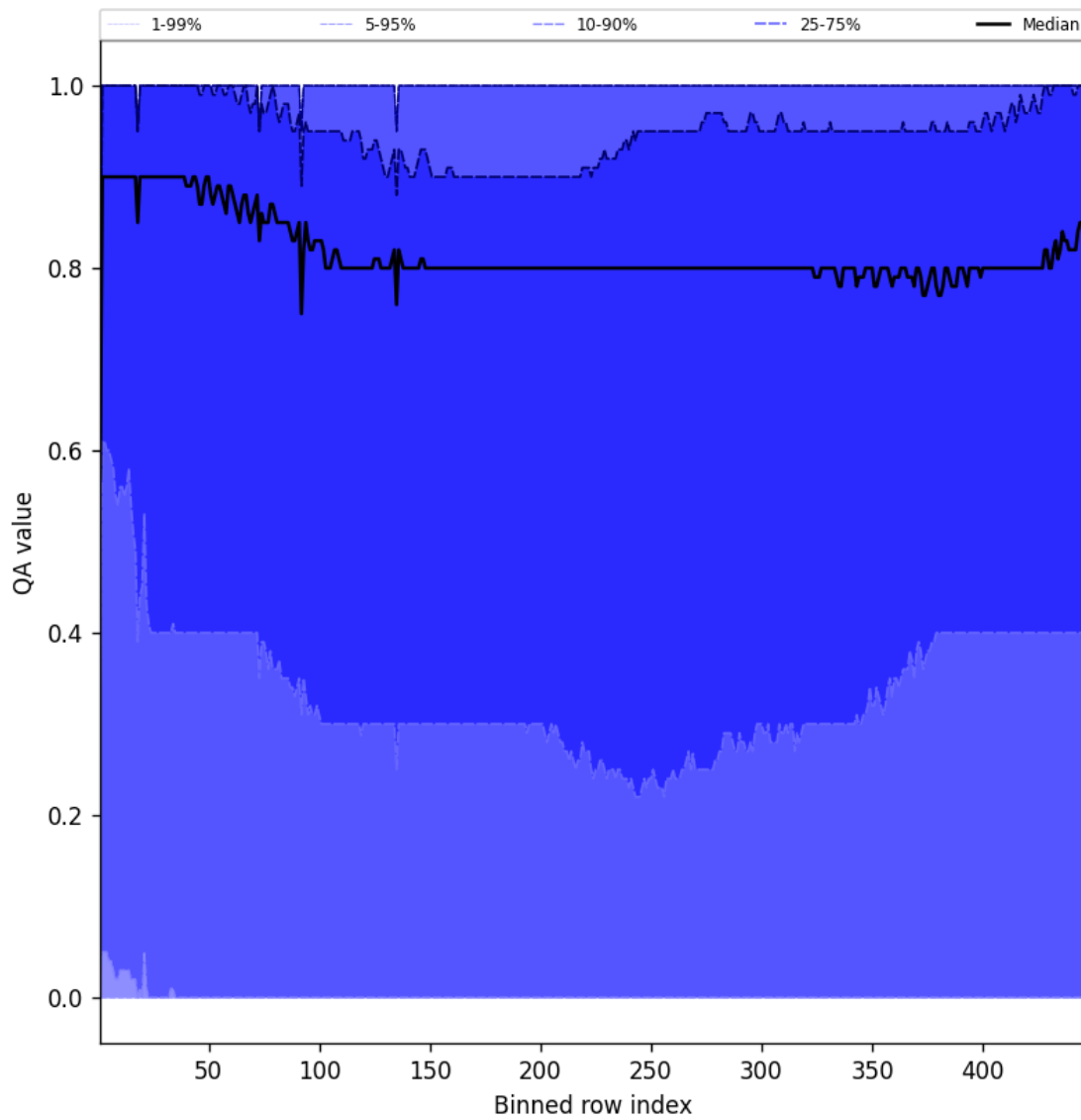


Figure 52: Along track statistics of "QA value" for 2025-07-31 to 2025-08-01

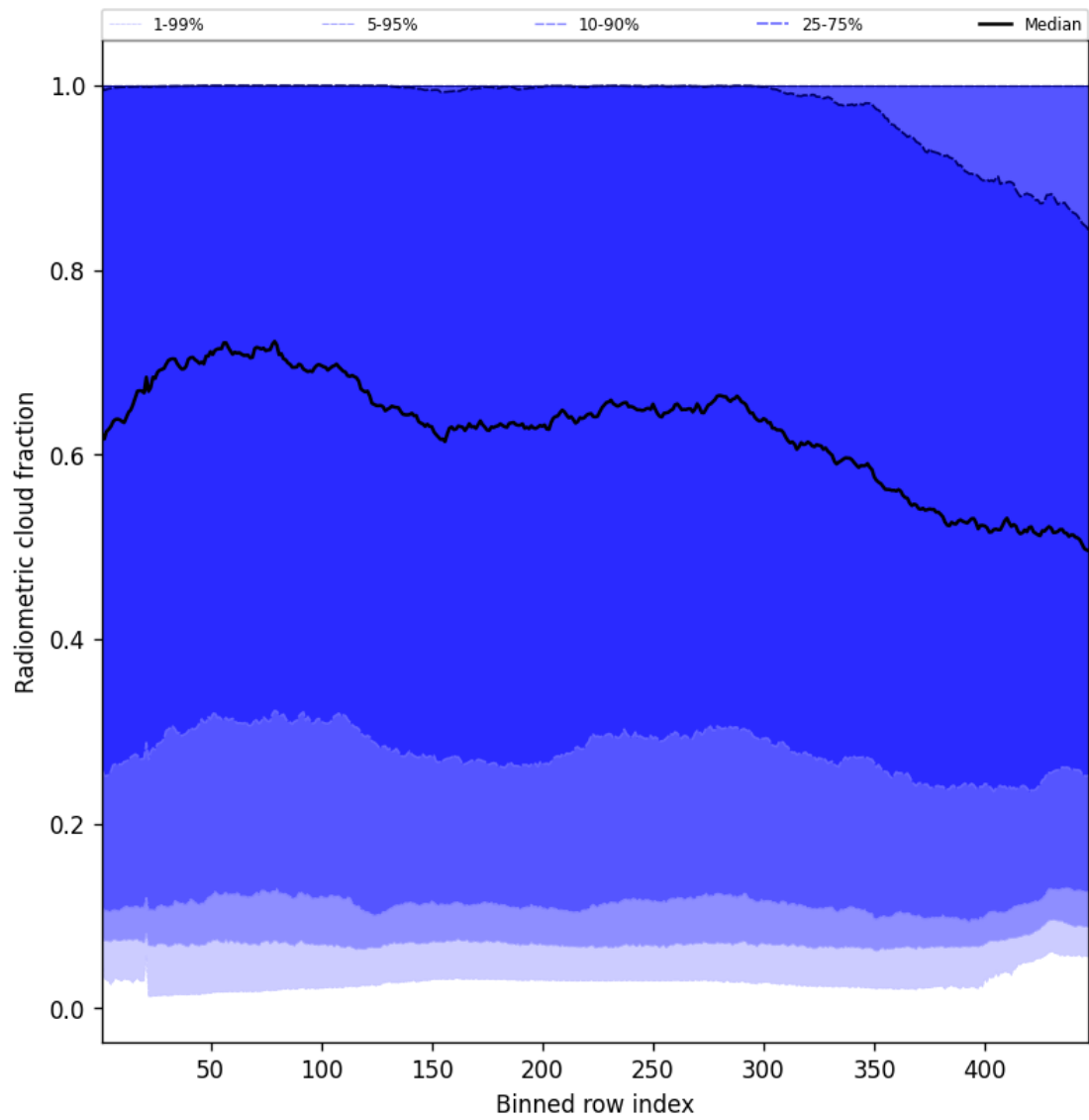


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-07-31 to 2025-08-01

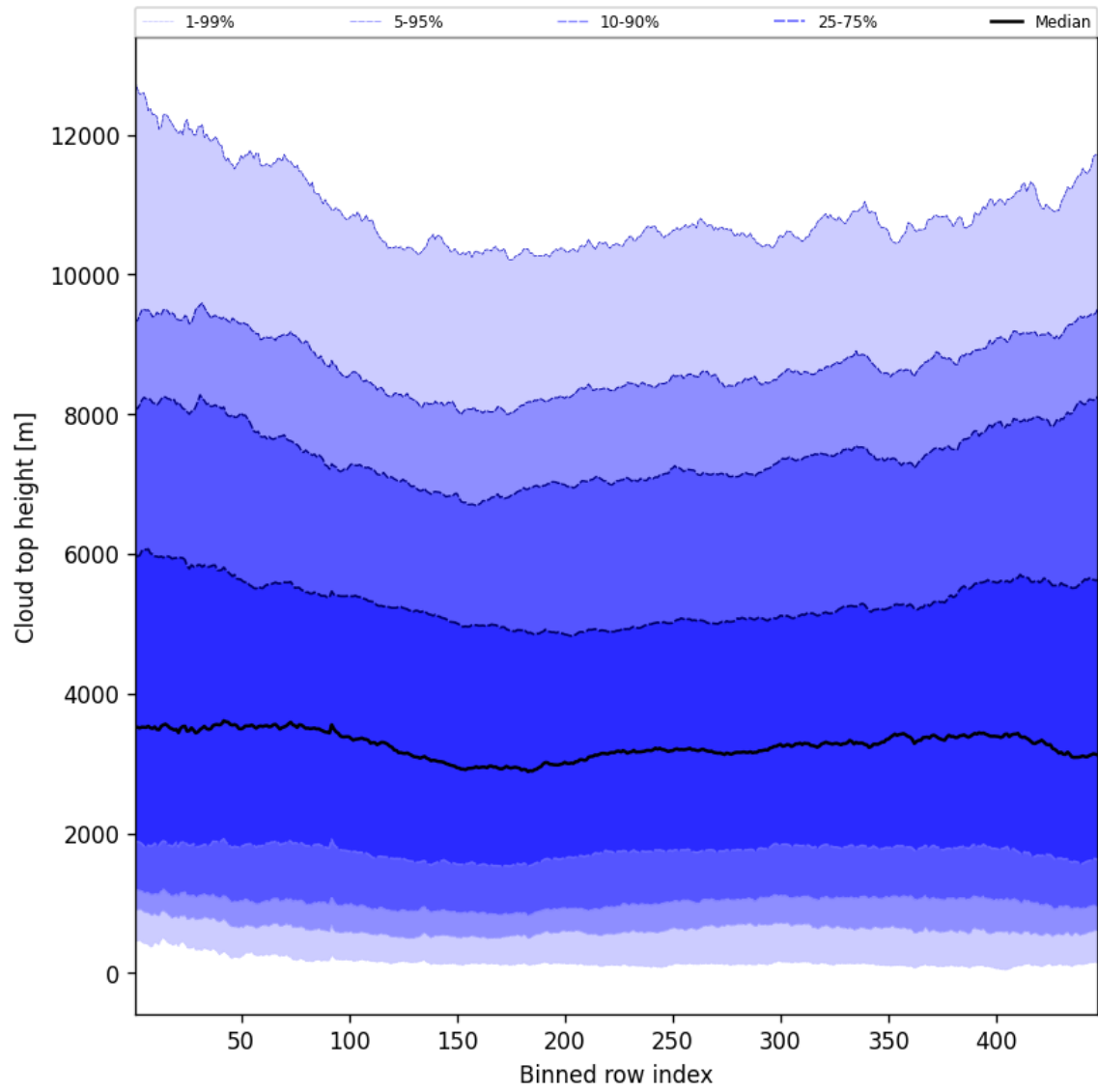


Figure 54: Along track statistics of “Cloud top height” for 2025-07-31 to 2025-08-01

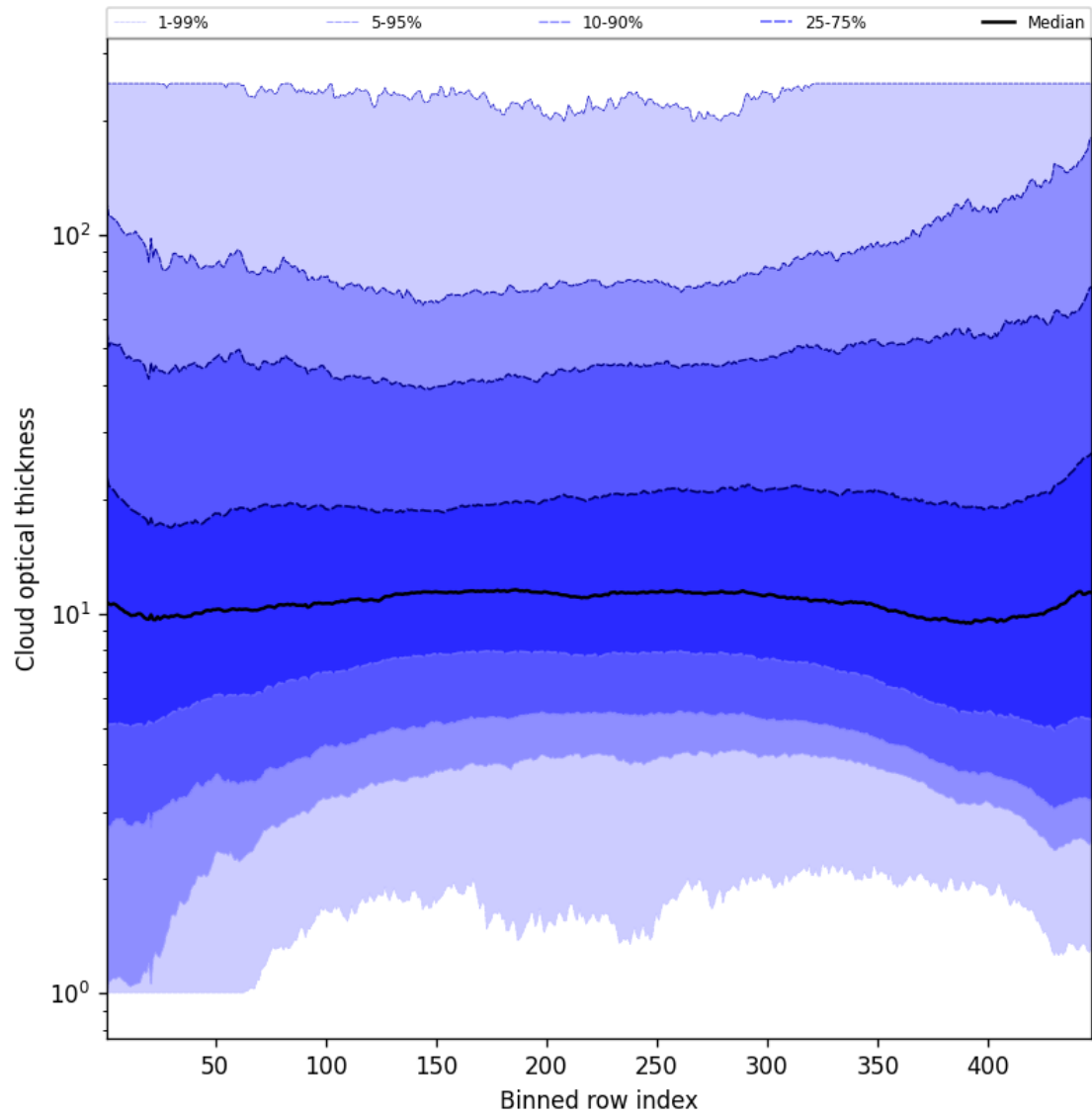


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-07-31 to 2025-08-01

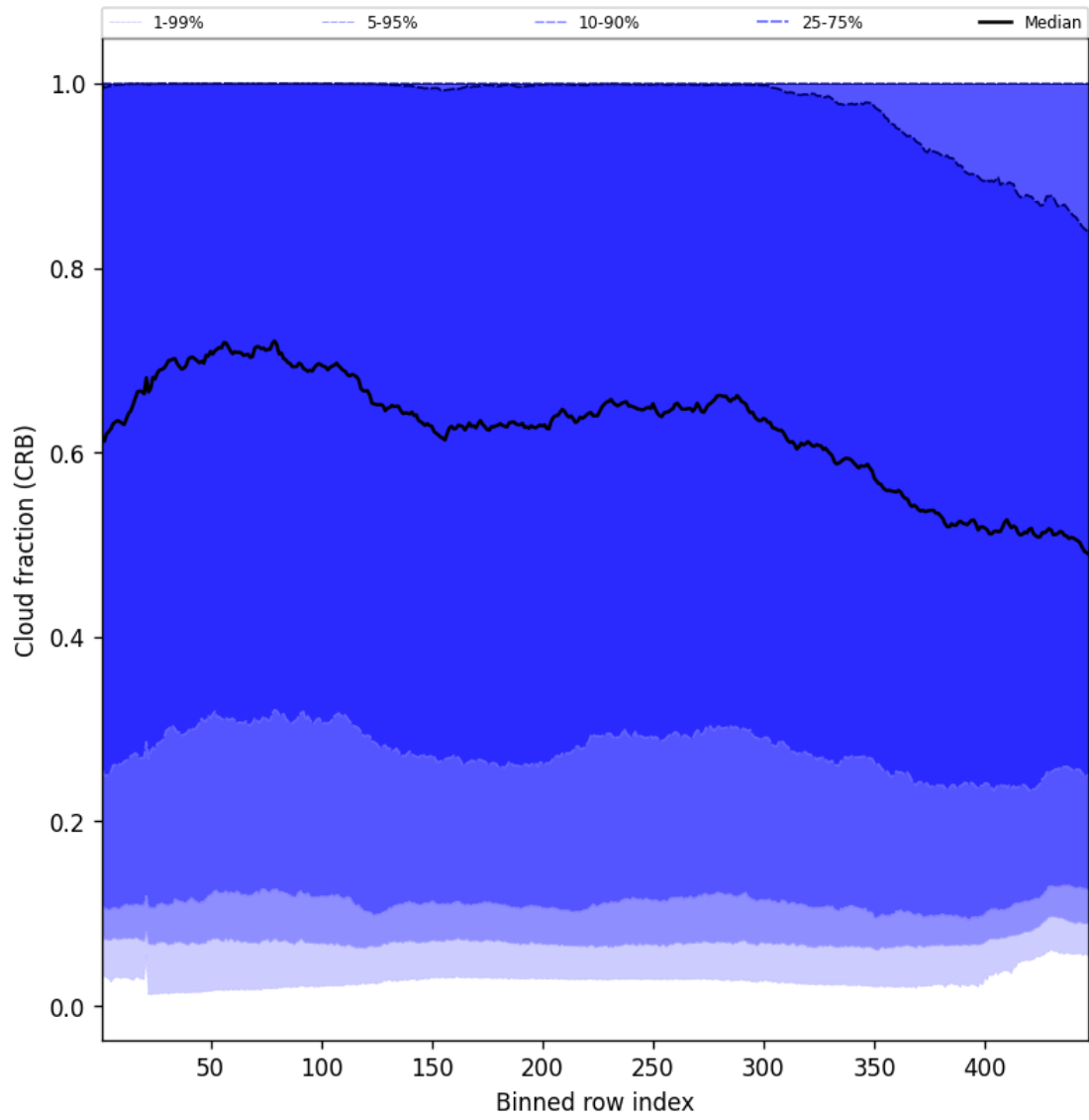


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-07-31 to 2025-08-01

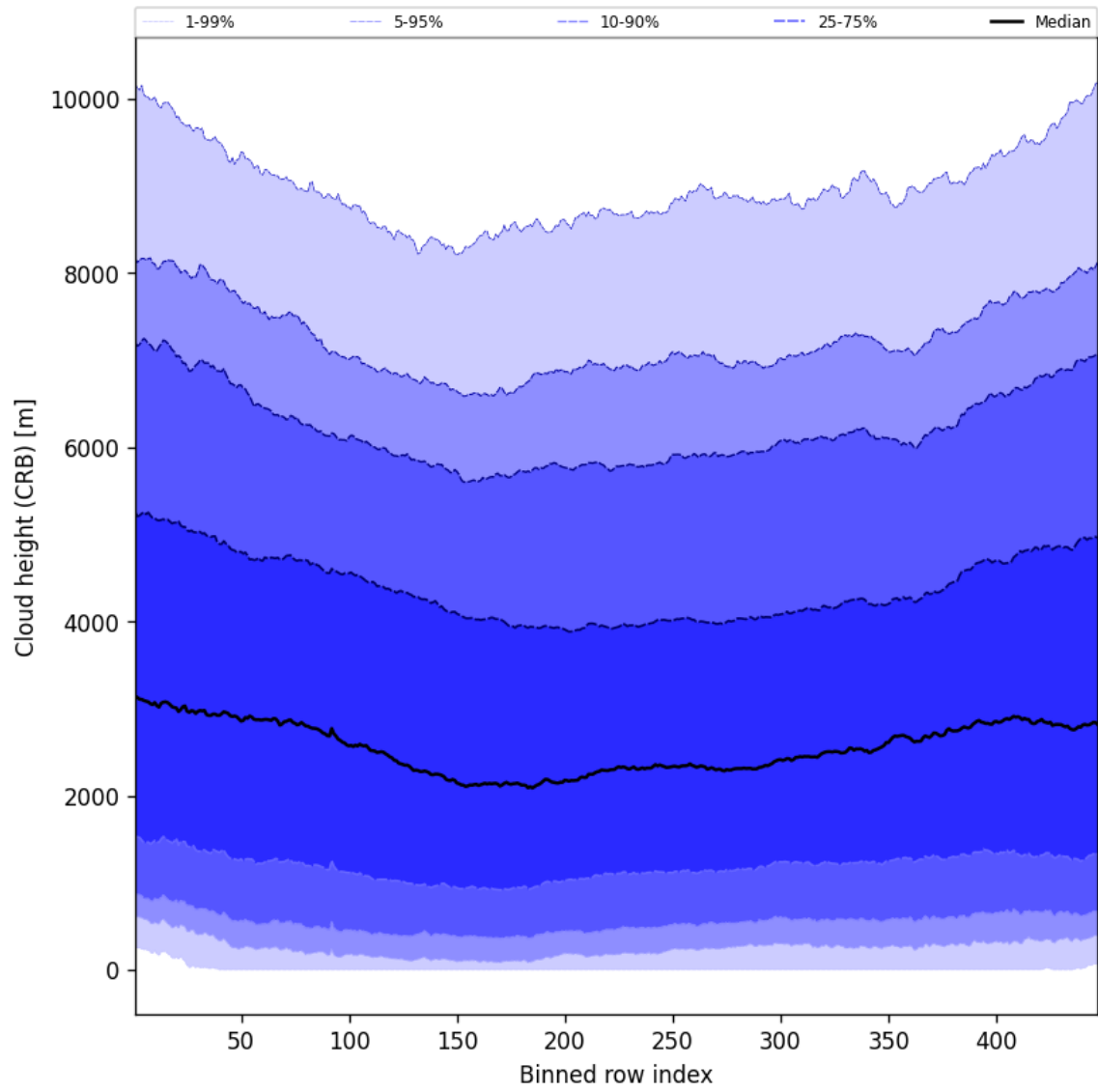


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-07-31 to 2025-08-01

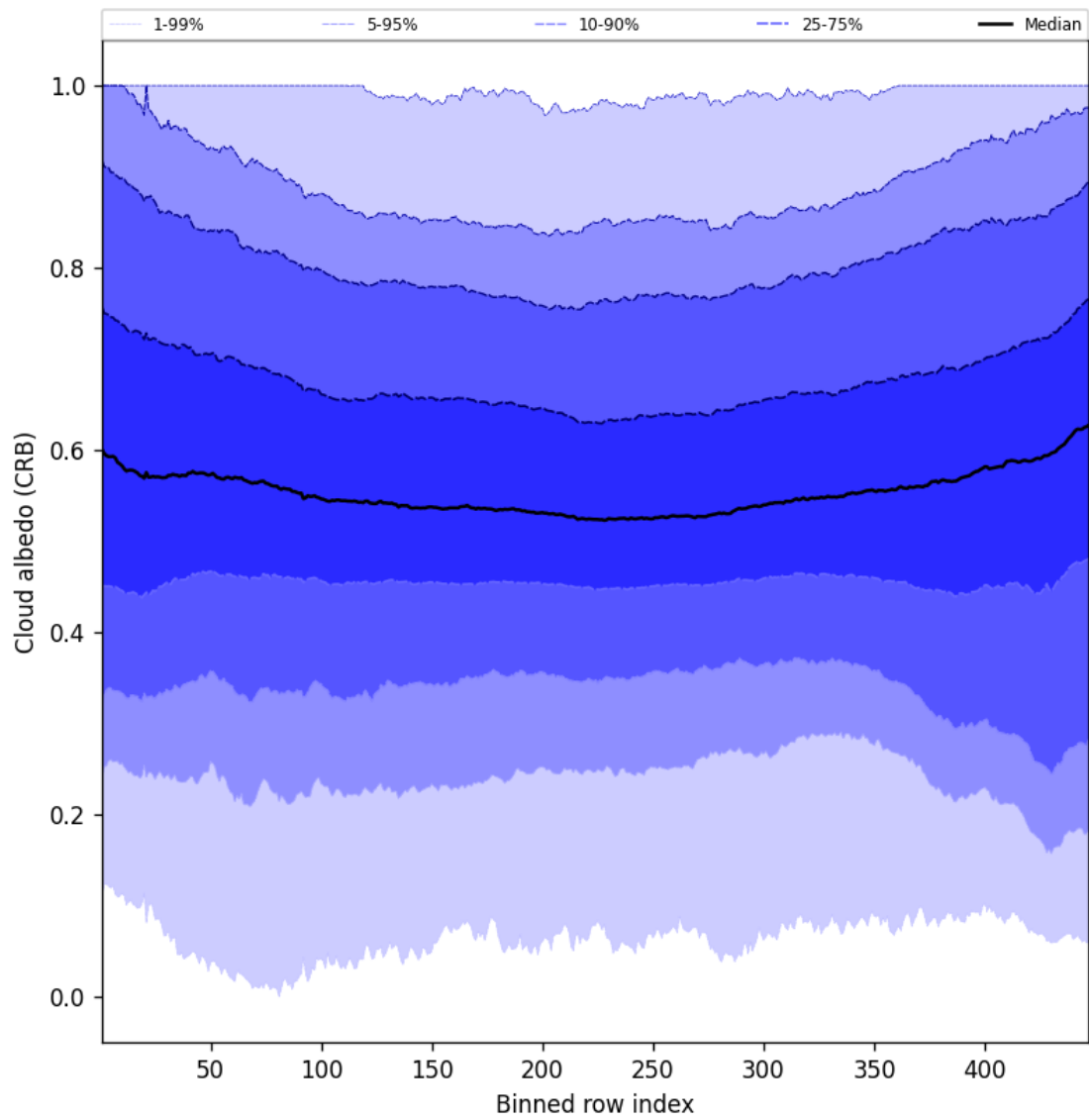


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-07-31 to 2025-08-01

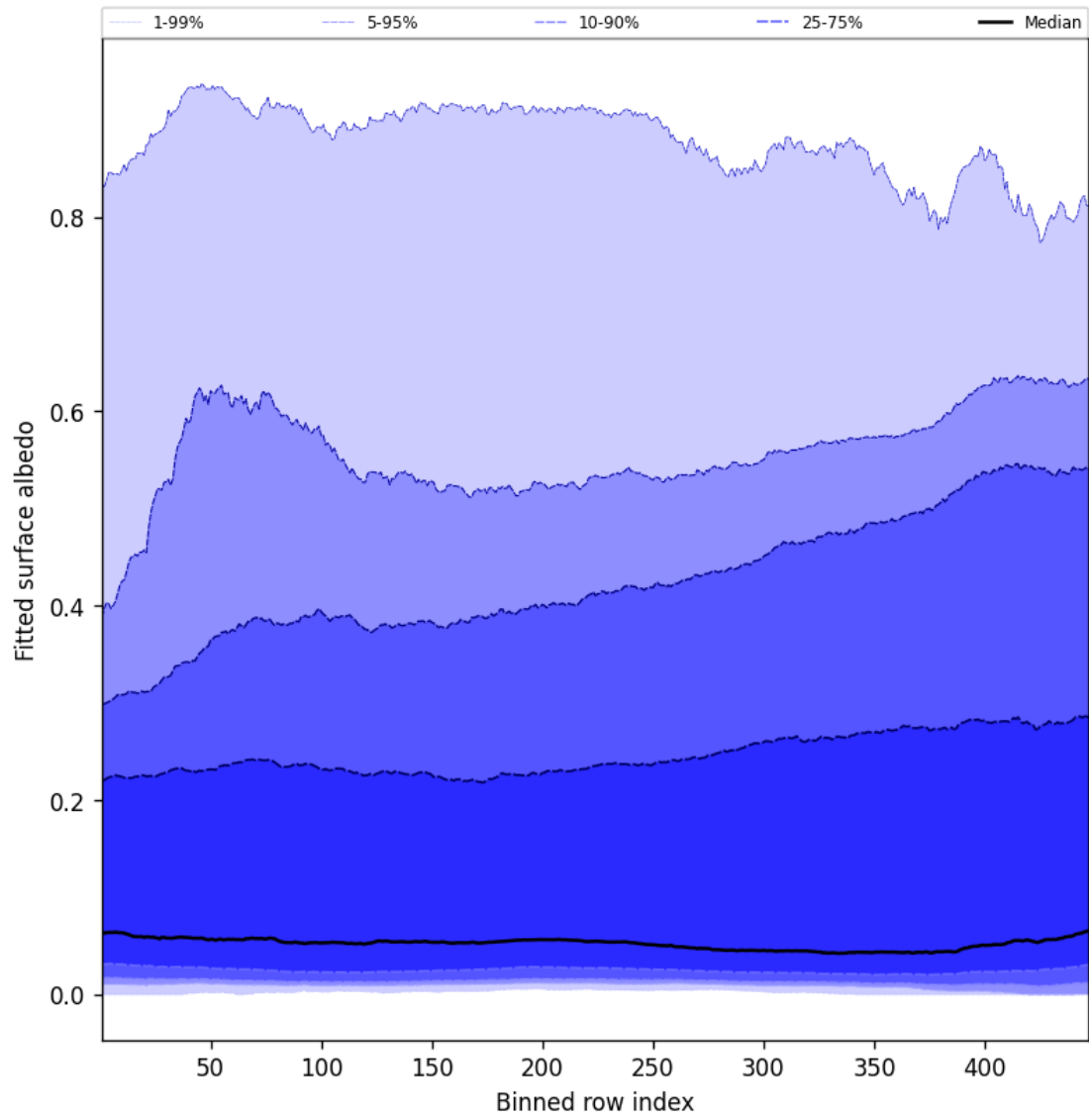


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-07-31 to 2025-08-01

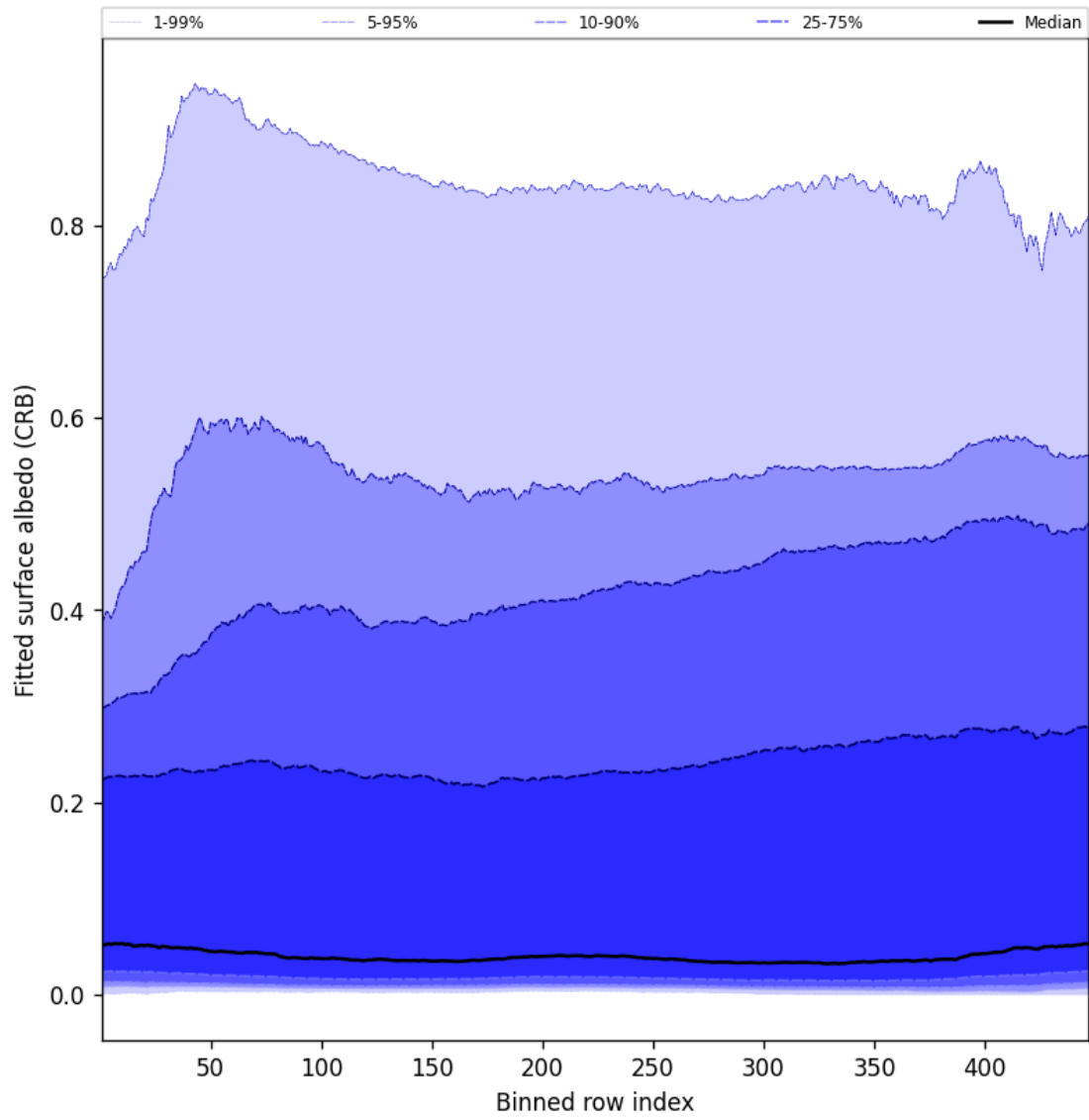


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-07-31 to 2025-08-01

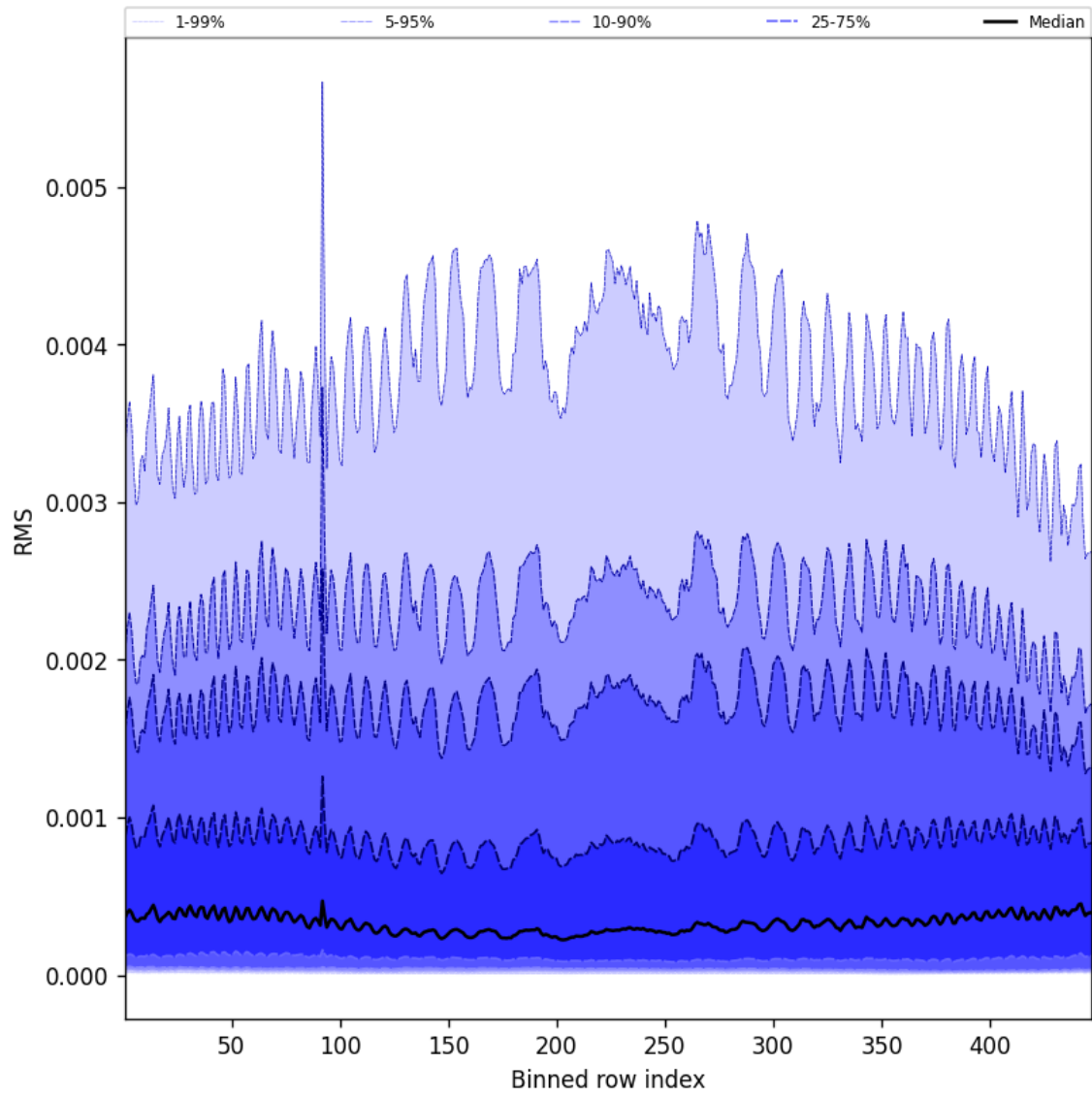


Figure 61: Along track statistics of “RMS” for 2025-07-31 to 2025-08-01

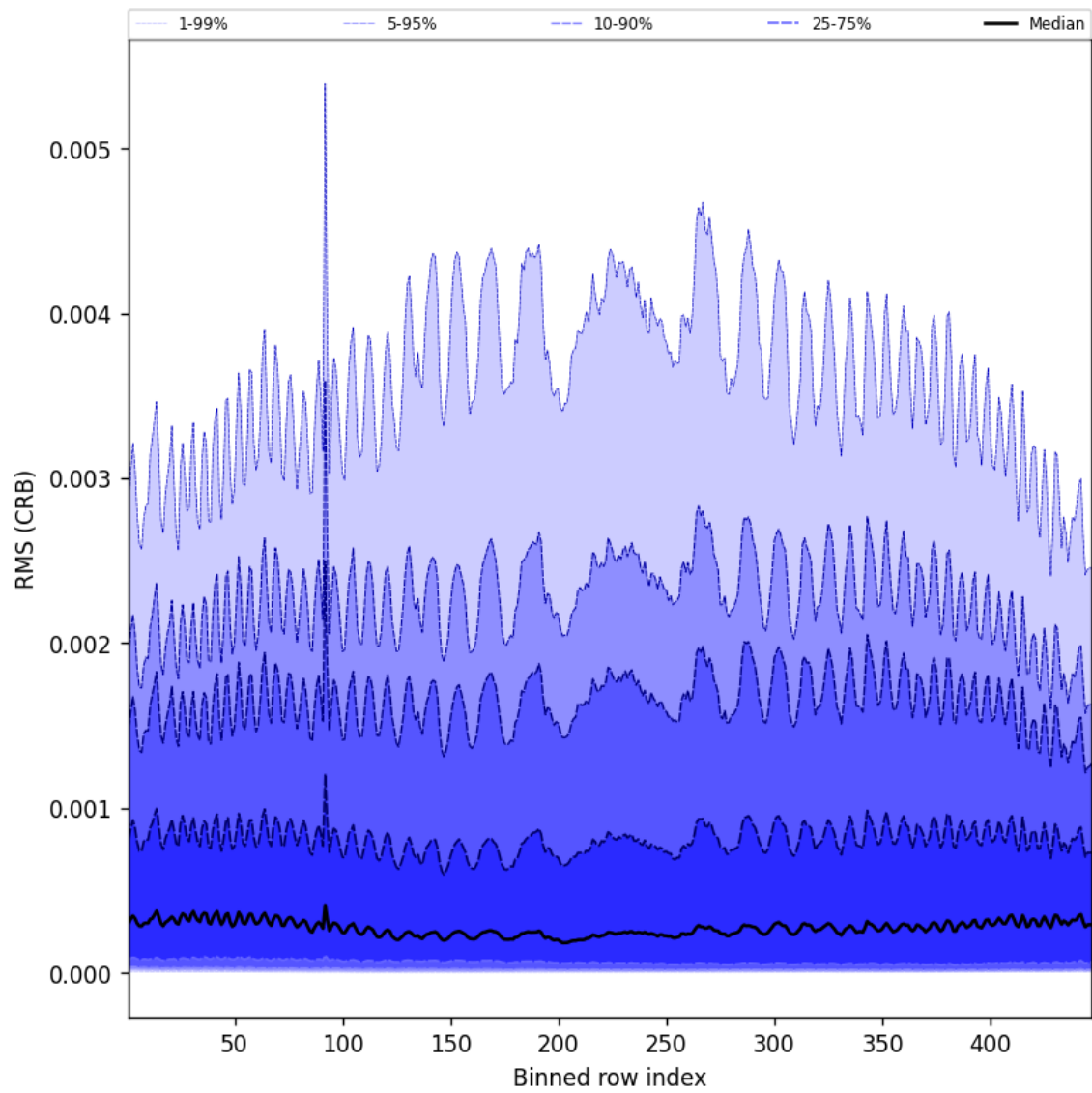


Figure 62: Along track statistics of “RMS (CRB)” for 2025-07-31 to 2025-08-01

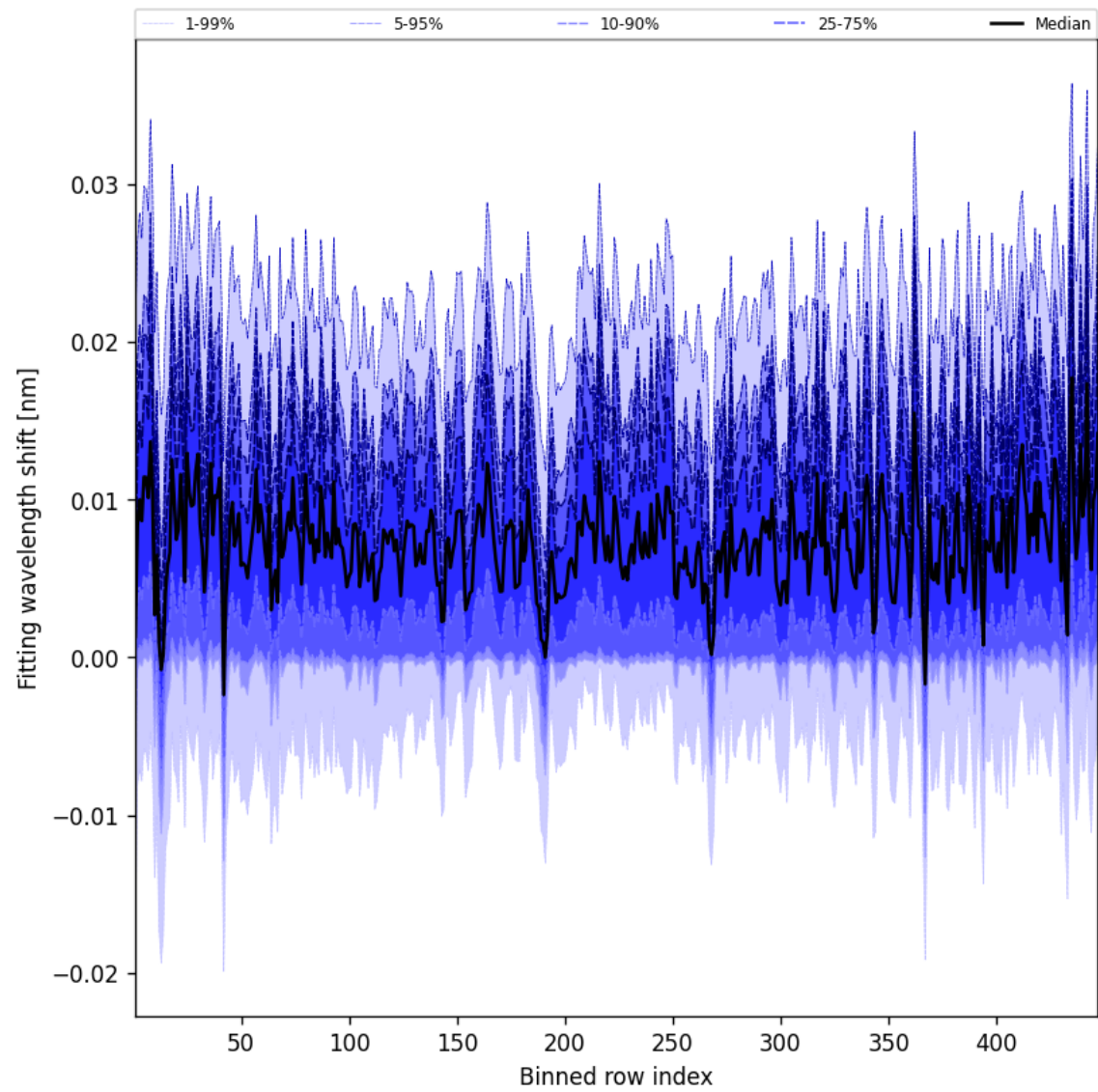


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-07-31 to 2025-08-01

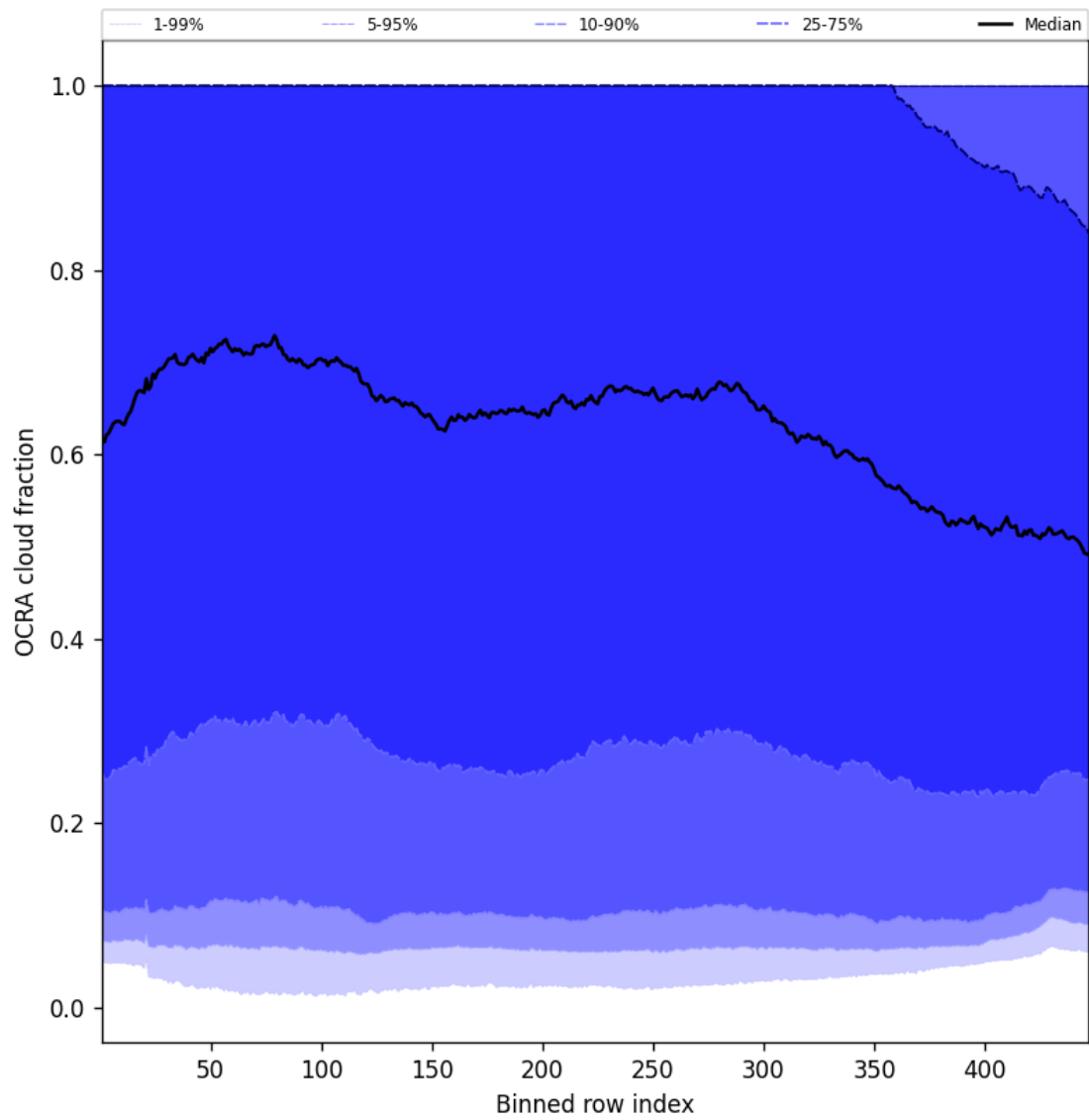


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-07-31 to 2025-08-01

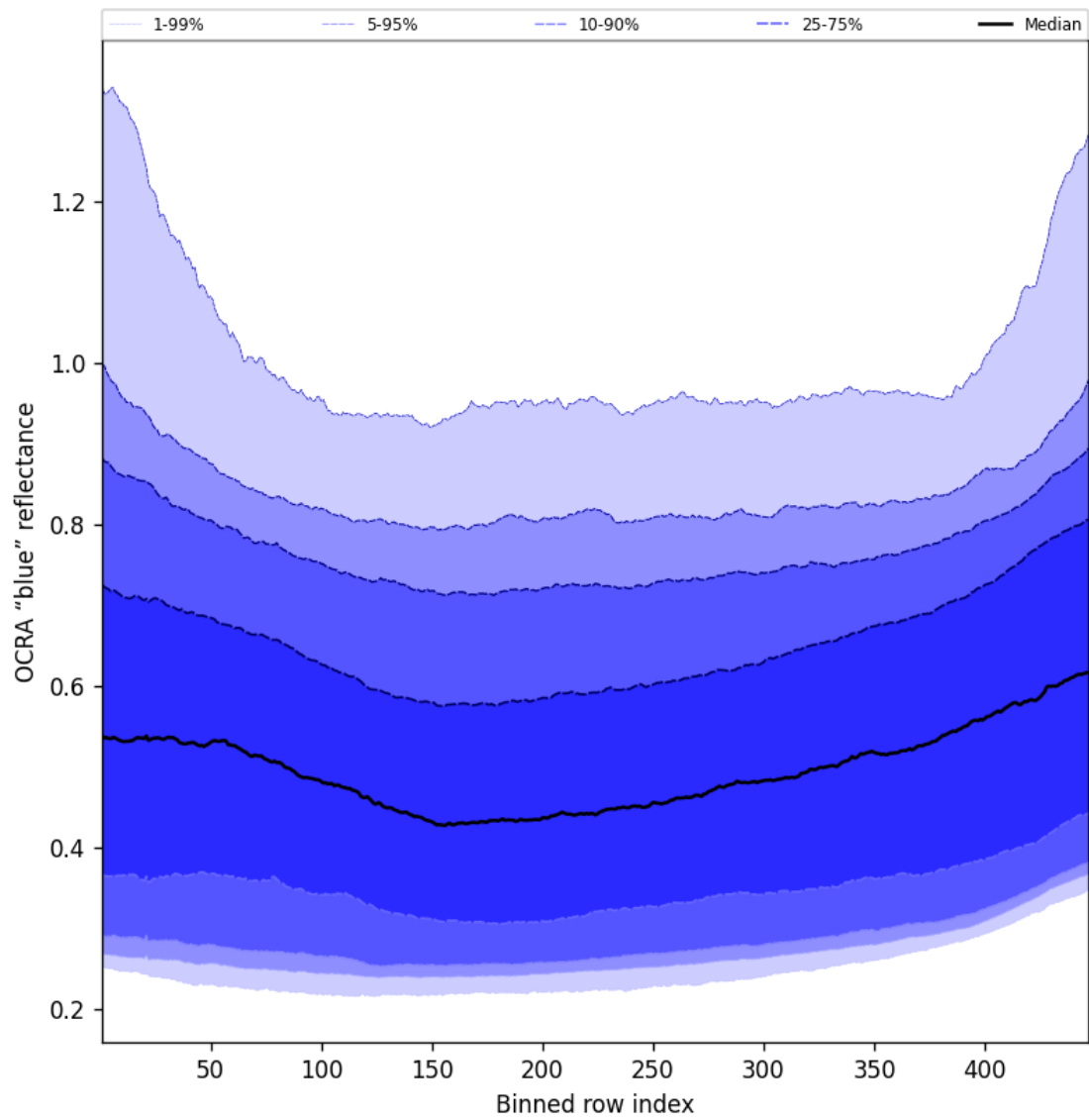


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-07-31 to 2025-08-01

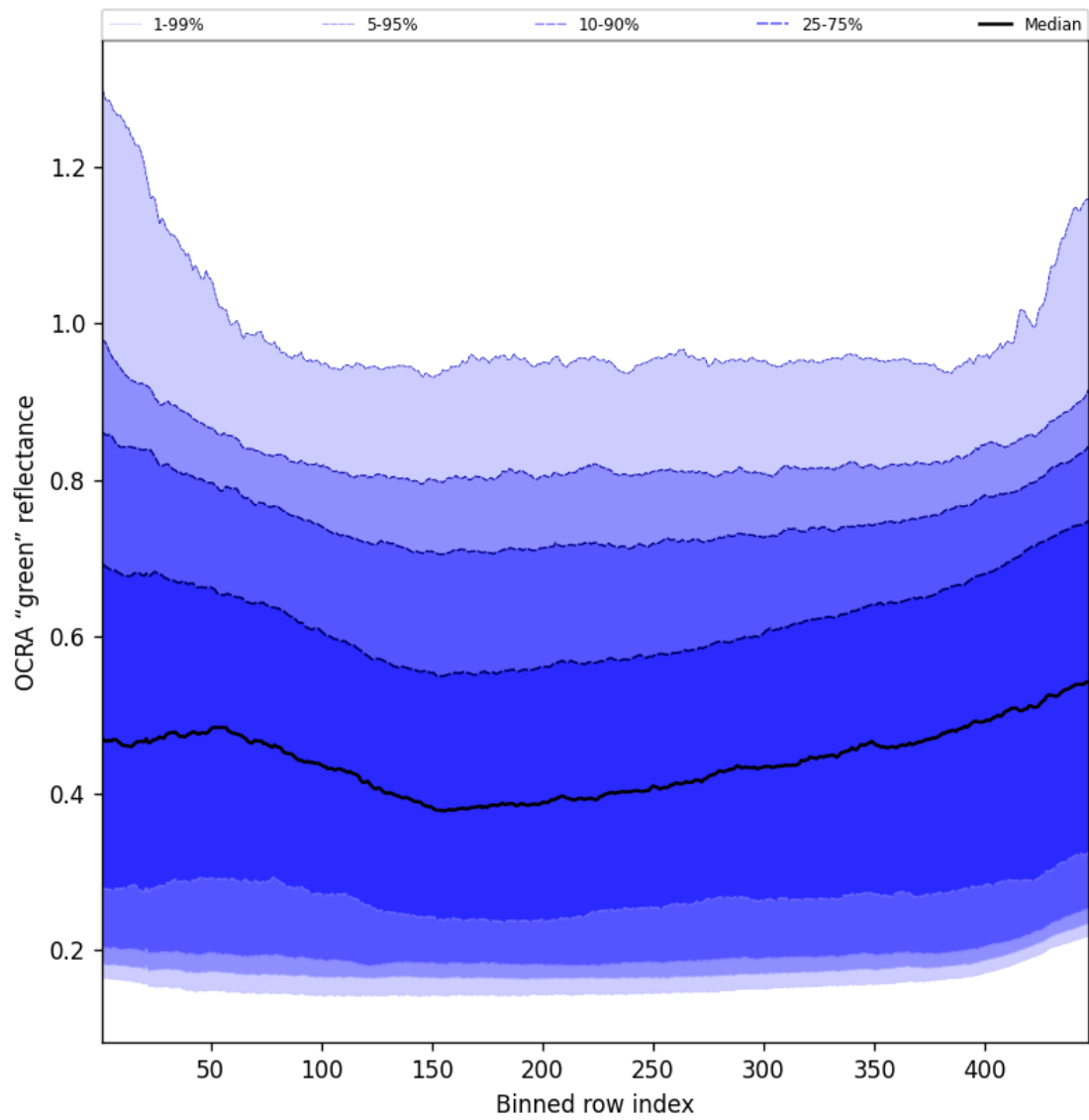


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-07-31 to 2025-08-01

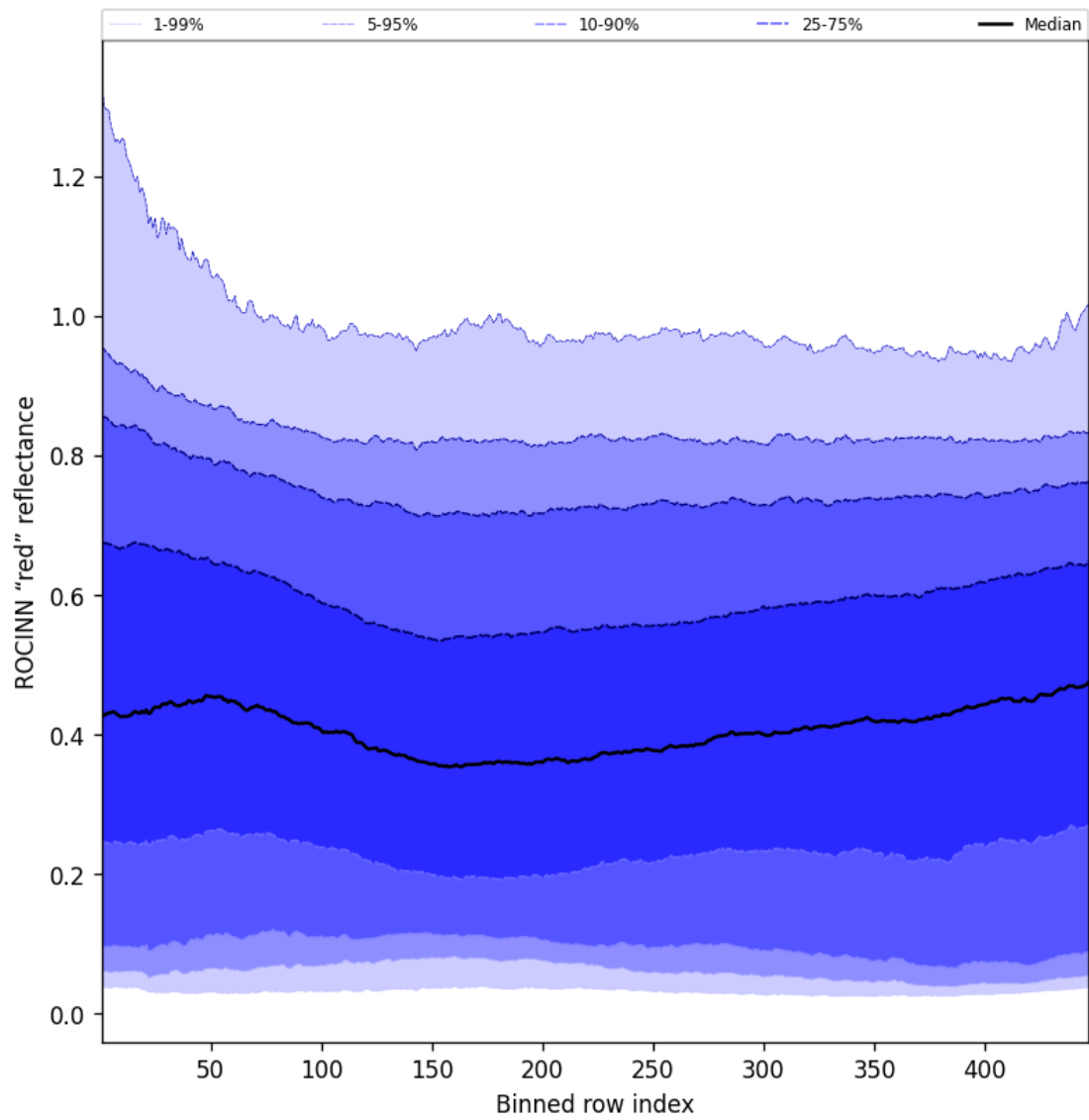


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-07-31 to 2025-08-01

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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