

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-06-25 (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]	0.632 ± 0.364	18981502	0.995	0.600	0.800	0.0	1.000
cloud fraction [1]	0.609 ± 0.343	18981502	0.995	0.713	0.635	6.205×10^{-3}	1.000
cloud top height [m]	$(0.386 \pm 0.260) \times 10^4$	18981502	1.425×10^3	3.782×10^3	3.327×10^3	0.0	2.000×10^4
cloud optical thickness [1]	21.3 ± 36.3	18981502	9.34	12.9	10.3	1.000	250
cloud fraction crb [1]	0.608 ± 0.343	18981502	0.995	0.714	0.633	8.099×10^{-3}	1.000
cloud height crb [m]	$(0.303 \pm 0.230) \times 10^4$	18981502	75.0	3.451×10^3	2.530×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.558 ± 0.195	18981502	0.495	0.236	0.551	0.0	1.000
surface albedo fitted [1]	0.185 ± 0.227	18981502	2.500×10^{-2}	0.236	6.065×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.183 ± 0.232	18981502	1.500×10^{-2}	0.244	4.581×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.806 \pm 12.490) \times 10^{-4}$	18981502	5.000×10^{-5}	9.368×10^{-4}	3.601×10^{-4}	9.191×10^{-7}	0.434
fitted root mean square crb [1]	$(6.794 \pm 9.667) \times 10^{-4}$	18981502	5.000×10^{-5}	8.876×10^{-4}	2.998×10^{-4}	9.590×10^{-7}	0.381
wavelength shift [nm]	$(7.041 \pm 6.713) \times 10^{-3}$	18981502	-3.000×10^{-4}	9.689×10^{-3}	6.441×10^{-3}	-4.537×10^{-2}	0.321
cloud fraction apriori [1]	0.615 ± 0.348	18981502	0.995	0.716	0.650	0.0	1.000
reflectance blue ocra [1]	0.526 ± 0.195	18981502	0.315	0.308	0.507	0.140	1.90
reflectance green ocra [1]	0.474 ± 0.222	18981502	0.185	0.368	0.454	7.801×10^{-2}	2.05
reflectance continuum aband [1]	0.432 ± 0.249	18981502	4.500×10^{-2}	0.382	0.413	1.303×10^{-2}	5.69

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	6.000×10^{-2}	0.340	0.940	1.000	1.000	1.000	1.000
cloud fraction [1]	2.775×10^{-2}	7.321×10^{-2}	0.116	0.176	0.286	0.999	1.000	1.000	1.000	1.000
cloud top height [m]	180	599	972	1.296×10^3	1.740×10^3	5.522×10^3	6.635×10^3	7.612×10^3	8.838×10^3	1.093×10^4
cloud optical thickness [1]	1.000	2.50	3.77	4.84	6.30	19.2	29.2	42.9	75.5	250
cloud fraction crb [1]	2.714×10^{-2}	7.223×10^{-2}	0.116	0.175	0.285	0.999	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	102	431	725	1.119×10^3	4.570×10^3	5.560×10^3	6.361×10^3	7.411×10^3	9.133×10^3
cloud albedo crb [1]	0.0	0.217	0.322	0.394	0.448	0.684	0.754	0.812	0.888	1.000
surface albedo fitted [1]	1.160×10^{-5}	1.074×10^{-2}	1.587×10^{-2}	2.057×10^{-2}	2.750×10^{-2}	0.264	0.380	0.543	0.734	0.913
surface albedo fitted crb [1]	1.357×10^{-3}	7.568×10^{-3}	1.129×10^{-2}	1.483×10^{-2}	2.005×10^{-2}	0.264	0.410	0.576	0.731	0.883
fitted root mean square [1]	1.065×10^{-5}	2.408×10^{-5}	3.972×10^{-5}	6.264×10^{-5}	1.085×10^{-4}	1.045×10^{-3}	1.529×10^{-3}	2.060×10^{-3}	2.823×10^{-3}	4.566×10^{-3}
fitted root mean square crb [1]	5.981×10^{-6}	1.370×10^{-5}	2.375×10^{-5}	3.699×10^{-5}	6.614×10^{-5}	9.537×10^{-4}	1.407×10^{-3}	1.898×10^{-3}	2.608×10^{-3}	3.965×10^{-3}
wavelength shift [nm]	-7.770×10^{-3}	-1.196×10^{-3}	-2.229×10^{-4}	3.879×10^{-4}	1.800×10^{-3}	1.149×10^{-2}	1.383×10^{-2}	1.585×10^{-2}	1.854×10^{-2}	2.440×10^{-2}
cloud fraction apriori [1]	3.229×10^{-2}	6.909×10^{-2}	0.109	0.168	0.284	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.231	0.260	0.284	0.313	0.359	0.667	0.743	0.801	0.862	0.975
reflectance green ocra [1]	0.151	0.175	0.197	0.224	0.274	0.642	0.727	0.788	0.850	0.966
reflectance continuum aband [1]	3.237×10^{-2}	6.027×10^{-2}	9.915×10^{-2}	0.153	0.236	0.618	0.708	0.771	0.849	0.988

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]	0.629 ± 0.355	12893661	0.550	0.780	0.0	1.000	0.350	0.900
cloud fraction [1]	0.650 ± 0.342	12893661	0.669	0.723	6.205×10^{-3}	1.000	0.331	1.000
cloud top height [m]	$(0.385 \pm 0.266) \times 10^4$	12893661	3.907×10^3	3.391×10^3	0.0	2.000×10^4	1.666×10^3	5.573×10^3
cloud optical thickness [1]	17.7 ± 30.3	12893661	10.9	9.54	1.000	250	5.75	16.7
cloud fraction crb [1]	0.649 ± 0.342	12893661	0.669	0.722	8.099×10^{-3}	1.000	0.331	1.000
cloud height crb [m]	$(0.296 \pm 0.234) \times 10^4$	12893661	3.621×10^3	2.508×10^3	0.0	2.000×10^4	956	4.578×10^3
cloud albedo crb [1]	0.548 ± 0.207	12893661	0.258	0.544	0.0	1.000	0.431	0.689
surface albedo fitted [1]	0.244 ± 0.250	12893661	0.321	0.184	0.0	1.000	3.277×10^{-2}	0.354
surface albedo fitted crb [1]	0.246 ± 0.253	12893661	0.350	0.184	0.0	1.000	2.666×10^{-2}	0.376
fitted root mean square [1]	$(9.965 \pm 14.341) \times 10^{-4}$	12893661	1.225×10^{-3}	6.053×10^{-4}	1.534×10^{-6}	0.434	1.550×10^{-4}	1.380×10^{-3}
fitted root mean square crb [1]	$(8.675 \pm 10.849) \times 10^{-4}$	12893661	1.148×10^{-3}	5.227×10^{-4}	1.044×10^{-6}	0.381	1.111×10^{-4}	1.259×10^{-3}
wavelength shift [nm]	$(7.947 \pm 6.680) \times 10^{-3}$	12893661	9.535×10^{-3}	7.723×10^{-3}	-4.537×10^{-2}	0.321	2.896×10^{-3}	1.243×10^{-2}
cloud fraction apriori [1]	0.659 ± 0.345	12893661	0.663	0.747	0.0	1.000	0.337	1.000
reflectance blue ocrs [1]	0.539 ± 0.203	12893661	0.338	0.531	0.145	1.80	0.358	0.696
reflectance green ocrs [1]	0.495 ± 0.228	12893661	0.396	0.490	8.945×10^{-2}	1.87	0.284	0.679
reflectance continuum aband [1]	0.468 ± 0.246	12893661	0.380	0.456	1.384×10^{-2}	4.70	0.279	0.659

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]	0.639 ± 0.384	6087841	0.680	0.860	0.0	1.000	0.320	1.000
cloud fraction [1]	0.524 ± 0.330	6087841	0.626	0.496	7.988×10^{-3}	1.000	0.217	0.843
cloud top height [m]	$(0.388 \pm 0.248) \times 10^4$	6087841	3.529×10^3	3.204×10^3	0.0	2.000×10^4	1.850×10^3	5.379×10^3
cloud optical thickness [1]	28.7 ± 45.7	6087841	18.6	12.3	1.000	250	7.46	26.1
cloud fraction crb [1]	0.521 ± 0.330	6087841	0.624	0.491	8.439×10^{-3}	1.000	0.215	0.839
cloud height crb [m]	$(0.316 \pm 0.221) \times 10^4$	6087841	3.210×10^3	2.575×10^3	0.0	1.887×10^4	1.337×10^3	4.547×10^3
cloud albedo crb [1]	0.580 ± 0.165	6087841	0.195	0.563	0.0	1.000	0.479	0.674
surface albedo fitted [1]	$(6.036 \pm 7.736) \times 10^{-2}$	6087841	3.677×10^{-2}	3.598×10^{-2}	0.0	1.000	2.198×10^{-2}	5.875×10^{-2}
surface albedo fitted crb [1]	$(4.936 \pm 7.706) \times 10^{-2}$	6087841	2.578×10^{-2}	2.401×10^{-2}	0.0	1.000	1.466×10^{-2}	4.044×10^{-2}
fitted root mean square [1]	$(3.234 \pm 4.479) \times 10^{-4}$	6087841	3.138×10^{-4}	1.677×10^{-4}	9.191×10^{-7}	3.299×10^{-2}	6.823×10^{-5}	3.820×10^{-4}
fitted root mean square crb [1]	$(2.810 \pm 4.328) \times 10^{-4}$	6087841	2.966×10^{-4}	1.041×10^{-4}	9.590×10^{-7}	1.754×10^{-2}	3.866×10^{-5}	3.353×10^{-4}
wavelength shift [nm]	$(5.121 \pm 6.370) \times 10^{-3}$	6087841	8.003×10^{-3}	3.793×10^{-3}	-4.353×10^{-2}	5.975×10^{-2}	6.801×10^{-4}	8.683×10^{-3}
cloud fraction apriori [1]	0.523 ± 0.337	6087841	0.649	0.492	0.0	1.000	0.205	0.854
reflectance blue ocrs [1]	0.498 ± 0.175	6087841	0.245	0.472	0.140	1.90	0.361	0.606
reflectance green ocrs [1]	0.429 ± 0.200	6087841	0.298	0.399	7.801×10^{-2}	2.05	0.262	0.560
reflectance continuum aband [1]	0.357 ± 0.241	6087841	0.354	0.328	1.303×10^{-2}	5.69	0.157	0.511

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 ± 0.359	12758247	0.580	0.790	0.0	1.000	0.360	0.940
cloud fraction [1]	0.582 ± 0.340	12758247	0.712	0.584	7.988×10^{-3}	1.000	0.260	0.972
cloud top height [m]	$(0.370 \pm 0.267) \times 10^4$	12758247	3.794×10^3	2.992×10^3	0.0	2.000×10^4	1.544×10^3	5.338×10^3
cloud optical thickness [1]	22.7 ± 38.3	12758247	13.2	10.8	1.000	250	6.92	20.2
cloud fraction crb [1]	0.580 ± 0.341	12758247	0.712	0.581	8.439×10^{-3}	1.000	0.258	0.970
cloud height crb [m]	$(0.290 \pm 0.239) \times 10^4$	12758247	3.454×10^3	2.249×10^3	0.0	2.000×10^4	948	4.402×10^3
cloud albedo crb [1]	0.558 ± 0.181	12758247	0.219	0.544	0.0	1.000	0.451	0.670
surface albedo fitted [1]	0.126 ± 0.216	12758247	4.271×10^{-2}	3.524×10^{-2}	0.0	1.000	2.140×10^{-2}	6.411×10^{-2}
surface albedo fitted crb [1]	0.121 ± 0.220	12758247	3.299×10^{-2}	2.592×10^{-2}	0.0	1.000	1.543×10^{-2}	4.841×10^{-2}
fitted root mean square [1]	$(6.249 \pm 11.827) \times 10^{-4}$	12758247	6.807×10^{-4}	2.424×10^{-4}	9.191×10^{-7}	0.434	8.733×10^{-5}	7.680×10^{-4}
fitted root mean square crb [1]	$(5.299 \pm 8.901) \times 10^{-4}$	12758247	6.195×10^{-4}	1.892×10^{-4}	9.590×10^{-7}	0.381	5.667×10^{-5}	6.762×10^{-4}
wavelength shift [nm]	$(6.714 \pm 6.757) \times 10^{-3}$	12758247	9.449×10^{-3}	5.906×10^{-3}	-4.339×10^{-2}	0.321	1.639×10^{-3}	1.109×10^{-2}
cloud fraction apriori [1]	0.586 ± 0.345	12758247	0.743	0.596	0.0	1.000	0.257	1.000
reflectance blue oca [1]	0.525 ± 0.189	12758247	0.293	0.508	0.167	1.90	0.365	0.658
reflectance green oca [1]	0.468 ± 0.216	12758247	0.356	0.454	0.101	2.05	0.274	0.630
reflectance continuum aband [1]	0.397 ± 0.252	12758247	0.417	0.384	1.303×10^{-2}	5.69	0.170	0.587

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 ± 0.363	3701536	0.540	0.820	0.0	1.000	0.410	0.950
cloud fraction [1]	0.638 ± 0.348	3701536	0.692	0.704	7.742×10^{-3}	1.000	0.308	1.000
cloud top height [m]	$(0.433 \pm 0.247) \times 10^4$	3701536	3.438×10^3	3.964×10^3	0.0	2.000×10^4	2.436×10^3	5.874×10^3
cloud optical thickness [1]	17.1 ± 28.7	3701536	10.4	8.91	1.000	250	5.56	16.0
cloud fraction crb [1]	0.637 ± 0.348	3701536	0.693	0.703	8.099×10^{-3}	1.000	0.307	1.000
cloud height crb [m]	$(0.338 \pm 0.212) \times 10^4$	3701536	3.225×10^3	2.959×10^3	0.0	2.000×10^4	1.673×10^3	4.899×10^3
cloud albedo crb [1]	0.583 ± 0.214	3701536	0.268	0.585	0.0	1.000	0.464	0.732
surface albedo fitted [1]	0.338 ± 0.214	3701536	0.131	0.262	0.0	1.000	0.211	0.342
surface albedo fitted crb [1]	0.337 ± 0.213	3701536	0.136	0.259	4.396×10^{-3}	1.000	0.208	0.344
fitted root mean square [1]	$(1.159 \pm 1.200) \times 10^{-3}$	3701536	1.267×10^{-3}	8.477×10^{-4}	2.643×10^{-6}	0.277	3.724×10^{-4}	1.639×10^{-3}
fitted root mean square crb [1]	$(1.090 \pm 1.019) \times 10^{-3}$	3701536	1.265×10^{-3}	8.276×10^{-4}	1.090×10^{-6}	8.148×10^{-2}	3.204×10^{-4}	1.586×10^{-3}
wavelength shift [nm]	$(7.867 \pm 6.406) \times 10^{-3}$	3701536	9.208×10^{-3}	7.763×10^{-3}	-4.353×10^{-2}	4.876×10^{-2}	2.962×10^{-3}	1.217×10^{-2}
cloud fraction apriori [1]	0.647 ± 0.354	3701536	0.696	0.735	0.0	1.000	0.304	1.000
reflectance blue ocra [1]	0.527 ± 0.220	3701536	0.372	0.489	0.141	1.81	0.333	0.704
reflectance green ocra [1]	0.484 ± 0.245	3701536	0.425	0.440	8.809×10^{-2}	1.81	0.262	0.687
reflectance continuum aband [1]	0.518 ± 0.226	3701536	0.364	0.470	2.117×10^{-2}	3.64	0.332	0.696

3 Granule outlines

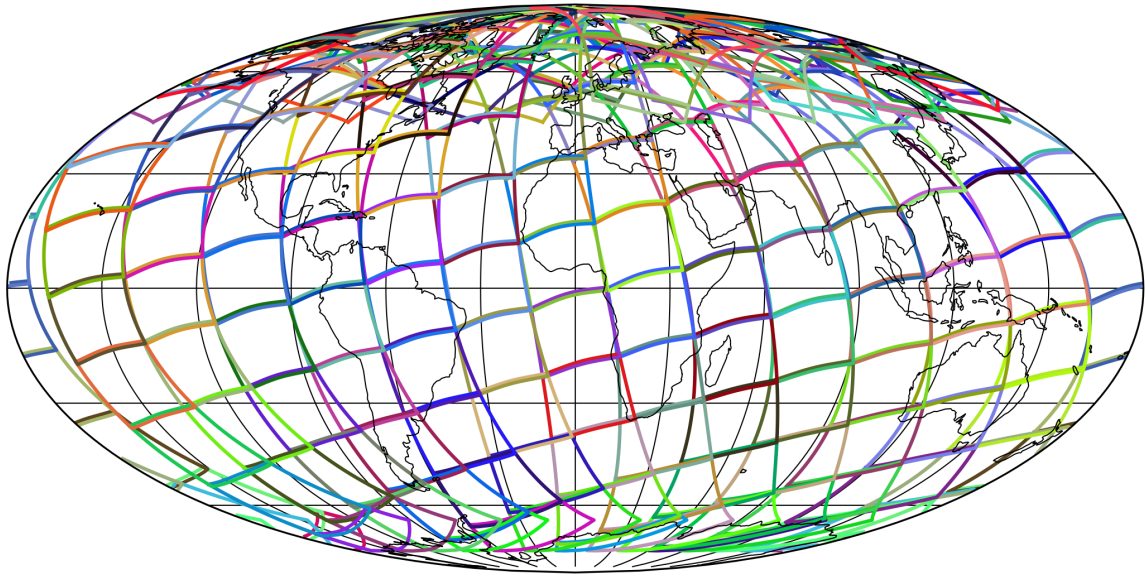


Figure 1: Outline of the granules.

4 Input data monitoring

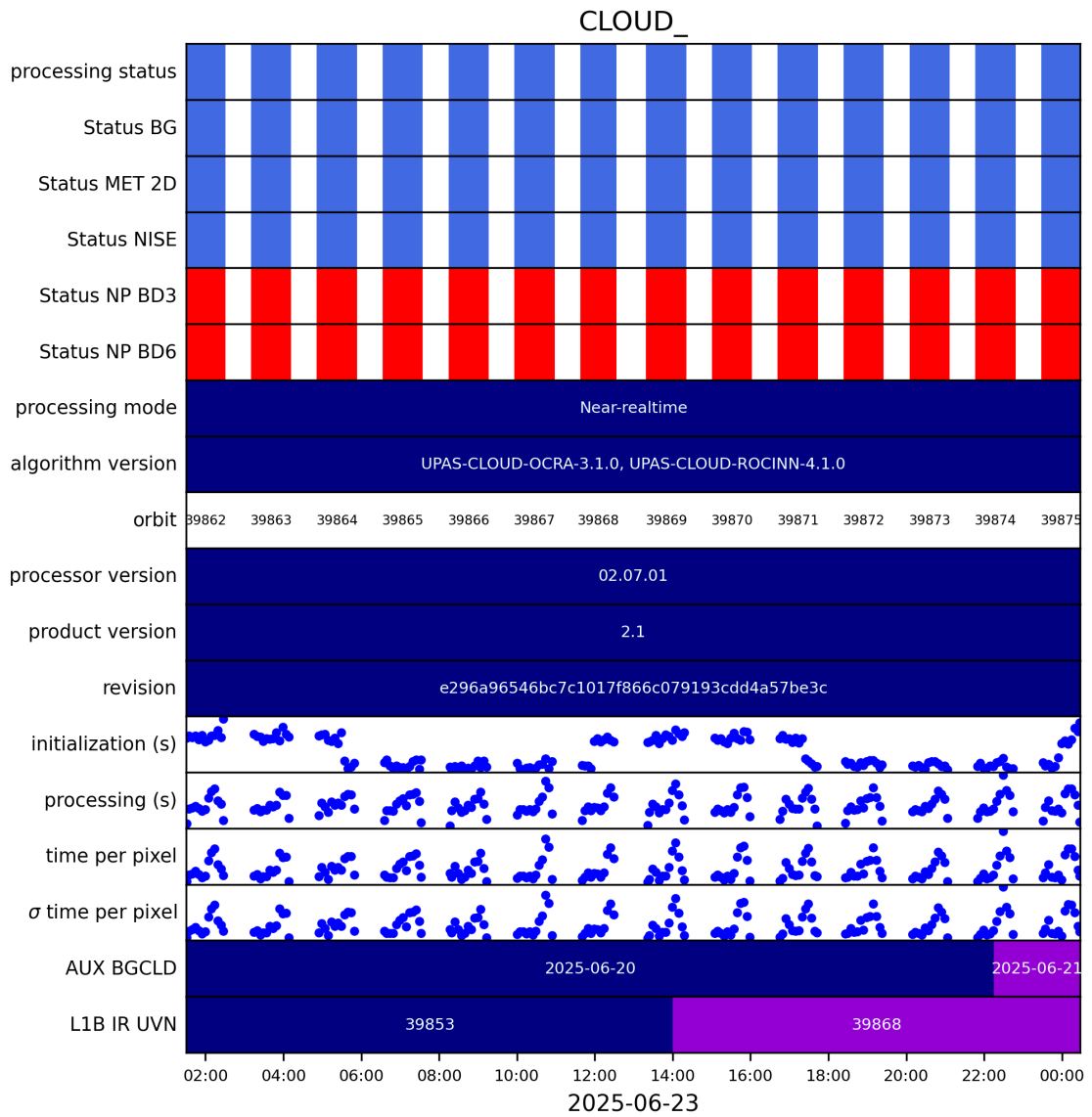


Figure 2: Input data per granule

5 Warnings and errors

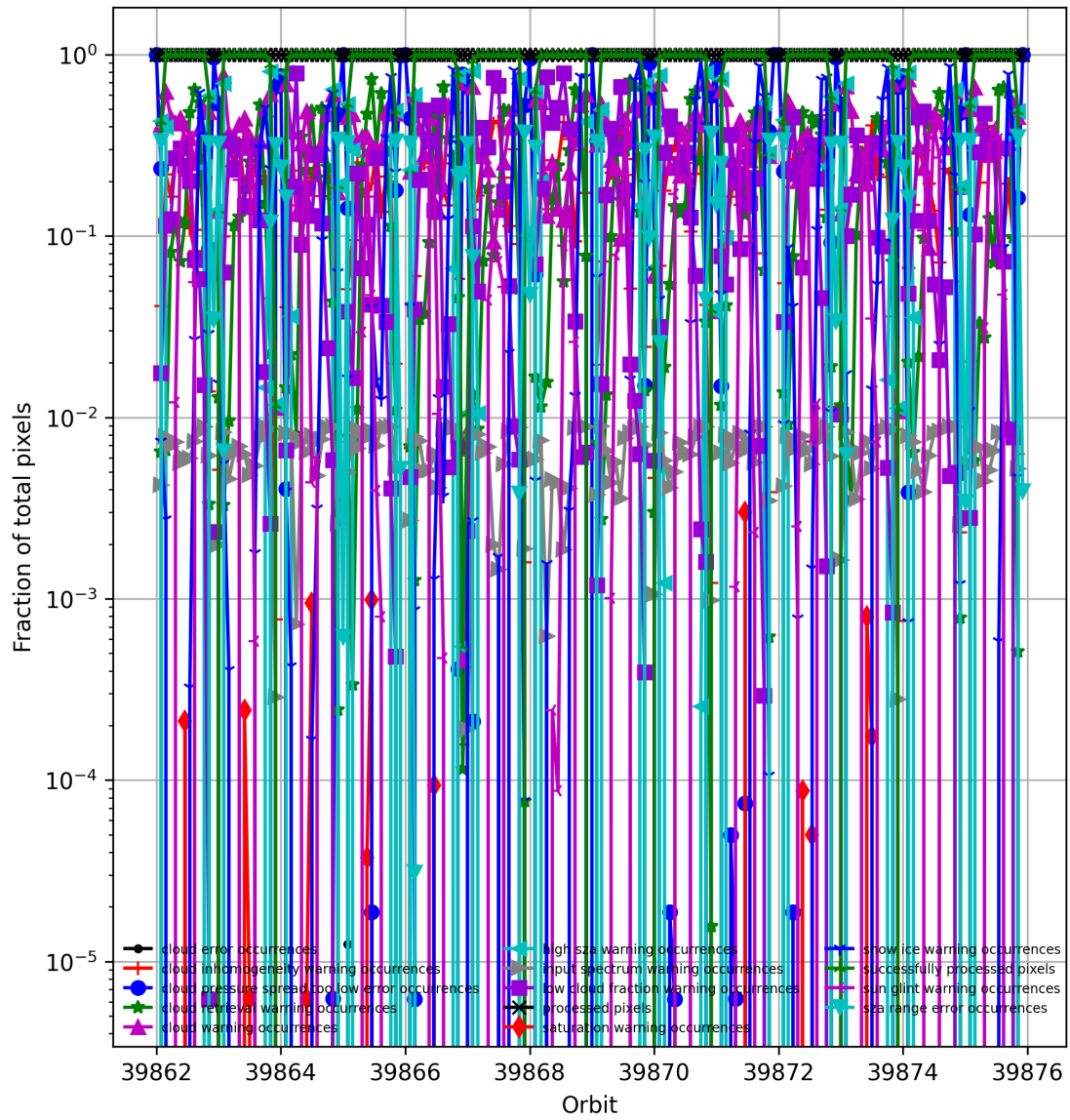


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

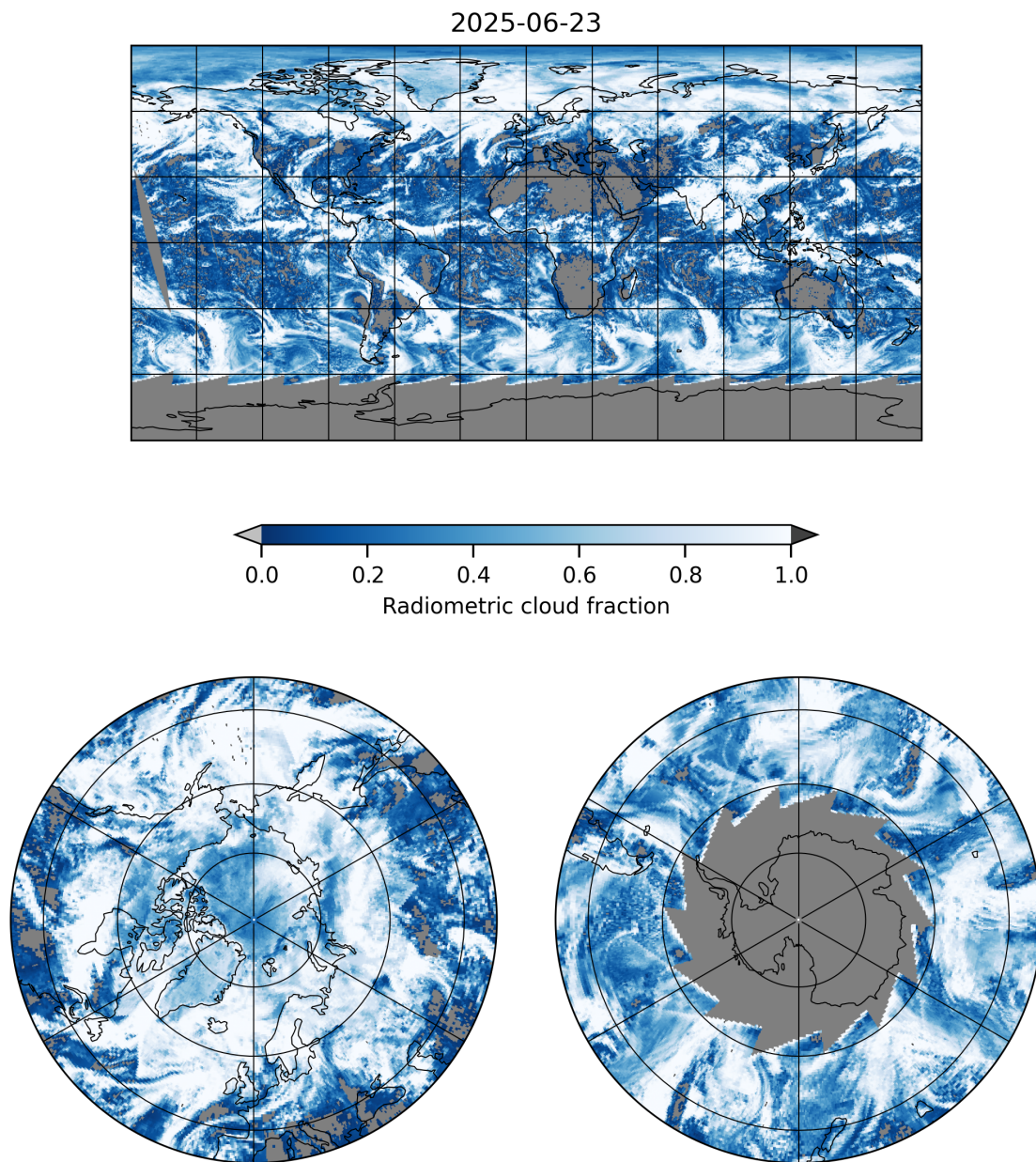


Figure 4: Map of “Radiometric cloud fraction” for 2025-06-23 to 2025-06-24

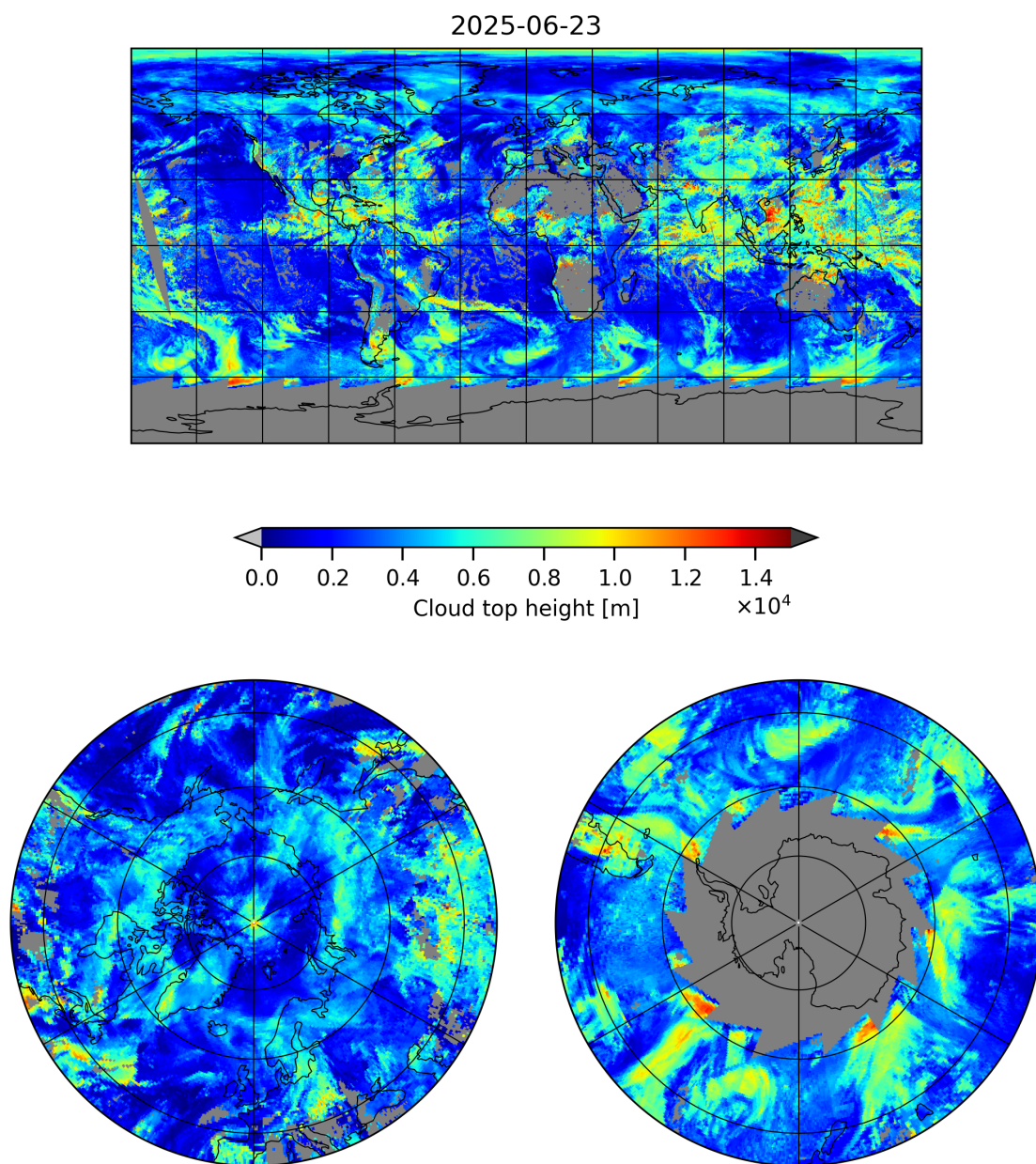


Figure 5: Map of “Cloud top height” for 2025-06-23 to 2025-06-24

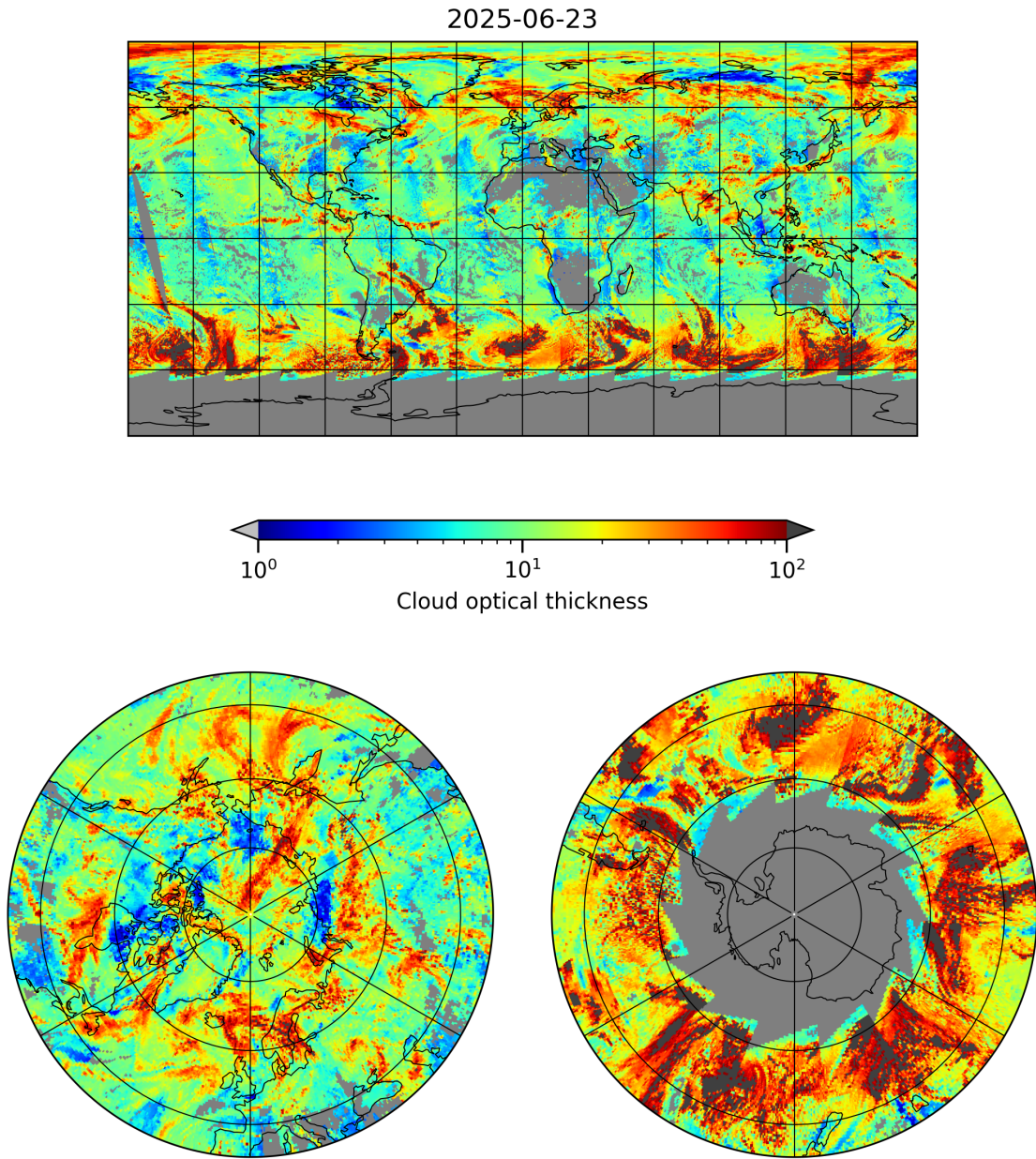


Figure 6: Map of “Cloud optical thickness” for 2025-06-23 to 2025-06-24

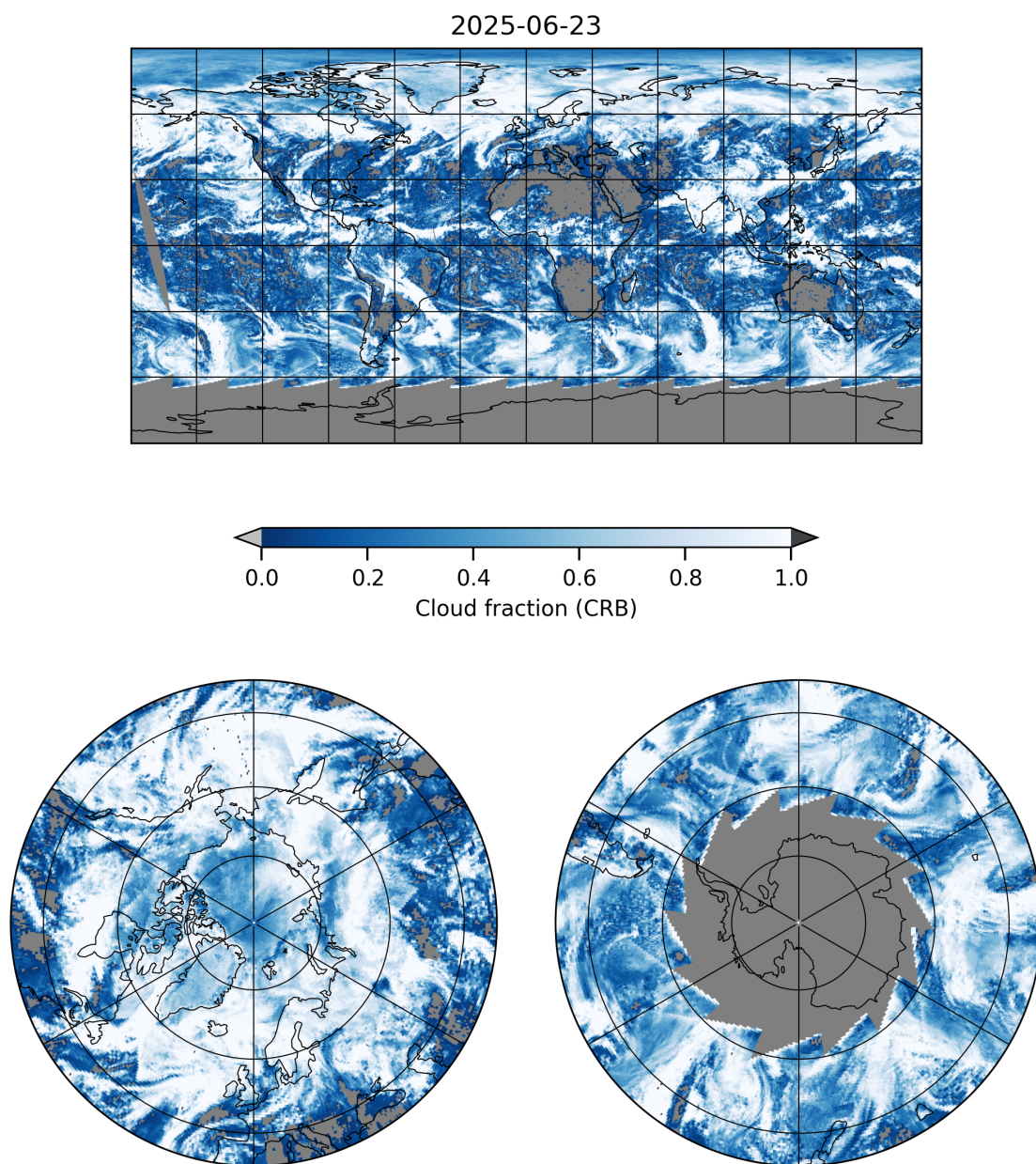


Figure 7: Map of “Cloud fraction (CRB)” for 2025-06-23 to 2025-06-24

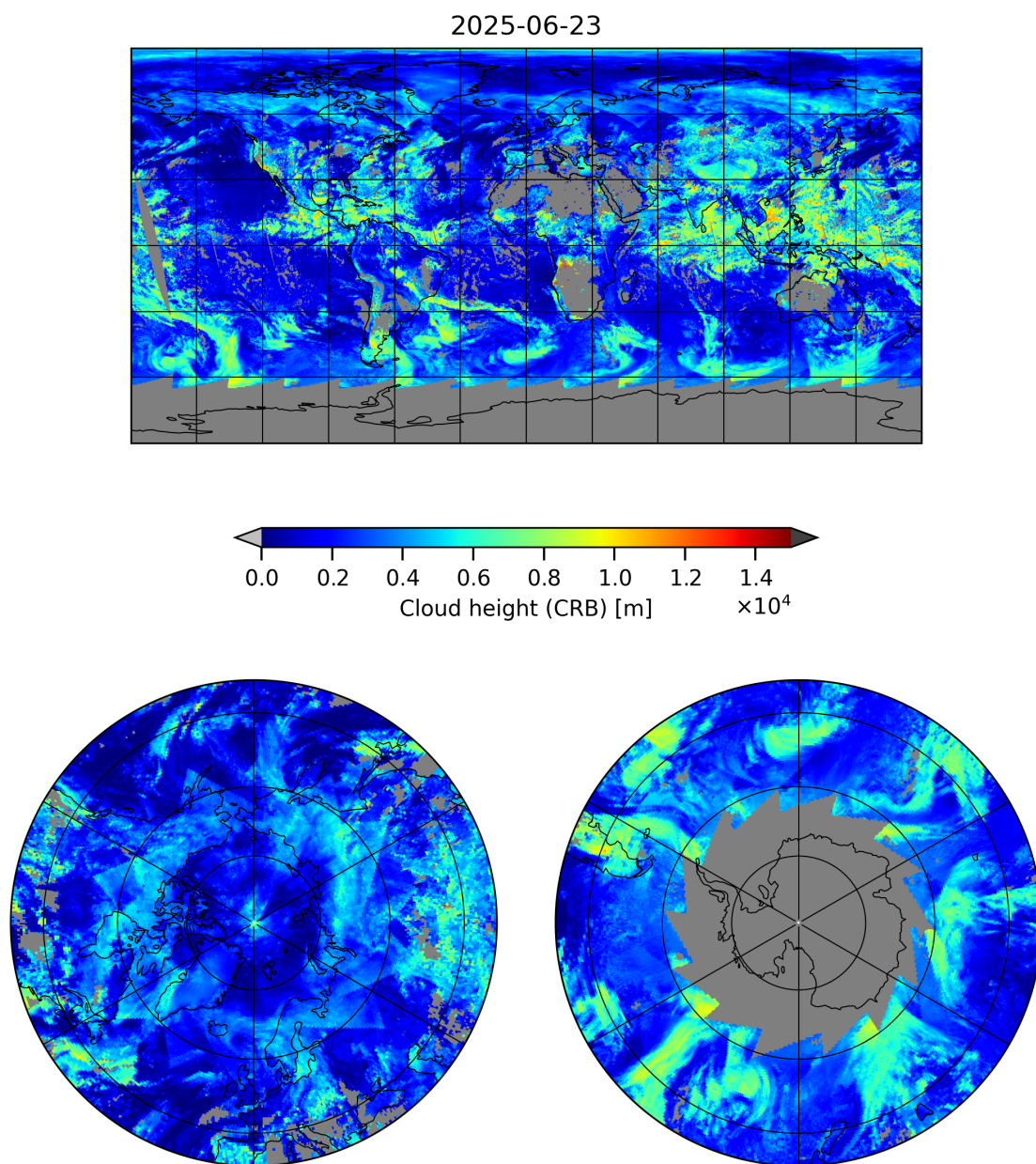


Figure 8: Map of “Cloud height (CRB)” for 2025-06-23 to 2025-06-24

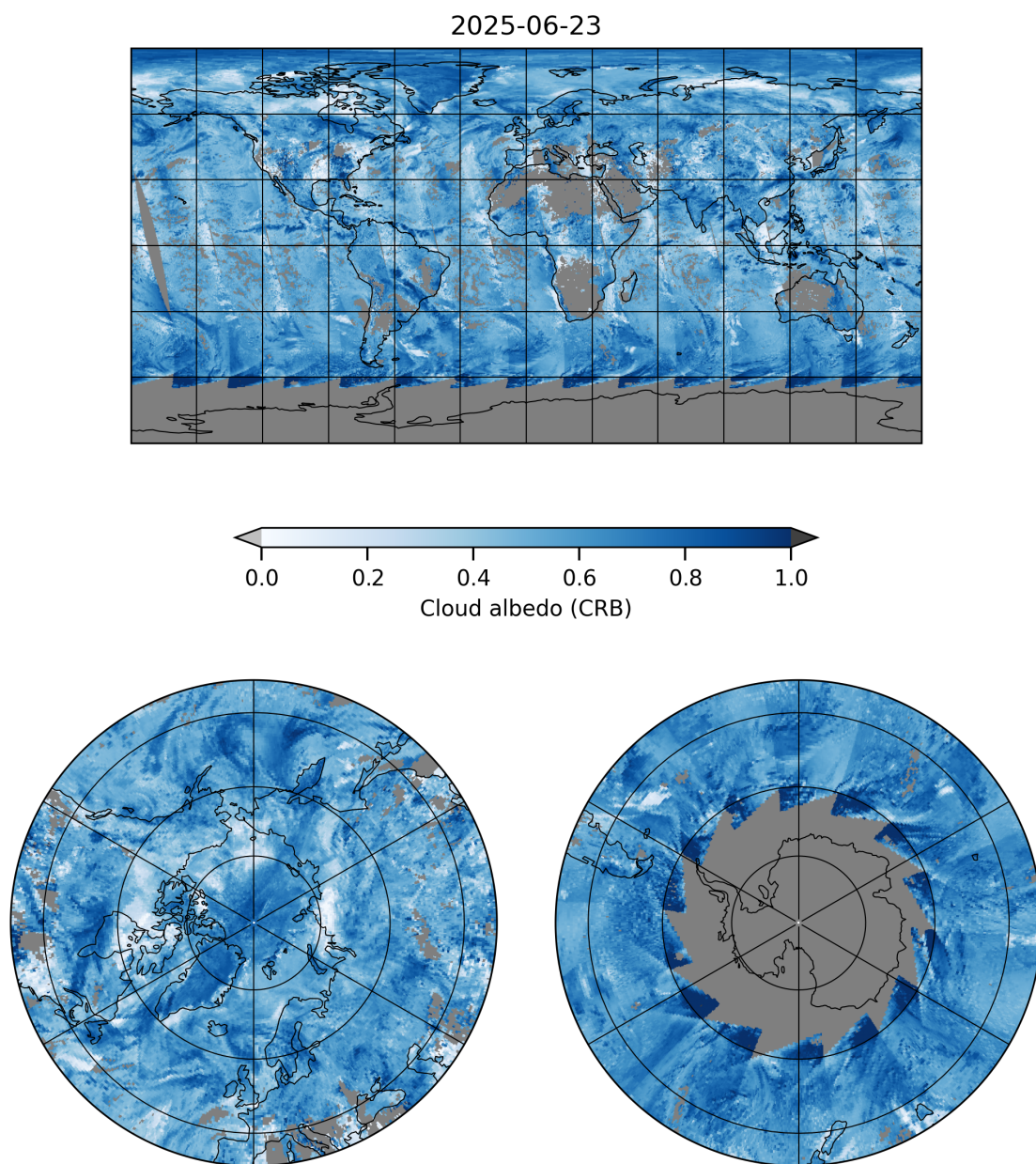


Figure 9: Map of “Cloud albedo (CRB)” for 2025-06-23 to 2025-06-24

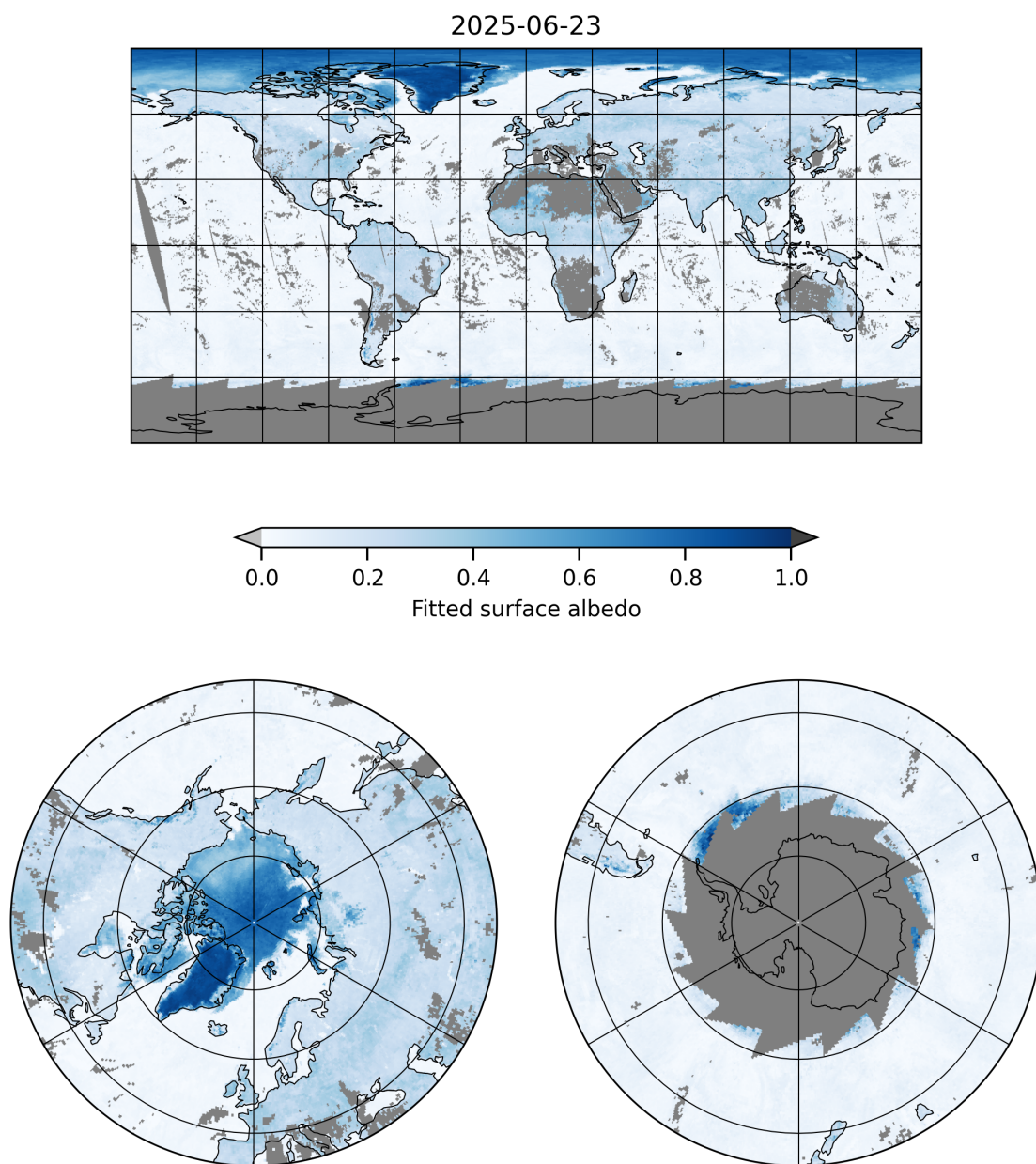


Figure 10: Map of “Fitted surface albedo” for 2025-06-23 to 2025-06-24

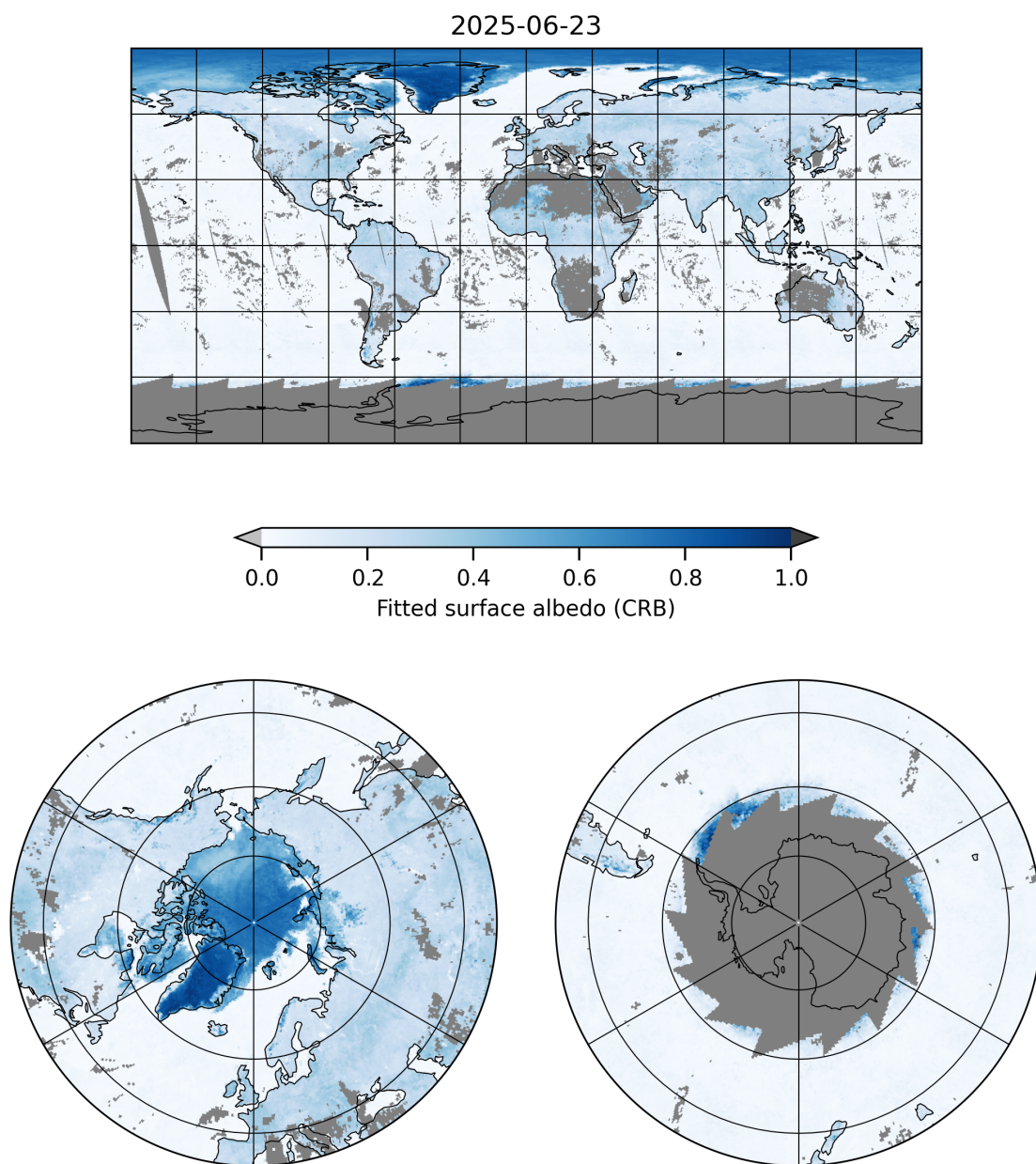


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-06-23 to 2025-06-24

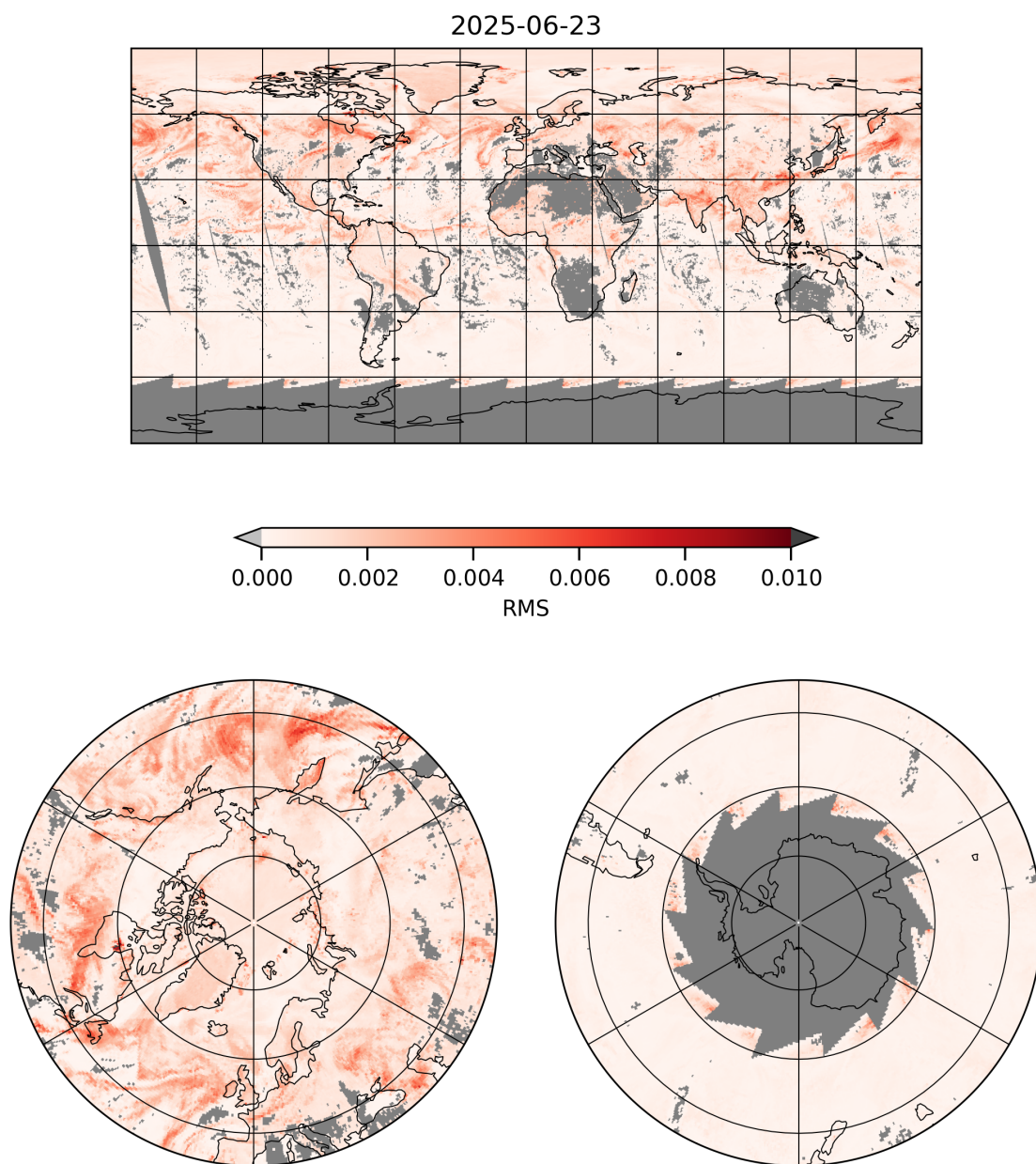


Figure 12: Map of “RMS” for 2025-06-23 to 2025-06-24

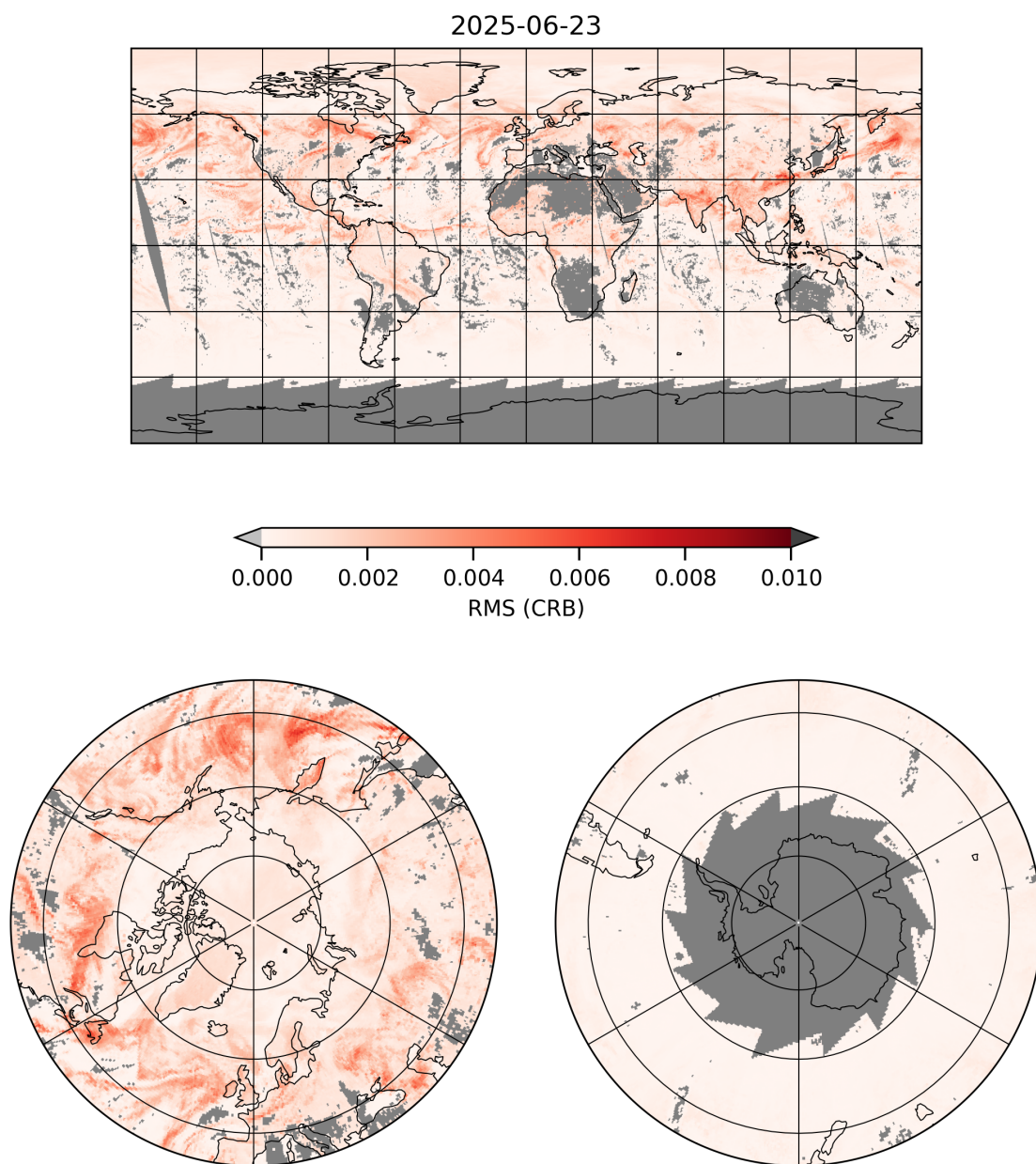


Figure 13: Map of “RMS (CRB)” for 2025-06-23 to 2025-06-24

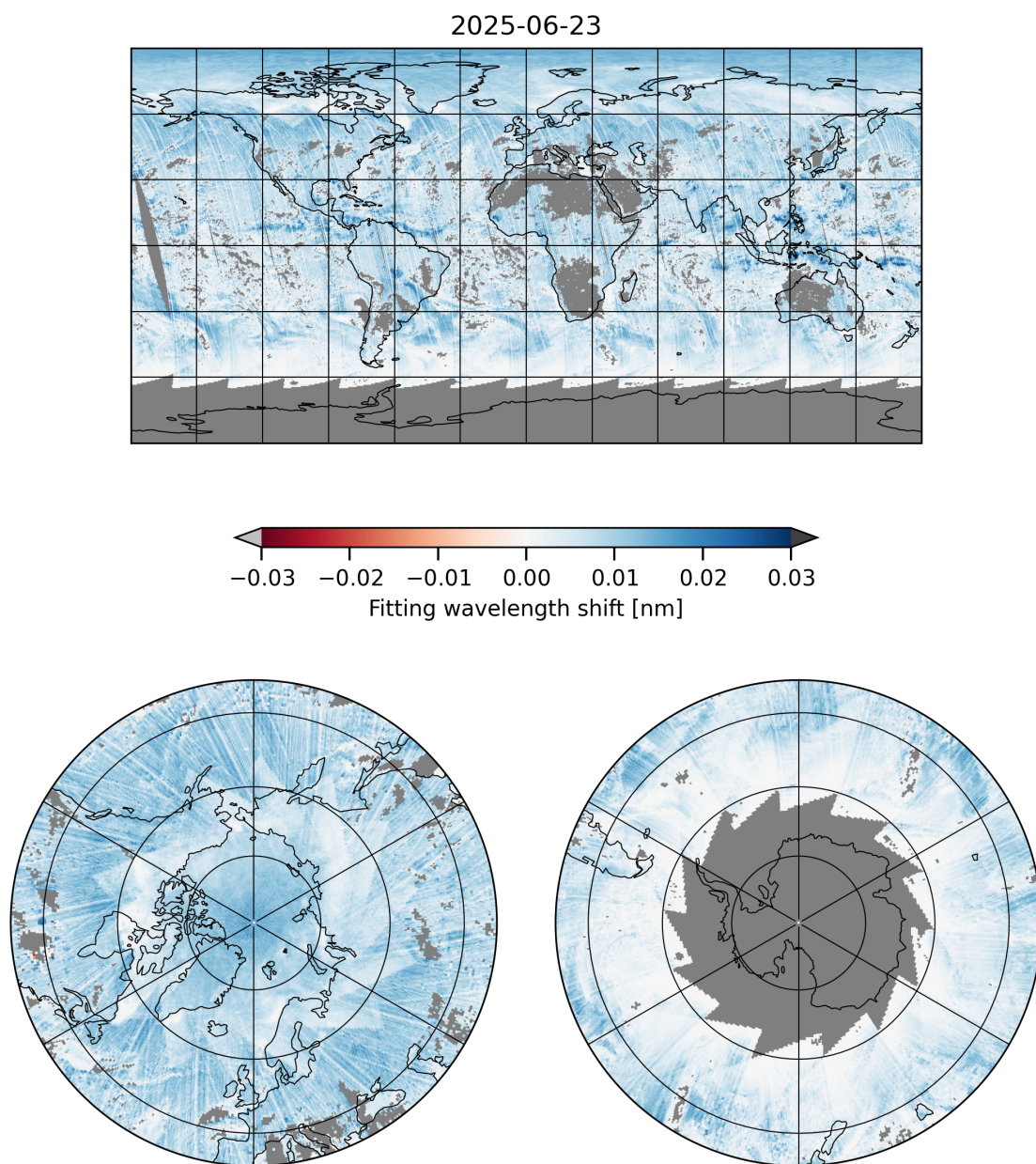


Figure 14: Map of “Fitting wavelength shift” for 2025-06-23 to 2025-06-24

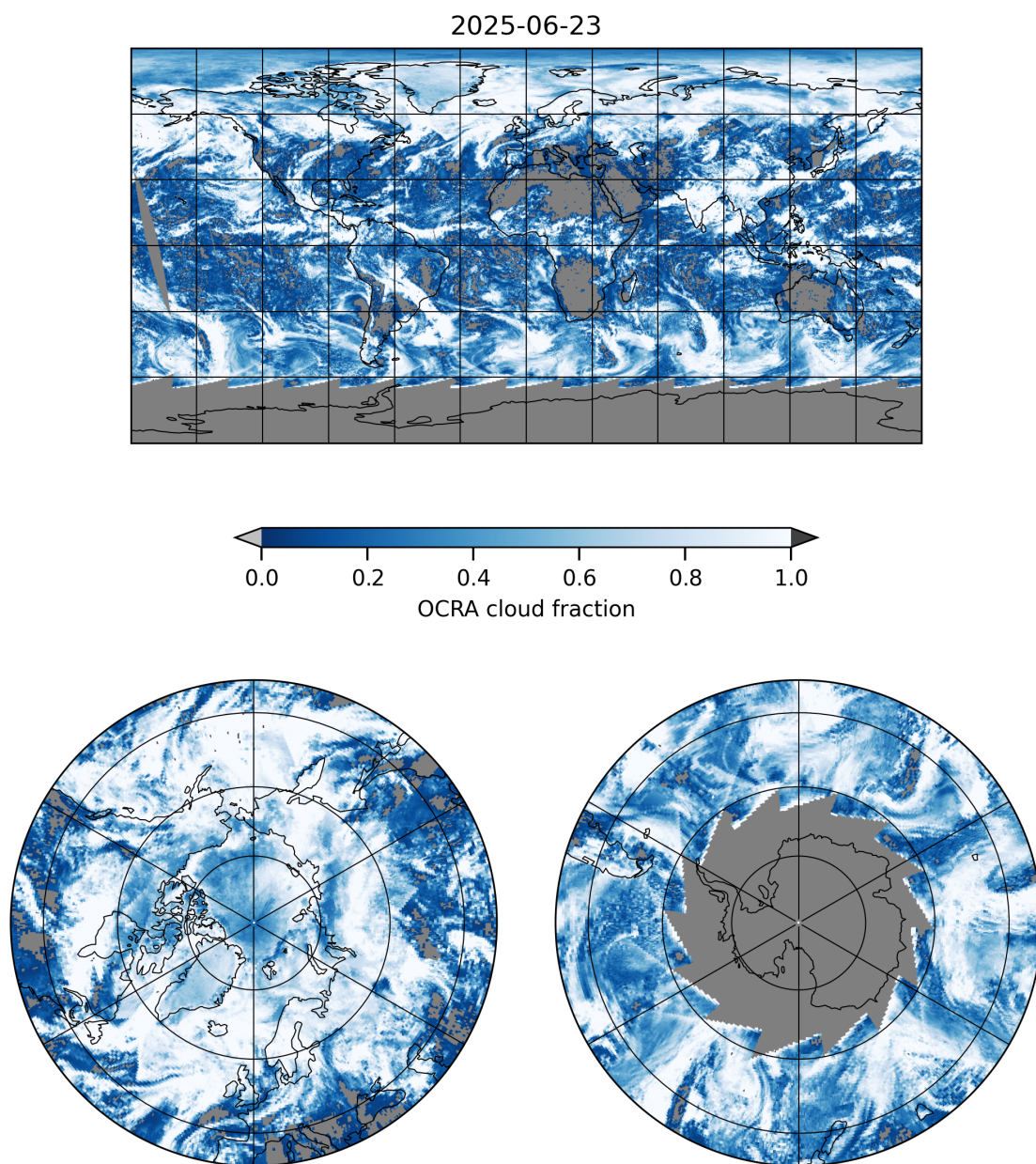


Figure 15: Map of “OCRA cloud fraction” for 2025-06-23 to 2025-06-24

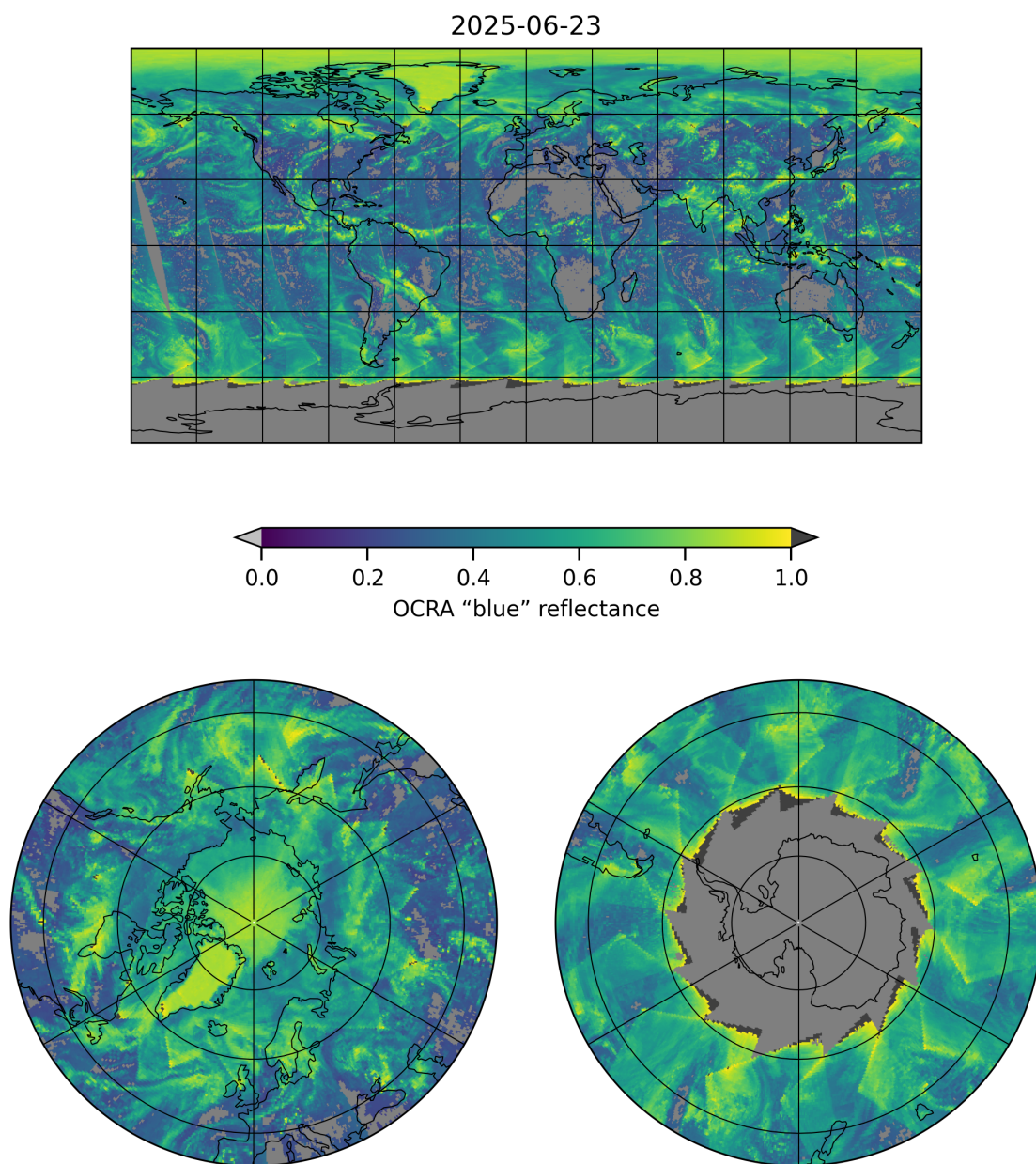


Figure 16: Map of "OCRA "blue" reflectance" for 2025-06-23 to 2025-06-24

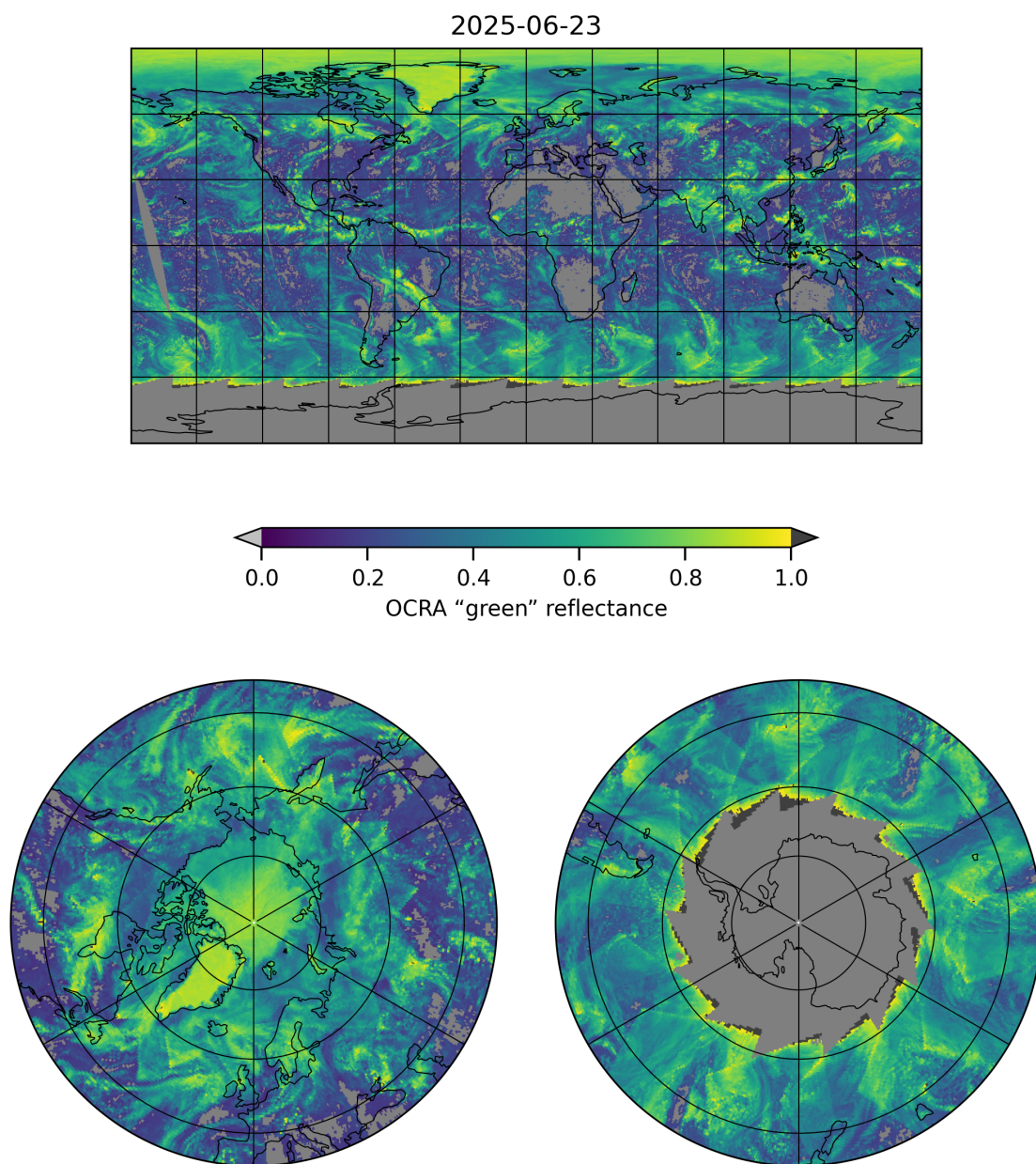


Figure 17: Map of "OCRA "green" reflectance" for 2025-06-23 to 2025-06-24

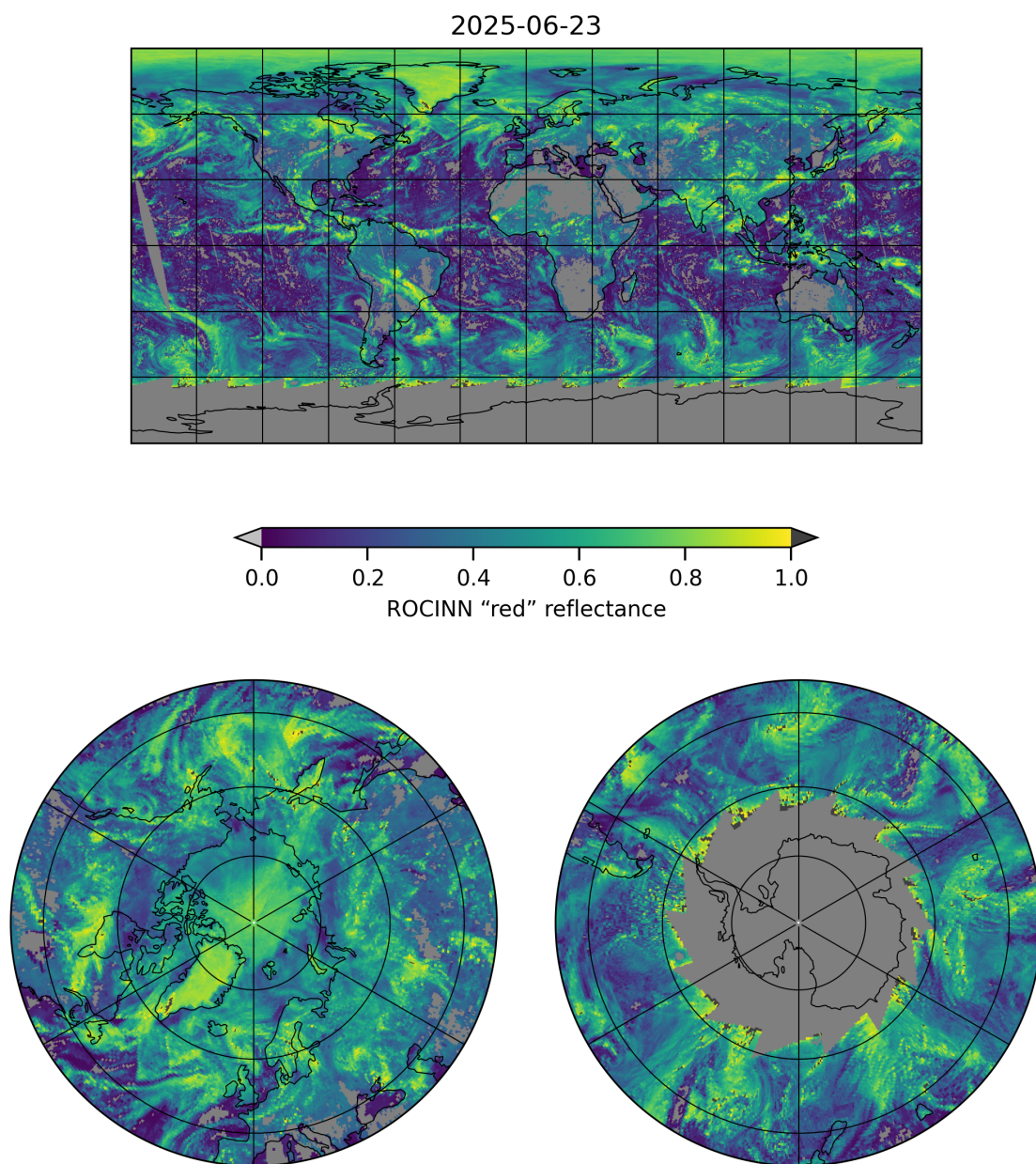


Figure 18: Map of "ROCINN "red" reflectance" for 2025-06-23 to 2025-06-24

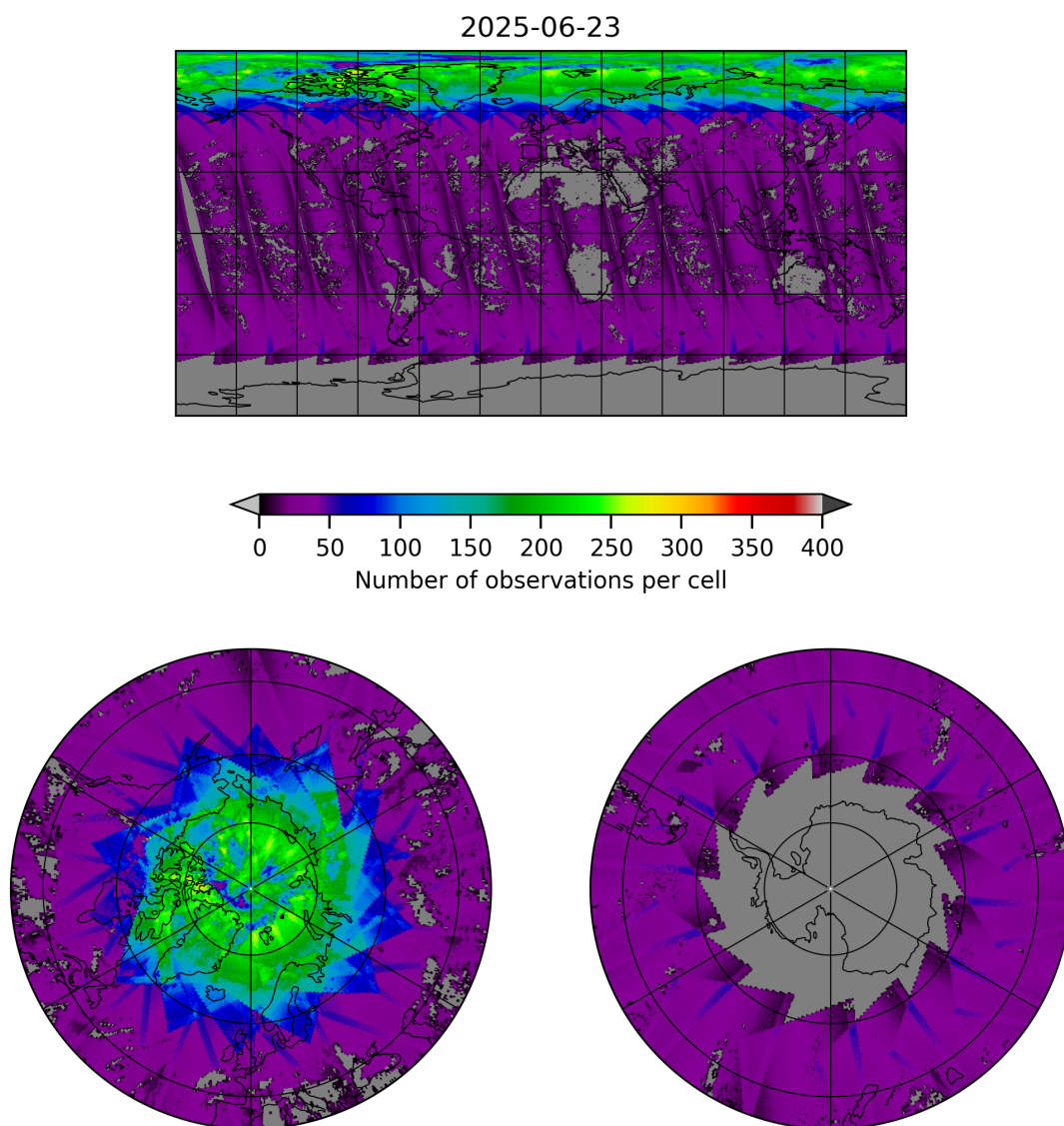


Figure 19: Map of the number of observations for 2025-06-23 to 2025-06-24

7 Zonal average

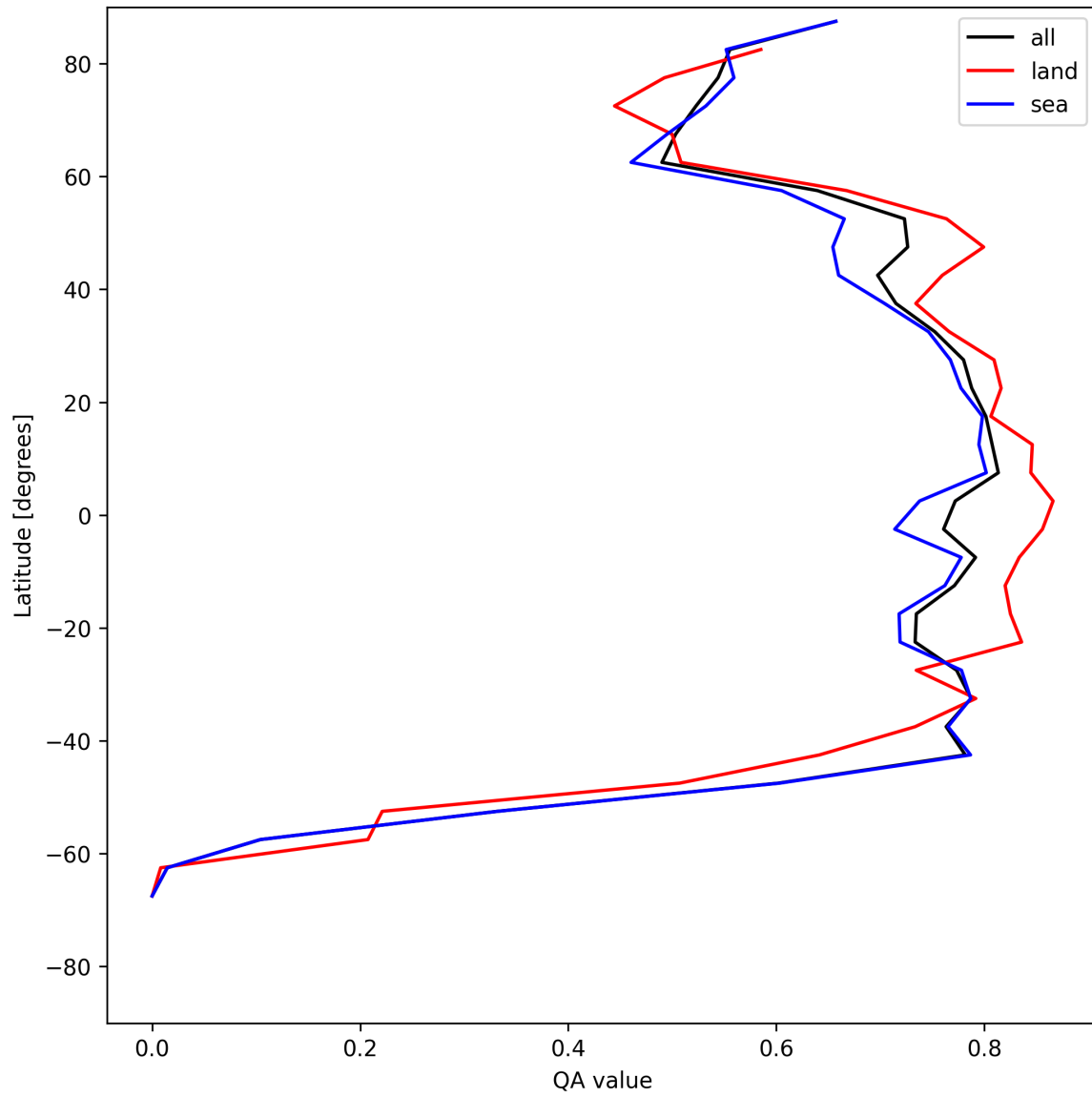


Figure 20: Zonal average of “QA value” for 2025-06-23 to 2025-06-24.

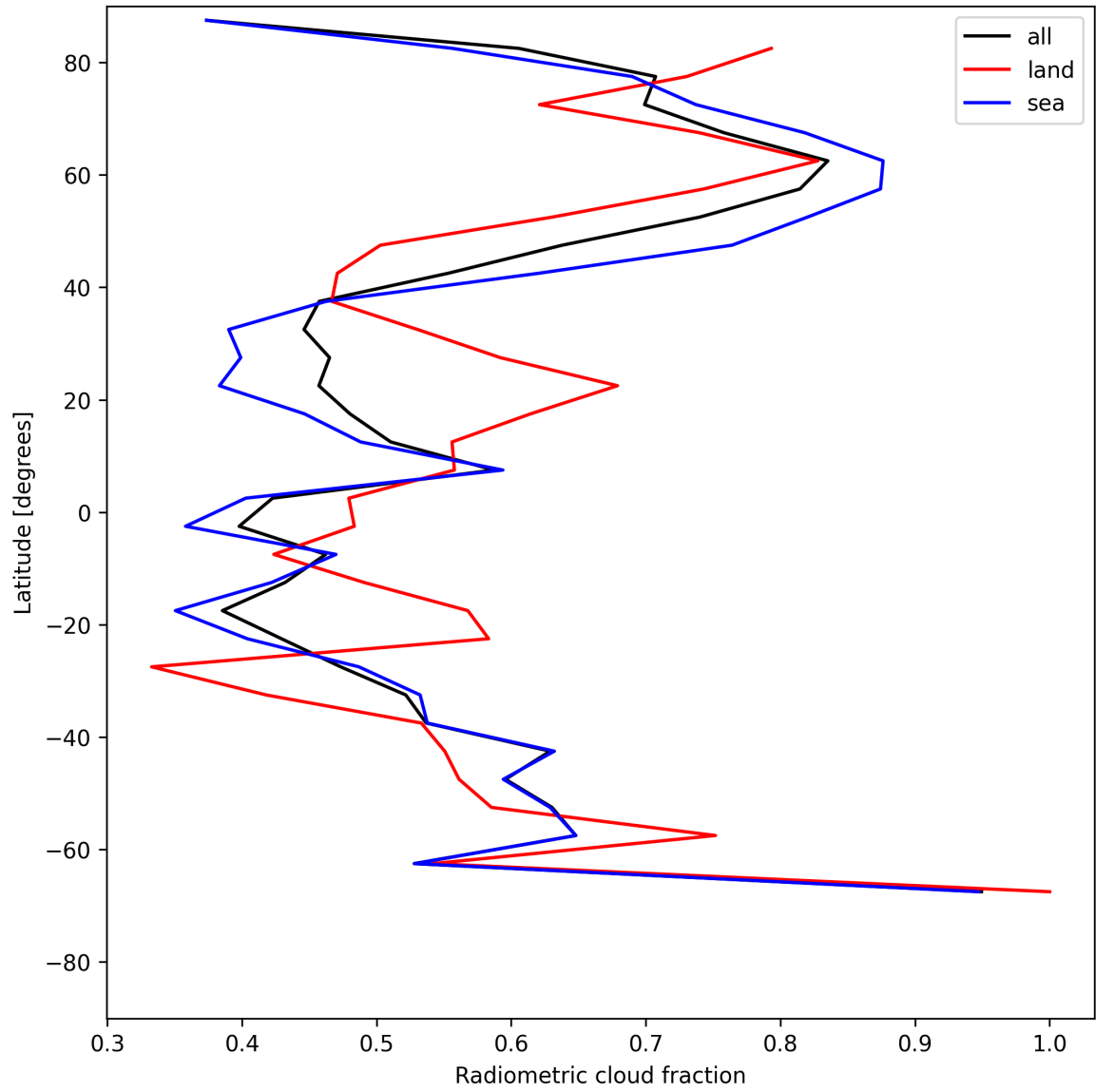


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-06-23 to 2025-06-24.

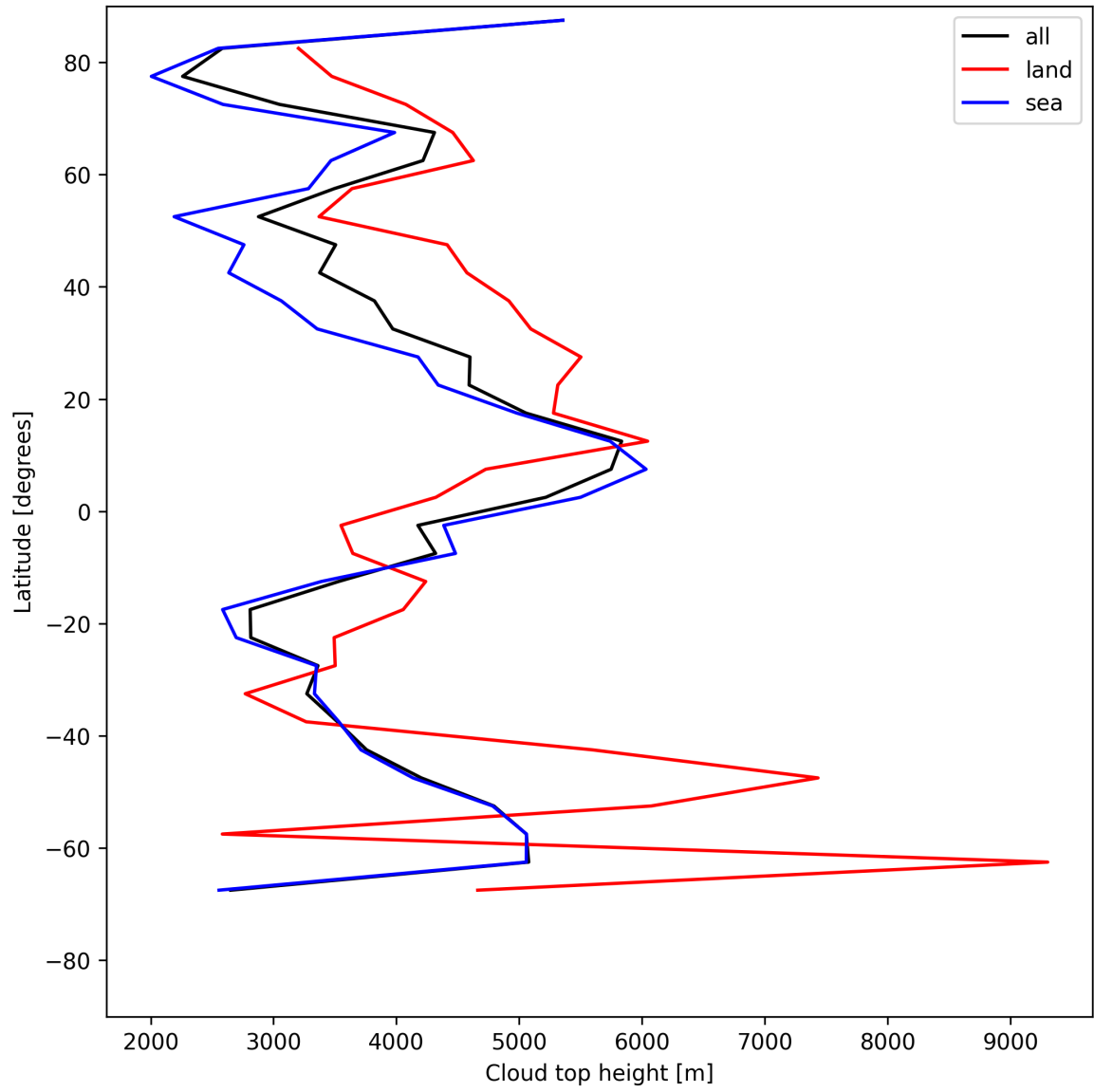


Figure 22: Zonal average of “Cloud top height” for 2025-06-23 to 2025-06-24.

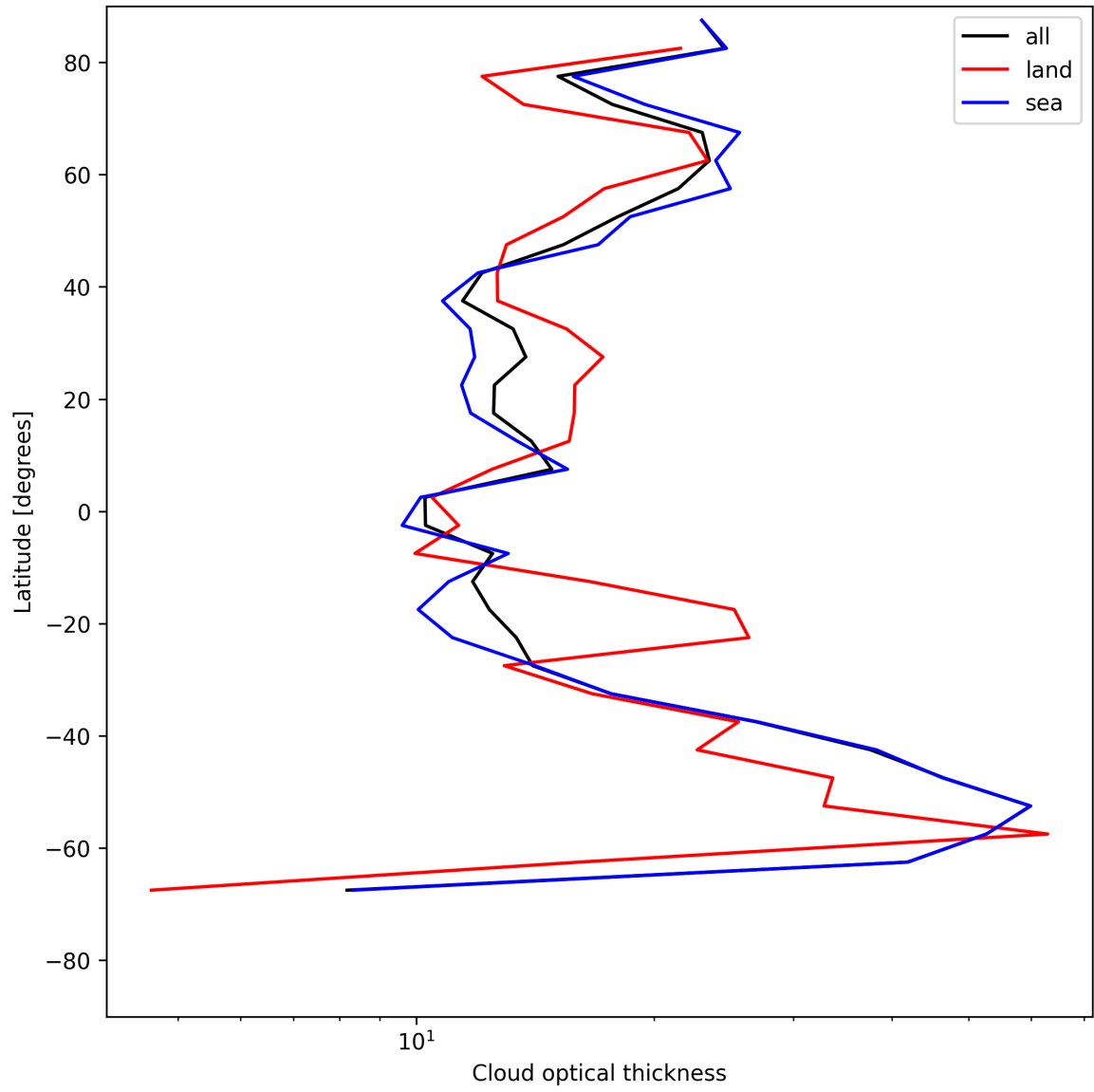


Figure 23: Zonal average of “Cloud optical thickness” for 2025-06-23 to 2025-06-24.

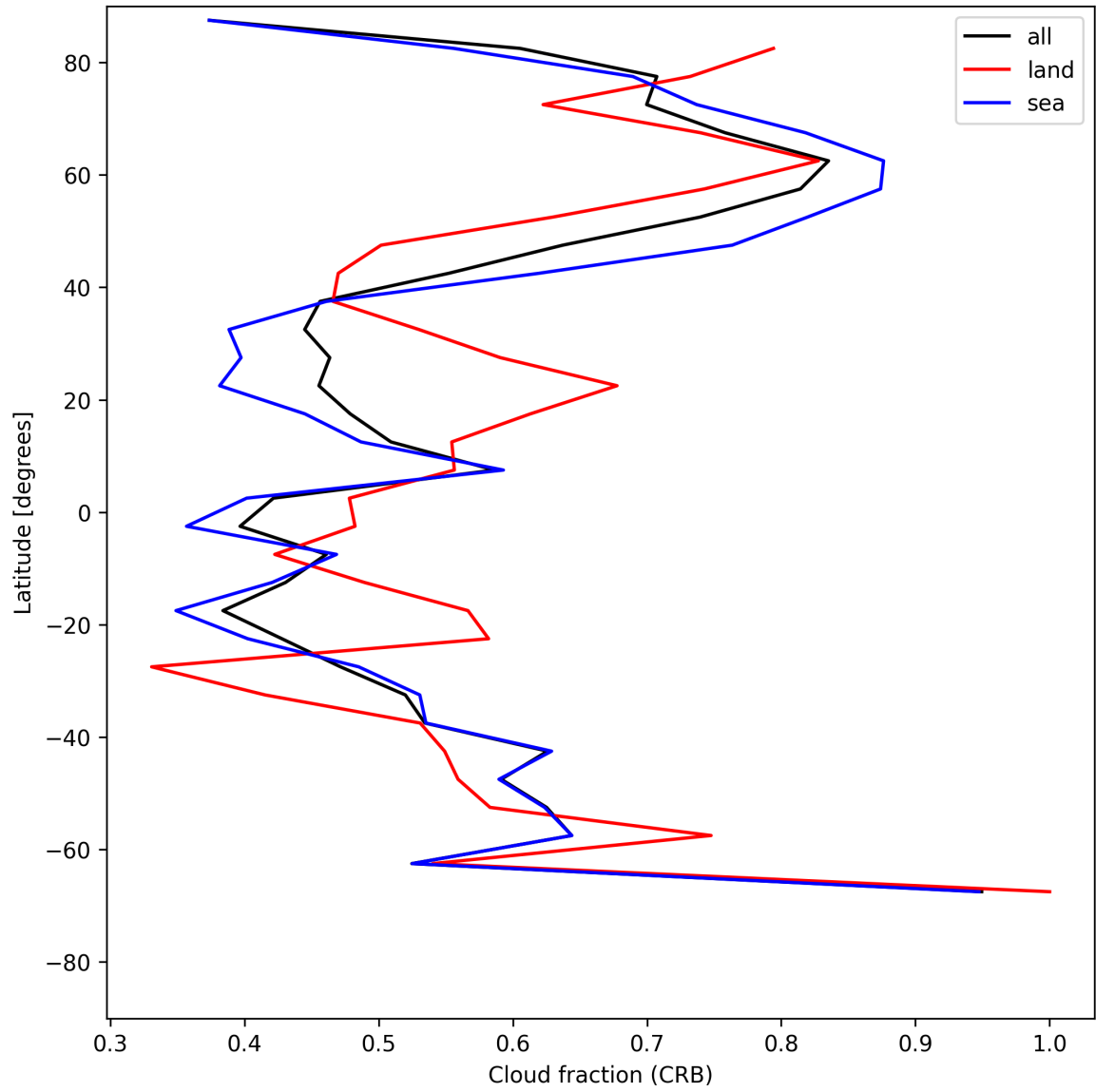


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-06-23 to 2025-06-24.

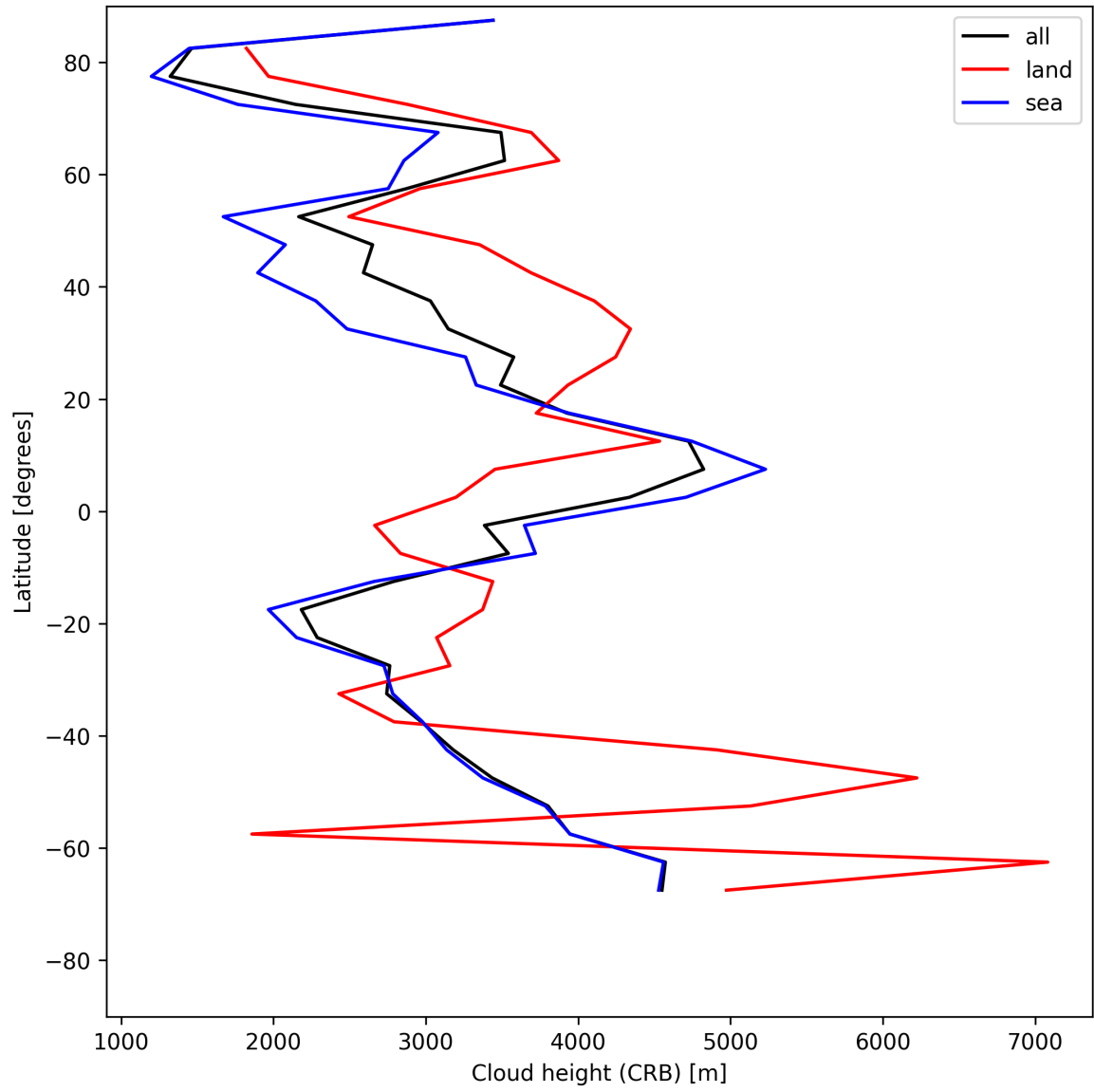


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-06-23 to 2025-06-24.

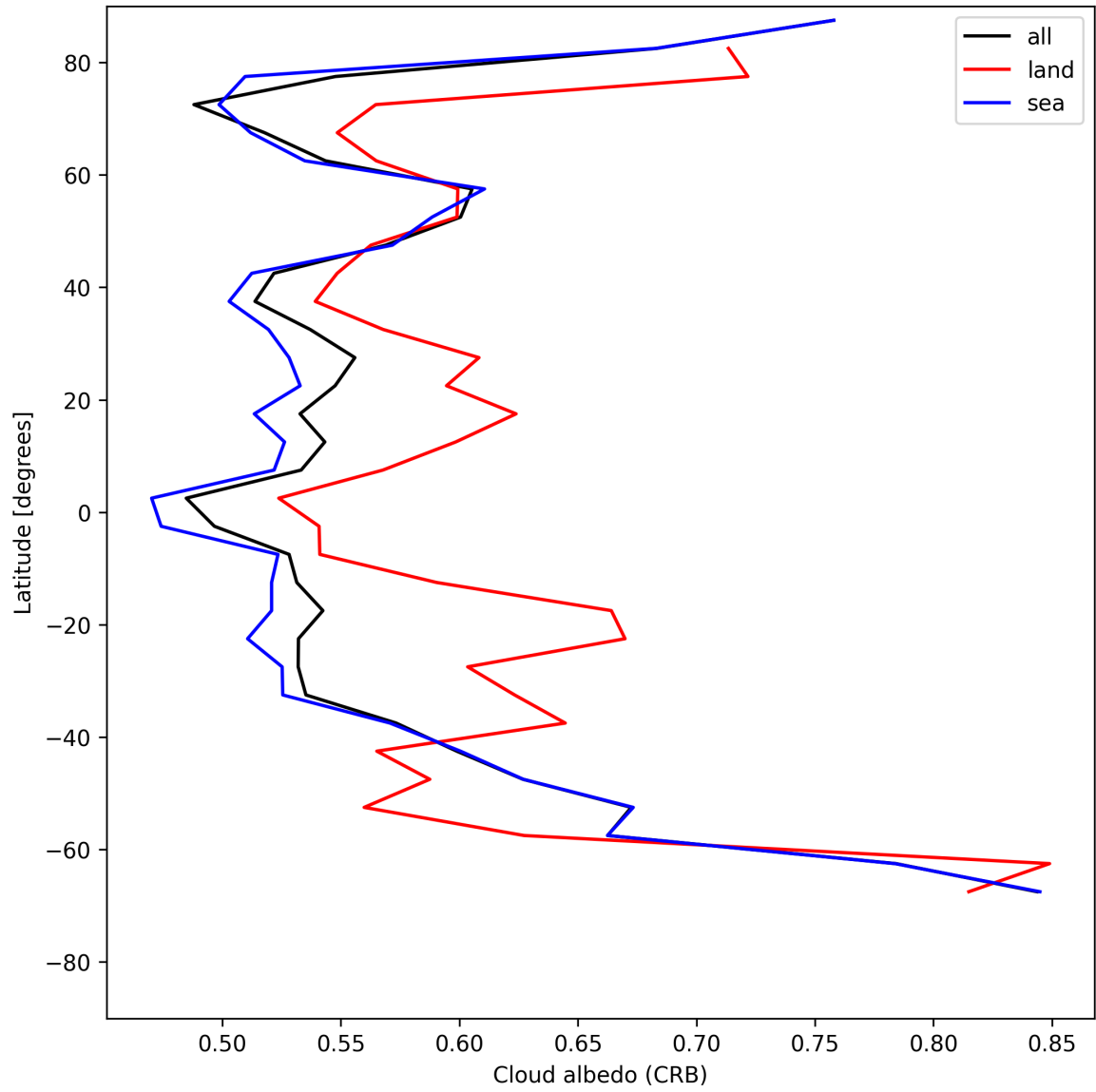


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-06-23 to 2025-06-24.

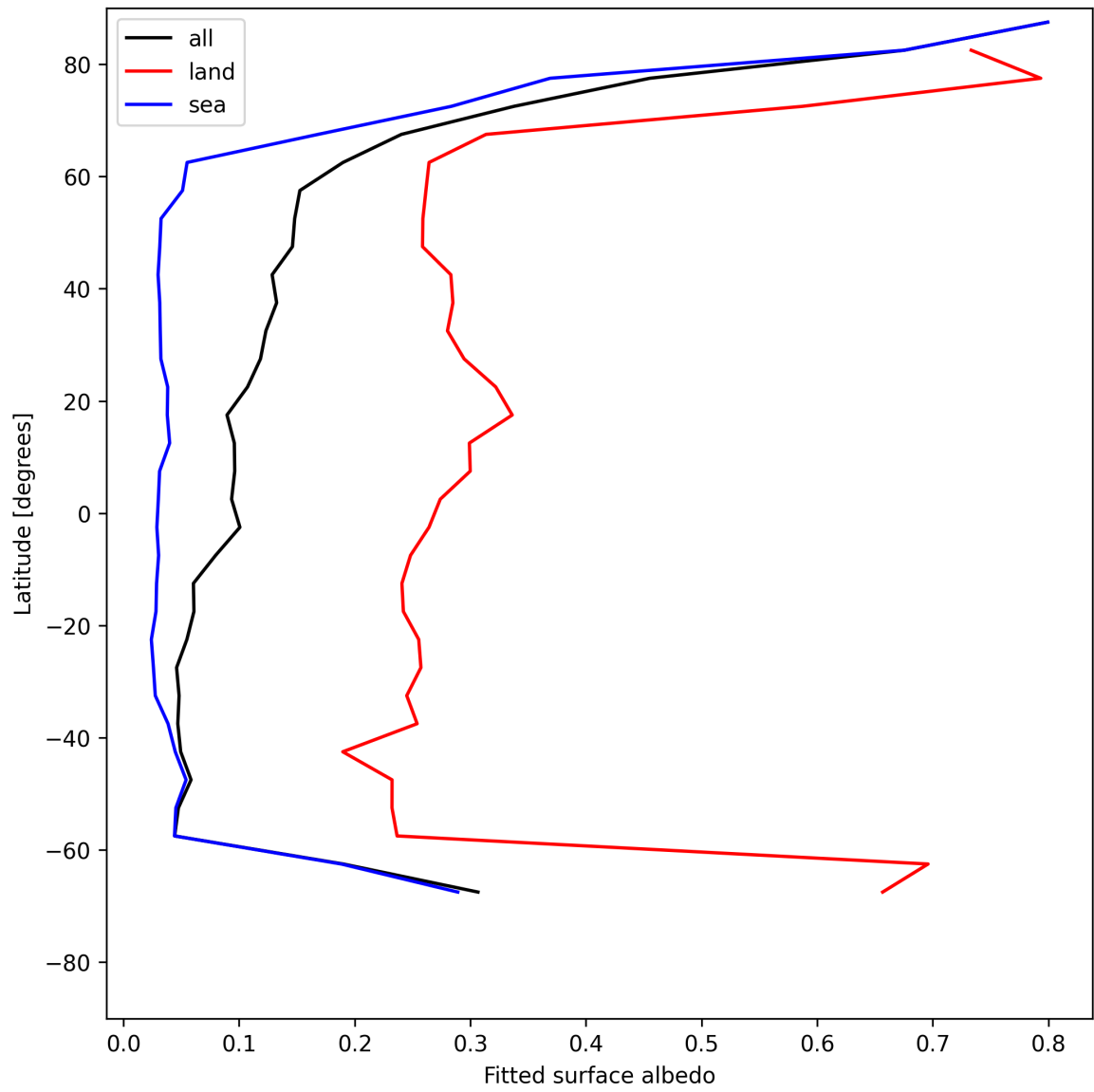


Figure 27: Zonal average of “Fitted surface albedo” for 2025-06-23 to 2025-06-24.

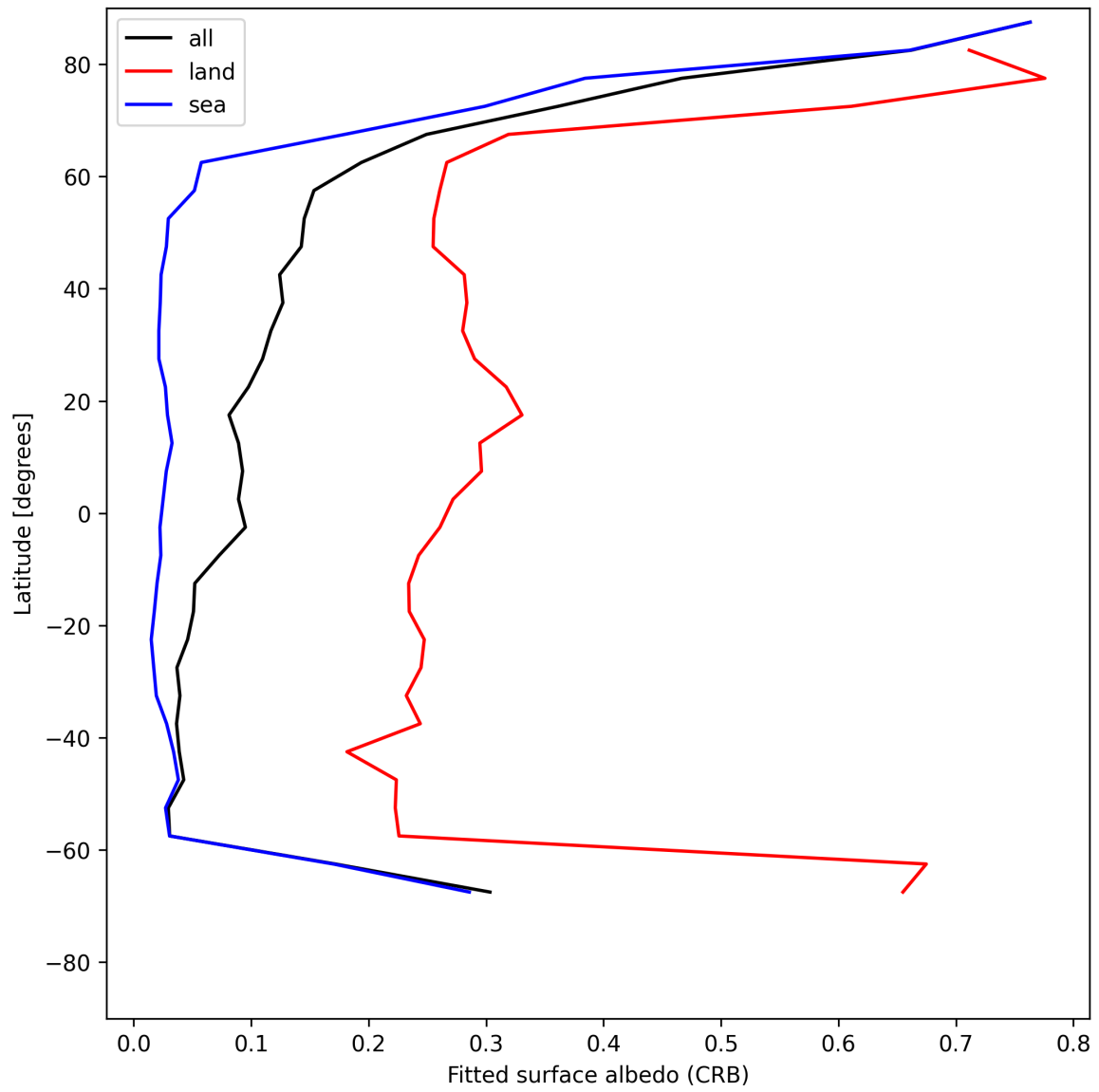


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-06-23 to 2025-06-24.

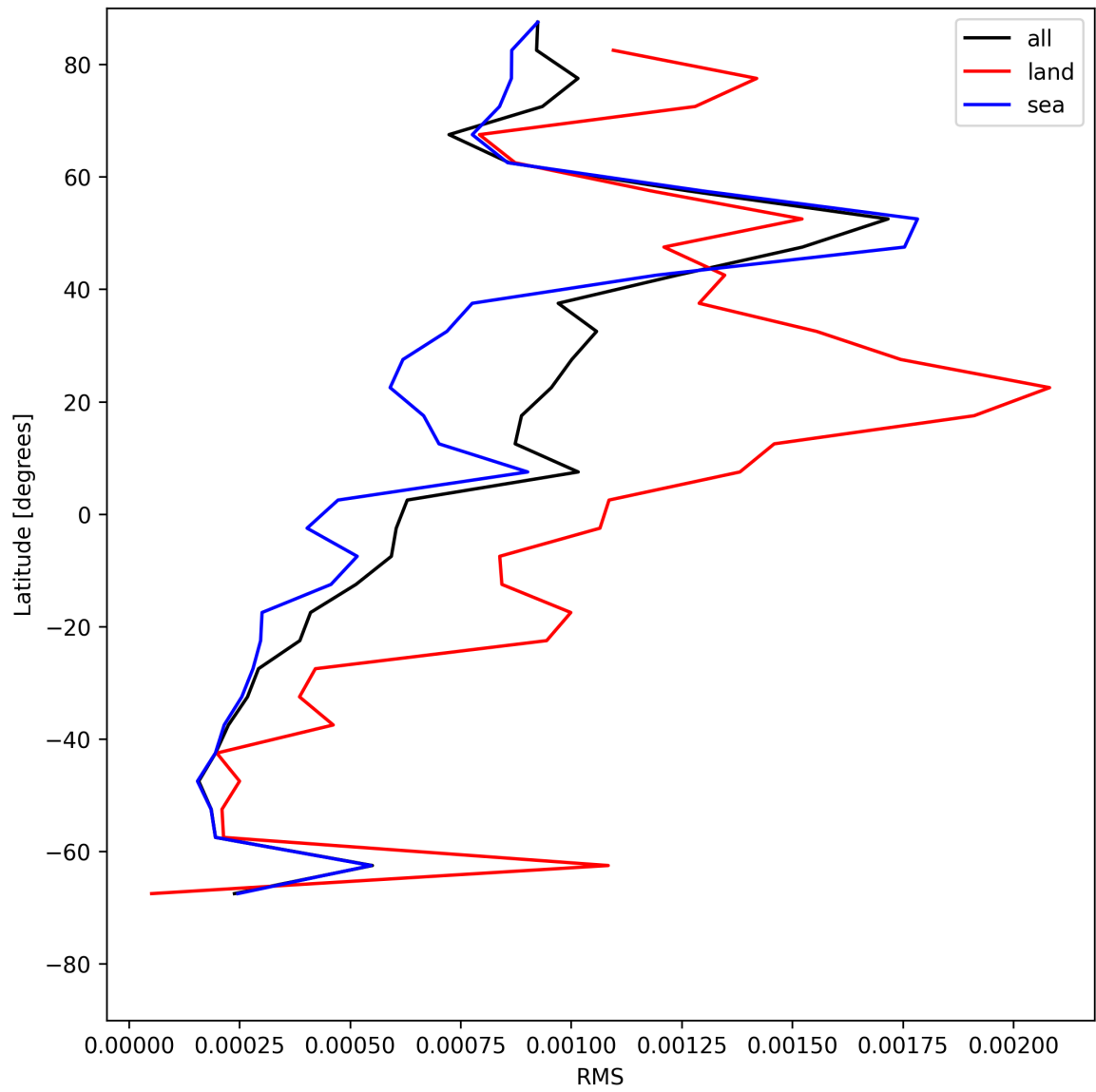


Figure 29: Zonal average of “RMS” for 2025-06-23 to 2025-06-24.

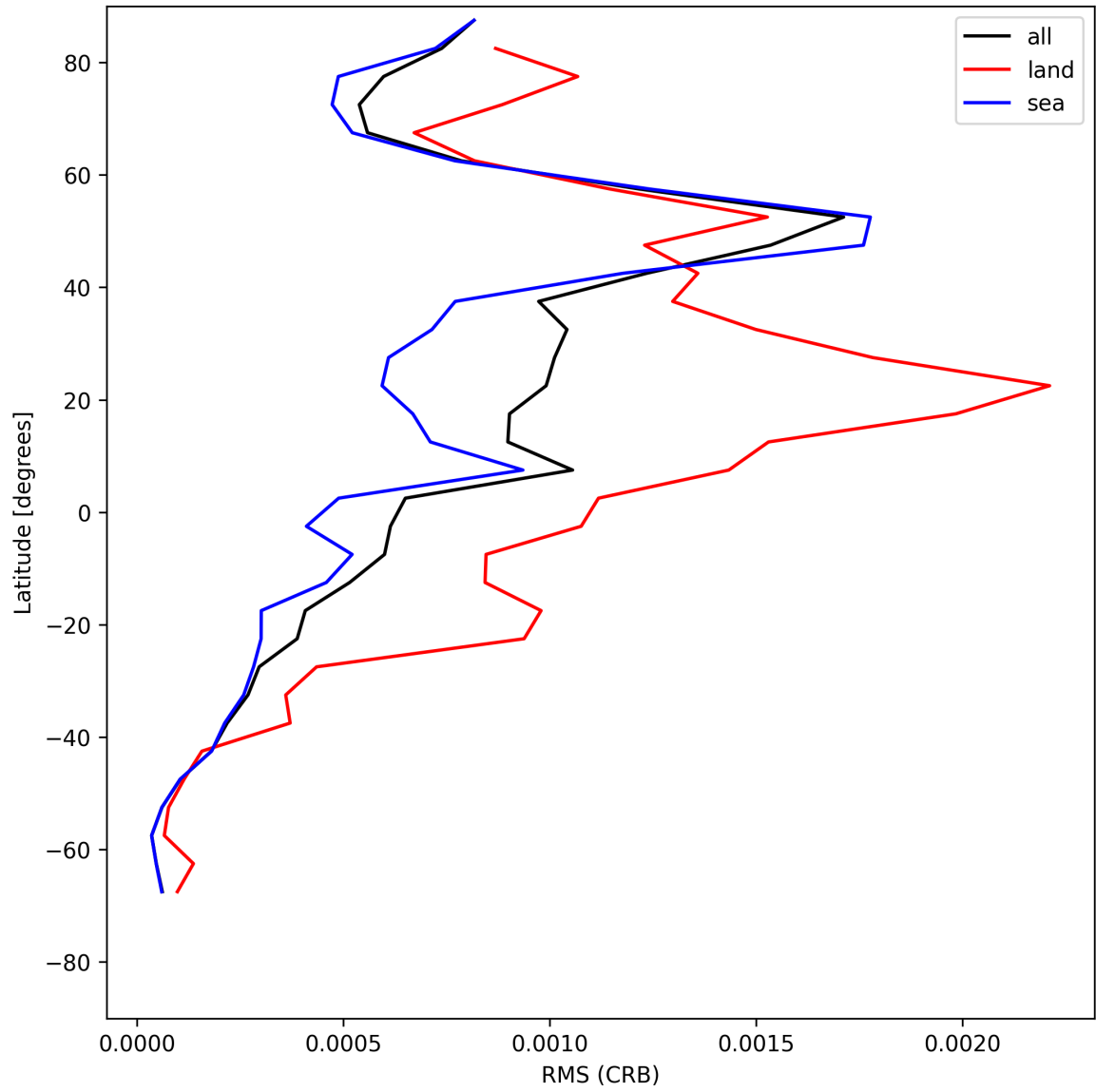


Figure 30: Zonal average of “RMS (CRB)” for 2025-06-23 to 2025-06-24.

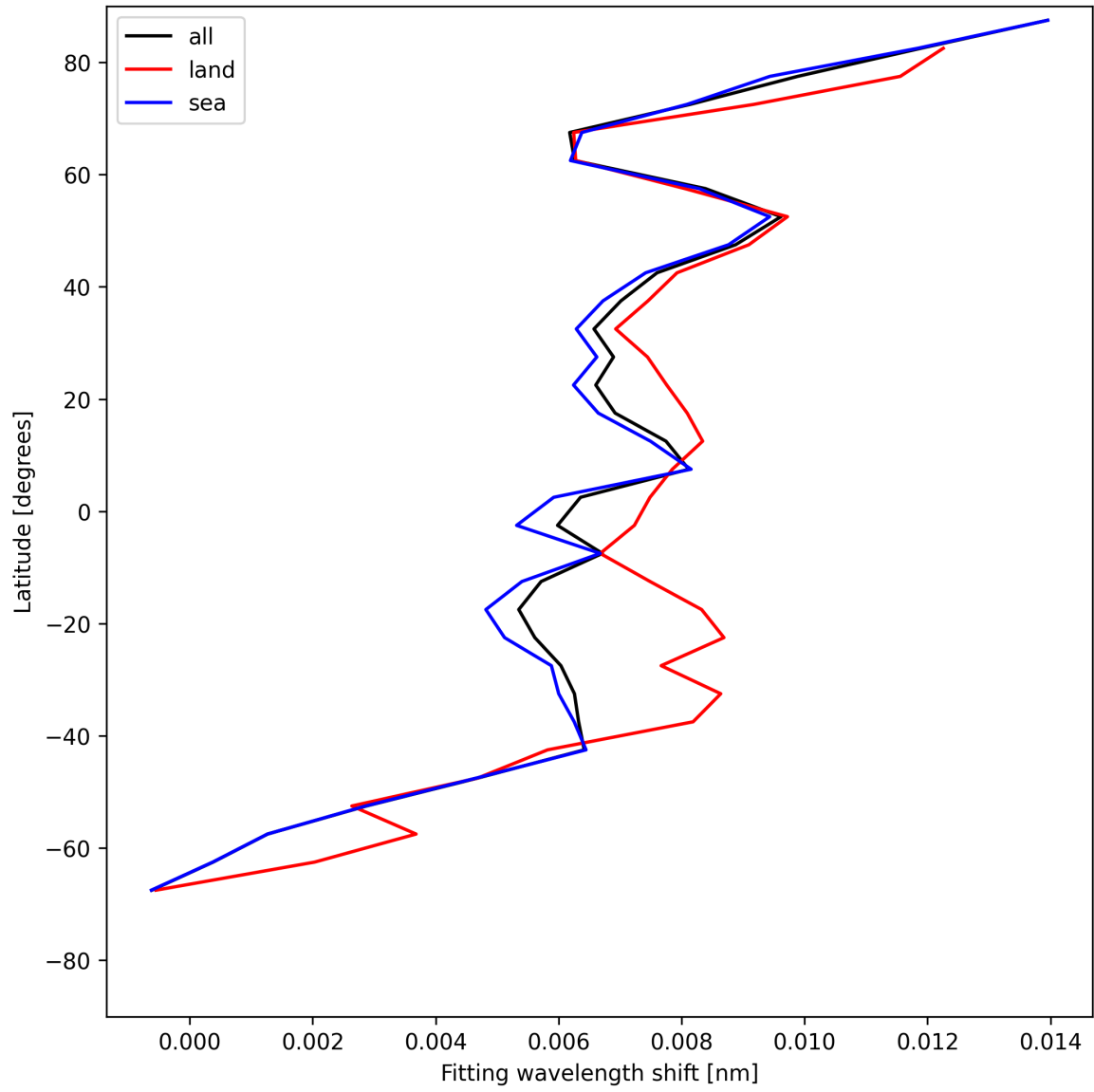


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-06-23 to 2025-06-24.

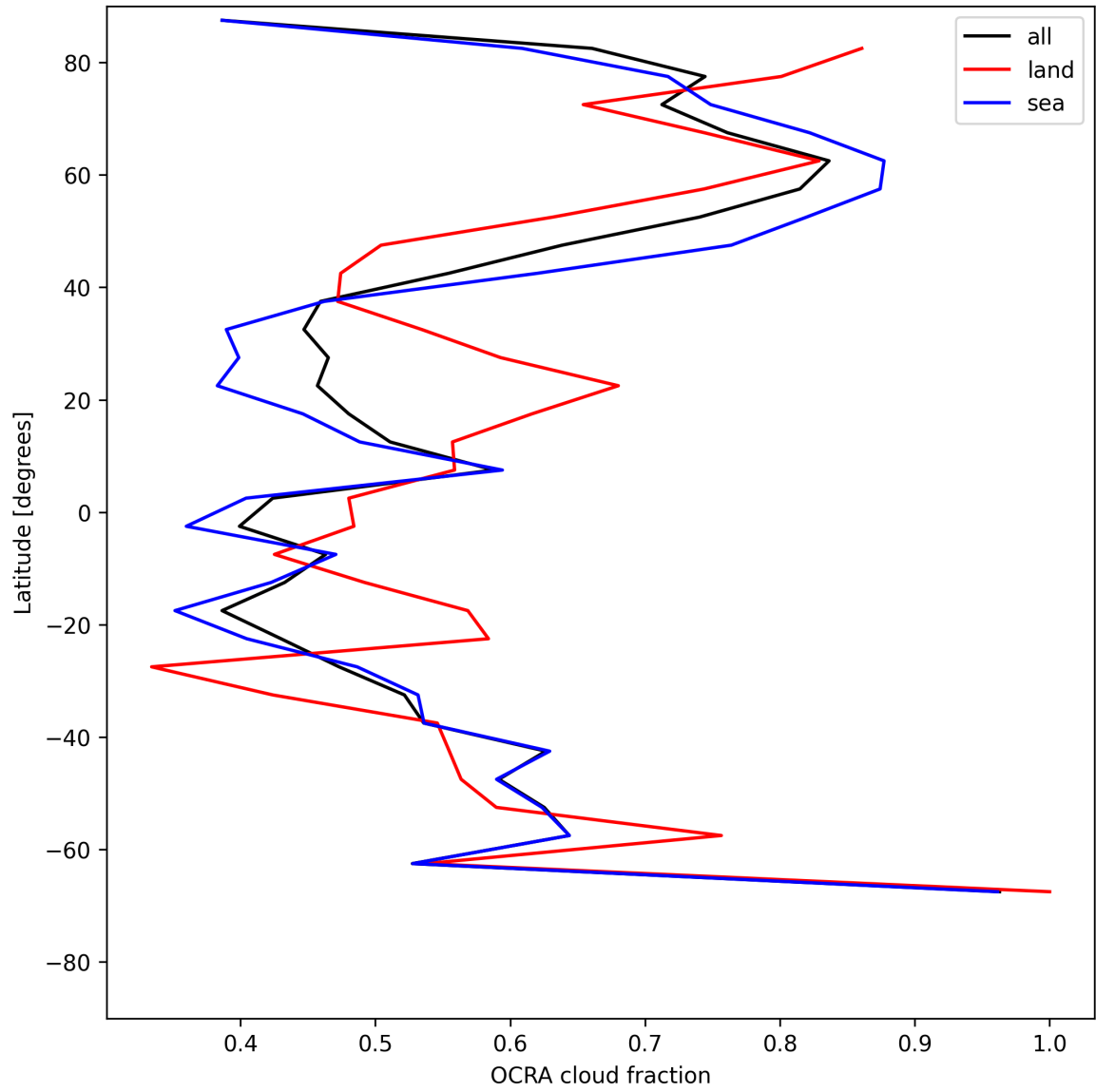


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-06-23 to 2025-06-24.

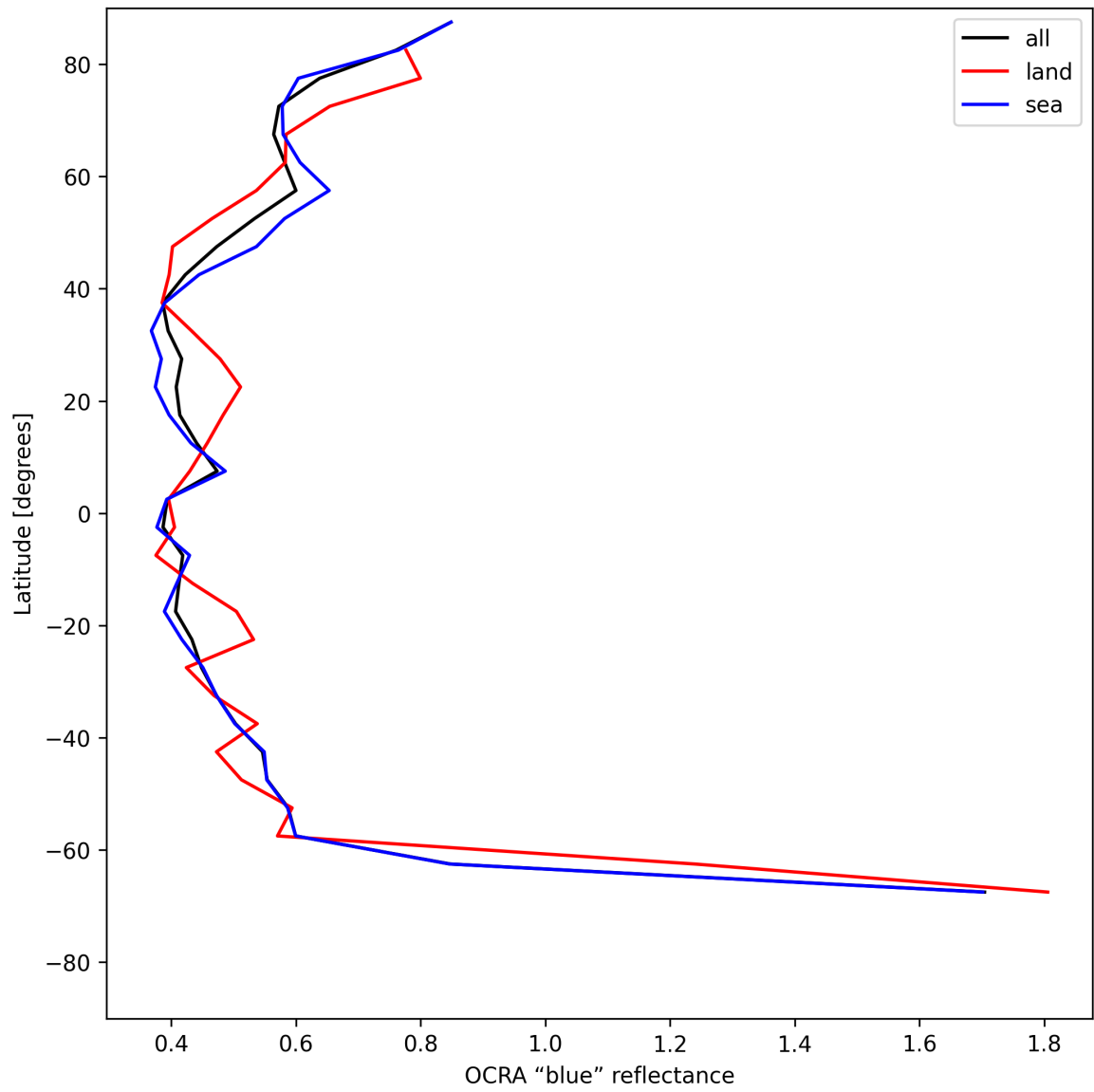


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-06-23 to 2025-06-24.

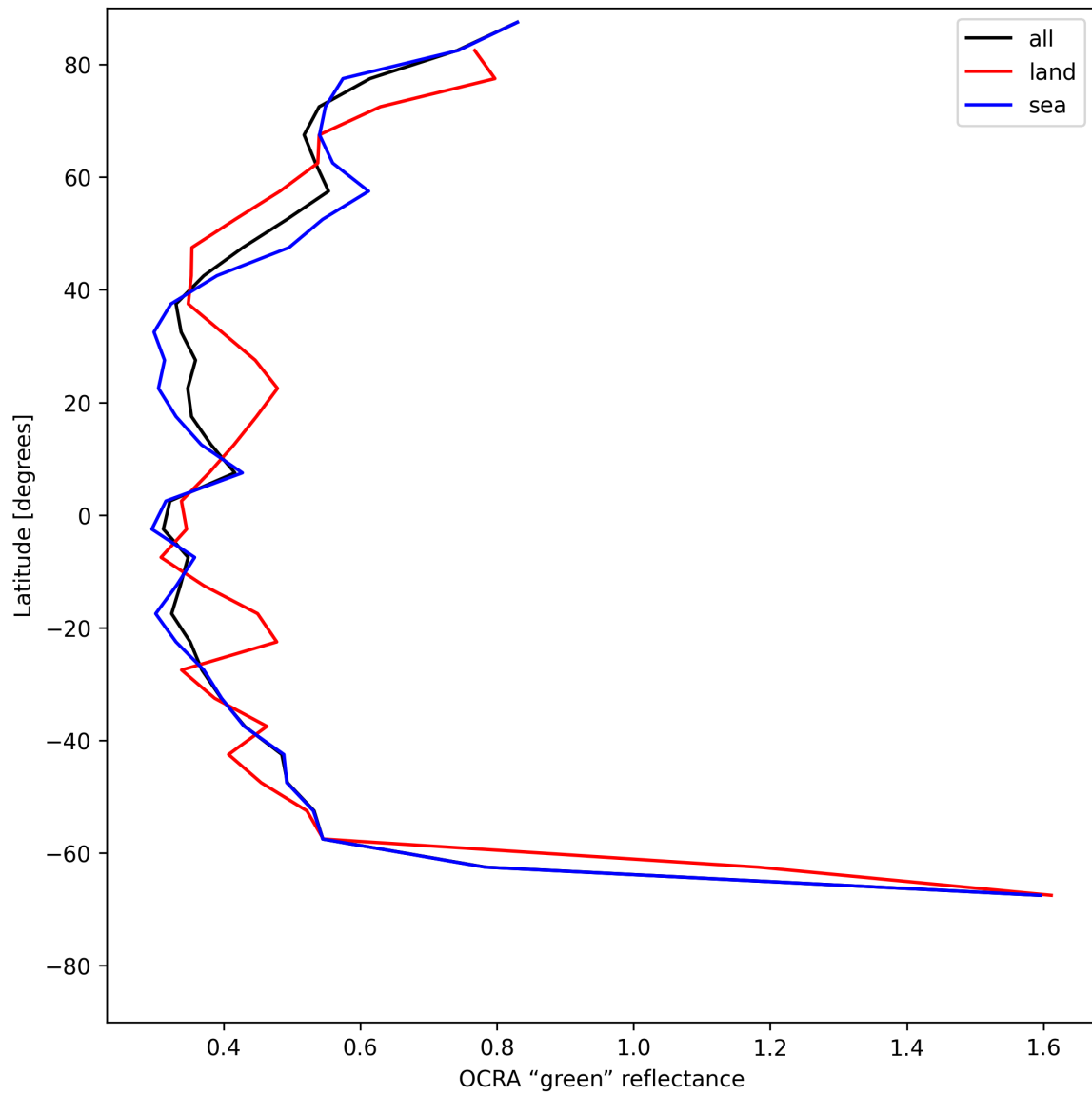


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-06-23 to 2025-06-24.

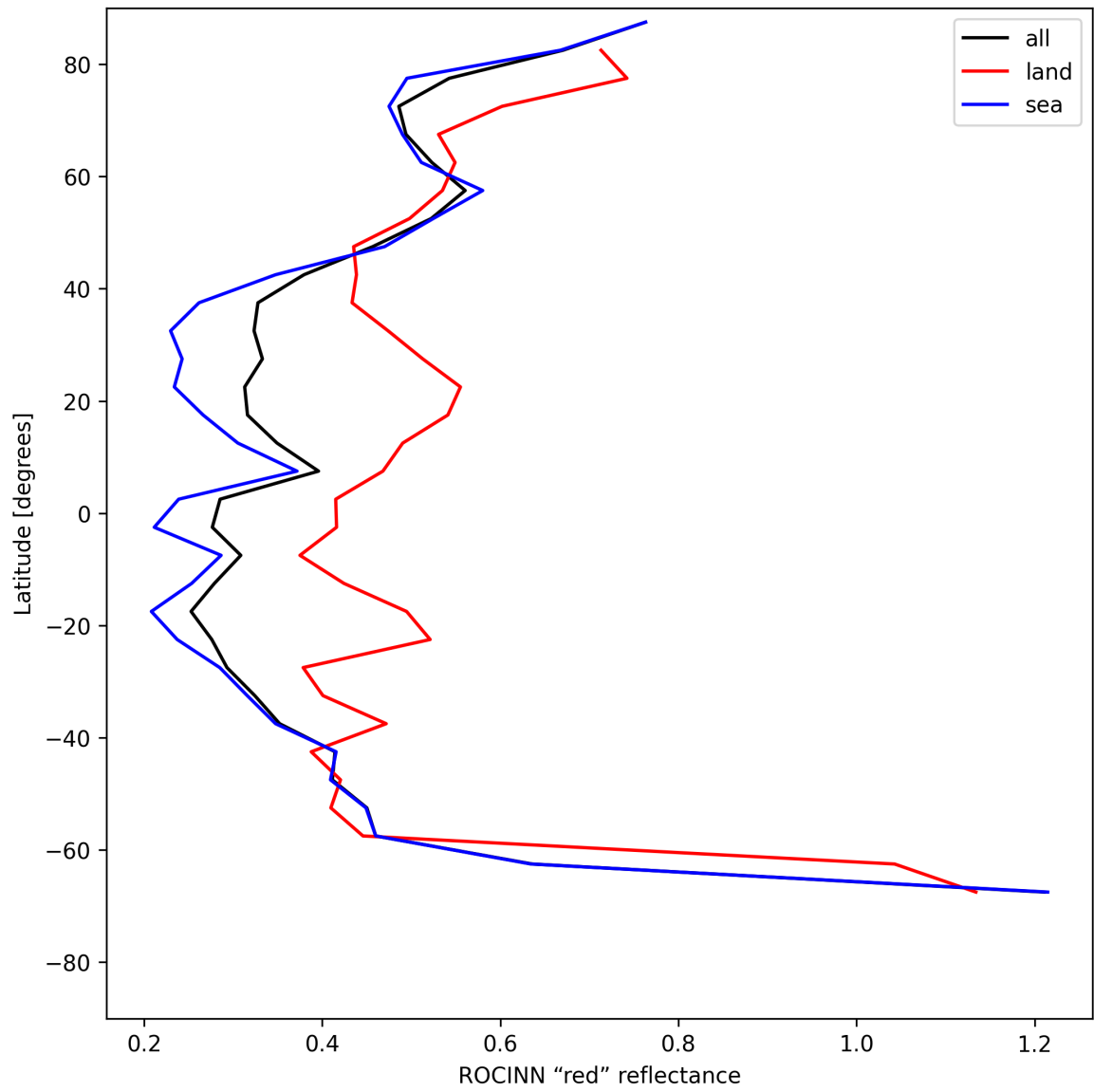


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-06-23 to 2025-06-24.

8 Histograms

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

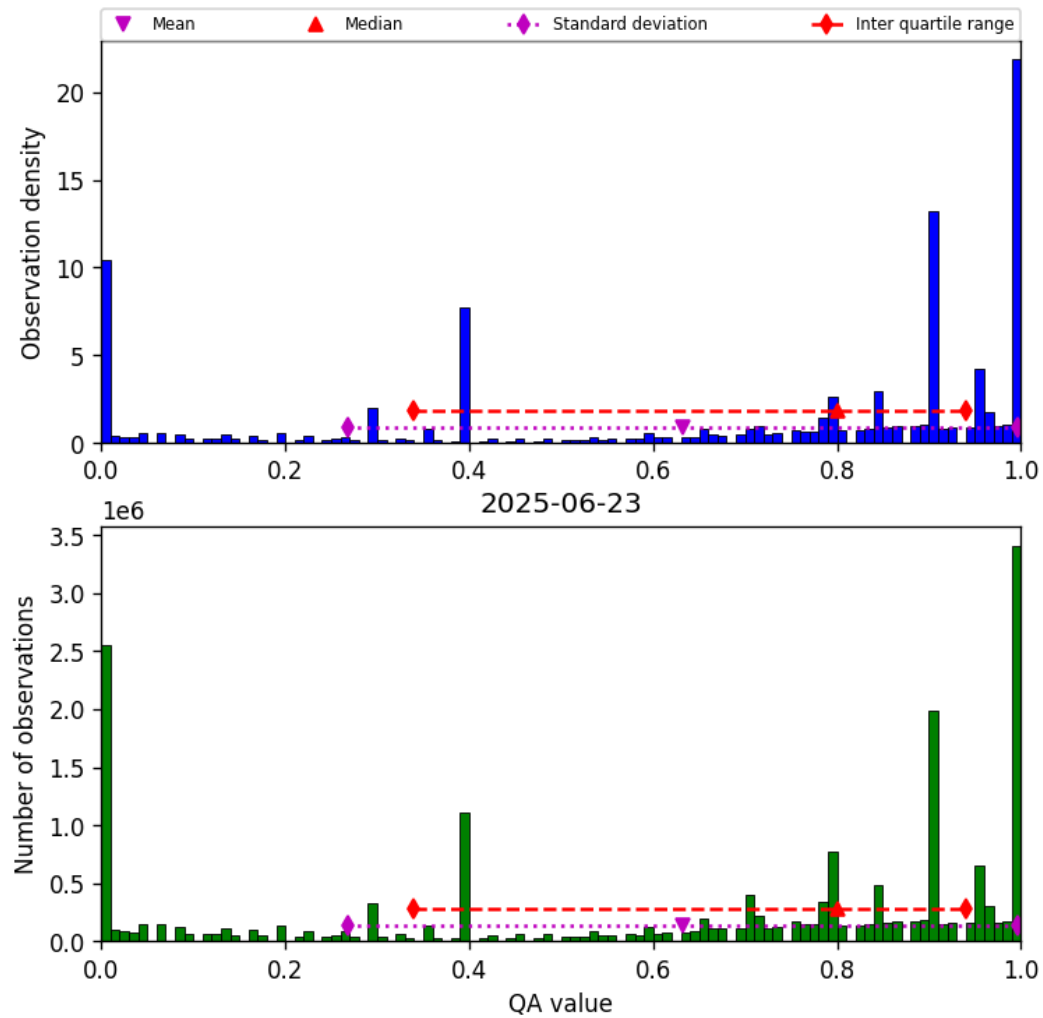


Figure 36: Histogram of “QA value” for 2025-06-23 to 2025-06-24

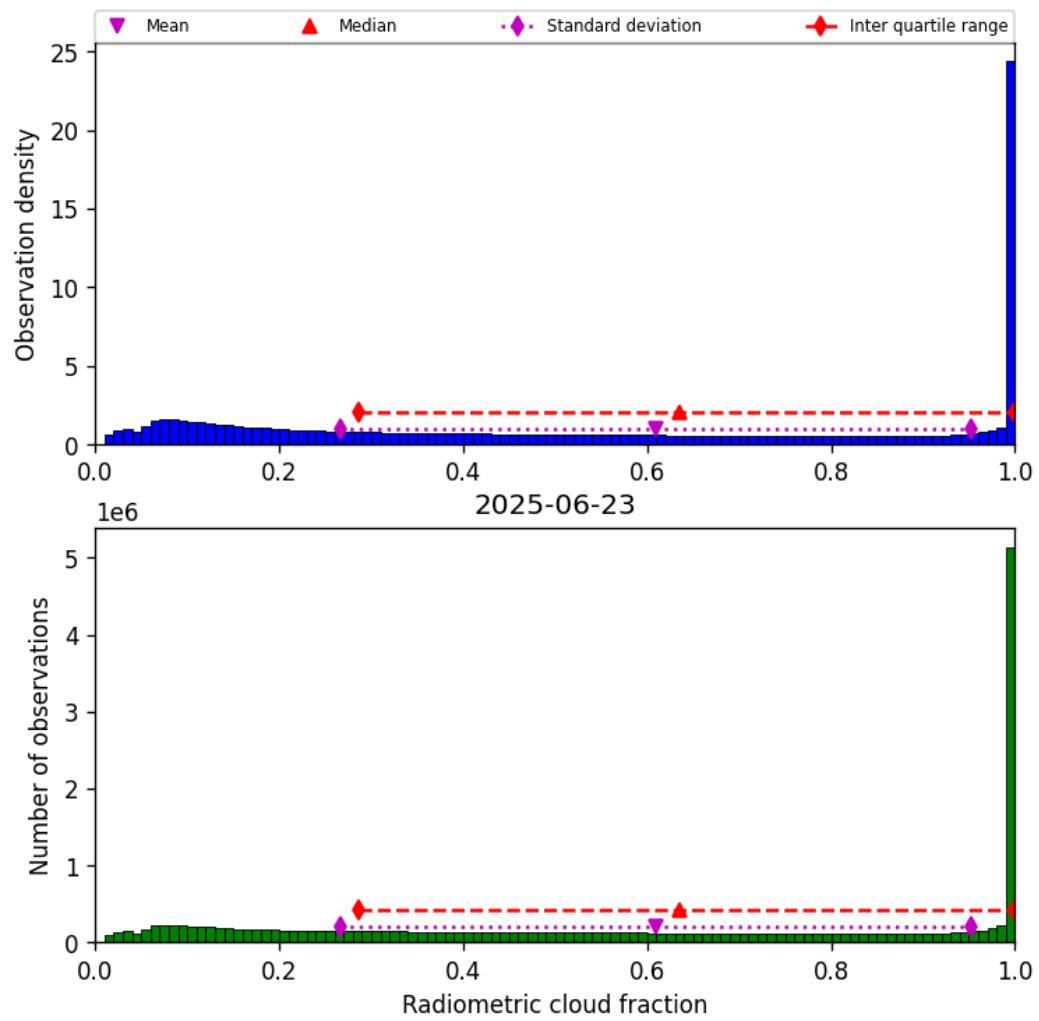


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-06-23 to 2025-06-24

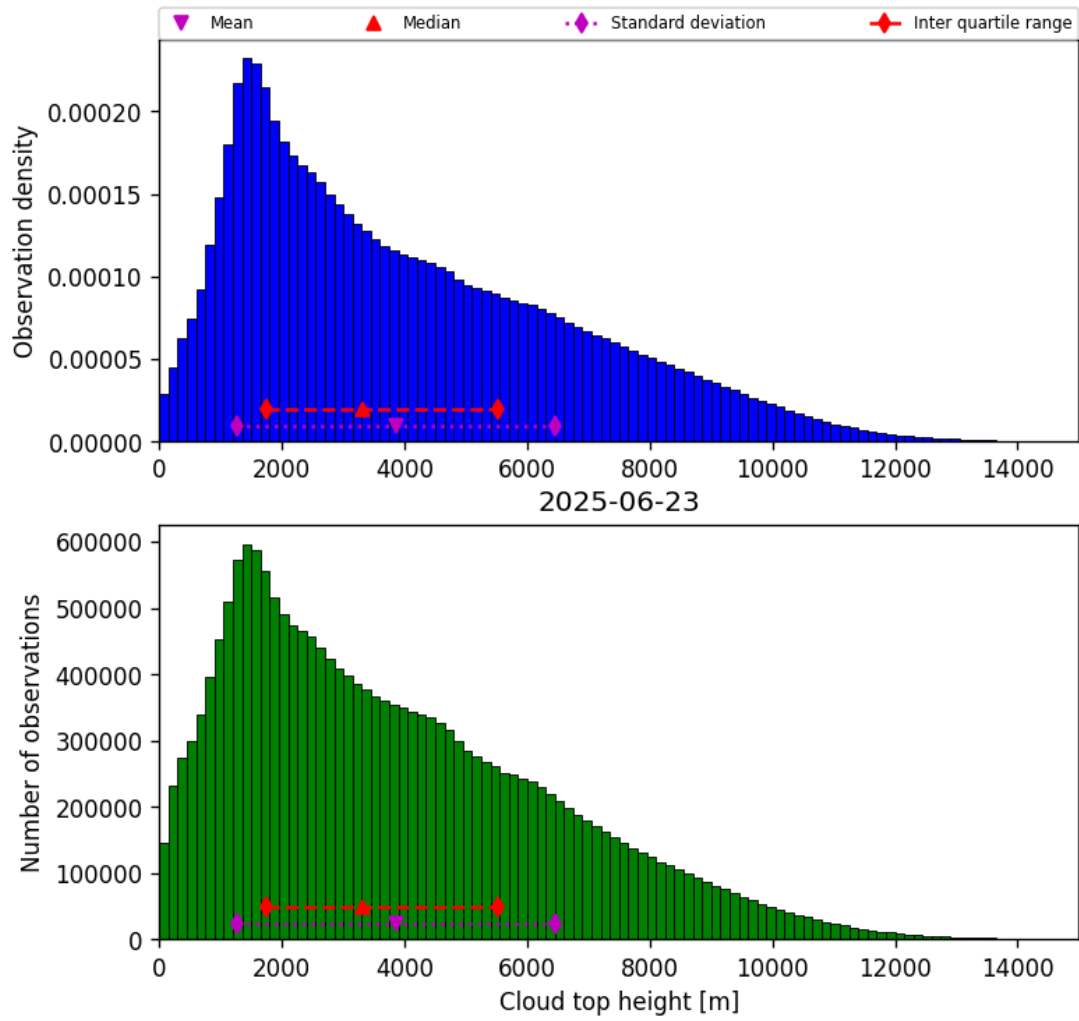


Figure 38: Histogram of “Cloud top height” for 2025-06-23 to 2025-06-24

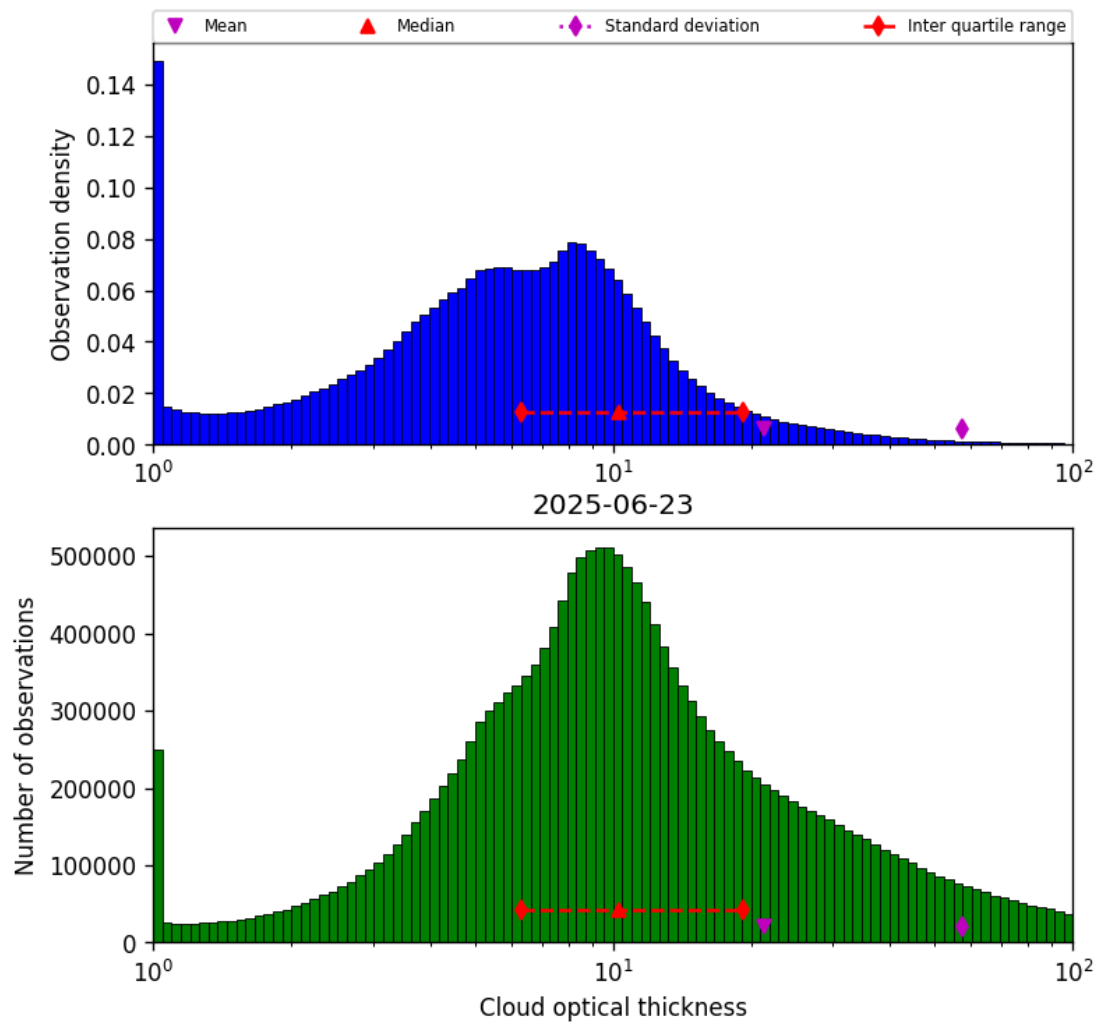


Figure 39: Histogram of “Cloud optical thickness” for 2025-06-23 to 2025-06-24

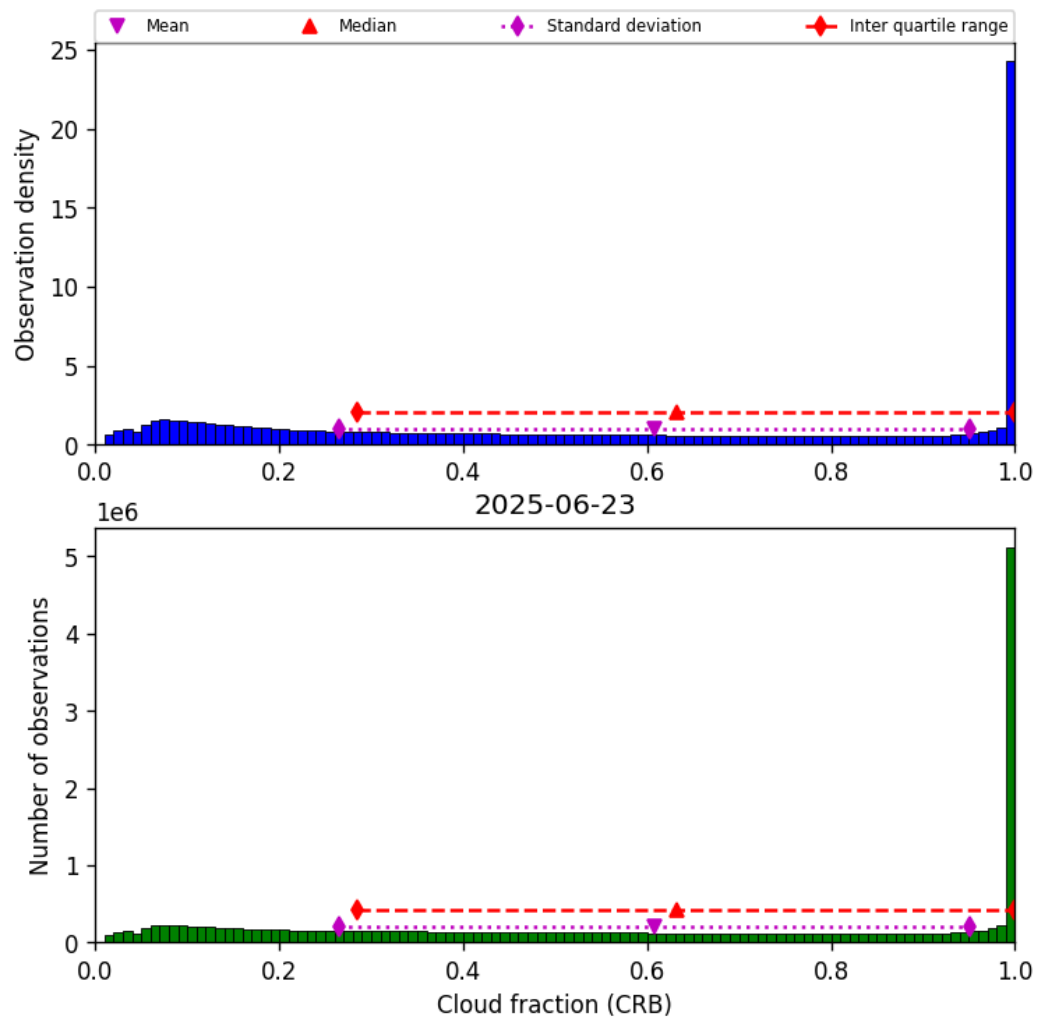


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-06-23 to 2025-06-24

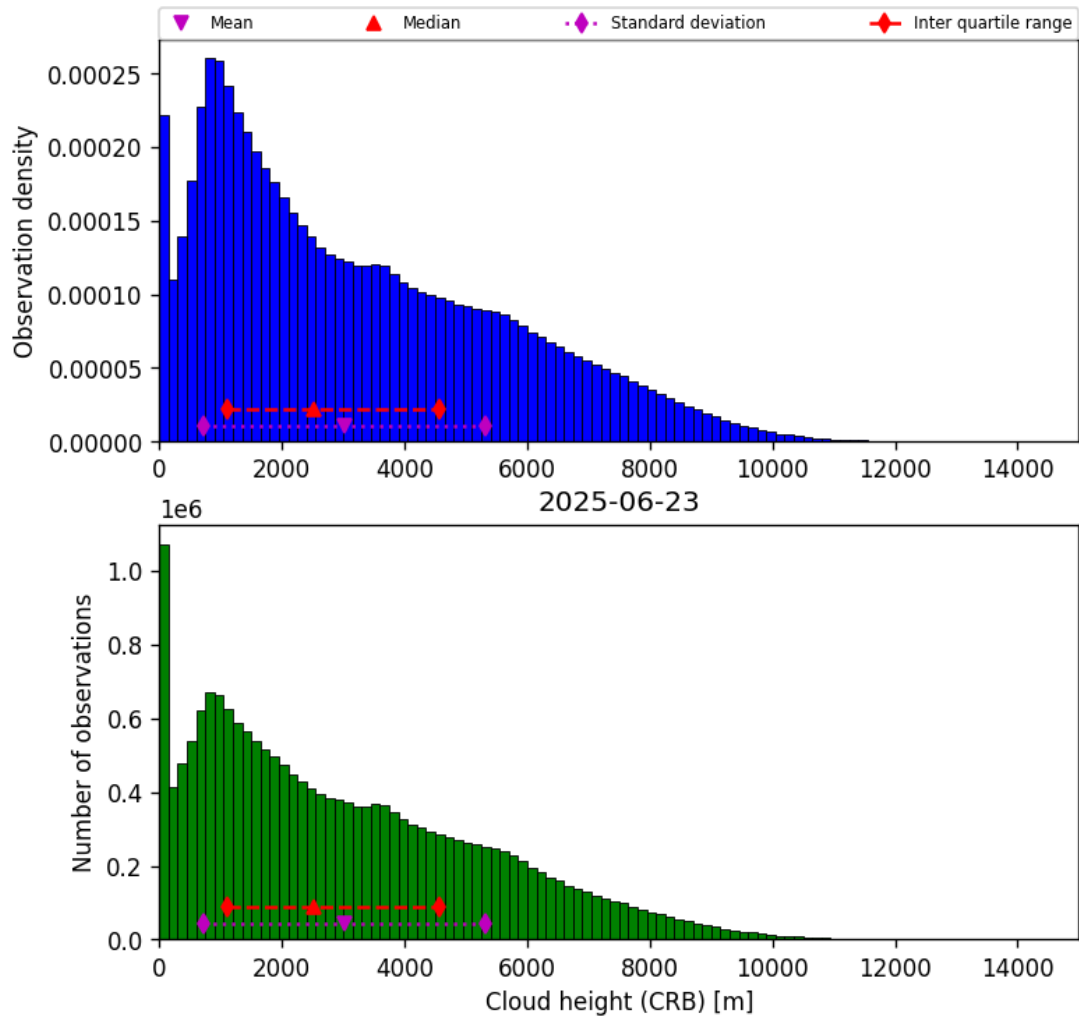


Figure 41: Histogram of “Cloud height (CRB)” for 2025-06-23 to 2025-06-24

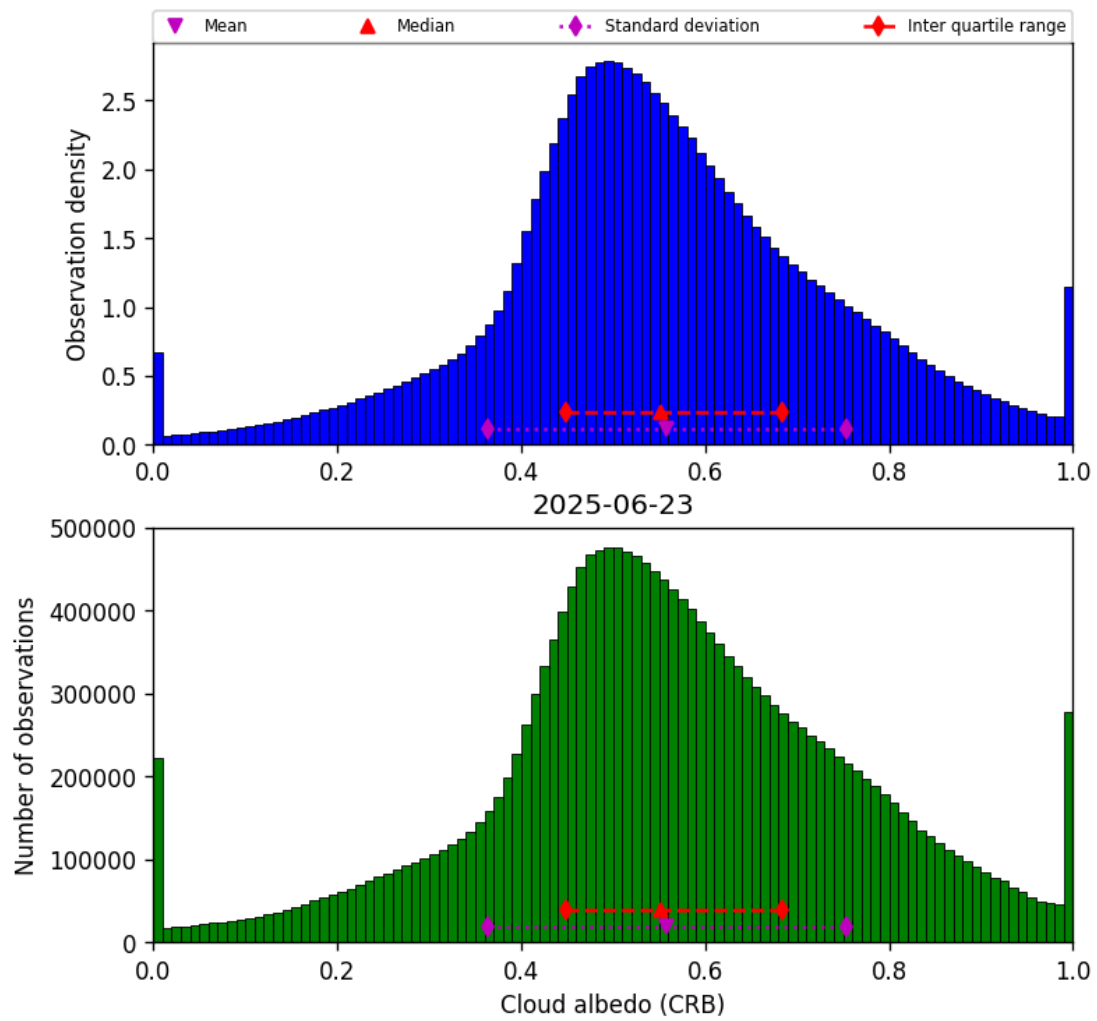


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-06-23 to 2025-06-24

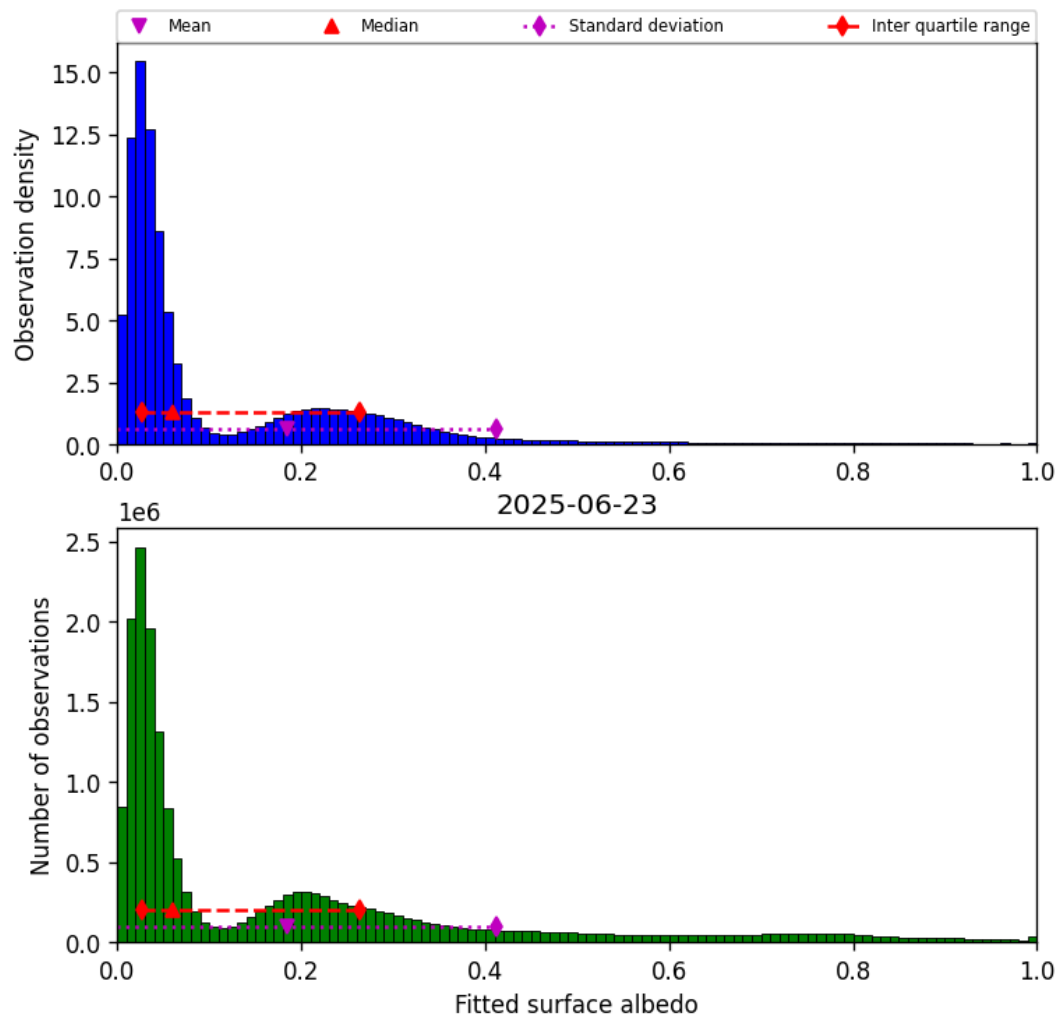


Figure 43: Histogram of “Fitted surface albedo” for 2025-06-23 to 2025-06-24

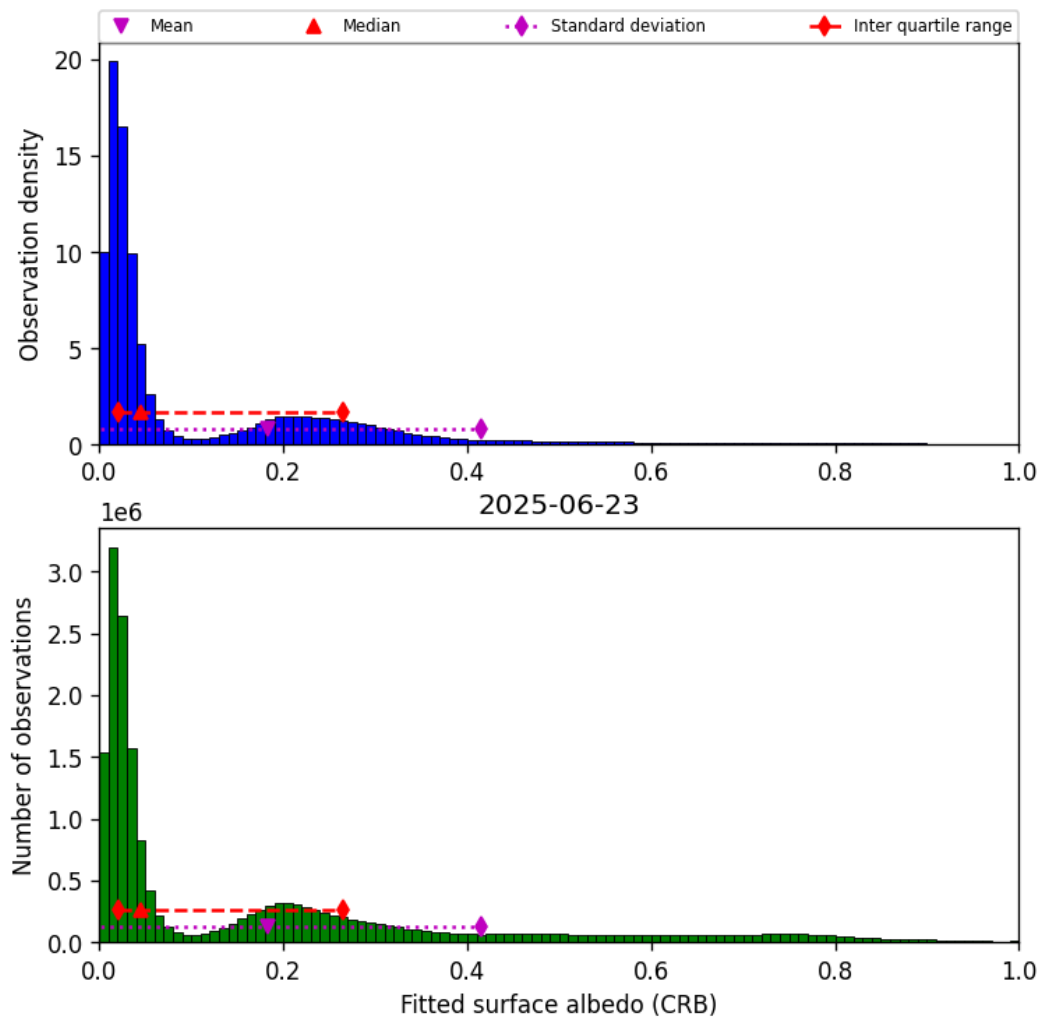


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-06-23 to 2025-06-24

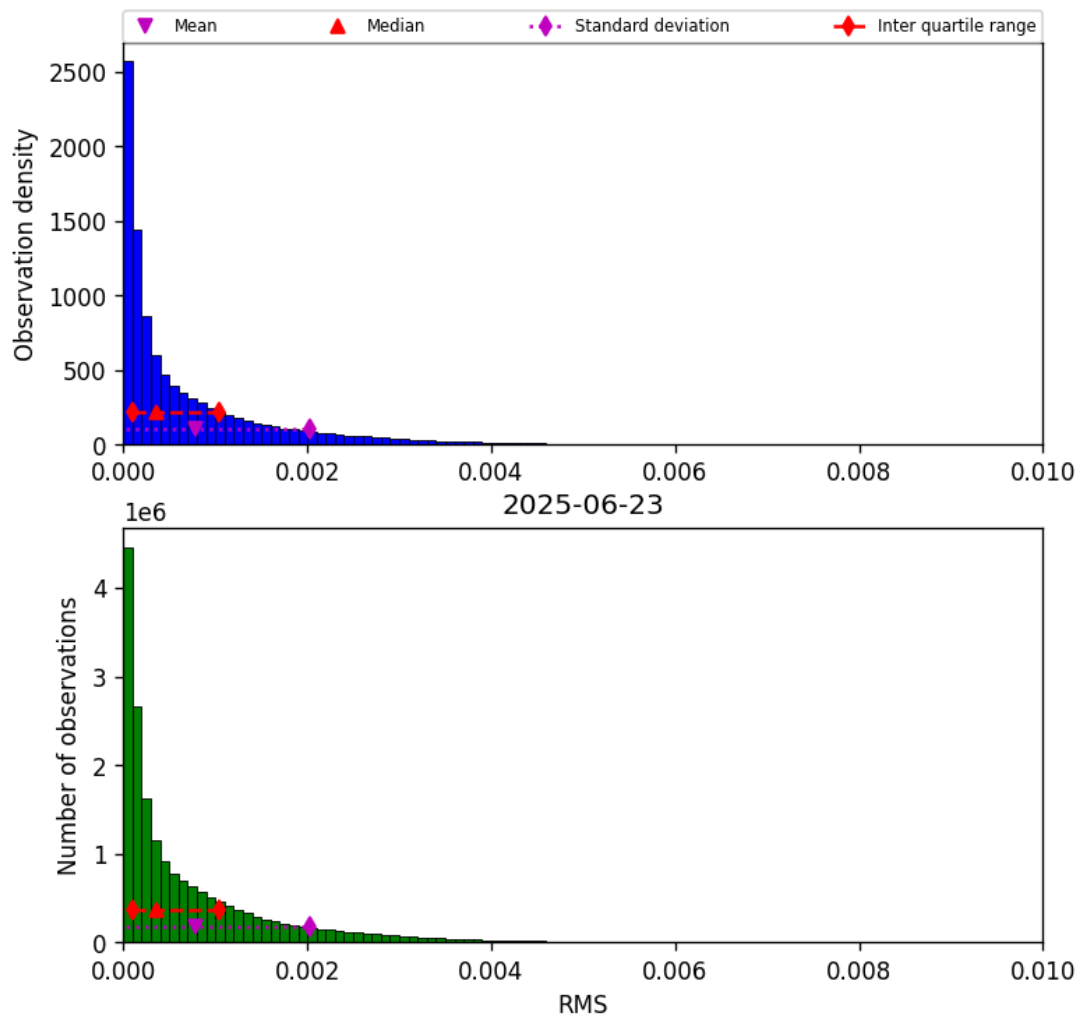


Figure 45: Histogram of “RMS” for 2025-06-23 to 2025-06-24

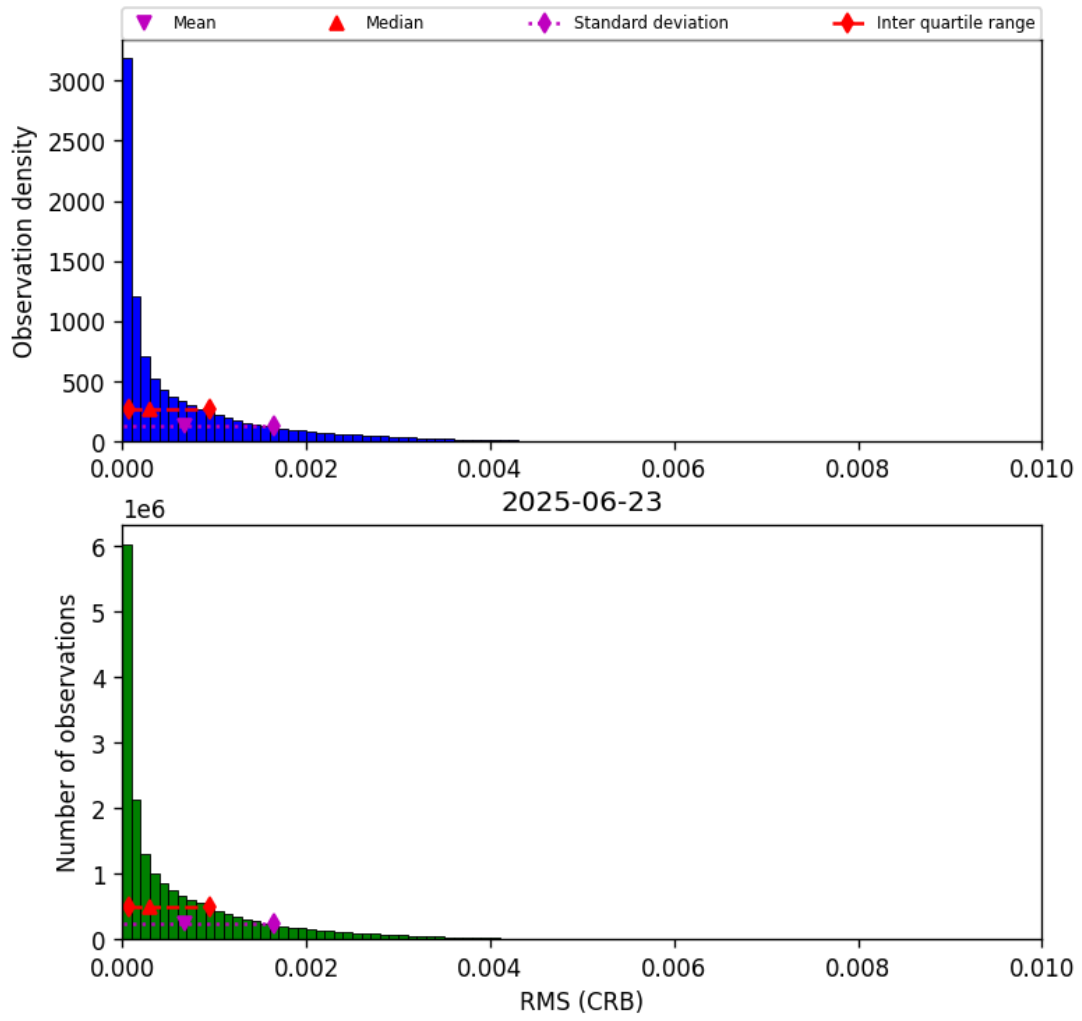


Figure 46: Histogram of “RMS (CRB)” for 2025-06-23 to 2025-06-24

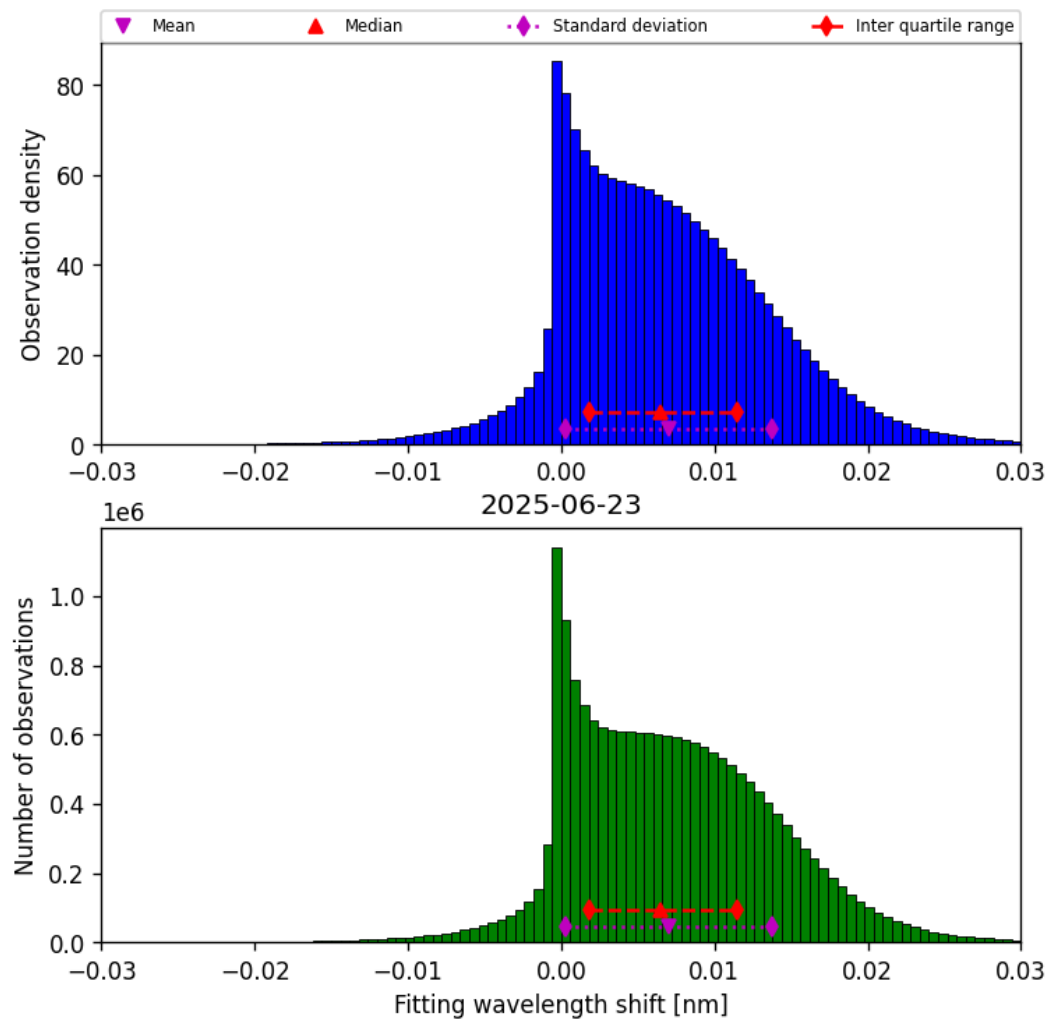


Figure 47: Histogram of “Fitting wavelength shift” for 2025-06-23 to 2025-06-24

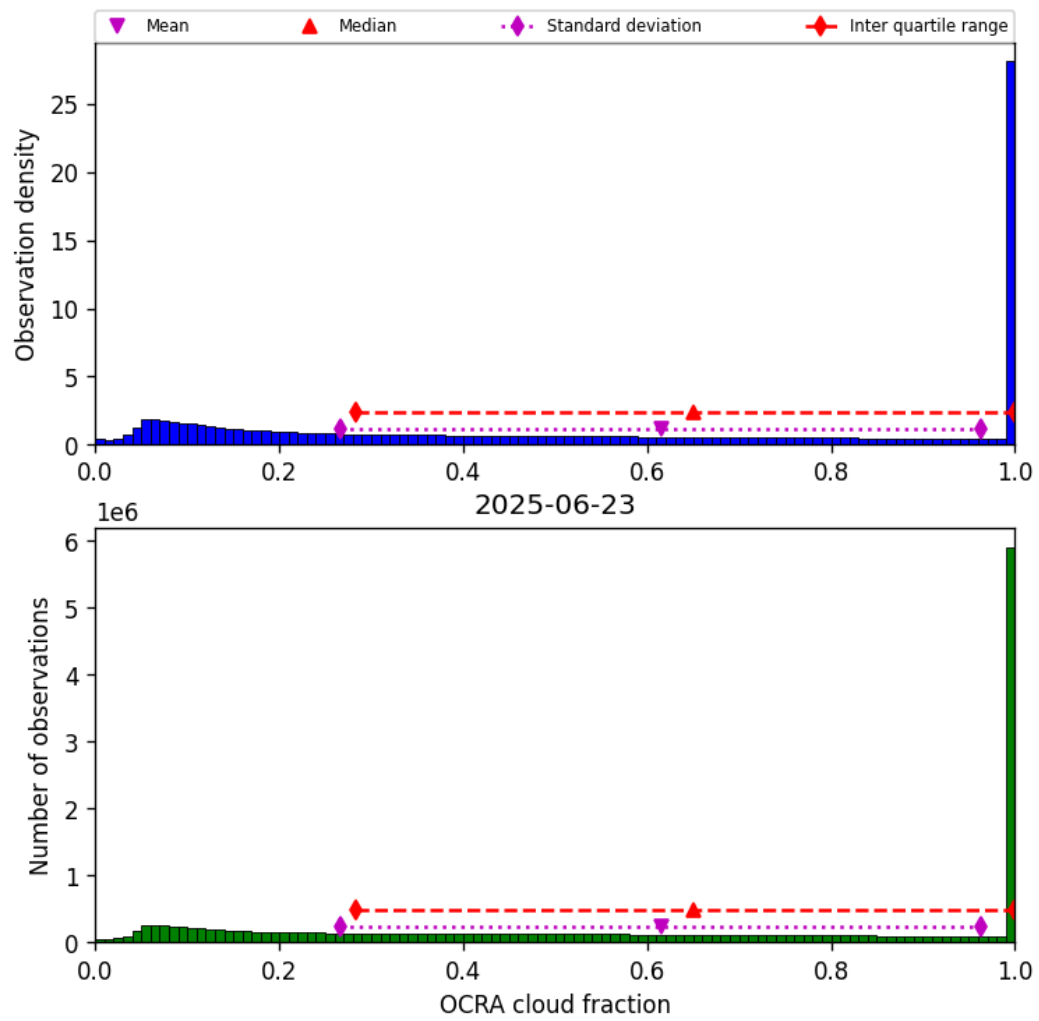


Figure 48: Histogram of “OCRA cloud fraction” for 2025-06-23 to 2025-06-24

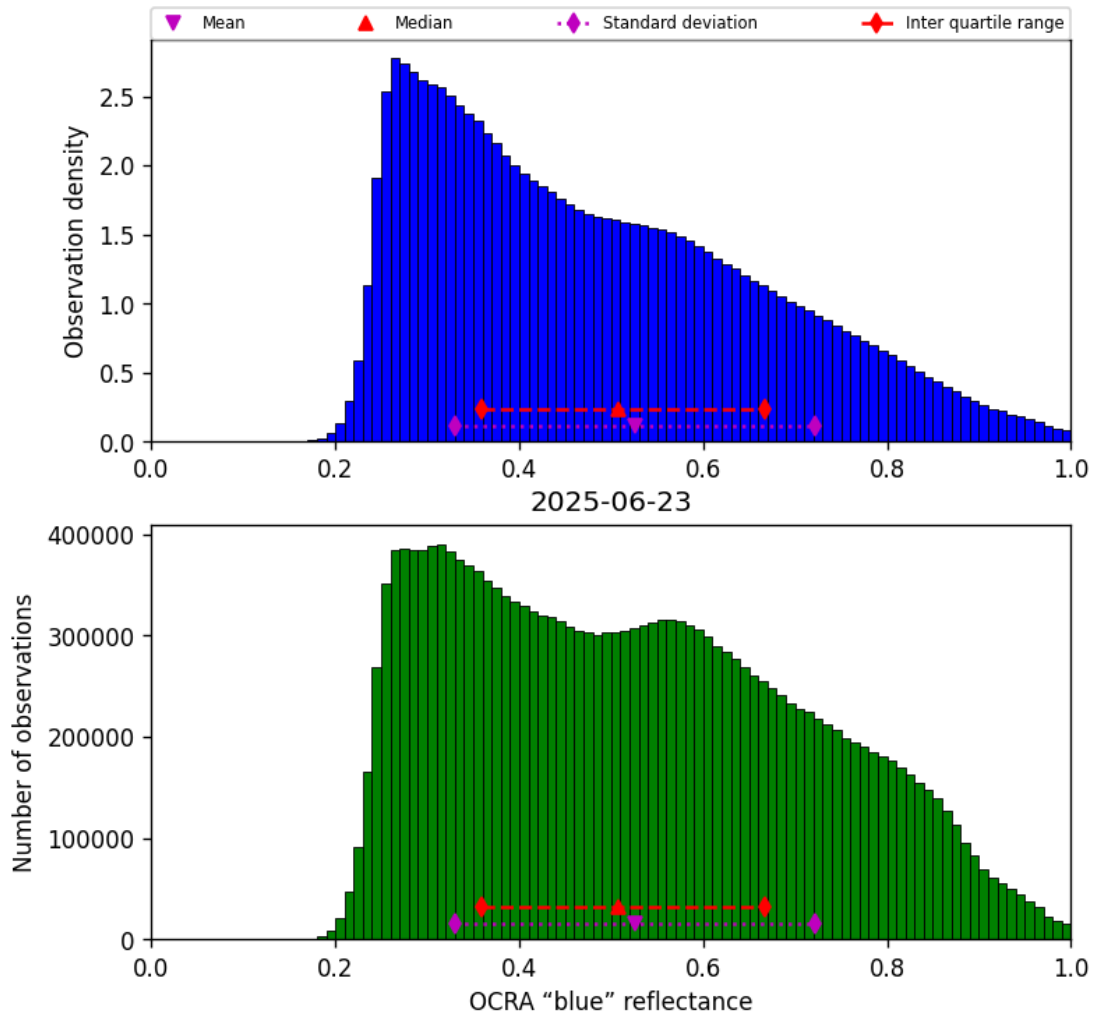


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-06-23 to 2025-06-24

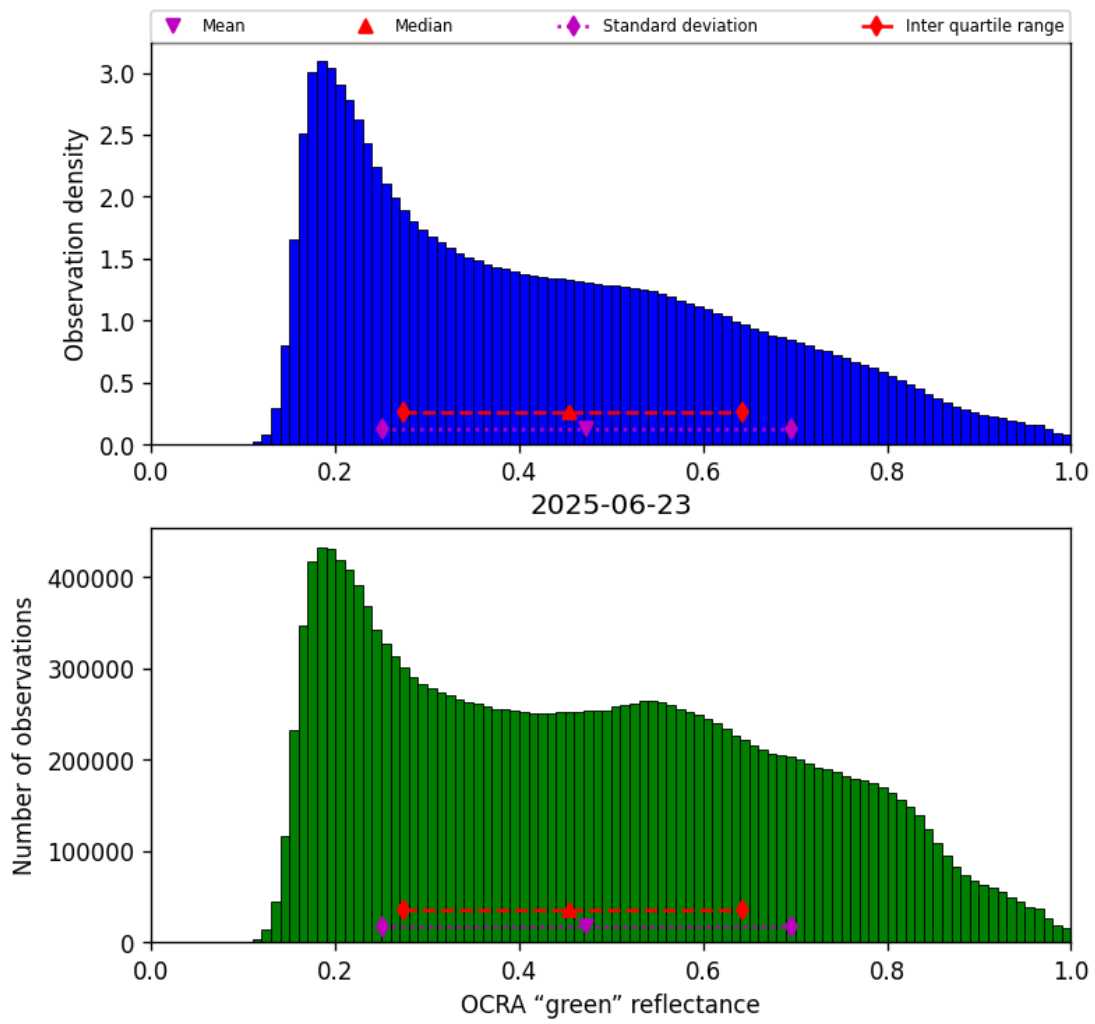


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-06-23 to 2025-06-24

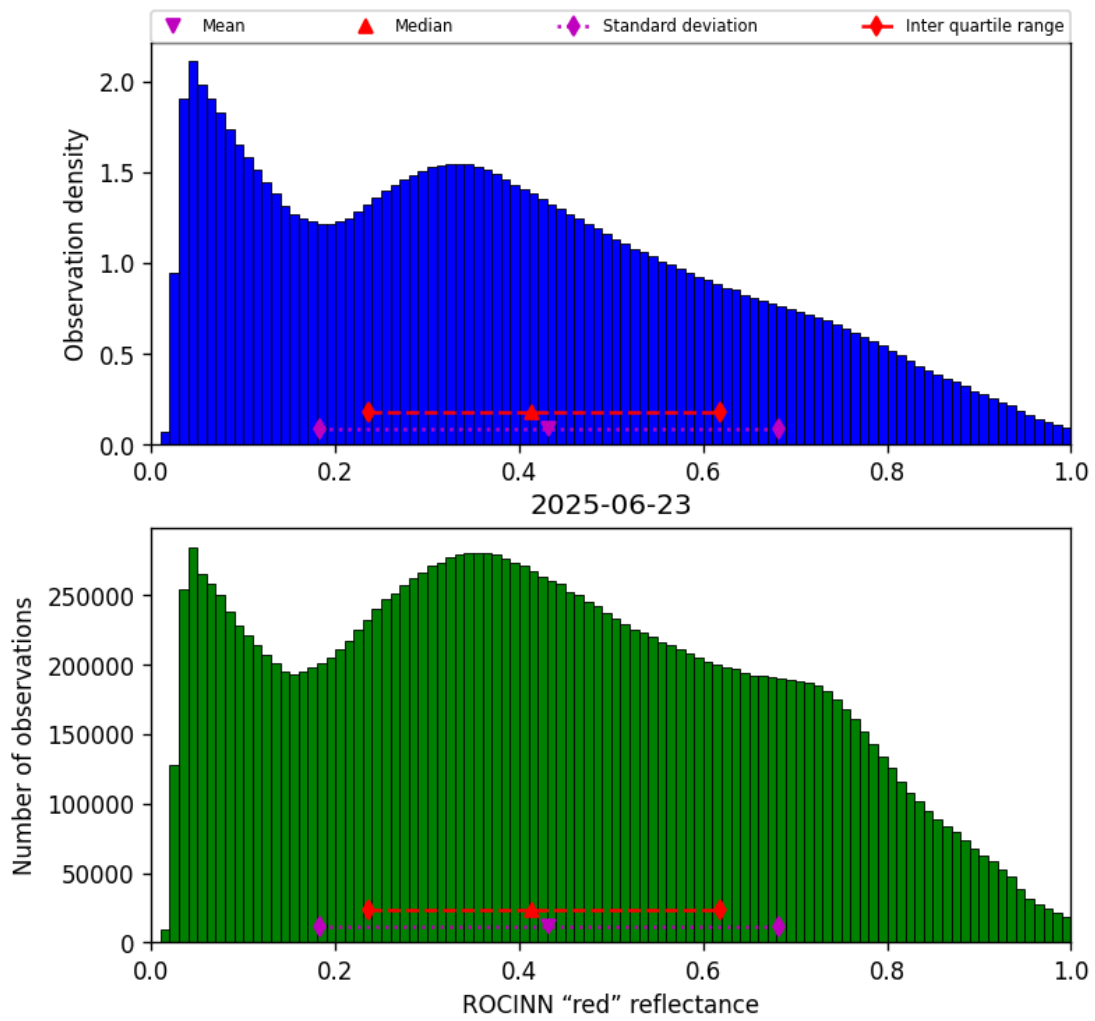


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-06-23 to 2025-06-24

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.

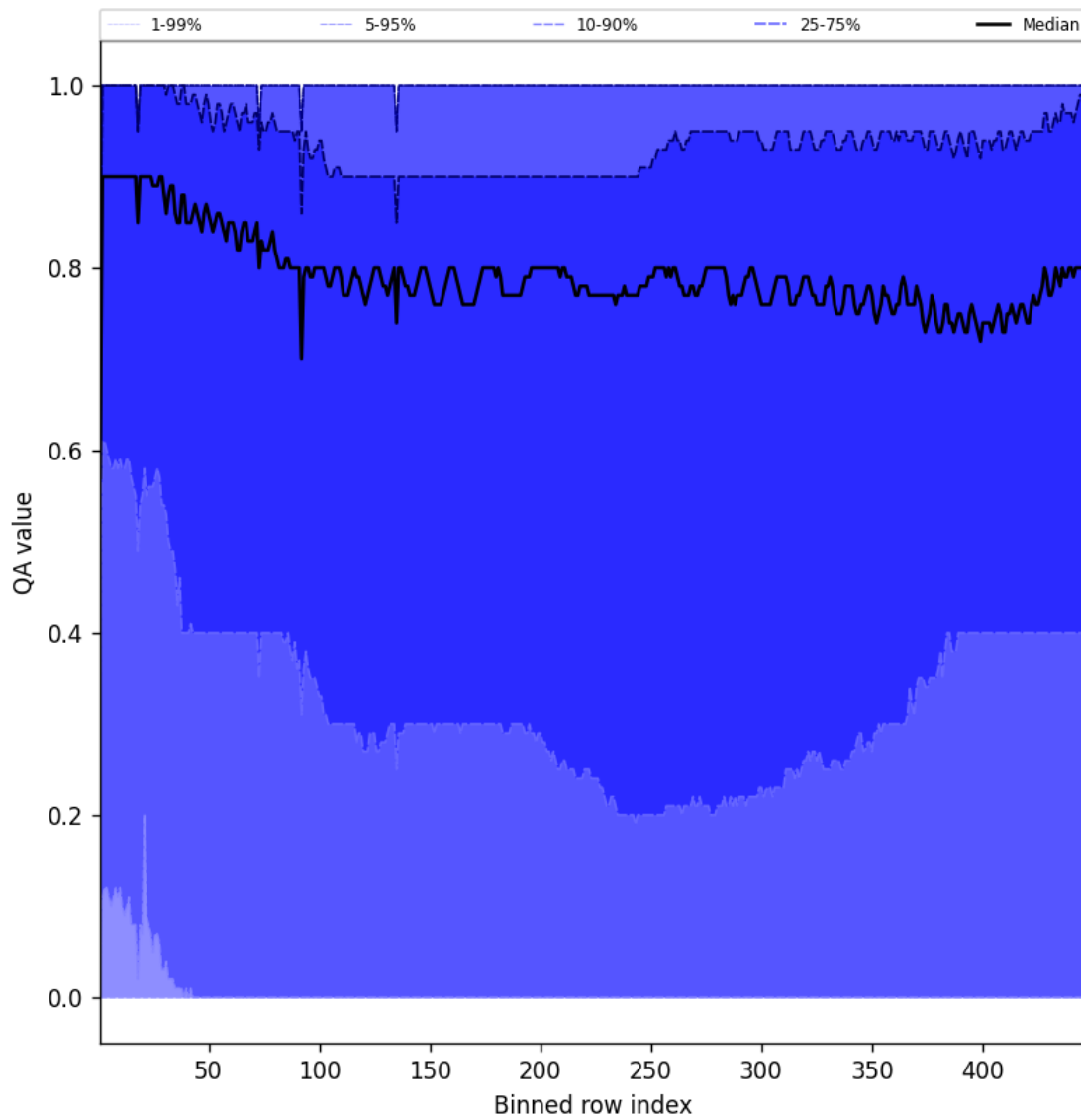


Figure 52: Along track statistics of “QA value” for 2025-06-23 to 2025-06-24

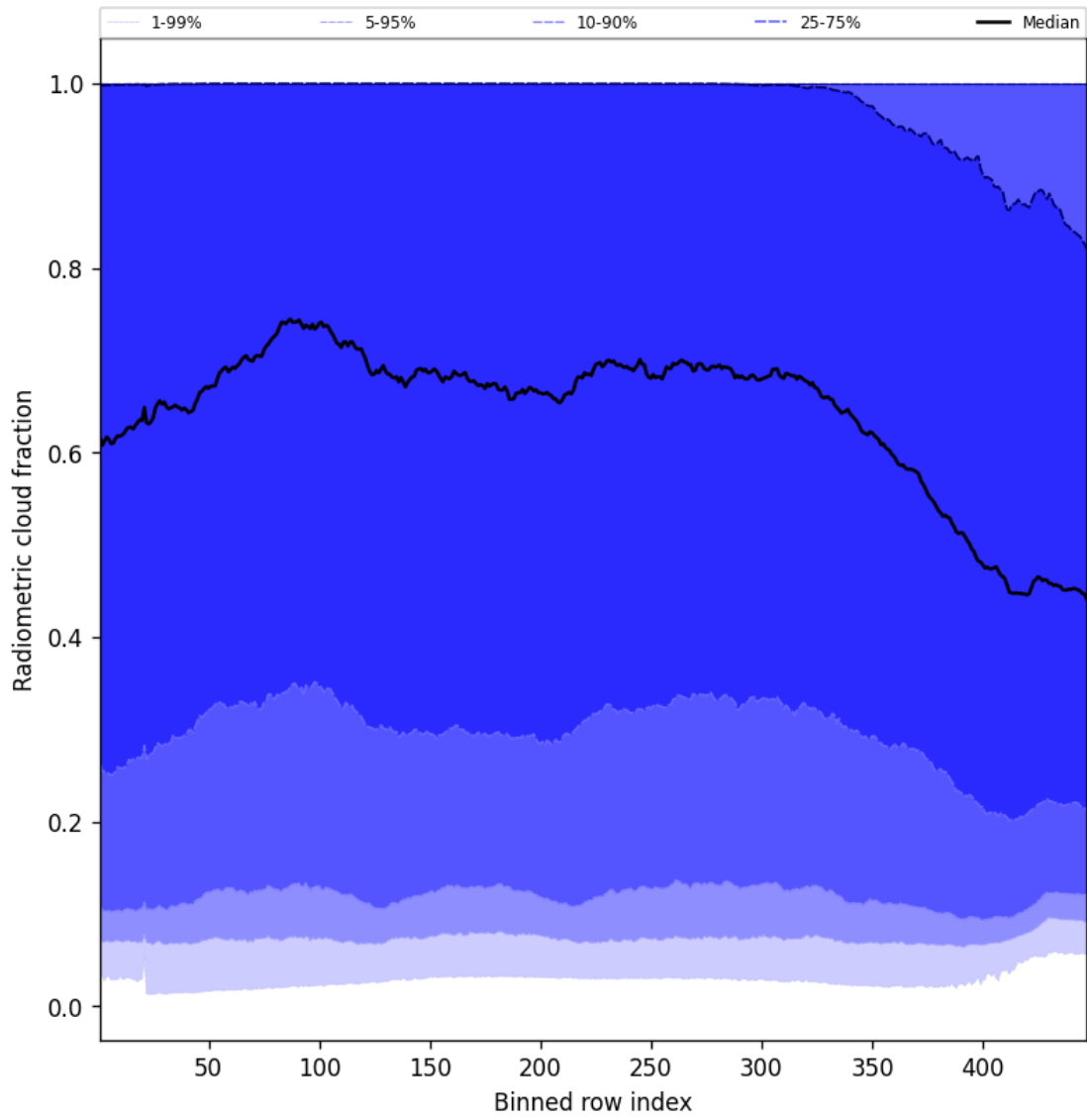


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-06-23 to 2025-06-24

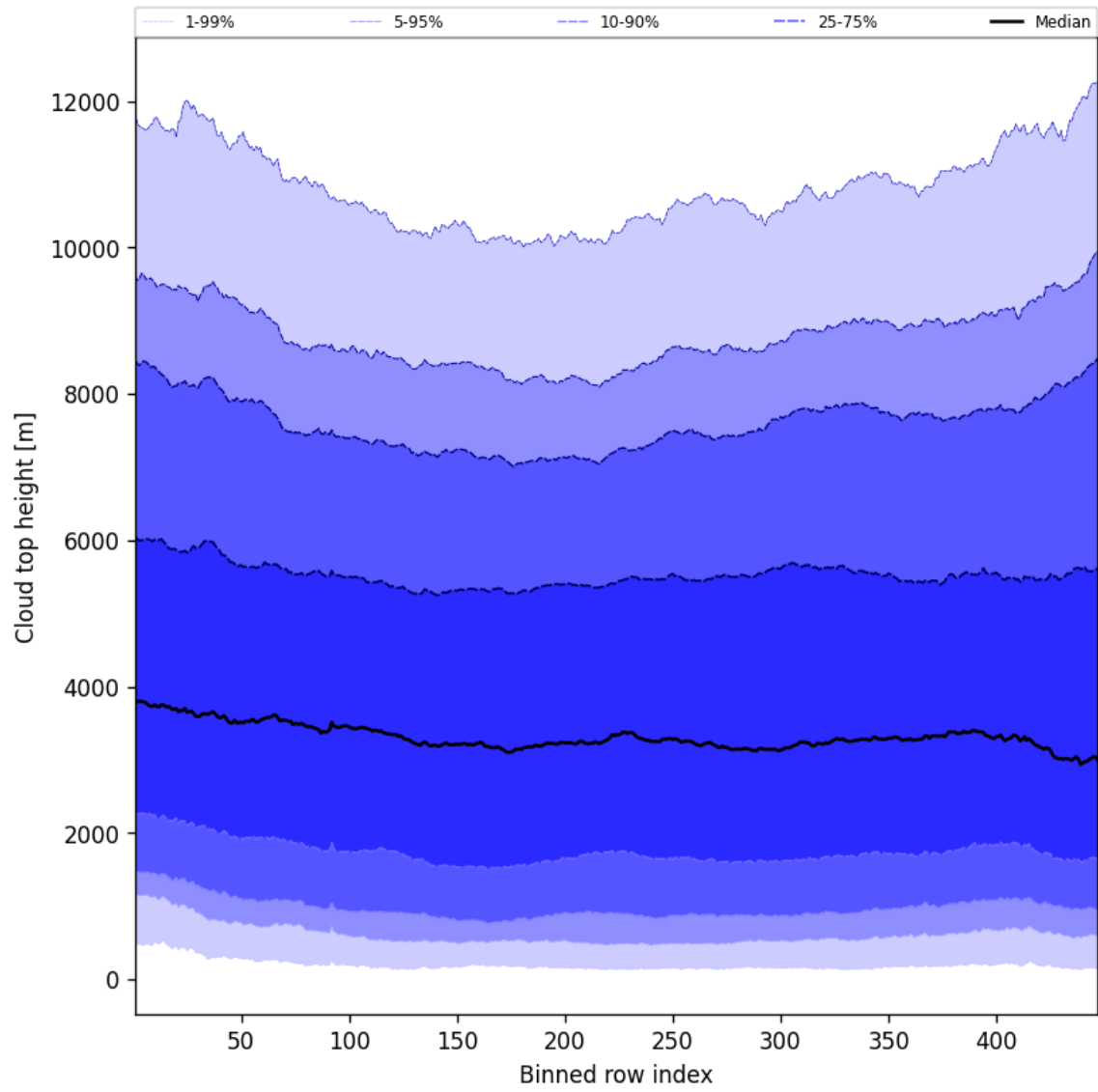


Figure 54: Along track statistics of “Cloud top height” for 2025-06-23 to 2025-06-24

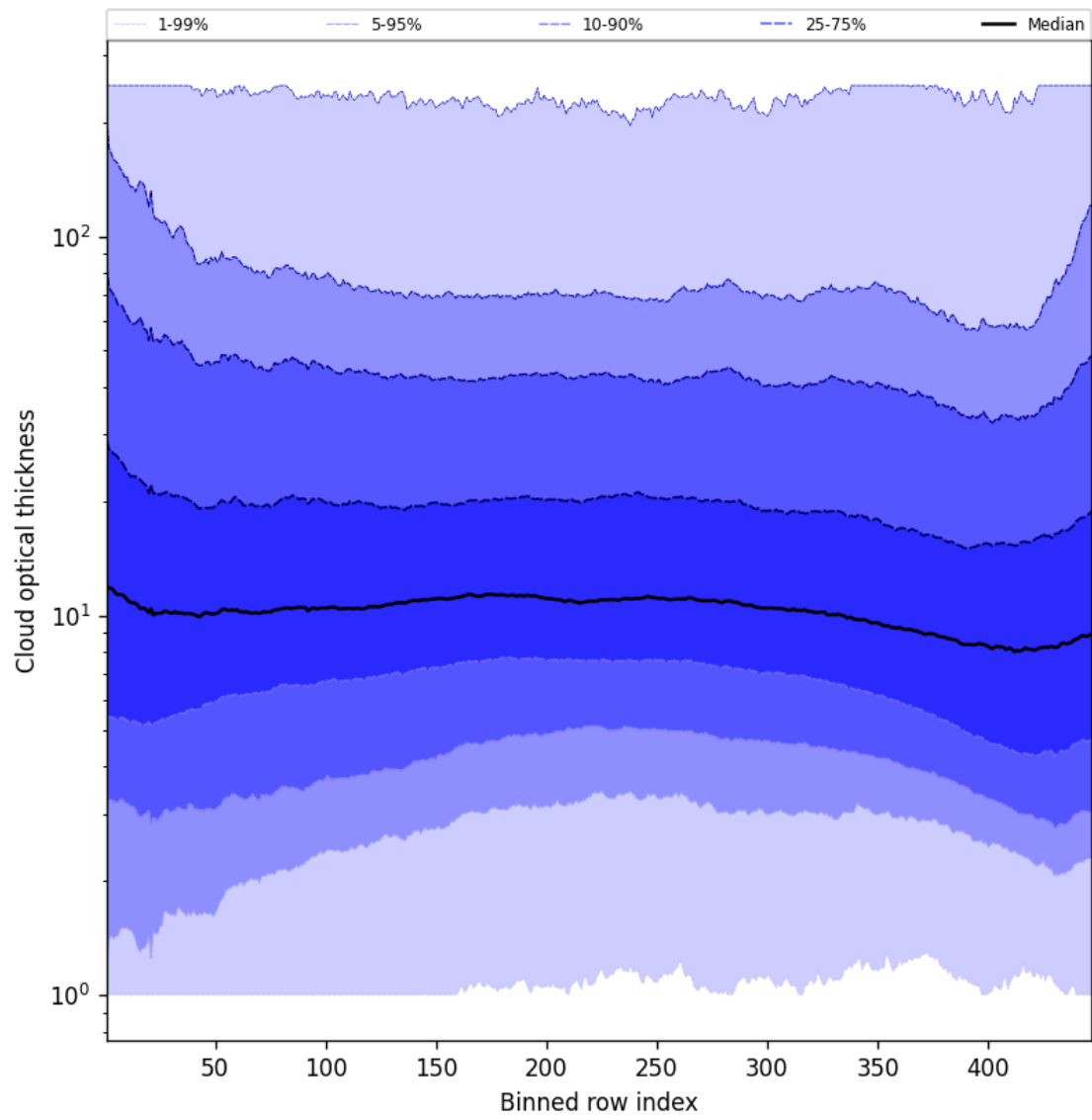


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-06-23 to 2025-06-24

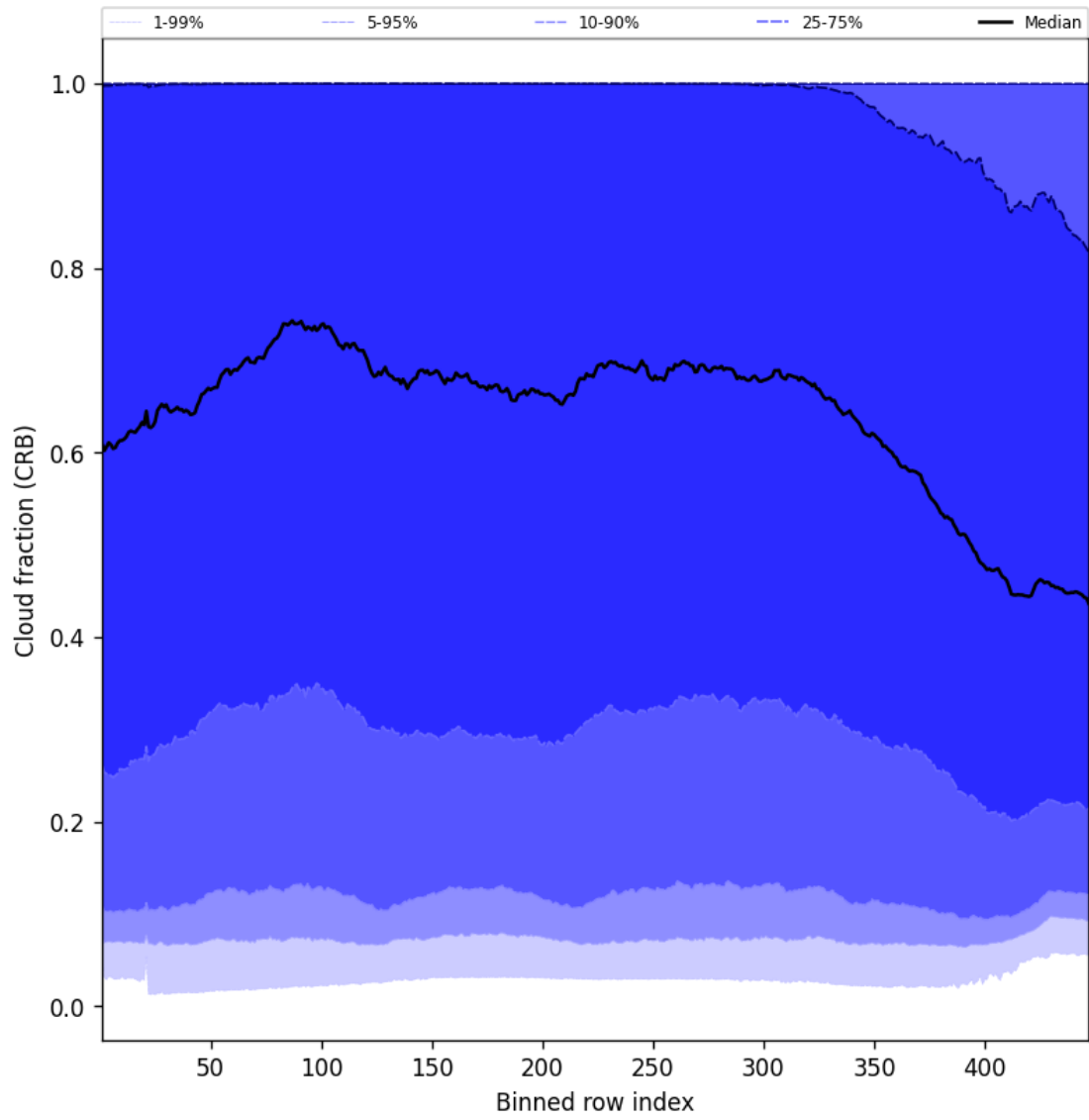


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-06-23 to 2025-06-24

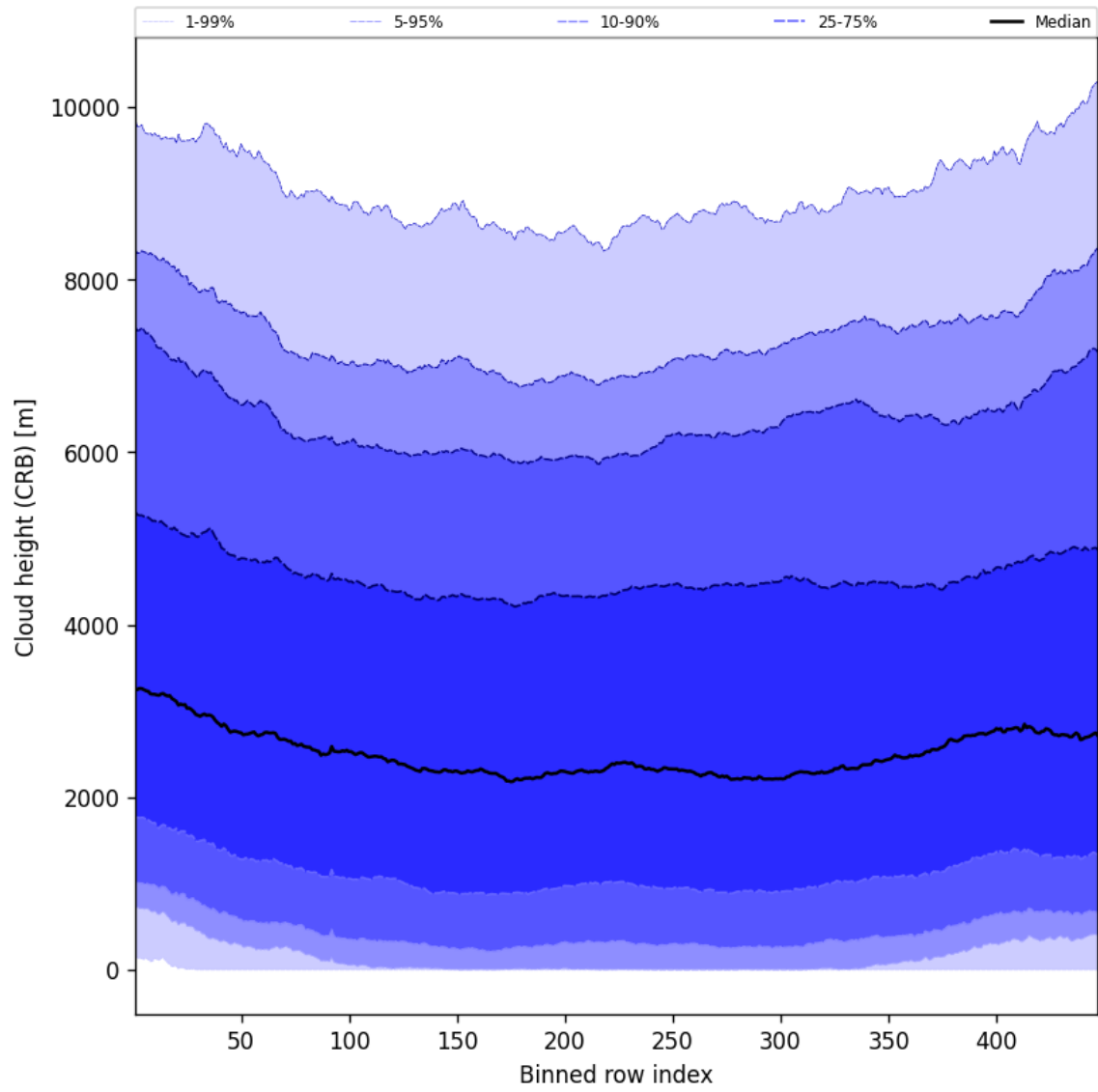


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-06-23 to 2025-06-24

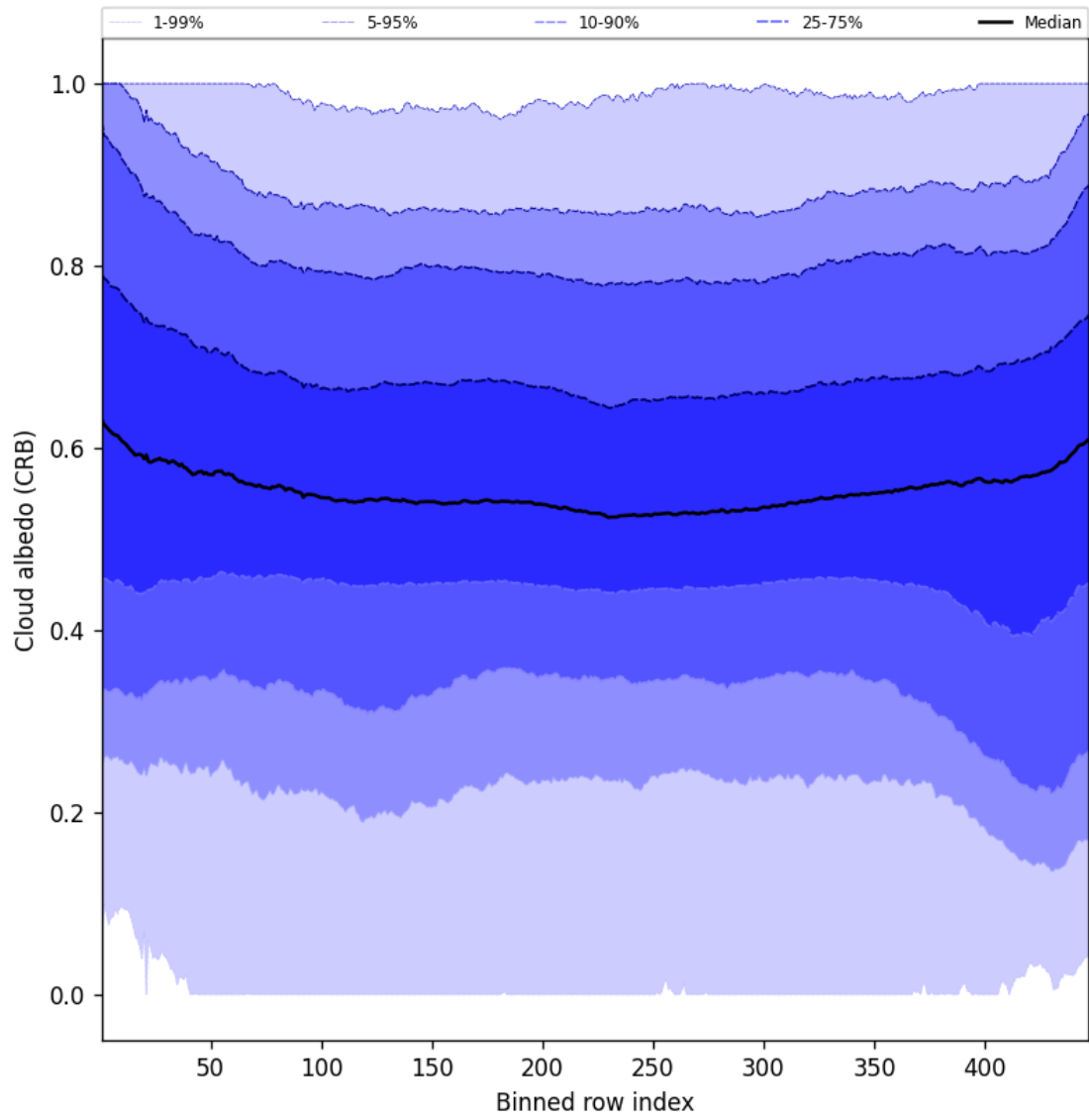


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-06-23 to 2025-06-24

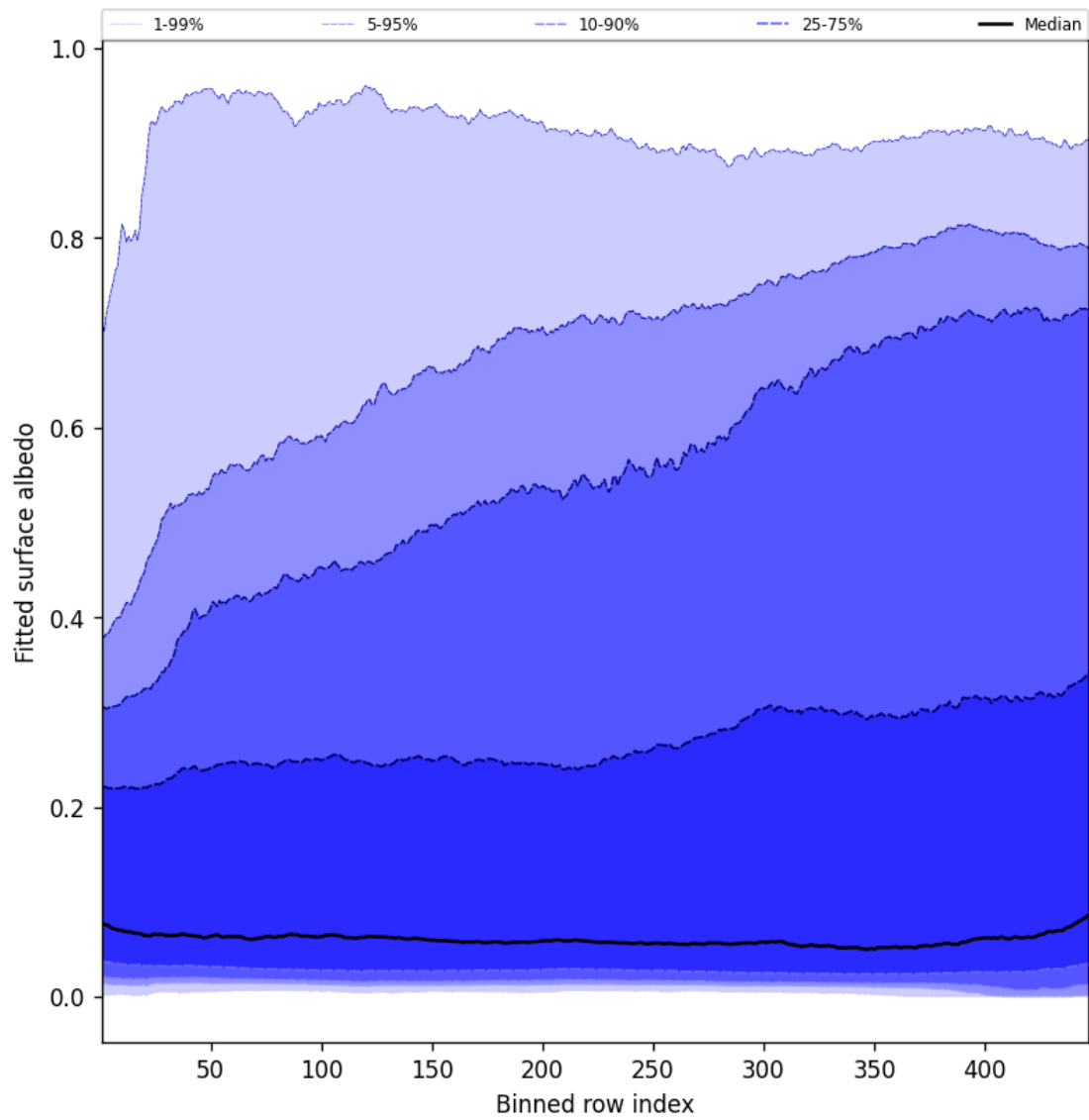


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-06-23 to 2025-06-24

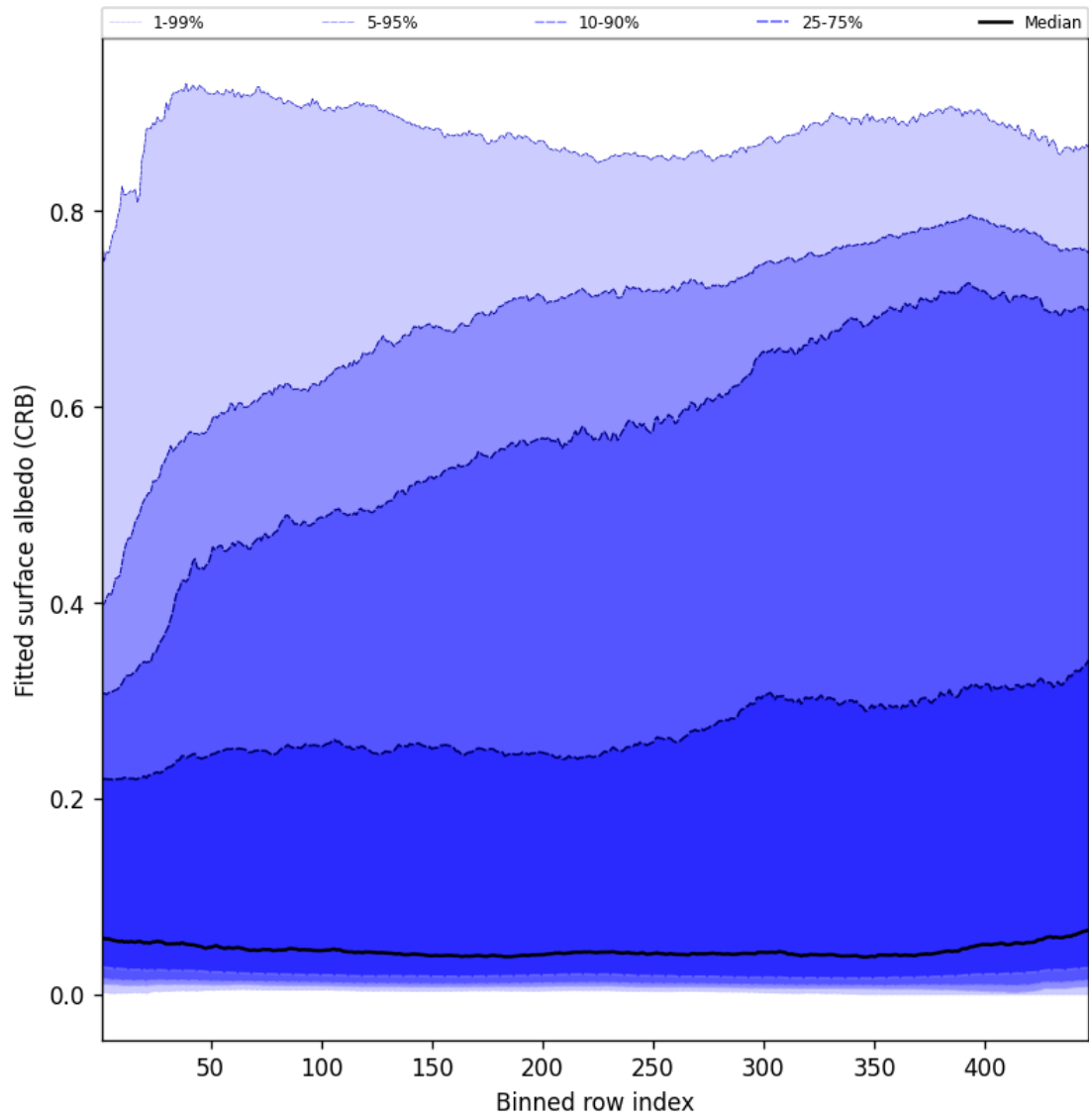


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-06-23 to 2025-06-24

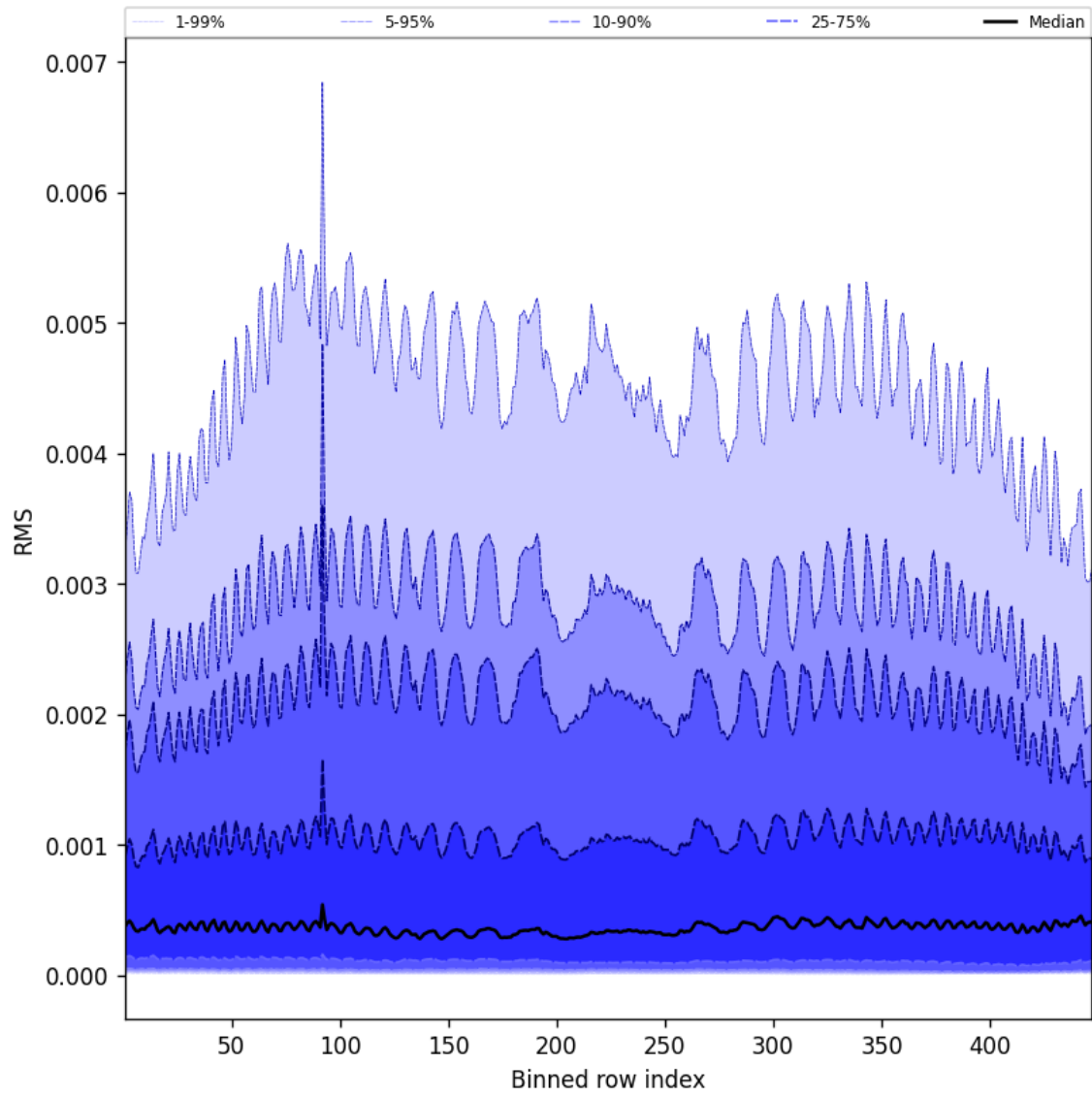


Figure 61: Along track statistics of “RMS” for 2025-06-23 to 2025-06-24

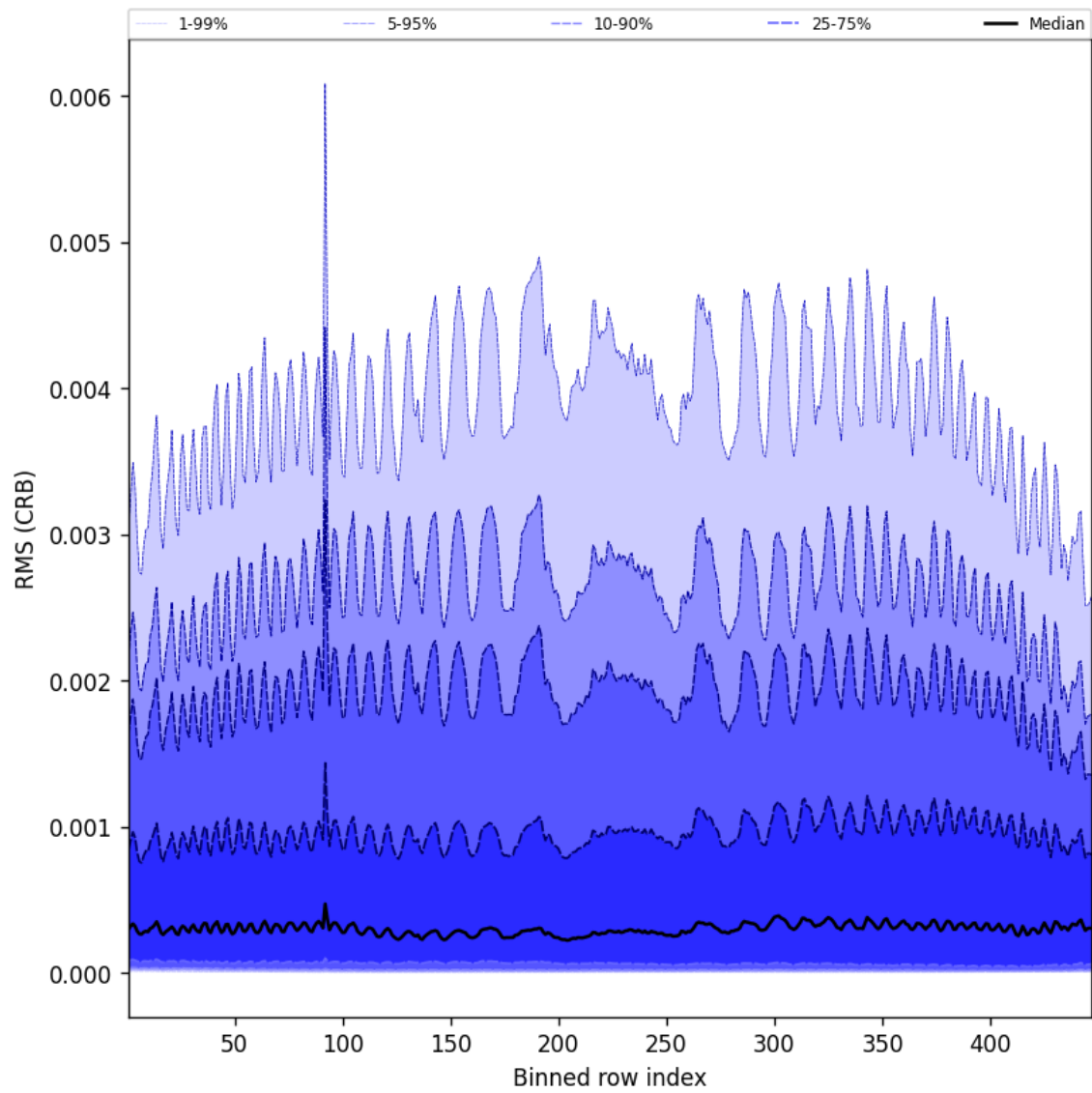


Figure 62: Along track statistics of “RMS (CRB)” for 2025-06-23 to 2025-06-24

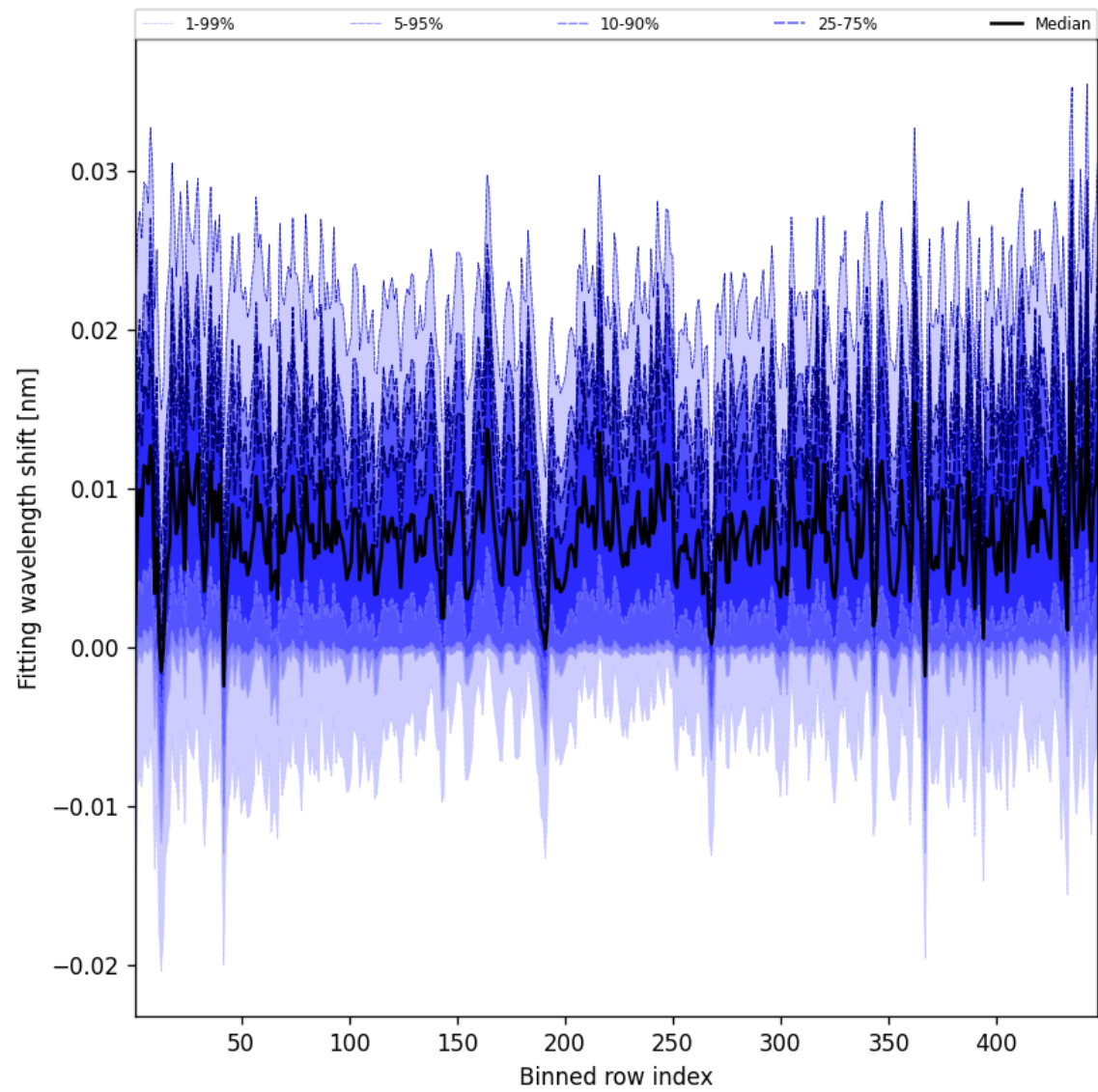


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-06-23 to 2025-06-24

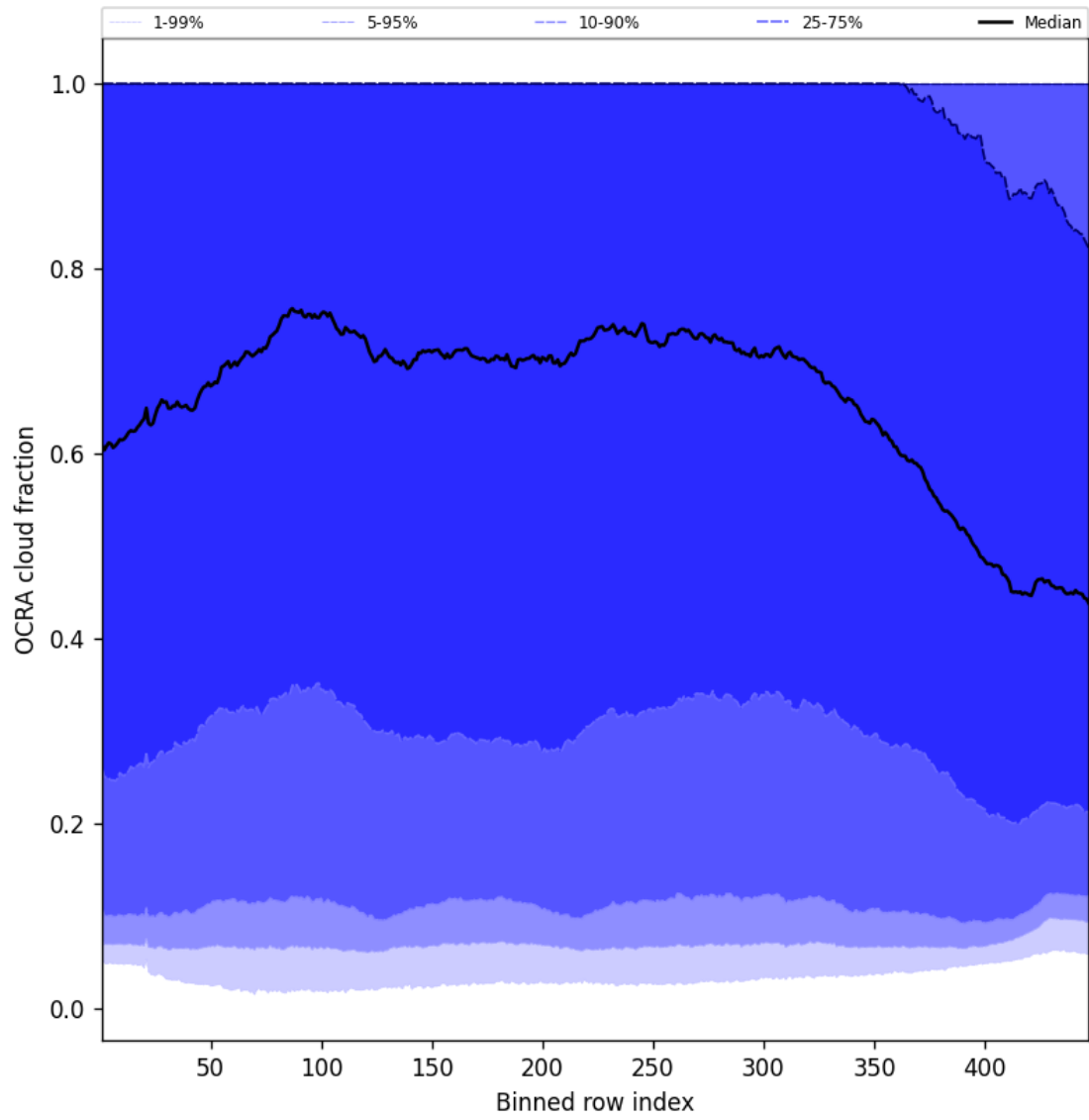


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-06-23 to 2025-06-24

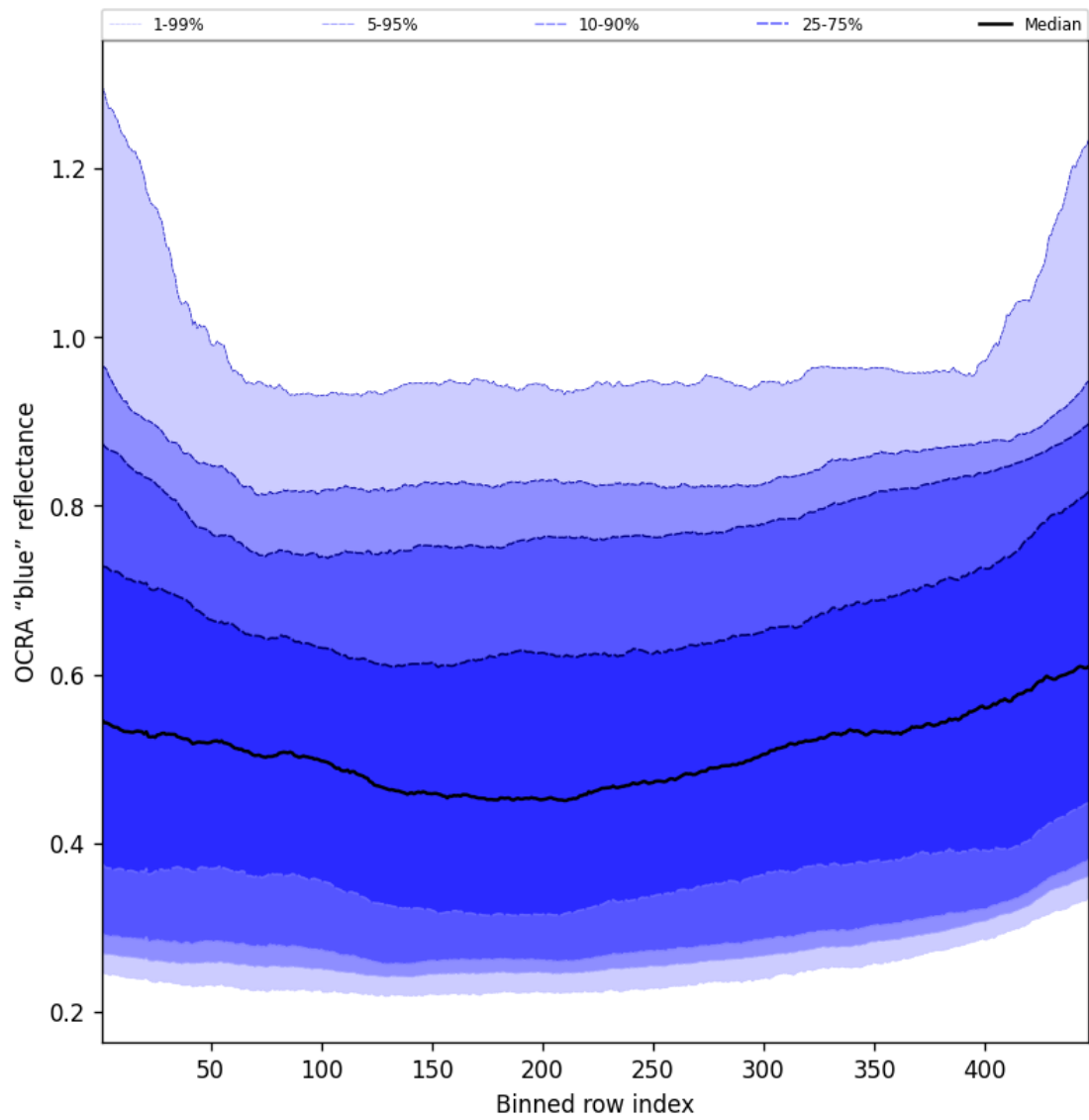


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-06-23 to 2025-06-24

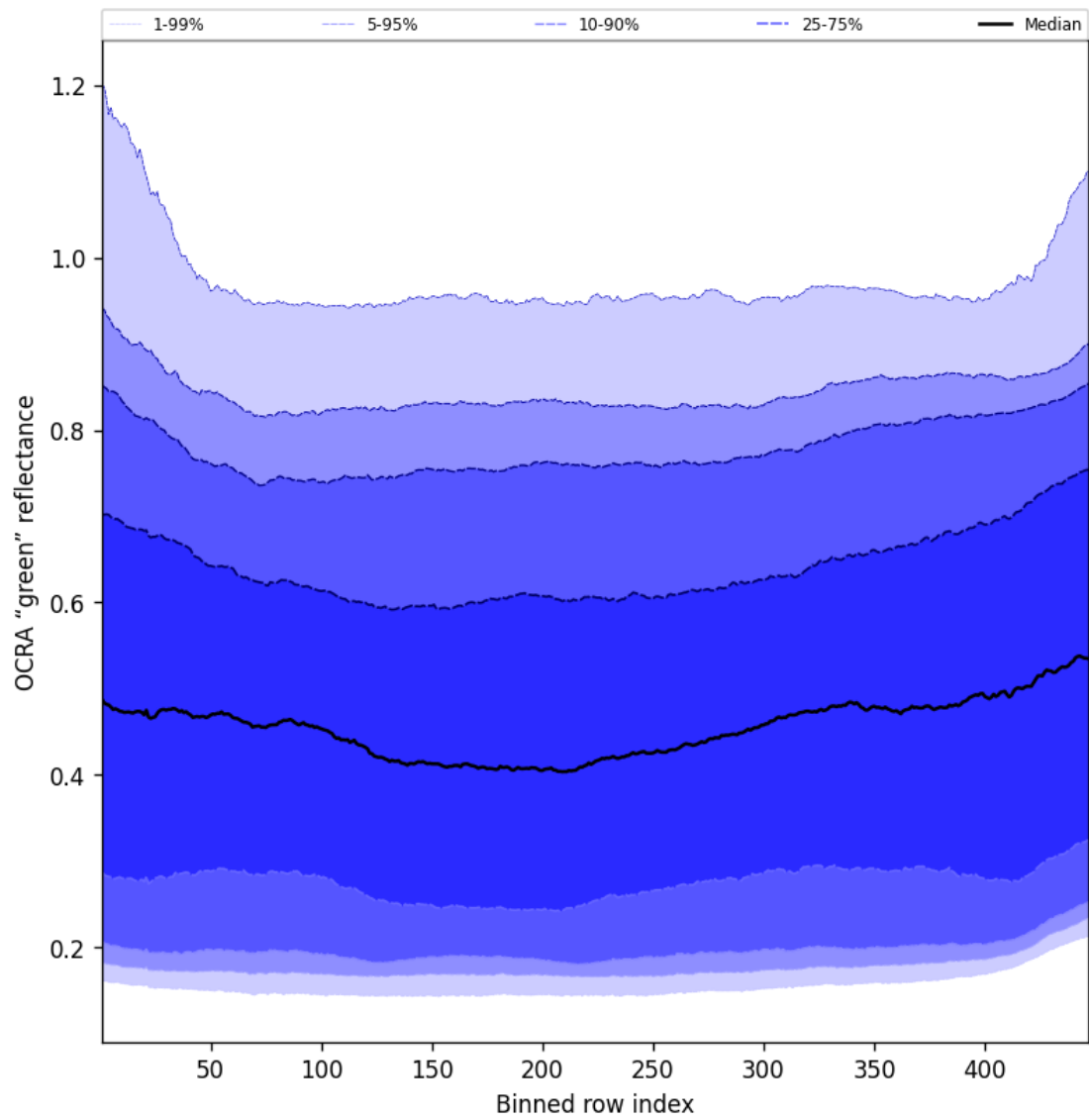


Figure 66: Along track statistics of "OCRA "green" reflectance" for 2025-06-23 to 2025-06-24

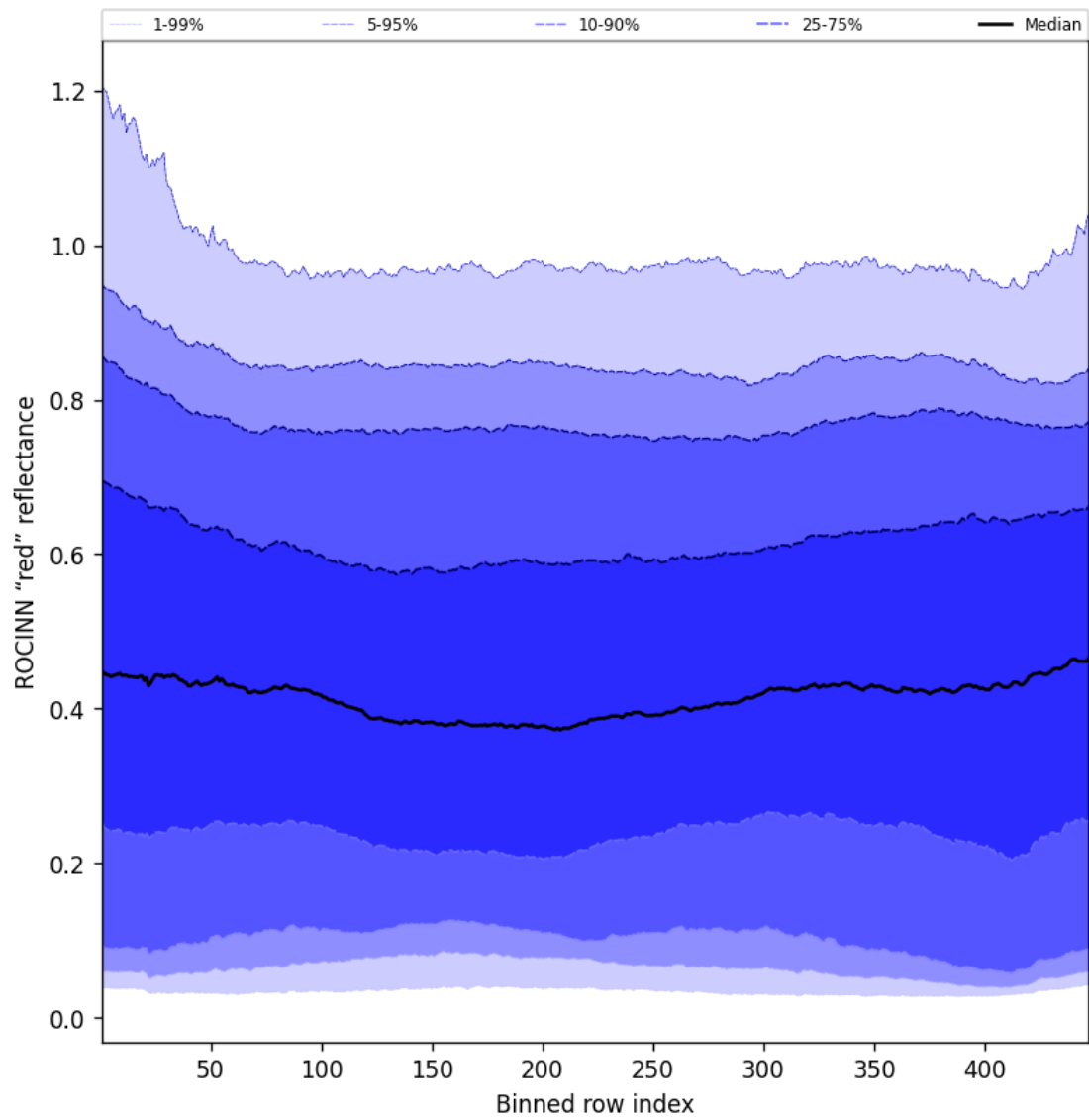


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-06-23 to 2025-06-24

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).