

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-26 (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]	0.586 ± 0.395	14606948	5.000×10^{-3}	0.820	0.740	0.0	1.000
cloud fraction [1]	0.544 ± 0.344	14606948	0.995	0.719	0.493	5.508×10^{-3}	1.000
cloud top height [m]	$(0.378 \pm 0.271) \times 10^4$	14606948	1.425×10^3	3.450×10^3	3.157×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.0 ± 32.8	14606948	9.34	9.86	9.05	1.000	250
cloud fraction crb [1]	0.544 ± 0.344	14606948	0.995	0.718	0.493	7.523×10^{-3}	1.000
cloud height crb [m]	$(0.296 \pm 0.239) \times 10^4$	14606948	75.0	3.009×10^3	2.432×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.596 ± 0.214	14606948	0.995	0.272	0.575	0.0	1.000
surface albedo fitted [1]	0.268 ± 0.322	14606948	2.500×10^{-2}	0.538	5.590×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.256 ± 0.310	14606948	1.500×10^{-2}	0.544	4.610×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.340 \pm 8.723) \times 10^{-4}$	14606948	5.000×10^{-5}	7.483×10^{-4}	3.906×10^{-4}	1.373×10^{-6}	0.190
fitted root mean square crb [1]	$(5.472 \pm 6.889) \times 10^{-4}$	14606948	5.000×10^{-5}	6.656×10^{-4}	2.796×10^{-4}	1.141×10^{-6}	7.837×10^{-2}
wavelength shift [nm]	$(7.273 \pm 6.692) \times 10^{-3}$	14606948	9.000×10^{-4}	9.201×10^{-3}	6.627×10^{-3}	-5.078×10^{-2}	6.119×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.347	14606948	0.995	0.760	0.510	0.0	1.000
reflectance blue ocra [1]	0.577 ± 0.240	14606948	0.255	0.408	0.558	0.131	2.01
reflectance green ocra [1]	0.527 ± 0.265	14606948	0.175	0.479	0.516	8.047×10^{-2}	1.99
reflectance continuum aband [1]	0.478 ± 0.282	14606948	4.500×10^{-2}	0.476	0.488	1.134×10^{-2}	3.75

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	0.120	0.940	1.000	1.000	1.000	1.000
cloud fraction [1]	2.571×10^{-2}	6.627×10^{-2}	0.102	0.148	0.227	0.945	1.000	1.000	1.000	1.000
cloud top height [m]	129	569	957	1.279×10^3	1.701×10^3	5.151×10^3	6.482×10^3	7.707×10^3	9.238×10^3	1.197×10^4
cloud optical thickness [1]	1.000	2.68	3.85	4.69	5.60	15.5	23.1	34.6	58.5	250
cloud fraction crb [1]	2.535×10^{-2}	6.548×10^{-2}	0.101	0.148	0.227	0.944	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	108	466	756	1.115×10^3	4.124×10^3	5.284×10^3	6.361×10^3	7.753×10^3	1.039×10^4
cloud albedo crb [1]	0.0	0.232	0.355	0.419	0.468	0.739	0.831	0.906	0.989	1.000
surface albedo fitted [1]	0.0	9.514×10^{-3}	1.452×10^{-2}	1.897×10^{-2}	2.568×10^{-2}	0.564	0.724	0.814	0.901	0.992
surface albedo fitted crb [1]	8.832×10^{-5}	6.812×10^{-3}	1.054×10^{-2}	1.407×10^{-2}	1.952×10^{-2}	0.564	0.689	0.770	0.853	0.946
fitted root mean square [1]	1.594×10^{-5}	3.081×10^{-5}	4.815×10^{-5}	7.404×10^{-5}	1.277×10^{-4}	8.760×10^{-4}	1.182×10^{-3}	1.508×10^{-3}	2.031×10^{-3}	3.270×10^{-3}
fitted root mean square crb [1]	9.195×10^{-6}	1.949×10^{-5}	3.363×10^{-5}	5.253×10^{-5}	8.909×10^{-5}	7.547×10^{-4}	1.083×10^{-3}	1.428×10^{-3}	1.954×10^{-3}	3.114×10^{-3}
wavelength shift [nm]	-8.255×10^{-3}	-1.153×10^{-3}	3.956×10^{-5}	9.305×10^{-4}	2.373×10^{-3}	1.157×10^{-2}	1.394×10^{-2}	1.599×10^{-2}	1.875×10^{-2}	2.473×10^{-2}
cloud fraction apriori [1]	2.779×10^{-2}	6.442×10^{-2}	9.845×10^{-2}	0.146	0.229	0.989	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.232	0.256	0.279	0.309	0.362	0.770	0.825	0.876	0.950	1.21
reflectance green ocra [1]	0.152	0.171	0.191	0.218	0.272	0.752	0.813	0.862	0.931	1.14
reflectance continuum aband [1]	2.901×10^{-2}	5.369×10^{-2}	8.796×10^{-2}	0.134	0.234	0.710	0.780	0.831	0.899	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]	0.525 ± 0.400	7651894	0.900	0.660	0.0	1.000	0.0	0.900
cloud fraction [1]	0.529 ± 0.341	7651894	0.703	0.461	5.508×10^{-3}	1.000	0.222	0.924
cloud top height [m]	$(0.353 \pm 0.246) \times 10^4$	7651894	3.095×10^3	3.073×10^3	0.0	2.000×10^4	1.648×10^3	4.743×10^3
cloud optical thickness [1]	18.2 ± 36.2	7651894	8.64	8.43	1.000	250	5.49	14.1
cloud fraction crb [1]	0.529 ± 0.341	7651894	0.701	0.462	8.394×10^{-3}	1.000	0.222	0.924
cloud height crb [m]	$(0.269 \pm 0.211) \times 10^4$	7651894	2.784×10^3	2.317×10^3	0.0	2.000×10^4	1.011×10^3	3.795×10^3
cloud albedo crb [1]	0.623 ± 0.233	7651894	0.332	0.611	0.0	1.000	0.473	0.805
surface albedo fitted [1]	0.347 ± 0.326	7651894	0.623	0.230	0.0	1.000	3.779×10^{-2}	0.661
surface albedo fitted crb [1]	0.333 ± 0.309	7651894	0.611	0.229	0.0	1.000	3.075×10^{-2}	0.642
fitted root mean square [1]	$(7.453 \pm 10.431) \times 10^{-4}$	7651894	8.695×10^{-4}	4.925×10^{-4}	2.917×10^{-6}	0.190	1.629×10^{-4}	1.032×10^{-3}
fitted root mean square crb [1]	$(6.192 \pm 7.668) \times 10^{-4}$	7651894	7.771×10^{-4}	3.252×10^{-4}	2.183×10^{-6}	7.837×10^{-2}	9.570×10^{-5}	8.728×10^{-4}
wavelength shift [nm]	$(7.874 \pm 6.781) \times 10^{-3}$	7651894	9.717×10^{-3}	7.254×10^{-3}	-4.444×10^{-2}	5.686×10^{-2}	2.727×10^{-3}	1.244×10^{-2}
cloud fraction apriori [1]	0.544 ± 0.343	7651894	0.740	0.489	0.0	1.000	0.232	0.972
reflectance blue ocrs [1]	0.604 ± 0.250	7651894	0.424	0.617	0.131	2.01	0.370	0.794
reflectance green ocrs [1]	0.560 ± 0.272	7651894	0.491	0.589	8.092×10^{-2}	1.94	0.290	0.781
reflectance continuum aband [1]	0.518 ± 0.279	7651894	0.465	0.552	1.134×10^{-2}	3.75	0.279	0.744

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]	0.653 ± 0.378	6955054	0.640	0.880	0.0	1.000	0.350	0.990
cloud fraction [1]	0.560 ± 0.346	6955054	0.729	0.534	8.163×10^{-3}	1.000	0.233	0.961
cloud top height [m]	$(0.405 \pm 0.294) \times 10^4$	6955054	3.987×10^3	3.260×10^3	0.0	2.000×10^4	1.756×10^3	5.743×10^3
cloud optical thickness [1]	17.7 ± 28.7	6955054	11.0	9.79	1.000	250	5.79	16.8
cloud fraction crb [1]	0.559 ± 0.346	6955054	0.728	0.532	7.523×10^{-3}	1.000	0.232	0.960
cloud height crb [m]	$(0.326 \pm 0.262) \times 10^4$	6955054	3.455×10^3	2.565×10^3	0.0	1.744×10^4	1.219×10^3	4.675×10^3
cloud albedo crb [1]	0.567 ± 0.187	6955054	0.208	0.552	0.0	1.000	0.463	0.671
surface albedo fitted [1]	0.180 ± 0.294	6955054	0.168	3.482×10^{-2}	0.0	1.000	2.011×10^{-2}	0.188
surface albedo fitted crb [1]	0.172 ± 0.289	6955054	0.166	2.689×10^{-2}	0.0	1.000	1.452×10^{-2}	0.180
fitted root mean square [1]	$(5.116 \pm 6.102) \times 10^{-4}$	6955054	6.040×10^{-4}	3.023×10^{-4}	1.373×10^{-6}	5.067×10^{-2}	1.011×10^{-4}	7.052×10^{-4}
fitted root mean square crb [1]	$(4.679 \pm 5.813) \times 10^{-4}$	6955054	5.586×10^{-4}	2.420×10^{-4}	1.141×10^{-6}	1.673×10^{-2}	8.336×10^{-5}	6.420×10^{-4}
wavelength shift [nm]	$(6.612 \pm 6.530) \times 10^{-3}$	6955054	8.586×10^{-3}	6.016×10^{-3}	-5.078×10^{-2}	6.119×10^{-2}	2.038×10^{-3}	1.062×10^{-2}
cloud fraction apriori [1]	0.562 ± 0.352	6955054	0.774	0.538	0.0	1.000	0.226	1.000
reflectance blue ocrs [1]	0.547 ± 0.225	6955054	0.366	0.513	0.148	1.99	0.354	0.721
reflectance green ocrs [1]	0.490 ± 0.252	6955054	0.434	0.459	8.047×10^{-2}	1.99	0.258	0.692
reflectance continuum aband [1]	0.434 ± 0.278	6955054	0.466	0.422	1.194×10^{-2}	3.70	0.185	0.651

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]	0.628 ± 0.385	10158183	0.660	0.850	0.0	1.000	0.300	0.960
cloud fraction [1]	0.556 ± 0.350	10158183	0.749	0.526	7.891×10^{-3}	1.000	0.220	0.969
cloud top height [m]	$(0.332 \pm 0.234) \times 10^4$	10158183	2.887×10^3	2.788×10^3	0.0	2.000×10^4	1.560×10^3	4.447×10^3
cloud optical thickness [1]	17.9 ± 29.7	10158183	9.89	9.79	1.000	250	6.42	16.3
cloud fraction crb [1]	0.556 ± 0.350	10158183	0.748	0.525	8.476×10^{-3}	1.000	0.220	0.968
cloud height crb [m]	$(0.263 \pm 0.210) \times 10^4$	10158183	2.724×10^3	2.145×10^3	0.0	1.796×10^4	999	3.723×10^3
cloud albedo crb [1]	0.574 ± 0.190	10158183	0.224	0.551	0.0	1.000	0.461	0.685
surface albedo fitted [1]	0.159 ± 0.269	10158183	4.417×10^{-2}	3.404×10^{-2}	0.0	1.000	2.015×10^{-2}	6.431×10^{-2}
surface albedo fitted crb [1]	0.147 ± 0.256	10158183	3.852×10^{-2}	2.669×10^{-2}	0.0	1.000	1.499×10^{-2}	5.351×10^{-2}
fitted root mean square [1]	$(4.955 \pm 6.729) \times 10^{-4}$	10158183	5.903×10^{-4}	2.622×10^{-4}	1.381×10^{-6}	0.172	9.127×10^{-5}	6.816×10^{-4}
fitted root mean square crb [1]	$(4.348 \pm 5.844) \times 10^{-4}$	10158183	5.045×10^{-4}	1.965×10^{-4}	1.141×10^{-6}	7.837×10^{-2}	6.959×10^{-5}	5.742×10^{-4}
wavelength shift [nm]	$(6.730 \pm 6.688) \times 10^{-3}$	10158183	8.867×10^{-3}	5.929×10^{-3}	-5.078×10^{-2}	6.119×10^{-2}	2.014×10^{-3}	1.088×10^{-2}
cloud fraction apriori [1]	0.561 ± 0.354	10158183	0.782	0.535	0.0	1.000	0.218	1.000
reflectance blue oca [1]	0.544 ± 0.224	10158183	0.368	0.515	0.155	2.00	0.350	0.718
reflectance green oca [1]	0.487 ± 0.249	10158183	0.440	0.463	8.047×10^{-2}	1.92	0.252	0.692
reflectance continuum aband [1]	0.417 ± 0.273	10158183	0.491	0.414	1.194×10^{-2}	3.75	0.152	0.643

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]	0.485 ± 0.409	3326217	0.900	0.620	0.0	1.000	0.0	0.900
cloud fraction [1]	0.504 ± 0.322	3326217	0.573	0.430	6.124×10^{-3}	1.000	0.235	0.809
cloud top height [m]	$(0.531 \pm 0.320) \times 10^4$	3326217	4.458×10^3	4.842×10^3	0.0	2.000×10^4	2.813×10^3	7.271×10^3
cloud optical thickness [1]	15.8 ± 35.0	3326217	7.30	6.42	1.000	250	4.38	11.7
cloud fraction crb [1]	0.504 ± 0.322	3326217	0.572	0.431	7.523×10^{-3}	1.000	0.236	0.808
cloud height crb [m]	$(0.413 \pm 0.284) \times 10^4$	3326217	3.796×10^3	3.545×10^3	0.0	2.000×10^4	1.935×10^3	5.731×10^3
cloud albedo crb [1]	0.641 ± 0.252	3326217	0.347	0.654	0.0	1.000	0.493	0.840
surface albedo fitted [1]	0.527 ± 0.291	3326217	0.558	0.442	0.0	1.000	0.254	0.812
surface albedo fitted crb [1]	0.518 ± 0.278	3326217	0.533	0.470	2.865×10^{-3}	1.000	0.252	0.785
fitted root mean square [1]	$(9.332 \pm 11.869) \times 10^{-4}$	3326217	8.461×10^{-4}	6.891×10^{-4}	5.290×10^{-6}	0.190	3.522×10^{-4}	1.198×10^{-3}
fitted root mean square crb [1]	$(7.879 \pm 8.413) \times 10^{-4}$	3326217	9.015×10^{-4}	5.239×10^{-4}	2.351×10^{-6}	5.225×10^{-2}	1.896×10^{-4}	1.091×10^{-3}
wavelength shift [nm]	$(7.949 \pm 6.284) \times 10^{-3}$	3326217	8.906×10^{-3}	7.540×10^{-3}	-3.394×10^{-2}	5.466×10^{-2}	3.169×10^{-3}	1.208×10^{-2}
cloud fraction apriori [1]	0.517 ± 0.328	3326217	0.611	0.448	0.0	1.000	0.240	0.851
reflectance blue oca [1]	0.650 ± 0.266	3326217	0.454	0.735	0.131	1.99	0.386	0.840
reflectance green oca [1]	0.616 ± 0.285	3326217	0.509	0.708	8.061×10^{-2}	1.99	0.324	0.832
reflectance continuum aband [1]	0.619 ± 0.248	3326217	0.408	0.654	1.134×10^{-2}	3.70	0.395	0.802

3 Granule outlines

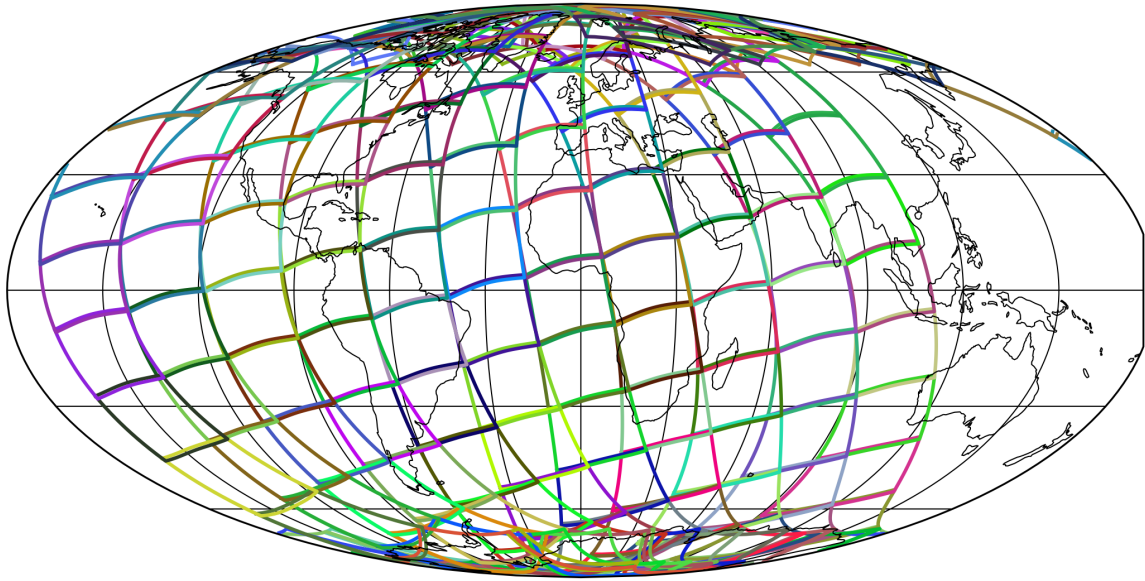


Figure 1: Outline of the granules.

4 Input data monitoring

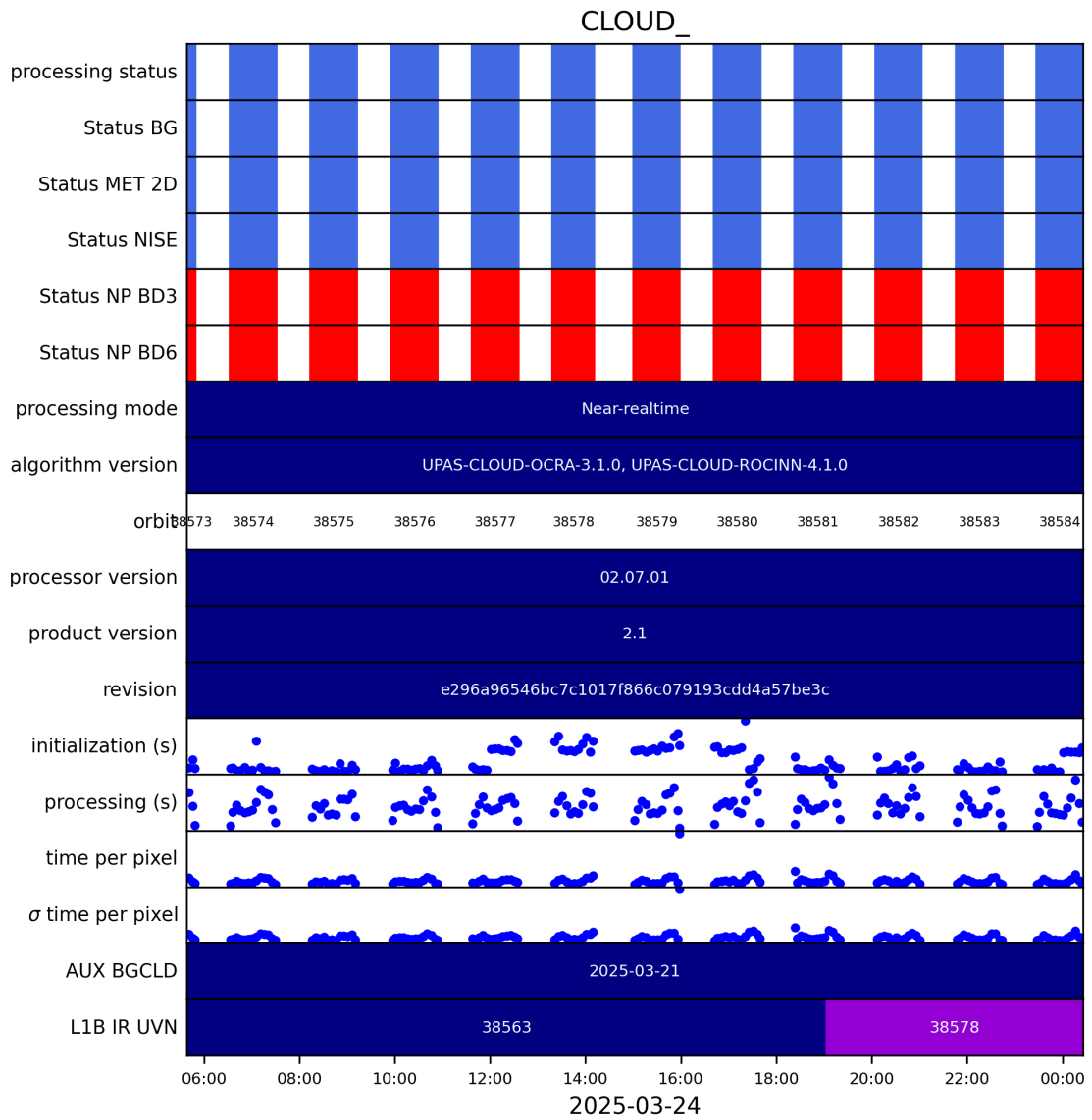


Figure 2: Input data per granule

5 Warnings and errors

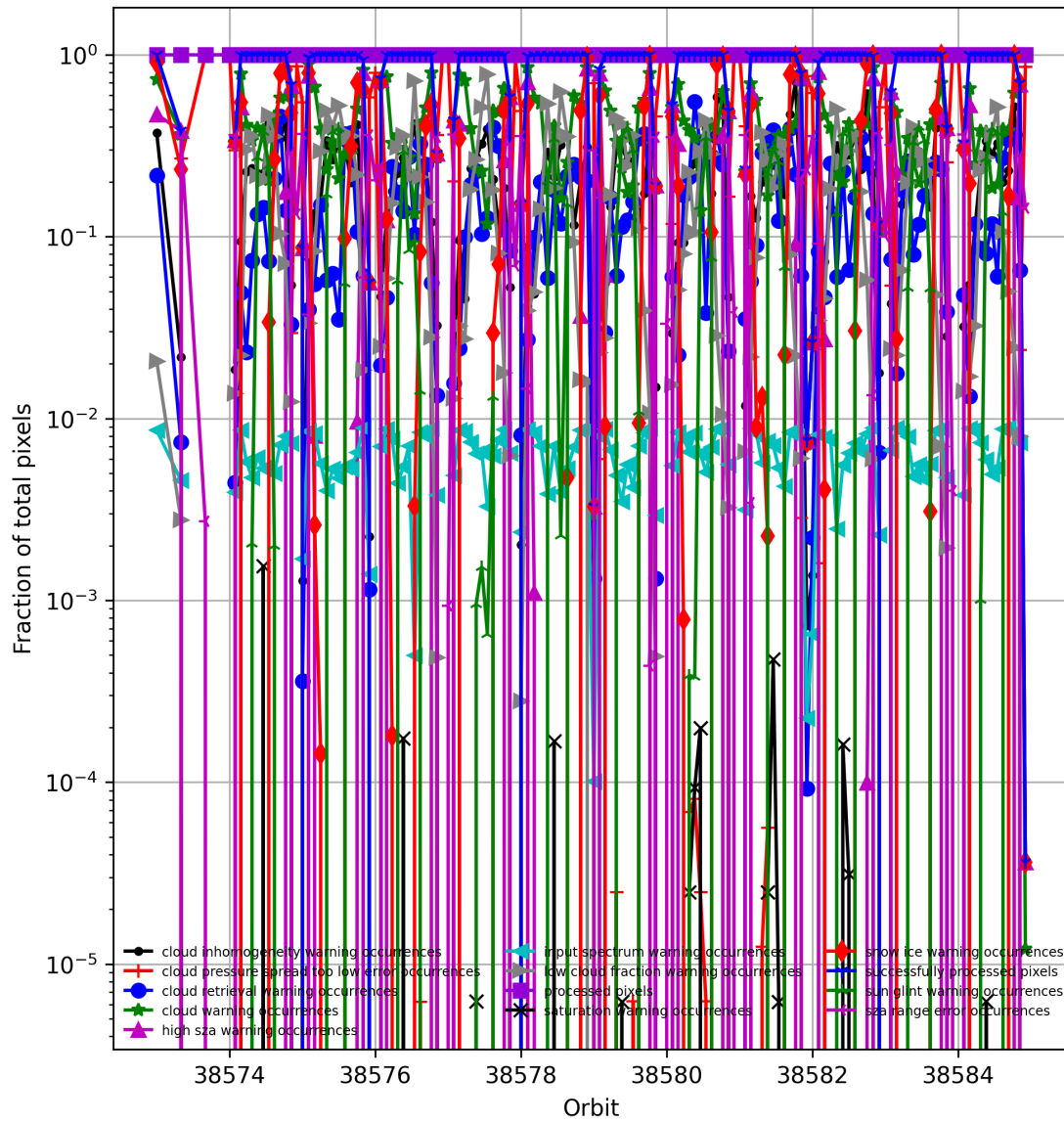


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

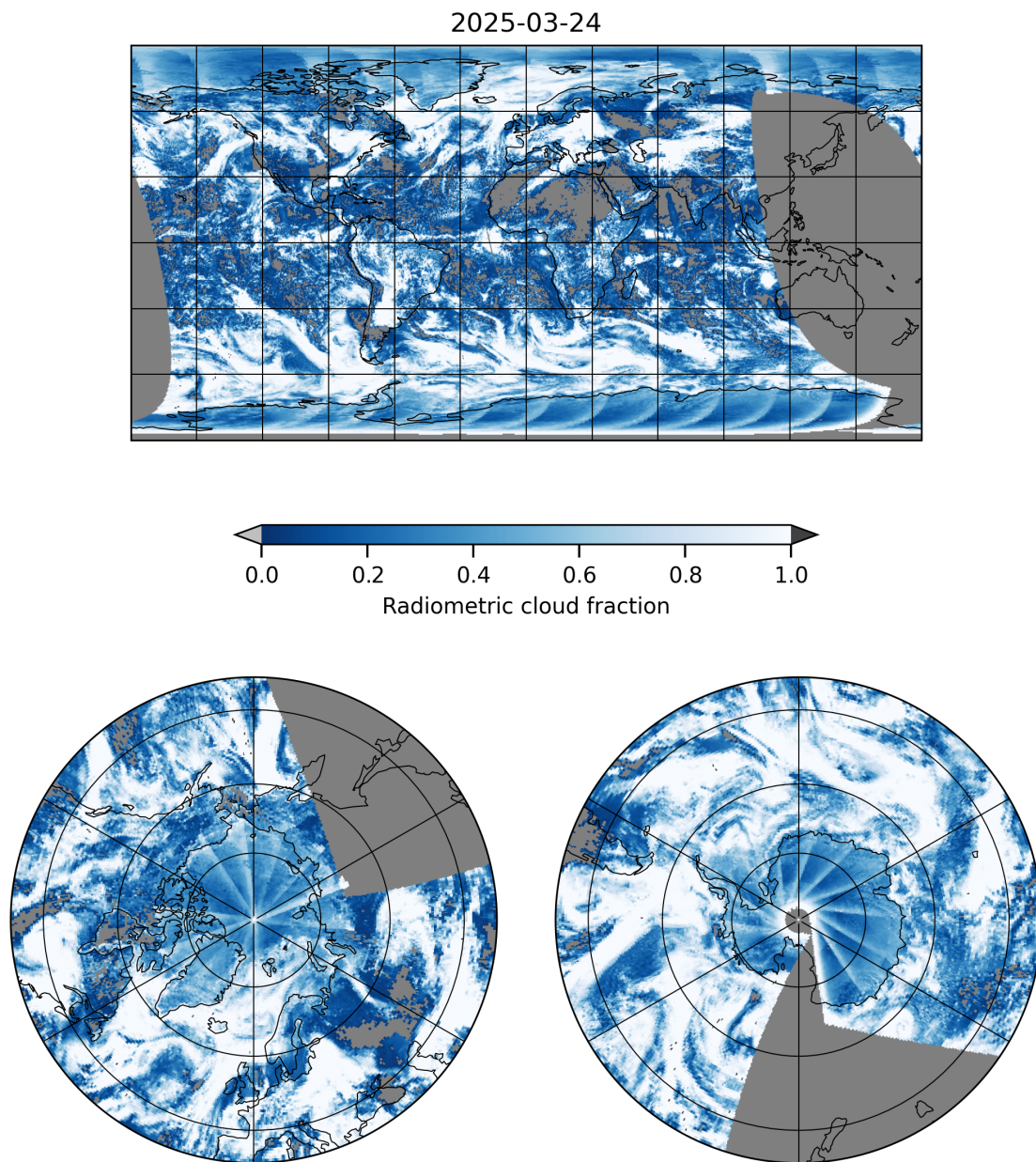


Figure 4: Map of “Radiometric cloud fraction” for 2025-03-24 to 2025-03-25

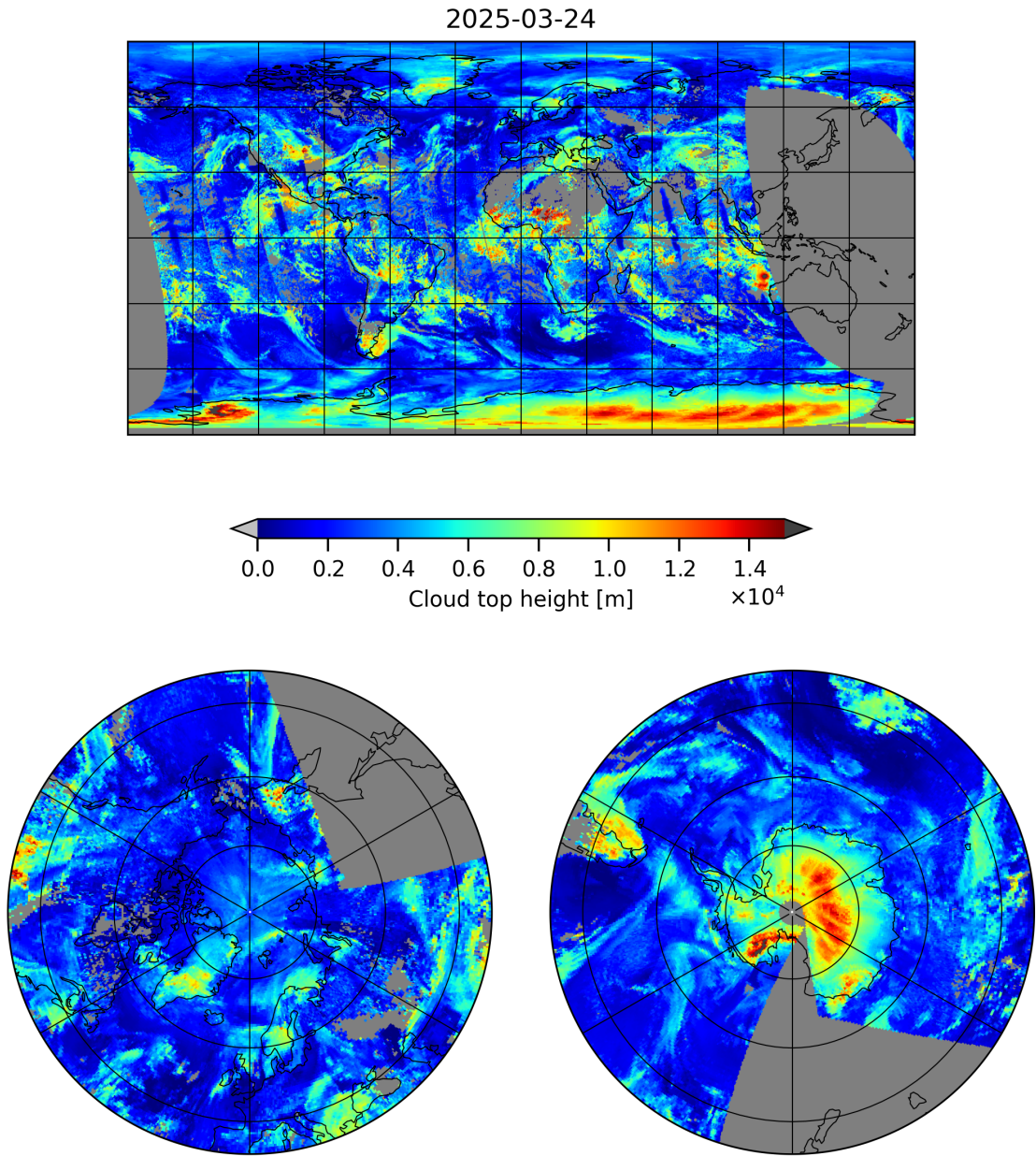


Figure 5: Map of “Cloud top height” for 2025-03-24 to 2025-03-25

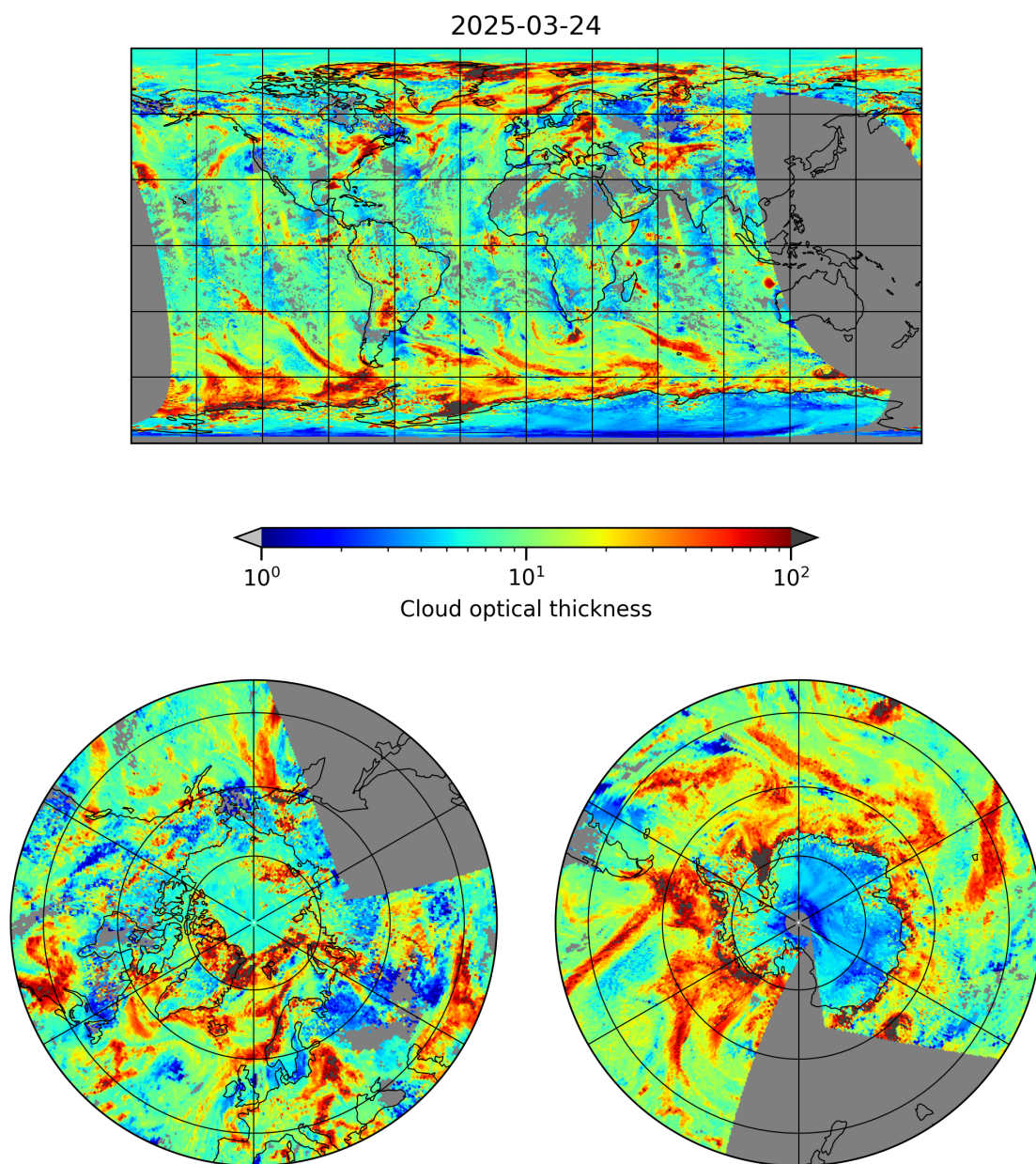


Figure 6: Map of “Cloud optical thickness” for 2025-03-24 to 2025-03-25

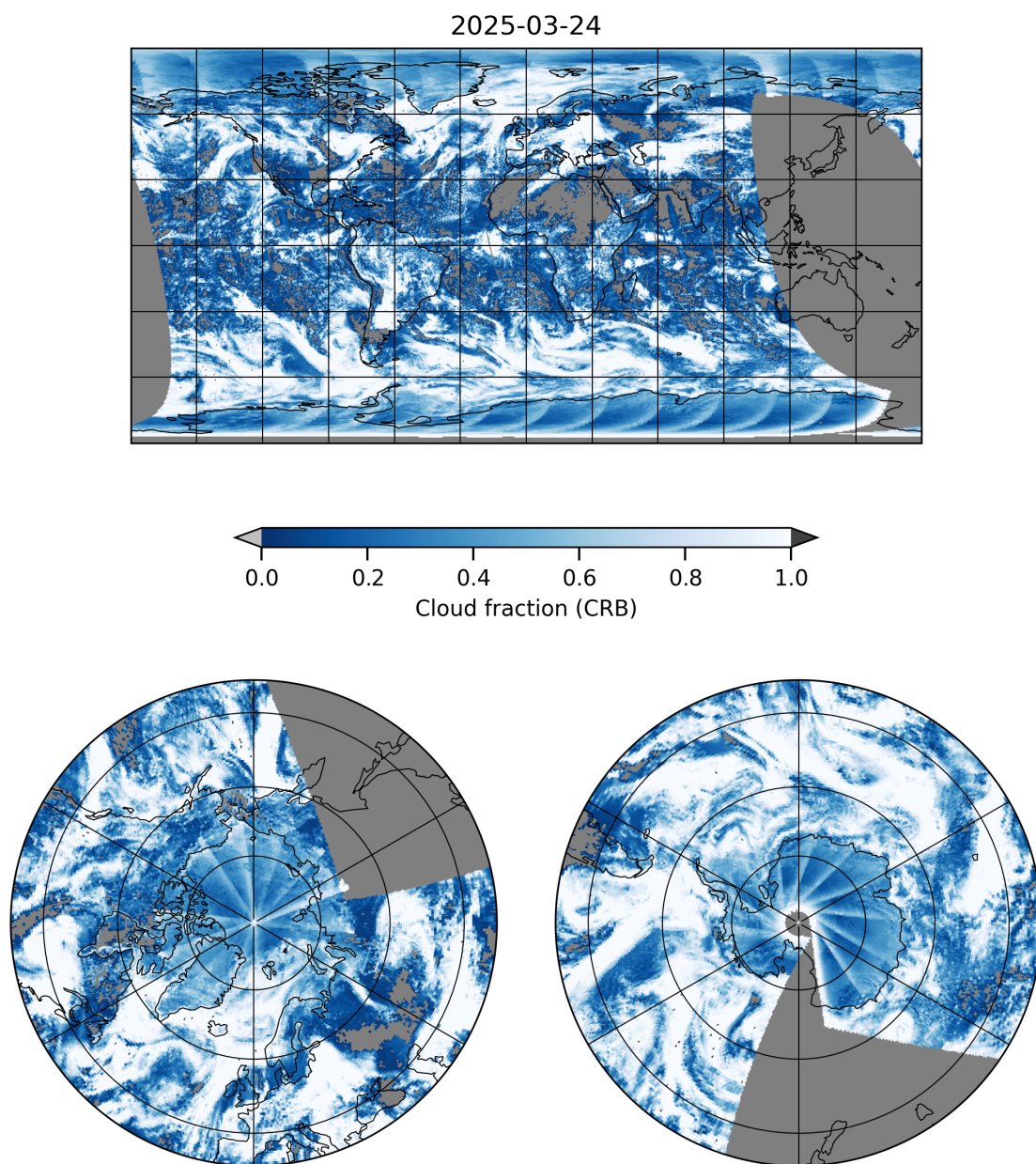


Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-24 to 2025-03-25

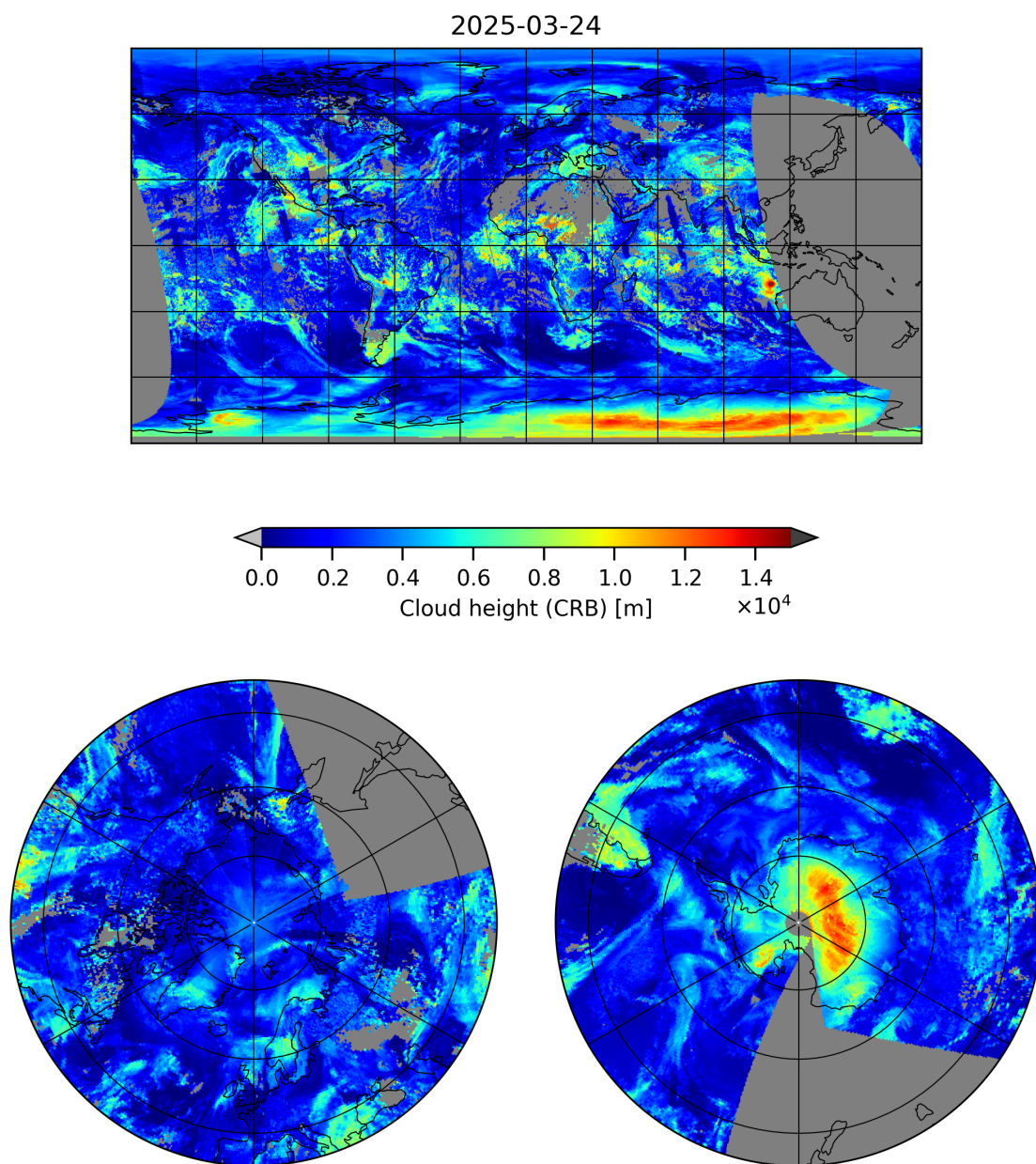


Figure 8: Map of “Cloud height (CRB)” for 2025-03-24 to 2025-03-25

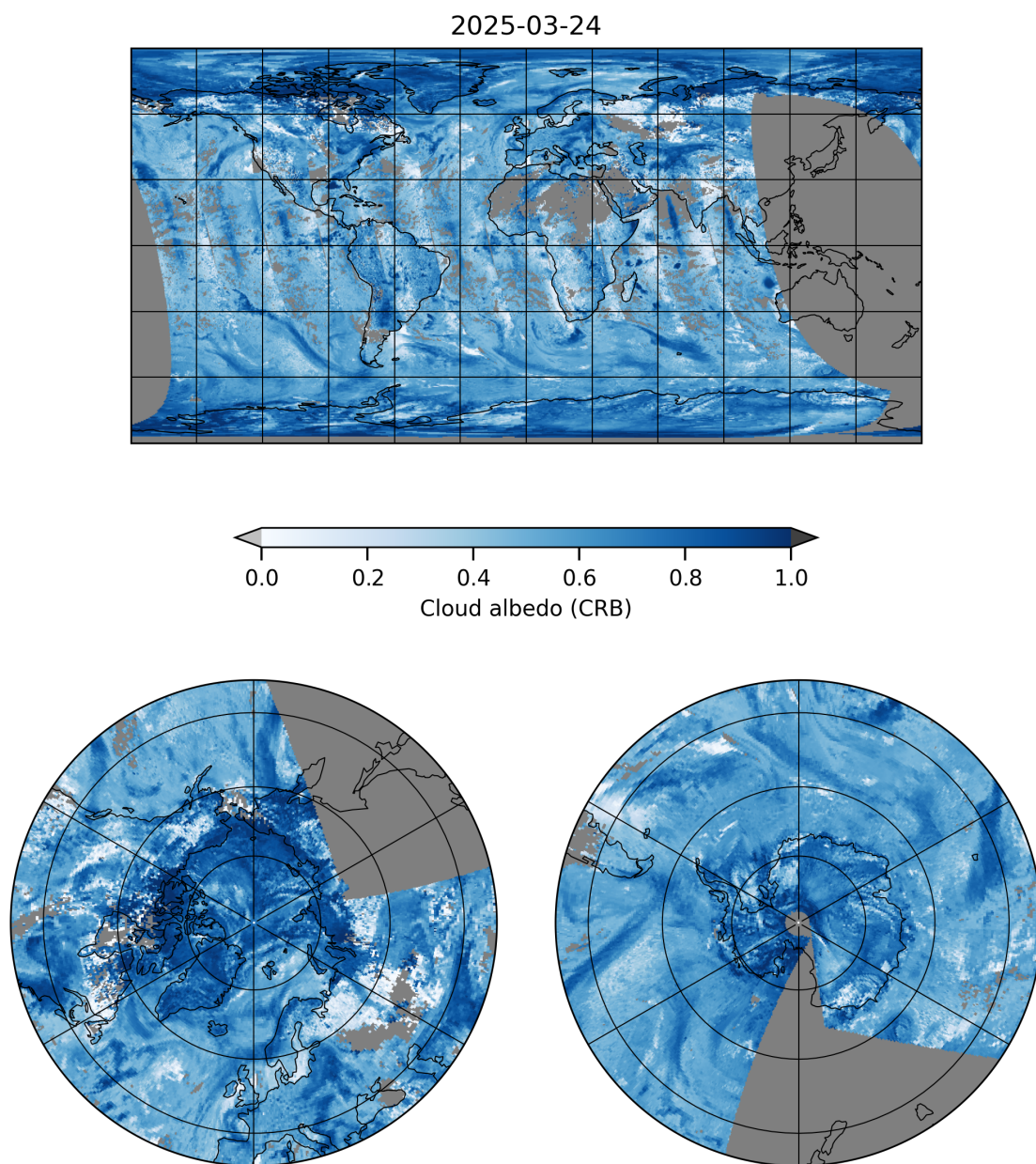


Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-24 to 2025-03-25

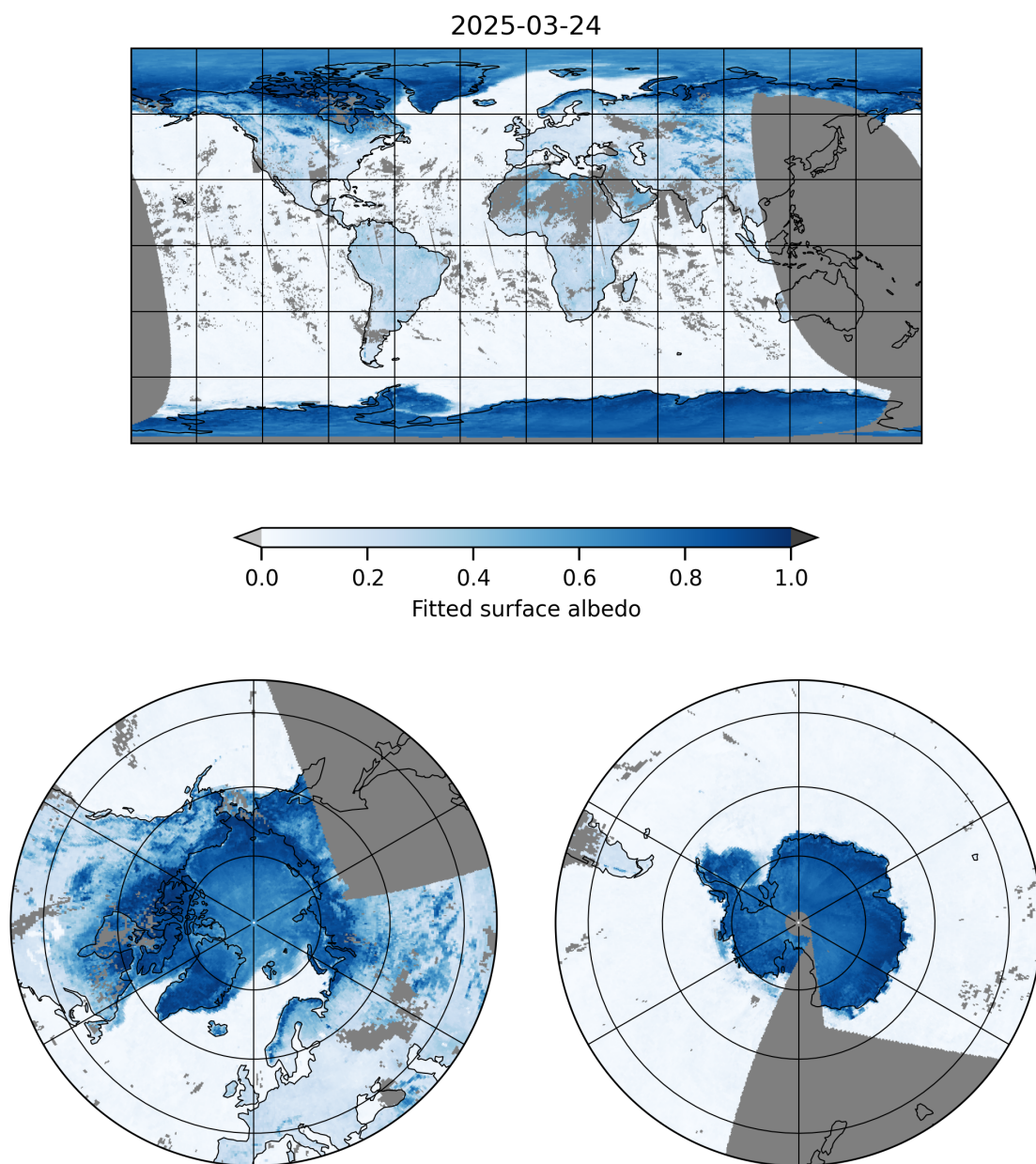


Figure 10: Map of “Fitted surface albedo” for 2025-03-24 to 2025-03-25

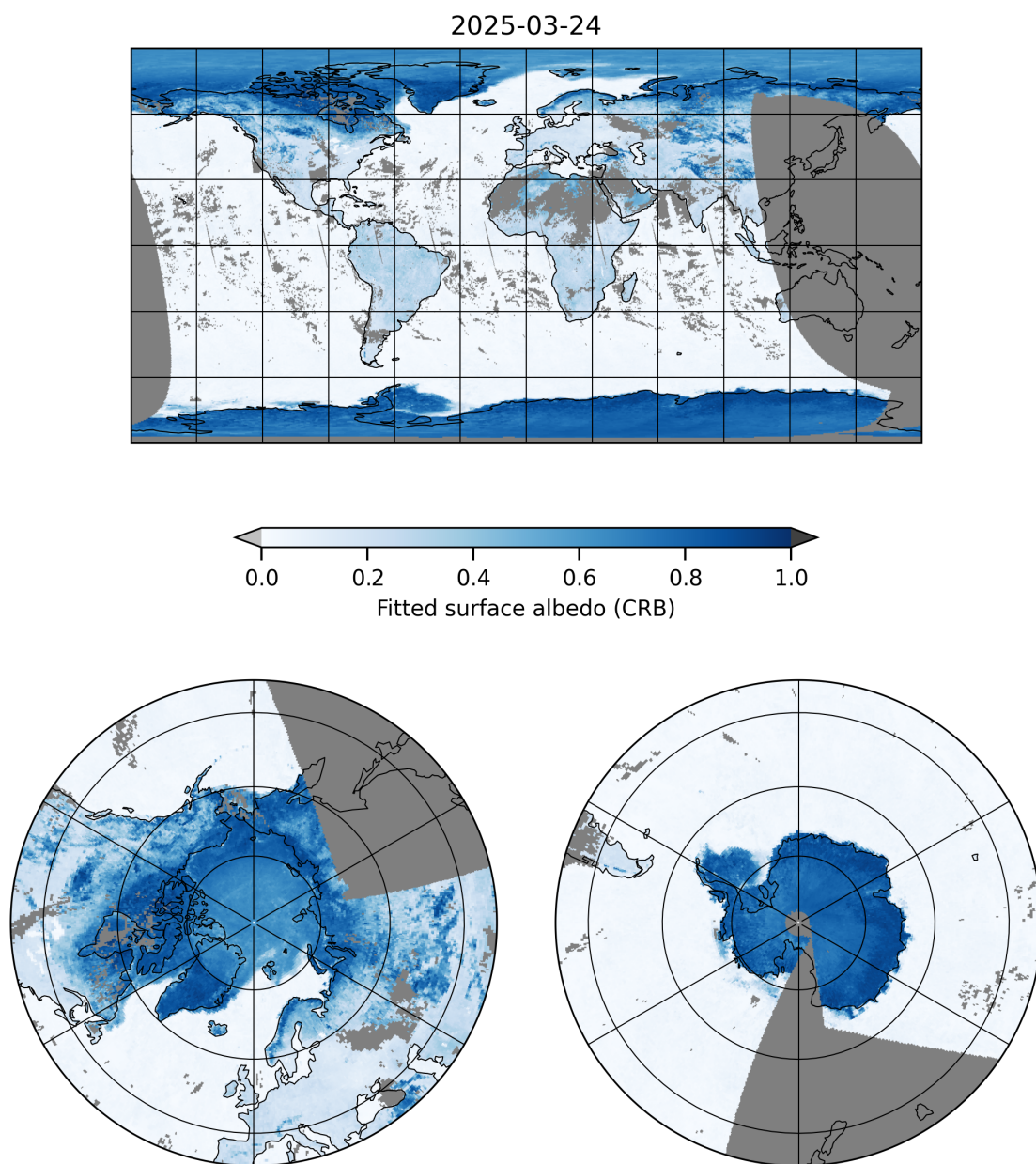


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-24 to 2025-03-25

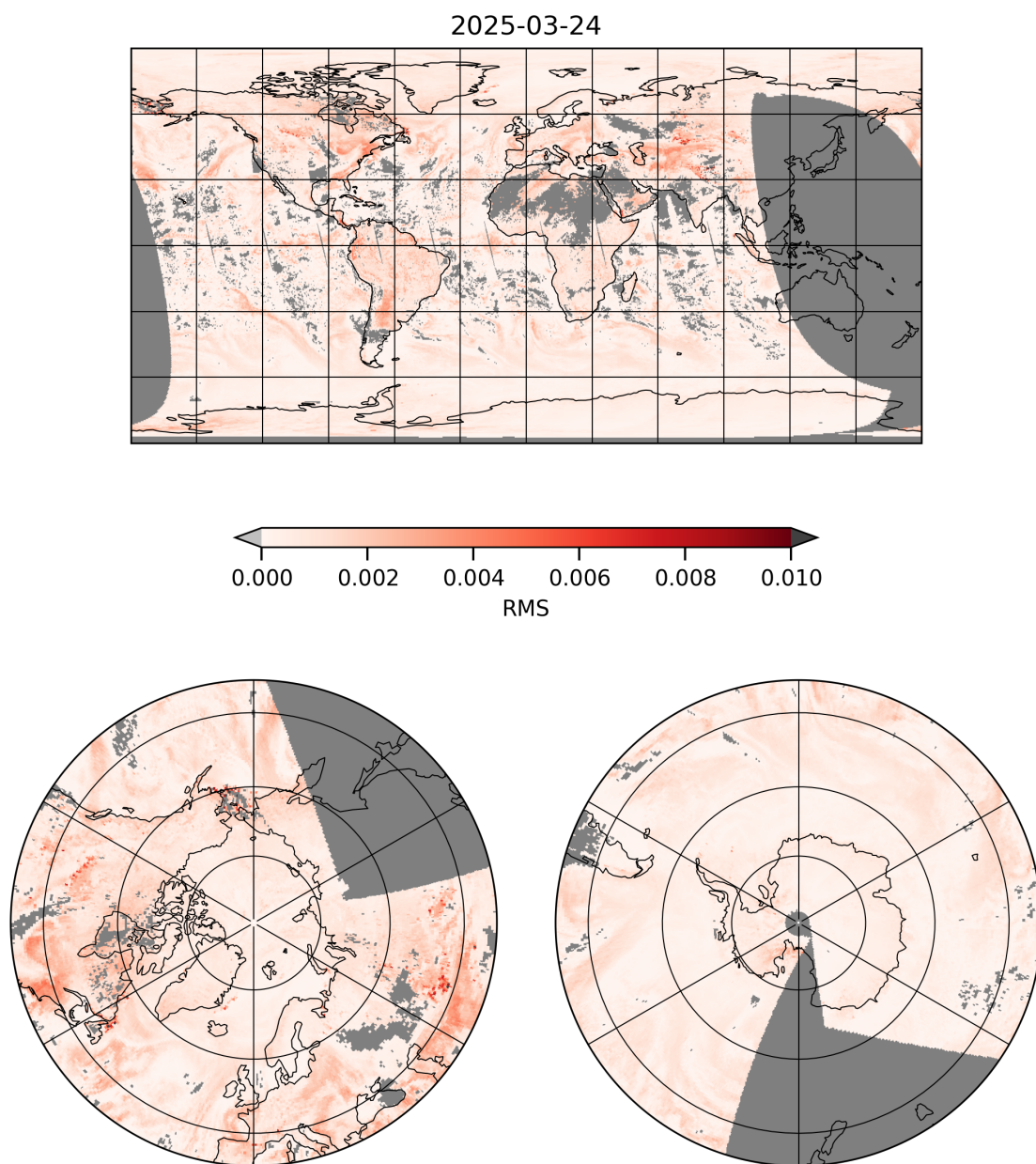


Figure 12: Map of “RMS” for 2025-03-24 to 2025-03-25

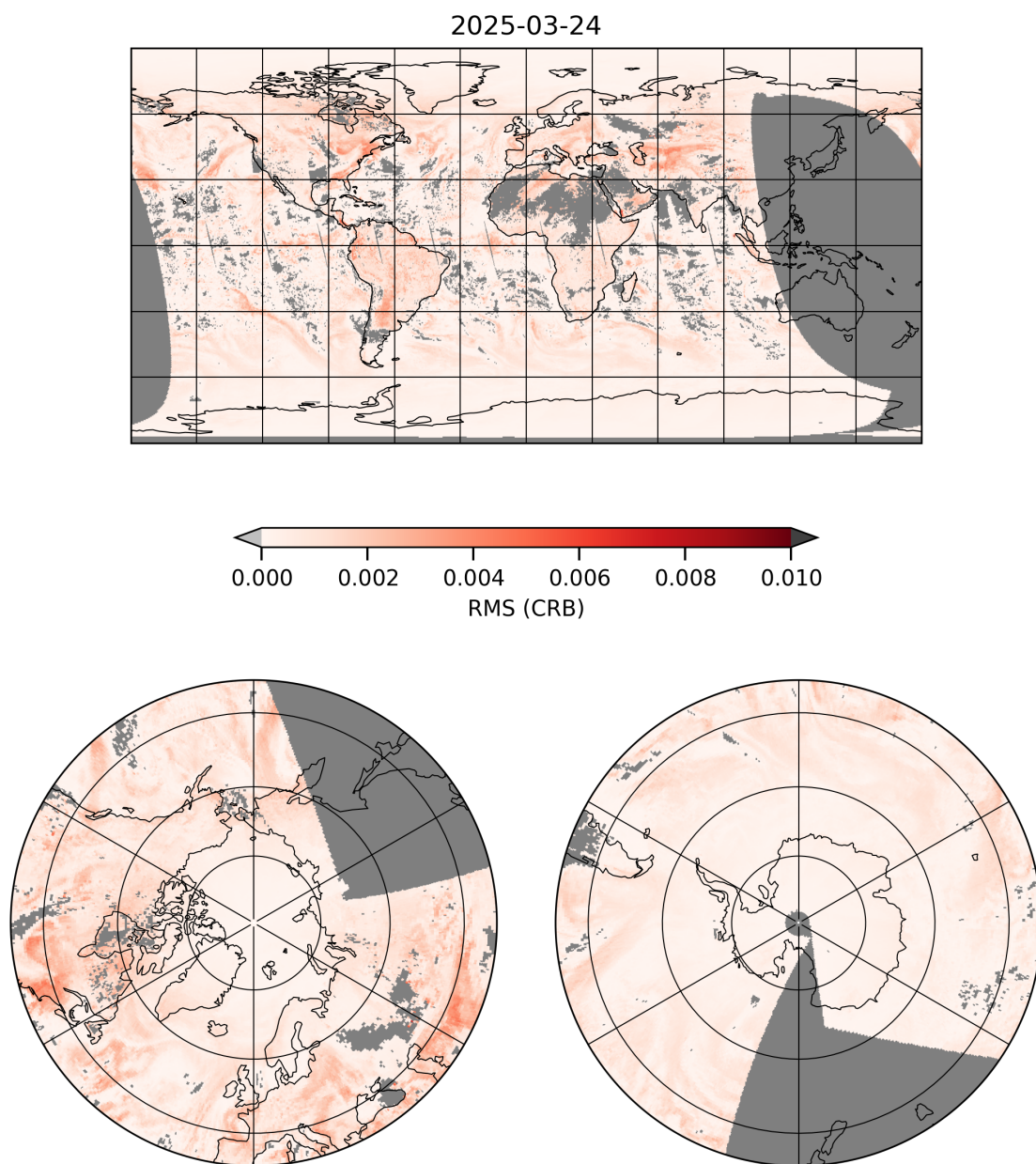


Figure 13: Map of “RMS (CRB)” for 2025-03-24 to 2025-03-25

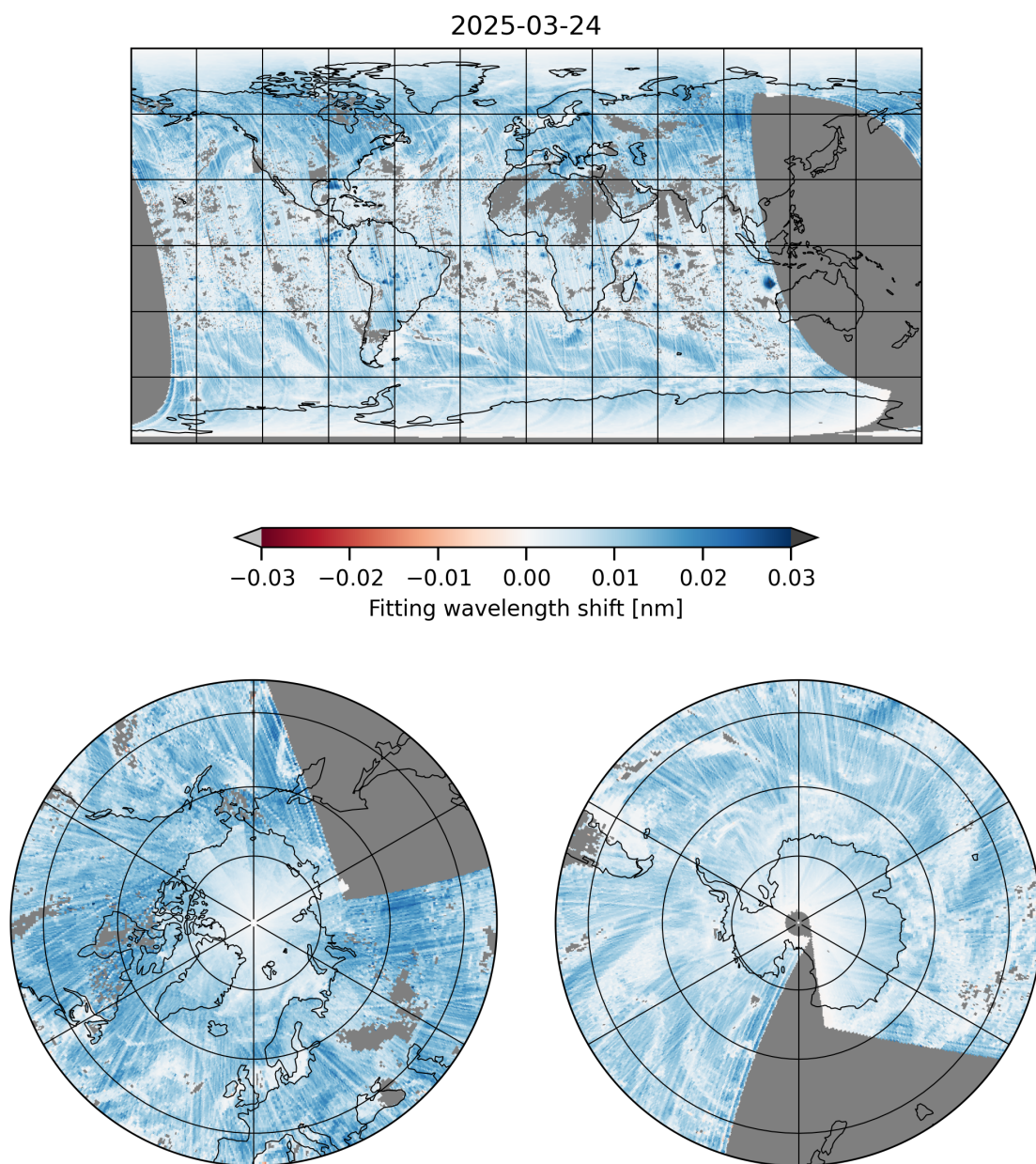


Figure 14: Map of “Fitting wavelength shift” for 2025-03-24 to 2025-03-25

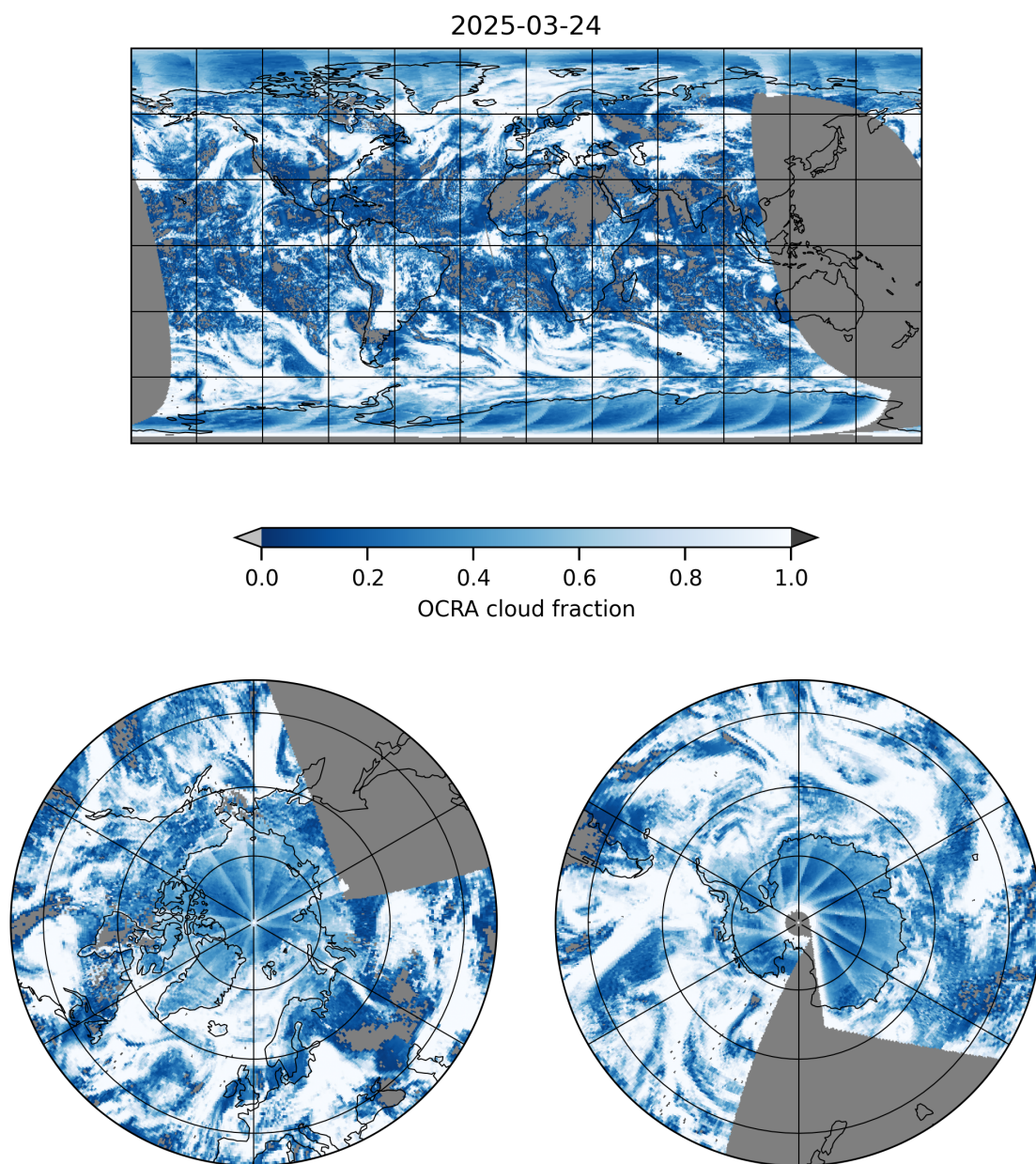


Figure 15: Map of “OCRA cloud fraction” for 2025-03-24 to 2025-03-25

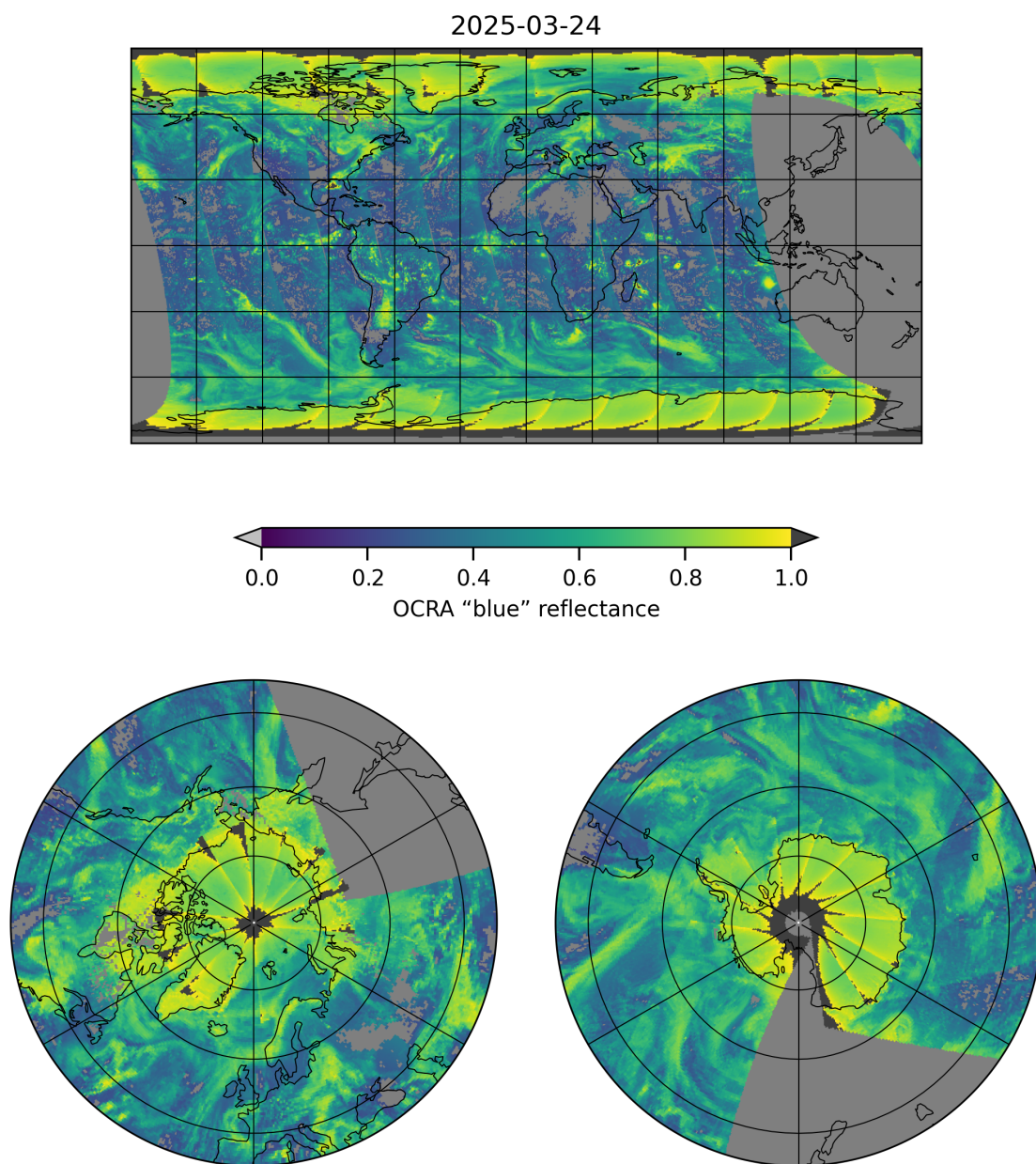


Figure 16: Map of "OCRA "blue" reflectance" for 2025-03-24 to 2025-03-25

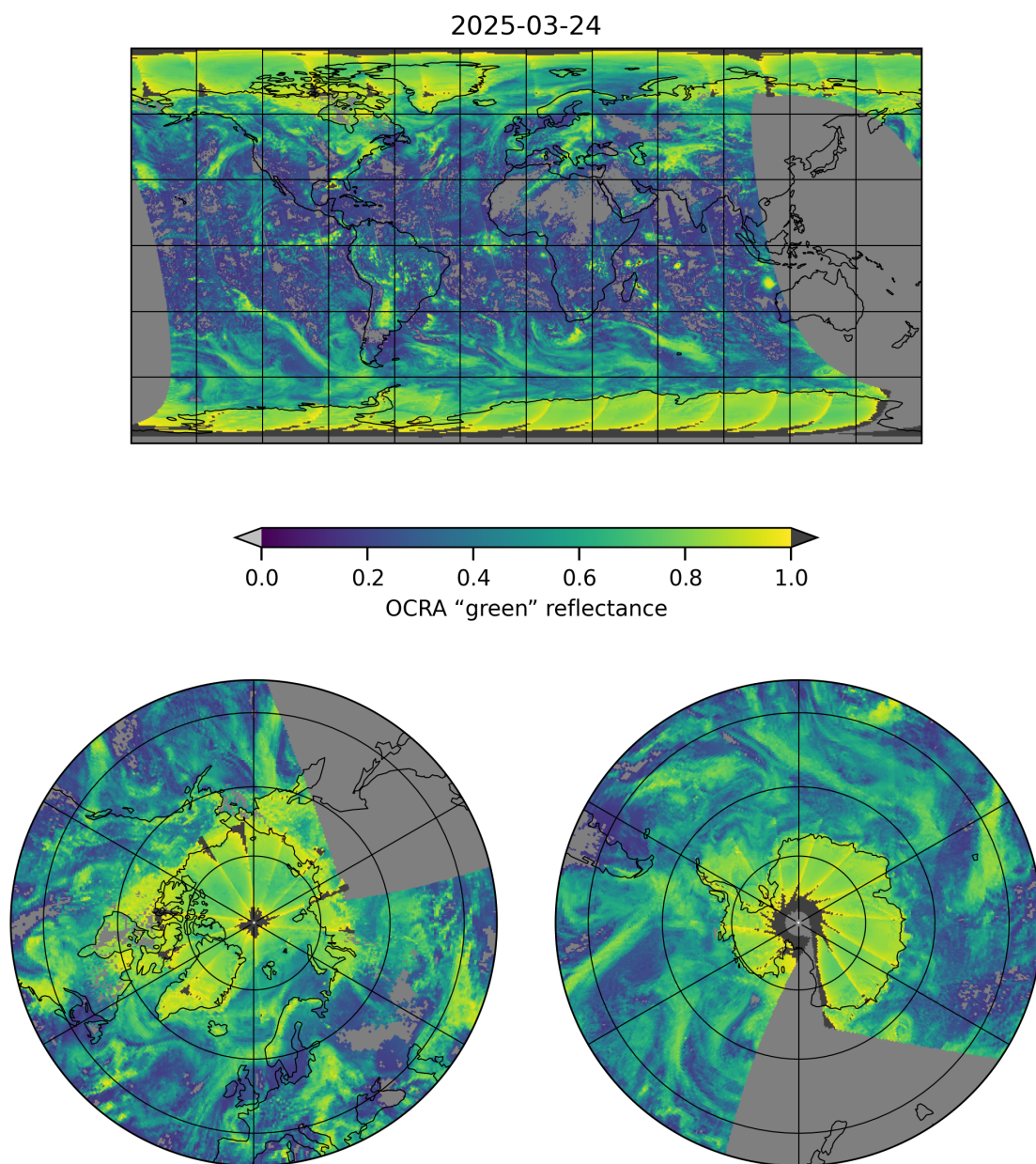


Figure 17: Map of "OCRA "green" reflectance" for 2025-03-24 to 2025-03-25

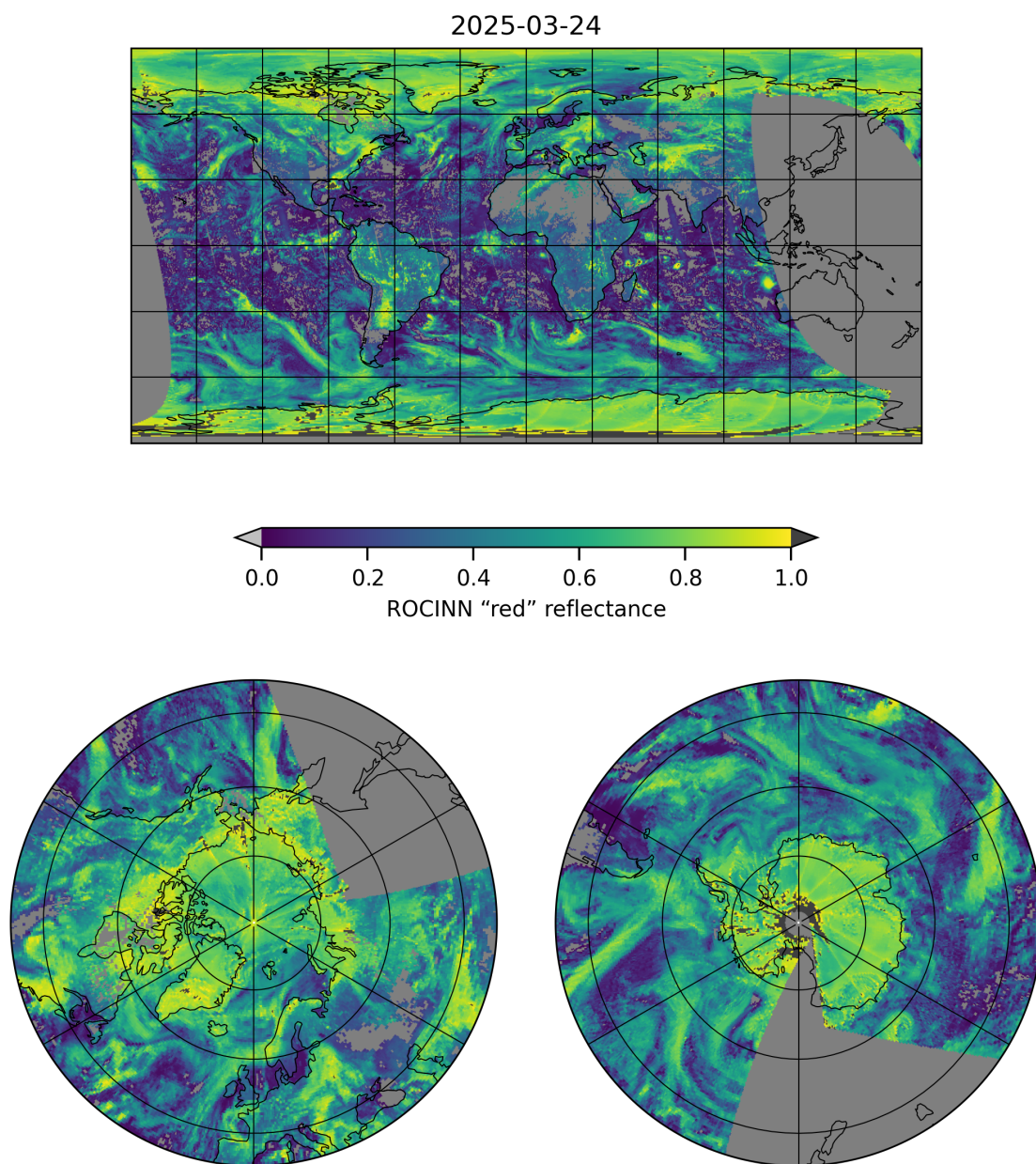


Figure 18: Map of "ROCINN "red" reflectance" for 2025-03-24 to 2025-03-25

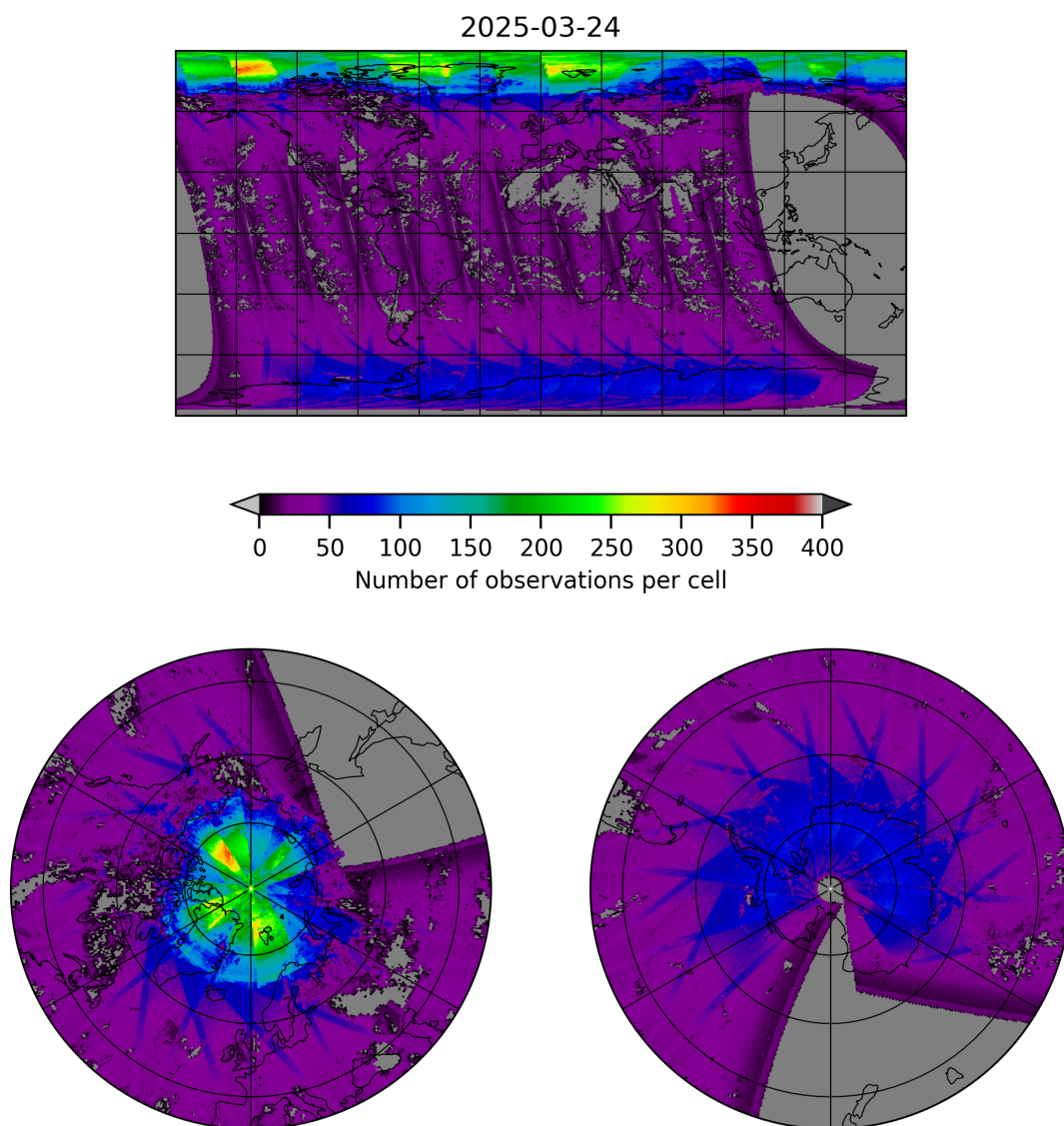


Figure 19: Map of the number of observations for 2025-03-24 to 2025-03-25

7 Zonal average

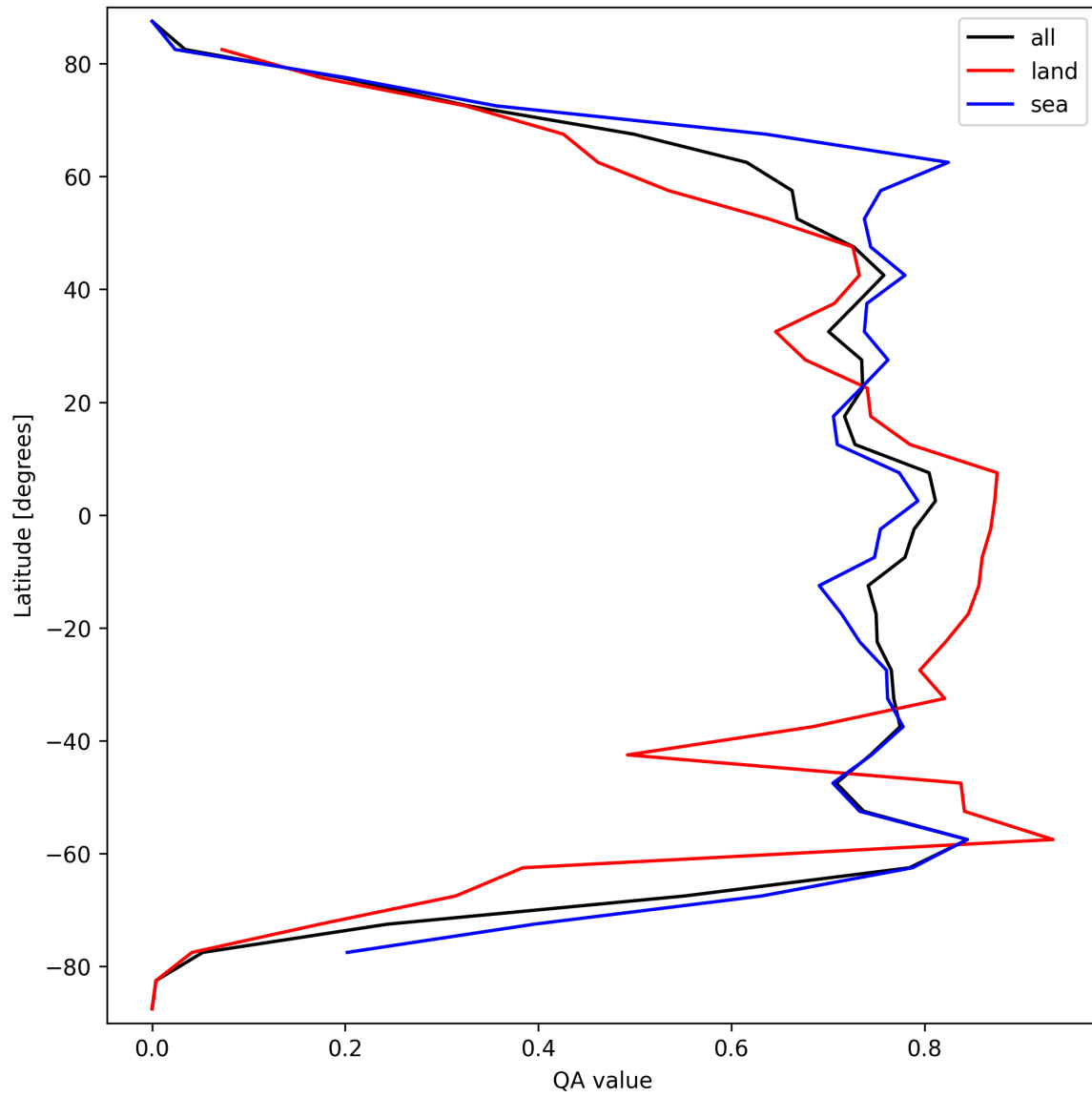


Figure 20: Zonal average of “QA value” for 2025-03-24 to 2025-03-25.

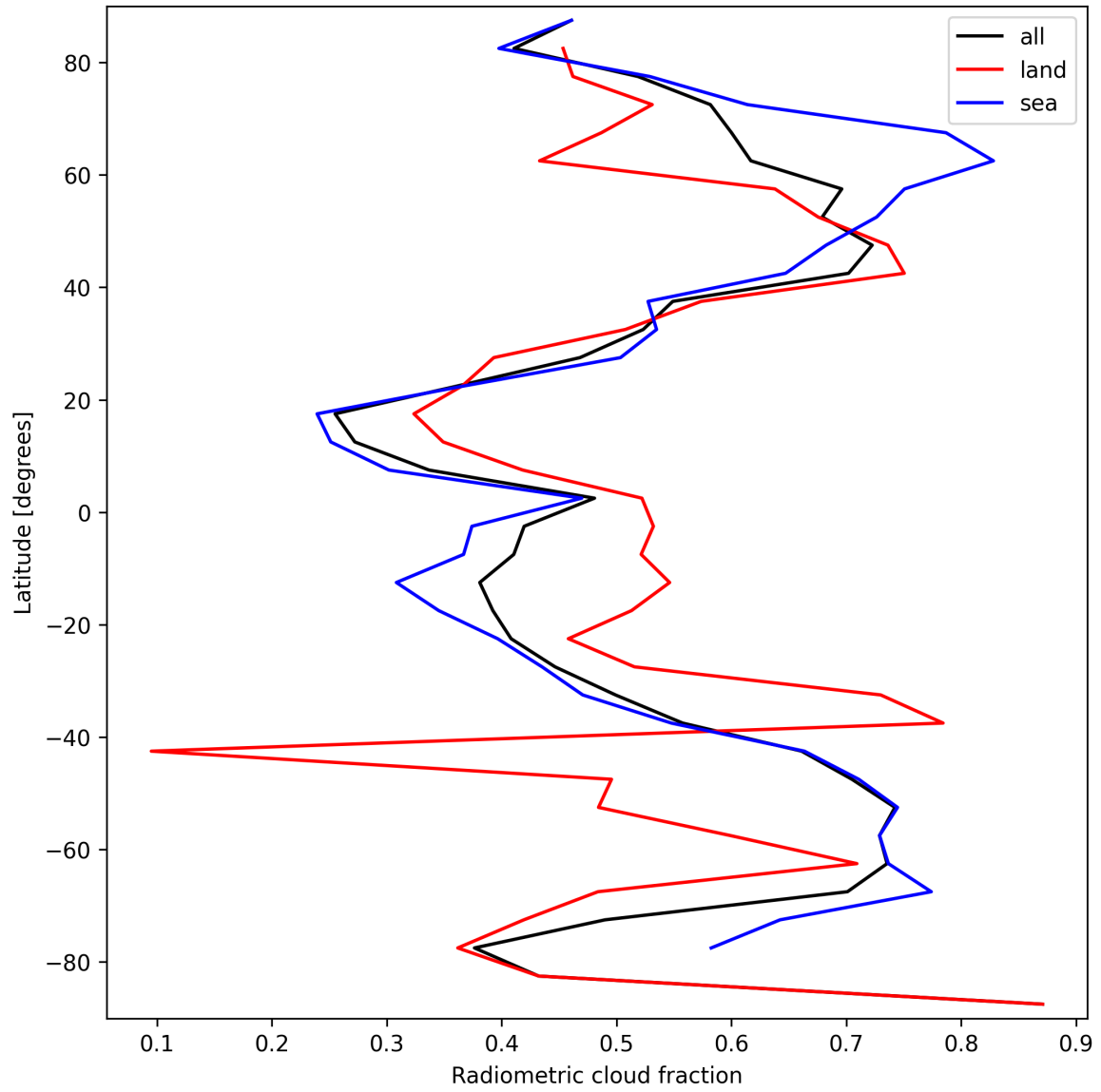


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-24 to 2025-03-25.

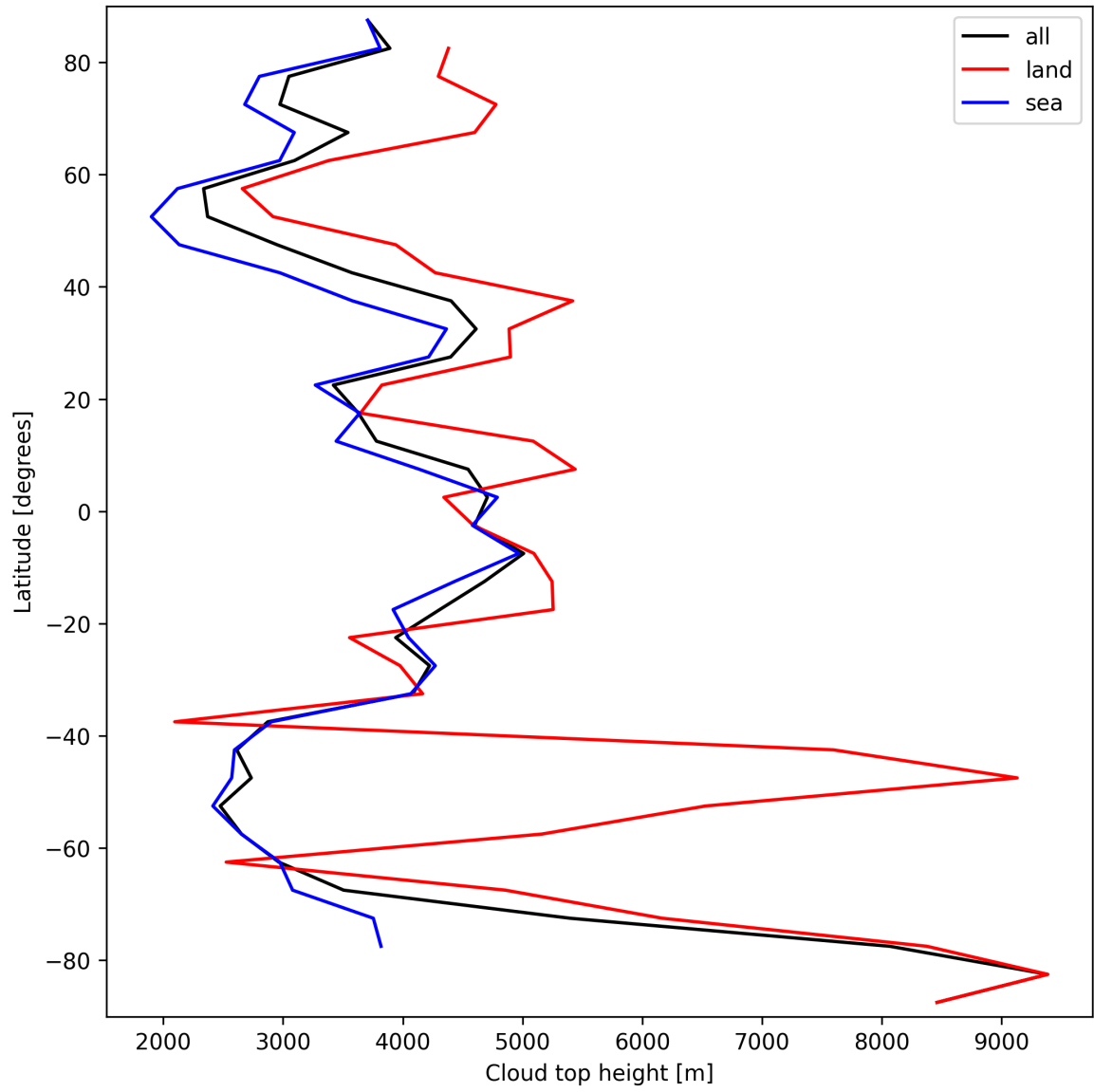


Figure 22: Zonal average of “Cloud top height” for 2025-03-24 to 2025-03-25.

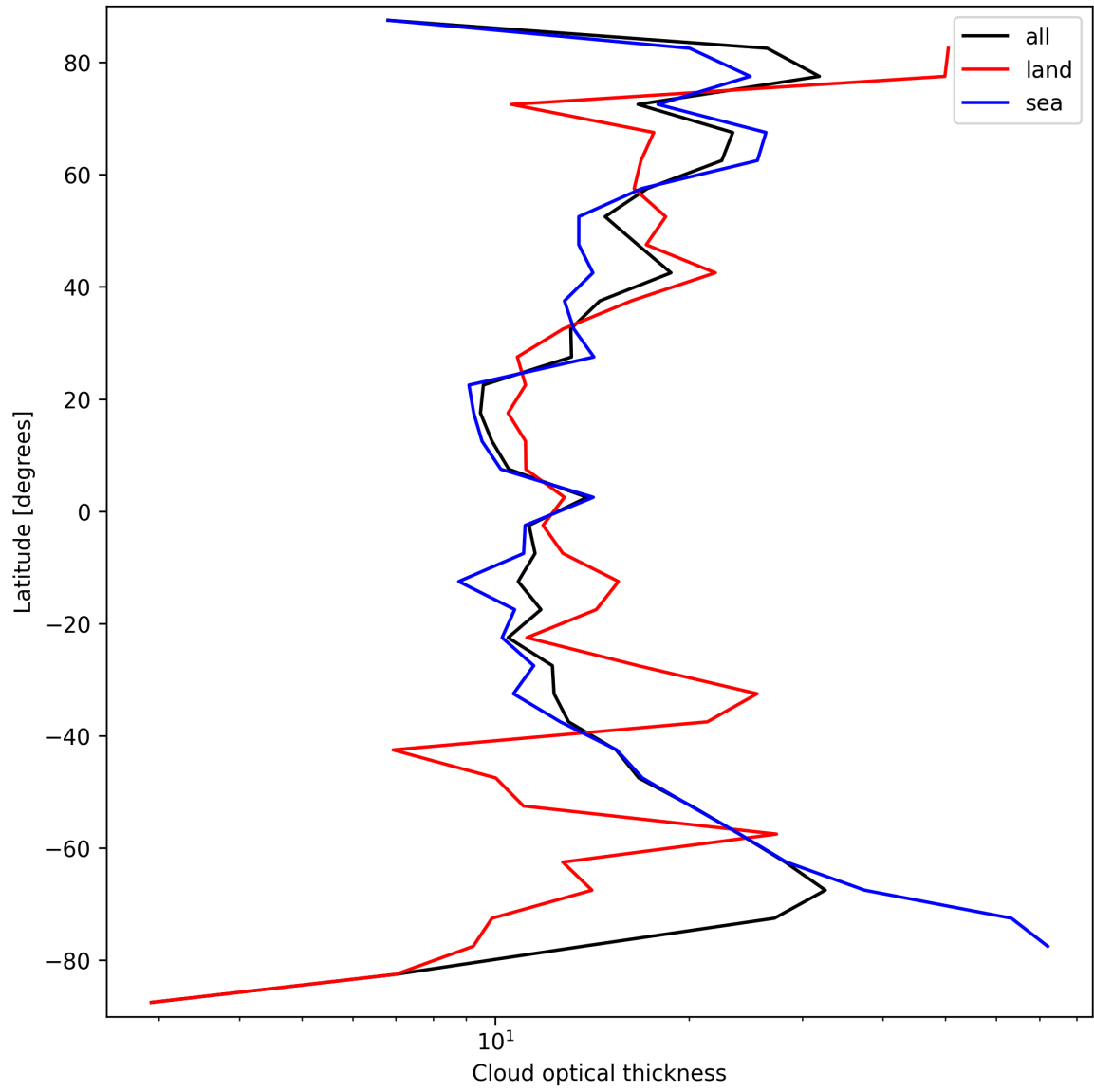


Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-24 to 2025-03-25.

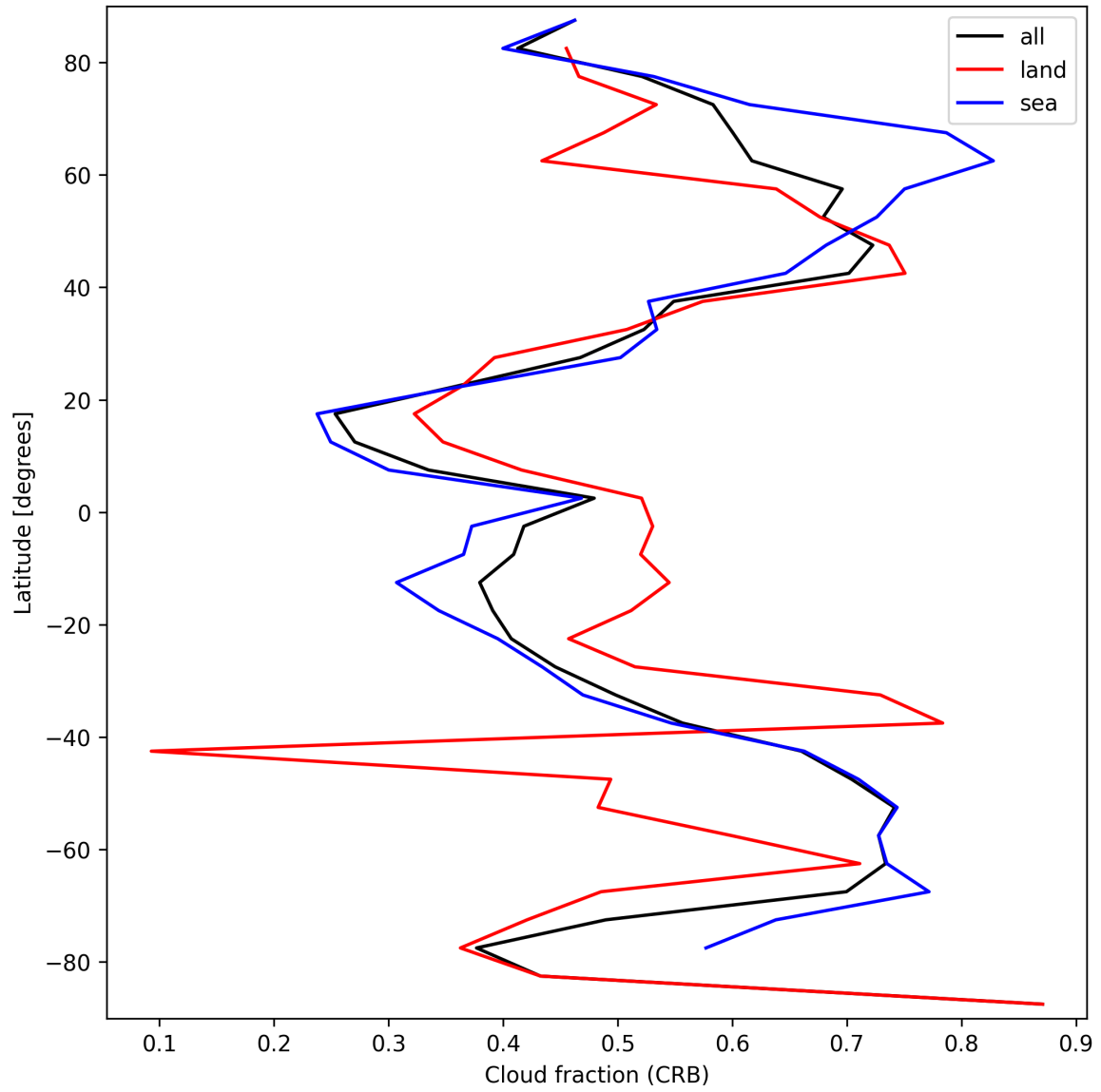


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-24 to 2025-03-25.

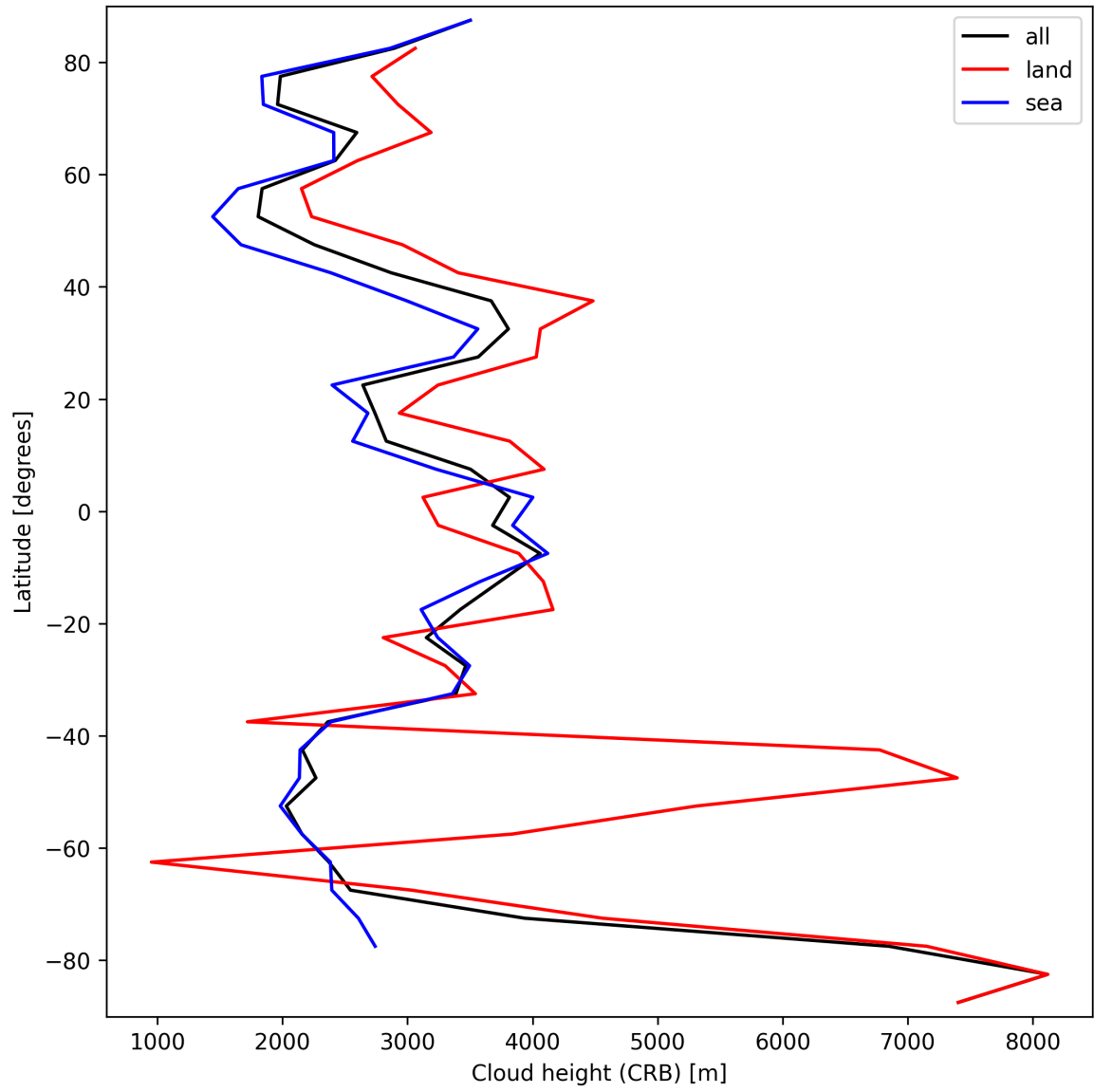


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-24 to 2025-03-25.

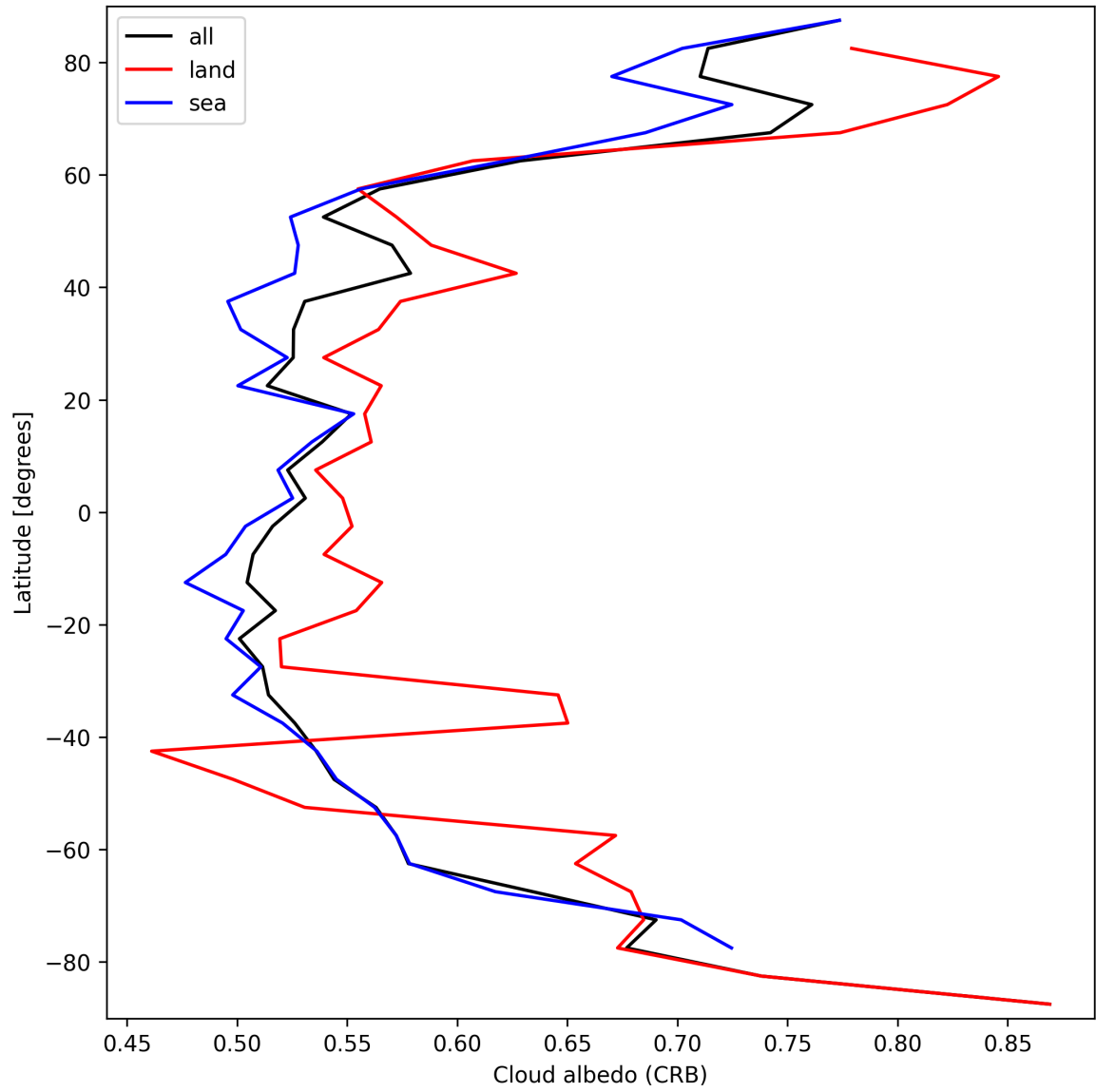


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-24 to 2025-03-25.

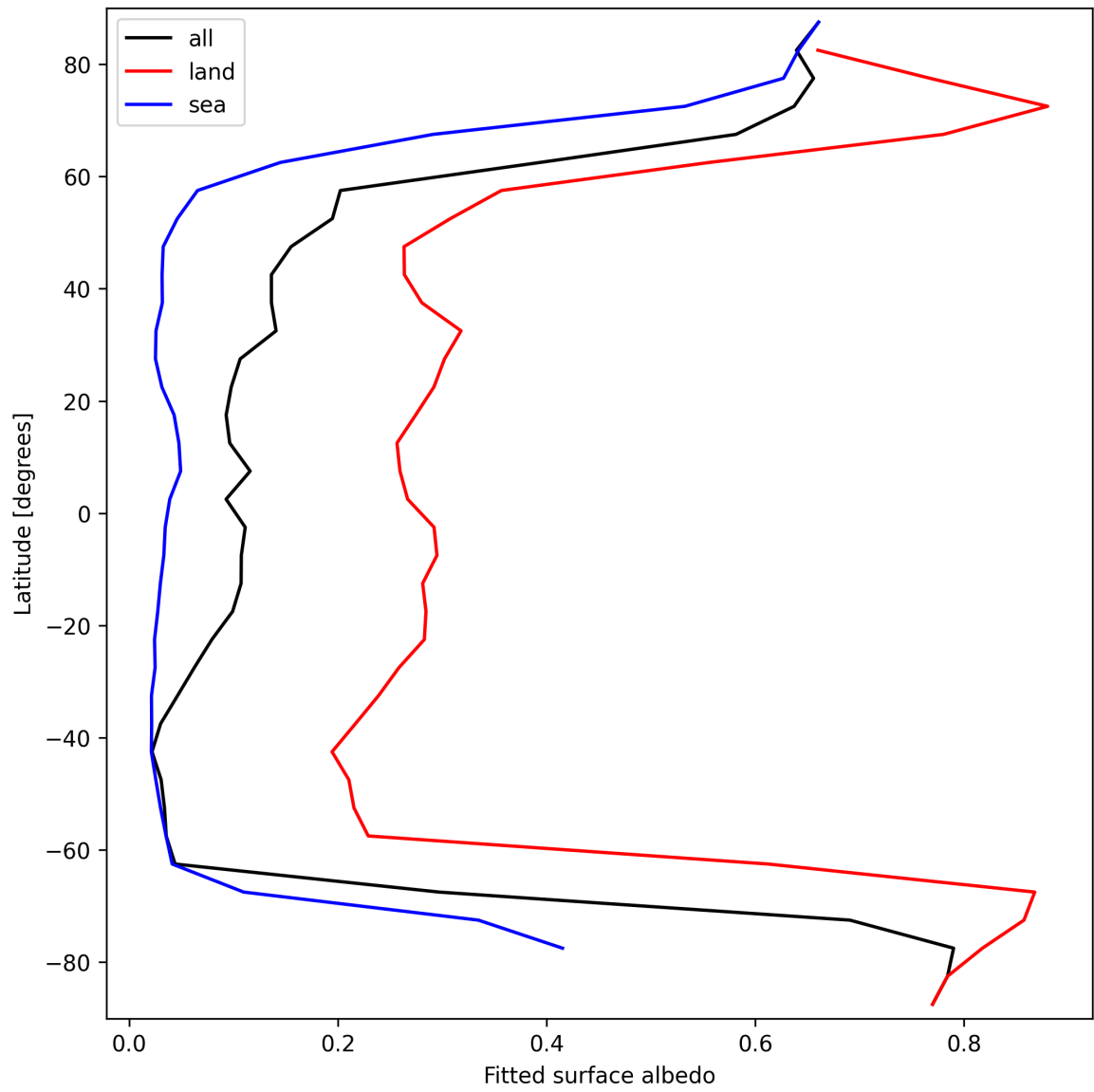


Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-24 to 2025-03-25.

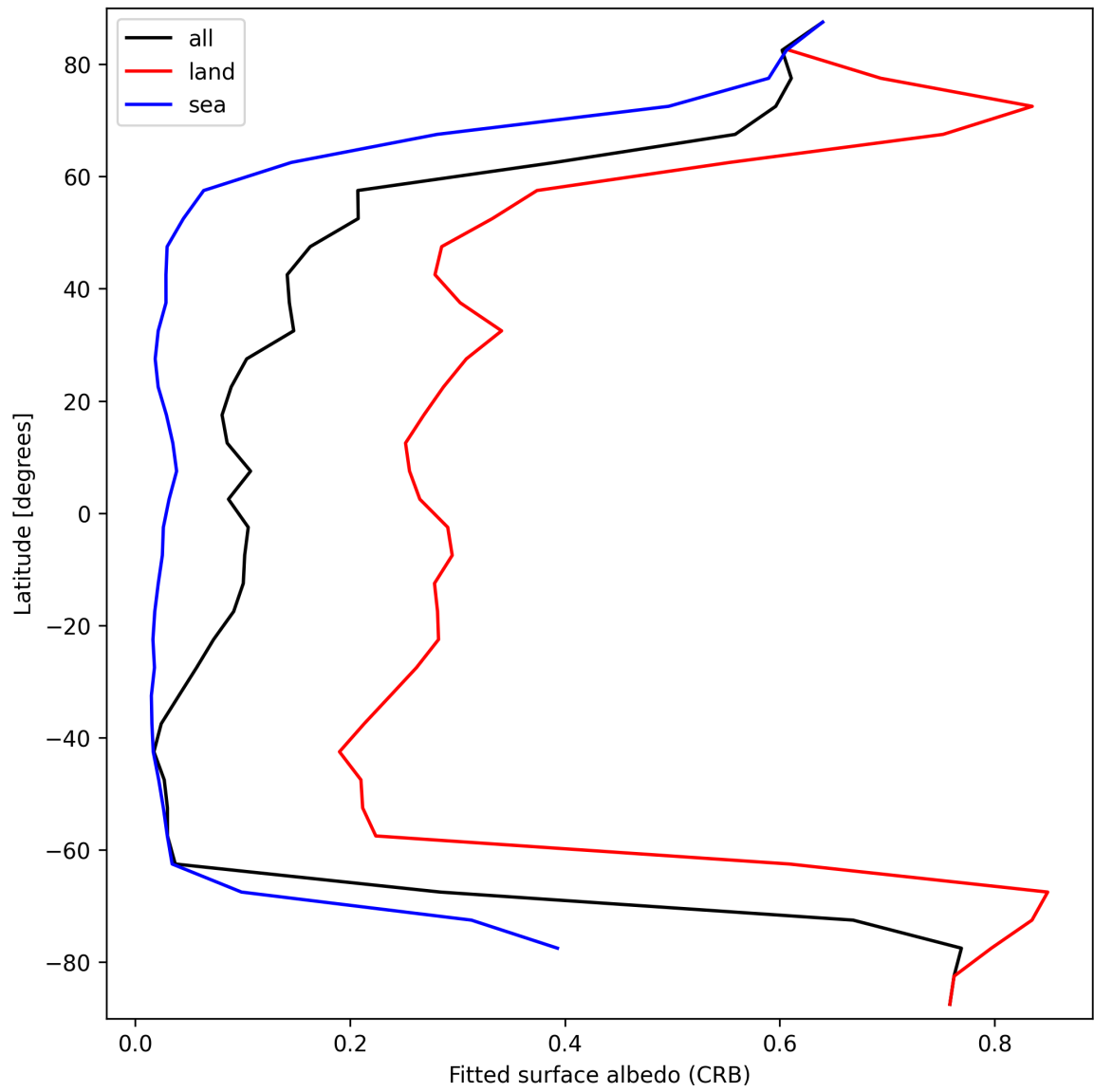


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-24 to 2025-03-25.

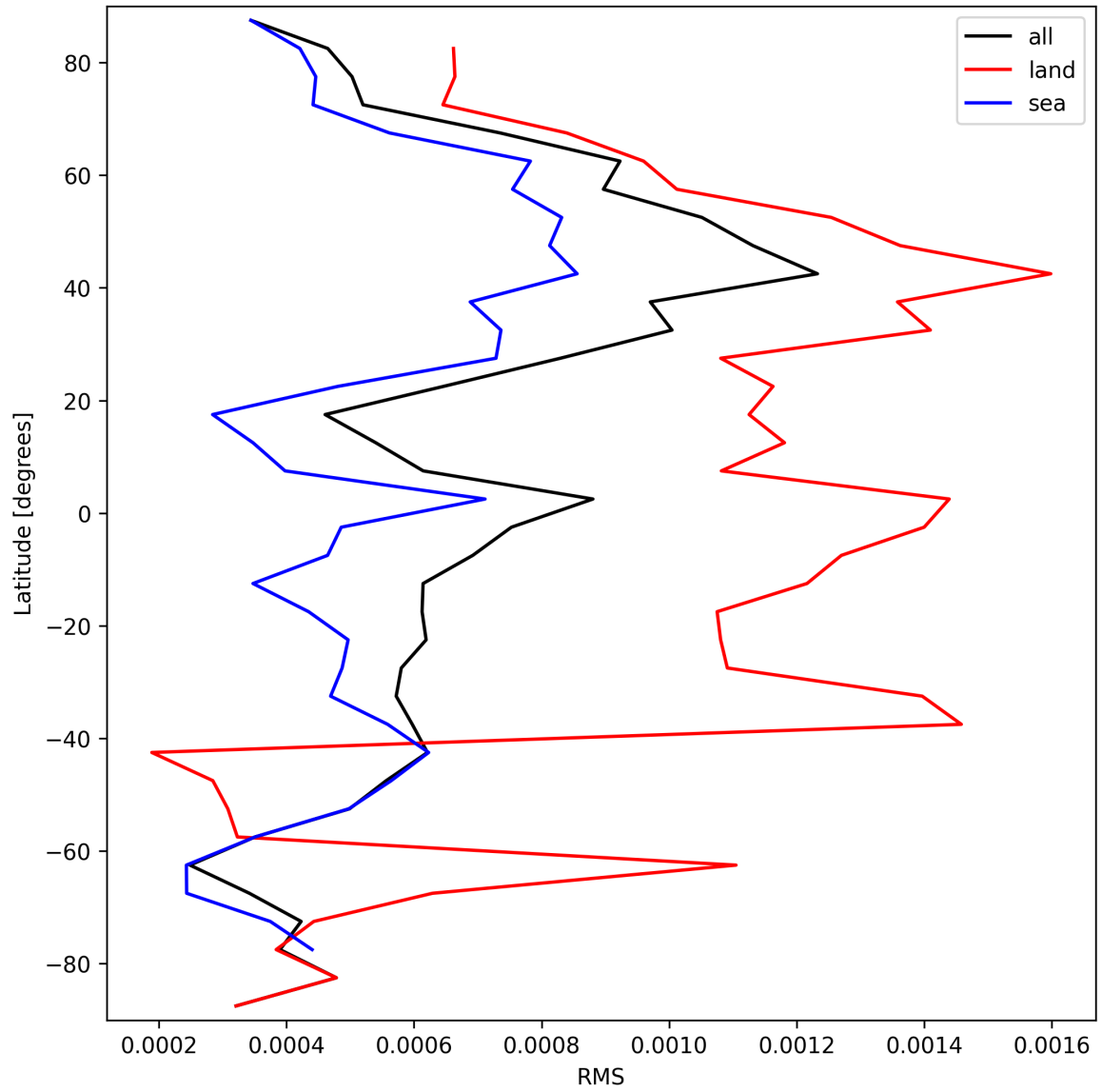


Figure 29: Zonal average of “RMS” for 2025-03-24 to 2025-03-25.

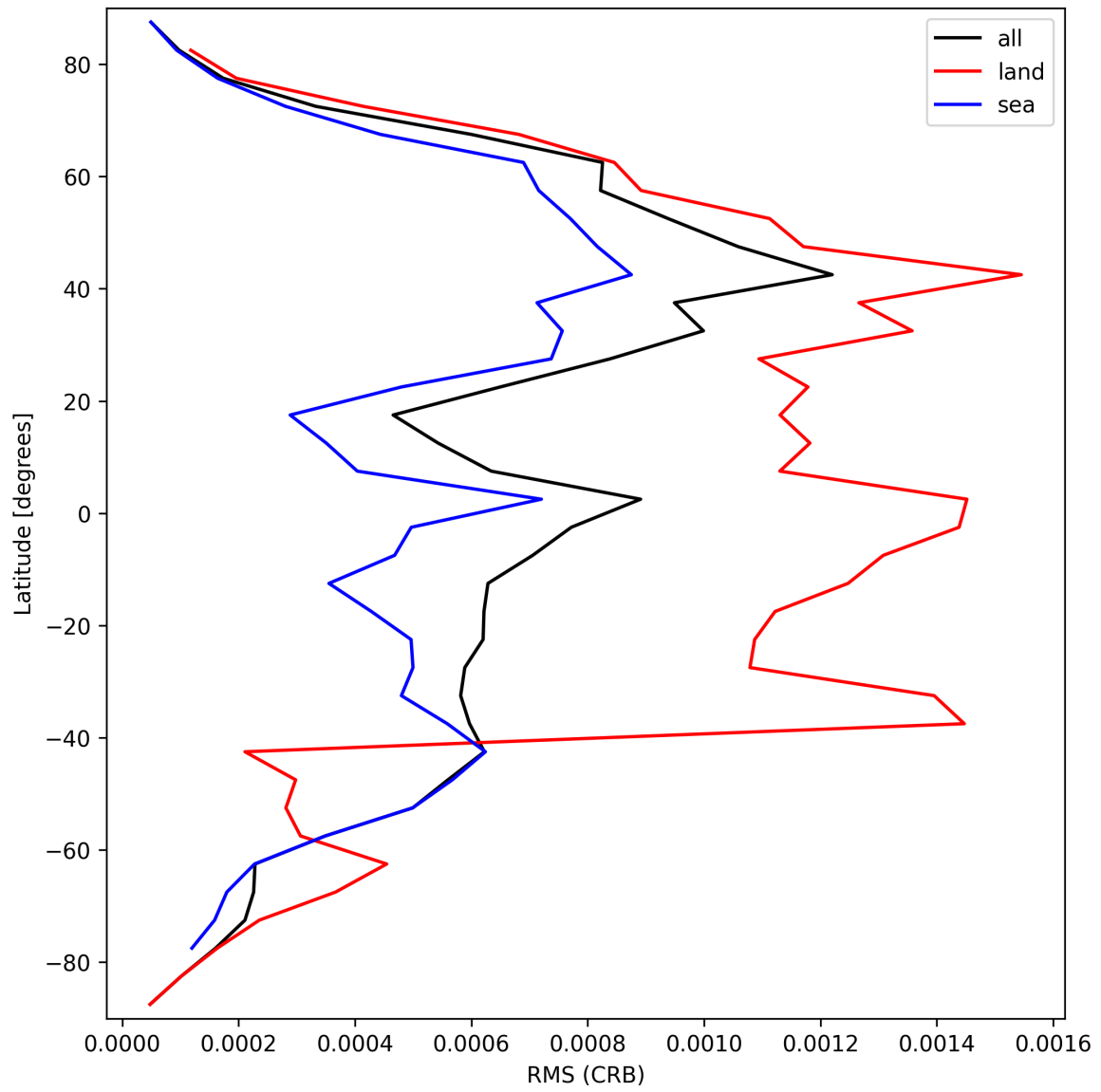


Figure 30: Zonal average of “RMS (CRB)” for 2025-03-24 to 2025-03-25.

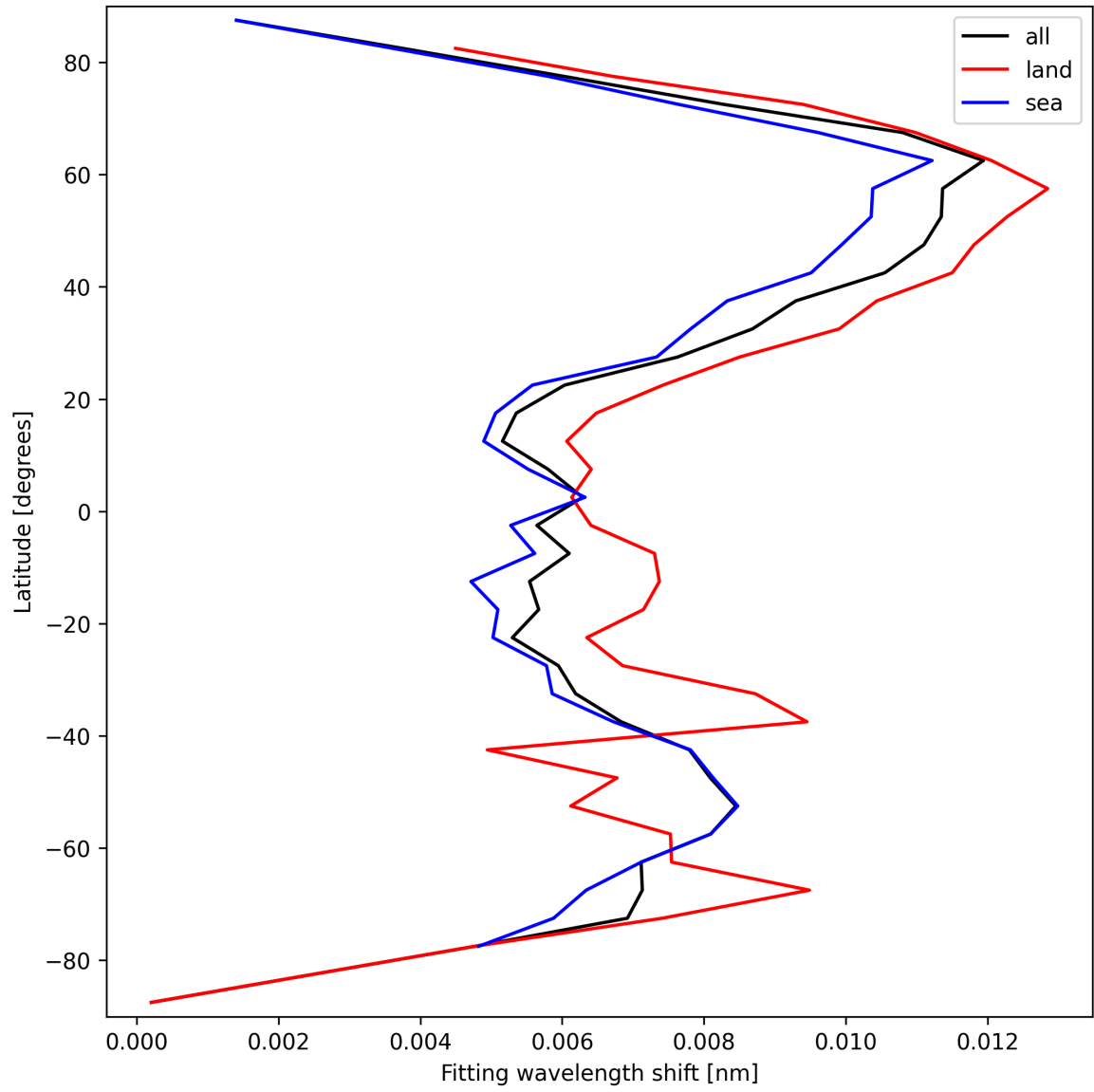


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-24 to 2025-03-25.

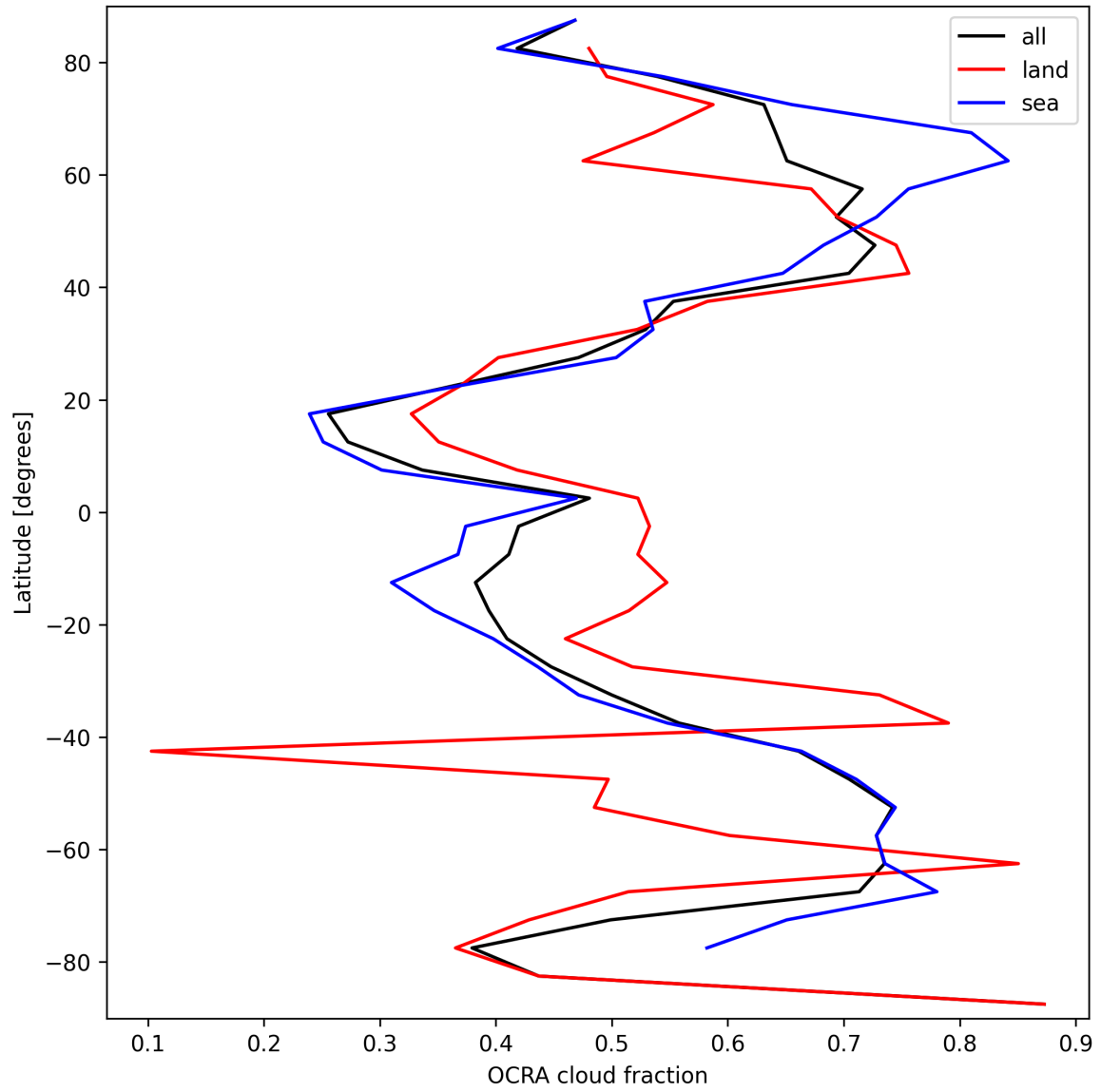


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-24 to 2025-03-25.

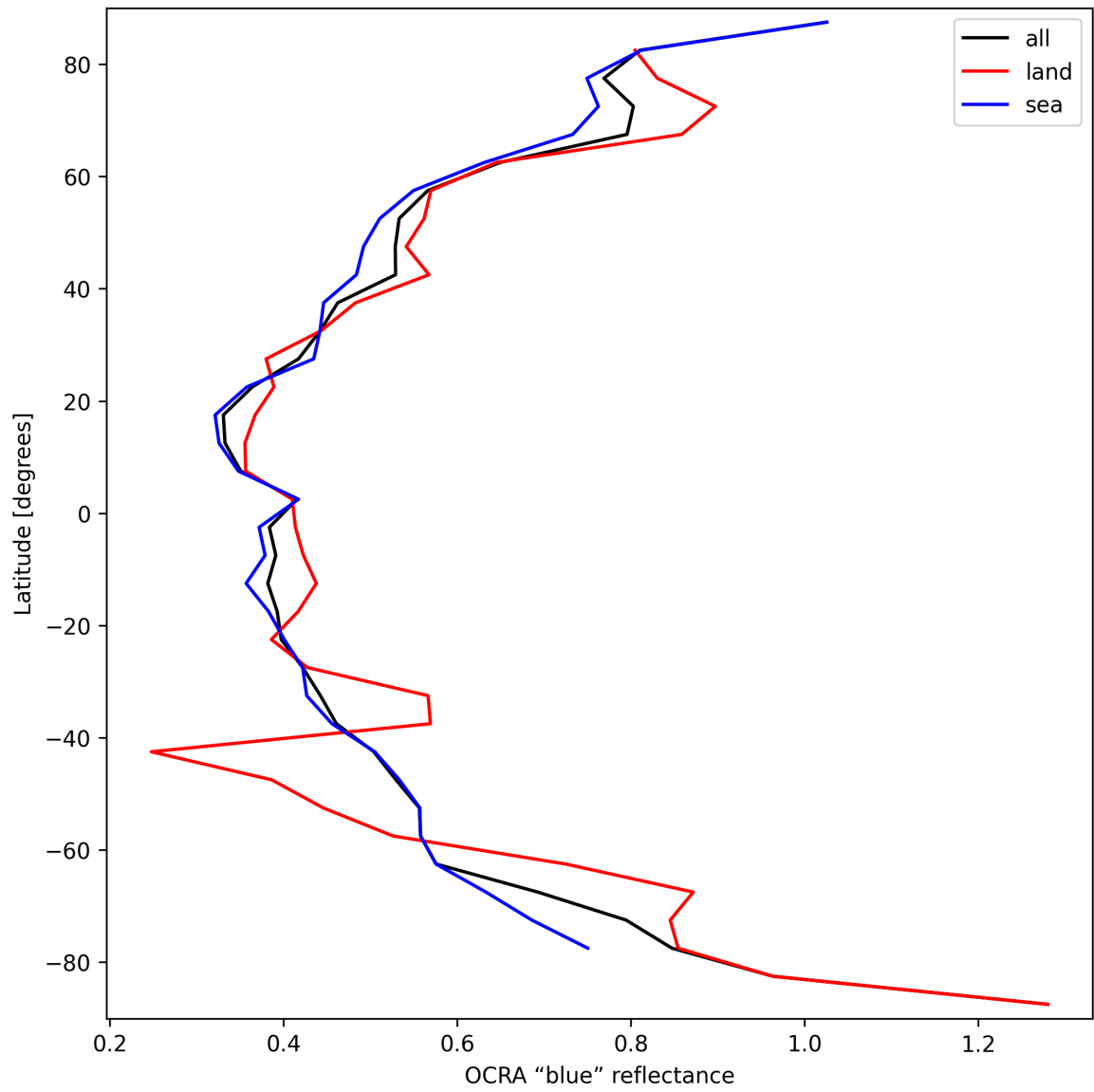


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-24 to 2025-03-25.

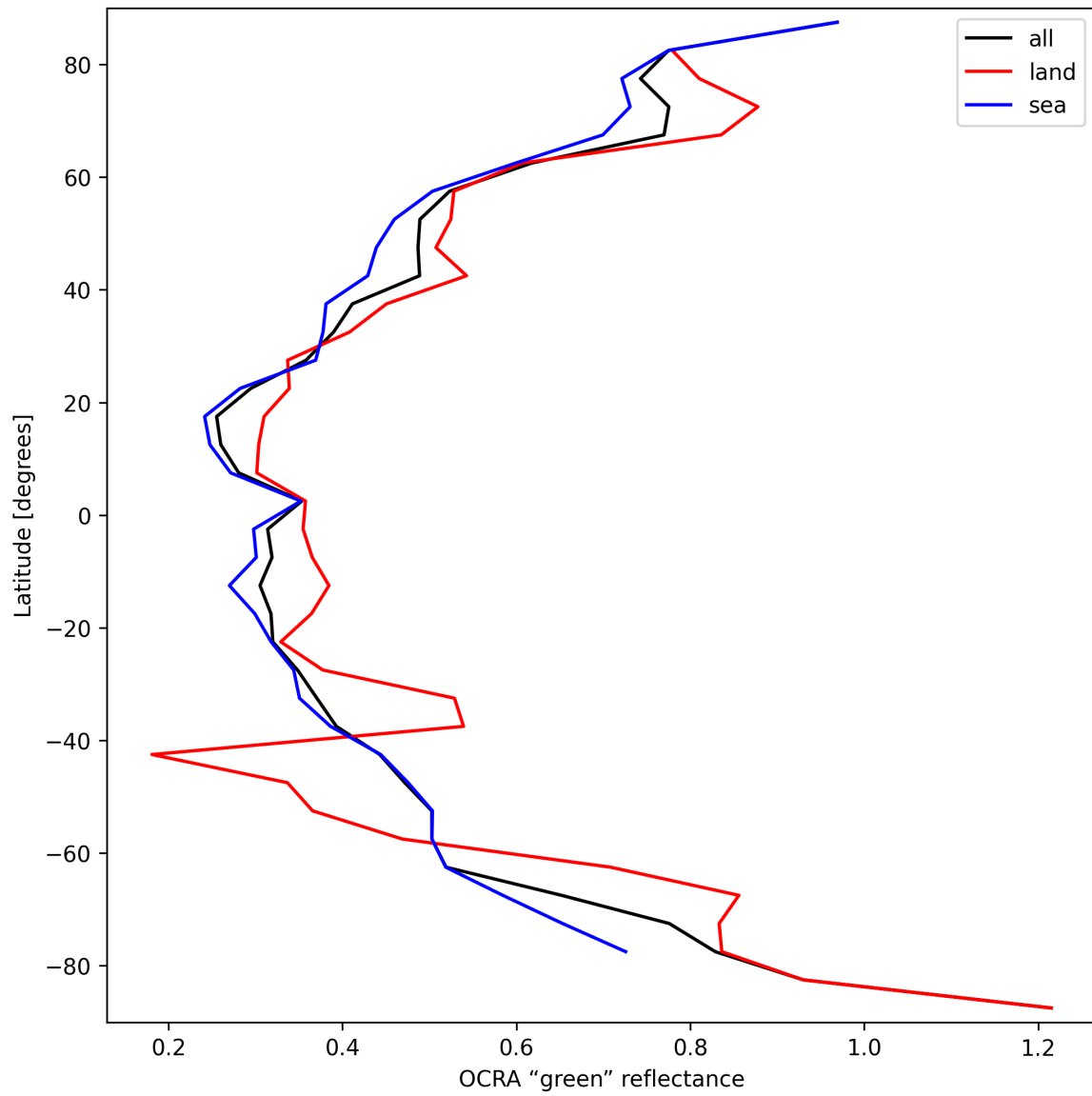


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-24 to 2025-03-25.

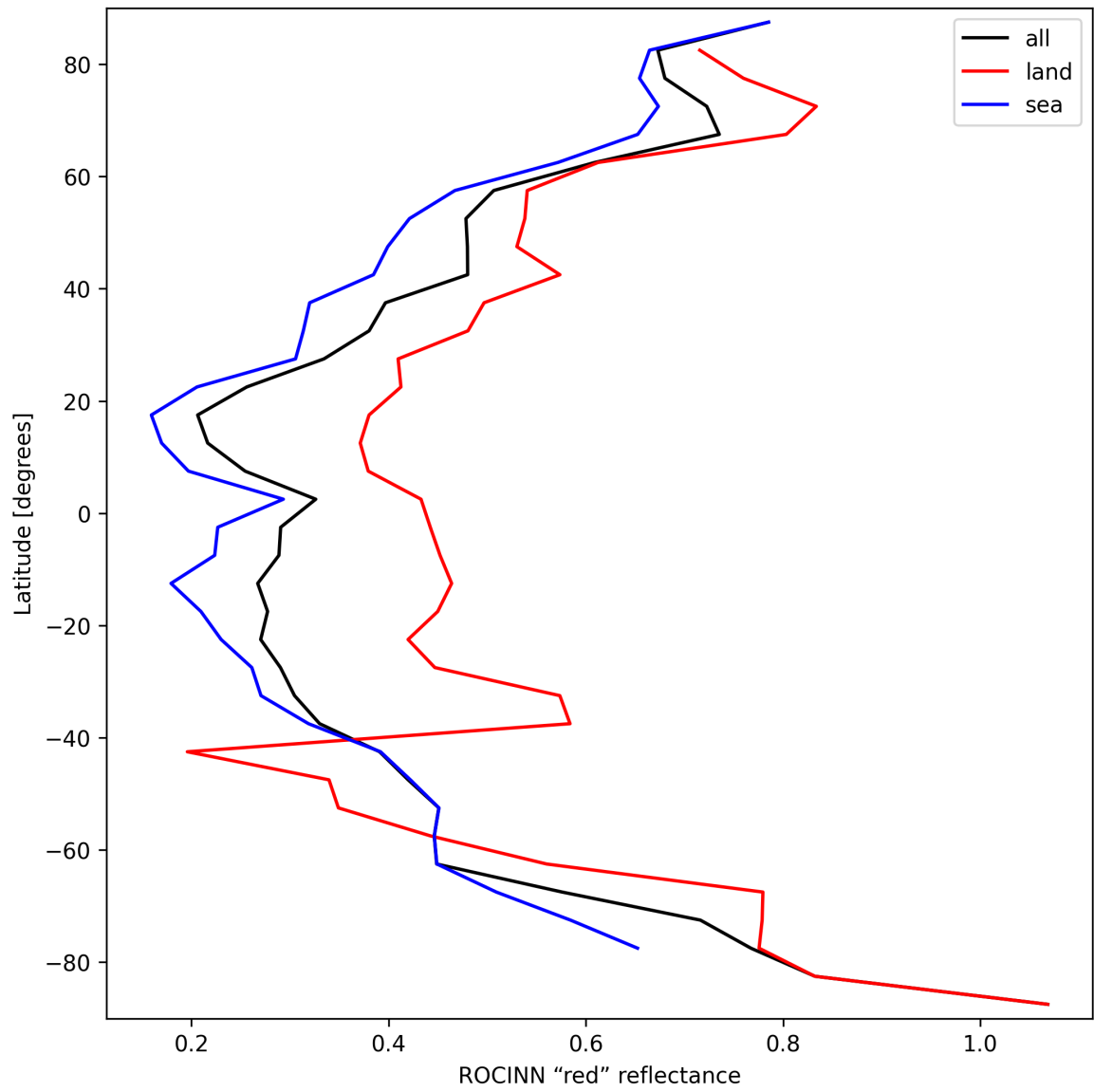


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-24 to 2025-03-25.

8 Histograms

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

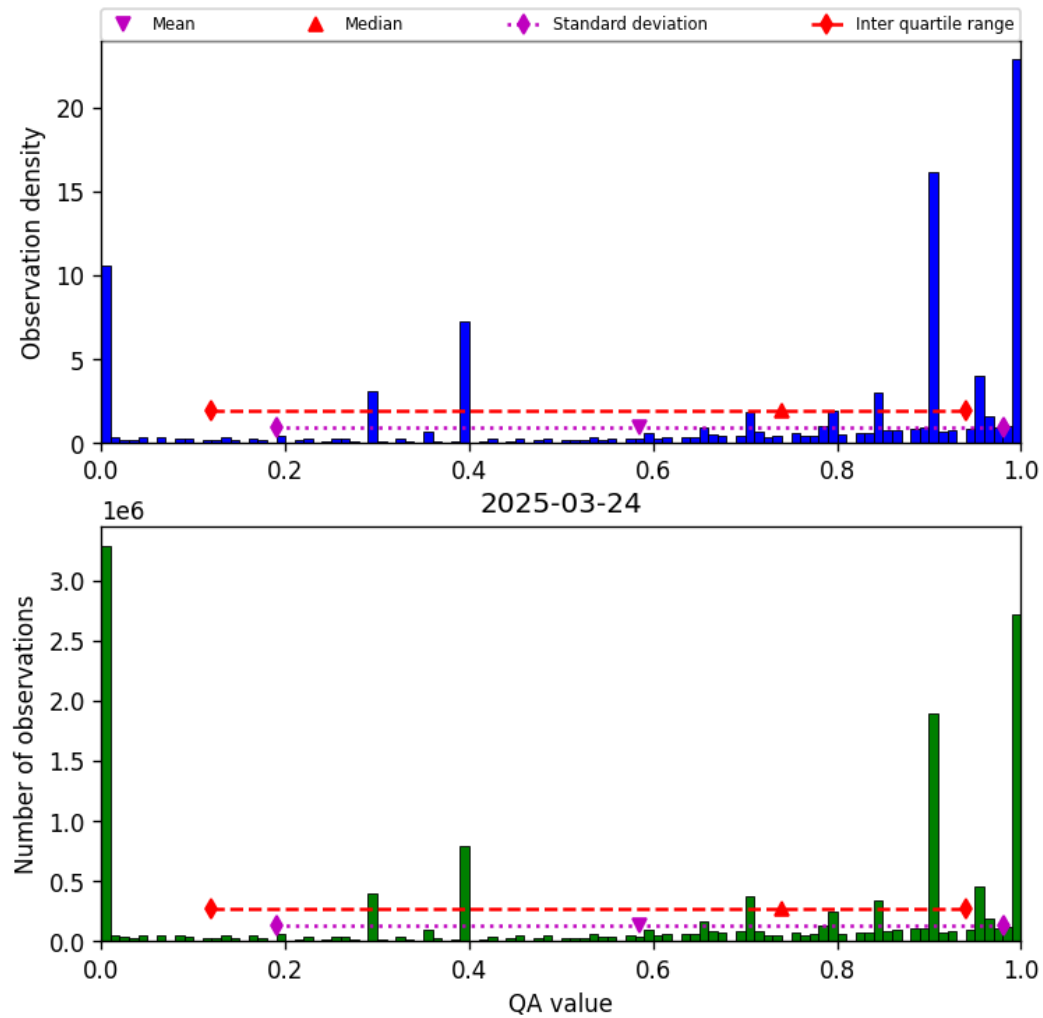


Figure 36: Histogram of “QA value” for 2025-03-24 to 2025-03-25

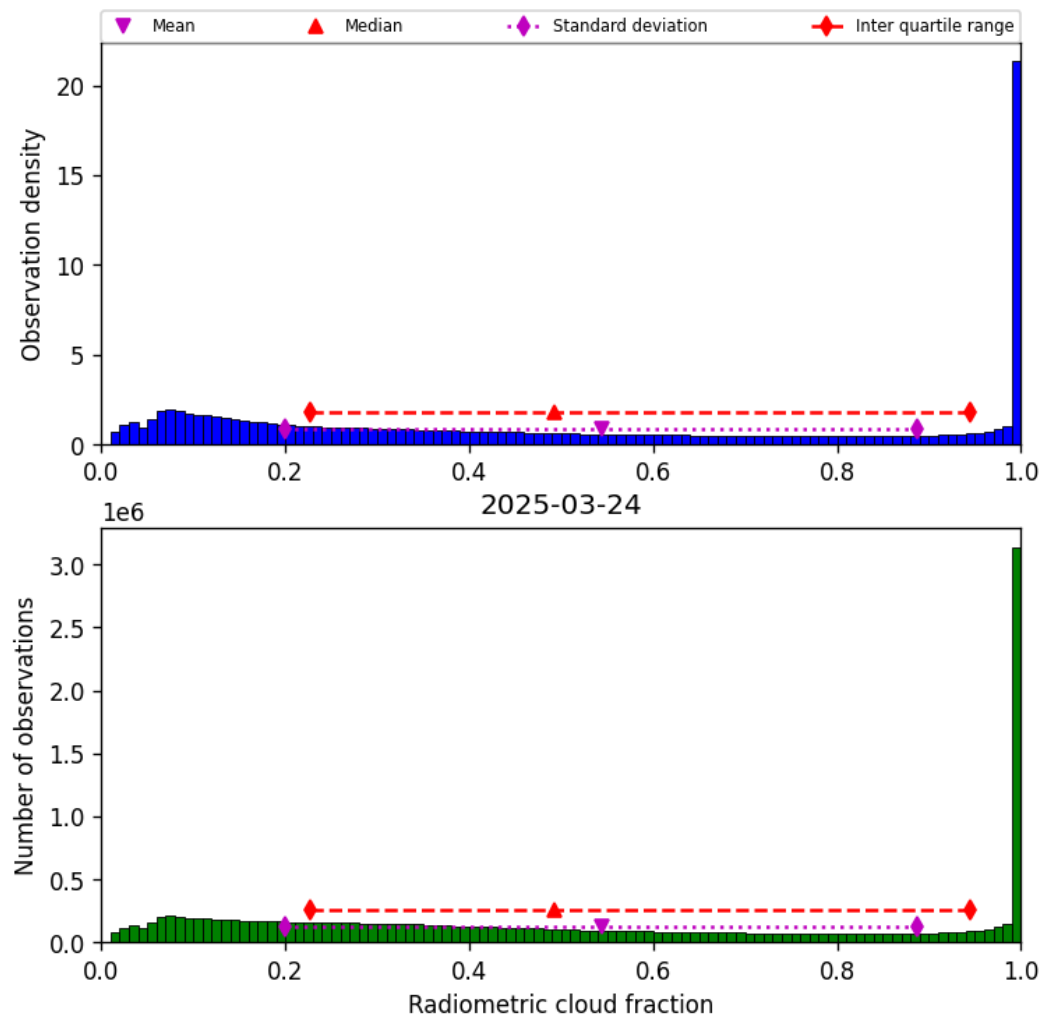


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-24 to 2025-03-25

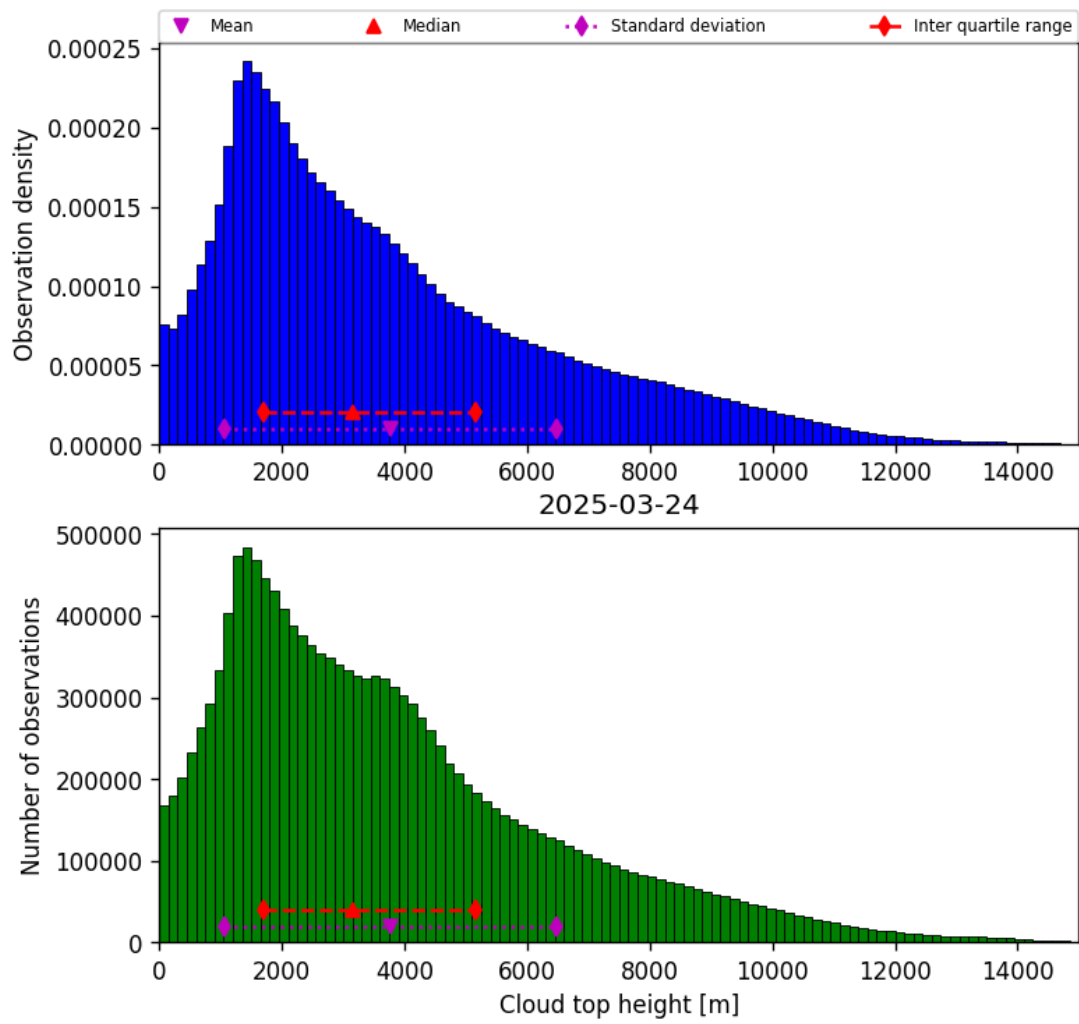


Figure 38: Histogram of “Cloud top height” for 2025-03-24 to 2025-03-25

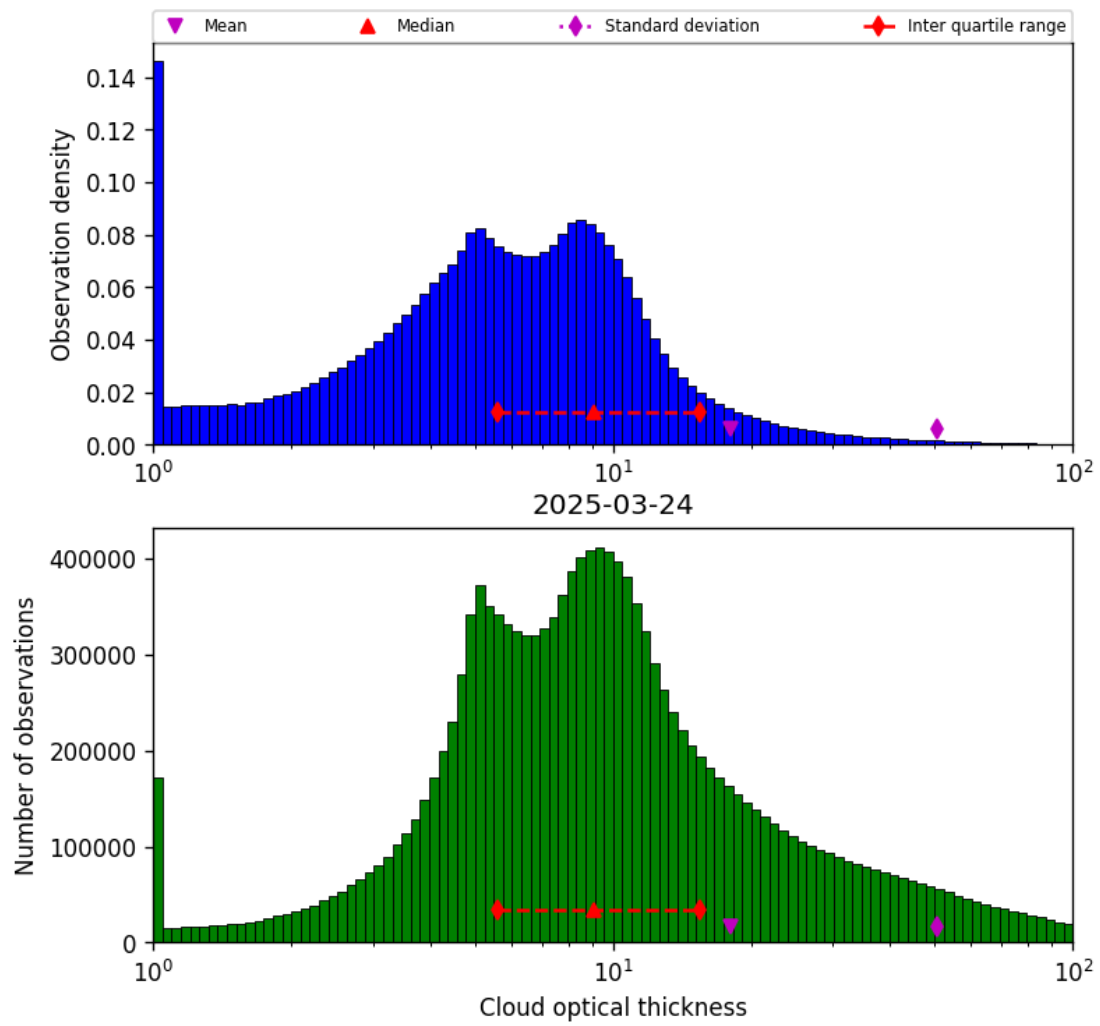


Figure 39: Histogram of “Cloud optical thickness” for 2025-03-24 to 2025-03-25

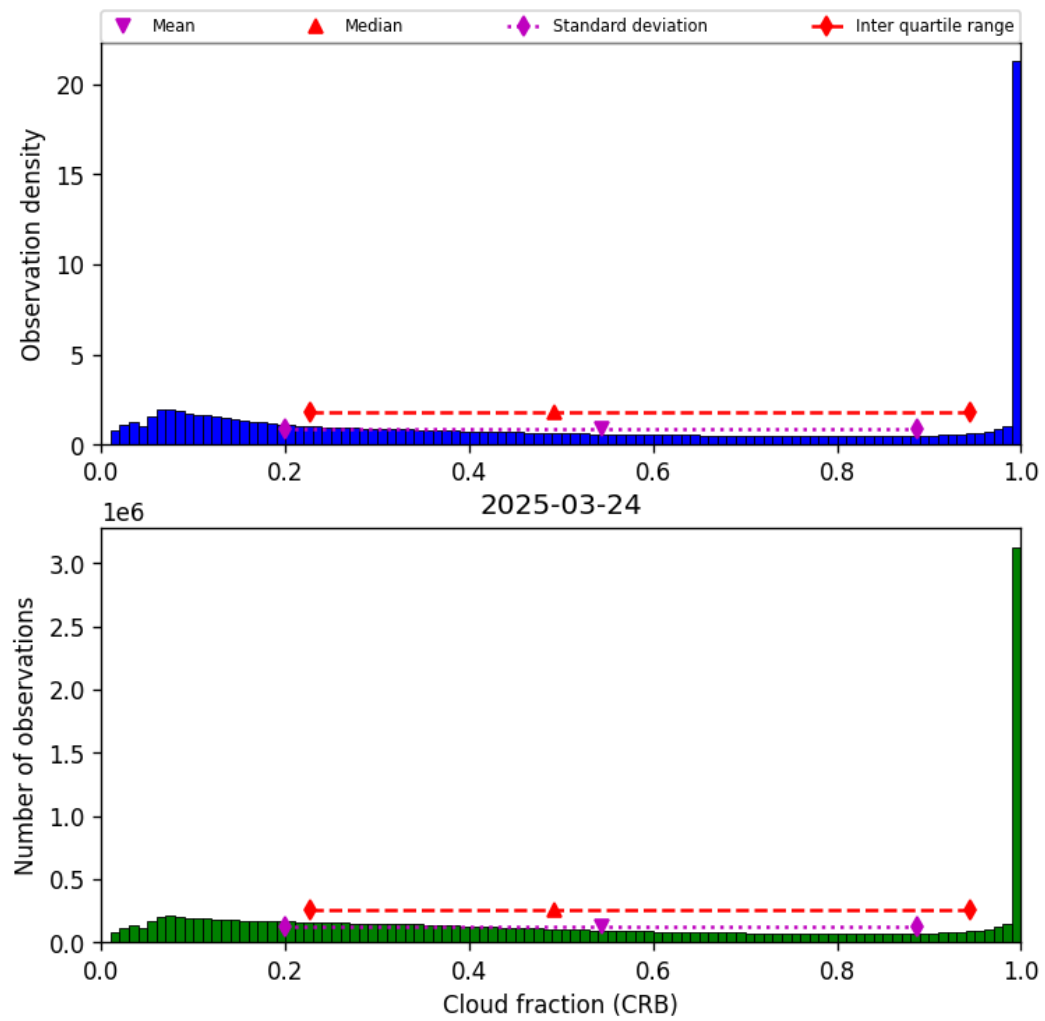


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-24 to 2025-03-25

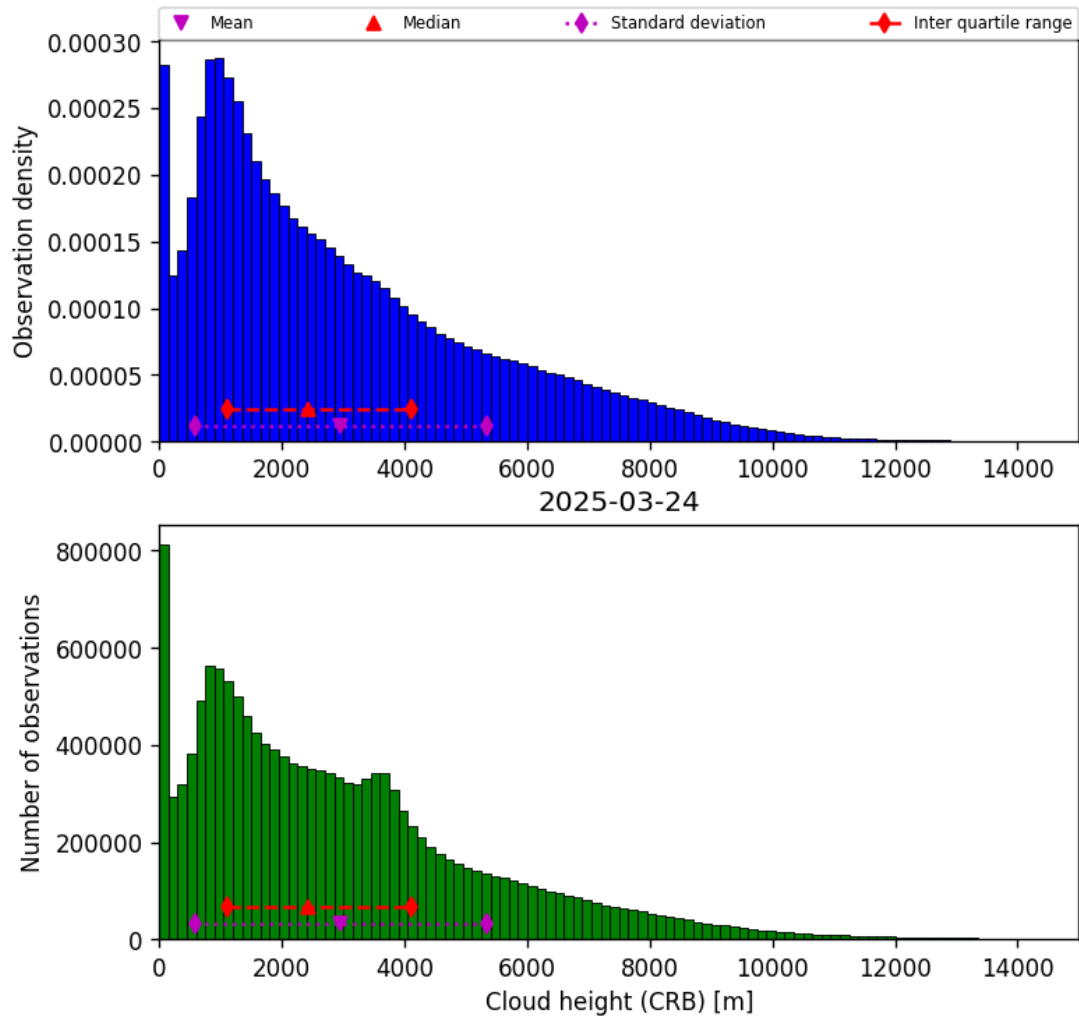


Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-24 to 2025-03-25

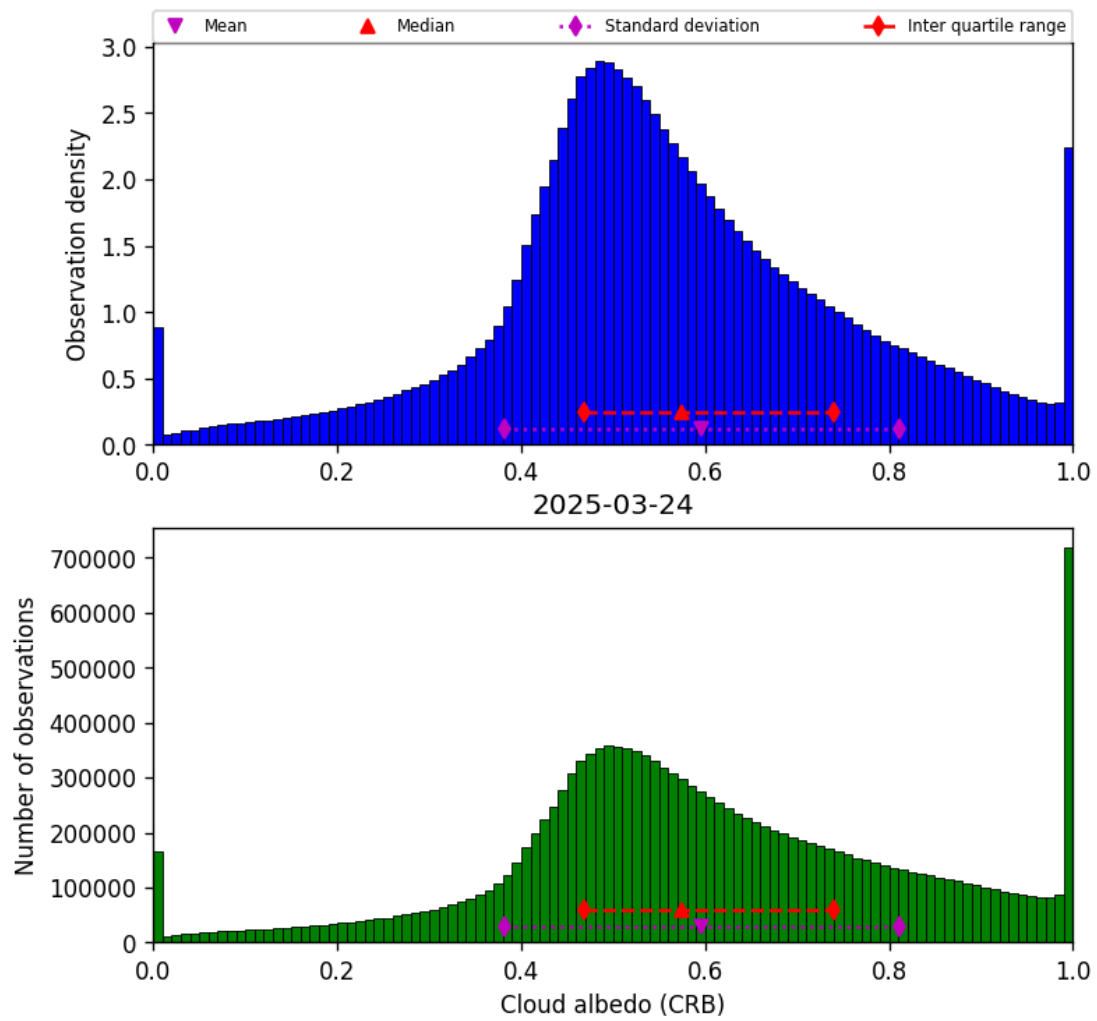


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-24 to 2025-03-25

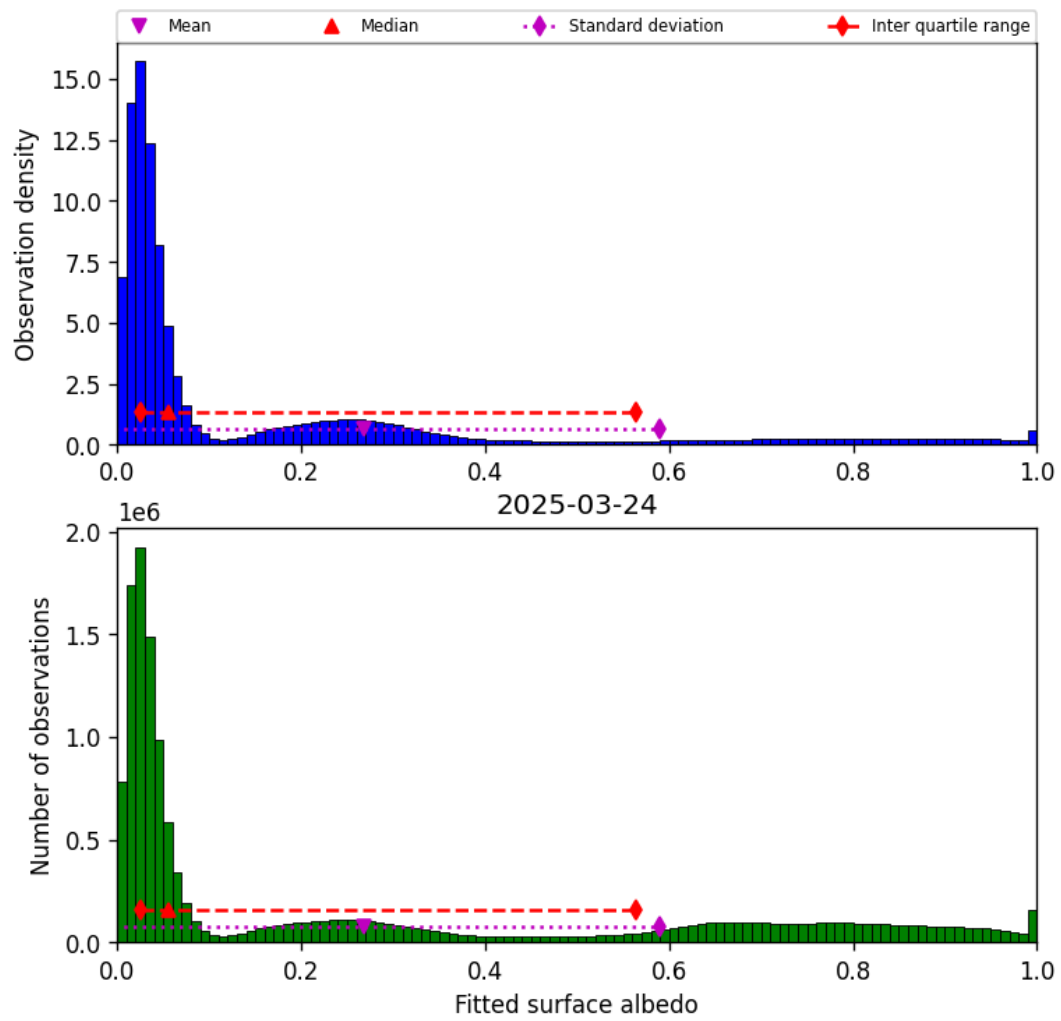


Figure 43: Histogram of “Fitted surface albedo” for 2025-03-24 to 2025-03-25

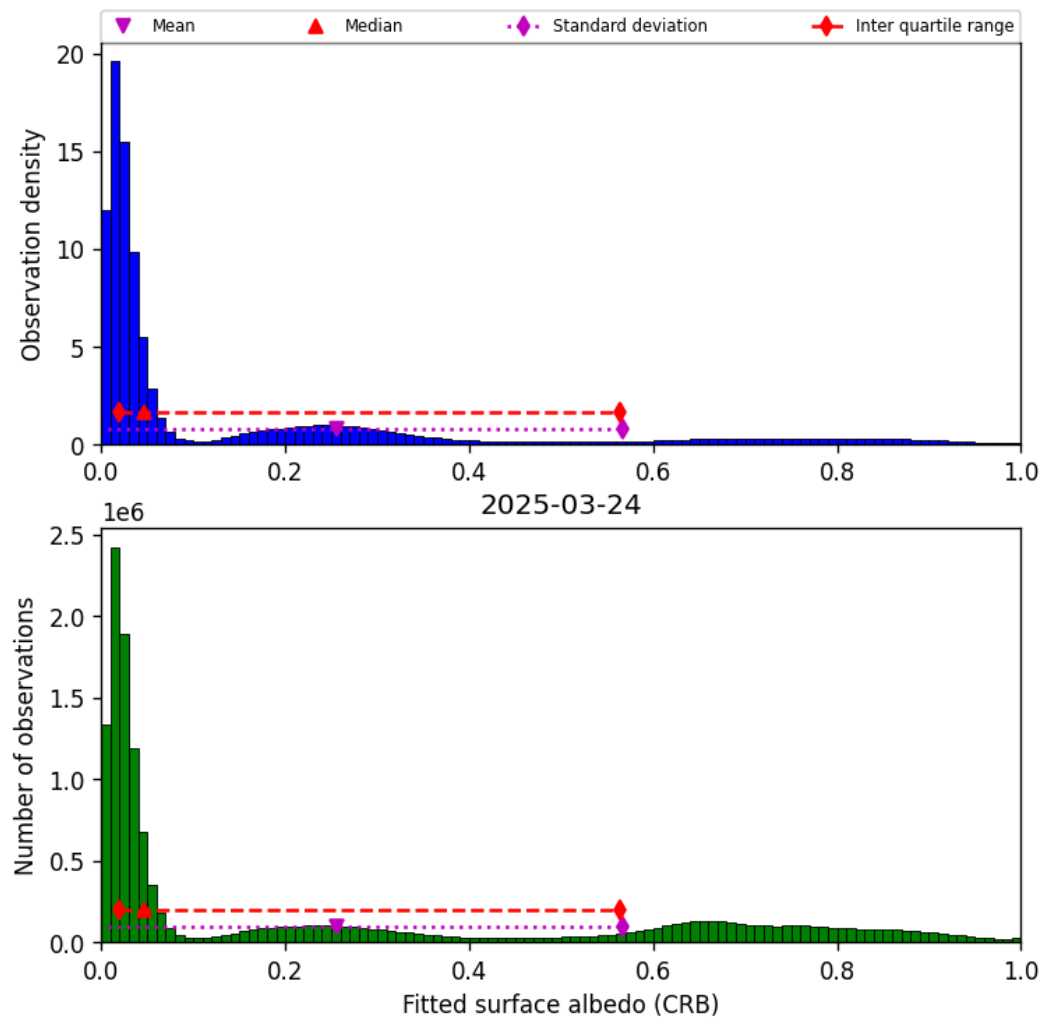


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-24 to 2025-03-25

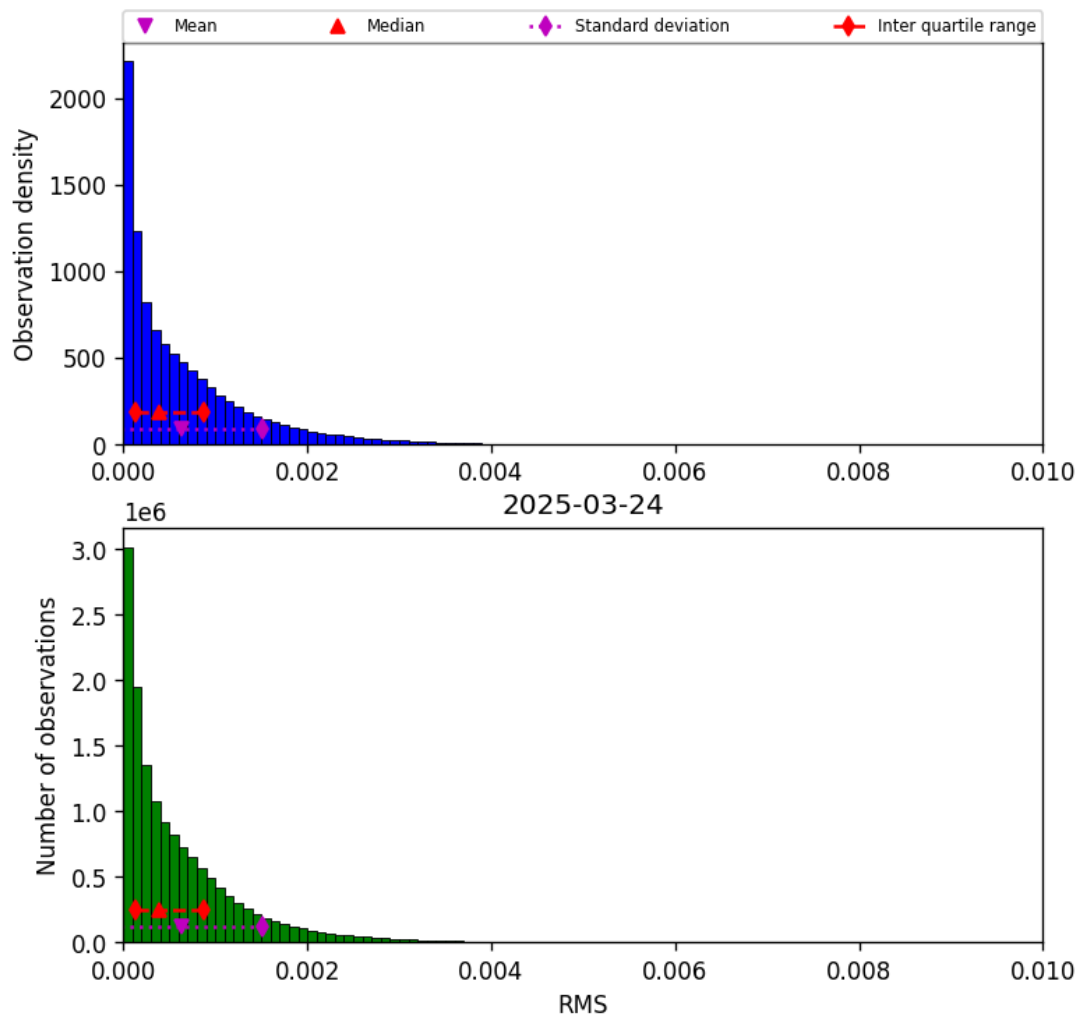


Figure 45: Histogram of “RMS” for 2025-03-24 to 2025-03-25

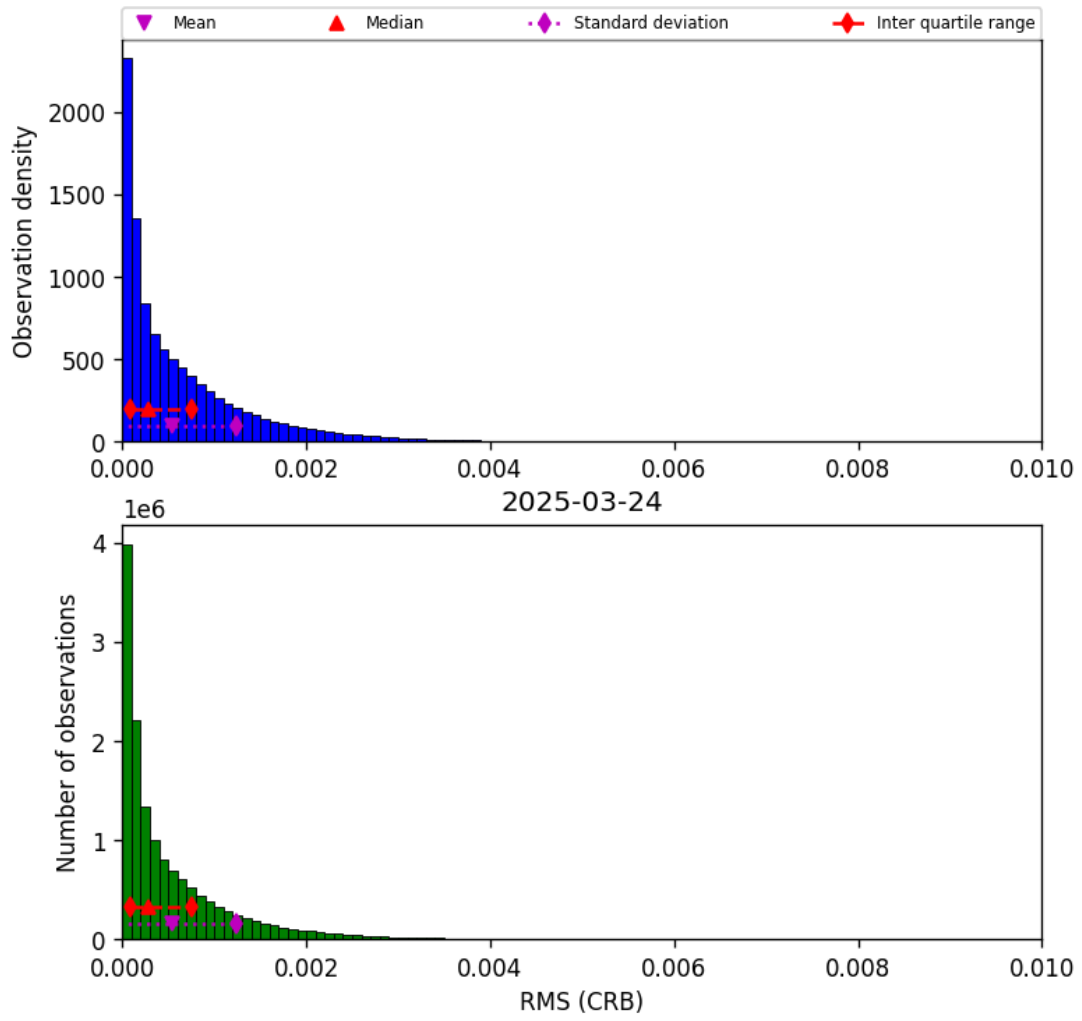


Figure 46: Histogram of “RMS (CRB)” for 2025-03-24 to 2025-03-25

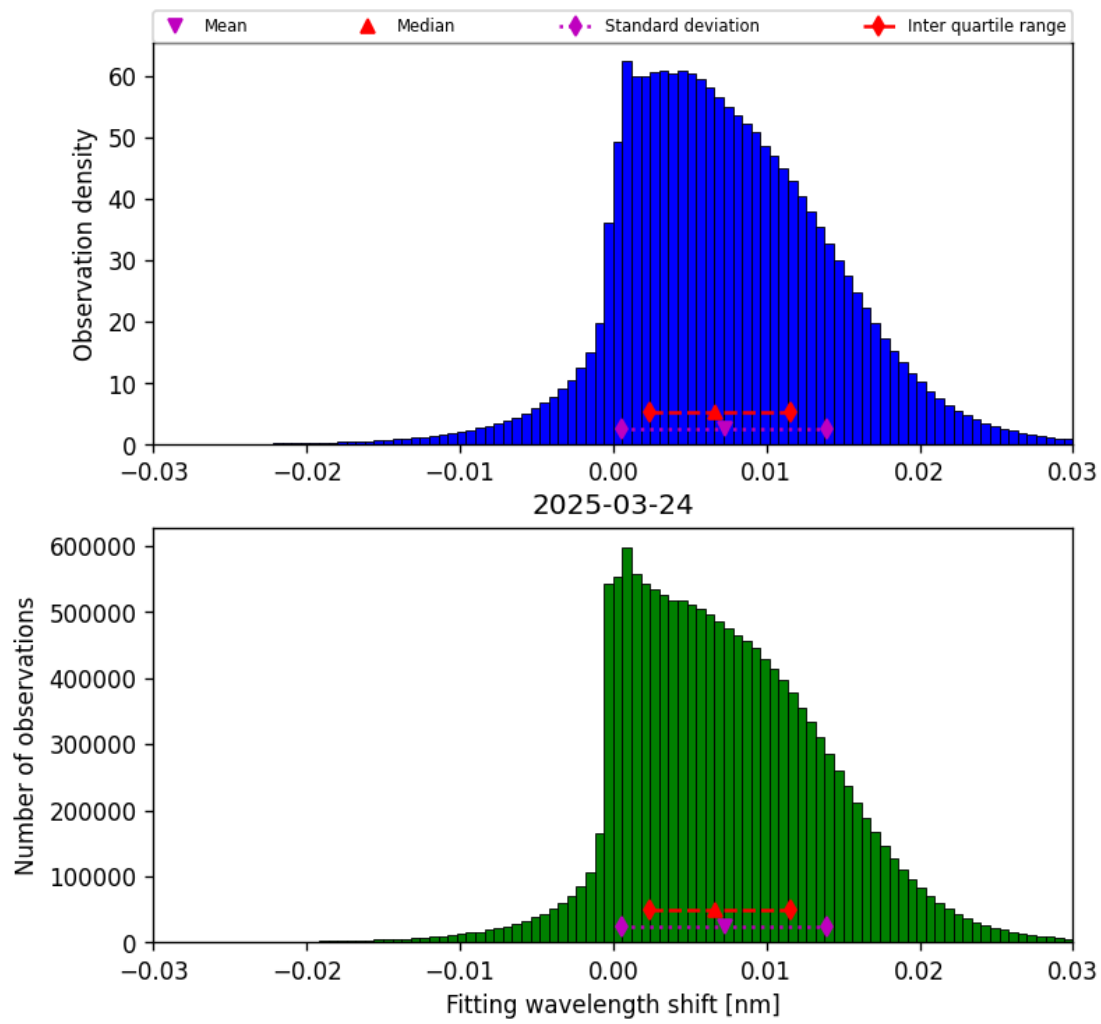


Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-24 to 2025-03-25

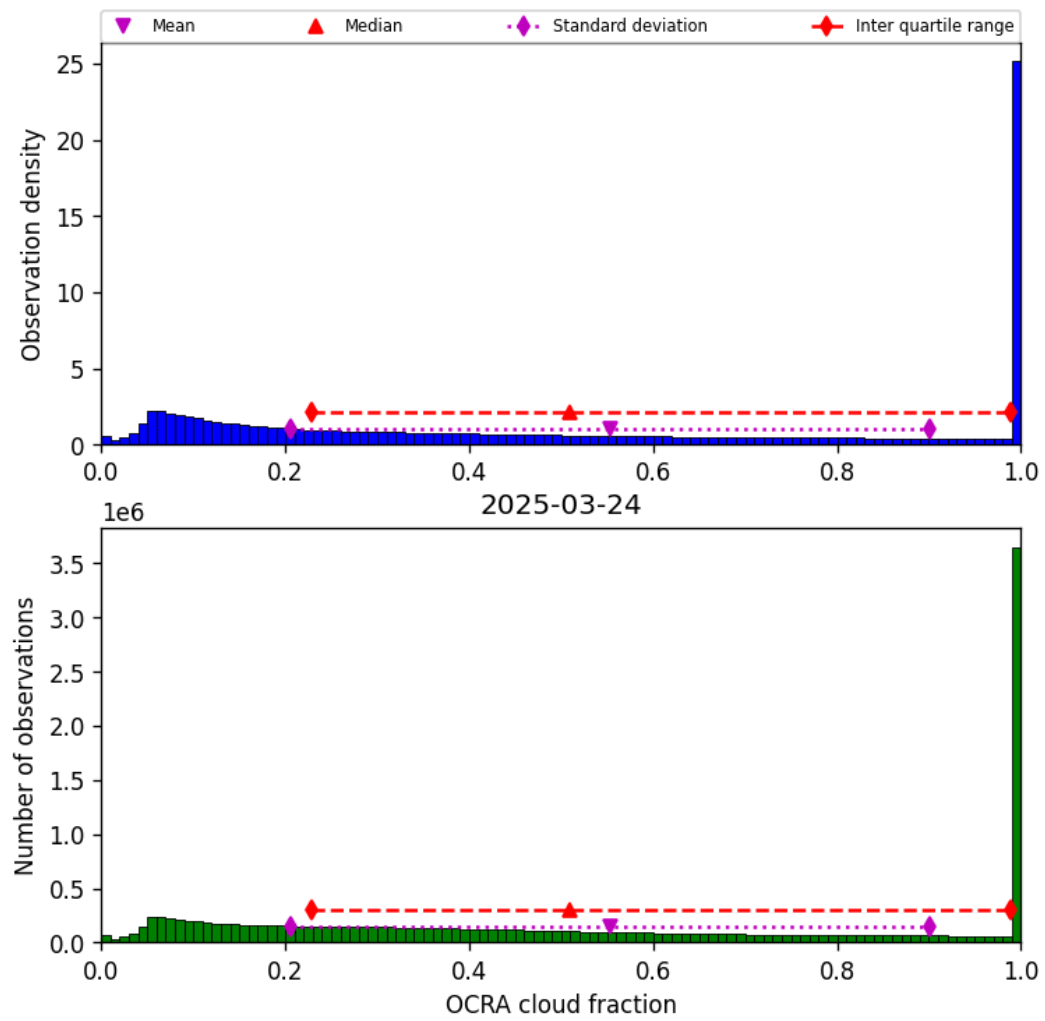


Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-24 to 2025-03-25

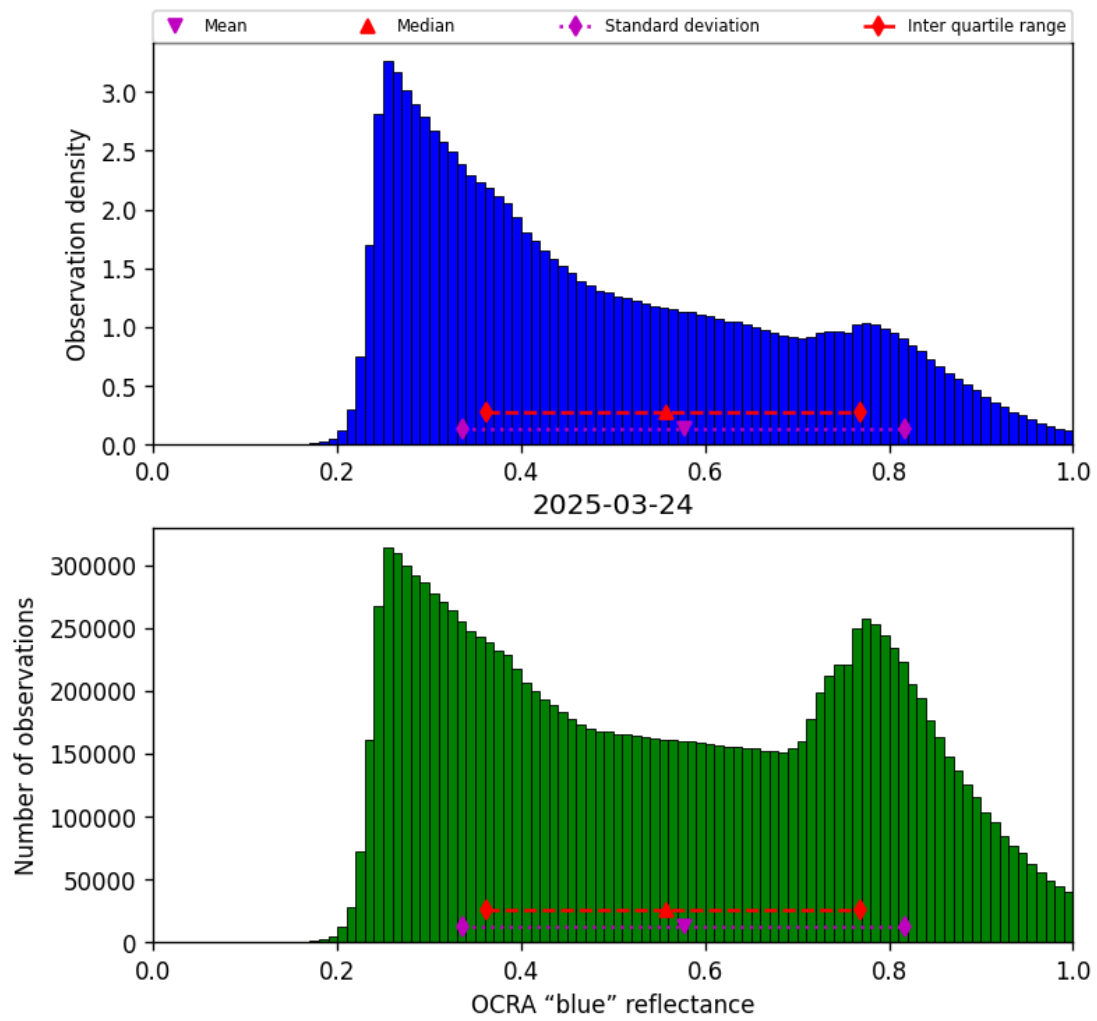


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-03-24 to 2025-03-25

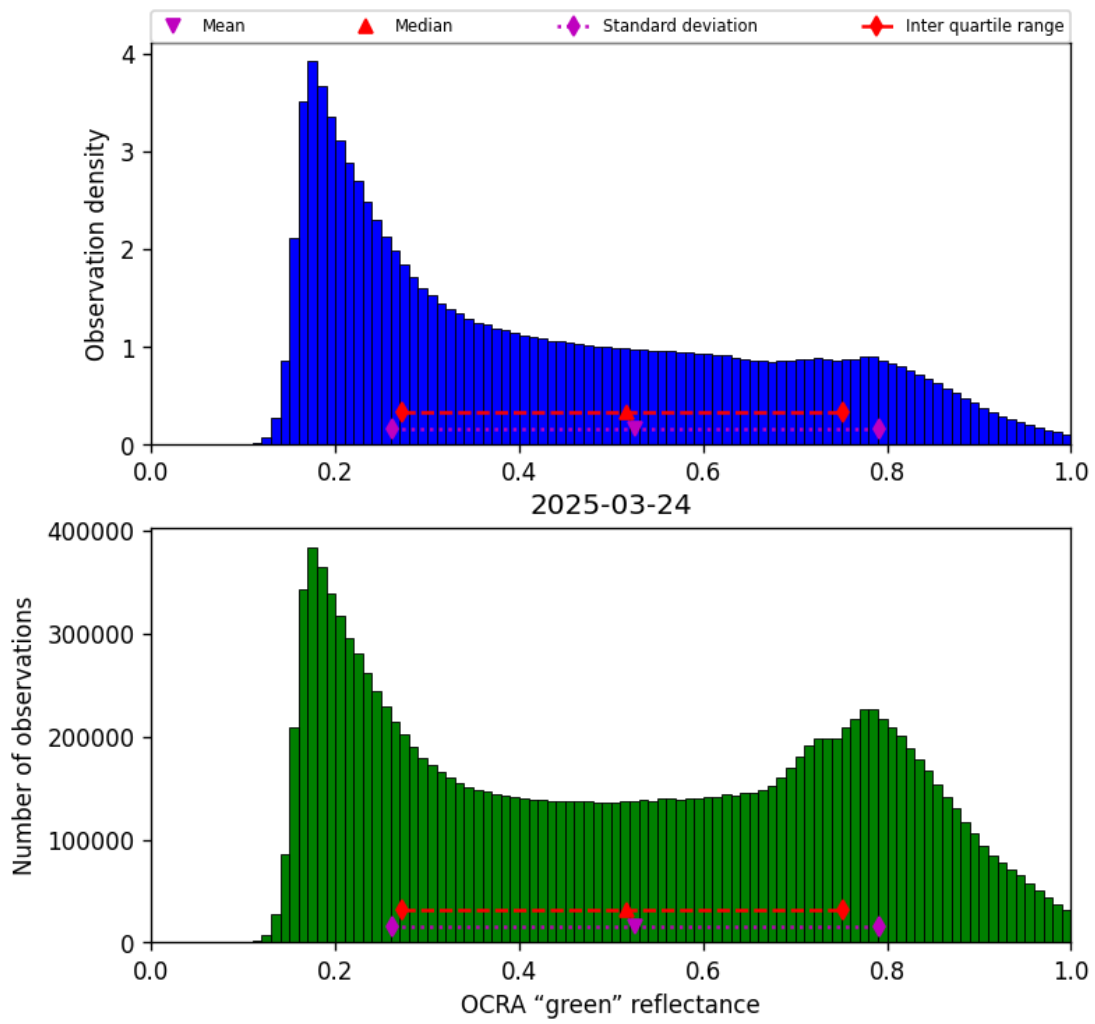


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-24 to 2025-03-25

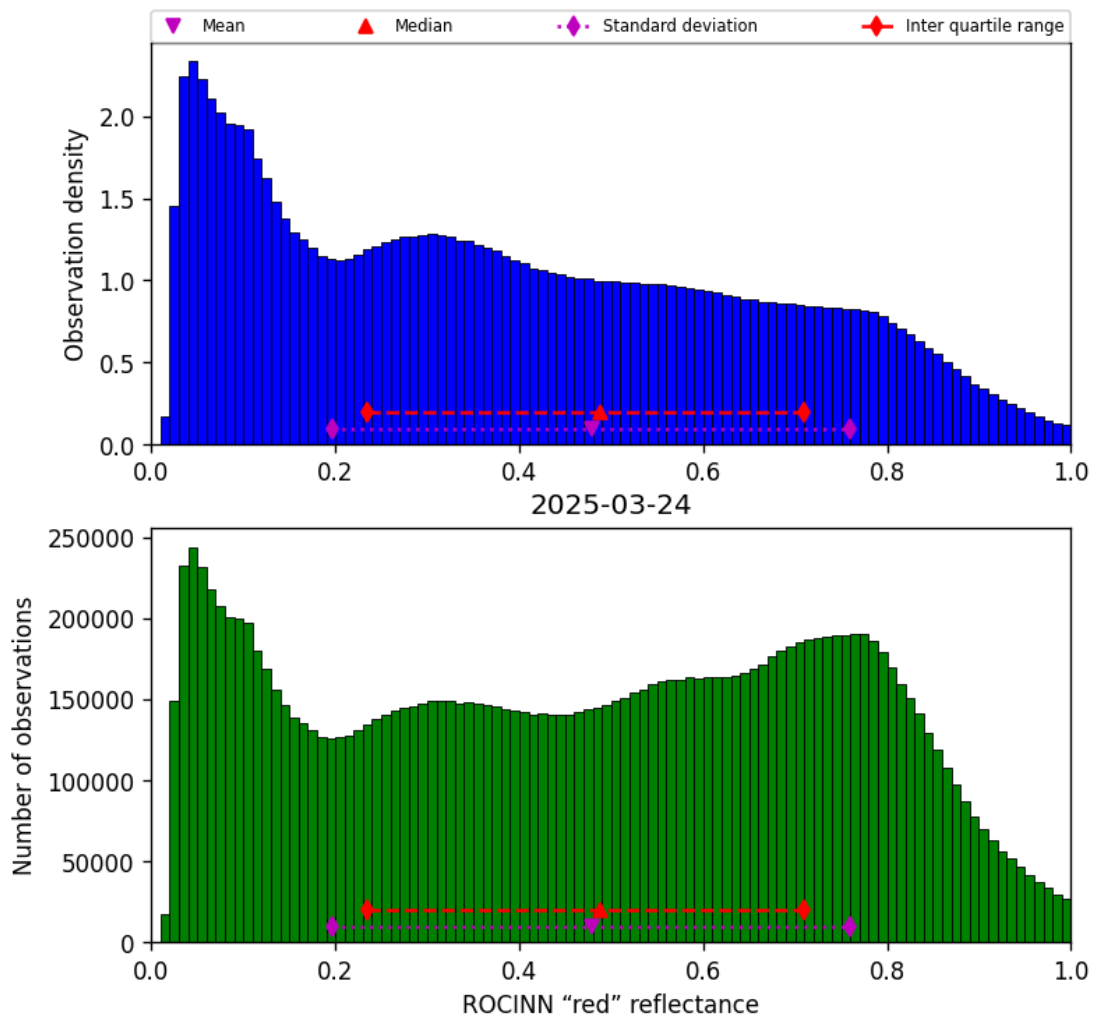


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-24 to 2025-03-25

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.

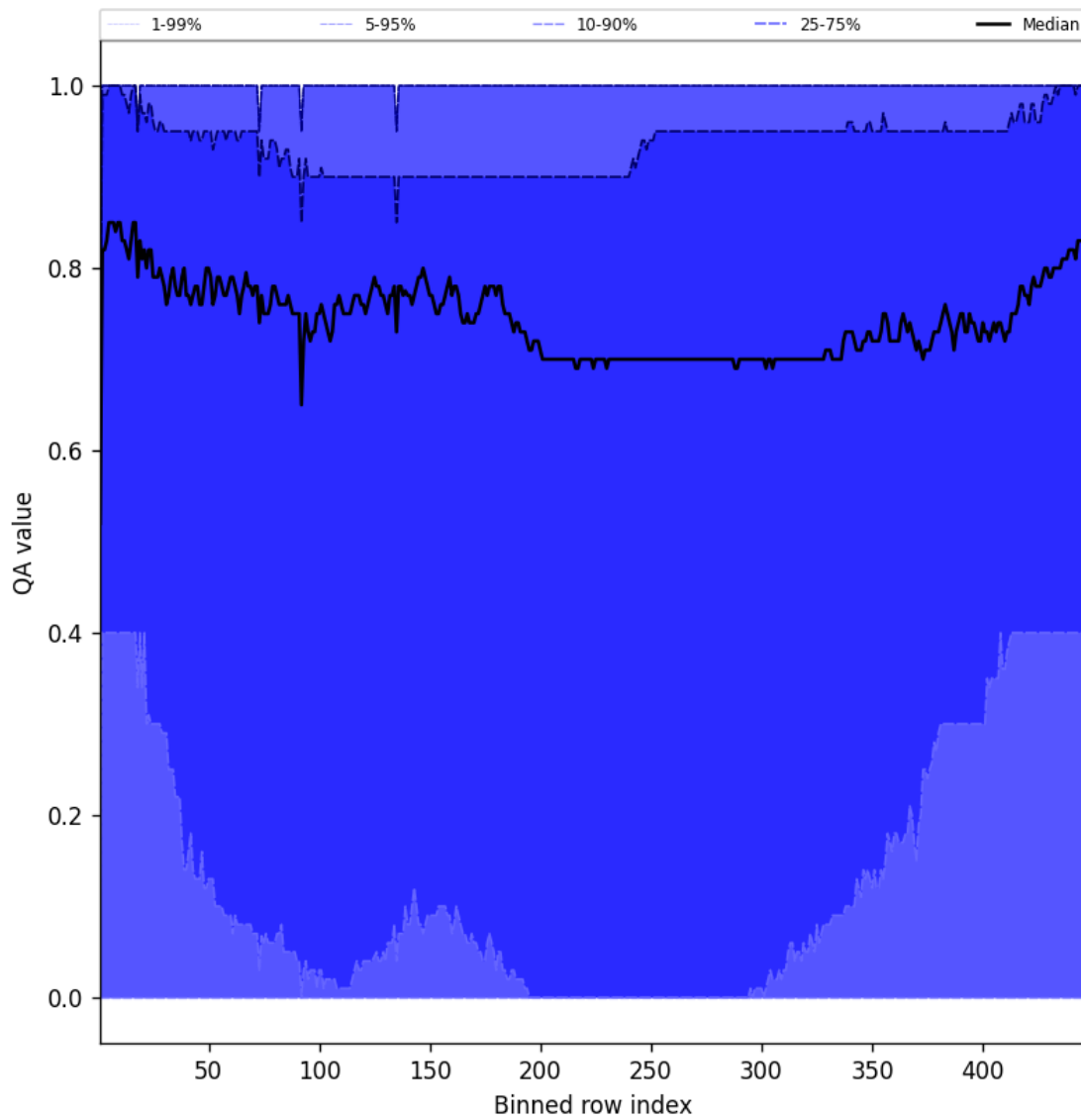


Figure 52: Along track statistics of “QA value” for 2025-03-24 to 2025-03-25

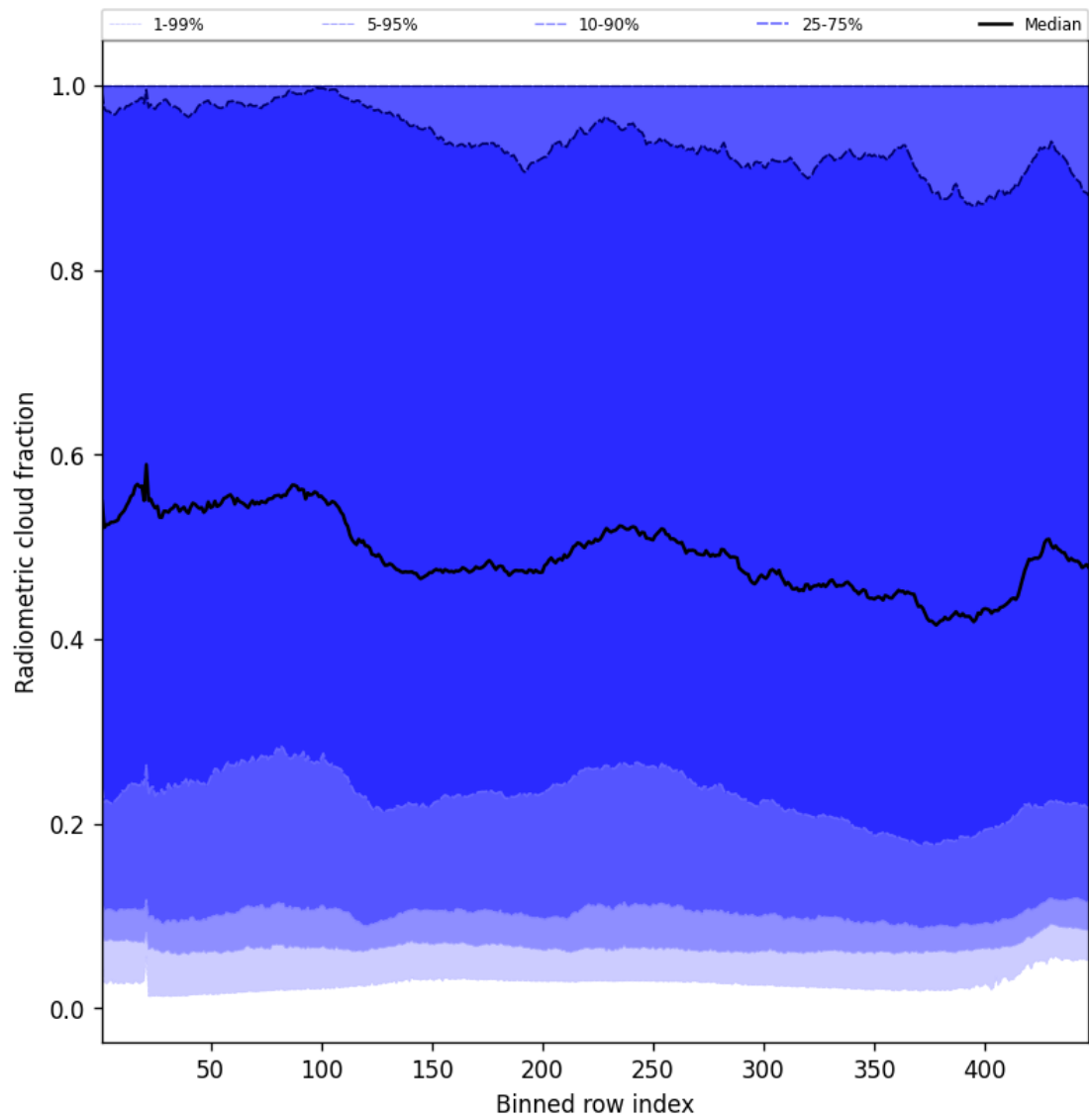


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-24 to 2025-03-25

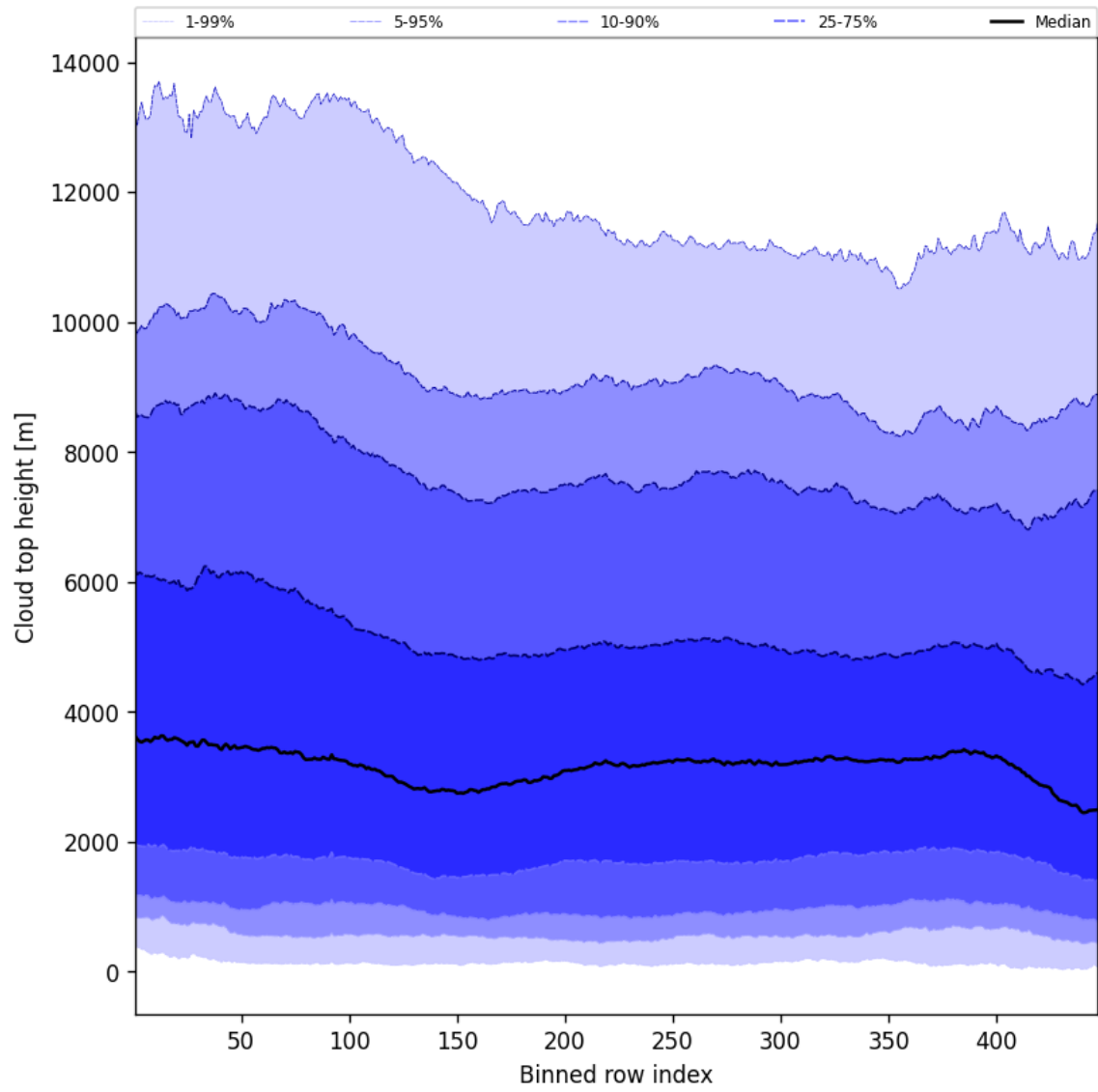


Figure 54: Along track statistics of “Cloud top height” for 2025-03-24 to 2025-03-25

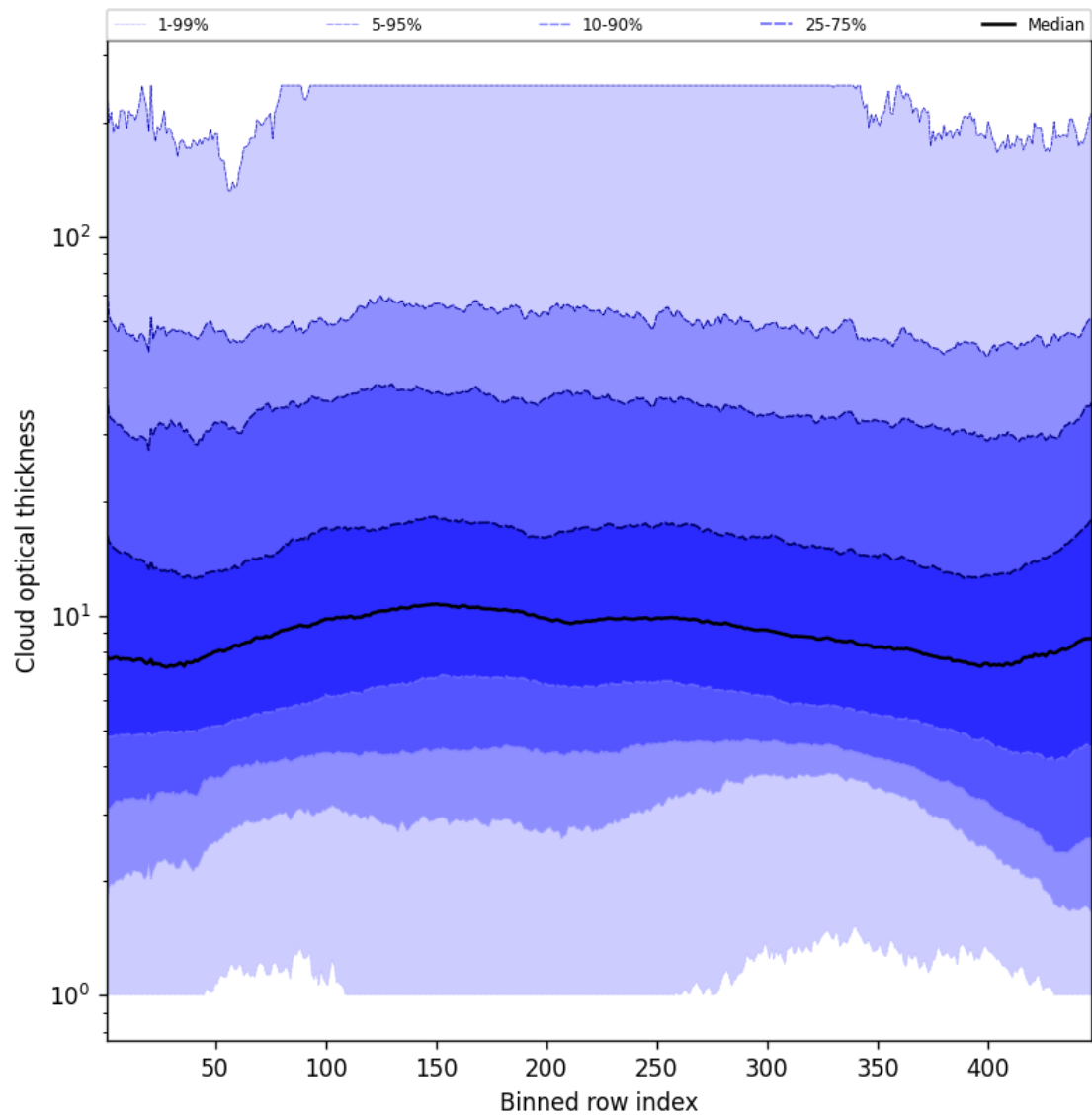


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-24 to 2025-03-25

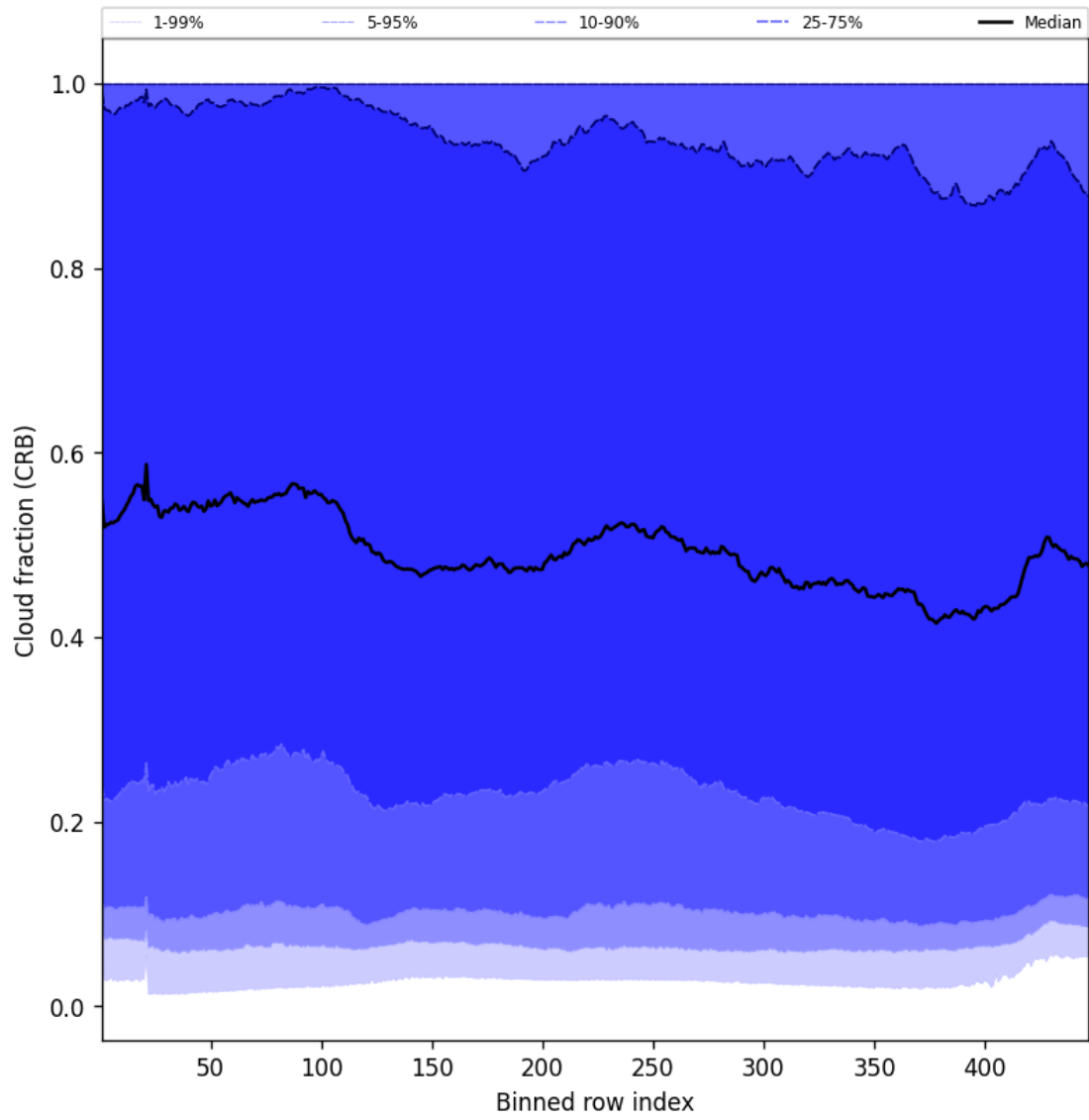


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-24 to 2025-03-25

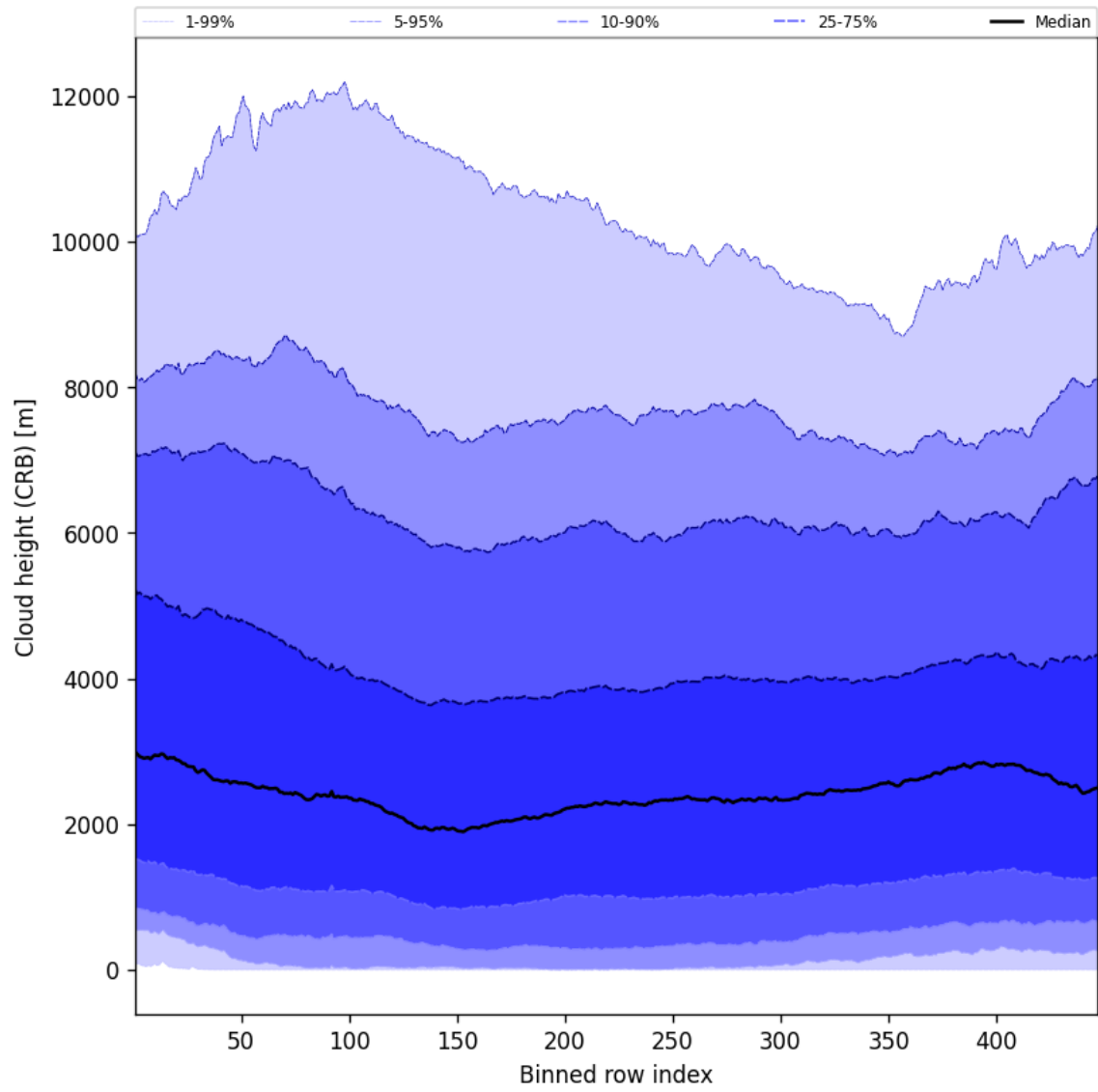


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-24 to 2025-03-25

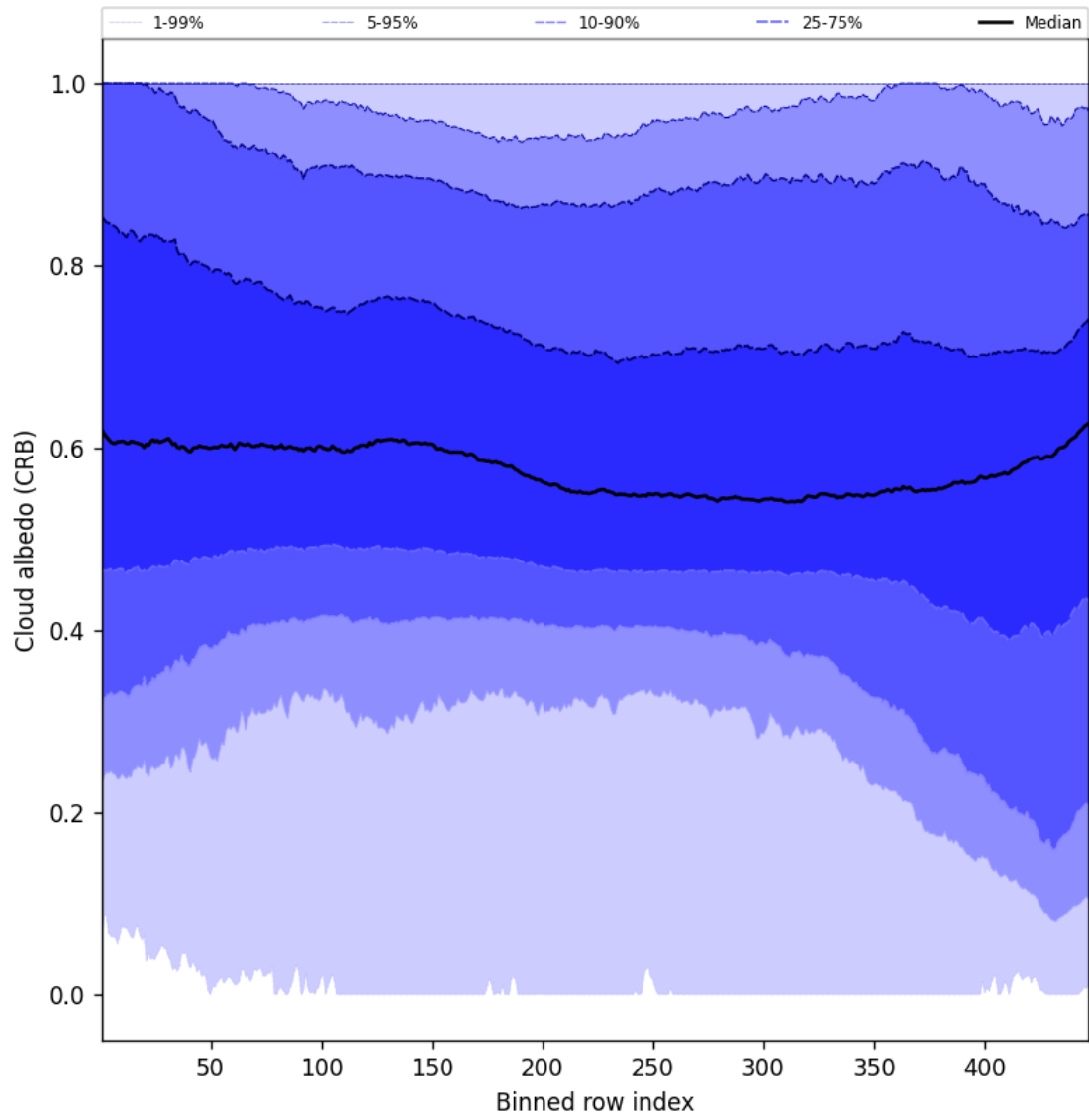


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-24 to 2025-03-25

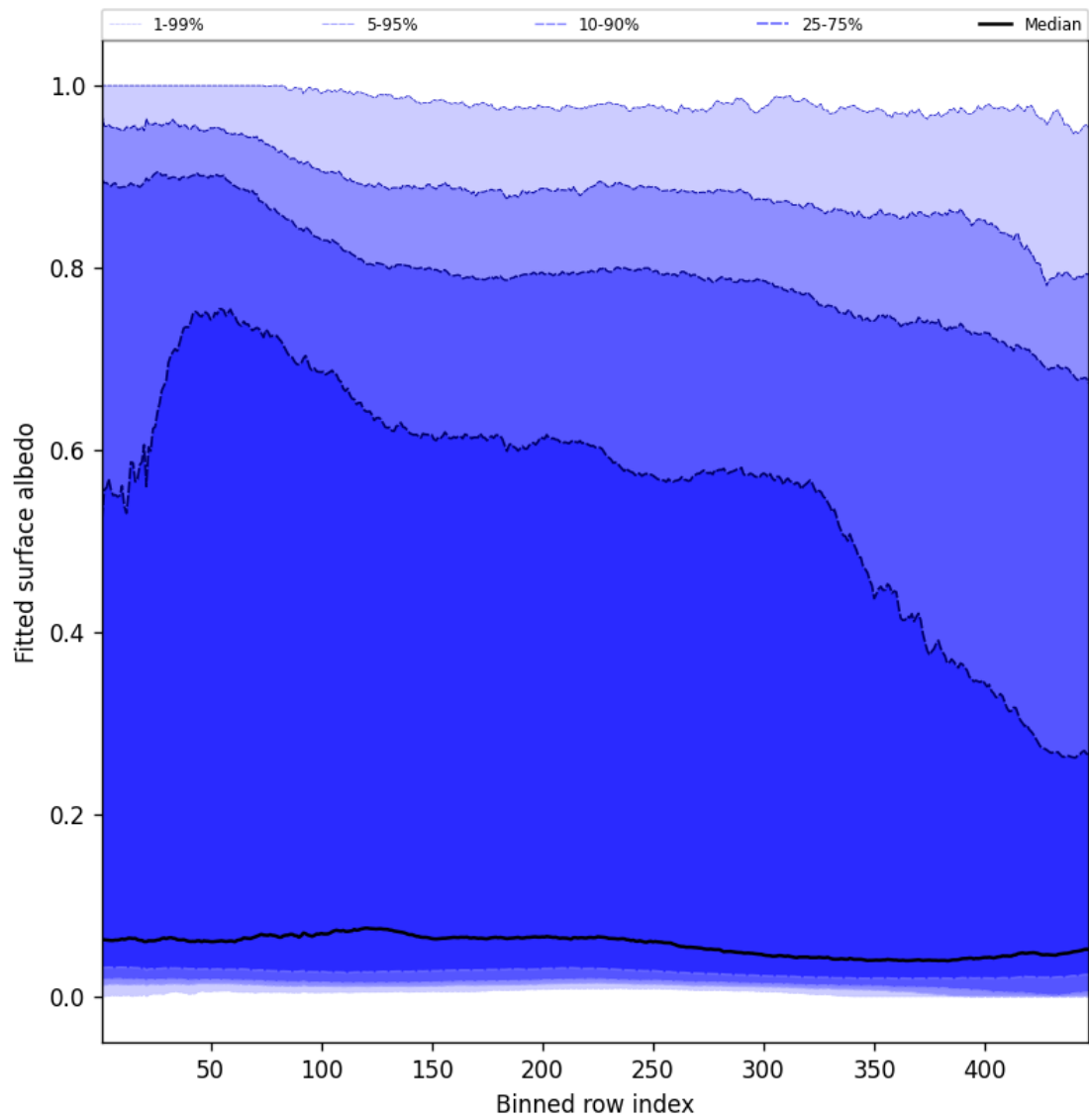


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-24 to 2025-03-25

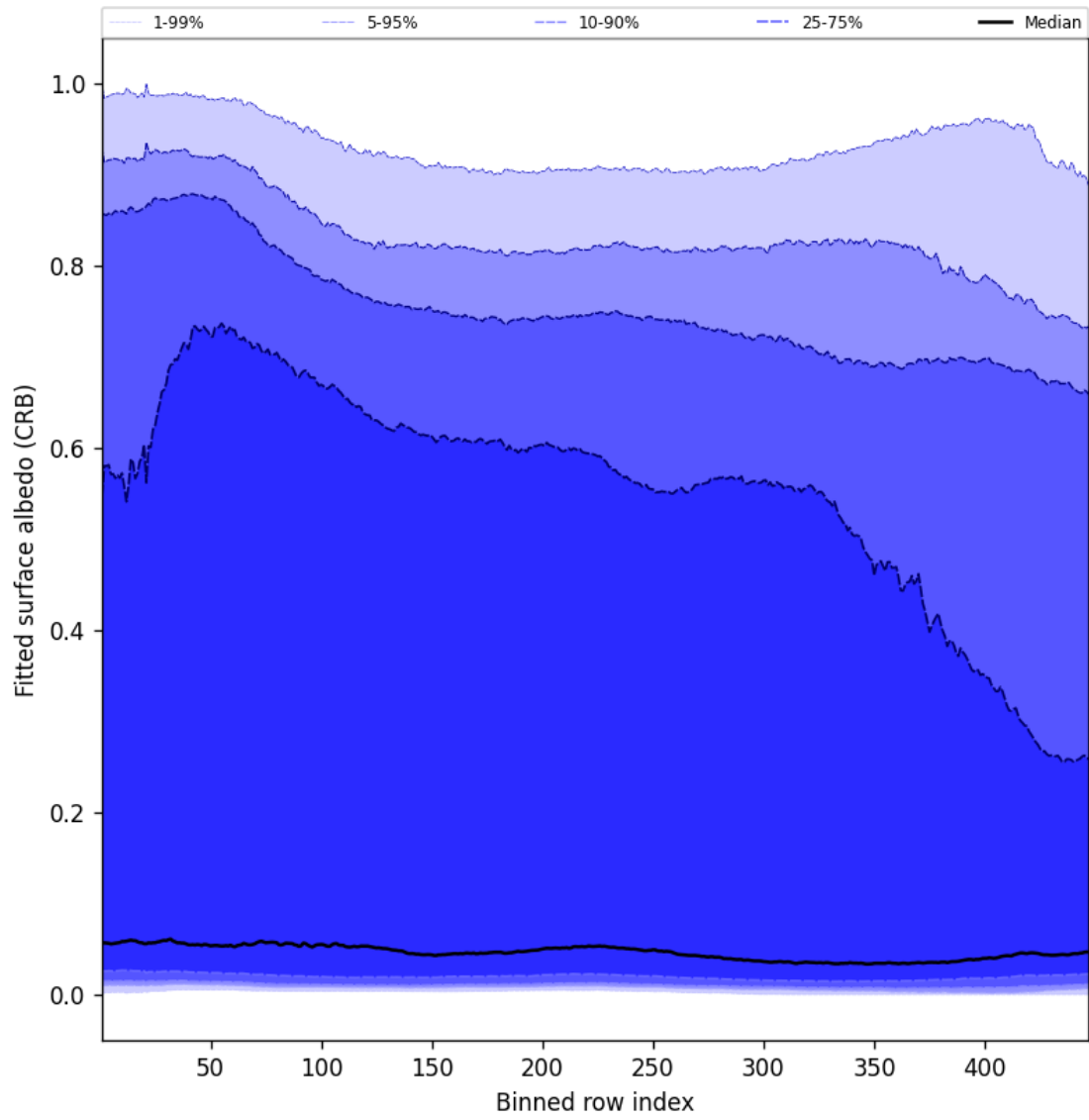


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-24 to 2025-03-25

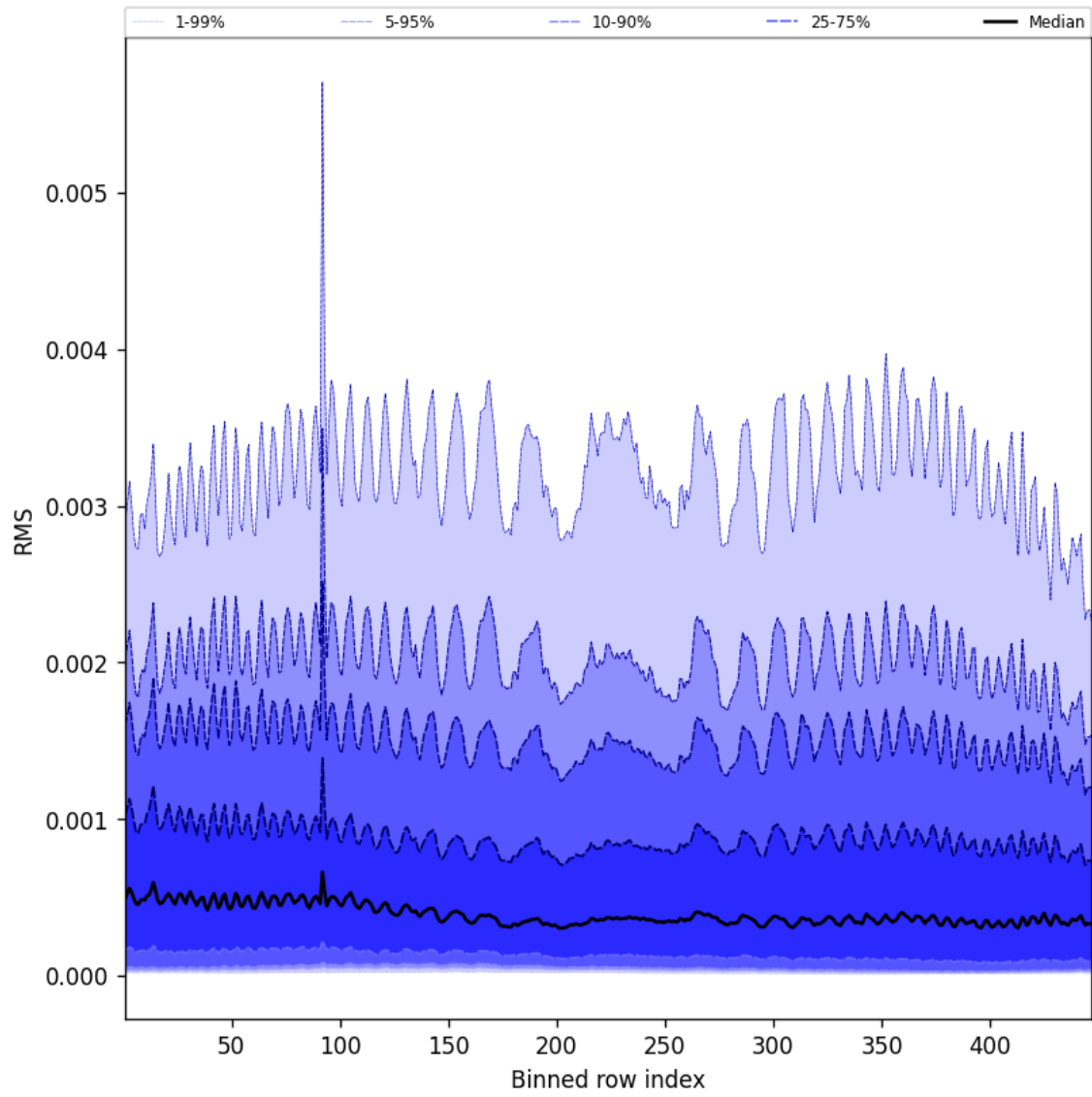


Figure 61: Along track statistics of “RMS” for 2025-03-24 to 2025-03-25

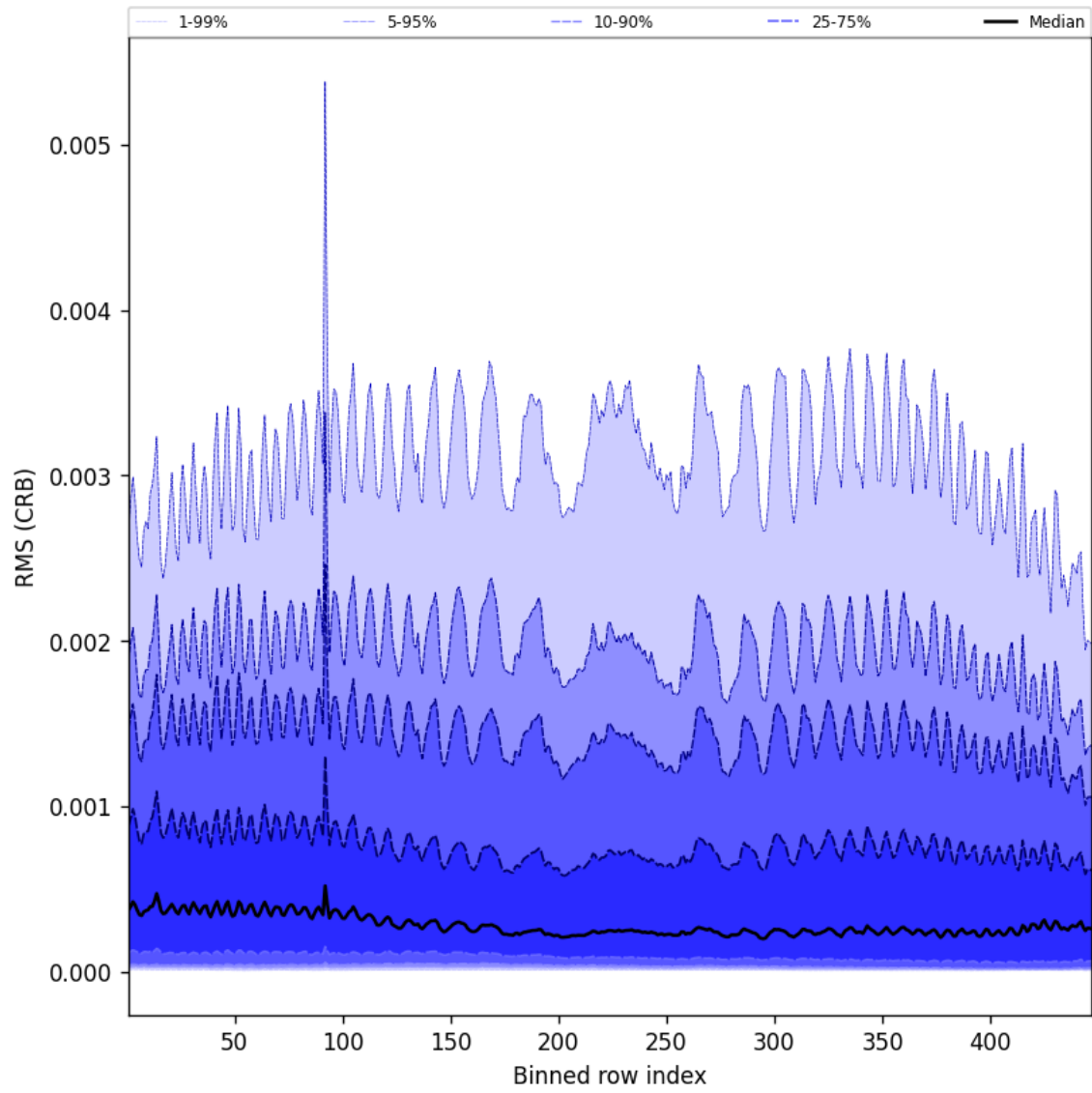


Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-24 to 2025-03-25

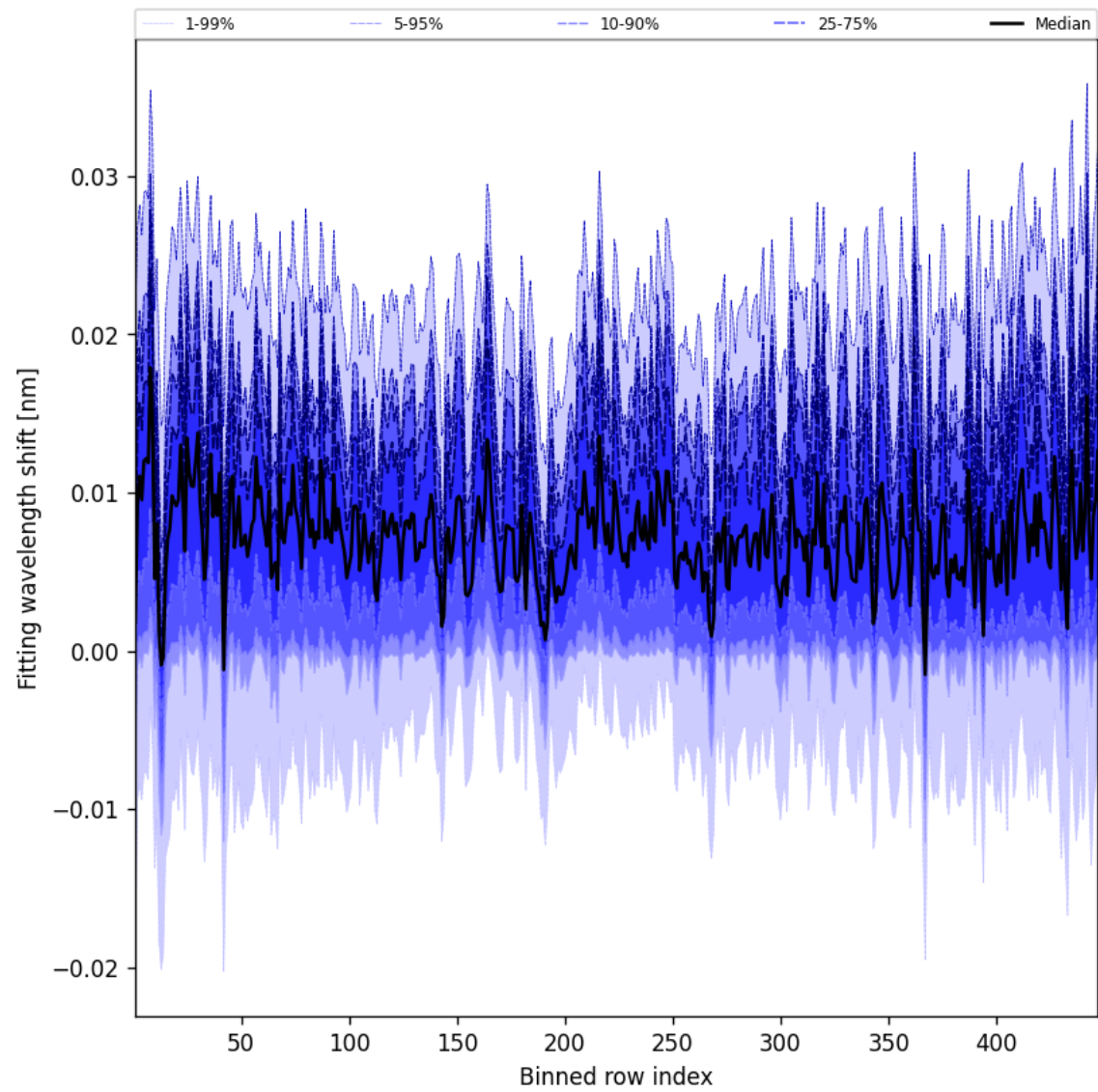


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-24 to 2025-03-25

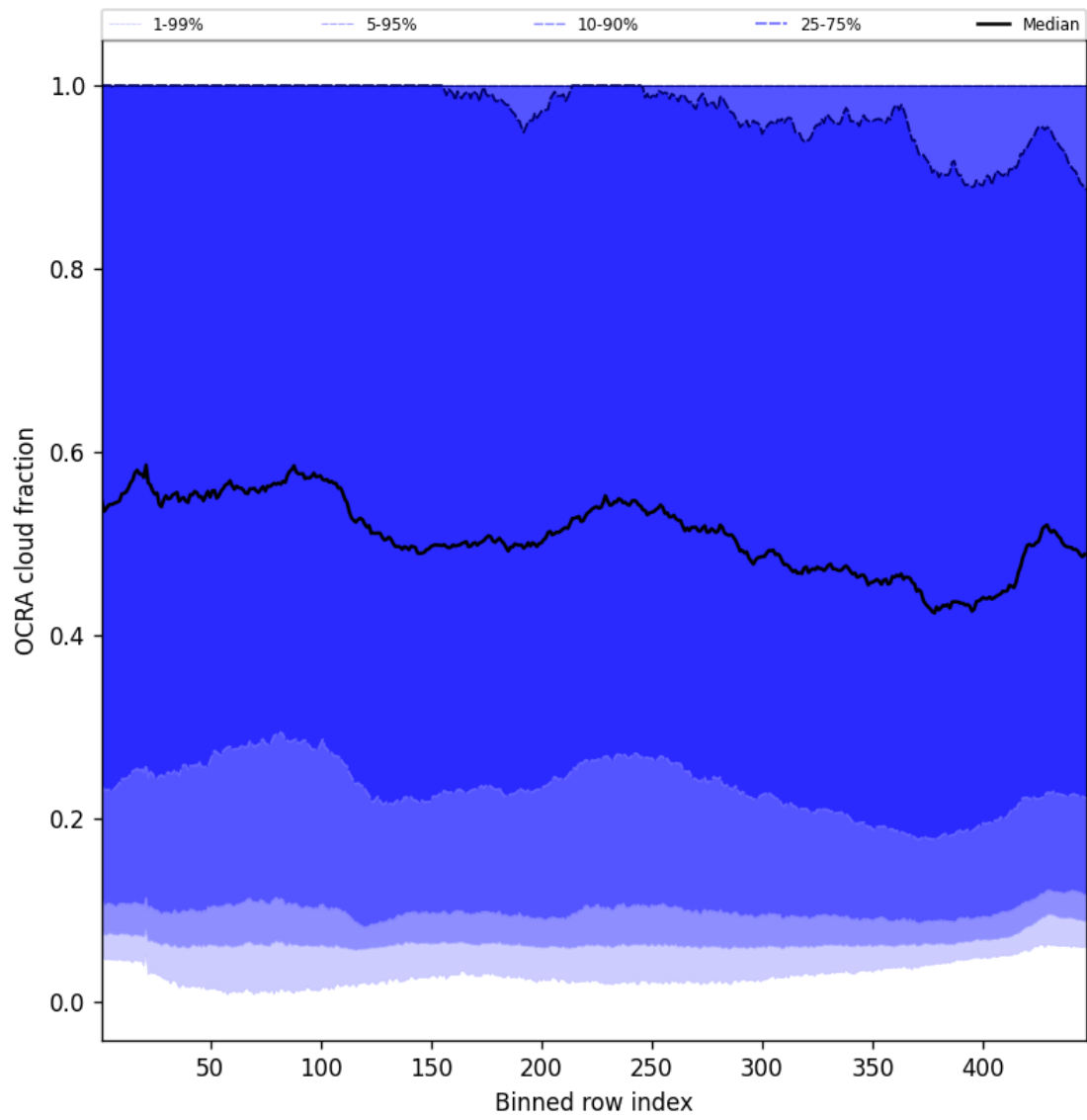


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-24 to 2025-03-25

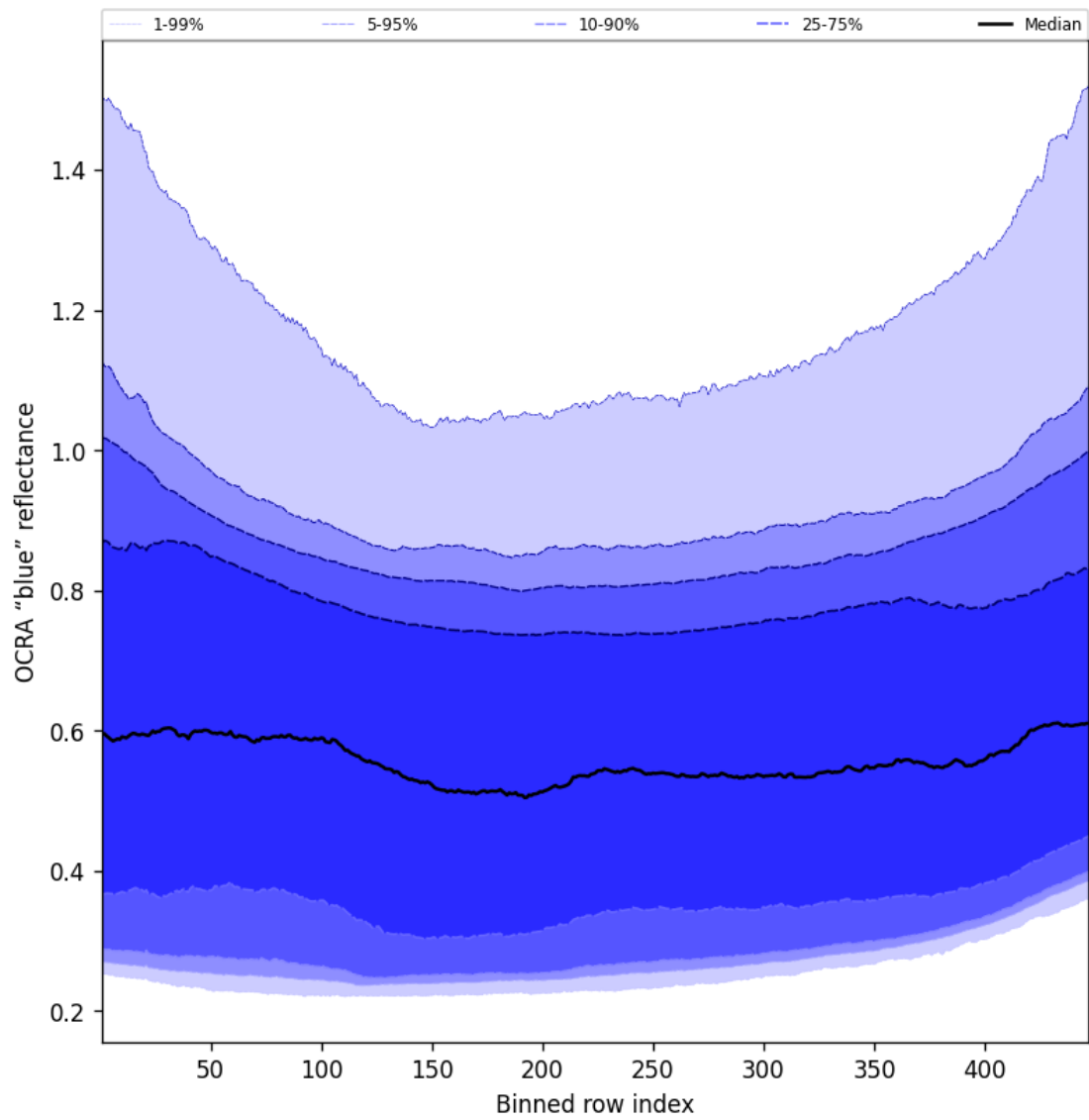


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-24 to 2025-03-25

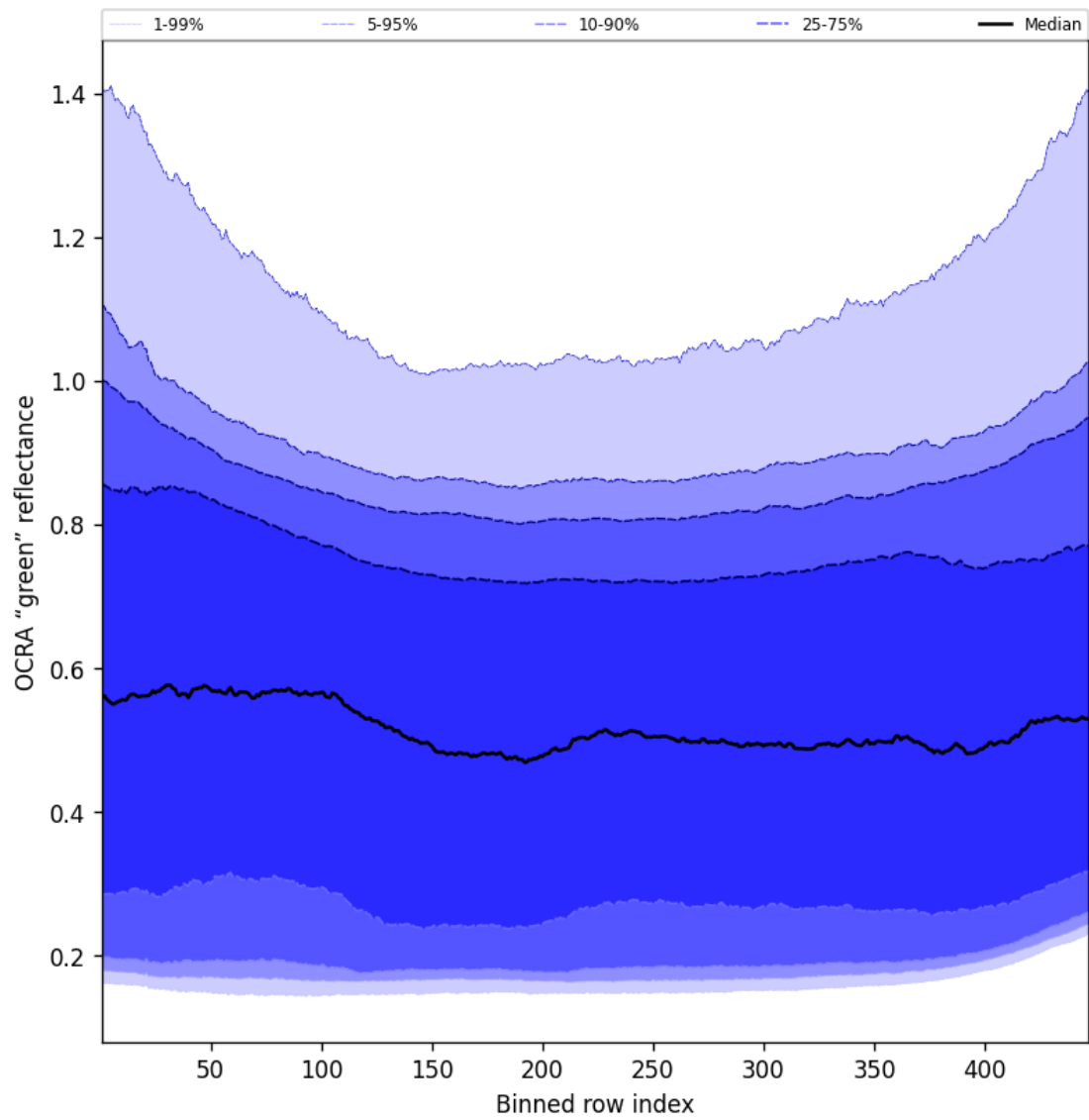


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-03-24 to 2025-03-25

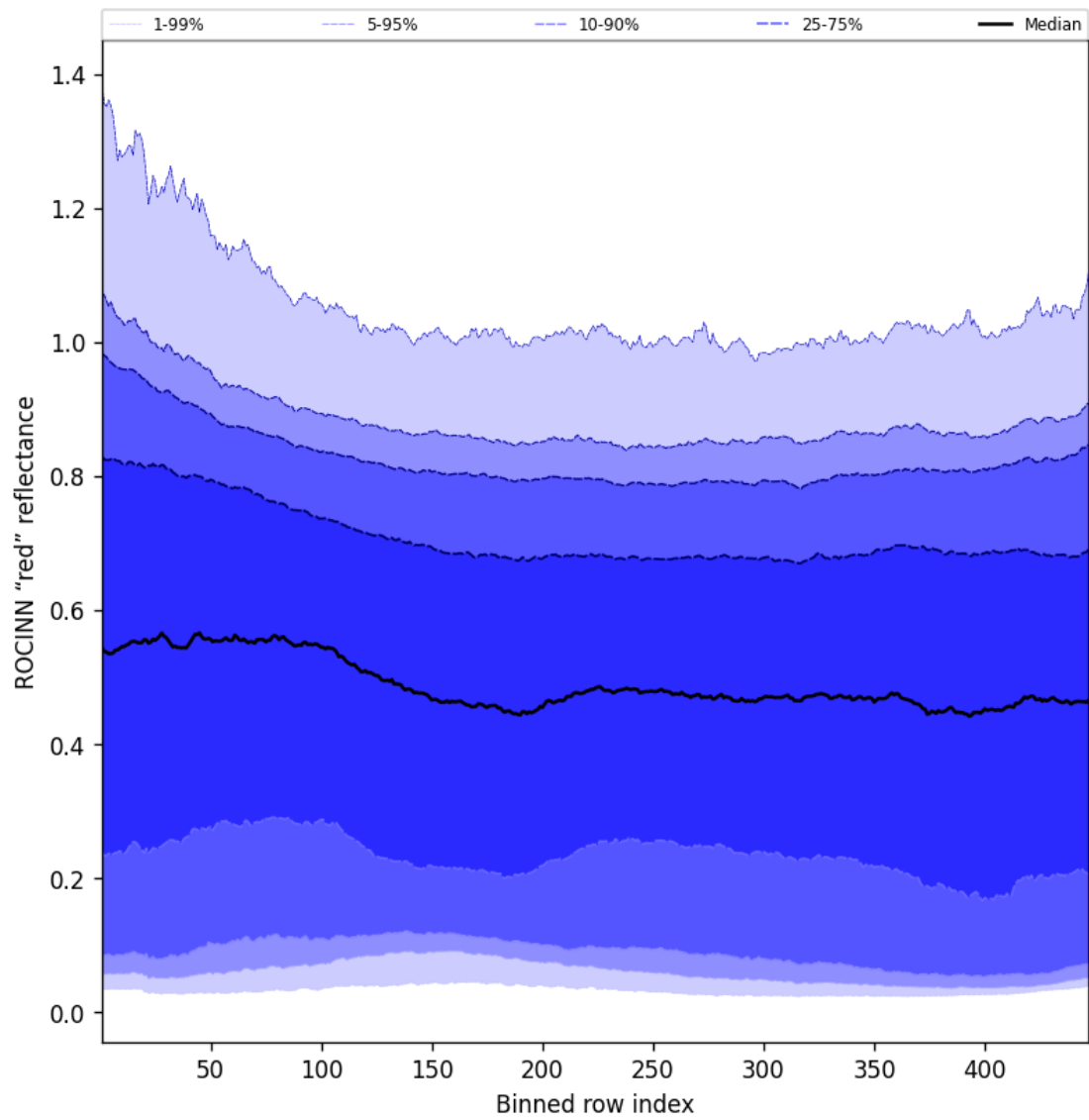


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-03-24 to 2025-03-25

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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