

PyCAMA report generated by tropl2-proc

tropl2-proc

2024-12-19 (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]	0.601 ± 0.362	19374383	5.000×10^{-3}	0.570	0.700	0.0	1.000
cloud fraction [1]	0.580 ± 0.341	19374383	0.995	0.715	0.571	2.907×10^{-3}	1.000
cloud top height [m]	$(0.409 \pm 0.270) \times 10^4$	19374383	1.575×10^3	3.802×10^3	3.591×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.5 ± 36.7	19374383	9.34	10.6	9.01	1.000	250
cloud fraction crb [1]	0.579 ± 0.341	19374383	0.995	0.716	0.571	8.285×10^{-3}	1.000
cloud height crb [m]	$(0.308 \pm 0.227) \times 10^4$	19374383	75.0	3.079×10^3	2.673×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.619 ± 0.223	19374383	0.995	0.322	0.603	0.0	1.000
surface albedo fitted [1]	0.301 ± 0.355	19374383	2.500×10^{-2}	0.563	6.567×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.287 ± 0.340	19374383	1.500×10^{-2}	0.574	5.364×10^{-2}	0.0	1.000
fitted root mean square [1]	$(8.232 \pm 11.241) \times 10^{-4}$	19374383	5.000×10^{-5}	1.064×10^{-3}	4.644×10^{-4}	7.553×10^{-7}	1.12
fitted root mean square crb [1]	$(7.290 \pm 8.855) \times 10^{-4}$	19374383	5.000×10^{-5}	1.025×10^{-3}	3.648×10^{-4}	7.040×10^{-7}	0.483
wavelength shift [nm]	$(8.880 \pm 7.437) \times 10^{-3}$	19374383	3.000×10^{-4}	1.133×10^{-2}	8.447×10^{-3}	-7.739×10^{-2}	0.175
cloud fraction apriori [1]	0.589 ± 0.345	19374383	0.995	0.737	0.590	0.0	1.000
reflectance blue ocra [1]	0.597 ± 0.239	19374383	0.265	0.428	0.584	0.142	1.98
reflectance green ocra [1]	0.550 ± 0.270	19374383	0.185	0.504	0.544	8.159×10^{-2}	1.94
reflectance continuum aband [1]	0.502 ± 0.295	19374383	4.500×10^{-2}	0.517	0.507	1.141×10^{-2}	6.13

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	0.330	0.900	0.980	1.000	1.000	1.000
cloud fraction [1]	2.878×10^{-2}	7.301×10^{-2}	0.112	0.163	0.261	0.977	1.000	1.000	1.000	1.000
cloud top height [m]	282	776	1.136×10^3	1.450×10^3	1.889×10^3	5.691×10^3	6.805×10^3	7.862×10^3	9.225×10^3	1.178×10^4
cloud optical thickness [1]	1.00	2.57	3.64	4.51	5.45	16.0	24.8	37.7	68.8	250
cloud fraction crb [1]	2.834×10^{-2}	7.229×10^{-2}	0.112	0.163	0.261	0.976	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	267	576	846	1.240×10^3	4.319×10^3	5.457×10^3	6.412×10^3	7.539×10^3	9.523×10^3
cloud albedo crb [1]	3.468×10^{-2}	0.244	0.359	0.421	0.469	0.791	0.877	0.934	0.994	1.000
surface albedo fitted [1]	0.0	7.943×10^{-3}	1.413×10^{-2}	1.947×10^{-2}	2.702×10^{-2}	0.590	0.850	0.932	0.974	1.000
surface albedo fitted crb [1]	0.0	6.646×10^{-3}	1.093×10^{-2}	1.508×10^{-2}	2.123×10^{-2}	0.595	0.814	0.870	0.908	0.951
fitted root mean square [1]	1.513×10^{-5}	2.935×10^{-5}	4.812×10^{-5}	7.888×10^{-5}	1.411×10^{-4}	1.205×10^{-3}	1.686×10^{-3}	2.116×10^{-3}	2.664×10^{-3}	3.768×10^{-3}
fitted root mean square crb [1]	8.312×10^{-6}	1.928×10^{-5}	3.207×10^{-5}	5.039×10^{-5}	9.105×10^{-5}	1.116×10^{-3}	1.585×10^{-3}	1.992×10^{-3}	2.515×10^{-3}	3.512×10^{-3}
wavelength shift [nm]	-7.207×10^{-3}	-5.384×10^{-4}	2.369×10^{-4}	1.159×10^{-3}	2.876×10^{-3}	1.420×10^{-2}	1.663×10^{-2}	1.865×10^{-2}	2.122×10^{-2}	2.662×10^{-2}
cloud fraction apriori [1]	3.531×10^{-2}	6.958×10^{-2}	0.107	0.159	0.263	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.260	0.288	0.321	0.379	0.808	0.878	0.916	0.949	1.07
reflectance green ocra [1]	0.153	0.176	0.198	0.228	0.290	0.794	0.871	0.916	0.950	1.04
reflectance continuum aband [1]	3.155×10^{-2}	5.783×10^{-2}	9.285×10^{-2}	0.142	0.242	0.759	0.838	0.887	0.932	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]	0.558 ± 0.398	7129621	0.870	0.690	0.0	1.000	5.000×10^{-2}	0.920
cloud fraction [1]	0.518 ± 0.343	7129621	0.687	0.470	2.907×10^{-3}	1.000	0.192	0.879
cloud top height [m]	$(0.451 \pm 0.271) \times 10^4$	7129621	4.060×10^3	4.085×10^3	0.0	2.000×10^4	2.261×10^3	6.321×10^3
cloud optical thickness [1]	27.1 ± 47.9	7129621	16.1	9.83	1.000	250	5.97	22.1
cloud fraction crb [1]	0.516 ± 0.343	7129621	0.685	0.466	8.285×10^{-3}	1.000	0.191	0.877
cloud height crb [m]	$(0.374 \pm 0.227) \times 10^4$	7129621	3.489×10^3	3.451×10^3	0.0	2.000×10^4	1.820×10^3	5.309×10^3
cloud albedo crb [1]	0.588 ± 0.213	7129621	0.266	0.575	0.0	1.000	0.458	0.725
surface albedo fitted [1]	0.169 ± 0.196	7129621	0.241	5.883×10^{-2}	0.0	1.000	2.957×10^{-2}	0.270
surface albedo fitted crb [1]	0.161 ± 0.194	7129621	0.240	4.713×10^{-2}	0.0	1.000	2.229×10^{-2}	0.263
fitted root mean square [1]	$(3.893 \pm 5.647) \times 10^{-4}$	7129621	3.928×10^{-4}	2.129×10^{-4}	7.553×10^{-7}	9.952×10^{-2}	8.191×10^{-5}	4.747×10^{-4}
fitted root mean square crb [1]	$(3.156 \pm 4.757) \times 10^{-4}$	7129621	3.276×10^{-4}	1.315×10^{-4}	7.463×10^{-7}	5.082×10^{-2}	4.665×10^{-5}	3.742×10^{-4}
wavelength shift [nm]	$(6.089 \pm 6.469) \times 10^{-3}$	7129621	8.787×10^{-3}	4.862×10^{-3}	-4.566×10^{-2}	6.228×10^{-2}	1.226×10^{-3}	1.001×10^{-2}
cloud fraction apriori [1]	0.521 ± 0.348	7129621	0.711	0.472	0.0	1.000	0.186	0.898
reflectance blue ocra [1]	0.532 ± 0.209	7129621	0.313	0.505	0.142	1.98	0.357	0.671
reflectance green ocra [1]	0.471 ± 0.232	7129621	0.373	0.442	8.532×10^{-2}	1.94	0.265	0.638
reflectance continuum aband [1]	0.419 ± 0.265	7129621	0.404	0.390	1.217×10^{-2}	6.13	0.202	0.605

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]	0.626 ± 0.337	12244762	0.500	0.700	0.0	1.000	0.400	0.900
cloud fraction [1]	0.616 ± 0.334	12244762	0.681	0.628	6.539×10^{-3}	1.000	0.317	0.998
cloud top height [m]	$(0.384 \pm 0.267) \times 10^4$	12244762	3.611×10^3	3.329×10^3	0.0	2.000×10^4	1.714×10^3	5.325×10^3
cloud optical thickness [1]	15.1 ± 27.2	12244762	8.71	8.66	1.000	250	5.23	13.9
cloud fraction crb [1]	0.616 ± 0.334	12244762	0.682	0.629	8.454×10^{-3}	1.000	0.317	0.999
cloud height crb [m]	$(0.270 \pm 0.218) \times 10^4$	12244762	2.699×10^3	2.306×10^3	0.0	2.000×10^4	982	3.682×10^3
cloud albedo crb [1]	0.637 ± 0.226	12244762	0.350	0.627	0.0	1.000	0.475	0.825
surface albedo fitted [1]	0.377 ± 0.402	12244762	0.821	7.732×10^{-2}	0.0	1.000	2.546×10^{-2}	0.846
surface albedo fitted crb [1]	0.360 ± 0.383	12244762	0.791	6.362×10^{-2}	0.0	1.000	2.052×10^{-2}	0.811
fitted root mean square [1]	$(1.076 \pm 1.281) \times 10^{-3}$	12244762	1.361×10^{-3}	7.903×10^{-4}	1.048×10^{-6}	1.12	2.517×10^{-4}	1.613×10^{-3}
fitted root mean square crb [1]	$(9.696 \pm 9.754) \times 10^{-4}$	12244762	1.333×10^{-3}	7.012×10^{-4}	7.040×10^{-7}	0.483	1.816×10^{-4}	1.515×10^{-3}
wavelength shift [nm]	$(1.051 \pm 0.748) \times 10^{-2}$	12244762	1.093×10^{-2}	1.084×10^{-2}	-7.739×10^{-2}	0.175	4.869×10^{-3}	1.580×10^{-2}
cloud fraction apriori [1]	0.628 ± 0.337	12244762	0.672	0.656	0.0	1.000	0.328	1.000
reflectance blue ocra [1]	0.635 ± 0.246	12244762	0.460	0.666	0.150	1.98	0.399	0.859
reflectance green ocra [1]	0.597 ± 0.279	12244762	0.535	0.641	8.159×10^{-2}	1.87	0.317	0.852
reflectance continuum aband [1]	0.550 ± 0.300	12244762	0.530	0.599	1.141×10^{-2}	4.34	0.284	0.813

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]	0.678 ± 0.341	11972824	0.550	0.850	0.0	1.000	0.400	0.950
cloud fraction [1]	0.609 ± 0.362	11972824	0.763	0.661	7.492×10^{-3}	1.000	0.237	1.000
cloud top height [m]	$(0.355 \pm 0.252) \times 10^4$	11972824	3.318×10^3	2.820×10^3	0.0	2.000×10^4	1.609×10^3	4.927×10^3
cloud optical thickness [1]	18.2 ± 29.3	11972824	10.4	9.86	1.000	250	6.56	17.0
cloud fraction crb [1]	0.608 ± 0.362	11972824	0.765	0.659	8.558×10^{-3}	1.000	0.235	1.000
cloud height crb [m]	$(0.280 \pm 0.227) \times 10^4$	11972824	3.053×10^3	2.174×10^3	0.0	2.000×10^4	1.006×10^3	4.059×10^3
cloud albedo crb [1]	0.558 ± 0.184	11972824	0.233	0.540	0.0	1.000	0.449	0.682
surface albedo fitted [1]	0.114 ± 0.213	11972824	3.534×10^{-2}	3.247×10^{-2}	0.0	1.000	1.923×10^{-2}	5.456×10^{-2}
surface albedo fitted crb [1]	0.110 ± 0.217	11972824	2.946×10^{-2}	2.578×10^{-2}	0.0	1.000	1.488×10^{-2}	4.435×10^{-2}
fitted root mean square [1]	$(7.502 \pm 11.610) \times 10^{-4}$	11972824	1.038×10^{-3}	3.194×10^{-4}	7.553×10^{-7}	0.194	9.133×10^{-5}	1.129×10^{-3}
fitted root mean square crb [1]	$(7.021 \pm 9.113) \times 10^{-4}$	11972824	1.027×10^{-3}	2.804×10^{-4}	7.040×10^{-7}	0.193	6.850×10^{-5}	1.095×10^{-3}
wavelength shift [nm]	$(8.097 \pm 7.647) \times 10^{-3}$	11972824	1.130×10^{-2}	7.206×10^{-3}	-4.566×10^{-2}	0.175	2.146×10^{-3}	1.344×10^{-2}
cloud fraction apriori [1]	0.611 ± 0.368	11972824	0.771	0.671	0.0	1.000	0.229	1.000
reflectance blue oca [1]	0.525 ± 0.208	11972824	0.337	0.491	0.170	1.98	0.345	0.682
reflectance green oca [1]	0.466 ± 0.236	11972824	0.409	0.432	9.699×10^{-2}	1.87	0.248	0.656
reflectance continuum aband [1]	0.400 ± 0.273	11972824	0.484	0.376	1.141×10^{-2}	6.13	0.140	0.625

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]	0.489 ± 0.350	6152344	0.680	0.600	0.0	1.000	2.000×10^{-2}	0.700
cloud fraction [1]	0.523 ± 0.291	6152344	0.467	0.493	2.907×10^{-3}	1.000	0.290	0.757
cloud top height [m]	$(0.499 \pm 0.275) \times 10^4$	6152344	3.234×10^3	4.733×10^3	0.0	2.000×10^4	3.113×10^3	6.347×10^3
cloud optical thickness [1]	17.9 ± 39.9	6152344	7.68	6.41	1.000	250	4.60	12.3
cloud fraction crb [1]	0.525 ± 0.291	6152344	0.468	0.495	8.285×10^{-3}	1.000	0.291	0.758
cloud height crb [m]	$(0.345 \pm 0.219) \times 10^4$	6152344	2.504×10^3	3.146×10^3	0.0	2.000×10^4	1.972×10^3	4.475×10^3
cloud albedo crb [1]	0.732 ± 0.242	6152344	0.345	0.795	0.0	1.000	0.583	0.927
surface albedo fitted [1]	0.658 ± 0.322	6152344	0.649	0.833	0.0	1.000	0.299	0.949
surface albedo fitted crb [1]	0.624 ± 0.298	6152344	0.588	0.795	0.0	1.000	0.296	0.884
fitted root mean square [1]	$(1.022 \pm 0.944) \times 10^{-3}$	6152344	1.092×10^{-3}	7.285×10^{-4}	1.048×10^{-6}	9.952×10^{-2}	3.493×10^{-4}	1.441×10^{-3}
fitted root mean square crb [1]	$(8.543 \pm 8.229) \times 10^{-4}$	6152344	1.051×10^{-3}	5.793×10^{-4}	1.326×10^{-6}	5.082×10^{-2}	2.185×10^{-4}	1.270×10^{-3}
wavelength shift [nm]	$(1.095 \pm 0.671) \times 10^{-2}$	6152344	9.891×10^{-3}	1.113×10^{-2}	-4.496×10^{-2}	6.427×10^{-2}	5.876×10^{-3}	1.577×10^{-2}
cloud fraction apriori [1]	0.545 ± 0.296	6152344	0.483	0.521	0.0	1.000	0.308	0.791
reflectance blue ocr [1]	0.727 ± 0.238	6152344	0.375	0.822	0.142	1.93	0.536	0.911
reflectance green ocr [1]	0.704 ± 0.265	6152344	0.426	0.815	8.159×10^{-2}	1.86	0.489	0.914
reflectance continuum aband [1]	0.690 ± 0.243	6152344	0.397	0.778	1.261×10^{-2}	3.53	0.487	0.884

3 Granule outlines

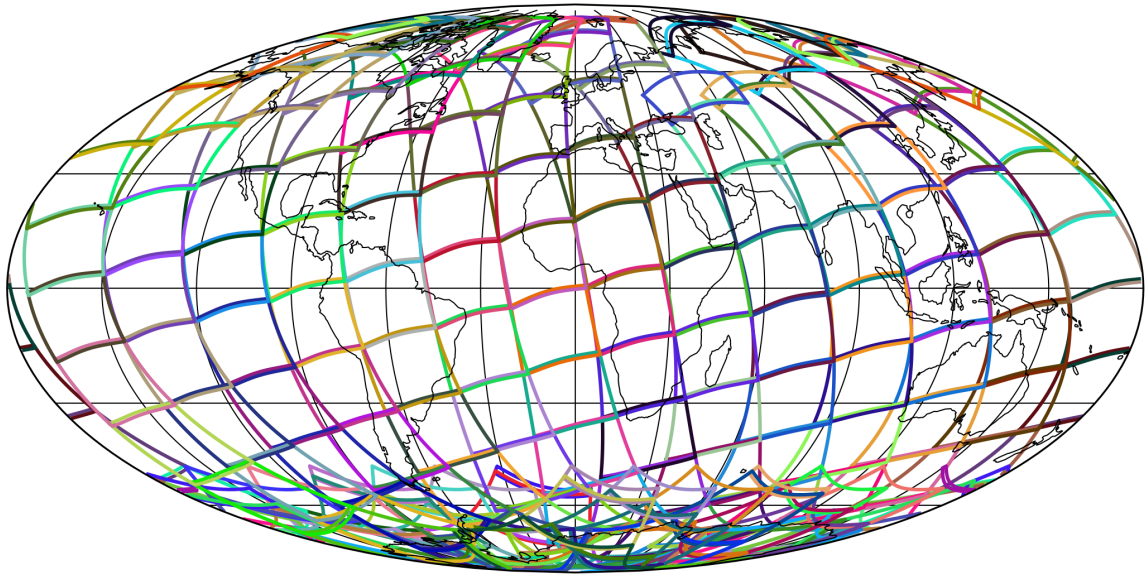


Figure 1: Outline of the granules.

4 Input data monitoring

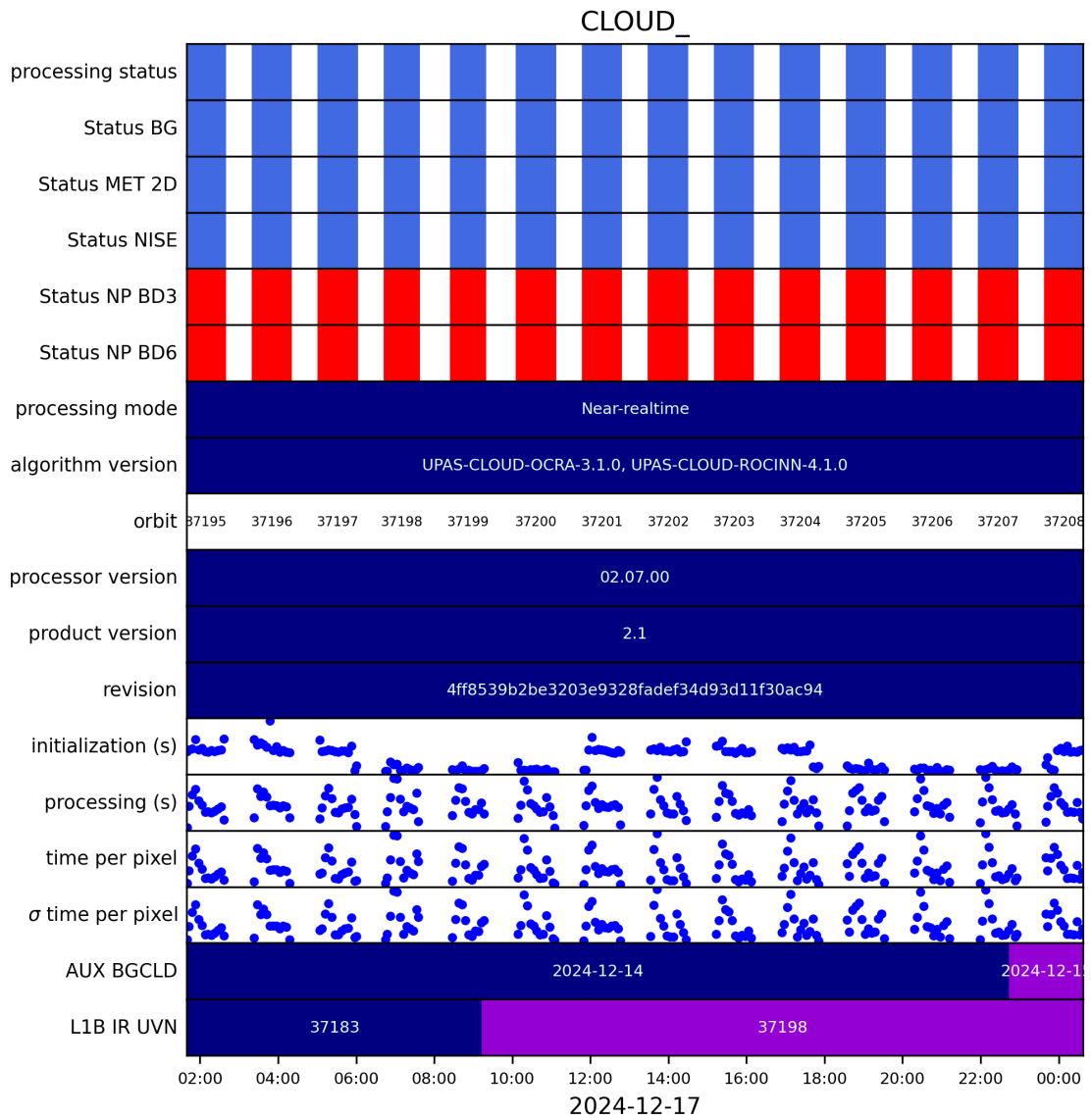


Figure 2: Input data per granule

5 Warnings and errors

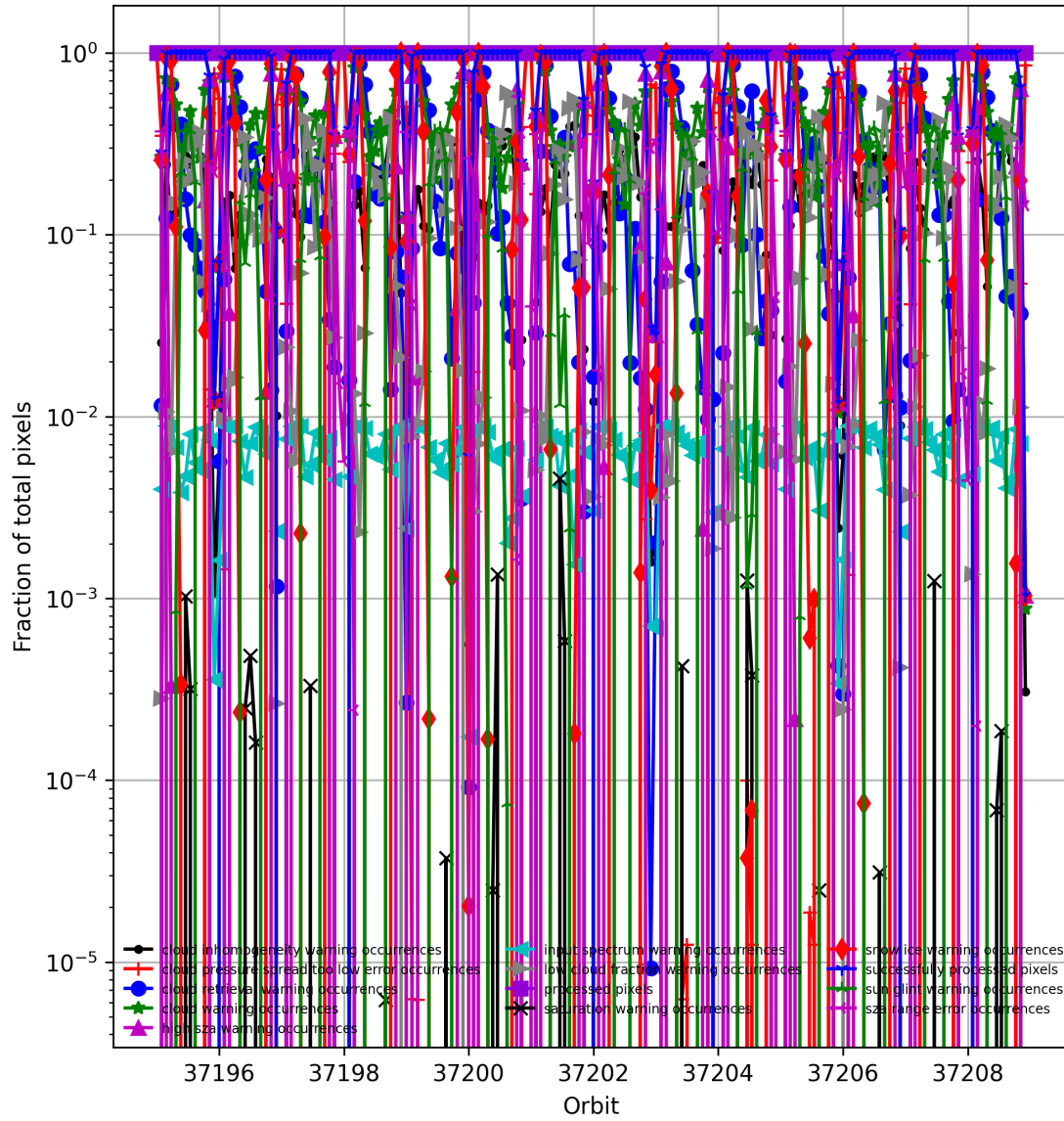


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

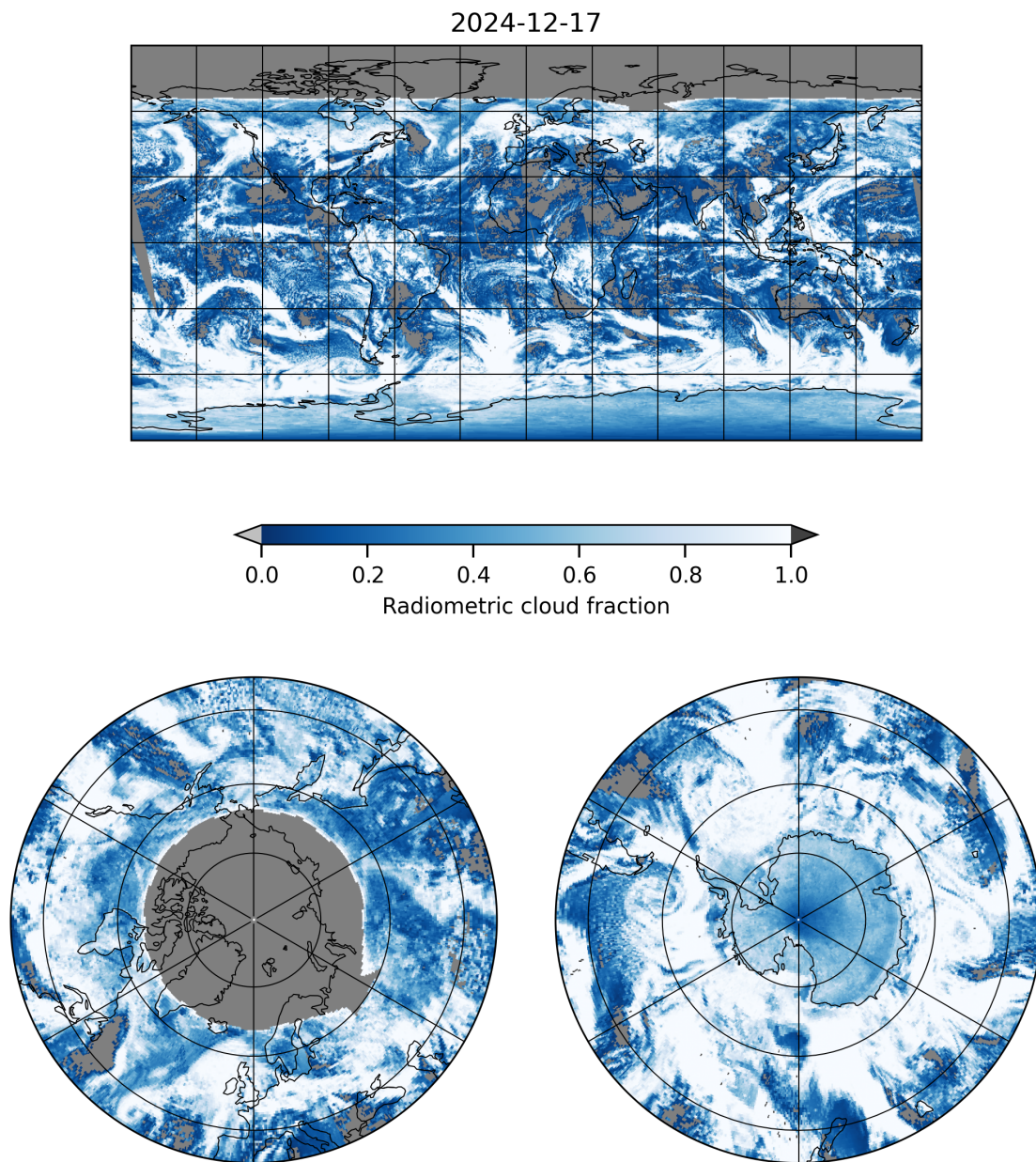


Figure 4: Map of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18

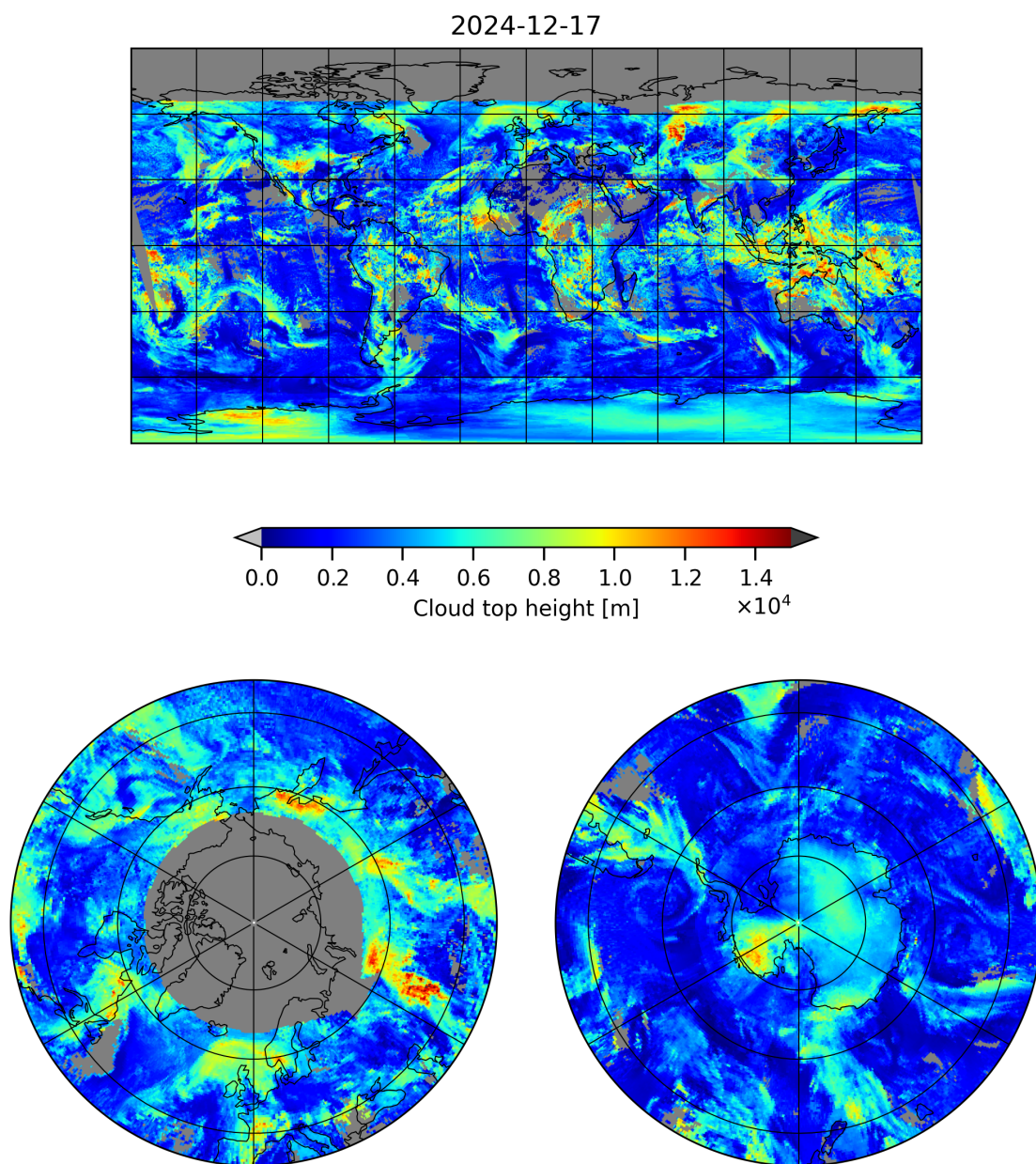


Figure 5: Map of “Cloud top height” for 2024-12-17 to 2024-12-18

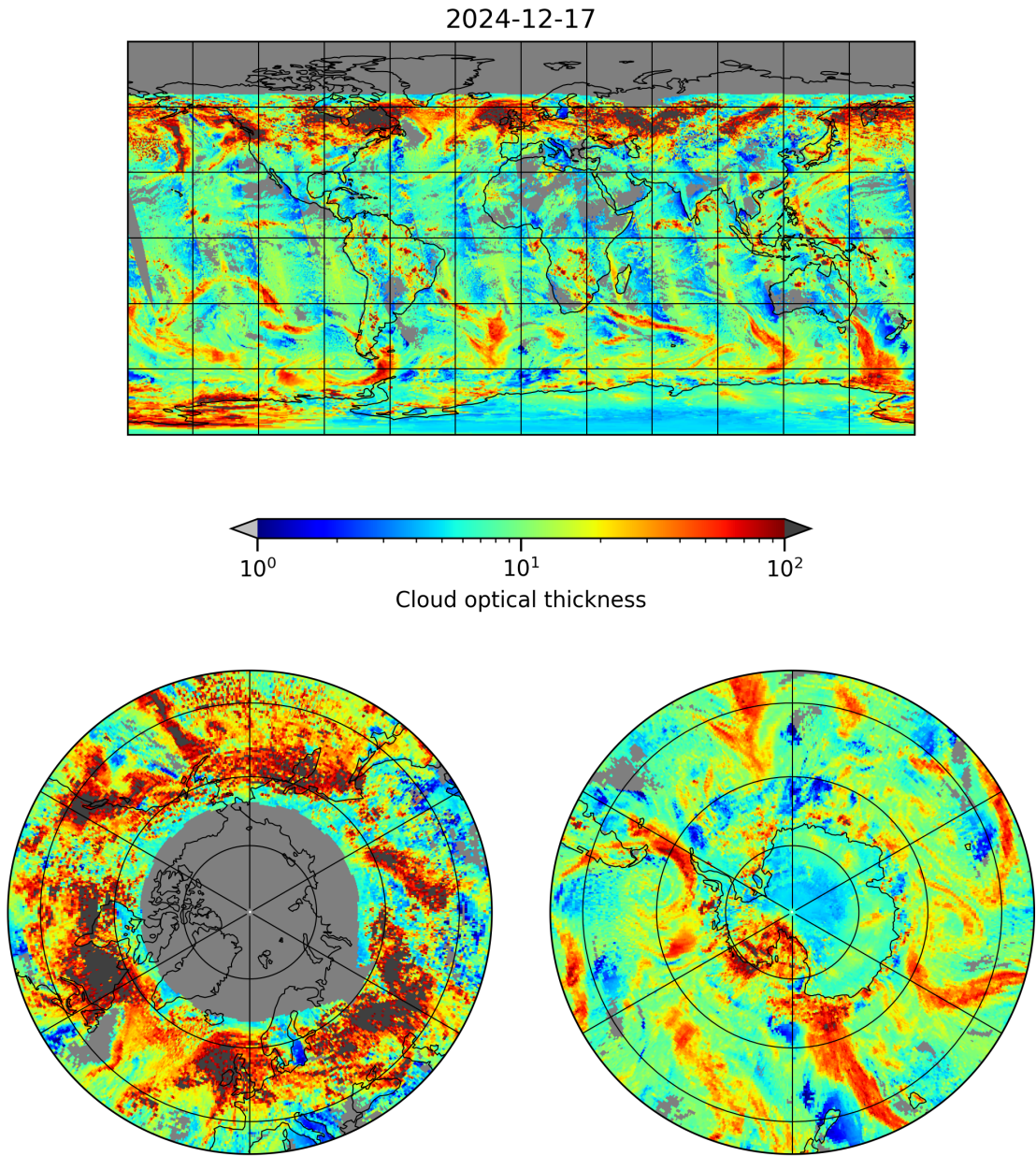


Figure 6: Map of “Cloud optical thickness” for 2024-12-17 to 2024-12-18

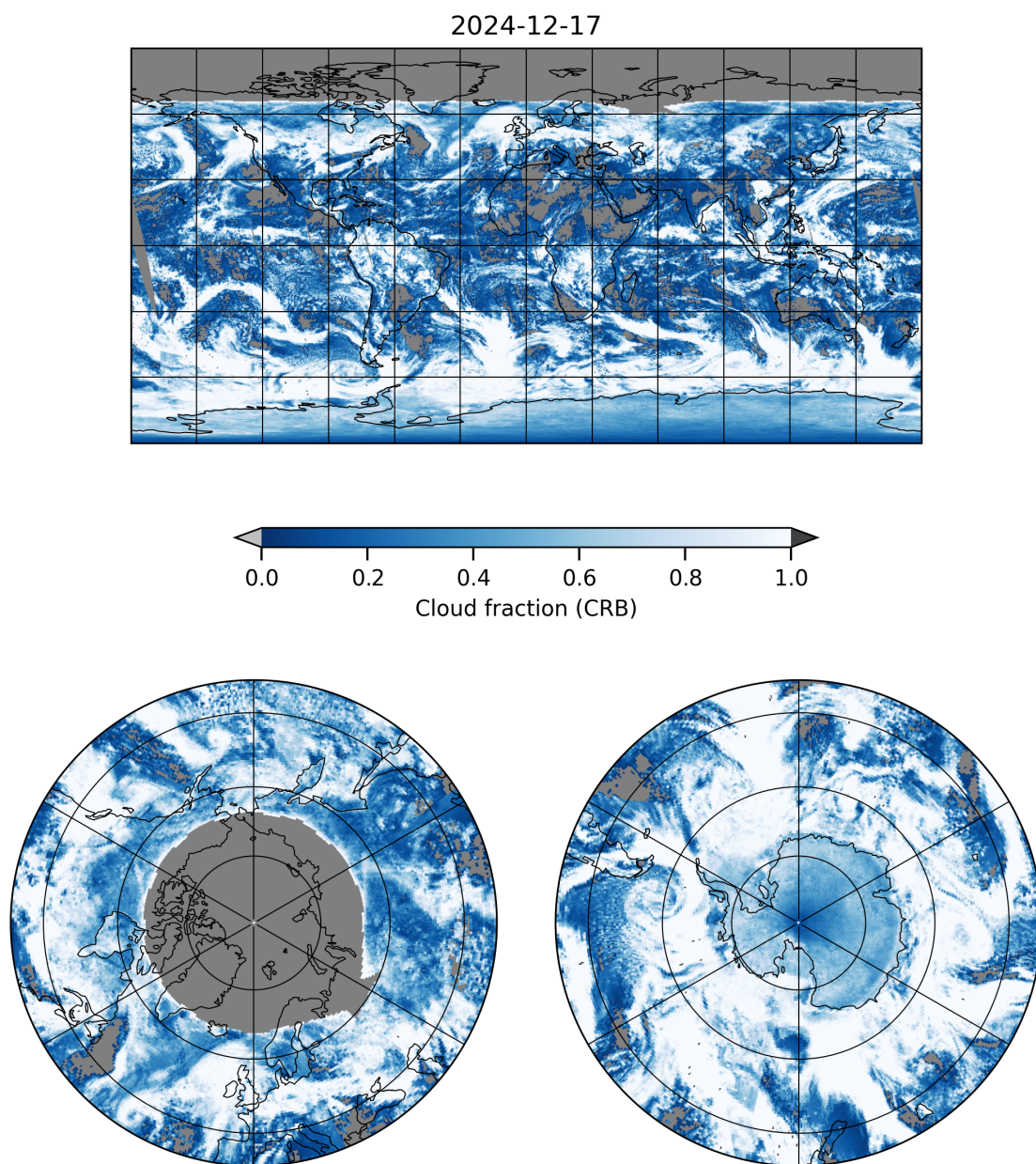


Figure 7: Map of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18

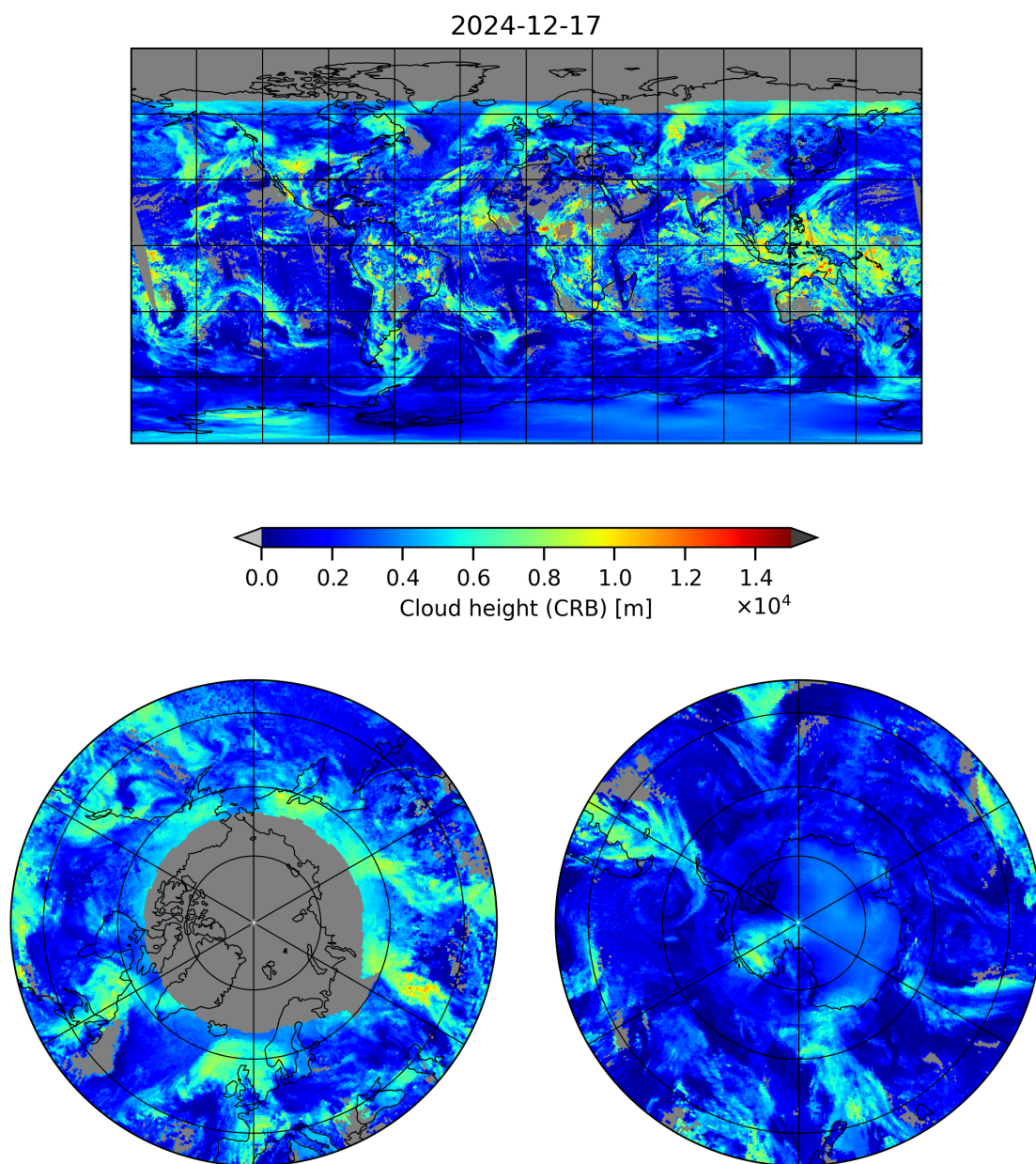


Figure 8: Map of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18

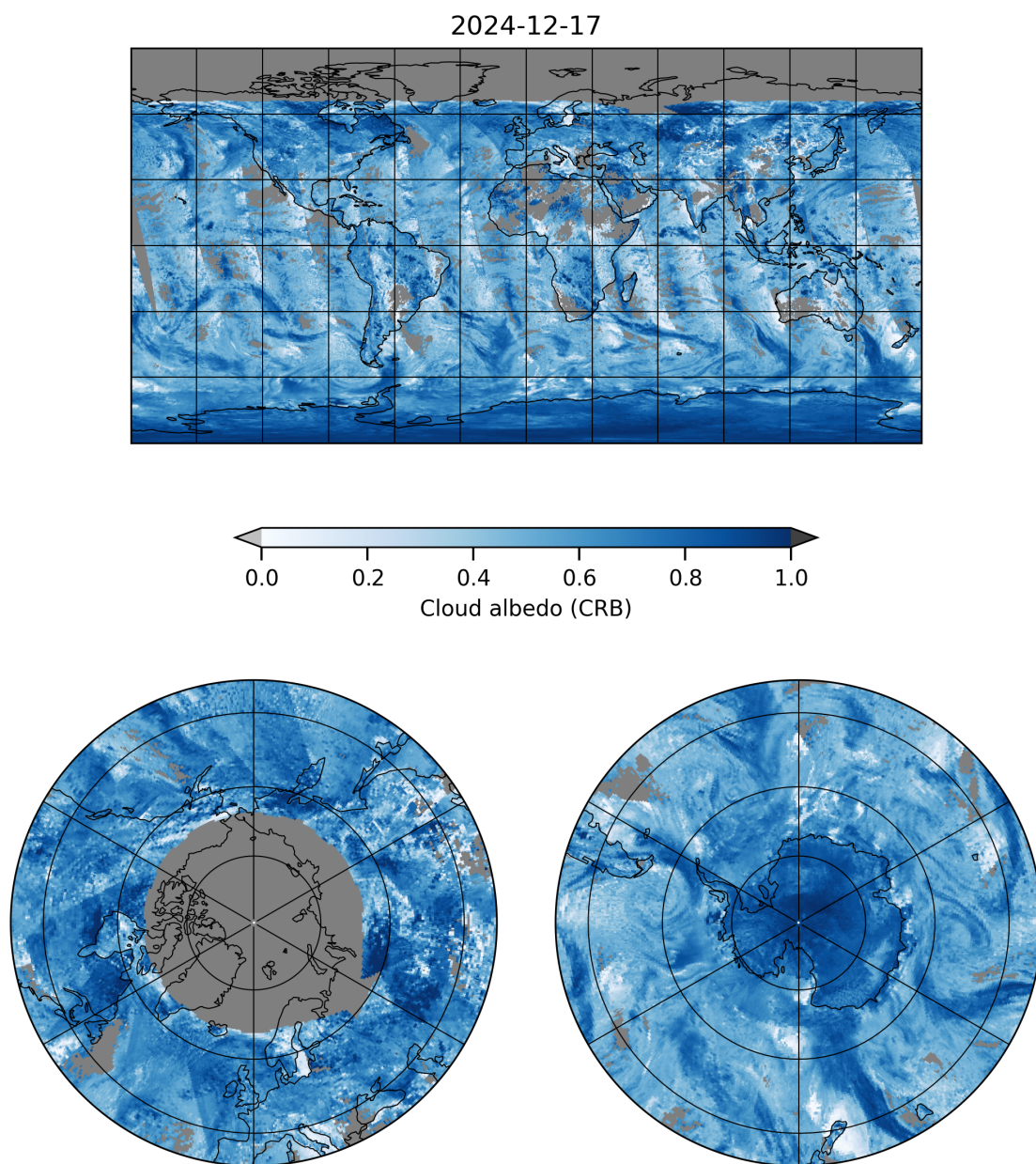


Figure 9: Map of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18

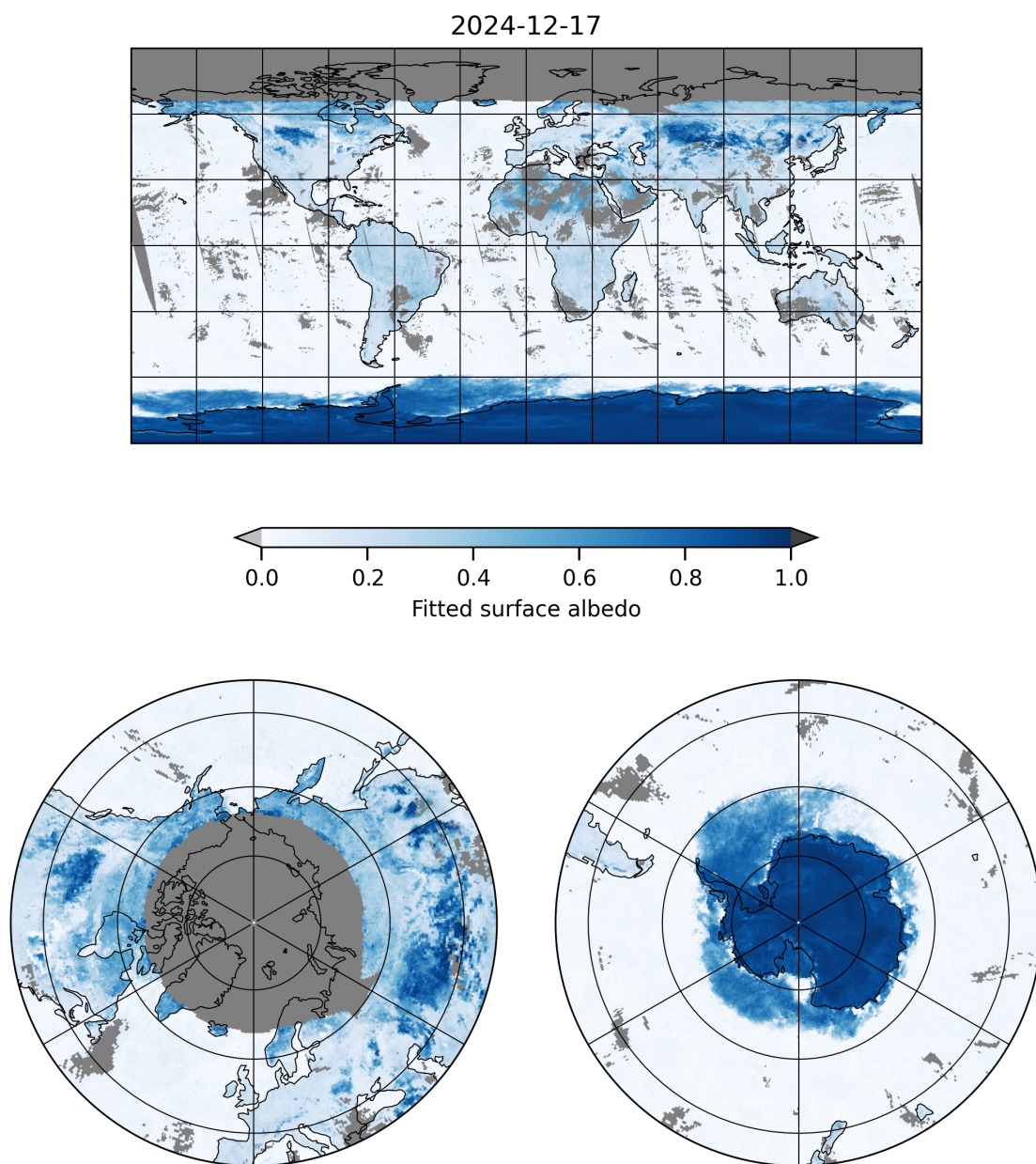


Figure 10: Map of “Fitted surface albedo” for 2024-12-17 to 2024-12-18

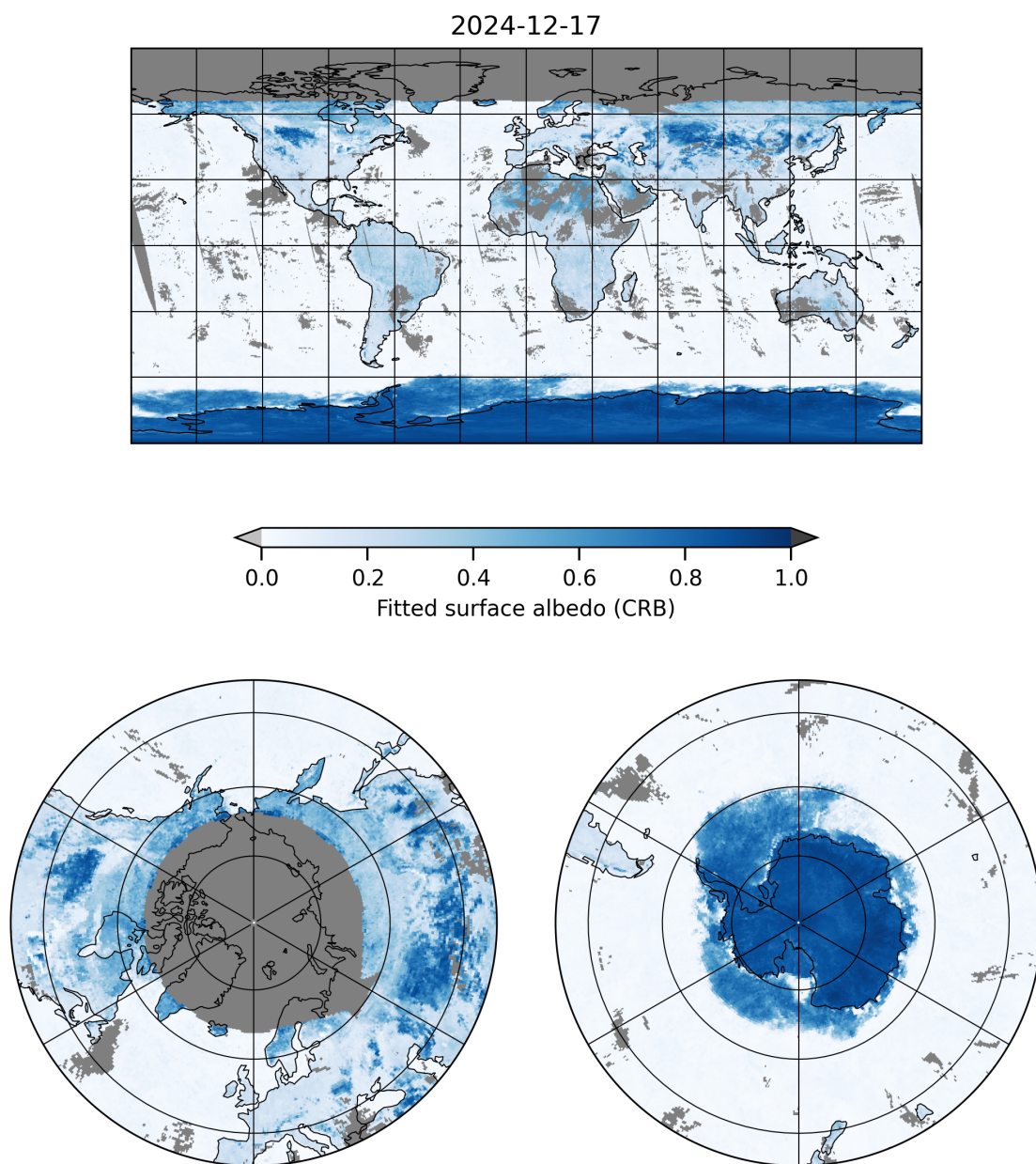


Figure 11: Map of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18

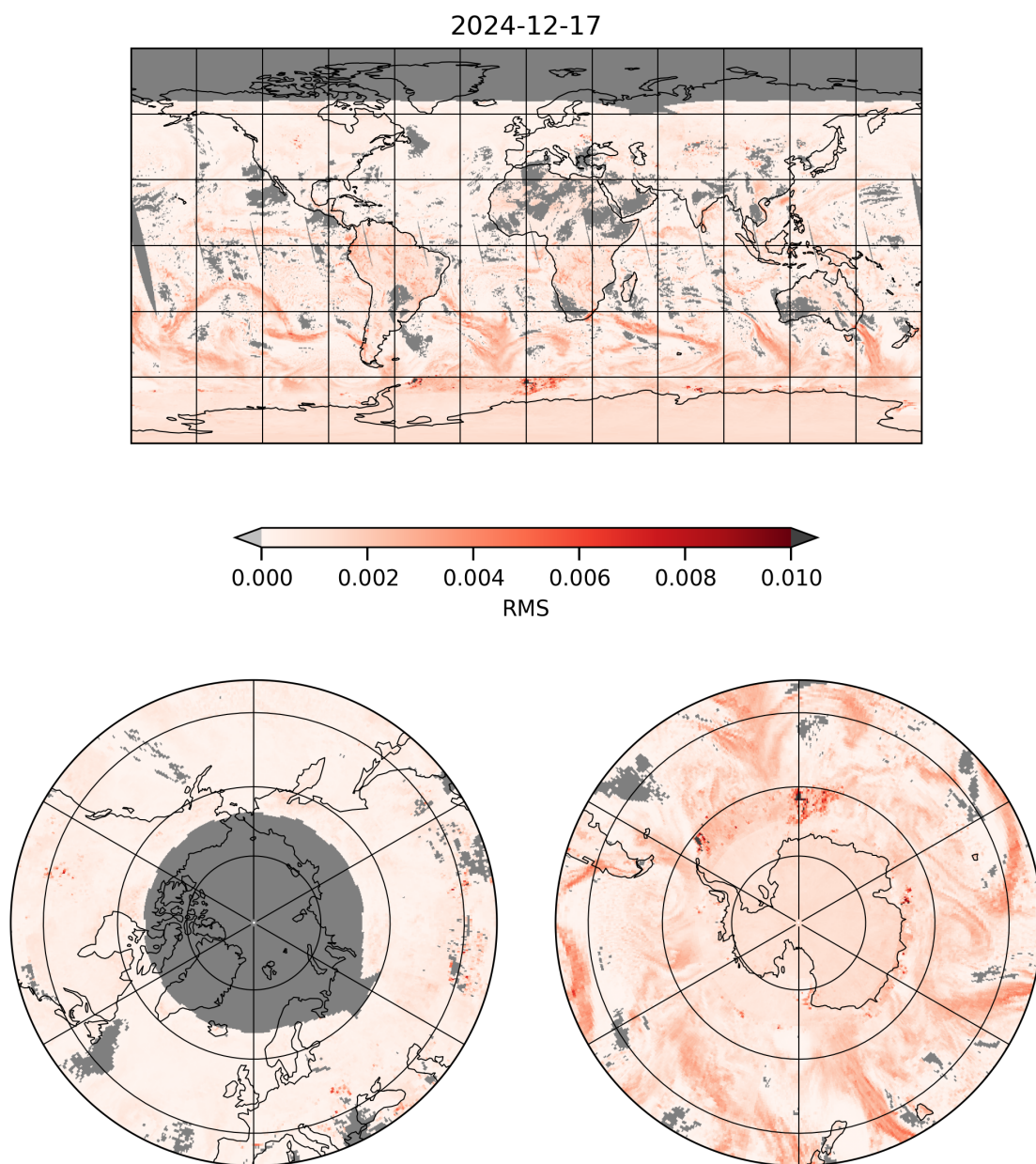


Figure 12: Map of “RMS” for 2024-12-17 to 2024-12-18

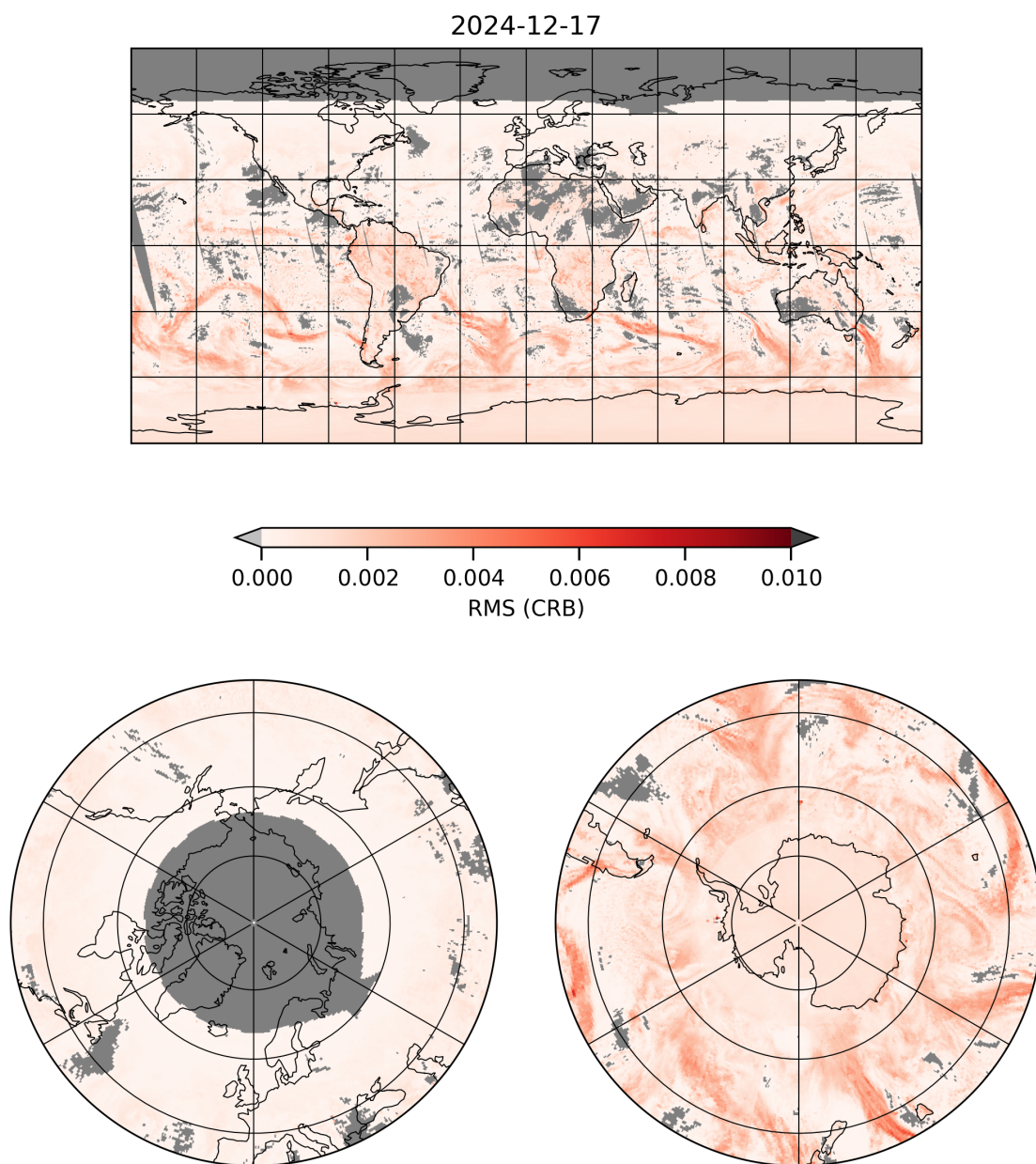


Figure 13: Map of “RMS (CRB)” for 2024-12-17 to 2024-12-18

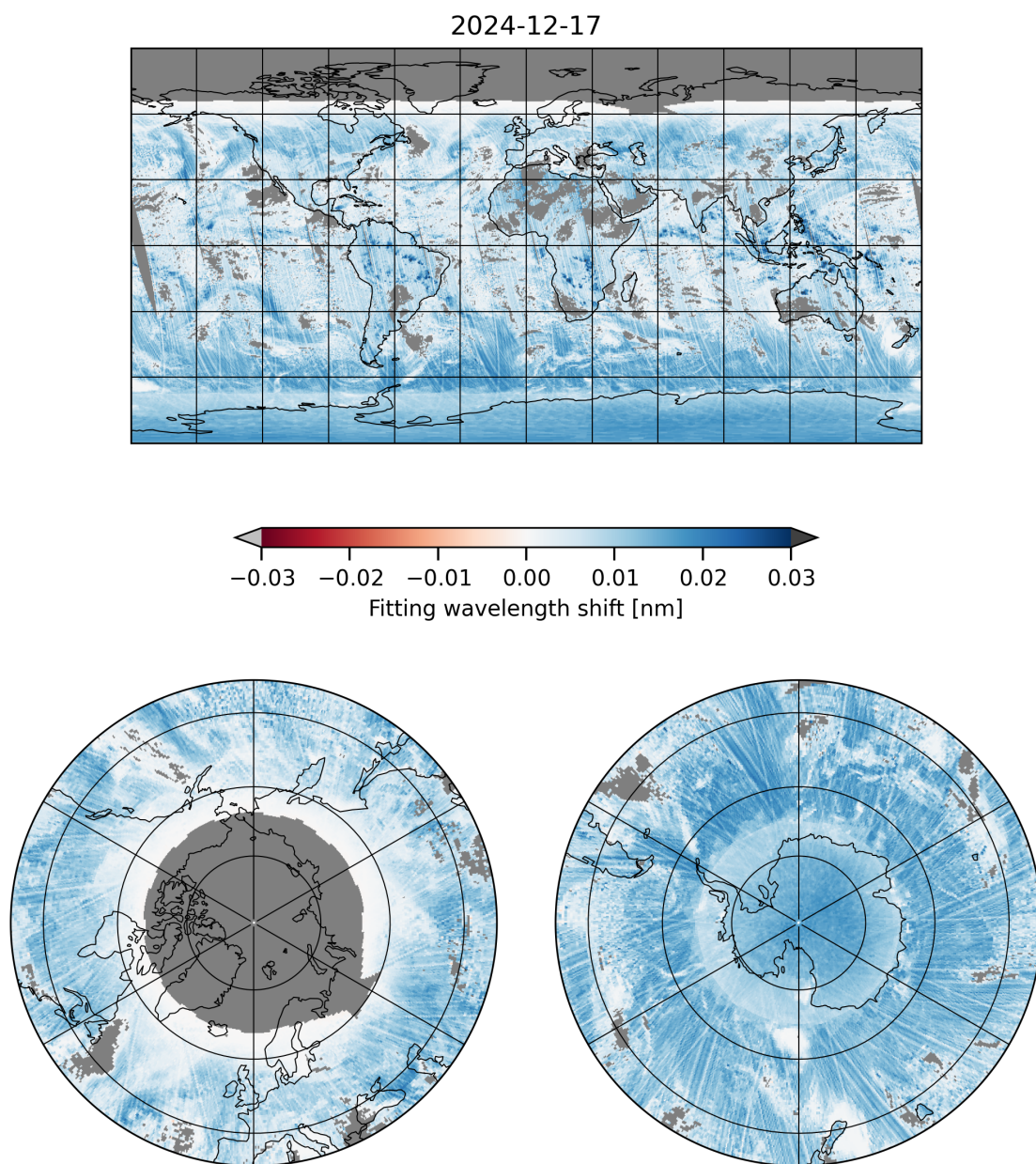


Figure 14: Map of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18

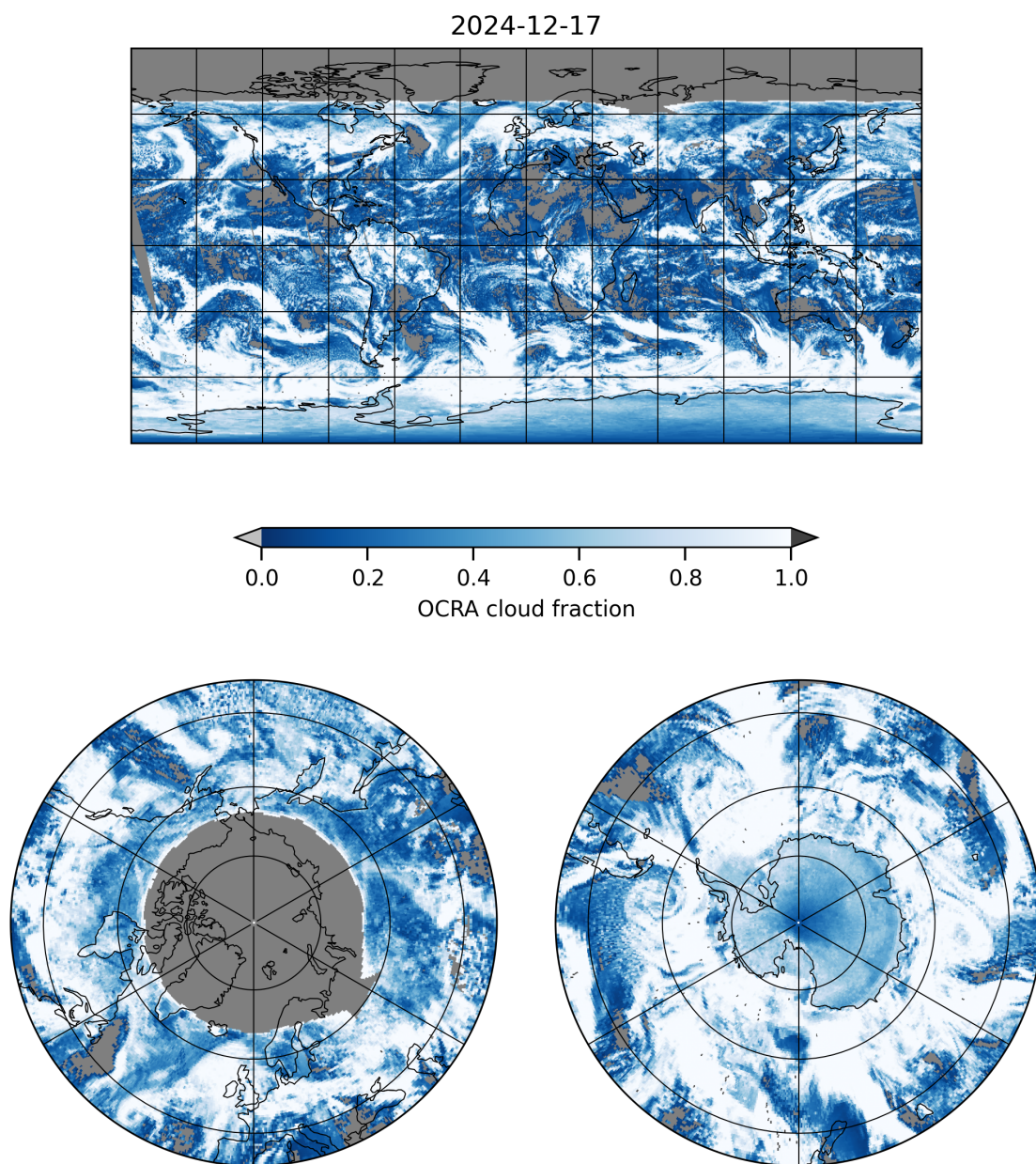


Figure 15: Map of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18

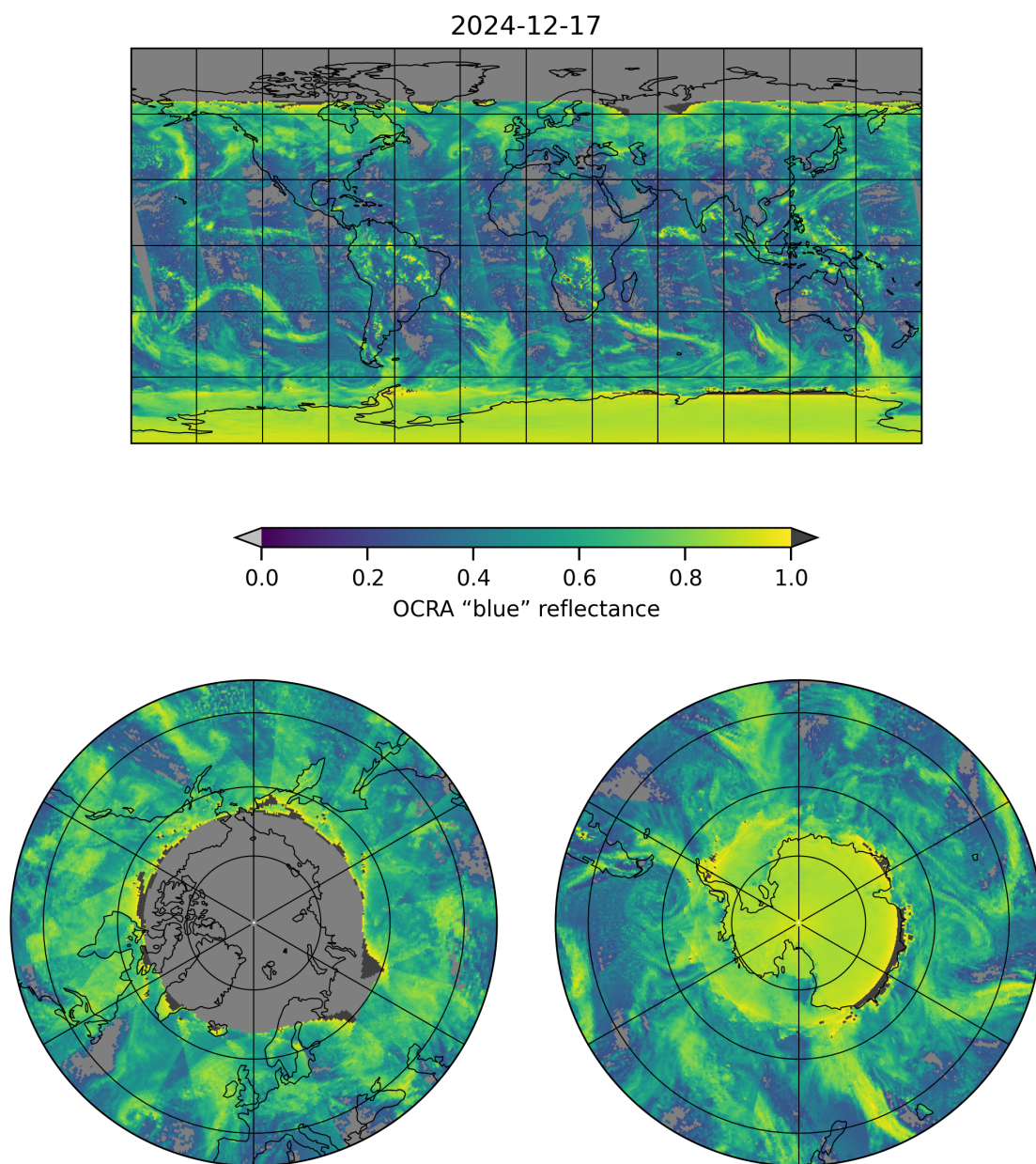


Figure 16: Map of "OCRA "blue" reflectance" for 2024-12-17 to 2024-12-18

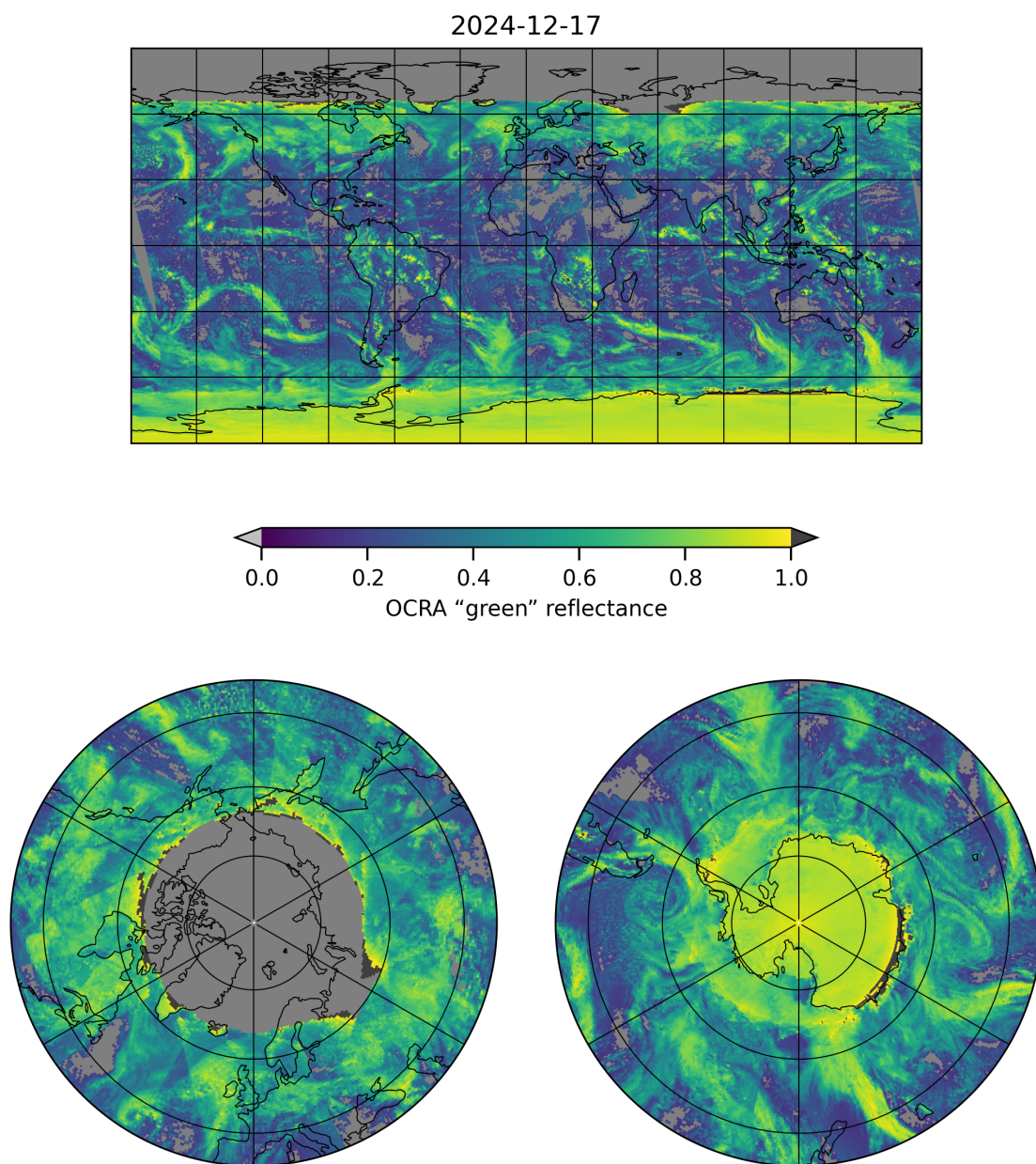


Figure 17: Map of "OCRA "green" reflectance" for 2024-12-17 to 2024-12-18

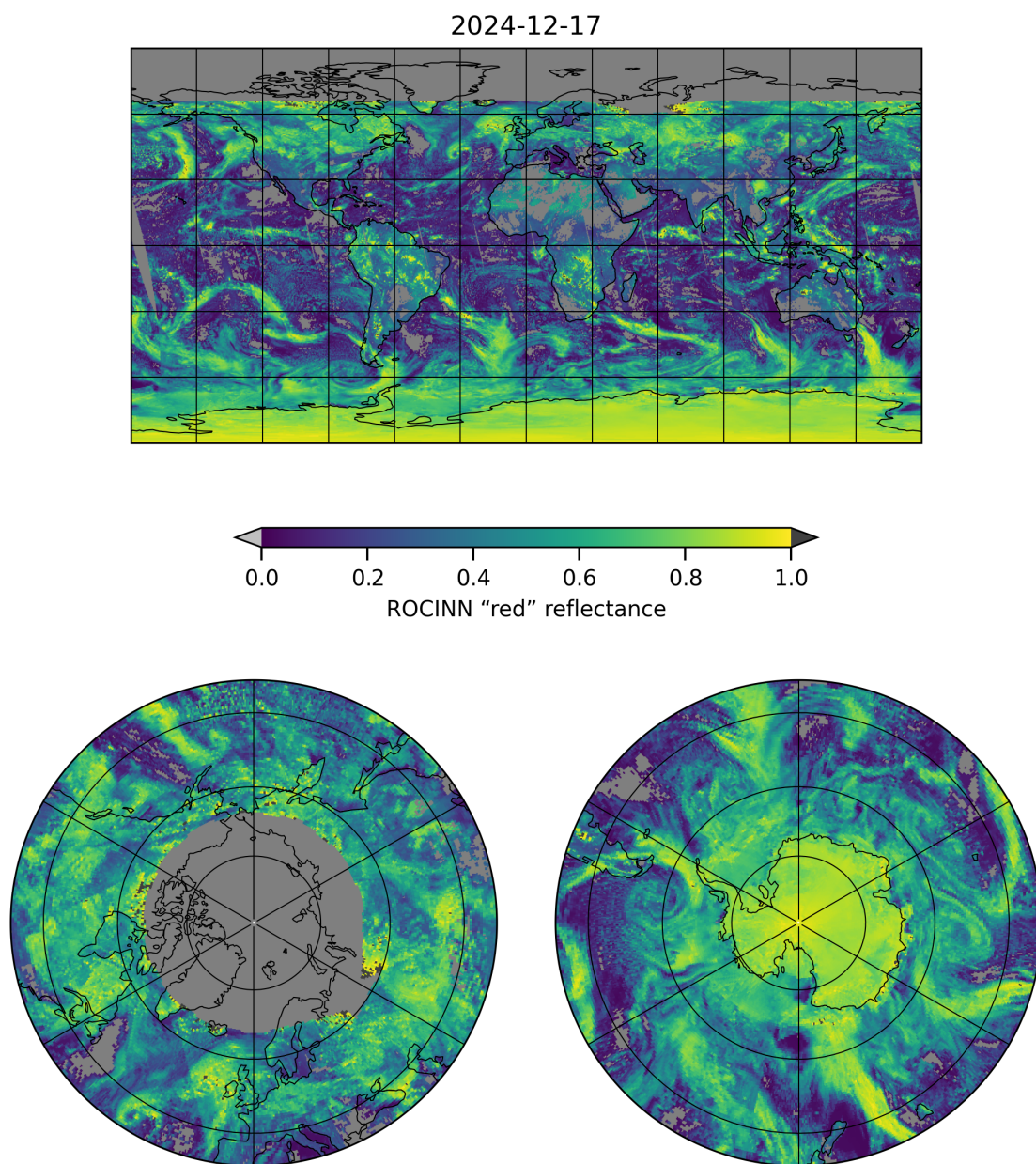


Figure 18: Map of "ROCINN "red" reflectance" for 2024-12-17 to 2024-12-18

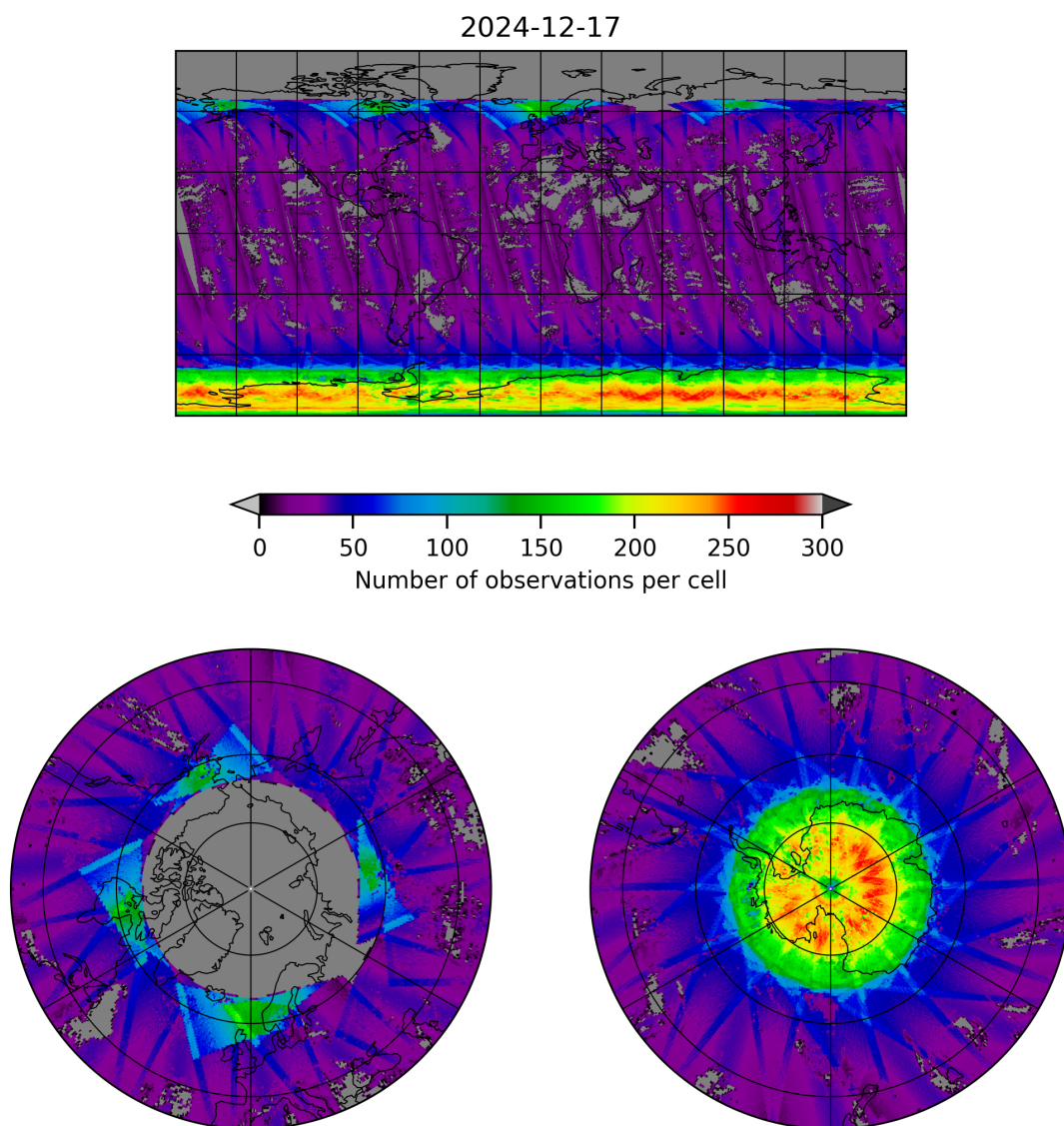


Figure 19: Map of the number of observations for 2024-12-17 to 2024-12-18

7 Zonal average

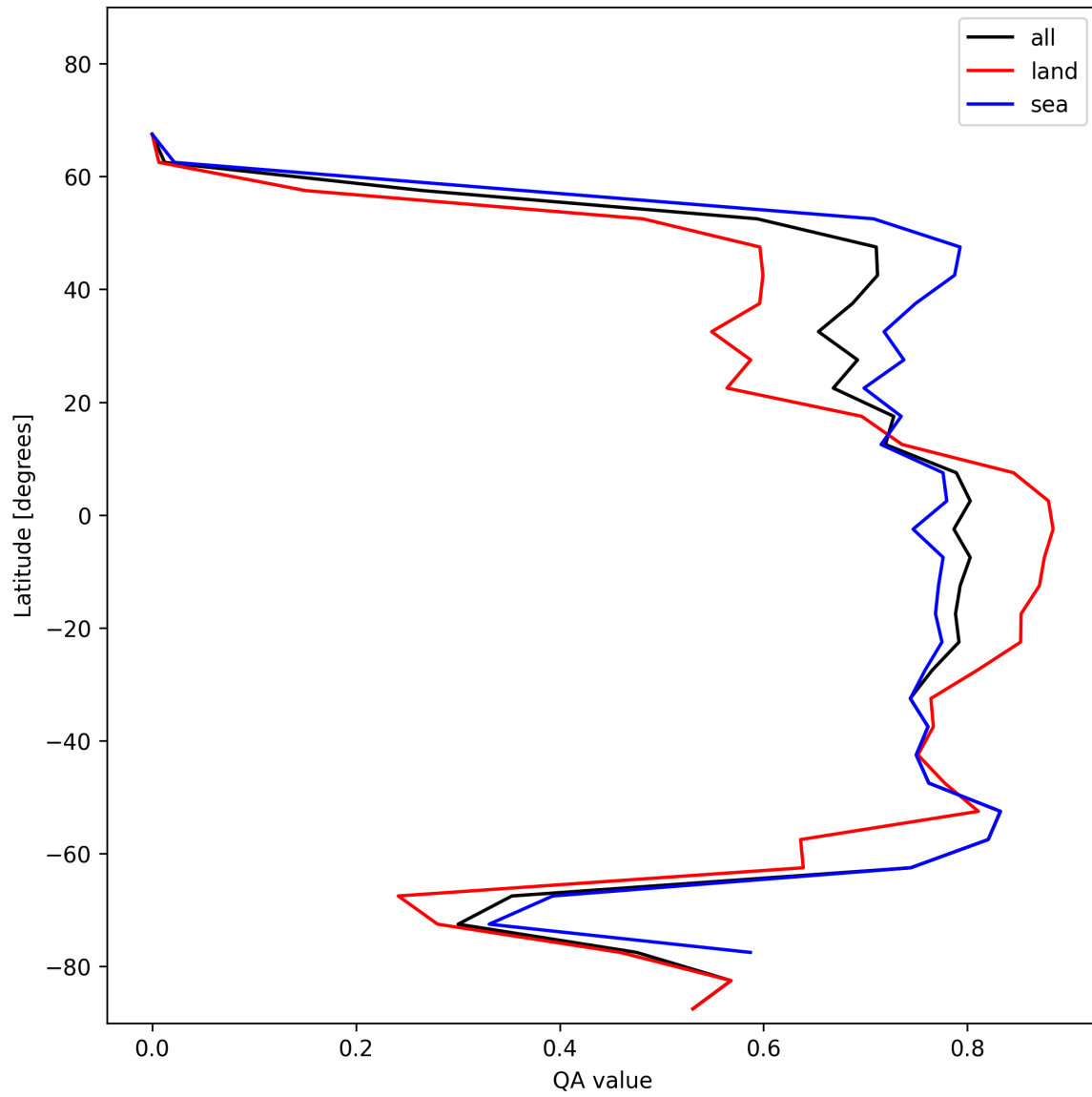


Figure 20: Zonal average of “QA value” for 2024-12-17 to 2024-12-18.

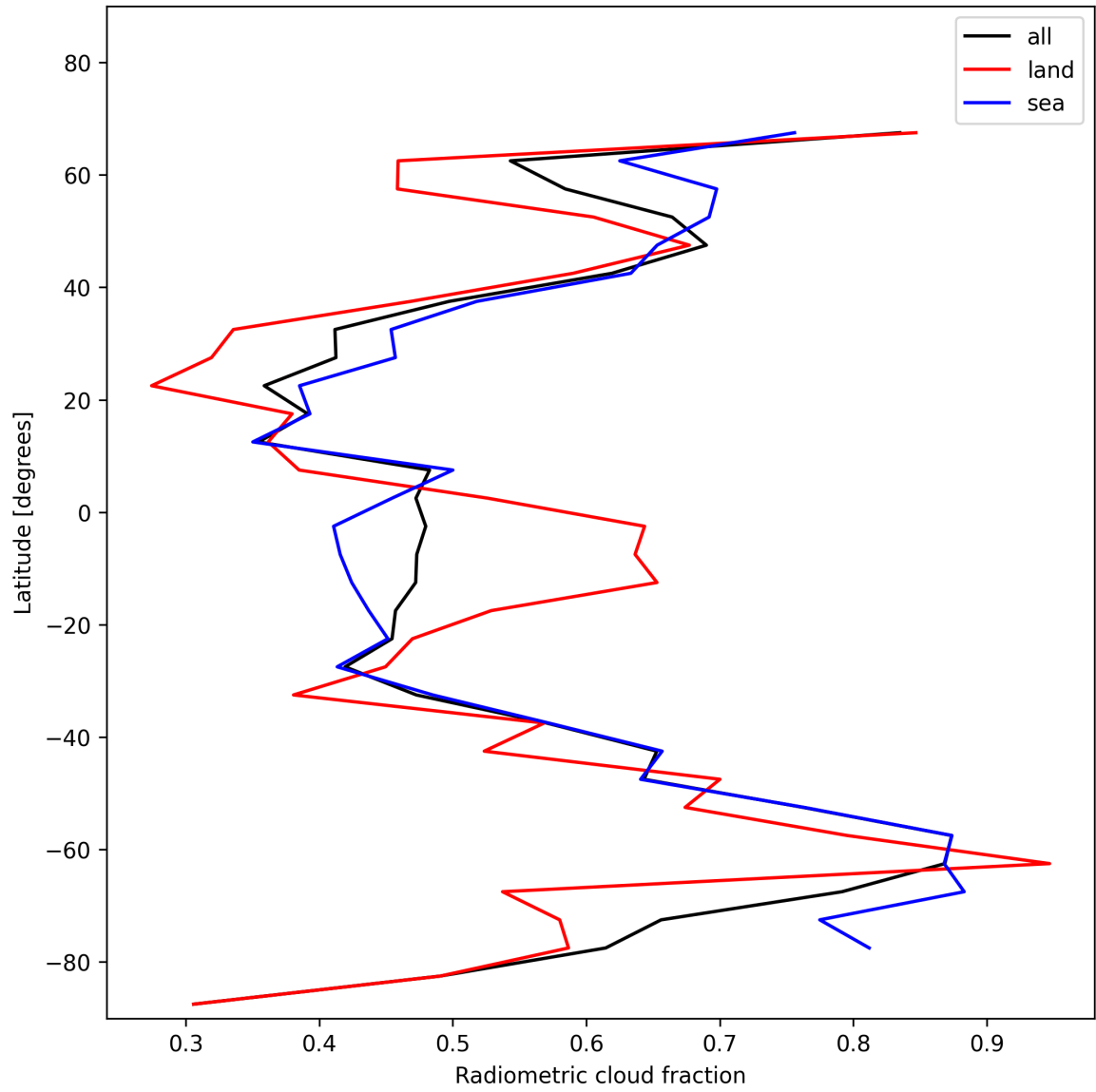


Figure 21: Zonal average of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18.

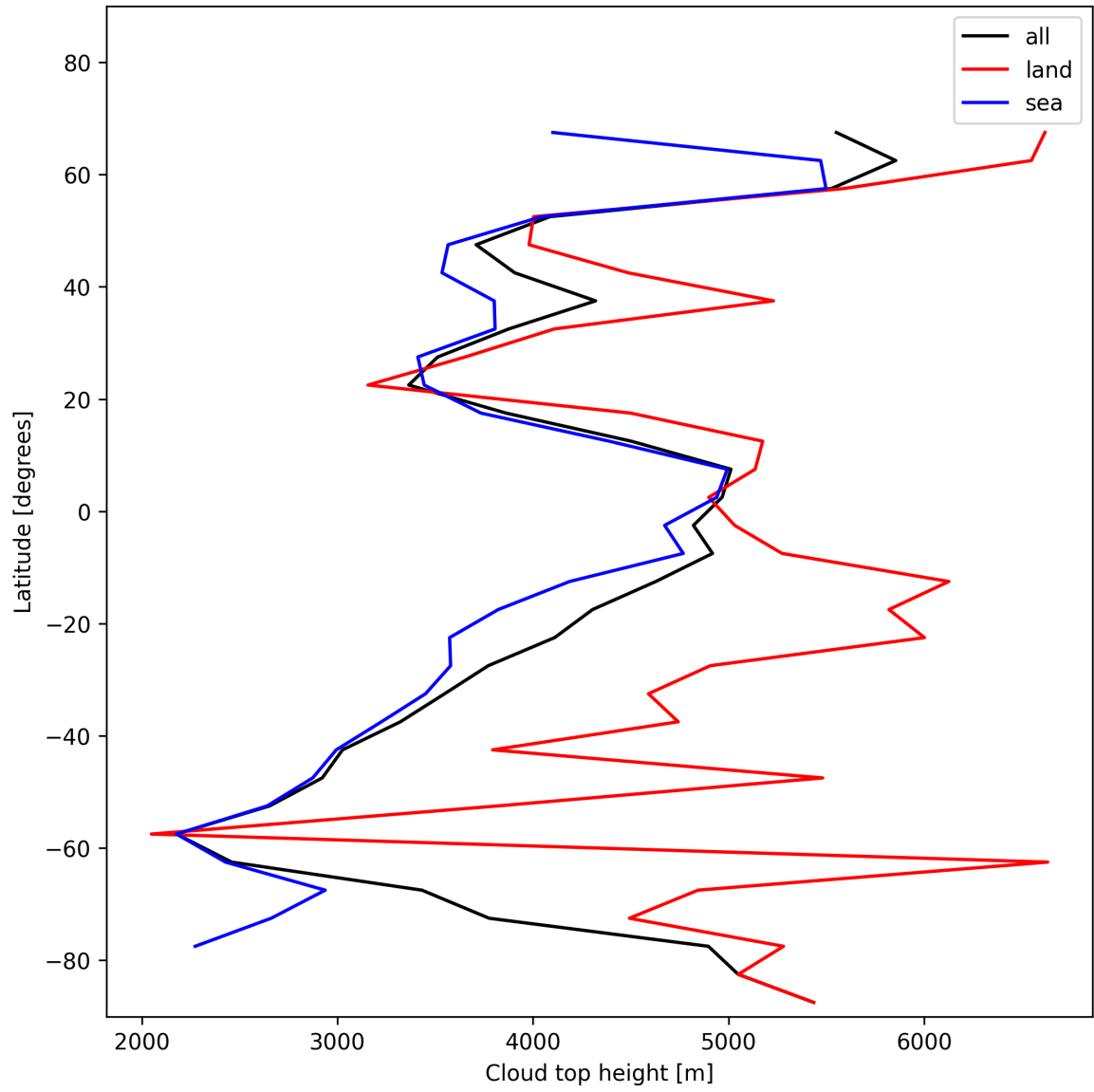


Figure 22: Zonal average of “Cloud top height” for 2024-12-17 to 2024-12-18.

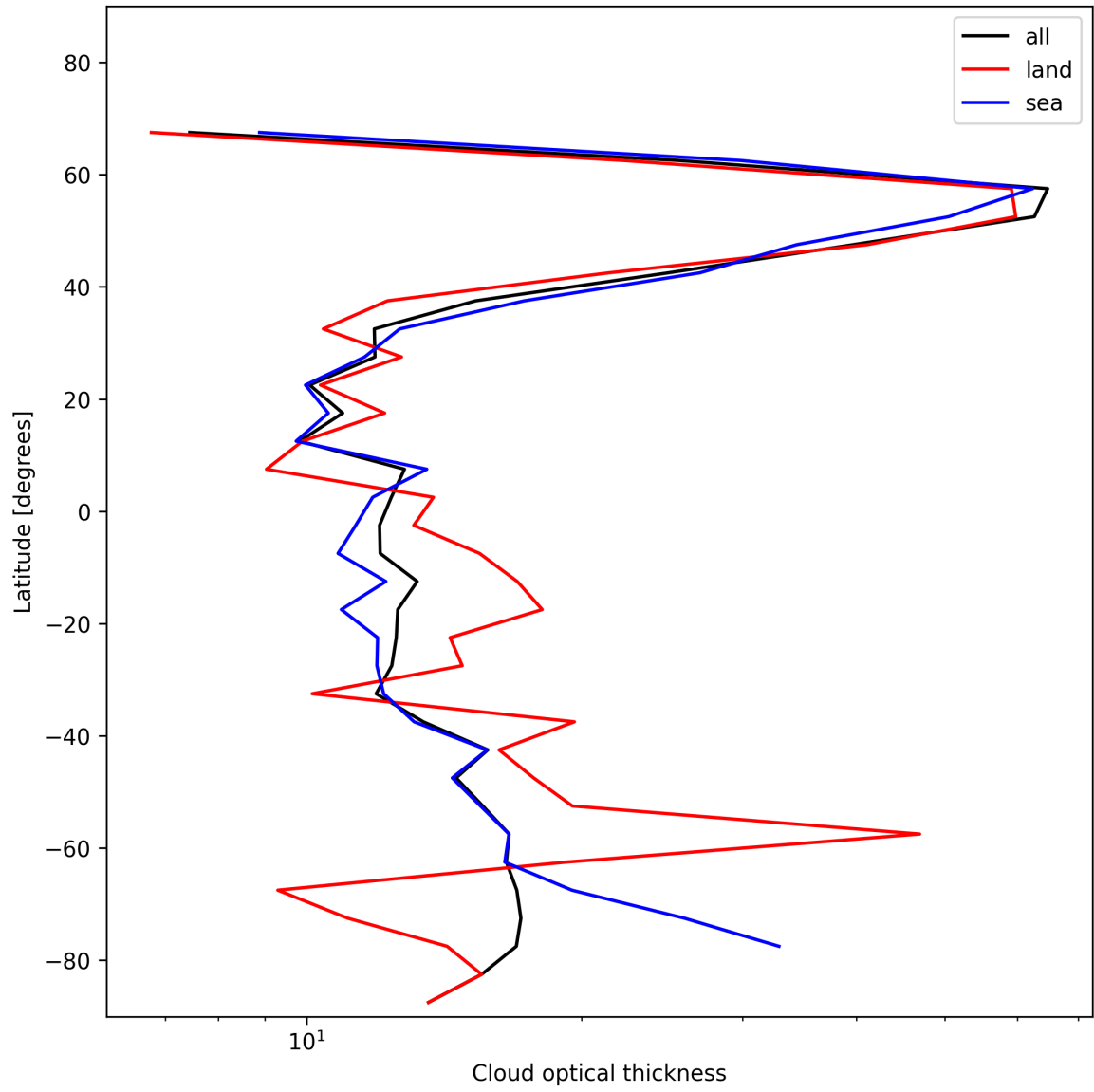


Figure 23: Zonal average of “Cloud optical thickness” for 2024-12-17 to 2024-12-18.

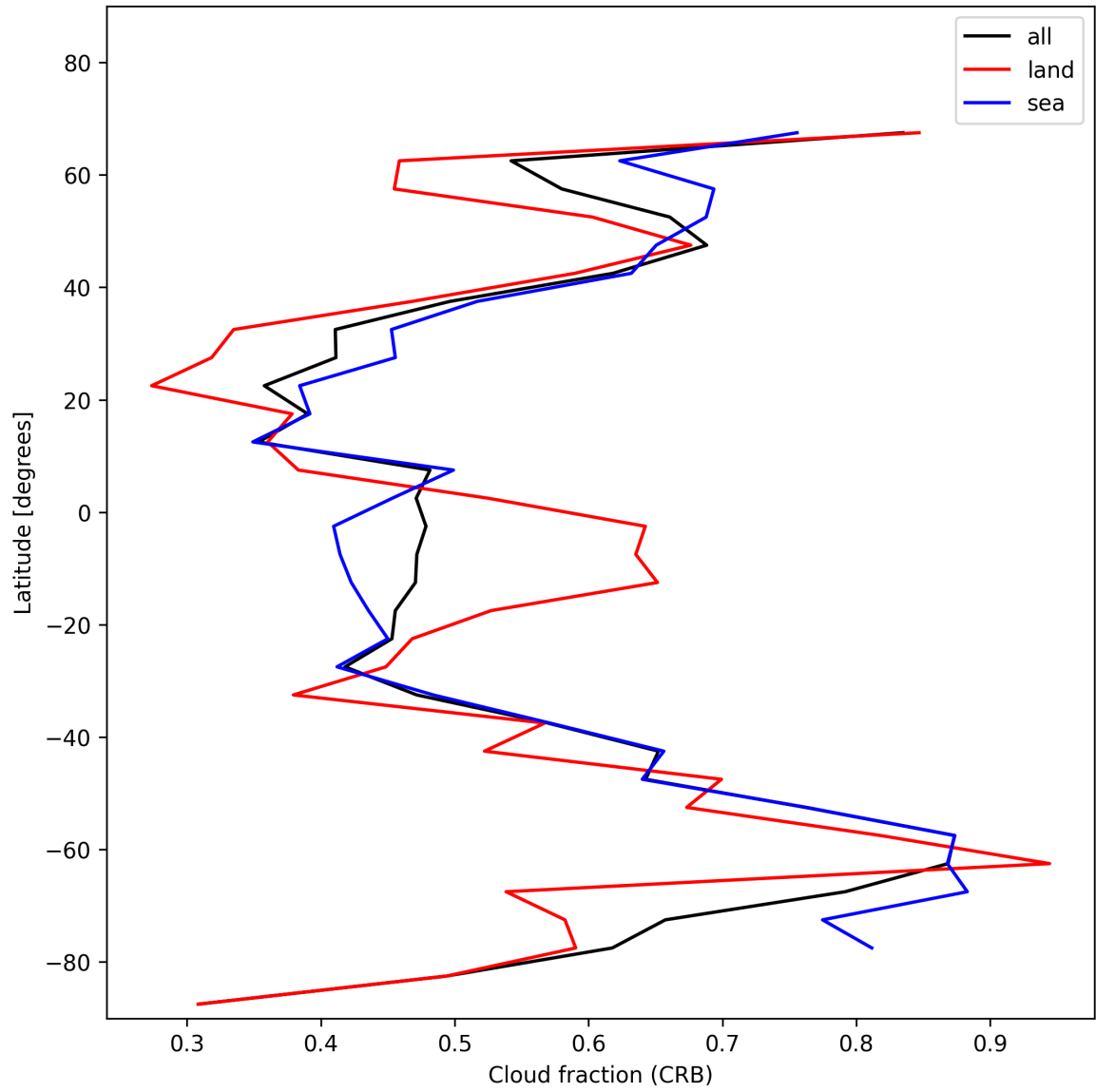


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18.

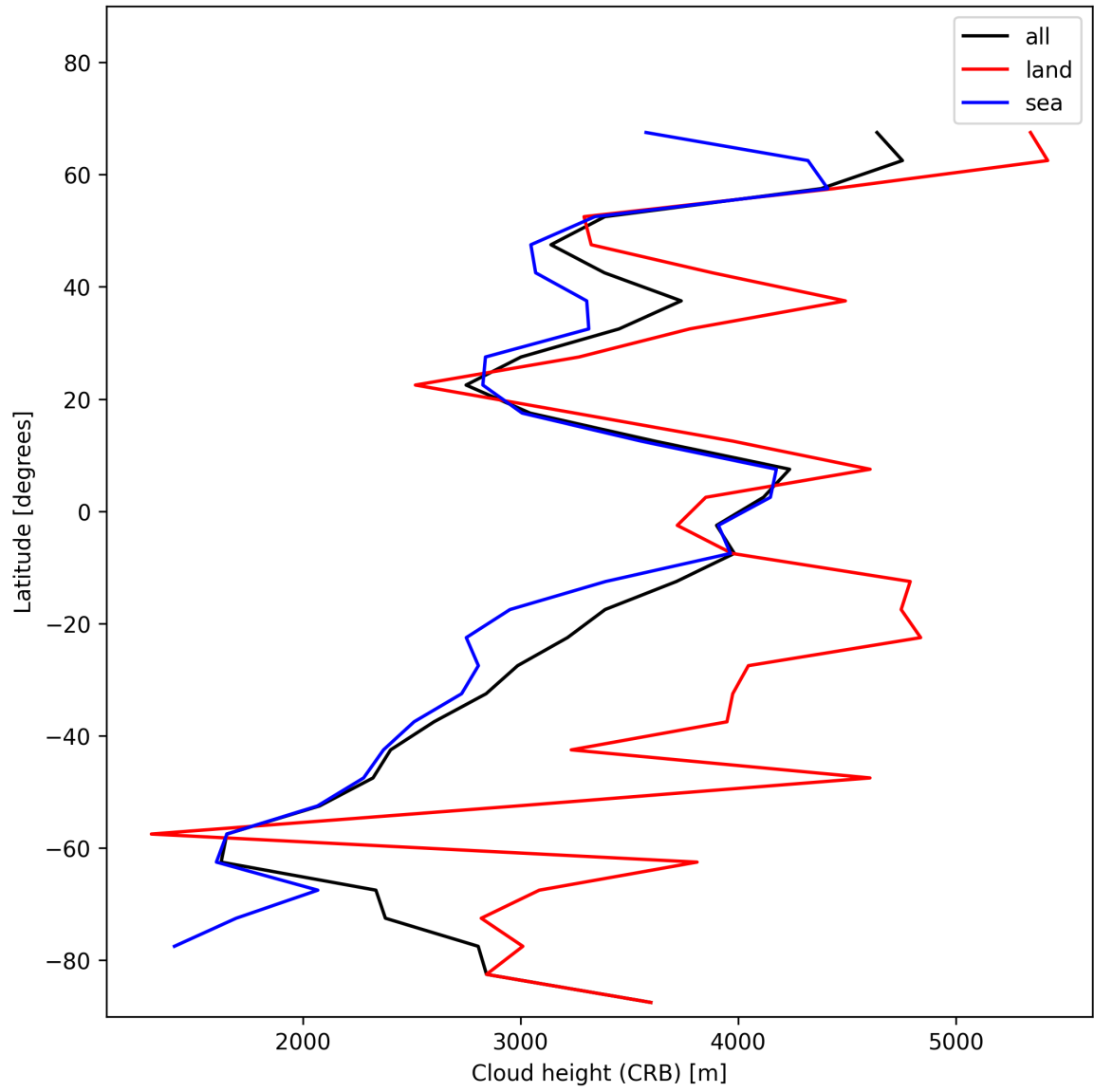


Figure 25: Zonal average of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18.

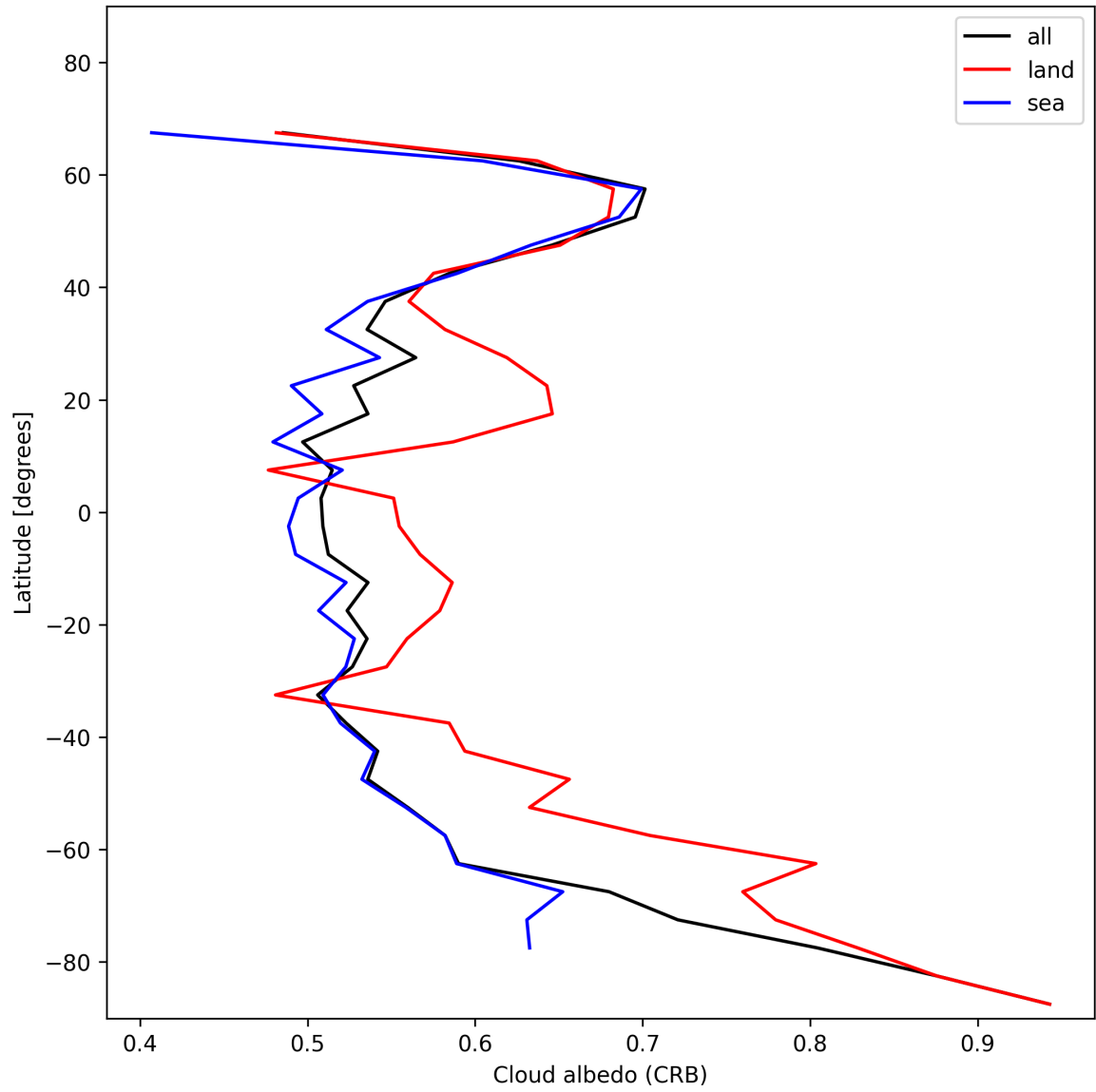


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18.

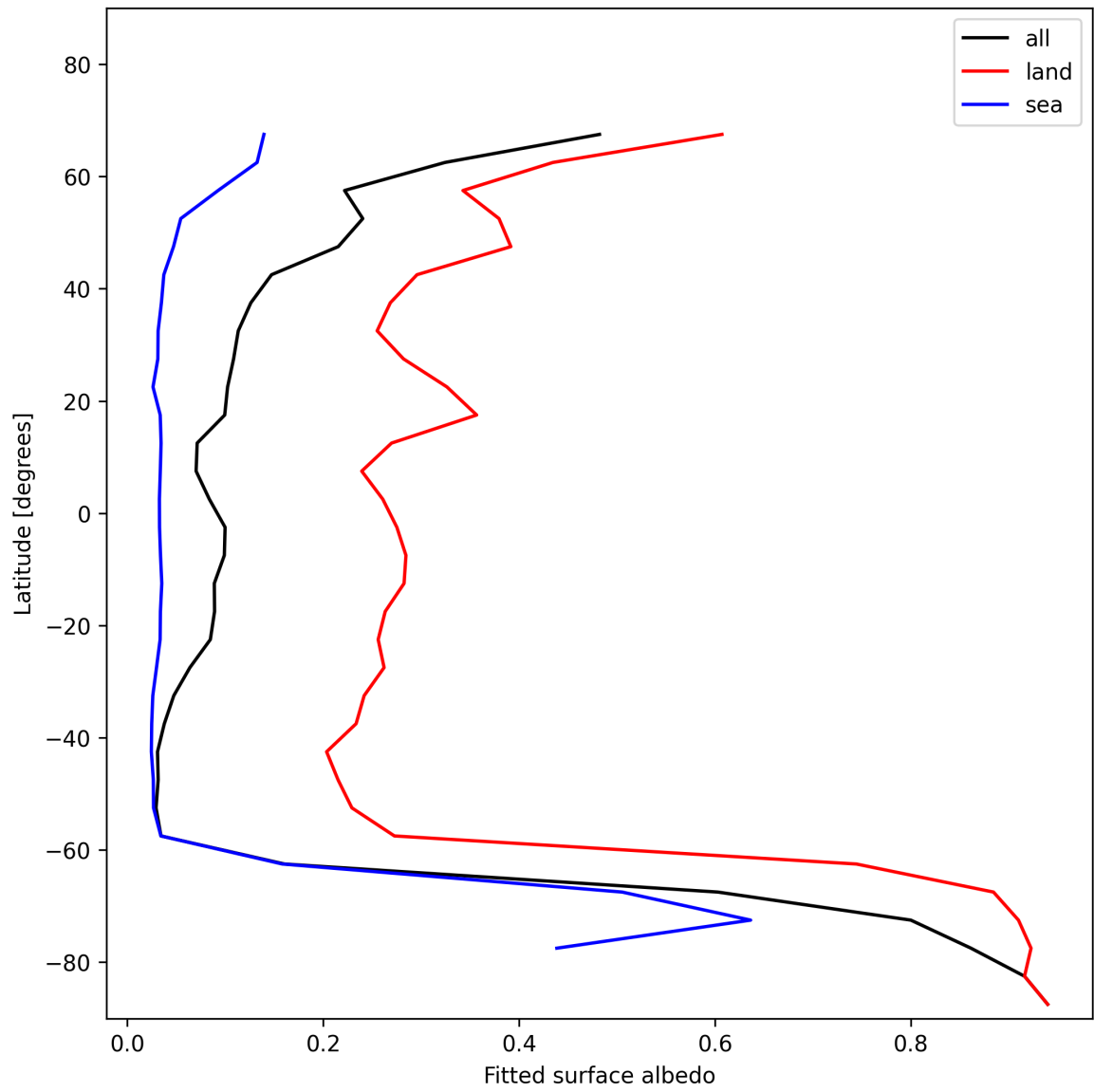


Figure 27: Zonal average of “Fitted surface albedo” for 2024-12-17 to 2024-12-18.

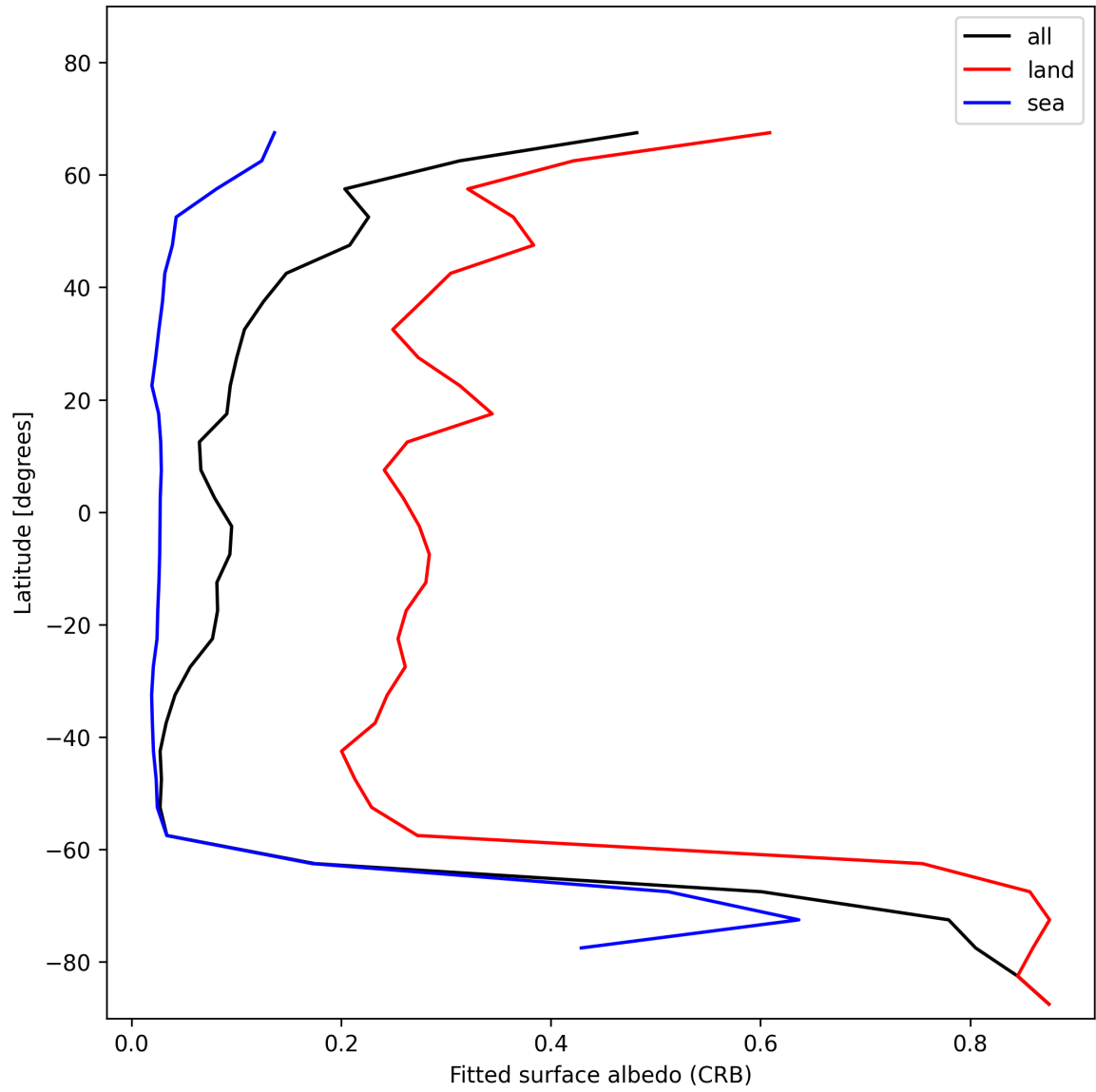


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18.

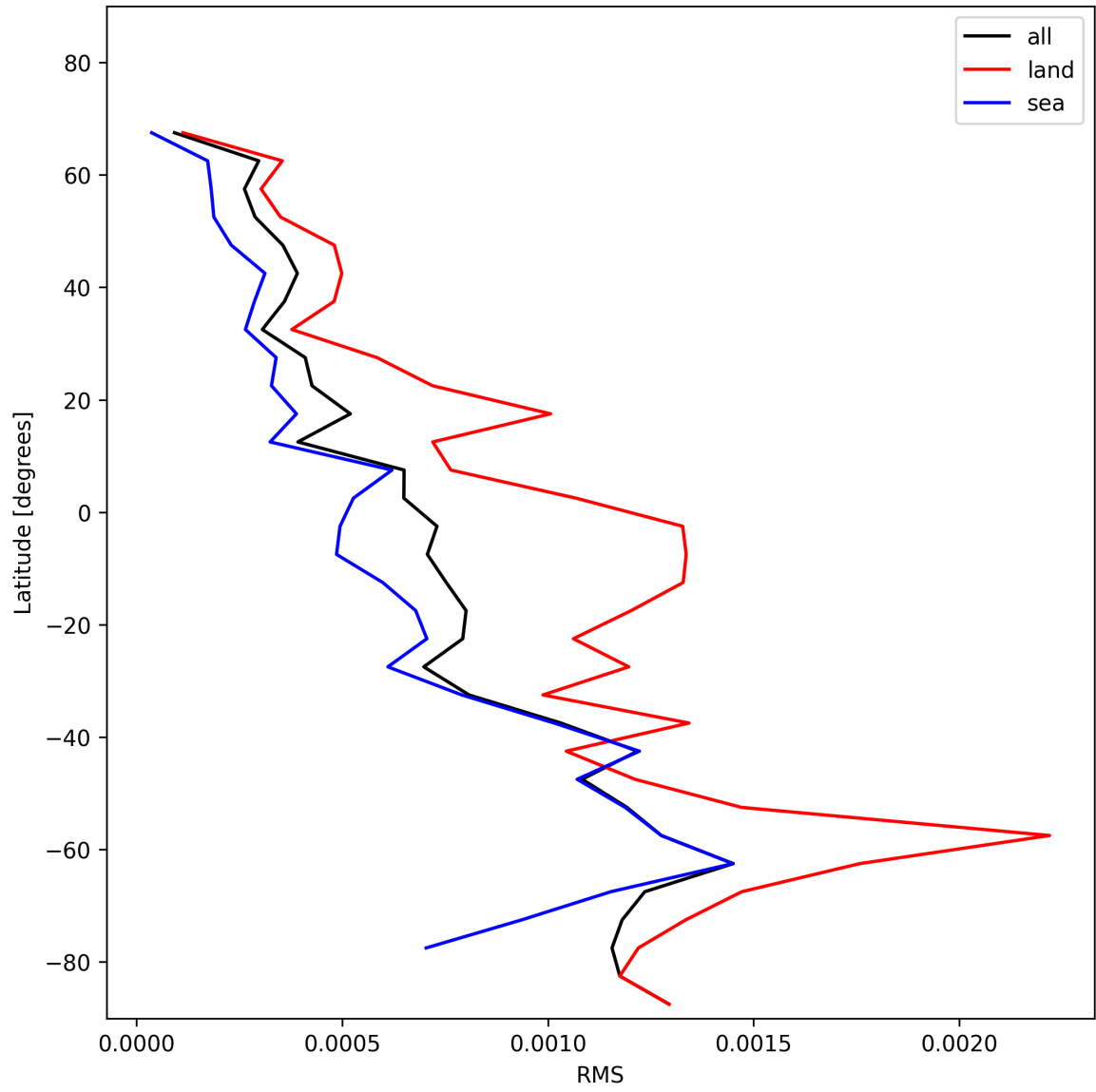


Figure 29: Zonal average of “RMS” for 2024-12-17 to 2024-12-18.

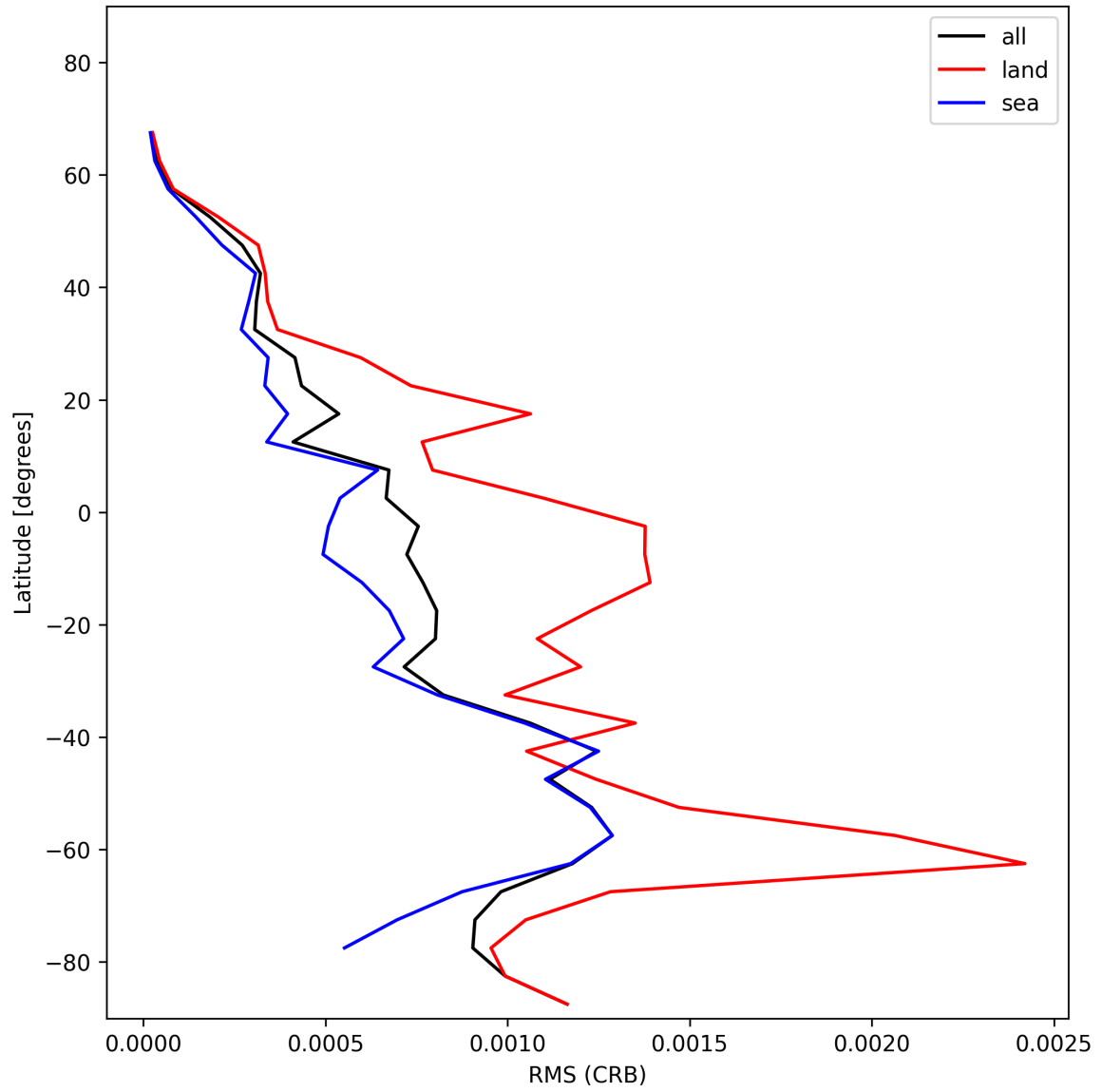


Figure 30: Zonal average of “RMS (CRB)” for 2024-12-17 to 2024-12-18.

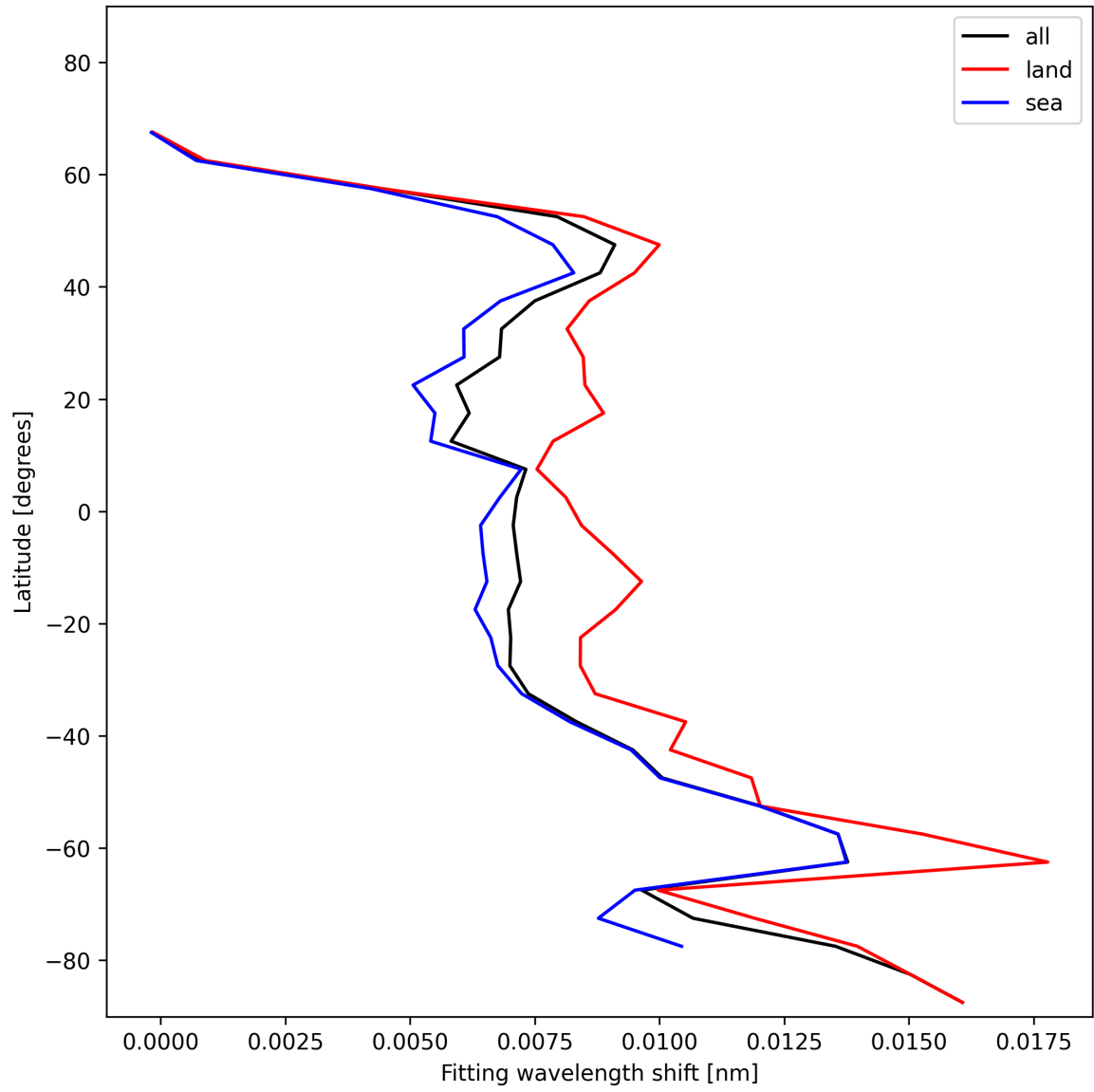


Figure 31: Zonal average of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18.

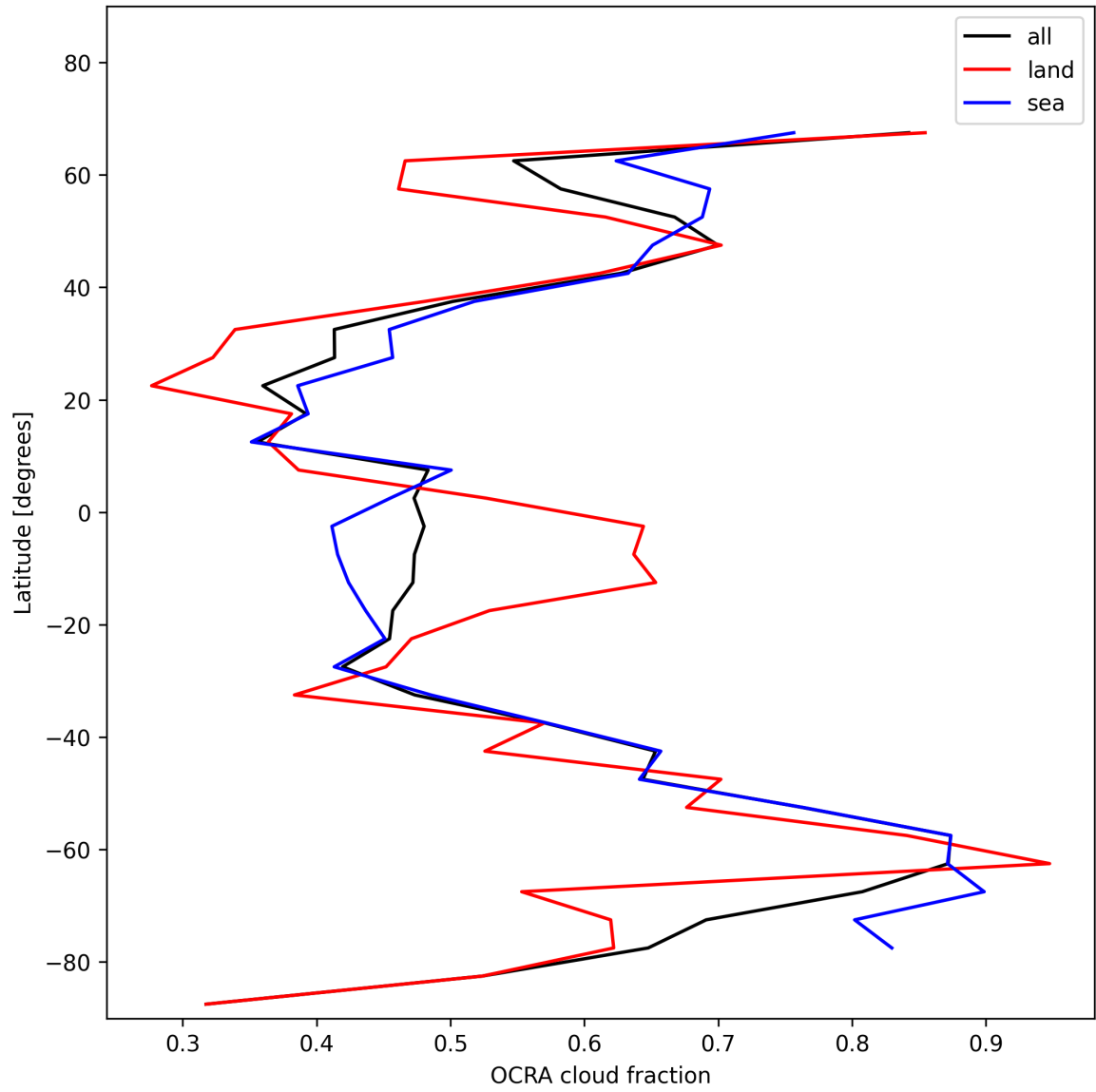


Figure 32: Zonal average of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18.

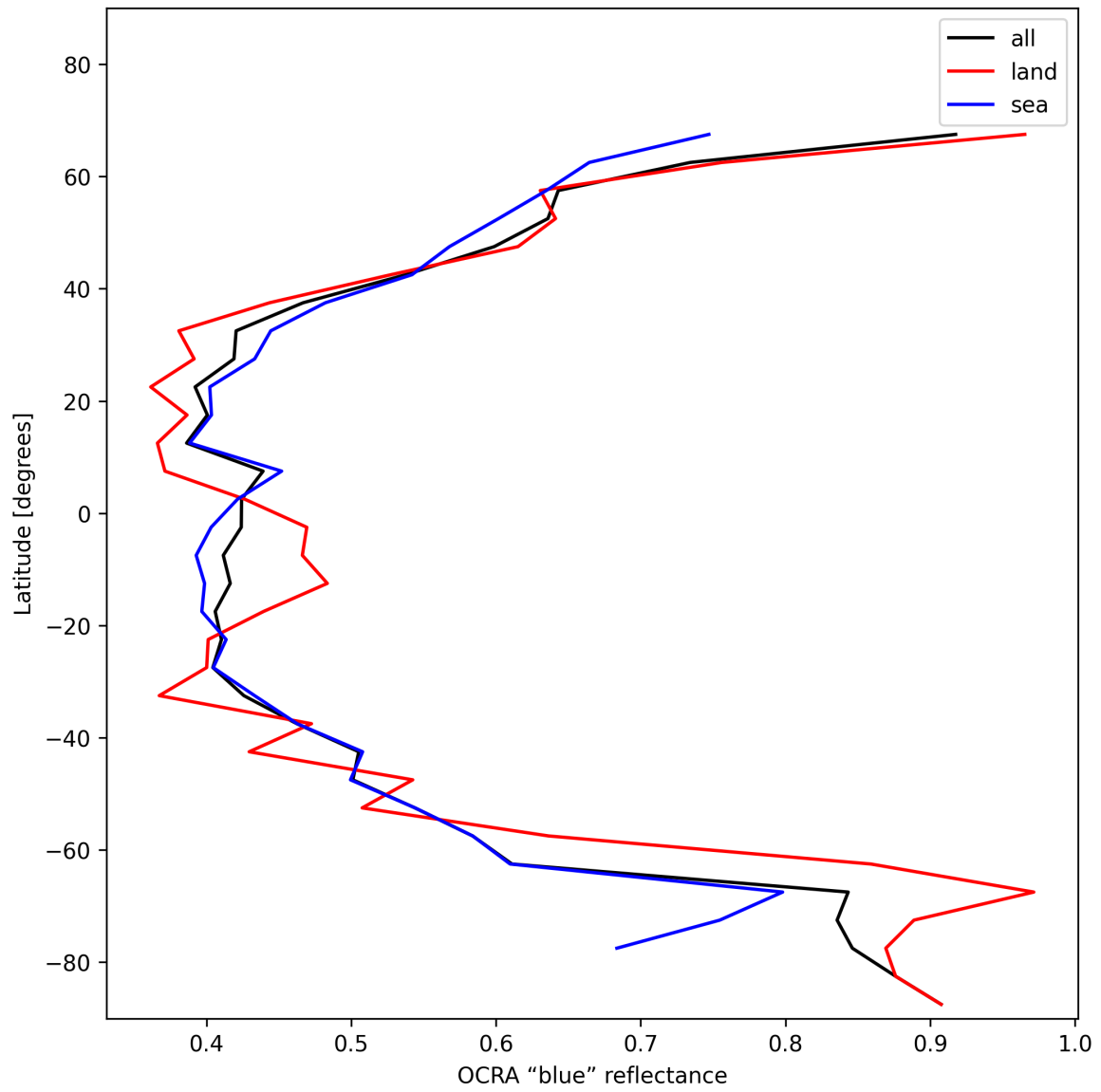


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18.

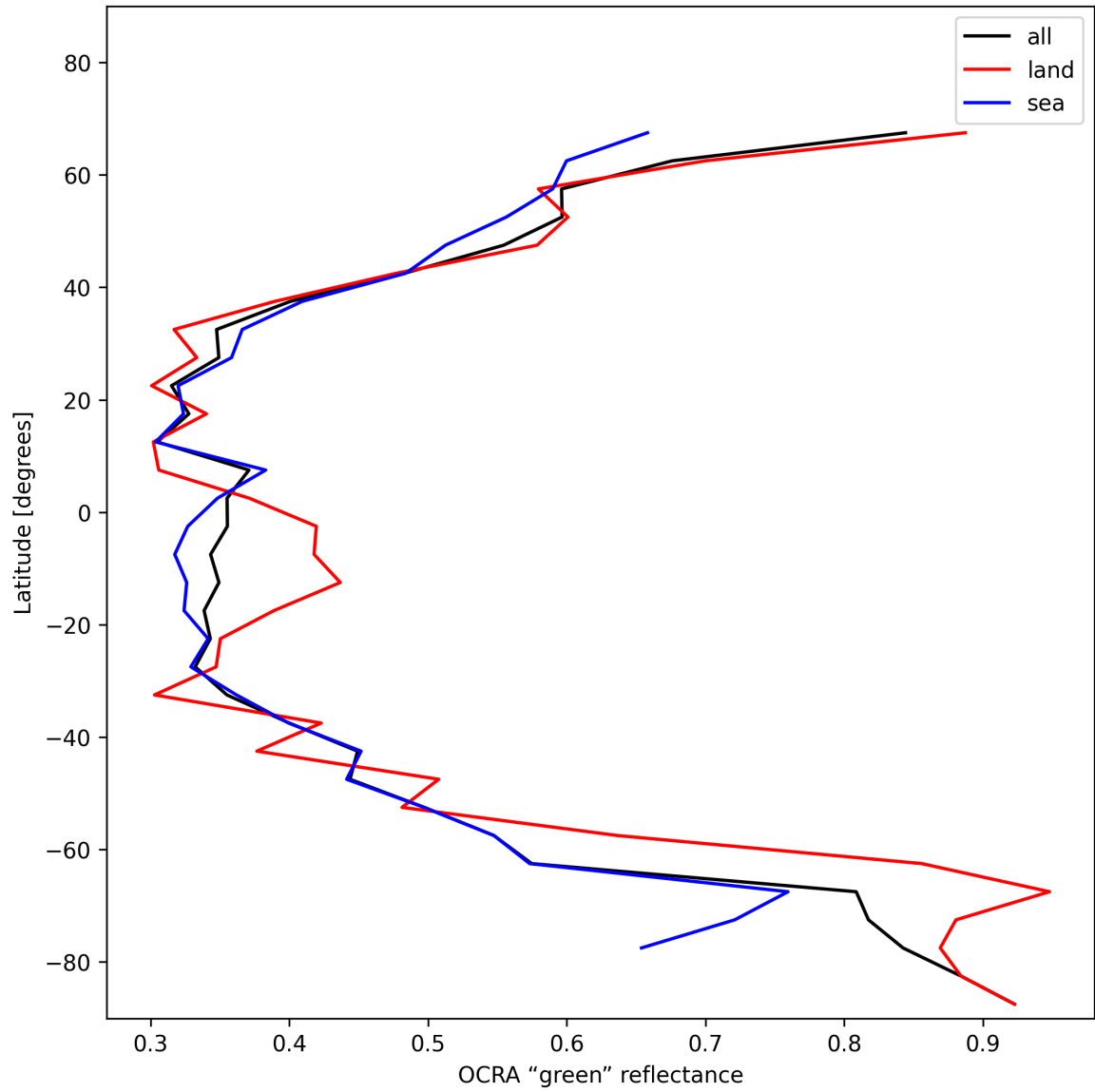


Figure 34: Zonal average of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18.

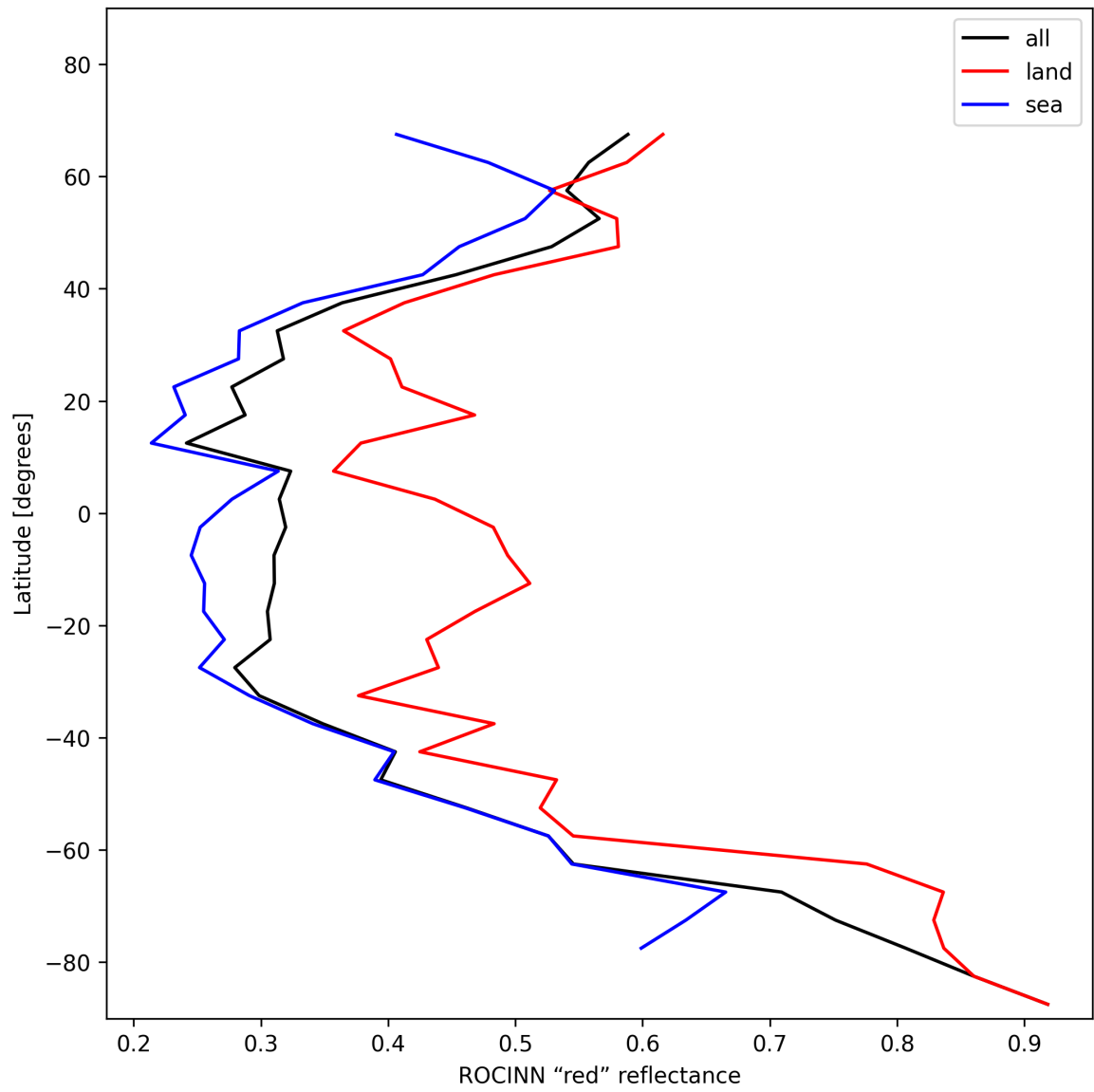


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18.

8 Histograms

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

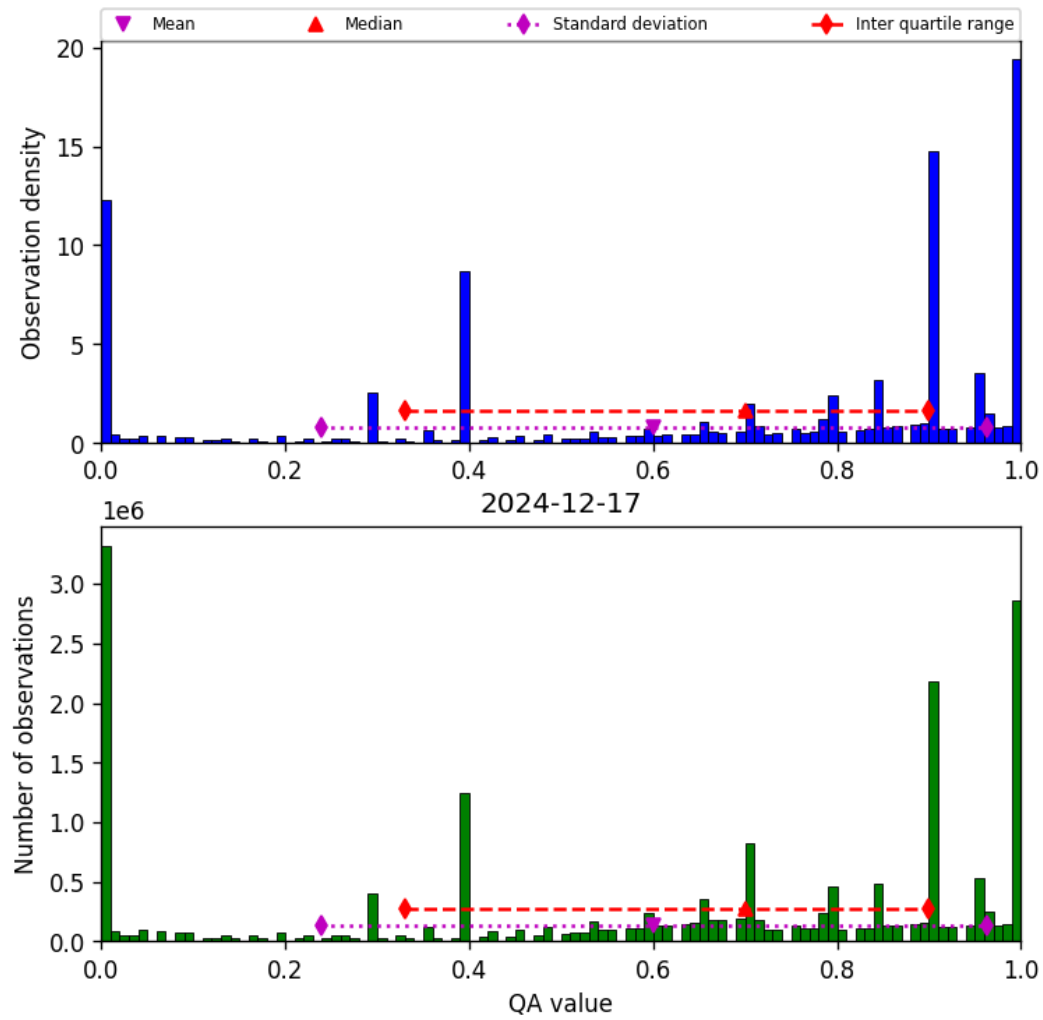


Figure 36: Histogram of “QA value” for 2024-12-17 to 2024-12-18

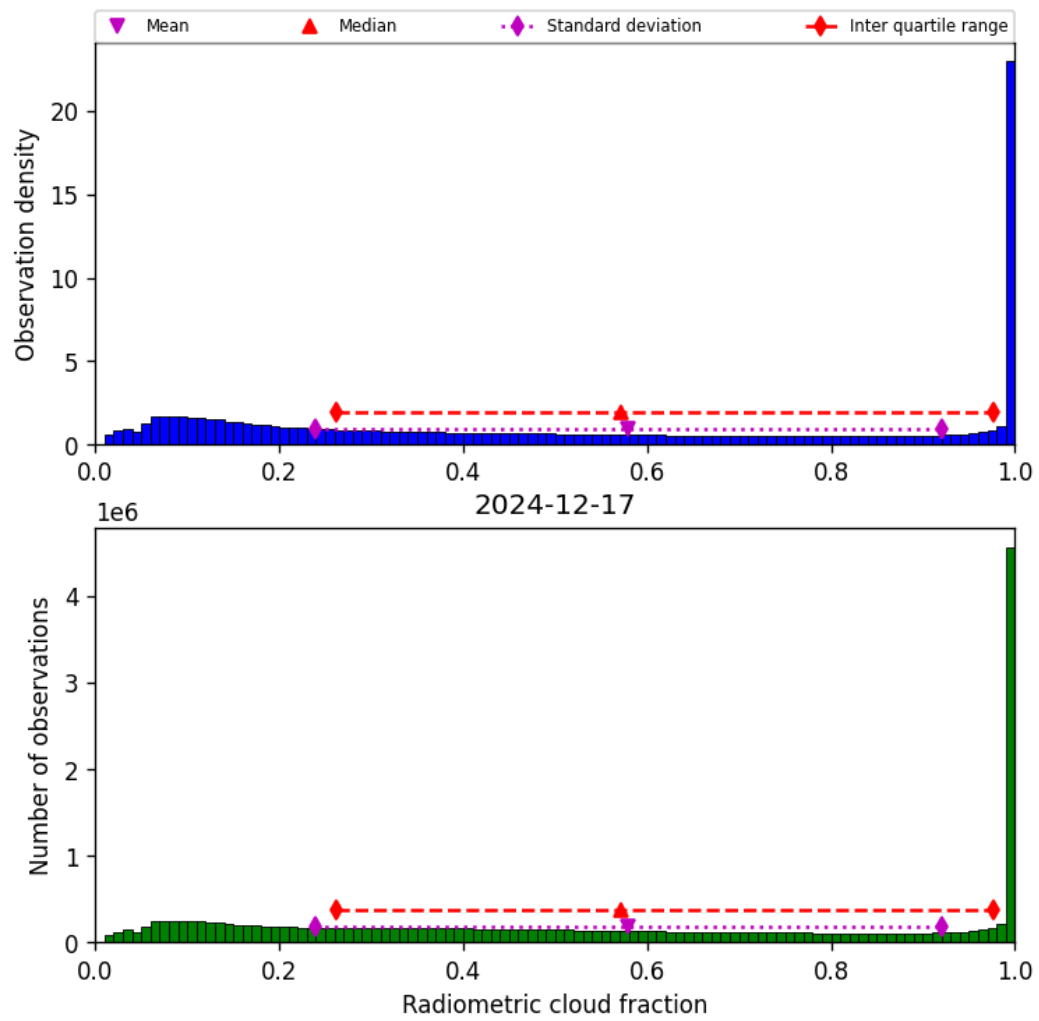


Figure 37: Histogram of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18

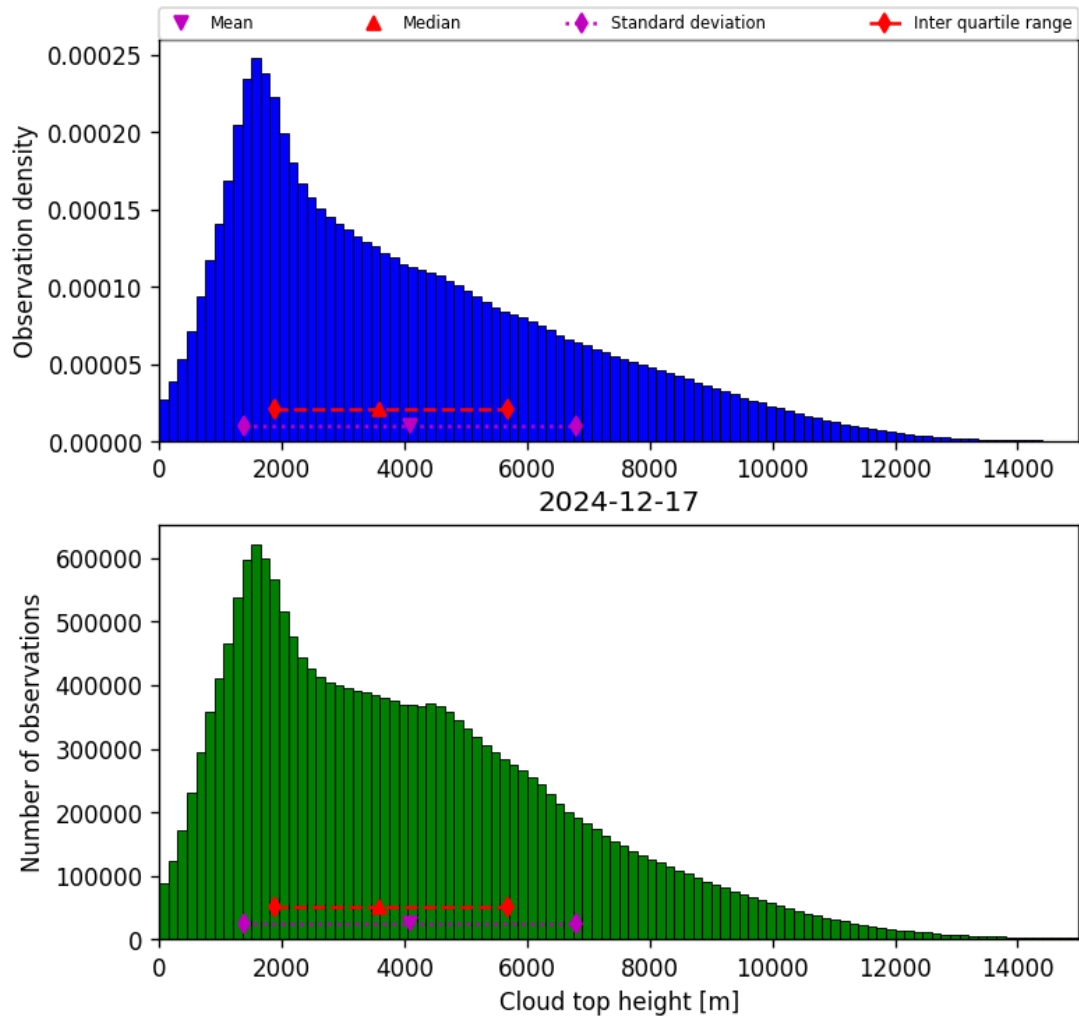


Figure 38: Histogram of “Cloud top height” for 2024-12-17 to 2024-12-18

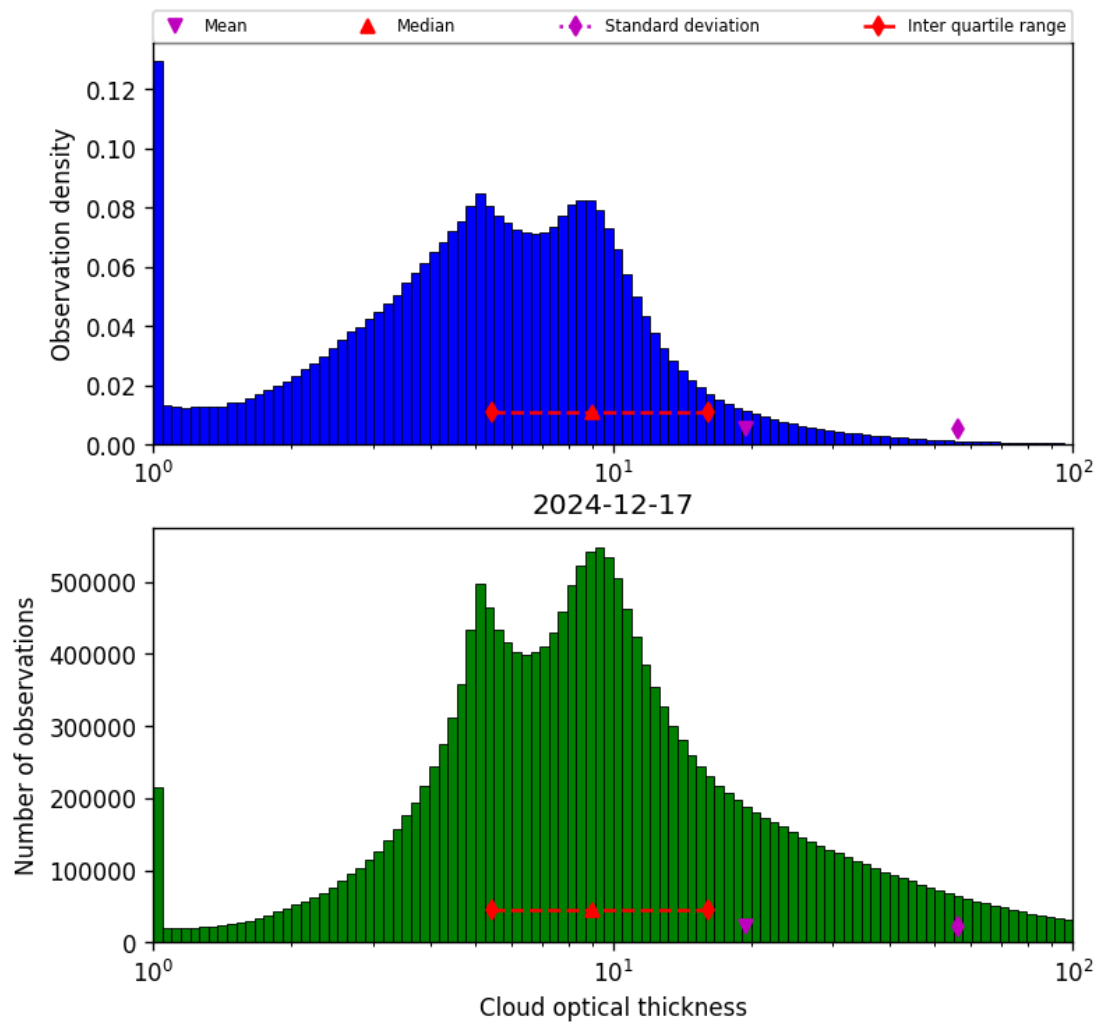


Figure 39: Histogram of “Cloud optical thickness” for 2024-12-17 to 2024-12-18

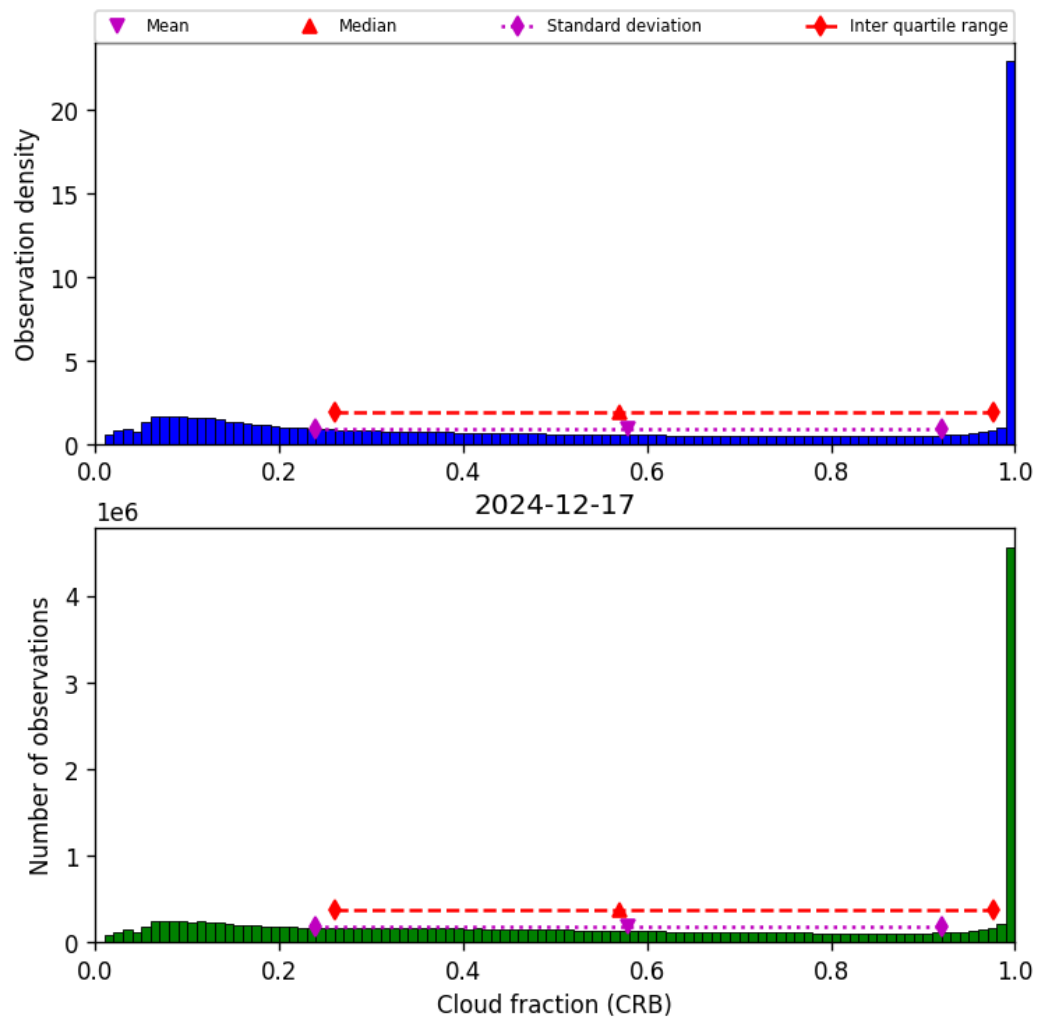


Figure 40: Histogram of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18

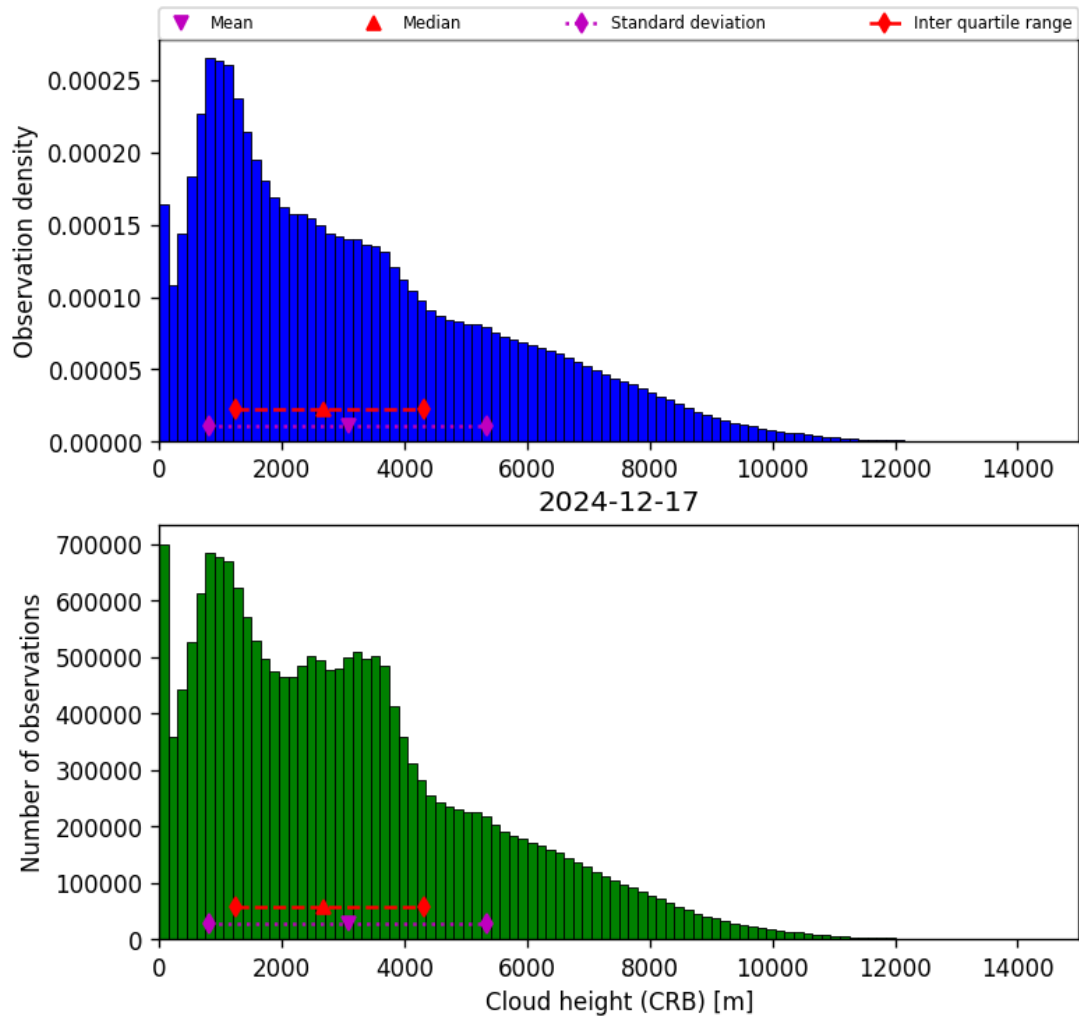


Figure 41: Histogram of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18

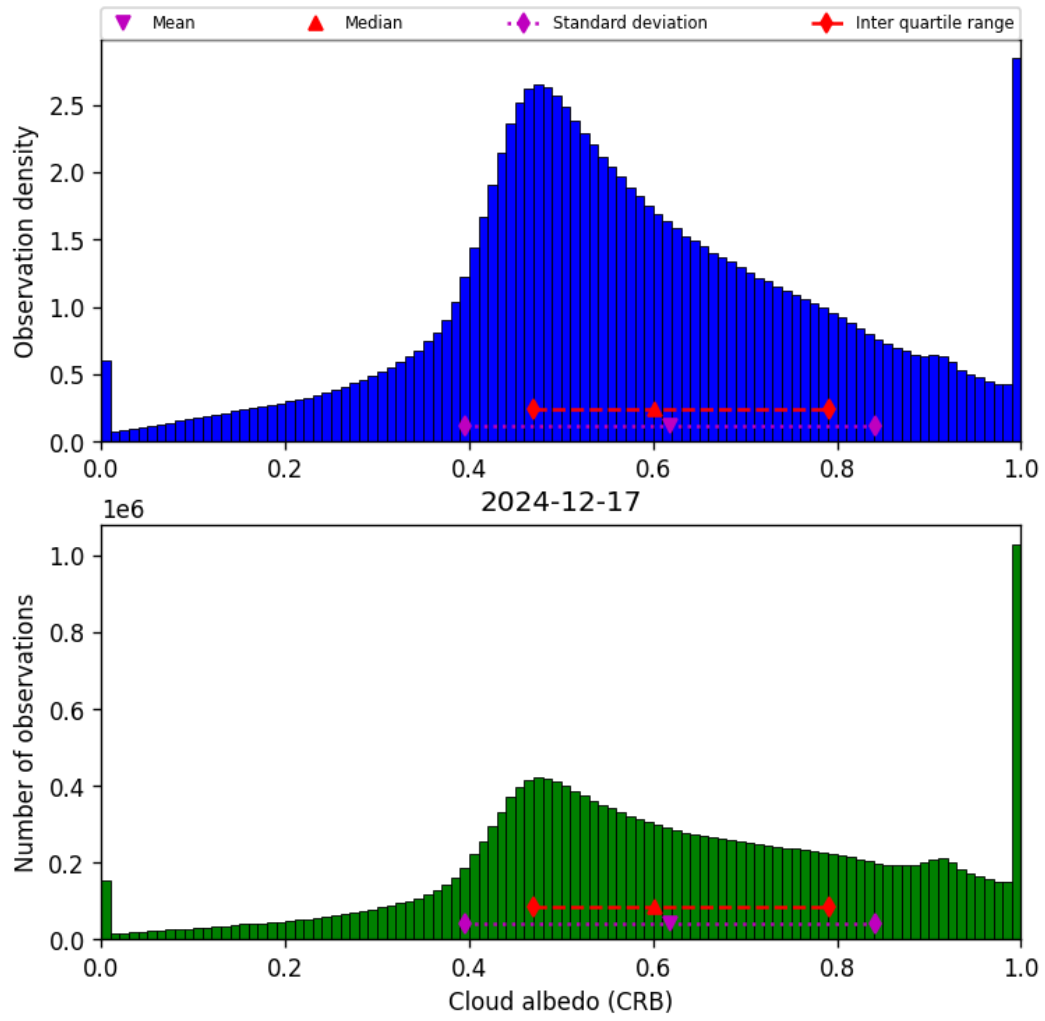


Figure 42: Histogram of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18

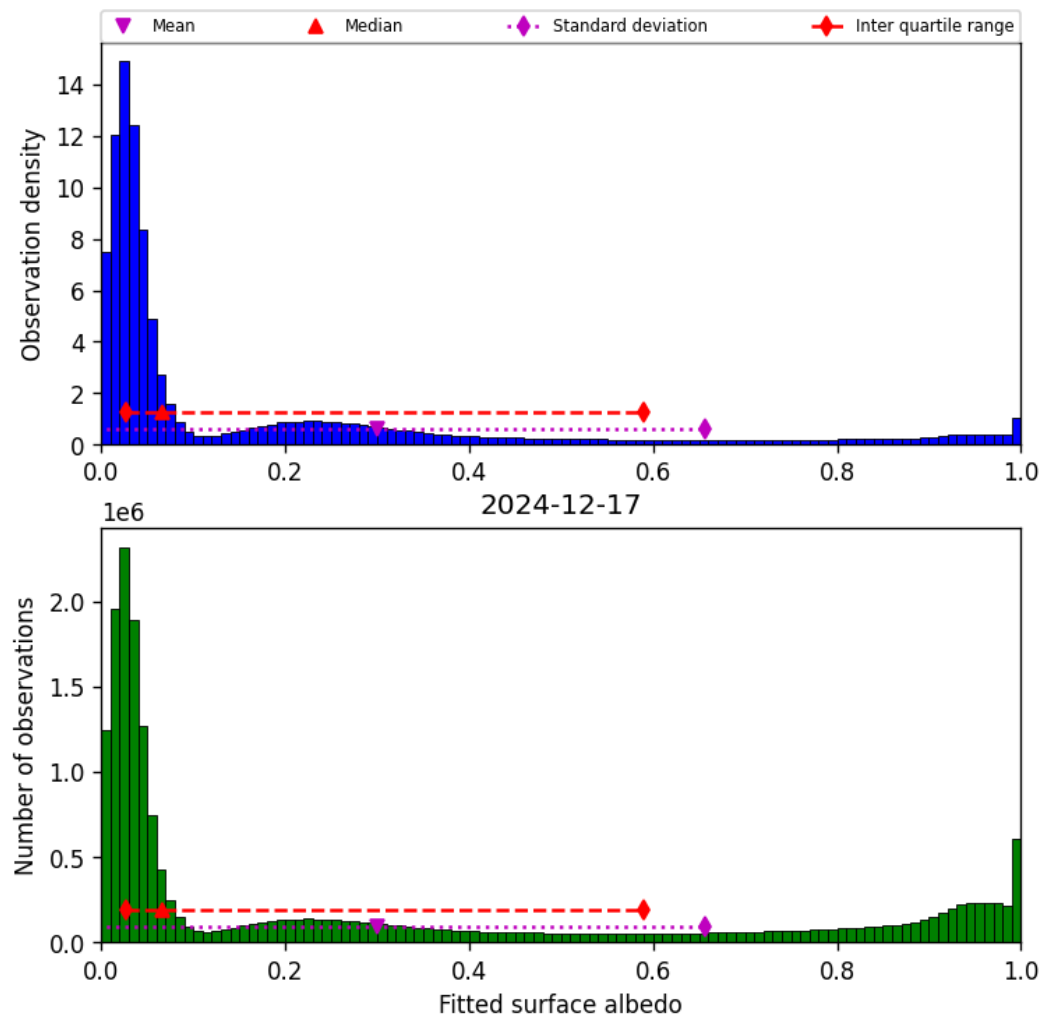


Figure 43: Histogram of “Fitted surface albedo” for 2024-12-17 to 2024-12-18

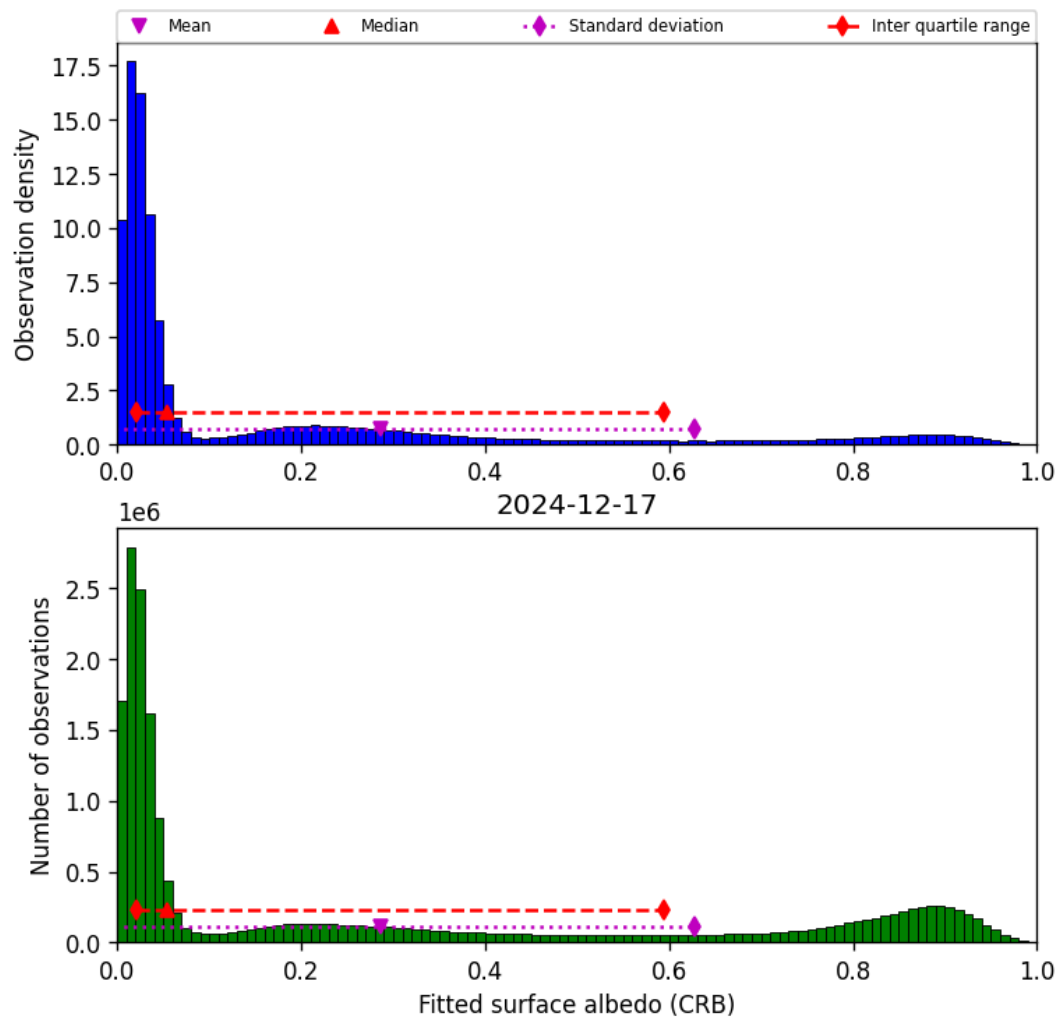


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18

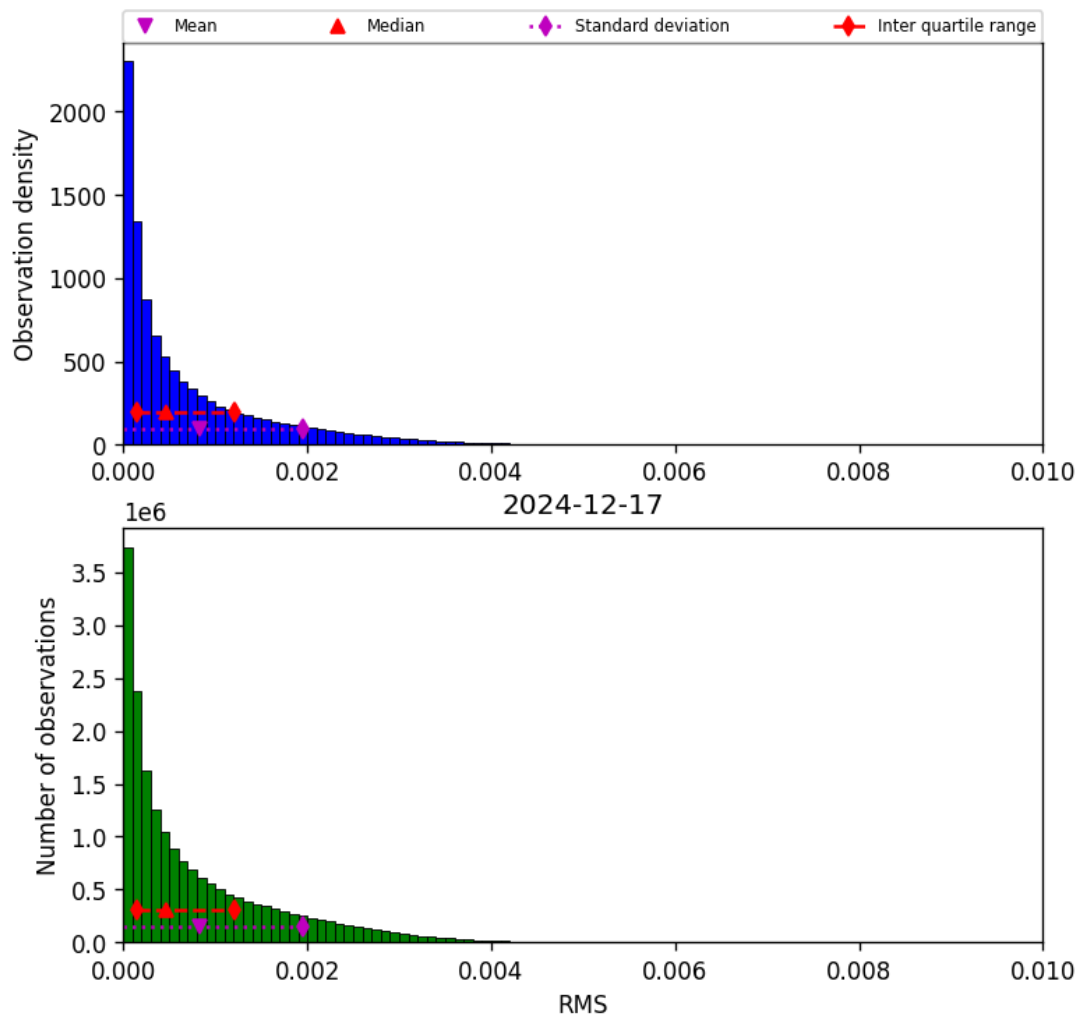


Figure 45: Histogram of “RMS” for 2024-12-17 to 2024-12-18

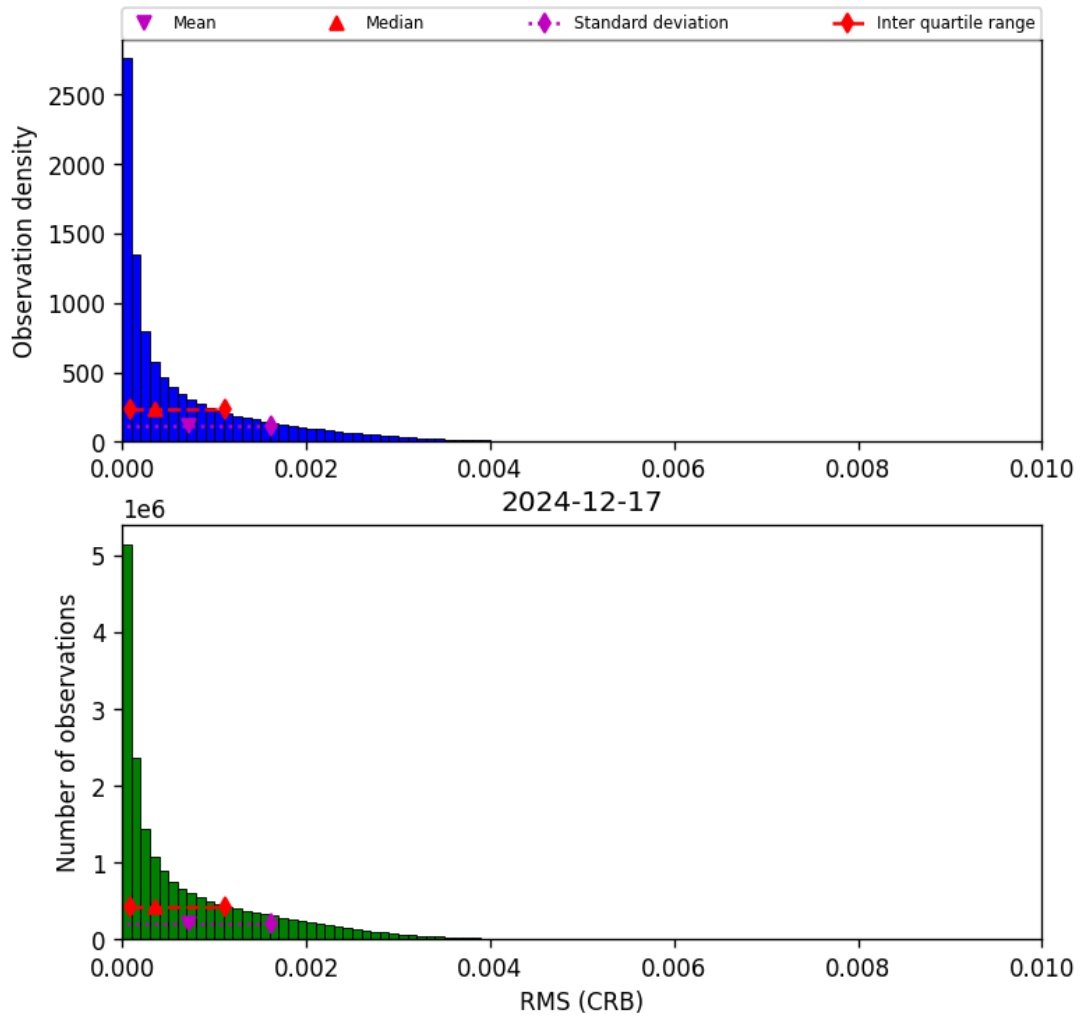


Figure 46: Histogram of “RMS (CRB)” for 2024-12-17 to 2024-12-18

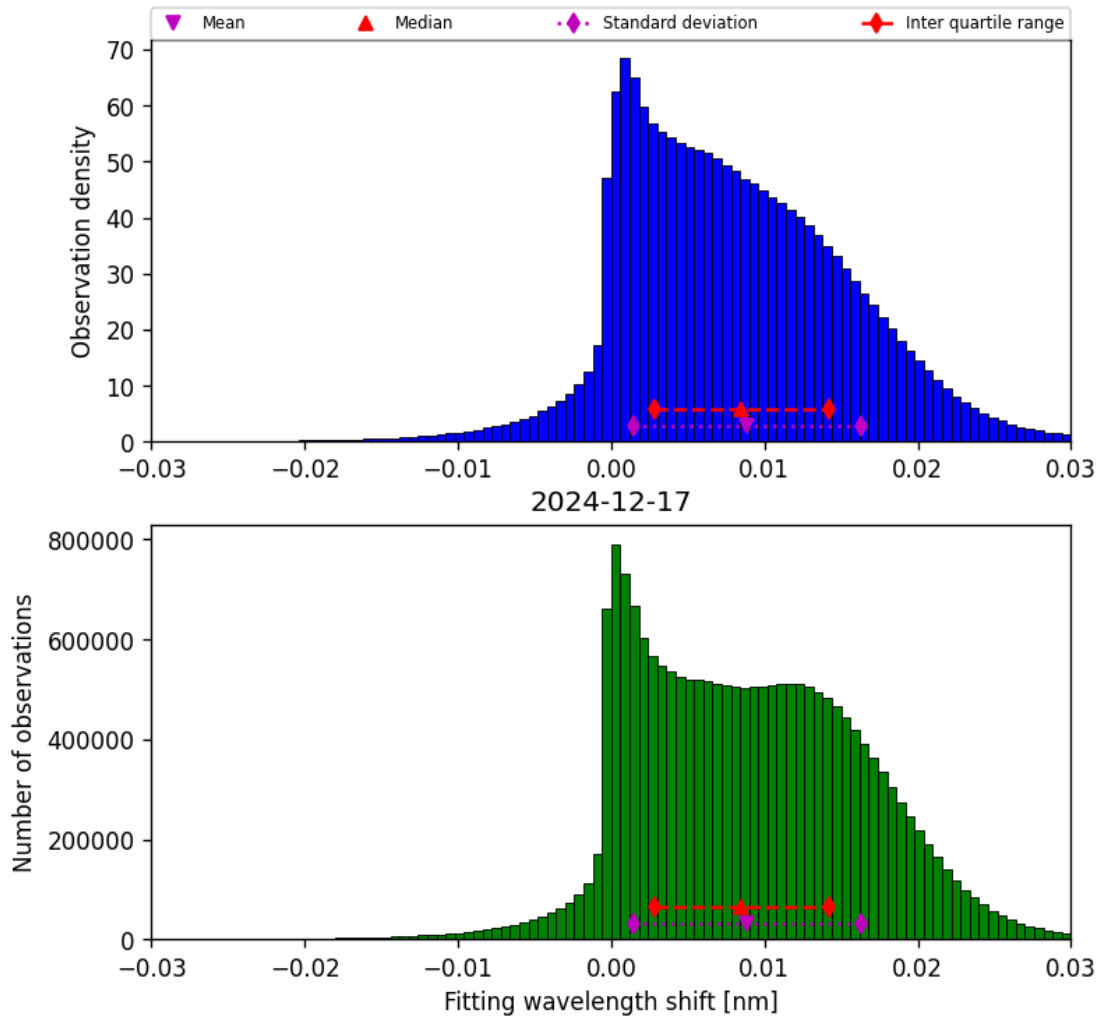


Figure 47: Histogram of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18

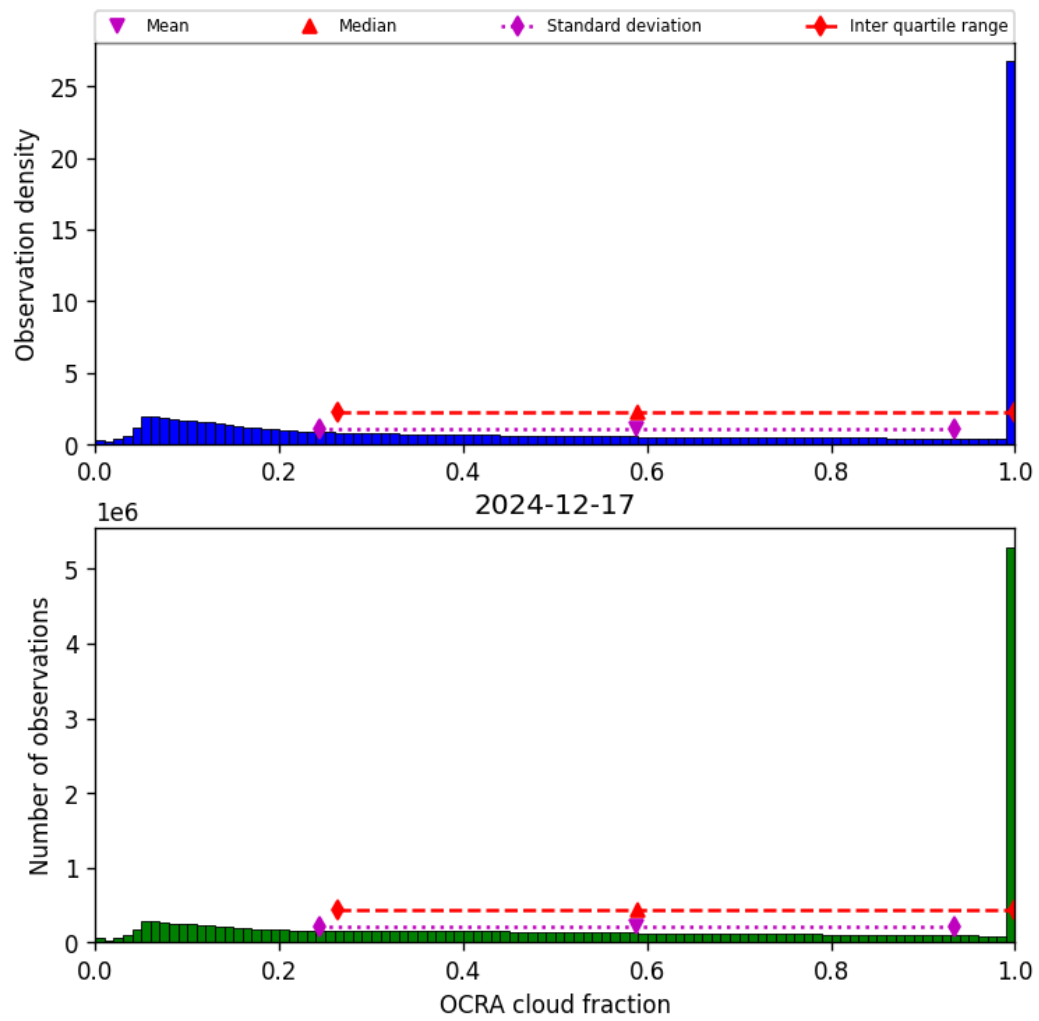


Figure 48: Histogram of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18

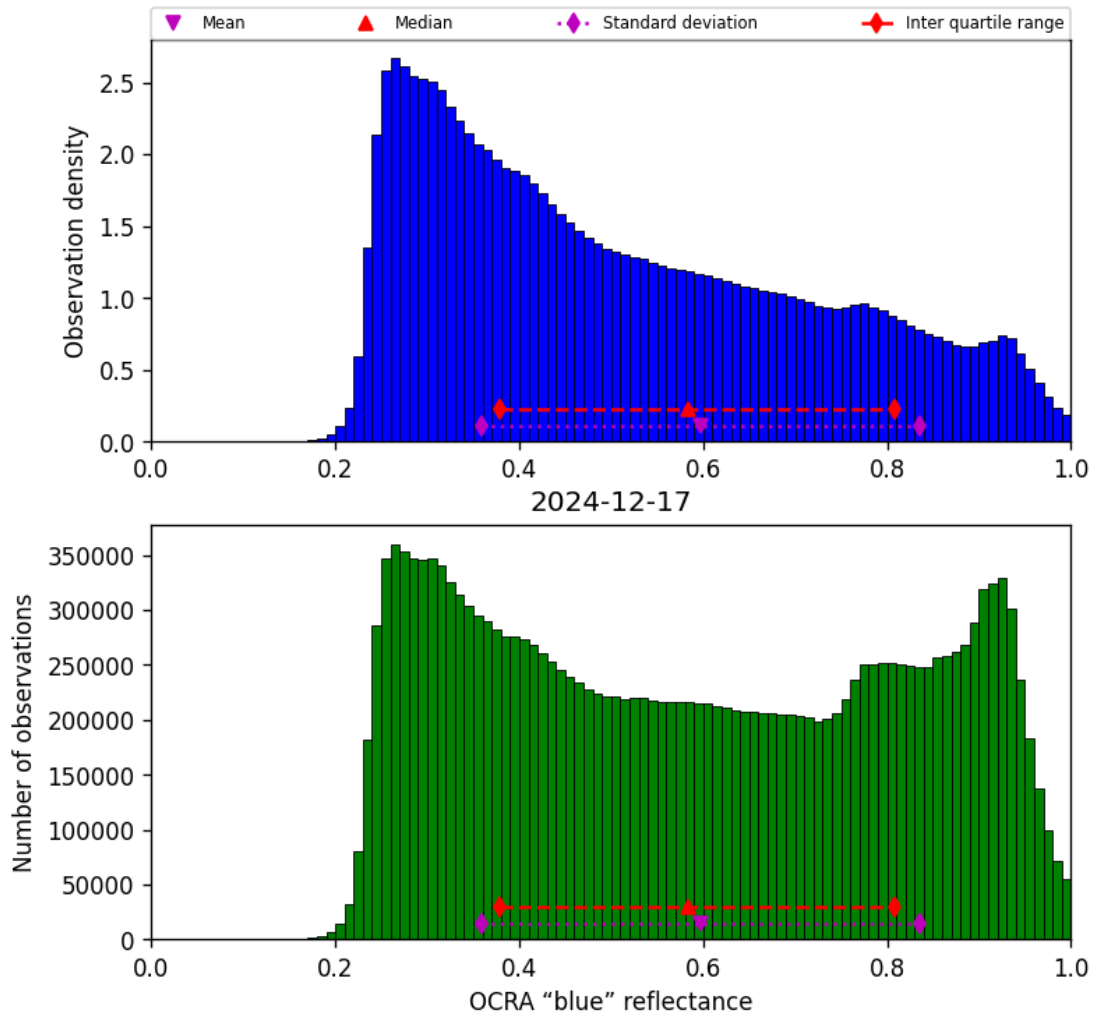


Figure 49: Histogram of "OCRA "blue" reflectance" for 2024-12-17 to 2024-12-18

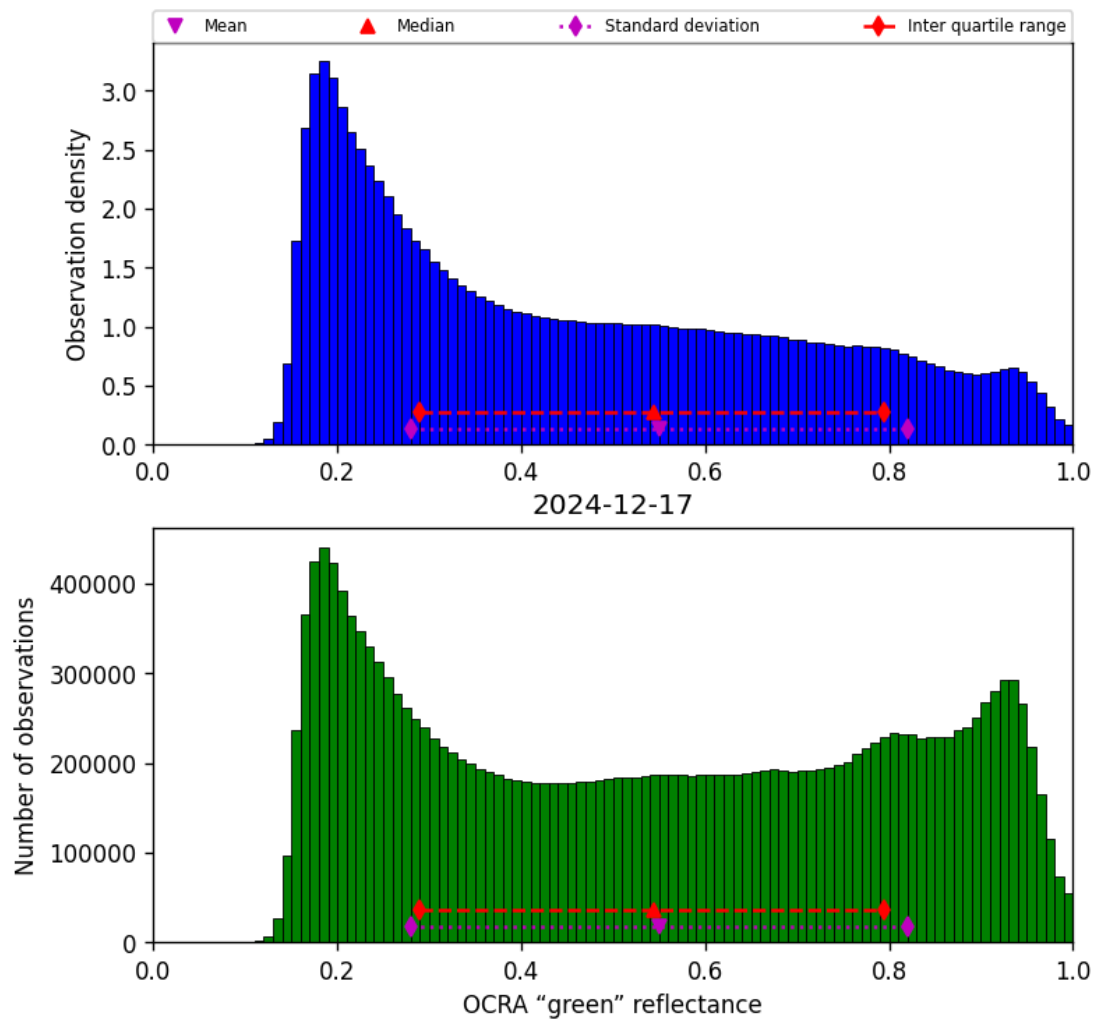


Figure 50: Histogram of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18

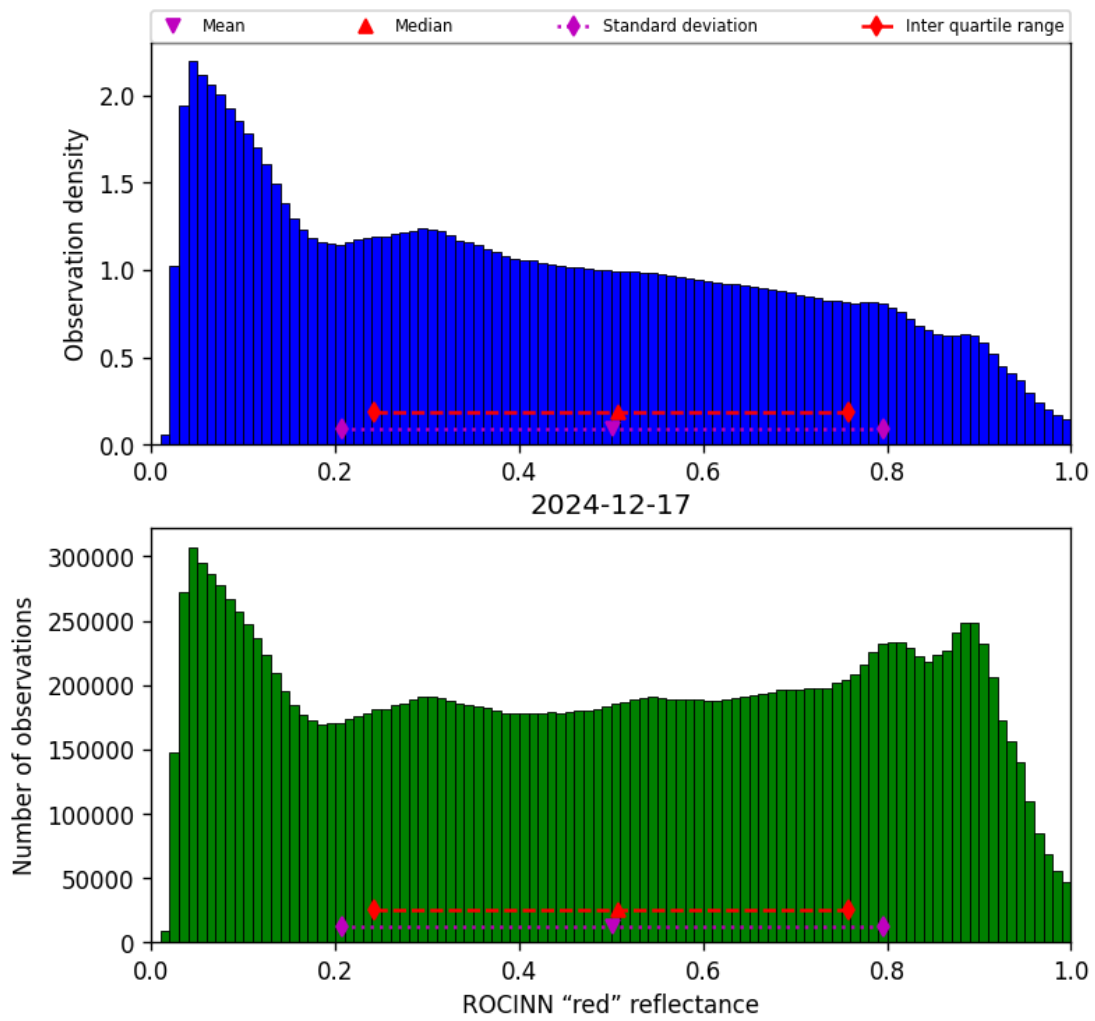


Figure 51: Histogram of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18

9 Along track statistics

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

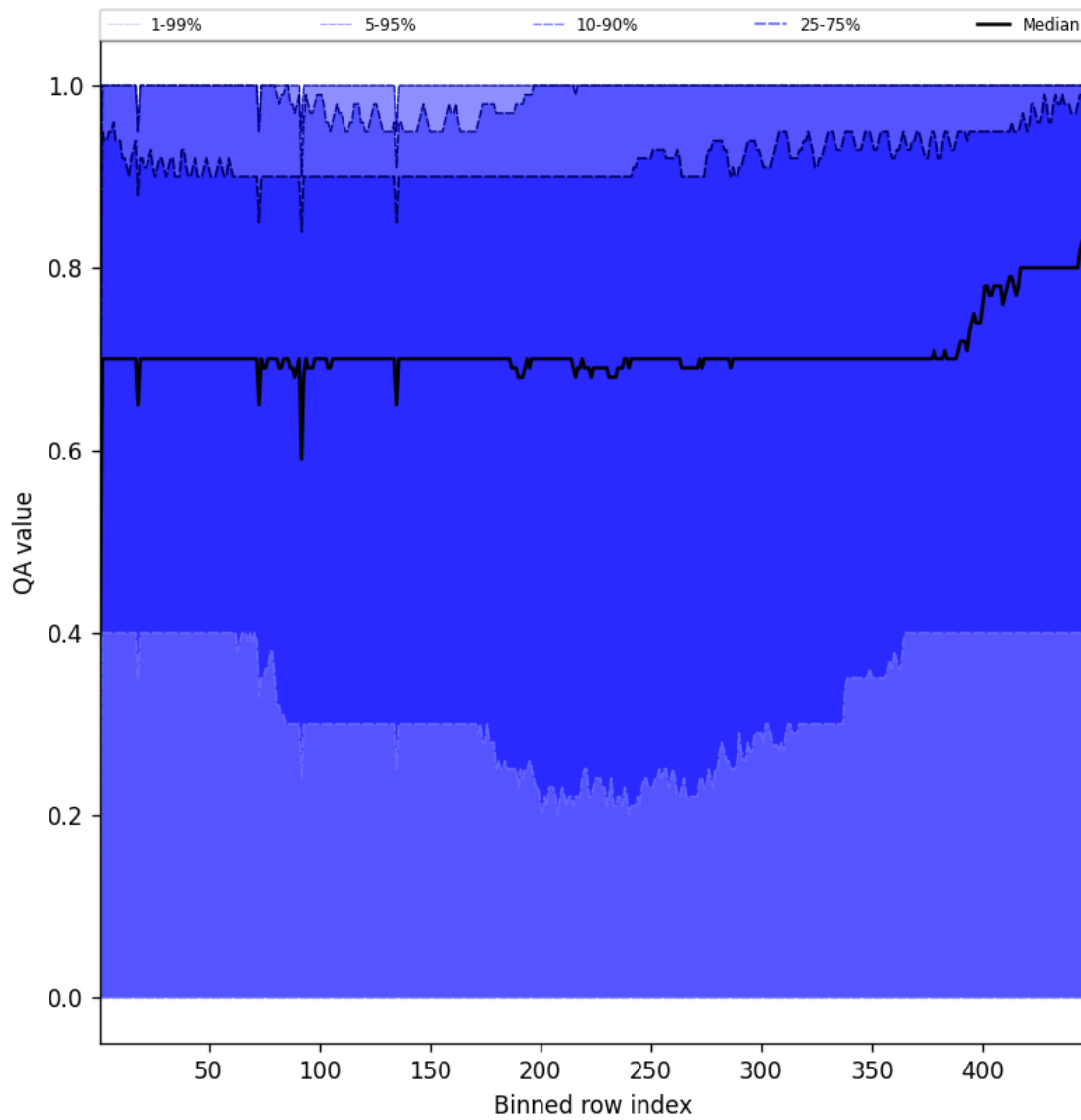


Figure 52: Along track statistics of “QA value” for 2024-12-17 to 2024-12-18

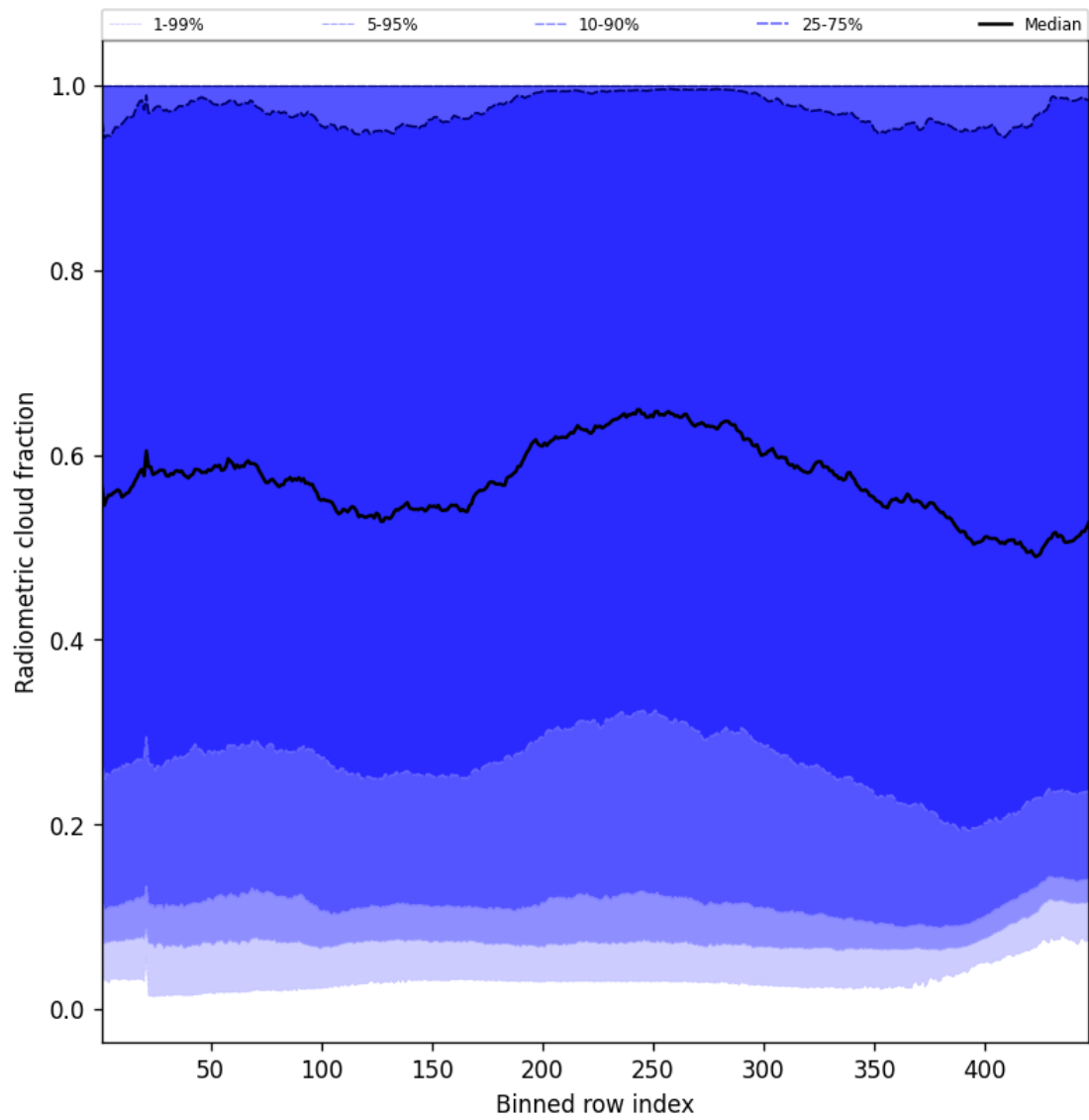


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18

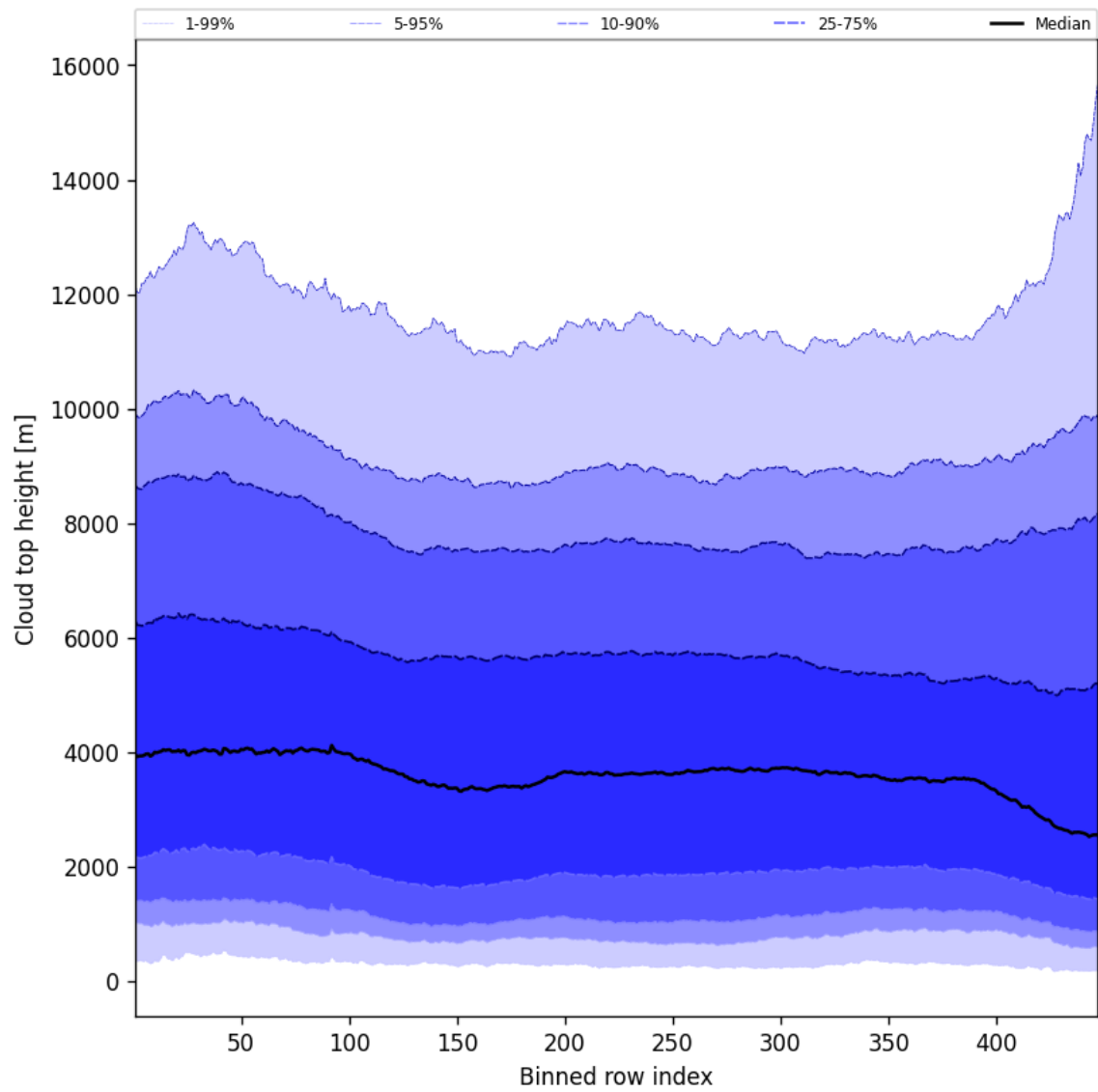


Figure 54: Along track statistics of “Cloud top height” for 2024-12-17 to 2024-12-18

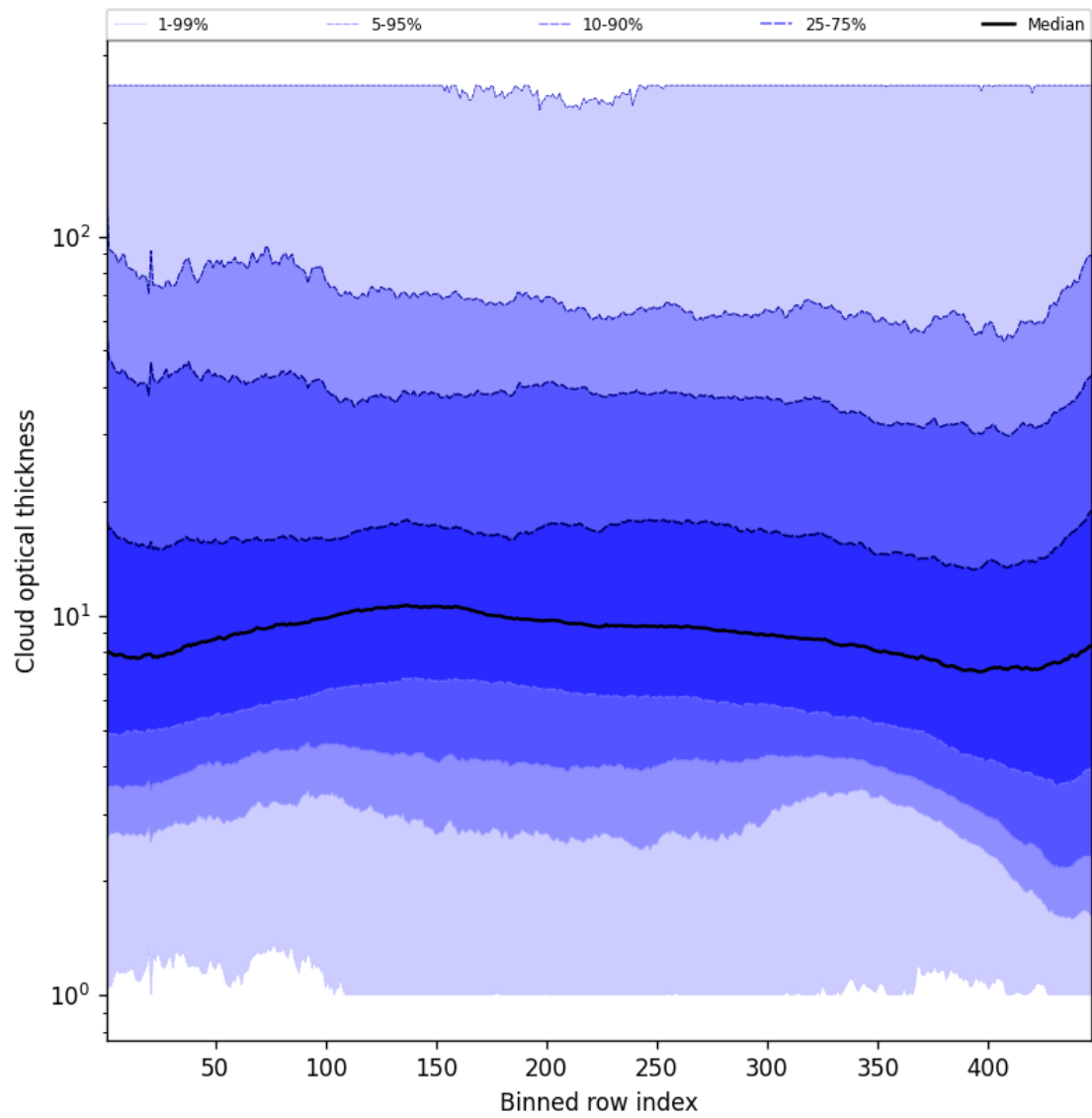


Figure 55: Along track statistics of “Cloud optical thickness” for 2024-12-17 to 2024-12-18

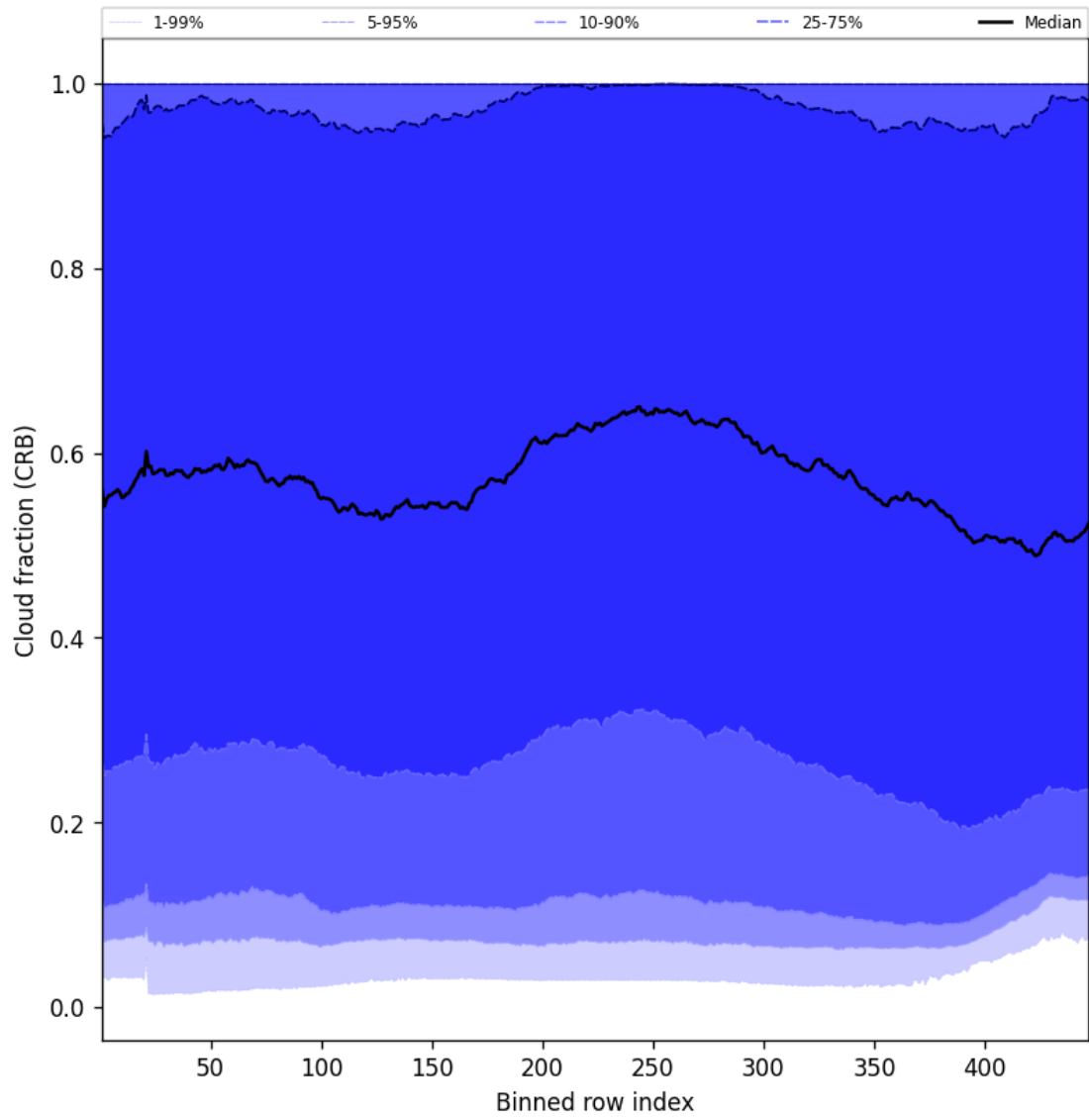


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18

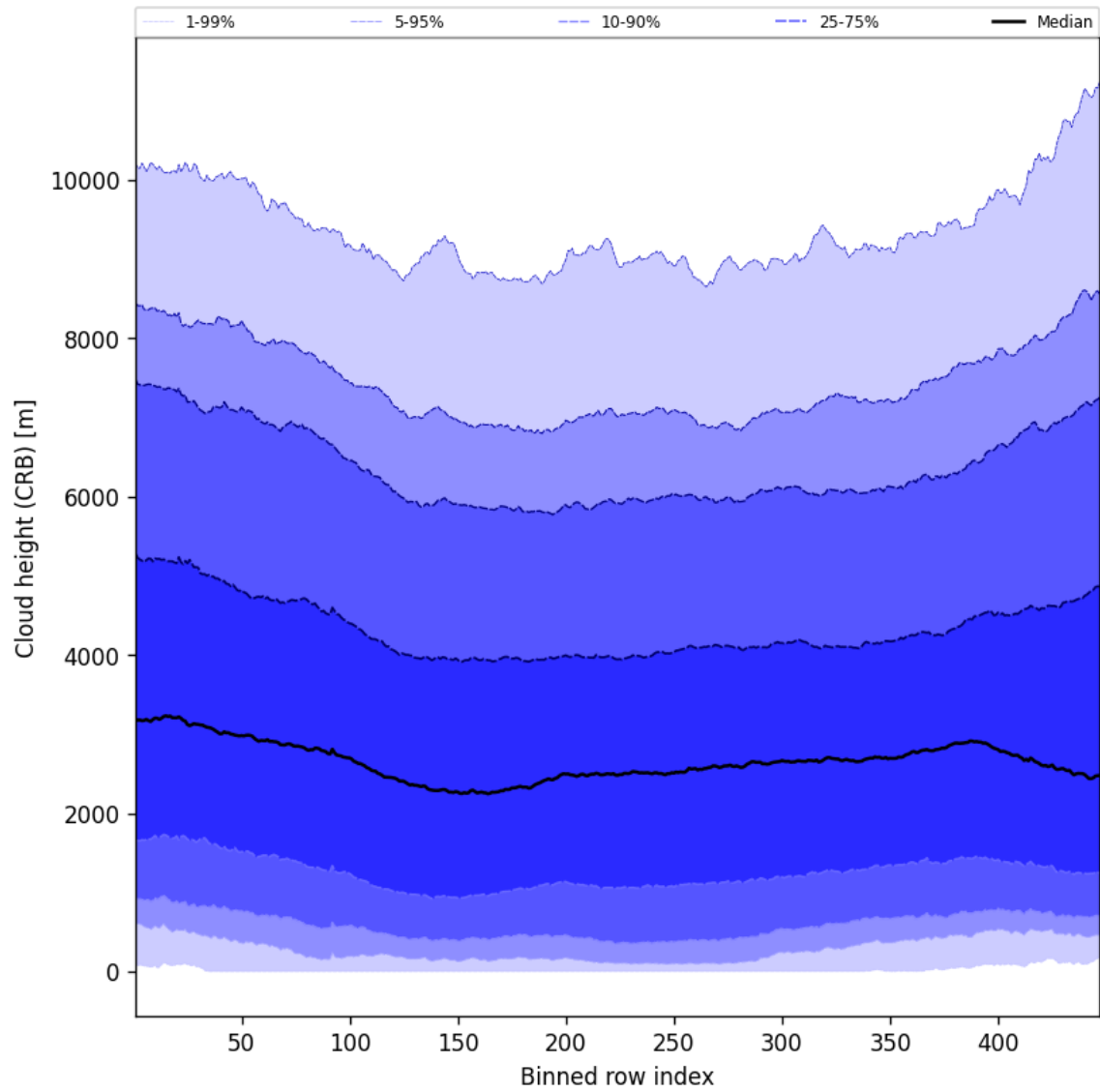


Figure 57: Along track statistics of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18

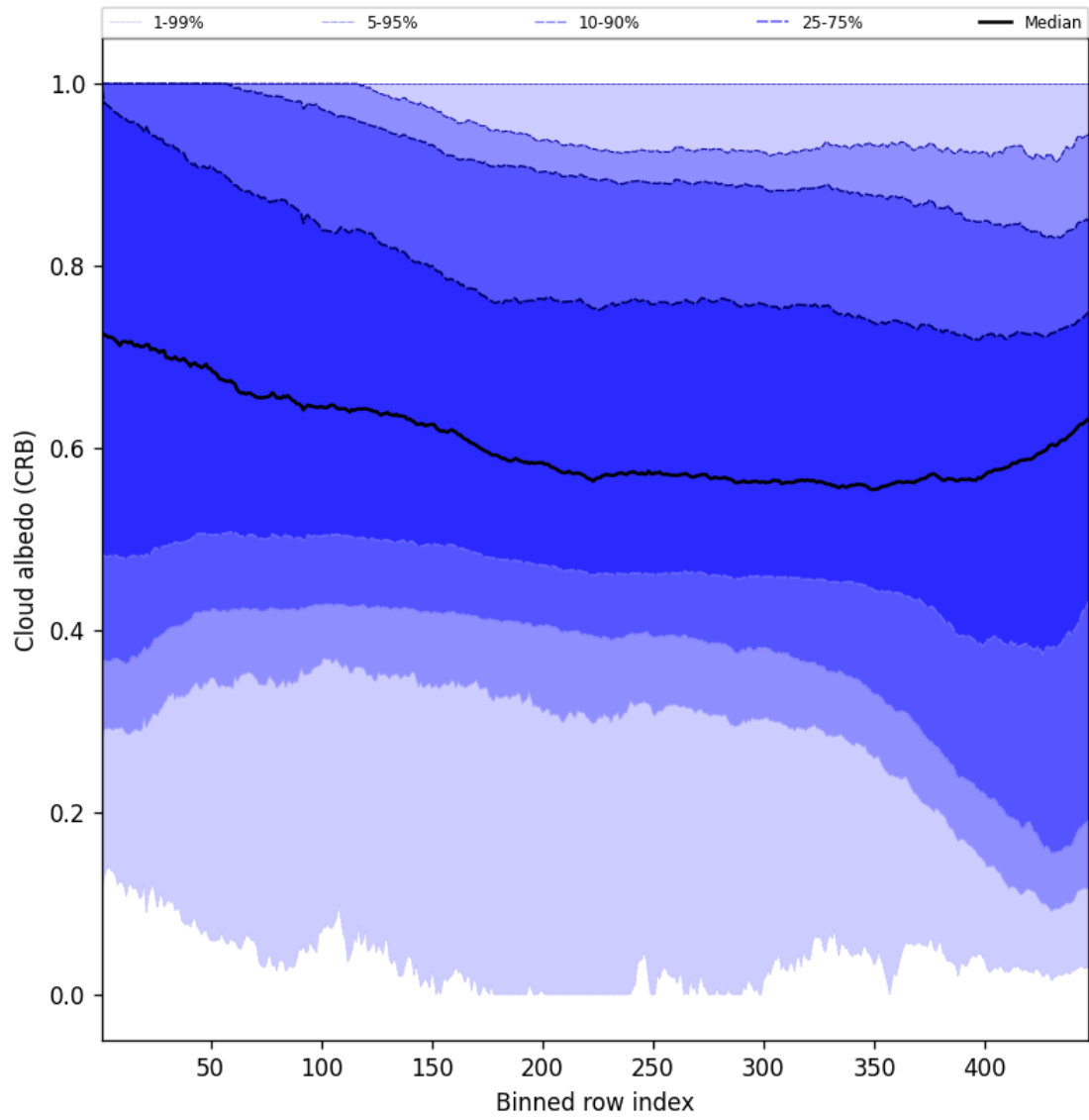


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18

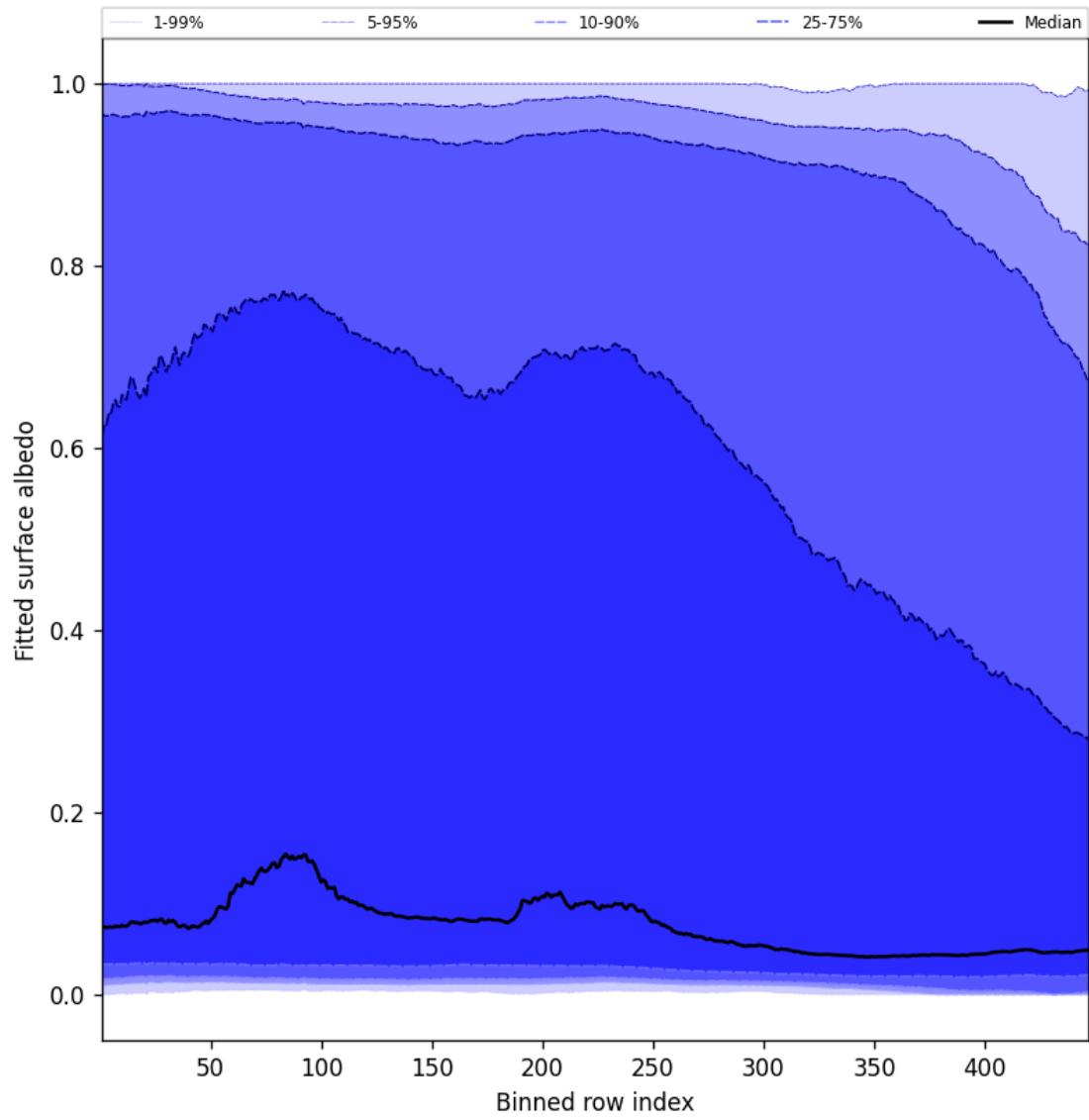


Figure 59: Along track statistics of “Fitted surface albedo” for 2024-12-17 to 2024-12-18

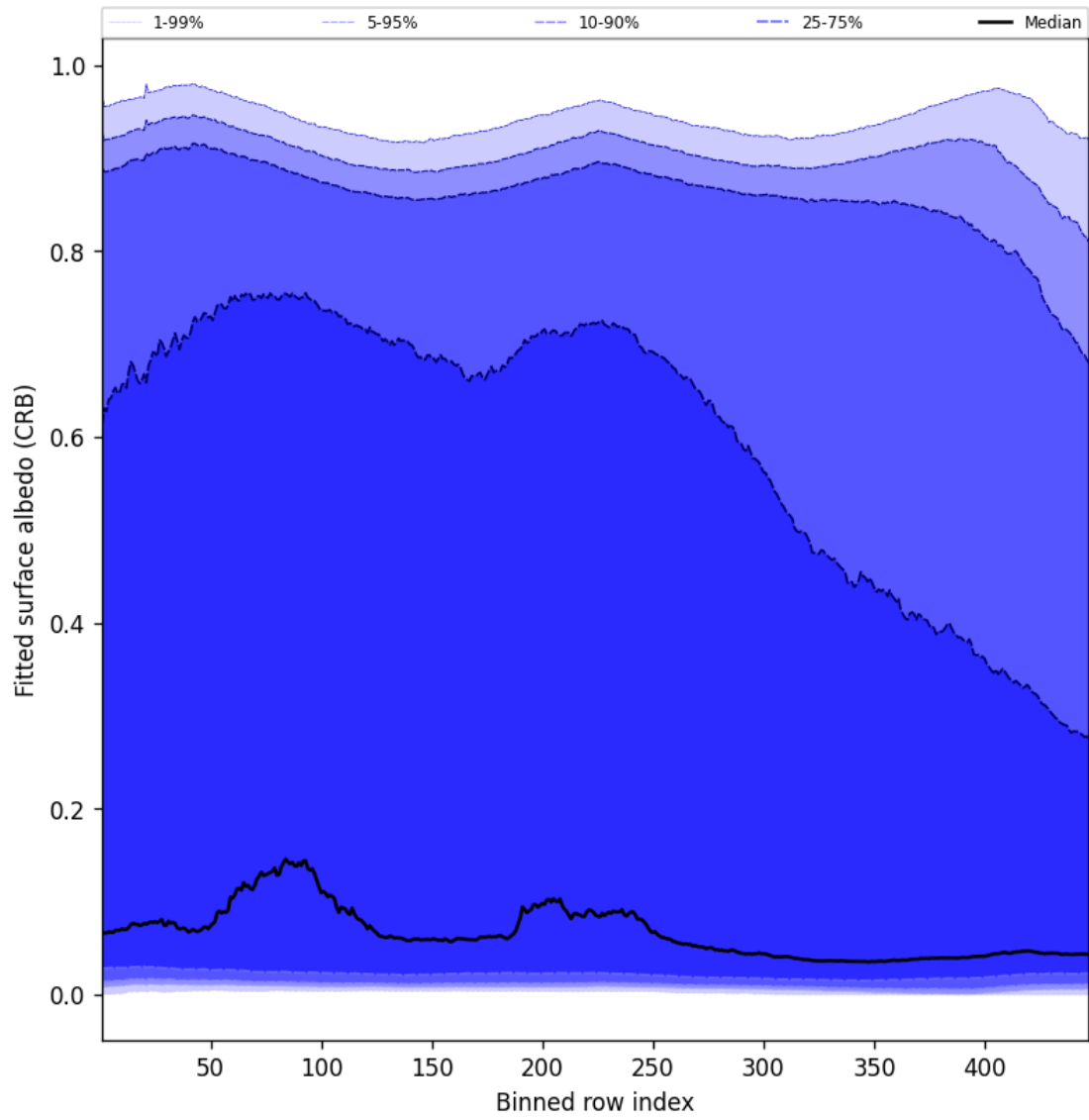


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18

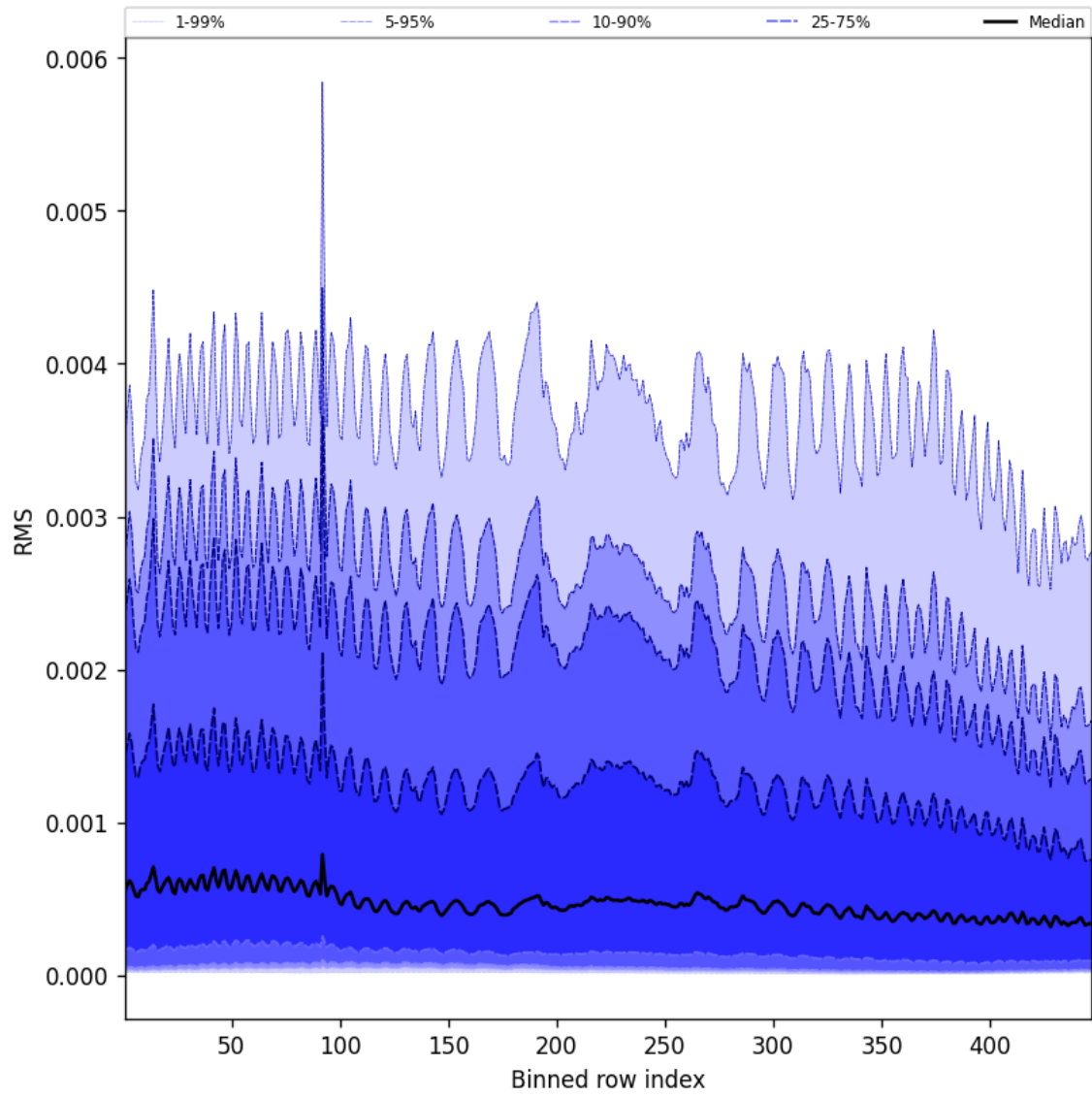


Figure 61: Along track statistics of “RMS” for 2024-12-17 to 2024-12-18

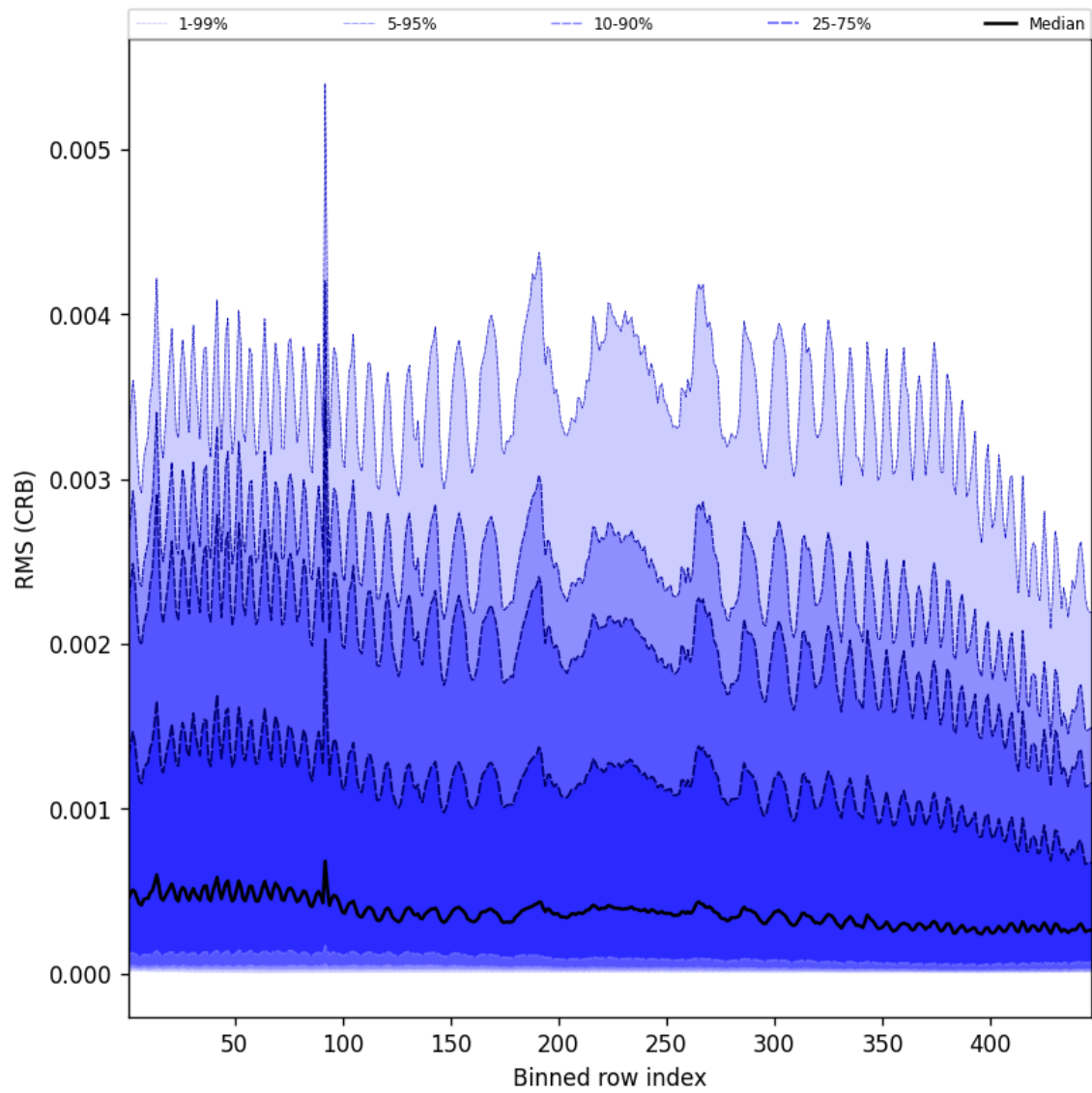


Figure 62: Along track statistics of “RMS (CRB)” for 2024-12-17 to 2024-12-18

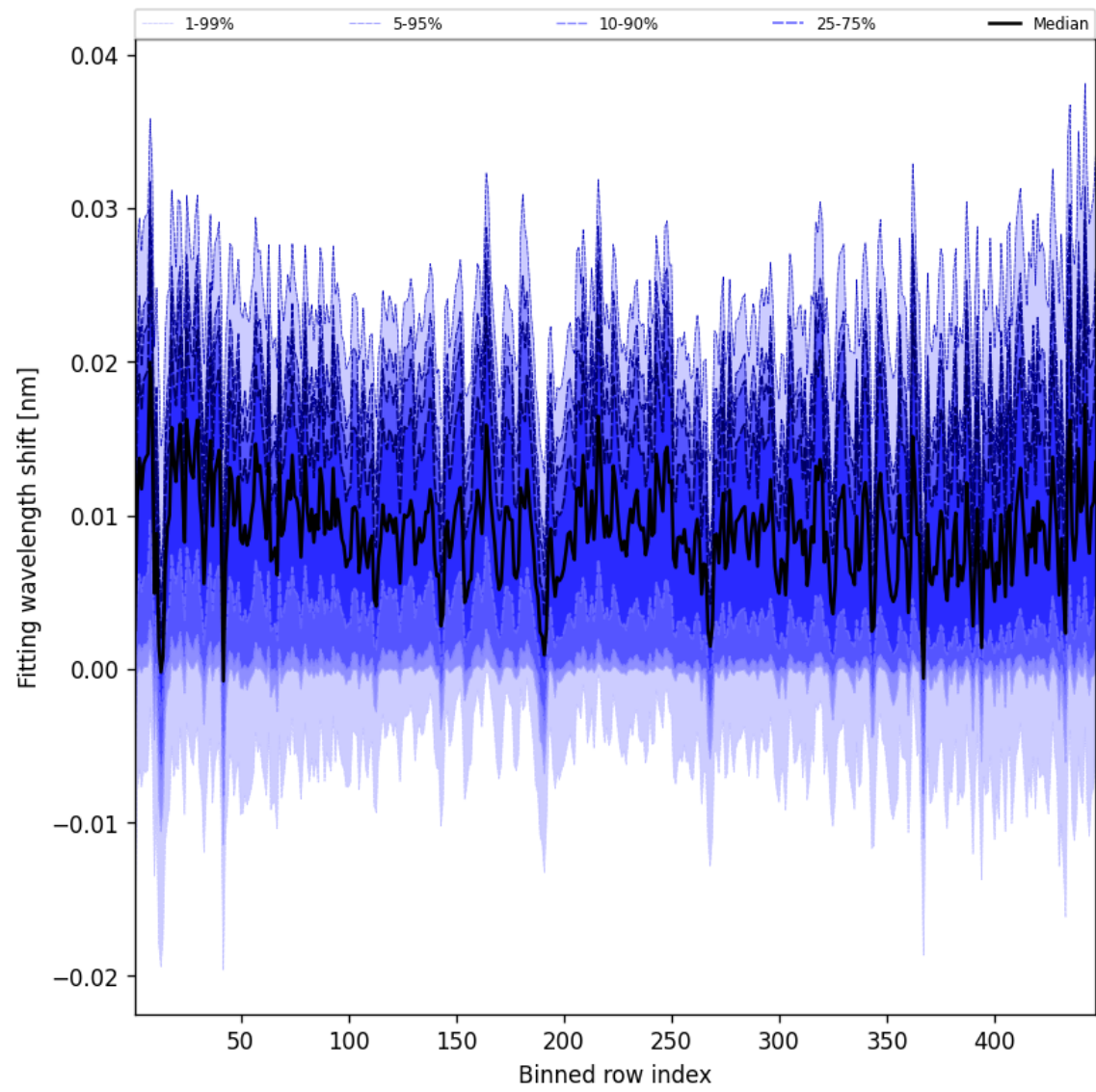


Figure 63: Along track statistics of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18

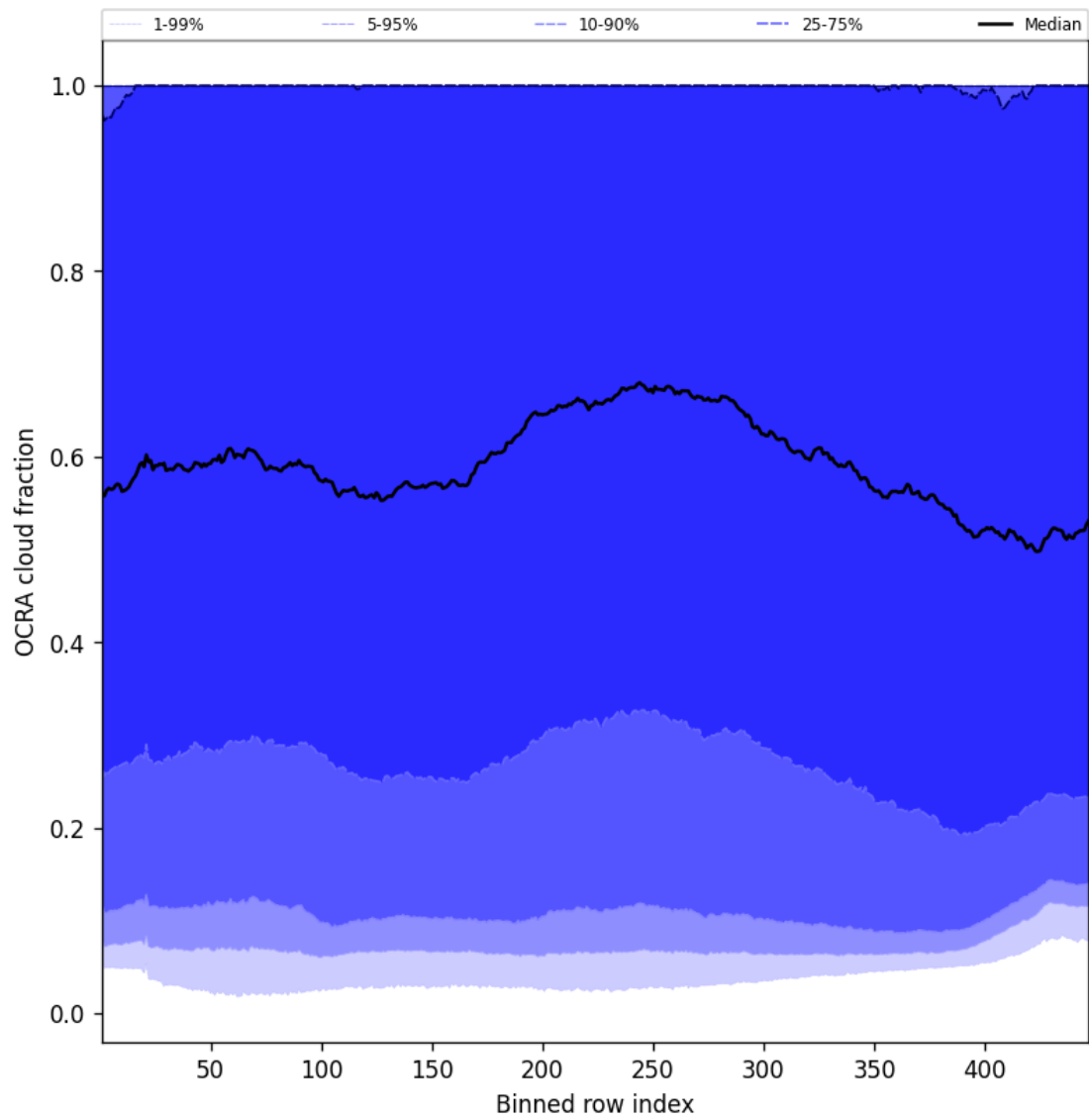


Figure 64: Along track statistics of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18

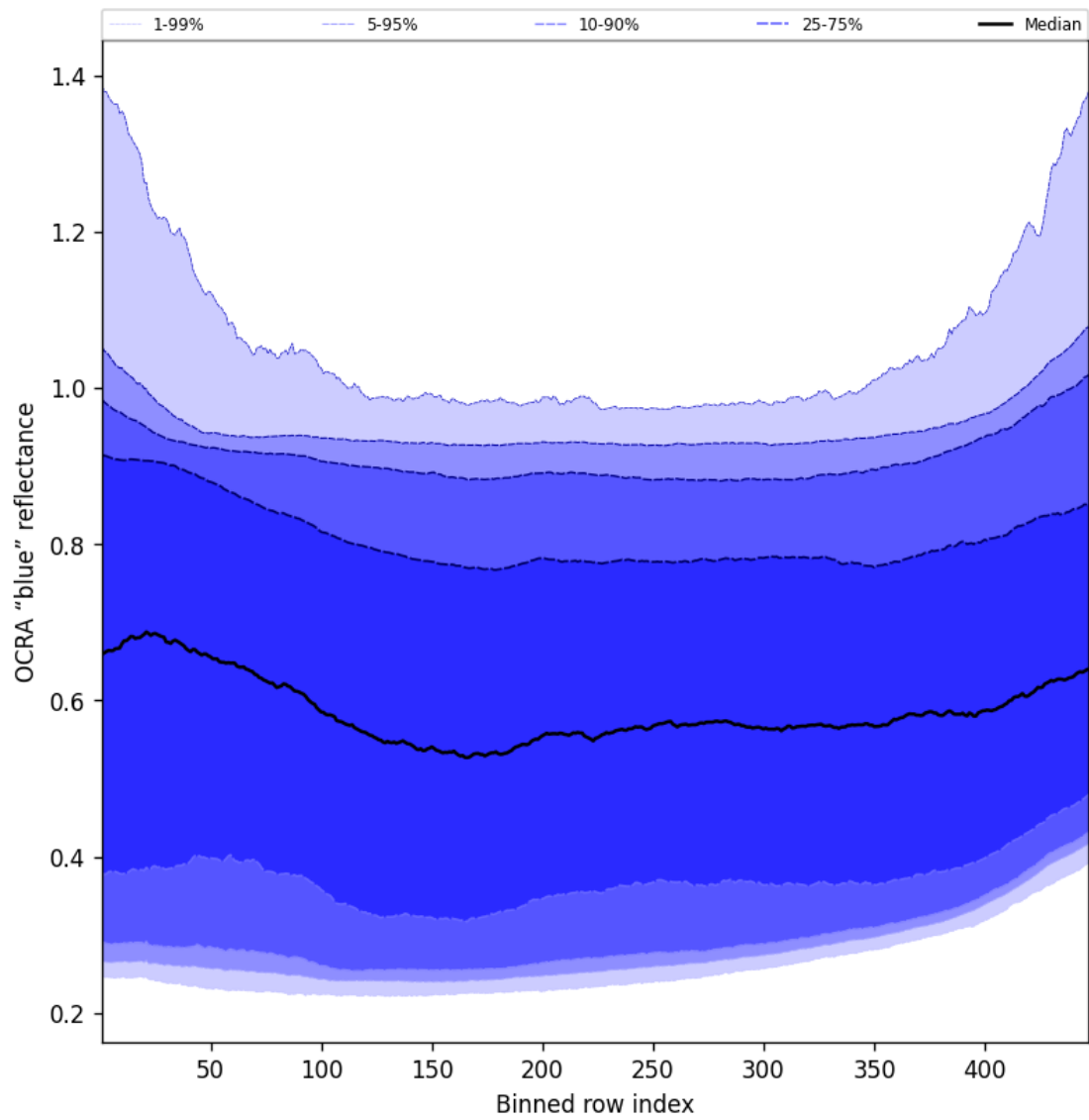


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18

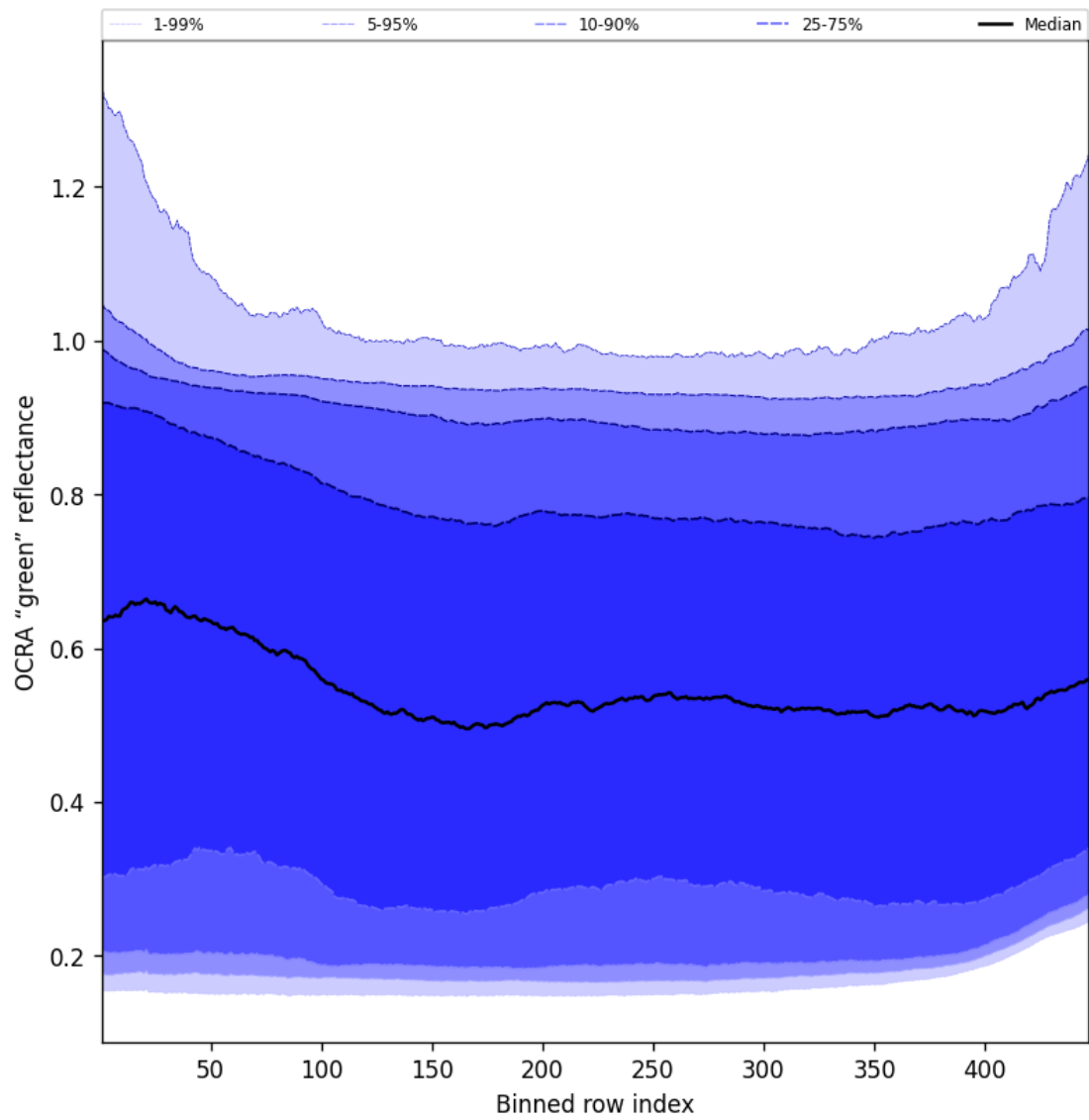


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18

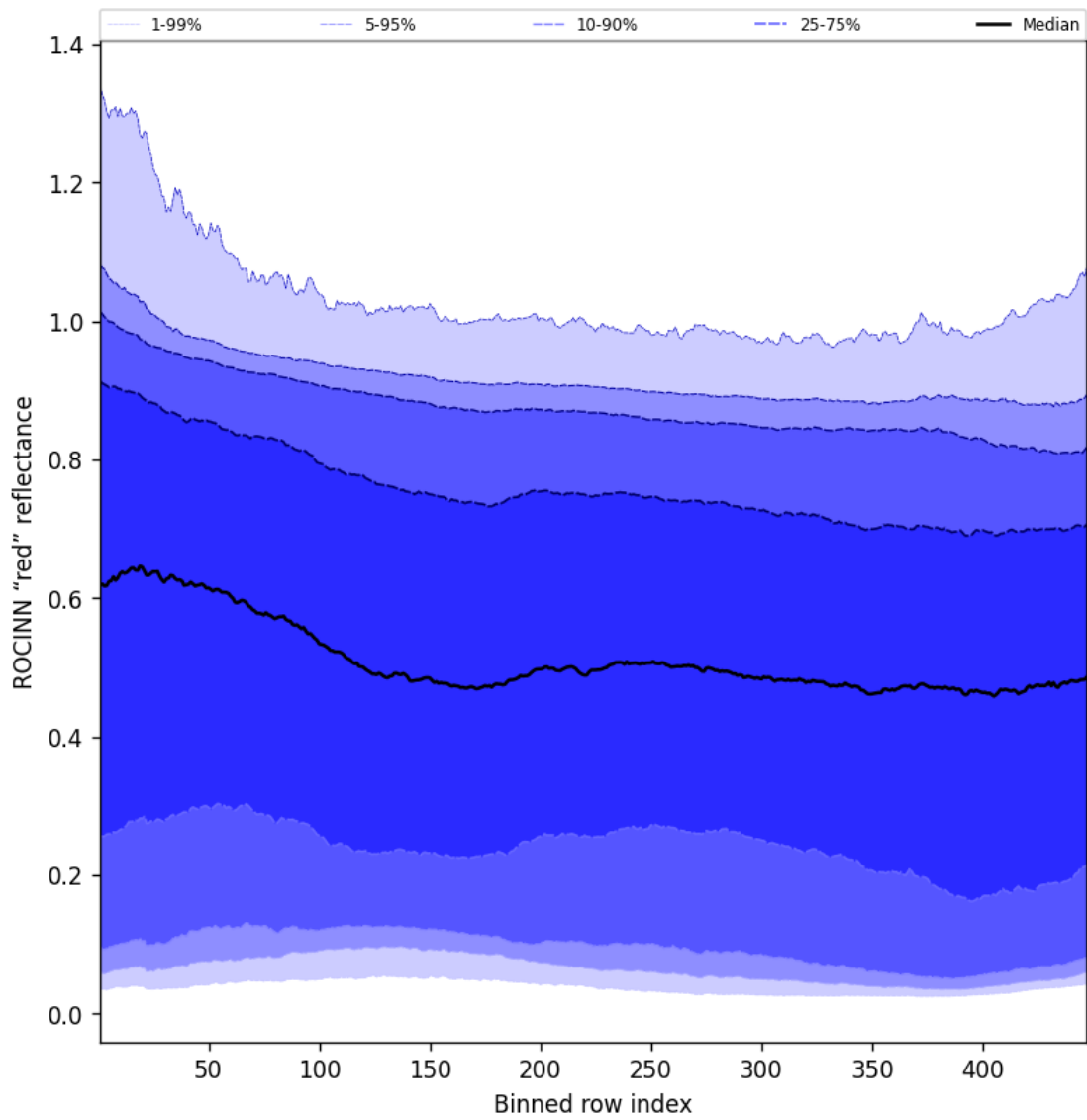


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18

10 Coincidence density

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

Contents

1	Short Introduction	1
1.1	The list of parameters	1
2	Definitions	1
3	Granule outlines	8
4	Input data monitoring	9
5	Warnings and errors	10
6	World maps	11
7	Zonal average	27
8	Histograms	43
9	Along track statistics	59
10	Coincidence density	75
11	Copyright information of ‘PyCAMA’	75

List of Figures

1	Outline of the granules.	8
2	Input data per granule	9
3	Fraction of pixels with specific warnings and errors during processing	10
4	Map of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18	11
5	Map of “Cloud top height” for 2024-12-17 to 2024-12-18	12
6	Map of “Cloud optical thickness” for 2024-12-17 to 2024-12-18	13
7	Map of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18	14
8	Map of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18	15
9	Map of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18	16
10	Map of “Fitted surface albedo” for 2024-12-17 to 2024-12-18	17
11	Map of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18	18
12	Map of “RMS” for 2024-12-17 to 2024-12-18	19
13	Map of “RMS (CRB)” for 2024-12-17 to 2024-12-18	20
14	Map of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18	21
15	Map of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18	22
16	Map of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18	23
17	Map of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18	24
18	Map of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18	25
19	Map of the number of observations for 2024-12-17 to 2024-12-18	26
20	Zonal average of “QA value” for 2024-12-17 to 2024-12-18.	27
21	Zonal average of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18.	28
22	Zonal average of “Cloud top height” for 2024-12-17 to 2024-12-18.	29
23	Zonal average of “Cloud optical thickness” for 2024-12-17 to 2024-12-18.	30
24	Zonal average of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18.	31
25	Zonal average of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18.	32
26	Zonal average of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18.	33
27	Zonal average of “Fitted surface albedo” for 2024-12-17 to 2024-12-18.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18.	35
29	Zonal average of “RMS” for 2024-12-17 to 2024-12-18.	36

30	Zonal average of “RMS (CRB)” for 2024-12-17 to 2024-12-18.	37
31	Zonal average of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18.	38
32	Zonal average of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18.	39
33	Zonal average of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18.	40
34	Zonal average of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18.	41
35	Zonal average of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18.	42
36	Histogram of “QA value” for 2024-12-17 to 2024-12-18	43
37	Histogram of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18	44
38	Histogram of “Cloud top height” for 2024-12-17 to 2024-12-18	45
39	Histogram of “Cloud optical thickness” for 2024-12-17 to 2024-12-18	46
40	Histogram of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18	47
41	Histogram of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18	48
42	Histogram of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18	49
43	Histogram of “Fitted surface albedo” for 2024-12-17 to 2024-12-18	50
44	Histogram of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18	51
45	Histogram of “RMS” for 2024-12-17 to 2024-12-18	52
46	Histogram of “RMS (CRB)” for 2024-12-17 to 2024-12-18	53
47	Histogram of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18	54
48	Histogram of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18	55
49	Histogram of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18	56
50	Histogram of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18	57
51	Histogram of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18	58
52	Along track statistics of “QA value” for 2024-12-17 to 2024-12-18	59
53	Along track statistics of “Radiometric cloud fraction” for 2024-12-17 to 2024-12-18	60
54	Along track statistics of “Cloud top height” for 2024-12-17 to 2024-12-18	61
55	Along track statistics of “Cloud optical thickness” for 2024-12-17 to 2024-12-18	62
56	Along track statistics of “Cloud fraction (CRB)” for 2024-12-17 to 2024-12-18	63
57	Along track statistics of “Cloud height (CRB)” for 2024-12-17 to 2024-12-18	64
58	Along track statistics of “Cloud albedo (CRB)” for 2024-12-17 to 2024-12-18	65
59	Along track statistics of “Fitted surface albedo” for 2024-12-17 to 2024-12-18	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2024-12-17 to 2024-12-18	67
61	Along track statistics of “RMS” for 2024-12-17 to 2024-12-18	68
62	Along track statistics of “RMS (CRB)” for 2024-12-17 to 2024-12-18	69
63	Along track statistics of “Fitting wavelength shift” for 2024-12-17 to 2024-12-18	70
64	Along track statistics of “OCRA cloud fraction” for 2024-12-17 to 2024-12-18	71
65	Along track statistics of “OCRA “blue” reflectance” for 2024-12-17 to 2024-12-18	72
66	Along track statistics of “OCRA “green” reflectance” for 2024-12-17 to 2024-12-18	73
67	Along track statistics of “ROCINN “red” reflectance” for 2024-12-17 to 2024-12-18	74

List of Tables

1	Parameterlist and basic statistics for the analysis	2
2	Percentile ranges	3
3	Parameterlist and basic statistics for the analysis for observations in the northern hemisphere	4
4	Parameterlist and basic statistics for the analysis for observations in the southern hemisphere	5
5	Parameterlist and basic statistics for the analysis for observations over water	6
6	Parameterlist and basic statistics for the analysis for observations over land	7

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