

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-12 (04:30)

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]	0.607 ± 0.386	18328253	5.000×10^{-3}	0.680	0.770	0.0	1.000
cloud fraction [1]	0.536 ± 0.346	18328253	0.995	0.729	0.472	5.174×10^{-3}	1.000
cloud top height [m]	$(0.399 \pm 0.266) \times 10^4$	18328253	1.725×10^3	3.637×10^3	3.378×10^3	0.0	2.000×10^4
cloud optical thickness [1]	16.8 ± 30.7	18328253	9.34	9.29	8.79	1.000	250
cloud fraction crb [1]	0.535 ± 0.346	18328253	0.995	0.728	0.472	8.218×10^{-3}	1.000
cloud height crb [m]	$(0.313 \pm 0.227) \times 10^4$	18328253	1.125×10^3	3.122×10^3	2.652×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.592 ± 0.219	18328253	0.995	0.281	0.572	0.0	1.000
surface albedo fitted [1]	0.271 ± 0.328	18328253	2.500×10^{-2}	0.517	5.399×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.259 ± 0.316	18328253	1.500×10^{-2}	0.520	4.497×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.568 \pm 9.607) \times 10^{-4}$	18328253	5.000×10^{-5}	7.521×10^{-4}	4.147×10^{-4}	1.173×10^{-6}	0.798
fitted root mean square crb [1]	$(5.715 \pm 7.852) \times 10^{-4}$	18328253	5.000×10^{-5}	6.734×10^{-4}	3.032×10^{-4}	1.242×10^{-6}	0.344
wavelength shift [nm]	$(7.600 \pm 6.893) \times 10^{-3}$	18328253	9.000×10^{-4}	9.504×10^{-3}	7.143×10^{-3}	-4.590×10^{-2}	0.365
cloud fraction apriori [1]	0.543 ± 0.351	18328253	0.995	0.779	0.484	0.0	1.000
reflectance blue ocra [1]	0.577 ± 0.237	18328253	0.255	0.410	0.558	0.134	2.04
reflectance green ocra [1]	0.527 ± 0.264	18328253	0.175	0.483	0.516	7.852×10^{-2}	1.98
reflectance continuum aband [1]	0.479 ± 0.287	18328253	4.500×10^{-2}	0.493	0.489	1.230×10^{-2}	6.07

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	0.260	0.940	1.000	1.000	1.000	1.000
cloud fraction [1]	2.514×10^{-2}	6.458×10^{-2}	9.886×10^{-2}	0.142	0.218	0.947	1.000	1.000	1.000	1.000
cloud top height [m]	306	852	1.167×10^3	1.468×10^3	1.902×10^3	5.539×10^3	6.773×10^3	7.852×10^3	9.194×10^3	1.158×10^4
cloud optical thickness [1]	1.000	2.55	3.66	4.51	5.42	14.7	21.8	32.2	53.5	233
cloud fraction crb [1]	2.492×10^{-2}	6.389×10^{-2}	9.859×10^{-2}	0.142	0.219	0.946	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	371	662	929	1.302×10^3	4.423×10^3	5.442×10^3	6.439×10^3	7.680×10^3	9.538×10^3
cloud albedo crb [1]	0.0	0.217	0.337	0.407	0.460	0.742	0.834	0.910	0.994	1.000
surface albedo fitted [1]	0.0	9.090×10^{-3}	1.408×10^{-2}	1.858×10^{-2}	2.526×10^{-2}	0.543	0.754	0.835	0.909	0.996
surface albedo fitted crb [1]	5.731×10^{-4}	7.164×10^{-3}	1.062×10^{-2}	1.407×10^{-2}	1.954×10^{-2}	0.540	0.722	0.791	0.865	0.949
fitted root mean square [1]	1.632×10^{-5}	3.106×10^{-5}	4.932×10^{-5}	7.813×10^{-5}	1.397×10^{-4}	8.918×10^{-4}	1.212×10^{-3}	1.565×10^{-3}	2.105×10^{-3}	3.351×10^{-3}
fitted root mean square crb [1]	9.695×10^{-6}	2.156×10^{-5}	3.587×10^{-5}	5.614×10^{-5}	9.777×10^{-5}	7.712×10^{-4}	1.117×10^{-3}	1.491×10^{-3}	2.045×10^{-3}	3.201×10^{-3}
wavelength shift [nm]	-8.870×10^{-3}	-1.369×10^{-3}	3.466×10^{-5}	9.955×10^{-4}	2.564×10^{-3}	1.207×10^{-2}	1.438×10^{-2}	1.641×10^{-2}	1.915×10^{-2}	2.529×10^{-2}
cloud fraction apriori [1]	2.602×10^{-2}	6.282×10^{-2}	9.526×10^{-2}	0.139	0.218	0.998	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.235	0.257	0.280	0.310	0.362	0.772	0.827	0.875	0.942	1.17
reflectance green ocra [1]	0.152	0.172	0.190	0.217	0.271	0.755	0.816	0.864	0.928	1.11
reflectance continuum aband [1]	2.991×10^{-2}	5.166×10^{-2}	8.214×10^{-2}	0.126	0.224	0.717	0.788	0.840	0.907	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]	0.535 ± 0.392	8761458	0.900	0.680	0.0	1.000	0.0	0.900
cloud fraction [1]	0.494 ± 0.338	8761458	0.647	0.411	5.174×10^{-3}	1.000	0.194	0.842
cloud top height [m]	$(0.379 \pm 0.261) \times 10^4$	8761458	3.235×10^3	3.225×10^3	0.0	2.000×10^4	1.829×10^3	5.064×10^3
cloud optical thickness [1]	17.8 ± 36.2	8761458	8.06	8.23	1.000	250	5.41	13.5
cloud fraction crb [1]	0.494 ± 0.338	8761458	0.646	0.412	8.218×10^{-3}	1.000	0.195	0.841
cloud height crb [m]	$(0.292 \pm 0.215) \times 10^4$	8761458	2.932×10^3	2.530×10^3	0.0	2.000×10^4	1.201×10^3	4.133×10^3
cloud albedo crb [1]	0.609 ± 0.238	8761458	0.330	0.592	0.0	1.000	0.459	0.789
surface albedo fitted [1]	0.324 ± 0.314	8761458	0.584	0.213	0.0	1.000	3.664×10^{-2}	0.621
surface albedo fitted crb [1]	0.310 ± 0.298	8761458	0.581	0.211	0.0	1.000	2.893×10^{-2}	0.610
fitted root mean square [1]	$(6.950 \pm 10.133) \times 10^{-4}$	8761458	7.650×10^{-4}	4.376×10^{-4}	1.313×10^{-6}	0.235	1.562×10^{-4}	9.212×10^{-4}
fitted root mean square crb [1]	$(5.615 \pm 7.625) \times 10^{-4}$	8761458	6.360×10^{-4}	2.900×10^{-4}	1.242×10^{-6}	0.265	9.294×10^{-5}	7.289×10^{-4}
wavelength shift [nm]	$(7.805 \pm 7.096) \times 10^{-3}$	8761458	9.898×10^{-3}	7.291×10^{-3}	-4.590×10^{-2}	6.649×10^{-2}	2.534×10^{-3}	1.243×10^{-2}
cloud fraction apriori [1]	0.506 ± 0.343	8761458	0.683	0.427	0.0	1.000	0.198	0.880
reflectance blue oca [1]	0.581 ± 0.243	8761458	0.413	0.567	0.134	2.04	0.359	0.772
reflectance green oca [1]	0.533 ± 0.268	8761458	0.485	0.529	7.852×10^{-2}	1.98	0.272	0.757
reflectance continuum aband [1]	0.491 ± 0.288	8761458	0.487	0.504	1.254×10^{-2}	4.21	0.238	0.724

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]	0.673 ± 0.369	9566795	0.580	0.880	0.0	1.000	0.400	0.980
cloud fraction [1]	0.574 ± 0.349	9566795	0.748	0.545	7.570×10^{-3}	1.000	0.245	0.993
cloud top height [m]	$(0.418 \pm 0.270) \times 10^4$	9566795	3.997×10^3	3.546×10^3	0.0	2.000×10^4	1.969×10^3	5.966×10^3
cloud optical thickness [1]	15.9 ± 24.6	9566795	10.4	9.37	1.000	250	5.43	15.8
cloud fraction crb [1]	0.573 ± 0.349	9566795	0.748	0.544	8.398×10^{-3}	1.000	0.245	0.993
cloud height crb [m]	$(0.332 \pm 0.236) \times 10^4$	9566795	3.364×10^3	2.770×10^3	0.0	2.000×10^4	1.396×10^3	4.760×10^3
cloud albedo crb [1]	0.577 ± 0.199	9566795	0.241	0.558	0.0	1.000	0.461	0.702
surface albedo fitted [1]	0.223 ± 0.333	9566795	0.259	3.624×10^{-2}	0.0	1.000	2.001×10^{-2}	0.279
surface albedo fitted crb [1]	0.213 ± 0.325	9566795	0.260	2.928×10^{-2}	0.0	1.000	1.519×10^{-2}	0.275
fitted root mean square [1]	$(6.219 \pm 9.084) \times 10^{-4}$	9566795	7.385×10^{-4}	3.935×10^{-4}	1.173×10^{-6}	0.798	1.261×10^{-4}	8.646×10^{-4}
fitted root mean square crb [1]	$(5.806 \pm 8.053) \times 10^{-4}$	9566795	7.062×10^{-4}	3.169×10^{-4}	1.605×10^{-6}	0.344	1.021×10^{-4}	8.084×10^{-4}
wavelength shift [nm]	$(7.412 \pm 6.697) \times 10^{-3}$	9566795	9.166×10^{-3}	7.016×10^{-3}	-4.523×10^{-2}	0.365	2.590×10^{-3}	1.176×10^{-2}
cloud fraction apriori [1]	0.577 ± 0.354	9566795	0.759	0.551	0.0	1.000	0.241	1.000
reflectance blue ocra [1]	0.572 ± 0.232	9566795	0.407	0.551	0.138	2.01	0.365	0.772
reflectance green ocra [1]	0.520 ± 0.261	9566795	0.480	0.507	8.834×10^{-2}	1.90	0.271	0.751
reflectance continuum aband [1]	0.469 ± 0.286	9566795	0.500	0.477	1.230×10^{-2}	6.07	0.209	0.709

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]	0.681 ± 0.363	12027003	0.590	0.900	0.0	1.000	0.400	0.990
cloud fraction [1]	0.562 ± 0.360	12027003	0.784	0.538	7.570×10^{-3}	1.000	0.208	0.992
cloud top height [m]	$(0.348 \pm 0.229) \times 10^4$	12027003	2.870×10^3	2.910×10^3	0.0	2.000×10^4	1.743×10^3	4.613×10^3
cloud optical thickness [1]	17.4 ± 27.7	12027003	9.69	9.81	1.000	250	6.51	16.2
cloud fraction crb [1]	0.561 ± 0.360	12027003	0.784	0.537	8.398×10^{-3}	1.000	0.208	0.992
cloud height crb [m]	$(0.280 \pm 0.206) \times 10^4$	12027003	2.736×10^3	2.306×10^3	0.0	1.621×10^4	1.185×10^3	3.921×10^3
cloud albedo crb [1]	0.560 ± 0.187	12027003	0.218	0.539	0.0	1.000	0.452	0.669
surface albedo fitted [1]	0.118 ± 0.224	12027003	3.397×10^{-2}	3.165×10^{-2}	0.0	1.000	1.903×10^{-2}	5.301×10^{-2}
surface albedo fitted crb [1]	0.109 ± 0.214	12027003	2.964×10^{-2}	2.500×10^{-2}	0.0	1.000	1.442×10^{-2}	4.406×10^{-2}
fitted root mean square [1]	$(5.585 \pm 8.464) \times 10^{-4}$	12027003	6.681×10^{-4}	2.858×10^{-4}	1.173×10^{-6}	0.358	9.178×10^{-5}	7.599×10^{-4}
fitted root mean square crb [1]	$(5.112 \pm 7.793) \times 10^{-4}$	12027003	6.097×10^{-4}	2.241×10^{-4}	1.242×10^{-6}	0.344	7.370×10^{-5}	6.834×10^{-4}
wavelength shift [nm]	$(6.931 \pm 7.096) \times 10^{-3}$	12027003	9.427×10^{-3}	6.178×10^{-3}	-4.590×10^{-2}	0.365	1.943×10^{-3}	1.137×10^{-2}
cloud fraction apriori [1]	0.564 ± 0.365	12027003	0.798	0.543	0.0	1.000	0.202	1.000
reflectance blue ocra [1]	0.526 ± 0.217	12027003	0.352	0.488	0.159	2.00	0.339	0.691
reflectance green ocra [1]	0.466 ± 0.244	12027003	0.425	0.430	9.353×10^{-2}	1.91	0.239	0.664
reflectance continuum aband [1]	0.399 ± 0.276	12027003	0.497	0.376	1.230×10^{-2}	4.21	0.133	0.630

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]	0.462 ± 0.396	4777105	0.850	0.620	0.0	1.000	0.0	0.850
cloud fraction [1]	0.482 ± 0.309	4777105	0.490	0.401	5.633×10^{-3}	1.000	0.233	0.723
cloud top height [m]	$(0.537 \pm 0.299) \times 10^4$	4777105	4.351×10^3	5.178×10^3	0.0	2.000×10^4	3.016×10^3	7.367×10^3
cloud optical thickness [1]	13.5 ± 30.8	4777105	6.11	5.88	1.000	250	4.30	10.4
cloud fraction crb [1]	0.482 ± 0.309	4777105	0.490	0.402	8.218×10^{-3}	1.000	0.234	0.723
cloud height crb [m]	$(0.409 \pm 0.251) \times 10^4$	4777105	3.581×10^3	3.820×10^3	0.0	2.000×10^4	2.100×10^3	5.681×10^3
cloud albedo crb [1]	0.645 ± 0.256	4777105	0.360	0.665	0.0	1.000	0.492	0.852
surface albedo fitted [1]	0.578 ± 0.293	4777105	0.578	0.642	0.0	1.000	0.277	0.855
surface albedo fitted crb [1]	0.566 ± 0.278	4777105	0.545	0.635	0.0	1.000	0.278	0.823
fitted root mean square [1]	$(8.363 \pm 10.608) \times 10^{-4}$	4777105	7.201×10^{-4}	6.099×10^{-4}	3.652×10^{-6}	0.258	3.252×10^{-4}	1.045×10^{-3}
fitted root mean square crb [1]	$(6.930 \pm 7.737) \times 10^{-4}$	4777105	7.223×10^{-4}	4.437×10^{-4}	2.818×10^{-6}	5.918×10^{-2}	1.842×10^{-4}	9.065×10^{-4}
wavelength shift [nm]	$(8.554 \pm 6.158) \times 10^{-3}$	4777105	8.682×10^{-3}	8.350×10^{-3}	-3.635×10^{-2}	6.643×10^{-2}	3.972×10^{-3}	1.265×10^{-2}
cloud fraction apriori [1]	0.496 ± 0.315	4777105	0.520	0.415	0.0	1.000	0.239	0.759
reflectance blue ocra [1]	0.675 ± 0.251	4777105	0.407	0.763	0.134	2.01	0.443	0.850
reflectance green ocra [1]	0.644 ± 0.270	4777105	0.454	0.740	7.852×10^{-2}	1.90	0.389	0.844
reflectance continuum aband [1]	0.636 ± 0.238	4777105	0.383	0.681	1.669×10^{-2}	6.07	0.431	0.813

3 Granule outlines

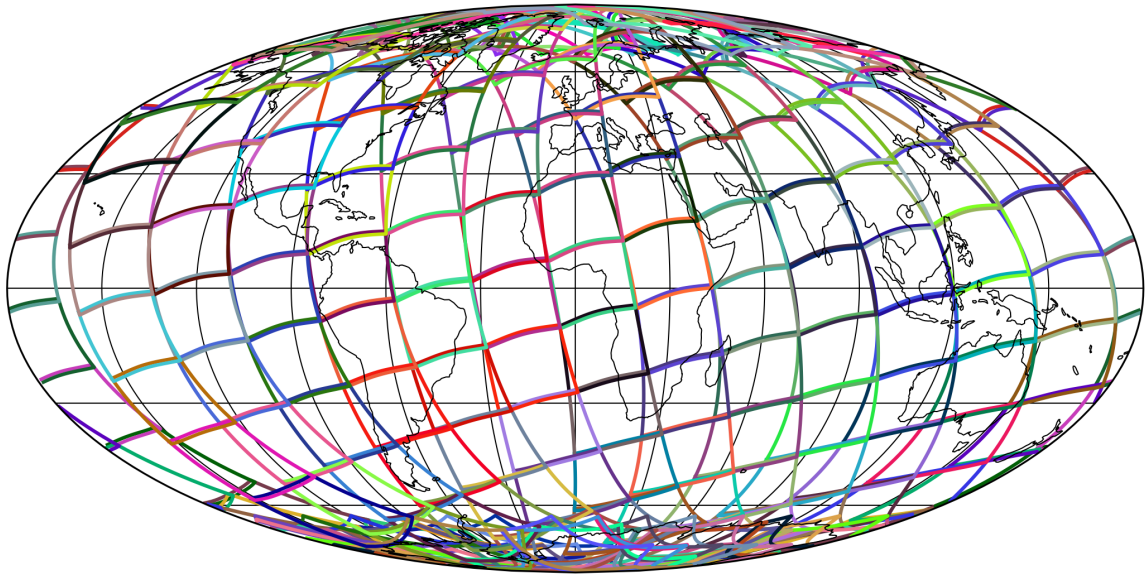


Figure 1: Outline of the granules.

4 Input data monitoring

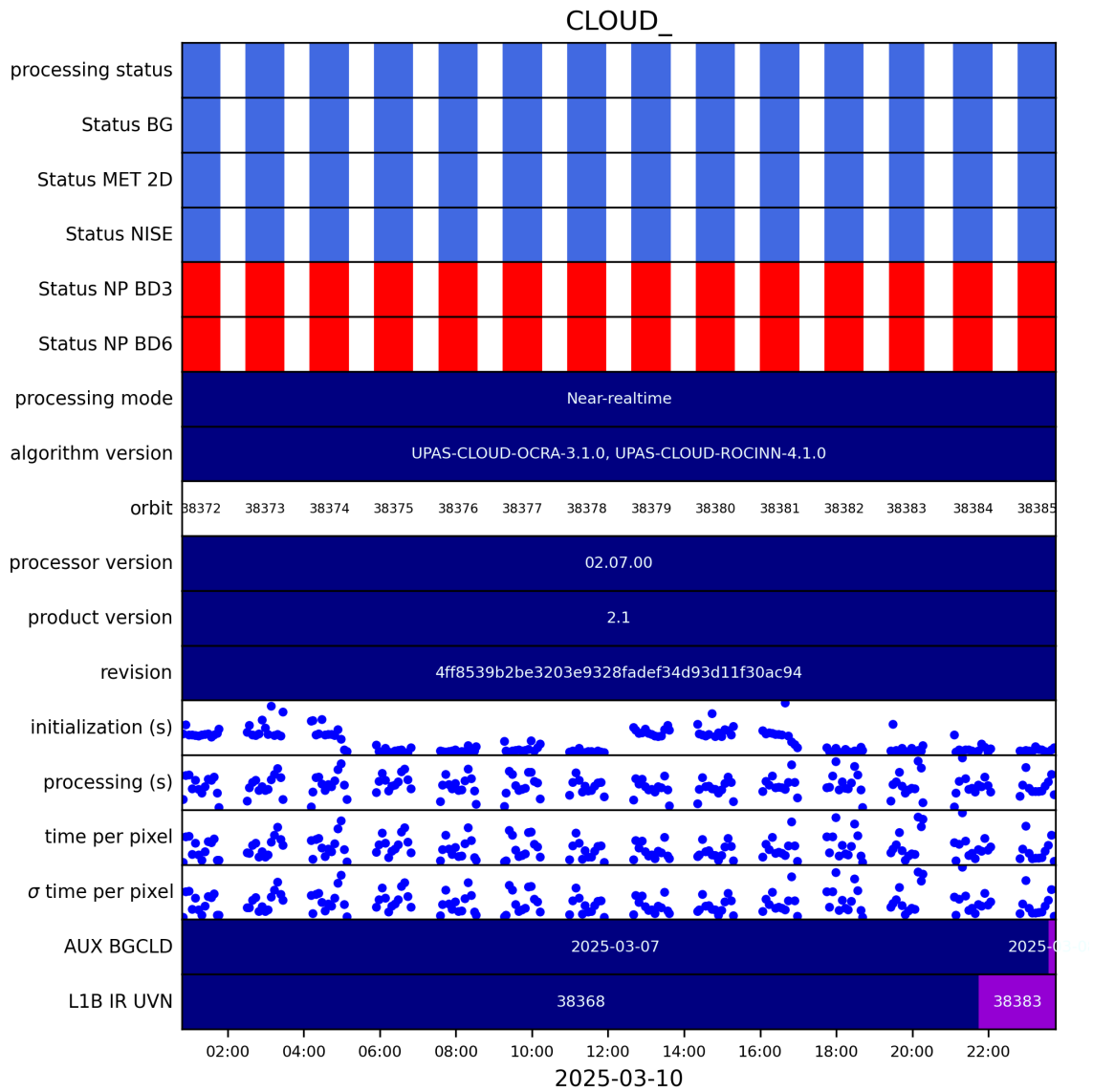


Figure 2: Input data per granule

5 Warnings and errors

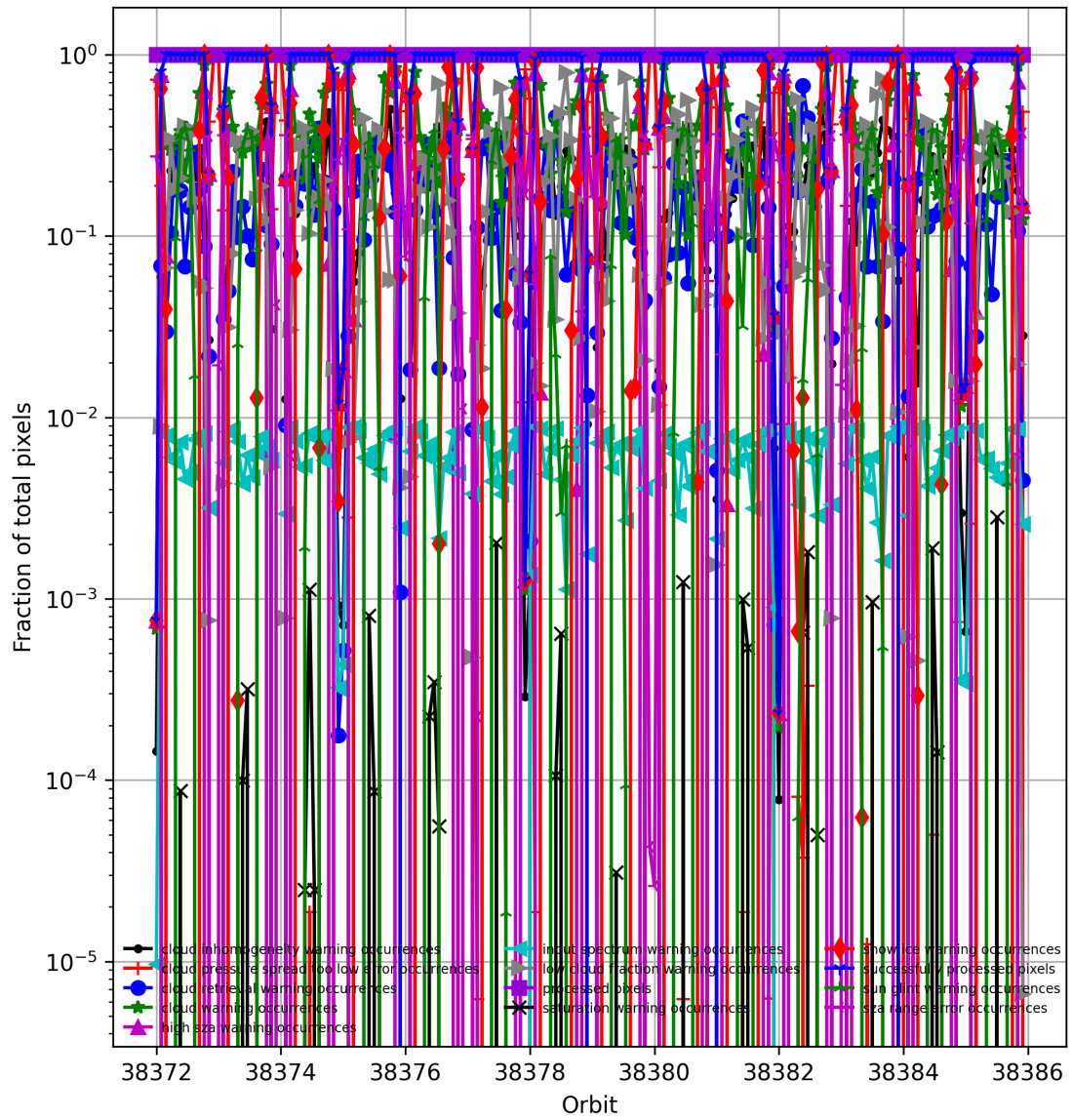


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

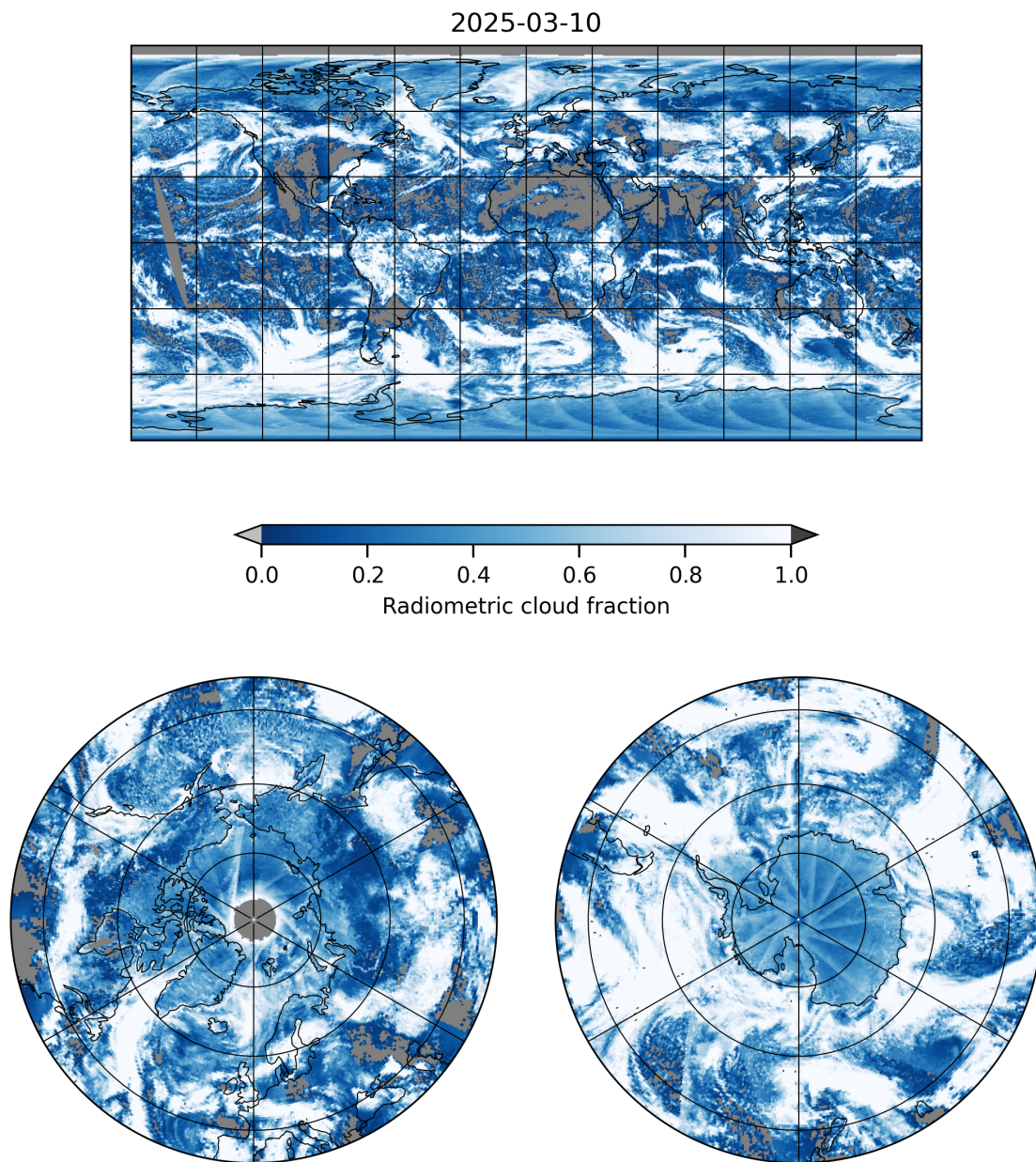


Figure 4: Map of “Radiometric cloud fraction” for 2025-03-10 to 2025-03-10

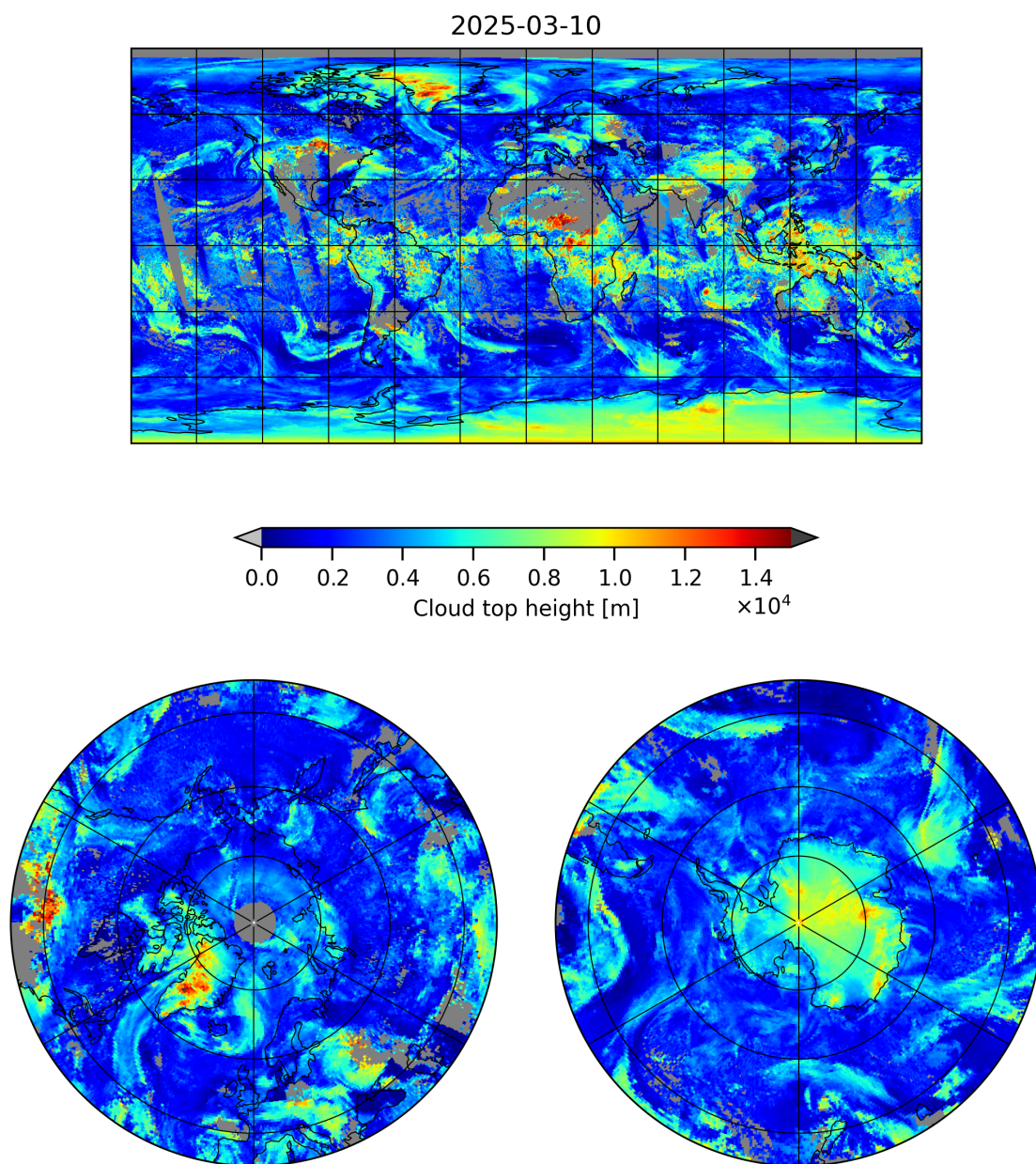


Figure 5: Map of “Cloud top height” for 2025-03-10 to 2025-03-10

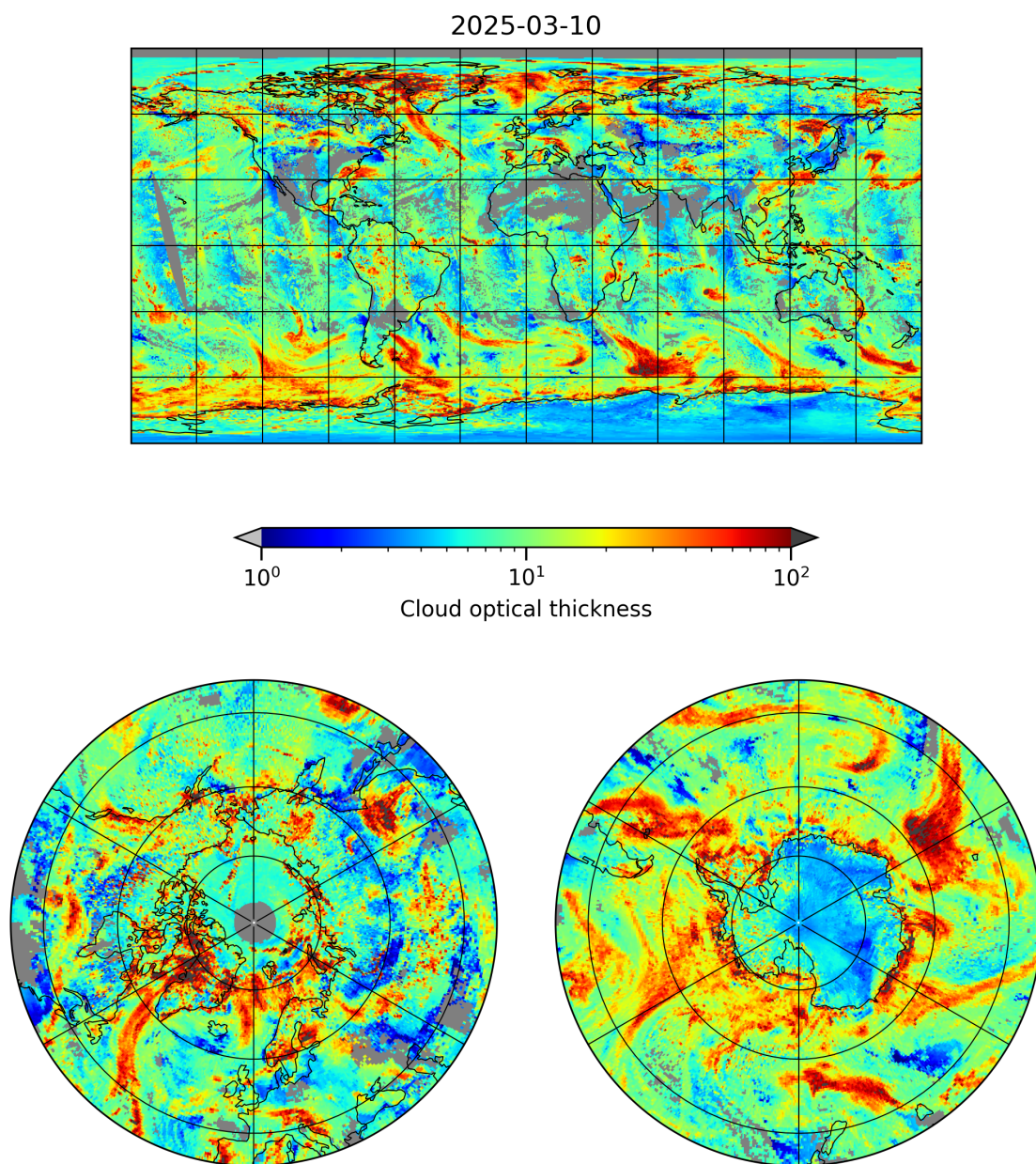


Figure 6: Map of “Cloud optical thickness” for 2025-03-10 to 2025-03-10

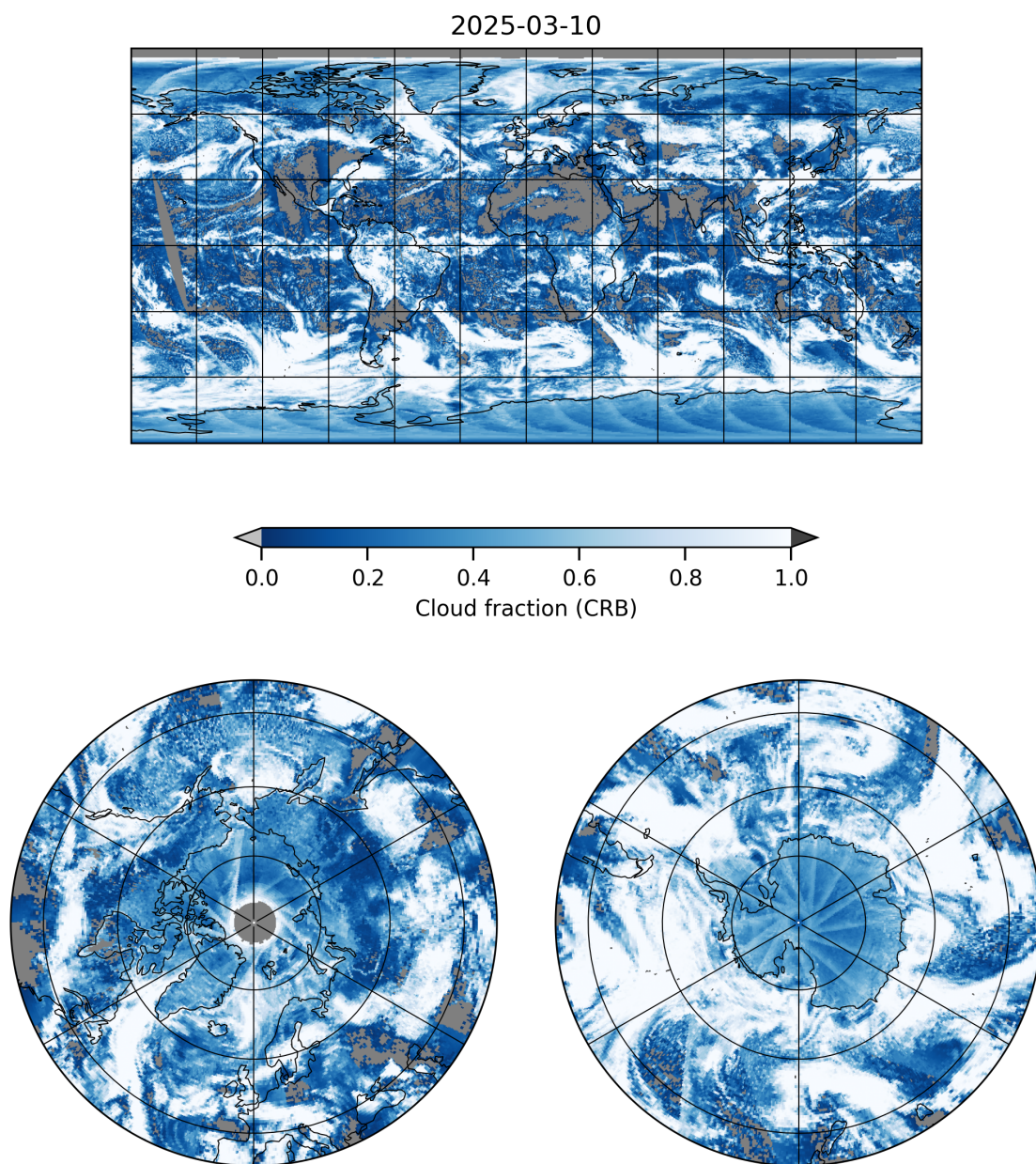


Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-10 to 2025-03-10

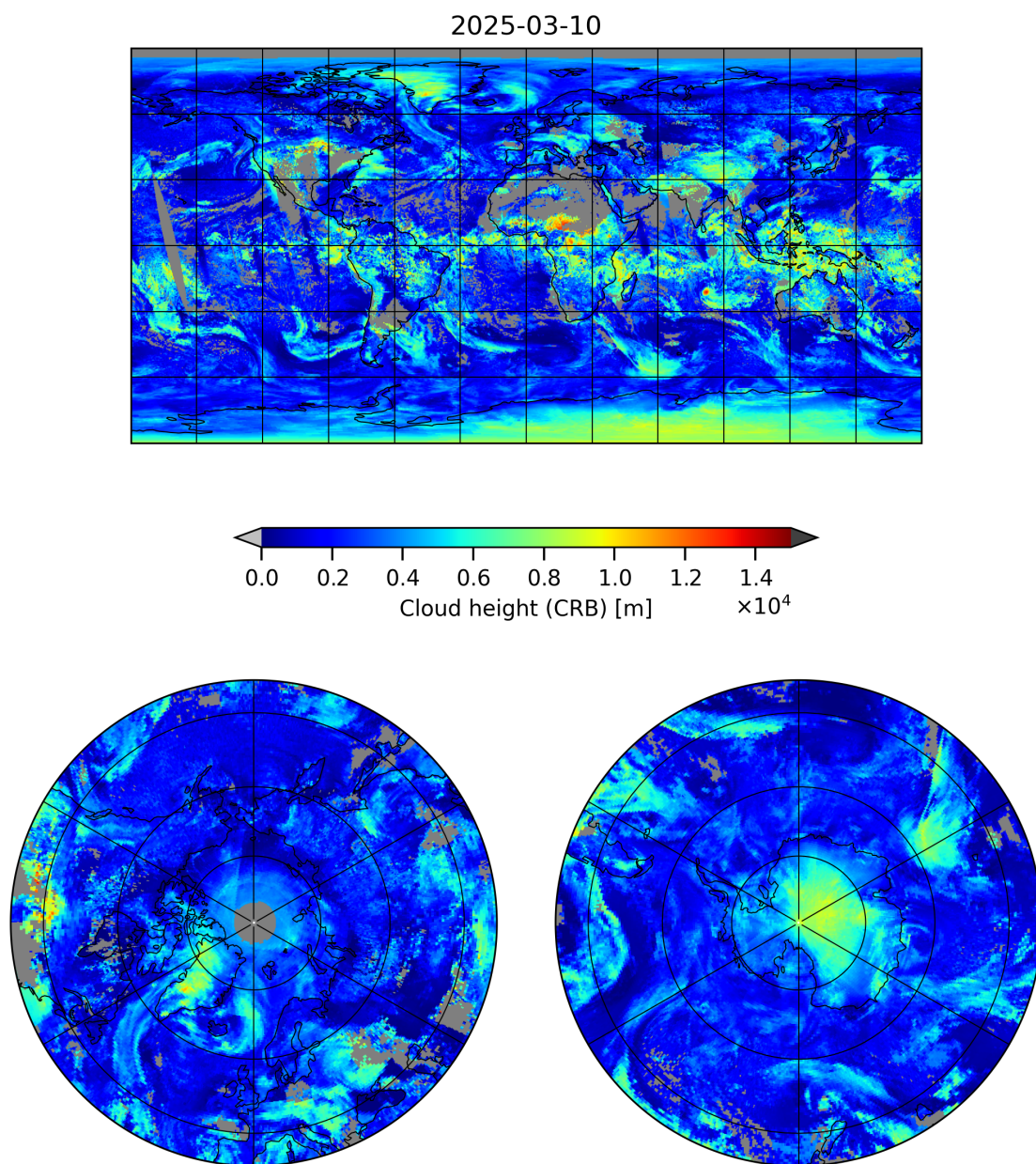


Figure 8: Map of “Cloud height (CRB)” for 2025-03-10 to 2025-03-10

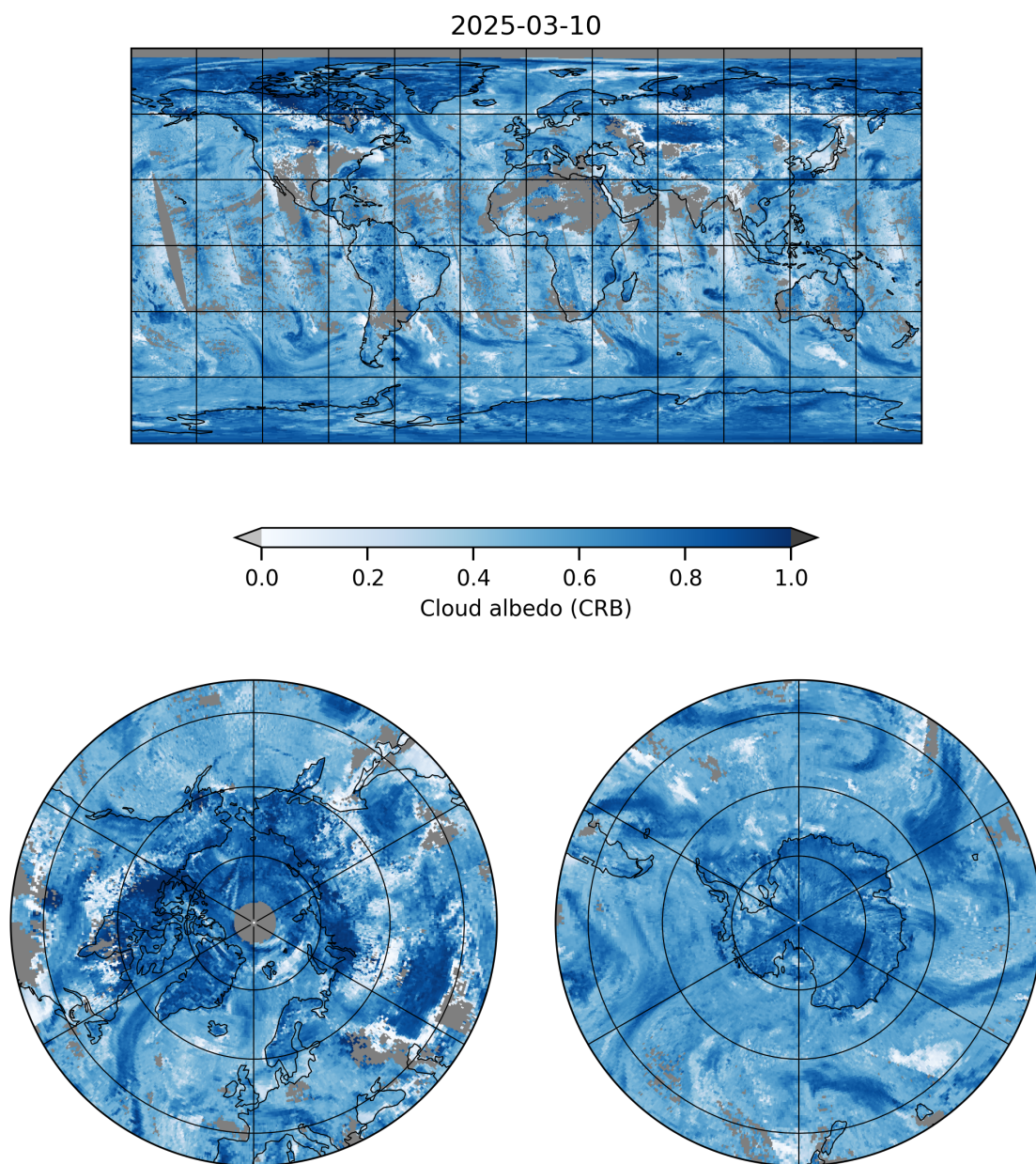


Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-10 to 2025-03-10

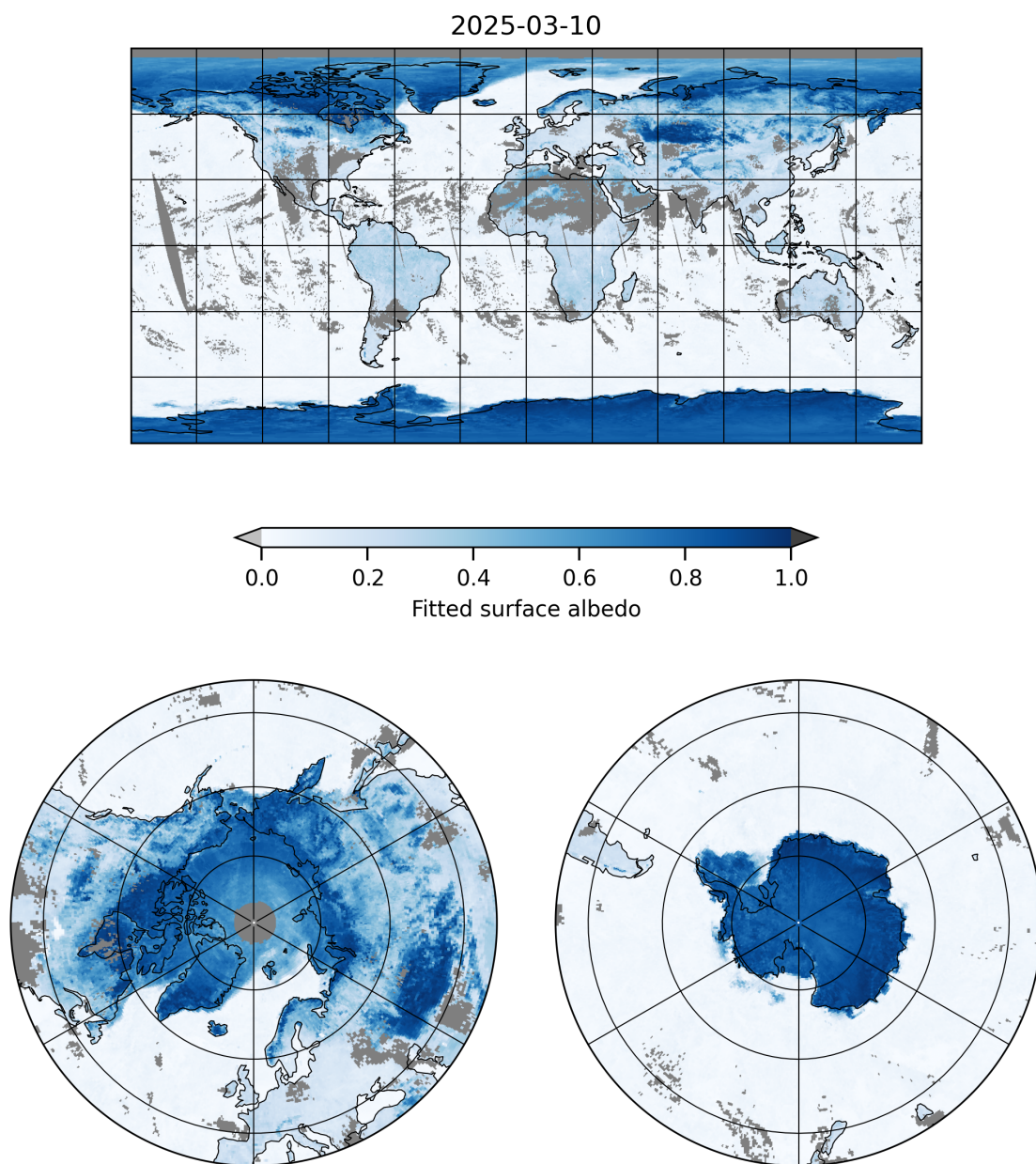


Figure 10: Map of “Fitted surface albedo” for 2025-03-10 to 2025-03-10

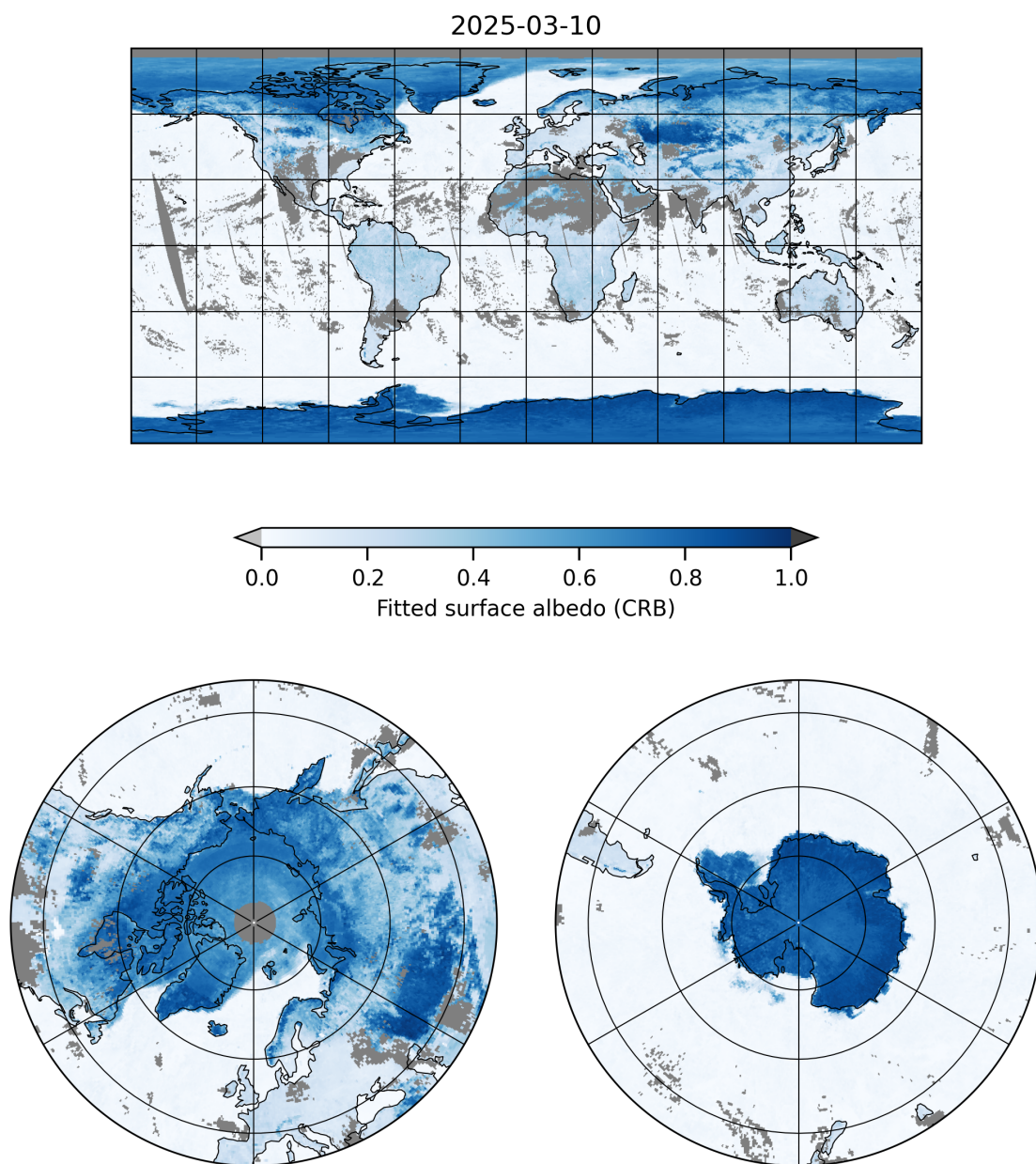


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-10 to 2025-03-10

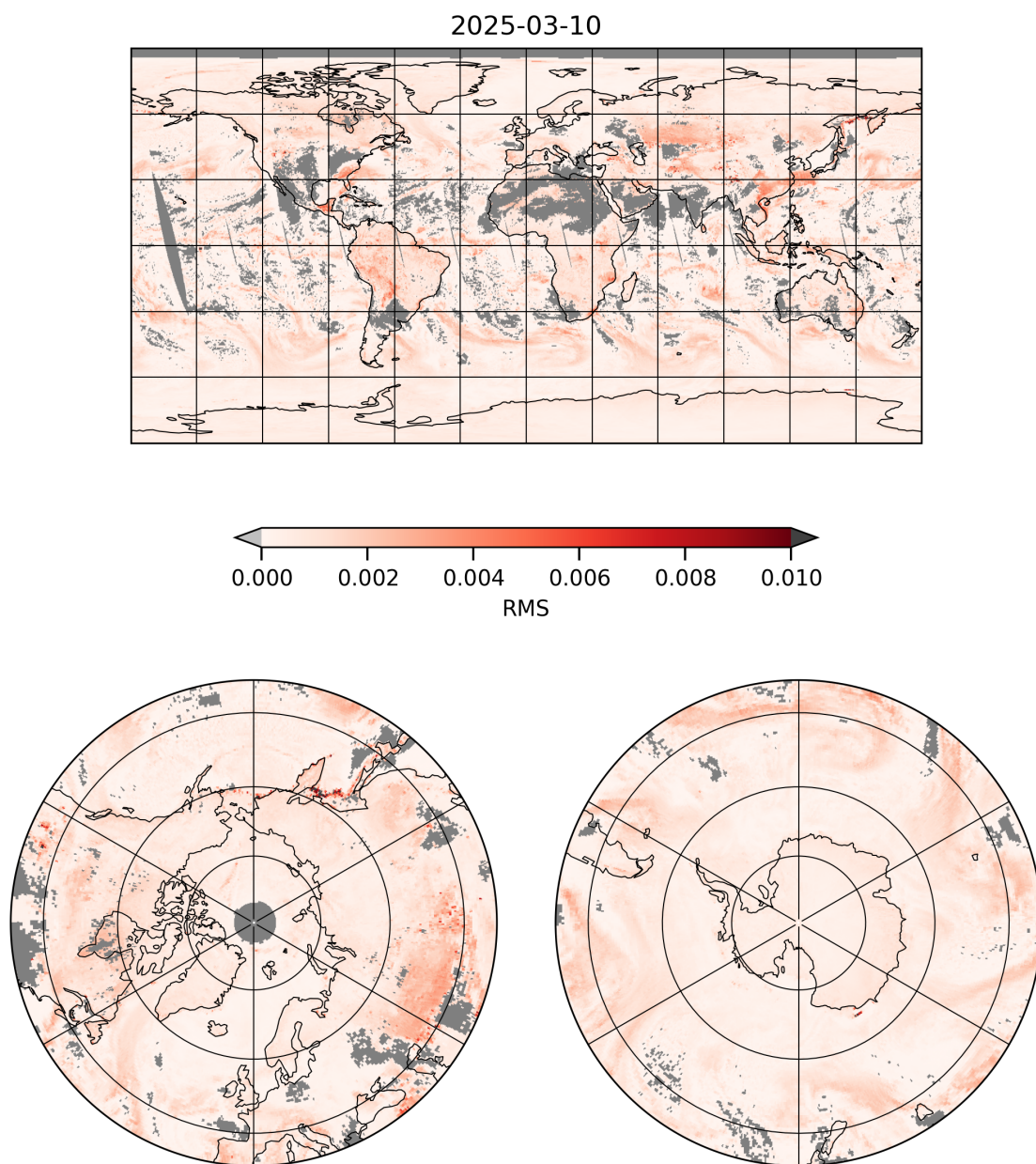


Figure 12: Map of “RMS” for 2025-03-10 to 2025-03-10

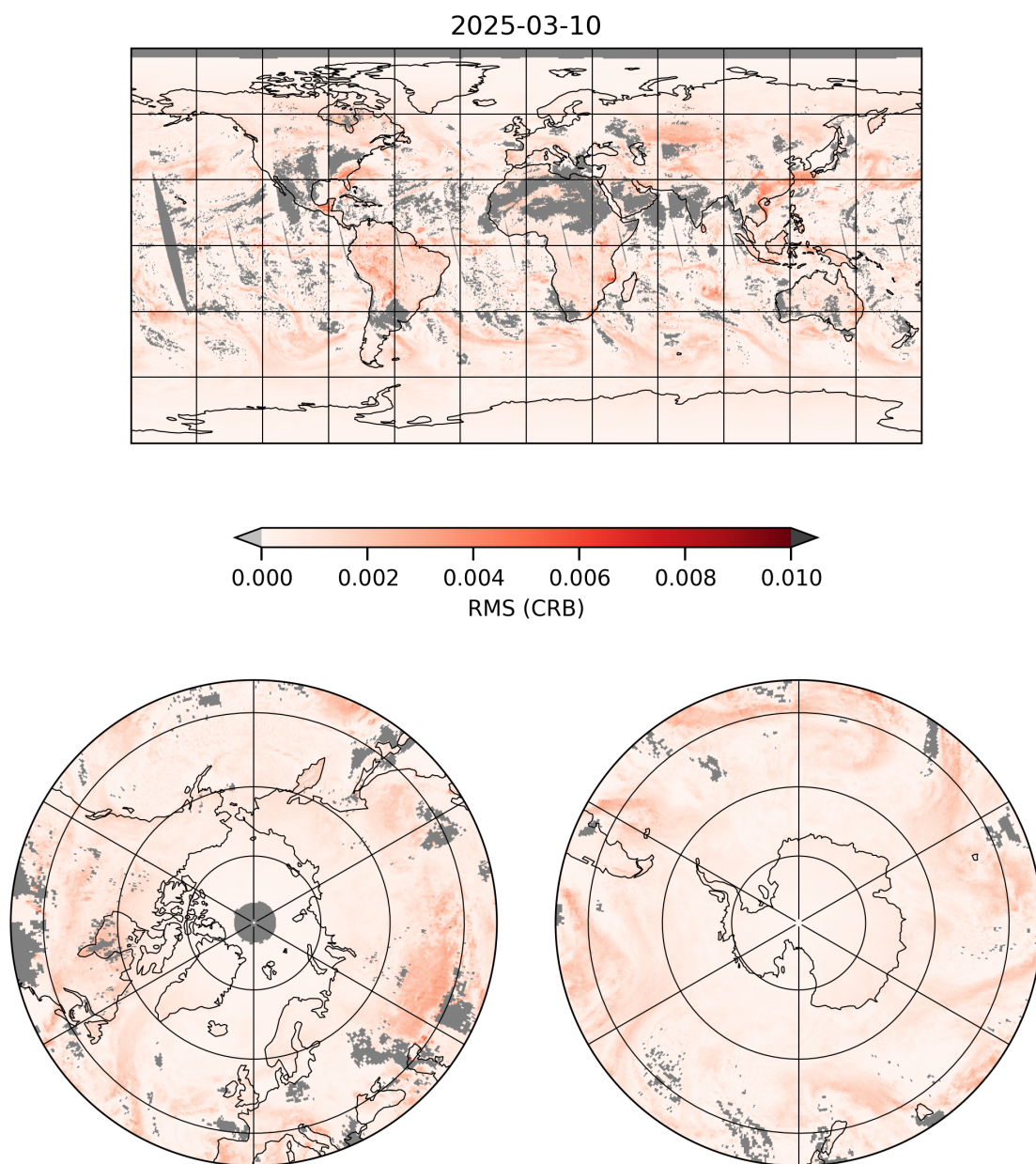


Figure 13: Map of “RMS (CRB)” for 2025-03-10 to 2025-03-10

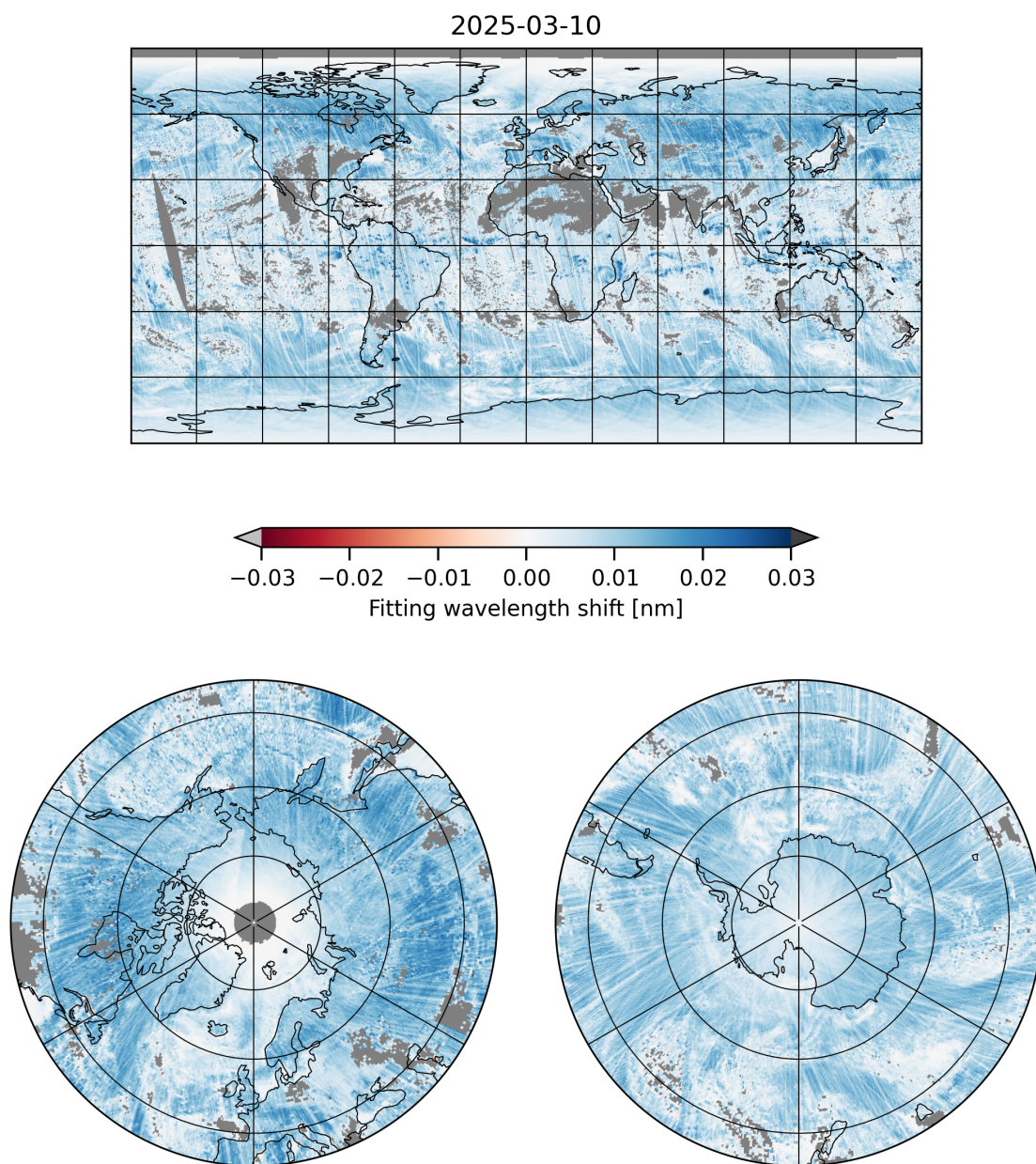


Figure 14: Map of “Fitting wavelength shift” for 2025-03-10 to 2025-03-10

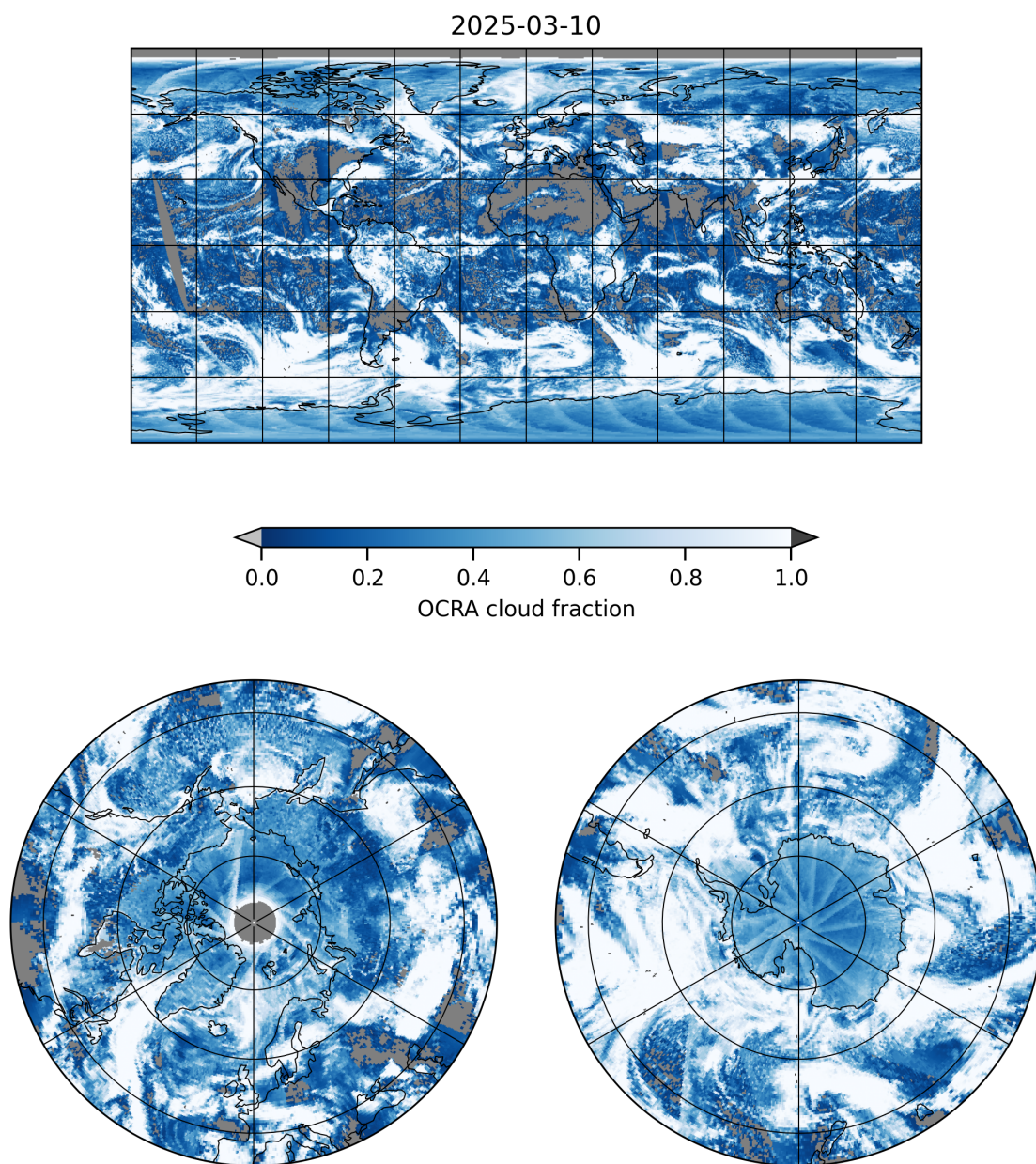


Figure 15: Map of “OCRA cloud fraction” for 2025-03-10 to 2025-03-10

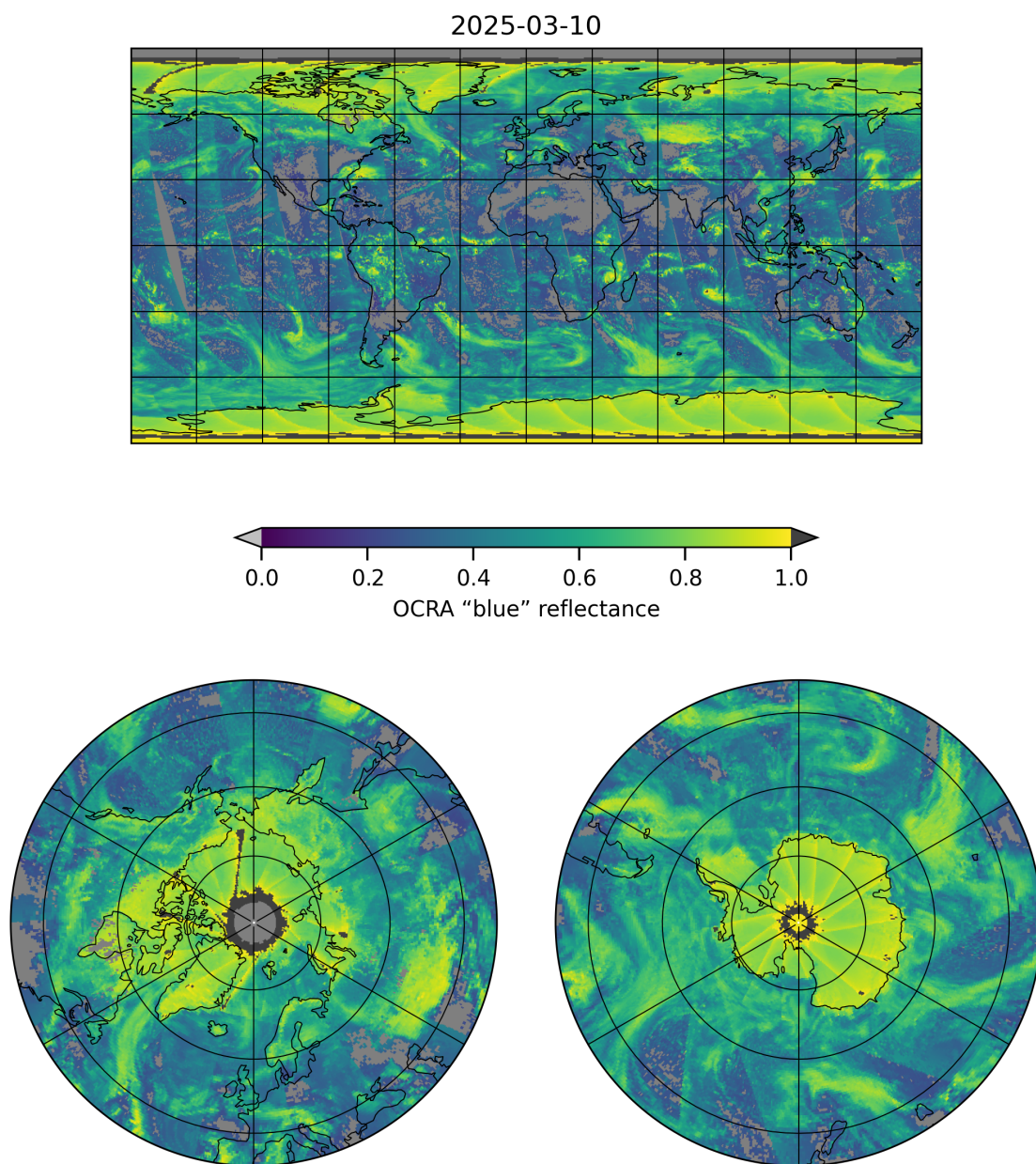


Figure 16: Map of "OCRA "blue" reflectance" for 2025-03-10 to 2025-03-10

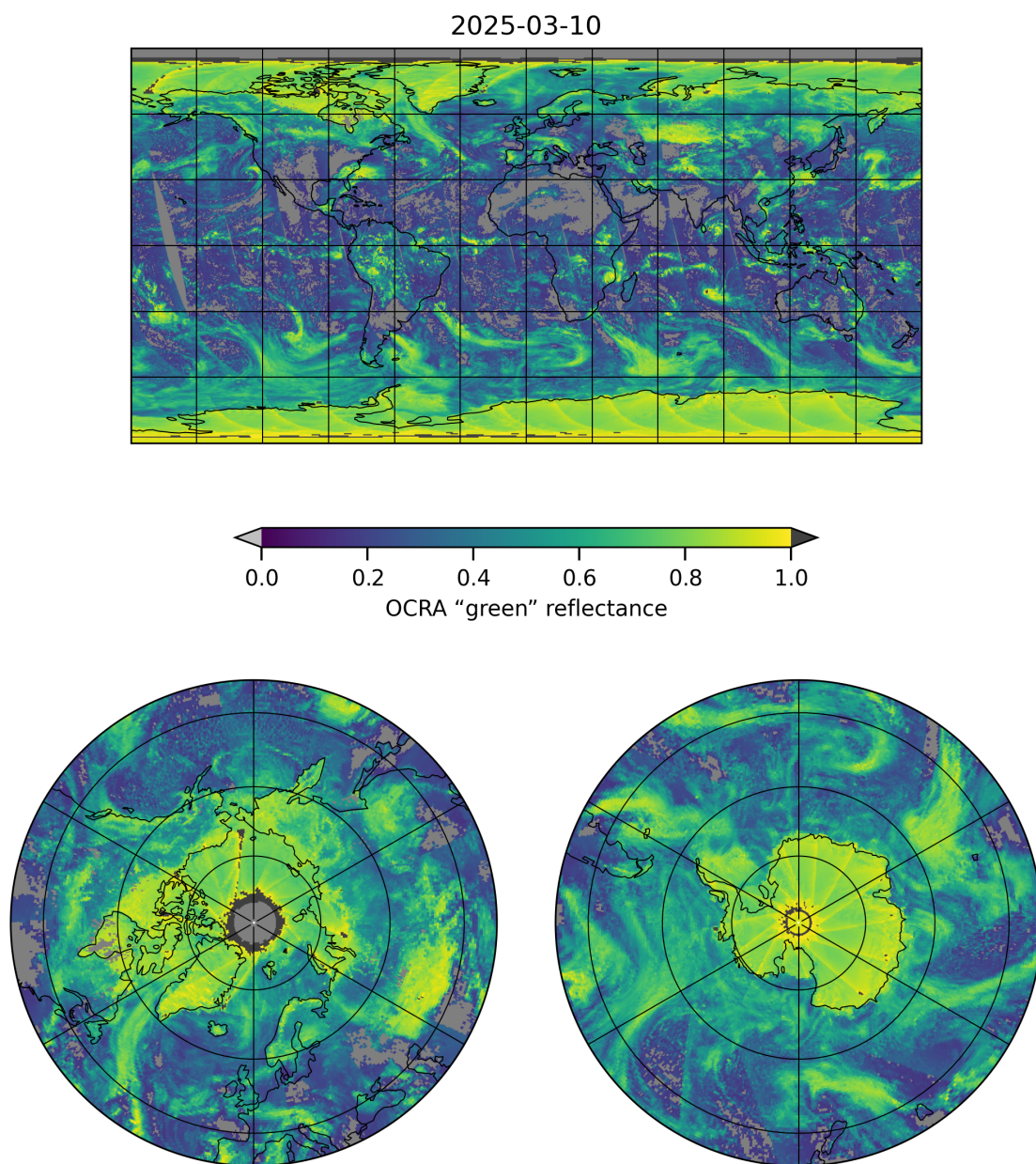


Figure 17: Map of "OCRA "green" reflectance" for 2025-03-10 to 2025-03-10

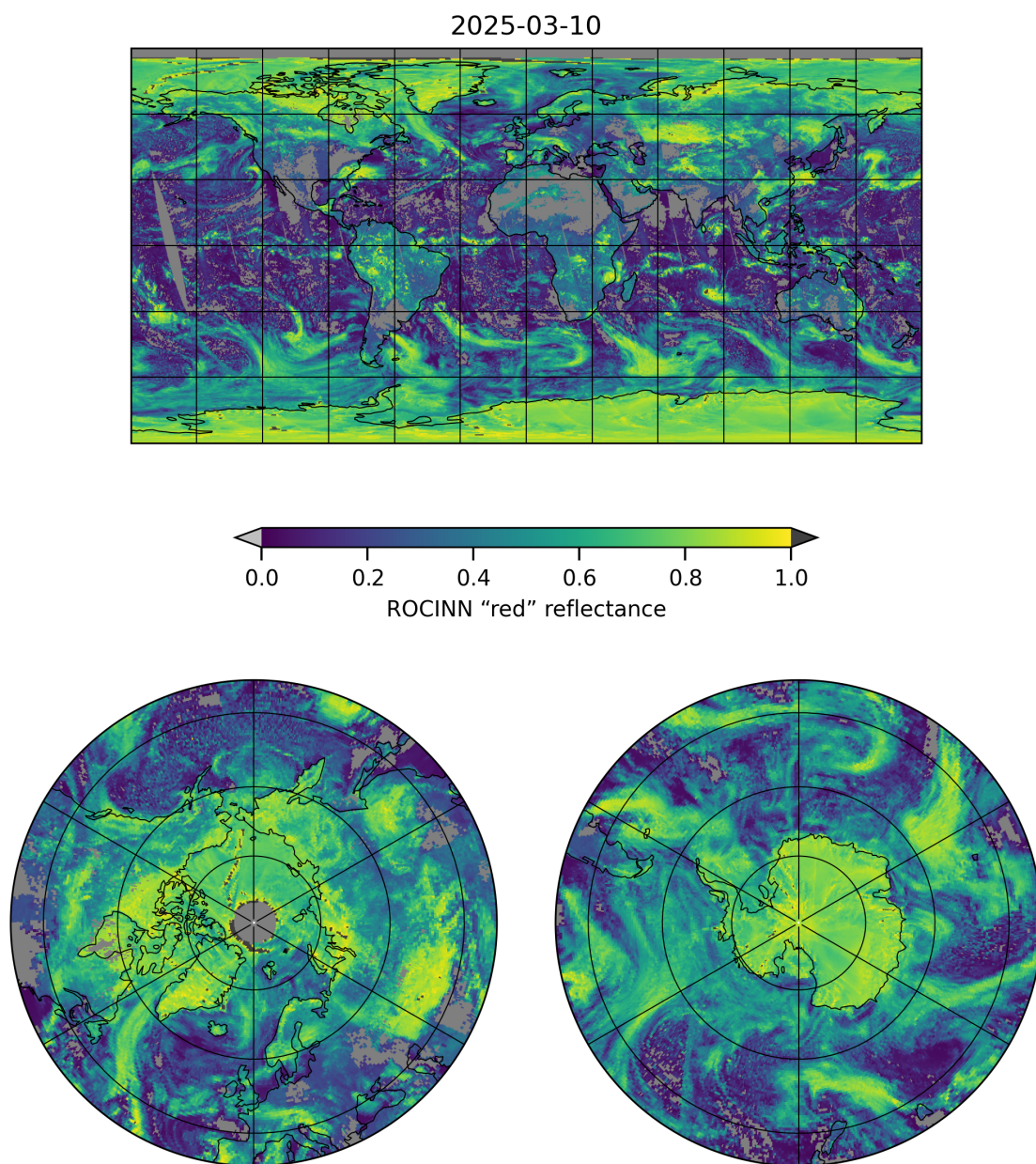


Figure 18: Map of "ROCINN "red" reflectance" for 2025-03-10 to 2025-03-10

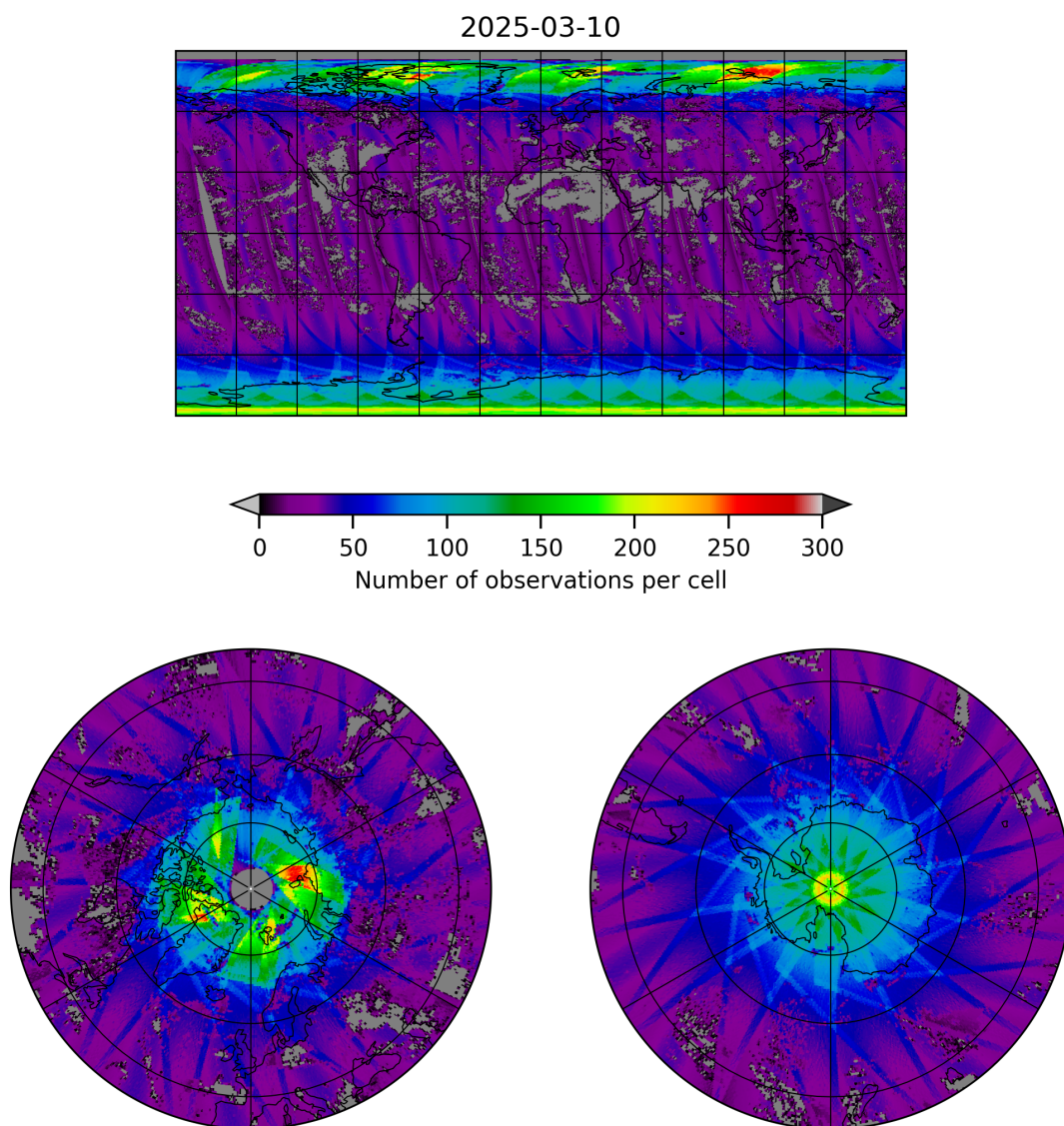


Figure 19: Map of the number of observations for 2025-03-10 to 2025-03-10

7 Zonal average

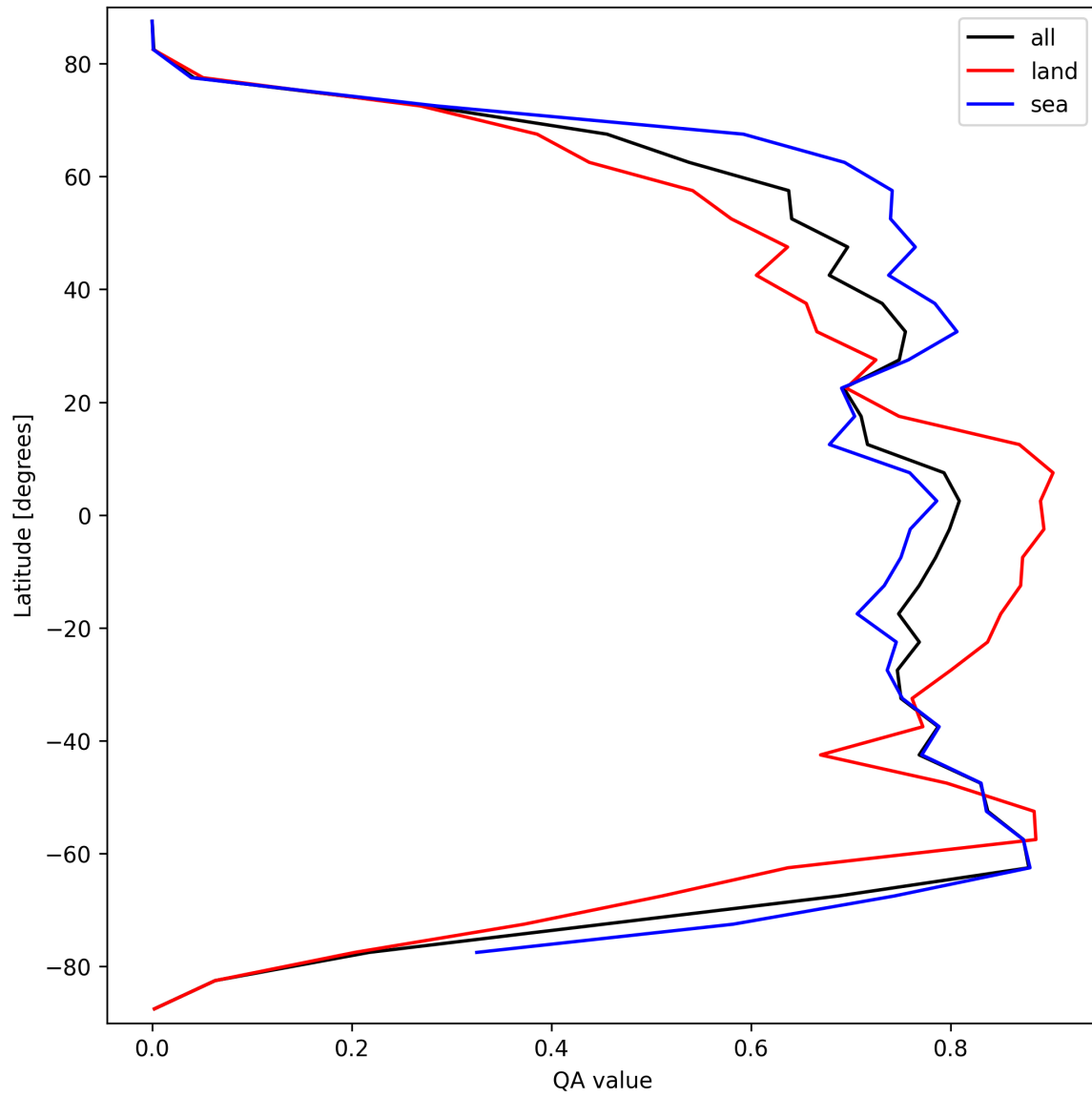


Figure 20: Zonal average of “QA value” for 2025-03-10 to 2025-03-10.

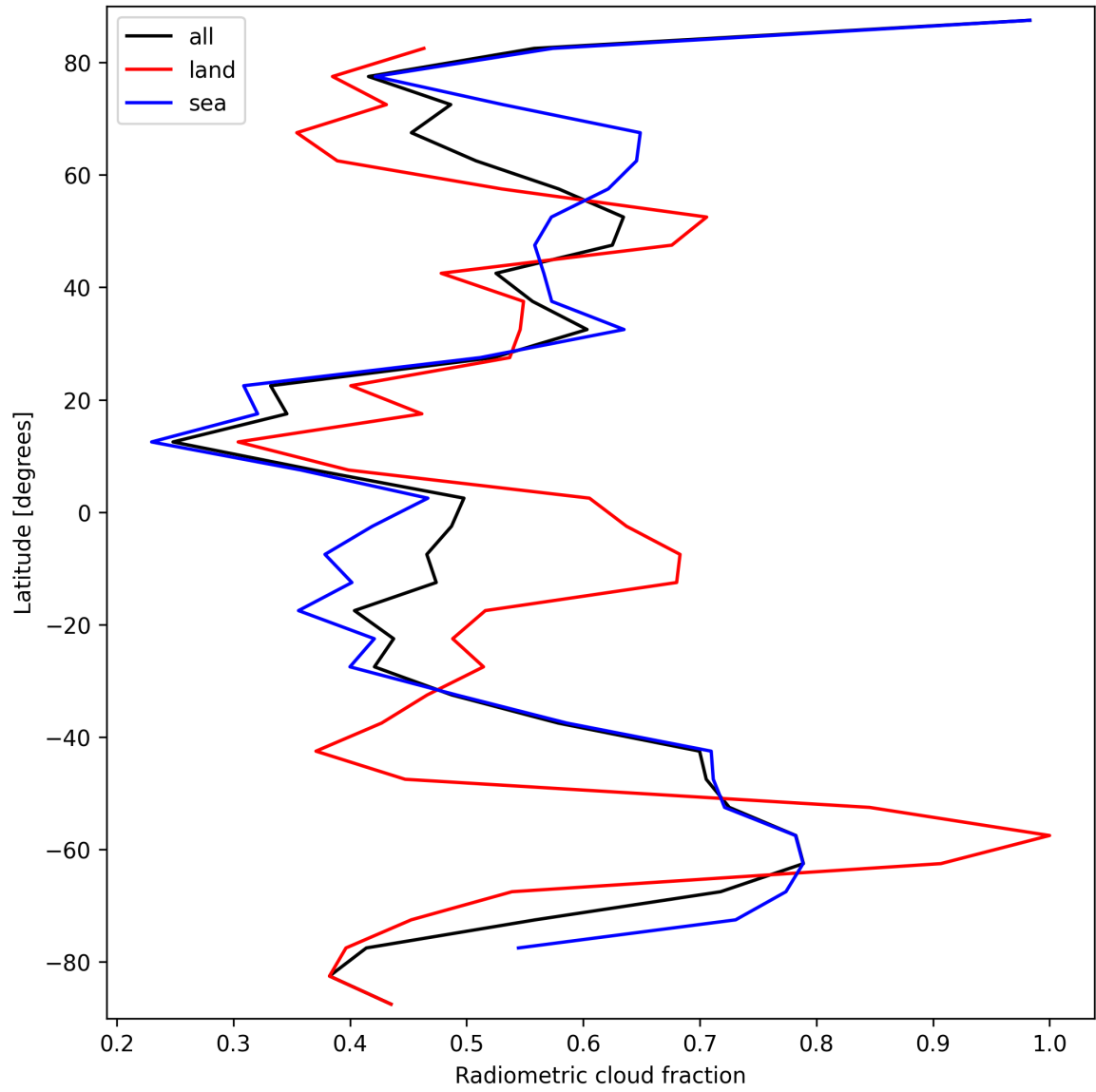


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-10 to 2025-03-10.

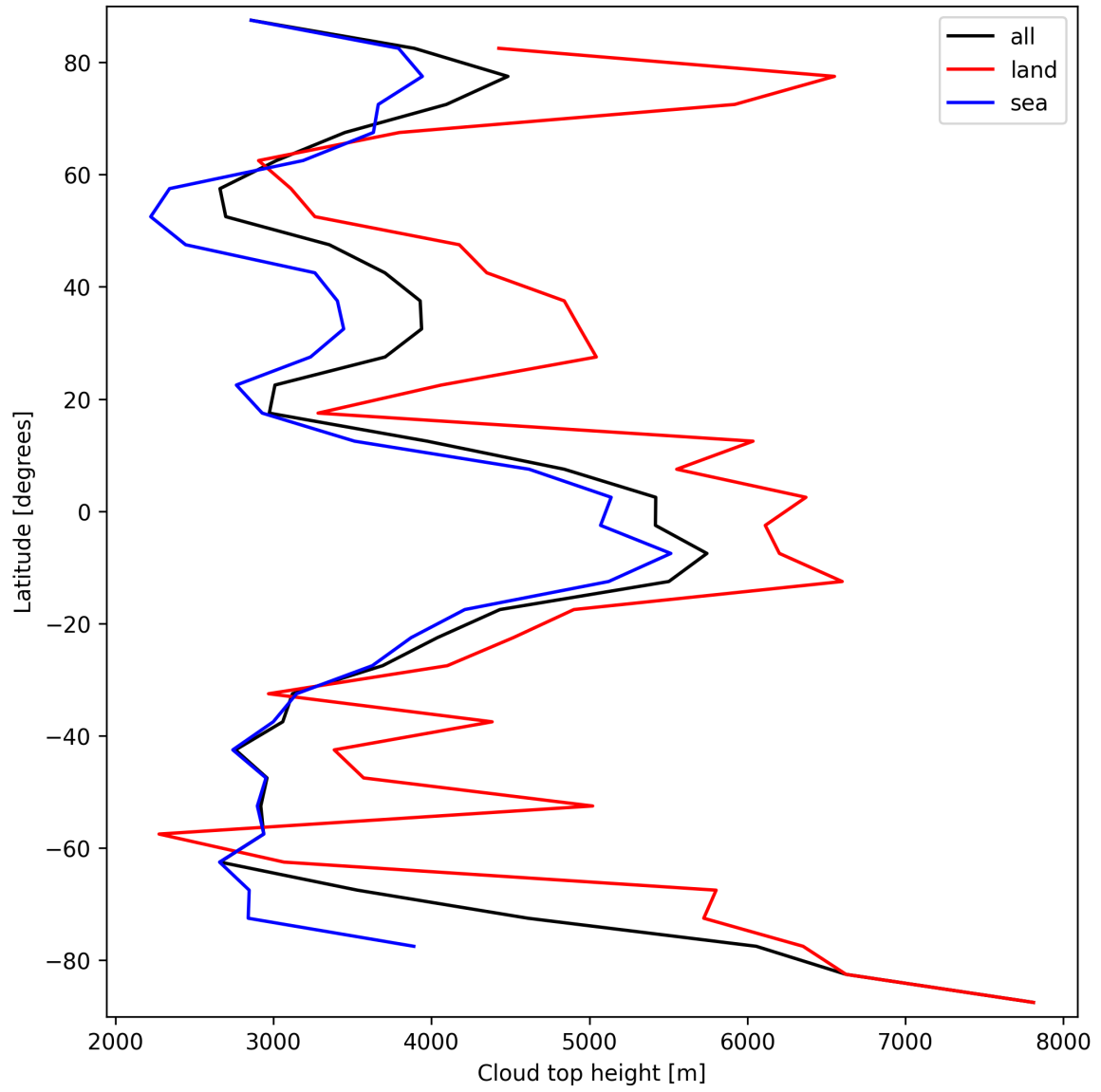


Figure 22: Zonal average of “Cloud top height” for 2025-03-10 to 2025-03-10.

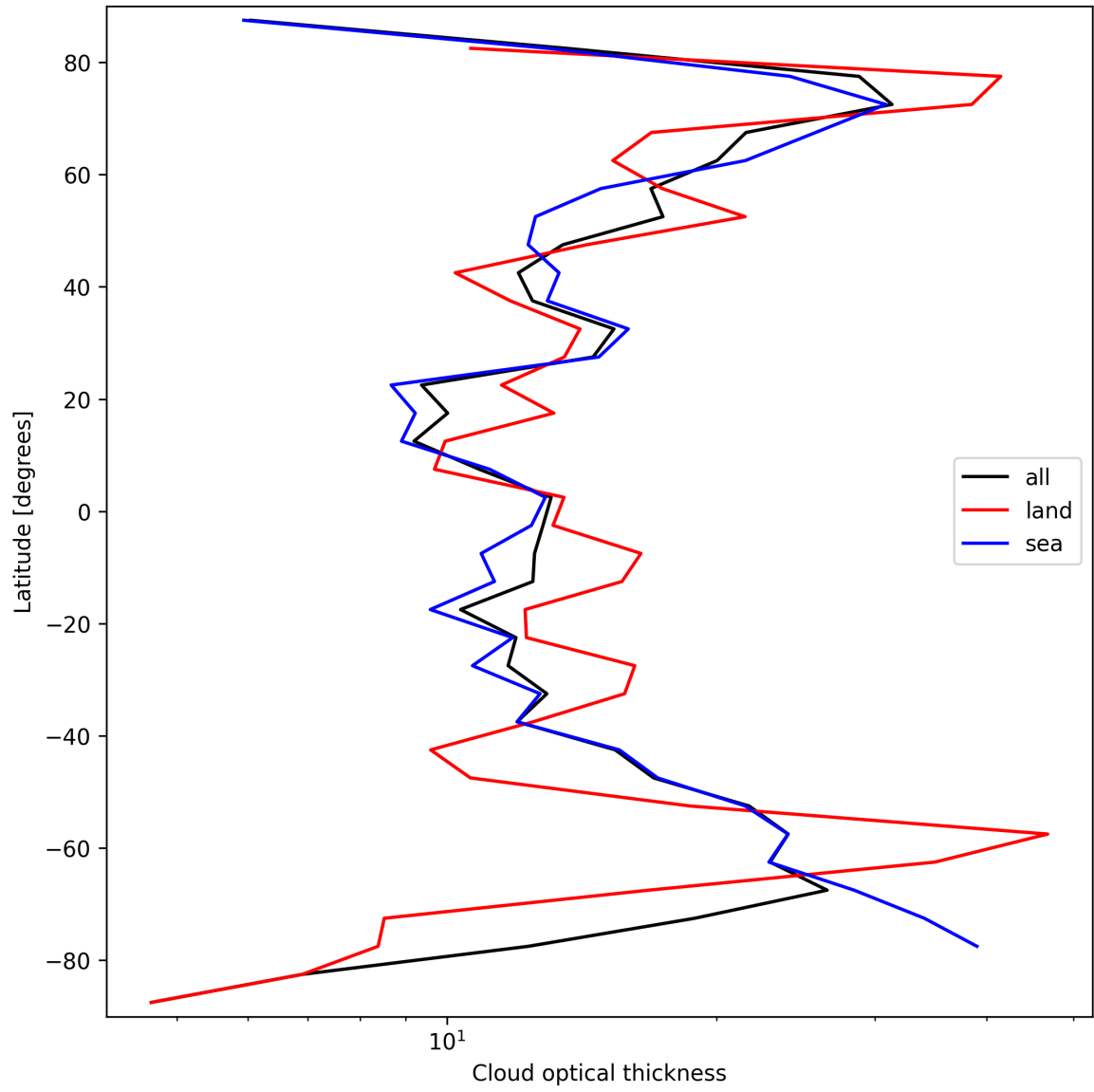


Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-10 to 2025-03-10.

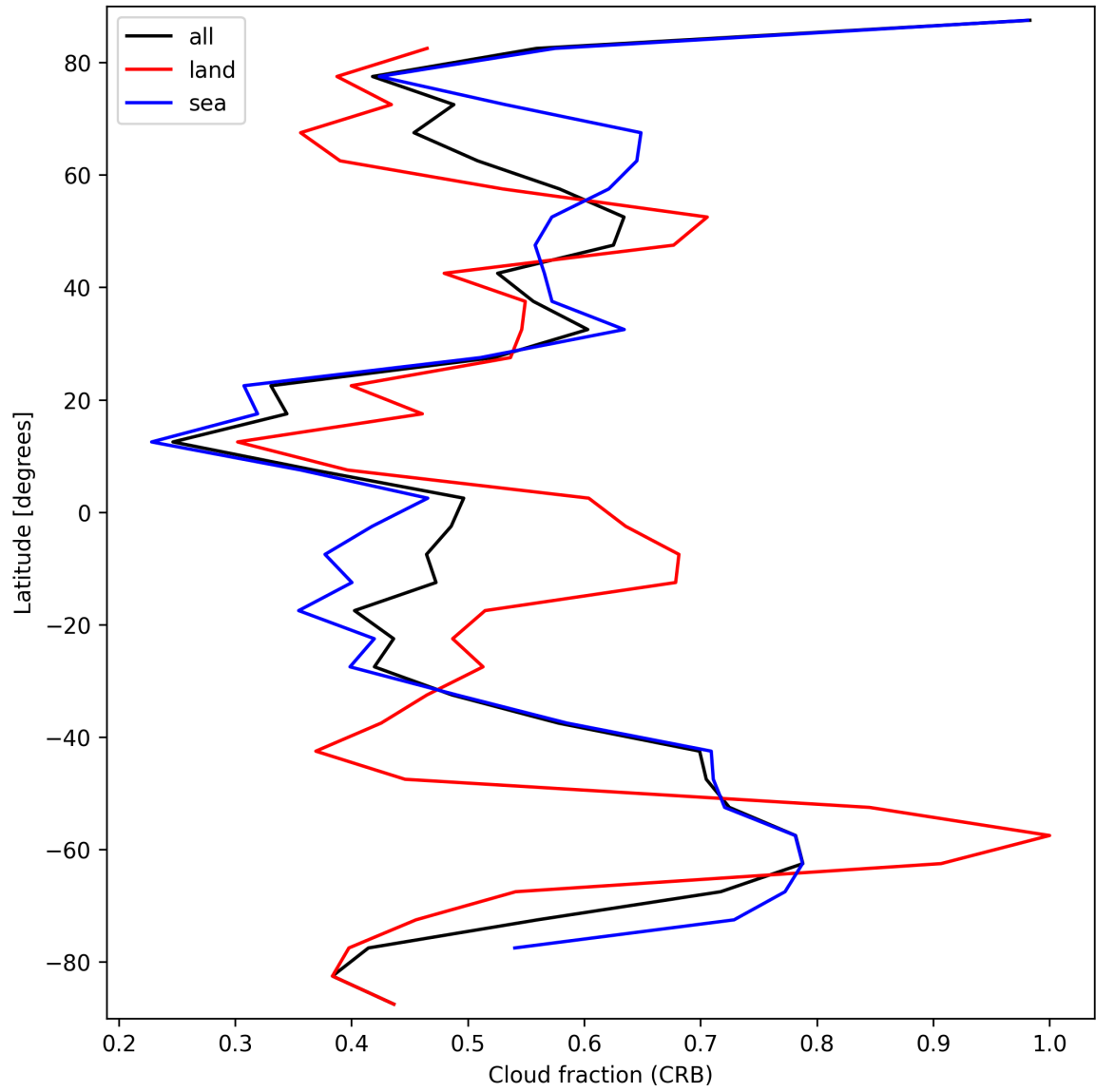


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-10 to 2025-03-10.

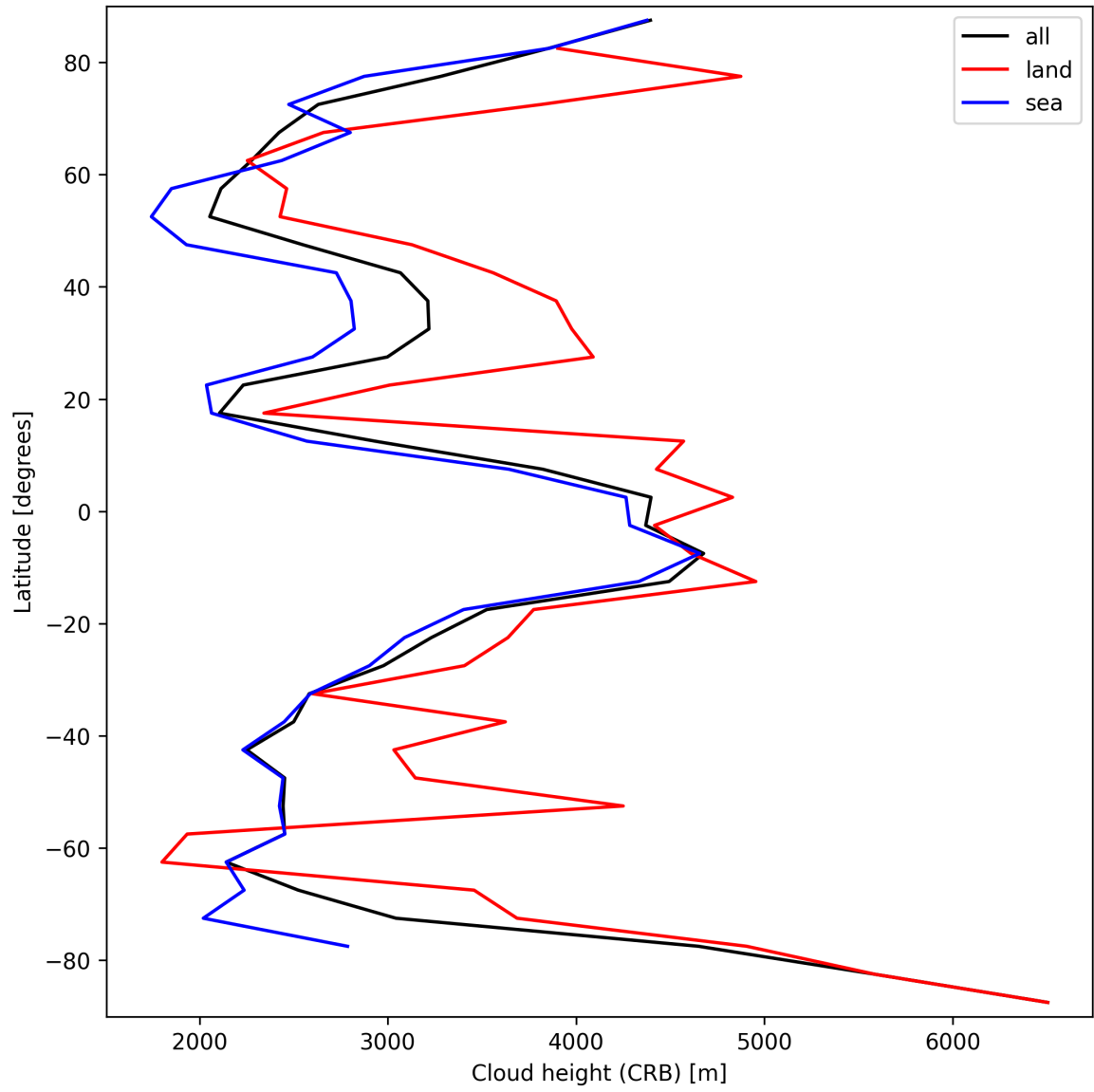


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-10 to 2025-03-10.

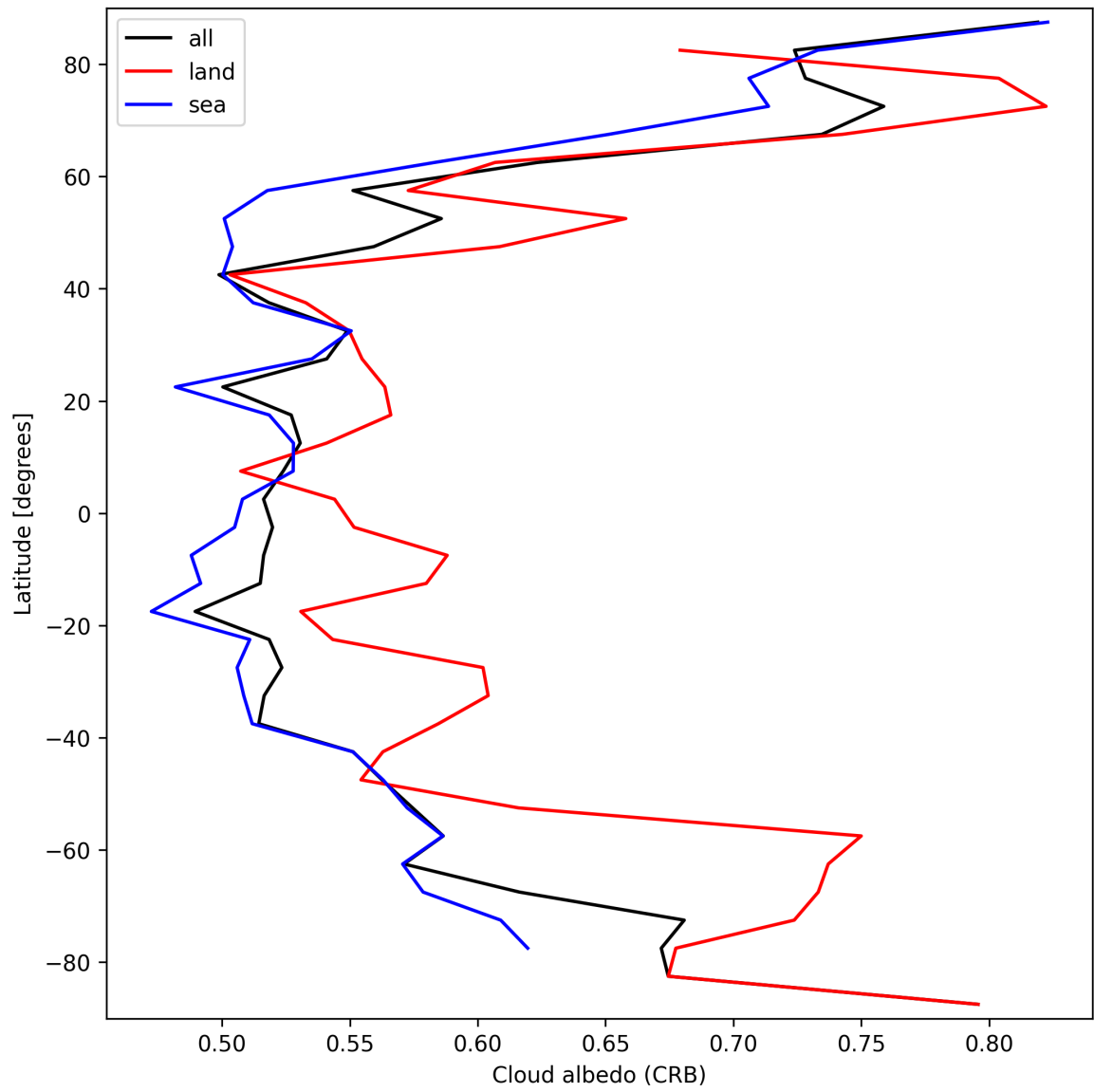


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-10 to 2025-03-10.

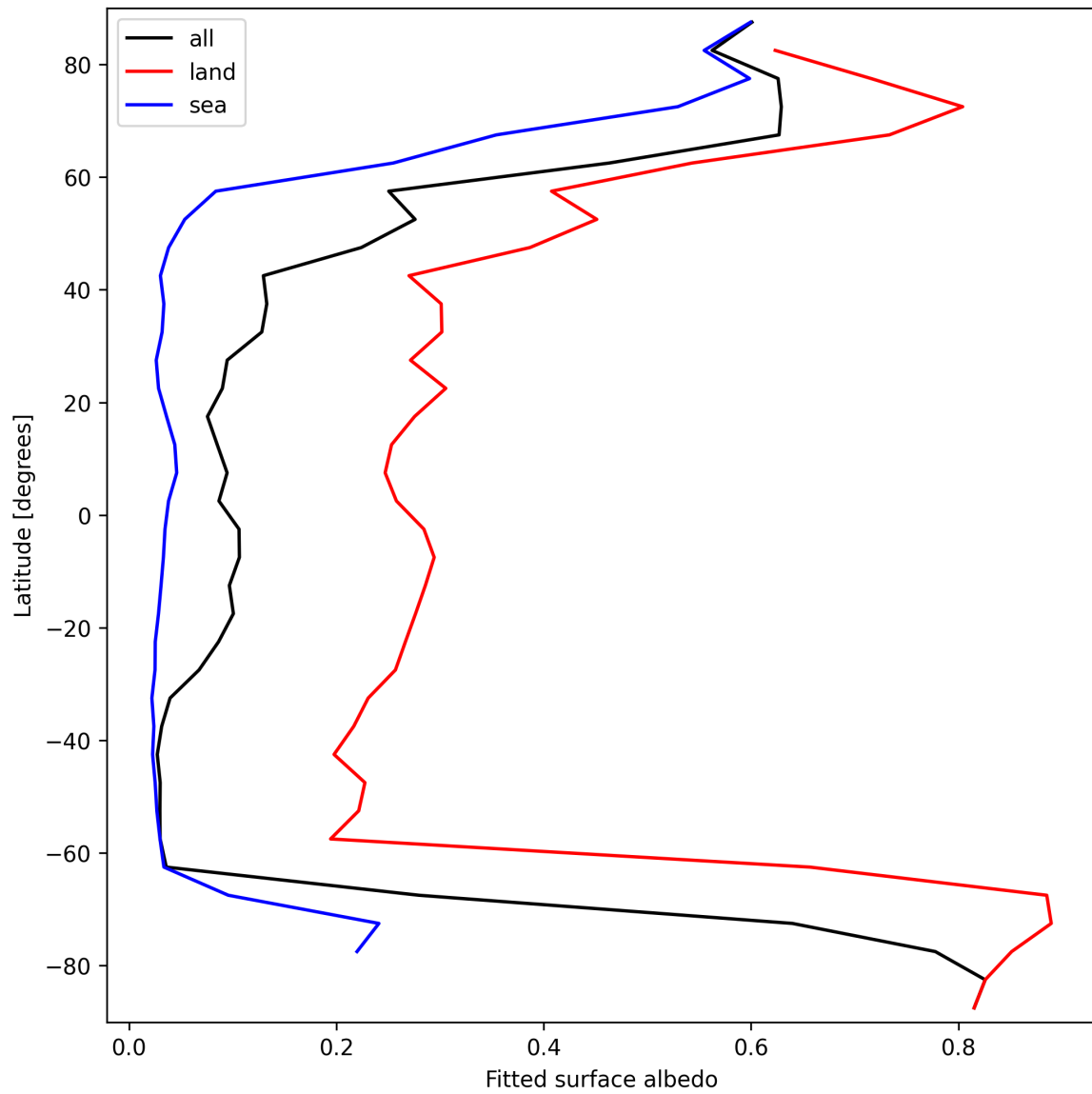


Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-10 to 2025-03-10.

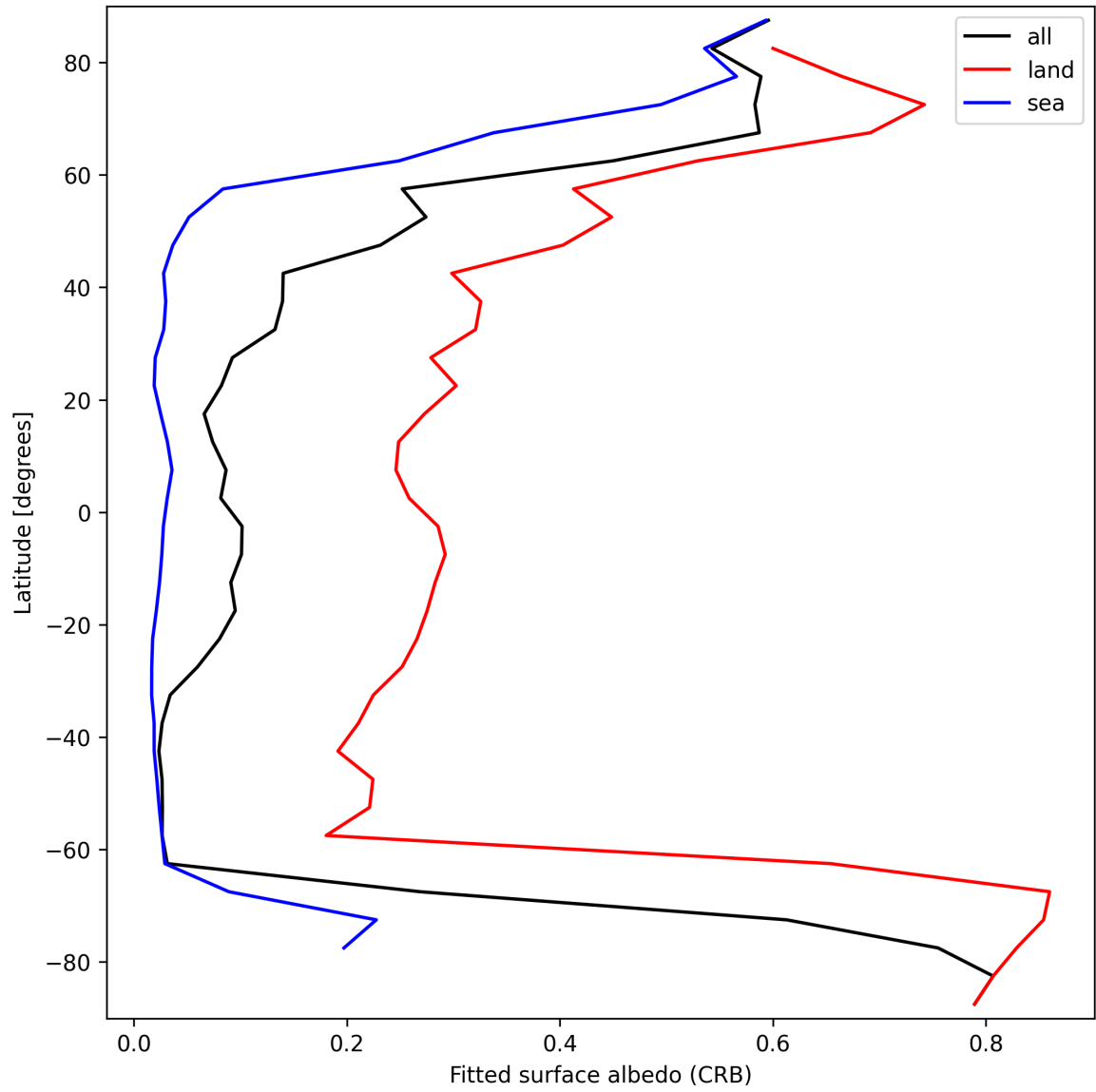


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-10 to 2025-03-10.

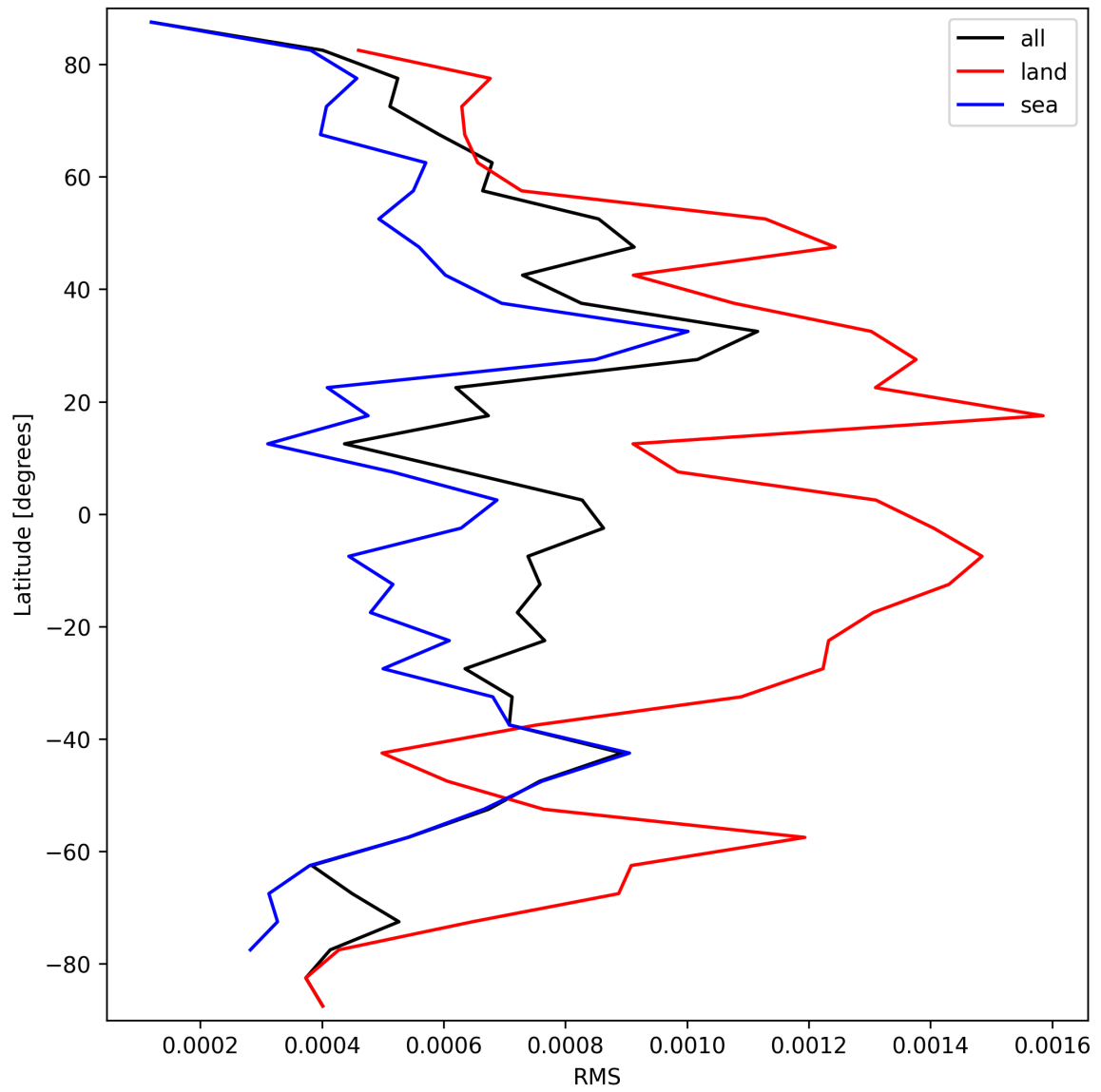


Figure 29: Zonal average of “RMS” for 2025-03-10 to 2025-03-10.

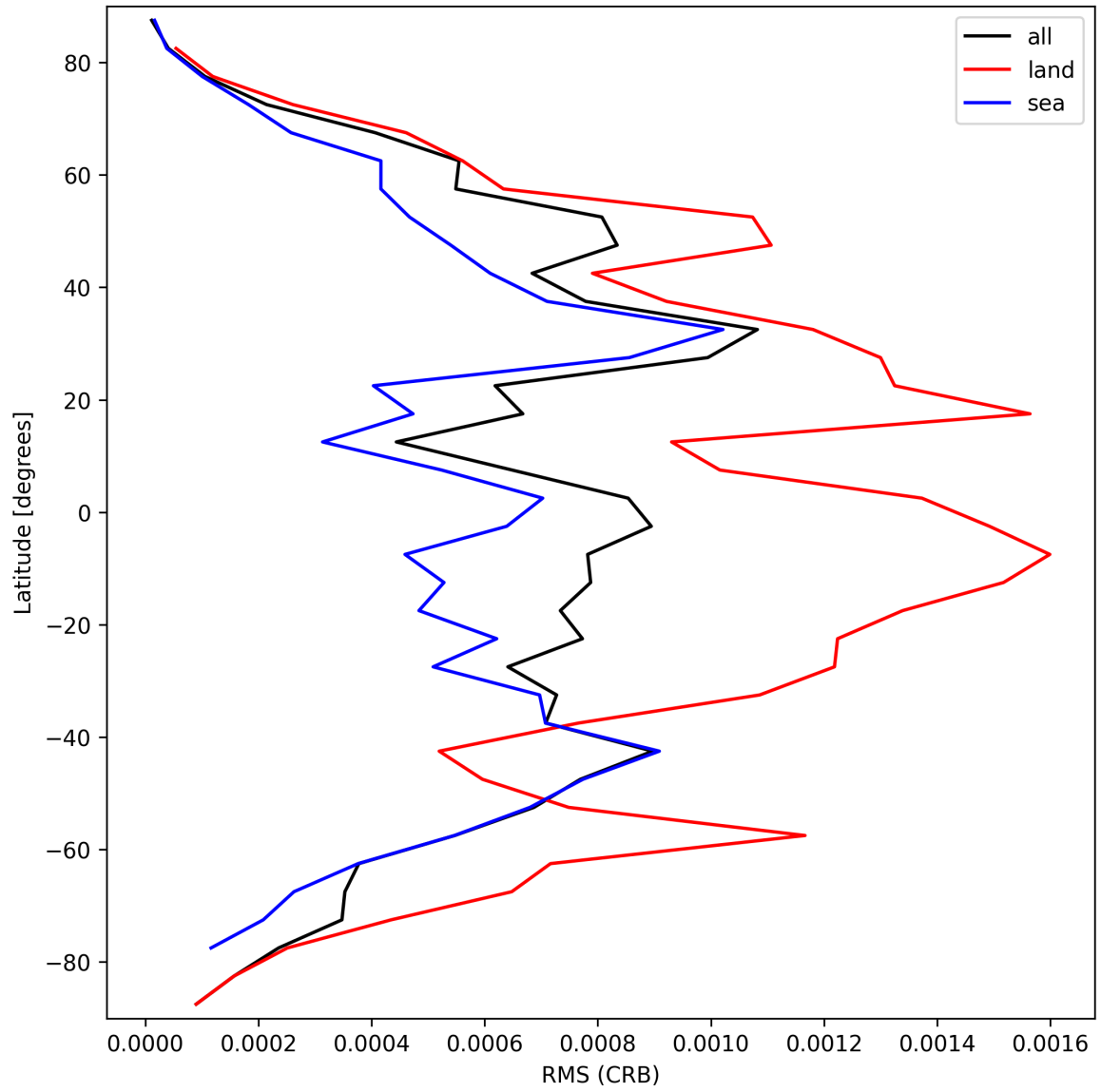


Figure 30: Zonal average of “RMS (CRB)” for 2025-03-10 to 2025-03-10.

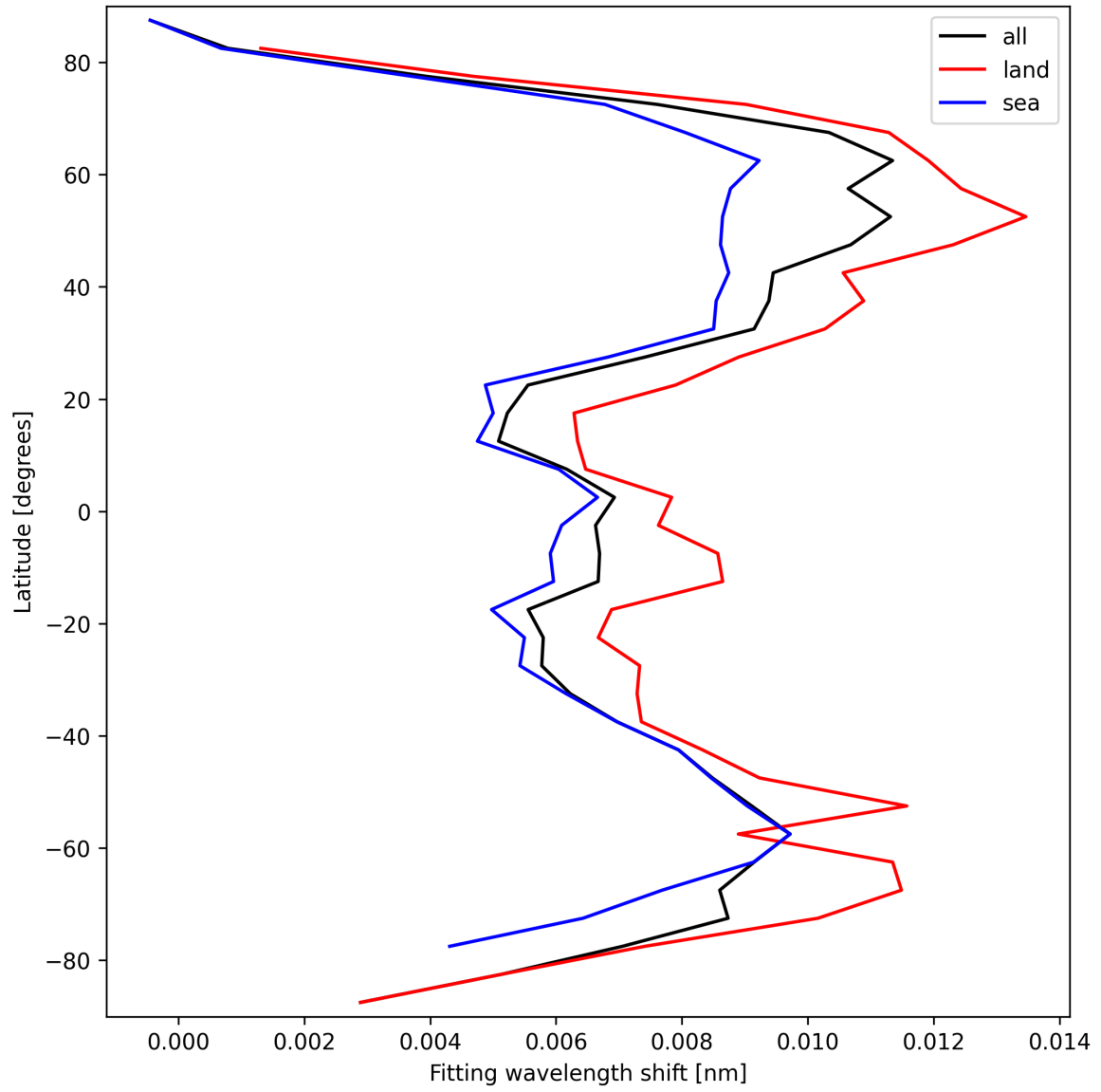


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-10 to 2025-03-10.

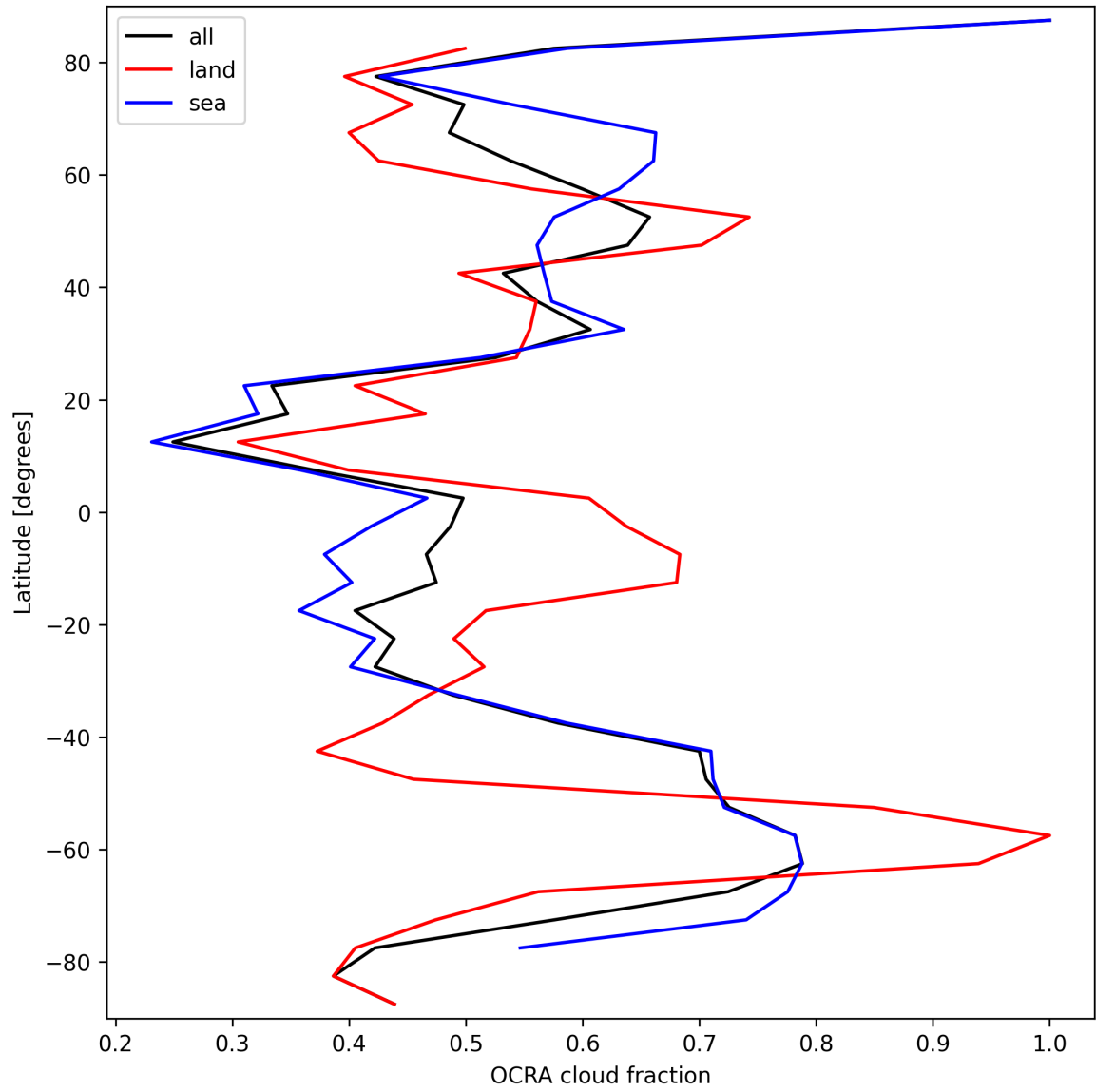


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-10 to 2025-03-10.

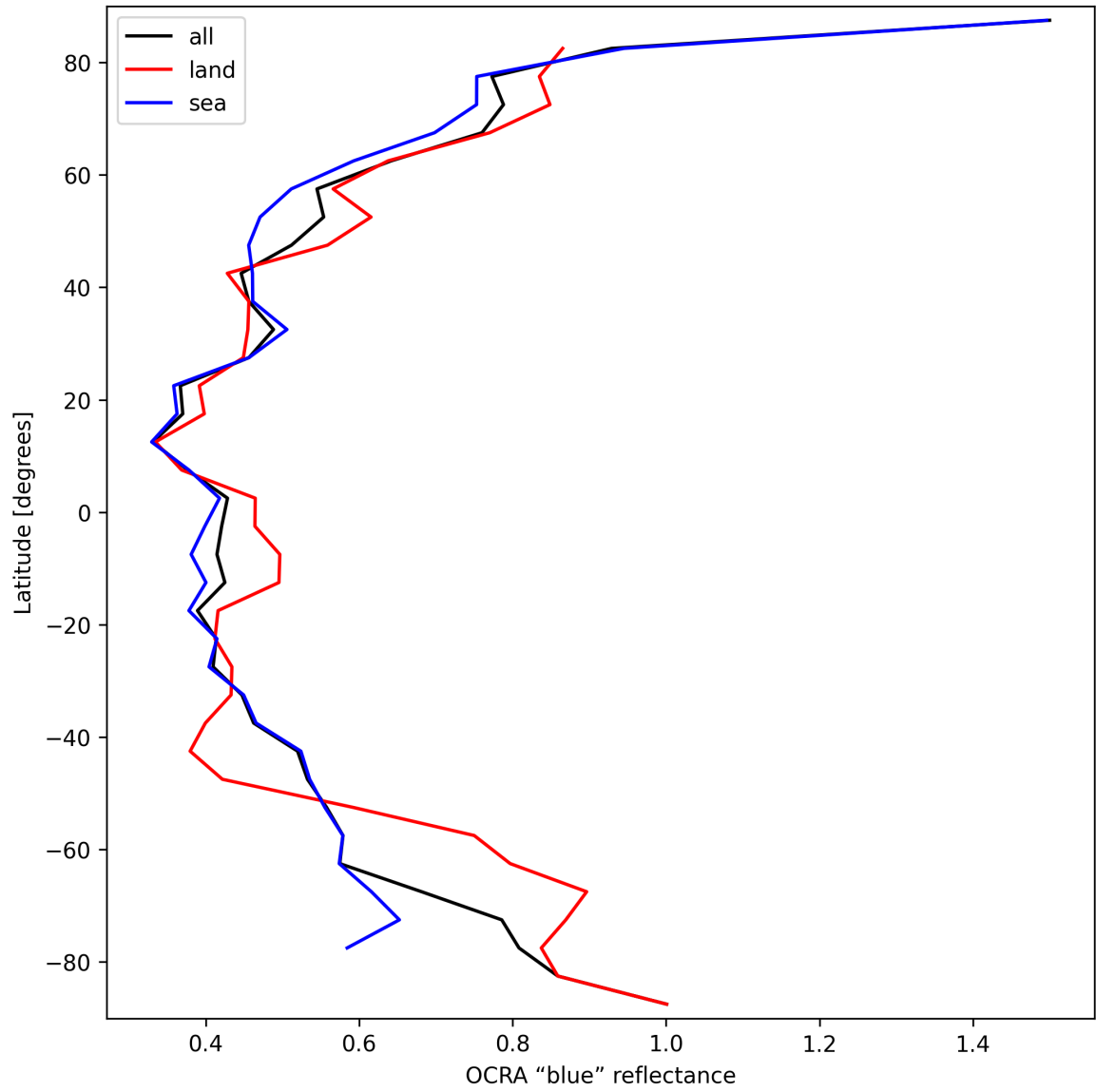


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-10 to 2025-03-10.

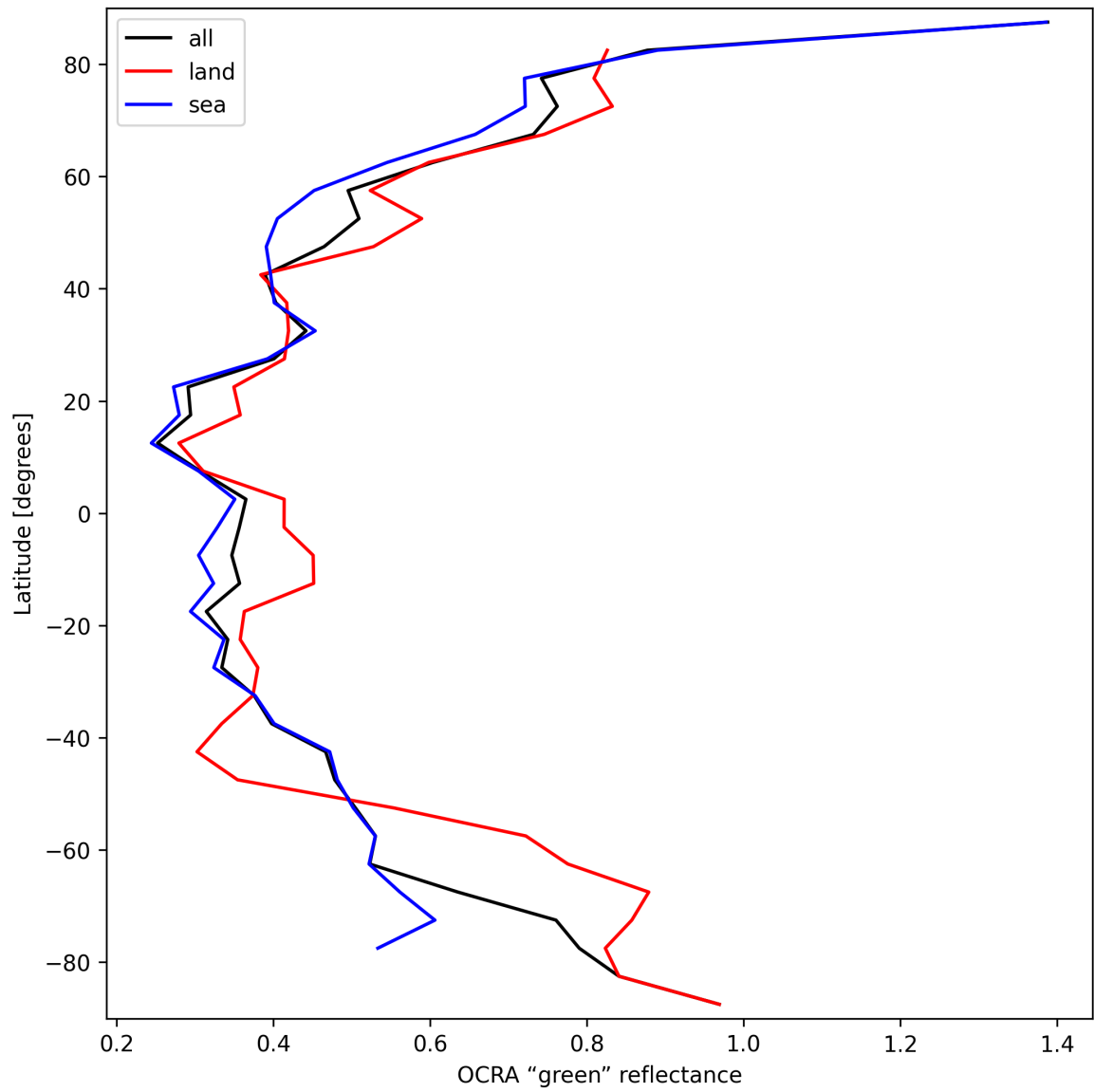


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-10 to 2025-03-10.

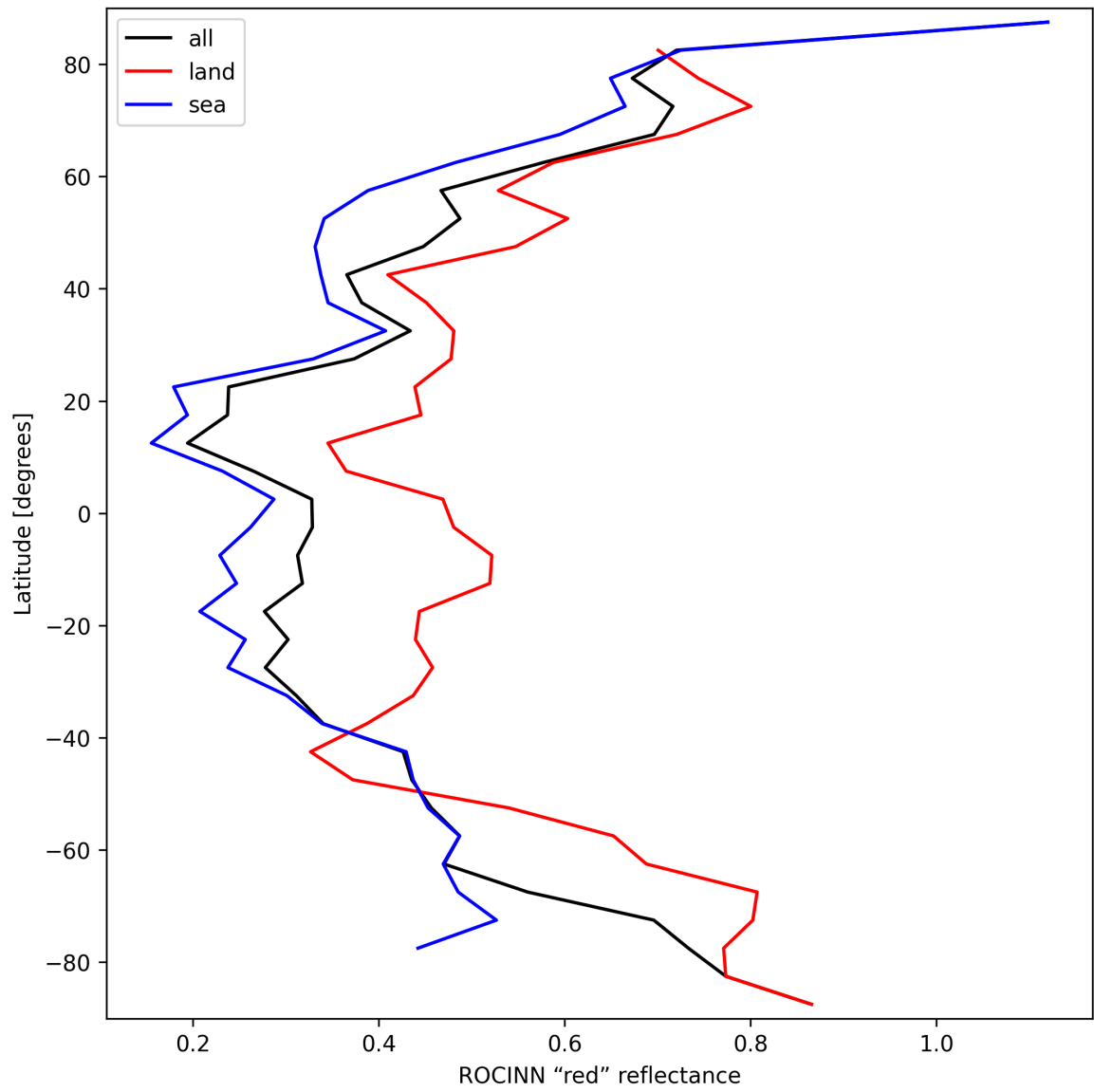


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-10 to 2025-03-10.

8 Histograms

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

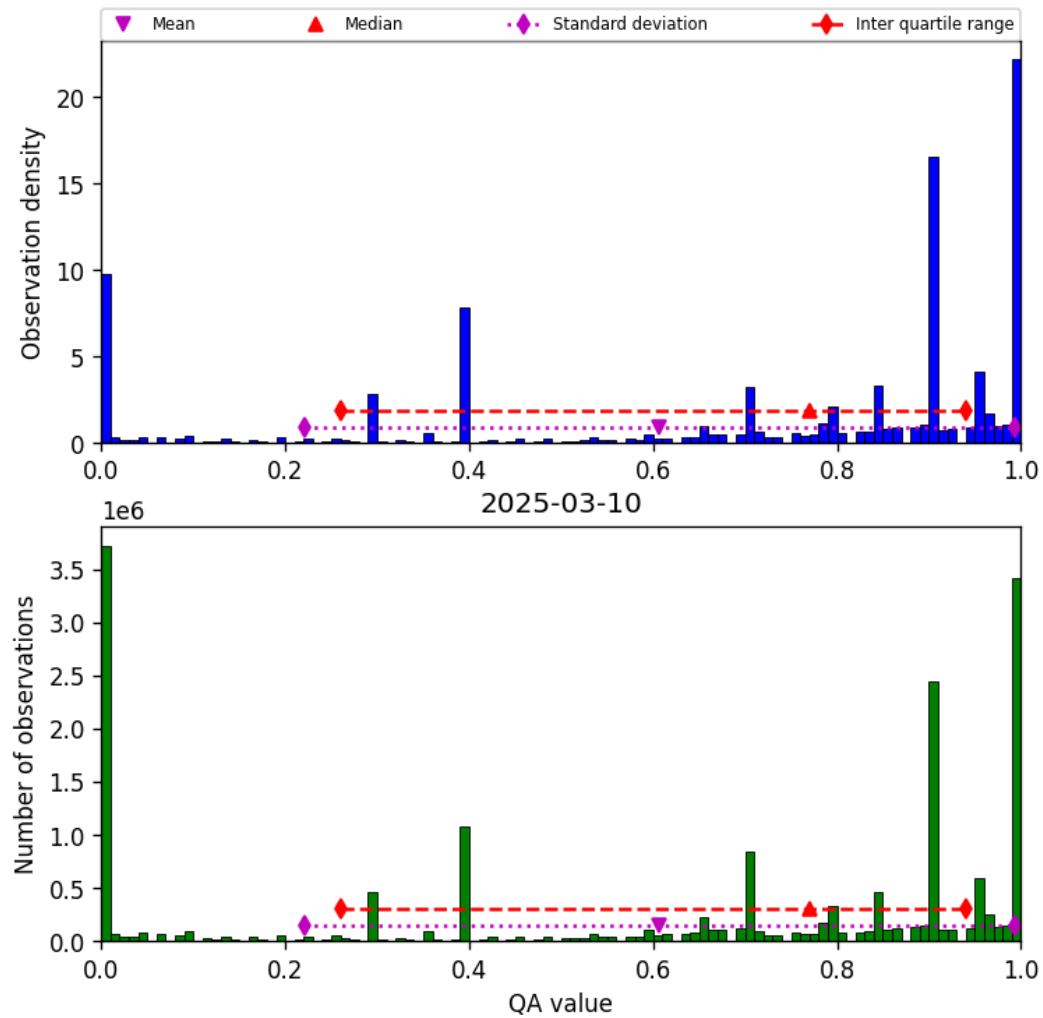


Figure 36: Histogram of “QA value” for 2025-03-10 to 2025-03-10

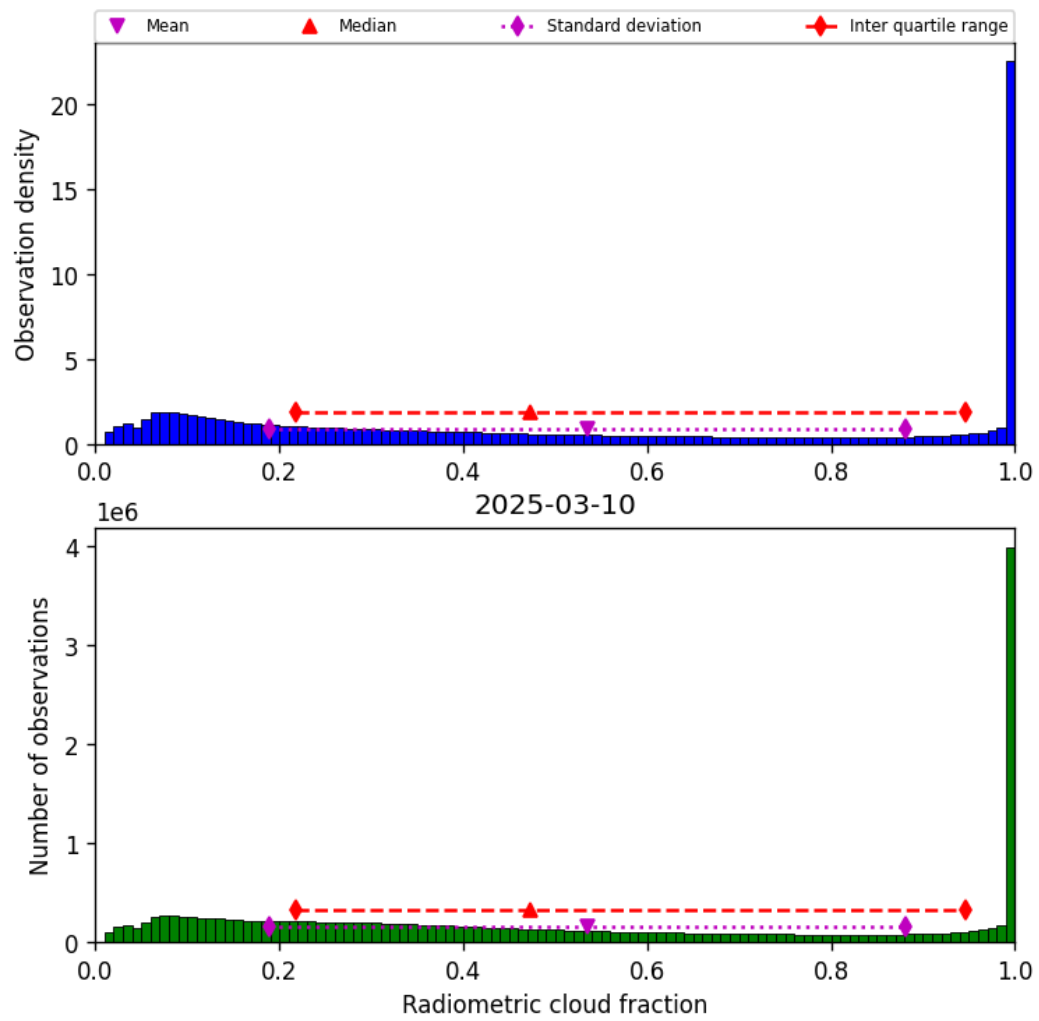


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-10 to 2025-03-10

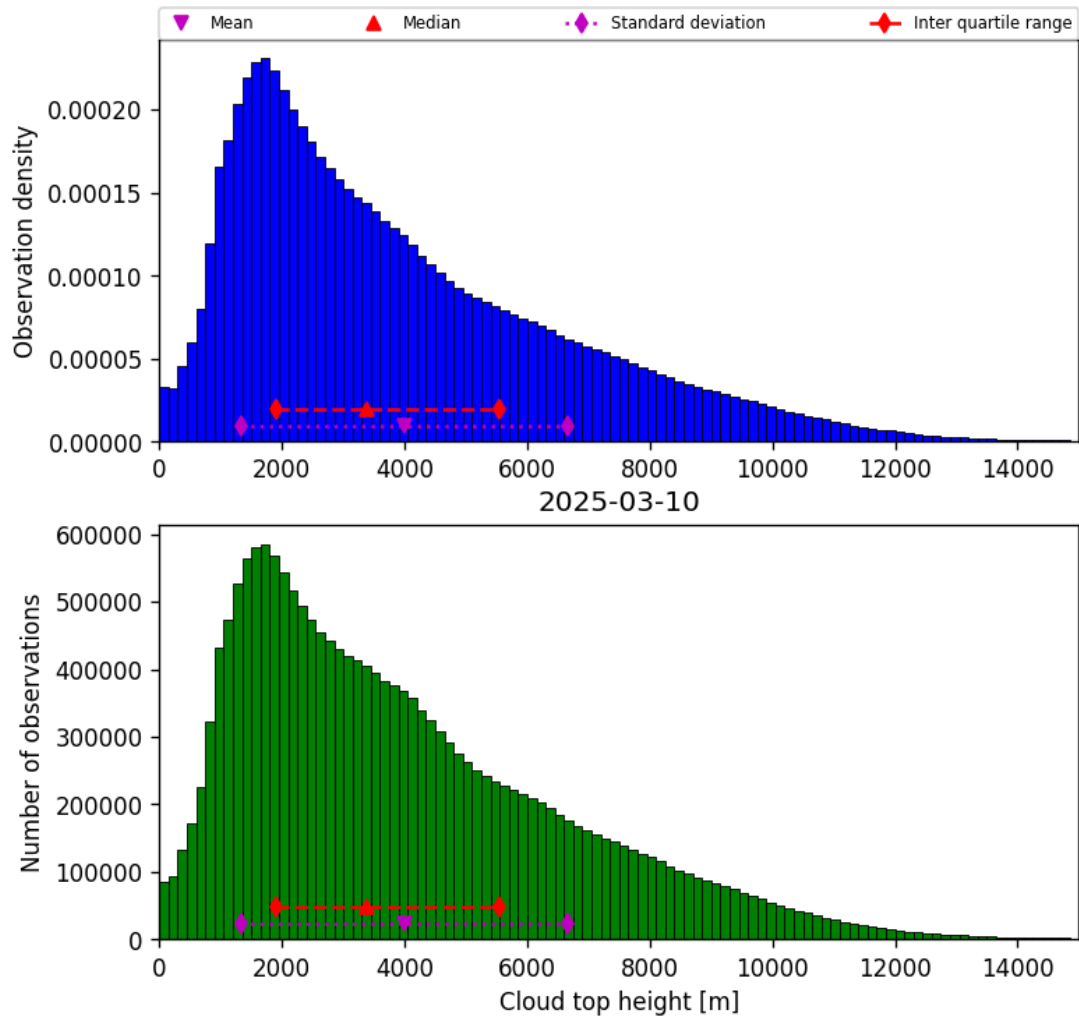


Figure 38: Histogram of “Cloud top height” for 2025-03-10 to 2025-03-10

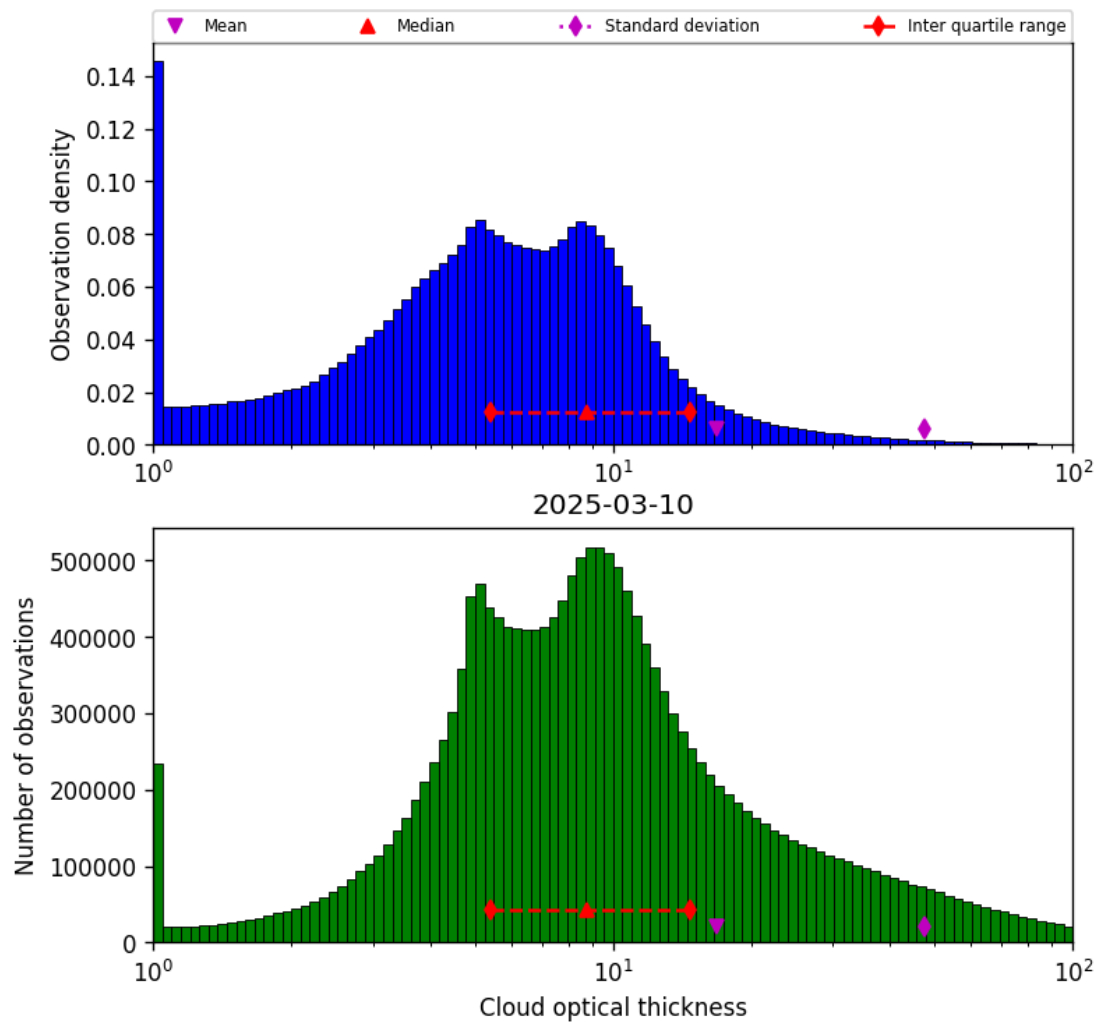


Figure 39: Histogram of “Cloud optical thickness” for 2025-03-10 to 2025-03-10

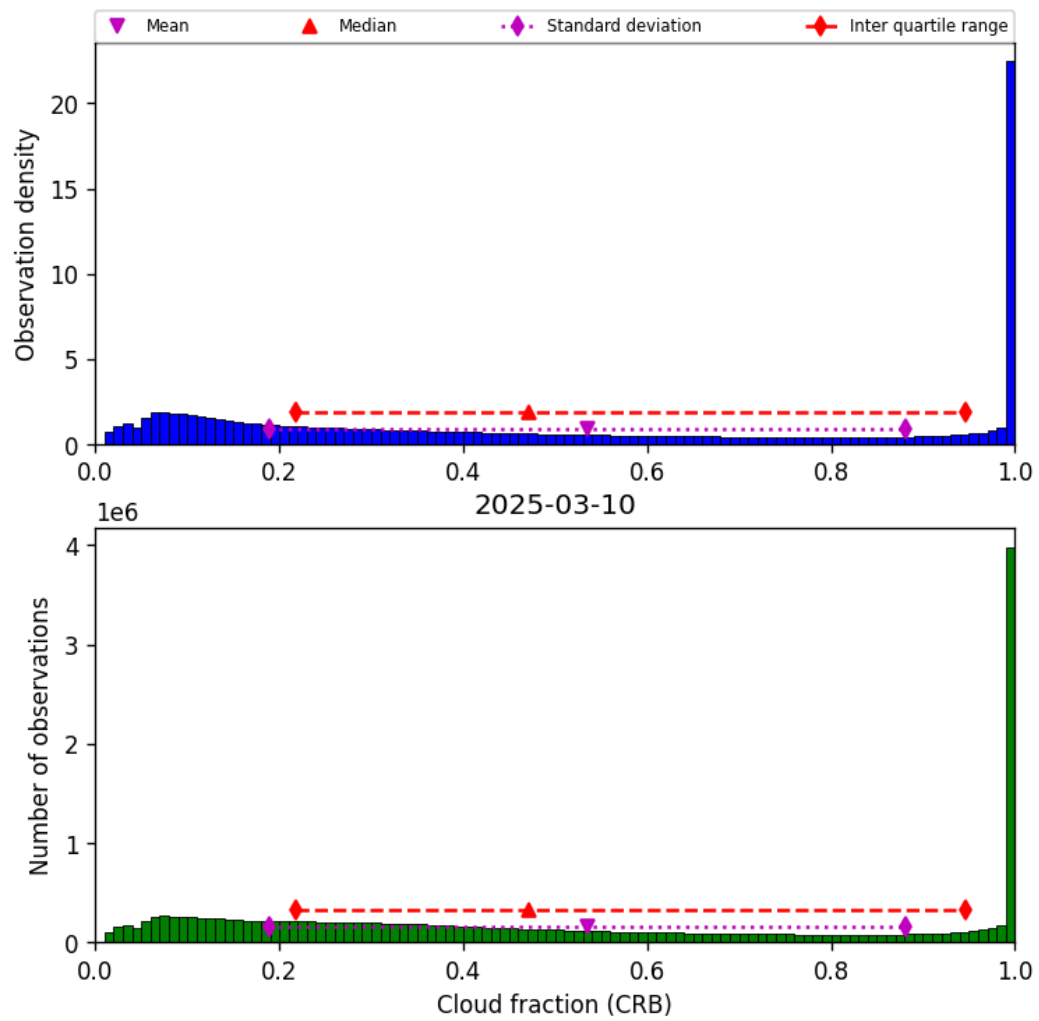


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-10 to 2025-03-10

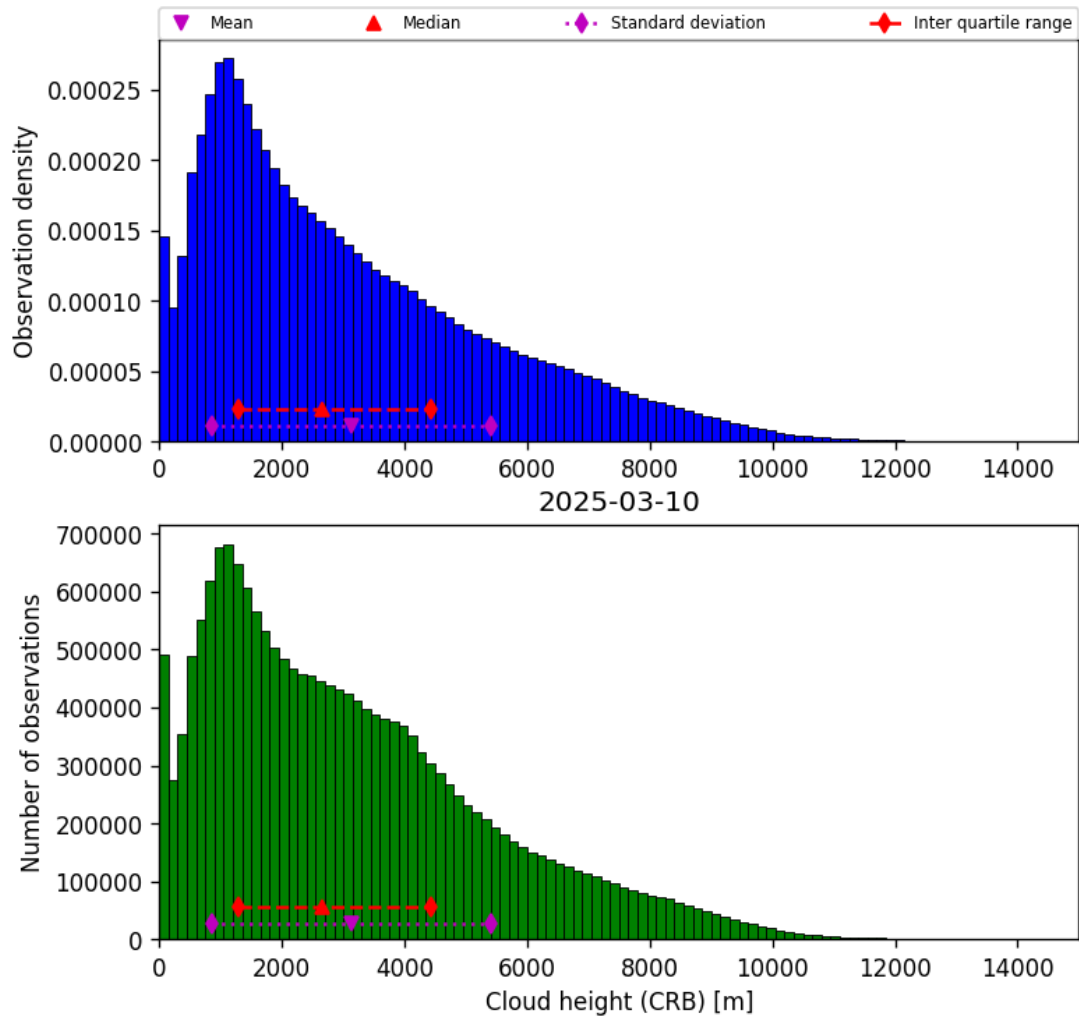


Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-10 to 2025-03-10

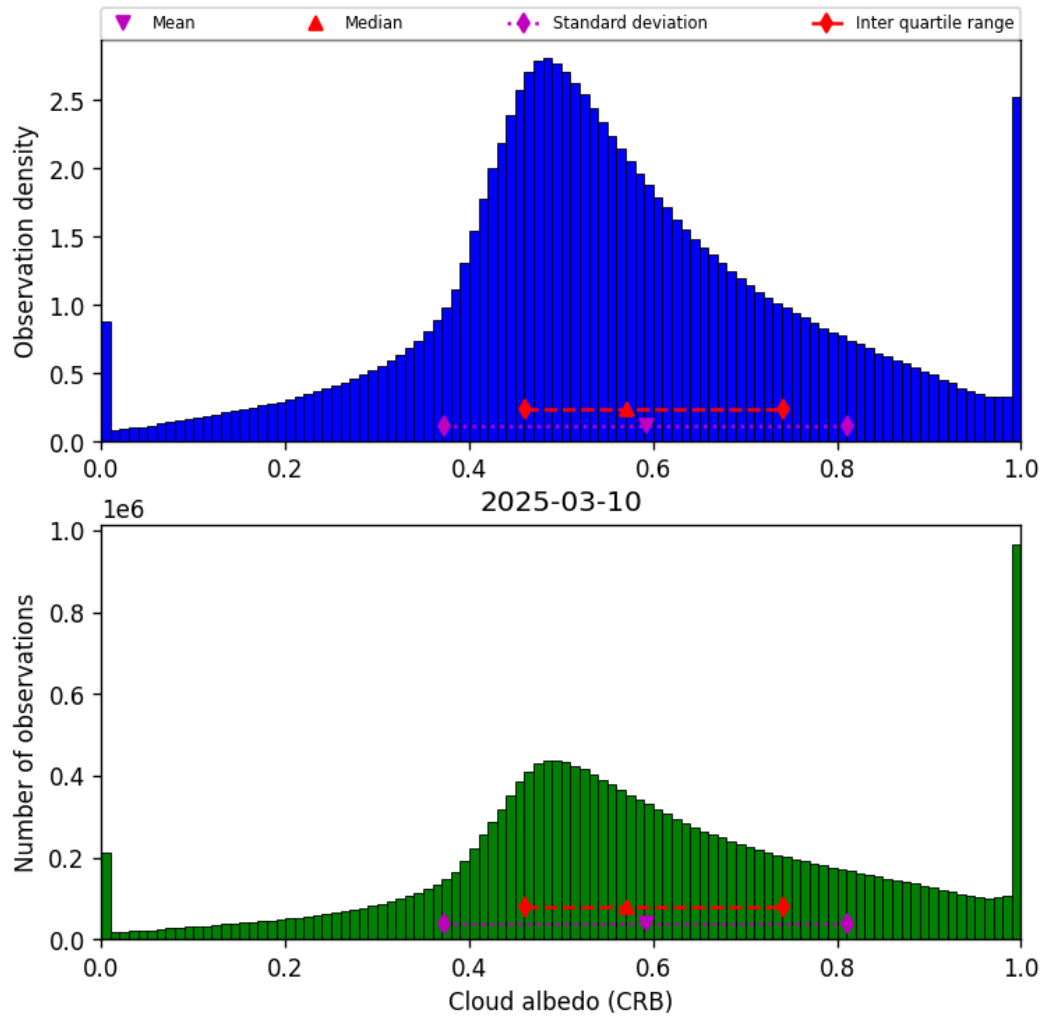


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-10 to 2025-03-10

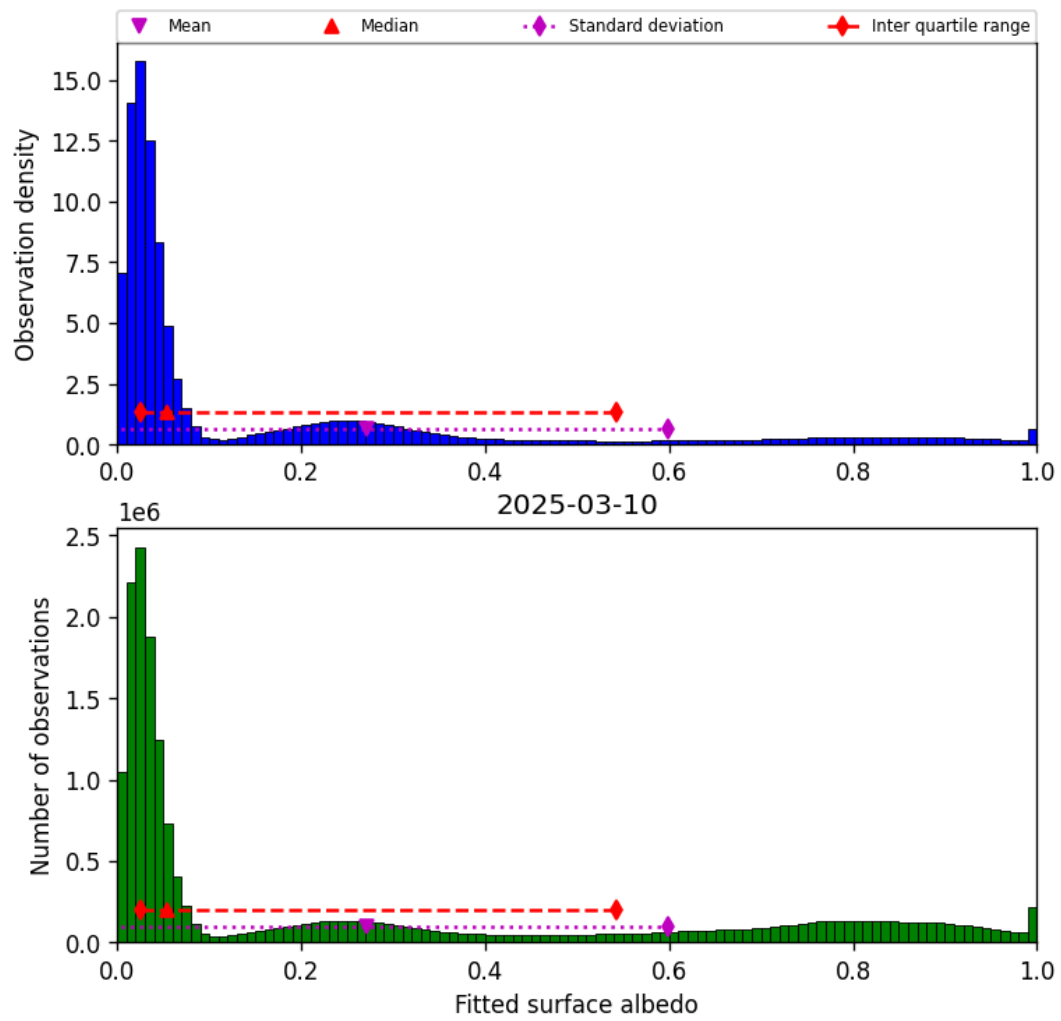


Figure 43: Histogram of “Fitted surface albedo” for 2025-03-10 to 2025-03-10

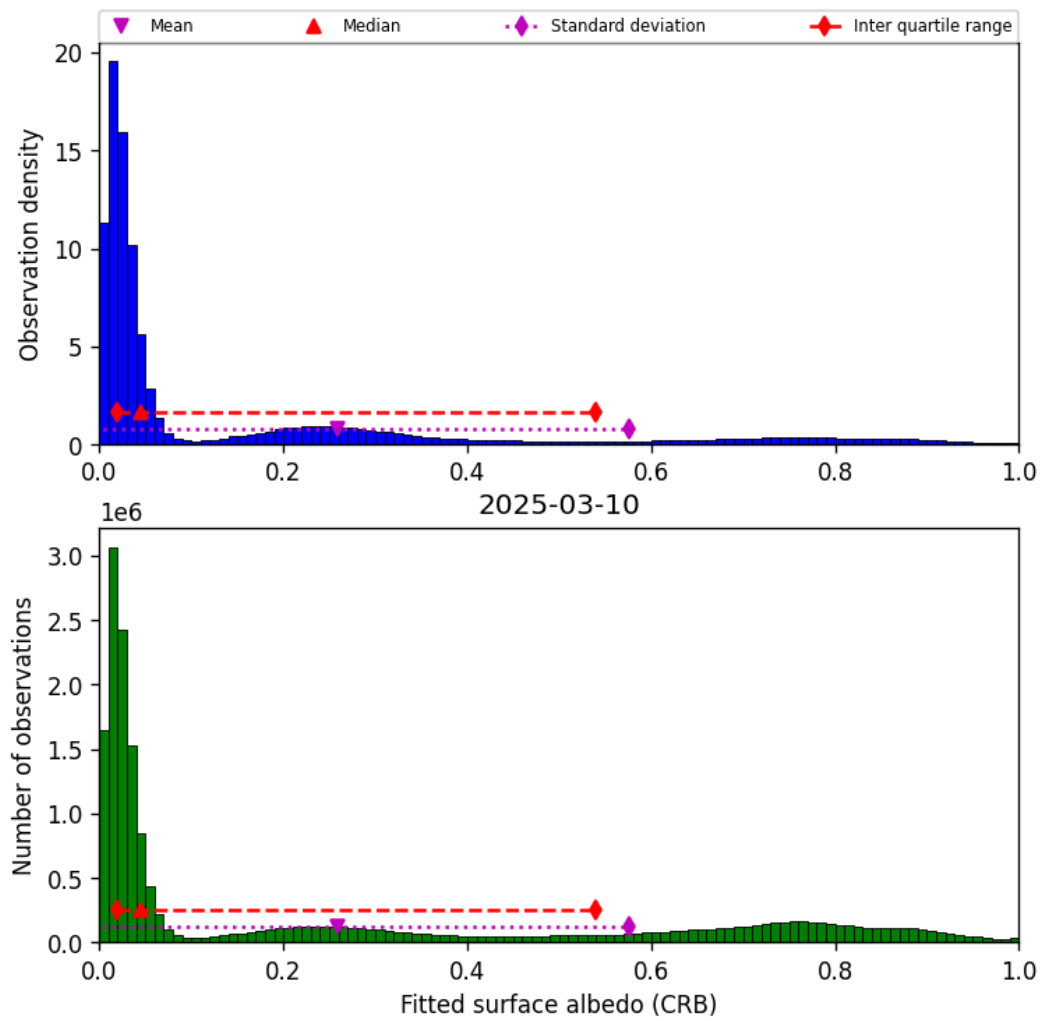


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-10 to 2025-03-10

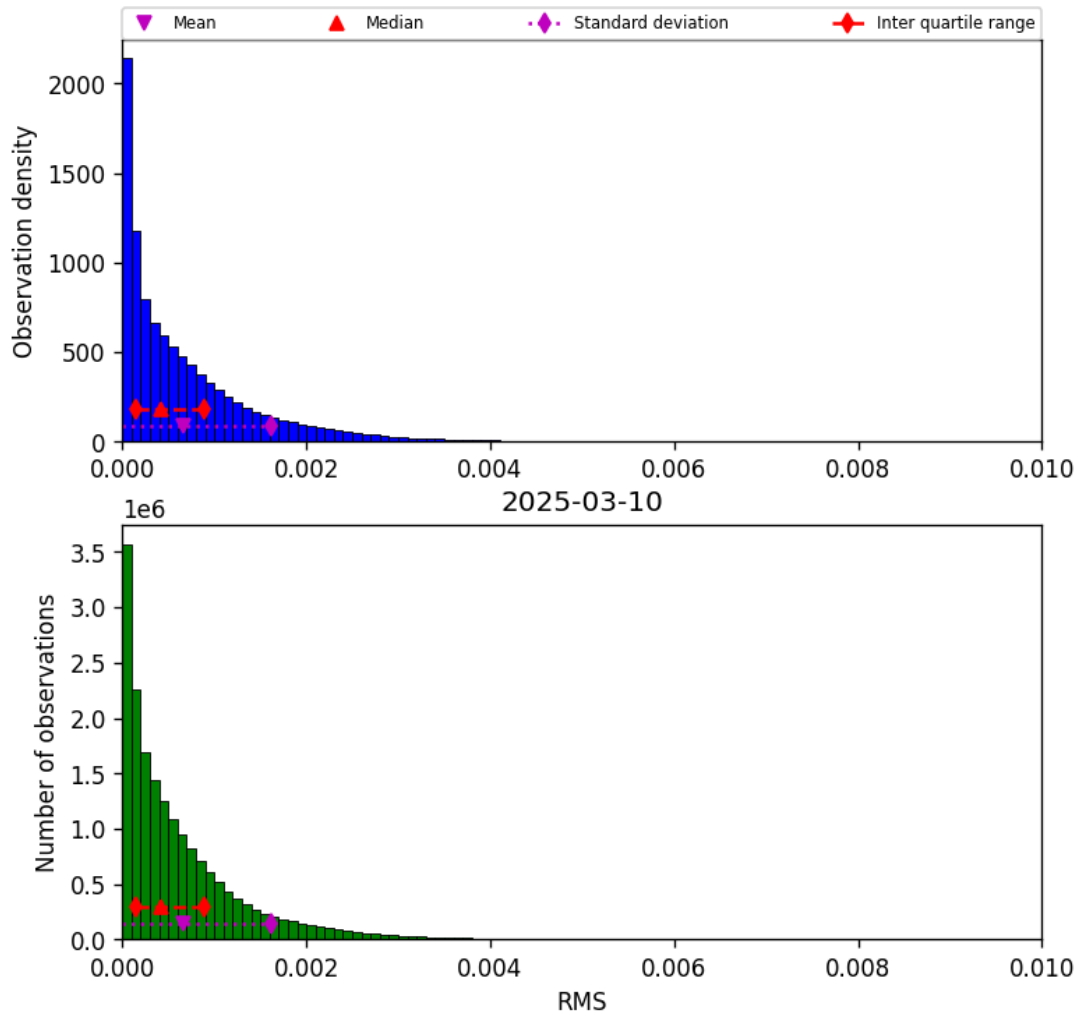


Figure 45: Histogram of “RMS” for 2025-03-10 to 2025-03-10

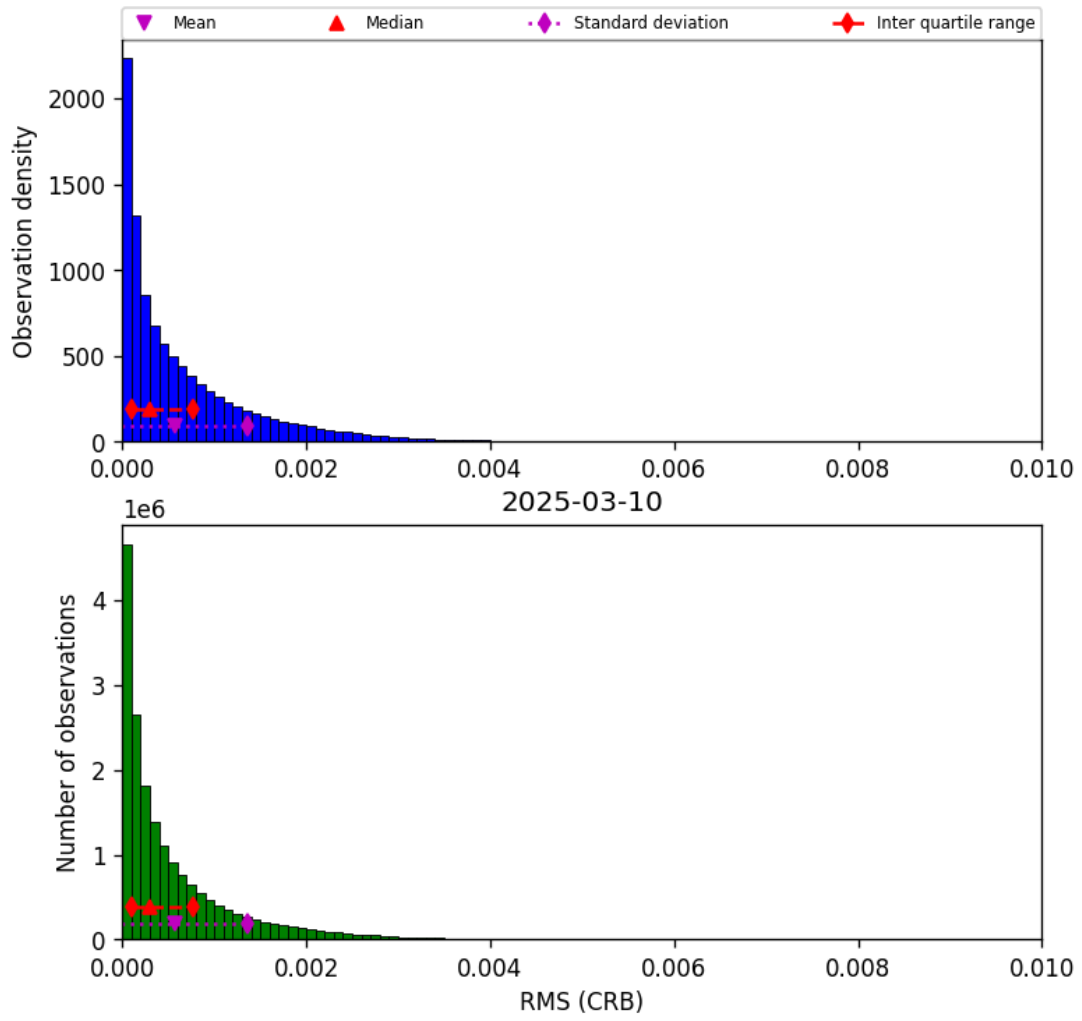


Figure 46: Histogram of “RMS (CRB)” for 2025-03-10 to 2025-03-10

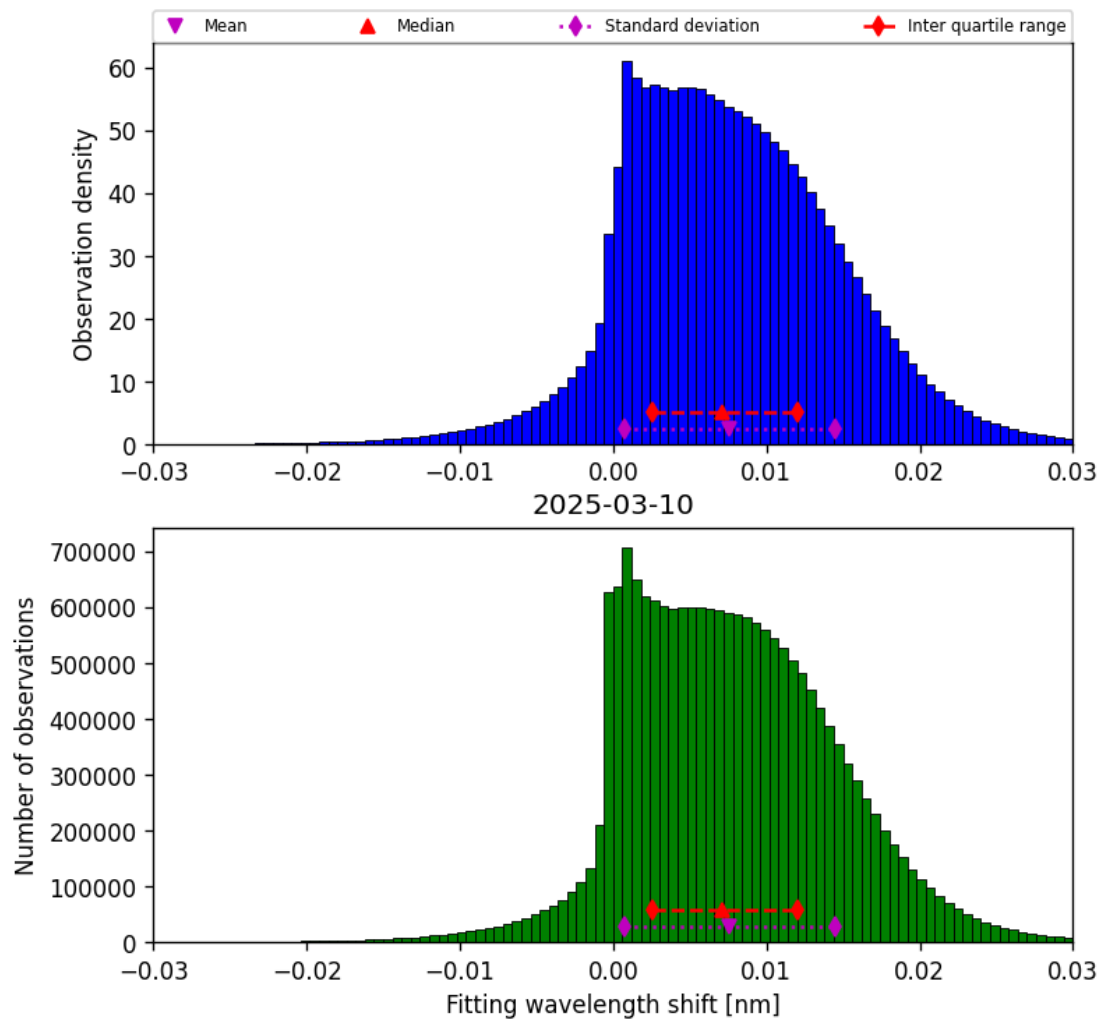


Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-10 to 2025-03-10

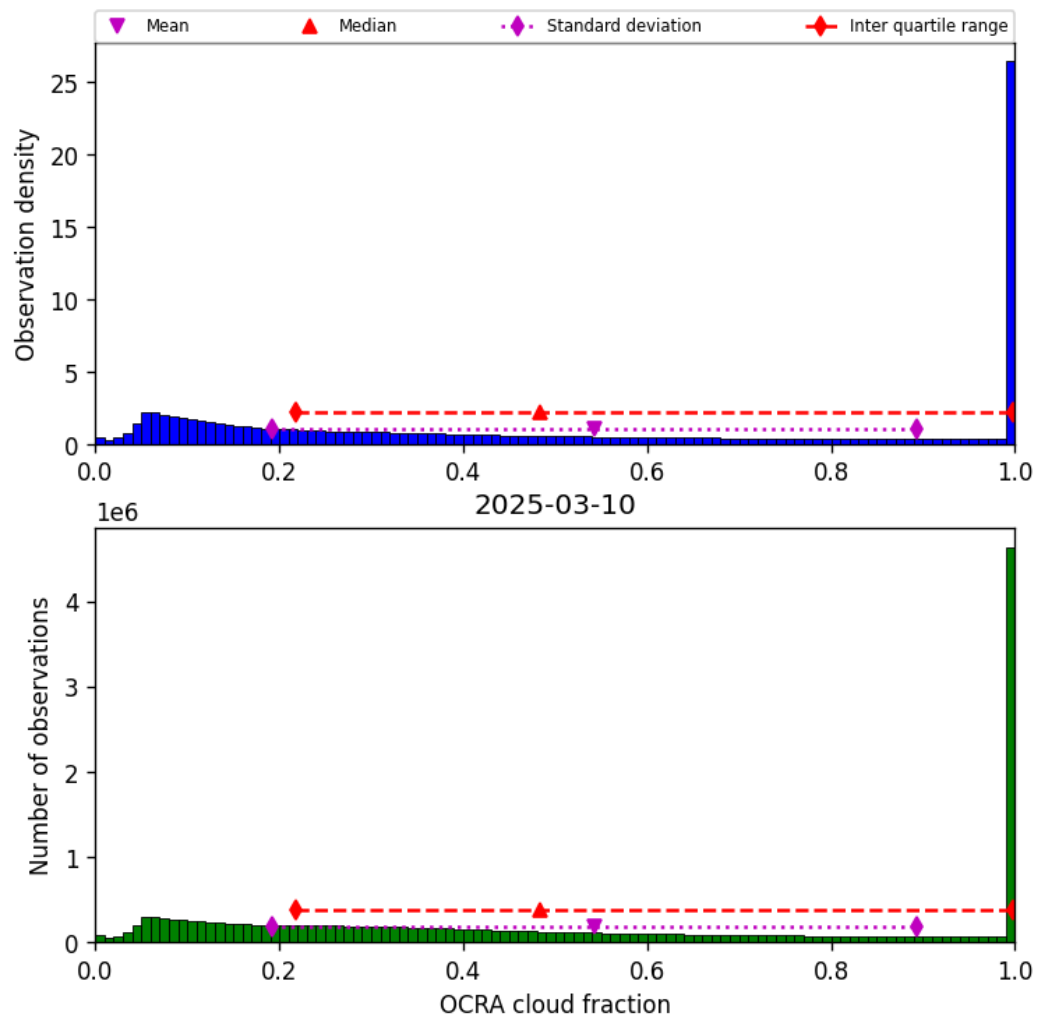


Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-10 to 2025-03-10

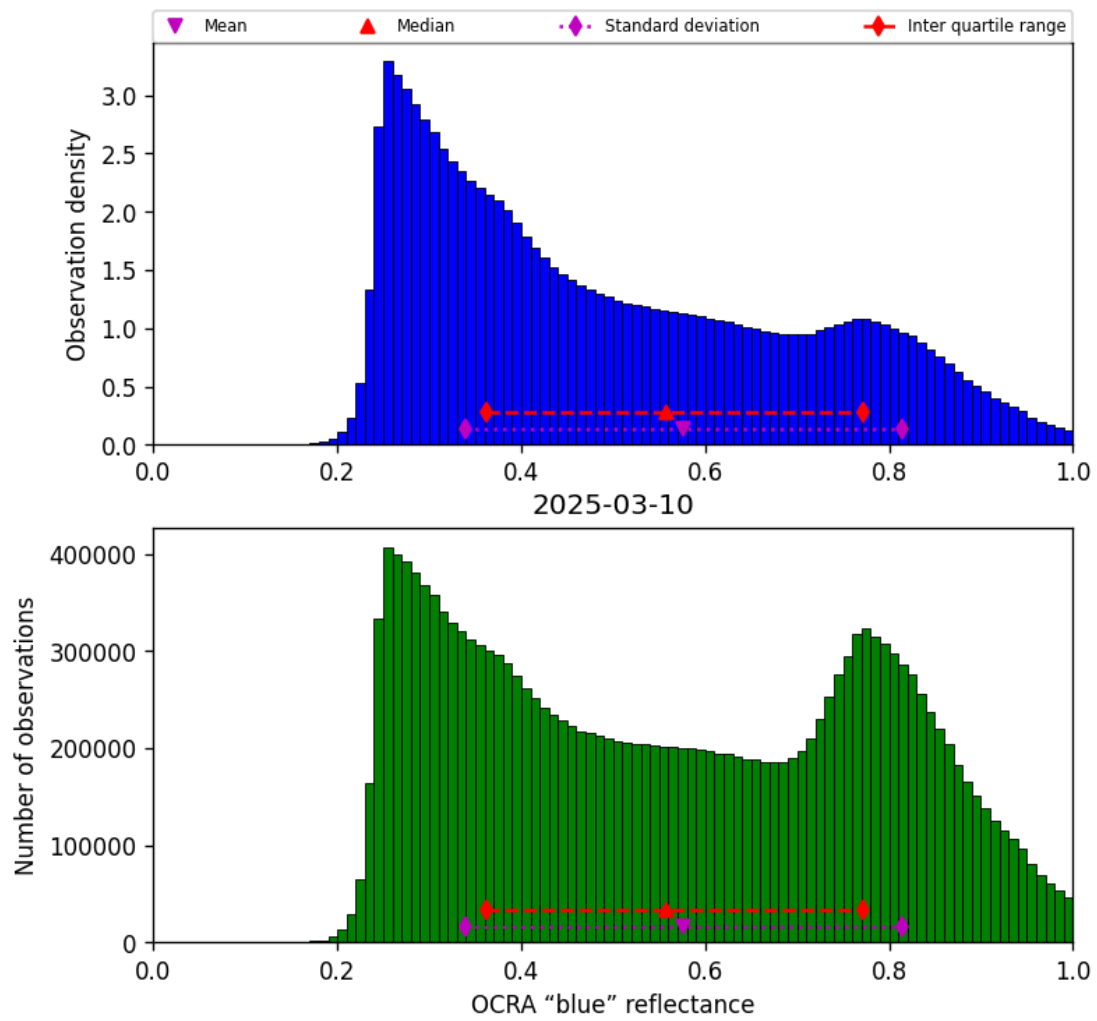


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-03-10 to 2025-03-10

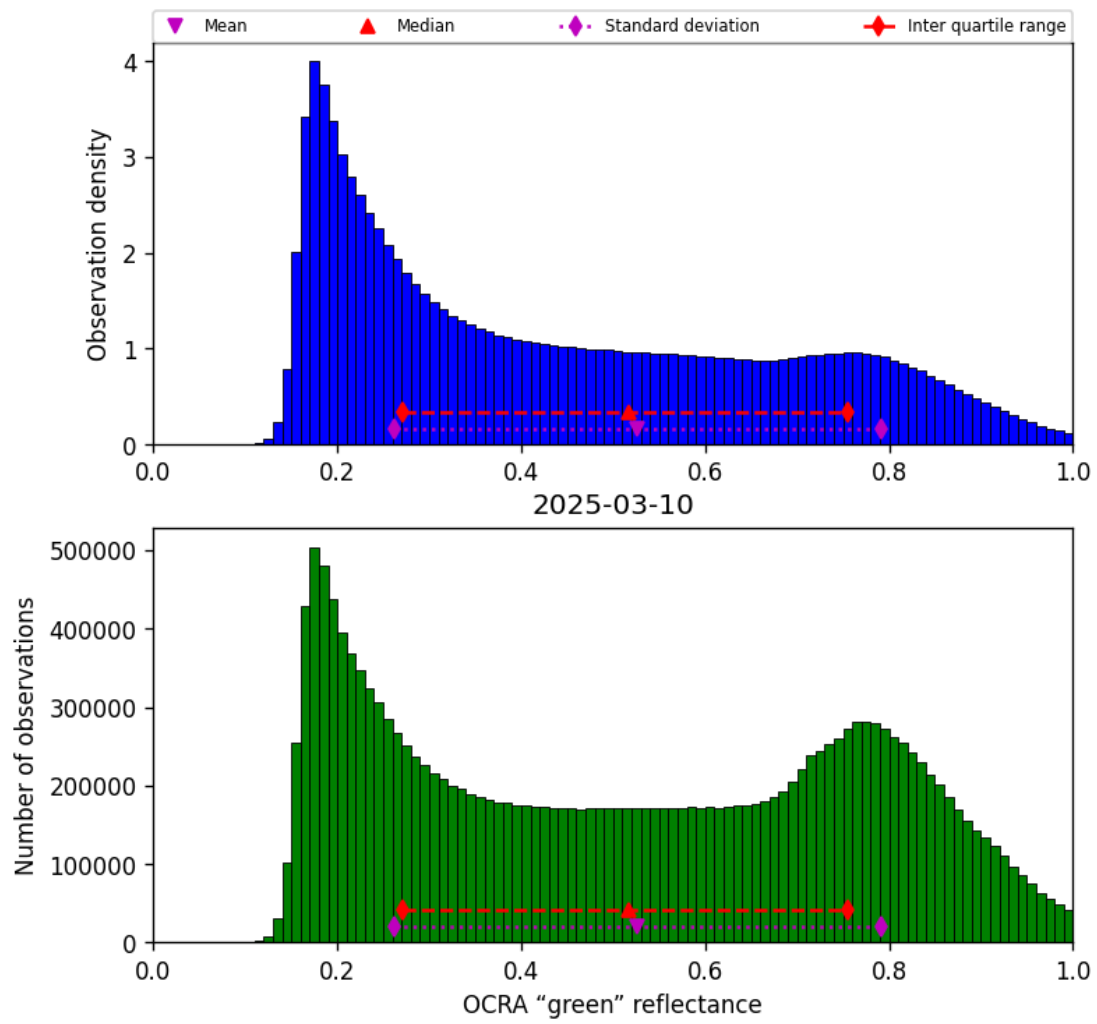


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-10 to 2025-03-10

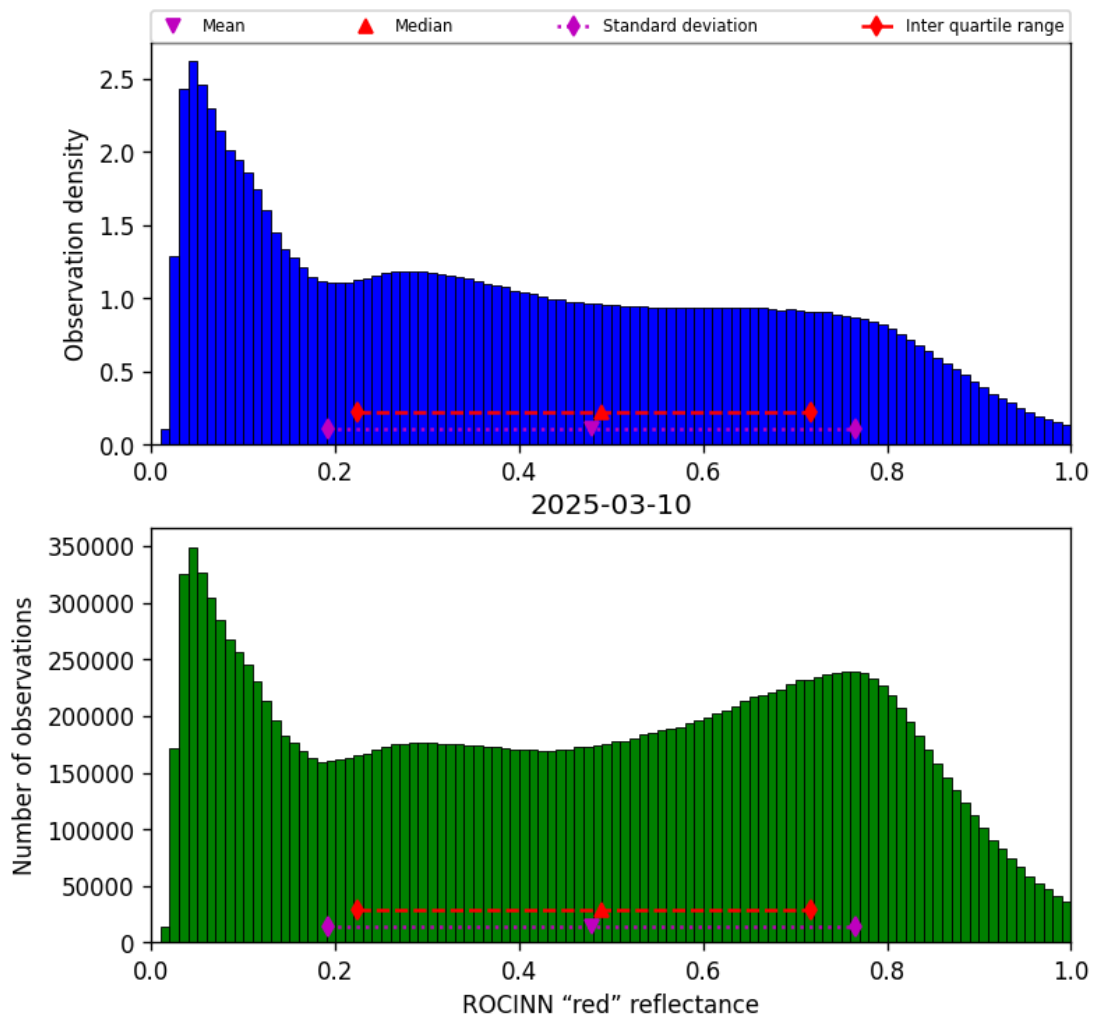


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-10 to 2025-03-10

9 Along track statistics

The TROPOMI instrument uses different binned detector rows for different viewing directions. In this section statistics are presented for each of the binned rows in the instrument.

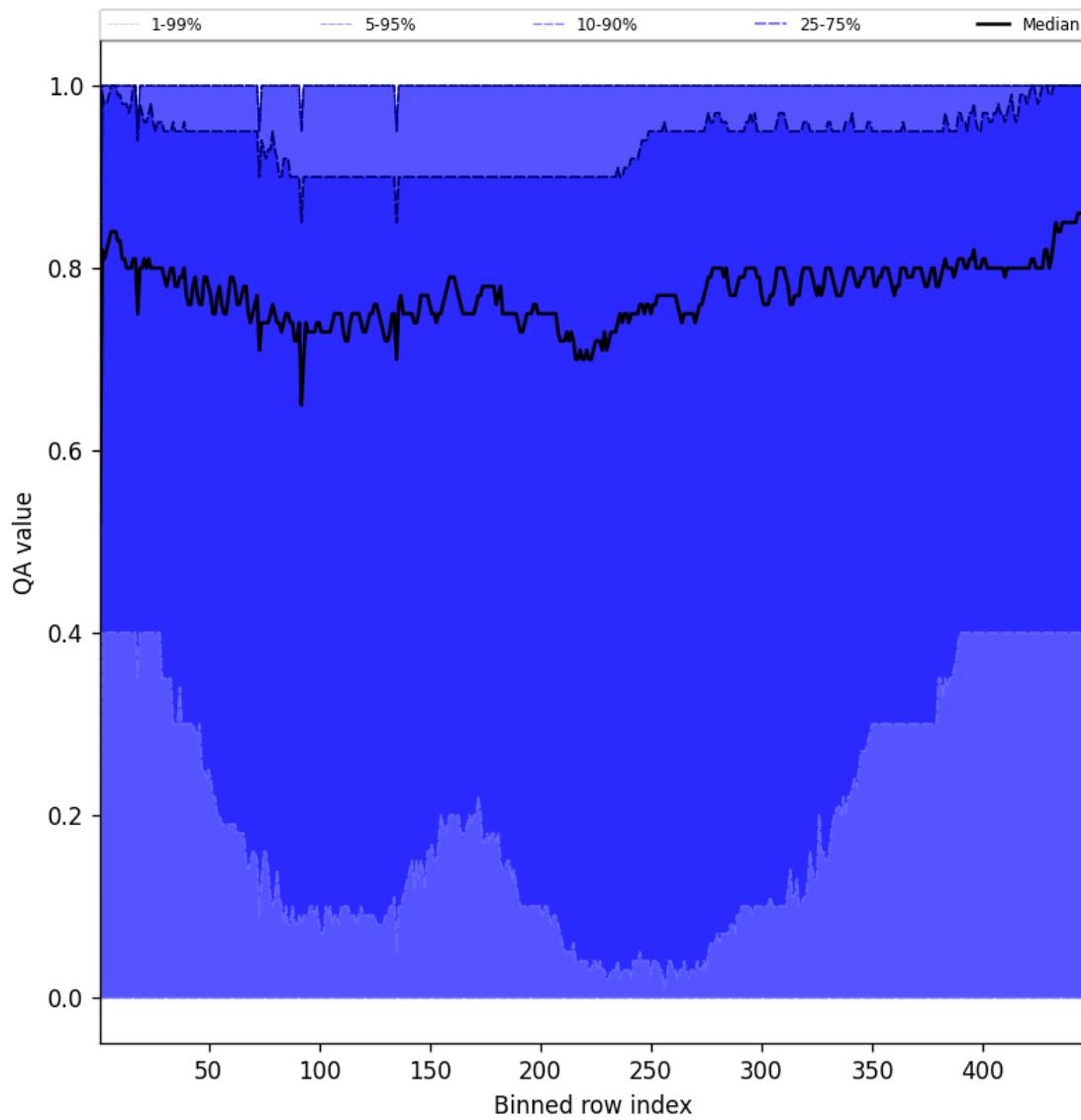


Figure 52: Along track statistics of “QA value” for 2025-03-10 to 2025-03-10

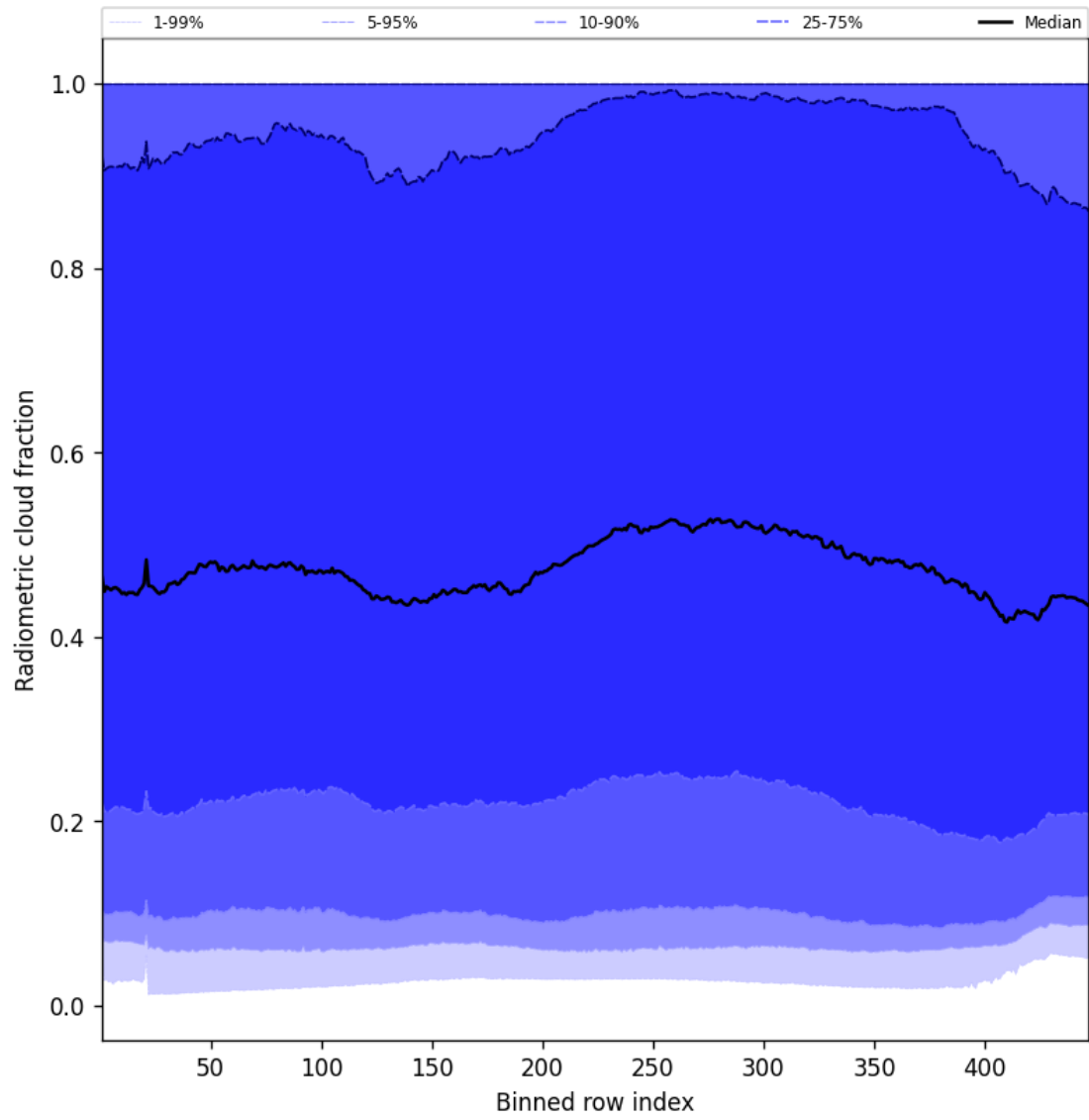


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-10 to 2025-03-10

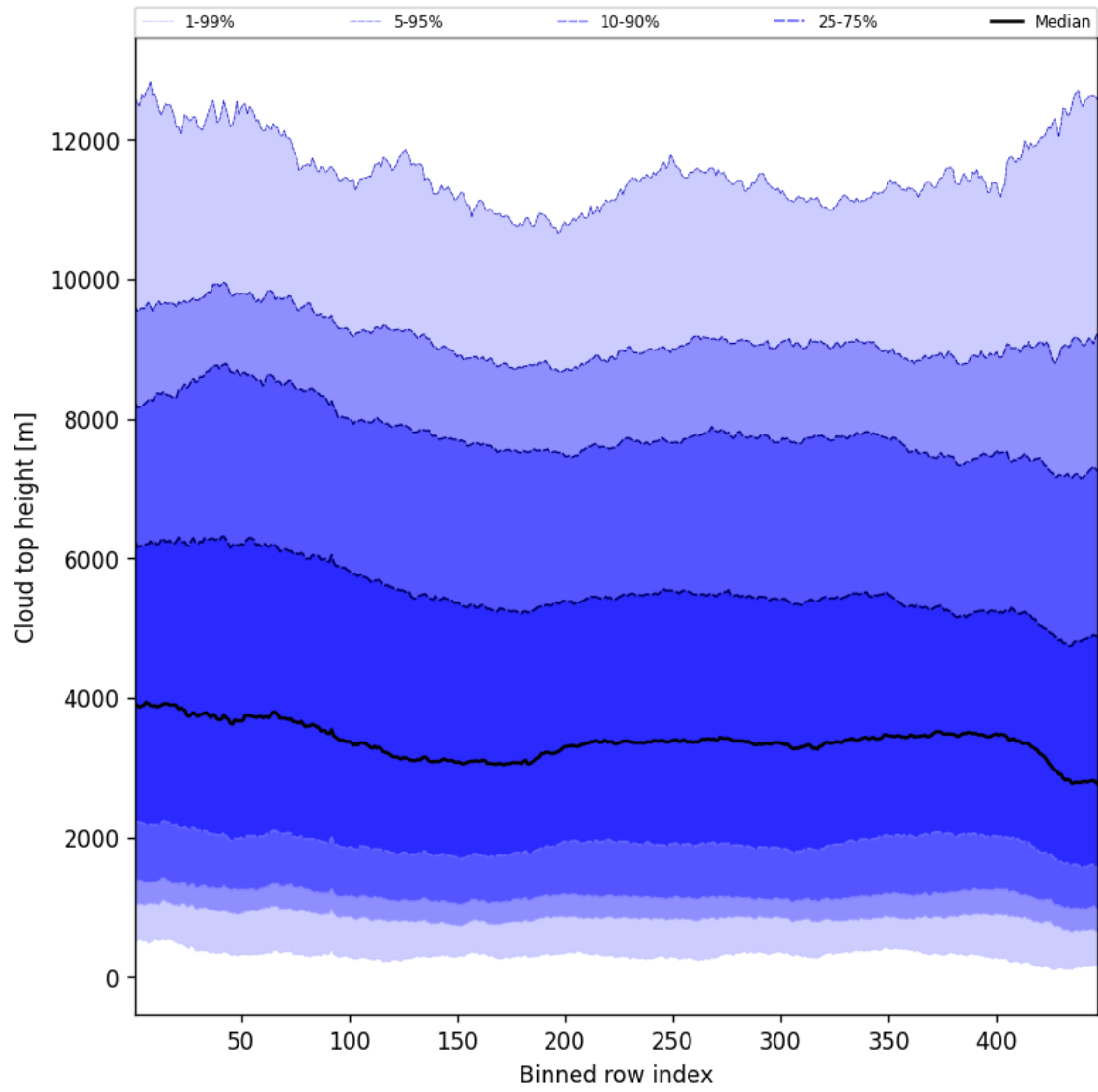


Figure 54: Along track statistics of “Cloud top height” for 2025-03-10 to 2025-03-10

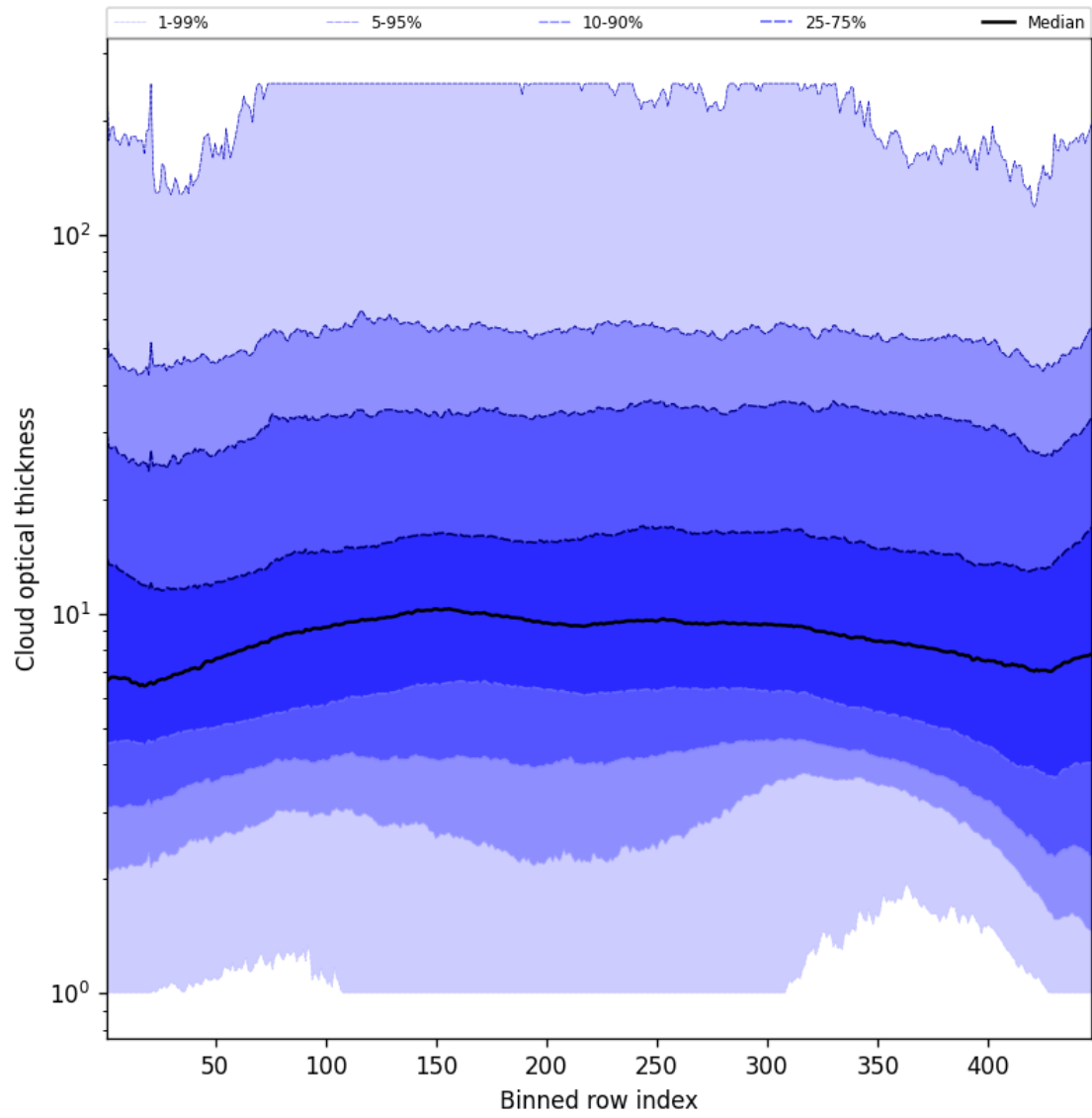


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-10 to 2025-03-10

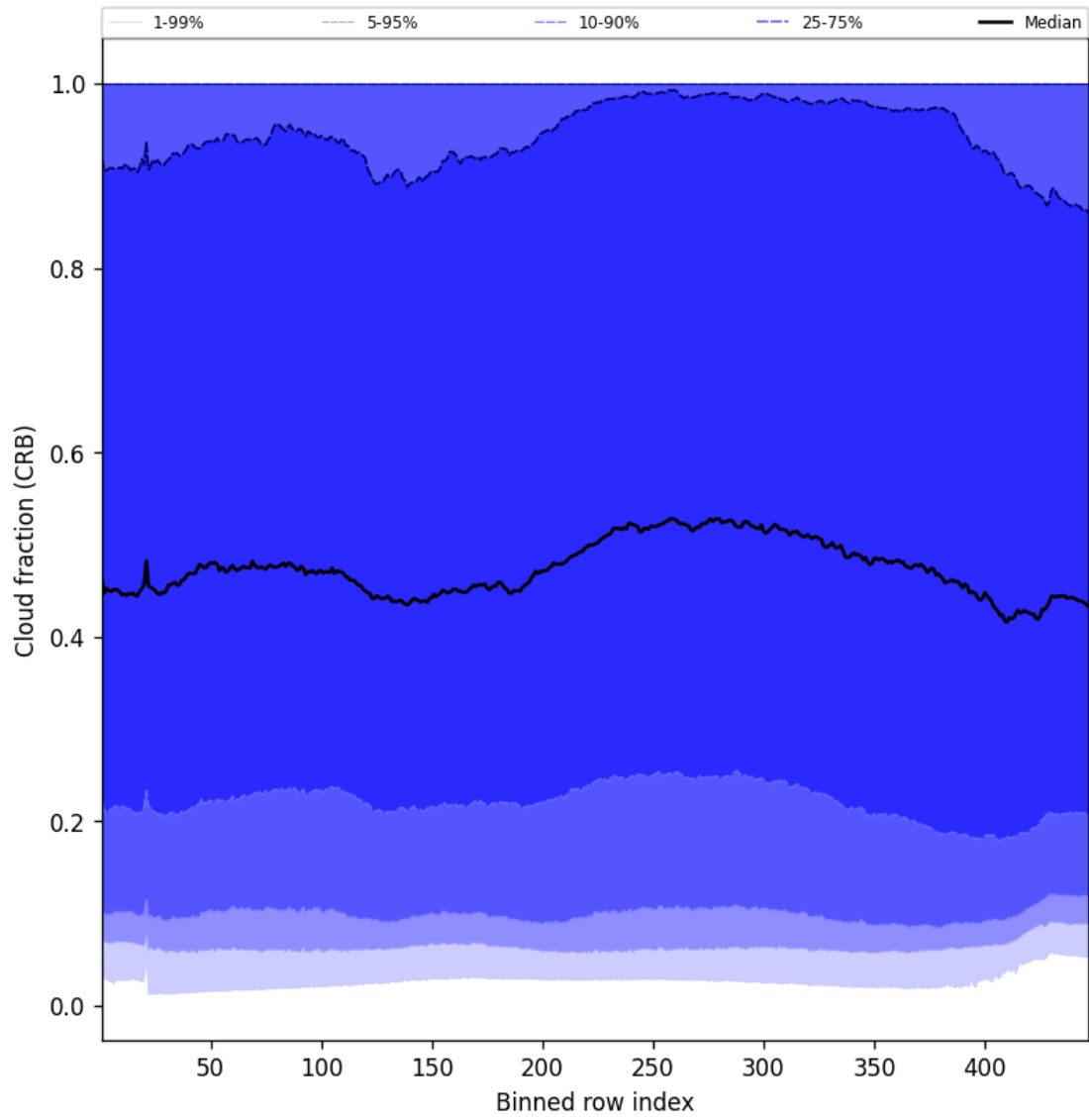


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-10 to 2025-03-10

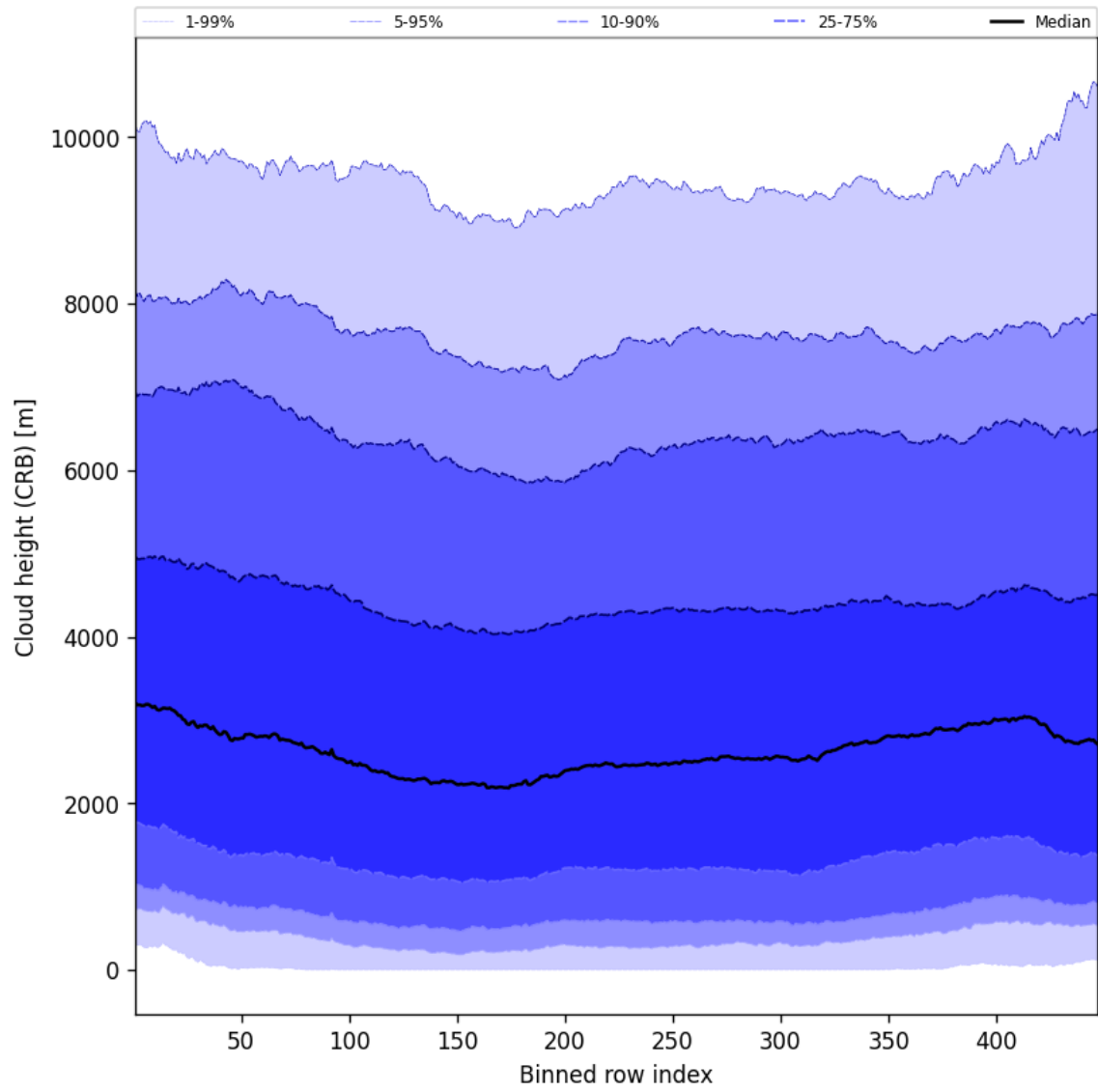


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-10 to 2025-03-10

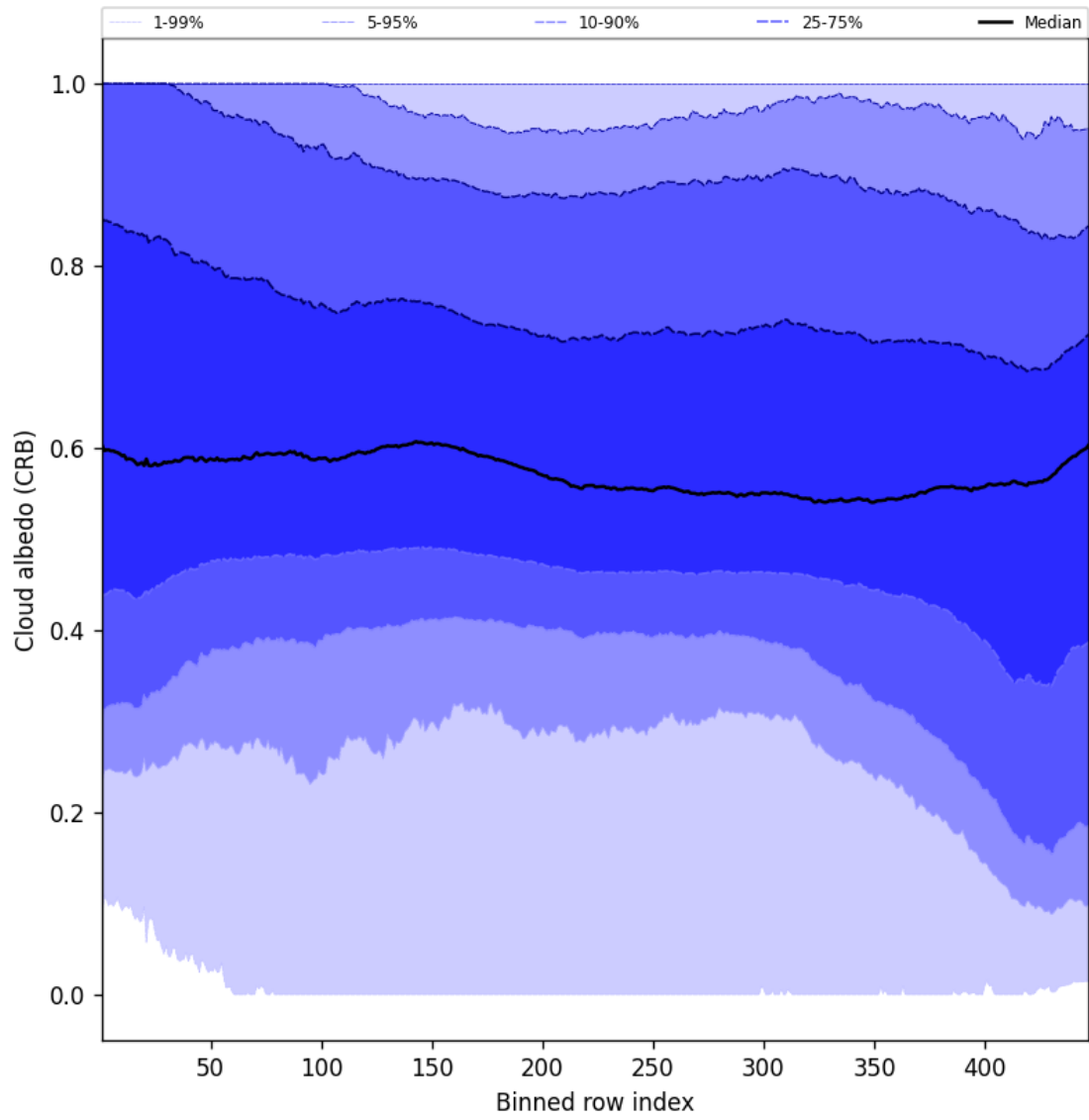


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-10 to 2025-03-10

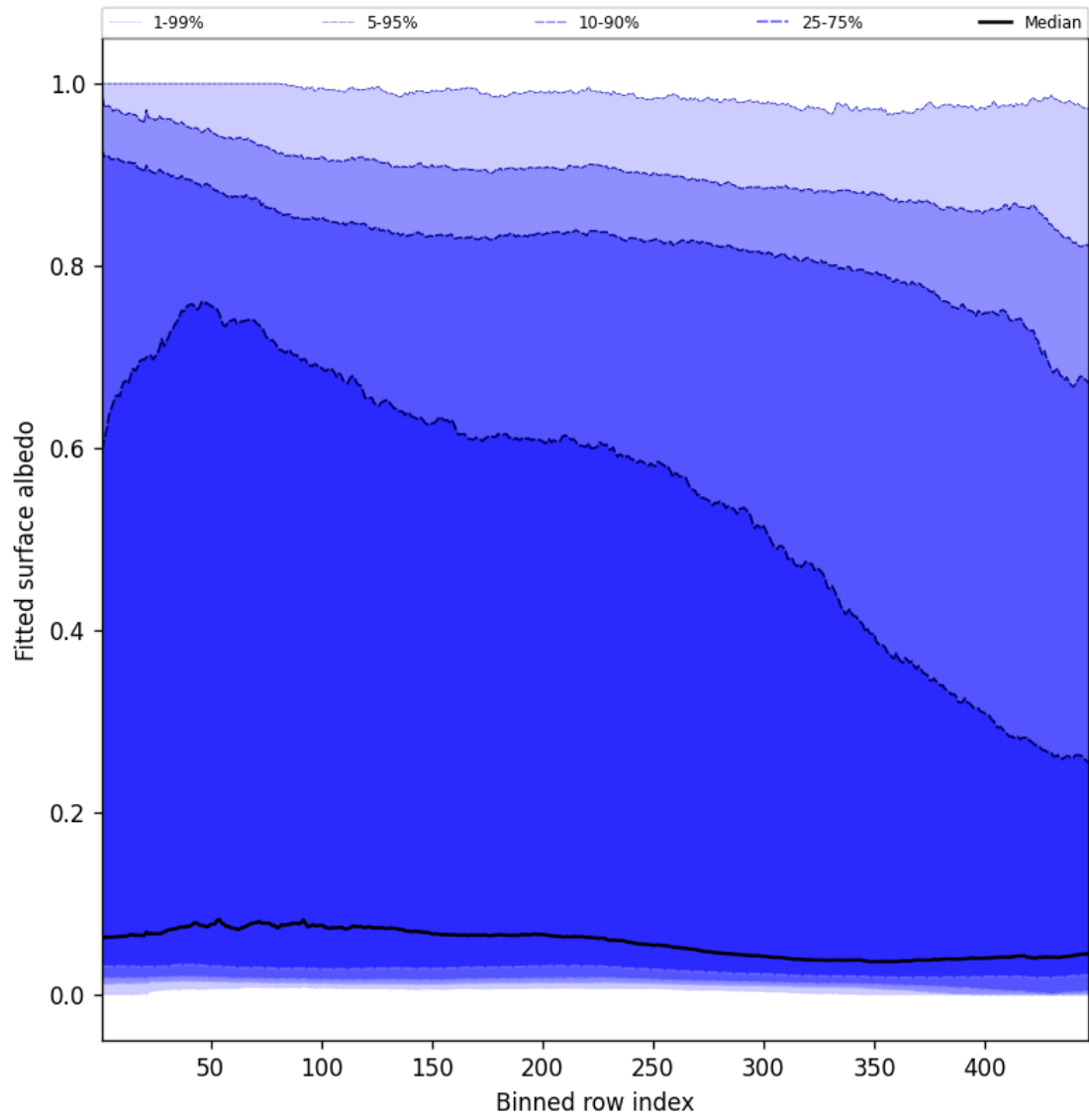


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-10 to 2025-03-10

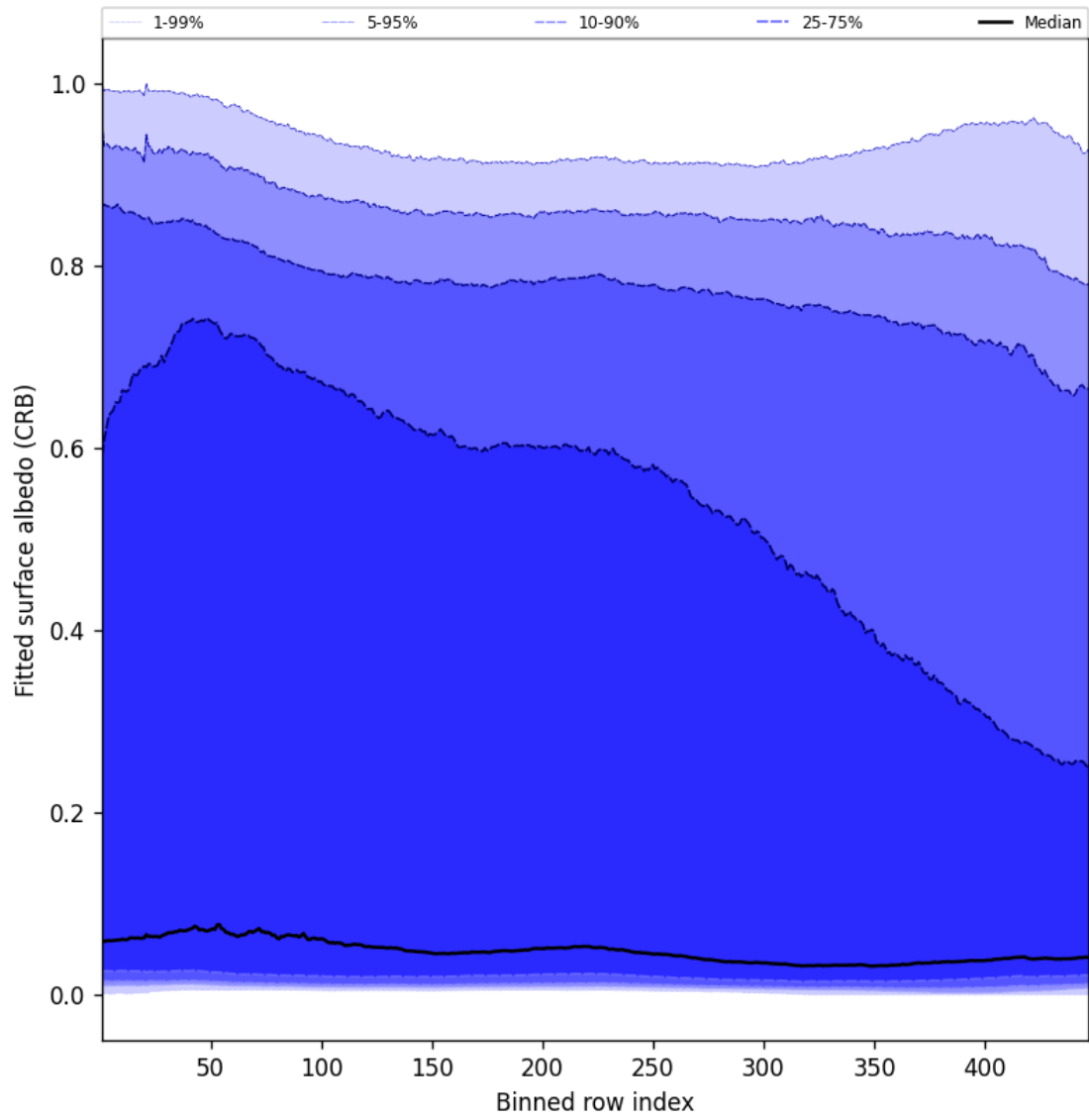


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-10 to 2025-03-10

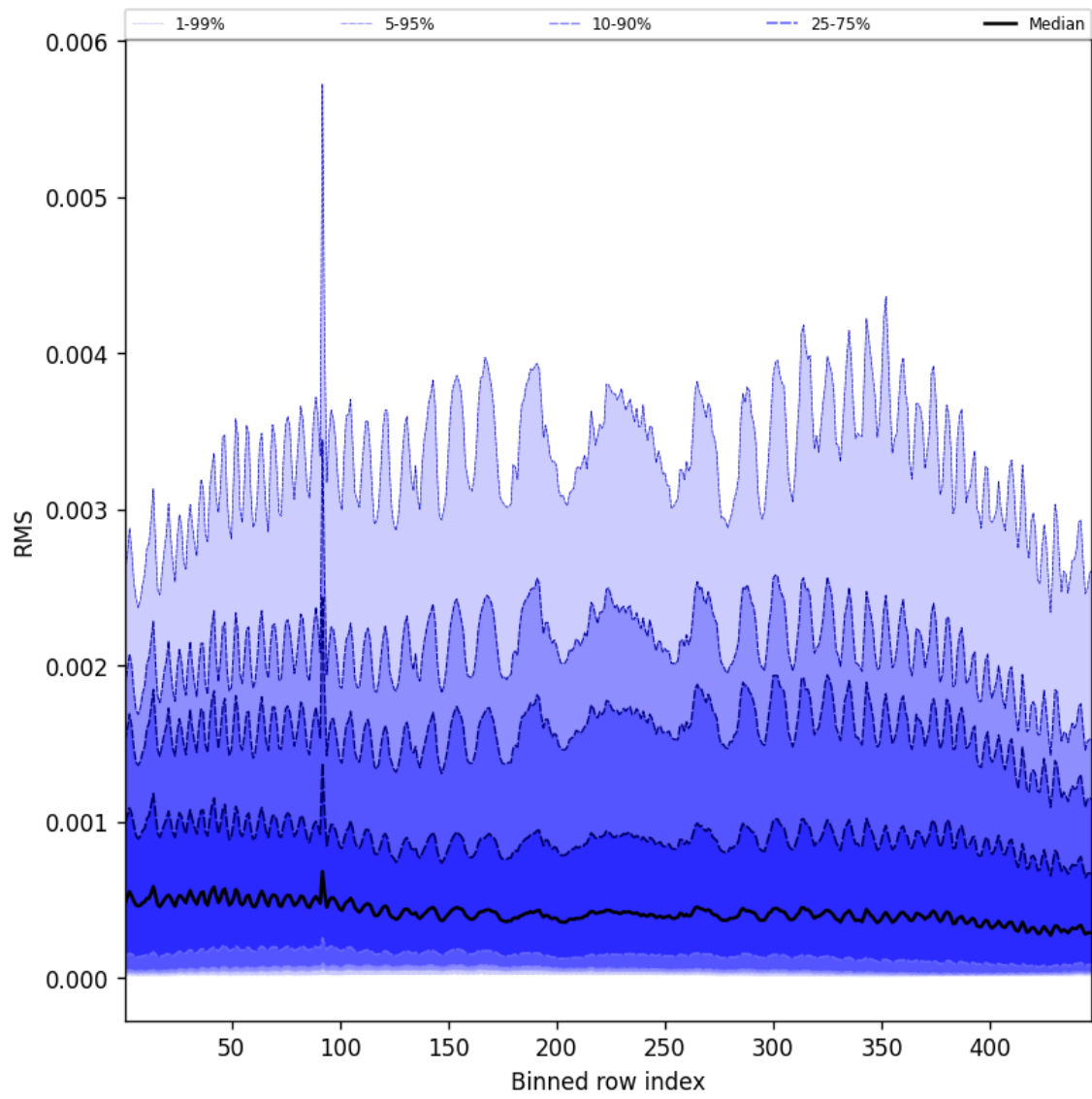


Figure 61: Along track statistics of “RMS” for 2025-03-10 to 2025-03-10

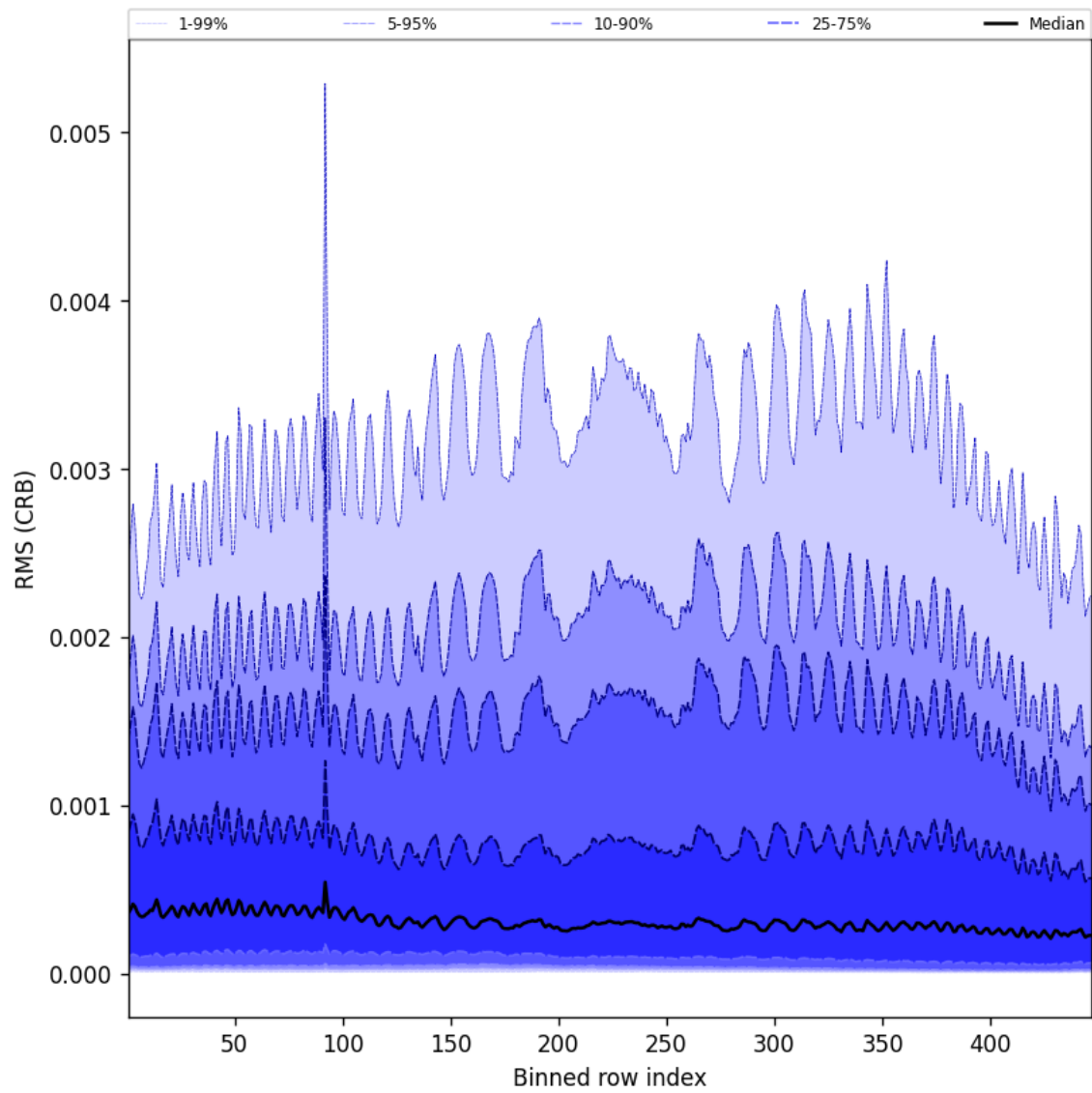


Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-10 to 2025-03-10

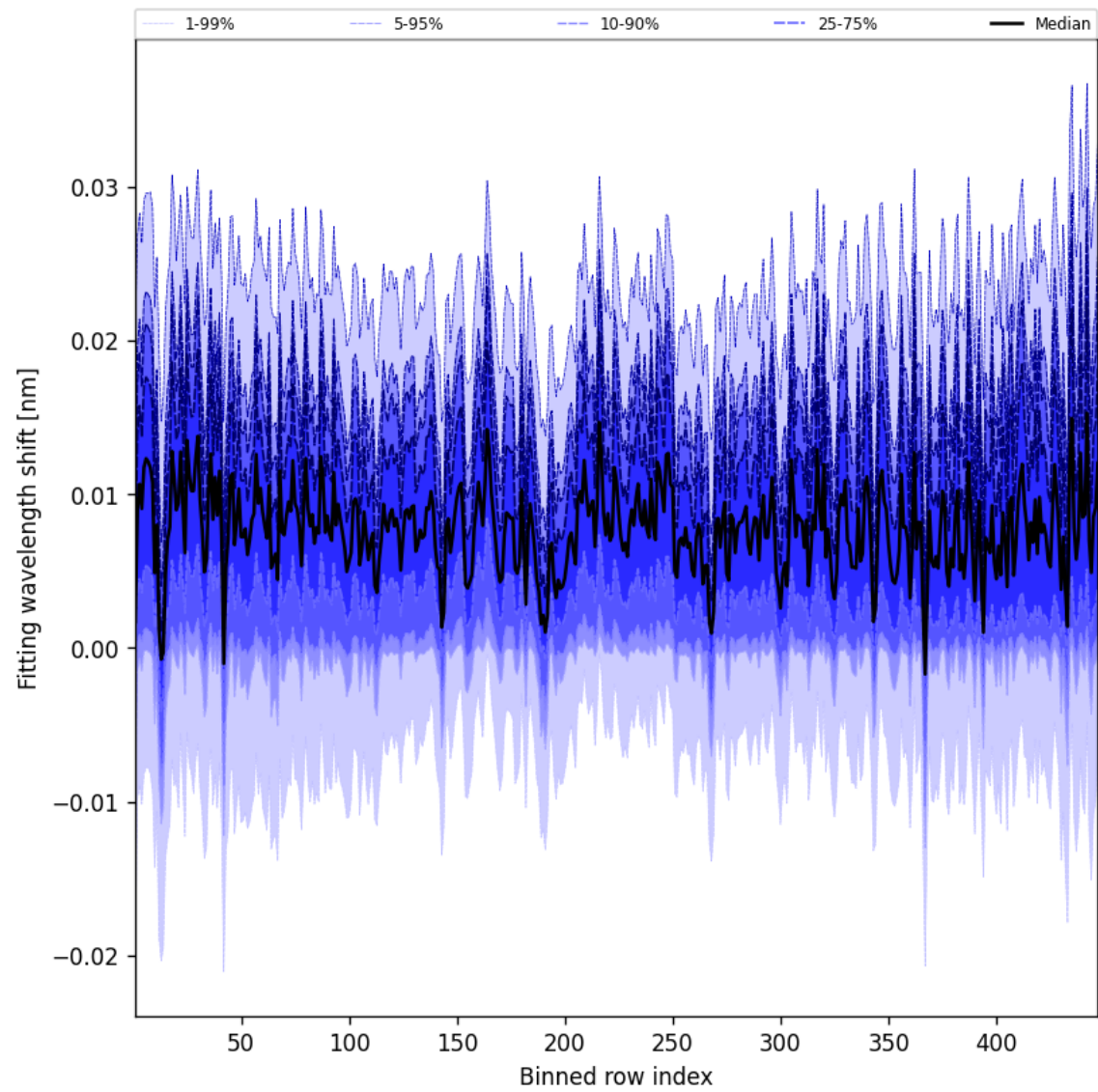


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-10 to 2025-03-10

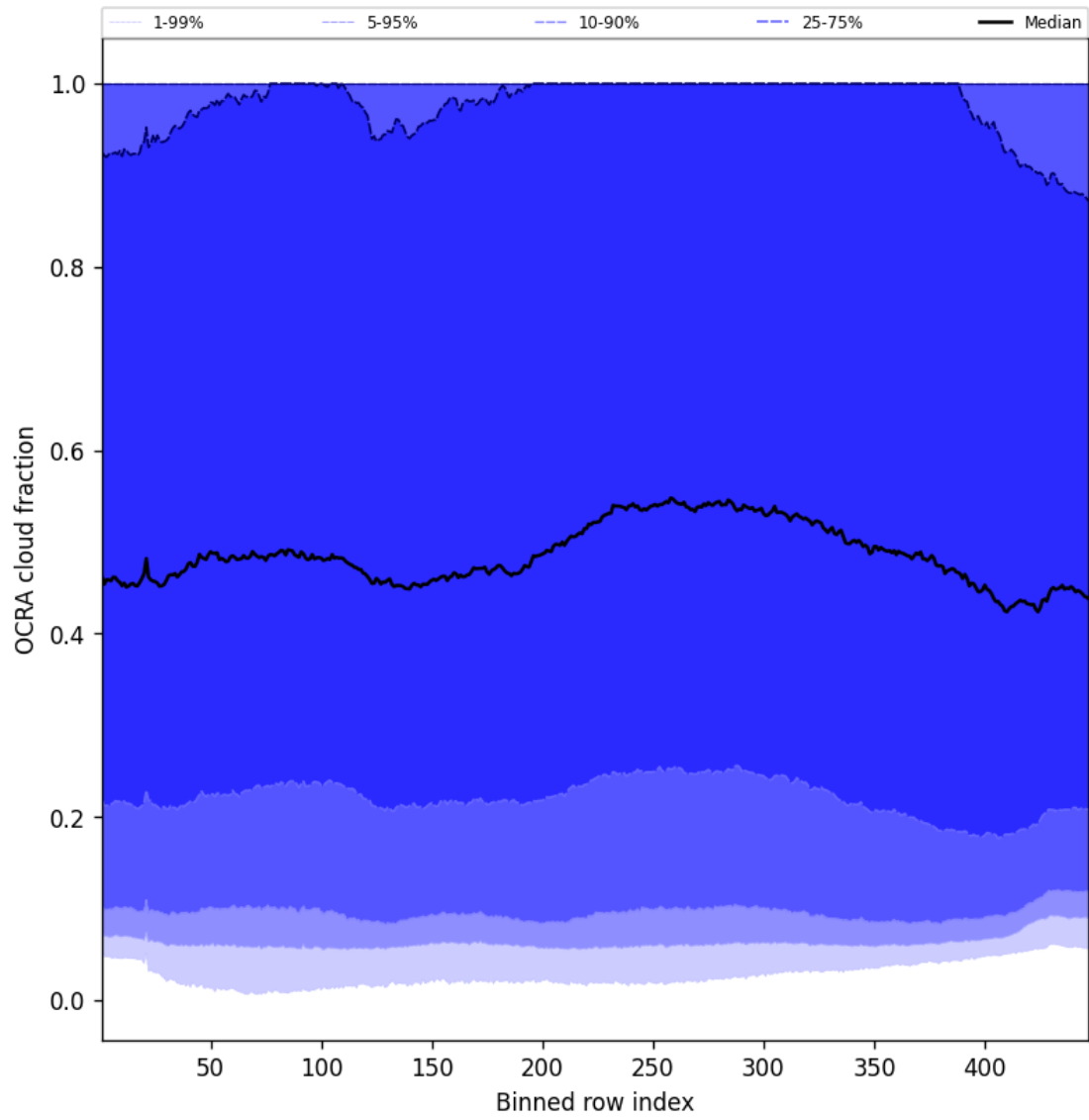


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-10 to 2025-03-10

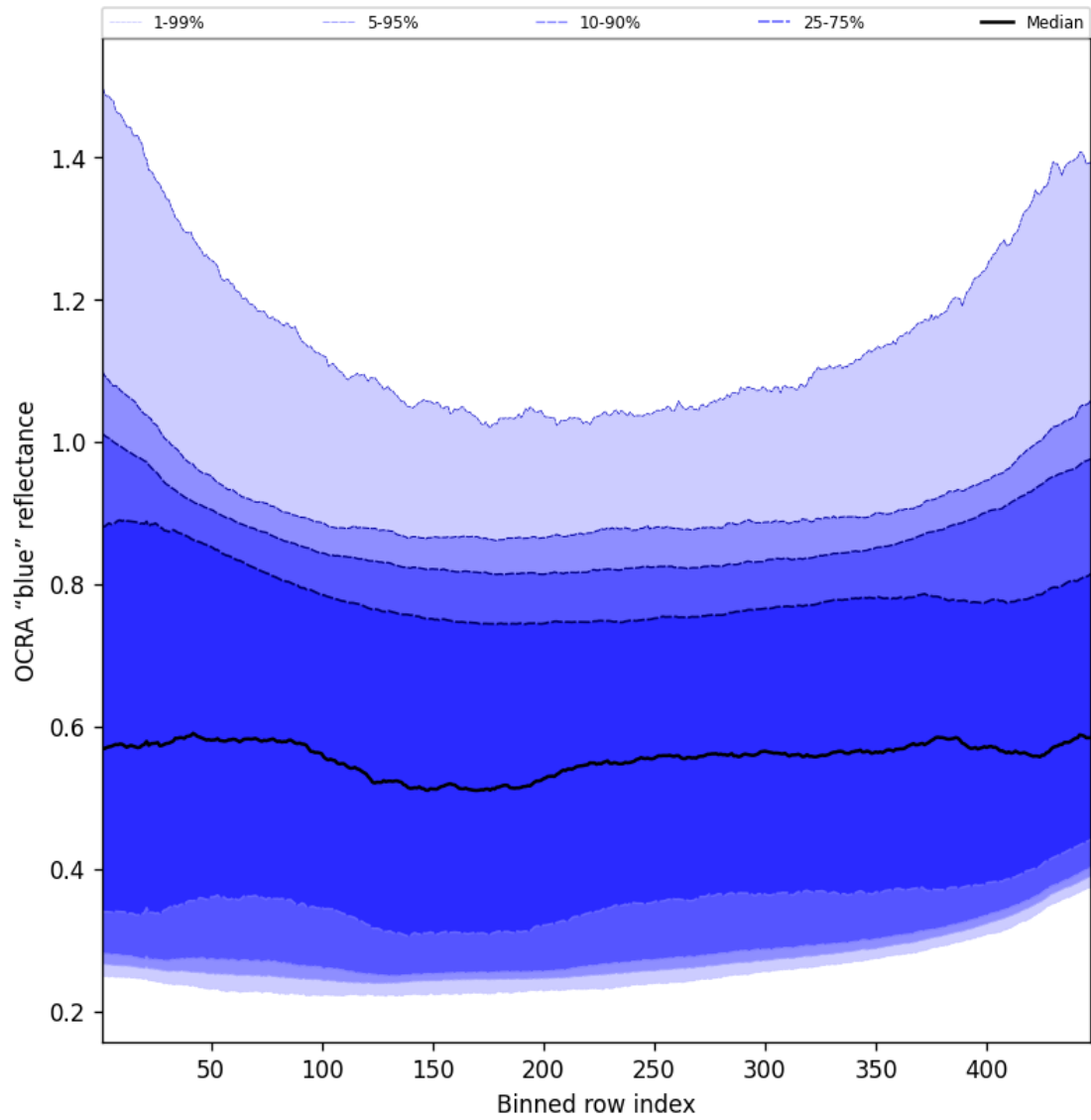


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-10 to 2025-03-10

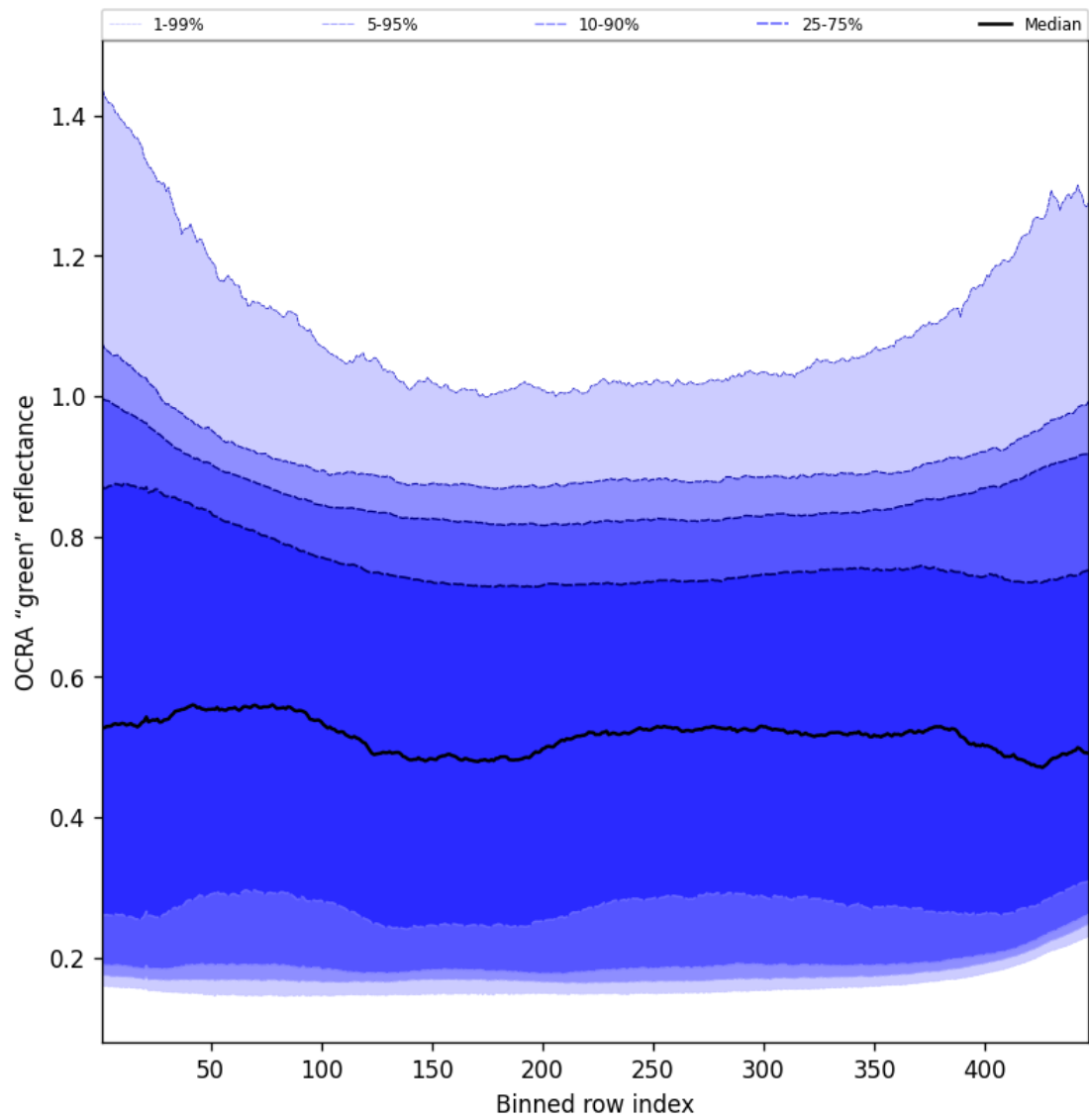


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-03-10 to 2025-03-10

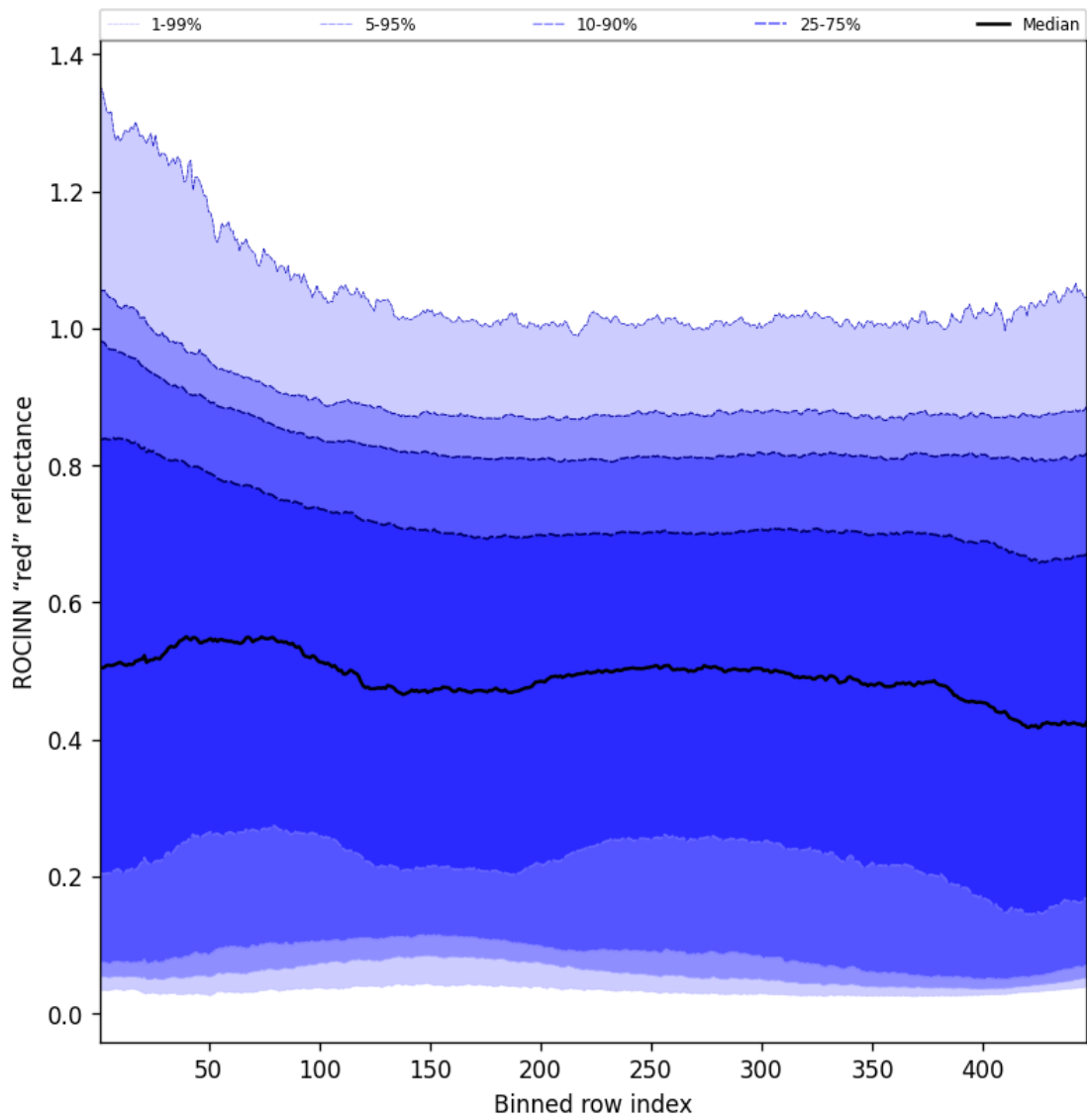


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-03-10 to 2025-03-10

10 Coincidence density

To investigate the relation between parameters scatter density plots are produced. These include some ‘hidden’ parameters, latitude and the solar- and viewing geometries, in addition to all configured parameters. All combinations of pairs of parameters are included *once*, in one direction alone.

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