

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-04-11 (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]	0.596 ± 0.387	18319786	5.000×10^{-3}	0.710	0.750	0.0	1.000
cloud fraction [1]	0.548 ± 0.339	18319786	0.995	0.697	0.508	6.752×10^{-3}	1.000
cloud top height [m]	$(0.386 \pm 0.274) \times 10^4$	18319786	1.725×10^3	3.568×10^3	3.220×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.4 ± 33.3	18319786	9.34	10.4	9.18	1.000	250
cloud fraction crb [1]	0.548 ± 0.339	18319786	0.995	0.696	0.508	8.290×10^{-3}	1.000
cloud height crb [m]	$(0.296 \pm 0.236) \times 10^4$	18319786	75.0	3.105×10^3	2.434×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.600 ± 0.215	18319786	0.995	0.279	0.578	0.0	1.000
surface albedo fitted [1]	0.272 ± 0.329	18319786	2.500×10^{-2}	0.515	5.984×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.259 ± 0.316	18319786	1.500×10^{-2}	0.531	4.848×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.568 \pm 8.705) \times 10^{-4}$	18319786	5.000×10^{-5}	7.921×10^{-4}	3.896×10^{-4}	1.062×10^{-6}	0.274
fitted root mean square crb [1]	$(5.766 \pm 7.188) \times 10^{-4}$	18319786	5.000×10^{-5}	7.210×10^{-4}	2.888×10^{-4}	1.368×10^{-6}	0.115
wavelength shift [nm]	$(7.322 \pm 6.815) \times 10^{-3}$	18319786	3.000×10^{-4}	9.494×10^{-3}	6.670×10^{-3}	-5.123×10^{-2}	6.342×10^{-2}
cloud fraction apriori [1]	0.557 ± 0.344	18319786	0.995	0.736	0.527	0.0	1.000
reflectance blue ocra [1]	0.572 ± 0.235	18319786	0.275	0.400	0.550	0.129	1.96
reflectance green ocra [1]	0.522 ± 0.262	18319786	0.185	0.473	0.507	6.821×10^{-2}	1.99
reflectance continuum aband [1]	0.477 ± 0.284	18319786	4.500×10^{-2}	0.478	0.476	1.247×10^{-2}	4.29

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	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.626×10^{-2}	6.835×10^{-2}	0.105	0.152	0.235	0.932	1.000	1.000	1.000	1.000
cloud top height [m]	182	632	1.002×10^3	1.333×10^3	1.758×10^3	5.327×10^3	6.627×10^3	7.798×10^3	9.290×10^3	1.197×10^4
cloud optical thickness [1]	1.08	2.78	3.90	4.75	5.67	16.1	23.8	35.0	60.9	250
cloud fraction crb [1]	2.578×10^{-2}	6.743×10^{-2}	0.104	0.151	0.235	0.931	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	64.5	431	753	1.127×10^3	4.232×10^3	5.356×10^3	6.365×10^3	7.641×10^3	9.907×10^3
cloud albedo crb [1]	1.896×10^{-2}	0.241	0.357	0.419	0.468	0.747	0.838	0.913	0.994	1.000
surface albedo fitted [1]	0.0	1.007×10^{-2}	1.537×10^{-2}	2.023×10^{-2}	2.740×10^{-2}	0.542	0.763	0.837	0.914	0.998
surface albedo fitted crb [1]	4.475×10^{-4}	7.269×10^{-3}	1.122×10^{-2}	1.510×10^{-2}	2.104×10^{-2}	0.552	0.722	0.795	0.859	0.937
fitted root mean square [1]	1.504×10^{-5}	2.949×10^{-5}	4.696×10^{-5}	7.346×10^{-5}	1.260×10^{-4}	9.181×10^{-4}	1.256×10^{-3}	1.618×10^{-3}	2.147×10^{-3}	3.304×10^{-3}
fitted root mean square crb [1]	8.928×10^{-6}	1.921×10^{-5}	3.172×10^{-5}	4.870×10^{-5}	8.451×10^{-5}	8.055×10^{-4}	1.171×10^{-3}	1.546×10^{-3}	2.081×10^{-3}	3.180×10^{-3}
wavelength shift [nm]	-8.333×10^{-3}	-1.280×10^{-3}	-2.885×10^{-5}	8.050×10^{-4}	2.257×10^{-3}	1.175×10^{-2}	1.415×10^{-2}	1.624×10^{-2}	1.901×10^{-2}	2.498×10^{-2}
cloud fraction apriori [1]	2.798×10^{-2}	6.547×10^{-2}	0.100	0.148	0.237	0.973	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.232	0.257	0.281	0.311	0.363	0.763	0.825	0.875	0.942	1.16
reflectance green ocra [1]	0.152	0.173	0.193	0.220	0.274	0.747	0.813	0.864	0.927	1.11
reflectance continuum aband [1]	2.936×10^{-2}	5.401×10^{-2}	8.905×10^{-2}	0.137	0.234	0.712	0.784	0.838	0.906	1.08

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]	0.538 ± 0.388	10292098	0.900	0.680	0.0	1.000	0.0	0.900
cloud fraction [1]	0.537 ± 0.338	10292098	0.696	0.477	6.752×10^{-3}	1.000	0.233	0.929
cloud top height [m]	$(0.374 \pm 0.271) \times 10^4$	10292098	3.470×10^3	3.183×10^3	0.0	2.000×10^4	1.699×10^3	5.169×10^3
cloud optical thickness [1]	16.4 ± 32.0	10292098	8.09	8.26	1.000	250	5.34	13.4
cloud fraction crb [1]	0.537 ± 0.338	10292098	0.694	0.478	8.290×10^{-3}	1.000	0.234	0.929
cloud height crb [m]	$(0.272 \pm 0.225) \times 10^4$	10292098	2.960×10^3	2.293×10^3	0.0	2.000×10^4	960	3.919×10^3
cloud albedo crb [1]	0.633 ± 0.235	10292098	0.344	0.626	0.0	1.000	0.477	0.820
surface albedo fitted [1]	0.387 ± 0.354	10292098	0.716	0.253	0.0	1.000	4.089×10^{-2}	0.757
surface albedo fitted crb [1]	0.370 ± 0.336	10292098	0.681	0.253	0.0	1.000	3.387×10^{-2}	0.715
fitted root mean square [1]	$(8.352 \pm 10.222) \times 10^{-4}$	10292098	9.678×10^{-4}	5.838×10^{-4}	2.212×10^{-6}	0.274	2.015×10^{-4}	1.169×10^{-3}
fitted root mean square crb [1]	$(7.241 \pm 8.128) \times 10^{-4}$	10292098	9.244×10^{-4}	4.294×10^{-4}	1.737×10^{-6}	0.115	1.287×10^{-4}	1.053×10^{-3}
wavelength shift [nm]	$(8.502 \pm 6.827) \times 10^{-3}$	10292098	9.662×10^{-3}	8.209×10^{-3}	-5.123×10^{-2}	5.936×10^{-2}	3.433×10^{-3}	1.310×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.341	10292098	0.743	0.509	0.0	1.000	0.243	0.986
reflectance blue ocra [1]	0.610 ± 0.247	10292098	0.432	0.637	0.136	1.95	0.373	0.804
reflectance green ocra [1]	0.570 ± 0.271	10292098	0.497	0.614	9.292×10^{-2}	1.99	0.296	0.794
reflectance continuum aband [1]	0.538 ± 0.285	10292098	0.470	0.582	1.456×10^{-2}	3.58	0.294	0.764

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]	0.670 ± 0.372	8027688	0.600	0.900	0.0	1.000	0.400	1.000
cloud fraction [1]	0.562 ± 0.341	8027688	0.697	0.553	7.875×10^{-3}	1.000	0.238	0.935
cloud top height [m]	$(0.400 \pm 0.278) \times 10^4$	8027688	3.725×10^3	3.268×10^3	0.0	2.000×10^4	1.824×10^3	5.548×10^3
cloud optical thickness [1]	21.1 ± 34.8	8027688	13.2	10.6	1.000	250	6.46	19.7
cloud fraction crb [1]	0.561 ± 0.341	8027688	0.696	0.551	8.297×10^{-3}	1.000	0.237	0.933
cloud height crb [m]	$(0.326 \pm 0.246) \times 10^4$	8027688	3.344×10^3	2.617×10^3	0.0	1.806×10^4	1.305×10^3	4.649×10^3
cloud albedo crb [1]	0.558 ± 0.178	8027688	0.197	0.545	0.0	1.000	0.460	0.657
surface albedo fitted [1]	0.125 ± 0.221	8027688	4.931×10^{-2}	3.504×10^{-2}	0.0	1.000	2.042×10^{-2}	6.973×10^{-2}
surface albedo fitted crb [1]	0.116 ± 0.217	8027688	4.209×10^{-2}	2.656×10^{-2}	0.0	1.000	1.471×10^{-2}	5.680×10^{-2}
fitted root mean square [1]	$(4.281 \pm 5.445) \times 10^{-4}$	8027688	4.945×10^{-4}	2.255×10^{-4}	1.062×10^{-6}	8.832×10^{-2}	8.243×10^{-5}	5.769×10^{-4}
fitted root mean square crb [1]	$(3.875 \pm 5.182) \times 10^{-4}$	8027688	4.637×10^{-4}	1.722×10^{-4}	1.368×10^{-6}	5.196×10^{-2}	5.881×10^{-5}	5.225×10^{-4}
wavelength shift [nm]	$(5.809 \pm 6.492) \times 10^{-3}$	8027688	8.304×10^{-3}	4.870×10^{-3}	-4.894×10^{-2}	6.342×10^{-2}	1.292×10^{-3}	9.597×10^{-3}
cloud fraction apriori [1]	0.563 ± 0.347	8027688	0.733	0.553	0.0	1.000	0.229	0.962
reflectance blue ocra [1]	0.525 ± 0.210	8027688	0.302	0.488	0.129	1.96	0.355	0.657
reflectance green ocra [1]	0.462 ± 0.235	8027688	0.368	0.425	6.821×10^{-2}	1.98	0.257	0.625
reflectance continuum aband [1]	0.400 ± 0.263	8027688	0.416	0.376	1.247×10^{-2}	4.29	0.172	0.588

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]	0.612 ± 0.386	13014626	0.650	0.800	0.0	1.000	0.300	0.950
cloud fraction [1]	0.549 ± 0.344	13014626	0.718	0.511	7.875×10^{-3}	1.000	0.227	0.944
cloud top height [m]	$(0.354 \pm 0.249) \times 10^4$	13014626	3.189×10^3	2.932×10^3	0.0	2.000×10^4	1.644×10^3	4.833×10^3
cloud optical thickness [1]	19.6 ± 33.7	13014626	11.1	9.94	1.000	250	6.31	17.4
cloud fraction crb [1]	0.549 ± 0.344	13014626	0.716	0.510	8.441×10^{-3}	1.000	0.226	0.943
cloud height crb [m]	$(0.275 \pm 0.221) \times 10^4$	13014626	2.856×10^3	2.252×10^3	0.0	2.000×10^4	1.039×10^3	3.895×10^3
cloud albedo crb [1]	0.582 ± 0.201	13014626	0.246	0.556	0.0	1.000	0.460	0.706
surface albedo fitted [1]	0.185 ± 0.301	13014626	5.361×10^{-2}	3.707×10^{-2}	0.0	1.000	2.179×10^{-2}	7.539×10^{-2}
surface albedo fitted crb [1]	0.170 ± 0.284	13014626	4.542×10^{-2}	2.914×10^{-2}	0.0	1.000	1.636×10^{-2}	6.179×10^{-2}
fitted root mean square [1]	$(5.152 \pm 7.674) \times 10^{-4}$	13014626	5.962×10^{-4}	2.546×10^{-4}	1.062×10^{-6}	0.136	9.211×10^{-5}	6.883×10^{-4}
fitted root mean square crb [1]	$(4.453 \pm 6.278) \times 10^{-4}$	13014626	4.902×10^{-4}	1.906×10^{-4}	1.368×10^{-6}	5.196×10^{-2}	6.513×10^{-5}	5.553×10^{-4}
wavelength shift [nm]	$(6.632 \pm 6.693) \times 10^{-3}$	13014626	8.966×10^{-3}	5.821×10^{-3}	-4.894×10^{-2}	6.342×10^{-2}	1.847×10^{-3}	1.081×10^{-2}
cloud fraction apriori [1]	0.555 ± 0.348	13014626	0.753	0.524	0.0	1.000	0.225	0.978
reflectance blue ocr [1]	0.551 ± 0.219	13014626	0.370	0.526	0.161	1.94	0.359	0.729
reflectance green ocr [1]	0.495 ± 0.246	13014626	0.443	0.474	9.261×10^{-2}	1.82	0.262	0.706
reflectance continuum aband [1]	0.427 ± 0.278	13014626	0.505	0.421	1.247×10^{-2}	4.29	0.159	0.664

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]	0.570 ± 0.391	3727229	0.900	0.700	0.0	1.000	0.0	0.900
cloud fraction [1]	0.536 ± 0.329	3727229	0.637	0.488	7.015×10^{-3}	1.000	0.248	0.885
cloud top height [m]	$(0.500 \pm 0.314) \times 10^4$	3727229	4.324×10^3	4.408×10^3	0.0	2.000×10^4	2.568×10^3	6.892×10^3
cloud optical thickness [1]	14.1 ± 27.9	3727229	7.36	7.06	1.000	250	4.62	12.0
cloud fraction crb [1]	0.536 ± 0.329	3727229	0.636	0.488	8.290×10^{-3}	1.000	0.248	0.884
cloud height crb [m]	$(0.381 \pm 0.266) \times 10^4$	3727229	3.727×10^3	3.220×10^3	0.0	2.000×10^4	1.707×10^3	5.434×10^3
cloud albedo crb [1]	0.636 ± 0.233	3727229	0.320	0.637	0.0	1.000	0.497	0.816
surface albedo fitted [1]	0.473 ± 0.288	3727229	0.538	0.326	4.668×10^{-3}	1.000	0.236	0.774
surface albedo fitted crb [1]	0.463 ± 0.274	3727229	0.521	0.330	4.572×10^{-3}	1.000	0.233	0.754
fitted root mean square [1]	$(9.715 \pm 9.778) \times 10^{-4}$	3727229	9.031×10^{-4}	7.562×10^{-4}	3.086×10^{-6}	0.274	4.004×10^{-4}	1.304×10^{-3}
fitted root mean square crb [1]	$(8.789 \pm 8.124) \times 10^{-4}$	3727229	9.626×10^{-4}	6.776×10^{-4}	3.178×10^{-6}	0.115	2.824×10^{-4}	1.245×10^{-3}
wavelength shift [nm]	$(8.534 \pm 6.615) \times 10^{-3}$	3727229	9.443×10^{-3}	8.226×10^{-3}	-3.811×10^{-2}	5.302×10^{-2}	3.505×10^{-3}	1.295×10^{-2}
cloud fraction apriori [1]	0.550 ± 0.334	3727229	0.685	0.509	0.0	1.000	0.252	0.937
reflectance blue ocra [1]	0.608 ± 0.270	3727229	0.470	0.601	0.129	1.96	0.353	0.823
reflectance green ocra [1]	0.572 ± 0.290	3727229	0.530	0.577	6.821×10^{-2}	1.98	0.285	0.815
reflectance continuum aband [1]	0.587 ± 0.255	3727229	0.430	0.580	1.782×10^{-2}	3.76	0.359	0.789

3 Granule outlines

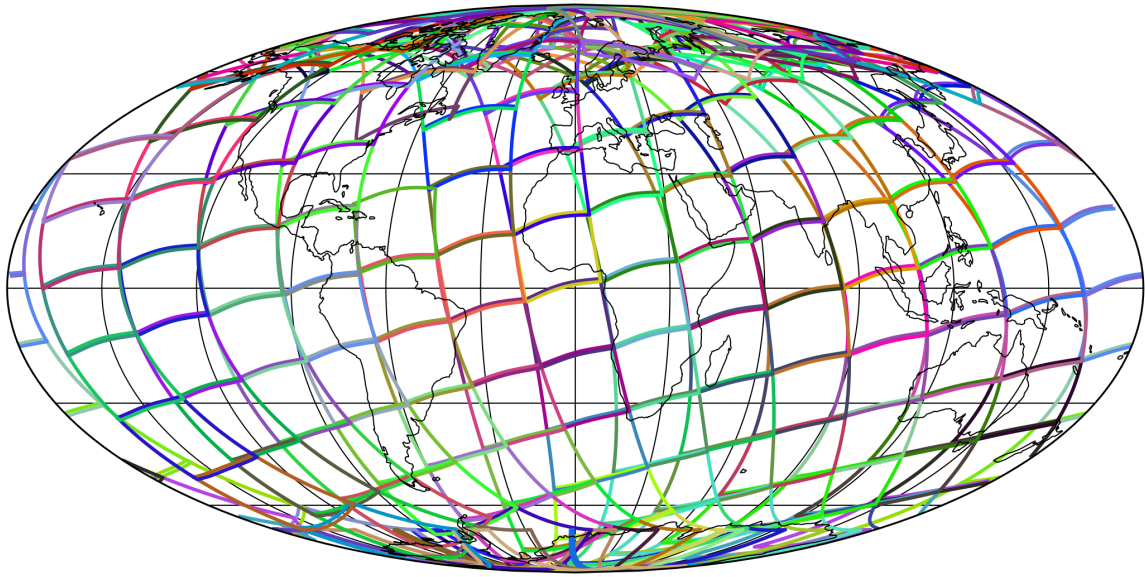


Figure 1: Outline of the granules.

4 Input data monitoring

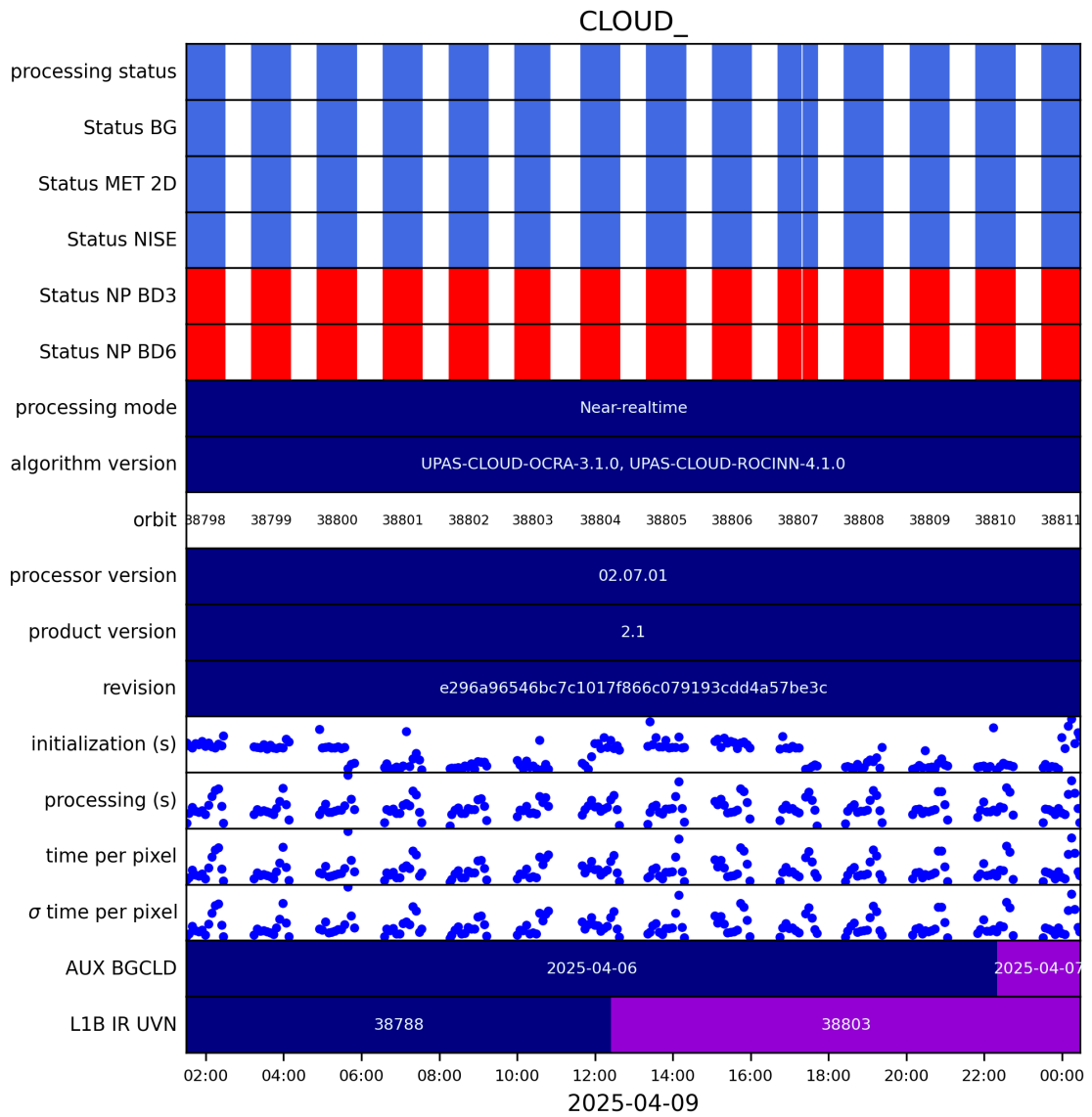


Figure 2: Input data per granule

5 Warnings and errors

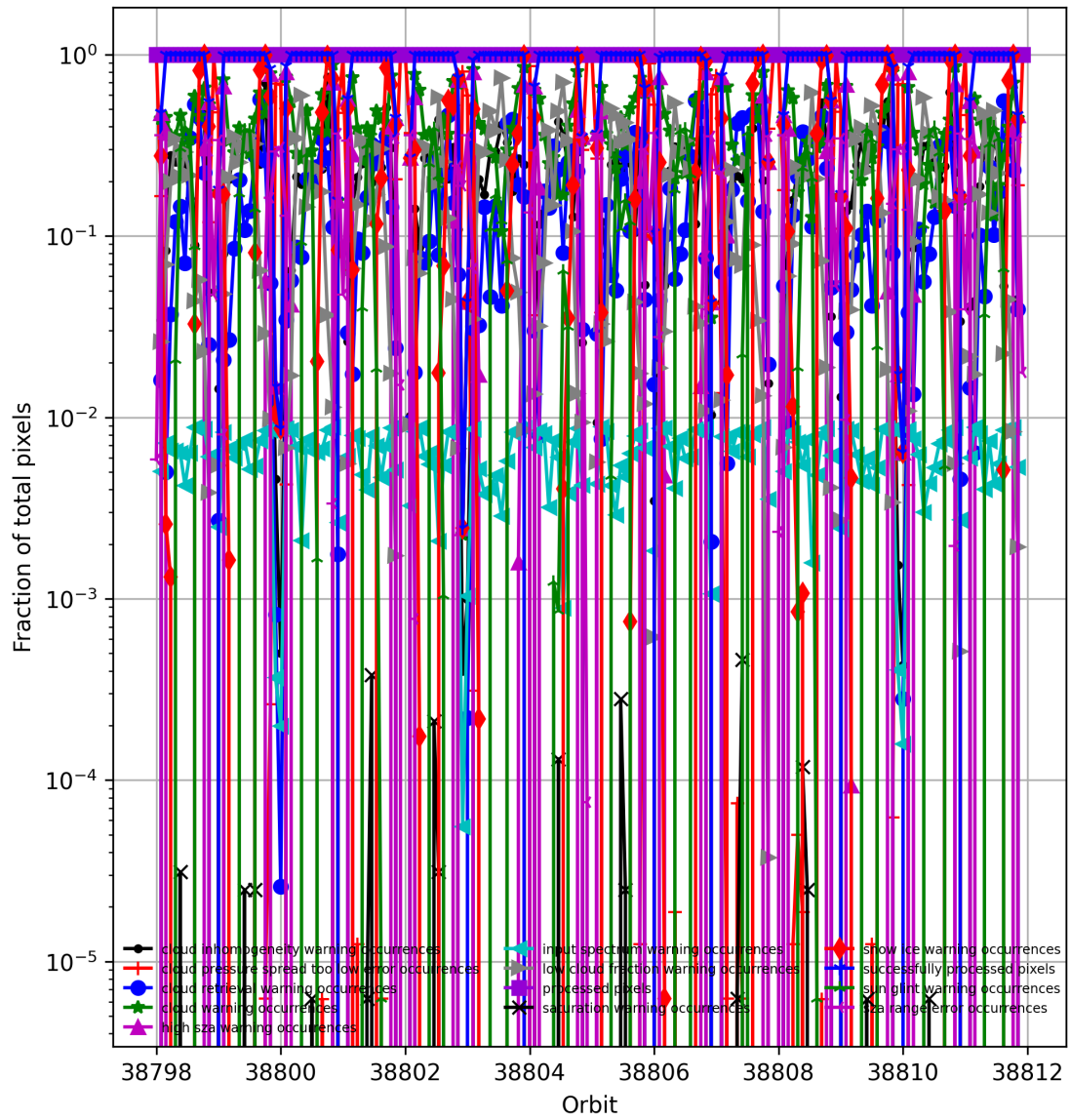


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

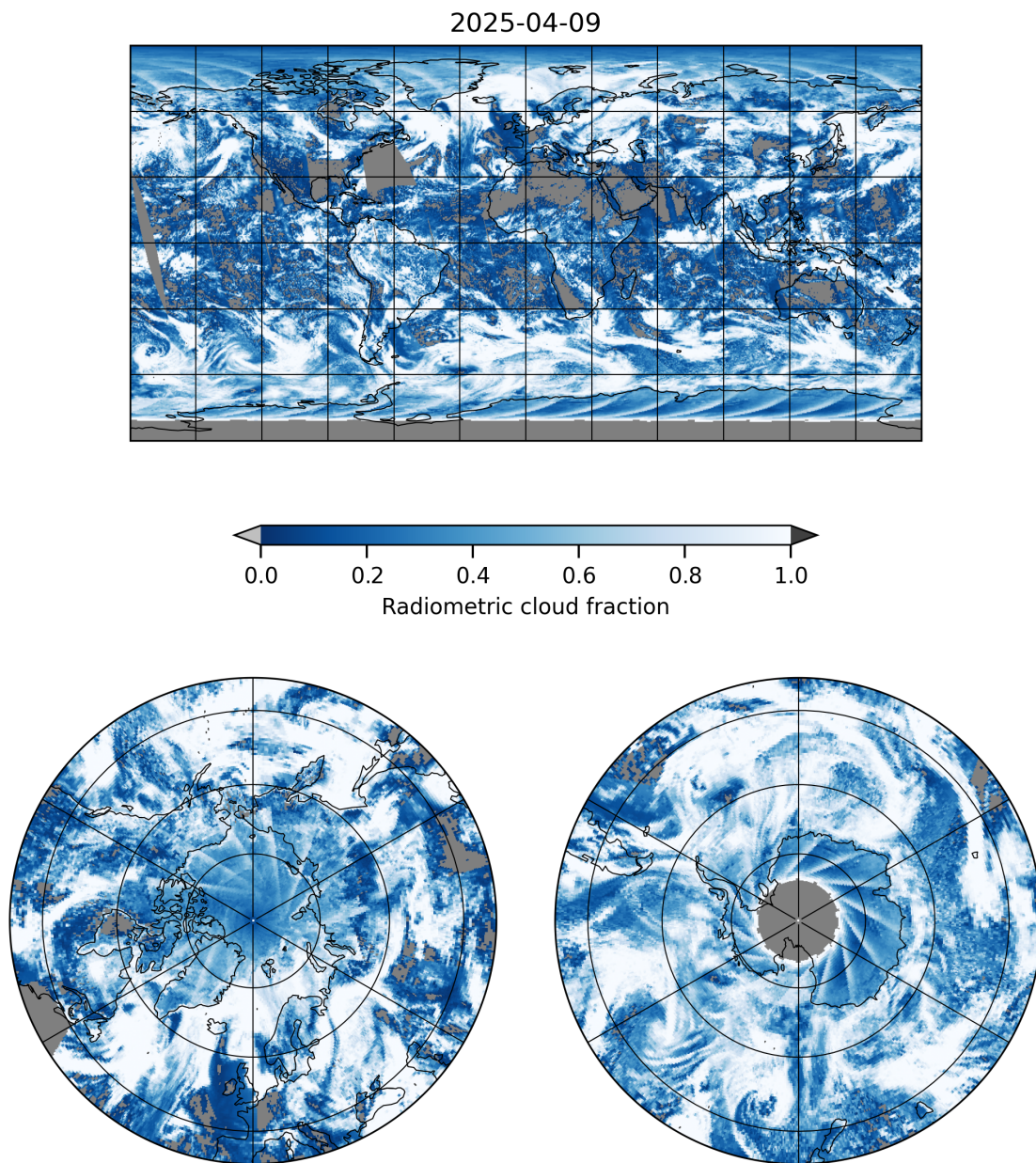


Figure 4: Map of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10

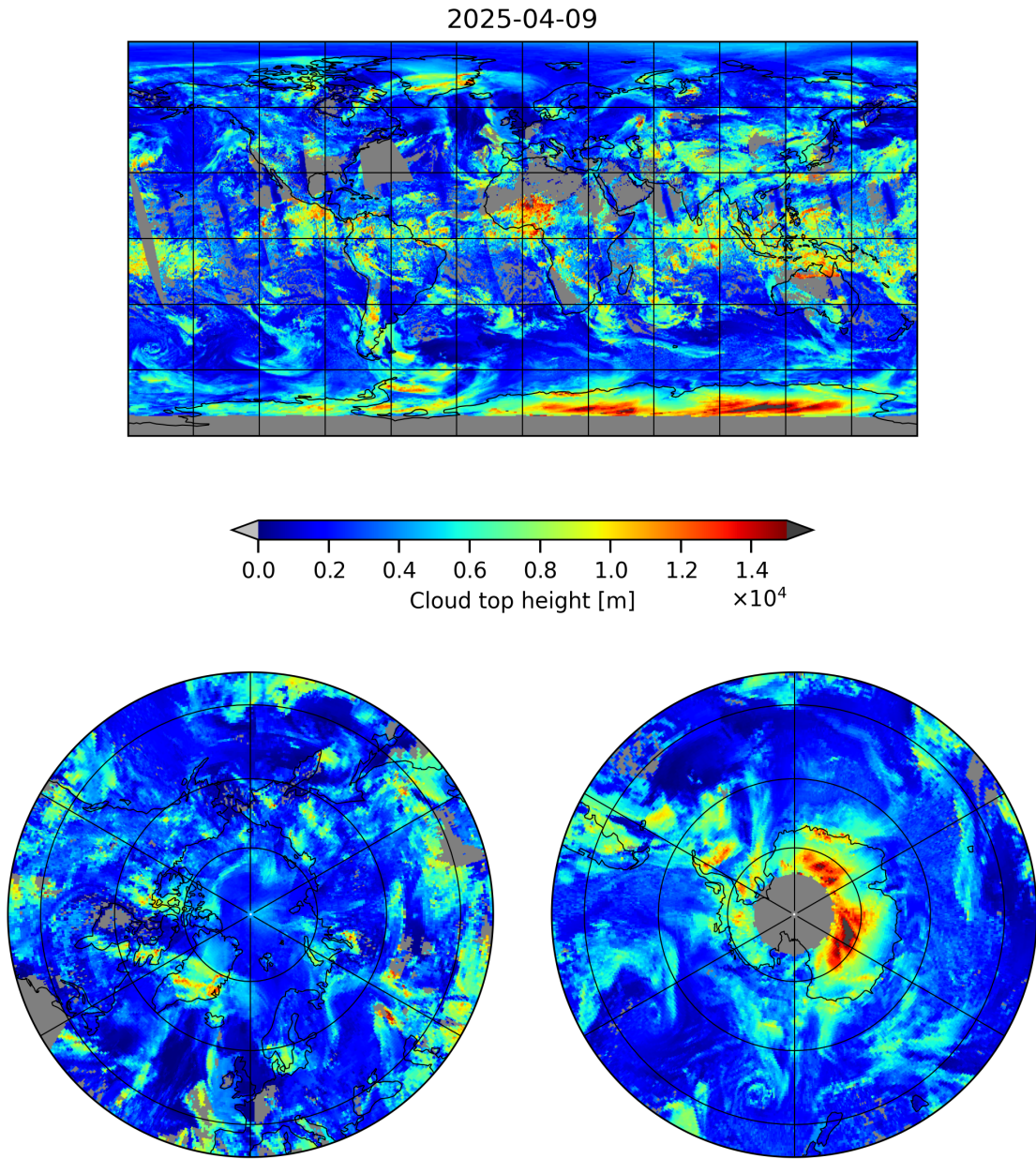


Figure 5: Map of “Cloud top height” for 2025-04-09 to 2025-04-10

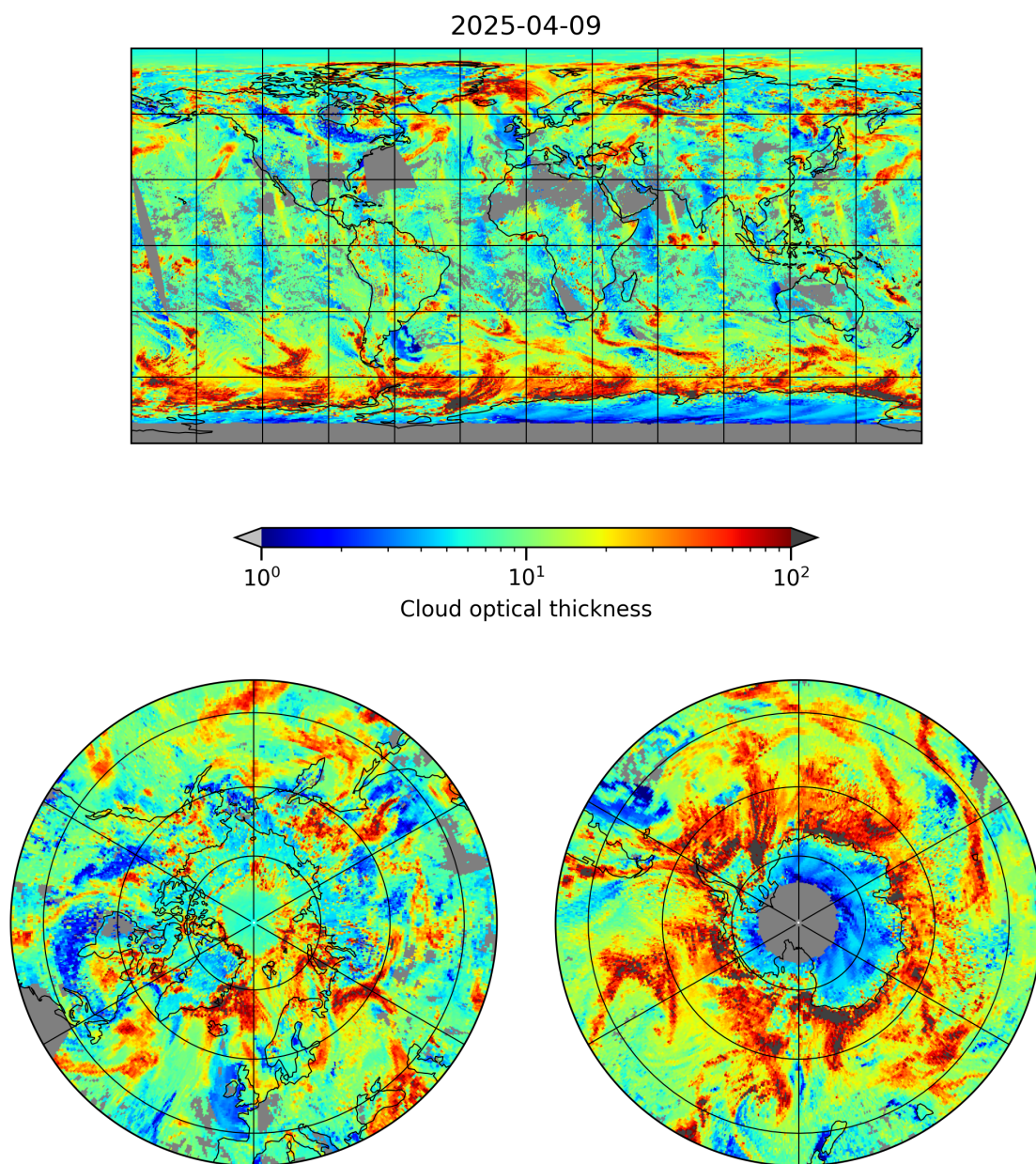


Figure 6: Map of “Cloud optical thickness” for 2025-04-09 to 2025-04-10

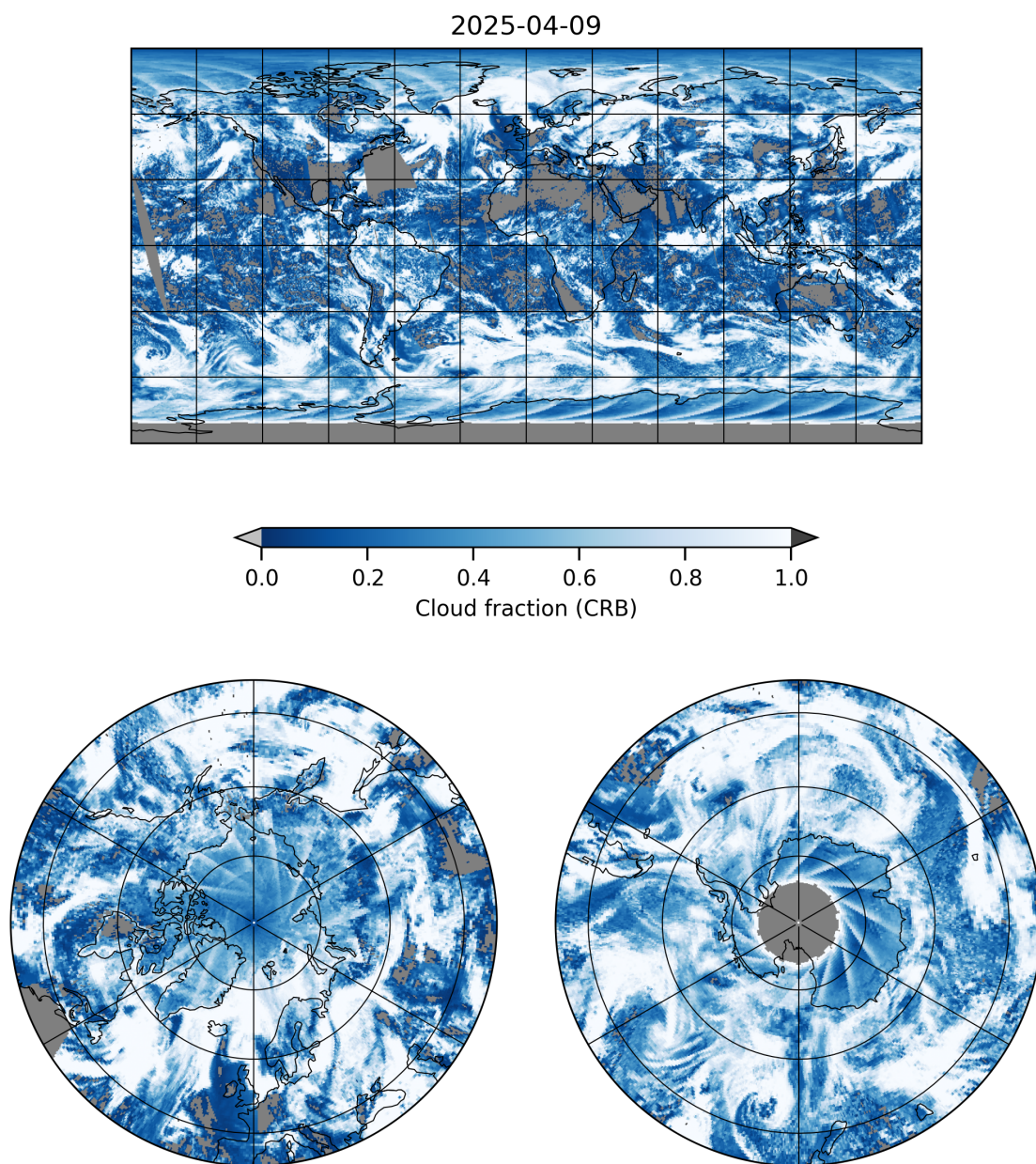


Figure 7: Map of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10

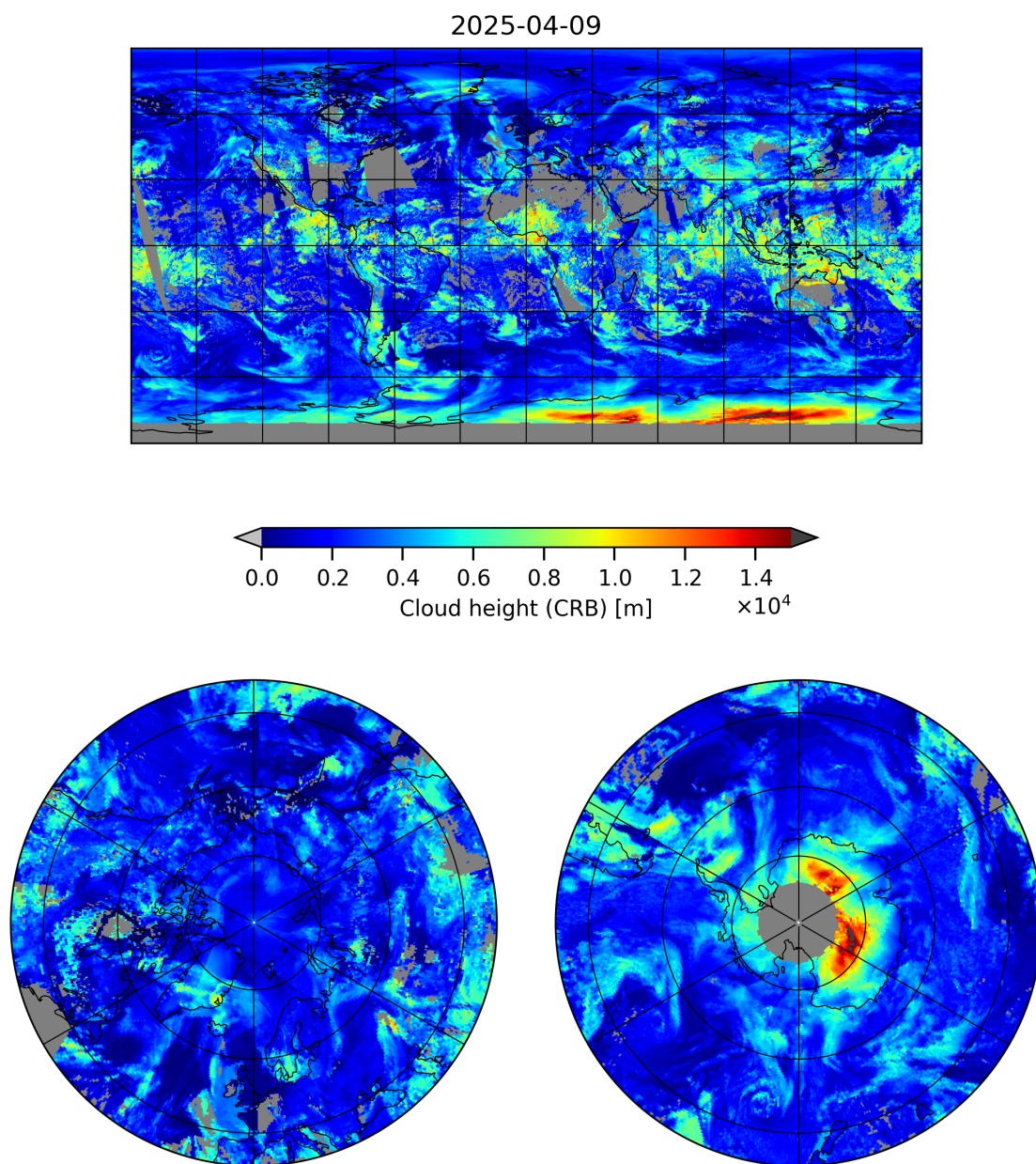


Figure 8: Map of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10

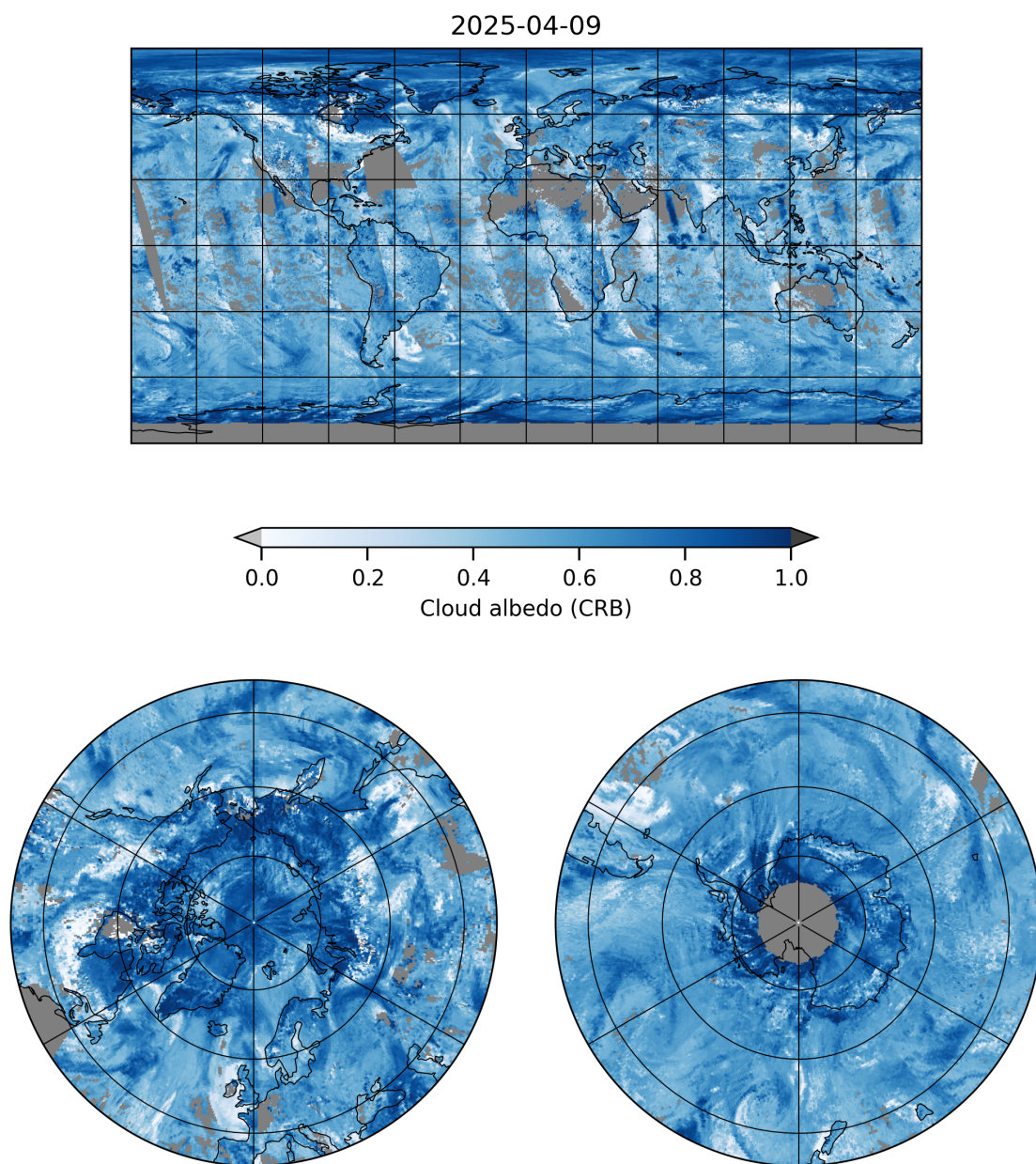


Figure 9: Map of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10

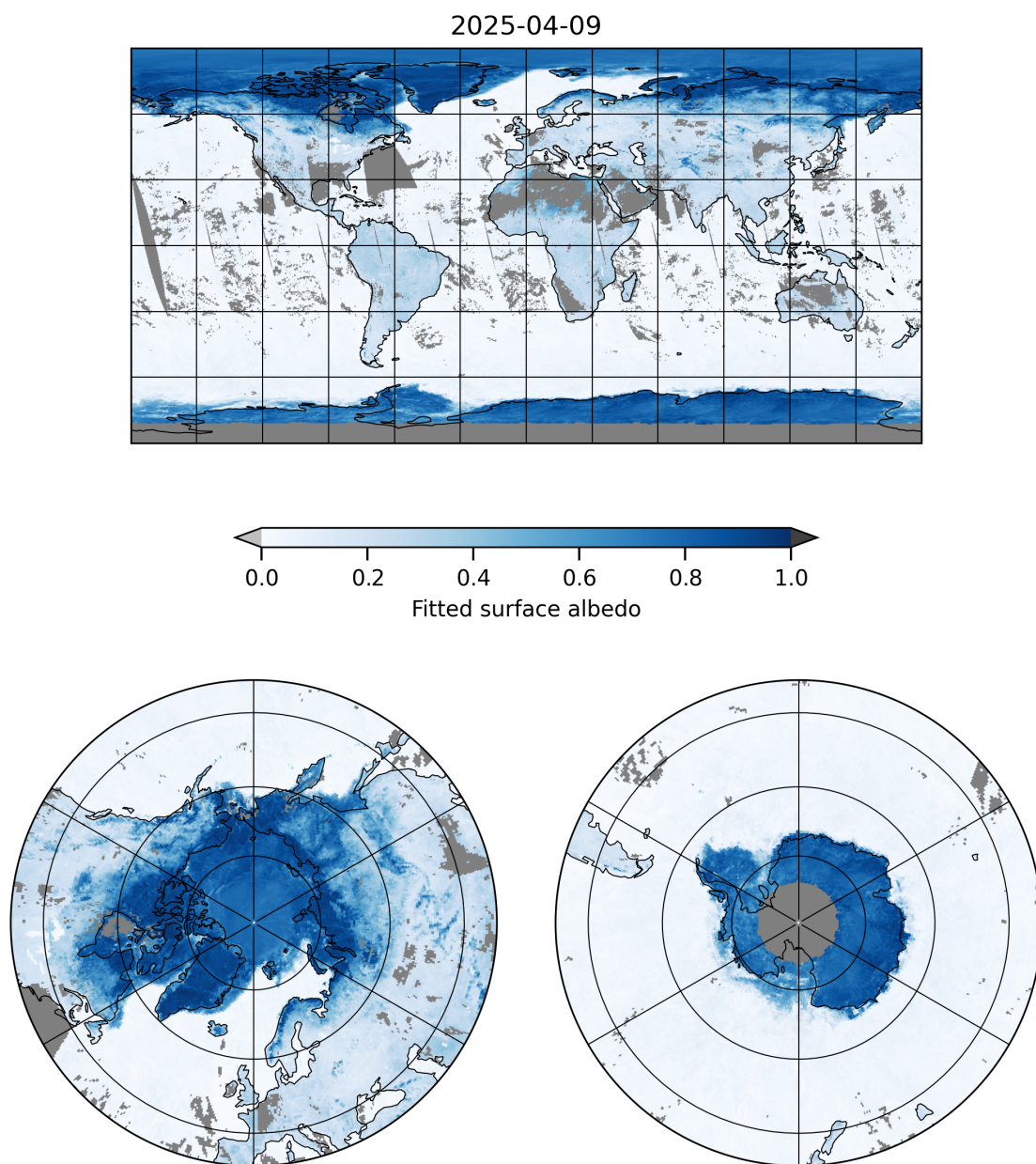


Figure 10: Map of “Fitted surface albedo” for 2025-04-09 to 2025-04-10

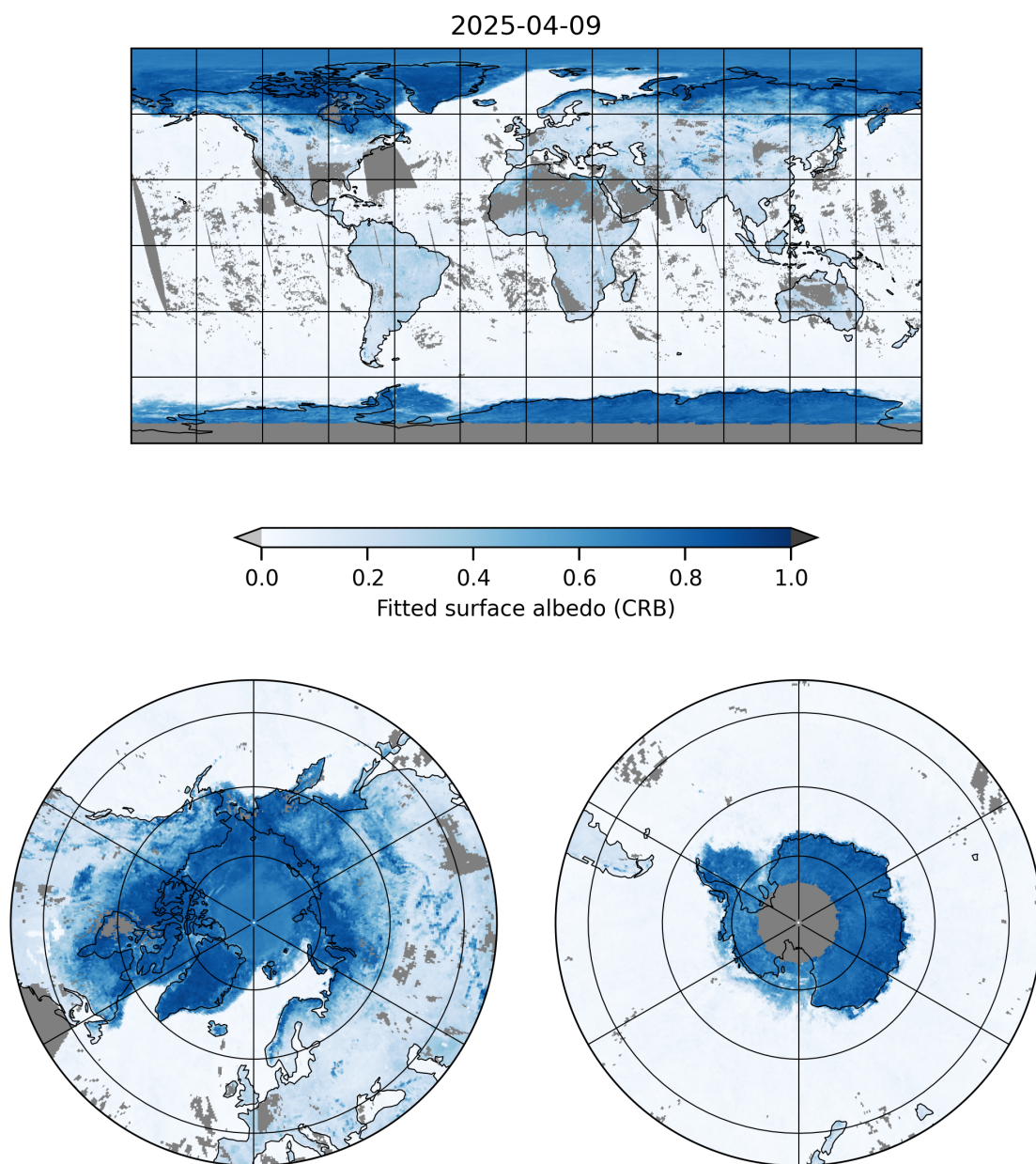


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10

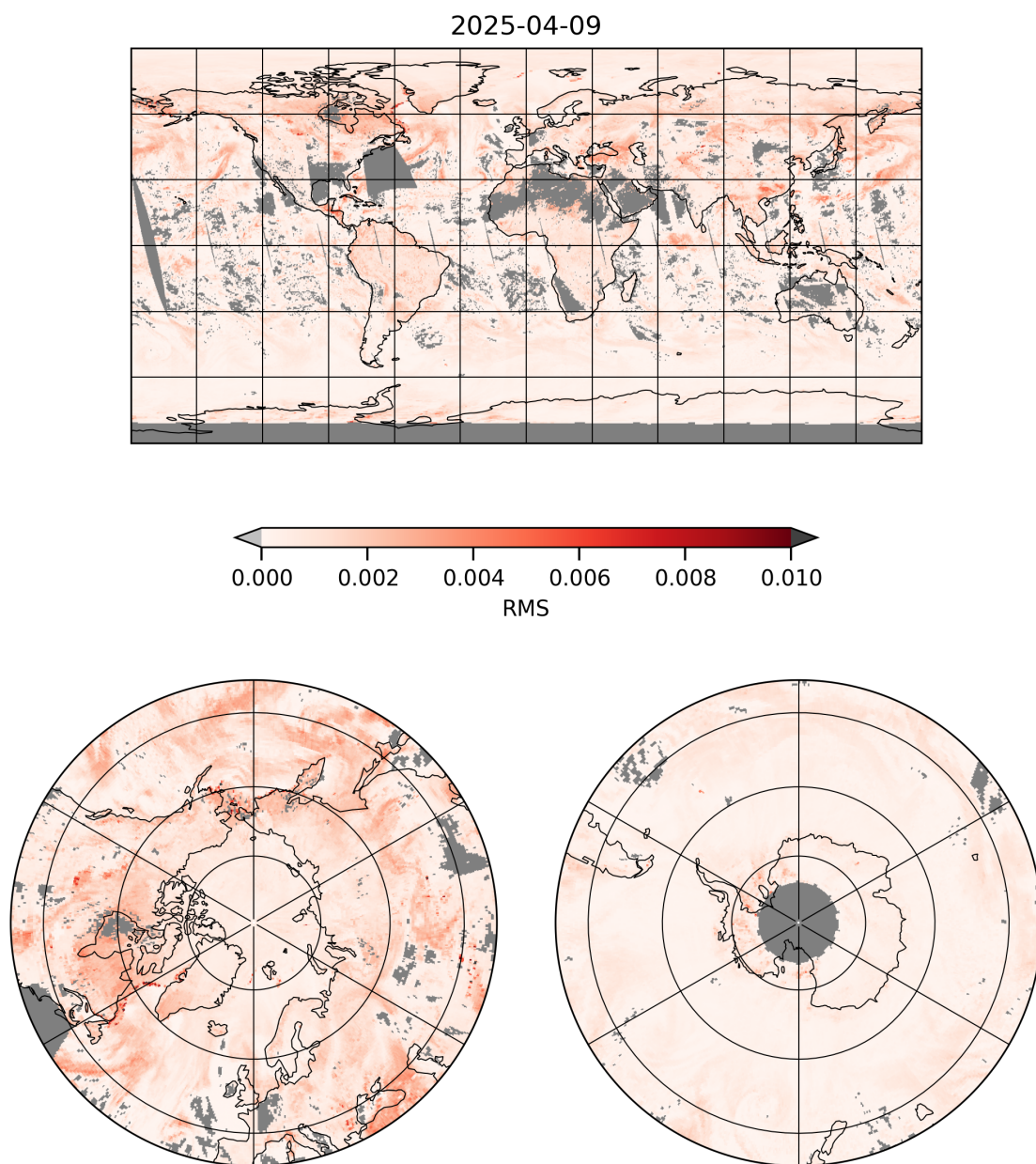


Figure 12: Map of “RMS” for 2025-04-09 to 2025-04-10

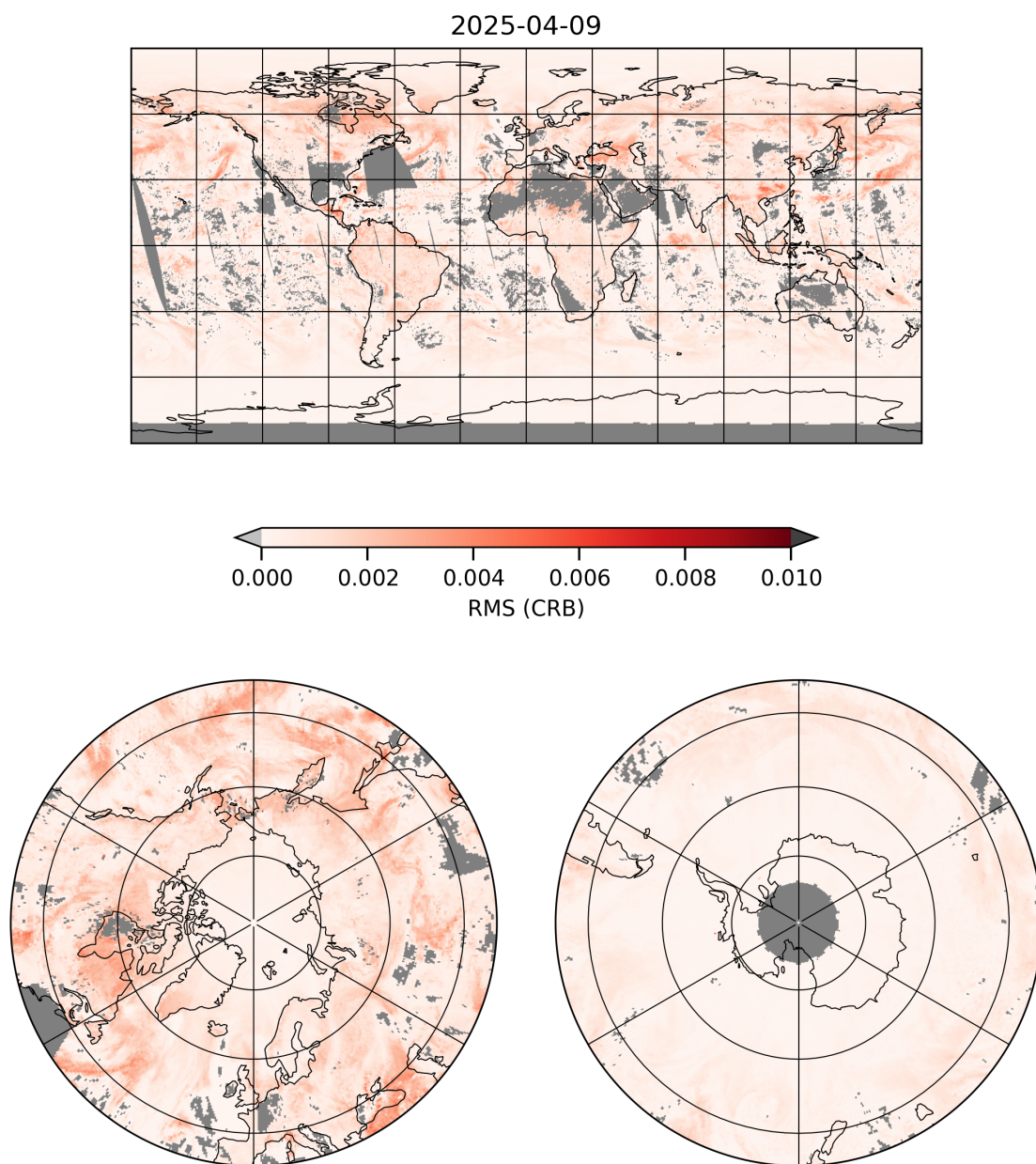


Figure 13: Map of “RMS (CRB)” for 2025-04-09 to 2025-04-10

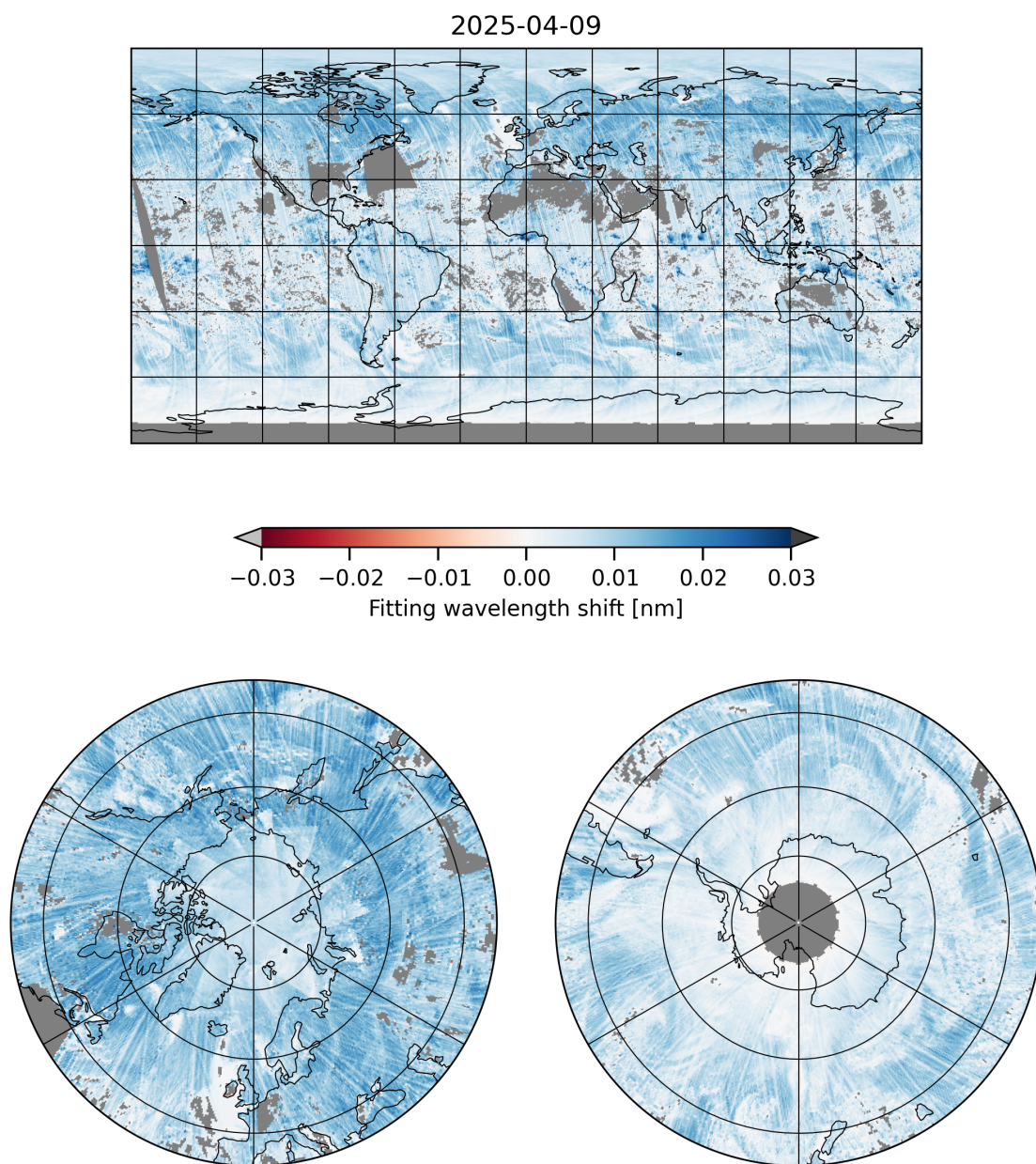


Figure 14: Map of "Fitting wavelength shift" for 2025-04-09 to 2025-04-10

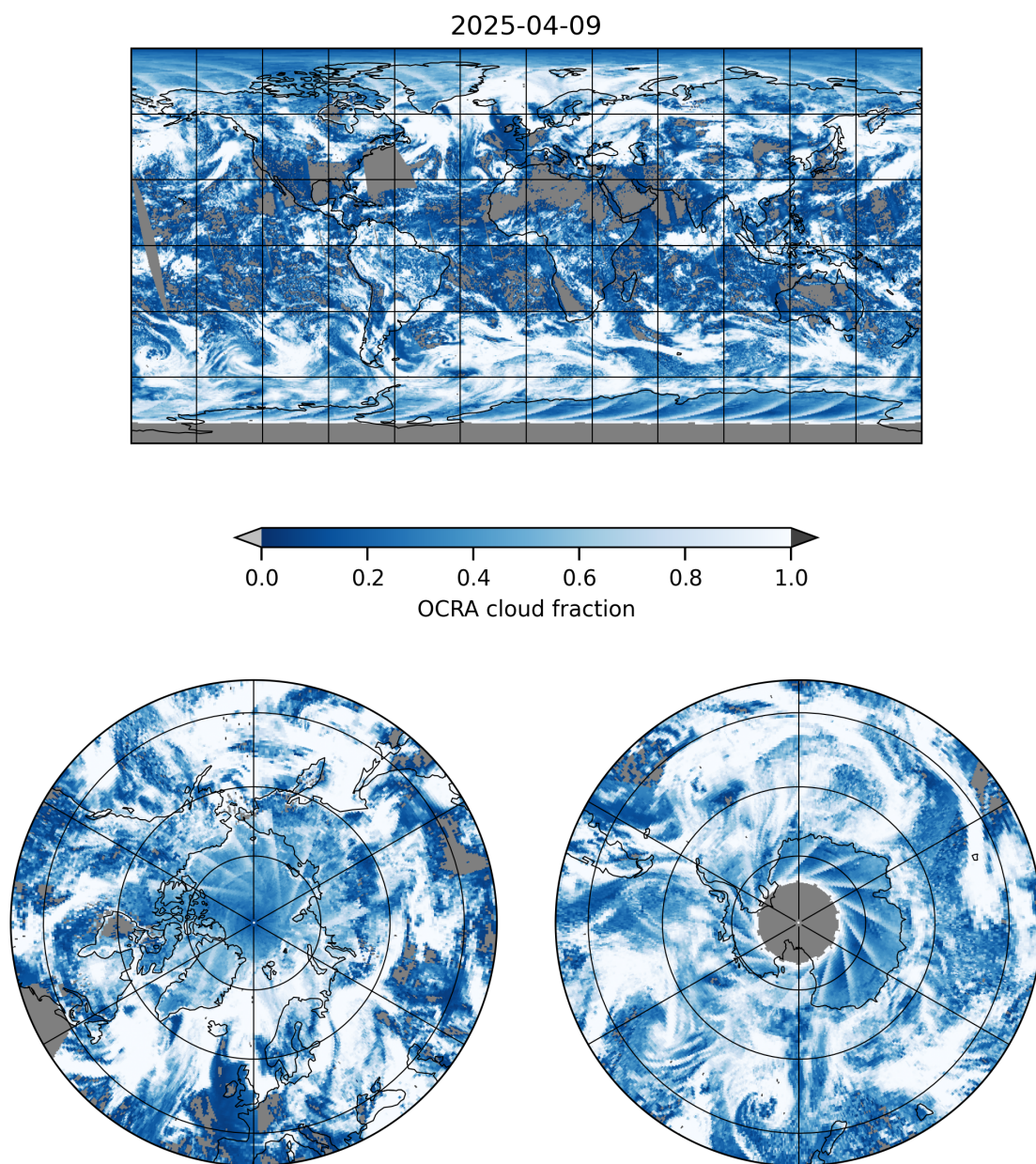


Figure 15: Map of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10

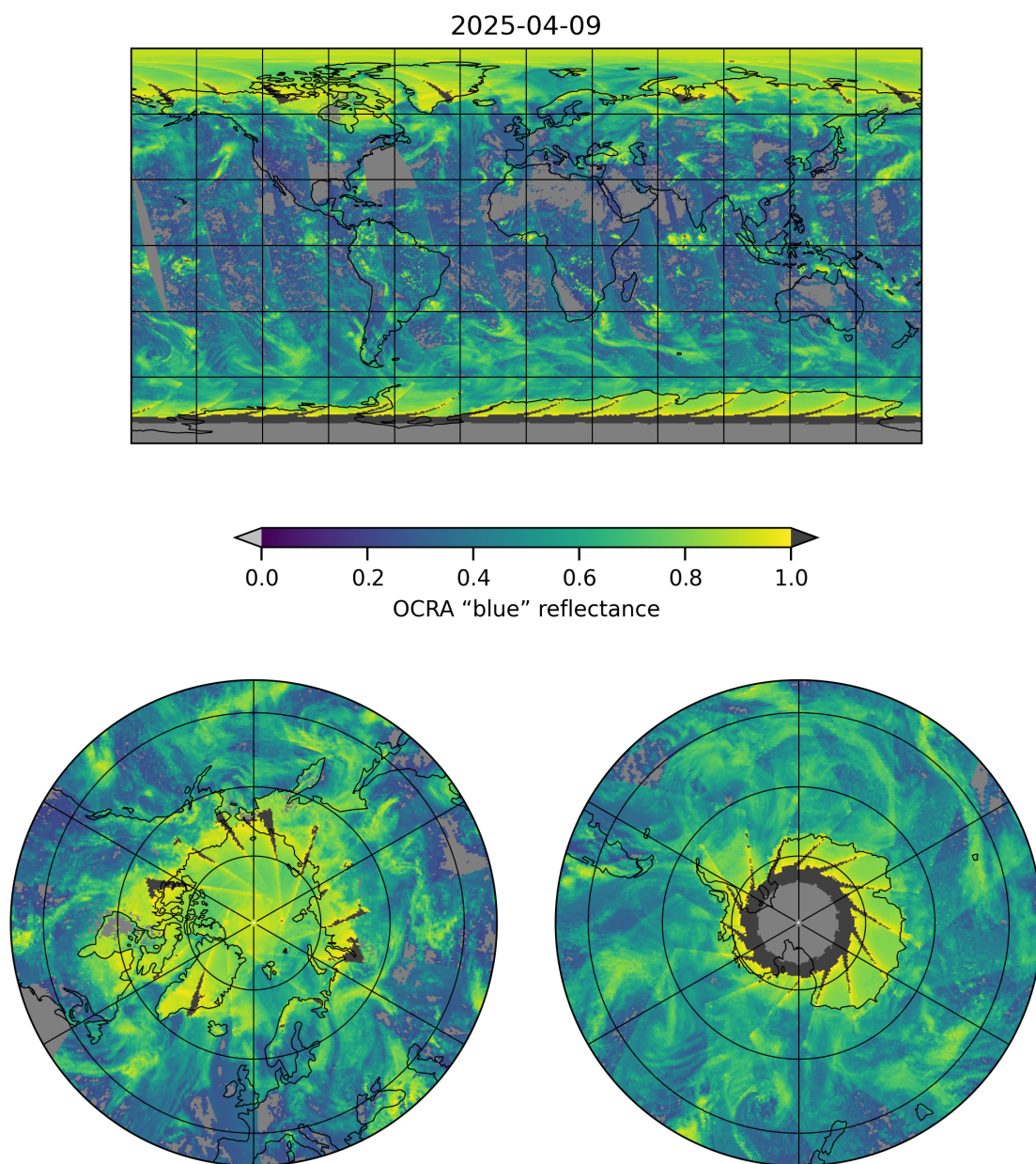


Figure 16: Map of "OCRA "blue" reflectance" for 2025-04-09 to 2025-04-10

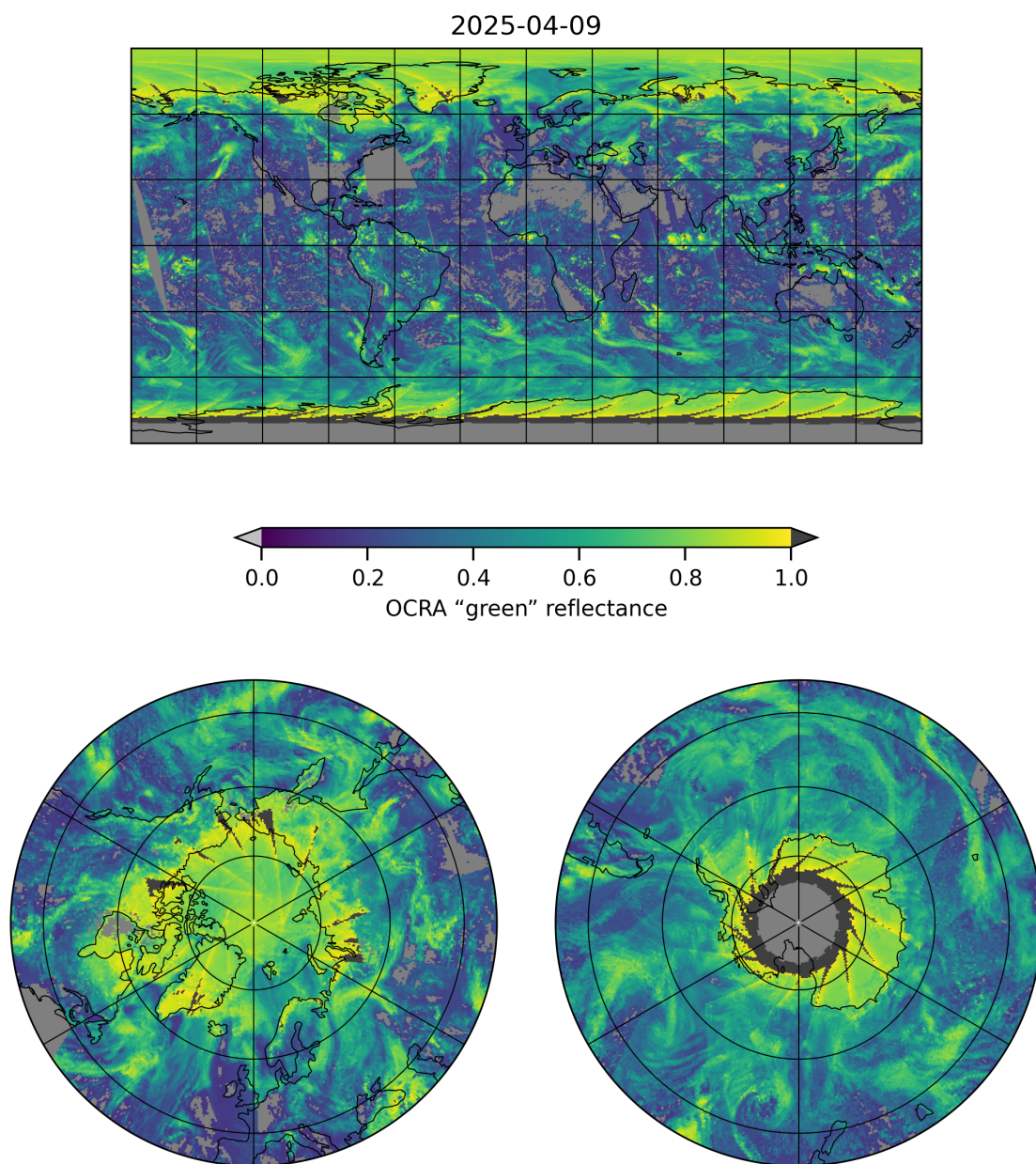


Figure 17: Map of "OCRA "green" reflectance" for 2025-04-09 to 2025-04-10

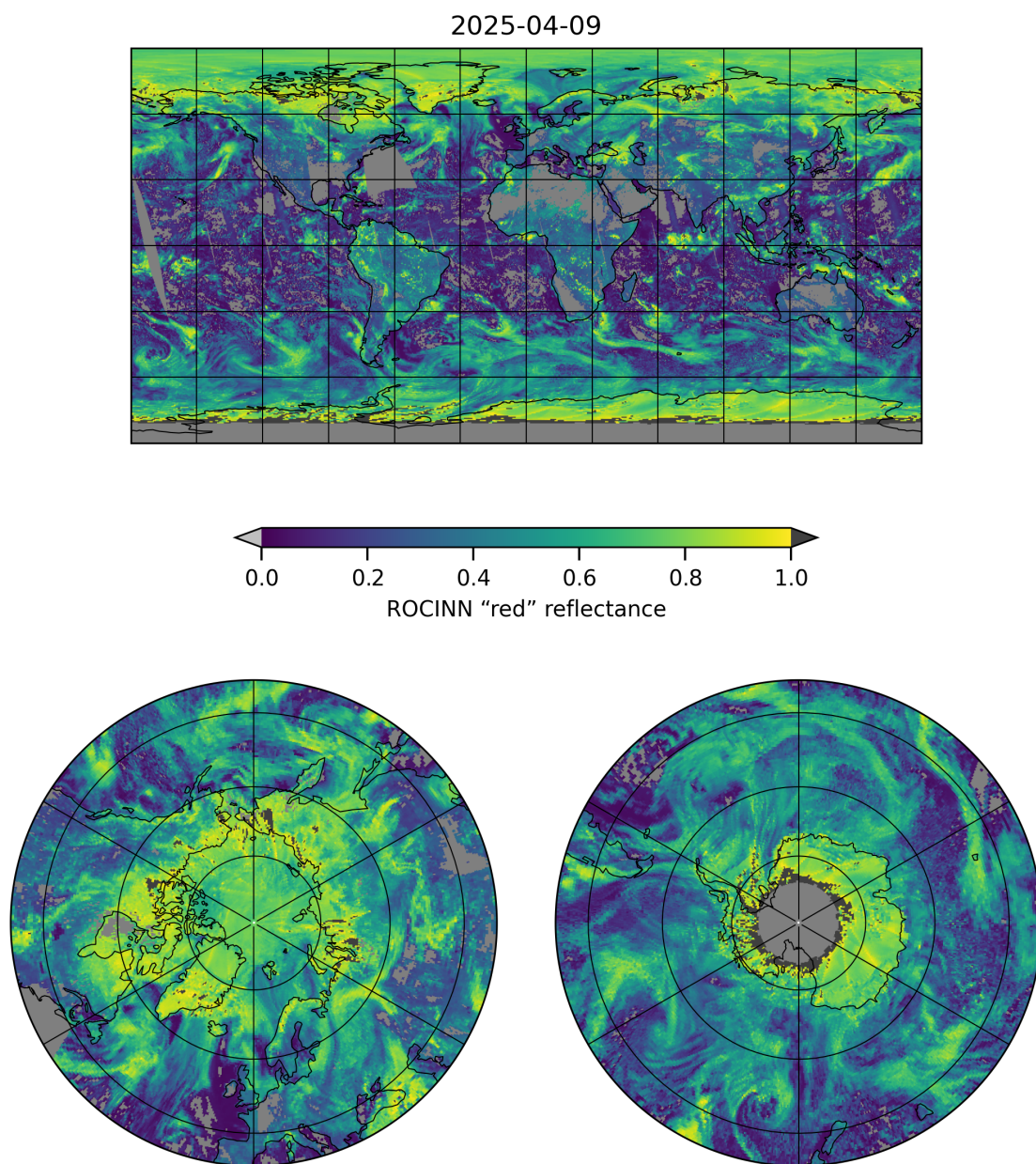


Figure 18: Map of "ROCINN "red" reflectance" for 2025-04-09 to 2025-04-10

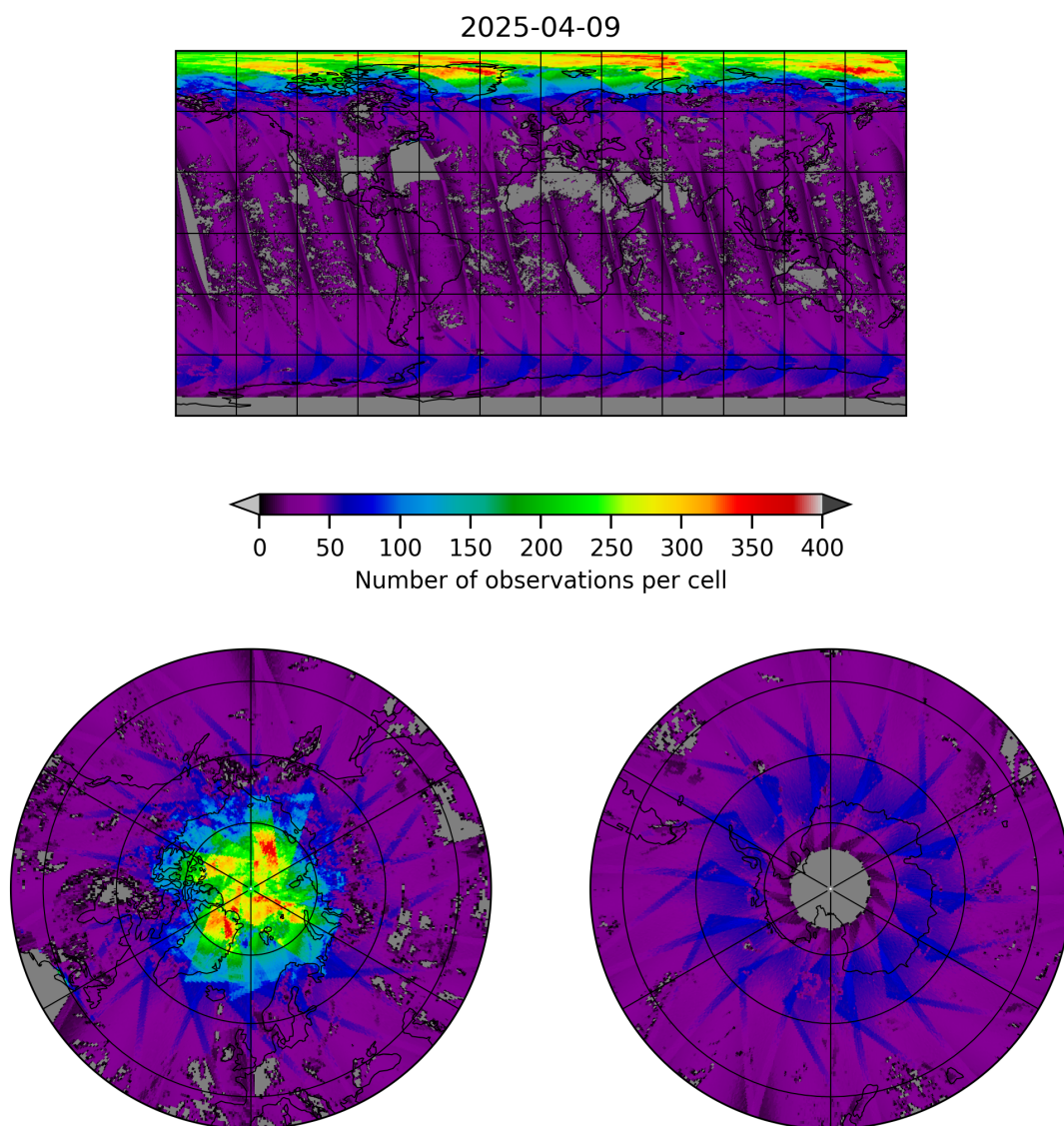


Figure 19: Map of the number of observations for 2025-04-09 to 2025-04-10

7 Zonal average

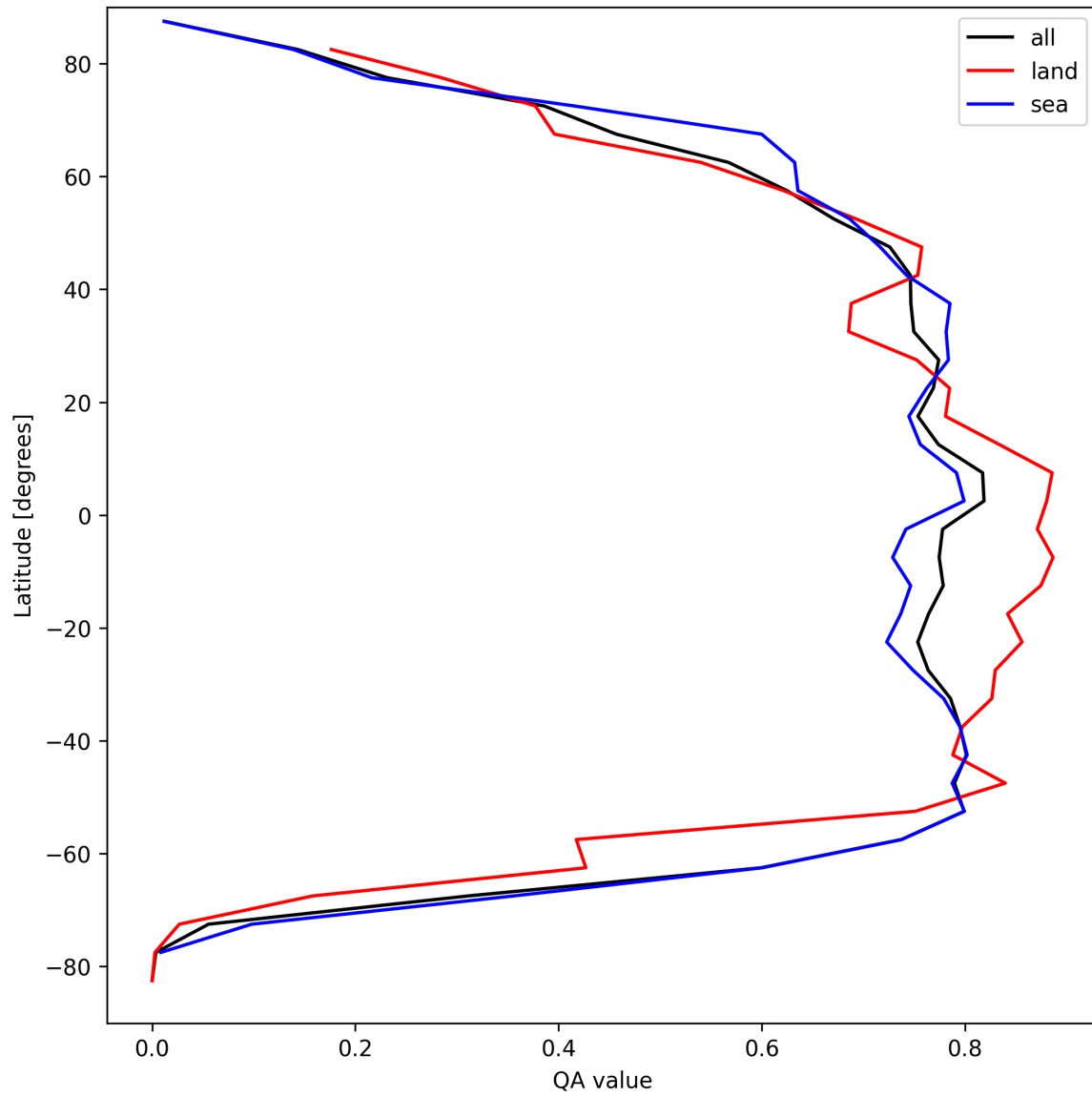


Figure 20: Zonal average of “QA value” for 2025-04-09 to 2025-04-10.

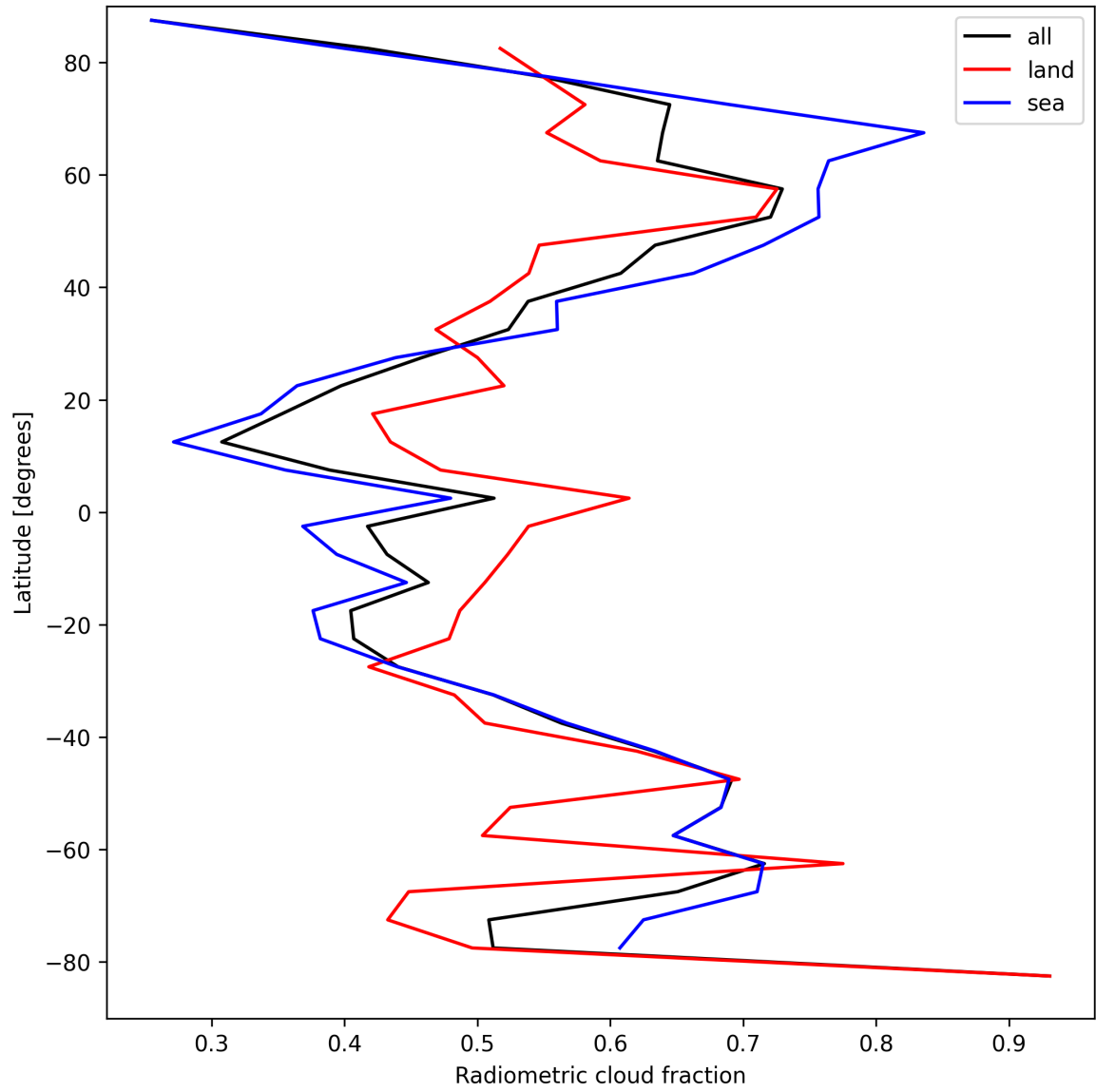


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10.

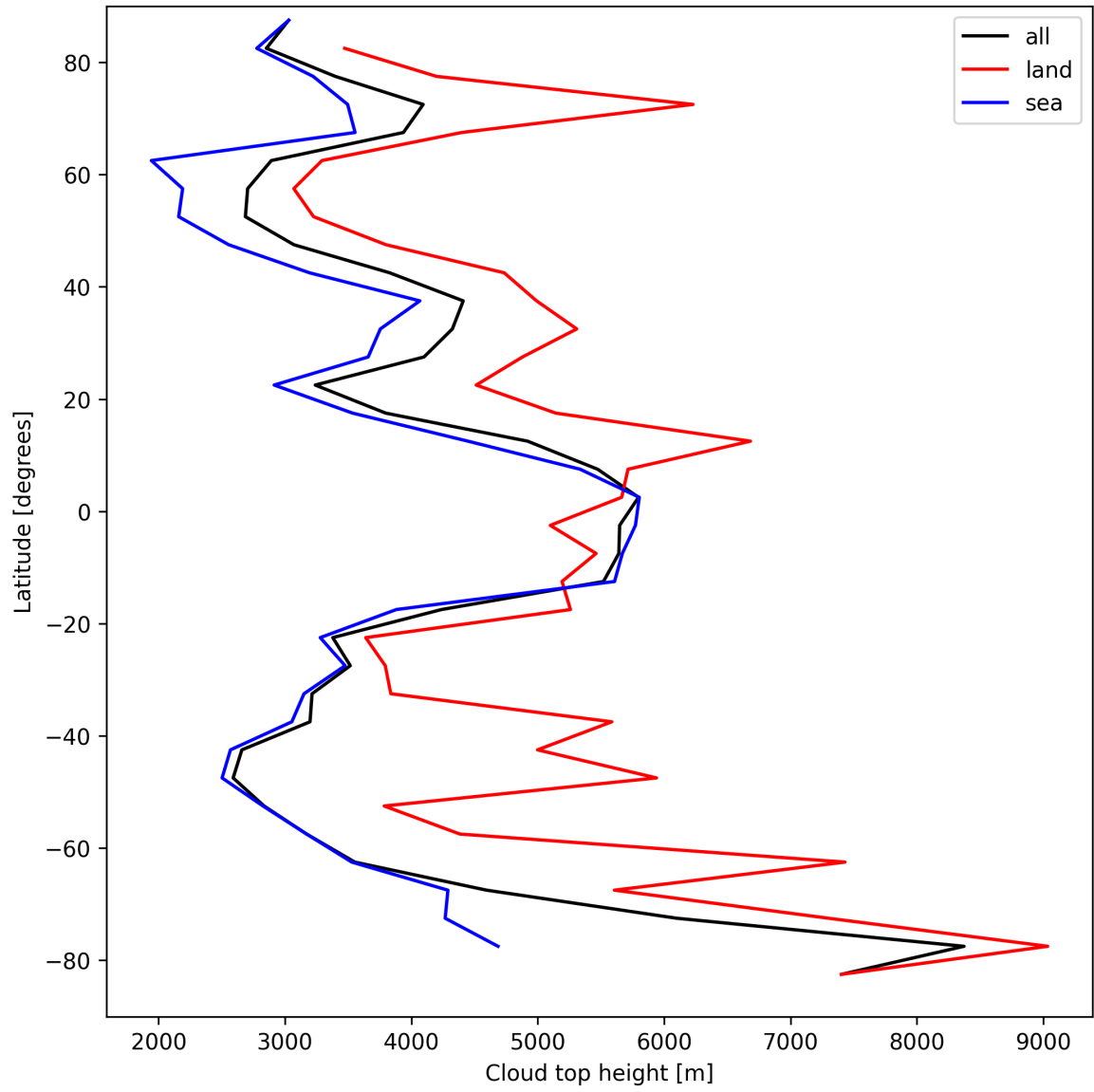


Figure 22: Zonal average of “Cloud top height” for 2025-04-09 to 2025-04-10.

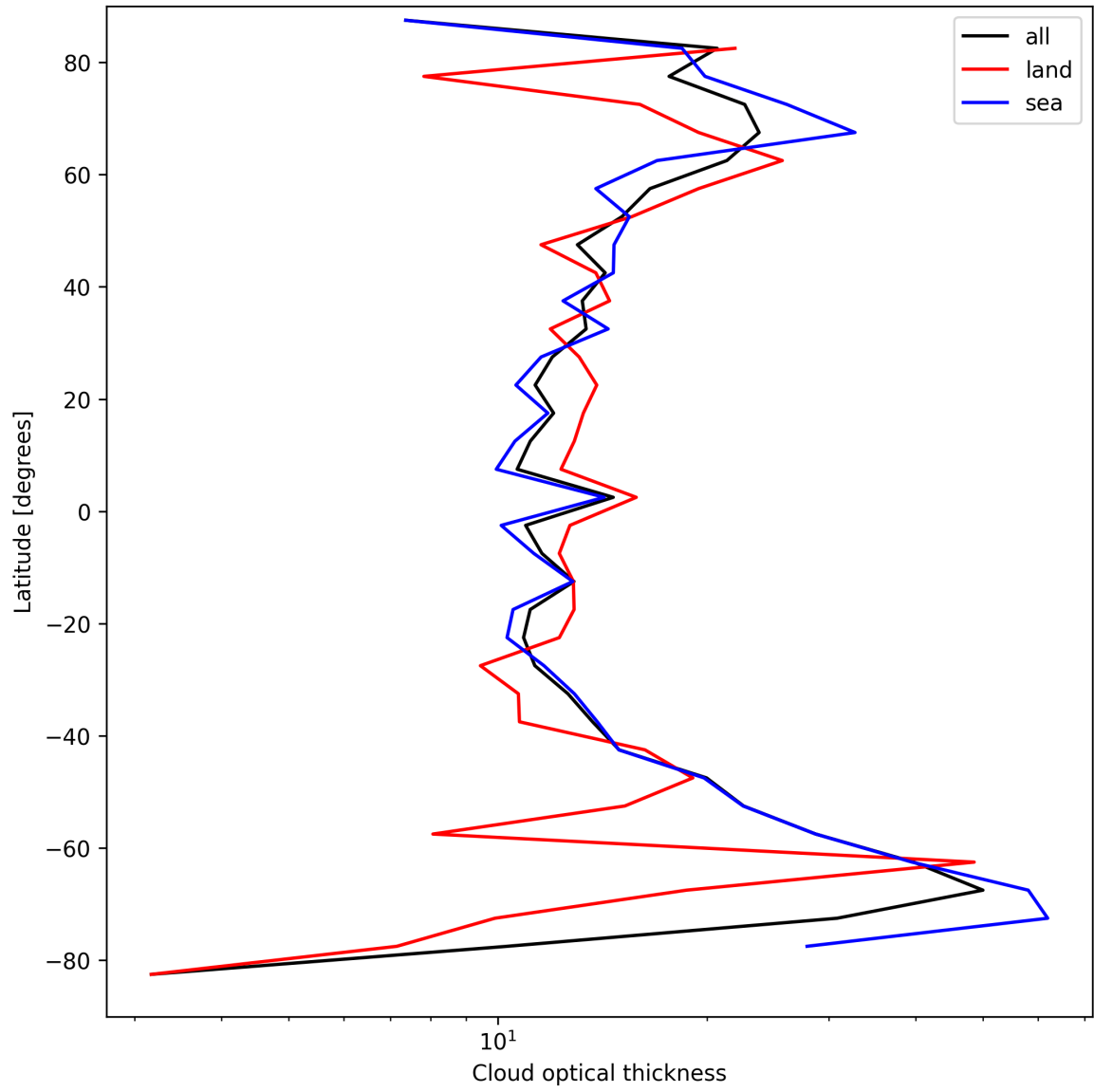


Figure 23: Zonal average of “Cloud optical thickness” for 2025-04-09 to 2025-04-10.

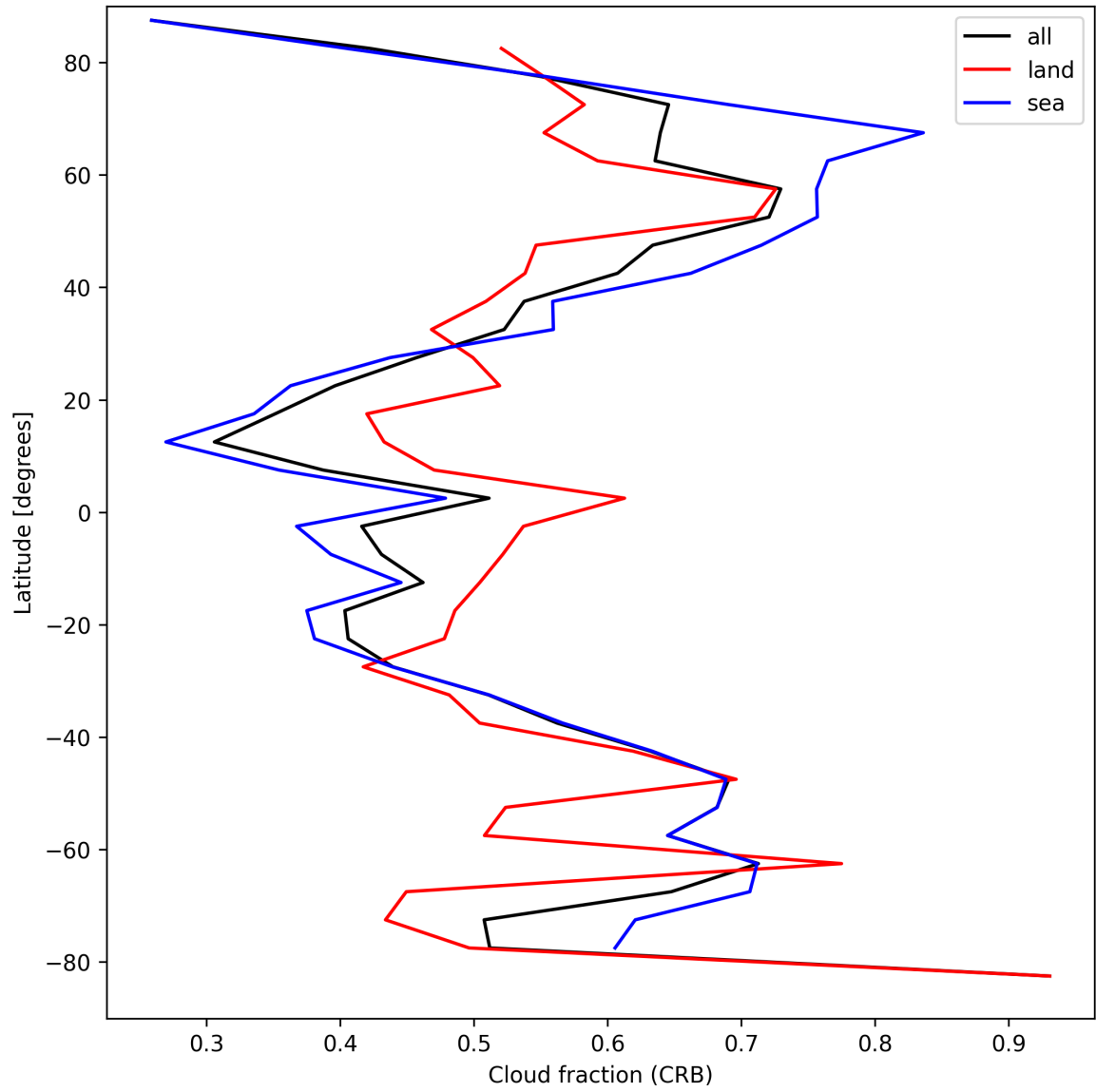


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10.

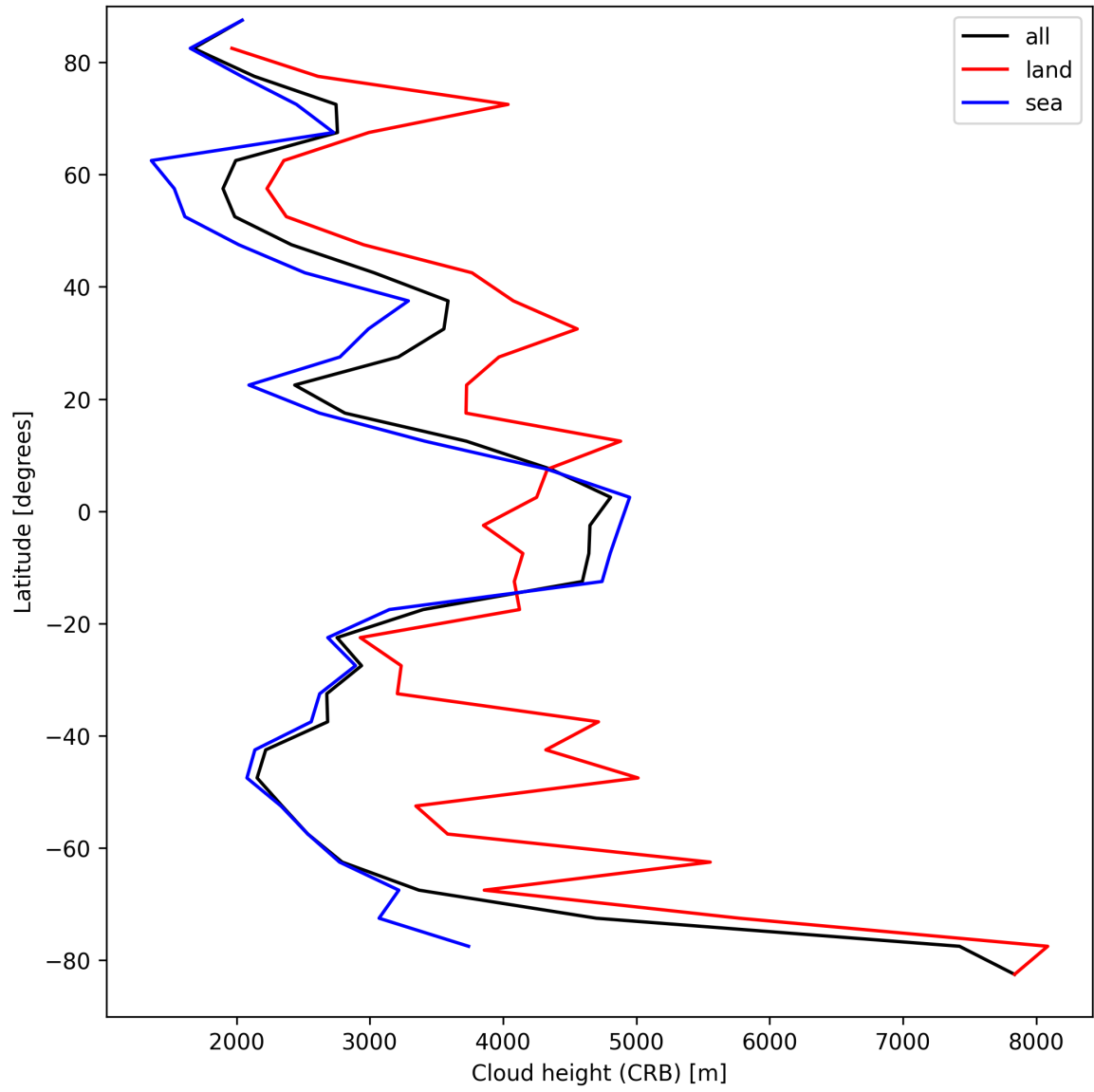


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10.

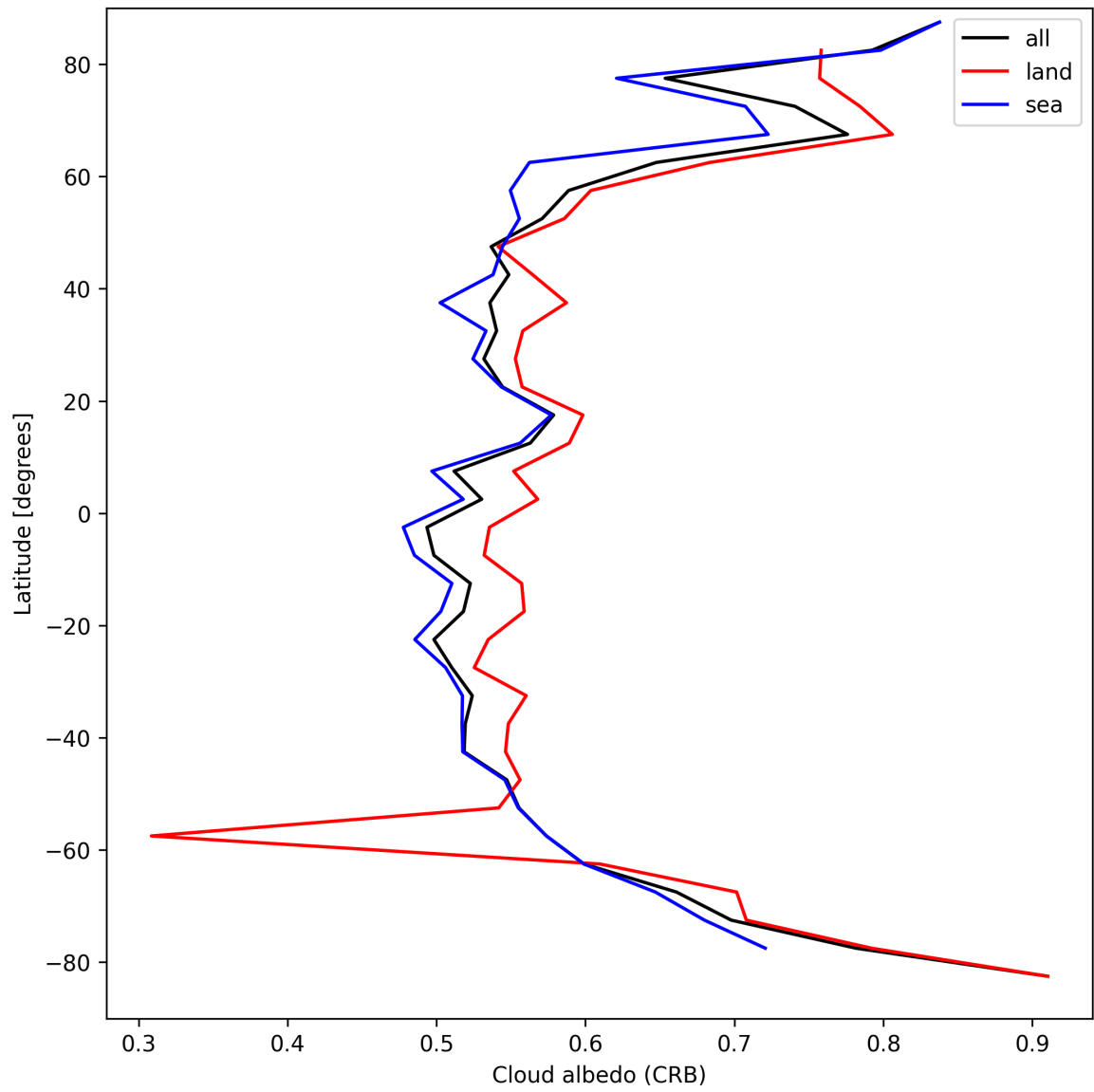


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10.

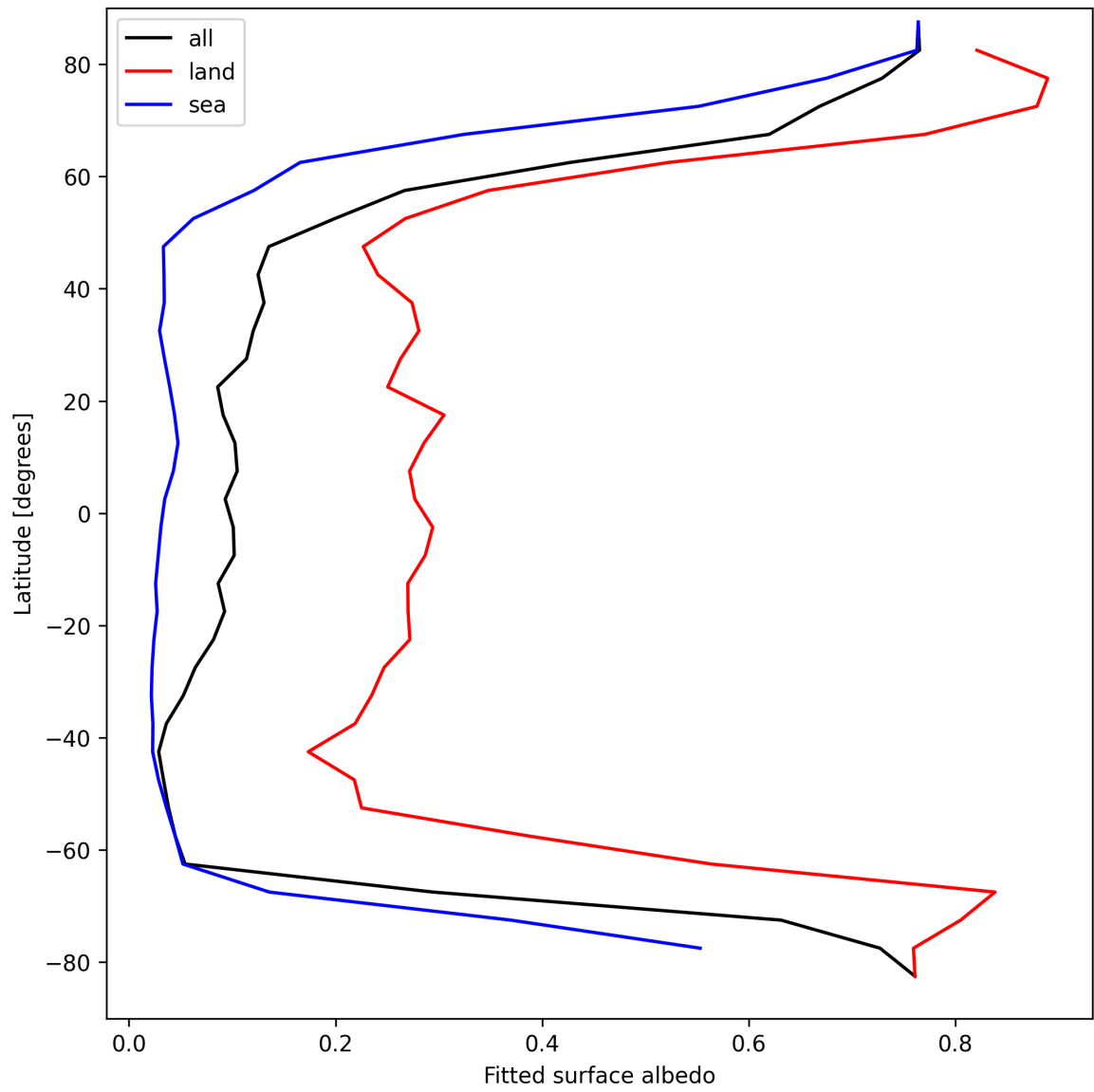


Figure 27: Zonal average of “Fitted surface albedo” for 2025-04-09 to 2025-04-10.

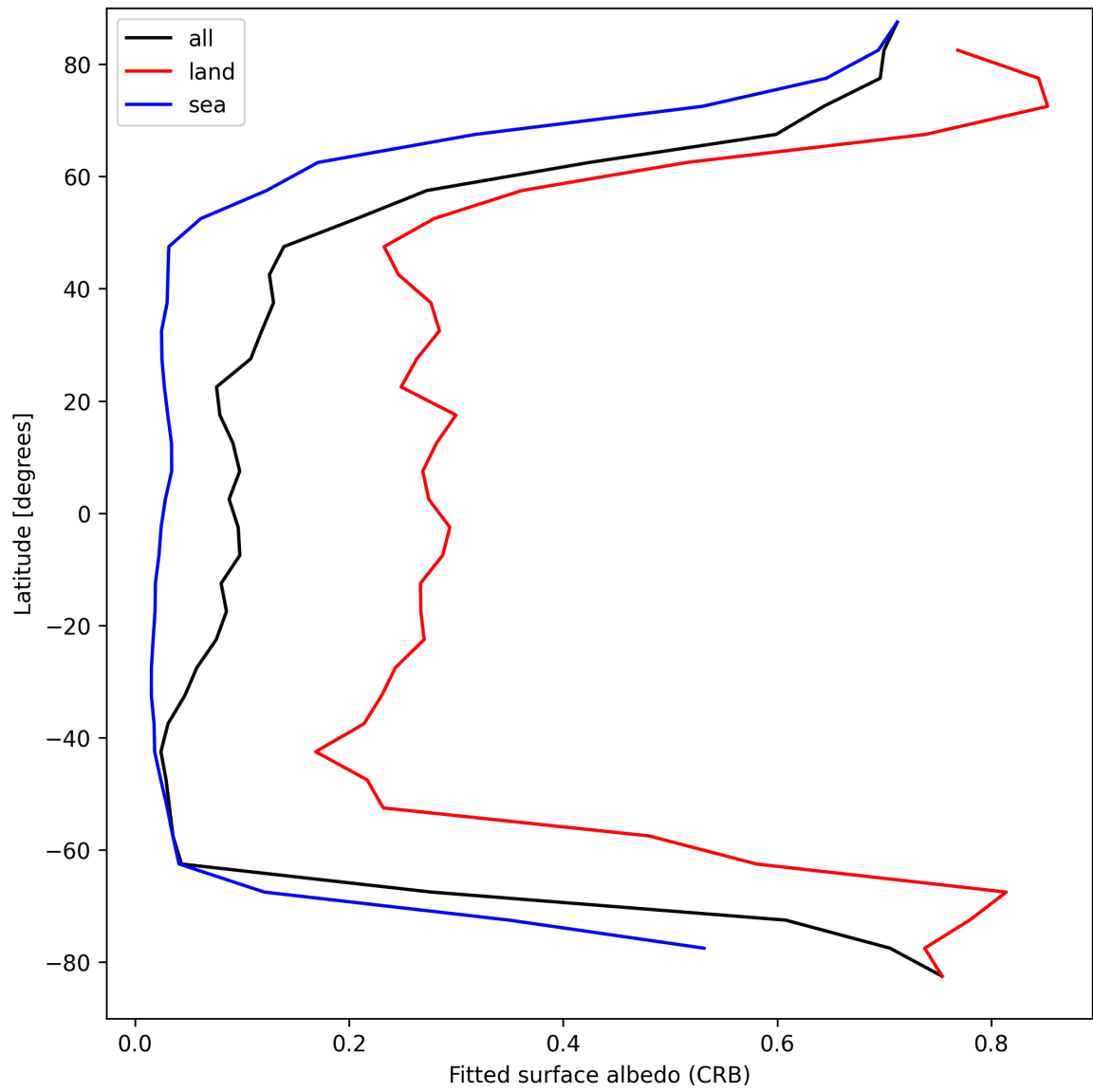


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10.

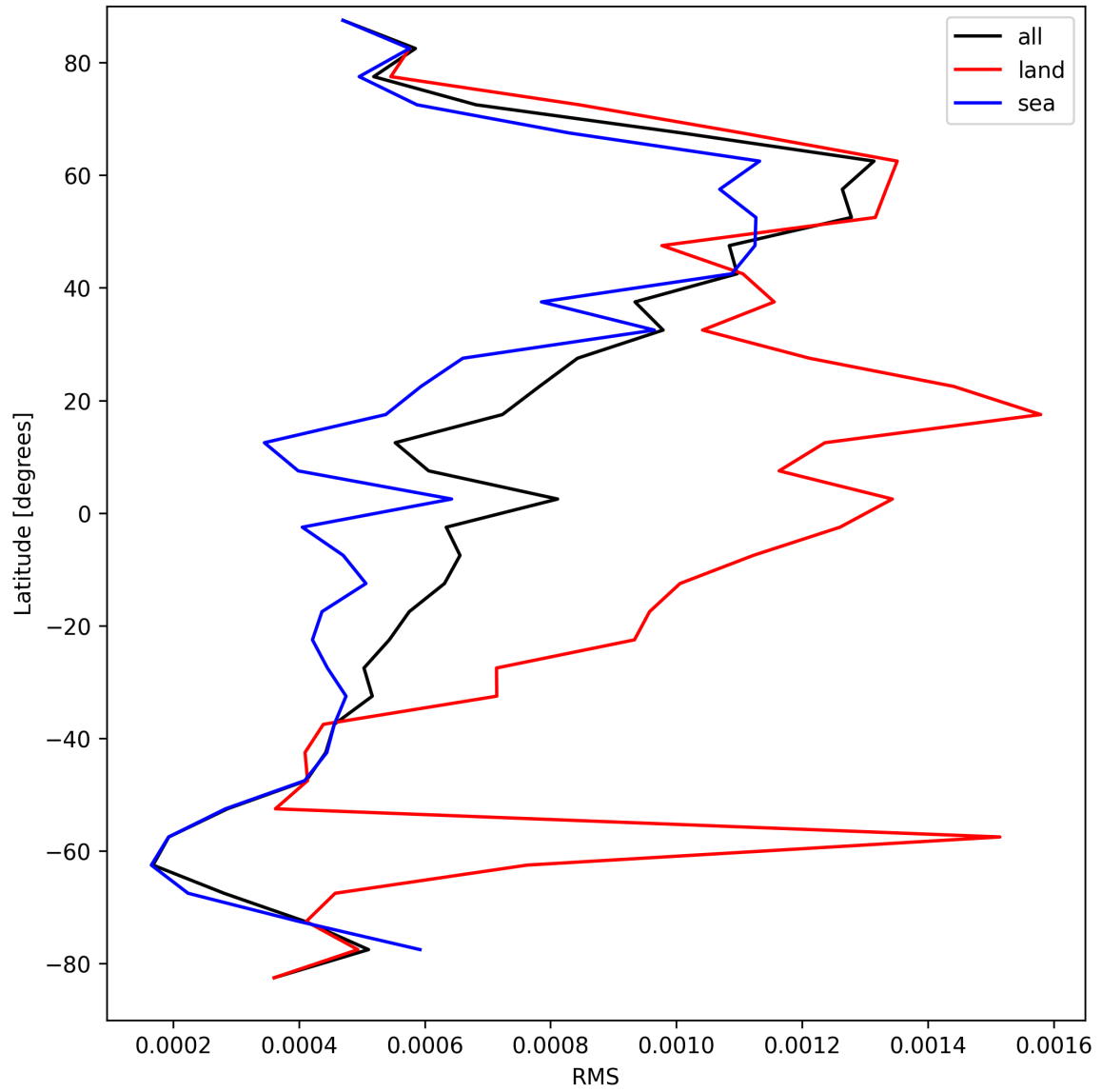


Figure 29: Zonal average of “RMS” for 2025-04-09 to 2025-04-10.

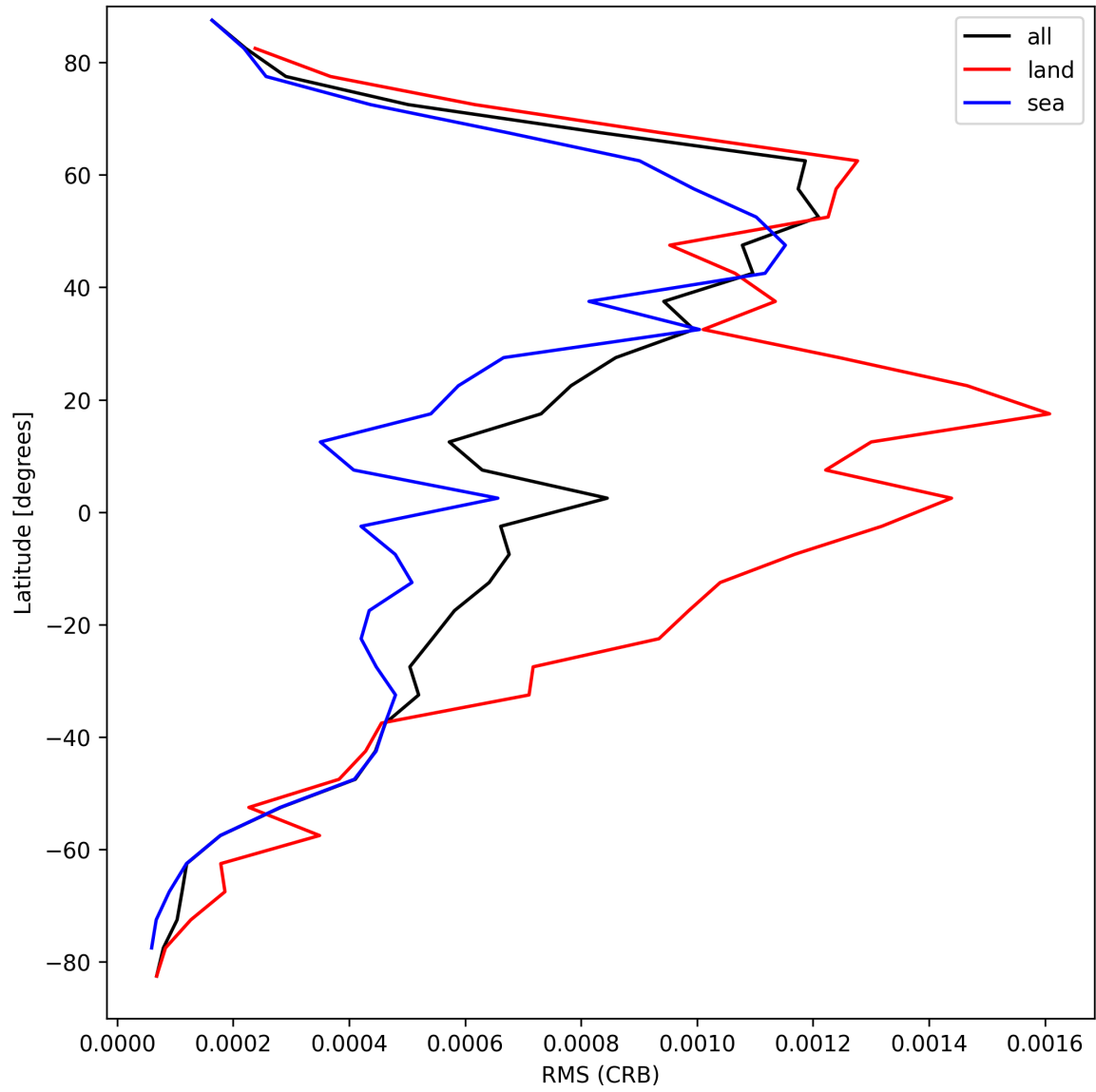


Figure 30: Zonal average of “RMS (CRB)” for 2025-04-09 to 2025-04-10.

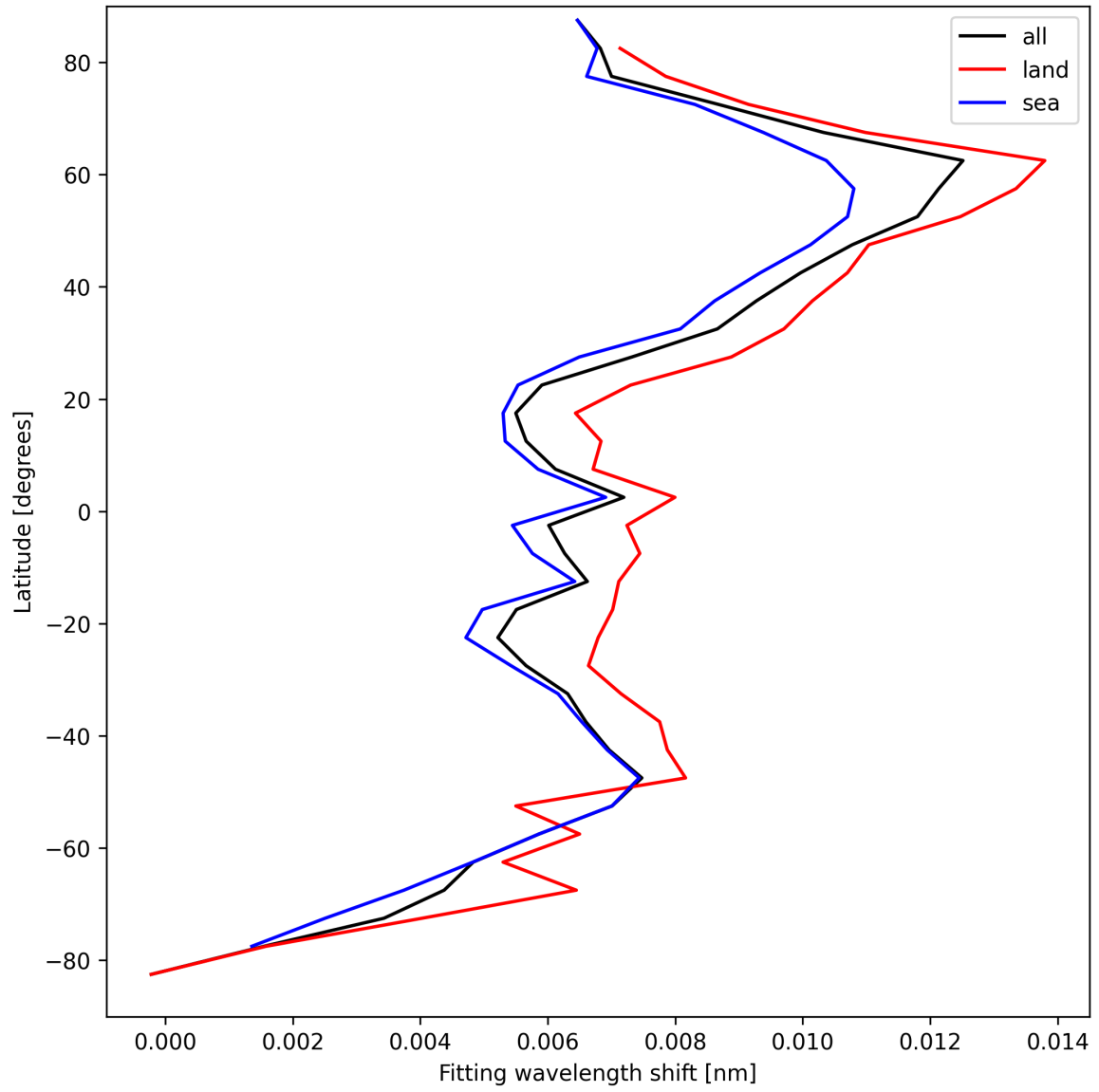


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10.

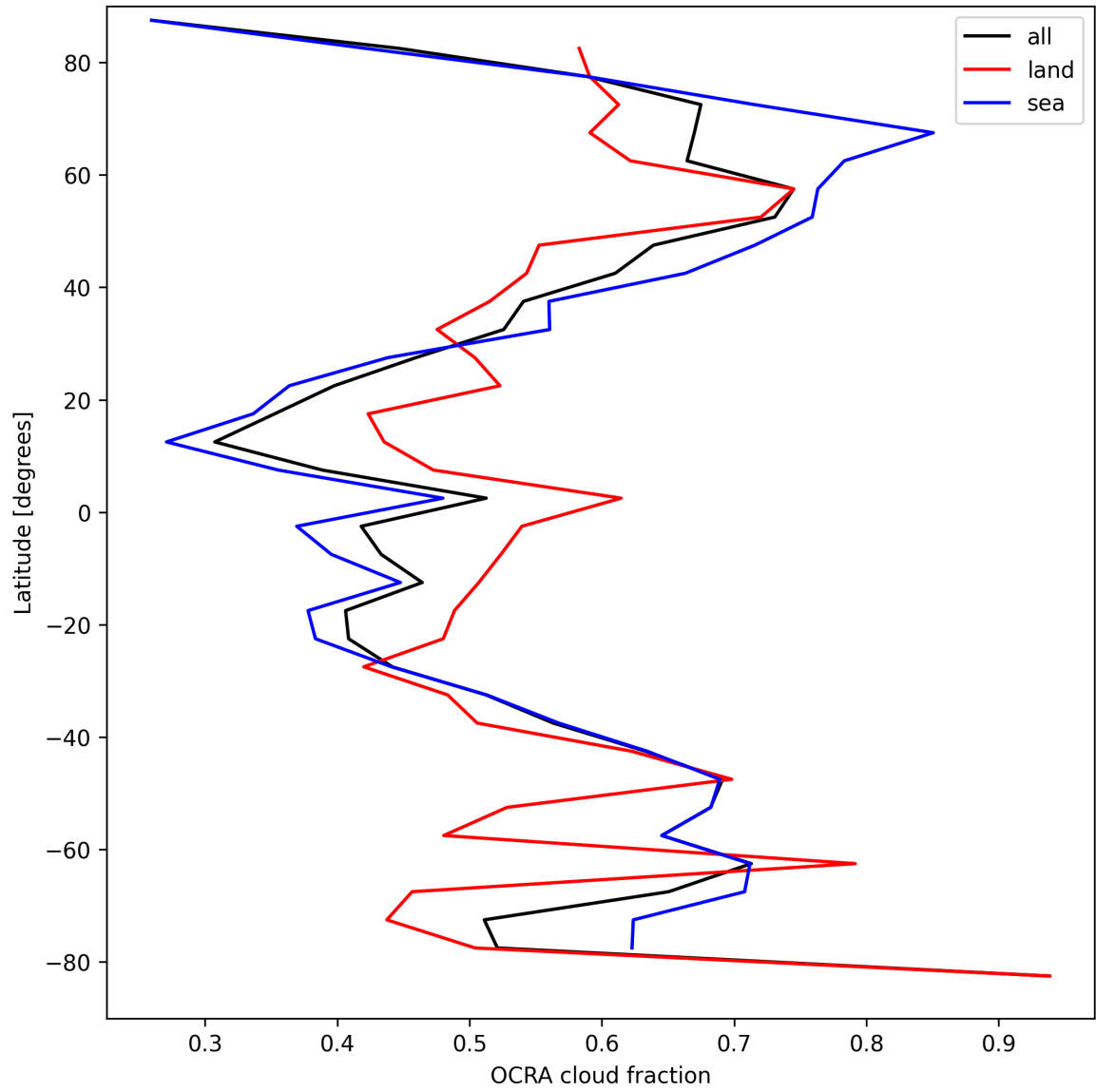


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10.

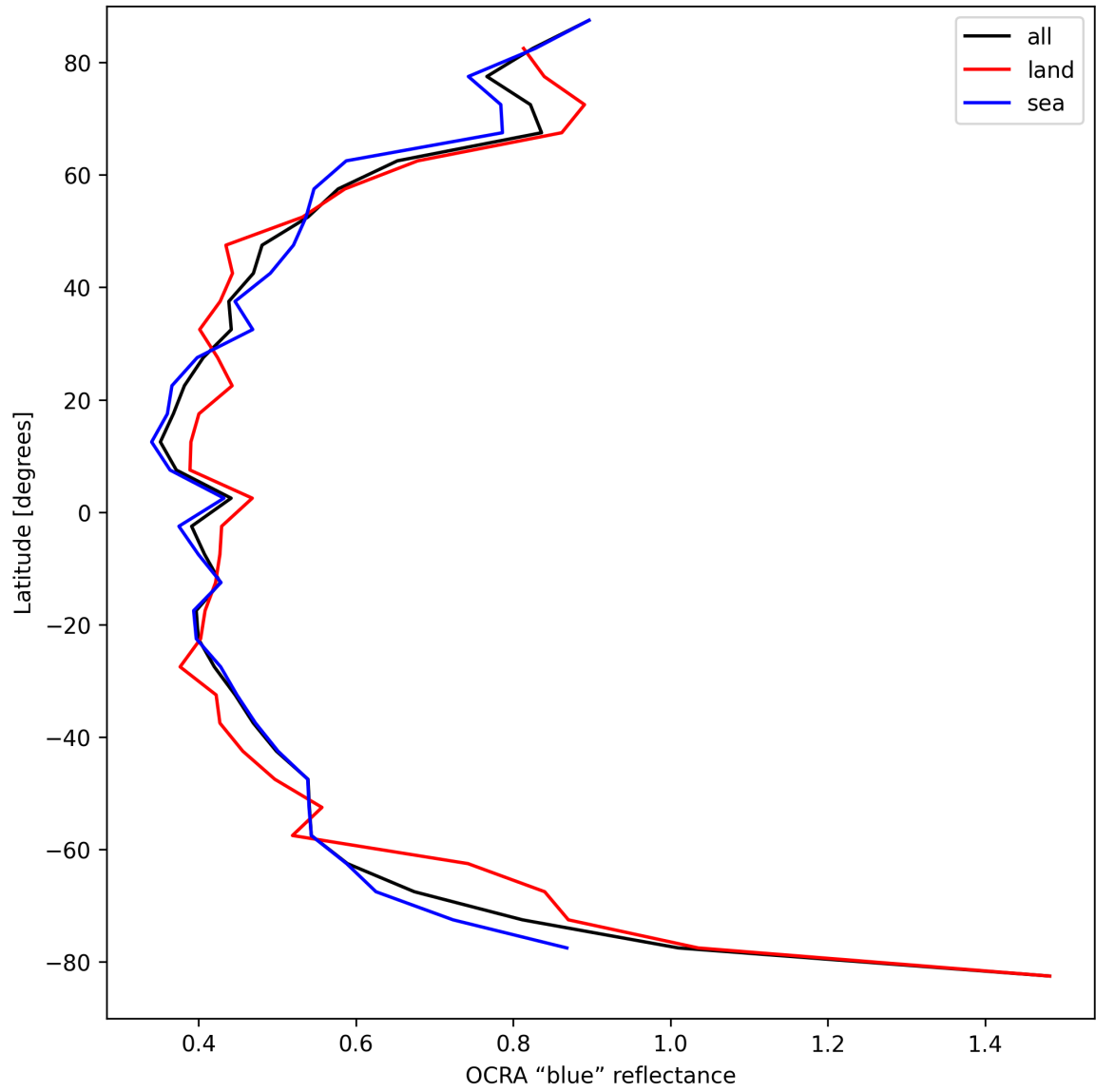


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10.

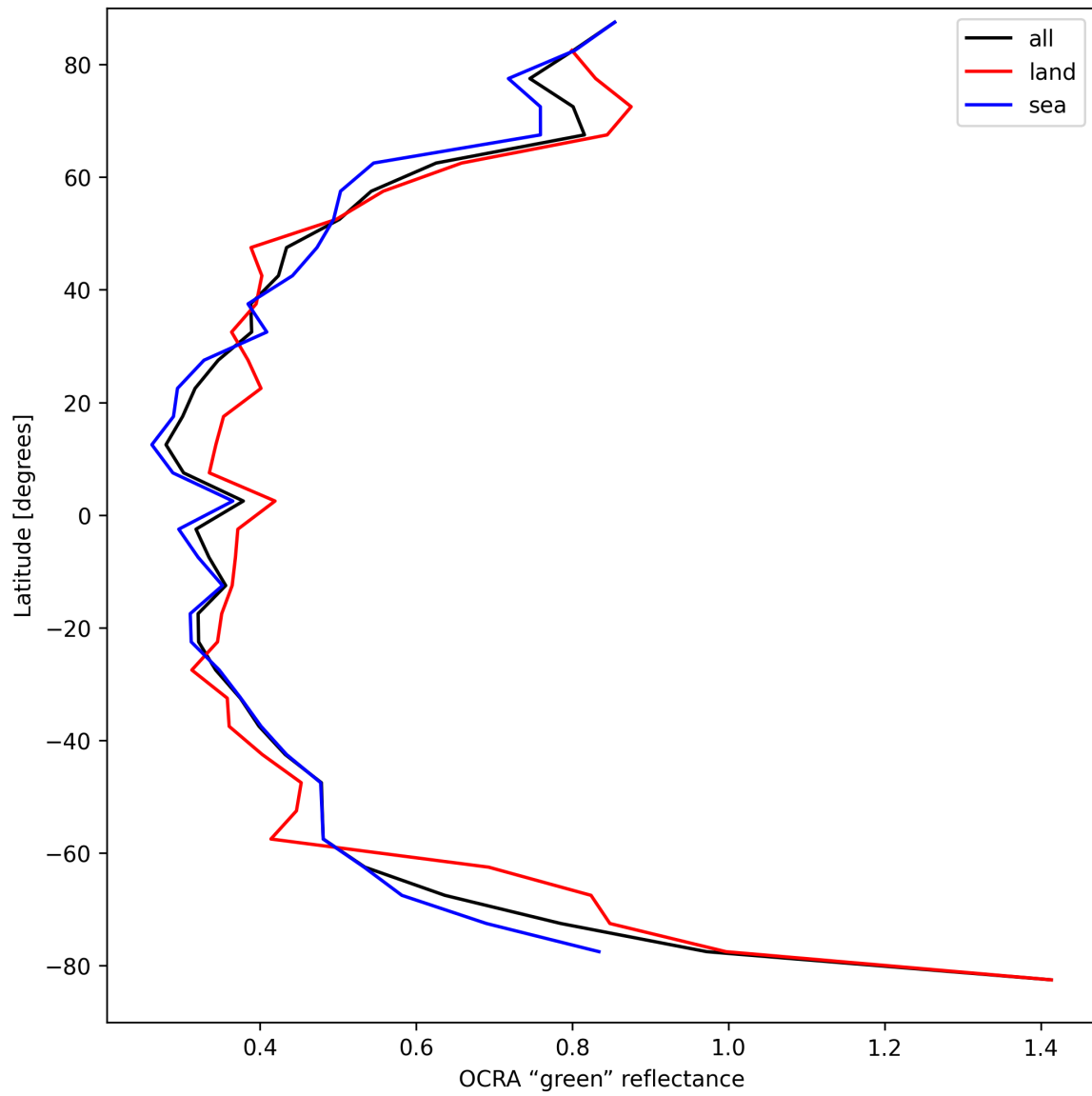


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10.

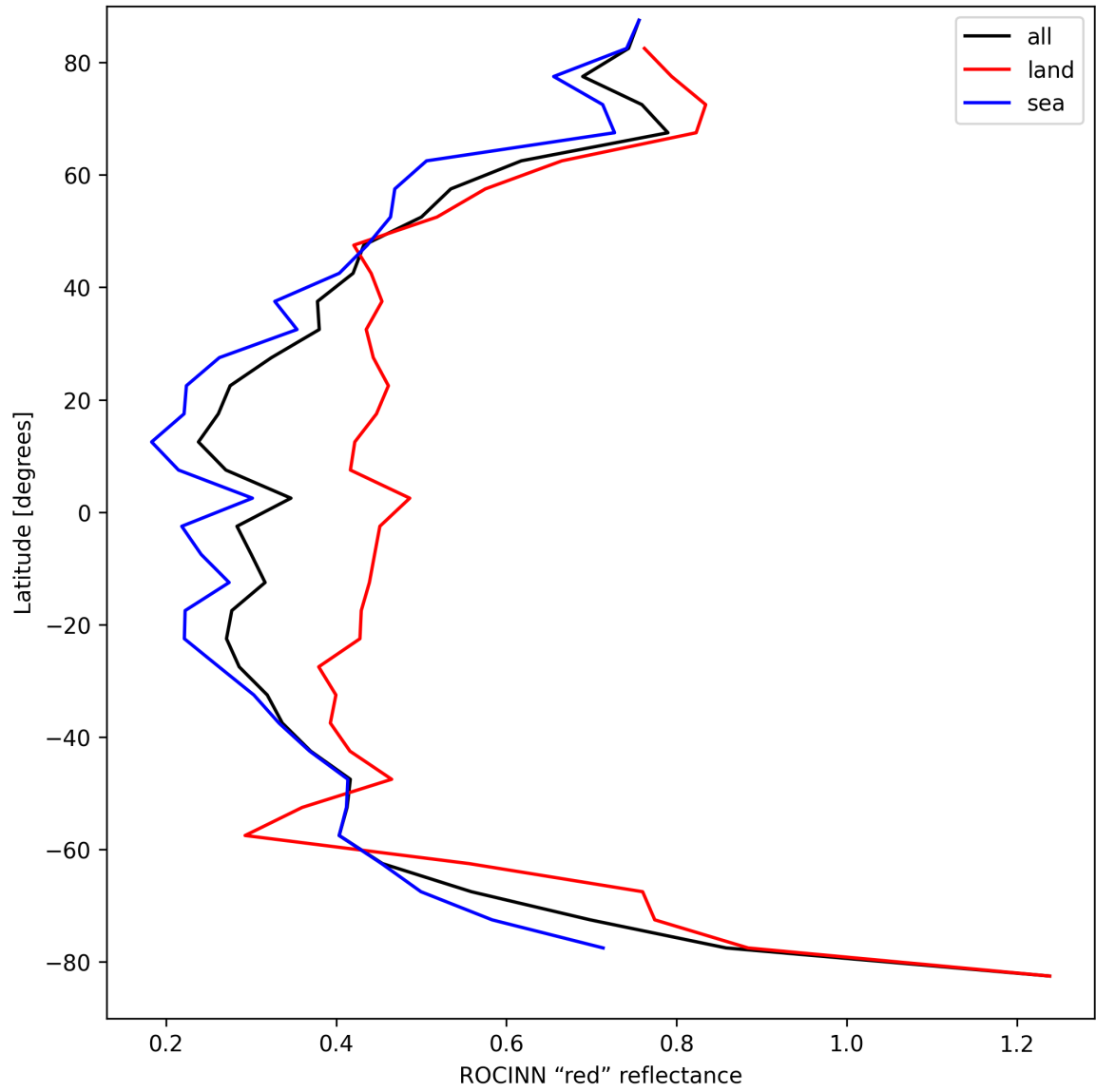


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10.

8 Histograms

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

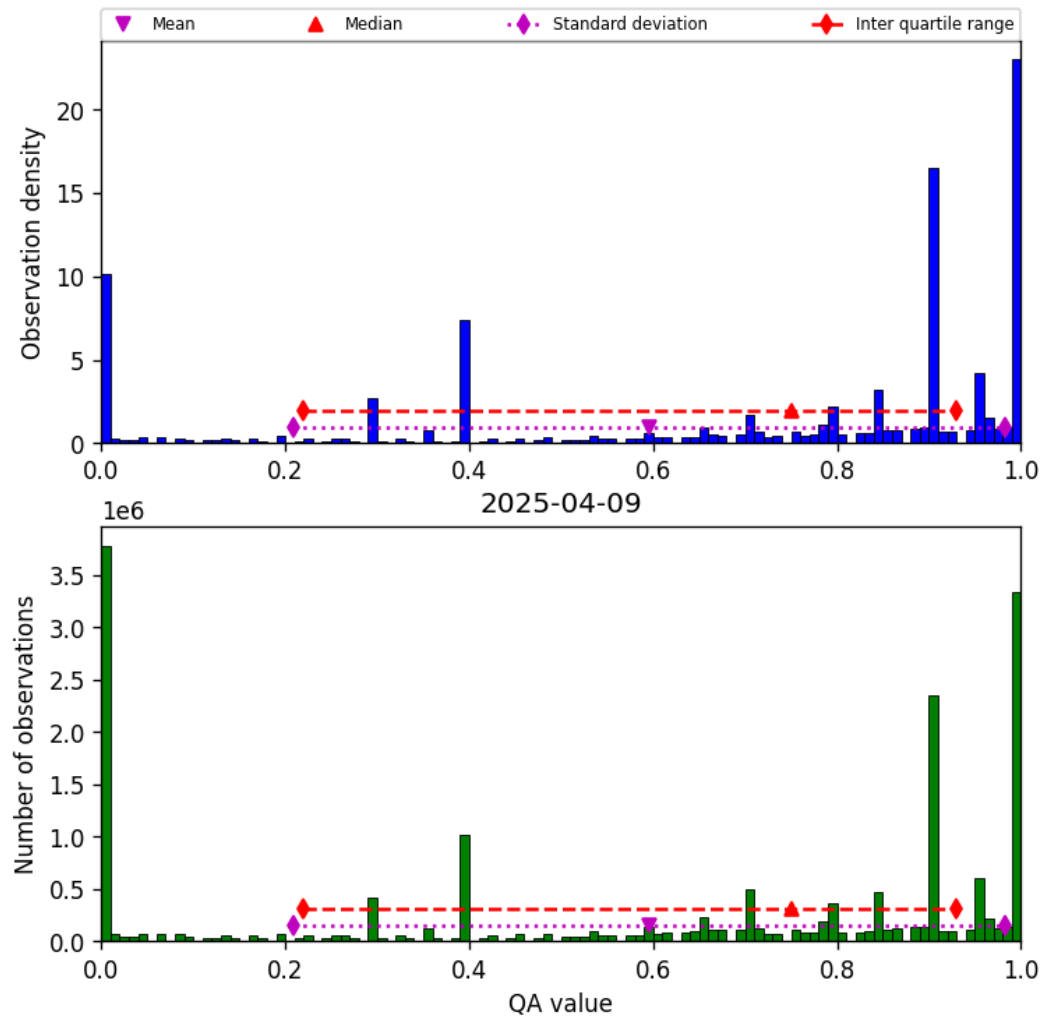


Figure 36: Histogram of “QA value” for 2025-04-09 to 2025-04-10

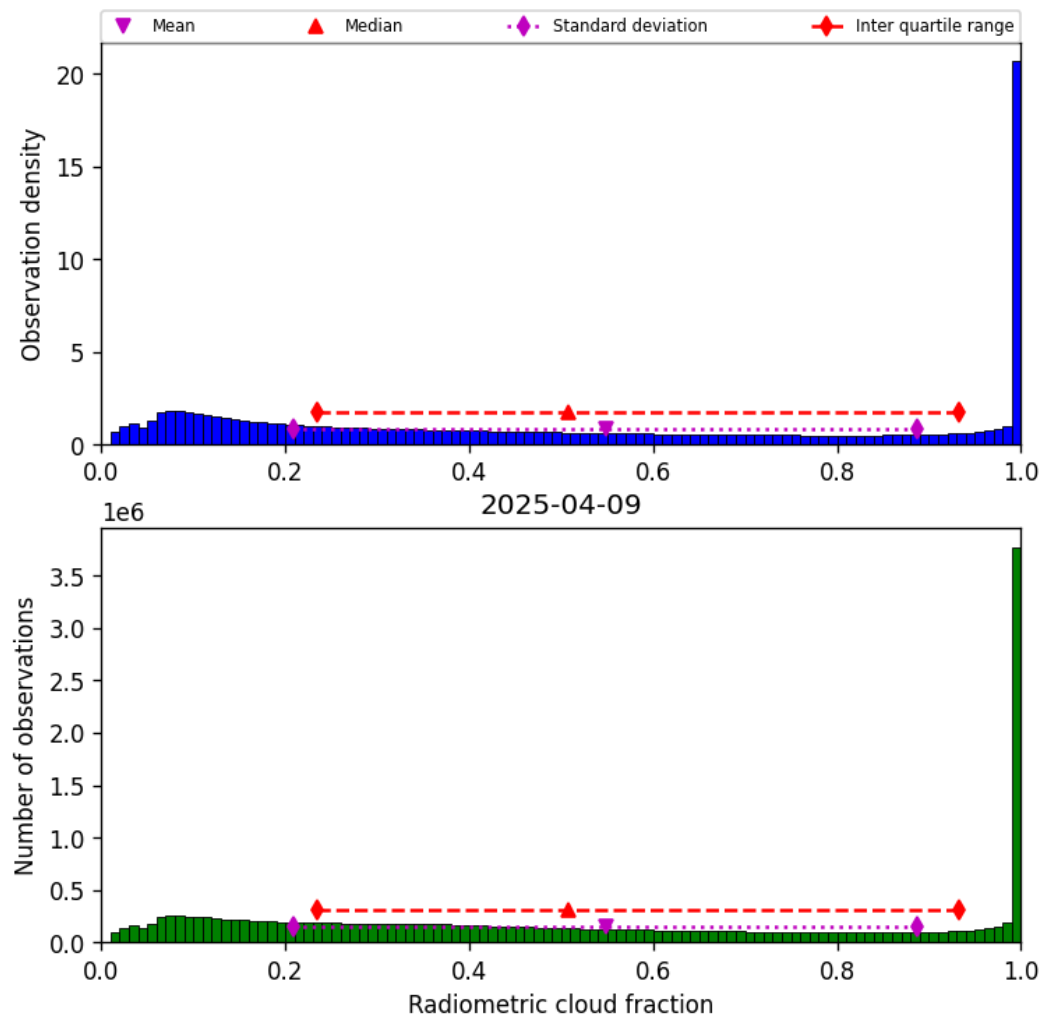


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10

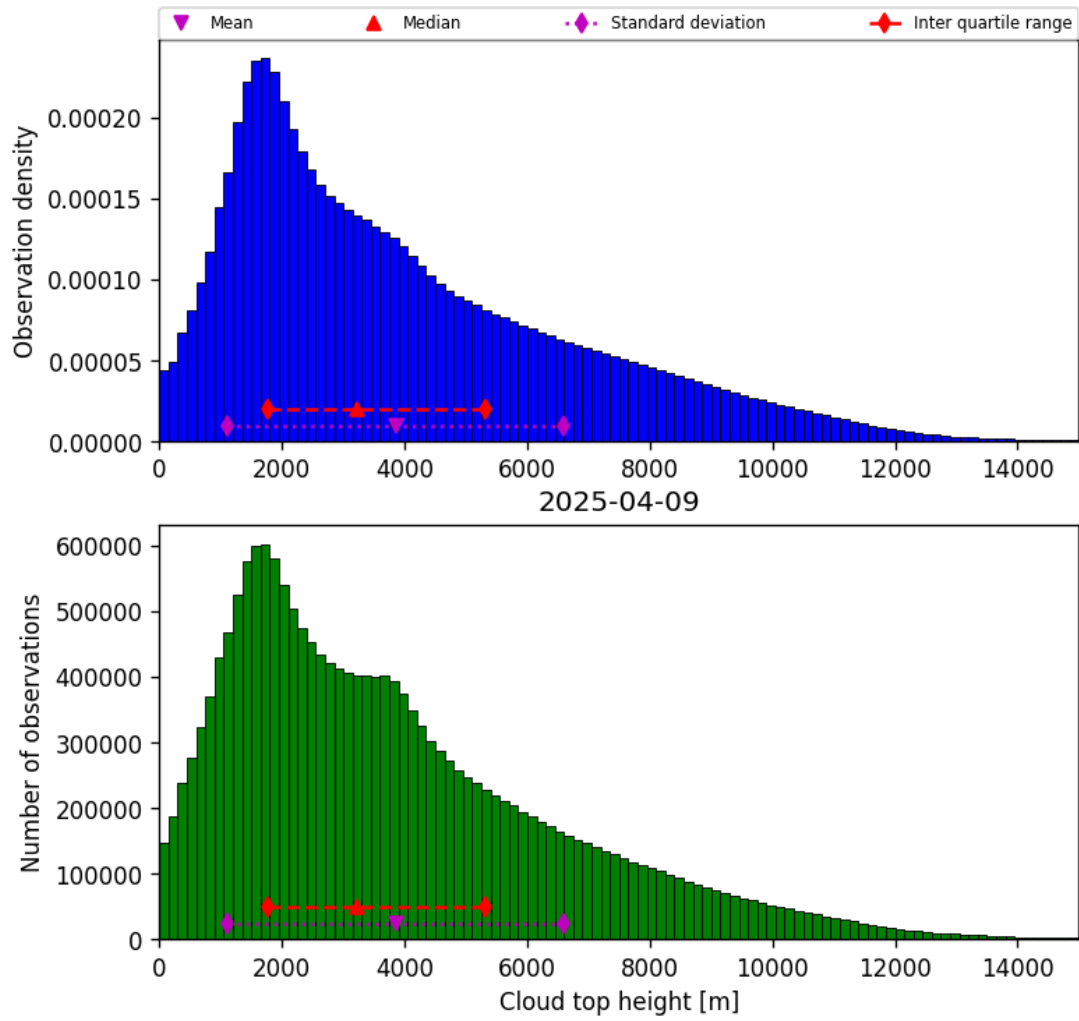


Figure 38: Histogram of “Cloud top height” for 2025-04-09 to 2025-04-10

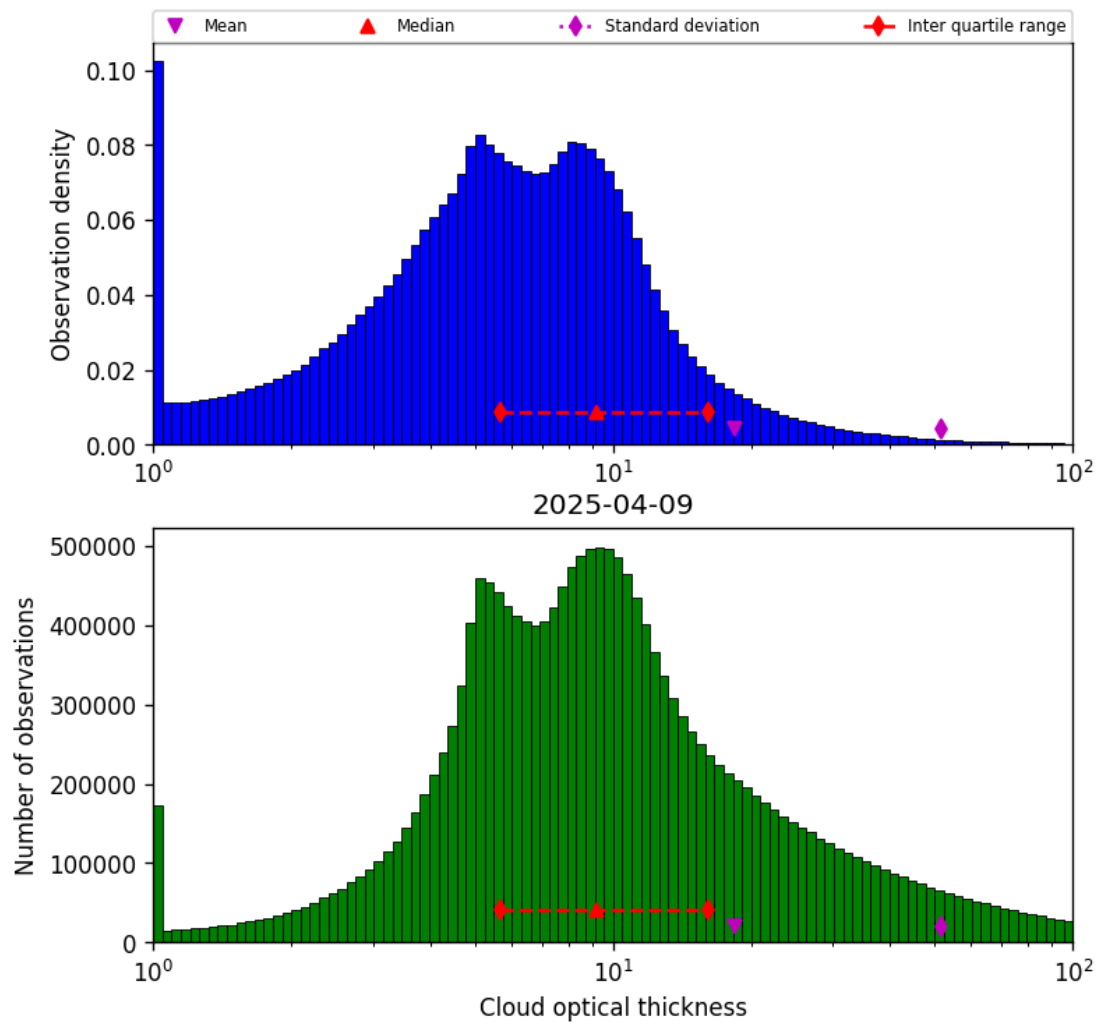


Figure 39: Histogram of “Cloud optical thickness” for 2025-04-09 to 2025-04-10

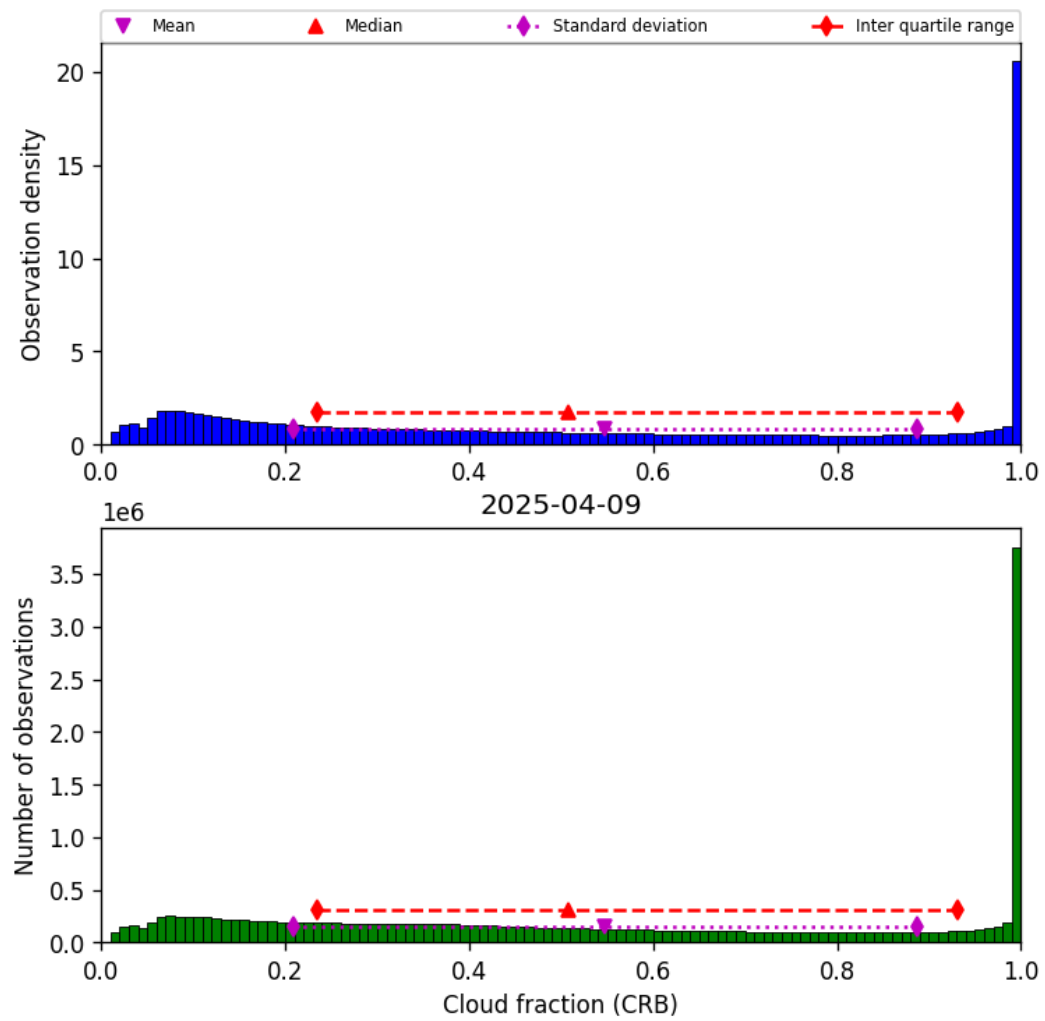


Figure 40: Histogram of "Cloud fraction (CRB)" for 2025-04-09 to 2025-04-10

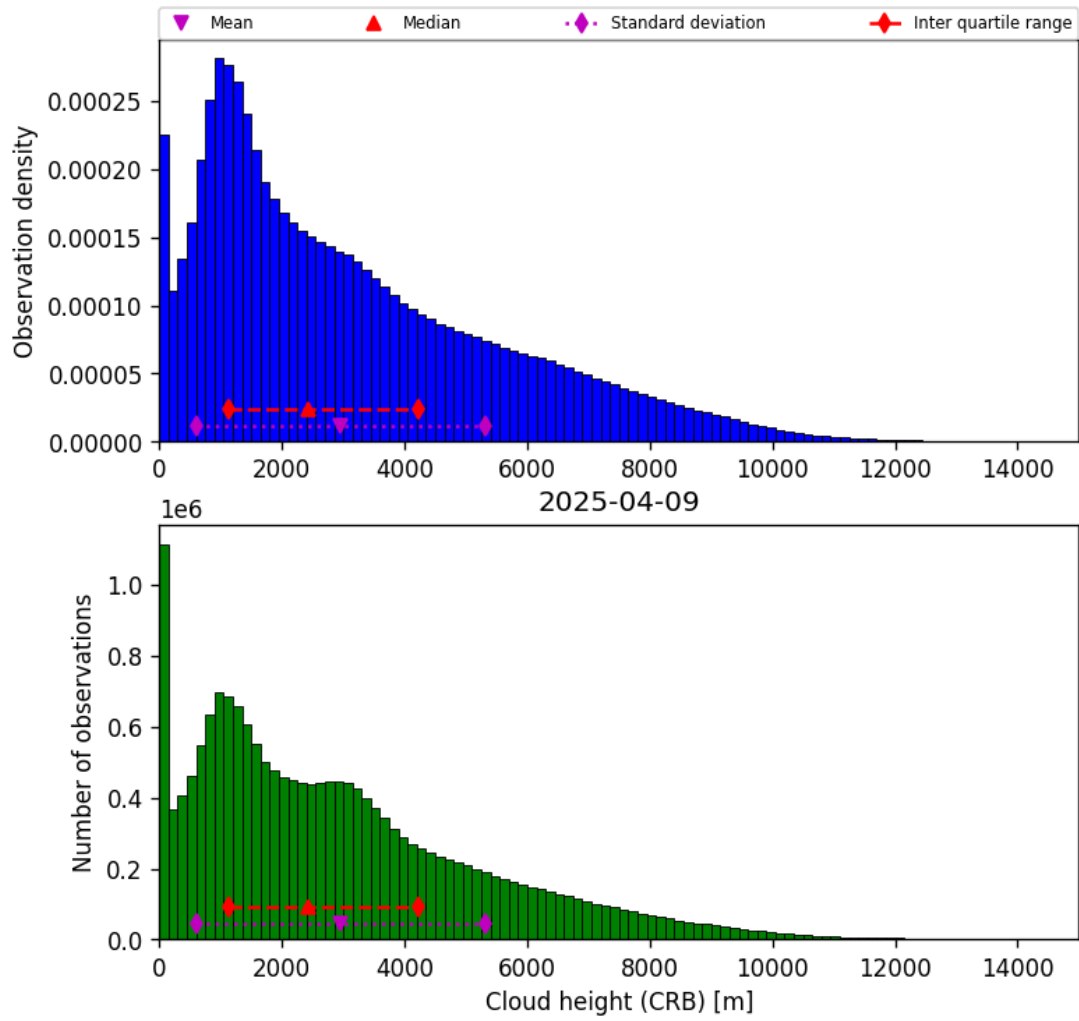


Figure 41: Histogram of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10

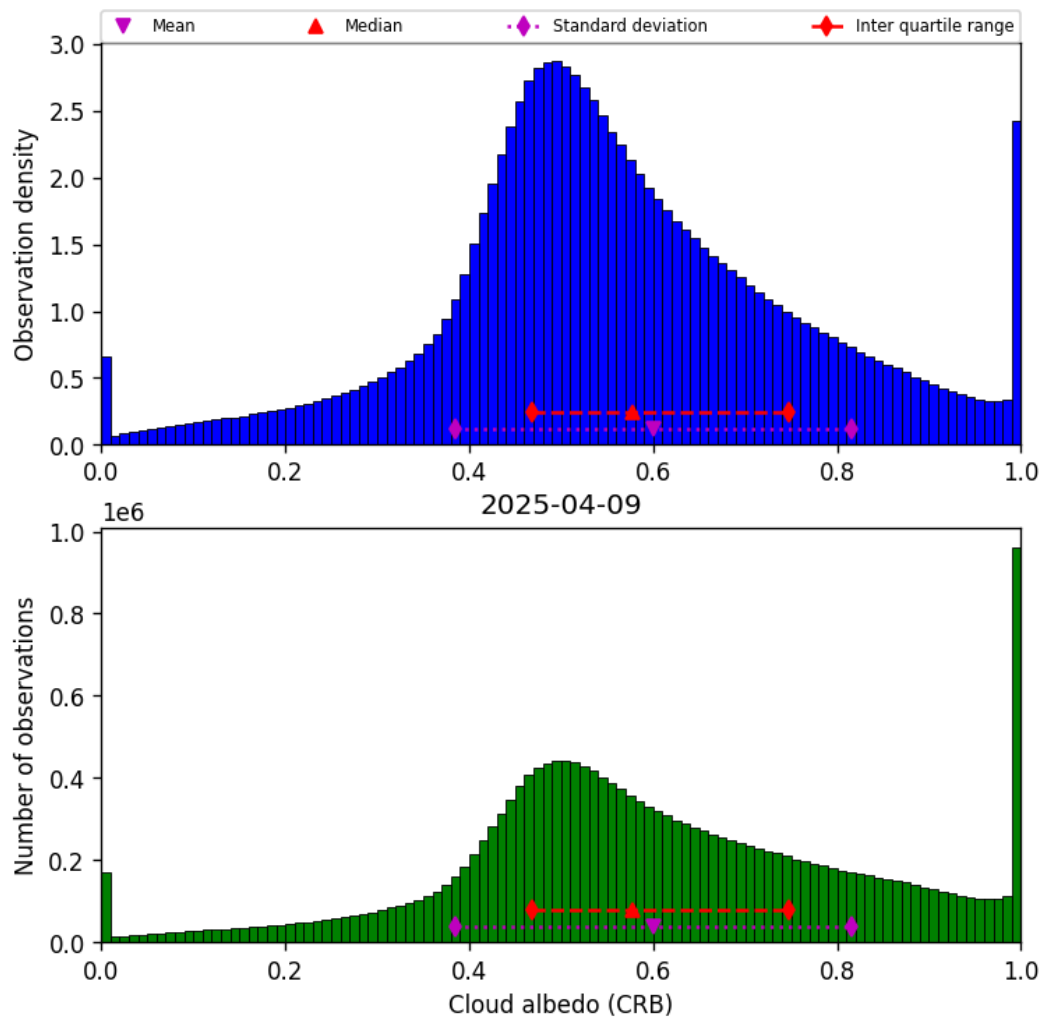


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10

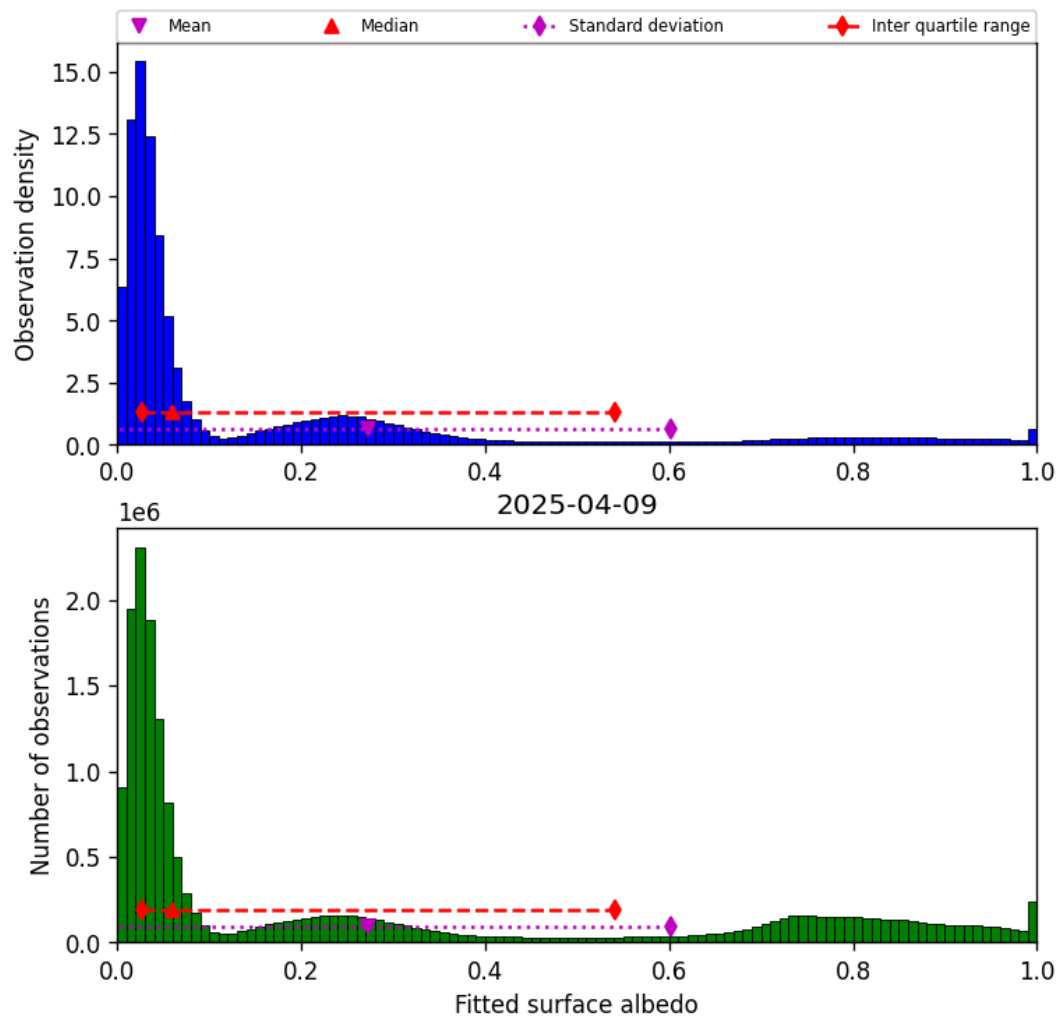


Figure 43: Histogram of “Fitted surface albedo” for 2025-04-09 to 2025-04-10

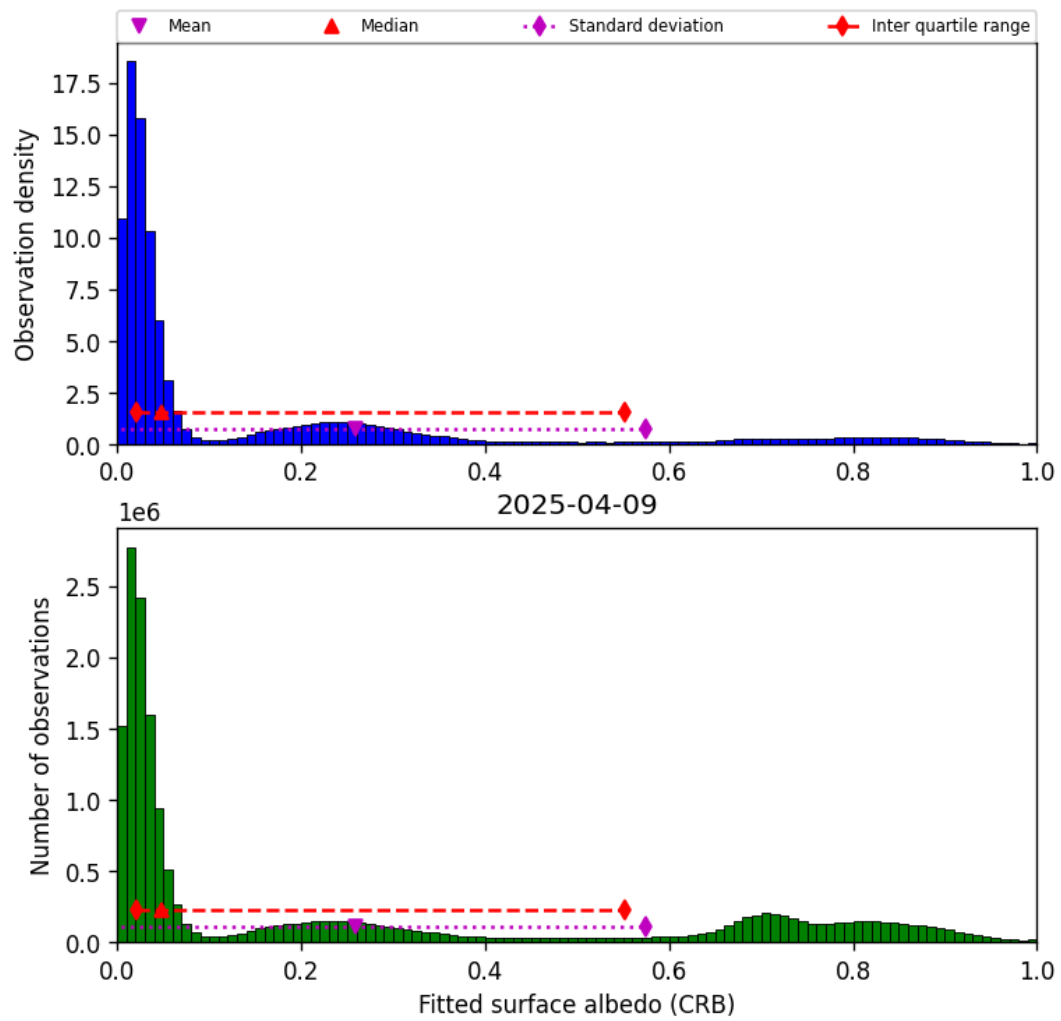


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10

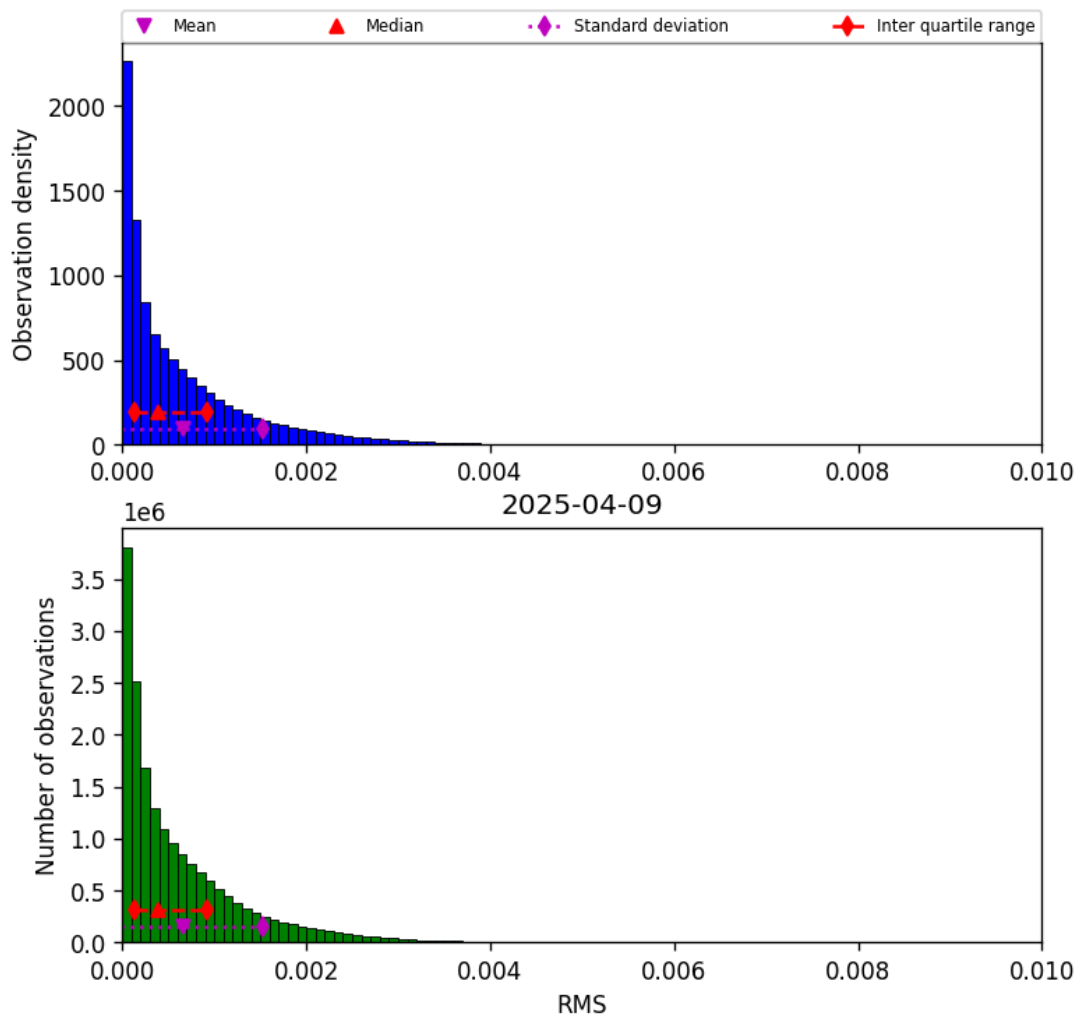


Figure 45: Histogram of “RMS” for 2025-04-09 to 2025-04-10

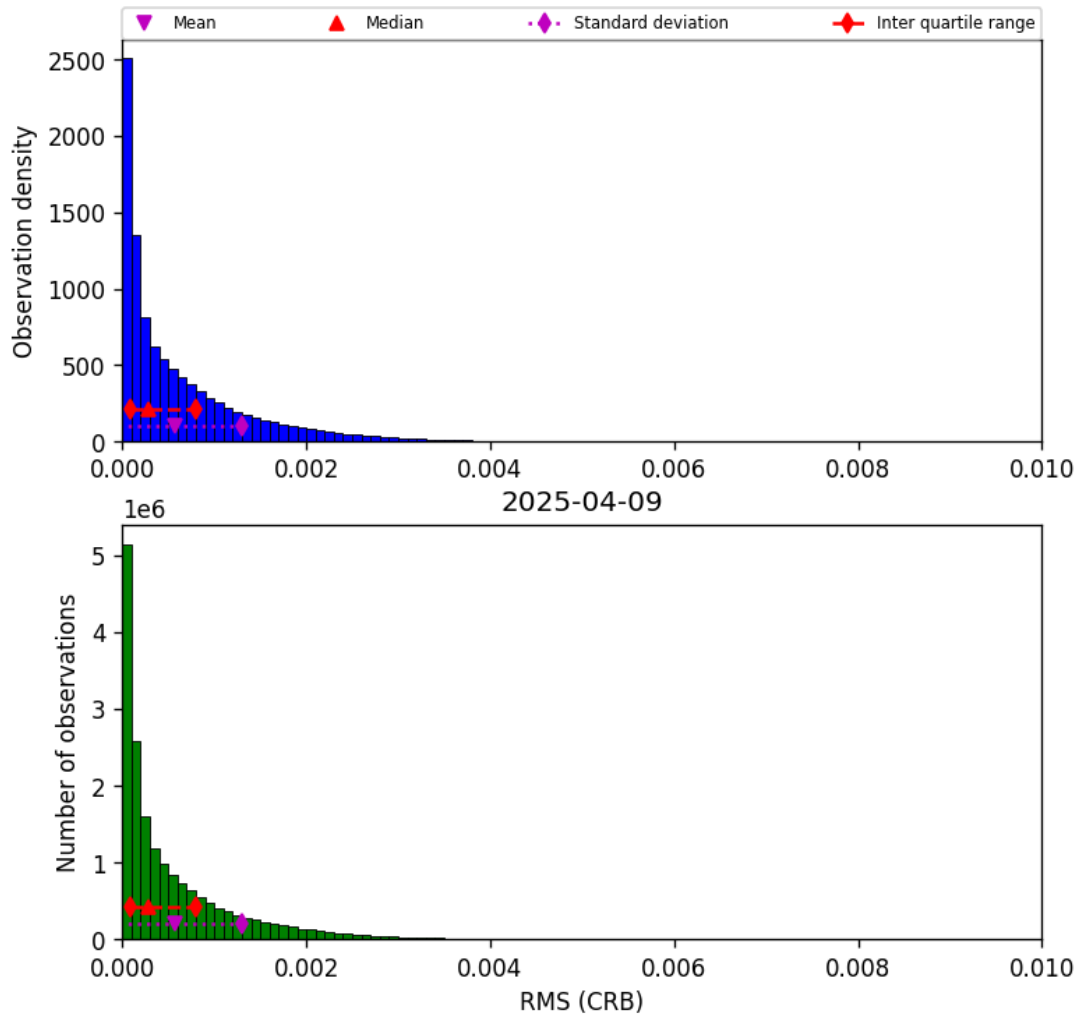


Figure 46: Histogram of “RMS (CRB)” for 2025-04-09 to 2025-04-10

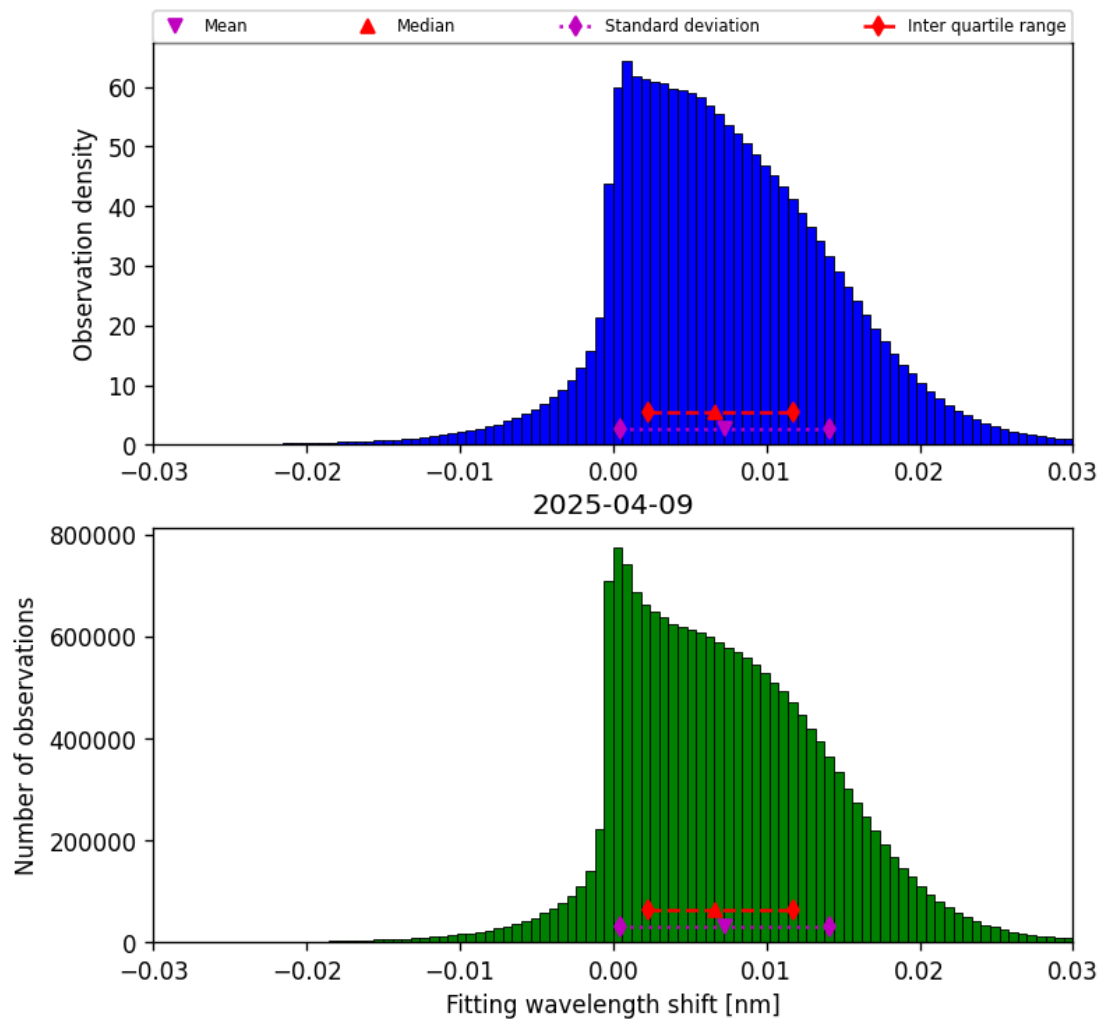


Figure 47: Histogram of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10

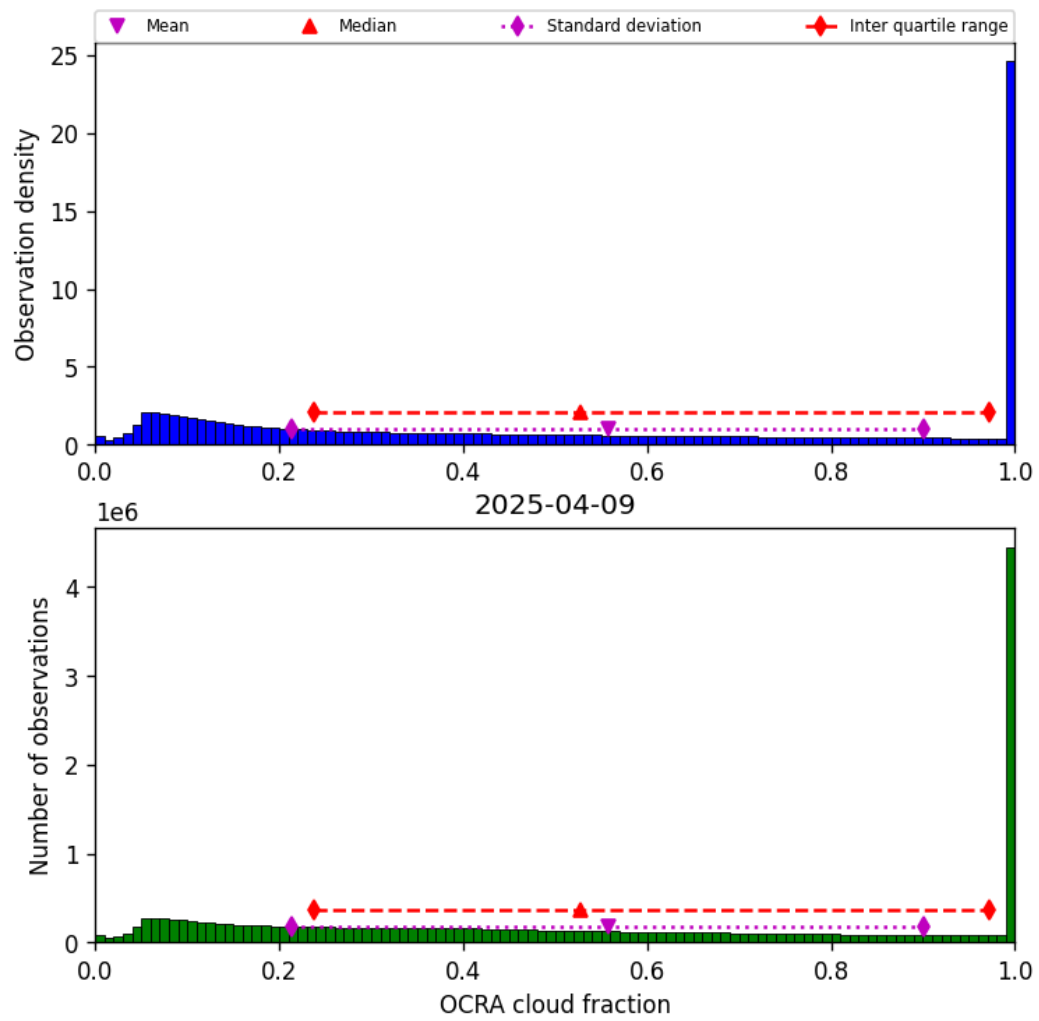


Figure 48: Histogram of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10

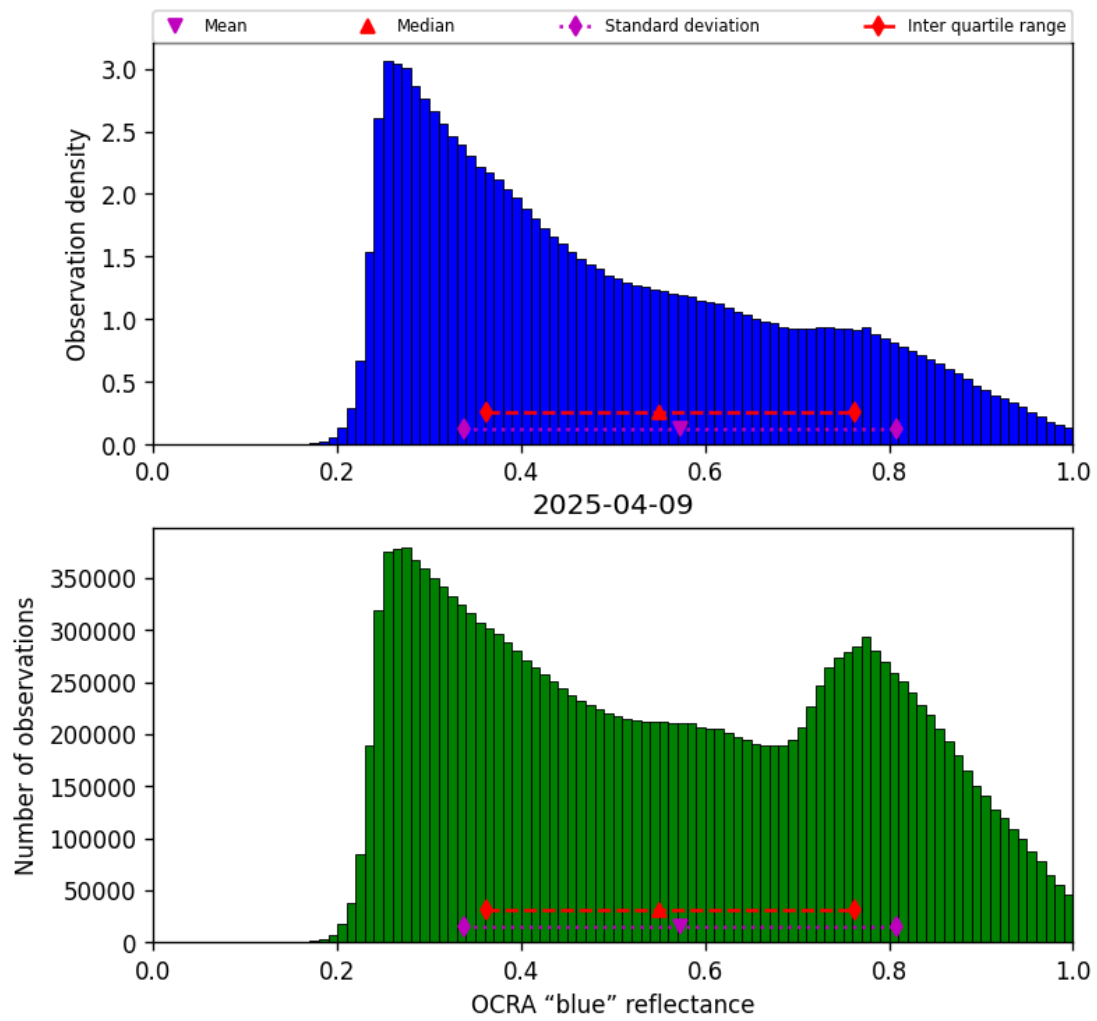


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10

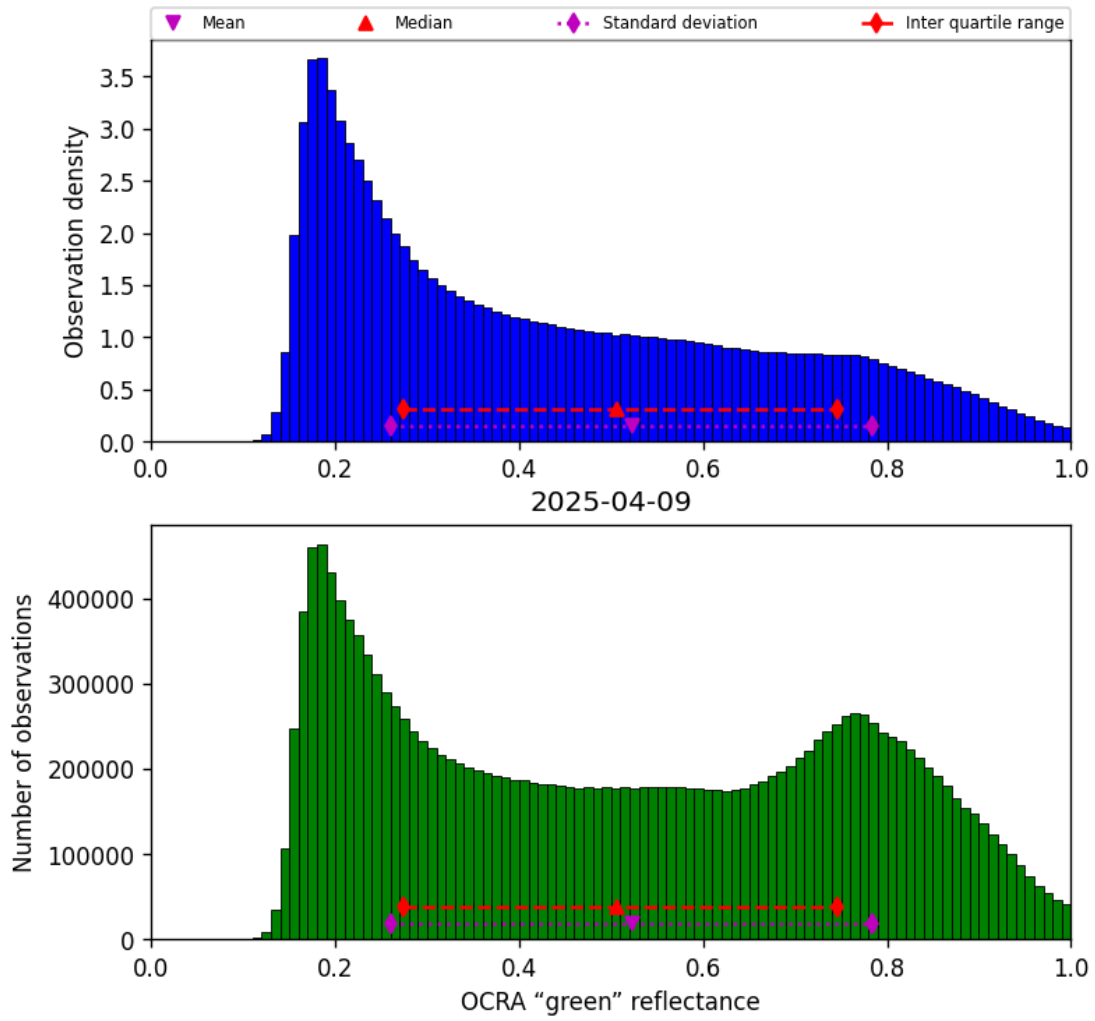


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10

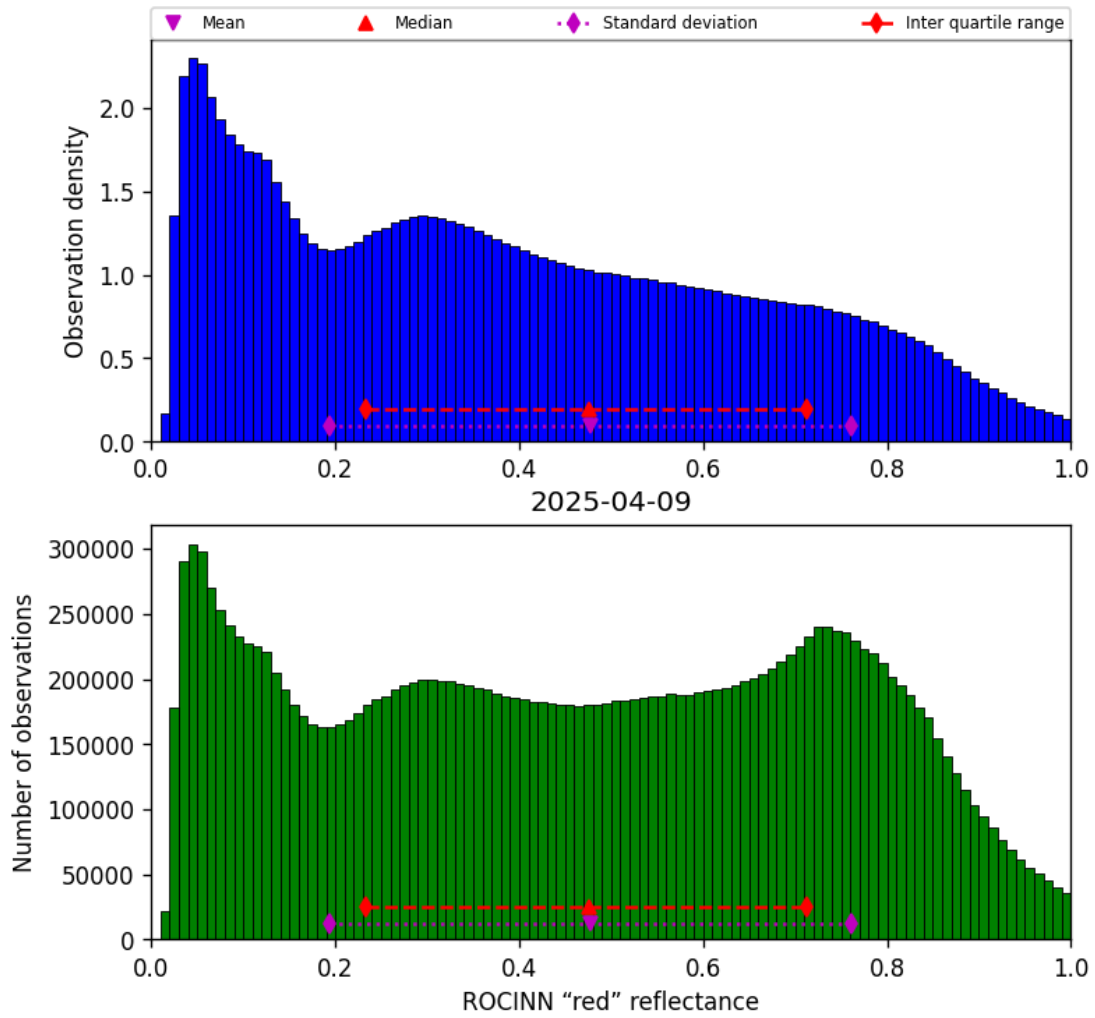


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10

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.

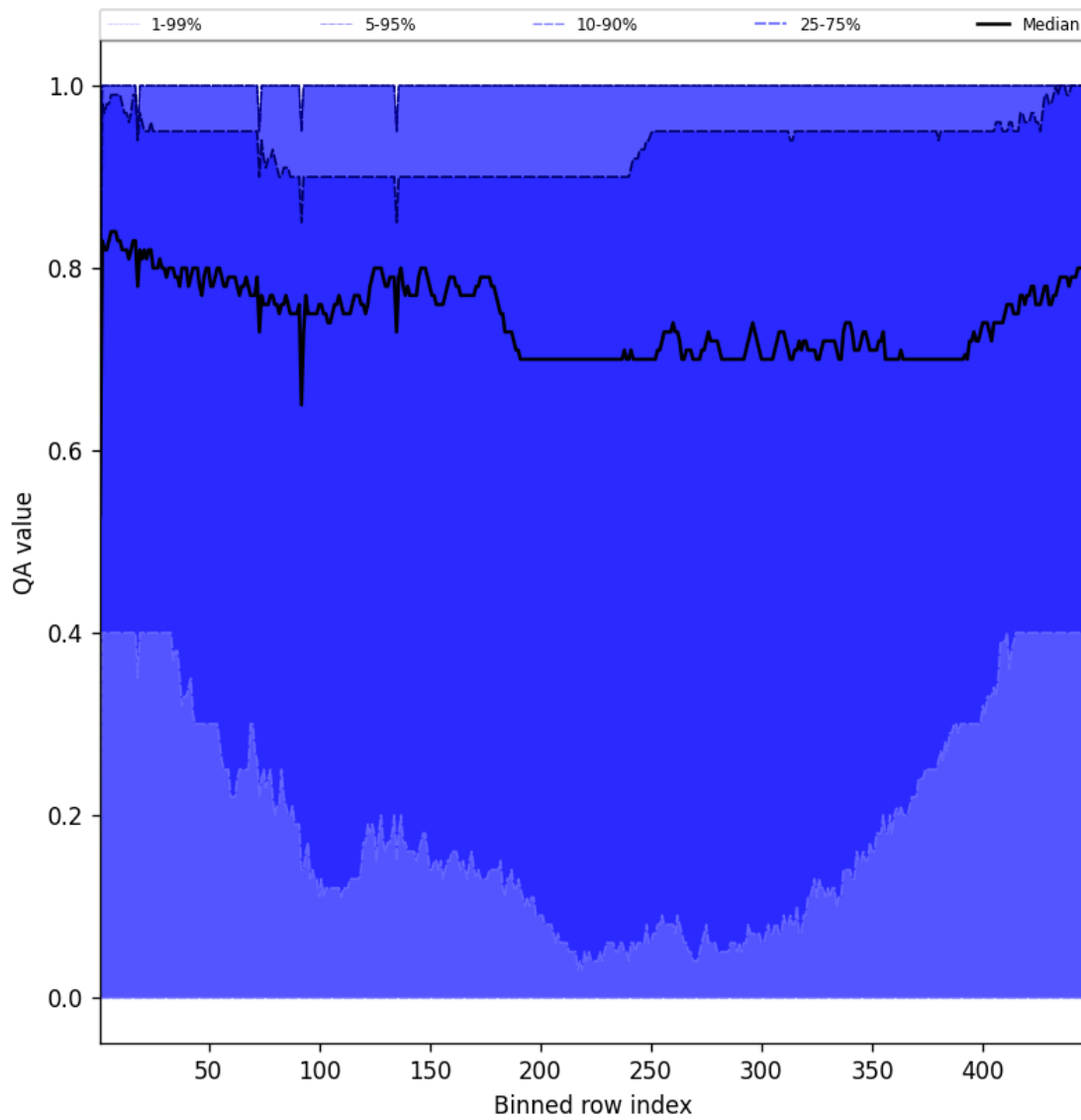


Figure 52: Along track statistics of “QA value” for 2025-04-09 to 2025-04-10

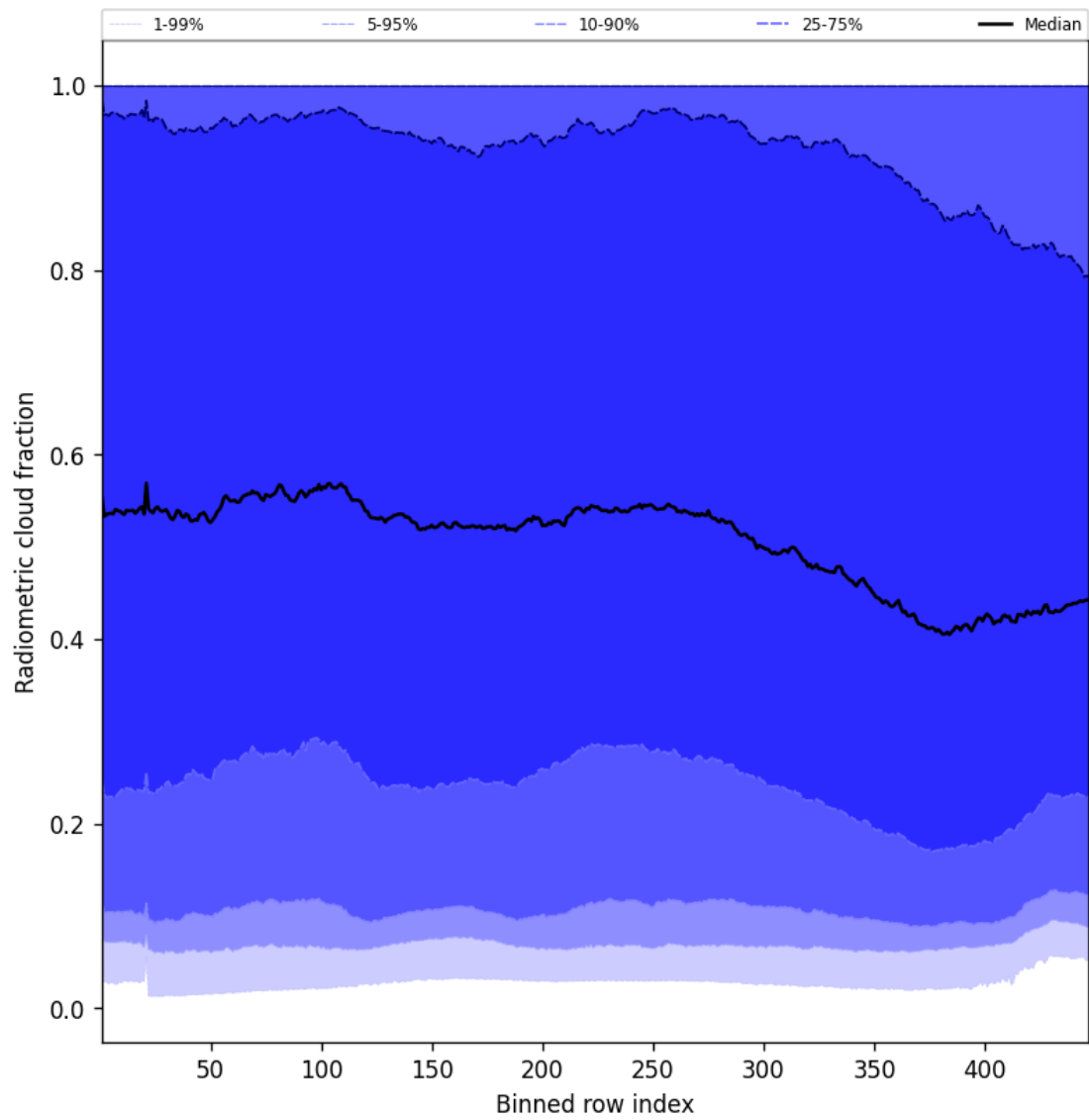


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10

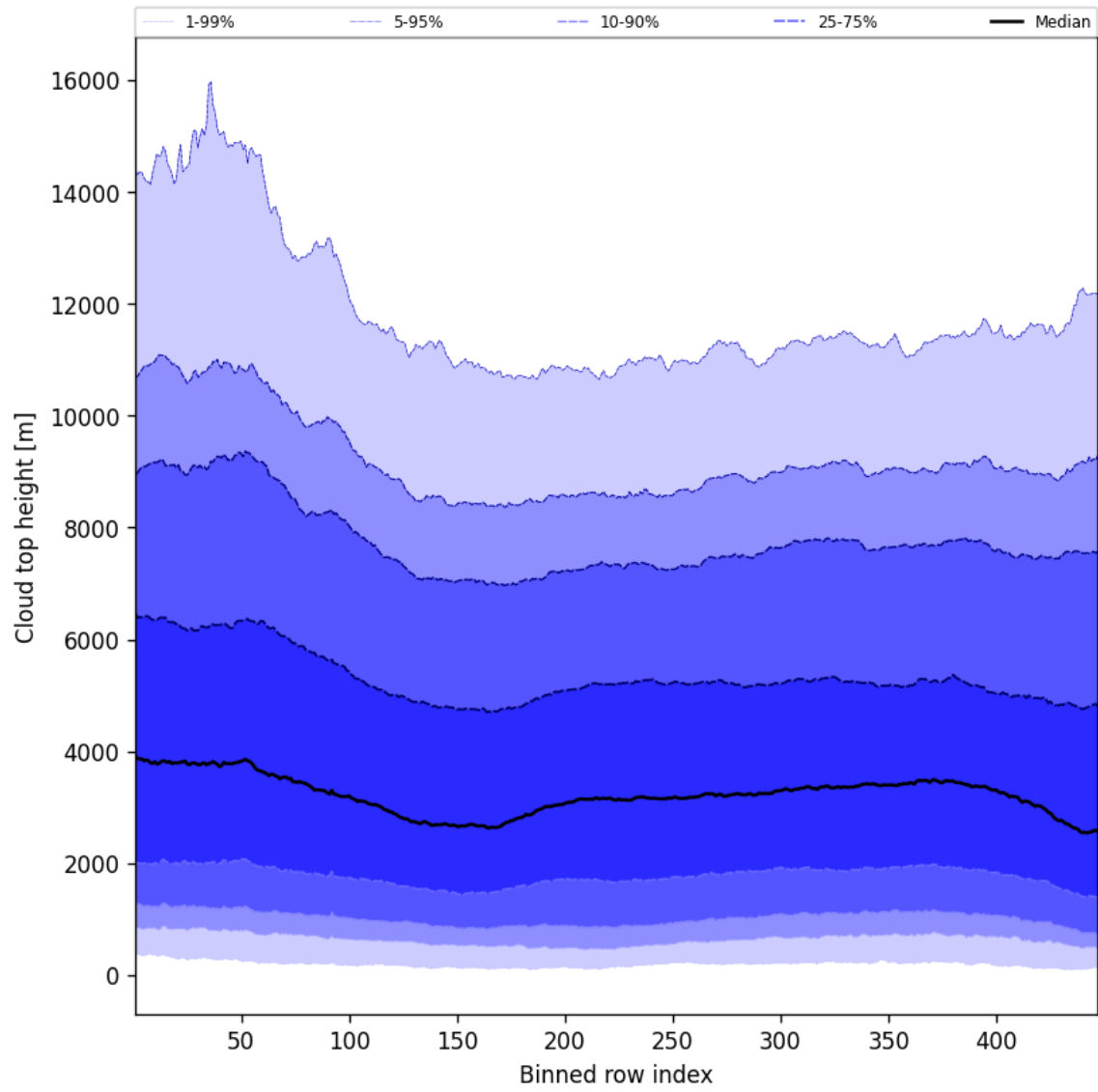


Figure 54: Along track statistics of “Cloud top height” for 2025-04-09 to 2025-04-10

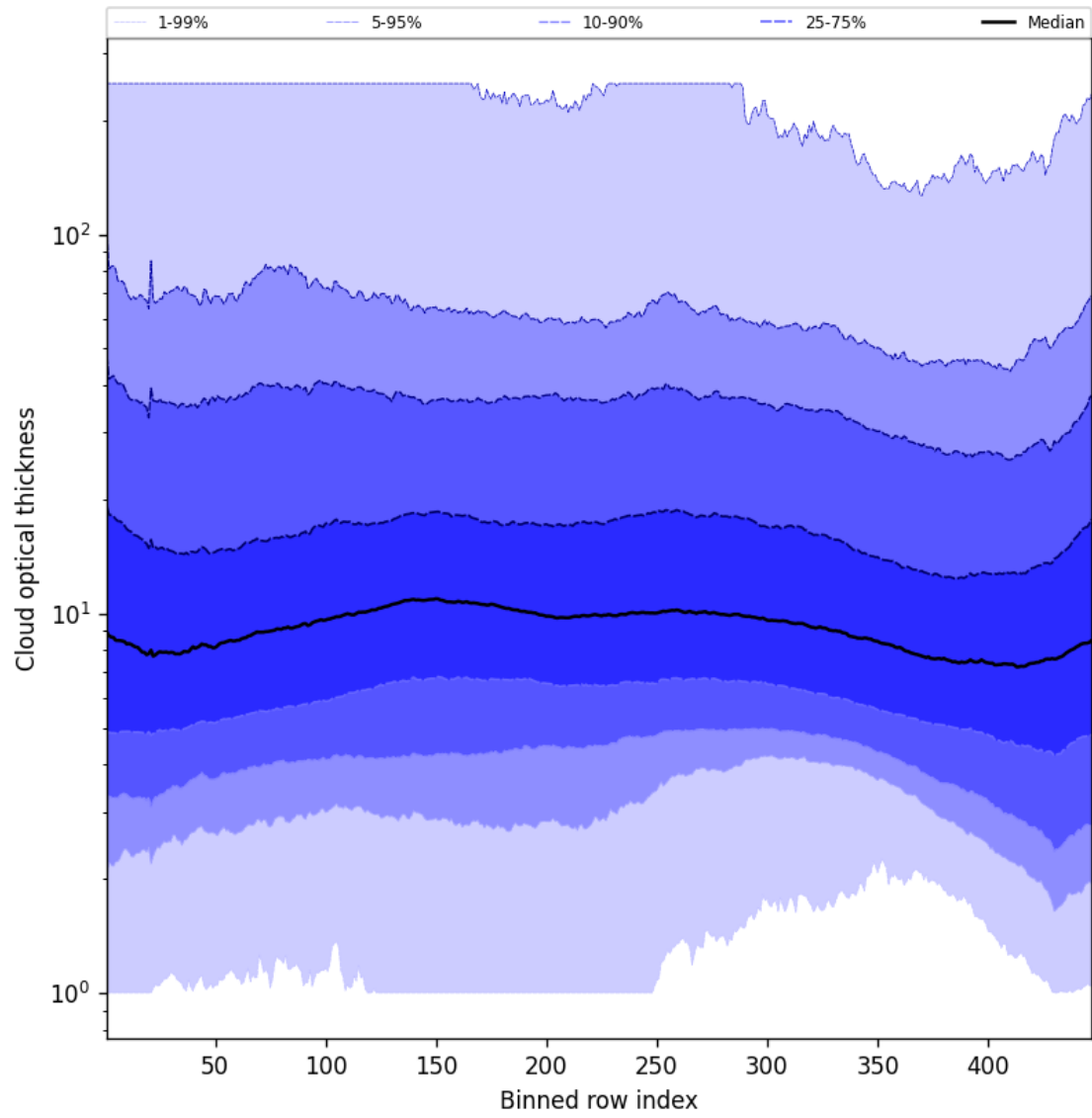


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-04-09 to 2025-04-10

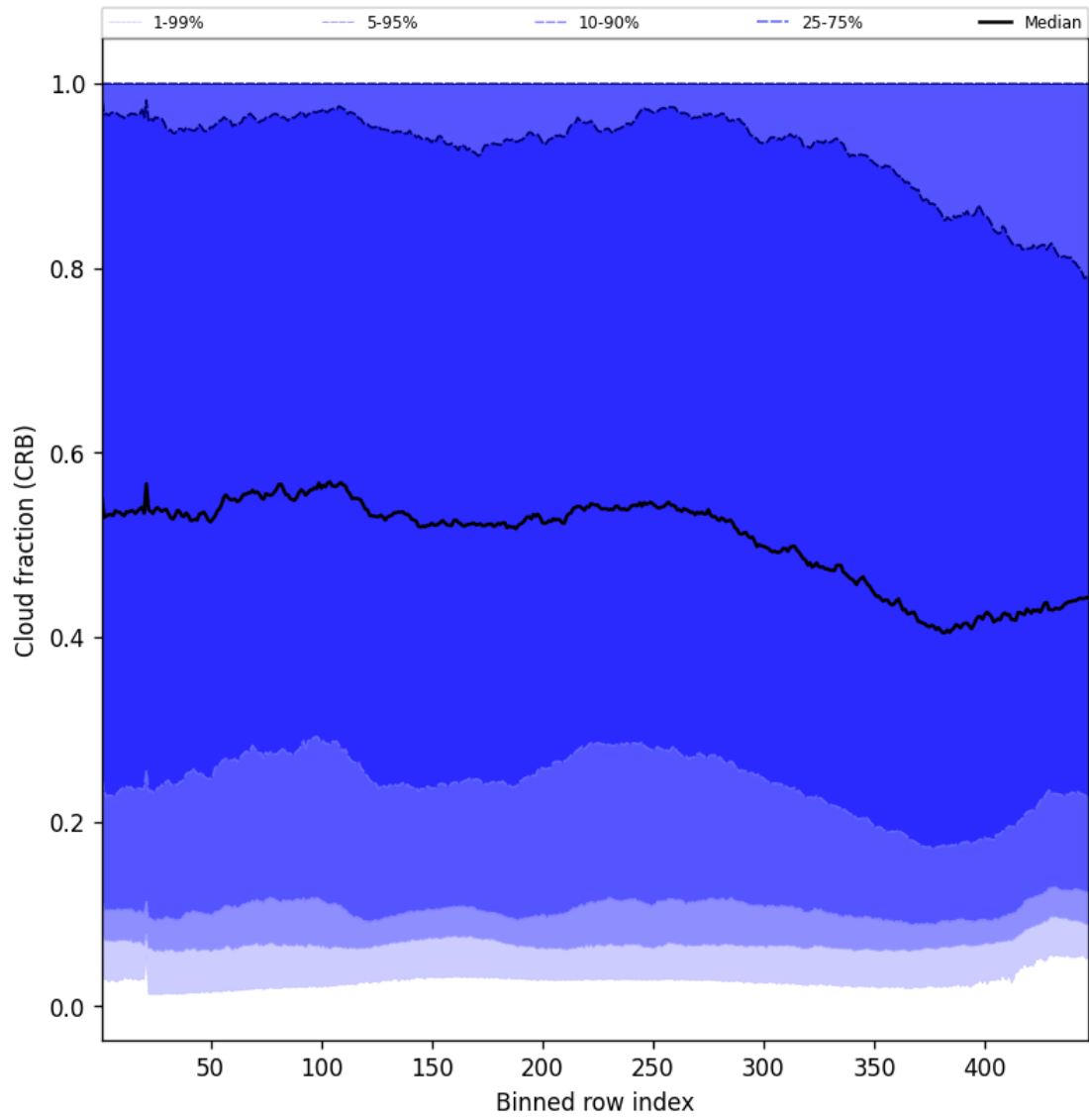


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10

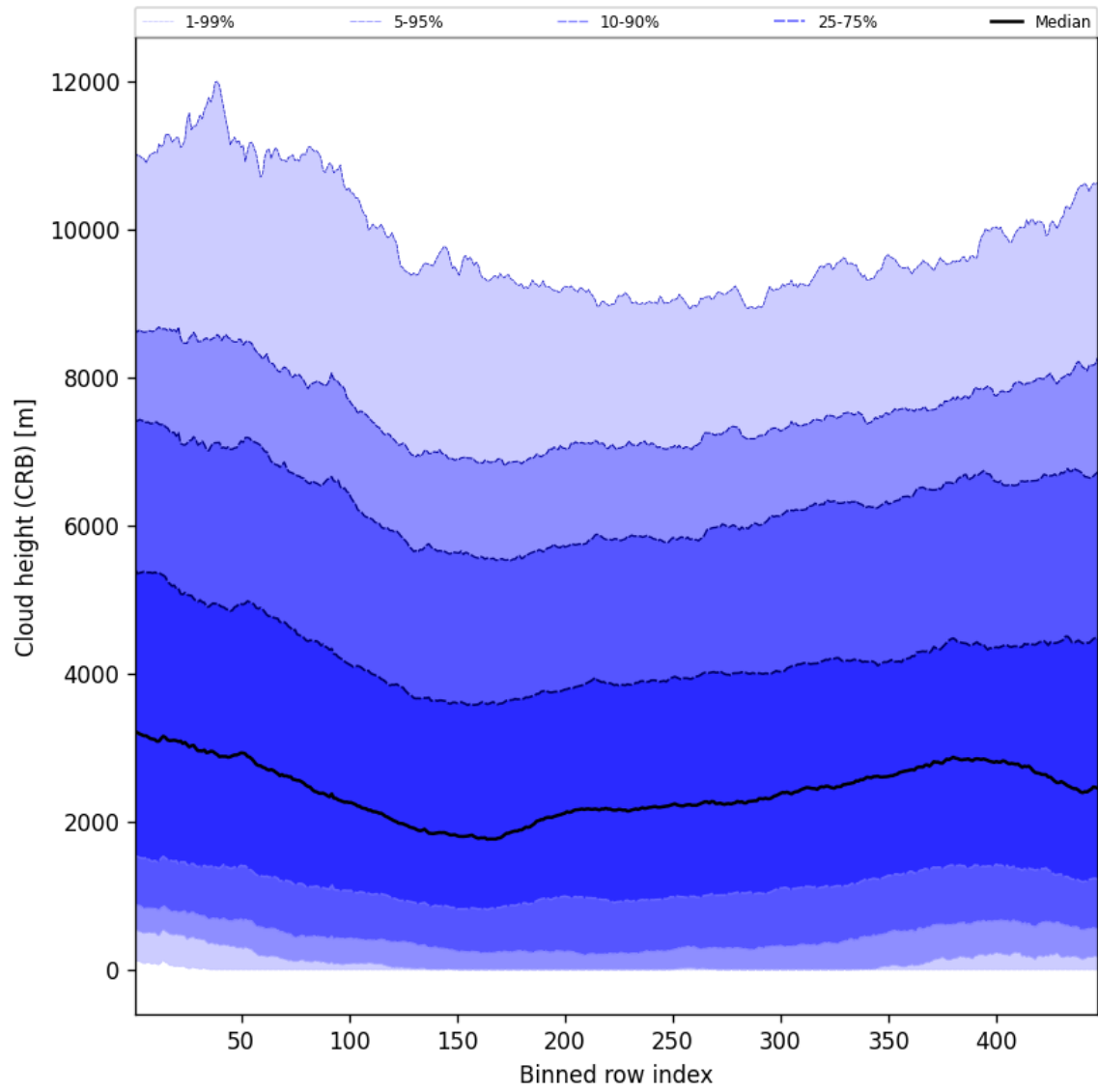


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10

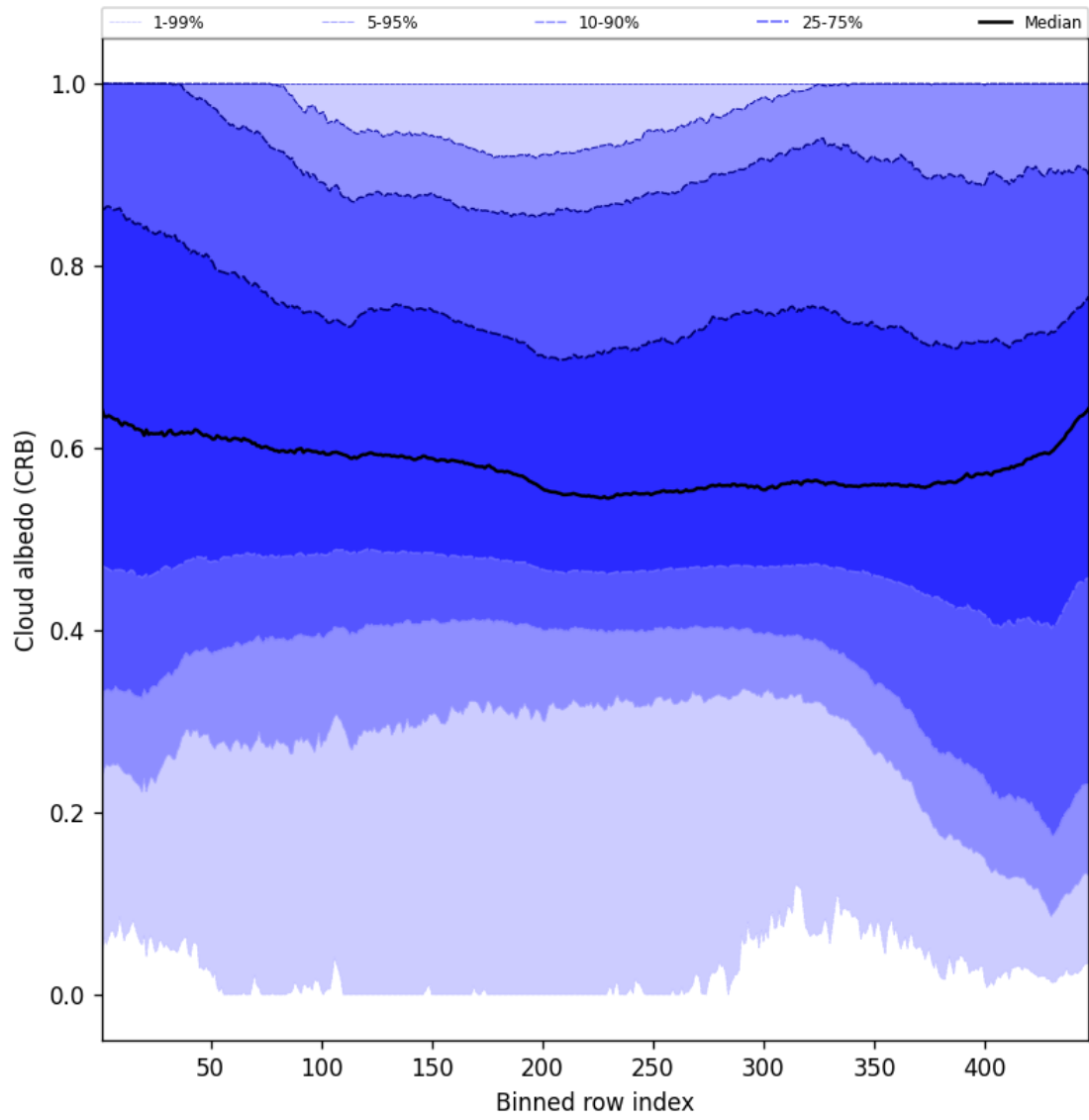


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10

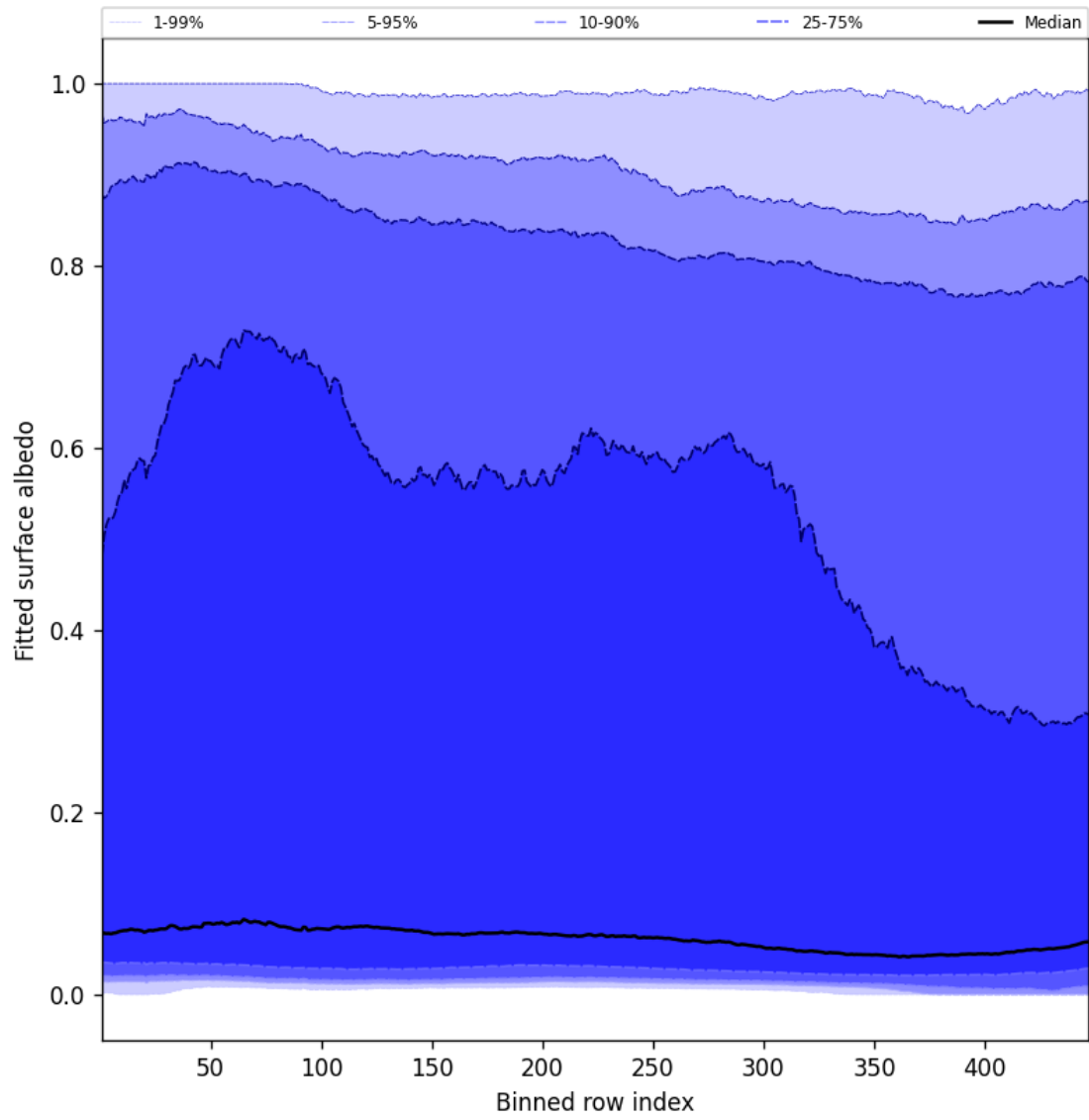


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-04-09 to 2025-04-10

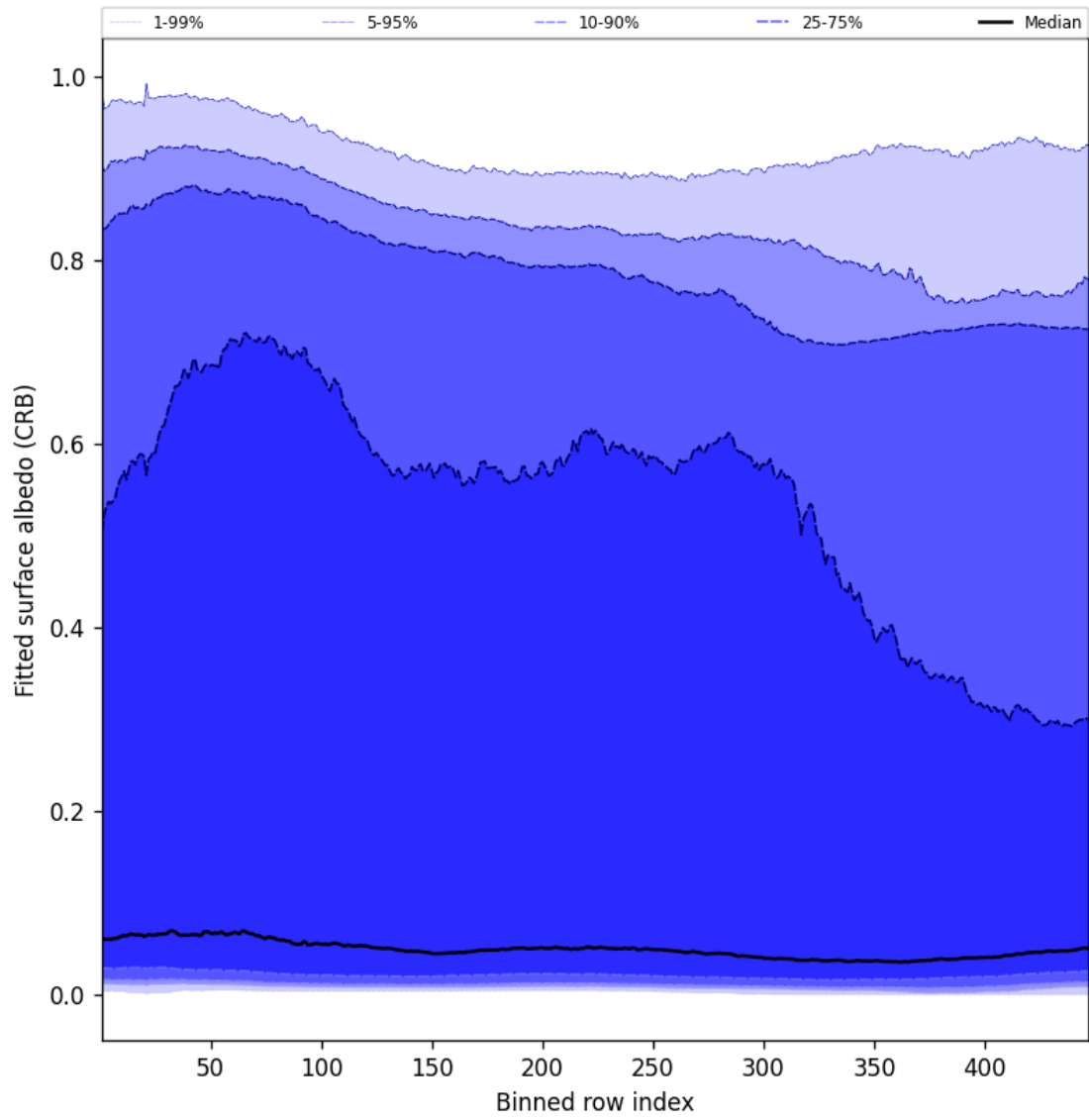


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10

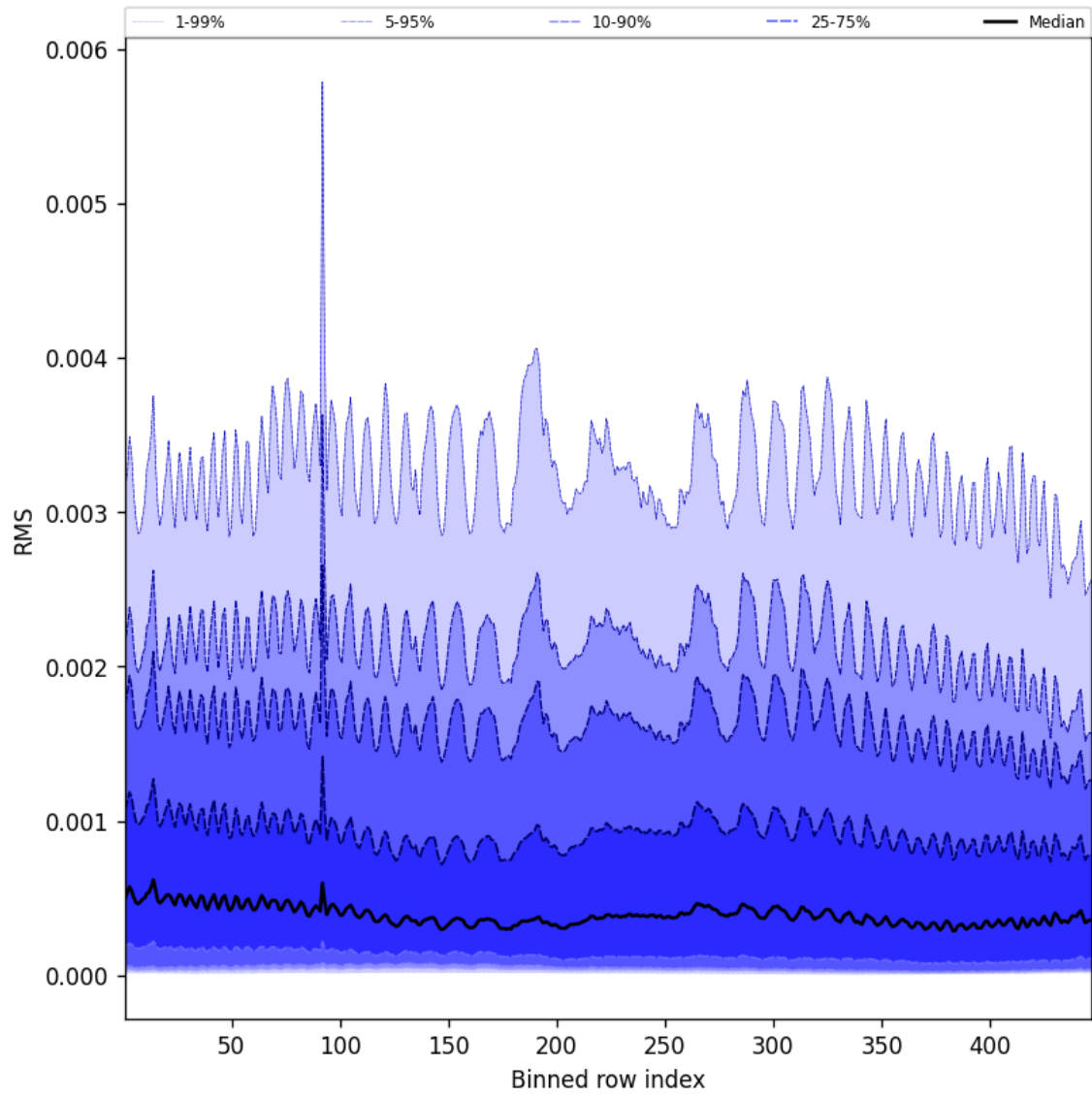


Figure 61: Along track statistics of “RMS” for 2025-04-09 to 2025-04-10

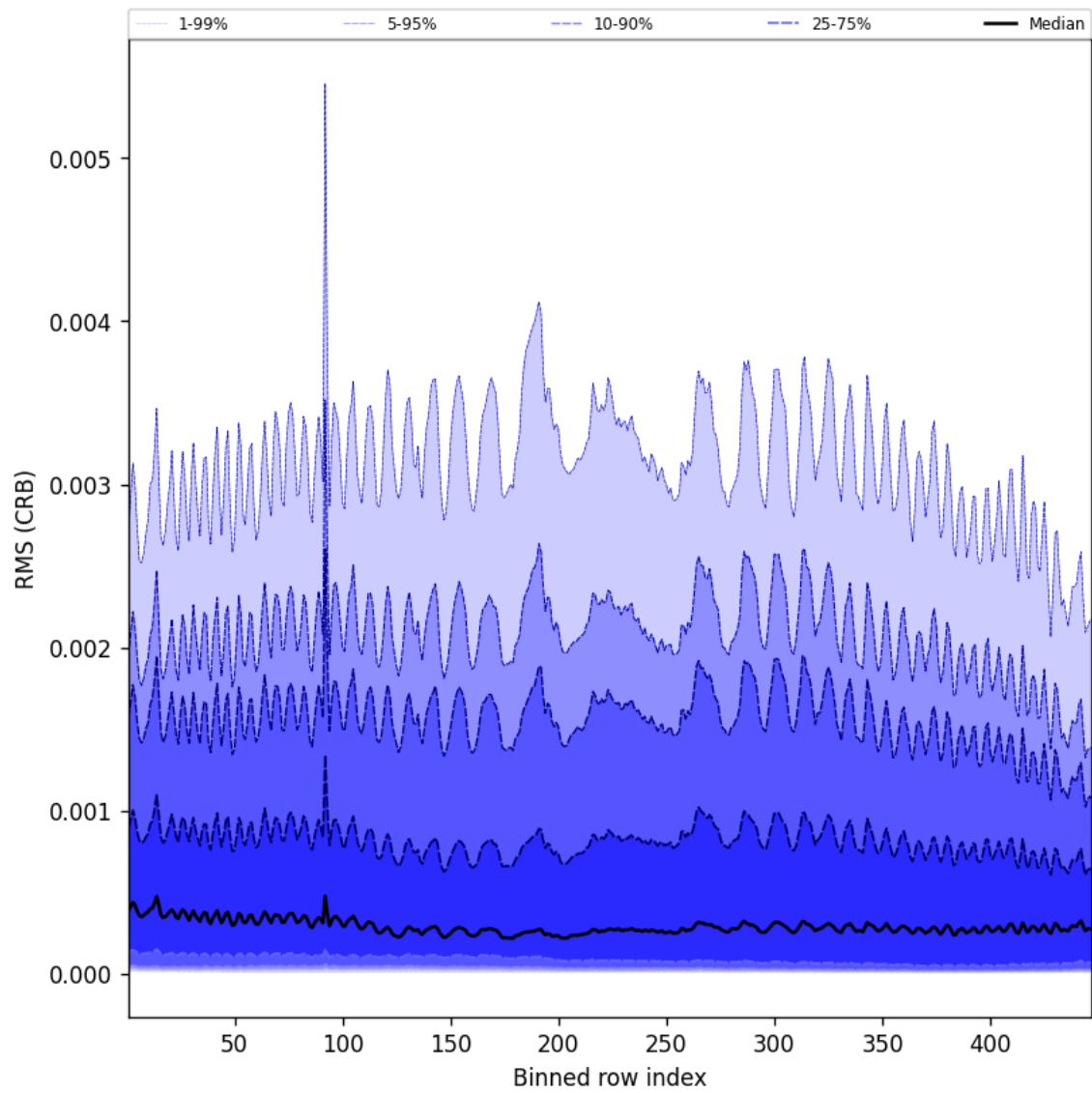


Figure 62: Along track statistics of “RMS (CRB)” for 2025-04-09 to 2025-04-10

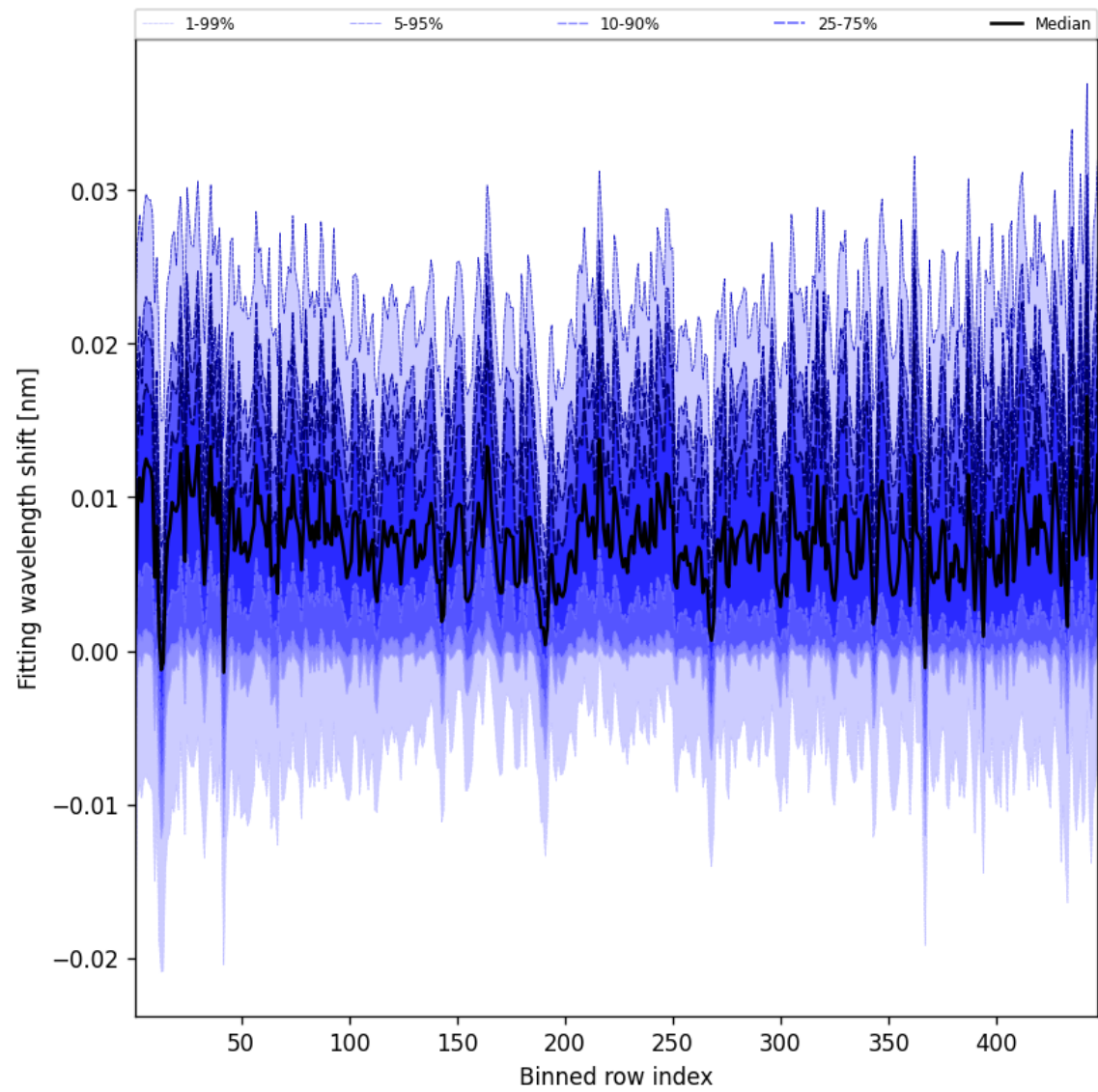


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10

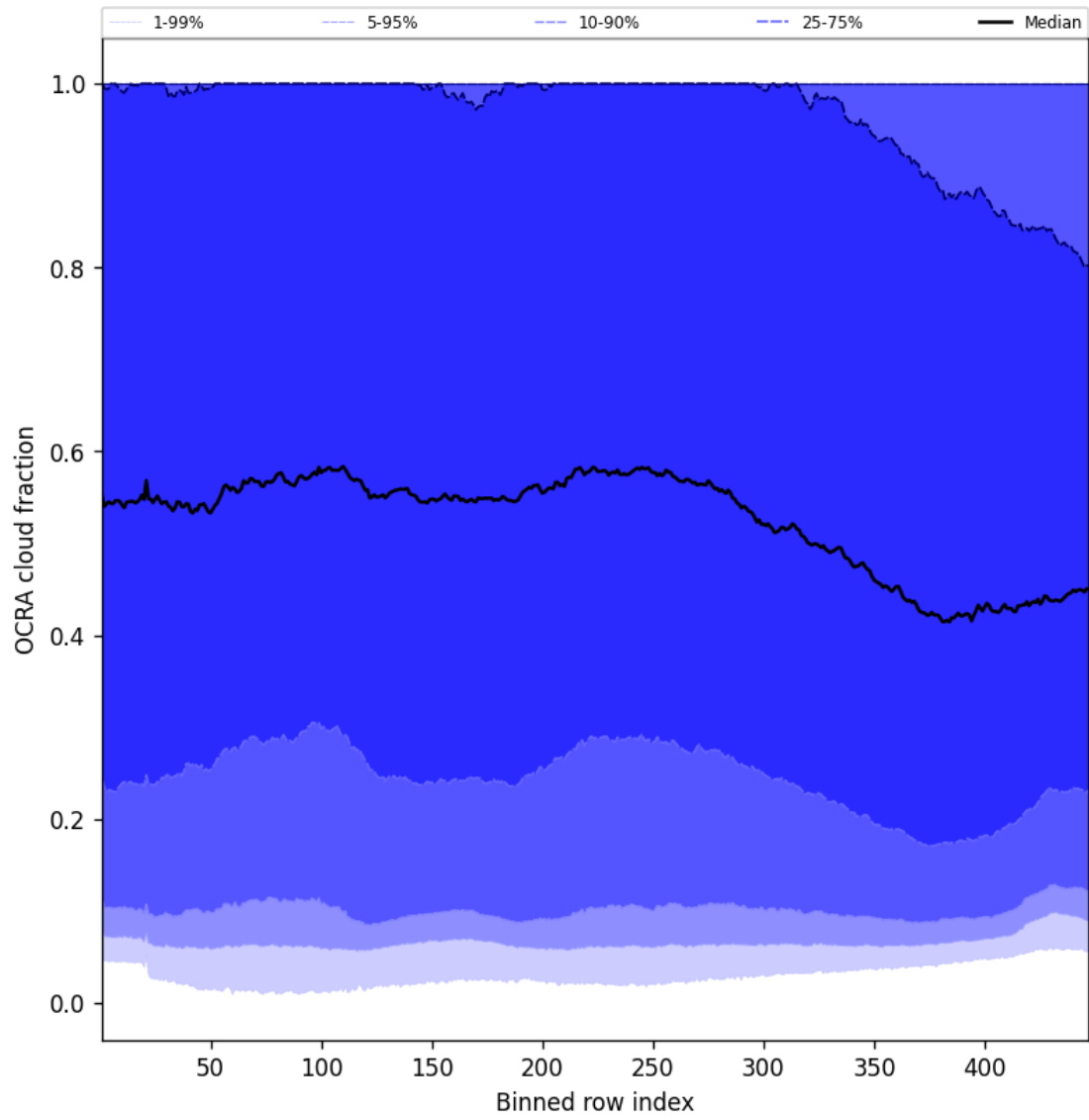


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10

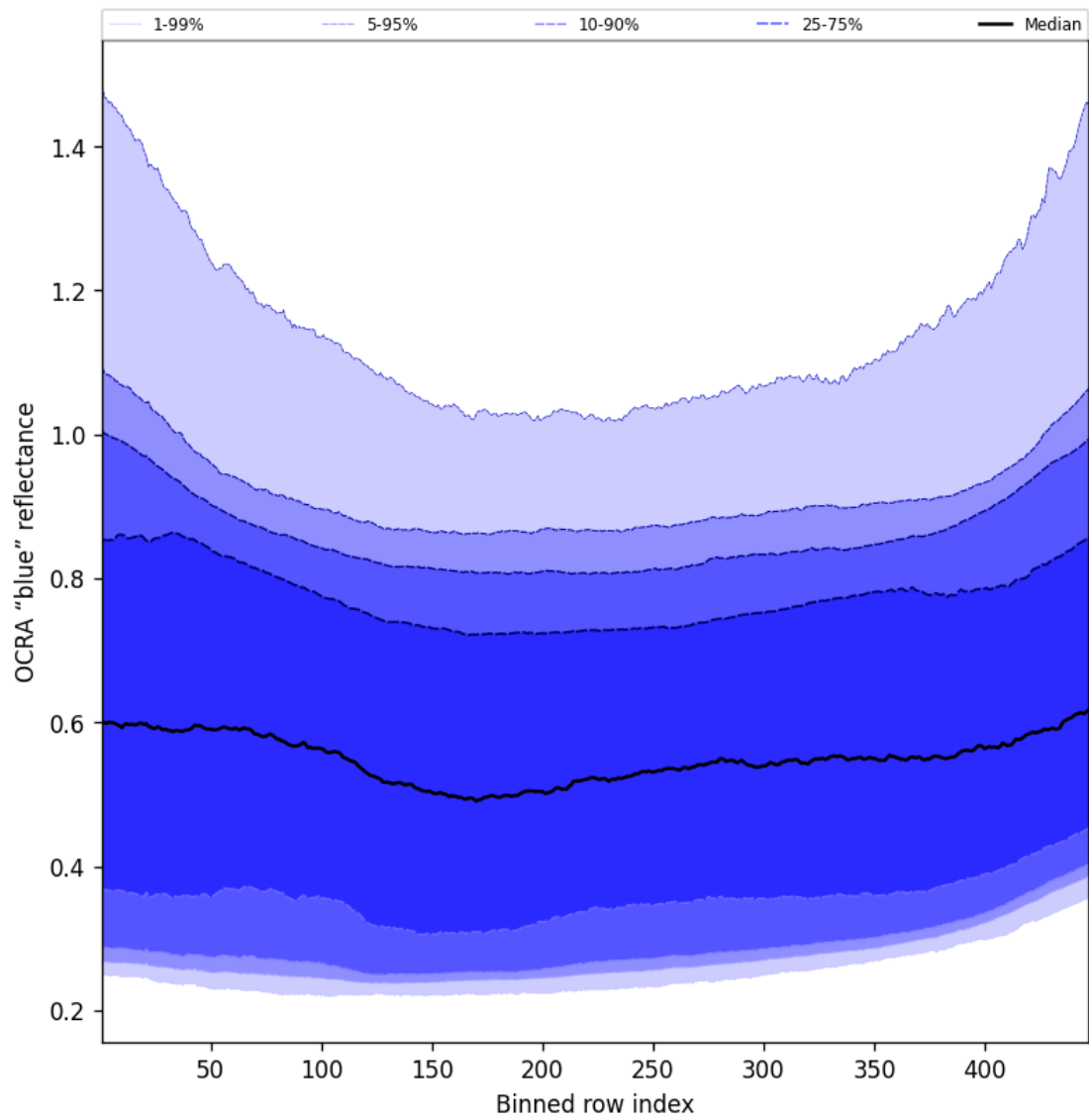


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10

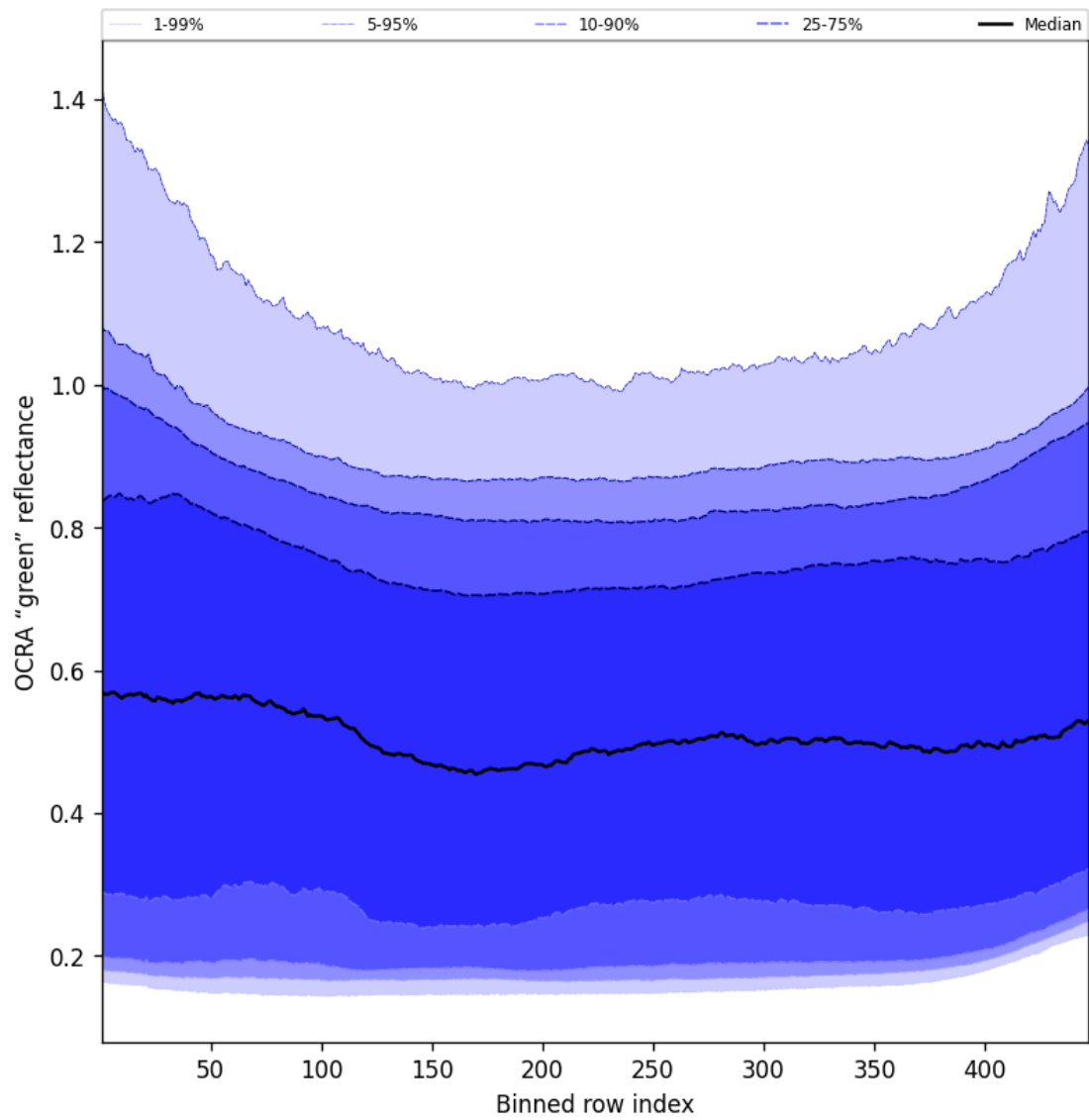


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10

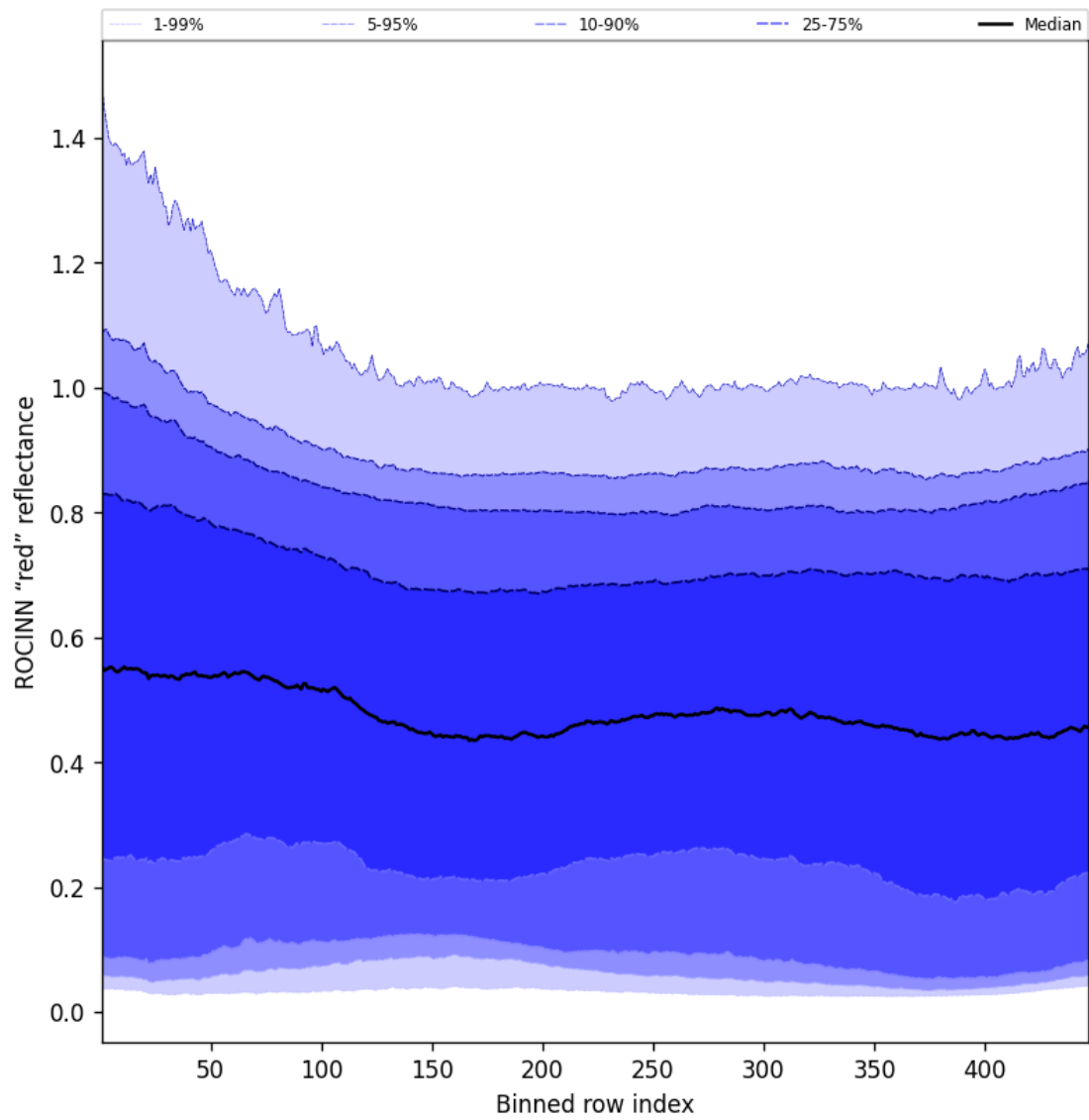


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10

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 2025-04-09 to 2025-04-10	11
5	Map of “Cloud top height” for 2025-04-09 to 2025-04-10	12
6	Map of “Cloud optical thickness” for 2025-04-09 to 2025-04-10	13
7	Map of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10	14
8	Map of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10	15
9	Map of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10	16
10	Map of “Fitted surface albedo” for 2025-04-09 to 2025-04-10	17
11	Map of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10	18
12	Map of “RMS” for 2025-04-09 to 2025-04-10	19
13	Map of “RMS (CRB)” for 2025-04-09 to 2025-04-10	20
14	Map of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10	21
15	Map of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10	22
16	Map of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10	23
17	Map of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10	24
18	Map of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10	25
19	Map of the number of observations for 2025-04-09 to 2025-04-10	26
20	Zonal average of “QA value” for 2025-04-09 to 2025-04-10.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10.	28
22	Zonal average of “Cloud top height” for 2025-04-09 to 2025-04-10.	29
23	Zonal average of “Cloud optical thickness” for 2025-04-09 to 2025-04-10.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10.	31
25	Zonal average of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10.	33
27	Zonal average of “Fitted surface albedo” for 2025-04-09 to 2025-04-10.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10.	35
29	Zonal average of “RMS” for 2025-04-09 to 2025-04-10.	36

30	Zonal average of “RMS (CRB)” for 2025-04-09 to 2025-04-10	37
31	Zonal average of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10	38
32	Zonal average of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10	40
34	Zonal average of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10	42
36	Histogram of “QA value” for 2025-04-09 to 2025-04-10	43
37	Histogram of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10	44
38	Histogram of “Cloud top height” for 2025-04-09 to 2025-04-10	45
39	Histogram of “Cloud optical thickness” for 2025-04-09 to 2025-04-10	46
40	Histogram of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10	47
41	Histogram of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10	48
42	Histogram of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10	49
43	Histogram of “Fitted surface albedo” for 2025-04-09 to 2025-04-10	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10	51
45	Histogram of “RMS” for 2025-04-09 to 2025-04-10	52
46	Histogram of “RMS (CRB)” for 2025-04-09 to 2025-04-10	53
47	Histogram of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10	54
48	Histogram of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10	55
49	Histogram of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10	56
50	Histogram of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10	57
51	Histogram of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10	58
52	Along track statistics of “QA value” for 2025-04-09 to 2025-04-10	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-04-09 to 2025-04-10	60
54	Along track statistics of “Cloud top height” for 2025-04-09 to 2025-04-10	61
55	Along track statistics of “Cloud optical thickness” for 2025-04-09 to 2025-04-10	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-04-09 to 2025-04-10	63
57	Along track statistics of “Cloud height (CRB)” for 2025-04-09 to 2025-04-10	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-04-09 to 2025-04-10	65
59	Along track statistics of “Fitted surface albedo” for 2025-04-09 to 2025-04-10	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-09 to 2025-04-10	67
61	Along track statistics of “RMS” for 2025-04-09 to 2025-04-10	68
62	Along track statistics of “RMS (CRB)” for 2025-04-09 to 2025-04-10	69
63	Along track statistics of “Fitting wavelength shift” for 2025-04-09 to 2025-04-10	70
64	Along track statistics of “OCRA cloud fraction” for 2025-04-09 to 2025-04-10	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-04-09 to 2025-04-10	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-04-09 to 2025-04-10	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-04-09 to 2025-04-10	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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Maarten Sneep (maarten.sneep@knmi.nl).