

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-06-05 (04:00)

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]	0.600 ± 0.372	18488916	0.995	0.600	0.730	0.0	1.000
cloud fraction [1]	0.587 ± 0.348	18488916	0.995	0.742	0.591	7.309×10^{-3}	1.000
cloud top height [m]	$(0.396 \pm 0.266) \times 10^4$	18488916	1.575×10^3	3.757×10^3	3.490×10^3	0.0	2.000×10^4
cloud optical thickness [1]	20.3 ± 35.8	18488916	8.91	11.6	9.58	1.000	250
cloud fraction crb [1]	0.586 ± 0.348	18488916	0.995	0.745	0.588	8.148×10^{-3}	1.000
cloud height crb [m]	$(0.306 \pm 0.232) \times 10^4$	18488916	75.0	3.374×10^3	2.641×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.575 ± 0.203	18488916	0.495	0.260	0.564	0.0	1.000
surface albedo fitted [1]	0.226 ± 0.282	18488916	2.500×10^{-2}	0.280	6.706×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.221 ± 0.283	18488916	1.500×10^{-2}	0.291	5.073×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.930 \pm 11.915) \times 10^{-4}$	18488916	5.000×10^{-5}	9.839×10^{-4}	3.787×10^{-4}	8.877×10^{-7}	0.266
fitted root mean square crb [1]	$(7.045 \pm 9.356) \times 10^{-4}$	18488916	5.000×10^{-5}	9.511×10^{-4}	3.003×10^{-4}	6.865×10^{-7}	0.191
wavelength shift [nm]	$(7.059 \pm 6.781) \times 10^{-3}$	18488916	-3.000×10^{-4}	1.004×10^{-2}	6.387×10^{-3}	-4.939×10^{-2}	6.543×10^{-2}
cloud fraction apriori [1]	0.599 ± 0.354	18488916	0.995	0.749	0.620	0.0	1.000
reflectance blue ocra [1]	0.535 ± 0.207	18488916	0.265	0.343	0.508	0.132	1.89
reflectance green ocra [1]	0.483 ± 0.235	18488916	0.185	0.408	0.454	7.931×10^{-2}	1.96
reflectance continuum aband [1]	0.441 ± 0.266	18488916	4.500×10^{-2}	0.438	0.419	1.342×10^{-2}	5.49

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	0.300	0.900	1.000	1.000	1.000	1.000
cloud fraction [1]	2.723×10^{-2}	6.971×10^{-2}	0.108	0.157	0.253	0.995	1.000	1.000	1.000	1.000
cloud top height [m]	178	593	988	1.338×10^3	1.827×10^3	5.584×10^3	6.724×10^3	7.718×10^3	9.041×10^3	1.138×10^4
cloud optical thickness [1]	1.000	2.62	3.80	4.76	5.97	17.6	27.1	40.8	71.9	250
cloud fraction crb [1]	2.665×10^{-2}	6.869×10^{-2}	0.107	0.156	0.251	0.996	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	42.9	394	716	1.165×10^3	4.539×10^3	5.528×10^3	6.366×10^3	7.499×10^3	9.443×10^3
cloud albedo crb [1]	1.837×10^{-2}	0.223	0.328	0.398	0.453	0.713	0.789	0.848	0.918	1.000
surface albedo fitted [1]	0.0	8.766×10^{-3}	1.456×10^{-2}	1.998×10^{-2}	2.789×10^{-2}	0.308	0.588	0.763	0.863	0.966
surface albedo fitted crb [1]	0.0	6.486×10^{-3}	1.034×10^{-2}	1.420×10^{-2}	2.011×10^{-2}	0.311	0.616	0.761	0.840	0.926
fitted root mean square [1]	9.788×10^{-6}	2.239×10^{-5}	3.629×10^{-5}	5.734×10^{-5}	1.037×10^{-4}	1.088×10^{-3}	1.611×10^{-3}	2.125×10^{-3}	2.820×10^{-3}	4.392×10^{-3}
fitted root mean square crb [1]	5.308×10^{-6}	1.242×10^{-5}	2.186×10^{-5}	3.428×10^{-5}	6.232×10^{-5}	1.013×10^{-3}	1.517×10^{-3}	2.012×10^{-3}	2.655×10^{-3}	3.984×10^{-3}
wavelength shift [nm]	-7.487×10^{-3}	-1.132×10^{-3}	-2.102×10^{-4}	3.067×10^{-4}	1.622×10^{-3}	1.166×10^{-2}	1.402×10^{-2}	1.604×10^{-2}	1.870×10^{-2}	2.440×10^{-2}
cloud fraction apriori [1]	3.051×10^{-2}	6.625×10^{-2}	0.102	0.150	0.251	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.258	0.281	0.309	0.355	0.698	0.776	0.831	0.886	0.979
reflectance green ocra [1]	0.150	0.173	0.193	0.219	0.269	0.677	0.763	0.822	0.876	0.969
reflectance continuum aband [1]	3.084×10^{-2}	5.583×10^{-2}	8.854×10^{-2}	0.133	0.219	0.657	0.745	0.804	0.871	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]	0.597 ± 0.364	12472974	0.600	0.720	0.0	1.000	0.300	0.900
cloud fraction [1]	0.639 ± 0.347	12472974	0.695	0.705	7.309×10^{-3}	1.000	0.305	1.000
cloud top height [m]	$(0.394 \pm 0.271) \times 10^4$	12472974	3.885×10^3	3.513×10^3	0.0	2.000×10^4	1.750×10^3	5.635×10^3
cloud optical thickness [1]	17.9 ± 32.2	12472974	10.2	8.99	1.000	250	5.55	15.7
cloud fraction crb [1]	0.638 ± 0.348	12472974	0.696	0.705	8.148×10^{-3}	1.000	0.304	1.000
cloud height crb [m]	$(0.296 \pm 0.236) \times 10^4$	12472974	3.585×10^3	2.557×10^3	0.0	2.000×10^4	963	4.548×10^3
cloud albedo crb [1]	0.575 ± 0.217	12472974	0.293	0.568	0.0	1.000	0.442	0.735
surface albedo fitted [1]	0.304 ± 0.311	12472974	0.512	0.192	0.0	1.000	3.312×10^{-2}	0.545
surface albedo fitted crb [1]	0.302 ± 0.309	12472974	0.549	0.190	0.0	1.000	2.713×10^{-2}	0.576
fitted root mean square [1]	$(1.024 \pm 1.357) \times 10^{-3}$	12472974	1.299×10^{-3}	6.423×10^{-4}	1.825×10^{-6}	0.266	1.730×10^{-4}	1.472×10^{-3}
fitted root mean square crb [1]	$(9.137 \pm 10.346) \times 10^{-4}$	12472974	1.260×10^{-3}	5.634×10^{-4}	6.865×10^{-7}	0.191	1.175×10^{-4}	1.377×10^{-3}
wavelength shift [nm]	$(8.214 \pm 6.755) \times 10^{-3}$	12472974	9.837×10^{-3}	8.081×10^{-3}	-4.939×10^{-2}	6.295×10^{-2}	2.990×10^{-3}	1.283×10^{-2}
cloud fraction apriori [1]	0.656 ± 0.351	12472974	0.683	0.756	0.0	1.000	0.317	1.000
reflectance blue oca [1]	0.561 ± 0.216	12472974	0.383	0.556	0.132	1.82	0.360	0.743
reflectance green oca [1]	0.519 ± 0.243	12472974	0.444	0.519	8.522×10^{-2}	1.87	0.287	0.731
reflectance continuum aband [1]	0.492 ± 0.263	12472974	0.433	0.500	1.408×10^{-2}	5.49	0.278	0.711

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]	0.607 ± 0.388	6015942	0.700	0.810	0.0	1.000	0.290	0.990
cloud fraction [1]	0.480 ± 0.325	6015942	0.578	0.425	7.788×10^{-3}	1.000	0.185	0.764
cloud top height [m]	$(0.400 \pm 0.254) \times 10^4$	6015942	3.502×10^3	3.445×10^3	0.0	2.000×10^4	1.942×10^3	5.444×10^3
cloud optical thickness [1]	25.1 ± 41.8	6015942	14.7	11.1	1.000	250	6.89	21.6
cloud fraction crb [1]	0.478 ± 0.324	6015942	0.576	0.421	8.506×10^{-3}	1.000	0.184	0.759
cloud height crb [m]	$(0.326 \pm 0.223) \times 10^4$	6015942	3.069×10^3	2.808×10^3	0.0	1.821×10^4	1.447×10^3	4.516×10^3
cloud albedo crb [1]	0.574 ± 0.171	6015942	0.198	0.558	0.0	1.000	0.471	0.670
surface albedo fitted [1]	$(6.519 \pm 7.937) \times 10^{-2}$	6015942	4.202×10^{-2}	3.818×10^{-2}	0.0	1.000	2.295×10^{-2}	6.497×10^{-2}
surface albedo fitted crb [1]	$(5.356 \pm 7.962) \times 10^{-2}$	6015942	2.966×10^{-2}	2.526×10^{-2}	0.0	1.000	1.486×10^{-2}	4.452×10^{-2}
fitted root mean square [1]	$(3.136 \pm 4.531) \times 10^{-4}$	6015942	3.183×10^{-4}	1.527×10^{-4}	8.877×10^{-7}	2.926×10^{-2}	5.561×10^{-5}	3.740×10^{-4}
fitted root mean square crb [1]	$(2.708 \pm 4.384) \times 10^{-4}$	6015942	2.775×10^{-4}	9.114×10^{-5}	9.638×10^{-7}	3.335×10^{-2}	3.388×10^{-5}	3.114×10^{-4}
wavelength shift [nm]	$(4.666 \pm 6.185) \times 10^{-3}$	6015942	7.461×10^{-3}	3.199×10^{-3}	-4.503×10^{-2}	6.543×10^{-2}	4.672×10^{-4}	7.928×10^{-3}
cloud fraction apriori [1]	0.479 ± 0.332	6015942	0.598	0.420	0.0	1.000	0.174	0.772
reflectance blue ocrs [1]	0.482 ± 0.175	6015942	0.236	0.447	0.137	1.89	0.347	0.583
reflectance green ocrs [1]	0.409 ± 0.198	6015942	0.282	0.368	7.931×10^{-2}	1.96	0.248	0.530
reflectance continuum aband [1]	0.335 ± 0.240	6015942	0.342	0.296	1.342×10^{-2}	5.21	0.137	0.479

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]	0.602 ± 0.369	12179302	0.610	0.740	0.0	1.000	0.300	0.910
cloud fraction [1]	0.547 ± 0.345	12179302	0.727	0.515	7.309×10^{-3}	1.000	0.217	0.944
cloud top height [m]	$(0.380 \pm 0.268) \times 10^4$	12179302	3.703×10^3	3.235×10^3	0.0	2.000×10^4	1.654×10^3	5.357×10^3
cloud optical thickness [1]	21.2 ± 36.6	12179302	12.0	10.1	1.000	250	6.45	18.5
cloud fraction crb [1]	0.545 ± 0.346	12179302	0.727	0.513	8.552×10^{-3}	1.000	0.216	0.943
cloud height crb [m]	$(0.296 \pm 0.237) \times 10^4$	12179302	3.296×10^3	2.493×10^3	0.0	2.000×10^4	1.046×10^3	4.342×10^3
cloud albedo crb [1]	0.568 ± 0.190	12179302	0.240	0.552	0.0	1.000	0.452	0.692
surface albedo fitted [1]	0.148 ± 0.262	12179302	4.636×10^{-2}	3.583×10^{-2}	0.0	1.000	2.064×10^{-2}	6.700×10^{-2}
surface albedo fitted crb [1]	0.140 ± 0.260	12179302	3.572×10^{-2}	2.617×10^{-2}	0.0	1.000	1.466×10^{-2}	5.038×10^{-2}
fitted root mean square [1]	$(6.092 \pm 10.196) \times 10^{-4}$	12179302	7.047×10^{-4}	2.283×10^{-4}	8.877×10^{-7}	0.138	7.412×10^{-5}	7.789×10^{-4}
fitted root mean square crb [1]	$(5.396 \pm 8.173) \times 10^{-4}$	12179302	6.514×10^{-4}	1.678×10^{-4}	6.865×10^{-7}	0.120	4.915×10^{-5}	7.006×10^{-4}
wavelength shift [nm]	$(6.464 \pm 6.738) \times 10^{-3}$	12179302	9.617×10^{-3}	5.438×10^{-3}	-4.813×10^{-2}	6.543×10^{-2}	1.303×10^{-3}	1.092×10^{-2}
cloud fraction apriori [1]	0.556 ± 0.352	12179302	0.775	0.536	0.0	1.000	0.214	0.990
reflectance blue oca [1]	0.524 ± 0.201	12179302	0.324	0.491	0.164	1.88	0.351	0.675
reflectance green oca [1]	0.466 ± 0.230	12179302	0.392	0.431	9.736×10^{-2}	1.96	0.257	0.649
reflectance continuum aband [1]	0.394 ± 0.271	12179302	0.475	0.361	1.342×10^{-2}	5.21	0.143	0.617

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]	0.621 ± 0.372	3865185	0.630	0.770	0.0	1.000	0.300	0.930
cloud fraction [1]	0.635 ± 0.346	3865185	0.691	0.696	8.068×10^{-3}	1.000	0.308	1.000
cloud top height [m]	$(0.444 \pm 0.255) \times 10^4$	3865185	3.572×10^3	4.098×10^3	0.0	2.000×10^4	2.470×10^3	6.043×10^3
cloud optical thickness [1]	15.8 ± 27.2	3865185	9.12	8.36	1.000	250	5.30	14.4
cloud fraction crb [1]	0.635 ± 0.347	3865185	0.692	0.695	8.148×10^{-3}	1.000	0.307	1.000
cloud height crb [m]	$(0.341 \pm 0.219) \times 10^4$	3865185	3.338×10^3	2.992×10^3	0.0	2.000×10^4	1.639×10^3	4.976×10^3
cloud albedo crb [1]	0.590 ± 0.222	3865185	0.286	0.589	0.0	1.000	0.463	0.749
surface albedo fitted [1]	0.381 ± 0.251	3865185	0.232	0.280	2.886×10^{-4}	1.000	0.212	0.445
surface albedo fitted crb [1]	0.380 ± 0.247	3865185	0.265	0.278	4.524×10^{-3}	1.000	0.208	0.473
fitted root mean square [1]	$(1.195 \pm 1.383) \times 10^{-3}$	3865185	1.316×10^{-3}	8.195×10^{-4}	1.825×10^{-6}	0.237	3.652×10^{-4}	1.681×10^{-3}
fitted root mean square crb [1]	$(1.094 \pm 1.081) \times 10^{-3}$	3865185	1.291×10^{-3}	7.849×10^{-4}	1.124×10^{-6}	0.191	3.000×10^{-4}	1.591×10^{-3}
wavelength shift [nm]	$(8.129 \pm 6.550) \times 10^{-3}$	3865185	9.476×10^{-3}	8.010×10^{-3}	-3.396×10^{-2}	5.476×10^{-2}	3.078×10^{-3}	1.255×10^{-2}
cloud fraction apriori [1]	0.651 ± 0.353	3865185	0.689	0.745	0.0	1.000	0.311	1.000
reflectance blue ocra [1]	0.544 ± 0.224	3865185	0.389	0.515	0.137	1.89	0.343	0.733
reflectance green ocra [1]	0.503 ± 0.249	3865185	0.444	0.468	7.931×10^{-2}	1.92	0.274	0.718
reflectance continuum aband [1]	0.530 ± 0.230	3865185	0.384	0.487	1.688×10^{-2}	5.49	0.334	0.718

3 Granule outlines

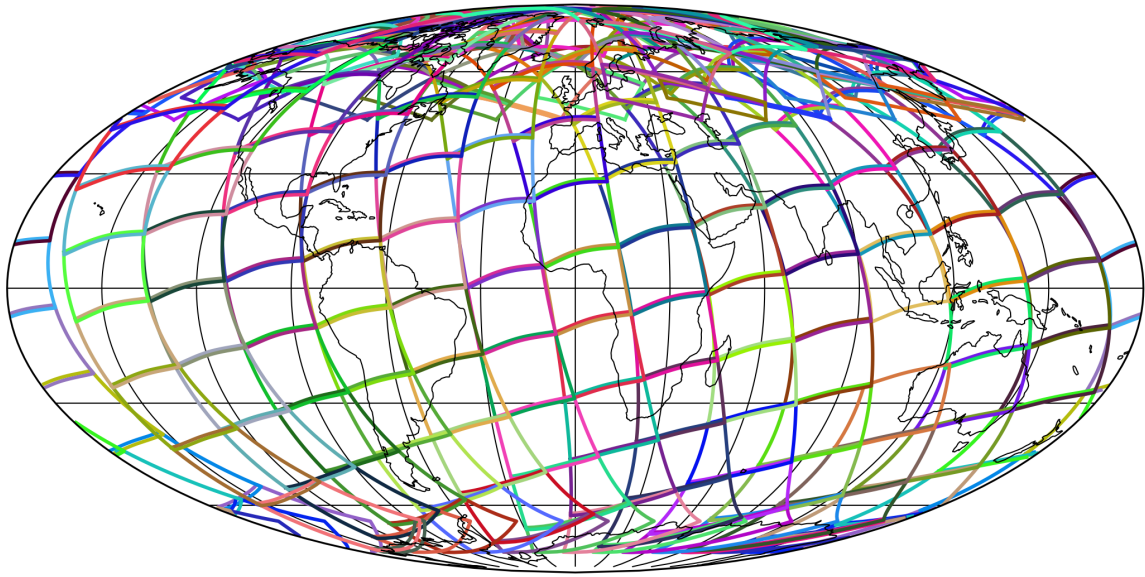


Figure 1: Outline of the granules.

4 Input data monitoring

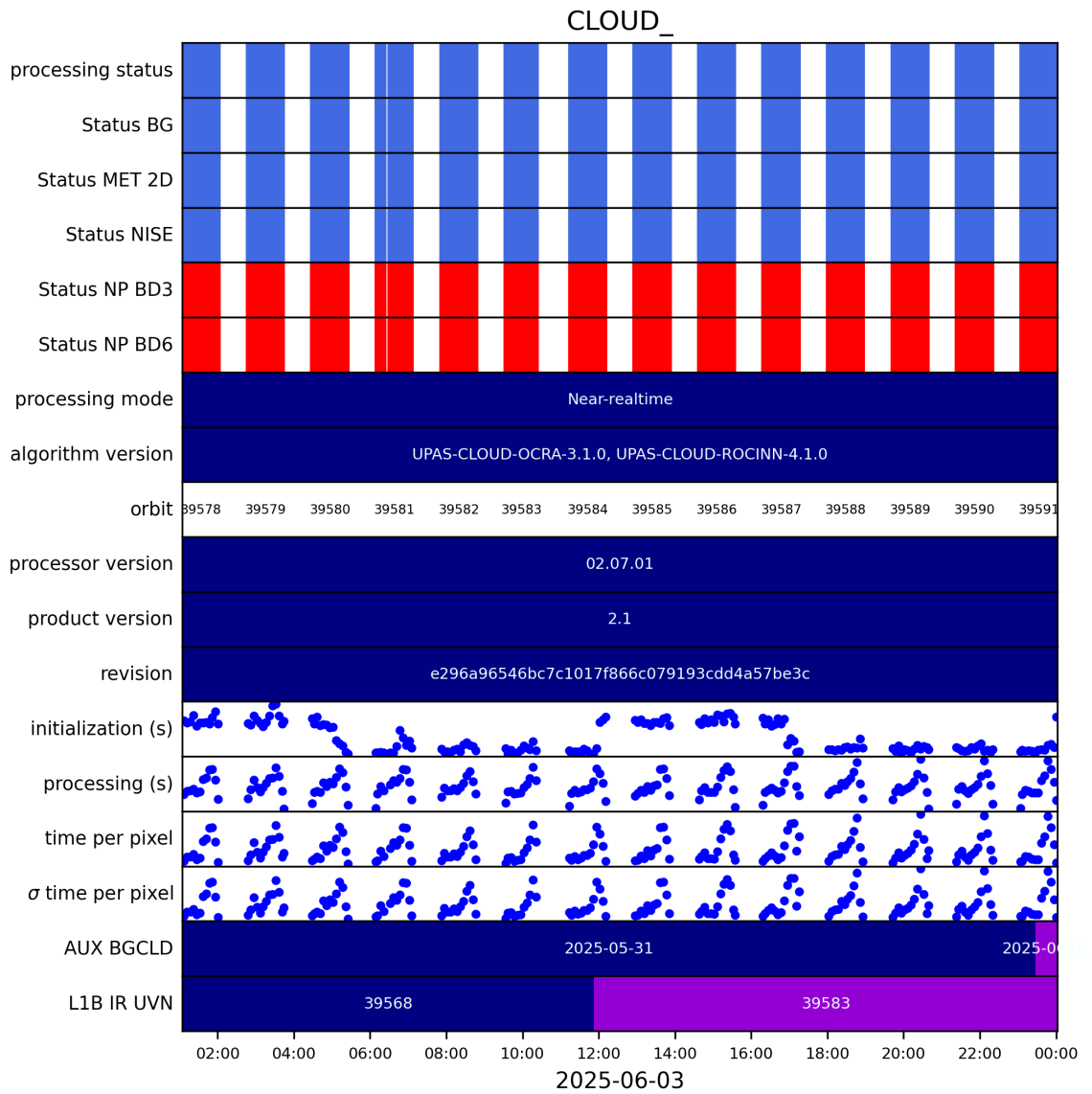


Figure 2: Input data per granule

5 Warnings and errors

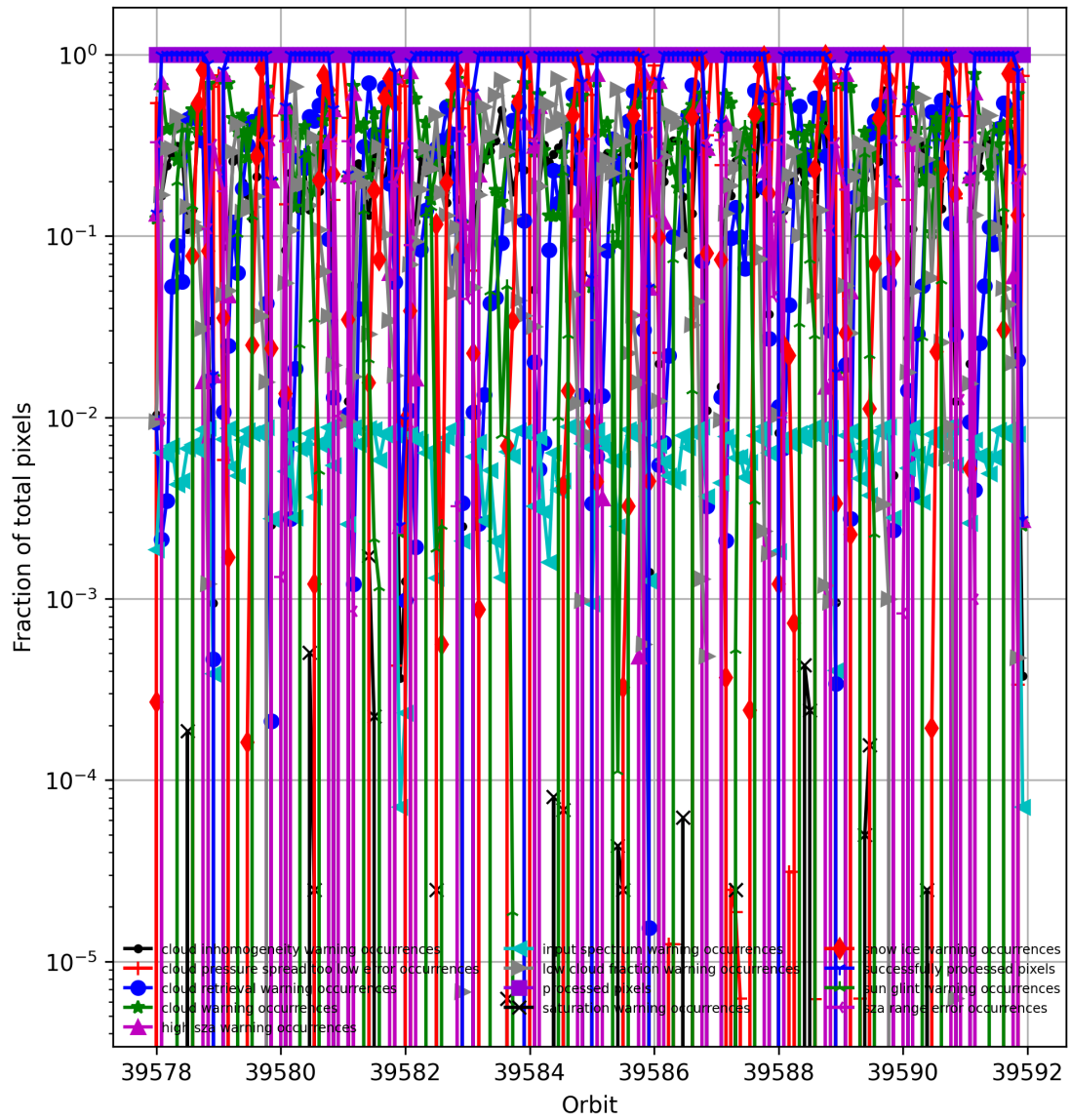


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

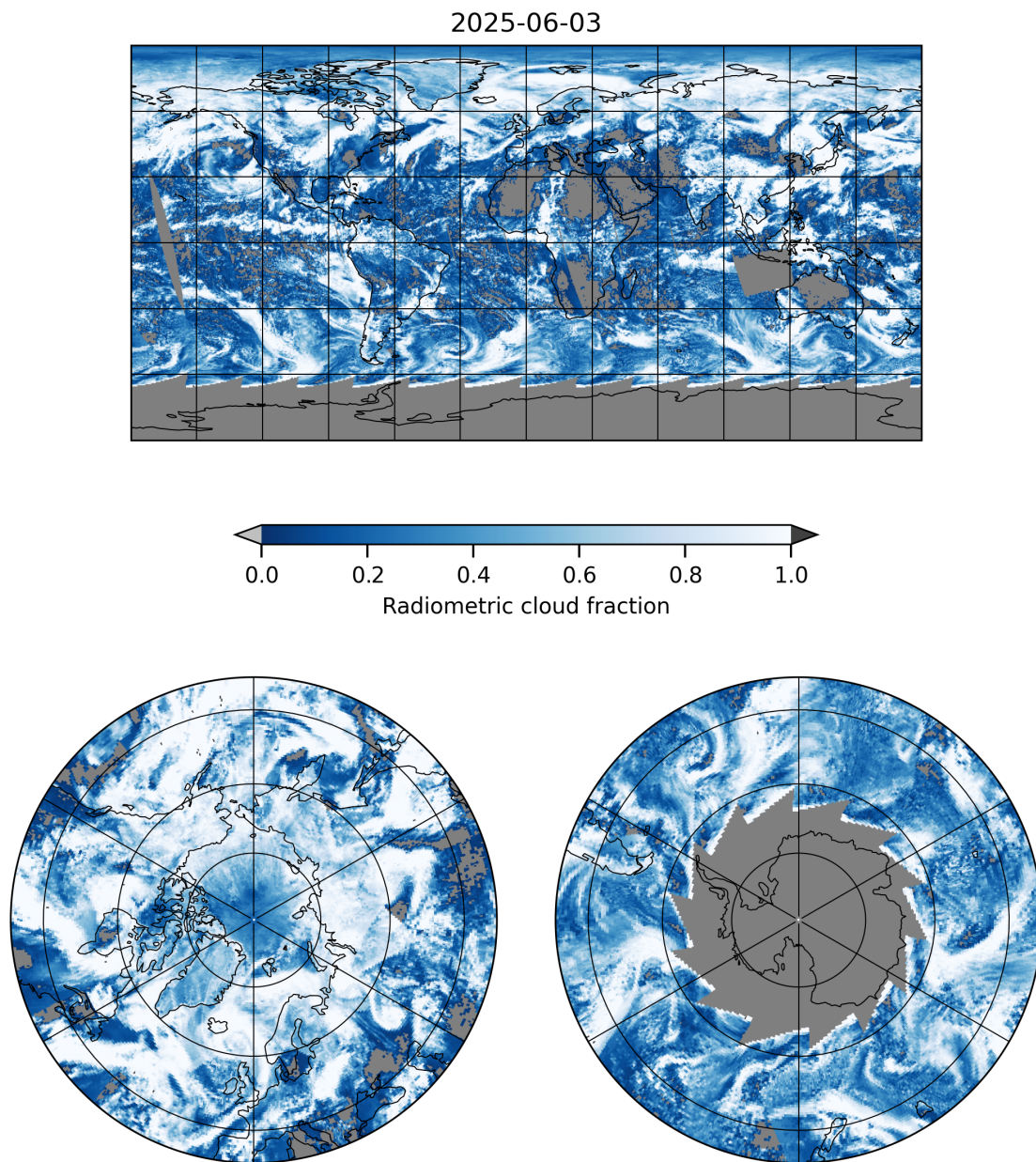


Figure 4: Map of “Radiometric cloud fraction” for 2025-06-03 to 2025-06-04

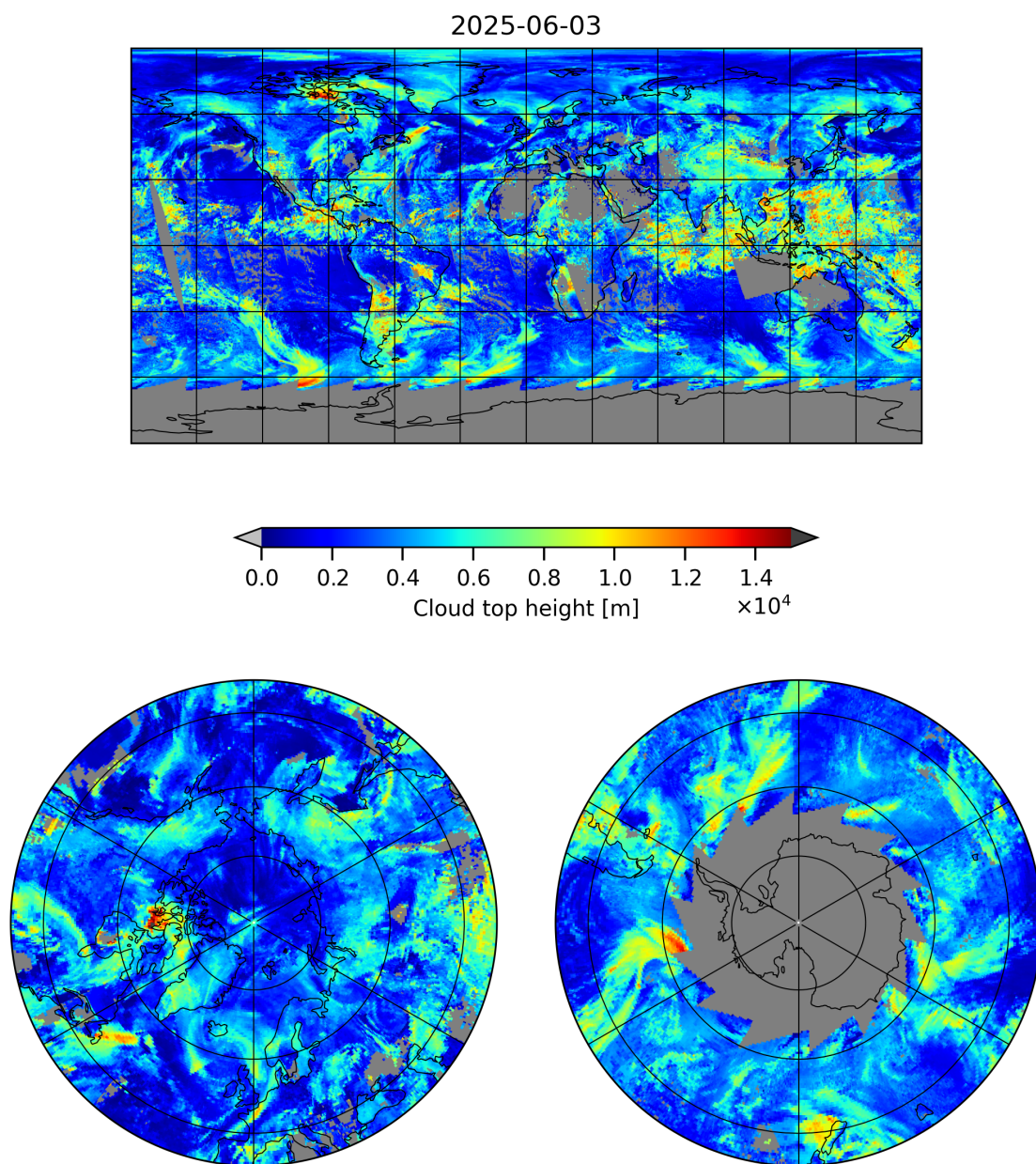


Figure 5: Map of “Cloud top height” for 2025-06-03 to 2025-06-04

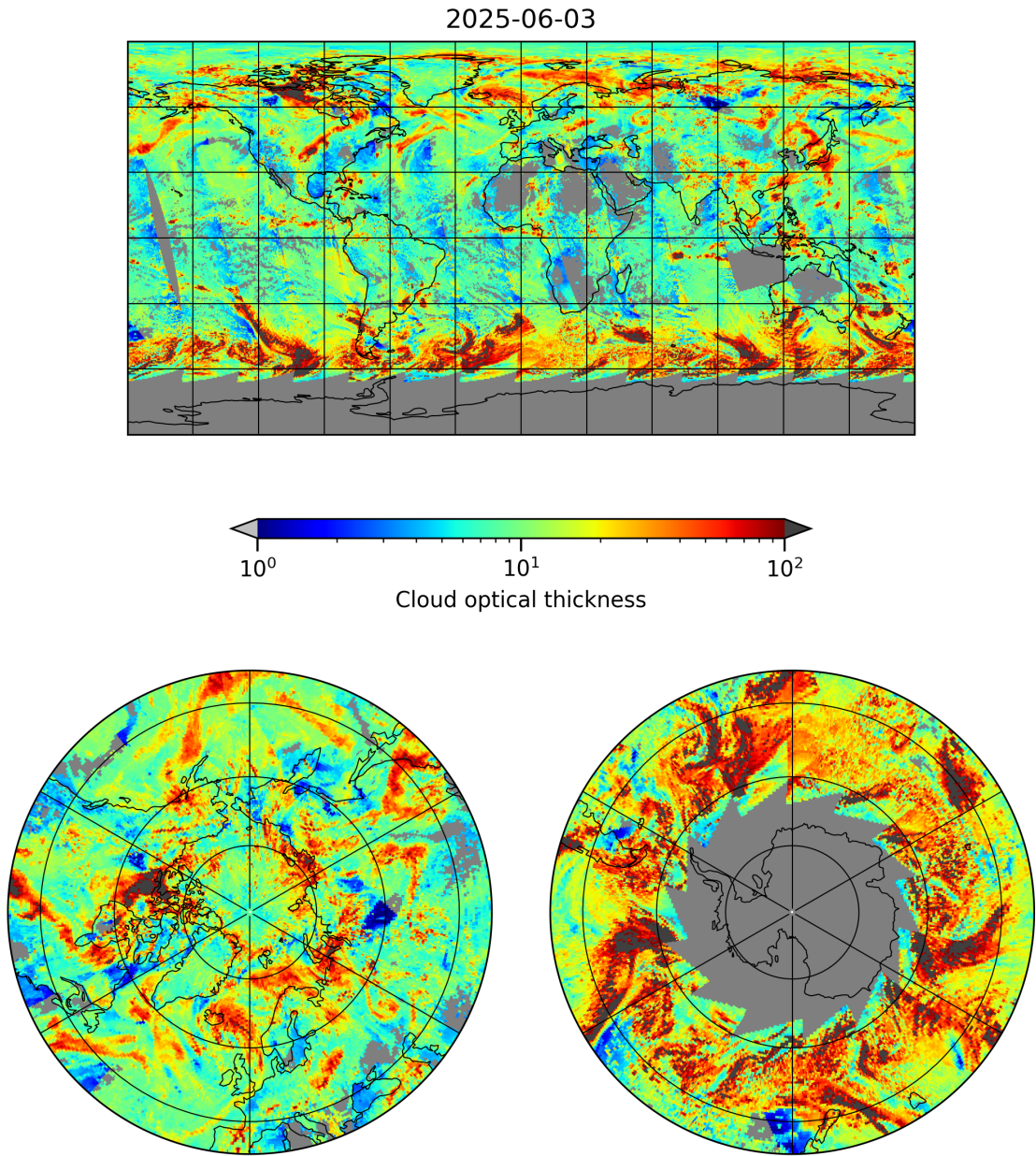


Figure 6: Map of “Cloud optical thickness” for 2025-06-03 to 2025-06-04

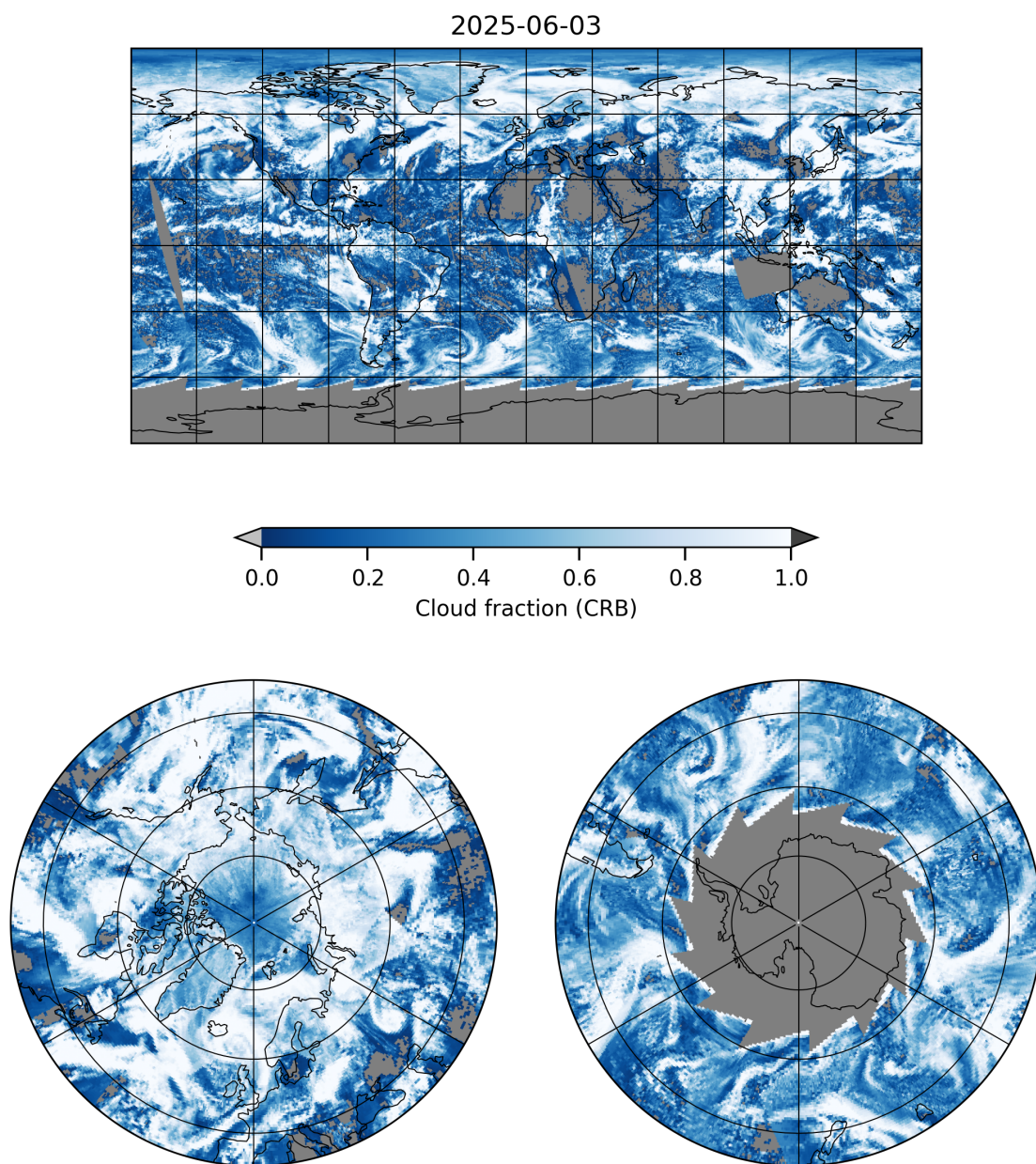


Figure 7: Map of “Cloud fraction (CRB)” for 2025-06-03 to 2025-06-04

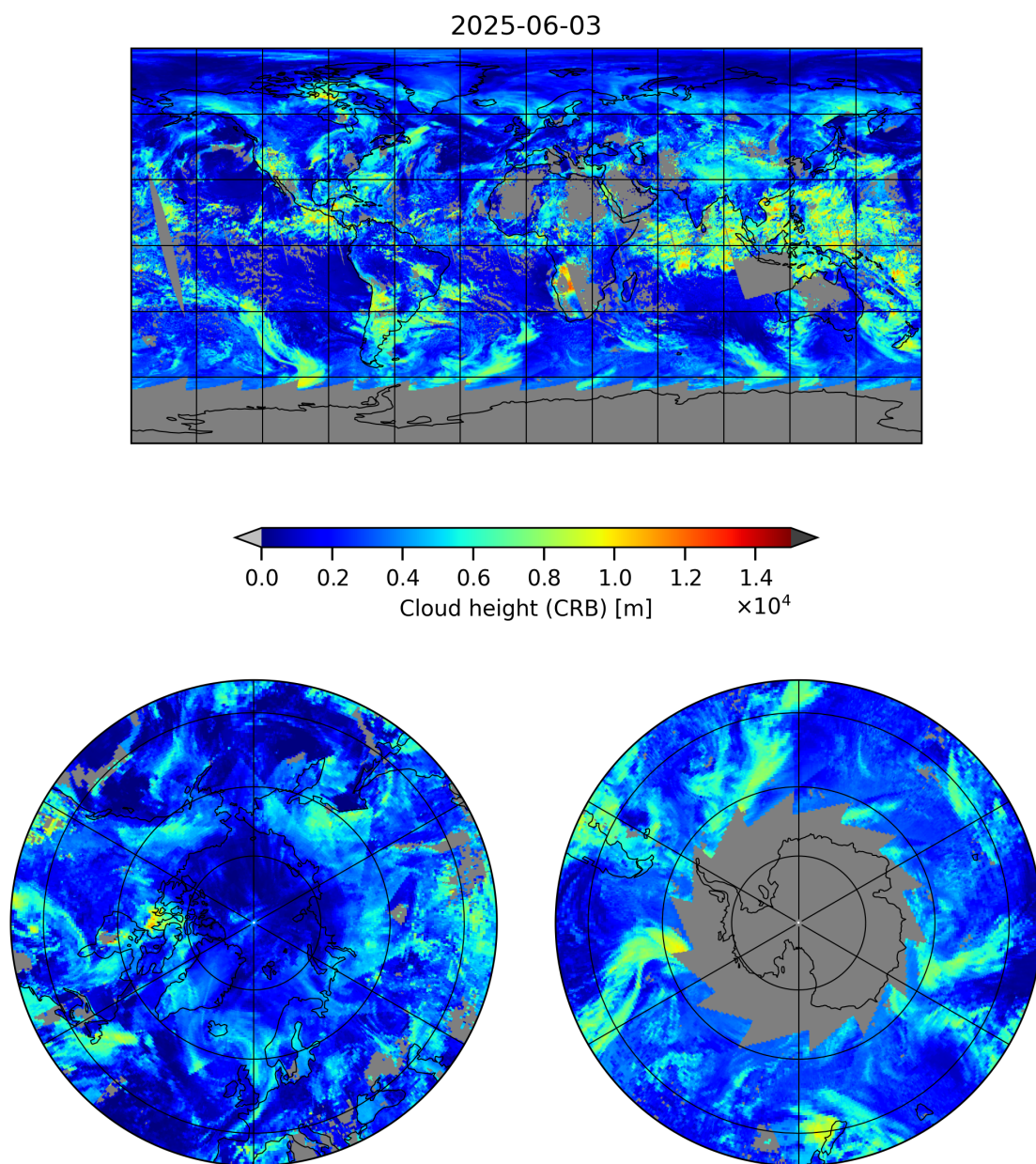


Figure 8: Map of “Cloud height (CRB)” for 2025-06-03 to 2025-06-04

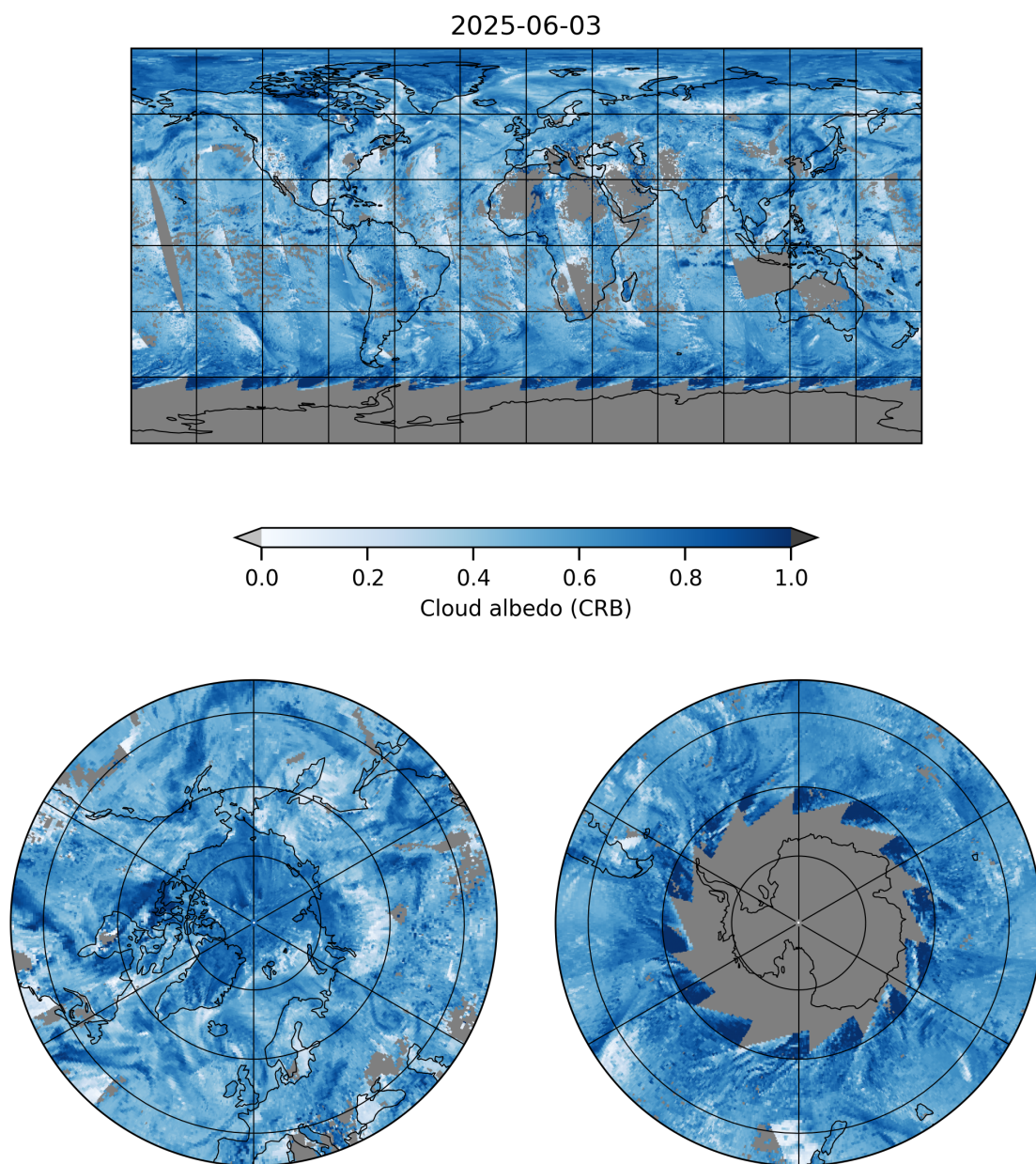


Figure 9: Map of “Cloud albedo (CRB)” for 2025-06-03 to 2025-06-04

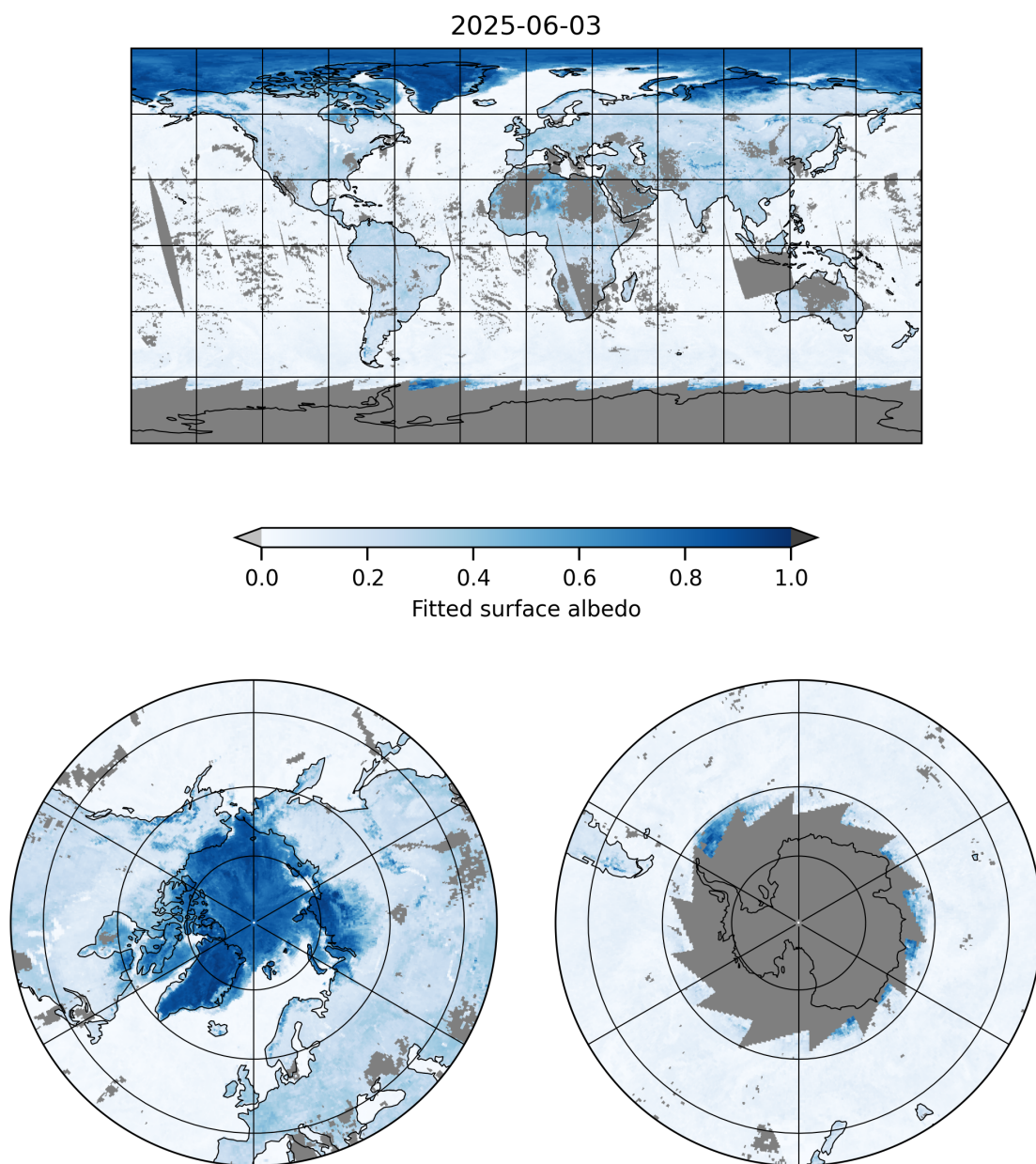


Figure 10: Map of “Fitted surface albedo” for 2025-06-03 to 2025-06-04

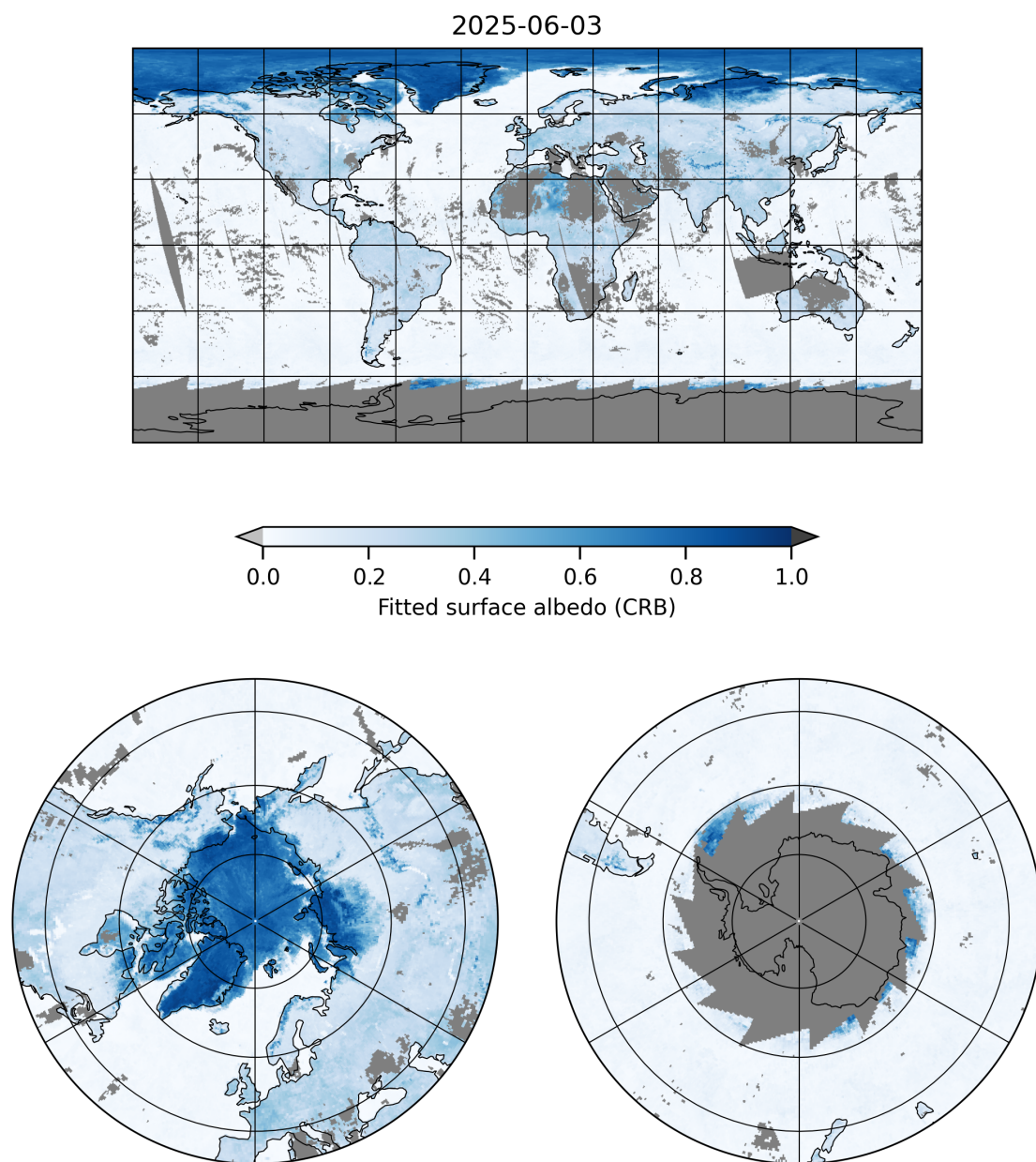


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-06-03 to 2025-06-04

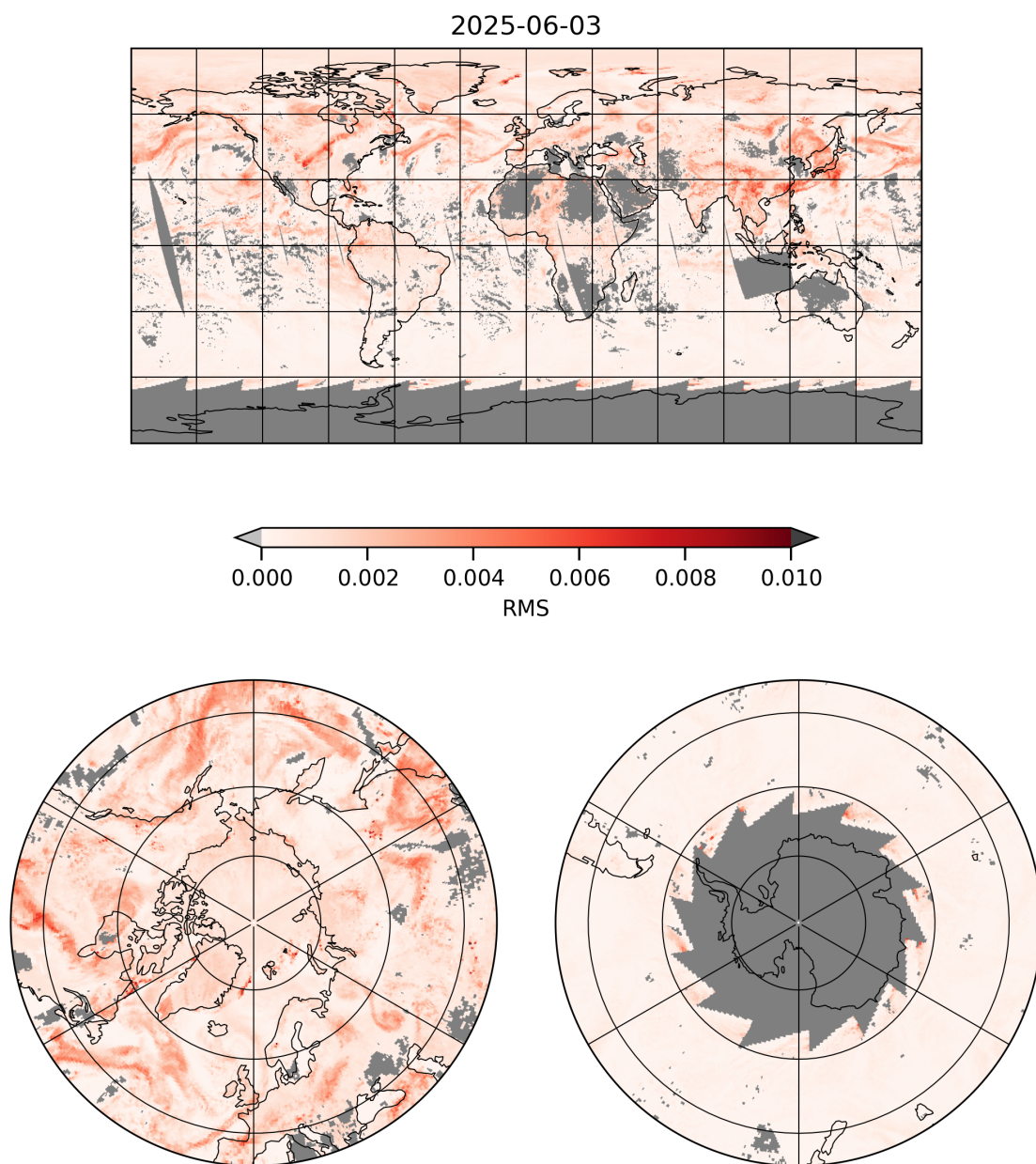


Figure 12: Map of “RMS” for 2025-06-03 to 2025-06-04

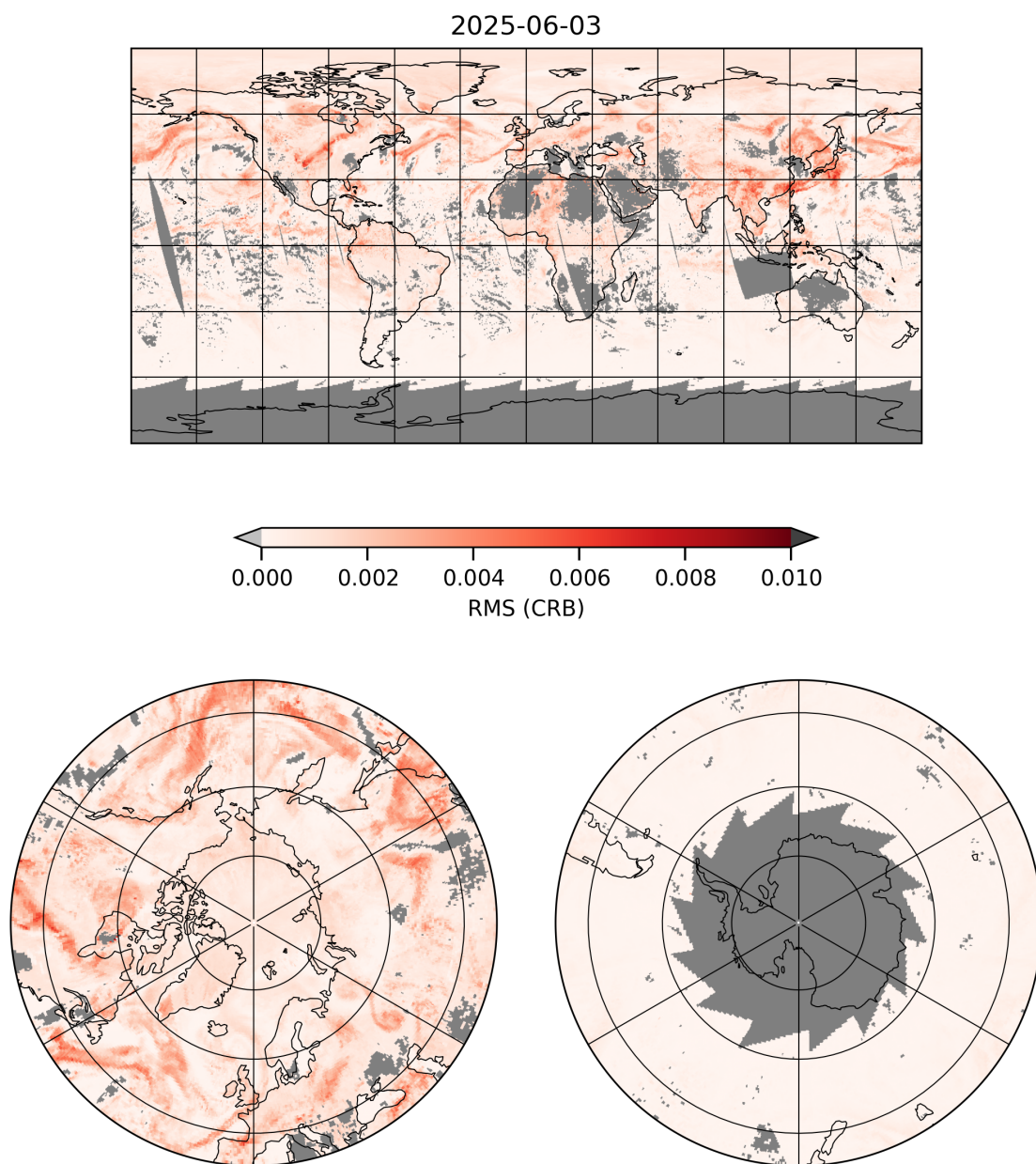


Figure 13: Map of “RMS (CRB)” for 2025-06-03 to 2025-06-04

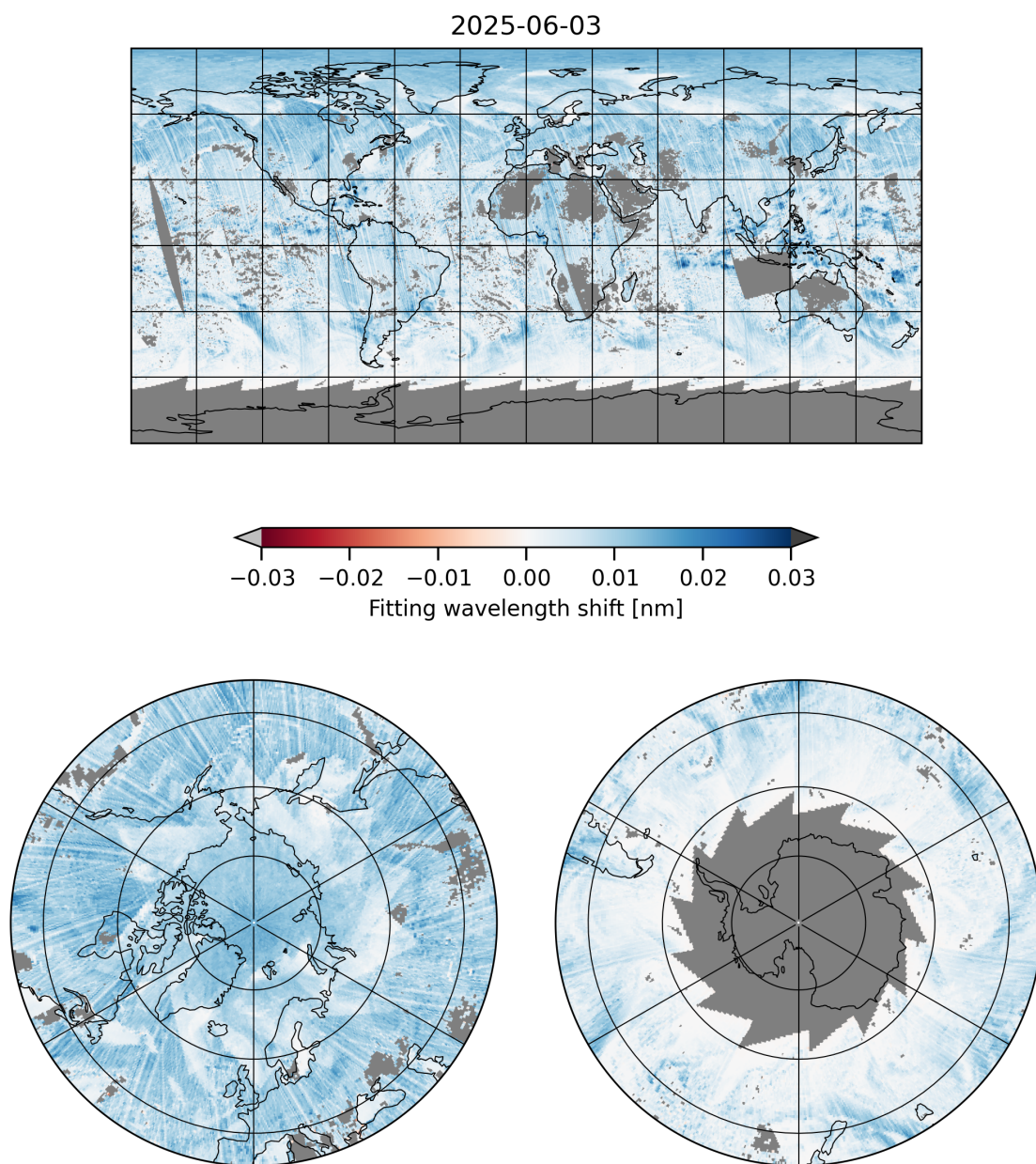


Figure 14: Map of “Fitting wavelength shift” for 2025-06-03 to 2025-06-04

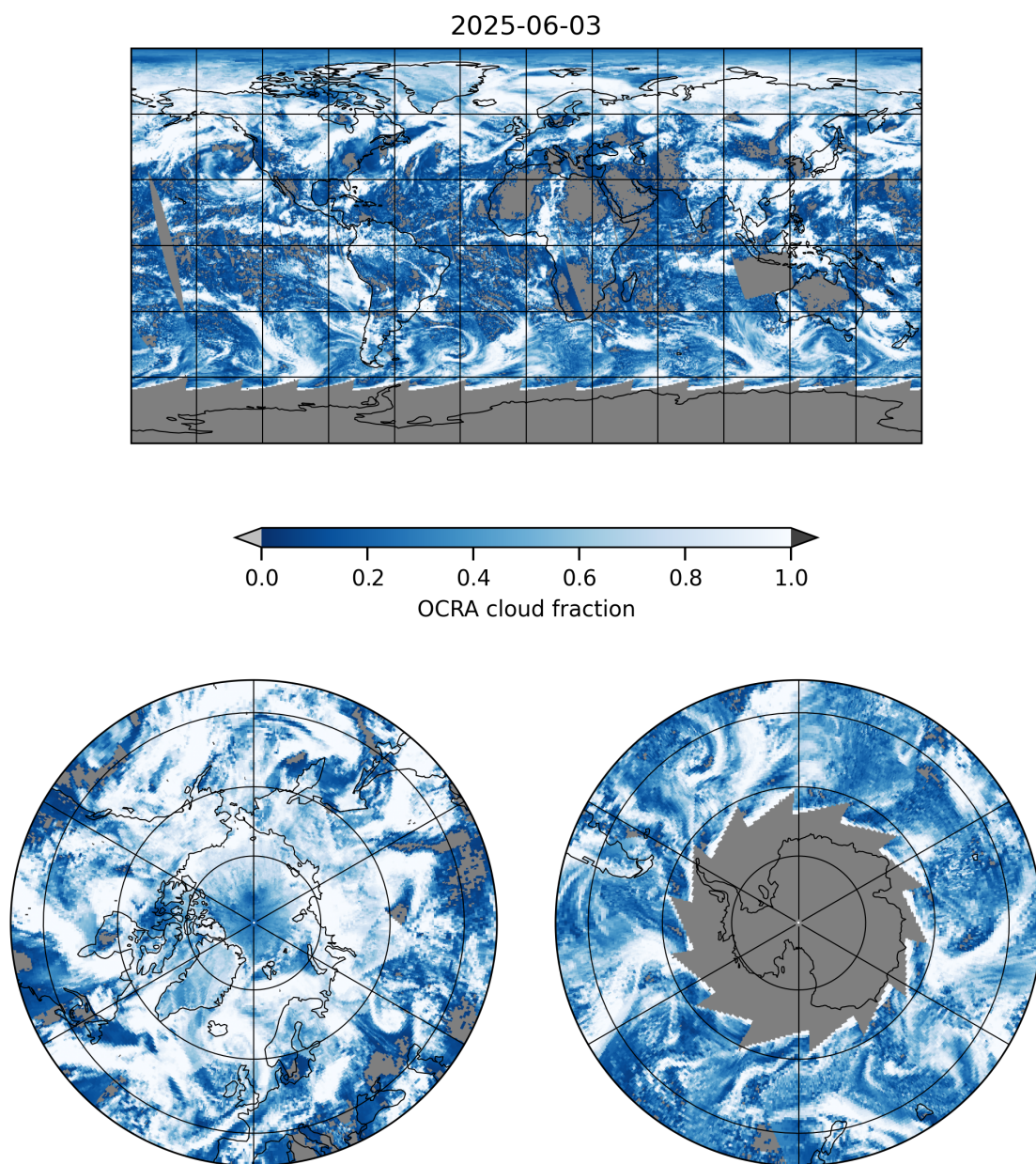


Figure 15: Map of “OCRA cloud fraction” for 2025-06-03 to 2025-06-04

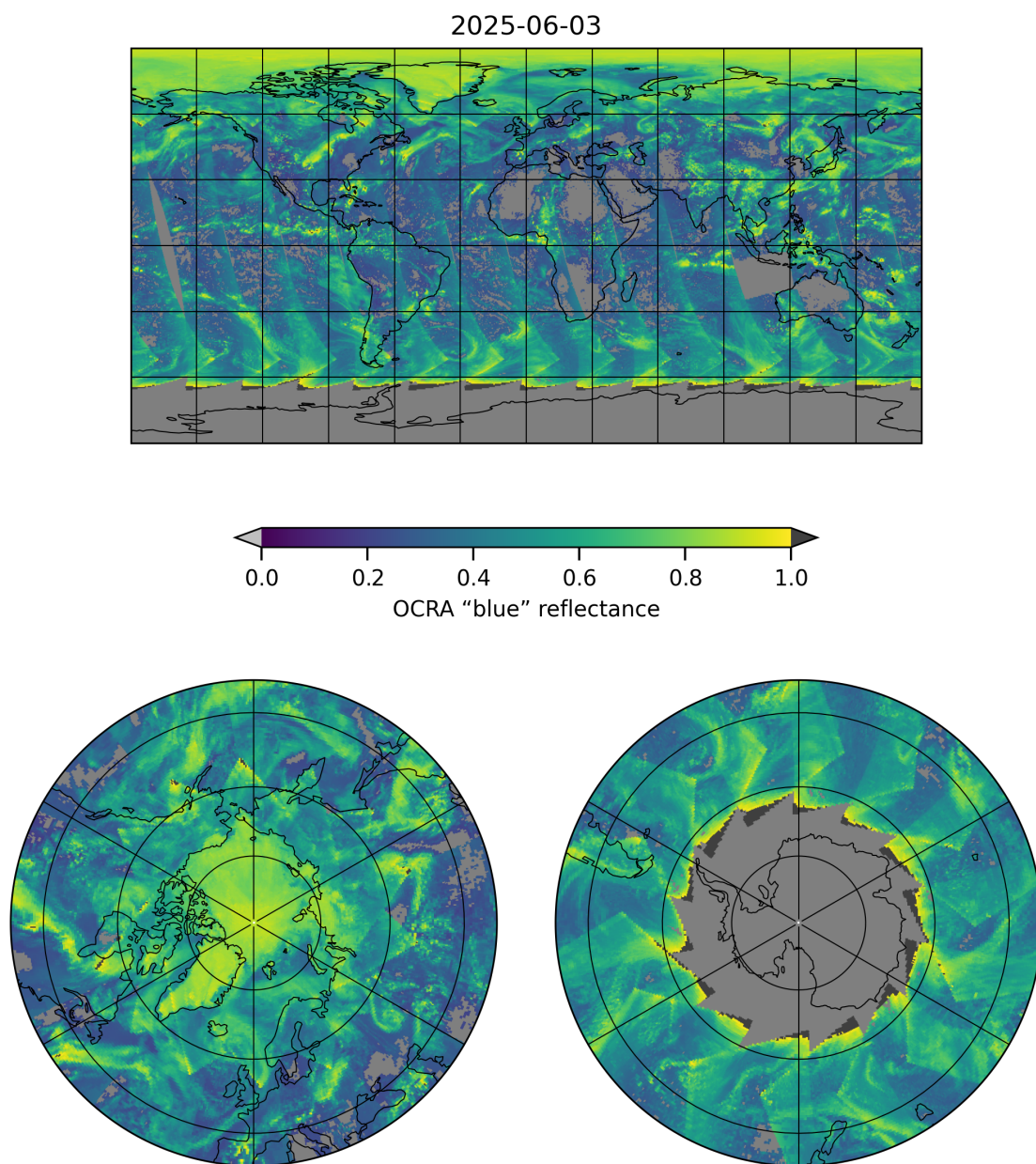


Figure 16: Map of "OCRA "blue" reflectance" for 2025-06-03 to 2025-06-04

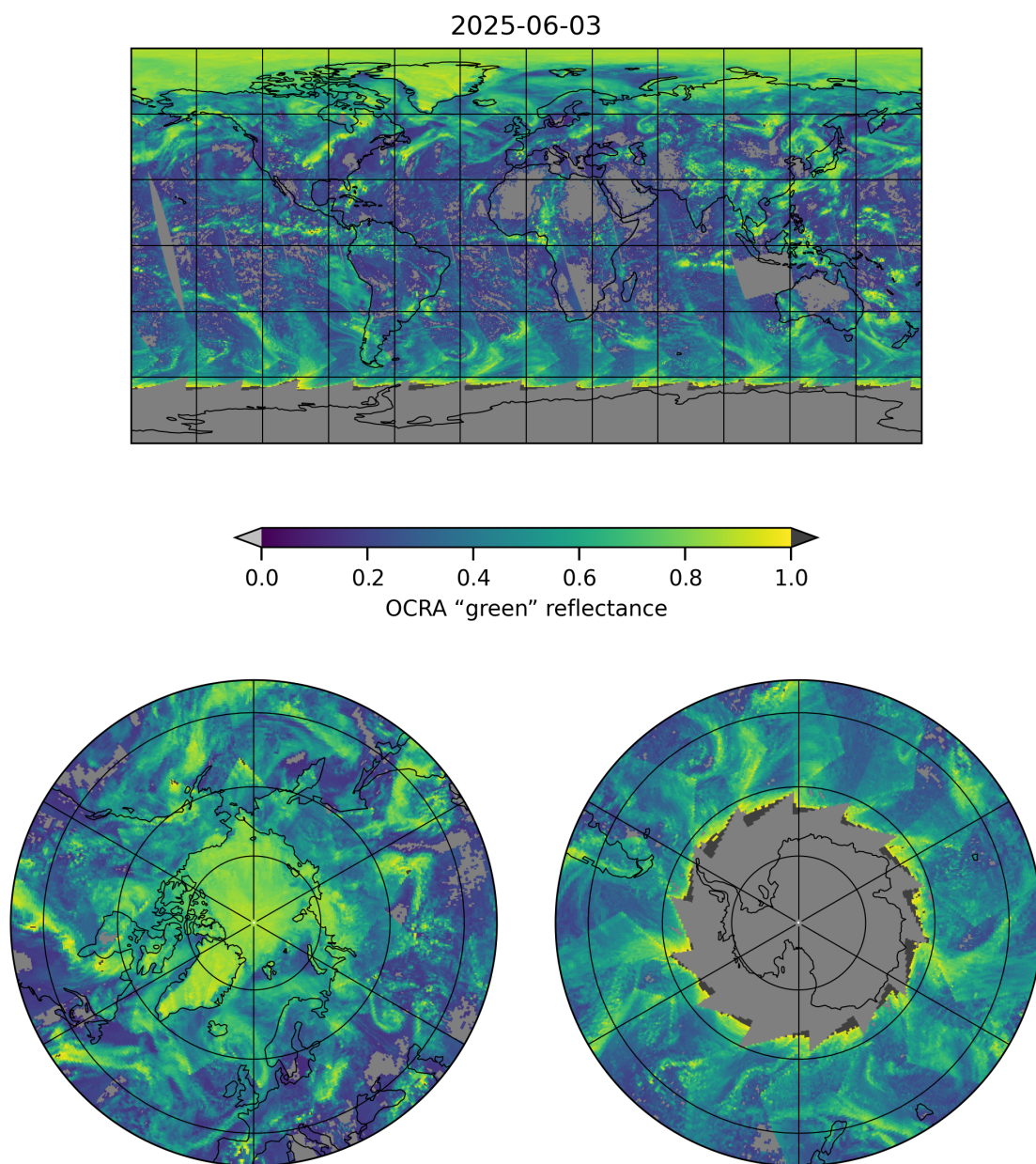


Figure 17: Map of "OCRA "green" reflectance" for 2025-06-03 to 2025-06-04

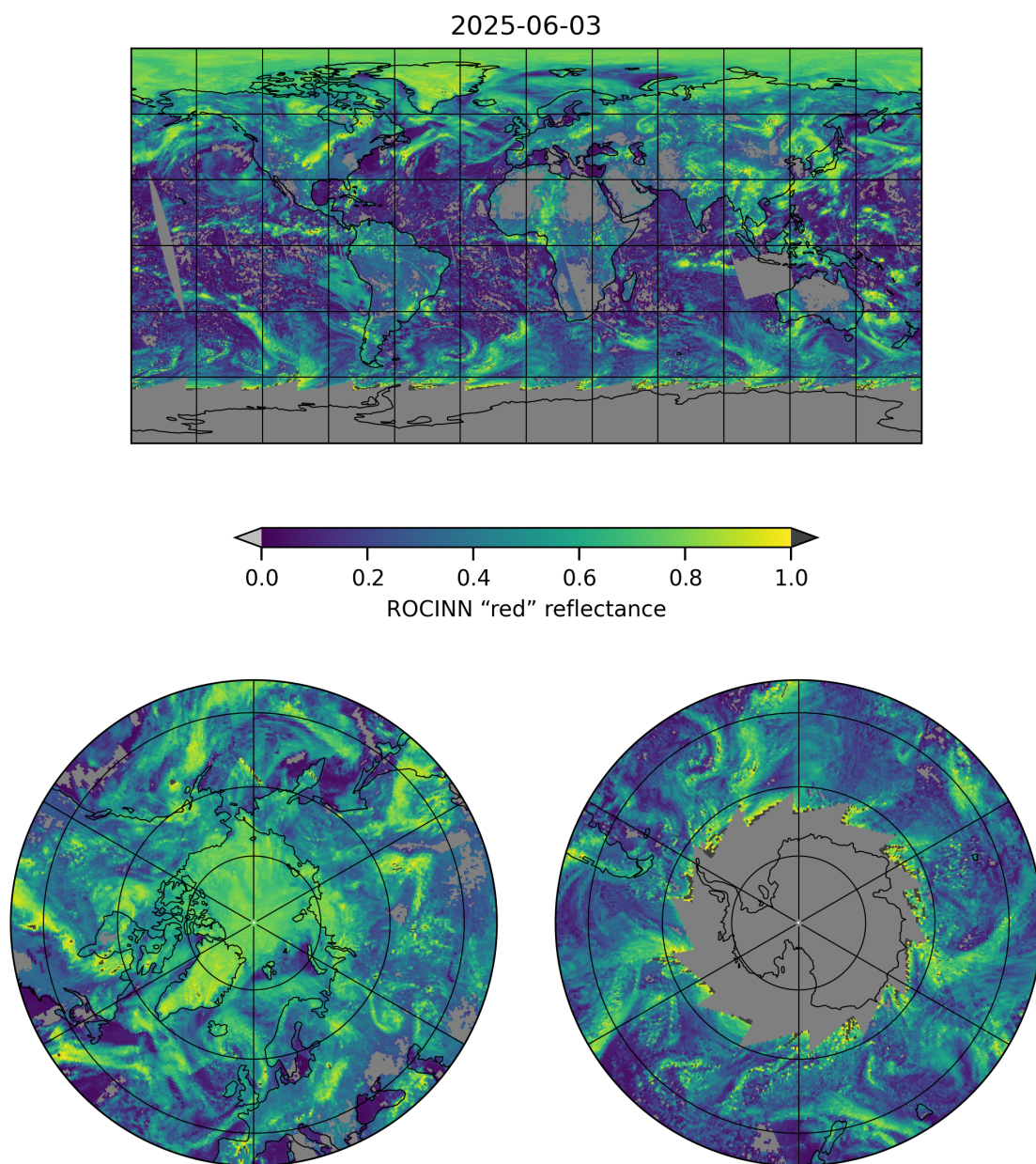


Figure 18: Map of "ROCINN "red" reflectance" for 2025-06-03 to 2025-06-04

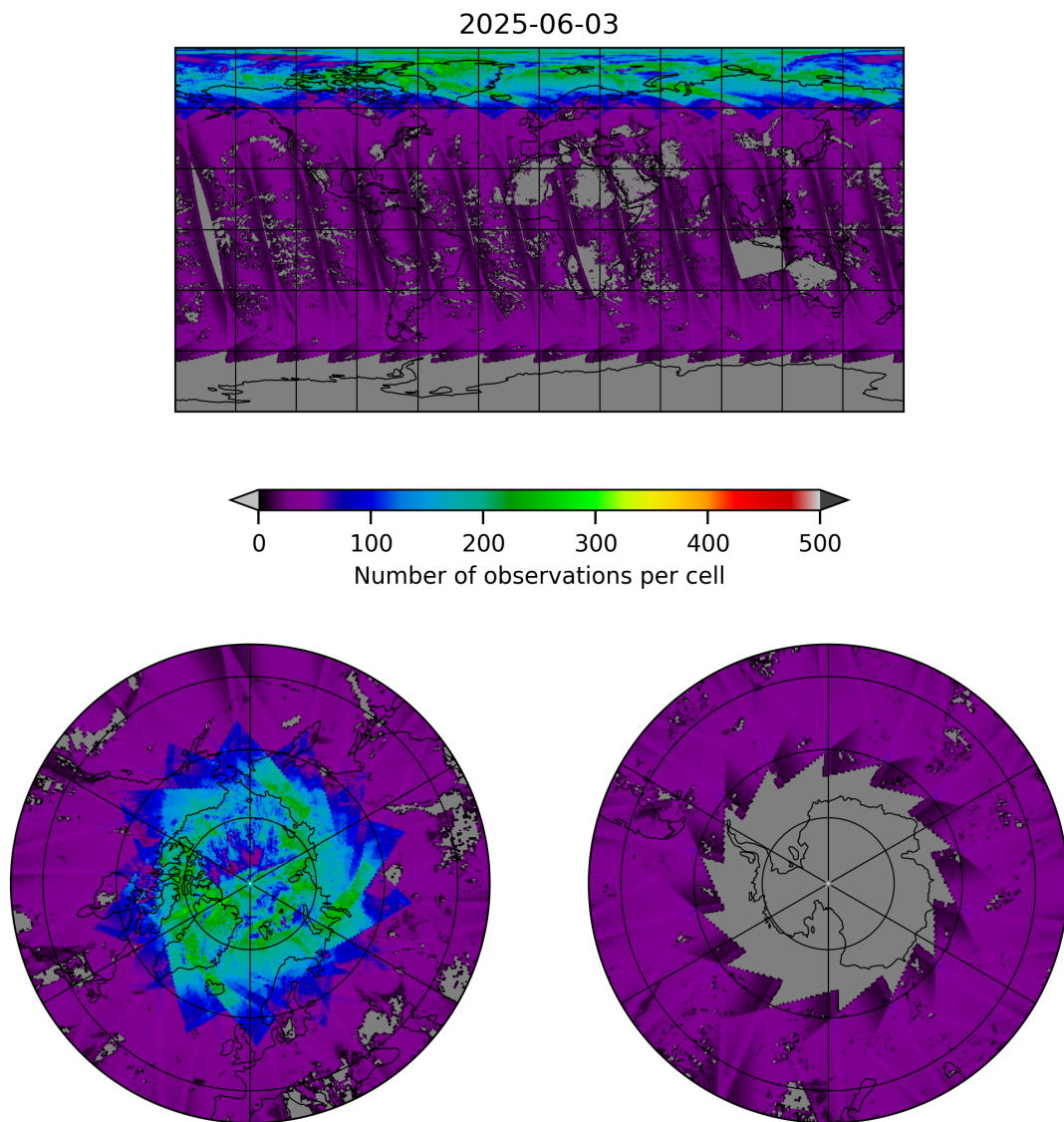


Figure 19: Map of the number of observations for 2025-06-03 to 2025-06-04

7 Zonal average

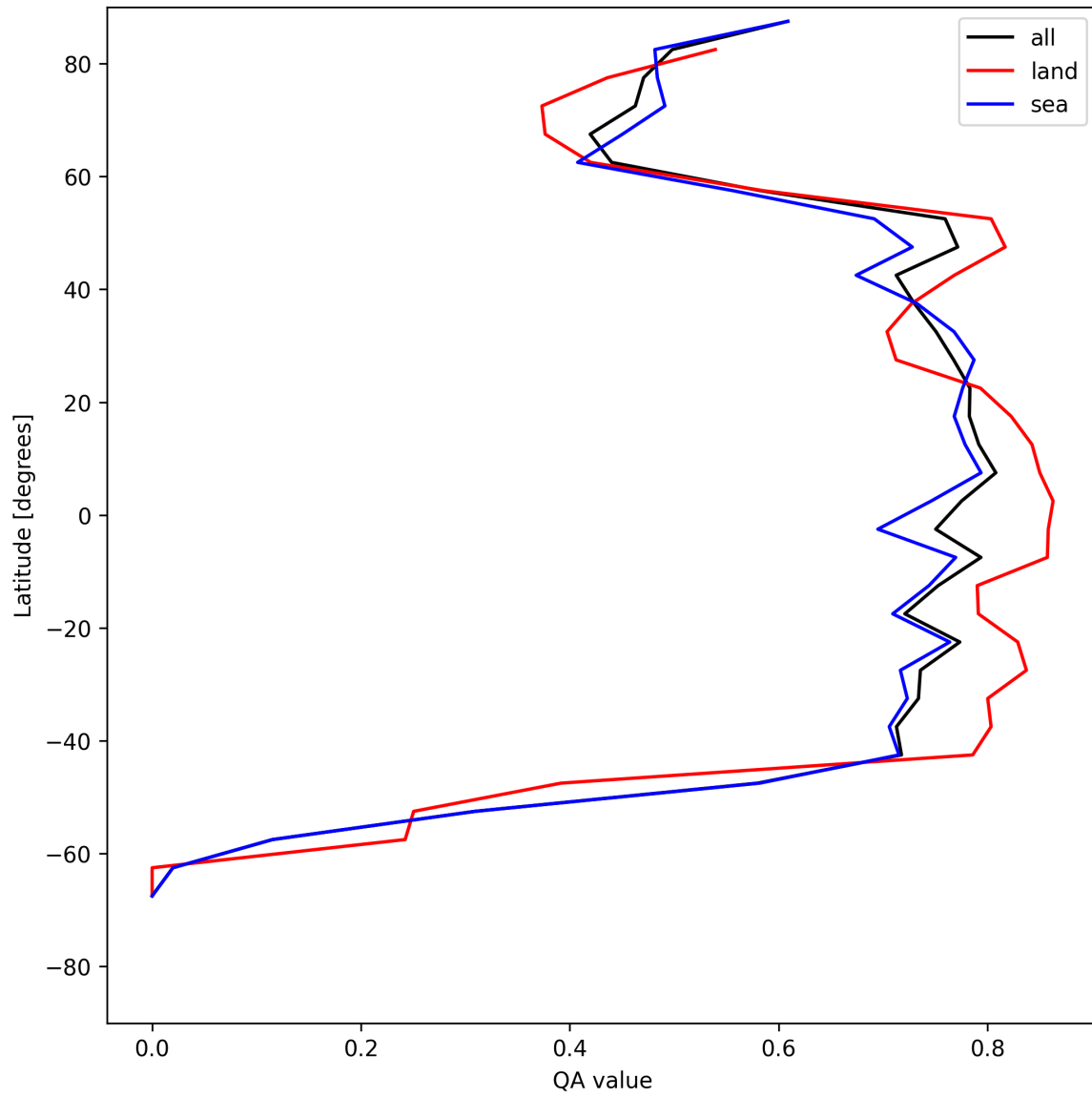


Figure 20: Zonal average of “QA value” for 2025-06-03 to 2025-06-04.

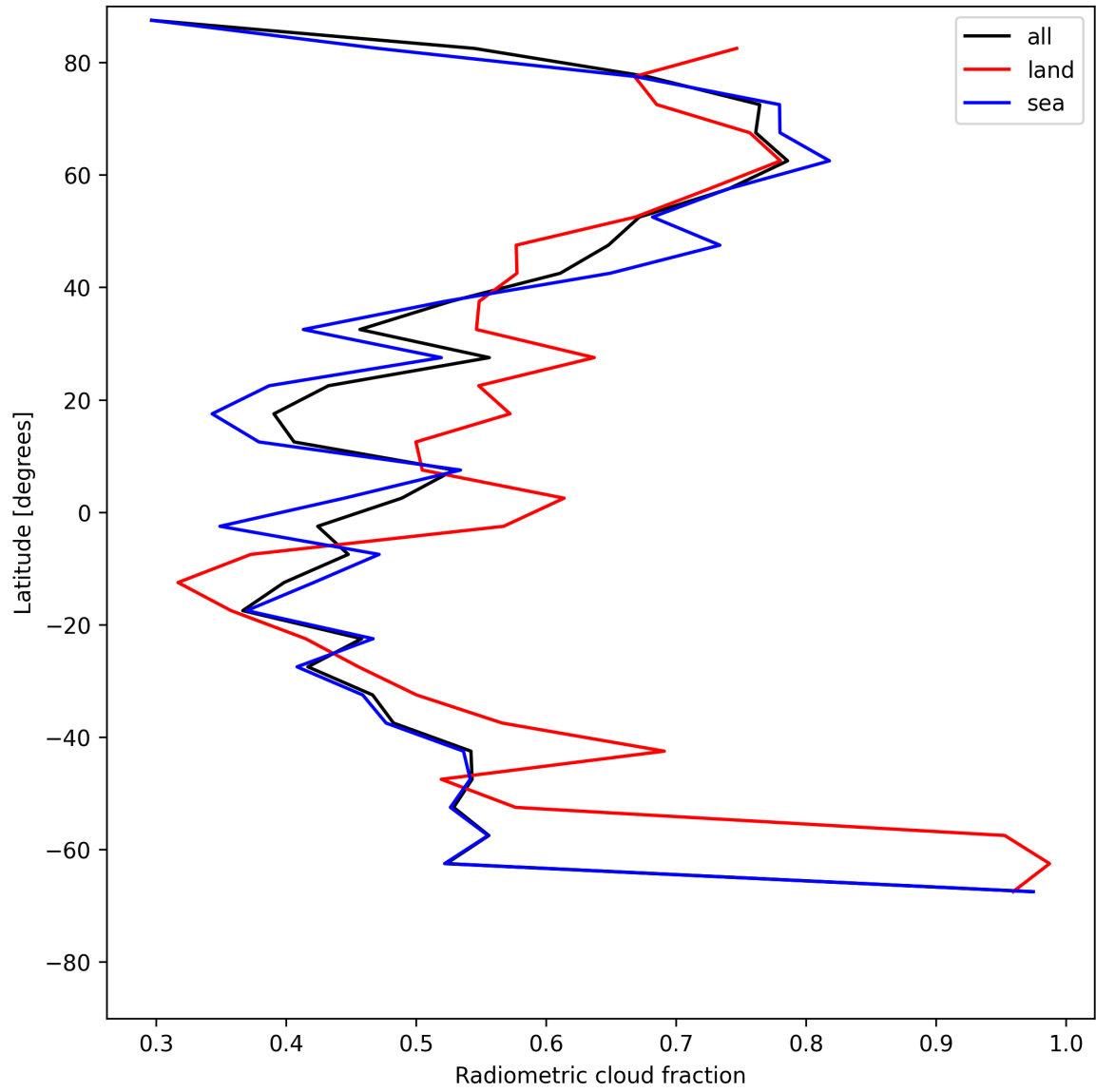


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-06-03 to 2025-06-04.

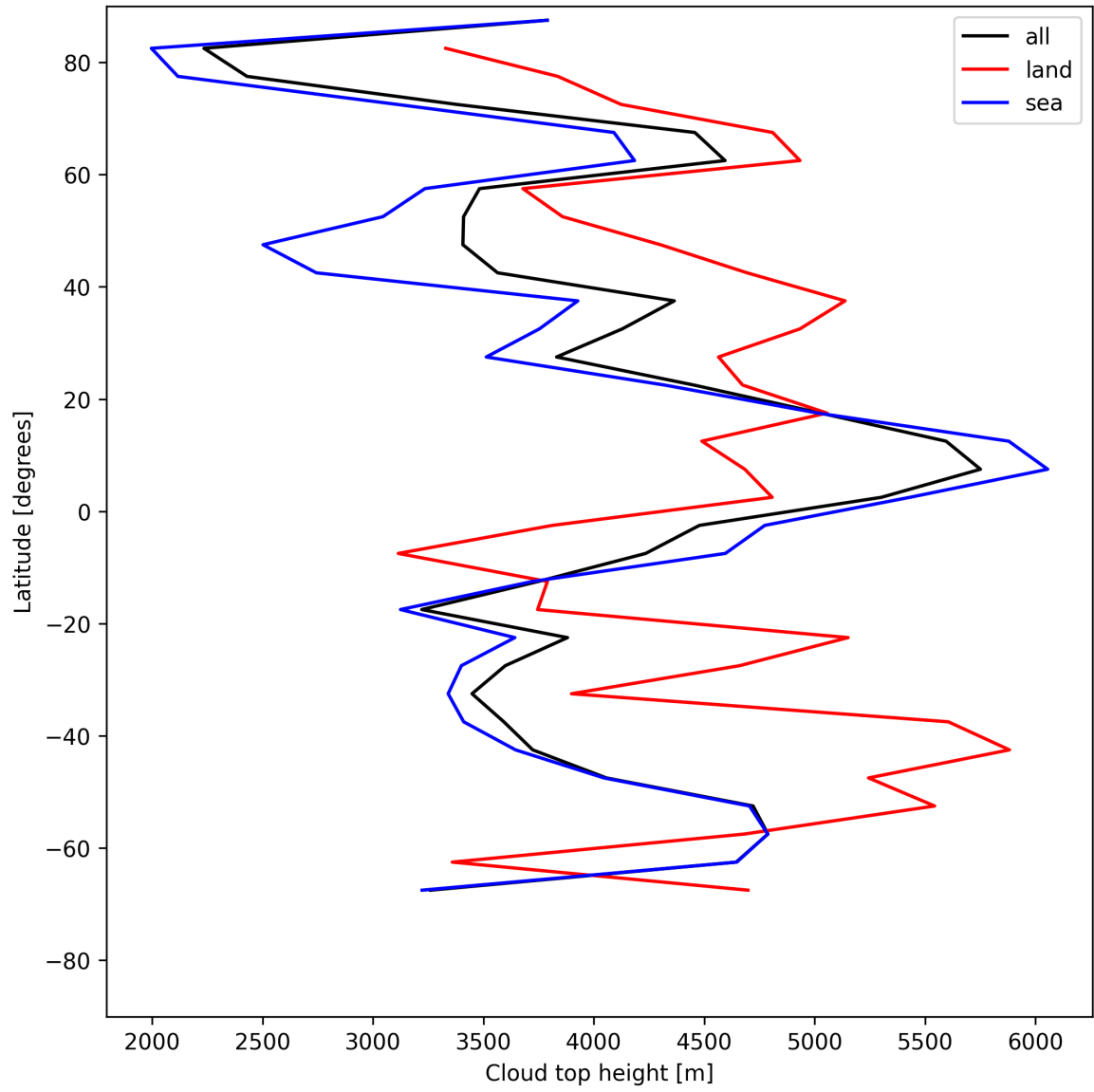


Figure 22: Zonal average of “Cloud top height” for 2025-06-03 to 2025-06-04.

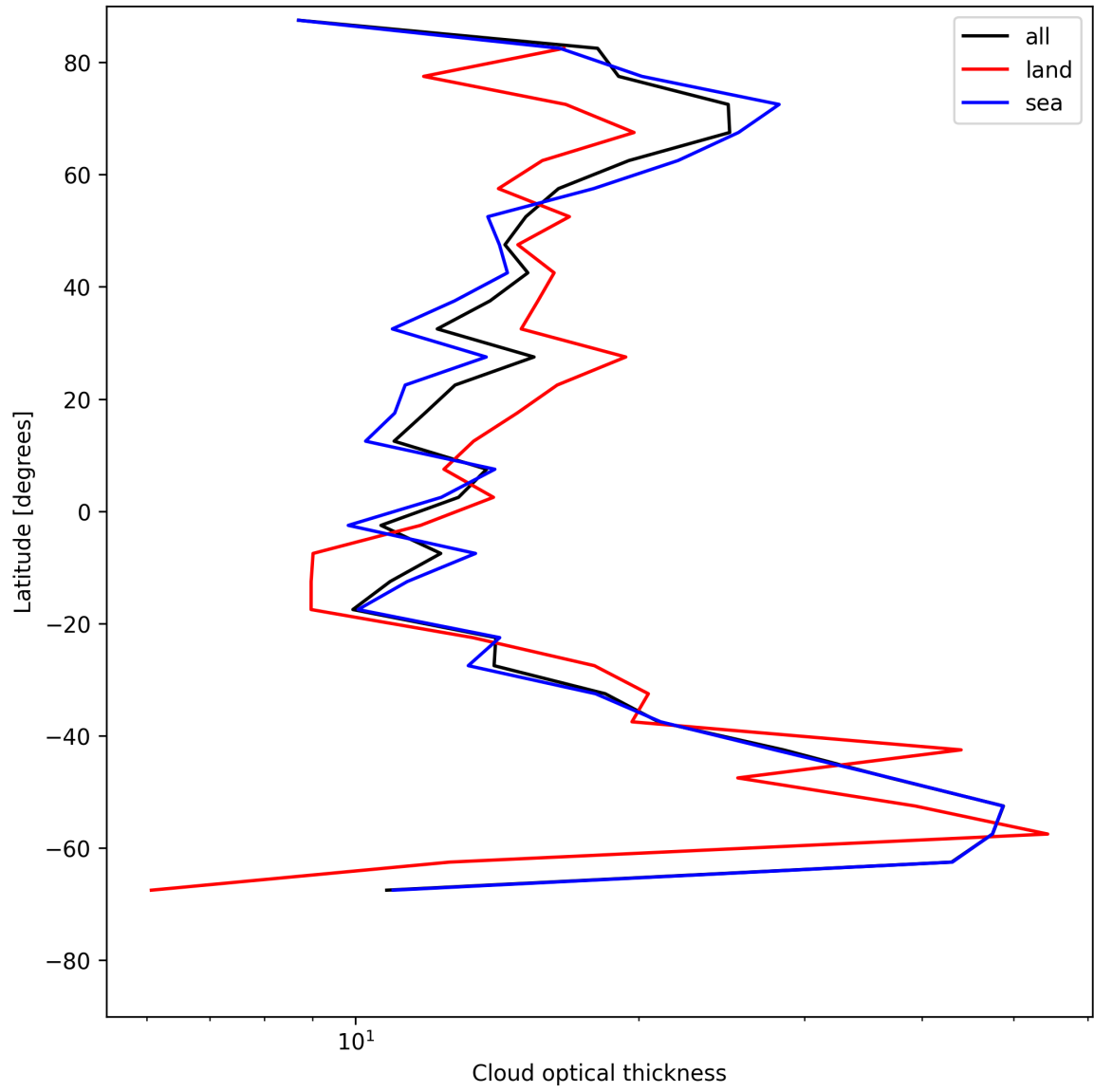


Figure 23: Zonal average of “Cloud optical thickness” for 2025-06-03 to 2025-06-04.

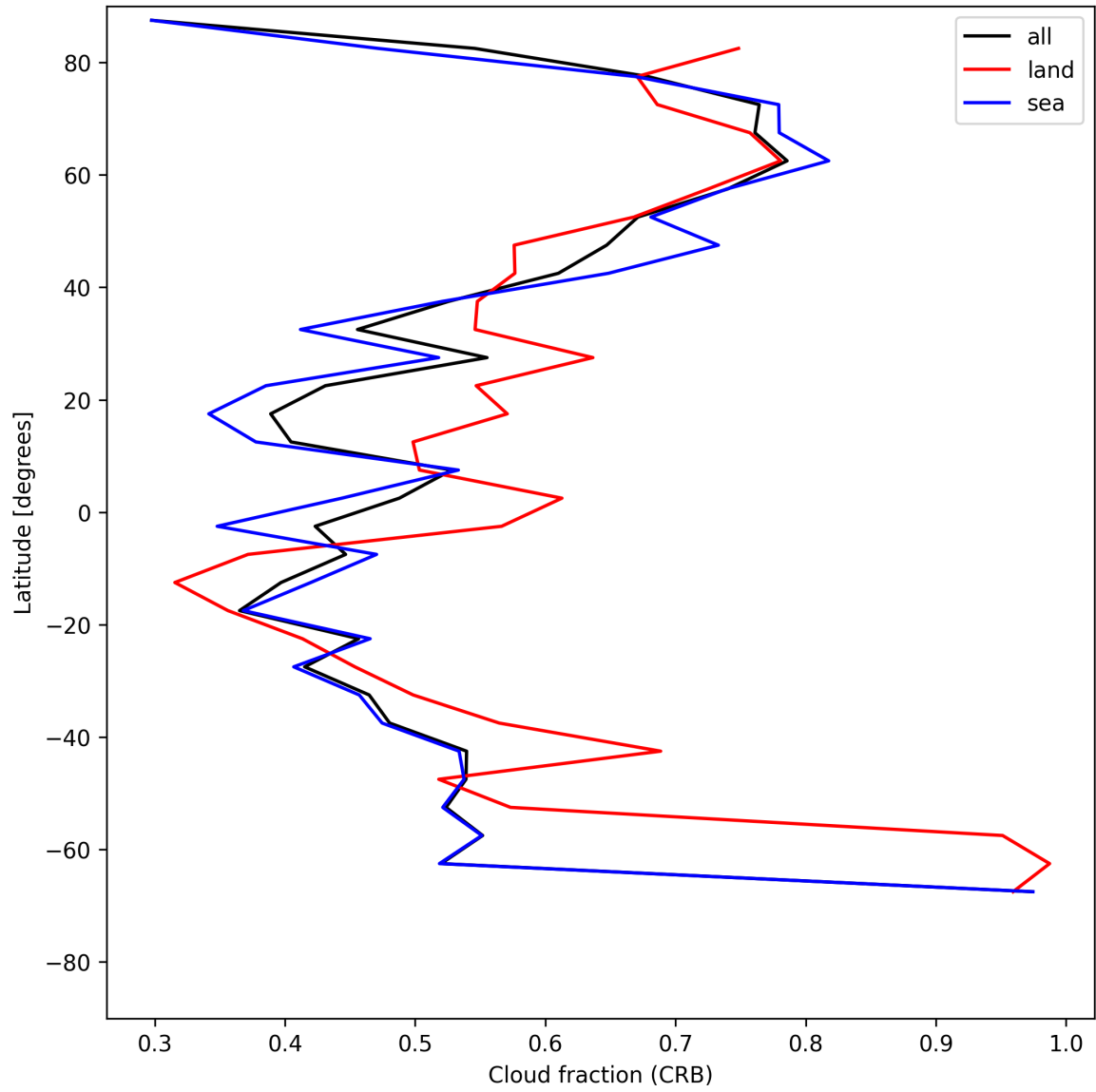


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-06-03 to 2025-06-04.

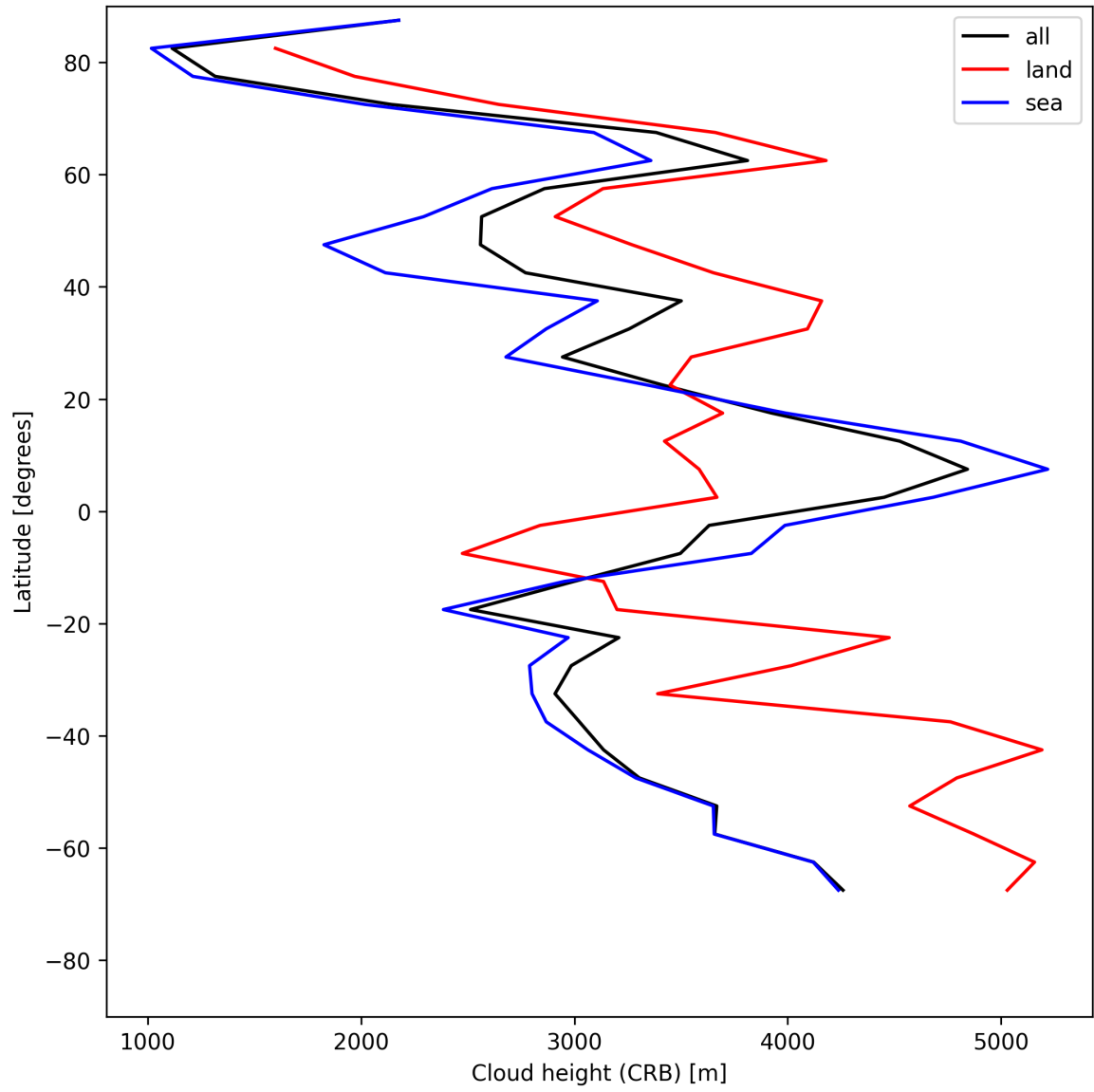


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-06-03 to 2025-06-04.

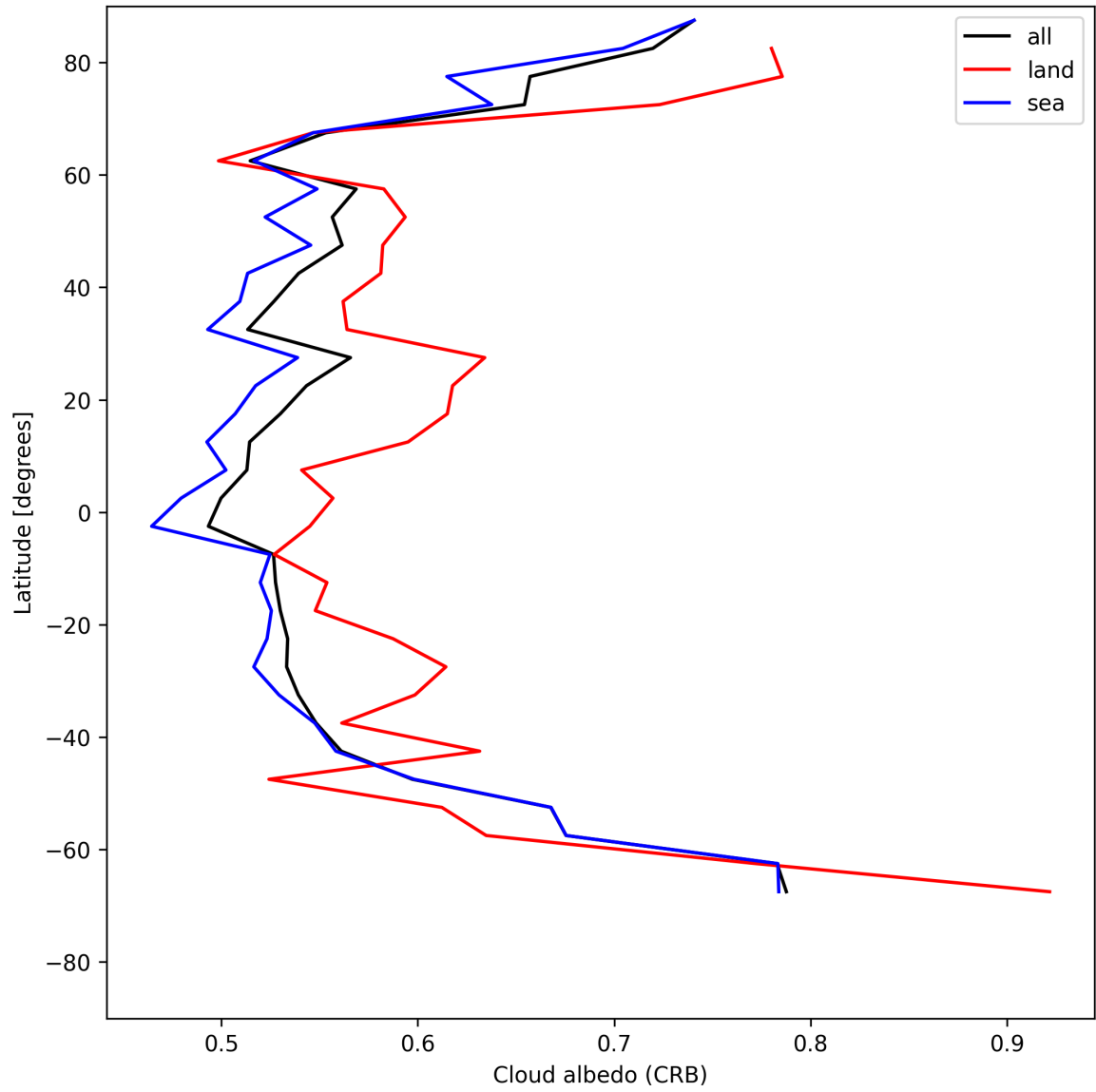


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-06-03 to 2025-06-04.

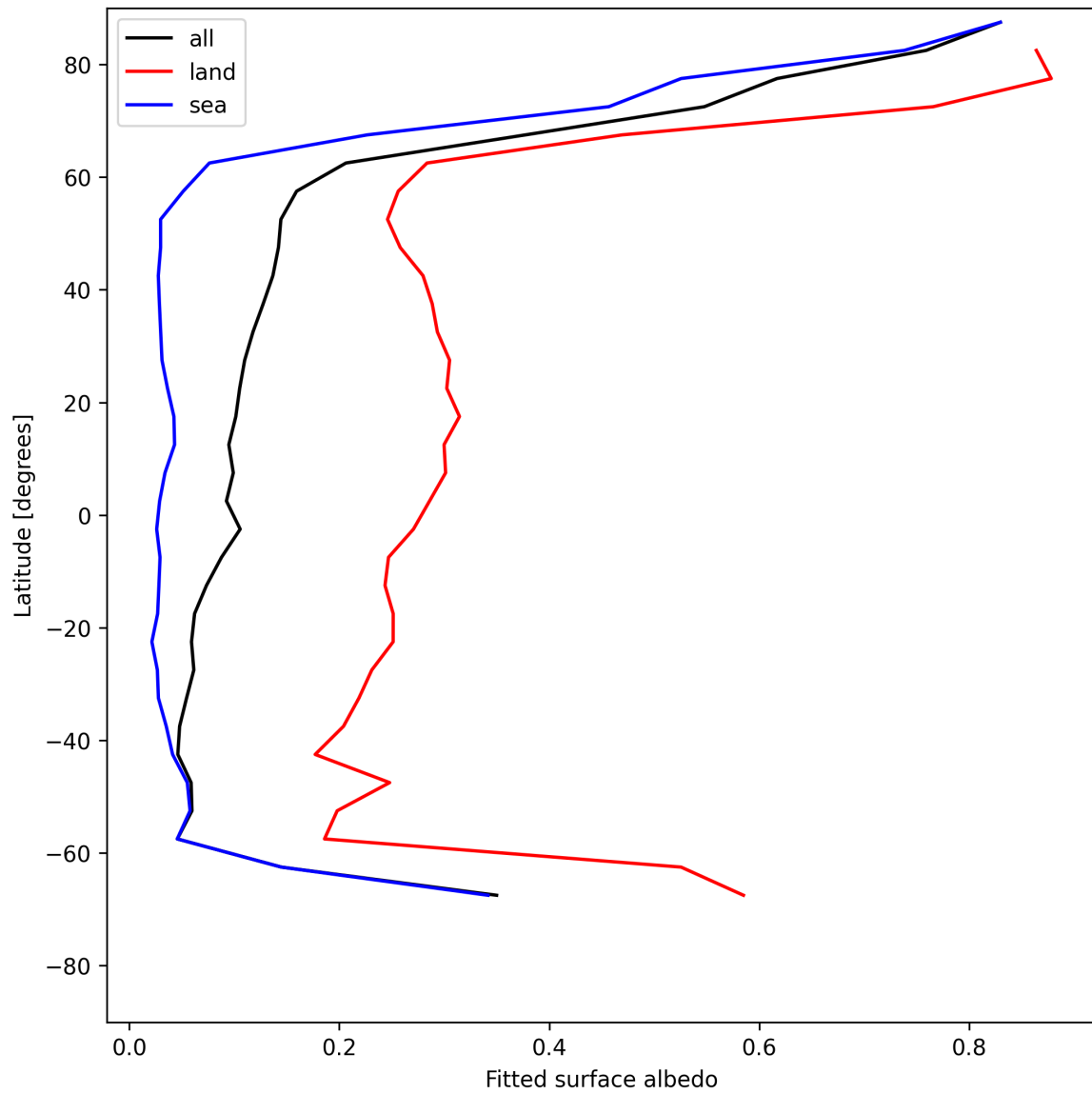


Figure 27: Zonal average of “Fitted surface albedo” for 2025-06-03 to 2025-06-04.

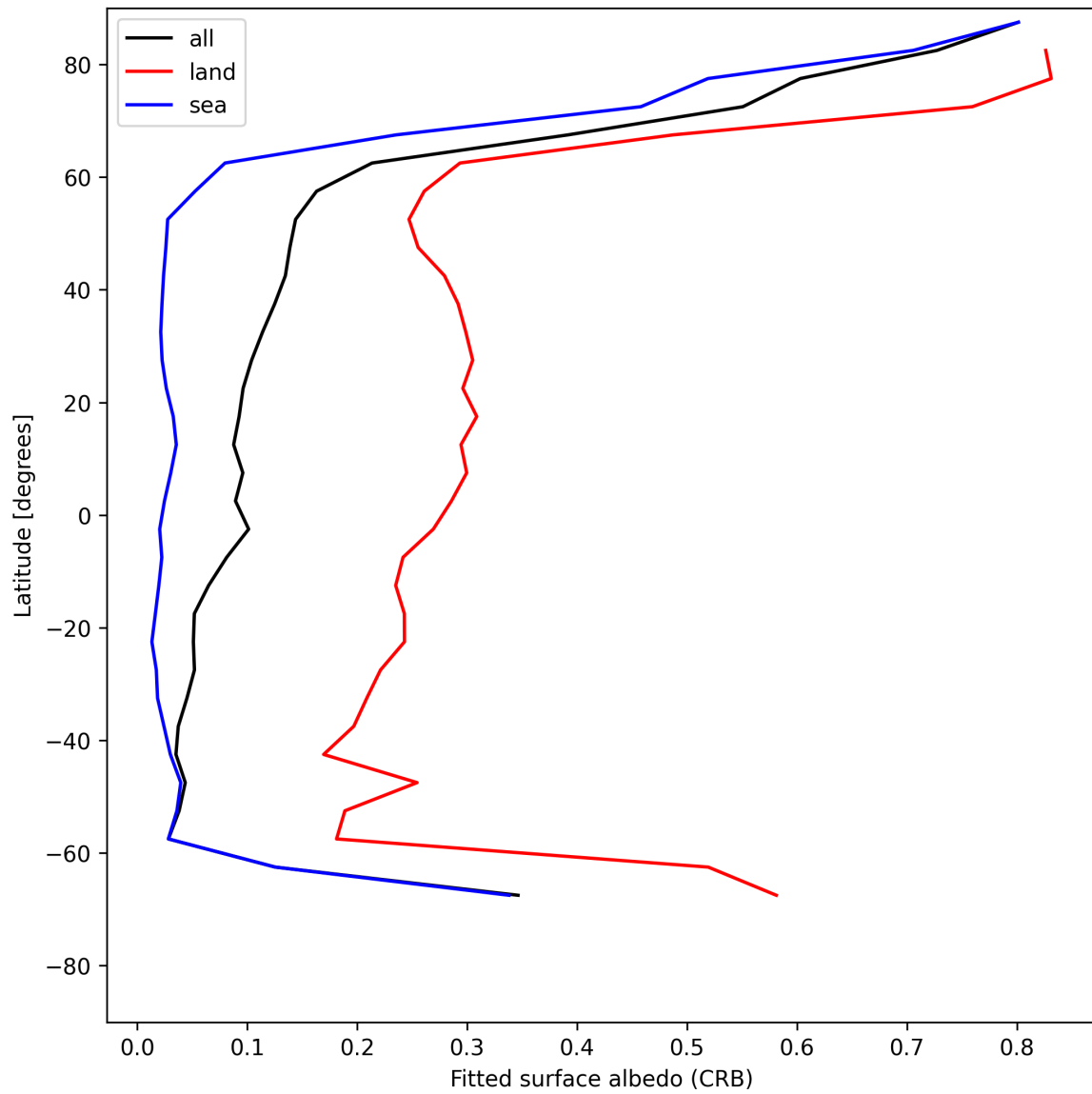


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-06-03 to 2025-06-04.

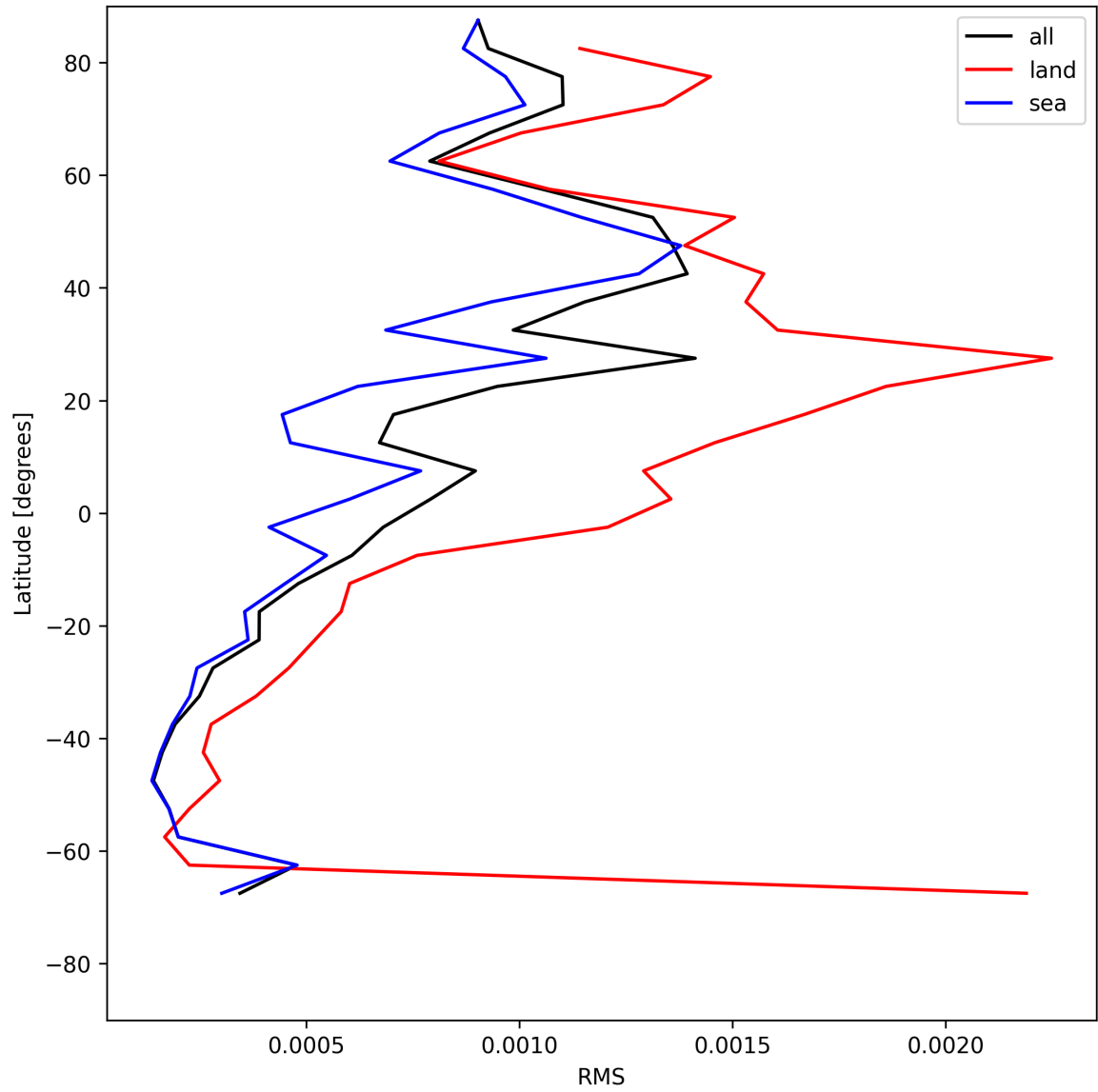


Figure 29: Zonal average of “RMS” for 2025-06-03 to 2025-06-04.

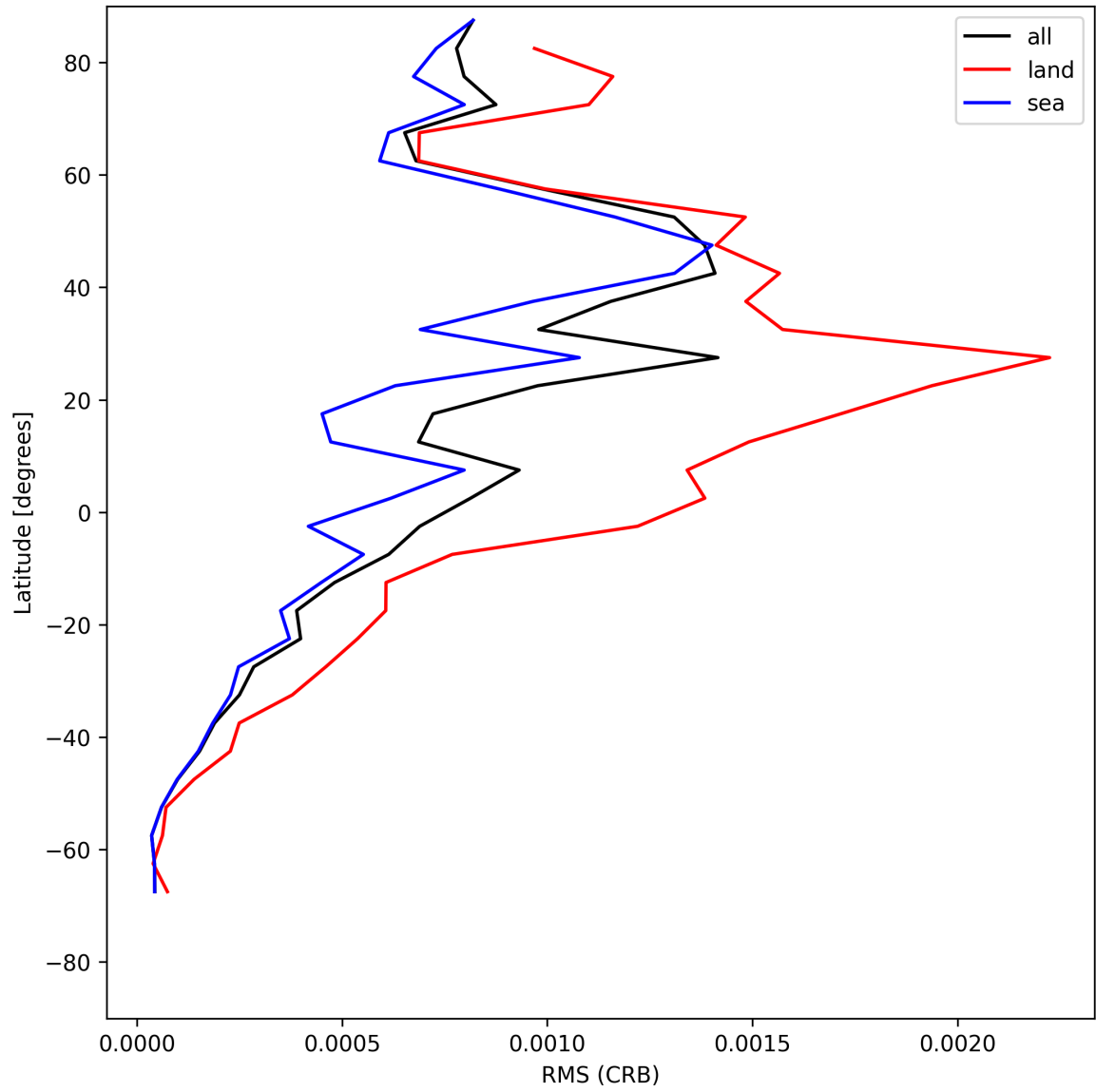


Figure 30: Zonal average of “RMS (CRB)” for 2025-06-03 to 2025-06-04.

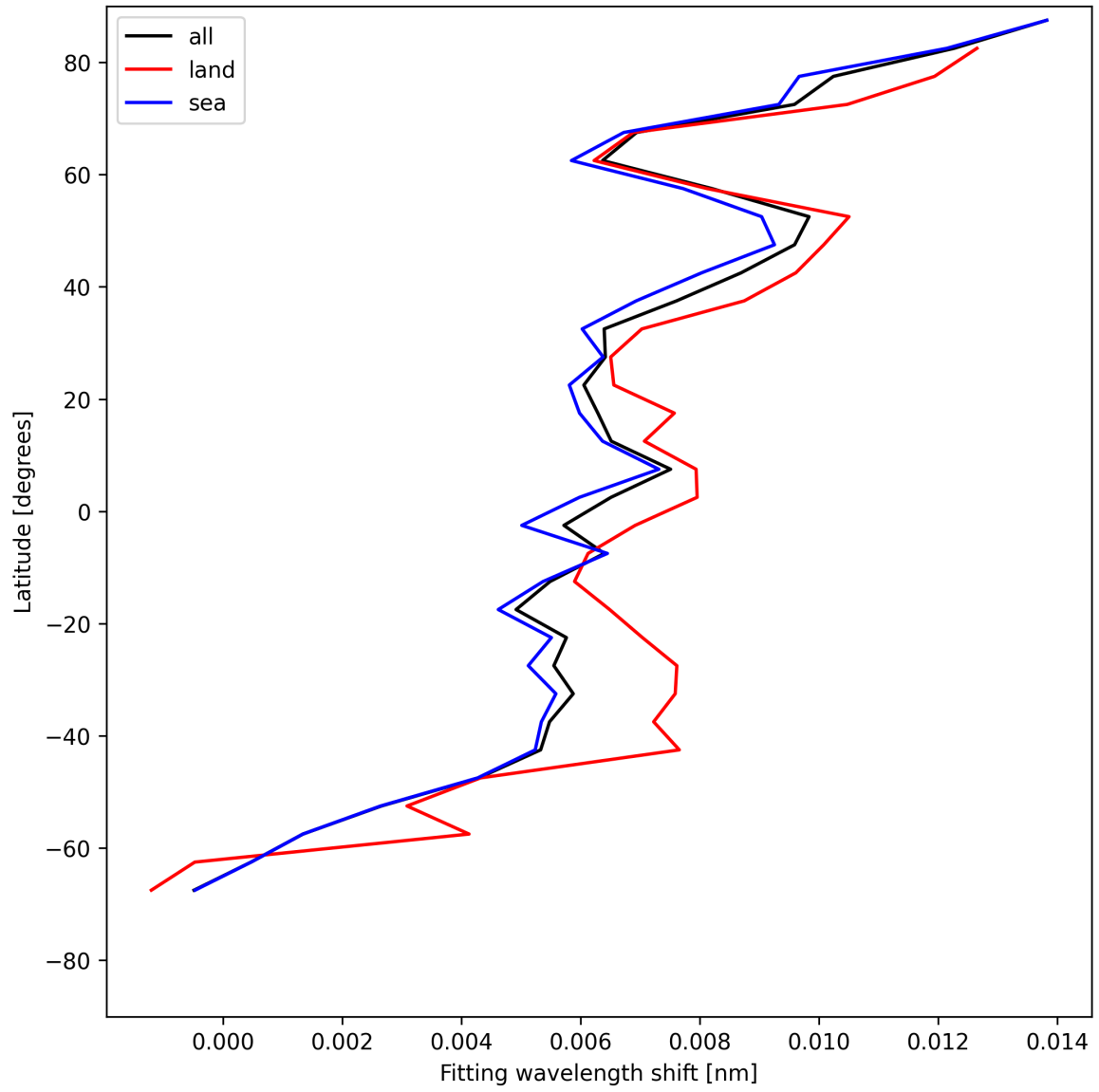


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-06-03 to 2025-06-04.

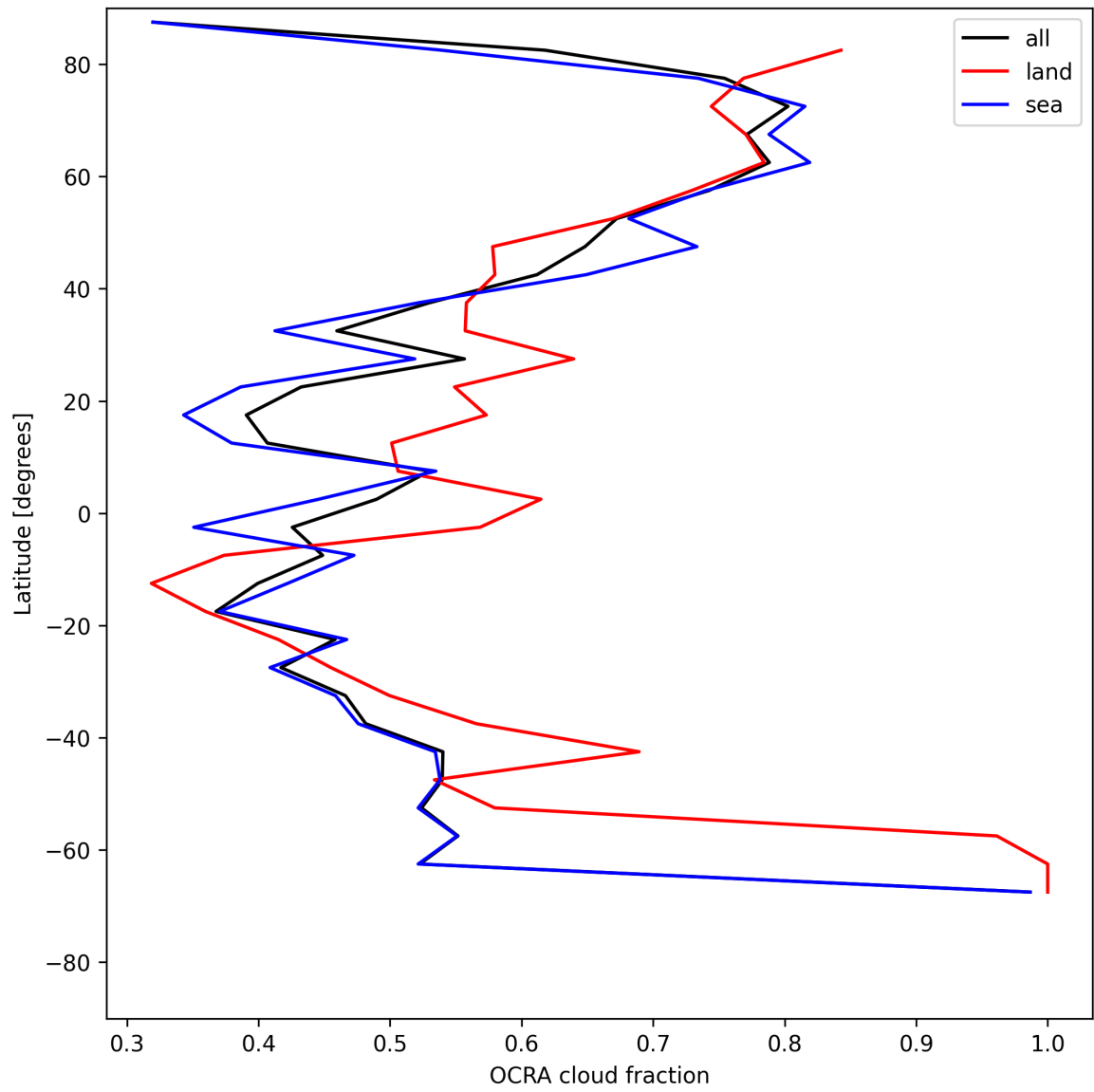


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-06-03 to 2025-06-04.

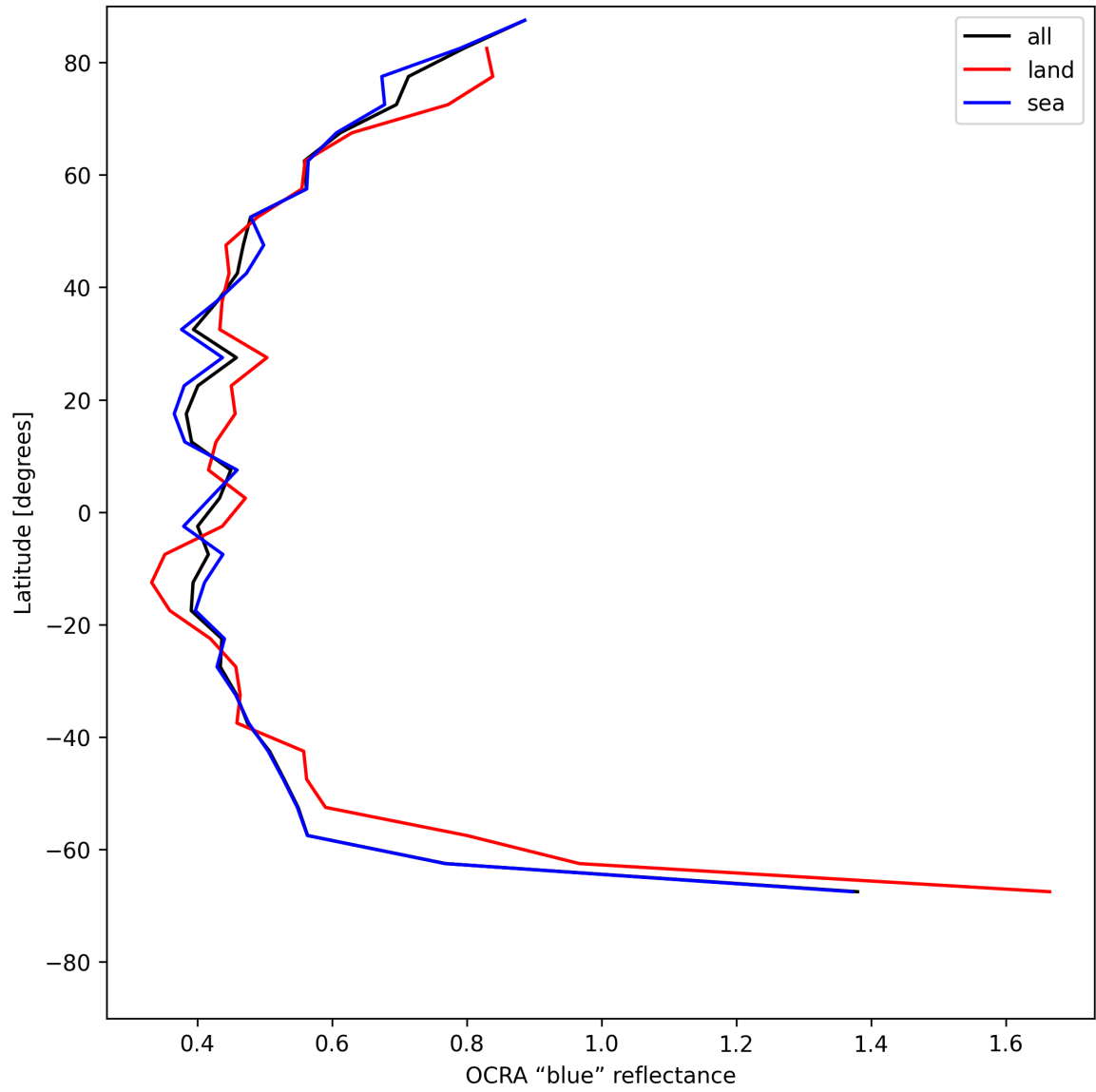


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-06-03 to 2025-06-04.

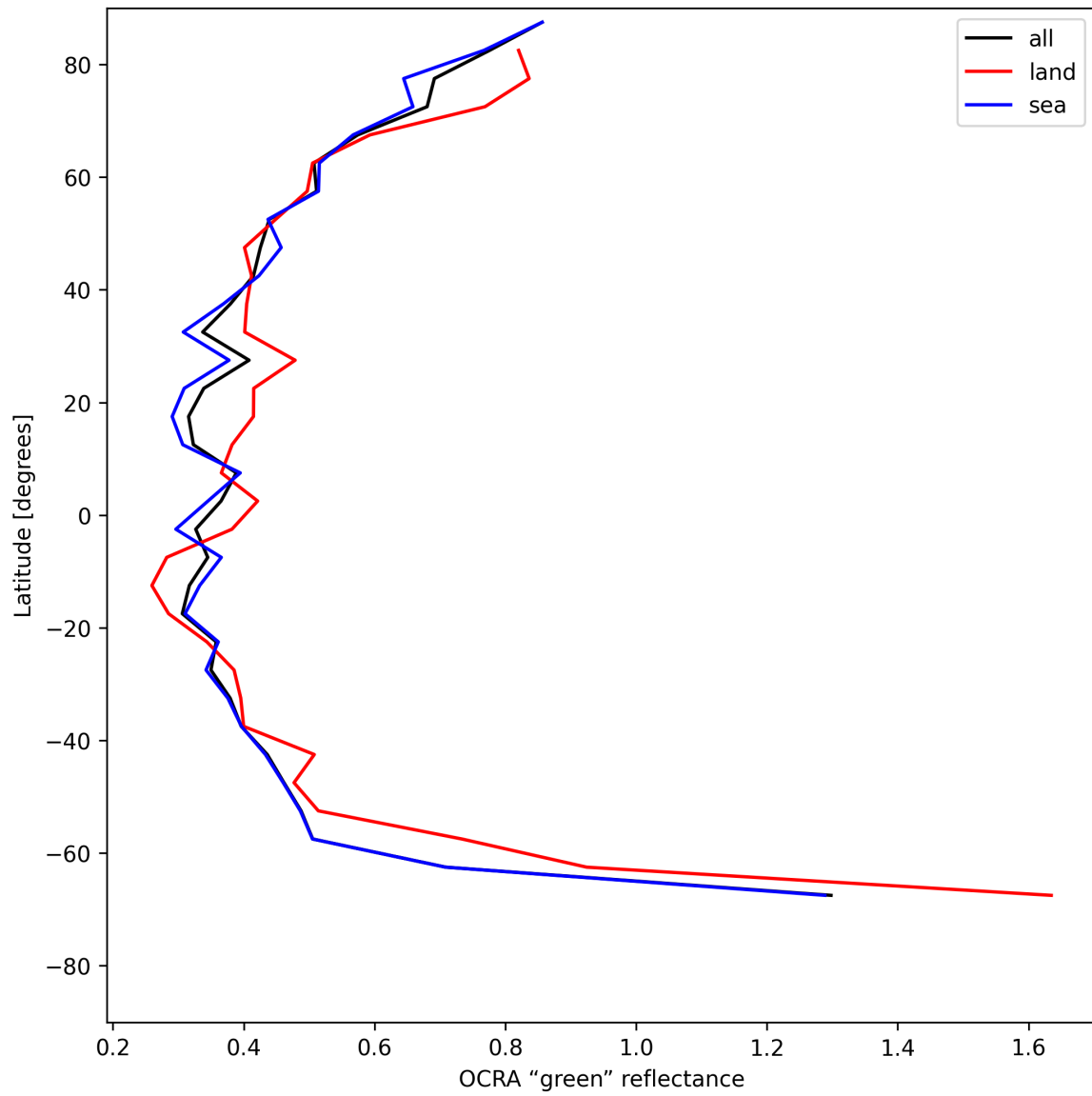


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-06-03 to 2025-06-04.

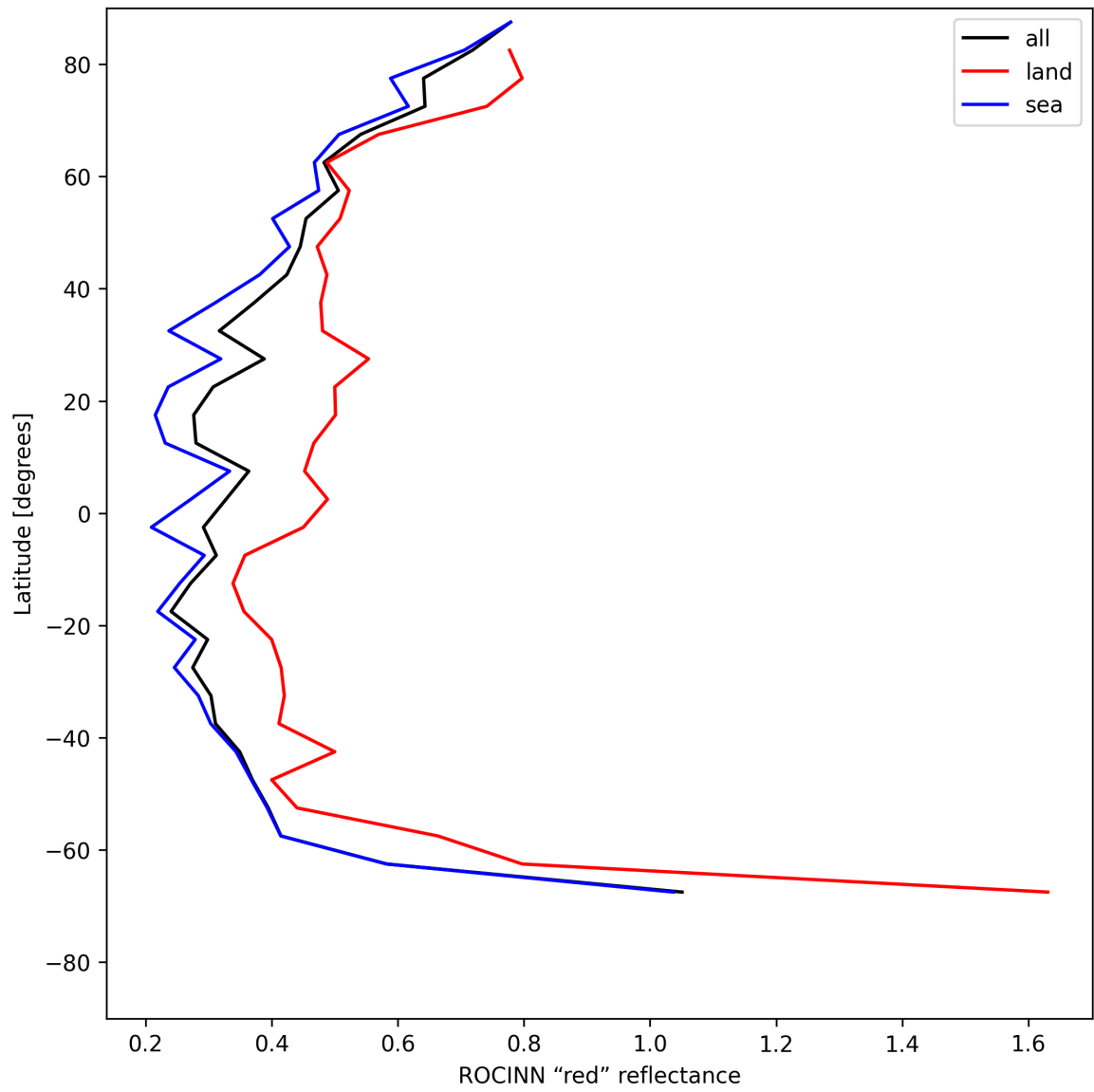


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-06-03 to 2025-06-04.

8 Histograms

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

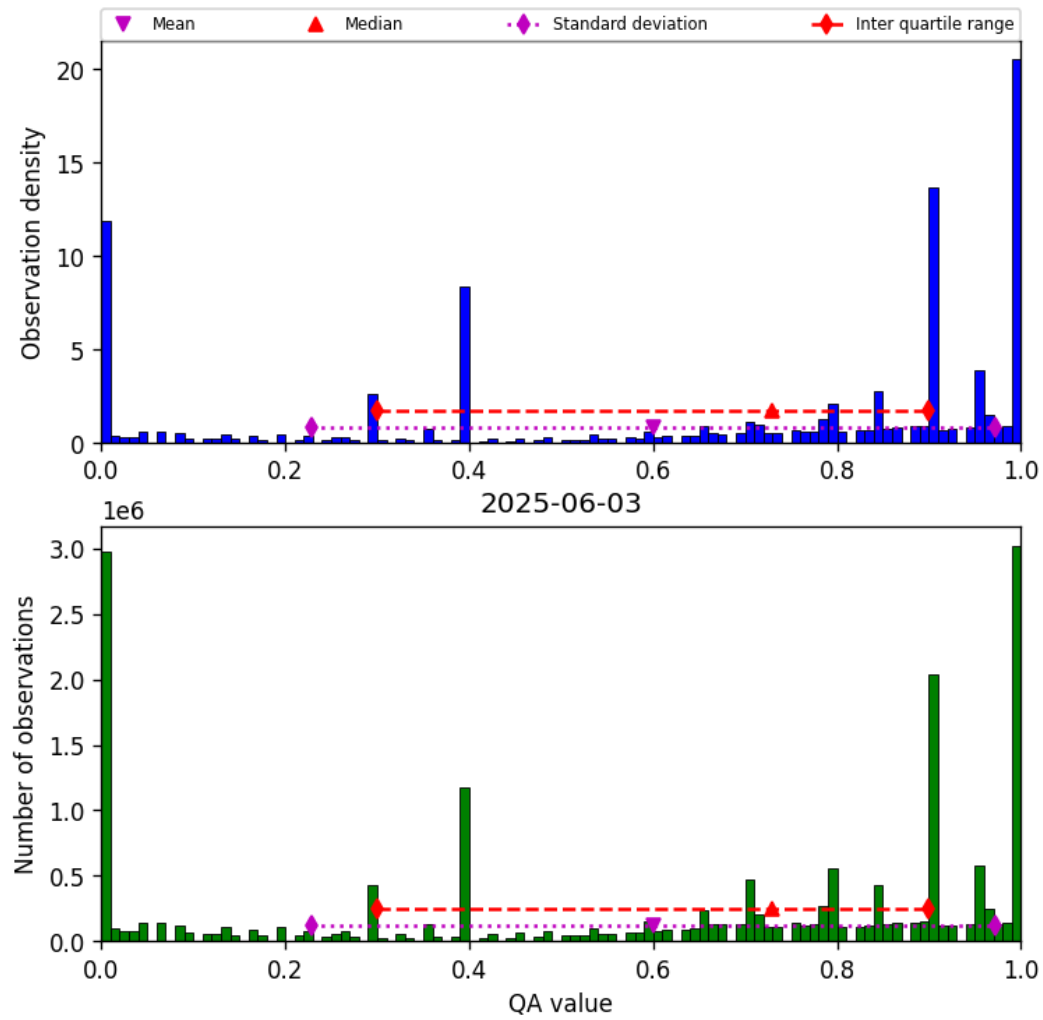


Figure 36: Histogram of “QA value” for 2025-06-03 to 2025-06-04

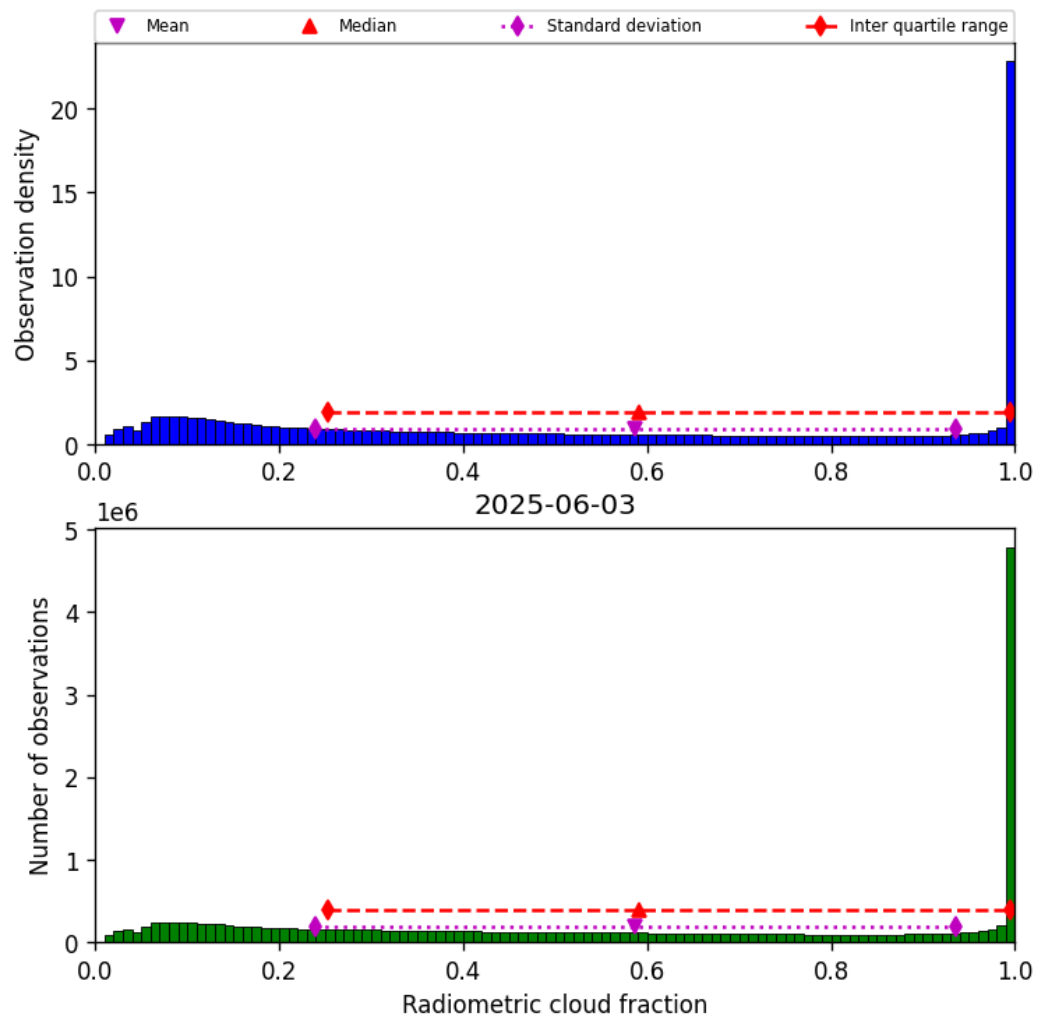


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-06-03 to 2025-06-04

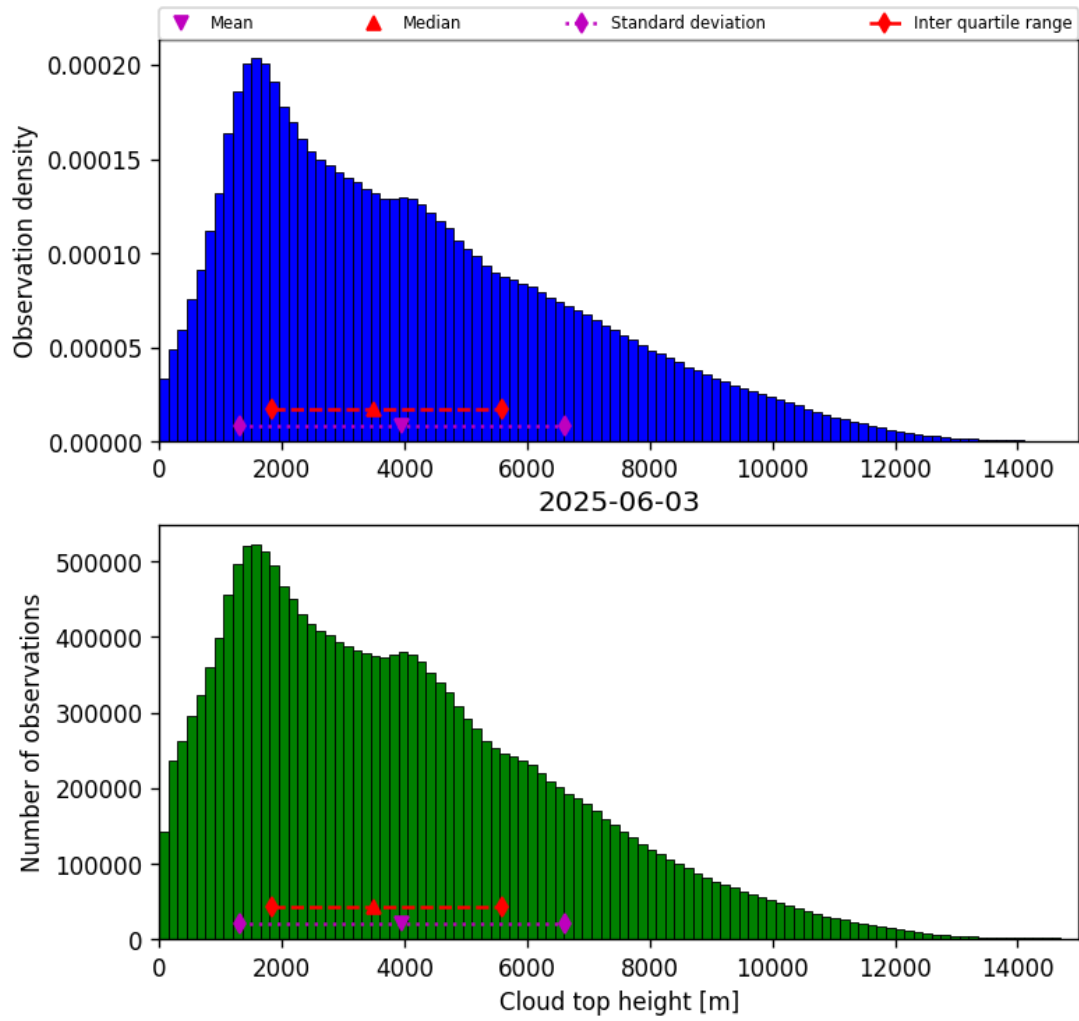


Figure 38: Histogram of “Cloud top height” for 2025-06-03 to 2025-06-04

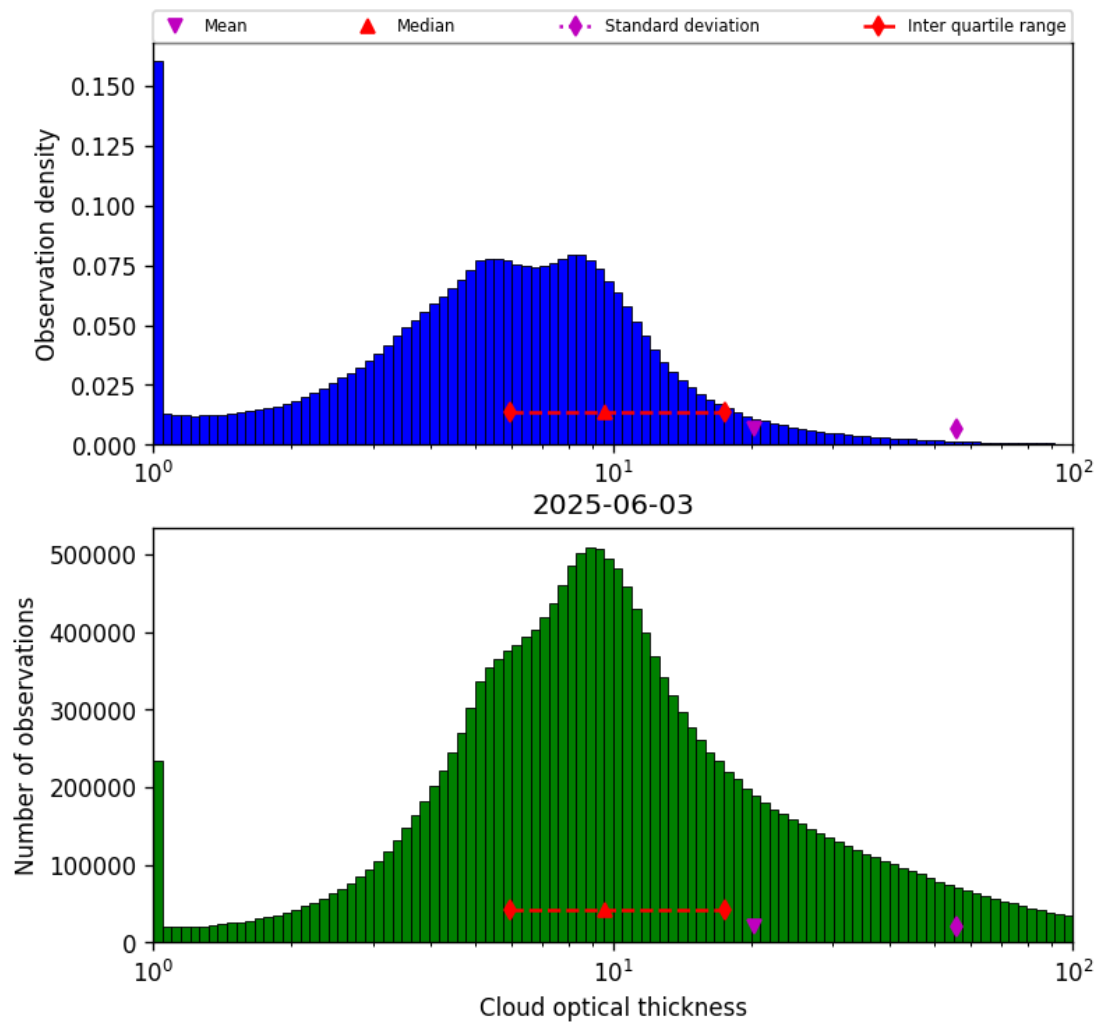


Figure 39: Histogram of “Cloud optical thickness” for 2025-06-03 to 2025-06-04

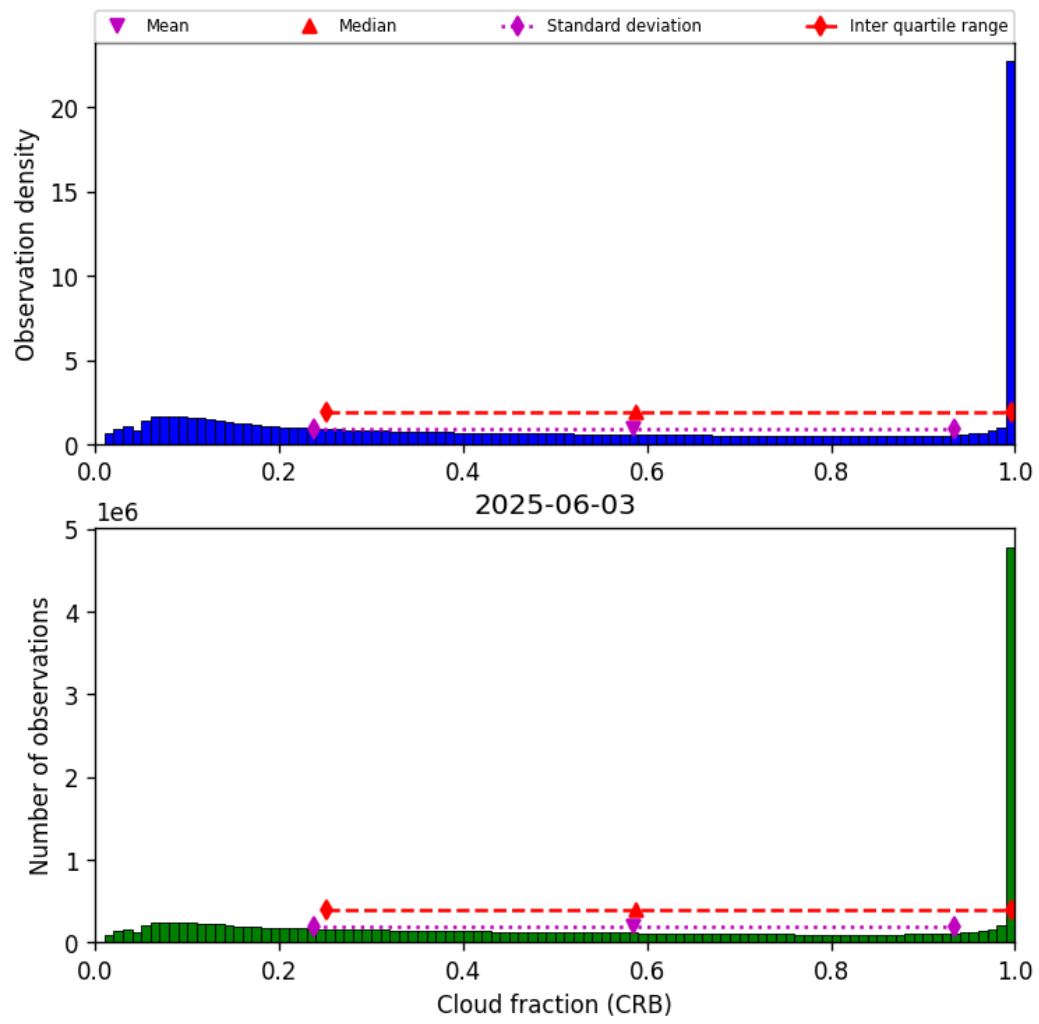


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-06-03 to 2025-06-04

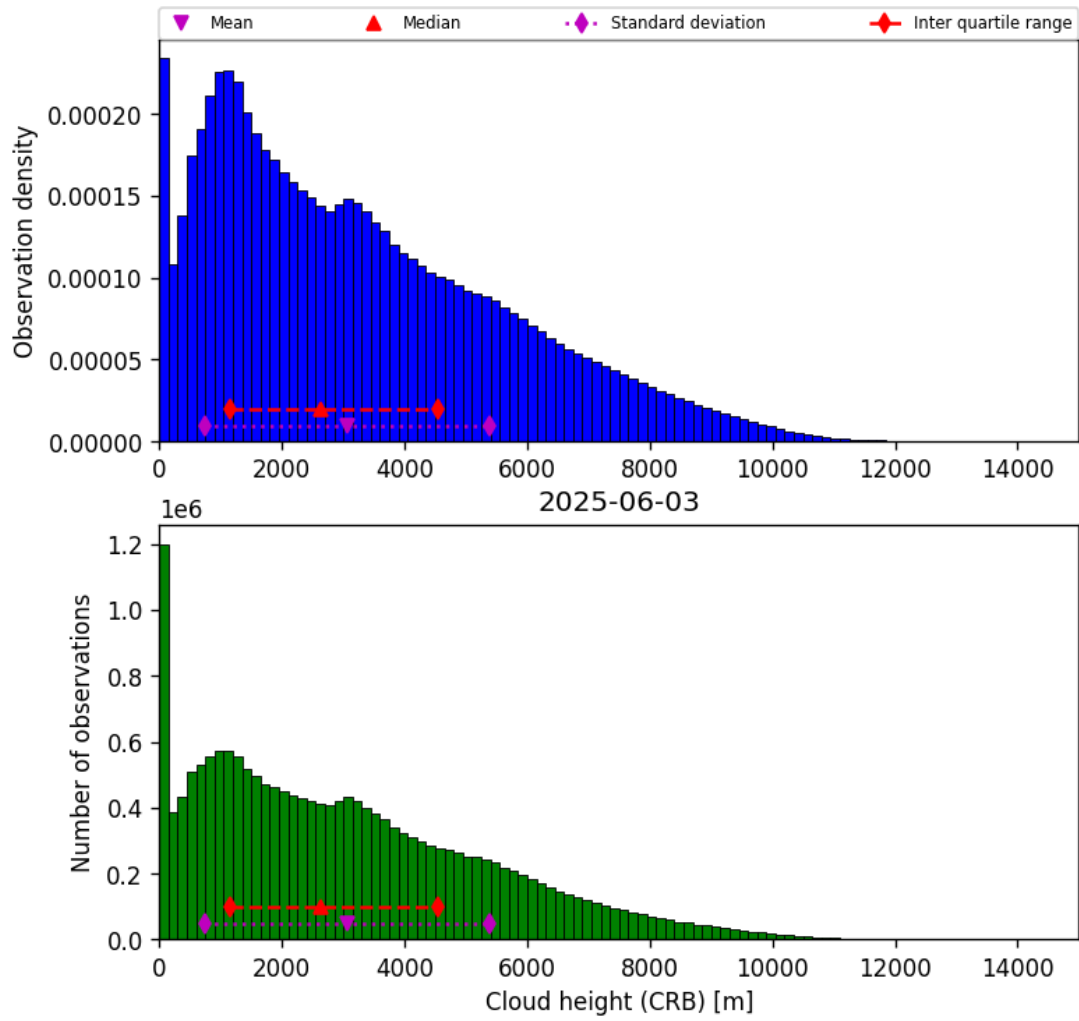


Figure 41: Histogram of “Cloud height (CRB)” for 2025-06-03 to 2025-06-04

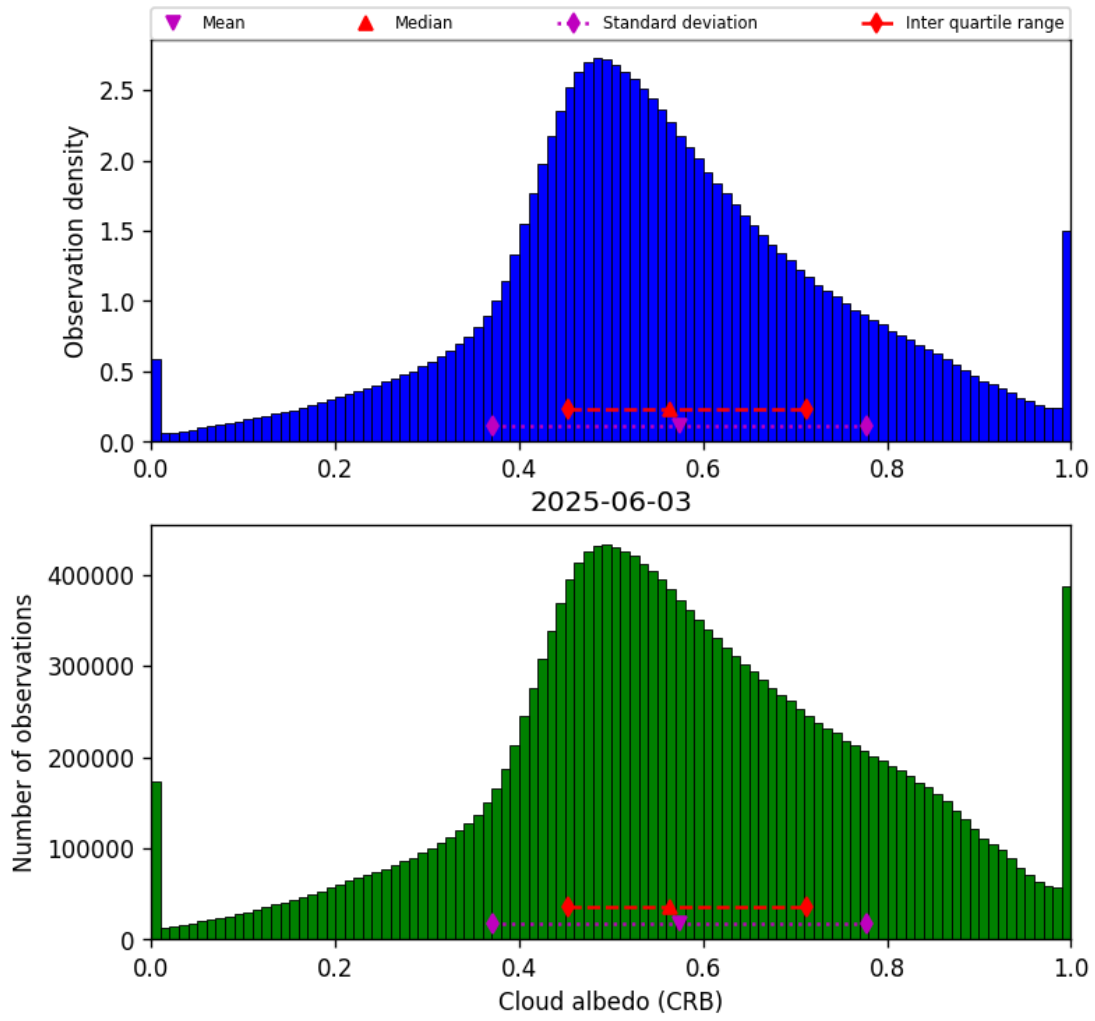


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-06-03 to 2025-06-04

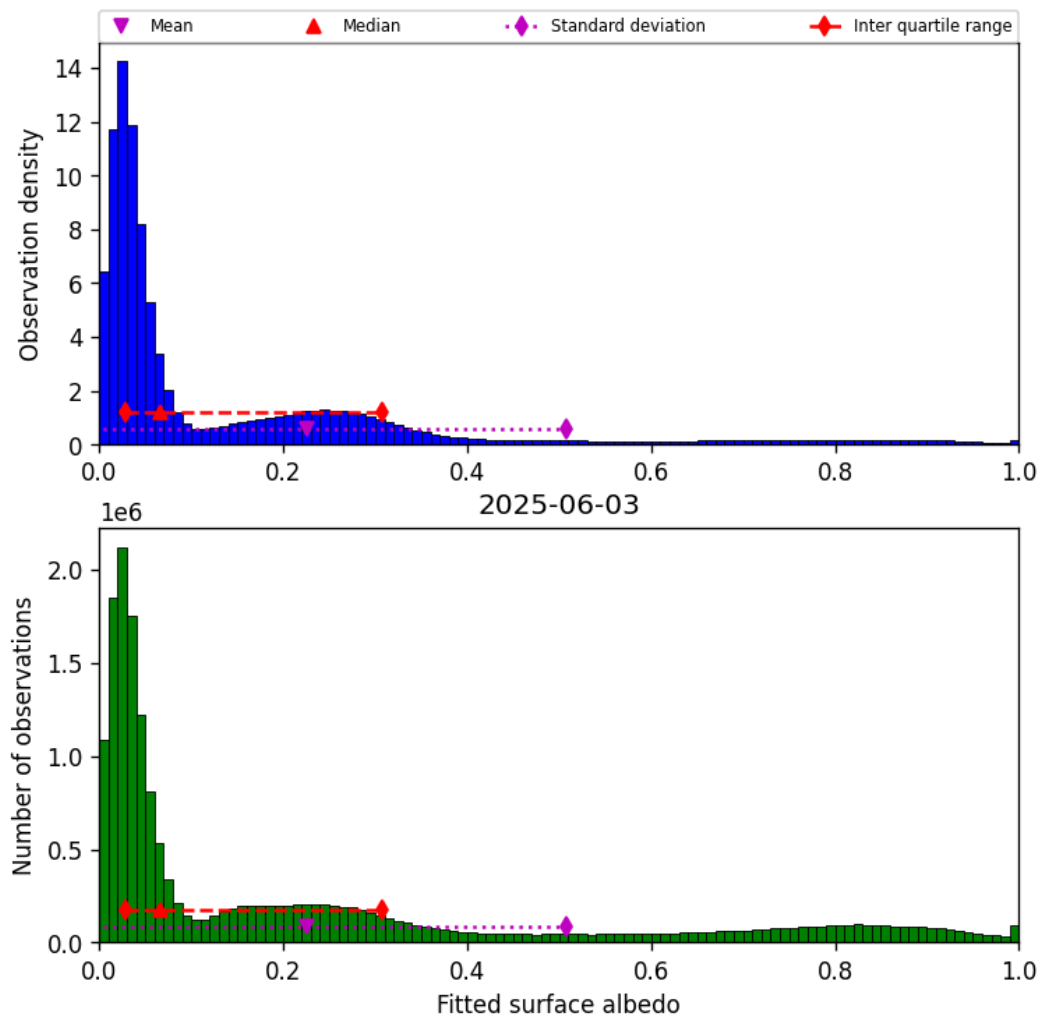


Figure 43: Histogram of “Fitted surface albedo” for 2025-06-03 to 2025-06-04

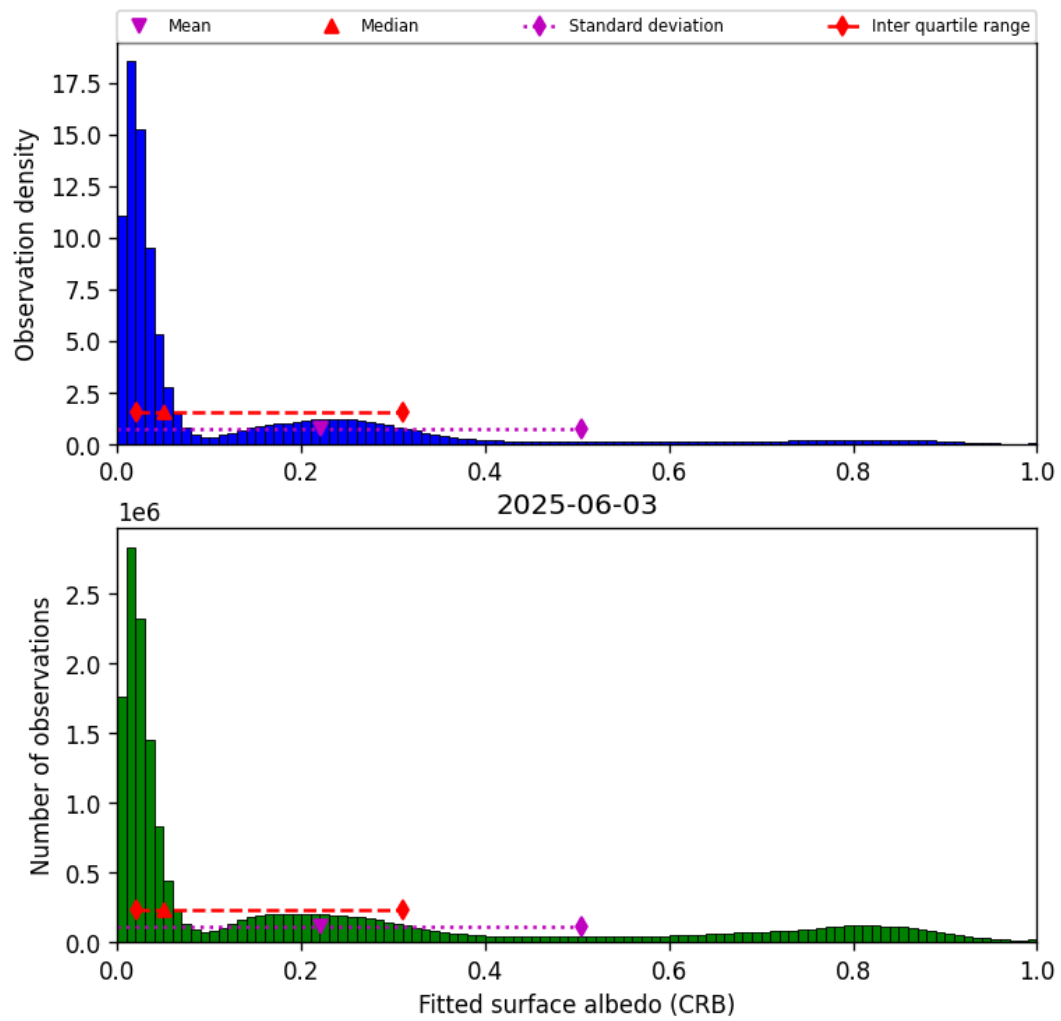


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-06-03 to 2025-06-04

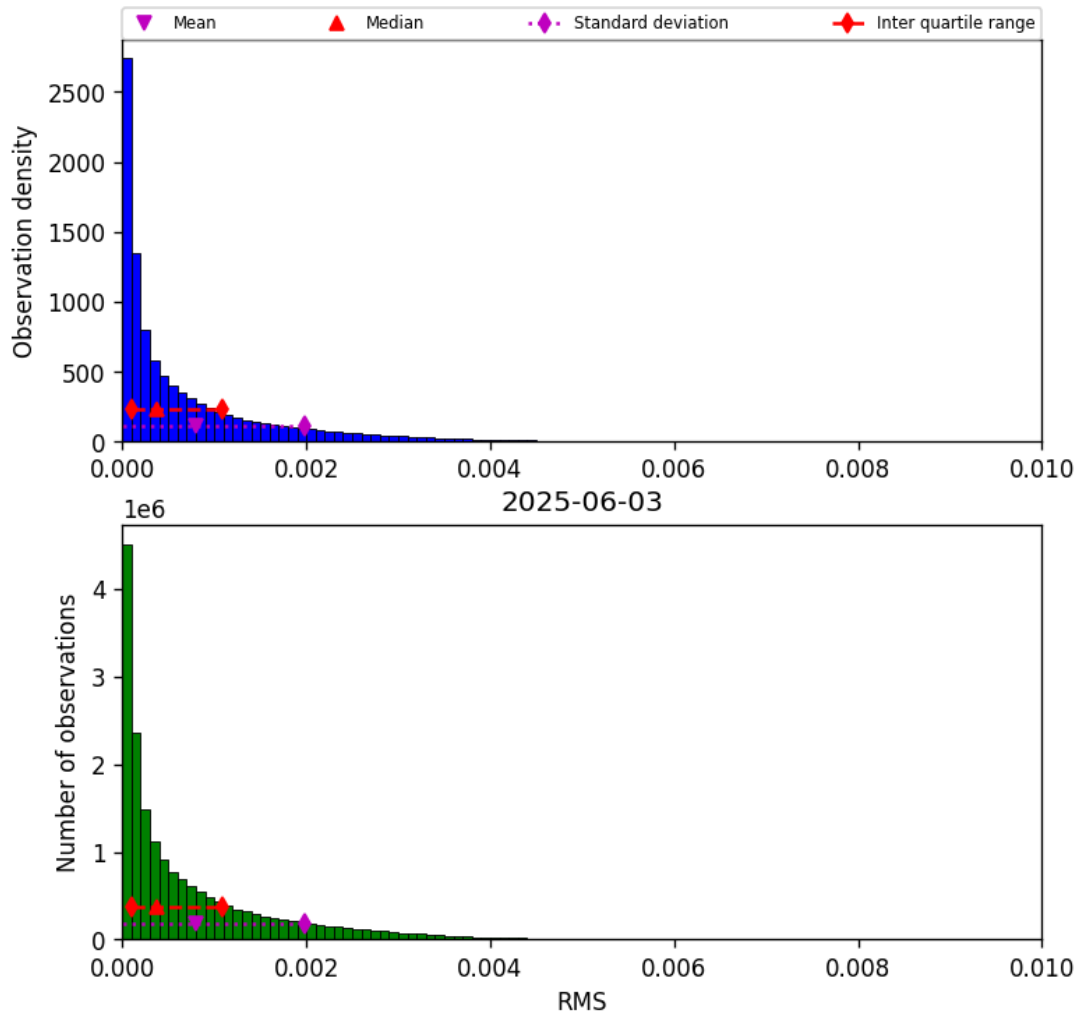


Figure 45: Histogram of “RMS” for 2025-06-03 to 2025-06-04

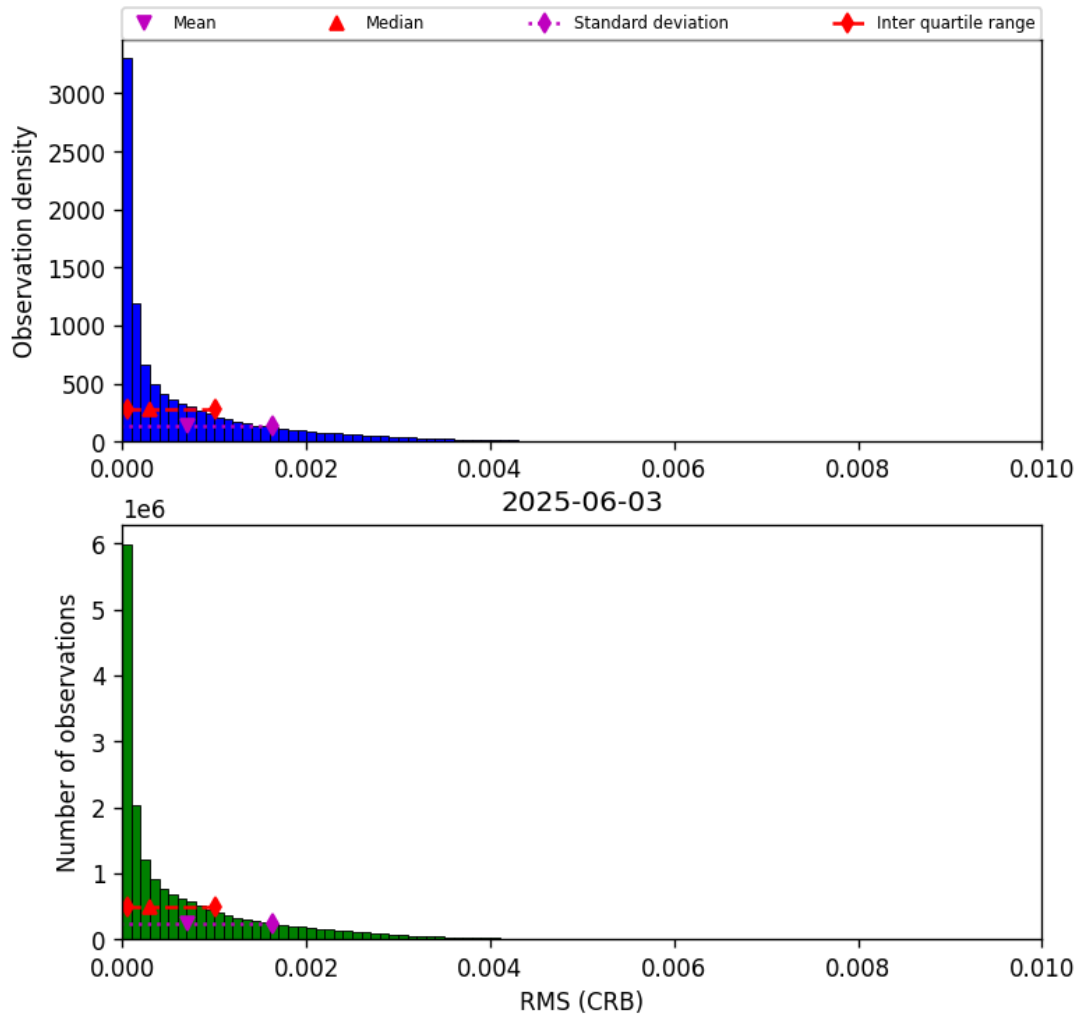


Figure 46: Histogram of “RMS (CRB)” for 2025-06-03 to 2025-06-04

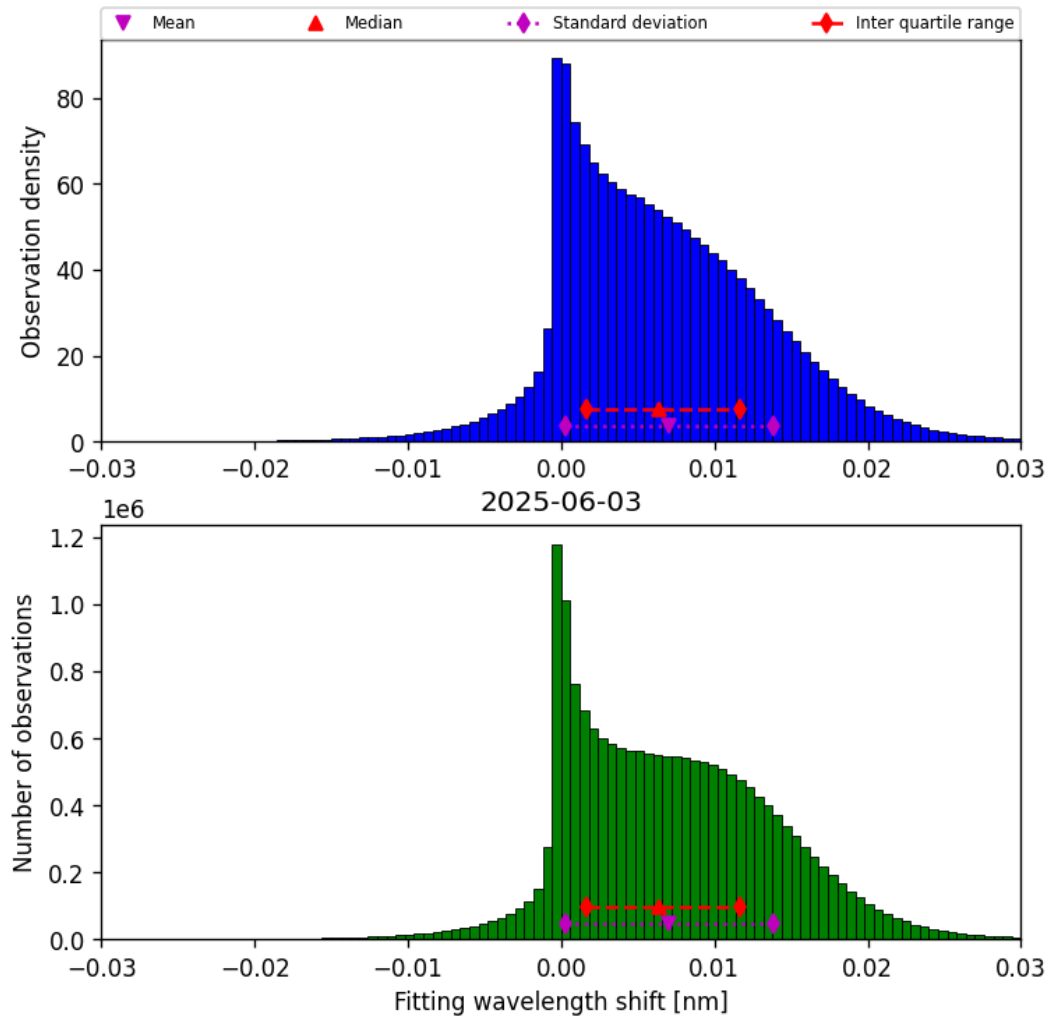


Figure 47: Histogram of “Fitting wavelength shift” for 2025-06-03 to 2025-06-04

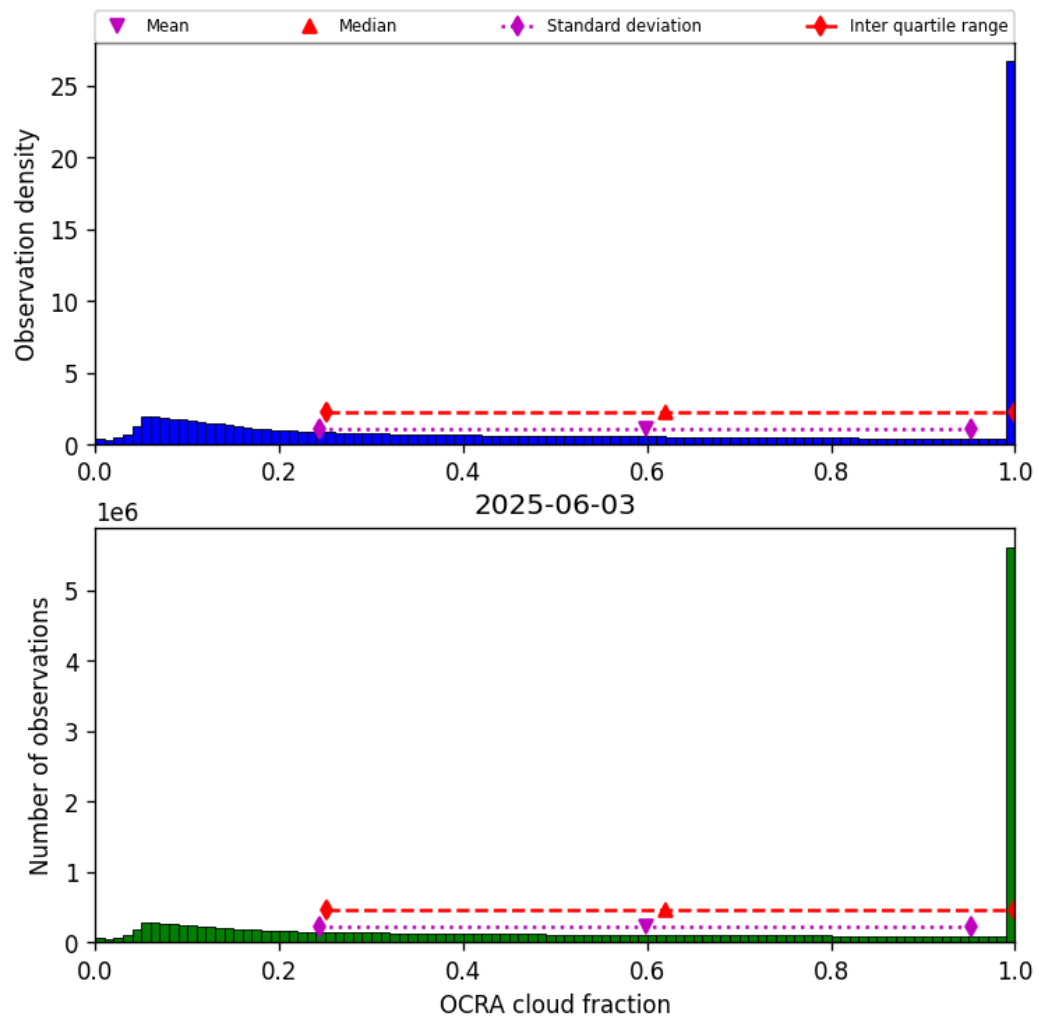


Figure 48: Histogram of “OCRA cloud fraction” for 2025-06-03 to 2025-06-04

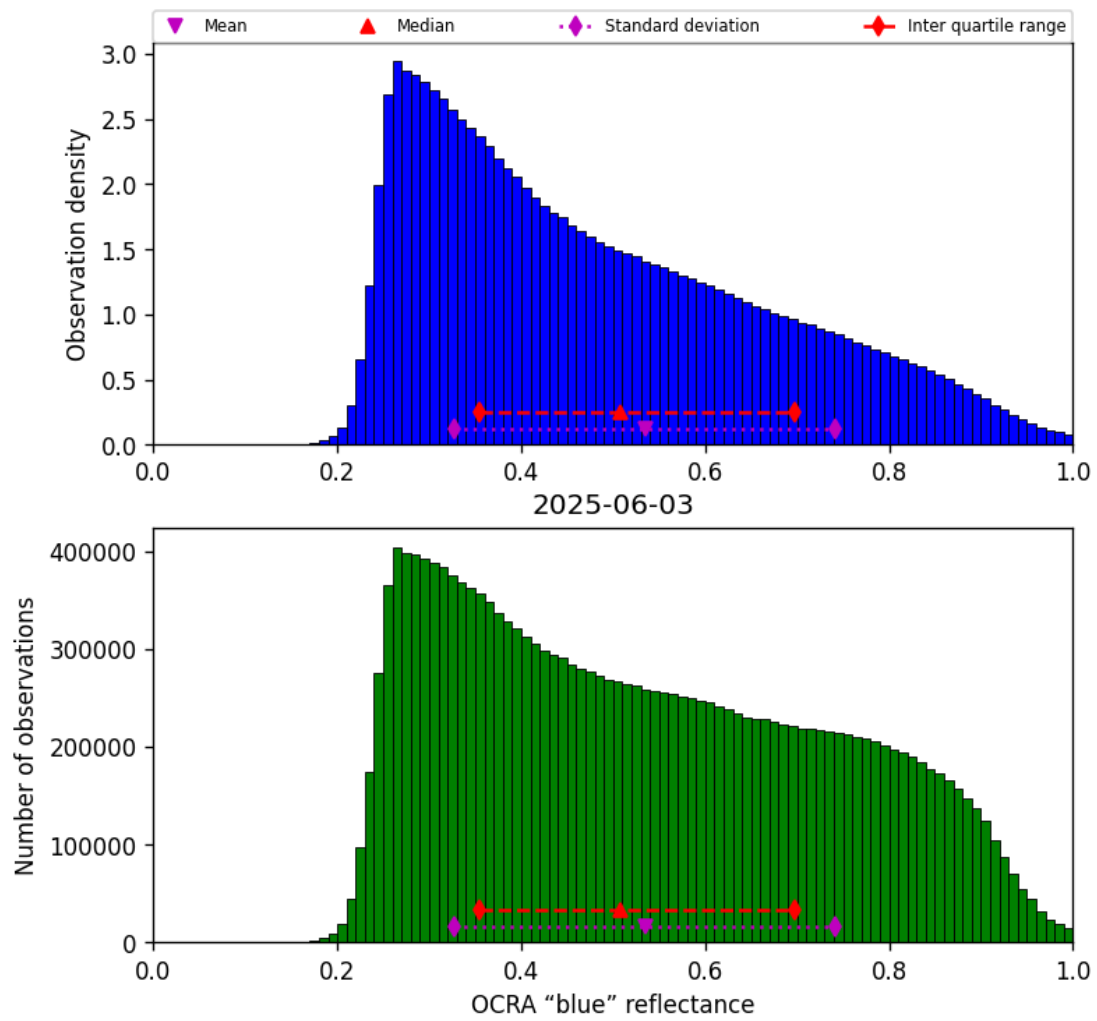


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-06-03 to 2025-06-04

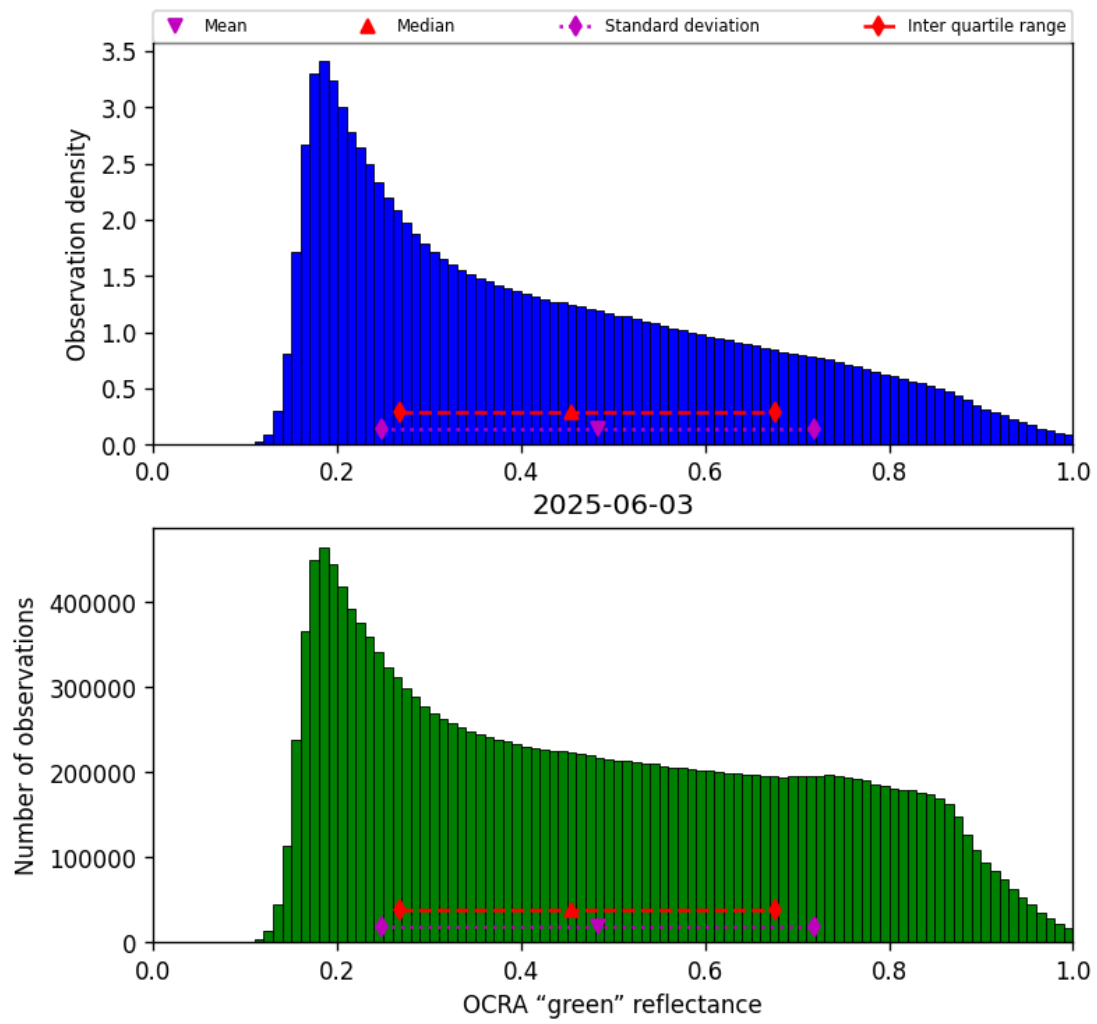


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-06-03 to 2025-06-04

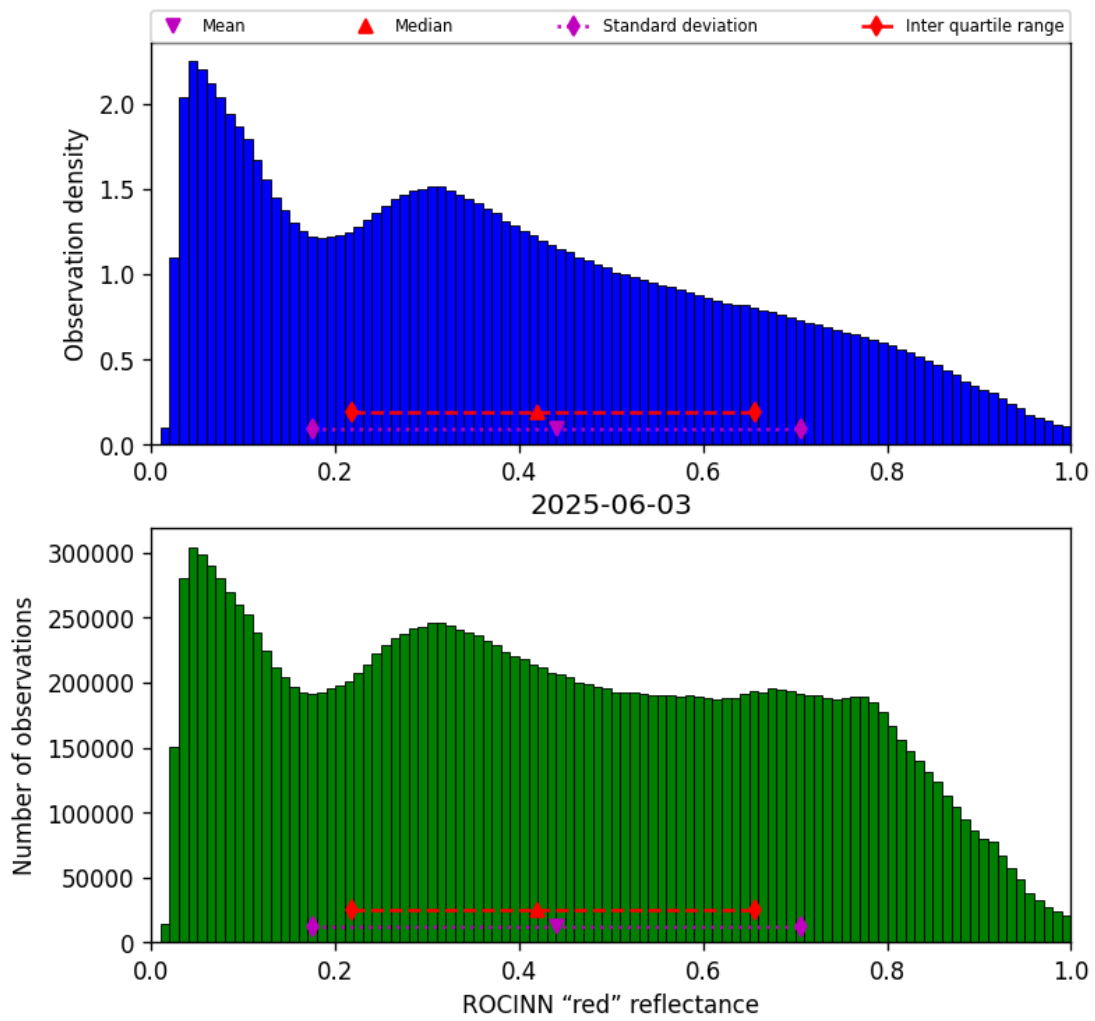


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-06-03 to 2025-06-04

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.

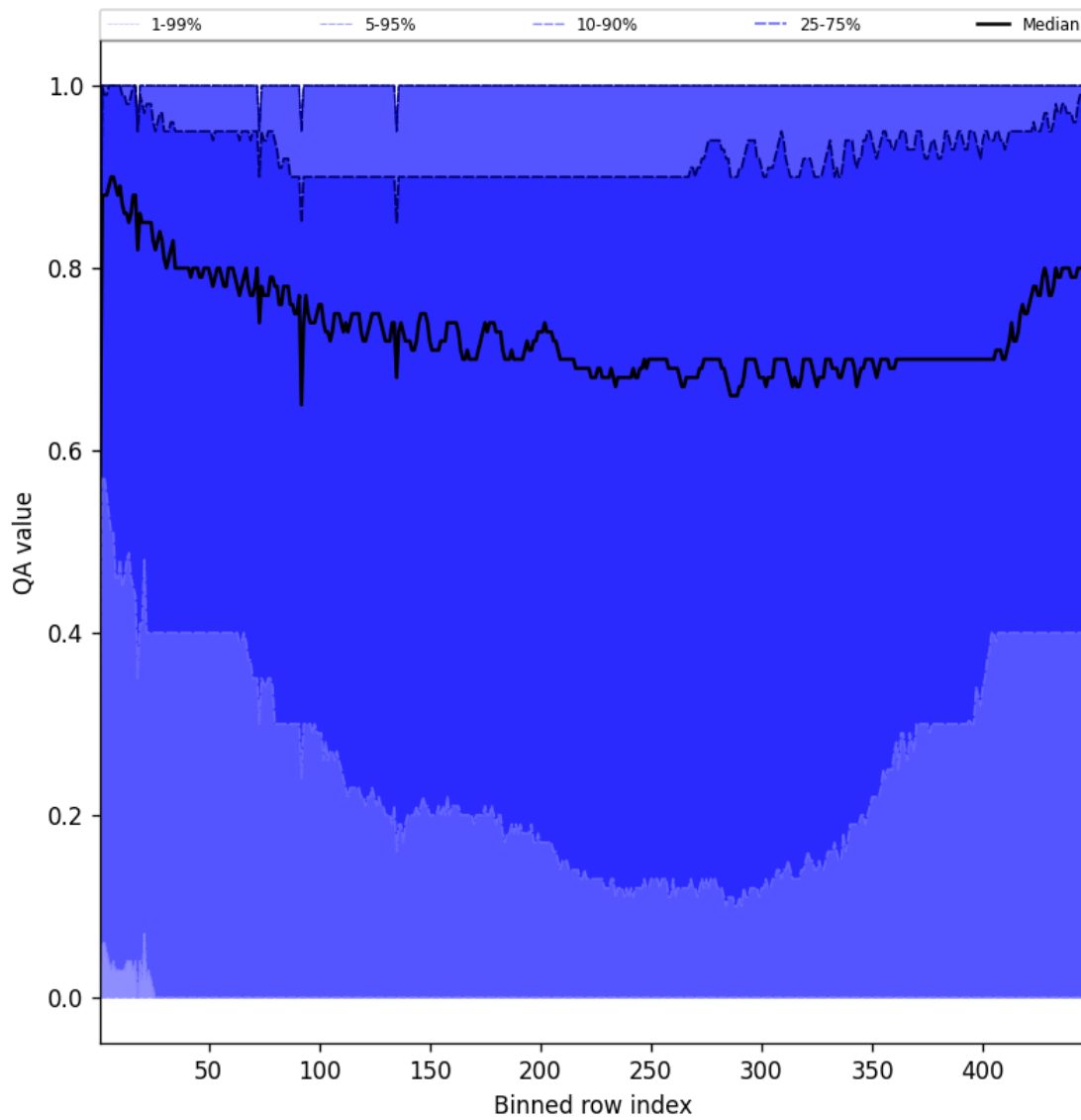


Figure 52: Along track statistics of “QA value” for 2025-06-03 to 2025-06-04

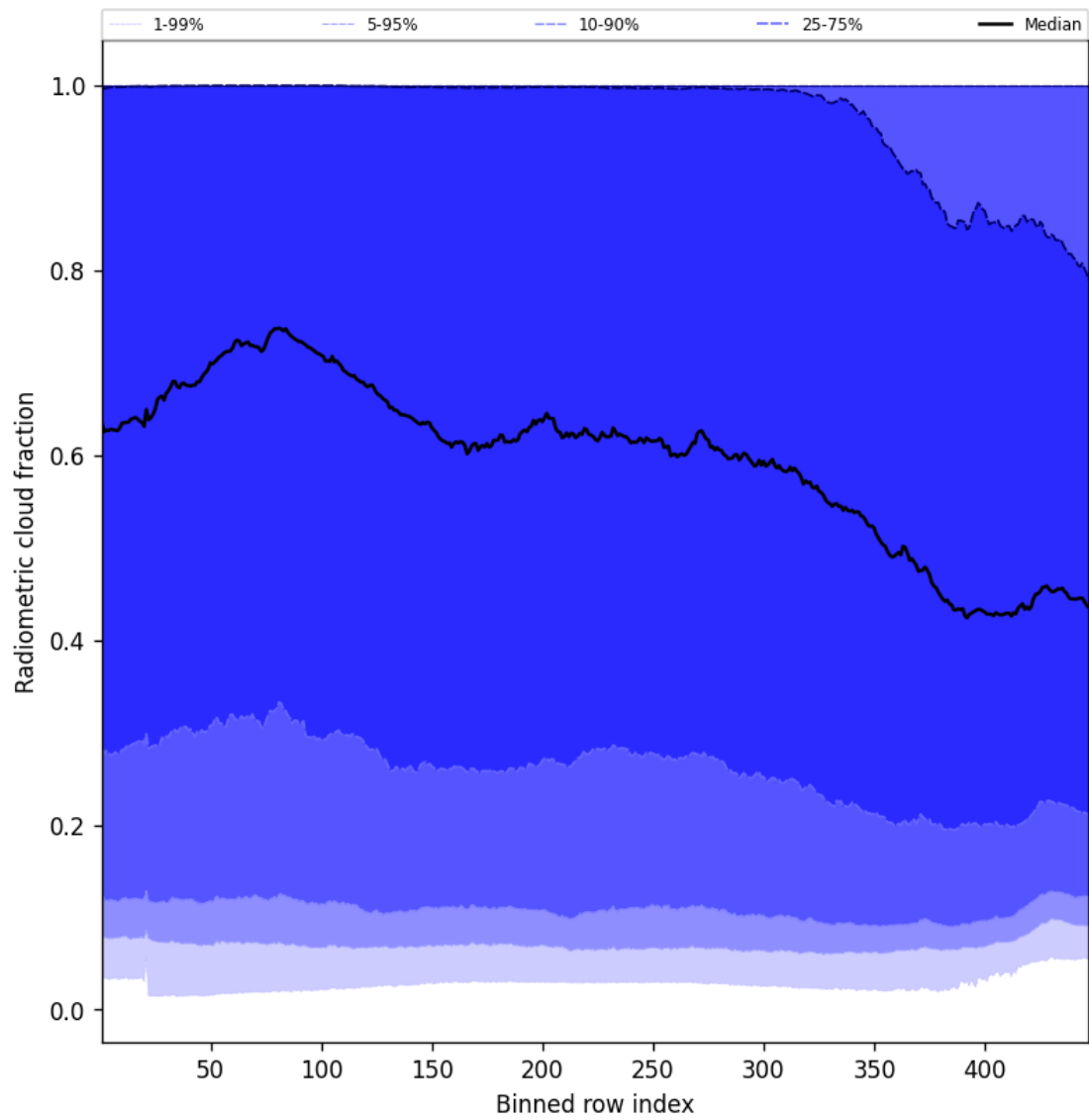


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-06-03 to 2025-06-04

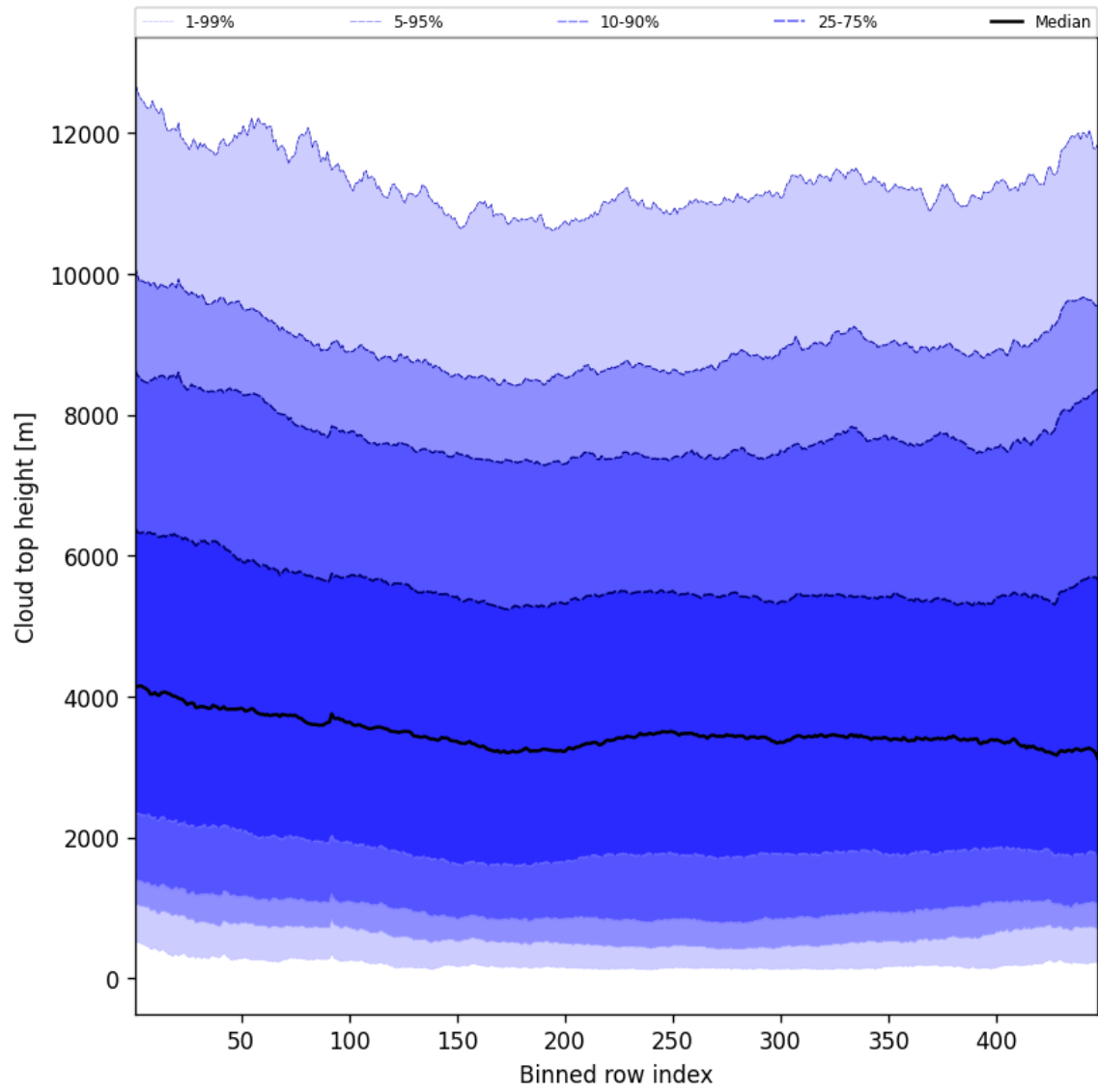


Figure 54: Along track statistics of “Cloud top height” for 2025-06-03 to 2025-06-04

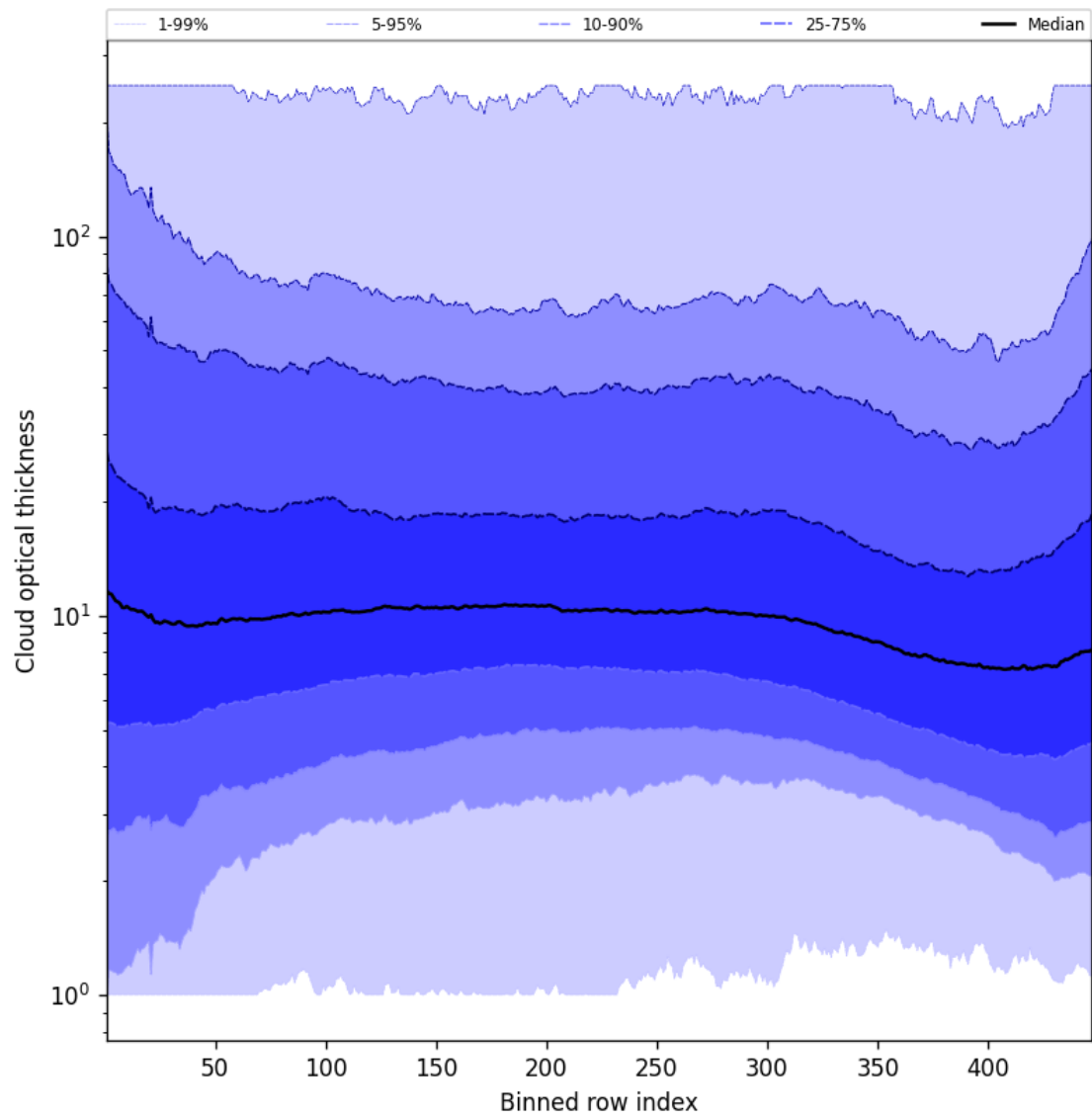


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-06-03 to 2025-06-04

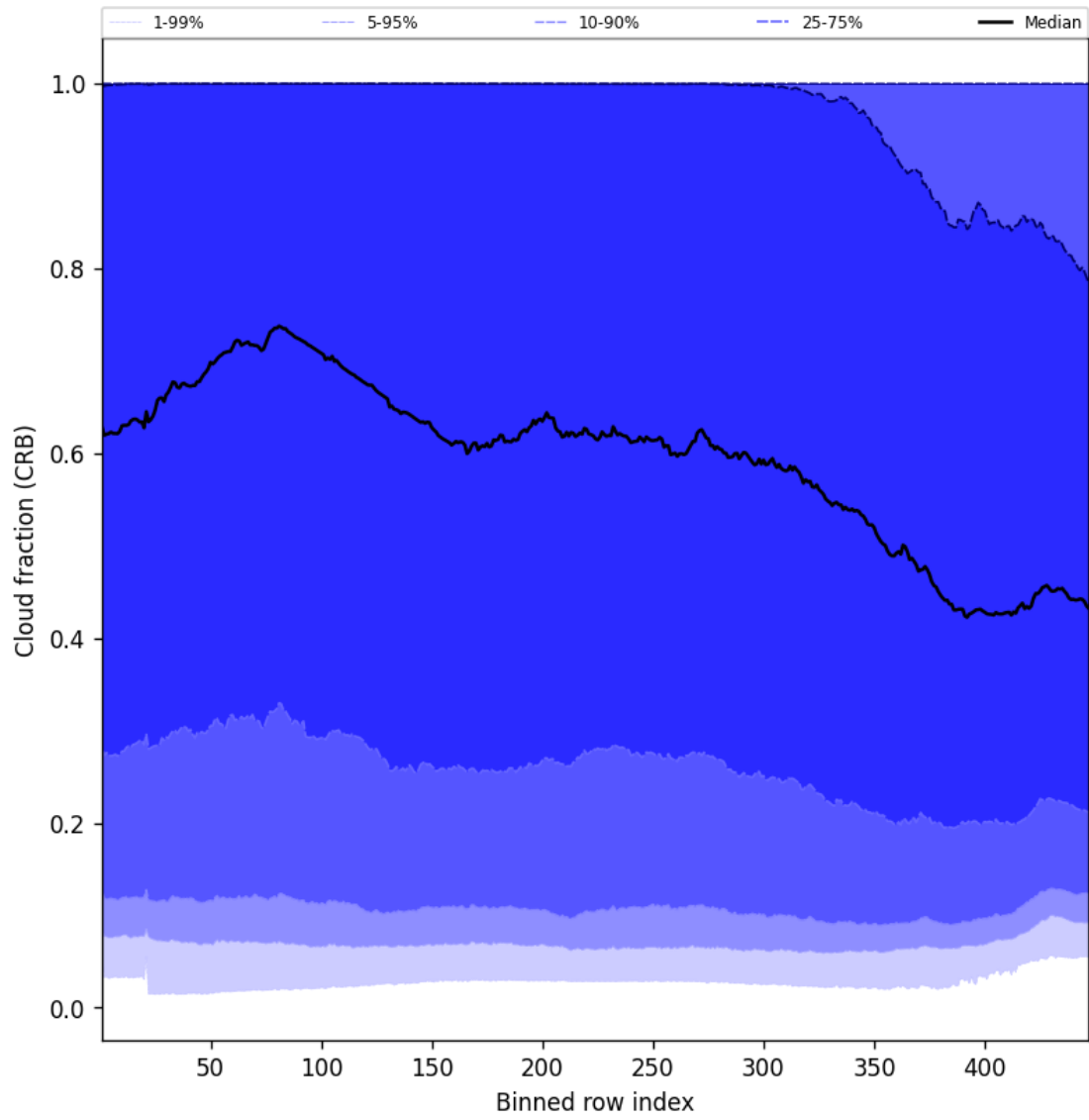


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-06-03 to 2025-06-04

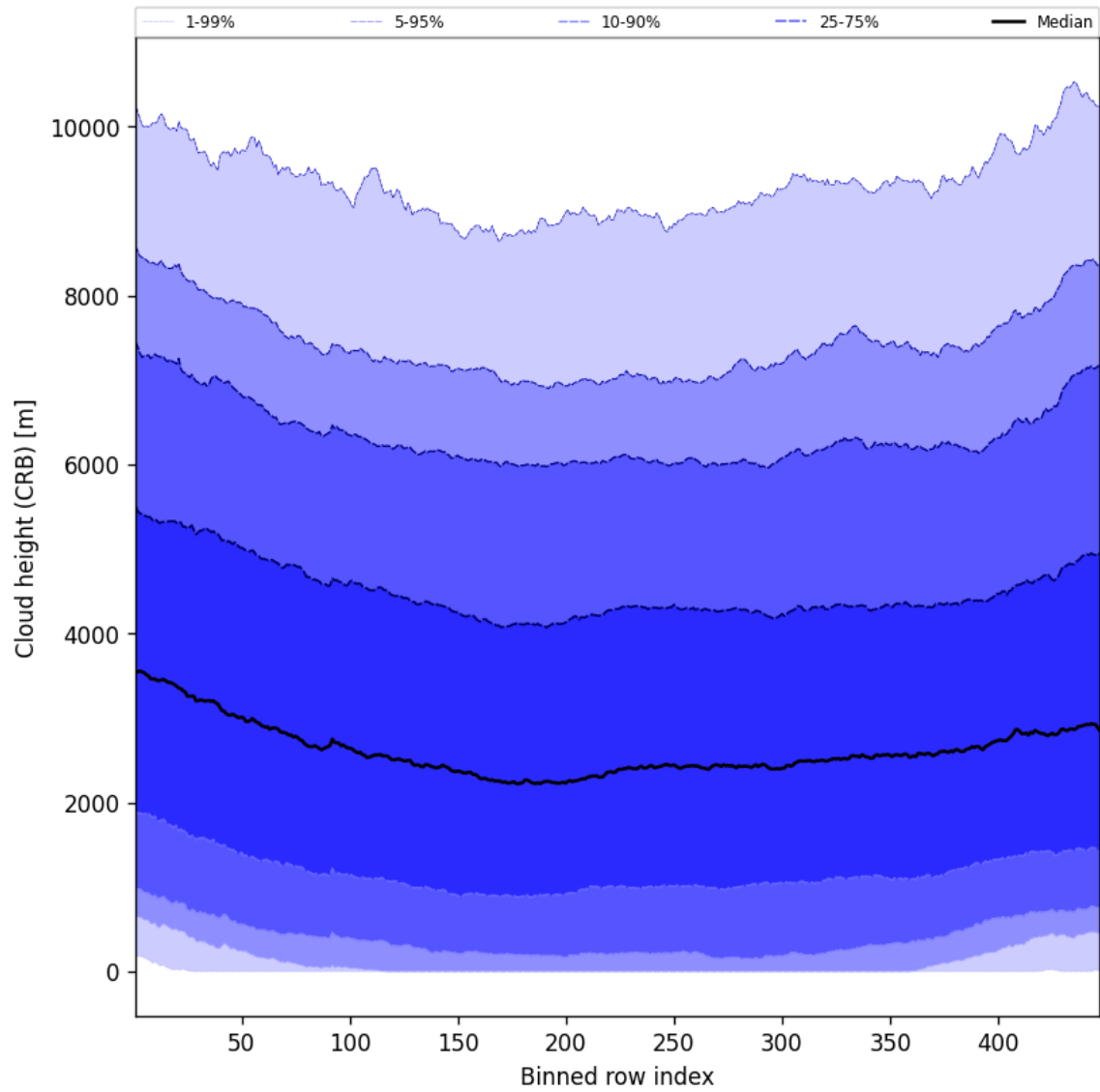


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-06-03 to 2025-06-04

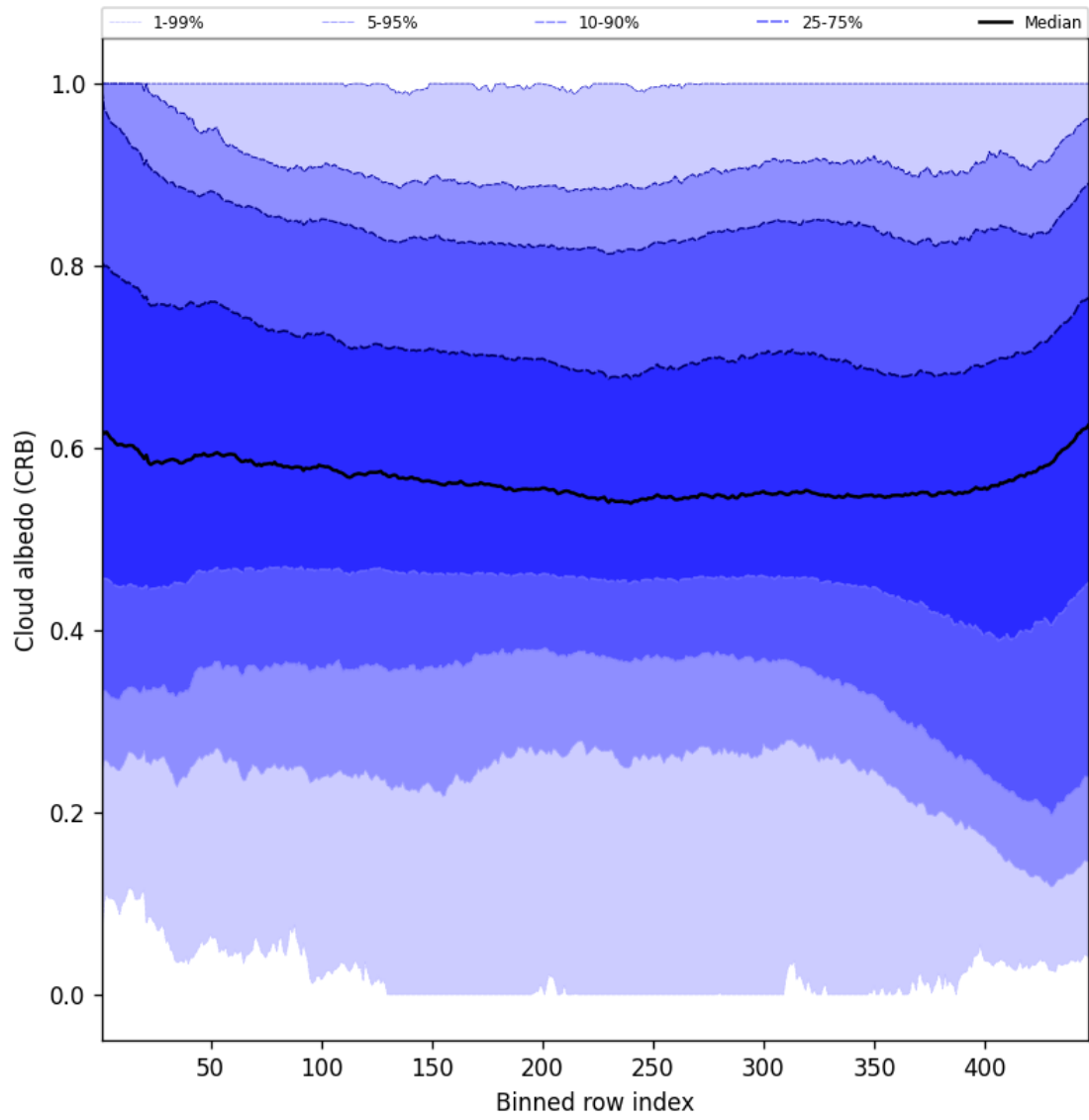


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-06-03 to 2025-06-04

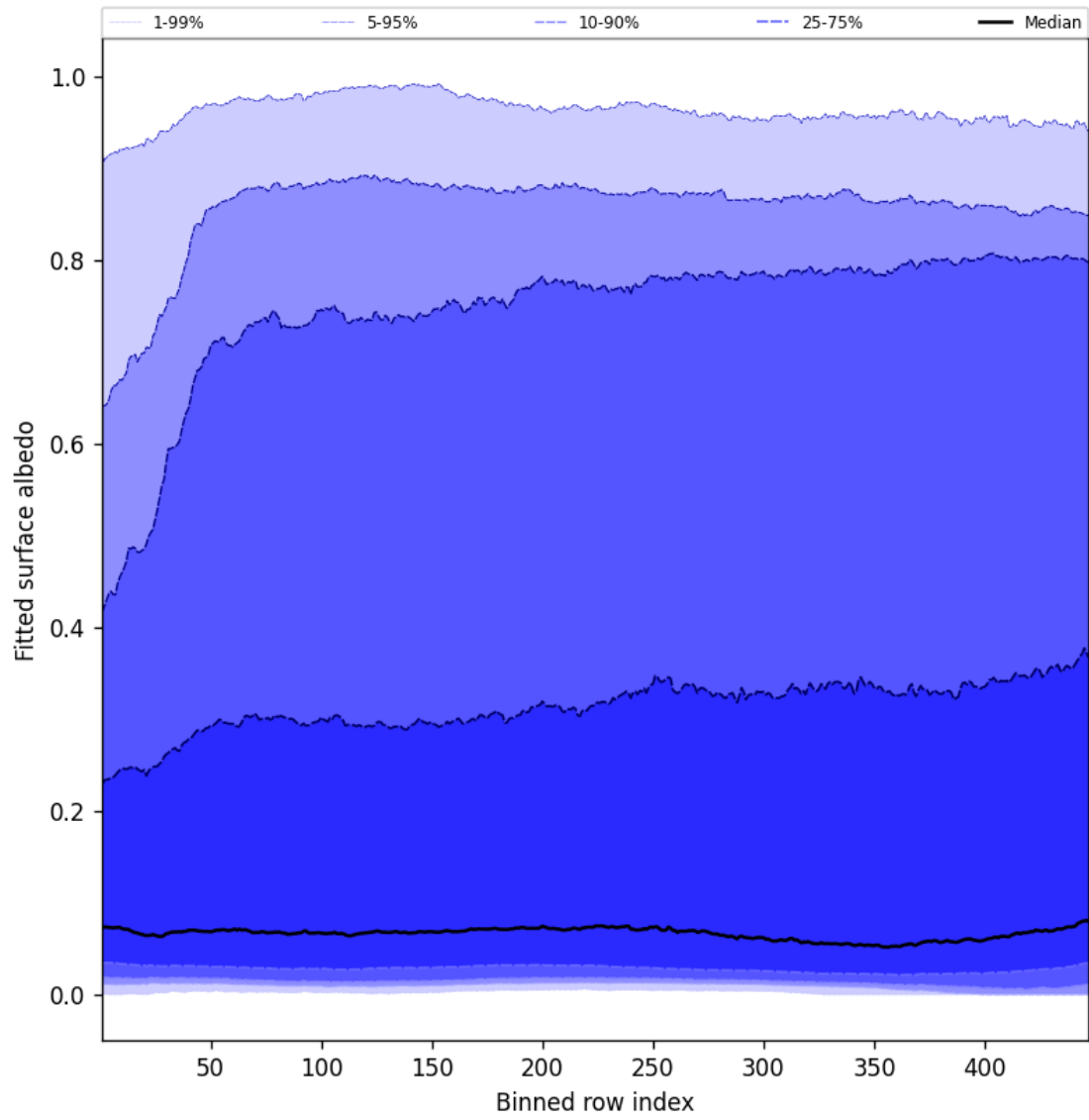


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-06-03 to 2025-06-04

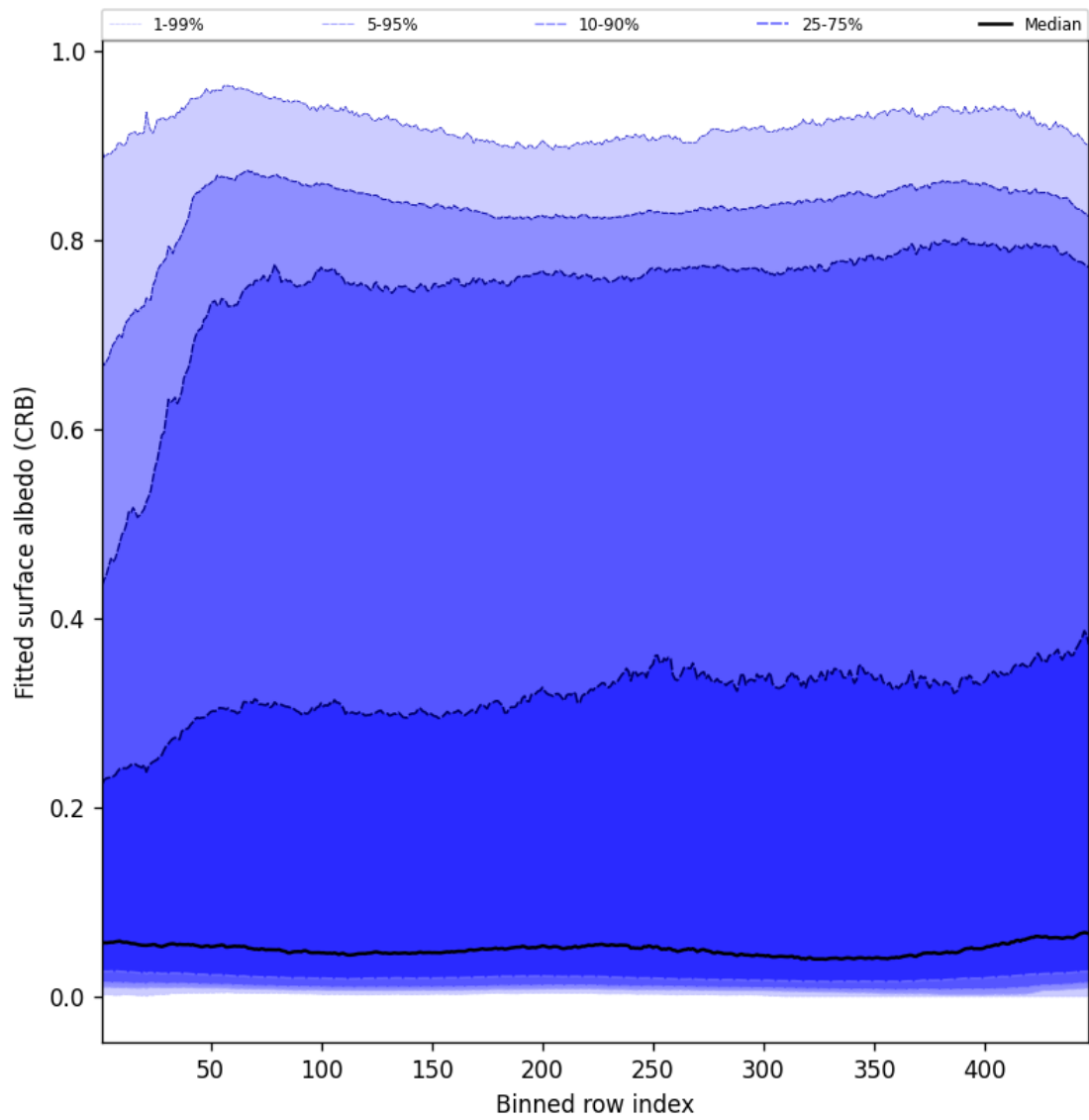


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-06-03 to 2025-06-04

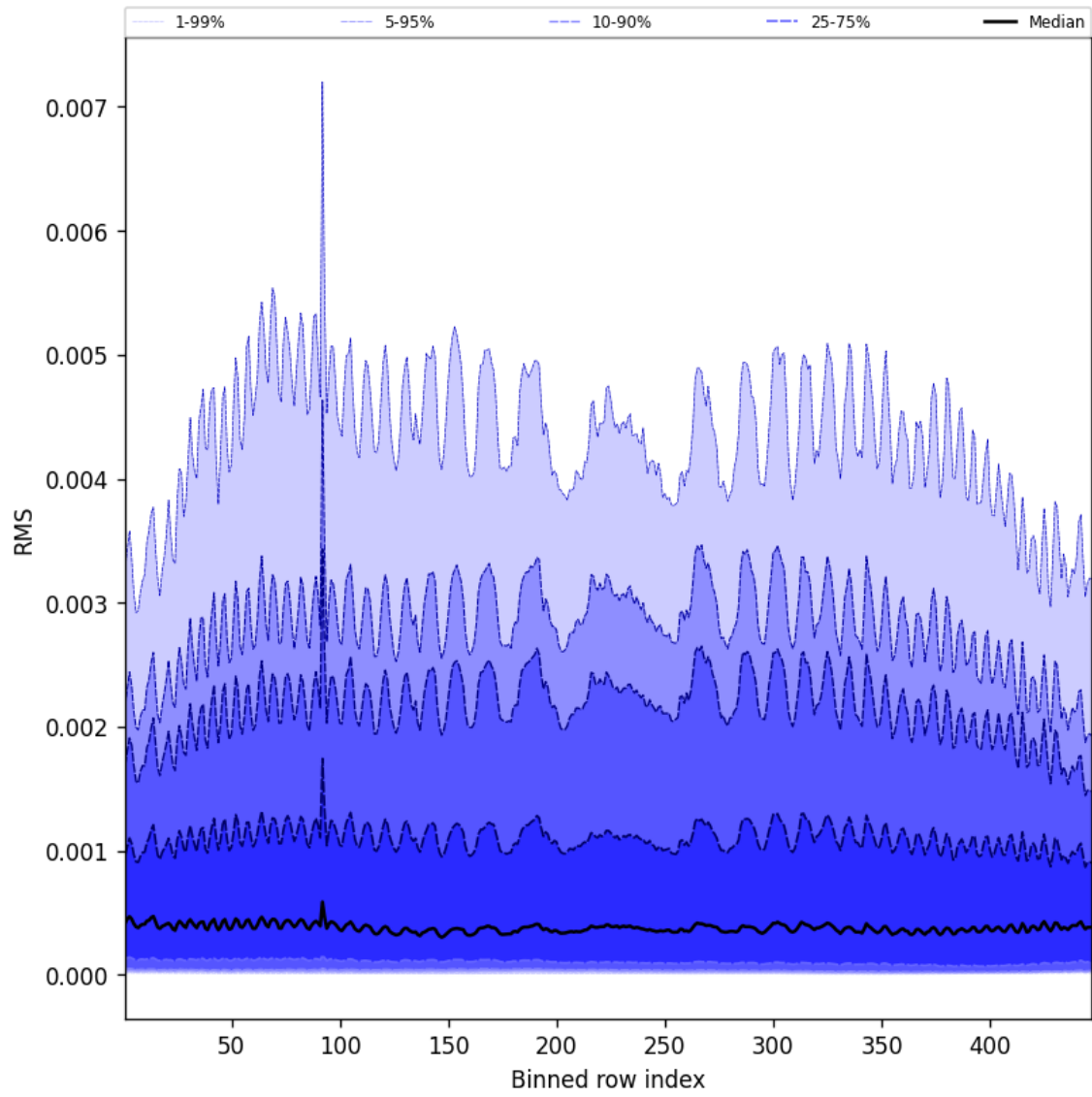


Figure 61: Along track statistics of “RMS” for 2025-06-03 to 2025-06-04

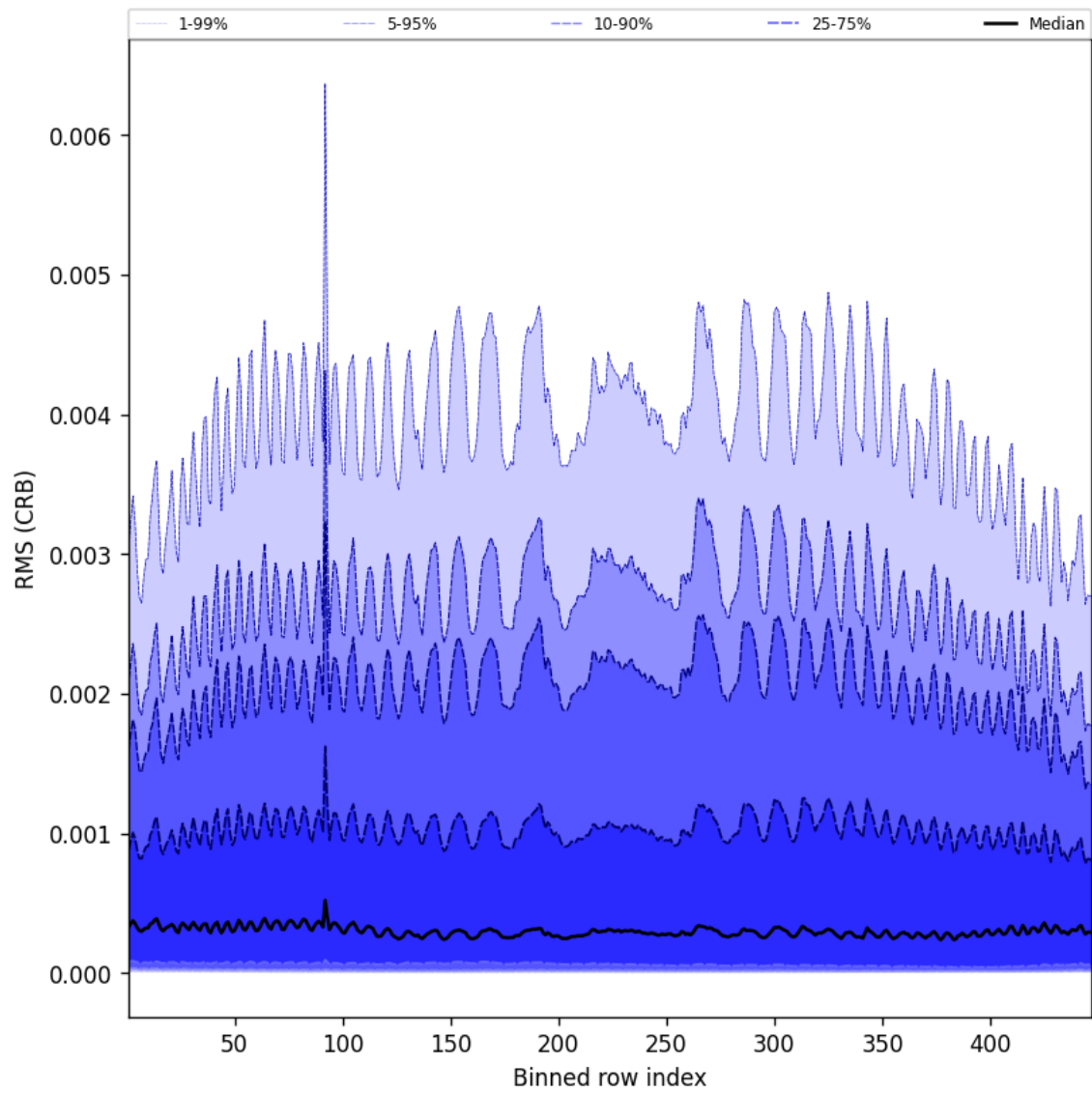


Figure 62: Along track statistics of “RMS (CRB)” for 2025-06-03 to 2025-06-04

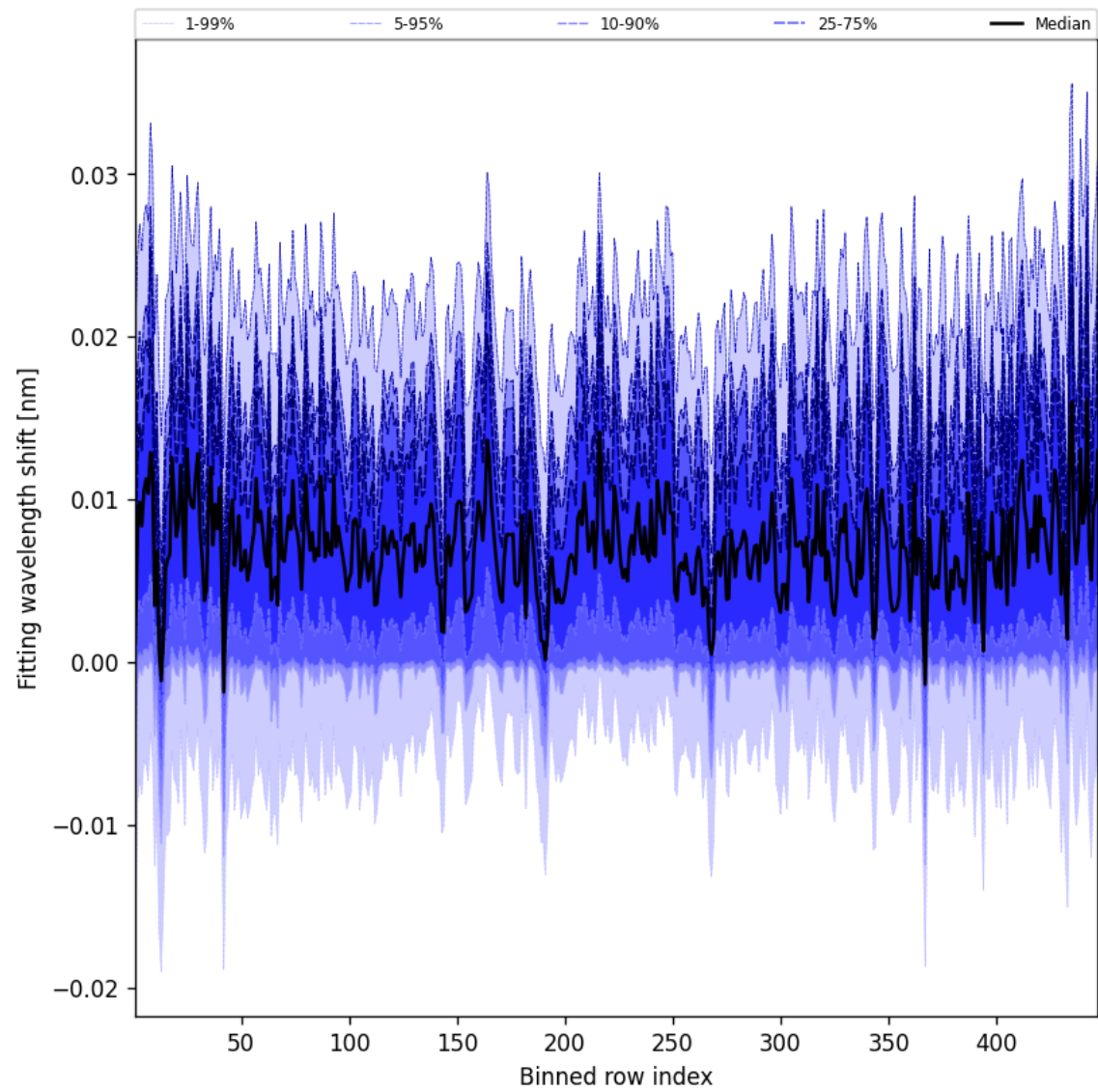


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-06-03 to 2025-06-04

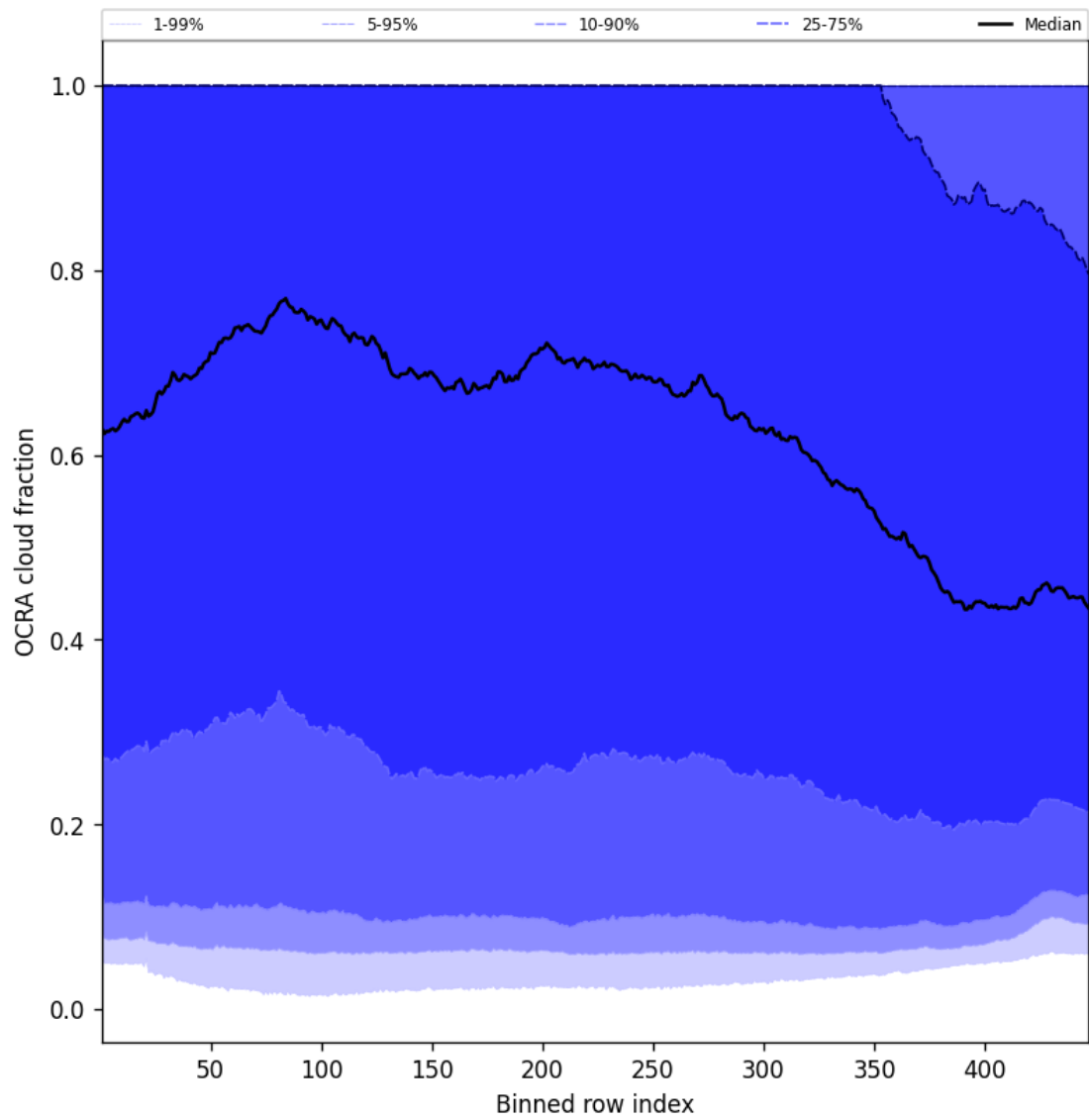


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-06-03 to 2025-06-04

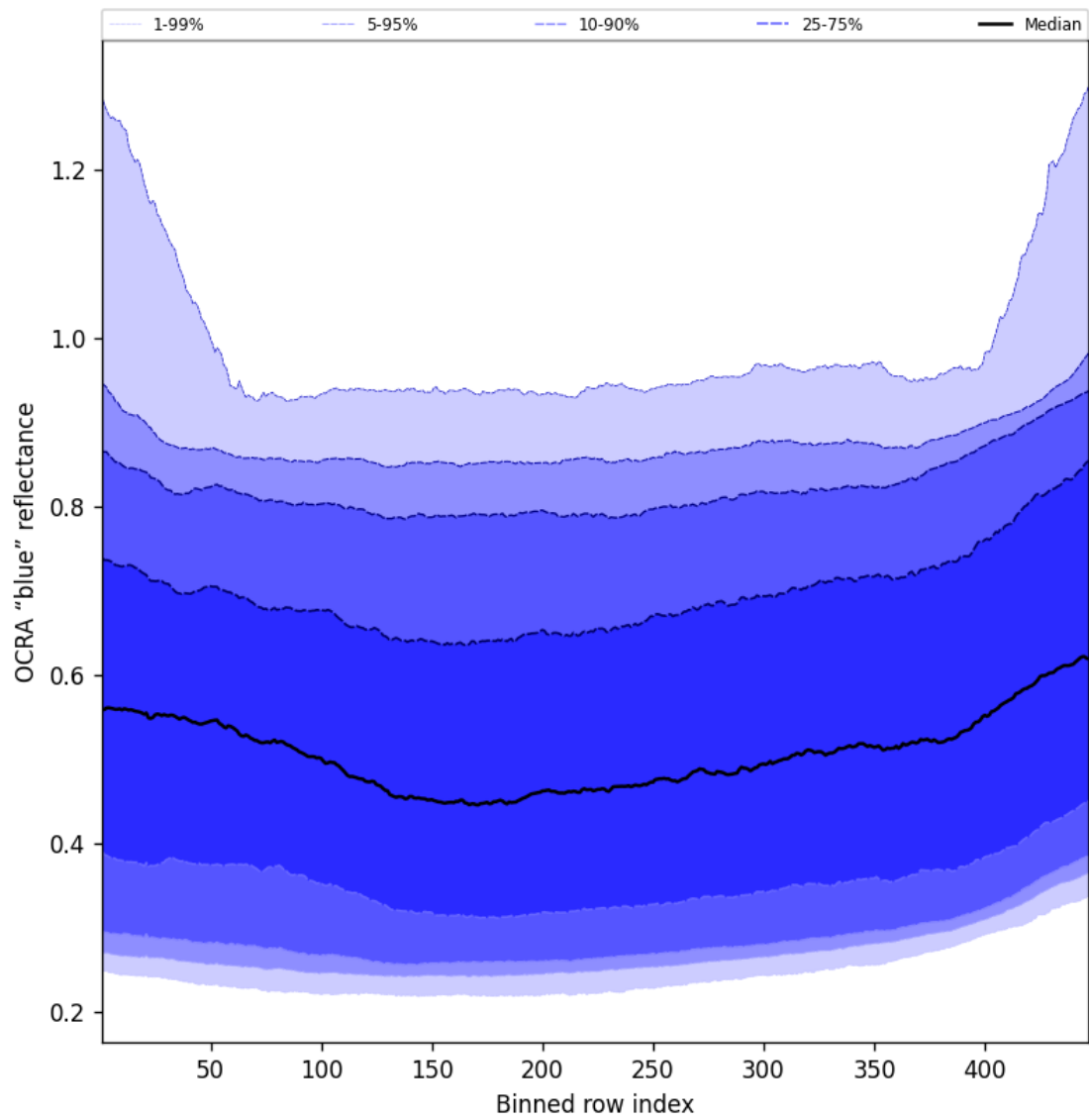


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-06-03 to 2025-06-04

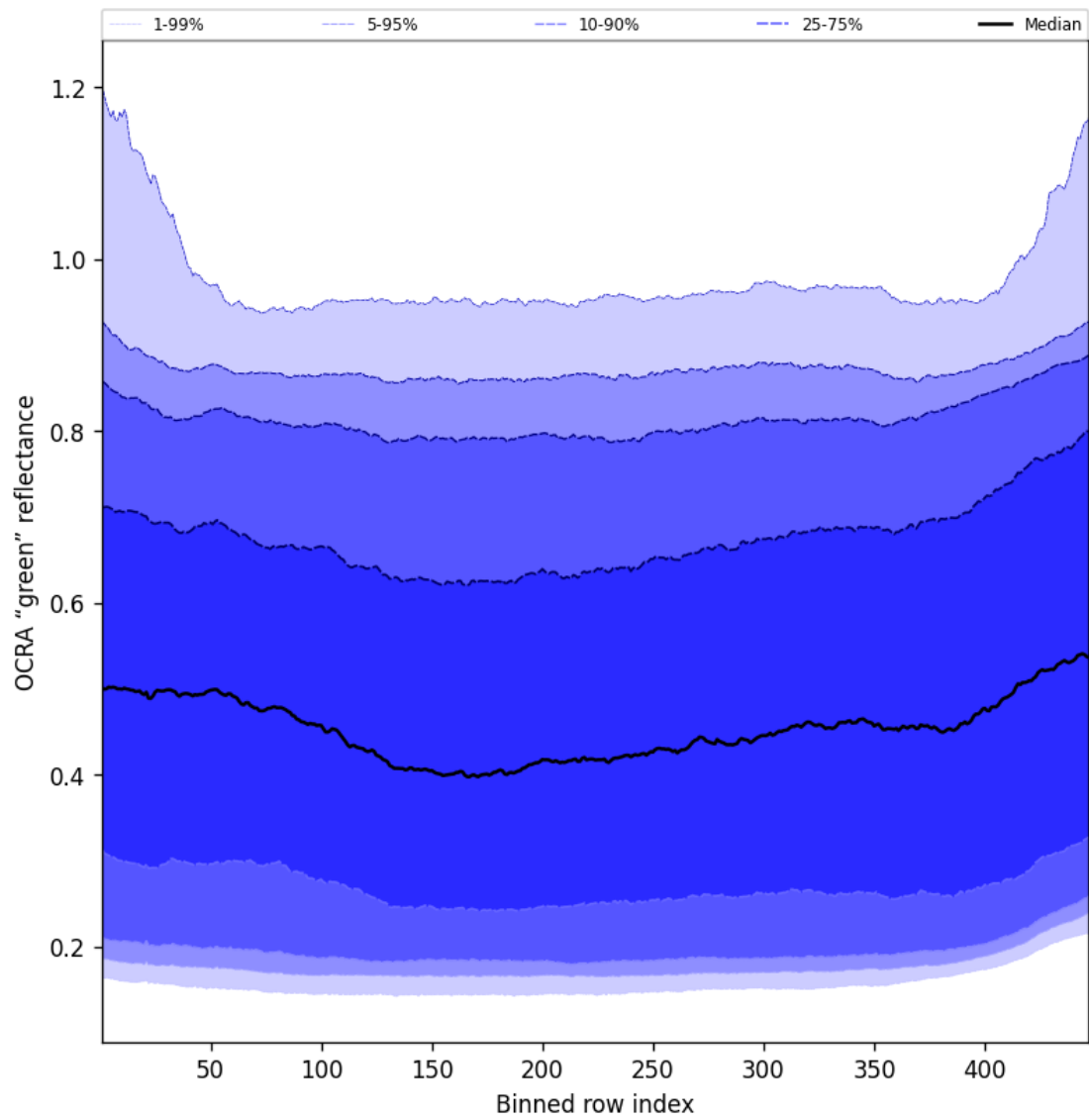


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-06-03 to 2025-06-04

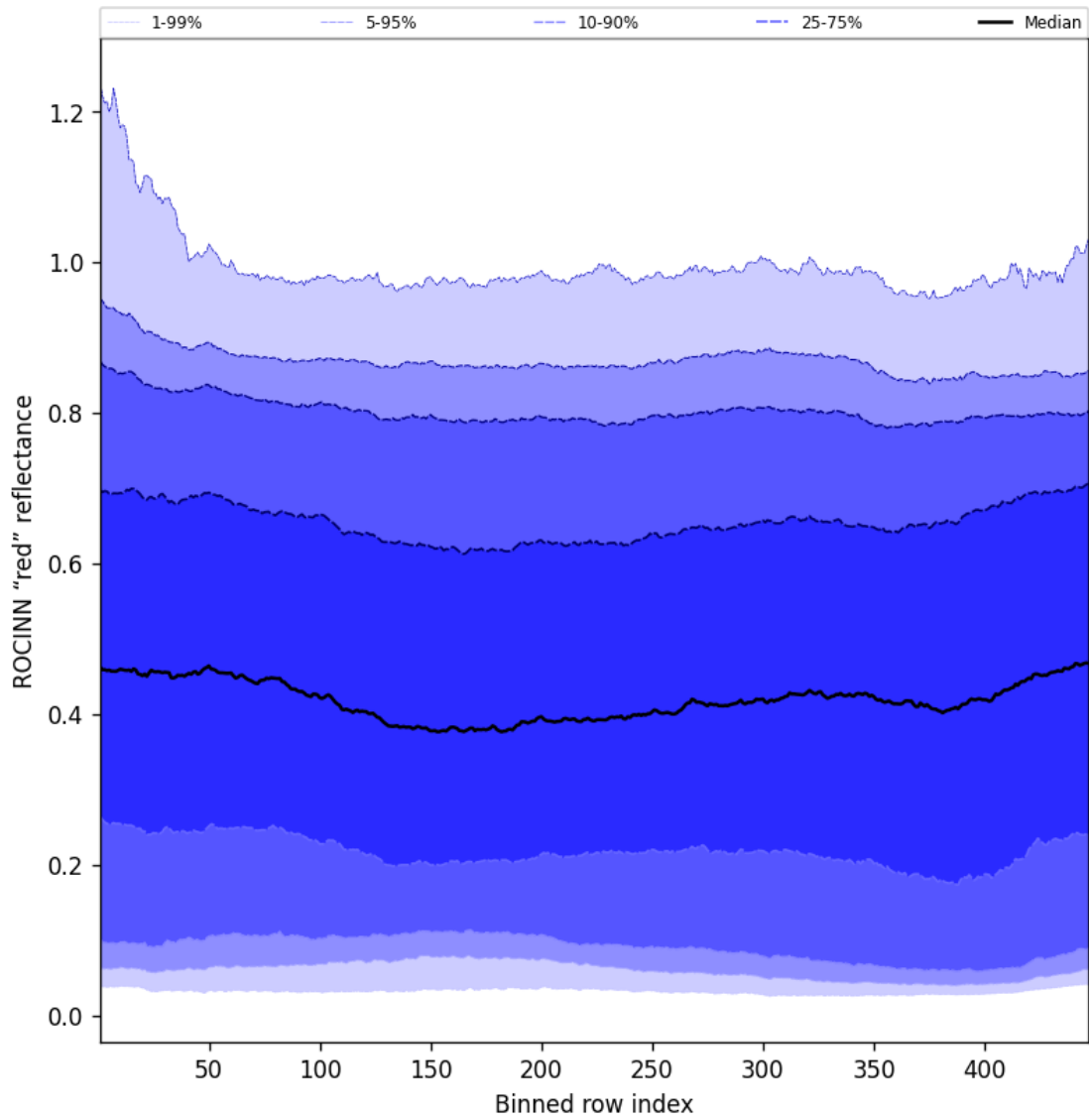


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-06-03 to 2025-06-04

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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