

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-27 (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]	0.640 ± 0.373	18433664	0.995	0.600	0.820	0.0	1.000
cloud fraction [1]	0.570 ± 0.346	18433664	0.995	0.736	0.553	4.749×10^{-3}	1.000
cloud top height [m]	$(0.387 \pm 0.271) \times 10^4$	18433664	1.575×10^3	3.691×10^3	3.224×10^3	0.0	2.000×10^4
cloud optical thickness [1]	22.5 ± 41.3	18433664	9.77	12.6	10.2	1.000	250
cloud fraction crb [1]	0.570 ± 0.346	18433664	0.995	0.735	0.551	8.020×10^{-3}	1.000
cloud height crb [m]	$(0.307 \pm 0.229) \times 10^4$	18433664	975	3.200×10^3	2.579×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.601 ± 0.208	18433664	0.995	0.262	0.577	0.0	1.000
surface albedo fitted [1]	0.206 ± 0.270	18433664	2.500×10^{-2}	0.245	5.404×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.193 ± 0.256	18433664	1.500×10^{-2}	0.246	4.421×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.106 \pm 7.846) \times 10^{-4}$	18433664	5.000×10^{-5}	7.240×10^{-4}	3.744×10^{-4}	1.189×10^{-6}	0.405
fitted root mean square crb [1]	$(5.286 \pm 7.171) \times 10^{-4}$	18433664	5.000×10^{-5}	6.369×10^{-4}	2.744×10^{-4}	1.066×10^{-6}	0.334
wavelength shift [nm]	$(8.597 \pm 7.165) \times 10^{-3}$	18433664	9.000×10^{-4}	1.042×10^{-2}	8.043×10^{-3}	-4.385×10^{-2}	0.113
cloud fraction apriori [1]	0.575 ± 0.351	18433664	0.995	0.762	0.562	0.0	1.000
reflectance blue ocra [1]	0.561 ± 0.226	18433664	0.295	0.378	0.537	0.119	2.05
reflectance green ocra [1]	0.508 ± 0.254	18433664	0.175	0.446	0.489	7.001×10^{-2}	1.94
reflectance continuum aband [1]	0.460 ± 0.276	18433664	4.500×10^{-2}	0.450	0.451	1.036×10^{-2}	4.63

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	0.350	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.676×10^{-2}	6.914×10^{-2}	0.106	0.154	0.241	0.977	1.000	1.000	1.000	1.000
cloud top height [m]	273	743	1.044×10^3	1.322×10^3	1.737×10^3	5.428×10^3	6.639×10^3	7.738×10^3	9.144×10^3	1.175×10^4
cloud optical thickness [1]	1.000	2.79	3.93	4.90	6.26	18.9	29.1	43.1	80.0	250
cloud fraction crb [1]	2.625×10^{-2}	6.824×10^{-2}	0.106	0.154	0.241	0.976	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	338	601	841	1.198×10^3	4.398×10^3	5.460×10^3	6.431×10^3	7.601×10^3	9.453×10^3
cloud albedo crb [1]	6.925×10^{-2}	0.262	0.368	0.425	0.471	0.733	0.823	0.913	1.000	1.000
surface albedo fitted [1]	0.0	9.285×10^{-3}	1.479×10^{-2}	1.952×10^{-2}	2.626×10^{-2}	0.271	0.562	0.707	0.812	0.970
surface albedo fitted crb [1]	0.0	7.299×10^{-3}	1.124×10^{-2}	1.494×10^{-2}	2.046×10^{-2}	0.267	0.544	0.665	0.747	0.904
fitted root mean square [1]	1.566×10^{-5}	3.015×10^{-5}	4.874×10^{-5}	7.656×10^{-5}	1.272×10^{-4}	8.512×10^{-4}	1.152×10^{-3}	1.458×10^{-3}	1.938×10^{-3}	3.203×10^{-3}
fitted root mean square crb [1]	7.901×10^{-6}	1.797×10^{-5}	3.141×10^{-5}	4.980×10^{-5}	8.675×10^{-5}	7.237×10^{-4}	1.041×10^{-3}	1.365×10^{-3}	1.865×10^{-3}	3.065×10^{-3}
wavelength shift [nm]	-6.762×10^{-3}	-4.581×10^{-4}	3.416×10^{-4}	1.295×10^{-3}	3.041×10^{-3}	1.346×10^{-2}	1.592×10^{-2}	1.801×10^{-2}	2.074×10^{-2}	2.671×10^{-2}
cloud fraction apriori [1]	2.992×10^{-2}	6.553×10^{-2}	0.100	0.147	0.238	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.232	0.257	0.283	0.314	0.364	0.742	0.806	0.855	0.924	1.13
reflectance green ocra [1]	0.152	0.173	0.192	0.219	0.271	0.717	0.793	0.846	0.914	1.09
reflectance continuum aband [1]	3.043×10^{-2}	5.419×10^{-2}	8.856×10^{-2}	0.136	0.226	0.676	0.762	0.822	0.897	1.07

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 ± 0.373	9494549	0.600	0.830	0.0	1.000	0.350	0.950
cloud fraction [1]	0.592 ± 0.354	9494549	0.758	0.616	4.749×10^{-3}	1.000	0.240	0.998
cloud top height [m]	$(0.403 \pm 0.260) \times 10^4$	9494549	3.604×10^3	3.497×10^3	0.0	2.000×10^4	1.959×10^3	5.563×10^3
cloud optical thickness [1]	21.6 ± 34.7	9494549	14.6	10.5	1.000	250	6.52	21.1
cloud fraction crb [1]	0.591 ± 0.354	9494549	0.759	0.614	8.443×10^{-3}	1.000	0.238	0.998
cloud height crb [m]	$(0.329 \pm 0.224) \times 10^4$	9494549	3.119×10^3	2.924×10^3	0.0	2.000×10^4	1.458×10^3	4.577×10^3
cloud albedo crb [1]	0.582 ± 0.198	9494549	0.250	0.570	0.0	1.000	0.462	0.711
surface albedo fitted [1]	0.162 ± 0.201	9494549	0.194	6.654×10^{-2}	0.0	1.000	2.798×10^{-2}	0.222
surface albedo fitted crb [1]	0.155 ± 0.199	9494549	0.195	5.291×10^{-2}	0.0	1.000	2.163×10^{-2}	0.216
fitted root mean square [1]	$(5.609 \pm 8.509) \times 10^{-4}$	9494549	6.249×10^{-4}	2.749×10^{-4}	1.189×10^{-6}	0.405	1.077×10^{-4}	7.325×10^{-4}
fitted root mean square crb [1]	$(5.127 \pm 8.035) \times 10^{-4}$	9494549	6.124×10^{-4}	2.132×10^{-4}	1.066×10^{-6}	0.334	6.591×10^{-5}	6.783×10^{-4}
wavelength shift [nm]	$(7.703 \pm 6.949) \times 10^{-3}$	9494549	9.822×10^{-3}	6.850×10^{-3}	-4.385×10^{-2}	0.113	2.330×10^{-3}	1.215×10^{-2}
cloud fraction apriori [1]	0.596 ± 0.359	9494549	0.767	0.625	0.0	1.000	0.233	1.000
reflectance blue ocra [1]	0.538 ± 0.218	9494549	0.346	0.509	0.119	1.98	0.351	0.697
reflectance green ocra [1]	0.482 ± 0.244	9494549	0.412	0.455	7.001×10^{-2}	1.90	0.258	0.669
reflectance continuum aband [1]	0.439 ± 0.265	9494549	0.404	0.418	1.036×10^{-2}	4.63	0.223	0.627

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]	0.640 ± 0.374	8939115	0.600	0.810	0.0	1.000	0.350	0.950
cloud fraction [1]	0.547 ± 0.337	8939115	0.688	0.499	5.992×10^{-3}	1.000	0.243	0.931
cloud top height [m]	$(0.371 \pm 0.282) \times 10^4$	8939115	3.706×10^3	2.897×10^3	0.0	2.000×10^4	1.552×10^3	5.258×10^3
cloud optical thickness [1]	23.5 ± 47.4	8939115	10.7	10.00	1.000	250	6.00	16.7
cloud fraction crb [1]	0.547 ± 0.337	8939115	0.686	0.497	8.020×10^{-3}	1.000	0.244	0.930
cloud height crb [m]	$(0.283 \pm 0.231) \times 10^4$	8939115	3.178×10^3	2.165×10^3	0.0	2.000×10^4	995	4.173×10^3
cloud albedo crb [1]	0.621 ± 0.217	8939115	0.282	0.586	0.0	1.000	0.479	0.762
surface albedo fitted [1]	0.252 ± 0.321	8939115	0.569	4.603×10^{-2}	0.0	1.000	2.490×10^{-2}	0.593
surface albedo fitted crb [1]	0.232 ± 0.300	8939115	0.544	3.839×10^{-2}	0.0	1.000	1.943×10^{-2}	0.563
fitted root mean square [1]	$(6.634 \pm 7.035) \times 10^{-4}$	8939115	7.631×10^{-4}	4.902×10^{-4}	2.717×10^{-6}	6.906×10^{-2}	1.739×10^{-4}	9.371×10^{-4}
fitted root mean square crb [1]	$(5.455 \pm 6.115) \times 10^{-4}$	8939115	6.397×10^{-4}	3.376×10^{-4}	2.587×10^{-6}	1.683×10^{-2}	1.198×10^{-4}	7.594×10^{-4}
wavelength shift [nm]	$(9.546 \pm 7.268) \times 10^{-3}$	8939115	1.059×10^{-2}	9.434×10^{-3}	-4.297×10^{-2}	6.320×10^{-2}	3.984×10^{-3}	1.457×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.342	8939115	0.721	0.508	0.0	1.000	0.242	0.963
reflectance blue ocrs [1]	0.586 ± 0.231	8939115	0.396	0.573	0.137	2.05	0.381	0.777
reflectance green ocrs [1]	0.536 ± 0.260	8939115	0.471	0.533	8.641×10^{-2}	1.94	0.290	0.760
reflectance continuum aband [1]	0.483 ± 0.285	8939115	0.485	0.500	1.302×10^{-2}	4.29	0.230	0.715

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]	0.672 ± 0.355	12696985	0.560	0.860	0.0	1.000	0.400	0.960
cloud fraction [1]	0.579 ± 0.346	12696985	0.731	0.582	5.992×10^{-3}	1.000	0.244	0.975
cloud top height [m]	$(0.349 \pm 0.246) \times 10^4$	12696985	3.196×10^3	2.847×10^3	0.0	2.000×10^4	1.597×10^3	4.794×10^3
cloud optical thickness [1]	21.3 ± 36.6	12696985	11.9	10.7	1.000	250	7.13	19.0
cloud fraction crb [1]	0.577 ± 0.346	12696985	0.732	0.580	8.020×10^{-3}	1.000	0.242	0.974
cloud height crb [m]	$(0.279 \pm 0.218) \times 10^4$	12696985	2.927×10^3	2.245×10^3	0.0	2.000×10^4	1.058×10^3	3.985×10^3
cloud albedo crb [1]	0.565 ± 0.185	12696985	0.218	0.548	0.0	1.000	0.458	0.676
surface albedo fitted [1]	0.118 ± 0.215	12696985	3.901×10^{-2}	3.423×10^{-2}	0.0	1.000	2.065×10^{-2}	5.966×10^{-2}
surface albedo fitted crb [1]	0.109 ± 0.208	12696985	3.305×10^{-2}	2.721×10^{-2}	0.0	1.000	1.584×10^{-2}	4.888×10^{-2}
fitted root mean square [1]	$(5.366 \pm 7.454) \times 10^{-4}$	12696985	6.590×10^{-4}	2.800×10^{-4}	1.189×10^{-6}	0.405	9.453×10^{-5}	7.536×10^{-4}
fitted root mean square crb [1]	$(4.882 \pm 7.012) \times 10^{-4}$	12696985	6.125×10^{-4}	2.253×10^{-4}	1.066×10^{-6}	0.334	6.814×10^{-5}	6.806×10^{-4}
wavelength shift [nm]	$(8.315 \pm 7.416) \times 10^{-3}$	12696985	1.088×10^{-2}	7.519×10^{-3}	-4.385×10^{-2}	0.113	2.518×10^{-3}	1.339×10^{-2}
cloud fraction apriori [1]	0.582 ± 0.351	12696985	0.762	0.589	0.0	1.000	0.238	1.000
reflectance blue ocra [1]	0.534 ± 0.208	12696985	0.333	0.508	0.156	2.04	0.356	0.689
reflectance green ocra [1]	0.474 ± 0.234	12696985	0.402	0.453	8.287×10^{-2}	1.89	0.258	0.660
reflectance continuum aband [1]	0.404 ± 0.263	12696985	0.458	0.395	1.211×10^{-2}	3.91	0.155	0.613

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]	0.526 ± 0.413	4188091	0.900	0.670	0.0	1.000	0.0	0.900
cloud fraction [1]	0.518 ± 0.339	4188091	0.700	0.425	6.130×10^{-3}	1.000	0.224	0.925
cloud top height [m]	$(0.513 \pm 0.314) \times 10^4$	4188091	4.379×10^3	4.799×10^3	0.0	2.000×10^4	2.649×10^3	7.027×10^3
cloud optical thickness [1]	25.1 ± 52.5	4188091	11.6	7.79	1.000	250	4.85	16.5
cloud fraction crb [1]	0.519 ± 0.339	4188091	0.697	0.424	8.072×10^{-3}	1.000	0.227	0.924
cloud height crb [m]	$(0.395 \pm 0.245) \times 10^4$	4188091	3.646×10^3	3.623×10^3	0.0	2.000×10^4	1.954×10^3	5.600×10^3
cloud albedo crb [1]	0.705 ± 0.241	4188091	0.402	0.712	0.0	1.000	0.537	0.939
surface albedo fitted [1]	0.465 ± 0.279	4188091	0.516	0.333	0.0	1.000	0.216	0.732
surface albedo fitted crb [1]	0.439 ± 0.252	4188091	0.468	0.332	5.037×10^{-3}	1.000	0.211	0.678
fitted root mean square [1]	$(8.456 \pm 8.452) \times 10^{-4}$	4188091	7.554×10^{-4}	6.472×10^{-4}	3.465×10^{-6}	0.231	3.437×10^{-4}	1.099×10^{-3}
fitted root mean square crb [1]	$(6.503 \pm 7.582) \times 10^{-4}$	4188091	6.881×10^{-4}	4.092×10^{-4}	2.745×10^{-6}	0.296	1.713×10^{-4}	8.594×10^{-4}
wavelength shift [nm]	$(9.289 \pm 6.491) \times 10^{-3}$	4188091	9.203×10^{-3}	9.015×10^{-3}	-4.040×10^{-2}	5.684×10^{-2}	4.443×10^{-3}	1.365×10^{-2}
cloud fraction apriori [1]	0.526 ± 0.345	4188091	0.762	0.433	0.0	1.000	0.224	0.986
reflectance blue ocra [1]	0.647 ± 0.261	4188091	0.448	0.718	0.119	2.05	0.393	0.840
reflectance green ocra [1]	0.613 ± 0.286	4188091	0.521	0.693	7.001×10^{-2}	1.94	0.317	0.838
reflectance continuum aband [1]	0.618 ± 0.260	4188091	0.428	0.647	1.391×10^{-2}	4.63	0.384	0.813

3 Granule outlines

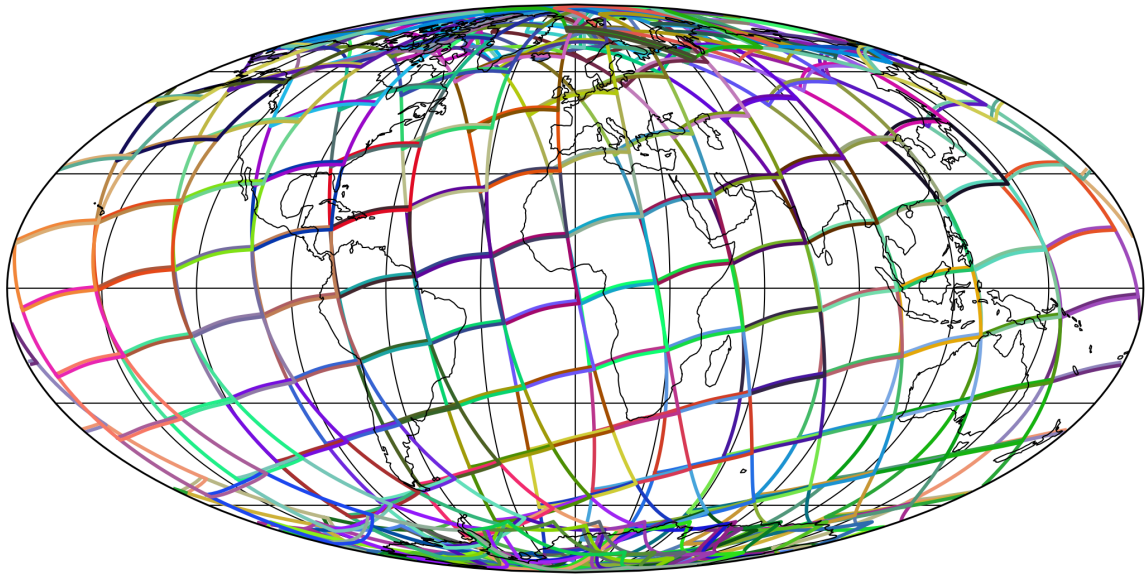


Figure 1: Outline of the granules.

4 Input data monitoring

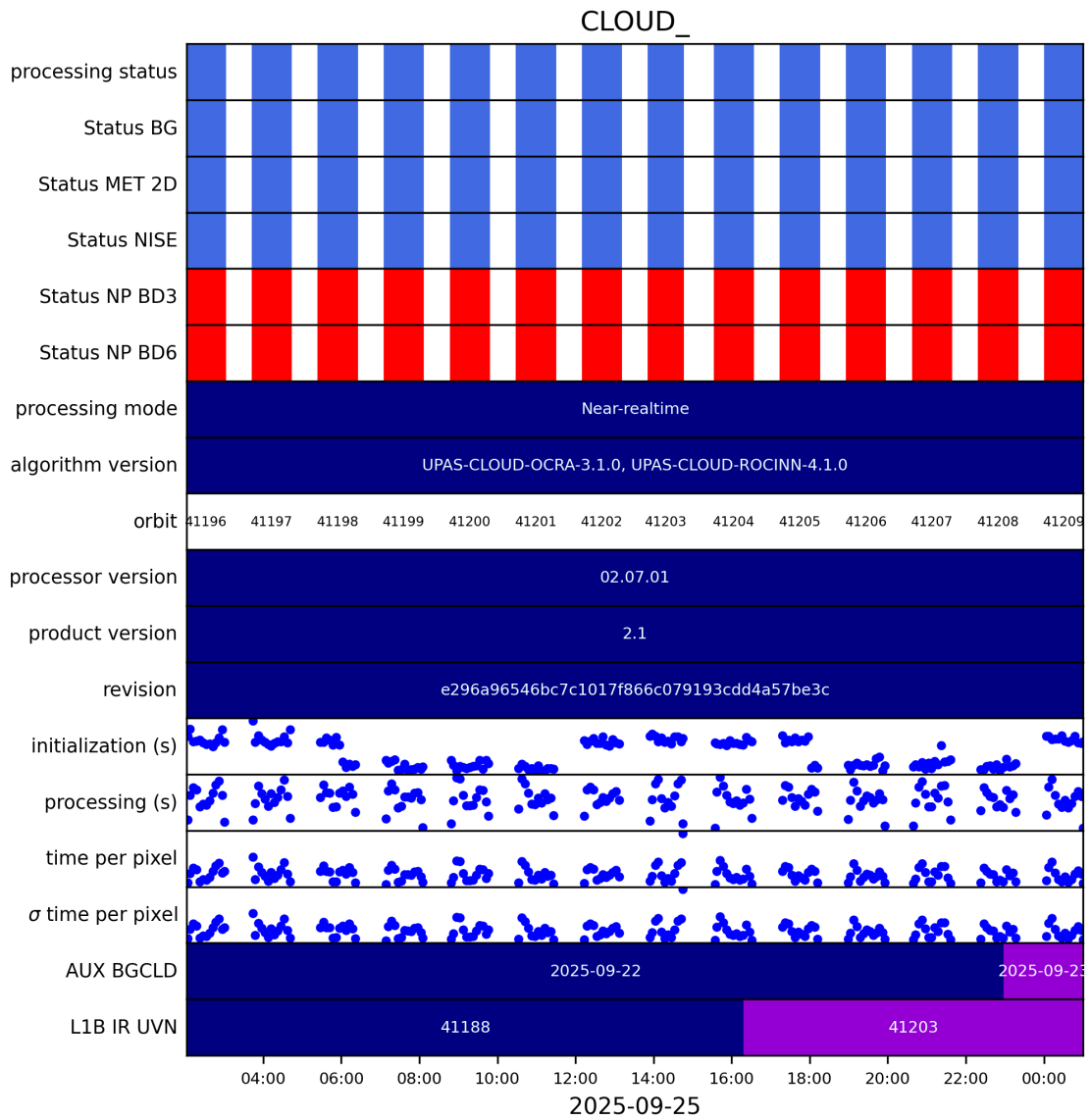


Figure 2: Input data per granule

5 Warnings and errors

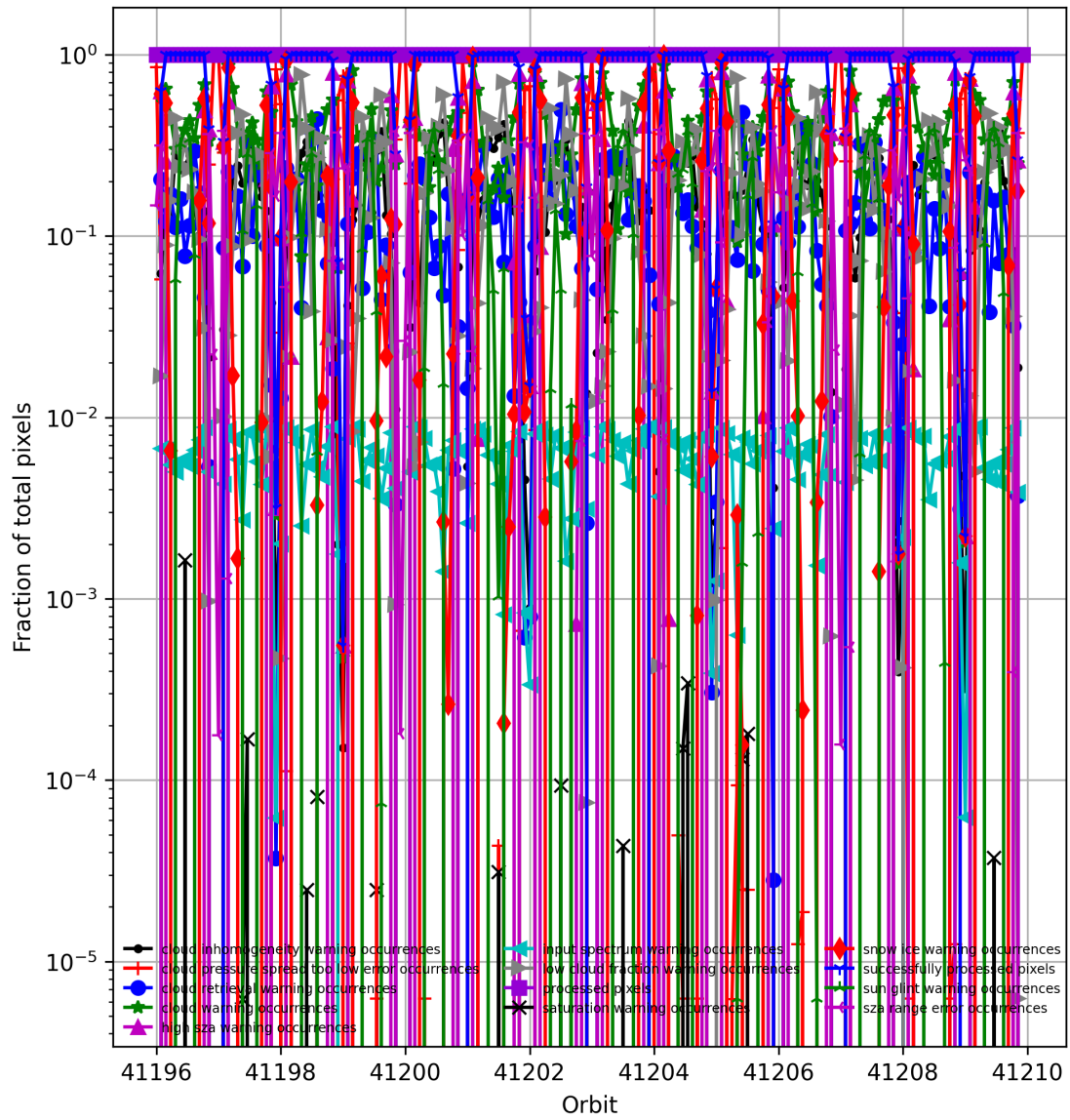


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

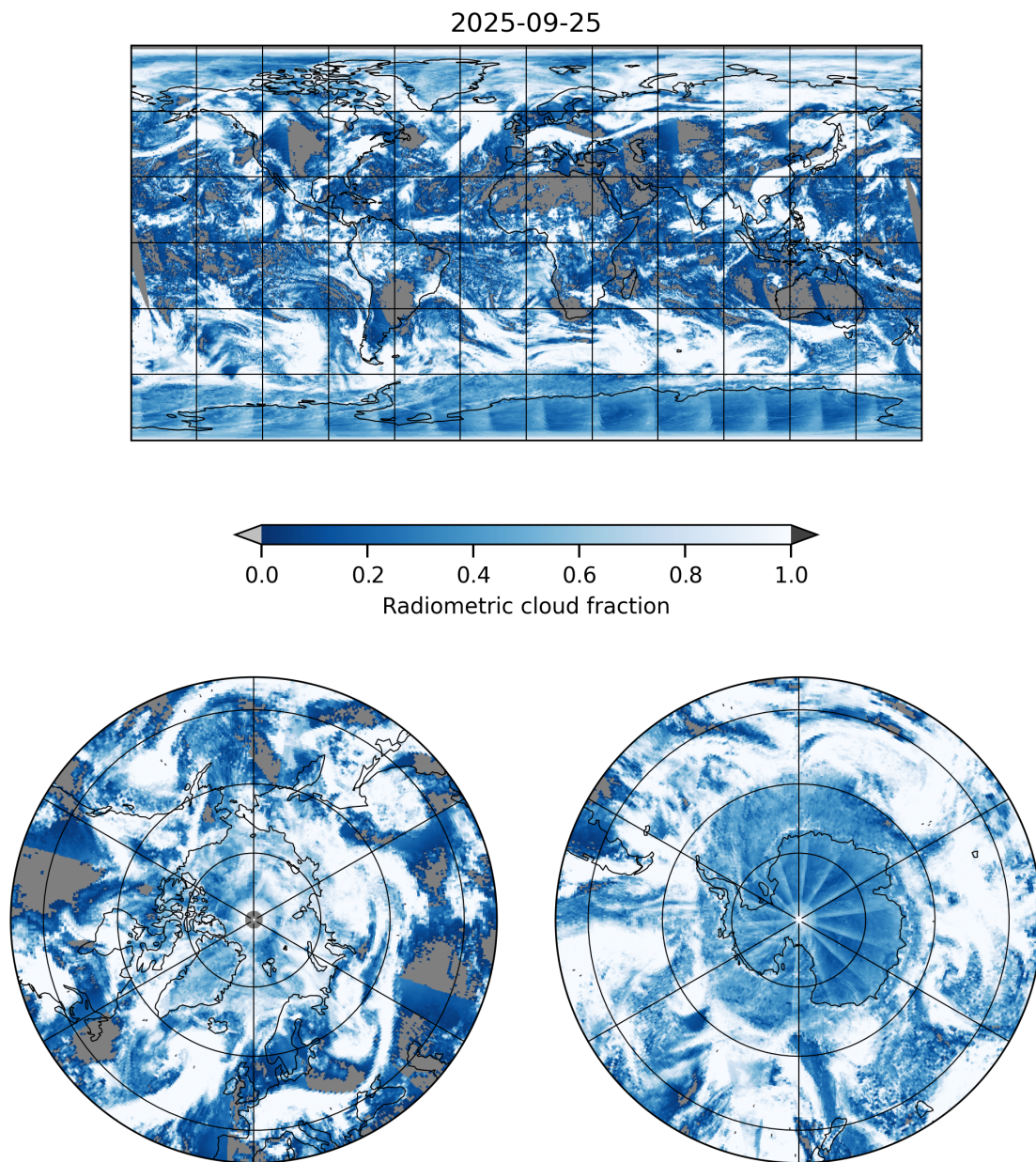


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-25 to 2025-09-26

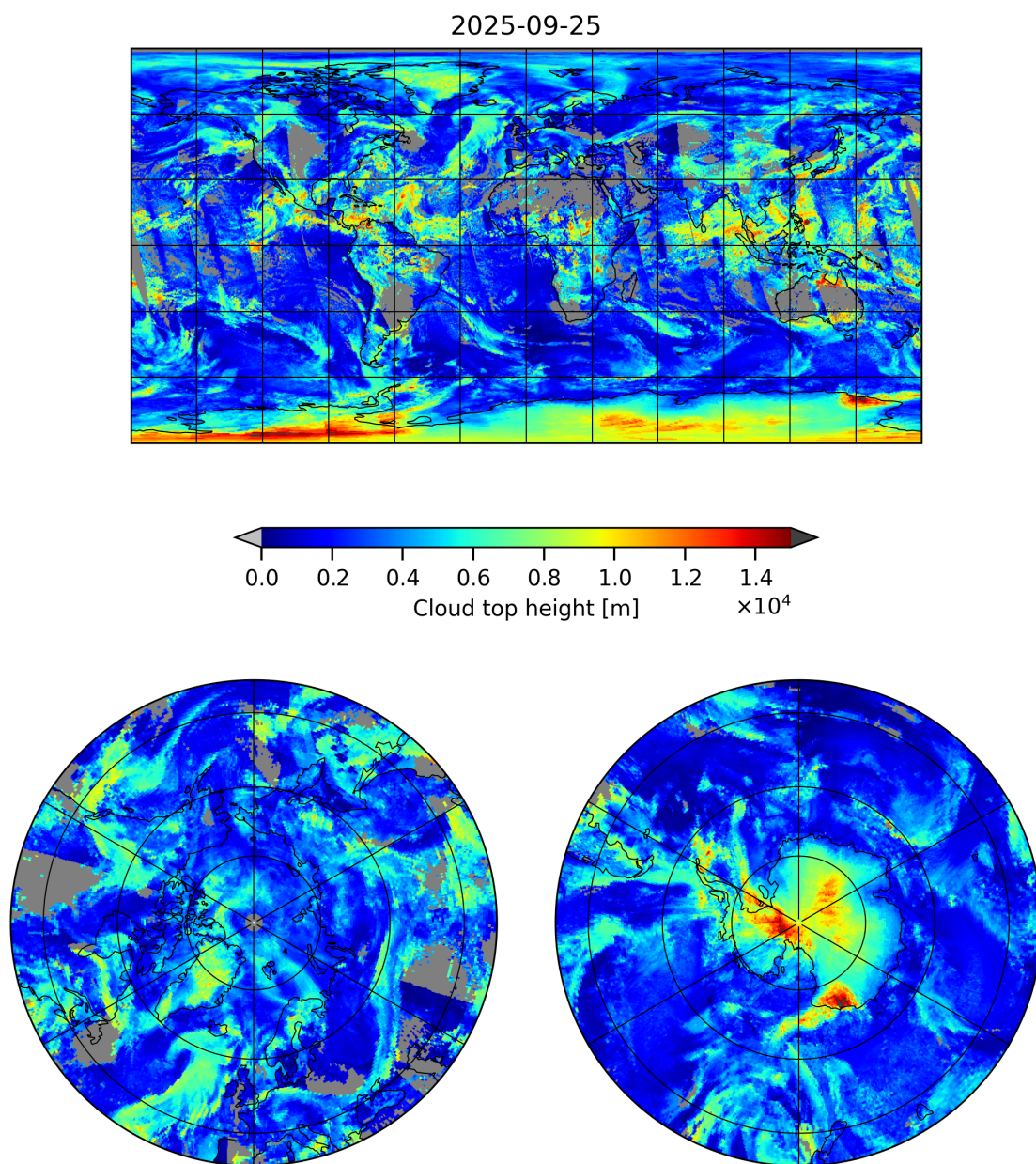


Figure 5: Map of “Cloud top height” for 2025-09-25 to 2025-09-26

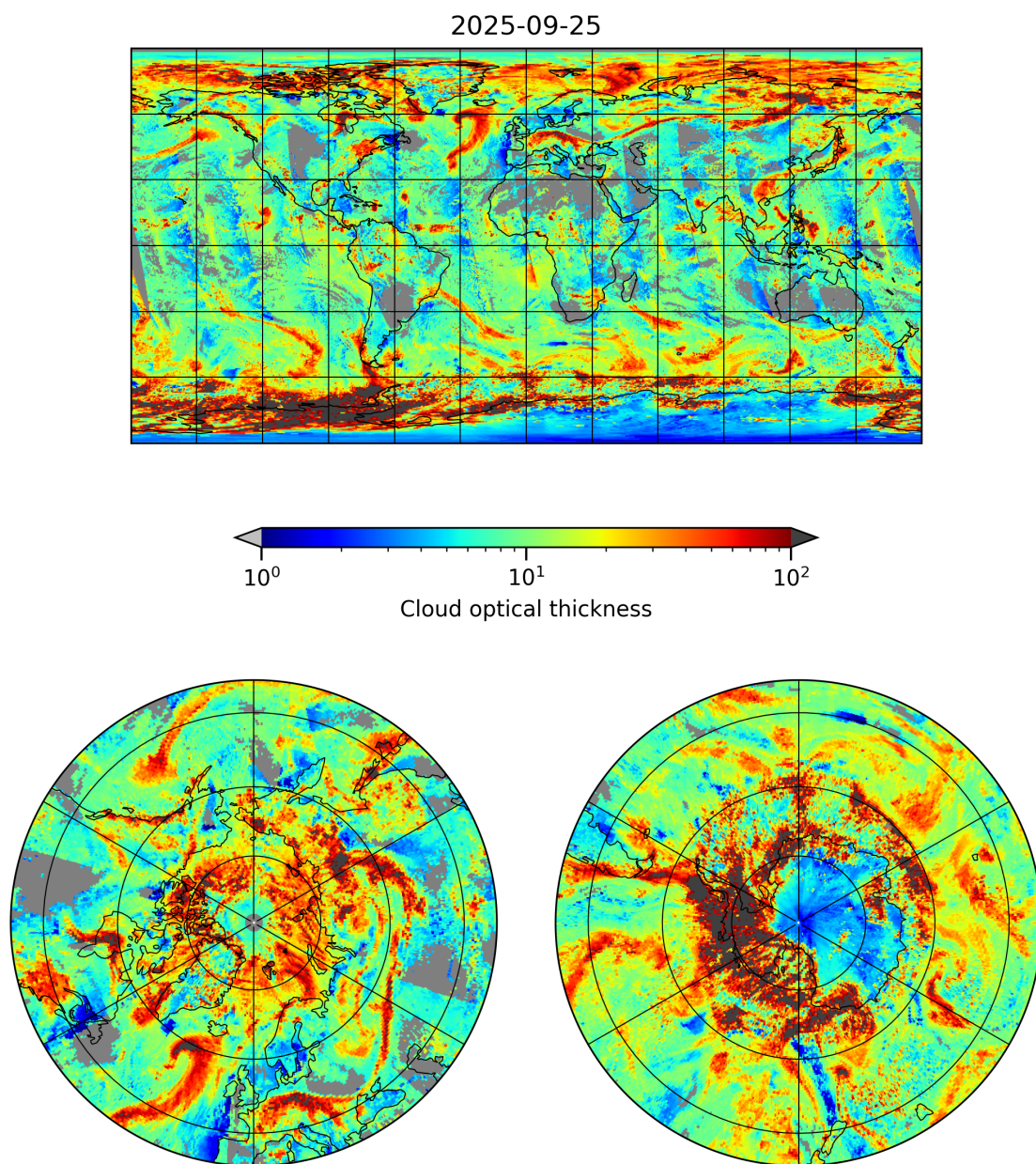


Figure 6: Map of “Cloud optical thickness” for 2025-09-25 to 2025-09-26

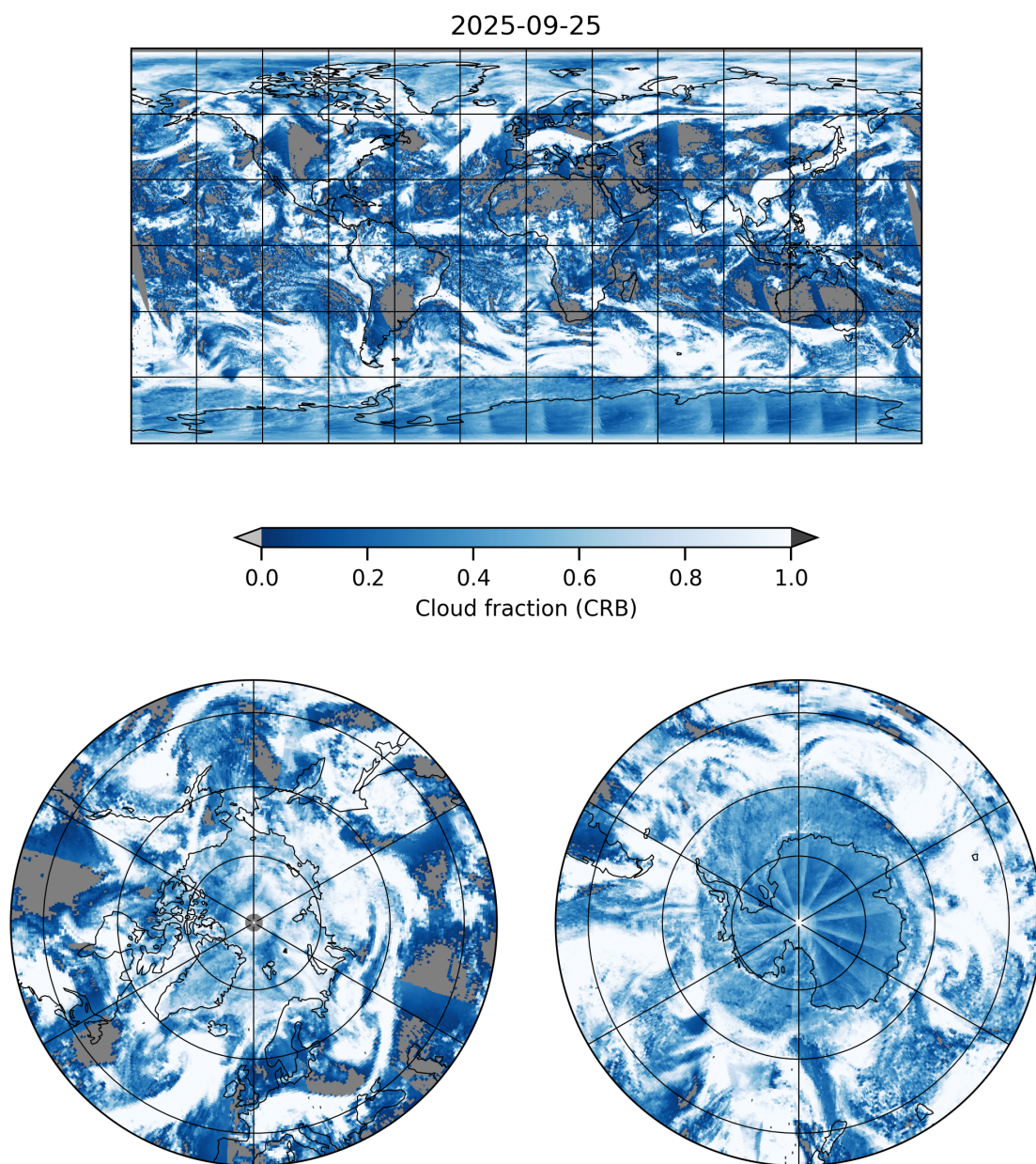


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-25 to 2025-09-26

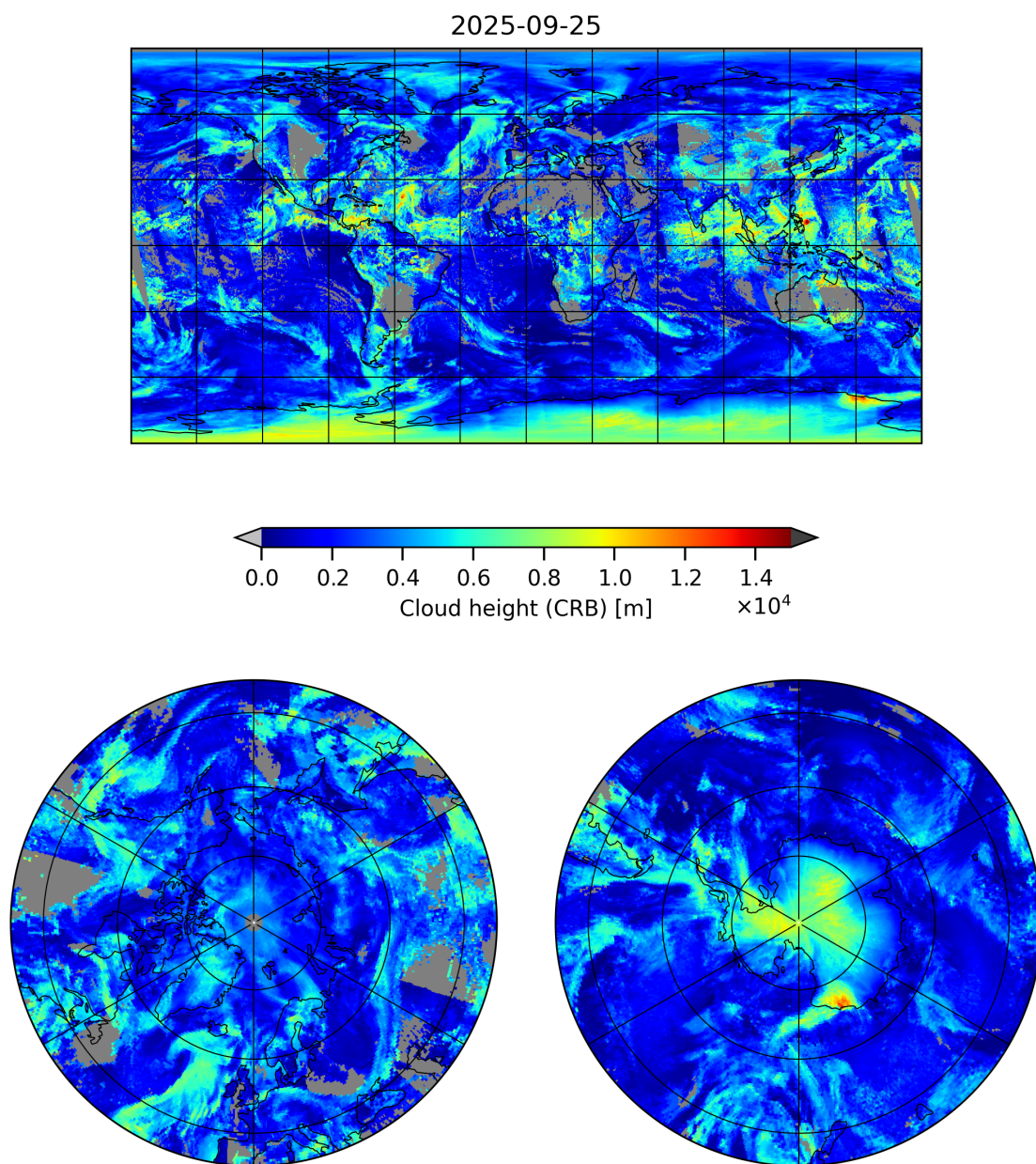


Figure 8: Map of “Cloud height (CRB)” for 2025-09-25 to 2025-09-26

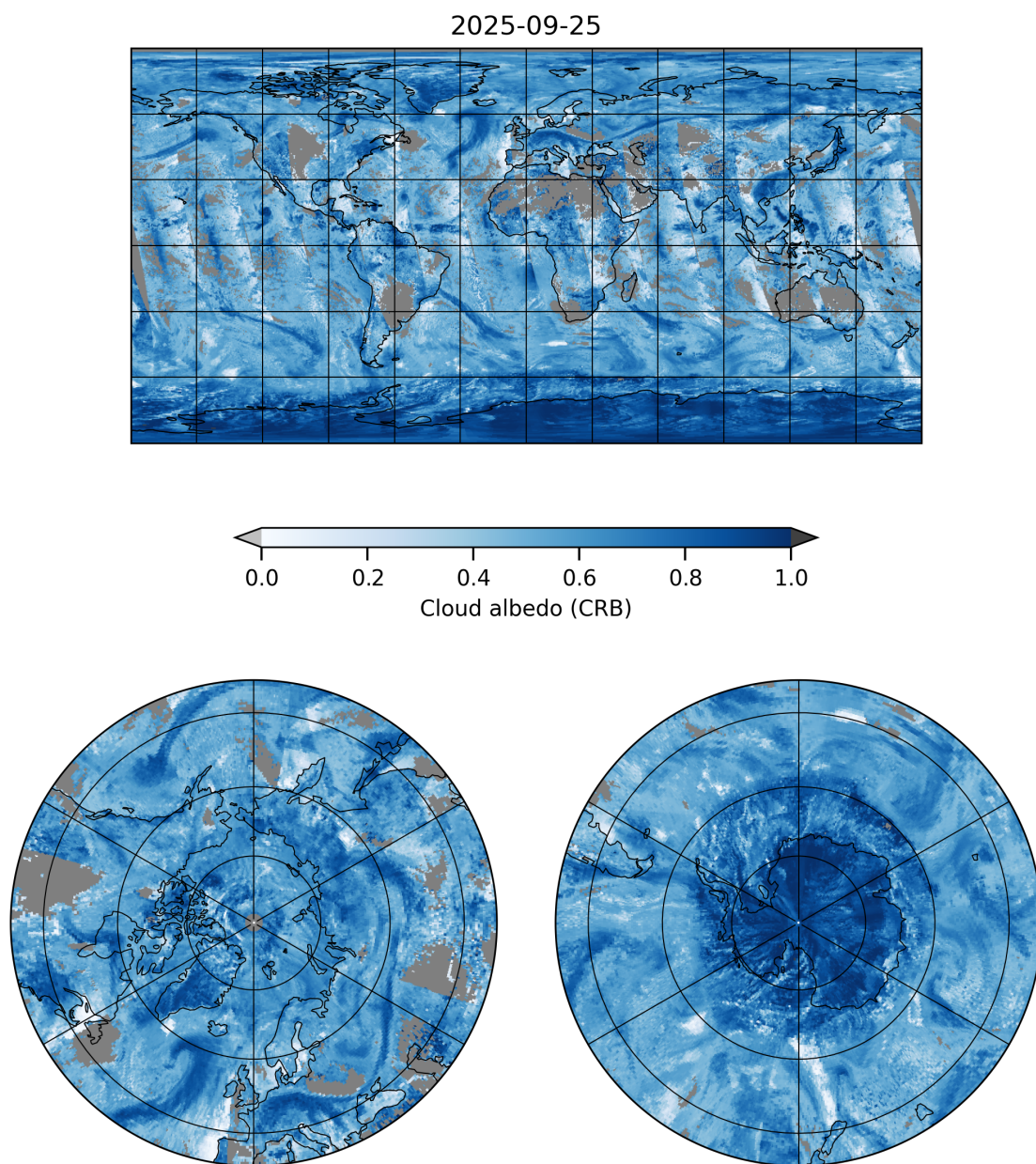


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-25 to 2025-09-26

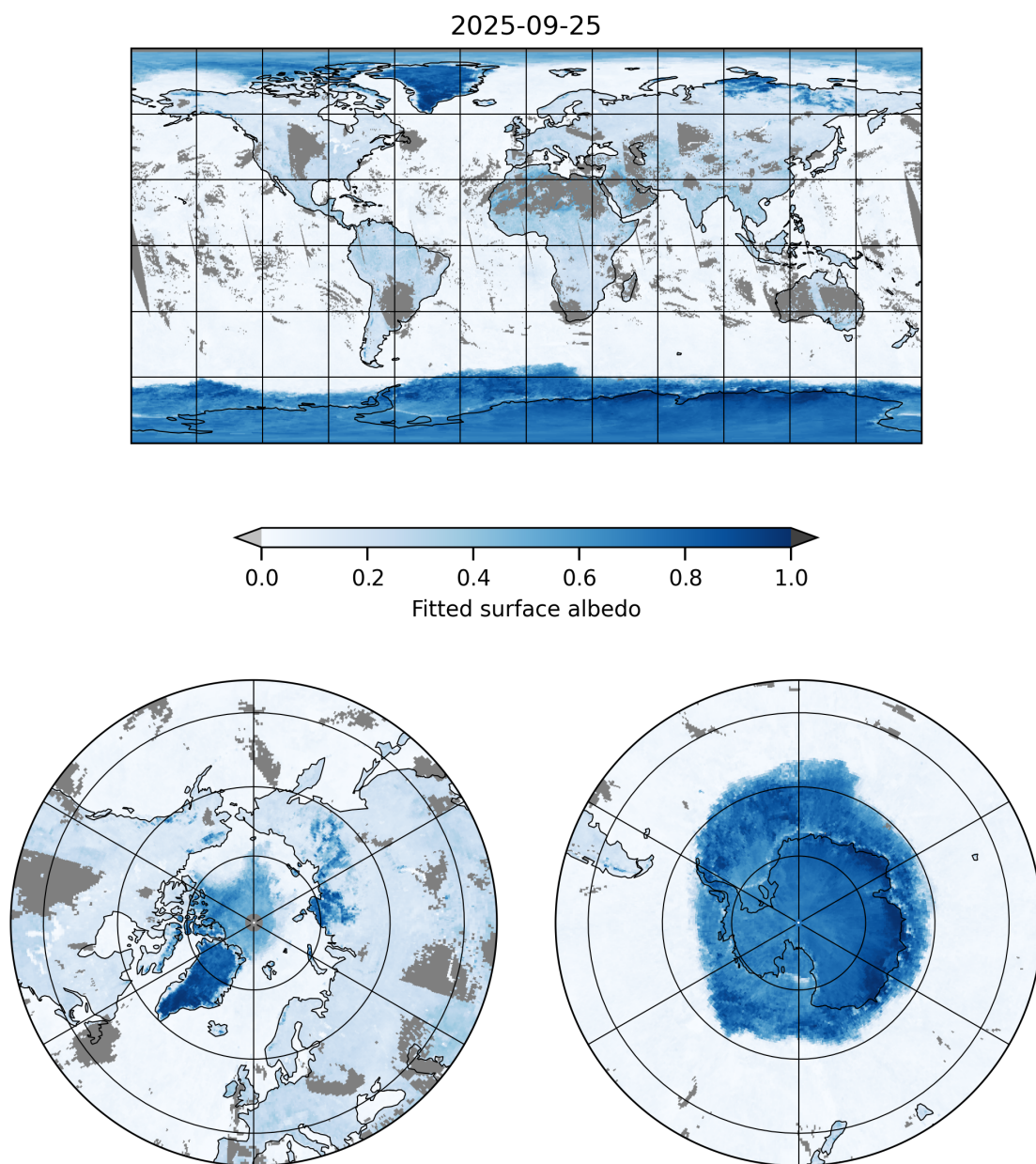


Figure 10: Map of “Fitted surface albedo” for 2025-09-25 to 2025-09-26

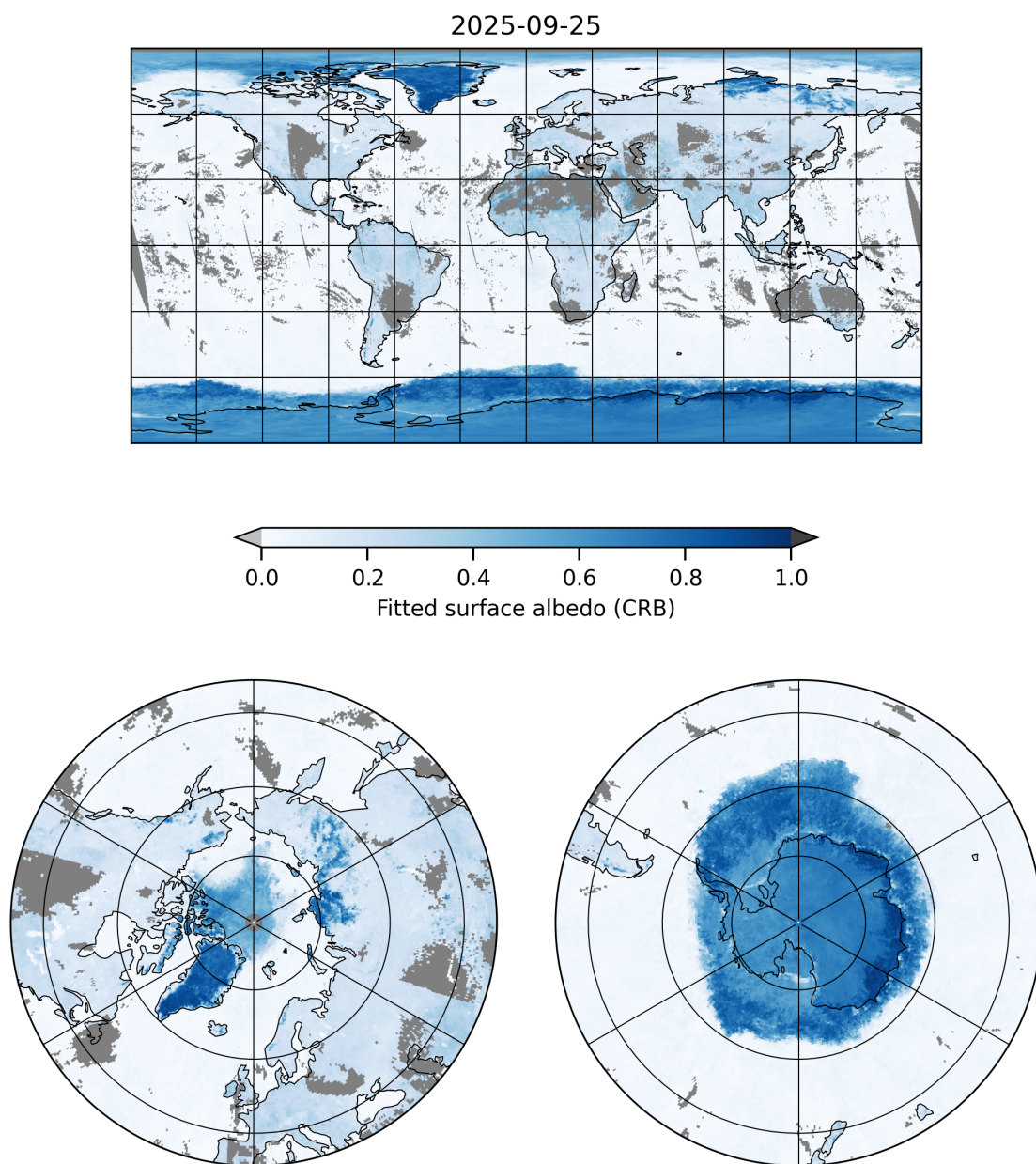


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-25 to 2025-09-26

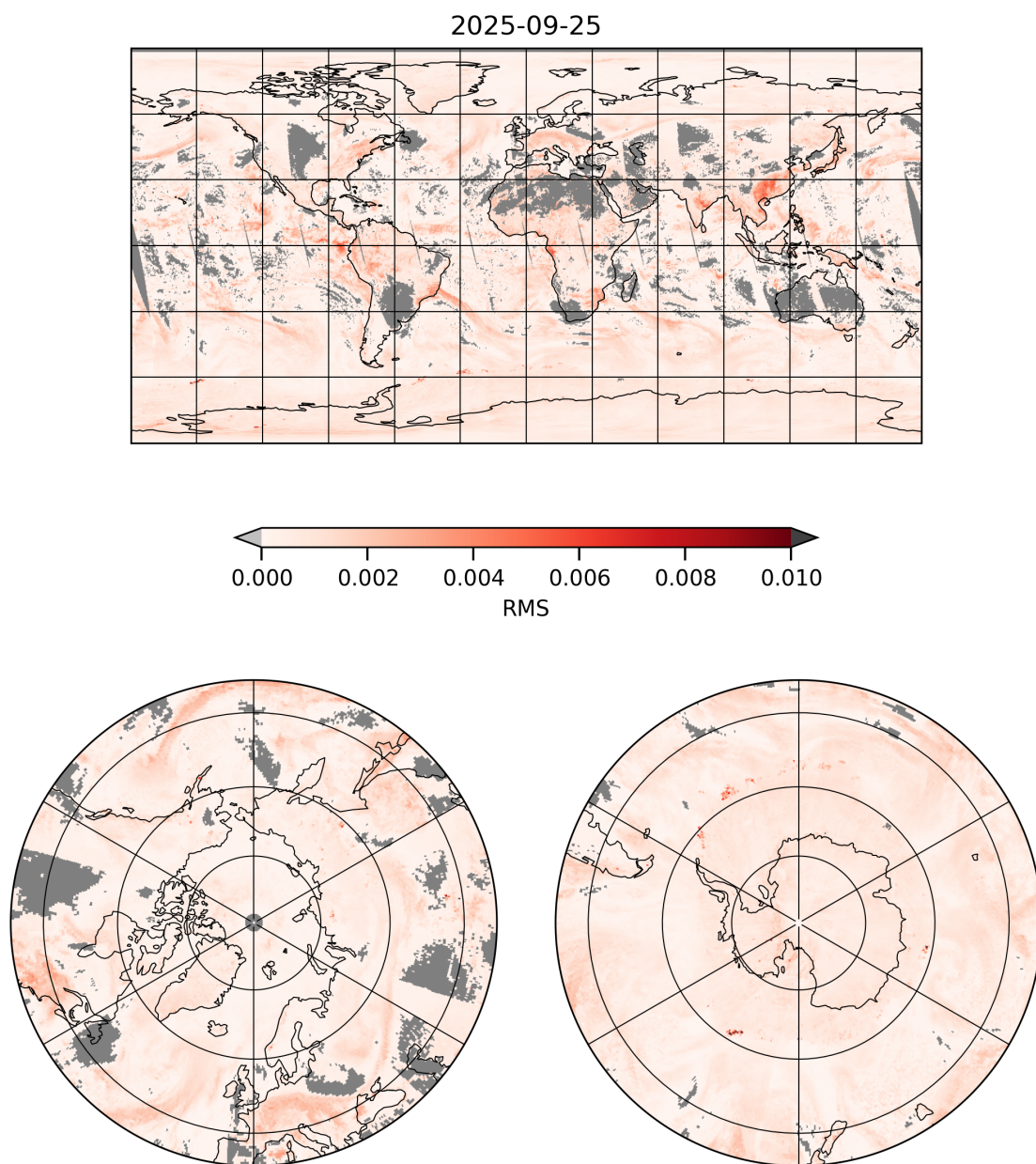


Figure 12: Map of “RMS” for 2025-09-25 to 2025-09-26

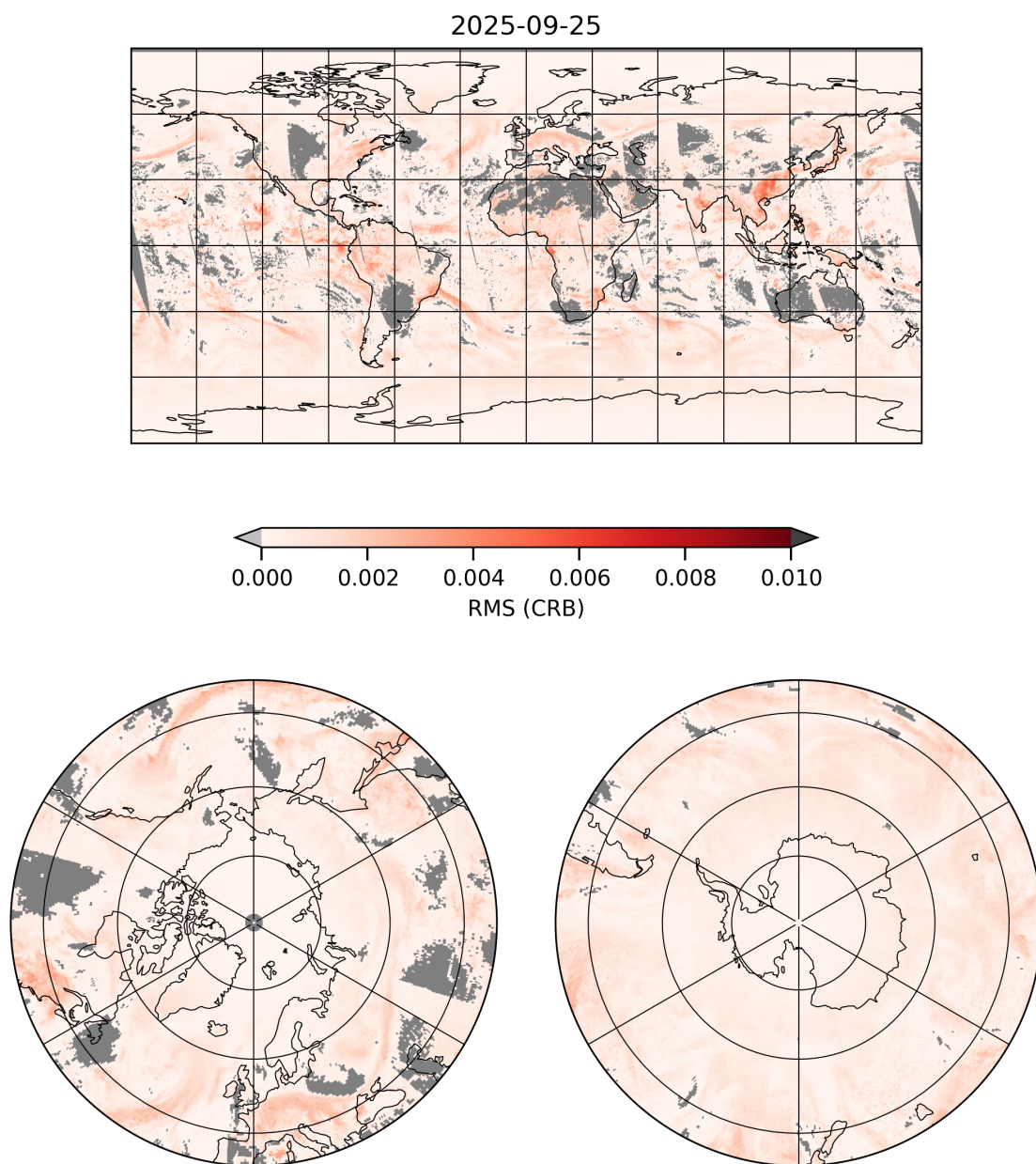


Figure 13: Map of “RMS (CRB)” for 2025-09-25 to 2025-09-26

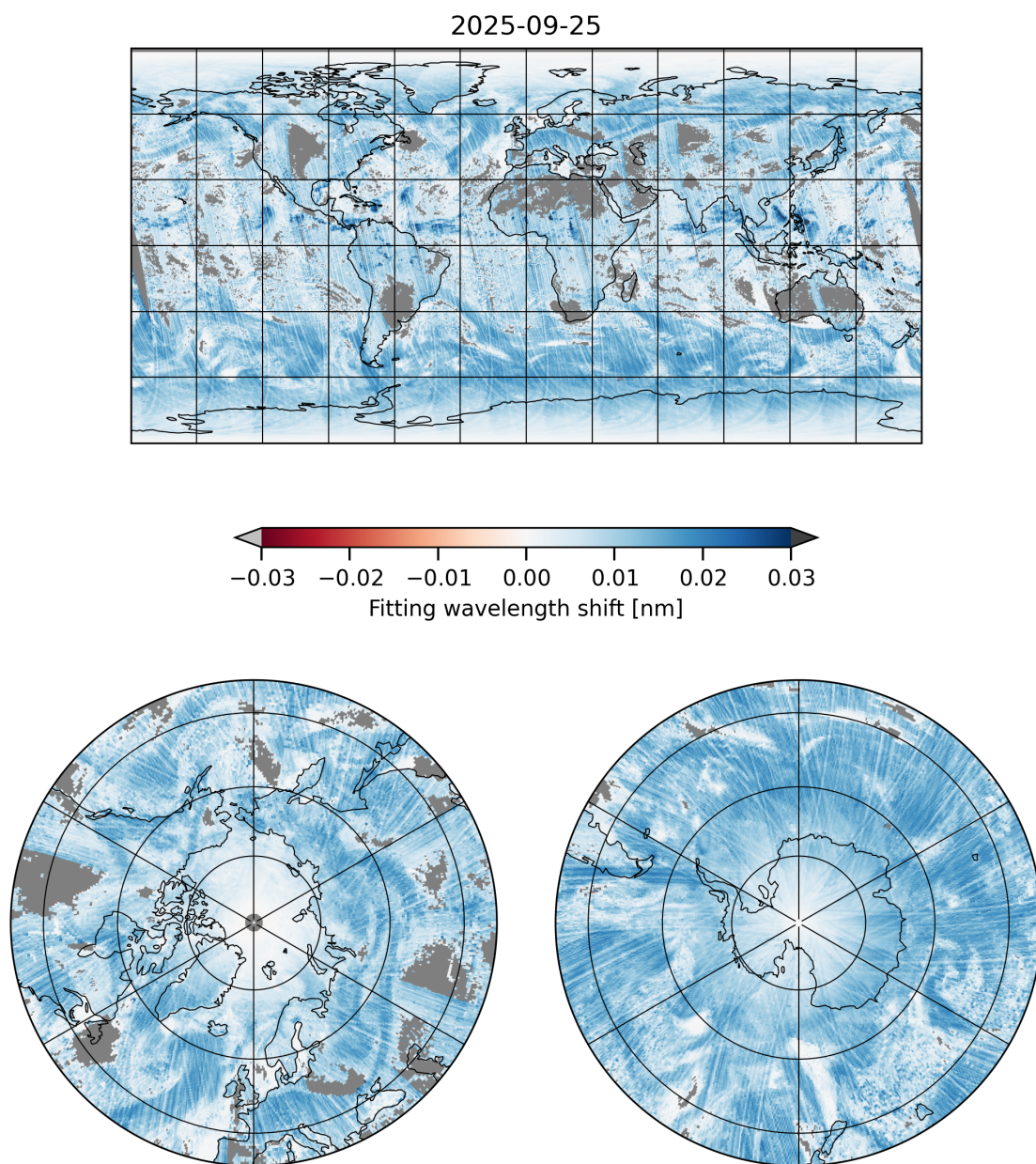


Figure 14: Map of “Fitting wavelength shift” for 2025-09-25 to 2025-09-26

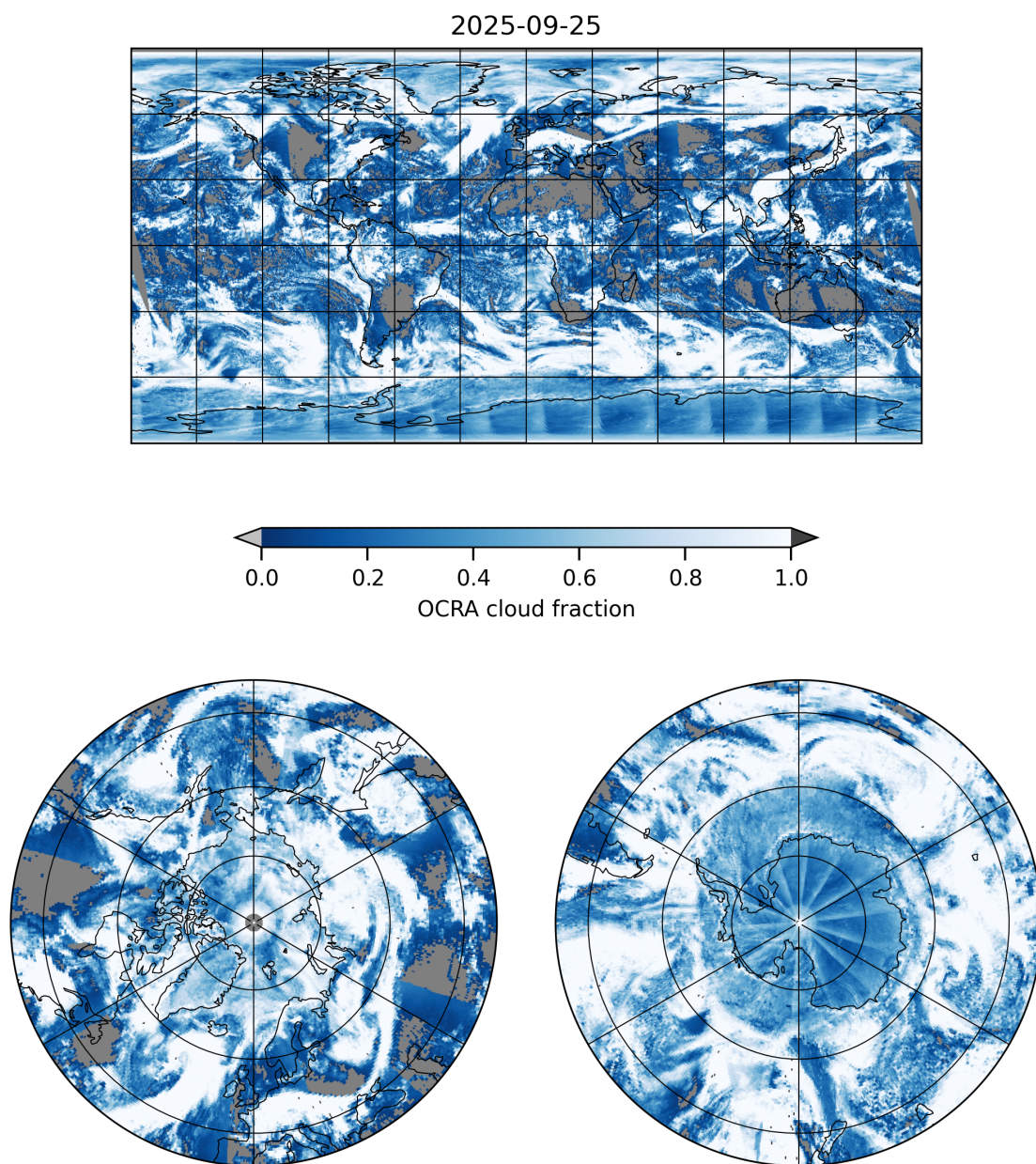


Figure 15: Map of “OCRA cloud fraction” for 2025-09-25 to 2025-09-26

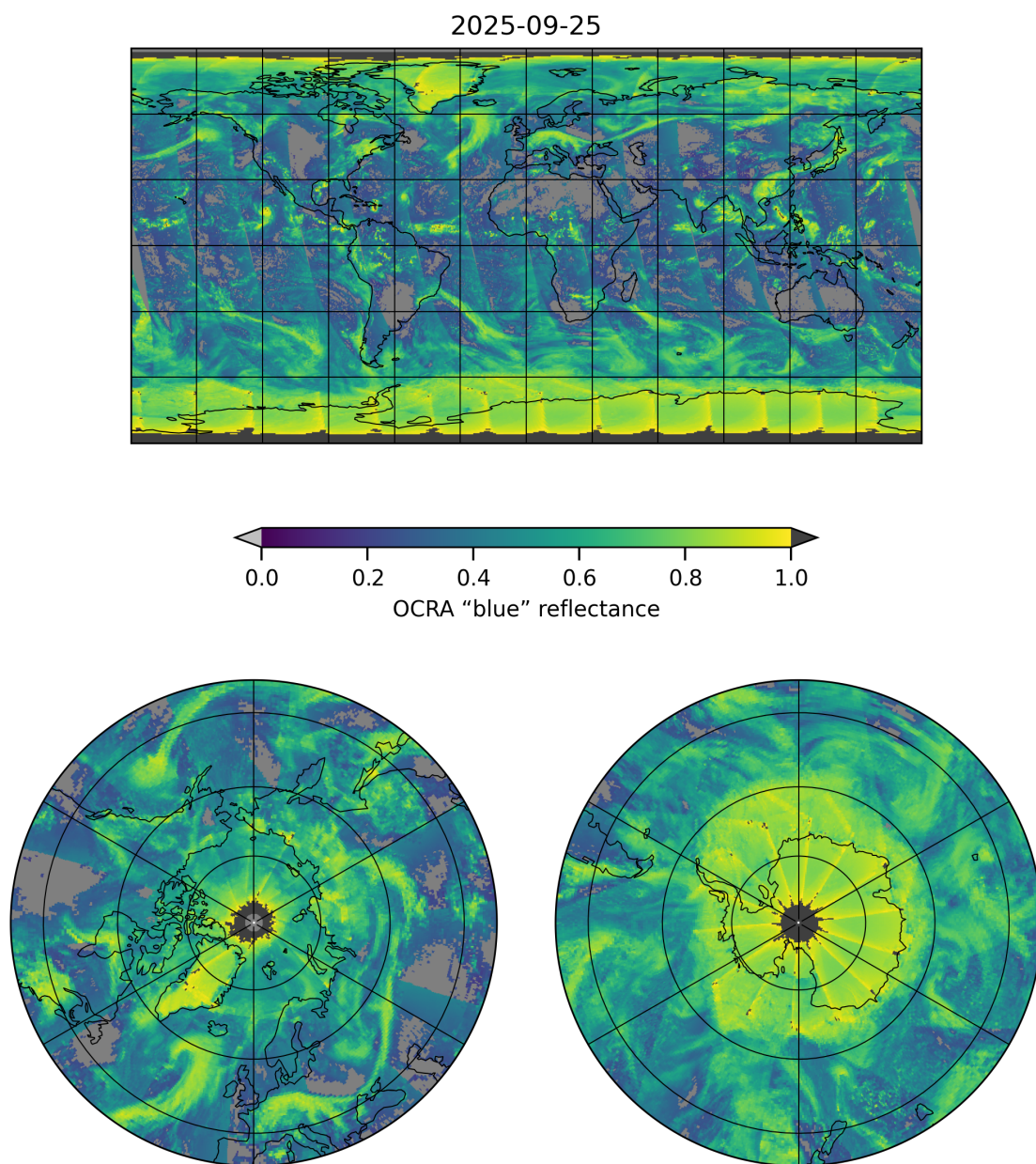


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-25 to 2025-09-26

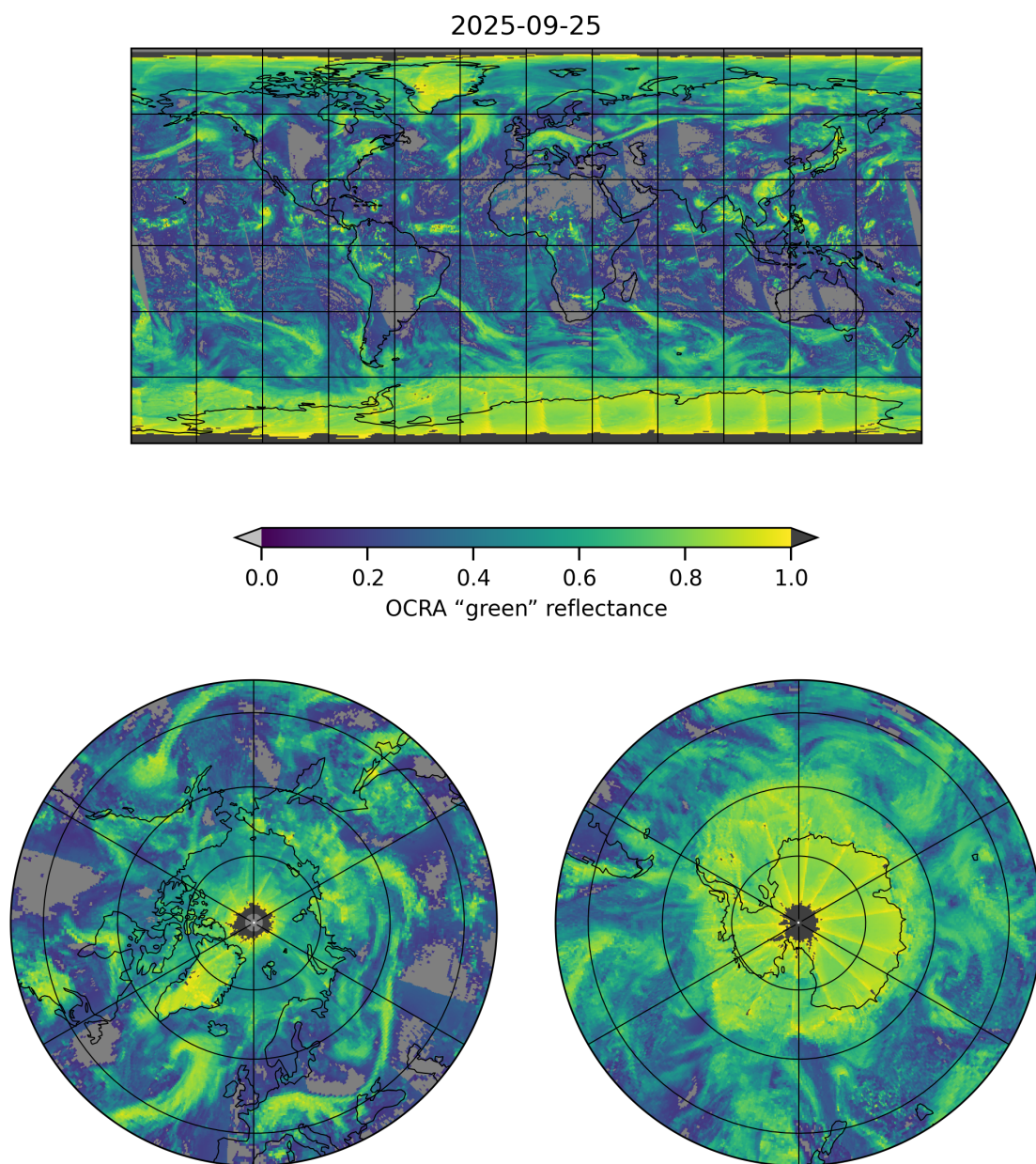


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-25 to 2025-09-26

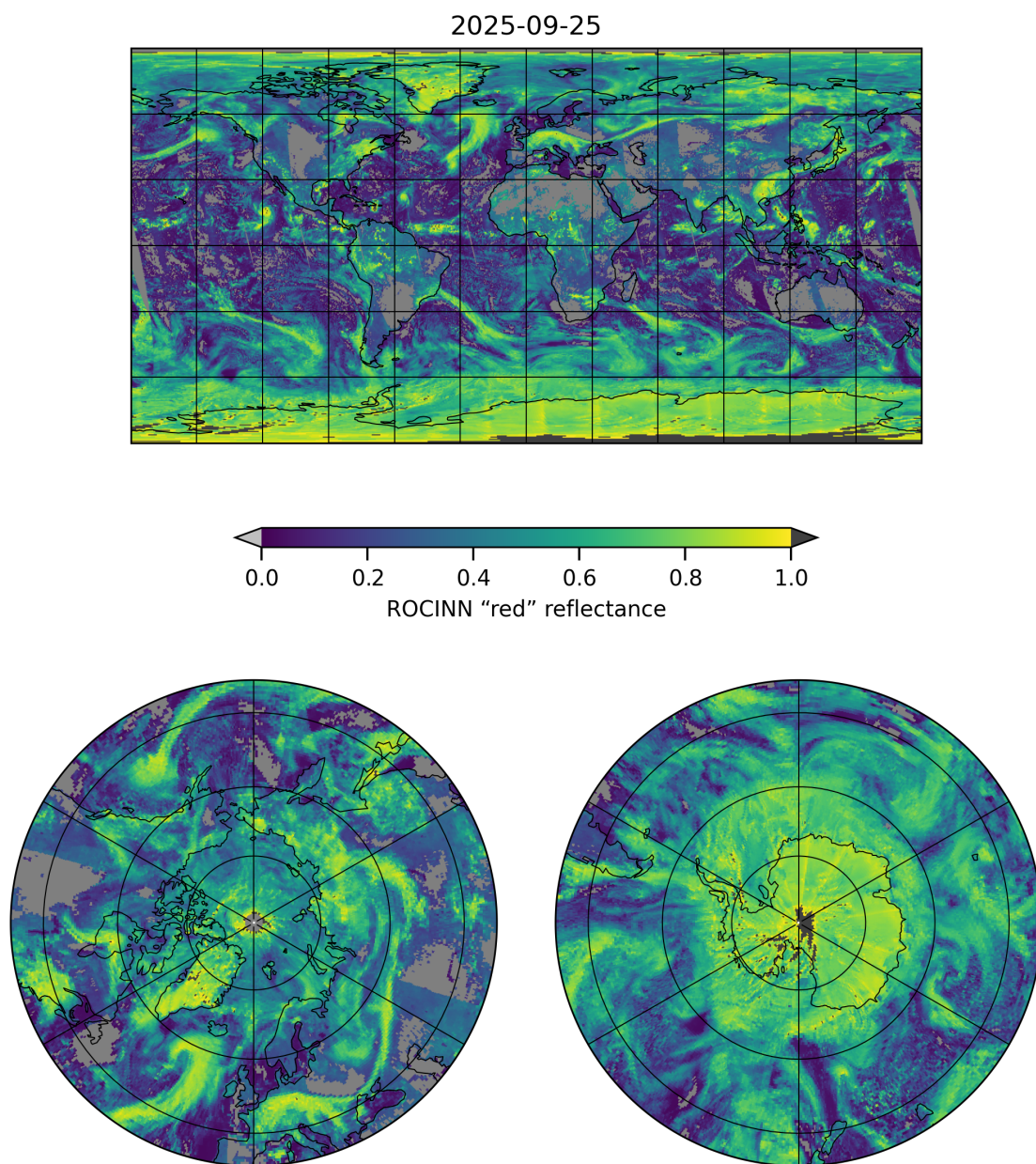


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-25 to 2025-09-26

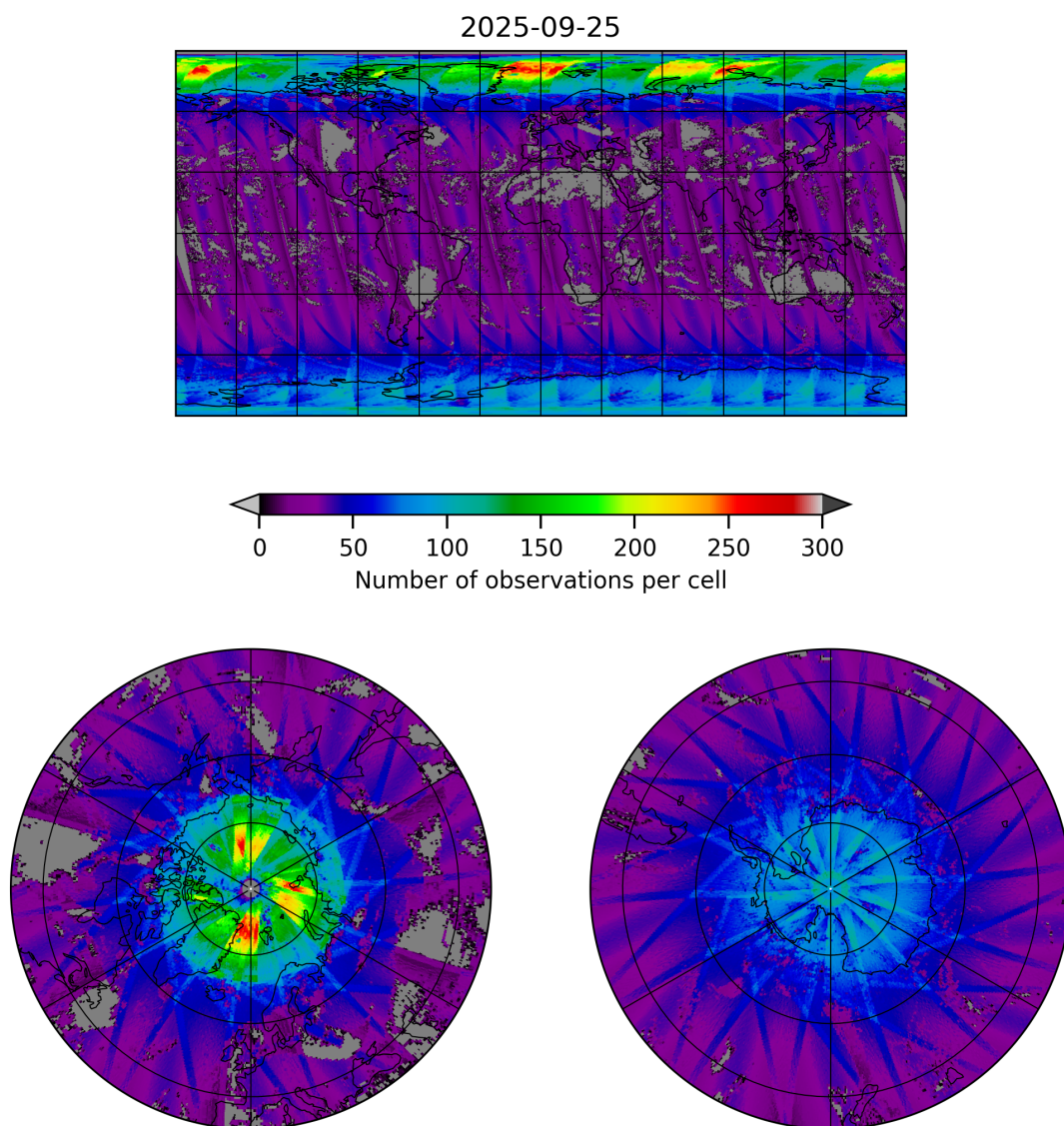


Figure 19: Map of the number of observations for 2025-09-25 to 2025-09-26

7 Zonal average

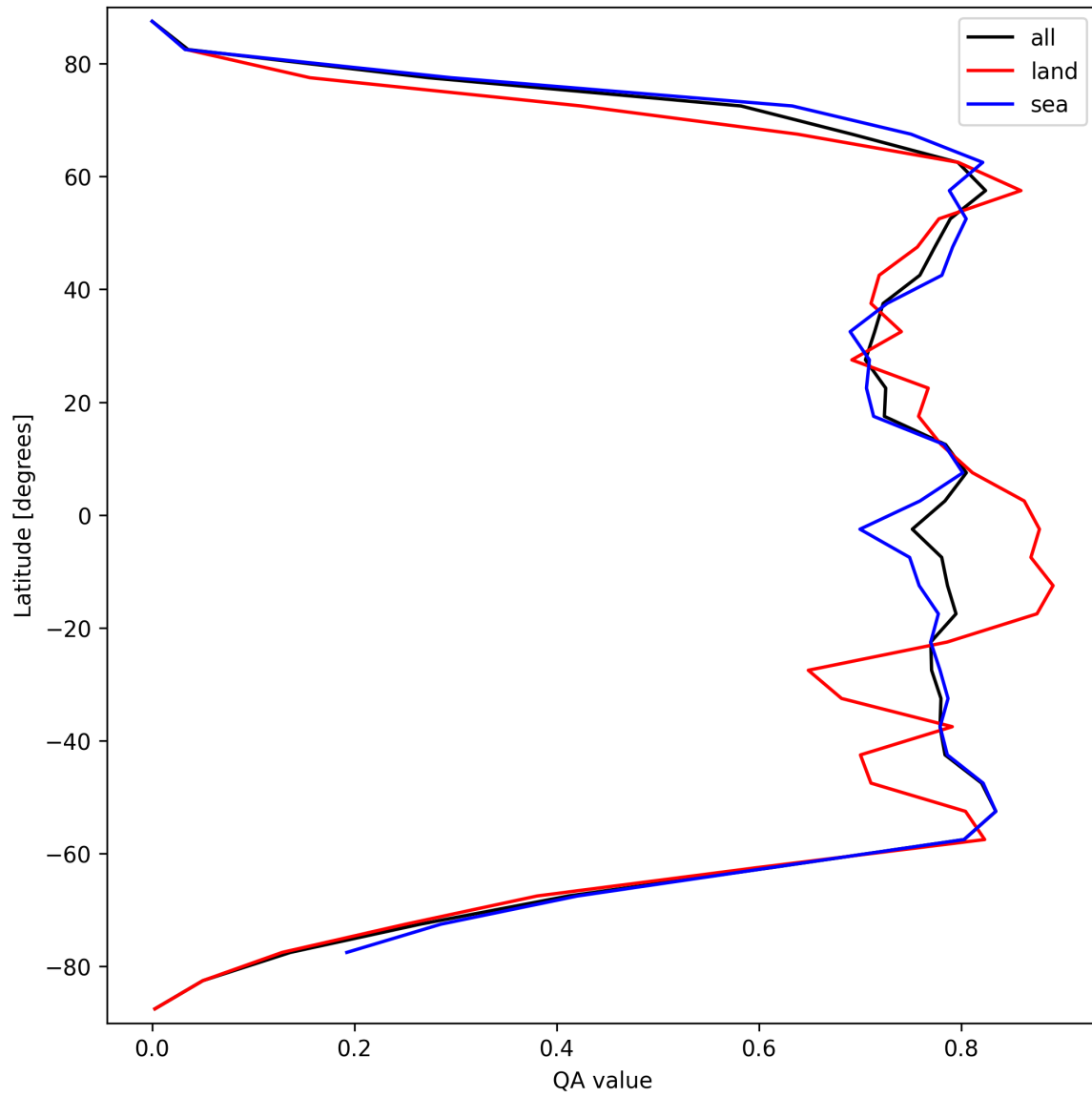


Figure 20: Zonal average of “QA value” for 2025-09-25 to 2025-09-26.

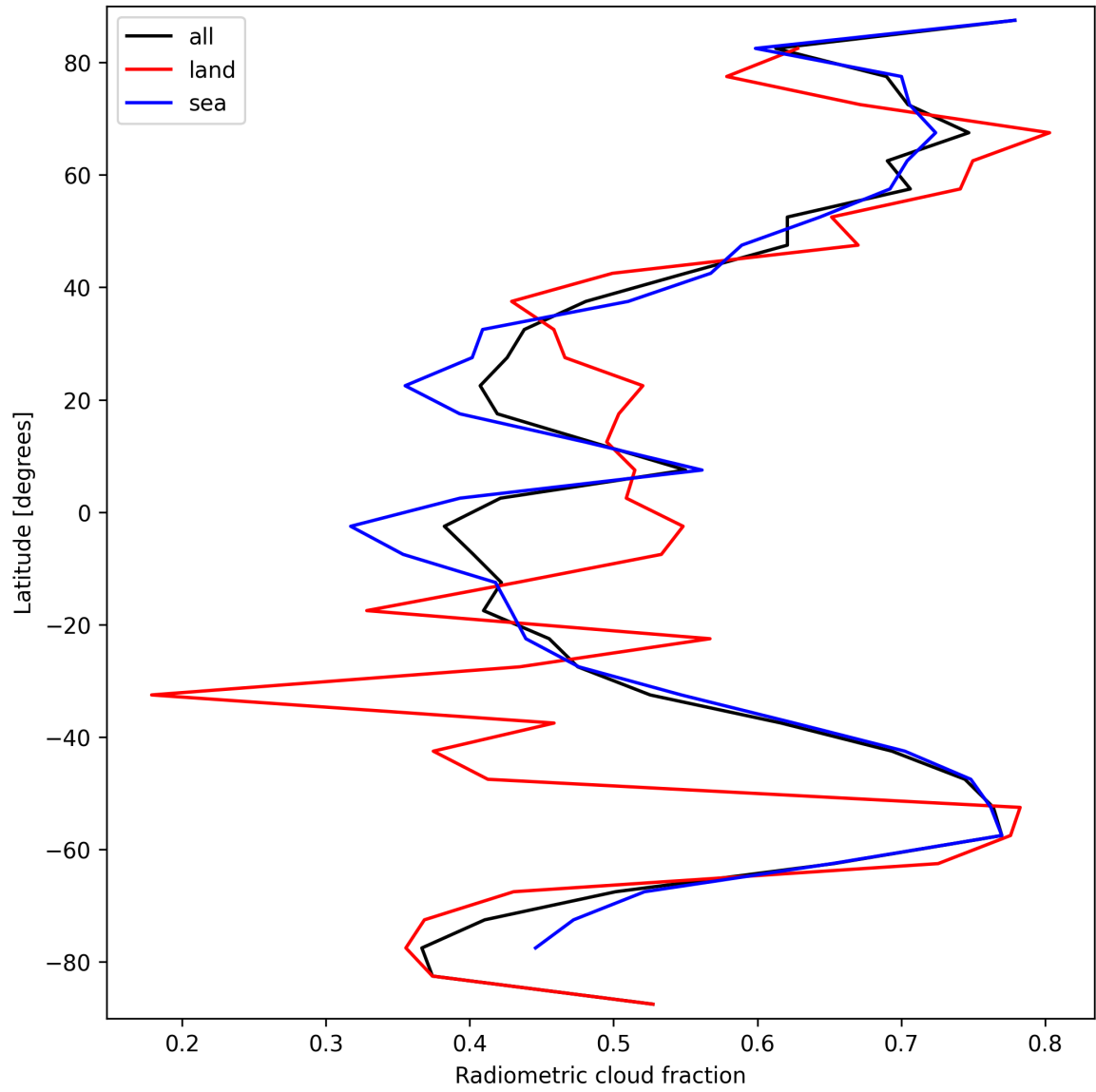


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-25 to 2025-09-26.

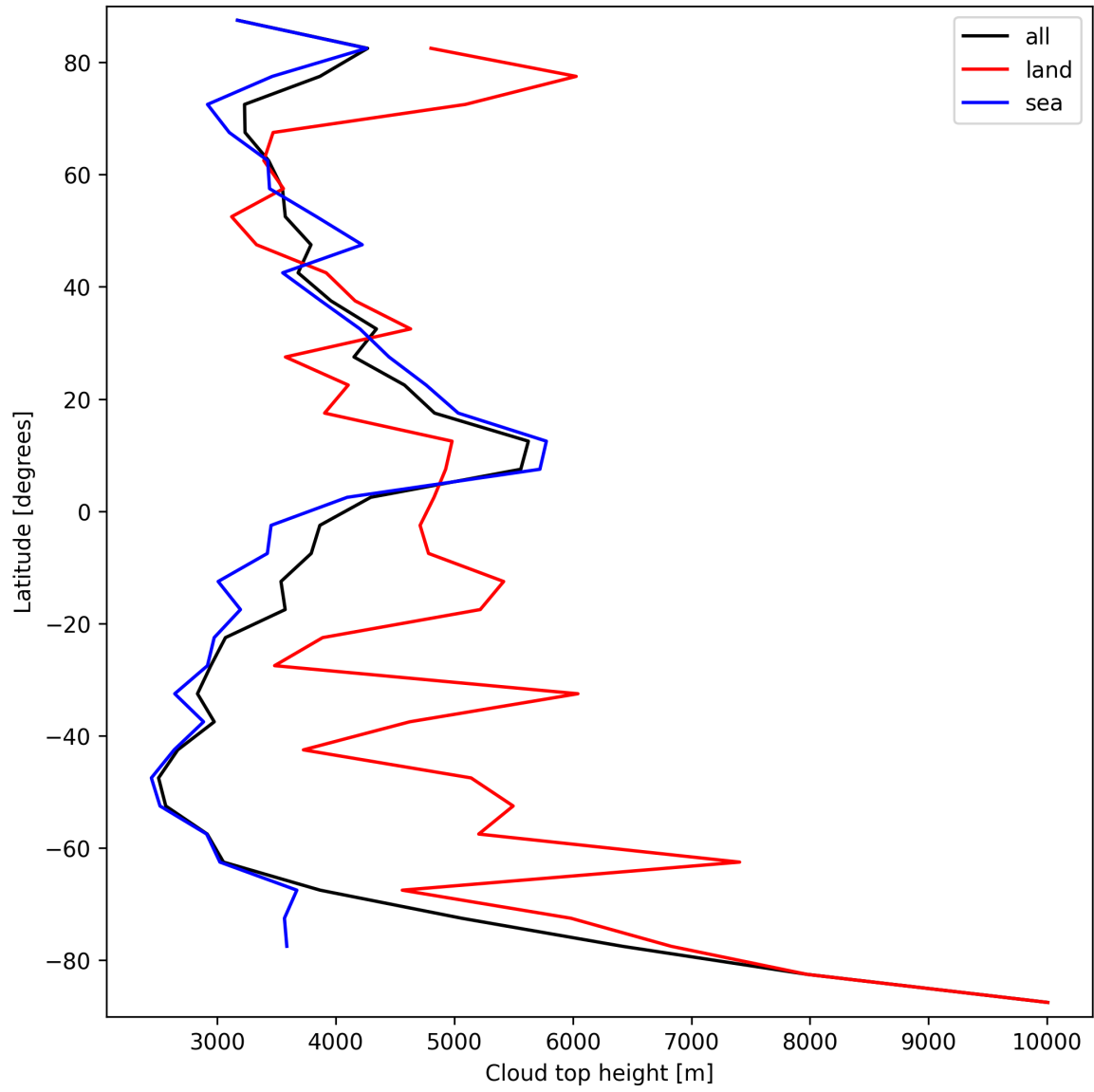


Figure 22: Zonal average of “Cloud top height” for 2025-09-25 to 2025-09-26.

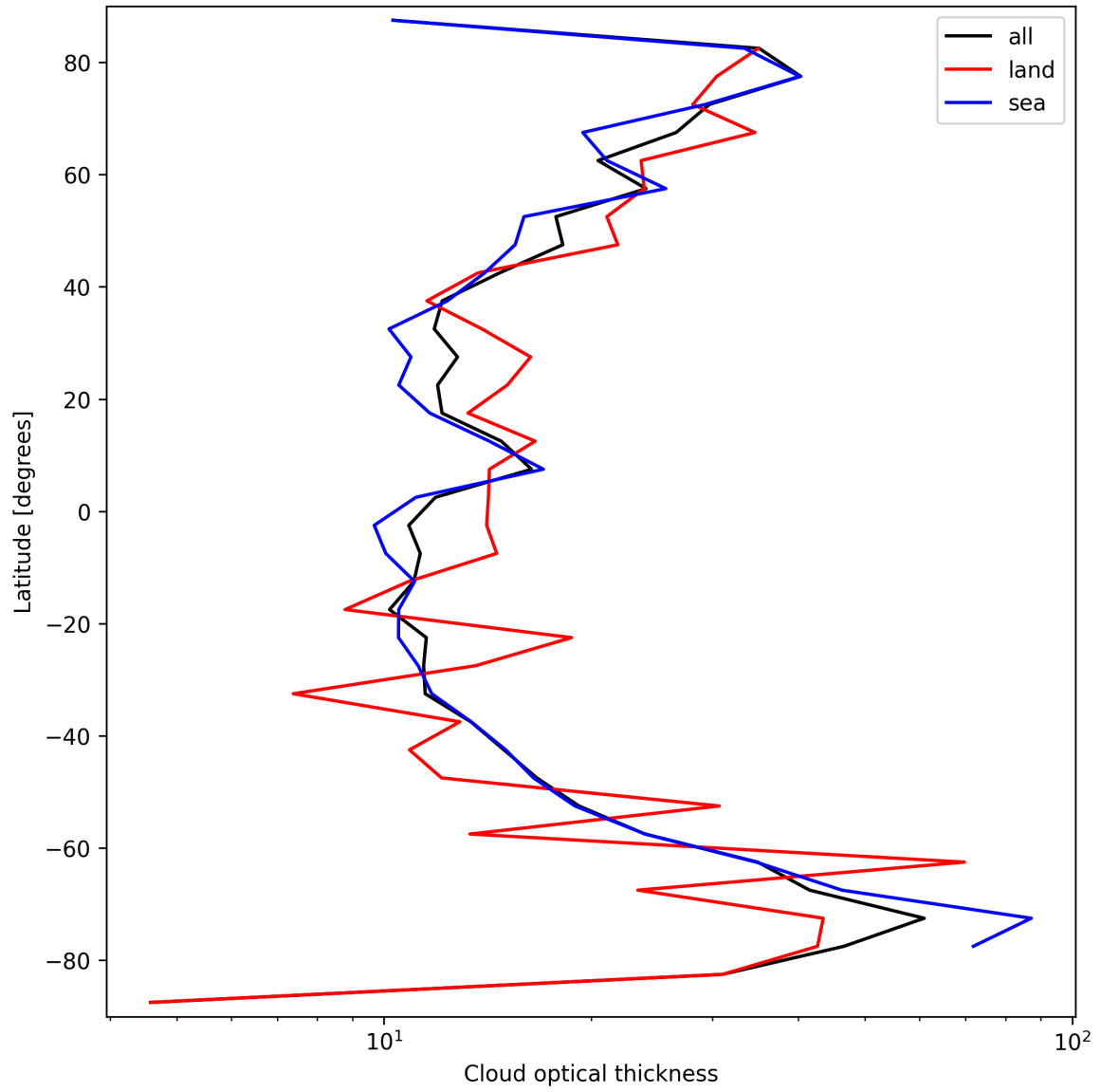


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-25 to 2025-09-26.

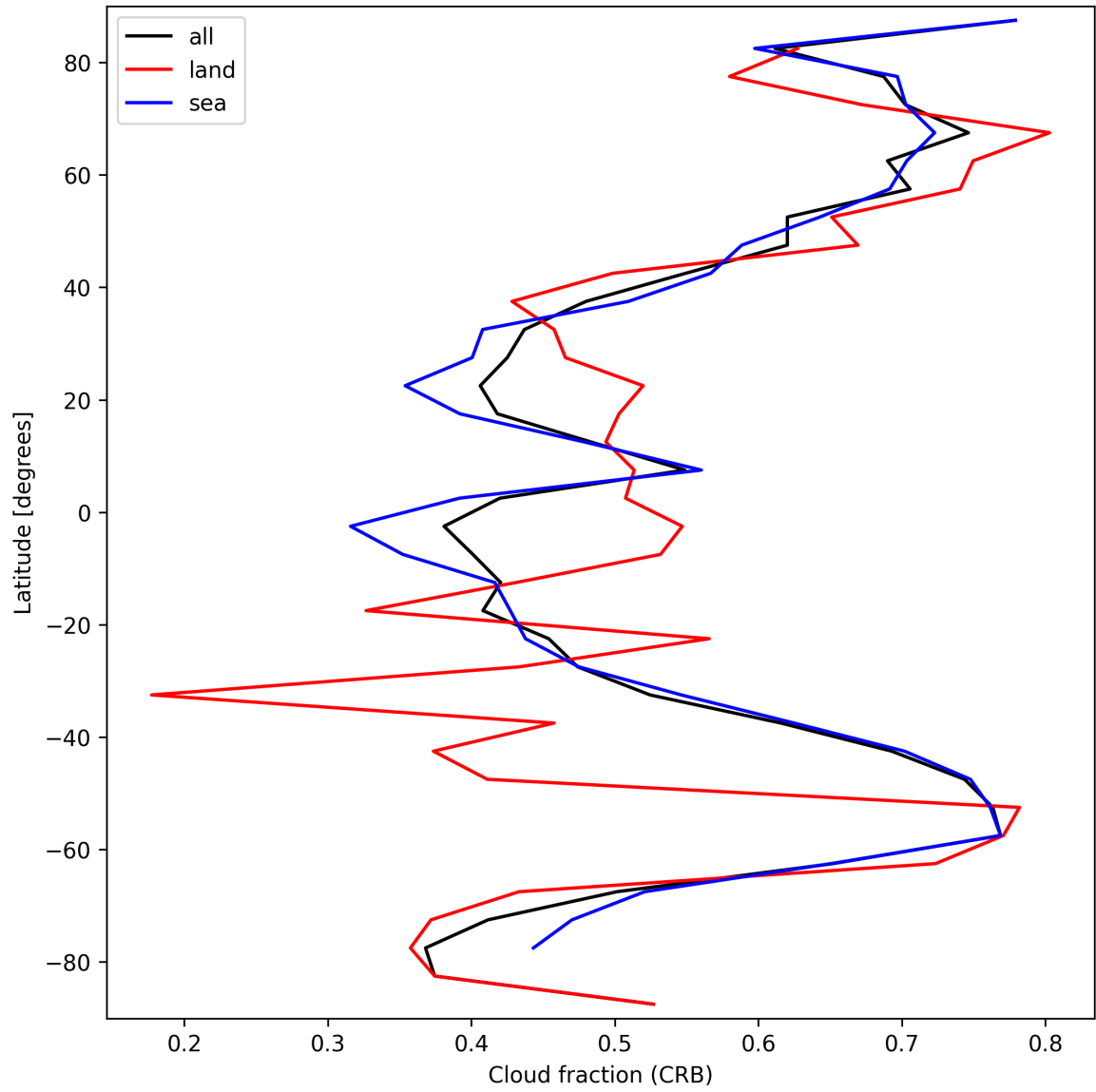


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-25 to 2025-09-26.

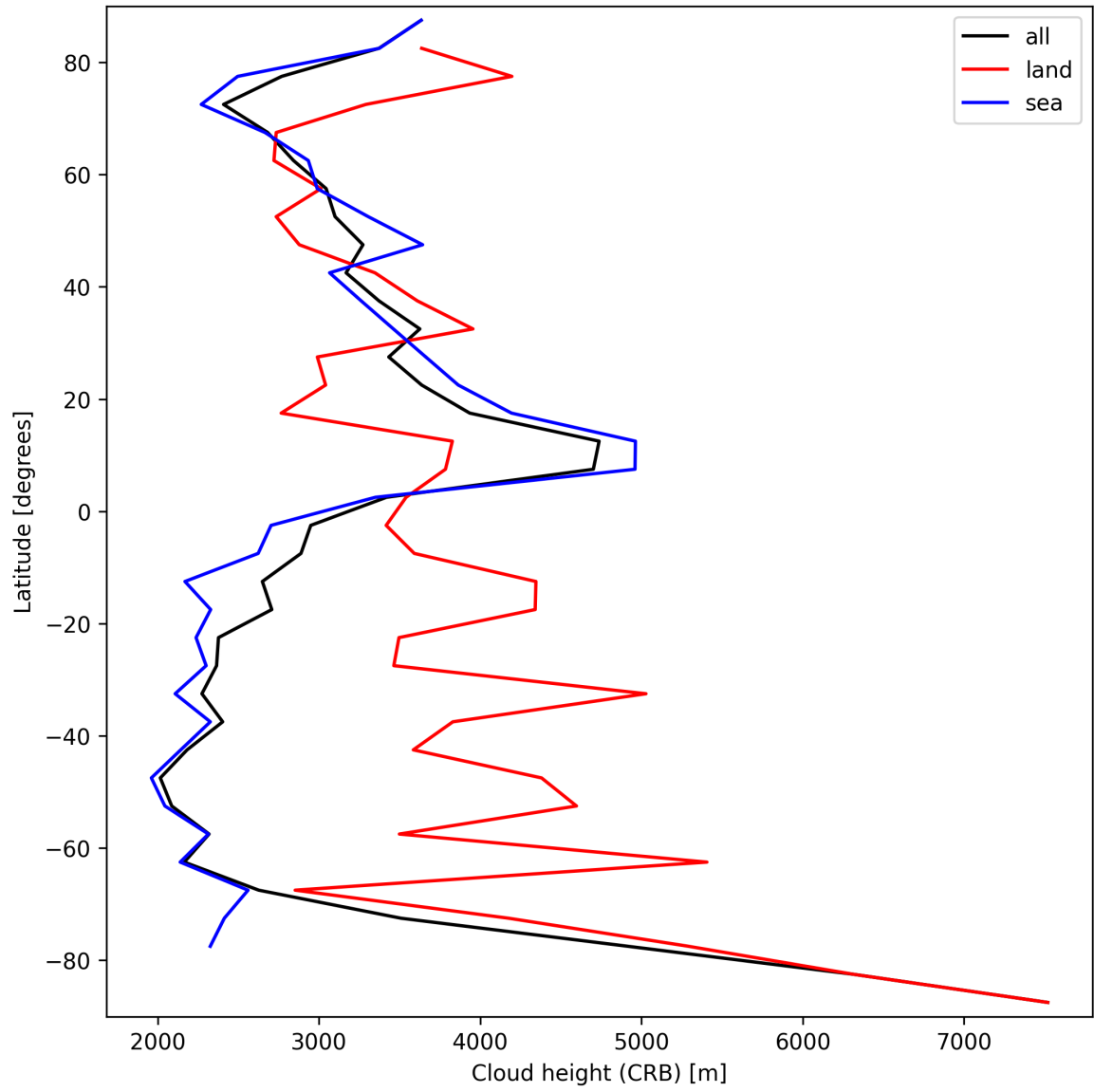


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-25 to 2025-09-26.

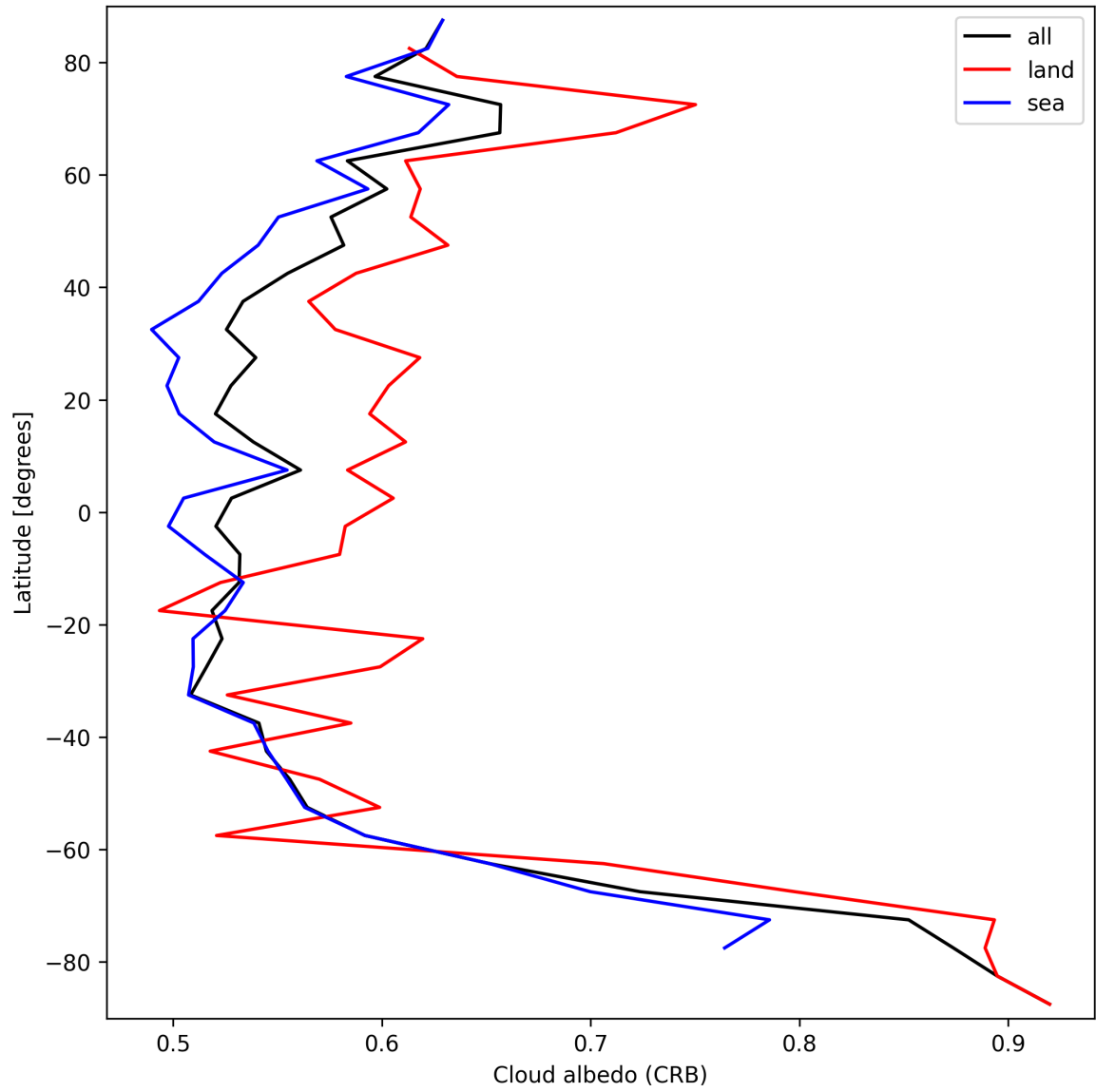


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-25 to 2025-09-26.

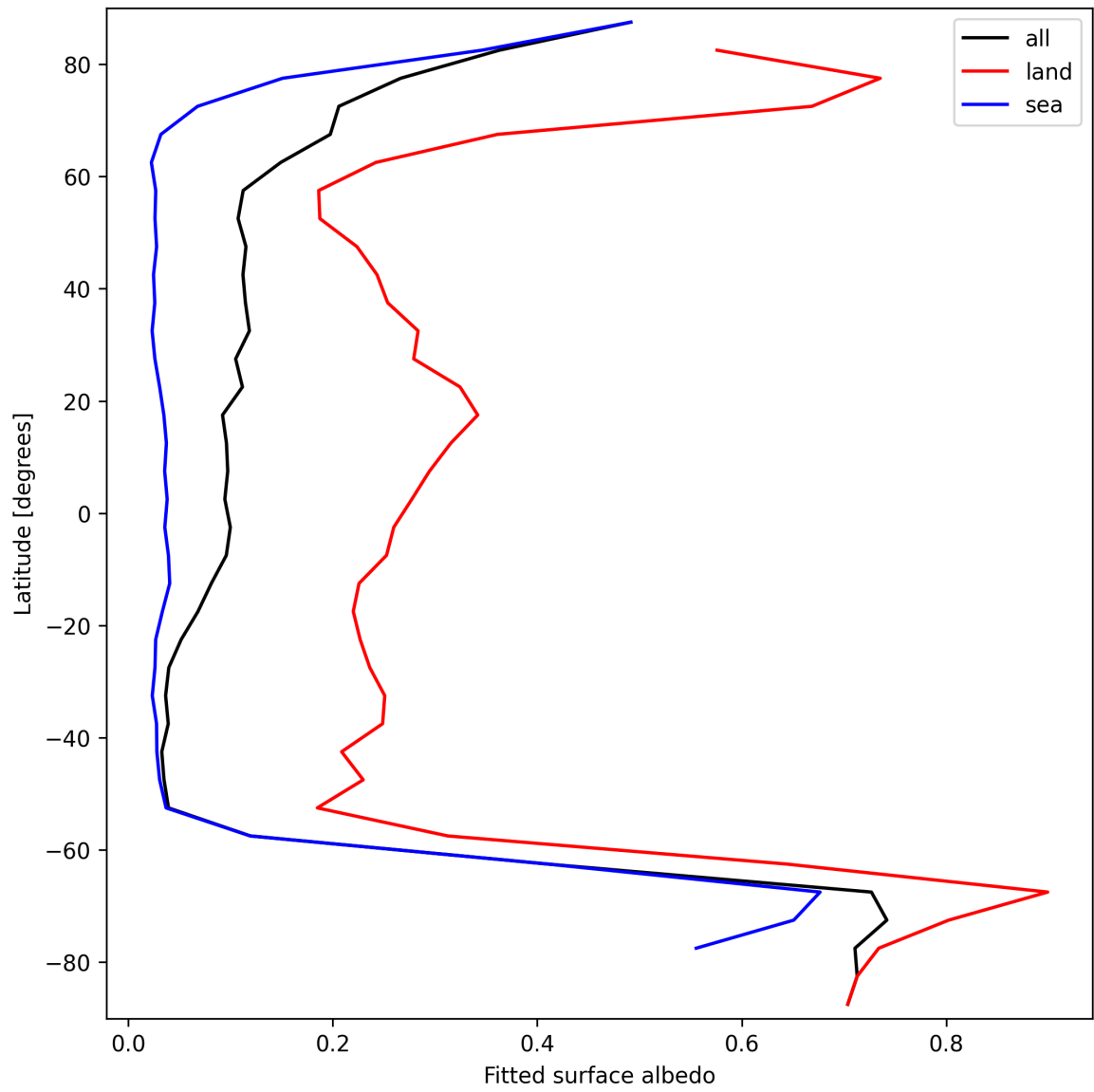


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-25 to 2025-09-26.

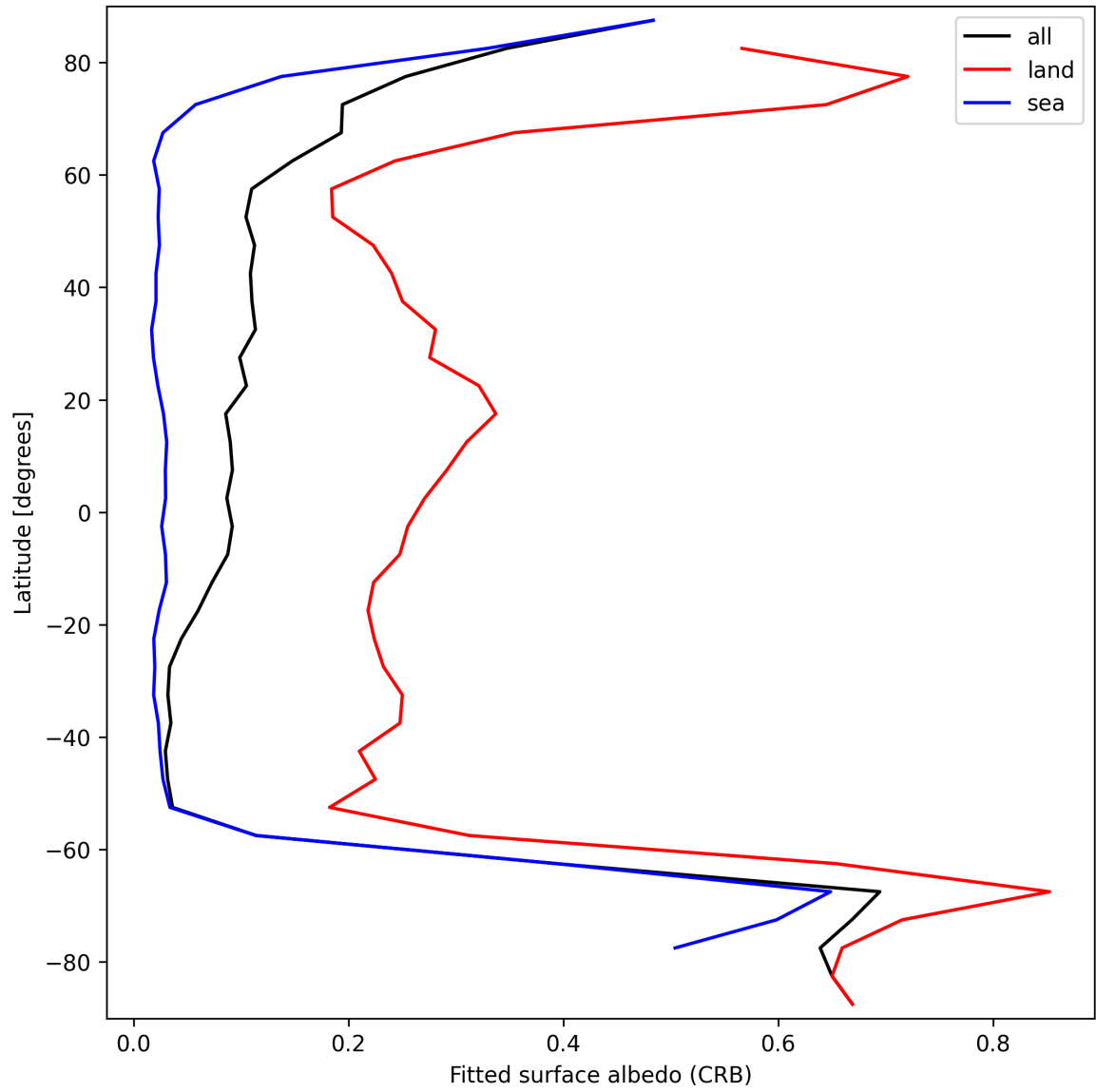


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-25 to 2025-09-26.

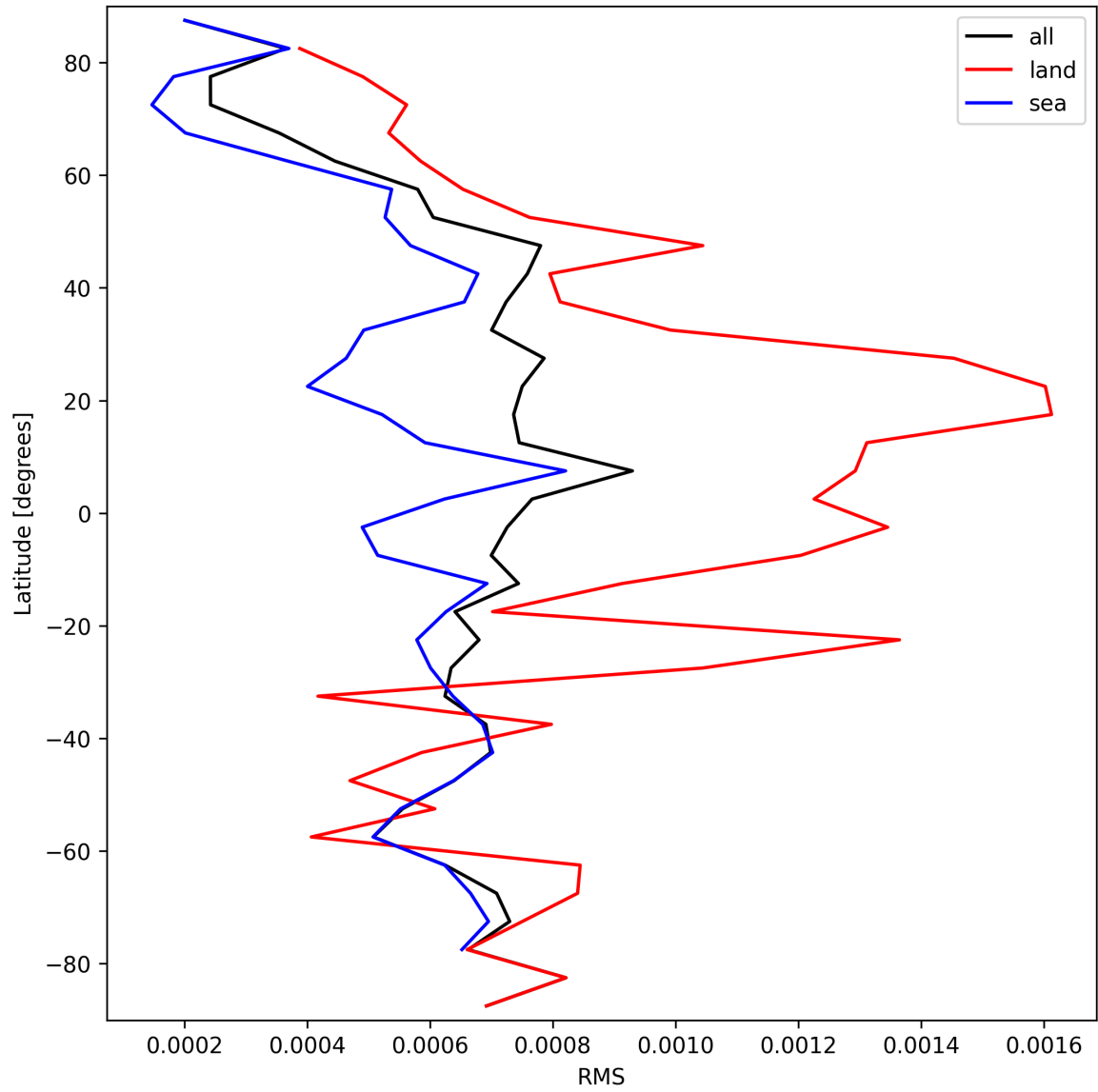


Figure 29: Zonal average of “RMS” for 2025-09-25 to 2025-09-26.

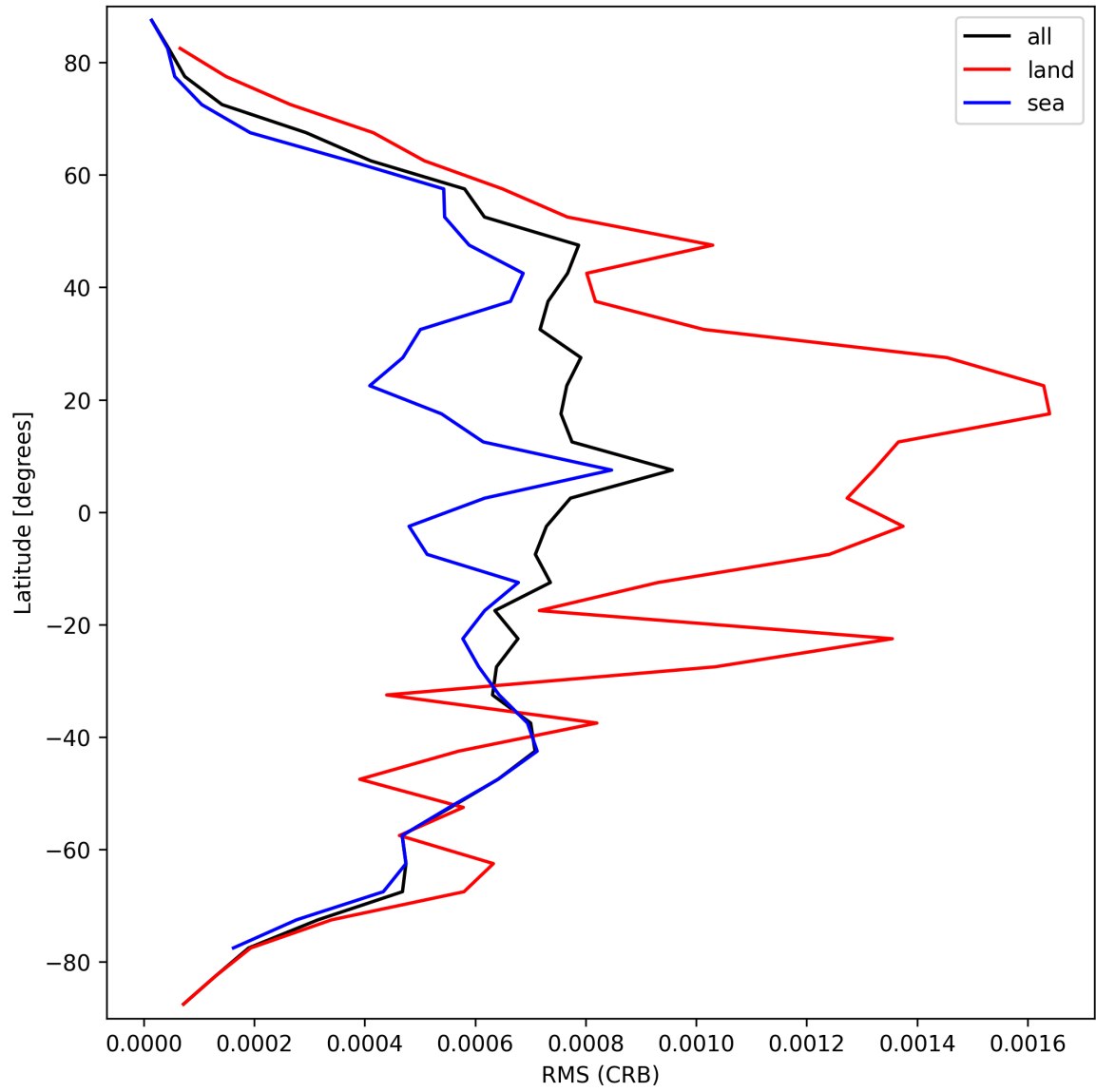


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-25 to 2025-09-26.

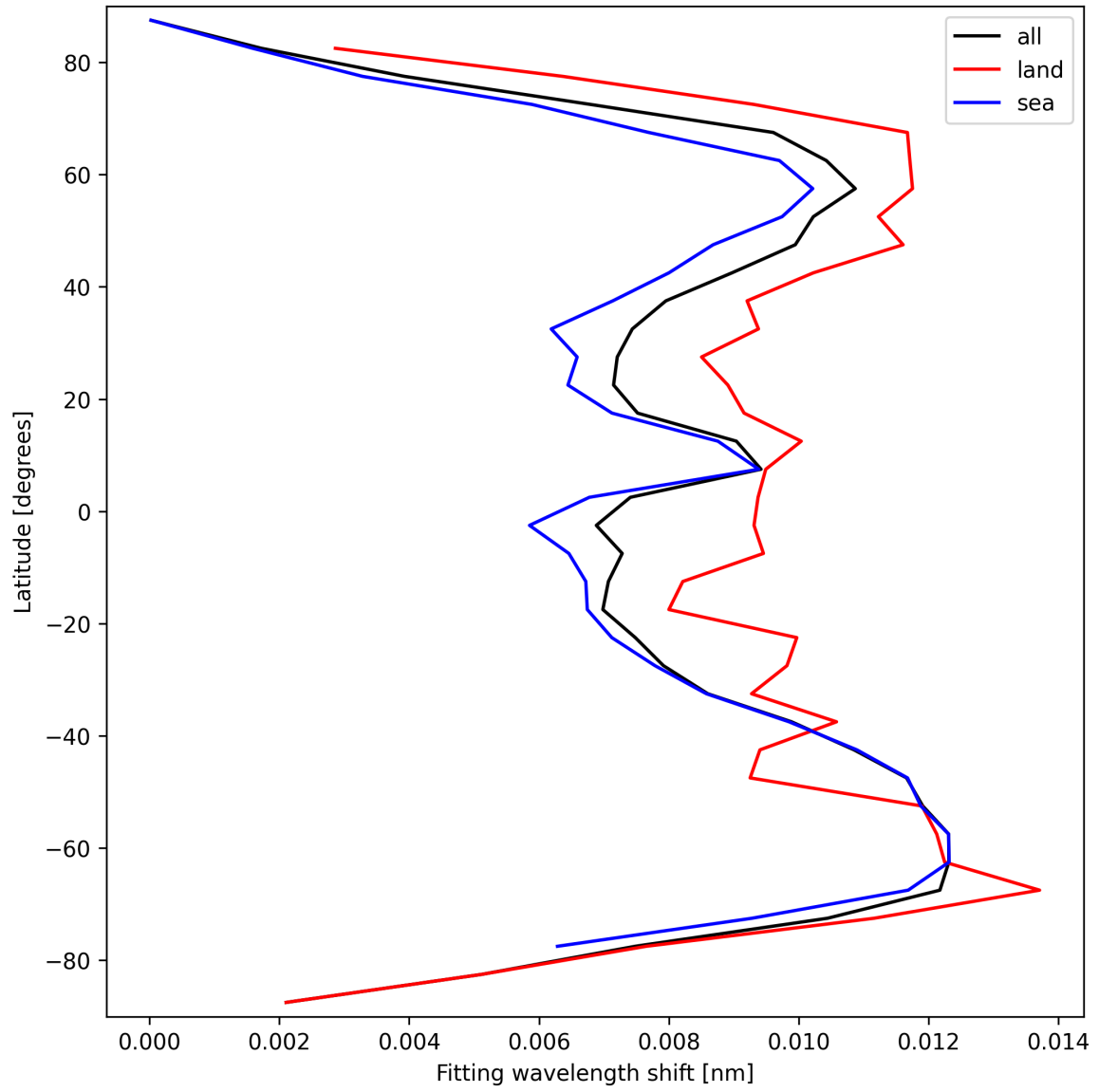


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-25 to 2025-09-26.

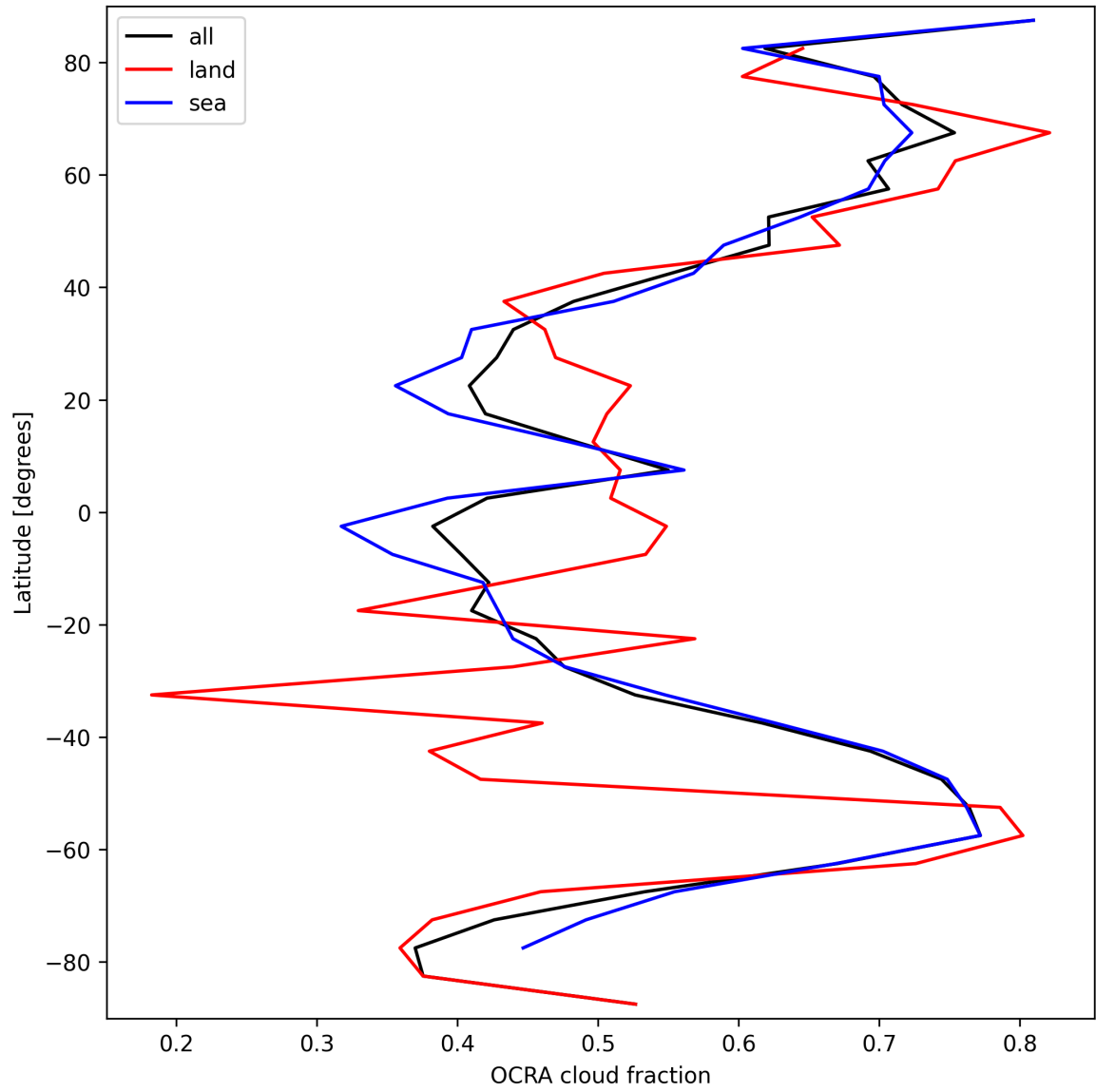


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-25 to 2025-09-26.

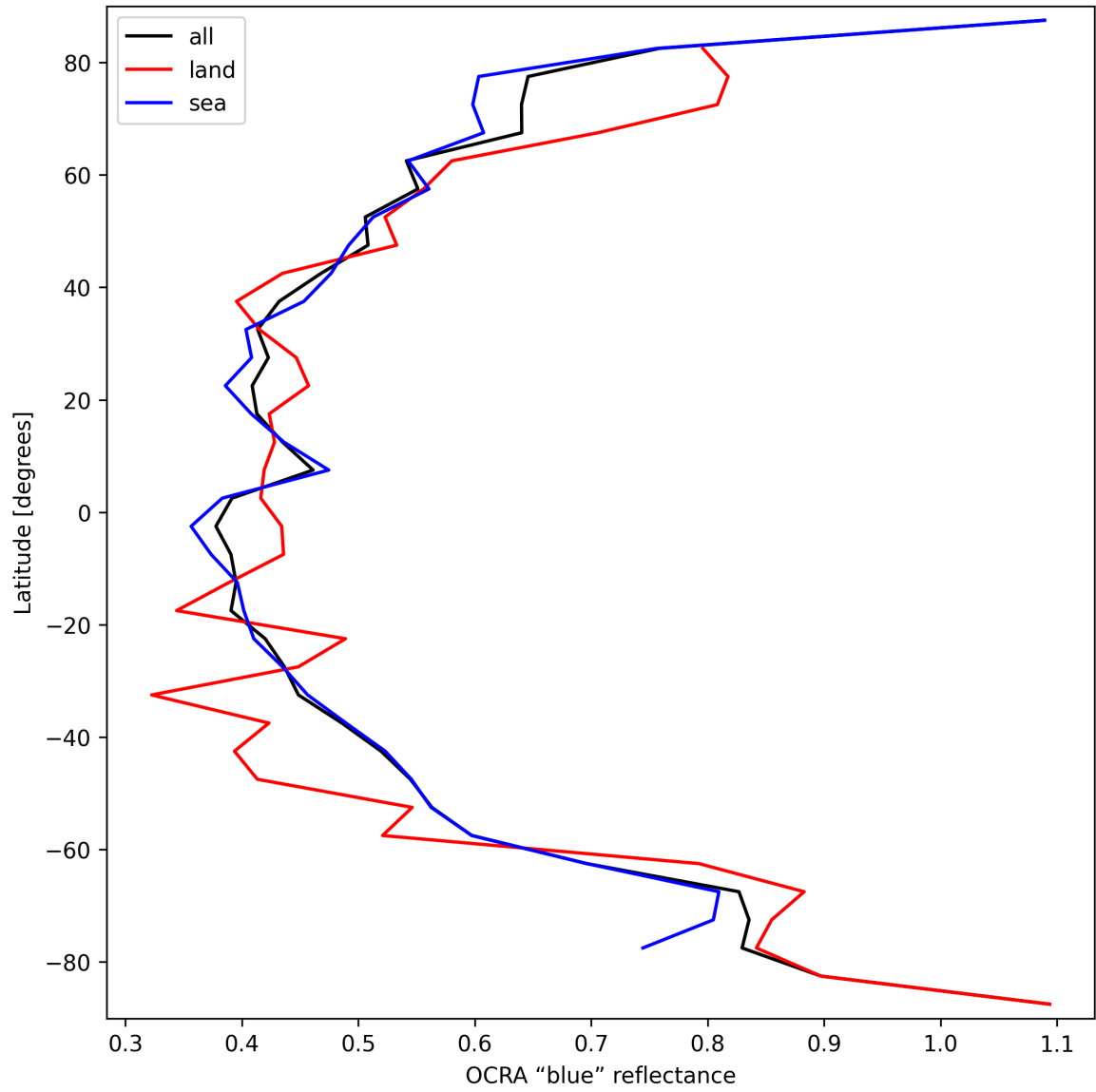


Figure 33: Zonal average of "OCRA "blue" reflectance" for 2025-09-25 to 2025-09-26.

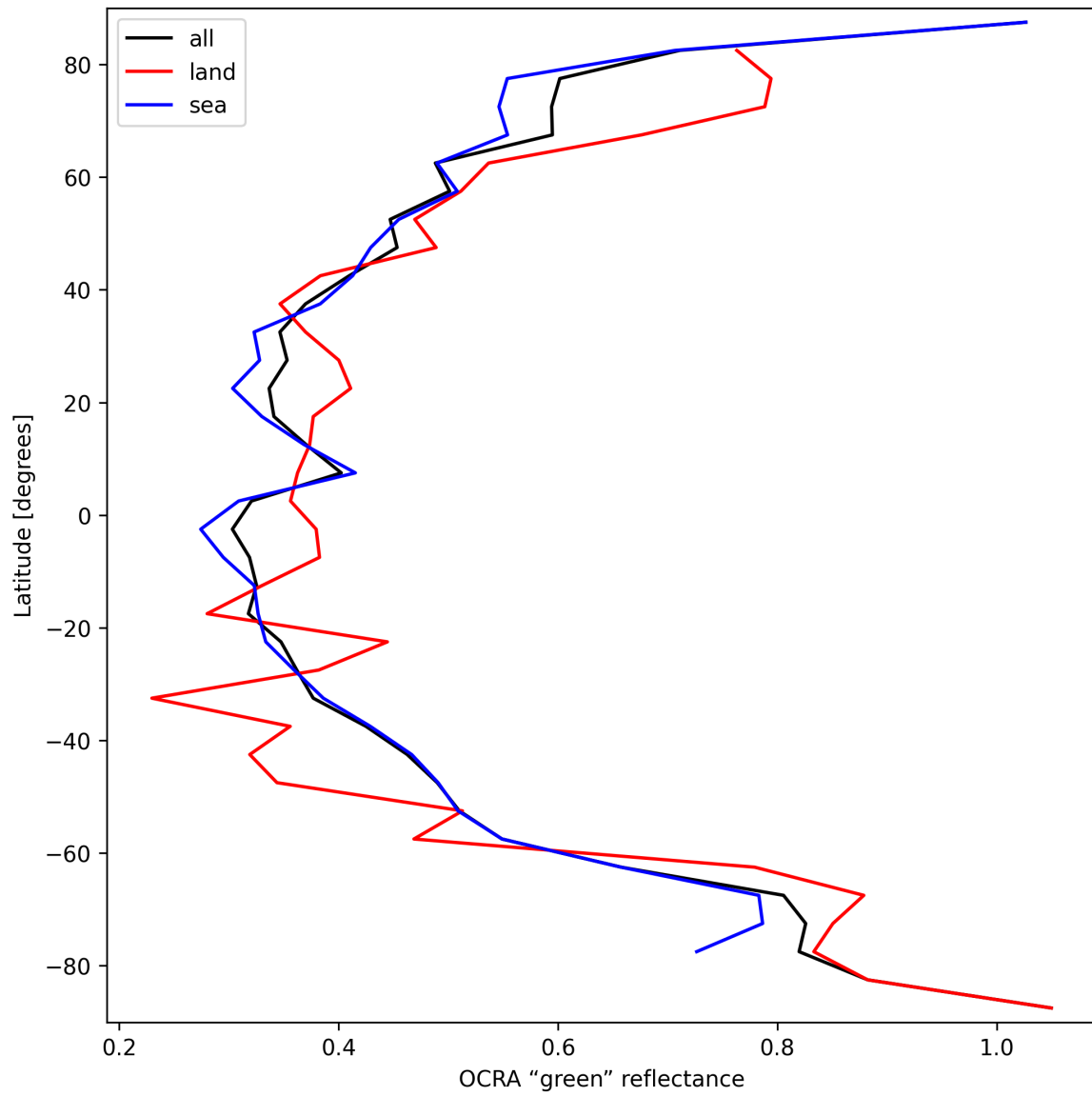


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-25 to 2025-09-26.

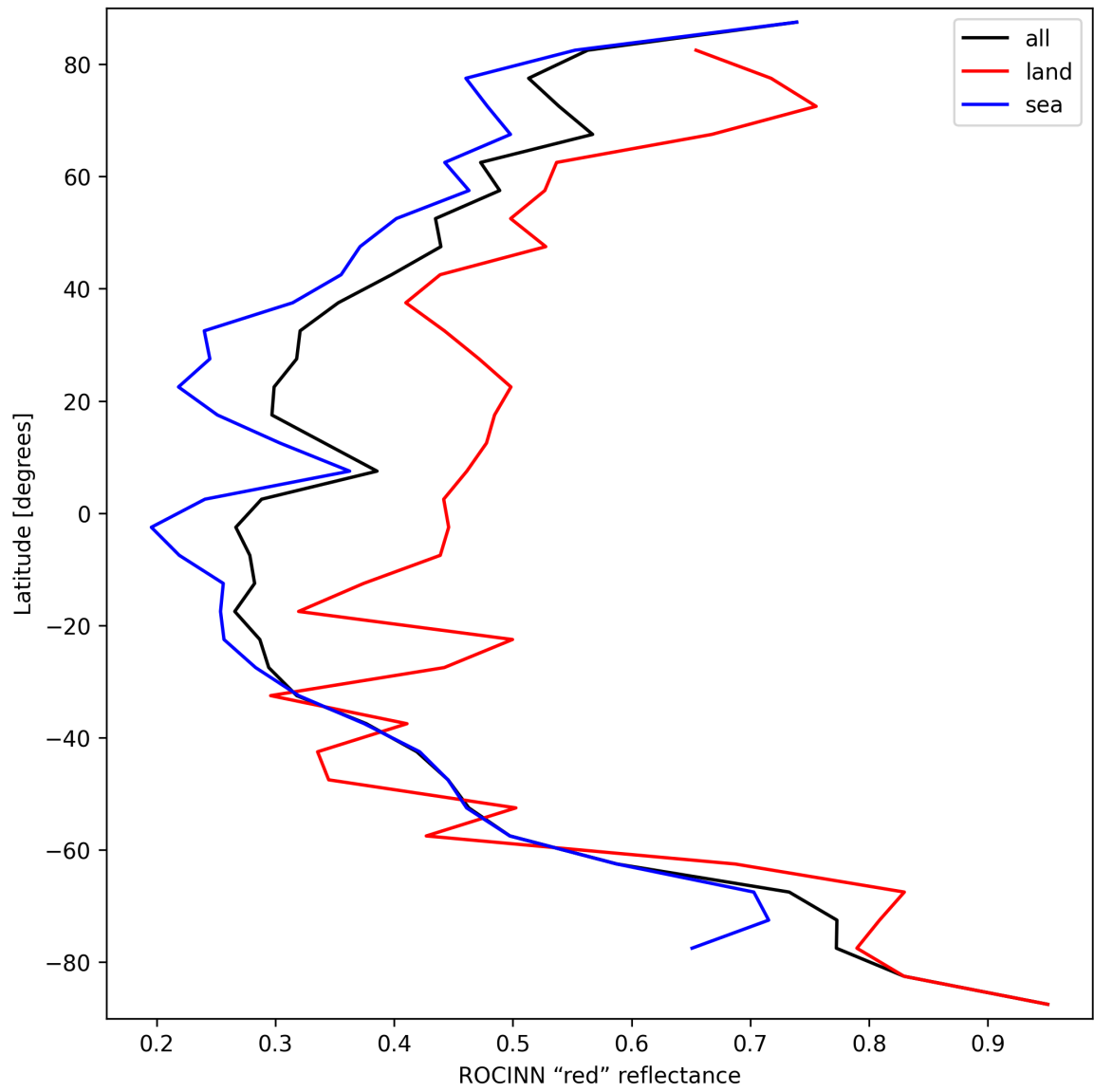


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-09-25 to 2025-09-26.

8 Histograms

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

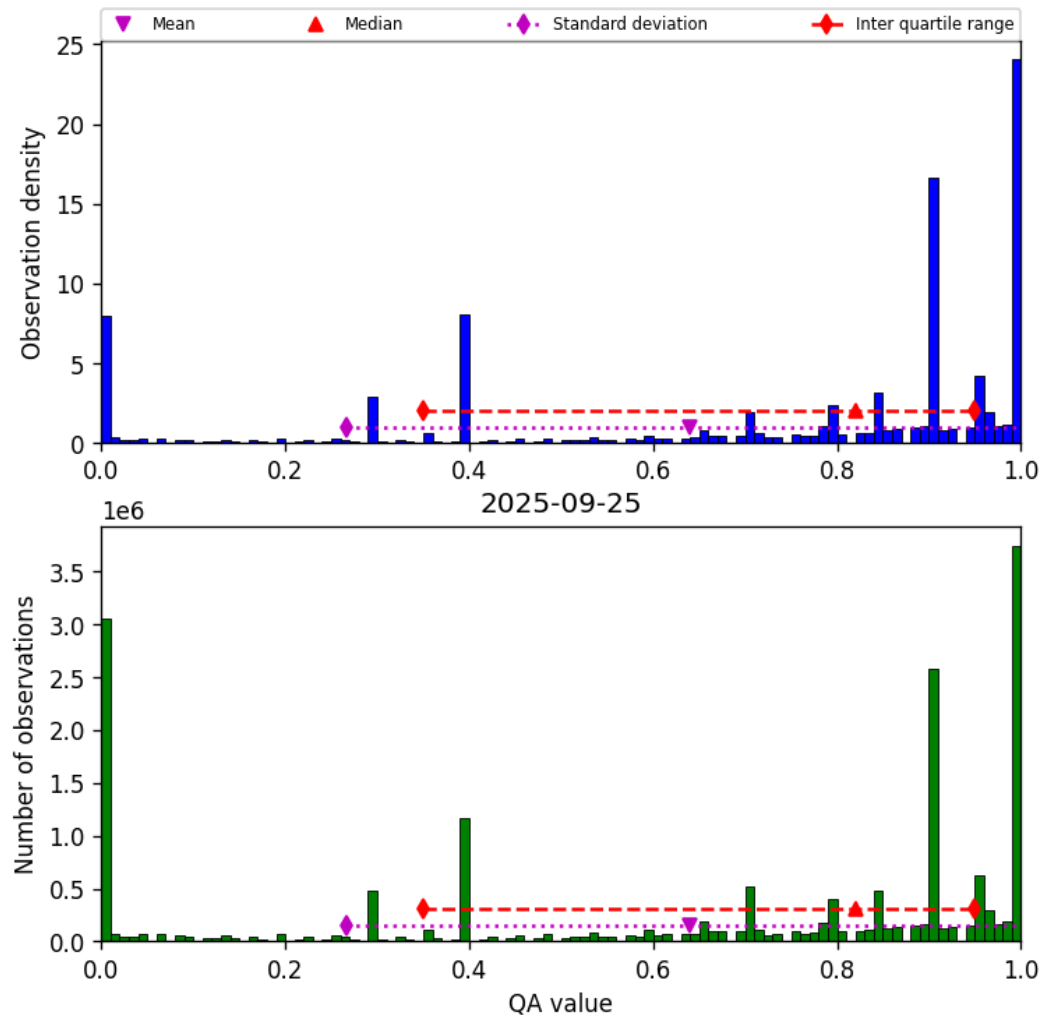


Figure 36: Histogram of “QA value” for 2025-09-25 to 2025-09-26

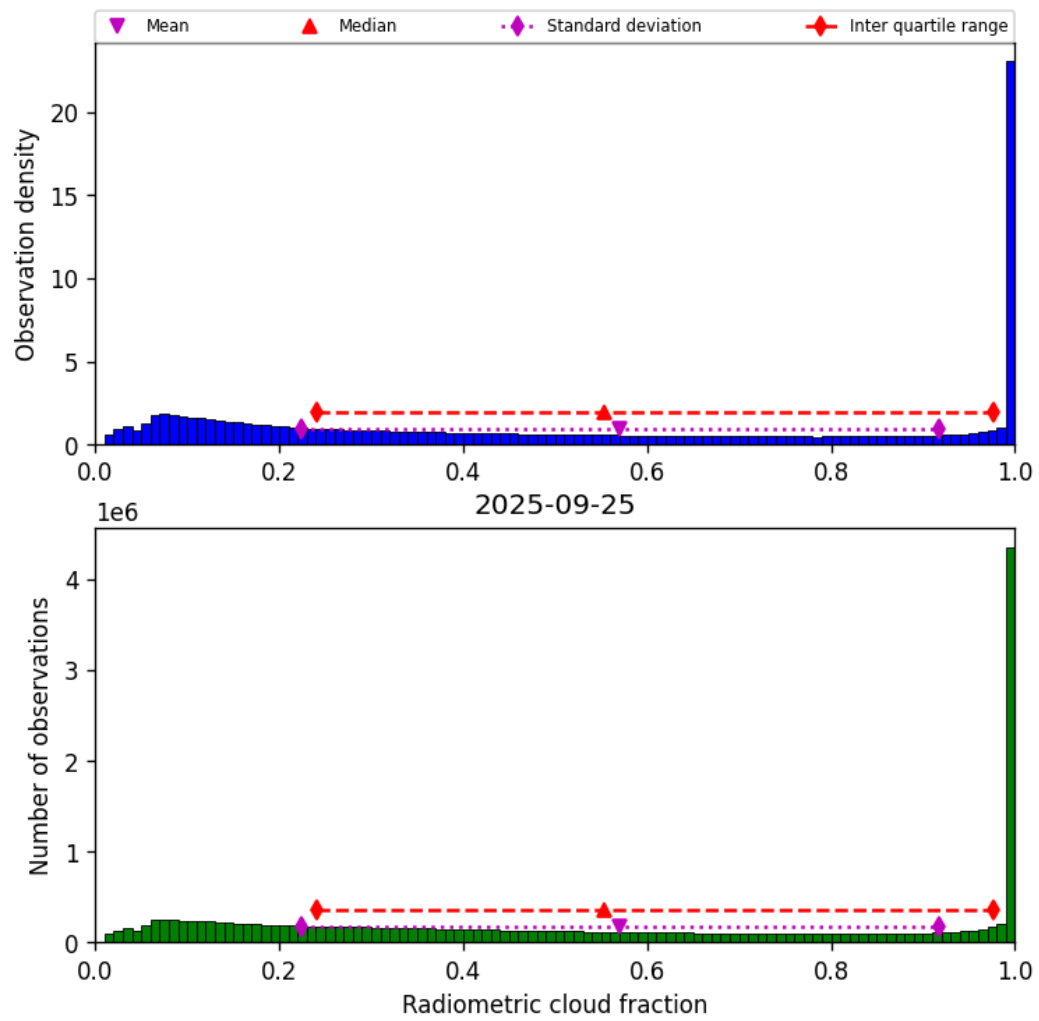


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-25 to 2025-09-26

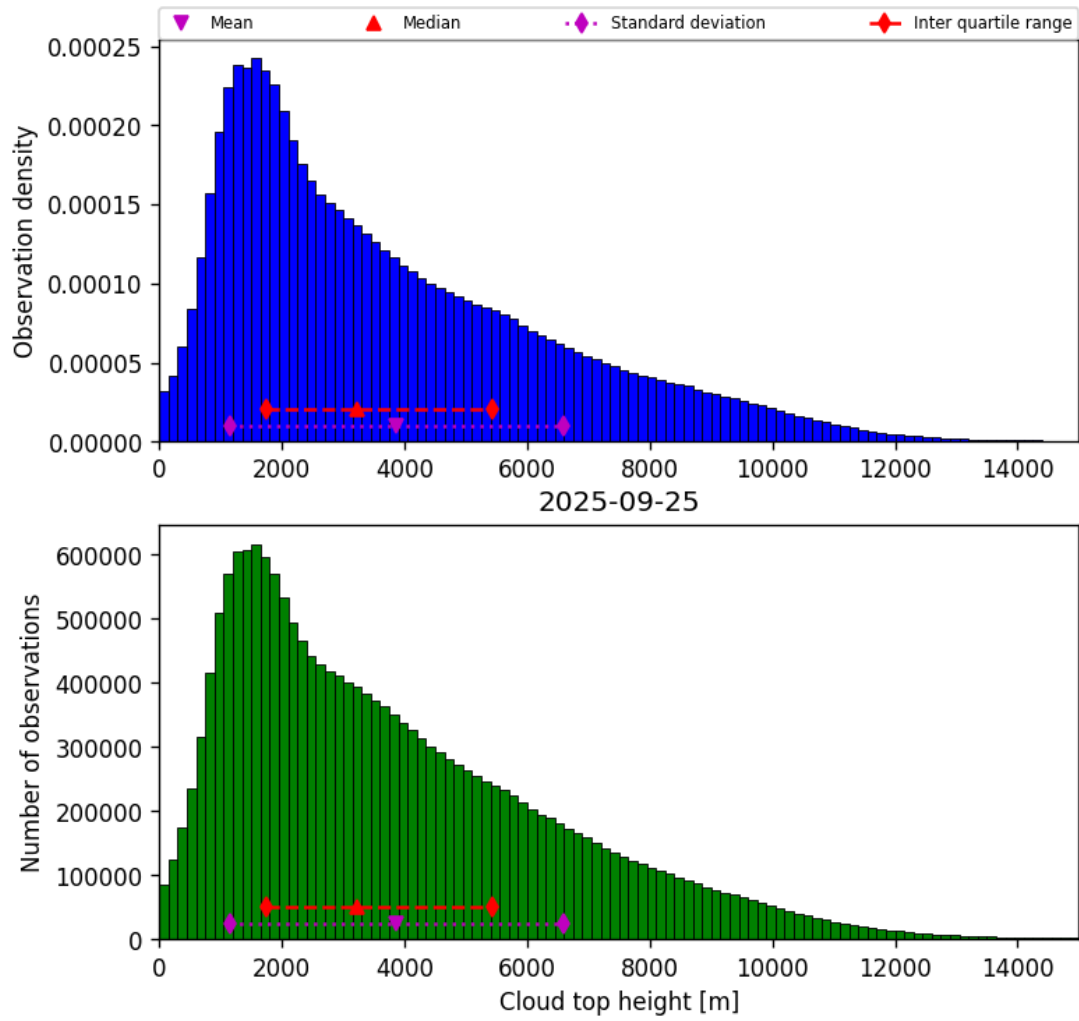


Figure 38: Histogram of “Cloud top height” for 2025-09-25 to 2025-09-26

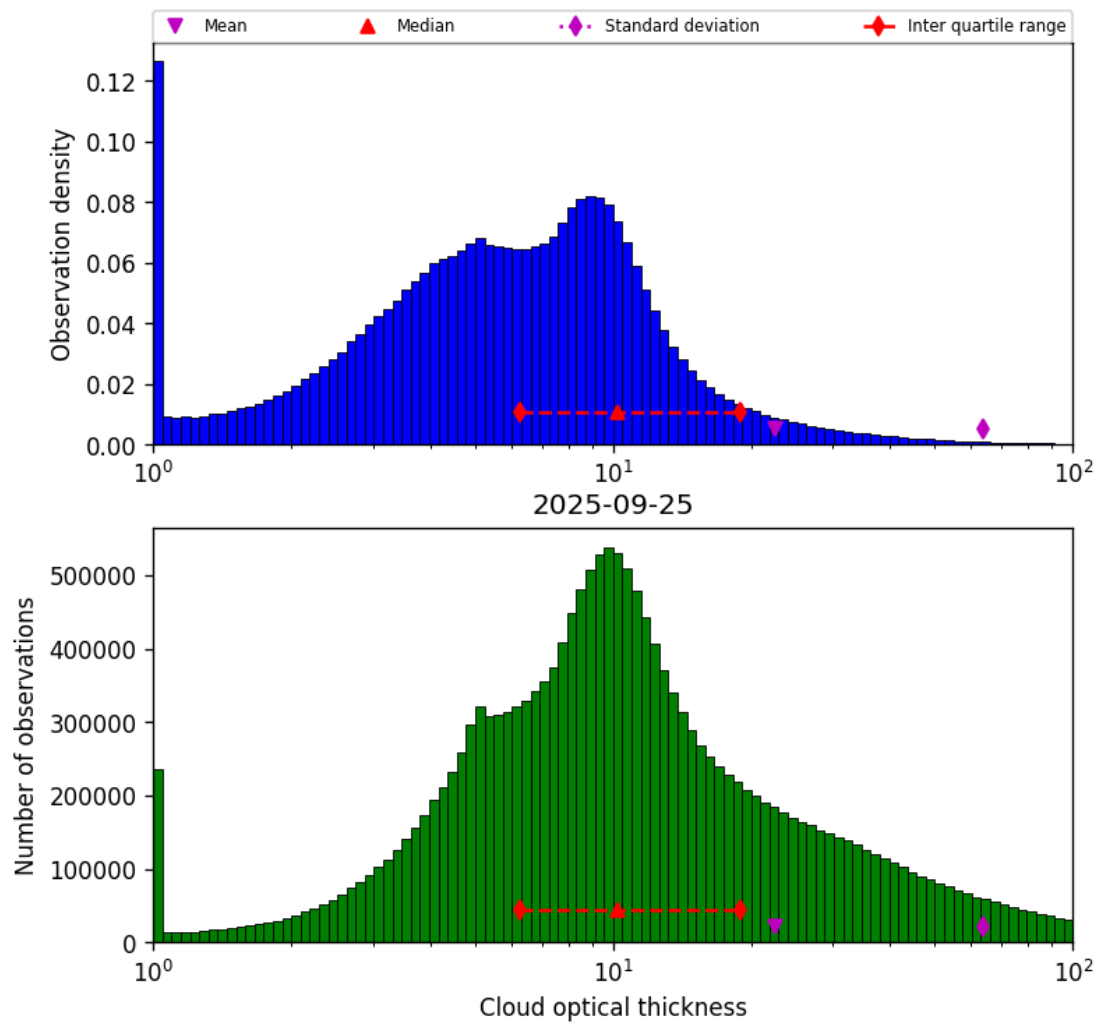


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-25 to 2025-09-26

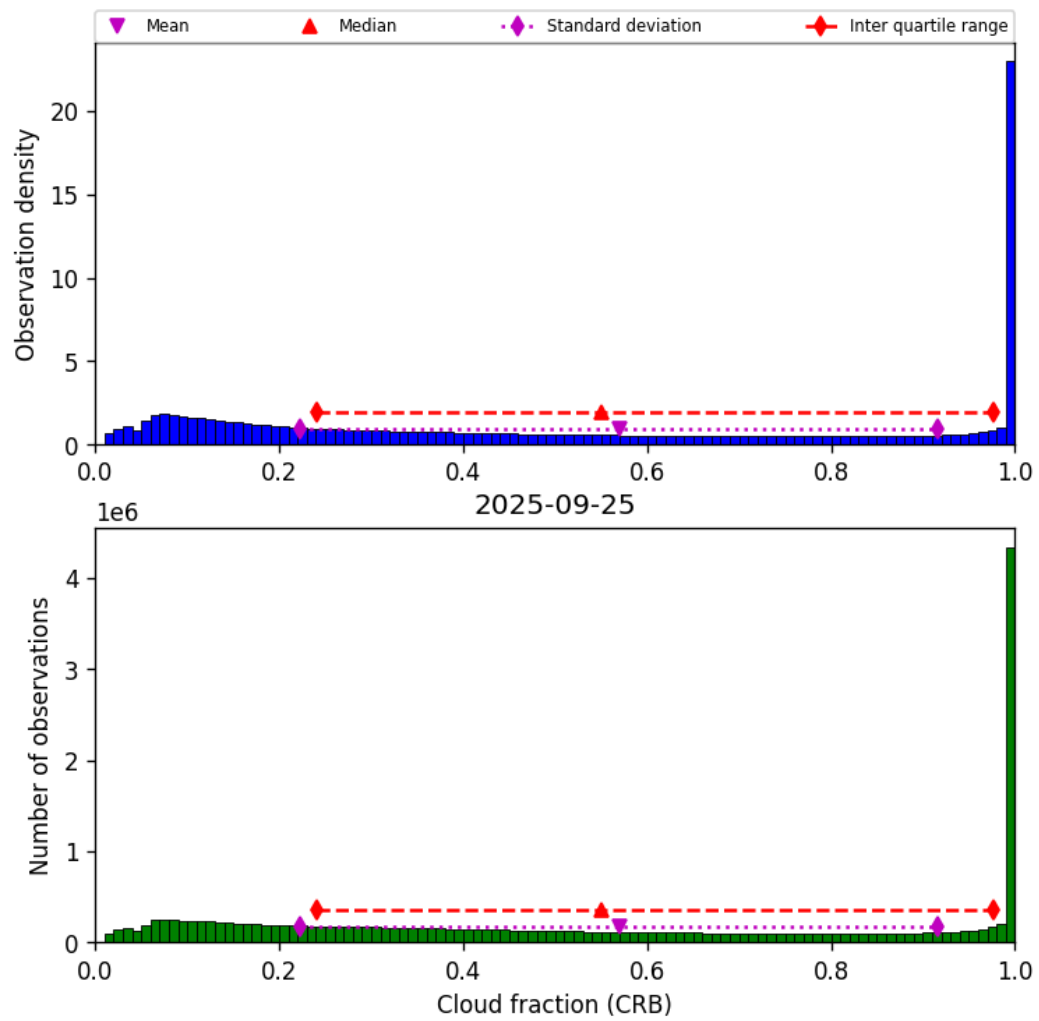


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-09-25 to 2025-09-26

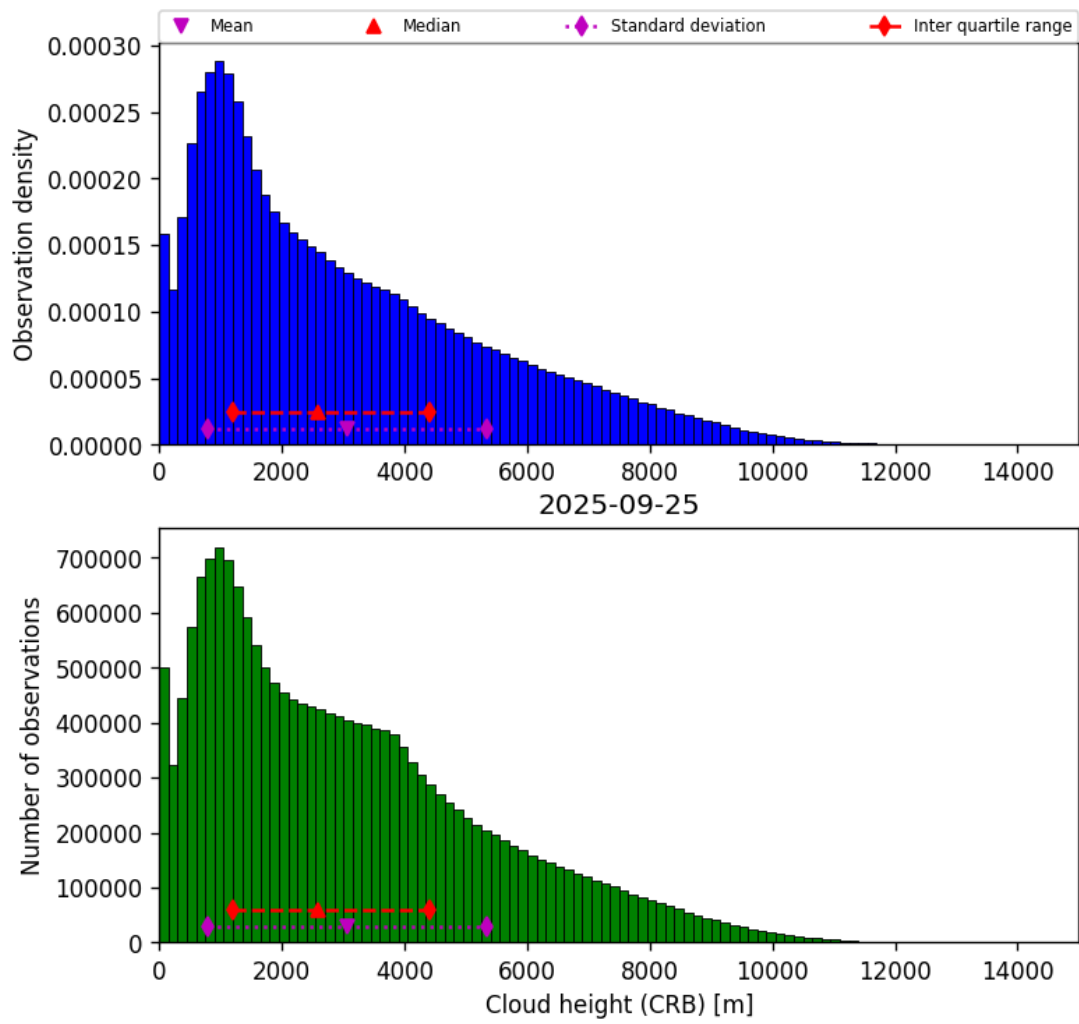


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-25 to 2025-09-26

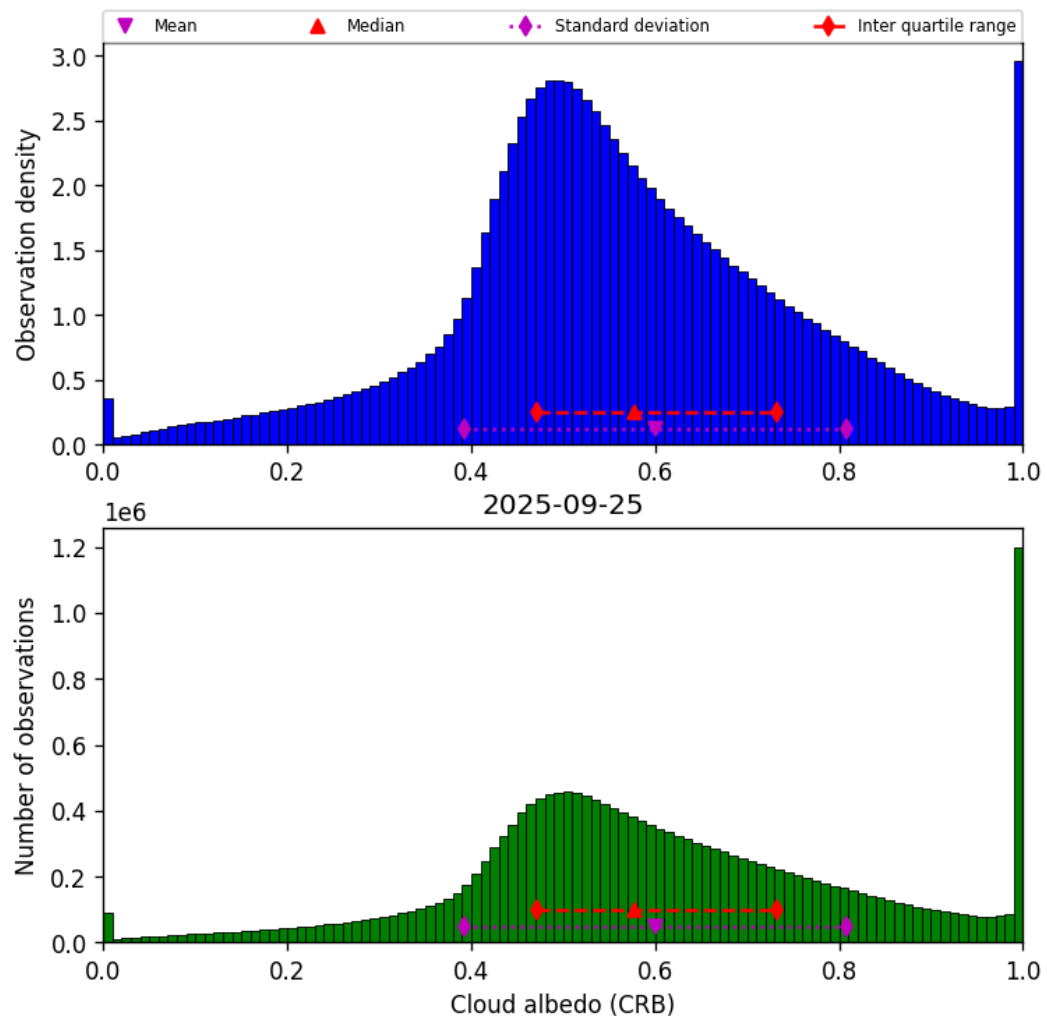


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-25 to 2025-09-26

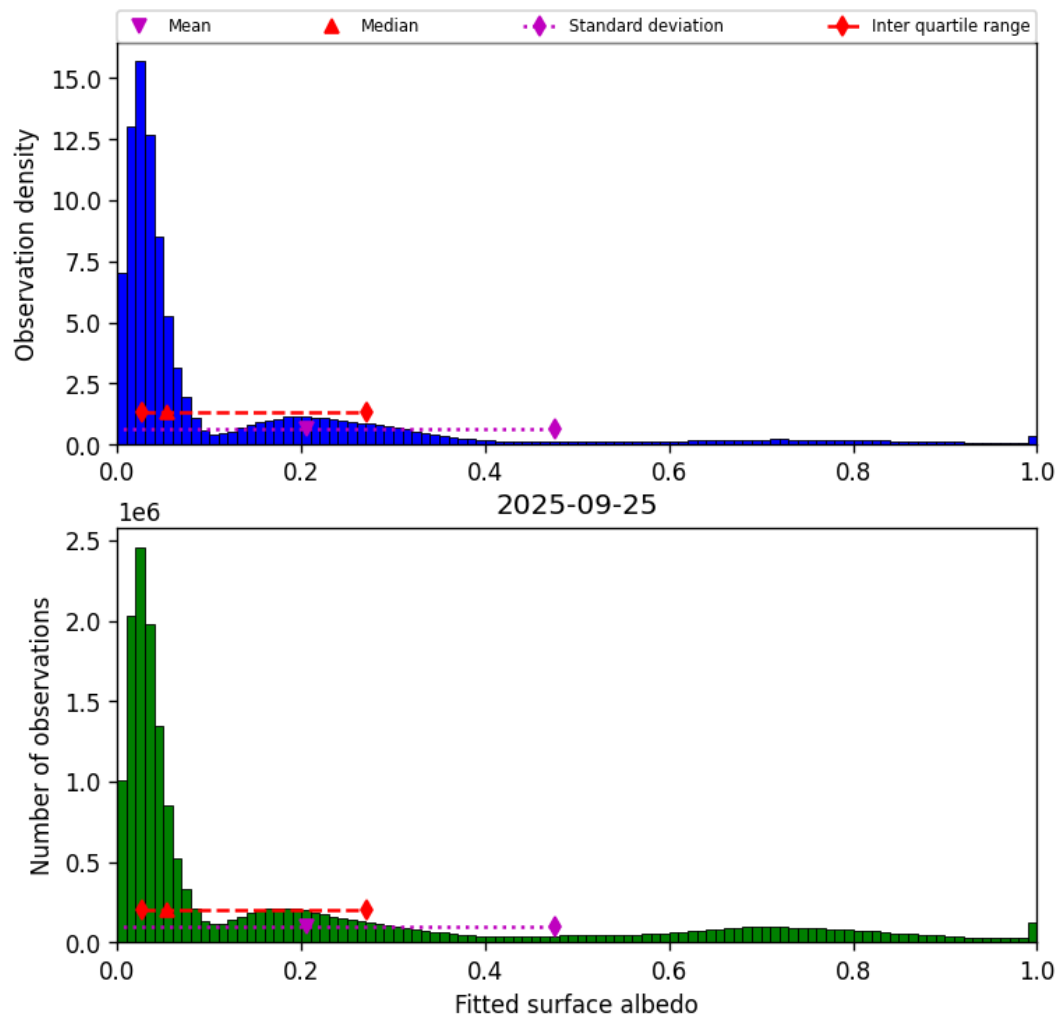


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-25 to 2025-09-26

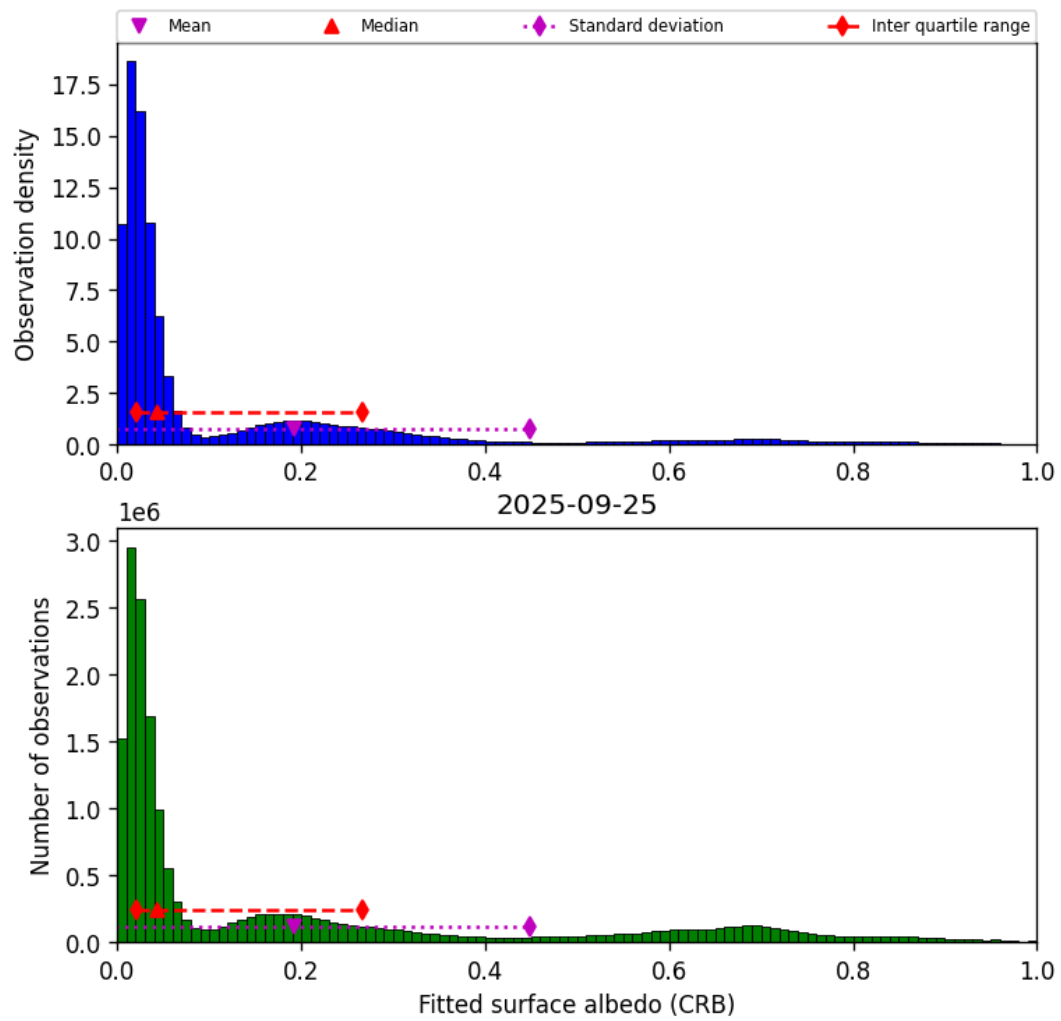


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-25 to 2025-09-26

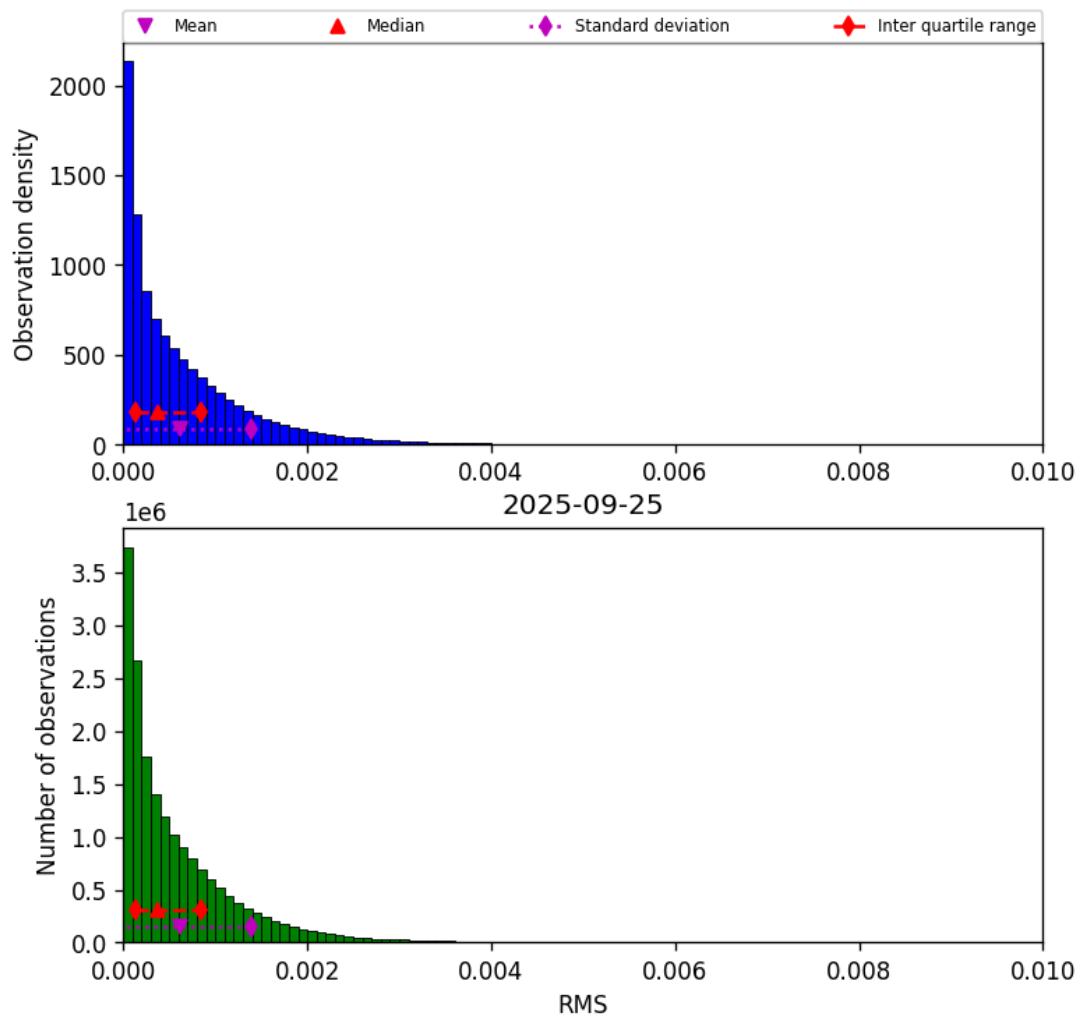


Figure 45: Histogram of “RMS” for 2025-09-25 to 2025-09-26

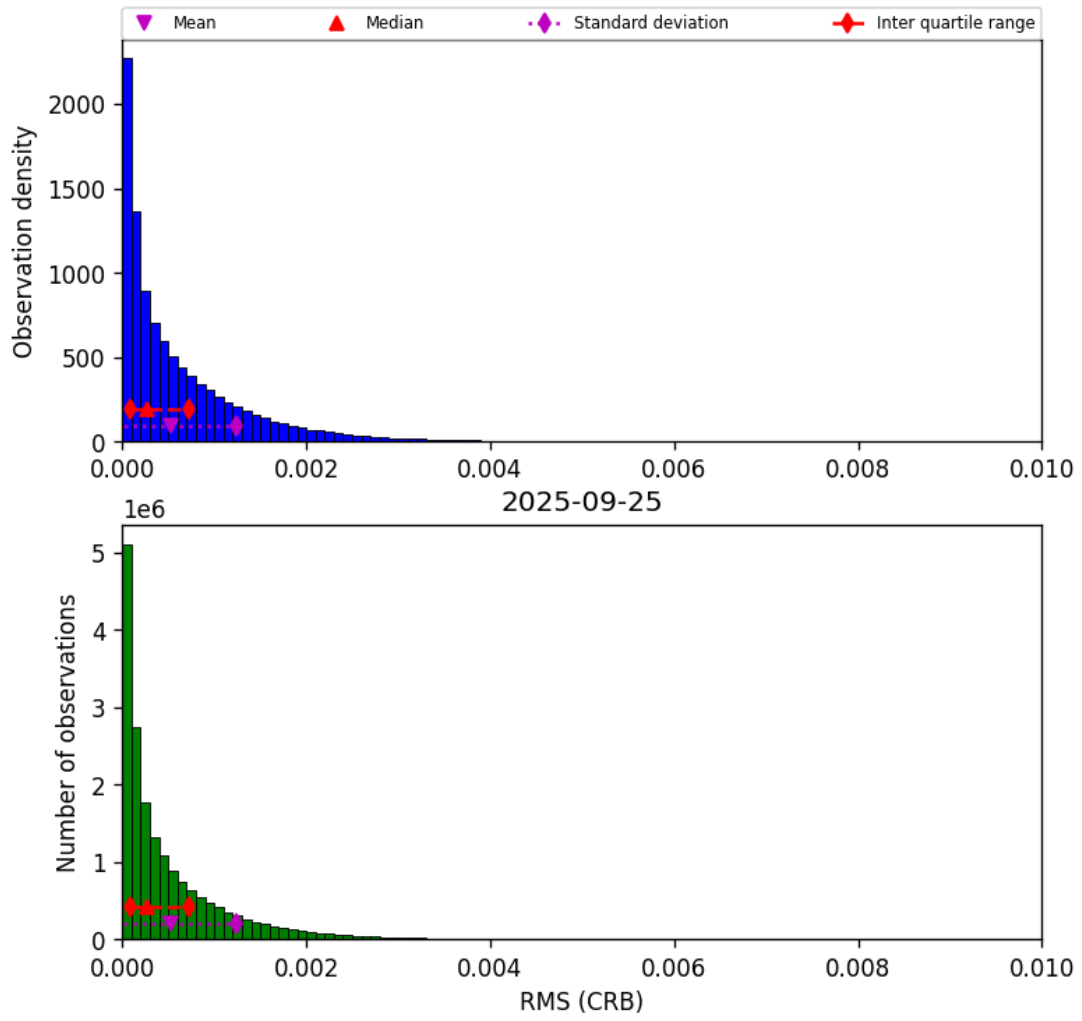


Figure 46: Histogram of “RMS (CRB)” for 2025-09-25 to 2025-09-26

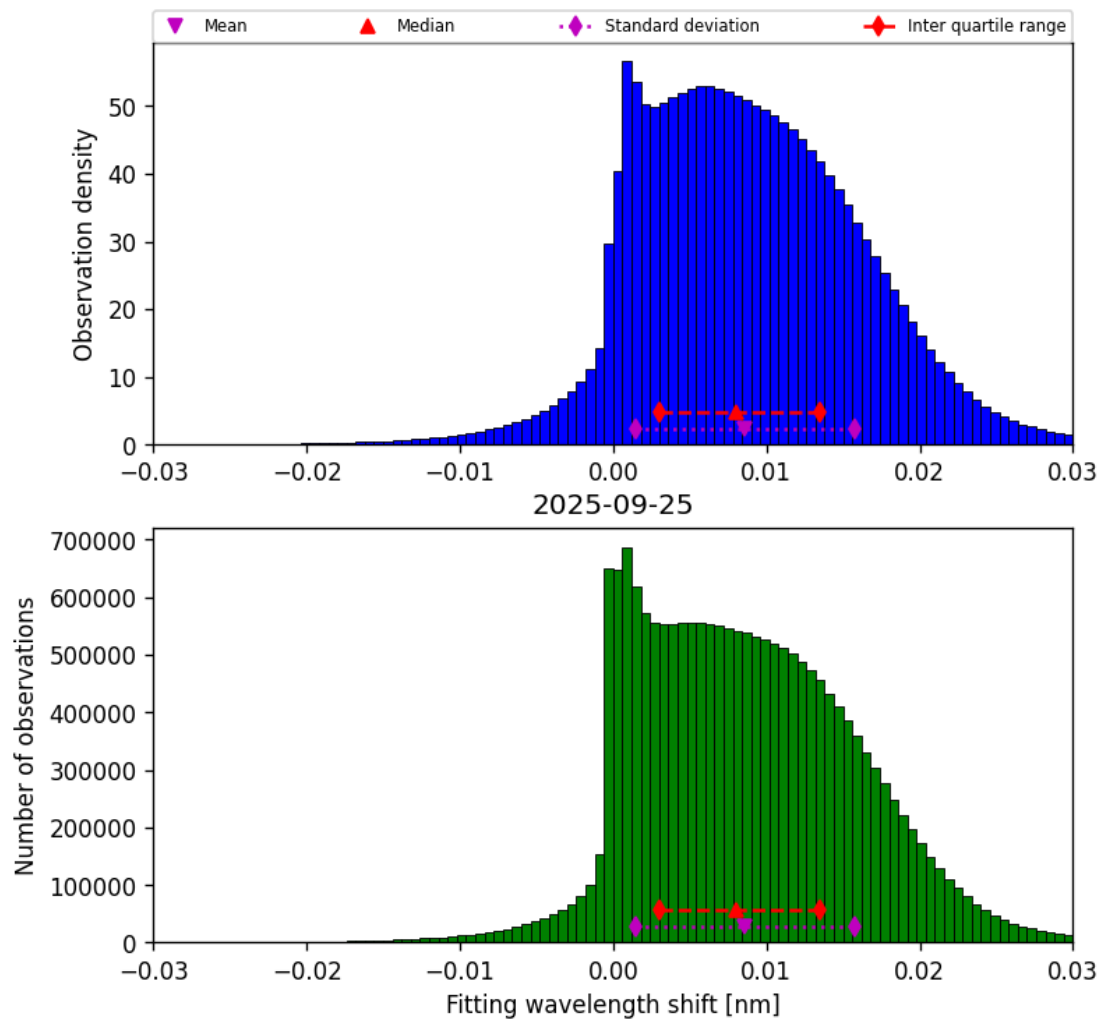


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-25 to 2025-09-26

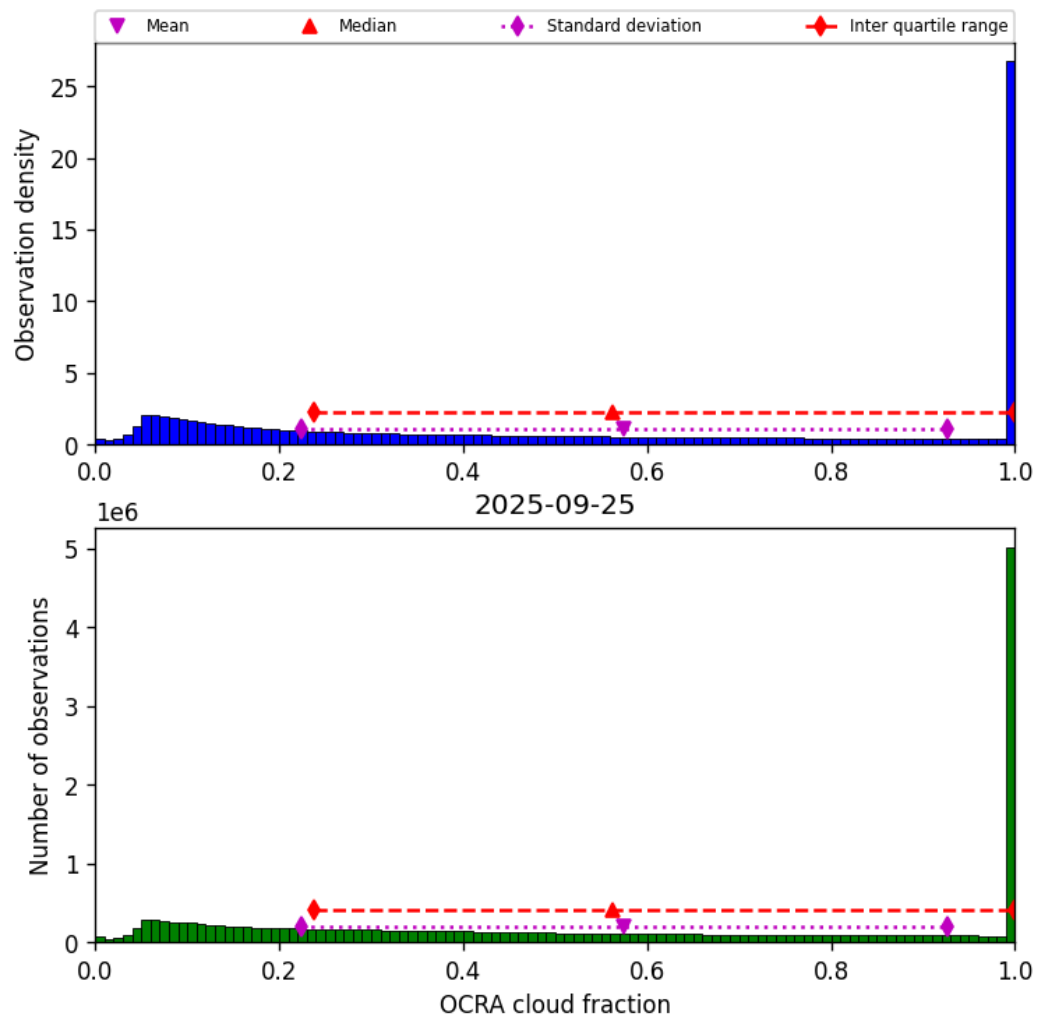


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-25 to 2025-09-26

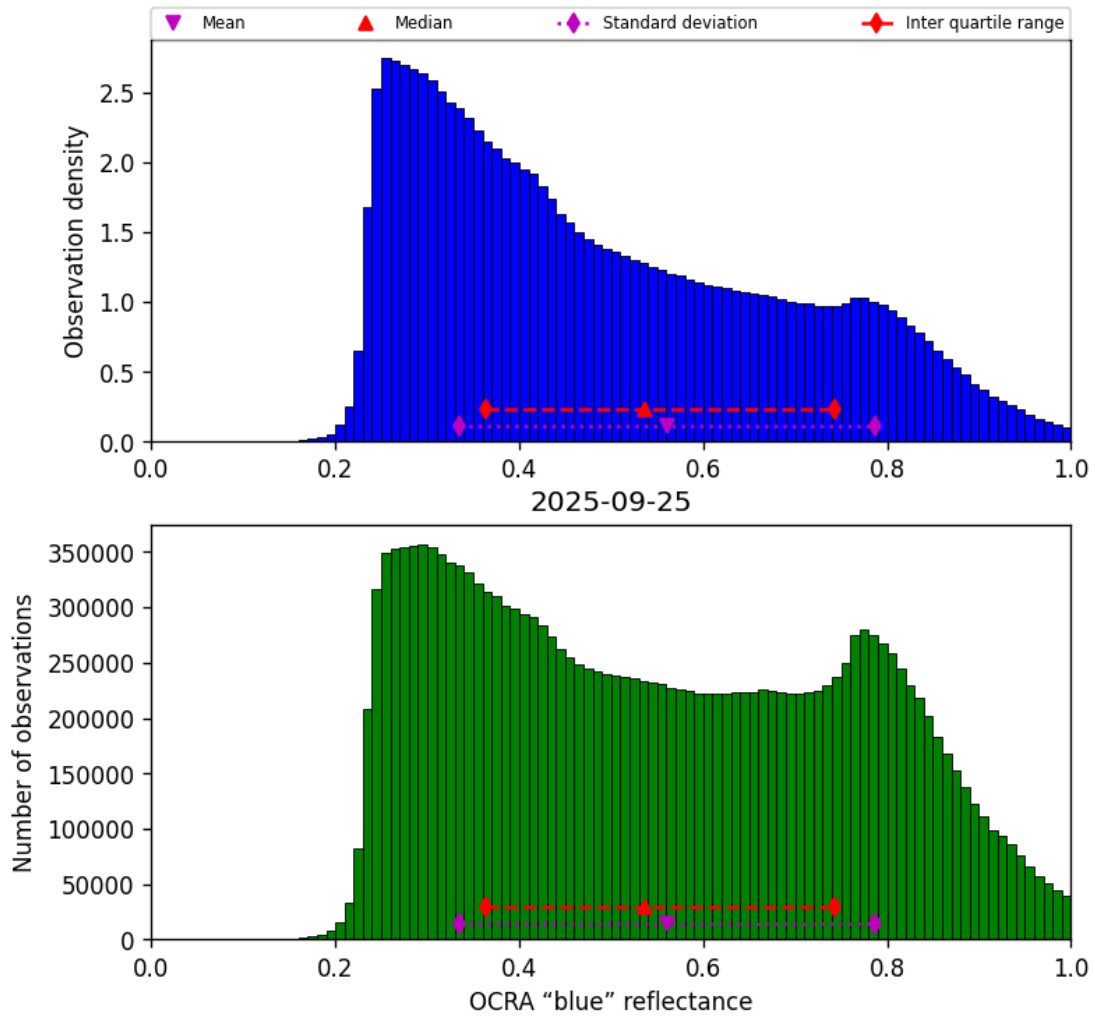


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-25 to 2025-09-26

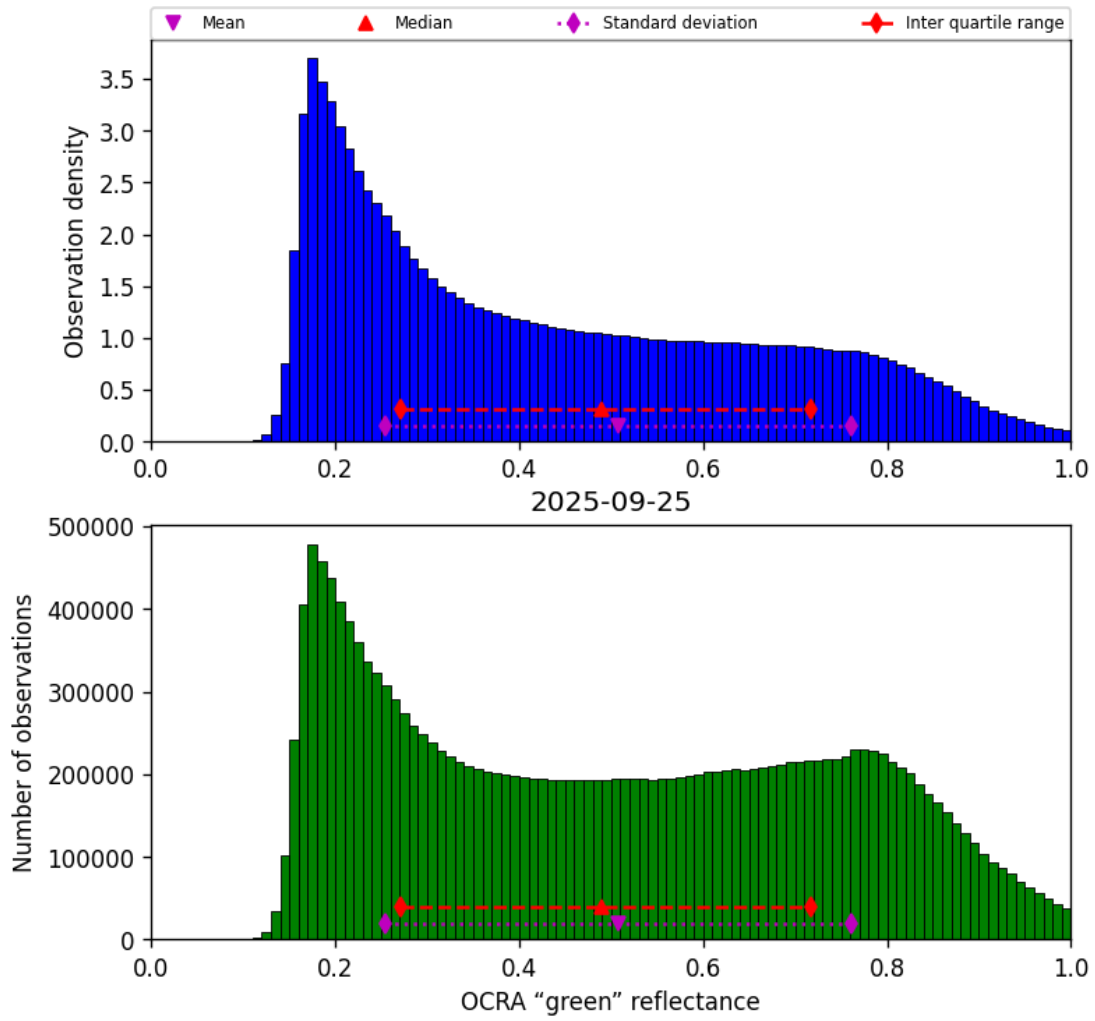


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-25 to 2025-09-26

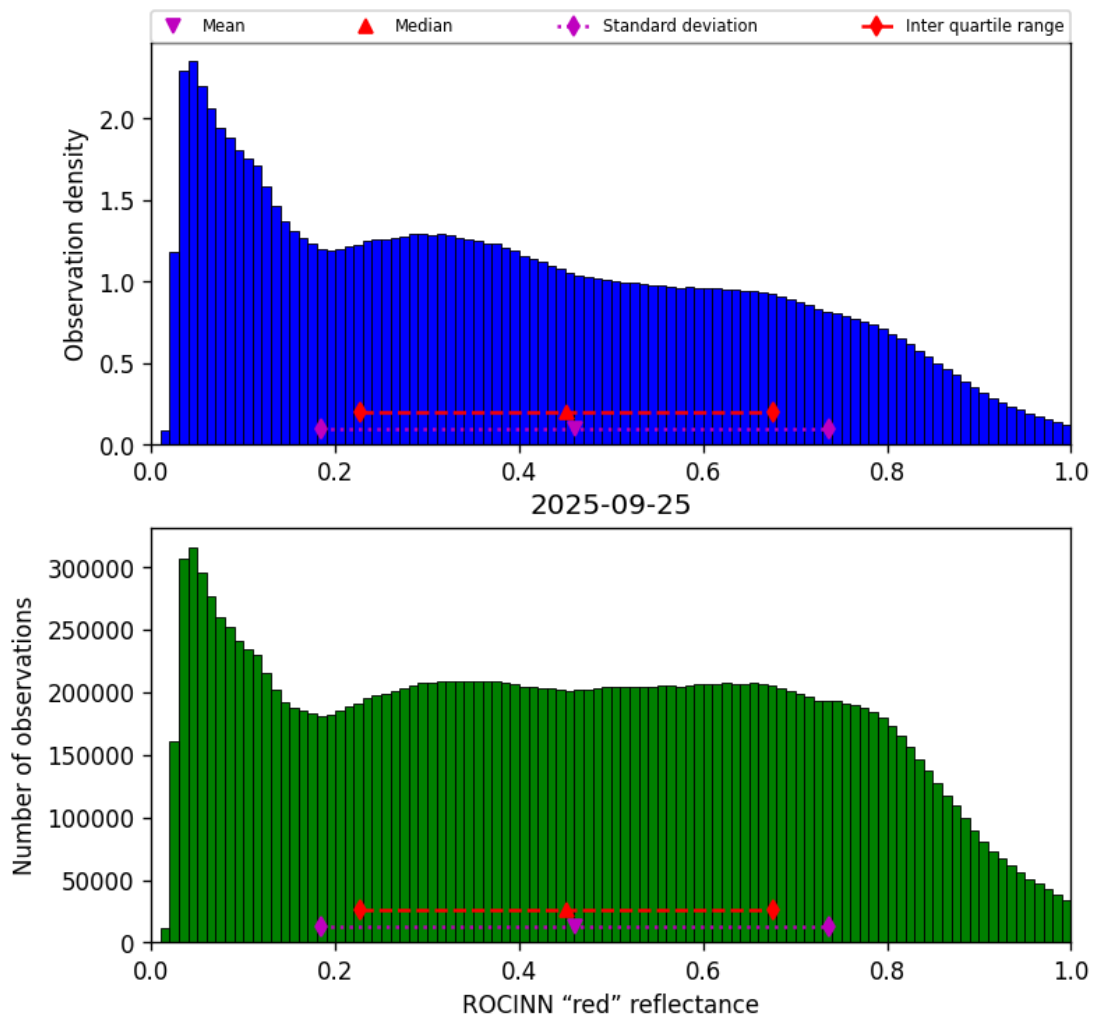


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-09-25 to 2025-09-26

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.

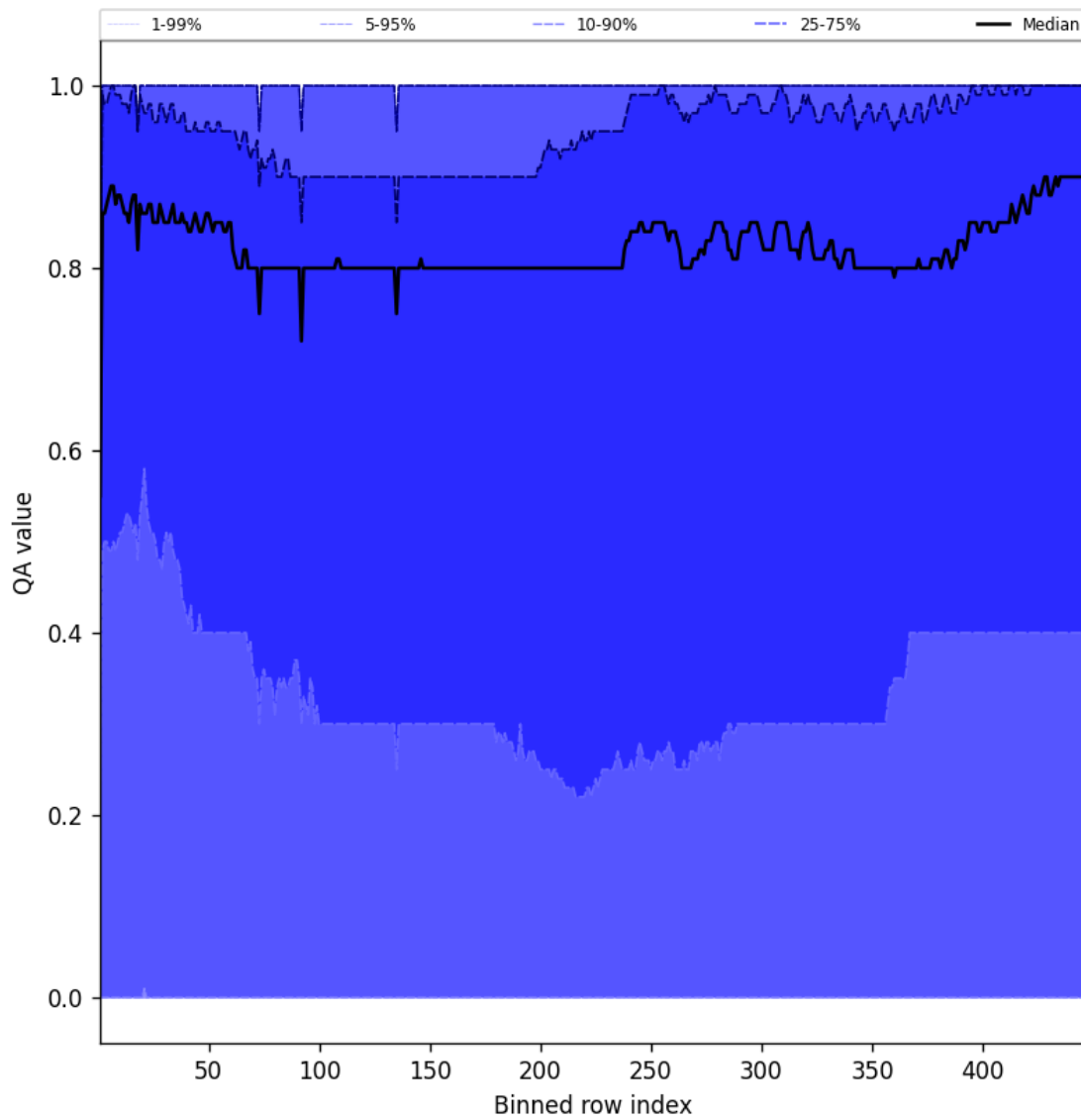


Figure 52: Along track statistics of “QA value” for 2025-09-25 to 2025-09-26

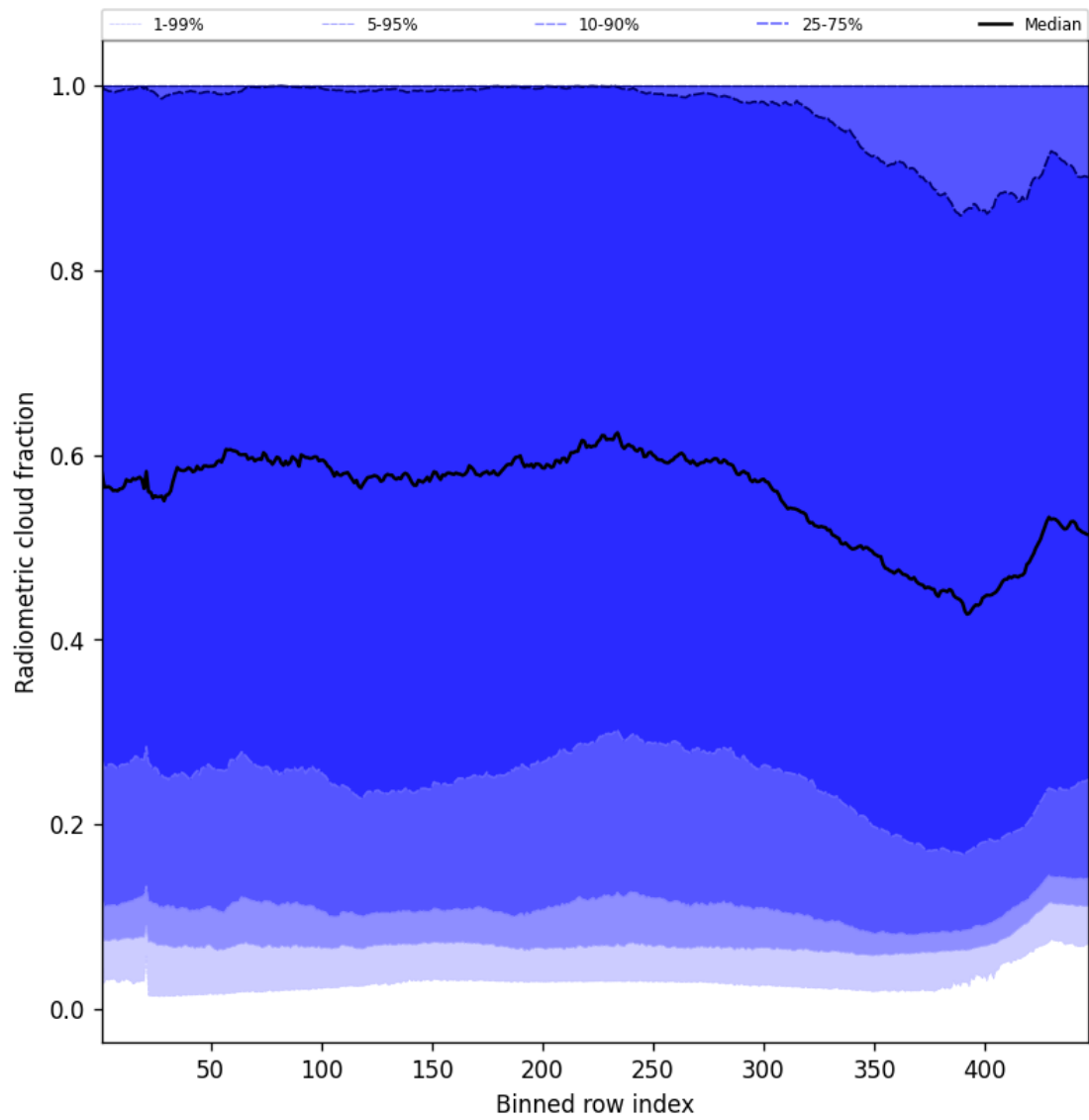


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-25 to 2025-09-26

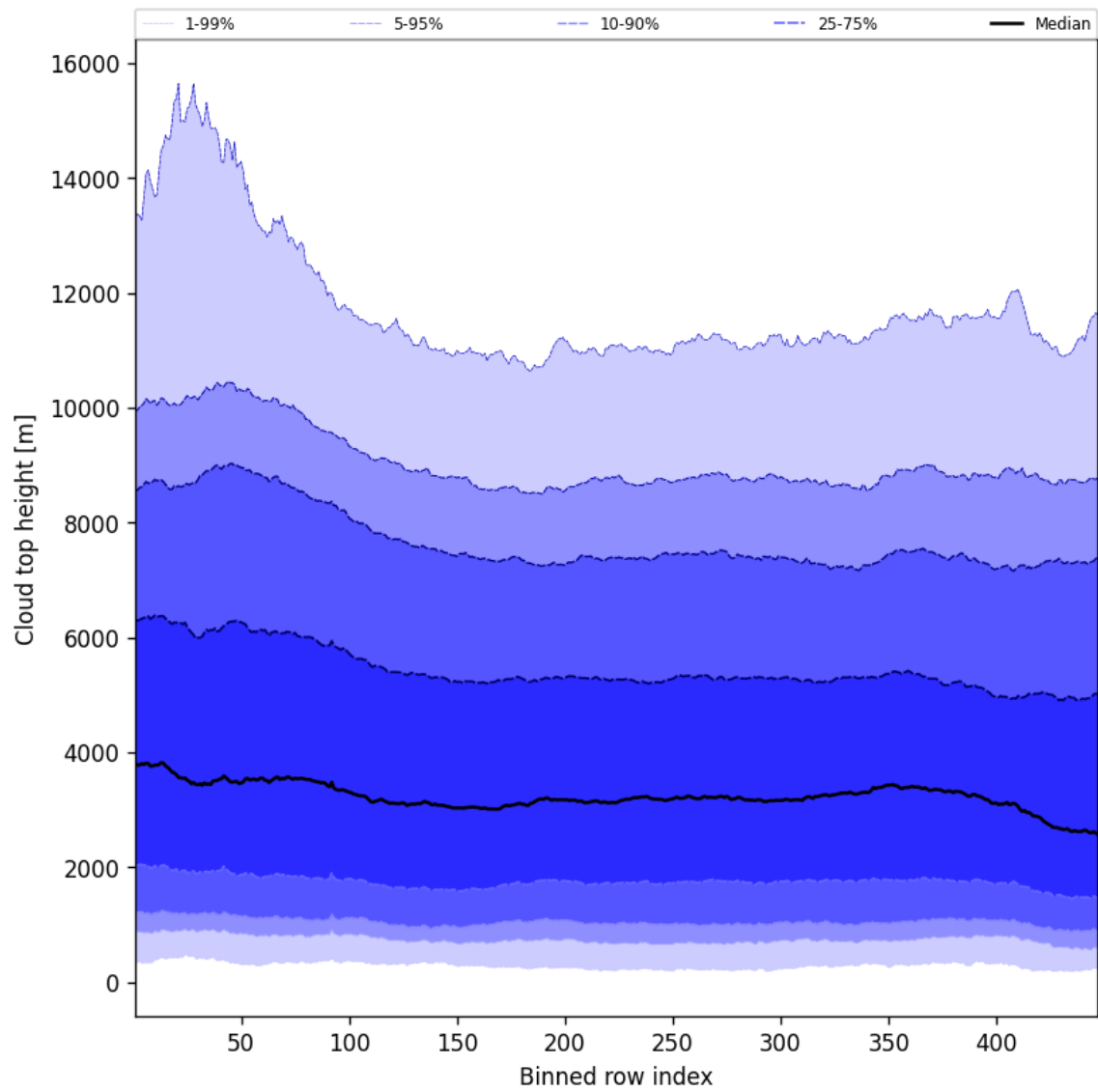


Figure 54: Along track statistics of “Cloud top height” for 2025-09-25 to 2025-09-26

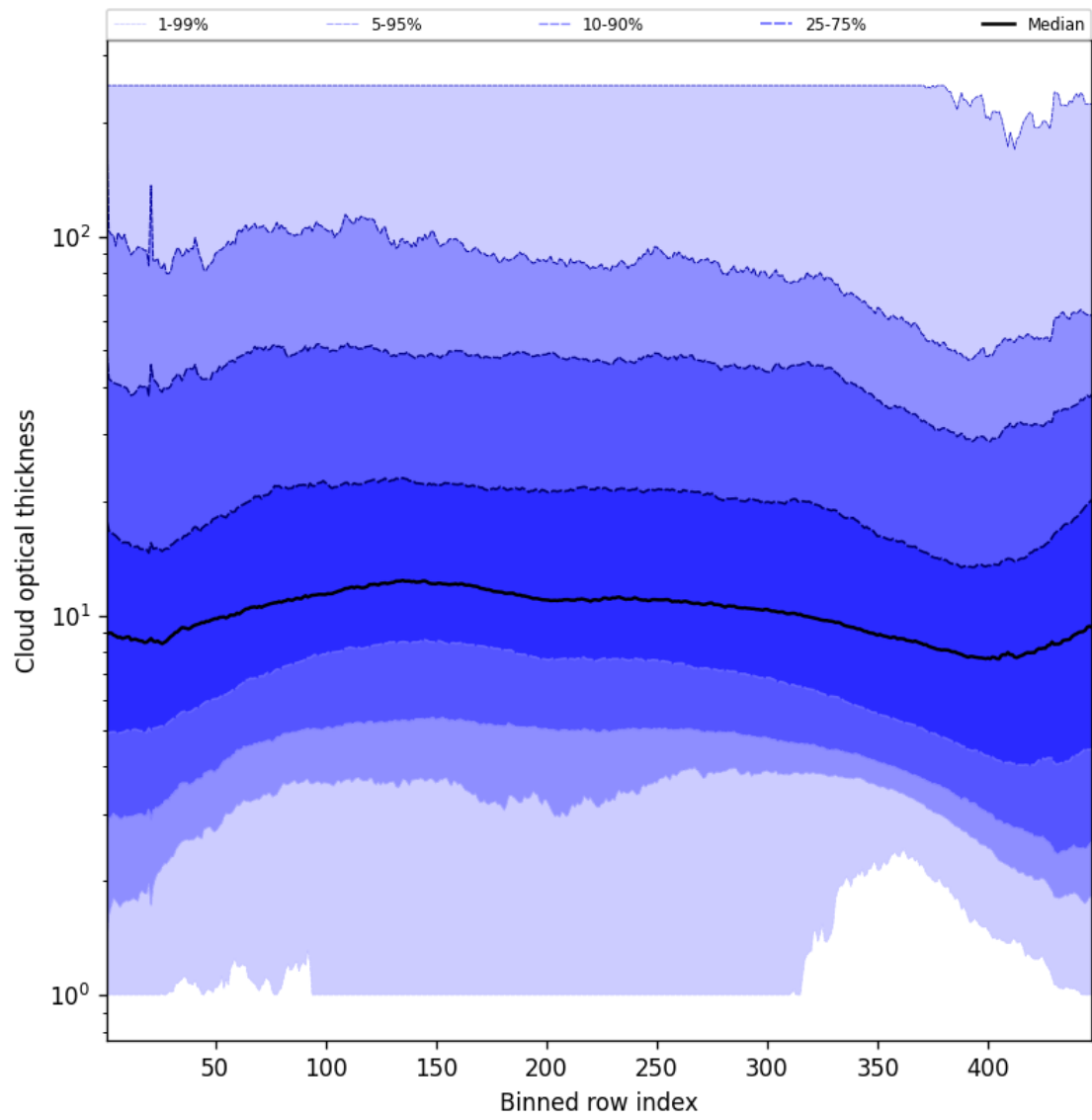


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-25 to 2025-09-26

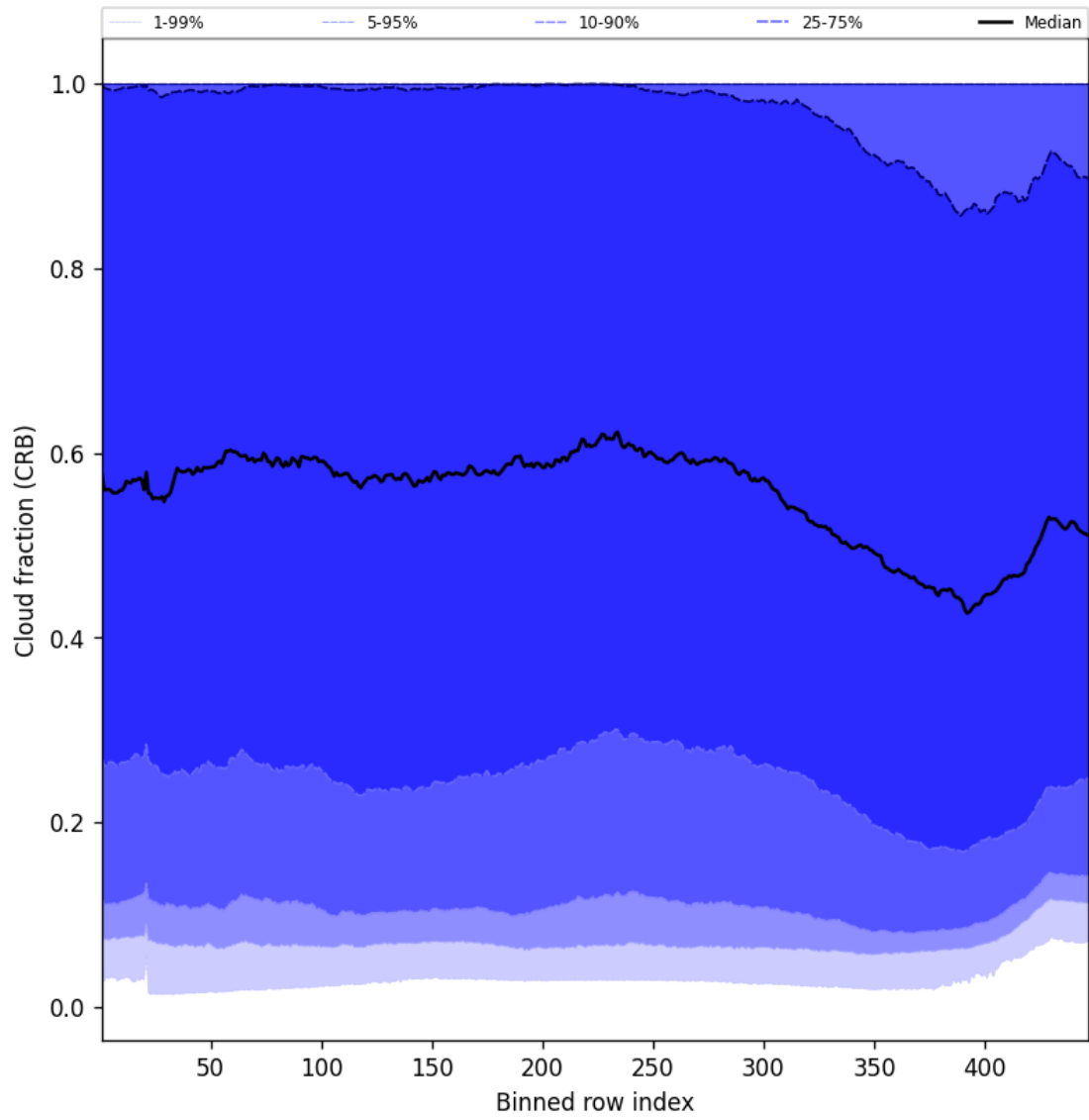


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-25 to 2025-09-26

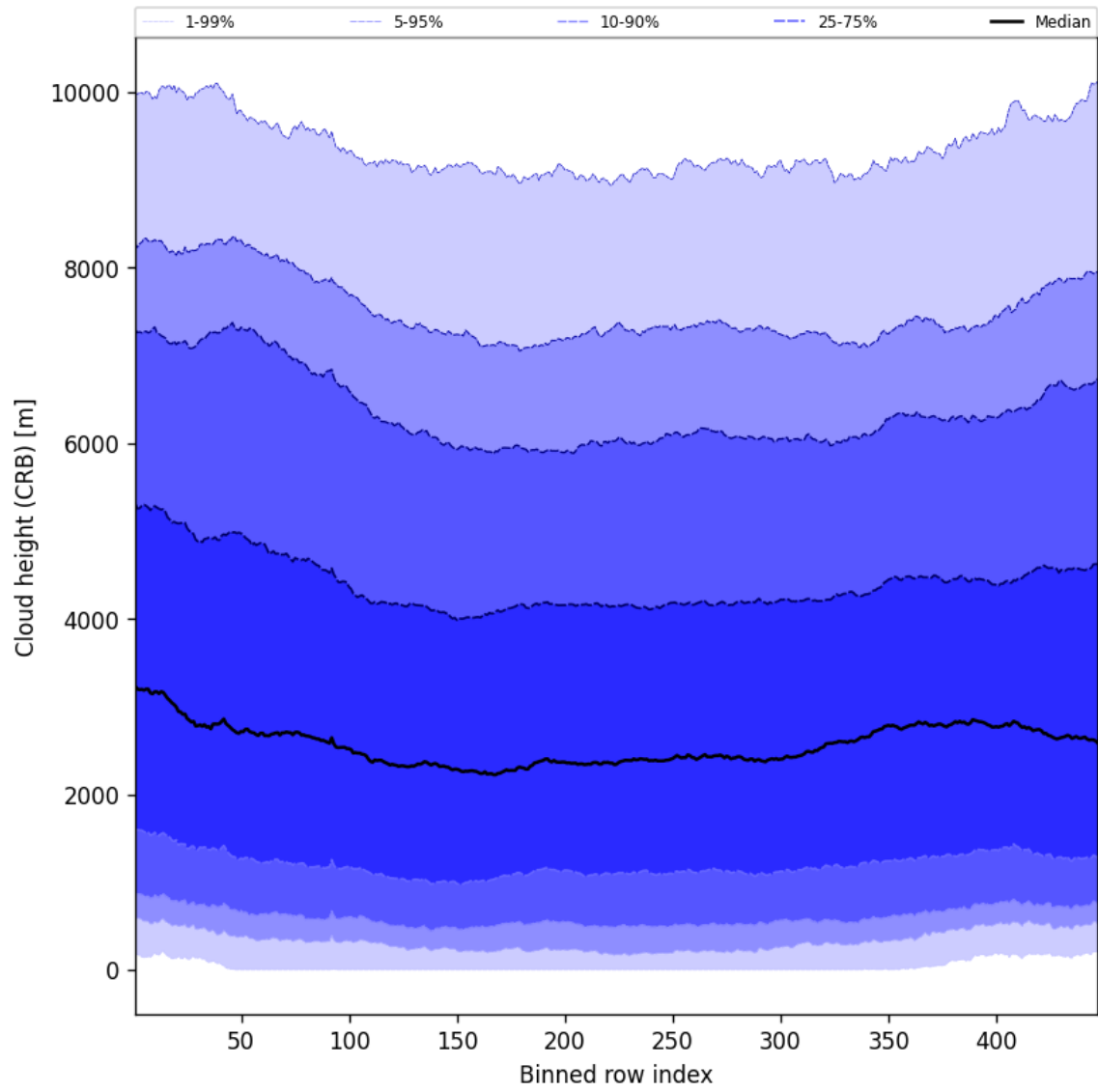


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-25 to 2025-09-26

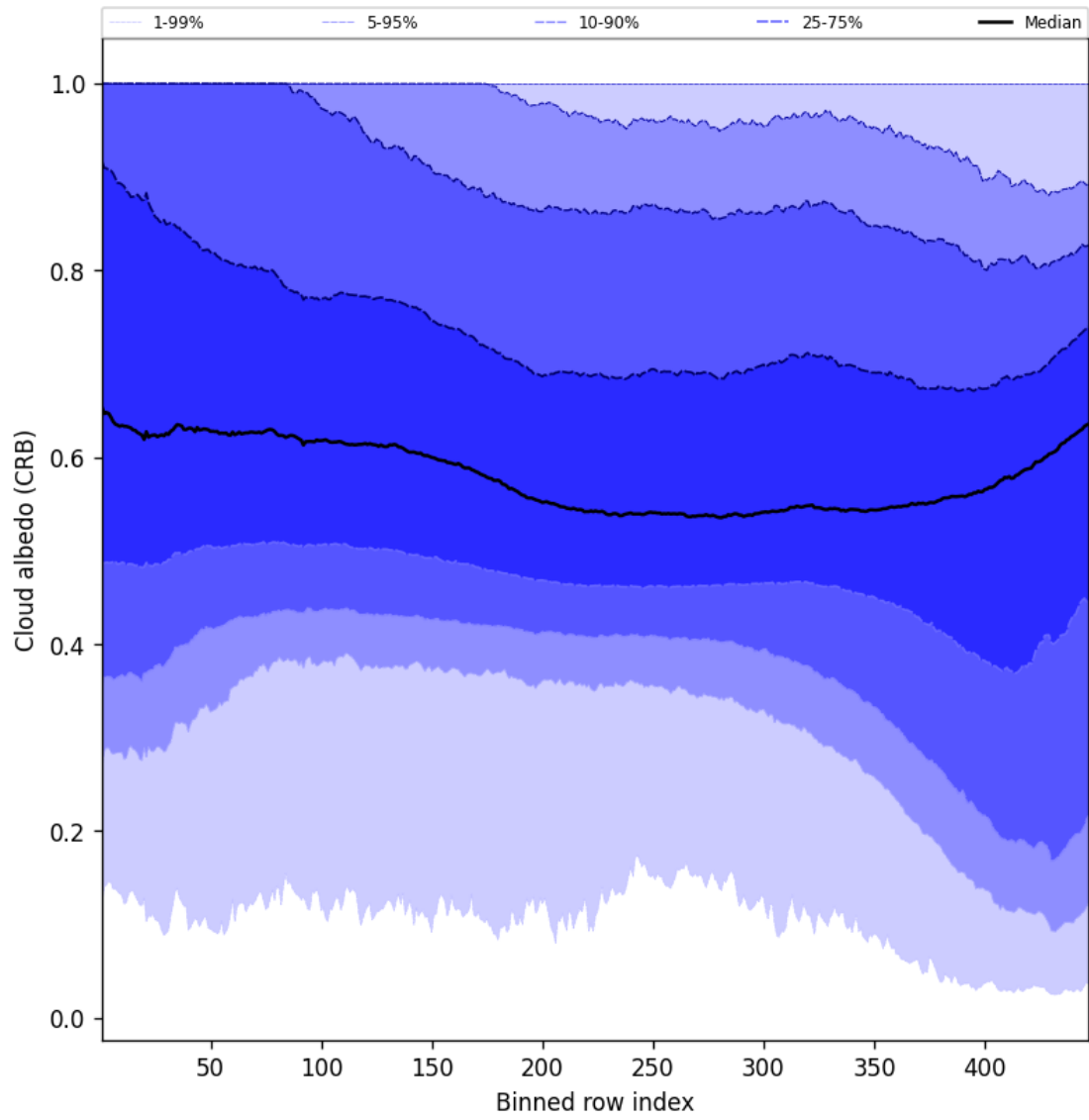


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-25 to 2025-09-26

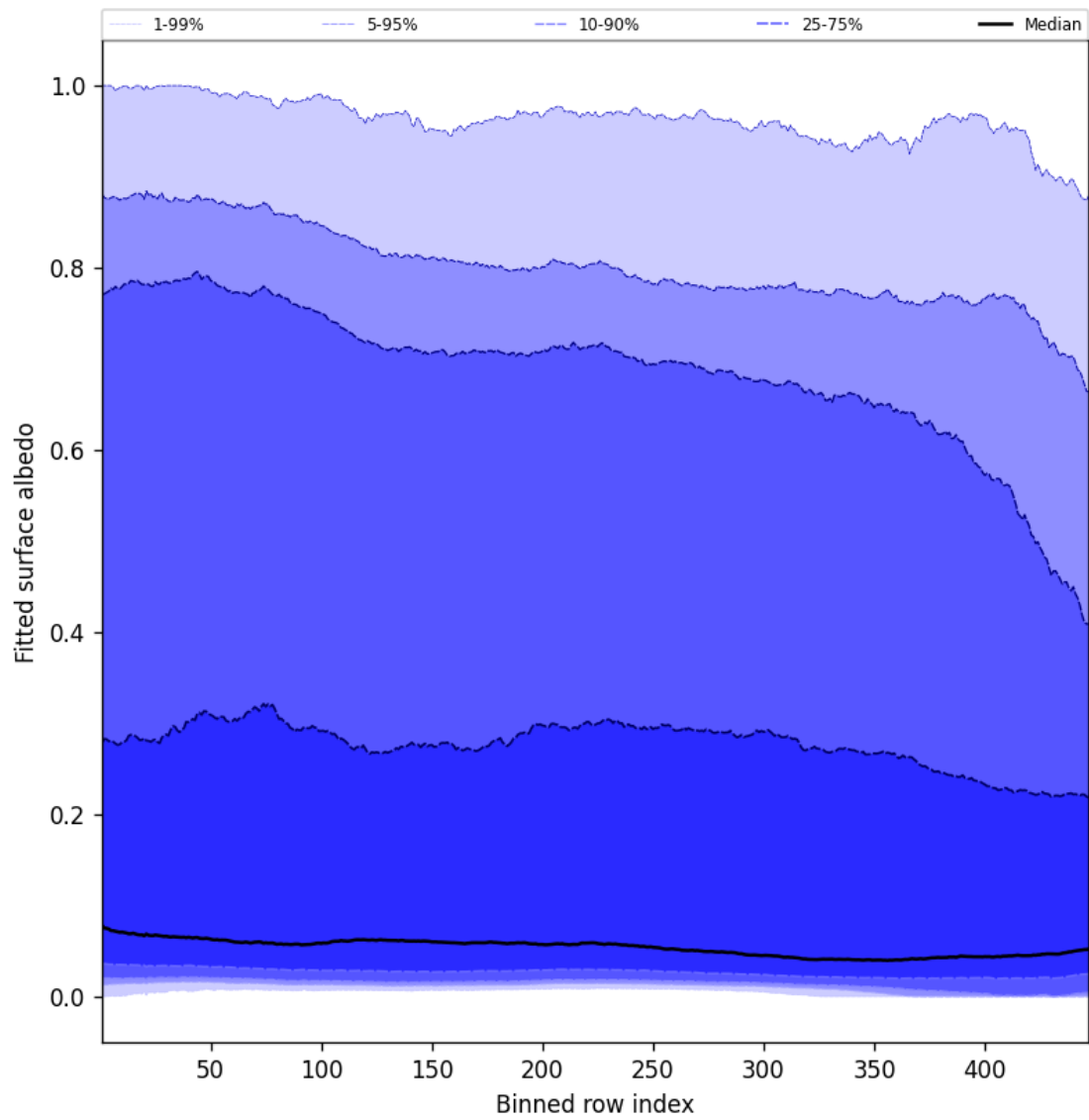


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-09-25 to 2025-09-26

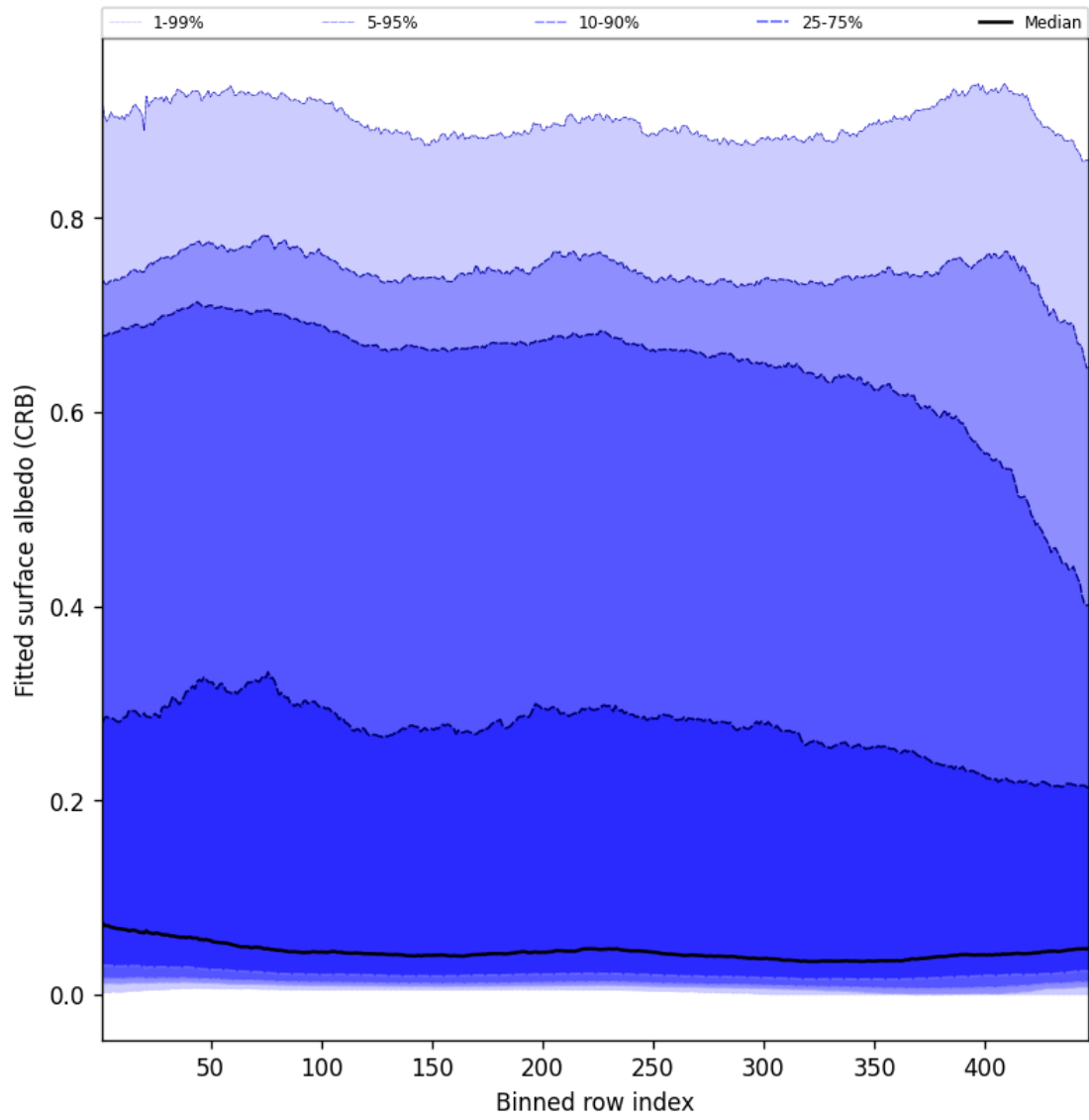


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-25 to 2025-09-26

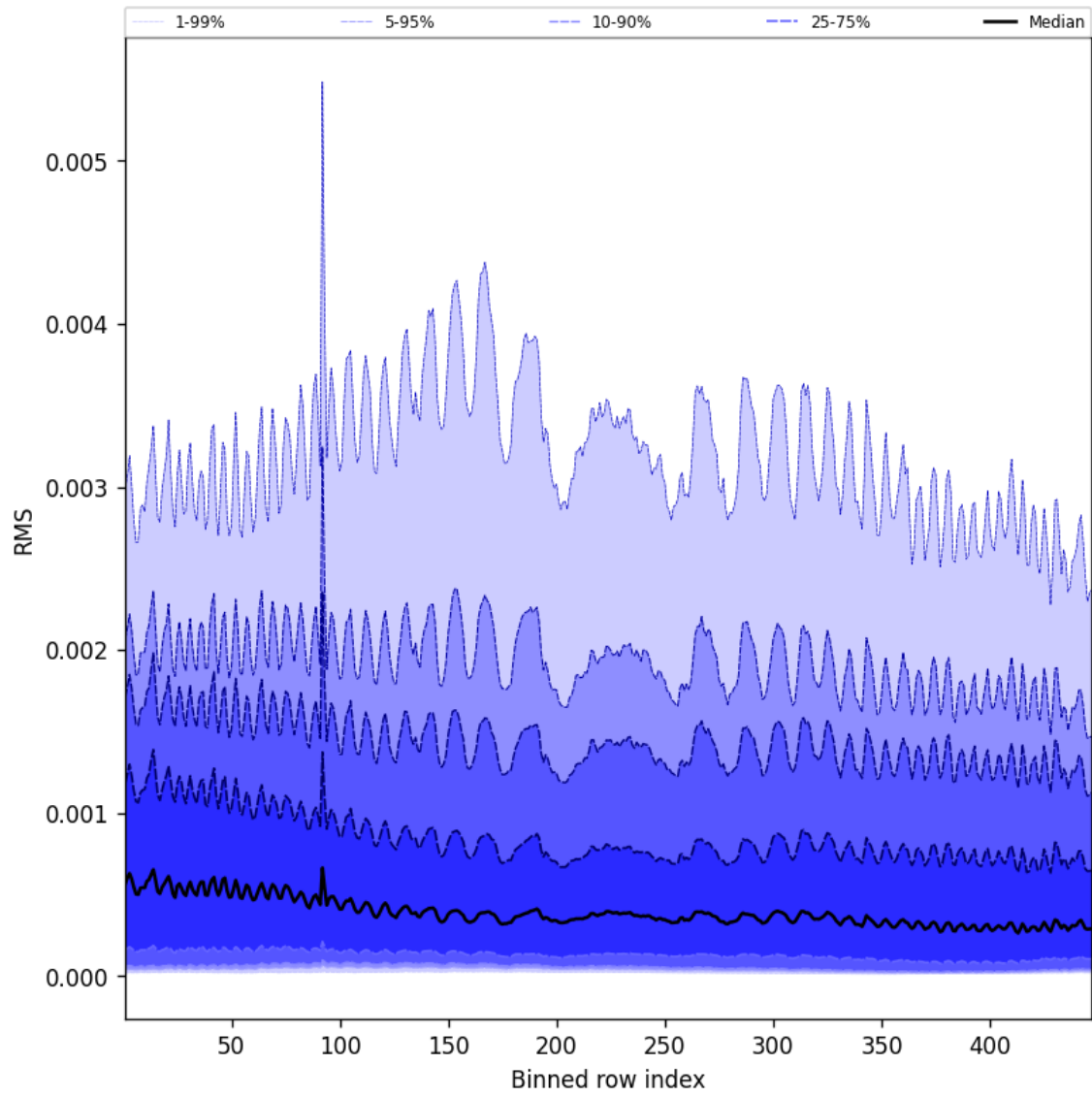


Figure 61: Along track statistics of “RMS” for 2025-09-25 to 2025-09-26

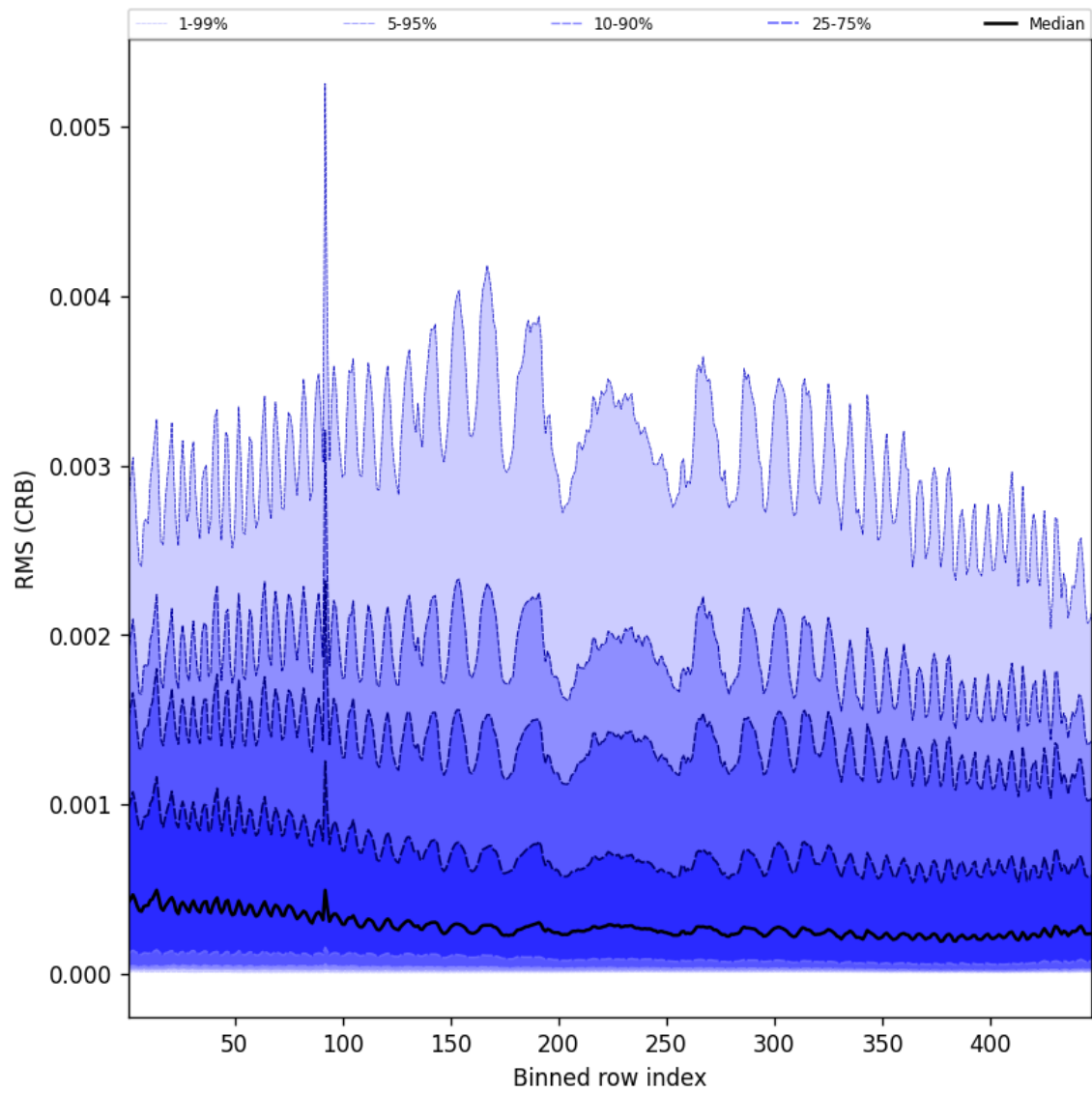


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-25 to 2025-09-26

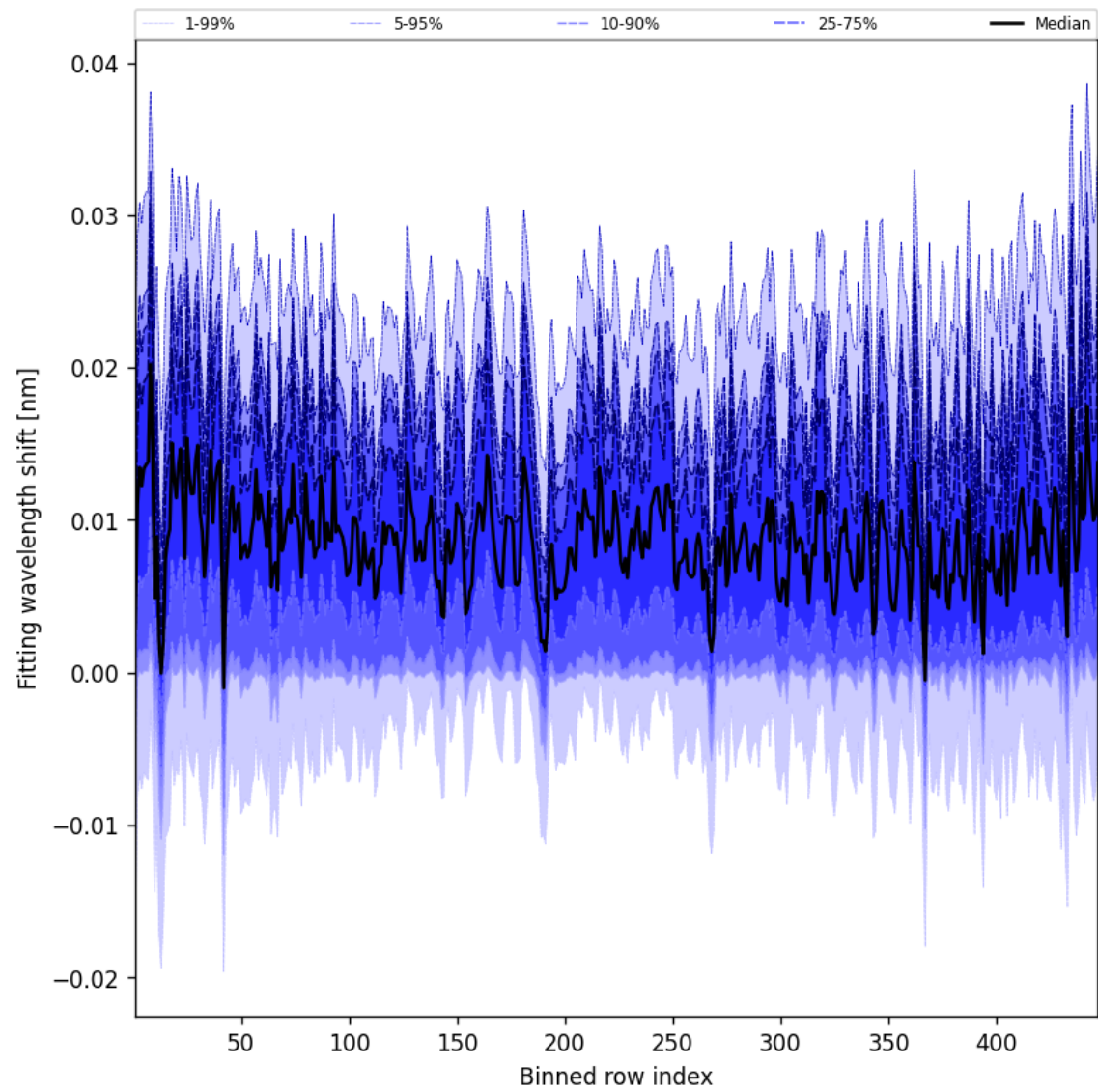


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-25 to 2025-09-26

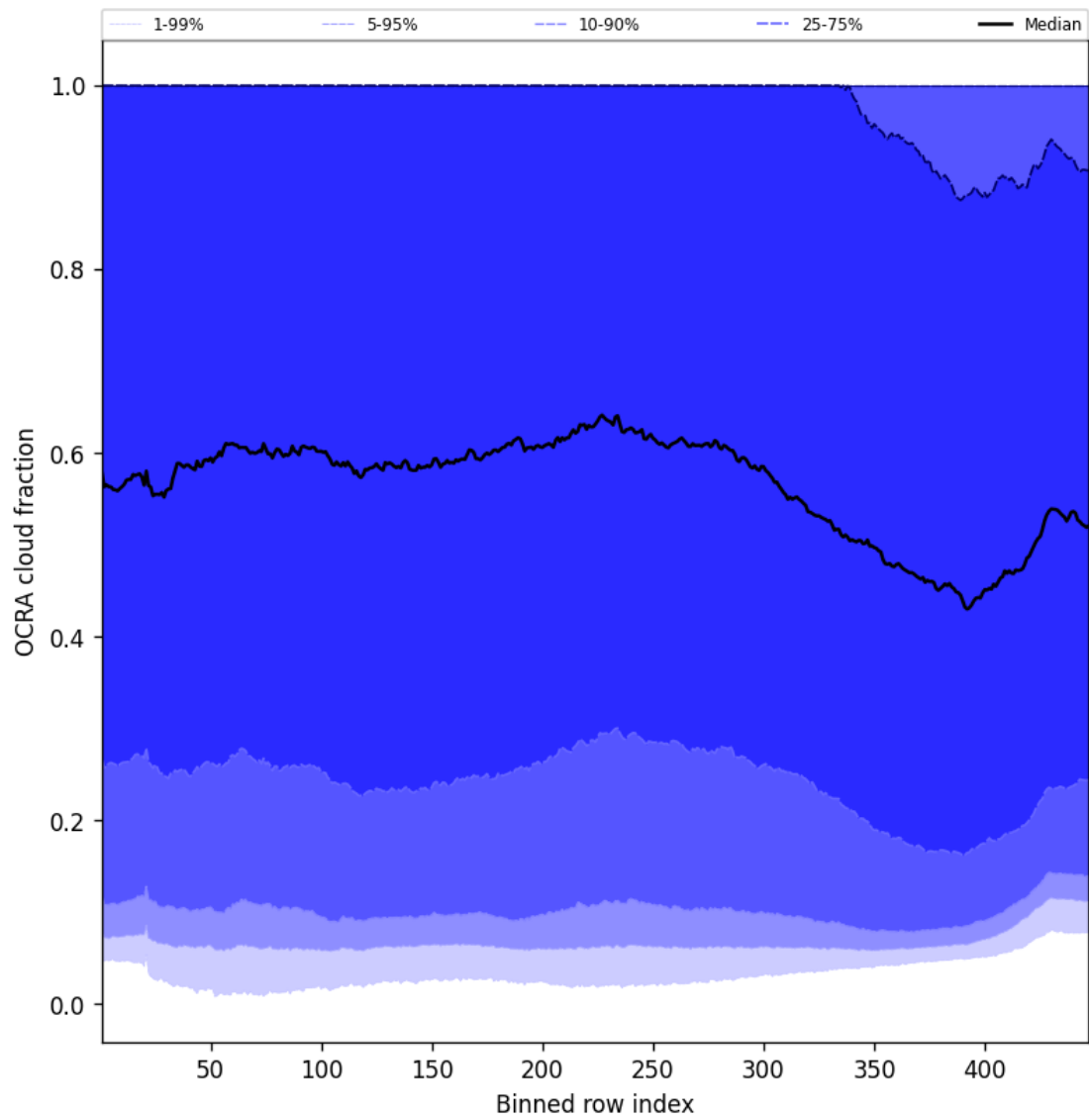


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-25 to 2025-09-26

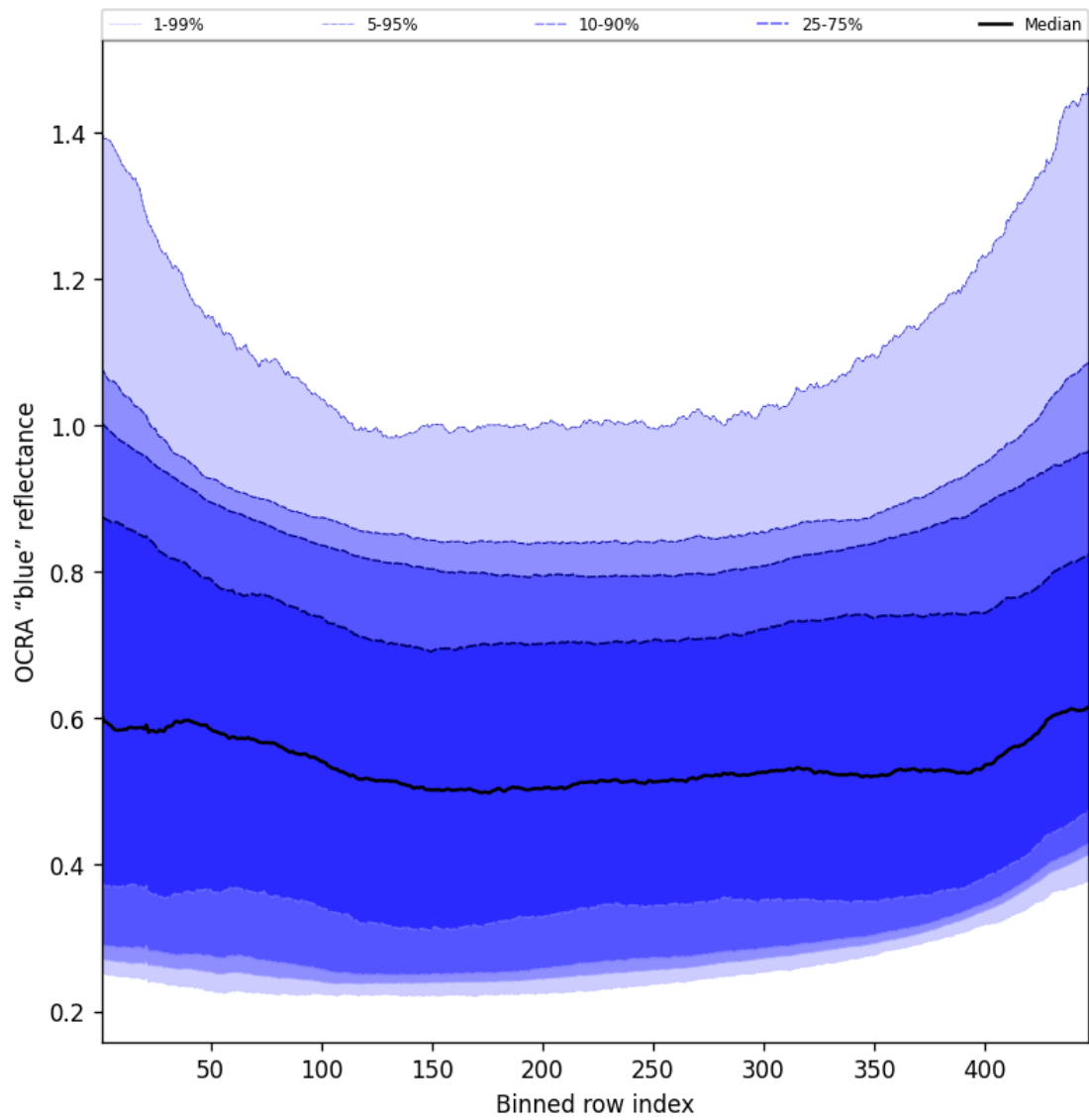


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-25 to 2025-09-26

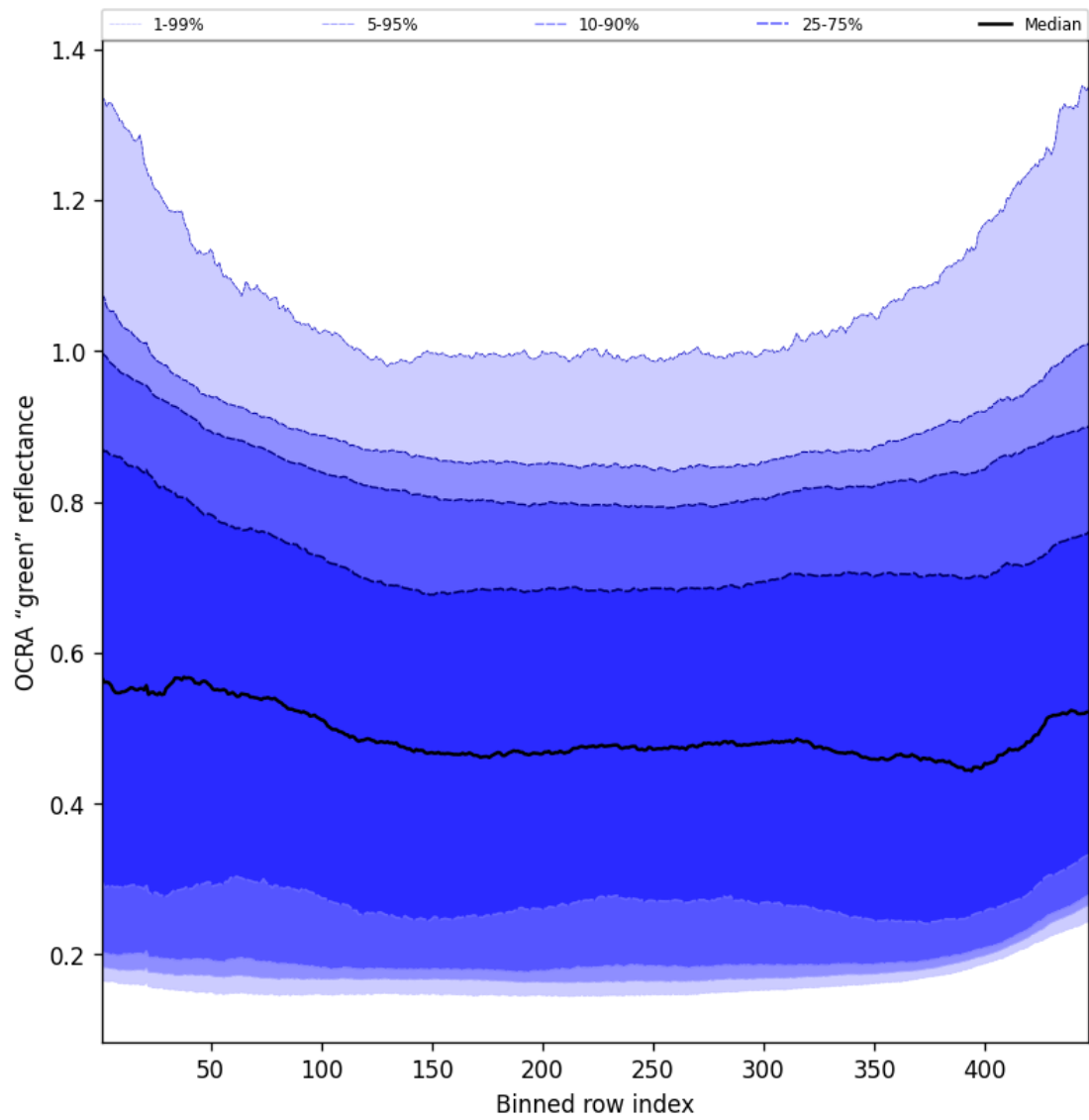


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-25 to 2025-09-26

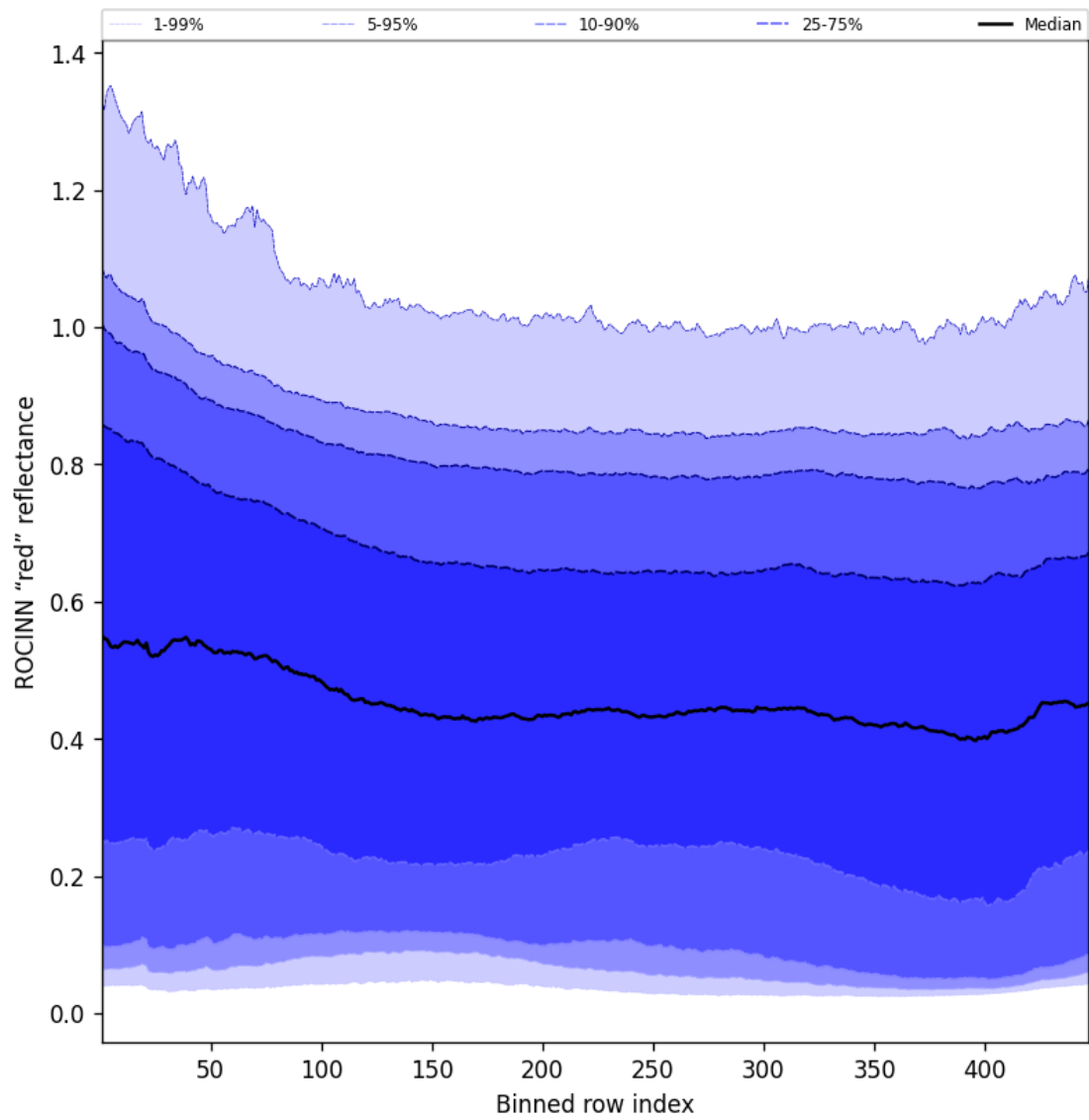


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-09-25 to 2025-09-26

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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