

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-05-06 (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]	0.595 ± 0.382	19246259	5.000×10^{-3}	0.700	0.740	0.0	1.000
cloud fraction [1]	0.579 ± 0.346	19246259	0.995	0.736	0.577	6.439×10^{-3}	1.000
cloud top height [m]	$(0.380 \pm 0.266) \times 10^4$	19246259	1.575×10^3	3.581×10^3	3.200×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.5 ± 34.2	19246259	8.51	11.3	9.36	1.000	250
cloud fraction crb [1]	0.578 ± 0.346	19246259	0.995	0.736	0.576	8.153×10^{-3}	1.000
cloud height crb [m]	$(0.293 \pm 0.230) \times 10^4$	19246259	75.0	3.140×10^3	2.433×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.586 ± 0.206	19246259	0.995	0.269	0.570	0.0	1.000
surface albedo fitted [1]	0.249 ± 0.316	19246259	2.500×10^{-2}	0.342	5.638×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.239 ± 0.308	19246259	1.500×10^{-2}	0.362	4.401×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.454 \pm 10.876) \times 10^{-4}$	19246259	5.000×10^{-5}	8.945×10^{-4}	3.594×10^{-4}	8.776×10^{-7}	0.320
fitted root mean square crb [1]	$(6.746 \pm 9.021) \times 10^{-4}$	19246259	5.000×10^{-5}	8.691×10^{-4}	2.900×10^{-4}	8.561×10^{-7}	0.463
wavelength shift [nm]	$(7.286 \pm 7.009) \times 10^{-3}$	19246259	-3.000×10^{-4}	1.007×10^{-2}	6.599×10^{-3}	-7.122×10^{-2}	6.741×10^{-2}
cloud fraction apriori [1]	0.592 ± 0.352	19246259	0.995	0.752	0.609	0.0	1.000
reflectance blue ocra [1]	0.560 ± 0.224	19246259	0.265	0.379	0.538	0.135	1.93
reflectance green ocra [1]	0.509 ± 0.252	19246259	0.185	0.450	0.490	8.281×10^{-2}	2.06
reflectance continuum aband [1]	0.463 ± 0.279	19246259	4.500×10^{-2}	0.467	0.454	1.239×10^{-2}	5.16

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	0.220	0.920	1.000	1.000	1.000	1.000
cloud fraction [1]	2.665×10^{-2}	6.899×10^{-2}	0.108	0.157	0.246	0.982	1.000	1.000	1.000	1.000
cloud top height [m]	185	585	982	1.309×10^3	1.725×10^3	5.305×10^3	6.584×10^3	7.713×10^3	9.024×10^3	1.129×10^4
cloud optical thickness [1]	1.03	2.86	3.98	4.81	5.80	17.1	26.3	39.3	68.6	238
cloud fraction crb [1]	2.610×10^{-2}	6.804×10^{-2}	0.107	0.156	0.245	0.981	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	52.5	400	718	1.104×10^3	4.244×10^3	5.376×10^3	6.364×10^3	7.533×10^3	9.335×10^3
cloud albedo crb [1]	2.204×10^{-2}	0.236	0.348	0.410	0.460	0.729	0.810	0.874	0.937	1.000
surface albedo fitted [1]	0.0	9.451×10^{-3}	1.477×10^{-2}	1.953×10^{-2}	2.651×10^{-2}	0.369	0.735	0.830	0.909	0.987
surface albedo fitted crb [1]	3.018×10^{-4}	6.962×10^{-3}	1.059×10^{-2}	1.429×10^{-2}	1.999×10^{-2}	0.382	0.730	0.803	0.855	0.925
fitted root mean square [1]	1.331×10^{-5}	2.674×10^{-5}	4.264×10^{-5}	6.712×10^{-5}	1.153×10^{-4}	1.010×10^{-3}	1.535×10^{-3}	2.042×10^{-3}	2.678×10^{-3}	3.948×10^{-3}
fitted root mean square crb [1]	6.534×10^{-6}	1.505×10^{-5}	2.541×10^{-5}	3.922×10^{-5}	7.048×10^{-5}	9.396×10^{-4}	1.458×10^{-3}	1.958×10^{-3}	2.601×10^{-3}	3.760×10^{-3}
wavelength shift [nm]	-8.418×10^{-3}	-1.374×10^{-3}	-1.789×10^{-4}	4.798×10^{-4}	1.881×10^{-3}	1.195×10^{-2}	1.440×10^{-2}	1.649×10^{-2}	1.927×10^{-2}	2.539×10^{-2}
cloud fraction apriori [1]	2.812×10^{-2}	6.532×10^{-2}	0.102	0.152	0.248	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.259	0.283	0.312	0.361	0.740	0.811	0.864	0.918	1.08
reflectance green ocra [1]	0.151	0.173	0.193	0.220	0.272	0.722	0.799	0.856	0.910	1.04
reflectance continuum aband [1]	2.932×10^{-2}	5.271×10^{-2}	8.564×10^{-2}	0.131	0.224	0.691	0.774	0.836	0.897	1.04

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]	0.554 ± 0.380	11794021	0.810	0.690	0.0	1.000	9.000×10^{-2}	0.900
cloud fraction [1]	0.598 ± 0.350	11794021	0.741	0.606	6.439×10^{-3}	1.000	0.258	0.999
cloud top height [m]	$(0.363 \pm 0.272) \times 10^4$	11794021	3.537×10^3	2.991×10^3	0.0	2.000×10^4	1.548×10^3	5.085×10^3
cloud optical thickness [1]	15.8 ± 29.3	11794021	8.31	8.35	1.000	250	5.29	13.6
cloud fraction crb [1]	0.598 ± 0.350	11794021	0.742	0.606	8.153×10^{-3}	1.000	0.258	1.000
cloud height crb [m]	$(0.266 \pm 0.230) \times 10^4$	11794021	3.045×10^3	2.150×10^3	0.0	2.000×10^4	830	3.874×10^3
cloud albedo crb [1]	0.601 ± 0.225	11794021	0.320	0.592	0.0	1.000	0.456	0.776
surface albedo fitted [1]	0.359 ± 0.351	11794021	0.708	0.223	0.0	1.000	3.424×10^{-2}	0.743
surface albedo fitted crb [1]	0.349 ± 0.340	11794021	0.708	0.222	0.0	1.000	2.822×10^{-2}	0.737
fitted root mean square [1]	$(9.911 \pm 12.733) \times 10^{-4}$	11794021	1.284×10^{-3}	6.125×10^{-4}	1.400×10^{-6}	0.320	1.826×10^{-4}	1.467×10^{-3}
fitted root mean square crb [1]	$(8.987 \pm 10.298) \times 10^{-4}$	11794021	1.261×10^{-3}	5.154×10^{-4}	8.561×10^{-7}	0.463	1.232×10^{-4}	1.384×10^{-3}
wavelength shift [nm]	$(8.637 \pm 7.089) \times 10^{-3}$	11794021	1.010×10^{-2}	8.494×10^{-3}	-7.122×10^{-2}	6.741×10^{-2}	3.339×10^{-3}	1.344×10^{-2}
cloud fraction apriori [1]	0.620 ± 0.354	11794021	0.728	0.664	0.0	1.000	0.272	1.000
reflectance blue oca [1]	0.595 ± 0.236	11794021	0.423	0.613	0.135	1.93	0.369	0.792
reflectance green oca [1]	0.555 ± 0.263	11794021	0.490	0.585	8.281×10^{-2}	2.06	0.291	0.781
reflectance continuum aband [1]	0.522 ± 0.282	11794021	0.470	0.553	1.354×10^{-2}	4.33	0.283	0.752

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]	0.659 ± 0.377	7452238	0.620	0.900	0.0	1.000	0.380	1.000
cloud fraction [1]	0.549 ± 0.338	7452238	0.670	0.540	7.047×10^{-3}	1.000	0.226	0.897
cloud top height [m]	$(0.408 \pm 0.253) \times 10^4$	7452238	3.638×10^3	3.520×10^3	0.0	2.000×10^4	2.008×10^3	5.646×10^3
cloud optical thickness [1]	25.4 ± 40.0	7452238	16.6	11.7	1.000	250	7.11	23.8
cloud fraction crb [1]	0.546 ± 0.338	7452238	0.669	0.536	8.374×10^{-3}	1.000	0.225	0.893
cloud height crb [m]	$(0.335 \pm 0.223) \times 10^4$	7452238	3.268×10^3	2.882×10^3	0.0	1.513×10^4	1.497×10^3	4.764×10^3
cloud albedo crb [1]	0.562 ± 0.170	7452238	0.196	0.550	0.0	1.000	0.464	0.660
surface albedo fitted [1]	$(7.400 \pm 11.383) \times 10^{-2}$	7452238	4.233×10^{-2}	3.521×10^{-2}	0.0	1.000	2.044×10^{-2}	6.277×10^{-2}
surface albedo fitted crb [1]	$(6.505 \pm 11.255) \times 10^{-2}$	7452238	3.333×10^{-2}	2.555×10^{-2}	0.0	1.000	1.393×10^{-2}	4.726×10^{-2}
fitted root mean square [1]	$(3.567 \pm 4.927) \times 10^{-4}$	7452238	3.651×10^{-4}	1.840×10^{-4}	8.776×10^{-7}	4.413×10^{-2}	7.121×10^{-5}	4.363×10^{-4}
fitted root mean square crb [1]	$(3.199 \pm 4.674) \times 10^{-4}$	7452238	3.651×10^{-4}	1.271×10^{-4}	1.132×10^{-6}	2.233×10^{-2}	4.186×10^{-5}	4.070×10^{-4}
wavelength shift [nm]	$(5.149 \pm 6.315) \times 10^{-3}$	7452238	7.944×10^{-3}	3.950×10^{-3}	-4.423×10^{-2}	6.369×10^{-2}	7.586×10^{-4}	8.703×10^{-3}
cloud fraction apriori [1]	0.548 ± 0.344	7452238	0.698	0.539	0.0	1.000	0.215	0.914
reflectance blue oca [1]	0.505 ± 0.189	7452238	0.268	0.475	0.146	1.93	0.354	0.622
reflectance green oca [1]	0.438 ± 0.214	7452238	0.325	0.406	8.555×10^{-2}	1.92	0.255	0.580
reflectance continuum aband [1]	0.370 ± 0.247	7452238	0.377	0.346	1.239×10^{-2}	5.16	0.159	0.536

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]	0.607 ± 0.383	13643183	0.670	0.790	0.0	1.000	0.280	0.950
cloud fraction [1]	0.554 ± 0.345	13643183	0.724	0.531	7.047×10^{-3}	1.000	0.223	0.947
cloud top height [m]	$(0.369 \pm 0.260) \times 10^4$	13643183	3.481×10^3	3.050×10^3	0.0	2.000×10^4	1.655×10^3	5.136×10^3
cloud optical thickness [1]	21.1 ± 35.7	13643183	12.4	10.1	1.000	250	6.38	18.8
cloud fraction crb [1]	0.553 ± 0.345	13643183	0.723	0.529	8.427×10^{-3}	1.000	0.222	0.945
cloud height crb [m]	$(0.291 \pm 0.231) \times 10^4$	13643183	3.125×10^3	2.390×10^3	0.0	2.000×10^4	1.079×10^3	4.204×10^3
cloud albedo crb [1]	0.563 ± 0.192	13643183	0.237	0.546	0.0	1.000	0.450	0.687
surface albedo fitted [1]	0.159 ± 0.280	13643183	4.591×10^{-2}	3.573×10^{-2}	0.0	1.000	2.103×10^{-2}	6.694×10^{-2}
surface albedo fitted crb [1]	0.149 ± 0.272	13643183	3.672×10^{-2}	2.756×10^{-2}	0.0	1.000	1.548×10^{-2}	5.221×10^{-2}
fitted root mean square [1]	$(5.369 \pm 9.135) \times 10^{-4}$	13643183	5.565×10^{-4}	2.264×10^{-4}	8.776×10^{-7}	0.122	8.411×10^{-5}	6.406×10^{-4}
fitted root mean square crb [1]	$(4.785 \pm 7.227) \times 10^{-4}$	13643183	5.151×10^{-4}	1.745×10^{-4}	1.055×10^{-6}	2.503×10^{-2}	5.393×10^{-5}	5.690×10^{-4}
wavelength shift [nm]	$(6.495 \pm 6.882) \times 10^{-3}$	13643183	9.404×10^{-3}	5.527×10^{-3}	-4.925×10^{-2}	6.519×10^{-2}	1.425×10^{-3}	1.083×10^{-2}
cloud fraction apriori [1]	0.562 ± 0.351	13643183	0.770	0.548	0.0	1.000	0.221	0.991
reflectance blue ocr [1]	0.537 ± 0.208	13643183	0.342	0.511	0.153	1.91	0.357	0.699
reflectance green ocr [1]	0.479 ± 0.236	13643183	0.413	0.455	8.281×10^{-2}	1.92	0.260	0.673
reflectance continuum aband [1]	0.409 ± 0.272	13643183	0.482	0.392	1.239×10^{-2}	4.86	0.151	0.634

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]	0.620 ± 0.364	3629810	0.550	0.740	0.0	1.000	0.350	0.900
cloud fraction [1]	0.616 ± 0.346	3629810	0.715	0.652	7.477×10^{-3}	1.000	0.284	0.999
cloud top height [m]	$(0.442 \pm 0.279) \times 10^4$	3629810	3.736×10^3	3.895×10^3	0.0	2.000×10^4	2.291×10^3	6.027×10^3
cloud optical thickness [1]	14.5 ± 25.6	3629810	8.00	7.81	1.000	250	5.06	13.1
cloud fraction crb [1]	0.616 ± 0.346	3629810	0.715	0.652	8.153×10^{-3}	1.000	0.283	0.999
cloud height crb [m]	$(0.328 \pm 0.229) \times 10^4$	3629810	3.226×10^3	2.772×10^3	0.0	2.000×10^4	1.495×10^3	4.721×10^3
cloud albedo crb [1]	0.632 ± 0.222	3629810	0.312	0.629	0.0	1.000	0.495	0.807
surface albedo fitted [1]	0.431 ± 0.271	3629810	0.399	0.305	4.042×10^{-3}	1.000	0.232	0.631
surface albedo fitted crb [1]	0.424 ± 0.259	3629810	0.417	0.306	0.0	1.000	0.228	0.644
fitted root mean square [1]	$(1.262 \pm 1.283) \times 10^{-3}$	3629810	1.296×10^{-3}	9.552×10^{-4}	4.531×10^{-6}	0.320	4.905×10^{-4}	1.786×10^{-3}
fitted root mean square crb [1]	$(1.173 \pm 1.030) \times 10^{-3}$	3629810	1.261×10^{-3}	9.211×10^{-4}	2.091×10^{-6}	0.389	4.300×10^{-4}	1.691×10^{-3}
wavelength shift [nm]	$(9.144 \pm 6.725) \times 10^{-3}$	3629810	9.354×10^{-3}	9.077×10^{-3}	-7.122×10^{-2}	6.354×10^{-2}	4.332×10^{-3}	1.369×10^{-2}
cloud fraction apriori [1]	0.637 ± 0.351	3629810	0.704	0.706	0.0	1.000	0.296	1.000
reflectance blue ocra [1]	0.581 ± 0.254	3629810	0.454	0.559	0.135	1.93	0.345	0.799
reflectance green ocra [1]	0.546 ± 0.276	3629810	0.513	0.530	8.555×10^{-2}	1.90	0.278	0.790
reflectance continuum aband [1]	0.573 ± 0.247	3629810	0.424	0.545	2.050×10^{-2}	5.16	0.356	0.781

3 Granule outlines

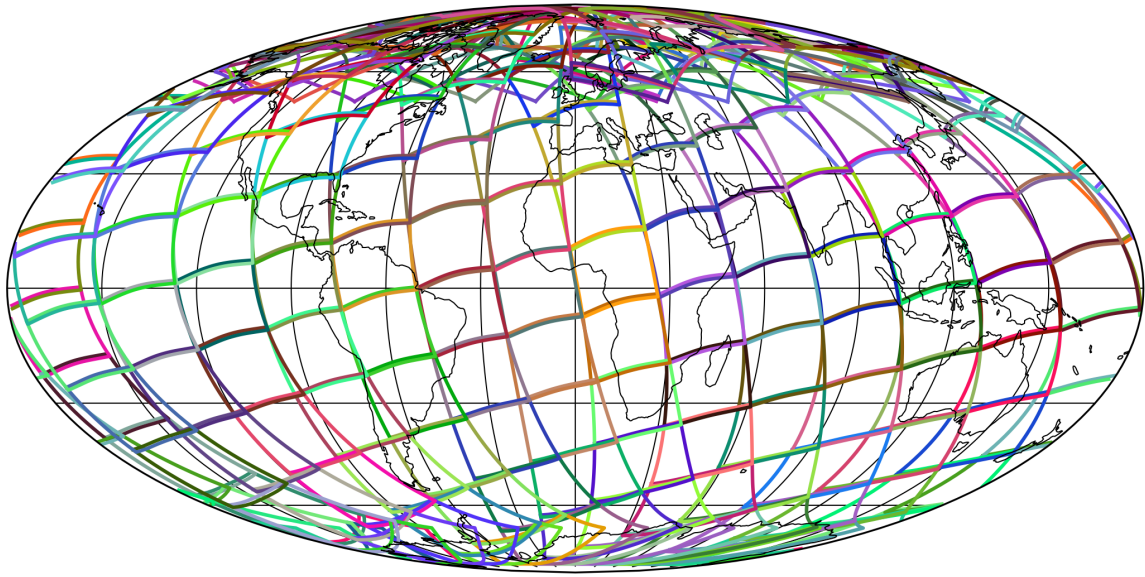


Figure 1: Outline of the granules.

4 Input data monitoring

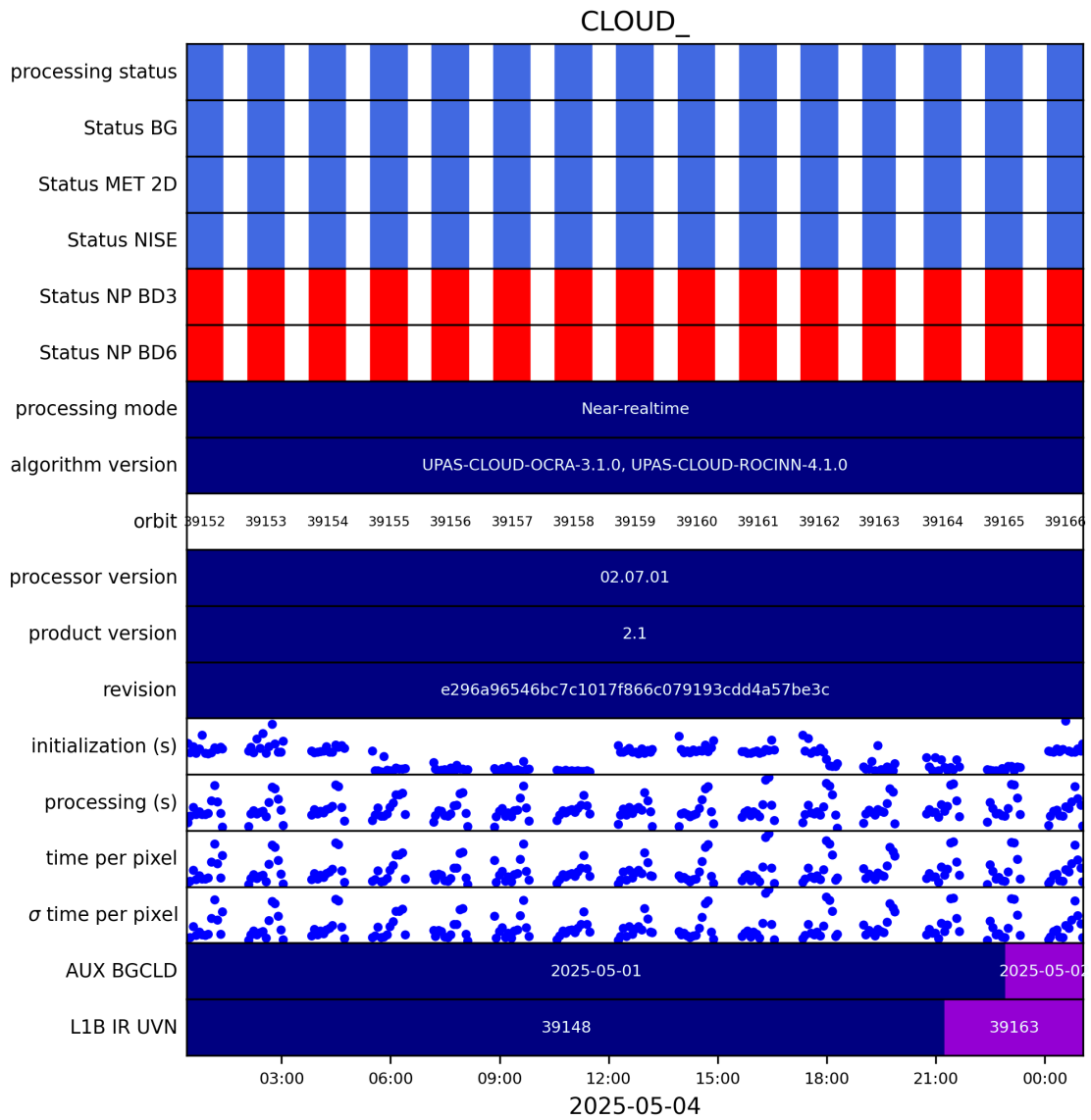


Figure 2: Input data per granule

5 Warnings and errors

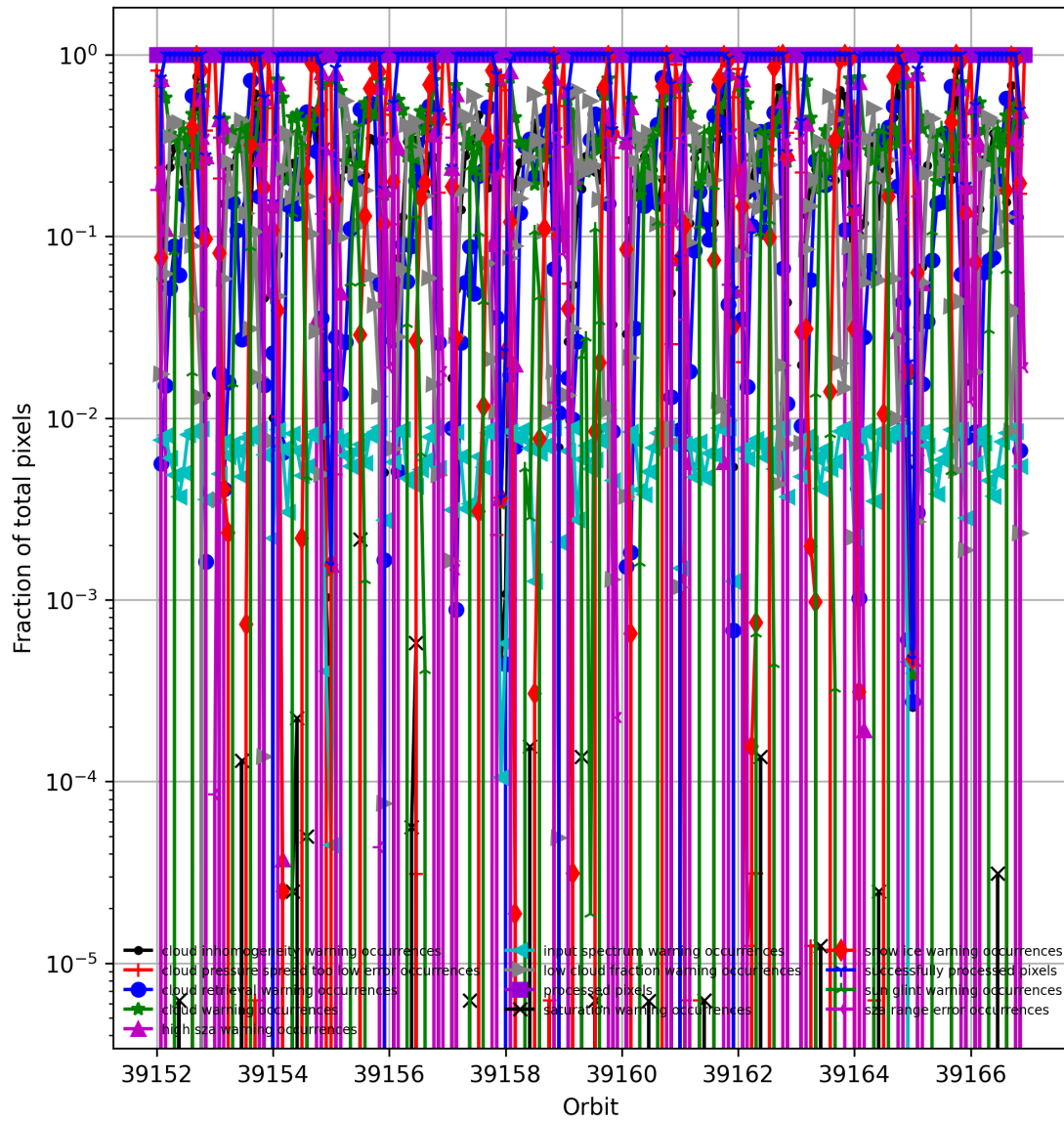


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

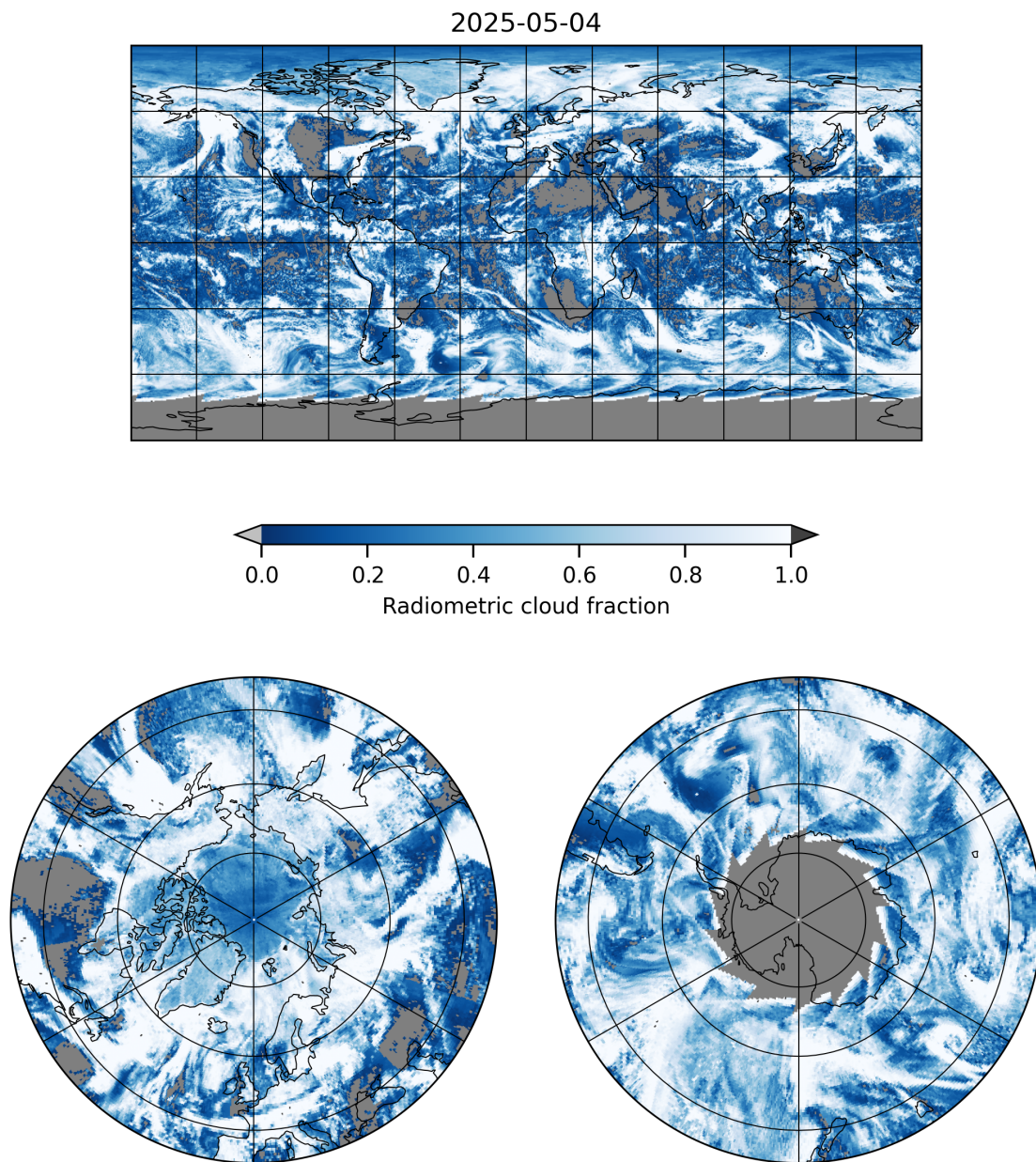


Figure 4: Map of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05

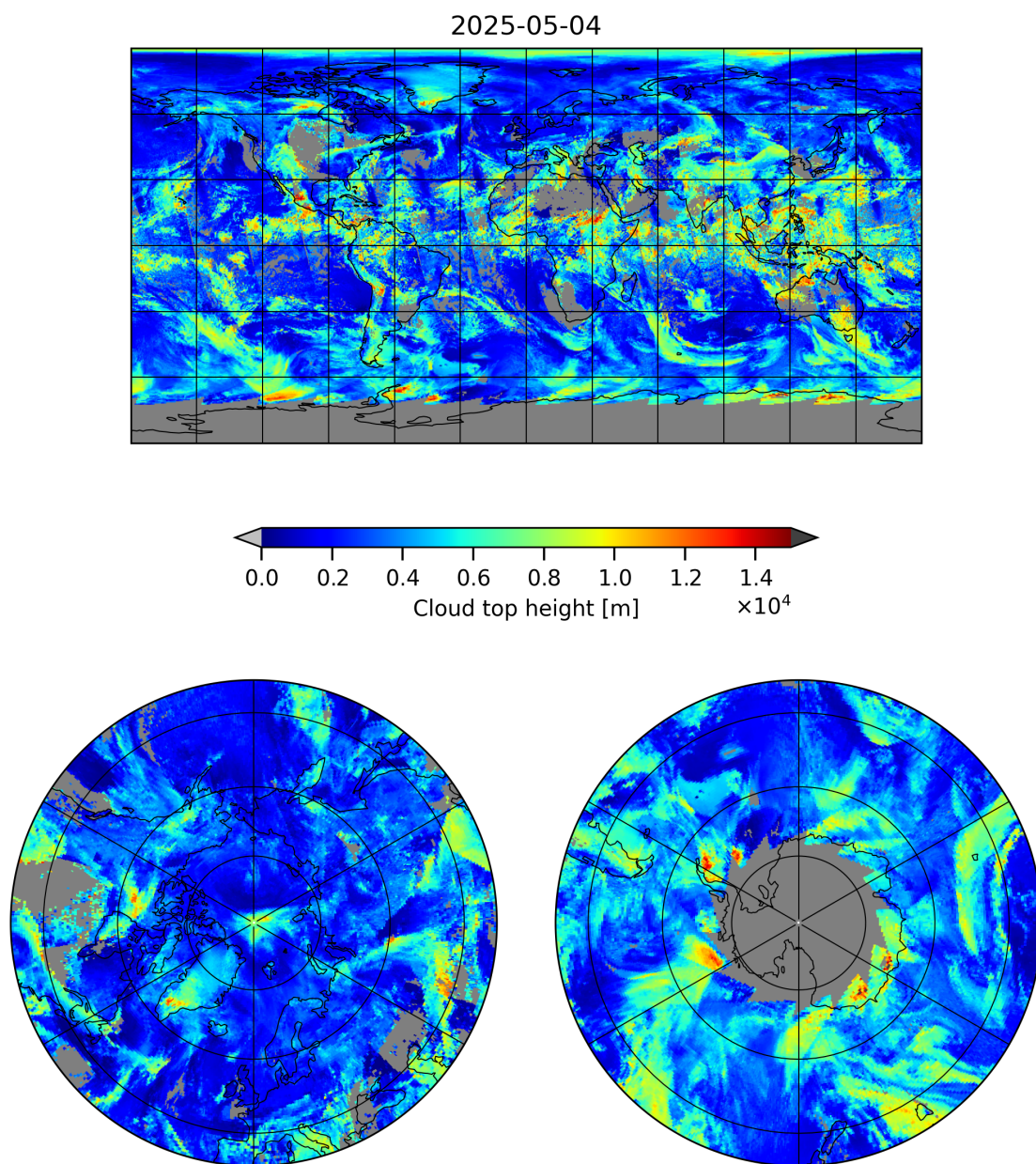


Figure 5: Map of “Cloud top height” for 2025-05-04 to 2025-05-05

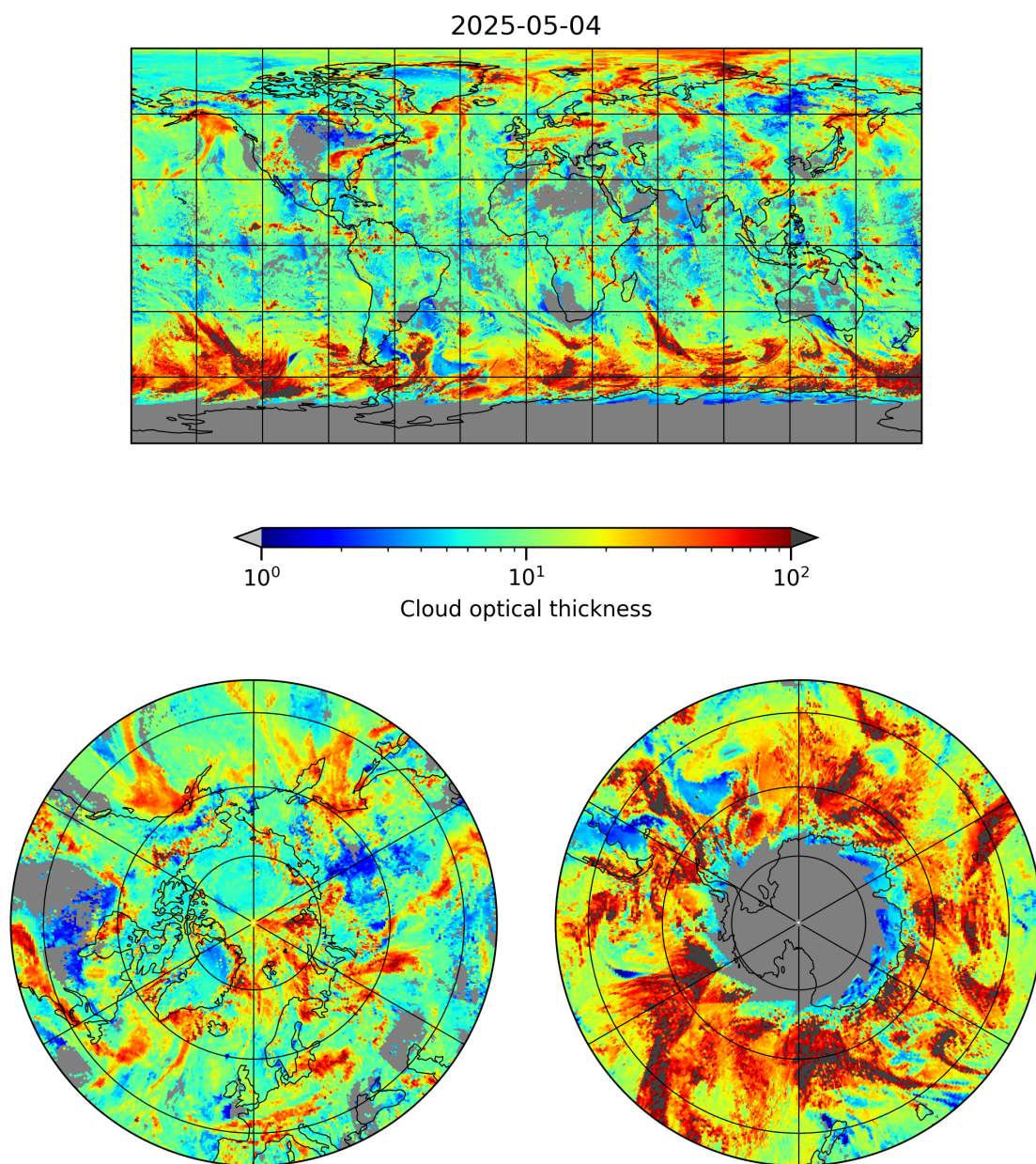


Figure 6: Map of “Cloud optical thickness” for 2025-05-04 to 2025-05-05

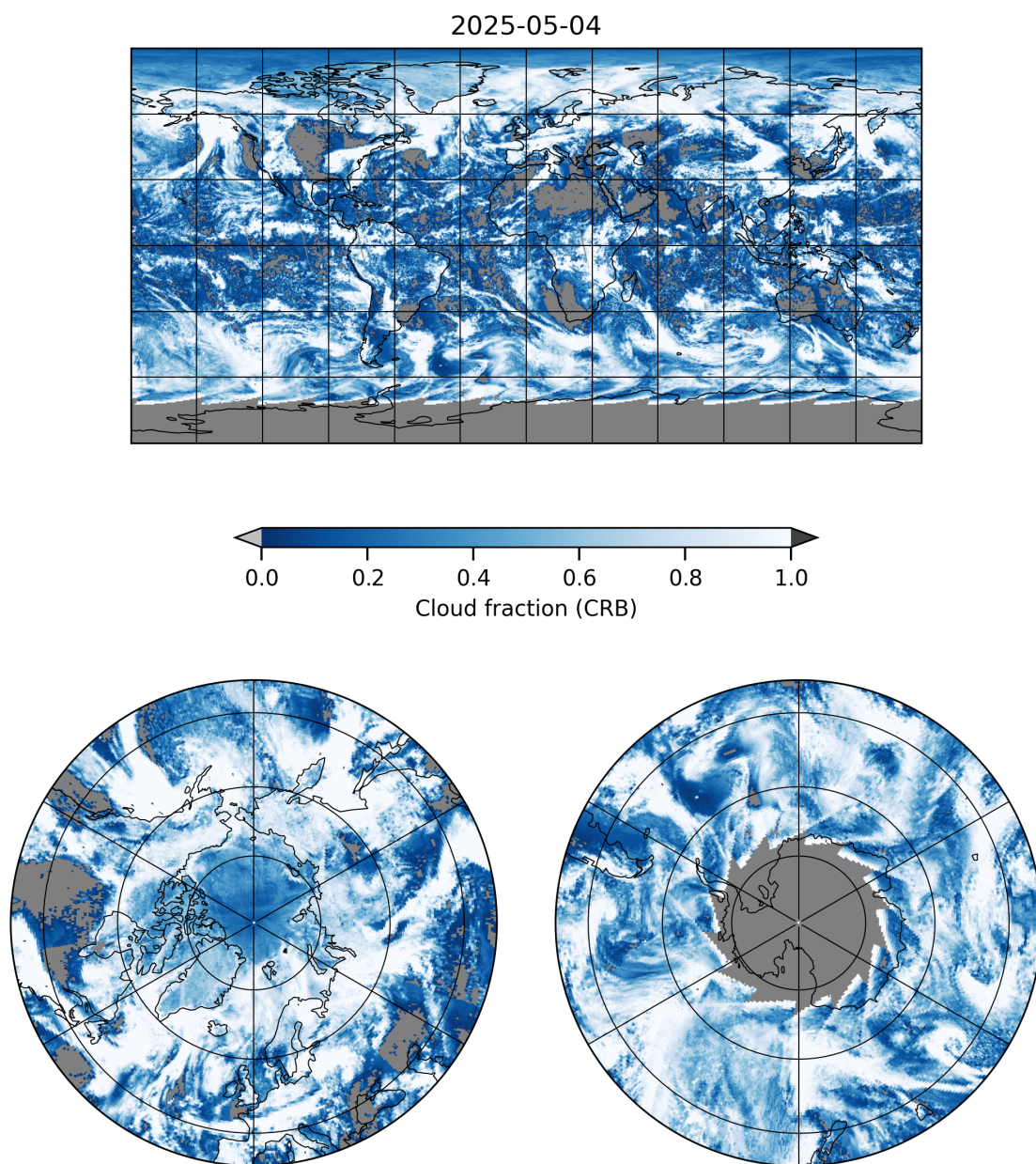


Figure 7: Map of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05

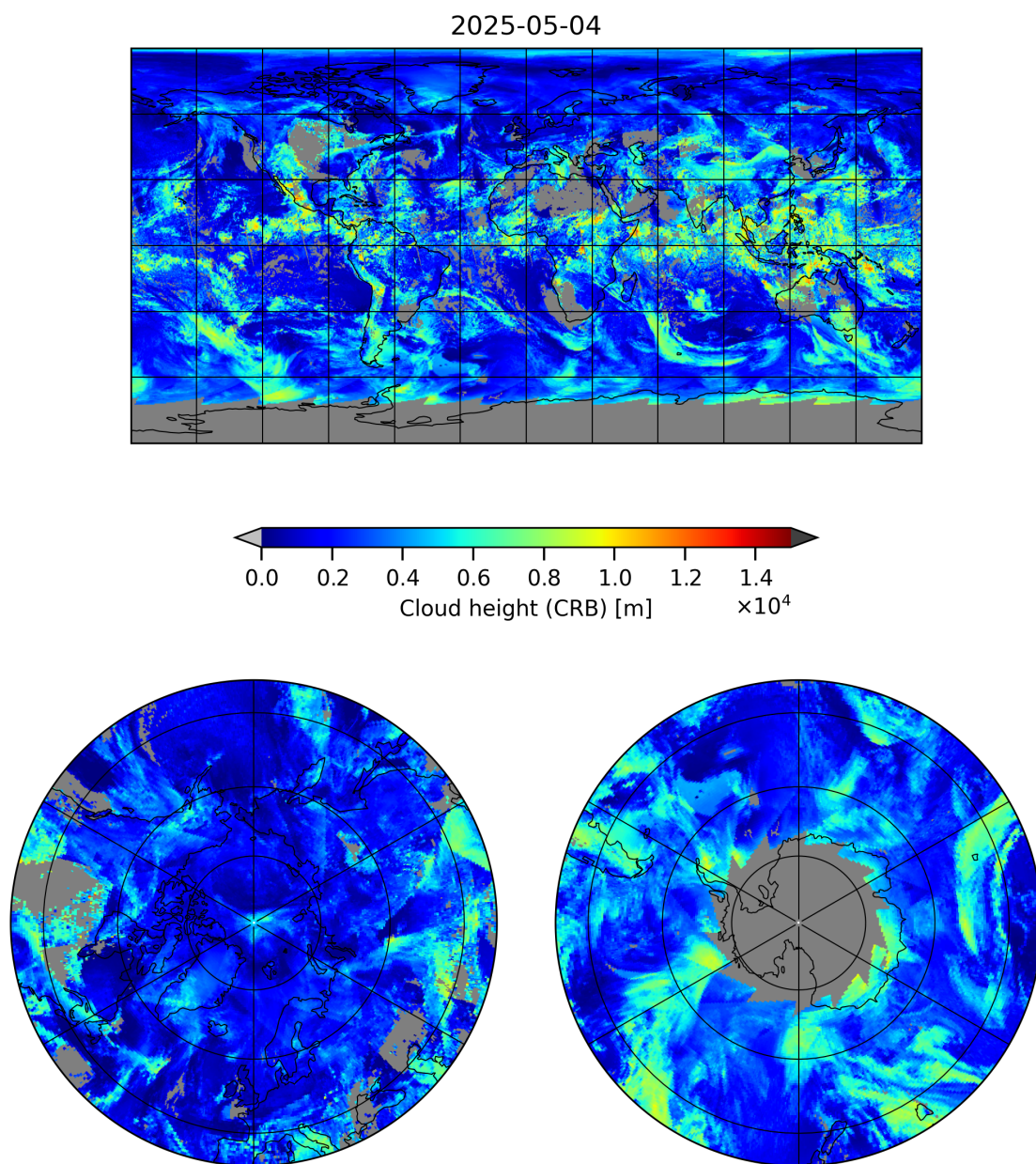


Figure 8: Map of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05

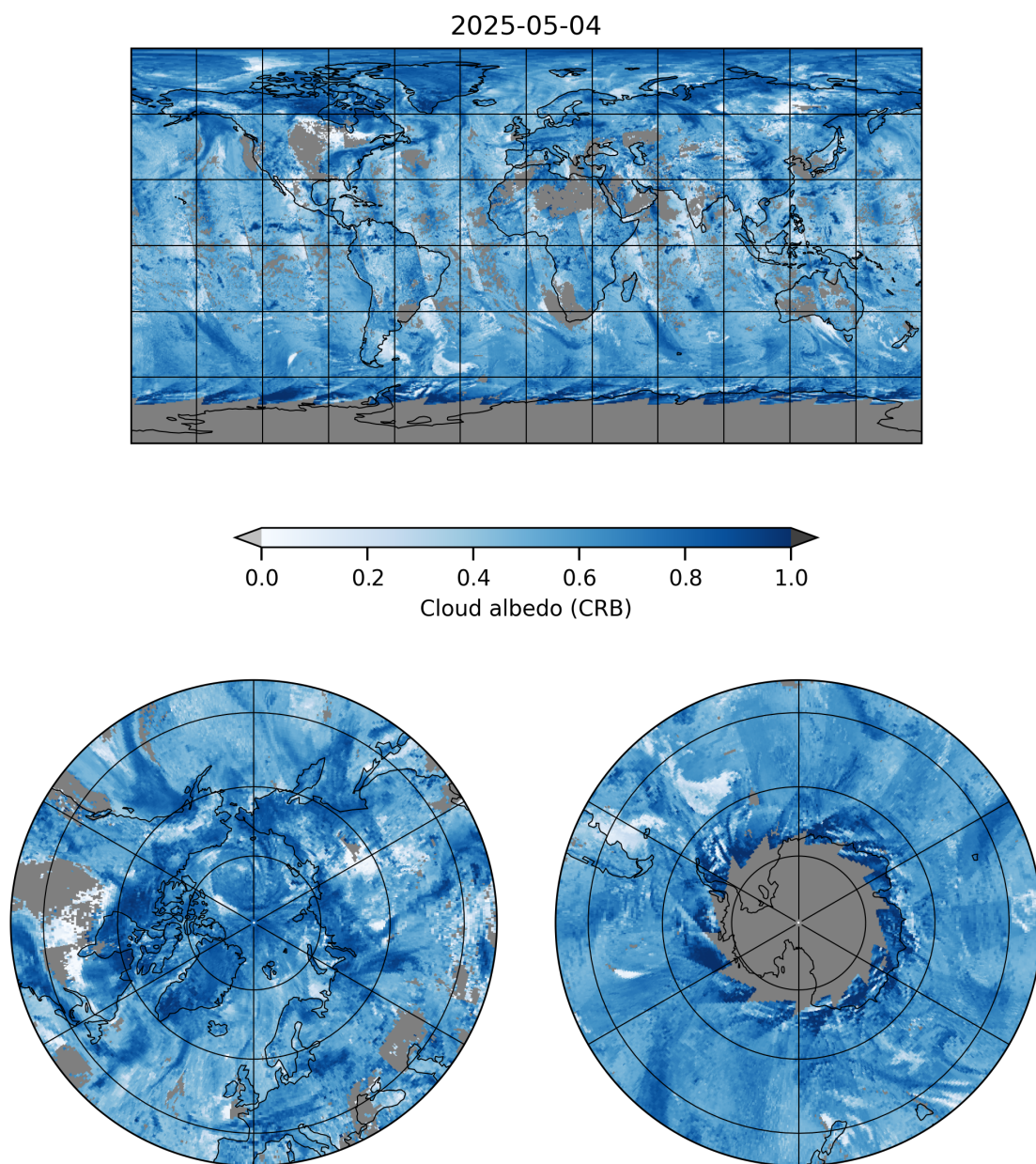


Figure 9: Map of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05

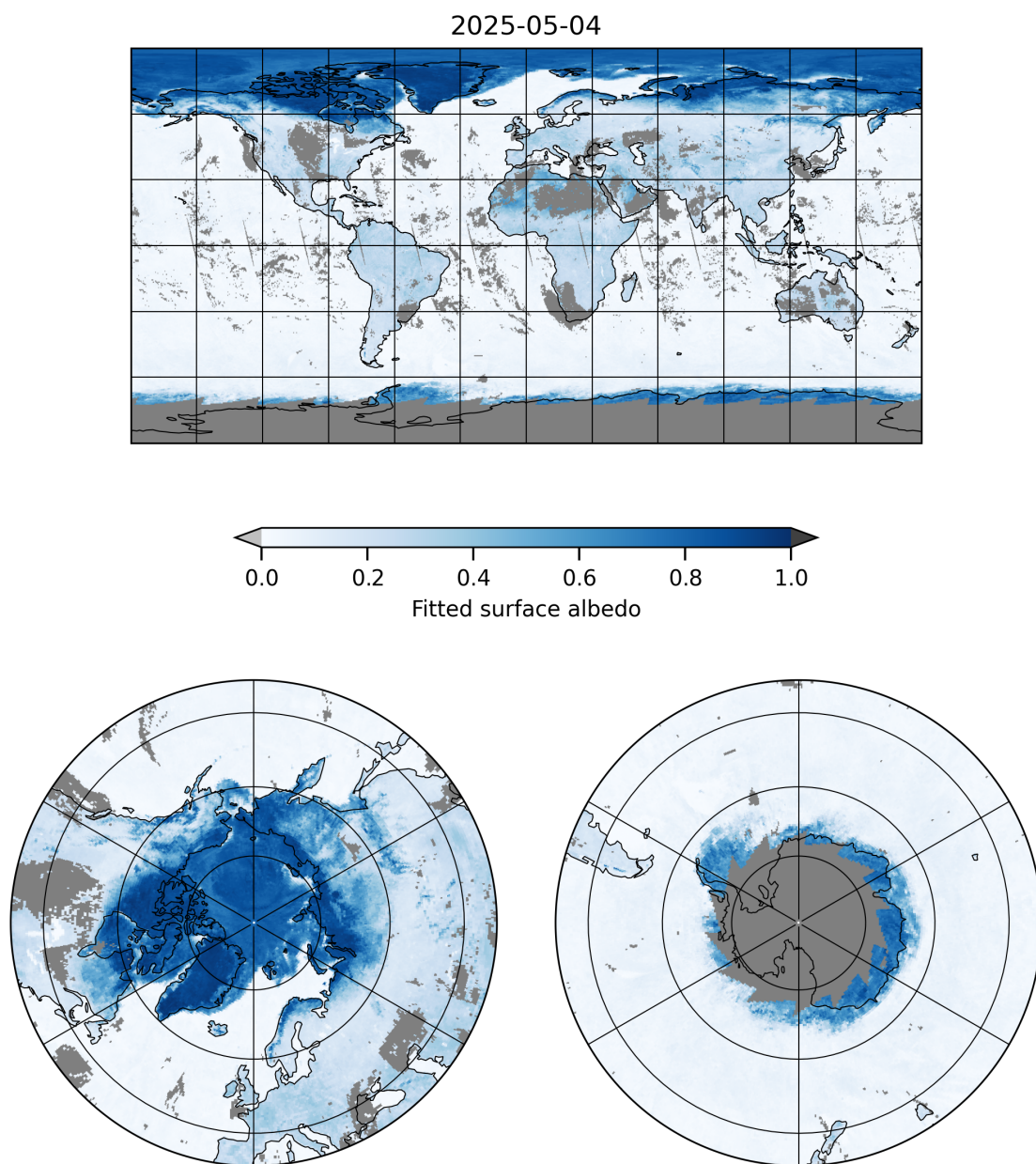


Figure 10: Map of “Fitted surface albedo” for 2025-05-04 to 2025-05-05

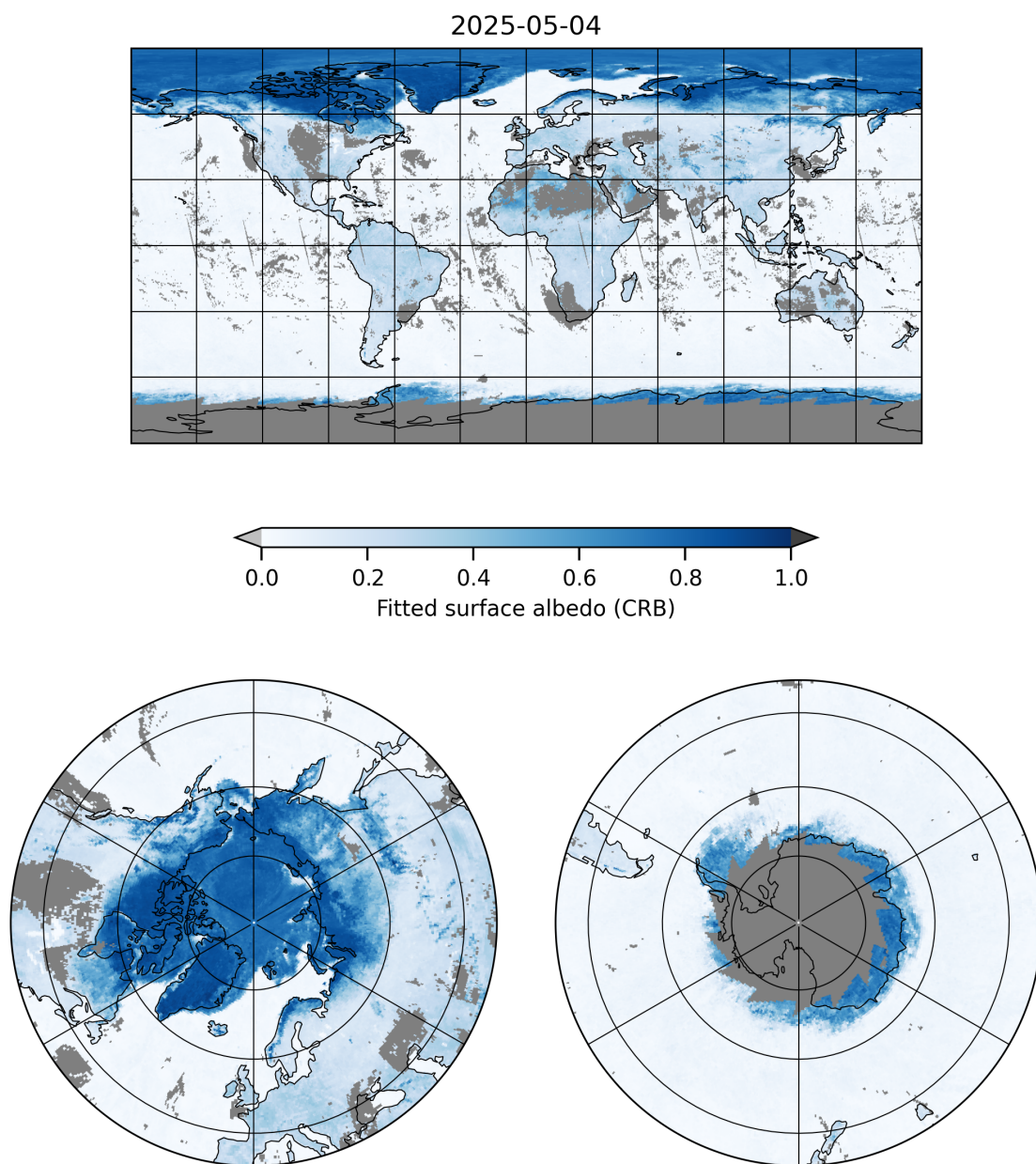


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05

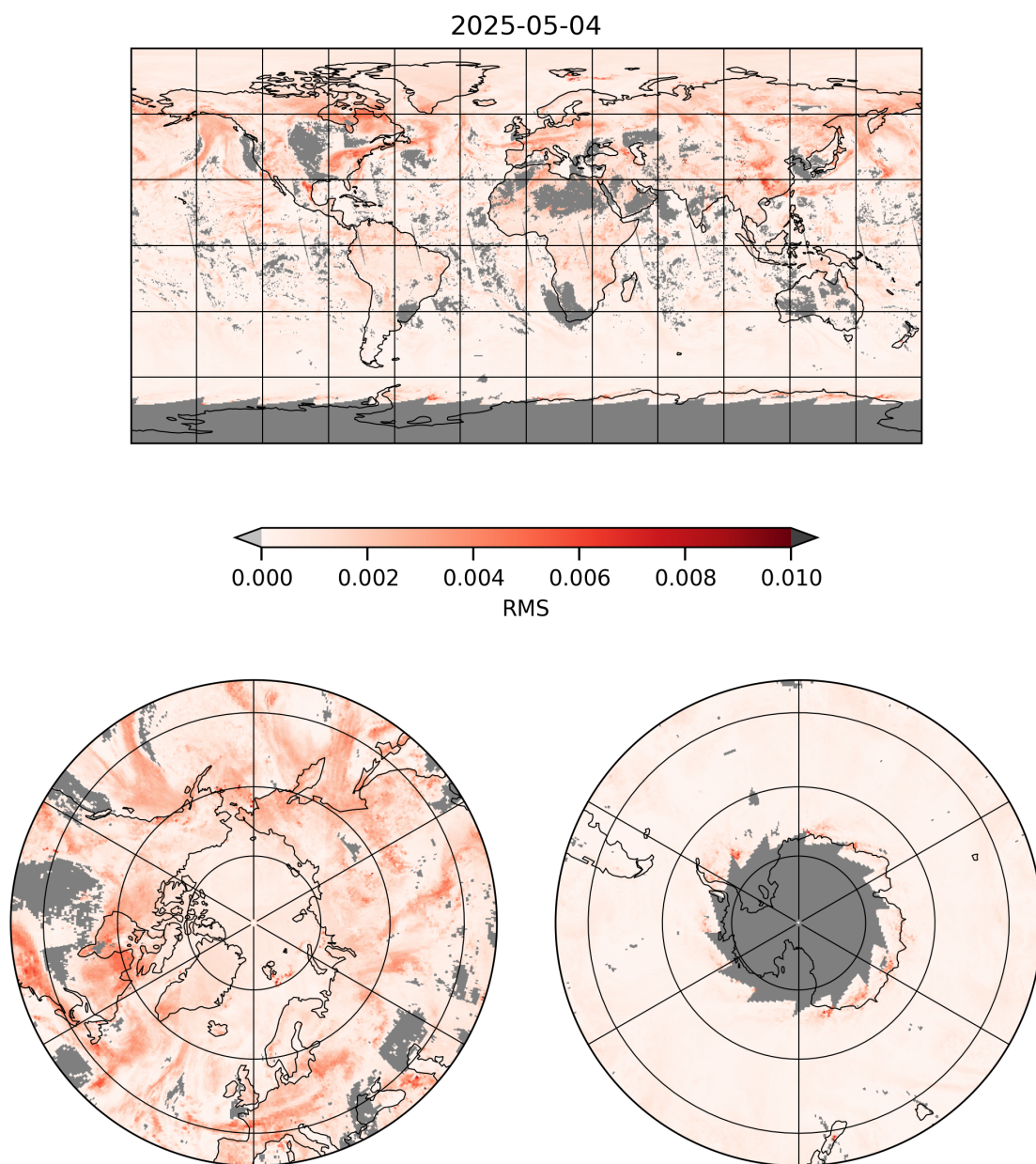


Figure 12: Map of “RMS” for 2025-05-04 to 2025-05-05

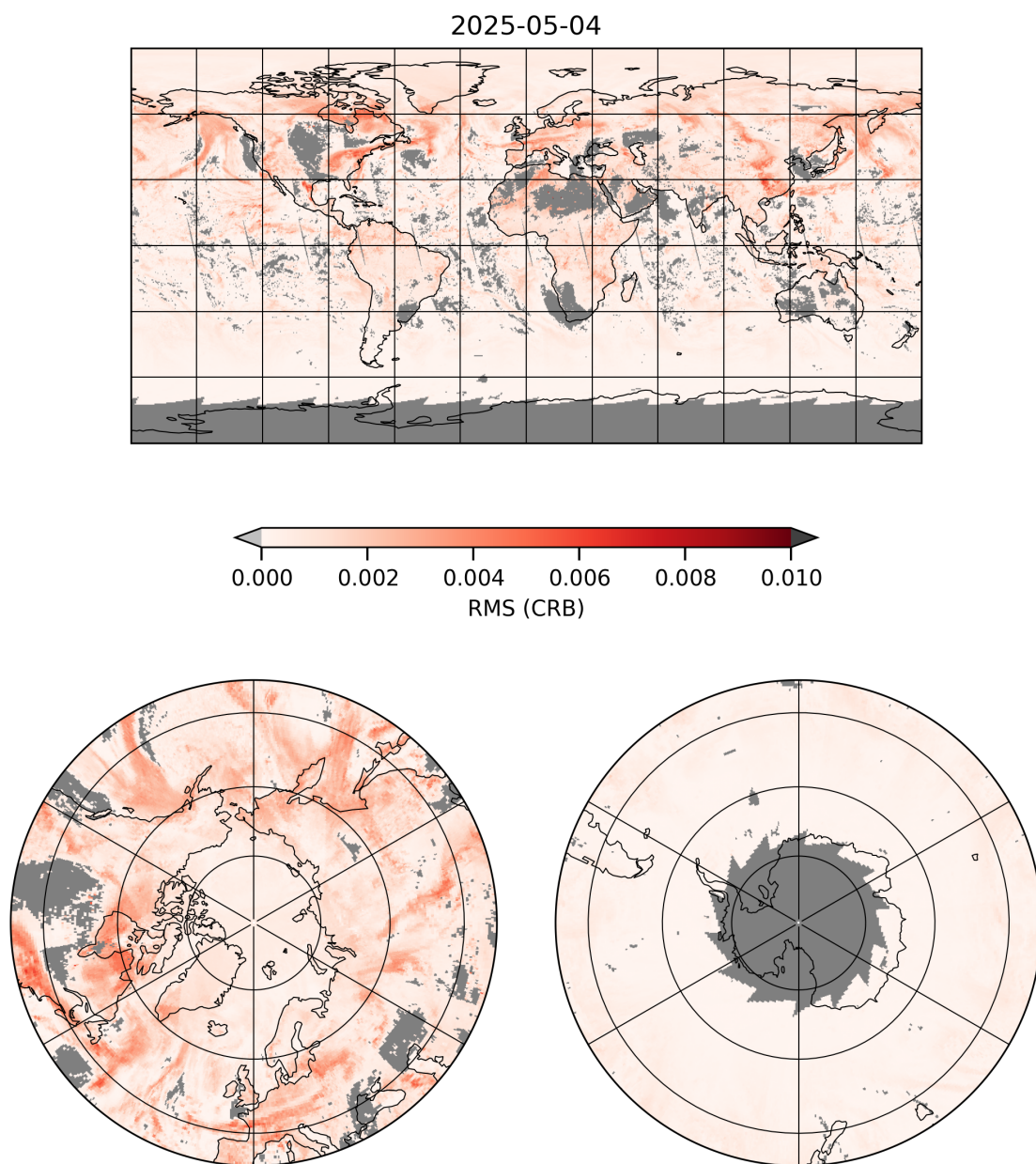


Figure 13: Map of “RMS (CRB)” for 2025-05-04 to 2025-05-05

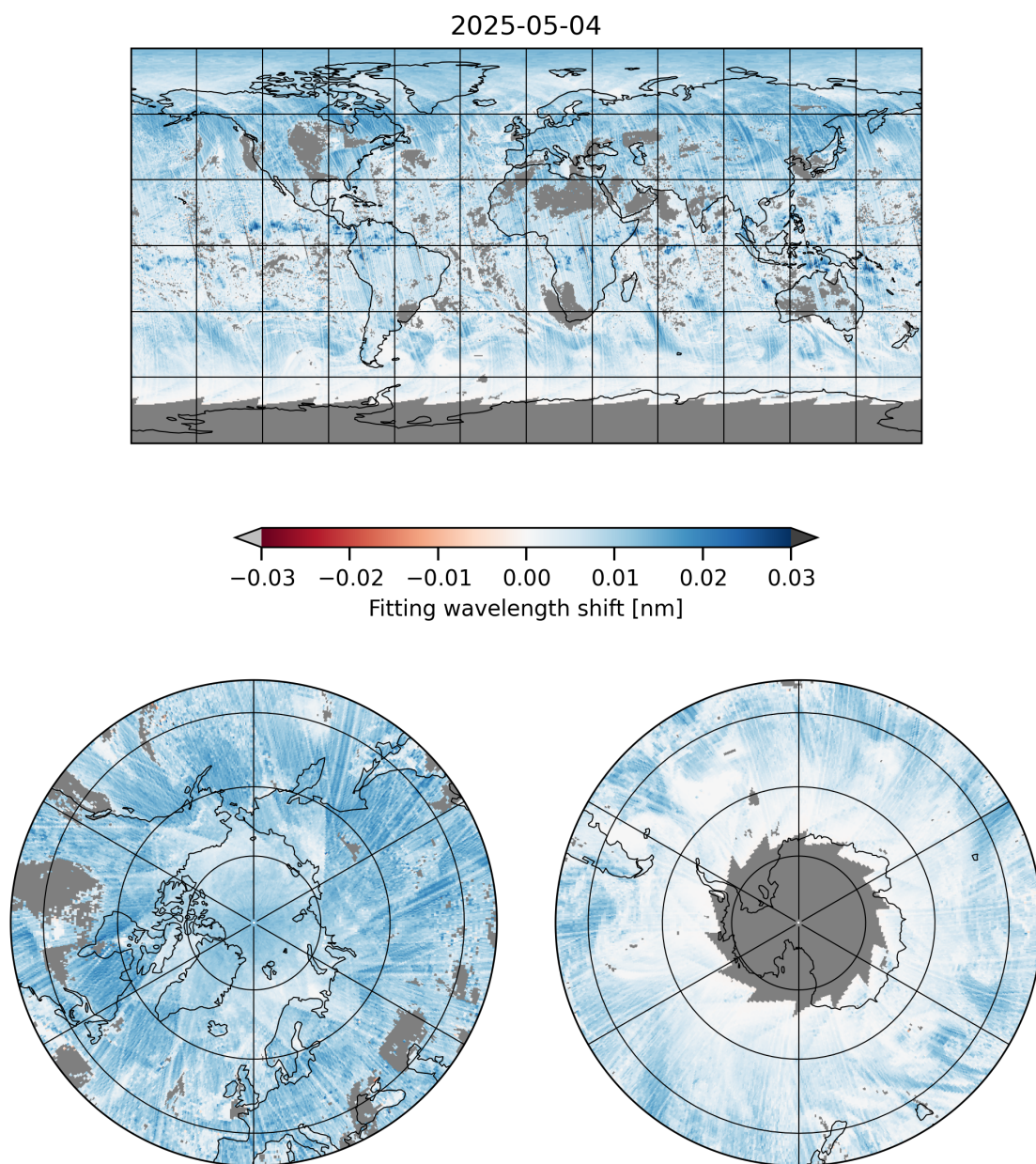


Figure 14: Map of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05

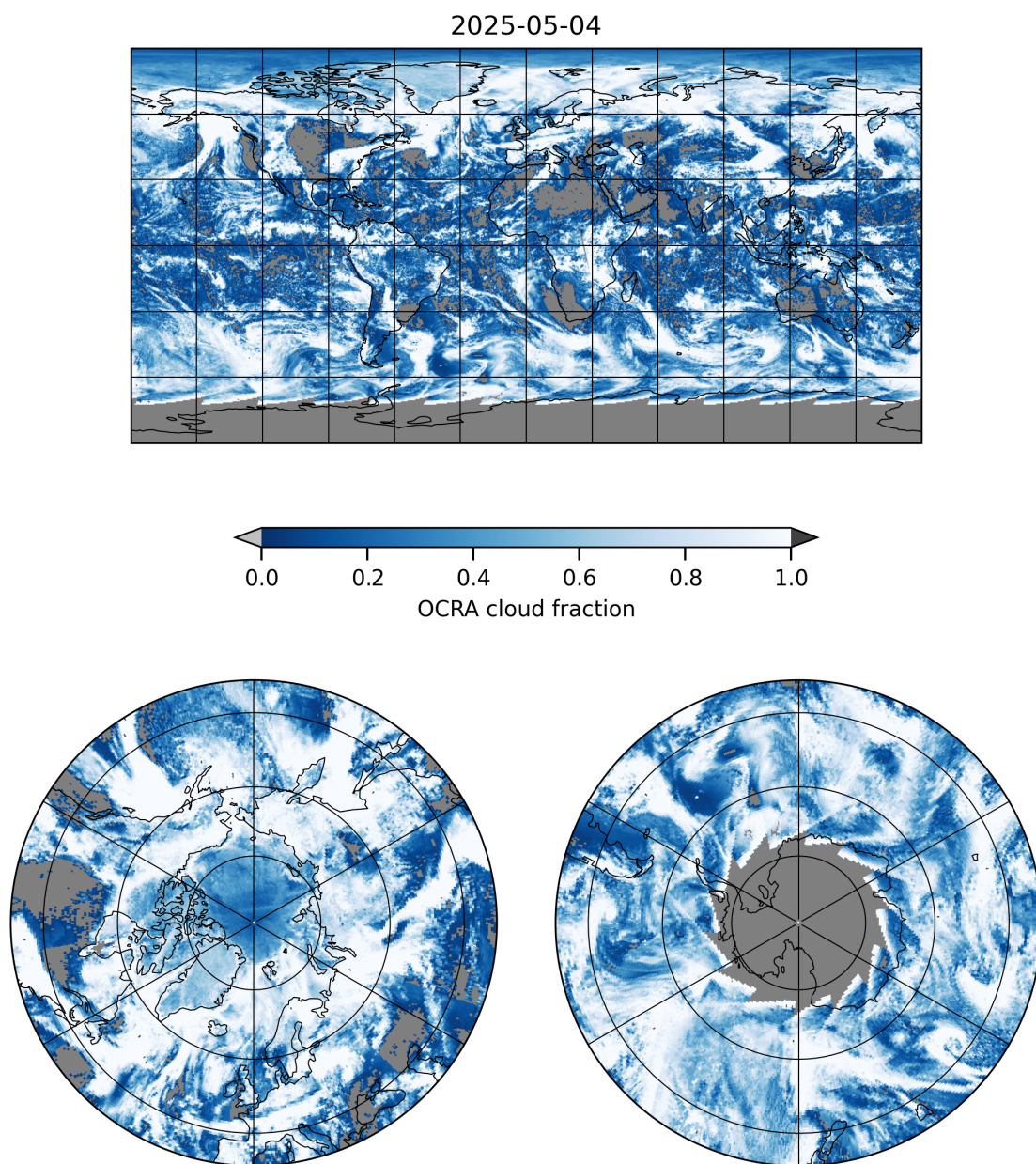


Figure 15: Map of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05

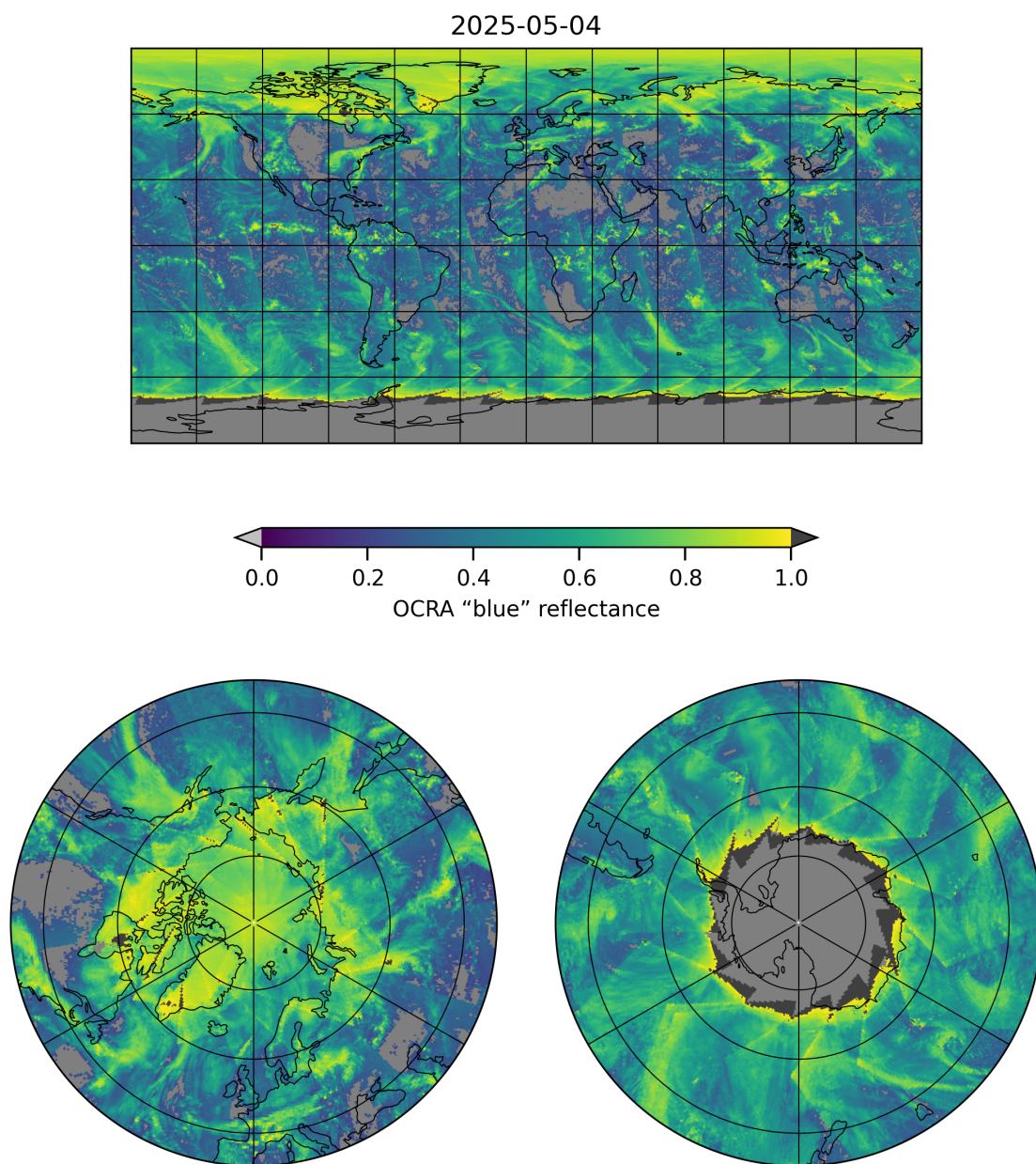


Figure 16: Map of "OCRA "blue" reflectance" for 2025-05-04 to 2025-05-05

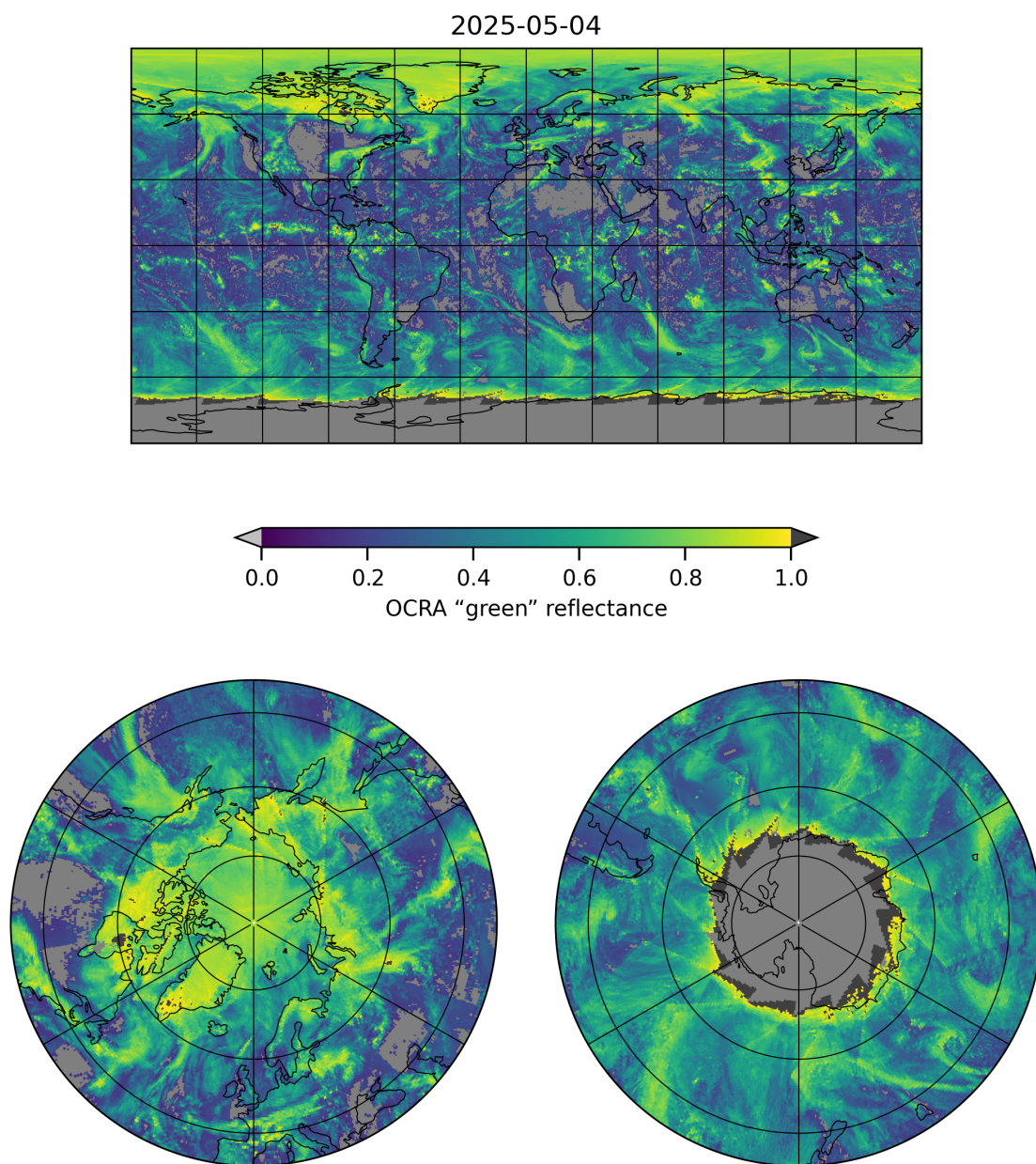


Figure 17: Map of "OCRA "green" reflectance" for 2025-05-04 to 2025-05-05

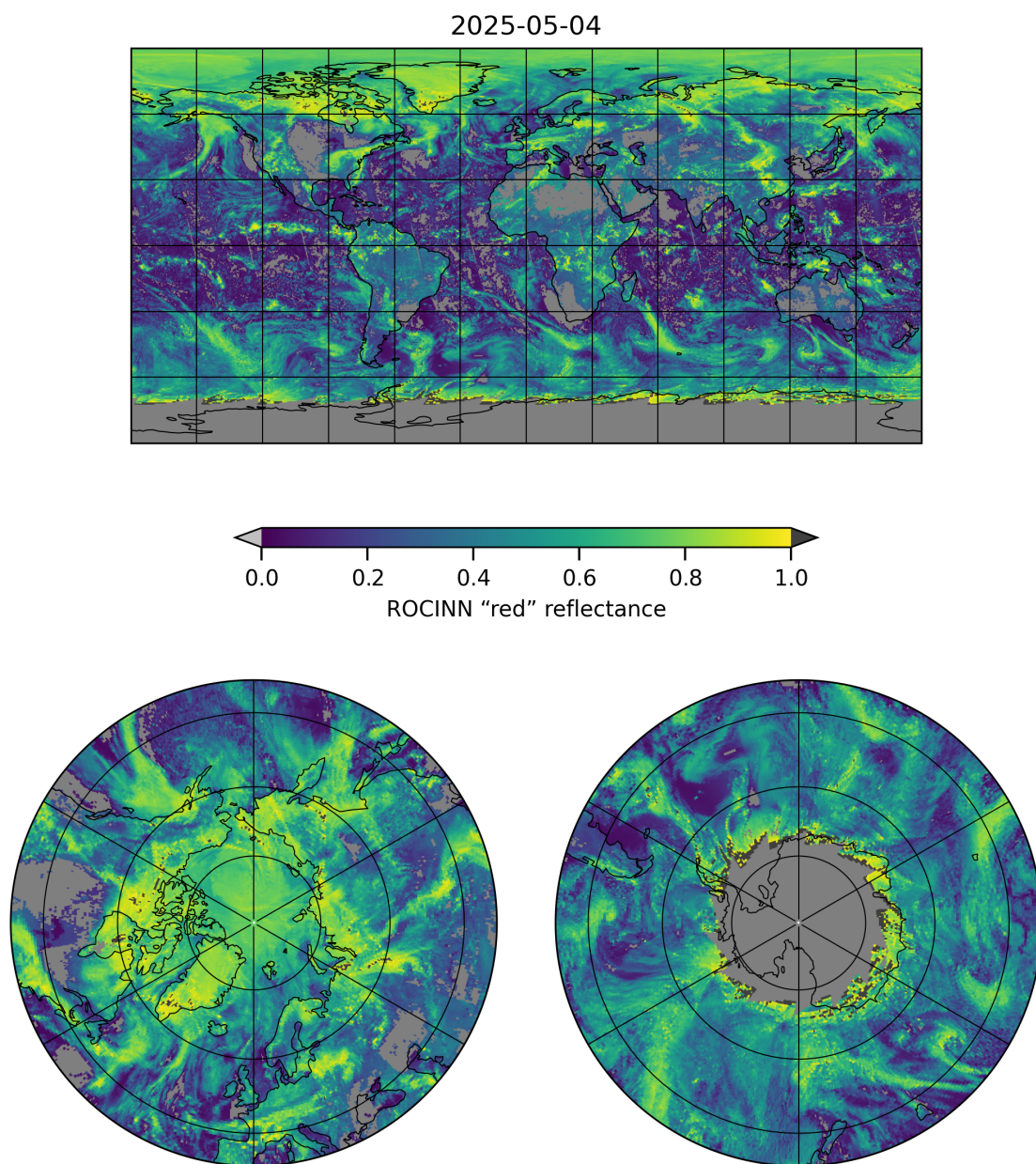


Figure 18: Map of "ROCINN "red" reflectance" for 2025-05-04 to 2025-05-05

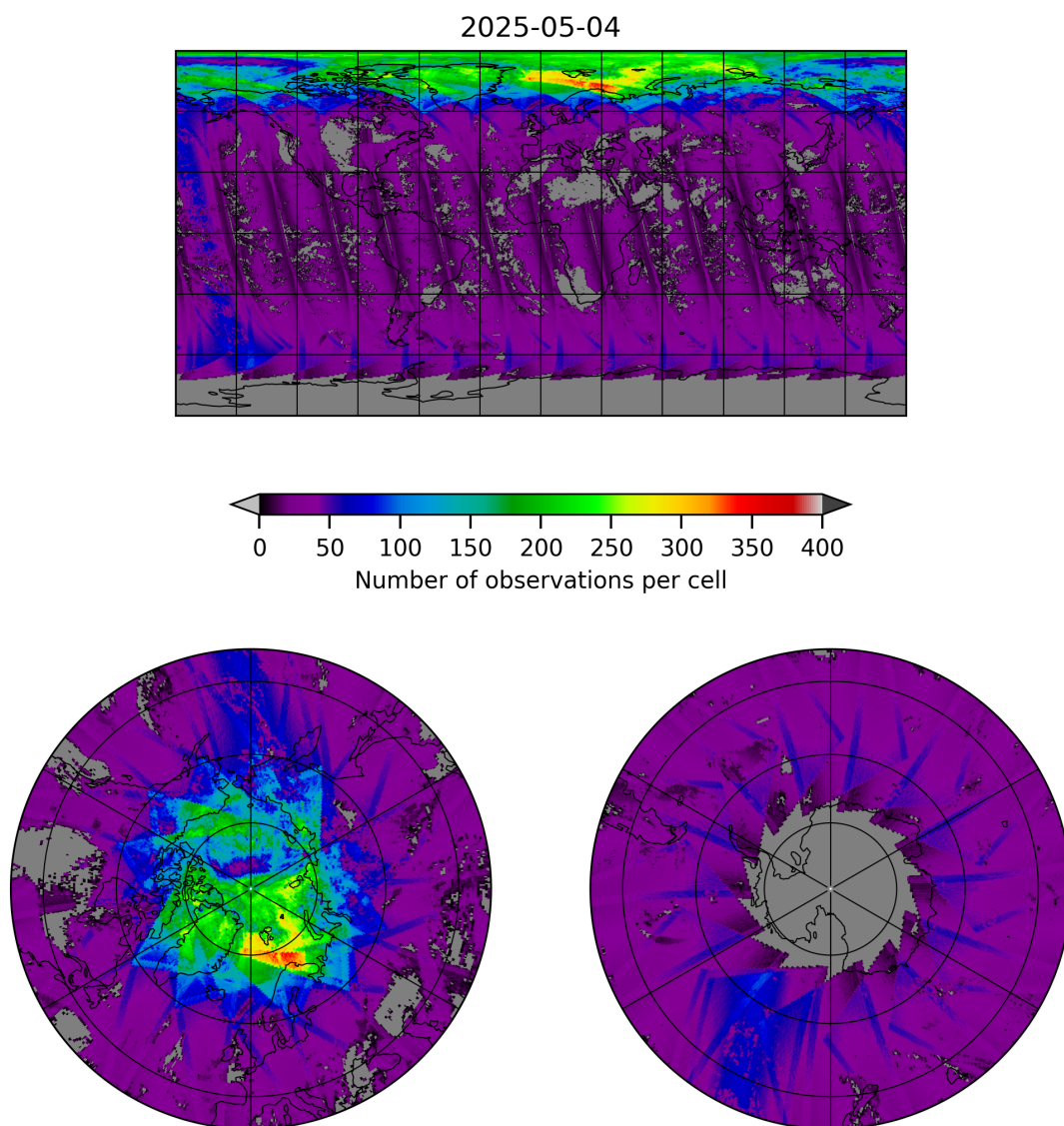


Figure 19: Map of the number of observations for 2025-05-04 to 2025-05-05

7 Zonal average

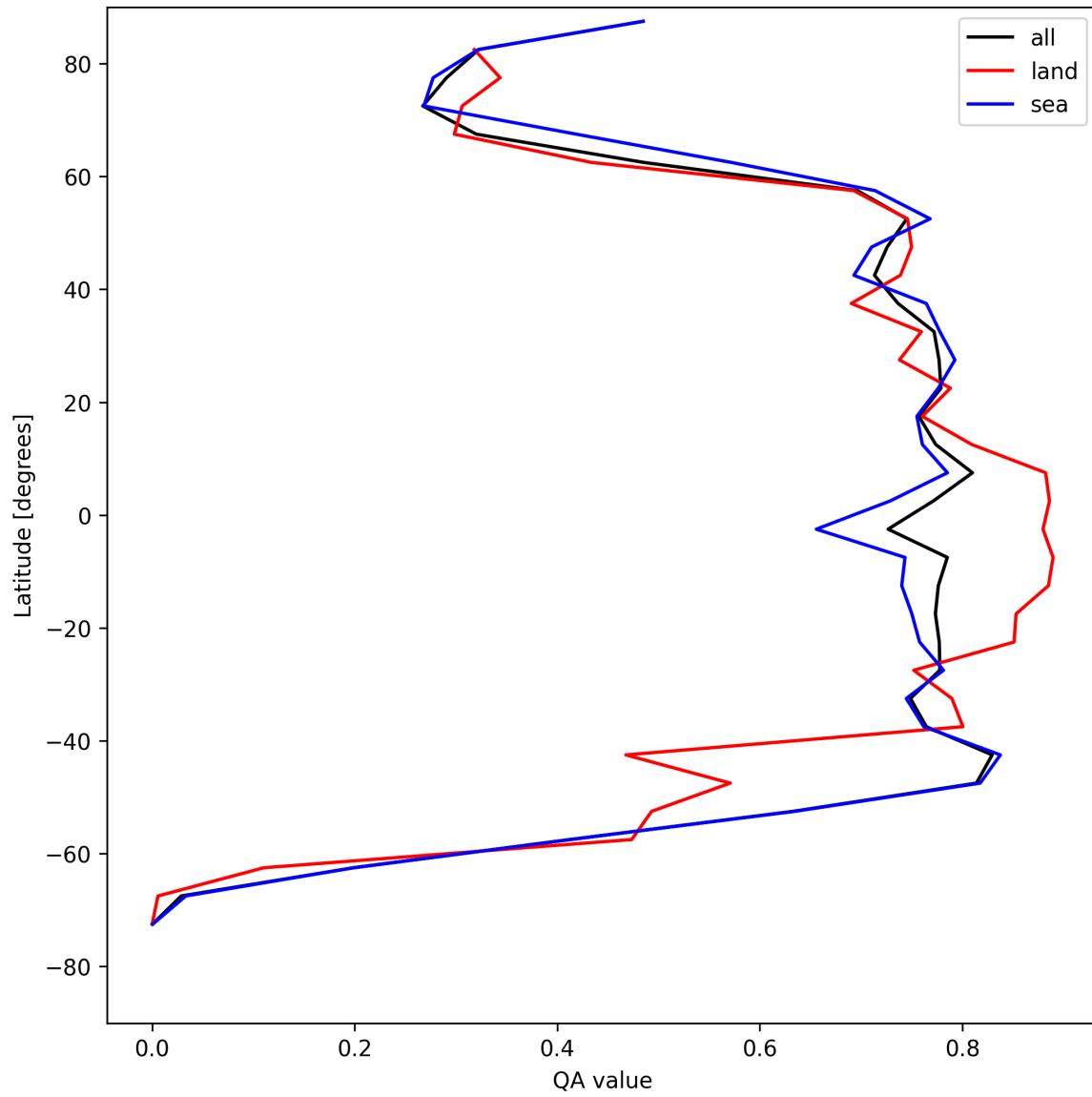


Figure 20: Zonal average of “QA value” for 2025-05-04 to 2025-05-05.

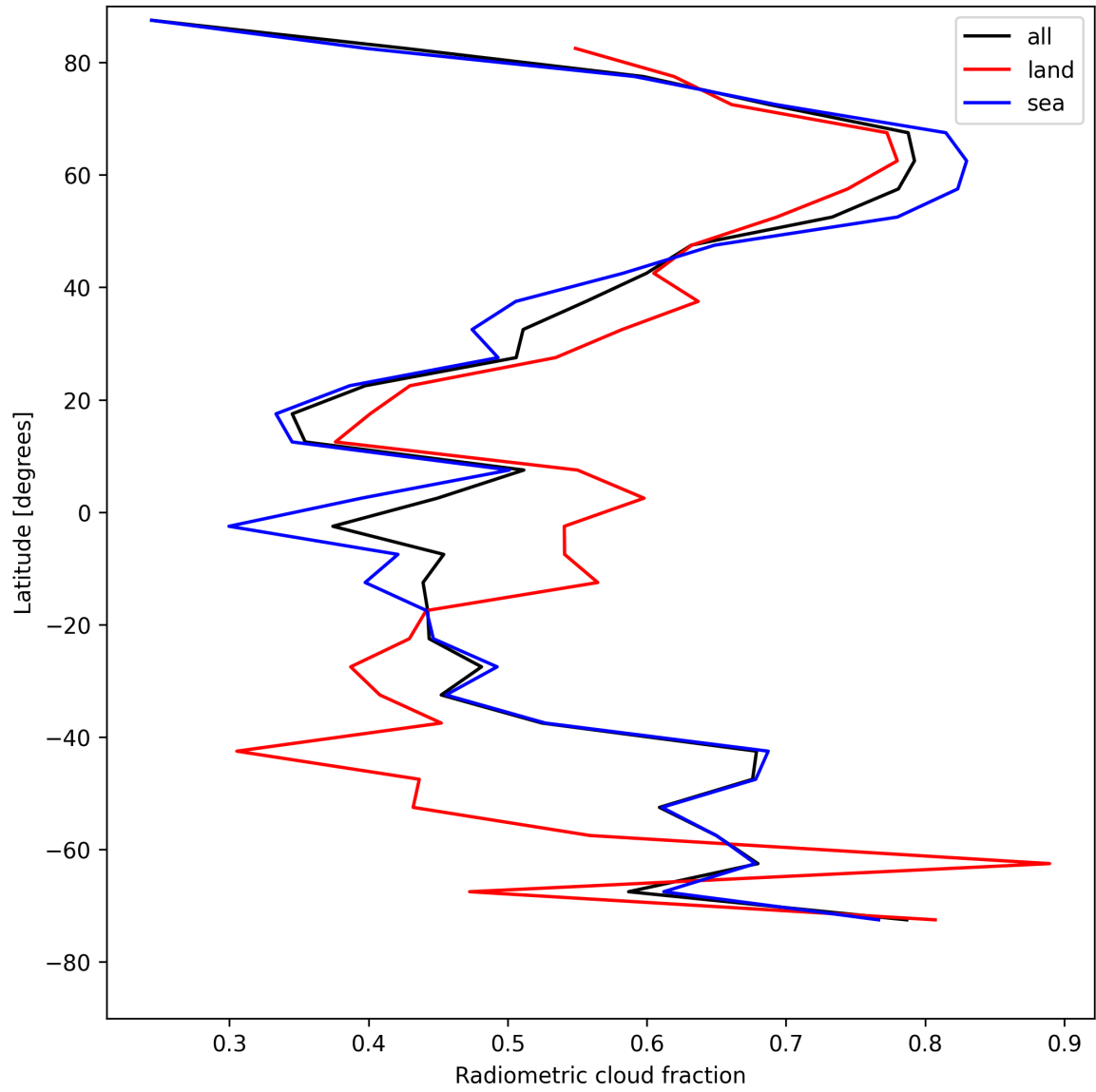


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05.

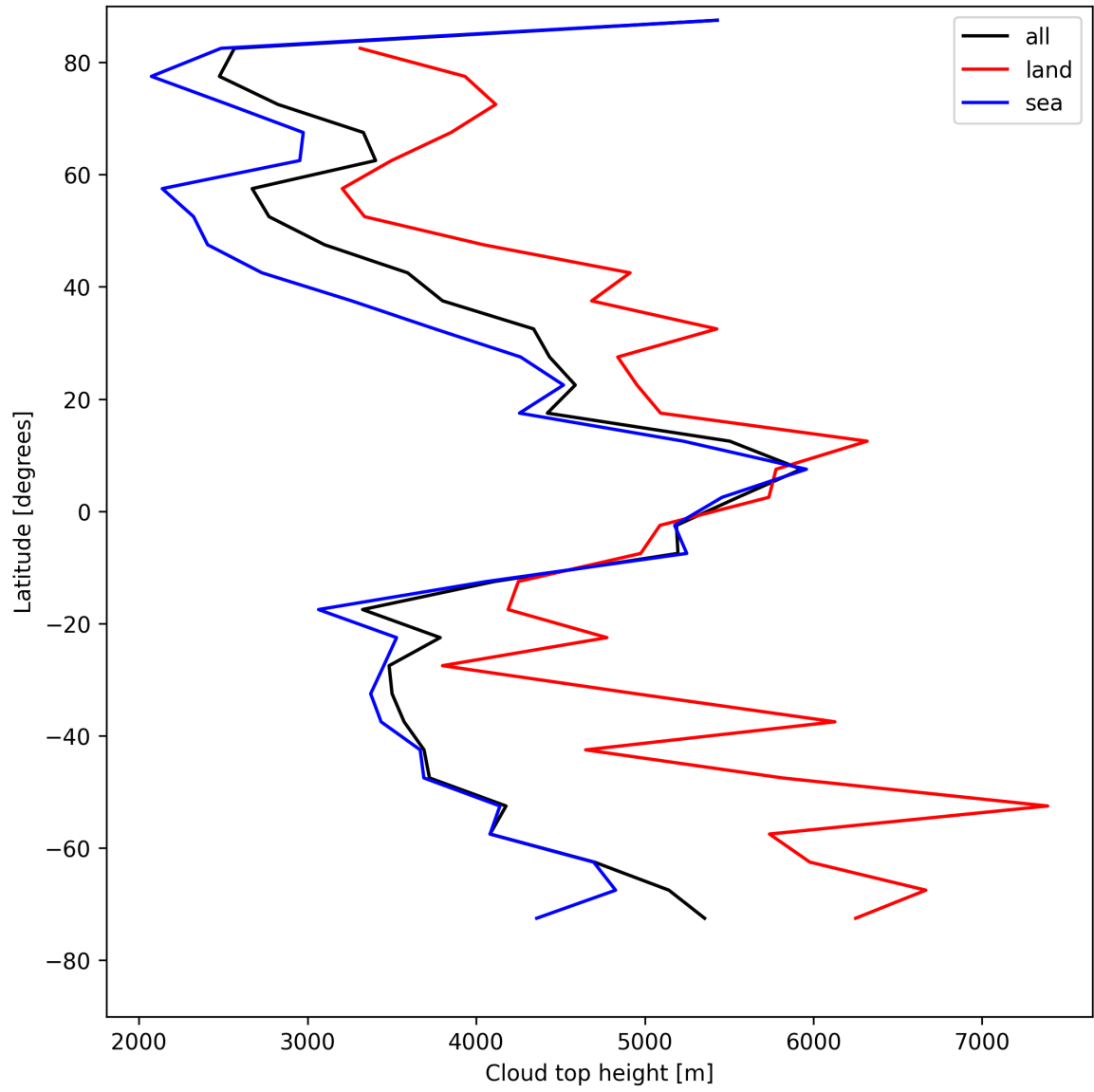


Figure 22: Zonal average of “Cloud top height” for 2025-05-04 to 2025-05-05.

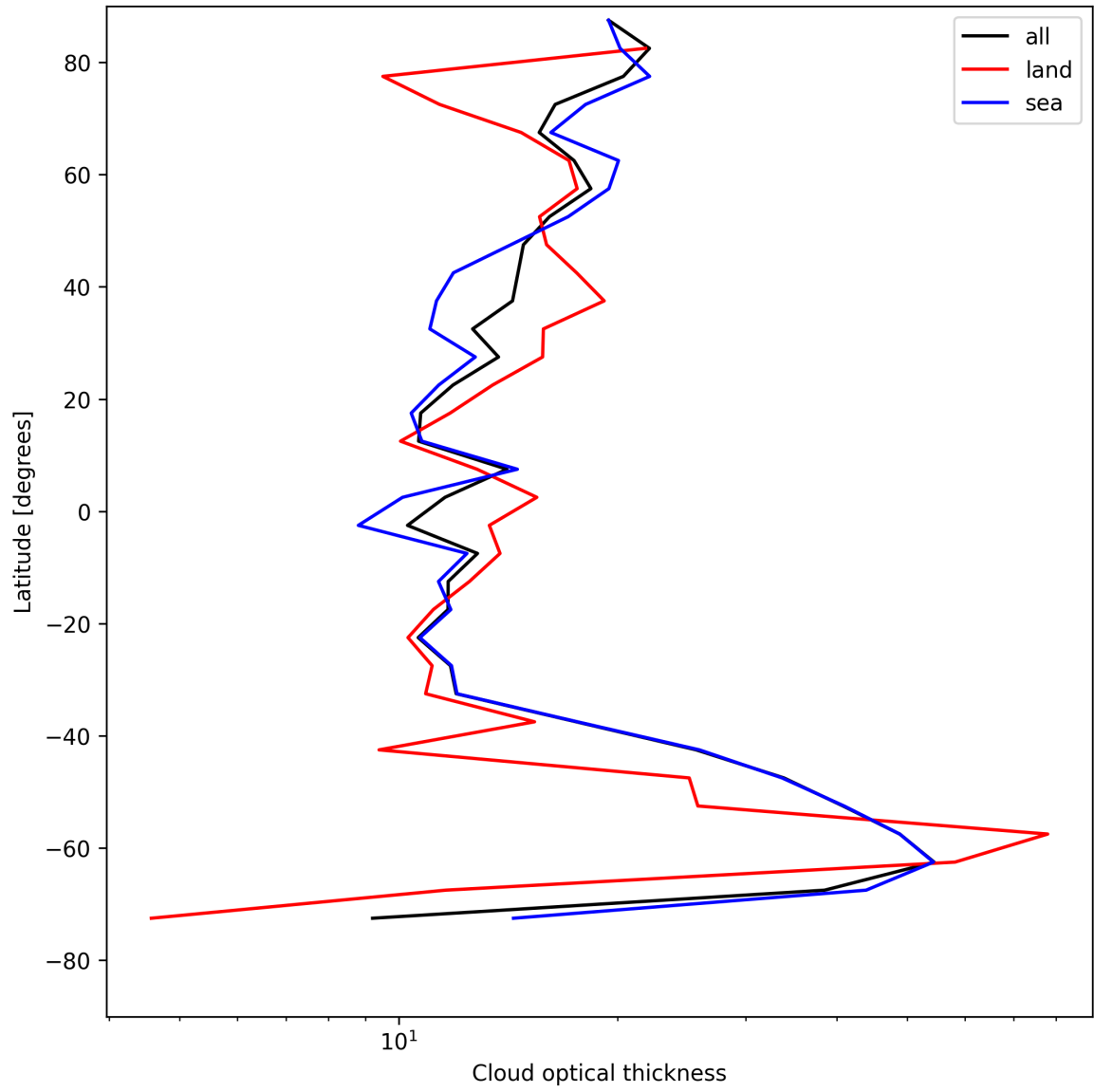


Figure 23: Zonal average of “Cloud optical thickness” for 2025-05-04 to 2025-05-05.

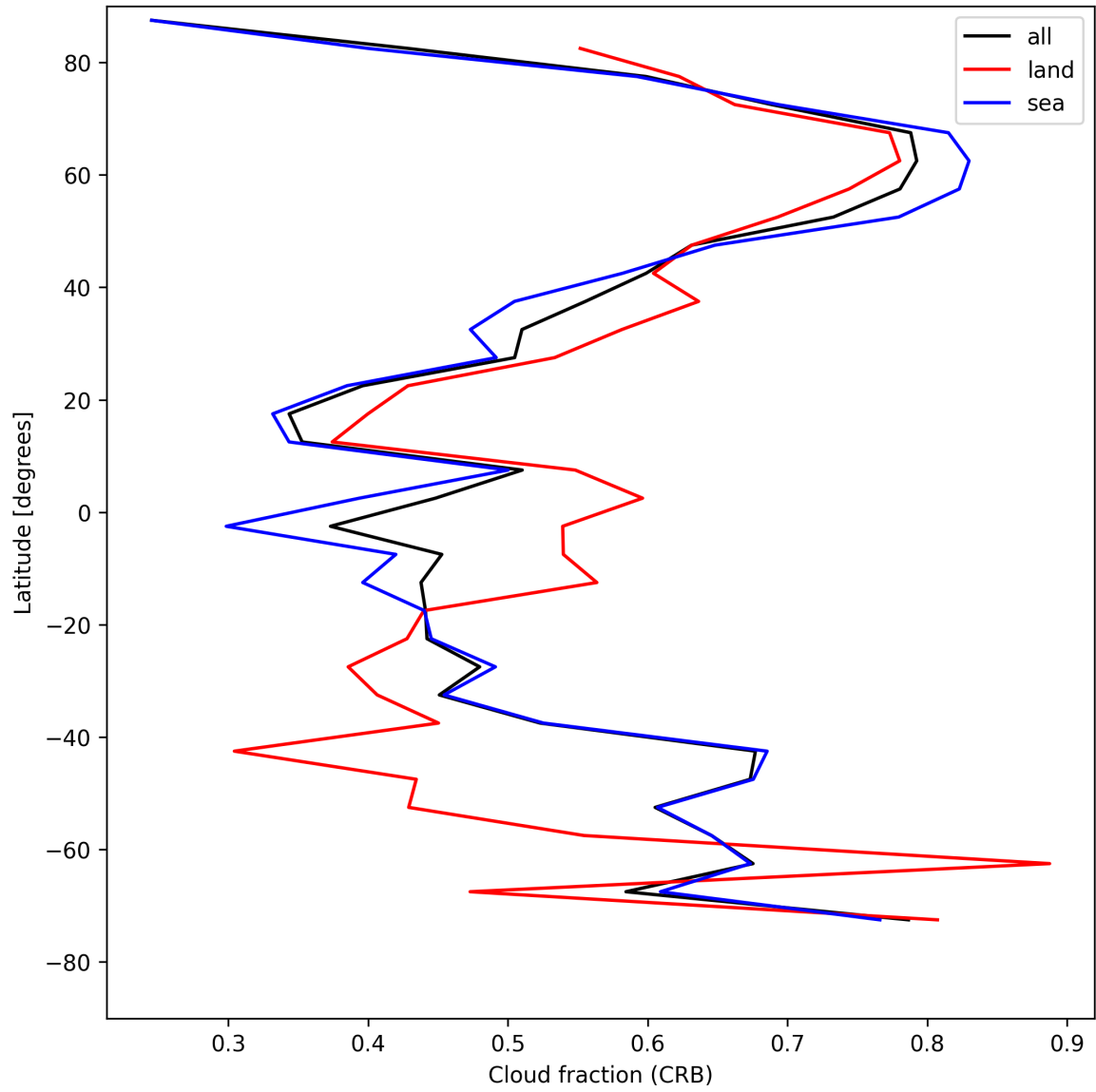


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05.

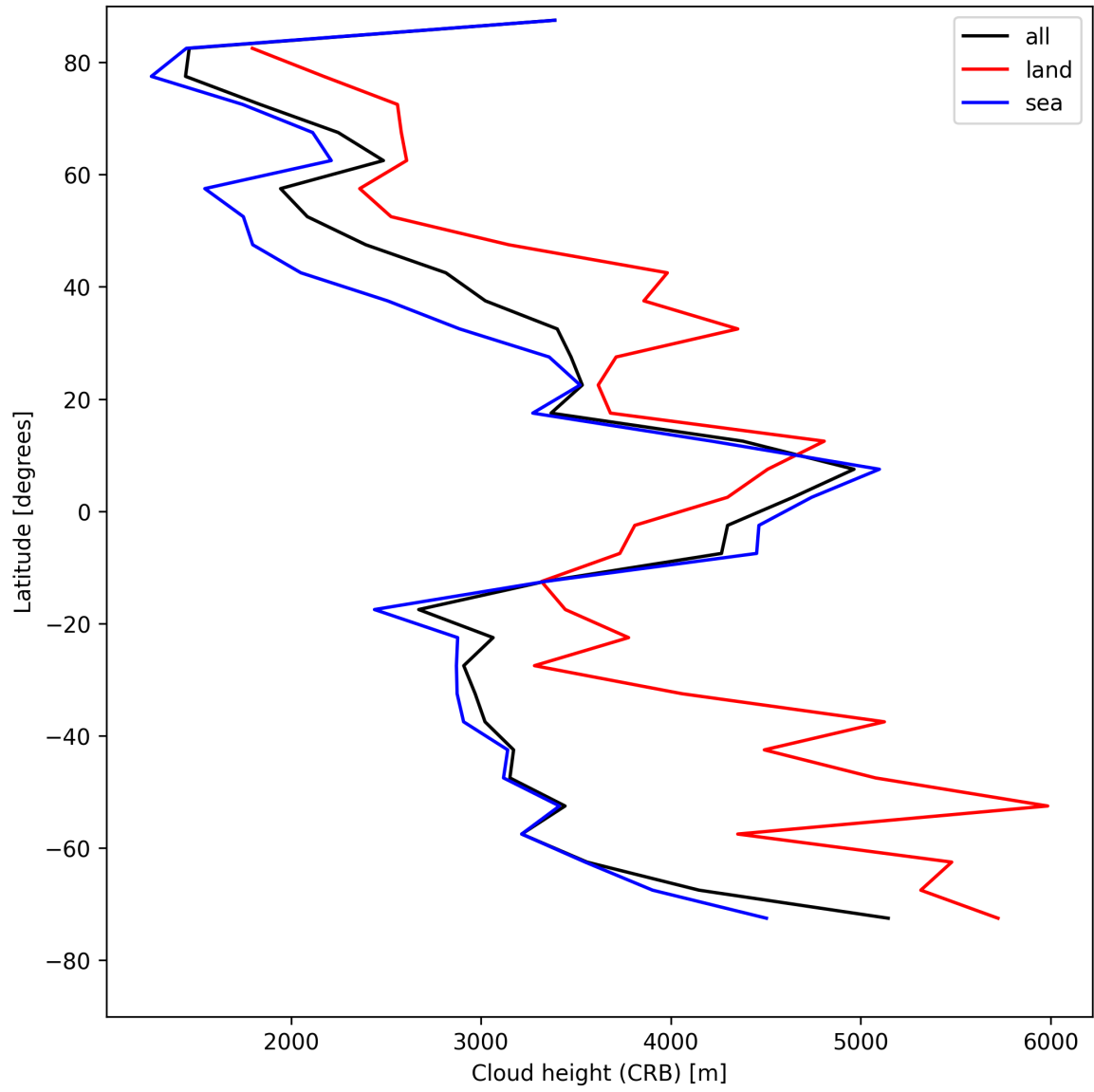


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05.

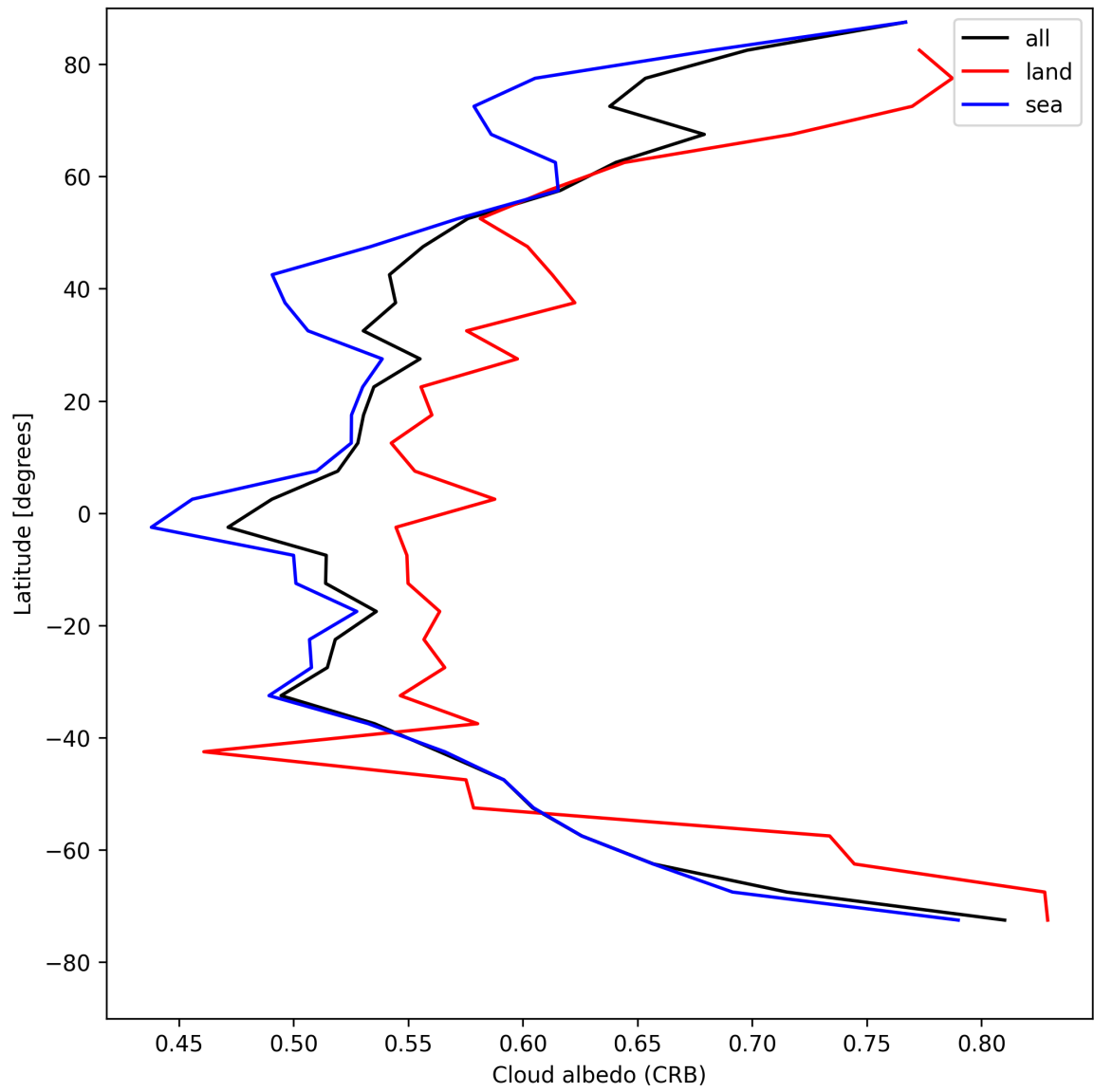


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05.

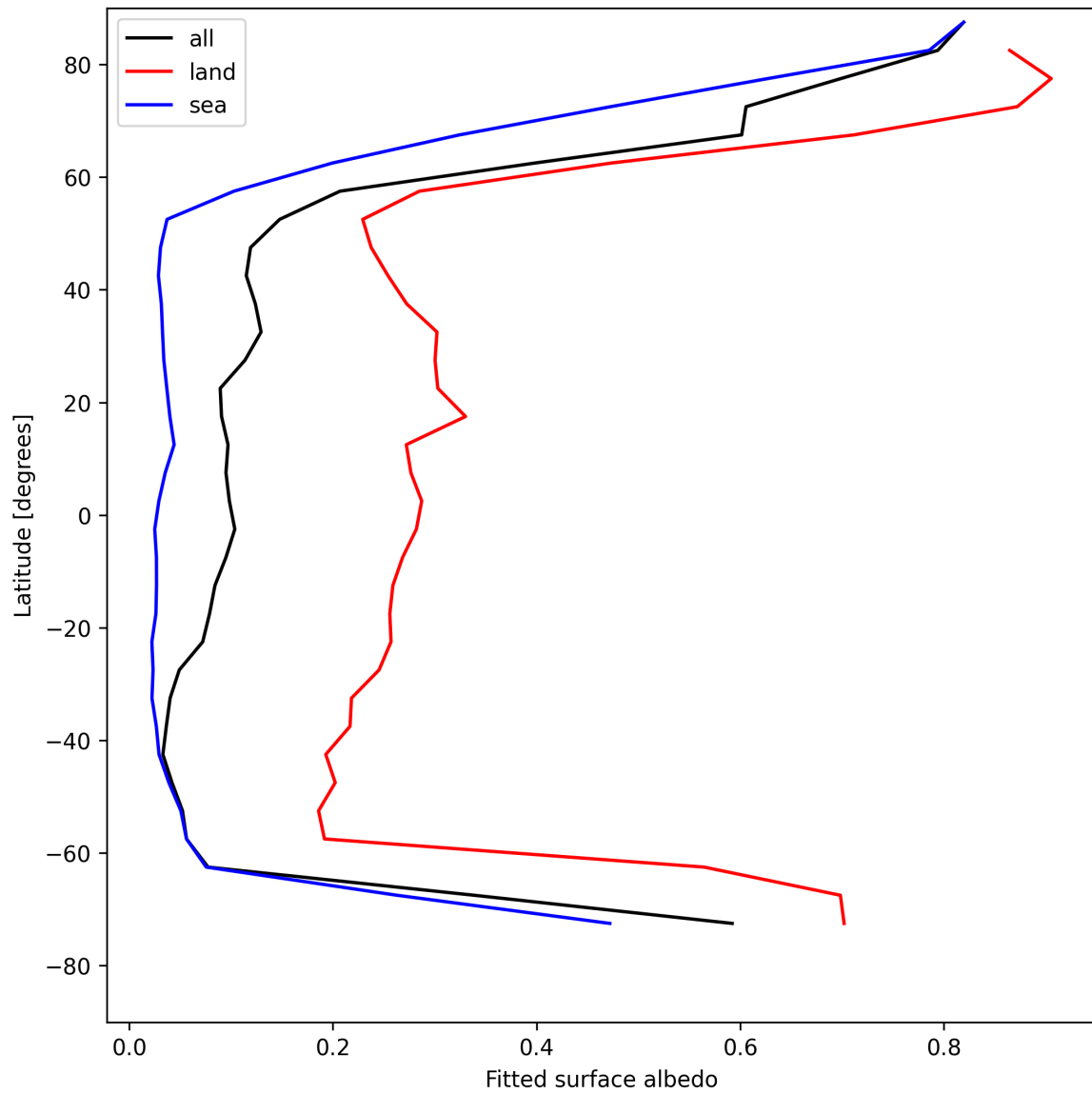


Figure 27: Zonal average of “Fitted surface albedo” for 2025-05-04 to 2025-05-05.

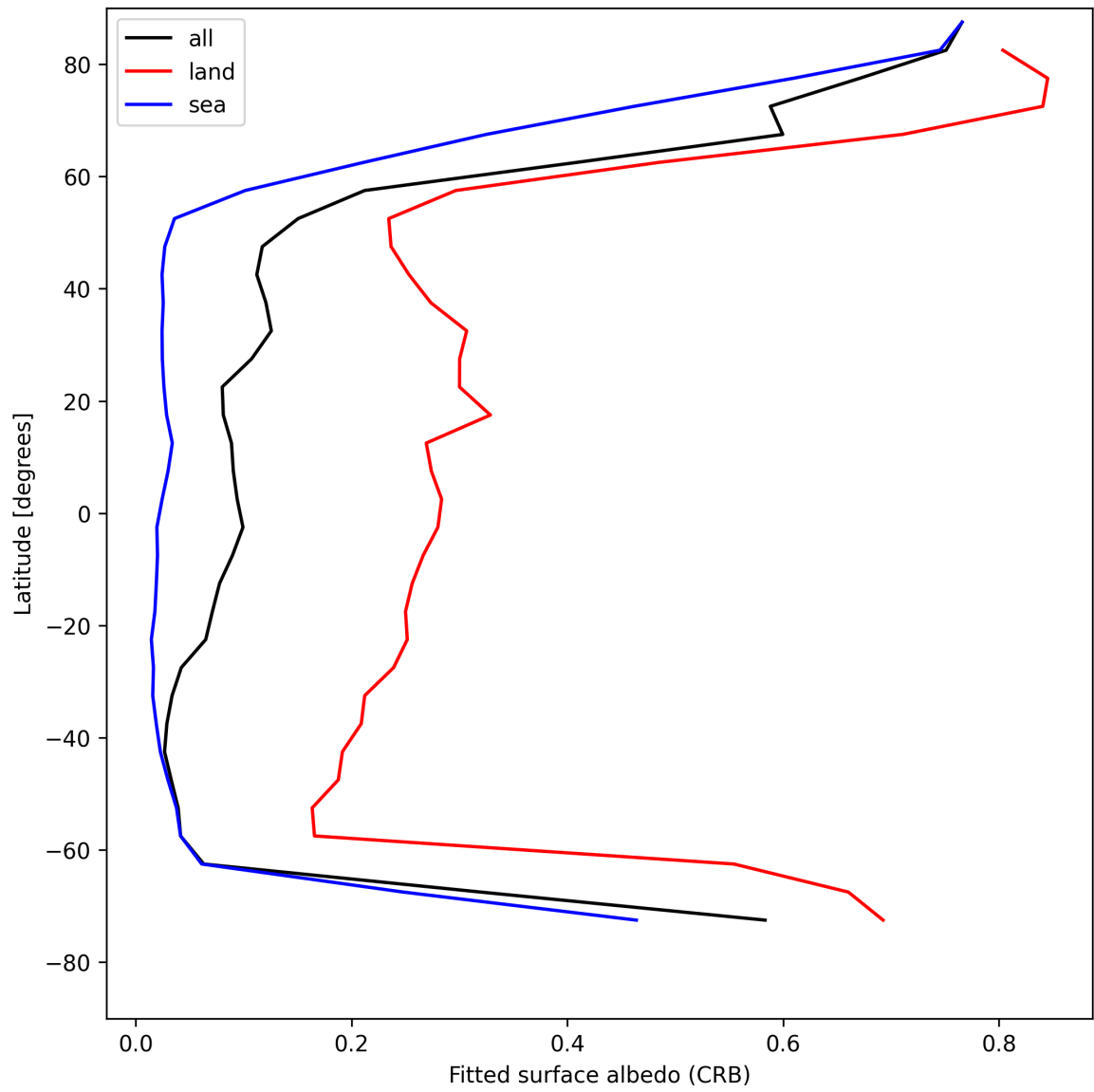


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05.

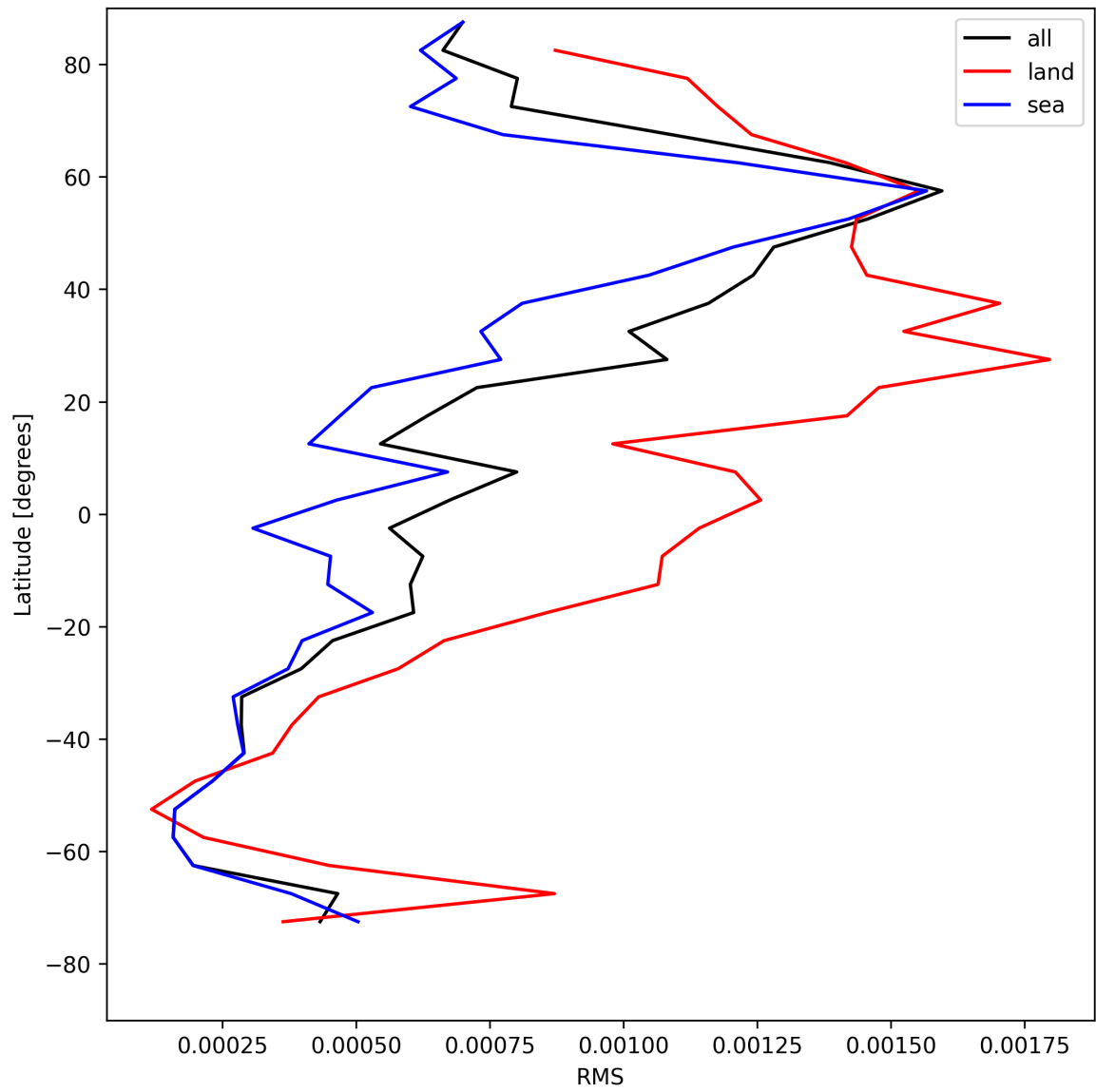


Figure 29: Zonal average of “RMS” for 2025-05-04 to 2025-05-05.

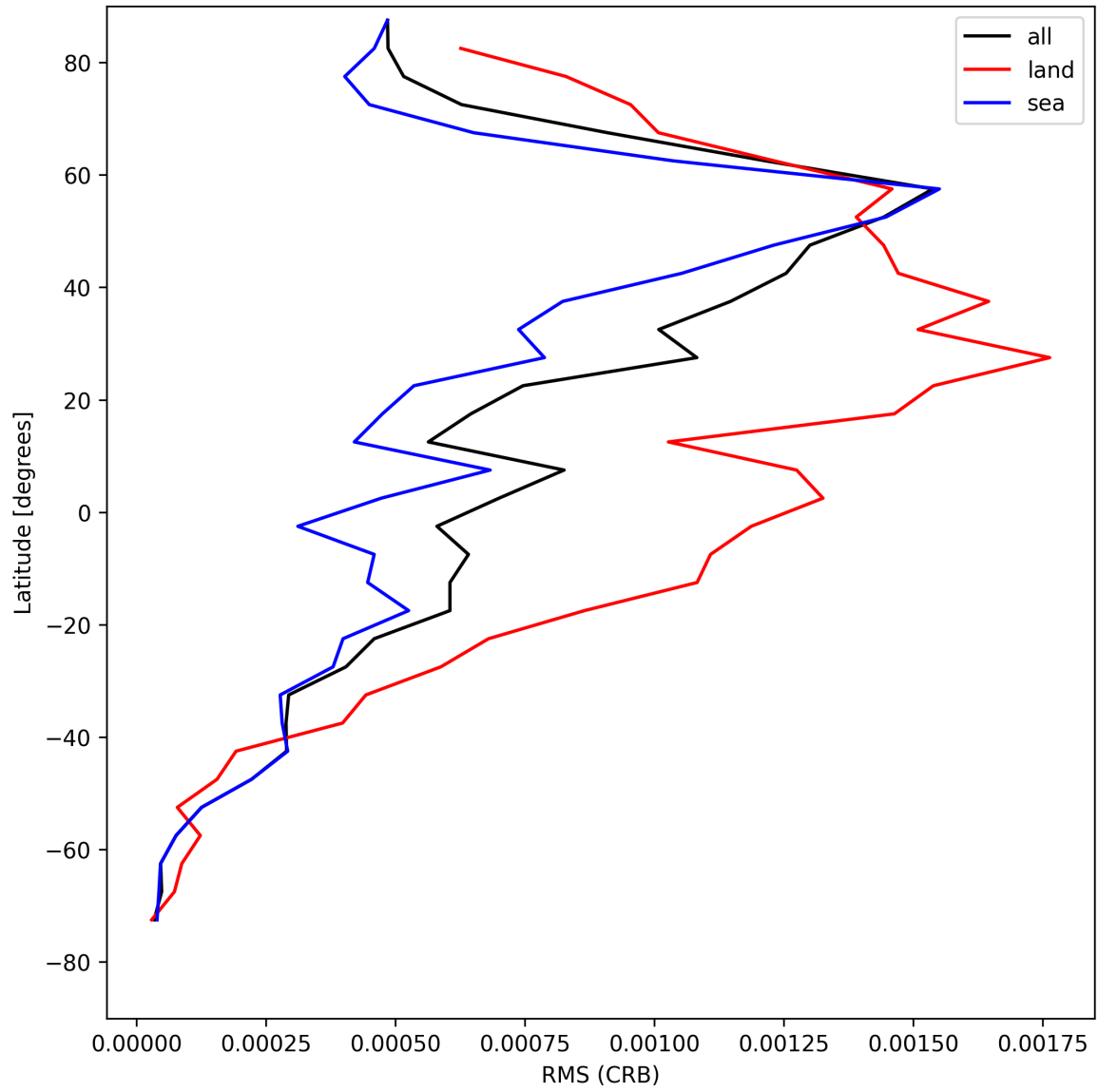


Figure 30: Zonal average of “RMS (CRB)” for 2025-05-04 to 2025-05-05.

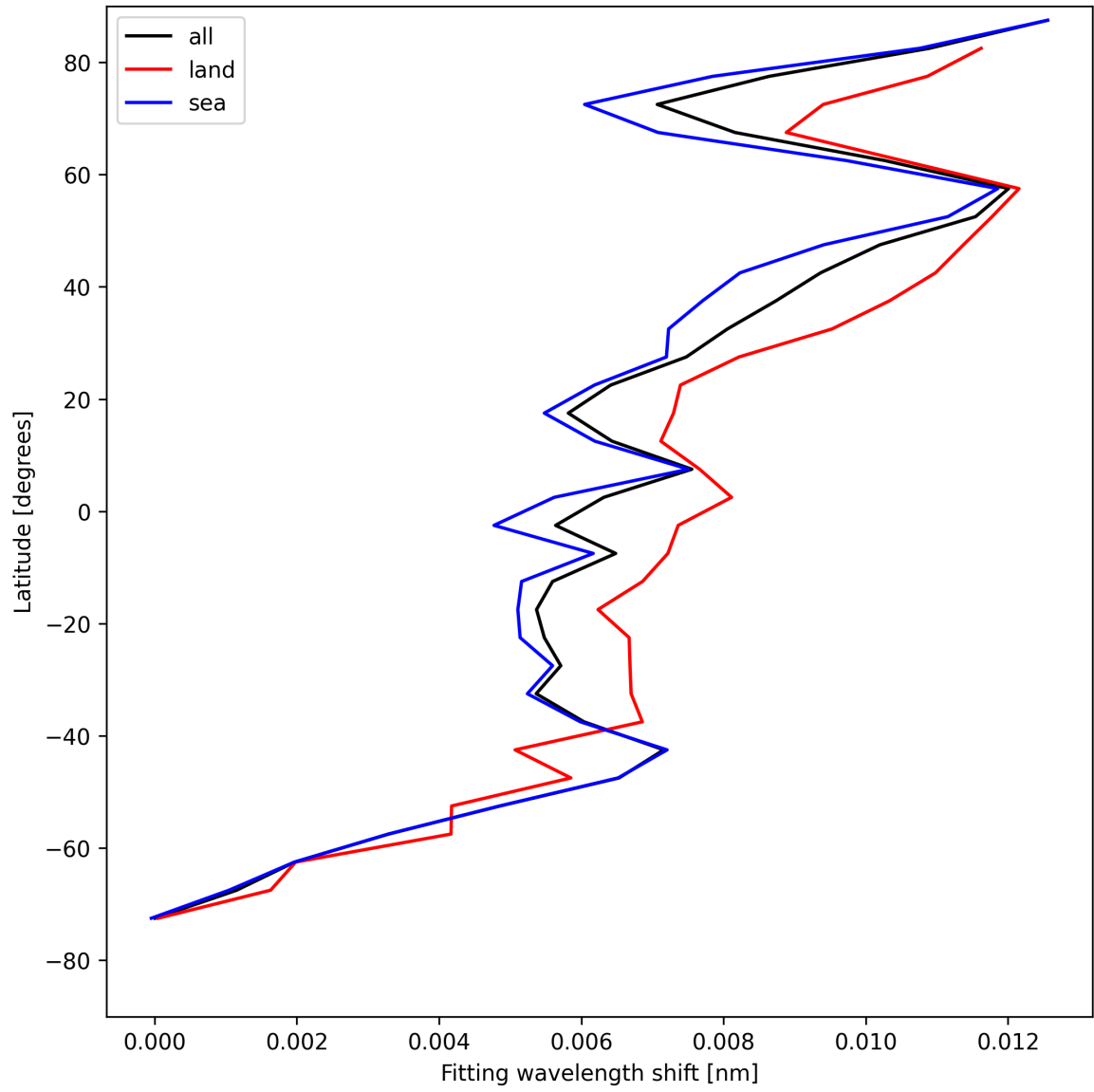


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05.

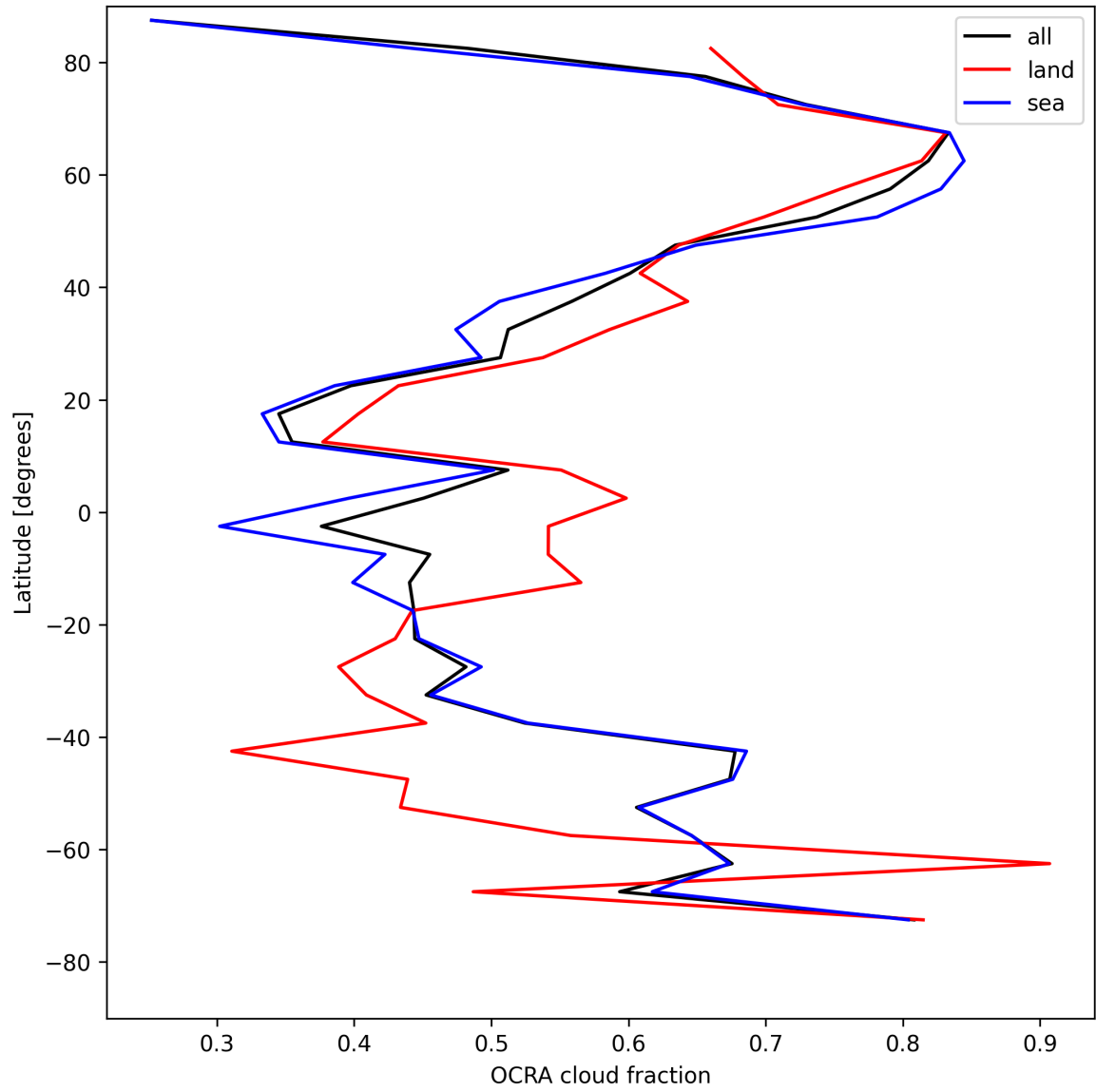


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05.

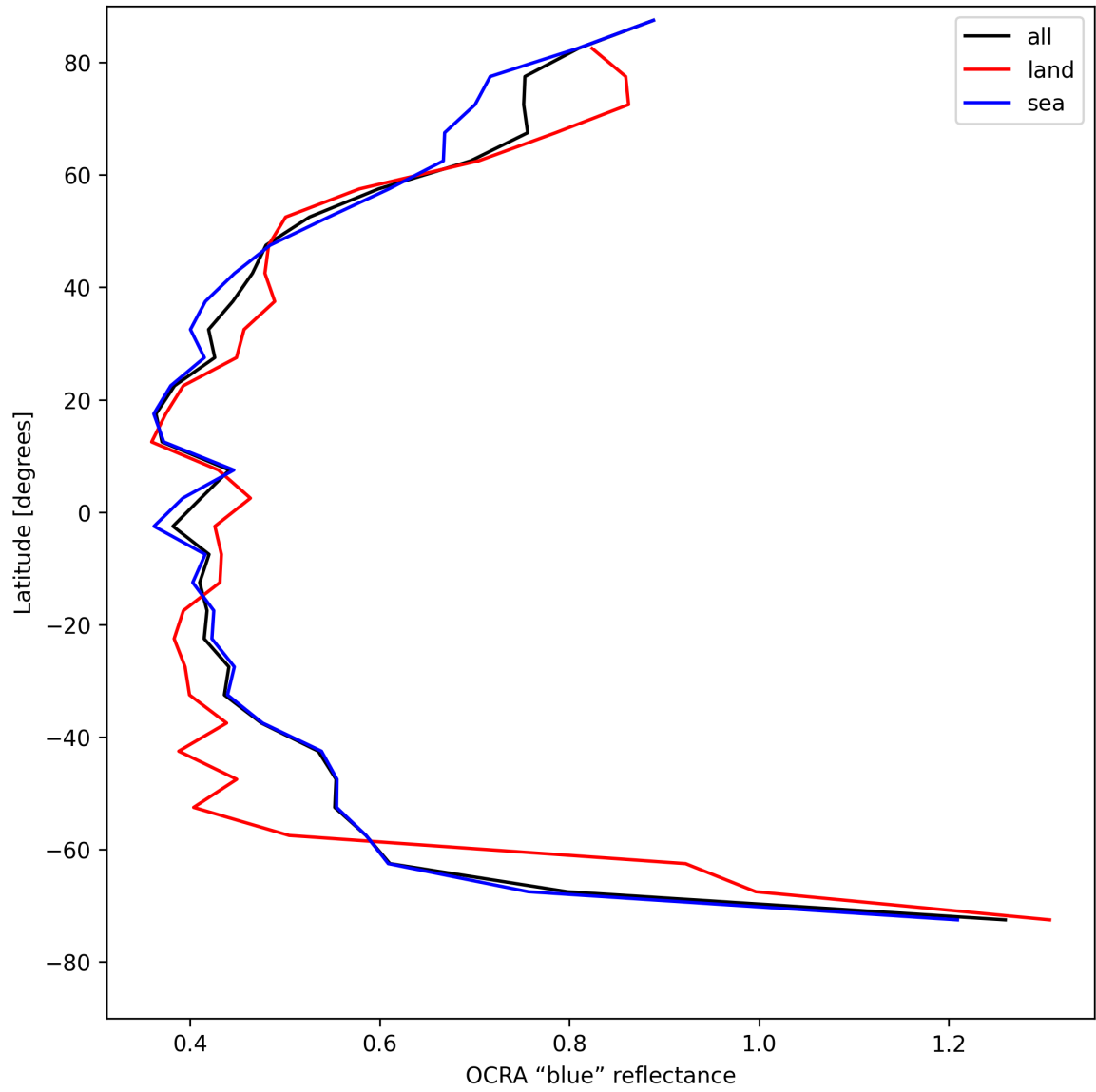


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05.

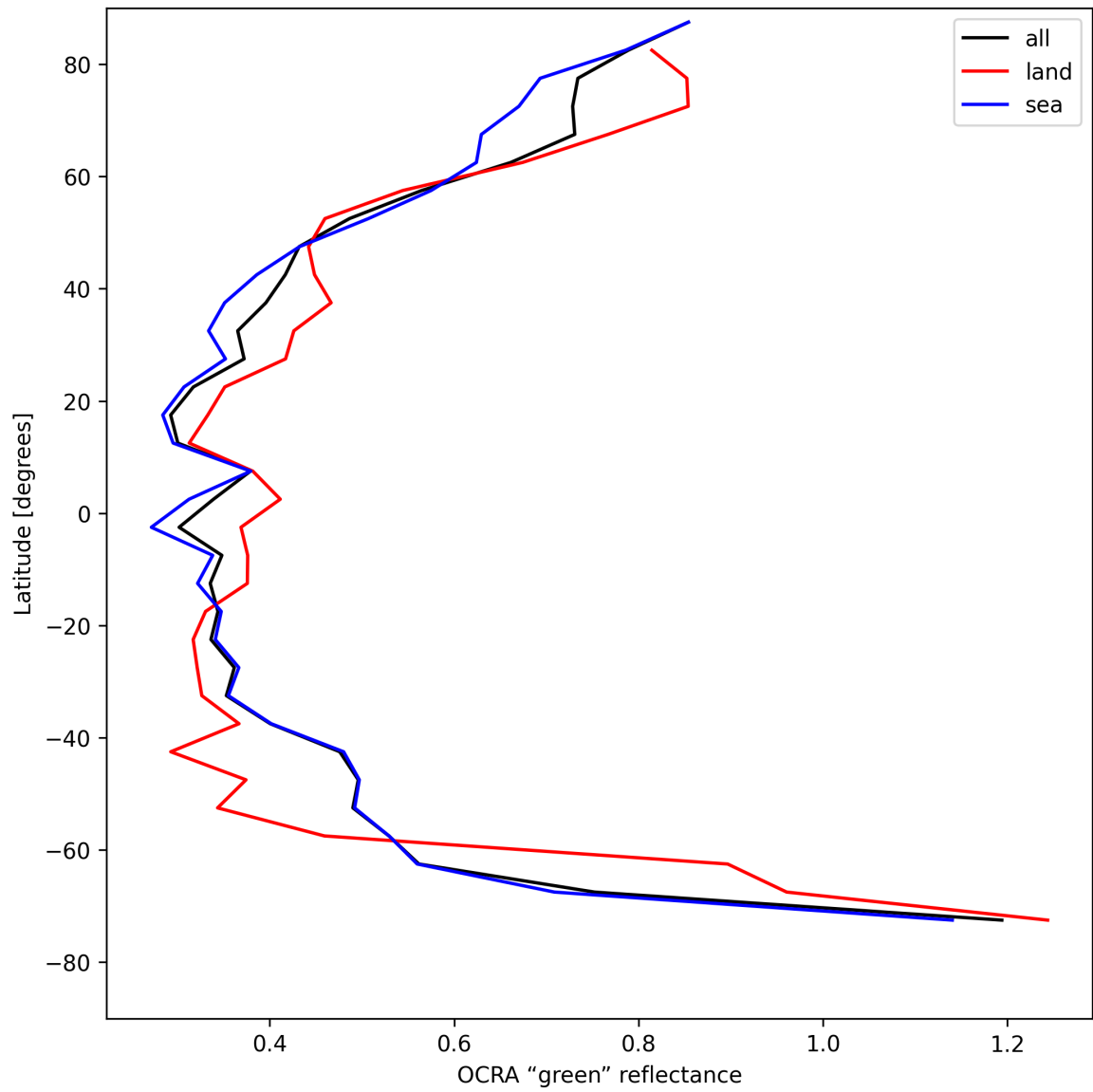


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05.

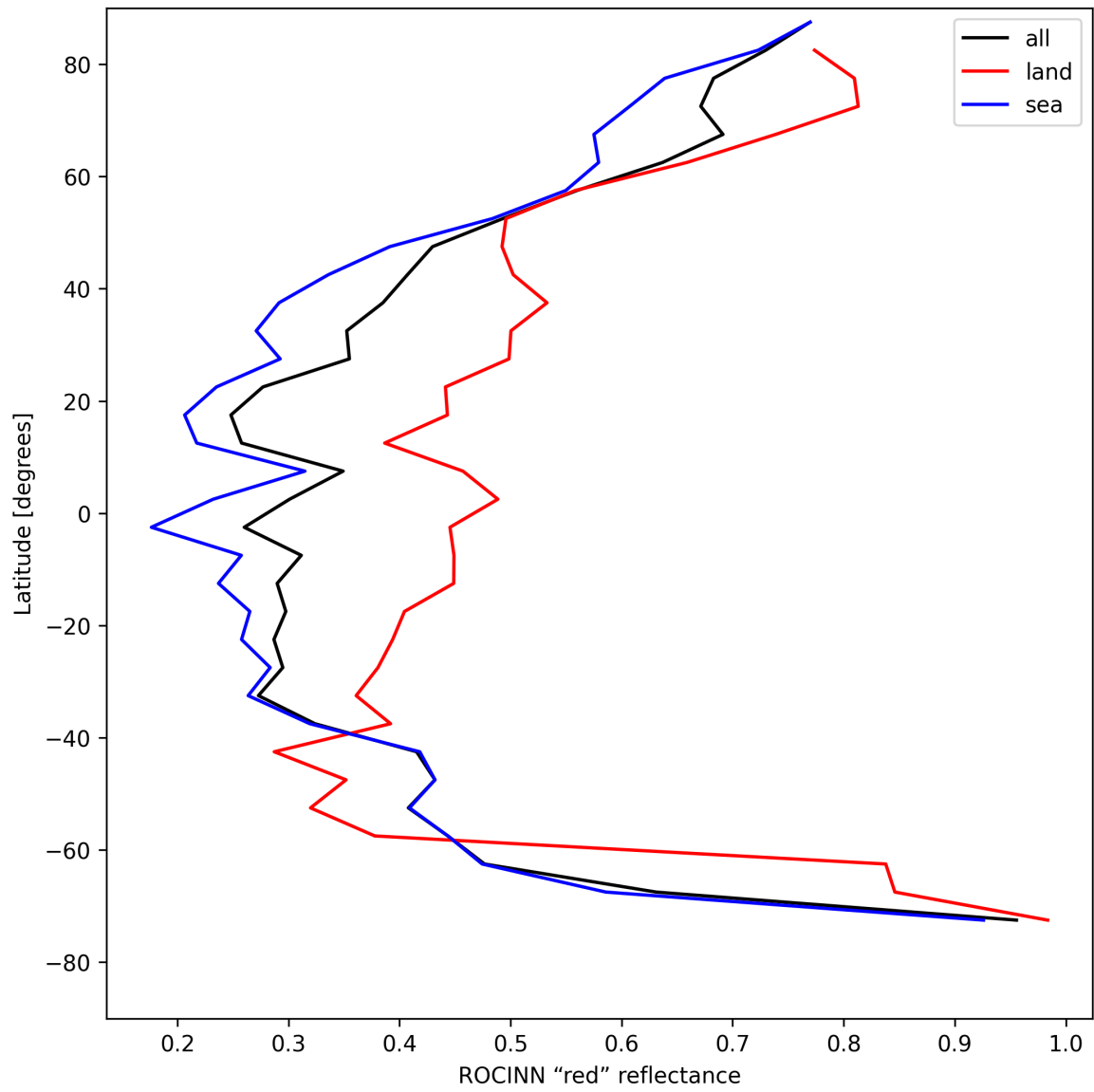


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05.

8 Histograms

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

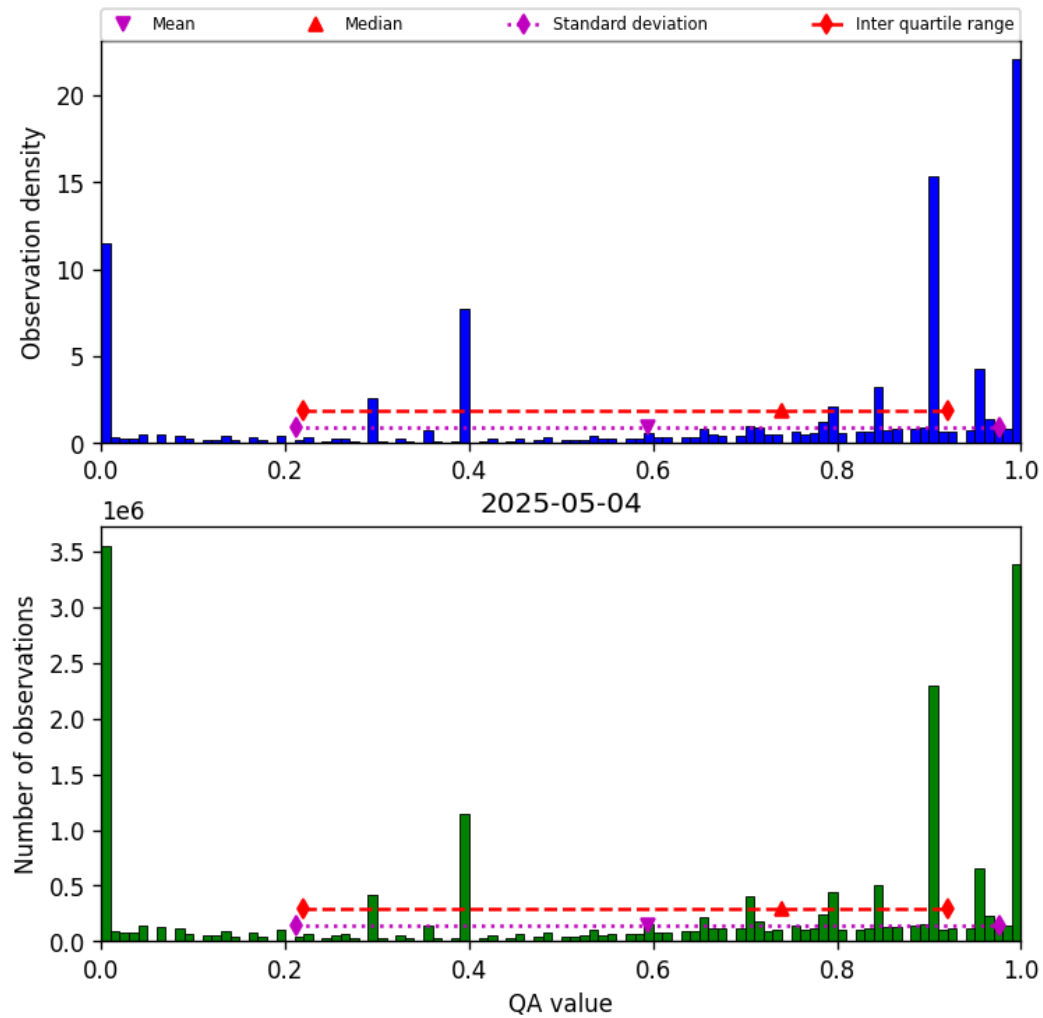


Figure 36: Histogram of “QA value” for 2025-05-04 to 2025-05-05

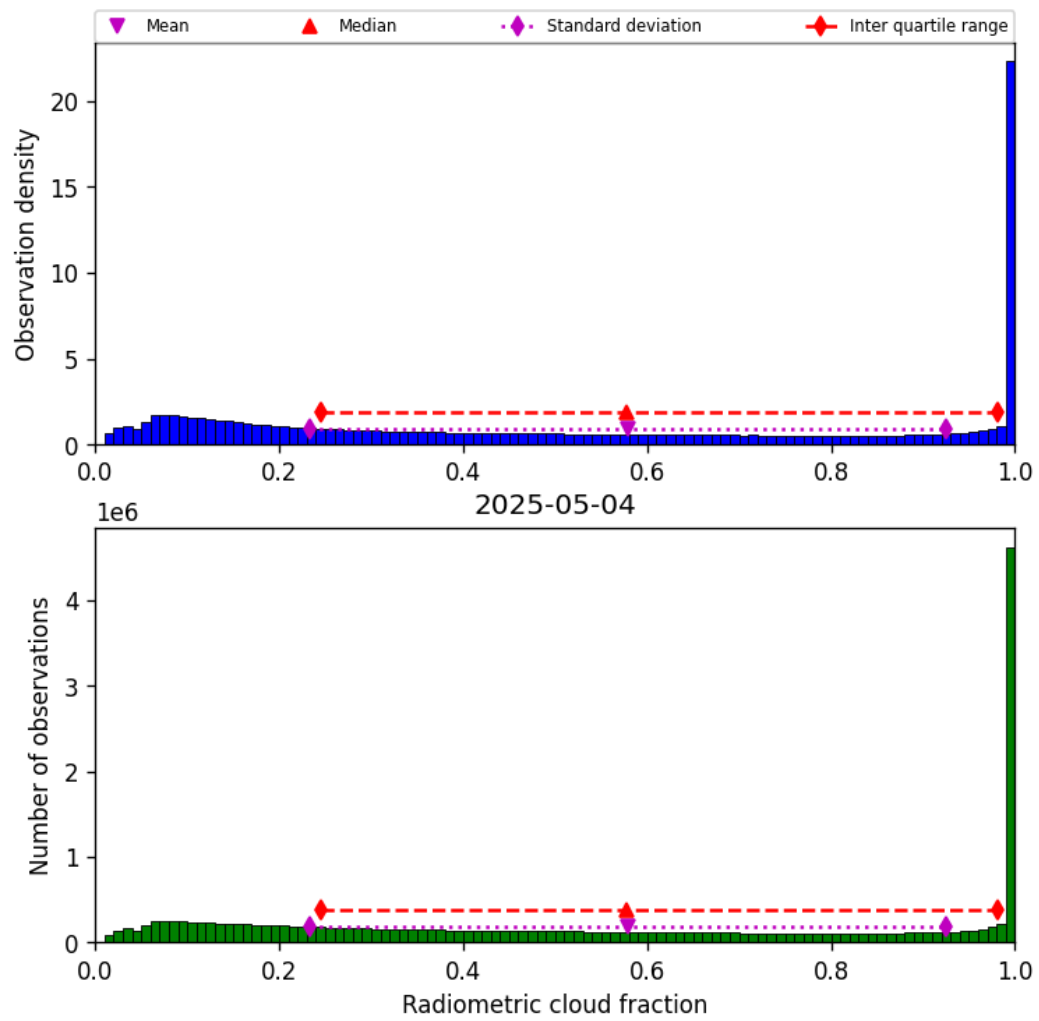


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05

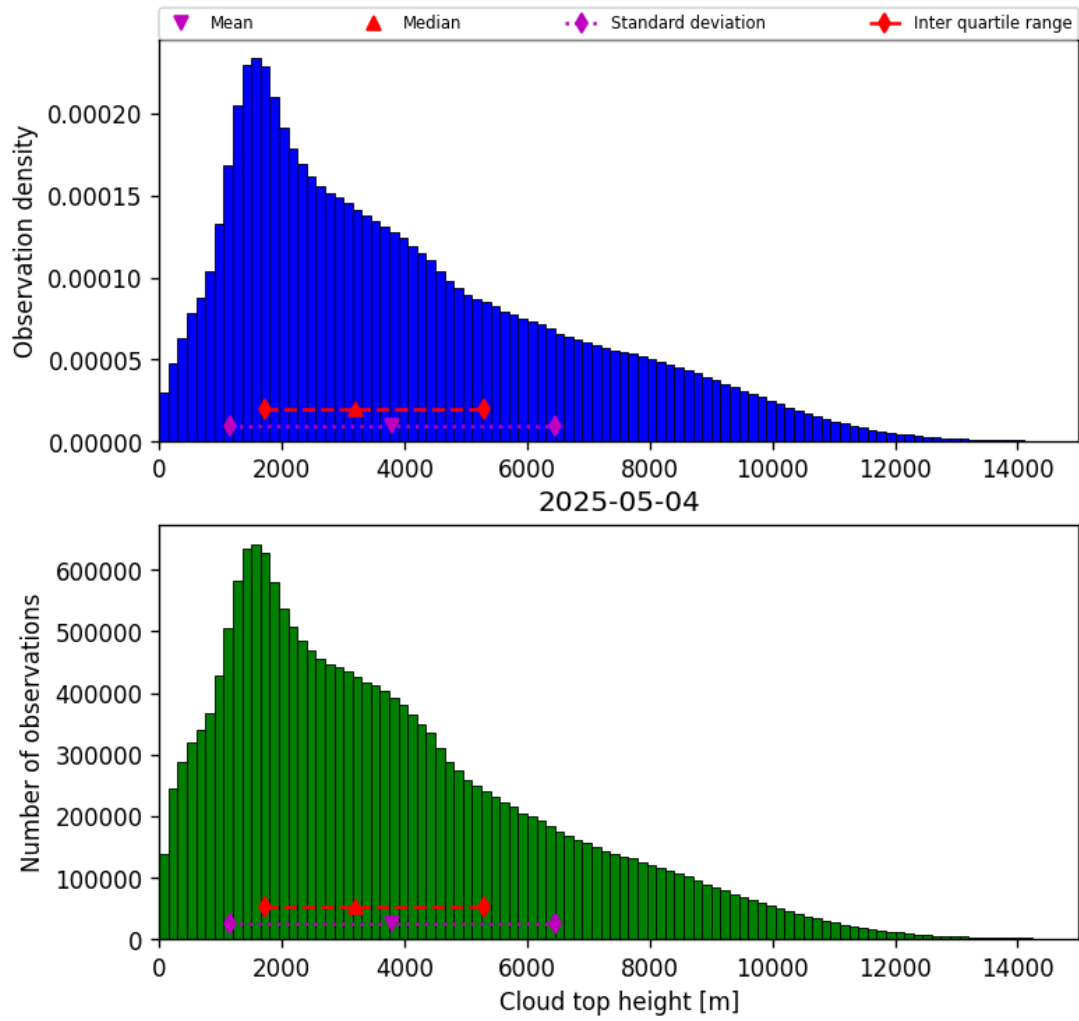


Figure 38: Histogram of “Cloud top height” for 2025-05-04 to 2025-05-05

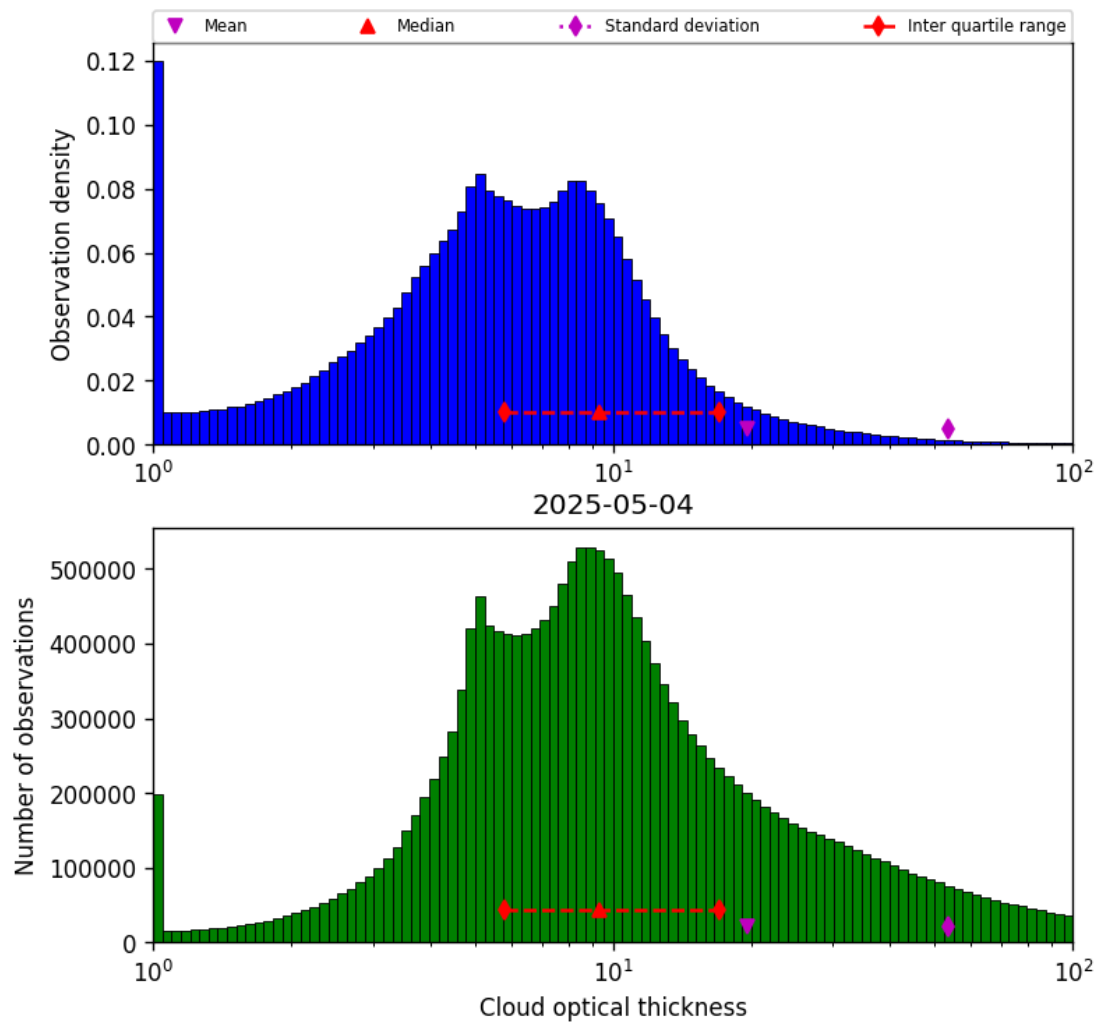


Figure 39: Histogram of “Cloud optical thickness” for 2025-05-04 to 2025-05-05

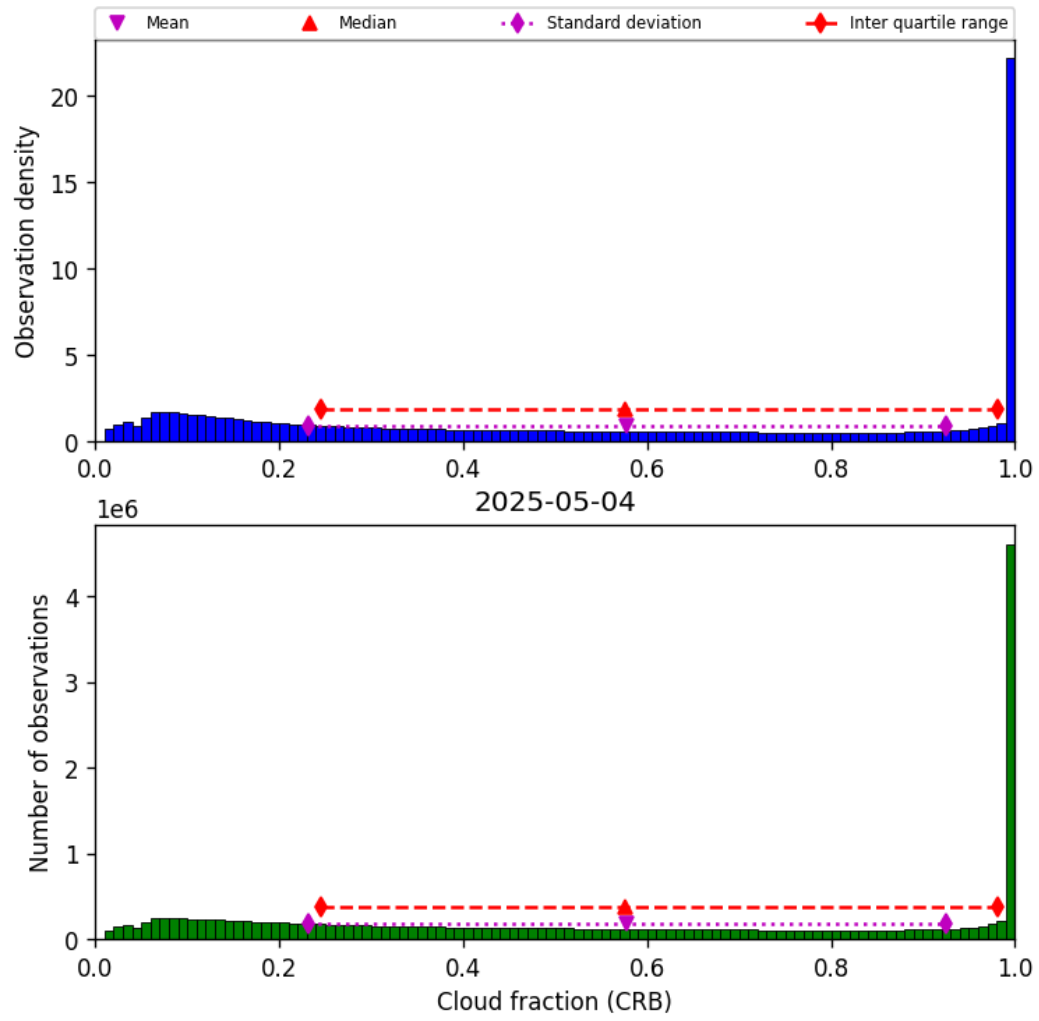


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05

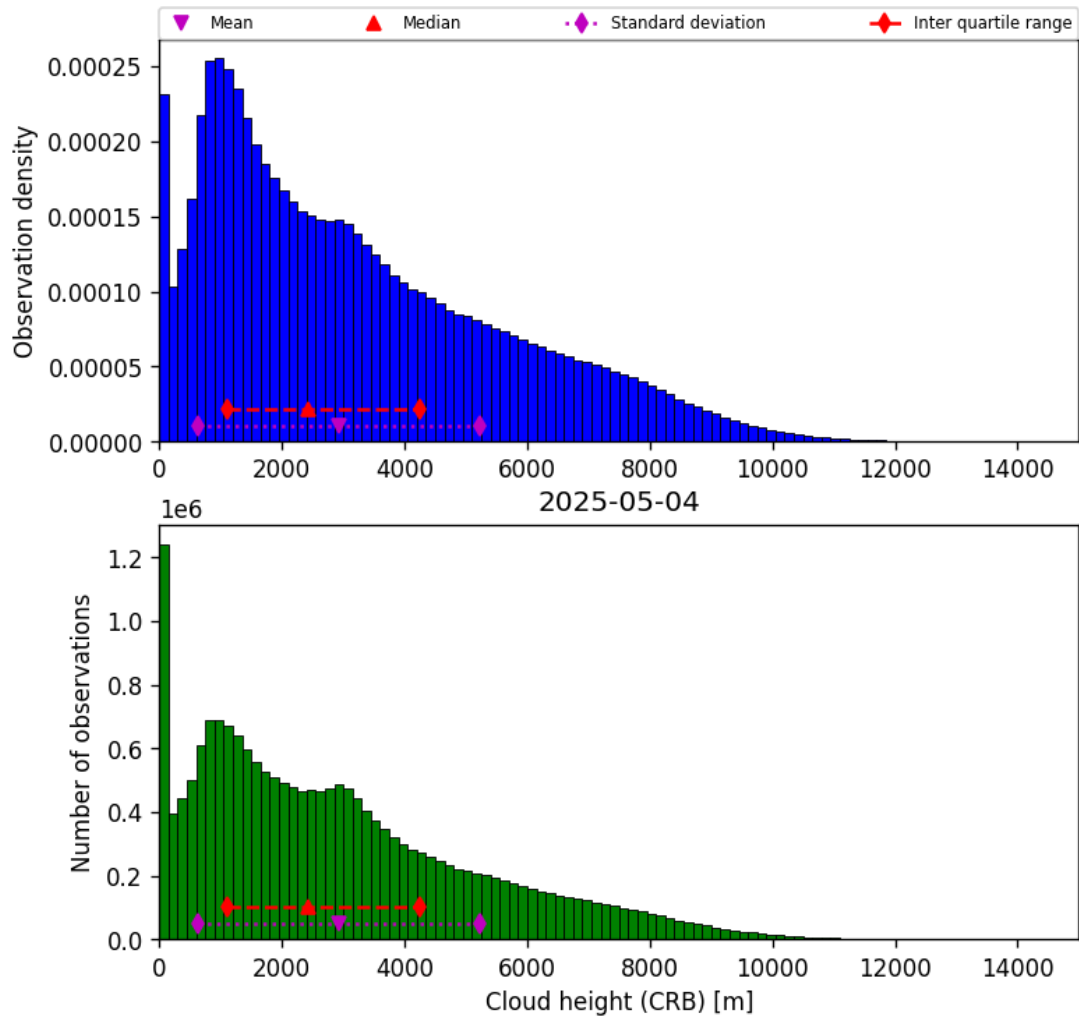


Figure 41: Histogram of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05

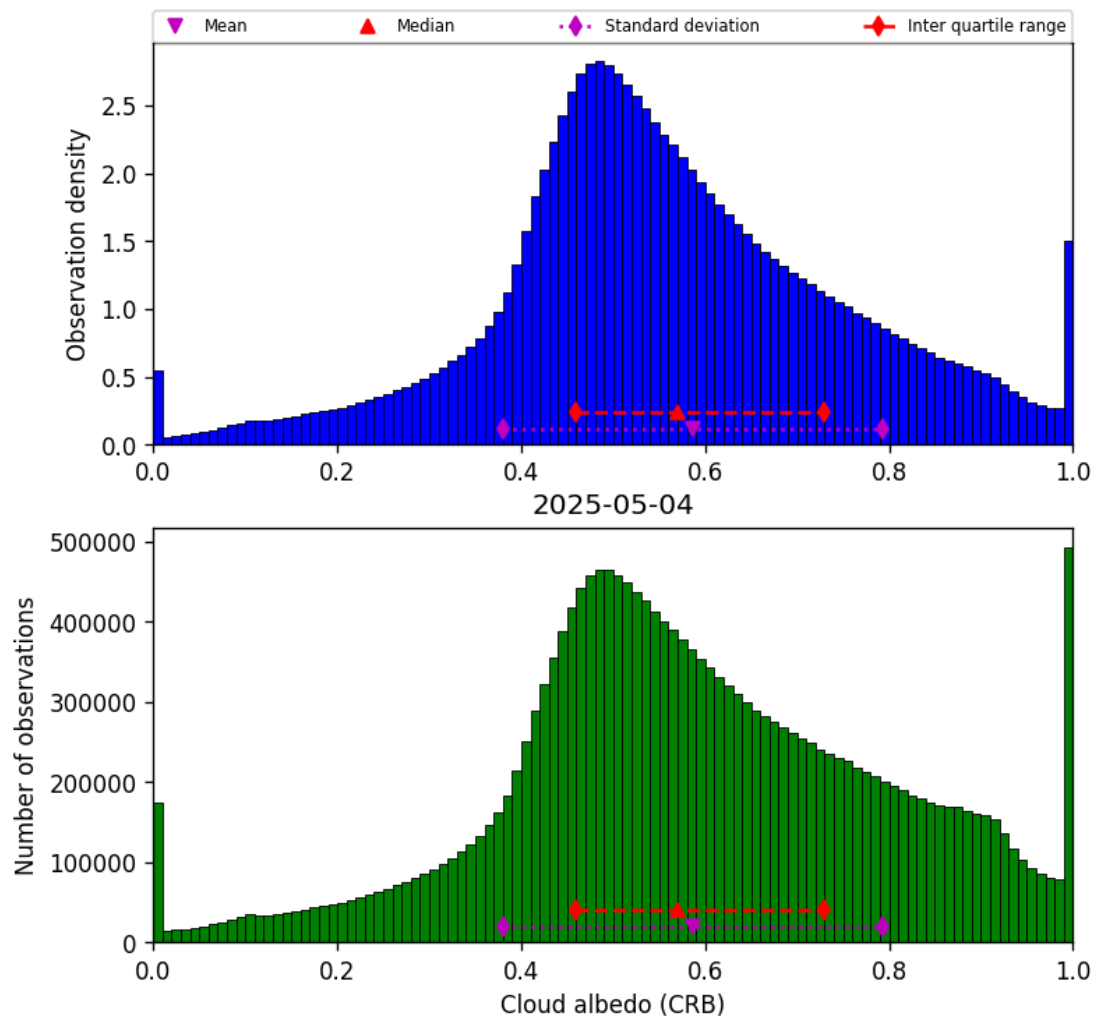


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05

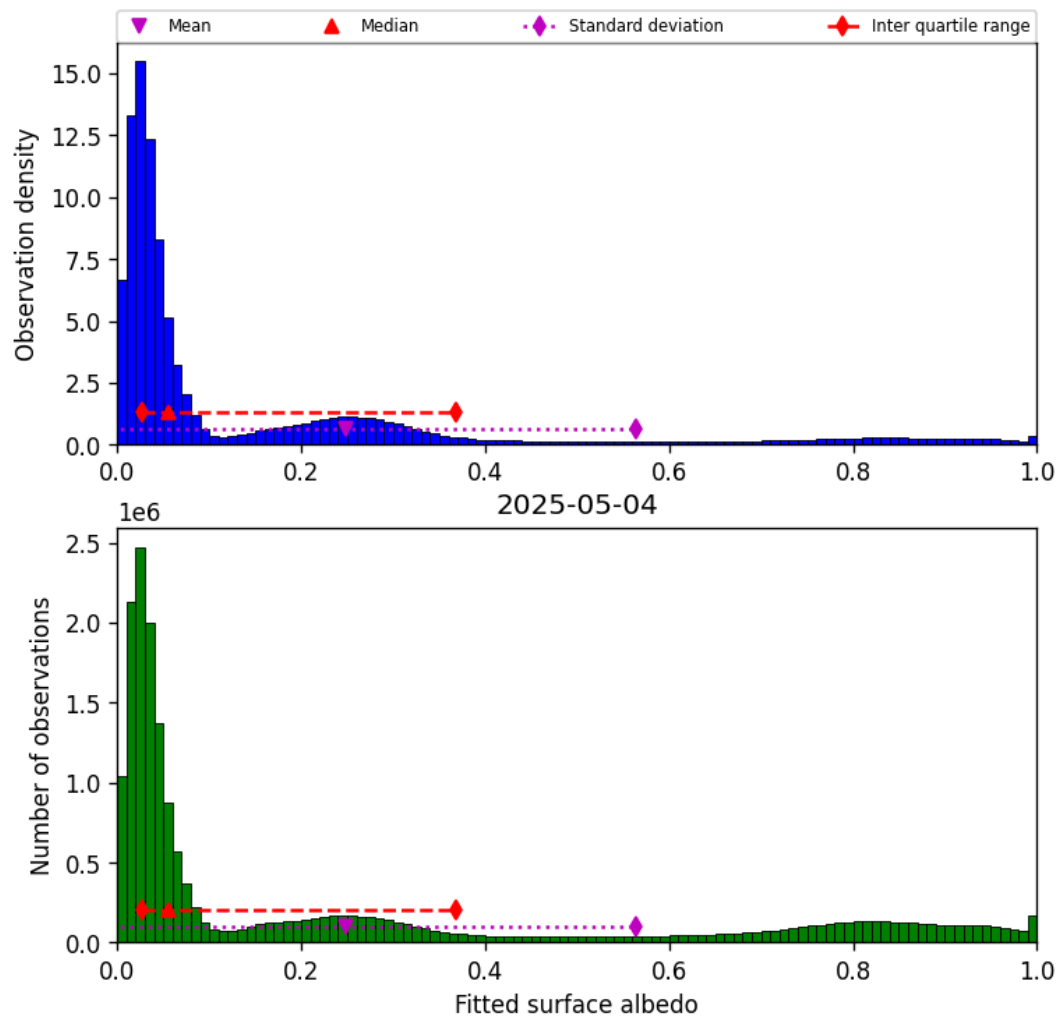


Figure 43: Histogram of “Fitted surface albedo” for 2025-05-04 to 2025-05-05

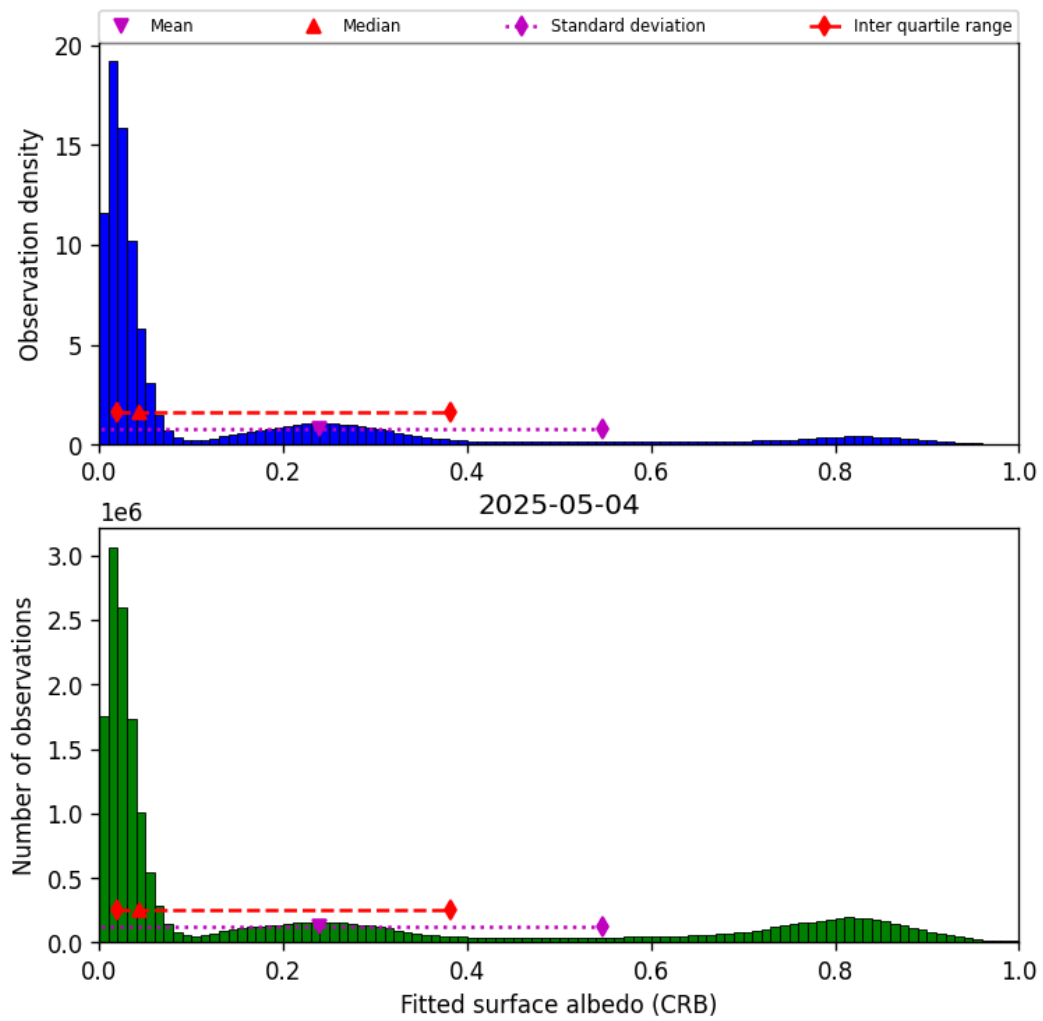


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05

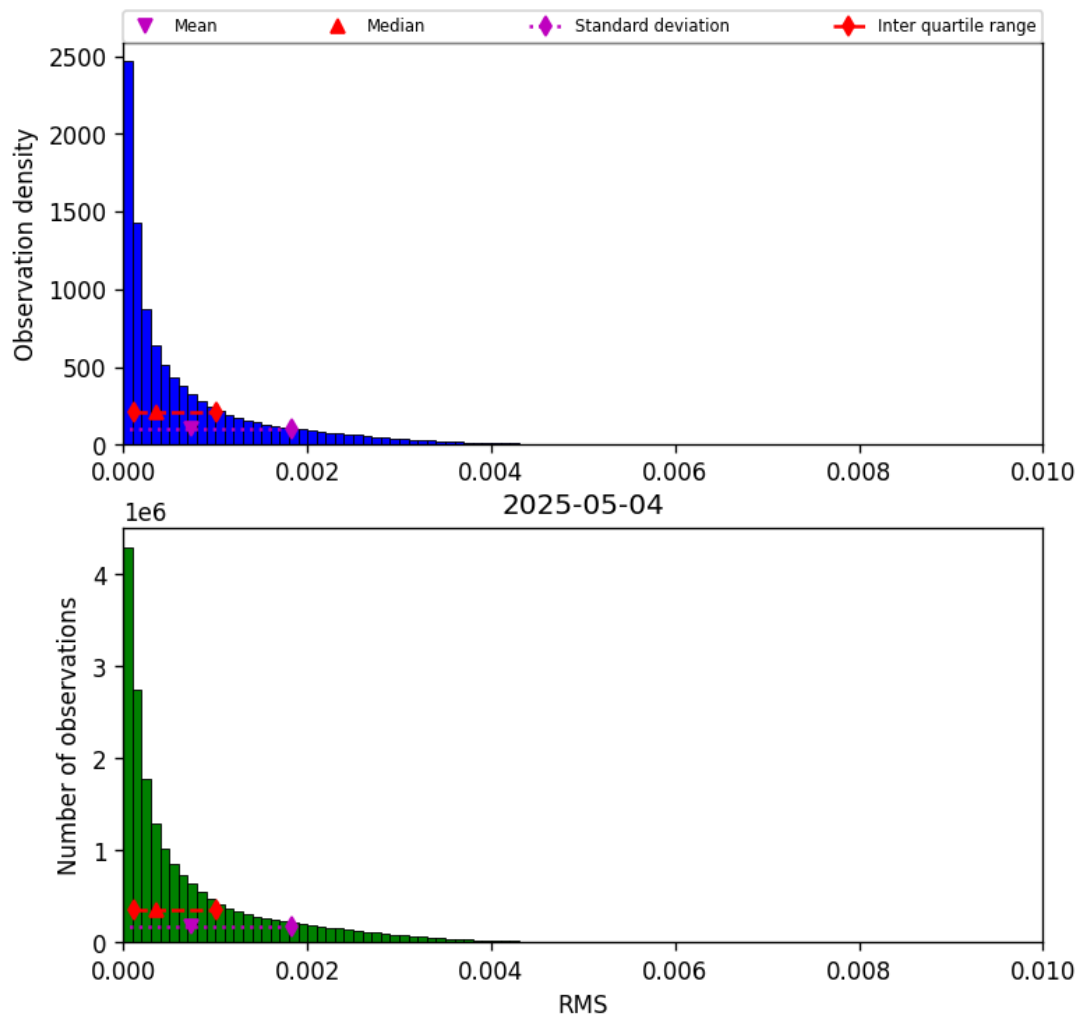


Figure 45: Histogram of “RMS” for 2025-05-04 to 2025-05-05

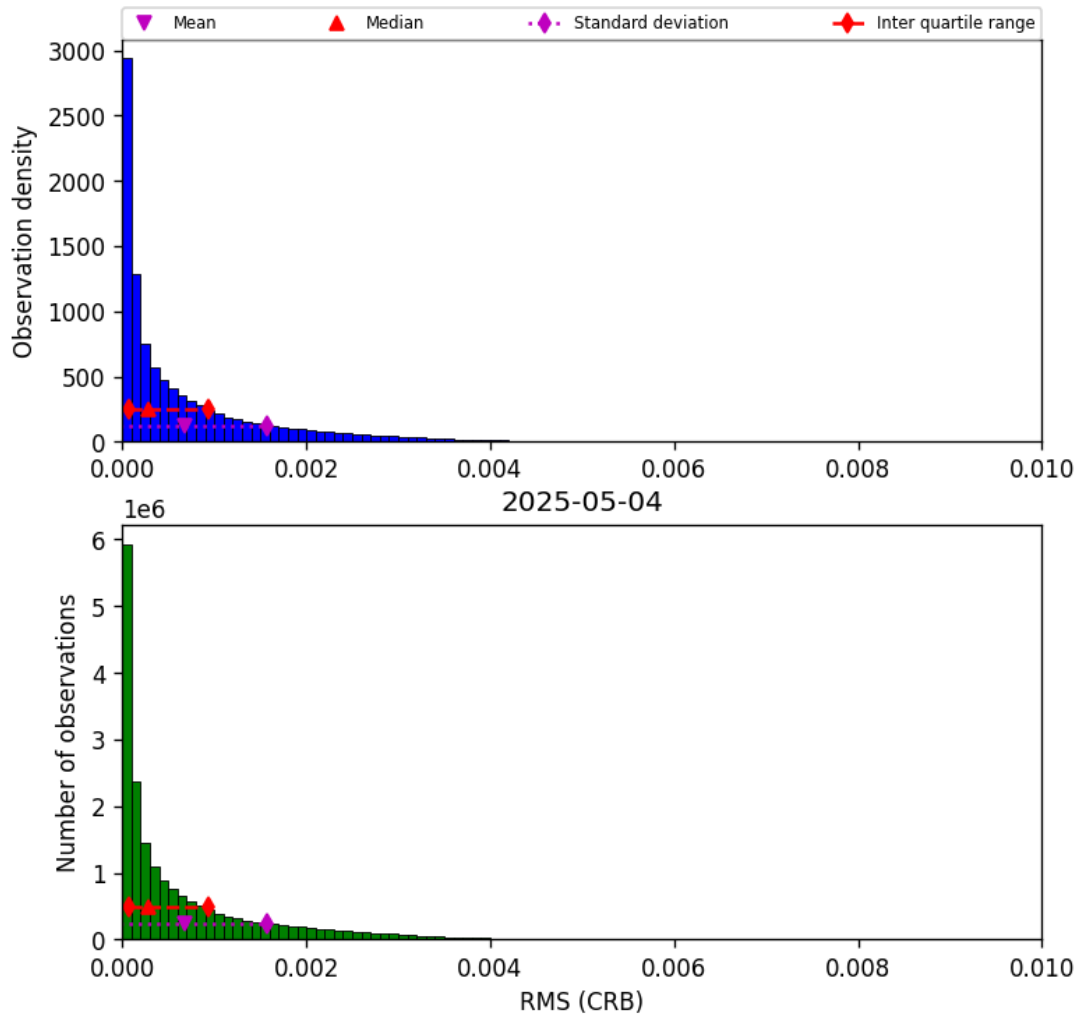


Figure 46: Histogram of “RMS (CRB)” for 2025-05-04 to 2025-05-05

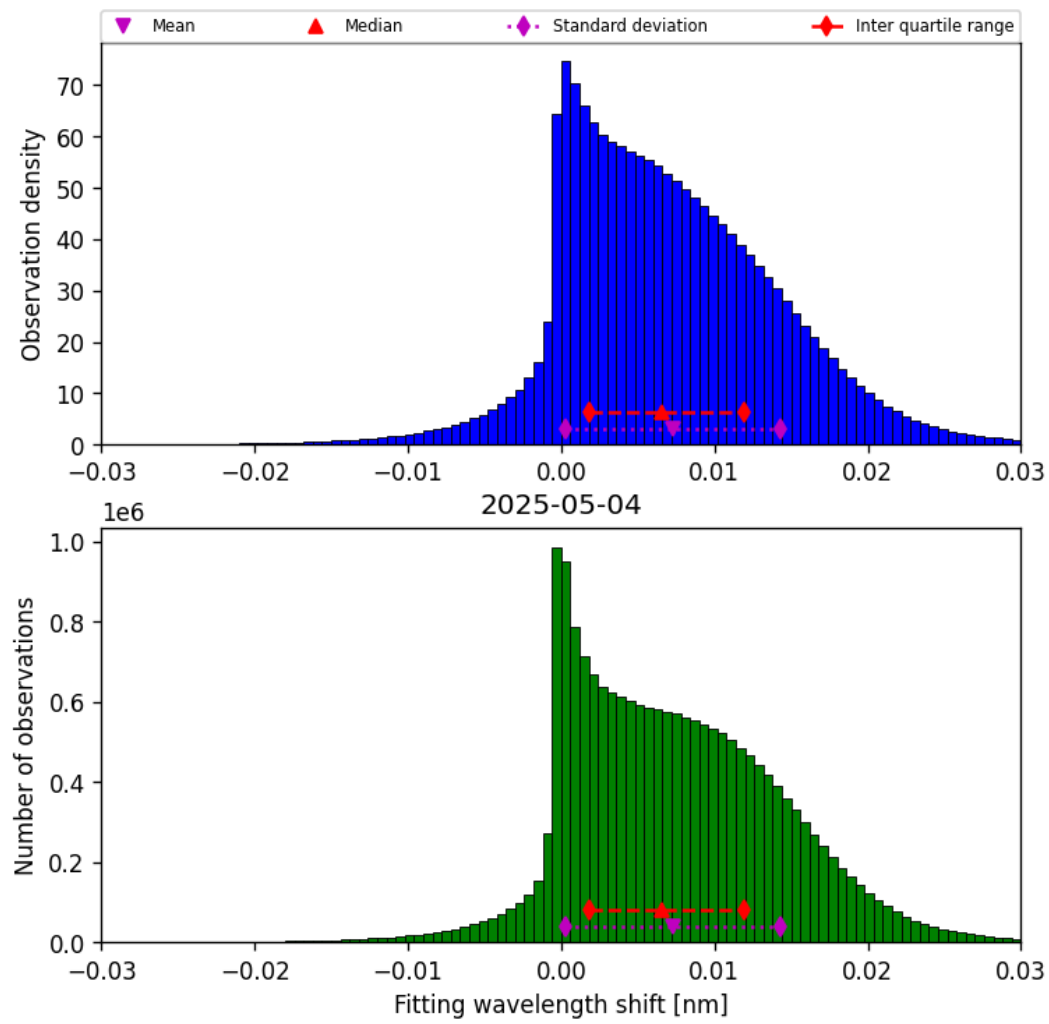


Figure 47: Histogram of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05

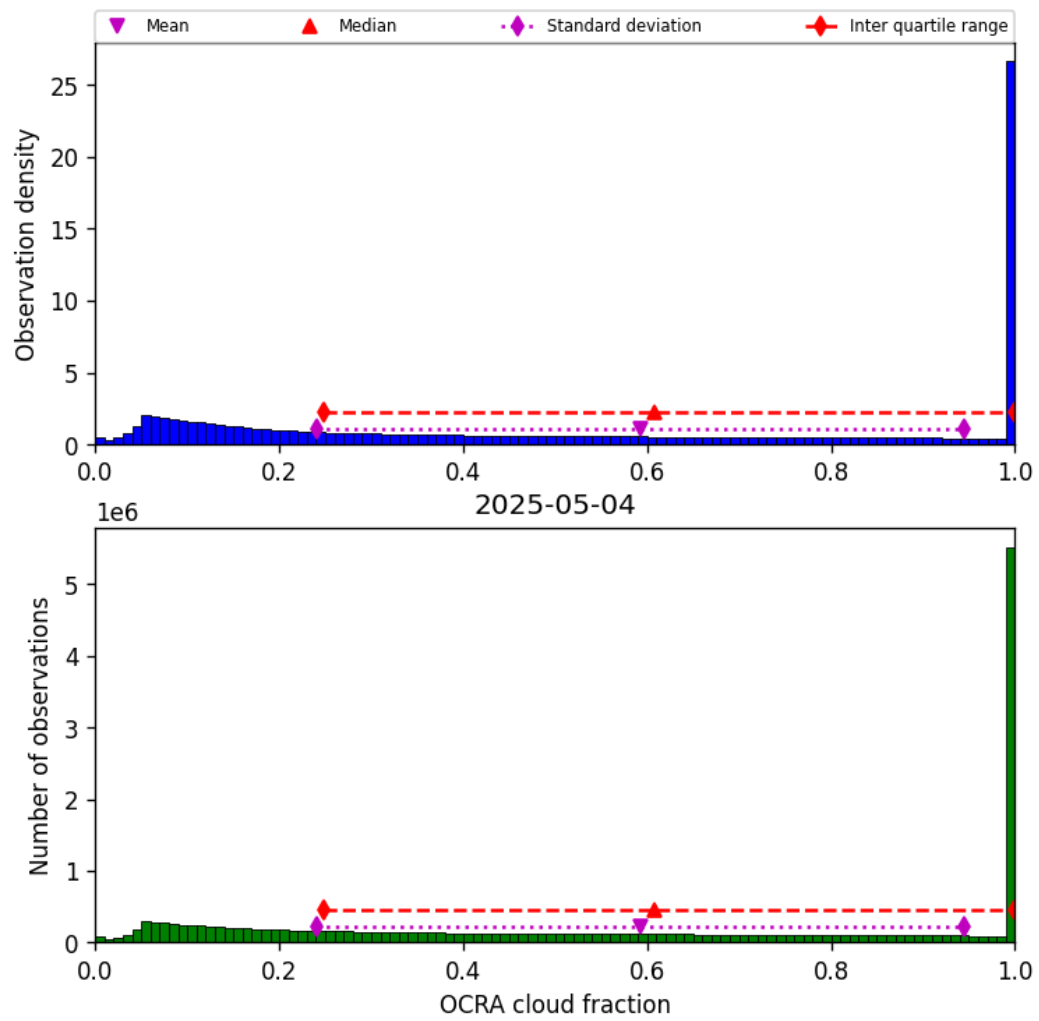


Figure 48: Histogram of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05

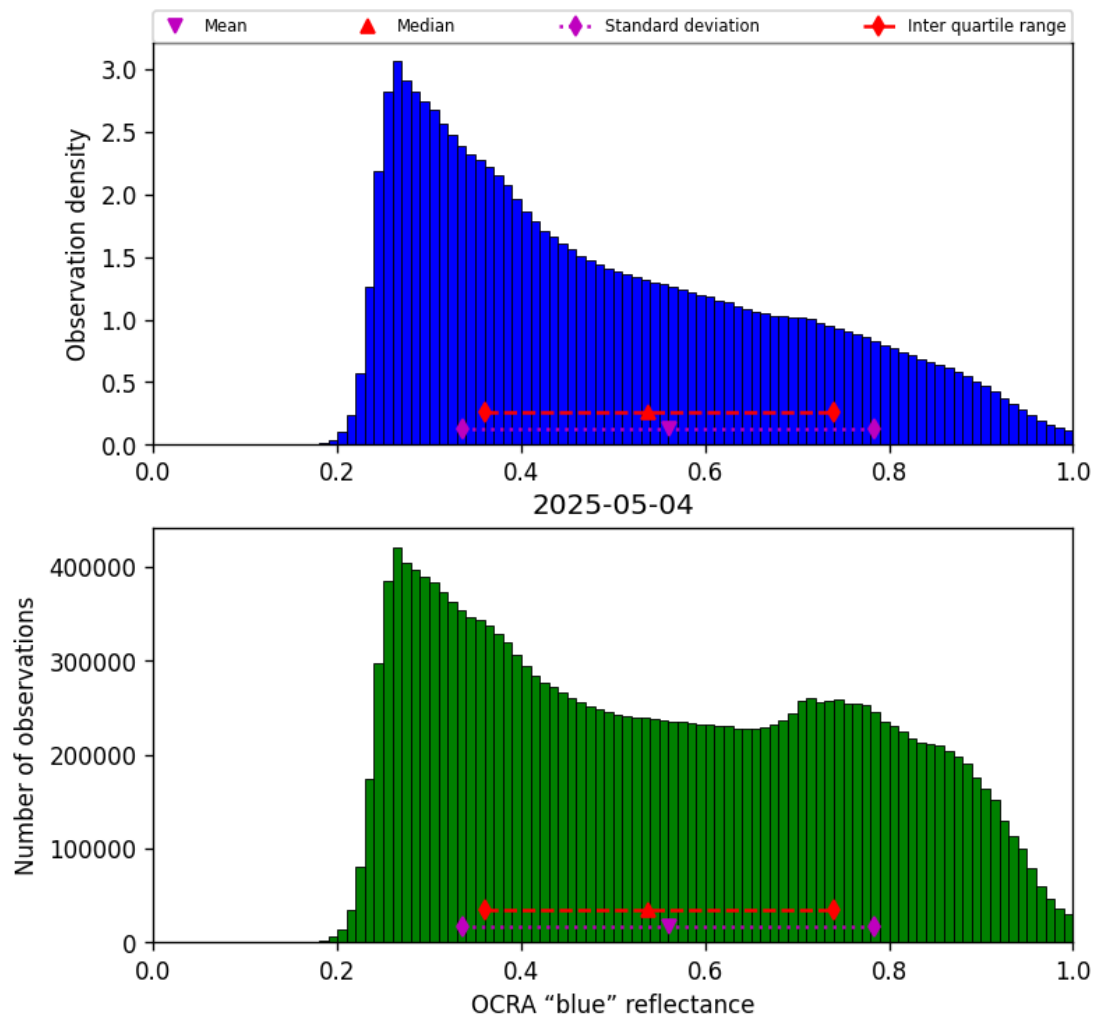


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05

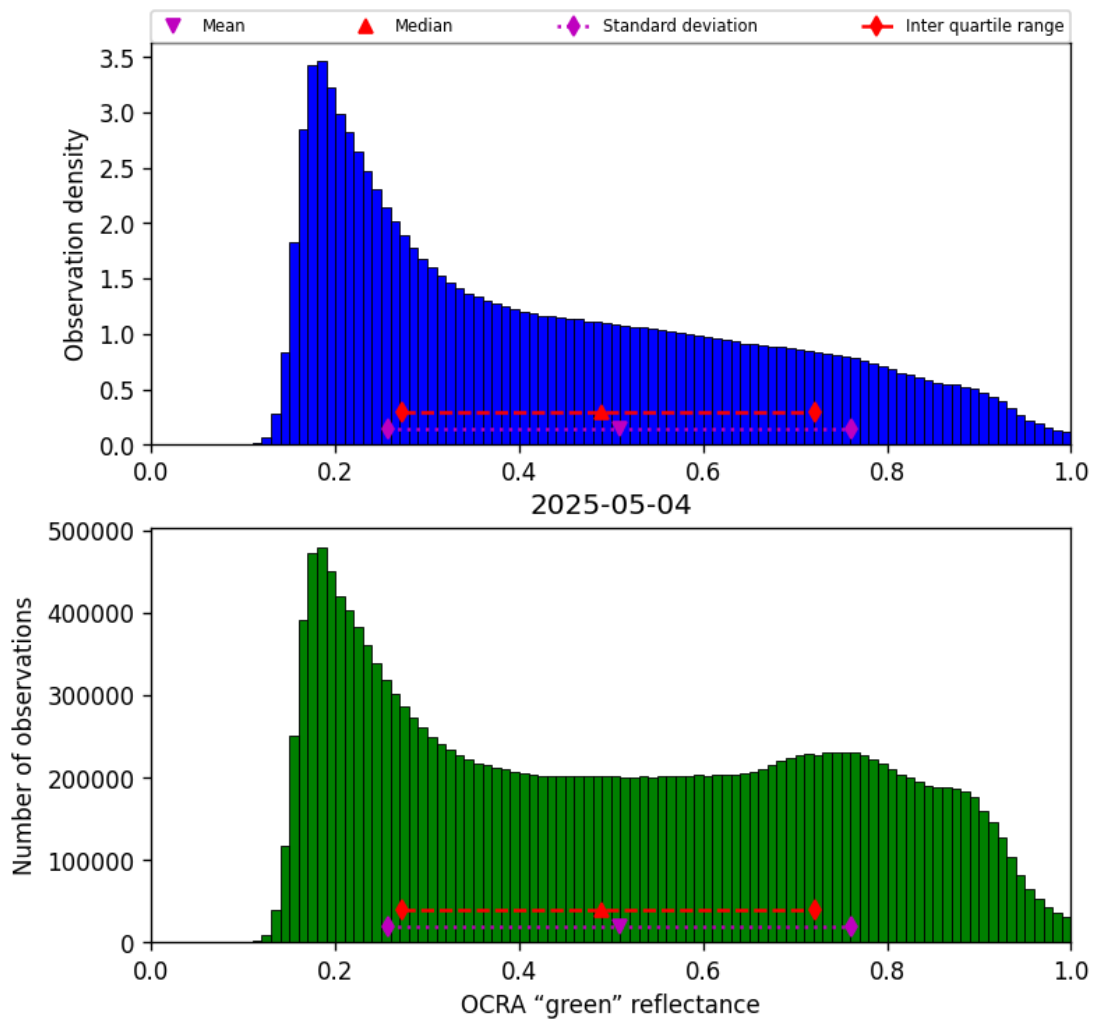


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05

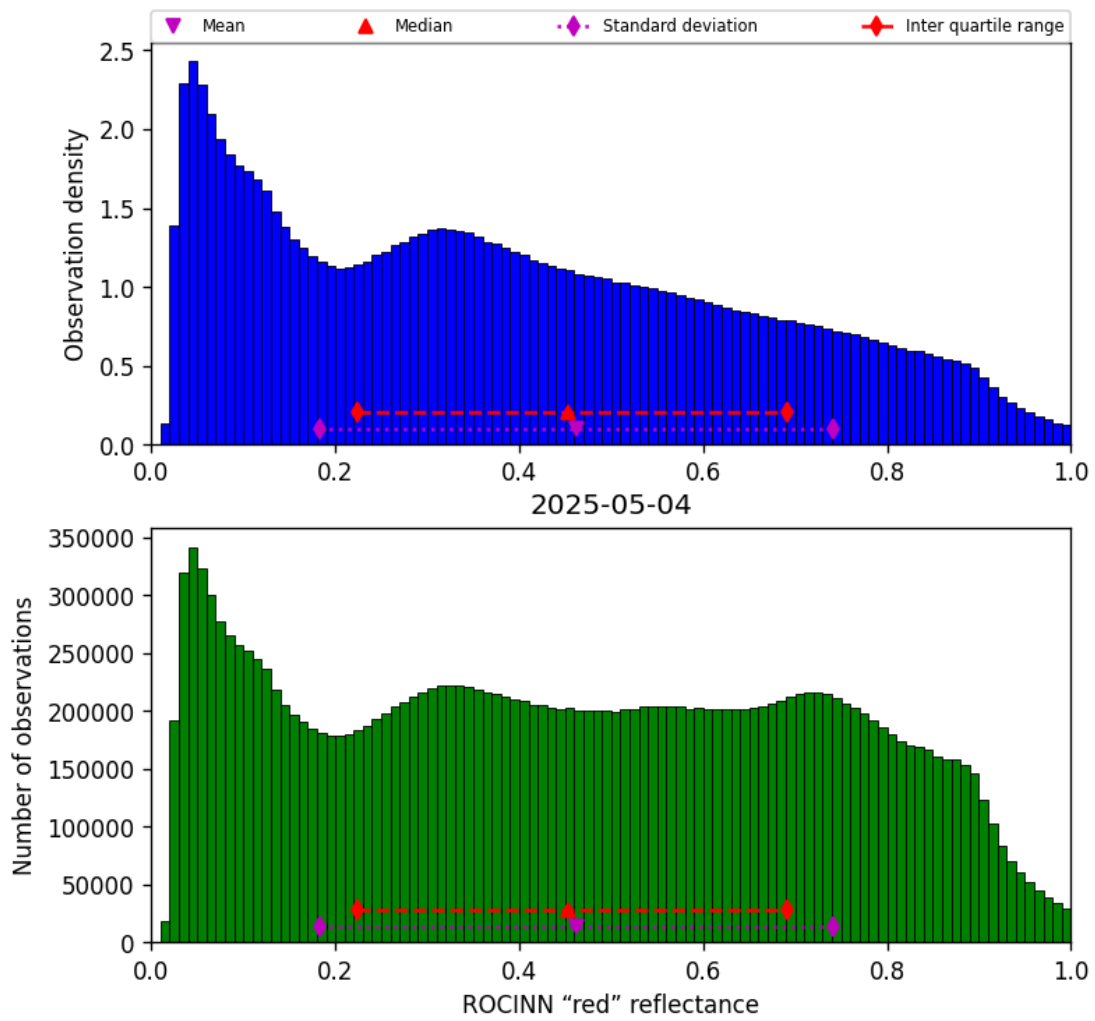


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05

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.

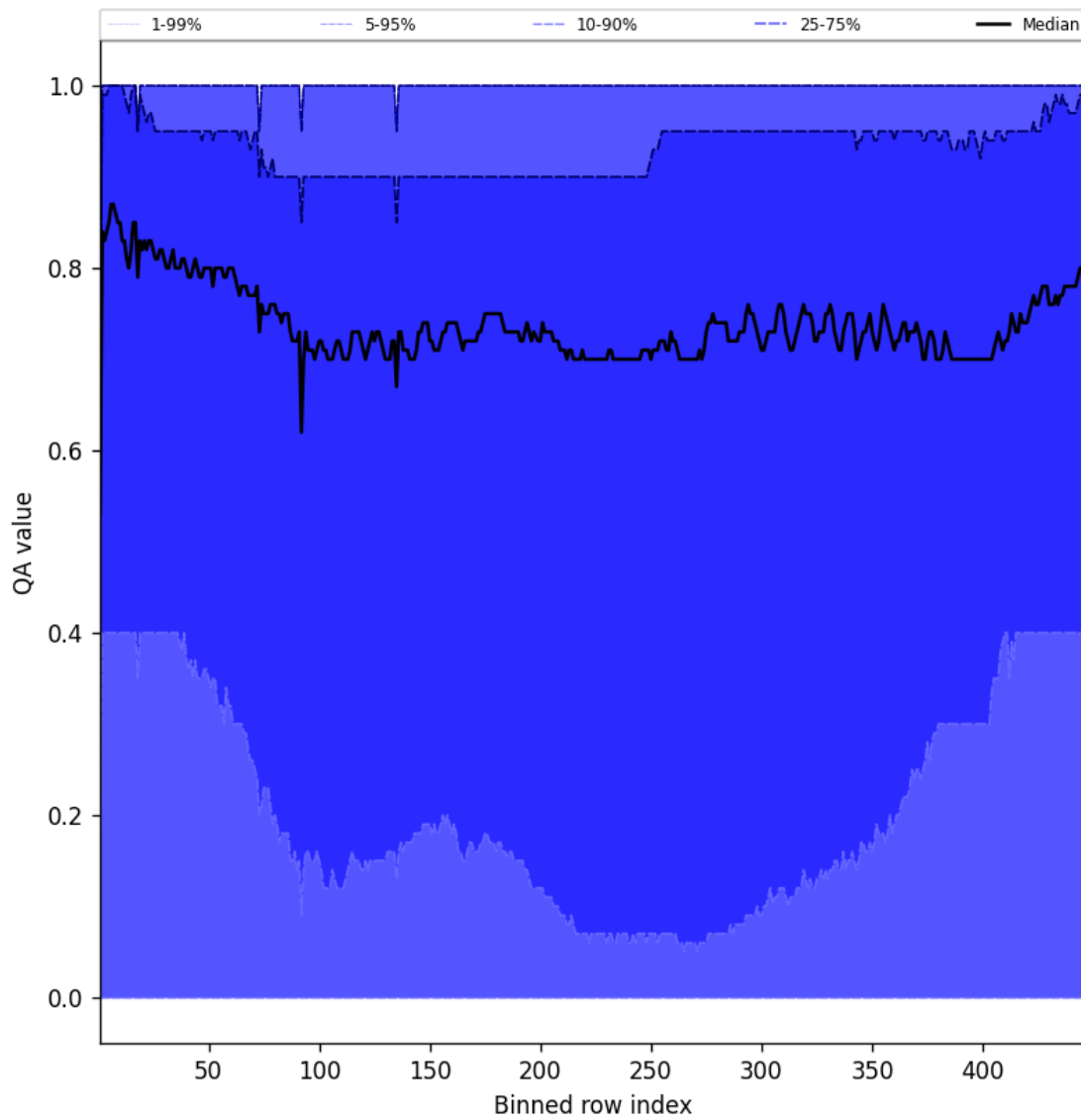


Figure 52: Along track statistics of “QA value” for 2025-05-04 to 2025-05-05

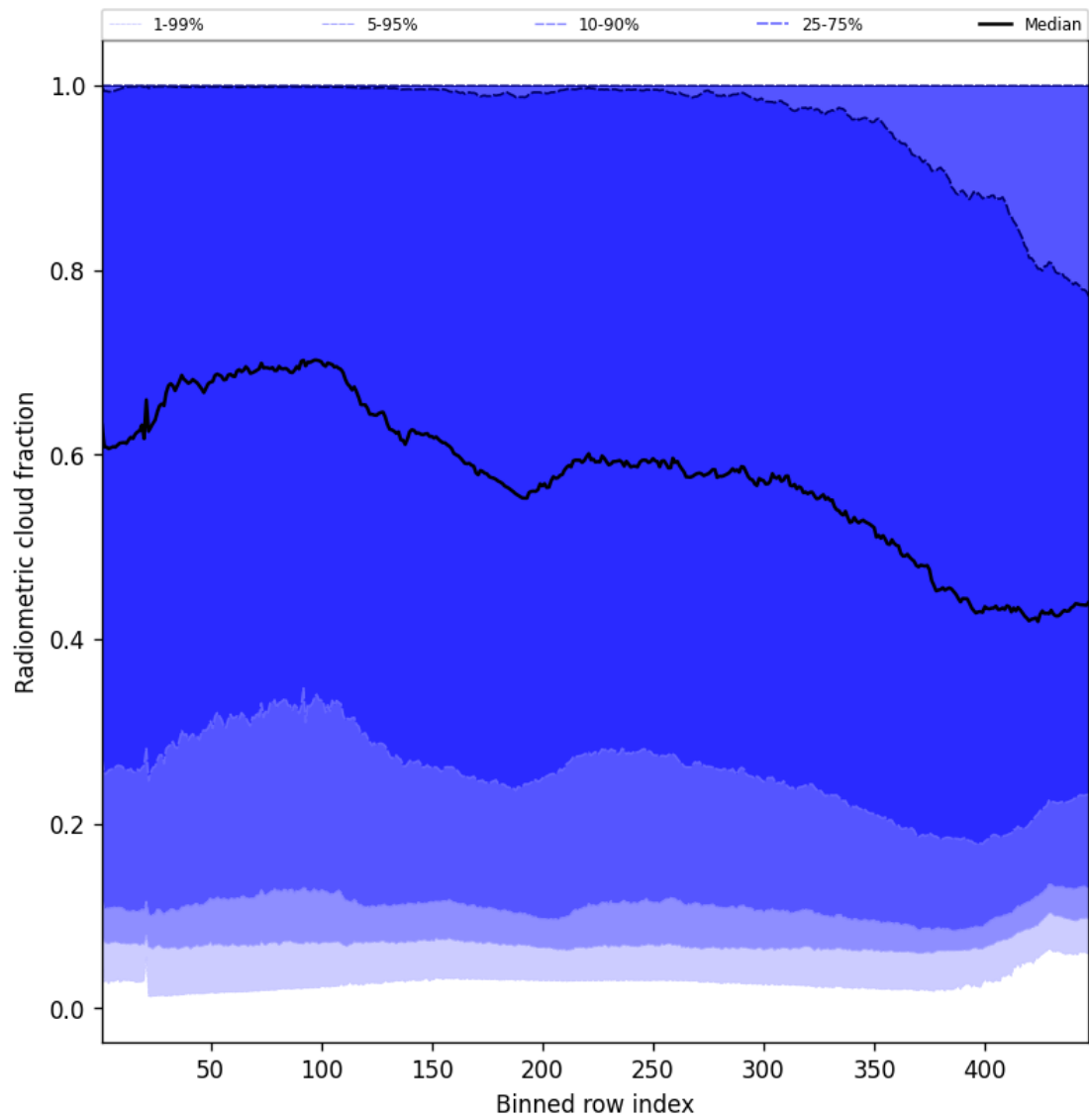


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05

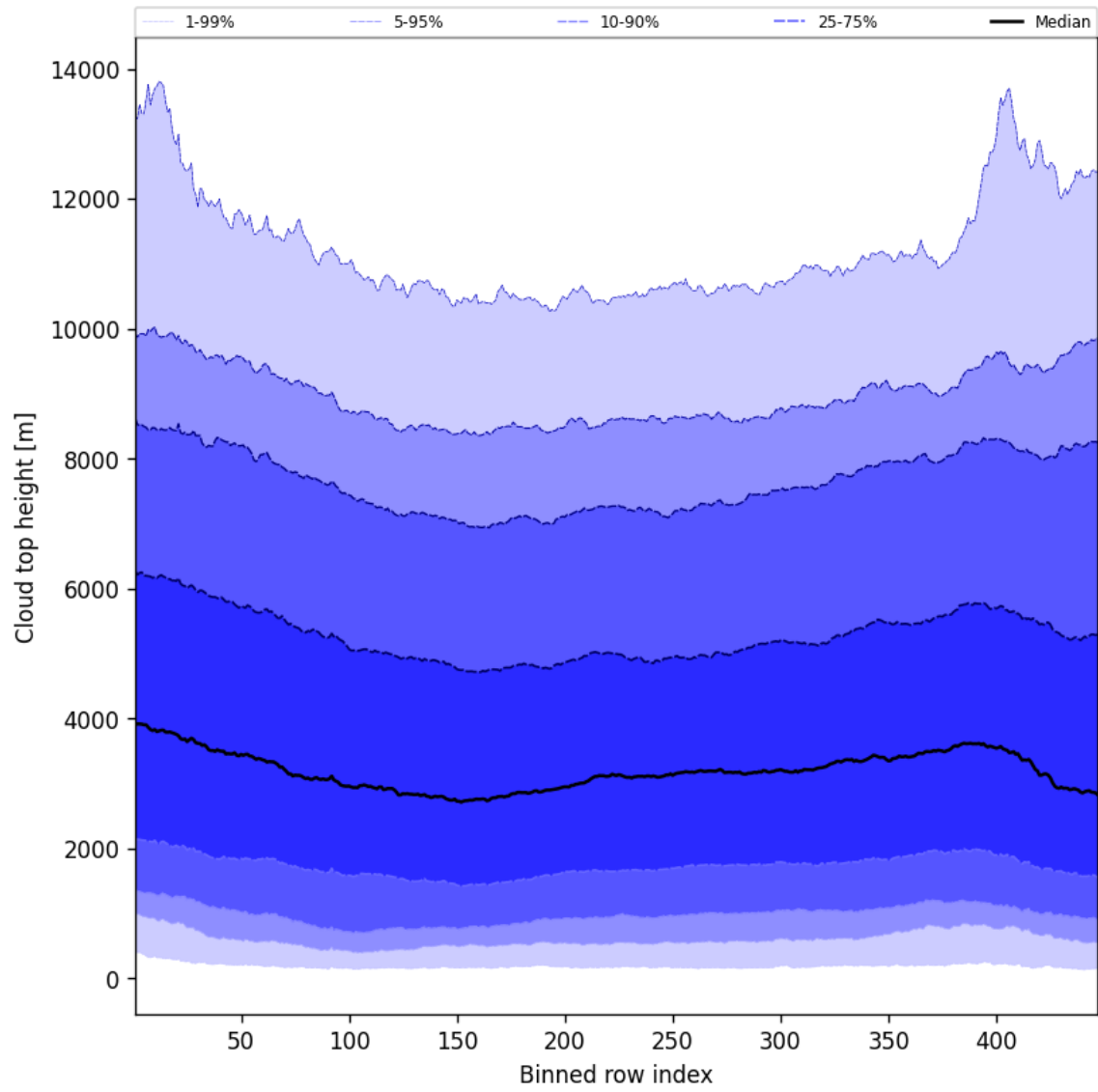


Figure 54: Along track statistics of “Cloud top height” for 2025-05-04 to 2025-05-05

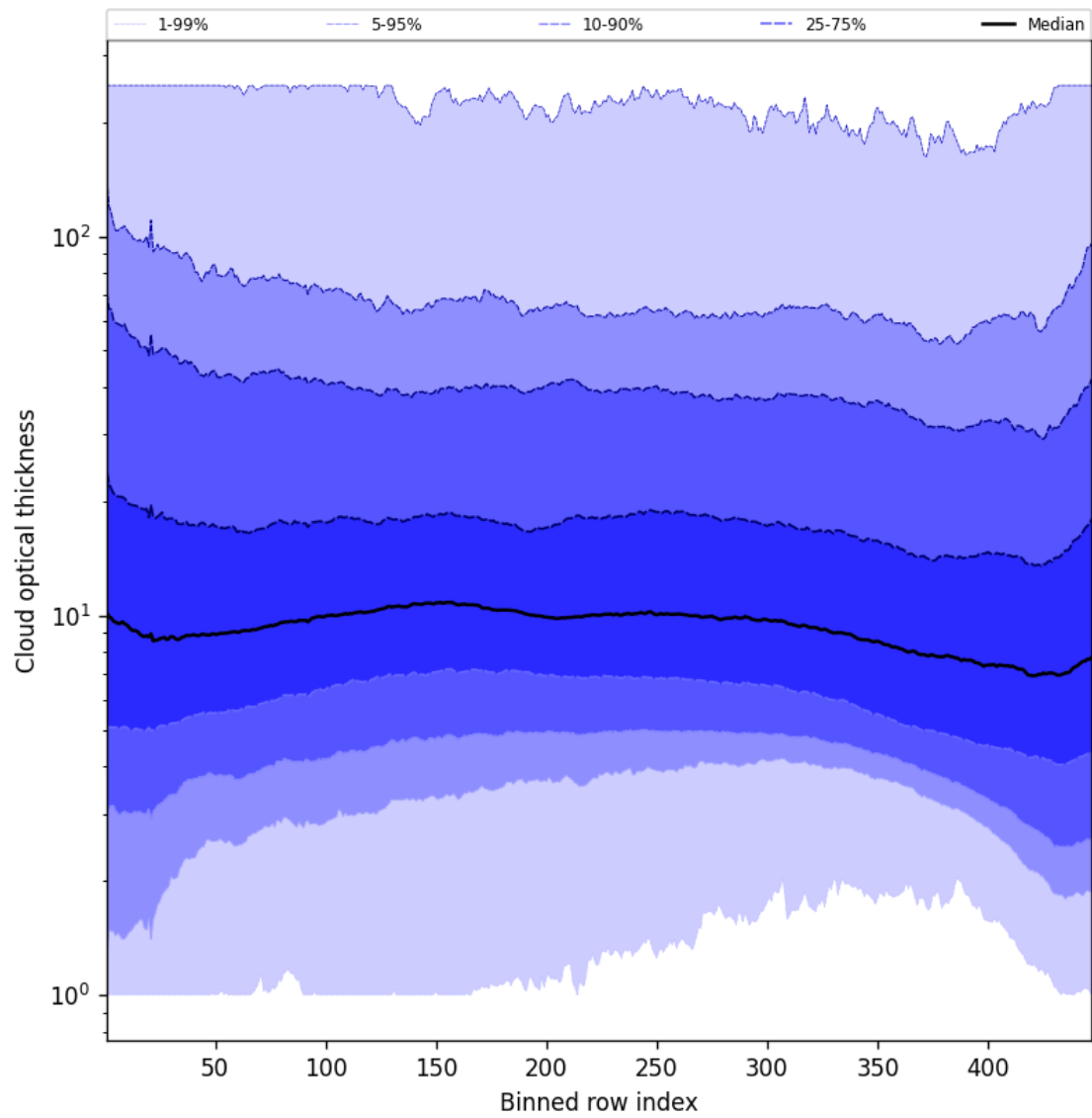


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-05-04 to 2025-05-05

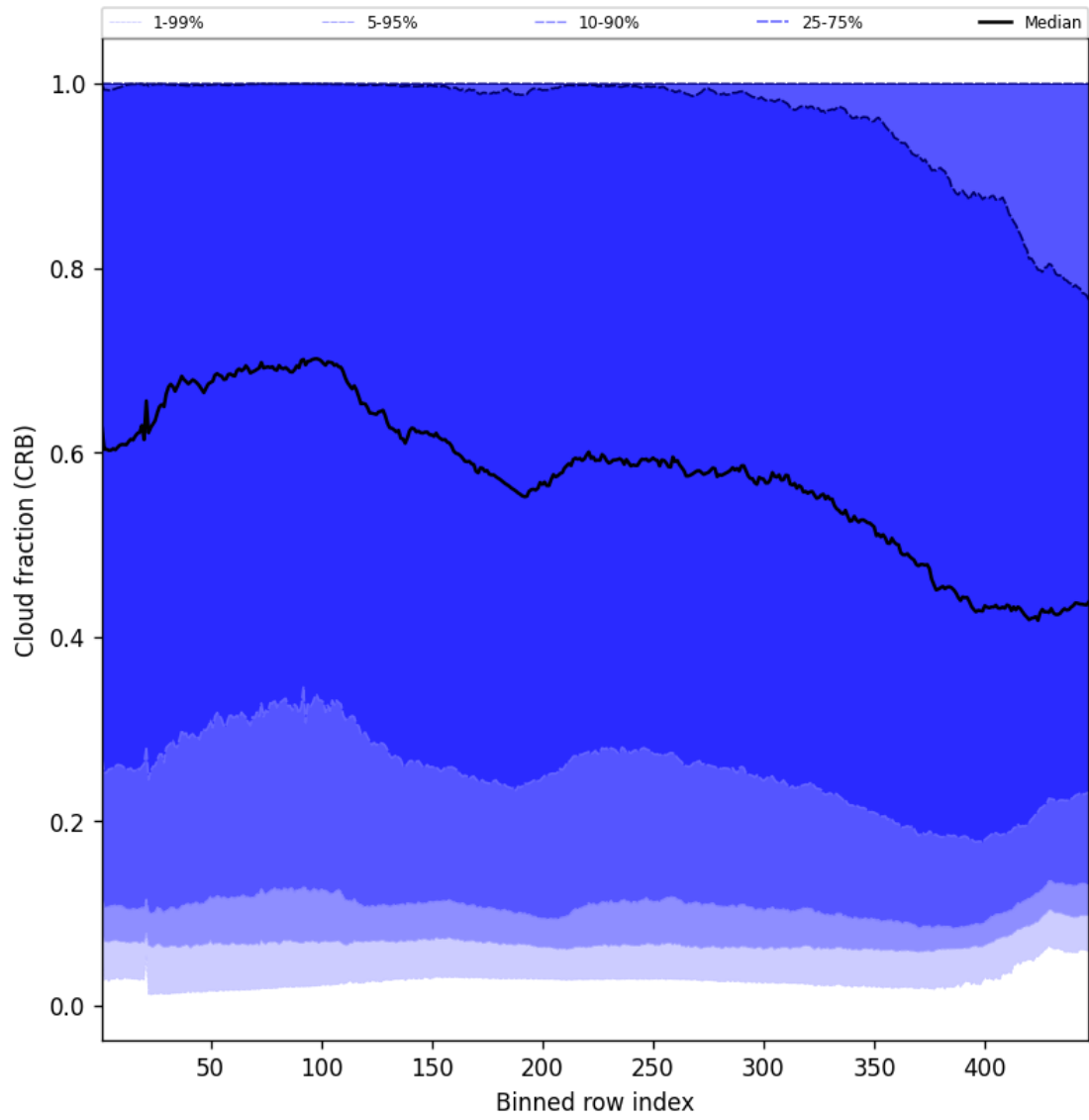


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05

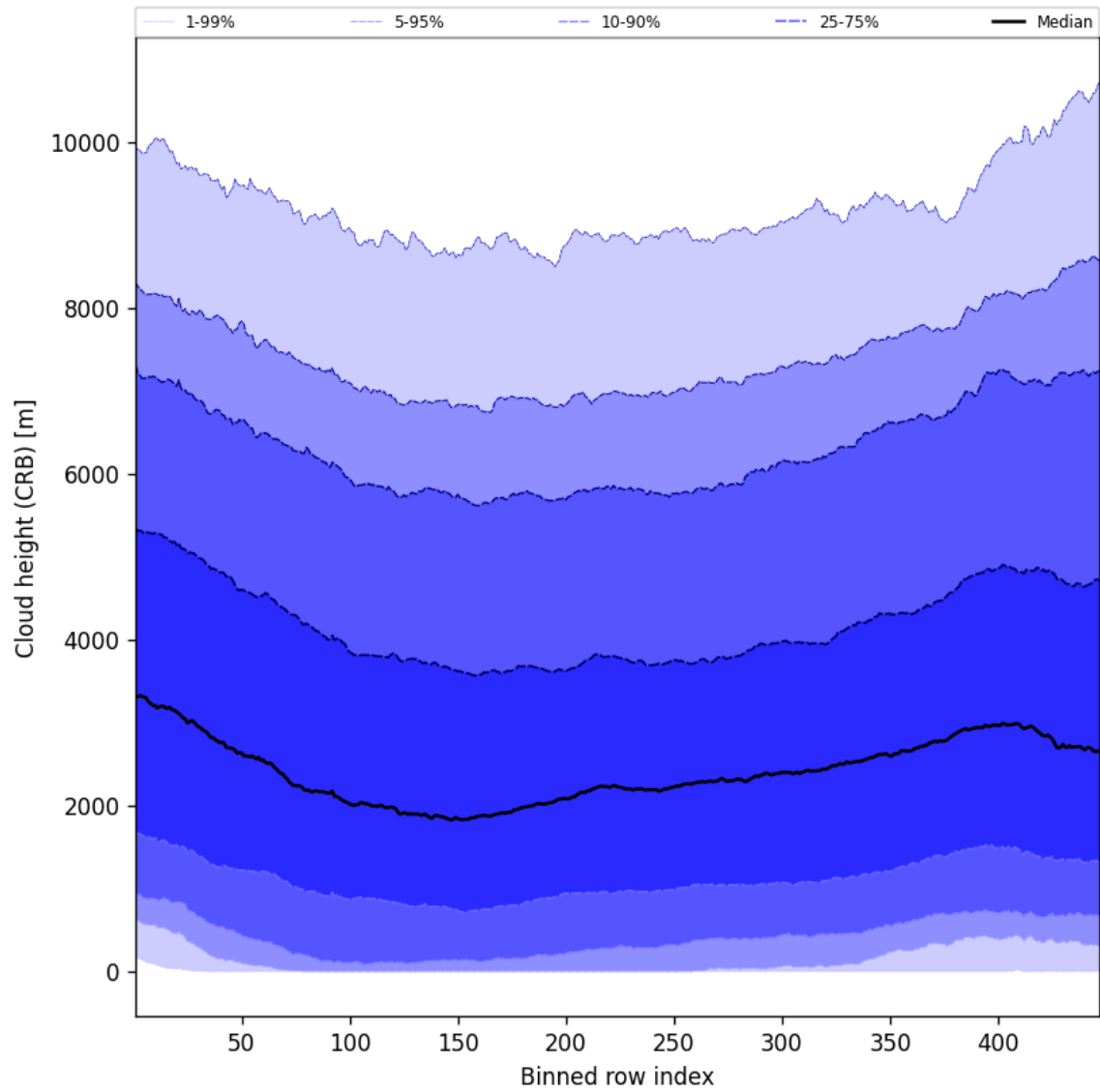


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05

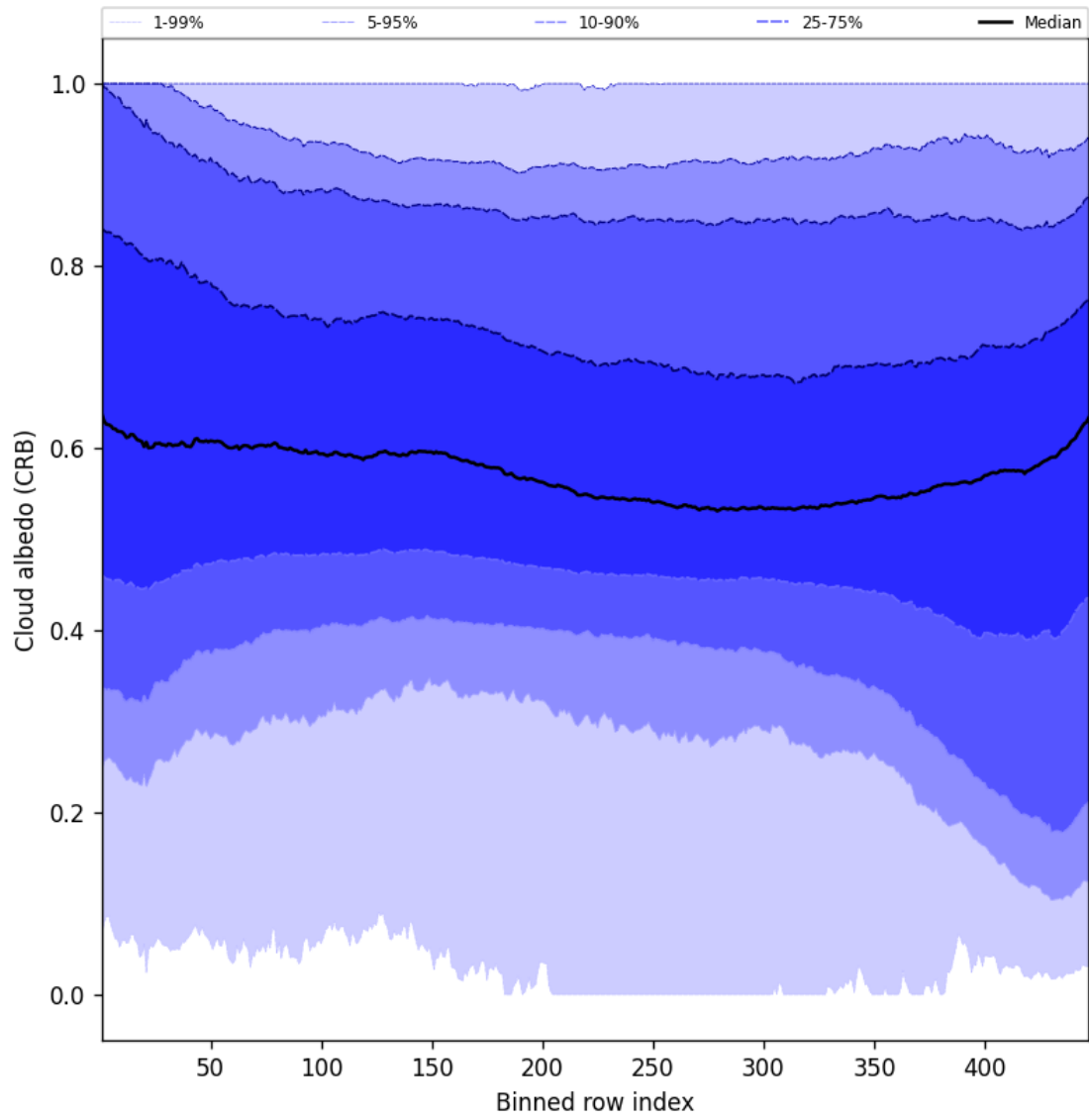


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05

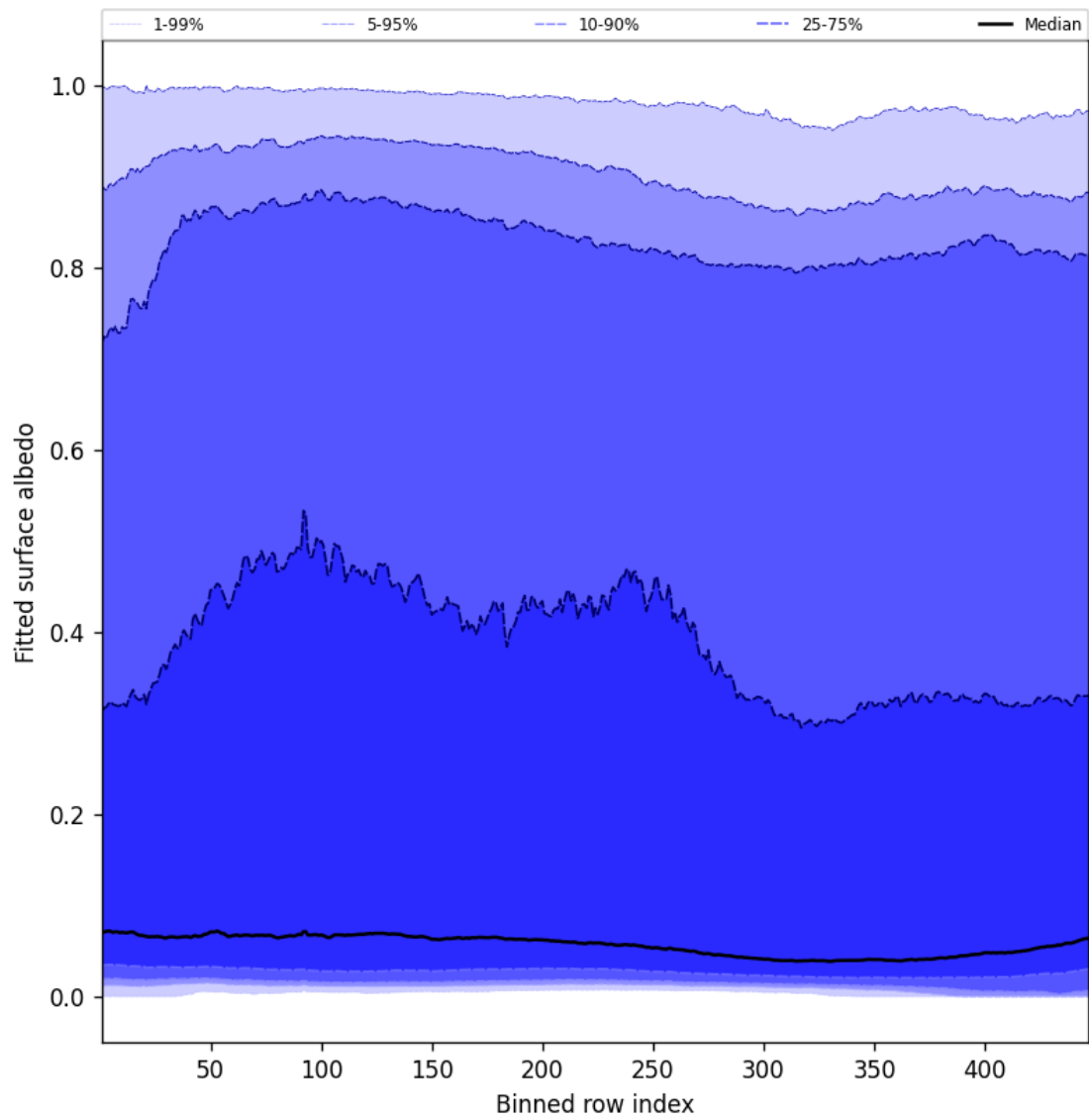


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-05-04 to 2025-05-05

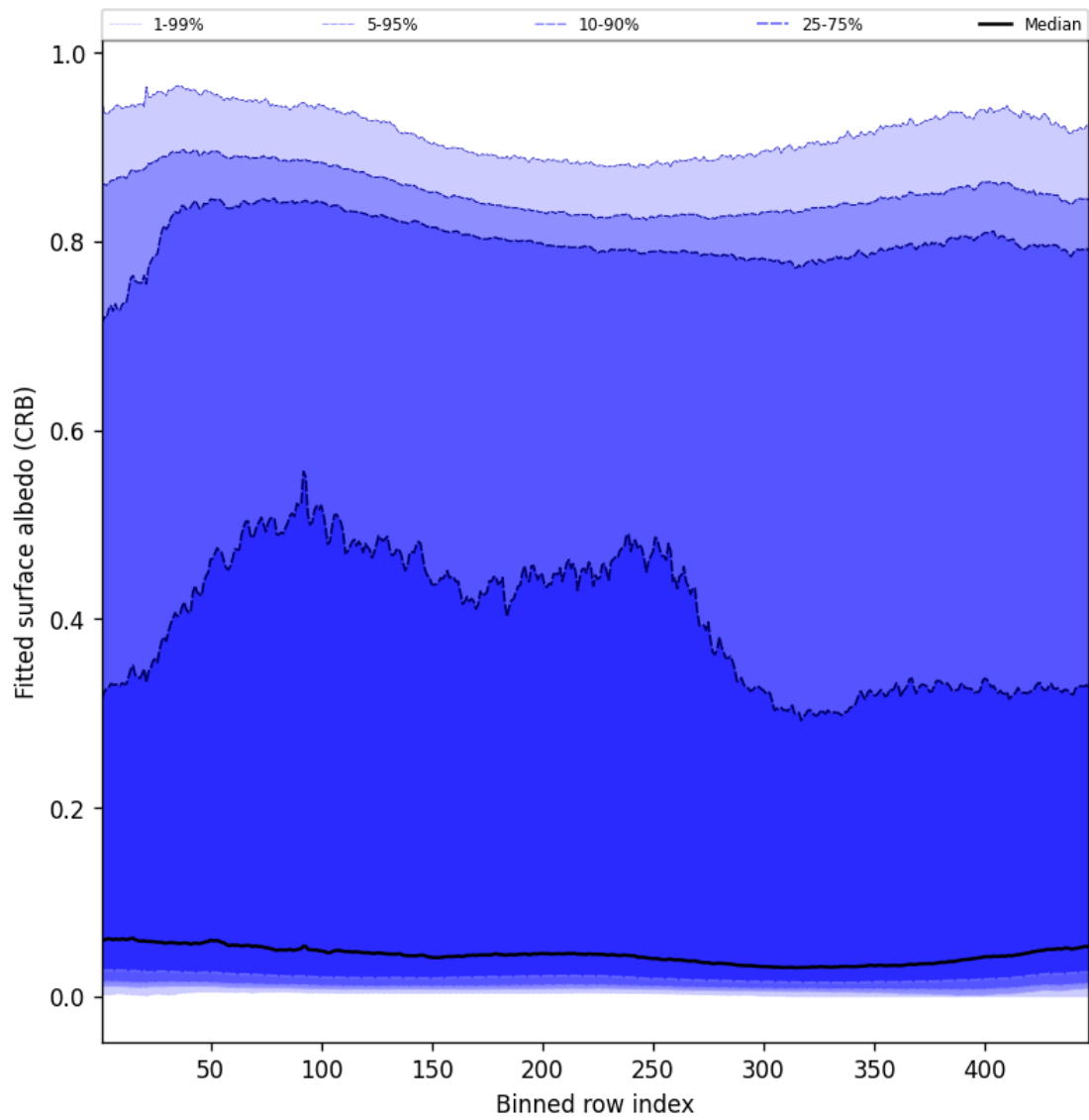


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05

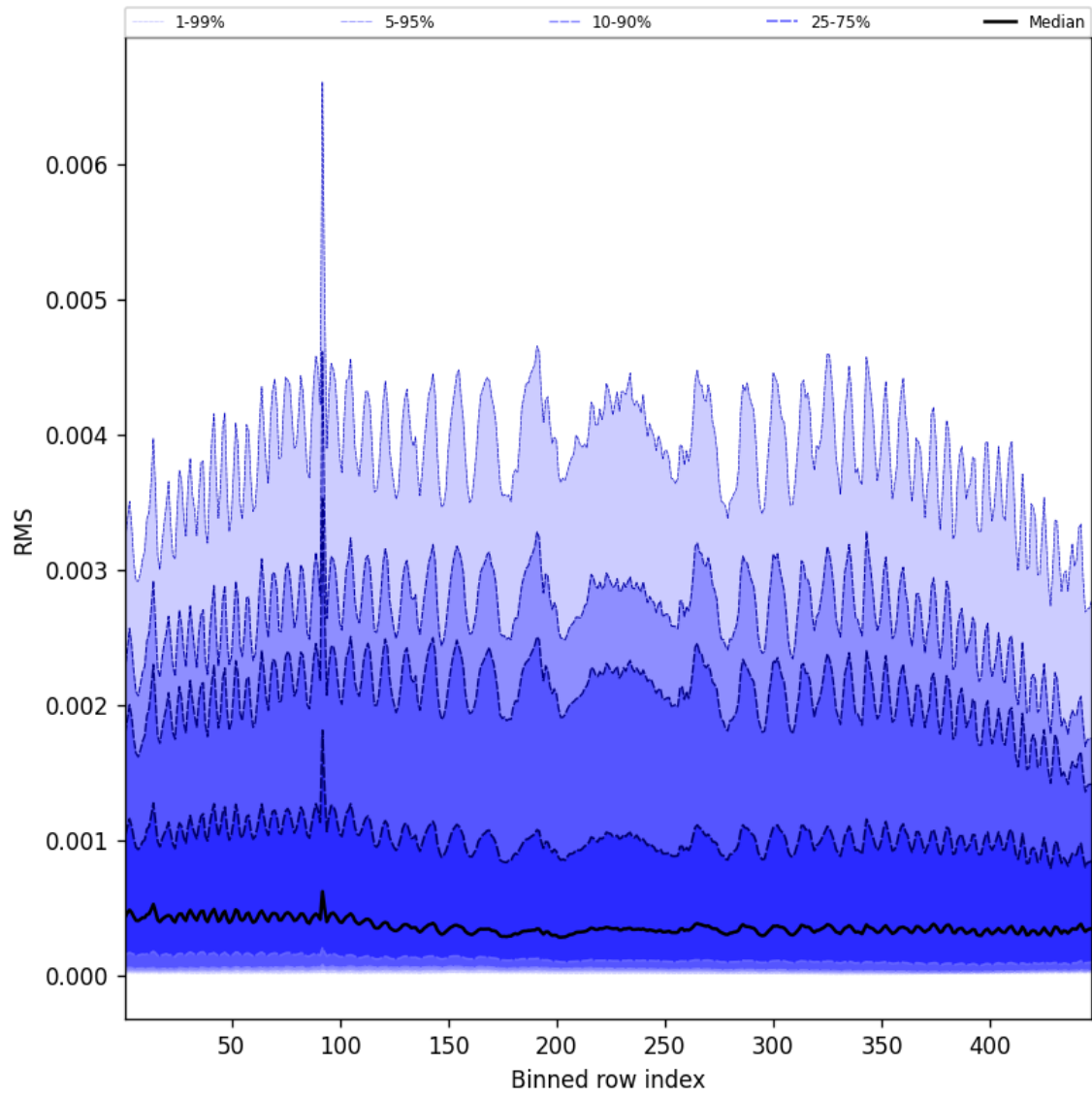


Figure 61: Along track statistics of “RMS” for 2025-05-04 to 2025-05-05

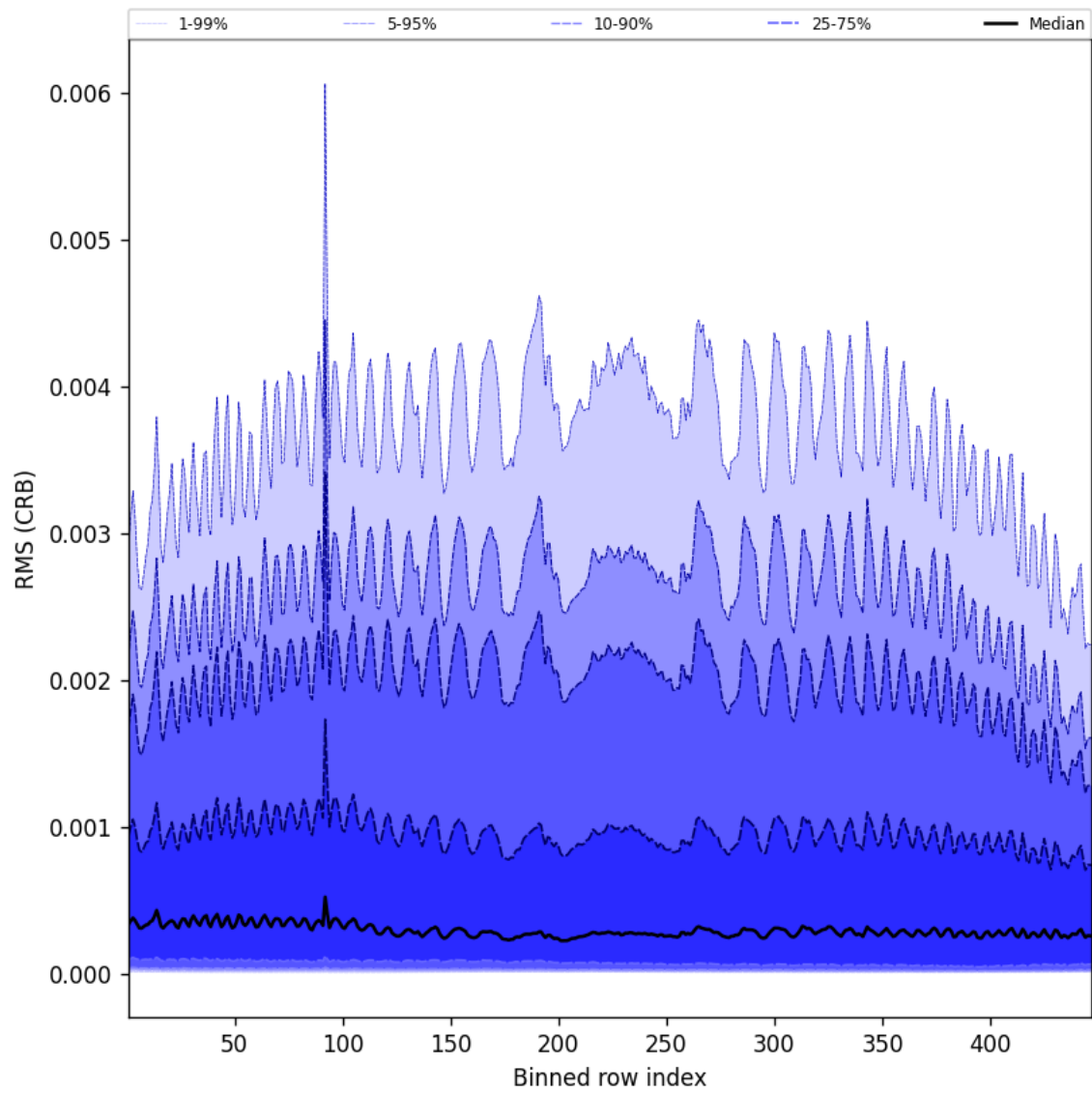


Figure 62: Along track statistics of “RMS (CRB)” for 2025-05-04 to 2025-05-05

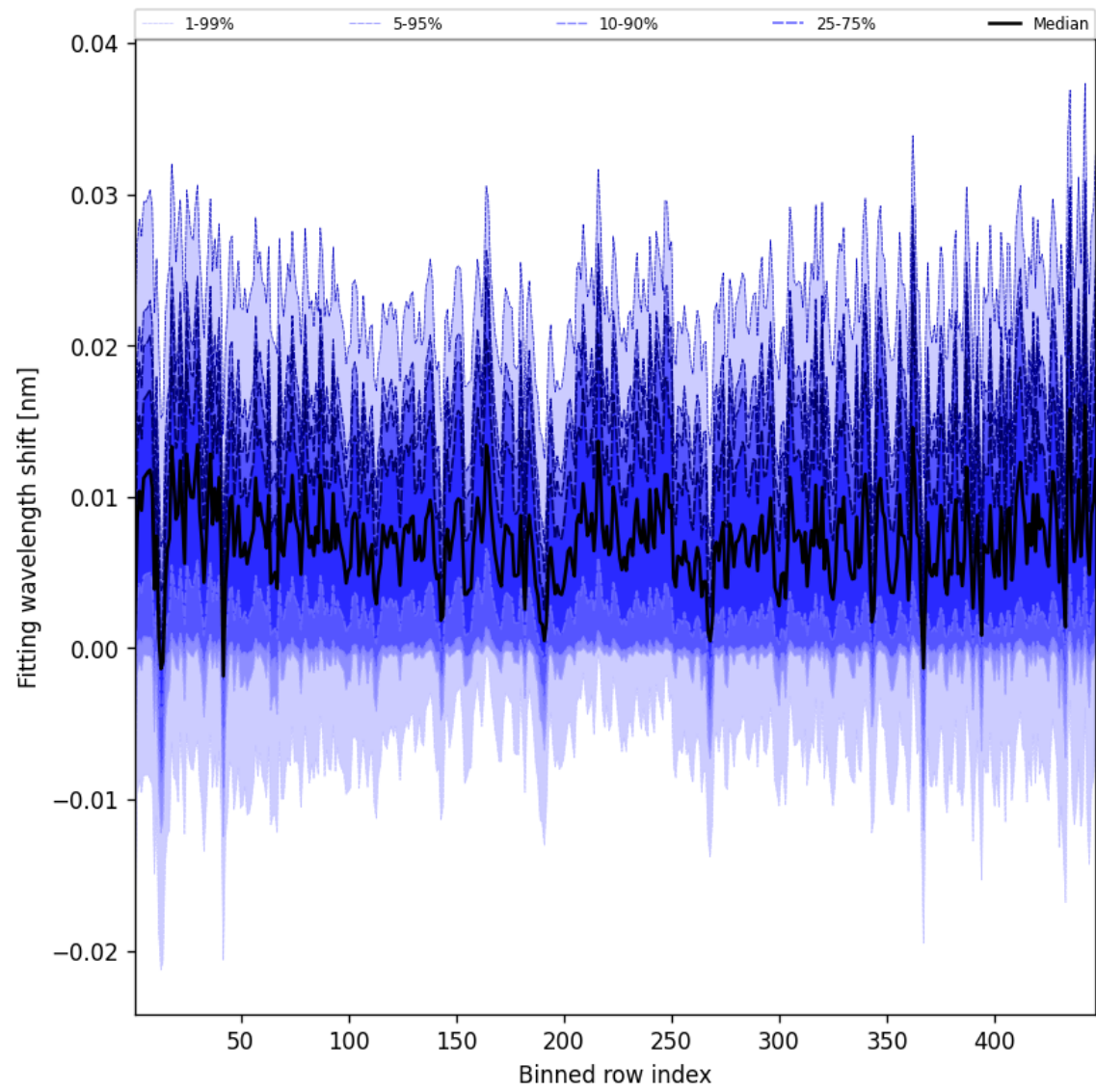


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05

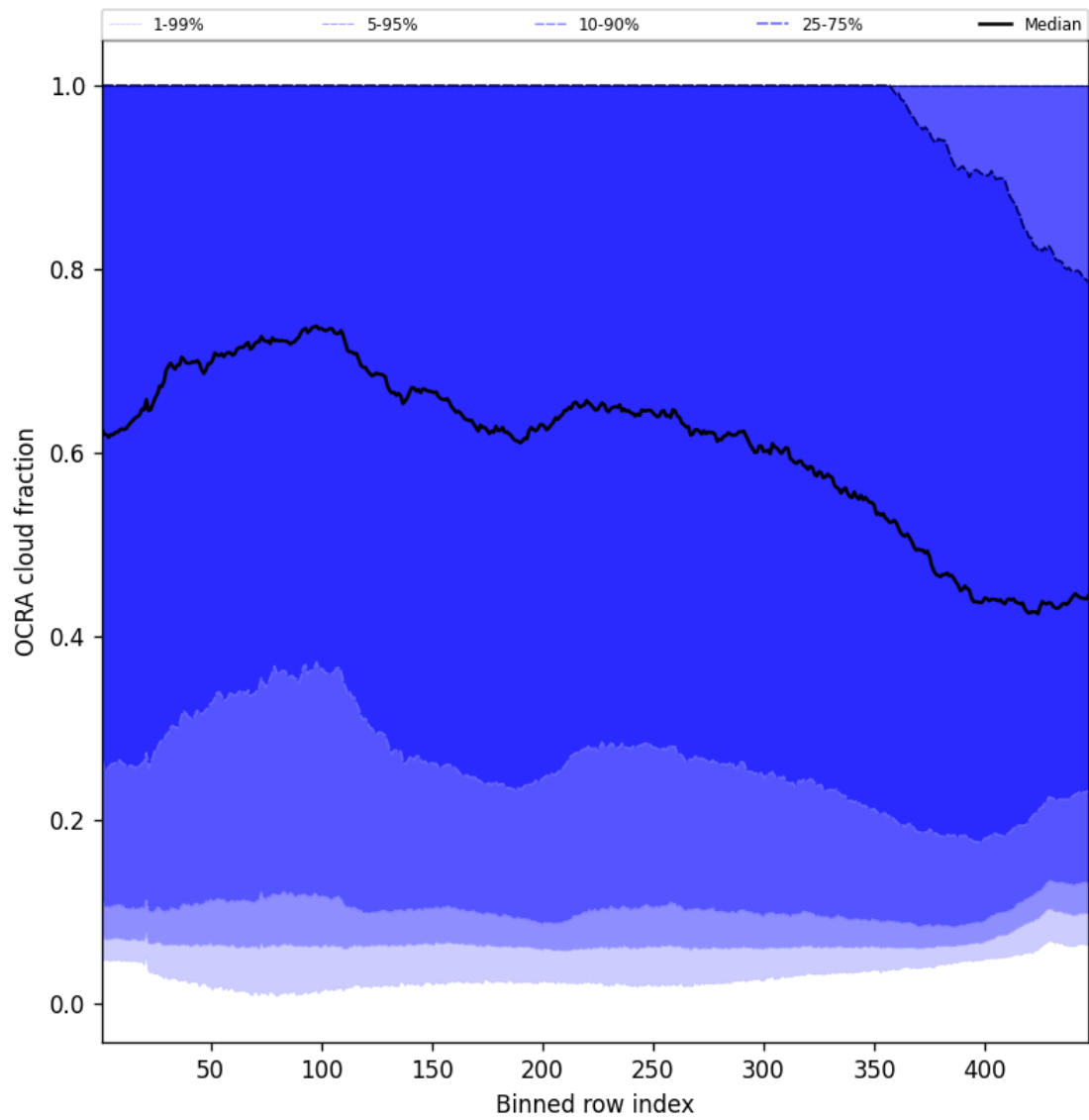


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05

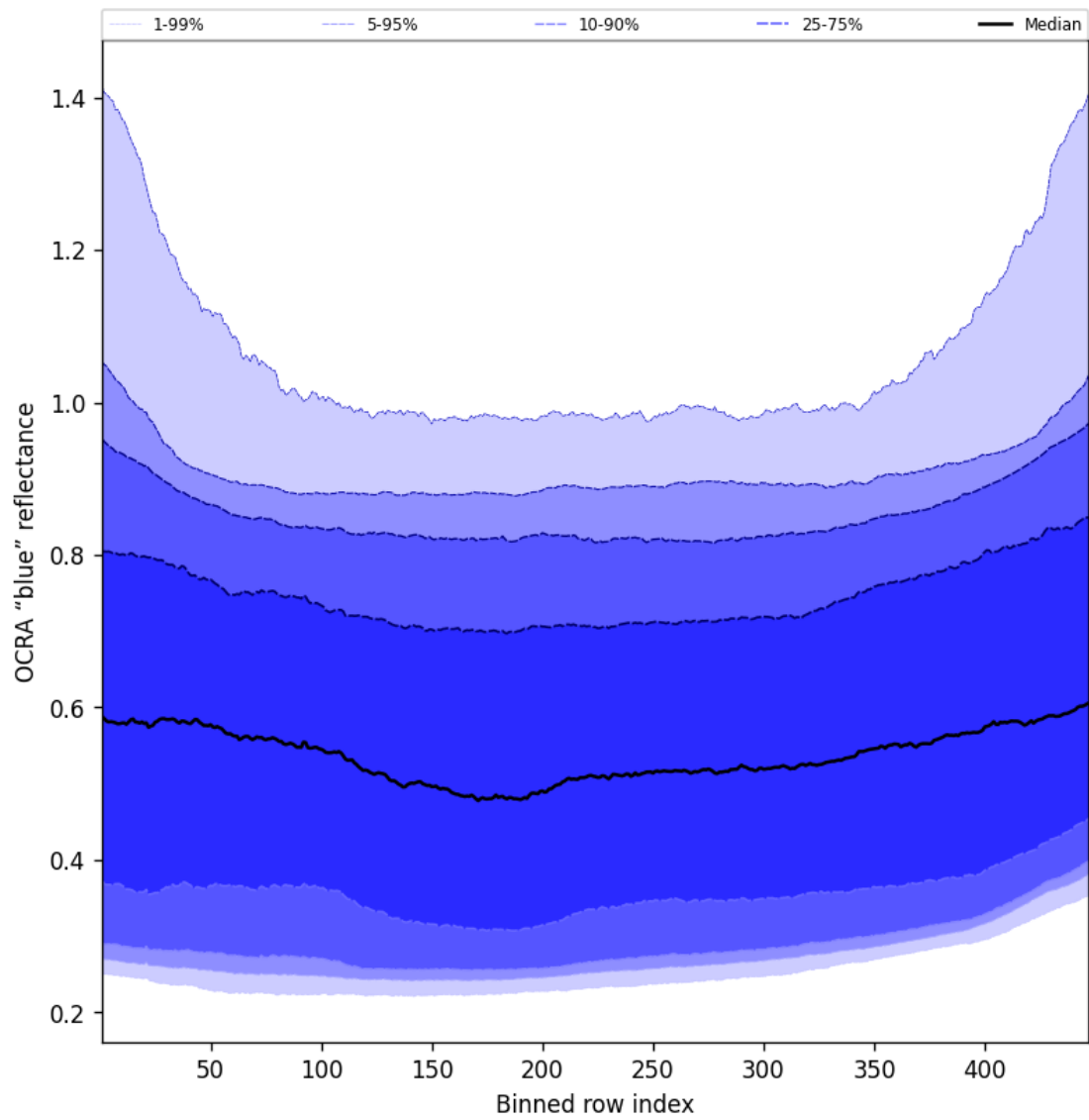


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05

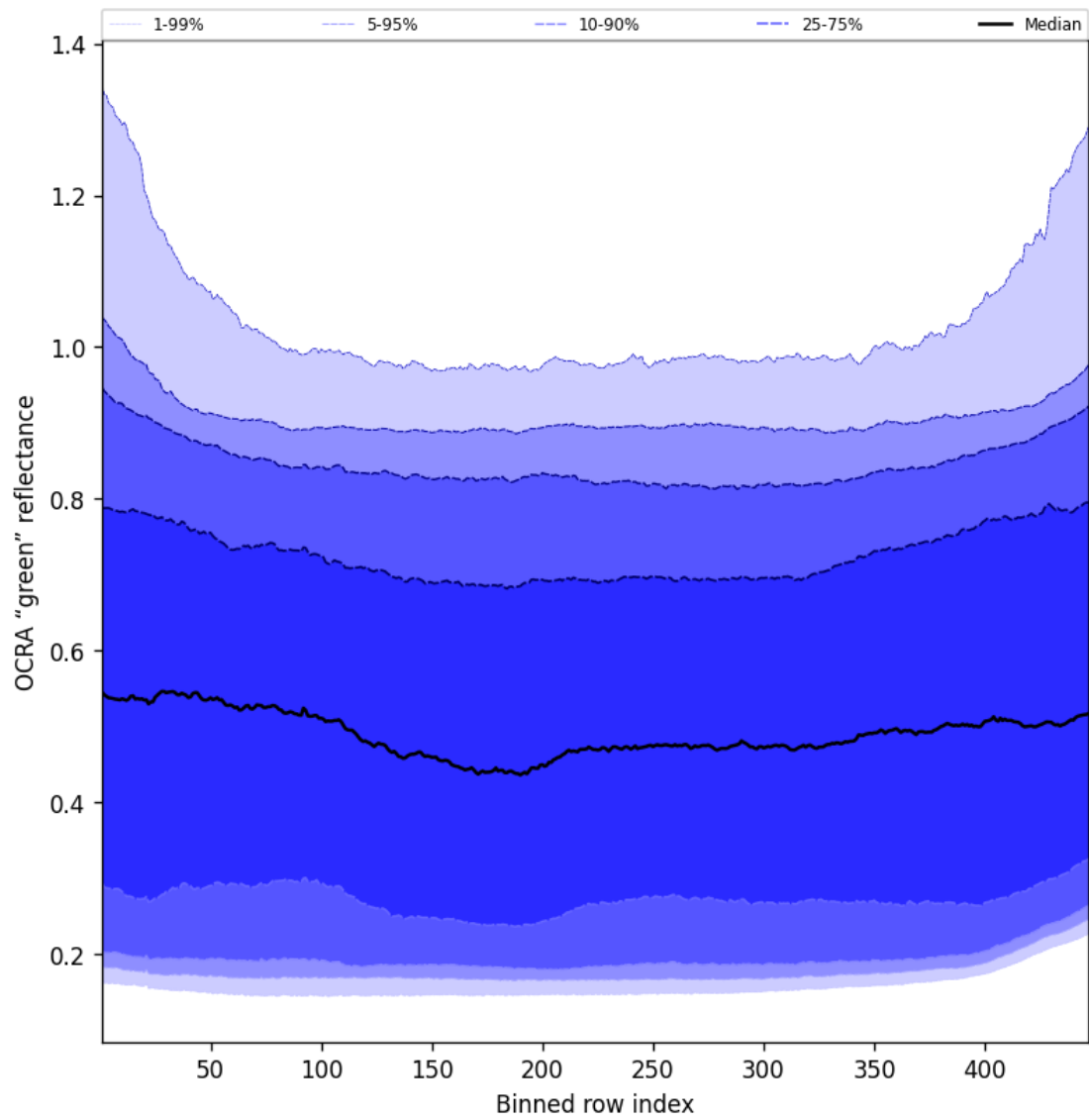


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05

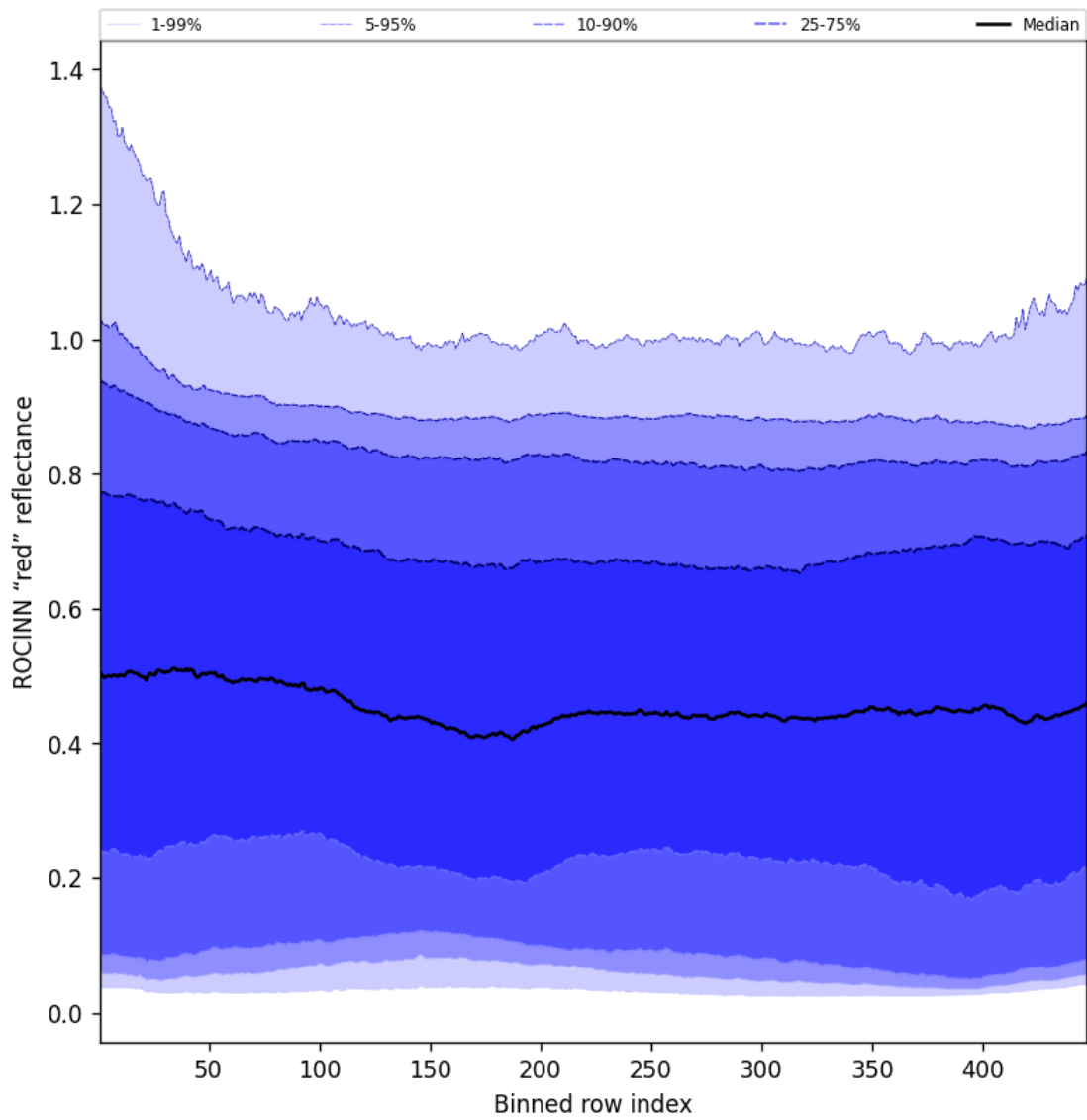


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05

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.

Contents

1	Short Introduction	1
1.1	The list of parameters	1
2	Definitions	1
3	Granule outlines	8
4	Input data monitoring	9
5	Warnings and errors	10
6	World maps	11
7	Zonal average	27
8	Histograms	43
9	Along track statistics	59
10	Coincidence density	75
11	Copyright information of ‘PyCAMA’	75

List of Figures

1	Outline of the granules.	8
2	Input data per granule	9
3	Fraction of pixels with specific warnings and errors during processing	10
4	Map of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05	11
5	Map of “Cloud top height” for 2025-05-04 to 2025-05-05	12
6	Map of “Cloud optical thickness” for 2025-05-04 to 2025-05-05	13
7	Map of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05	14
8	Map of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05	15
9	Map of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05	16
10	Map of “Fitted surface albedo” for 2025-05-04 to 2025-05-05	17
11	Map of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05	18
12	Map of “RMS” for 2025-05-04 to 2025-05-05	19
13	Map of “RMS (CRB)” for 2025-05-04 to 2025-05-05	20
14	Map of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05	21
15	Map of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05	22
16	Map of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05	23
17	Map of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05	24
18	Map of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05	25
19	Map of the number of observations for 2025-05-04 to 2025-05-05	26
20	Zonal average of “QA value” for 2025-05-04 to 2025-05-05.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05.	28
22	Zonal average of “Cloud top height” for 2025-05-04 to 2025-05-05.	29
23	Zonal average of “Cloud optical thickness” for 2025-05-04 to 2025-05-05.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05.	31
25	Zonal average of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05.	33
27	Zonal average of “Fitted surface albedo” for 2025-05-04 to 2025-05-05.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05.	35
29	Zonal average of “RMS” for 2025-05-04 to 2025-05-05.	36

30	Zonal average of “RMS (CRB)” for 2025-05-04 to 2025-05-05.	37
31	Zonal average of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05.	38
32	Zonal average of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05.	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05.	40
34	Zonal average of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05.	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05.	42
36	Histogram of “QA value” for 2025-05-04 to 2025-05-05	43
37	Histogram of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05	44
38	Histogram of “Cloud top height” for 2025-05-04 to 2025-05-05	45
39	Histogram of “Cloud optical thickness” for 2025-05-04 to 2025-05-05	46
40	Histogram of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05	47
41	Histogram of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05	48
42	Histogram of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05	49
43	Histogram of “Fitted surface albedo” for 2025-05-04 to 2025-05-05	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05	51
45	Histogram of “RMS” for 2025-05-04 to 2025-05-05	52
46	Histogram of “RMS (CRB)” for 2025-05-04 to 2025-05-05	53
47	Histogram of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05	54
48	Histogram of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05	55
49	Histogram of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05	56
50	Histogram of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05	57
51	Histogram of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05	58
52	Along track statistics of “QA value” for 2025-05-04 to 2025-05-05	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-05-04 to 2025-05-05	60
54	Along track statistics of “Cloud top height” for 2025-05-04 to 2025-05-05	61
55	Along track statistics of “Cloud optical thickness” for 2025-05-04 to 2025-05-05	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-05-04 to 2025-05-05	63
57	Along track statistics of “Cloud height (CRB)” for 2025-05-04 to 2025-05-05	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-05-04 to 2025-05-05	65
59	Along track statistics of “Fitted surface albedo” for 2025-05-04 to 2025-05-05	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-05-04 to 2025-05-05	67
61	Along track statistics of “RMS” for 2025-05-04 to 2025-05-05	68
62	Along track statistics of “RMS (CRB)” for 2025-05-04 to 2025-05-05	69
63	Along track statistics of “Fitting wavelength shift” for 2025-05-04 to 2025-05-05	70
64	Along track statistics of “OCRA cloud fraction” for 2025-05-04 to 2025-05-05	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-05-04 to 2025-05-05	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-05-04 to 2025-05-05	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-05-04 to 2025-05-05	74

List of Tables

1	Parameterlist and basic statistics for the analysis	2
2	Percentile ranges	3
3	Parameterlist and basic statistics for the analysis for observations in the northern hemisphere	4
4	Parameterlist and basic statistics for the analysis for observations in the southern hemisphere	5
5	Parameterlist and basic statistics for the analysis for observations over water	6
6	Parameterlist and basic statistics for the analysis for observations over land	7

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