

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-07-05 (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]	0.624 ± 0.372	18854718	0.995	0.650	0.800	0.0	1.000
cloud fraction [1]	0.595 ± 0.343	18854718	0.995	0.719	0.607	6.318×10^{-3}	1.000
cloud top height [m]	$(0.397 \pm 0.260) \times 10^4$	18854718	1.425×10^3	3.689×10^3	3.505×10^3	0.0	2.000×10^4
cloud optical thickness [1]	21.2 ± 36.1	18854718	9.77	12.6	10.3	1.000	250
cloud fraction crb [1]	0.594 ± 0.343	18854718	0.995	0.720	0.604	6.912×10^{-3}	1.000
cloud height crb [m]	$(0.316 \pm 0.230) \times 10^4$	18854718	75.0	3.367×10^3	2.748×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.554 ± 0.194	18854718	0.505	0.230	0.548	0.0	1.000
surface albedo fitted [1]	0.171 ± 0.209	18854718	2.500×10^{-2}	0.221	5.883×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.167 ± 0.214	18854718	1.500×10^{-2}	0.227	4.336×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.208 \pm 22.510) \times 10^{-4}$	18854718	5.000×10^{-5}	8.498×10^{-4}	3.165×10^{-4}	8.893×10^{-7}	2.98
fitted root mean square crb [1]	$(6.386 \pm 26.672) \times 10^{-4}$	18854718	5.000×10^{-5}	8.191×10^{-4}	2.591×10^{-4}	1.021×10^{-6}	1.58
wavelength shift [nm]	$(6.797 \pm 6.658) \times 10^{-3}$	18854718	-3.000×10^{-4}	9.721×10^{-3}	6.064×10^{-3}	-0.205	0.695
cloud fraction apriori [1]	0.599 ± 0.348	18854718	0.995	0.731	0.616	0.0	1.000
reflectance blue ocra [1]	0.517 ± 0.194	18854718	0.305	0.302	0.492	0.139	1.88
reflectance green ocra [1]	0.462 ± 0.220	18854718	0.205	0.360	0.436	8.450×10^{-2}	1.97
reflectance continuum aband [1]	0.419 ± 0.247	18854718	4.500×10^{-2}	0.372	0.399	1.357×10^{-2}	5.11

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}	0.300	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.703×10^{-2}	7.104×10^{-2}	0.112	0.168	0.272	0.991	1.000	1.000	1.000	1.000
cloud top height [m]	176	684	1.091×10^3	1.405×10^3	1.863×10^3	5.552×10^3	6.656×10^3	7.696×10^3	9.005×10^3	1.114×10^4
cloud optical thickness [1]	1.000	2.60	3.85	4.88	6.28	18.9	28.8	43.4	77.2	246
cloud fraction crb [1]	2.641×10^{-2}	6.995×10^{-2}	0.111	0.167	0.270	0.990	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	216	576	861	1.265×10^3	4.632×10^3	5.599×10^3	6.458×10^3	7.598×10^3	9.365×10^3
cloud albedo crb [1]	2.889×10^{-2}	0.216	0.313	0.385	0.445	0.675	0.745	0.808	0.890	1.000
surface albedo fitted [1]	0.0	9.790×10^{-3}	1.498×10^{-2}	1.961×10^{-2}	2.660×10^{-2}	0.247	0.342	0.474	0.645	0.924
surface albedo fitted crb [1]	0.0	6.929×10^{-3}	1.041×10^{-2}	1.385×10^{-2}	1.898×10^{-2}	0.246	0.352	0.490	0.653	0.904
fitted root mean square [1]	8.775×10^{-6}	2.073×10^{-5}	3.441×10^{-5}	5.282×10^{-5}	9.295×10^{-5}	9.427×10^{-4}	1.391×10^{-3}	1.908×10^{-3}	2.650×10^{-3}	4.247×10^{-3}
fitted root mean square crb [1]	5.252×10^{-6}	1.124×10^{-5}	1.959×10^{-5}	3.130×10^{-5}	5.634×10^{-5}	8.754×10^{-4}	1.302×10^{-3}	1.784×10^{-3}	2.474×10^{-3}	3.789×10^{-3}
wavelength shift [nm]	-7.269×10^{-3}	-1.016×10^{-3}	-2.117×10^{-4}	2.570×10^{-4}	1.468×10^{-3}	1.119×10^{-2}	1.357×10^{-2}	1.562×10^{-2}	1.835×10^{-2}	2.425×10^{-2}
cloud fraction apriori [1]	2.950×10^{-2}	6.708×10^{-2}	0.106	0.161	0.269	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.231	0.259	0.283	0.310	0.353	0.655	0.729	0.787	0.856	0.992
reflectance green ocra [1]	0.149	0.173	0.195	0.221	0.267	0.627	0.708	0.770	0.844	0.976
reflectance continuum aband [1]	3.044×10^{-2}	5.723×10^{-2}	9.518×10^{-2}	0.145	0.224	0.597	0.684	0.754	0.846	0.995

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]	0.622 ± 0.364	12811955	0.600	0.790	0.0	1.000	0.300	0.900
cloud fraction [1]	0.634 ± 0.343	12811955	0.688	0.689	6.318×10^{-3}	1.000	0.312	1.000
cloud top height [m]	$(0.404 \pm 0.265) \times 10^4$	12811955	3.784×10^3	3.658×10^3	0.0	2.000×10^4	1.895×10^3	5.679×10^3
cloud optical thickness [1]	18.5 ± 32.1	12811955	10.8	9.53	1.000	250	5.78	16.6
cloud fraction crb [1]	0.633 ± 0.344	12811955	0.689	0.688	6.912×10^{-3}	1.000	0.311	1.000
cloud height crb [m]	$(0.319 \pm 0.235) \times 10^4$	12811955	3.503×10^3	2.837×10^3	0.0	2.000×10^4	1.233×10^3	4.736×10^3
cloud albedo crb [1]	0.542 ± 0.206	12811955	0.254	0.538	0.0	1.000	0.424	0.678
surface albedo fitted [1]	0.222 ± 0.230	12811955	0.288	0.175	0.0	1.000	3.070×10^{-2}	0.318
surface albedo fitted crb [1]	0.222 ± 0.233	12811955	0.299	0.174	0.0	1.000	2.465×10^{-2}	0.324
fitted root mean square [1]	$(9.084 \pm 26.902) \times 10^{-4}$	12811955	1.108×10^{-3}	5.199×10^{-4}	1.803×10^{-6}	2.98	1.216×10^{-4}	1.230×10^{-3}
fitted root mean square crb [1]	$(8.089 \pm 32.060) \times 10^{-4}$	12811955	1.058×10^{-3}	4.532×10^{-4}	1.160×10^{-6}	1.58	8.707×10^{-5}	1.145×10^{-3}
wavelength shift [nm]	$(7.597 \pm 6.710) \times 10^{-3}$	12811955	9.867×10^{-3}	7.251×10^{-3}	-0.205	0.695	2.239×10^{-3}	1.211×10^{-2}
cloud fraction apriori [1]	0.641 ± 0.347	12811955	0.685	0.705	0.0	1.000	0.315	1.000
reflectance blue ocra [1]	0.528 ± 0.202	12811955	0.331	0.511	0.139	1.79	0.350	0.681
reflectance green ocra [1]	0.480 ± 0.227	12811955	0.388	0.466	8.450×10^{-2}	1.77	0.271	0.659
reflectance continuum aband [1]	0.452 ± 0.245	12811955	0.369	0.438	1.359×10^{-2}	4.83	0.263	0.632

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]	0.627 ± 0.387	6042763	0.700	0.850	0.0	1.000	0.300	1.000
cloud fraction [1]	0.512 ± 0.327	6042763	0.607	0.478	8.112×10^{-3}	1.000	0.210	0.816
cloud top height [m]	$(0.383 \pm 0.248) \times 10^4$	6042763	3.371×10^3	3.203×10^3	0.0	2.000×10^4	1.819×10^3	5.190×10^3
cloud optical thickness [1]	27.1 ± 42.8	6042763	17.3	12.3	1.000	250	7.42	24.7
cloud fraction crb [1]	0.509 ± 0.327	6042763	0.605	0.473	8.245×10^{-3}	1.000	0.208	0.812
cloud height crb [m]	$(0.311 \pm 0.220) \times 10^4$	6042763	3.053×10^3	2.569×10^3	0.0	2.000×10^4	1.308×10^3	4.361×10^3
cloud albedo crb [1]	0.579 ± 0.163	6042763	0.189	0.565	0.0	1.000	0.481	0.671
surface albedo fitted [1]	$(6.187 \pm 8.415) \times 10^{-2}$	6042763	3.597×10^{-2}	3.637×10^{-2}	0.0	1.000	2.243×10^{-2}	5.839×10^{-2}
surface albedo fitted crb [1]	$(5.028 \pm 8.445) \times 10^{-2}$	6042763	2.432×10^{-2}	2.353×10^{-2}	0.0	1.000	1.458×10^{-2}	3.890×10^{-2}
fitted root mean square [1]	$(3.231 \pm 4.825) \times 10^{-4}$	6042763	2.994×10^{-4}	1.613×10^{-4}	8.893×10^{-7}	5.810×10^{-2}	6.560×10^{-5}	3.650×10^{-4}
fitted root mean square crb [1]	$(2.776 \pm 4.606) \times 10^{-4}$	6042763	2.727×10^{-4}	9.737×10^{-5}	1.021×10^{-6}	1.752×10^{-2}	3.690×10^{-5}	3.096×10^{-4}
wavelength shift [nm]	$(5.101 \pm 6.214) \times 10^{-3}$	6042763	7.891×10^{-3}	3.765×10^{-3}	-4.379×10^{-2}	6.735×10^{-2}	7.023×10^{-4}	8.594×10^{-3}
cloud fraction apriori [1]	0.511 ± 0.334	6042763	0.626	0.475	0.0	1.000	0.198	0.825
reflectance blue ocrs [1]	0.494 ± 0.175	6042763	0.242	0.464	0.158	1.88	0.358	0.600
reflectance green ocrs [1]	0.424 ± 0.199	6042763	0.292	0.391	9.659×10^{-2}	1.97	0.260	0.552
reflectance continuum aband [1]	0.350 ± 0.237	6042763	0.351	0.318	1.357×10^{-2}	5.11	0.153	0.504

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]	0.631 ± 0.364	12659618	0.600	0.800	0.0	1.000	0.350	0.950
cloud fraction [1]	0.570 ± 0.341	12659618	0.712	0.565	6.318×10^{-3}	1.000	0.246	0.957
cloud top height [m]	$(0.382 \pm 0.264) \times 10^4$	12659618	3.652×10^3	3.225×10^3	0.0	2.000×10^4	1.688×10^3	5.341×10^3
cloud optical thickness [1]	23.1 ± 38.4	12659618	13.6	10.9	1.000	250	6.87	20.5
cloud fraction crb [1]	0.568 ± 0.342	12659618	0.712	0.562	6.912×10^{-3}	1.000	0.244	0.956
cloud height crb [m]	$(0.304 \pm 0.235) \times 10^4$	12659618	3.300×10^3	2.533×10^3	0.0	2.000×10^4	1.120×10^3	4.420×10^3
cloud albedo crb [1]	0.554 ± 0.183	12659618	0.217	0.544	0.0	1.000	0.449	0.666
surface albedo fitted [1]	0.111 ± 0.188	12659618	4.144×10^{-2}	3.446×10^{-2}	0.0	1.000	2.043×10^{-2}	6.187×10^{-2}
surface albedo fitted crb [1]	0.105 ± 0.192	12659618	3.117×10^{-2}	2.465×10^{-2}	0.0	1.000	1.444×10^{-2}	4.561×10^{-2}
fitted root mean square [1]	$(5.860 \pm 23.240) \times 10^{-4}$	12659618	6.154×10^{-4}	2.268×10^{-4}	8.893×10^{-7}	2.98	7.922×10^{-5}	6.946×10^{-4}
fitted root mean square crb [1]	$(4.980 \pm 22.436) \times 10^{-4}$	12659618	5.668×10^{-4}	1.734×10^{-4}	1.021×10^{-6}	1.48	5.105×10^{-5}	6.178×10^{-4}
wavelength shift [nm]	$(6.573 \pm 6.670) \times 10^{-3}$	12659618	9.400×10^{-3}	5.678×10^{-3}	-0.120	0.695	1.458×10^{-3}	1.086×10^{-2}
cloud fraction apriori [1]	0.573 ± 0.346	12659618	0.748	0.571	0.0	1.000	0.242	0.990
reflectance blue ocra [1]	0.516 ± 0.186	12659618	0.290	0.498	0.166	1.88	0.359	0.650
reflectance green ocra [1]	0.458 ± 0.213	12659618	0.351	0.441	9.659×10^{-2}	1.97	0.268	0.619
reflectance continuum aband [1]	0.385 ± 0.249	12659618	0.410	0.369	1.357×10^{-2}	5.11	0.161	0.570

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]	0.635 ± 0.373	3712728	0.650	0.800	0.0	1.000	0.300	0.950
cloud fraction [1]	0.625 ± 0.344	3712728	0.693	0.662	8.112×10^{-3}	1.000	0.307	1.000
cloud top height [m]	$(0.443 \pm 0.252) \times 10^4$	3712728	3.429×10^3	4.101×10^3	0.0	2.000×10^4	2.502×10^3	5.931×10^3
cloud optical thickness [1]	16.5 ± 27.9	3712728	9.63	8.77	1.000	250	5.51	15.1
cloud fraction crb [1]	0.624 ± 0.345	3712728	0.694	0.661	7.346×10^{-3}	1.000	0.306	0.999
cloud height crb [m]	$(0.348 \pm 0.219) \times 10^4$	3712728	3.254×10^3	3.075×10^3	0.0	2.000×10^4	1.733×10^3	4.986×10^3
cloud albedo crb [1]	0.579 ± 0.214	3712728	0.266	0.579	0.0	1.000	0.458	0.724
surface albedo fitted [1]	0.342 ± 0.221	3712728	0.129	0.263	2.707×10^{-3}	1.000	0.214	0.343
surface albedo fitted crb [1]	0.340 ± 0.219	3712728	0.132	0.258	0.0	1.000	0.211	0.343
fitted root mean square [1]	$(1.133 \pm 1.638) \times 10^{-3}$	3712728	1.318×10^{-3}	8.282×10^{-4}	2.329×10^{-6}	1.07	3.088×10^{-4}	1.627×10^{-3}
fitted root mean square crb [1]	$(1.080 \pm 2.841) \times 10^{-3}$	3712728	1.347×10^{-3}	8.100×10^{-4}	1.570×10^{-6}	1.25	2.438×10^{-4}	1.591×10^{-3}
wavelength shift [nm]	$(7.643 \pm 6.468) \times 10^{-3}$	3712728	9.520×10^{-3}	7.437×10^{-3}	-0.205	0.120	2.481×10^{-3}	1.200×10^{-2}
cloud fraction apriori [1]	0.635 ± 0.351	3712728	0.695	0.691	0.0	1.000	0.305	1.000
reflectance blue ocra [1]	0.524 ± 0.222	3712728	0.370	0.476	0.140	1.81	0.332	0.701
reflectance green ocra [1]	0.479 ± 0.247	3712728	0.421	0.423	8.645×10^{-2}	1.76	0.259	0.680
reflectance continuum aband [1]	0.513 ± 0.228	3712728	0.357	0.463	2.022×10^{-2}	3.96	0.327	0.684

3 Granule outlines

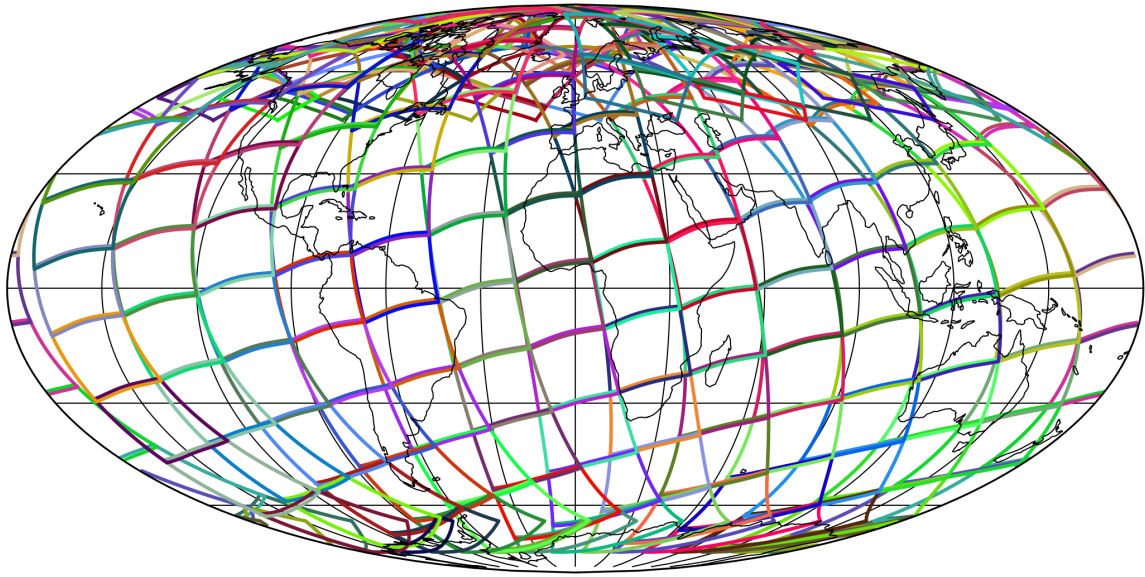


Figure 1: Outline of the granules.

4 Input data monitoring

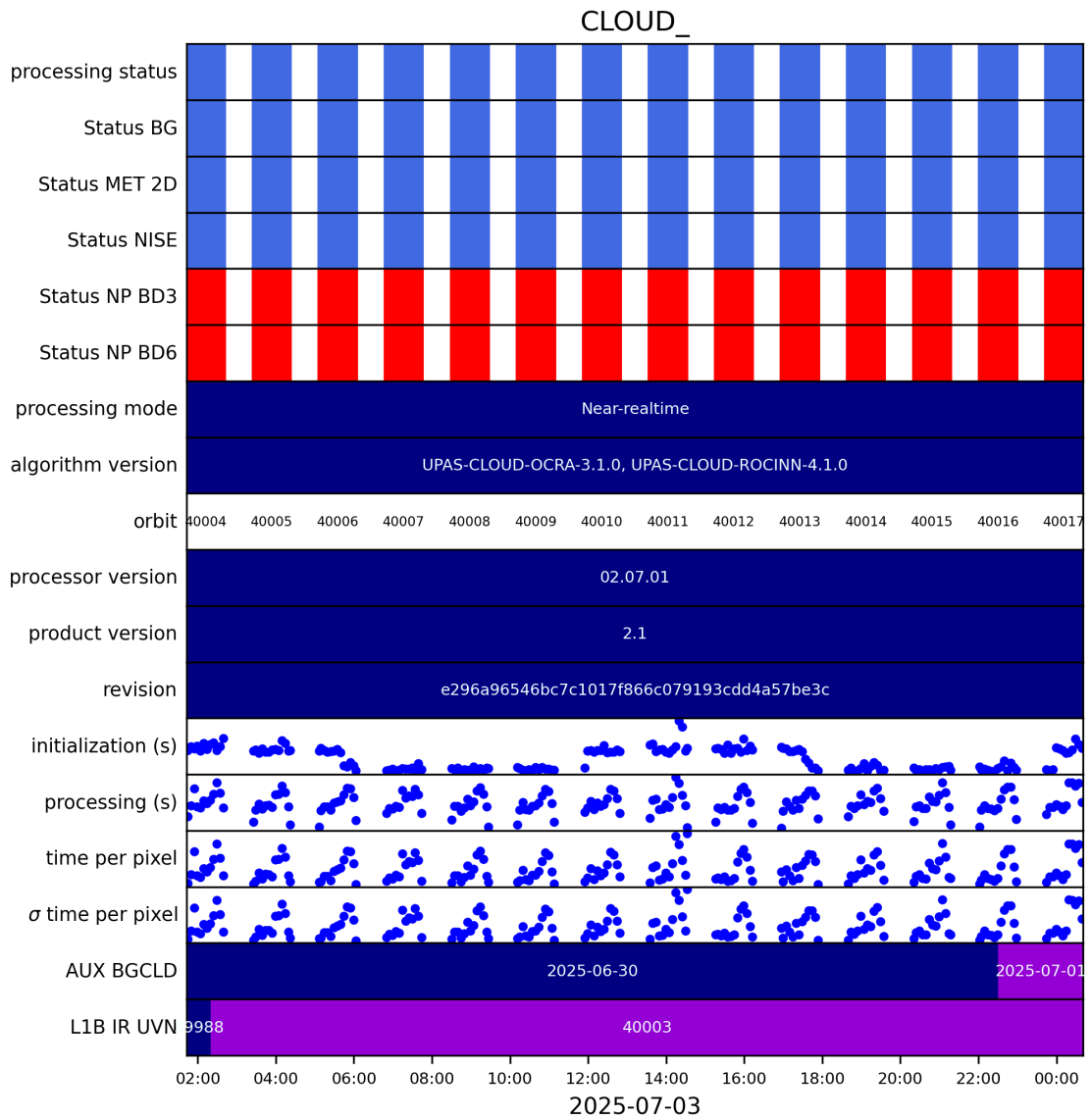


Figure 2: Input data per granule

5 Warnings and errors

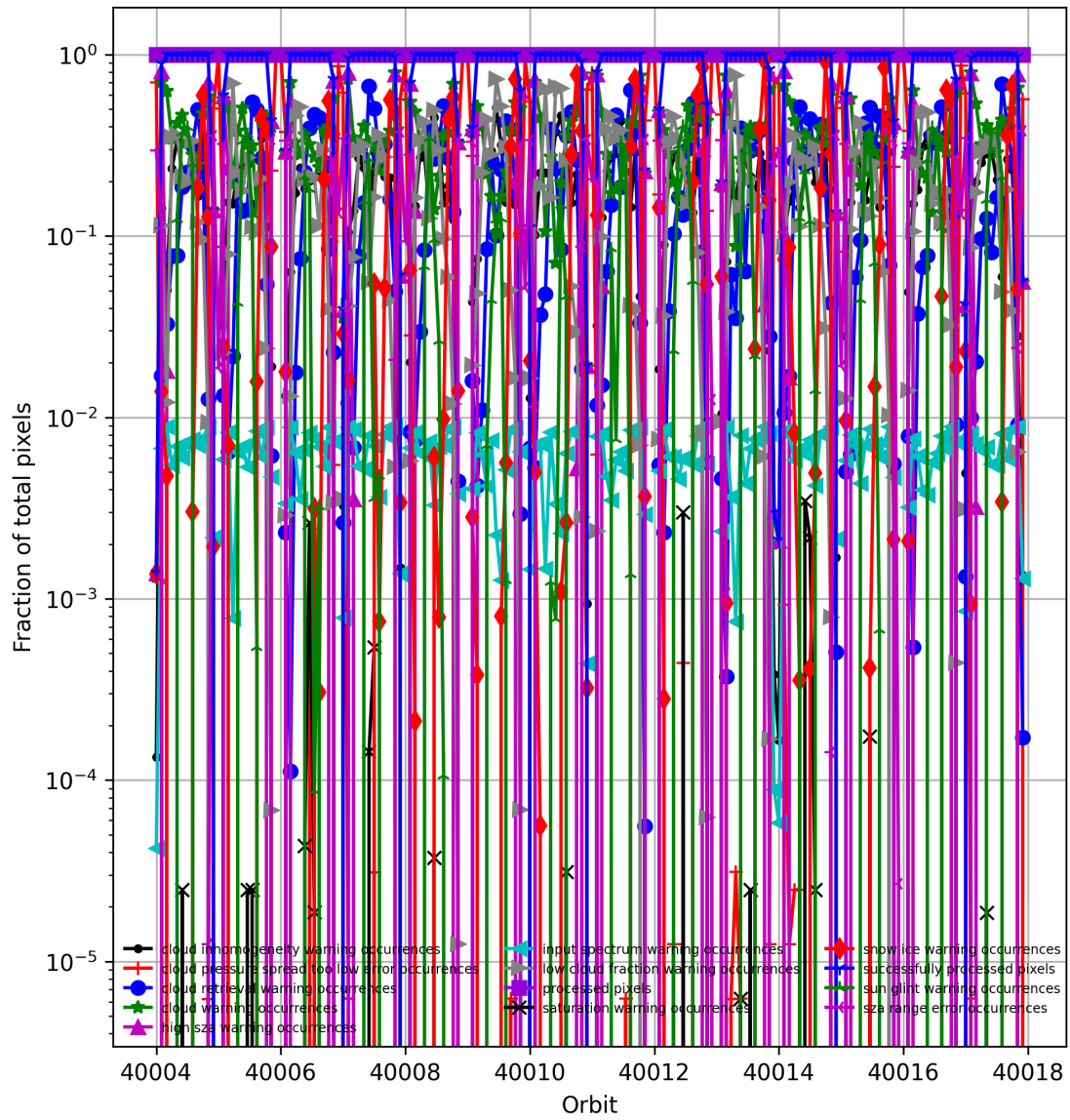


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

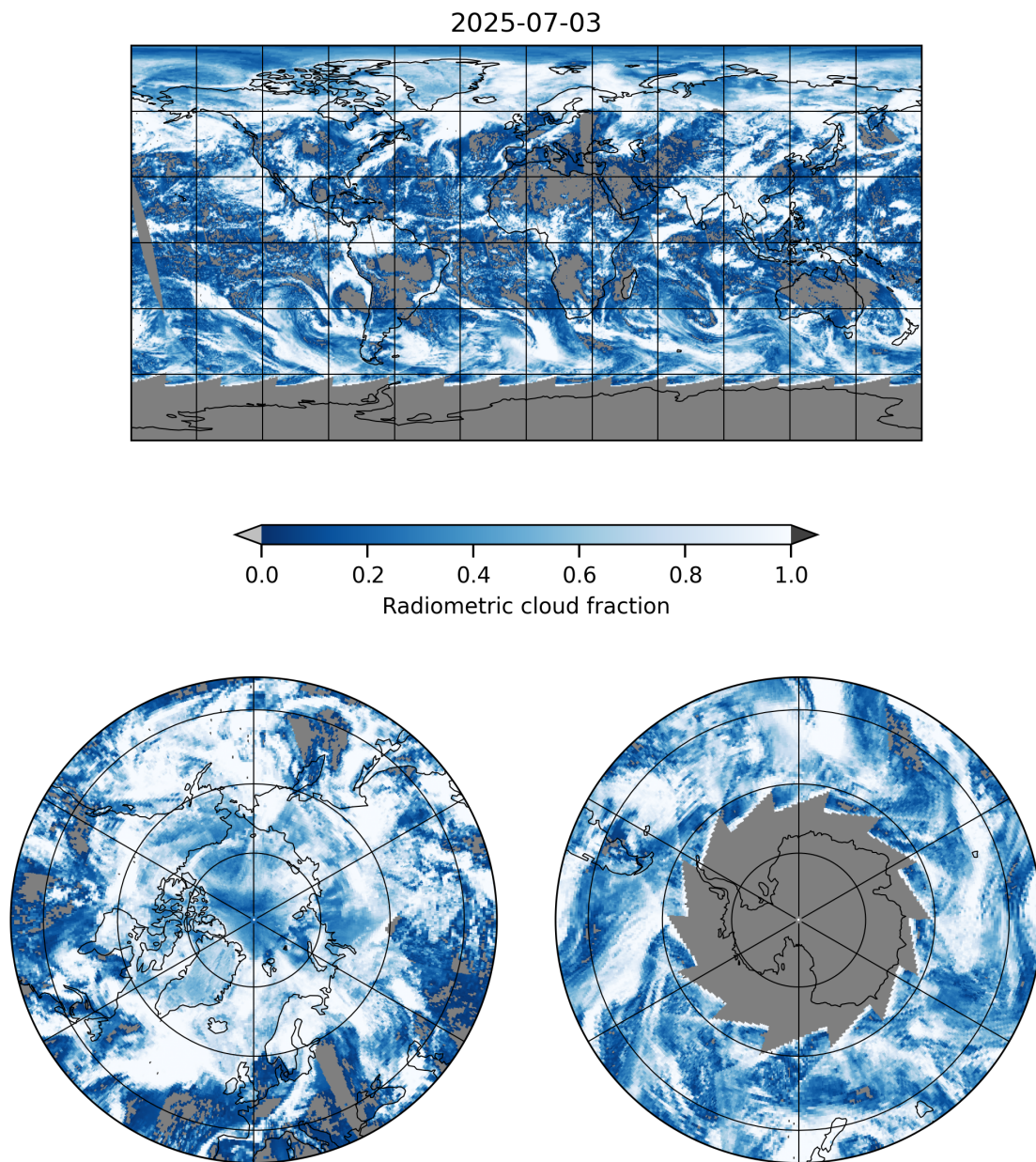


Figure 4: Map of “Radiometric cloud fraction” for 2025-07-03 to 2025-07-04

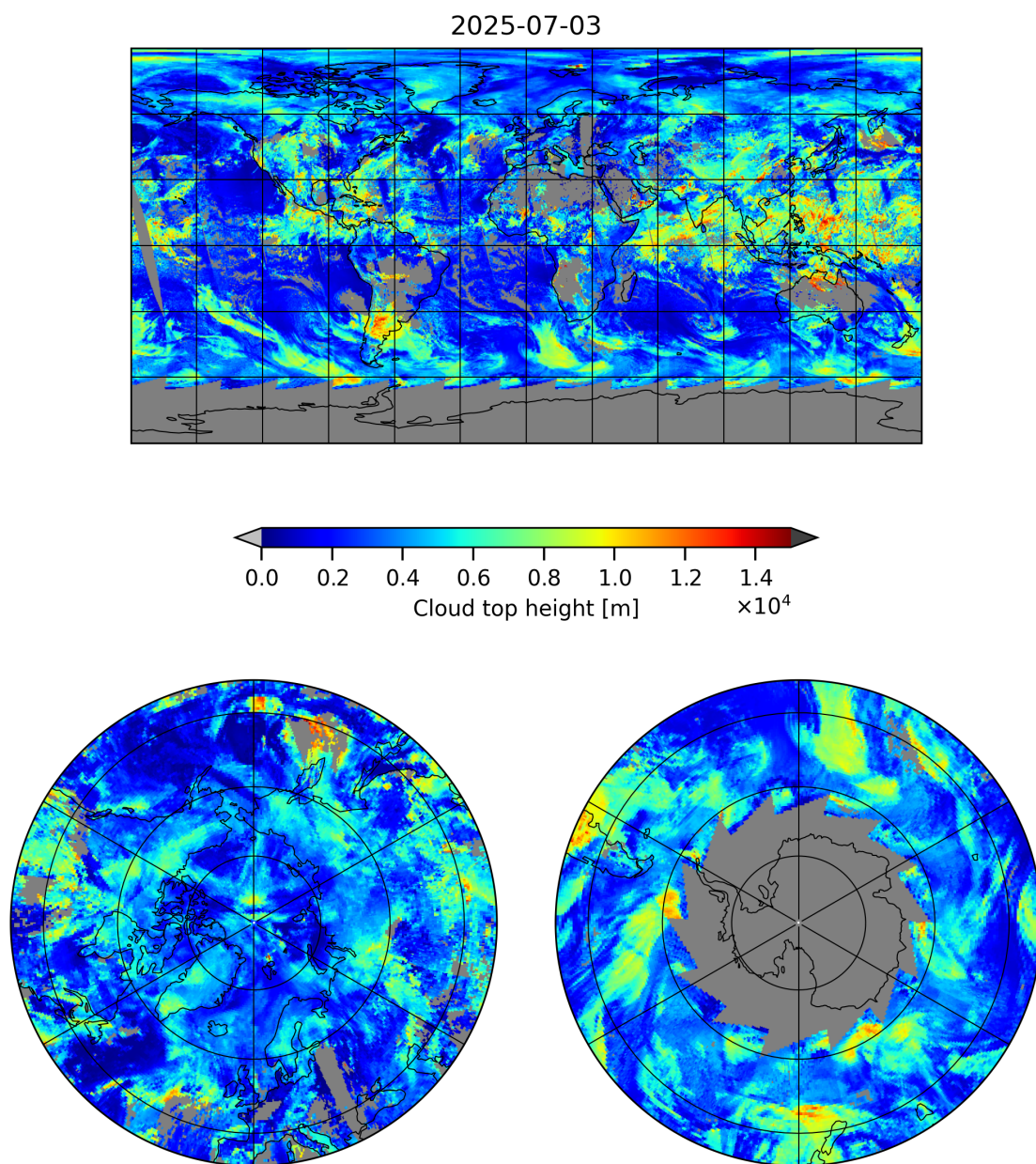


Figure 5: Map of “Cloud top height” for 2025-07-03 to 2025-07-04

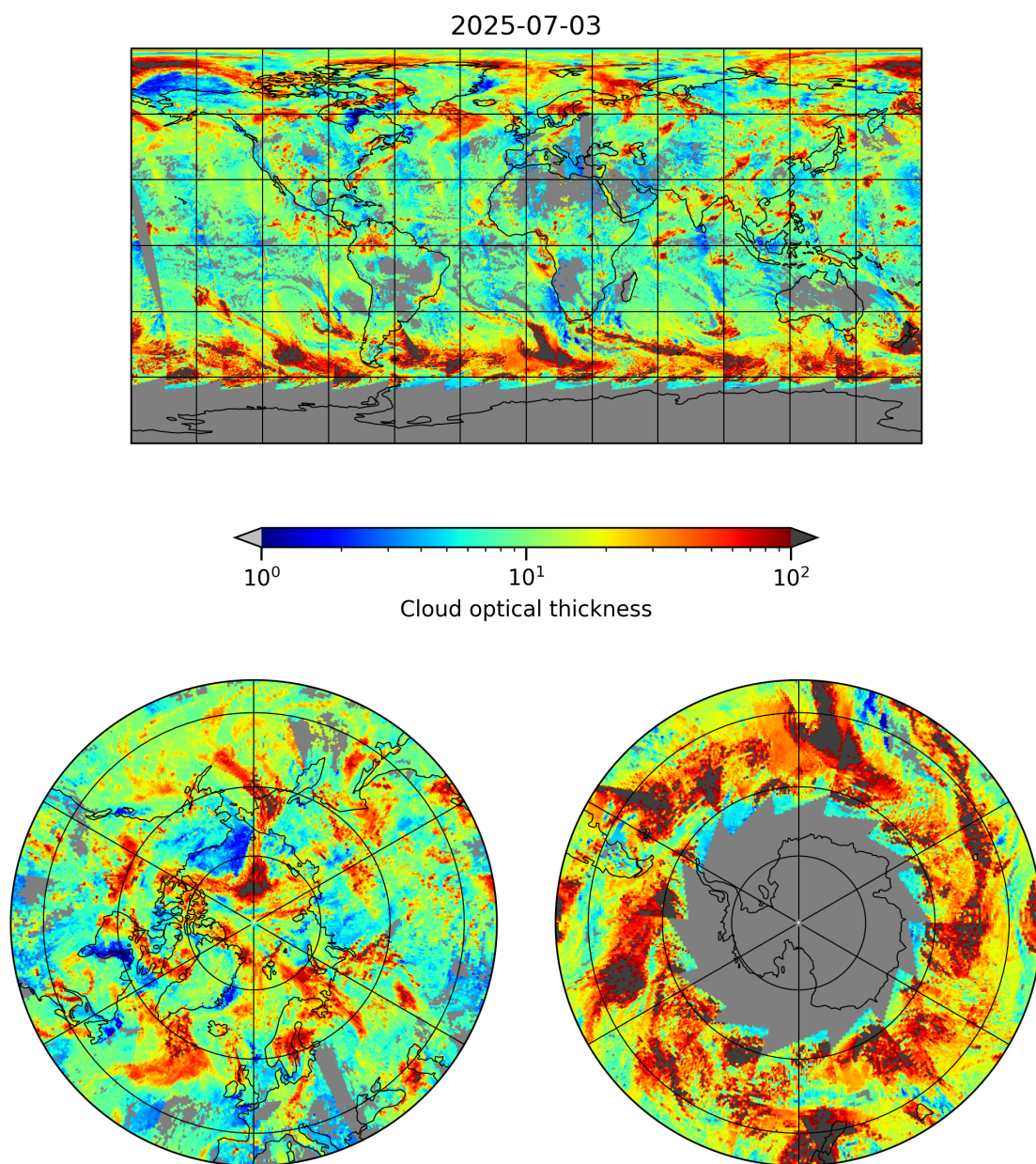


Figure 6: Map of “Cloud optical thickness” for 2025-07-03 to 2025-07-04

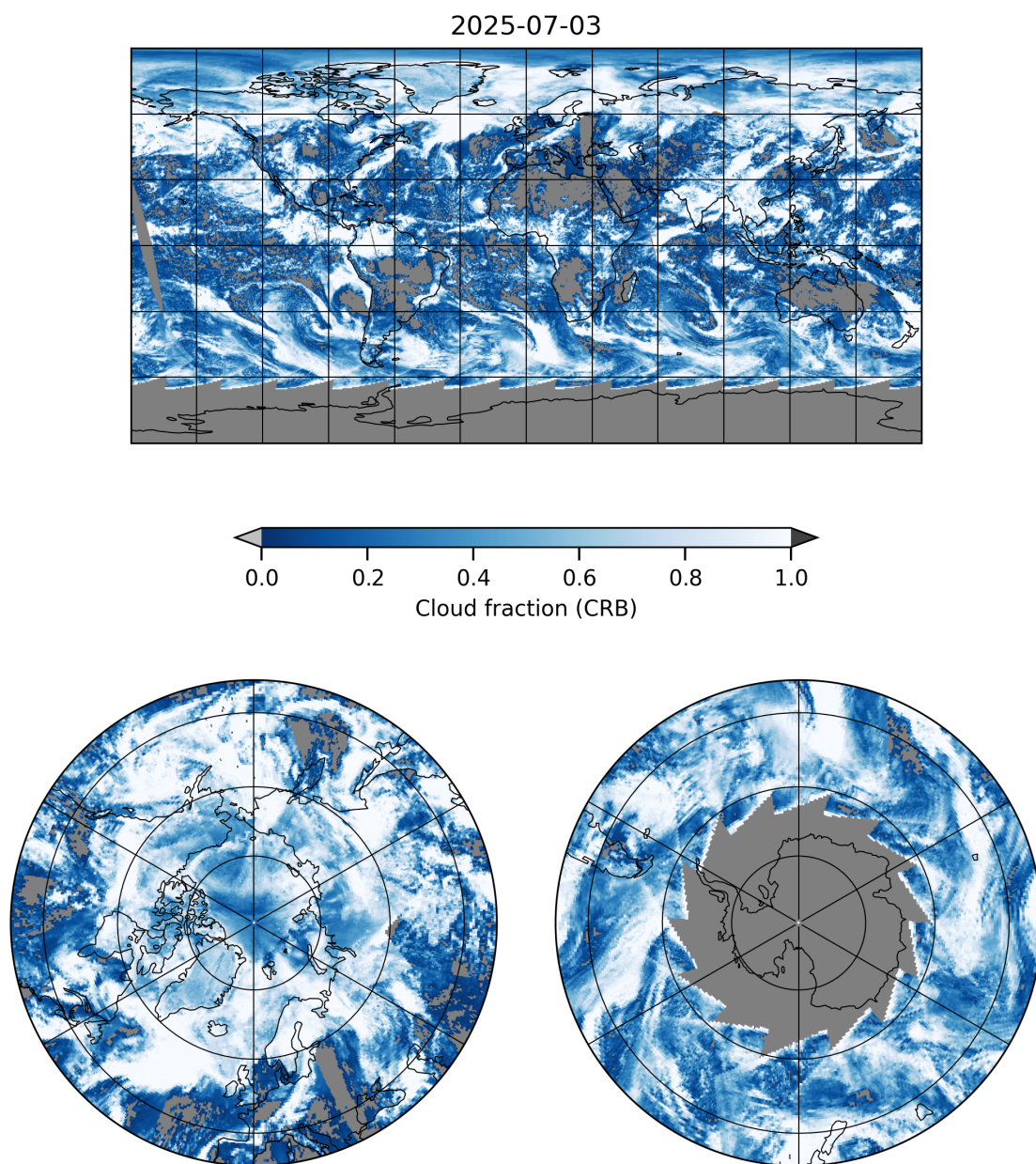


Figure 7: Map of “Cloud fraction (CRB)” for 2025-07-03 to 2025-07-04

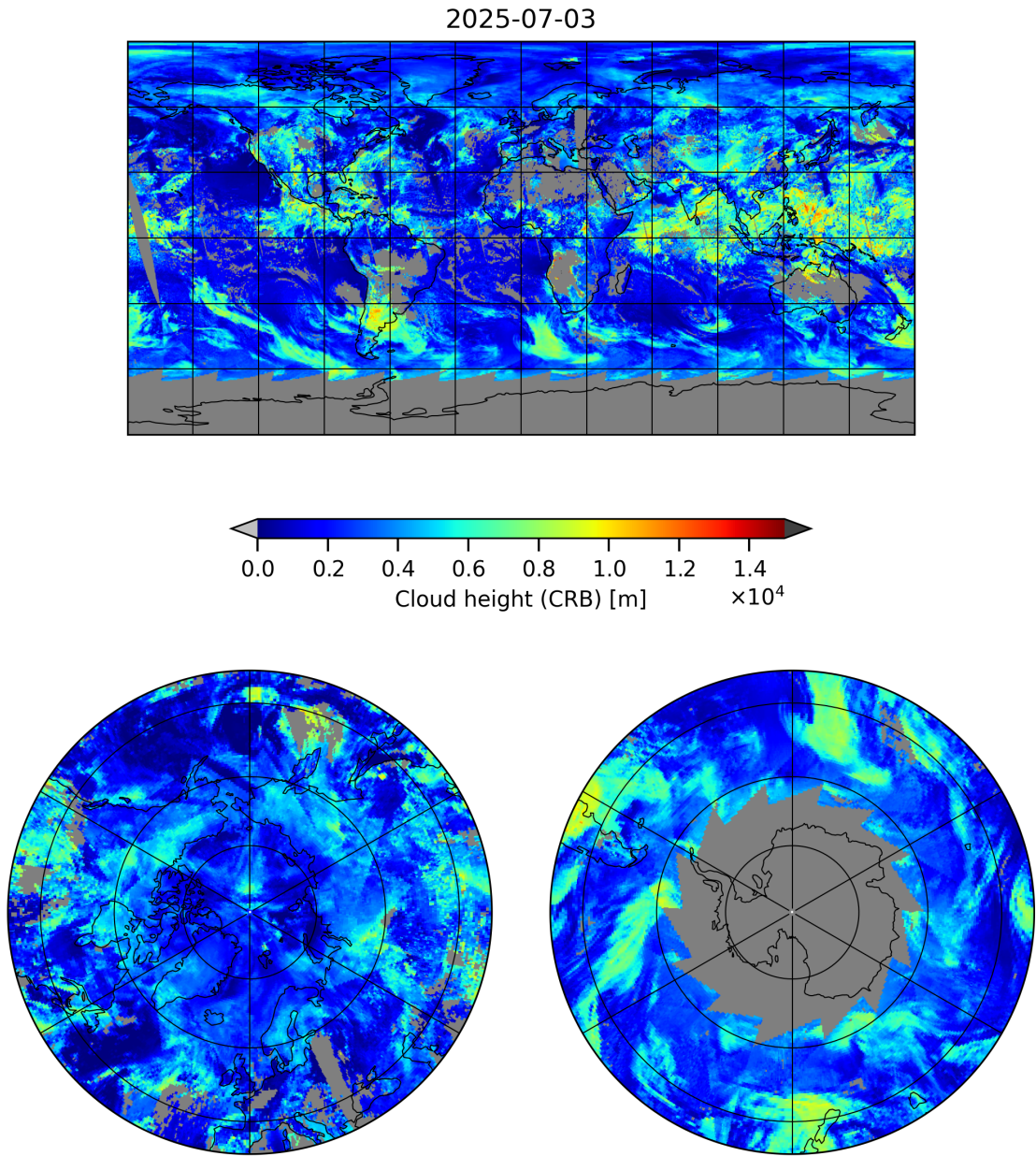


Figure 8: Map of “Cloud height (CRB)” for 2025-07-03 to 2025-07-04

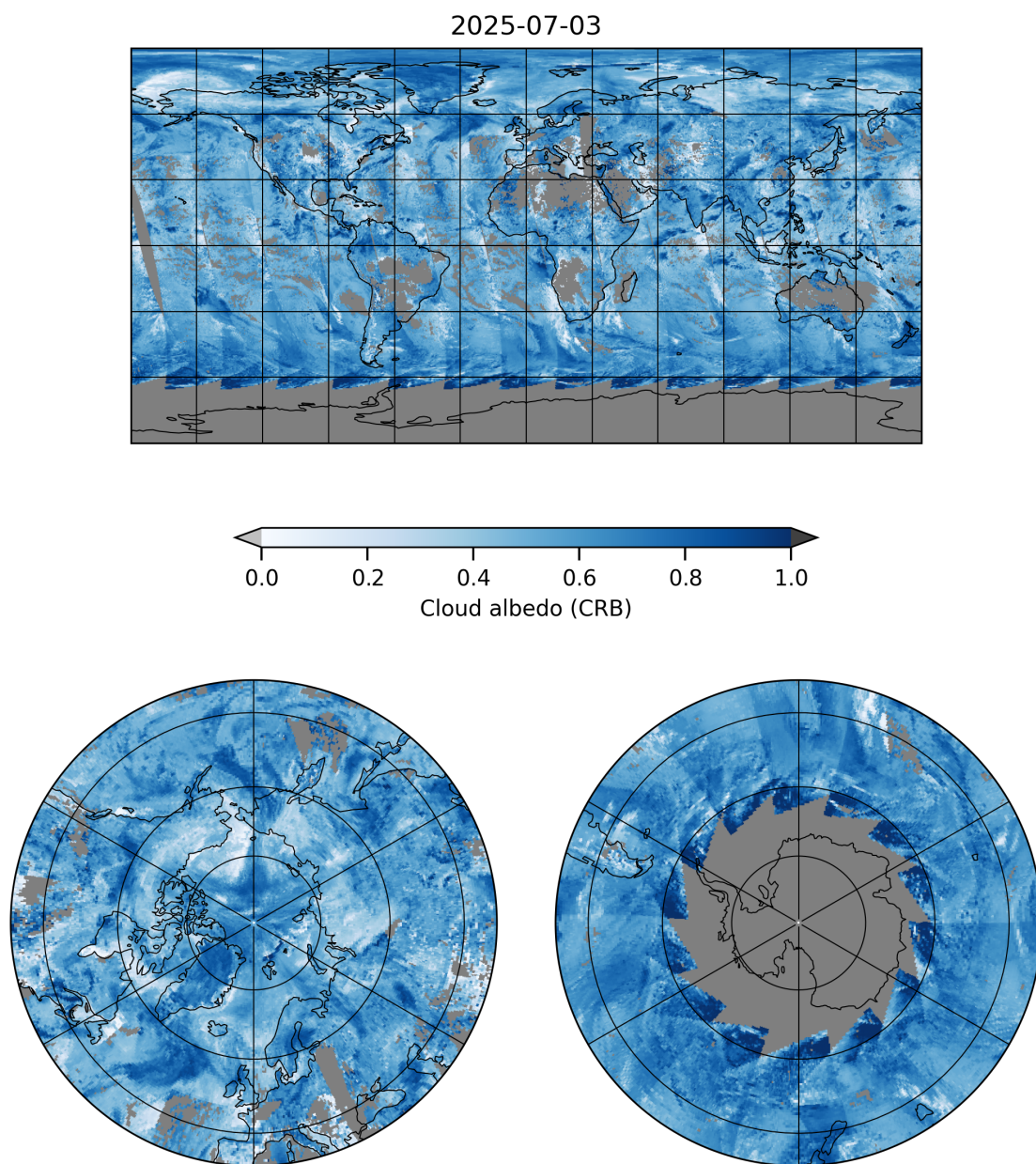


Figure 9: Map of “Cloud albedo (CRB)” for 2025-07-03 to 2025-07-04

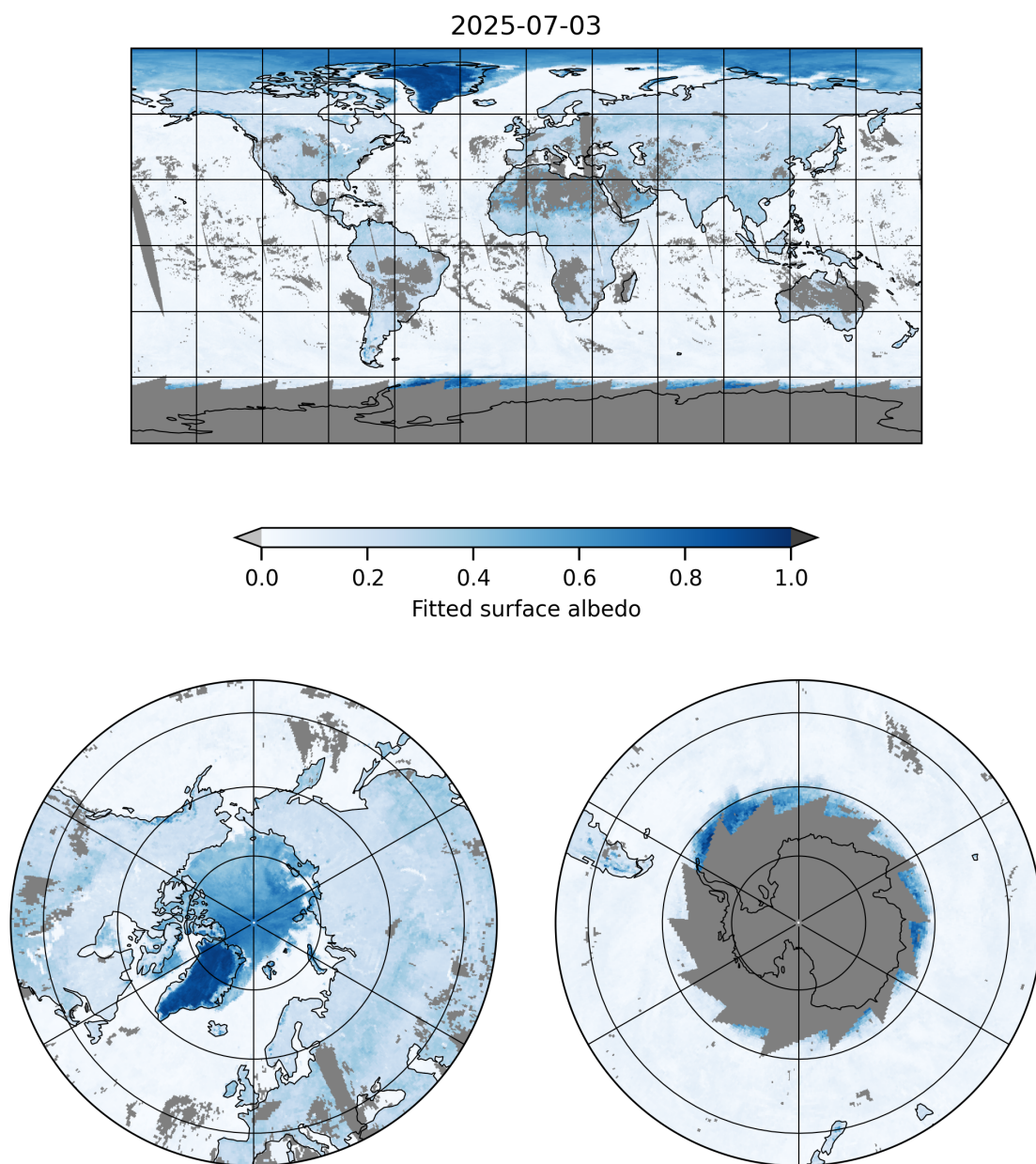


Figure 10: Map of “Fitted surface albedo” for 2025-07-03 to 2025-07-04

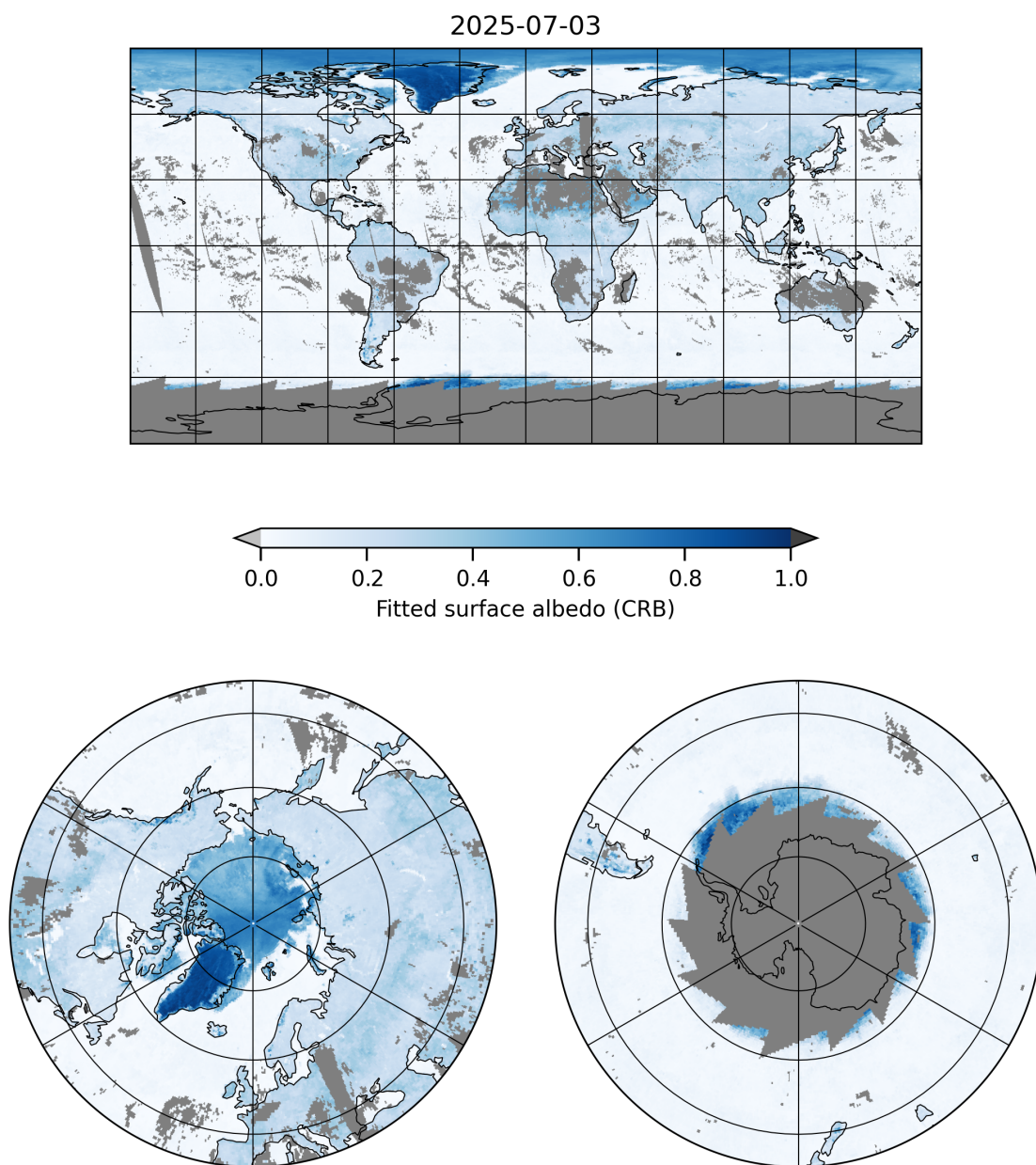


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-07-03 to 2025-07-04

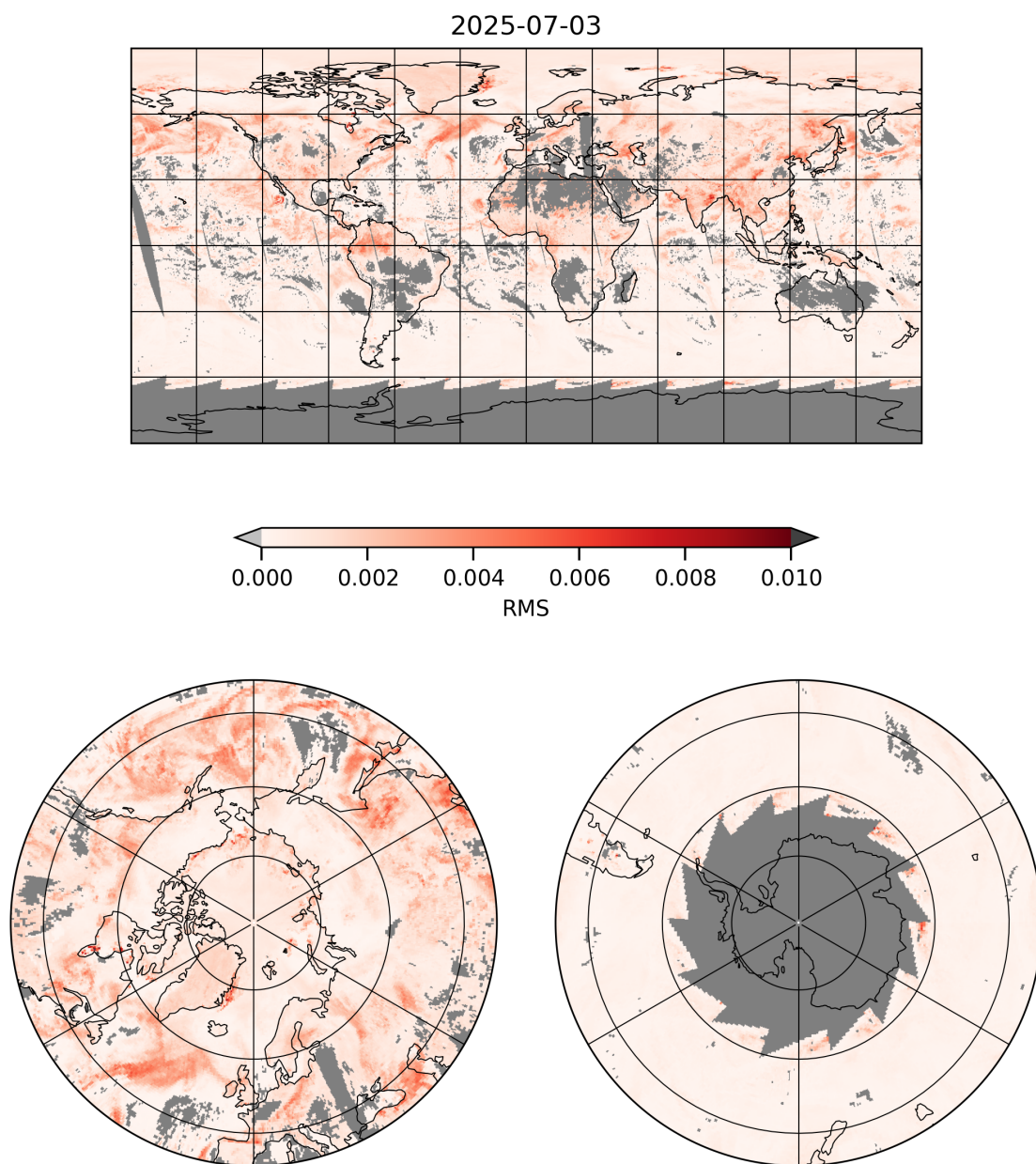


Figure 12: Map of “RMS” for 2025-07-03 to 2025-07-04

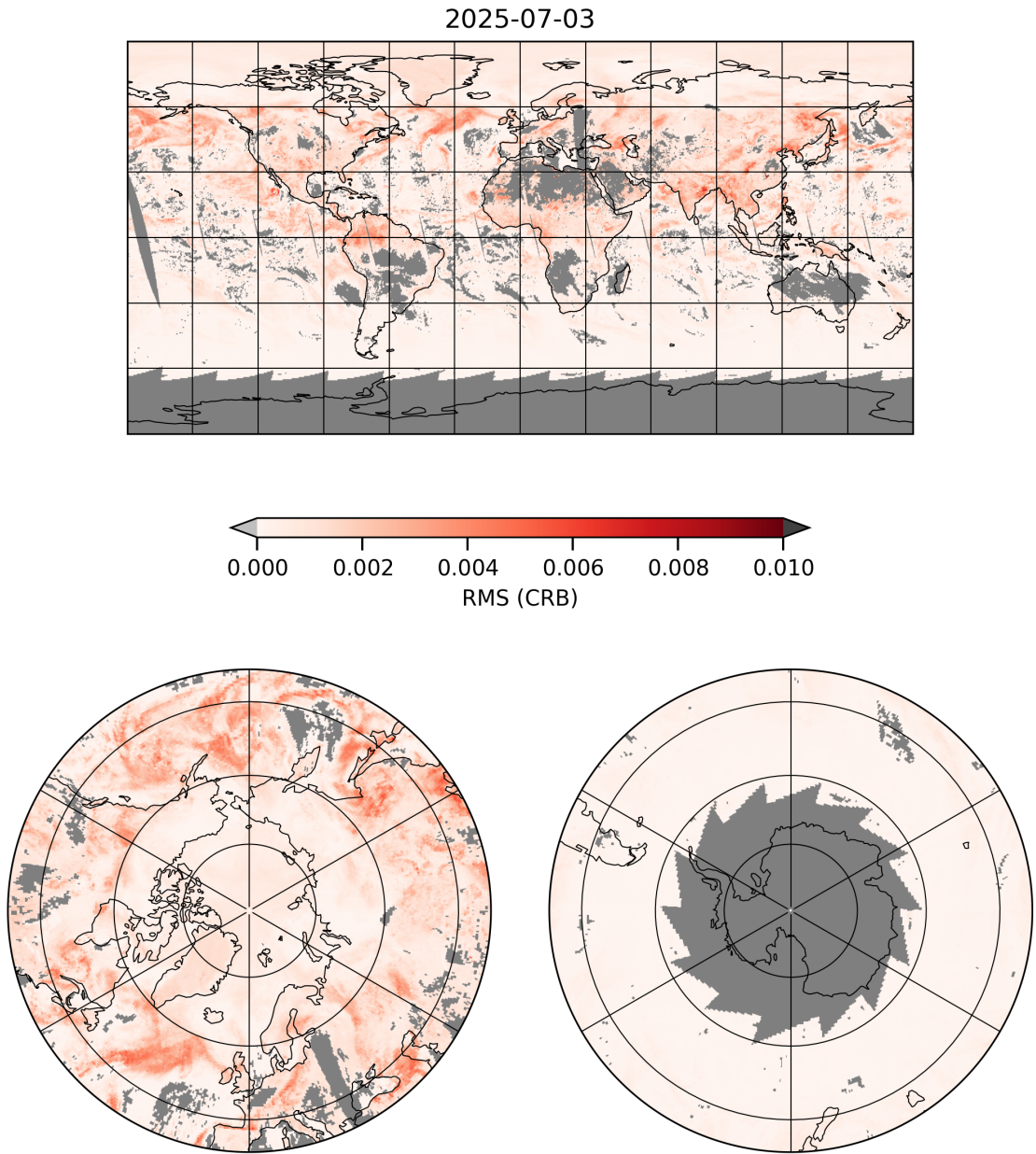


Figure 13: Map of “RMS (CRB)” for 2025-07-03 to 2025-07-04

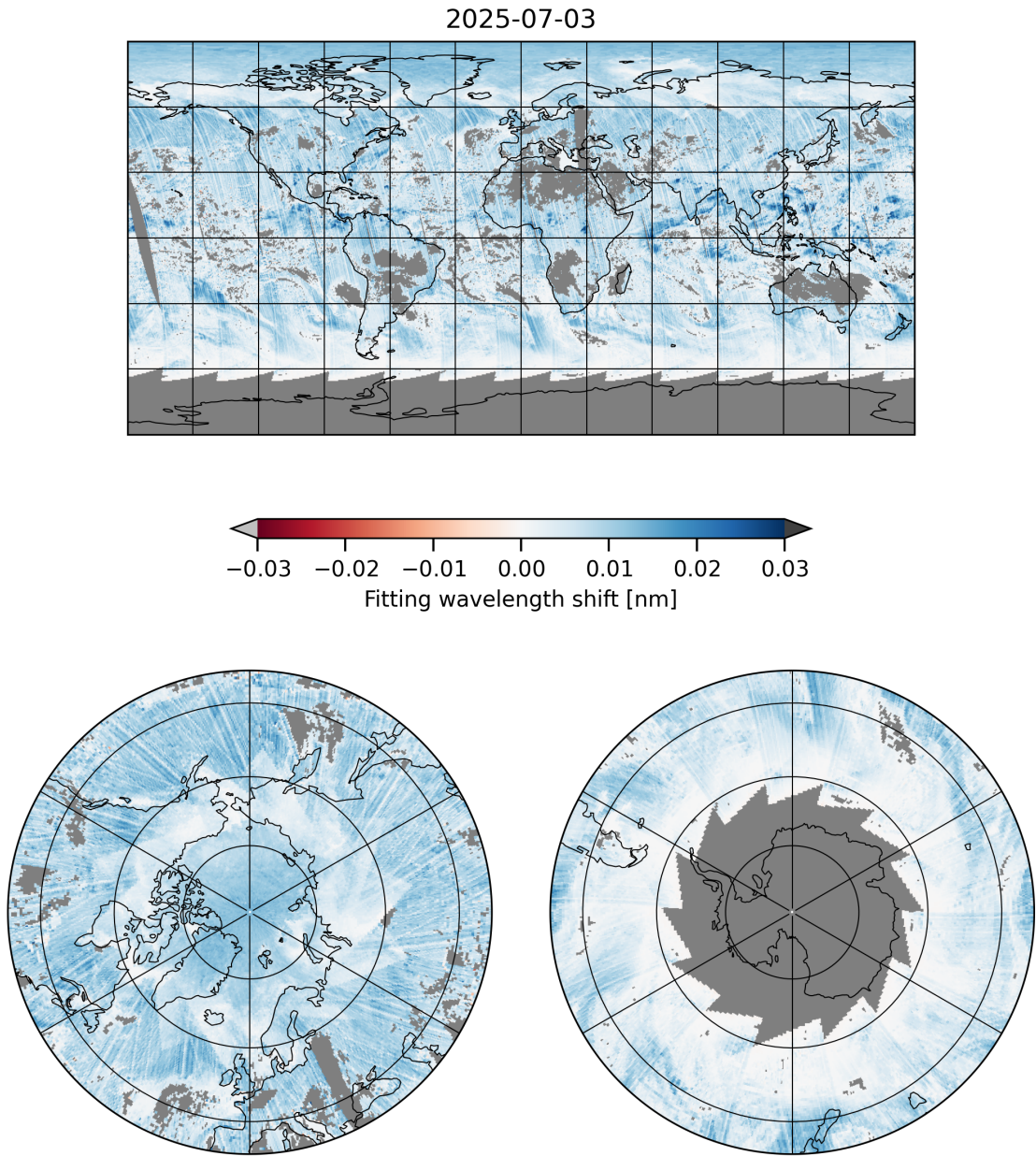


Figure 14: Map of “Fitting wavelength shift” for 2025-07-03 to 2025-07-04

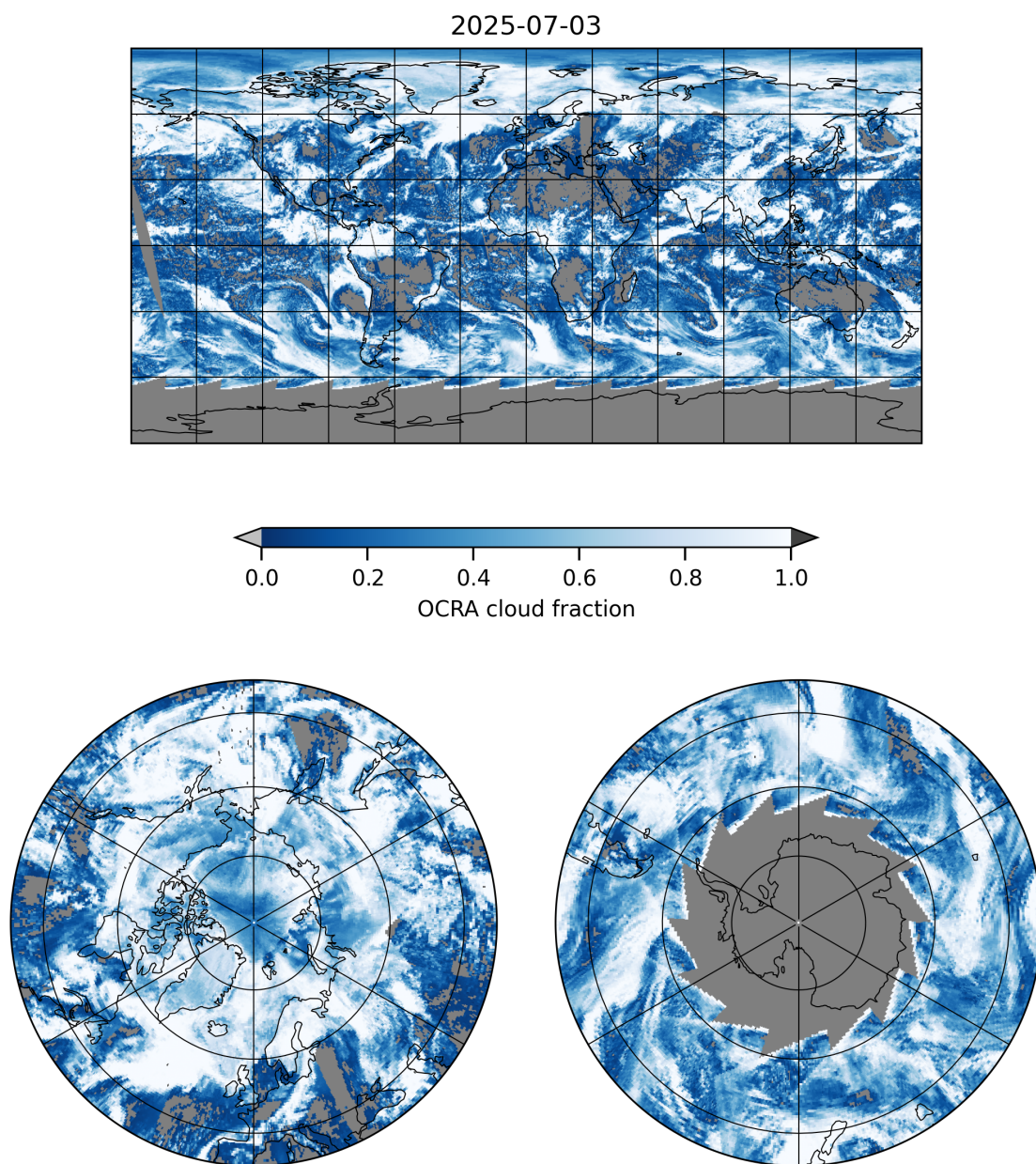


Figure 15: Map of “OCRA cloud fraction” for 2025-07-03 to 2025-07-04

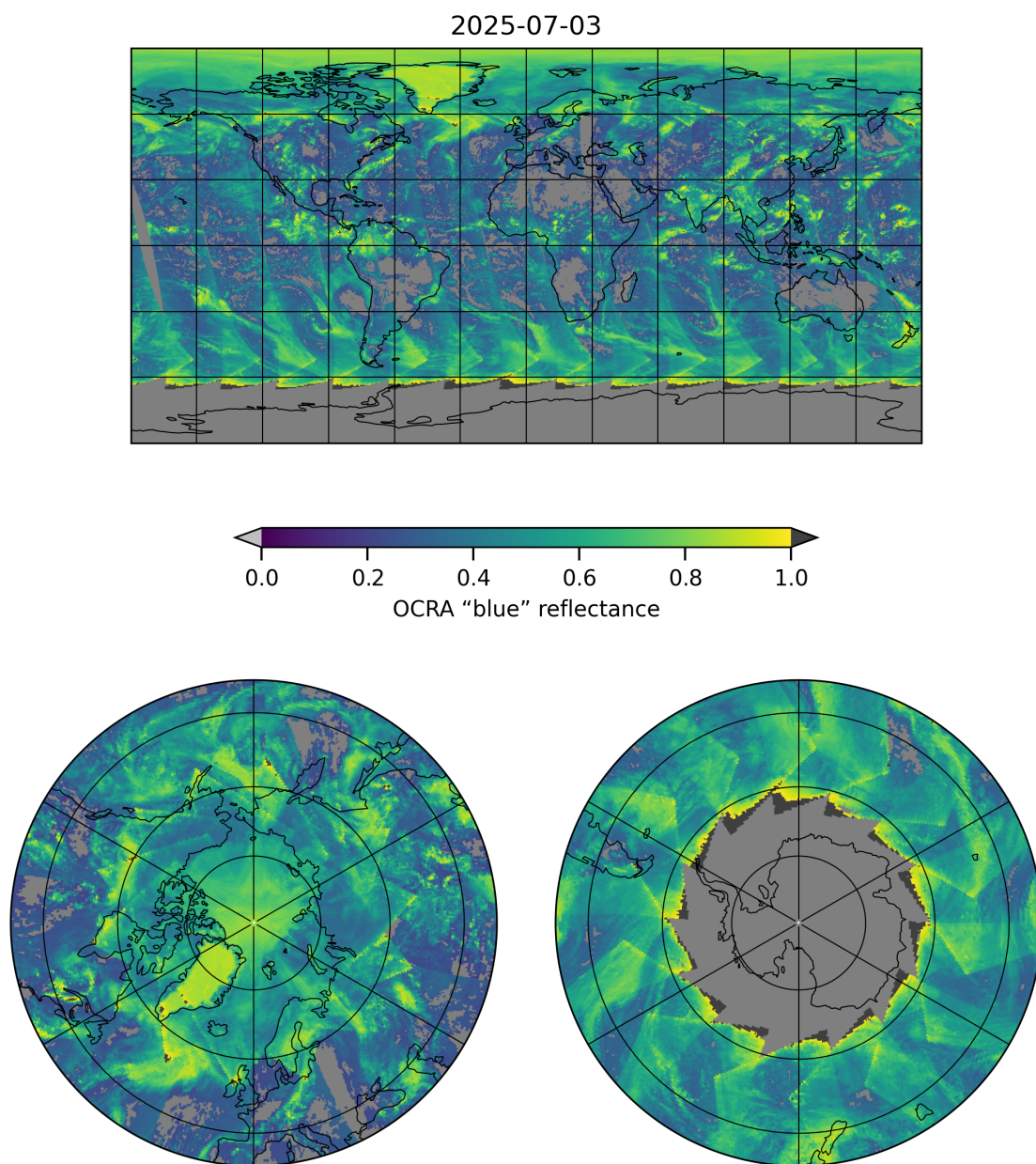


Figure 16: Map of "OCRA "blue" reflectance" for 2025-07-03 to 2025-07-04

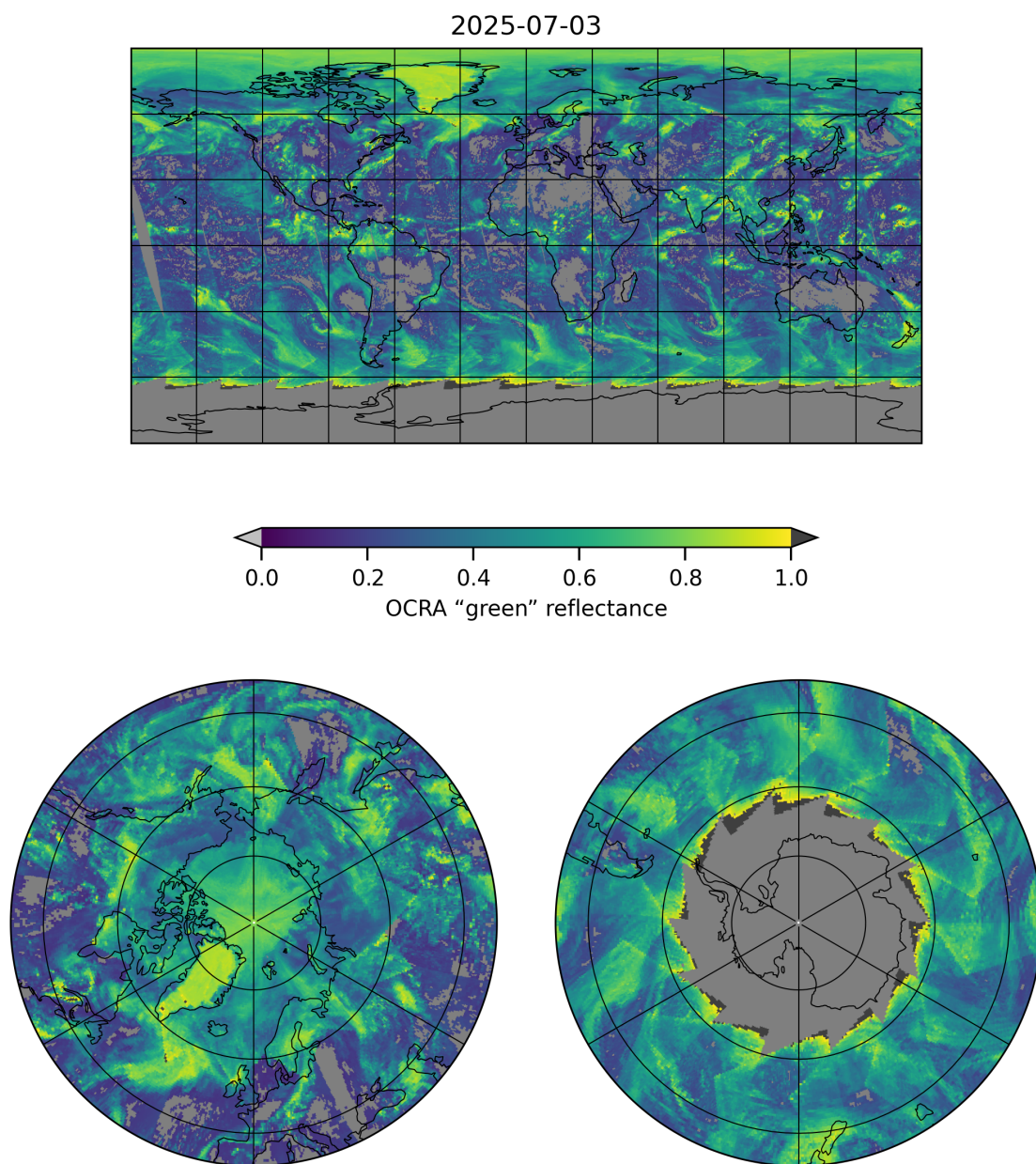


Figure 17: Map of "OCRA "green" reflectance" for 2025-07-03 to 2025-07-04

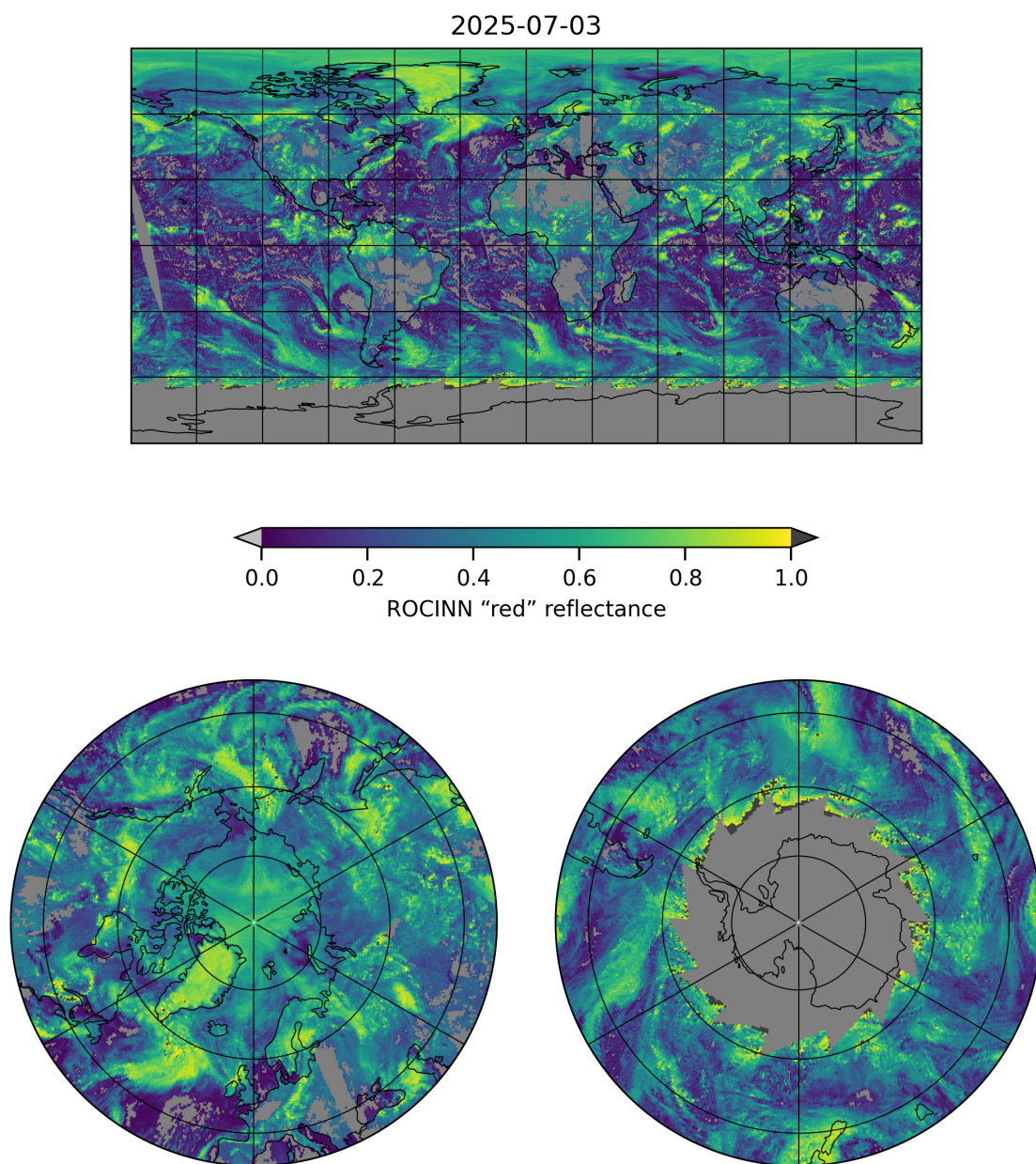


Figure 18: Map of "ROCINN "red" reflectance" for 2025-07-03 to 2025-07-04

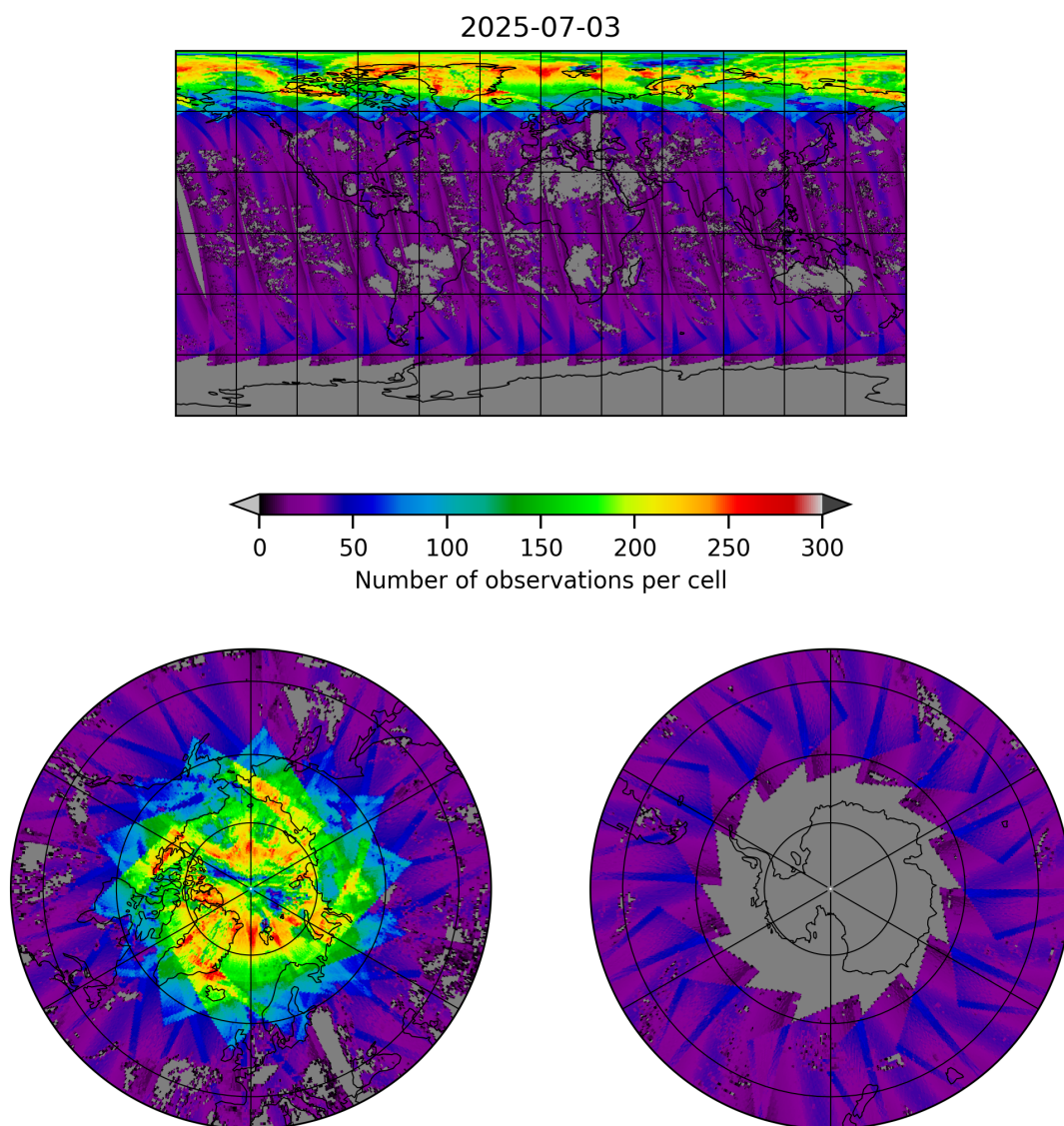


Figure 19: Map of the number of observations for 2025-07-03 to 2025-07-04

7 Zonal average

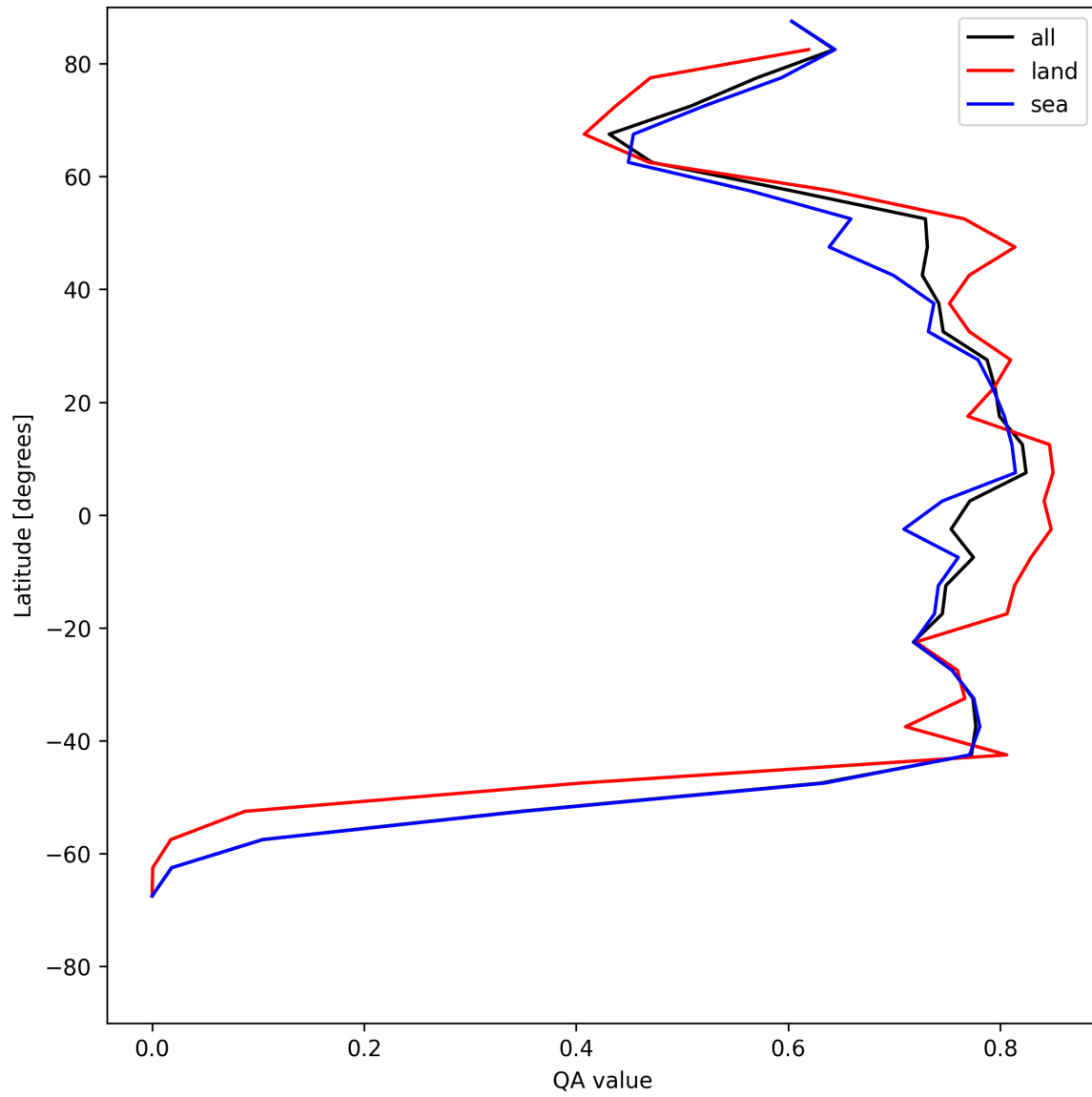


Figure 20: Zonal average of “QA value” for 2025-07-03 to 2025-07-04.

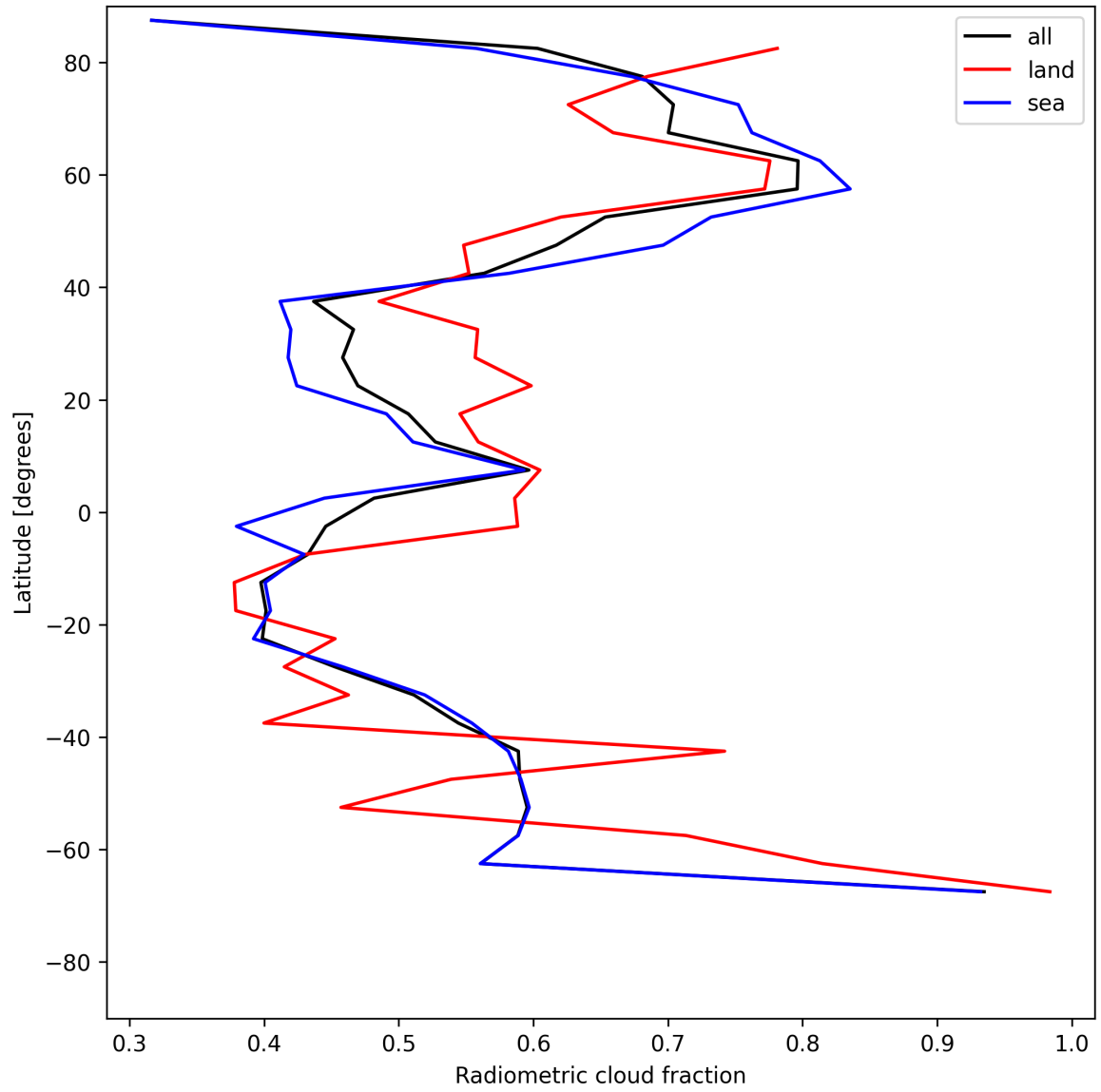


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-07-03 to 2025-07-04.

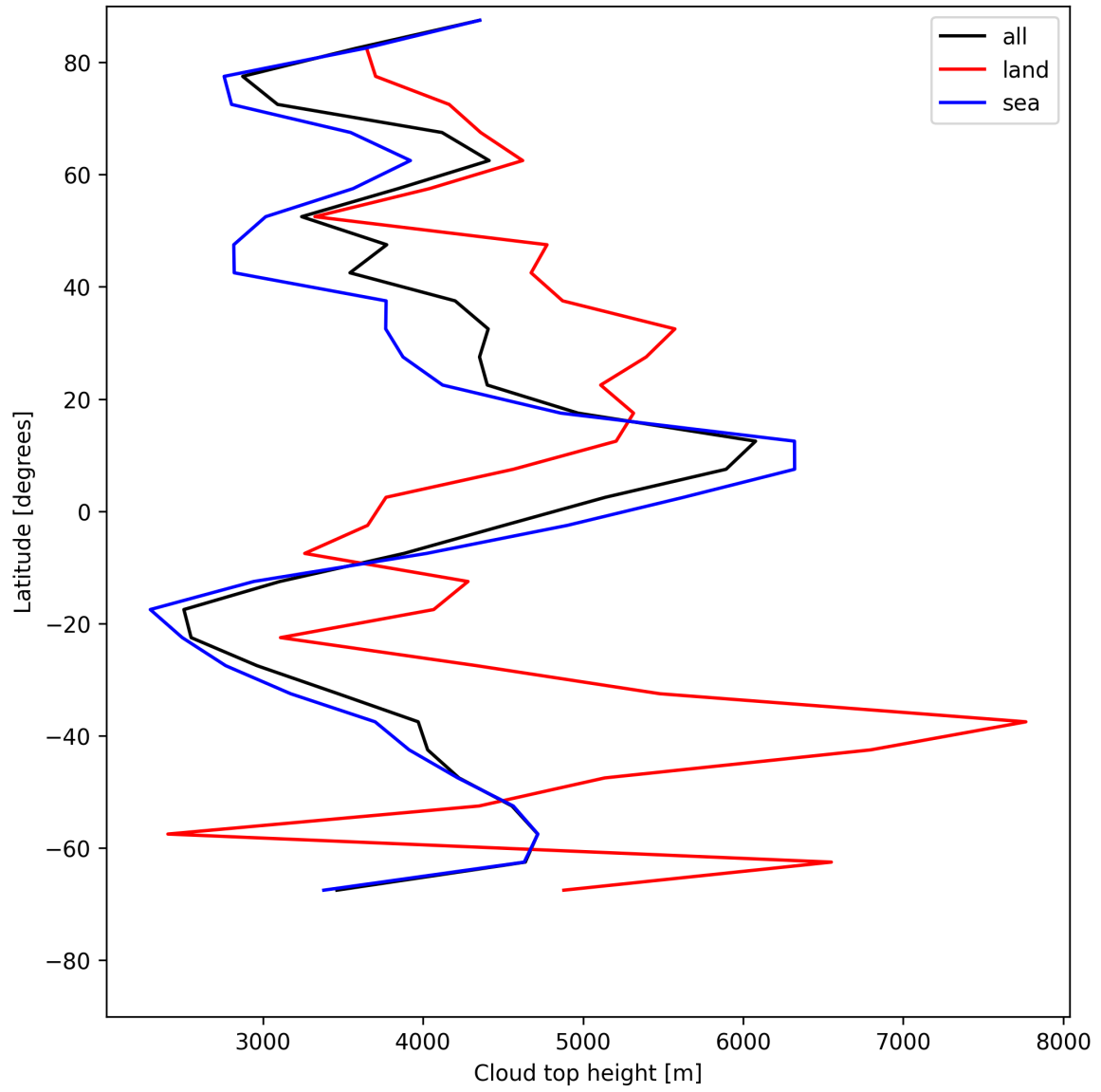


Figure 22: Zonal average of “Cloud top height” for 2025-07-03 to 2025-07-04.

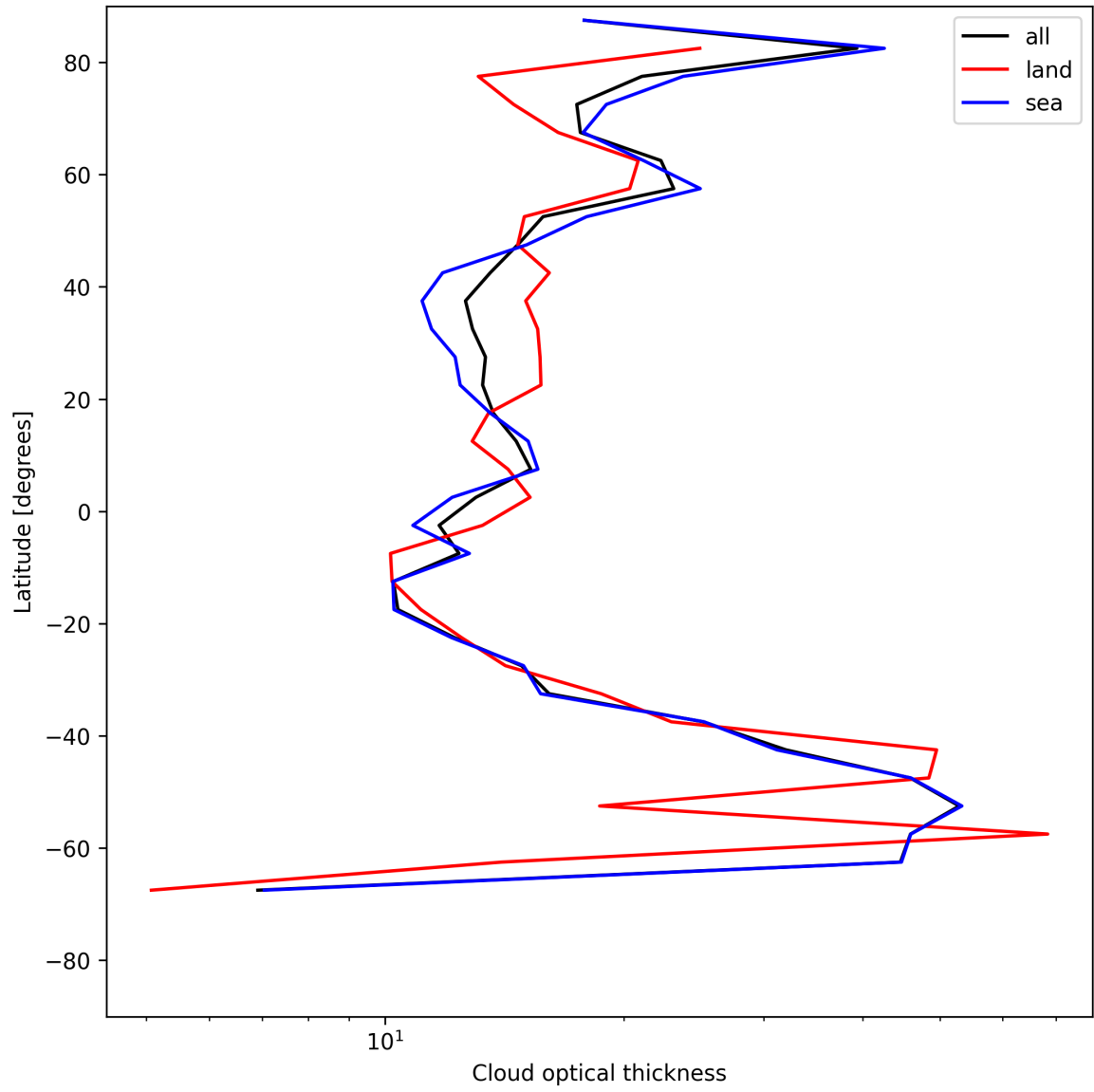


Figure 23: Zonal average of “Cloud optical thickness” for 2025-07-03 to 2025-07-04.

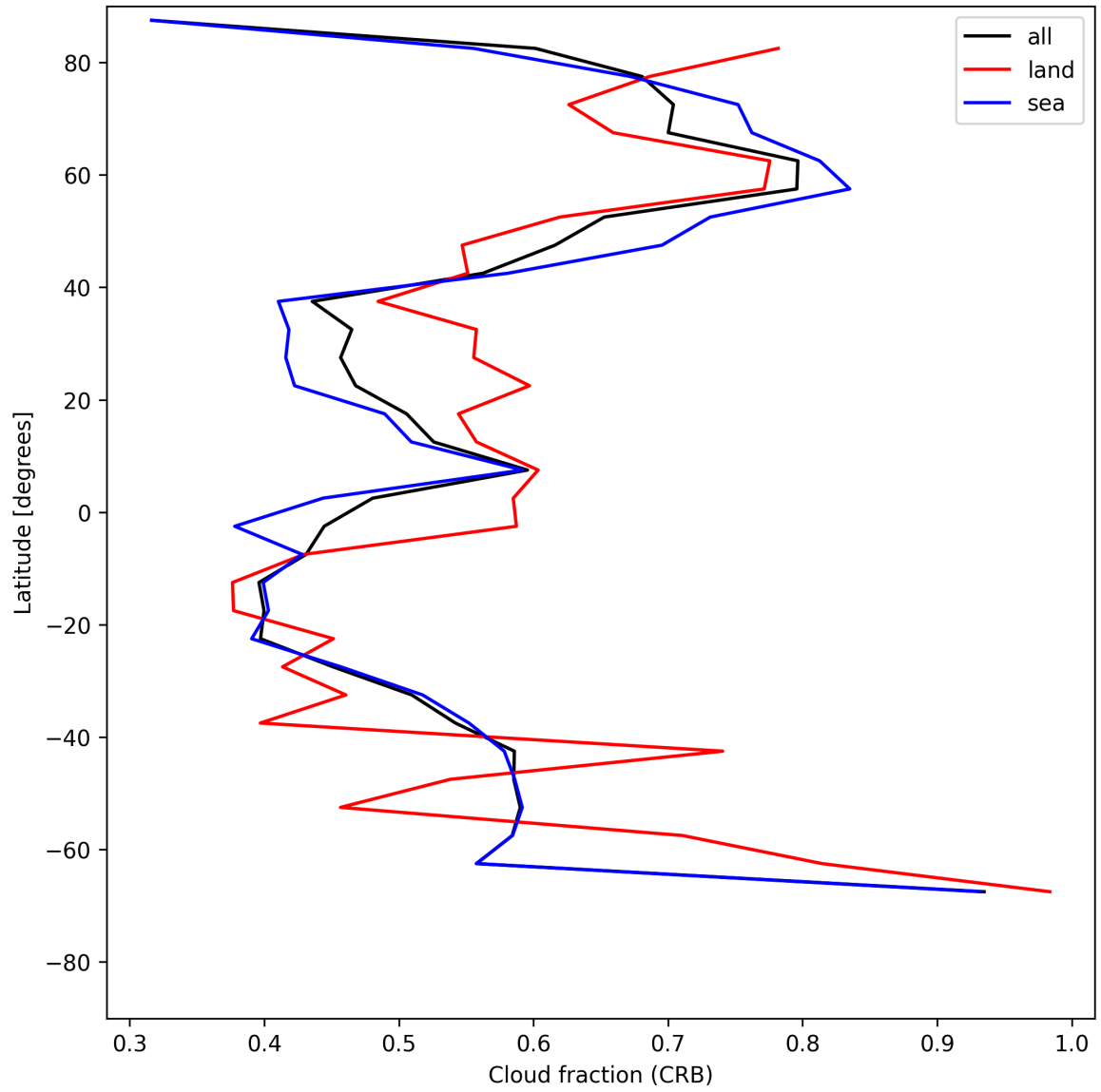


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-07-03 to 2025-07-04.

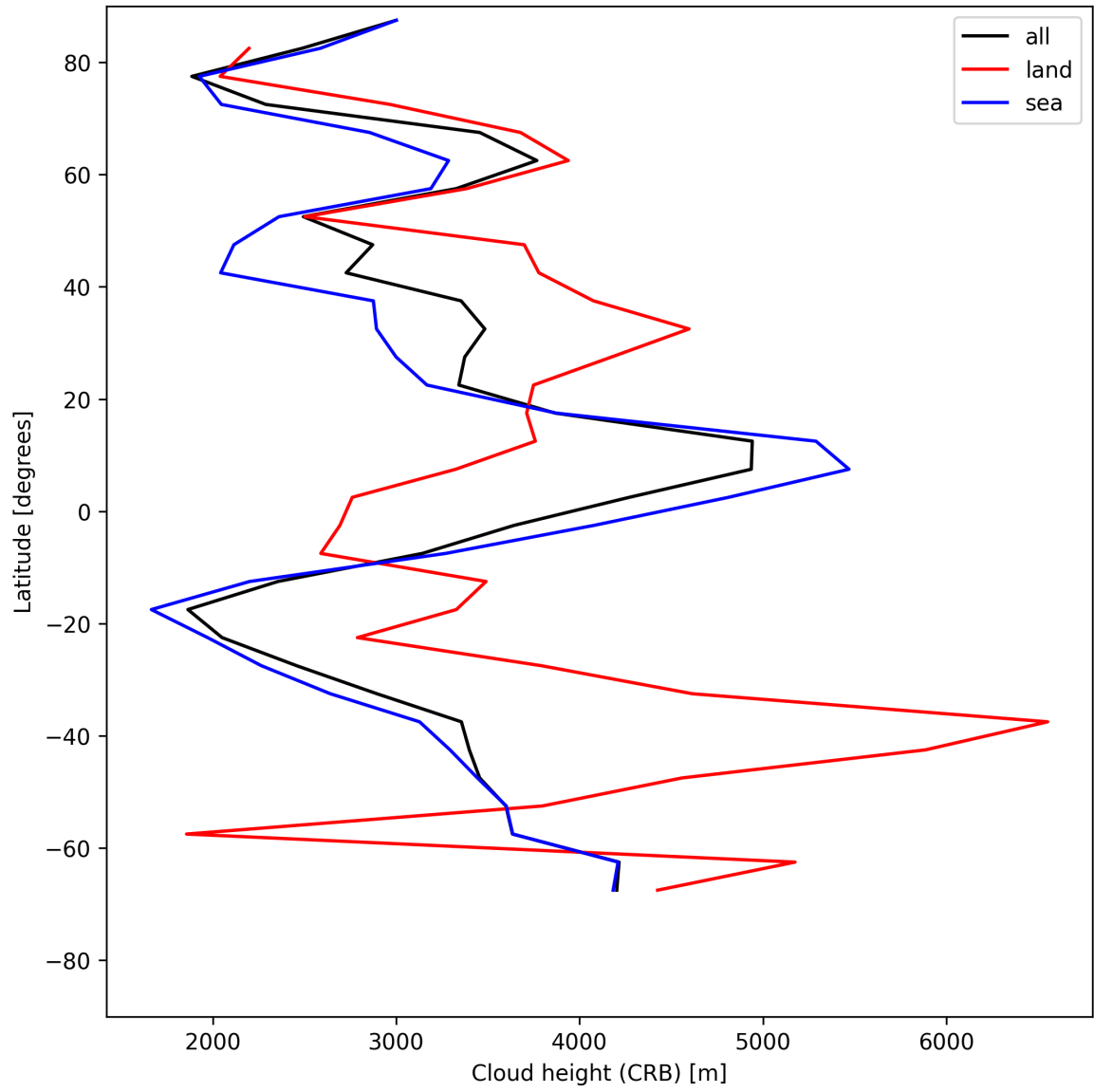


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-07-03 to 2025-07-04.

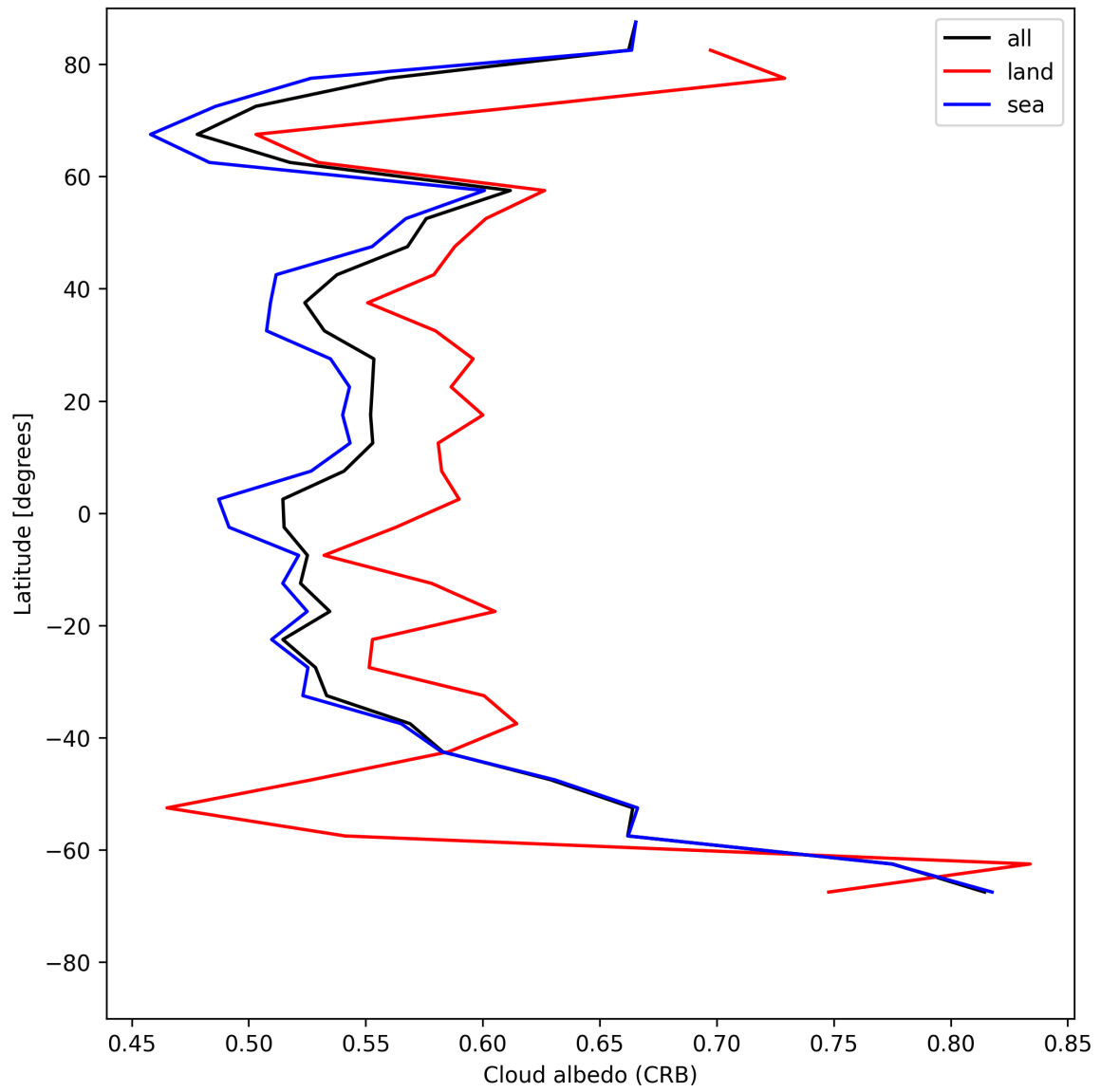


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-07-03 to 2025-07-04.

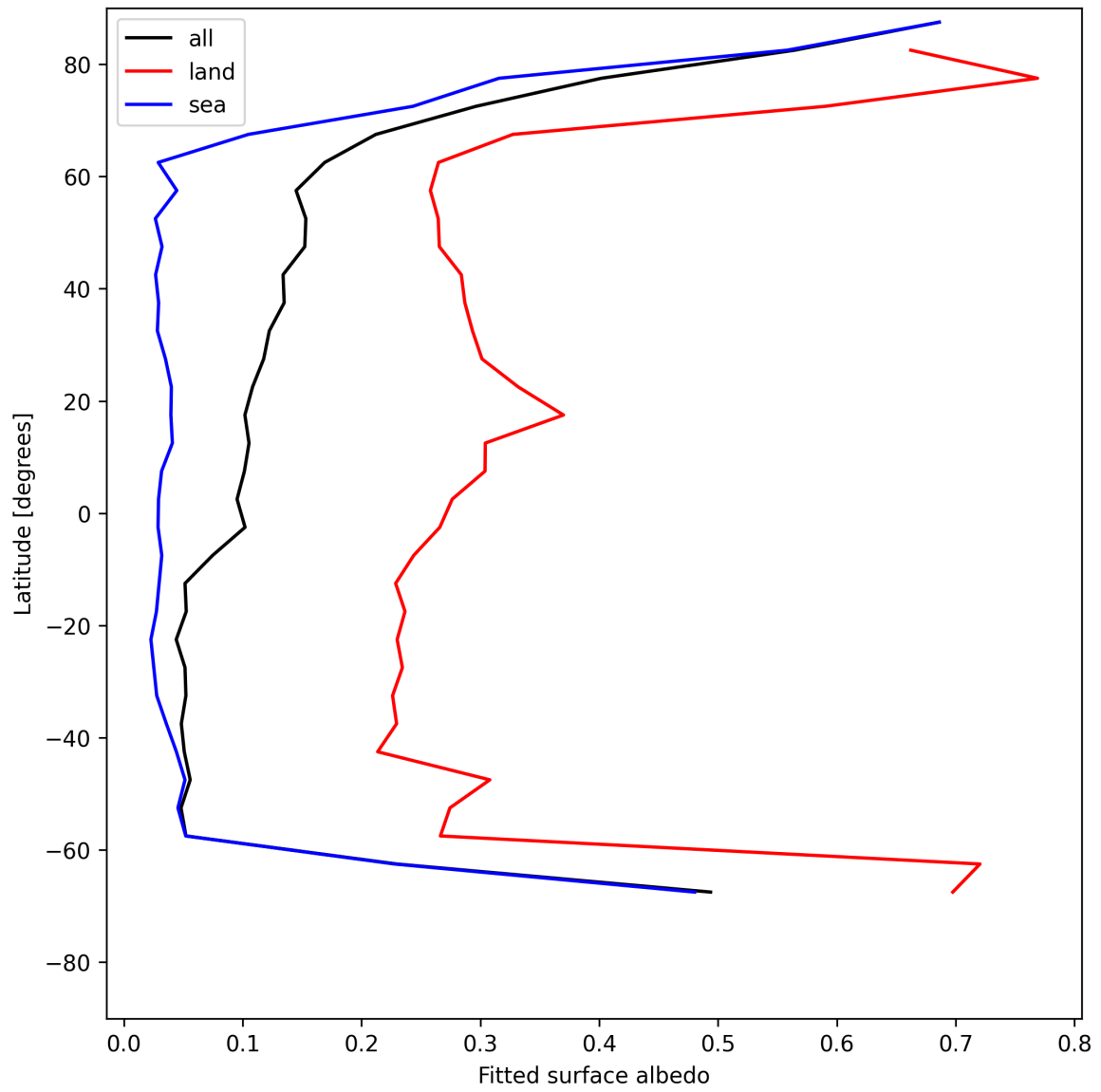


Figure 27: Zonal average of “Fitted surface albedo” for 2025-07-03 to 2025-07-04.

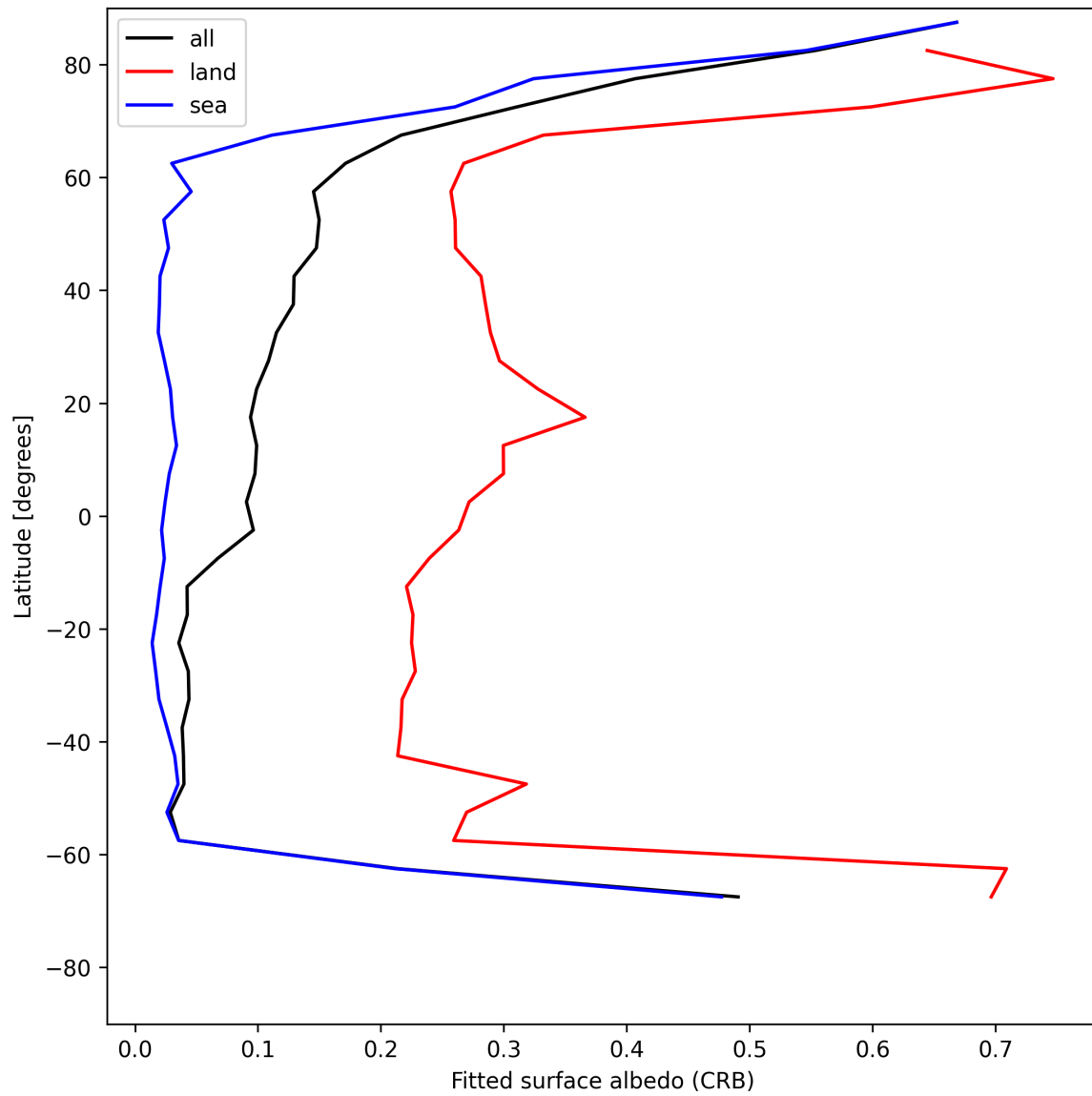


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-07-03 to 2025-07-04.

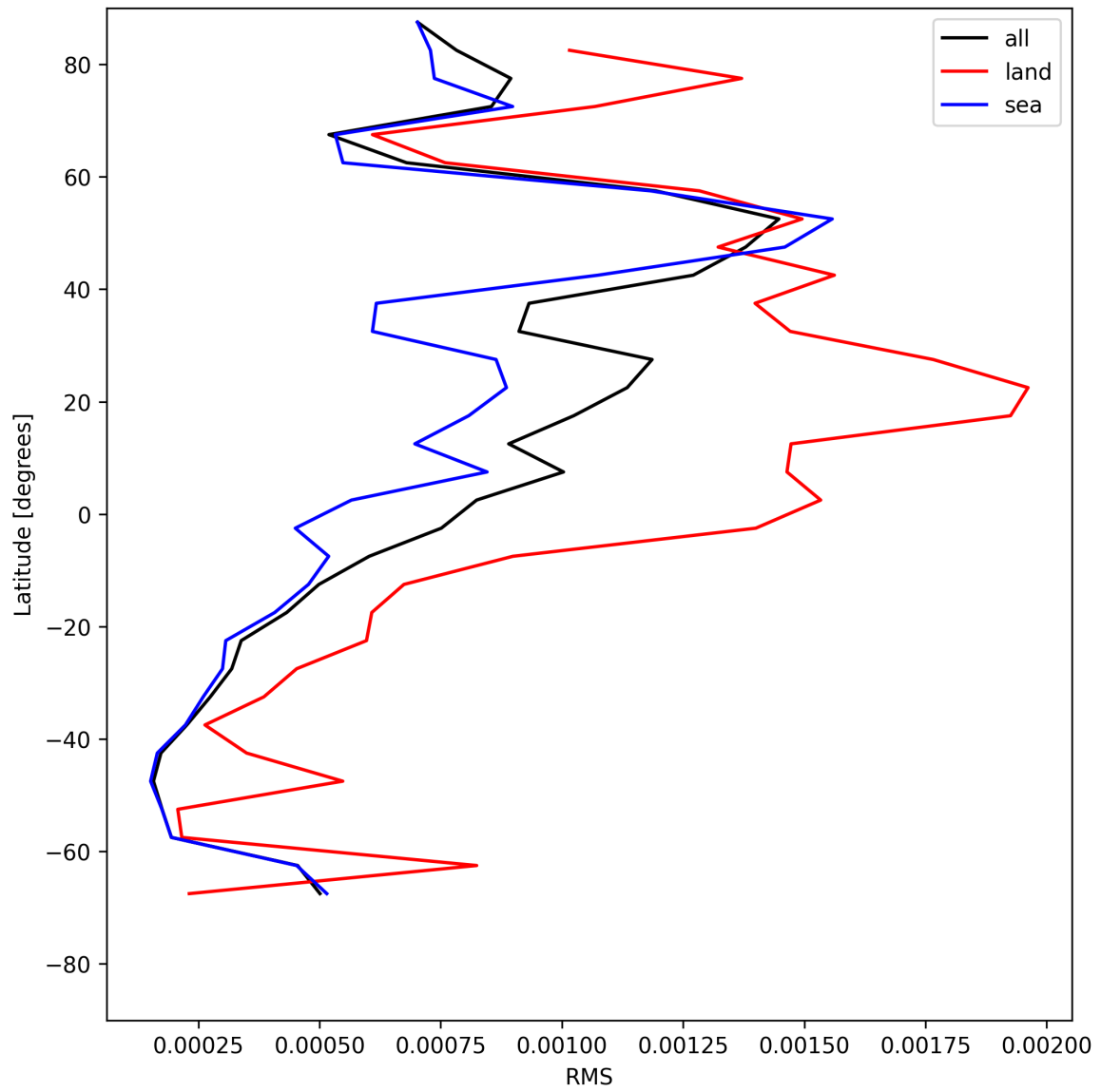


Figure 29: Zonal average of “RMS” for 2025-07-03 to 2025-07-04.

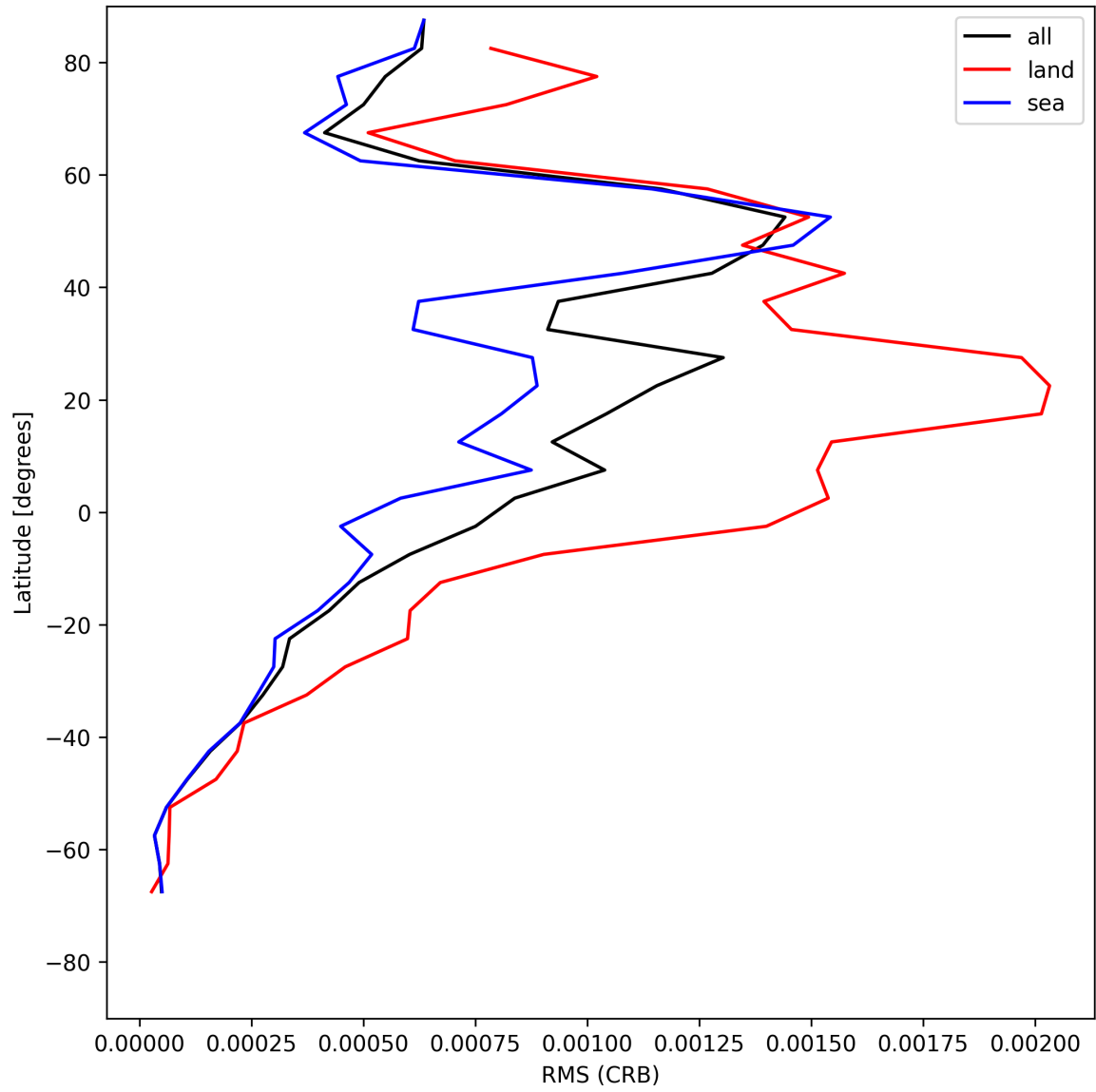


Figure 30: Zonal average of “RMS (CRB)” for 2025-07-03 to 2025-07-04.

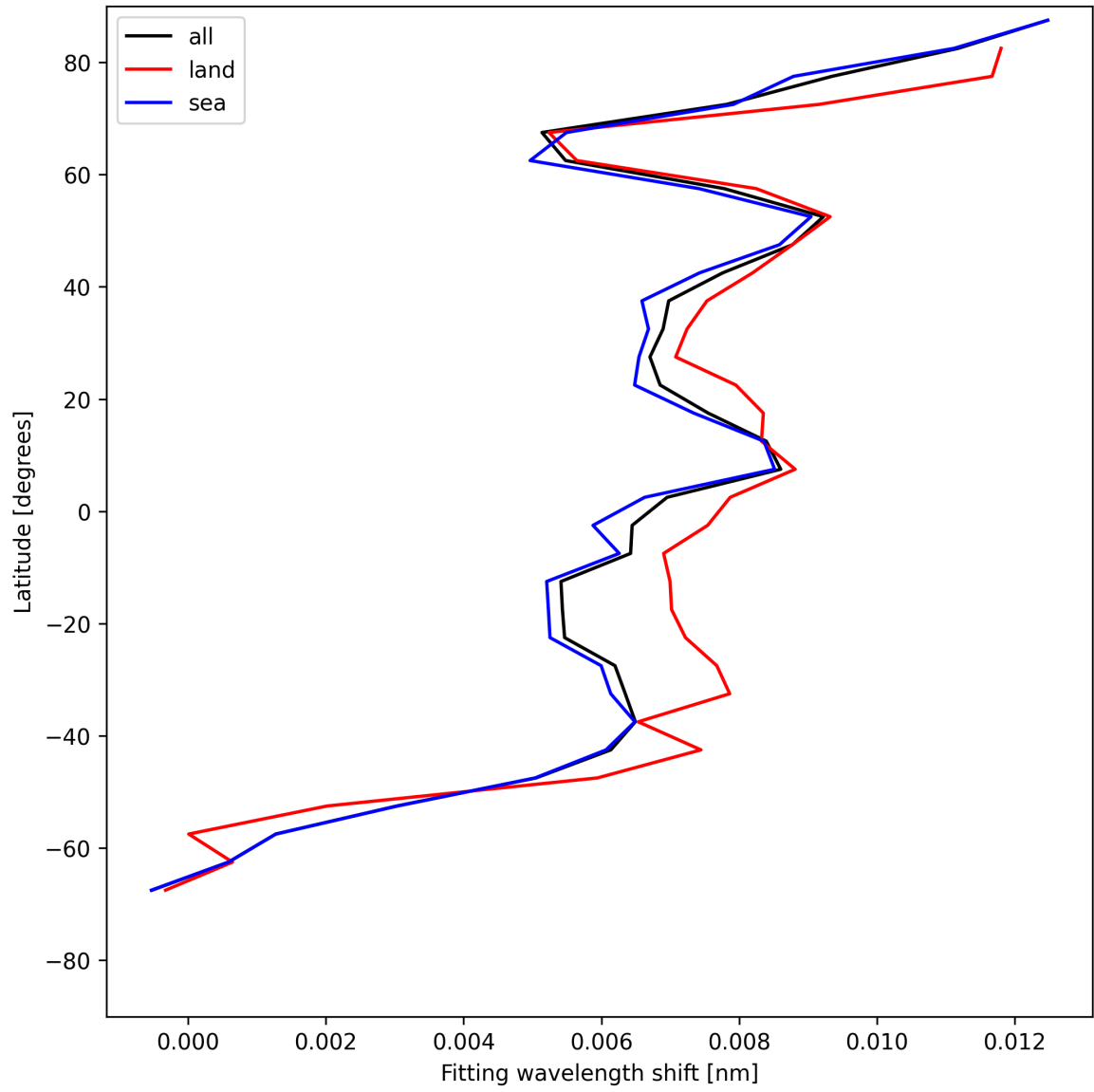


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-07-03 to 2025-07-04.

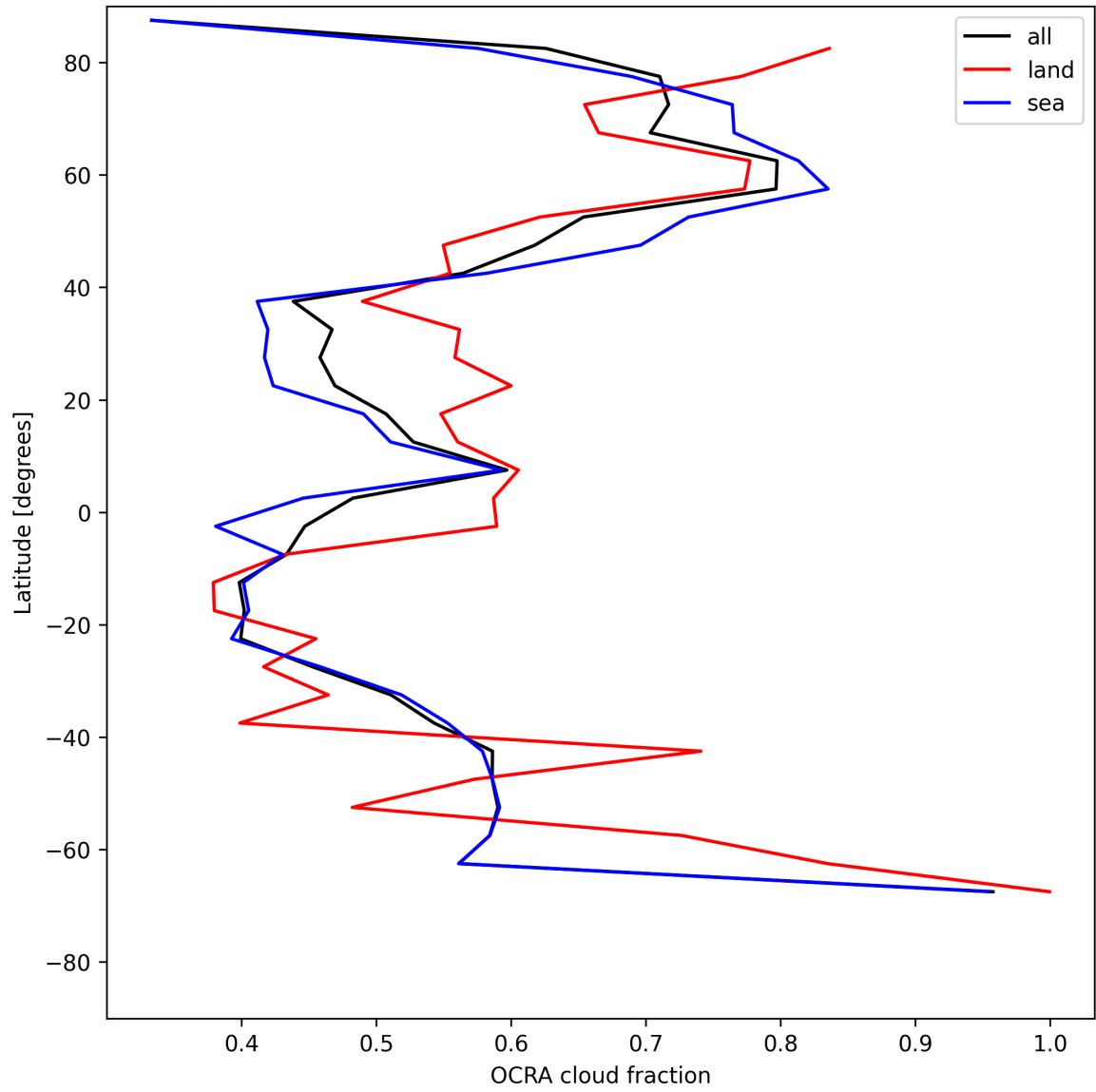


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-07-03 to 2025-07-04.

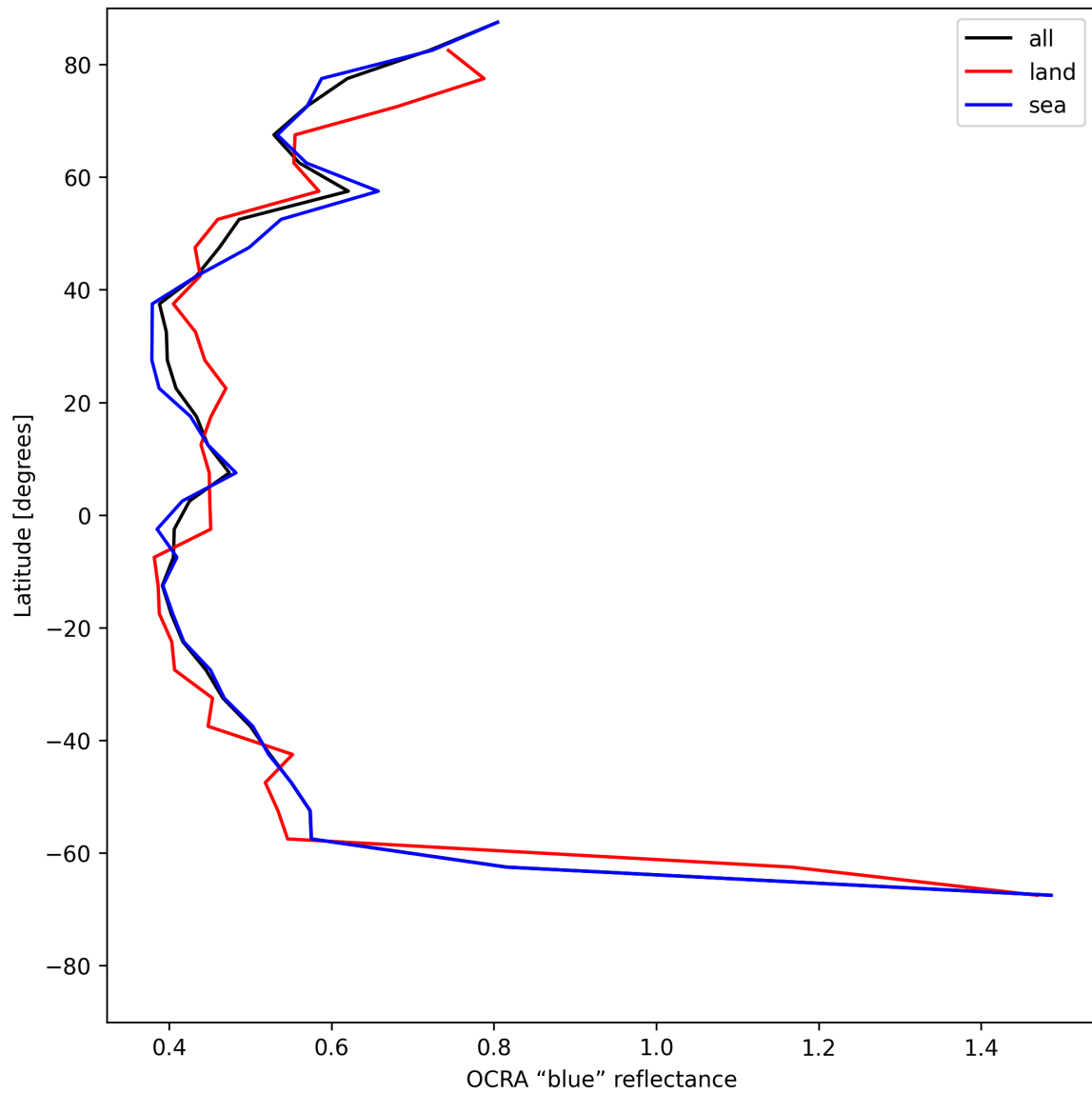


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-07-03 to 2025-07-04.

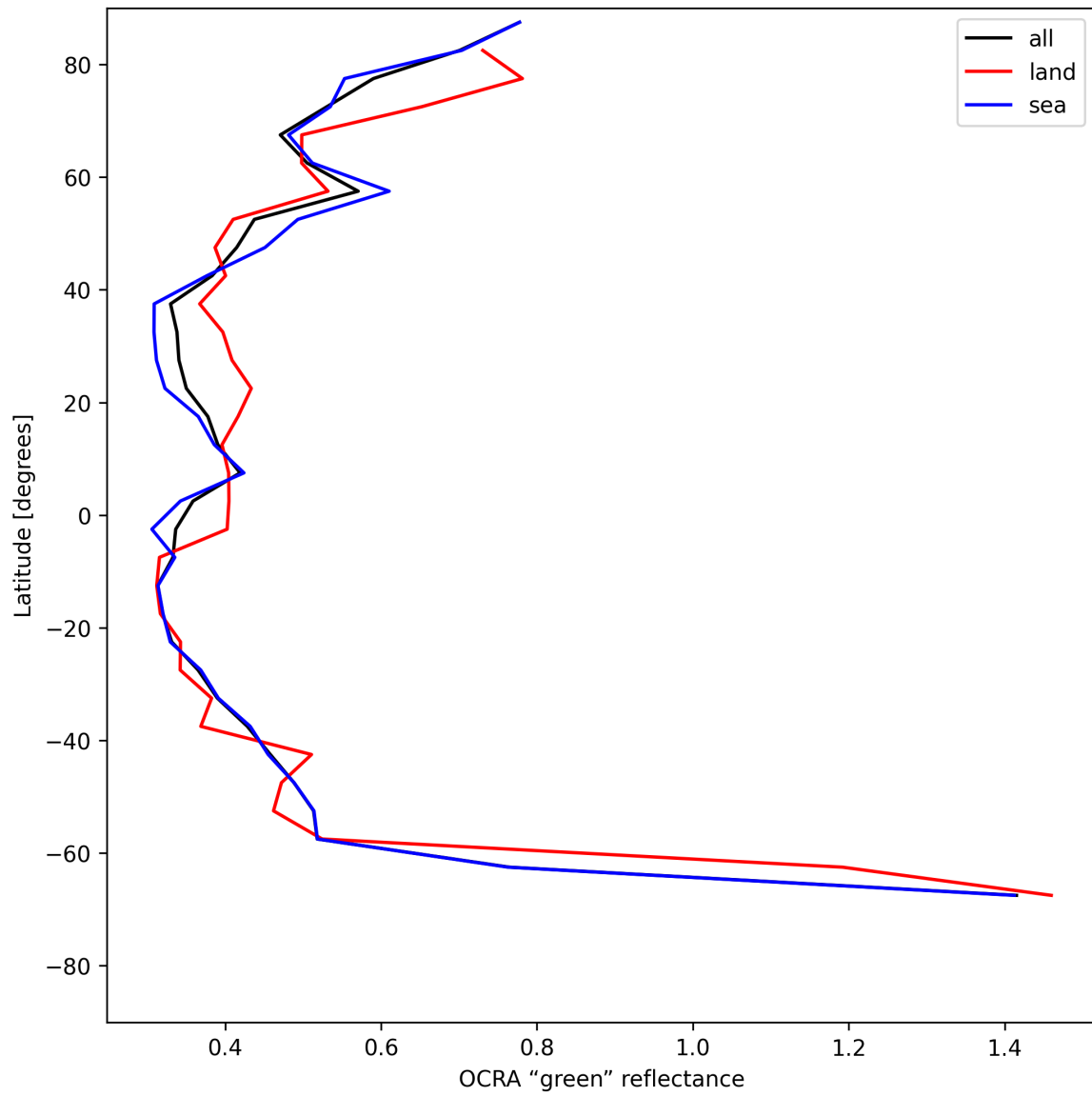


Figure 34: Zonal average of "OCRA "green" reflectance" for 2025-07-03 to 2025-07-04.

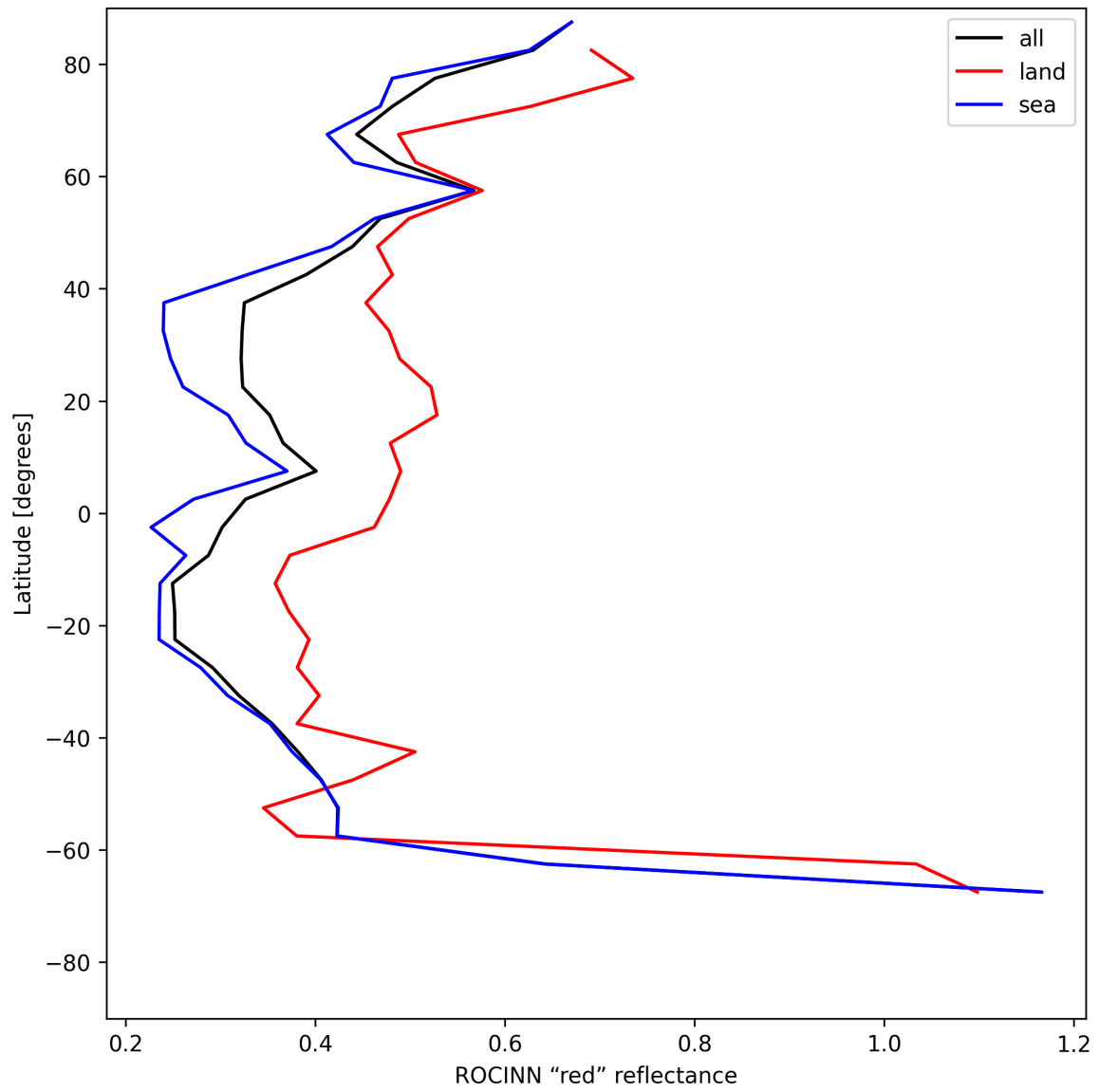


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-07-03 to 2025-07-04.

8 Histograms

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

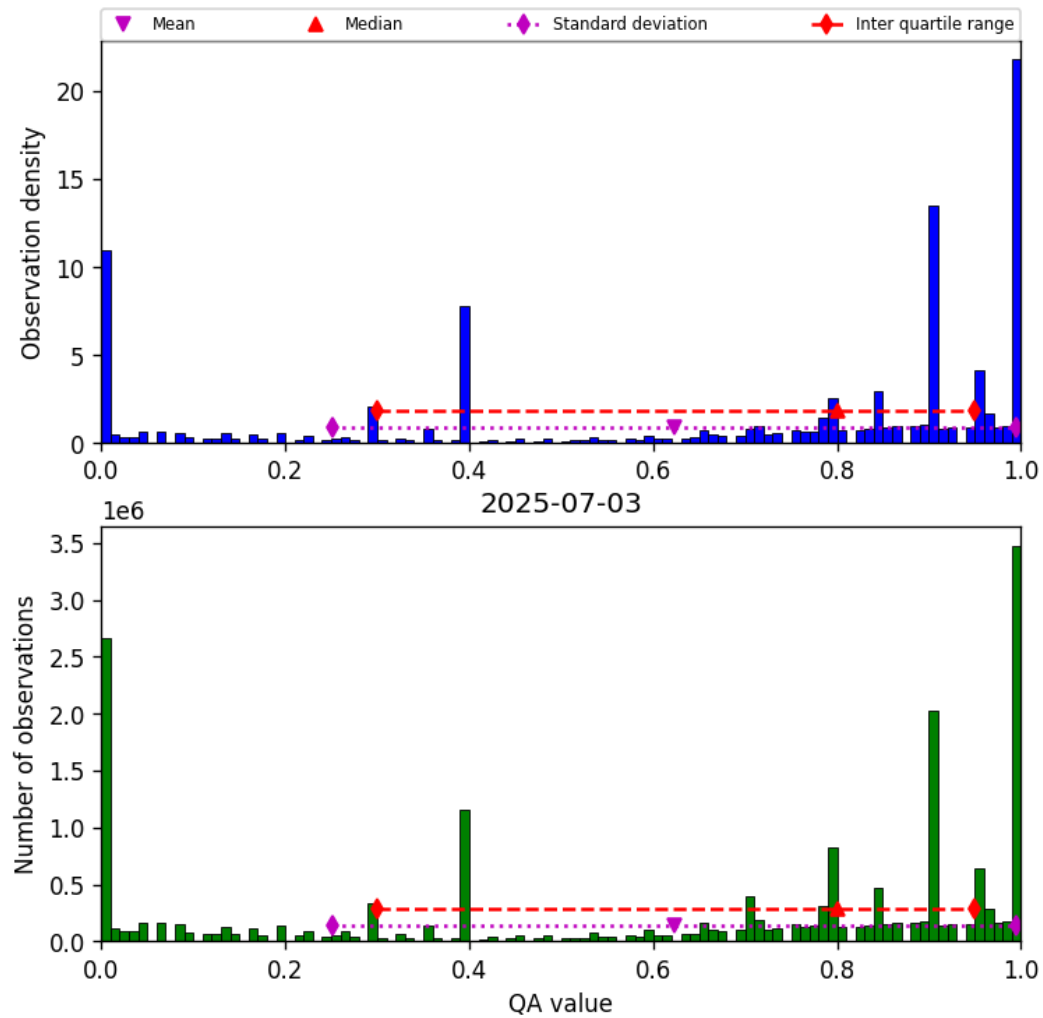


Figure 36: Histogram of “QA value” for 2025-07-03 to 2025-07-04

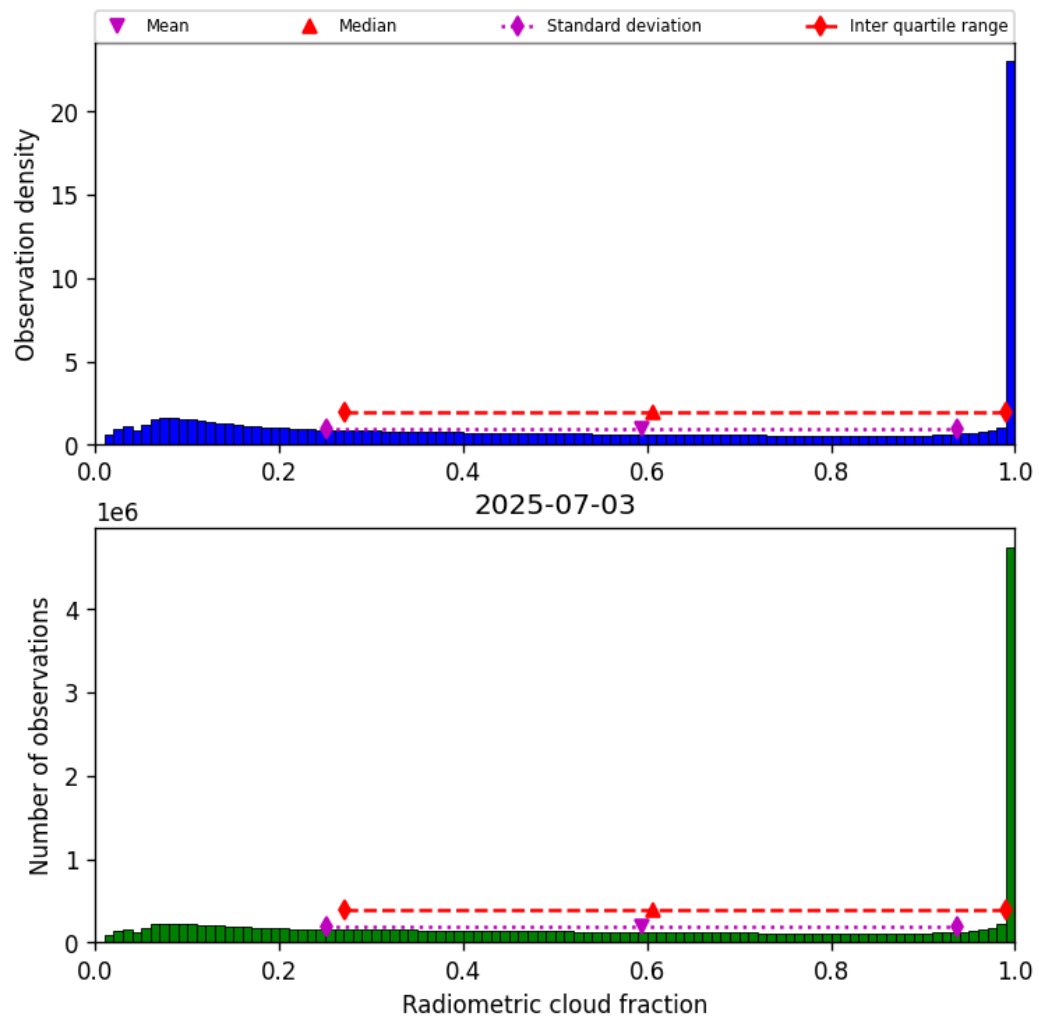


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-07-03 to 2025-07-04

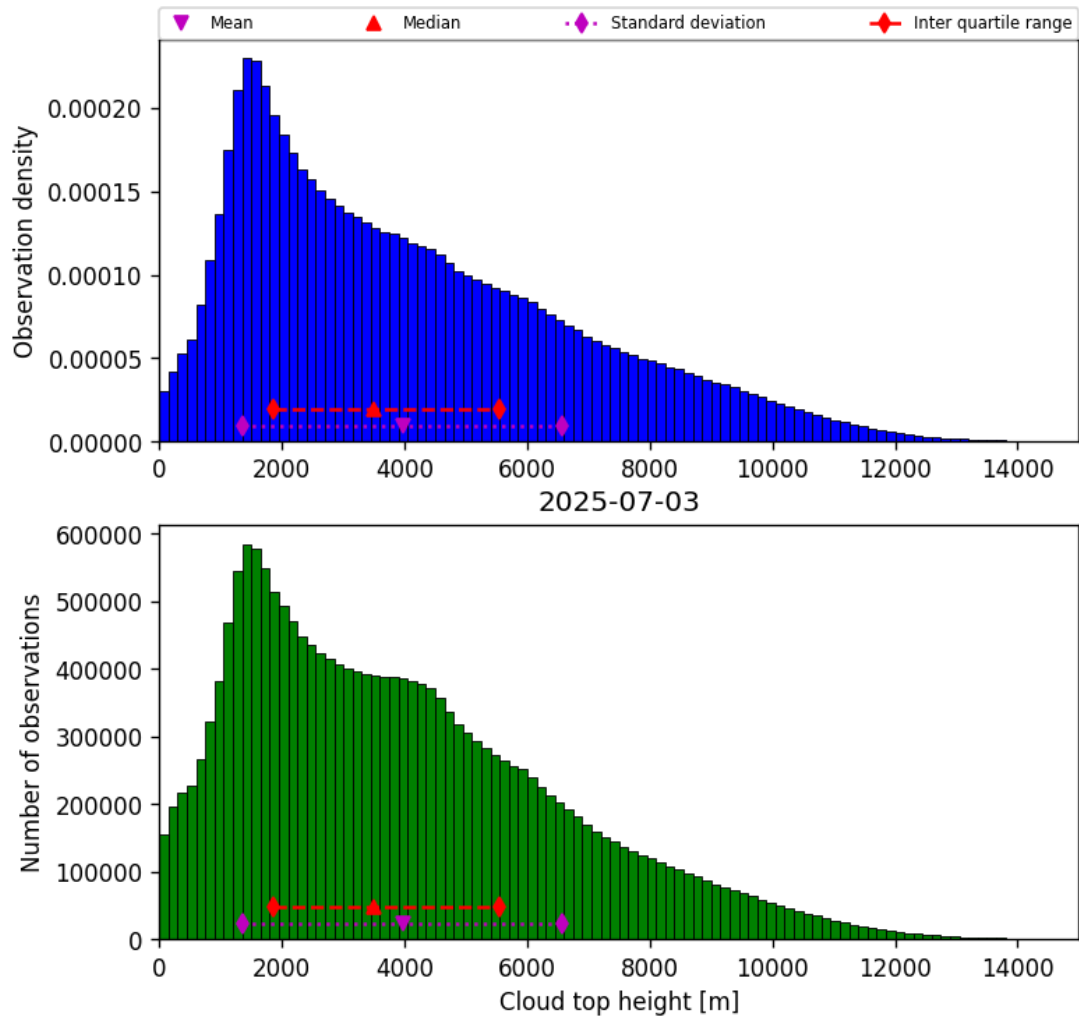


Figure 38: Histogram of “Cloud top height” for 2025-07-03 to 2025-07-04

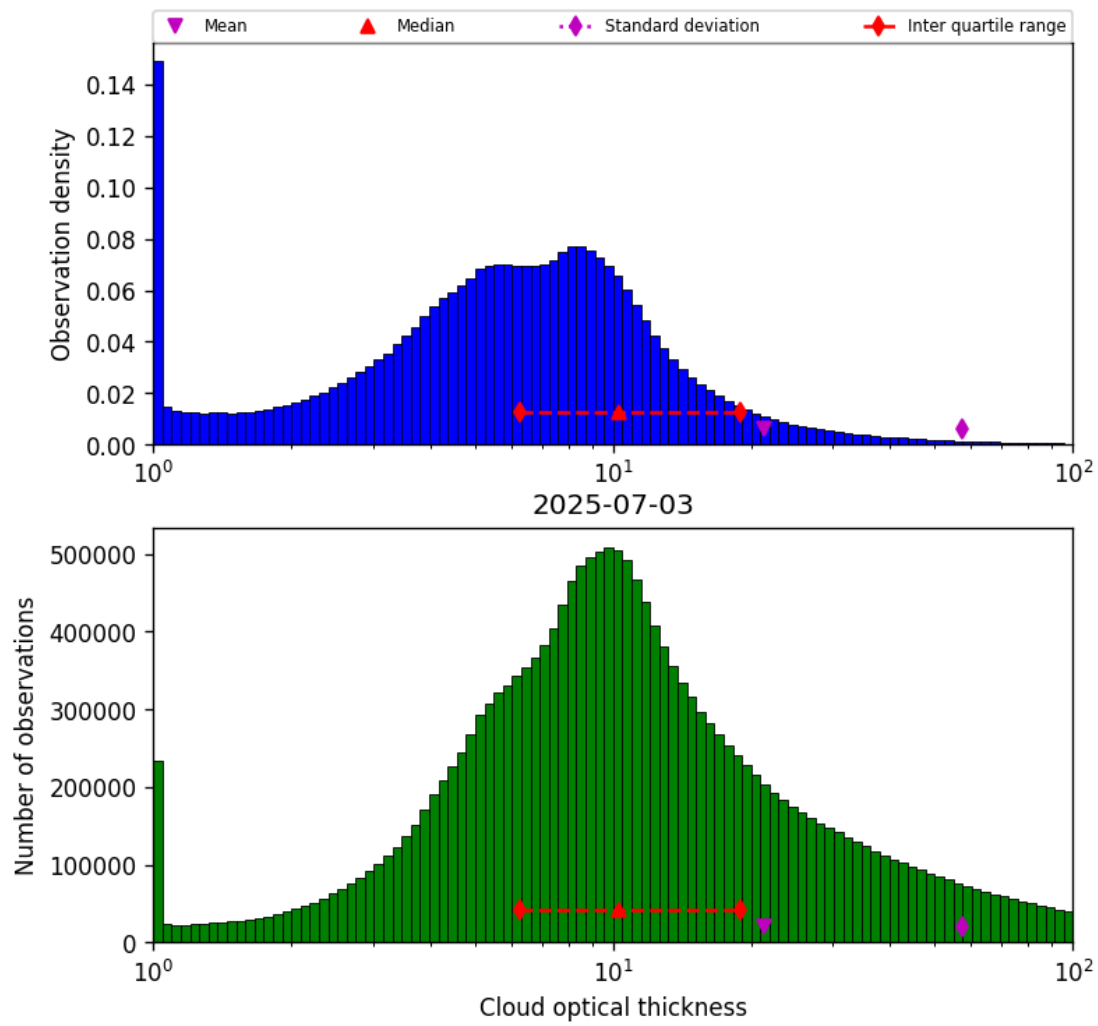


Figure 39: Histogram of “Cloud optical thickness” for 2025-07-03 to 2025-07-04

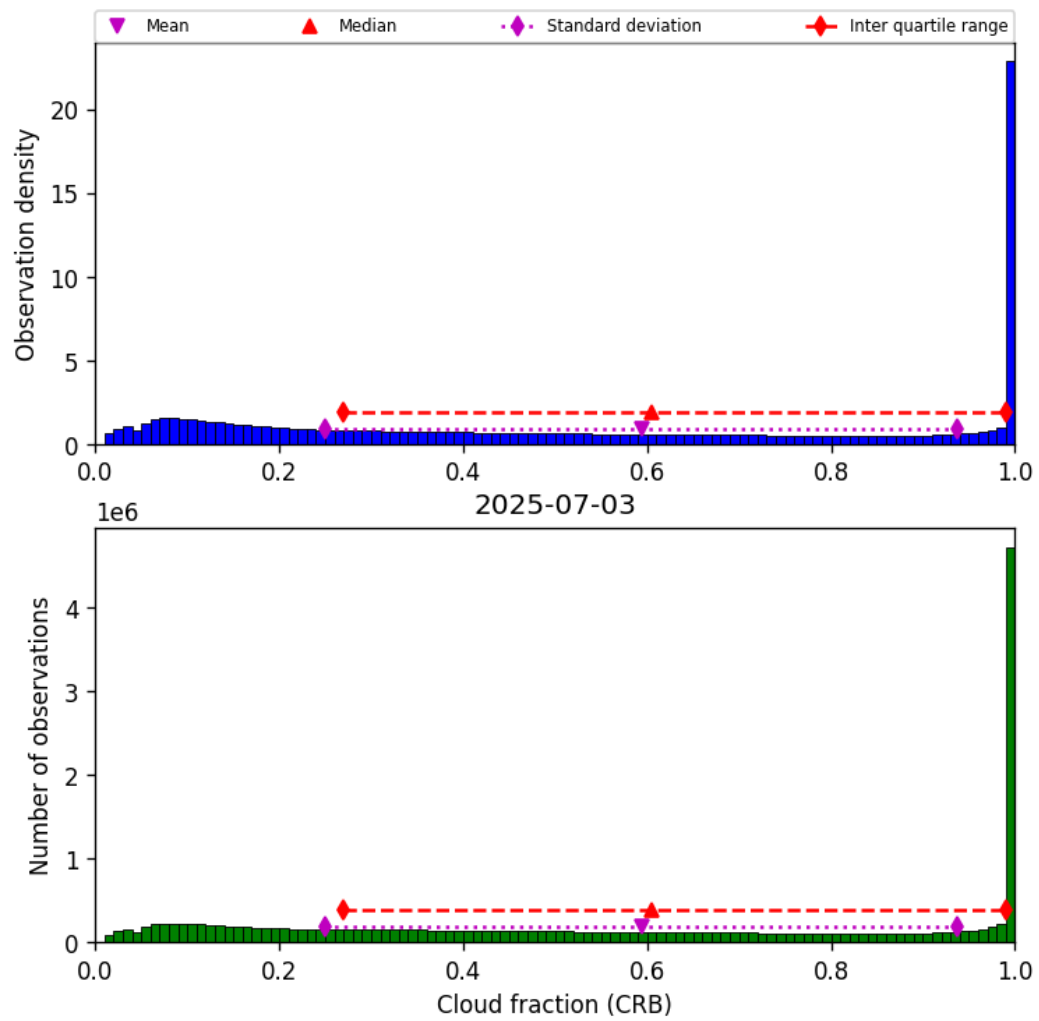


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-07-03 to 2025-07-04

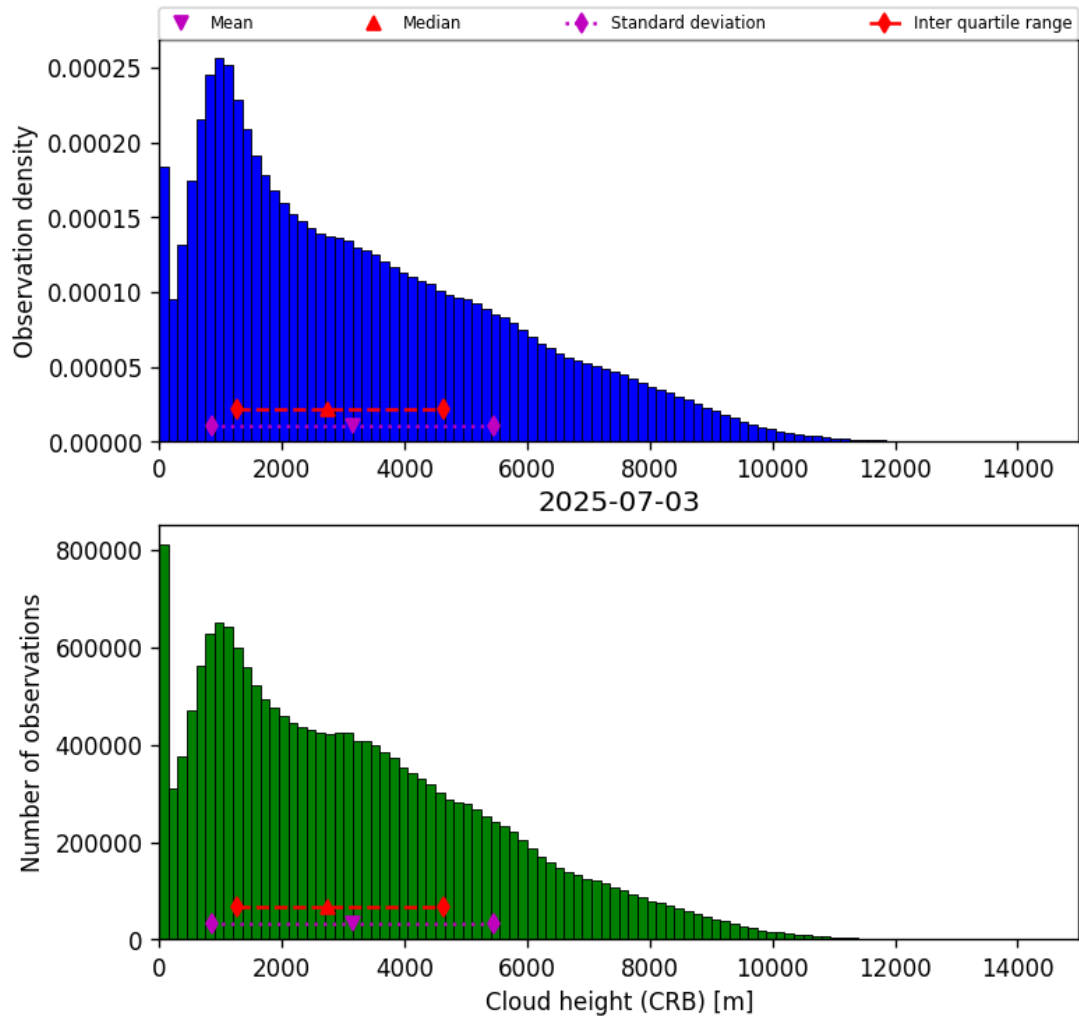


Figure 41: Histogram of “Cloud height (CRB)” for 2025-07-03 to 2025-07-04

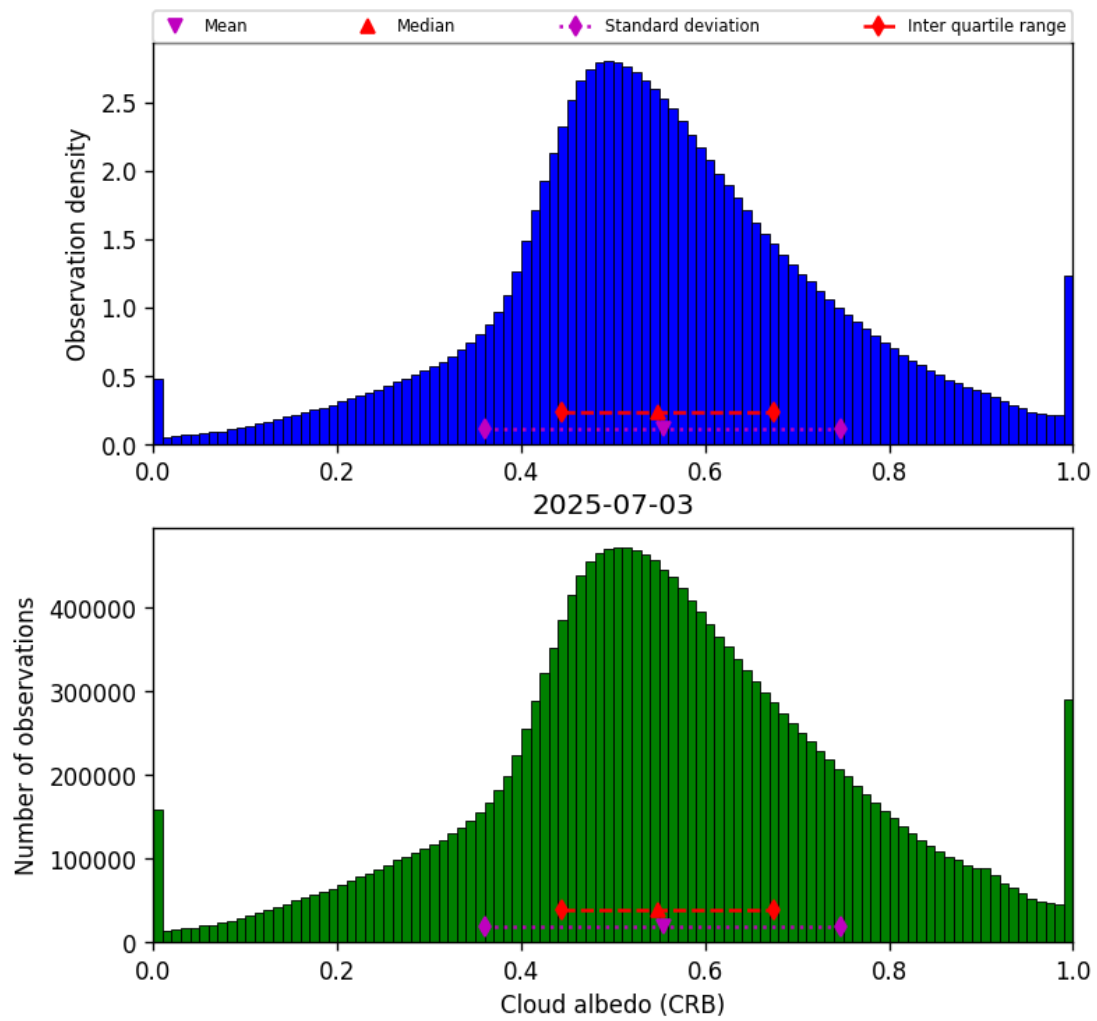


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-07-03 to 2025-07-04

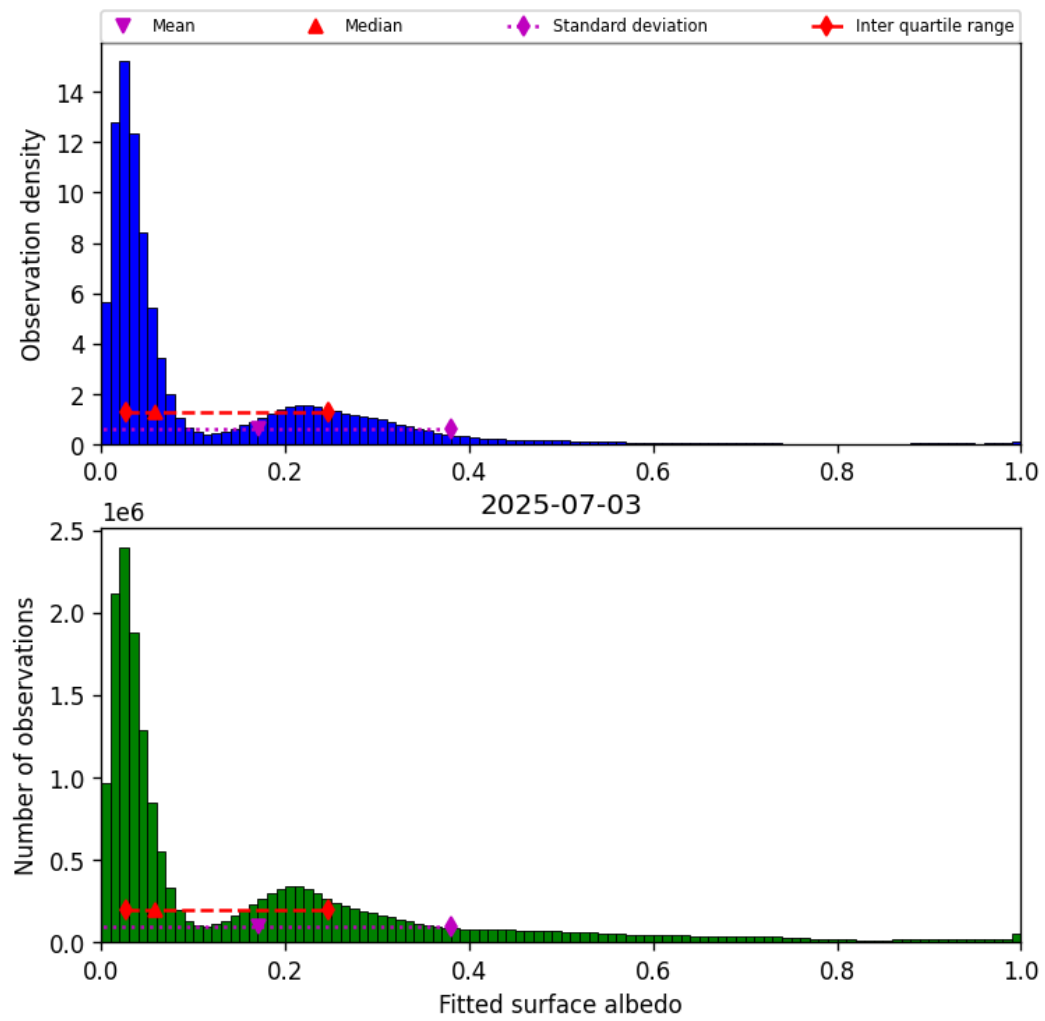


Figure 43: Histogram of “Fitted surface albedo” for 2025-07-03 to 2025-07-04

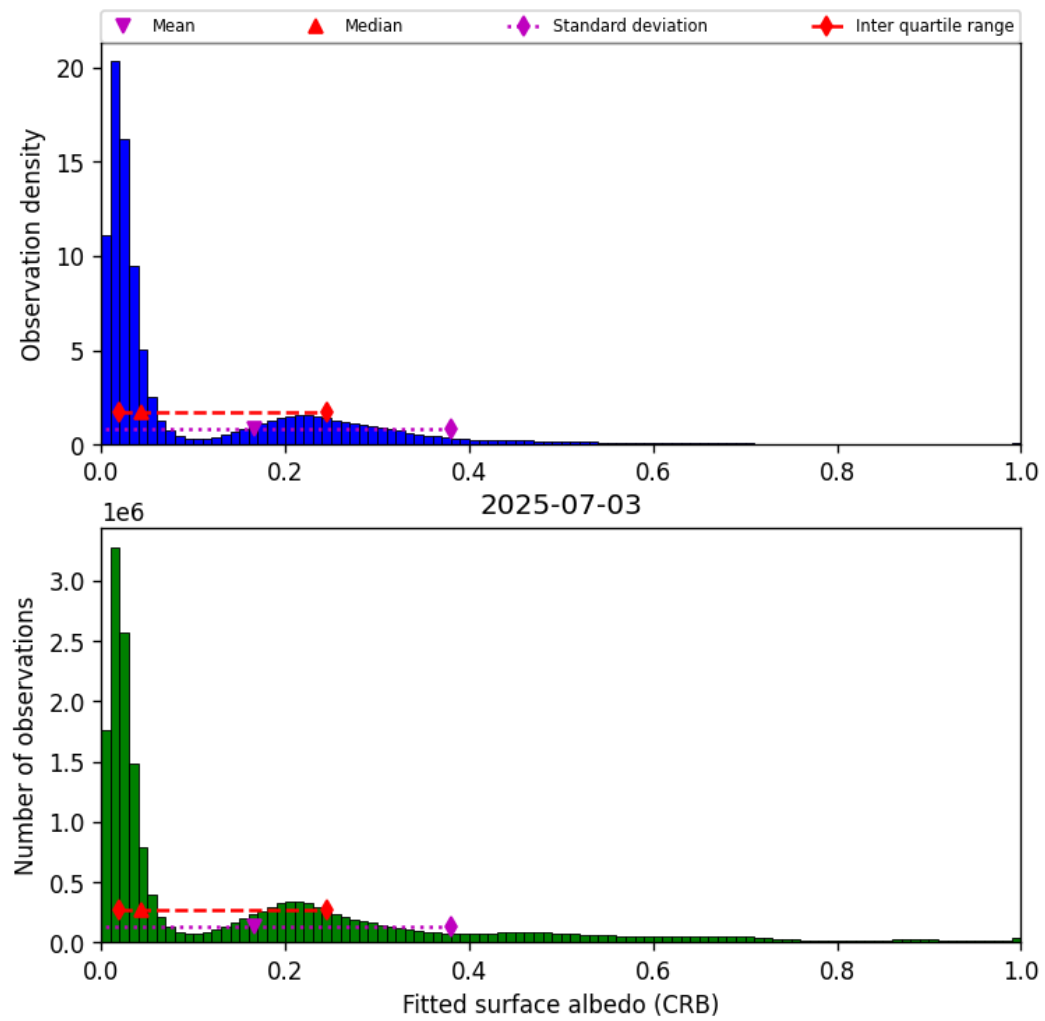


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-07-03 to 2025-07-04

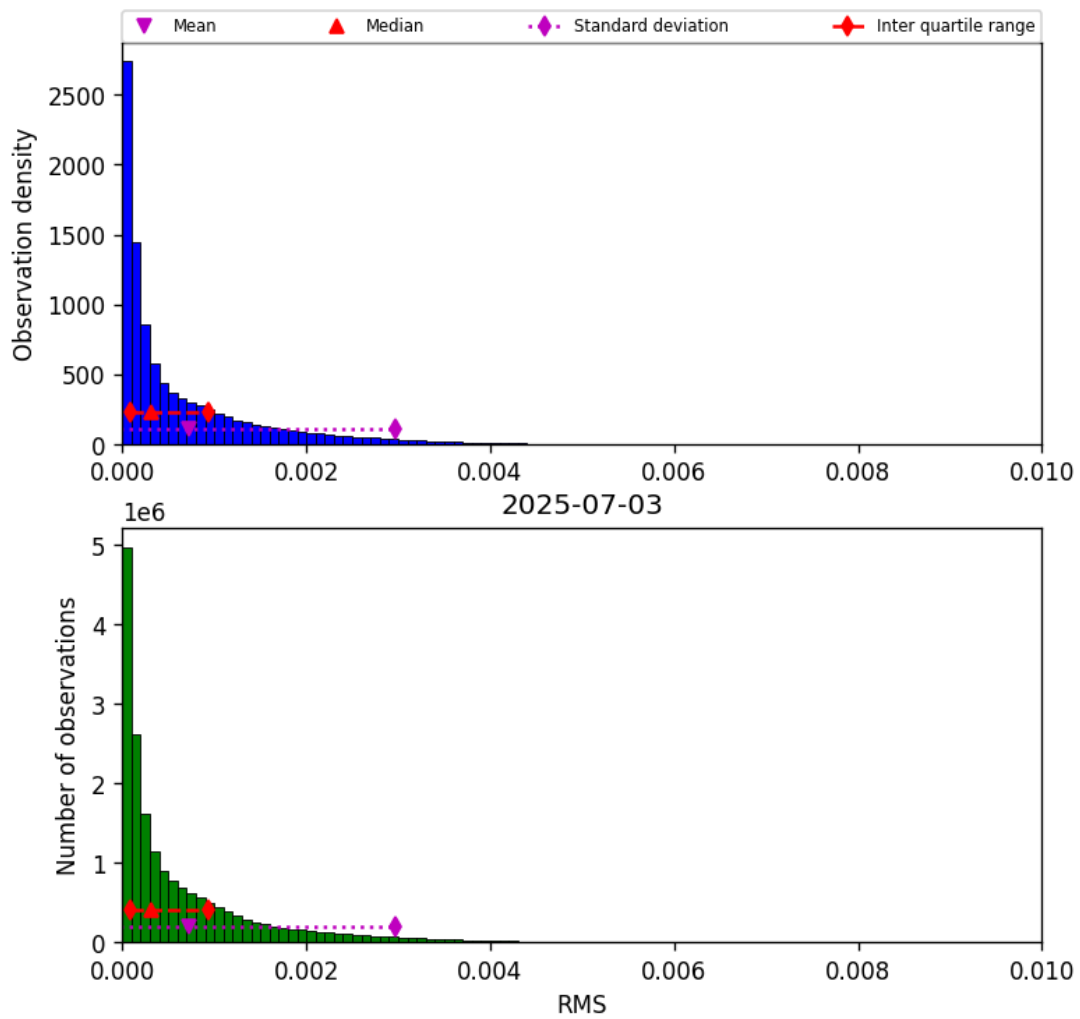


Figure 45: Histogram of “RMS” for 2025-07-03 to 2025-07-04

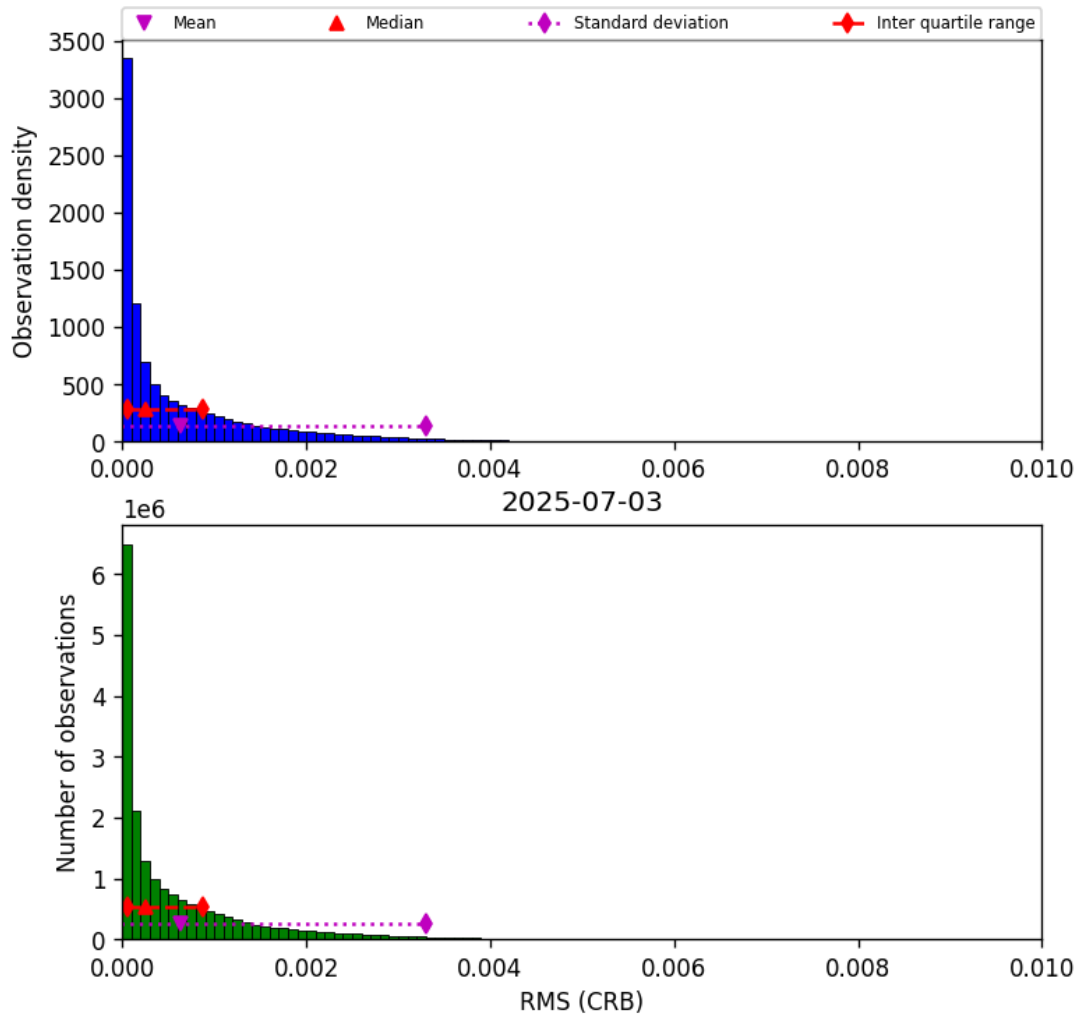


Figure 46: Histogram of “RMS (CRB)” for 2025-07-03 to 2025-07-04

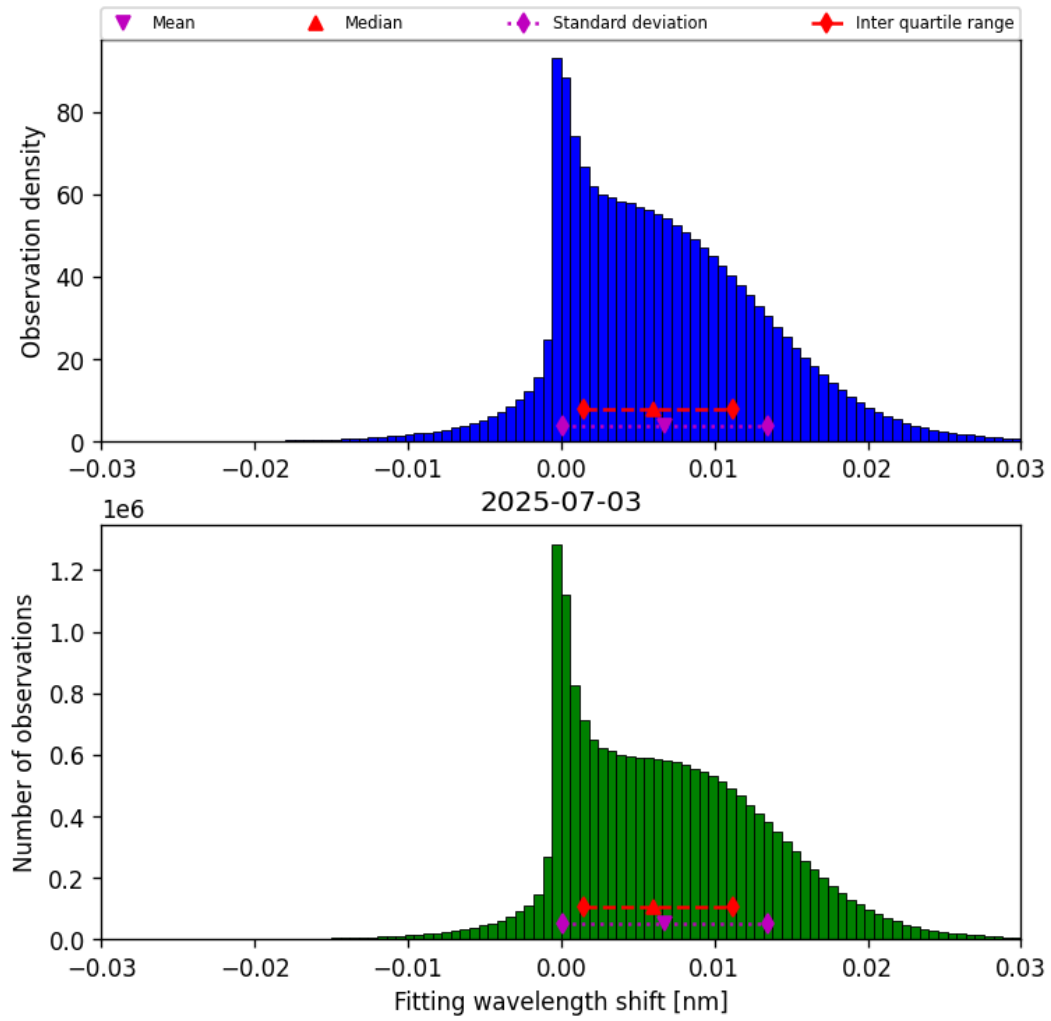


Figure 47: Histogram of “Fitting wavelength shift” for 2025-07-03 to 2025-07-04

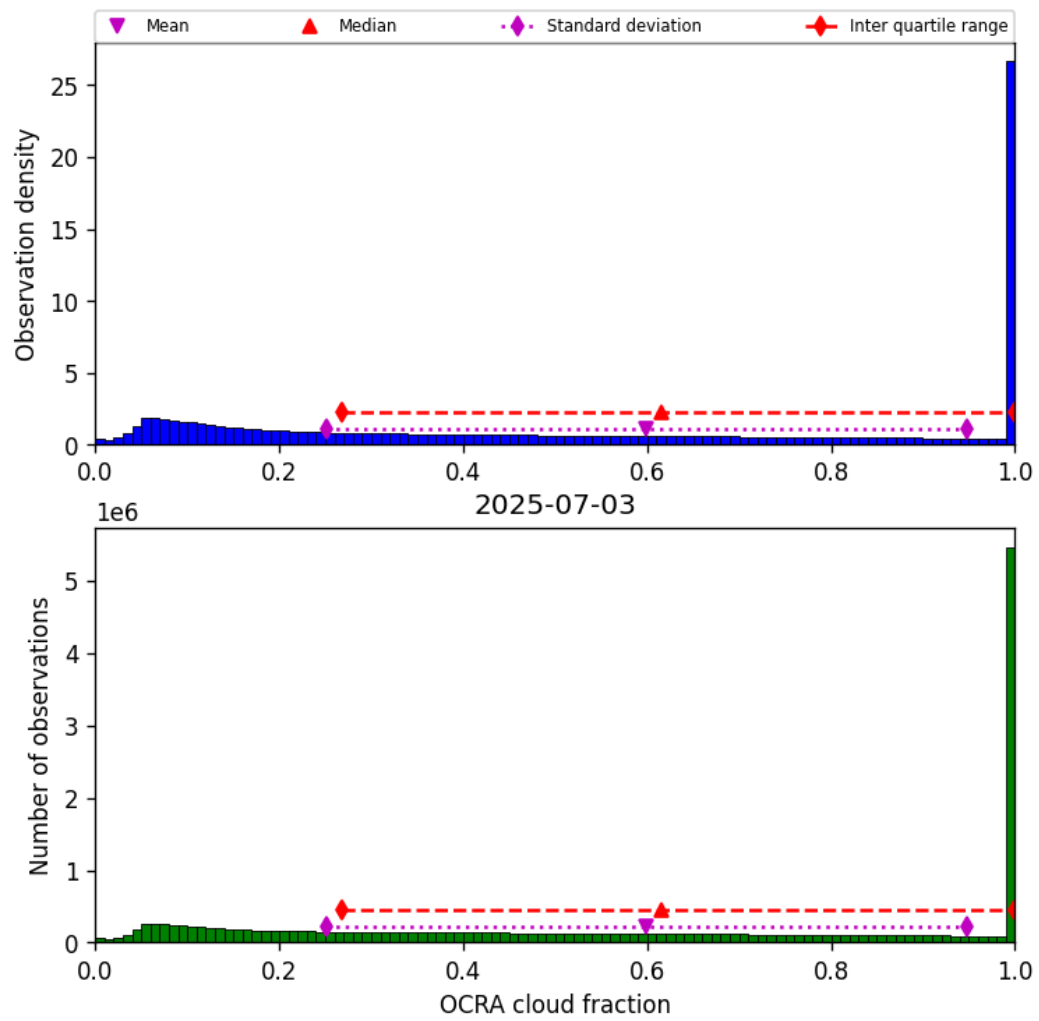


Figure 48: Histogram of “OCRA cloud fraction” for 2025-07-03 to 2025-07-04

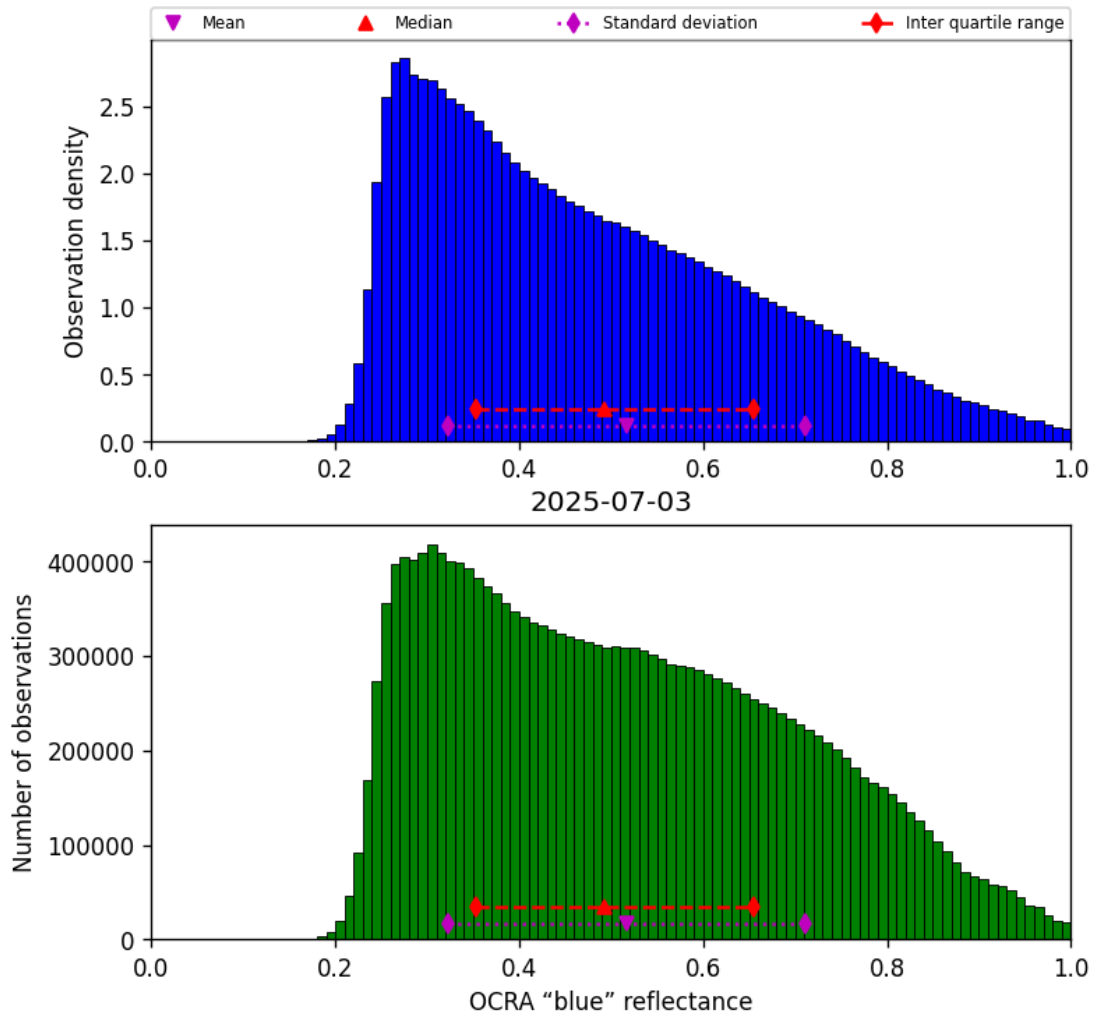


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-07-03 to 2025-07-04

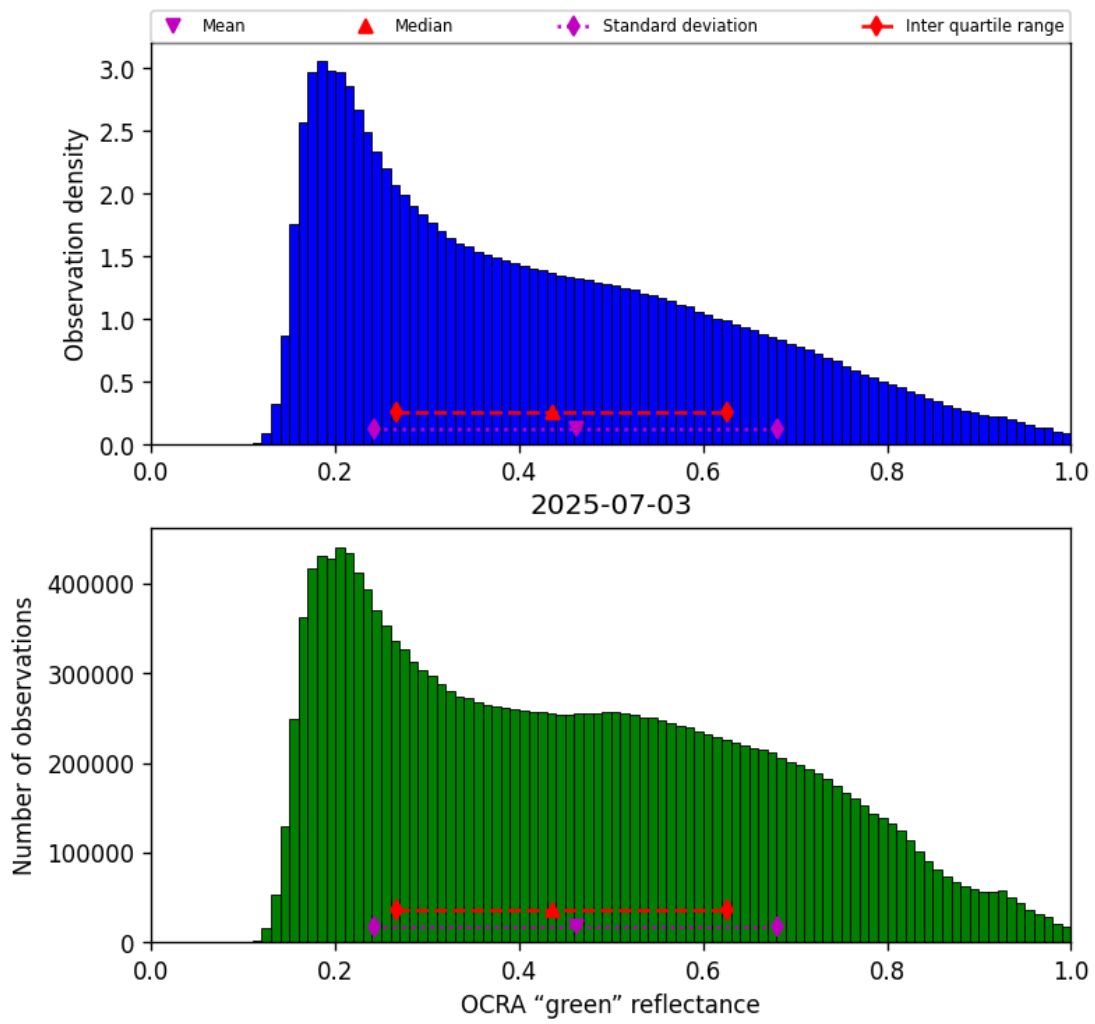


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-07-03 to 2025-07-04

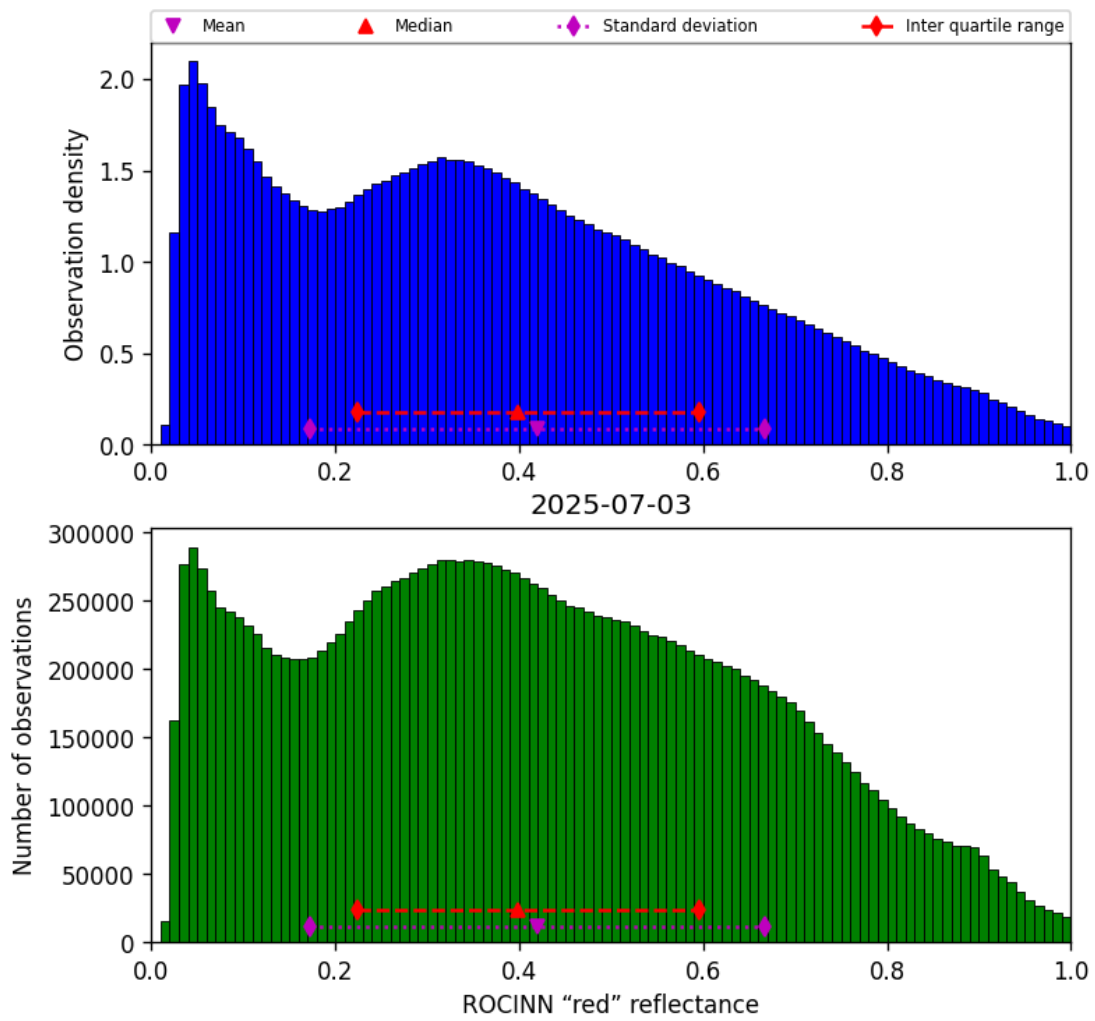


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-07-03 to 2025-07-04

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.

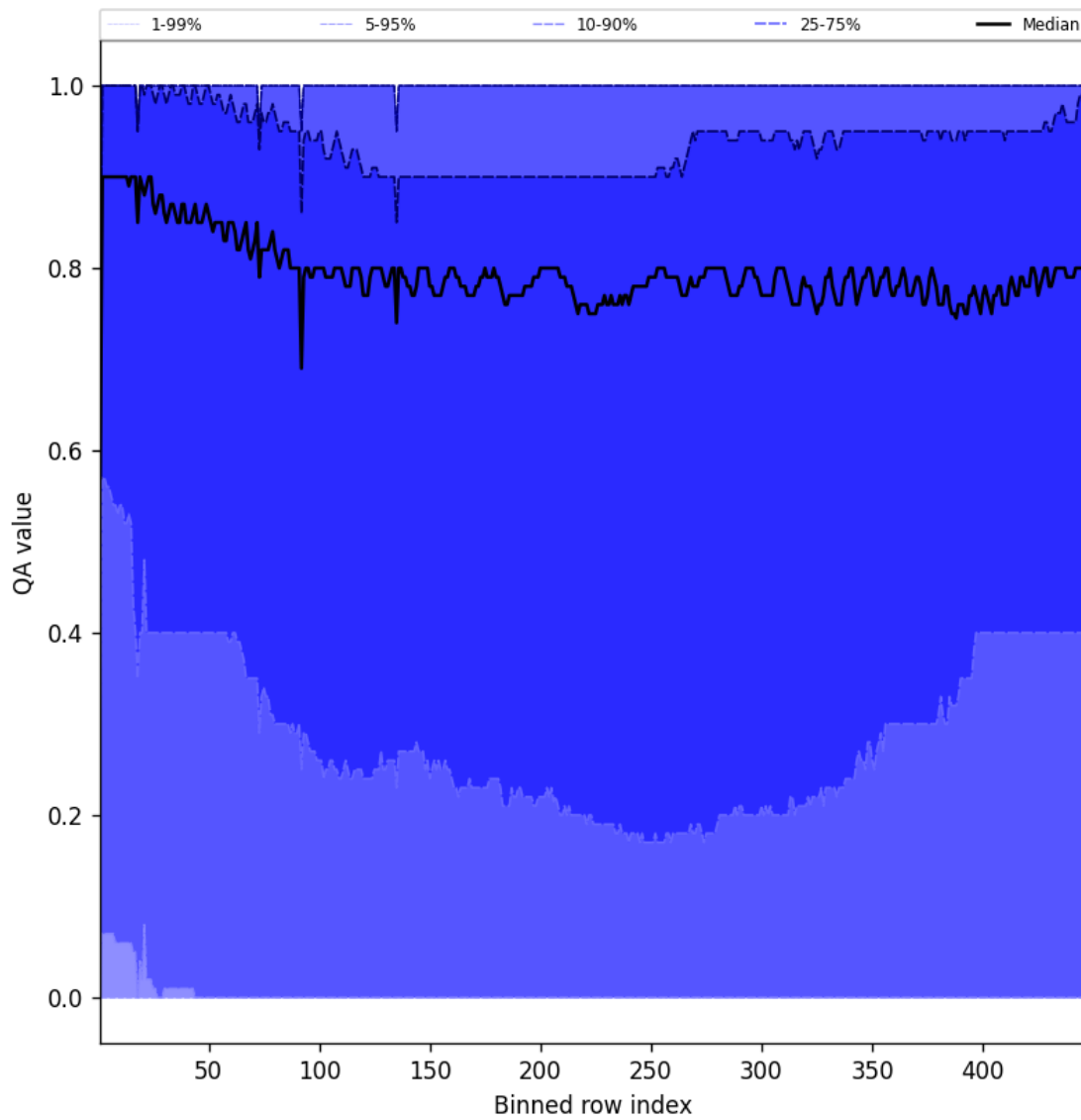


Figure 52: Along track statistics of “QA value” for 2025-07-03 to 2025-07-04

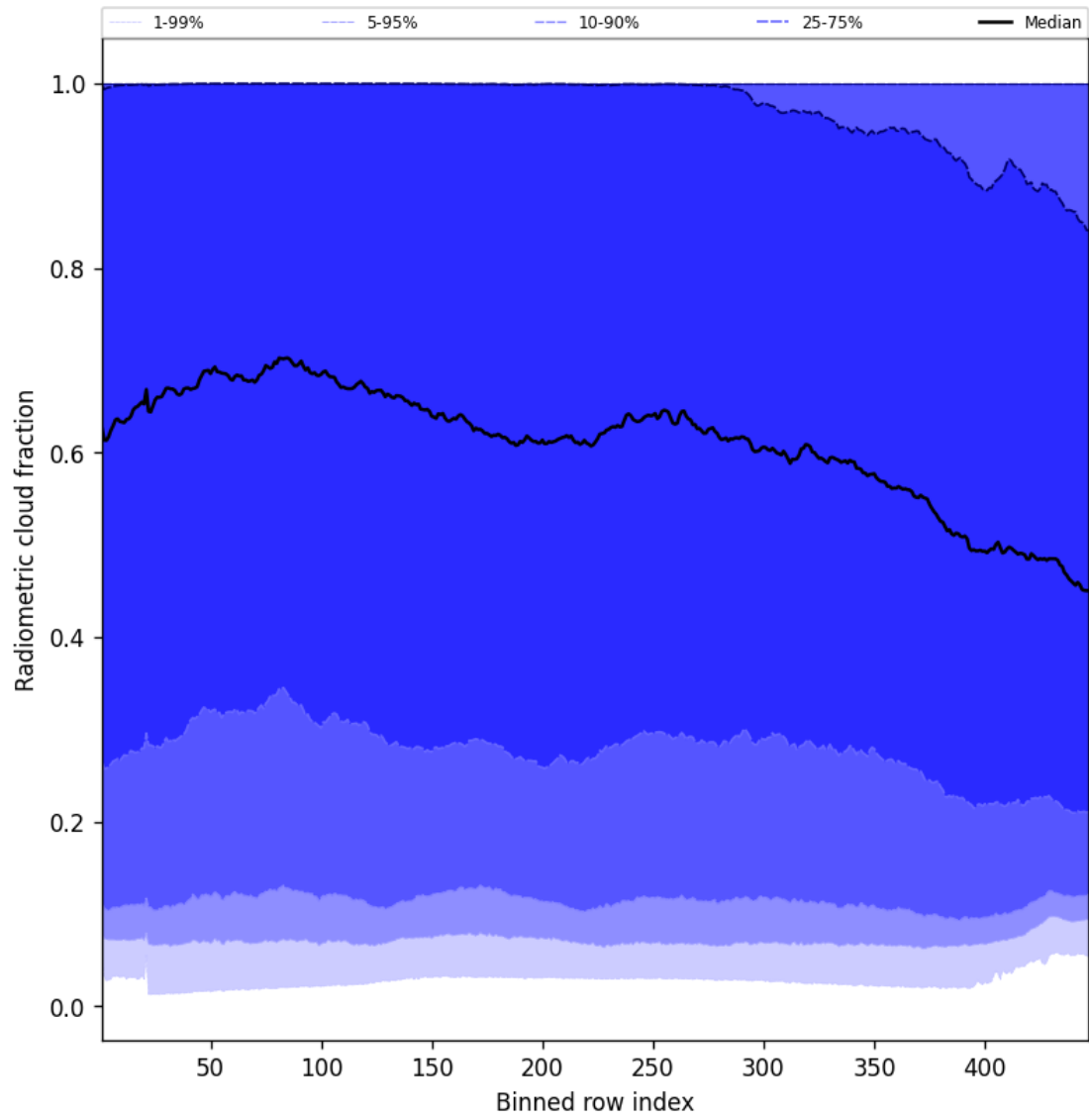


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-07-03 to 2025-07-04

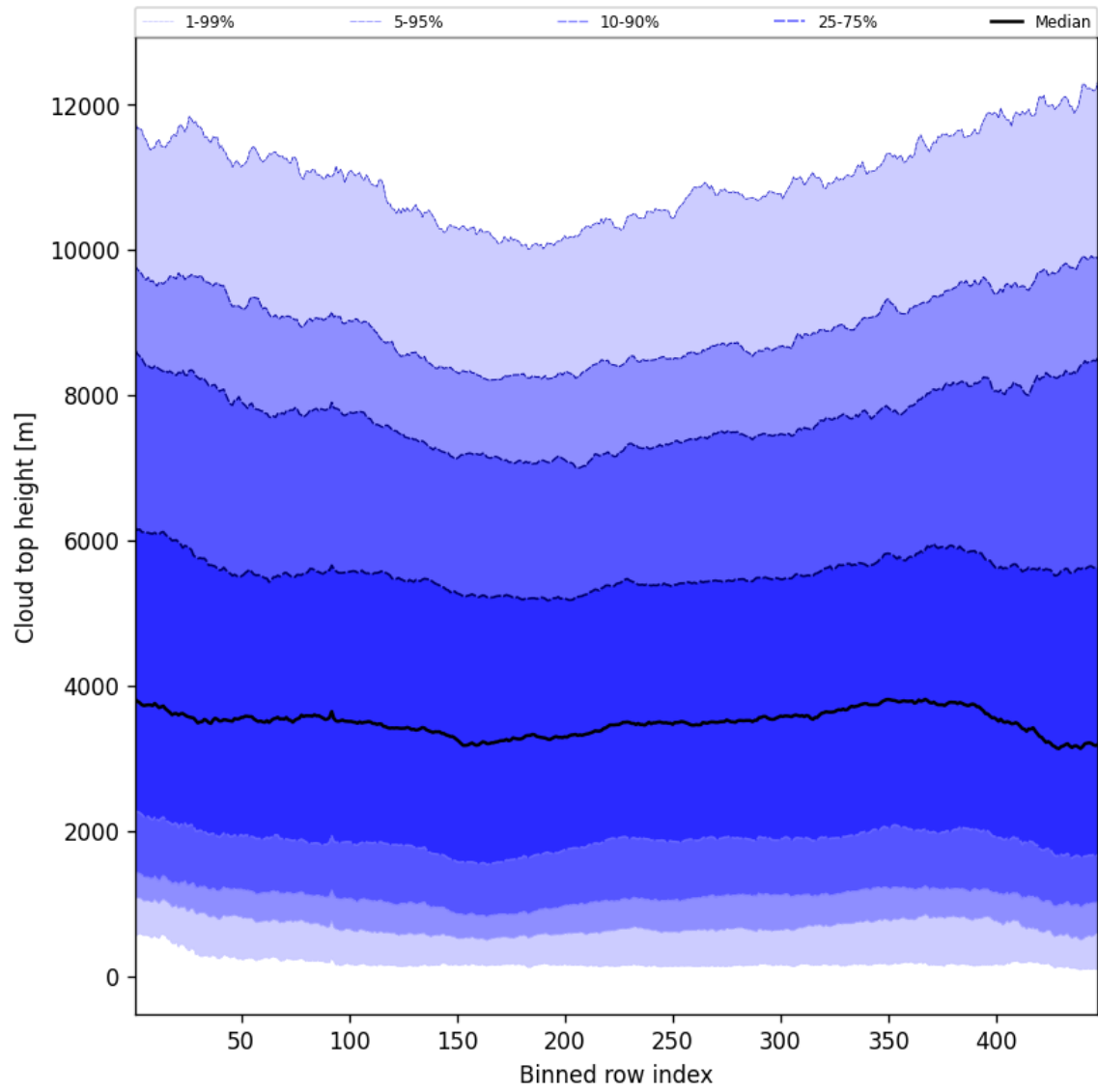


Figure 54: Along track statistics of “Cloud top height” for 2025-07-03 to 2025-07-04

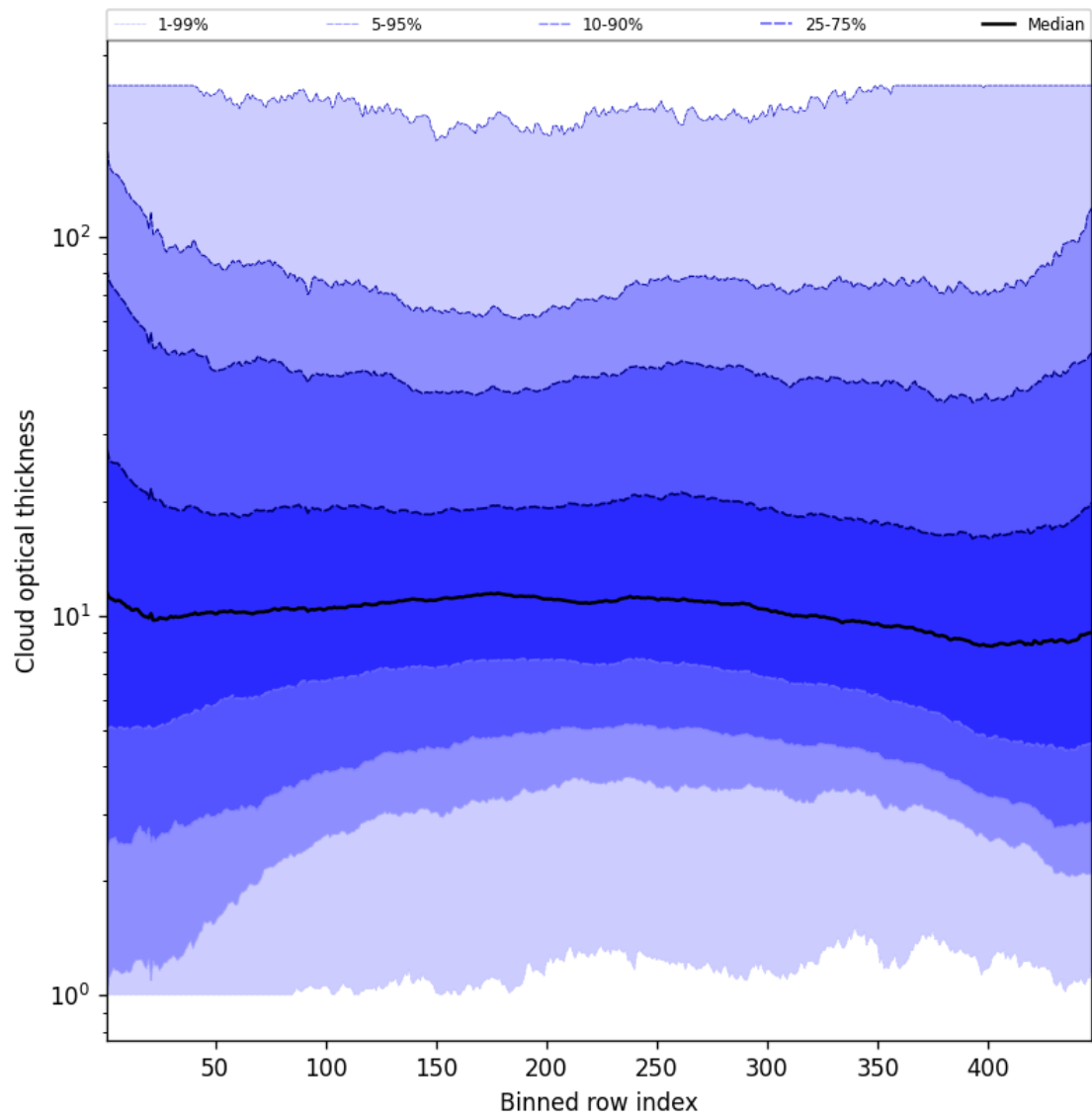


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-07-03 to 2025-07-04

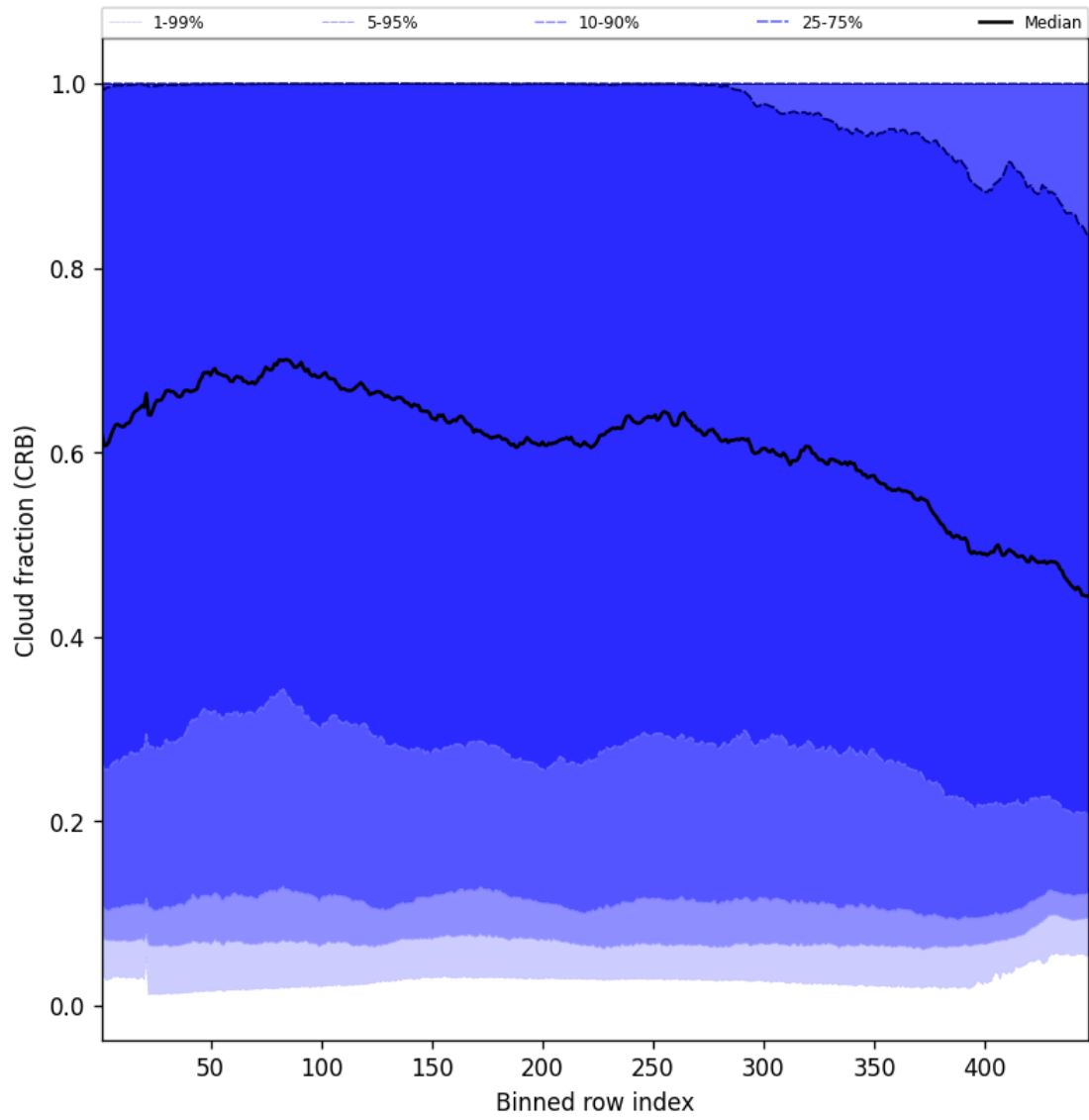


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-07-03 to 2025-07-04

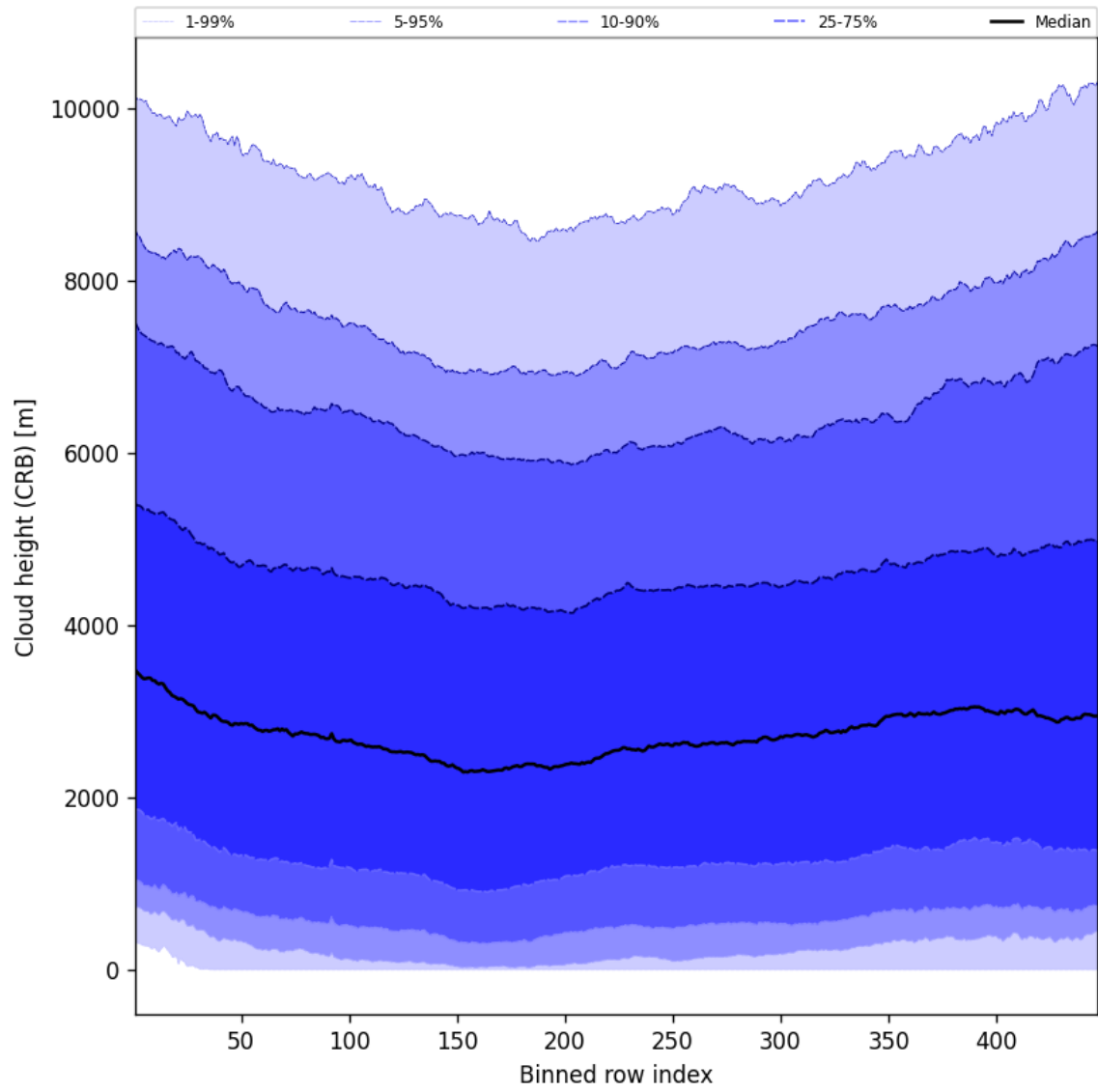


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-07-03 to 2025-07-04

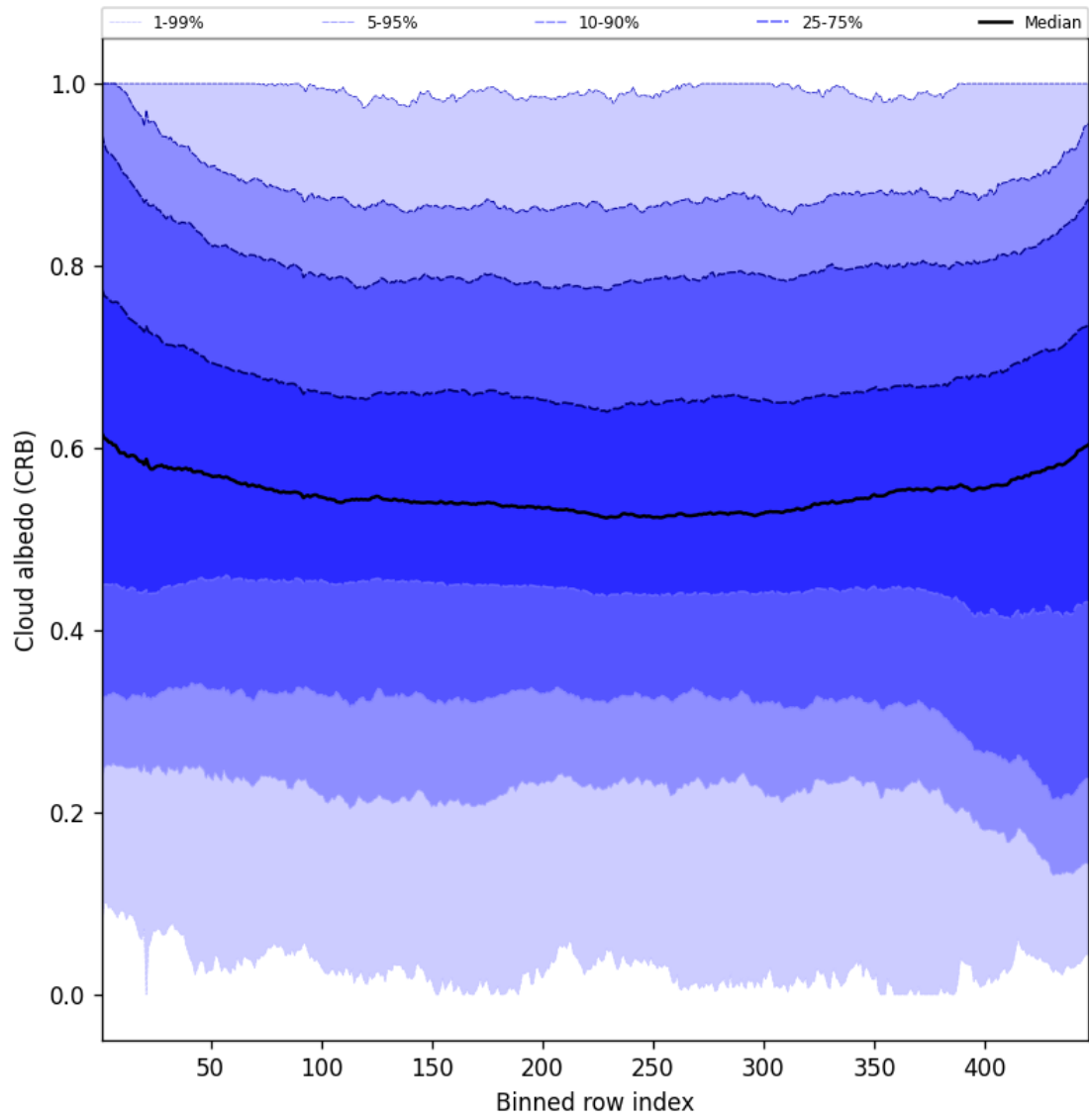


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-07-03 to 2025-07-04

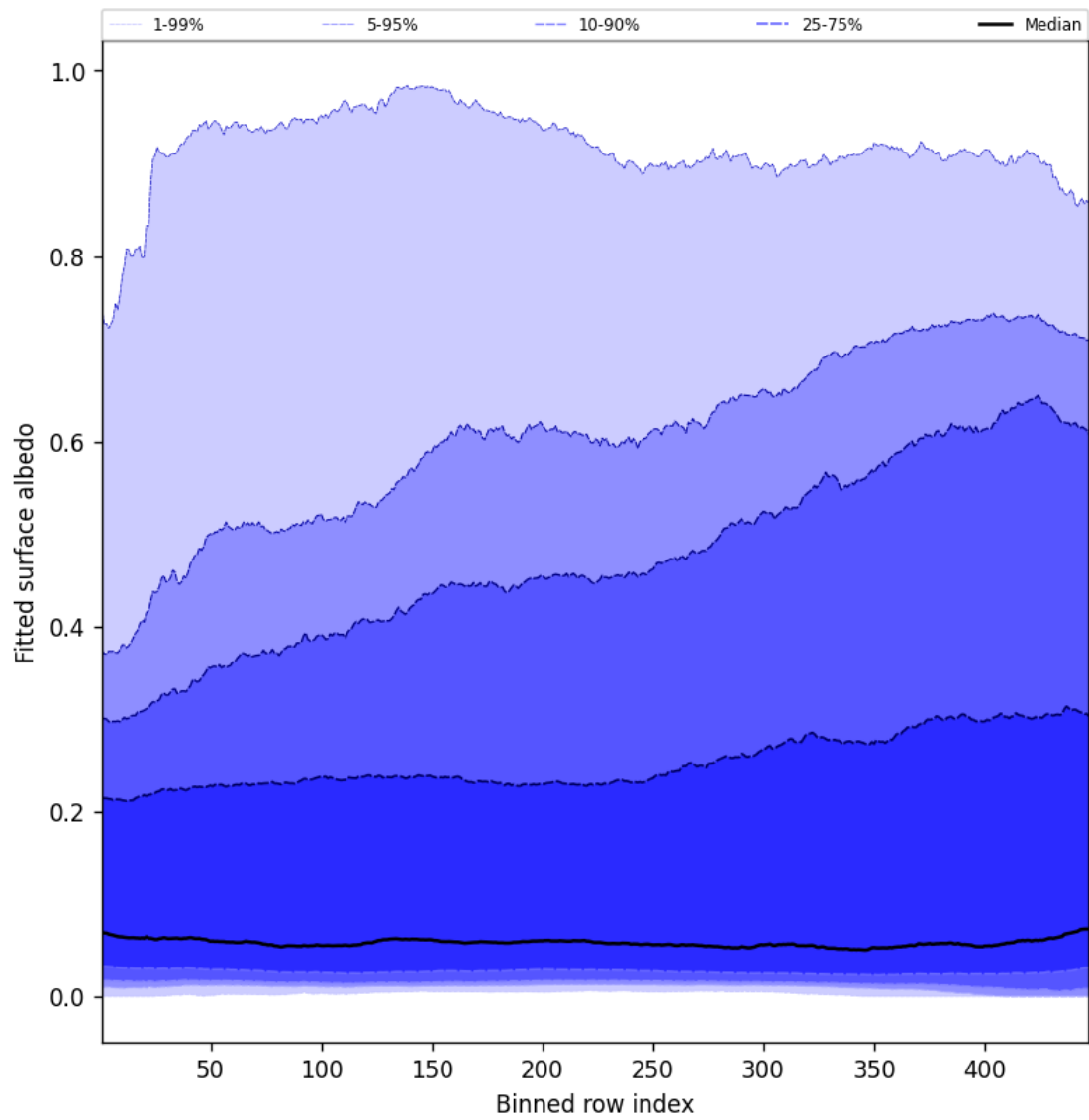


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-07-03 to 2025-07-04

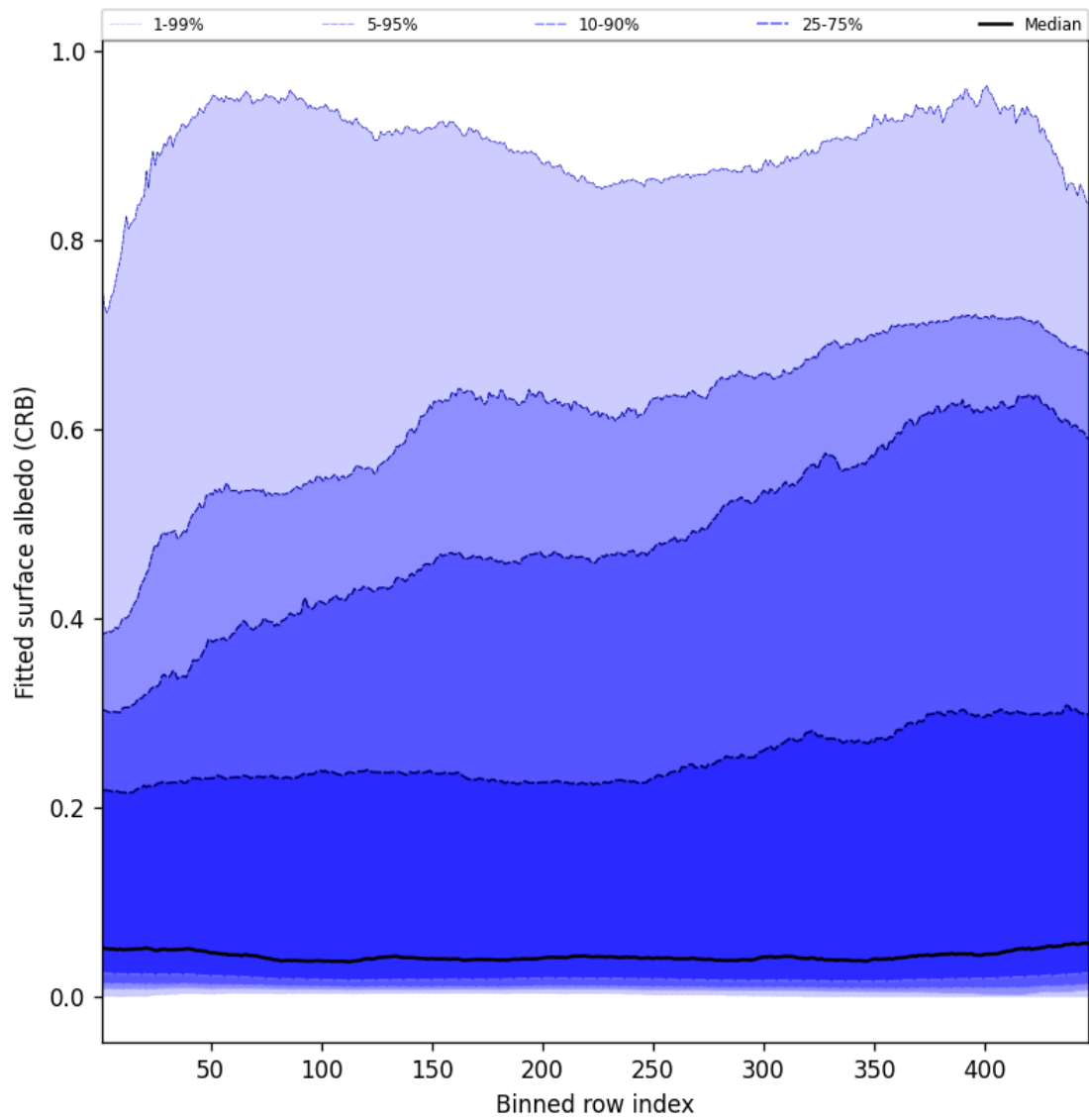


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-07-03 to 2025-07-04

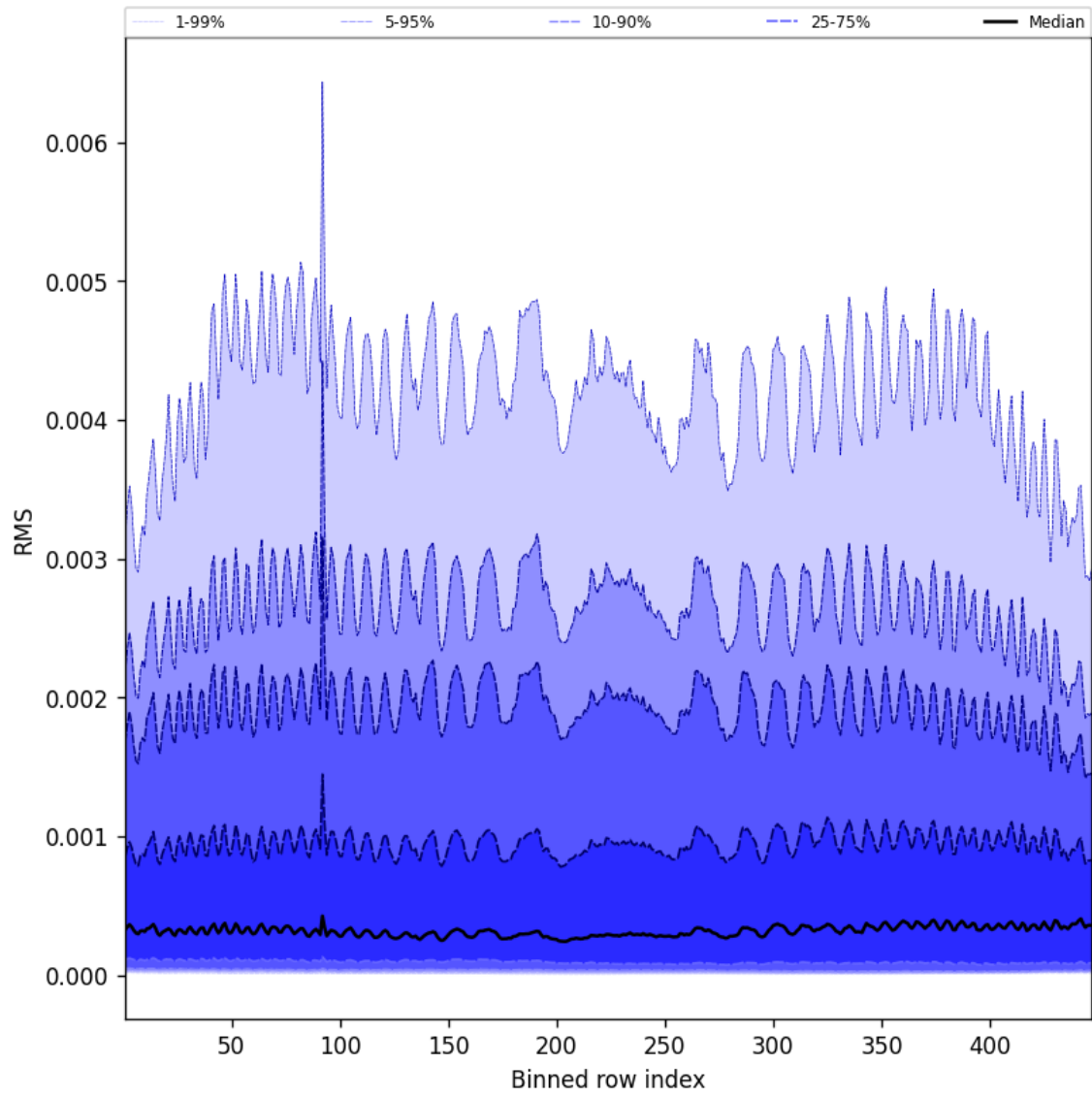


Figure 61: Along track statistics of “RMS” for 2025-07-03 to 2025-07-04

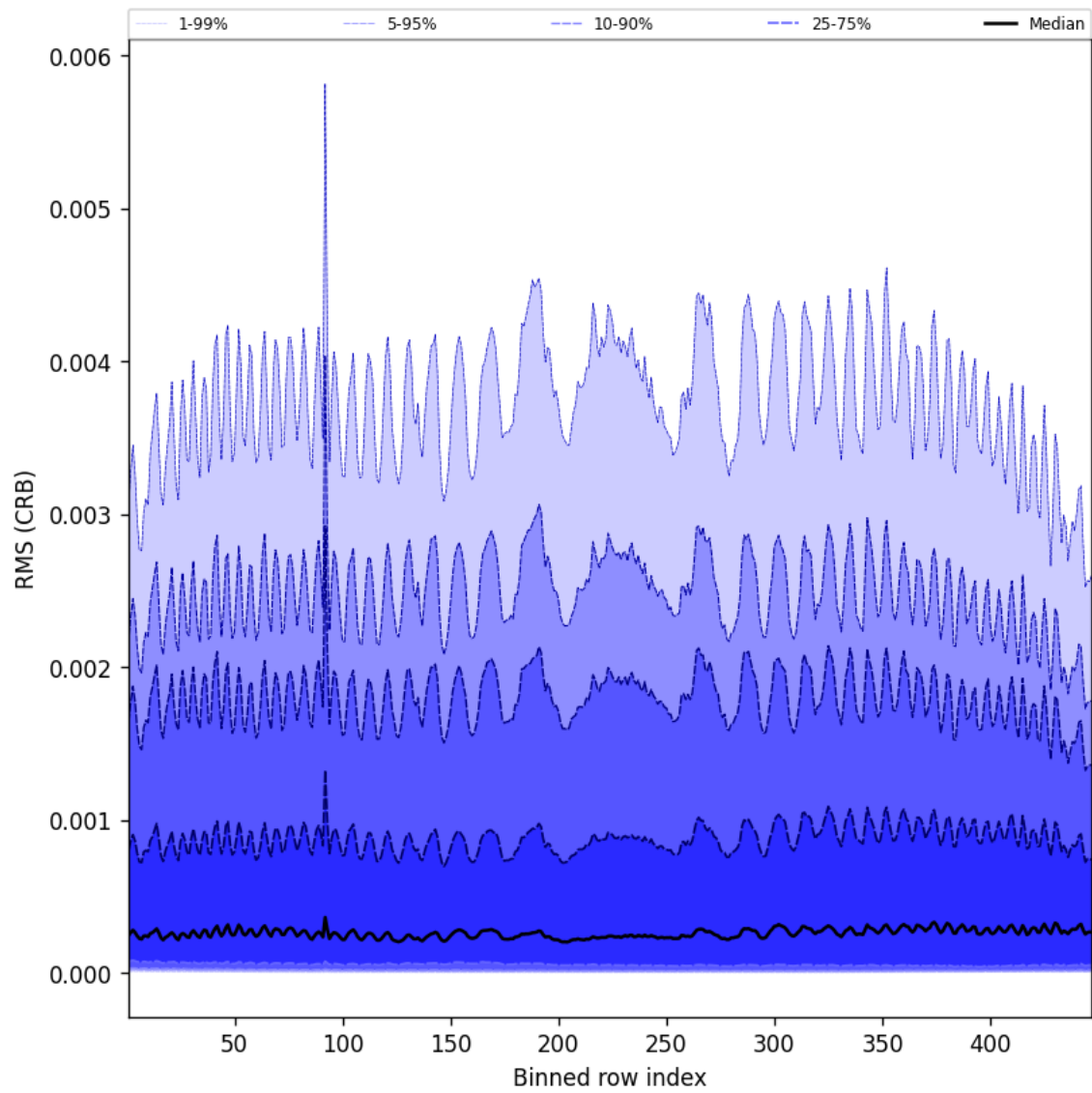


Figure 62: Along track statistics of “RMS (CRB)” for 2025-07-03 to 2025-07-04

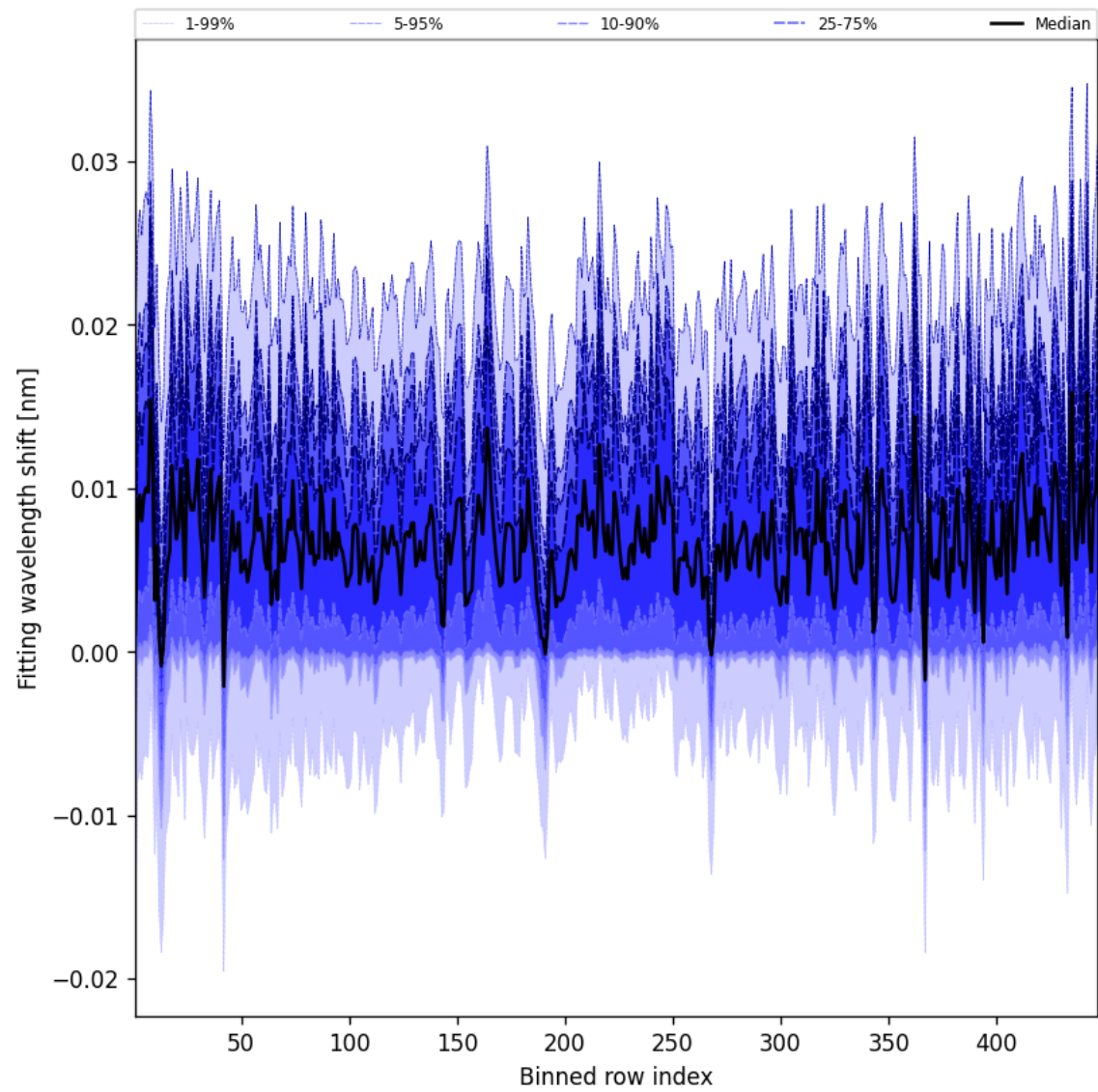


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-07-03 to 2025-07-04

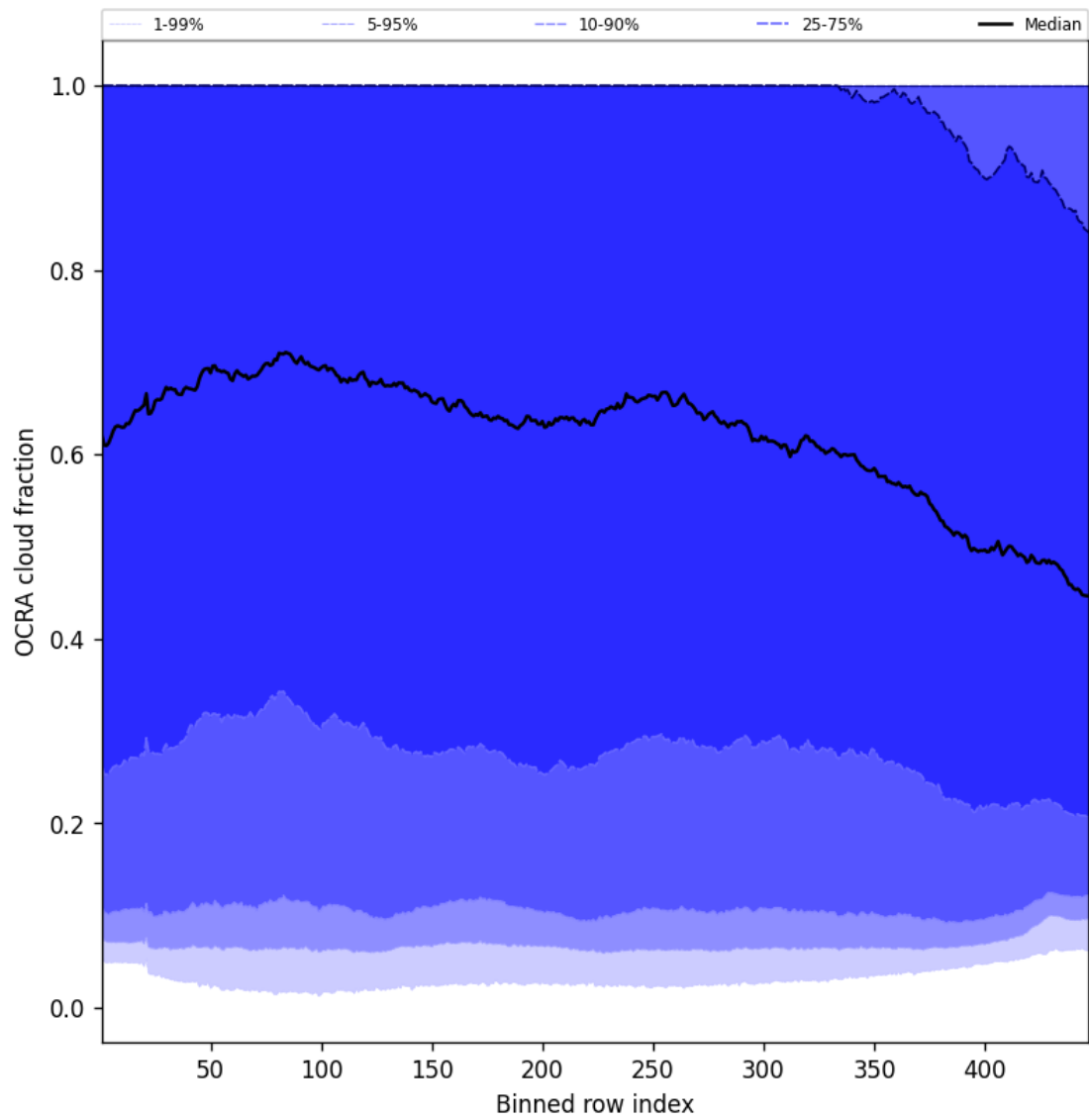


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-07-03 to 2025-07-04

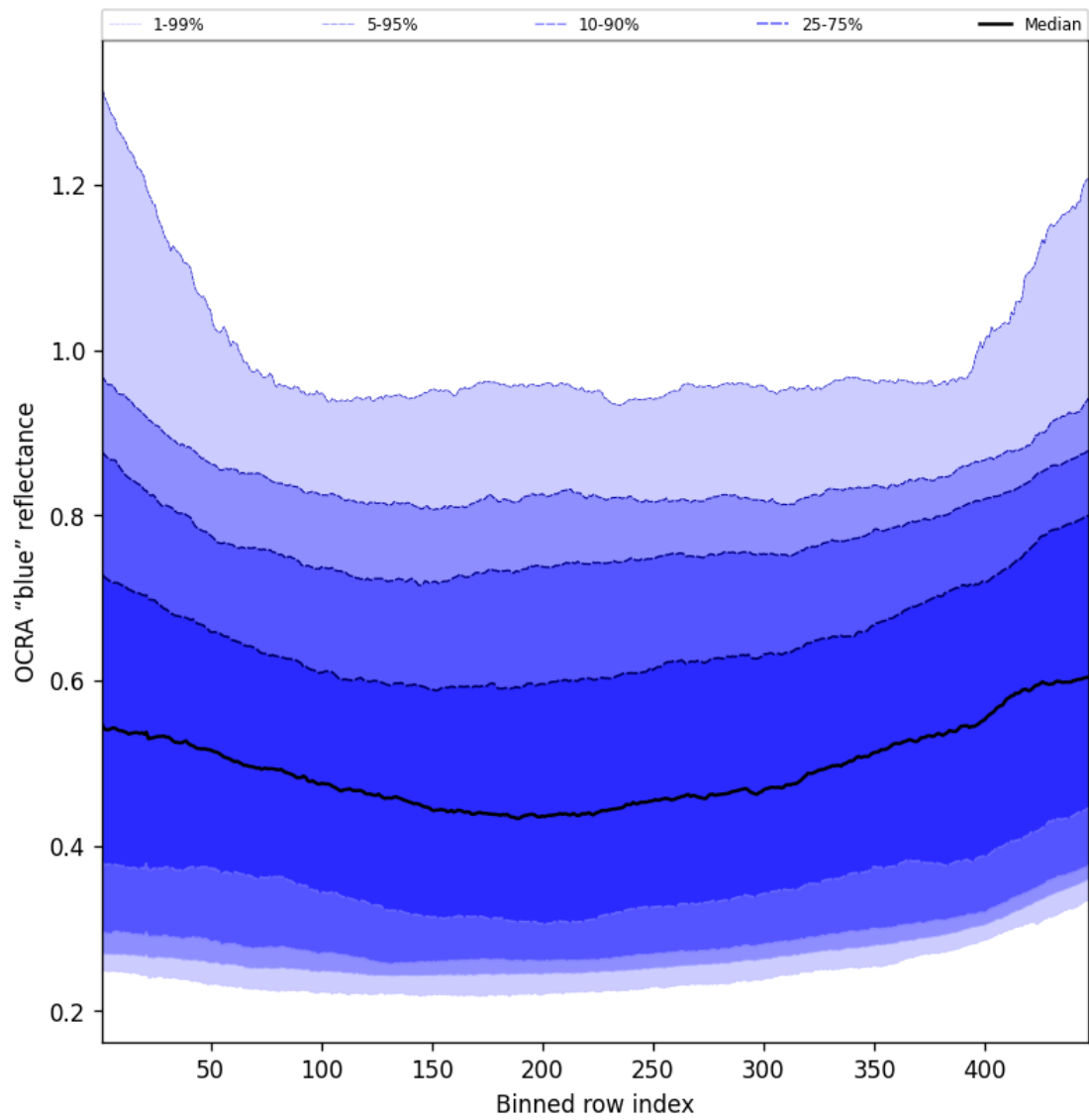


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-07-03 to 2025-07-04

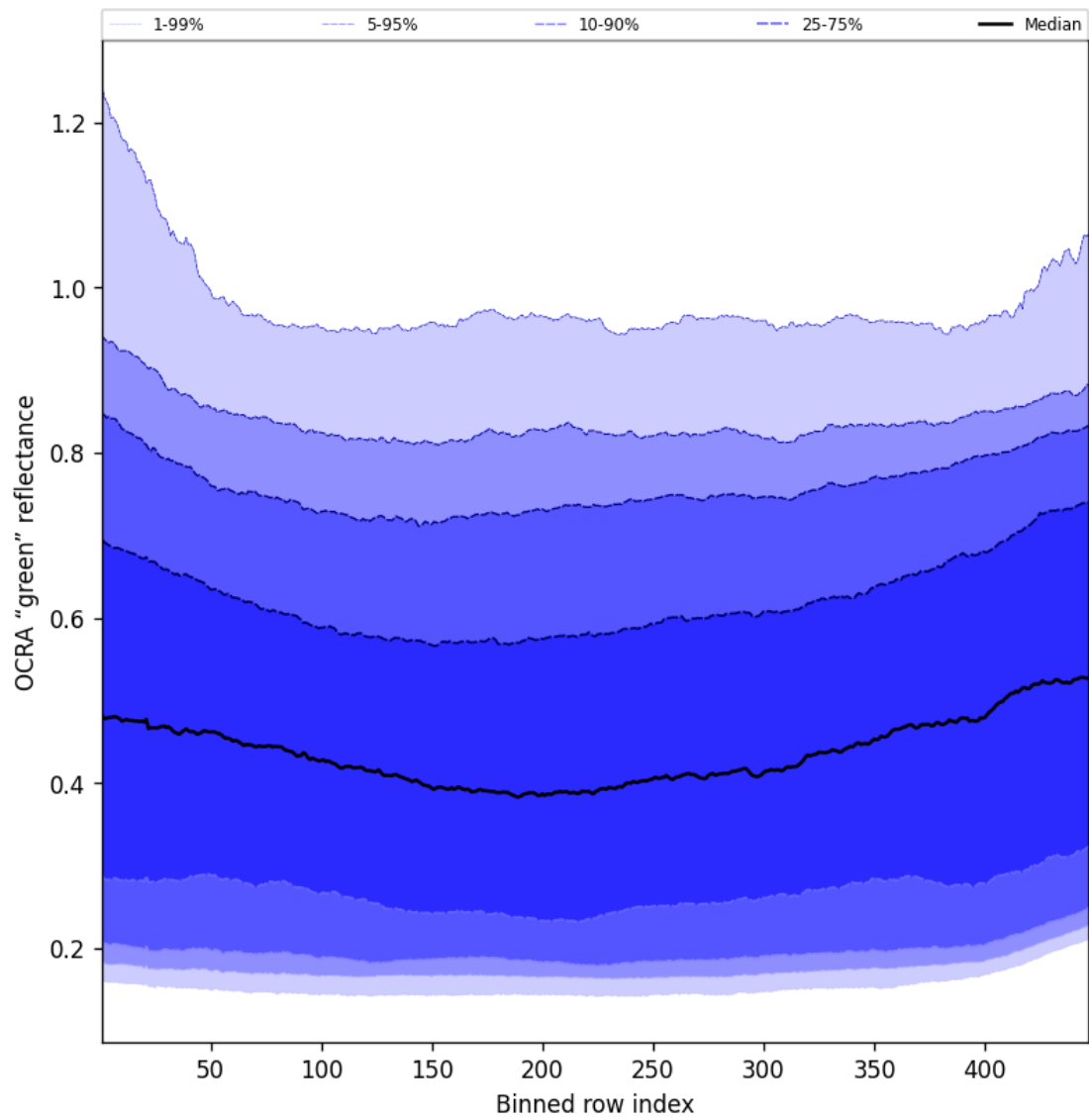


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-07-03 to 2025-07-04

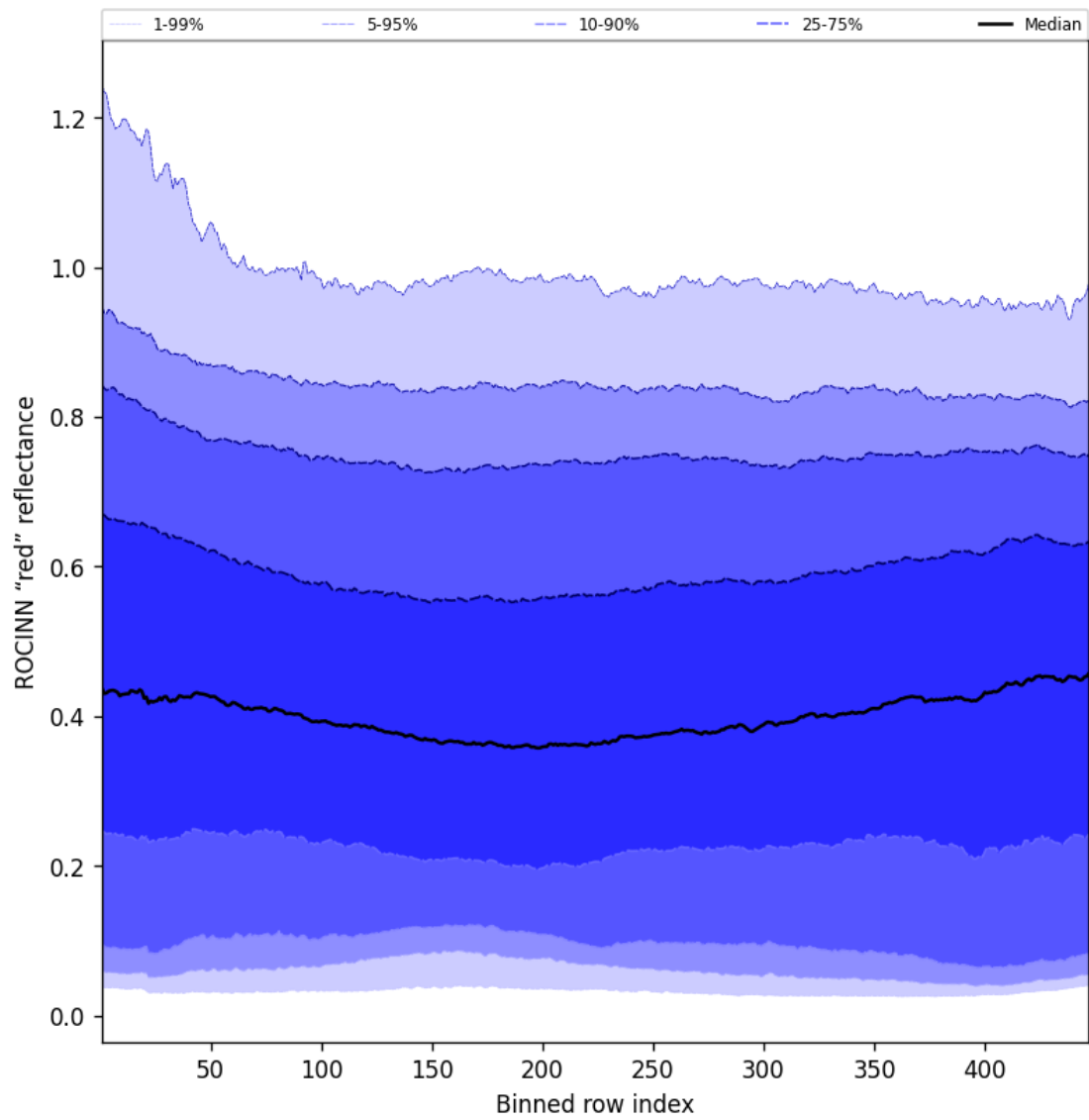


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-07-03 to 2025-07-04

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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