PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-06 (01:45)

1 Short Introduction

1.1 The list of parameters

You may want to keep the list given in table 1 at hand when viewing the results.

2 Definitions

The averages shown here are *unweighed* averages:

$$\overline{x} = \frac{1}{N}\sum_{i=1}^{N} x_i \tag{1}$$

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 $\sigma(x) = \sqrt{V(x)}$.

$$V(x) = \frac{1}{N-1}\sum_{i=1}^{N}(x_i - \overline{x})^2 \tag{2}$$

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:

$$P(x \leq m) = P(x \geq m) = \int_{-\infty}^{m} f(x)\,\mathrm{d}x = \frac{1}{2} \tag{3}$$

with $f(x)$ the probability density function.

The median is a special case of a percentile. Instead of ½ 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}.

$$C_{kl} = C(x_{(k)}, x_{(l)}) = \frac{1}{N-1}\sum_{i=1}^{N}(x_{(k),i} - \overline{x_{(k)}})(x_{(l),i} - \overline{x_{(l)}}) \tag{4}$$

Rather than a dimensionally dependent covariance, it is often easier to interpret a correlation matrix R_{kl}, a matrix of Pearson's r coefficients:

$$R_{kl} = R(x_{(k)}, x_{(l)}) = \frac{C_{kl}}{\sqrt{C_{kk}C_{ll}}} = \frac{C_{kl}}{\sqrt{V(x_k)V(x_l)}} \tag{5}$$

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]	0.610 ± 0.383	18606629	5.000×10^{-3}	0.650	0.770	0.0	1.000
cloud fraction [1]	0.550 ± 0.348	18606629	0.995	0.749	0.496	4.800×10^{-3}	1.000
cloud top height [m]	$(0.400 \pm 0.264) \times 10^4$	18606629	1.575×10^3	3.755×10^3	3.420×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.5 ± 34.1	18606629	9.34	10.2	9.06	1.000	250
cloud fraction crb [1]	0.550 ± 0.348	18606629	0.995	0.748	0.495	1.101×10^{-3}	1.000
cloud height crb [m]	$(0.313 \pm 0.227) \times 10^4$	18606629	975	3.215×10^3	2.658×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.599 ± 0.216	18606629	0.995	0.281	0.580	0.0	1.000
surface albedo fitted [1]	0.278 ± 0.331	18606629	2.500×10^{-2}	0.548	5.622×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.267 ± 0.320	18606629	1.500×10^{-2}	0.547	4.723×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.853 \pm 19.346) \times 10^{-4}$	18606629	5.000×10^{-5}	7.716×10^{-4}	4.423×10^{-4}	1.145×10^{-6}	1.06
fitted root mean square crb [1]	$(6.100 \pm 21.726) \times 10^{-4}$	18606629	5.000×10^{-5}	7.104×10^{-4}	3.329×10^{-4}	1.065×10^{-6}	1.25
wavelength shift [nm]	$(7.978 \pm 6.926) \times 10^{-3}$	18606629	9.000×10^{-4}	9.545×10^{-3}	7.637×10^{-3}	-5.282×10^{-2}	0.578
cloud fraction apriori [1]	0.557 ± 0.353	18606629	0.995	0.772	0.509	0.0	1.000
reflectance blue ocra [1]	0.587 ± 0.234	18606629	0.255	0.405	0.584	0.136	2.02
reflectance green ocra [1]	0.540 ± 0.262	18606629	0.175	0.475	0.547	8.778×10^{-2}	1.97
reflectance continuum aband [1]	0.494 ± 0.283	18606629	4.500×10^{-2}	0.475	0.519	1.170×10^{-2}	3.50

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	0.280	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.596×10^{-2}	6.692×10^{-2}	0.103	0.149	0.228	0.976	1.000	1.000	1.000	1.000
cloud top height [m]	299	784	1.141×10^{3}	1.450×10^{3}	1.885×10^{3}	5.640×10^{3}	6.840×10^{3}	7.851×10^{3}	9.038×10^{3}	1.131×10^{4}
cloud optical thickness [1]	1.000	2.57	3.76	4.59	5.45	15.7	24.2	36.4	62.5	250
cloud fraction crb [1]	2.562×10^{-2}	6.616×10^{-2}	0.103	0.149	0.228	0.976	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	338	652	913	1.282×10^{3}	4.498×10^{3}	5.472×10^{3}	6.441×10^{3}	7.630×10^{3}	9.325×10^{3}
cloud albedo crb [1]	1.281×10^{-3}	0.229	0.351	0.417	0.468	0.748	0.835	0.905	0.988	1.000
surface albedo fitted [1]	0.0	9.300×10^{-3}	1.394×10^{-2}	1.826×10^{-2}	2.489×10^{-2}	0.573	0.754	0.838	0.919	0.997
surface albedo fitted crb [1]	6.011×10^{-4}	7.038×10^{-3}	1.039×10^{-2}	1.381×10^{-2}	1.924×10^{-2}	0.566	0.724	0.800	0.876	0.951
fitted root mean square [1]	1.696×10^{-5}	3.320×10^{-5}	5.344×10^{-5}	8.571×10^{-5}	1.552×10^{-4}	9.267×10^{-4}	1.249×10^{-3}	1.590×10^{-3}	2.114×10^{-3}	3.296×10^{-3}
fitted root mean square crb [1]	9.677×10^{-6}	2.302×10^{-5}	4.035×10^{-5}	6.373×10^{-5}	1.108×10^{-4}	8.212×10^{-4}	1.174×10^{-3}	1.538×10^{-3}	2.074×10^{-3}	3.186×10^{-3}
wavelength shift [nm]	-8.437×10^{-3}	-1.140×10^{-3}	1.835×10^{-4}	1.224×10^{-3}	2.949×10^{-3}	1.249×10^{-2}	1.474×10^{-2}	1.671×10^{-2}	1.939×10^{-2}	2.551×10^{-2}
cloud fraction apriori [1]	2.699×10^{-2}	6.437×10^{-2}	9.888×10^{-2}	0.146	0.228	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.258	0.283	0.315	0.372	0.778	0.832	0.875	0.936	1.15
reflectance green ocra [1]	0.153	0.173	0.193	0.223	0.285	0.760	0.822	0.868	0.925	1.10
reflectance continuum aband [1]	3.025×10^{-2}	5.530×10^{-2}	8.940×10^{-2}	0.139	0.248	0.723	0.795	0.845	0.906	1.06

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]	0.549 ± 0.393	8838637	0.890	0.700	0.0	1.000	1.000×10^{-2}	0.900
cloud fraction [1]	0.527 ± 0.349	8838637	0.743	0.453	4.800×10^{-3}	1.000	0.206	0.949
cloud top height [m]	$(0.385 \pm 0.254) \times 10^4$	8838637	3.328×10^3	3.315×10^3	0.0	2.000×10^4	1.898×10^3	5.226×10^3
cloud optical thickness [1]	21.7 ± 41.3	8838637	10.8	8.92	1.000	250	5.60	16.4
cloud fraction crb [1]	0.527 ± 0.349	8838637	0.742	0.453	8.213×10^{-3}	1.000	0.206	0.948
cloud height crb [m]	$(0.302 \pm 0.217) \times 10^4$	8838637	3.031×10^3	2.603×10^3	0.0	2.000×10^4	1.276×10^3	4.307×10^3
cloud albedo crb [1]	0.614 ± 0.227	8838637	0.308	0.602	0.0	1.000	0.473	0.781
surface albedo fitted [1]	0.316 ± 0.302	8838637	0.577	0.216	0.0	1.000	3.610×10^{-2}	0.613
surface albedo fitted crb [1]	0.304 ± 0.290	8838637	0.574	0.214	0.0	1.000	2.872×10^{-2}	0.602
fitted root mean square [1]	$(7.045 \pm 13.345) \times 10^{-4}$	8838637	7.701×10^{-4}	4.487×10^{-4}	1.192×10^{-6}	0.763	1.686×10^{-4}	9.387×10^{-4}
fitted root mean square crb [1]	$(5.942 \pm 11.347) \times 10^{-4}$	8838637	6.726×10^{-4}	3.168×10^{-4}	1.065×10^{-6}	0.734	1.075×10^{-4}	7.801×10^{-4}
wavelength shift [nm]	$(8.289 \pm 6.997) \times 10^{-3}$	8838637	9.855×10^{-3}	7.926×10^{-3}	-5.282×10^{-2}	0.365	3.084×10^{-3}	1.294×10^{-2}
cloud fraction apriori [1]	0.538 ± 0.353	8838637	0.791	0.471	0.0	1.000	0.209	1.000
reflectance blue ocra [1]	0.595 ± 0.233	8838637	0.392	0.605	0.136	2.01	0.382	0.774
reflectance green ocra [1]	0.551 ± 0.258	8838637	0.456	0.573	9.145×10^{-2}	1.97	0.303	0.759
reflectance continuum aband [1]	0.509 ± 0.274	8838637	0.444	0.543	1.440×10^{-2}	3.43	0.278	0.722

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]	0.665 ± 0.366	9767992	0.570	0.850	0.0	1.000	0.400	0.970
cloud fraction [1]	0.571 ± 0.347	9767992	0.740	0.536	6.626×10^{-3}	1.000	0.251	0.991
cloud top height [m]	$(0.414 \pm 0.272) \times 10^4$	9767992	4.159×10^3	3.538×10^3	0.0	2.000×10^4	1.873×10^3	6.032×10^3
cloud optical thickness [1]	15.7 ± 25.5	9767992	9.85	9.18	1.000	250	5.31	15.2
cloud fraction crb [1]	0.571 ± 0.347	9767992	0.740	0.536	1.101×10^{-3}	1.000	0.251	0.991
cloud height crb [m]	$(0.323 \pm 0.235) \times 10^4$	9767992	3.444×10^3	2.713×10^3	0.0	2.000×10^4	1.288×10^3	4.732×10^3
cloud albedo crb [1]	0.585 ± 0.204	9767992	0.254	0.564	0.0	1.000	0.464	0.718
surface albedo fitted [1]	0.244 ± 0.351	9767992	0.311	3.686×10^{-2}	0.0	1.000	1.975×10^{-2}	0.331
surface albedo fitted crb [1]	0.233 ± 0.341	9767992	0.315	2.989×10^{-2}	0.0	1.000	1.497×10^{-2}	0.330
fitted root mean square [1]	$(6.679 \pm 23.489) \times 10^{-4}$	9767992	7.736×10^{-4}	4.361×10^{-4}	1.145×10^{-6}	1.06	1.431×10^{-4}	9.167×10^{-4}
fitted root mean square crb [1]	$(6.244 \pm 27.975) \times 10^{-4}$	9767992	7.387×10^{-4}	3.499×10^{-4}	1.663×10^{-6}	1.25	1.140×10^{-4}	8.527×10^{-4}
wavelength shift [nm]	$(7.698 \pm 6.848) \times 10^{-3}$	9767992	9.273×10^{-3}	7.390×10^{-3}	-4.587×10^{-2}	0.578	2.835×10^{-3}	1.211×10^{-2}
cloud fraction apriori [1]	0.575 ± 0.351	9767992	0.753	0.544	0.0	1.000	0.247	1.000
reflectance blue ocra [1]	0.579 ± 0.235	9767992	0.418	0.566	0.140	2.02	0.364	0.782
reflectance green ocra [1]	0.529 ± 0.265	9767992	0.492	0.524	8.778×10^{-2}	1.92	0.271	0.763
reflectance continuum aband [1]	0.480 ± 0.290	9767992	0.506	0.493	1.170×10^{-2}	3.50	0.218	0.725

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]	0.691 ± 0.358	11887401	0.590	0.900	0.0	1.000	0.400	0.990
cloud fraction [1]	0.579 ± 0.364	11887401	0.787	0.582	6.626×10^{-3}	1.000	0.213	1.000
cloud top height [m]	$(0.354 \pm 0.242) \times 10^4$	11887401	3.078×10^3	2.918×10^3	0.0	2.000×10^4	1.696×10^3	4.775×10^3
cloud optical thickness [1]	18.5 ± 29.8	11887401	10.2	10.1	1.000	250	6.76	17.0
cloud fraction crb [1]	0.579 ± 0.364	11887401	0.788	0.581	1.101×10^{-3}	1.000	0.212	1.000
cloud height crb [m]	$(0.285 \pm 0.217) \times 10^4$	11887401	2.946×10^3	2.295×10^3	0.0	2.000×10^4	1.142×10^3	4.088×10^3
cloud albedo crb [1]	0.559 ± 0.178	11887401	0.210	0.542	0.0	1.000	0.457	0.666
surface albedo fitted [1]	0.110 ± 0.212	11887401	3.344×10^{-2}	3.071×10^{-2}	0.0	1.000	1.839×10^{-2}	5.183×10^{-2}
surface albedo fitted crb [1]	0.102 ± 0.206	11887401	2.929×10^{-2}	2.422×10^{-2}	0.0	1.000	1.390×10^{-2}	4.319×10^{-2}
fitted root mean square [1]	$(5.968 \pm 22.537) \times 10^{-4}$	11887401	7.068×10^{-4}	3.118×10^{-4}	1.145×10^{-6}	1.06	9.909×10^{-5}	8.059×10^{-4}
fitted root mean square crb [1]	$(5.649 \pm 26.001) \times 10^{-4}$	11887401	6.737×10^{-4}	2.550×10^{-4}	1.065×10^{-6}	1.25	8.299×10^{-5}	7.567×10^{-4}
wavelength shift [nm]	$(7.306 \pm 7.186) \times 10^{-3}$	11887401	9.575×10^{-3}	6.659×10^{-3}	-4.737×10^{-2}	0.578	2.259×10^{-3}	1.183×10^{-2}
cloud fraction apriori [1]	0.581 ± 0.369	11887401	0.794	0.587	0.0	1.000	0.206	1.000
reflectance blue ocra [1]	0.529 ± 0.211	11887401	0.350	0.504	0.157	1.96	0.343	0.694
reflectance green ocra [1]	0.472 ± 0.239	11887401	0.425	0.450	8.951×10^{-2}	1.93	0.245	0.670
reflectance continuum aband [1]	0.406 ± 0.270	11887401	0.487	0.400	1.170×10^{-2}	3.18	0.143	0.630

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]	0.463 ± 0.389	5071936	0.800	0.630	0.0	1.000	0.0	0.800
cloud fraction [1]	0.494 ± 0.308	5071936	0.491	0.416	4.800×10^{-3}	1.000	0.249	0.741
cloud top height [m]	$(0.520 \pm 0.279) \times 10^4$	5071936	4.133×10^3	5.133×10^3	0.0	2.000×10^4	2.962×10^3	7.094×10^3
cloud optical thickness [1]	15.4 ± 34.7	5071936	6.71	5.89	1.000	250	4.26	11.0
cloud fraction crb [1]	0.495 ± 0.308	5071936	0.491	0.418	8.363×10^{-3}	1.000	0.250	0.741
cloud height crb [m]	$(0.390 \pm 0.234) \times 10^4$	5071936	3.405×10^3	3.669×10^3	0.0	2.000×10^4	2.006×10^3	5.411×10^3
cloud albedo crb [1]	0.663 ± 0.255	5071936	0.358	0.694	0.0	1.000	0.511	0.869
surface albedo fitted [1]	0.600 ± 0.292	5071936	0.581	0.683	0.0	1.000	0.292	0.873
surface albedo fitted crb [1]	0.583 ± 0.276	5071936	0.546	0.668	0.0	1.000	0.292	0.838
fitted root mean square [1]	$(8.406 \pm 9.987) \times 10^{-4}$	5071936	7.464×10^{-4}	6.280×10^{-4}	2.655×10^{-6}	0.185	3.387×10^{-4}	1.085×10^{-3}
fitted root mean square crb [1]	$(6.989 \pm 7.839) \times 10^{-4}$	5071936	7.446×10^{-4}	4.567×10^{-4}	2.196×10^{-6}	0.315	1.979×10^{-4}	9.425×10^{-4}
wavelength shift [nm]	$(8.951 \pm 6.193) \times 10^{-3}$	5071936	8.841×10^{-3}	8.868×10^{-3}	-3.325×10^{-2}	0.134	4.324×10^{-3}	1.317×10^{-2}
cloud fraction apriori [1]	0.509 ± 0.314	5071936	0.524	0.434	0.0	1.000	0.256	0.780
reflectance blue ocra [1]	0.691 ± 0.247	5071936	0.381	0.773	0.136	2.02	0.478	0.859
reflectance green ocra [1]	0.663 ± 0.265	5071936	0.422	0.754	8.955×10^{-2}	1.95	0.434	0.856
reflectance continuum aband [1]	0.655 ± 0.236	5071936	0.366	0.703	1.626×10^{-2}	3.50	0.464	0.830

3 Granule outlines

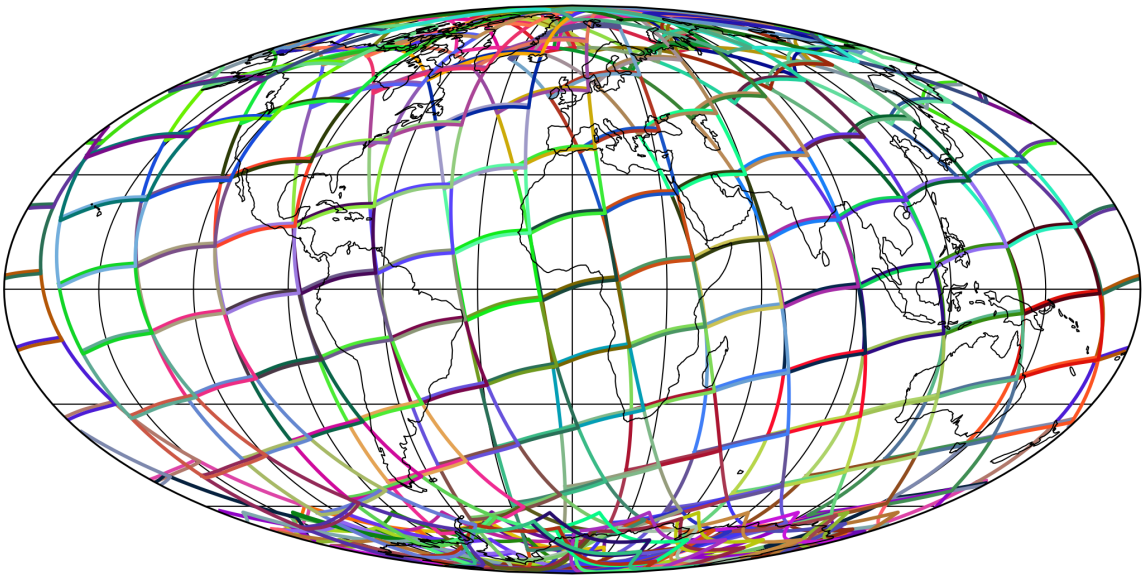

Figure 1: Outline of the granules.

4 Input data monitoring

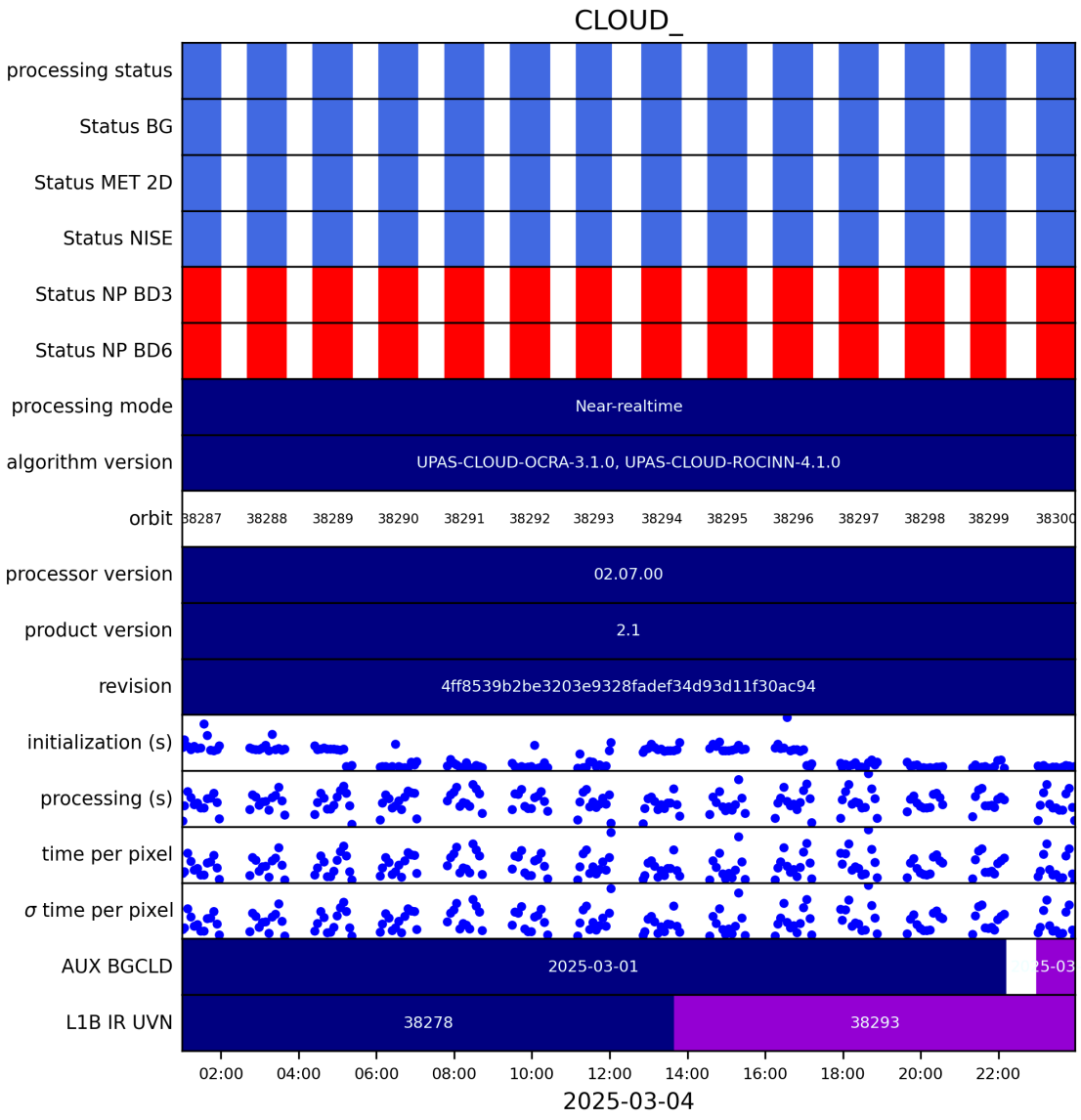

Figure 2: Input data per granule

5 Warnings and errors

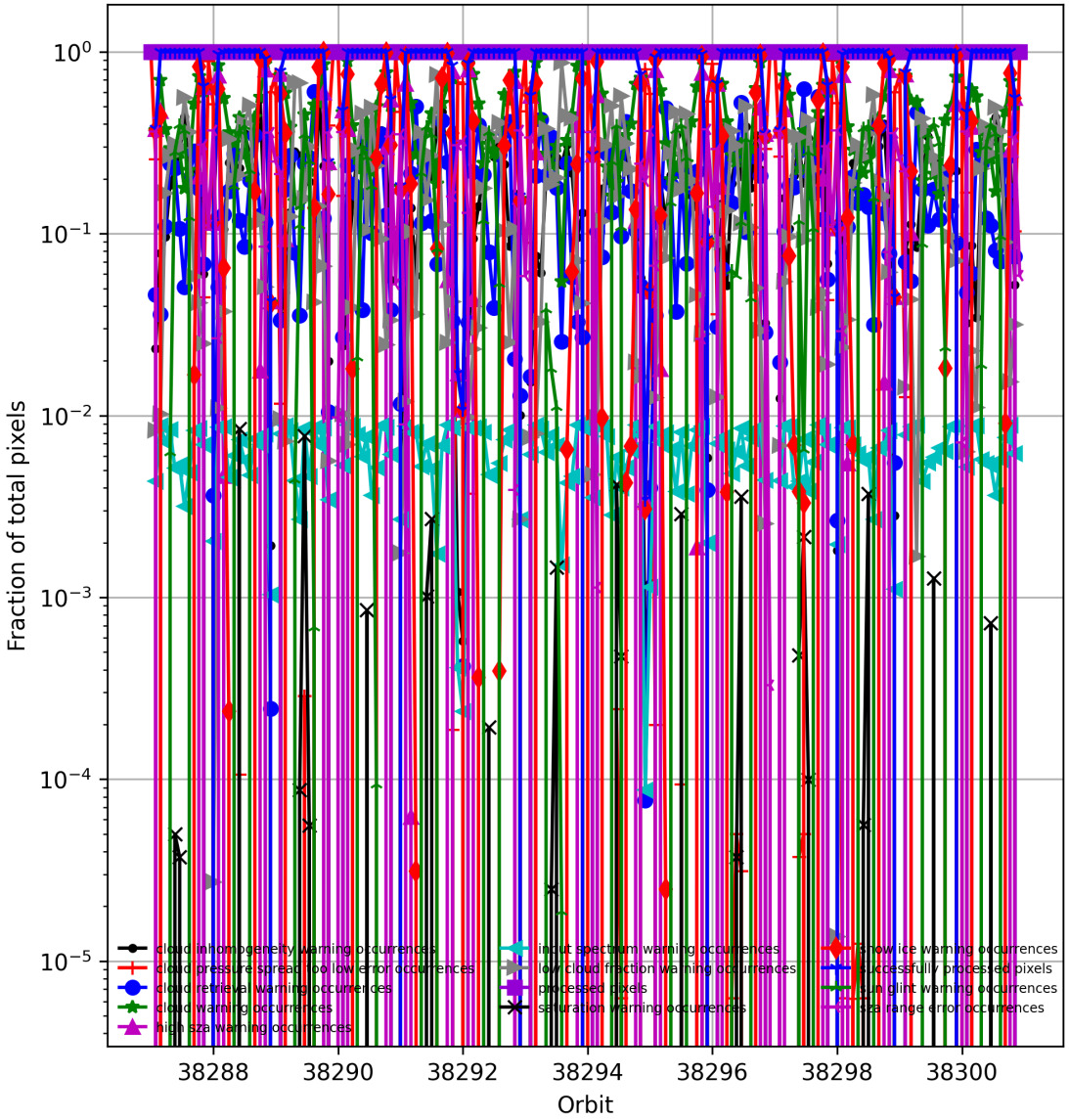

Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

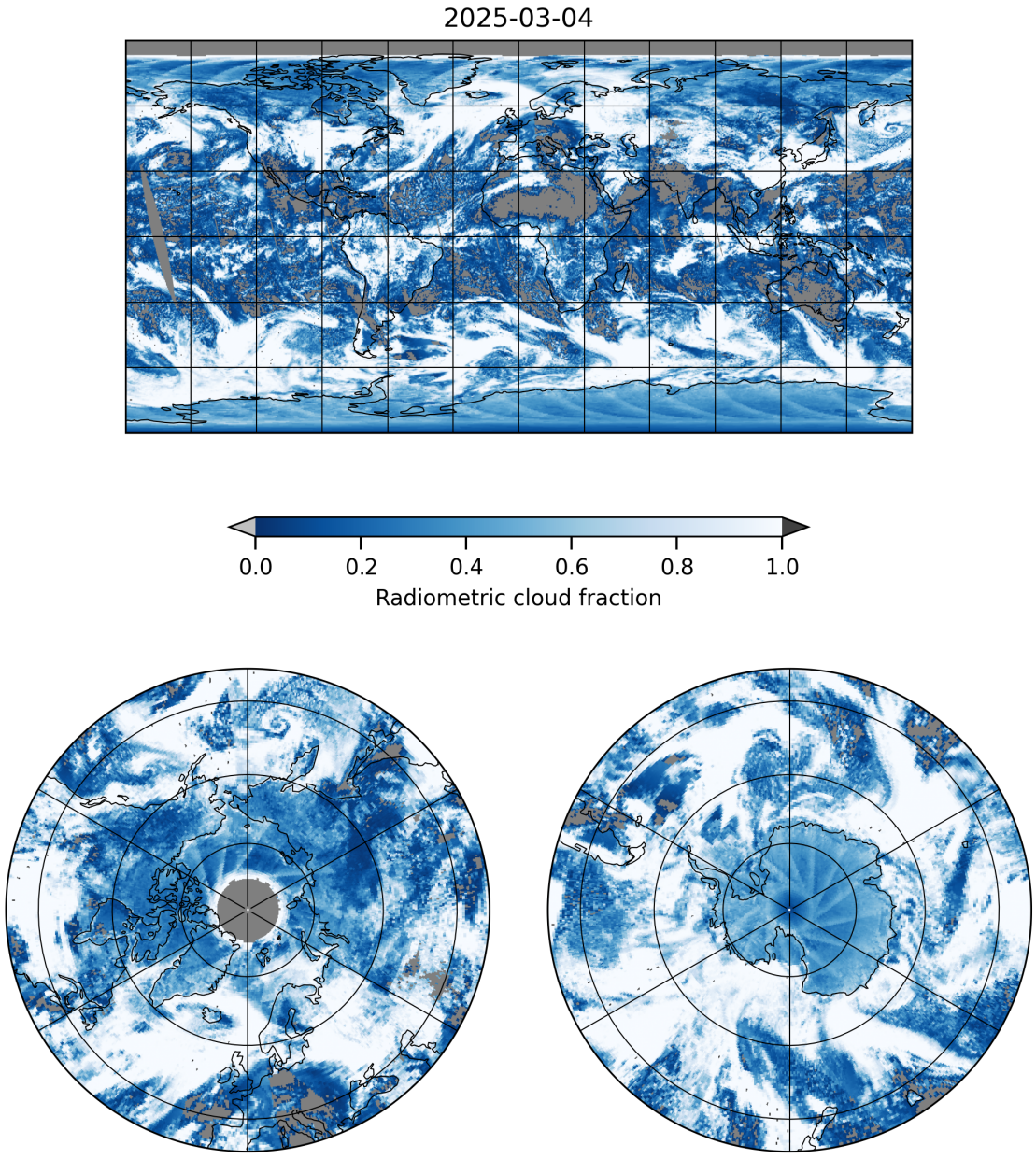

Figure 4: Map of “Radiometric cloud fraction” for 2025-03-04 to 2025-03-04

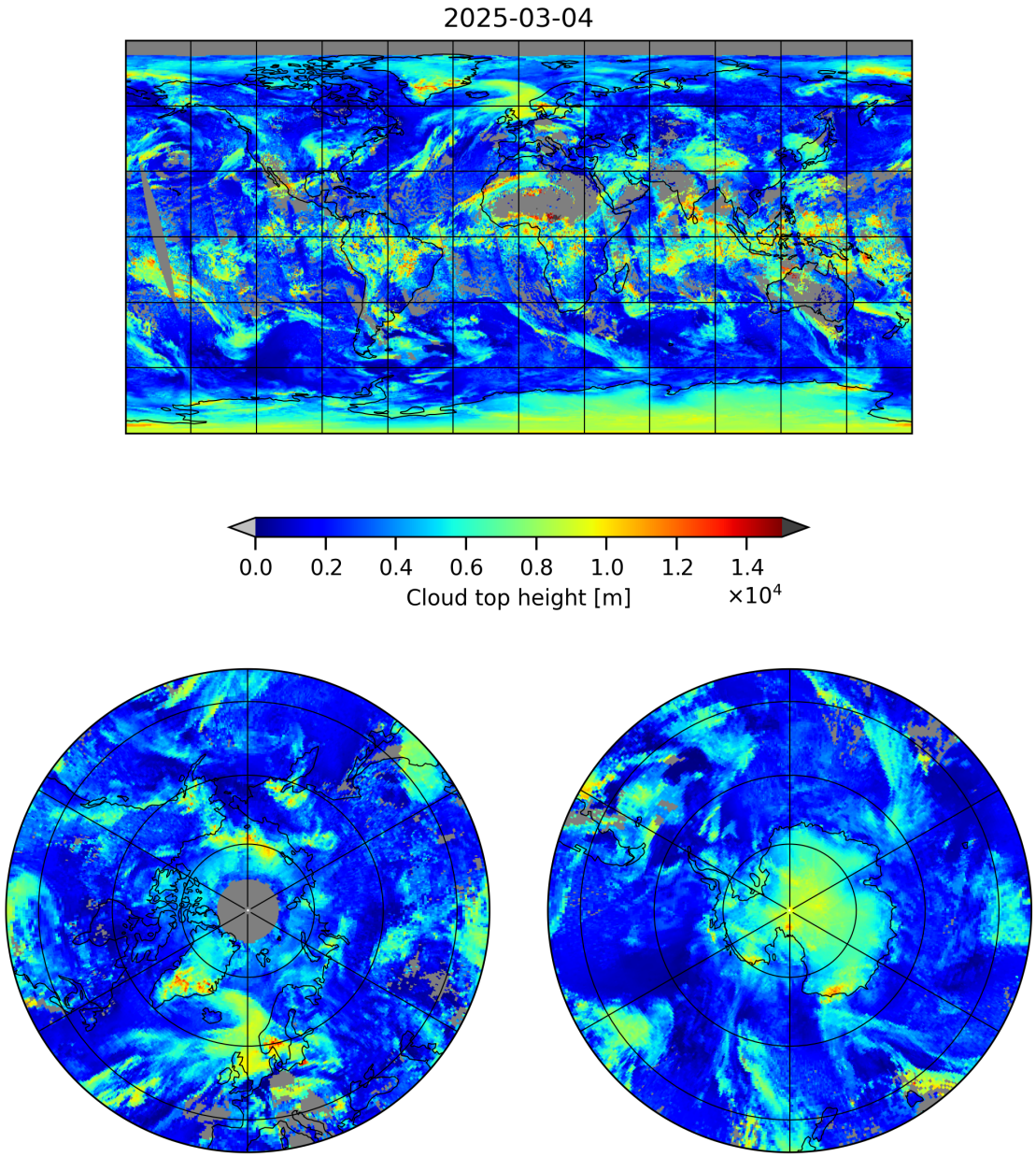

Figure 5: Map of “Cloud top height” for 2025-03-04 to 2025-03-04

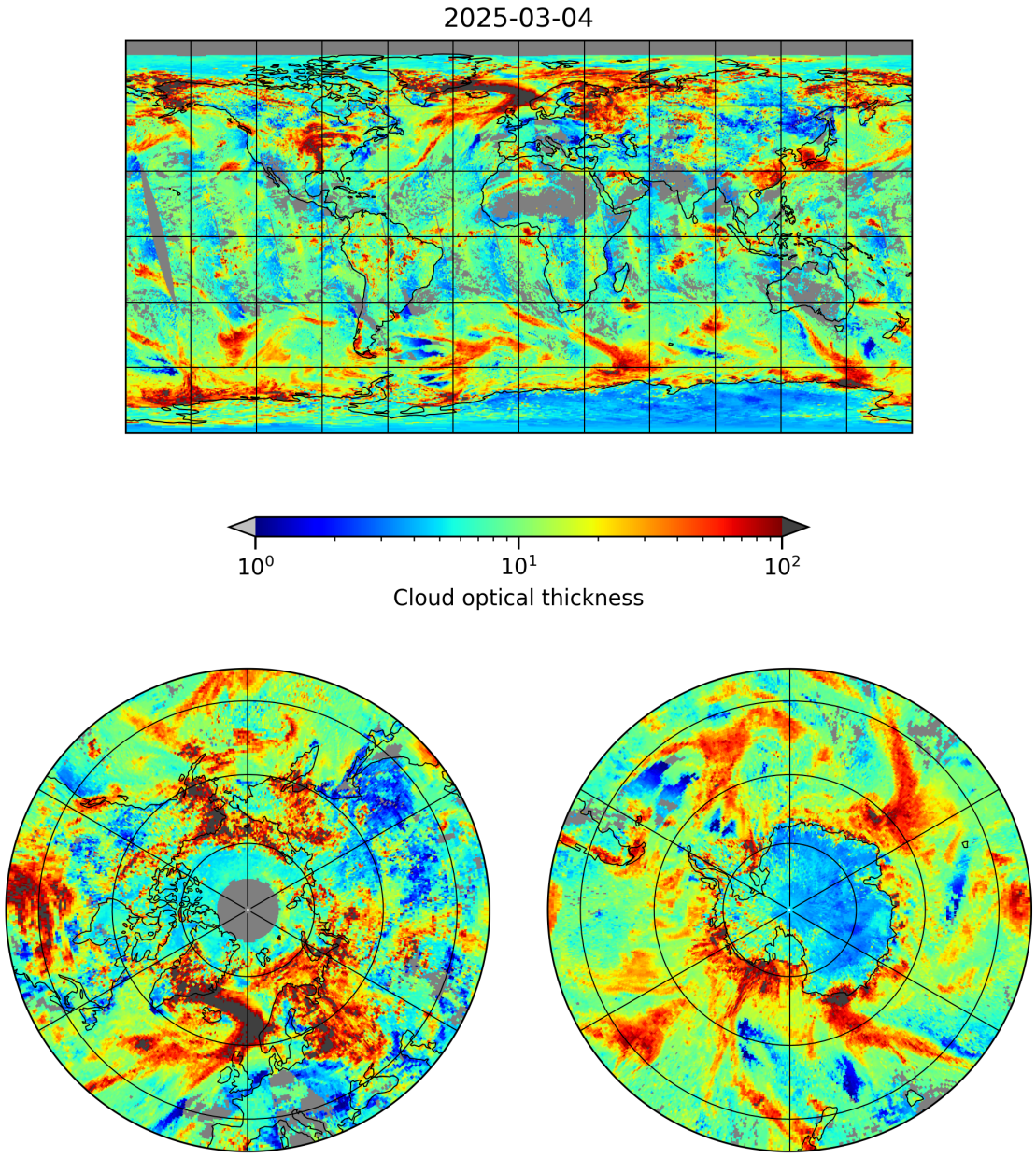

Figure 6: Map of “Cloud optical thickness” for 2025-03-04 to 2025-03-04

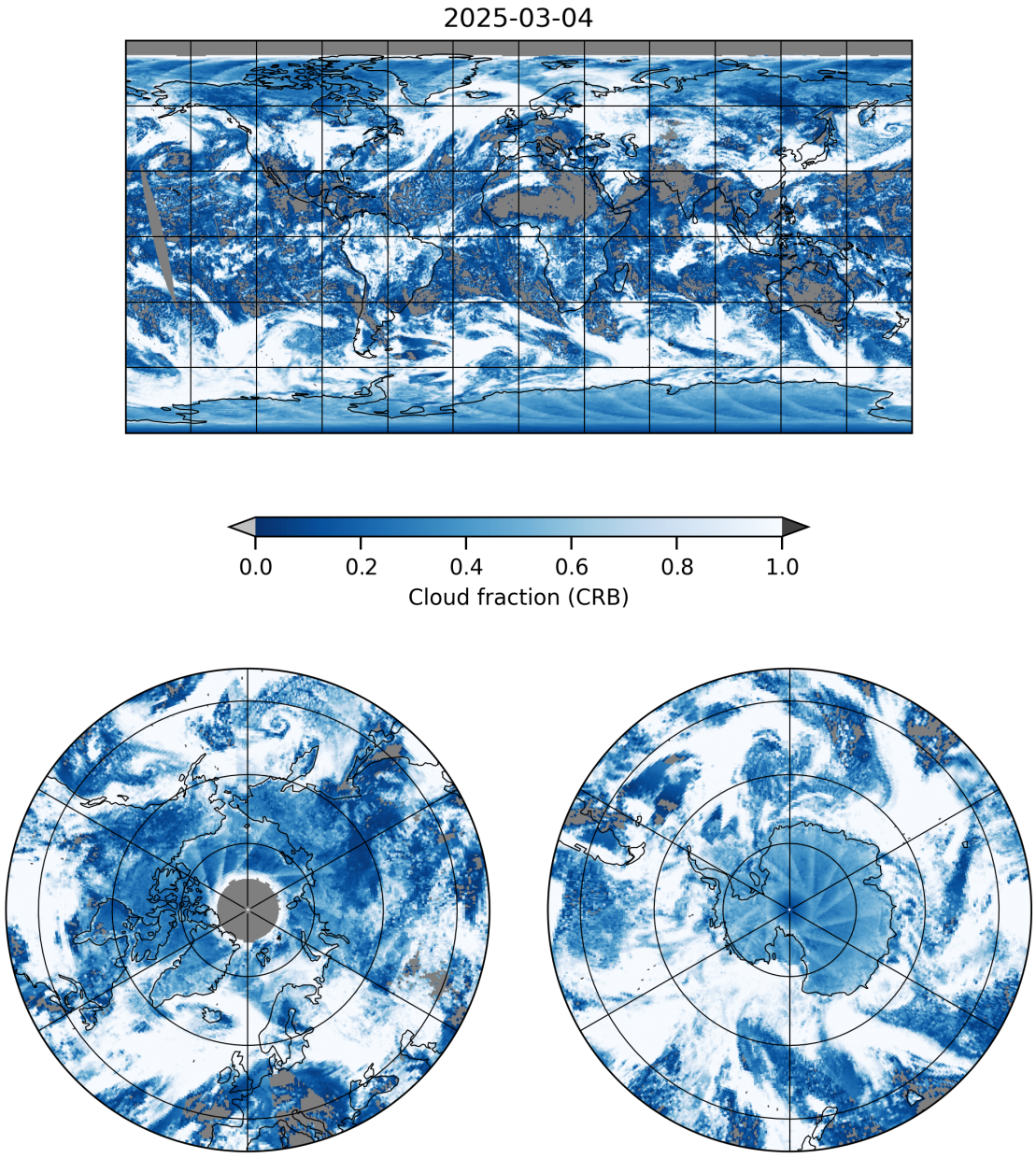

Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-04 to 2025-03-04

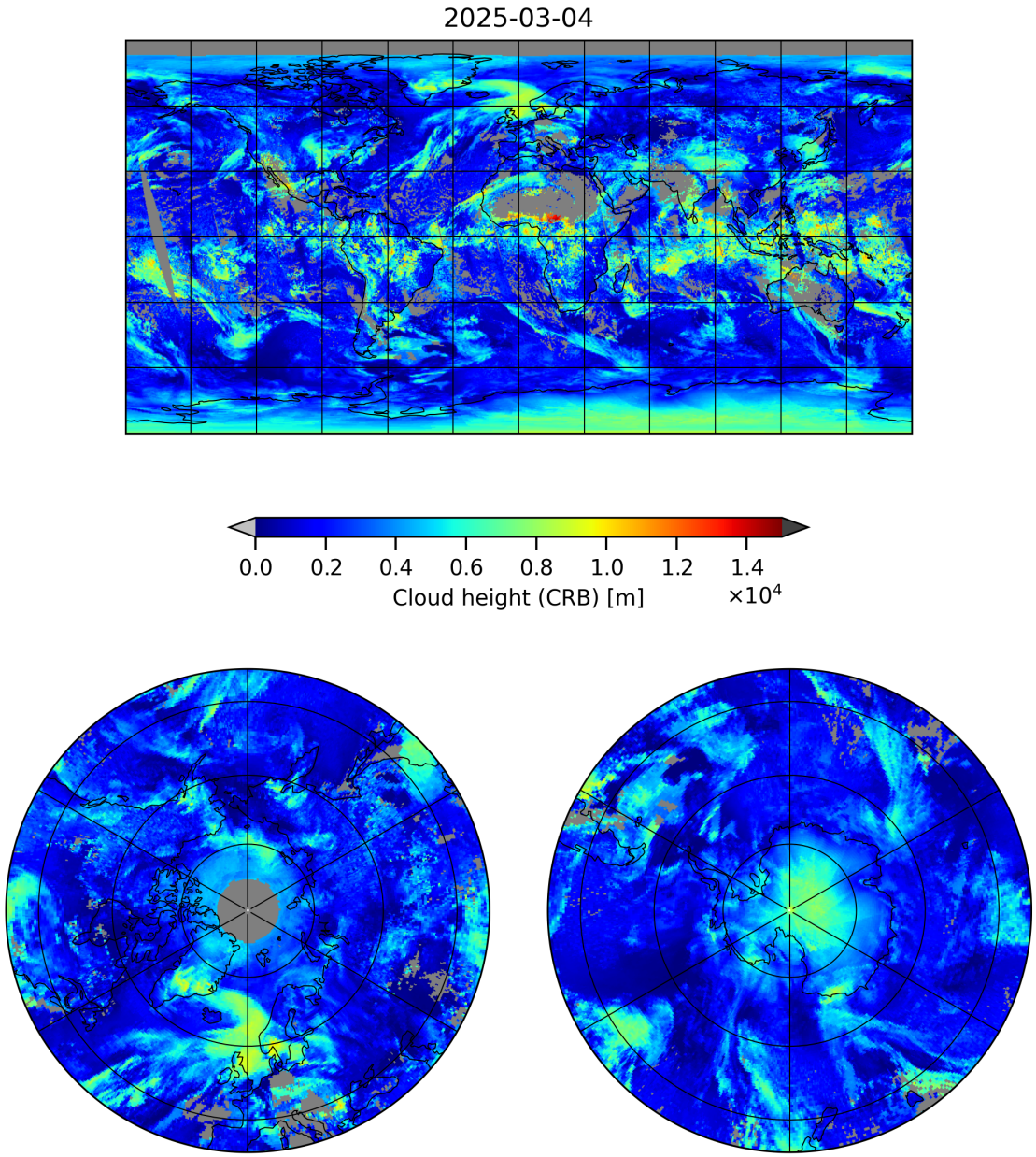

Figure 8: Map of “Cloud height (CRB)” for 2025-03-04 to 2025-03-04

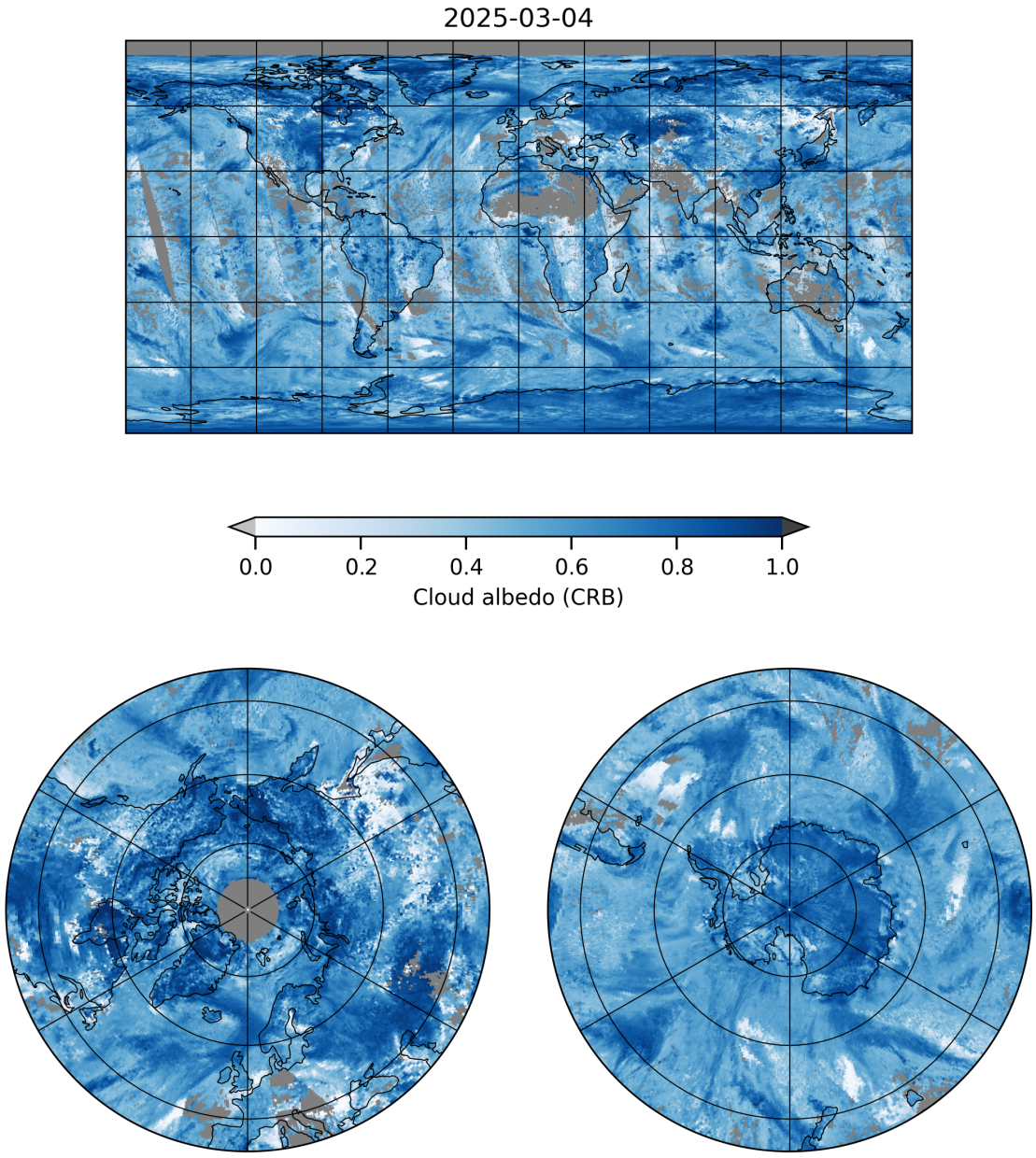

Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-04 to 2025-03-04

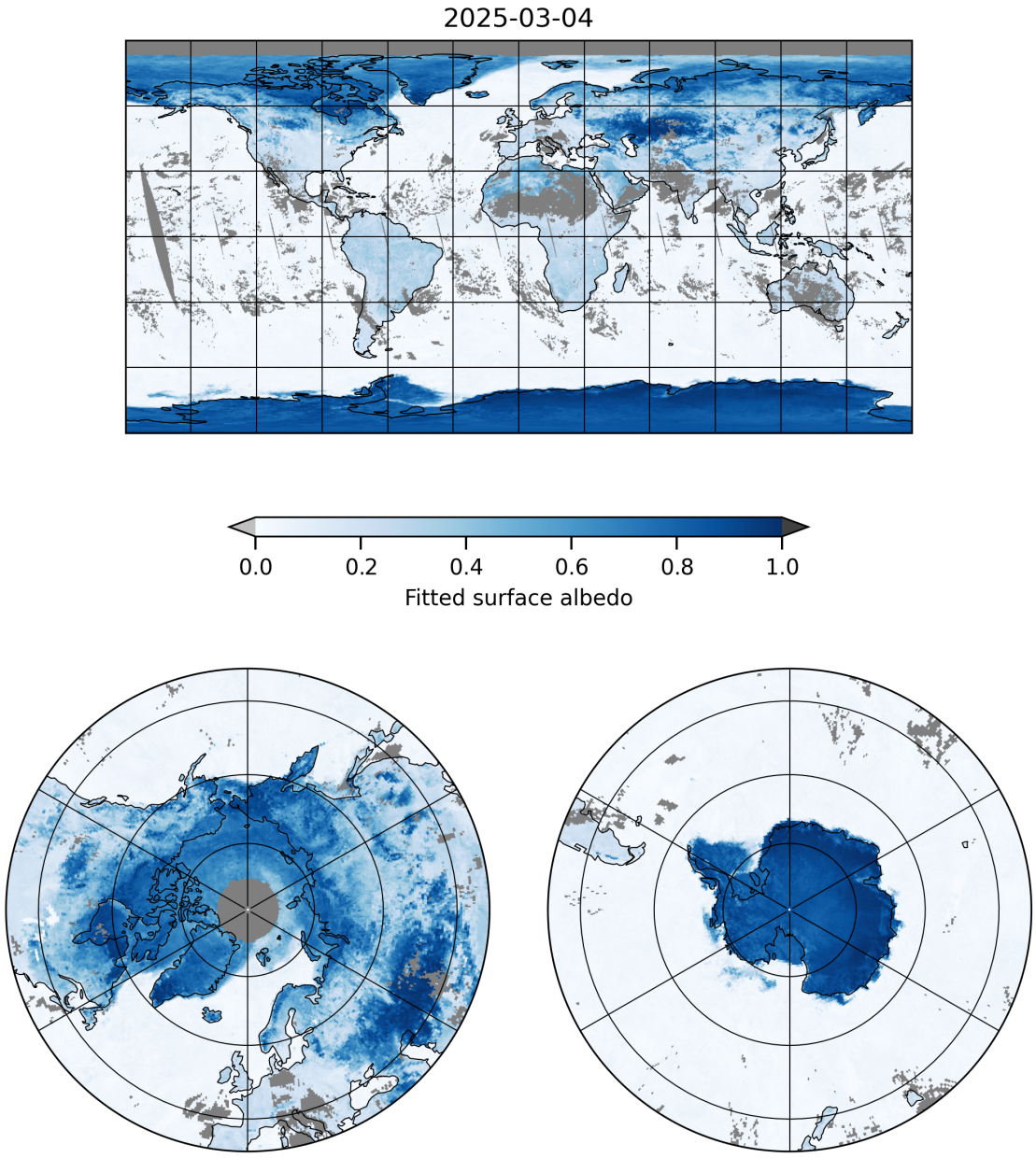

Figure 10: Map of “Fitted surface albedo” for 2025-03-04 to 2025-03-04

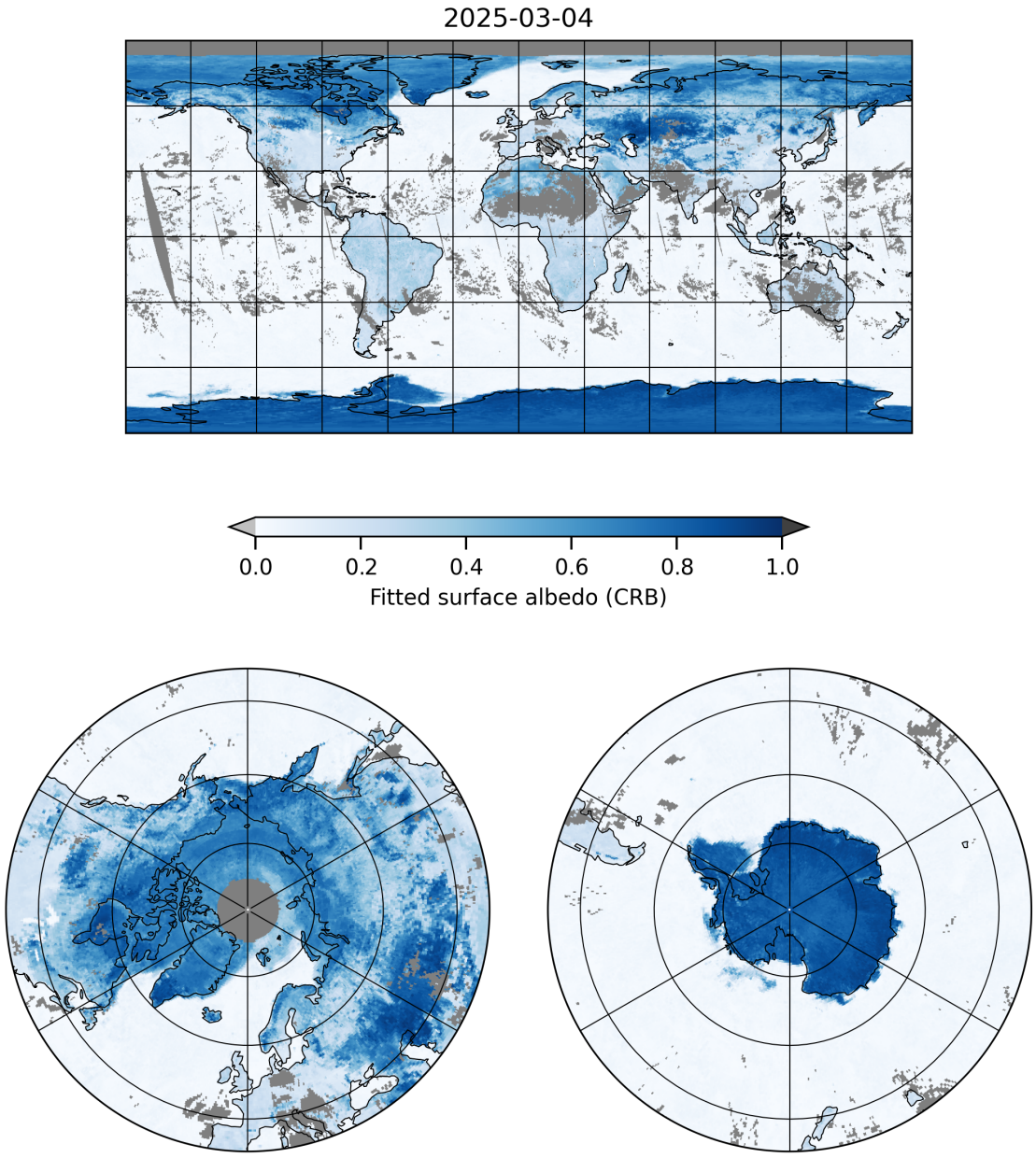

Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-04 to 2025-03-04

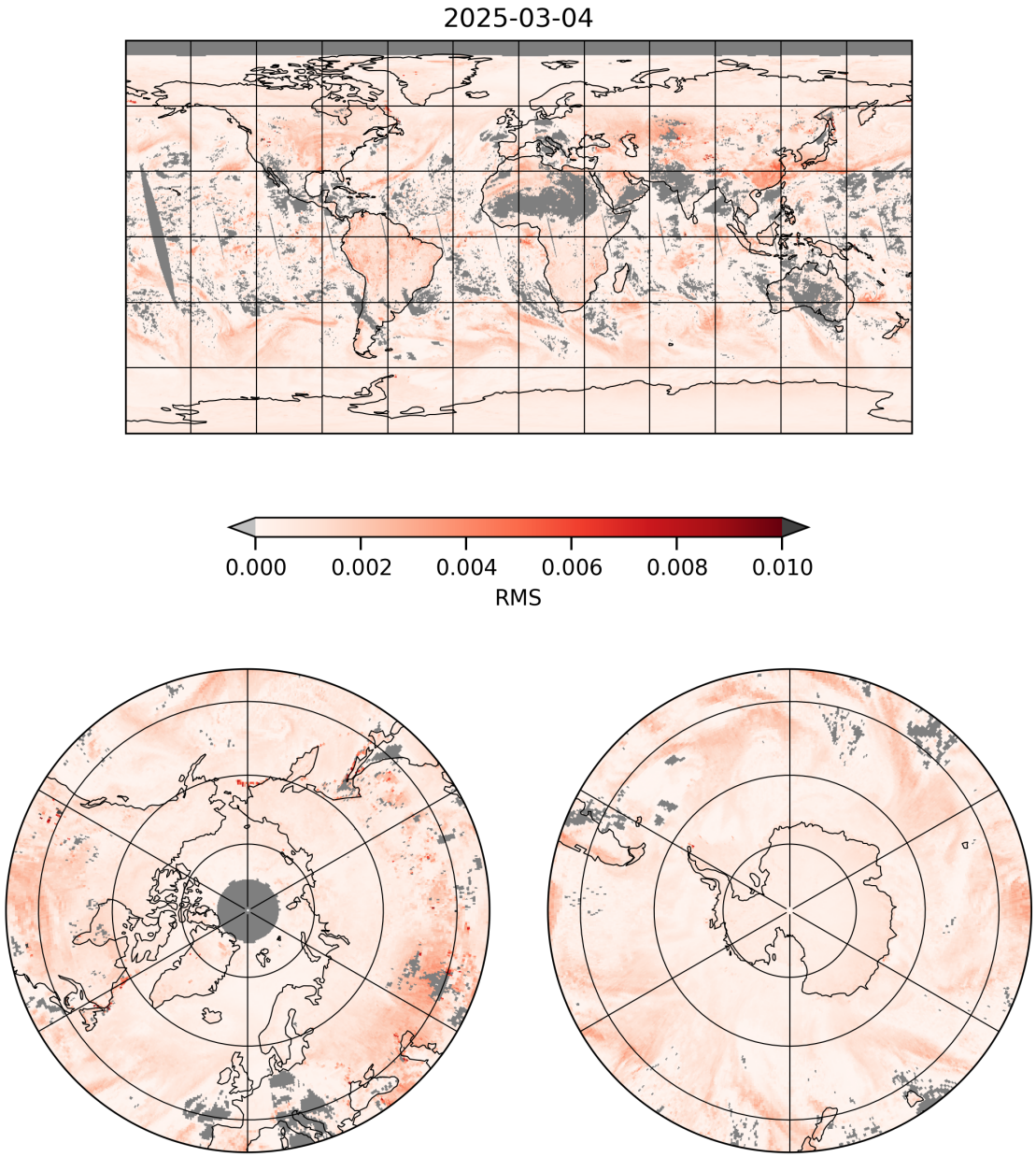

Figure 12: Map of “RMS” for 2025-03-04 to 2025-03-04

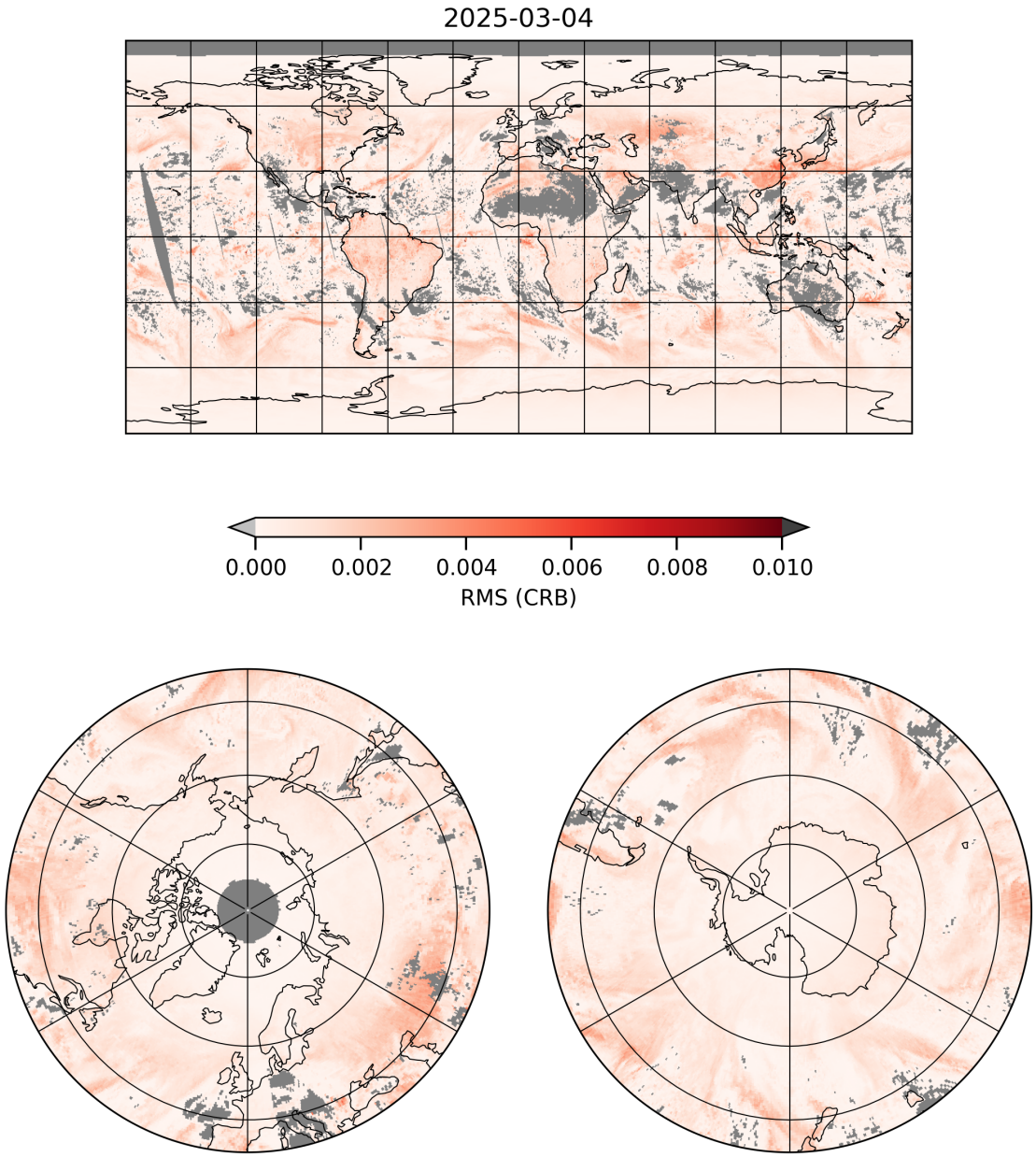

Figure 13: Map of “RMS (CRB)” for 2025-03-04 to 2025-03-04

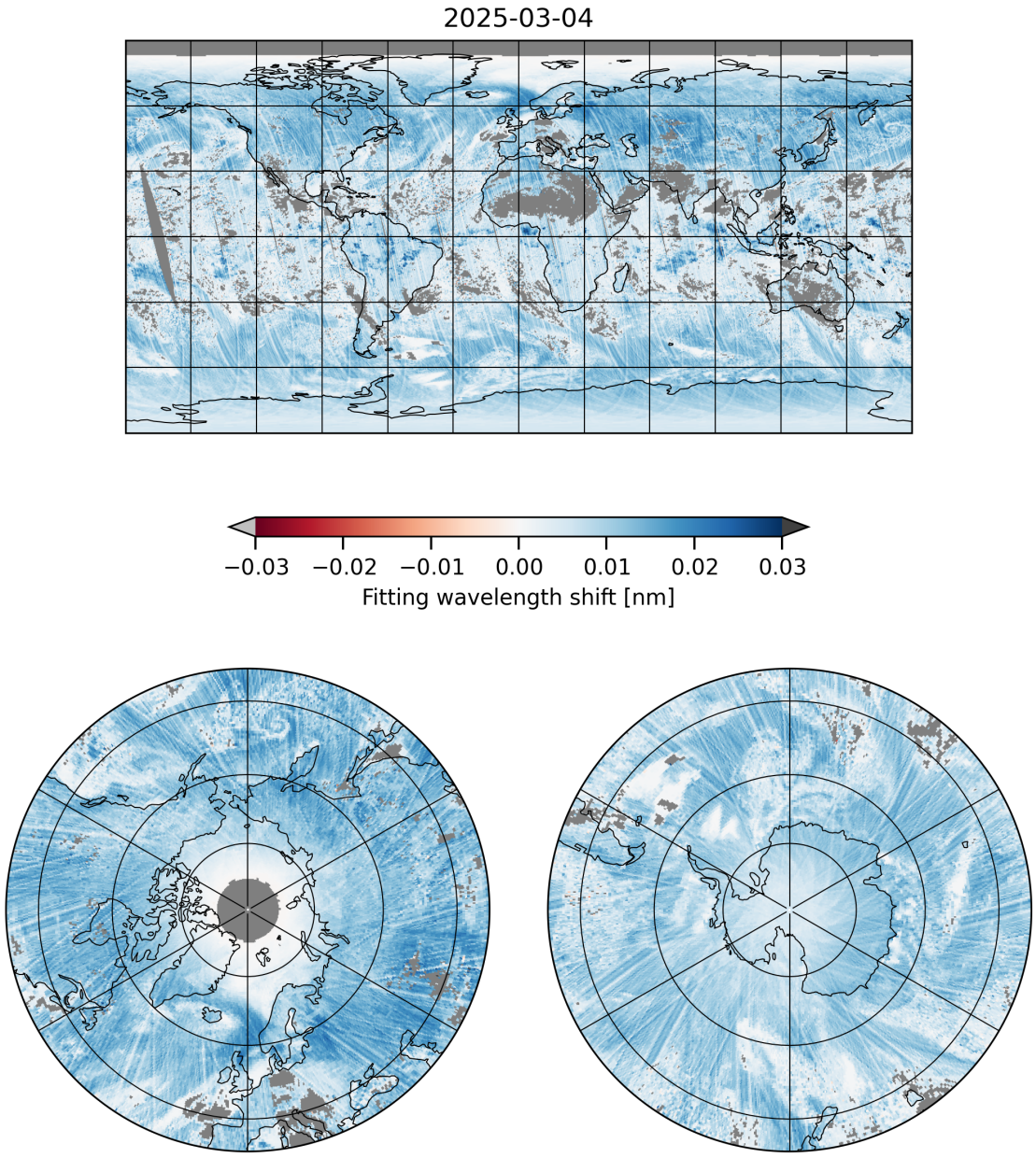

Figure 14: Map of “Fitting wavelength shift” for 2025-03-04 to 2025-03-04

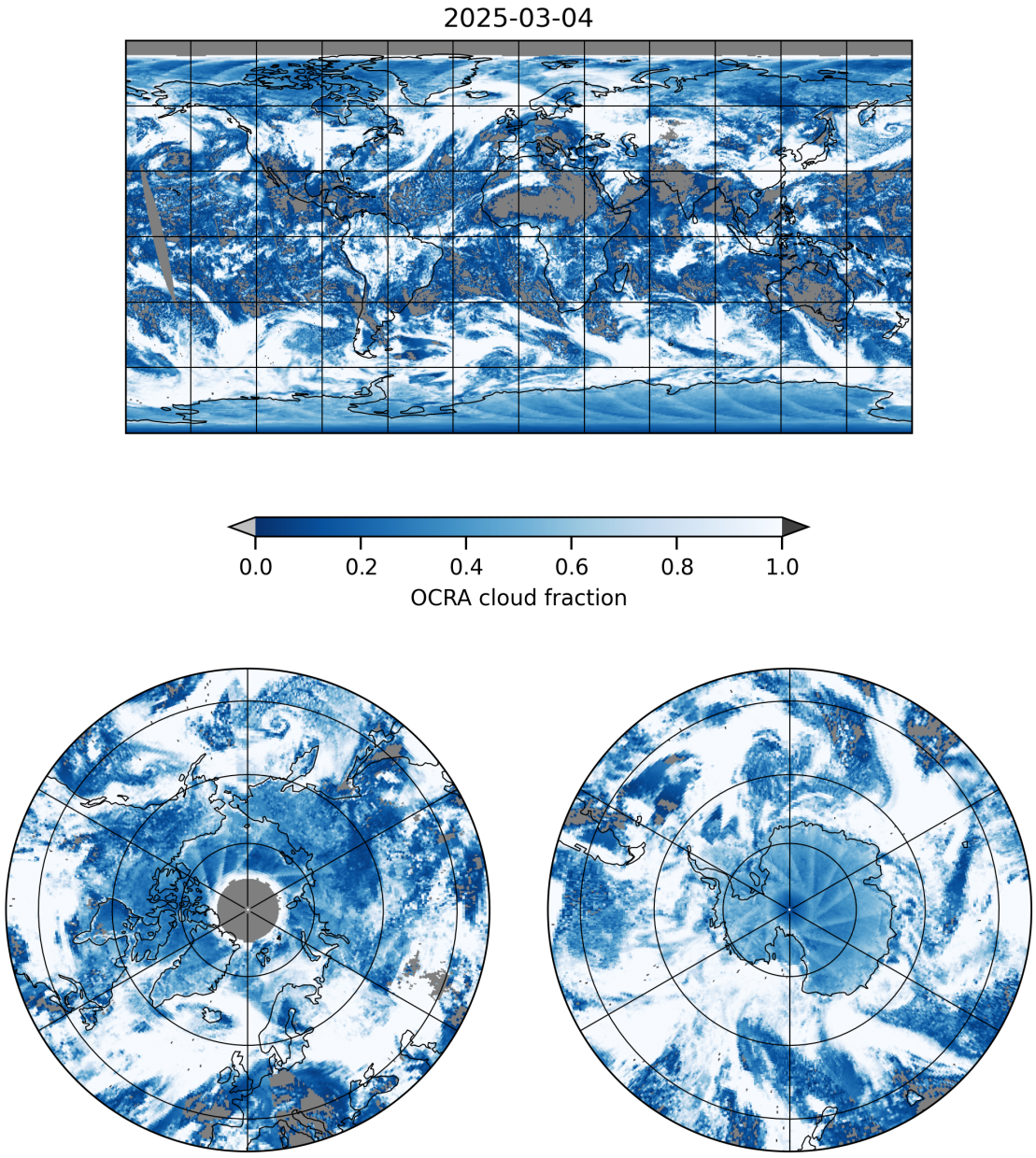

Figure 15: Map of “OCRA cloud fraction” for 2025-03-04 to 2025-03-04

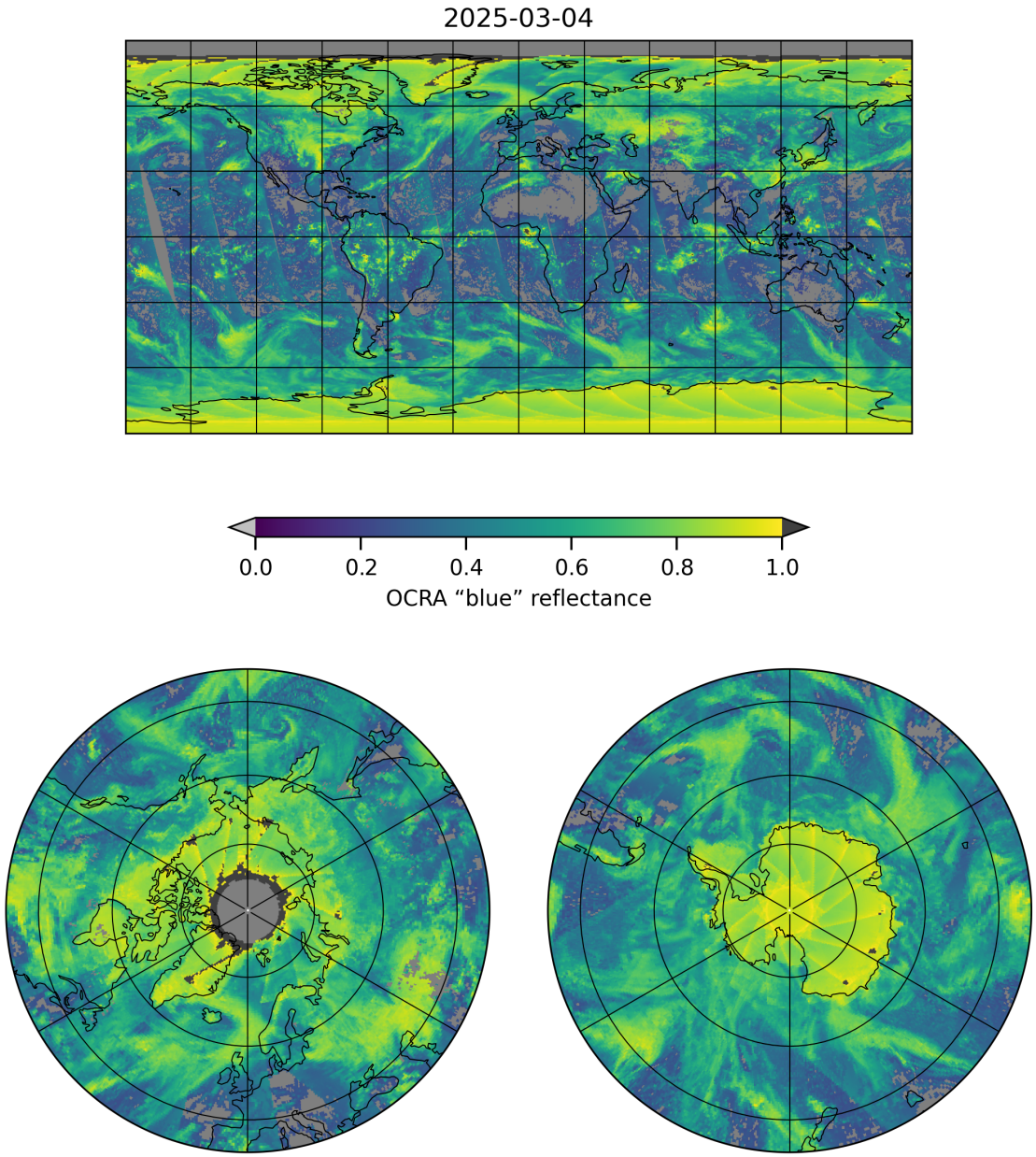

Figure 16: Map of “OCRA “blue” reflectance” for 2025-03-04 to 2025-03-04

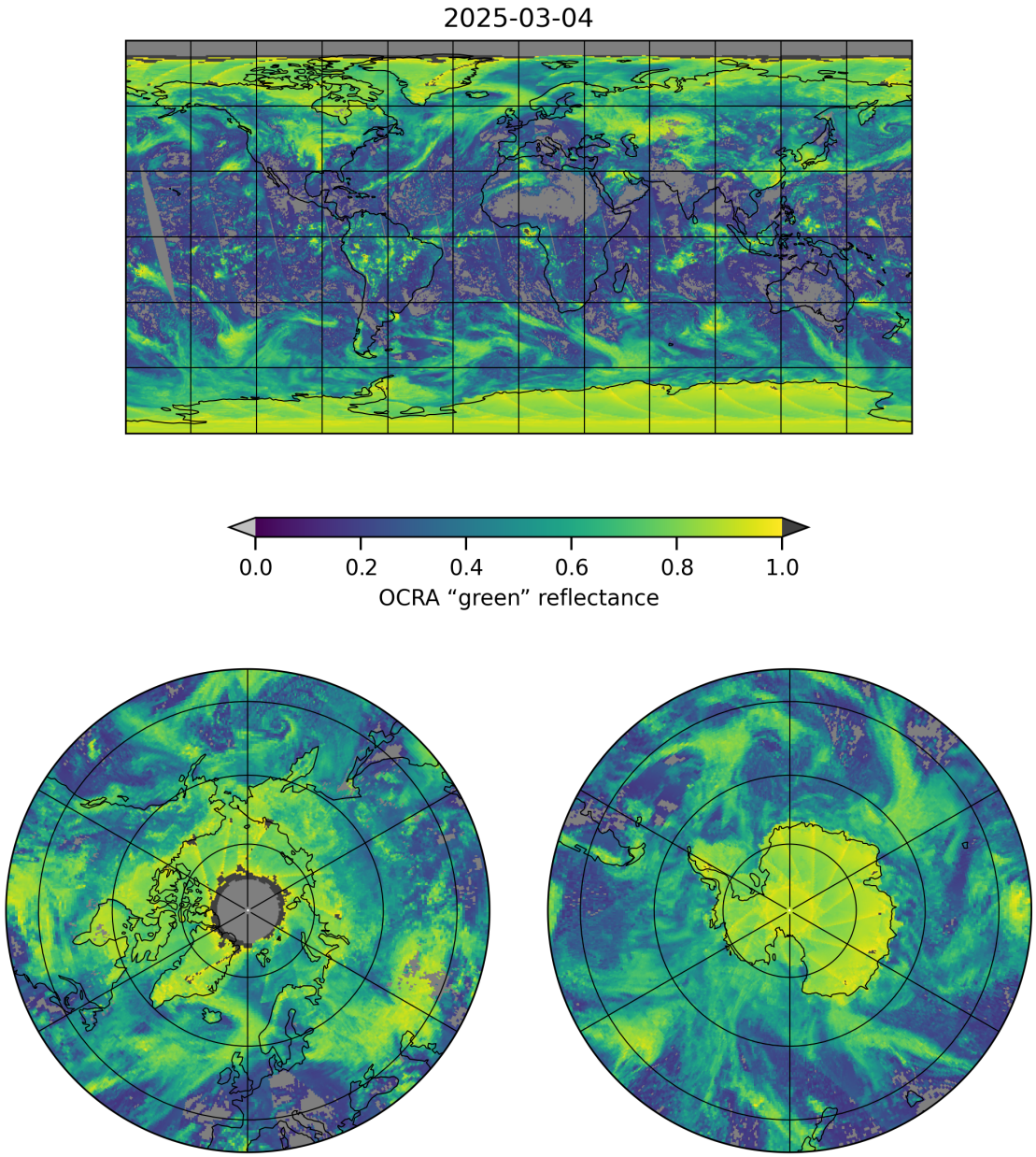

Figure 17: Map of “OCRA “green” reflectance” for 2025-03-04 to 2025-03-04

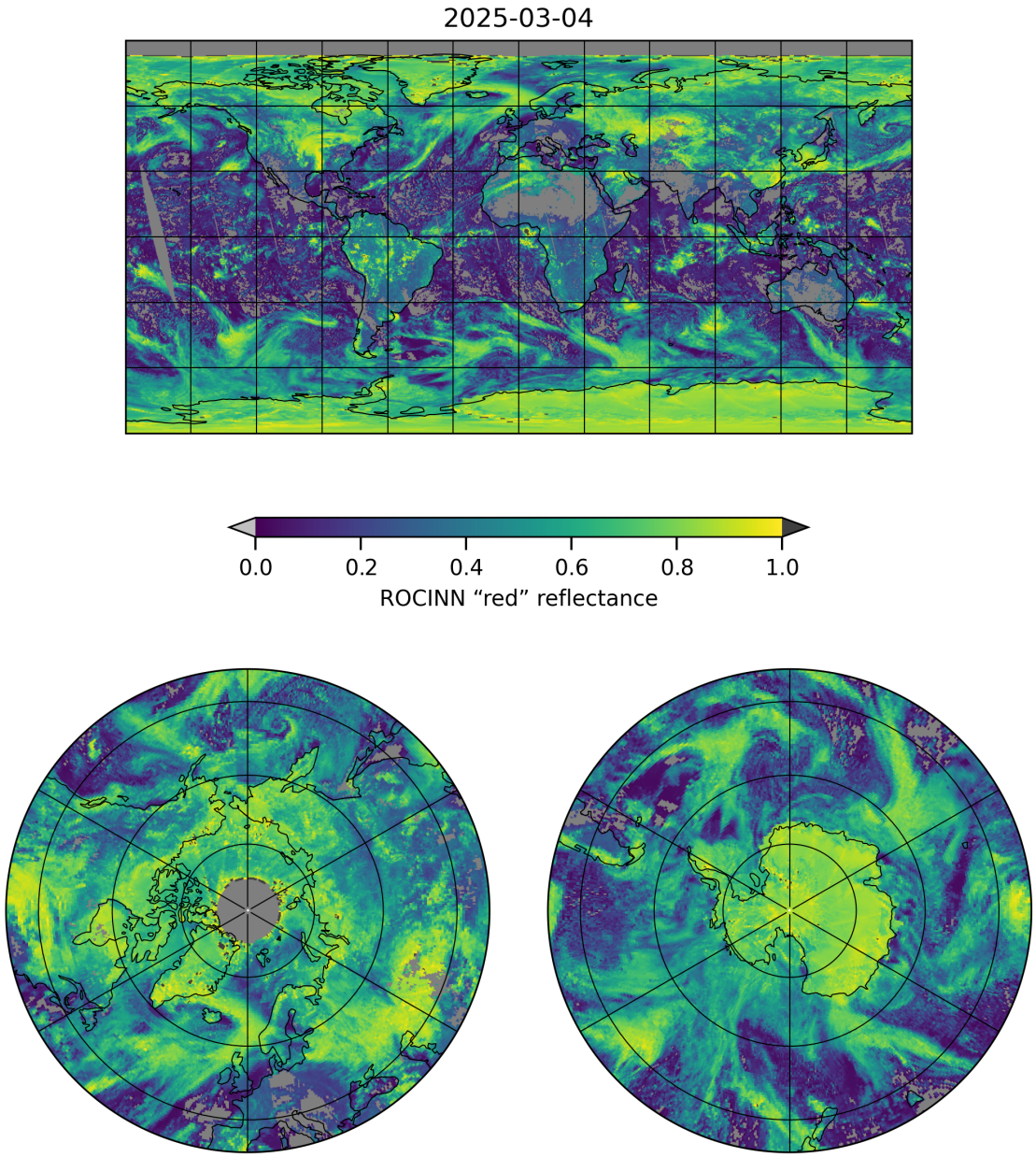

Figure 18: Map of “ROCINN “red” reflectance” for 2025-03-04 to 2025-03-04

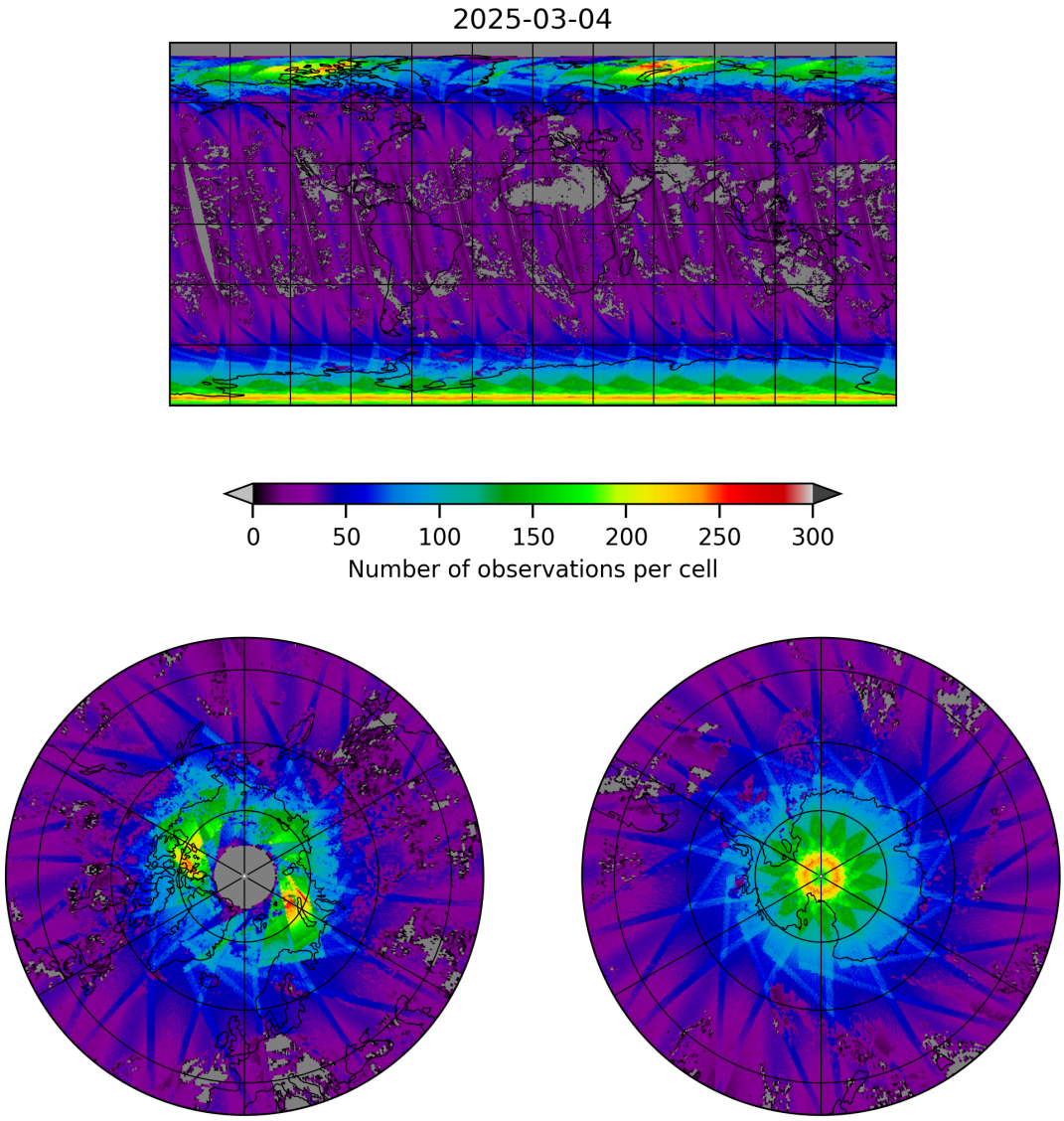

Figure 19: Map of the number of observations for 2025-03-04 to 2025-03-04

7 Zonal average

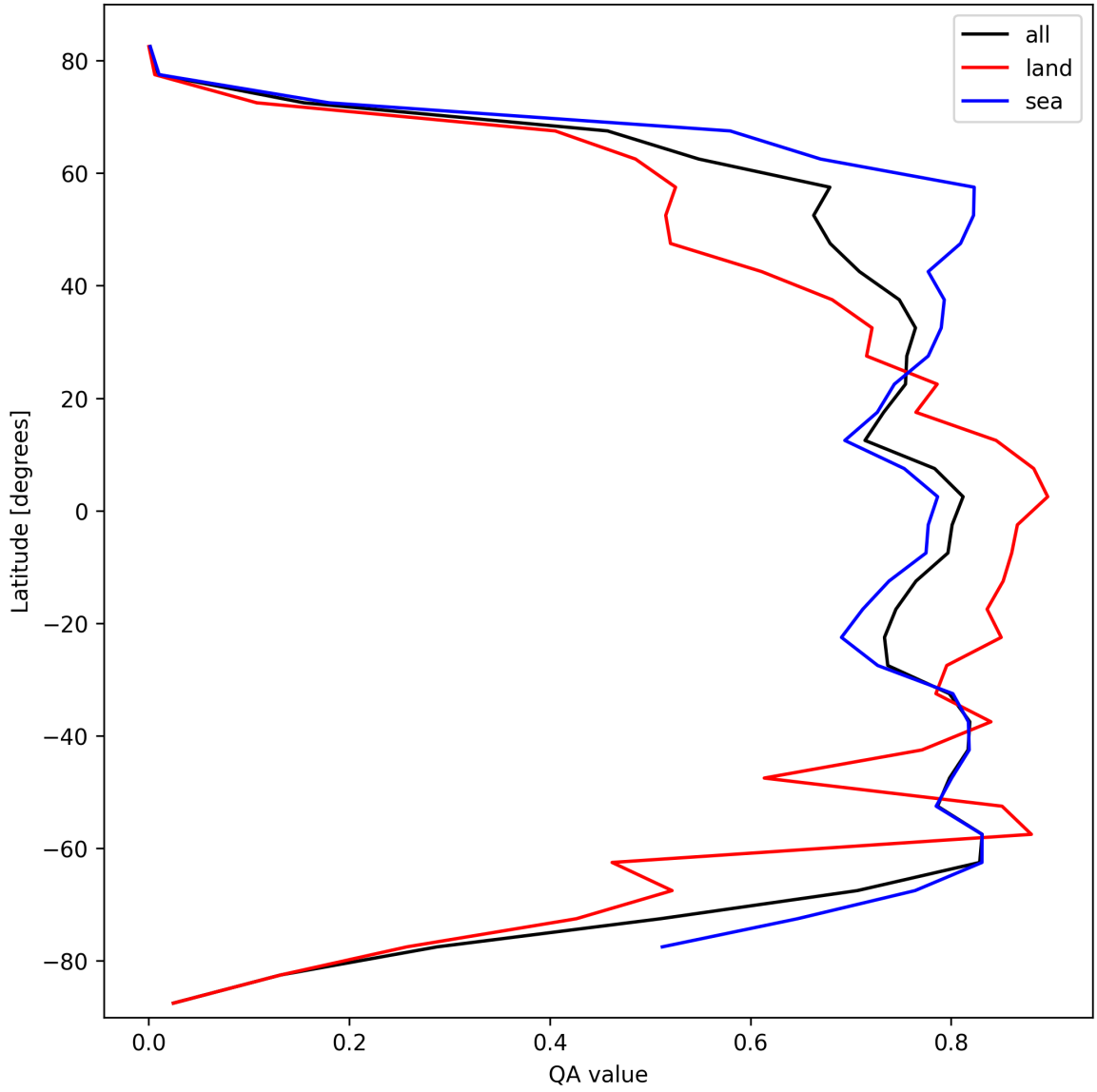

Figure 20: Zonal average of “QA value” for 2025-03-04 to 2025-03-04.

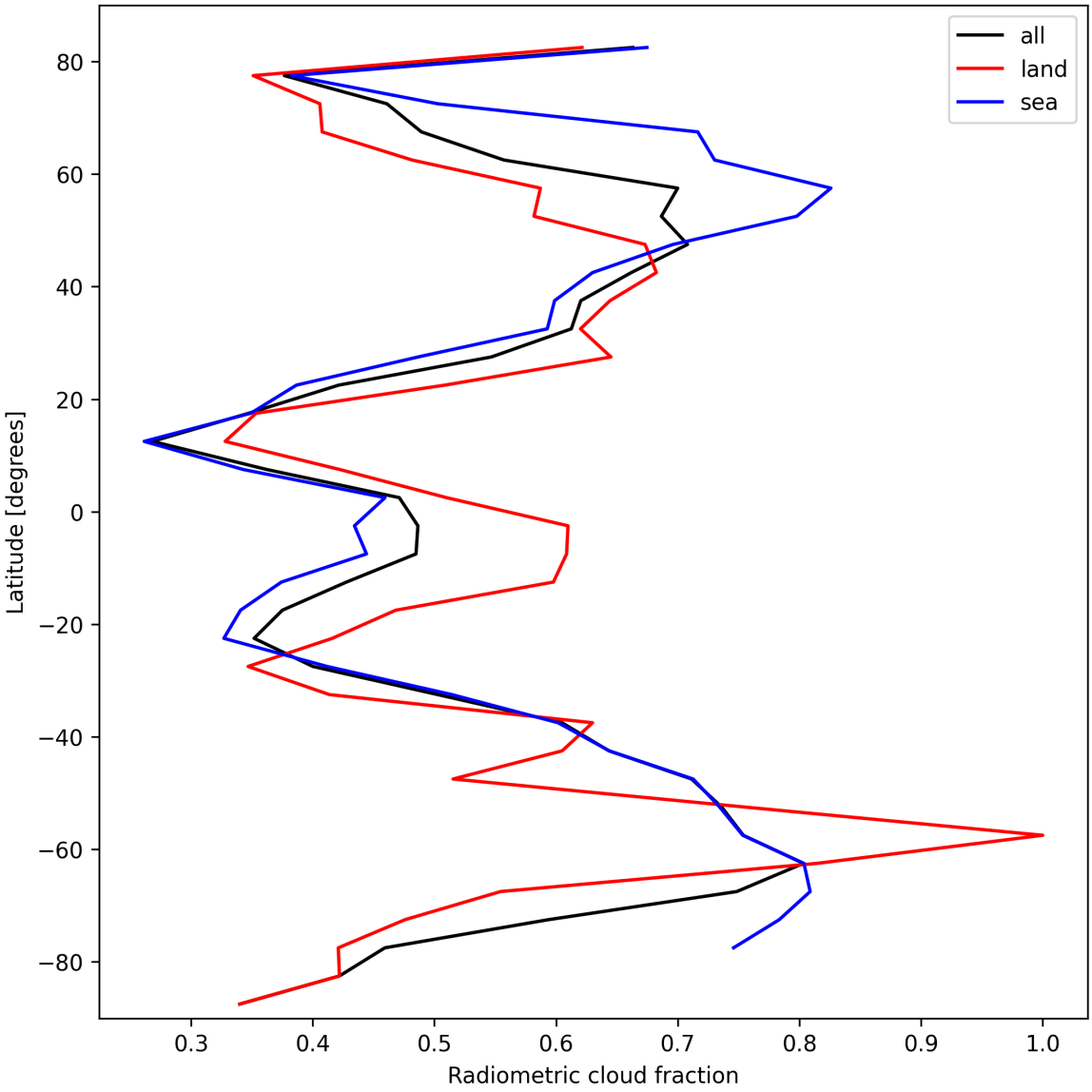

Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-04 to 2025-03-04.

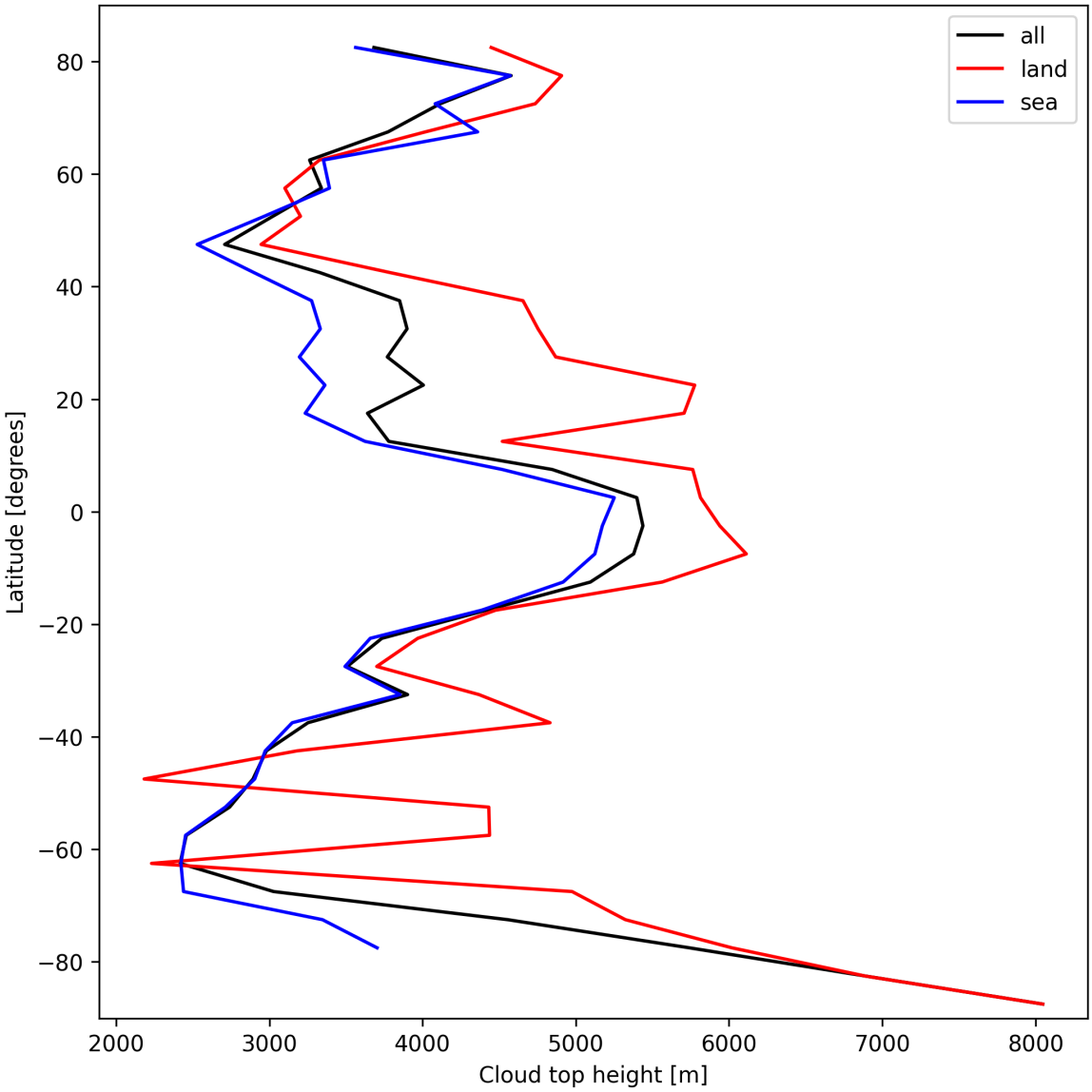

Figure 22: Zonal average of “Cloud top height” for 2025-03-04 to 2025-03-04.

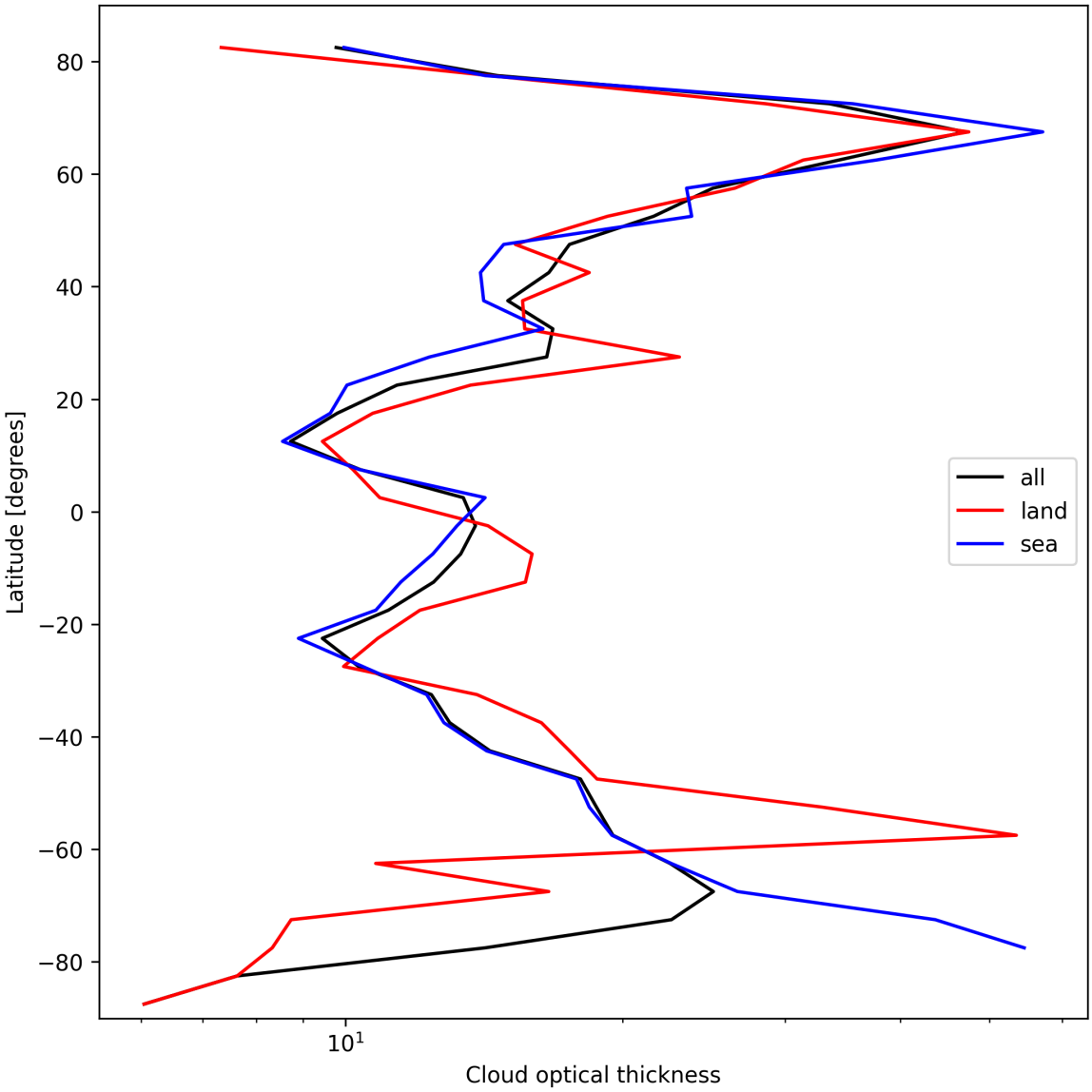

Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-04 to 2025-03-04.

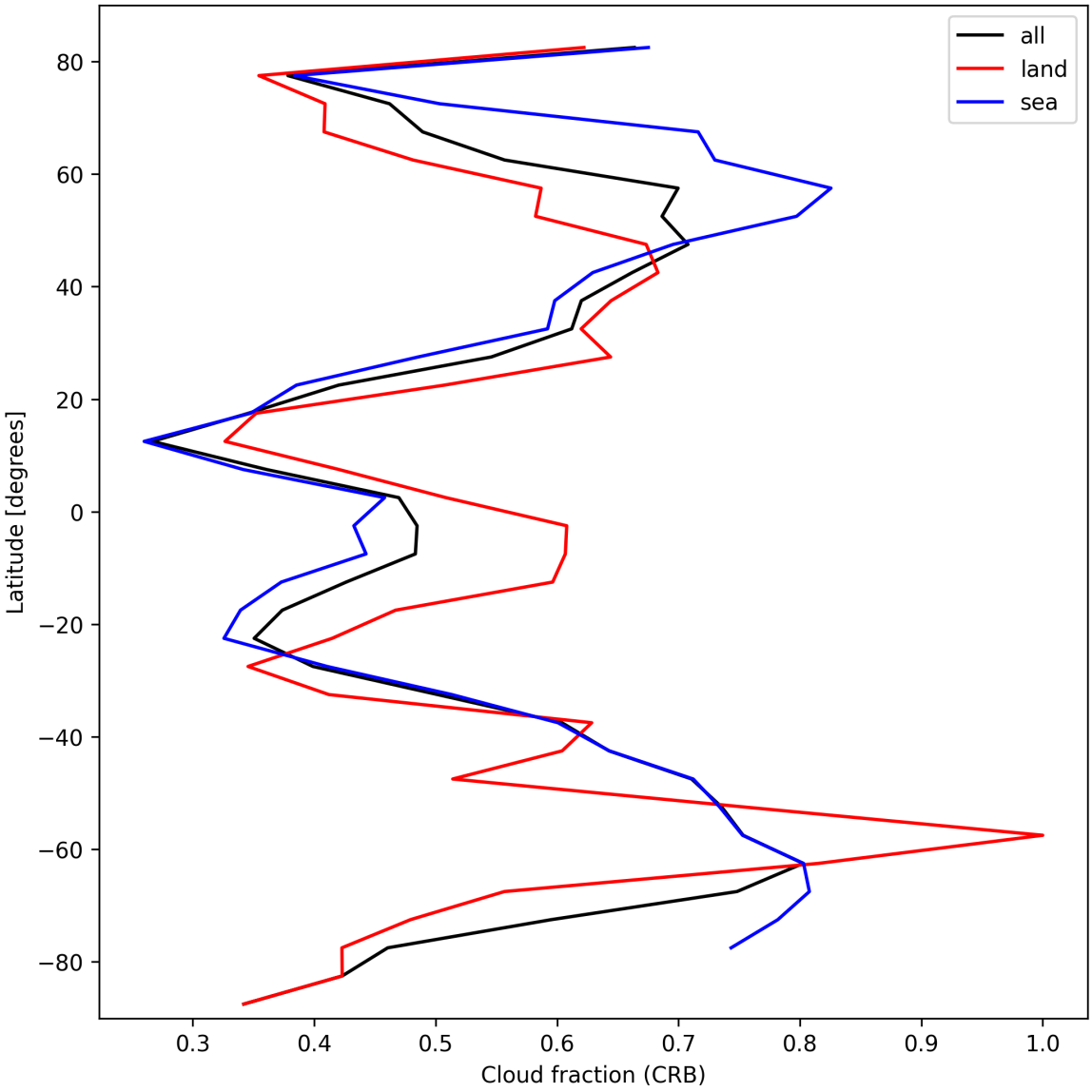

Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-04 to 2025-03-04.

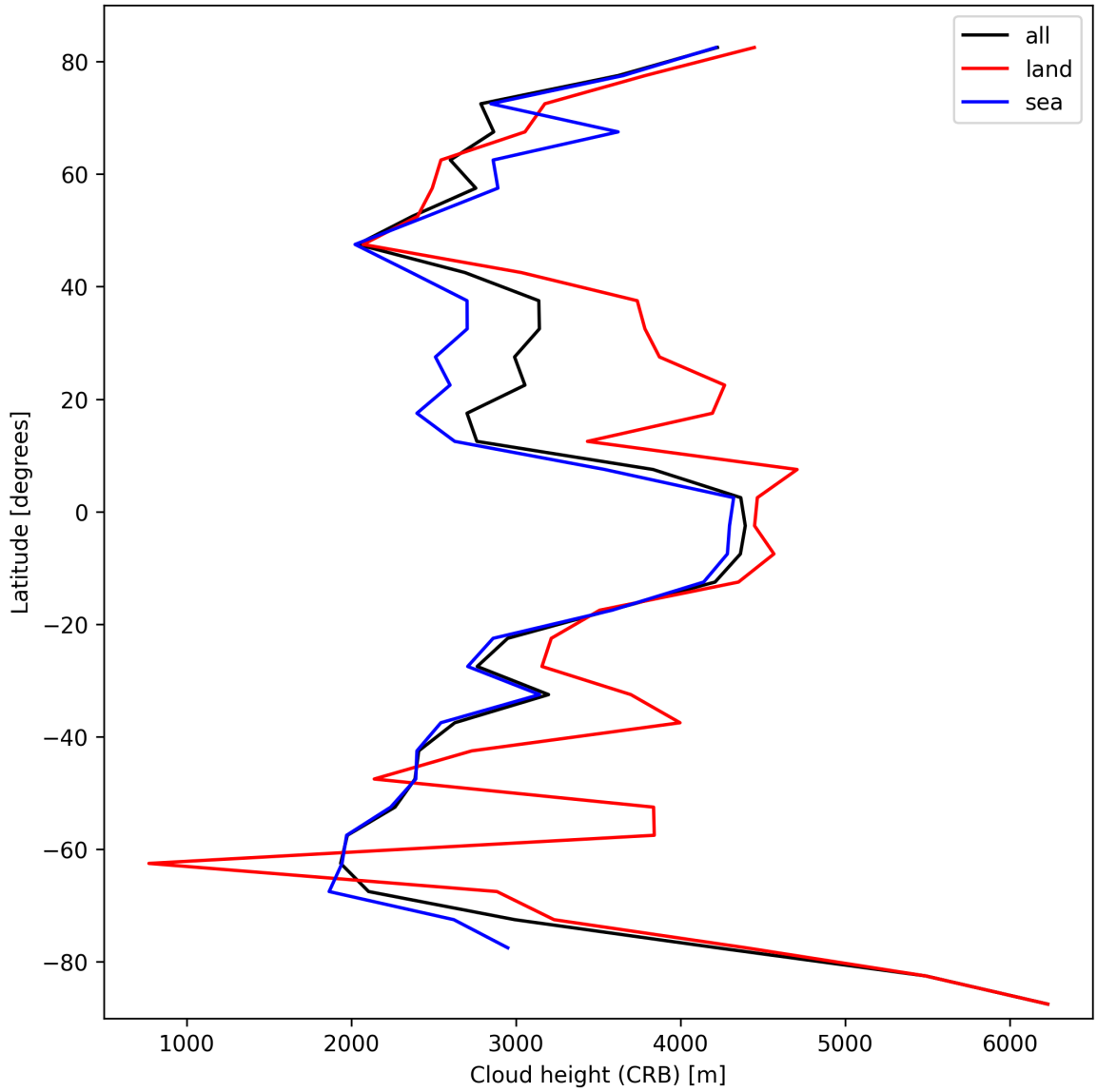

Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-04 to 2025-03-04.

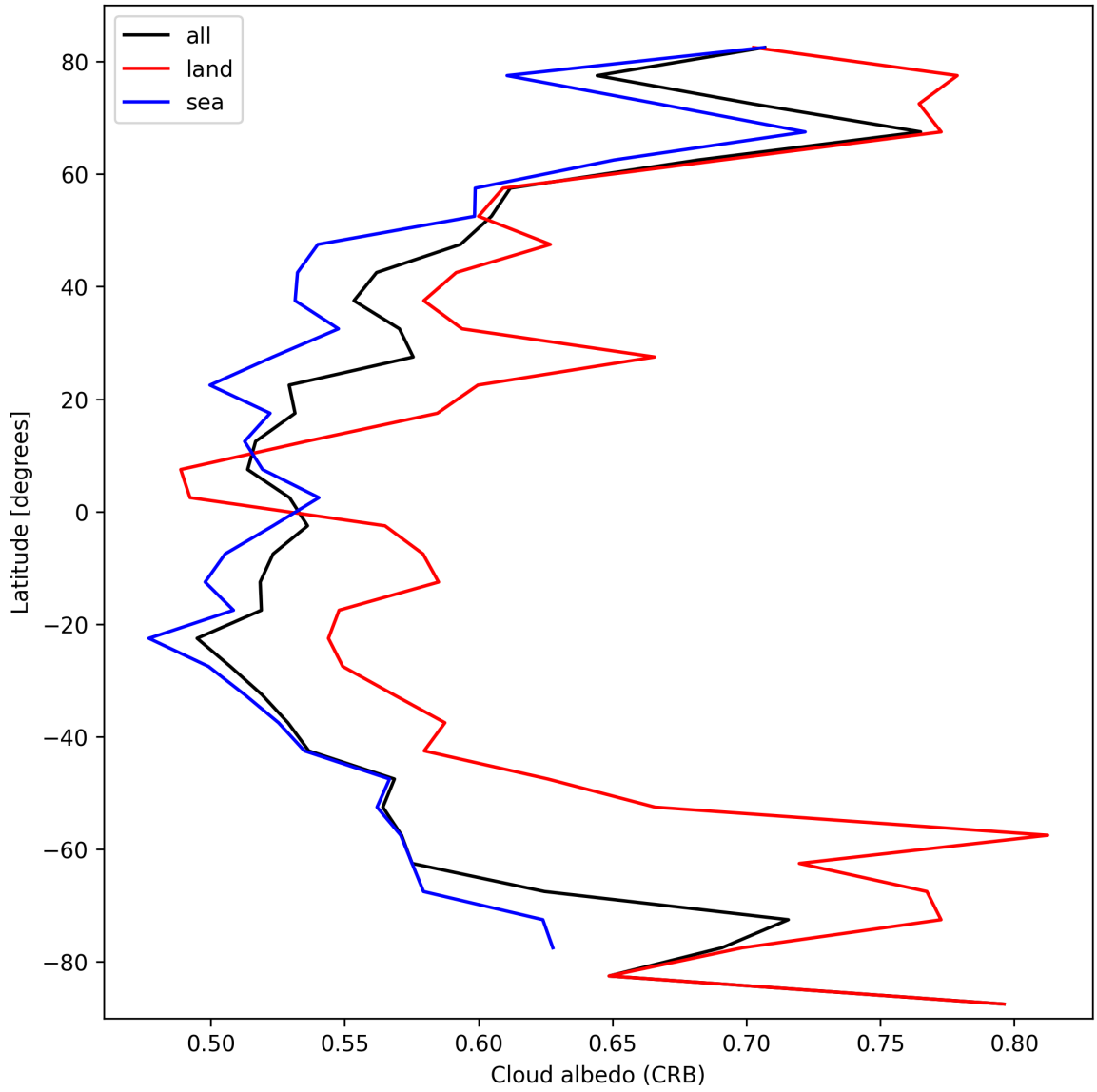

Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-04 to 2025-03-04.

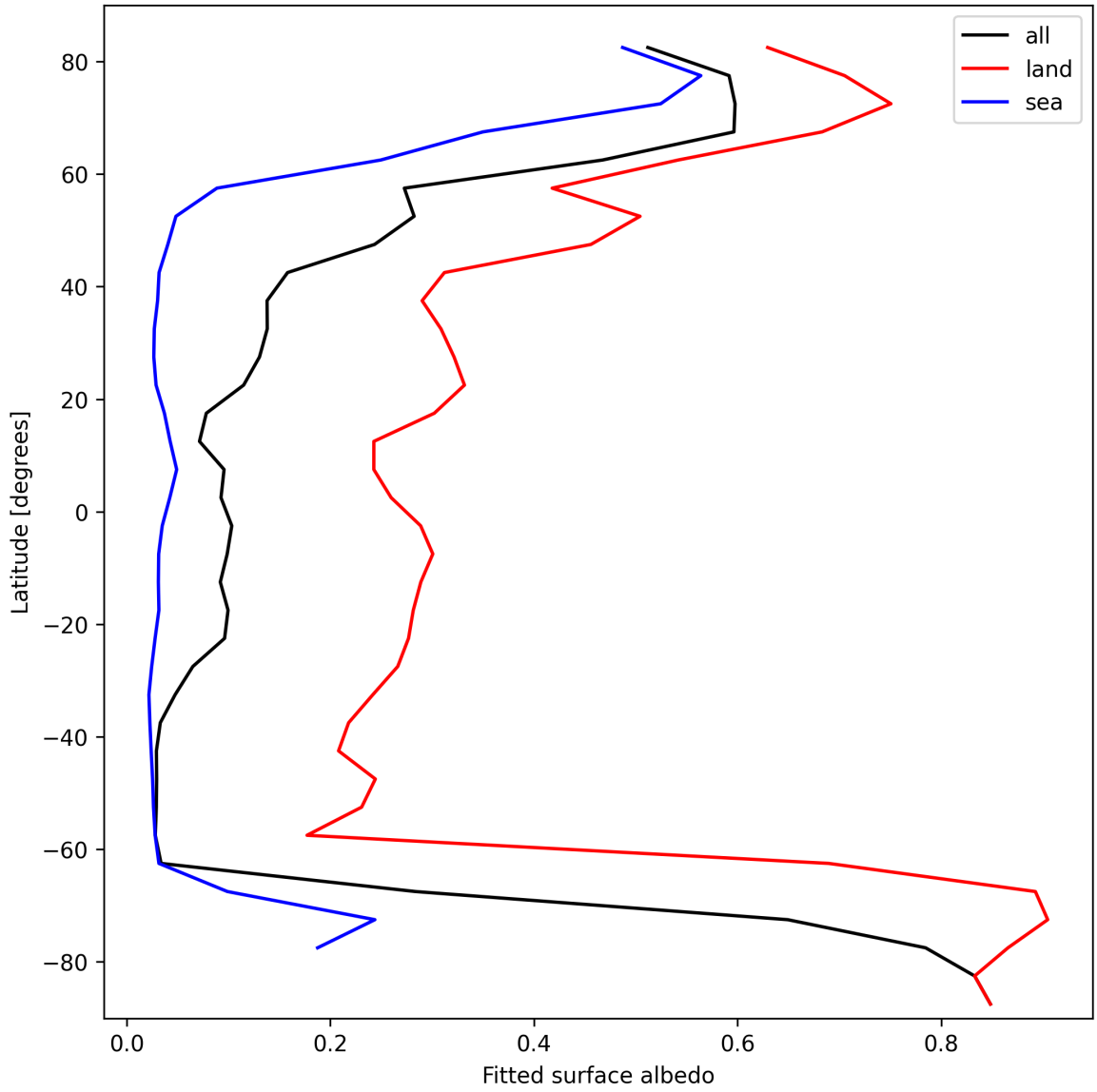

Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-04 to 2025-03-04.

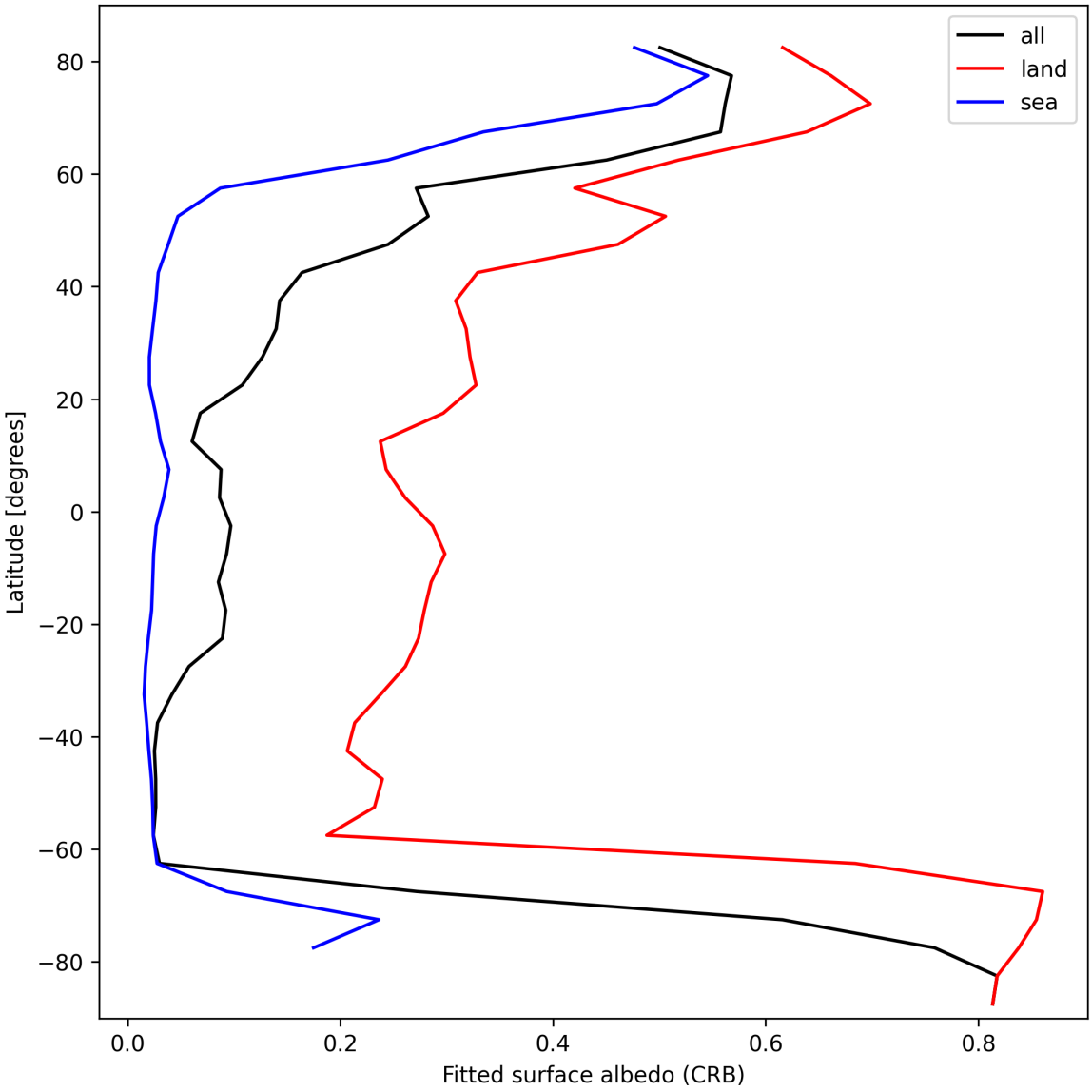

Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-04 to 2025-03-04.

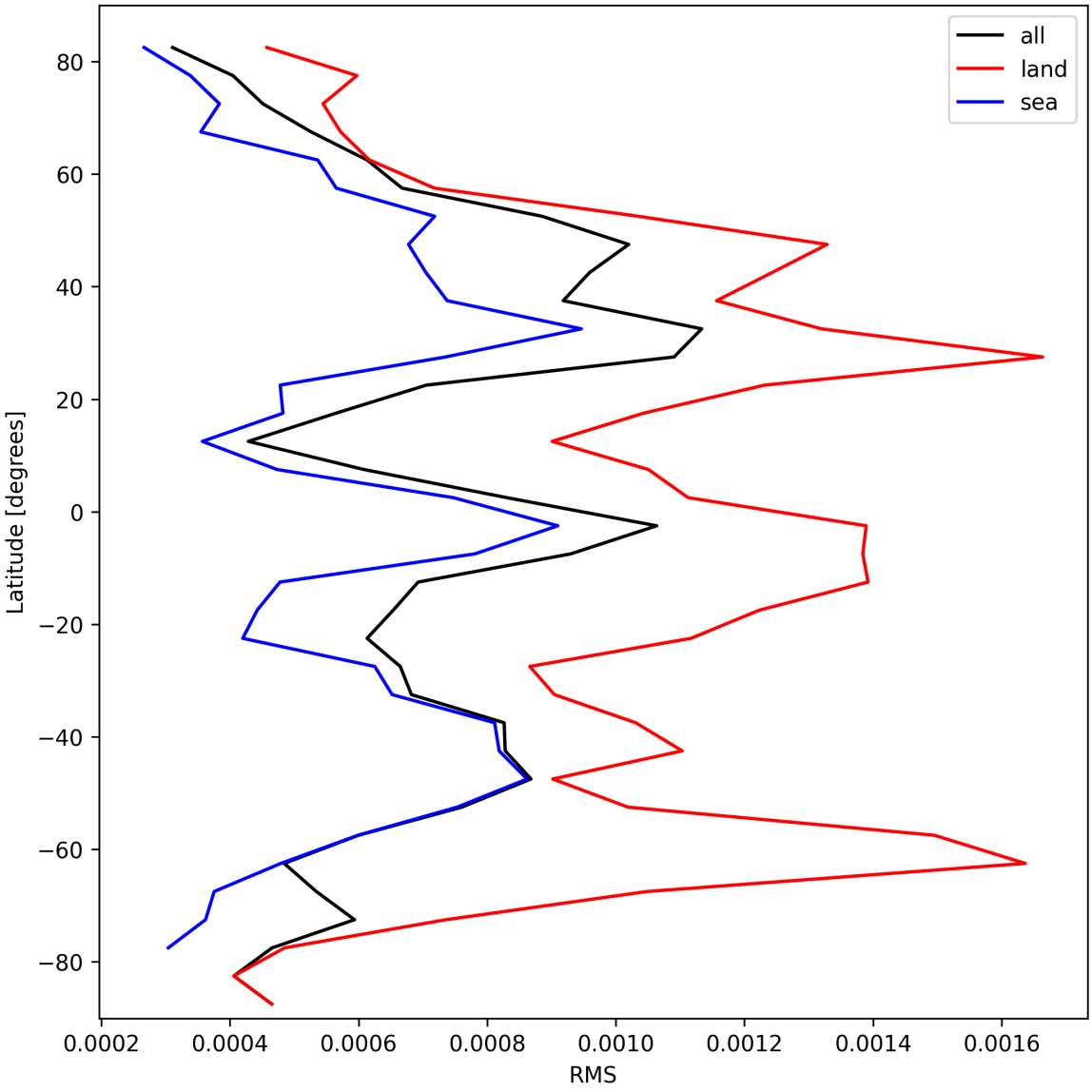

Figure 29: Zonal average of “RMS” for 2025-03-04 to 2025-03-04.

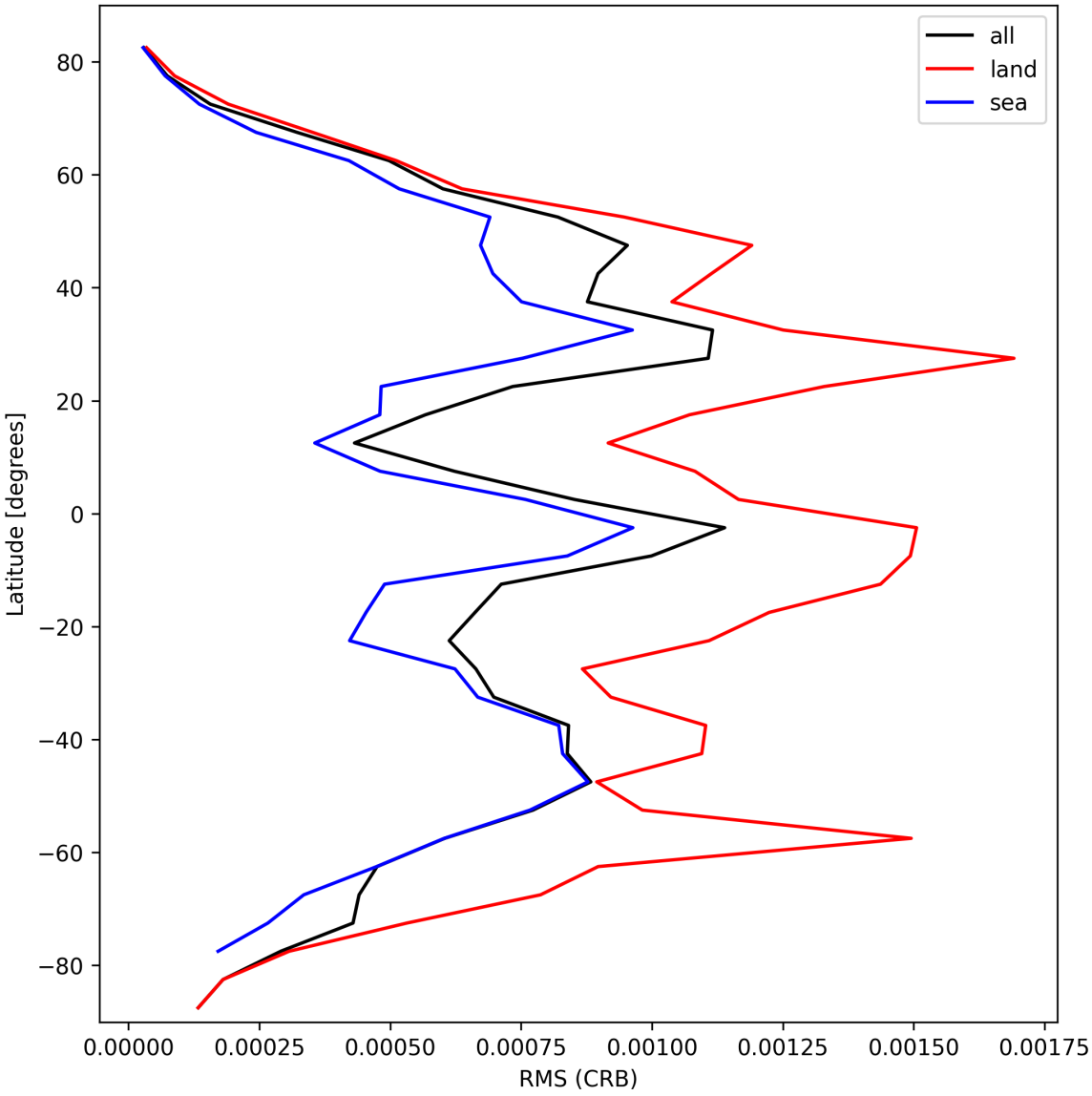

Figure 30: Zonal average of “RMS (CRB)” for 2025-03-04 to 2025-03-04.

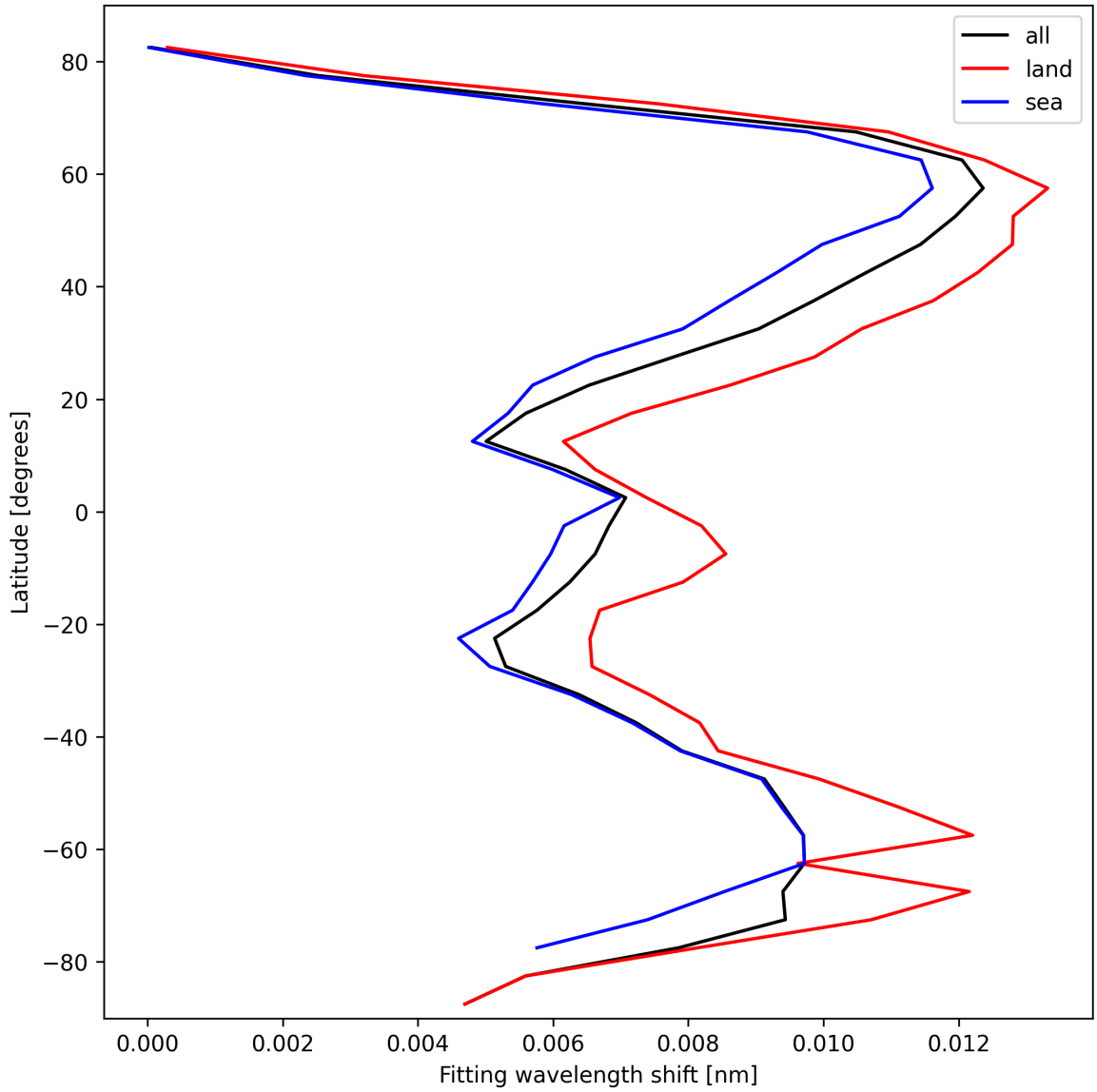

Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-04 to 2025-03-04.

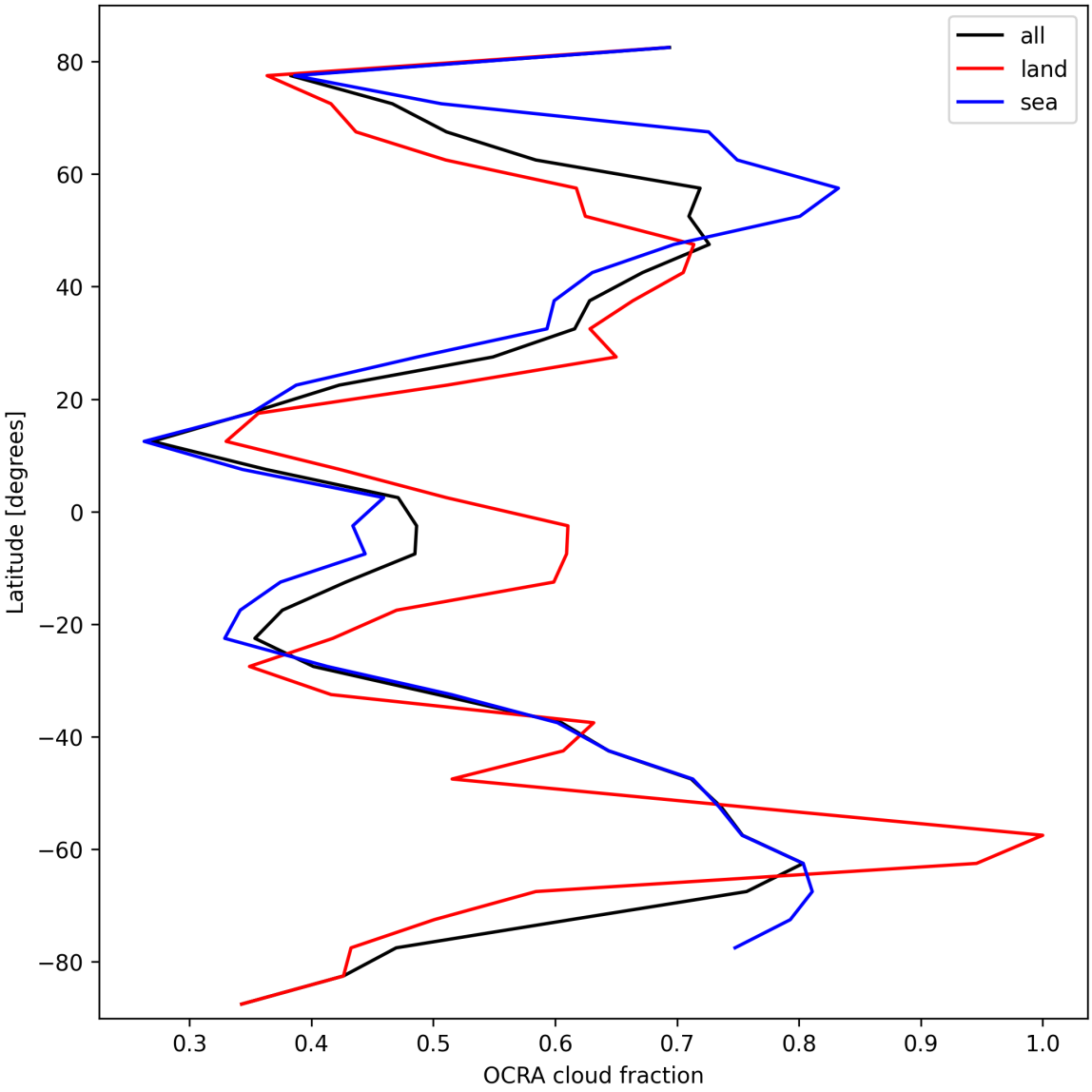

Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-04 to 2025-03-04.

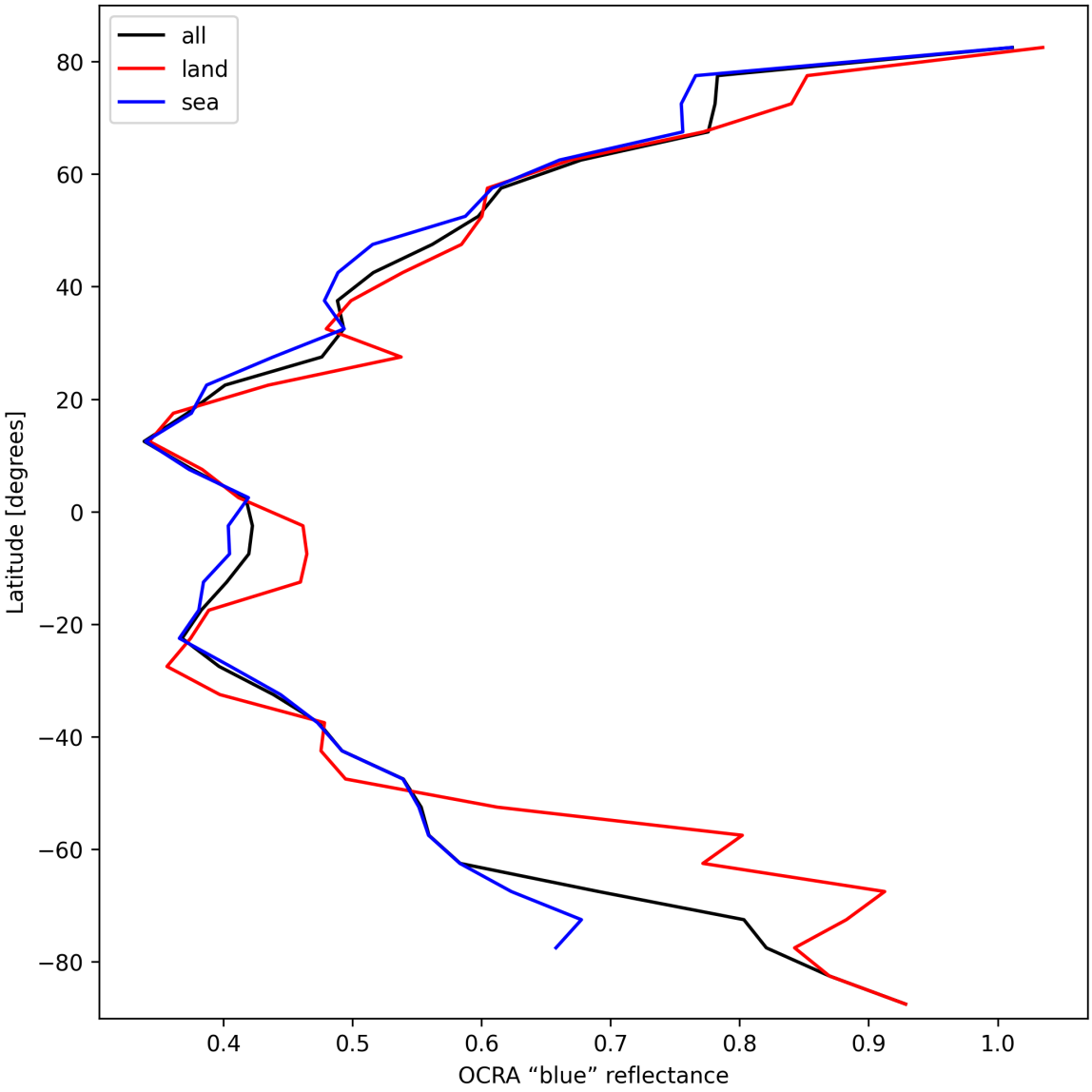

Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-04 to 2025-03-04.

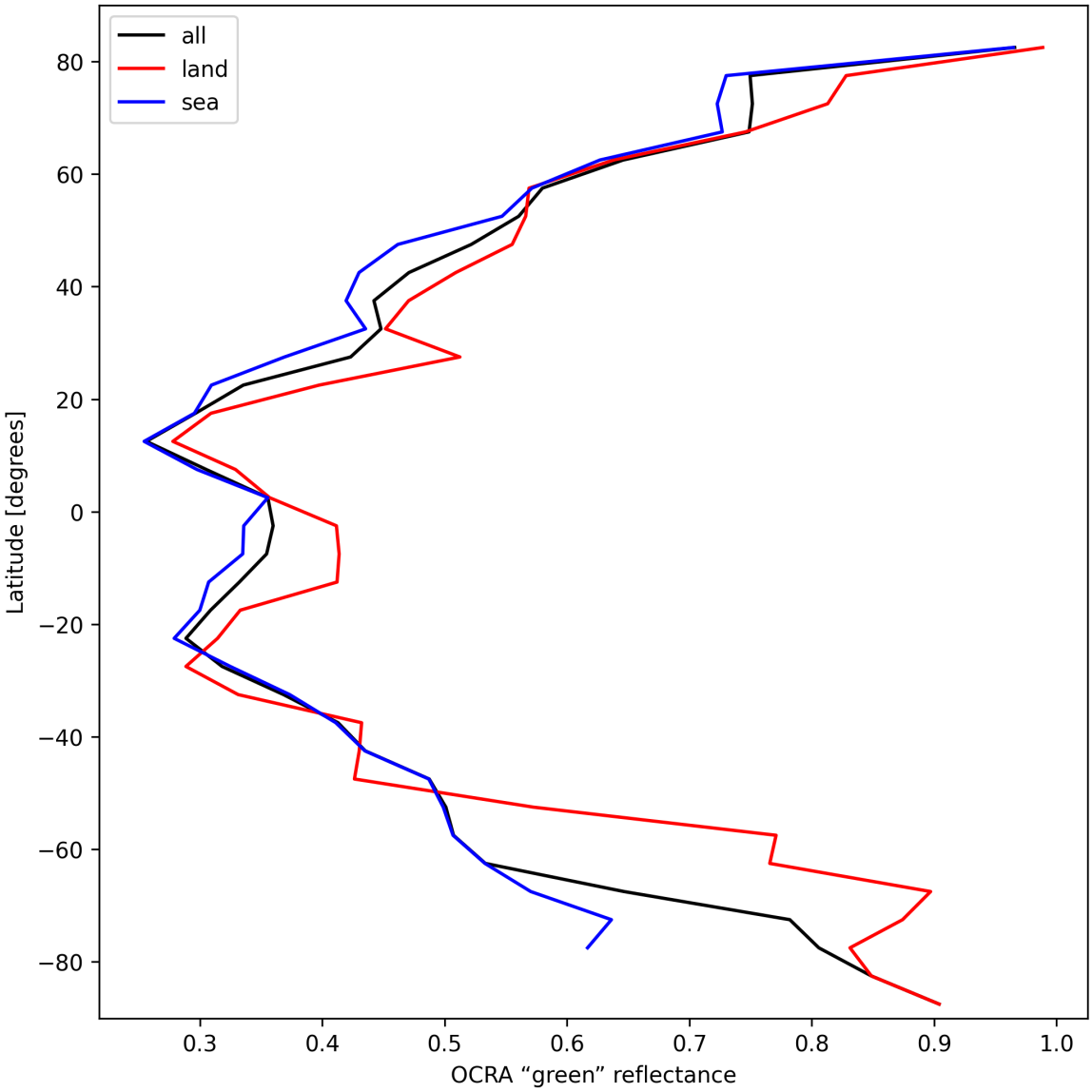

Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-04 to 2025-03-04.

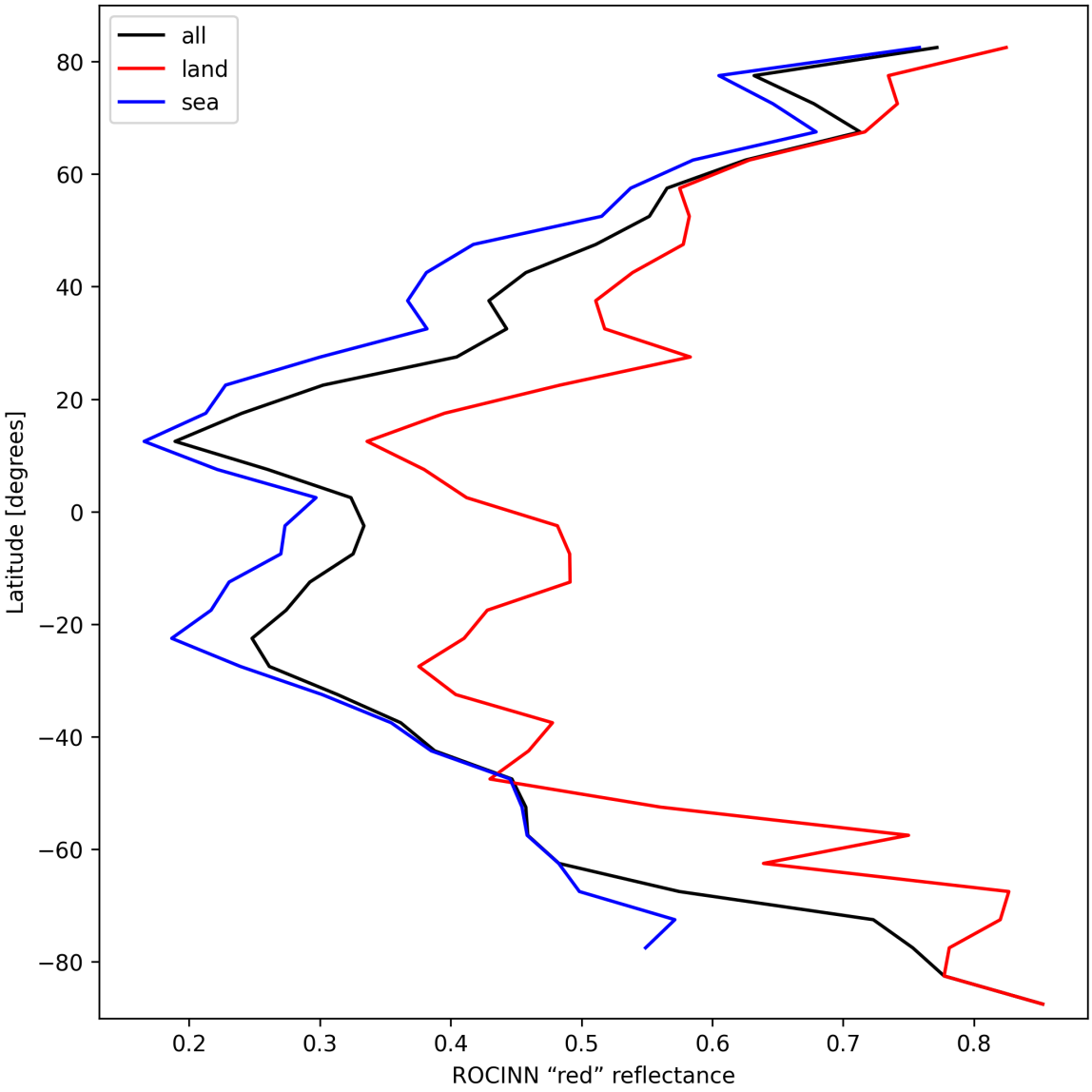

Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-04 to 2025-03-04.

8 Histograms

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

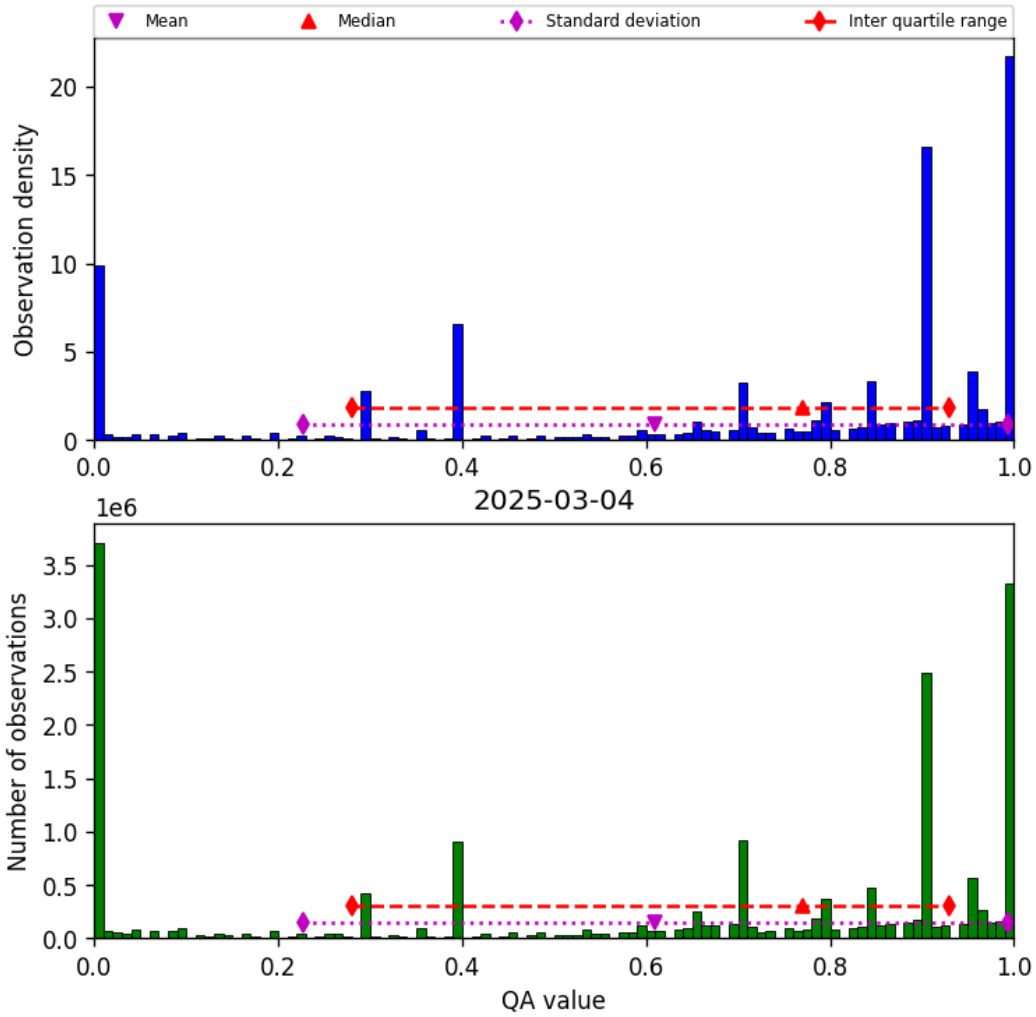

Figure 36: Histogram of “QA value” for 2025-03-04 to 2025-03-04

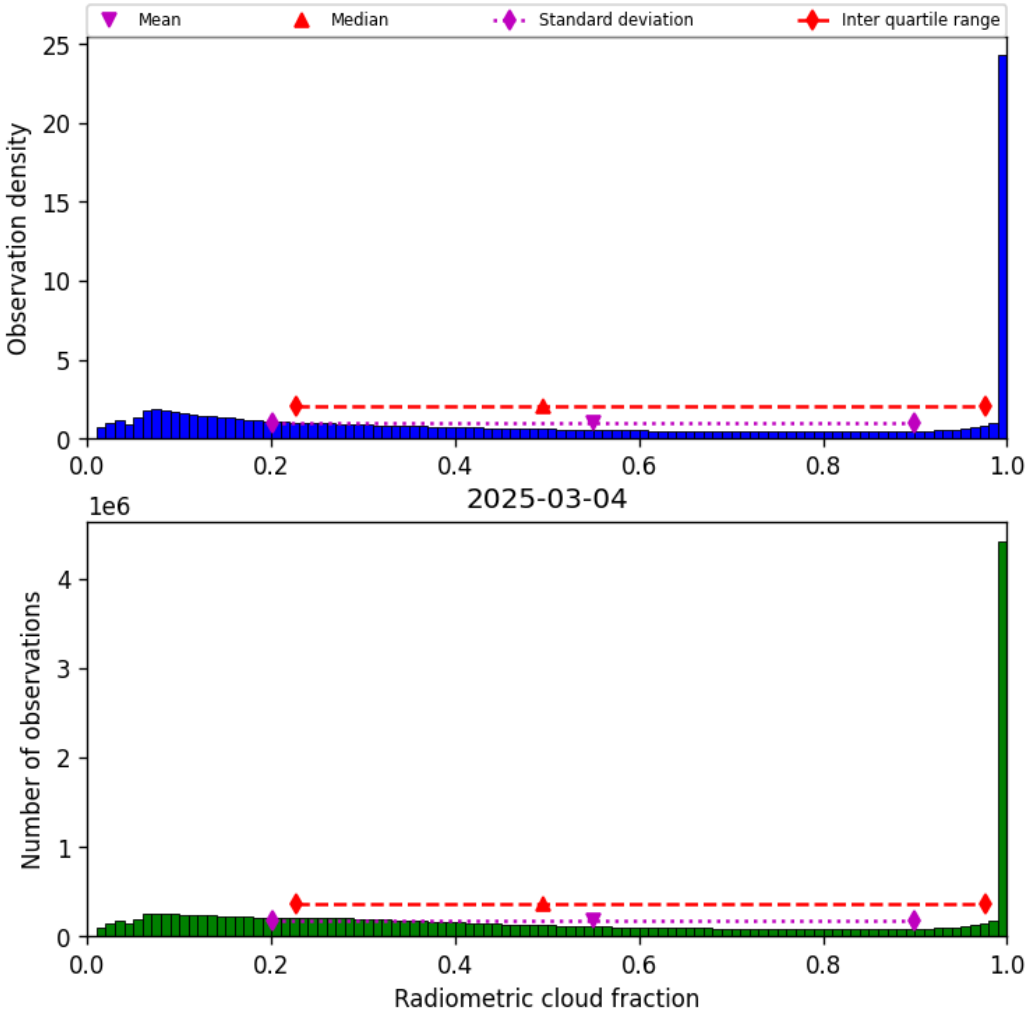

Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-04 to 2025-03-04

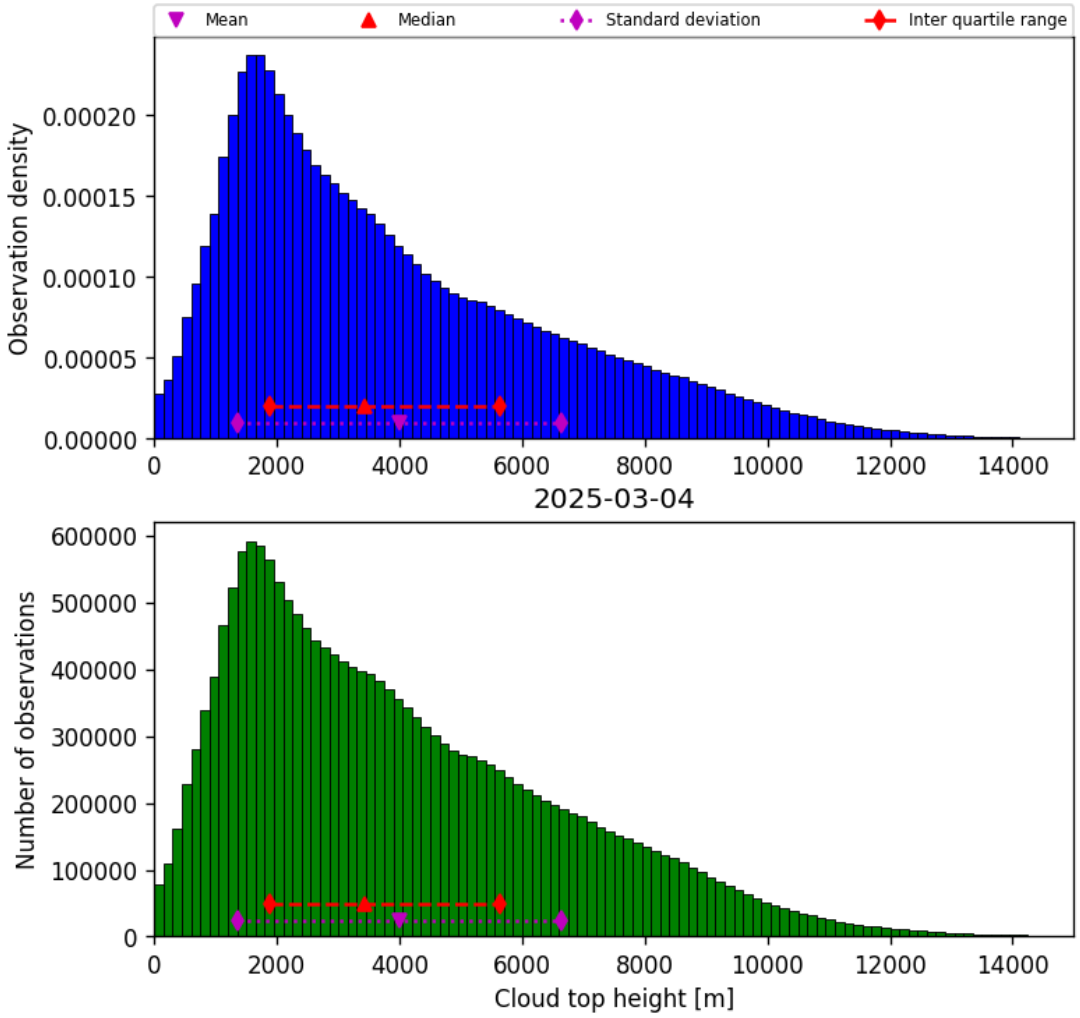

Figure 38: Histogram of “Cloud top height” for 2025-03-04 to 2025-03-04

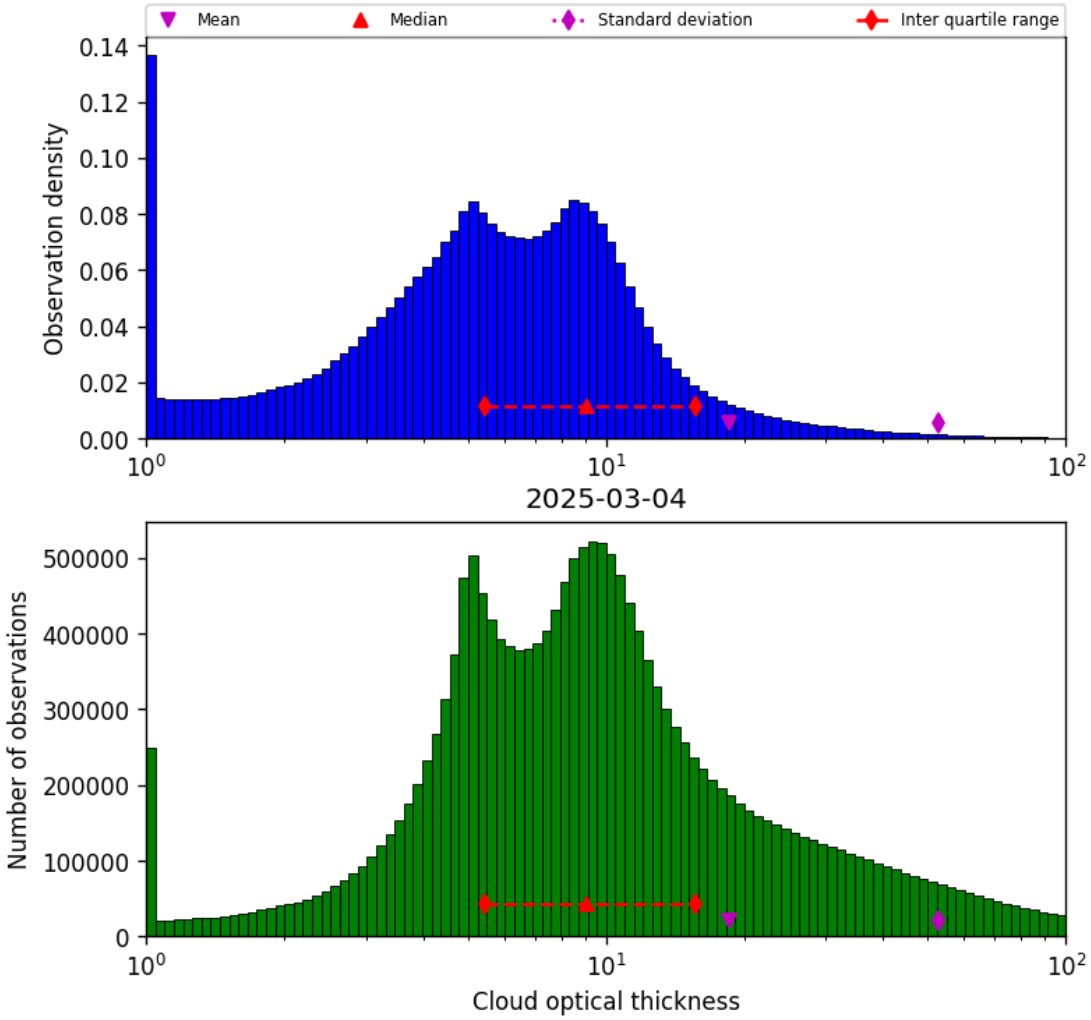

Figure 39: Histogram of “Cloud optical thickness” for 2025-03-04 to 2025-03-04

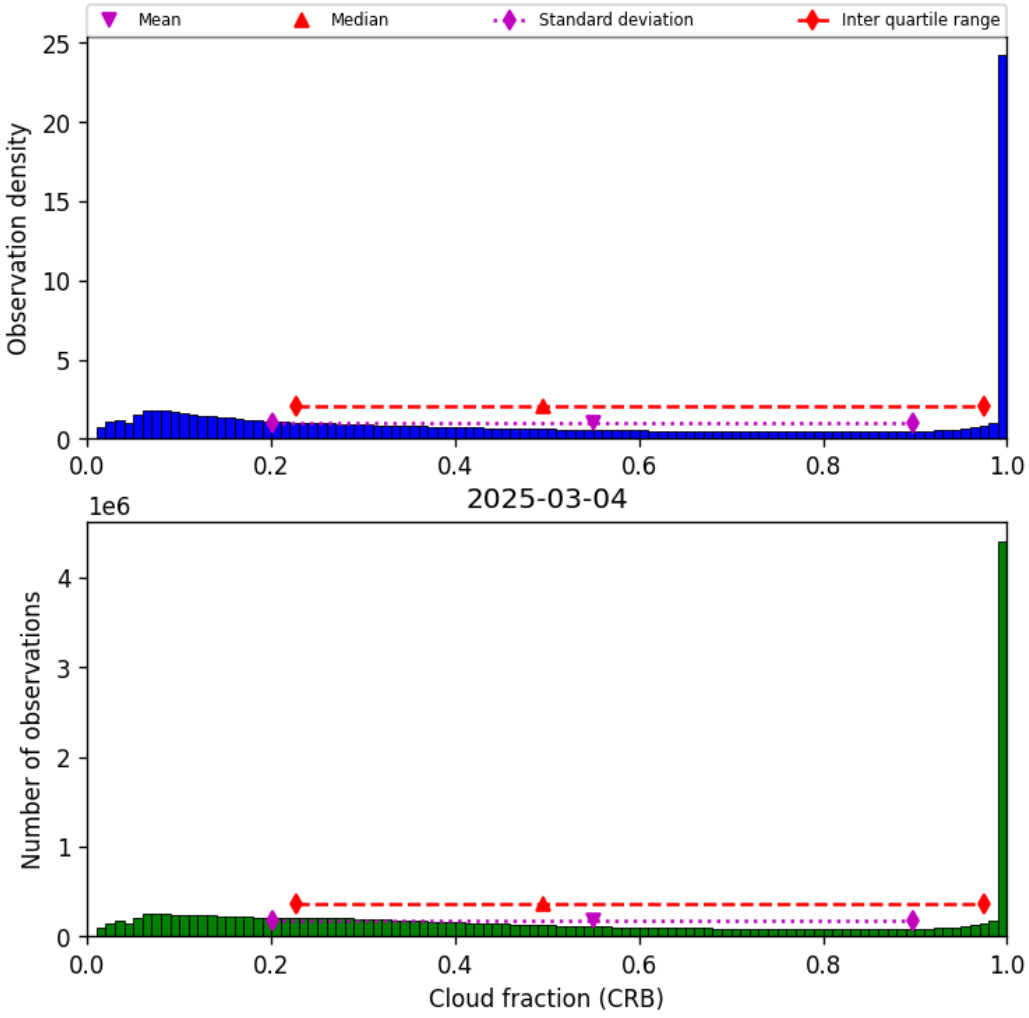

Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-04 to 2025-03-04

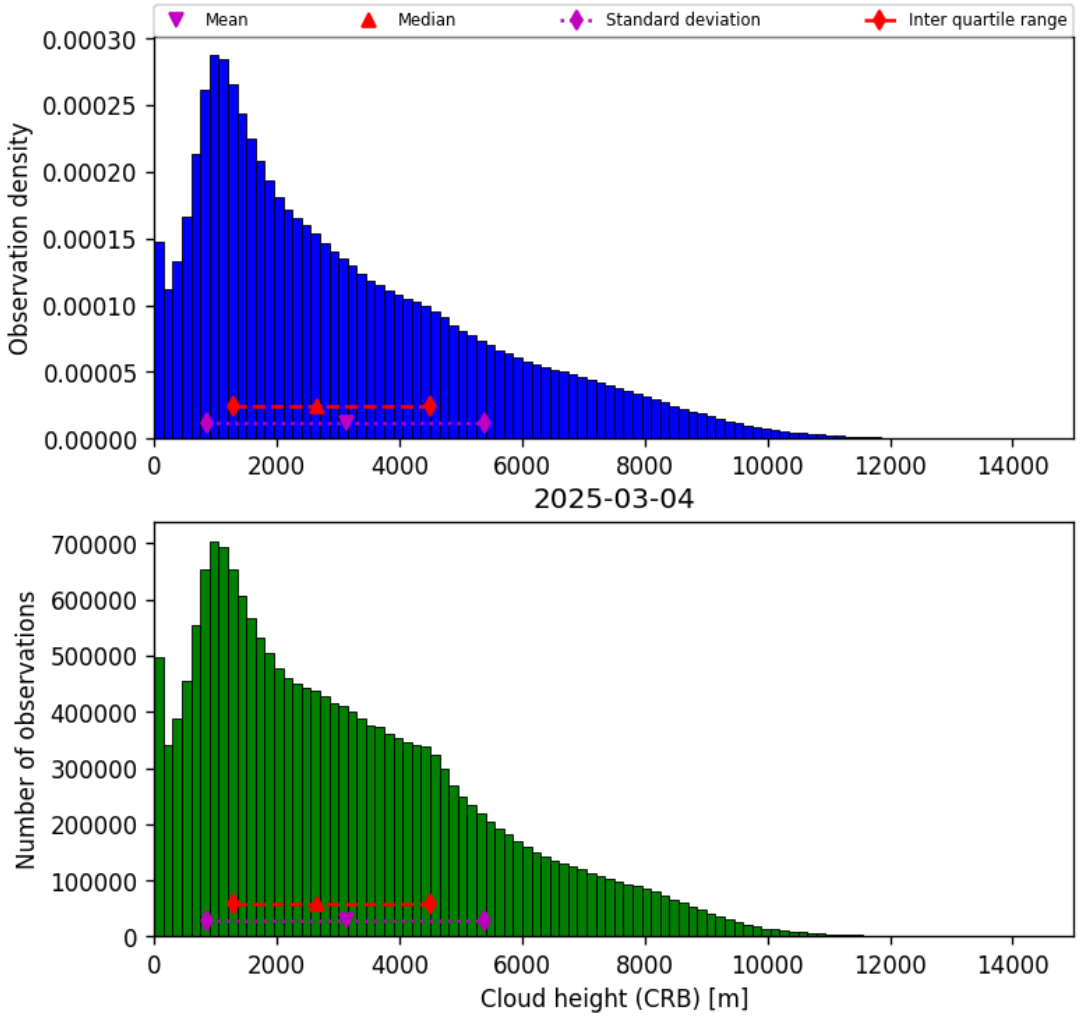

Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-04 to 2025-03-04

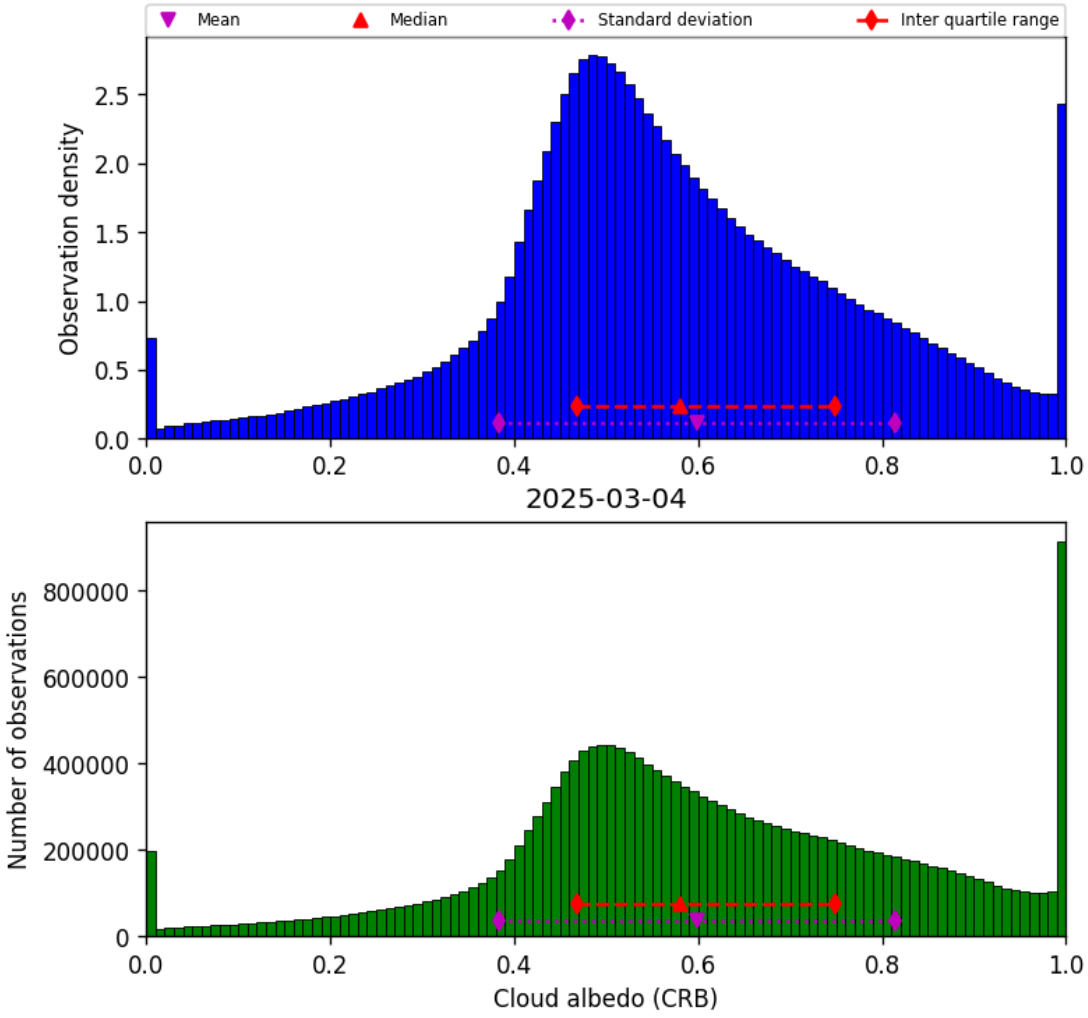

Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-04 to 2025-03-04

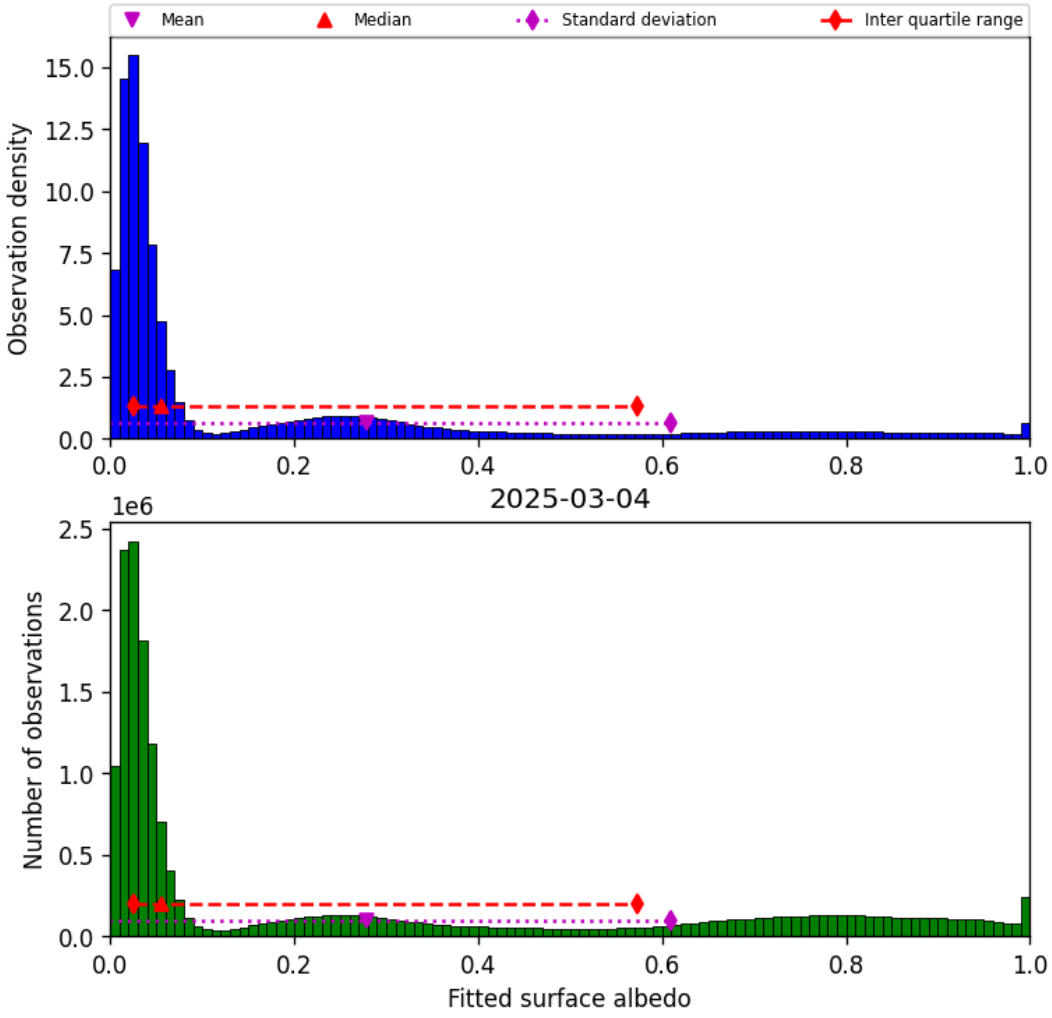

Figure 43: Histogram of “Fitted surface albedo” for 2025-03-04 to 2025-03-04

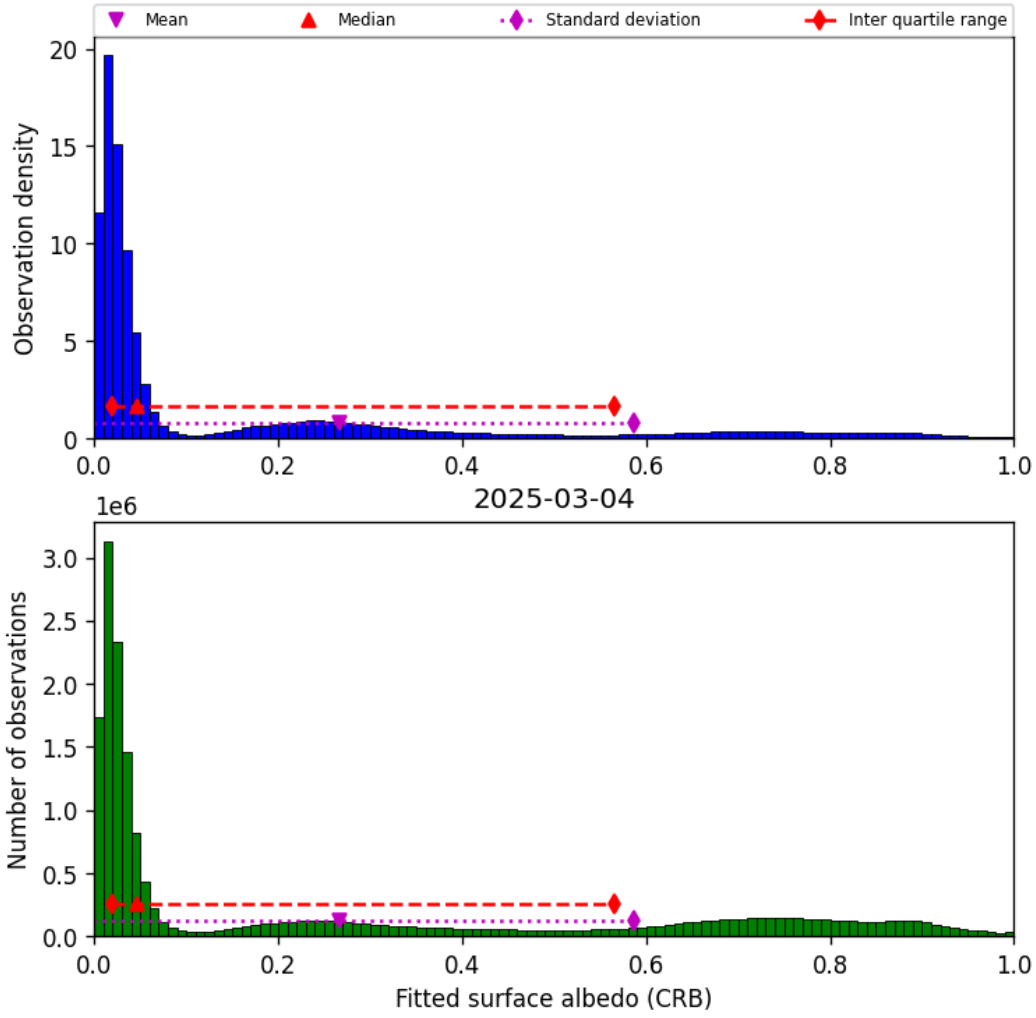

Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-04 to 2025-03-04

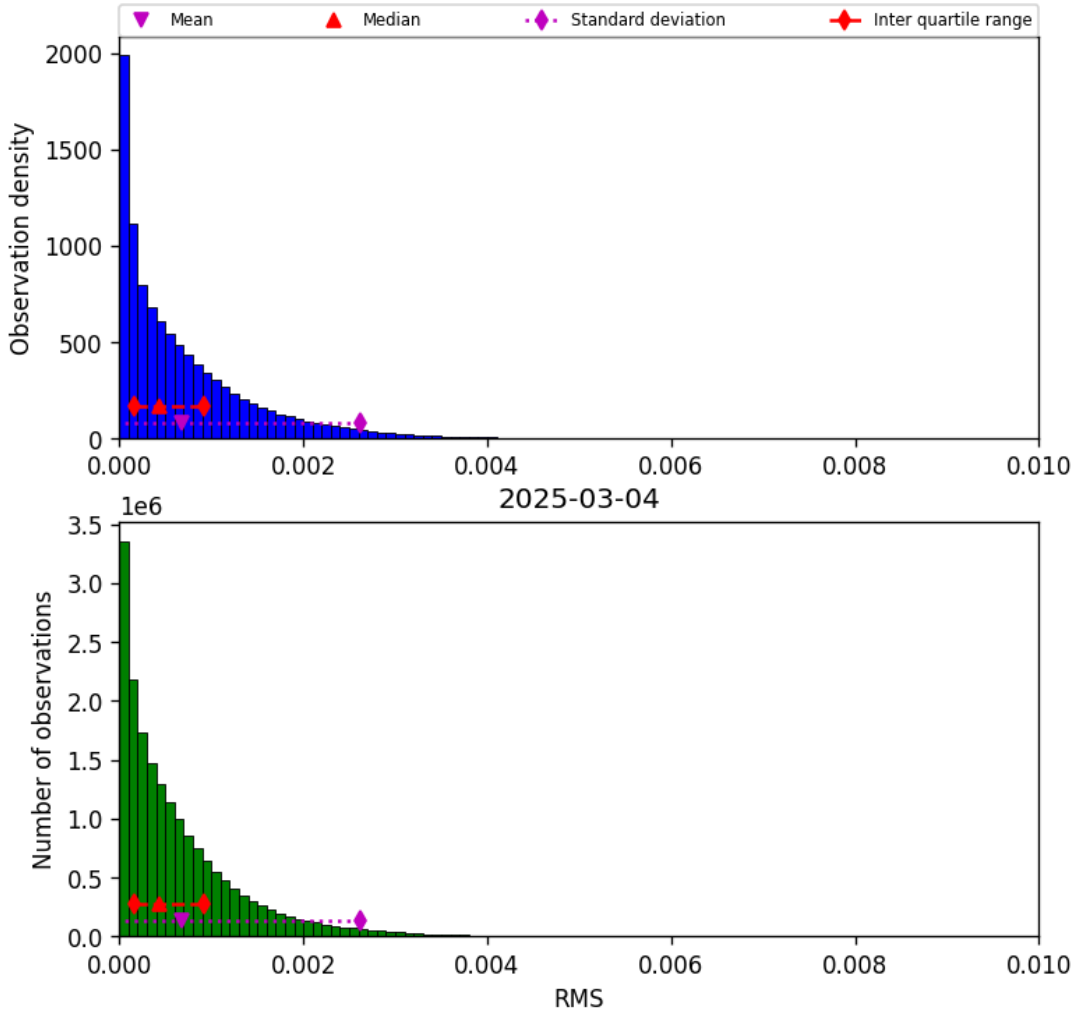

Figure 45: Histogram of “RMS” for 2025-03-04 to 2025-03-04

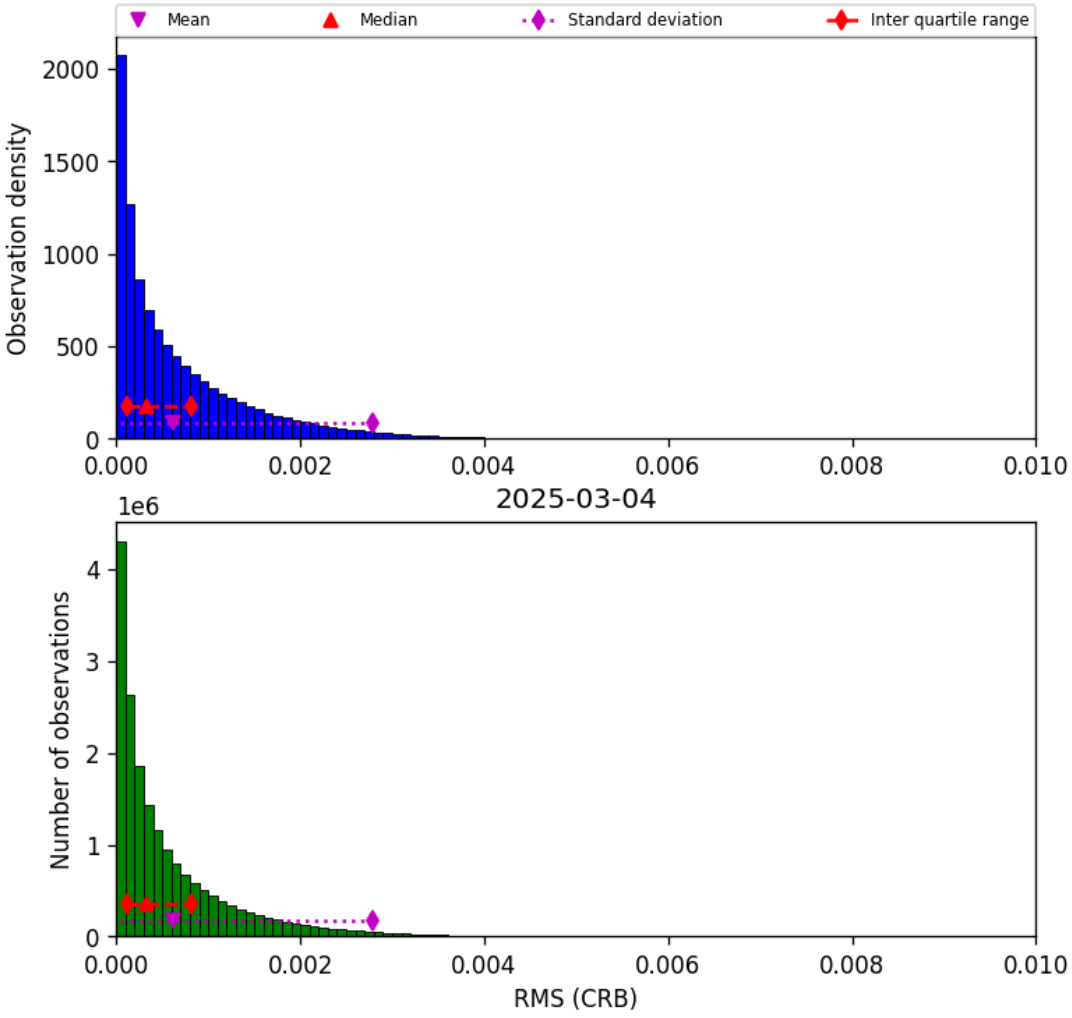

Figure 46: Histogram of “RMS (CRB)” for 2025-03-04 to 2025-03-04

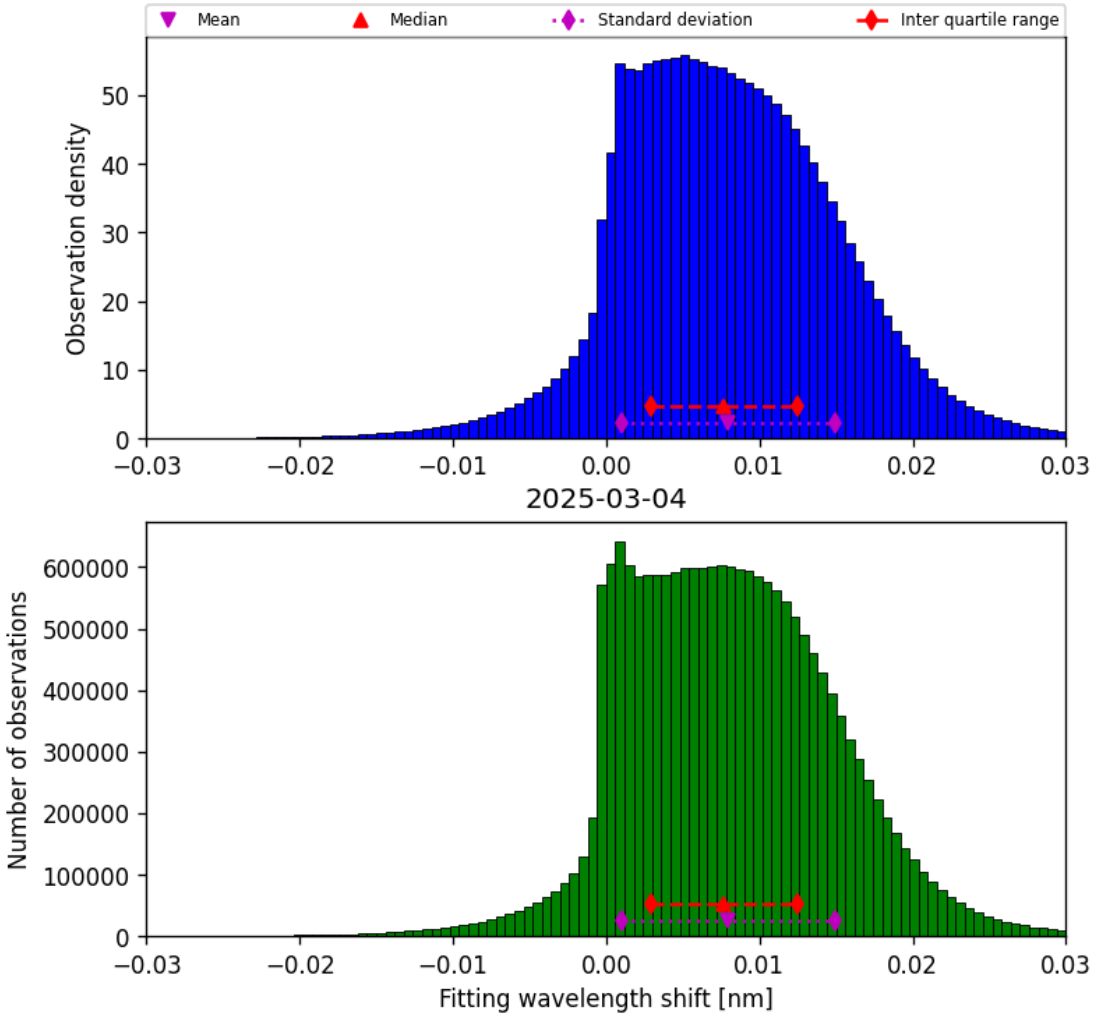

Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-04 to 2025-03-04

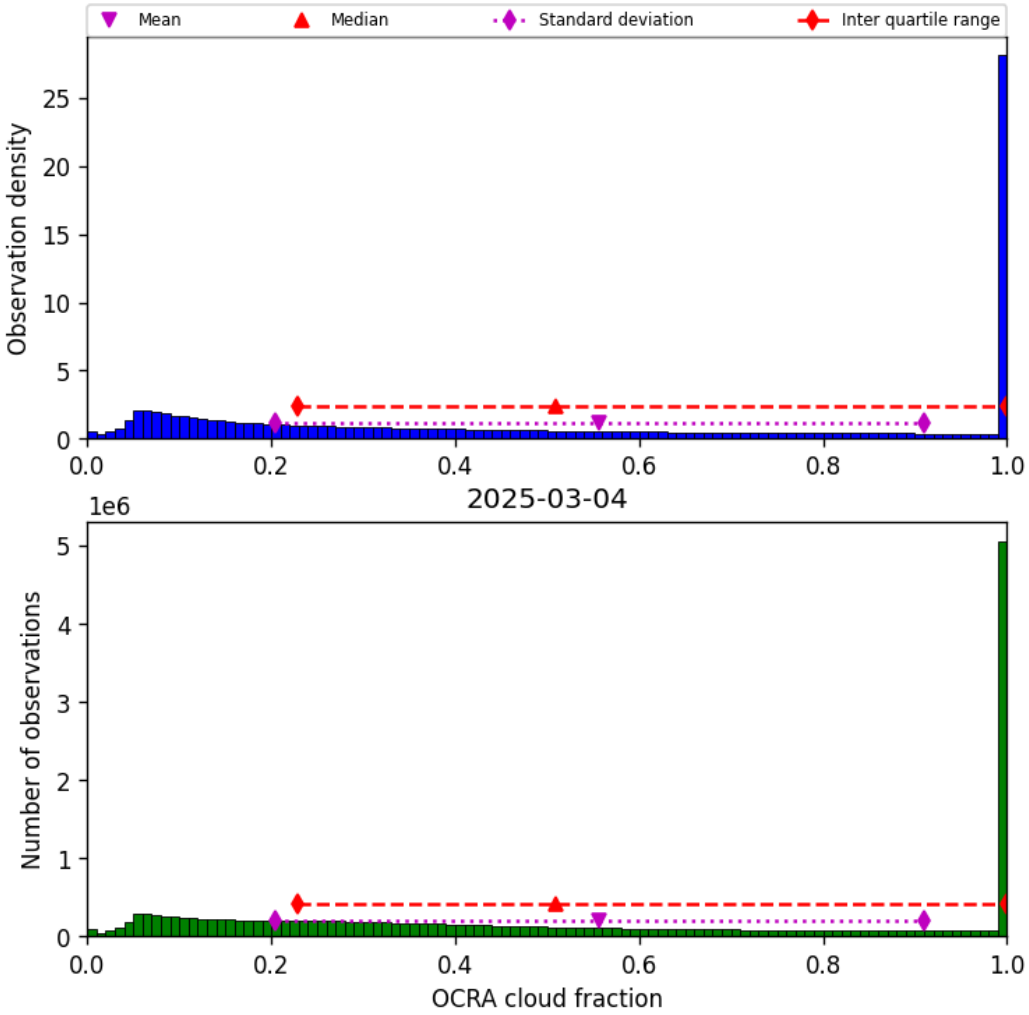

Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-04 to 2025-03-04

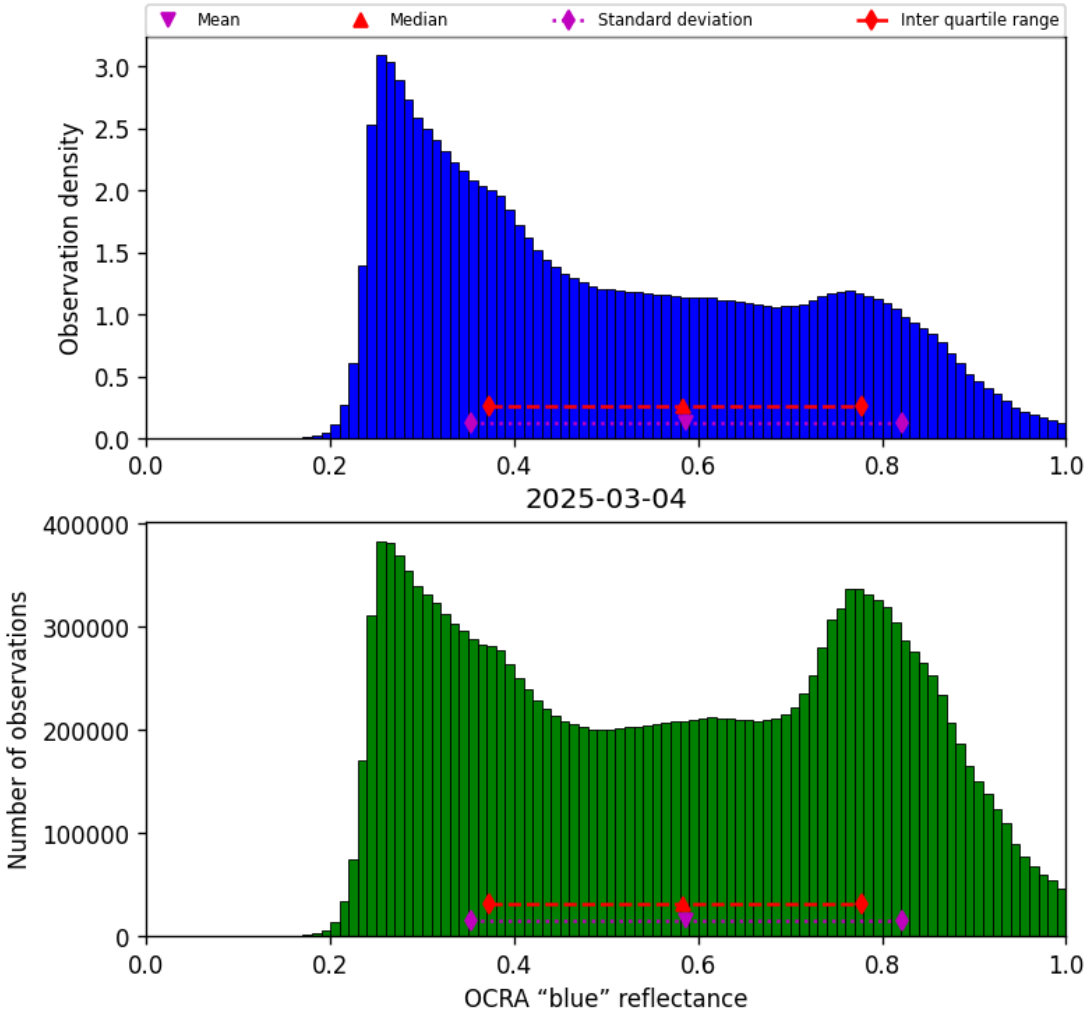

Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-03-04 to 2025-03-04

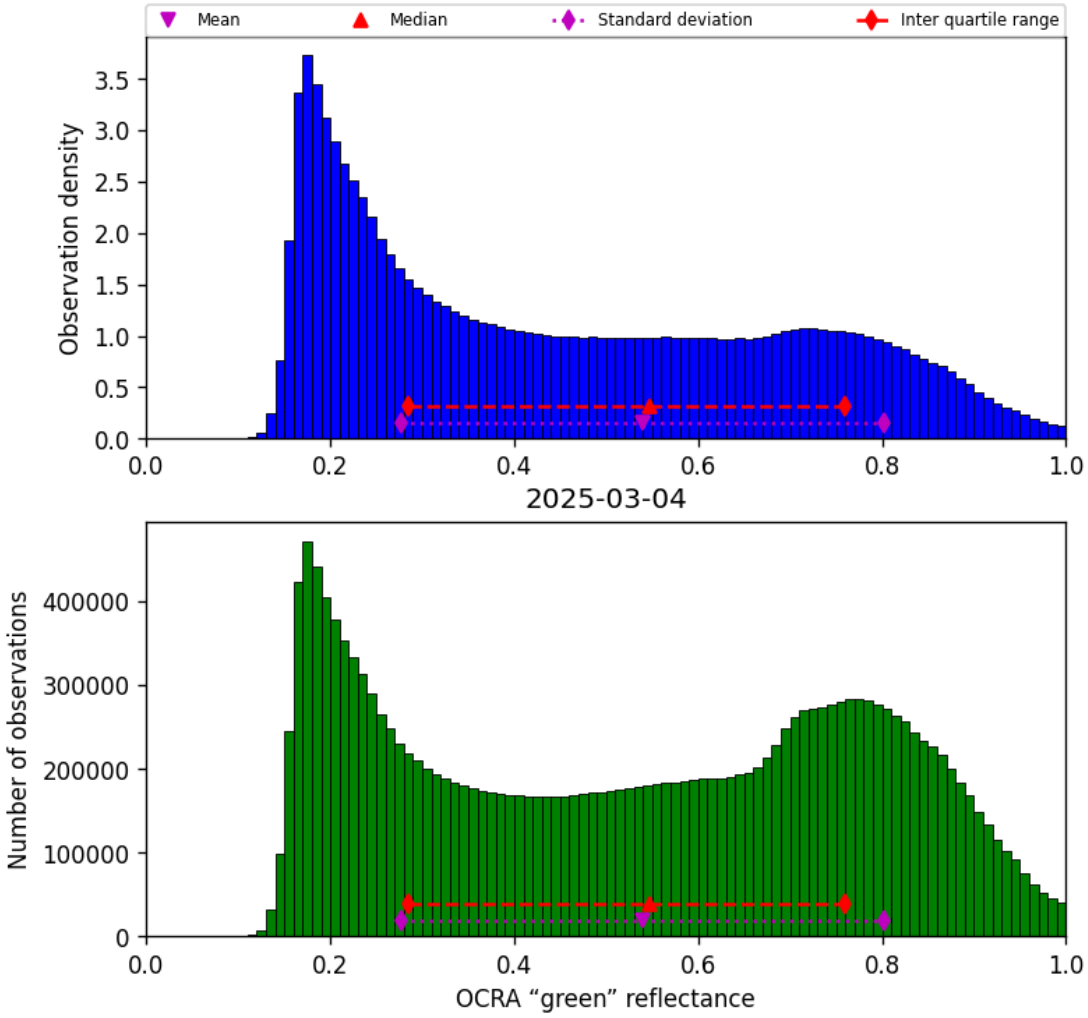

Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-04 to 2025-03-04

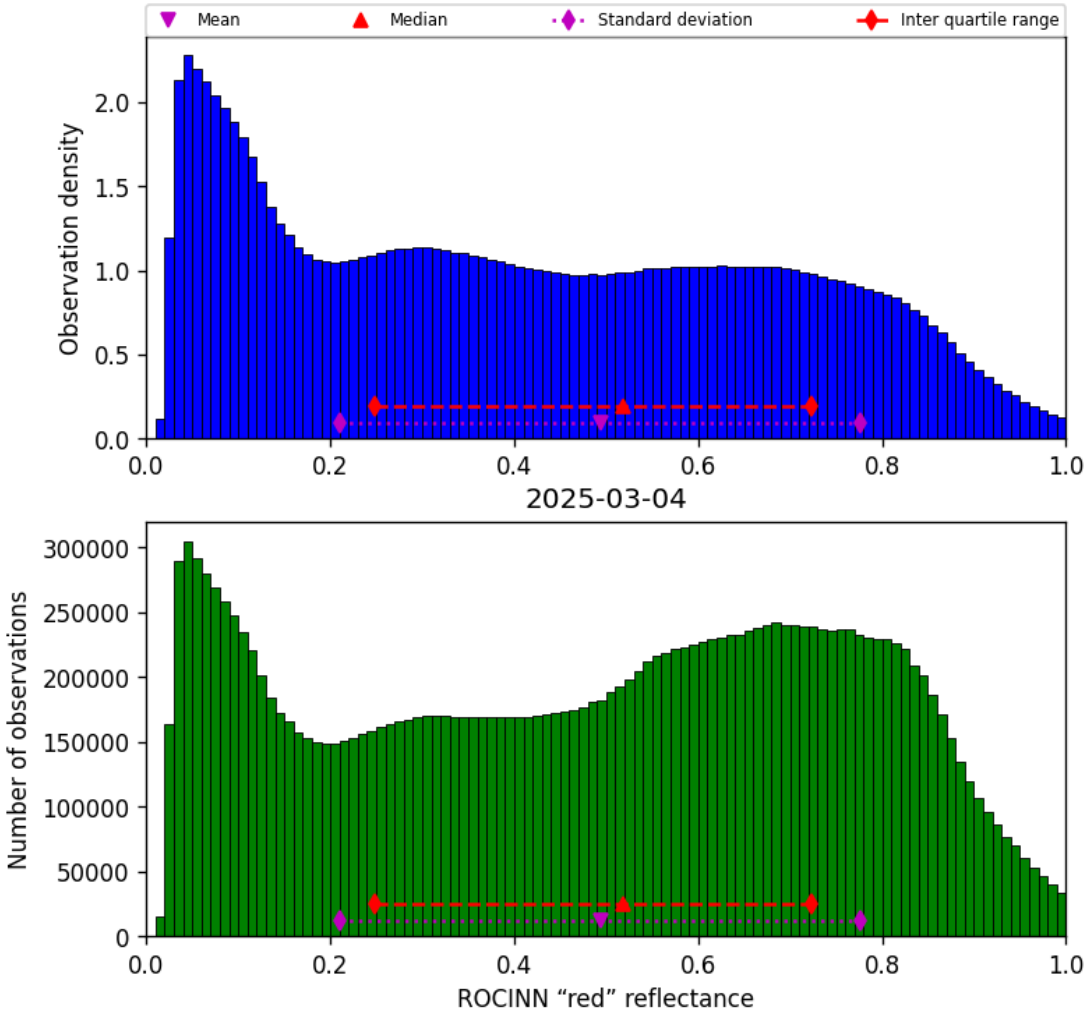

Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-04 to 2025-03-04

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.

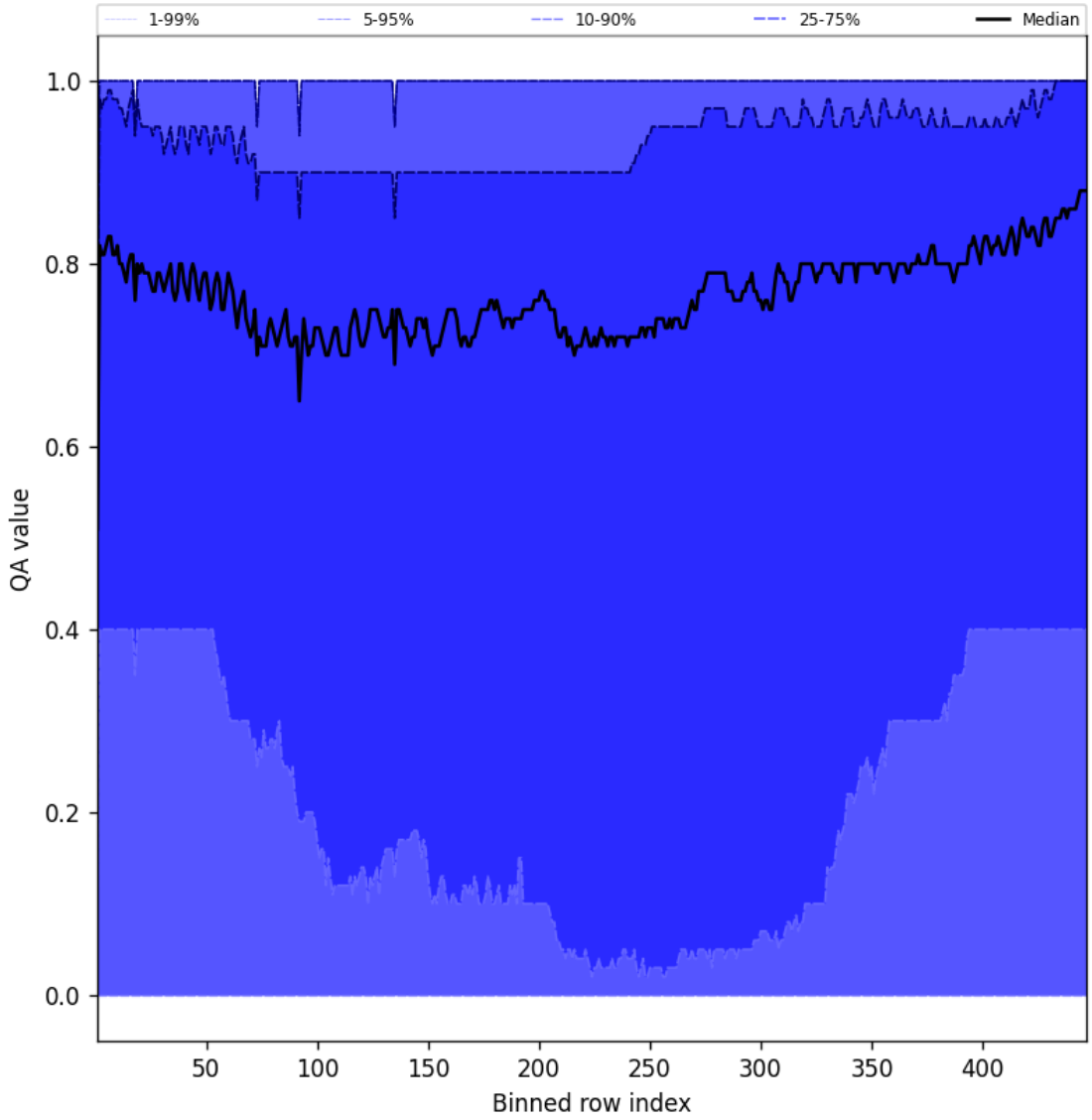

Figure 52: Along track statistics of “QA value” for 2025-03-04 to 2025-03-04

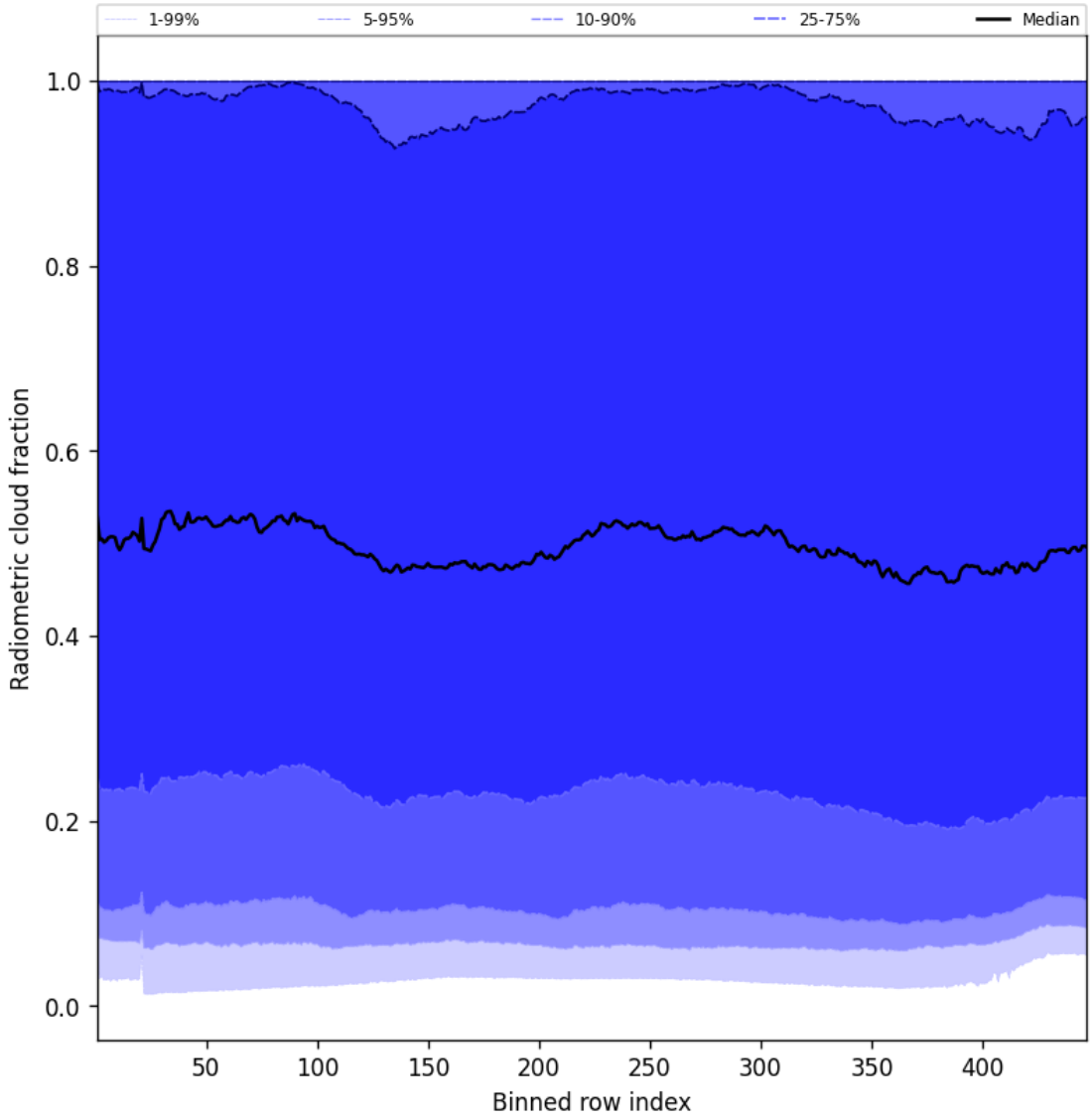

Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-04 to 2025-03-04

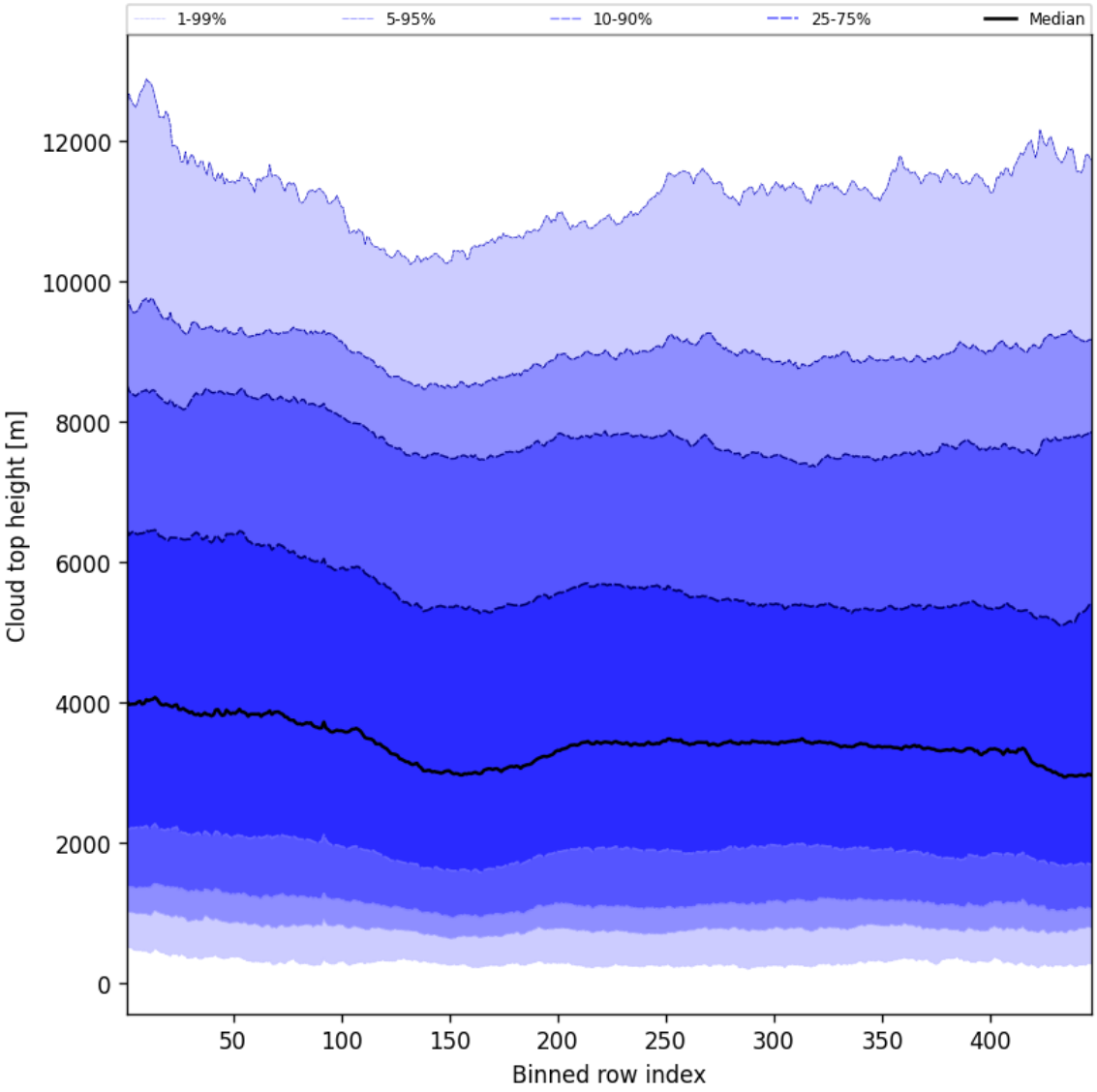

Figure 54: Along track statistics of “Cloud top height” for 2025-03-04 to 2025-03-04

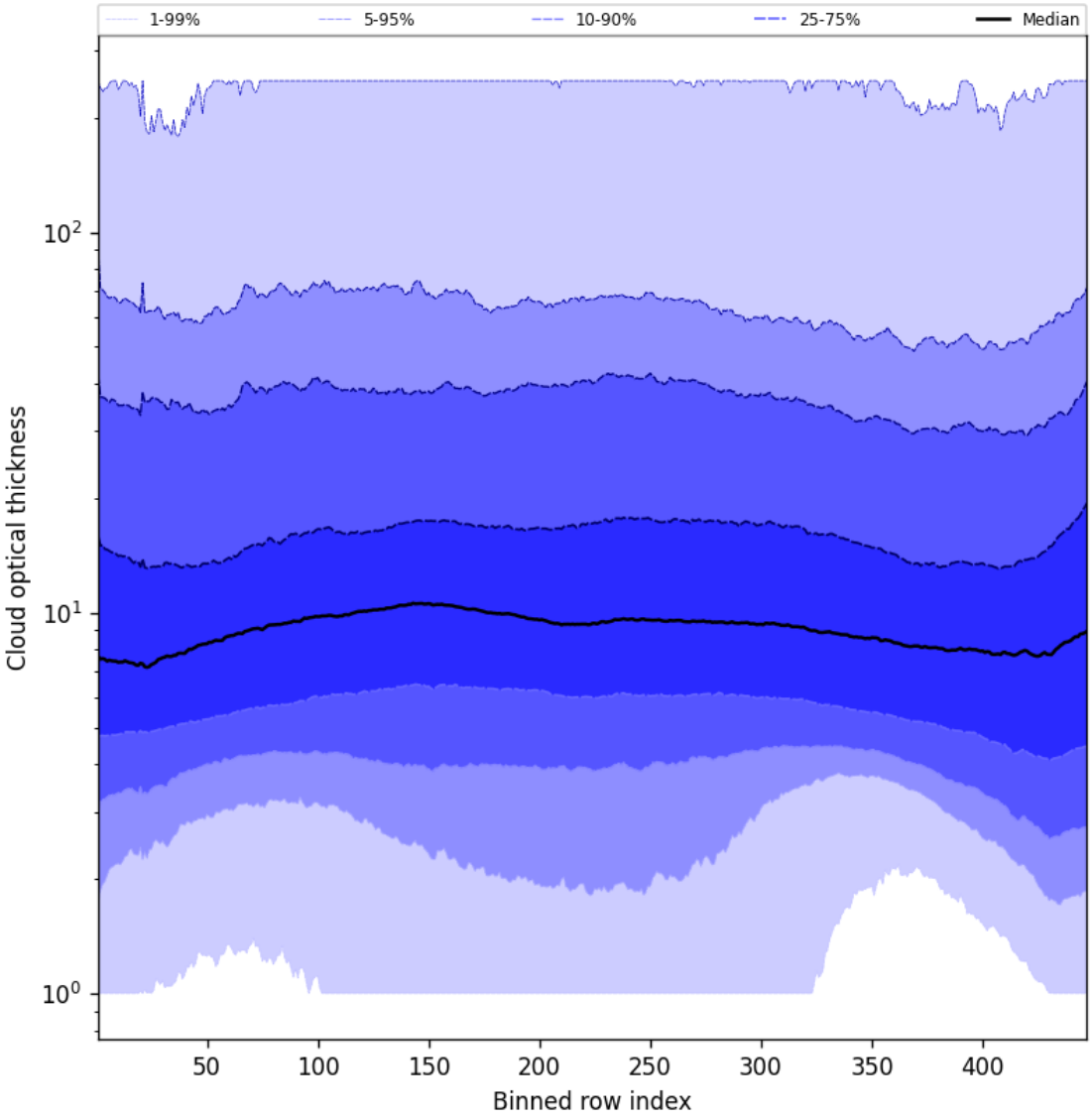

Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-04 to 2025-03-04

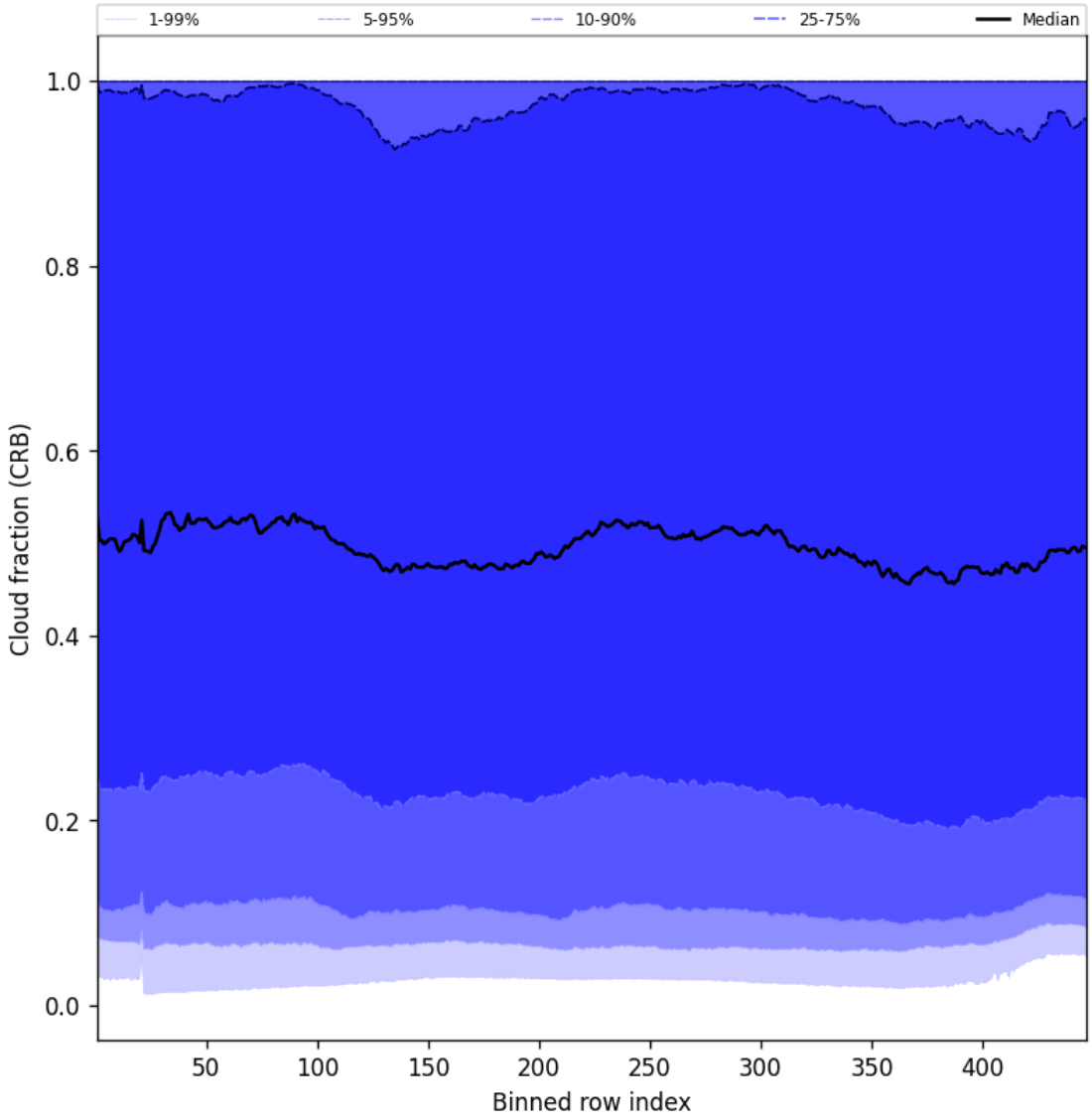

Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-04 to 2025-03-04

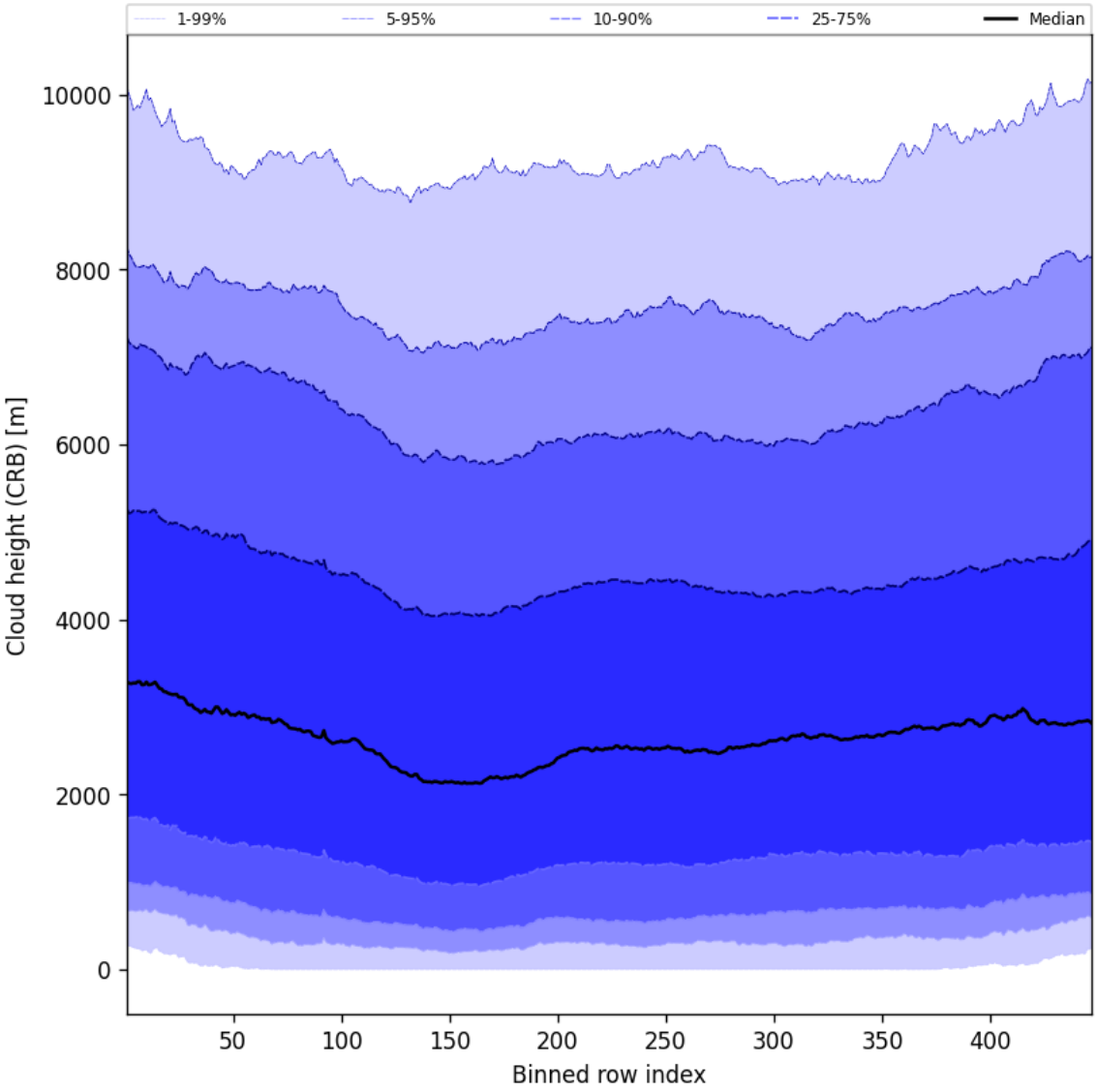

Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-04 to 2025-03-04

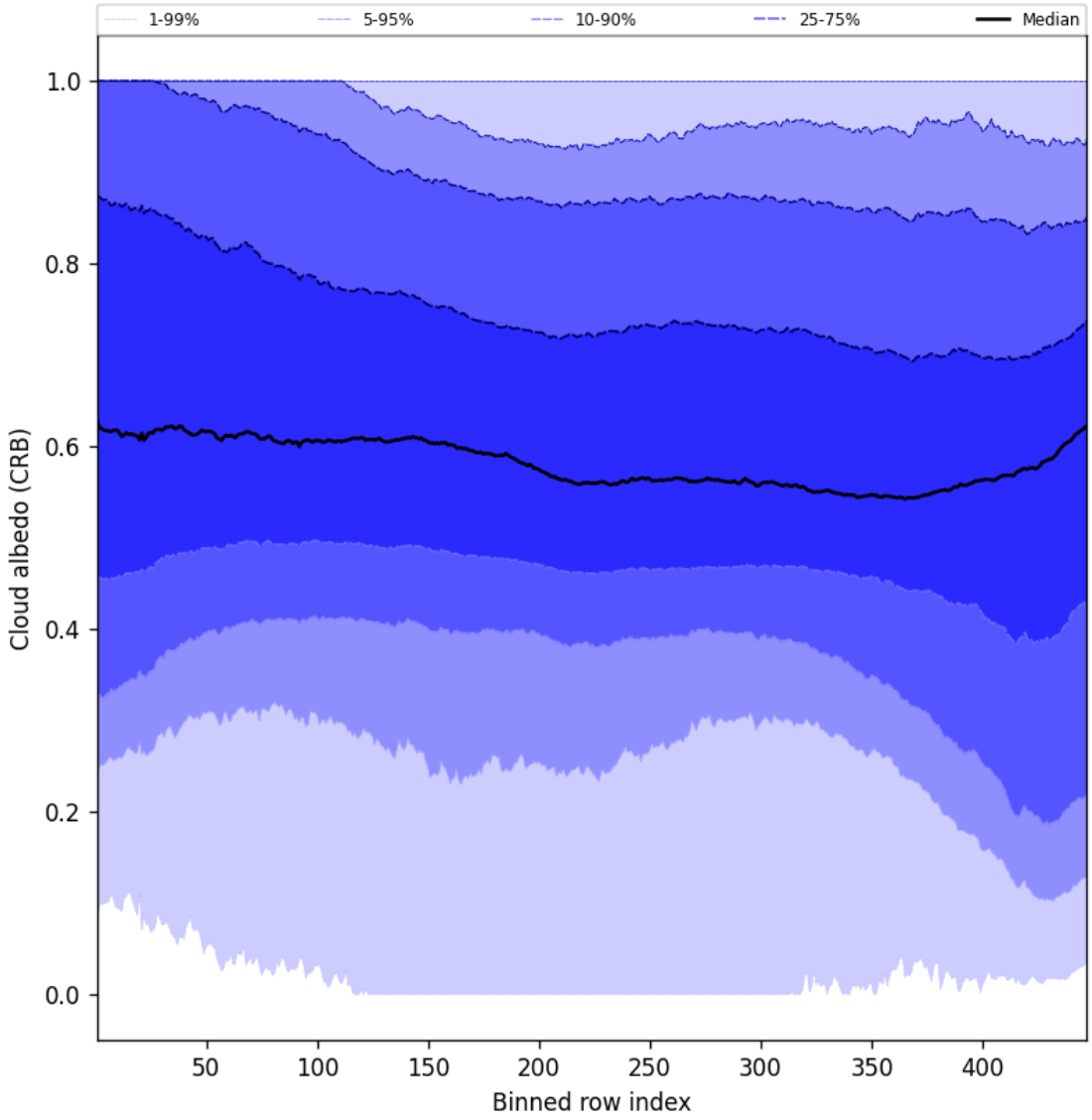

Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-04 to 2025-03-04

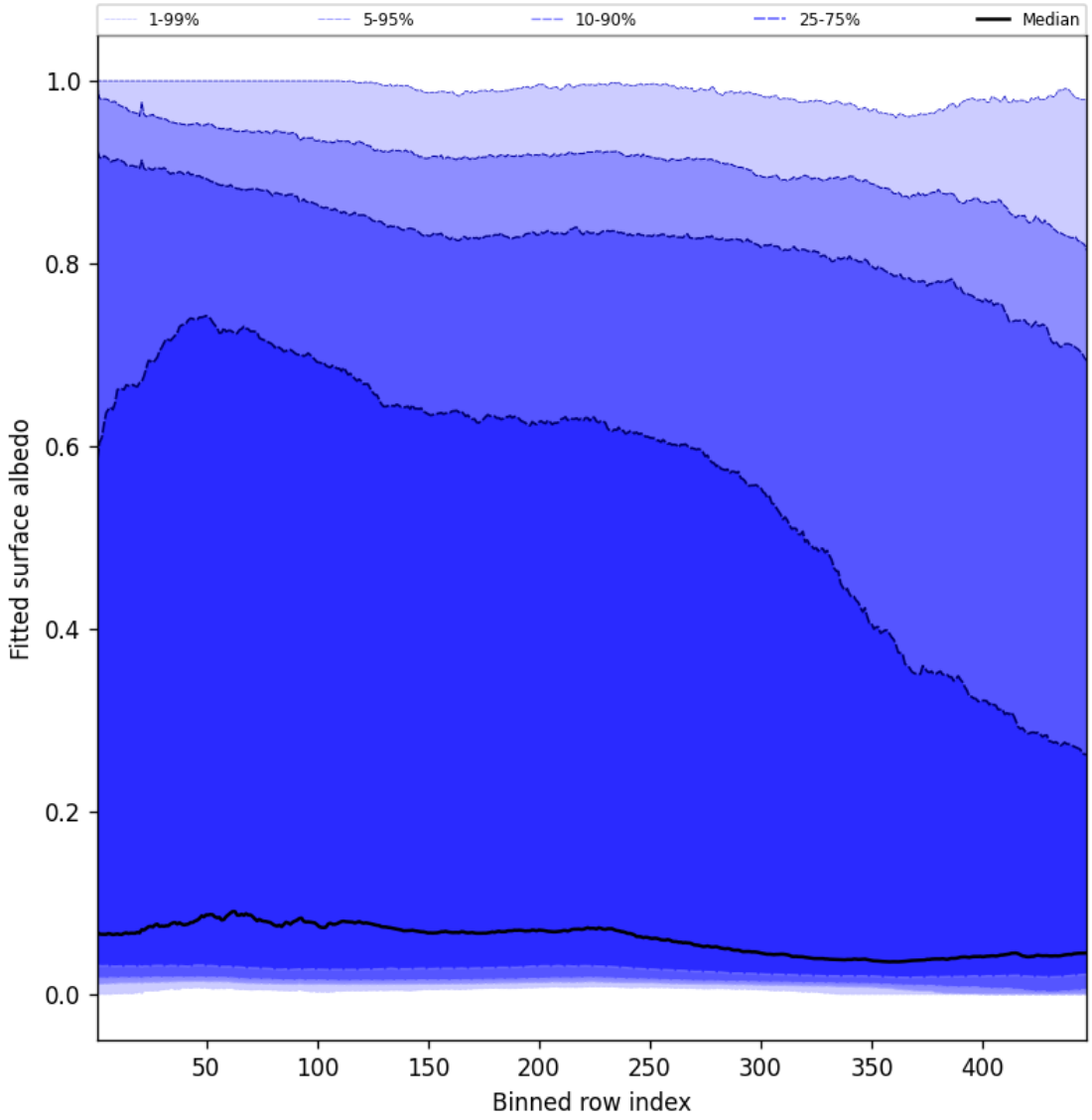

Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-04 to 2025-03-04

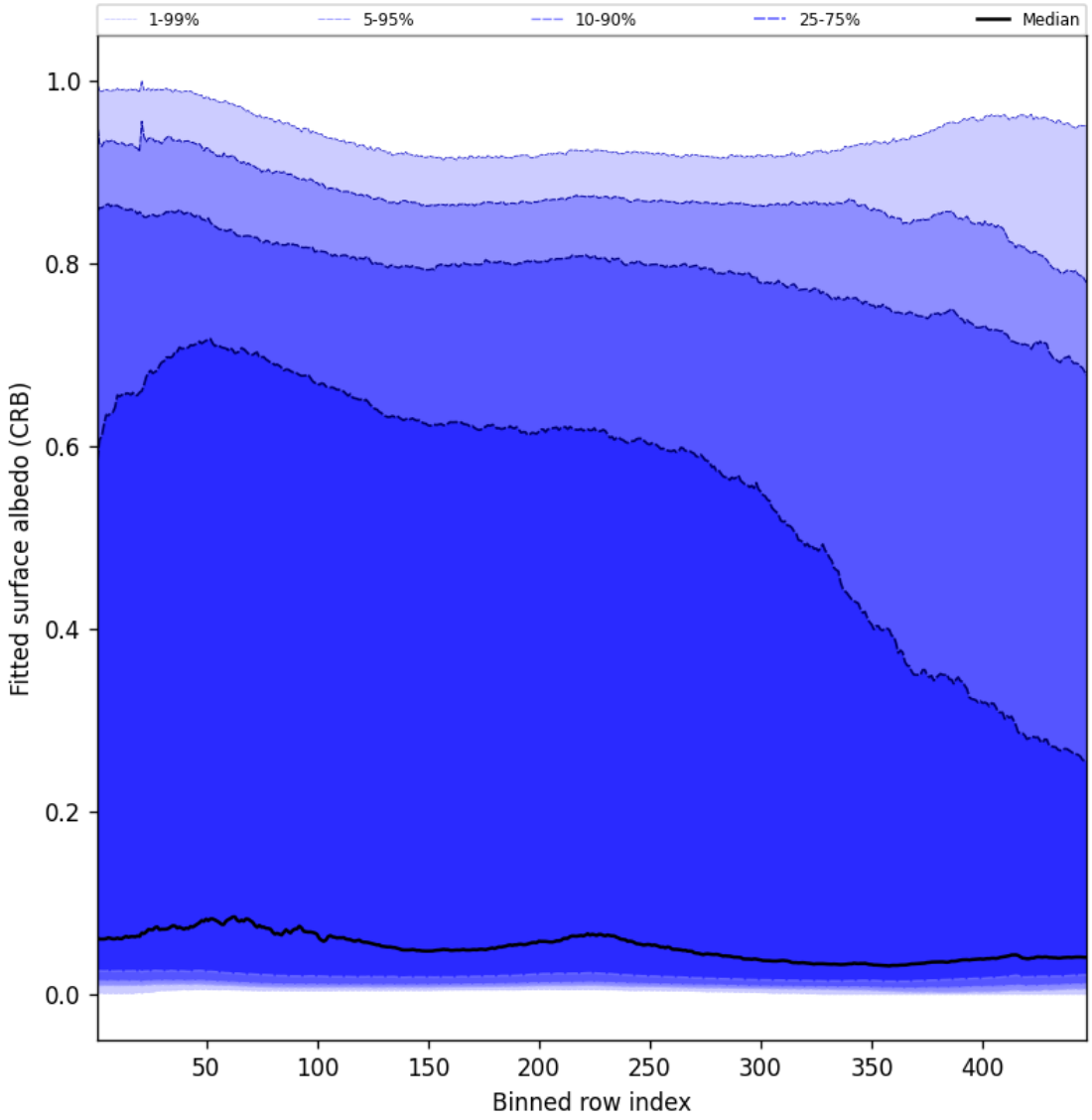

Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-04 to 2025-03-04

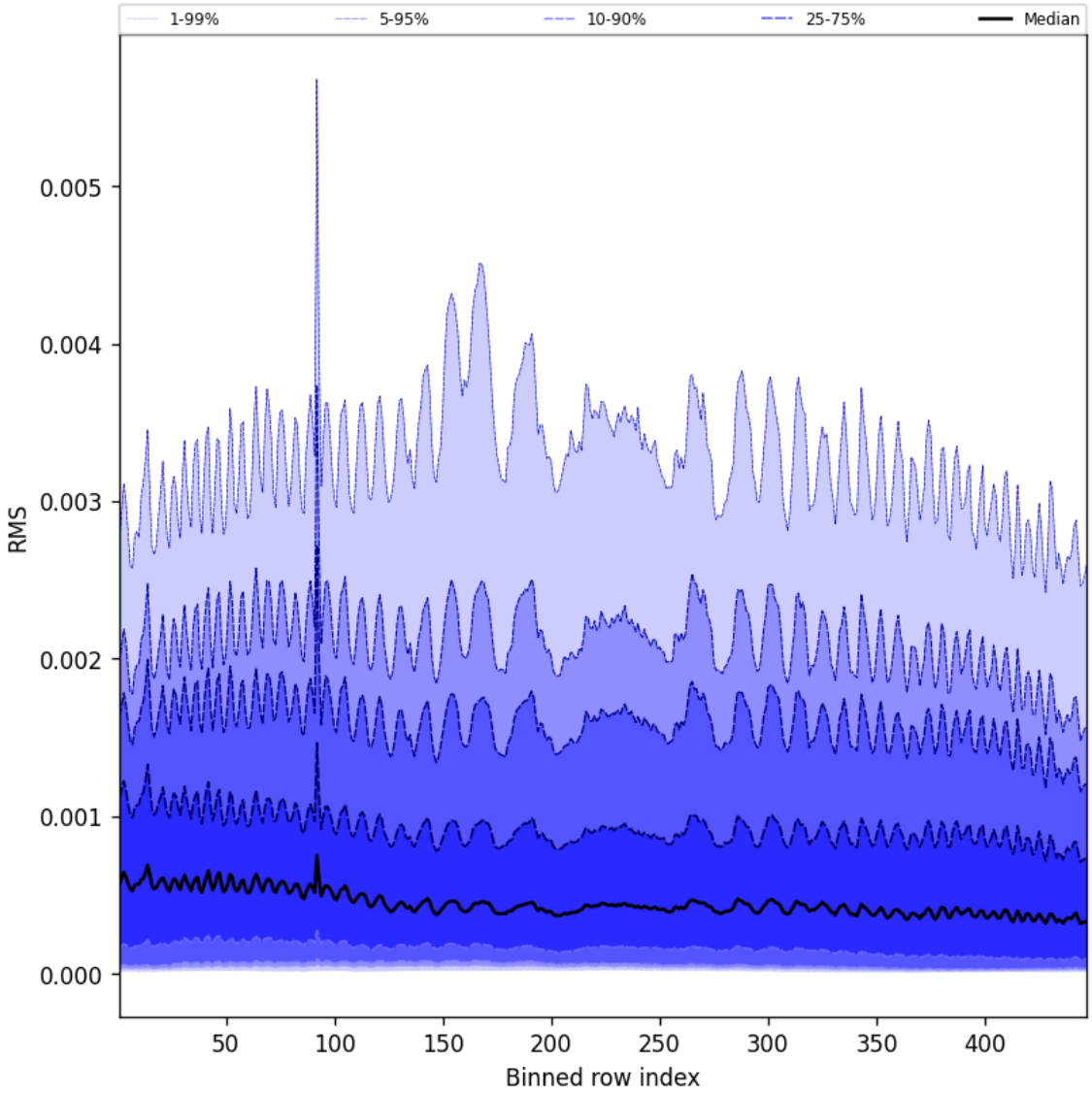

Figure 61: Along track statistics of “RMS” for 2025-03-04 to 2025-03-04

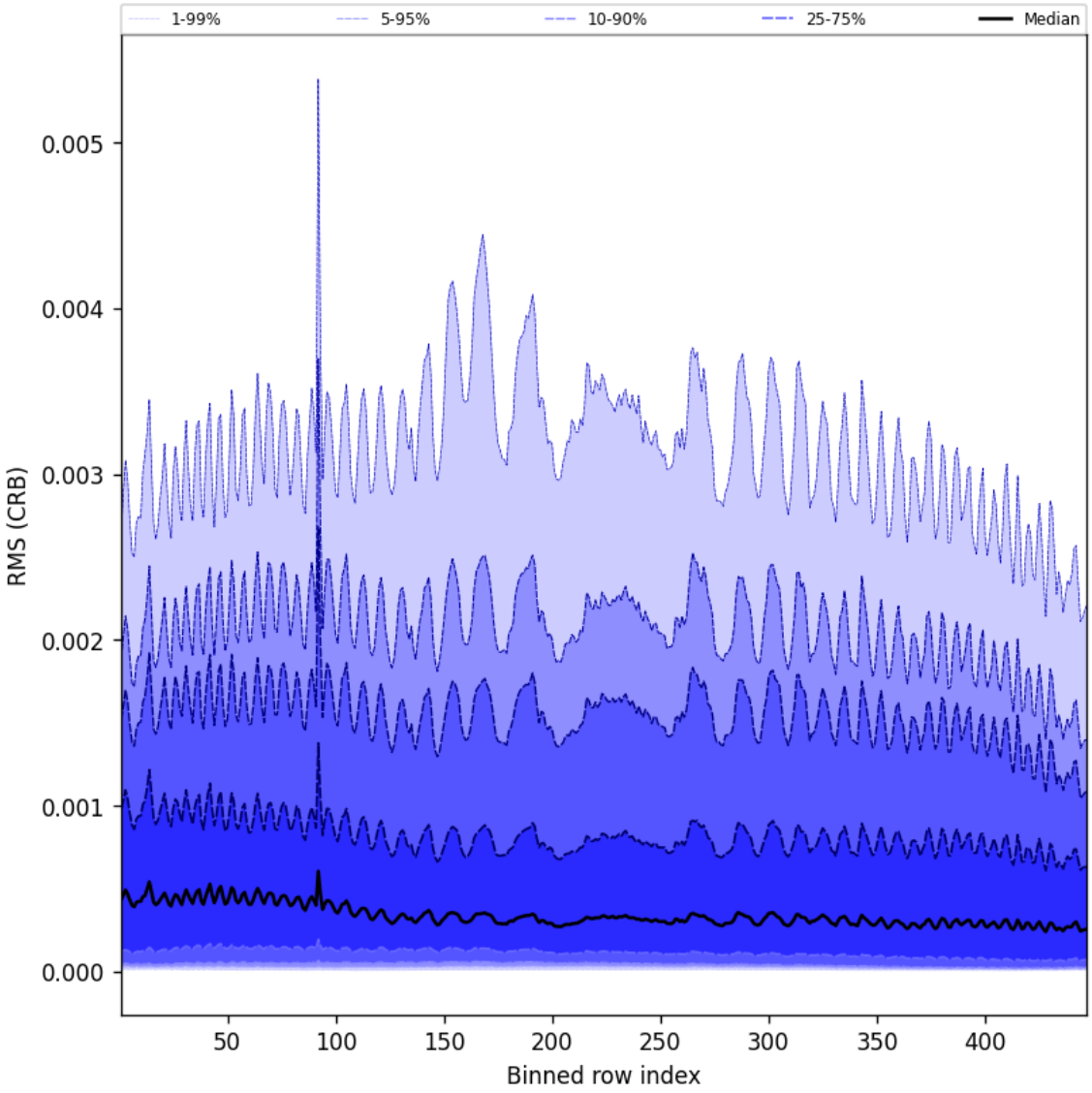

Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-04 to 2025-03-04

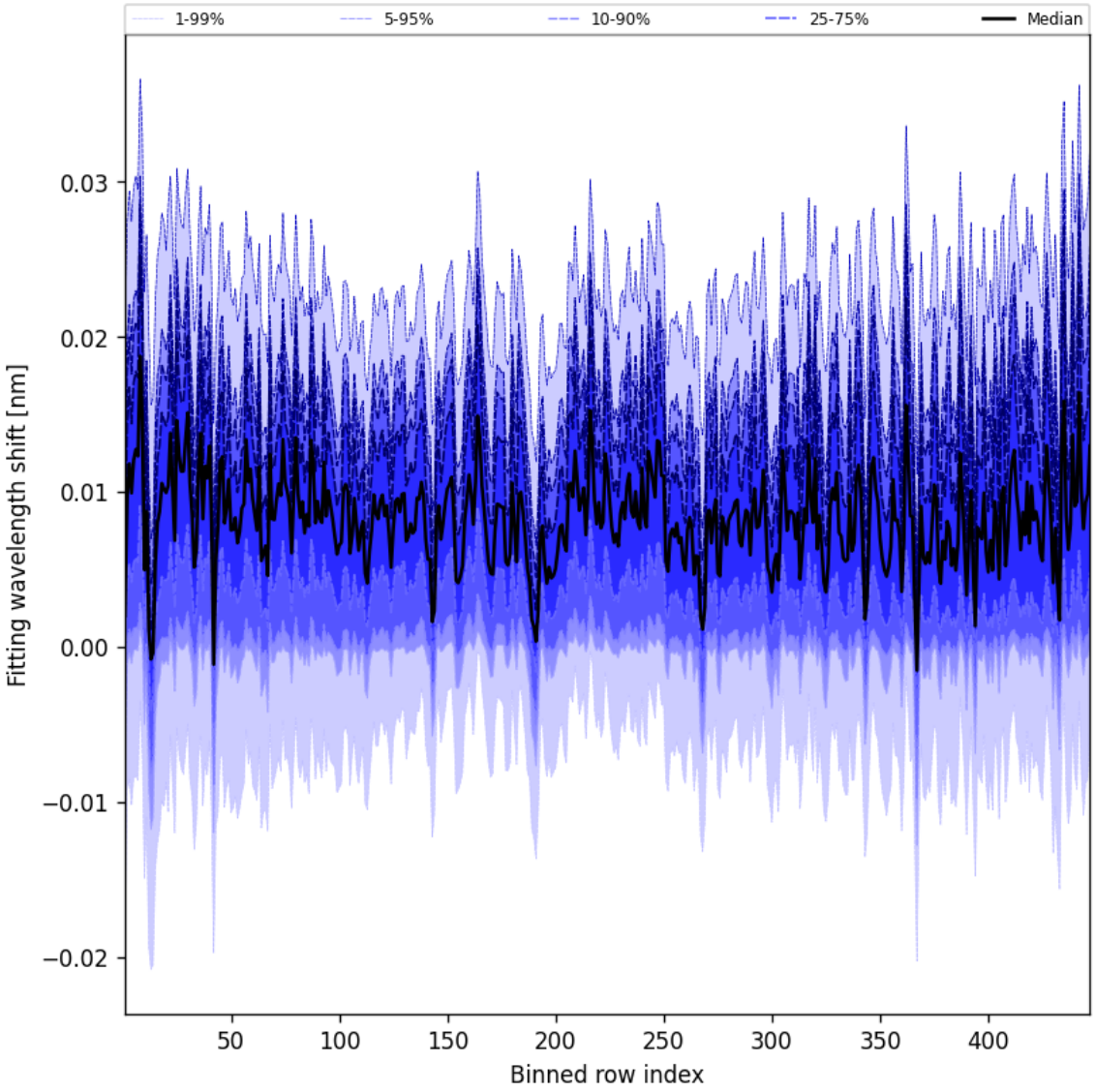

Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-04 to 2025-03-04

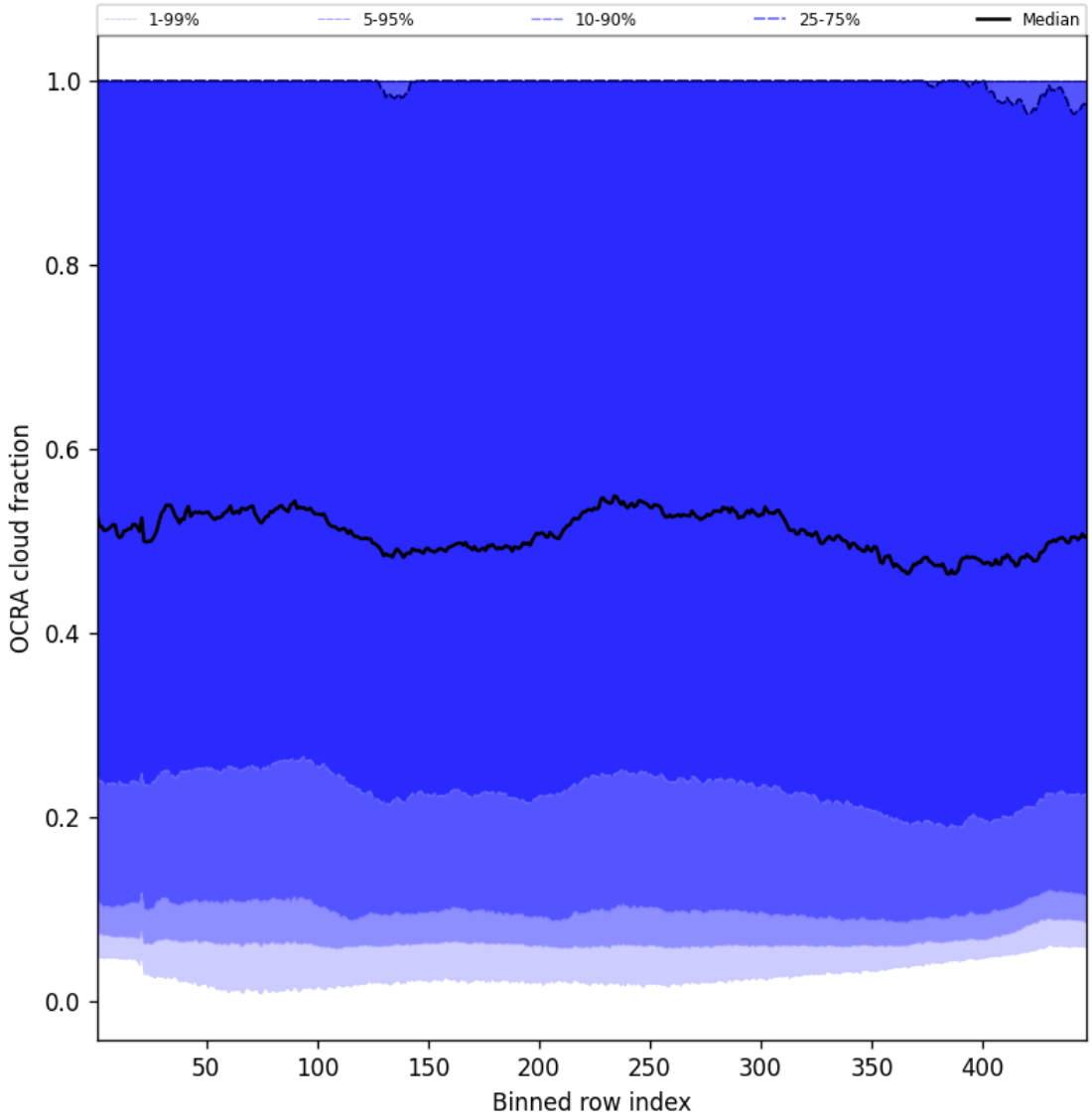

Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-04 to 2025-03-04

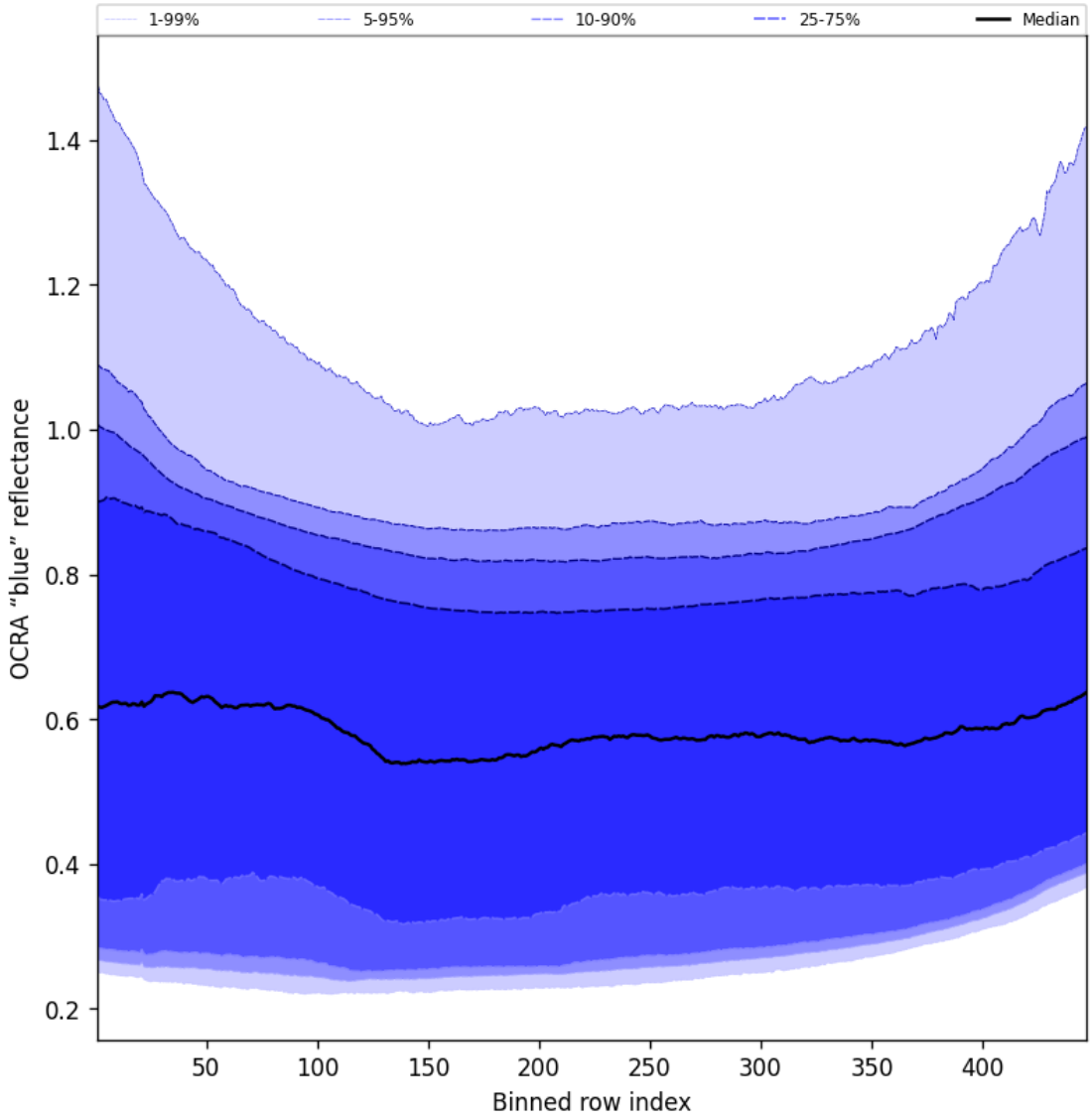

Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-04 to 2025-03-04

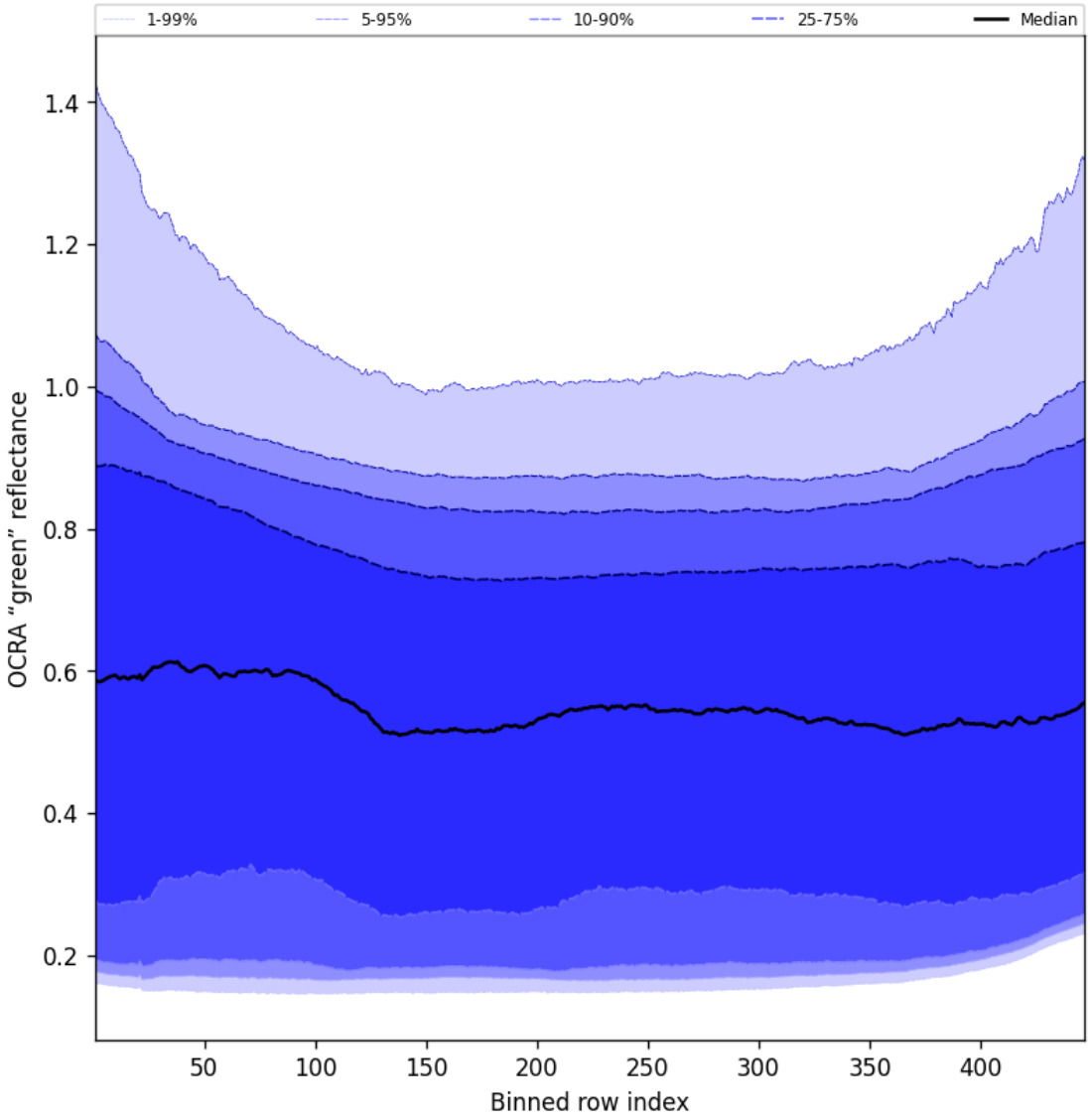

Figure 66: Along track statistics of "OCRA "green" reflectance" for 2025-03-04 to 2025-03-04

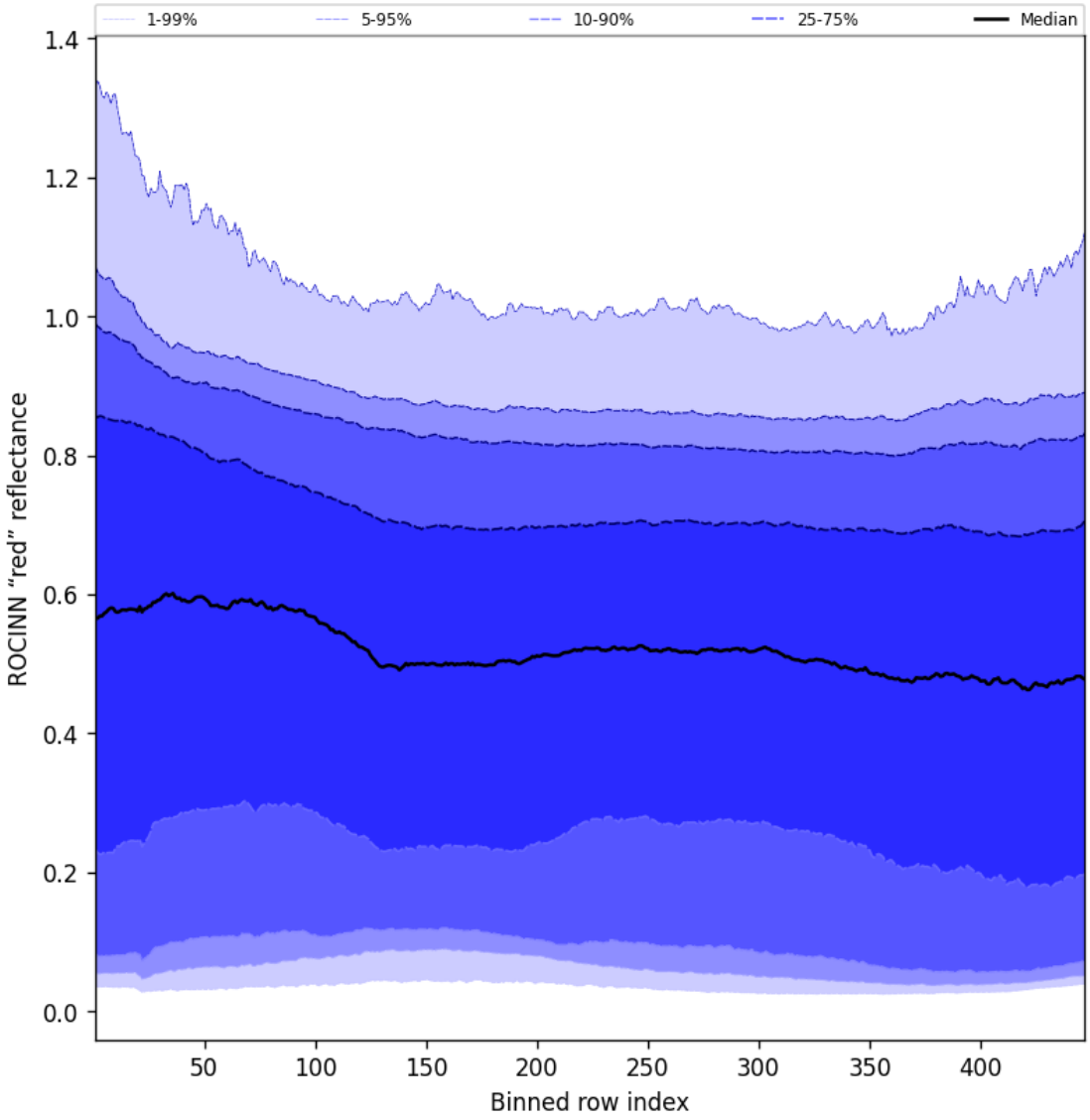

Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-03-04 to 2025-03-04

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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11 Copyright information of ‘PyCAMA’

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