

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-01-09 (01:30)

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]	0.592 ± 0.368	19371208	5.000×10^{-3}	0.600	0.700	0.0	1.000
cloud fraction [1]	0.574 ± 0.339	19371208	0.995	0.710	0.561	5.051×10^{-3}	1.000
cloud top height [m]	$(0.417 \pm 0.268) \times 10^4$	19371208	1.725×10^3	3.911×10^3	3.755×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.7 ± 37.4	19371208	9.34	10.4	8.97	1.000	250
cloud fraction crb [1]	0.574 ± 0.339	19371208	0.995	0.710	0.560	8.457×10^{-3}	1.000
cloud height crb [m]	$(0.318 \pm 0.229) \times 10^4$	19371208	75.0	3.246×10^3	2.796×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.611 ± 0.220	19371208	0.995	0.315	0.593	0.0	1.000
surface albedo fitted [1]	0.293 ± 0.347	19371208	2.500×10^{-2}	0.508	6.428×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.280 ± 0.334	19371208	1.500×10^{-2}	0.510	5.274×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.625 \pm 10.614) \times 10^{-4}$	19371208	5.000×10^{-5}	9.548×10^{-4}	4.354×10^{-4}	9.548×10^{-7}	0.368
fitted root mean square crb [1]	$(6.631 \pm 8.243) \times 10^{-4}$	19371208	5.000×10^{-5}	9.109×10^{-4}	3.283×10^{-4}	8.257×10^{-7}	0.453
wavelength shift [nm]	$(8.437 \pm 7.199) \times 10^{-3}$	19371208	3.000×10^{-4}	1.083×10^{-2}	7.984×10^{-3}	-4.509×10^{-2}	0.363
cloud fraction apriori [1]	0.583 ± 0.344	19371208	0.995	0.739	0.580	0.0	1.000
reflectance blue ocra [1]	0.592 ± 0.237	19371208	0.255	0.421	0.581	0.133	1.96
reflectance green ocra [1]	0.545 ± 0.267	19371208	0.175	0.493	0.541	7.328×10^{-2}	1.99
reflectance continuum aband [1]	0.496 ± 0.293	19371208	3.500×10^{-2}	0.510	0.502	1.212×10^{-2}	4.80

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	0.300	0.900	0.980	1.000	1.000	1.000
cloud fraction [1]	2.807×10^{-2}	7.213×10^{-2}	0.111	0.161	0.259	0.969	1.000	1.000	1.000	1.000
cloud top height [m]	209	751	1.132×10^3	1.475×10^3	1.947×10^3	5.858×10^3	6.949×10^3	7.936×10^3	9.245×10^3	1.141×10^4
cloud optical thickness [1]	1.000	2.46	3.57	4.50	5.47	15.9	24.6	37.6	71.5	250
cloud fraction crb [1]	2.761×10^{-2}	7.140×10^{-2}	0.110	0.161	0.258	0.969	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	272	611	895	1.294×10^3	4.540×10^3	5.652×10^3	6.562×10^3	7.621×10^3	9.425×10^3
cloud albedo crb [1]	4.204×10^{-2}	0.239	0.353	0.416	0.464	0.780	0.863	0.916	0.980	1.000
surface albedo fitted [1]	0.0	7.657×10^{-3}	1.326×10^{-2}	1.818×10^{-2}	2.558×10^{-2}	0.533	0.826	0.924	0.968	1.000
surface albedo fitted crb [1]	0.0	6.101×10^{-3}	9.911×10^{-3}	1.373×10^{-2}	1.974×10^{-2}	0.529	0.805	0.872	0.909	0.950
fitted root mean square [1]	1.506×10^{-5}	2.869×10^{-5}	4.767×10^{-5}	7.607×10^{-5}	1.339×10^{-4}	1.089×10^{-3}	1.534×10^{-3}	1.943×10^{-3}	2.462×10^{-3}	3.567×10^{-3}
fitted root mean square crb [1]	8.274×10^{-6}	1.802×10^{-5}	3.037×10^{-5}	4.762×10^{-5}	8.458×10^{-5}	9.955×10^{-4}	1.424×10^{-3}	1.809×10^{-3}	2.312×10^{-3}	3.319×10^{-3}
wavelength shift [nm]	-7.239×10^{-3}	-5.966×10^{-4}	1.778×10^{-4}	1.022×10^{-3}	2.675×10^{-3}	1.350×10^{-2}	1.587×10^{-2}	1.785×10^{-2}	2.042×10^{-2}	2.606×10^{-2}
cloud fraction apriori [1]	3.164×10^{-2}	6.834×10^{-2}	0.105	0.157	0.261	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.233	0.259	0.285	0.318	0.376	0.797	0.868	0.908	0.943	1.08
reflectance green ocra [1]	0.152	0.173	0.194	0.224	0.287	0.780	0.858	0.905	0.942	1.05
reflectance continuum aband [1]	2.820×10^{-2}	5.337×10^{-2}	8.960×10^{-2}	0.138	0.237	0.746	0.829	0.876	0.919	1.05

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]	0.544 ± 0.402	7526336	0.890	0.660	0.0	1.000	1.000×10^{-2}	0.900
cloud fraction [1]	0.543 ± 0.337	7526336	0.675	0.515	5.051×10^{-3}	1.000	0.228	0.903
cloud top height [m]	$(0.454 \pm 0.277) \times 10^4$	7526336	4.351×10^3	4.136×10^3	0.0	2.000×10^4	2.163×10^3	6.513×10^3
cloud optical thickness [1]	29.4 ± 51.4	7526336	17.9	10.1	1.000	250	6.11	24.0
cloud fraction crb [1]	0.542 ± 0.337	7526336	0.673	0.512	8.457×10^{-3}	1.000	0.227	0.900
cloud height crb [m]	$(0.379 \pm 0.235) \times 10^4$	7526336	3.857×10^3	3.580×10^3	0.0	2.000×10^4	1.699×10^3	5.556×10^3
cloud albedo crb [1]	0.598 ± 0.213	7526336	0.279	0.583	0.0	1.000	0.464	0.743
surface albedo fitted [1]	0.192 ± 0.210	7526336	0.298	6.949×10^{-2}	0.0	1.000	2.898×10^{-2}	0.327
surface albedo fitted crb [1]	0.182 ± 0.205	7526336	0.293	5.895×10^{-2}	0.0	1.000	2.175×10^{-2}	0.315
fitted root mean square [1]	$(4.338 \pm 5.983) \times 10^{-4}$	7526336	4.668×10^{-4}	2.429×10^{-4}	9.548×10^{-7}	0.142	9.239×10^{-5}	5.592×10^{-4}
fitted root mean square crb [1]	$(3.515 \pm 5.145) \times 10^{-4}$	7526336	3.869×10^{-4}	1.402×10^{-4}	1.089×10^{-6}	1.956×10^{-2}	4.805×10^{-5}	4.350×10^{-4}
wavelength shift [nm]	$(6.301 \pm 6.600) \times 10^{-3}$	7526336	9.160×10^{-3}	5.060×10^{-3}	-4.253×10^{-2}	6.593×10^{-2}	1.268×10^{-3}	1.043×10^{-2}
cloud fraction apriori [1]	0.547 ± 0.343	7526336	0.708	0.521	0.0	1.000	0.223	0.931
reflectance blue ocra [1]	0.554 ± 0.215	7526336	0.324	0.534	0.141	1.96	0.376	0.701
reflectance green ocra [1]	0.498 ± 0.240	7526336	0.390	0.481	7.945×10^{-2}	1.99	0.285	0.674
reflectance continuum aband [1]	0.448 ± 0.272	7526336	0.416	0.430	1.298×10^{-2}	4.80	0.227	0.643

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]	0.622 ± 0.341	11844872	0.500	0.700	0.0	1.000	0.400	0.900
cloud fraction [1]	0.594 ± 0.339	11844872	0.710	0.590	7.255×10^{-3}	1.000	0.283	0.994
cloud top height [m]	$(0.393 \pm 0.260) \times 10^4$	11844872	3.647×10^3	3.557×10^3	0.0	2.000×10^4	1.820×10^3	5.467×10^3
cloud optical thickness [1]	13.6 ± 22.6	11844872	7.95	8.46	1.000	250	5.19	13.1
cloud fraction crb [1]	0.594 ± 0.340	11844872	0.712	0.591	8.477×10^{-3}	1.000	0.283	0.995
cloud height crb [m]	$(0.279 \pm 0.217) \times 10^4$	11844872	2.703×10^3	2.444×10^3	0.0	2.000×10^4	1.081×10^3	3.784×10^3
cloud albedo crb [1]	0.618 ± 0.224	11844872	0.338	0.602	0.0	1.000	0.464	0.803
surface albedo fitted [1]	0.357 ± 0.398	11844872	0.810	6.091×10^{-2}	0.0	1.000	2.347×10^{-2}	0.833
surface albedo fitted crb [1]	0.342 ± 0.382	11844872	0.792	4.918×10^{-2}	0.0	1.000	1.844×10^{-2}	0.810
fitted root mean square [1]	$(9.713 \pm 12.258) \times 10^{-4}$	11844872	1.250×10^{-3}	6.756×10^{-4}	1.007×10^{-6}	0.368	1.958×10^{-4}	1.446×10^{-3}
fitted root mean square crb [1]	$(8.611 \pm 9.177) \times 10^{-4}$	11844872	1.184×10^{-3}	5.837×10^{-4}	8.257×10^{-7}	0.453	1.515×10^{-4}	1.335×10^{-3}
wavelength shift [nm]	$(9.794 \pm 7.235) \times 10^{-3}$	11844872	1.045×10^{-2}	9.947×10^{-3}	-4.509×10^{-2}	0.363	4.375×10^{-3}	1.483×10^{-2}
cloud fraction apriori [1]	0.606 ± 0.343	11844872	0.707	0.618	0.0	1.000	0.293	1.000
reflectance blue ocr [1]	0.616 ± 0.247	11844872	0.469	0.633	0.133	1.93	0.376	0.845
reflectance green ocr [1]	0.574 ± 0.279	11844872	0.545	0.603	7.328×10^{-2}	1.81	0.290	0.835
reflectance continuum aband [1]	0.526 ± 0.302	11844872	0.551	0.566	1.212×10^{-2}	3.76	0.246	0.798

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]	0.690 ± 0.339	11541409	0.550	0.870	0.0	1.000	0.400	0.950
cloud fraction [1]	0.597 ± 0.364	11541409	0.777	0.630	6.975×10^{-3}	1.000	0.223	1.000
cloud top height [m]	$(0.364 \pm 0.261) \times 10^4$	11541409	3.538×10^3	2.848×10^3	0.0	2.000×10^4	1.624×10^3	5.162×10^3
cloud optical thickness [1]	16.8 ± 25.7	11541409	9.52	9.71	1.000	250	6.57	16.1
cloud fraction crb [1]	0.596 ± 0.365	11541409	0.778	0.629	8.486×10^{-3}	1.000	0.222	1.000
cloud height crb [m]	$(0.290 \pm 0.236) \times 10^4$	11541409	3.235×10^3	2.193×10^3	0.0	2.000×10^4	1.044×10^3	4.279×10^3
cloud albedo crb [1]	0.542 ± 0.178	11541409	0.217	0.525	0.0	1.000	0.441	0.657
surface albedo fitted [1]	$(8.711 \pm 17.436) \times 10^{-2}$	11541409	3.191×10^{-2}	2.997×10^{-2}	0.0	1.000	1.748×10^{-2}	4.939×10^{-2}
surface albedo fitted crb [1]	$(8.327 \pm 17.913) \times 10^{-2}$	11541409	2.693×10^{-2}	2.344×10^{-2}	0.0	1.000	1.316×10^{-2}	4.009×10^{-2}
fitted root mean square [1]	$(6.971 \pm 11.570) \times 10^{-4}$	11541409	9.214×10^{-4}	2.973×10^{-4}	9.548×10^{-7}	0.368	8.701×10^{-5}	1.008×10^{-3}
fitted root mean square crb [1]	$(6.453 \pm 8.641) \times 10^{-4}$	11541409	9.028×10^{-4}	2.696×10^{-4}	8.257×10^{-7}	0.453	7.049×10^{-5}	9.733×10^{-4}
wavelength shift [nm]	$(7.953 \pm 7.533) \times 10^{-3}$	11541409	1.102×10^{-2}	7.114×10^{-3}	-4.509×10^{-2}	0.363	2.140×10^{-3}	1.316×10^{-2}
cloud fraction apriori [1]	0.599 ± 0.370	11541409	0.785	0.638	0.0	1.000	0.215	1.000
reflectance blue ocr [1]	0.505 ± 0.199	11541409	0.319	0.468	0.171	1.90	0.335	0.654
reflectance green ocr [1]	0.444 ± 0.226	11541409	0.389	0.406	9.722×10^{-2}	1.99	0.236	0.625
reflectance continuum aband [1]	0.378 ± 0.265	11541409	0.463	0.345	1.212×10^{-2}	4.80	0.132	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]	0.466 ± 0.353	6429640	0.700	0.580	0.0	1.000	0.0	0.700
cloud fraction [1]	0.533 ± 0.291	6429640	0.470	0.505	5.051×10^{-3}	1.000	0.301	0.771
cloud top height [m]	$(0.492 \pm 0.247) \times 10^4$	6429640	3.002×10^3	4.801×10^3	0.0	2.000×10^4	3.281×10^3	6.283×10^3
cloud optical thickness [1]	19.6 ± 42.4	6429640	8.32	6.62	1.000	250	4.67	13.0
cloud fraction crb [1]	0.534 ± 0.291	6429640	0.471	0.506	8.457×10^{-3}	1.000	0.302	0.772
cloud height crb [m]	$(0.344 \pm 0.203) \times 10^4$	6429640	2.442×10^3	3.238×10^3	0.0	2.000×10^4	2.043×10^3	4.485×10^3
cloud albedo crb [1]	0.721 ± 0.234	6429640	0.328	0.777	0.0	1.000	0.578	0.905
surface albedo fitted [1]	0.646 ± 0.313	6429640	0.629	0.786	0.0	1.000	0.310	0.939
surface albedo fitted crb [1]	0.617 ± 0.293	6429640	0.581	0.766	0.0	1.000	0.303	0.884
fitted root mean square [1]	$(9.339 \pm 9.008) \times 10^{-4}$	6429640	1.004×10^{-3}	6.630×10^{-4}	1.446×10^{-6}	0.323	3.121×10^{-4}	1.317×10^{-3}
fitted root mean square crb [1]	$(7.672 \pm 7.759) \times 10^{-4}$	6429640	9.730×10^{-4}	5.102×10^{-4}	1.265×10^{-6}	5.822×10^{-2}	1.694×10^{-4}	1.142×10^{-3}
wavelength shift [nm]	$(9.873 \pm 6.450) \times 10^{-3}$	6429640	9.586×10^{-3}	1.002×10^{-2}	-3.687×10^{-2}	6.315×10^{-2}	4.870×10^{-3}	1.446×10^{-2}
cloud fraction apriori [1]	0.554 ± 0.295	6429640	0.485	0.535	0.0	1.000	0.321	0.806
reflectance blue ocr [1]	0.733 ± 0.228	6429640	0.325	0.814	0.133	1.91	0.578	0.903
reflectance green ocr [1]	0.709 ± 0.251	6429640	0.365	0.803	7.328×10^{-2}	1.85	0.537	0.903
reflectance continuum aband [1]	0.690 ± 0.235	6429640	0.362	0.763	1.748×10^{-2}	3.73	0.508	0.870

3 Granule outlines

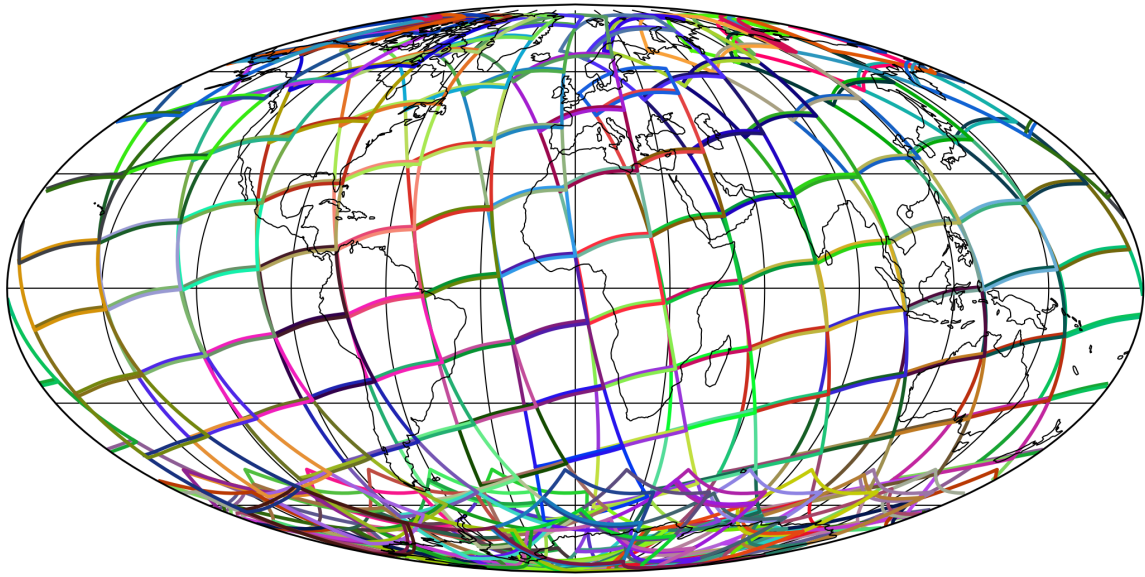


Figure 1: Outline of the granules.

4 Input data monitoring

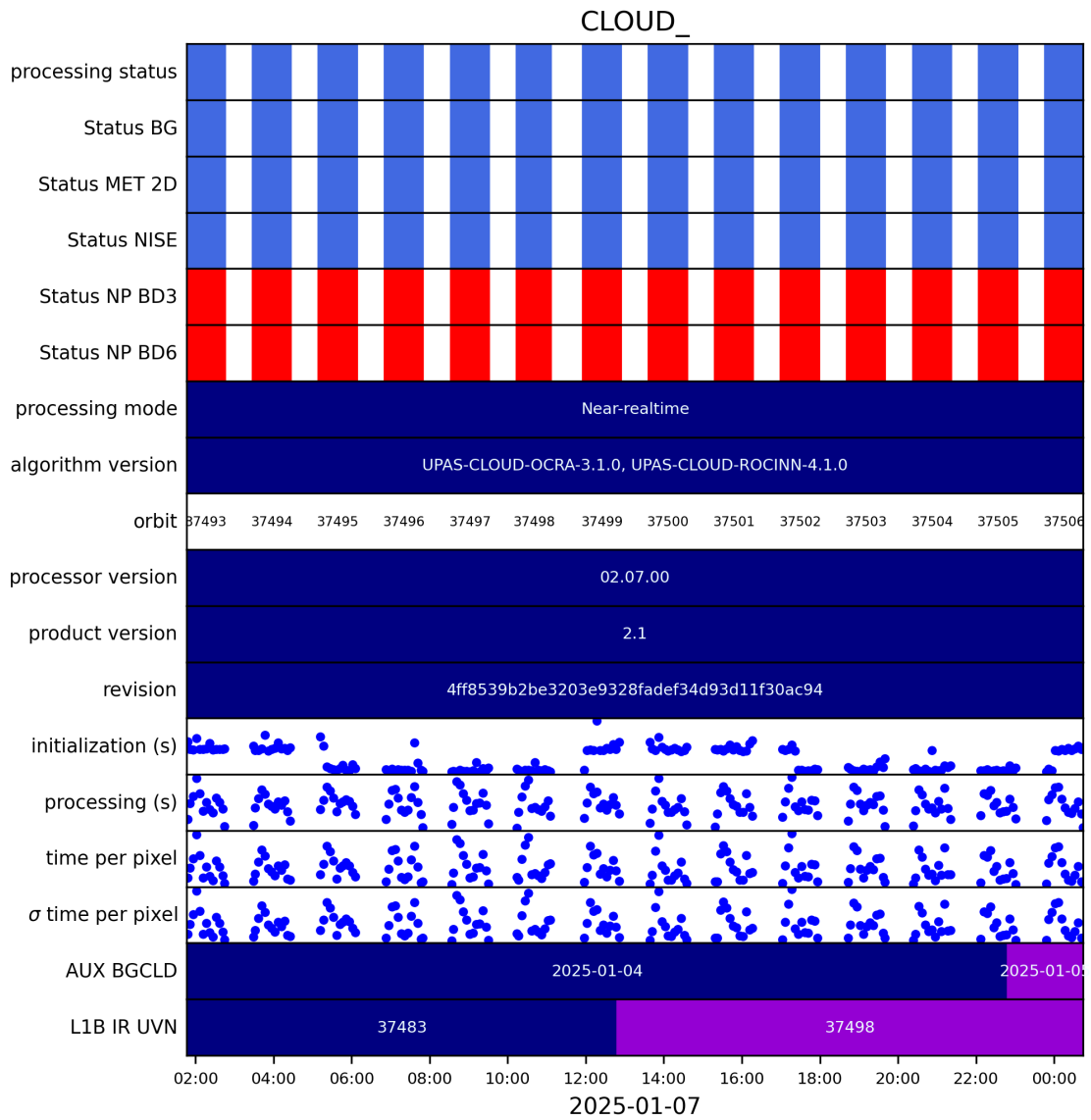


Figure 2: Input data per granule

5 Warnings and errors

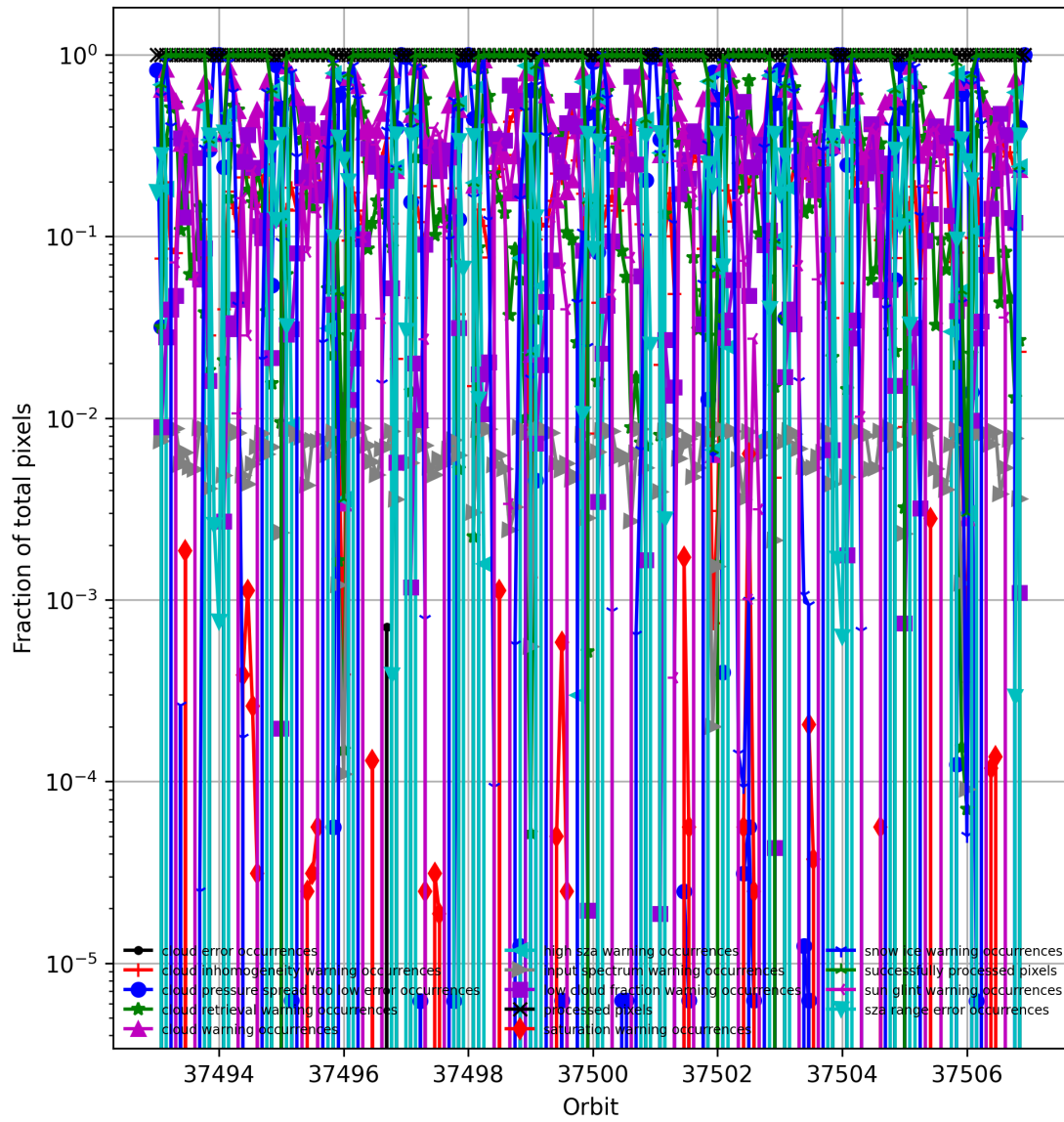


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

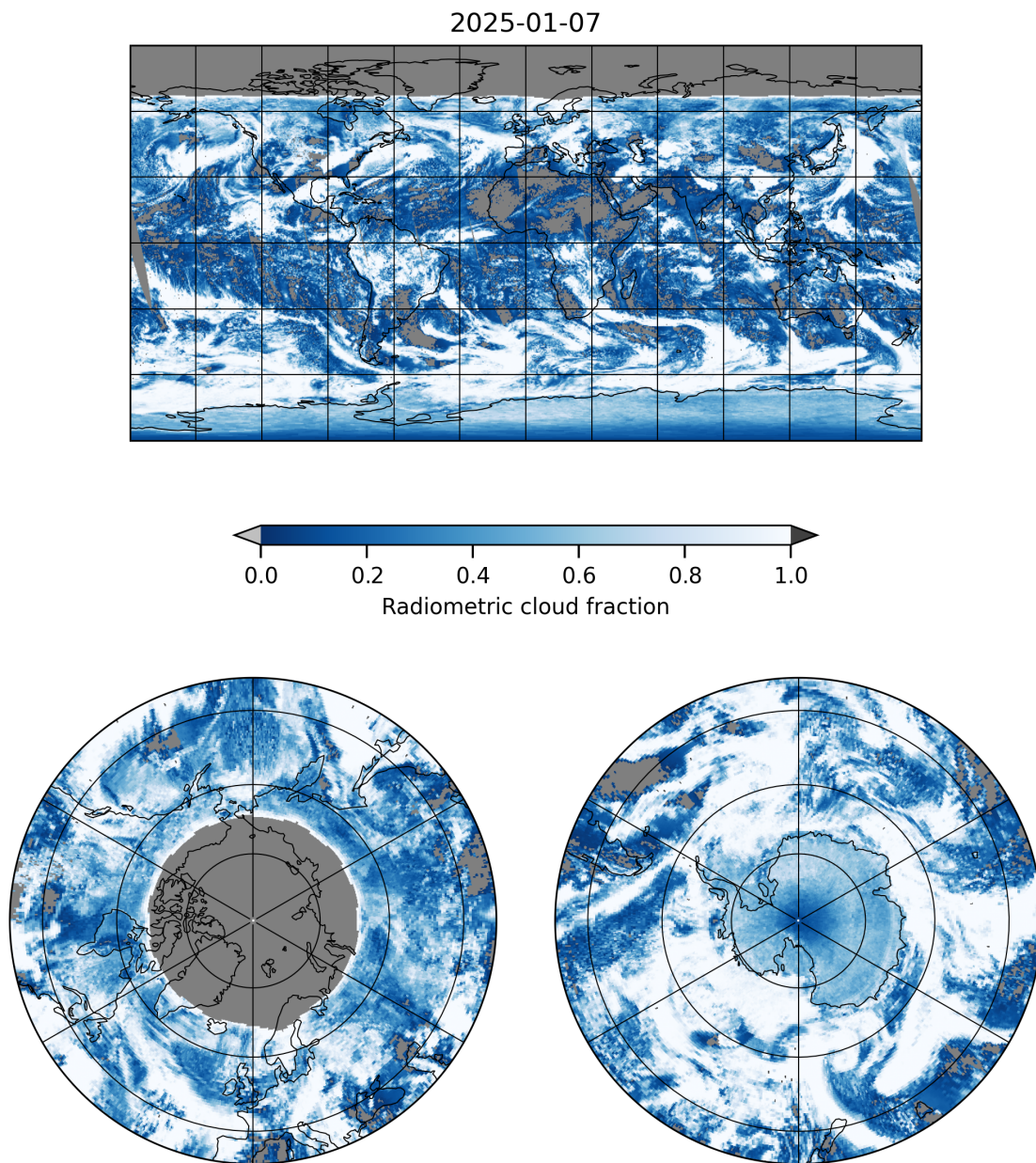


Figure 4: Map of “Radiometric cloud fraction” for 2025-01-07 to 2025-01-08

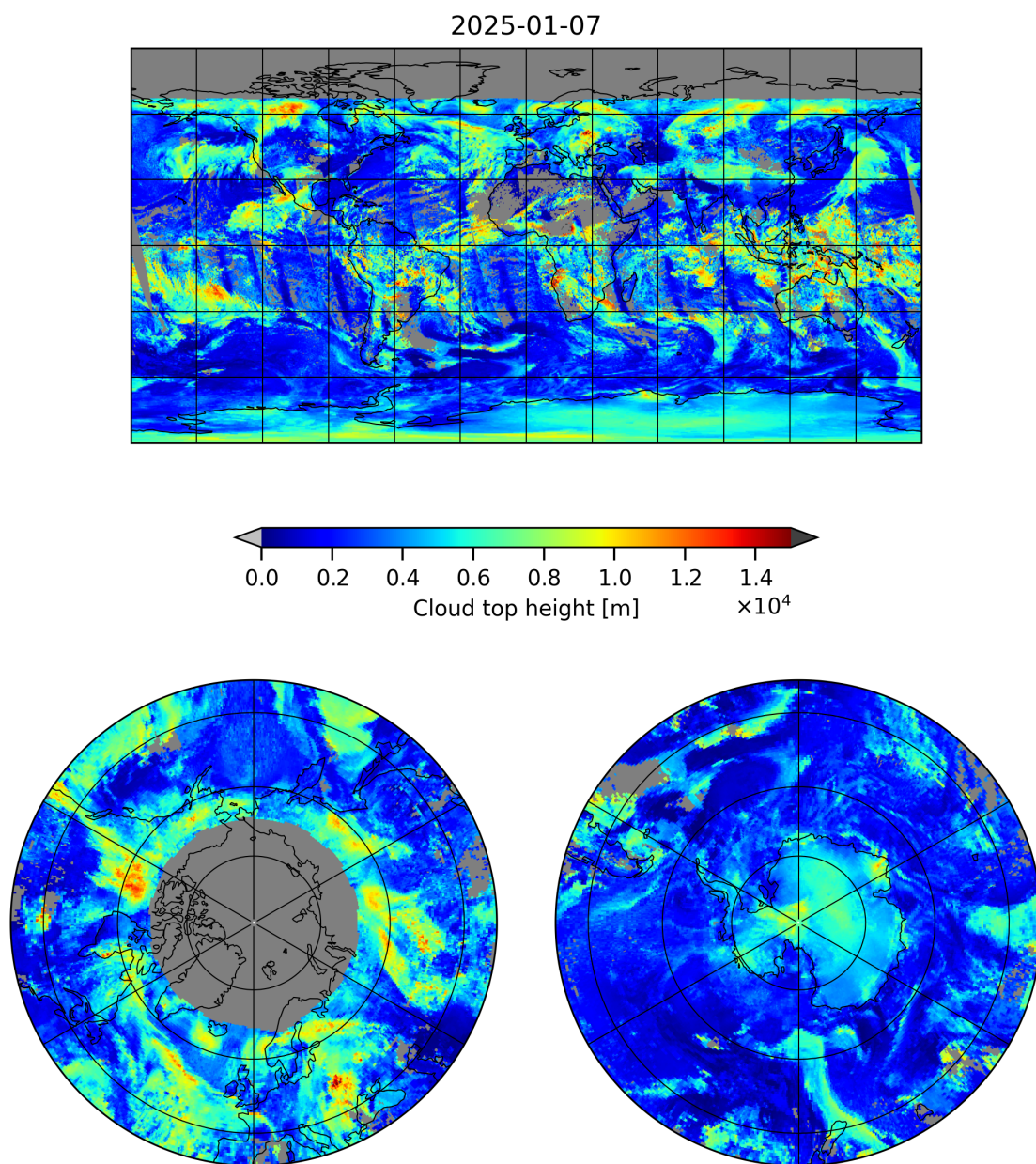


Figure 5: Map of “Cloud top height” for 2025-01-07 to 2025-01-08

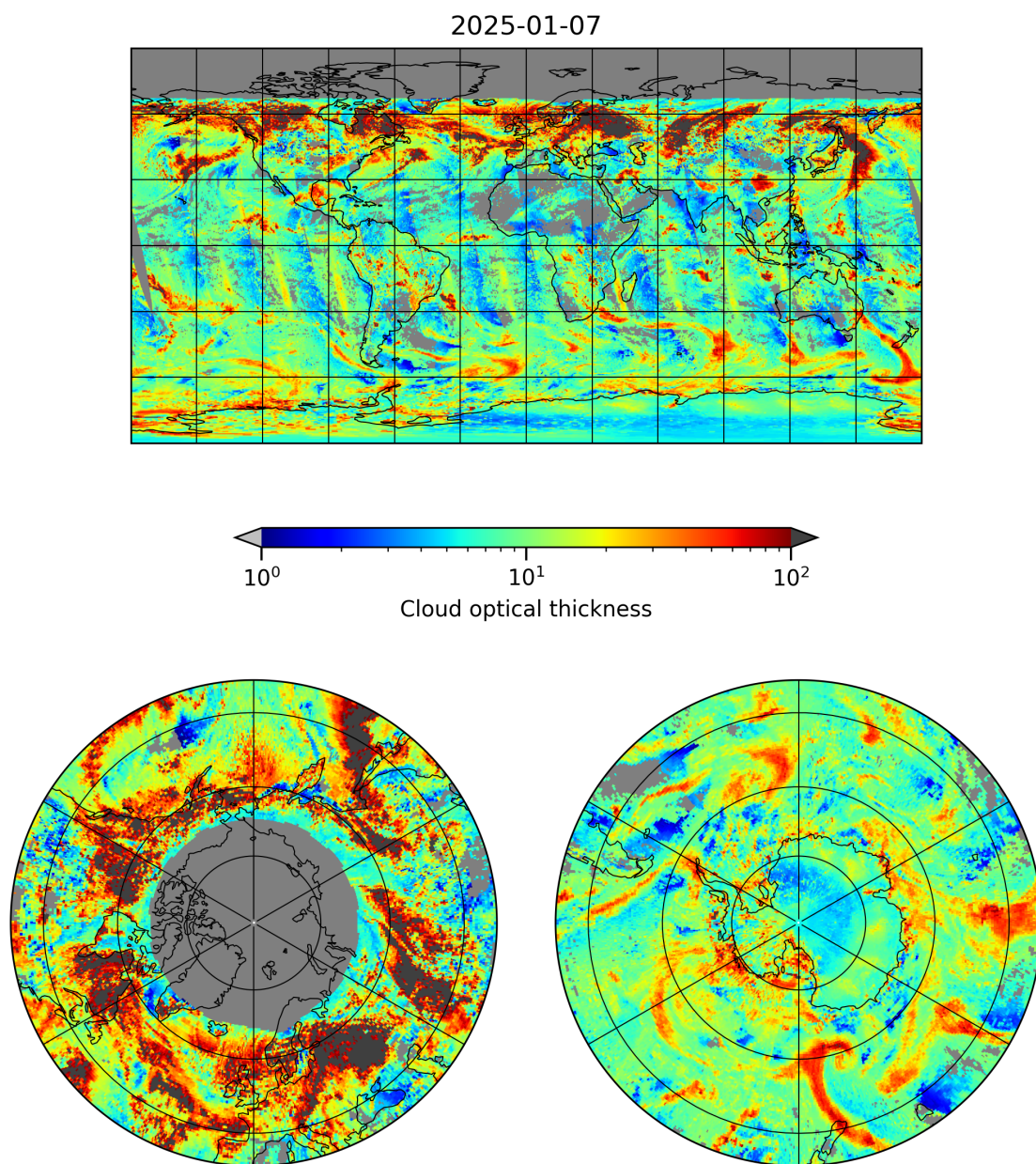


Figure 6: Map of “Cloud optical thickness” for 2025-01-07 to 2025-01-08

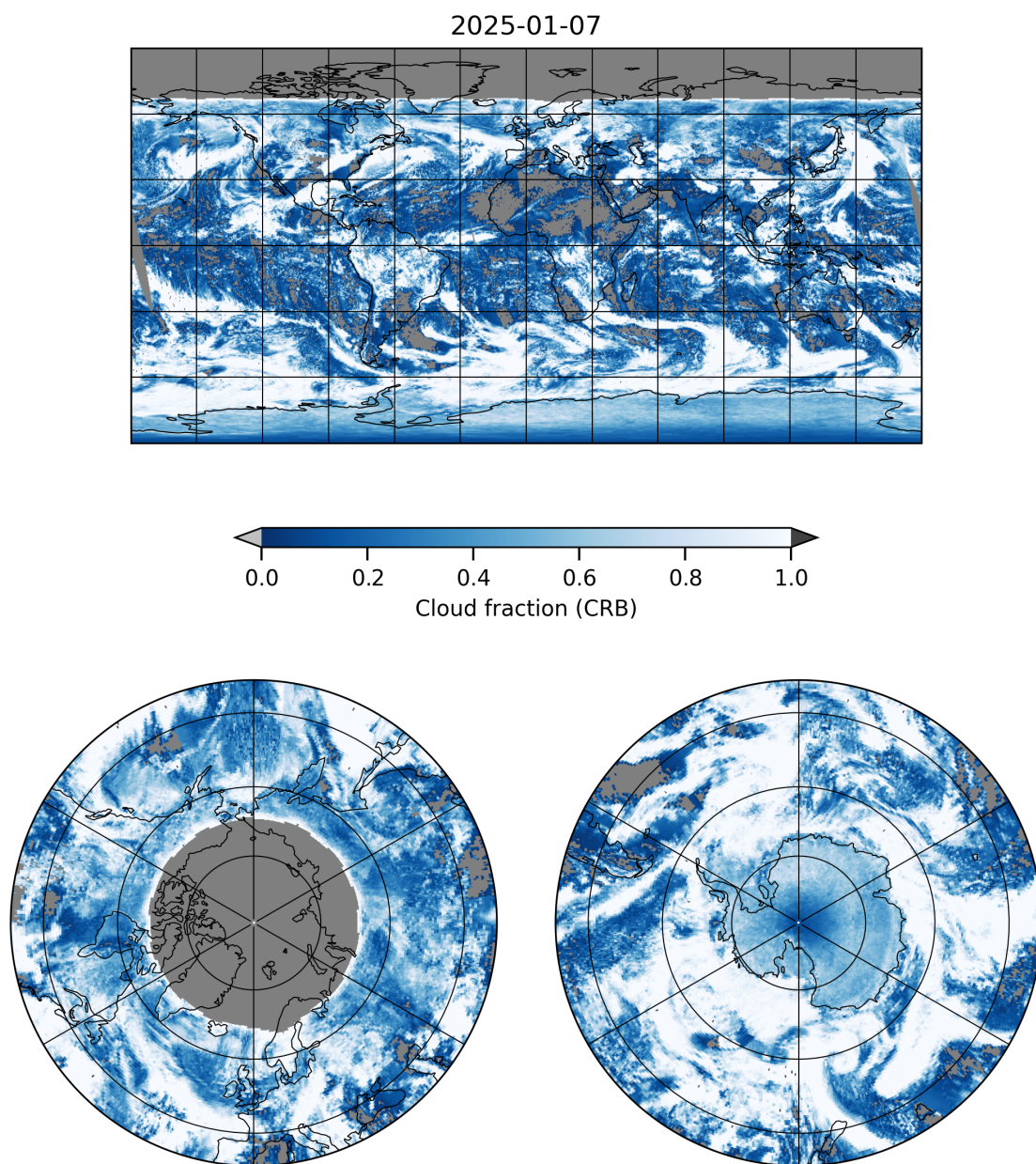


Figure 7: Map of “Cloud fraction (CRB)” for 2025-01-07 to 2025-01-08

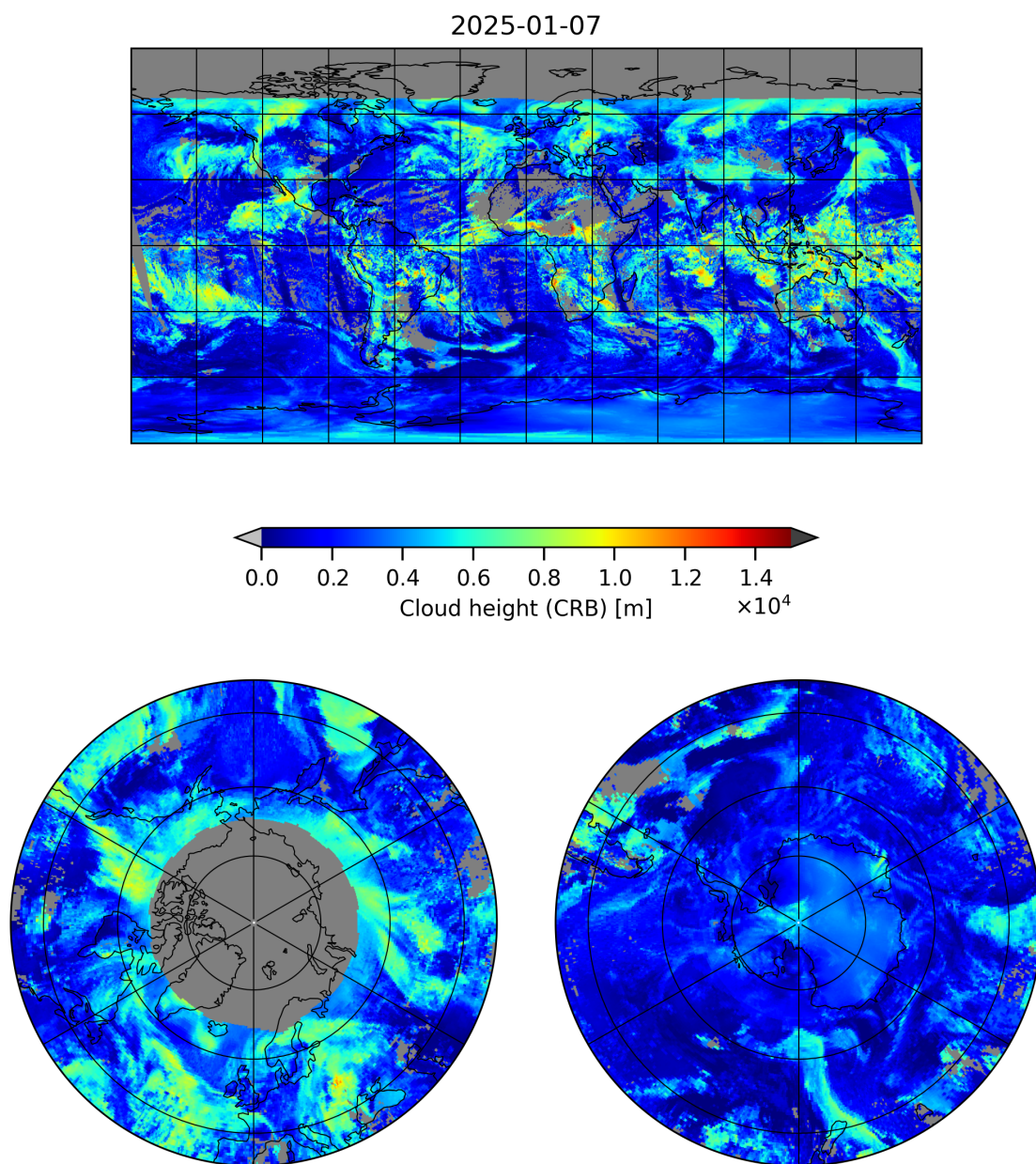


Figure 8: Map of “Cloud height (CRB)” for 2025-01-07 to 2025-01-08

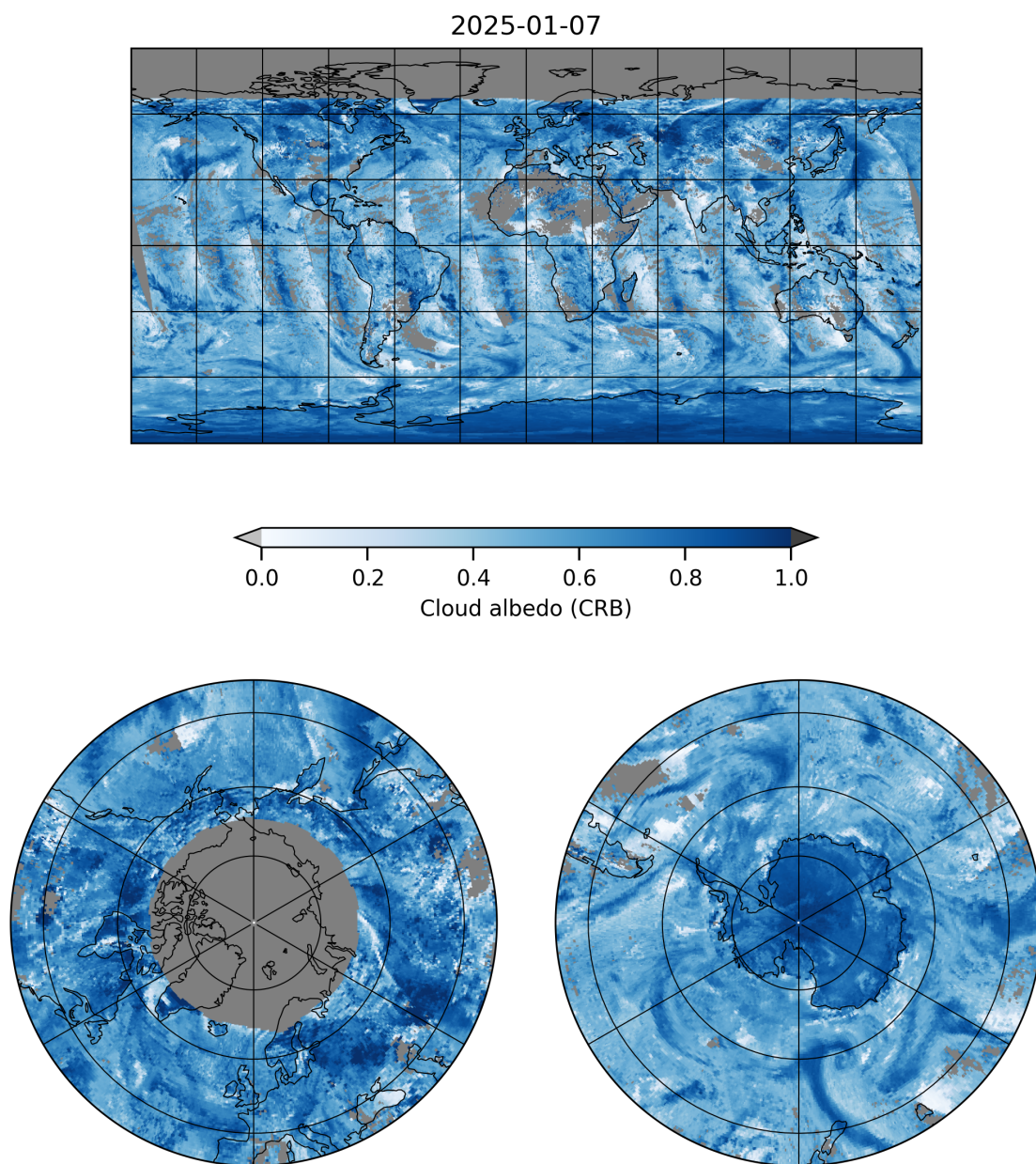


Figure 9: Map of “Cloud albedo (CRB)” for 2025-01-07 to 2025-01-08

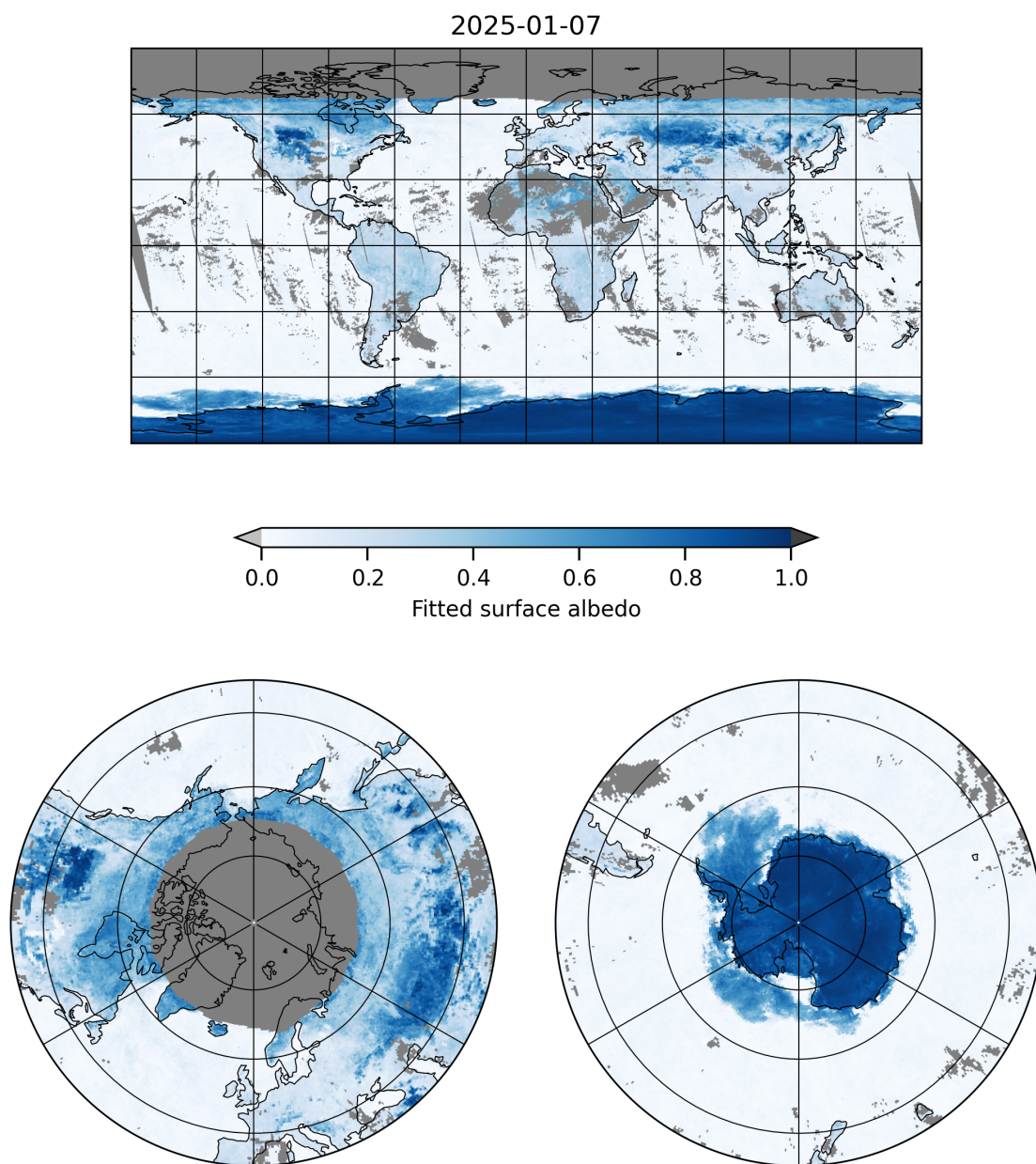


Figure 10: Map of “Fitted surface albedo” for 2025-01-07 to 2025-01-08

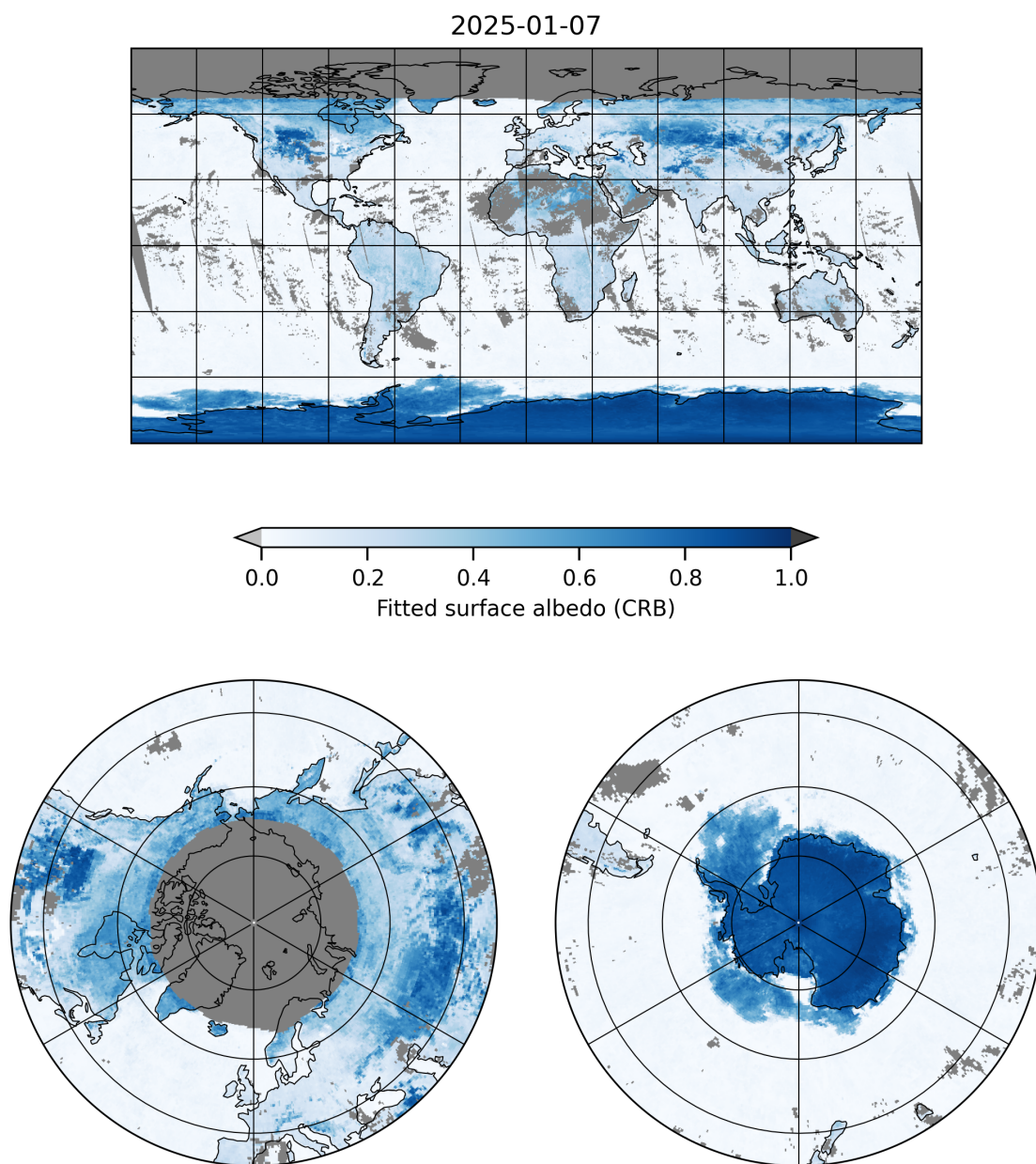


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-01-07 to 2025-01-08

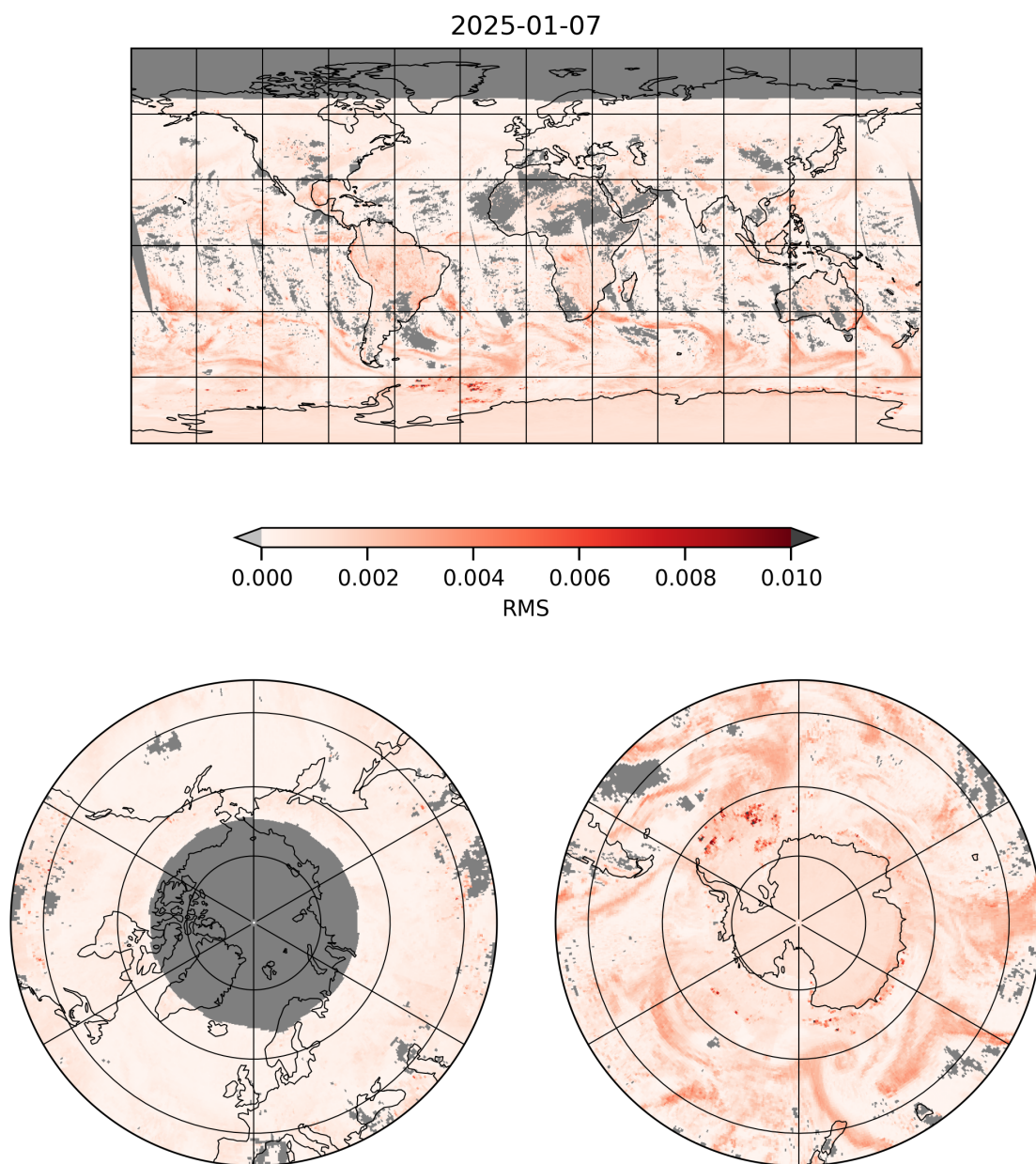


Figure 12: Map of “RMS” for 2025-01-07 to 2025-01-08

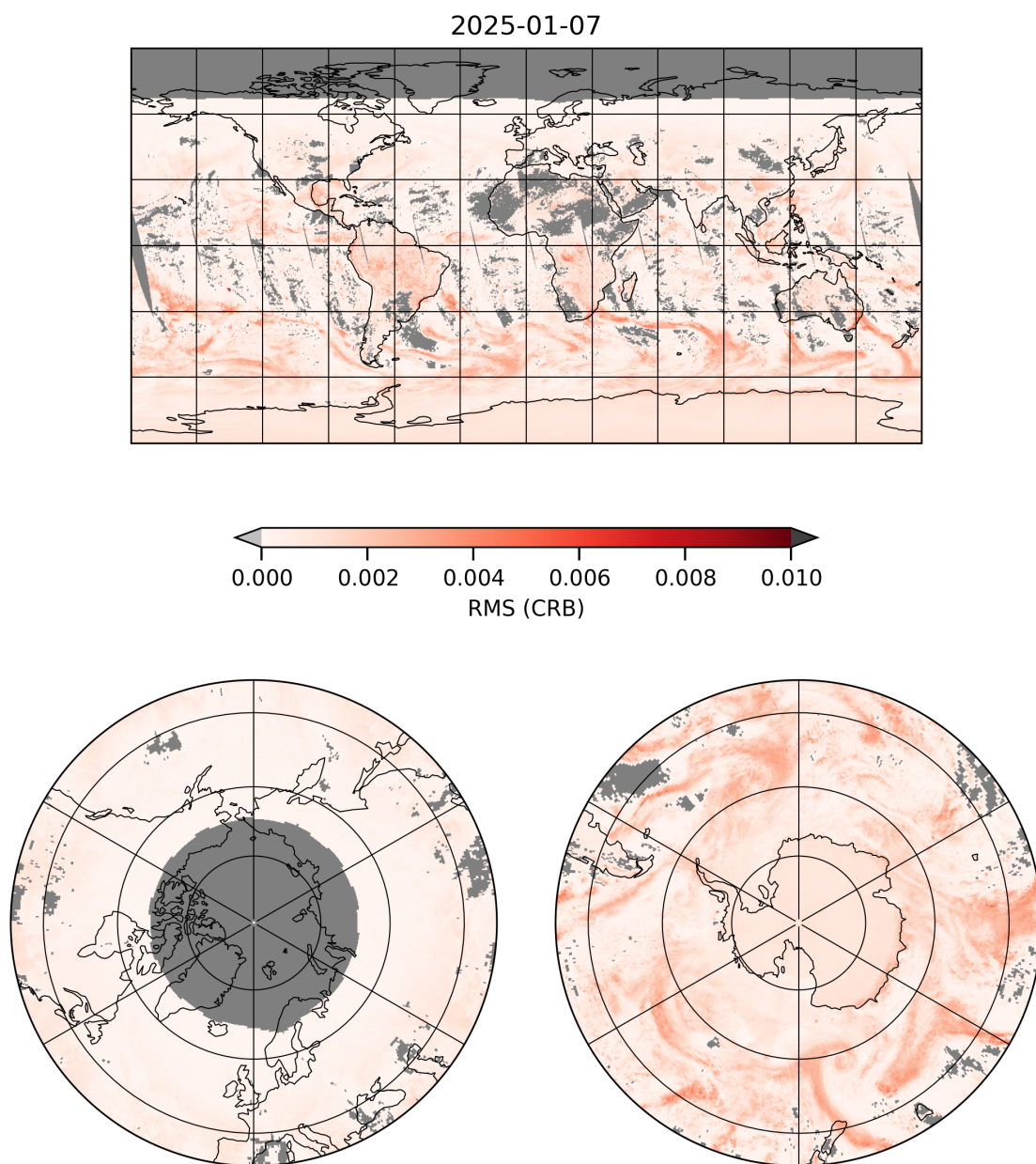


Figure 13: Map of “RMS (CRB)” for 2025-01-07 to 2025-01-08

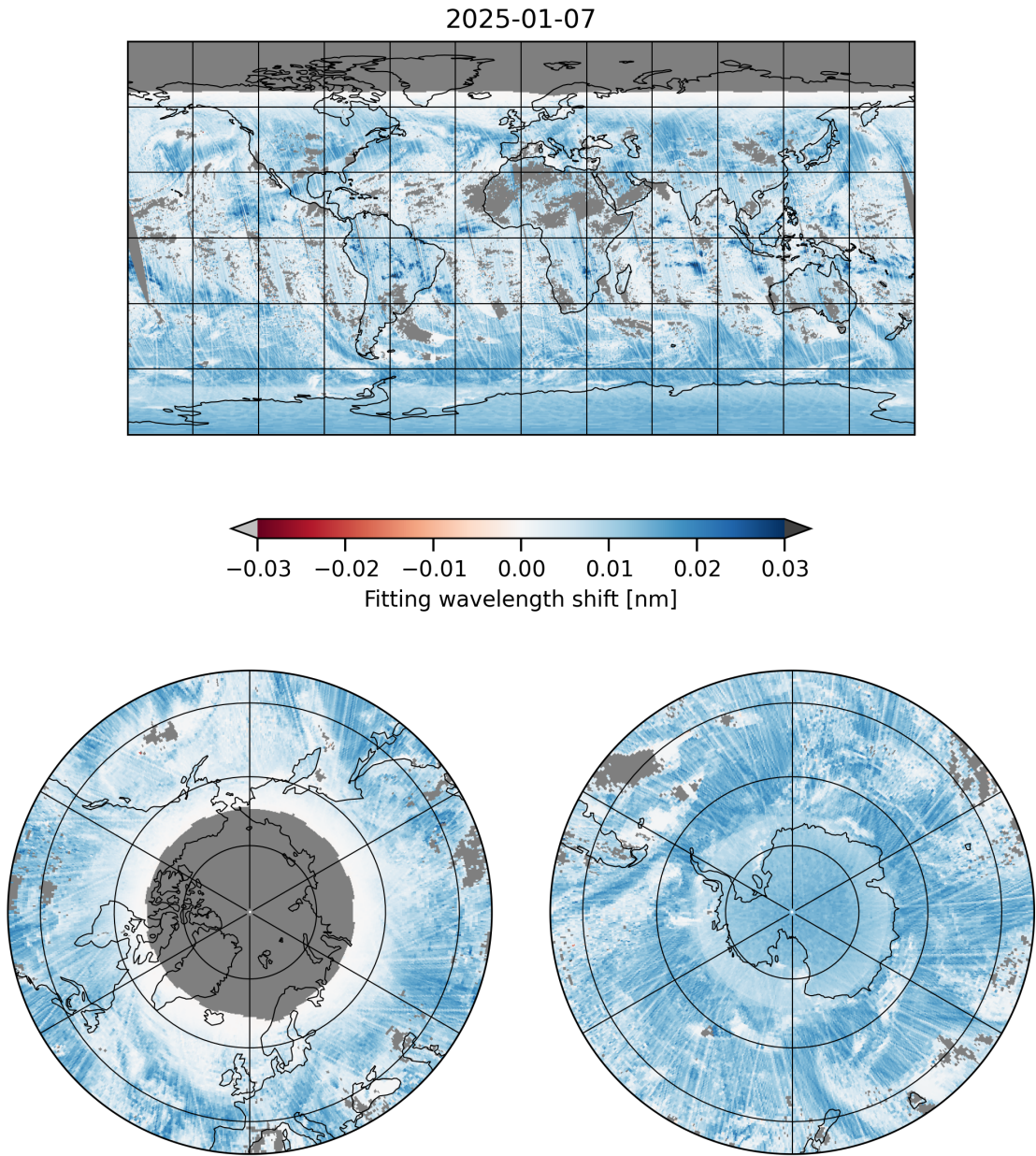


Figure 14: Map of “Fitting wavelength shift” for 2025-01-07 to 2025-01-08

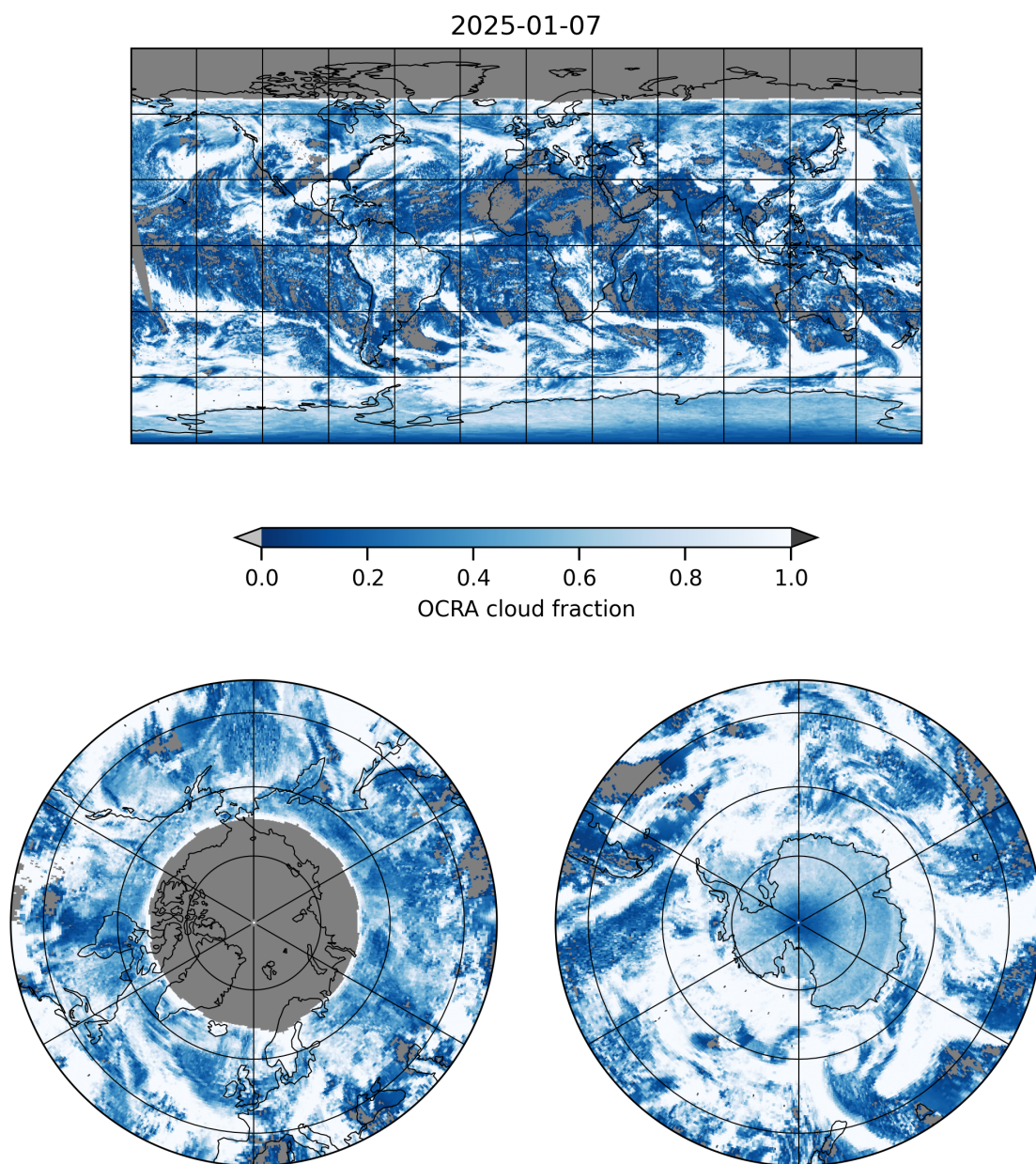


Figure 15: Map of “OCRA cloud fraction” for 2025-01-07 to 2025-01-08

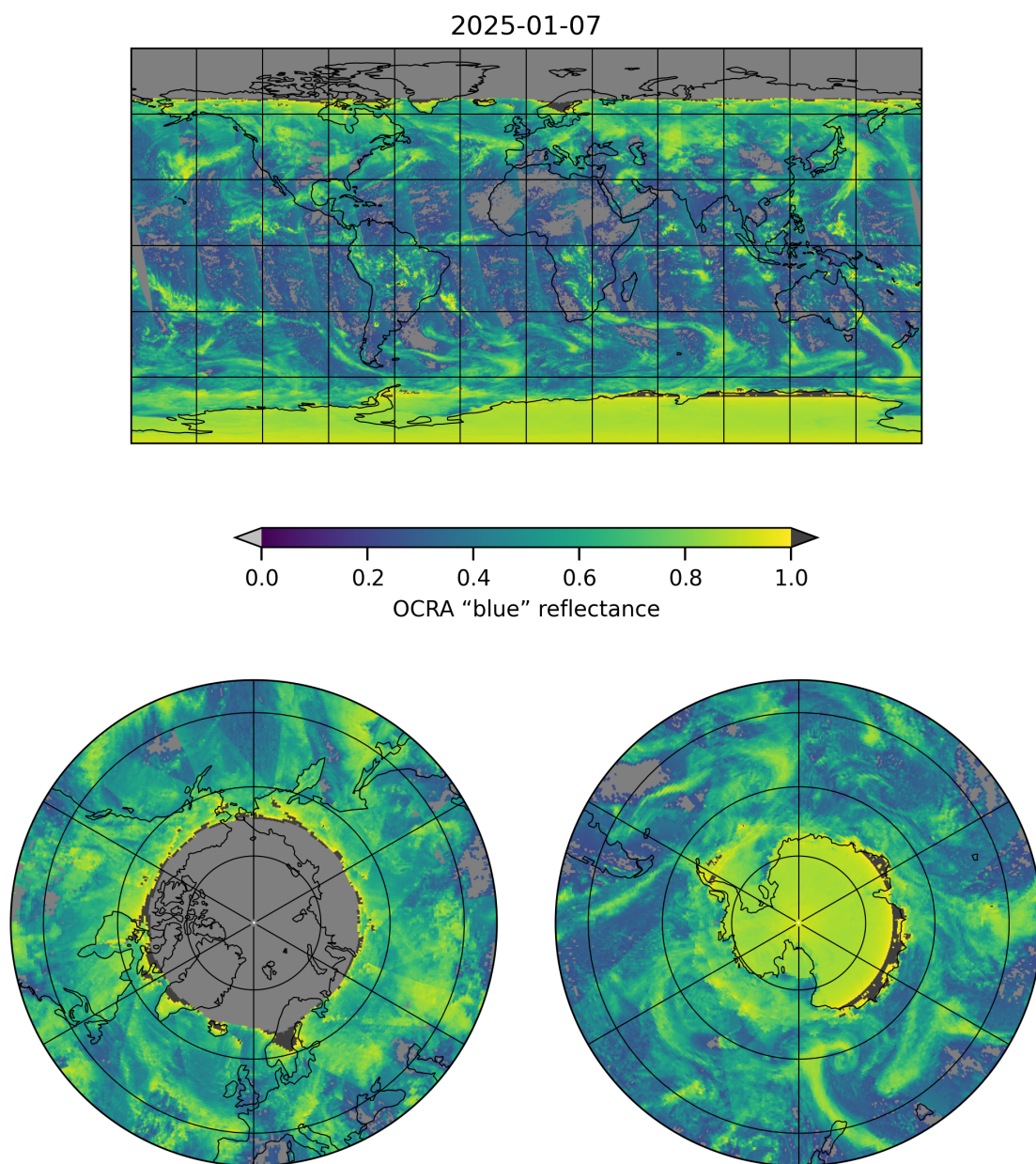


Figure 16: Map of "OCRA "blue" reflectance" for 2025-01-07 to 2025-01-08

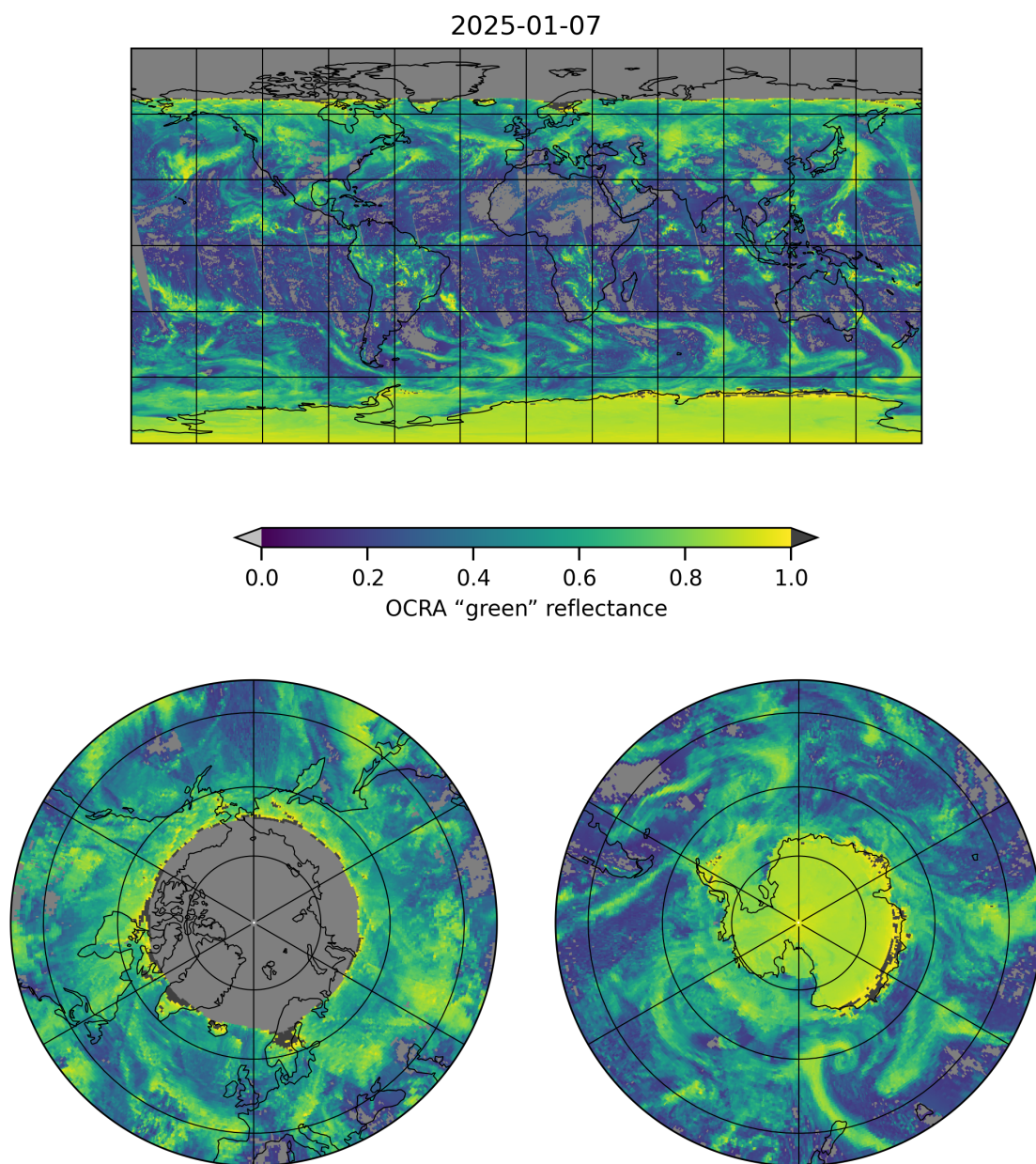


Figure 17: Map of "OCRA "green" reflectance" for 2025-01-07 to 2025-01-08

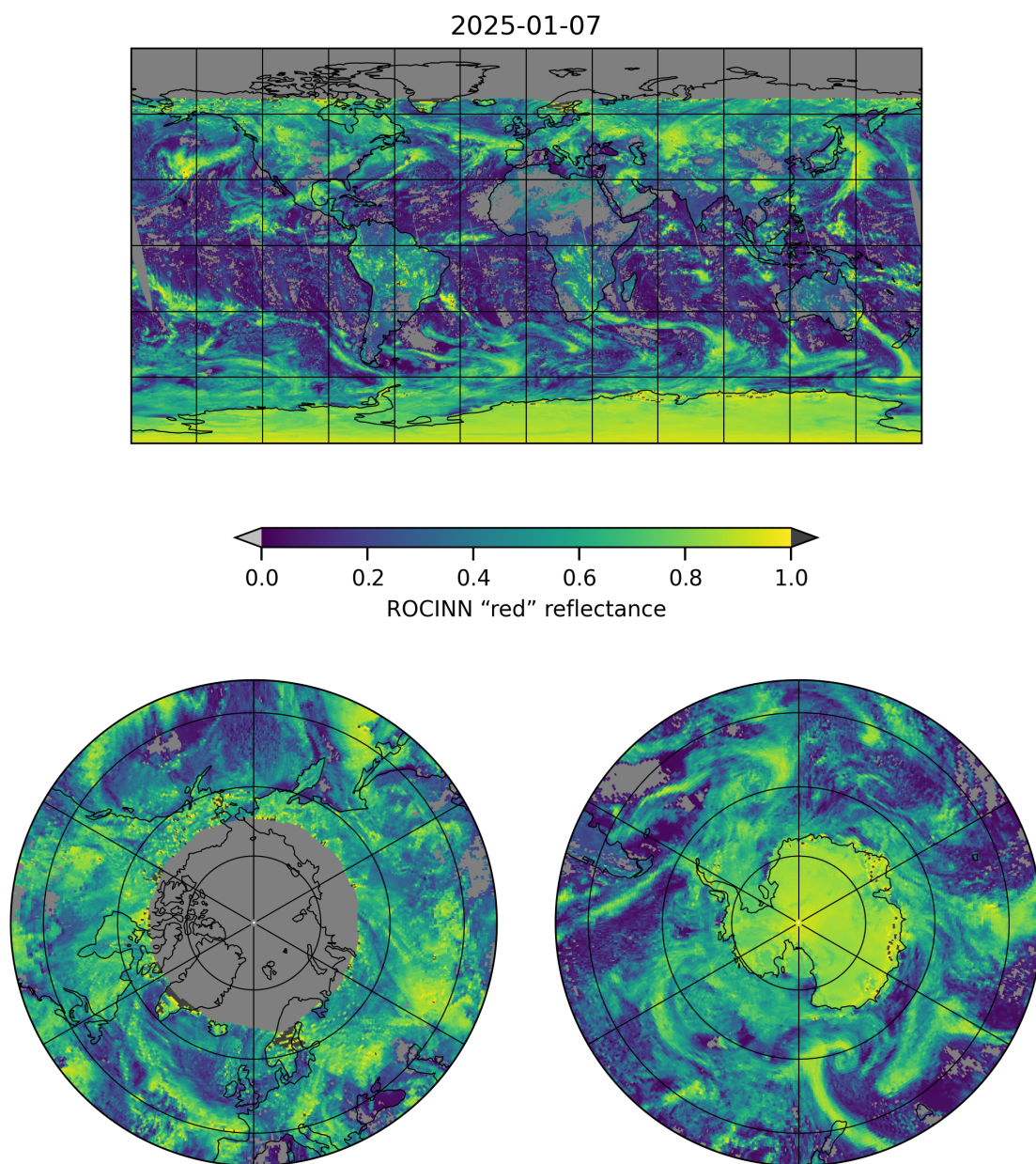


Figure 18: Map of "ROCINN "red" reflectance" for 2025-01-07 to 2025-01-08

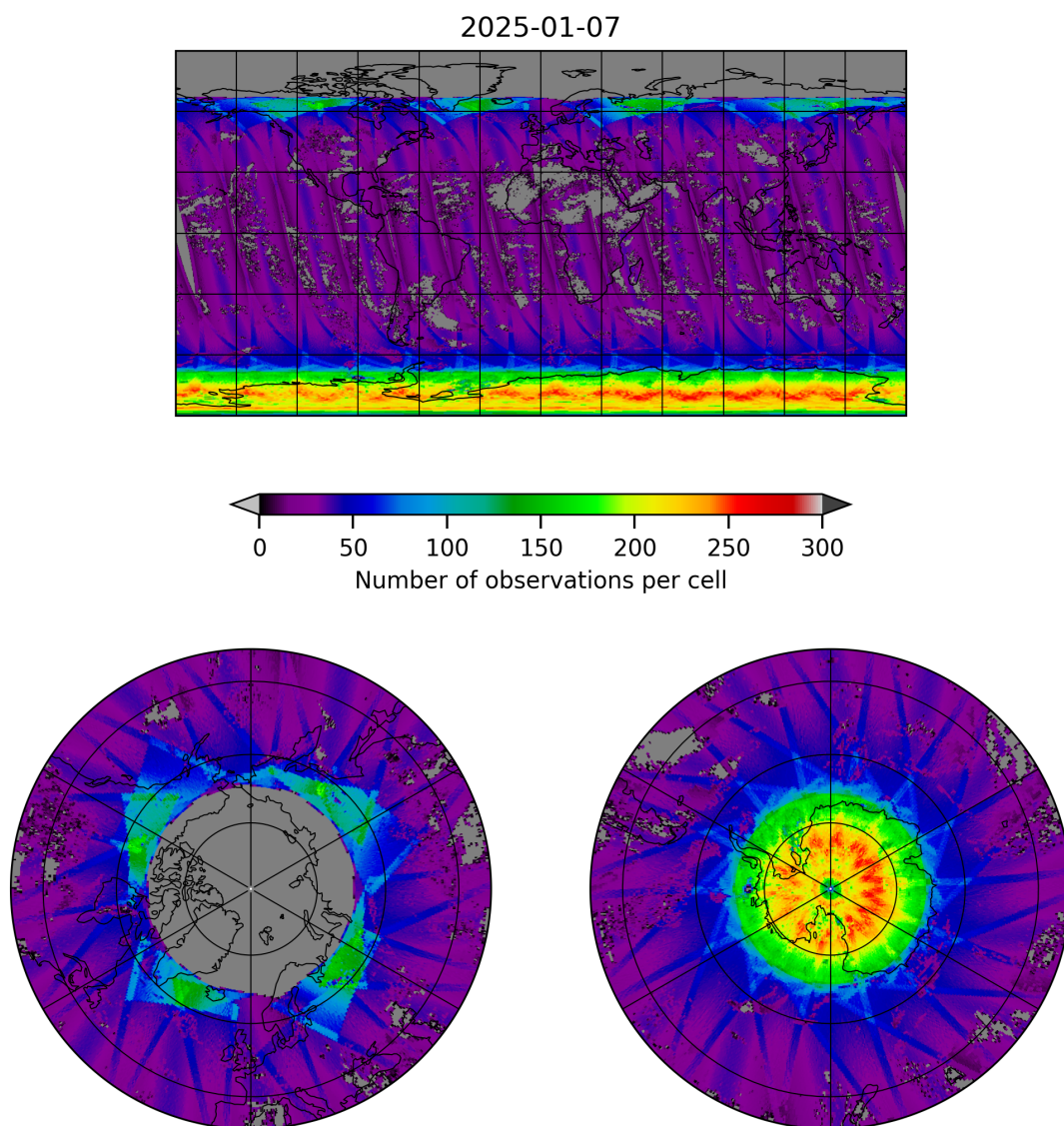


Figure 19: Map of the number of observations for 2025-01-07 to 2025-01-08

7 Zonal average

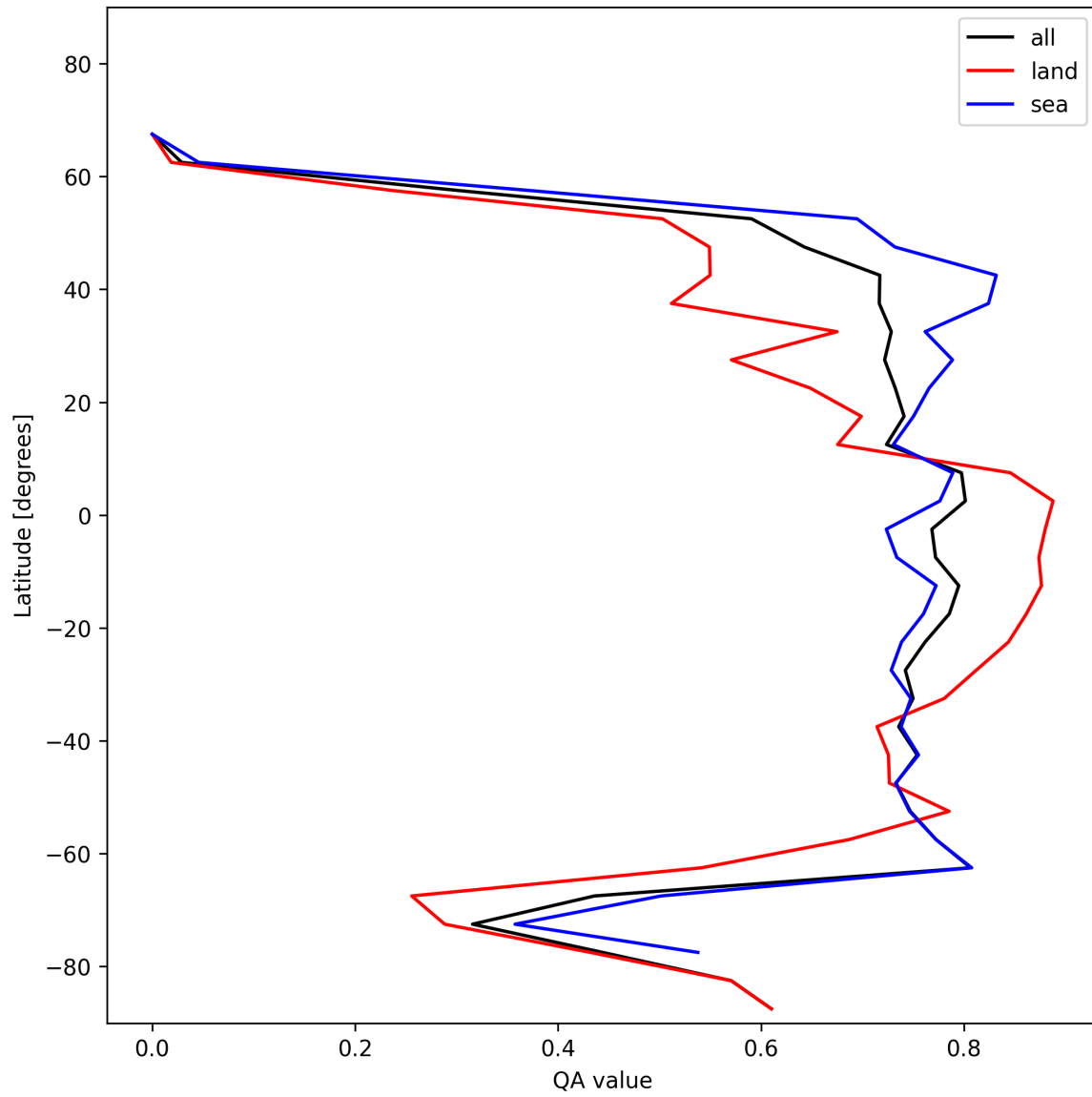


Figure 20: Zonal average of “QA value” for 2025-01-07 to 2025-01-08.

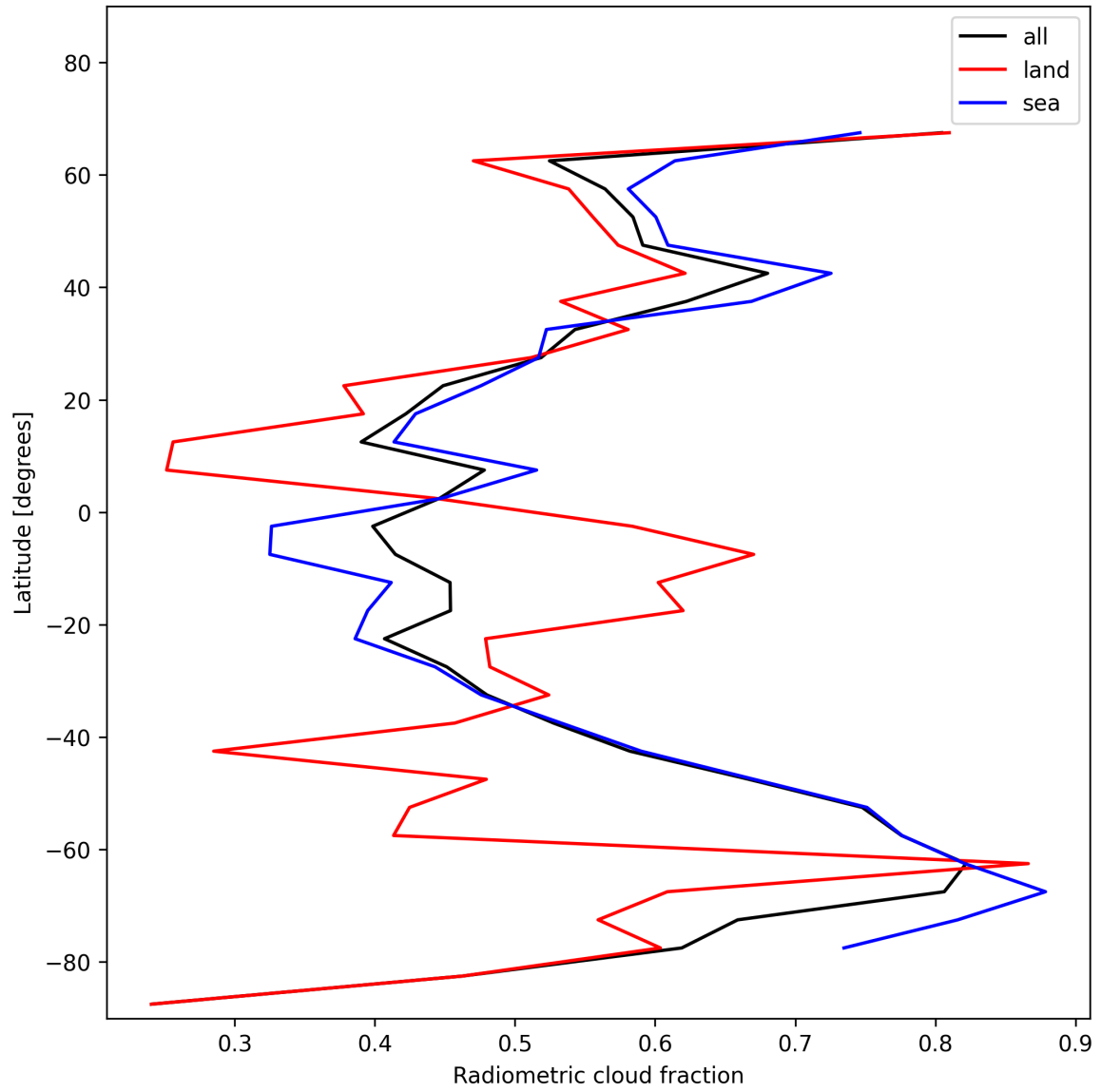


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-01-07 to 2025-01-08.

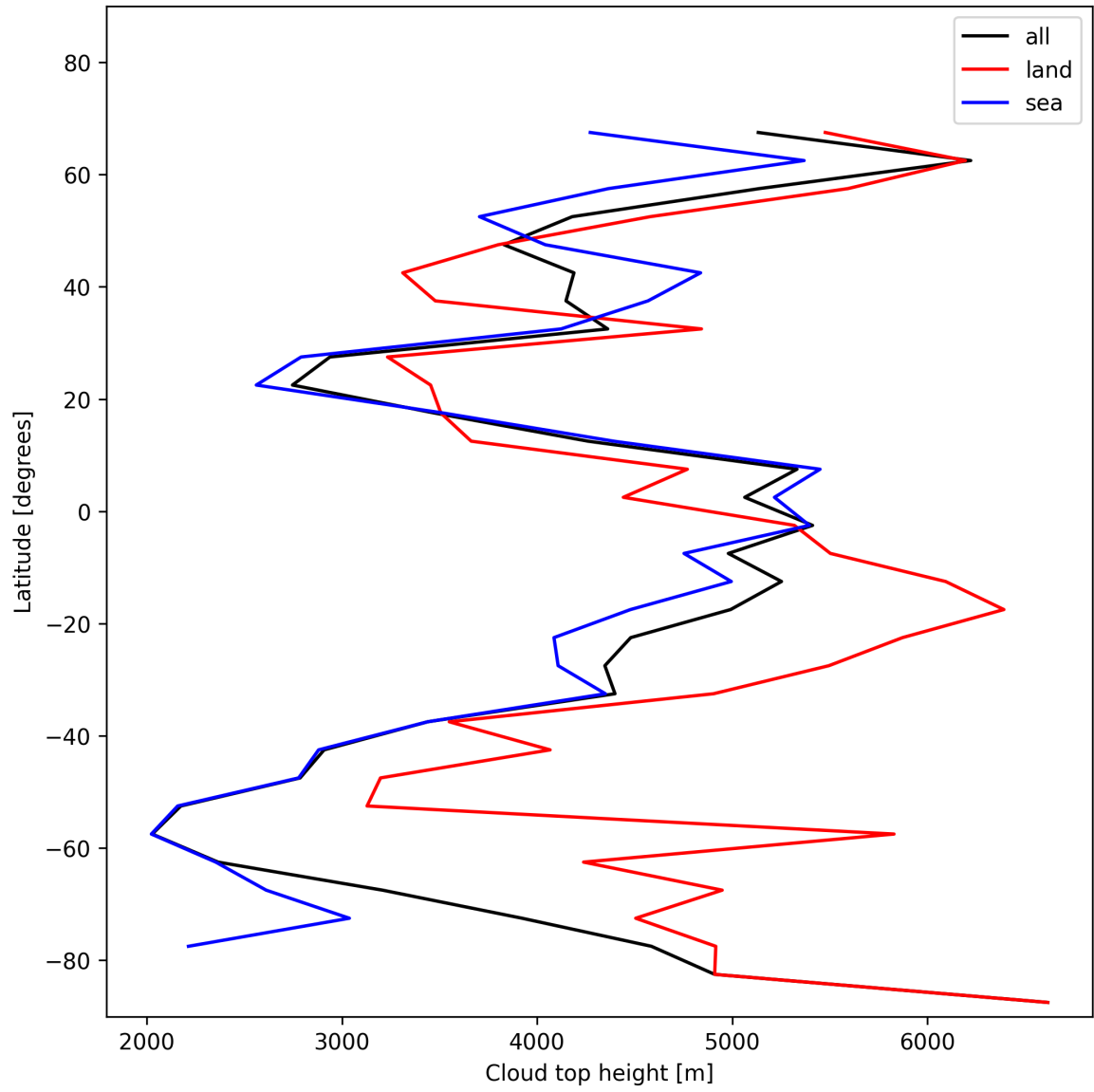


Figure 22: Zonal average of “Cloud top height” for 2025-01-07 to 2025-01-08.

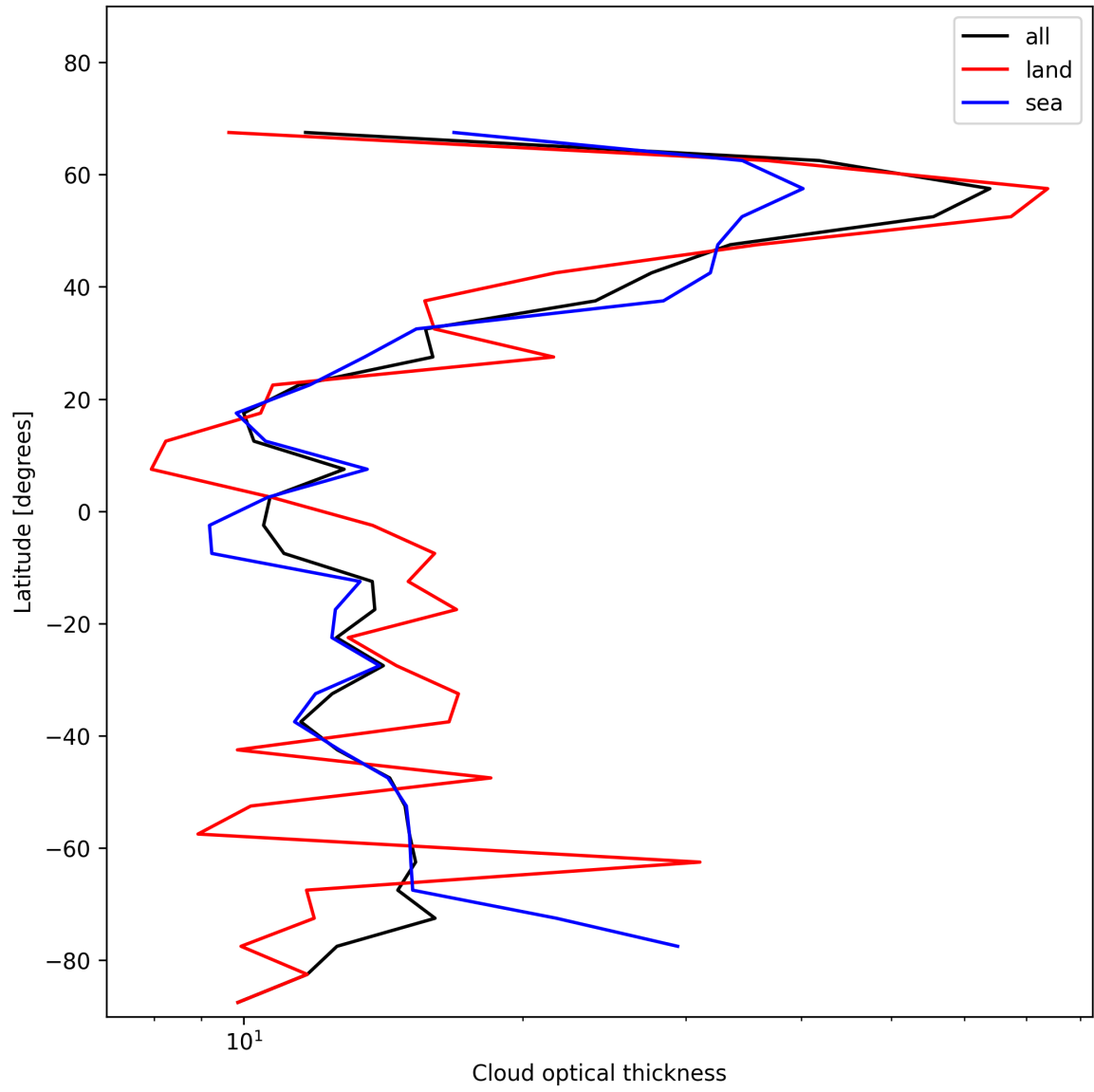


Figure 23: Zonal average of “Cloud optical thickness” for 2025-01-07 to 2025-01-08.

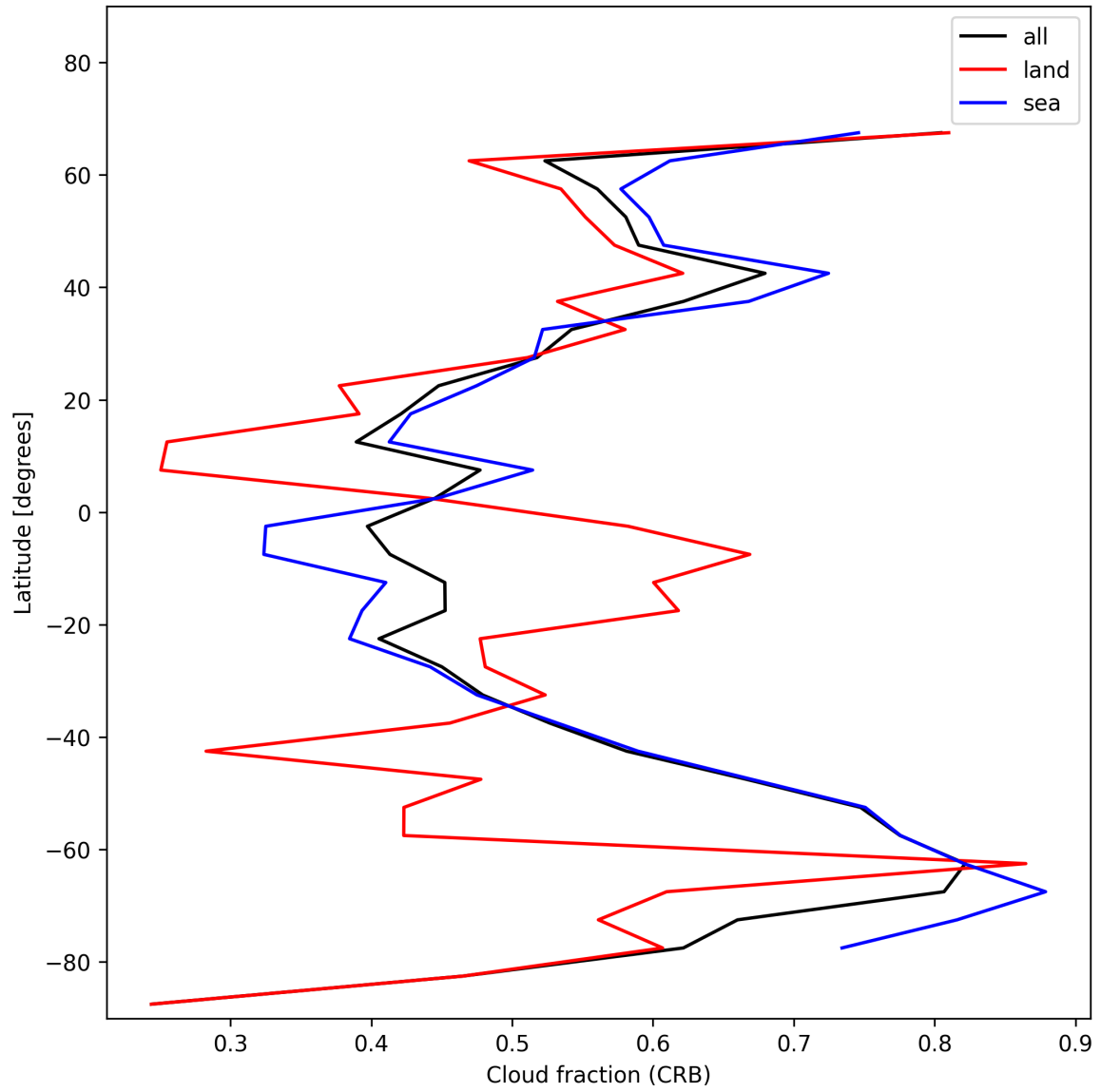


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-01-07 to 2025-01-08.

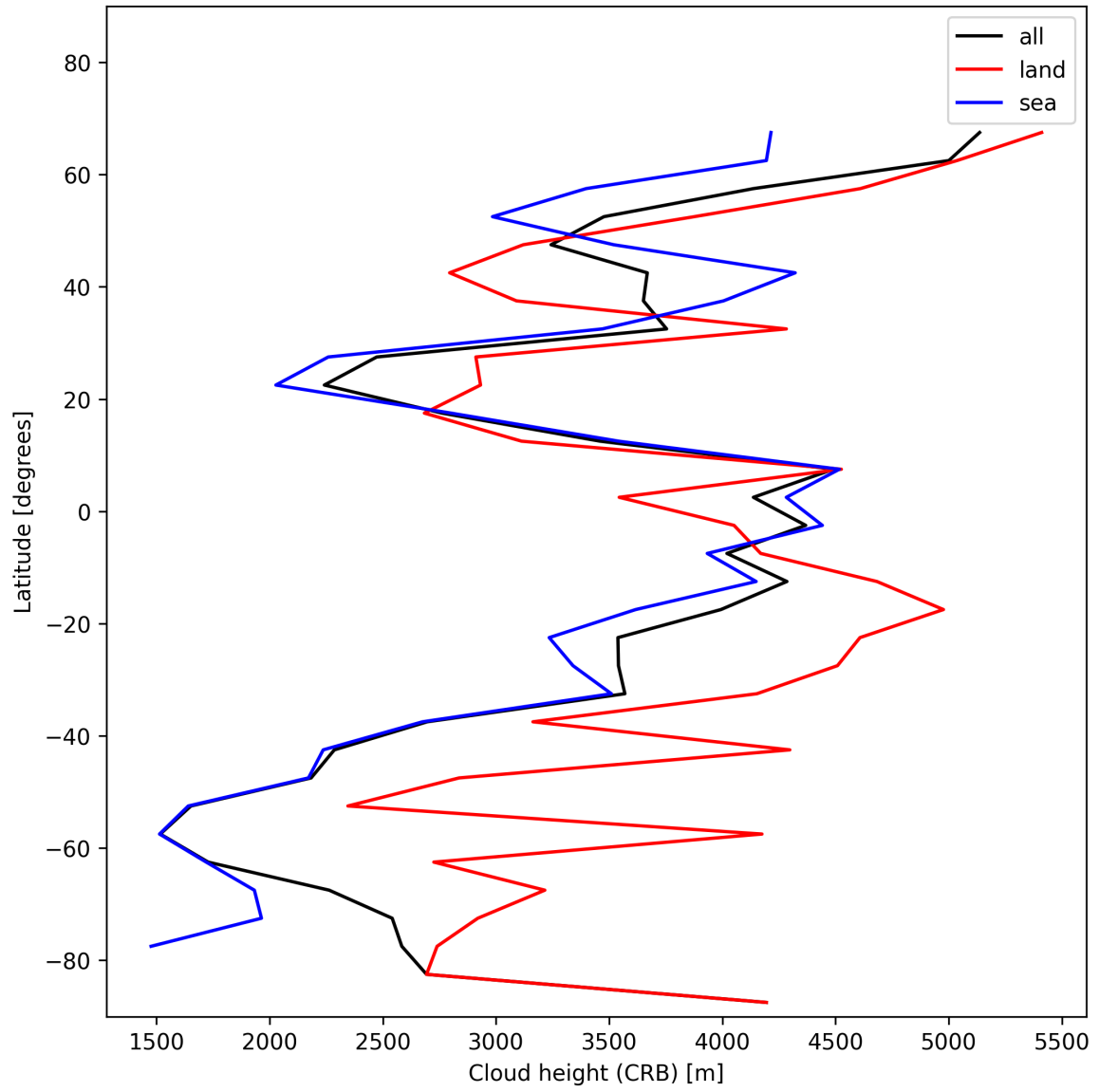


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-01-07 to 2025-01-08.

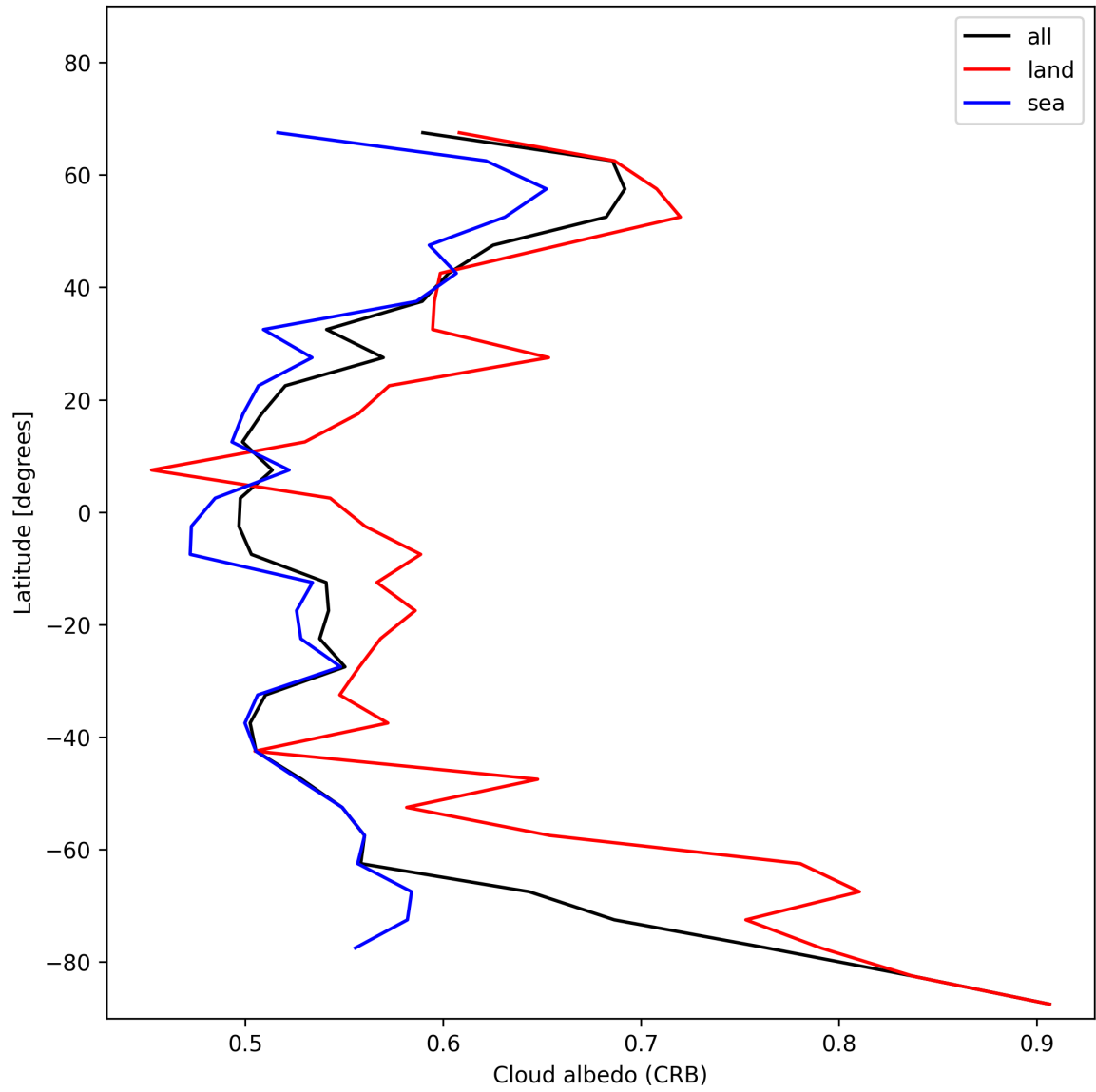


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-01-07 to 2025-01-08.

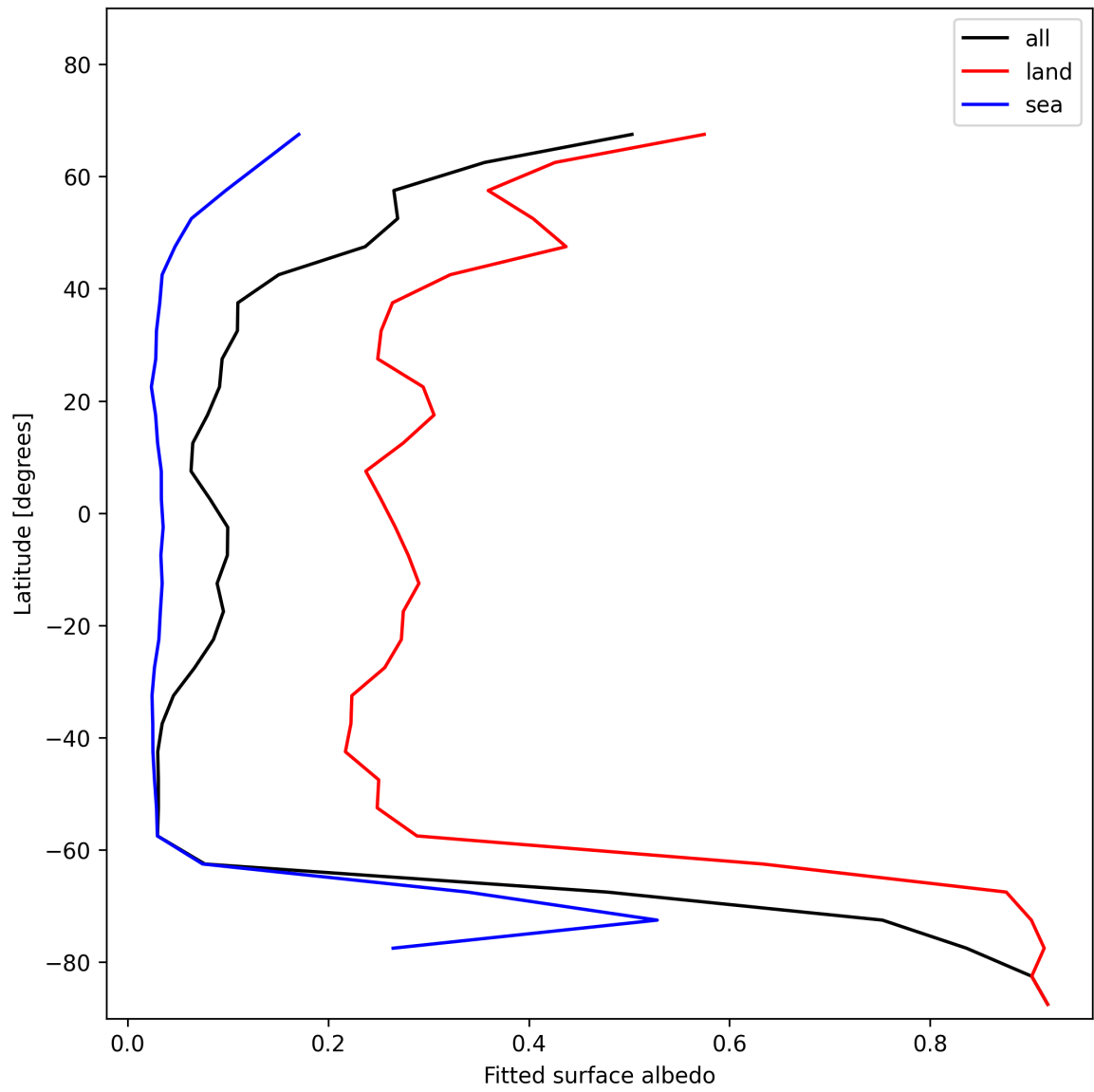


Figure 27: Zonal average of “Fitted surface albedo” for 2025-01-07 to 2025-01-08.

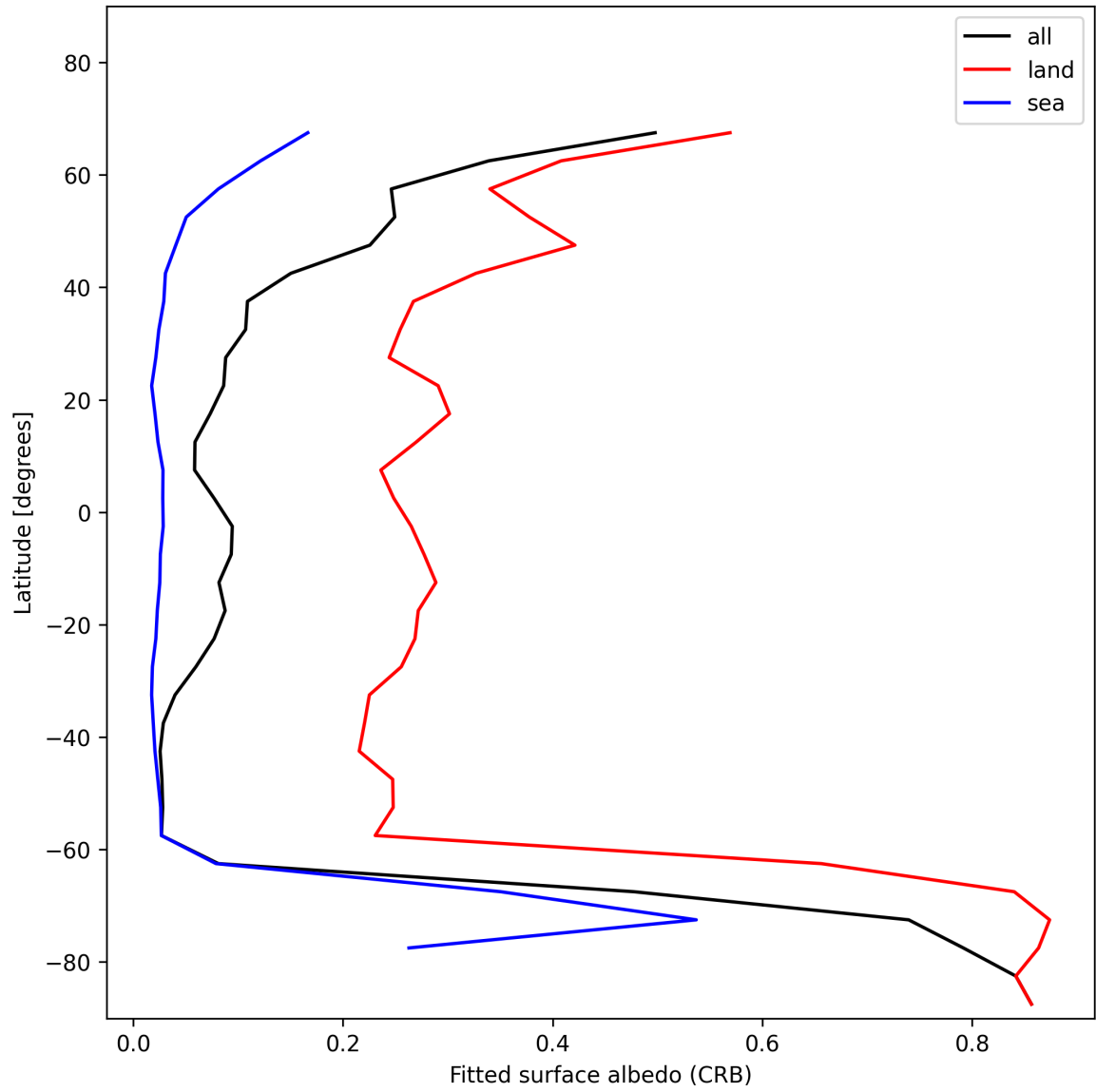


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-01-07 to 2025-01-08.

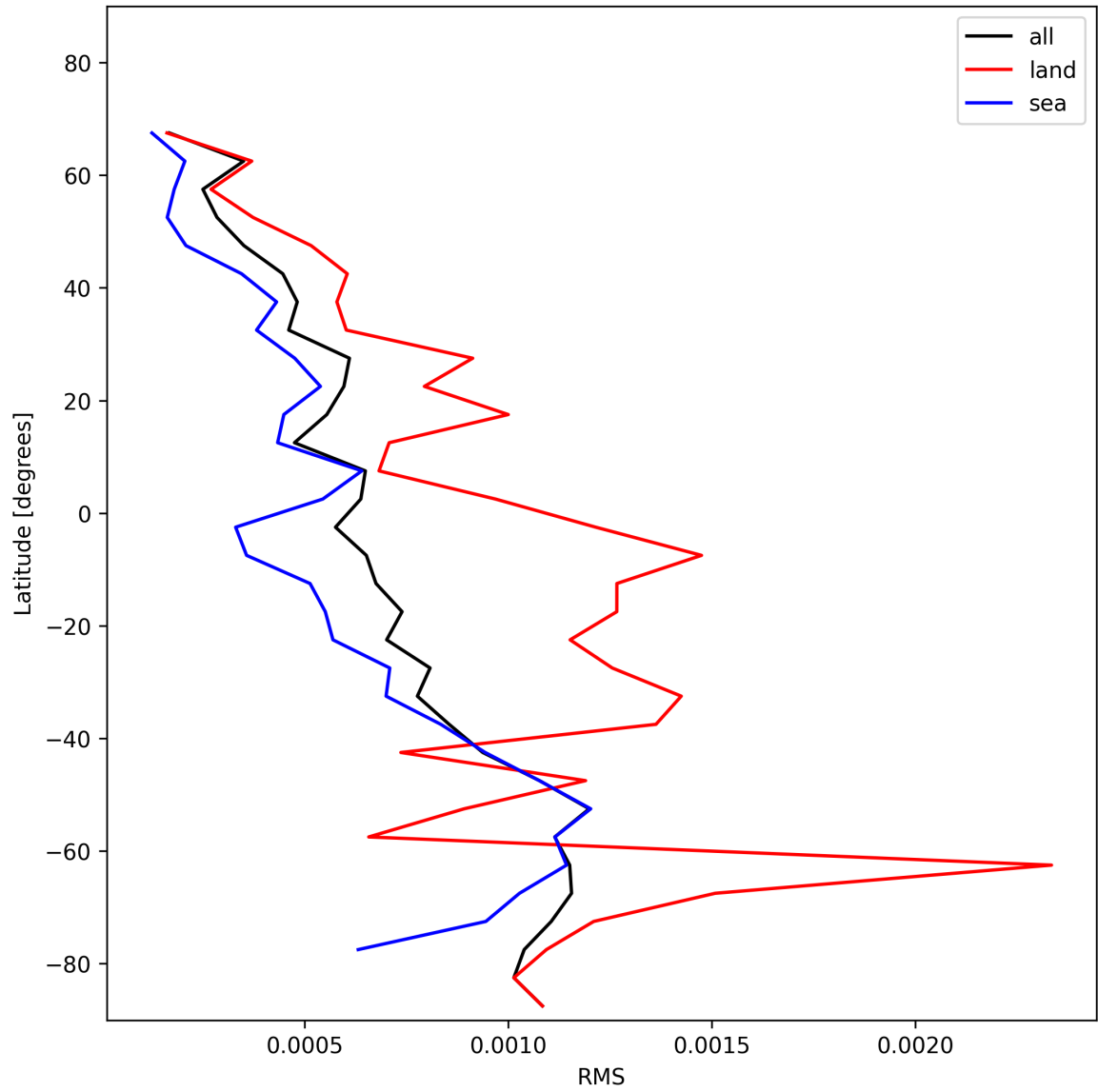


Figure 29: Zonal average of “RMS” for 2025-01-07 to 2025-01-08.

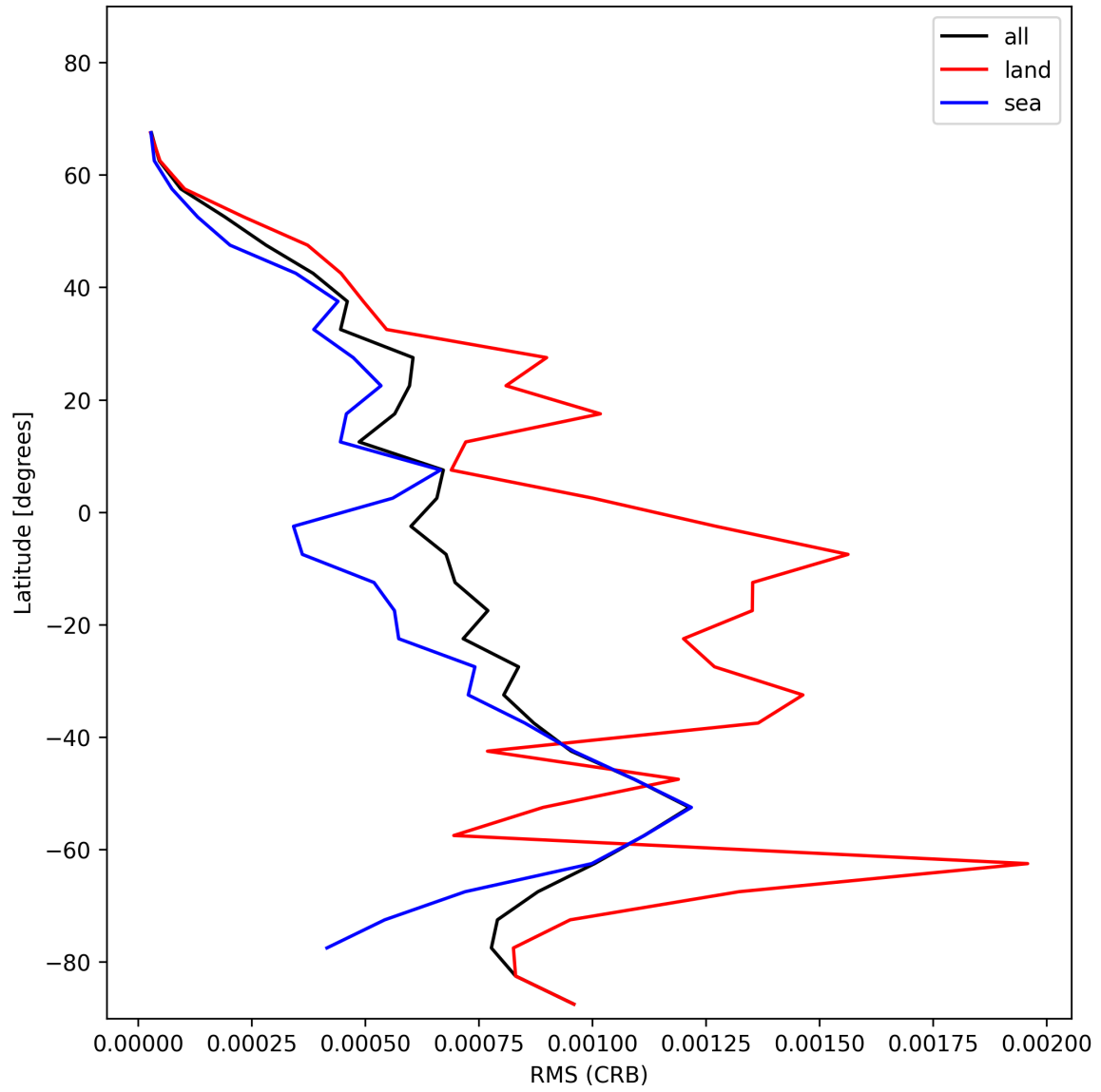


Figure 30: Zonal average of “RMS (CRB)” for 2025-01-07 to 2025-01-08.

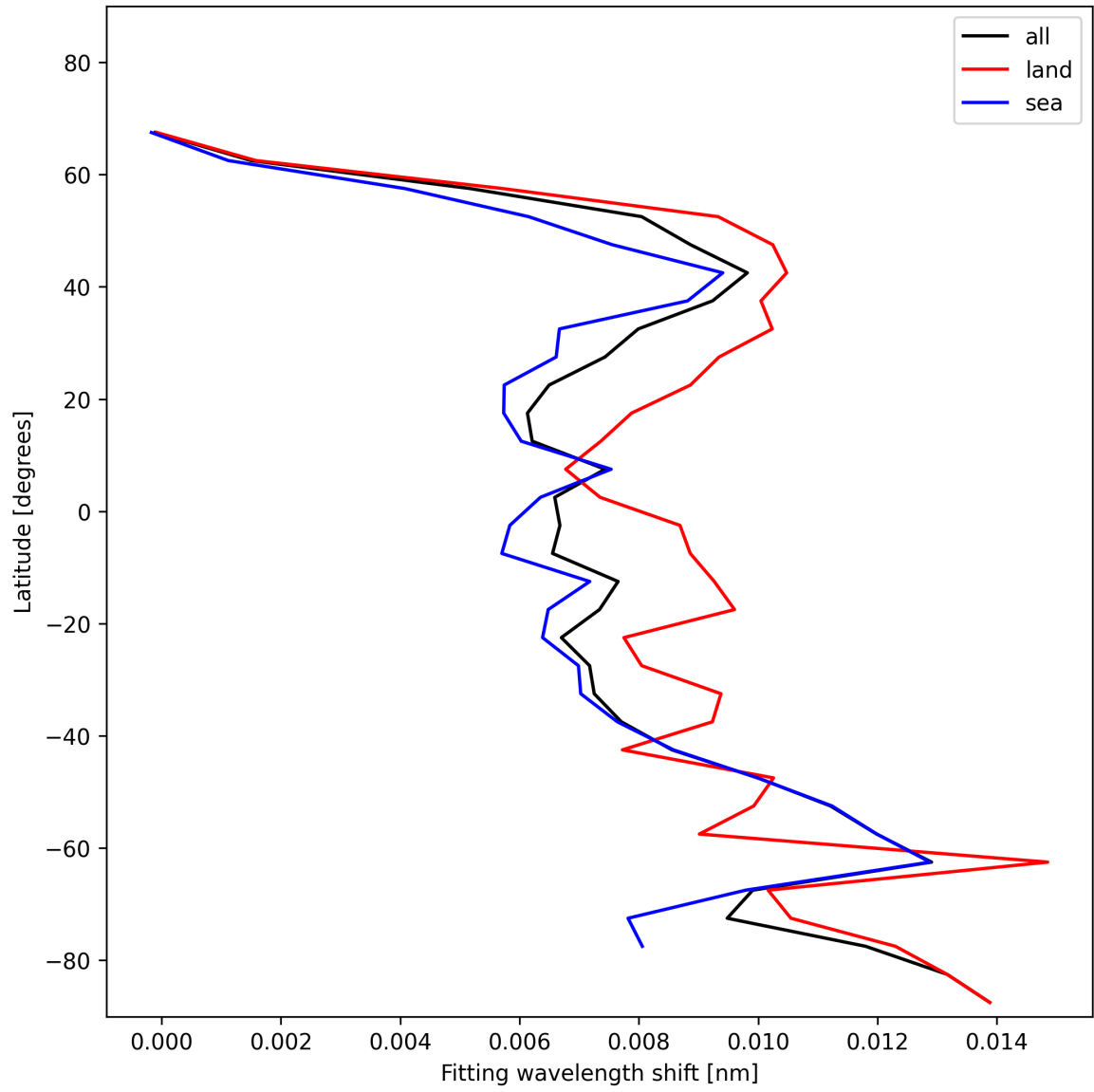


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-01-07 to 2025-01-08.

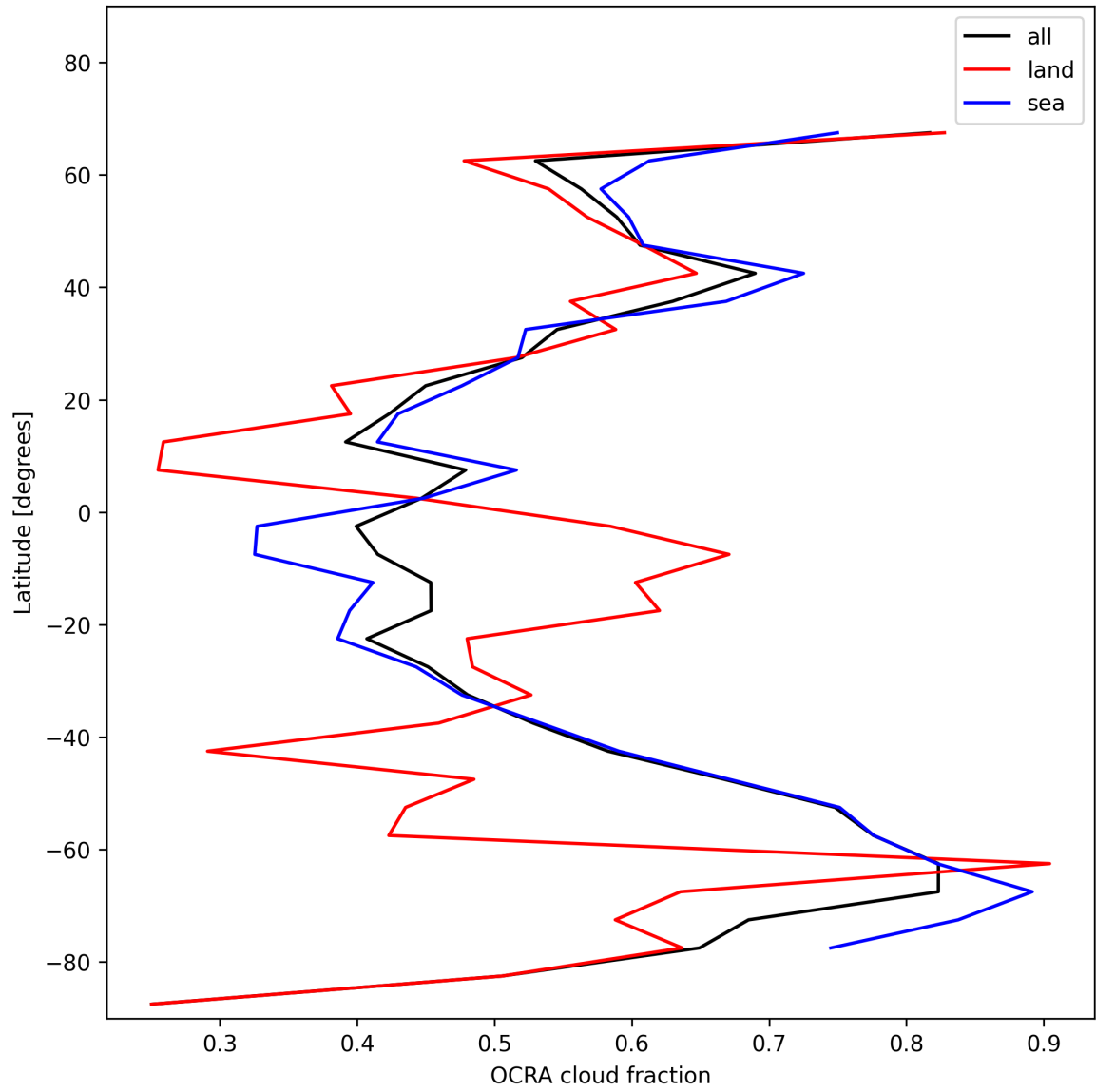


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-01-07 to 2025-01-08.

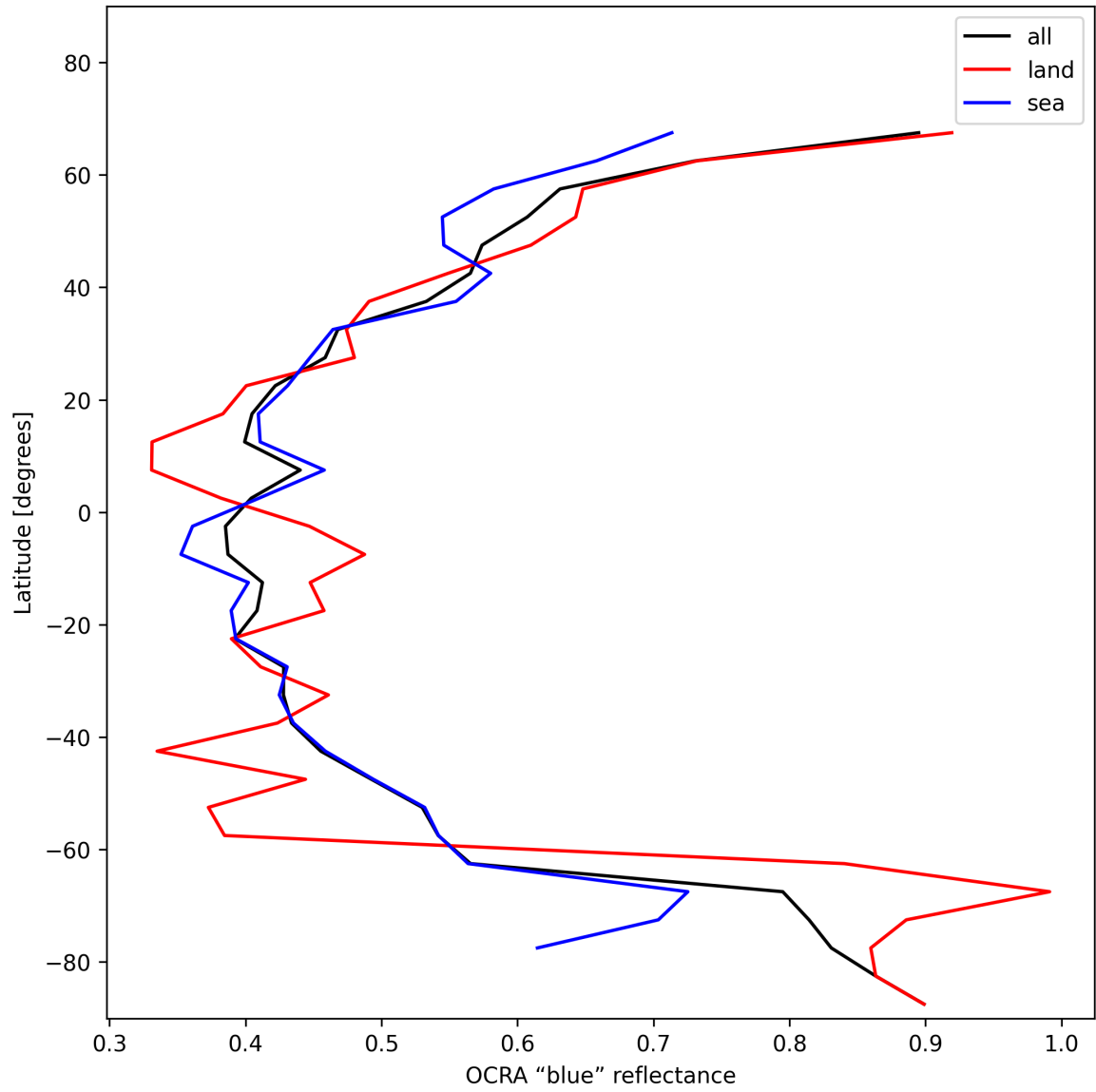


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-01-07 to 2025-01-08.

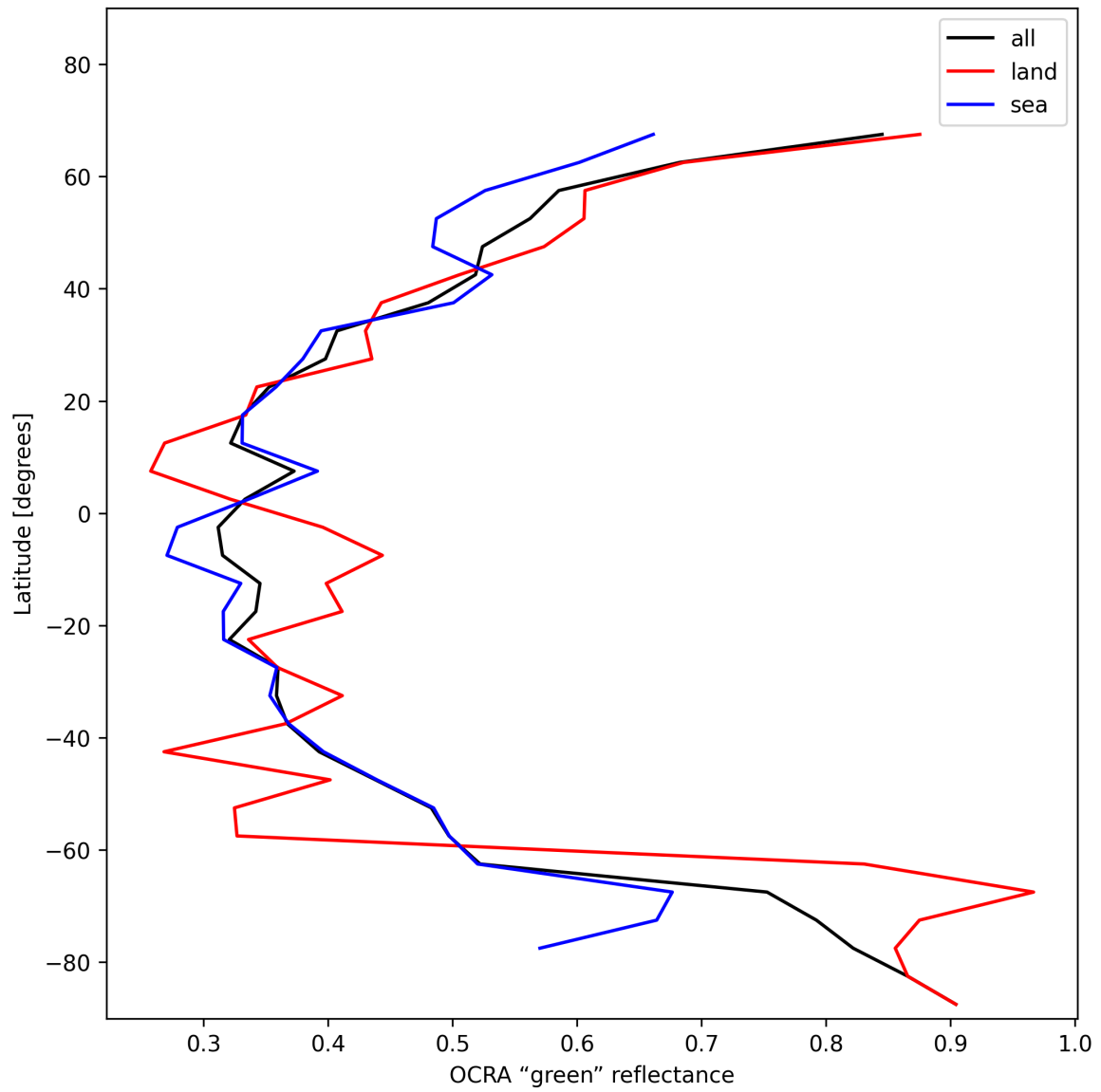


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-01-07 to 2025-01-08.

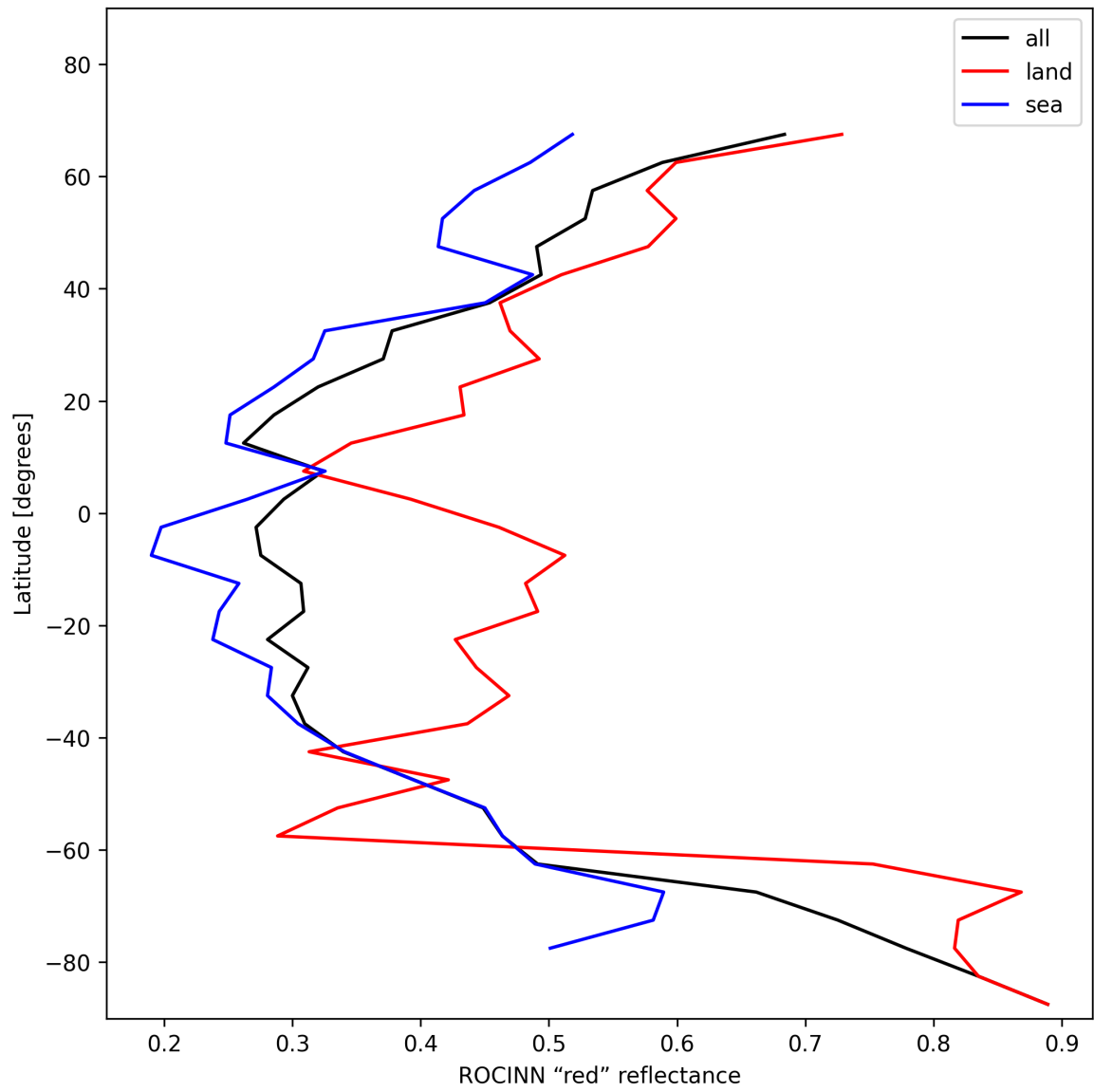


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-01-07 to 2025-01-08.

8 Histograms

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

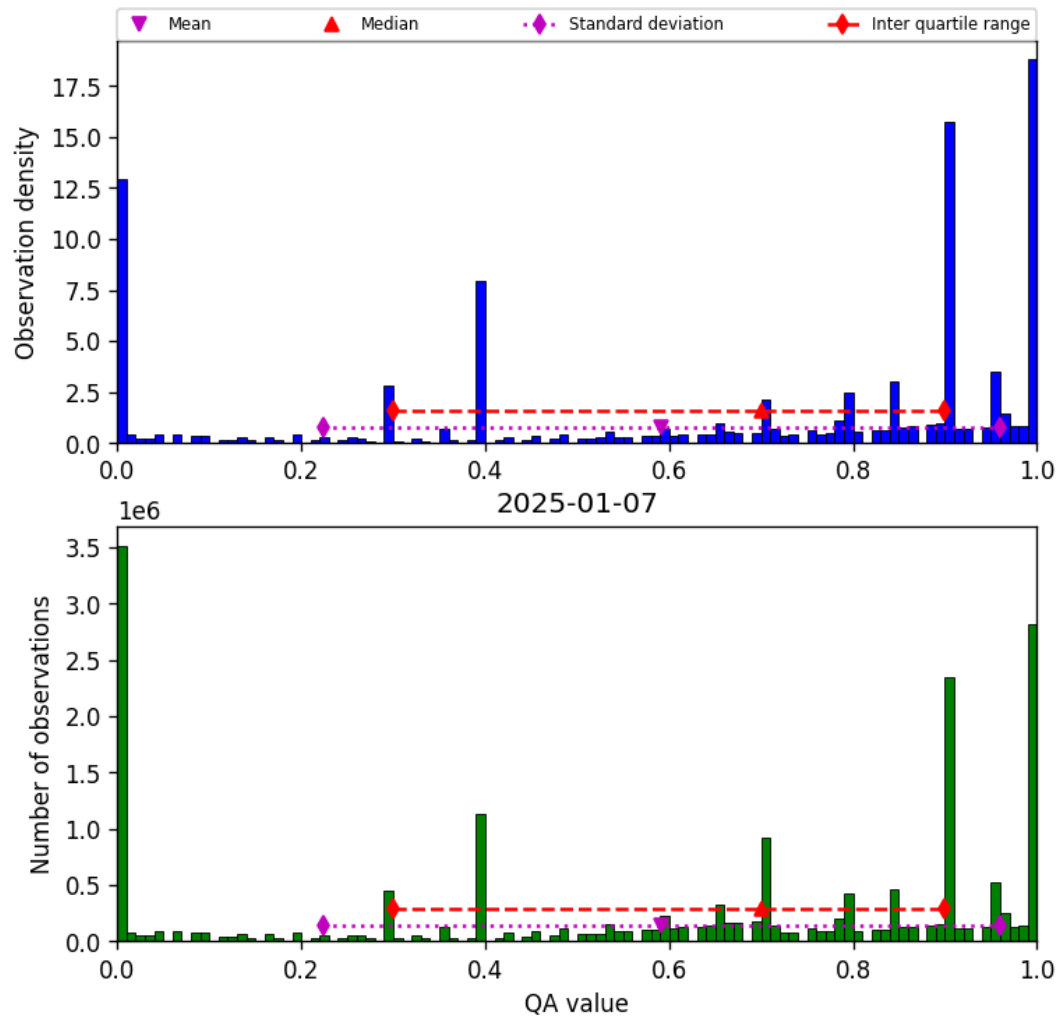


Figure 36: Histogram of “QA value” for 2025-01-07 to 2025-01-08

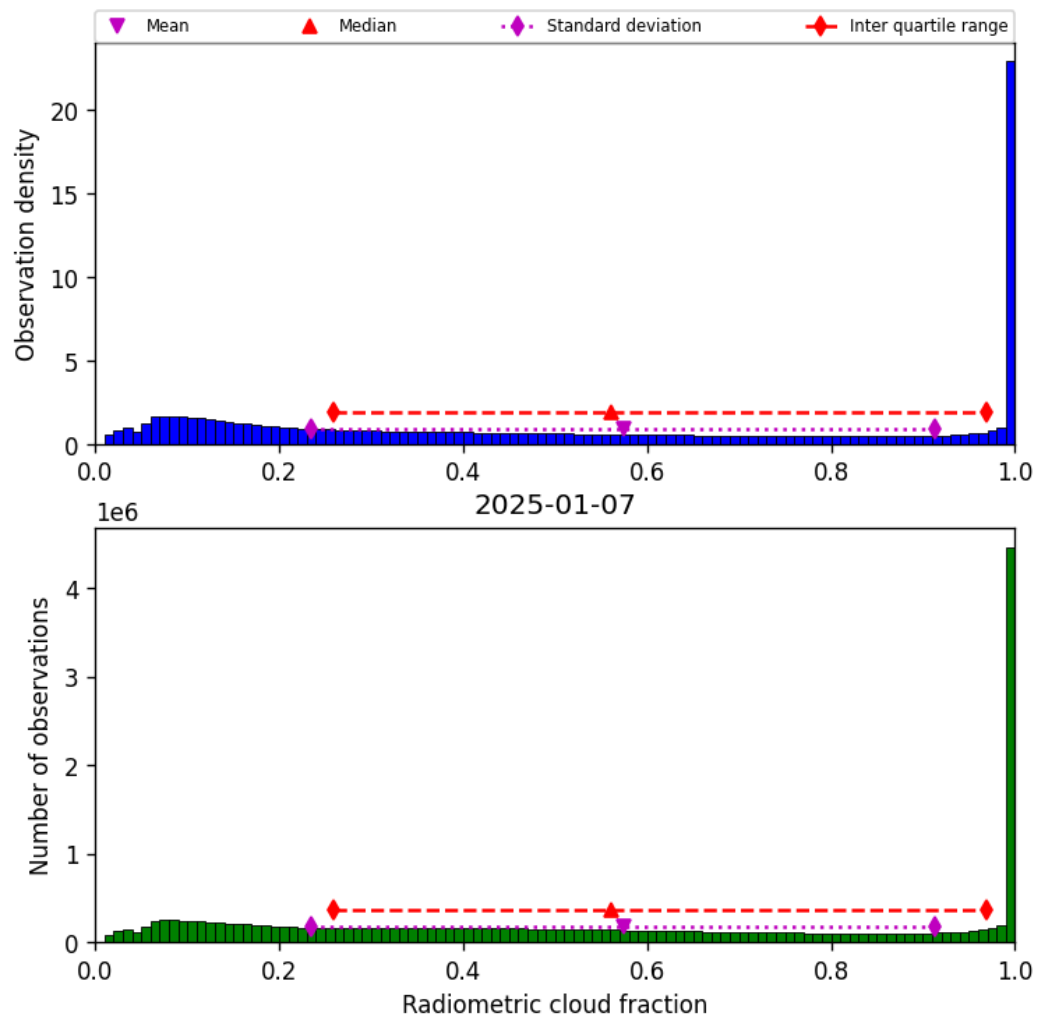


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-01-07 to 2025-01-08

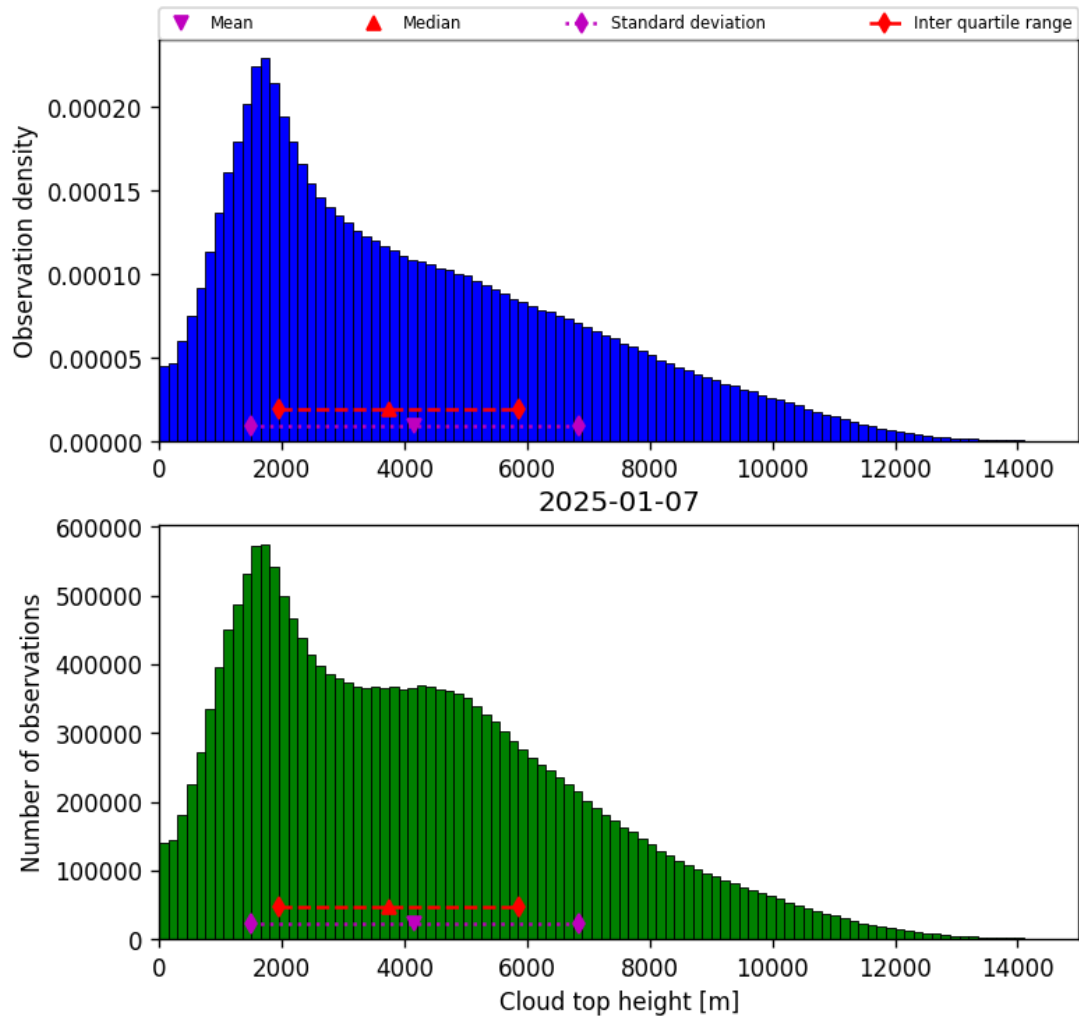


Figure 38: Histogram of “Cloud top height” for 2025-01-07 to 2025-01-08

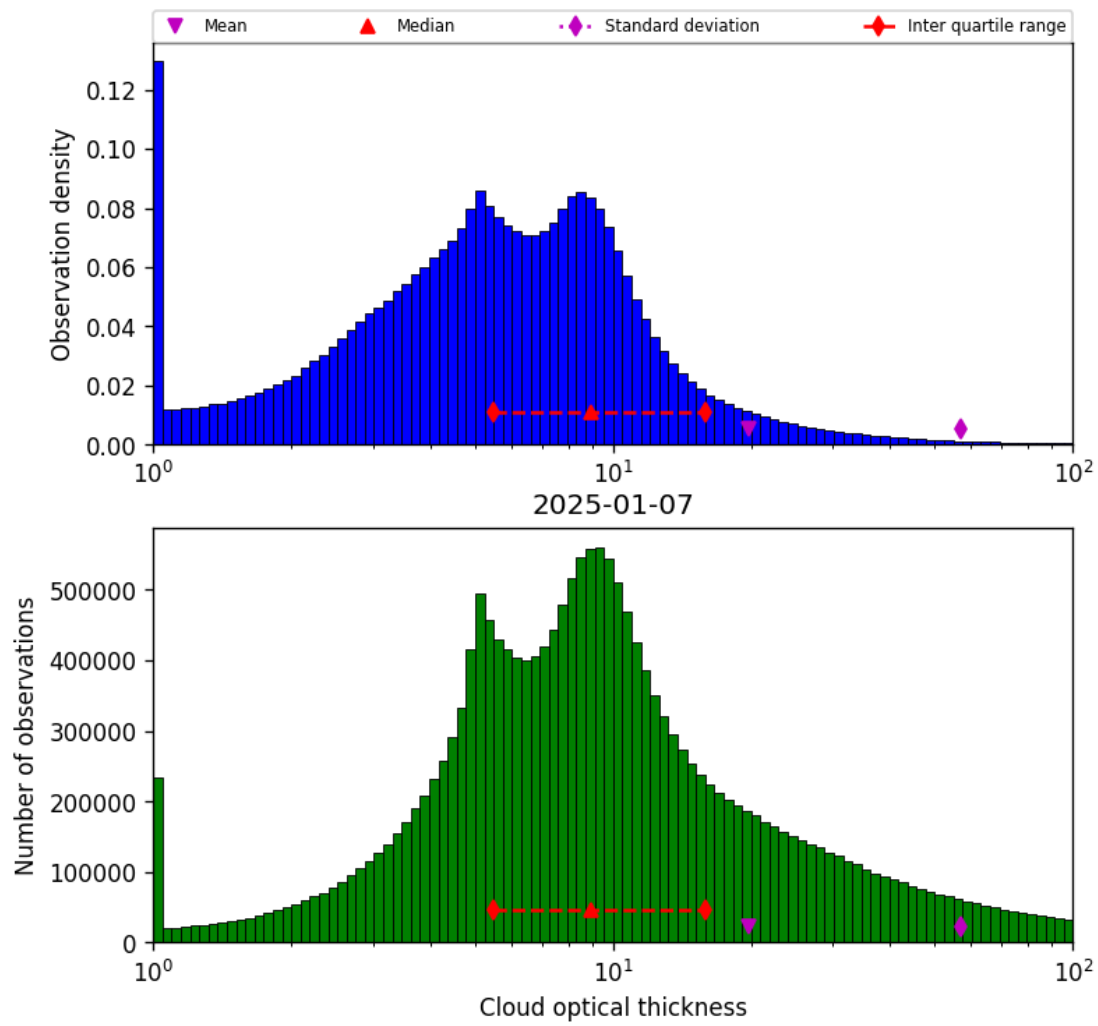


Figure 39: Histogram of “Cloud optical thickness” for 2025-01-07 to 2025-01-08

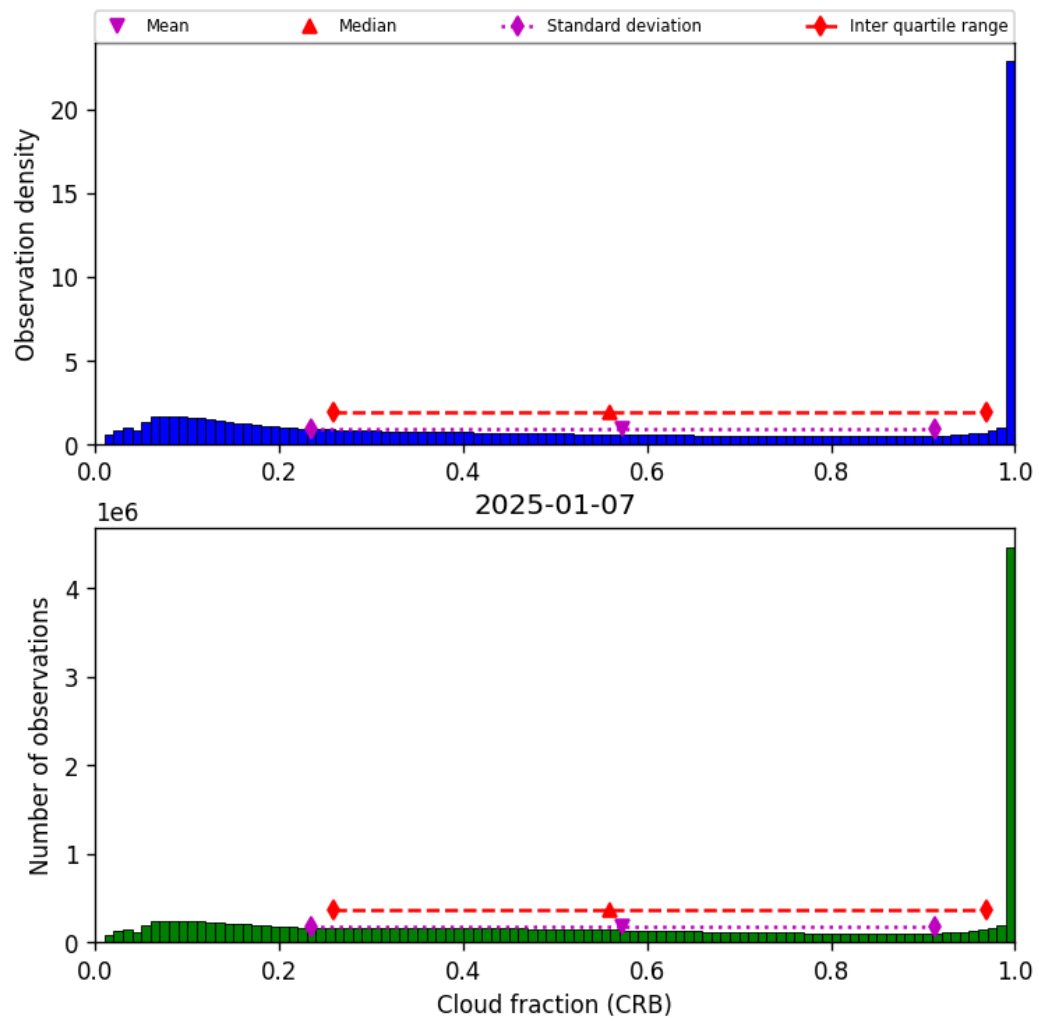


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-01-07 to 2025-01-08

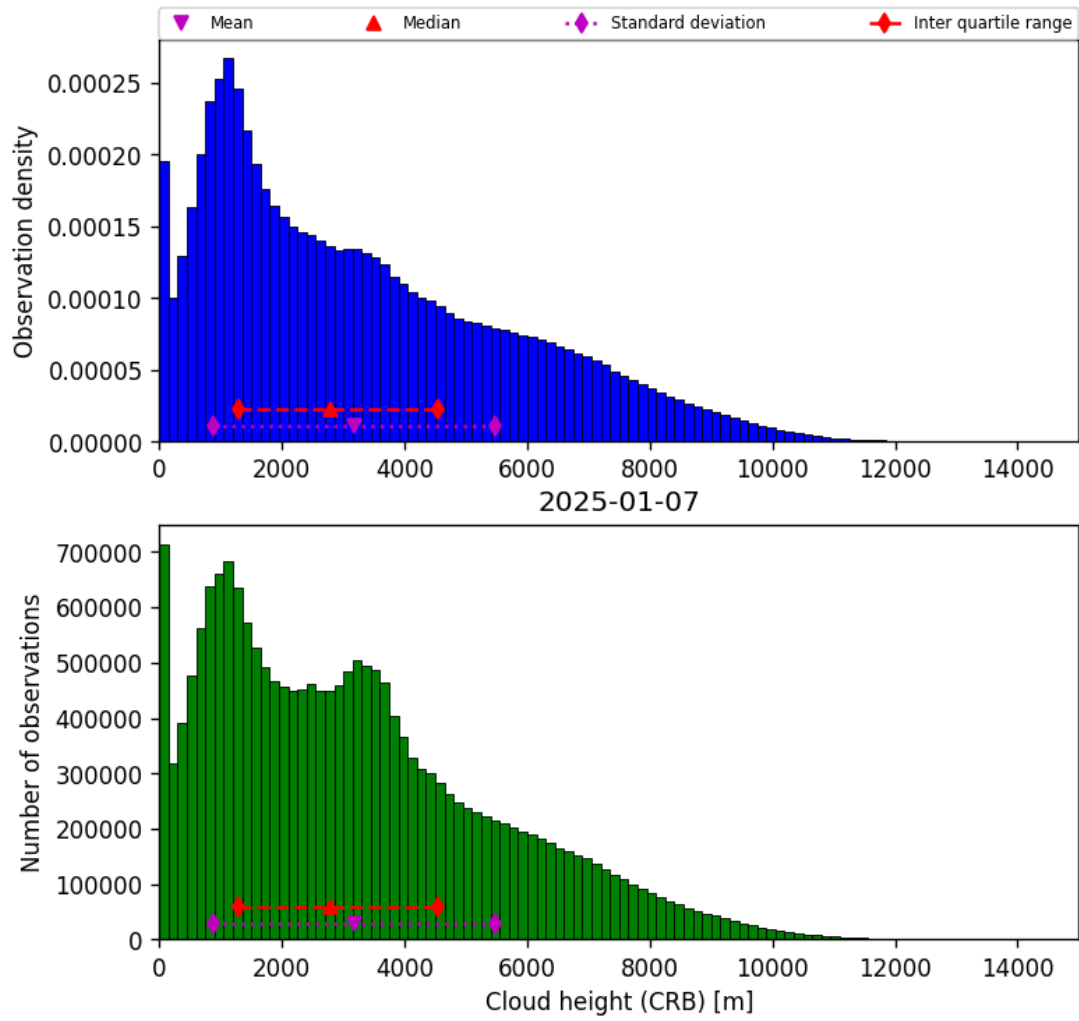


Figure 41: Histogram of “Cloud height (CRB)” for 2025-01-07 to 2025-01-08

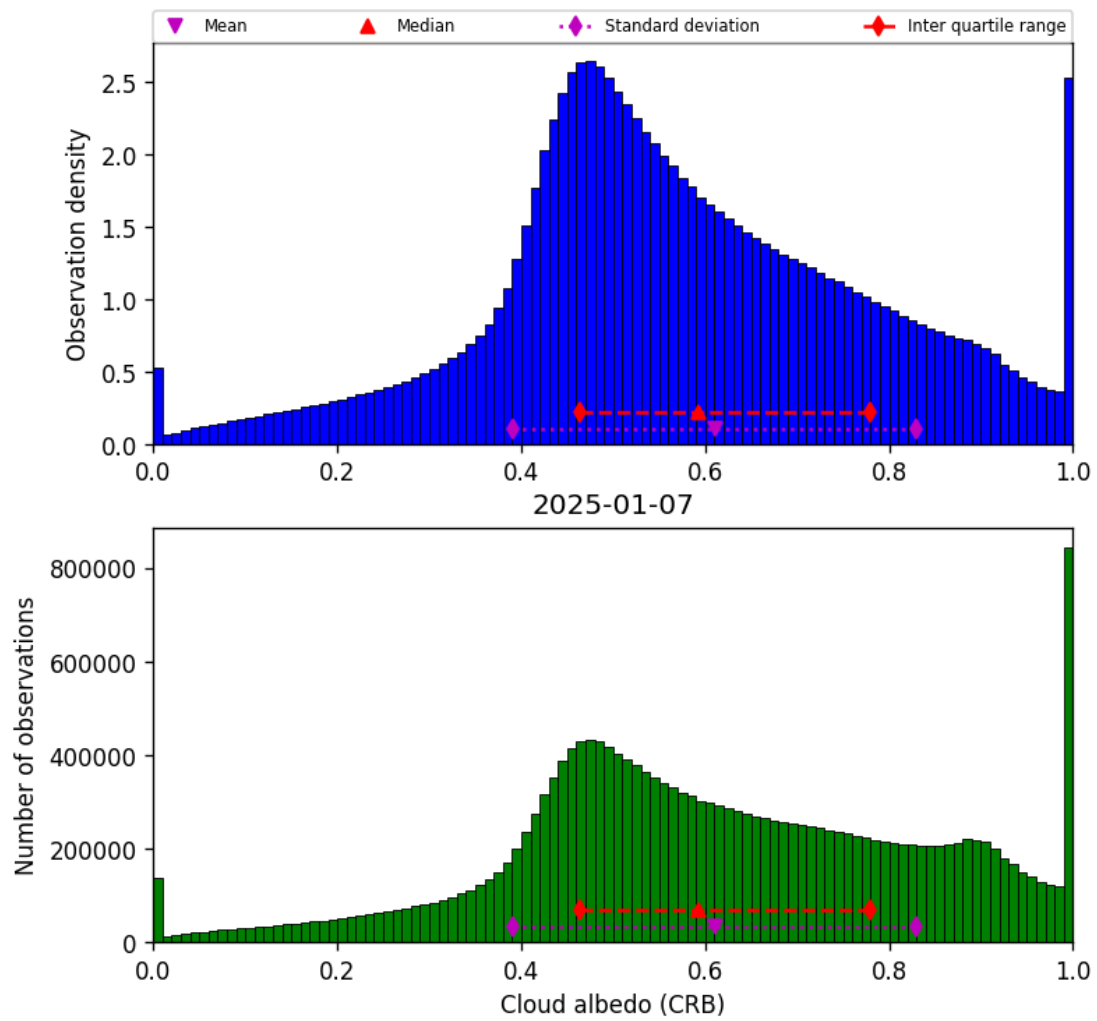


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-01-07 to 2025-01-08

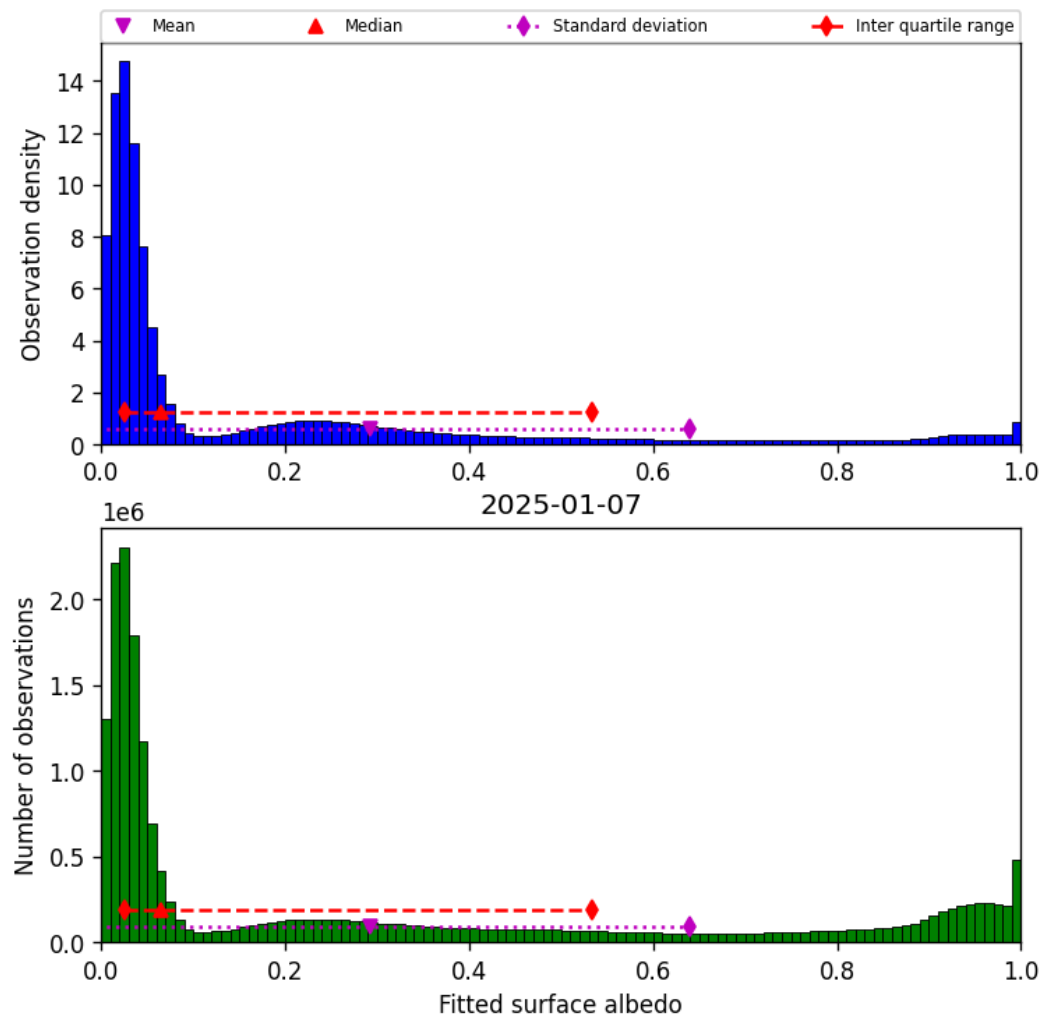


Figure 43: Histogram of “Fitted surface albedo” for 2025-01-07 to 2025-01-08

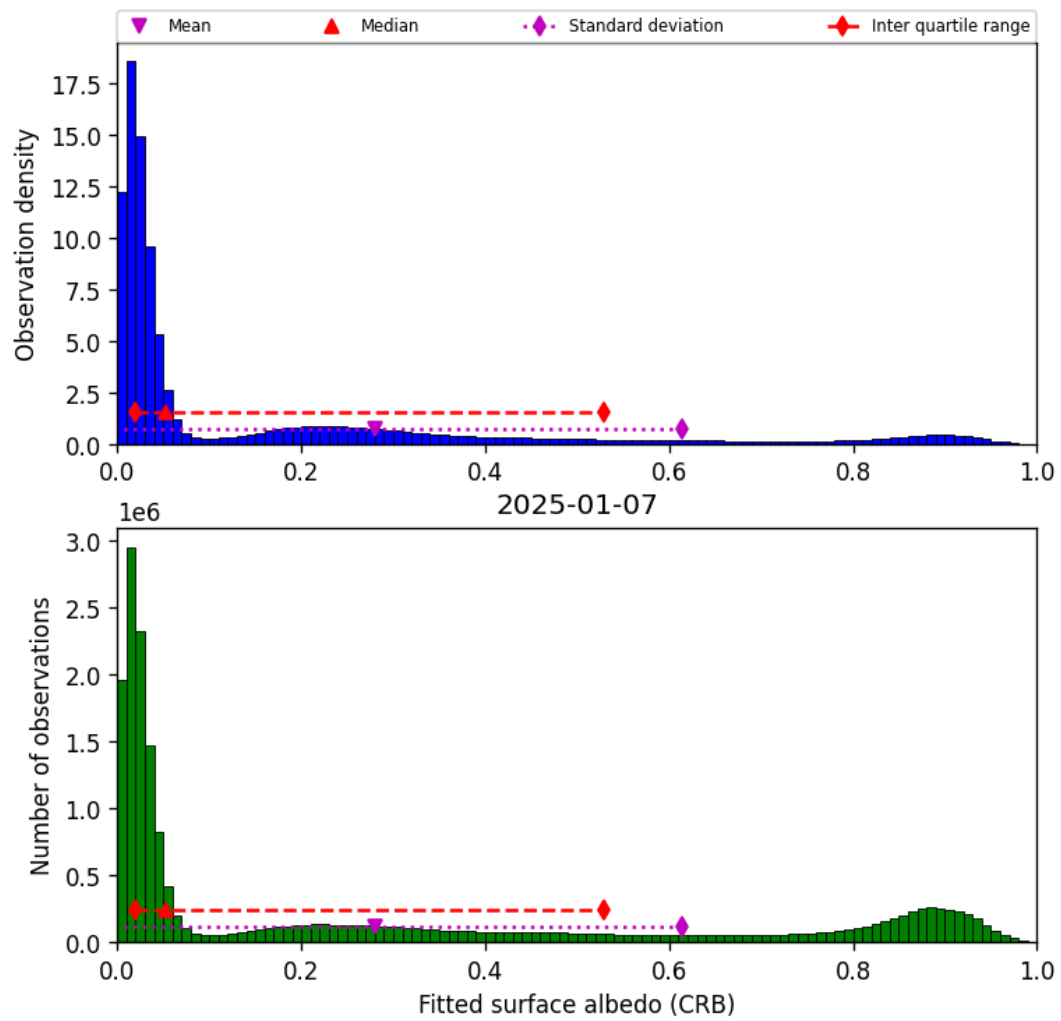


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-01-07 to 2025-01-08

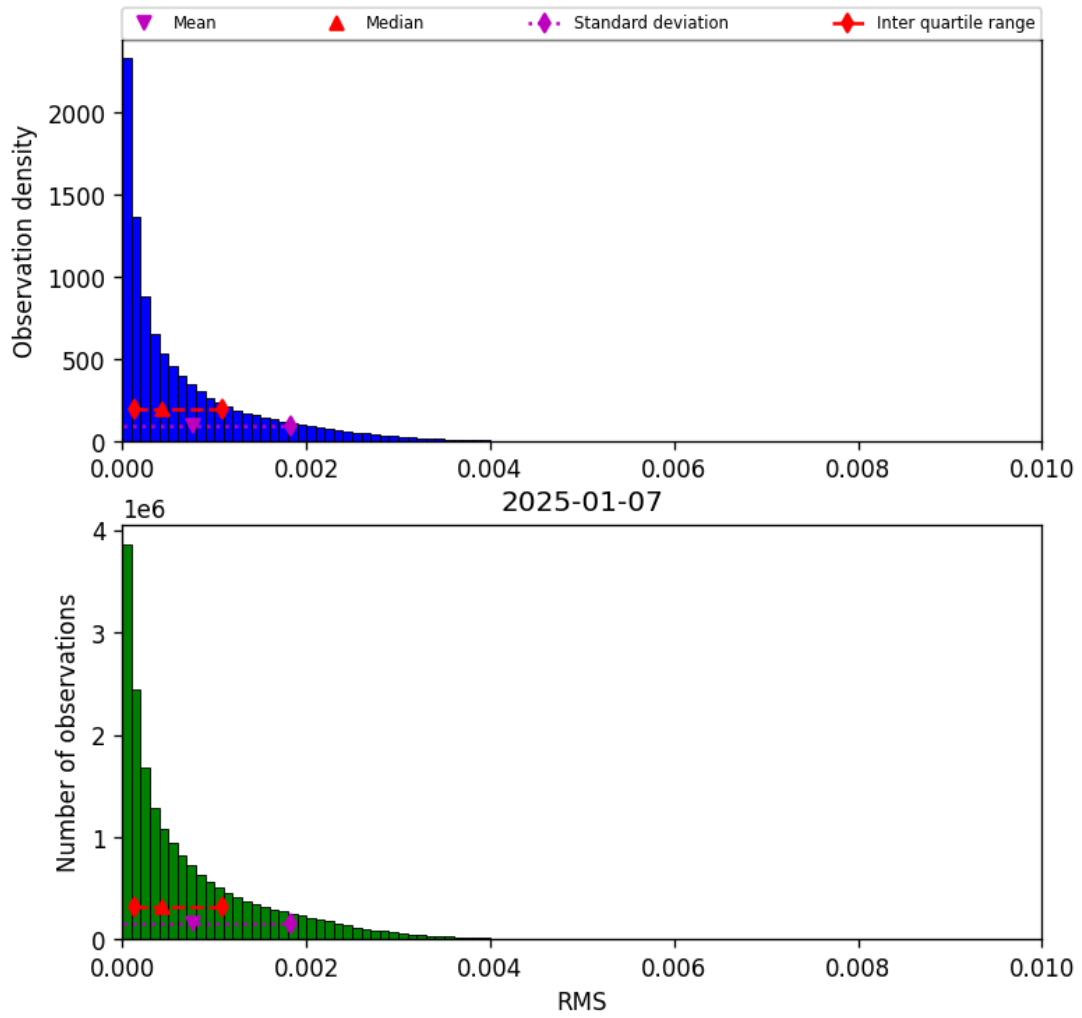


Figure 45: Histogram of “RMS” for 2025-01-07 to 2025-01-08

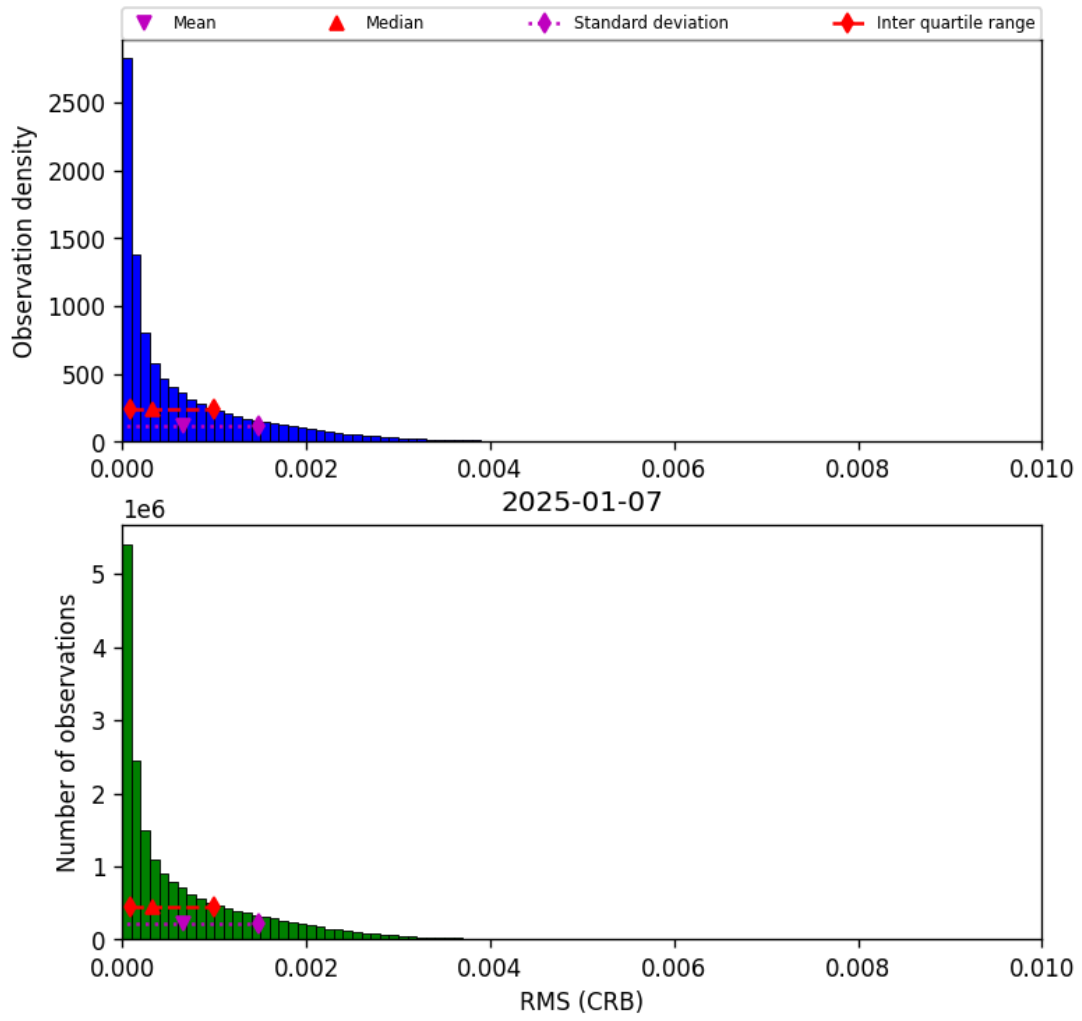


Figure 46: Histogram of “RMS (CRB)” for 2025-01-07 to 2025-01-08

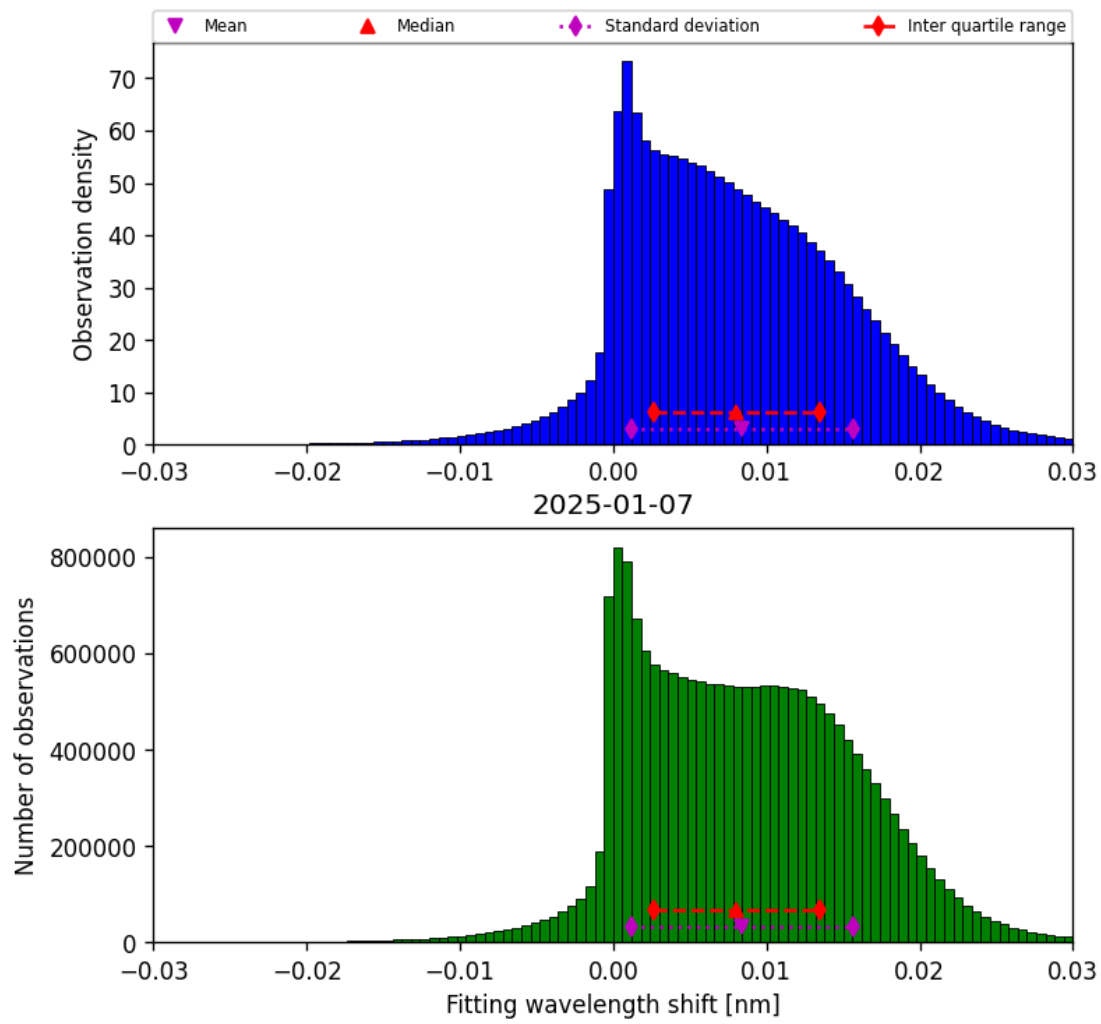


Figure 47: Histogram of “Fitting wavelength shift” for 2025-01-07 to 2025-01-08

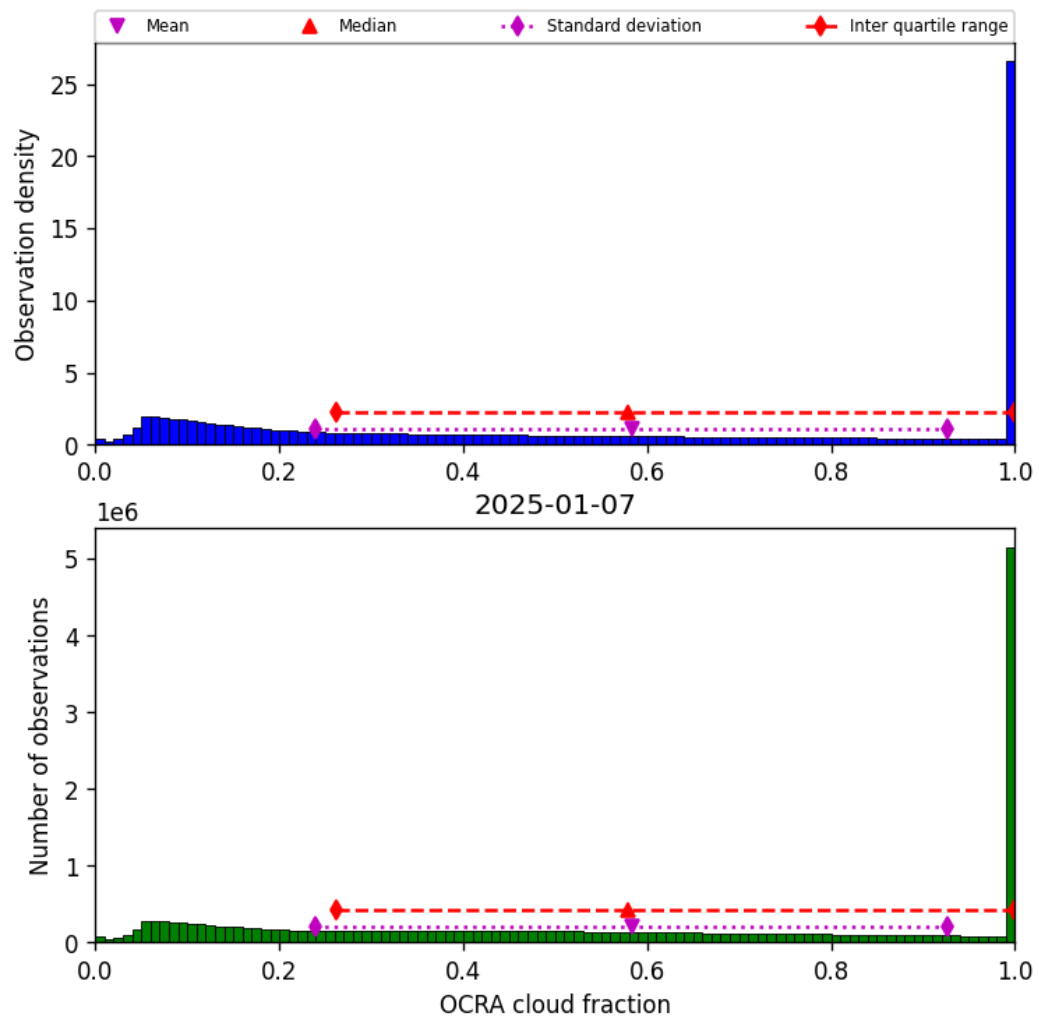


Figure 48: Histogram of “OCRA cloud fraction” for 2025-01-07 to 2025-01-08

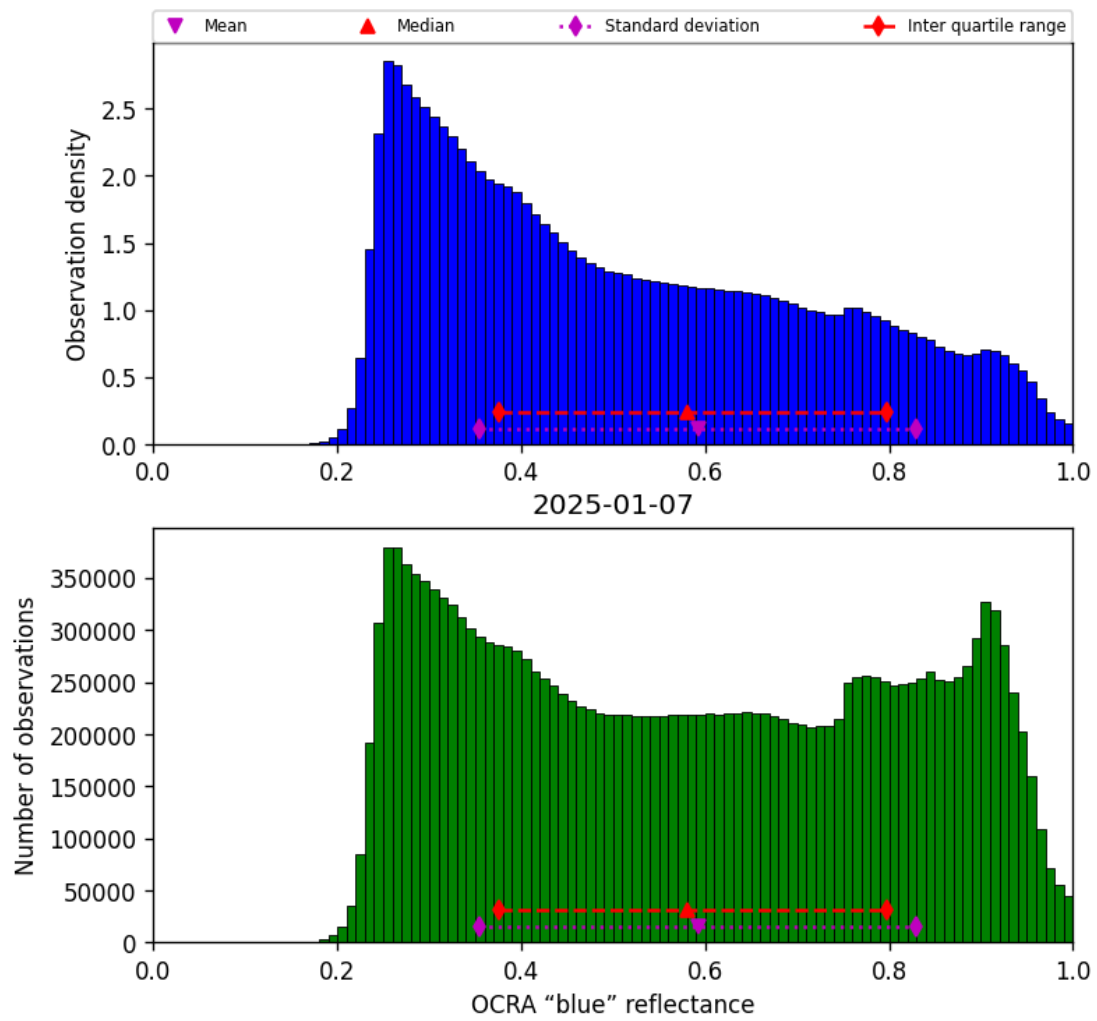


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-01-07 to 2025-01-08

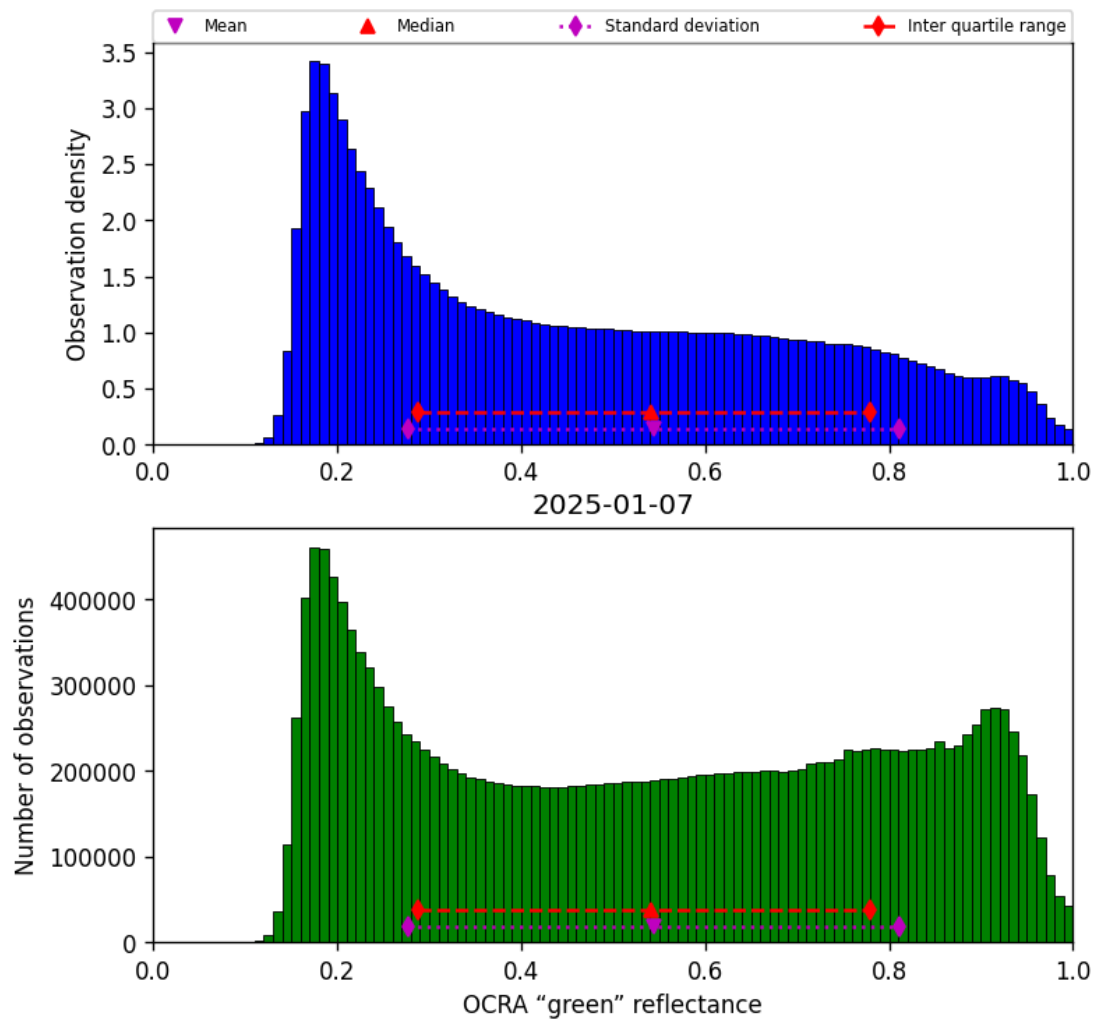


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-01-07 to 2025-01-08

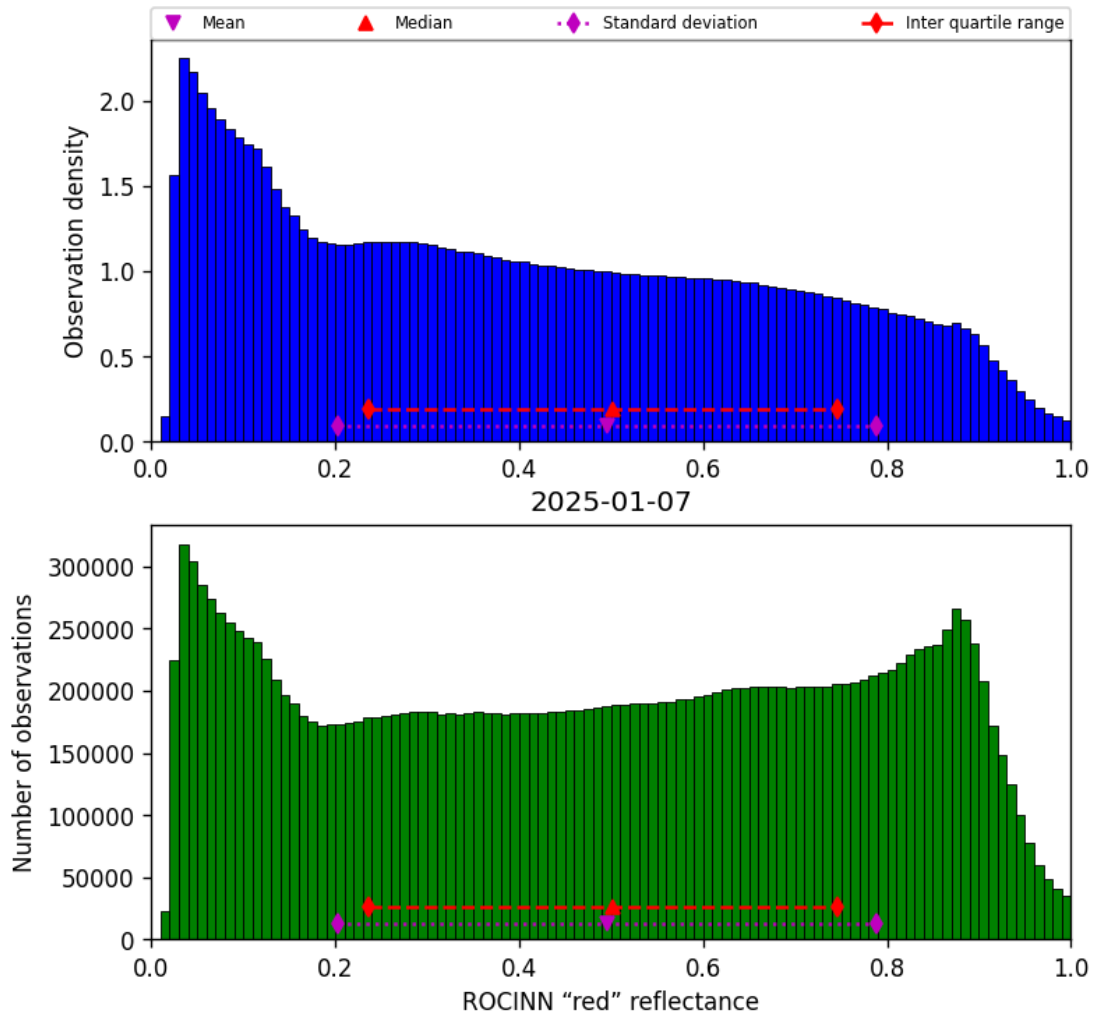


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-01-07 to 2025-01-08

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.

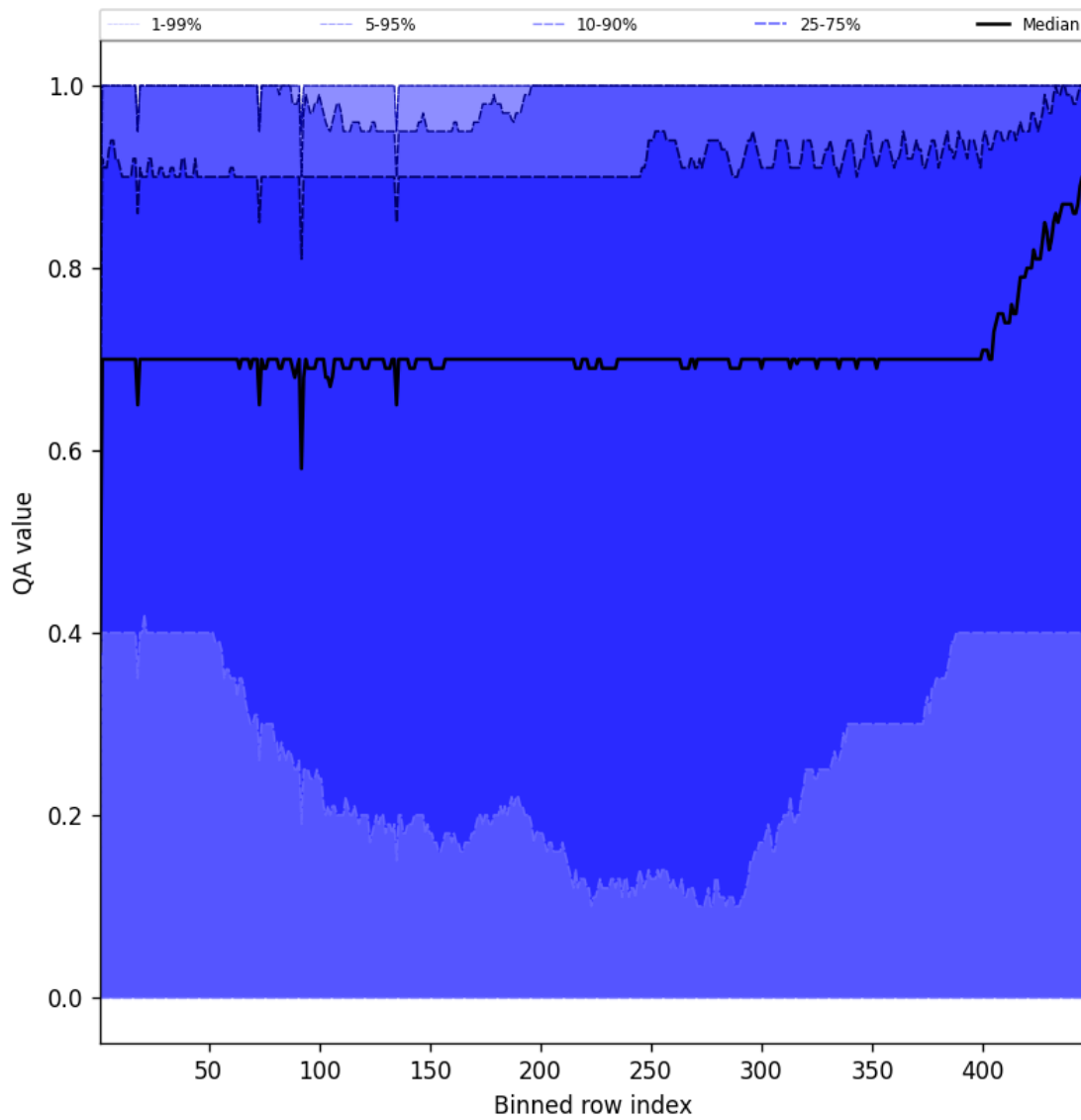


Figure 52: Along track statistics of “QA value” for 2025-01-07 to 2025-01-08

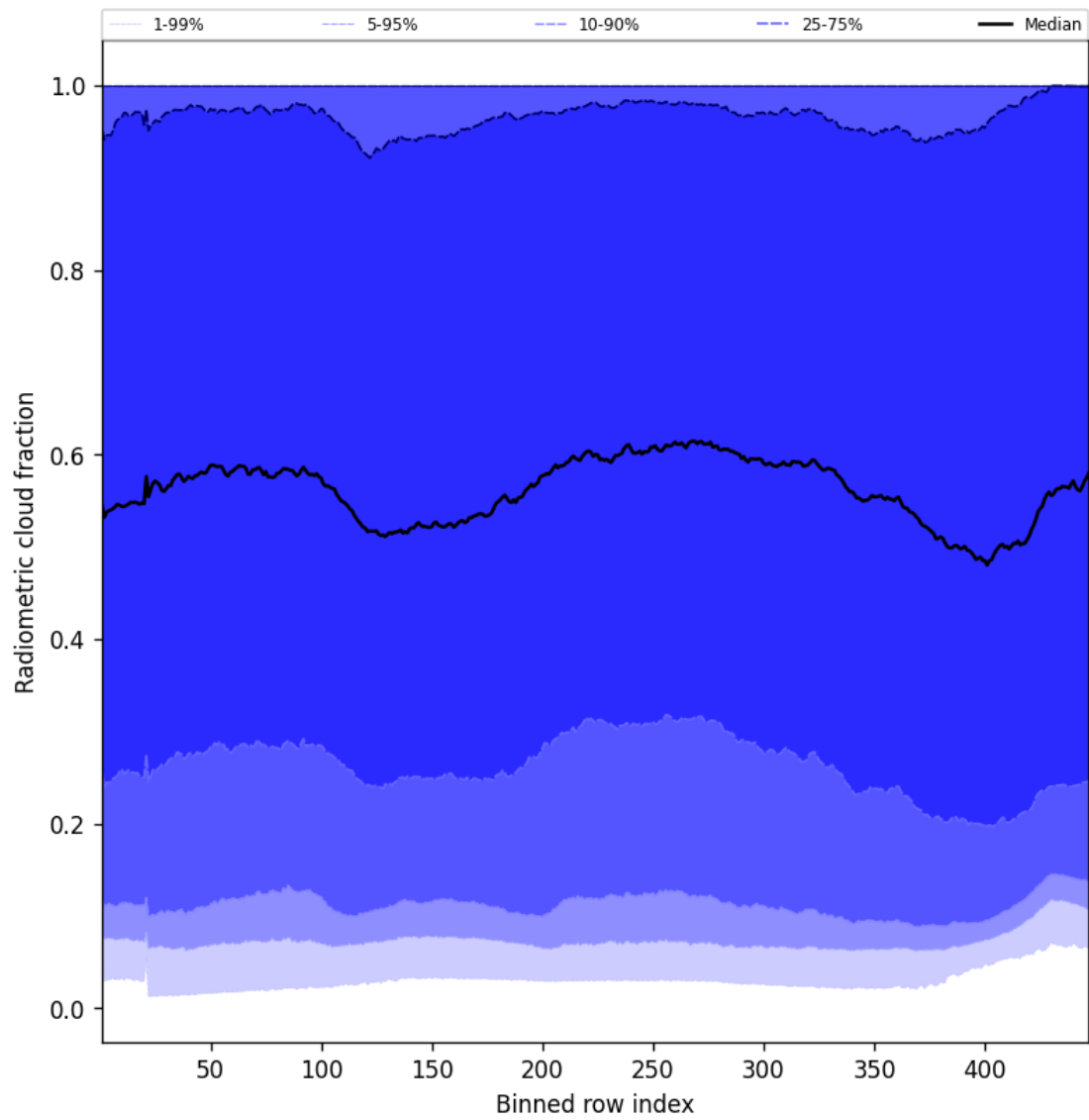


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-01-07 to 2025-01-08

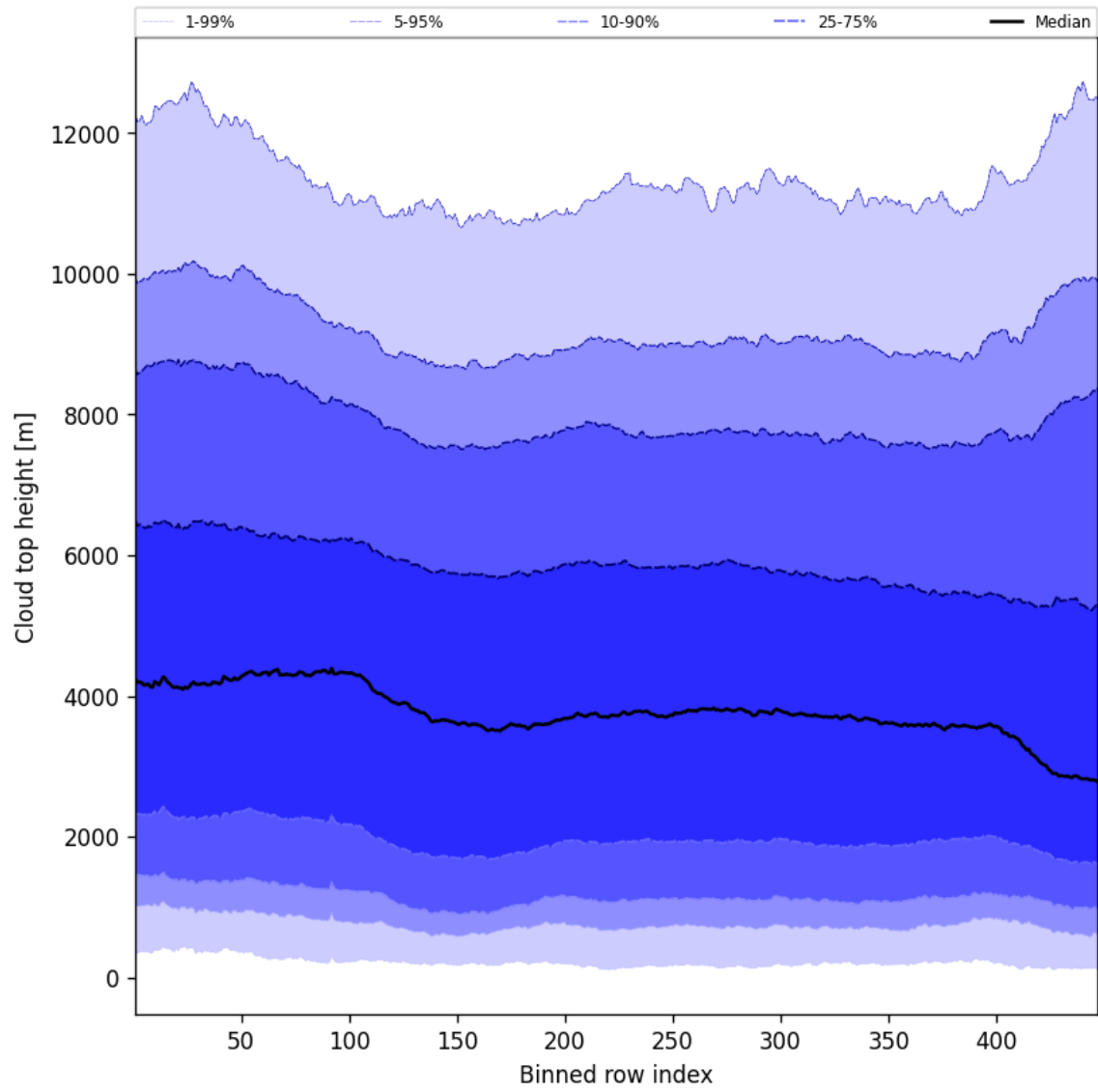


Figure 54: Along track statistics of “Cloud top height” for 2025-01-07 to 2025-01-08

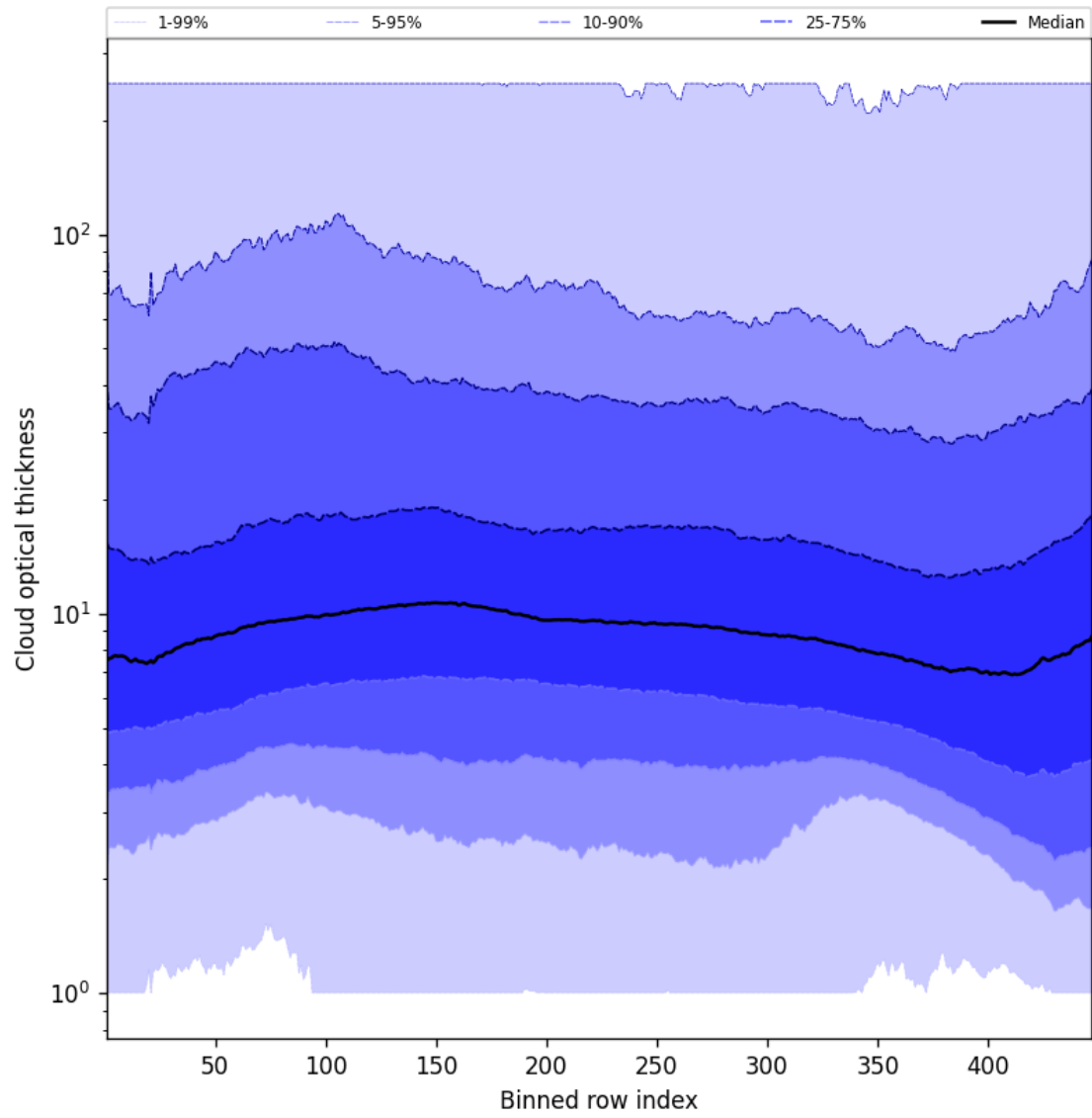


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-01-07 to 2025-01-08

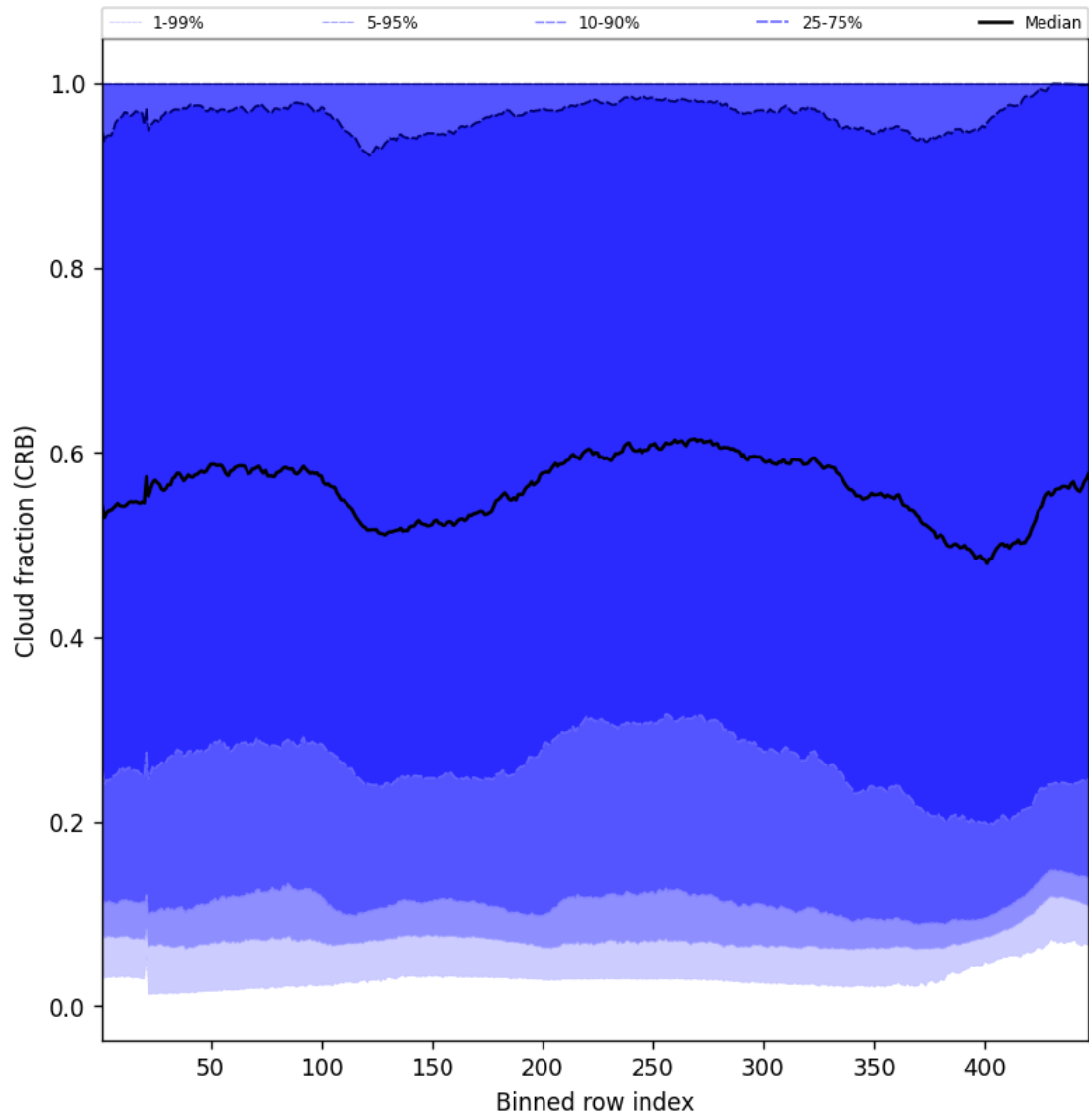


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-01-07 to 2025-01-08

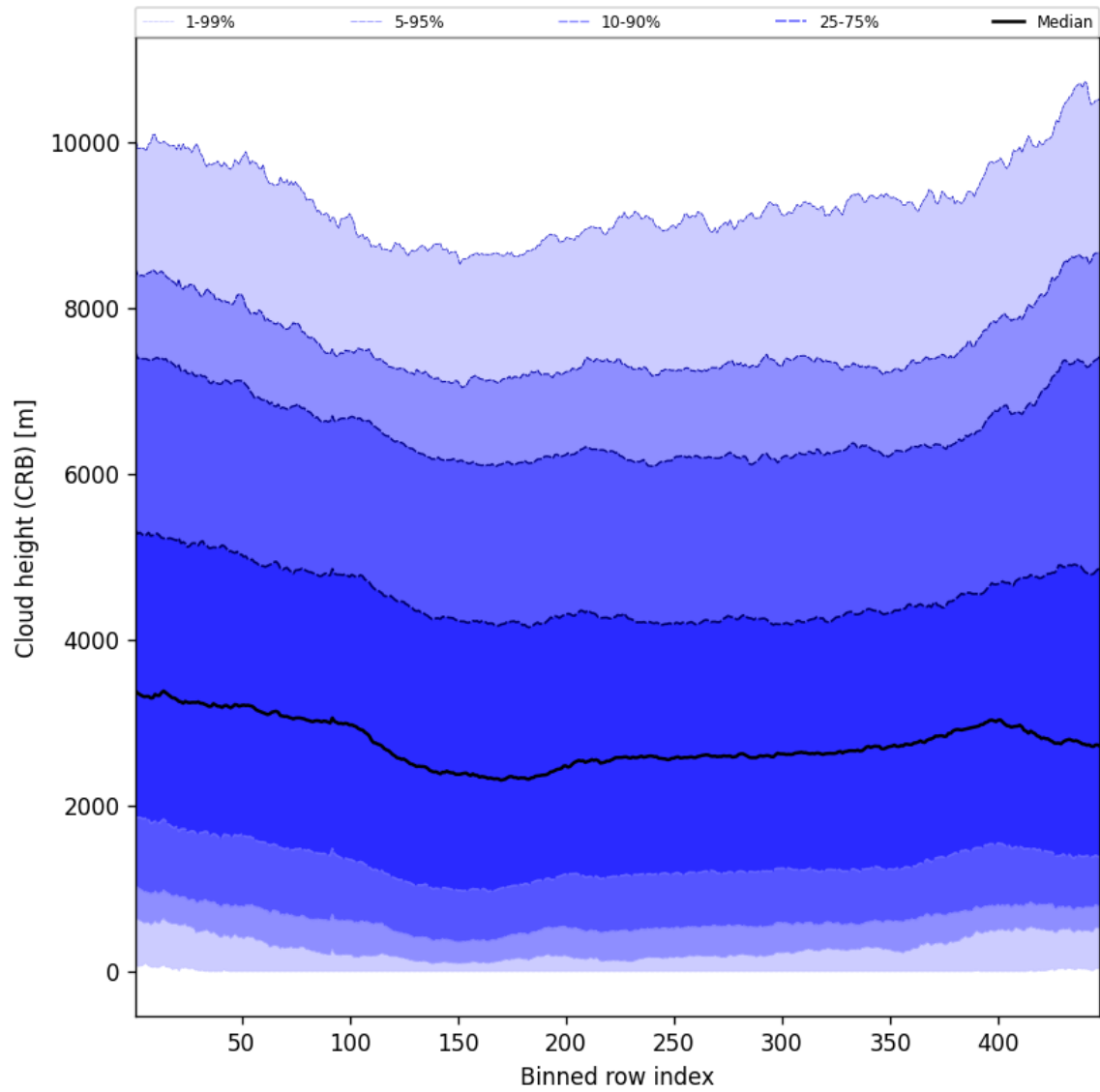


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-01-07 to 2025-01-08

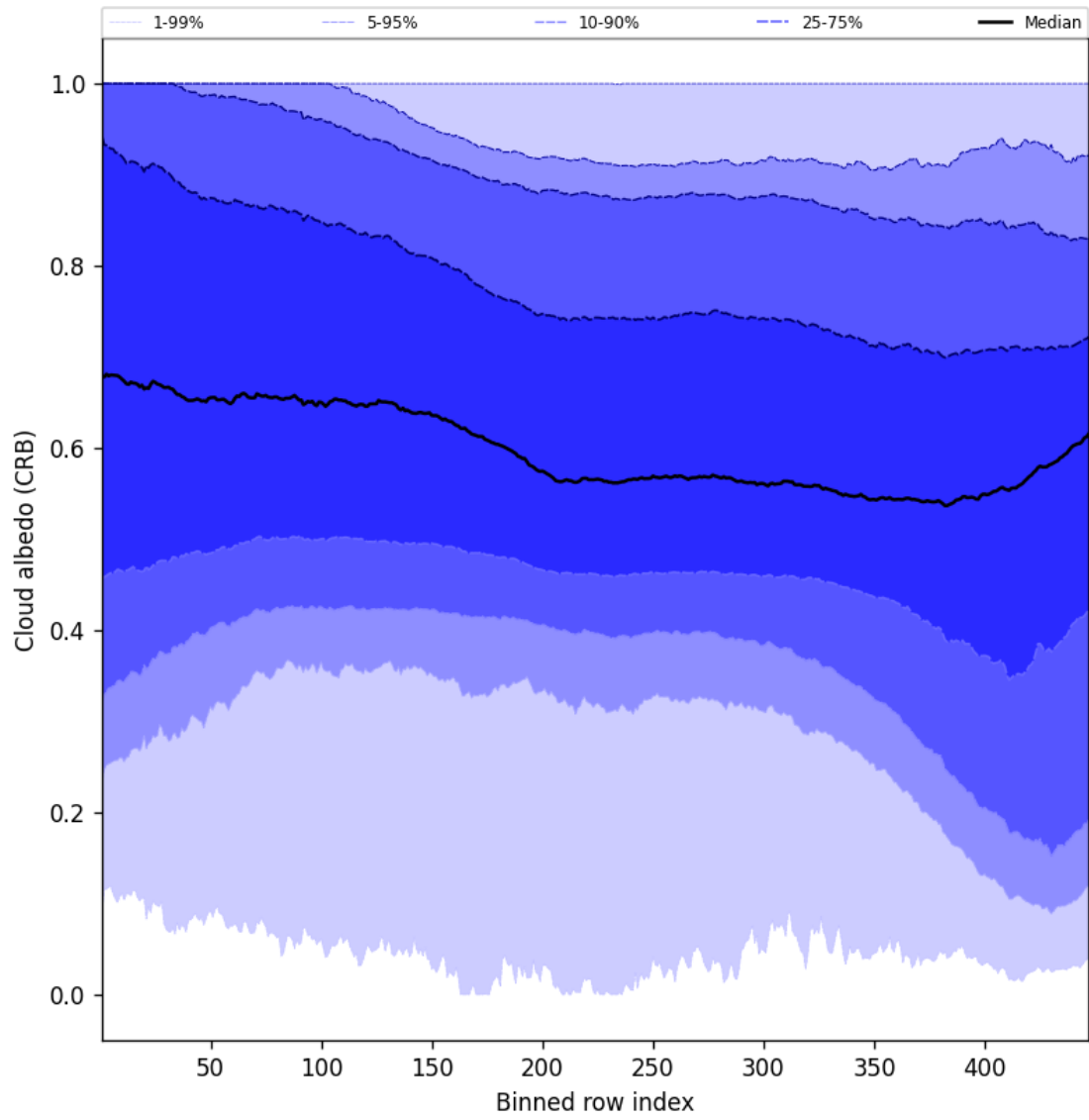


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-01-07 to 2025-01-08

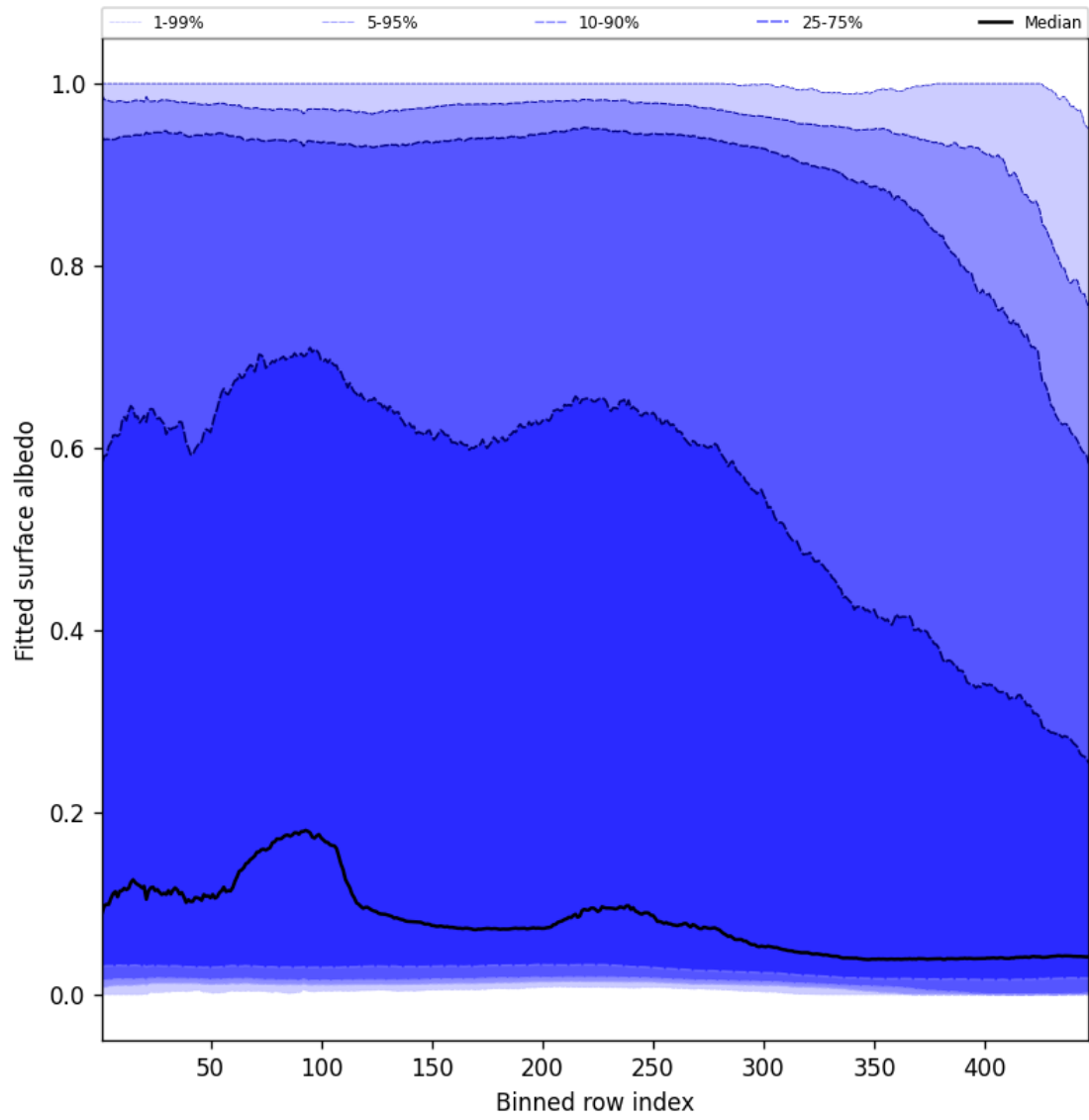


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-01-07 to 2025-01-08

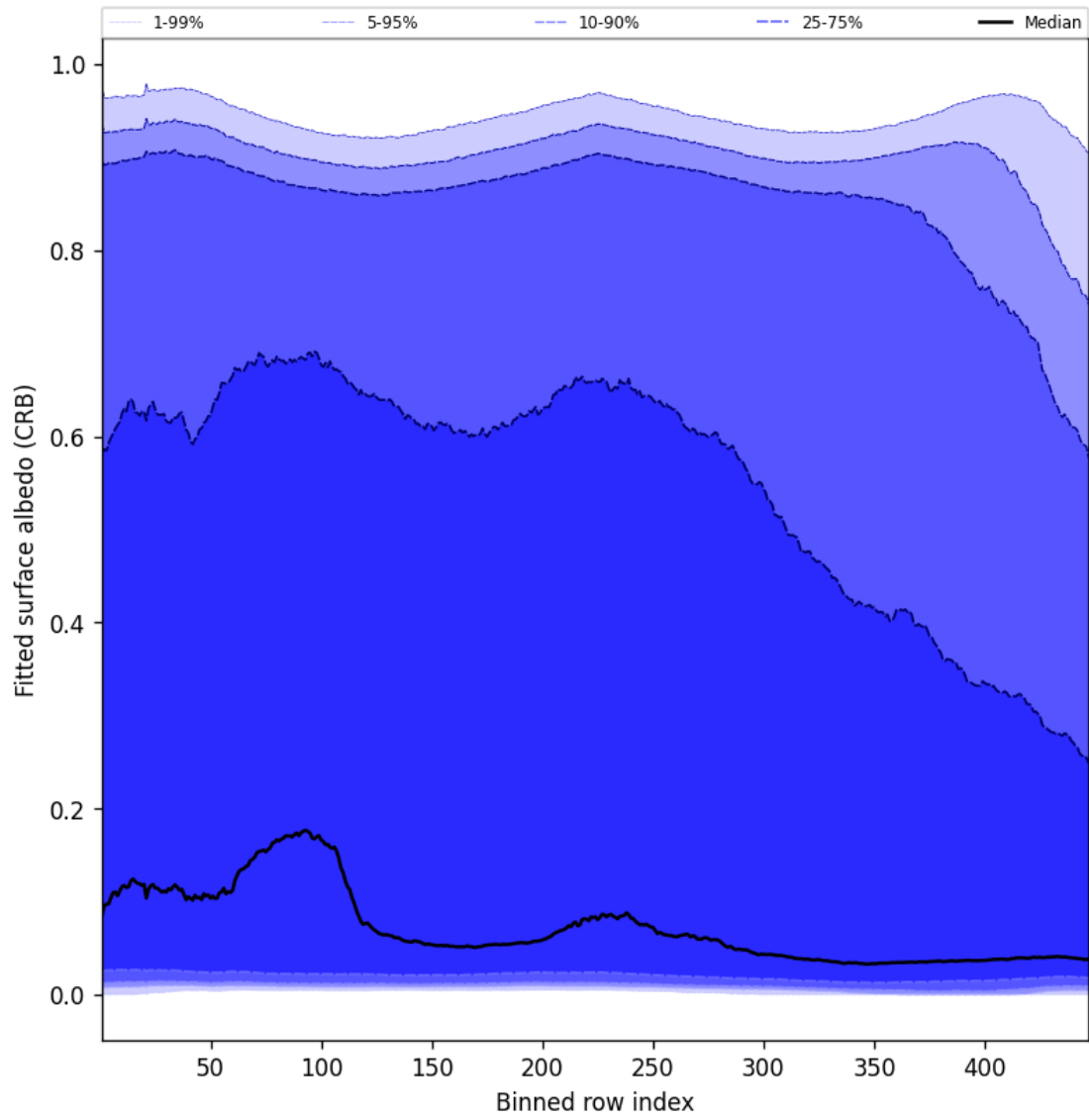


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-01-07 to 2025-01-08

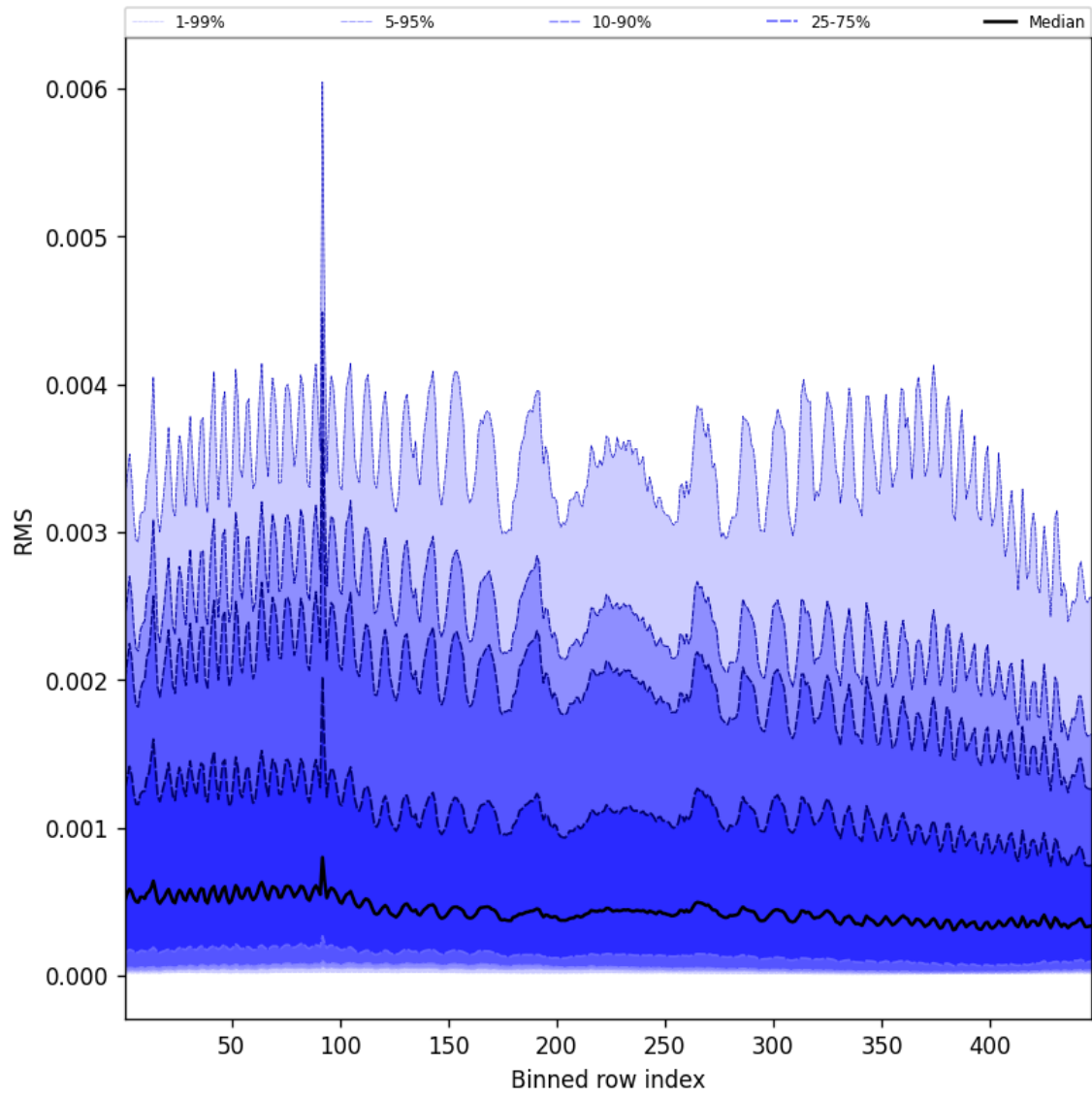


Figure 61: Along track statistics of “RMS” for 2025-01-07 to 2025-01-08

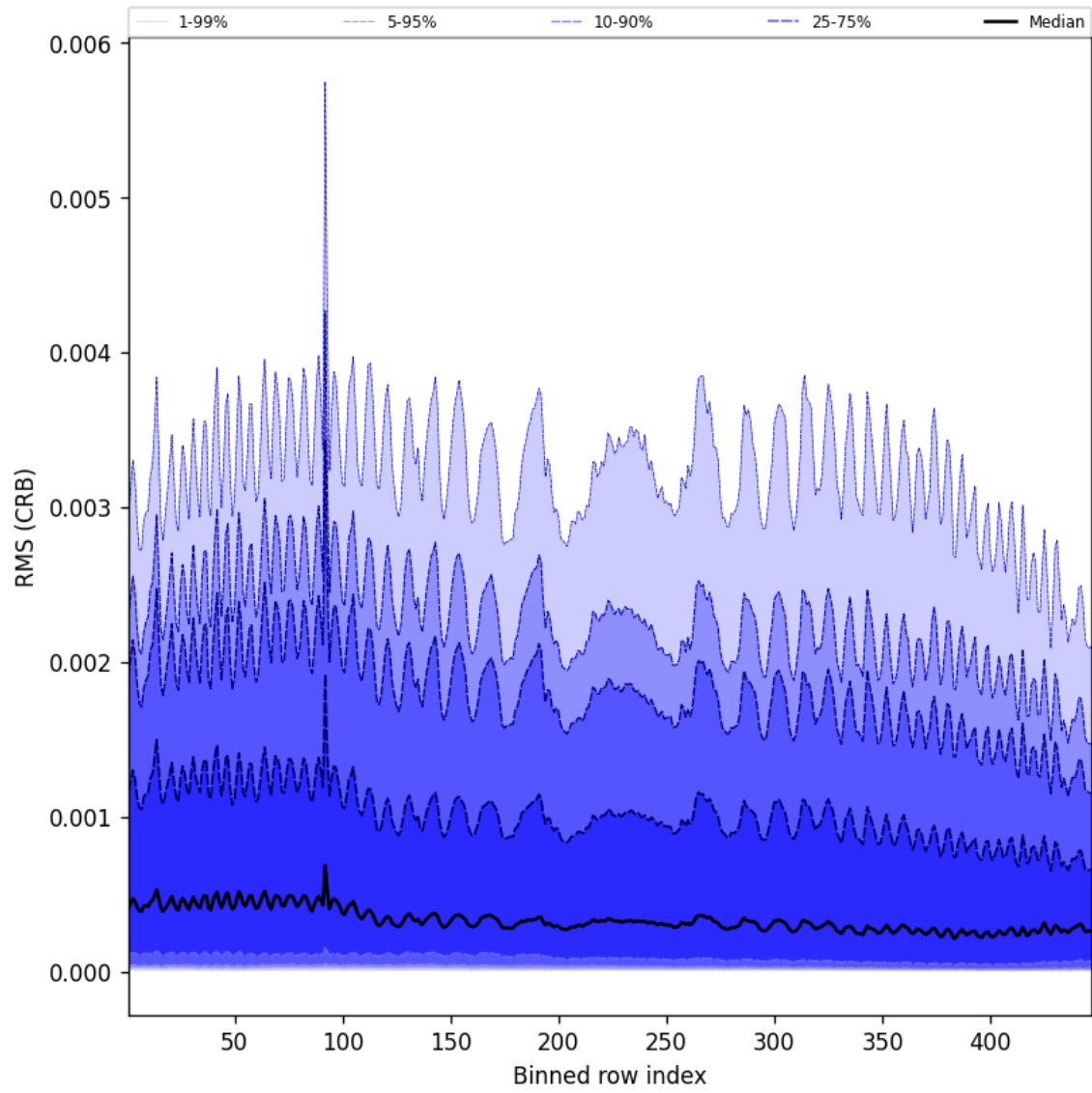


Figure 62: Along track statistics of “RMS (CRB)” for 2025-01-07 to 2025-01-08

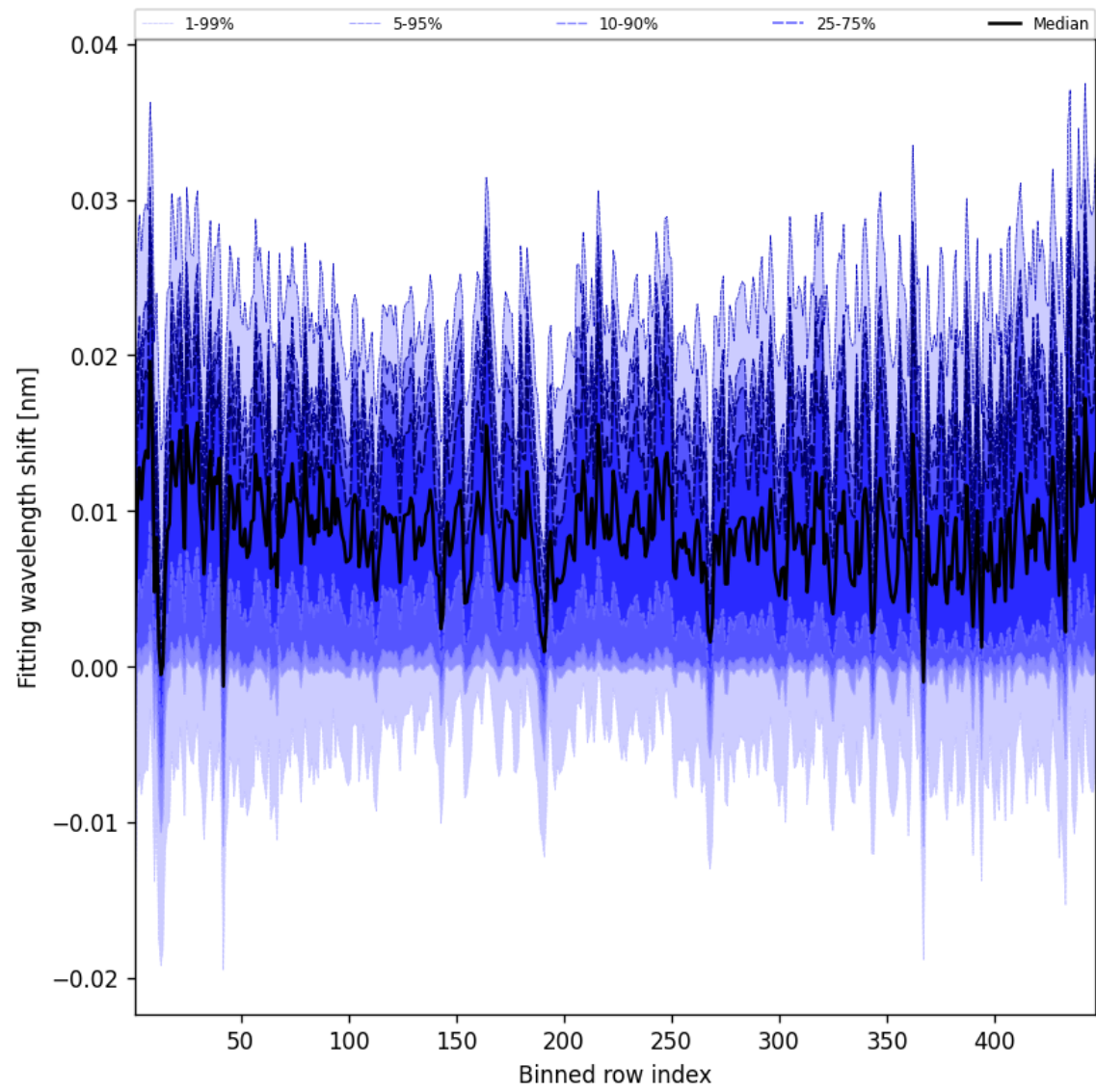


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-01-07 to 2025-01-08

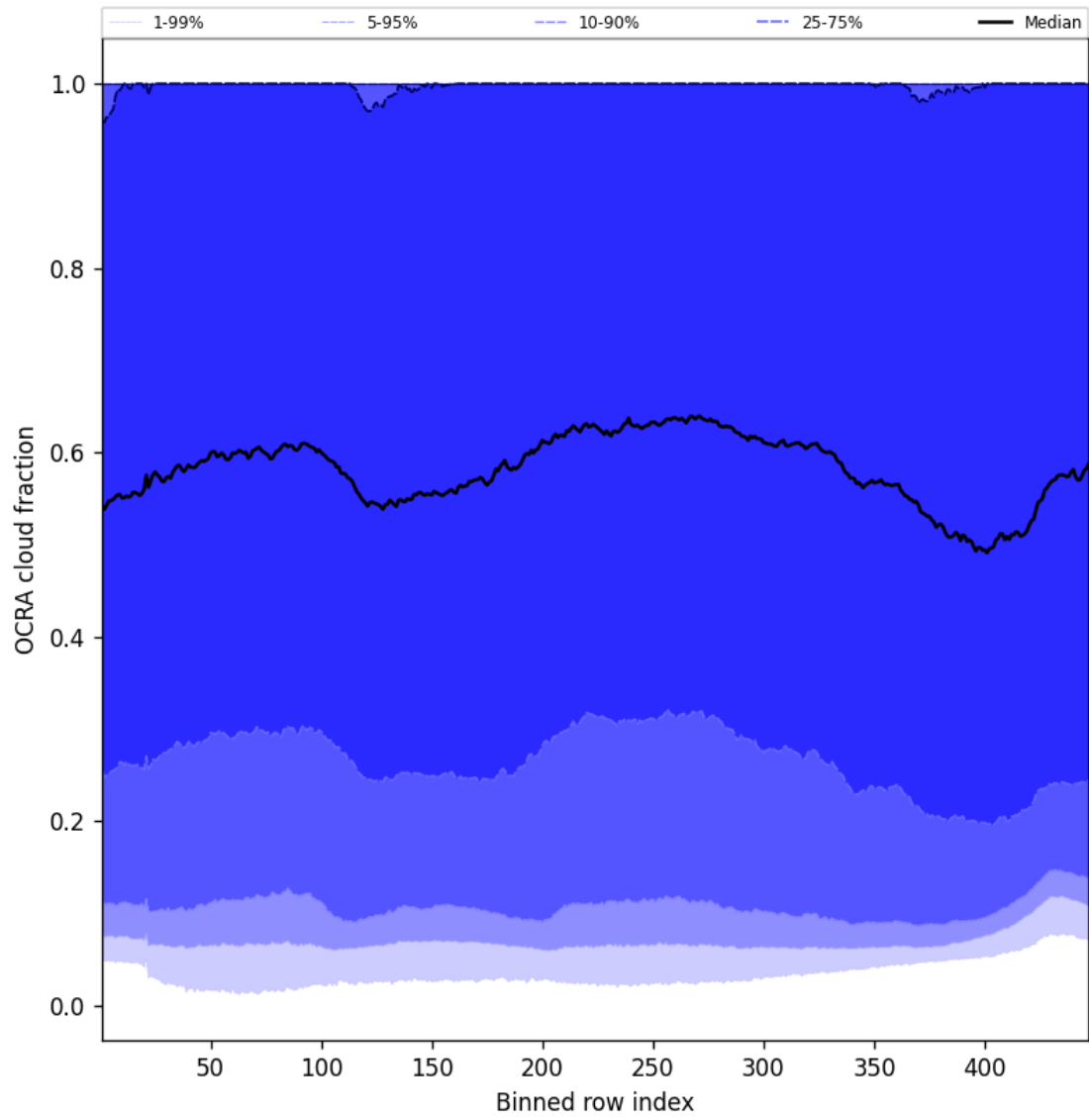


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-01-07 to 2025-01-08

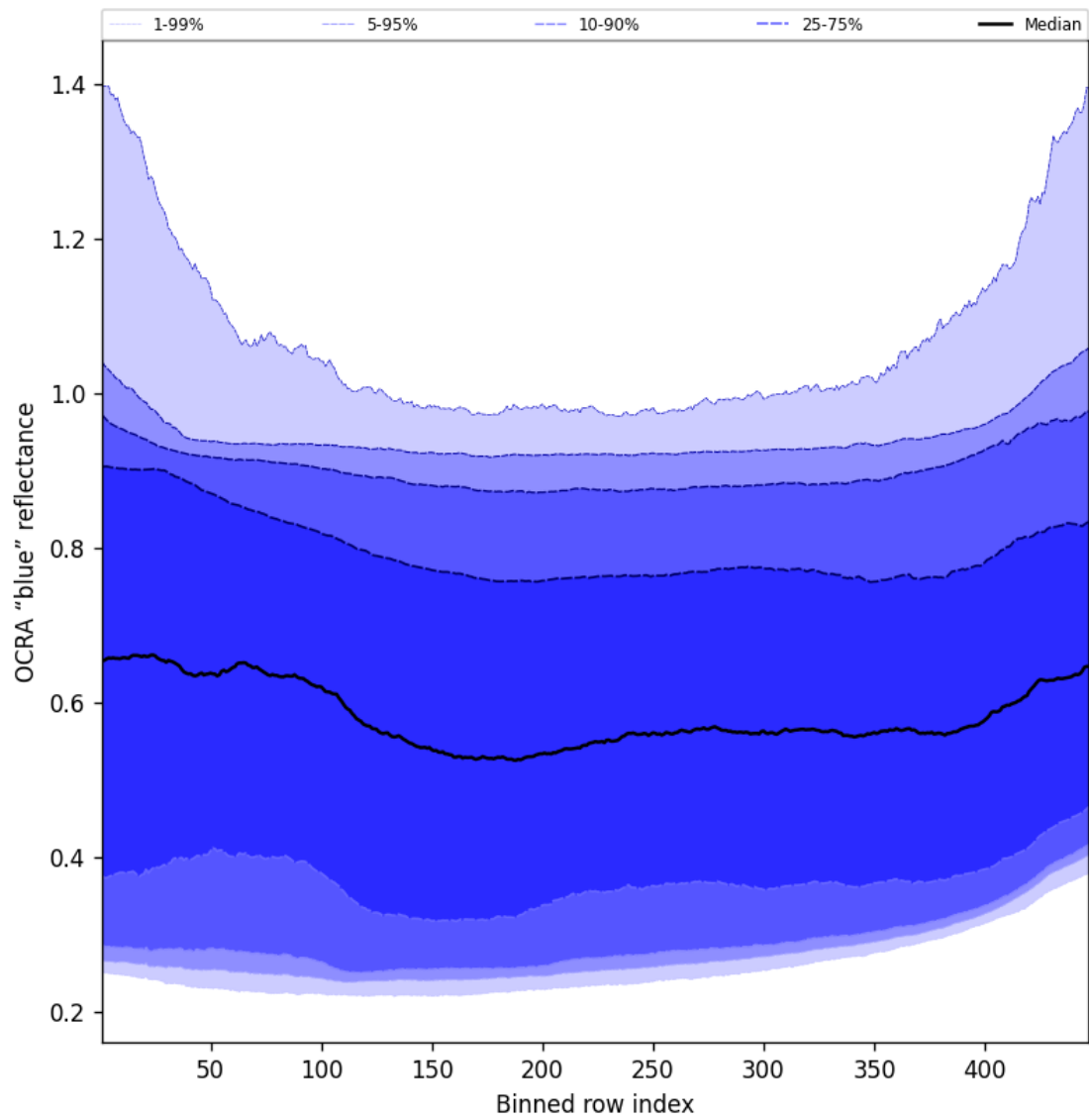


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-01-07 to 2025-01-08

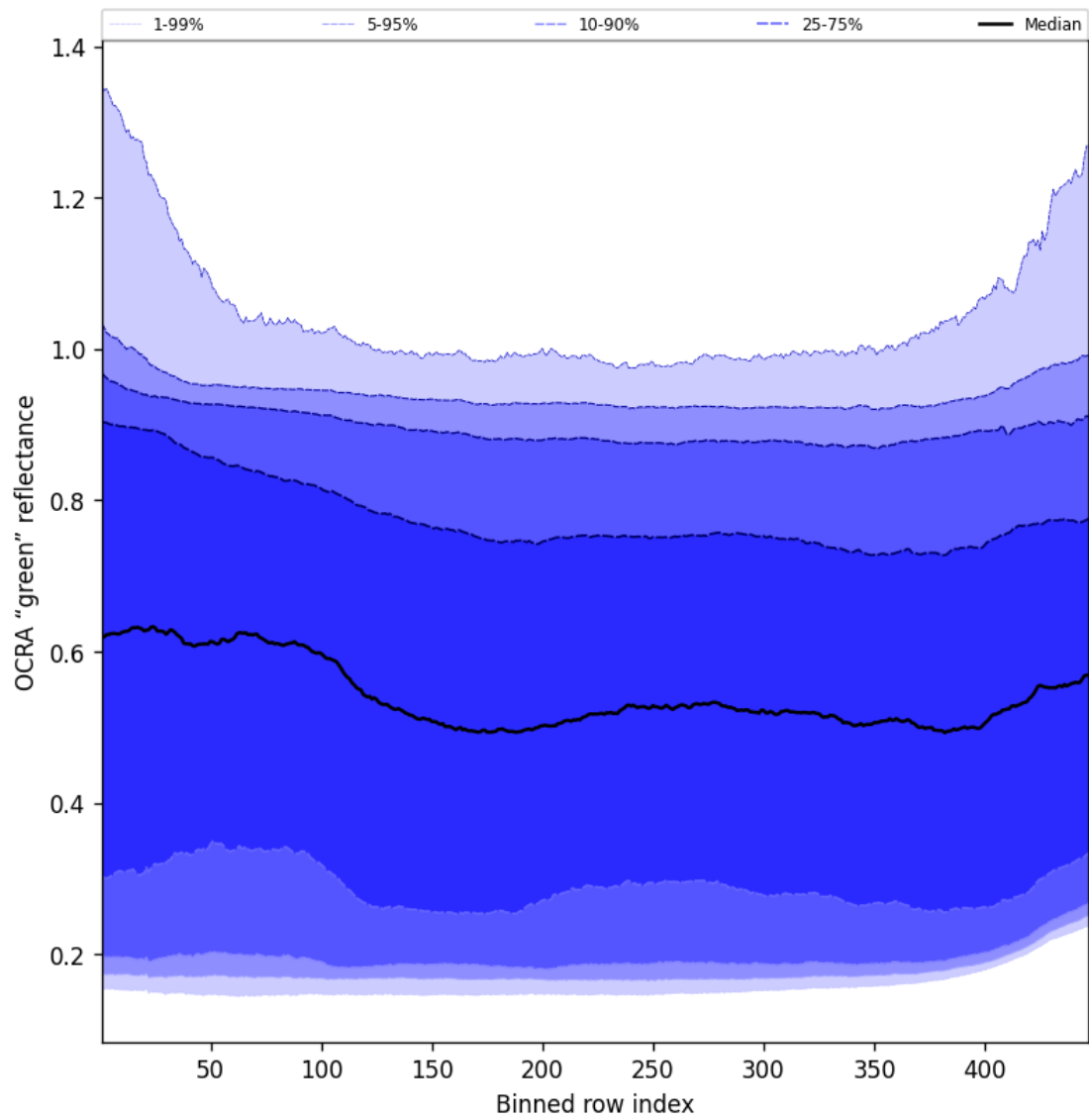


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-01-07 to 2025-01-08

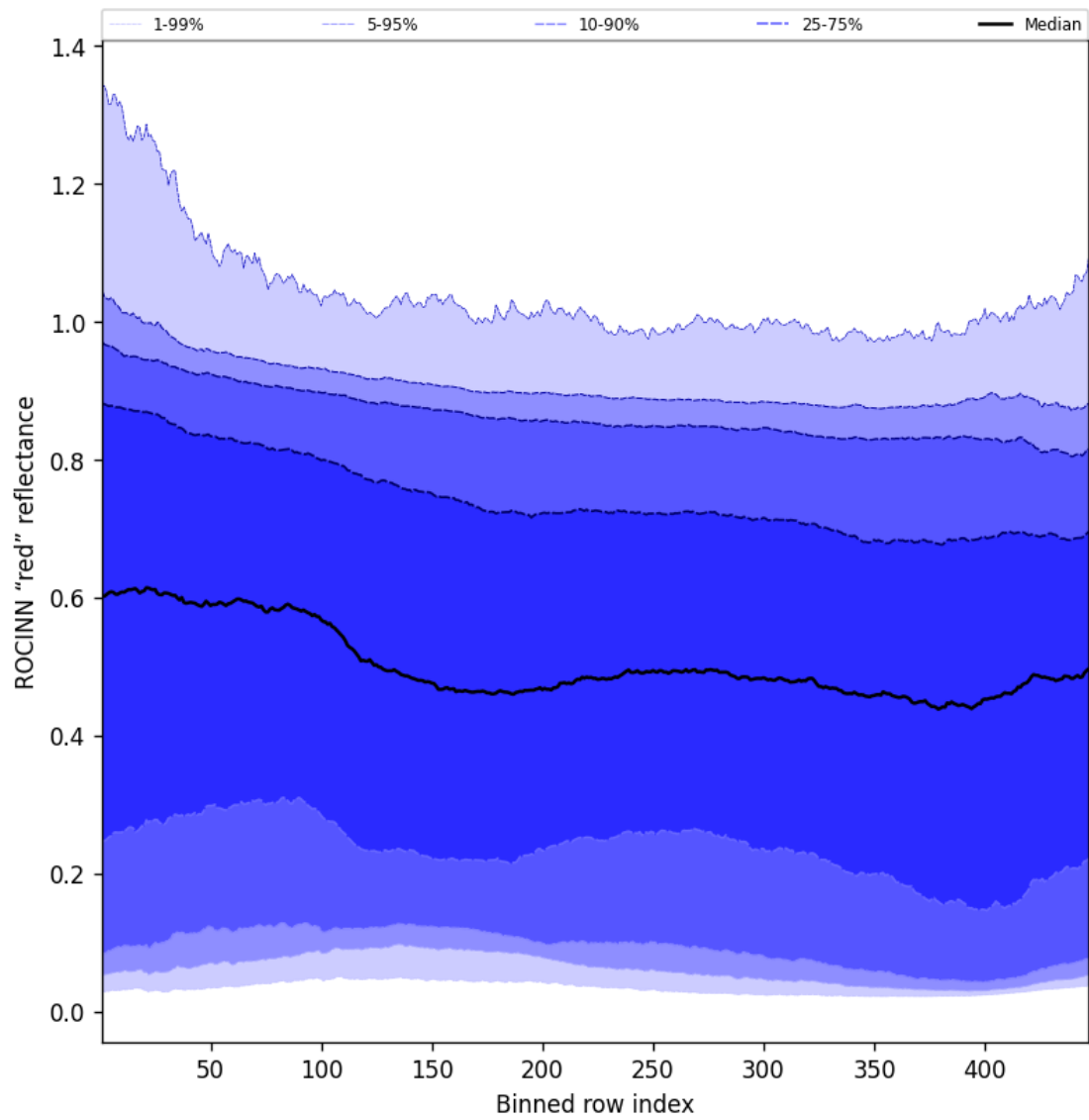


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-01-07 to 2025-01-08

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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