

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-07 (02:45)

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:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

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]	0.649 ± 0.376	18880014	0.995	0.600	0.850	0.0	1.000
cloud fraction [1]	0.580 ± 0.346	18880014	0.995	0.729	0.580	7.829×10^{-3}	1.000
cloud top height [m]	$(0.378 \pm 0.259) \times 10^4$	18880014	1.575×10^3	3.452×10^3	3.208×10^3	0.0	2.000×10^4
cloud optical thickness [1]	23.4 ± 42.8	18880014	9.77	12.5	10.5	1.000	250
cloud fraction crb [1]	0.579 ± 0.346	18880014	0.995	0.729	0.578	8.355×10^{-3}	1.000
cloud height crb [m]	$(0.301 \pm 0.221) \times 10^4$	18880014	975	3.050×10^3	2.549×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.582 ± 0.198	18880014	0.995	0.236	0.563	0.0	1.000
surface albedo fitted [1]	0.183 ± 0.232	18880014	2.500×10^{-2}	0.233	5.347×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.173 ± 0.221	18880014	1.500×10^{-2}	0.235	4.366×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.014 \pm 7.973) \times 10^{-4}$	18880014	5.000×10^{-5}	6.994×10^{-4}	3.345×10^{-4}	1.312×10^{-6}	0.307
fitted root mean square crb [1]	$(5.237 \pm 7.786) \times 10^{-4}$	18880014	5.000×10^{-5}	6.149×10^{-4}	2.455×10^{-4}	1.403×10^{-6}	0.618
wavelength shift [nm]	$(7.942 \pm 6.902) \times 10^{-3}$	18880014	-3.000×10^{-4}	9.652×10^{-3}	7.327×10^{-3}	-6.444×10^{-2}	0.199
cloud fraction apriori [1]	0.583 ± 0.352	18880014	0.995	0.757	0.586	0.0	1.000
reflectance blue ocra [1]	0.540 ± 0.214	18880014	0.265	0.344	0.516	0.134	1.96
reflectance green ocra [1]	0.485 ± 0.239	18880014	0.175	0.407	0.466	8.112×10^{-2}	1.92
reflectance continuum aband [1]	0.441 ± 0.261	18880014	4.500×10^{-2}	0.403	0.430	9.749×10^{-3}	7.02

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	0.370	0.970	1.000	1.000	1.000	1.000
cloud fraction [1]	2.636×10^{-2}	6.845×10^{-2}	0.106	0.155	0.250	0.979	1.000	1.000	1.000	1.000
cloud top height [m]	273	755	1.069×10^3	1.353×10^3	1.746×10^3	5.199×10^3	6.389×10^3	7.462×10^3	8.856×10^3	1.137×10^4
cloud optical thickness [1]	1.28	3.12	4.21	5.14	6.55	19.0	29.0	44.2	86.8	250
cloud fraction crb [1]	2.585×10^{-2}	6.760×10^{-2}	0.106	0.155	0.248	0.977	1.000	1.000	1.000	1.000
cloud height crb [m]	34.7	377	623	863	1.207×10^3	4.257×10^3	5.277×10^3	6.212×10^3	7.395×10^3	9.398×10^3
cloud albedo crb [1]	7.460×10^{-2}	0.257	0.357	0.416	0.464	0.700	0.783	0.863	0.975	1.000
surface albedo fitted [1]	0.0	9.629×10^{-3}	1.453×10^{-2}	1.899×10^{-2}	2.569×10^{-2}	0.259	0.429	0.589	0.703	0.908
surface albedo fitted crb [1]	0.0	7.005×10^{-3}	1.056×10^{-2}	1.397×10^{-2}	1.934×10^{-2}	0.254	0.418	0.562	0.655	0.855
fitted root mean square [1]	1.496×10^{-5}	2.921×10^{-5}	4.676×10^{-5}	7.171×10^{-5}	1.177×10^{-4}	8.171×10^{-4}	1.155×10^{-3}	1.508×10^{-3}	2.035×10^{-3}	3.283×10^{-3}
fitted root mean square crb [1]	7.053×10^{-6}	1.640×10^{-5}	2.931×10^{-5}	4.744×10^{-5}	8.165×10^{-5}	6.966×10^{-4}	1.050×10^{-3}	1.422×10^{-3}	1.958×10^{-3}	3.119×10^{-3}
wavelength shift [nm]	-6.999×10^{-3}	-6.097×10^{-4}	1.009×10^{-4}	1.057×10^{-3}	2.747×10^{-3}	1.240×10^{-2}	1.485×10^{-2}	1.700×10^{-2}	1.988×10^{-2}	2.605×10^{-2}
cloud fraction apriori [1]	2.906×10^{-2}	6.484×10^{-2}	9.933×10^{-2}	0.147	0.243	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.255	0.278	0.307	0.355	0.699	0.771	0.825	0.898	1.08
reflectance green ocra [1]	0.150	0.171	0.190	0.216	0.265	0.671	0.752	0.810	0.884	1.04
reflectance continuum aband [1]	2.974×10^{-2}	5.544×10^{-2}	9.087×10^{-2}	0.140	0.229	0.632	0.719	0.787	0.870	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]	0.640 ± 0.379	10857755	0.630	0.830	0.0	1.000	0.320	0.950
cloud fraction [1]	0.609 ± 0.353	10857755	0.739	0.651	7.829×10^{-3}	1.000	0.261	1.000
cloud top height [m]	$(0.384 \pm 0.253) \times 10^4$	10857755	3.443×10^3	3.389×10^3	0.0	2.000×10^4	1.825×10^3	5.269×10^3
cloud optical thickness [1]	19.6 ± 33.0	10857755	11.9	10.1	1.000	250	6.32	18.2
cloud fraction crb [1]	0.608 ± 0.353	10857755	0.740	0.650	8.389×10^{-3}	1.000	0.260	0.999
cloud height crb [m]	$(0.308 \pm 0.218) \times 10^4$	10857755	3.003×10^3	2.763×10^3	0.0	2.000×10^4	1.296×10^3	4.299×10^3
cloud albedo crb [1]	0.568 ± 0.194	10857755	0.238	0.557	0.0	1.000	0.452	0.691
surface albedo fitted [1]	0.185 ± 0.215	10857755	0.240	8.435×10^{-2}	0.0	1.000	2.643×10^{-2}	0.266
surface albedo fitted crb [1]	0.179 ± 0.210	10857755	0.242	7.430×10^{-2}	0.0	1.000	2.062×10^{-2}	0.263
fitted root mean square [1]	$(6.447 \pm 8.976) \times 10^{-4}$	10857755	7.648×10^{-4}	3.327×10^{-4}	1.312×10^{-6}	0.307	1.189×10^{-4}	8.837×10^{-4}
fitted root mean square crb [1]	$(5.905 \pm 9.027) \times 10^{-4}$	10857755	7.524×10^{-4}	2.645×10^{-4}	1.403×10^{-6}	0.618	8.072×10^{-5}	8.331×10^{-4}
wavelength shift [nm]	$(7.787 \pm 6.773) \times 10^{-3}$	10857755	9.529×10^{-3}	7.210×10^{-3}	-6.444×10^{-2}	0.199	2.625×10^{-3}	1.215×10^{-2}
cloud fraction apriori [1]	0.613 ± 0.358	10857755	0.744	0.661	0.0	1.000	0.256	1.000
reflectance blue ocra [1]	0.533 ± 0.209	10857755	0.335	0.519	0.134	1.91	0.350	0.685
reflectance green ocra [1]	0.480 ± 0.233	10857755	0.397	0.471	8.112×10^{-2}	1.86	0.260	0.657
reflectance continuum aband [1]	0.445 ± 0.252	10857755	0.374	0.435	9.749×10^{-3}	7.02	0.250	0.623

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]	0.661 ± 0.372	8022259	0.600	0.880	0.0	1.000	0.400	1.000
cloud fraction [1]	0.541 ± 0.332	8022259	0.647	0.508	7.991×10^{-3}	1.000	0.238	0.885
cloud top height [m]	$(0.370 \pm 0.267) \times 10^4$	8022259	3.411×10^3	2.954×10^3	0.0	2.000×10^4	1.676×10^3	5.087×10^3
cloud optical thickness [1]	28.5 ± 53.0	8022259	13.4	11.1	1.000	250	6.90	20.3
cloud fraction crb [1]	0.539 ± 0.332	8022259	0.645	0.505	8.355×10^{-3}	1.000	0.237	0.882
cloud height crb [m]	$(0.291 \pm 0.226) \times 10^4$	8022259	3.059×10^3	2.253×10^3	0.0	2.000×10^4	1.128×10^3	4.187×10^3
cloud albedo crb [1]	0.601 ± 0.202	8022259	0.236	0.570	0.0	1.000	0.478	0.715
surface albedo fitted [1]	0.180 ± 0.253	8022259	0.211	4.286×10^{-2}	0.0	1.000	2.502×10^{-2}	0.236
surface albedo fitted crb [1]	0.165 ± 0.235	8022259	0.210	3.373×10^{-2}	0.0	1.000	1.817×10^{-2}	0.228
fitted root mean square [1]	$(5.429 \pm 6.322) \times 10^{-4}$	8022259	6.350×10^{-4}	3.368×10^{-4}	1.998×10^{-6}	5.011×10^{-2}	1.160×10^{-4}	7.510×10^{-4}
fitted root mean square crb [1]	$(4.332 \pm 5.565) \times 10^{-4}$	8022259	4.815×10^{-4}	2.265×10^{-4}	2.083×10^{-6}	2.761×10^{-2}	8.265×10^{-5}	5.641×10^{-4}
wavelength shift [nm]	$(8.152 \pm 7.067) \times 10^{-3}$	8022259	9.838×10^{-3}	7.495×10^{-3}	-4.237×10^{-2}	6.200×10^{-2}	2.896×10^{-3}	1.273×10^{-2}
cloud fraction apriori [1]	0.542 ± 0.339	8022259	0.674	0.508	0.0	1.000	0.229	0.903
reflectance blue ocra [1]	0.549 ± 0.221	8022259	0.360	0.513	0.160	1.96	0.361	0.721
reflectance green ocra [1]	0.493 ± 0.248	8022259	0.424	0.460	9.174×10^{-2}	1.92	0.270	0.694
reflectance continuum aband [1]	0.434 ± 0.273	8022259	0.446	0.420	1.241×10^{-2}	4.68	0.198	0.644

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]	0.658 ± 0.369	13378595	0.580	0.850	0.0	1.000	0.400	0.980
cloud fraction [1]	0.578 ± 0.342	13378595	0.708	0.582	7.829×10^{-3}	1.000	0.252	0.961
cloud top height [m]	$(0.359 \pm 0.246) \times 10^4$	13378595	3.176×10^3	3.016×10^3	0.0	2.000×10^4	1.677×10^3	4.853×10^3
cloud optical thickness [1]	25.1 ± 44.5	13378595	12.8	11.3	1.000	250	7.45	20.3
cloud fraction crb [1]	0.576 ± 0.342	13378595	0.708	0.579	8.538×10^{-3}	1.000	0.251	0.959
cloud height crb [m]	$(0.285 \pm 0.215) \times 10^4$	13378595	2.884×10^3	2.376×10^3	0.0	2.000×10^4	1.125×10^3	4.009×10^3
cloud albedo crb [1]	0.567 ± 0.187	13378595	0.214	0.549	0.0	1.000	0.459	0.672
surface albedo fitted [1]	0.122 ± 0.203	13378595	4.384×10^{-2}	3.473×10^{-2}	0.0	1.000	2.048×10^{-2}	6.433×10^{-2}
surface albedo fitted crb [1]	0.111 ± 0.193	13378595	3.853×10^{-2}	2.698×10^{-2}	0.0	1.000	1.512×10^{-2}	5.365×10^{-2}
fitted root mean square [1]	$(4.883 \pm 6.790) \times 10^{-4}$	13378595	5.438×10^{-4}	2.464×10^{-4}	1.312×10^{-6}	0.307	9.041×10^{-5}	6.342×10^{-4}
fitted root mean square crb [1]	$(4.248 \pm 7.239) \times 10^{-4}$	13378595	4.495×10^{-4}	1.819×10^{-4}	1.465×10^{-6}	0.618	6.668×10^{-5}	5.162×10^{-4}
wavelength shift [nm]	$(7.662 \pm 7.042) \times 10^{-3}$	13378595	9.757×10^{-3}	6.841×10^{-3}	-4.485×10^{-2}	0.199	2.398×10^{-3}	1.216×10^{-2}
cloud fraction apriori [1]	0.578 ± 0.347	13378595	0.749	0.584	0.0	1.000	0.245	0.994
reflectance blue ocra [1]	0.531 ± 0.200	13378595	0.319	0.512	0.158	1.96	0.359	0.678
reflectance green ocra [1]	0.473 ± 0.226	13378595	0.381	0.459	8.402×10^{-2}	1.92	0.265	0.646
reflectance continuum aband [1]	0.403 ± 0.258	13378595	0.429	0.399	1.167×10^{-2}	7.02	0.166	0.595

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]	0.603 ± 0.403	3721032	0.900	0.800	0.0	1.000	5.000×10^{-2}	0.950
cloud fraction [1]	0.544 ± 0.350	3721032	0.751	0.487	8.136×10^{-3}	1.000	0.219	0.970
cloud top height [m]	$(0.465 \pm 0.295) \times 10^4$	3721032	4.116×10^3	4.229×10^3	0.0	2.000×10^4	2.319×10^3	6.435×10^3
cloud optical thickness [1]	19.0 ± 40.3	3721032	9.16	7.83	1.000	250	5.03	14.2
cloud fraction crb [1]	0.544 ± 0.350	3721032	0.751	0.486	8.355×10^{-3}	1.000	0.219	0.970
cloud height crb [m]	$(0.366 \pm 0.241) \times 10^4$	3721032	3.553×10^3	3.199×10^3	0.0	2.000×10^4	1.694×10^3	5.247×10^3
cloud albedo crb [1]	0.640 ± 0.228	3721032	0.316	0.628	0.0	1.000	0.495	0.811
surface albedo fitted [1]	0.390 ± 0.242	3721032	0.371	0.280	5.830×10^{-4}	1.000	0.215	0.586
surface albedo fitted crb [1]	0.376 ± 0.222	3721032	0.354	0.277	1.618×10^{-3}	1.000	0.211	0.566
fitted root mean square [1]	$(9.576 \pm 9.787) \times 10^{-4}$	3721032	9.405×10^{-4}	7.268×10^{-4}	1.548×10^{-6}	0.175	3.515×10^{-4}	1.292×10^{-3}
fitted root mean square crb [1]	$(8.229 \pm 8.895) \times 10^{-4}$	3721032	9.590×10^{-4}	5.683×10^{-4}	1.951×10^{-6}	0.286	2.067×10^{-4}	1.166×10^{-3}
wavelength shift [nm]	$(8.556 \pm 6.334) \times 10^{-3}$	3721032	8.752×10^{-3}	8.280×10^{-3}	-6.444×10^{-2}	7.857×10^{-2}	3.912×10^{-3}	1.266×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.357	3721032	0.786	0.500	0.0	1.000	0.214	1.000
reflectance blue ocra [1]	0.572 ± 0.261	3721032	0.459	0.532	0.135	1.92	0.333	0.793
reflectance green ocra [1]	0.530 ± 0.284	3721032	0.523	0.495	8.150×10^{-2}	1.92	0.258	0.781
reflectance continuum aband [1]	0.550 ± 0.249	3721032	0.410	0.522	1.005×10^{-2}	4.68	0.336	0.746

3 Granule outlines

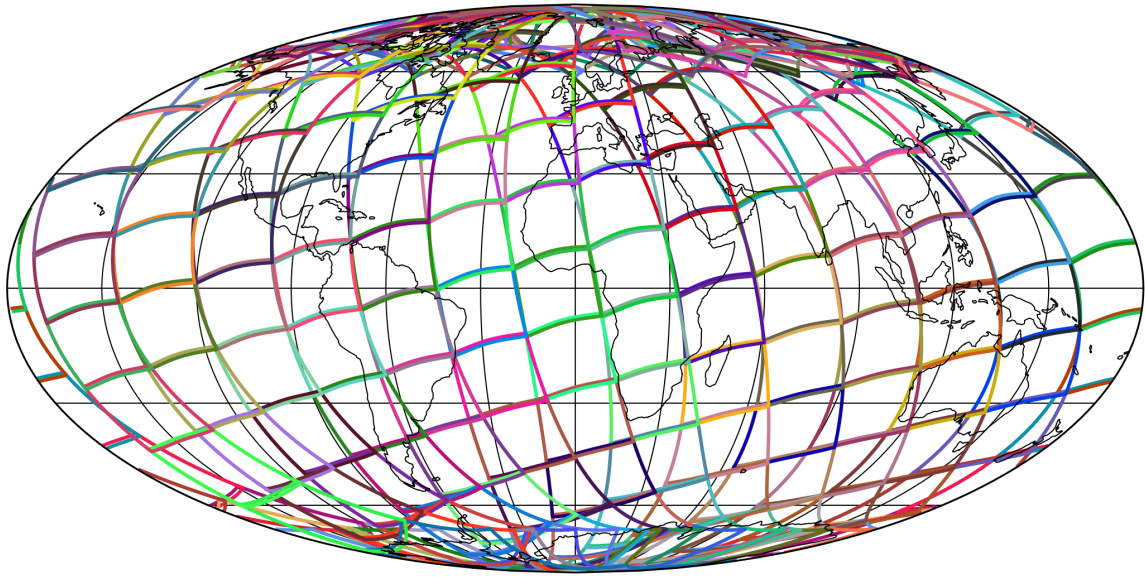


Figure 1: Outline of the granules.

4 Input data monitoring

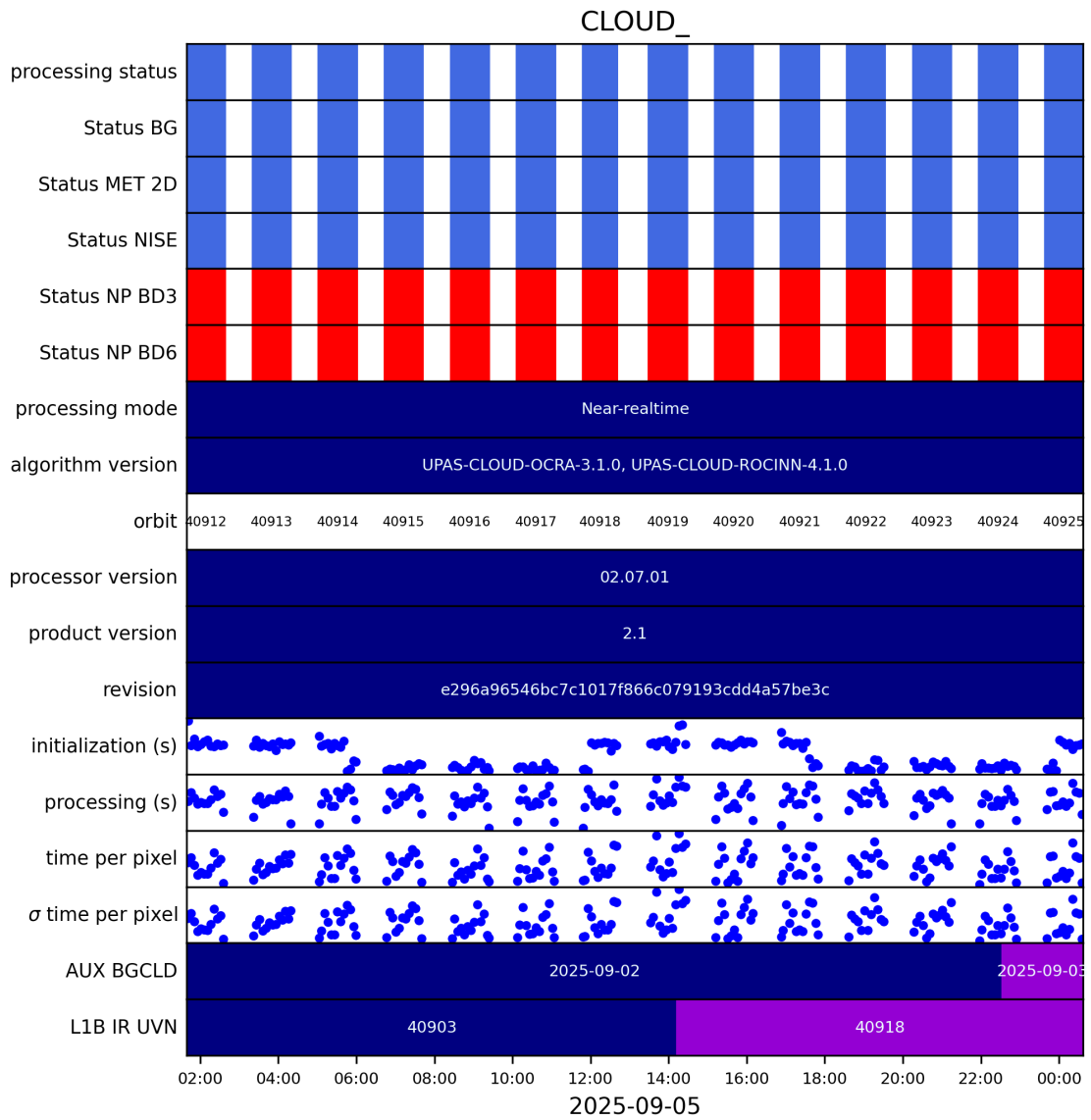


Figure 2: Input data per granule

5 Warnings and errors

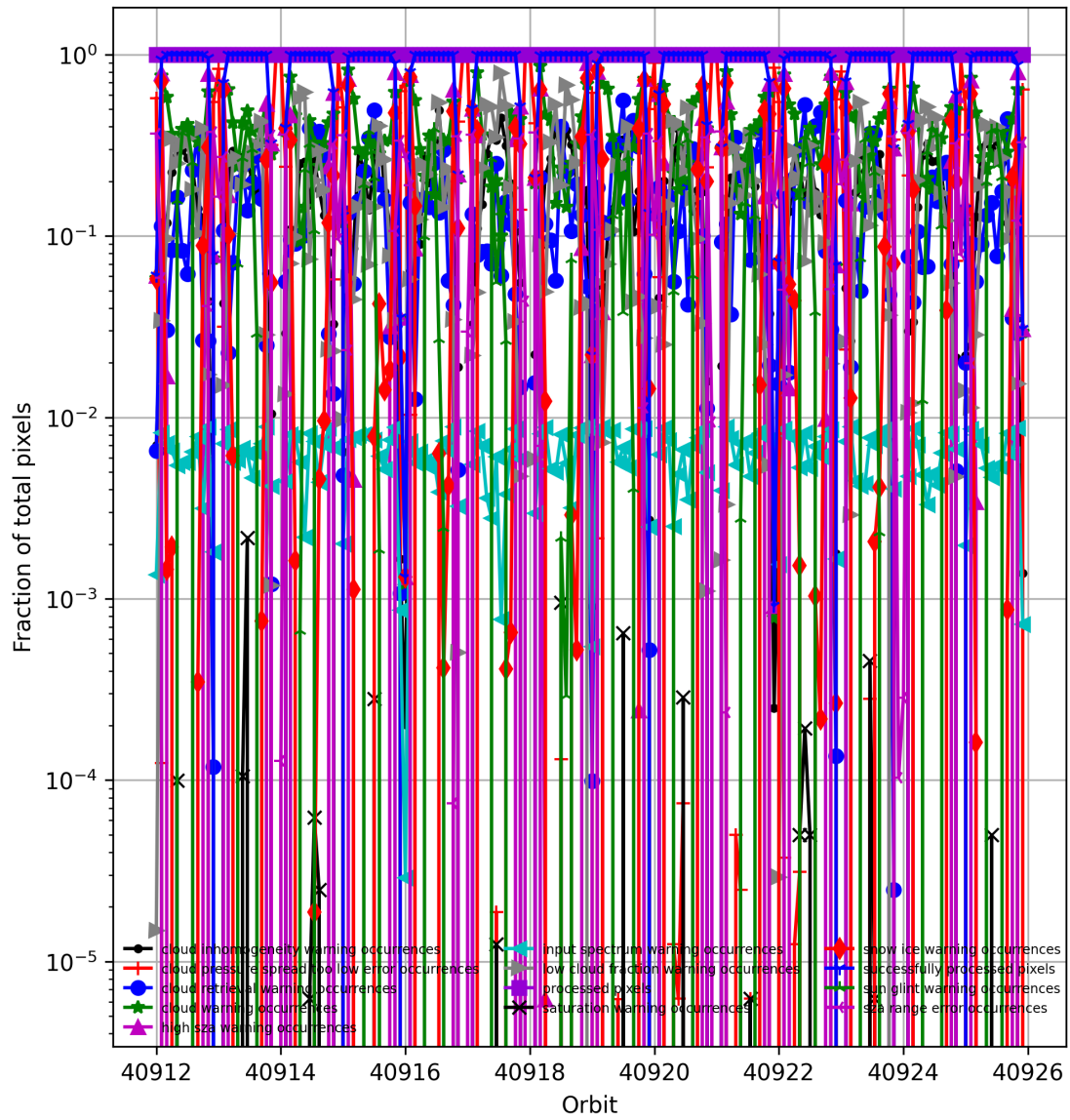


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

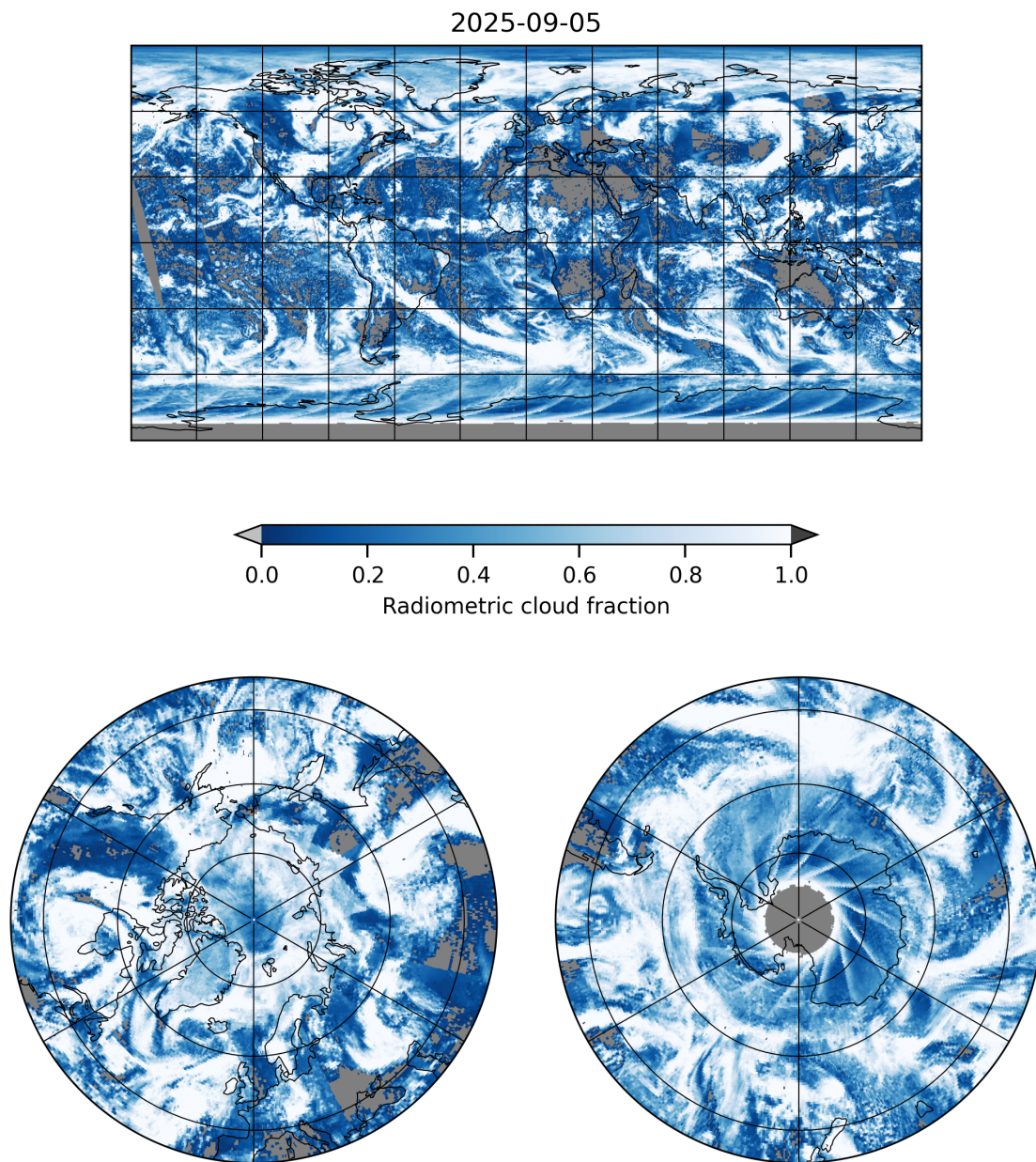


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-05 to 2025-09-06

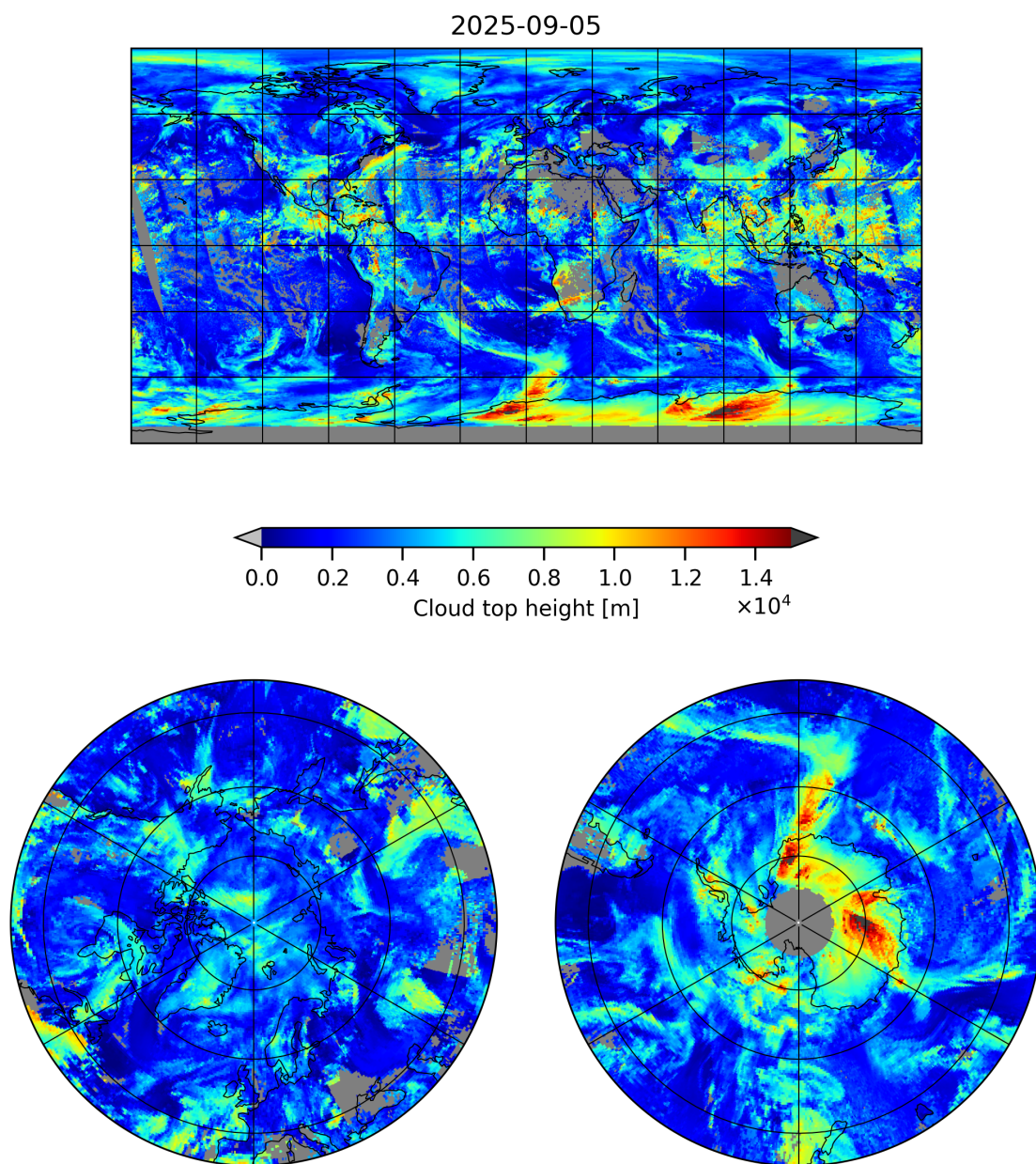


Figure 5: Map of “Cloud top height” for 2025-09-05 to 2025-09-06

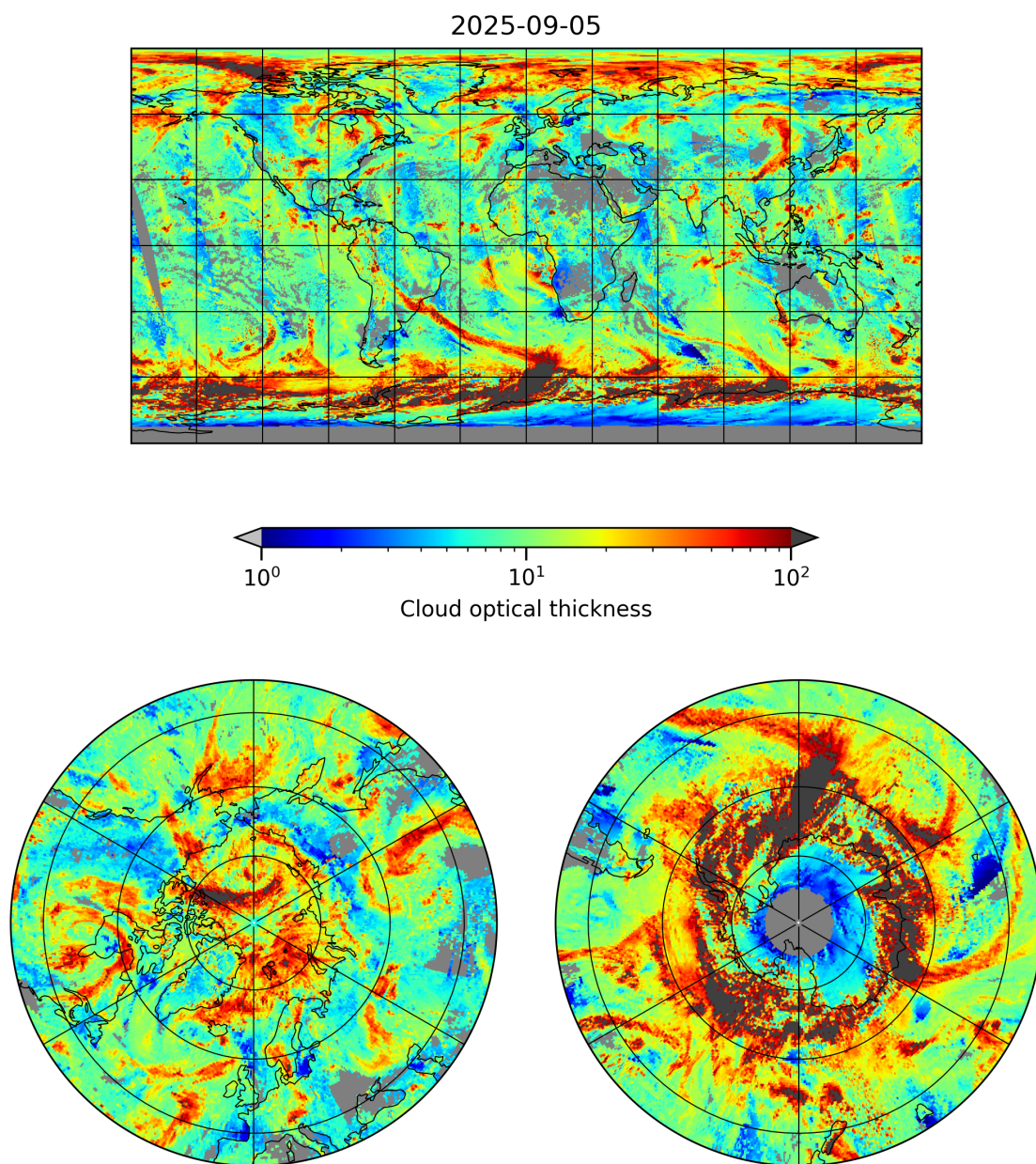


Figure 6: Map of “Cloud optical thickness” for 2025-09-05 to 2025-09-06

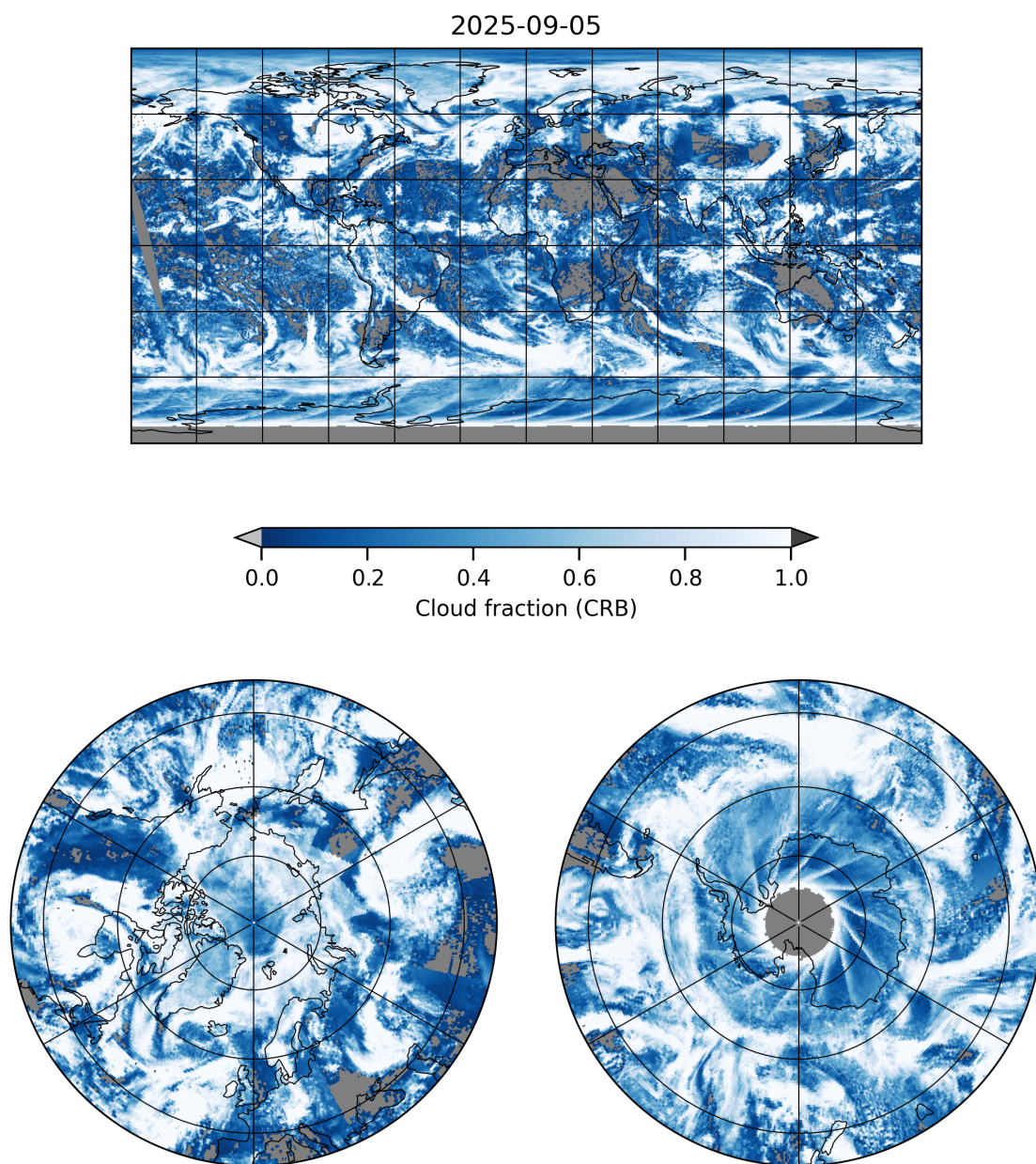


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-05 to 2025-09-06

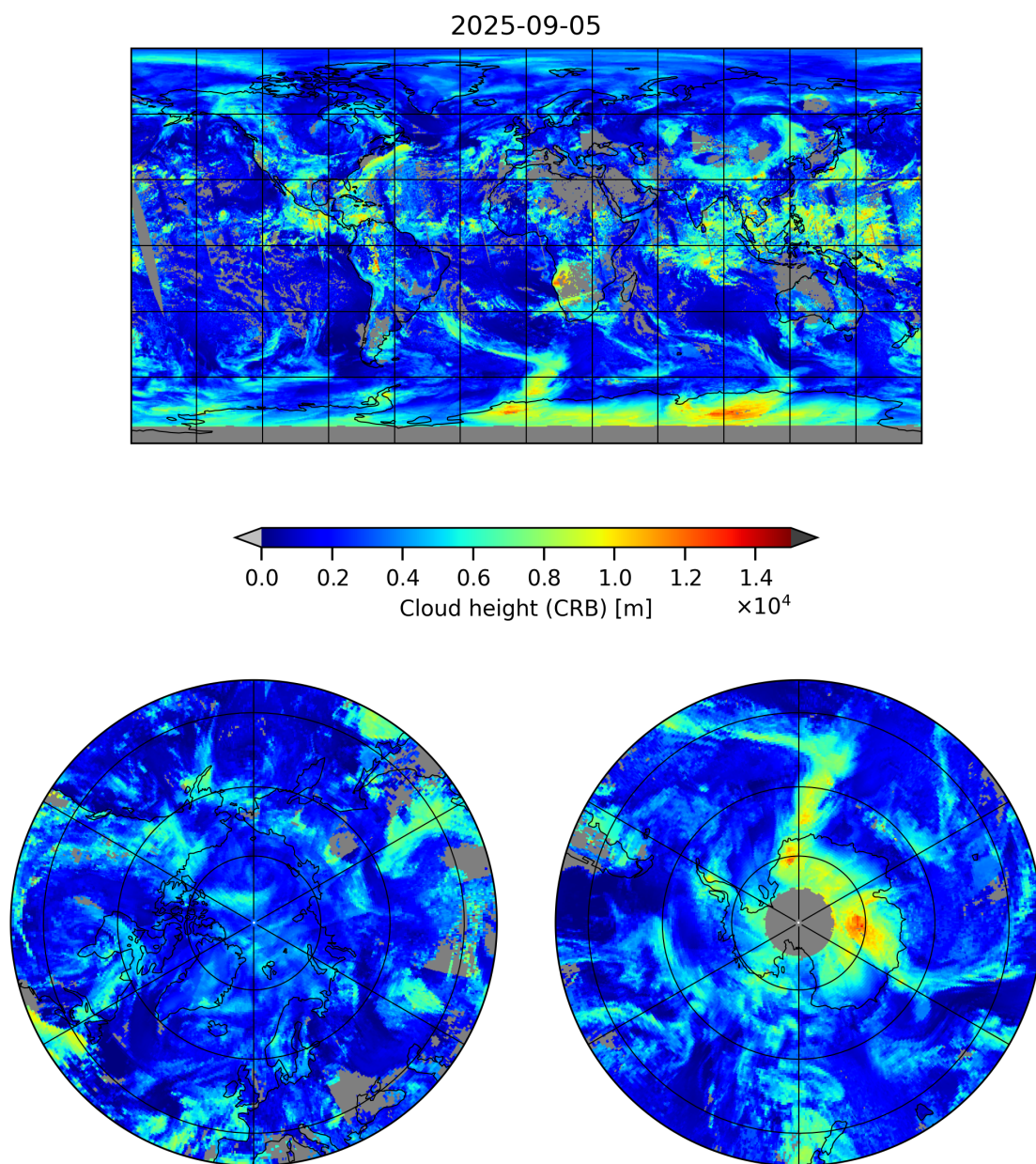


Figure 8: Map of “Cloud height (CRB)” for 2025-09-05 to 2025-09-06

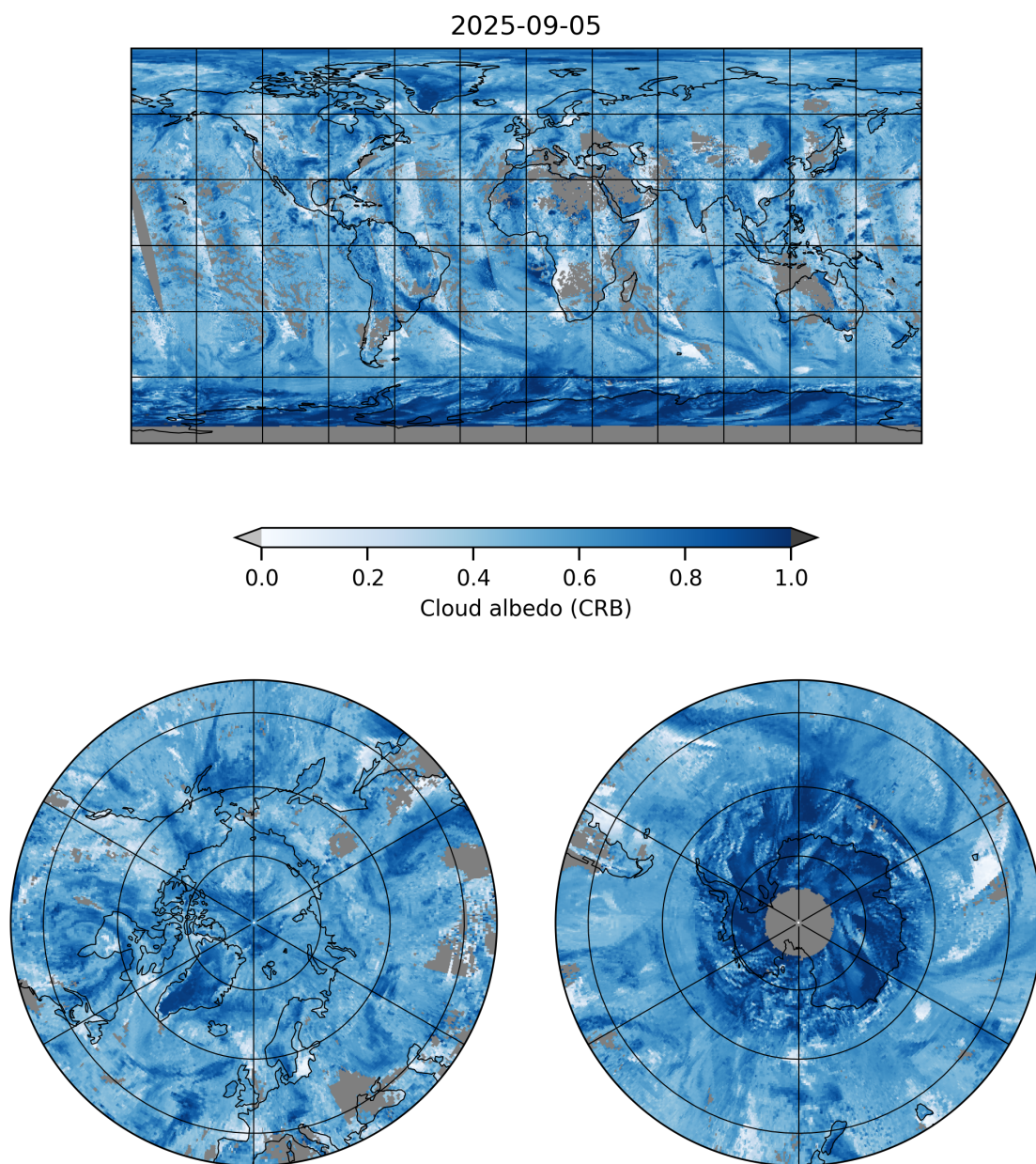


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-05 to 2025-09-06

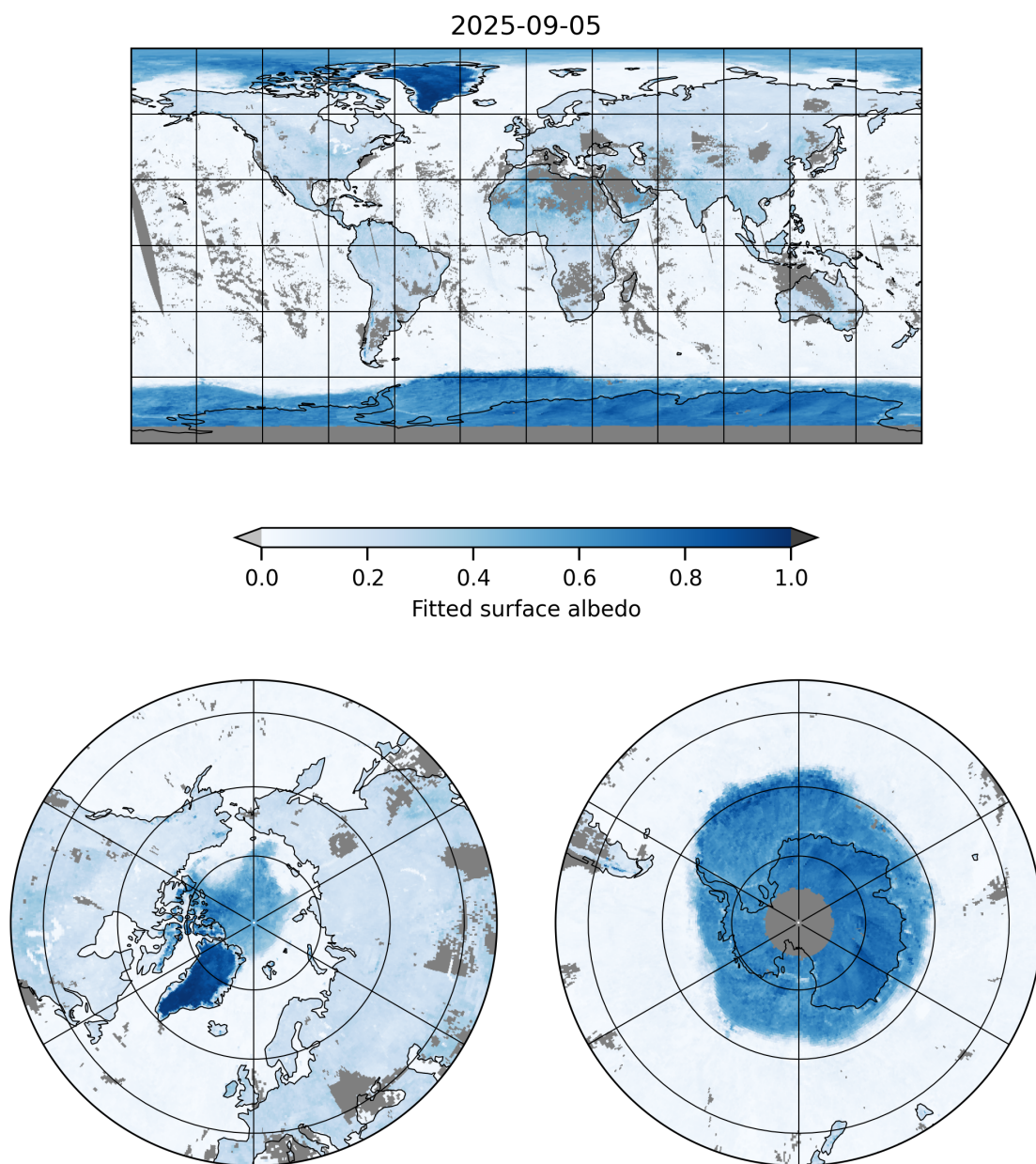


Figure 10: Map of “Fitted surface albedo” for 2025-09-05 to 2025-09-06

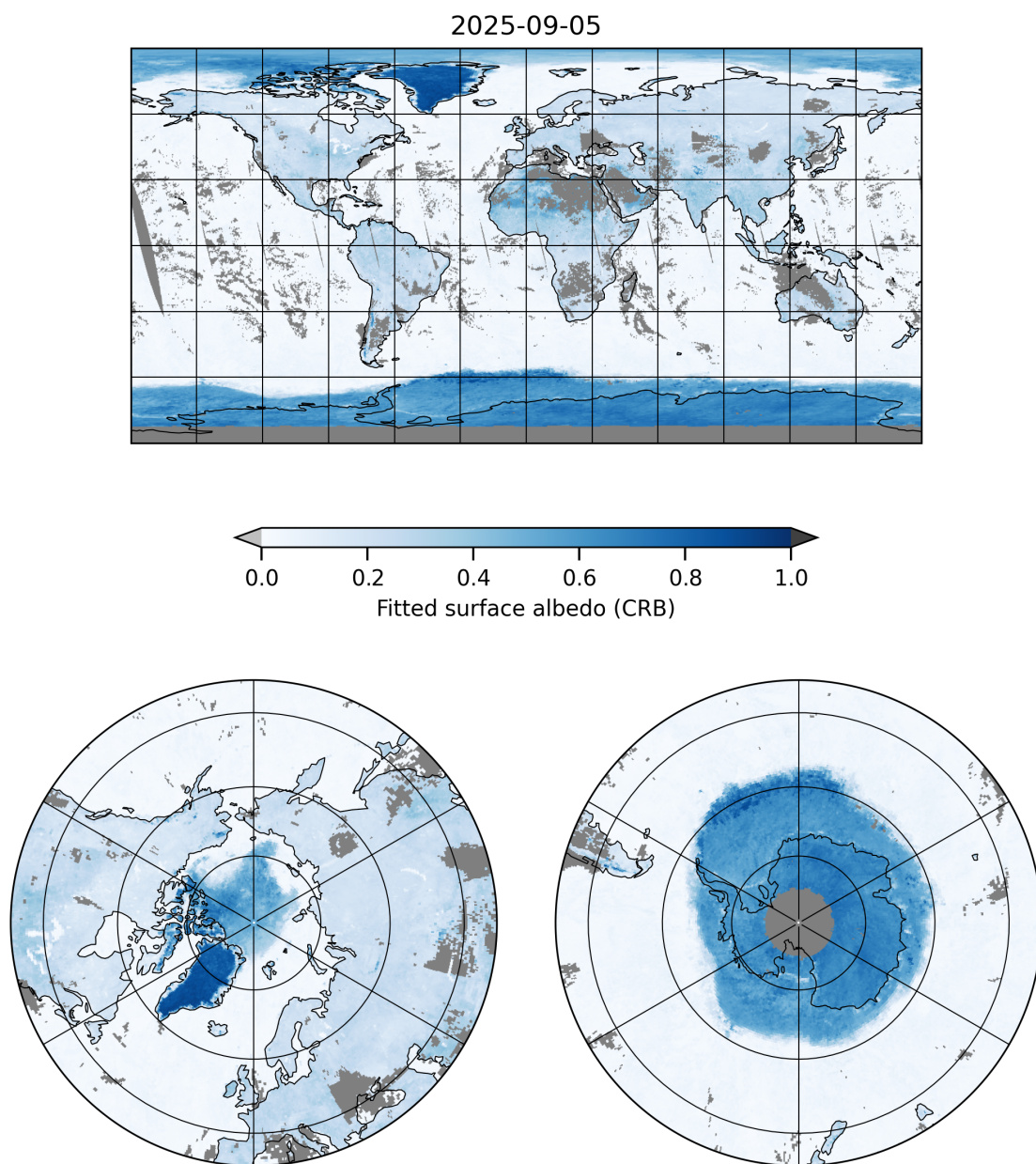


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-05 to 2025-09-06

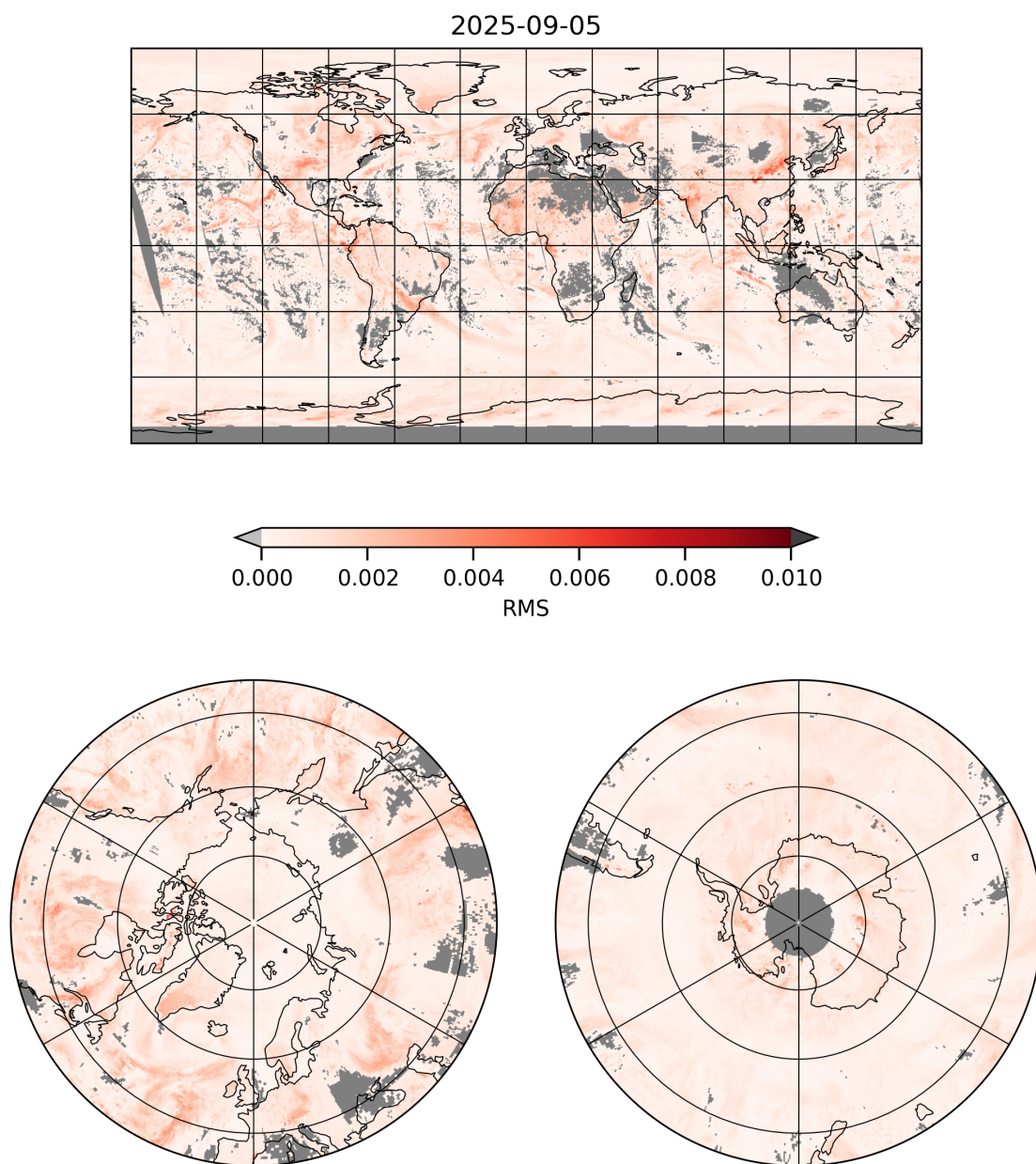


Figure 12: Map of “RMS” for 2025-09-05 to 2025-09-06

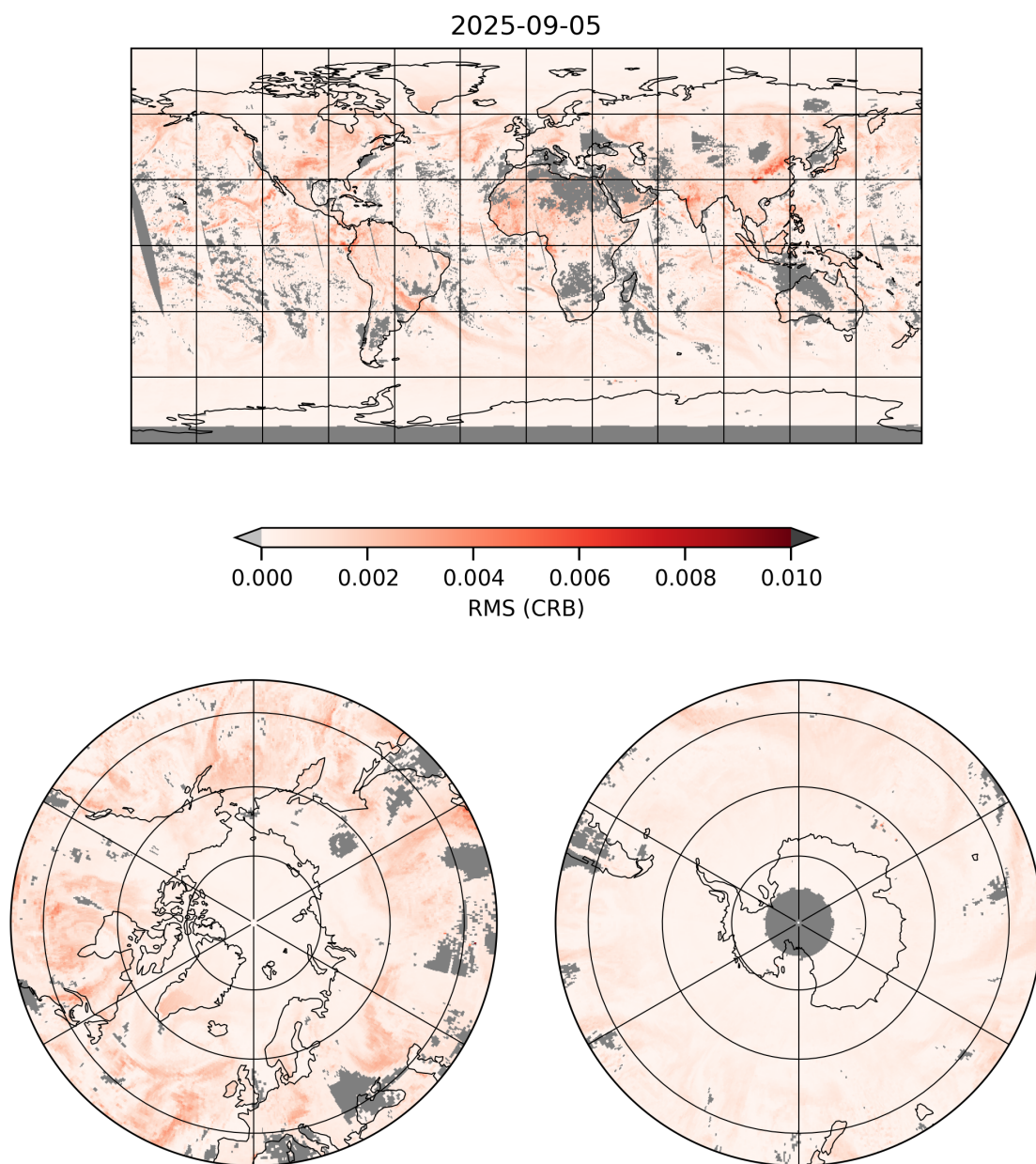


Figure 13: Map of “RMS (CRB)” for 2025-09-05 to 2025-09-06

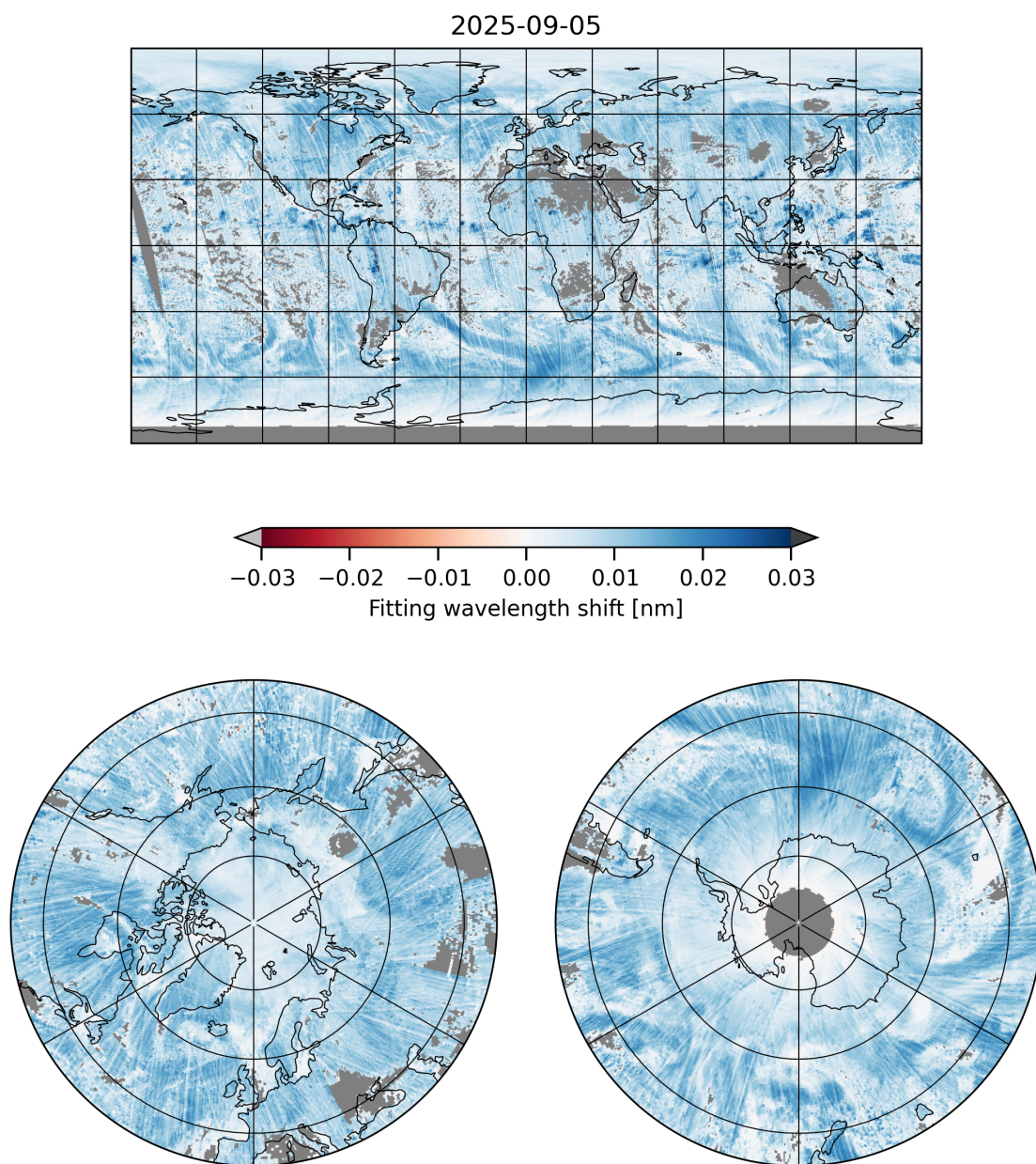


Figure 14: Map of "Fitting wavelength shift" for 2025-09-05 to 2025-09-06

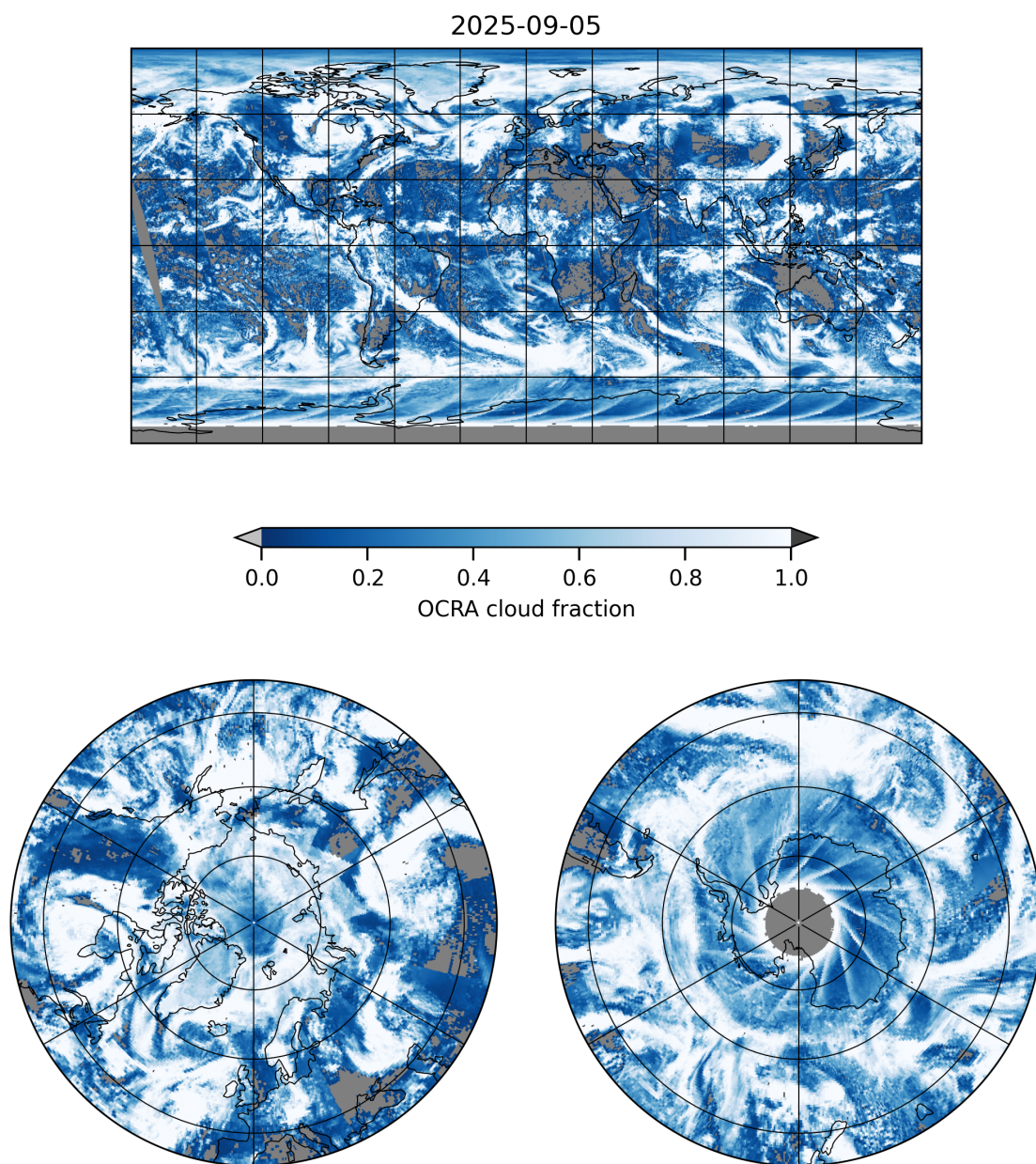


Figure 15: Map of “OCRA cloud fraction” for 2025-09-05 to 2025-09-06

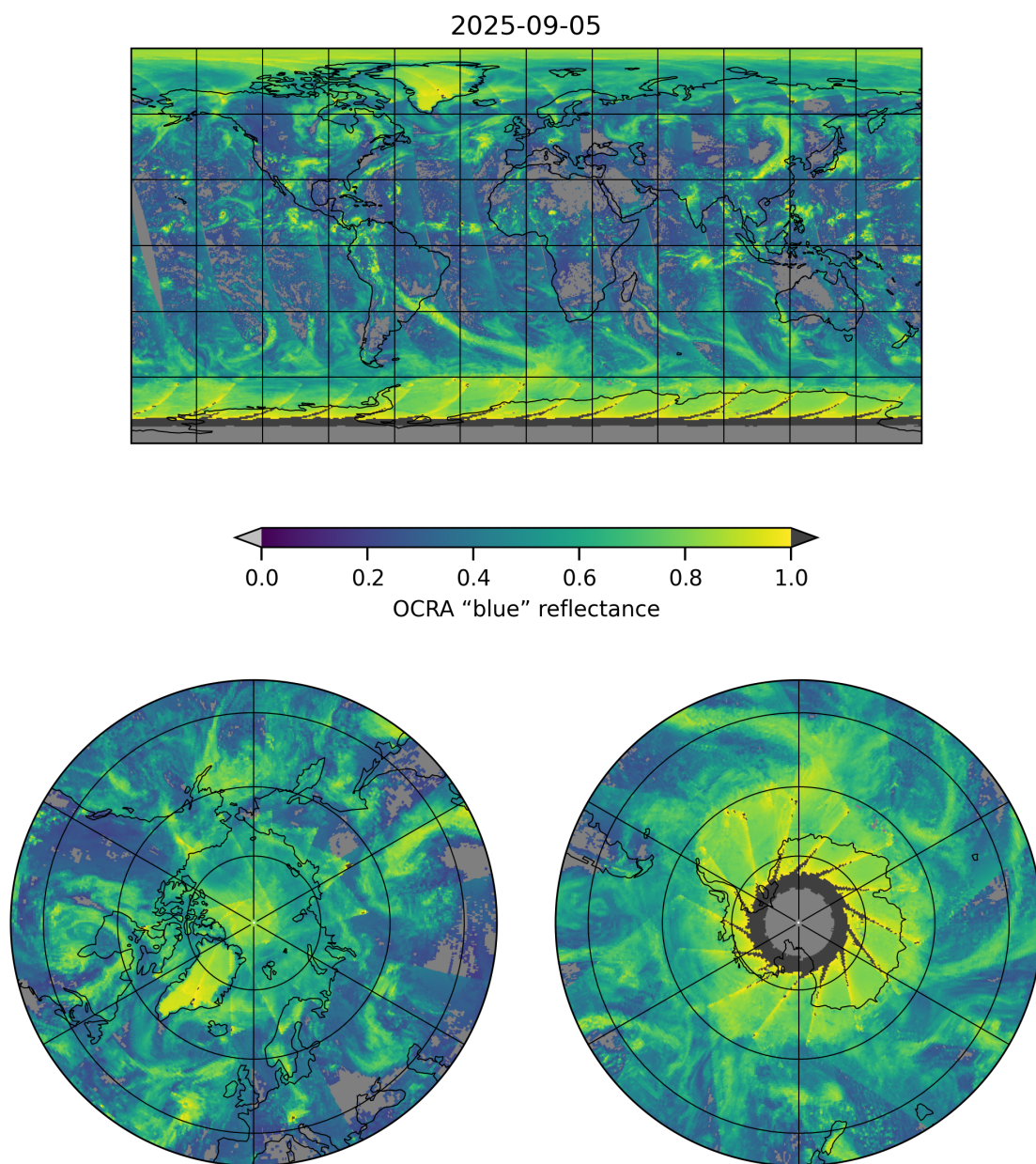


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-05 to 2025-09-06

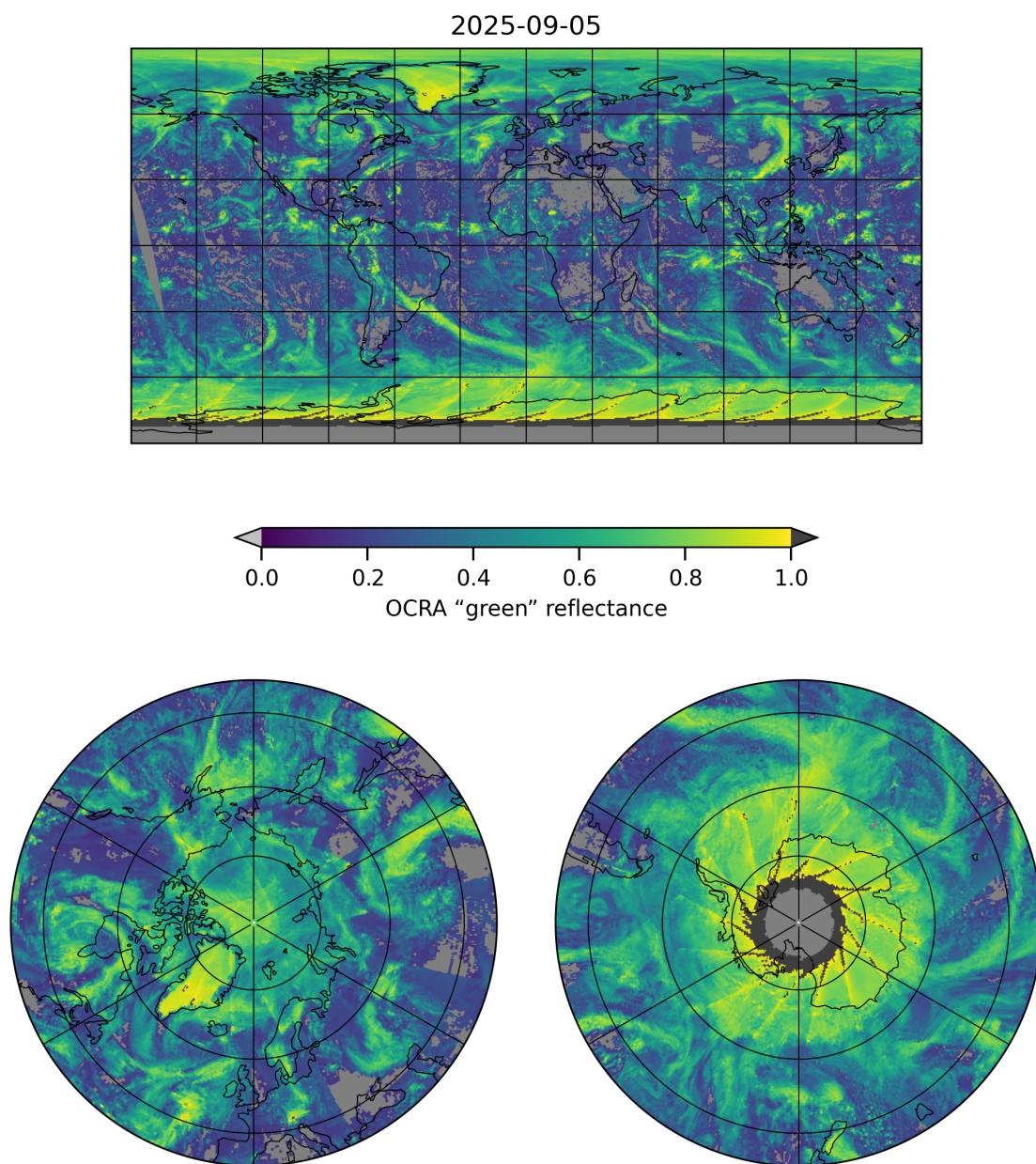


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-05 to 2025-09-06

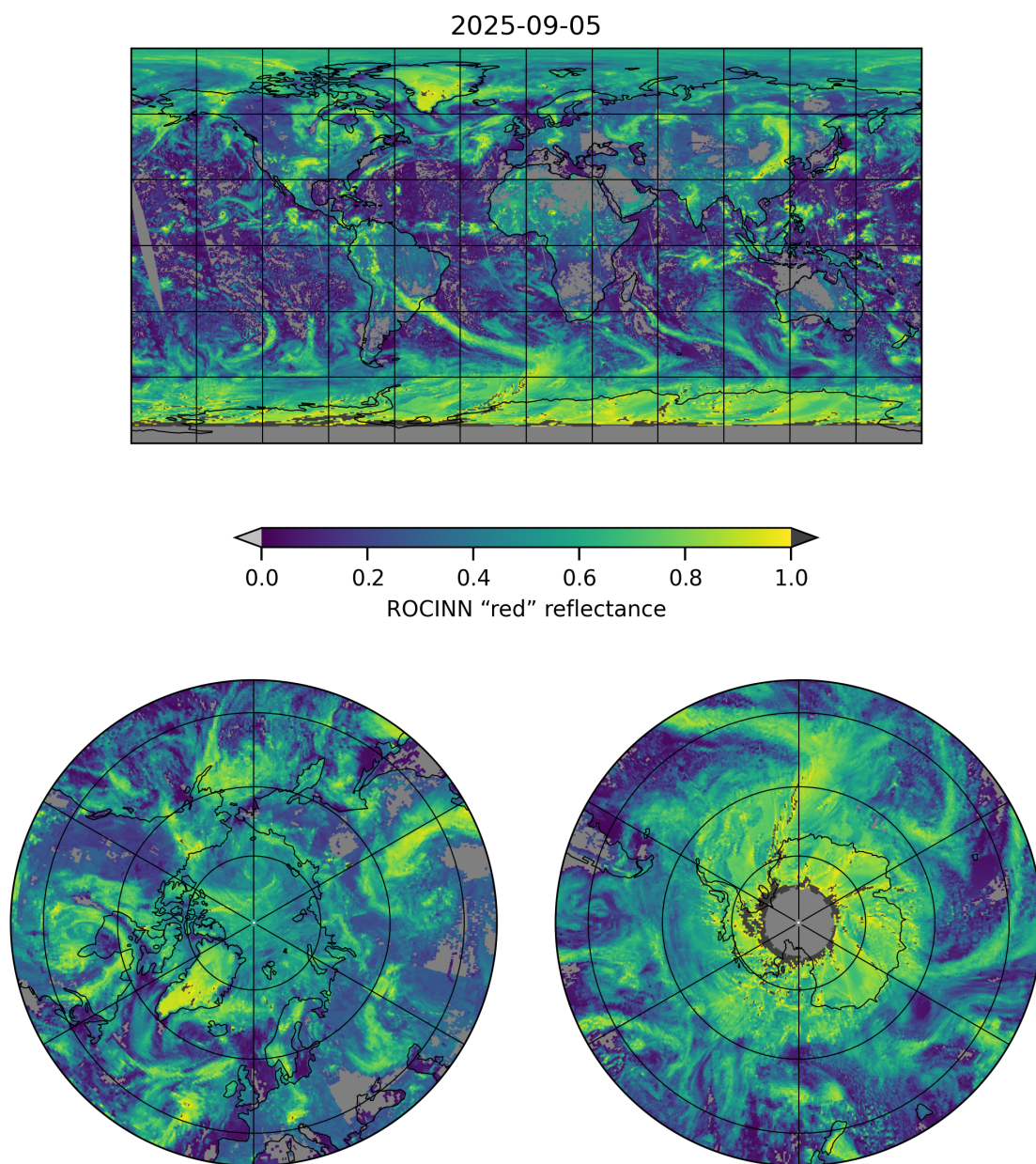


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-05 to 2025-09-06

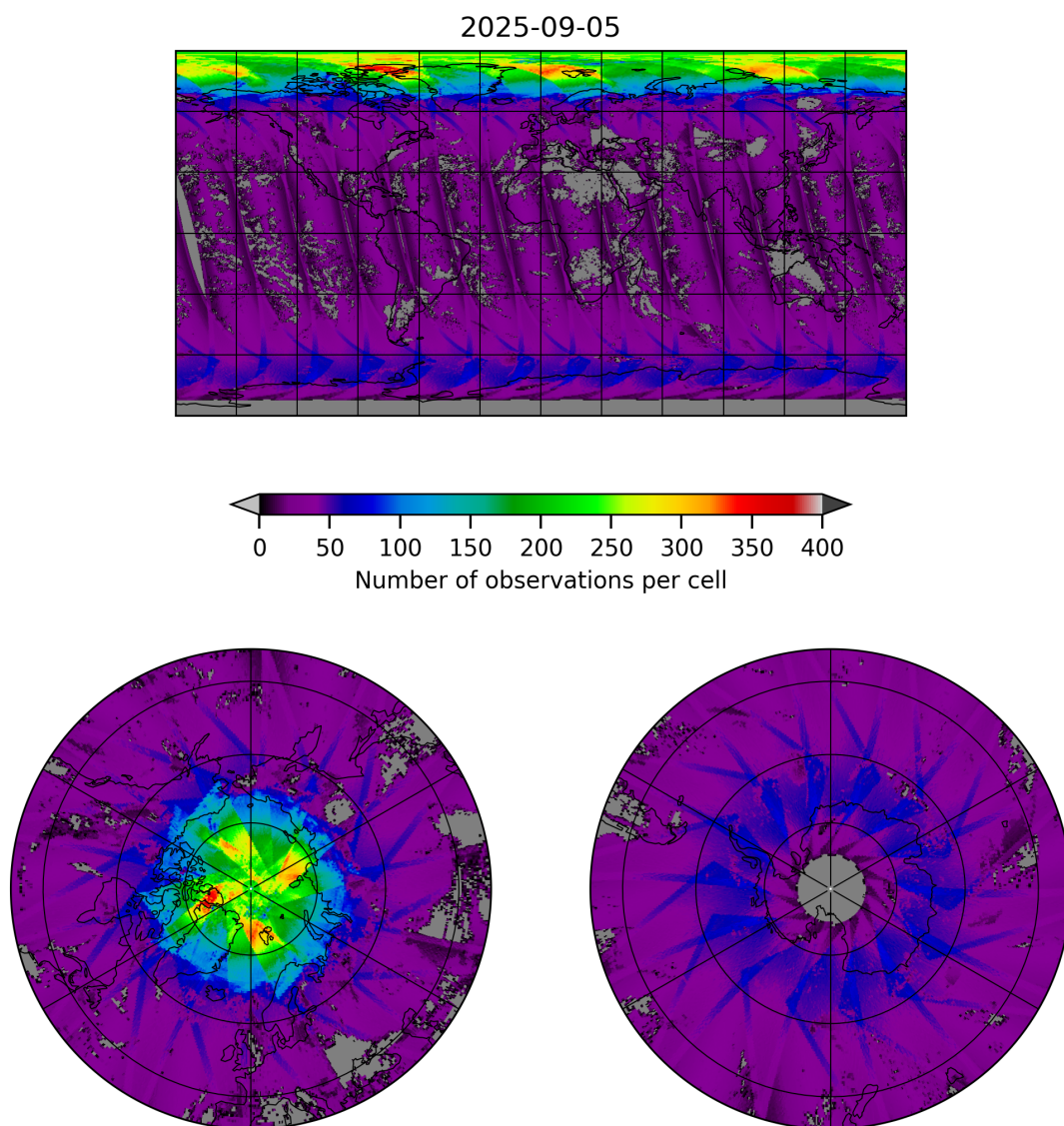


Figure 19: Map of the number of observations for 2025-09-05 to 2025-09-06

7 Zonal average

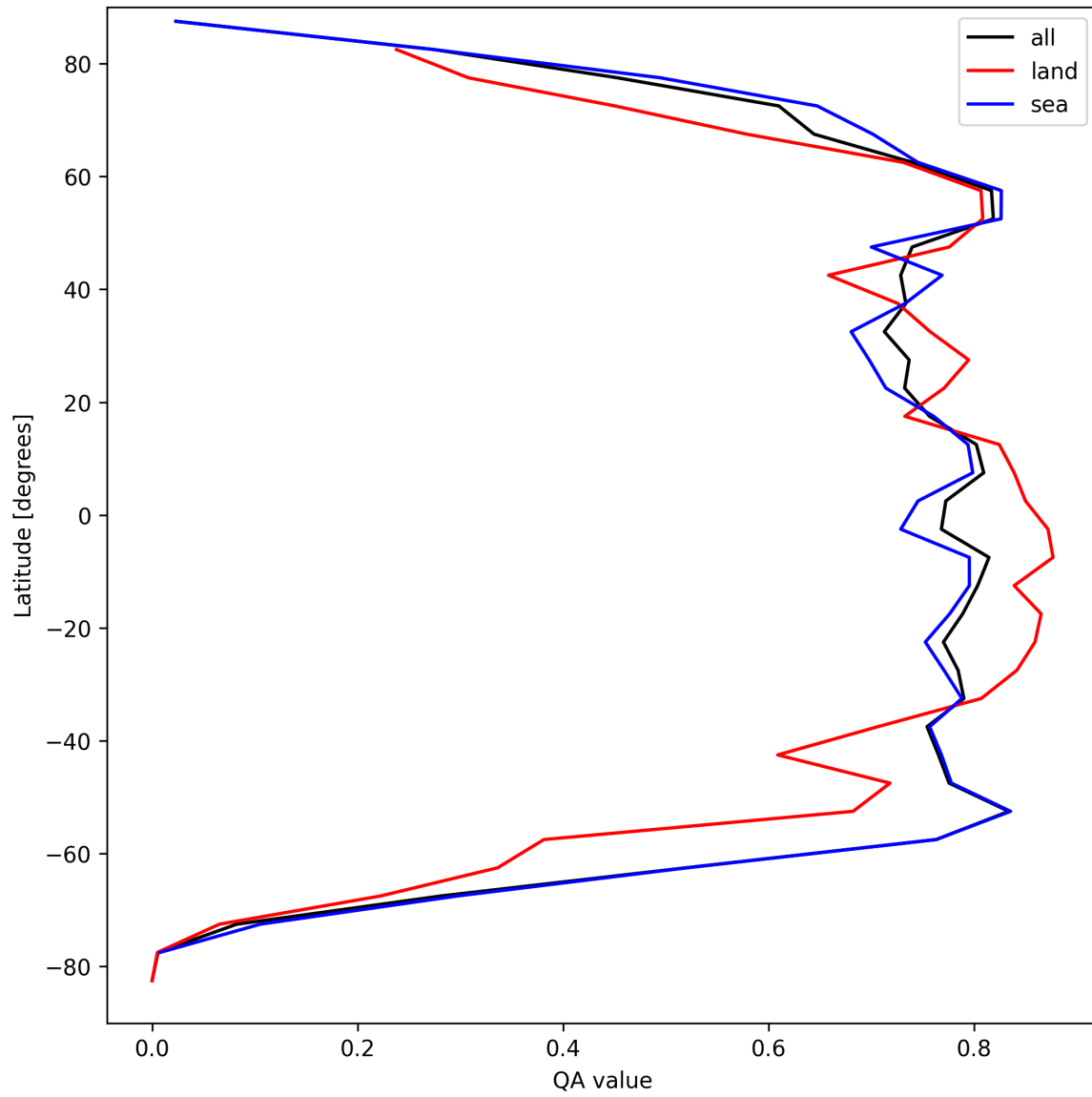


Figure 20: Zonal average of “QA value” for 2025-09-05 to 2025-09-06.

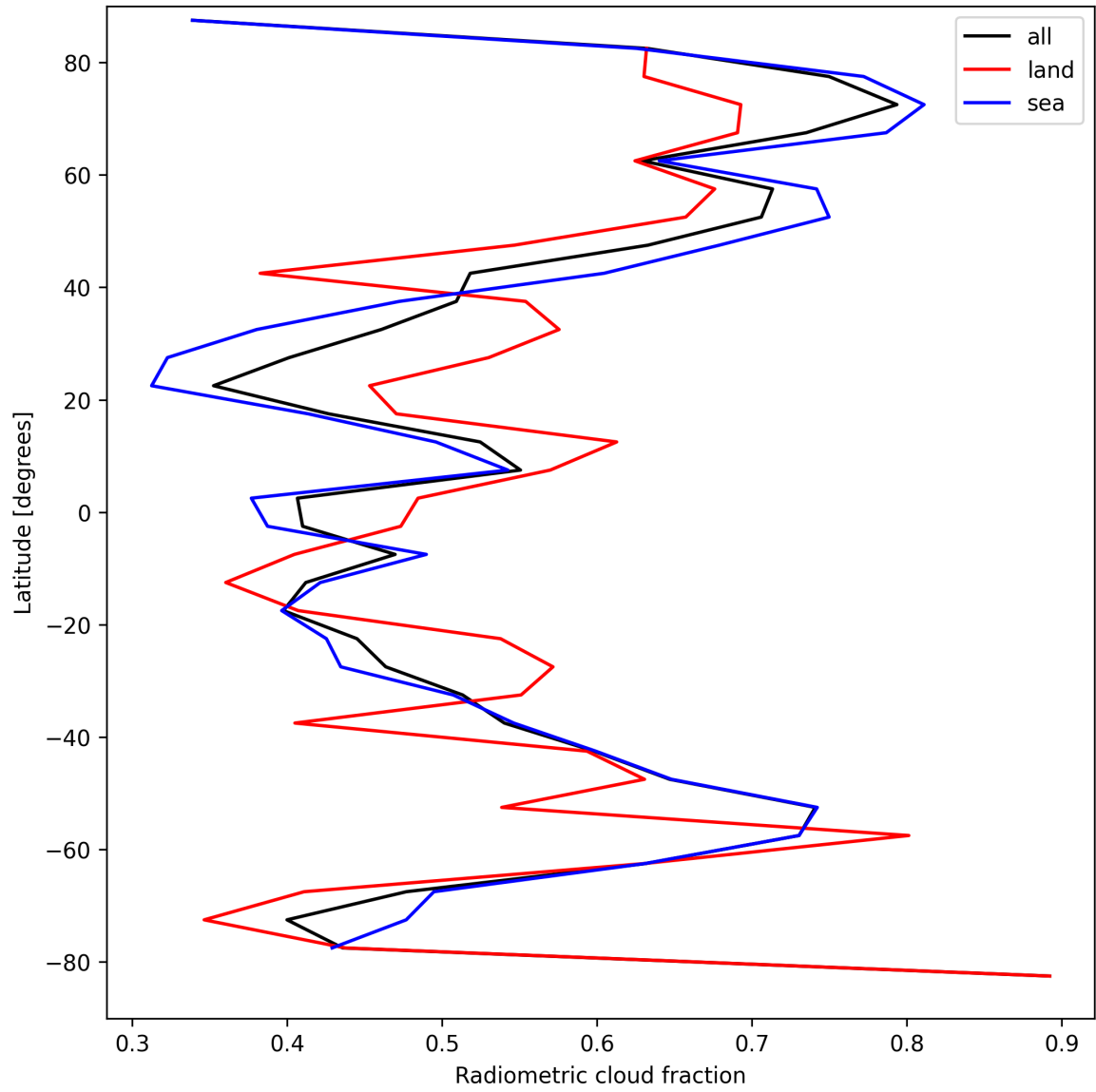


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-05 to 2025-09-06.

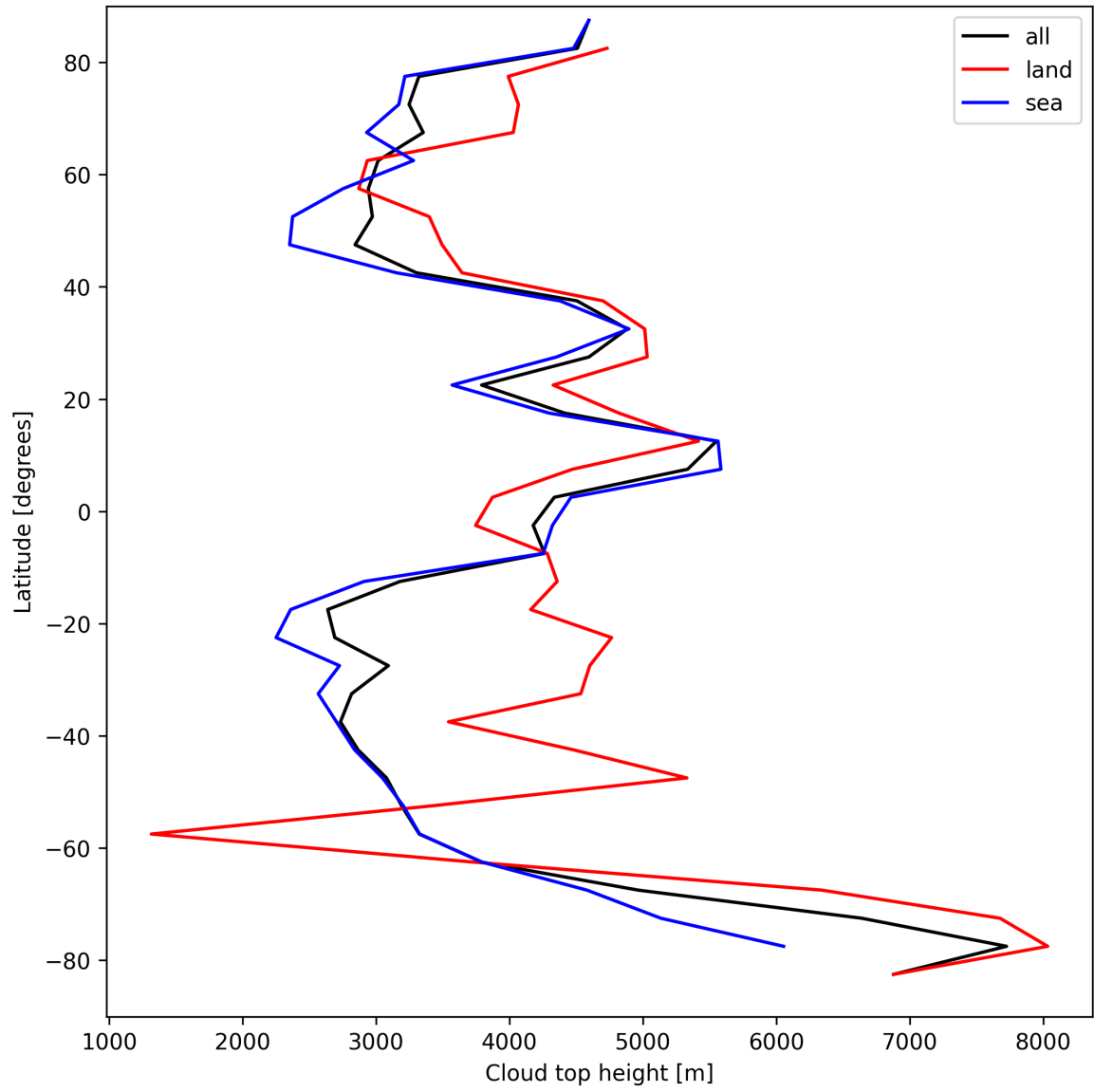


Figure 22: Zonal average of “Cloud top height” for 2025-09-05 to 2025-09-06.

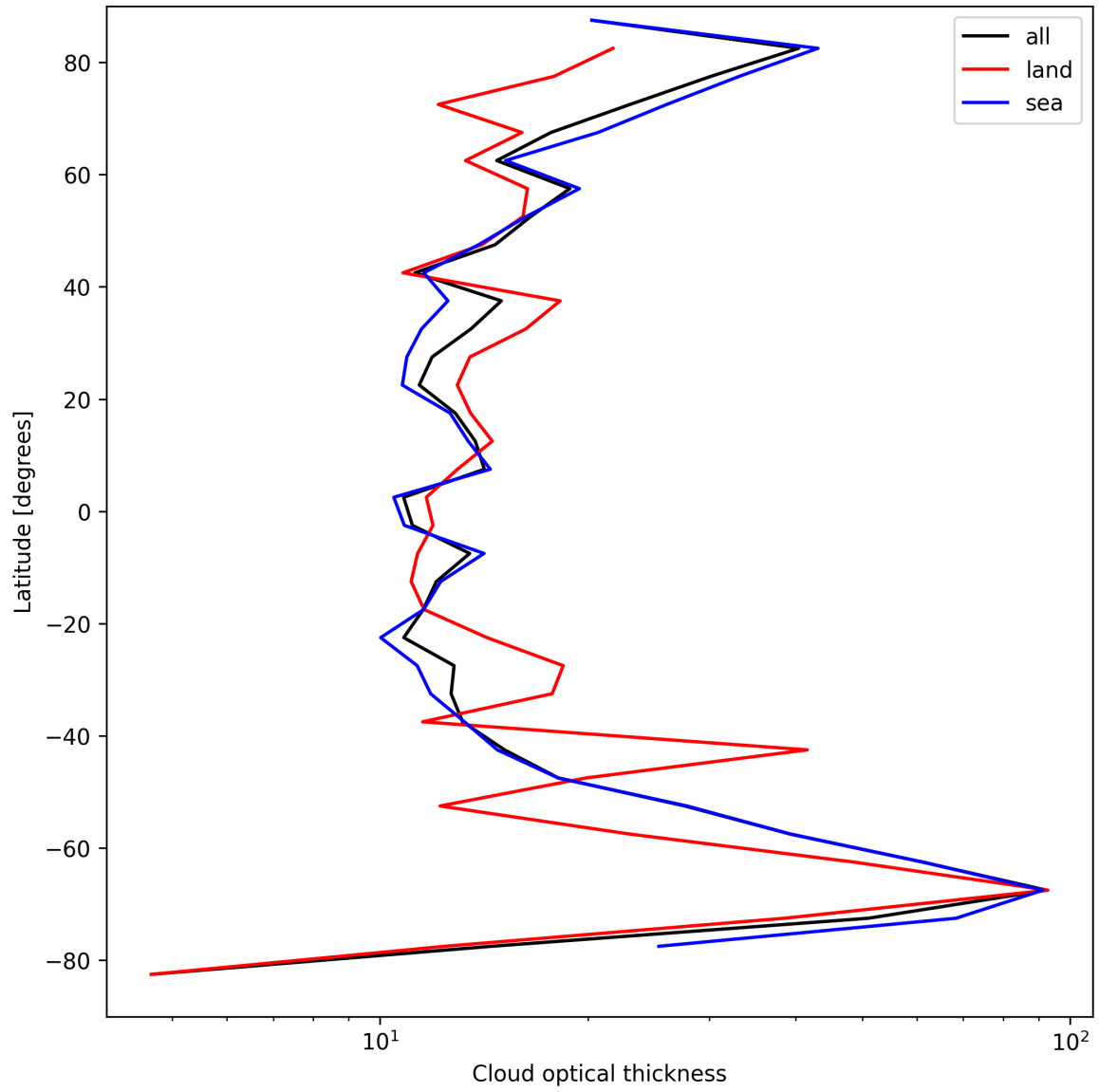


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-05 to 2025-09-06.

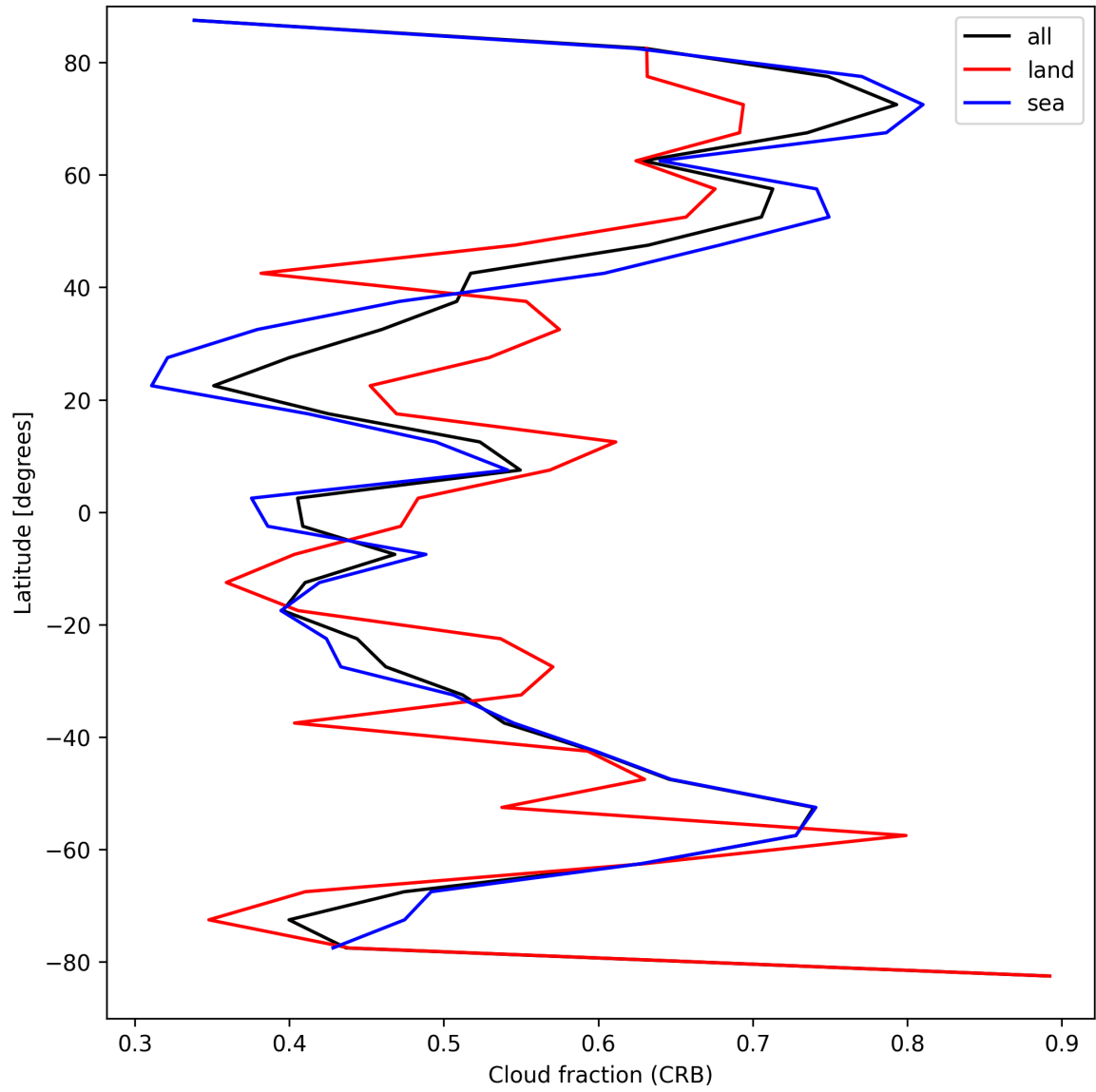


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-05 to 2025-09-06.

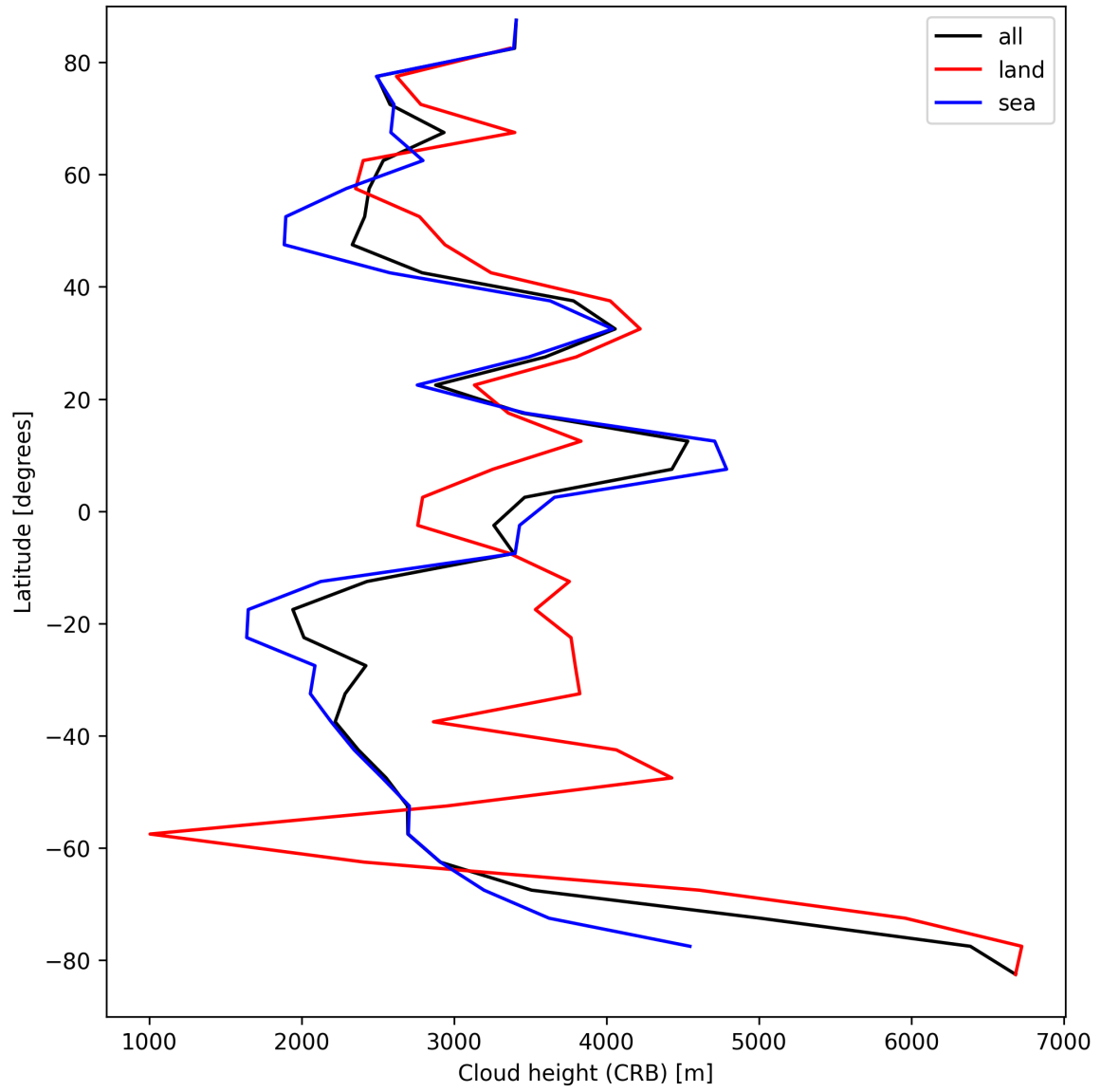


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-05 to 2025-09-06.

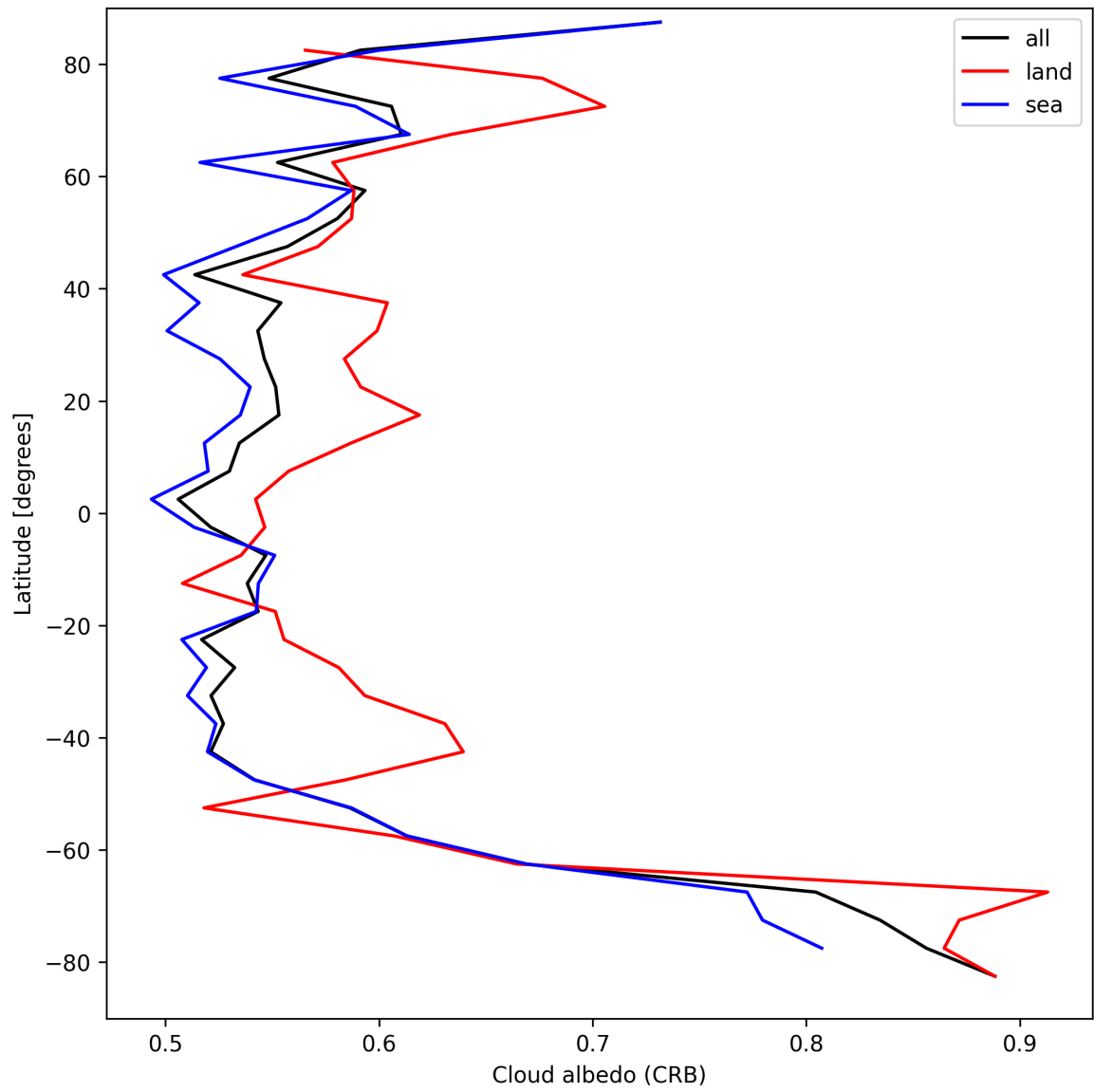


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-05 to 2025-09-06.

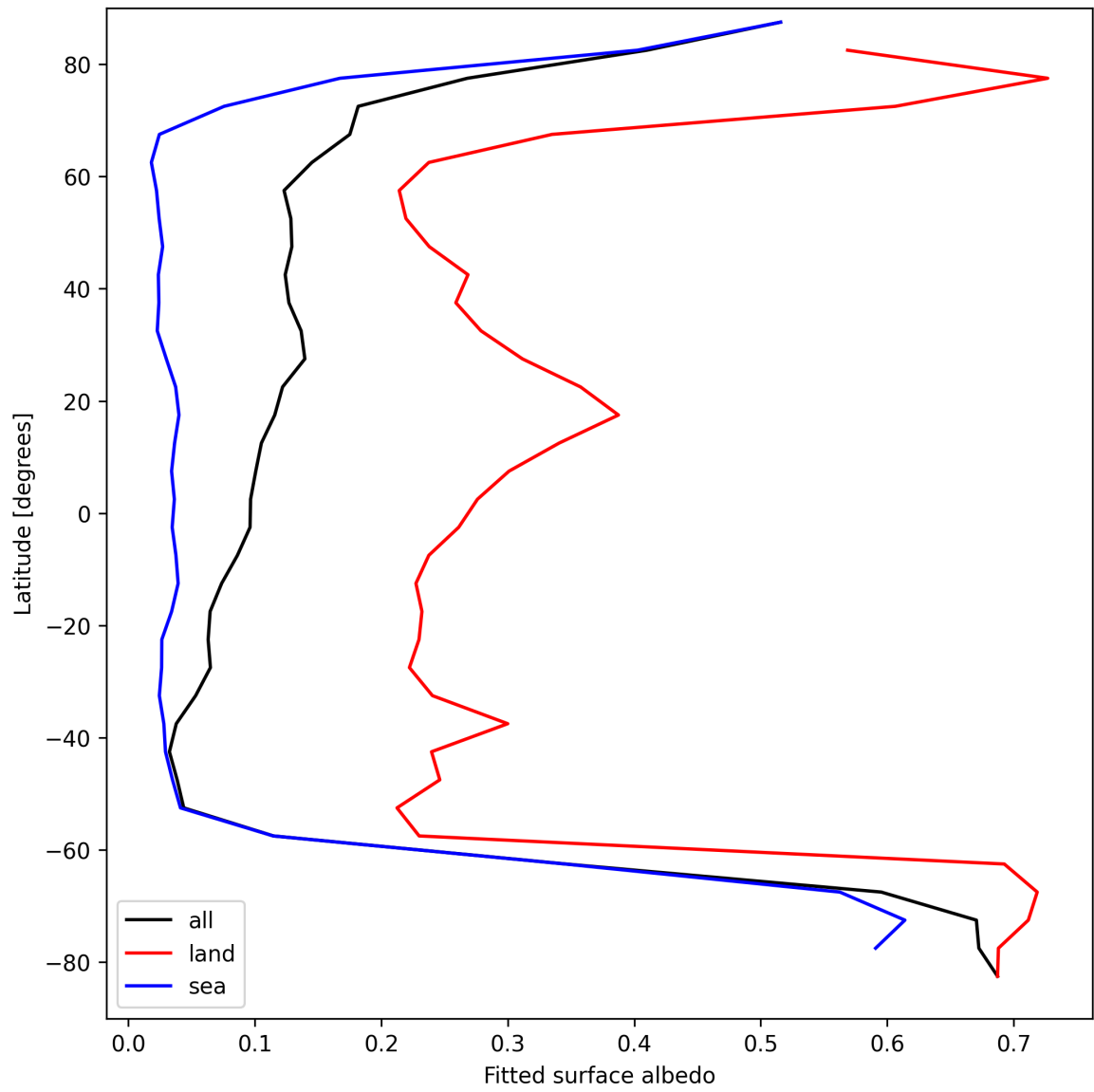


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-05 to 2025-09-06.

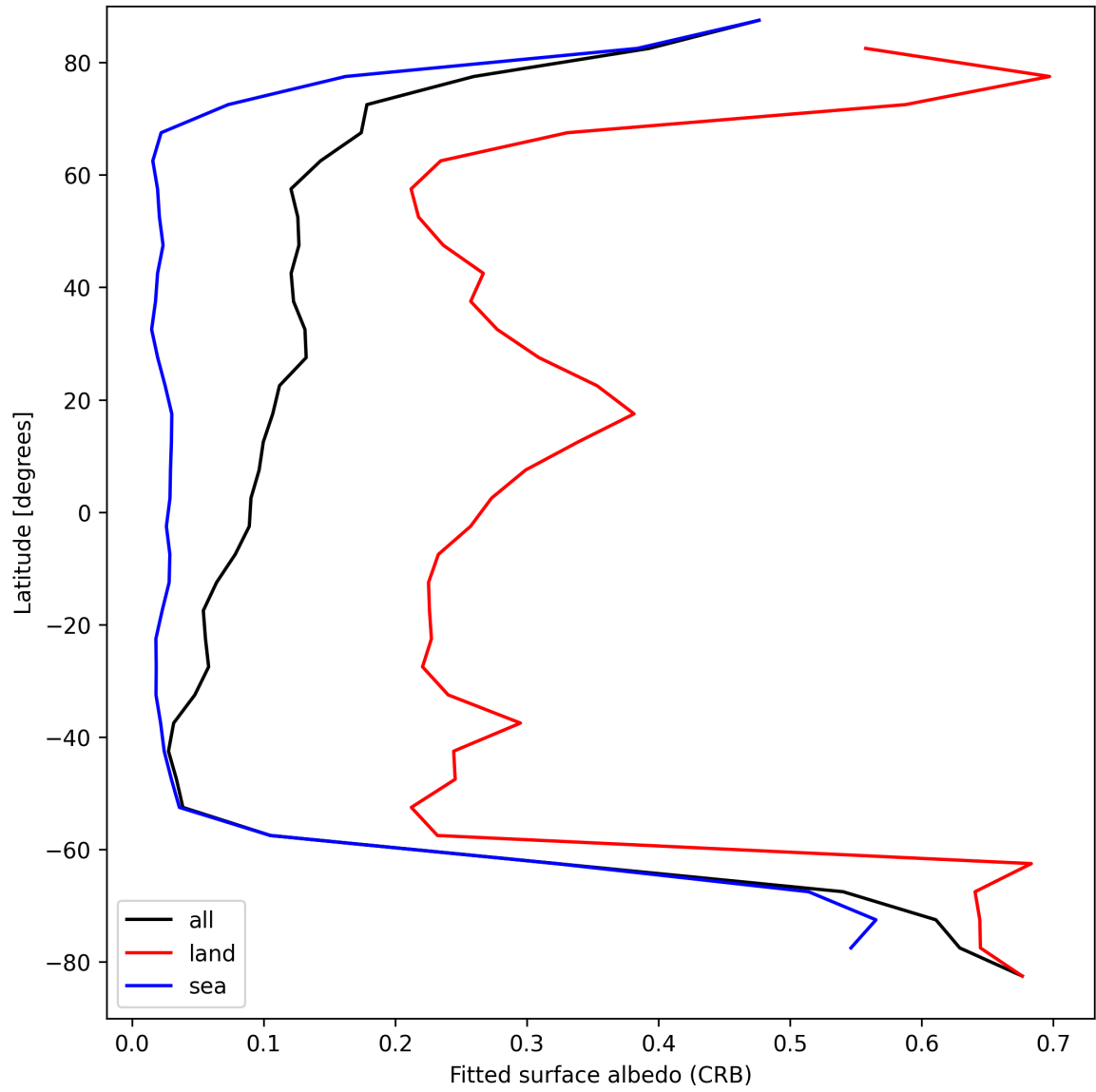


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-05 to 2025-09-06.

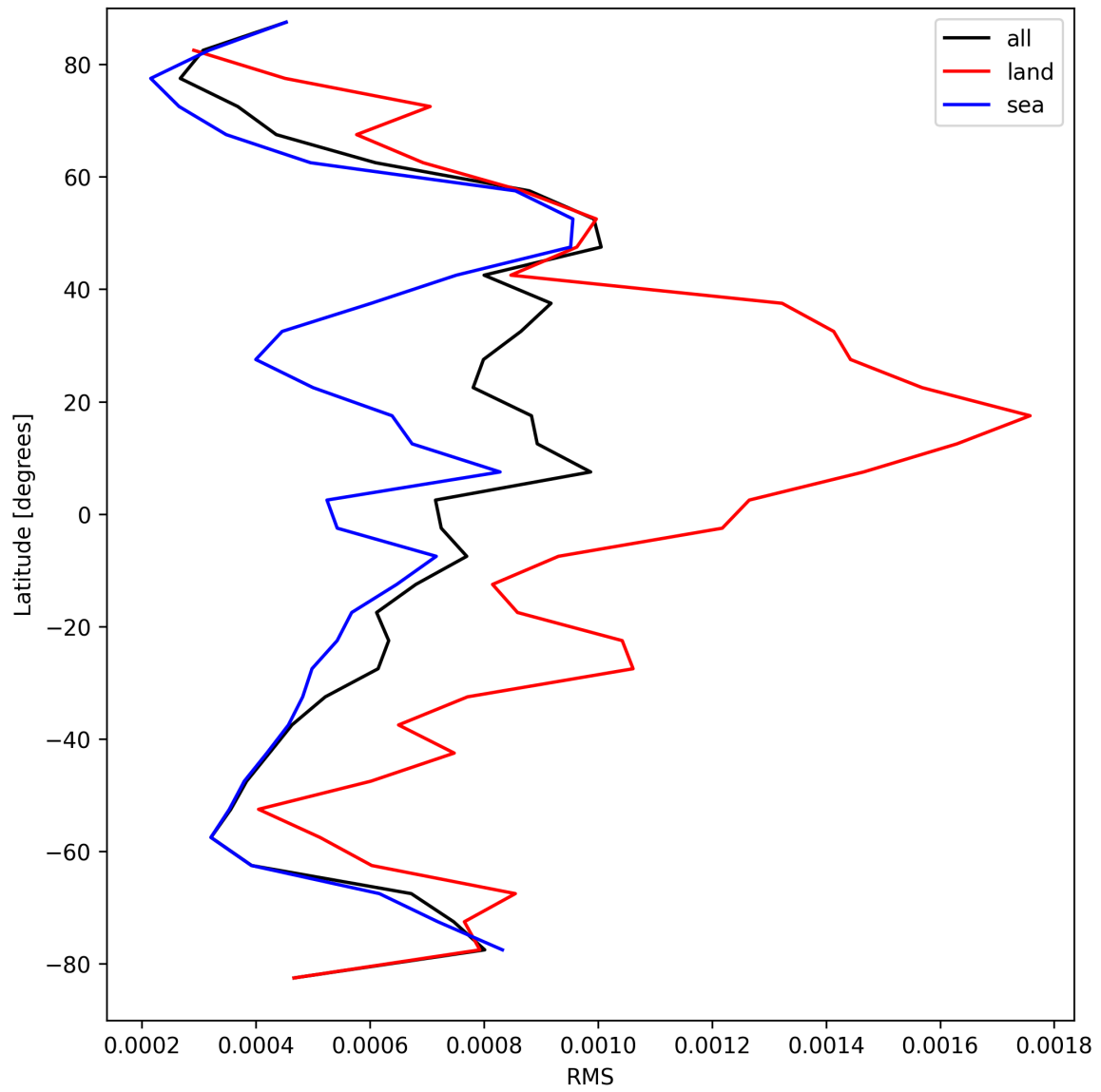


Figure 29: Zonal average of “RMS” for 2025-09-05 to 2025-09-06.

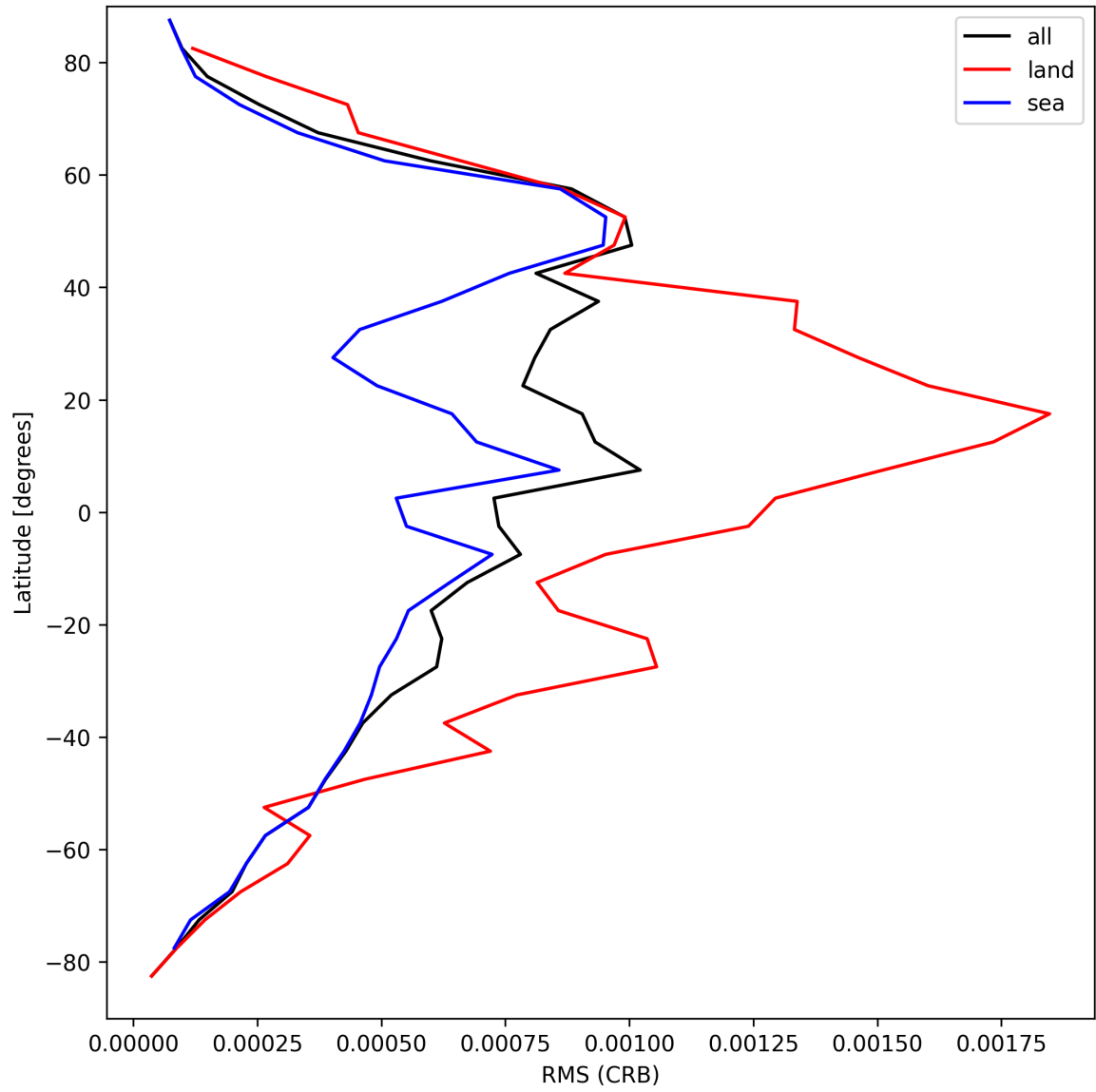


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-05 to 2025-09-06.

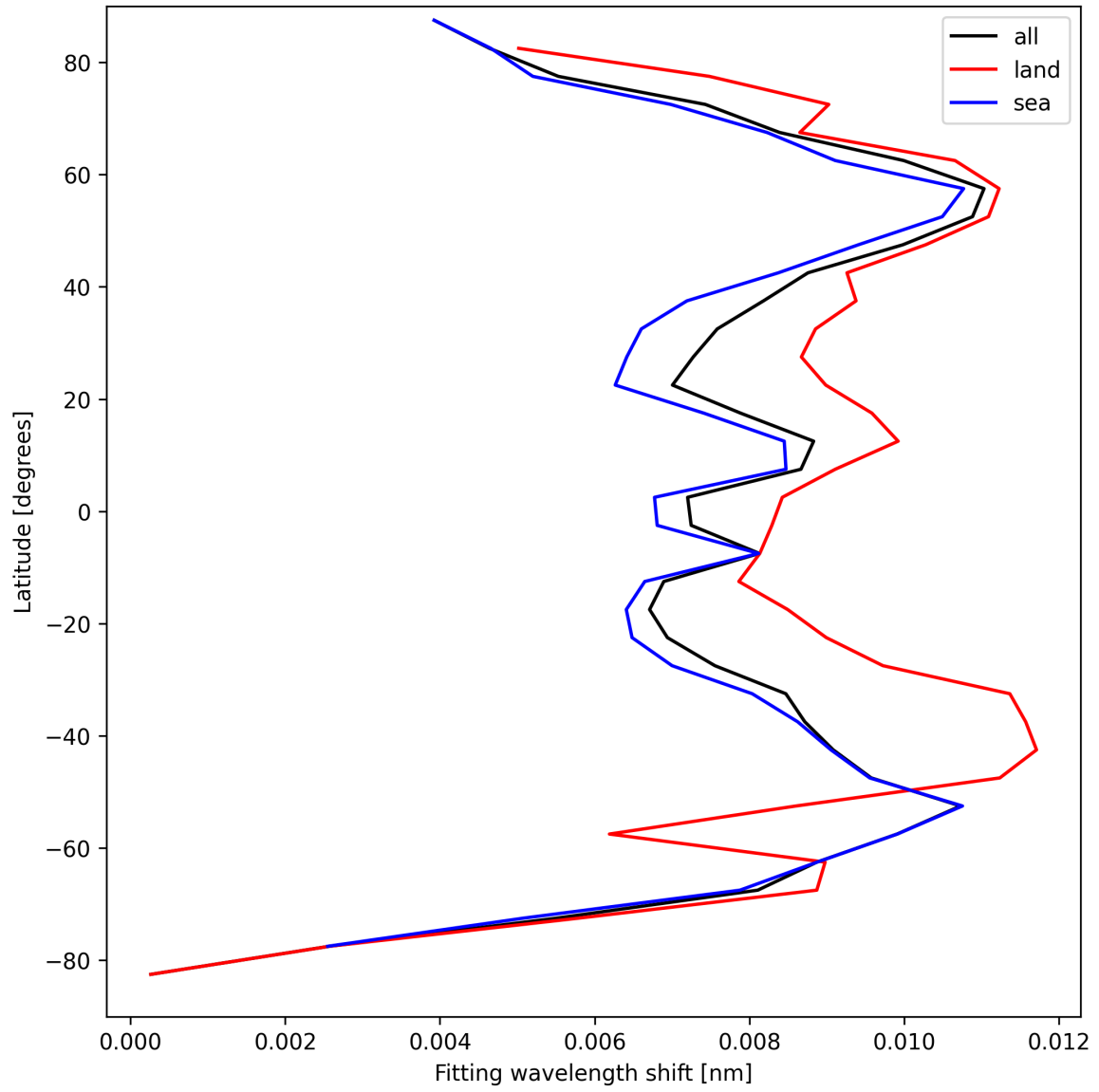


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-05 to 2025-09-06.

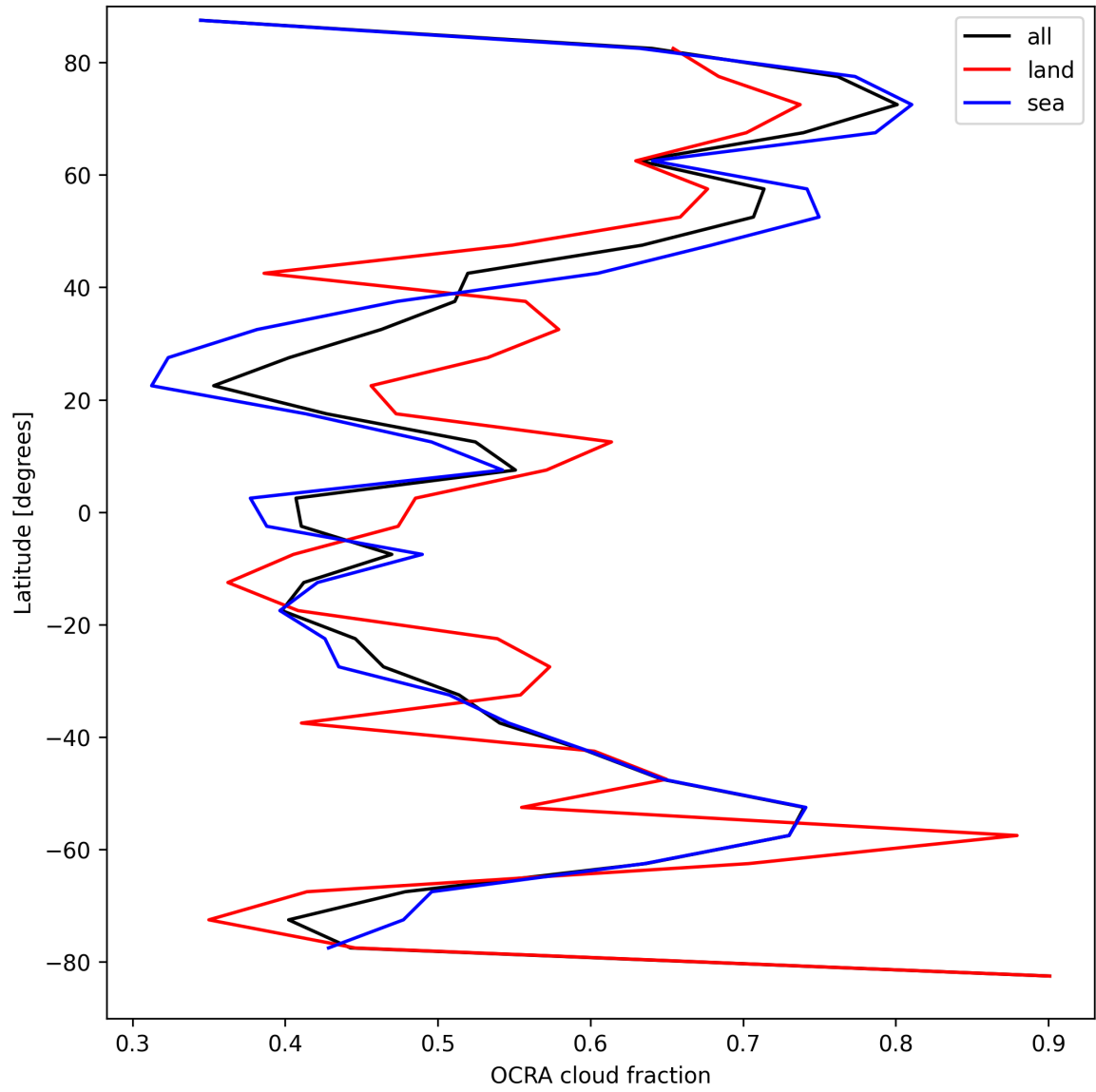


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-05 to 2025-09-06.

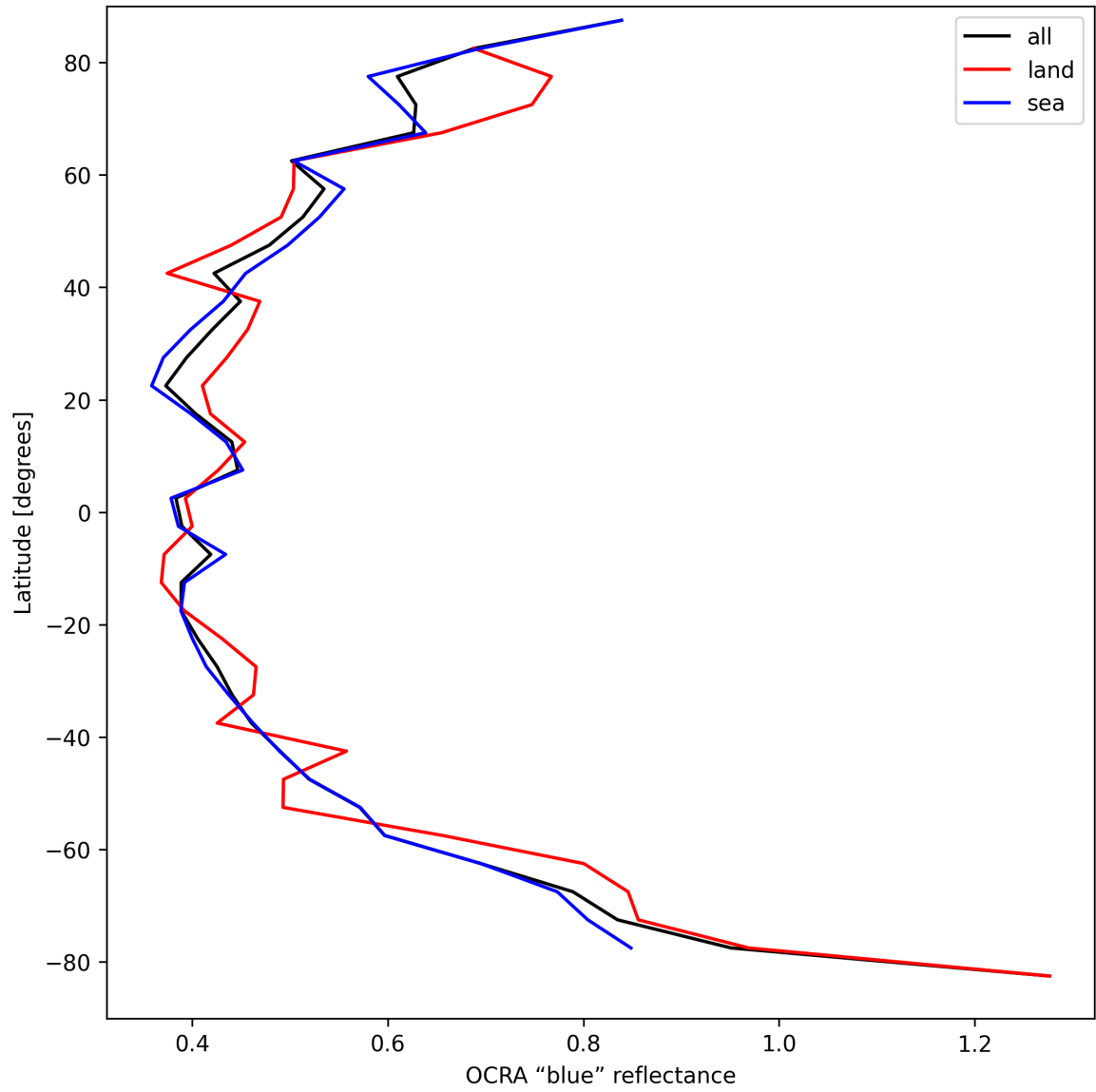


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-09-05 to 2025-09-06.

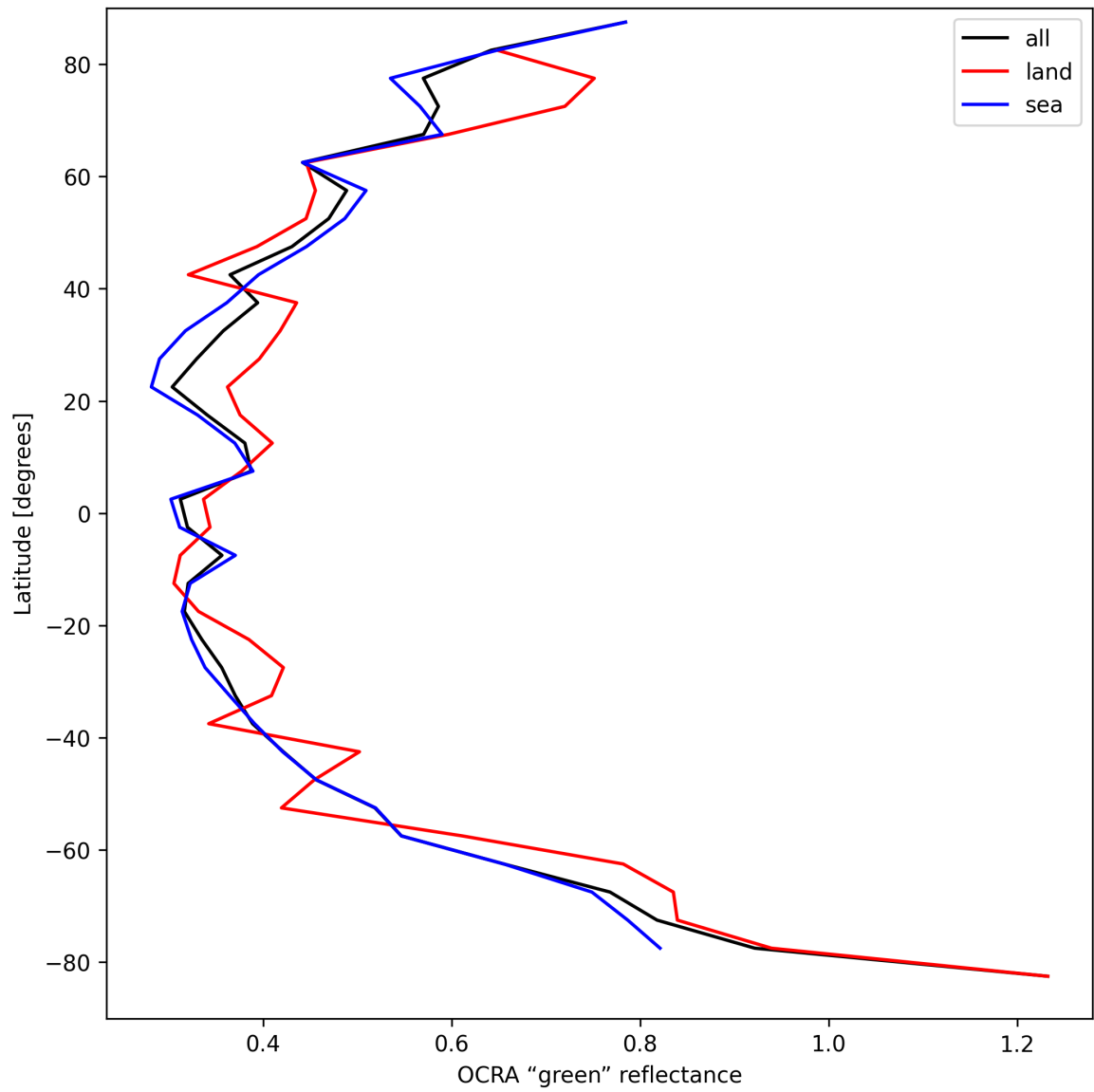


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-05 to 2025-09-06.

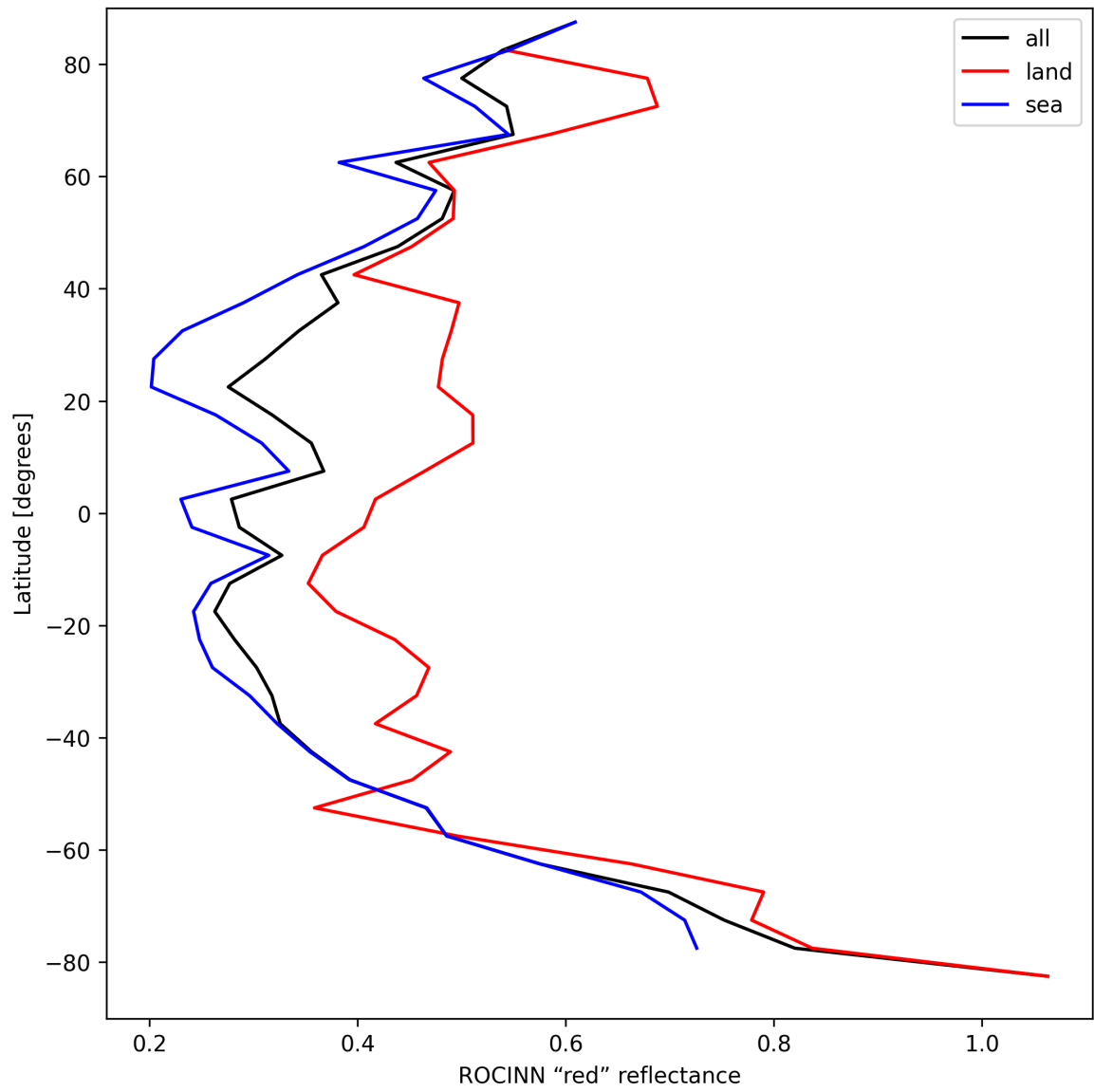


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-09-05 to 2025-09-06.

8 Histograms

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

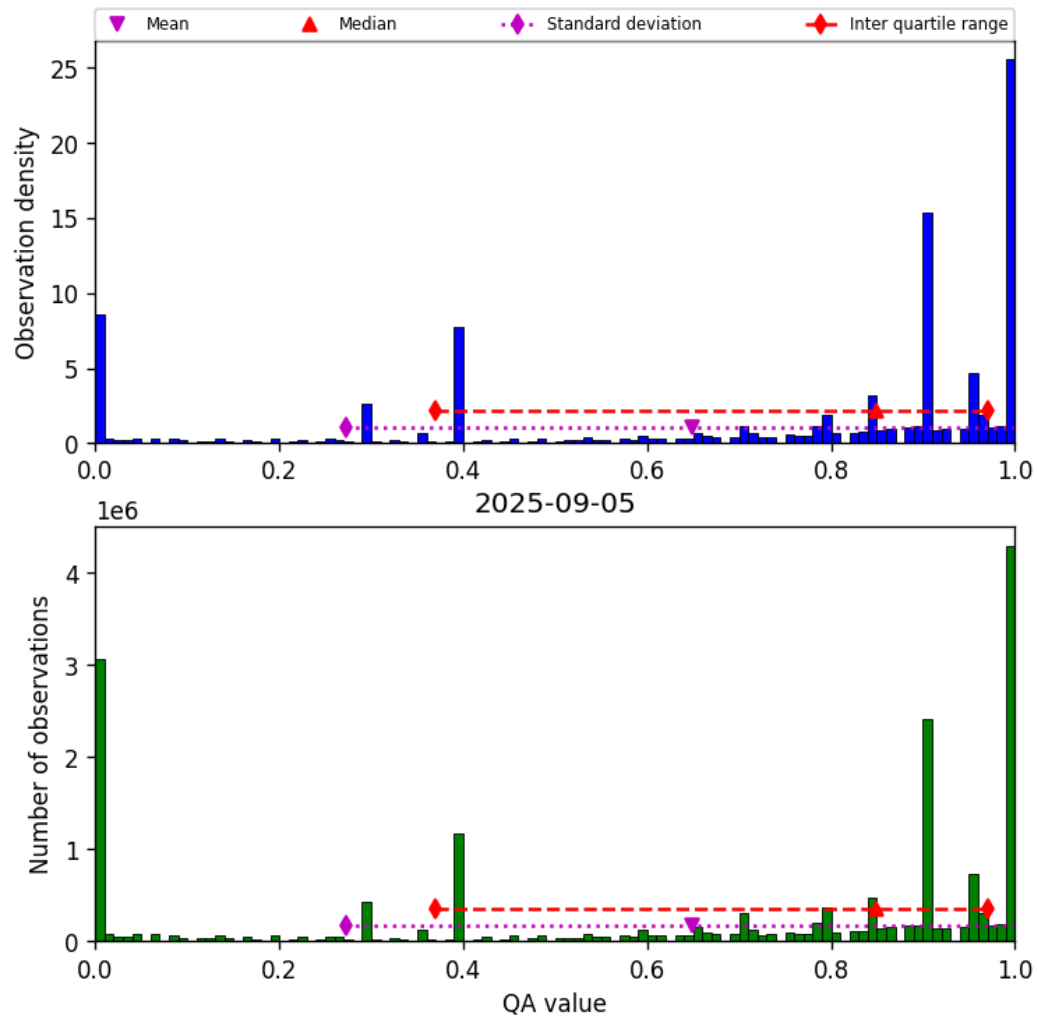


Figure 36: Histogram of “QA value” for 2025-09-05 to 2025-09-06

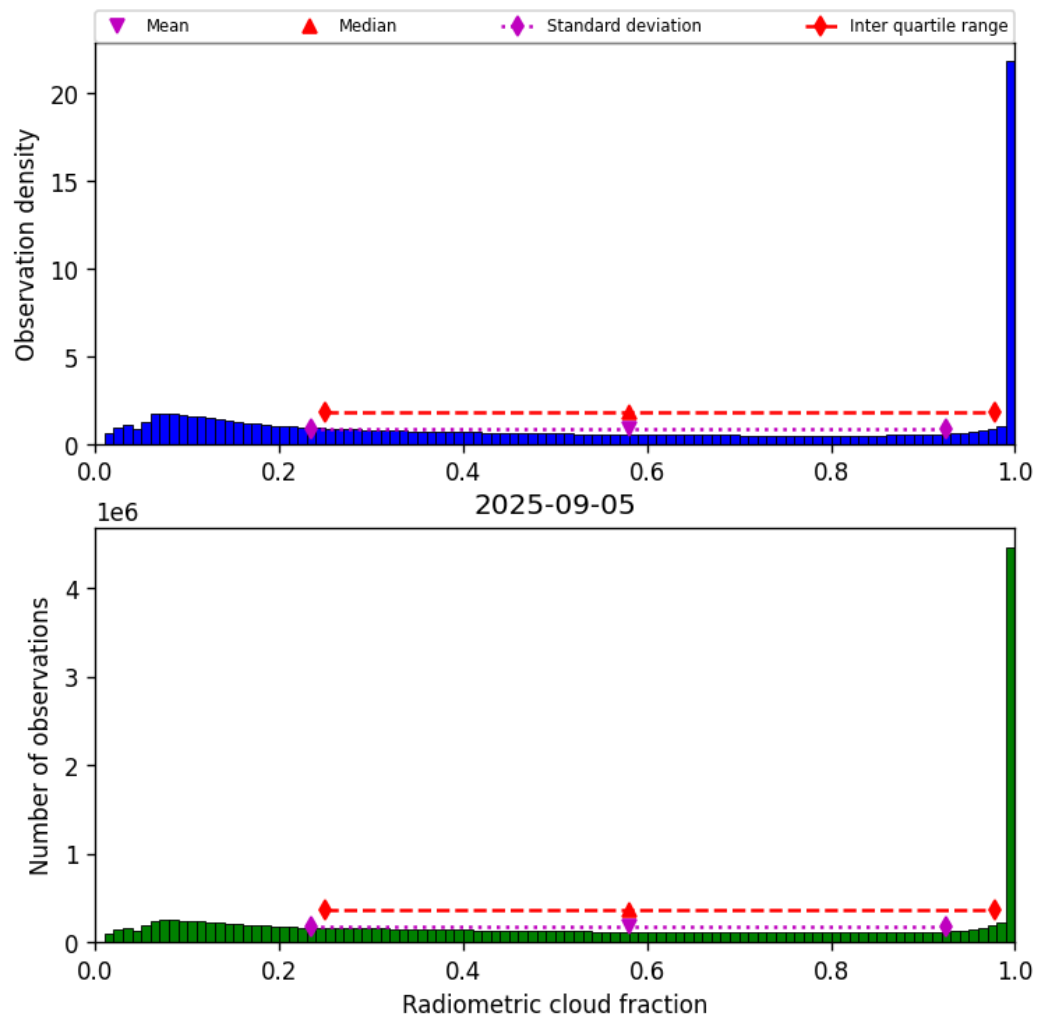


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-05 to 2025-09-06

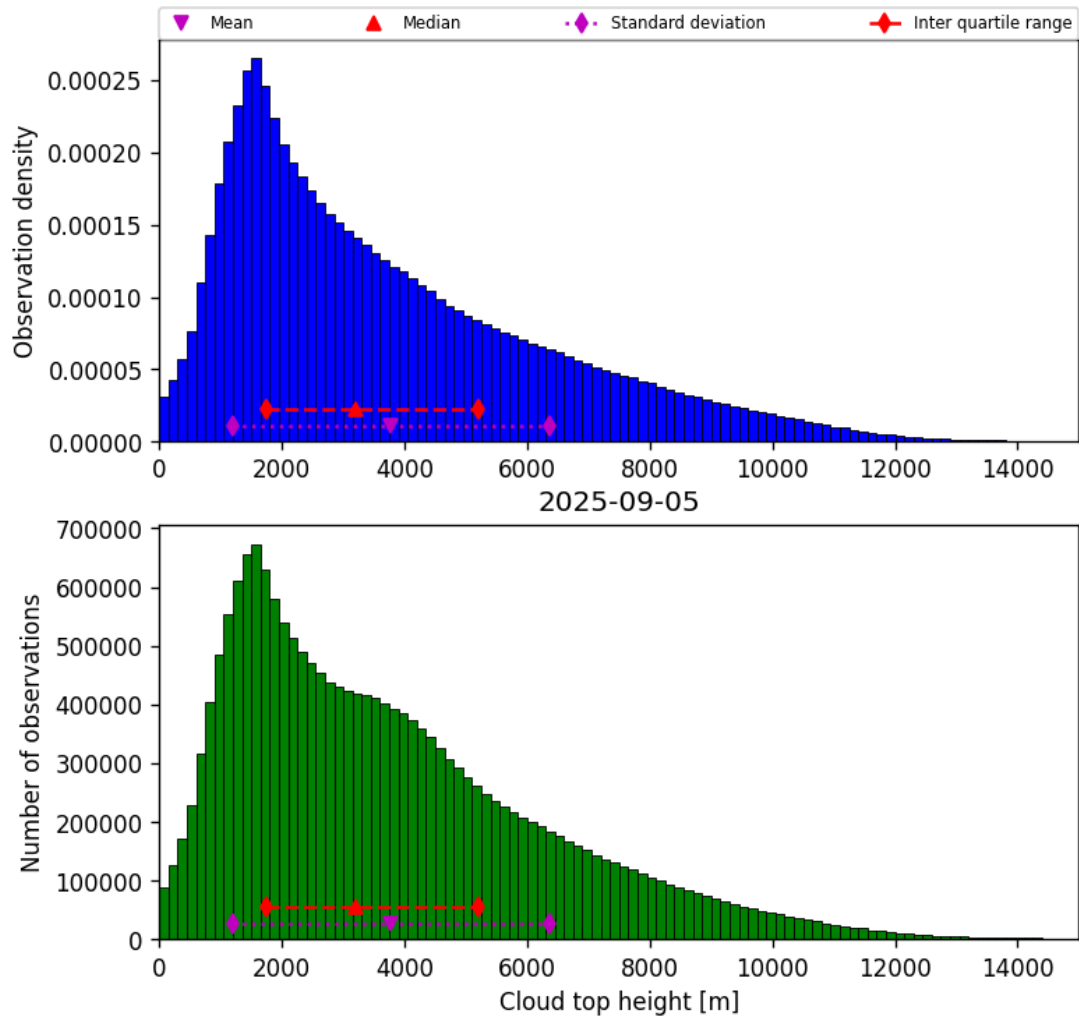


Figure 38: Histogram of “Cloud top height” for 2025-09-05 to 2025-09-06

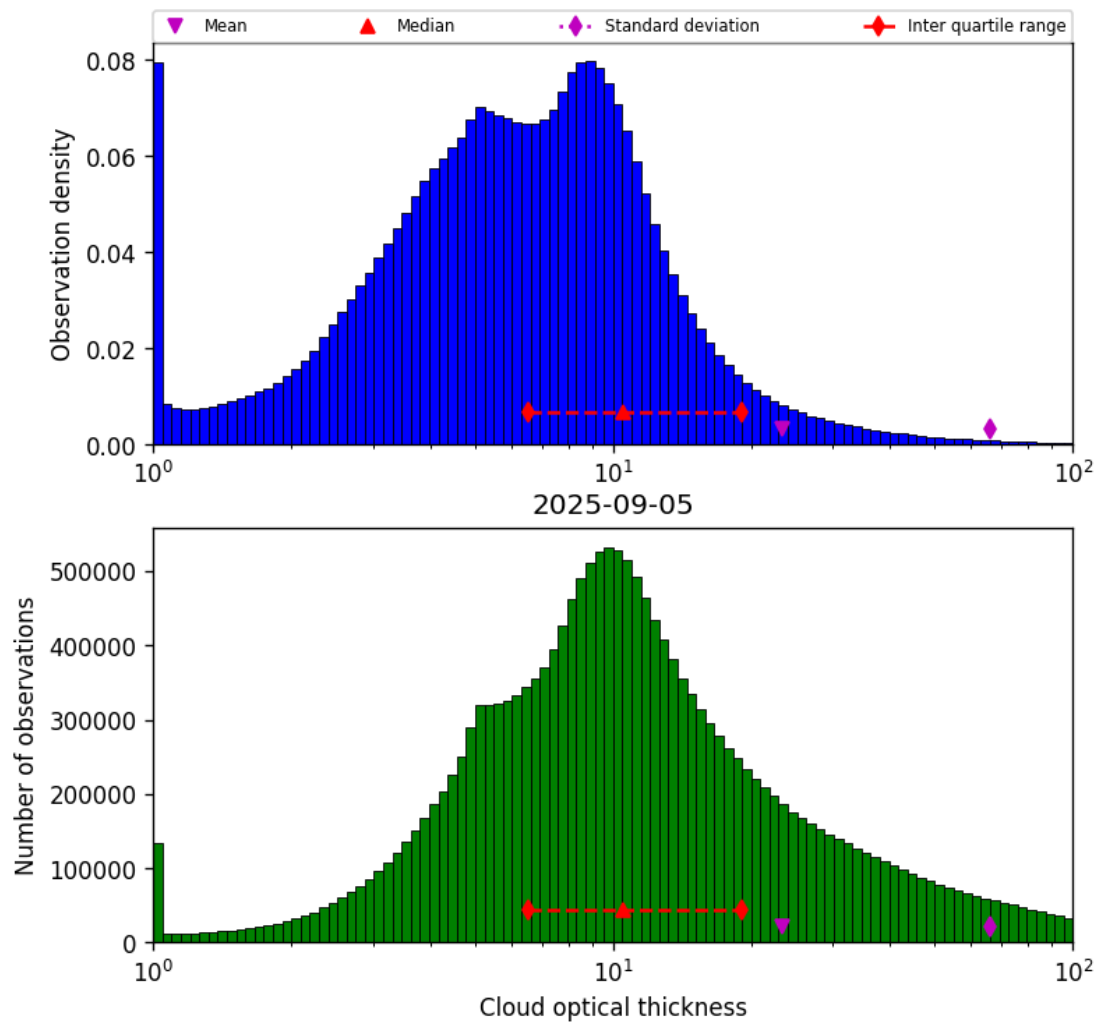


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-05 to 2025-09-06

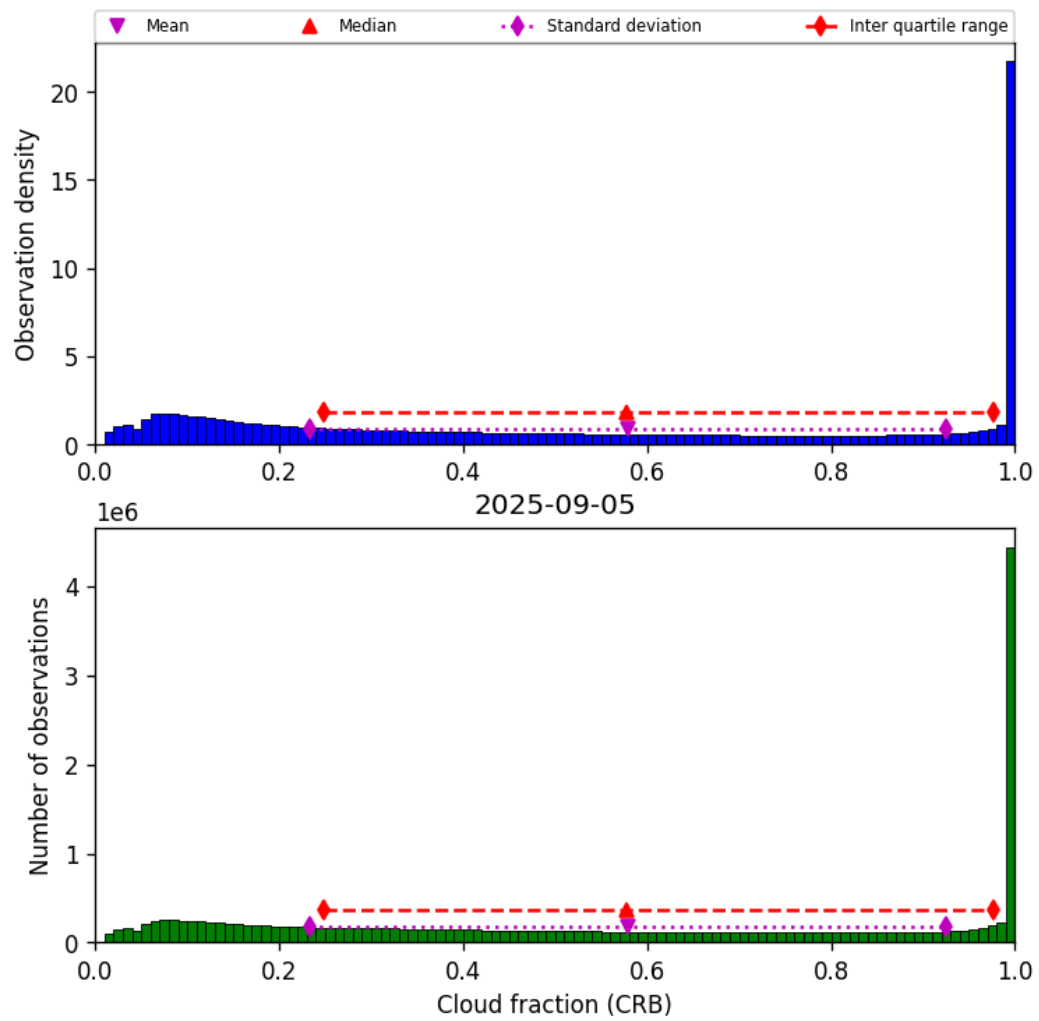


Figure 40: Histogram of "Cloud fraction (CRB)" for 2025-09-05 to 2025-09-06

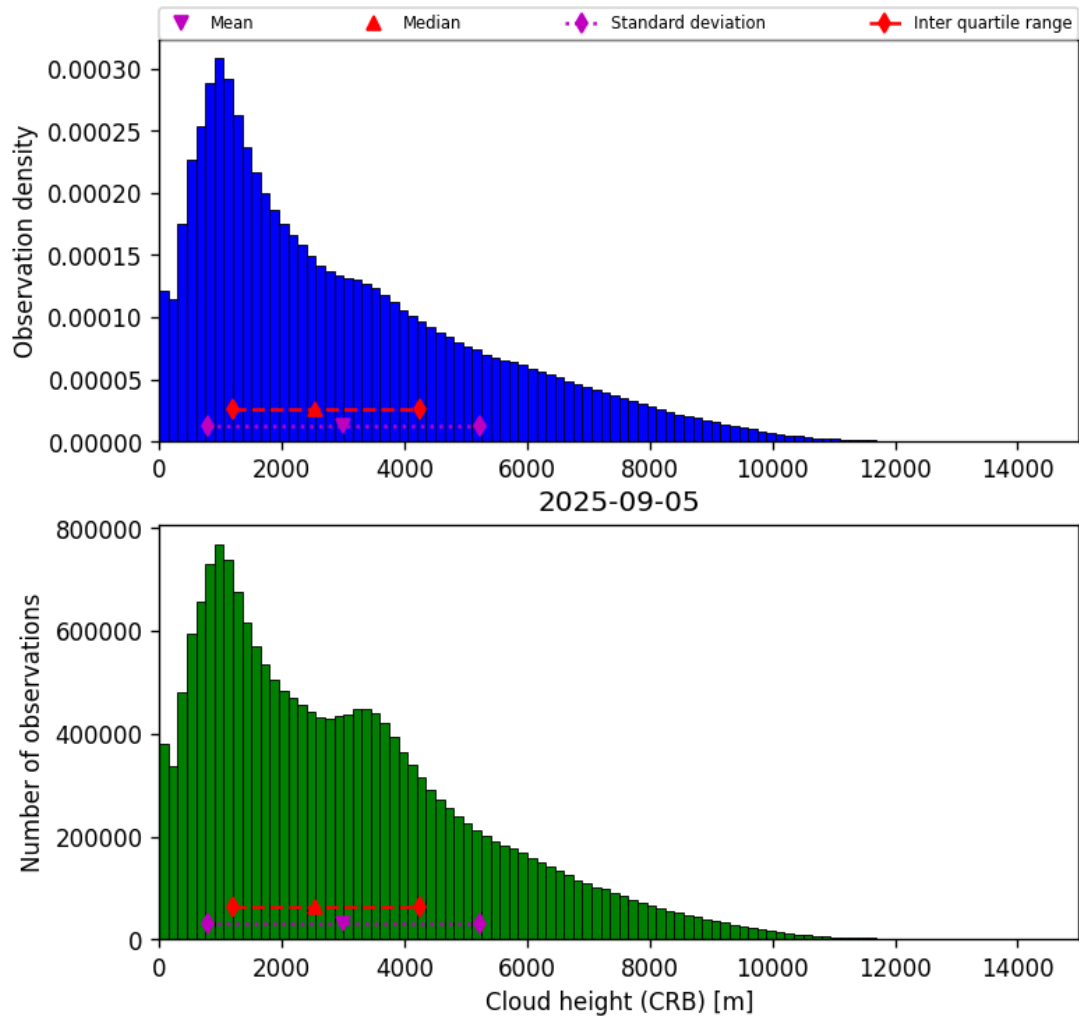


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-05 to 2025-09-06

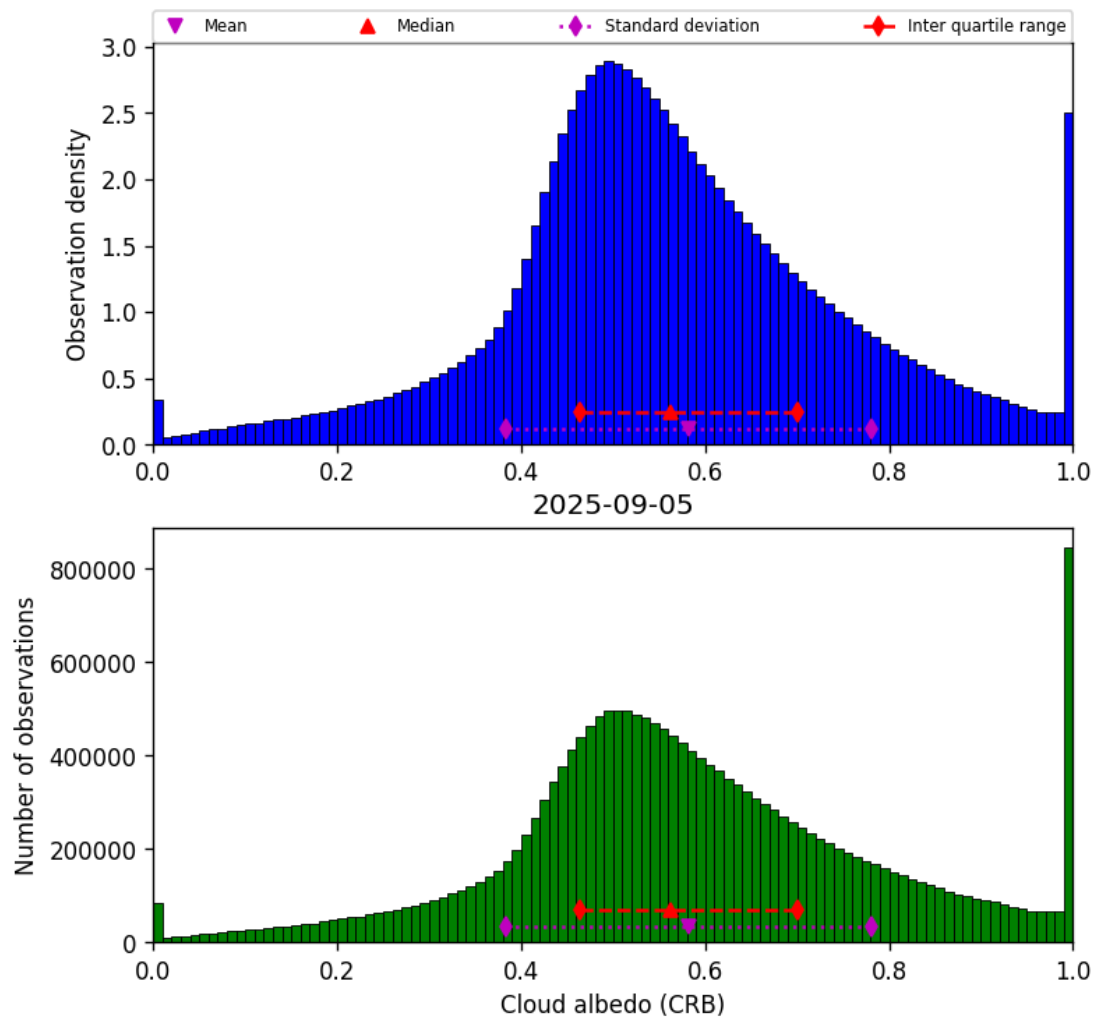


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-05 to 2025-09-06

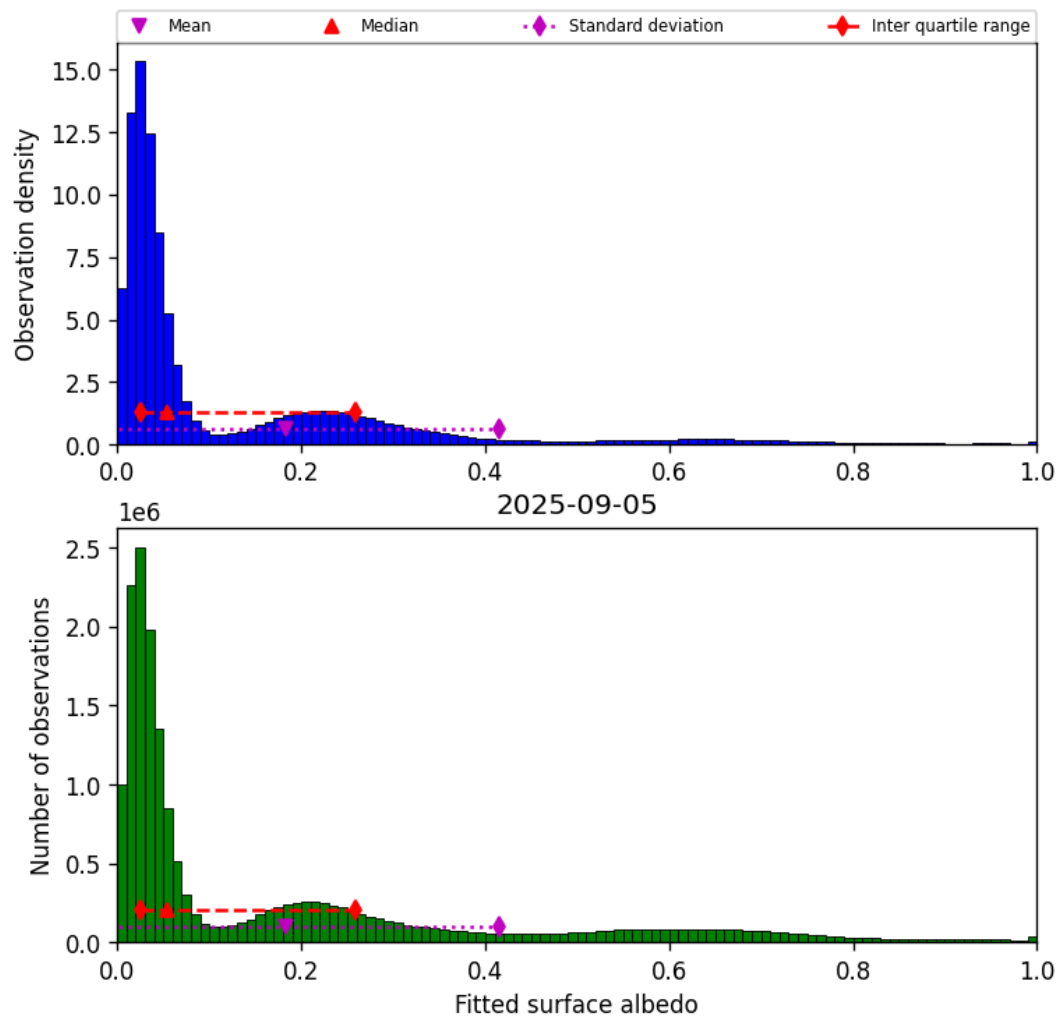


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-05 to 2025-09-06

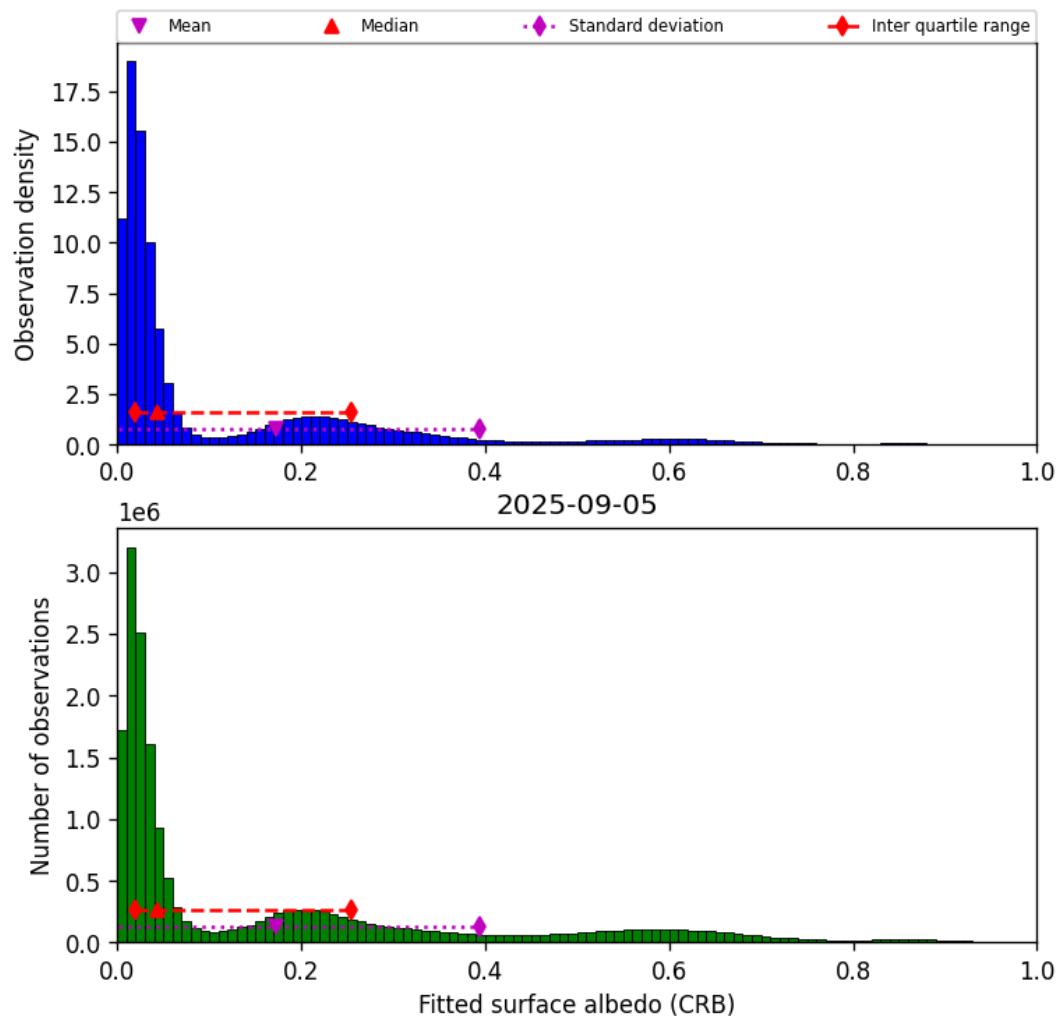


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-05 to 2025-09-06

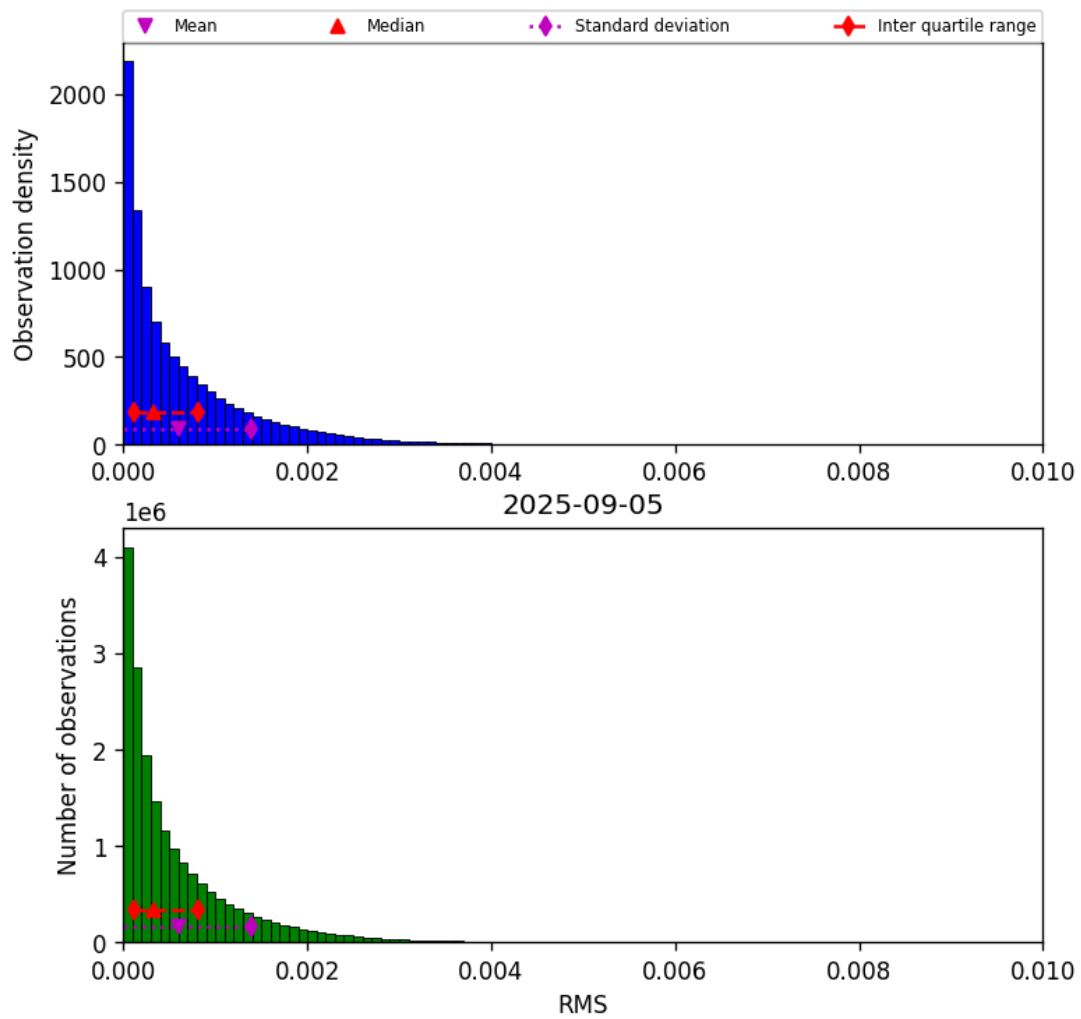


Figure 45: Histogram of “RMS” for 2025-09-05 to 2025-09-06

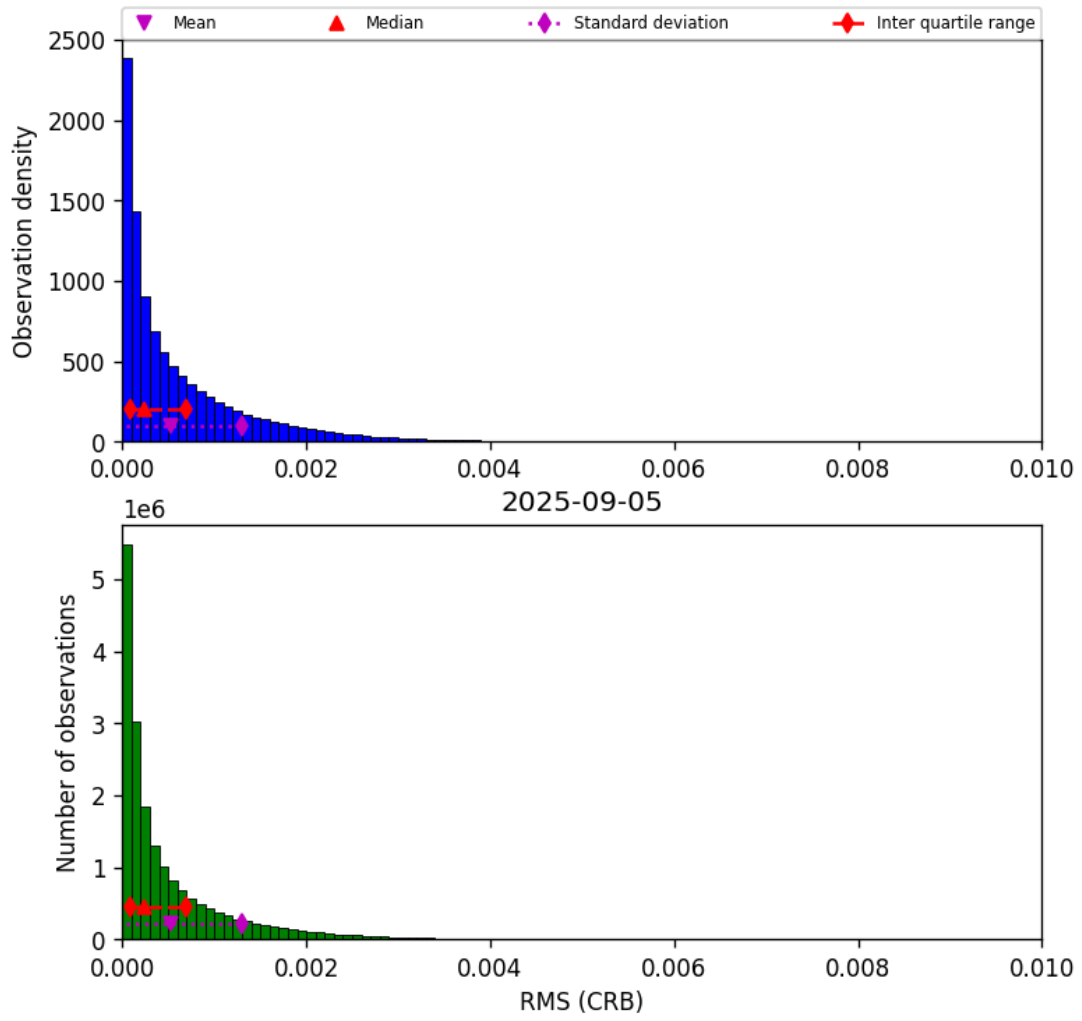


Figure 46: Histogram of “RMS (CRB)” for 2025-09-05 to 2025-09-06

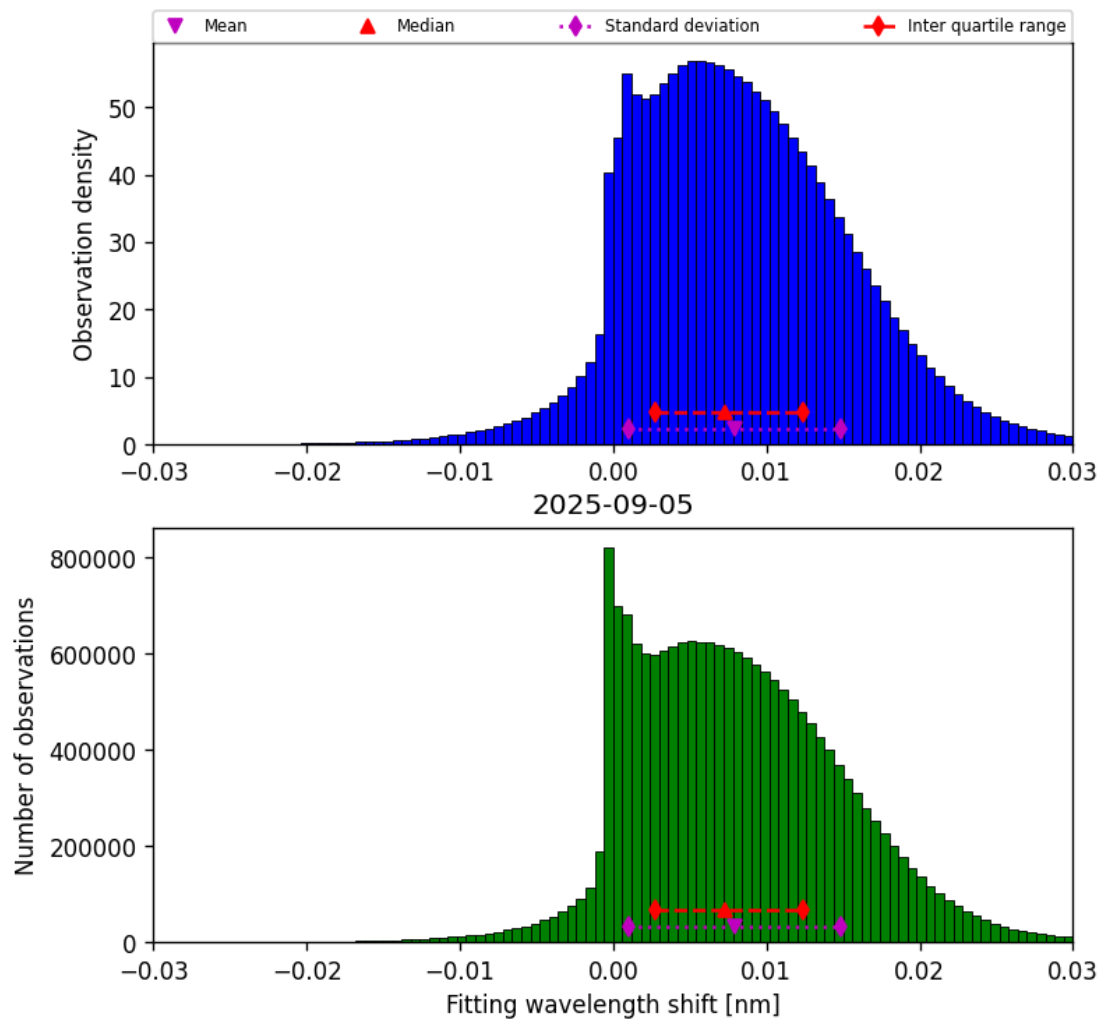


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-05 to 2025-09-06

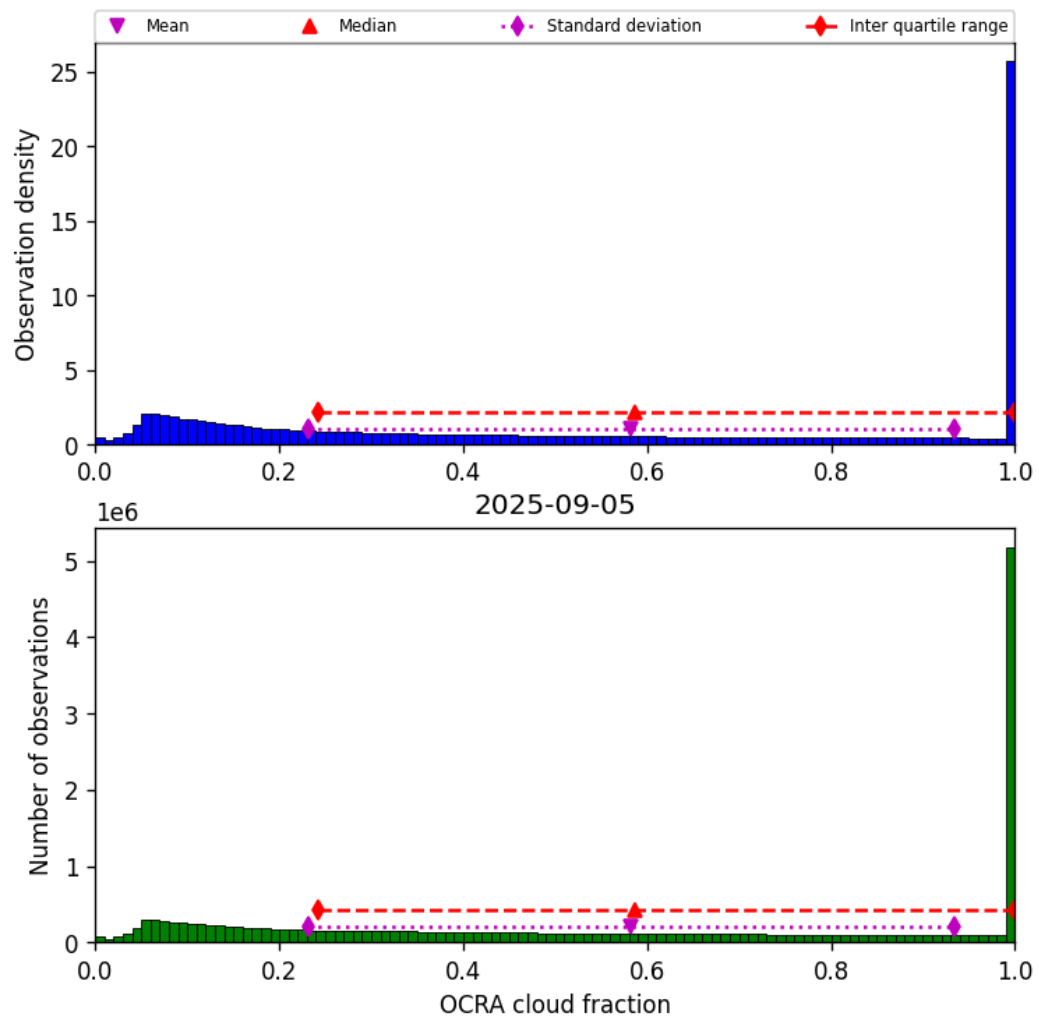


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-05 to 2025-09-06

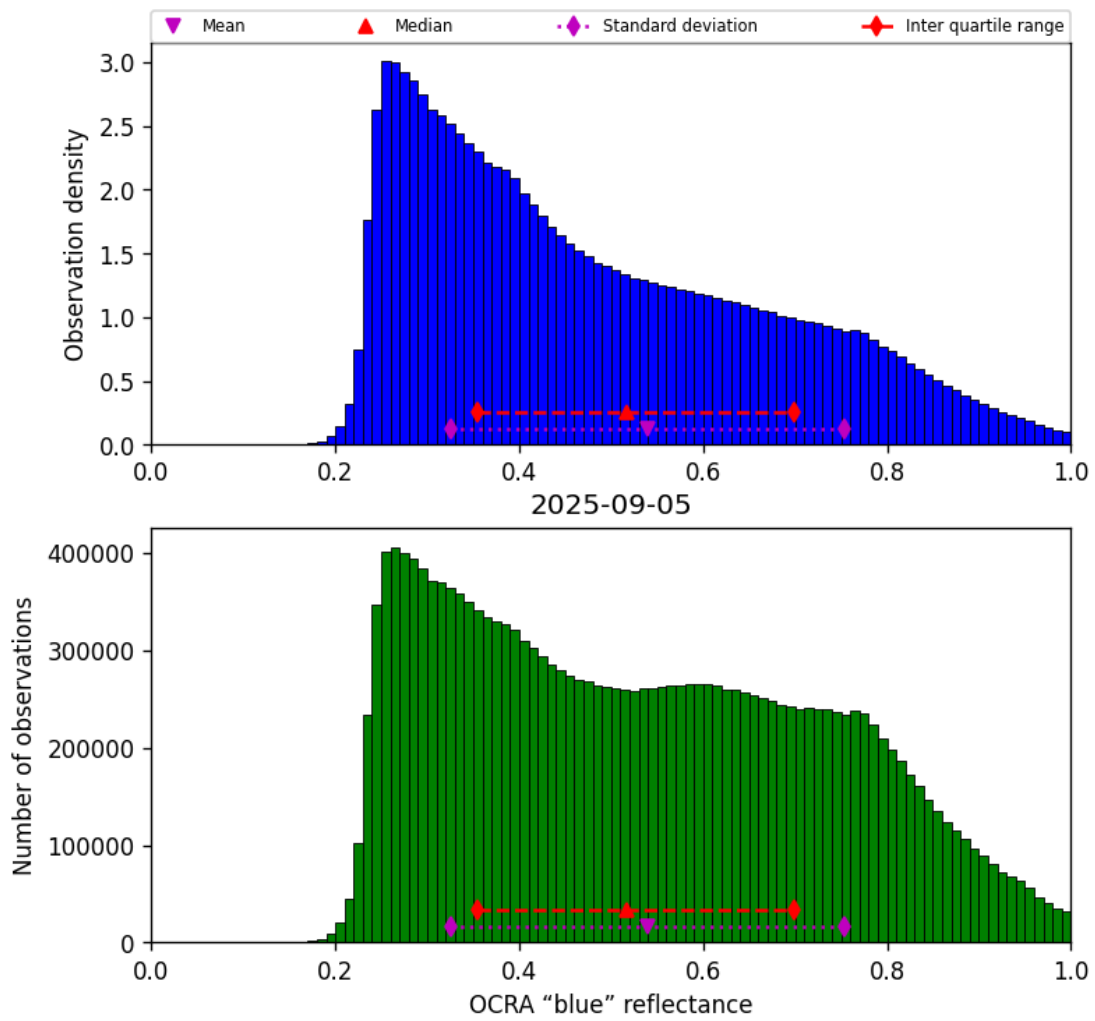


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-05 to 2025-09-06

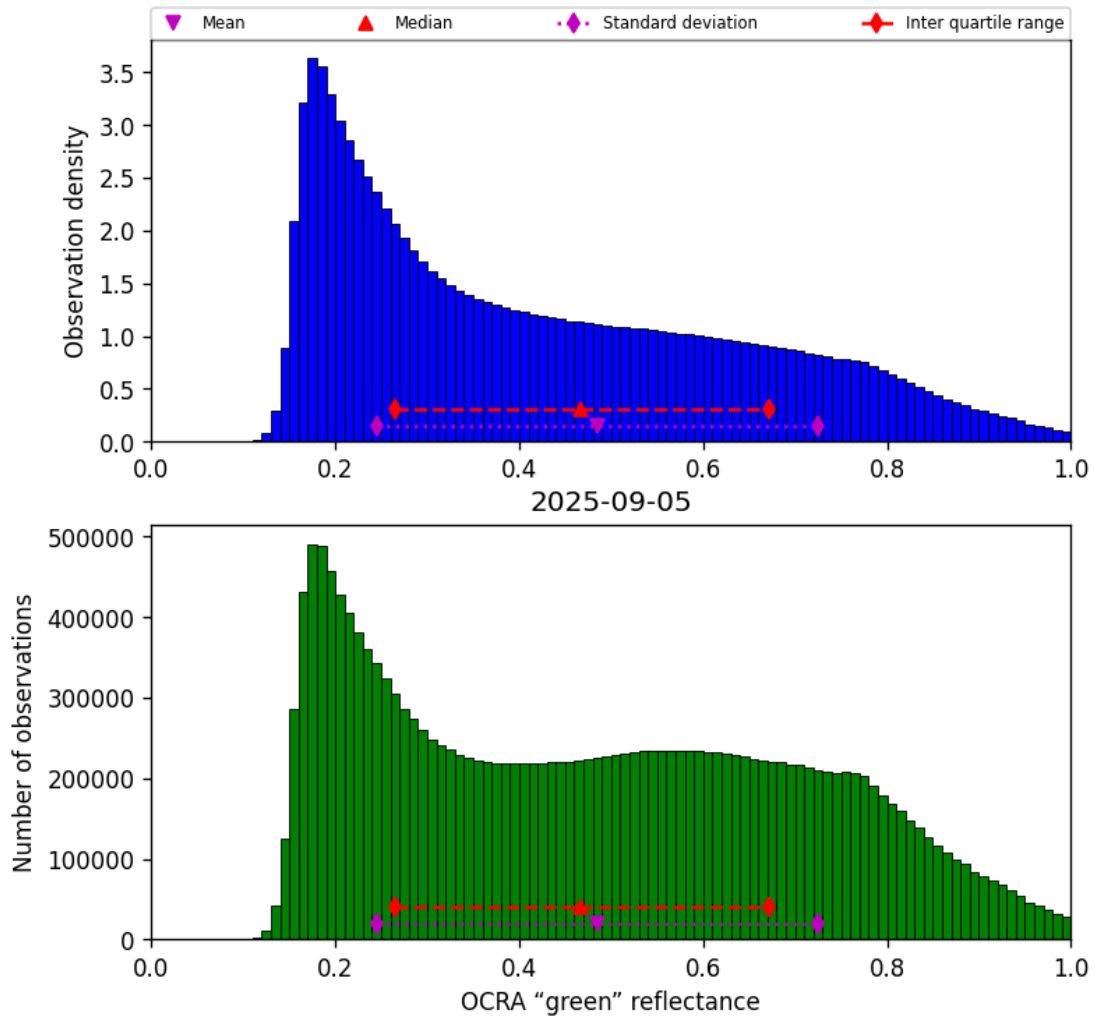


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-05 to 2025-09-06

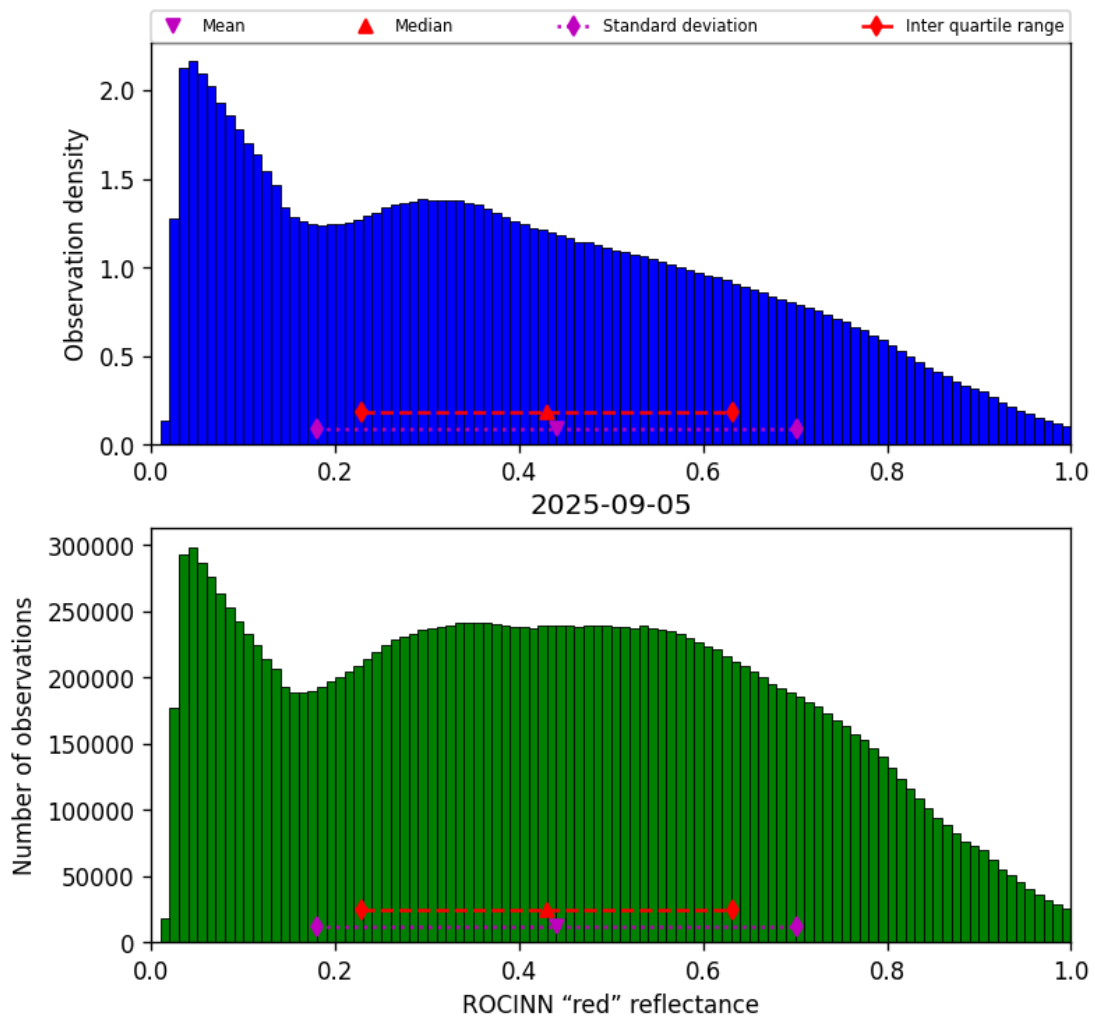


Figure 51: Histogram of "ROCINN "red" reflectance" for 2025-09-05 to 2025-09-06

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.

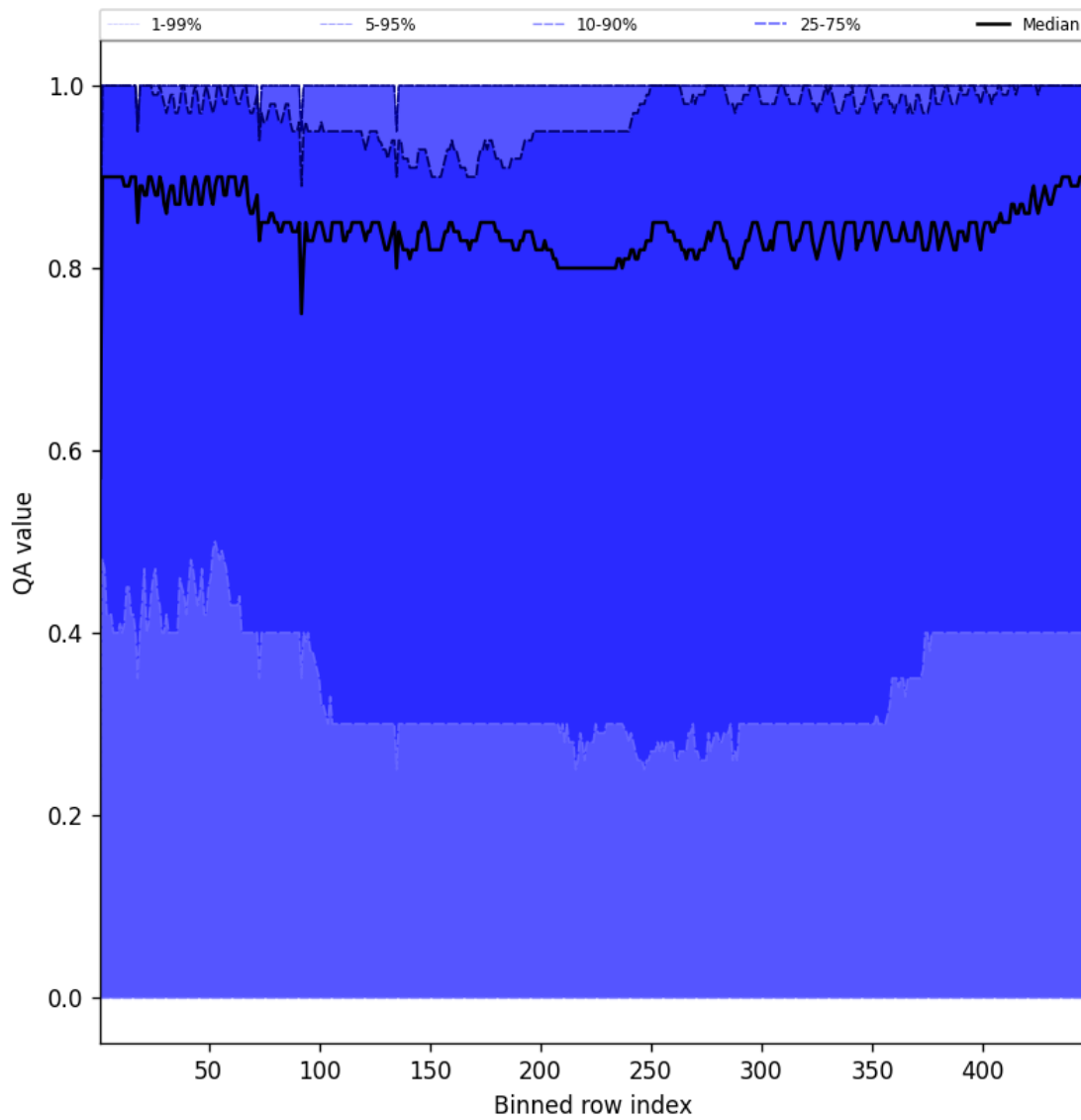


Figure 52: Along track statistics of “QA value” for 2025-09-05 to 2025-09-06

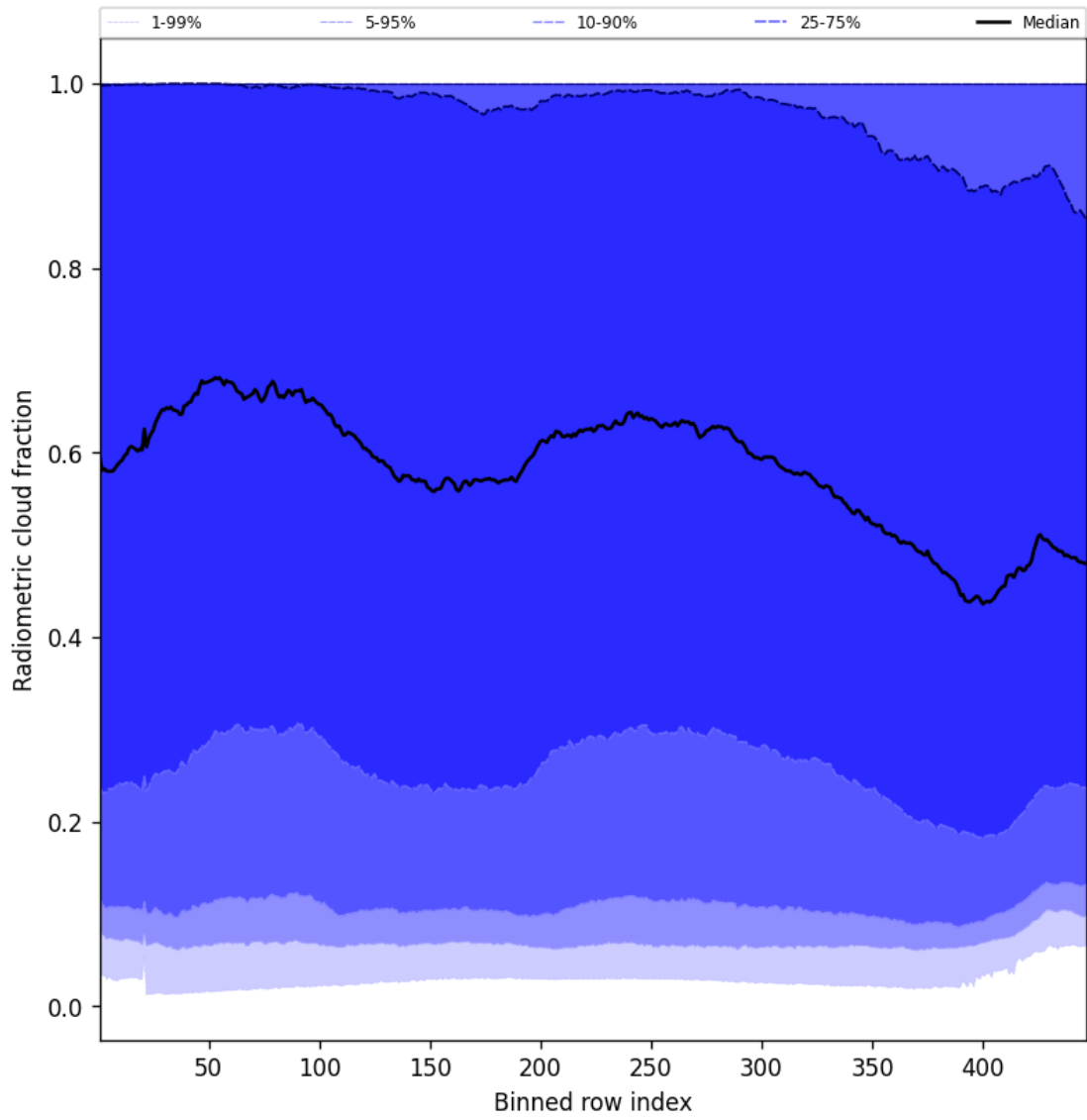


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-05 to 2025-09-06

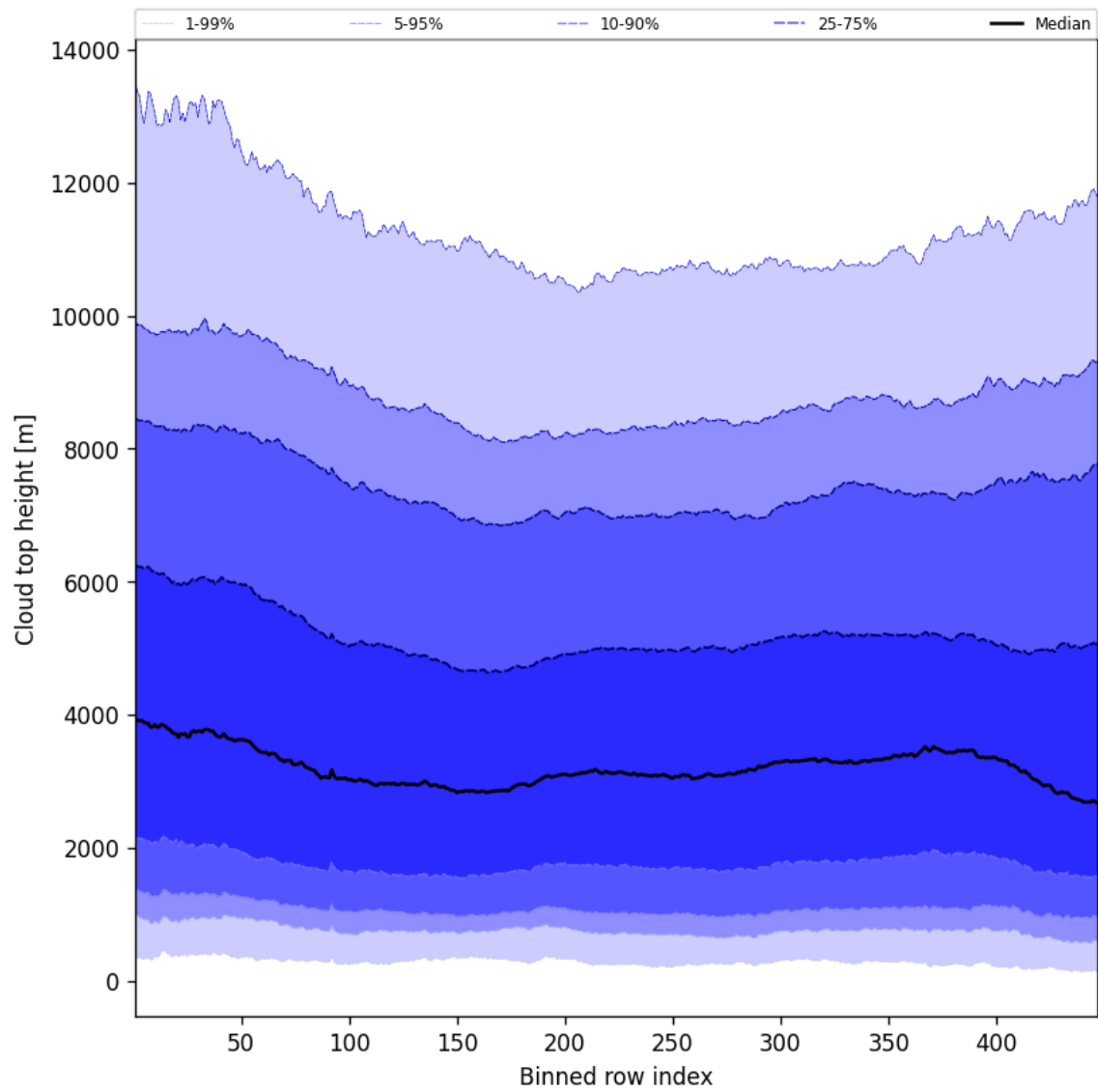


Figure 54: Along track statistics of “Cloud top height” for 2025-09-05 to 2025-09-06

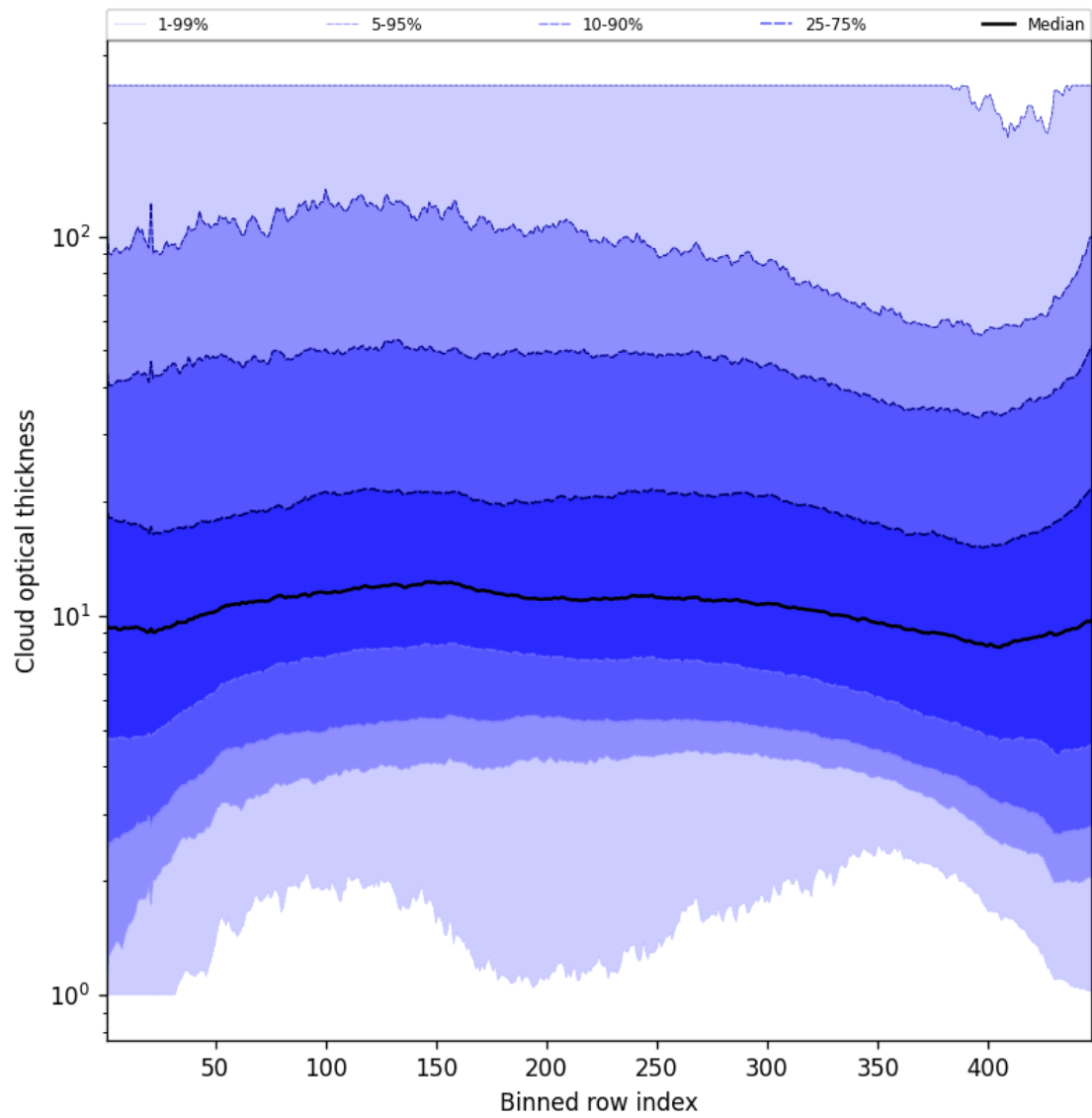


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-05 to 2025-09-06

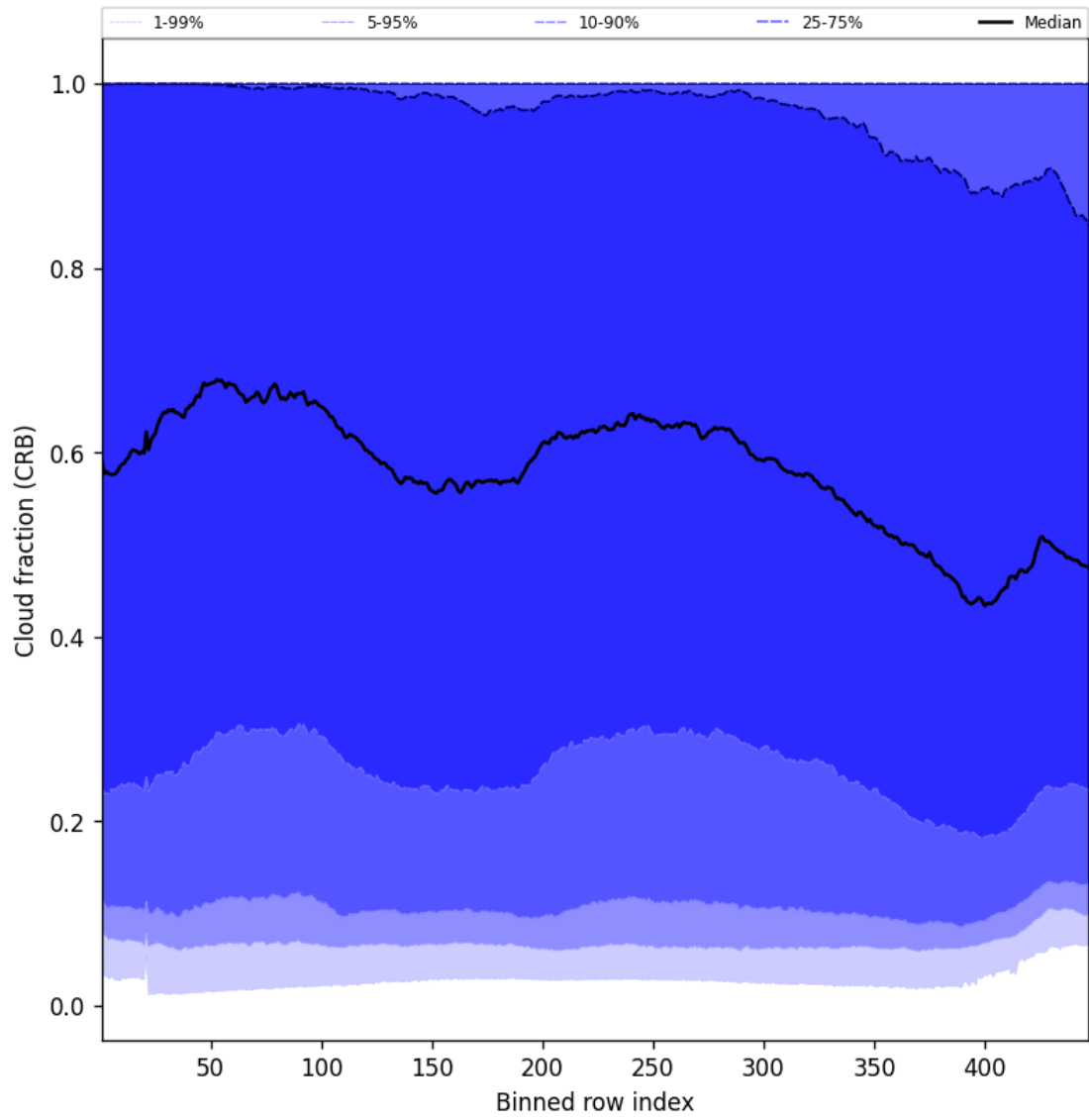


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-05 to 2025-09-06

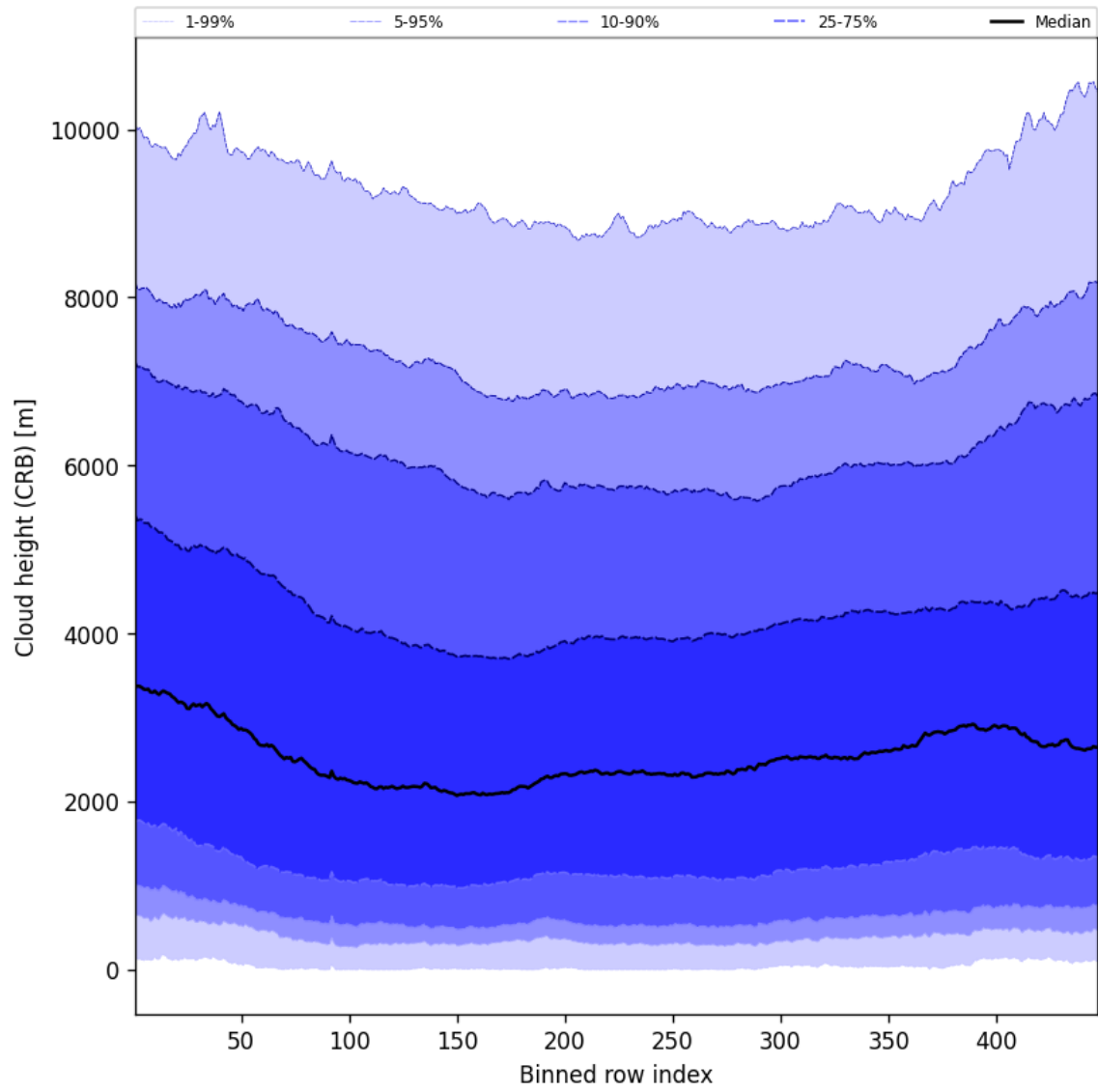


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-05 to 2025-09-06

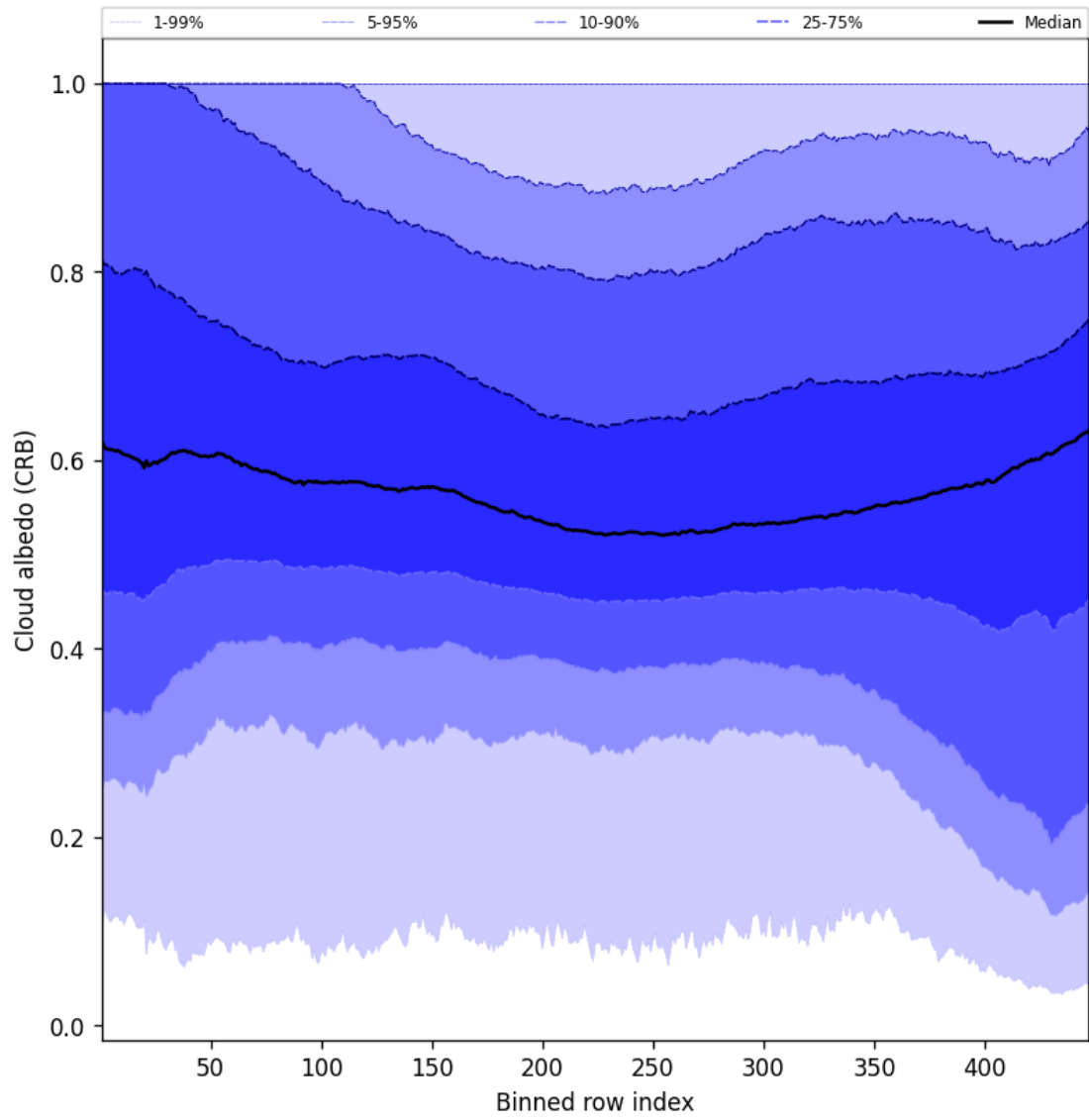


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-05 to 2025-09-06

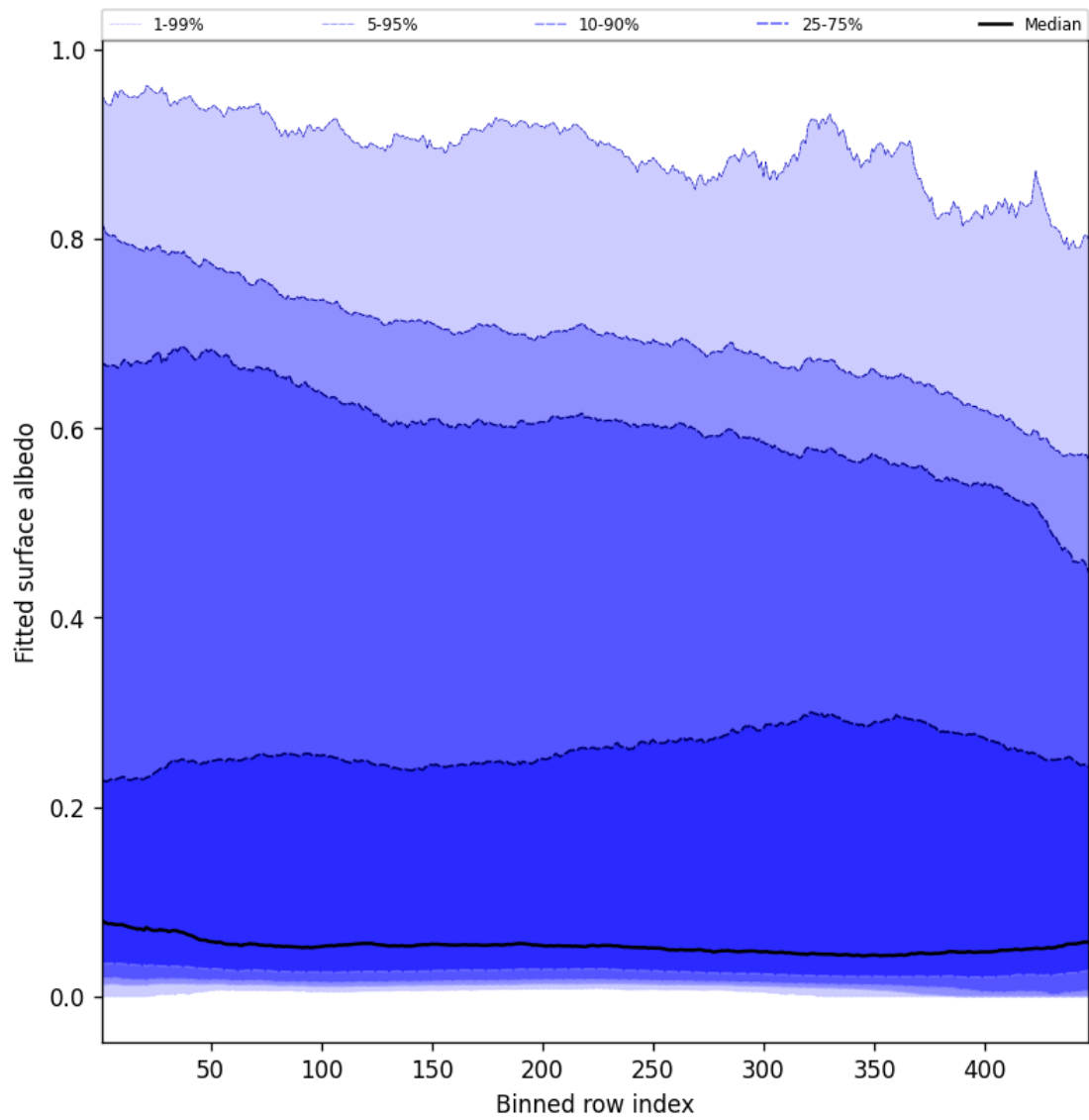


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-09-05 to 2025-09-06

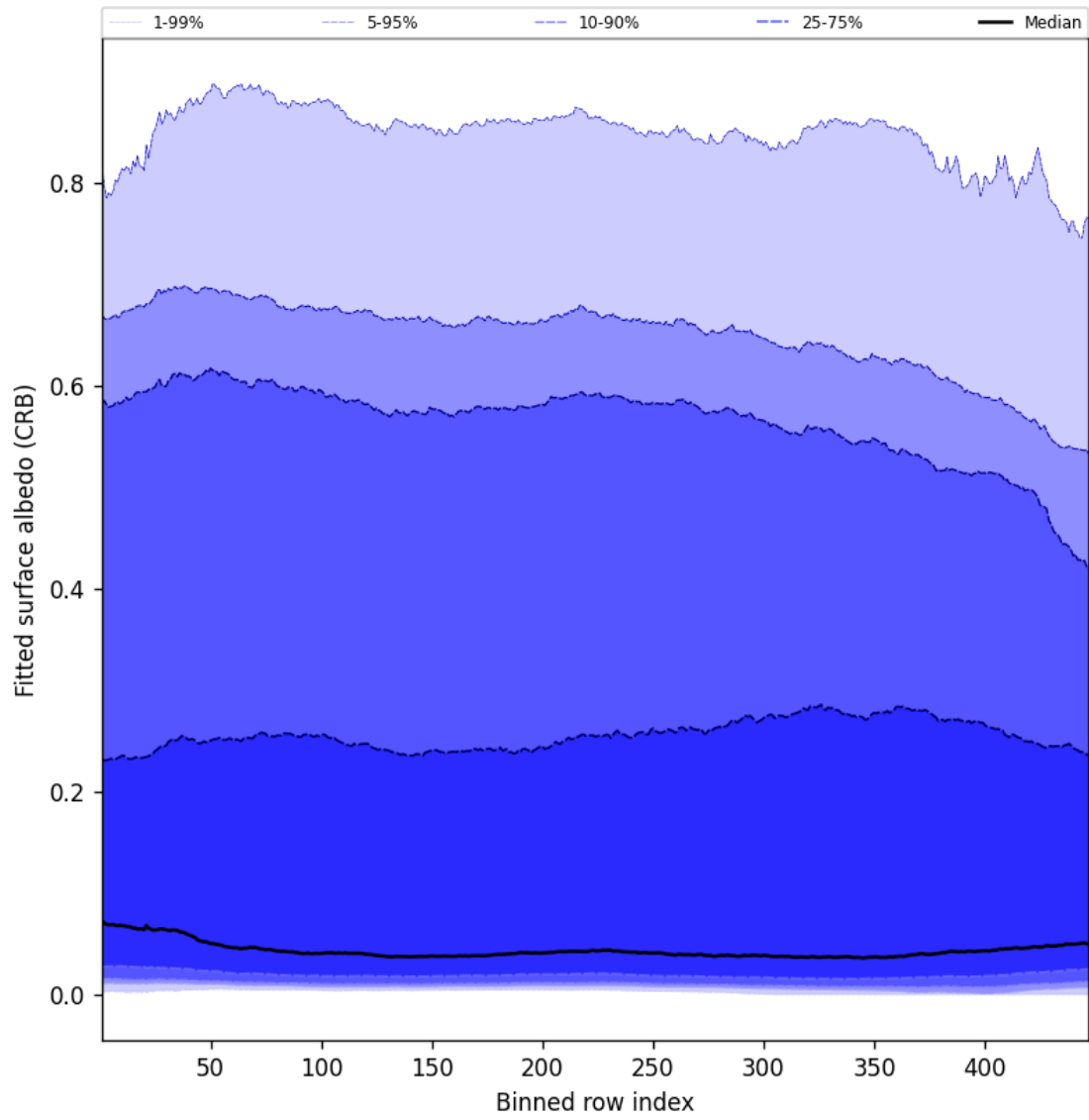


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-05 to 2025-09-06

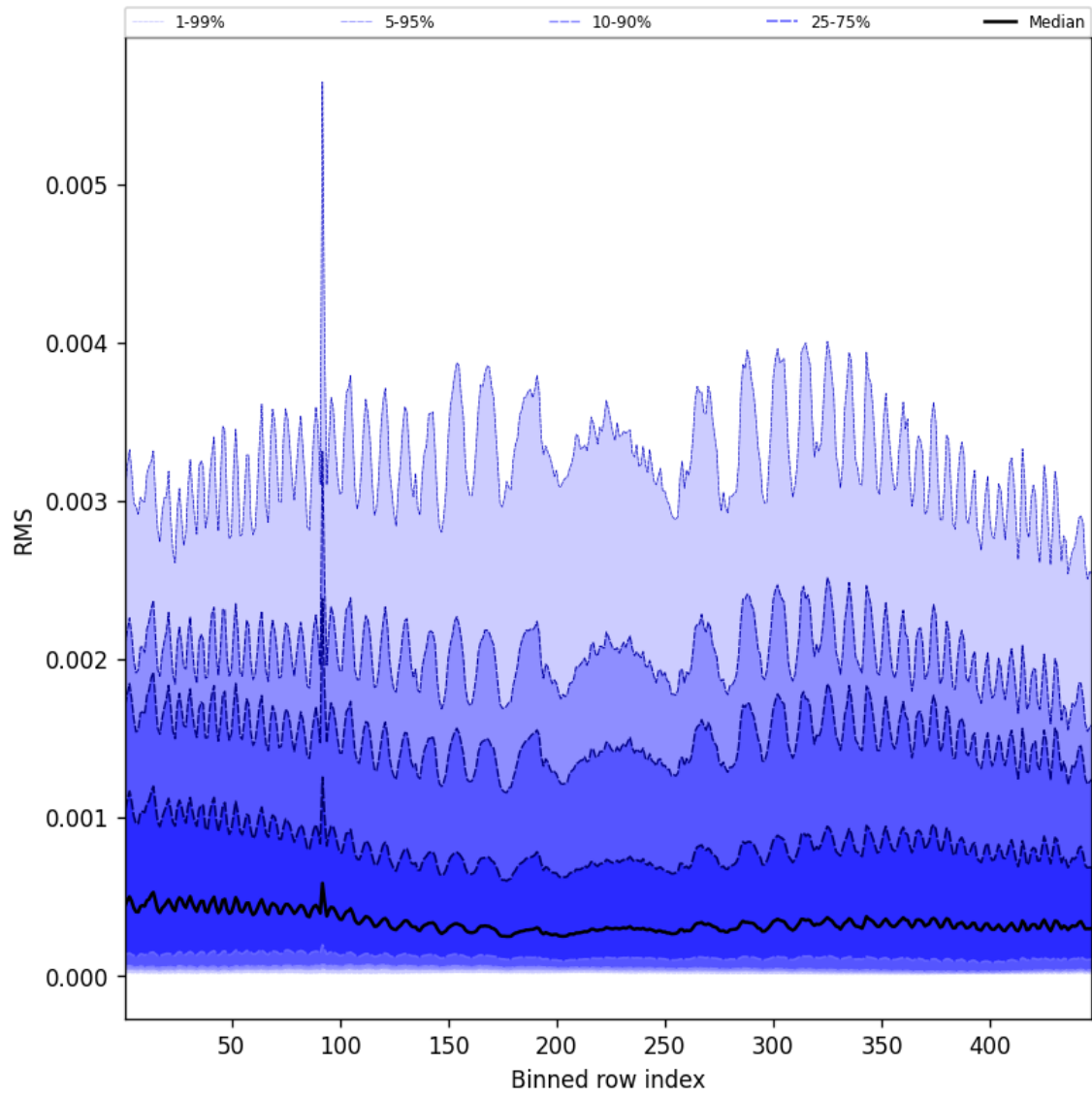


Figure 61: Along track statistics of “RMS” for 2025-09-05 to 2025-09-06

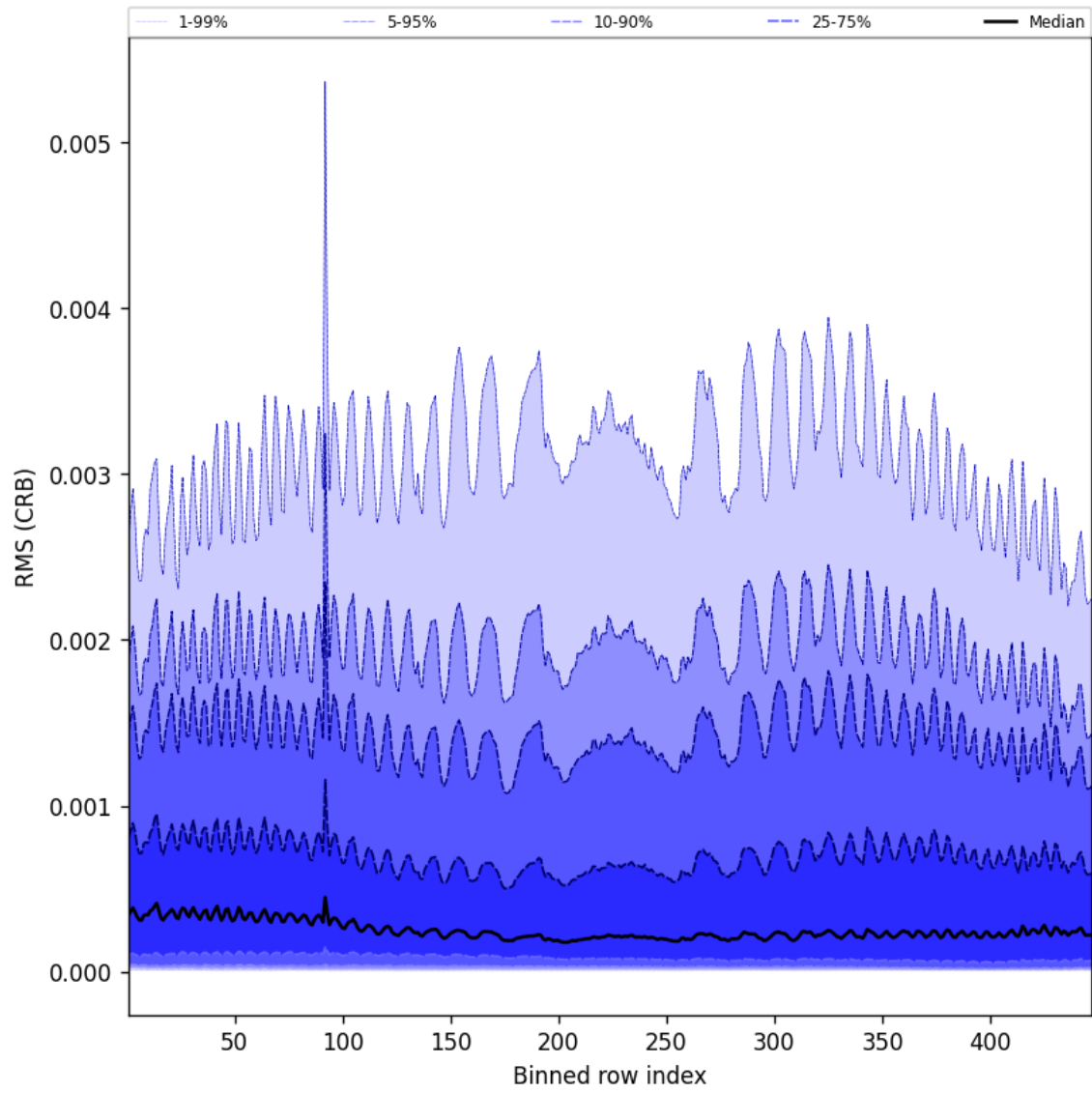


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-05 to 2025-09-06

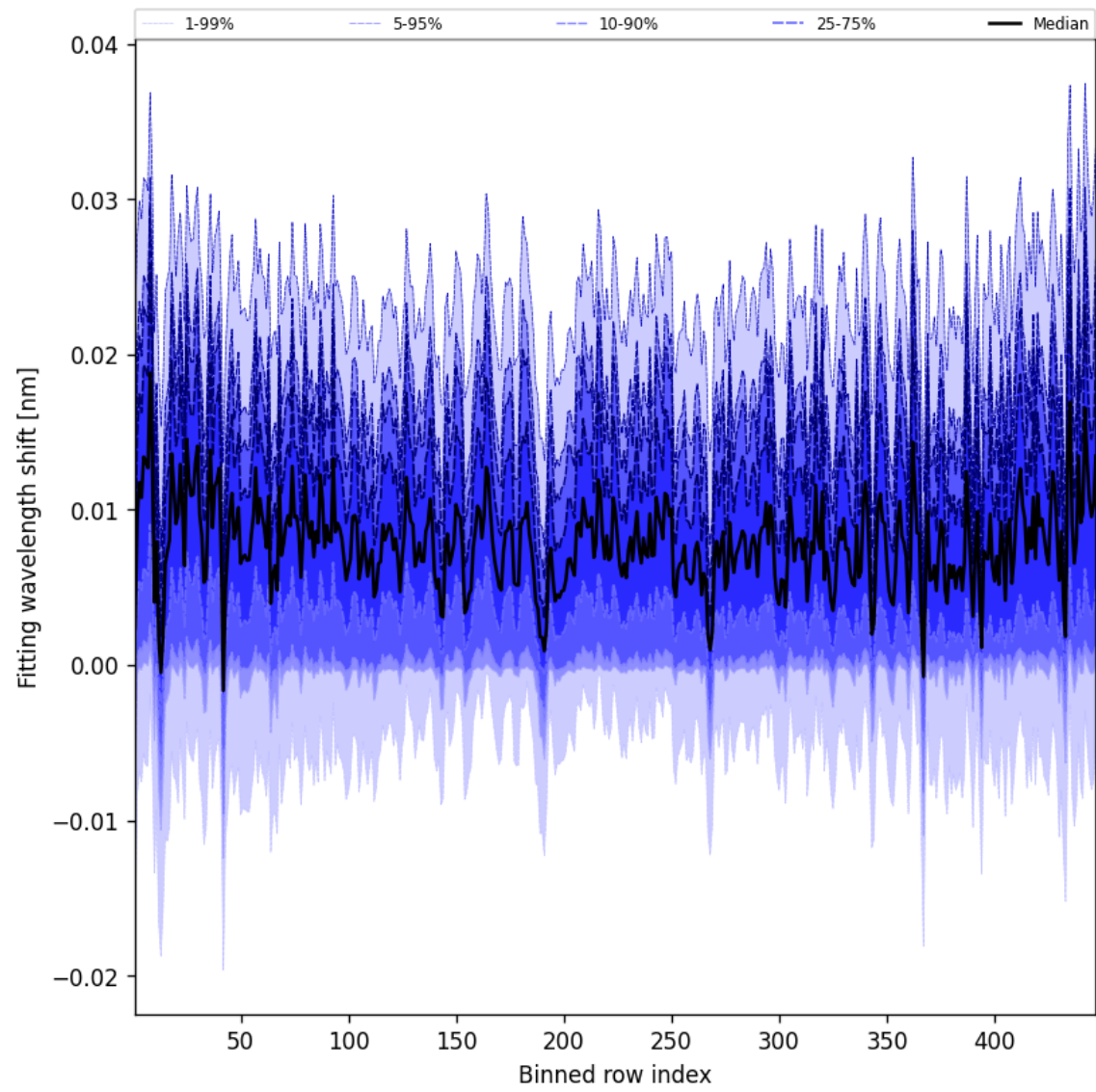


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-05 to 2025-09-06

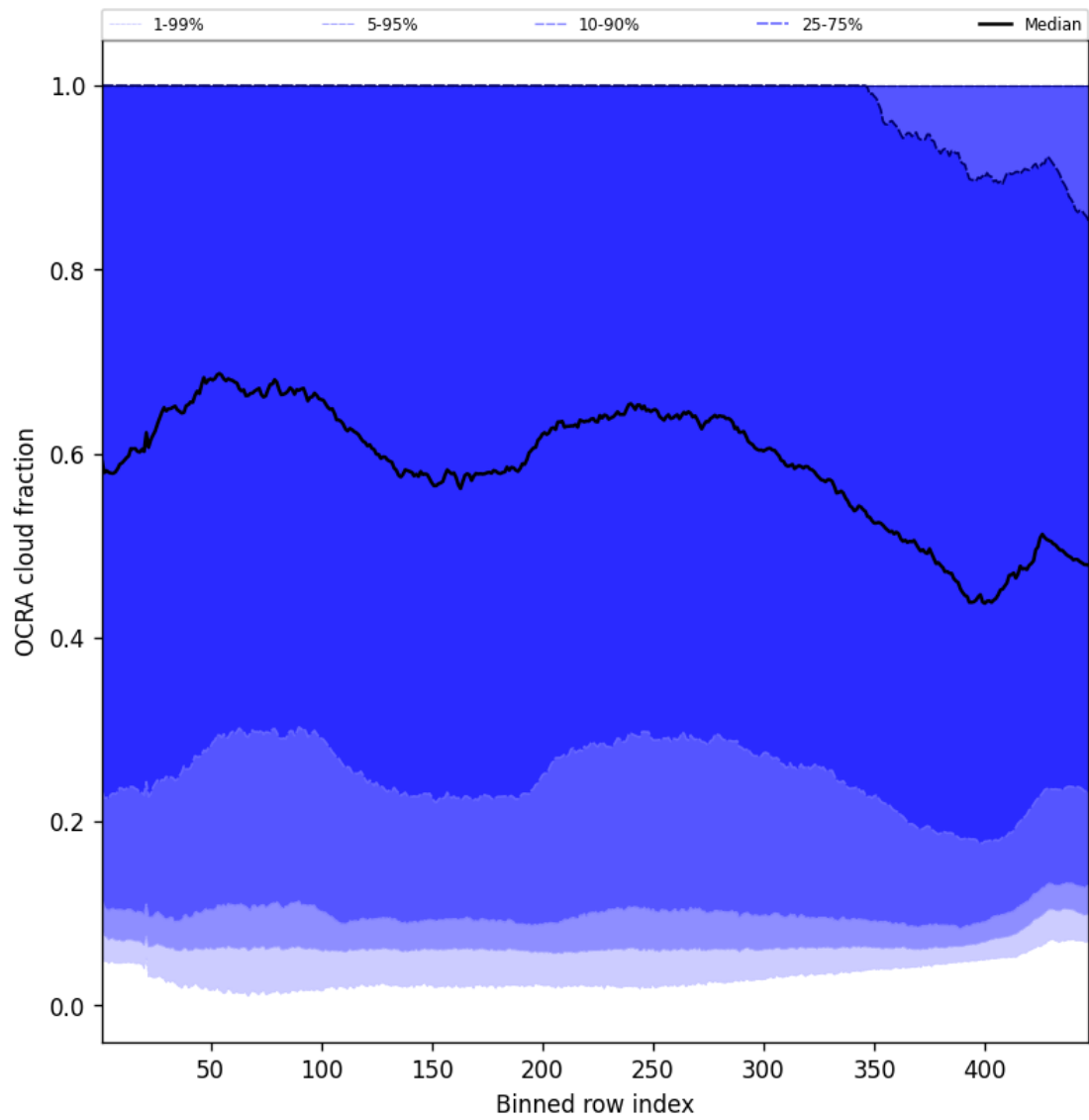


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-05 to 2025-09-06

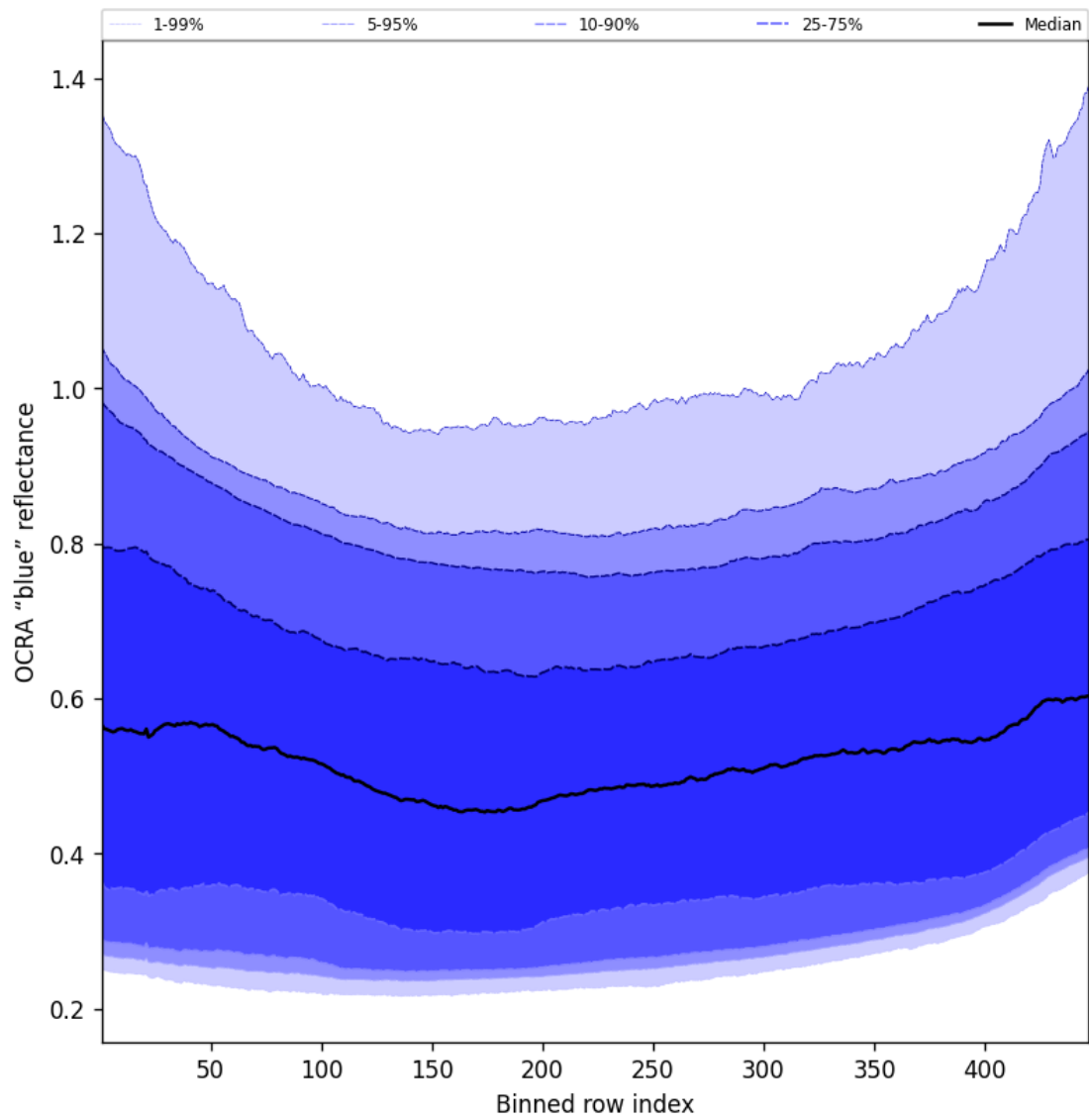


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-05 to 2025-09-06

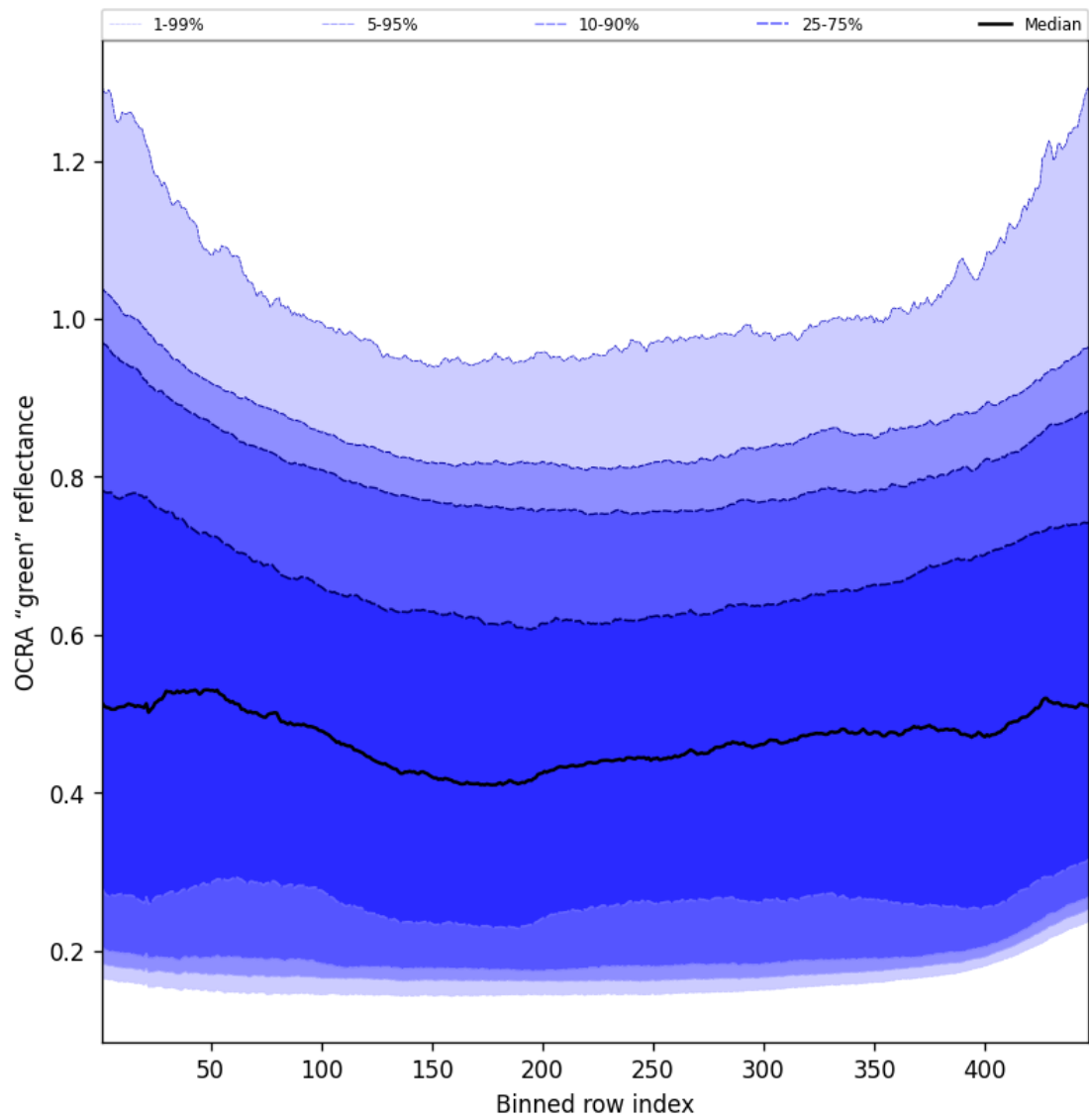


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-05 to 2025-09-06

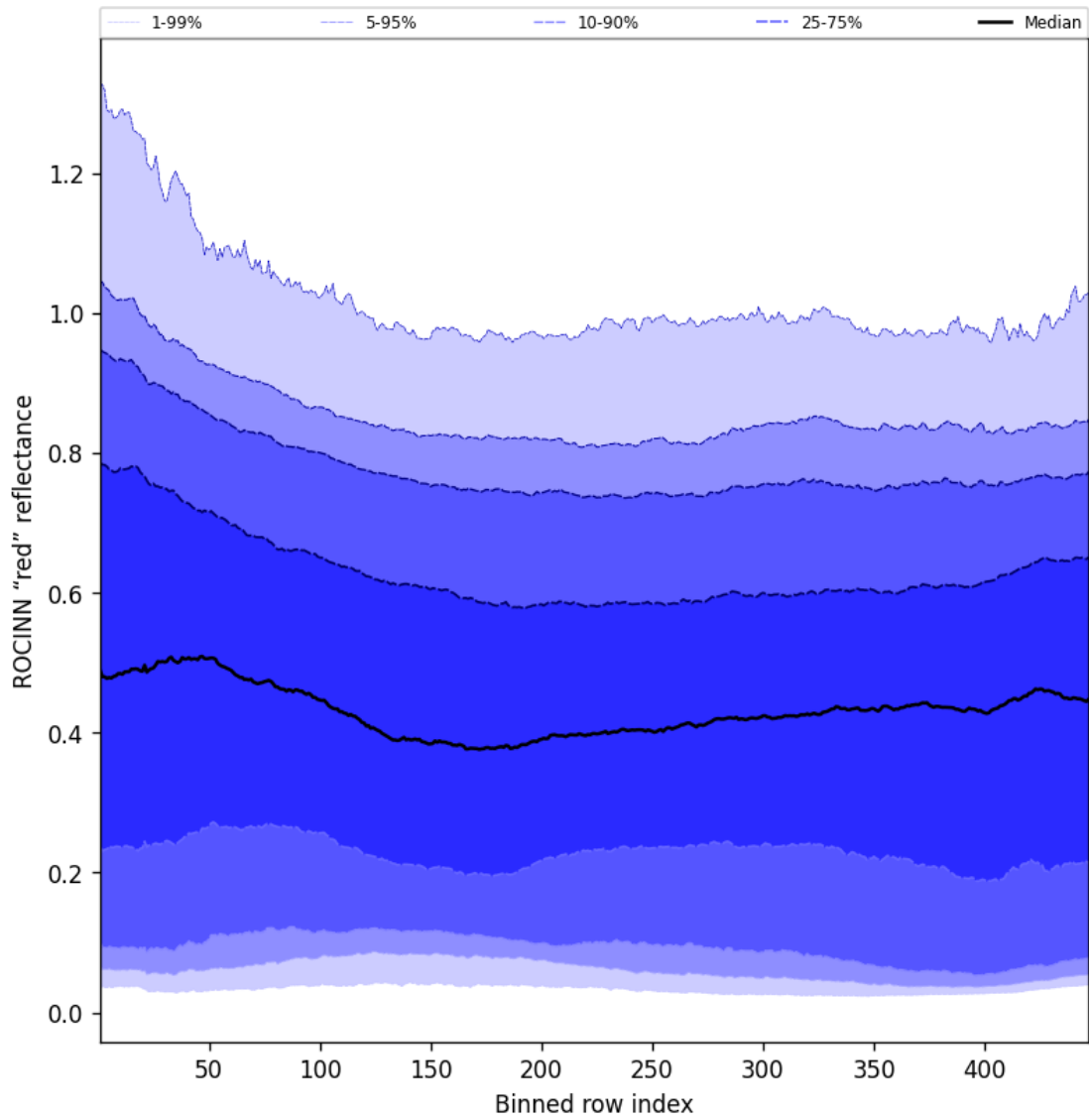


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-09-05 to 2025-09-06

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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