

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-20 (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]	0.645 ± 0.375	18730724	0.995	0.600	0.850	0.0	1.000
cloud fraction [1]	0.563 ± 0.344	18730724	0.995	0.723	0.537	5.432×10^{-3}	1.000
cloud top height [m]	$(0.394 \pm 0.280) \times 10^4$	18730724	1.575×10^3	3.692×10^3	3.263×10^3	0.0	2.000×10^4
cloud optical thickness [1]	23.8 ± 45.2	18730724	9.77	11.7	10.1	1.000	250
cloud fraction crb [1]	0.562 ± 0.344	18730724	0.995	0.723	0.535	8.417×10^{-3}	1.000
cloud height crb [m]	$(0.314 \pm 0.237) \times 10^4$	18730724	975	3.215×10^3	2.615×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.589 ± 0.206	18730724	0.995	0.248	0.567	0.0	1.000
surface albedo fitted [1]	0.197 ± 0.254	18730724	2.500×10^{-2}	0.238	5.544×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.186 ± 0.241	18730724	1.500×10^{-2}	0.240	4.553×10^{-2}	0.0	1.000
fitted root mean square [1]	$(5.875 \pm 7.062) \times 10^{-4}$	18730724	5.000×10^{-5}	6.881×10^{-4}	3.596×10^{-4}	1.073×10^{-6}	0.128
fitted root mean square crb [1]	$(5.056 \pm 6.383) \times 10^{-4}$	18730724	5.000×10^{-5}	5.971×10^{-4}	2.625×10^{-4}	1.008×10^{-6}	5.108×10^{-2}
wavelength shift [nm]	$(8.344 \pm 7.076) \times 10^{-3}$	18730724	9.000×10^{-4}	1.005×10^{-2}	7.737×10^{-3}	-4.742×10^{-2}	6.378×10^{-2}
cloud fraction apriori [1]	0.567 ± 0.349	18730724	0.995	0.765	0.545	0.0	1.000
reflectance blue ocra [1]	0.548 ± 0.224	18730724	0.275	0.369	0.516	0.116	2.00
reflectance green ocra [1]	0.494 ± 0.250	18730724	0.175	0.434	0.464	7.635×10^{-2}	2.00
reflectance continuum aband [1]	0.447 ± 0.271	18730724	4.500×10^{-2}	0.433	0.431	1.312×10^{-2}	4.20

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	0.360	0.960	1.000	1.000	1.000	1.000
cloud fraction [1]	2.682×10^{-2}	6.883×10^{-2}	0.105	0.152	0.240	0.963	1.000	1.000	1.000	1.000
cloud top height [m]	263	723	1.042×10^3	1.350×10^3	1.766×10^3	5.458×10^3	6.763×10^3	7.934×10^3	9.415×10^3	1.234×10^4
cloud optical thickness [1]	1.05	2.92	4.01	4.96	6.31	18.0	28.3	45.1	96.6	250
cloud fraction crb [1]	2.628×10^{-2}	6.801×10^{-2}	0.105	0.152	0.239	0.962	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	342	615	871	1.235×10^3	4.450×10^3	5.582×10^3	6.648×10^3	7.902×10^3	9.932×10^3
cloud albedo crb [1]	6.013×10^{-2}	0.250	0.356	0.418	0.465	0.713	0.802	0.890	1.000	1.000
surface albedo fitted [1]	0.0	9.266×10^{-3}	1.466×10^{-2}	1.931×10^{-2}	2.618×10^{-2}	0.264	0.514	0.660	0.768	0.939
surface albedo fitted crb [1]	0.0	7.146×10^{-3}	1.089×10^{-2}	1.448×10^{-2}	1.996×10^{-2}	0.260	0.500	0.623	0.710	0.875
fitted root mean square [1]	1.468×10^{-5}	2.920×10^{-5}	4.729×10^{-5}	7.386×10^{-5}	1.248×10^{-4}	8.128×10^{-4}	1.110×10^{-3}	1.414×10^{-3}	1.888×10^{-3}	3.059×10^{-3}
fitted root mean square crb [1]	7.591×10^{-6}	1.796×10^{-5}	3.198×10^{-5}	5.046×10^{-5}	8.597×10^{-5}	6.830×10^{-4}	9.932×10^{-4}	1.315×10^{-3}	1.807×10^{-3}	2.924×10^{-3}
wavelength shift [nm]	-6.857×10^{-3}	-5.213×10^{-4}	2.886×10^{-4}	1.240×10^{-3}	2.955×10^{-3}	1.300×10^{-2}	1.548×10^{-2}	1.762×10^{-2}	2.049×10^{-2}	2.676×10^{-2}
cloud fraction apriori [1]	2.948×10^{-2}	6.503×10^{-2}	9.891×10^{-2}	0.145	0.235	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.255	0.279	0.308	0.355	0.724	0.792	0.844	0.915	1.12
reflectance green ocra [1]	0.150	0.171	0.190	0.215	0.263	0.698	0.775	0.830	0.903	1.07
reflectance continuum aband [1]	3.032×10^{-2}	5.365×10^{-2}	8.757×10^{-2}	0.135	0.221	0.654	0.740	0.804	0.886	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]	0.644 ± 0.378	10091752	0.620	0.850	0.0	1.000	0.340	0.960
cloud fraction [1]	0.585 ± 0.349	10091752	0.747	0.584	5.432×10^{-3}	1.000	0.247	0.994
cloud top height [m]	$(0.404 \pm 0.263) \times 10^4$	10091752	3.598×10^3	3.506×10^3	0.0	2.000×10^4	1.960×10^3	5.557×10^3
cloud optical thickness [1]	21.1 ± 37.1	10091752	11.9	9.88	1.000	250	6.25	18.2
cloud fraction crb [1]	0.584 ± 0.350	10091752	0.748	0.582	8.486×10^{-3}	1.000	0.246	0.994
cloud height crb [m]	$(0.329 \pm 0.228) \times 10^4$	10091752	3.134×10^3	2.901×10^3	0.0	2.000×10^4	1.441×10^3	4.575×10^3
cloud albedo crb [1]	0.570 ± 0.197	10091752	0.241	0.559	0.0	1.000	0.454	0.695
surface albedo fitted [1]	0.173 ± 0.208	10091752	0.208	7.502×10^{-2}	0.0	1.000	2.783×10^{-2}	0.236
surface albedo fitted crb [1]	0.166 ± 0.205	10091752	0.211	6.164×10^{-2}	0.0	1.000	2.134×10^{-2}	0.232
fitted root mean square [1]	$(5.786 \pm 7.537) \times 10^{-4}$	10091752	6.689×10^{-4}	3.048×10^{-4}	1.073×10^{-6}	0.128	1.122×10^{-4}	7.811×10^{-4}
fitted root mean square crb [1]	$(5.253 \pm 7.011) \times 10^{-4}$	10091752	6.493×10^{-4}	2.336×10^{-4}	1.008×10^{-6}	5.108×10^{-2}	7.159×10^{-5}	7.209×10^{-4}
wavelength shift [nm]	$(7.792 \pm 6.947) \times 10^{-3}$	10091752	9.727×10^{-3}	6.986×10^{-3}	-4.742×10^{-2}	6.086×10^{-2}	2.495×10^{-3}	1.222×10^{-2}
cloud fraction apriori [1]	0.590 ± 0.355	10091752	0.758	0.595	0.0	1.000	0.242	1.000
reflectance blue oca [1]	0.530 ± 0.216	10091752	0.342	0.496	0.116	2.00	0.347	0.689
reflectance green oca [1]	0.475 ± 0.241	10091752	0.406	0.441	7.635×10^{-2}	1.92	0.256	0.662
reflectance continuum aband [1]	0.436 ± 0.262	10091752	0.399	0.412	1.312×10^{-2}	3.86	0.225	0.624

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]	0.645 ± 0.372	8638972	0.570	0.830	0.0	1.000	0.400	0.970
cloud fraction [1]	0.537 ± 0.335	8638972	0.666	0.491	8.165×10^{-3}	1.000	0.234	0.900
cloud top height [m]	$(0.382 \pm 0.299) \times 10^4$	8638972	3.734×10^3	2.941×10^3	0.0	2.000×10^4	1.590×10^3	5.323×10^3
cloud optical thickness [1]	27.0 ± 52.9	8638972	11.4	10.4	1.000	250	6.39	17.8
cloud fraction crb [1]	0.536 ± 0.335	8638972	0.665	0.489	8.417×10^{-3}	1.000	0.233	0.898
cloud height crb [m]	$(0.296 \pm 0.246) \times 10^4$	8638972	3.216×10^3	2.235×10^3	0.0	2.000×10^4	1.057×10^3	4.273×10^3
cloud albedo crb [1]	0.610 ± 0.213	8638972	0.263	0.577	0.0	1.000	0.477	0.740
surface albedo fitted [1]	0.226 ± 0.295	8638972	0.444	4.547×10^{-2}	0.0	1.000	2.479×10^{-2}	0.469
surface albedo fitted crb [1]	0.208 ± 0.276	8638972	0.429	3.740×10^{-2}	0.0	1.000	1.875×10^{-2}	0.448
fitted root mean square [1]	$(5.978 \pm 6.460) \times 10^{-4}$	8638972	6.909×10^{-4}	4.211×10^{-4}	1.952×10^{-6}	5.708×10^{-2}	1.491×10^{-4}	8.399×10^{-4}
fitted root mean square crb [1]	$(4.826 \pm 5.552) \times 10^{-4}$	8638972	5.426×10^{-4}	2.897×10^{-4}	2.352×10^{-6}	1.622×10^{-2}	1.074×10^{-4}	6.499×10^{-4}
wavelength shift [nm]	$(8.988 \pm 7.171) \times 10^{-3}$	8638972	1.020×10^{-2}	8.664×10^{-3}	-4.387×10^{-2}	6.378×10^{-2}	3.582×10^{-3}	1.378×10^{-2}
cloud fraction apriori [1]	0.541 ± 0.341	8638972	0.697	0.496	0.0	1.000	0.228	0.925
reflectance blue ocra [1]	0.569 ± 0.231	8638972	0.396	0.544	0.131	2.00	0.366	0.762
reflectance green ocra [1]	0.516 ± 0.258	8638972	0.463	0.496	9.223×10^{-2}	2.00	0.273	0.736
reflectance continuum aband [1]	0.460 ± 0.281	8638972	0.467	0.461	1.331×10^{-2}	4.20	0.215	0.682

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]	0.663 ± 0.360	12916501	0.560	0.850	0.0	1.000	0.400	0.960
cloud fraction [1]	0.568 ± 0.344	12916501	0.721	0.556	8.165×10^{-3}	1.000	0.240	0.961
cloud top height [m]	$(0.363 \pm 0.257) \times 10^4$	12916501	3.332×10^3	2.974×10^3	0.0	2.000×10^4	1.648×10^3	4.980×10^3
cloud optical thickness [1]	24.4 ± 44.6	12916501	11.9	10.8	1.000	250	7.14	19.1
cloud fraction crb [1]	0.566 ± 0.344	12916501	0.721	0.553	8.457×10^{-3}	1.000	0.239	0.960
cloud height crb [m]	$(0.291 \pm 0.226) \times 10^4$	12916501	3.020×10^3	2.363×10^3	0.0	2.000×10^4	1.105×10^3	4.125×10^3
cloud albedo crb [1]	0.566 ± 0.191	12916501	0.220	0.548	0.0	1.000	0.457	0.677
surface albedo fitted [1]	0.124 ± 0.215	12916501	4.193×10^{-2}	3.452×10^{-2}	0.0	1.000	2.047×10^{-2}	6.239×10^{-2}
surface albedo fitted crb [1]	0.114 ± 0.207	12916501	3.618×10^{-2}	2.701×10^{-2}	0.0	1.000	1.537×10^{-2}	5.155×10^{-2}
fitted root mean square [1]	$(5.093 \pm 6.425) \times 10^{-4}$	12916501	6.047×10^{-4}	2.673×10^{-4}	1.073×10^{-6}	5.708×10^{-2}	9.207×10^{-5}	6.968×10^{-4}
fitted root mean square crb [1]	$(4.497 \pm 6.041) \times 10^{-4}$	12916501	5.205×10^{-4}	2.013×10^{-4}	1.008×10^{-6}	5.108×10^{-2}	6.786×10^{-5}	5.883×10^{-4}
wavelength shift [nm]	$(8.089 \pm 7.275) \times 10^{-3}$	12916501	1.040×10^{-2}	7.264×10^{-3}	-4.742×10^{-2}	6.378×10^{-2}	2.520×10^{-3}	1.292×10^{-2}
cloud fraction apriori [1]	0.570 ± 0.349	12916501	0.766	0.561	0.0	1.000	0.234	1.000
reflectance blue oca [1]	0.531 ± 0.209	12916501	0.338	0.502	0.143	2.00	0.353	0.691
reflectance green oca [1]	0.472 ± 0.235	12916501	0.404	0.445	8.530×10^{-2}	1.91	0.256	0.660
reflectance continuum aband [1]	0.402 ± 0.267	12916501	0.456	0.387	1.312×10^{-2}	4.20	0.153	0.609

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]	0.566 ± 0.418	4159108	0.950	0.710	0.0	1.000	0.0	0.950
cloud fraction [1]	0.510 ± 0.334	4159108	0.653	0.428	6.465×10^{-3}	1.000	0.221	0.875
cloud top height [m]	$(0.509 \pm 0.326) \times 10^4$	4159108	4.329×10^3	4.548×10^3	0.0	2.000×10^4	2.601×10^3	6.930×10^3
cloud optical thickness [1]	21.7 ± 47.9	4159108	8.82	7.79	1.000	250	4.97	13.8
cloud fraction crb [1]	0.510 ± 0.333	4159108	0.652	0.427	8.417×10^{-3}	1.000	0.222	0.874
cloud height crb [m]	$(0.397 \pm 0.258) \times 10^4$	4159108	3.663×10^3	3.471×10^3	0.0	2.000×10^4	1.907×10^3	5.570×10^3
cloud albedo crb [1]	0.659 ± 0.237	4159108	0.351	0.643	0.0	1.000	0.503	0.854
surface albedo fitted [1]	0.421 ± 0.265	4159108	0.479	0.290	0.0	1.000	0.205	0.684
surface albedo fitted crb [1]	0.401 ± 0.240	4159108	0.442	0.288	7.819×10^{-3}	1.000	0.202	0.643
fitted root mean square [1]	$(8.186 \pm 8.050) \times 10^{-4}$	4159108	7.471×10^{-4}	6.278×10^{-4}	2.485×10^{-6}	0.110	3.263×10^{-4}	1.073×10^{-3}
fitted root mean square crb [1]	$(6.532 \pm 7.041) \times 10^{-4}$	4159108	7.054×10^{-4}	4.299×10^{-4}	2.749×10^{-6}	4.480×10^{-2}	1.802×10^{-4}	8.856×10^{-4}
wavelength shift [nm]	$(8.804 \pm 6.462) \times 10^{-3}$	4159108	8.947×10^{-3}	8.463×10^{-3}	-3.227×10^{-2}	5.381×10^{-2}	4.022×10^{-3}	1.297×10^{-2}
cloud fraction apriori [1]	0.520 ± 0.342	4159108	0.712	0.437	0.0	1.000	0.219	0.931
reflectance blue ocra [1]	0.603 ± 0.265	4159108	0.460	0.596	0.116	2.00	0.356	0.815
reflectance green ocra [1]	0.562 ± 0.287	4159108	0.527	0.567	7.635×10^{-2}	2.00	0.278	0.805
reflectance continuum aband [1]	0.569 ± 0.254	4159108	0.419	0.560	1.629×10^{-2}	3.80	0.346	0.765

3 Granule outlines

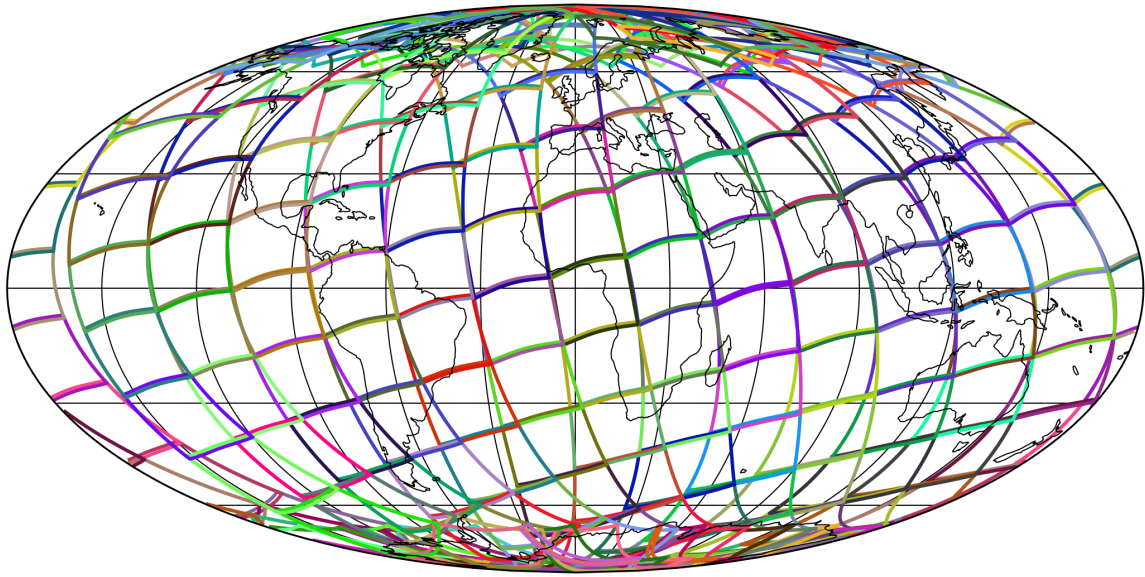


Figure 1: Outline of the granules.

4 Input data monitoring

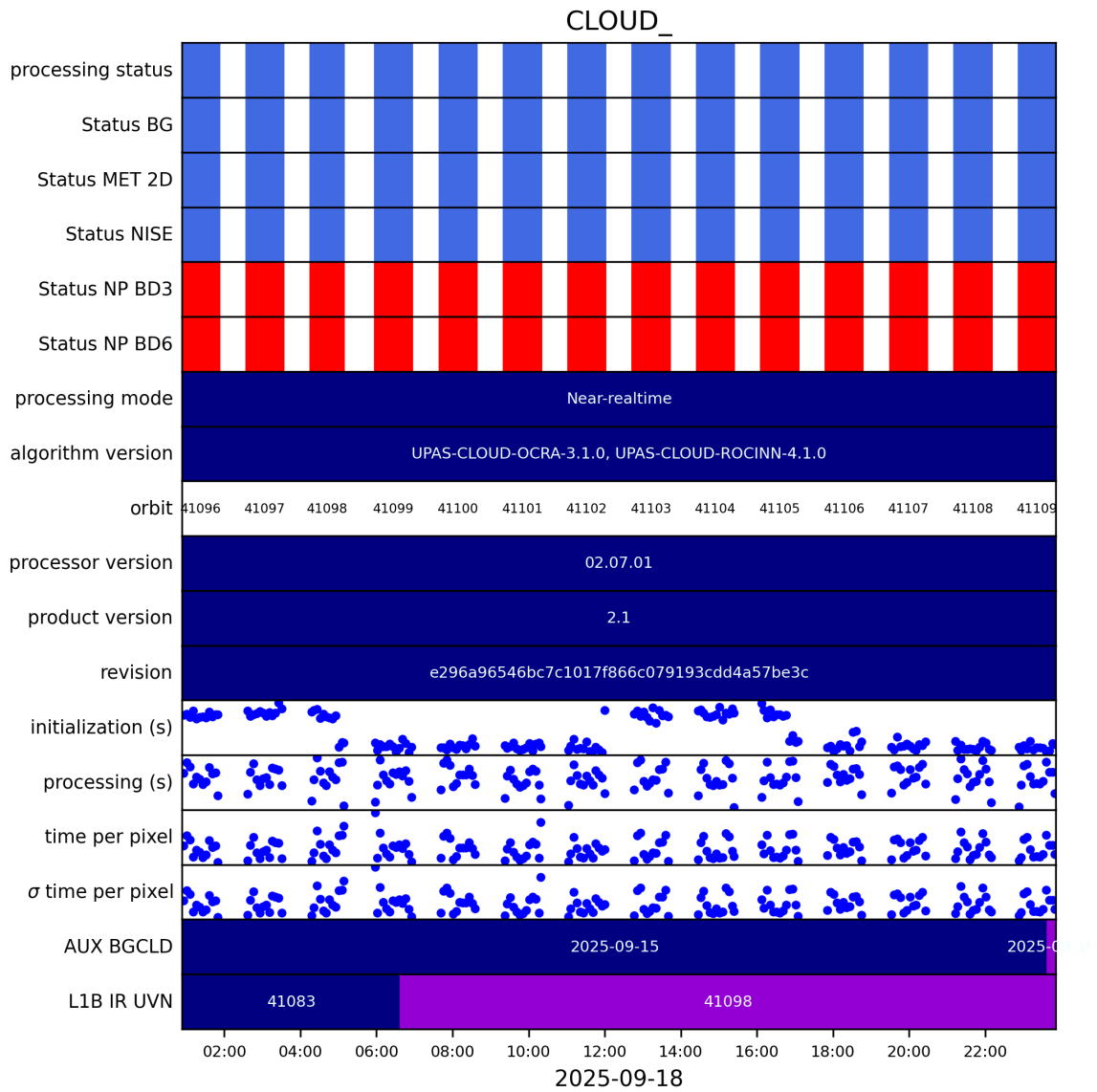


Figure 2: Input data per granule

5 Warnings and errors

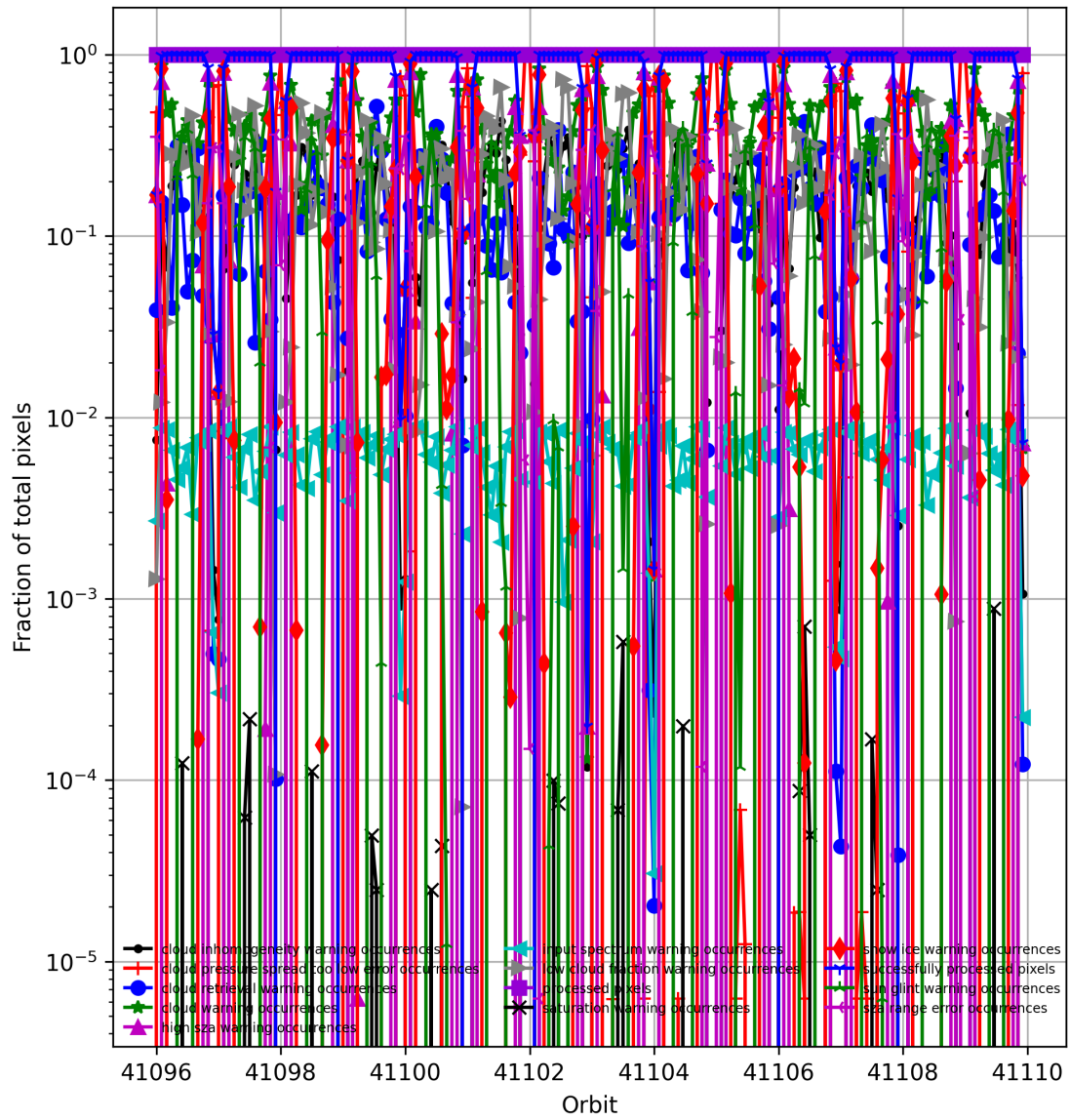


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

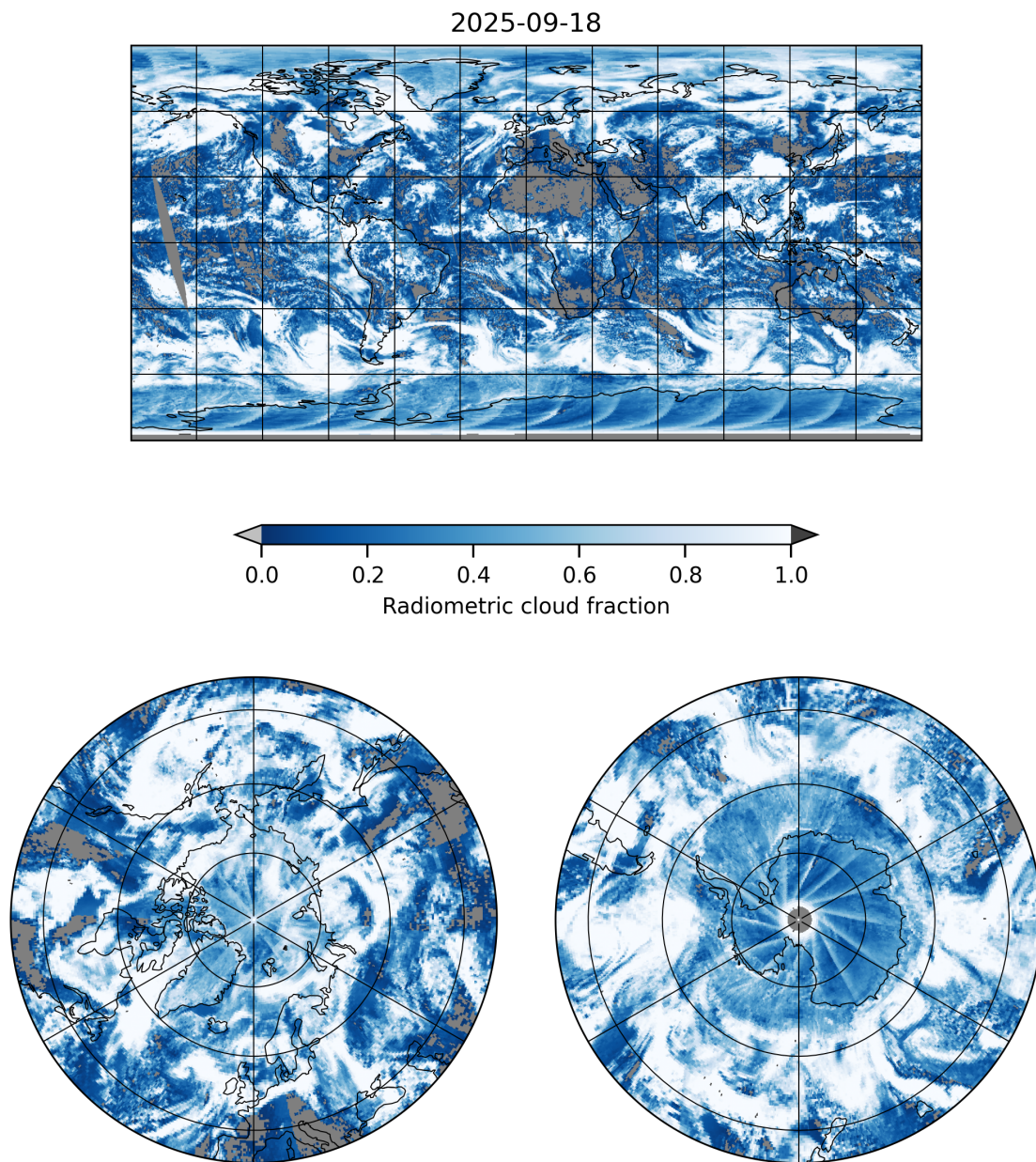


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-18 to 2025-09-18

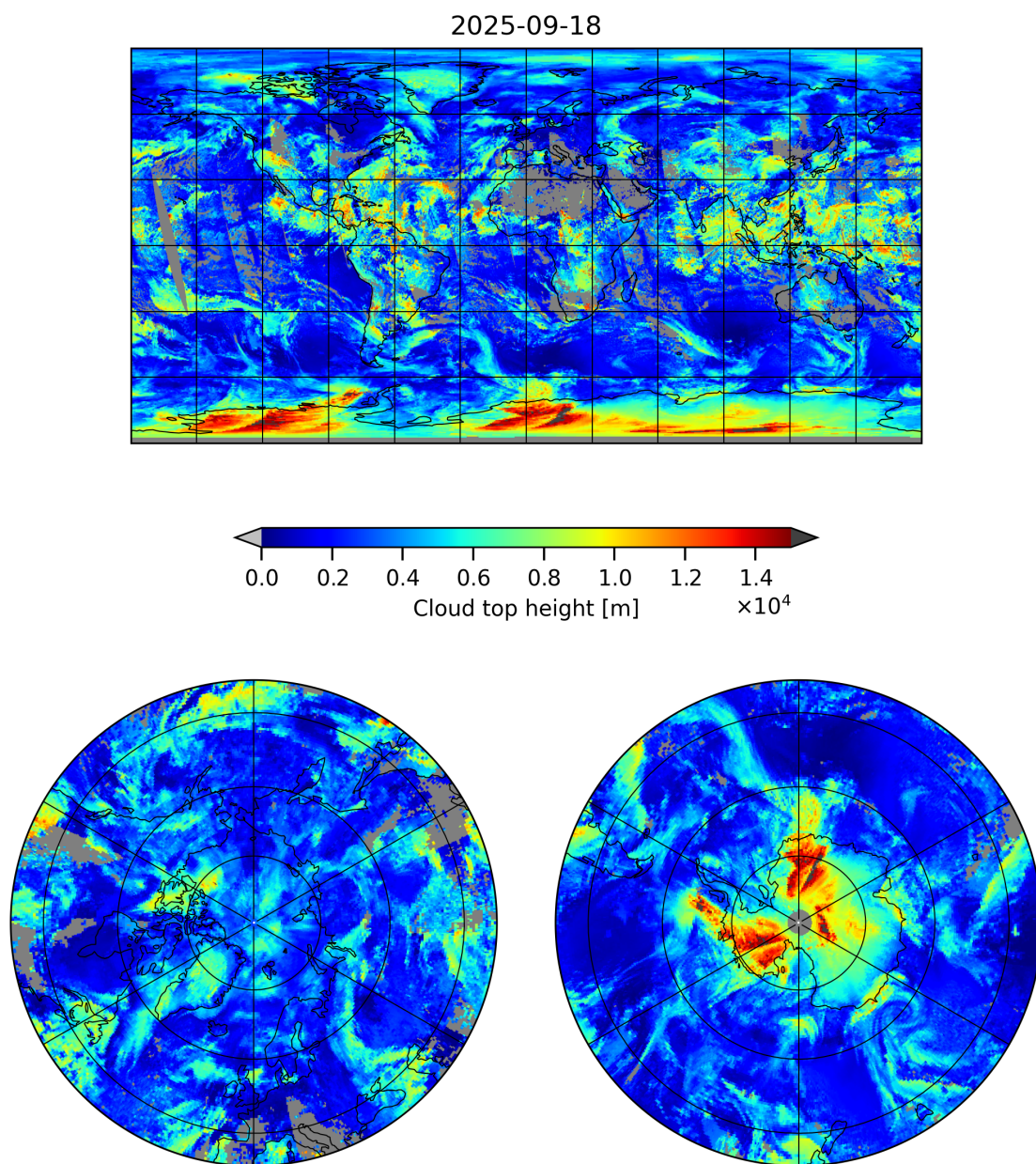


Figure 5: Map of “Cloud top height” for 2025-09-18 to 2025-09-18

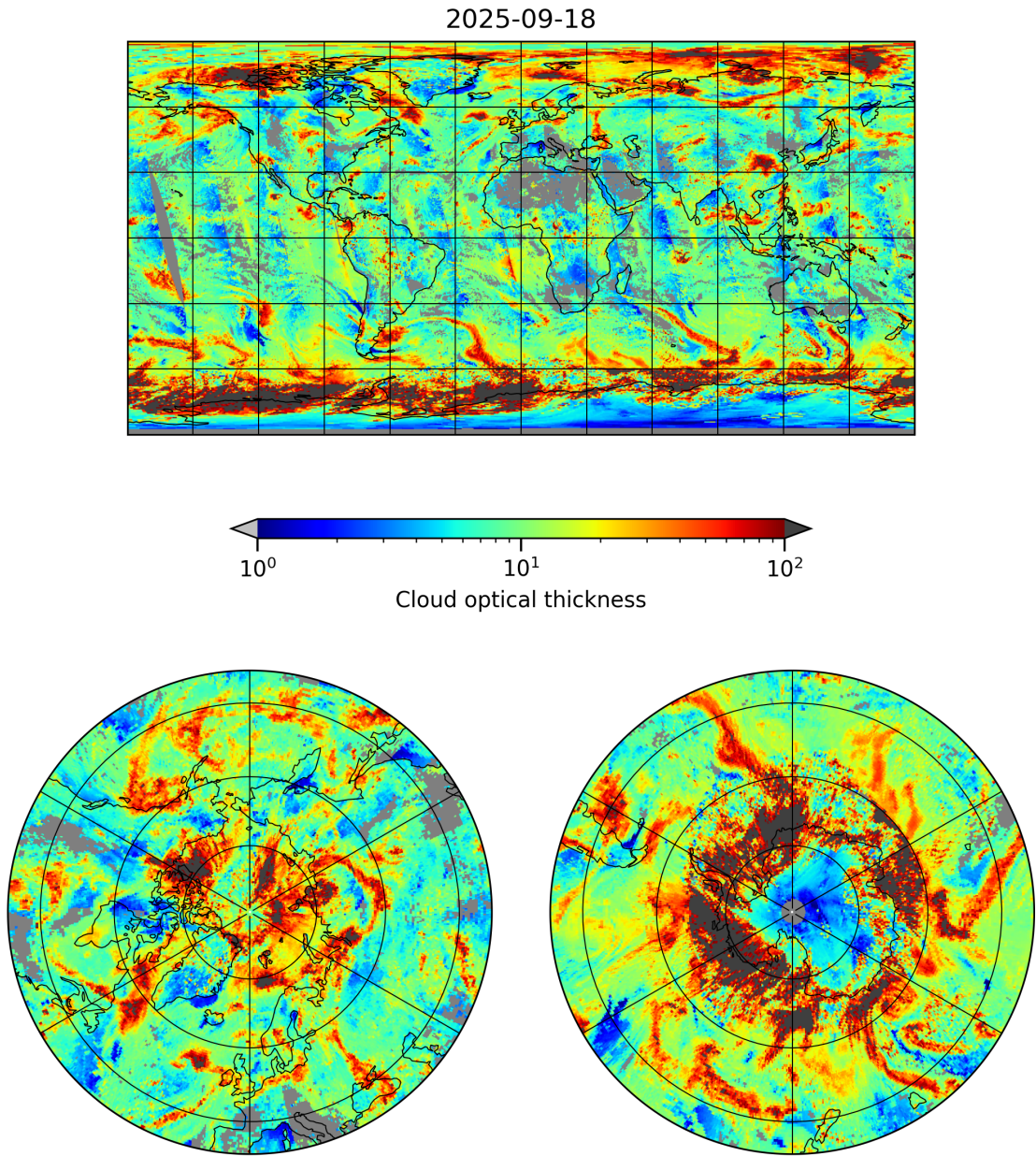


Figure 6: Map of “Cloud optical thickness” for 2025-09-18 to 2025-09-18

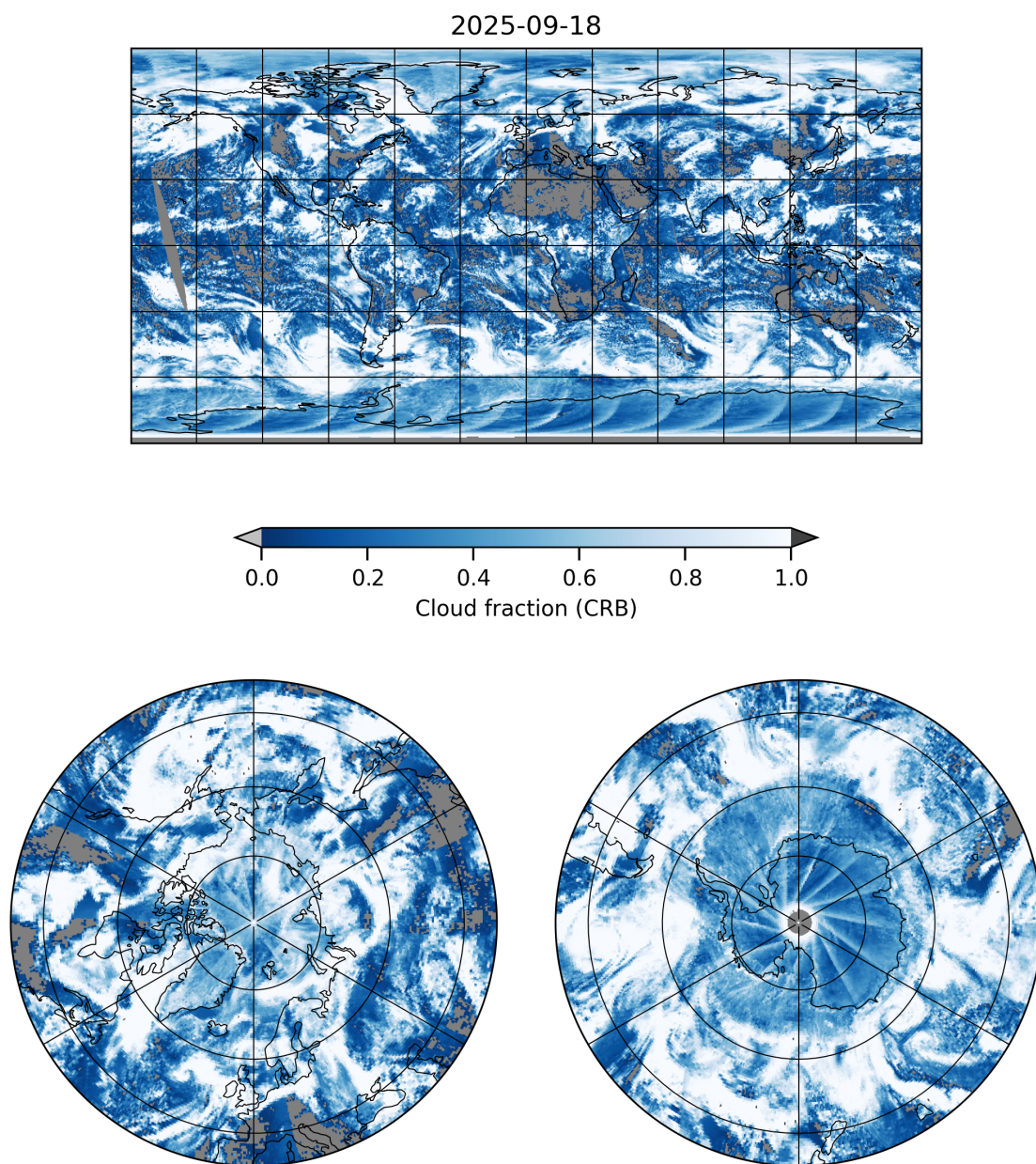


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-18 to 2025-09-18

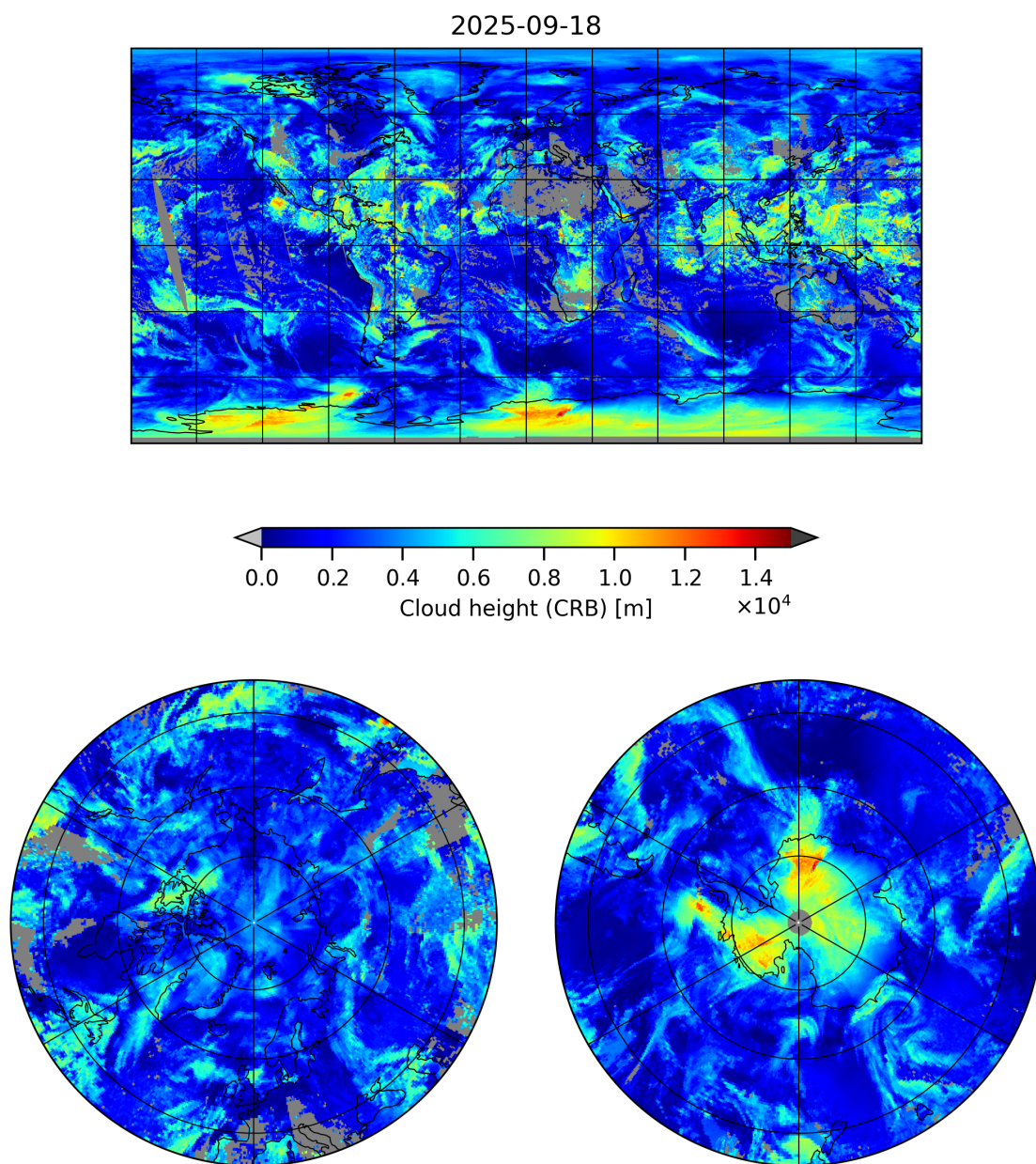


Figure 8: Map of “Cloud height (CRB)” for 2025-09-18 to 2025-09-18

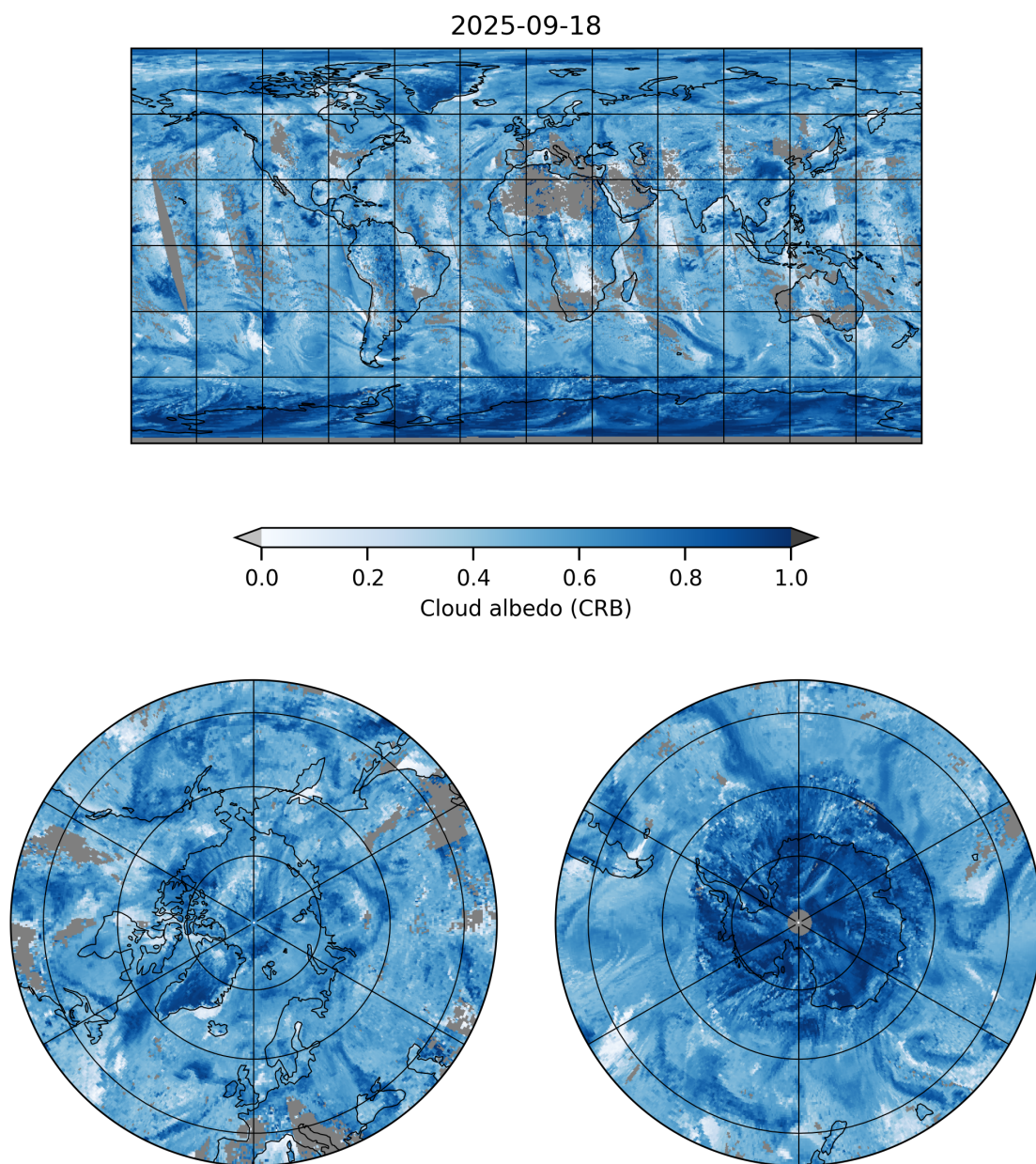


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-18 to 2025-09-18

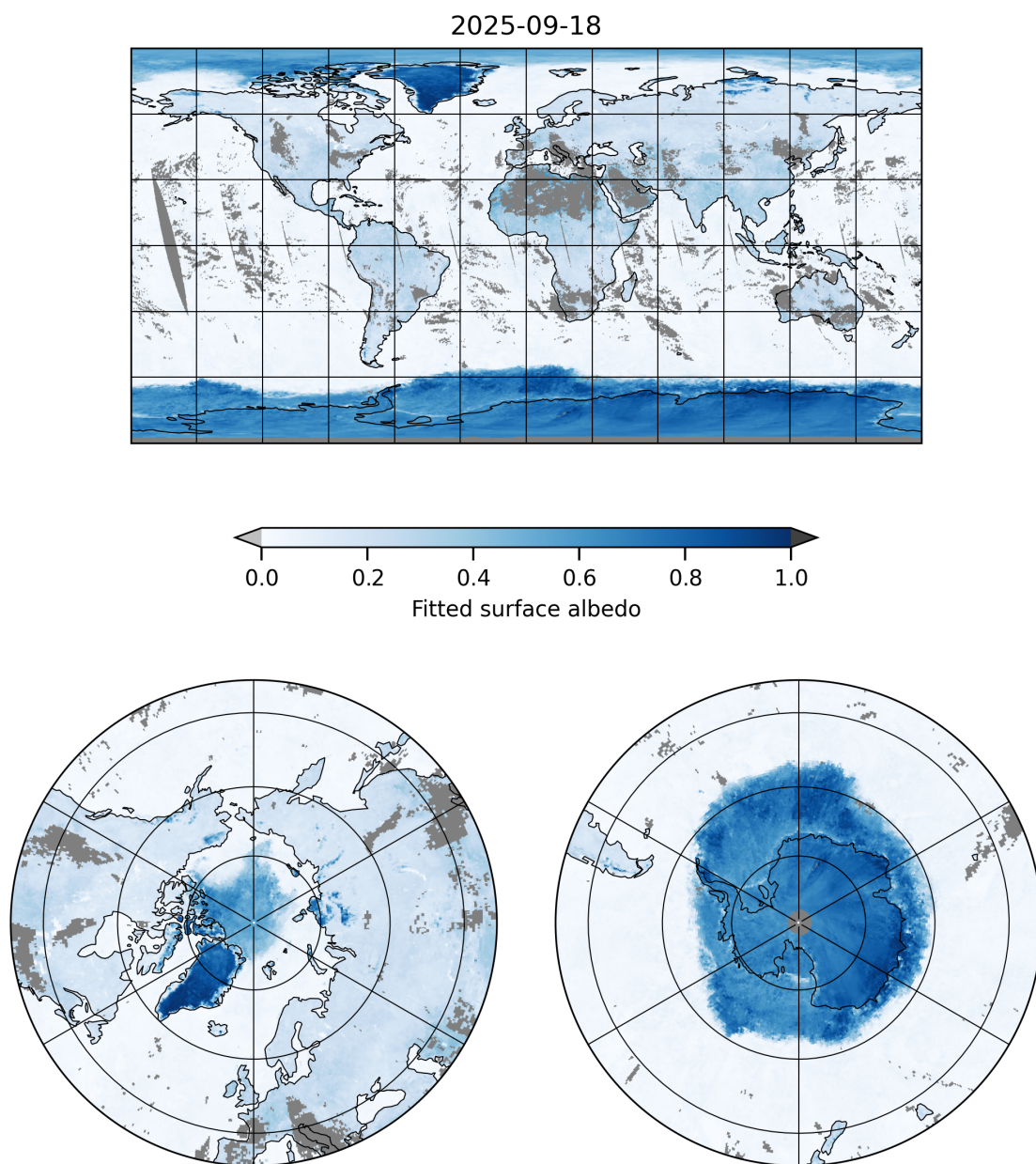


Figure 10: Map of “Fitted surface albedo” for 2025-09-18 to 2025-09-18

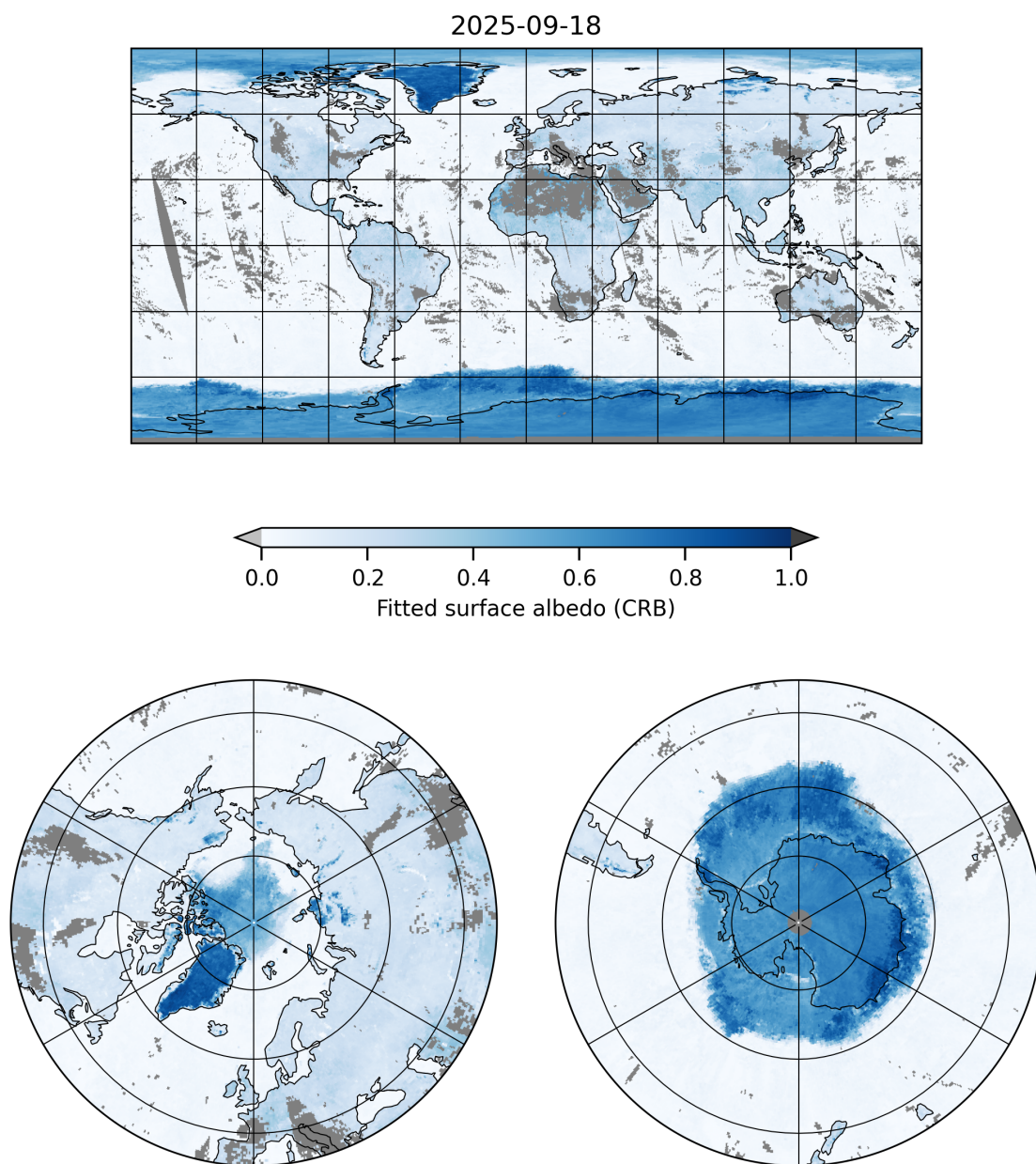


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-18 to 2025-09-18

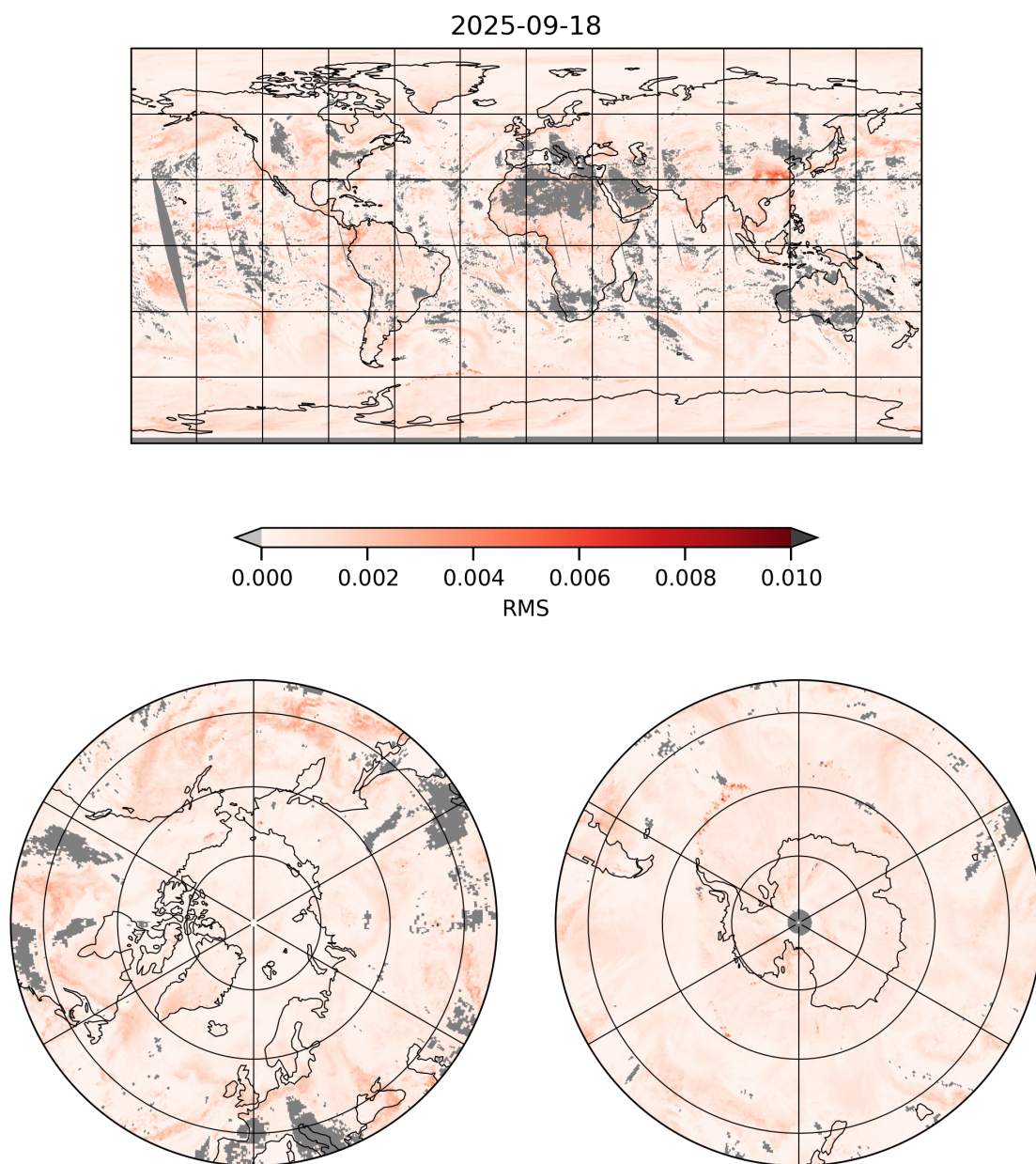


Figure 12: Map of “RMS” for 2025-09-18 to 2025-09-18

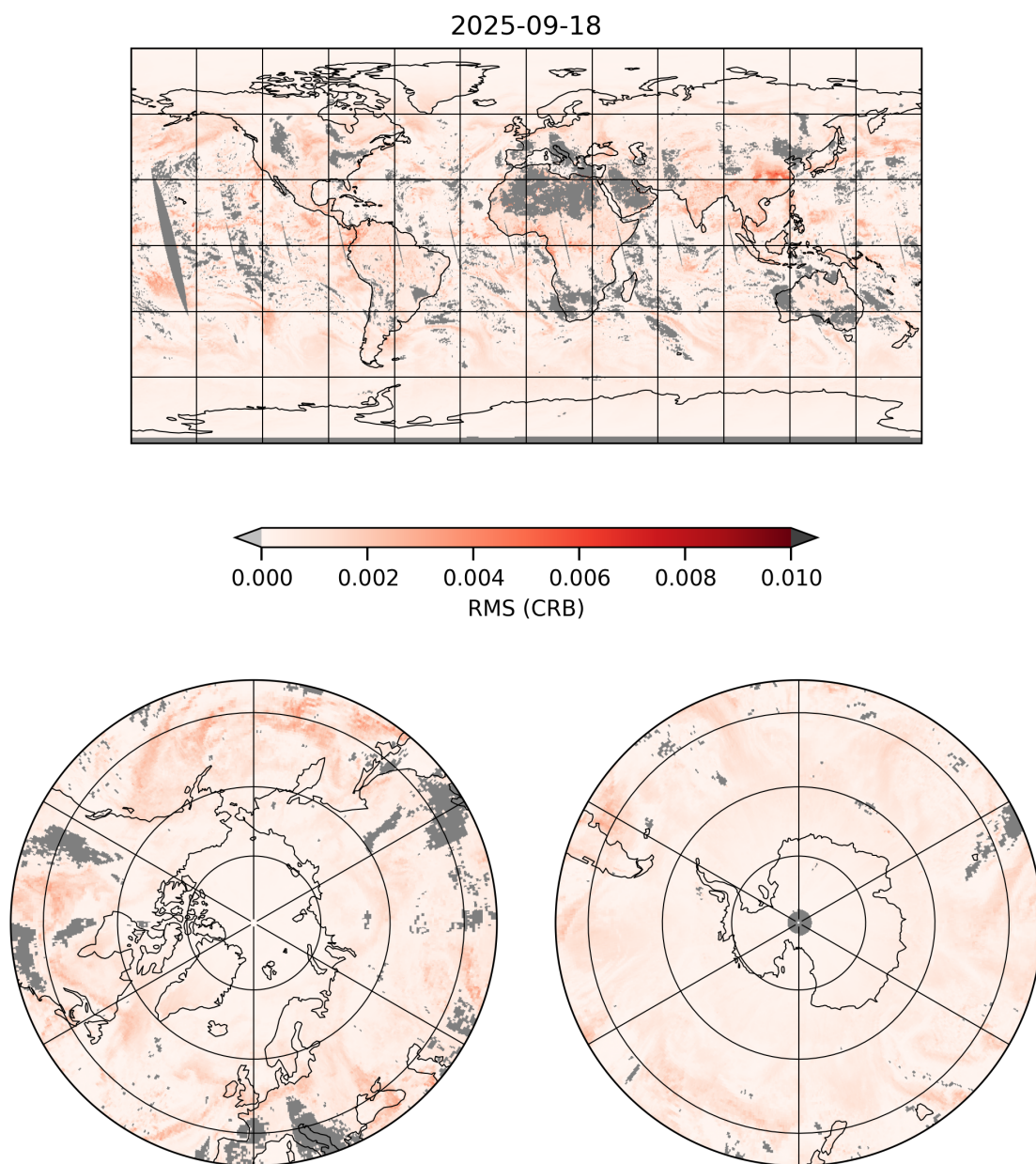


Figure 13: Map of “RMS (CRB)” for 2025-09-18 to 2025-09-18

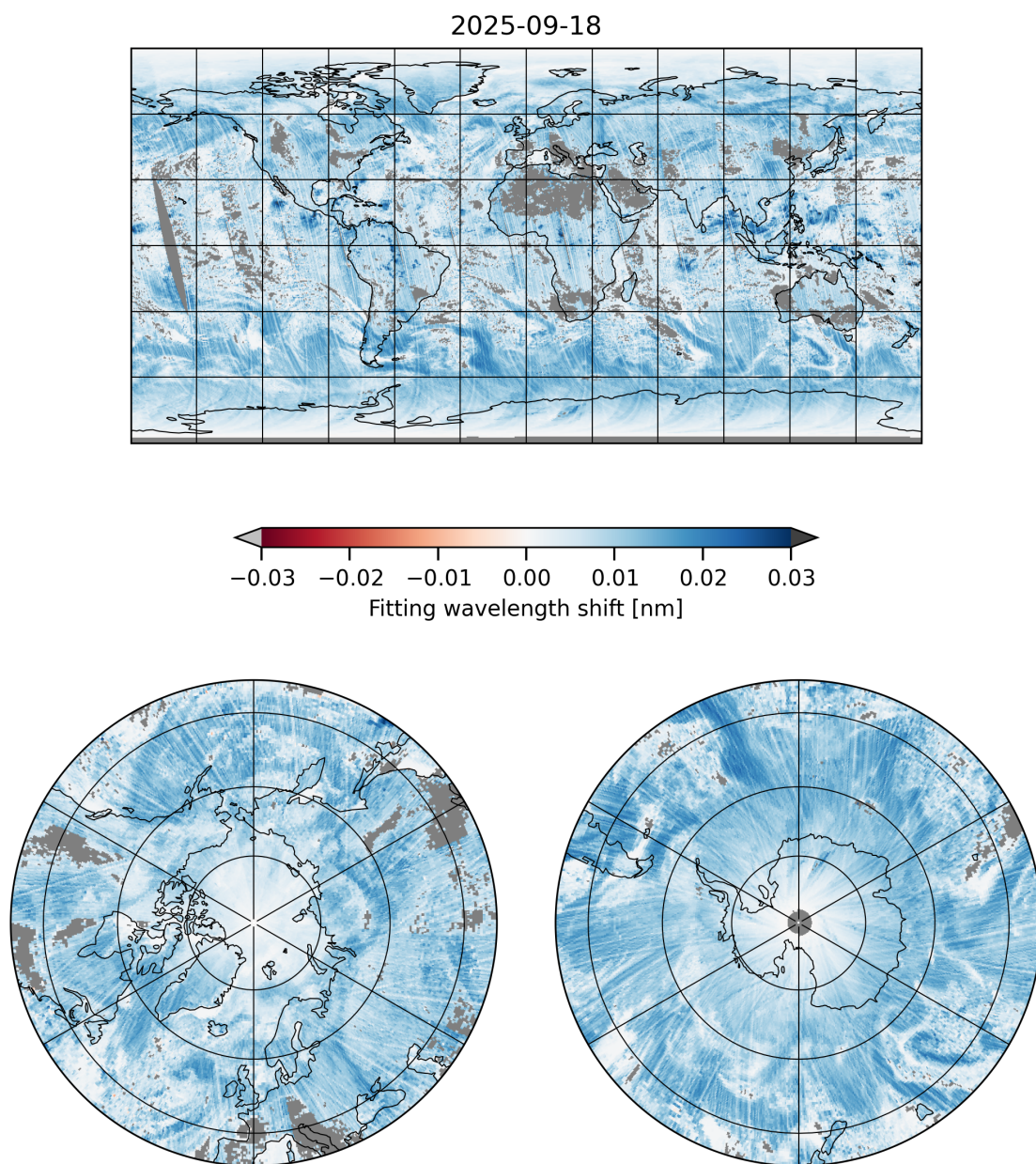


Figure 14: Map of "Fitting wavelength shift" for 2025-09-18 to 2025-09-18

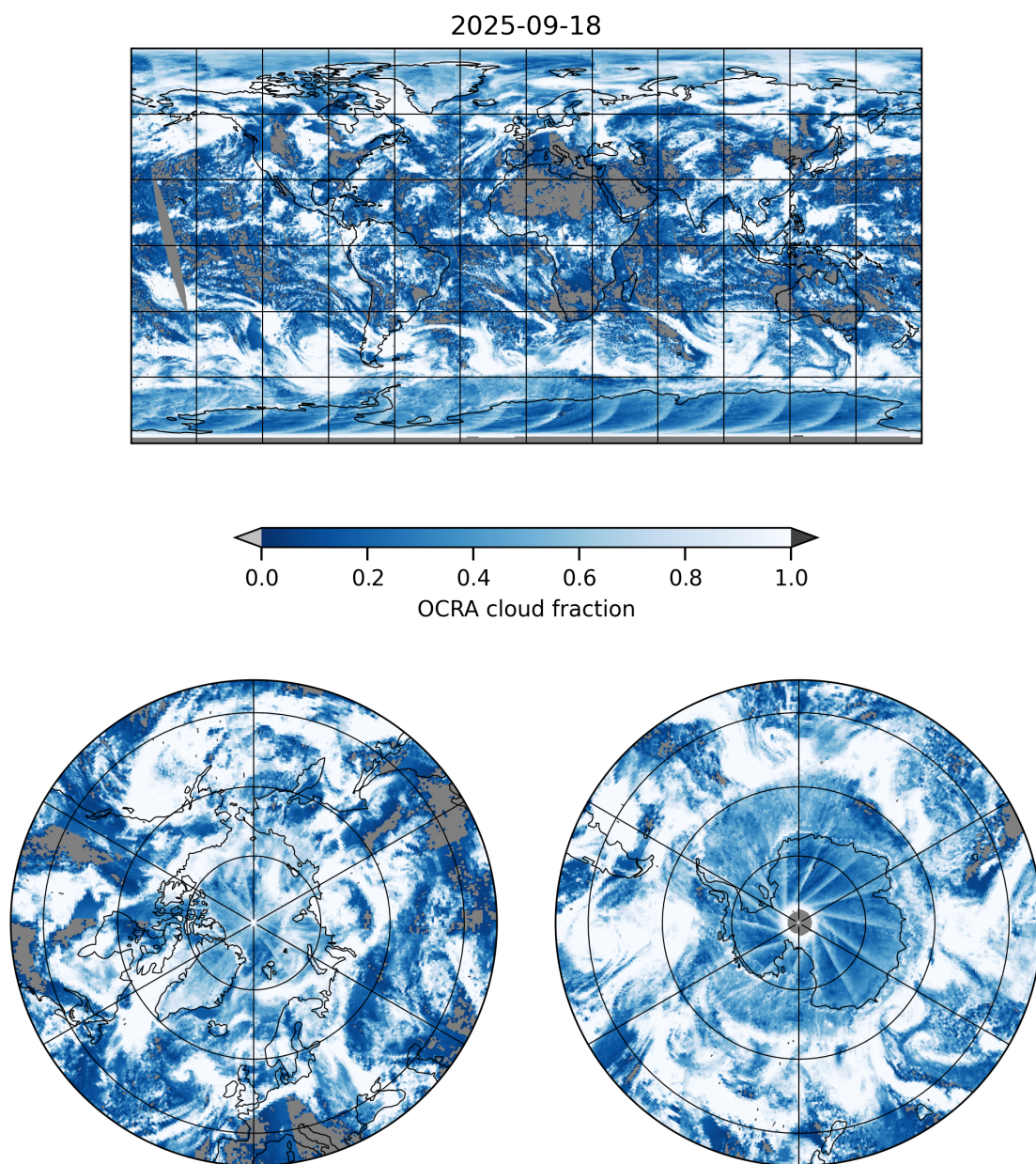


Figure 15: Map of “OCRA cloud fraction” for 2025-09-18 to 2025-09-18

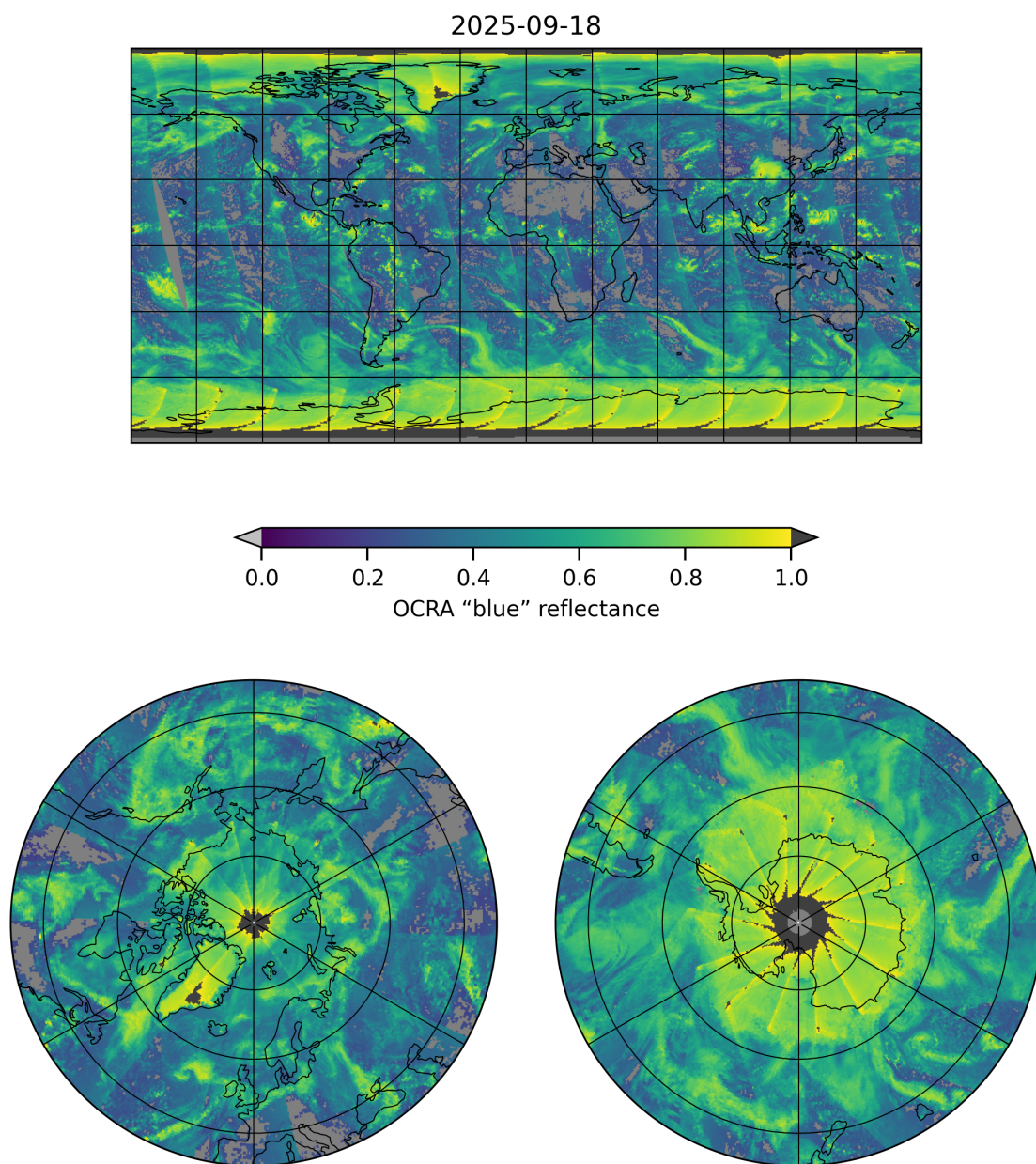


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-18 to 2025-09-18

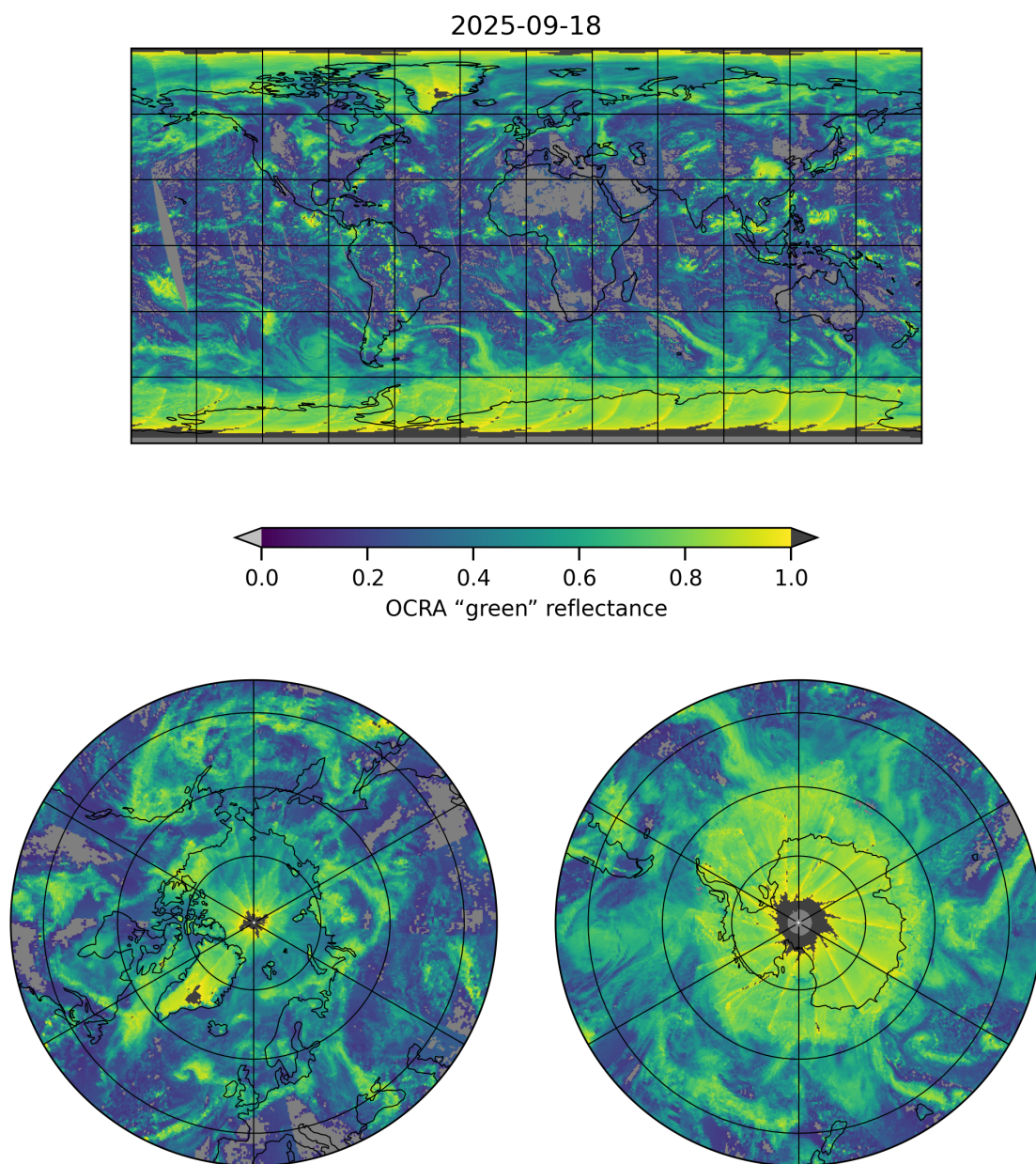


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-18 to 2025-09-18

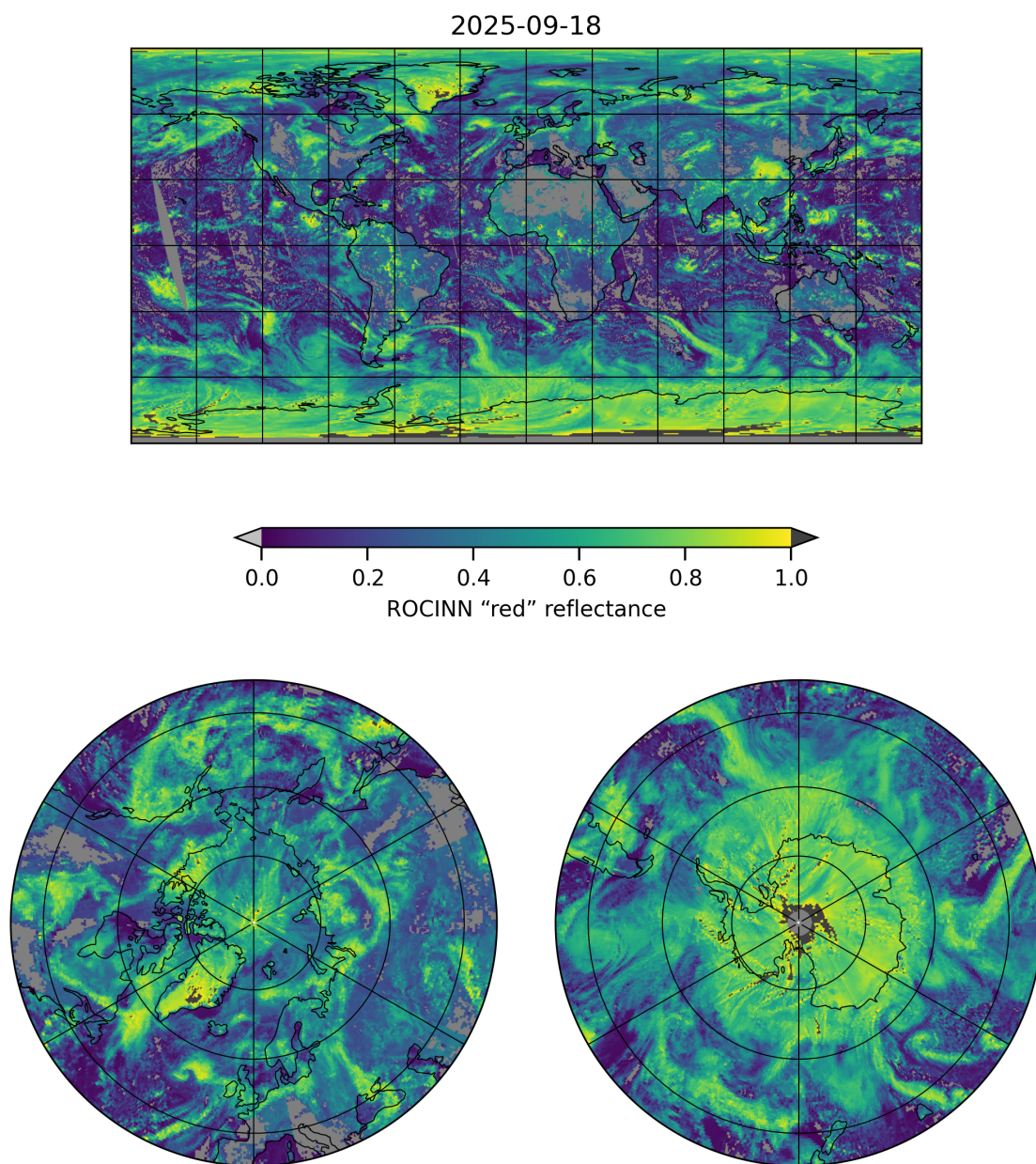


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-18 to 2025-09-18

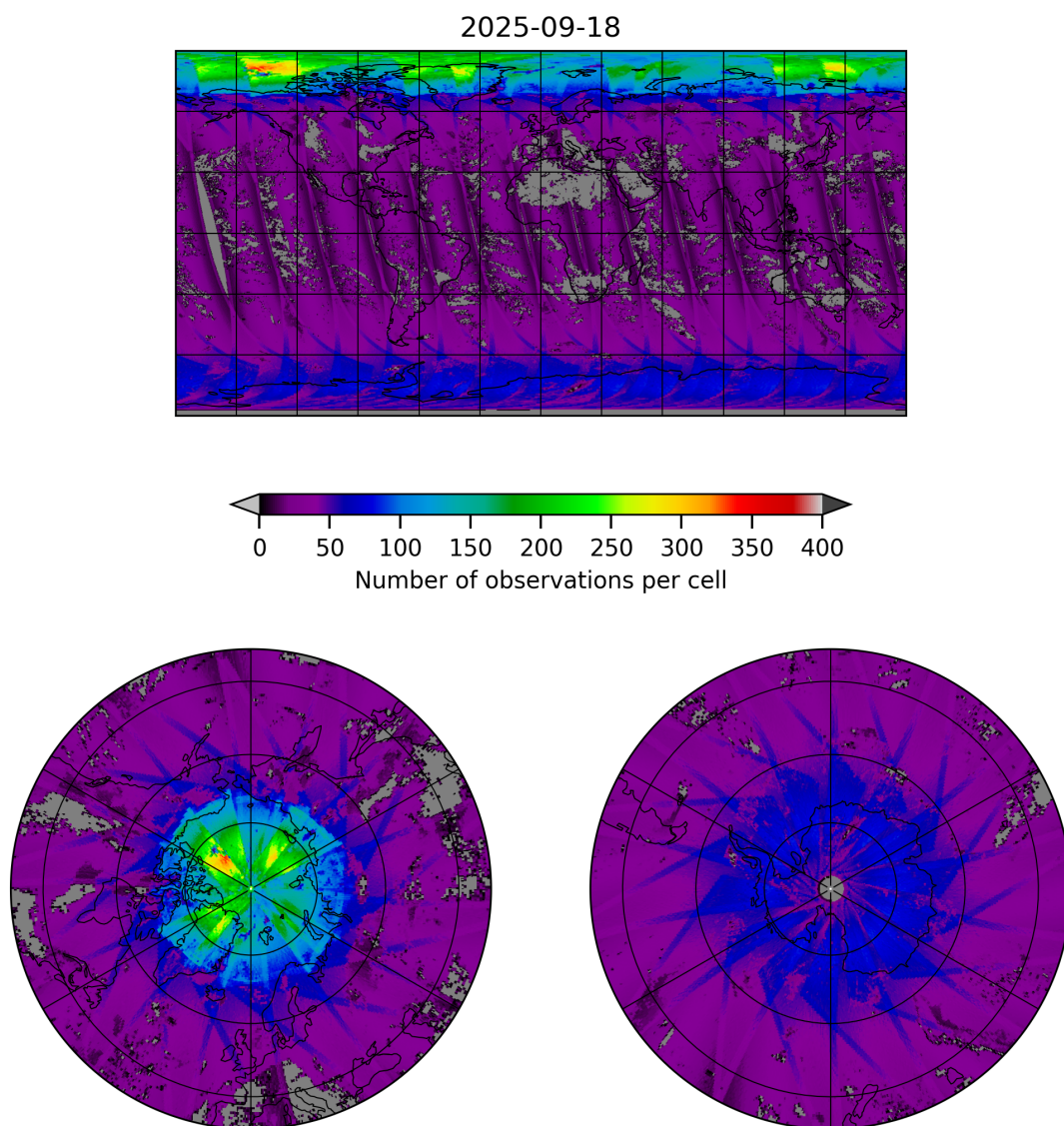


Figure 19: Map of the number of observations for 2025-09-18 to 2025-09-18

7 Zonal average

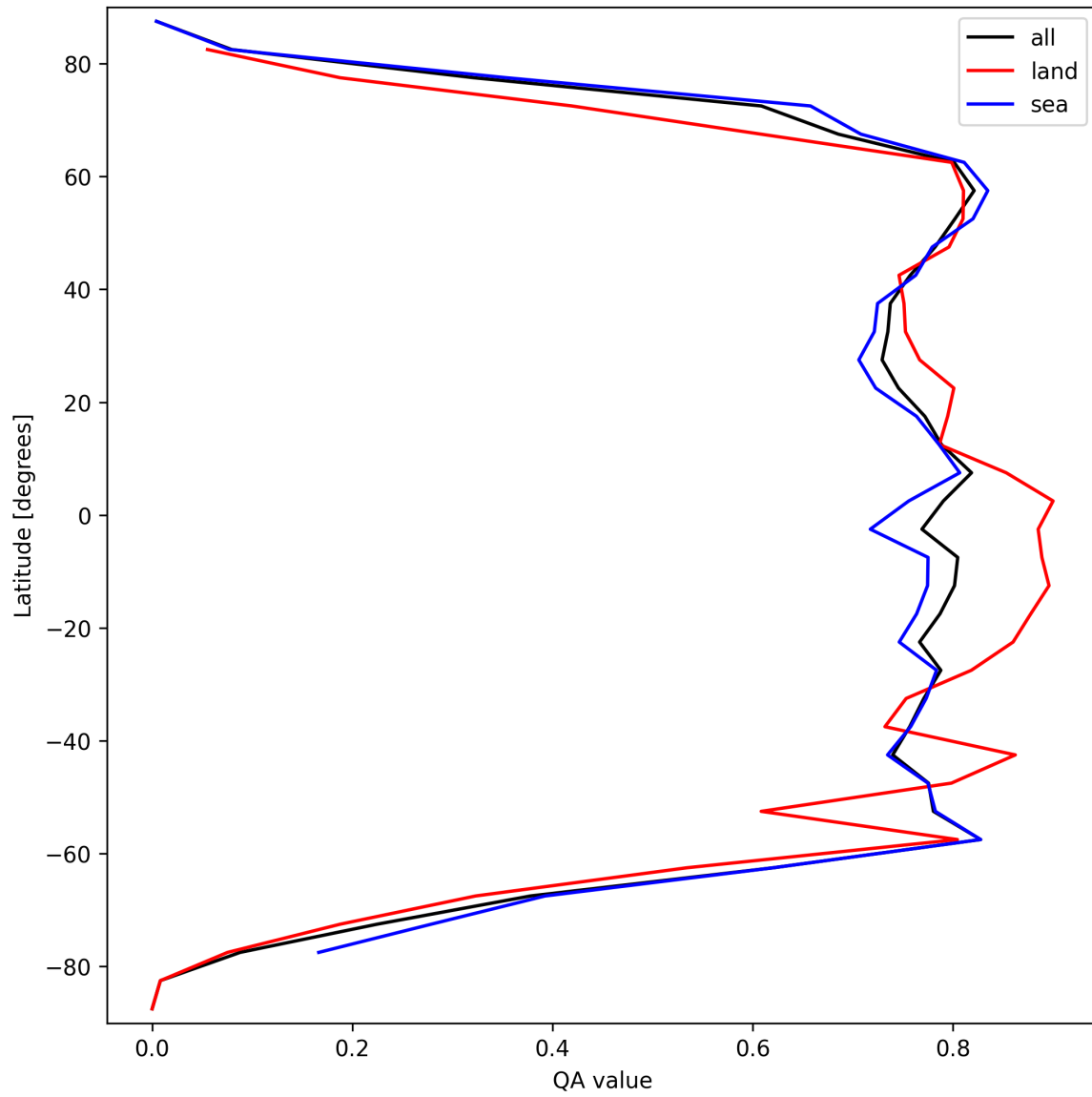


Figure 20: Zonal average of “QA value” for 2025-09-18 to 2025-09-18.

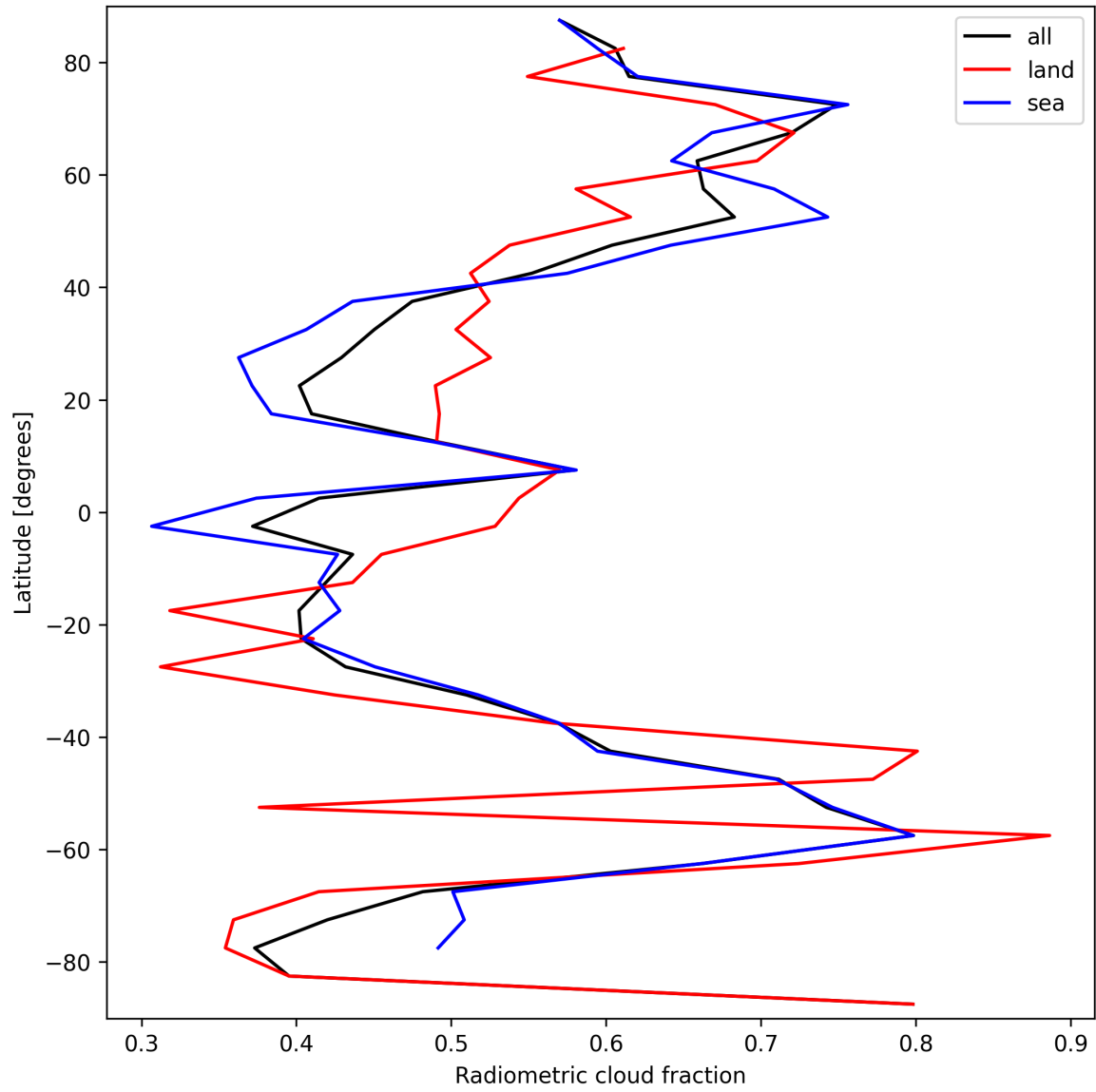


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-18 to 2025-09-18.

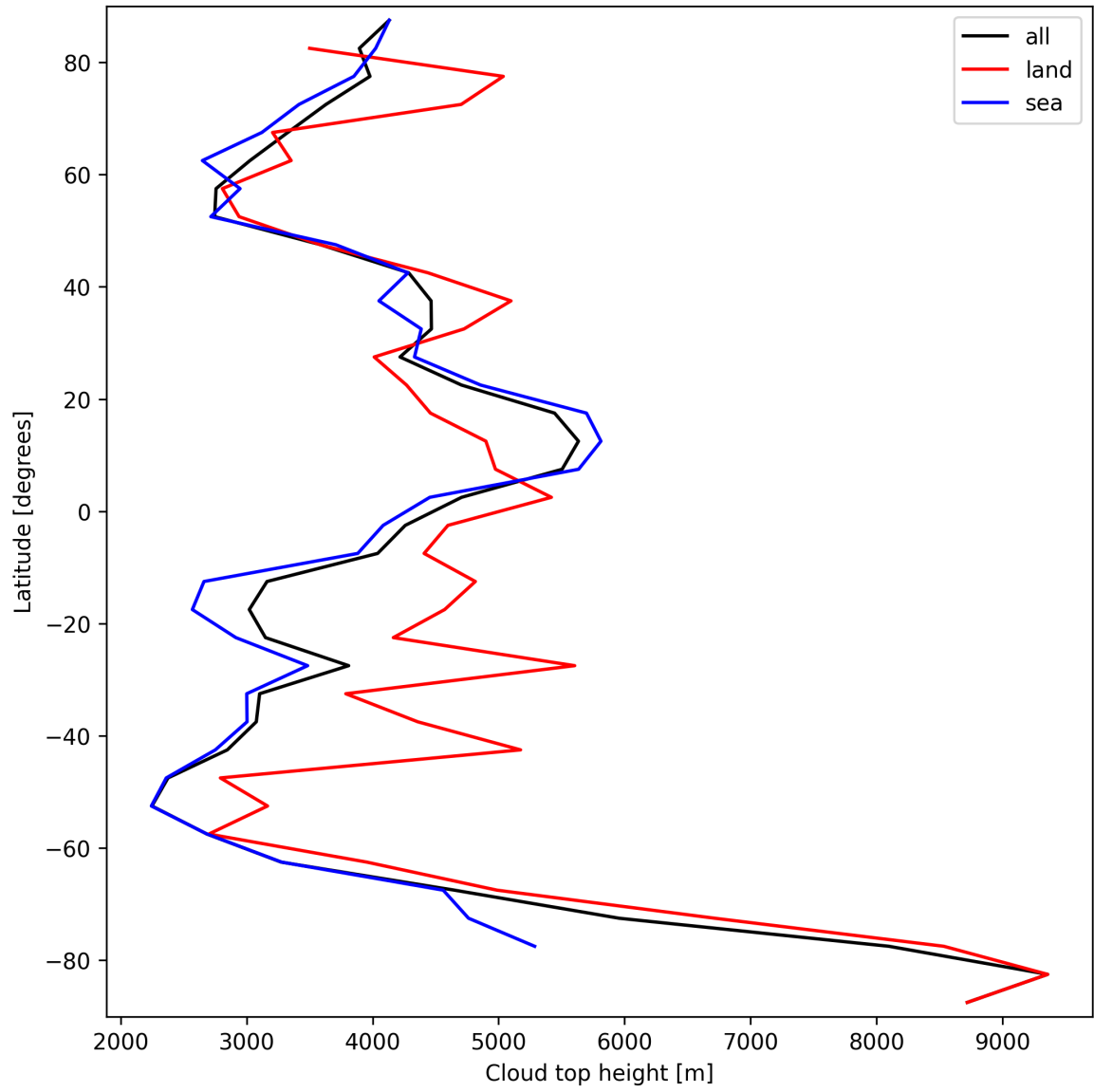


Figure 22: Zonal average of “Cloud top height” for 2025-09-18 to 2025-09-18.

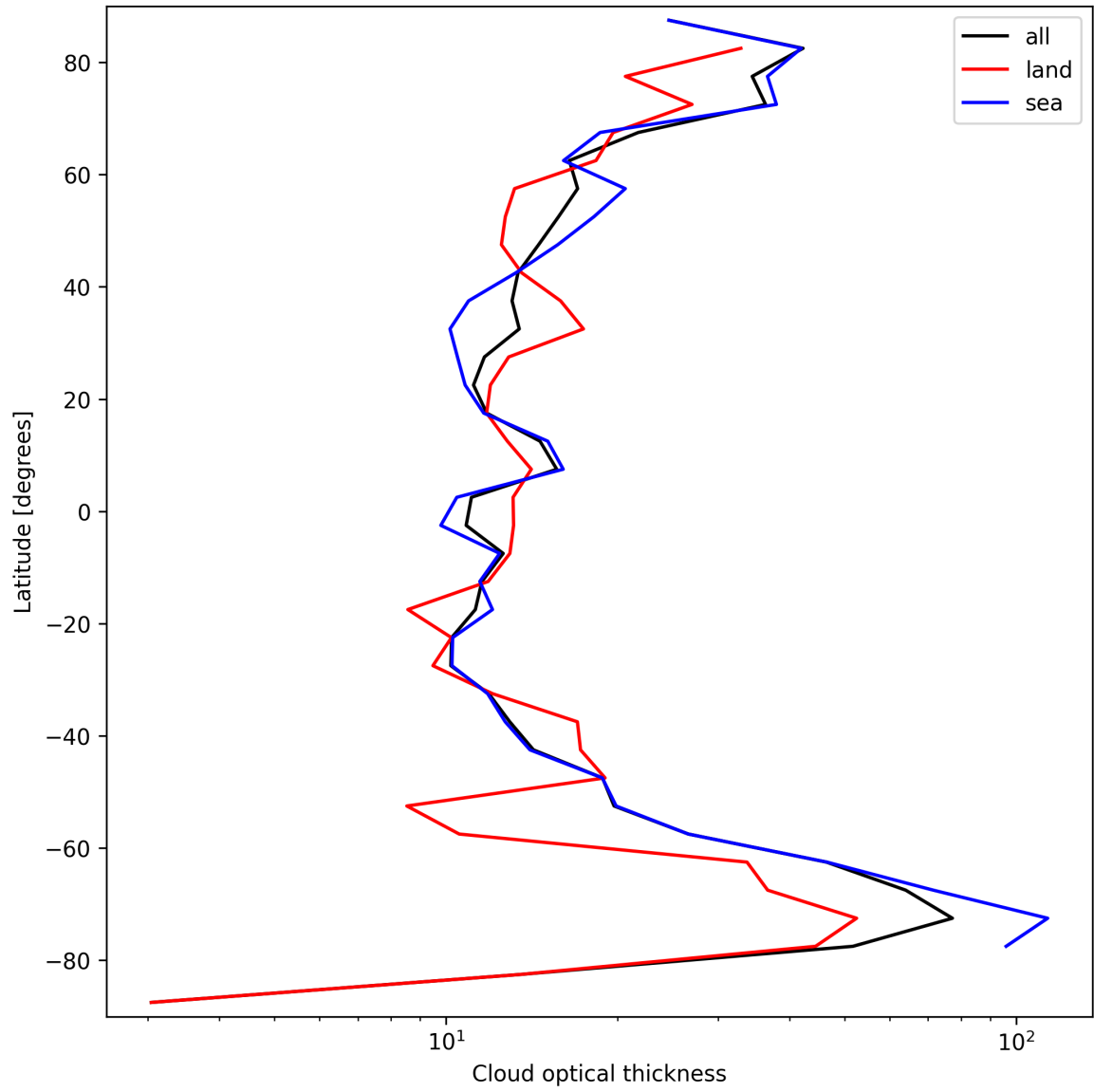


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-18 to 2025-09-18.

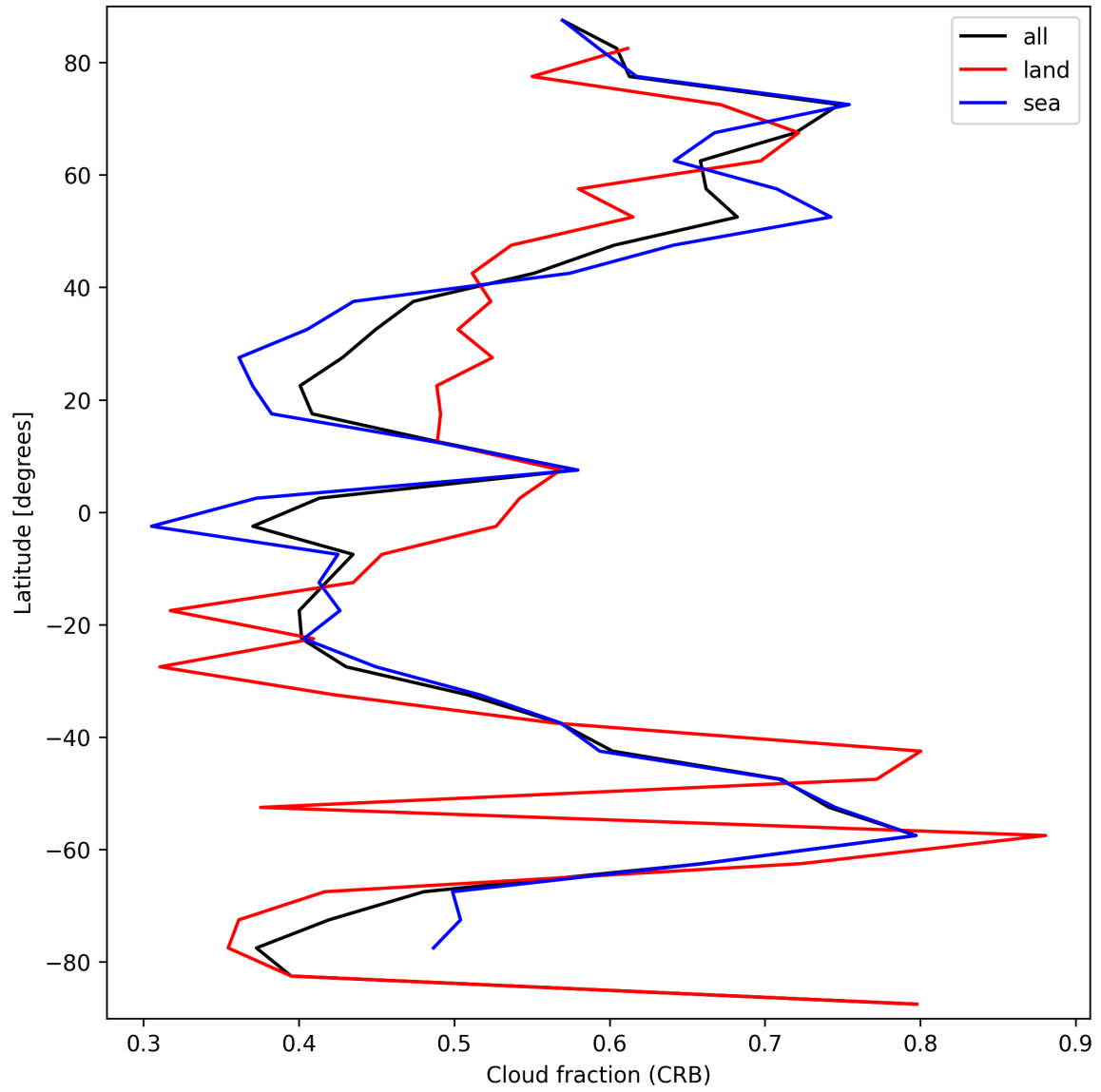


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-18 to 2025-09-18.

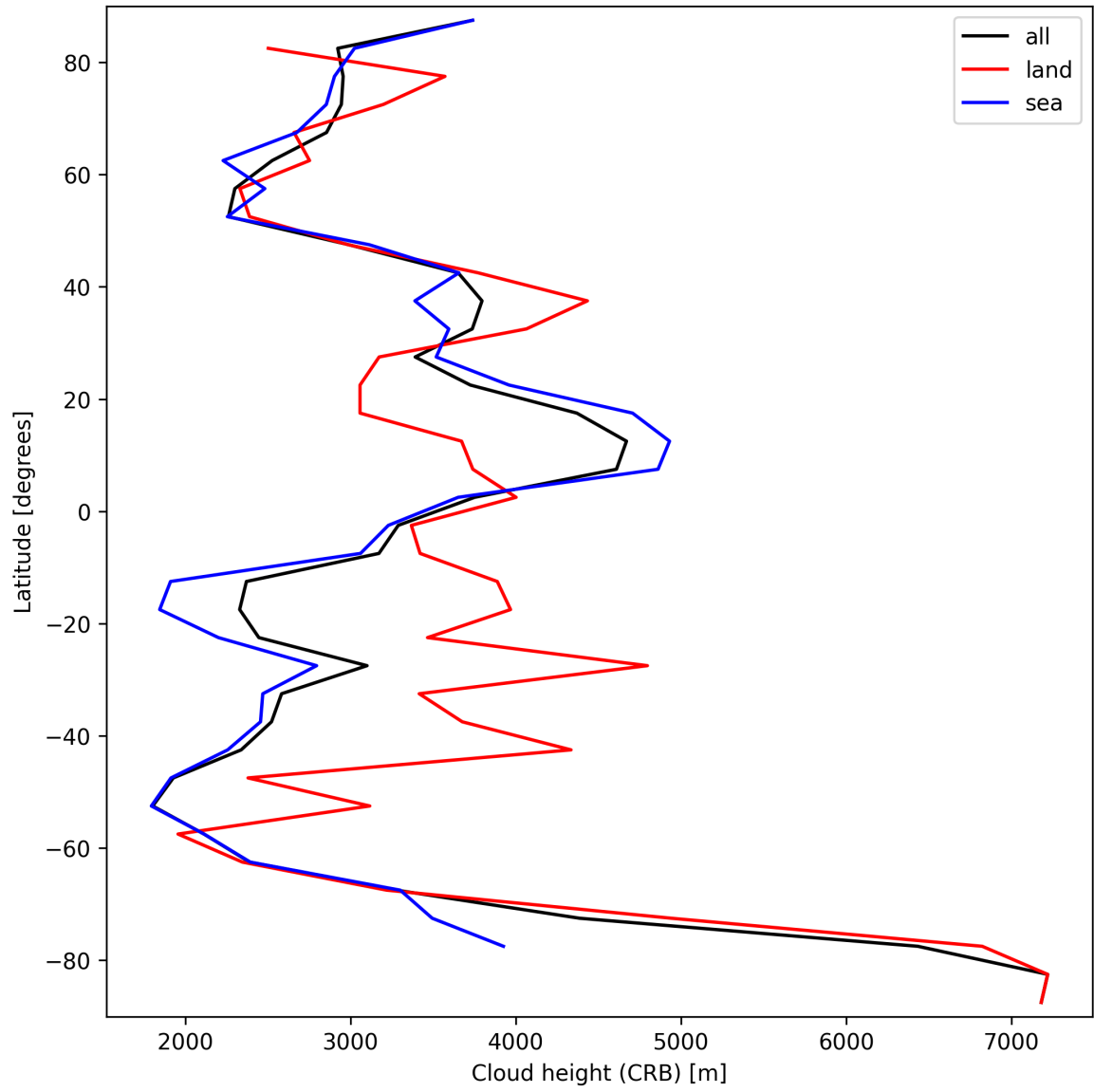


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-18 to 2025-09-18.

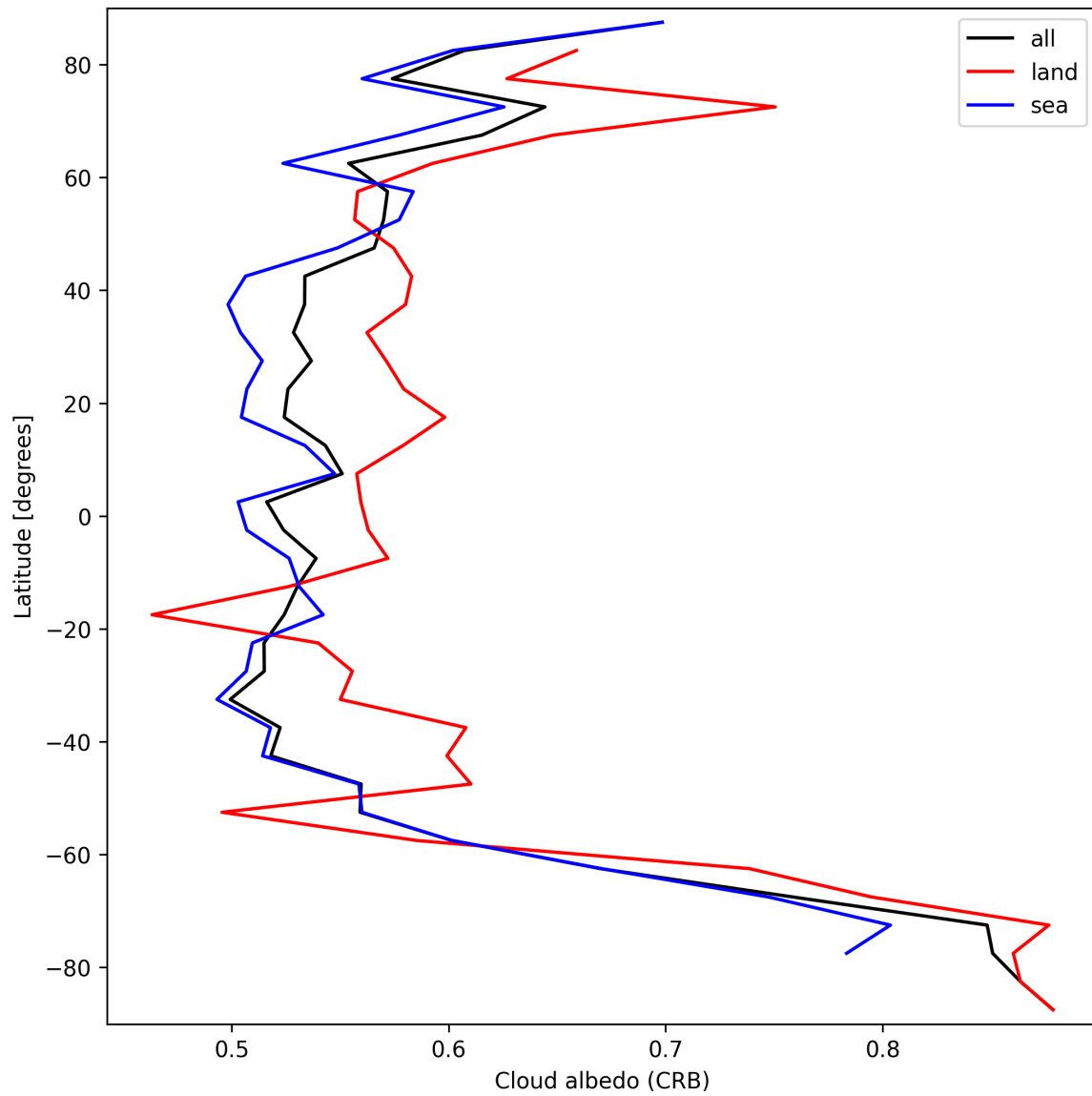


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-18 to 2025-09-18.

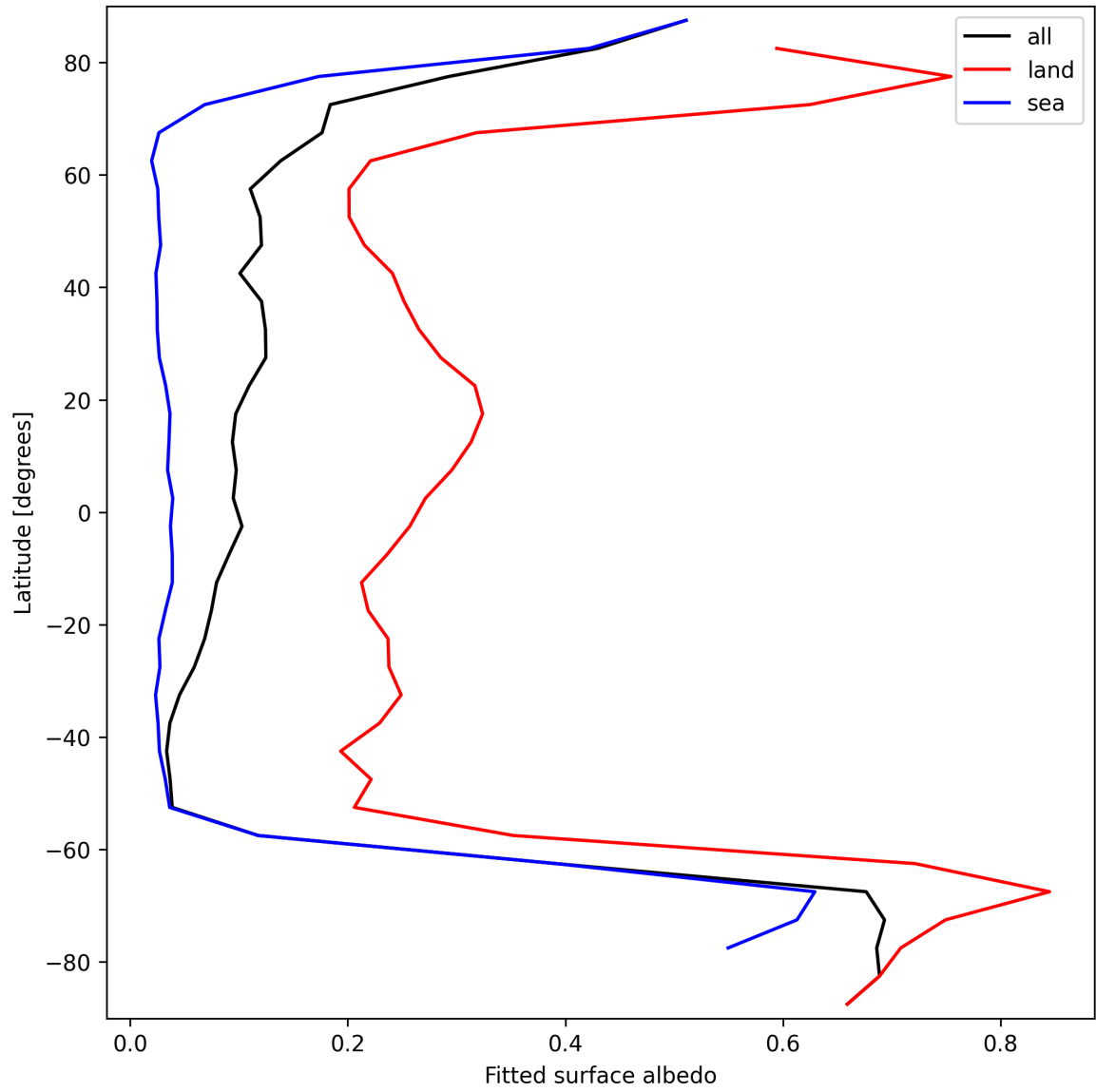


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-18 to 2025-09-18.

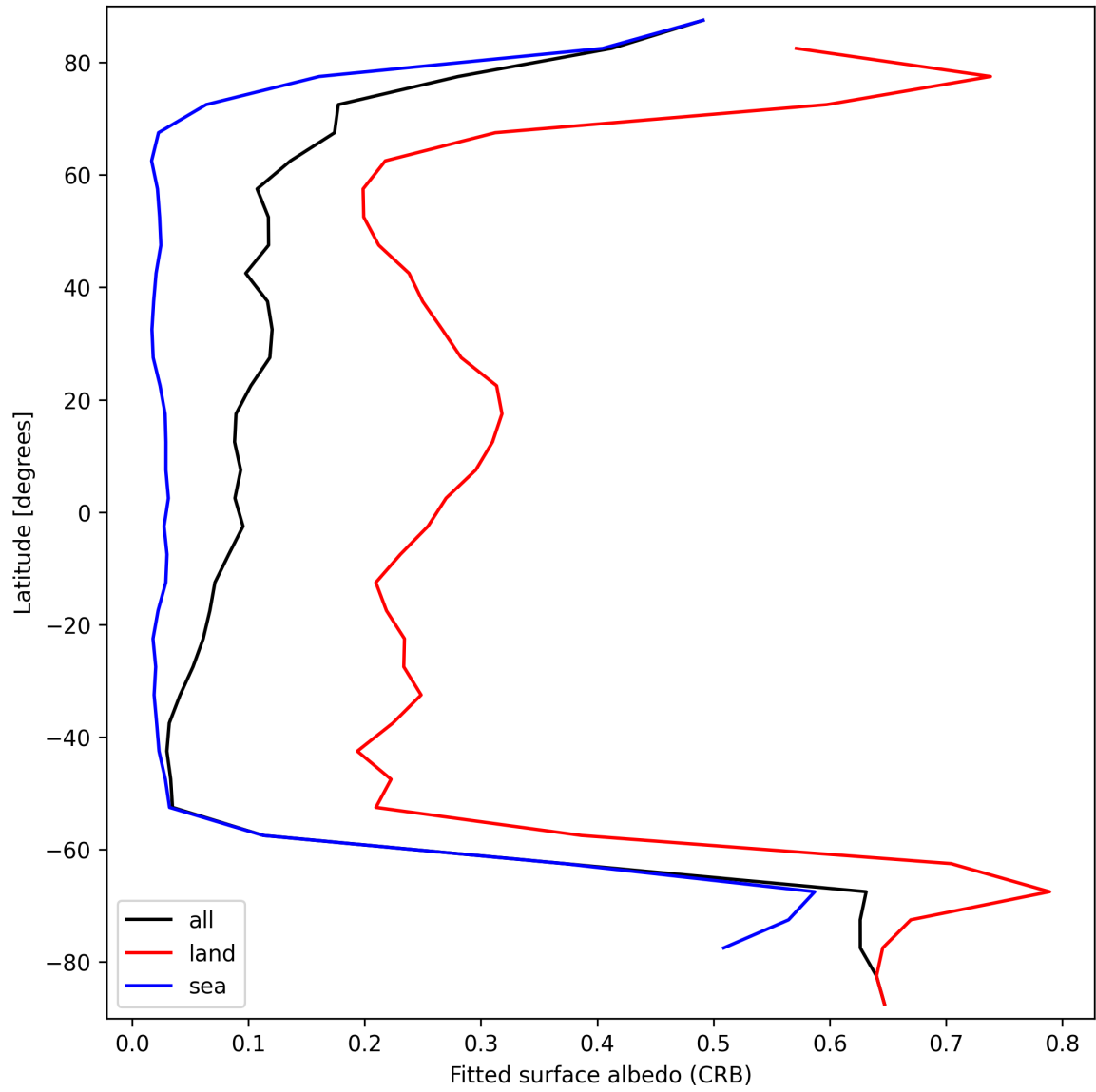


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-18 to 2025-09-18.

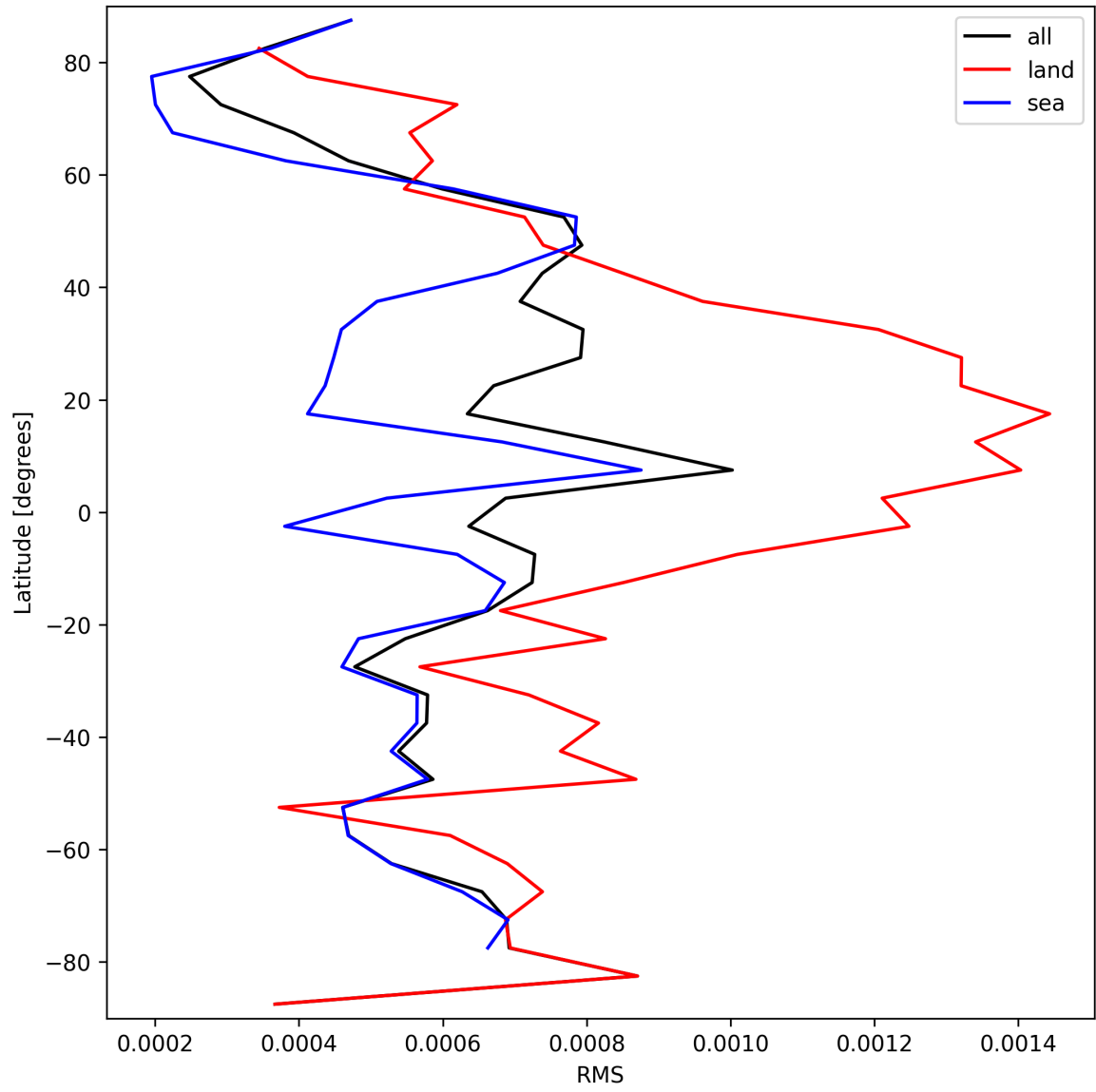


Figure 29: Zonal average of “RMS” for 2025-09-18 to 2025-09-18.

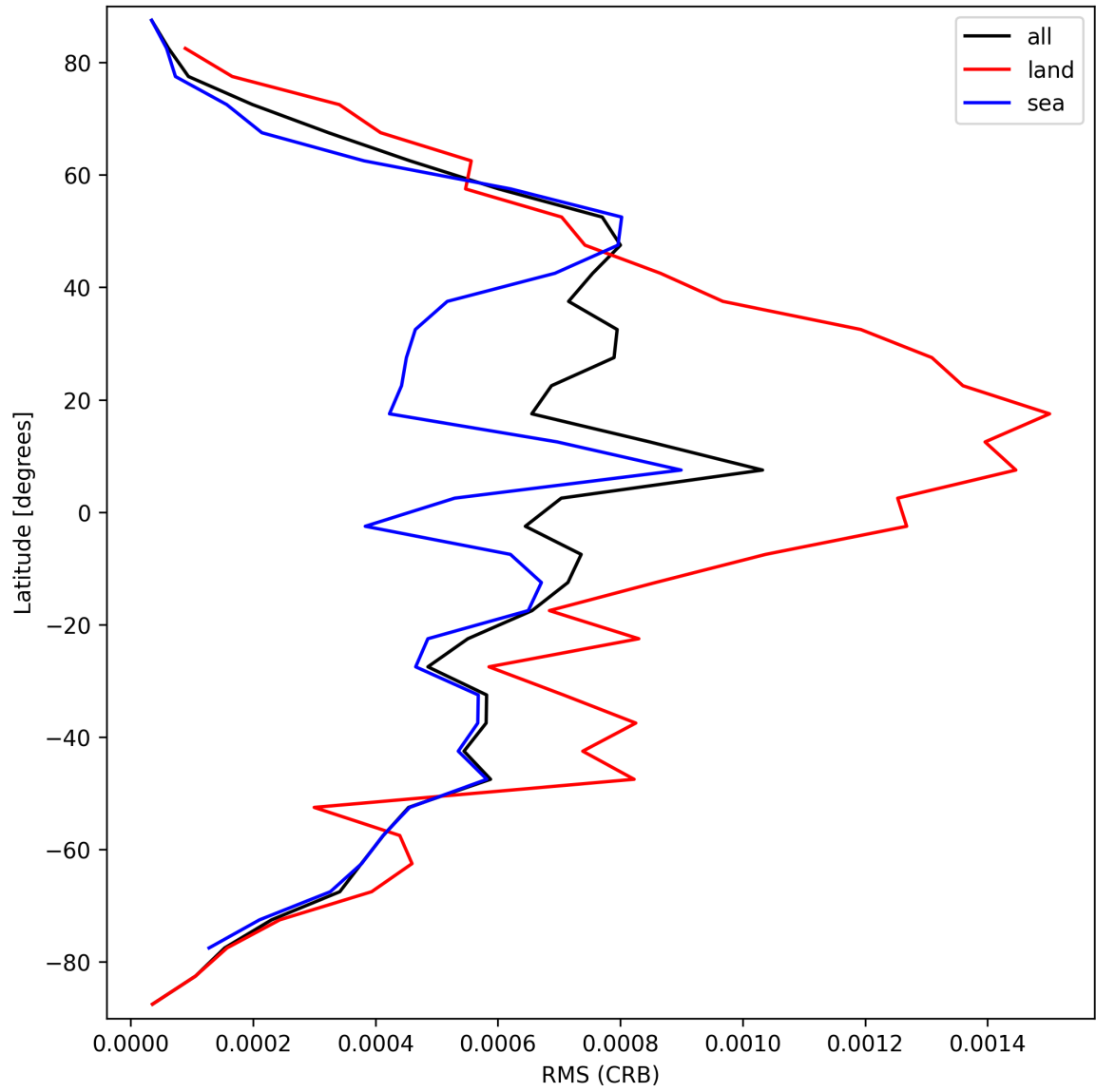


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-18 to 2025-09-18.

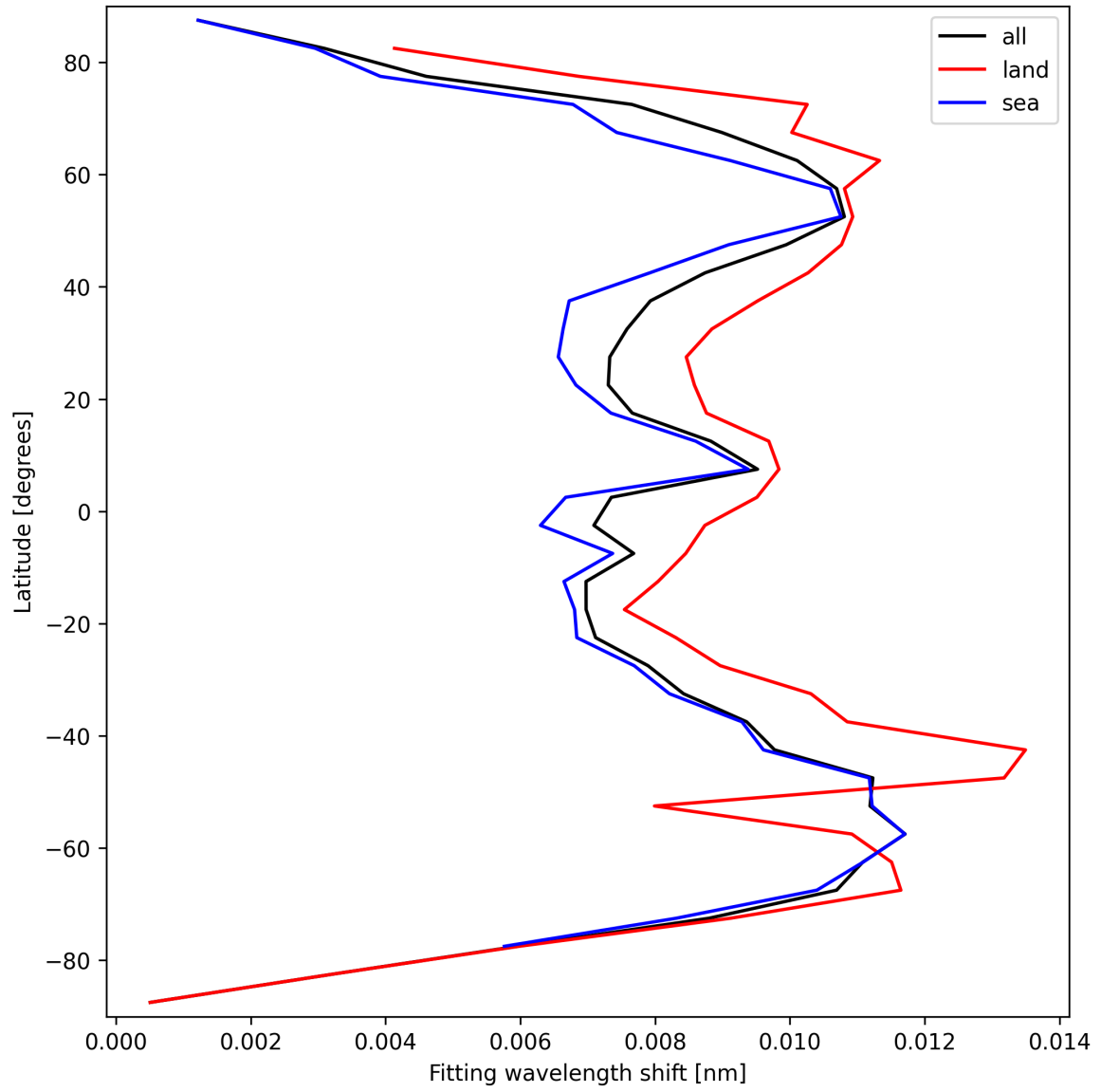


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-18 to 2025-09-18.

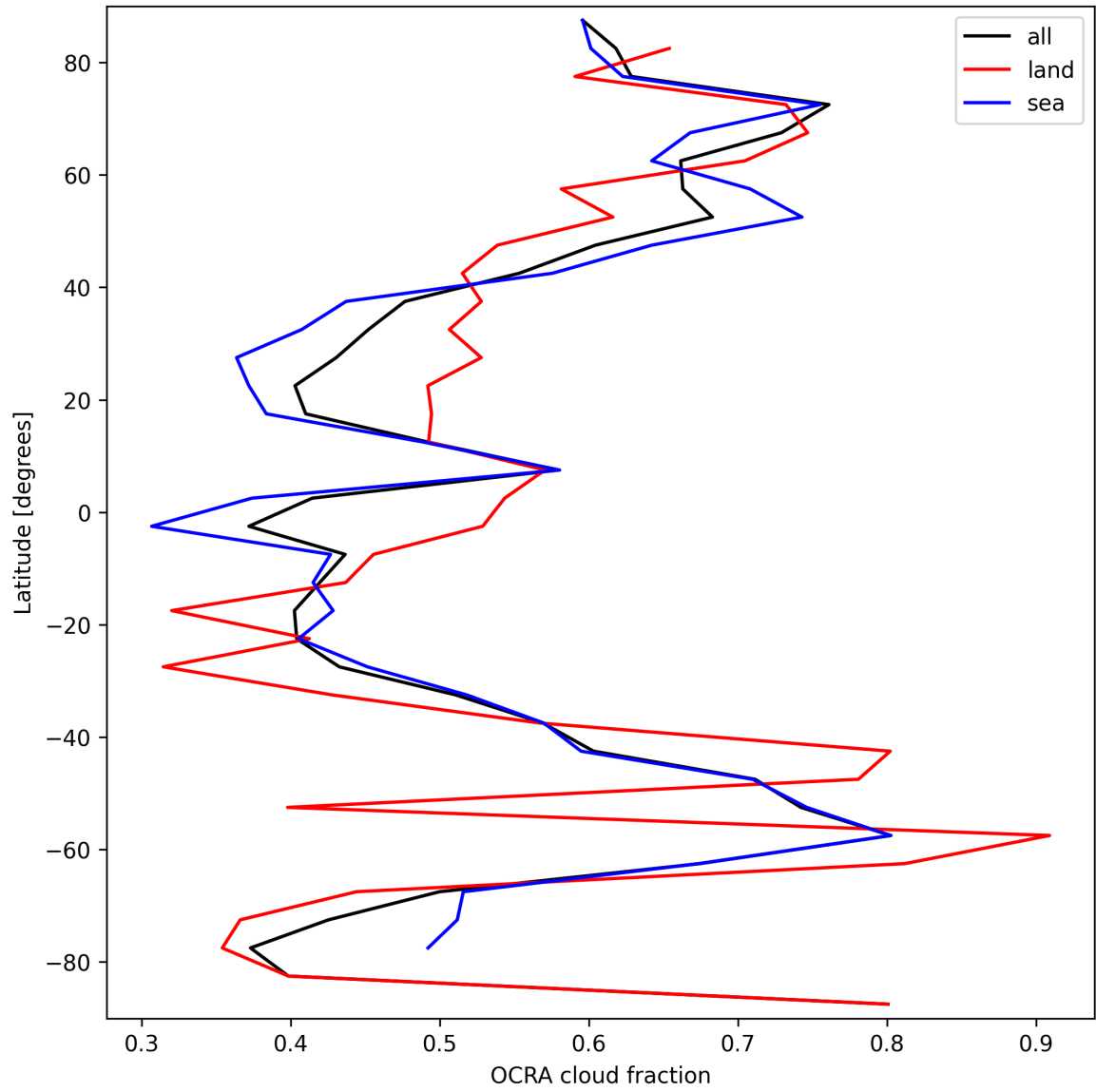


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-18 to 2025-09-18.

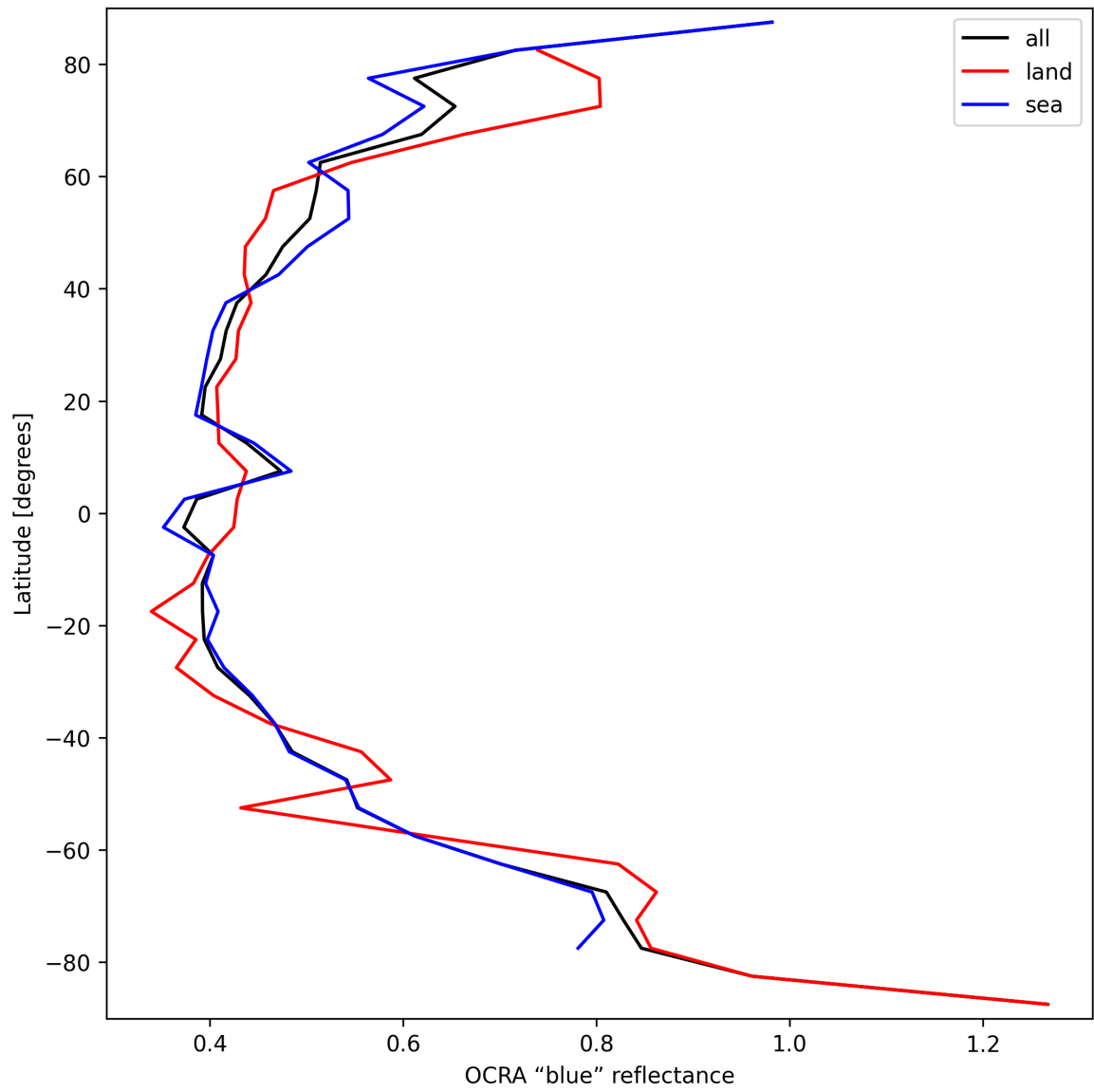


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-09-18 to 2025-09-18.

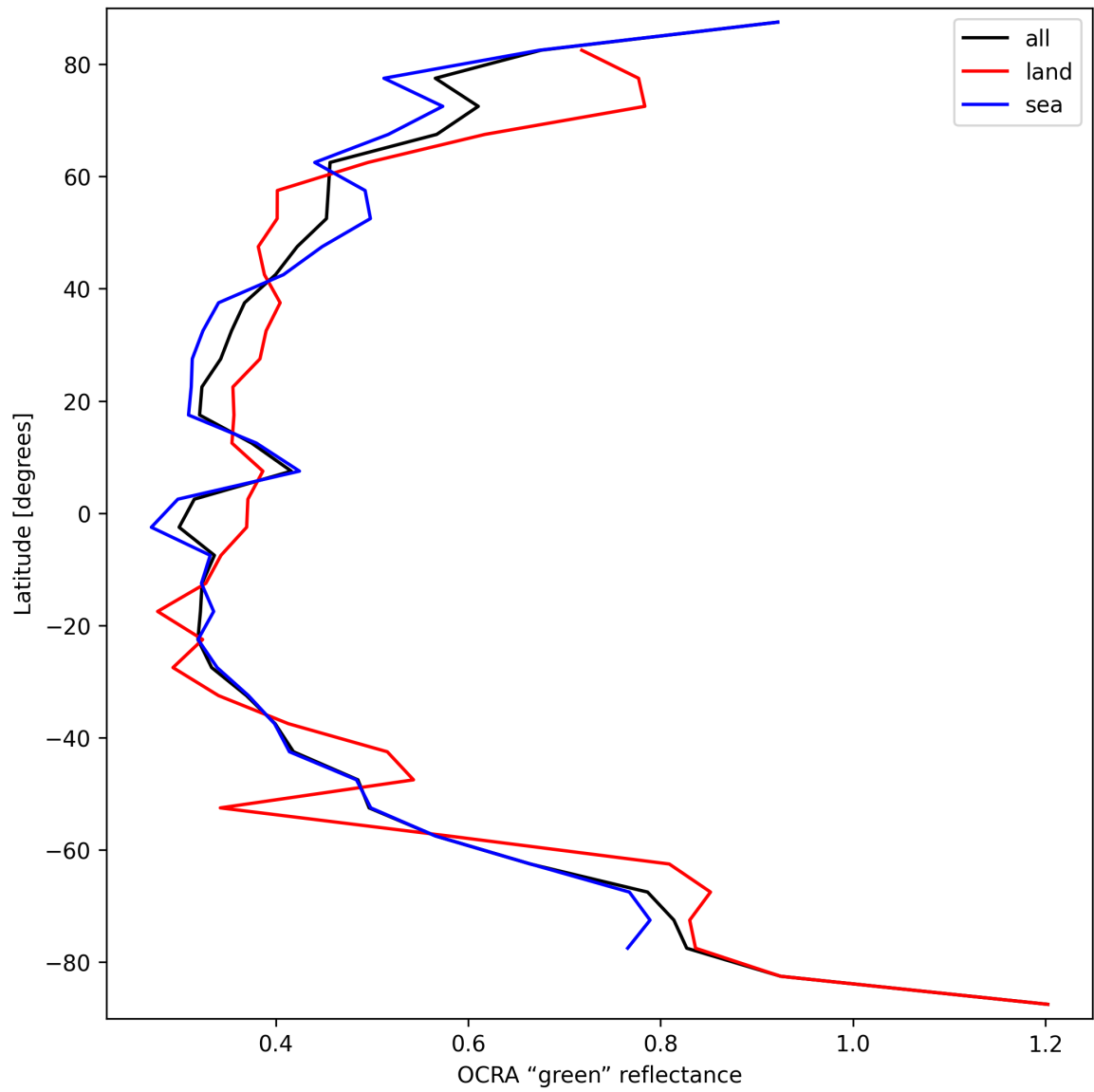


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-18 to 2025-09-18.

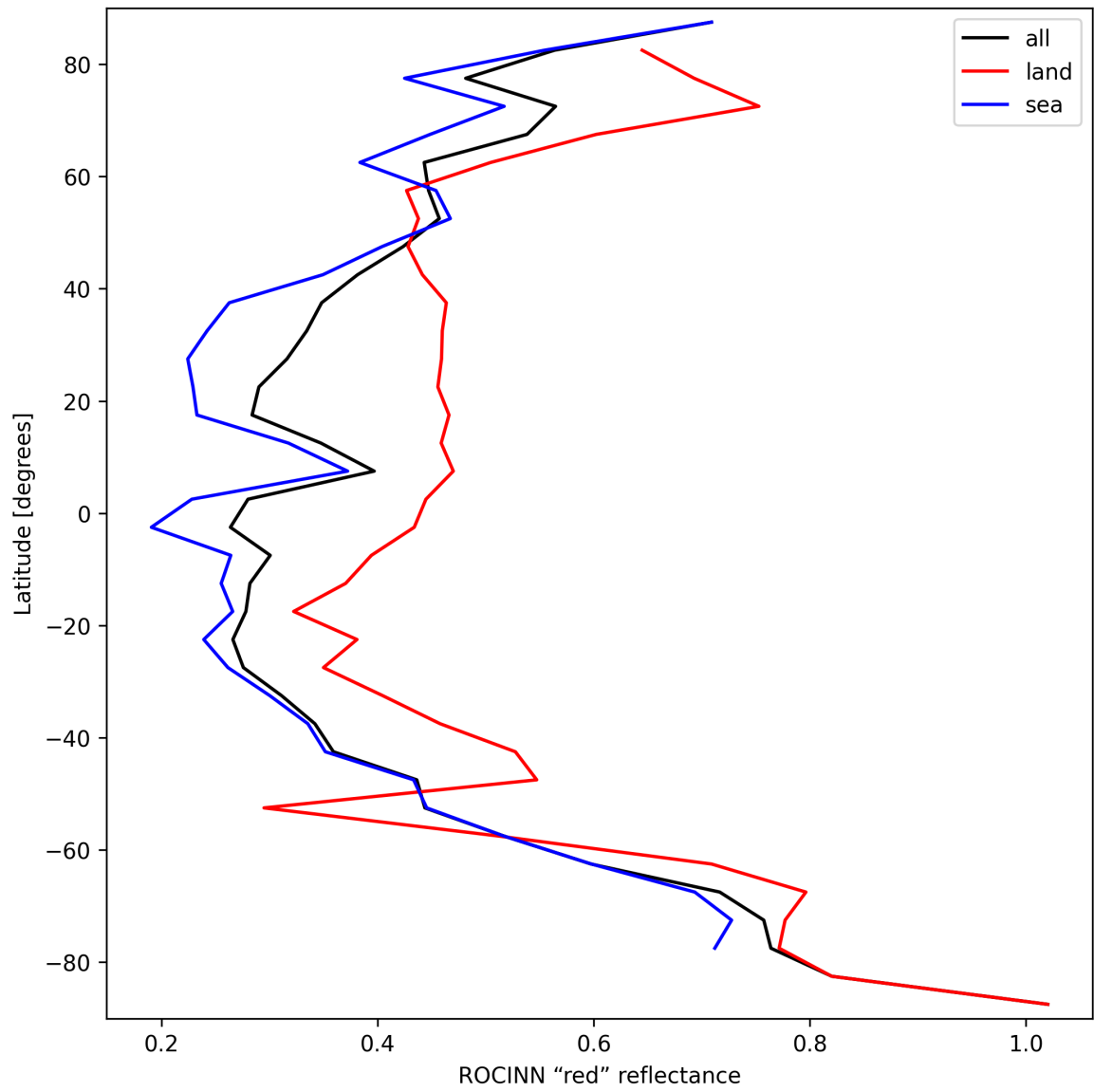


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-09-18 to 2025-09-18.

8 Histograms

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

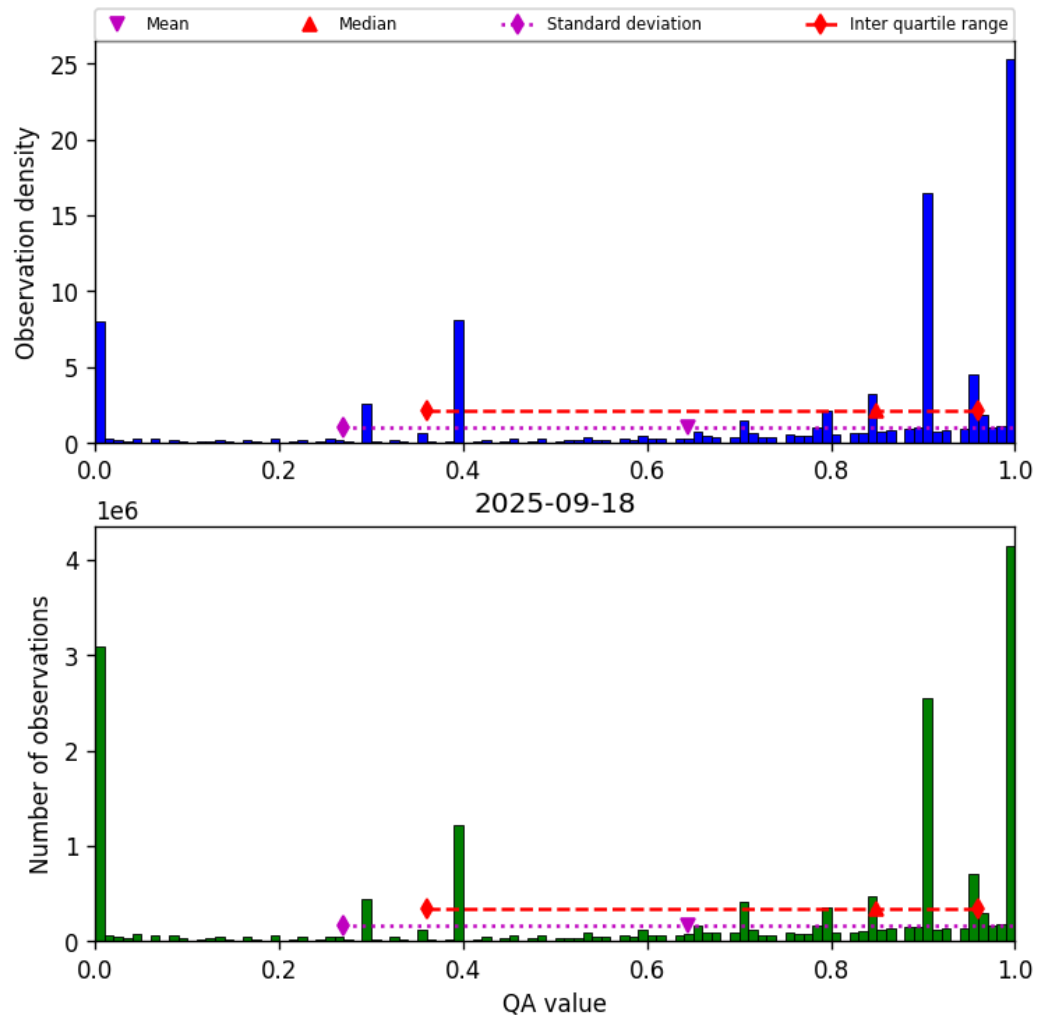


Figure 36: Histogram of “QA value” for 2025-09-18 to 2025-09-18

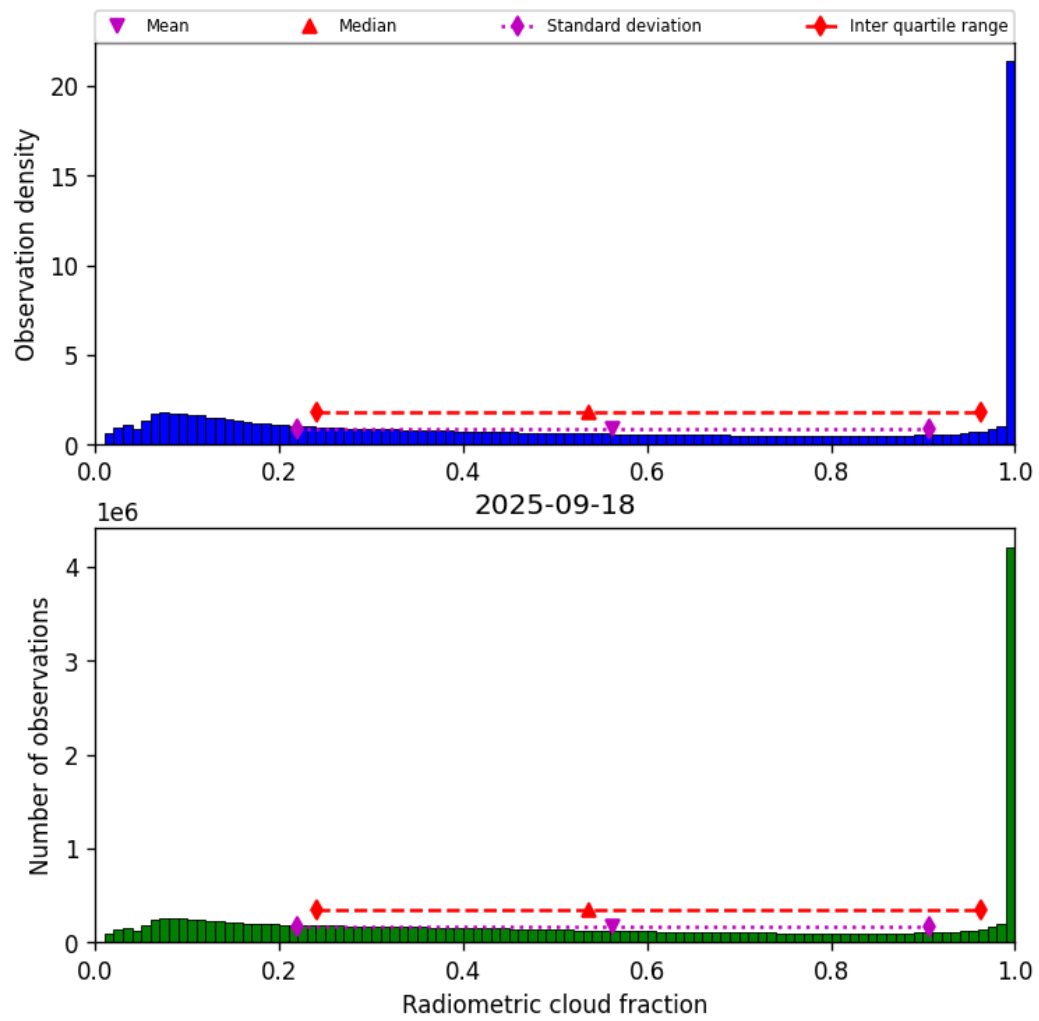


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-18 to 2025-09-18

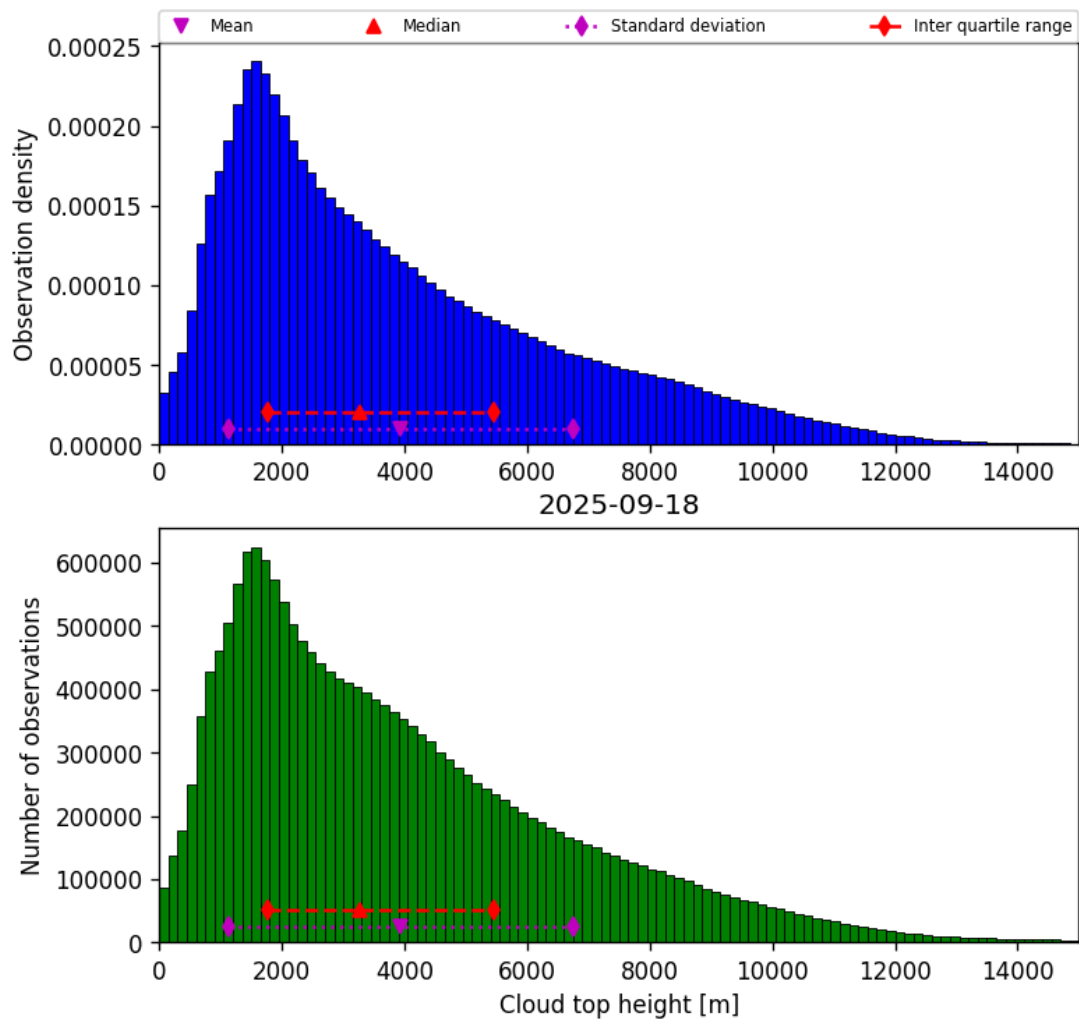


Figure 38: Histogram of “Cloud top height” for 2025-09-18 to 2025-09-18

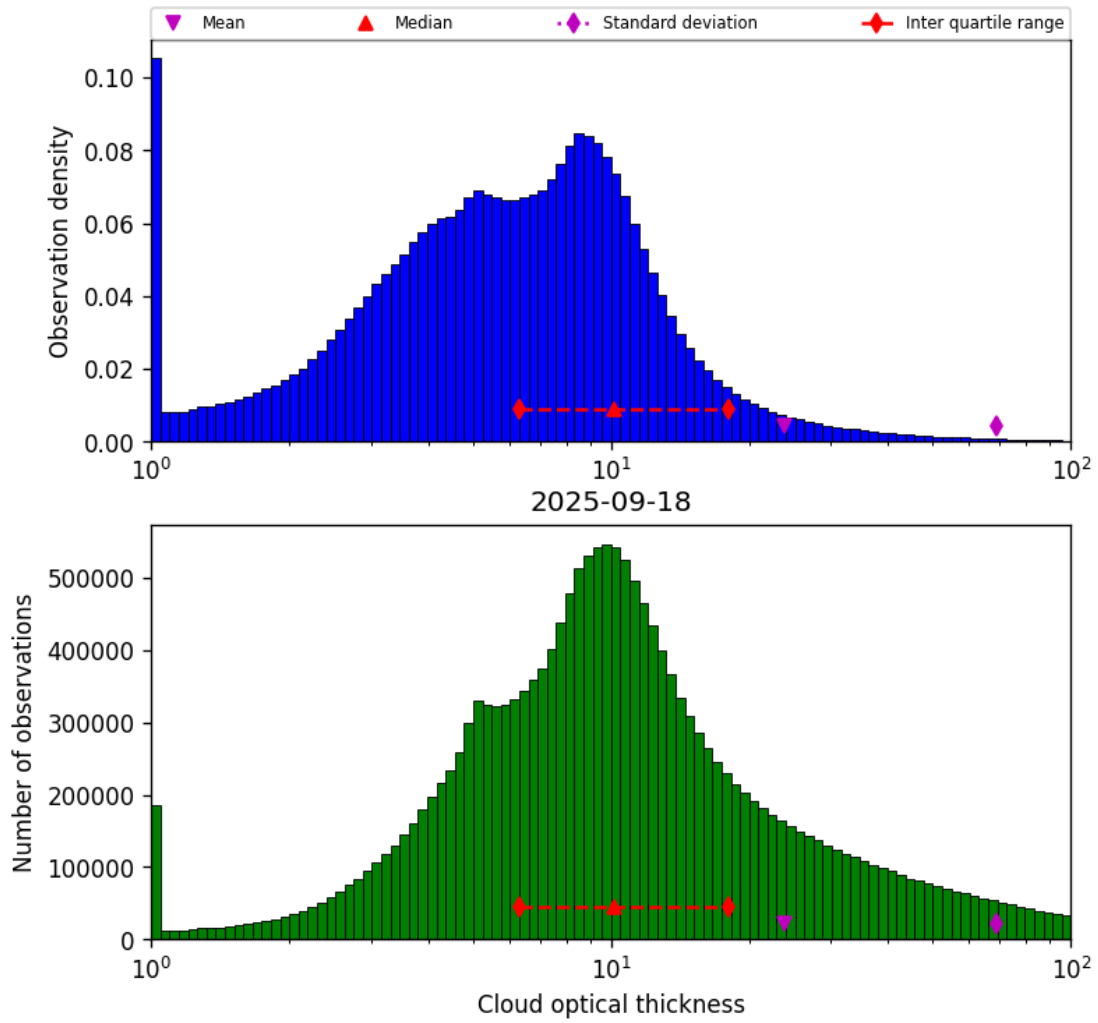


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-18 to 2025-09-18

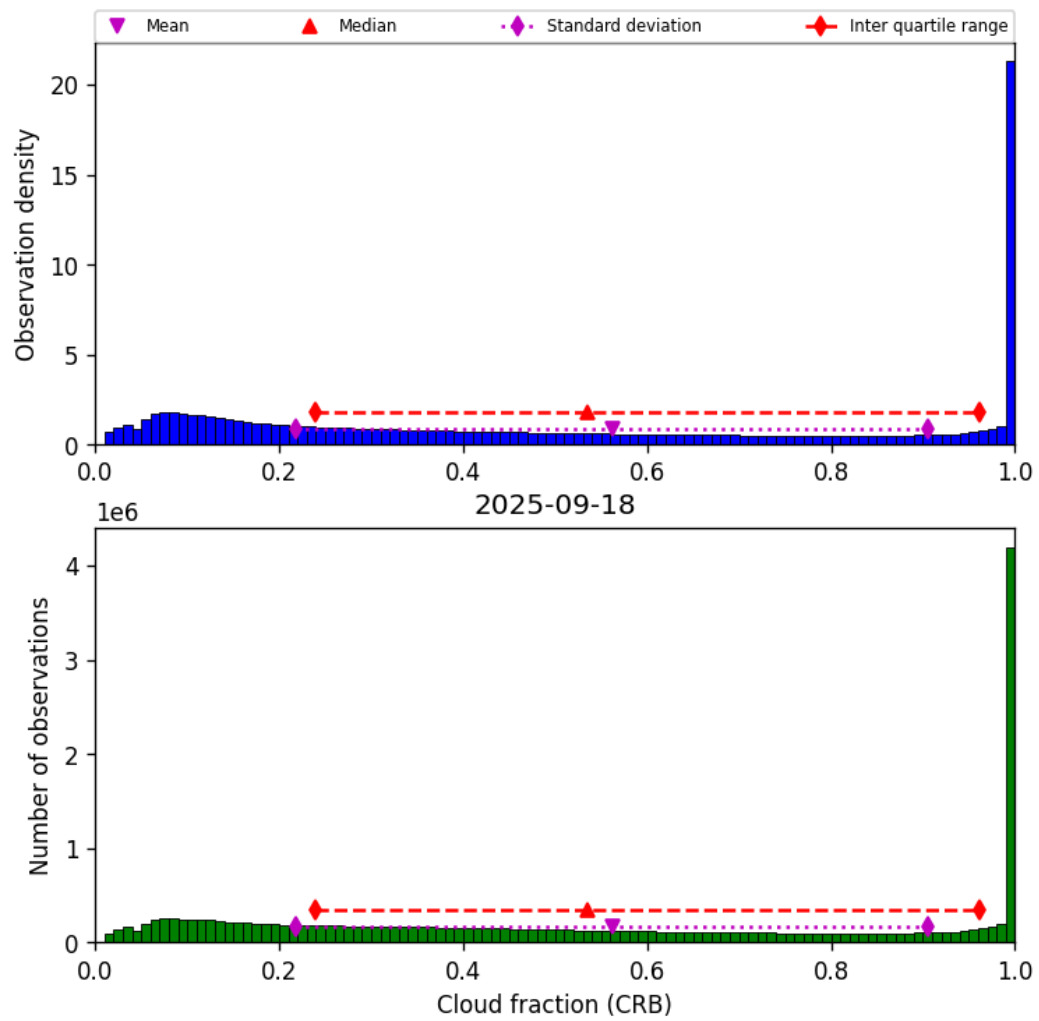


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-09-18 to 2025-09-18

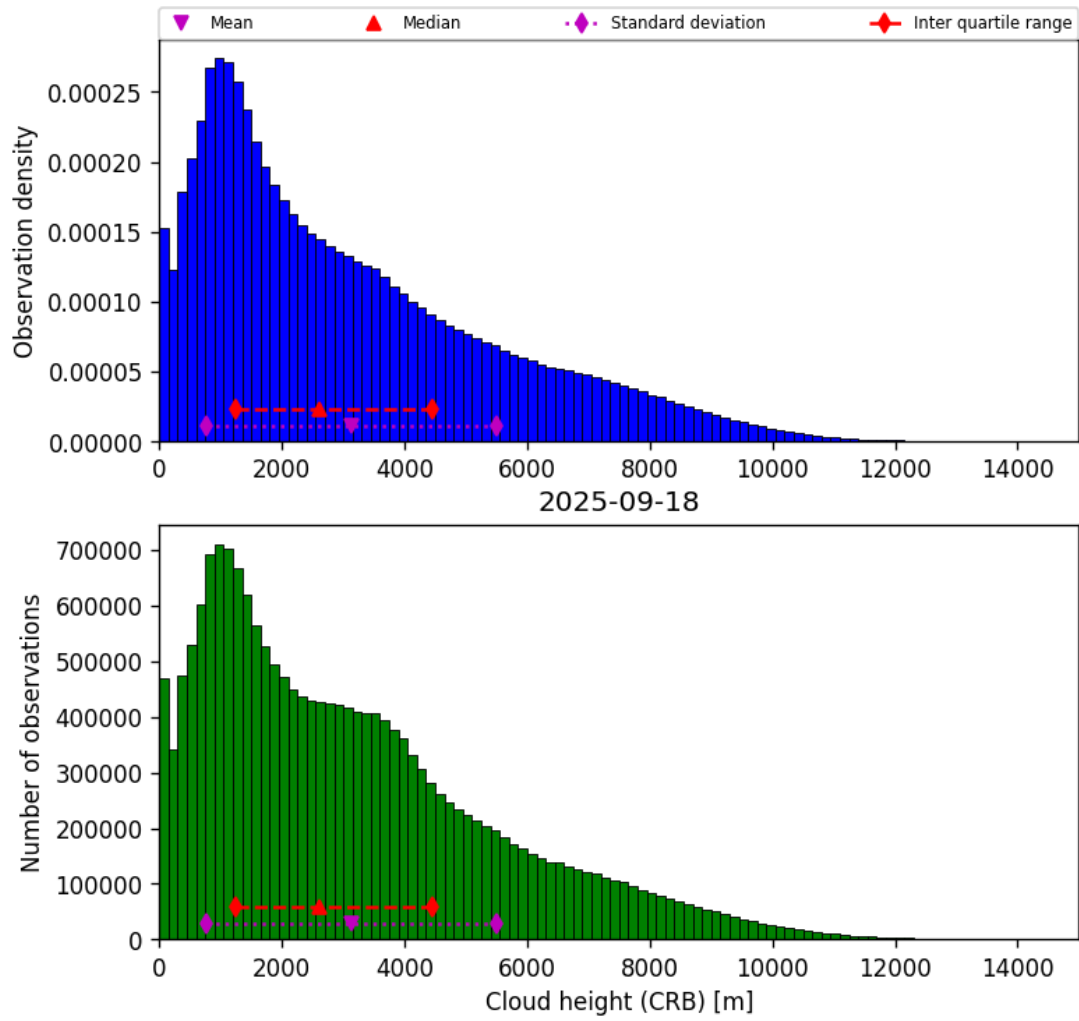


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-18 to 2025-09-18

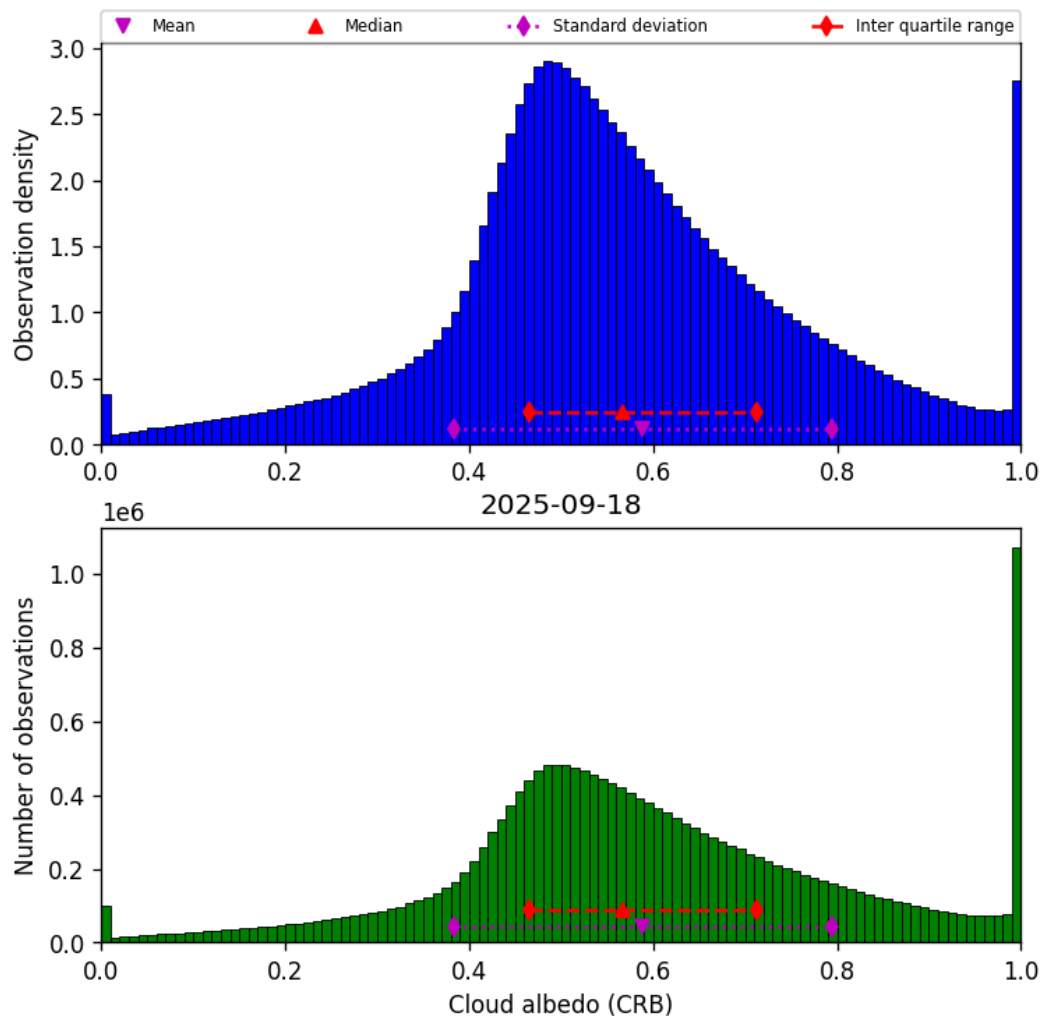


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-18 to 2025-09-18

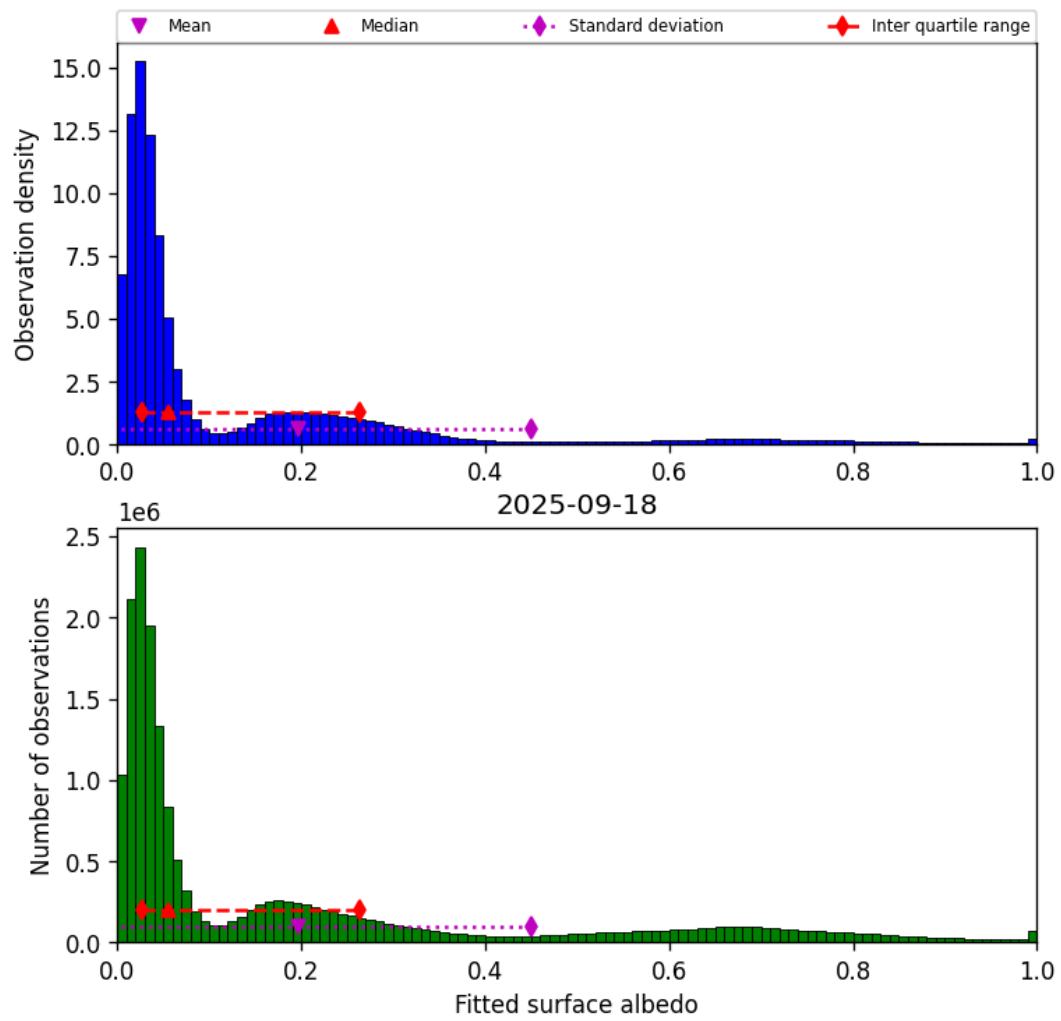


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-18 to 2025-09-18

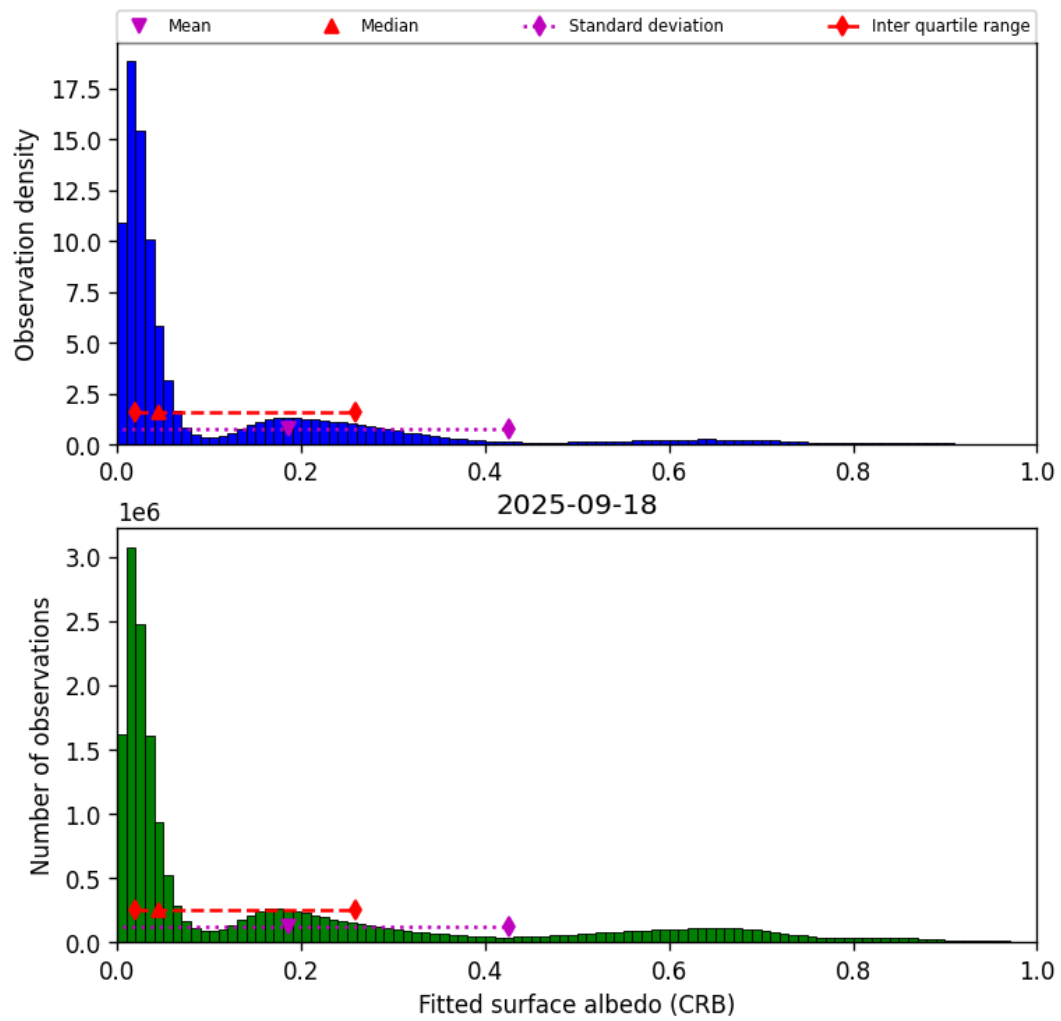


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-18 to 2025-09-18

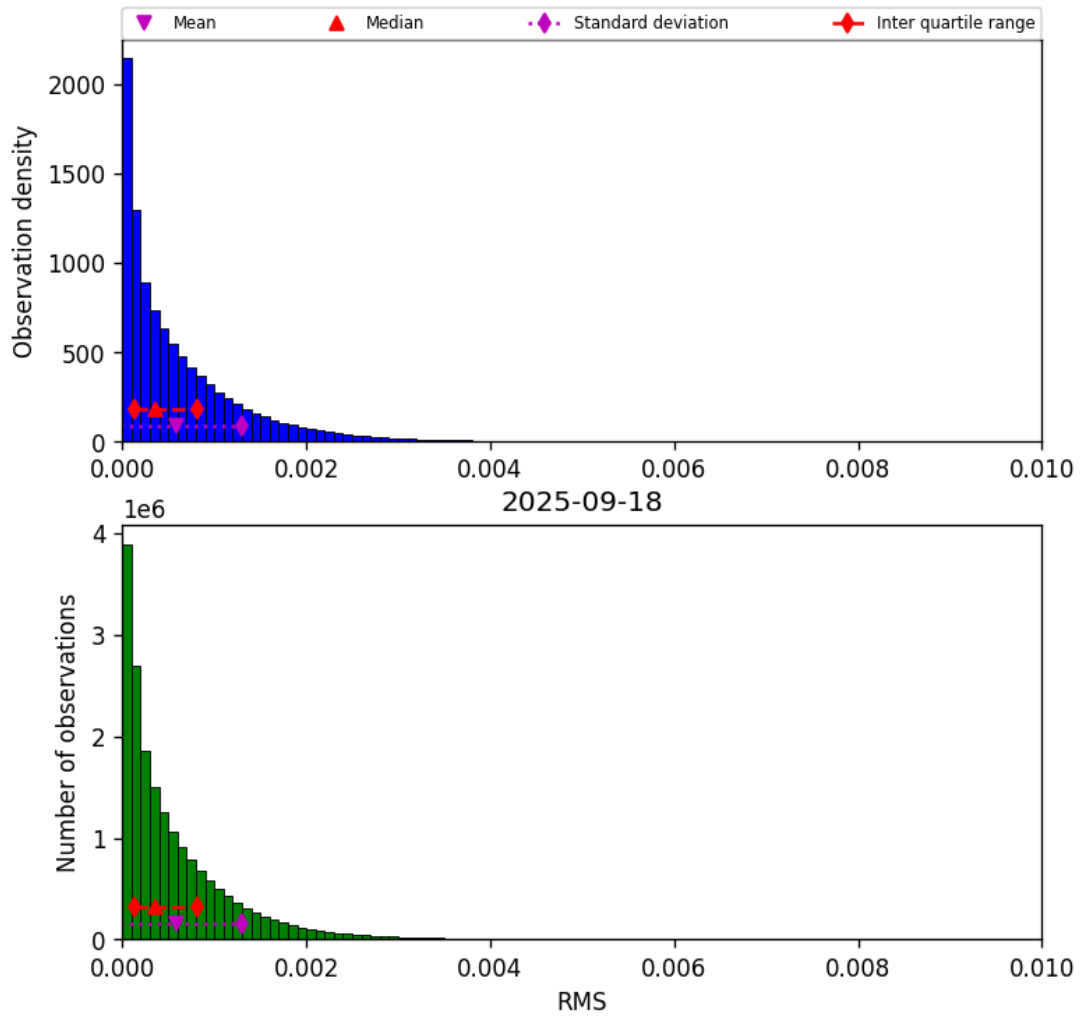


Figure 45: Histogram of “RMS” for 2025-09-18 to 2025-09-18

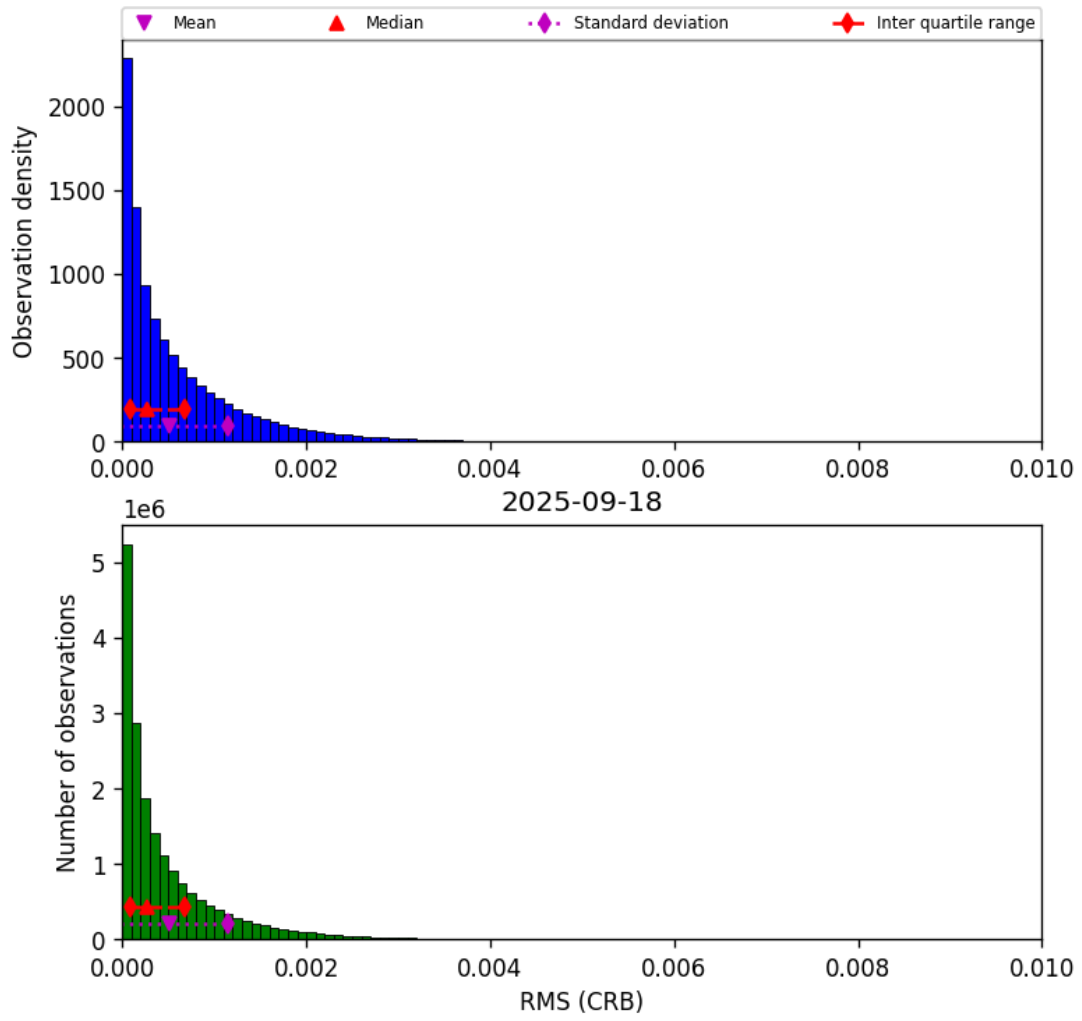


Figure 46: Histogram of “RMS (CRB)” for 2025-09-18 to 2025-09-18

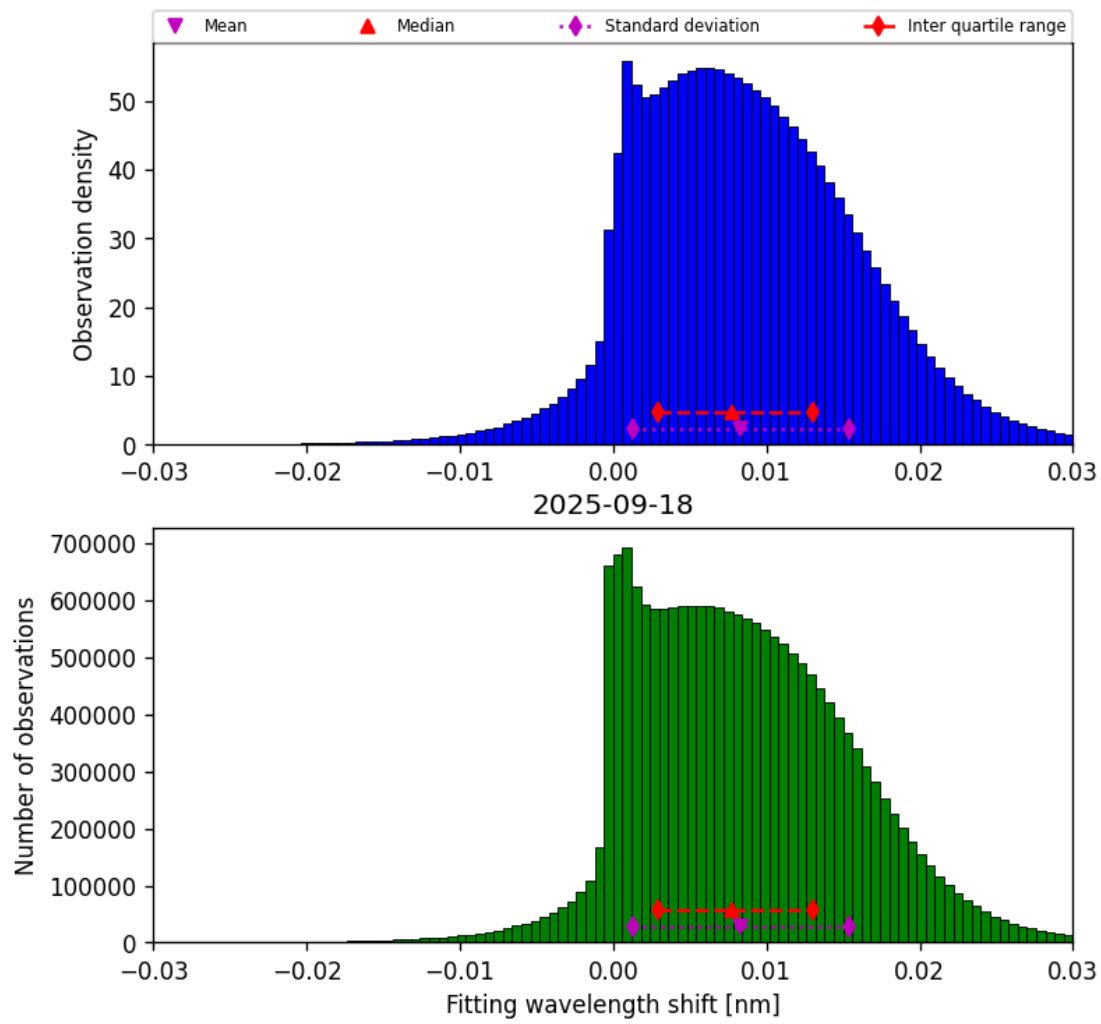


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-18 to 2025-09-18

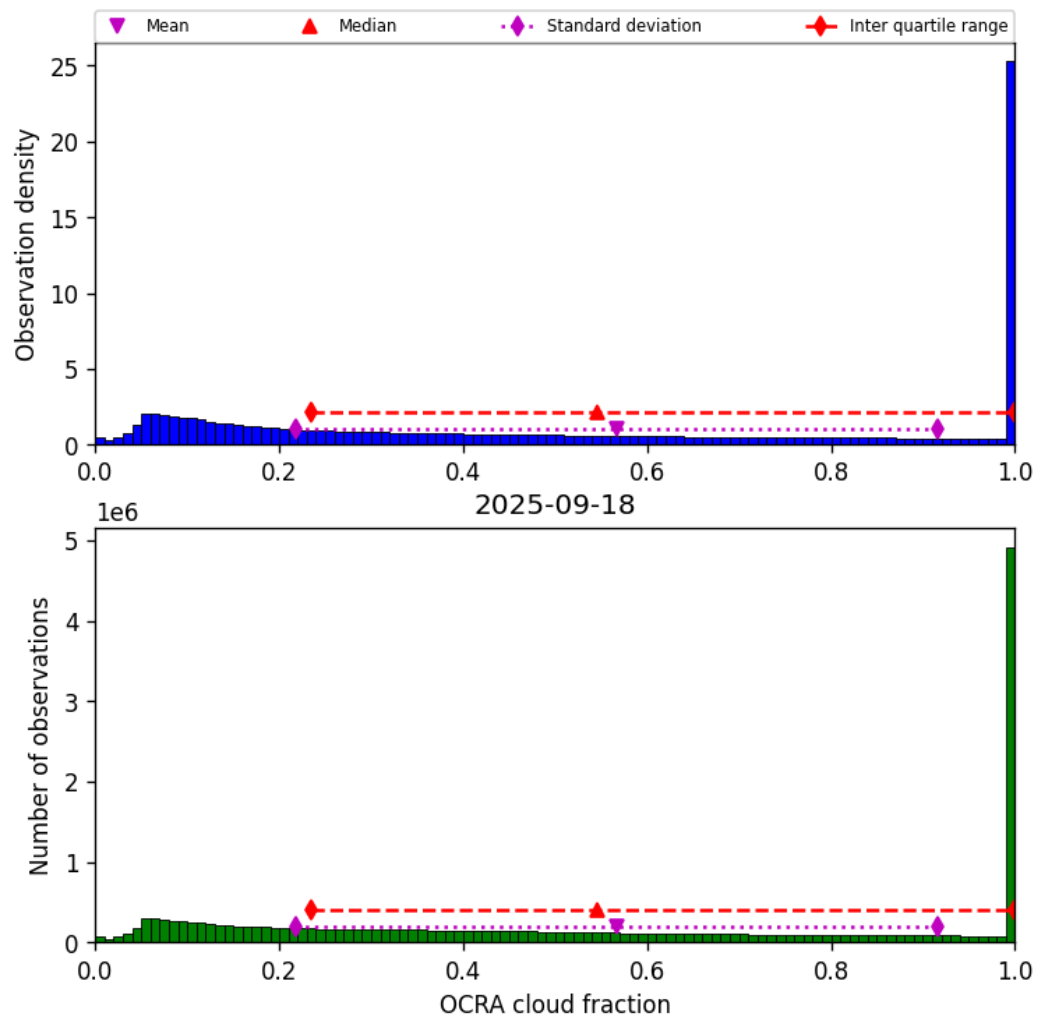


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-18 to 2025-09-18

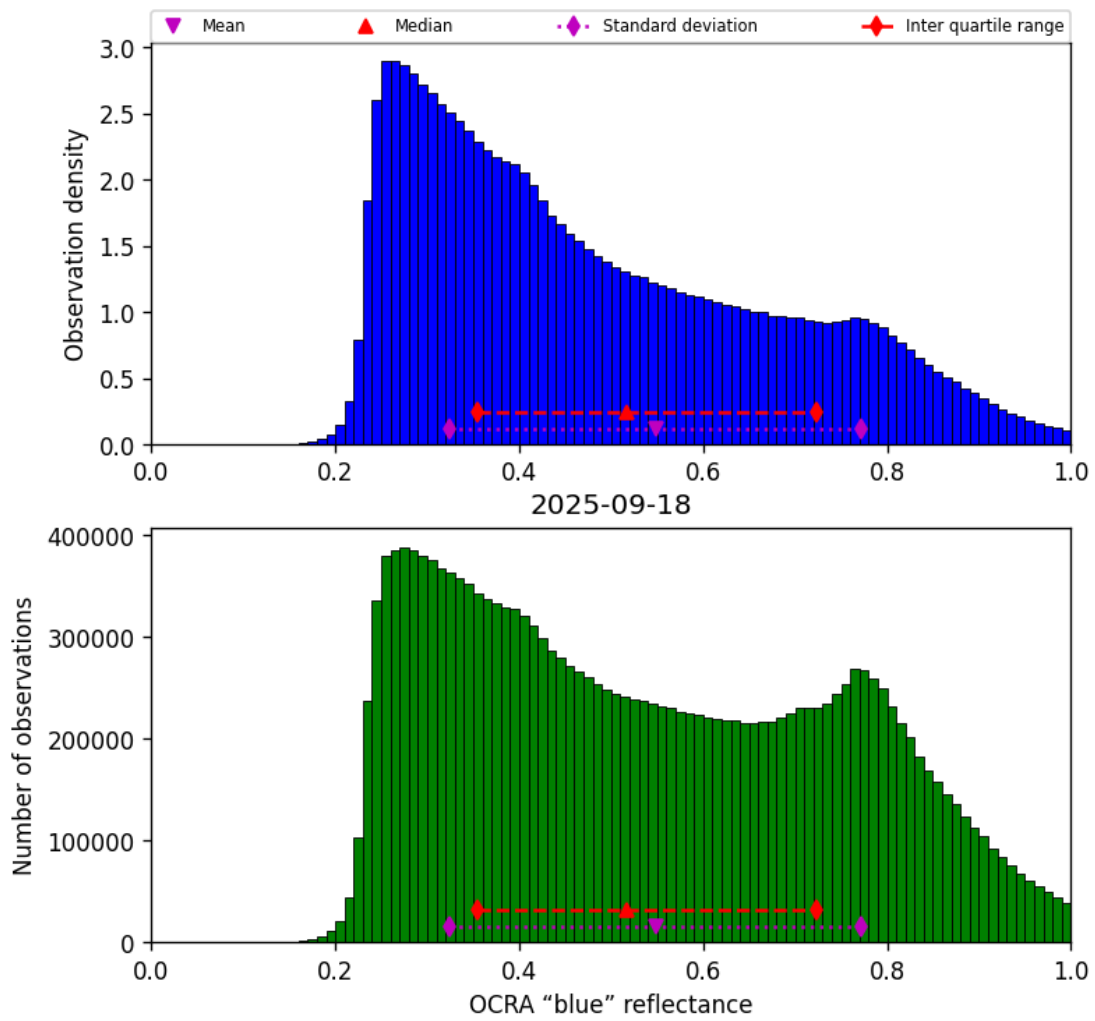


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-18 to 2025-09-18

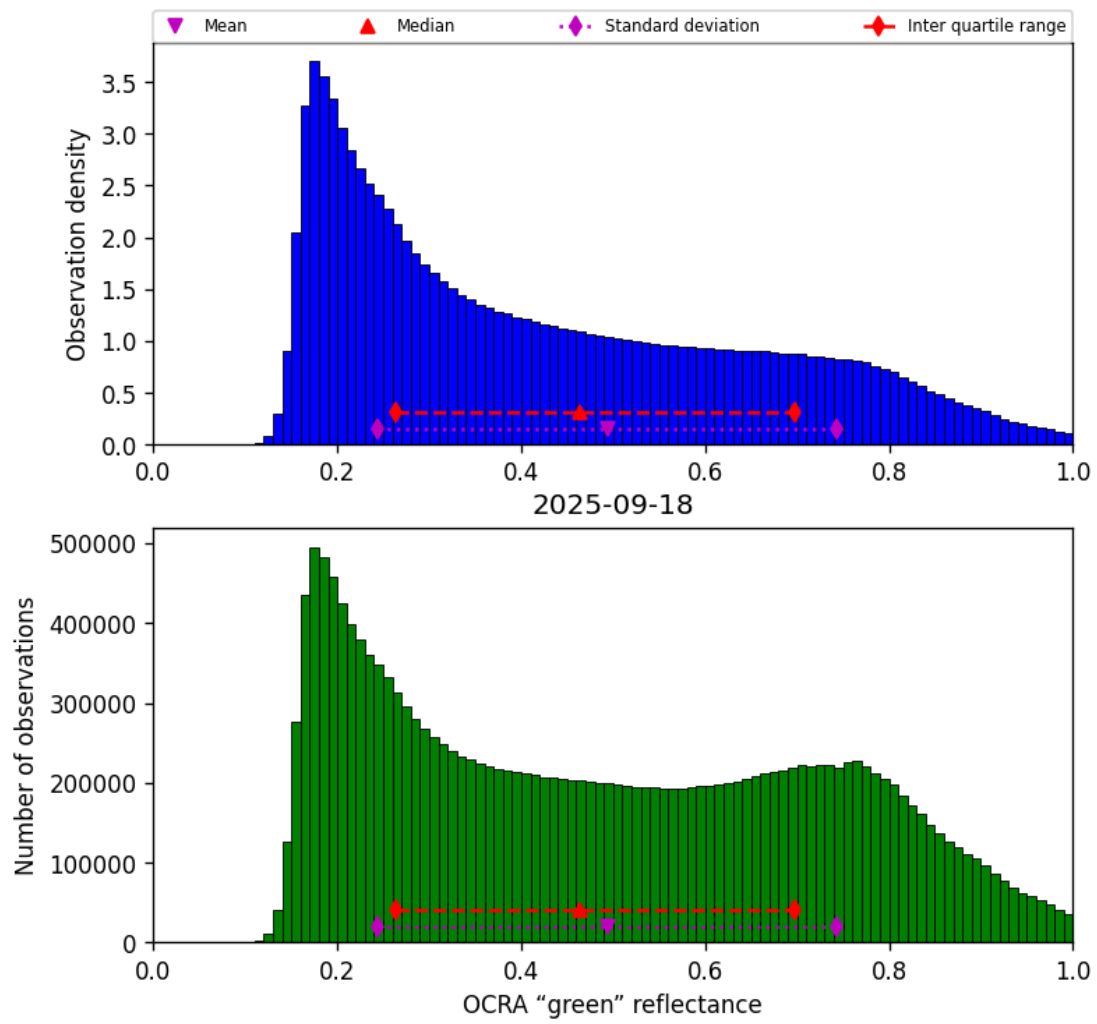


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-18 to 2025-09-18

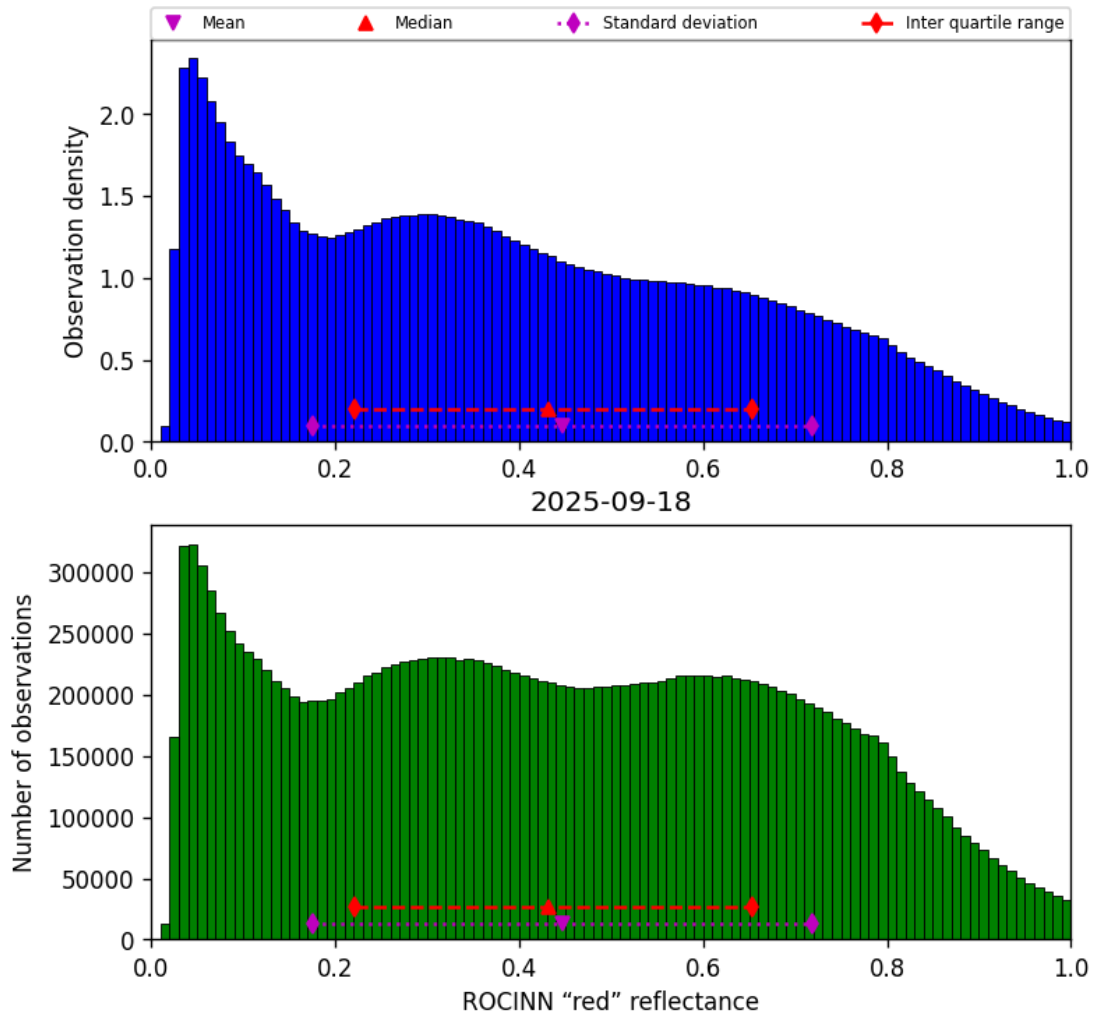


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-09-18 to 2025-09-18

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.

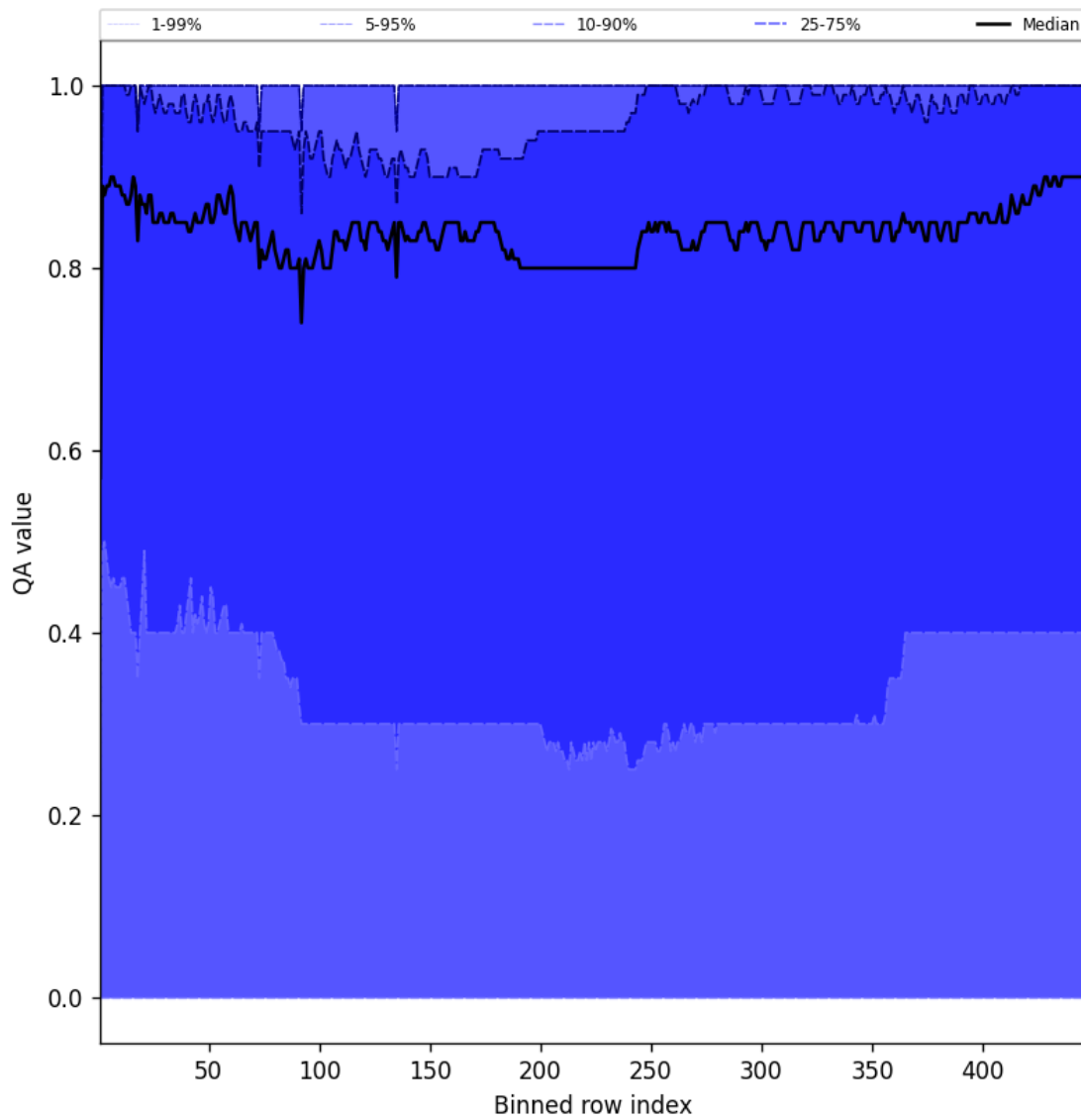


Figure 52: Along track statistics of “QA value” for 2025-09-18 to 2025-09-18

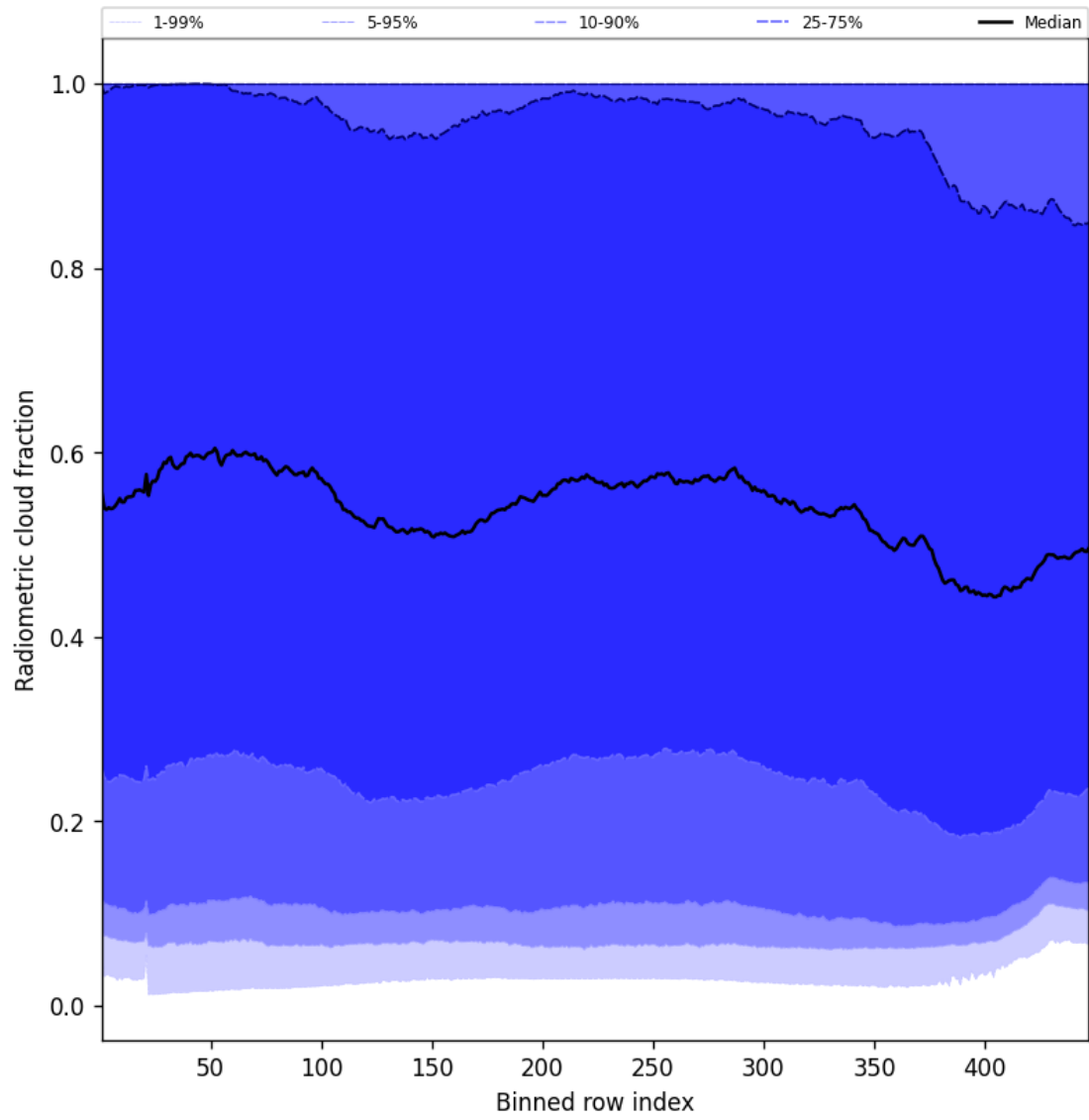


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-18 to 2025-09-18

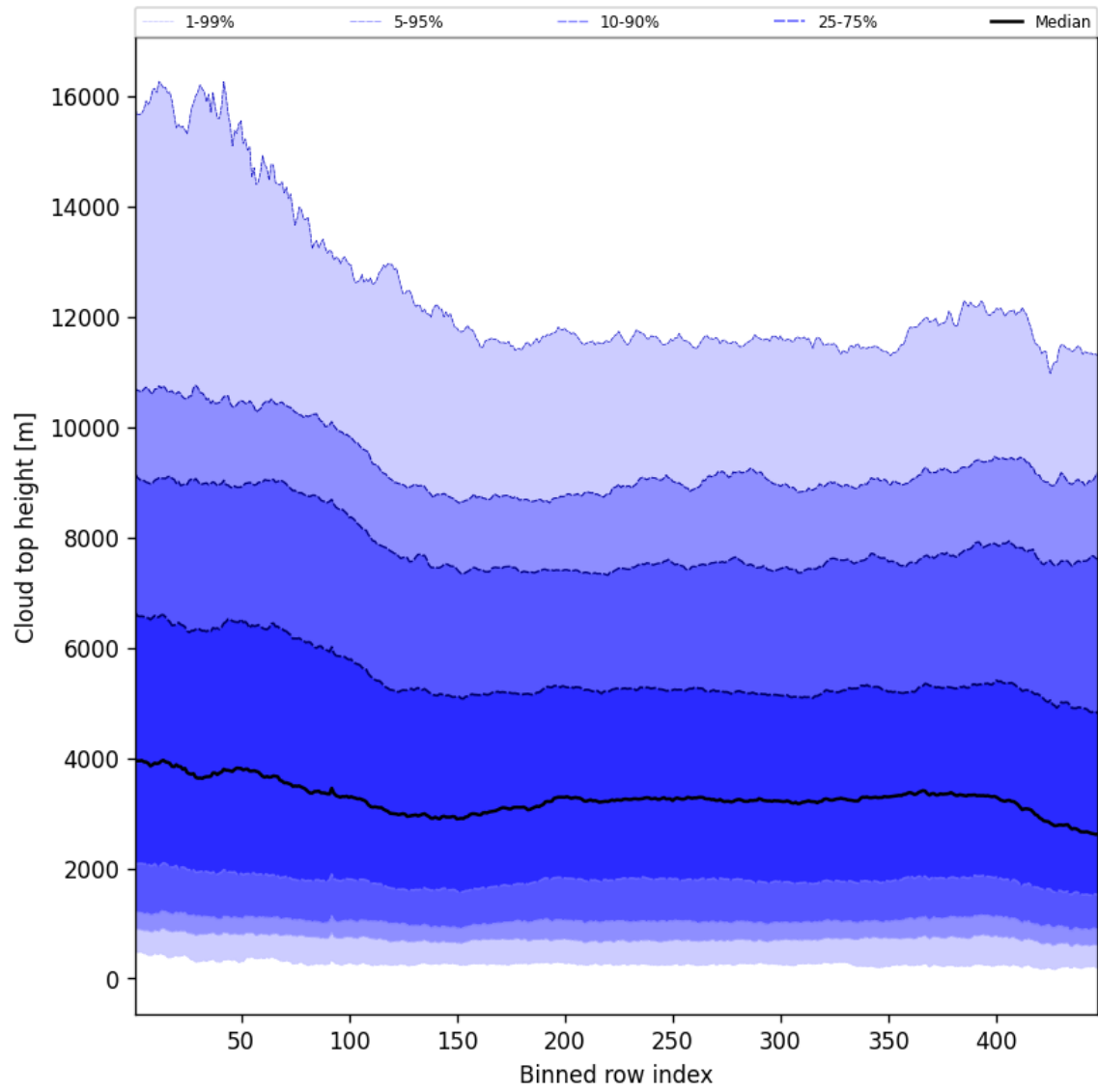


Figure 54: Along track statistics of “Cloud top height” for 2025-09-18 to 2025-09-18

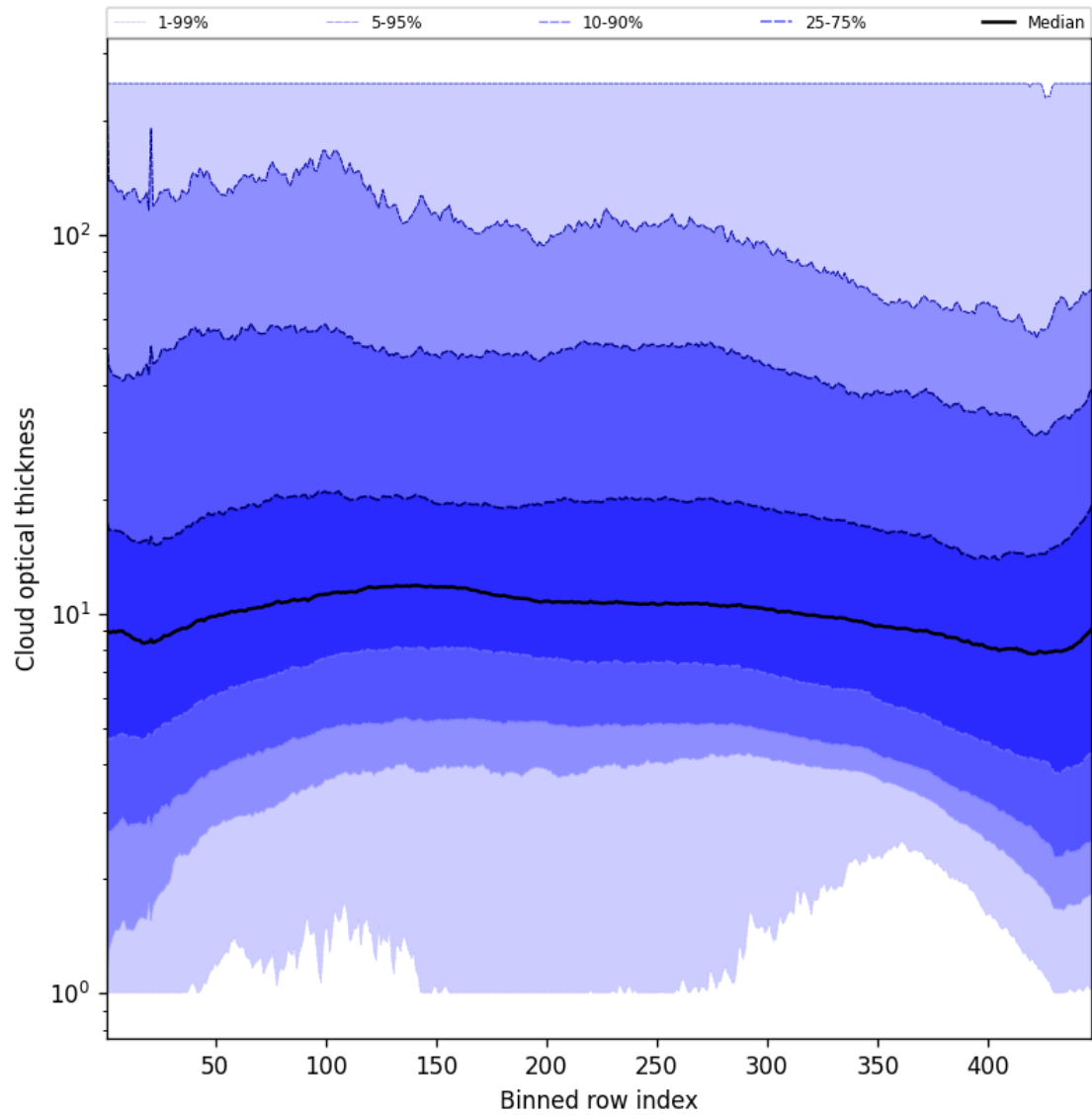


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-18 to 2025-09-18

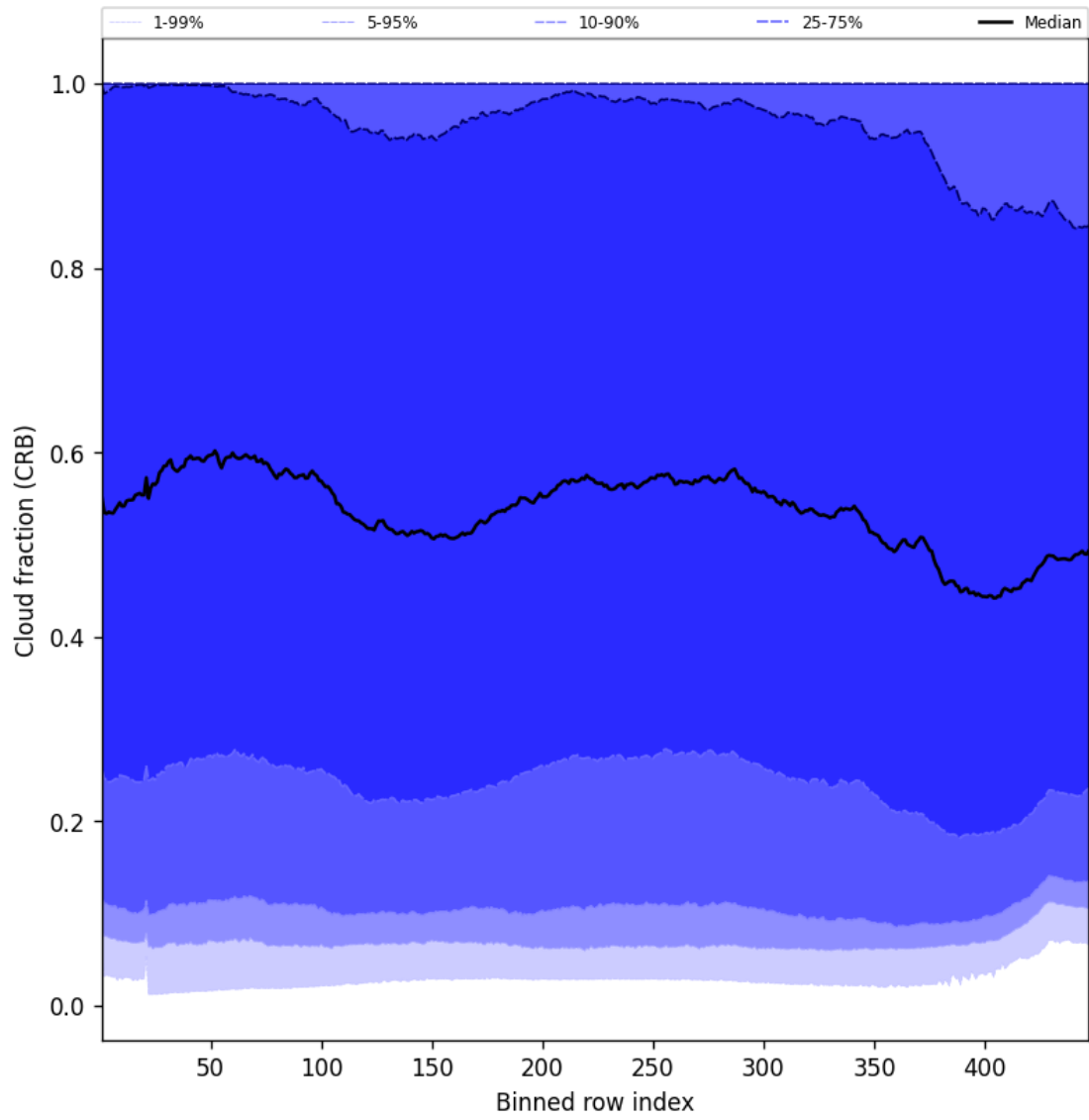


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-18 to 2025-09-18

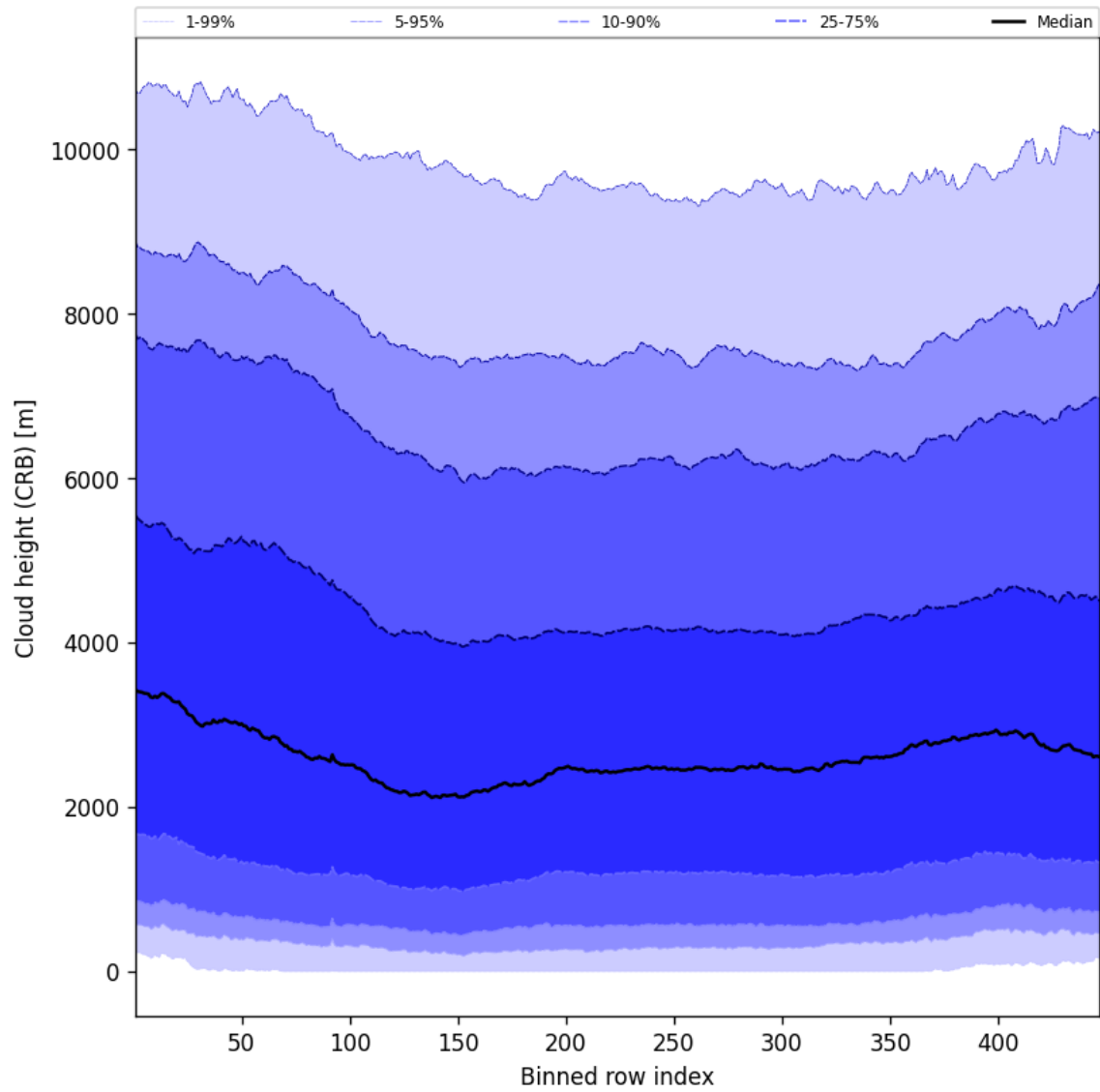


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-18 to 2025-09-18

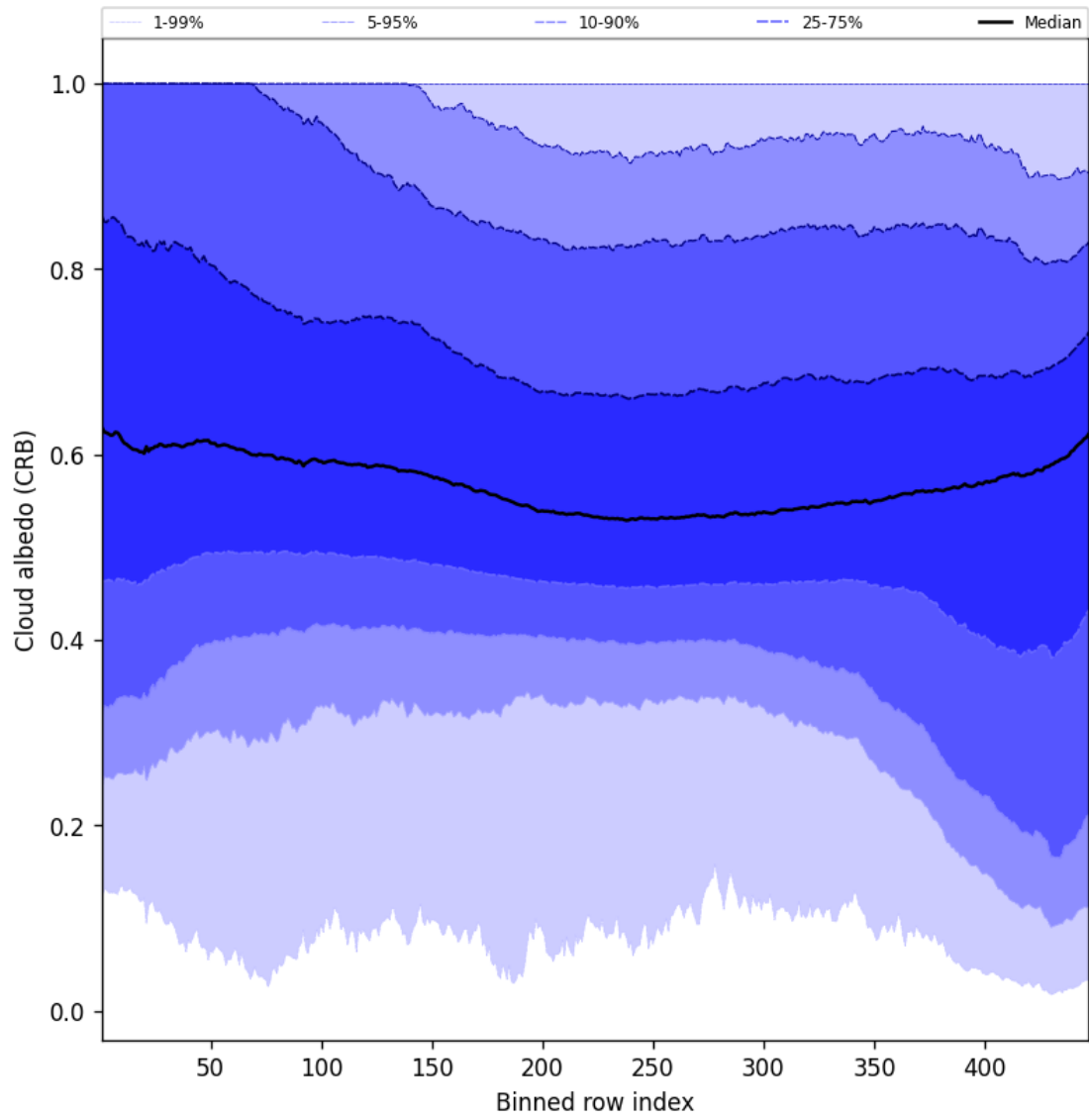


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-18 to 2025-09-18

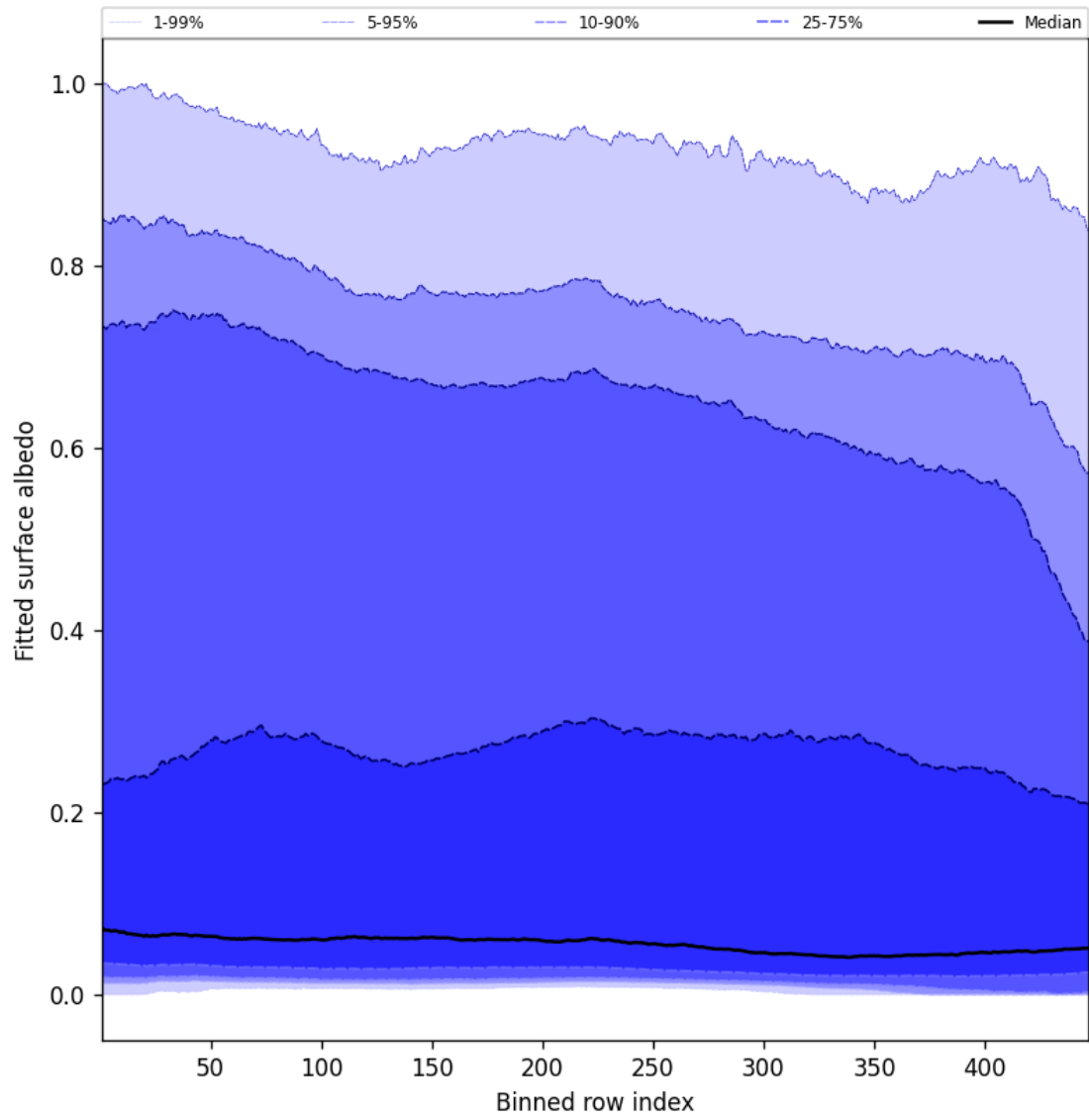


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-09-18 to 2025-09-18

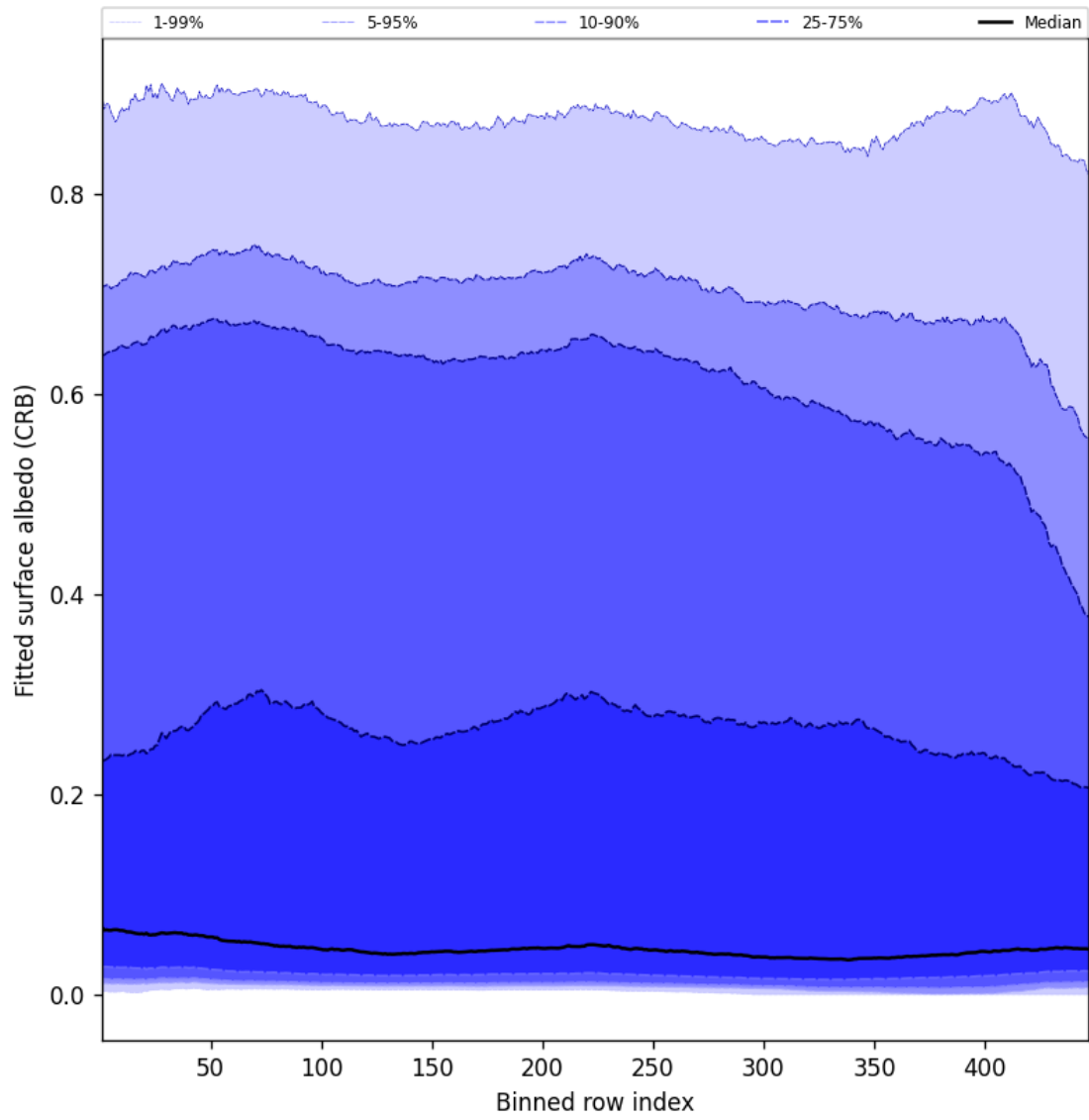


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-18 to 2025-09-18

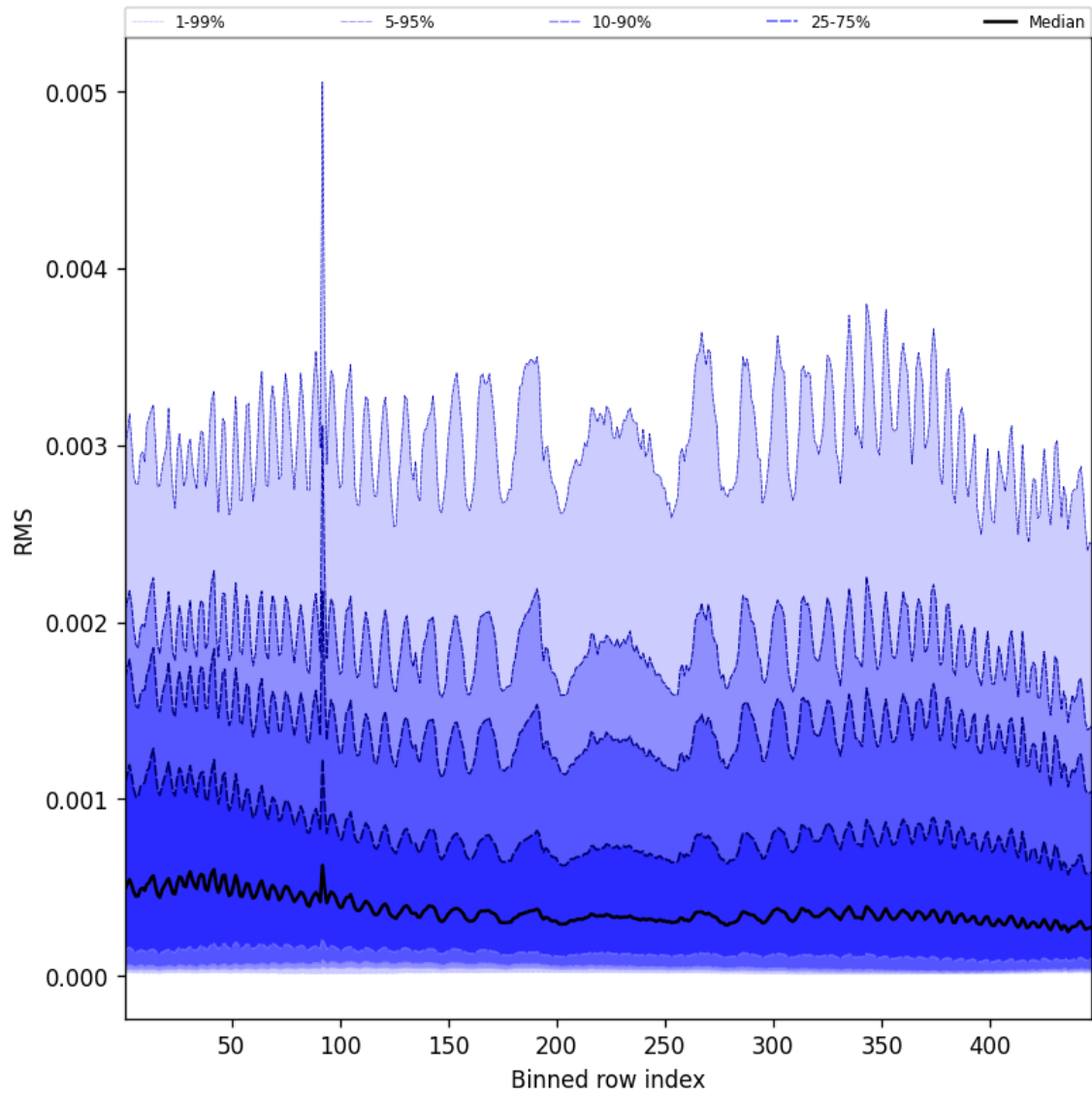


Figure 61: Along track statistics of “RMS” for 2025-09-18 to 2025-09-18

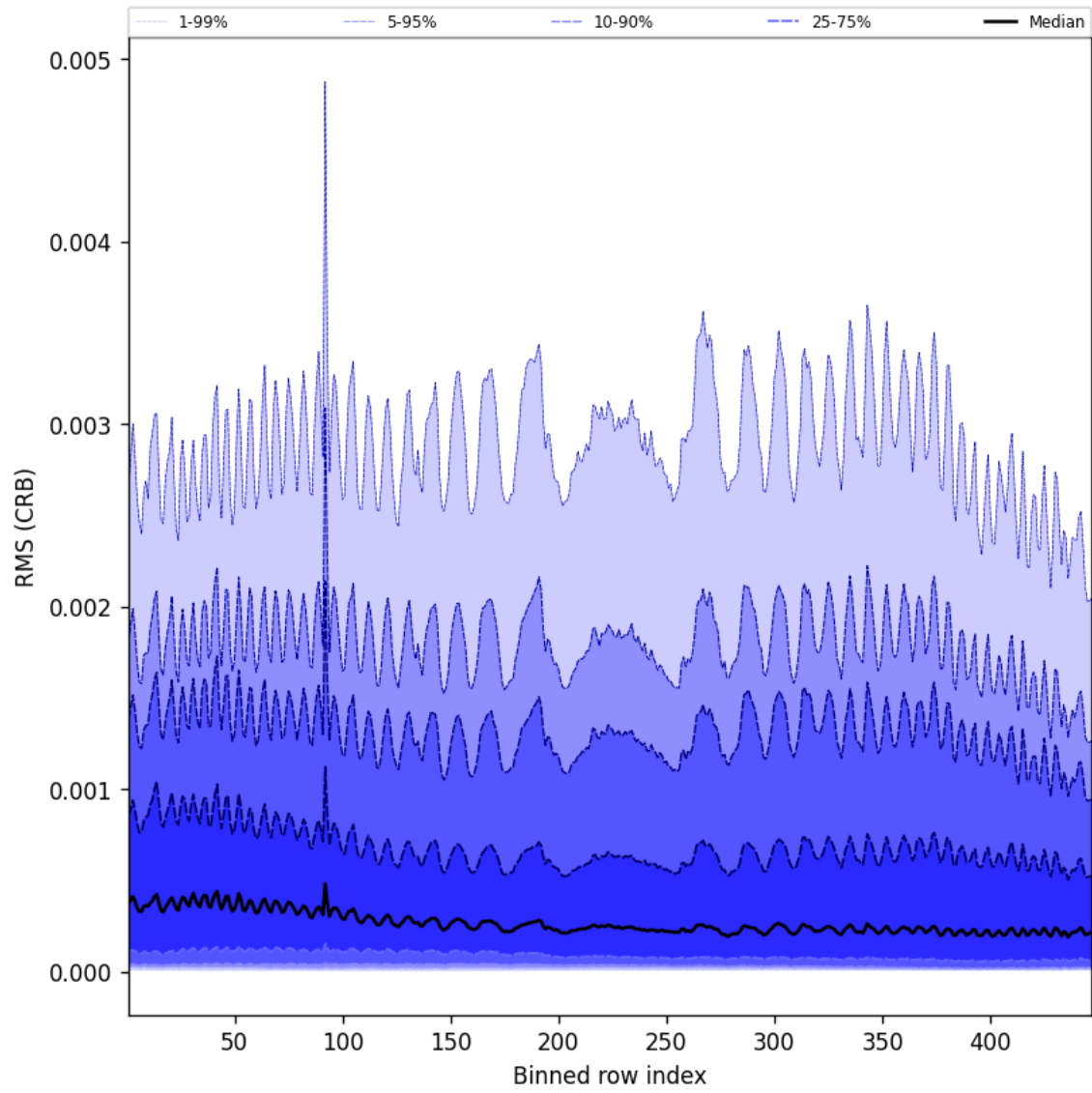


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-18 to 2025-09-18

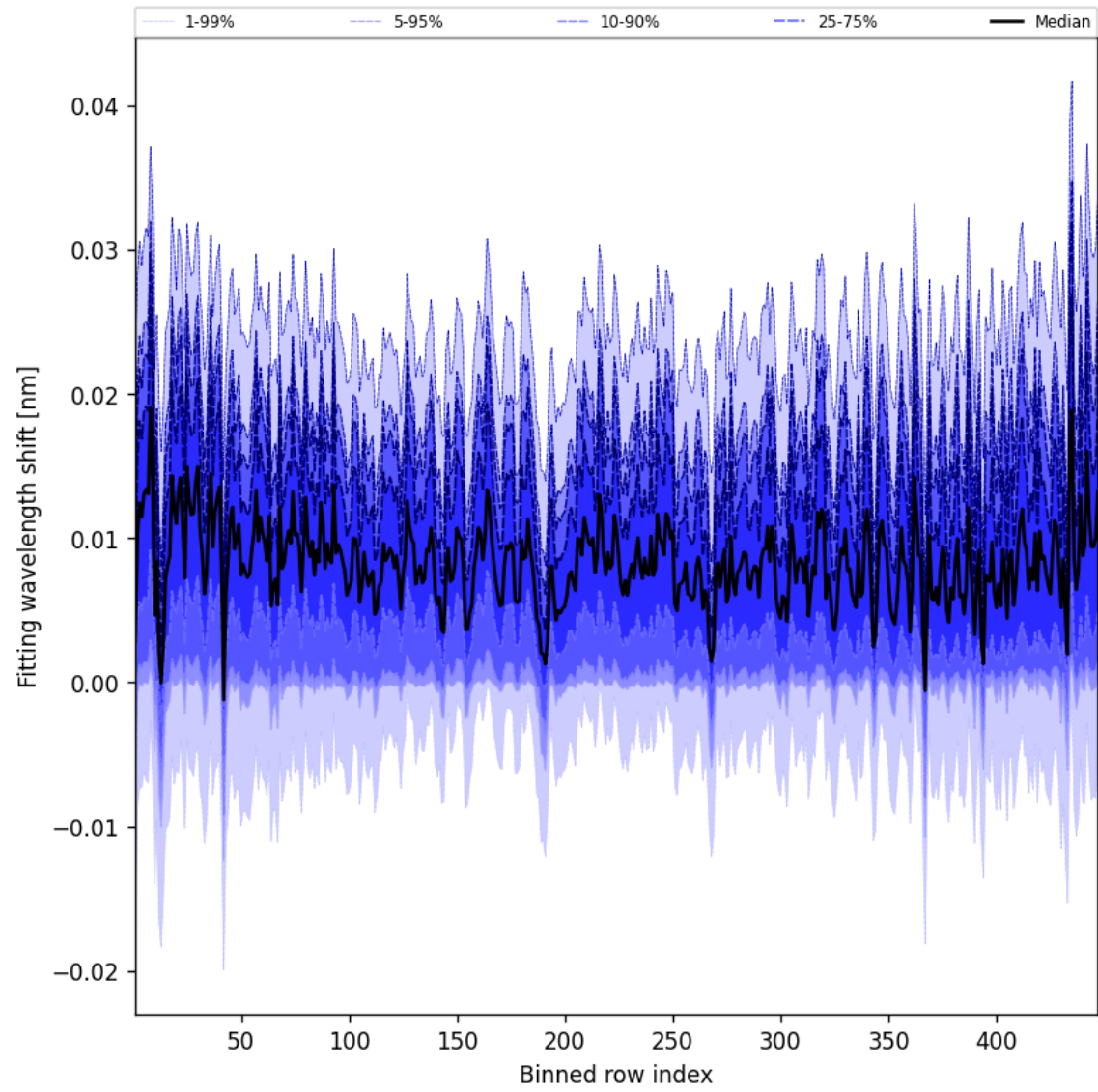


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-18 to 2025-09-18

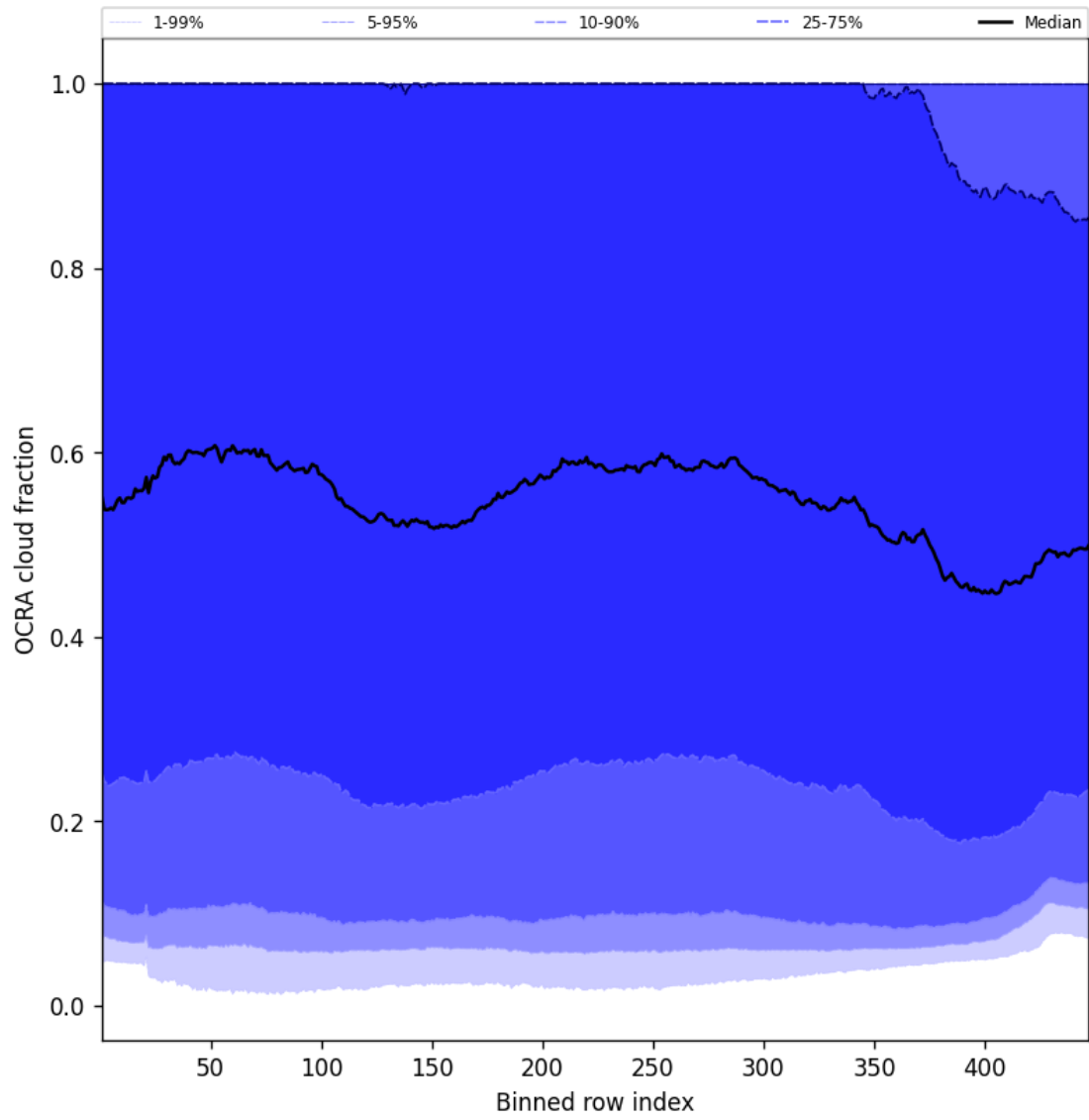


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-18 to 2025-09-18

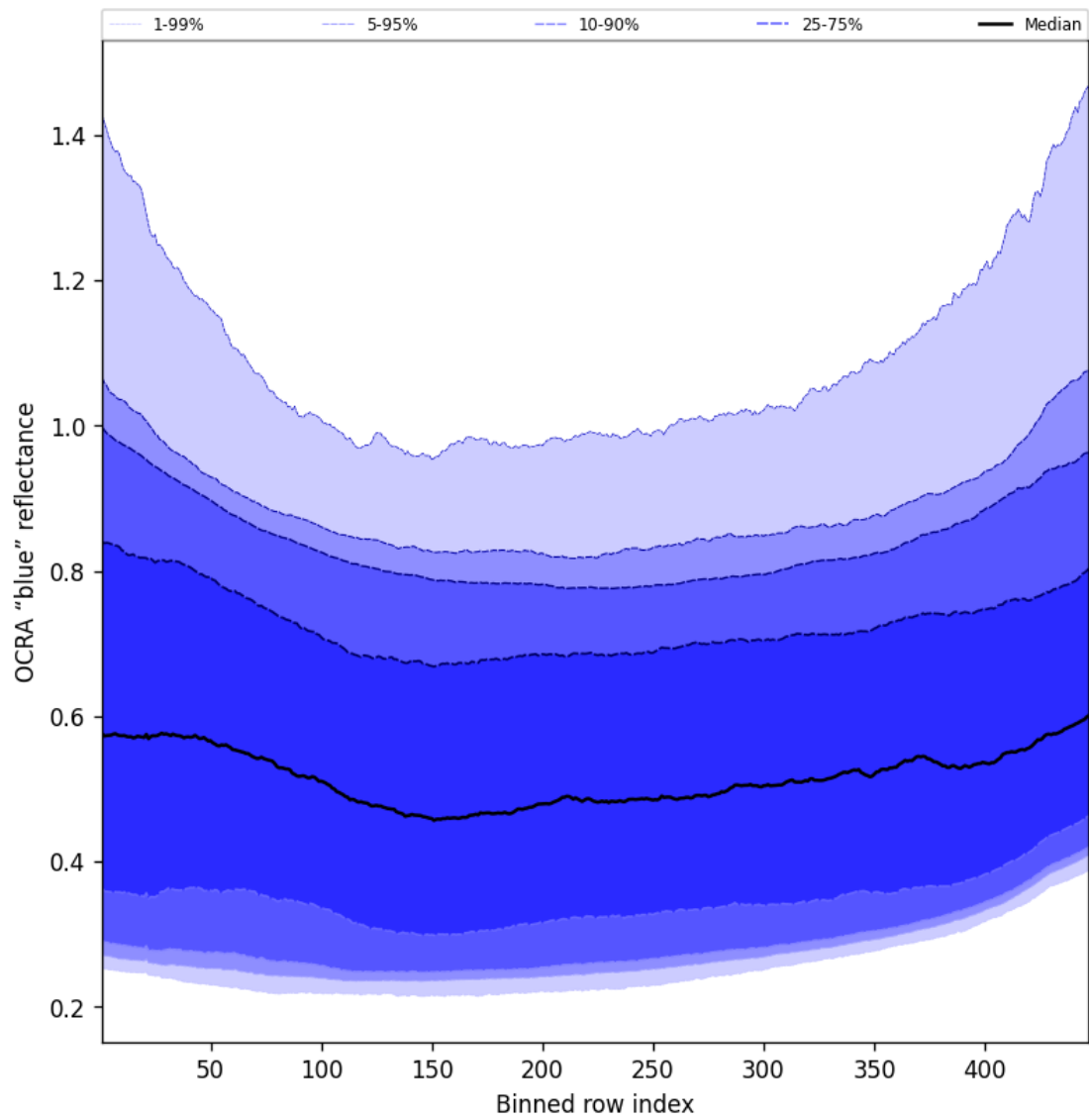


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-18 to 2025-09-18

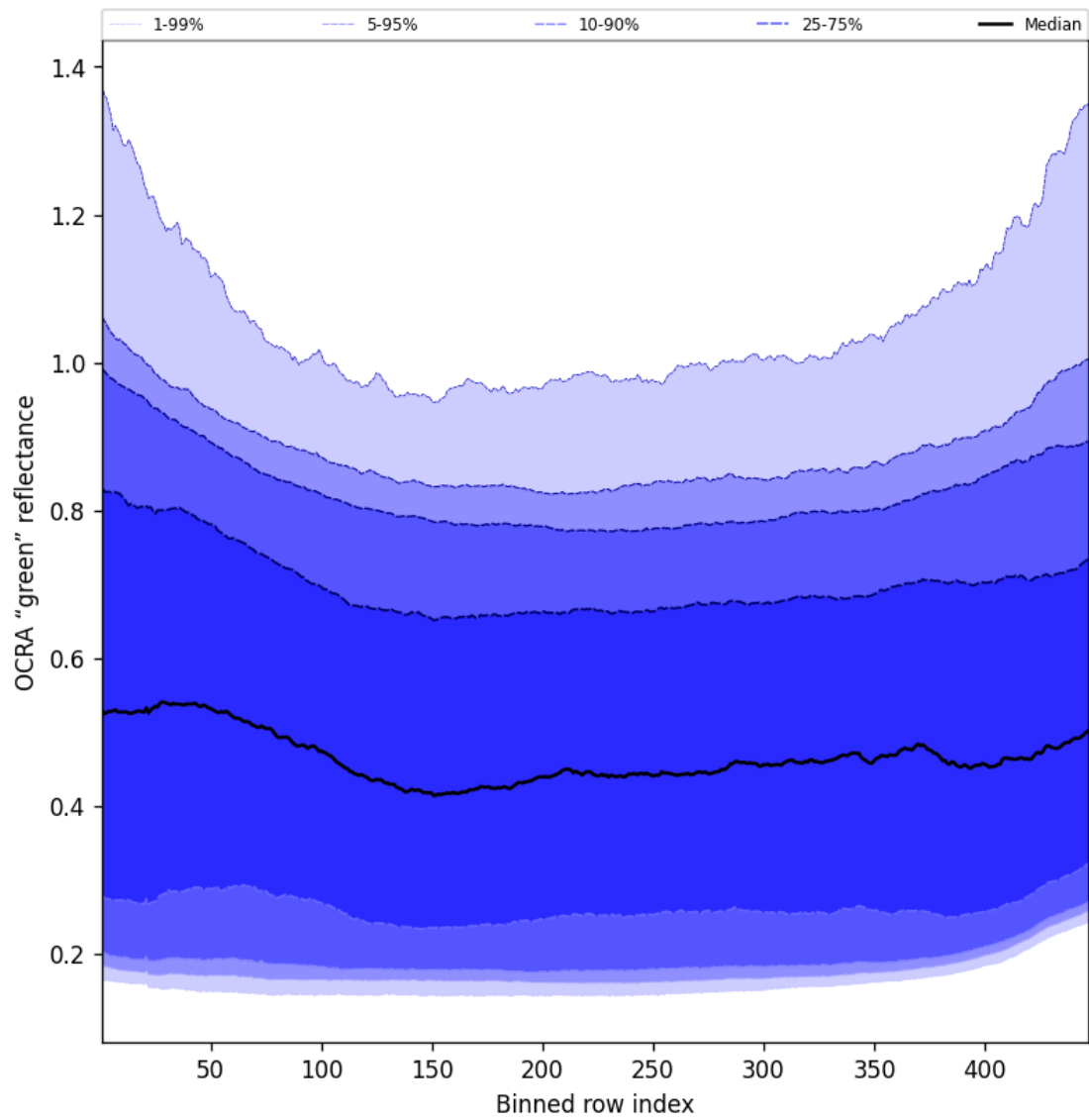


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-18 to 2025-09-18

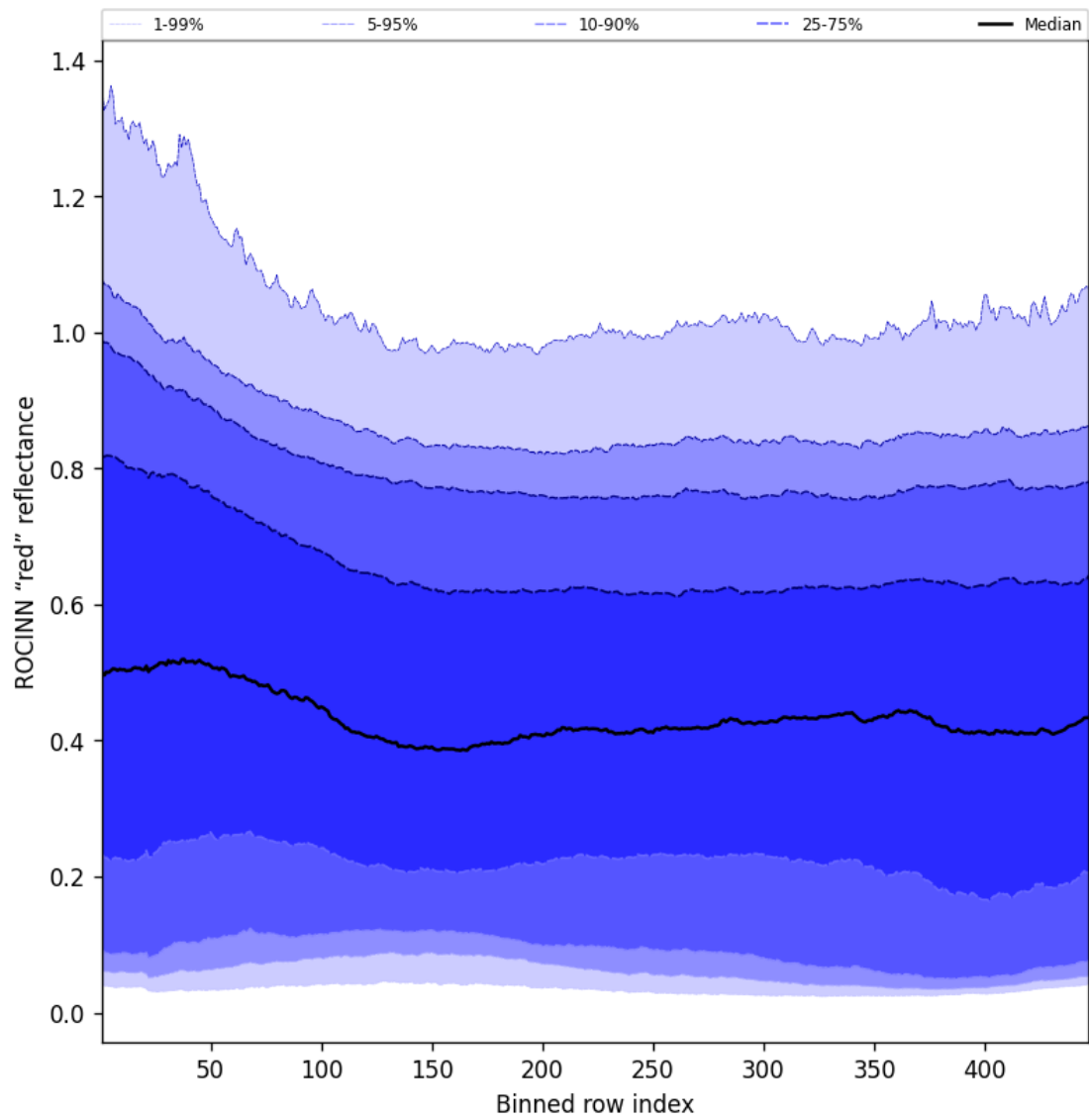


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-09-18 to 2025-09-18

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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