

PyCAMA report generated by tropl2-proc

tropl2-proc

2024-12-25 (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 ± 0.368	19300961	5.000×10^{-3}	0.600	0.700	0.0	1.000
cloud fraction [1]	0.587 ± 0.337	19300961	0.995	0.700	0.584	4.717×10^{-3}	1.000
cloud top height [m]	$(0.391 \pm 0.258) \times 10^4$	19300961	1.725×10^3	3.621×10^3	3.415×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.7 ± 36.6	19300961	9.34	10.8	9.20	1.000	250
cloud fraction crb [1]	0.586 ± 0.337	19300961	0.995	0.700	0.584	7.957×10^{-3}	1.000
cloud height crb [m]	$(0.297 \pm 0.223) \times 10^4$	19300961	75.0	3.025×10^3	2.544×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.620 ± 0.218	19300961	0.995	0.312	0.604	0.0	1.000
surface albedo fitted [1]	0.296 ± 0.349	19300961	2.500×10^{-2}	0.531	6.677×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.283 ± 0.337	19300961	1.500×10^{-2}	0.543	5.468×10^{-2}	0.0	1.000
fitted root mean square [1]	$(8.220 \pm 12.547) \times 10^{-4}$	19300961	5.000×10^{-5}	1.038×10^{-3}	4.797×10^{-4}	8.764×10^{-7}	1.37
fitted root mean square crb [1]	$(7.237 \pm 11.839) \times 10^{-4}$	19300961	5.000×10^{-5}	1.008×10^{-3}	3.770×10^{-4}	7.810×10^{-7}	1.50
wavelength shift [nm]	$(8.792 \pm 7.277) \times 10^{-3}$	19300961	3.000×10^{-4}	1.094×10^{-2}	8.451×10^{-3}	-0.185	7.676×10^{-2}
cloud fraction apriori [1]	0.596 ± 0.342	19300961	0.995	0.720	0.605	0.0	1.000
reflectance blue ocra [1]	0.601 ± 0.234	19300961	0.905	0.416	0.593	0.130	1.99
reflectance green ocra [1]	0.554 ± 0.264	19300961	0.175	0.485	0.554	7.708×10^{-2}	1.91
reflectance continuum aband [1]	0.508 ± 0.291	19300961	4.500×10^{-2}	0.495	0.514	1.113×10^{-2}	5.59

Table 2: Percentile ranges

Variable	1 %	5 %	10 %	15.9 %	25 %	75 %	84.1 %	90 %	95 %	99 %
qa value [1]	0.0	0.0	0.0	0.0	0.300	0.900	0.990	1.000	1.000	1.000
cloud fraction [1]	2.901×10^{-2}	7.402×10^{-2}	0.116	0.172	0.276	0.976	1.000	1.000	1.000	1.000
cloud top height [m]	231	748	1.100×10^3	1.406×10^3	1.827×10^3	5.448×10^3	6.508×10^3	7.520×10^3	8.827×10^3	1.111×10^4
cloud optical thickness [1]	1.000	2.62	3.77	4.68	5.57	16.4	25.1	37.6	68.7	250
cloud fraction crb [1]	2.862×10^{-2}	7.343×10^{-2}	0.116	0.171	0.275	0.975	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	196	533	811	1.185×10^3	4.209×10^3	5.302×10^3	6.245×10^3	7.407×10^3	9.285×10^3
cloud albedo crb [1]	3.103×10^{-2}	0.260	0.372	0.428	0.474	0.786	0.869	0.926	0.988	1.000
surface albedo fitted [1]	0.0	9.007×10^{-3}	1.471×10^{-2}	1.990×10^{-2}	2.737×10^{-2}	0.559	0.838	0.921	0.962	1.000
surface albedo fitted crb [1]	5.171×10^{-4}	7.036×10^{-3}	1.120×10^{-2}	1.527×10^{-2}	2.139×10^{-2}	0.565	0.806	0.866	0.907	0.952
fitted root mean square [1]	1.587×10^{-5}	3.250×10^{-5}	5.543×10^{-5}	8.916×10^{-5}	1.537×10^{-4}	1.192×10^{-3}	1.652×10^{-3}	2.064×10^{-3}	2.582×10^{-3}	3.699×10^{-3}
fitted root mean square crb [1]	8.423×10^{-6}	2.006×10^{-5}	3.415×10^{-5}	5.432×10^{-5}	9.806×10^{-5}	1.106×10^{-3}	1.553×10^{-3}	1.944×10^{-3}	2.449×10^{-3}	3.435×10^{-3}
wavelength shift [nm]	-7.156×10^{-3}	-5.757×10^{-4}	2.497×10^{-4}	1.211×10^{-3}	3.011×10^{-3}	1.395×10^{-2}	1.628×10^{-2}	1.824×10^{-2}	2.077×10^{-2}	2.631×10^{-2}
cloud fraction apriori [1]	3.439×10^{-2}	7.037×10^{-2}	0.111	0.169	0.280	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.262	0.292	0.328	0.389	0.805	0.873	0.910	0.944	1.07
reflectance green ocra [1]	0.154	0.177	0.202	0.236	0.304	0.789	0.864	0.907	0.942	1.04
reflectance continuum aband [1]	3.248×10^{-2}	6.196×10^{-2}	0.103	0.157	0.259	0.754	0.835	0.880	0.926	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]	0.560 ± 0.404	7127443	0.920	0.700	0.0	1.000	3.000×10^{-2}	0.950
cloud fraction [1]	0.552 ± 0.342	7127443	0.699	0.538	5.204×10^{-3}	1.000	0.224	0.923
cloud top height [m]	$(0.431 \pm 0.259) \times 10^4$	7127443	3.931×10^3	3.825×10^3	0.0	2.000×10^4	2.159×10^3	6.090×10^3
cloud optical thickness [1]	28.3 ± 48.3	7127443	18.3	10.7	1.000	250	6.31	24.6
cloud fraction crb [1]	0.551 ± 0.342	7127443	0.698	0.535	8.392×10^{-3}	1.000	0.223	0.920
cloud height crb [m]	$(0.362 \pm 0.225) \times 10^4$	7127443	3.529×10^3	3.271×10^3	0.0	2.000×10^4	1.697×10^3	5.226×10^3
cloud albedo crb [1]	0.599 ± 0.207	7127443	0.263	0.586	0.0	1.000	0.472	0.735
surface albedo fitted [1]	0.175 ± 0.194	7127443	0.253	6.647×10^{-2}	0.0	1.000	3.129×10^{-2}	0.284
surface albedo fitted crb [1]	0.167 ± 0.194	7127443	0.254	5.515×10^{-2}	0.0	1.000	2.367×10^{-2}	0.278
fitted root mean square [1]	$(4.124 \pm 5.682) \times 10^{-4}$	7127443	4.098×10^{-4}	2.300×10^{-4}	8.764×10^{-7}	0.202	9.460×10^{-5}	5.044×10^{-4}
fitted root mean square crb [1]	$(3.396 \pm 5.097) \times 10^{-4}$	7127443	3.545×10^{-4}	1.406×10^{-4}	9.513×10^{-7}	1.673×10^{-2}	4.873×10^{-5}	4.032×10^{-4}
wavelength shift [nm]	$(6.207 \pm 6.523) \times 10^{-3}$	7127443	8.896×10^{-3}	5.031×10^{-3}	-4.544×10^{-2}	6.420×10^{-2}	1.272×10^{-3}	1.017×10^{-2}
cloud fraction apriori [1]	0.556 ± 0.347	7127443	0.732	0.545	0.0	1.000	0.218	0.950
reflectance blue ocra [1]	0.551 ± 0.212	7127443	0.317	0.532	0.130	1.94	0.376	0.692
reflectance green ocra [1]	0.494 ± 0.235	7127443	0.377	0.478	7.723×10^{-2}	1.91	0.285	0.662
reflectance continuum aband [1]	0.445 ± 0.272	7127443	0.398	0.425	1.113×10^{-2}	5.59	0.231	0.629

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]	0.625 ± 0.342	12173518	0.500	0.700	0.0	1.000	0.400	0.900
cloud fraction [1]	0.607 ± 0.333	12173518	0.684	0.609	4.717×10^{-3}	1.000	0.310	0.994
cloud top height [m]	$(0.367 \pm 0.254) \times 10^4$	12173518	3.420×10^3	3.194×10^3	0.0	2.000×10^4	1.668×10^3	5.088×10^3
cloud optical thickness [1]	14.6 ± 26.3	12173518	8.25	8.66	1.000	250	5.28	13.5
cloud fraction crb [1]	0.607 ± 0.333	12173518	0.685	0.610	7.957×10^{-3}	1.000	0.310	0.996
cloud height crb [m]	$(0.259 \pm 0.213) \times 10^4$	12173518	2.621×10^3	2.198×10^3	0.0	2.000×10^4	952	3.573×10^3
cloud albedo crb [1]	0.632 ± 0.223	12173518	0.340	0.619	0.0	1.000	0.475	0.815
surface albedo fitted [1]	0.367 ± 0.397	12173518	0.809	6.710×10^{-2}	0.0	1.000	2.518×10^{-2}	0.834
surface albedo fitted crb [1]	0.351 ± 0.381	12173518	0.782	5.424×10^{-2}	0.0	1.000	2.002×10^{-2}	0.802
fitted root mean square [1]	$(1.062 \pm 1.467) \times 10^{-3}$	12173518	1.304×10^{-3}	7.843×10^{-4}	1.292×10^{-6}	1.37	2.616×10^{-4}	1.565×10^{-3}
fitted root mean square crb [1]	$(9.487 \pm 13.903) \times 10^{-4}$	12173518	1.275×10^{-3}	6.910×10^{-4}	7.810×10^{-7}	1.50	1.911×10^{-4}	1.466×10^{-3}
wavelength shift [nm]	$(1.031 \pm 0.727) \times 10^{-2}$	12173518	1.040×10^{-2}	1.063×10^{-2}	-0.185	7.676×10^{-2}	4.970×10^{-3}	1.537×10^{-2}
cloud fraction apriori [1]	0.620 ± 0.336	12173518	0.677	0.637	0.0	1.000	0.323	1.000
reflectance blue ocrs [1]	0.630 ± 0.242	12173518	0.451	0.652	0.147	1.99	0.401	0.851
reflectance green ocrs [1]	0.590 ± 0.273	12173518	0.519	0.625	7.708×10^{-2}	1.90	0.322	0.841
reflectance continuum aband [1]	0.545 ± 0.295	12173518	0.518	0.587	1.280×10^{-2}	4.58	0.286	0.804

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]	0.696 ± 0.338	11723263	0.560	0.870	0.0	1.000	0.400	0.960
cloud fraction [1]	0.620 ± 0.357	11723263	0.743	0.684	4.717×10^{-3}	1.000	0.257	1.000
cloud top height [m]	$(0.345 \pm 0.257) \times 10^4$	11723263	3.240×10^3	2.625×10^3	0.0	2.000×10^4	1.550×10^3	4.791×10^3
cloud optical thickness [1]	18.4 ± 29.6	11723263	10.2	10.1	1.000	250	7.00	17.2
cloud fraction crb [1]	0.618 ± 0.358	11723263	0.744	0.682	8.530×10^{-3}	1.000	0.256	1.000
cloud height crb [m]	$(0.273 \pm 0.233) \times 10^4$	11723263	2.971×10^3	1.976×10^3	0.0	2.000×10^4	957	3.929×10^3
cloud albedo crb [1]	0.561 ± 0.178	11723263	0.225	0.542	0.0	1.000	0.454	0.679
surface albedo fitted [1]	0.104 ± 0.202	11723263	3.409×10^{-2}	3.234×10^{-2}	0.0	1.000	1.943×10^{-2}	5.352×10^{-2}
surface albedo fitted crb [1]	0.101 ± 0.206	11723263	2.870×10^{-2}	2.559×10^{-2}	0.0	1.000	1.489×10^{-2}	4.359×10^{-2}
fitted root mean square [1]	$(7.746 \pm 11.985) \times 10^{-4}$	11723263	1.045×10^{-3}	3.681×10^{-4}	8.764×10^{-7}	0.273	1.064×10^{-4}	1.152×10^{-3}
fitted root mean square crb [1]	$(7.151 \pm 8.615) \times 10^{-4}$	11723263	1.028×10^{-3}	3.321×10^{-4}	7.810×10^{-7}	8.541×10^{-2}	8.441×10^{-5}	1.113×10^{-3}
wavelength shift [nm]	$(8.334 \pm 7.587) \times 10^{-3}$	11723263	1.102×10^{-2}	7.688×10^{-3}	-4.662×10^{-2}	7.676×10^{-2}	2.539×10^{-3}	1.356×10^{-2}
cloud fraction apriori [1]	0.622 ± 0.363	11723263	0.752	0.695	0.0	1.000	0.248	1.000
reflectance blue oca [1]	0.524 ± 0.203	11723263	0.326	0.494	0.178	1.99	0.349	0.675
reflectance green oca [1]	0.466 ± 0.230	11723263	0.395	0.439	0.106	1.90	0.254	0.649
reflectance continuum aband [1]	0.404 ± 0.266	11723263	0.466	0.387	1.280×10^{-2}	4.58	0.153	0.619

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]	0.467 ± 0.353	6282454	0.700	0.570	0.0	1.000	0.0	0.700
cloud fraction [1]	0.522 ± 0.290	6282454	0.463	0.492	5.204×10^{-3}	1.000	0.289	0.752
cloud top height [m]	$(0.464 \pm 0.239) \times 10^4$	6282454	2.897×10^3	4.487×10^3	0.0	2.000×10^4	3.011×10^3	5.909×10^3
cloud optical thickness [1]	18.1 ± 39.9	6282454	7.51	6.32	1.000	250	4.70	12.2
cloud fraction crb [1]	0.523 ± 0.290	6282454	0.463	0.493	7.957×10^{-3}	1.000	0.290	0.753
cloud height crb [m]	$(0.328 \pm 0.196) \times 10^4$	6282454	2.333×10^3	3.061×10^3	0.0	2.000×10^4	1.949×10^3	4.282×10^3
cloud albedo crb [1]	0.724 ± 0.240	6282454	0.338	0.784	0.0	1.000	0.578	0.916
surface albedo fitted [1]	0.646 ± 0.316	6282454	0.633	0.806	0.0	1.000	0.303	0.936
surface albedo fitted crb [1]	0.616 ± 0.295	6282454	0.579	0.776	0.0	1.000	0.300	0.879
fitted root mean square [1]	$(9.710 \pm 14.041) \times 10^{-4}$	6282454	1.050×10^{-3}	6.867×10^{-4}	2.220×10^{-6}	1.37	3.200×10^{-4}	1.370×10^{-3}
fitted root mean square crb [1]	$(8.123 \pm 16.643) \times 10^{-4}$	6282454	1.031×10^{-3}	5.286×10^{-4}	2.132×10^{-6}	1.50	1.829×10^{-4}	1.214×10^{-3}
wavelength shift [nm]	$(1.025 \pm 0.655) \times 10^{-2}$	6282454	9.897×10^{-3}	1.050×10^{-2}	-0.185	7.327×10^{-2}	5.114×10^{-3}	1.501×10^{-2}
cloud fraction apriori [1]	0.544 ± 0.294	6282454	0.477	0.522	0.0	1.000	0.311	0.788
reflectance blue ocra [1]	0.735 ± 0.228	6282454	0.331	0.822	0.130	1.93	0.574	0.905
reflectance green ocra [1]	0.710 ± 0.253	6282454	0.373	0.811	7.708×10^{-2}	1.91	0.531	0.904
reflectance continuum aband [1]	0.691 ± 0.242	6282454	0.377	0.768	1.493×10^{-2}	5.59	0.498	0.875

3 Granule outlines

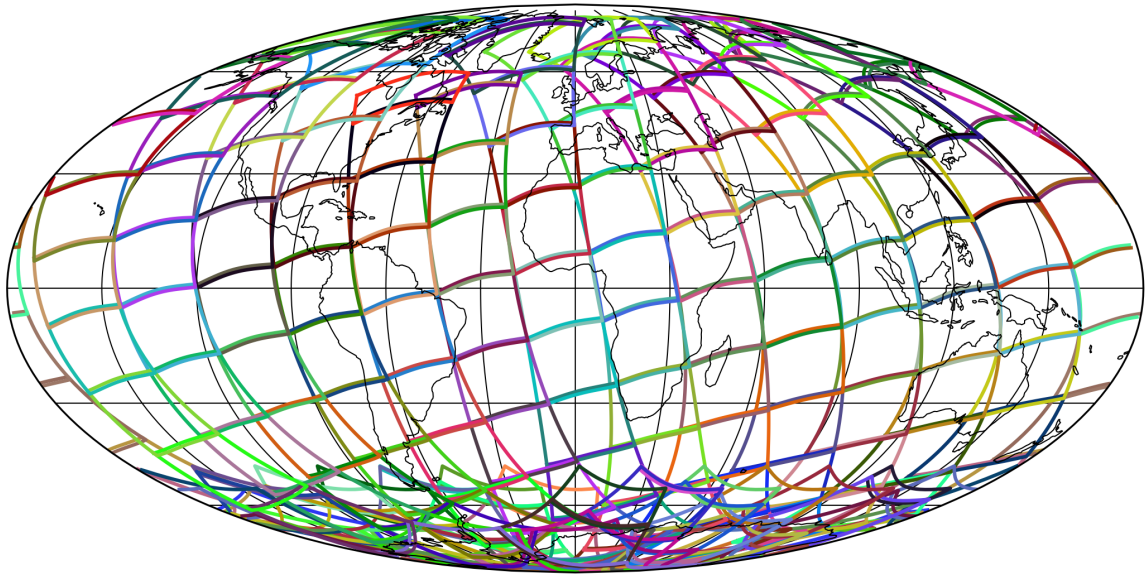


Figure 1: Outline of the granules.

4 Input data monitoring

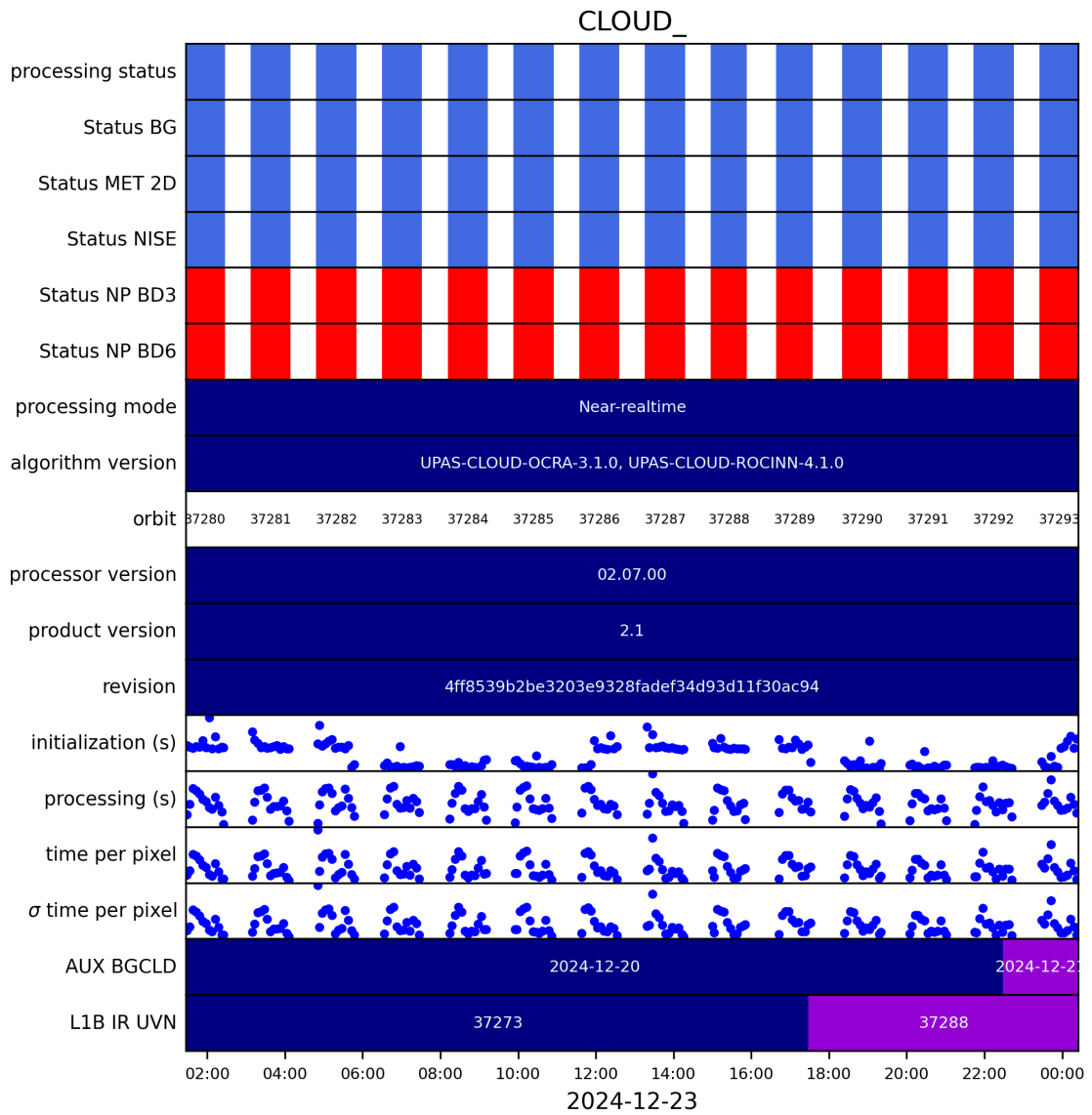


Figure 2: Input data per granule

5 Warnings and errors

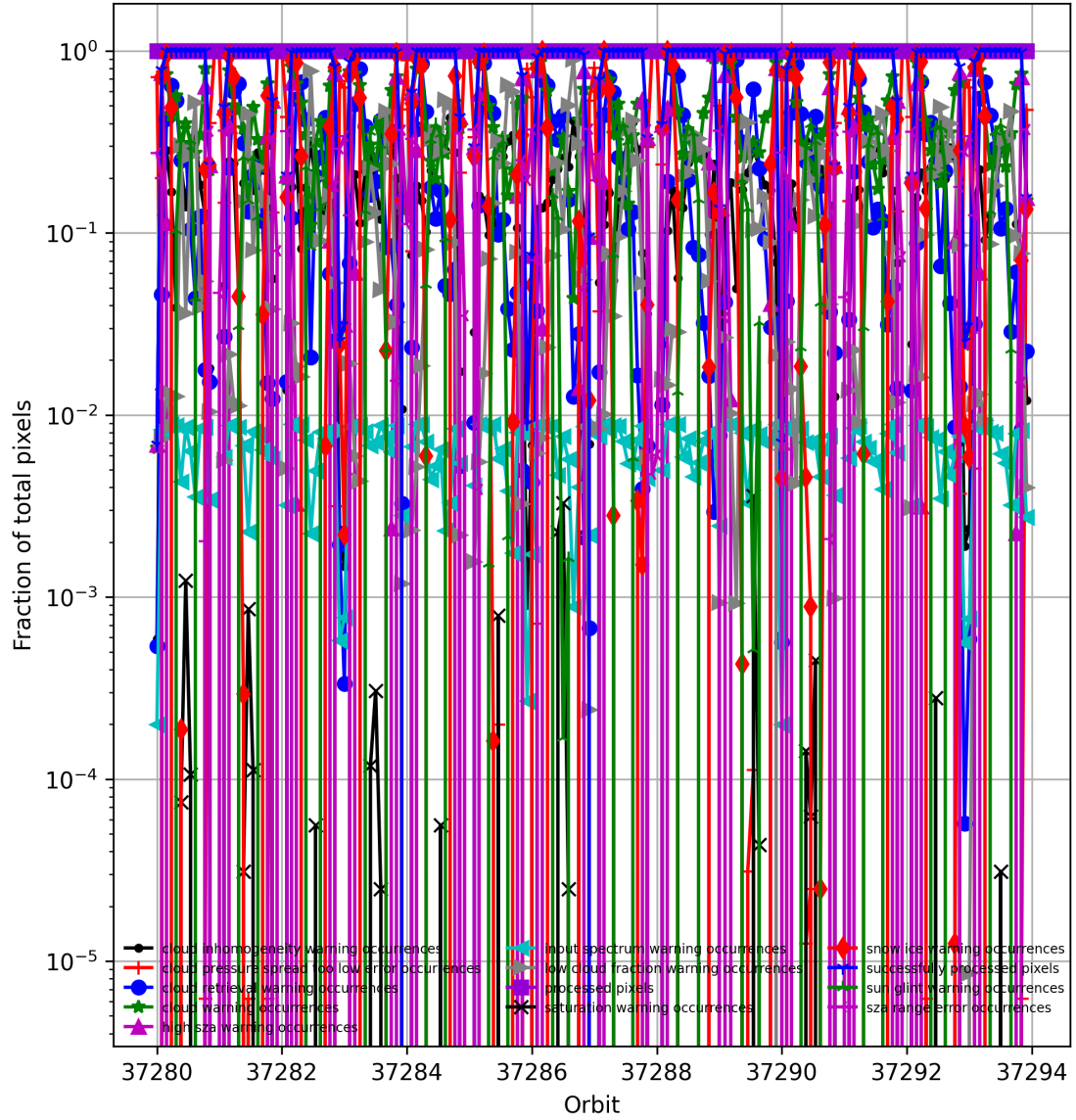


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

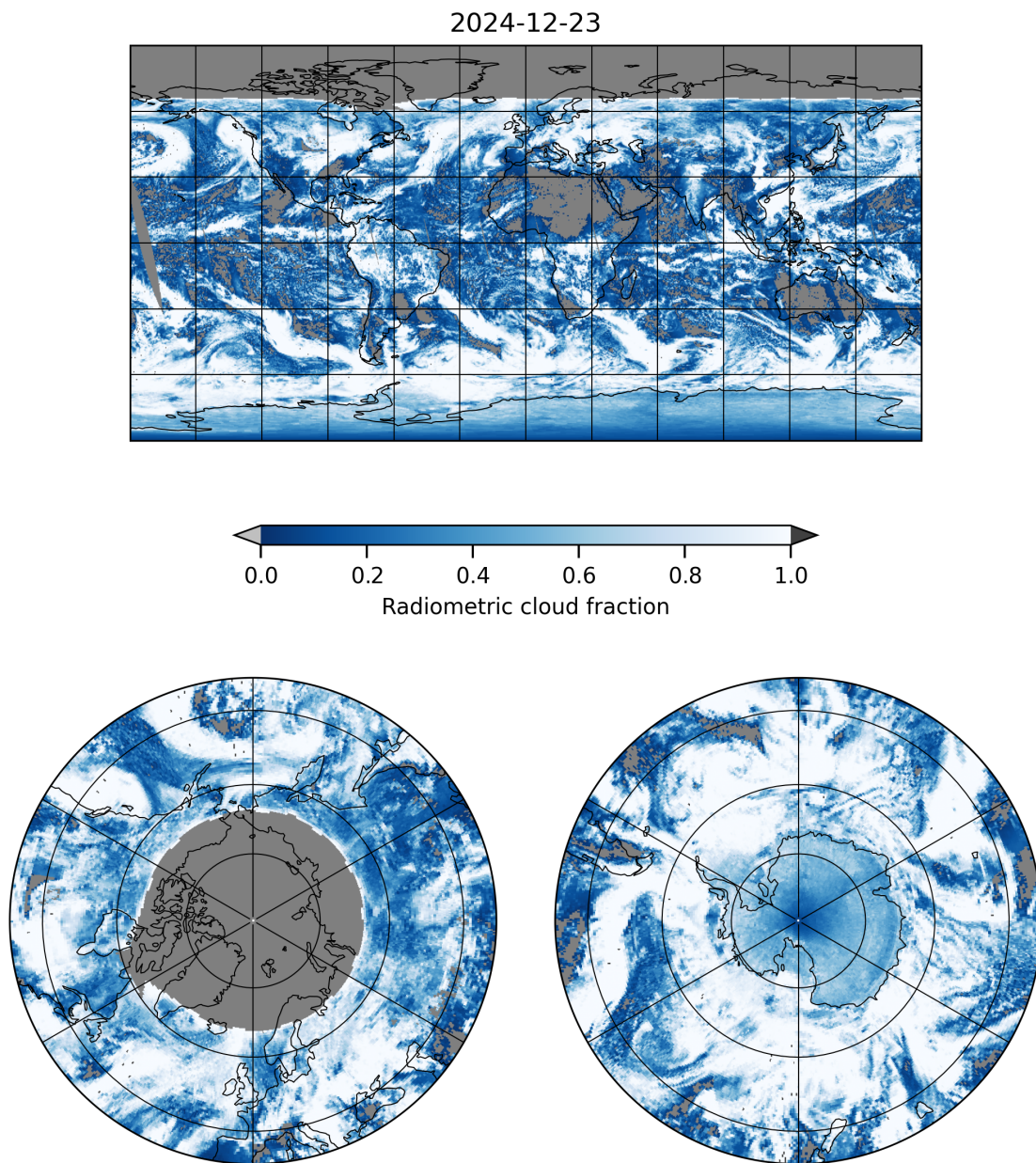


Figure 4: Map of “Radiometric cloud fraction” for 2024-12-23 to 2024-12-24

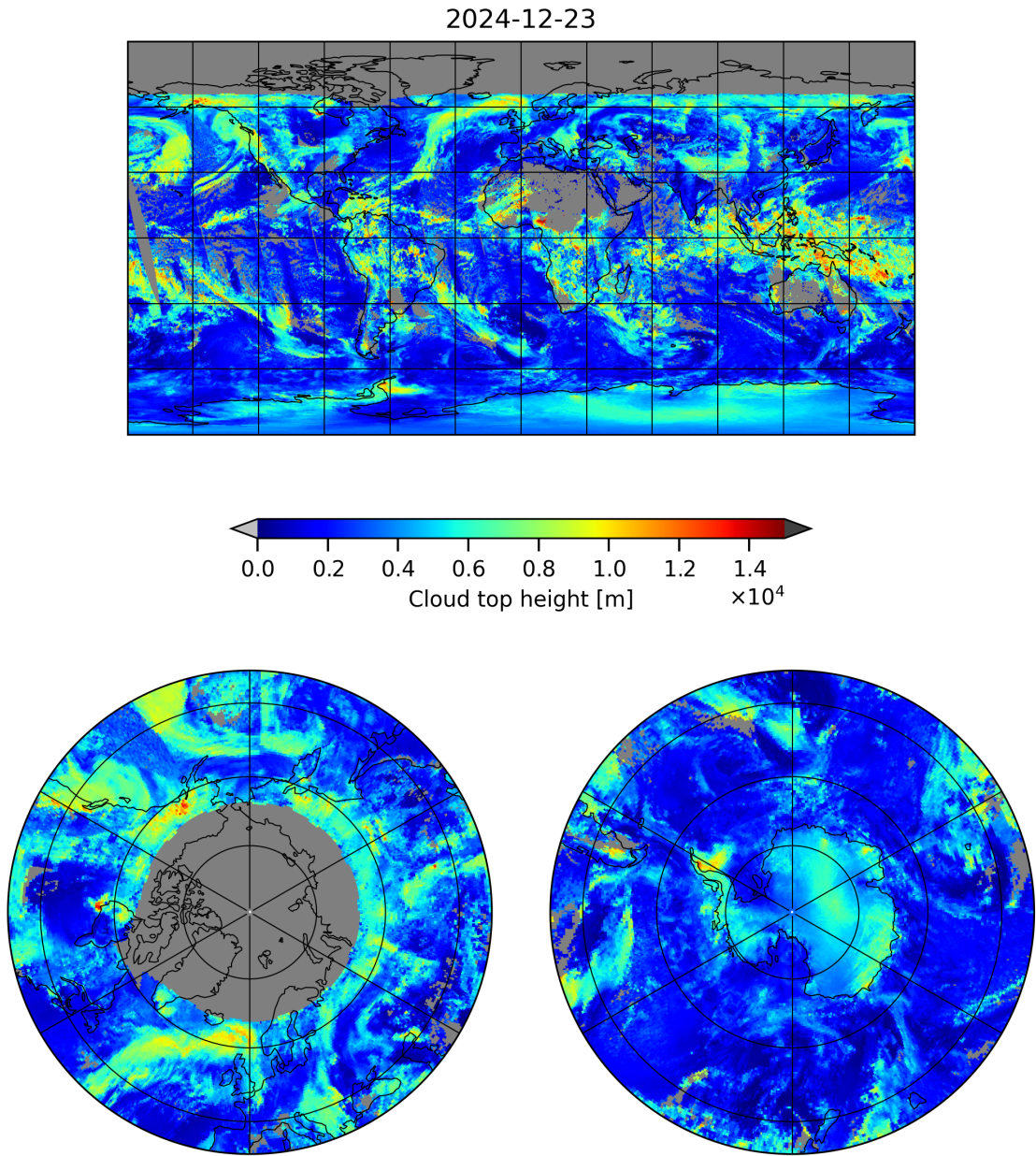


Figure 5: Map of “Cloud top height” for 2024-12-23 to 2024-12-24

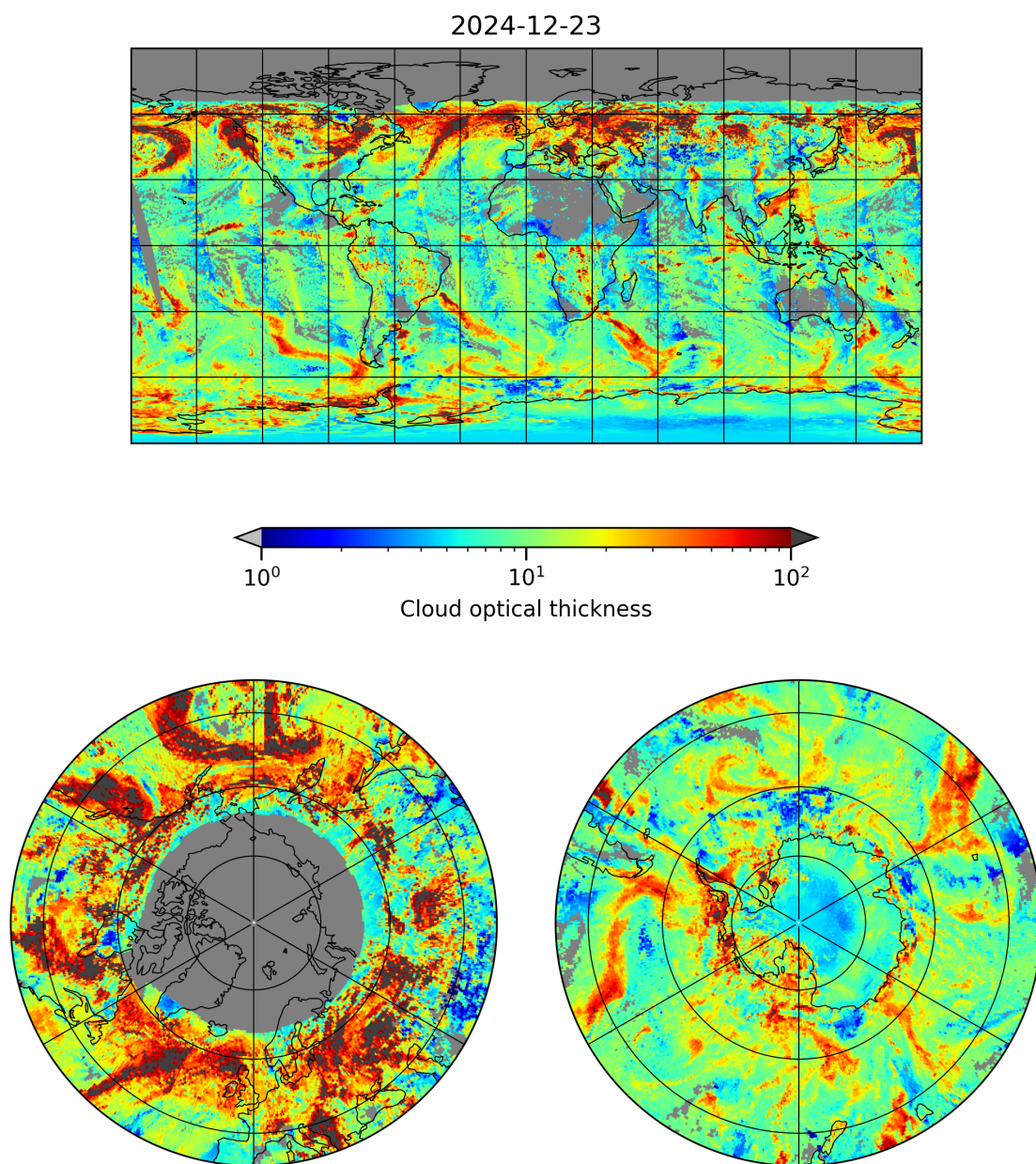


Figure 6: Map of “Cloud optical thickness” for 2024-12-23 to 2024-12-24

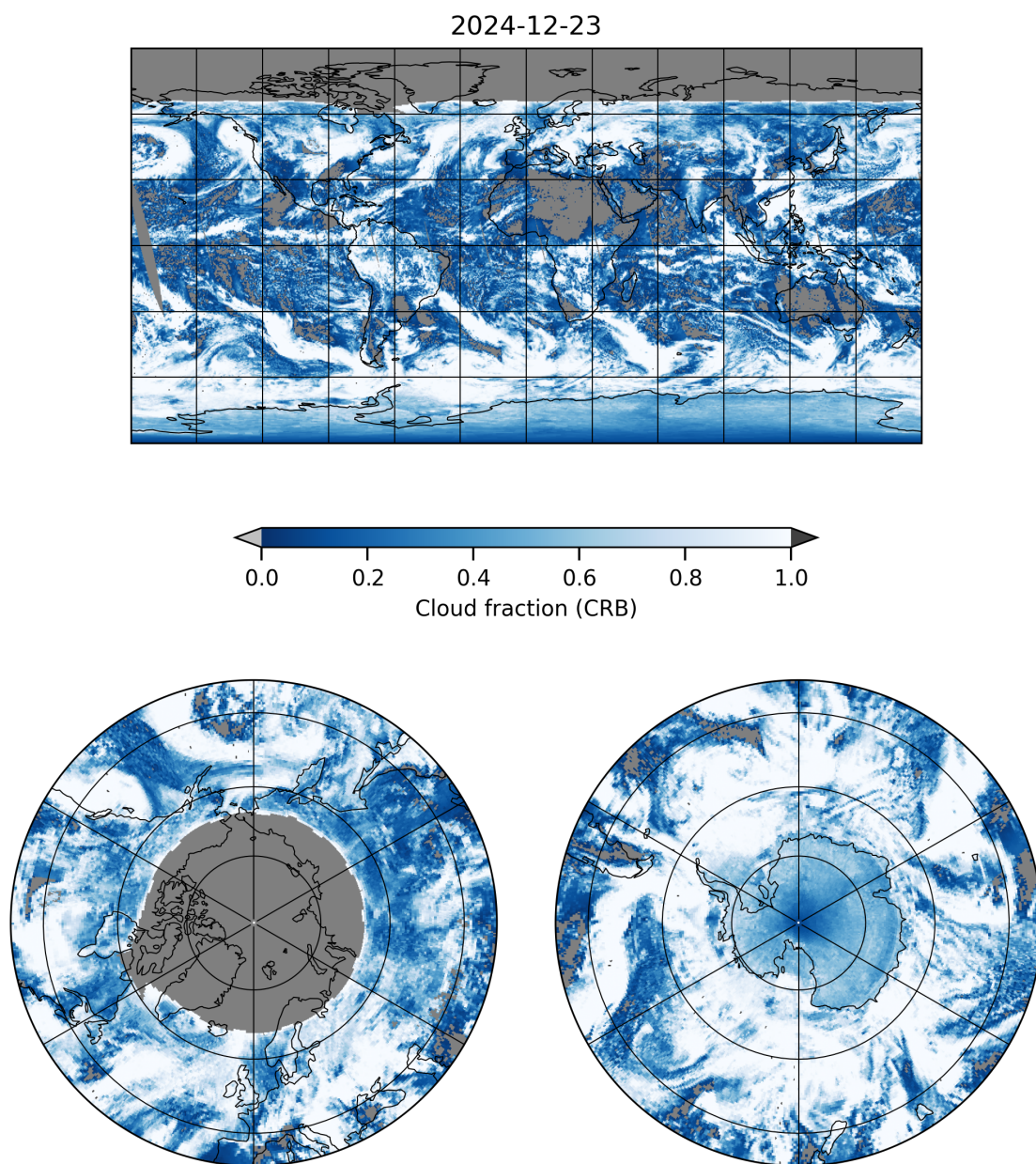


Figure 7: Map of “Cloud fraction (CRB)” for 2024-12-23 to 2024-12-24

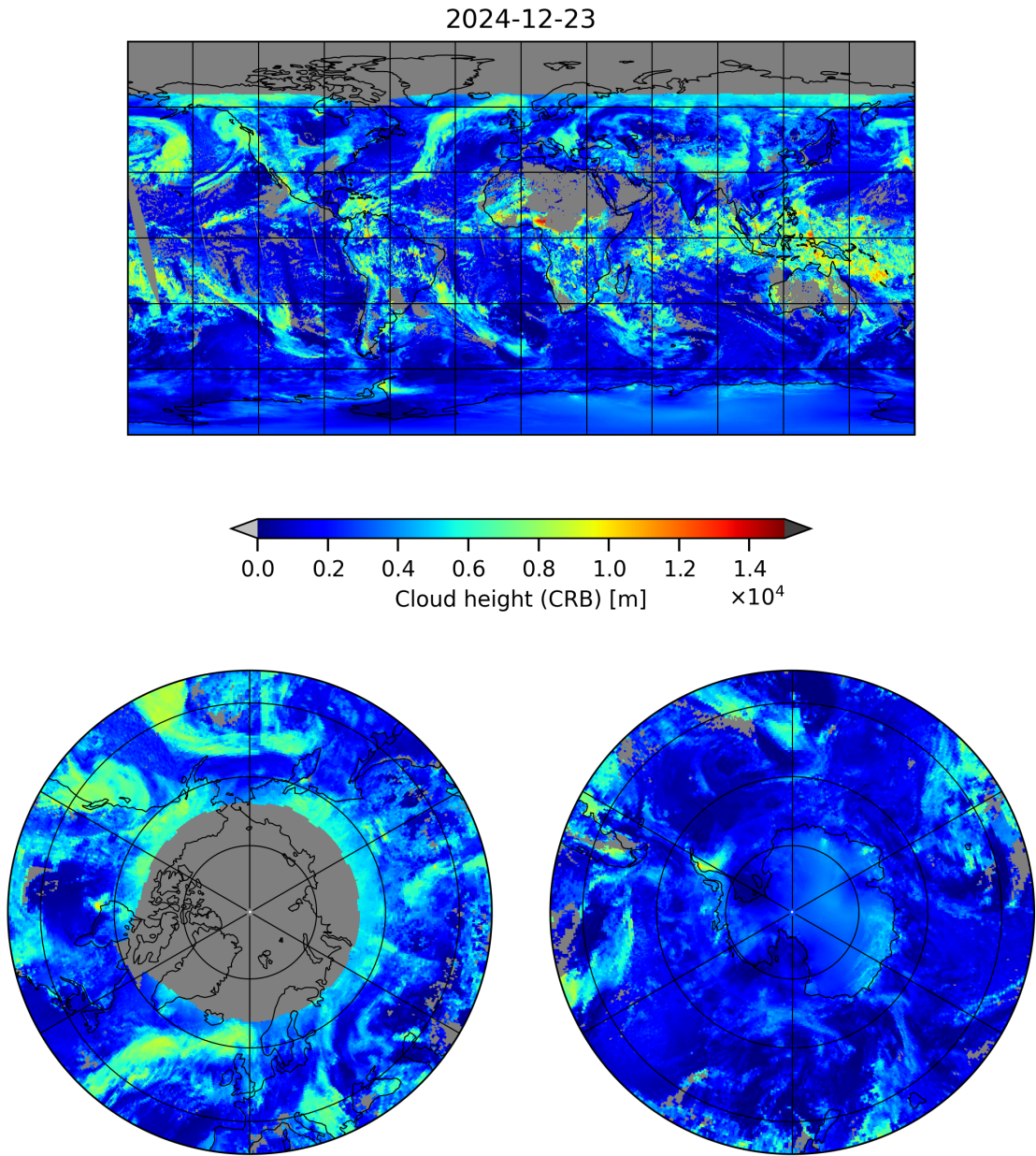


Figure 8: Map of “Cloud height (CRB)” for 2024-12-23 to 2024-12-24

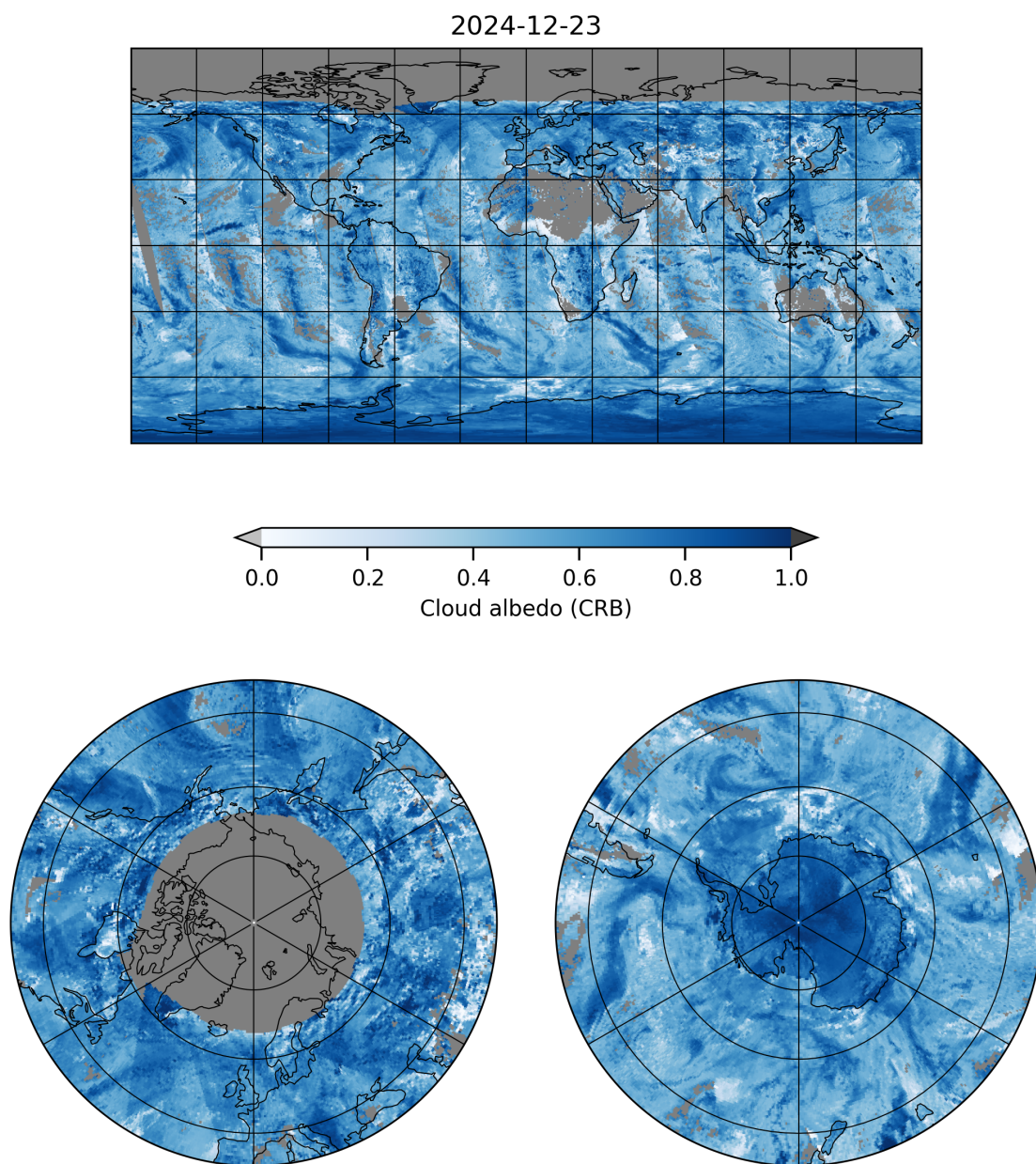


Figure 9: Map of “Cloud albedo (CRB)” for 2024-12-23 to 2024-12-24

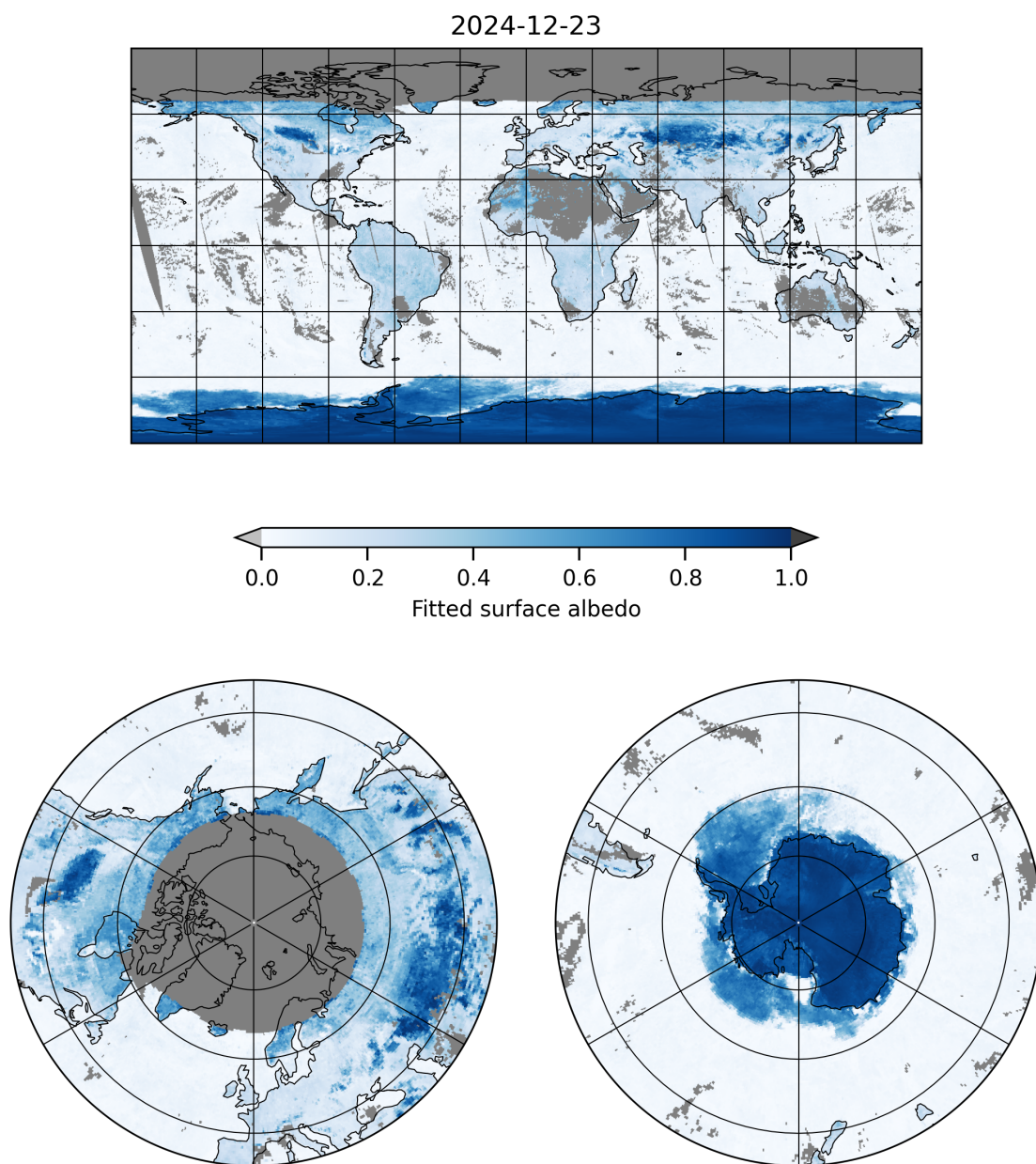


Figure 10: Map of “Fitted surface albedo” for 2024-12-23 to 2024-12-24

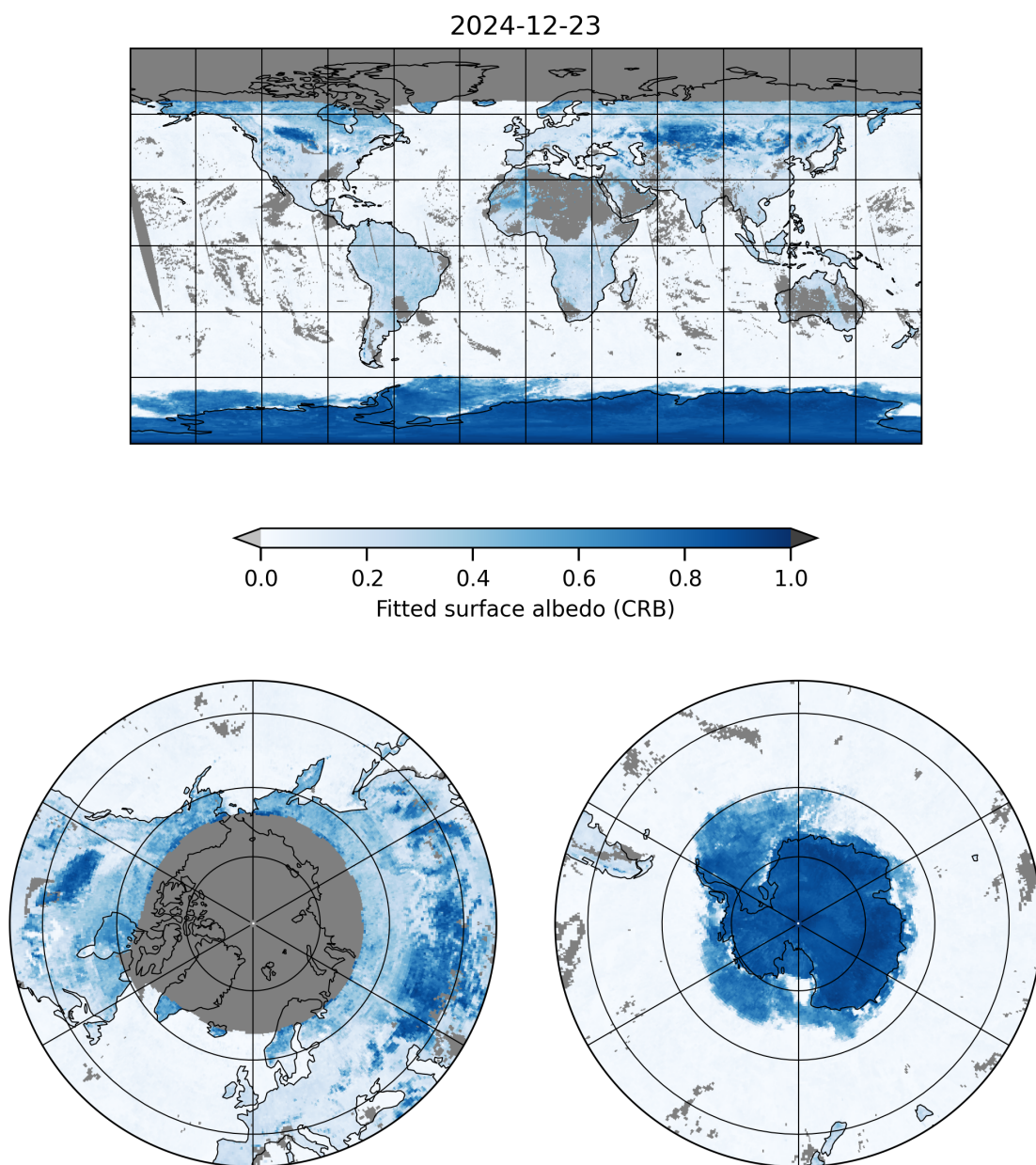


Figure 11: Map of “Fitted surface albedo (CRB)” for 2024-12-23 to 2024-12-24

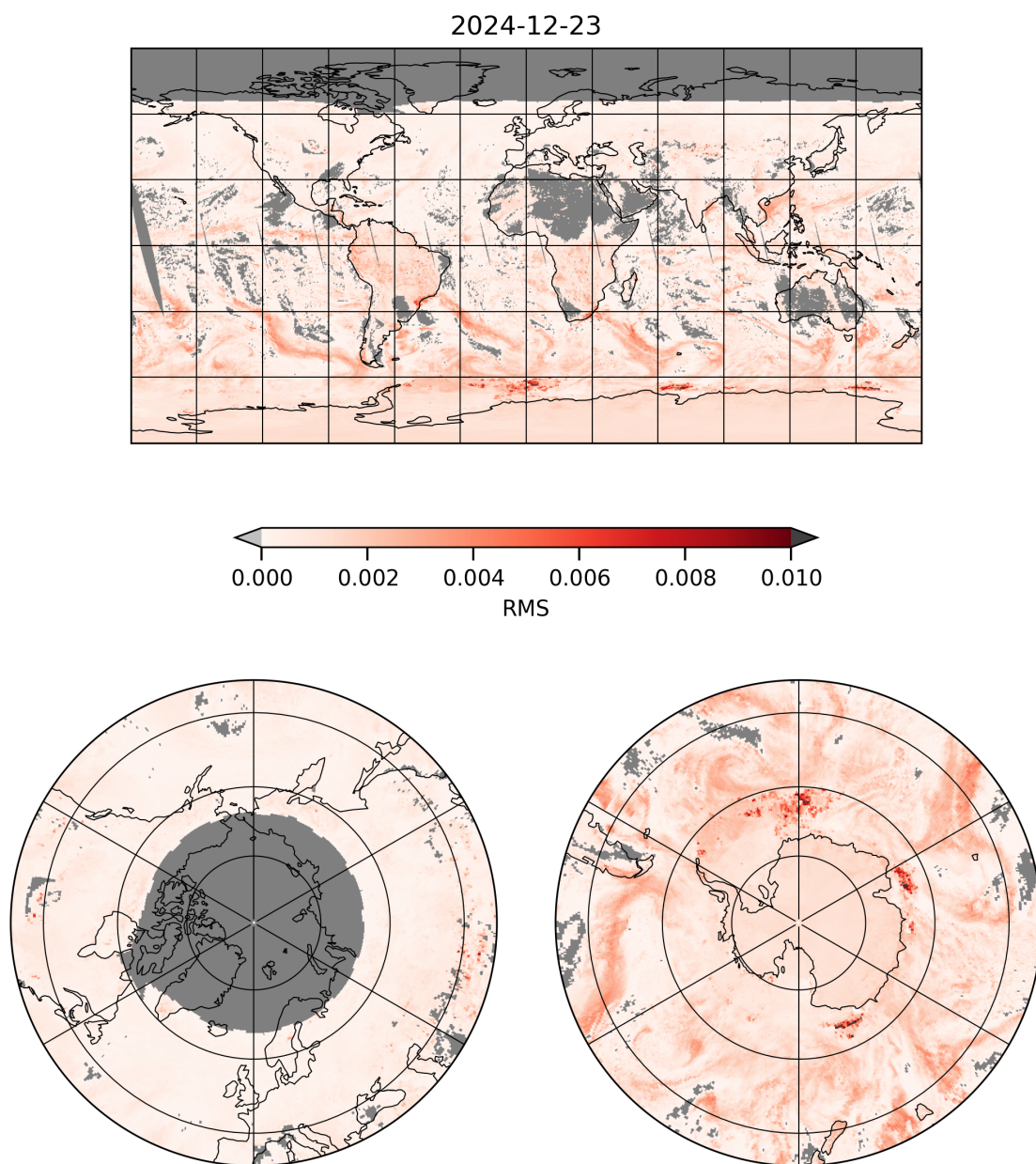


Figure 12: Map of “RMS” for 2024-12-23 to 2024-12-24

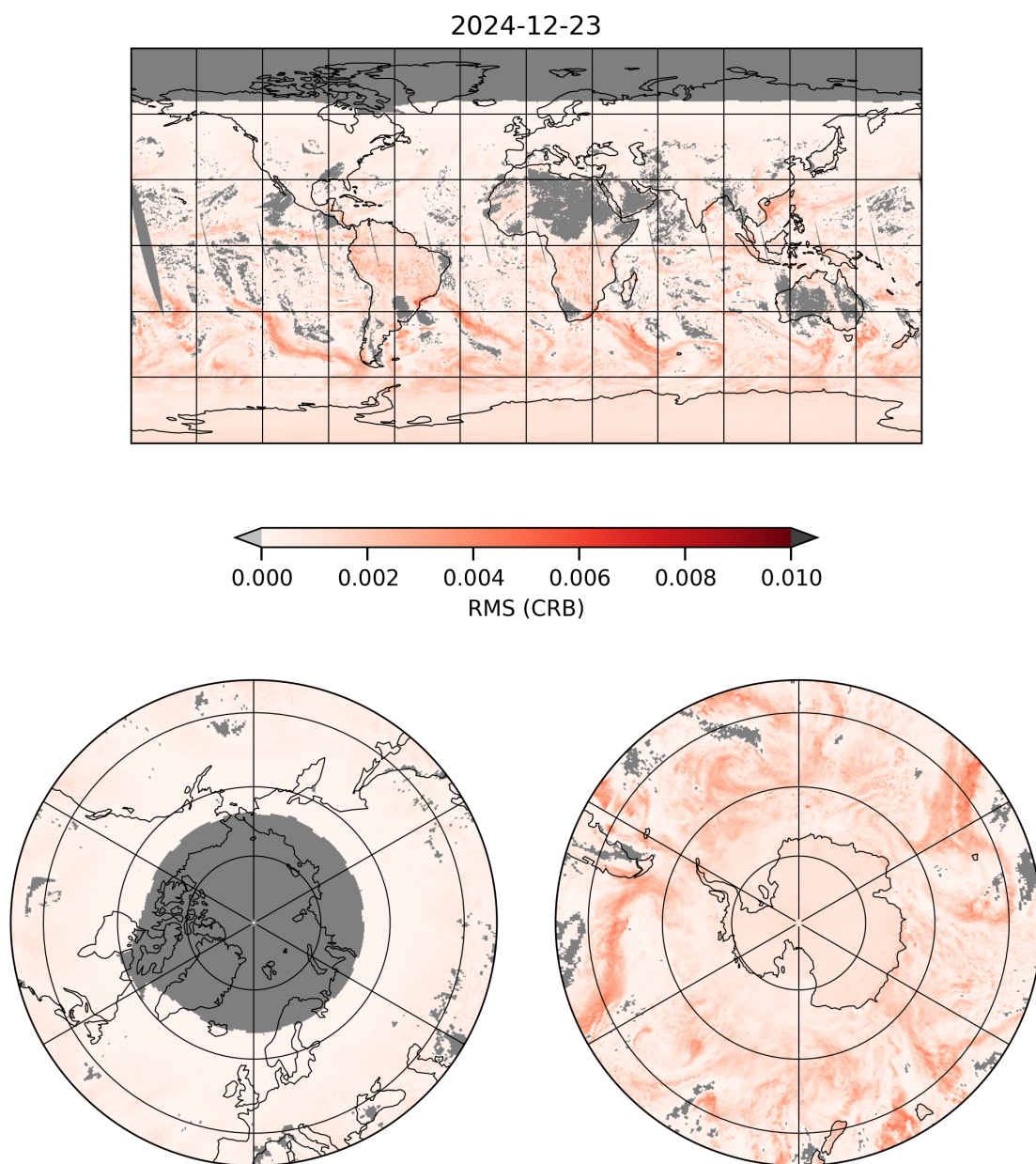


Figure 13: Map of “RMS (CRB)” for 2024-12-23 to 2024-12-24

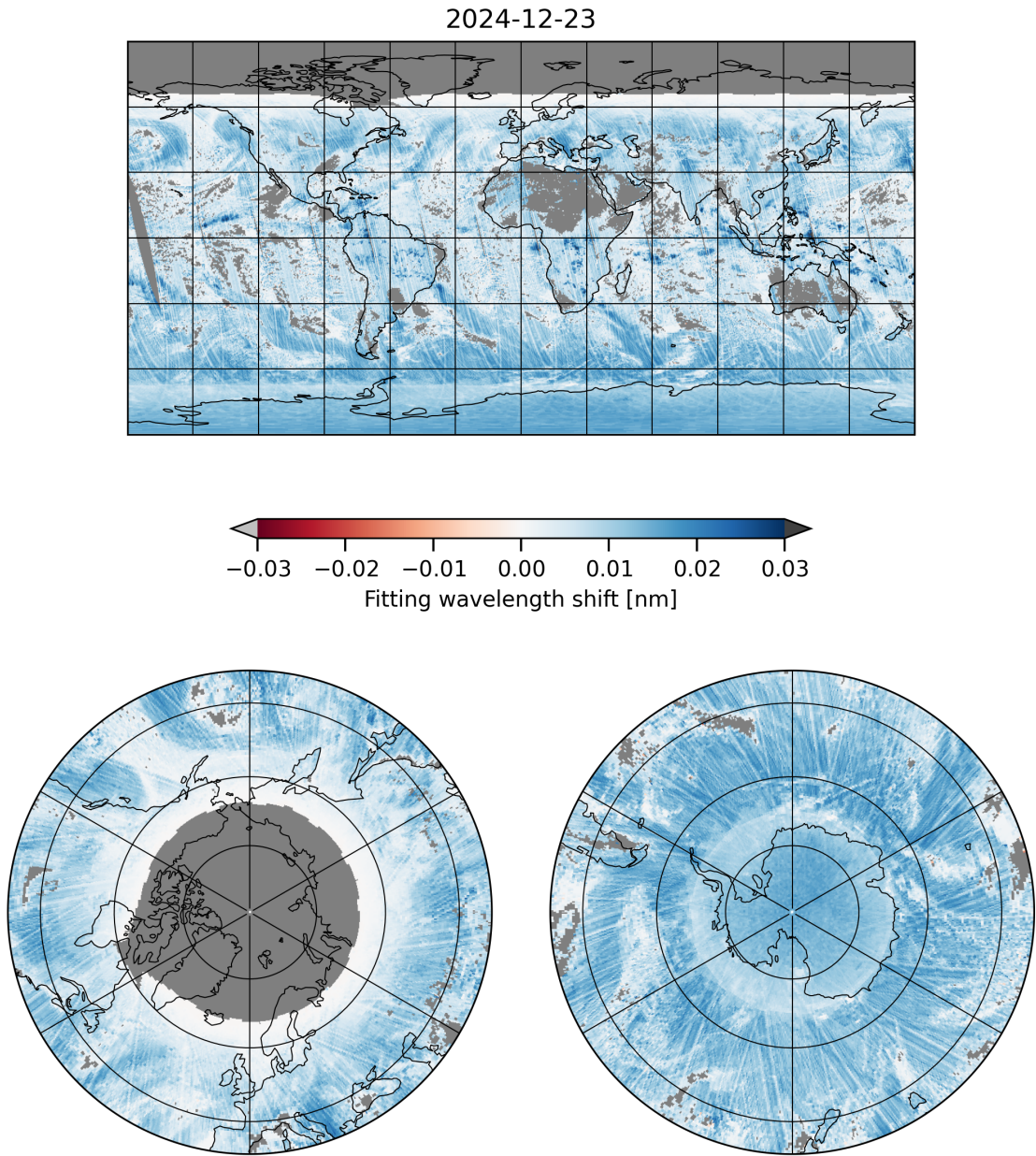


Figure 14: Map of “Fitting wavelength shift” for 2024-12-23 to 2024-12-24

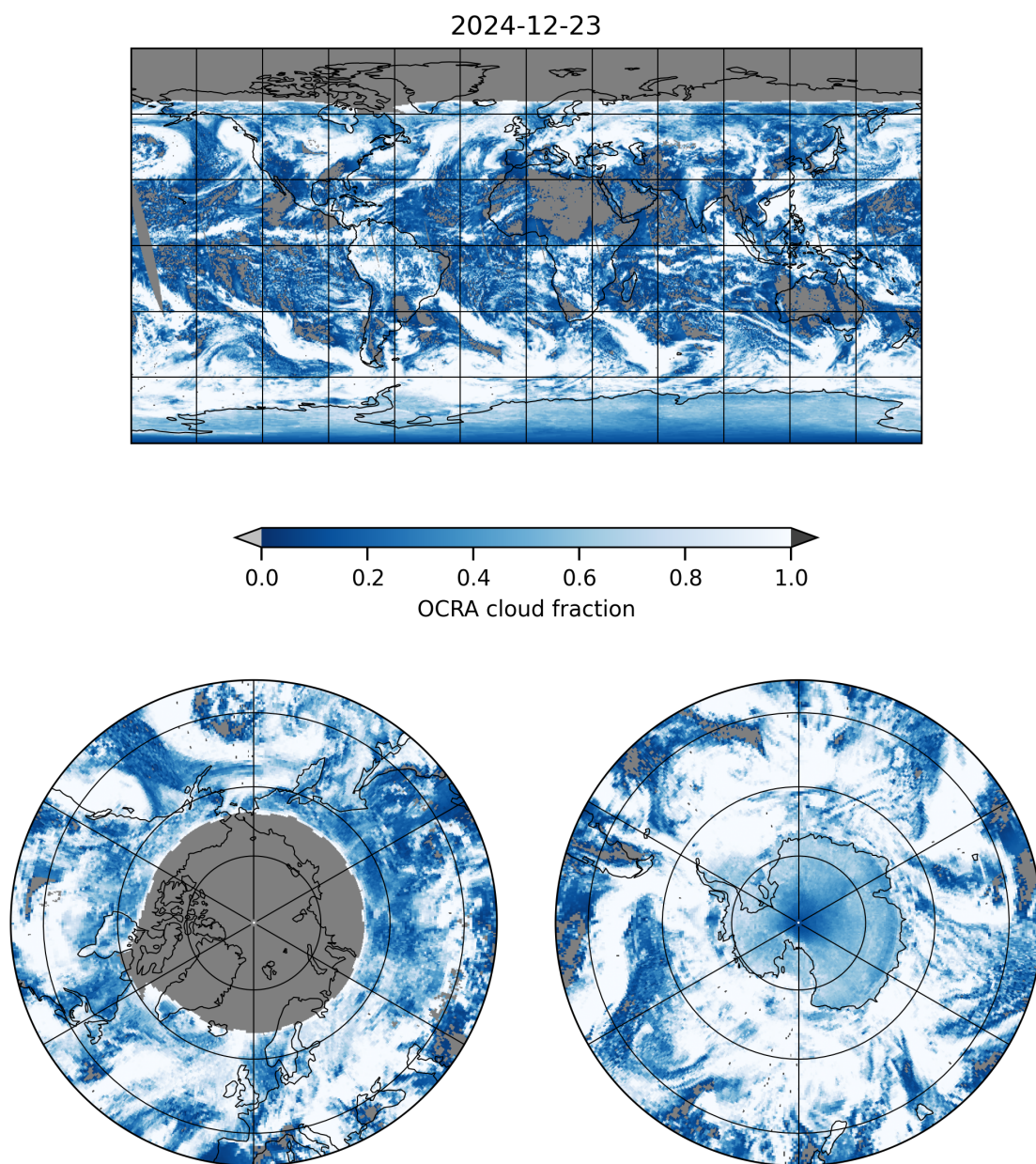


Figure 15: Map of “OCRA cloud fraction” for 2024-12-23 to 2024-12-24

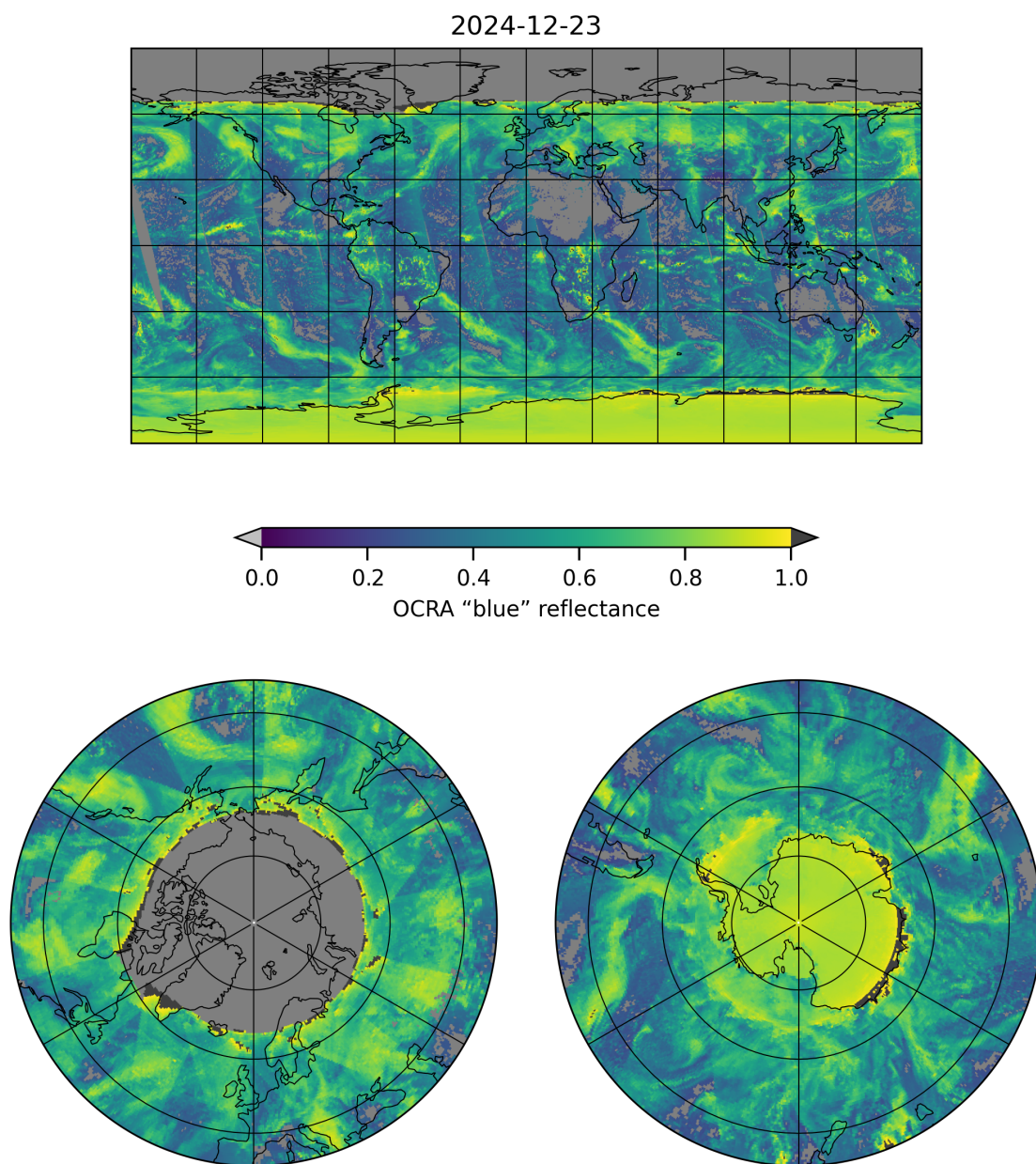


Figure 16: Map of "OCRA "blue" reflectance" for 2024-12-23 to 2024-12-24

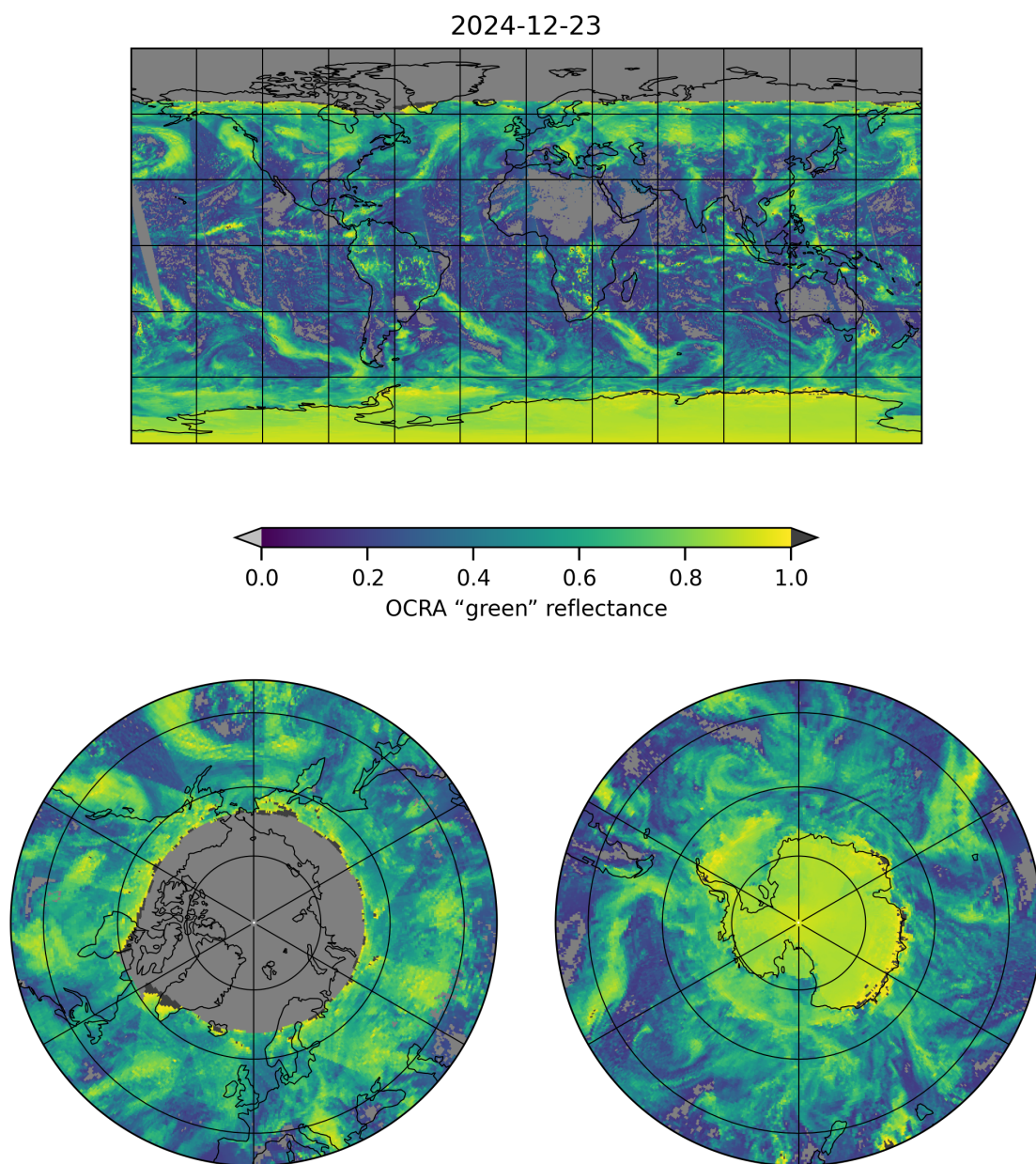


Figure 17: Map of "OCRA "green" reflectance" for 2024-12-23 to 2024-12-24

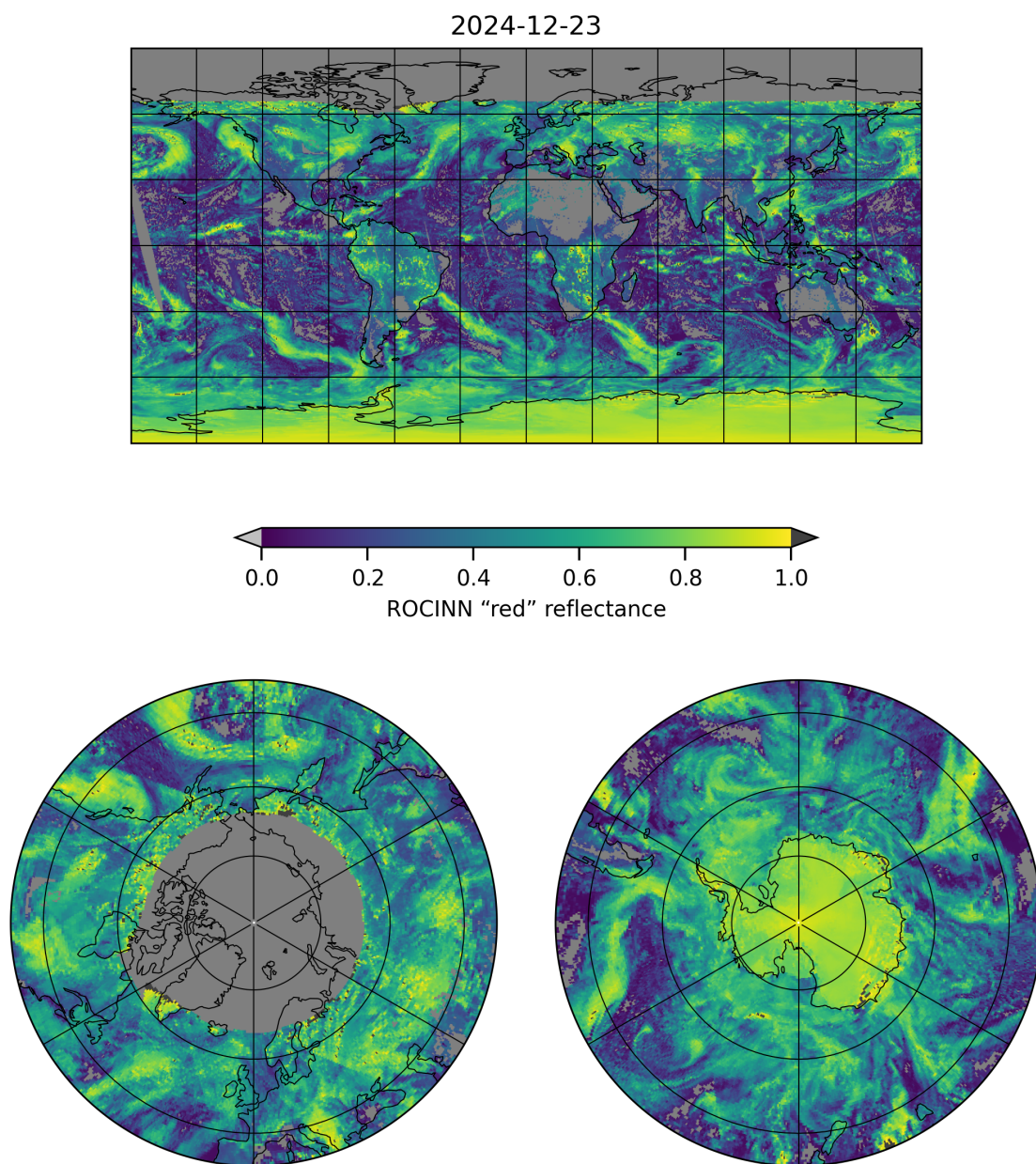


Figure 18: Map of "ROCINN "red" reflectance" for 2024-12-23 to 2024-12-24

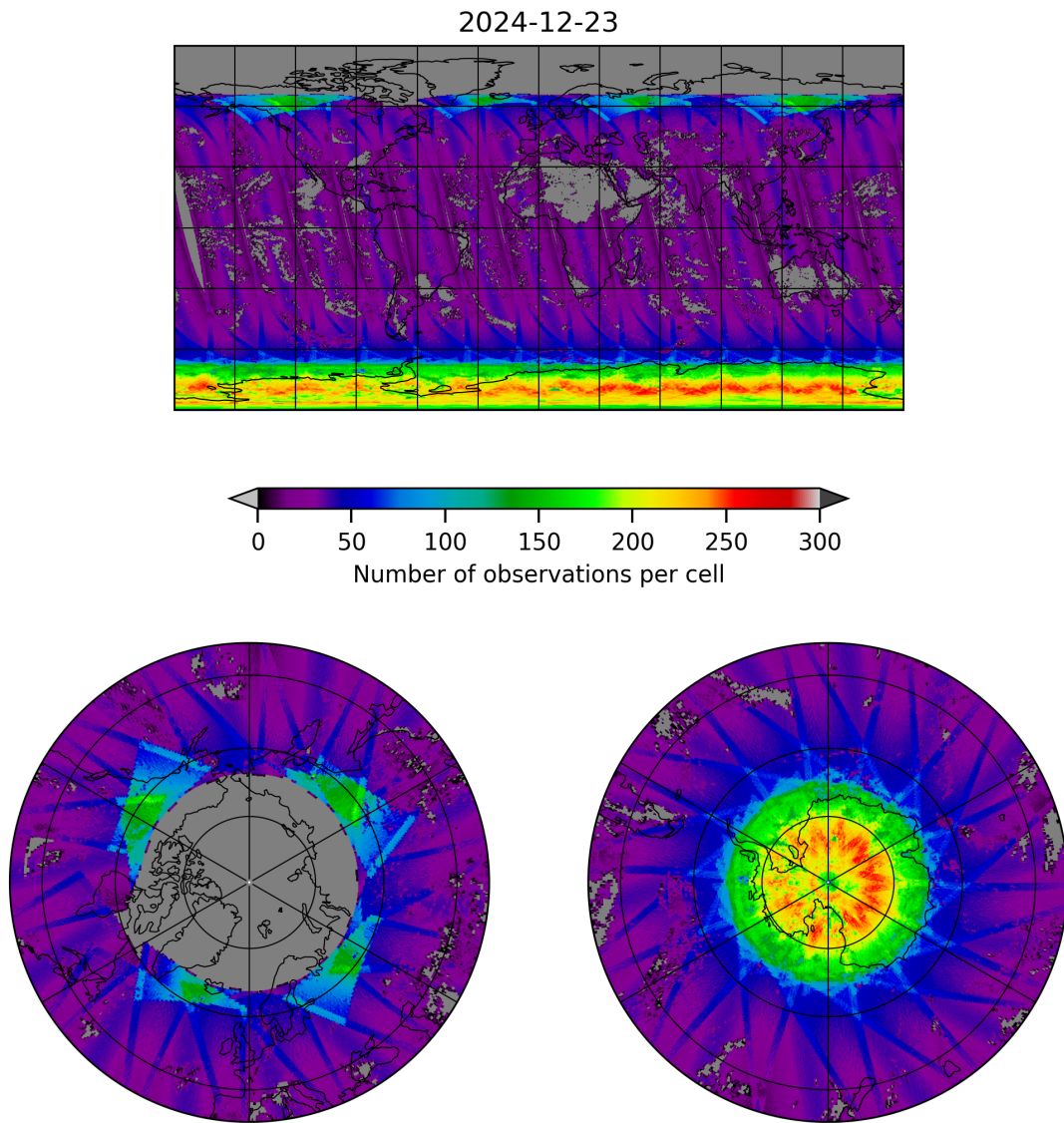


Figure 19: Map of the number of observations for 2024-12-23 to 2024-12-24

7 Zonal average

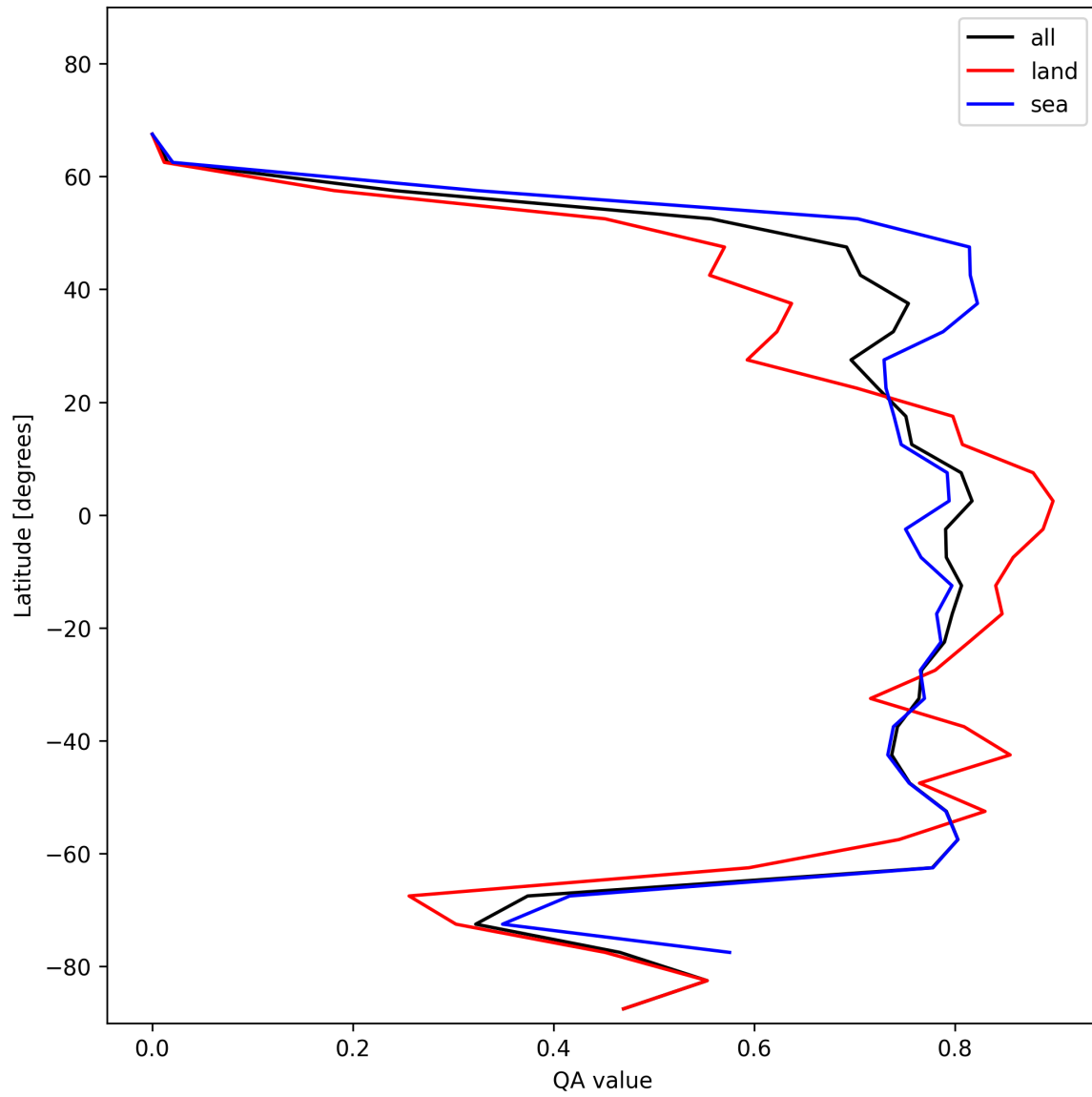


Figure 20: Zonal average of “QA value” for 2024-12-23 to 2024-12-24.

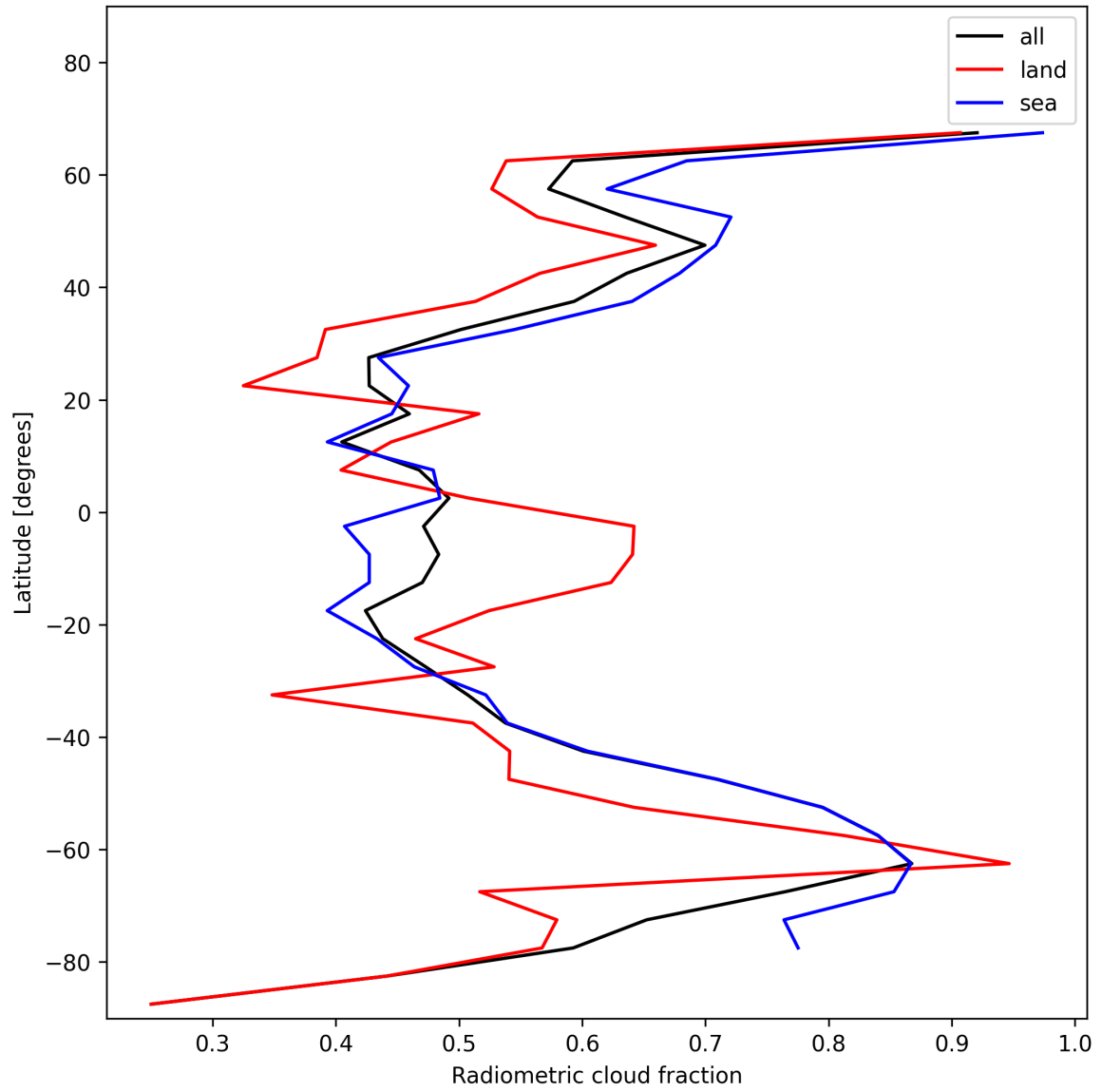


Figure 21: Zonal average of “Radiometric cloud fraction” for 2024-12-23 to 2024-12-24.

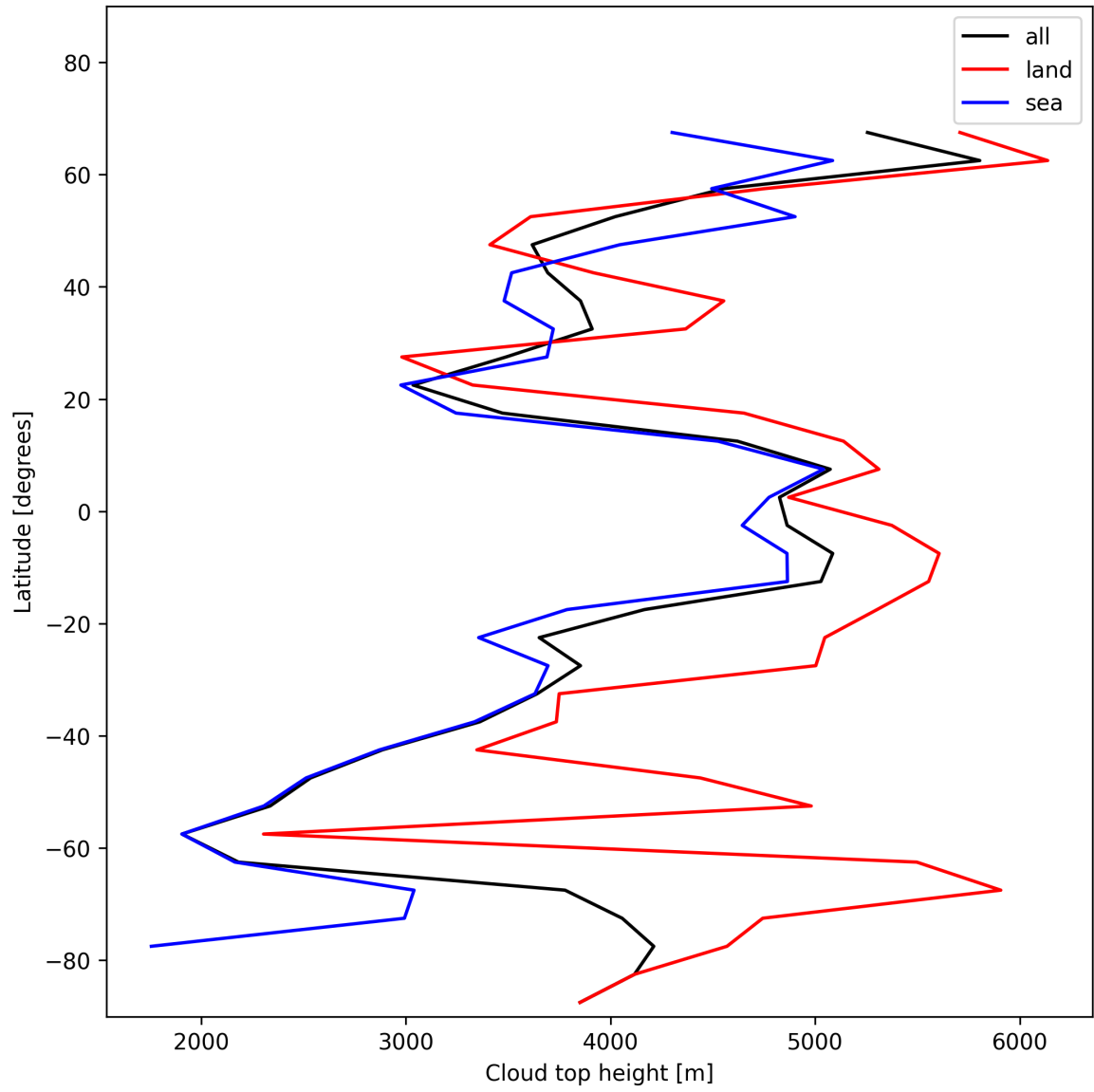


Figure 22: Zonal average of “Cloud top height” for 2024-12-23 to 2024-12-24.

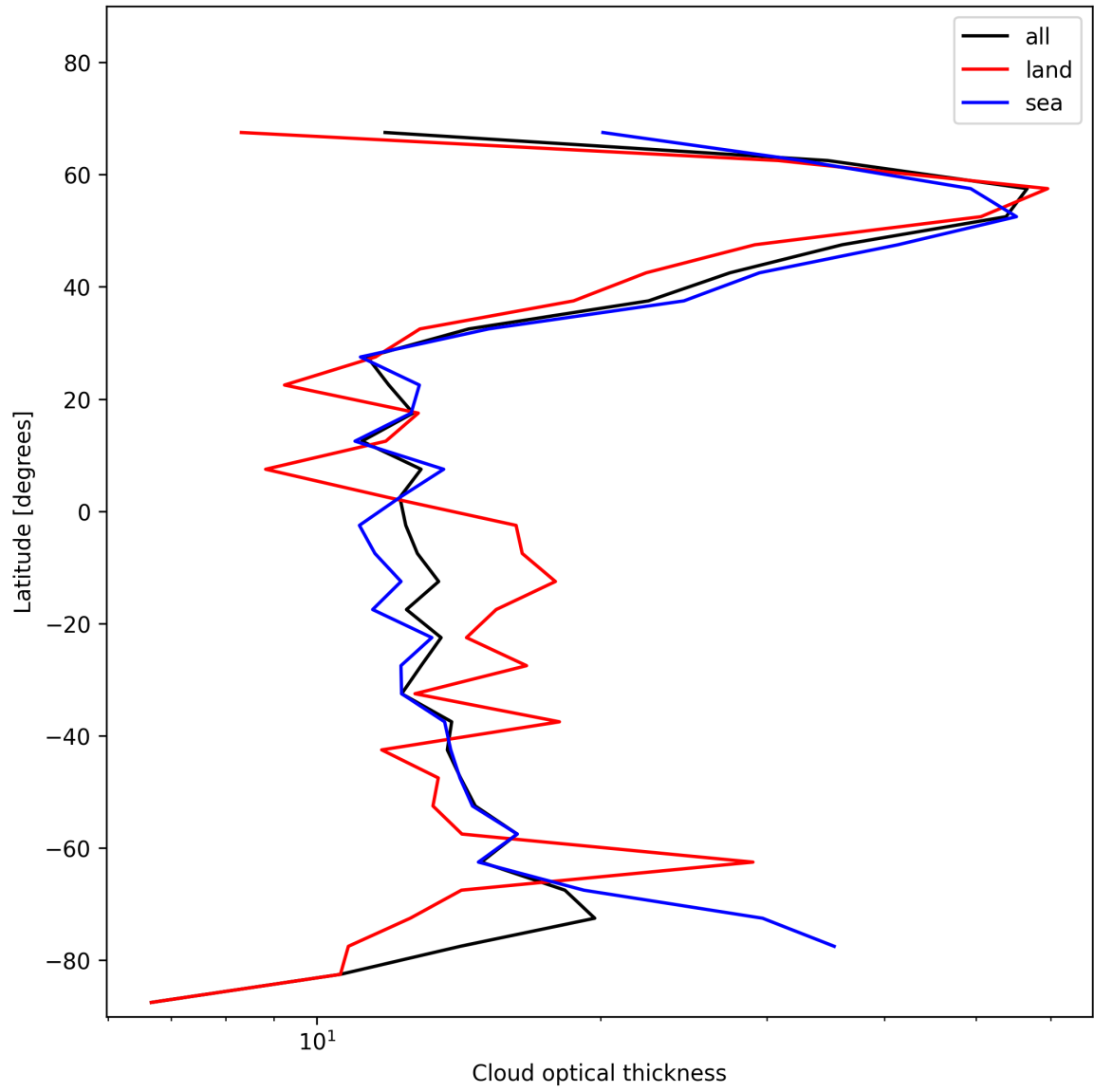


Figure 23: Zonal average of “Cloud optical thickness” for 2024-12-23 to 2024-12-24.

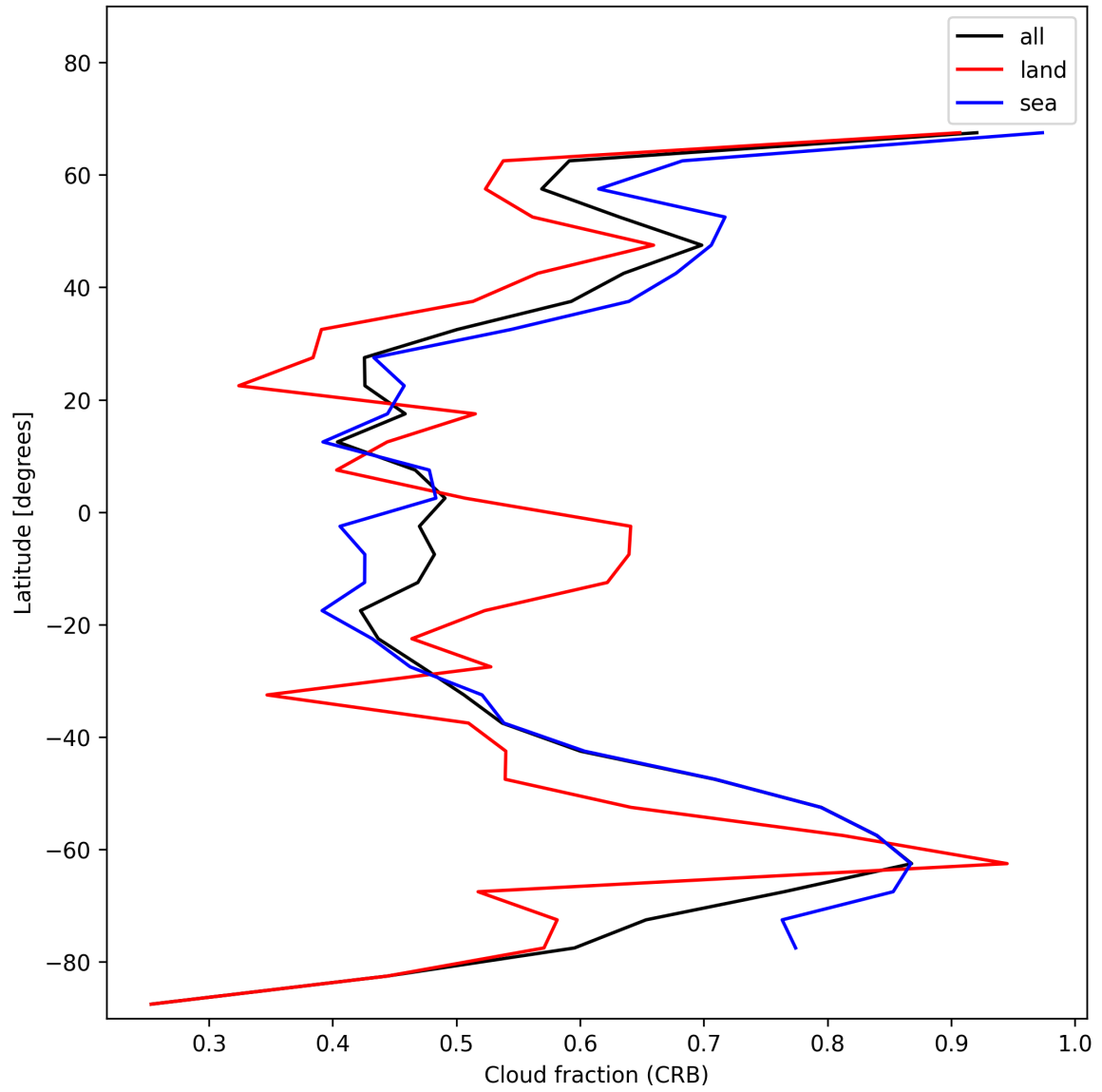


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2024-12-23 to 2024-12-24.

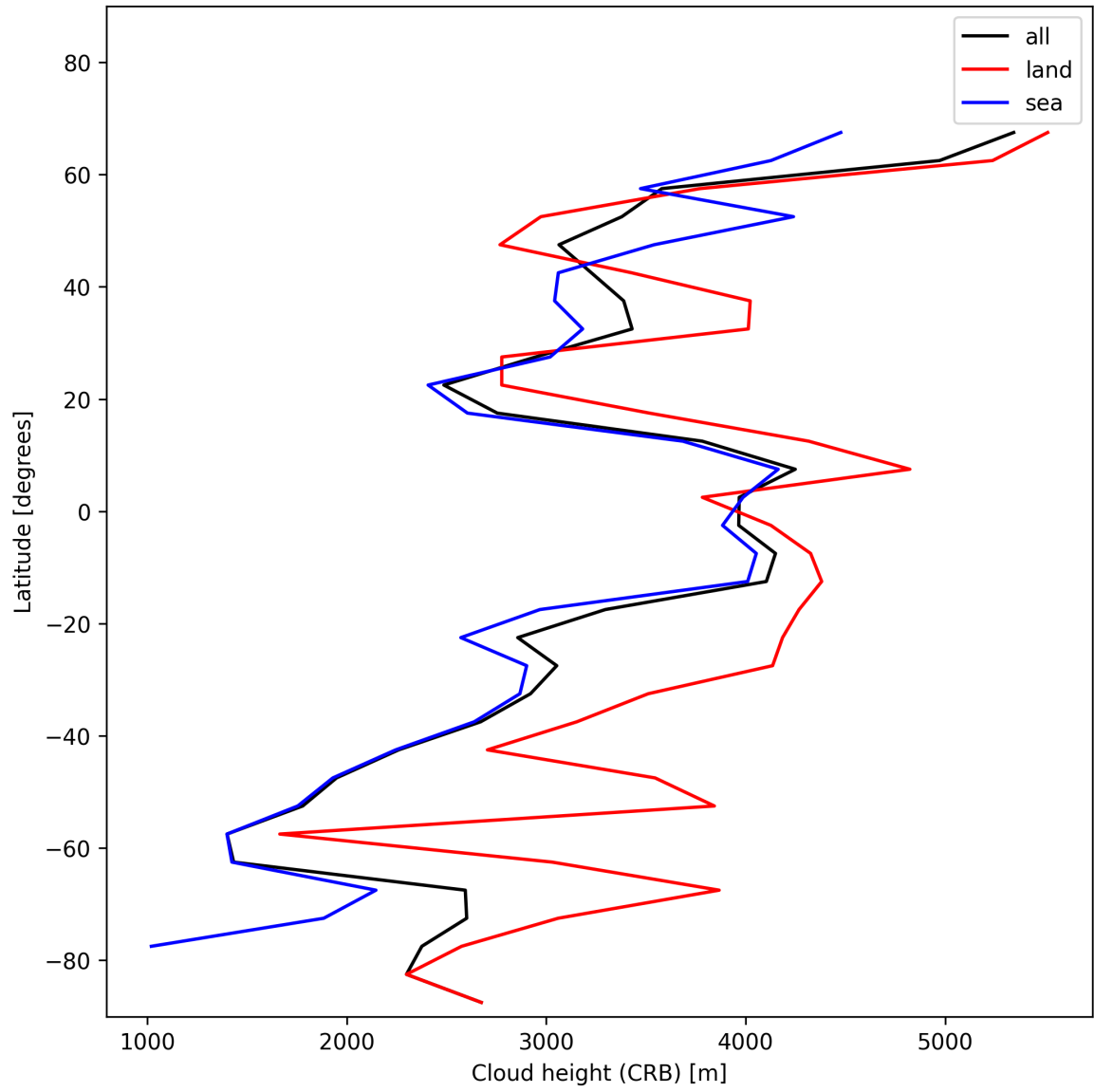


Figure 25: Zonal average of “Cloud height (CRB)” for 2024-12-23 to 2024-12-24.

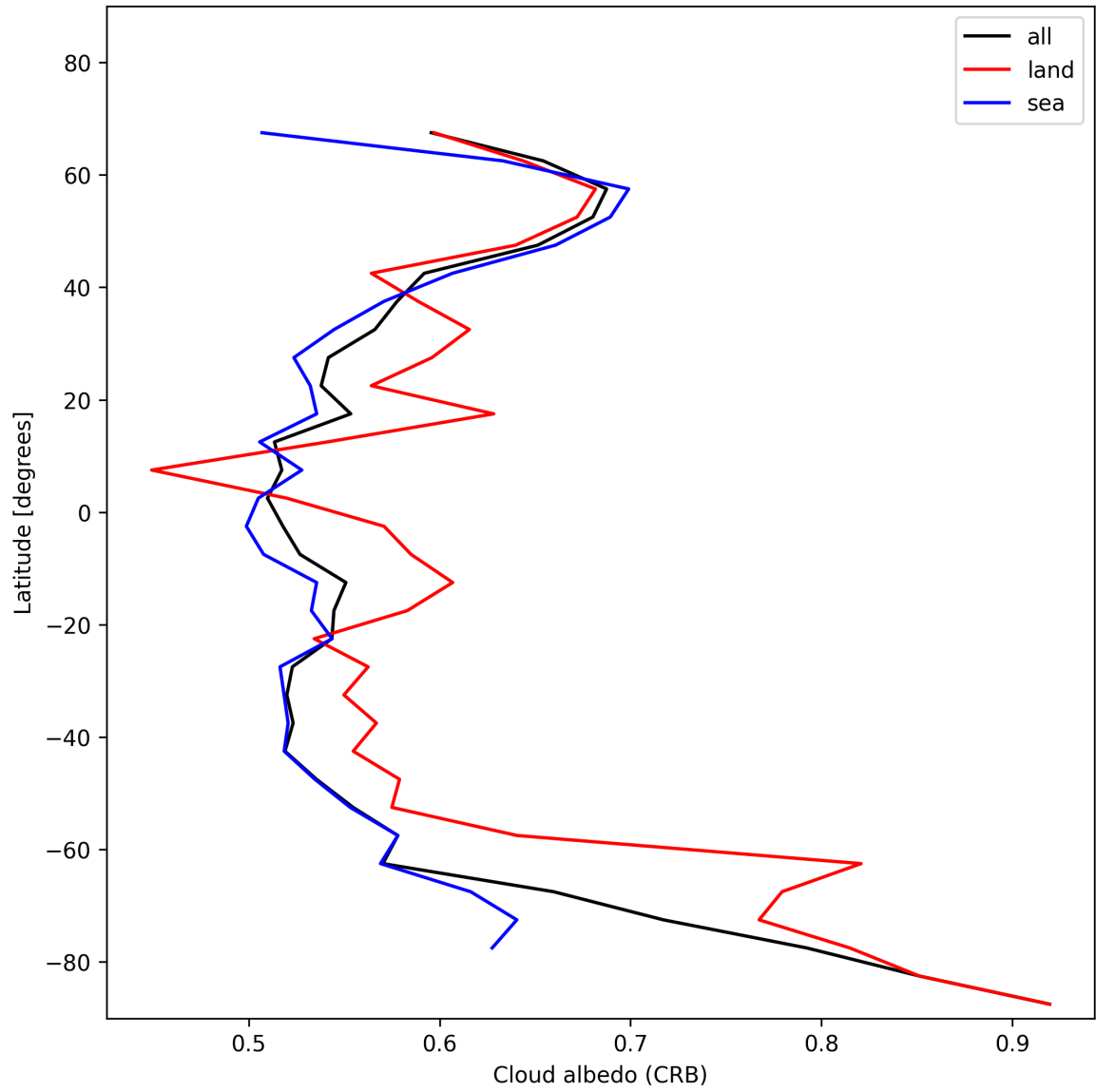


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2024-12-23 to 2024-12-24.

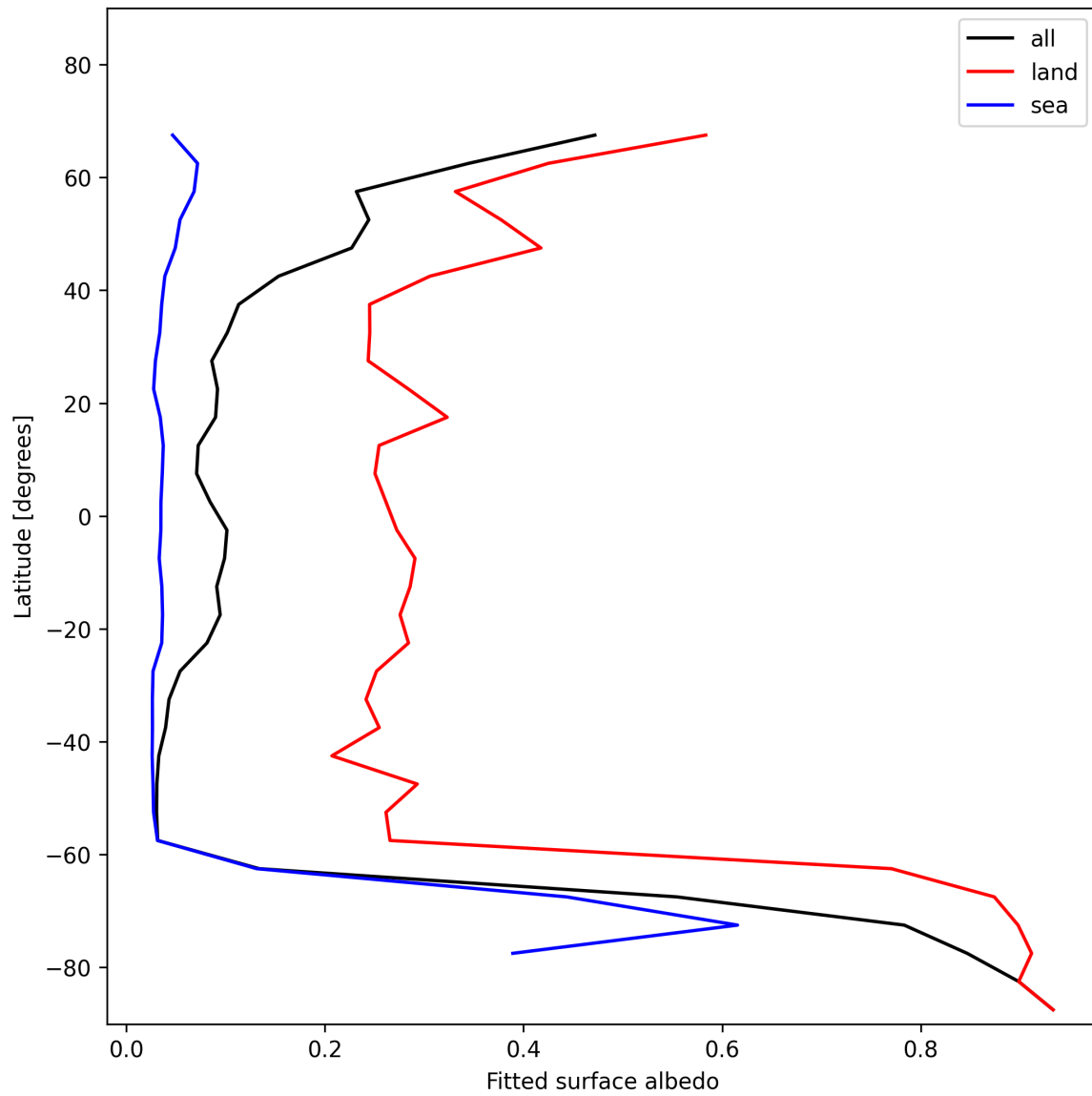


Figure 27: Zonal average of “Fitted surface albedo” for 2024-12-23 to 2024-12-24.

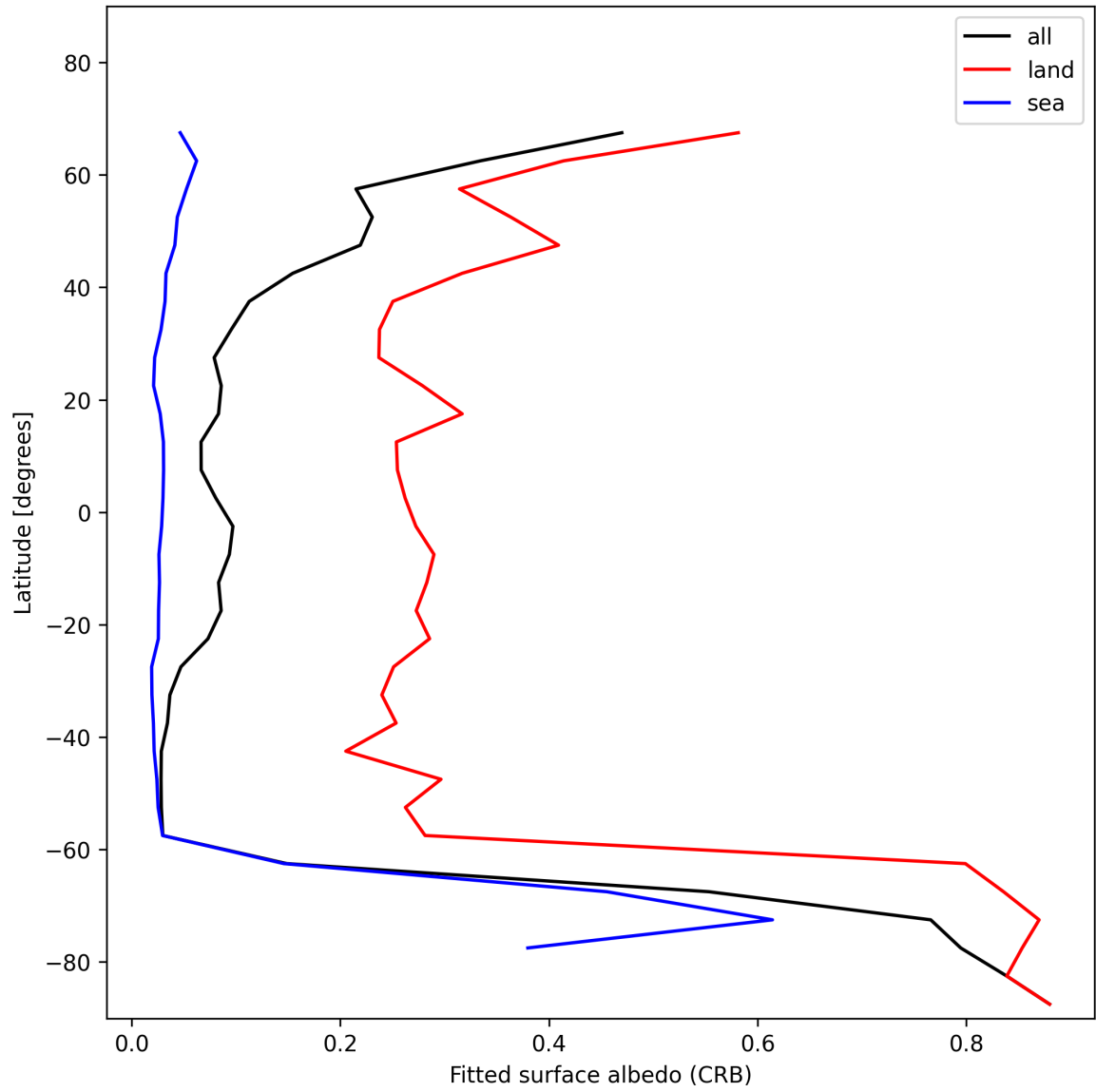


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2024-12-23 to 2024-12-24.

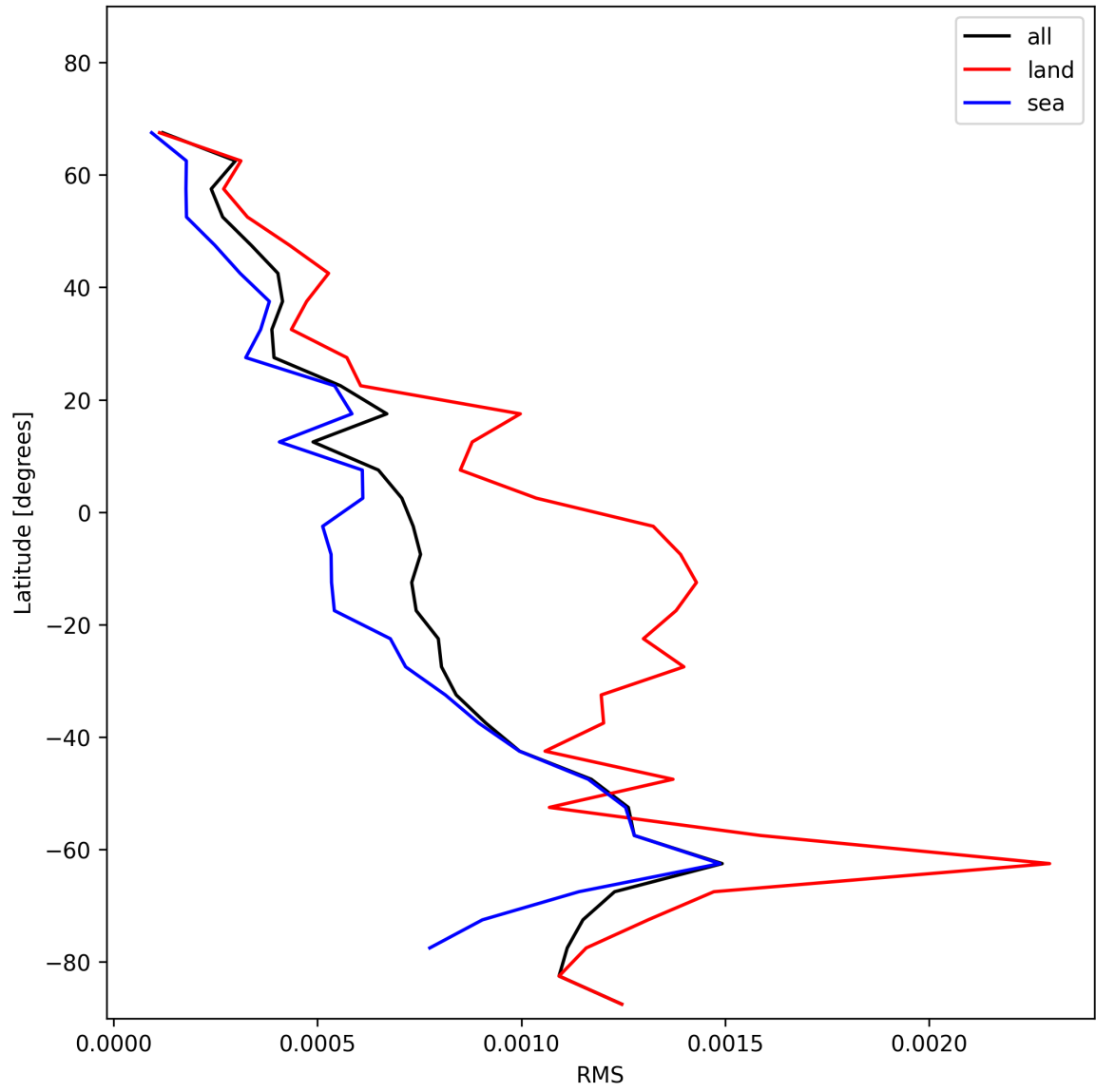


Figure 29: Zonal average of “RMS” for 2024-12-23 to 2024-12-24.

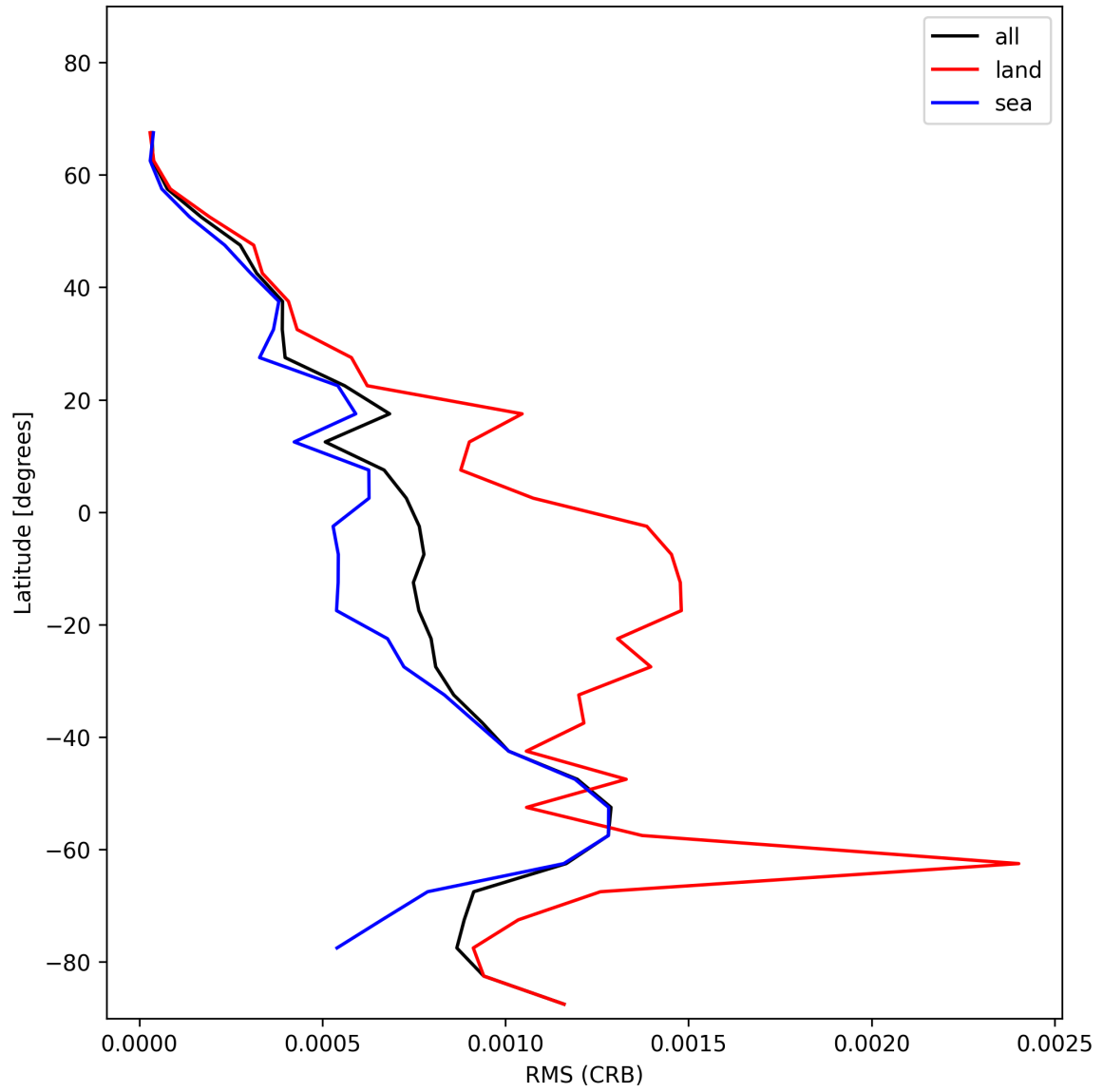


Figure 30: Zonal average of “RMS (CRB)” for 2024-12-23 to 2024-12-24.

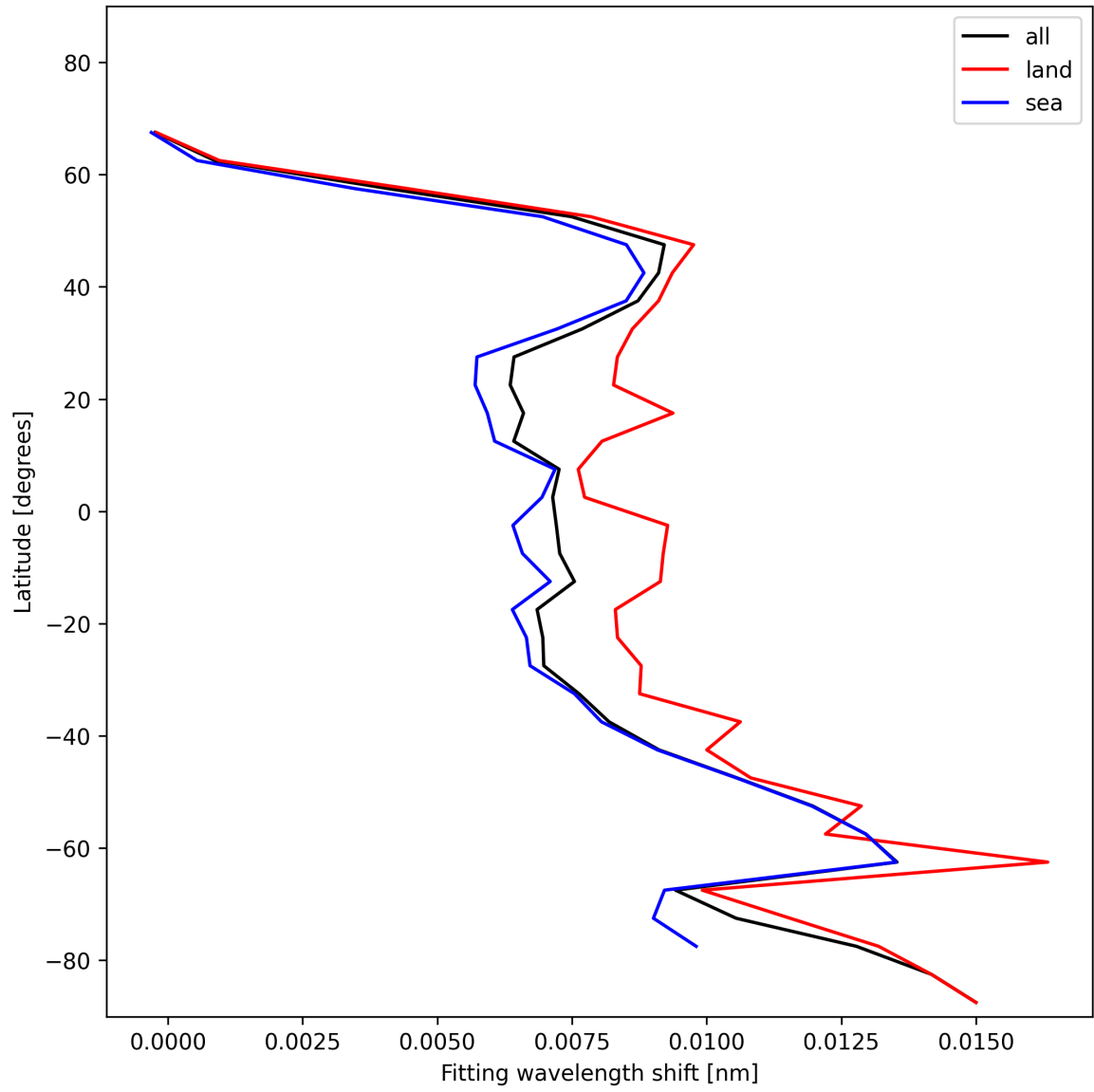


Figure 31: Zonal average of “Fitting wavelength shift” for 2024-12-23 to 2024-12-24.

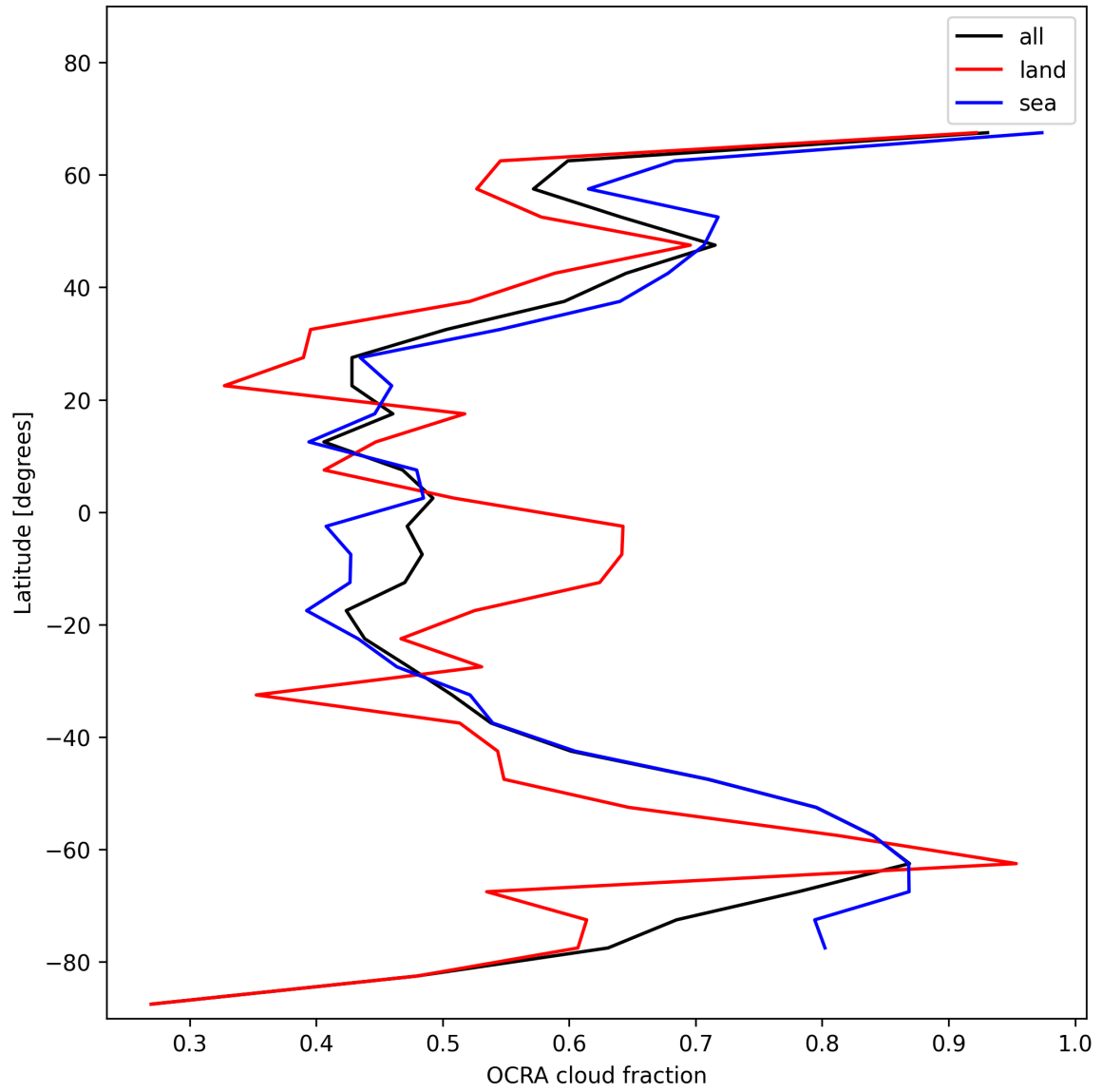


Figure 32: Zonal average of “OCRA cloud fraction” for 2024-12-23 to 2024-12-24.

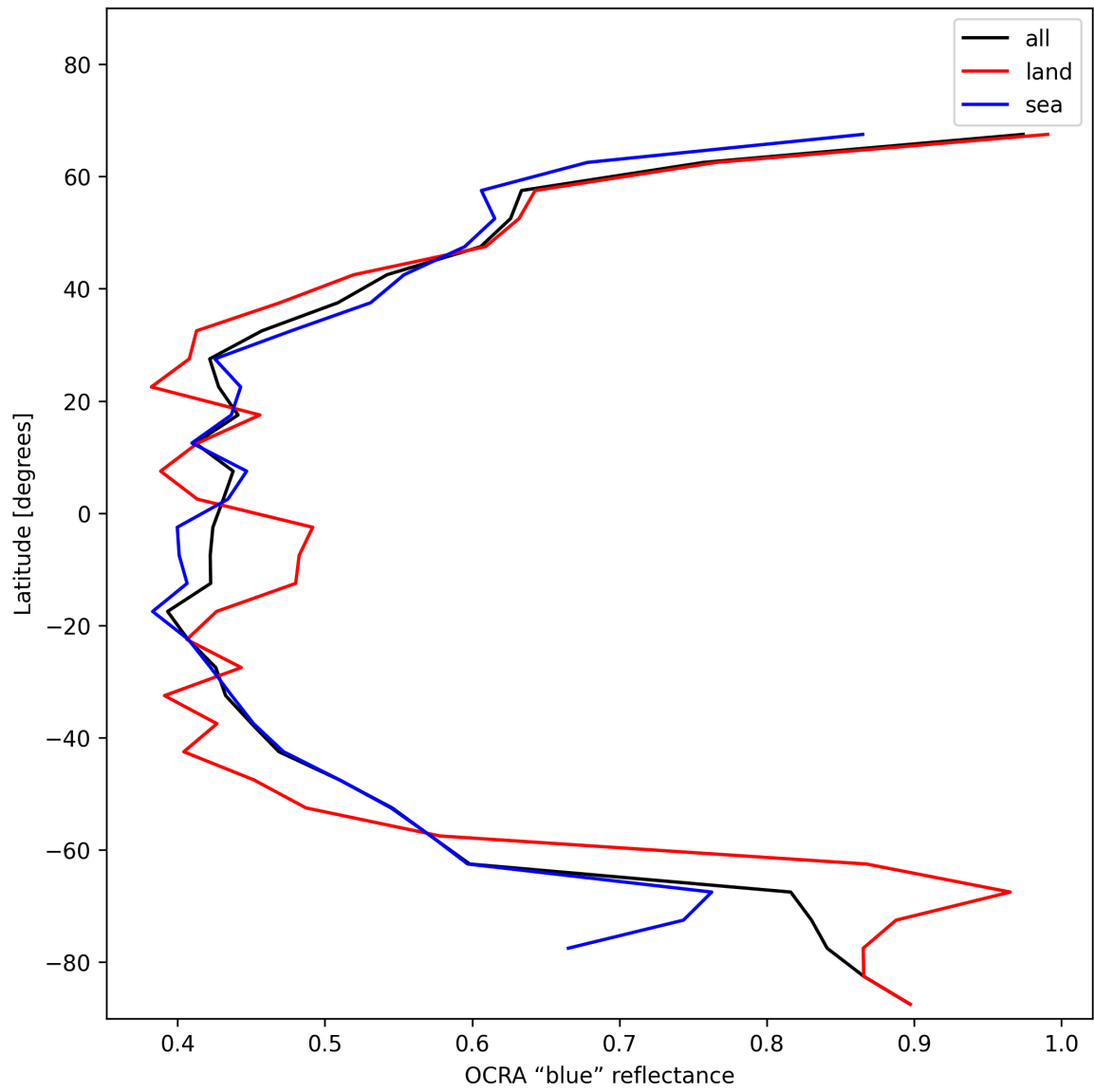


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2024-12-23 to 2024-12-24.

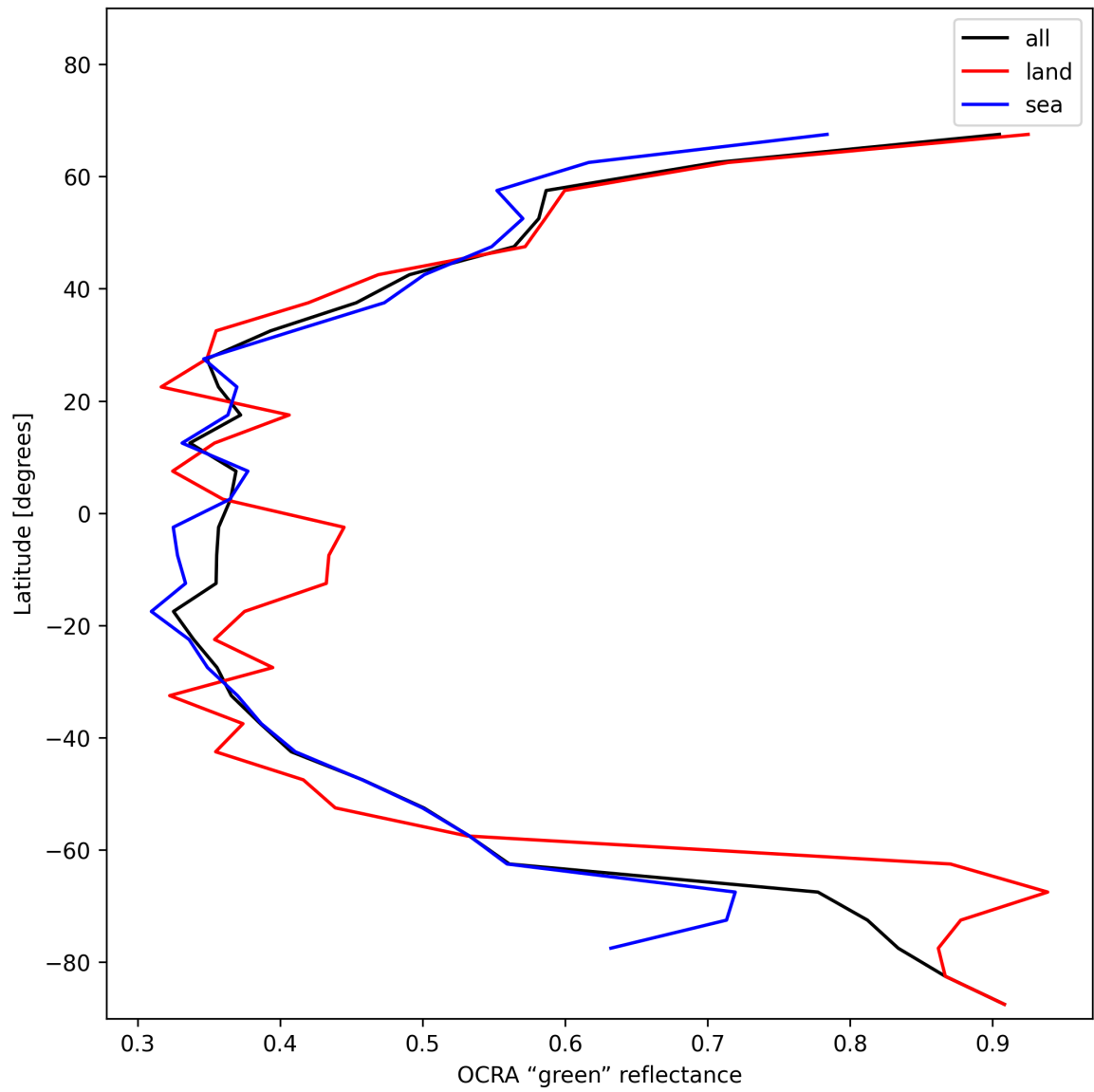


Figure 34: Zonal average of “OCRA “green” reflectance” for 2024-12-23 to 2024-12-24.

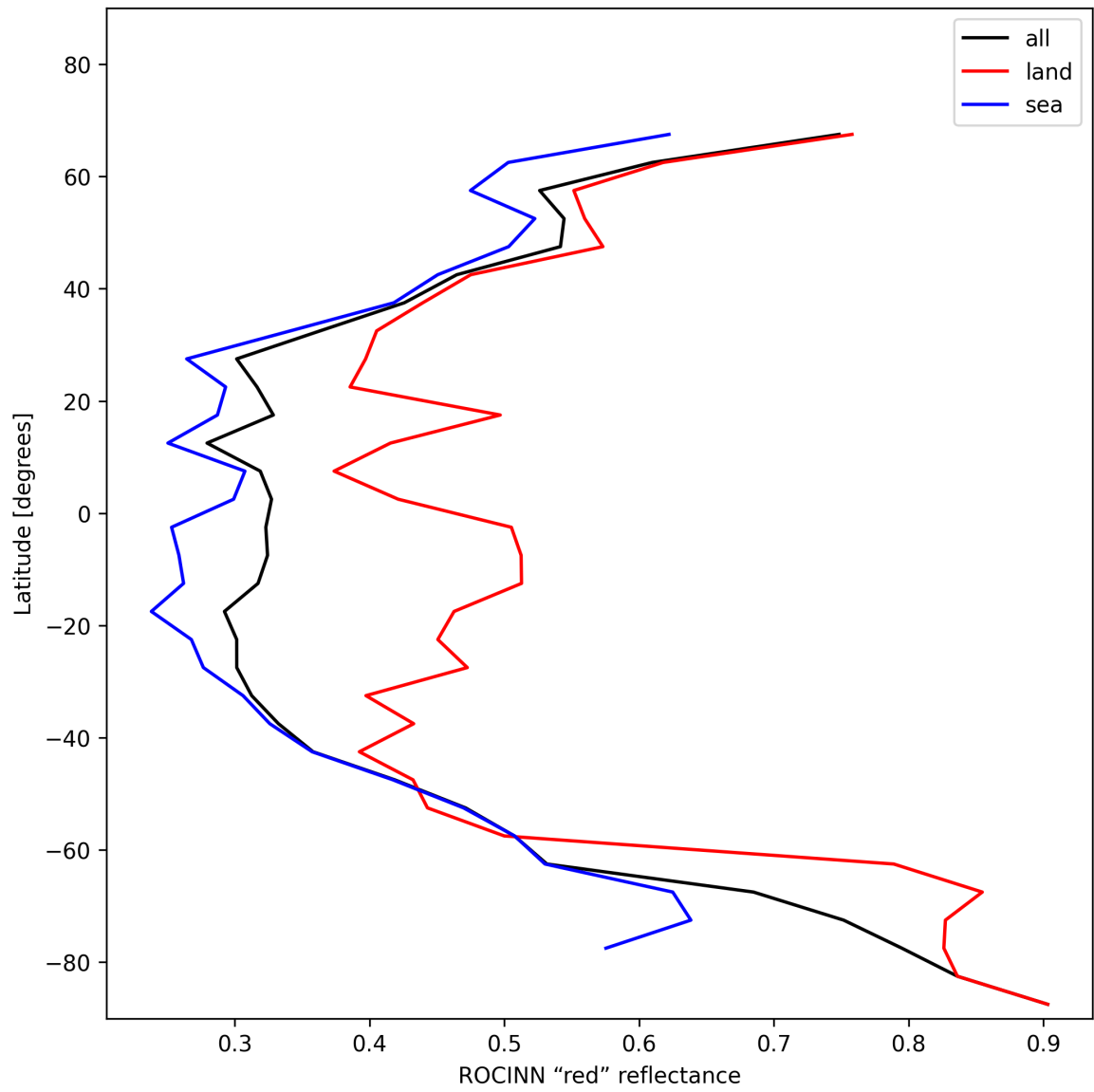


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2024-12-23 to 2024-12-24.

8 Histograms

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

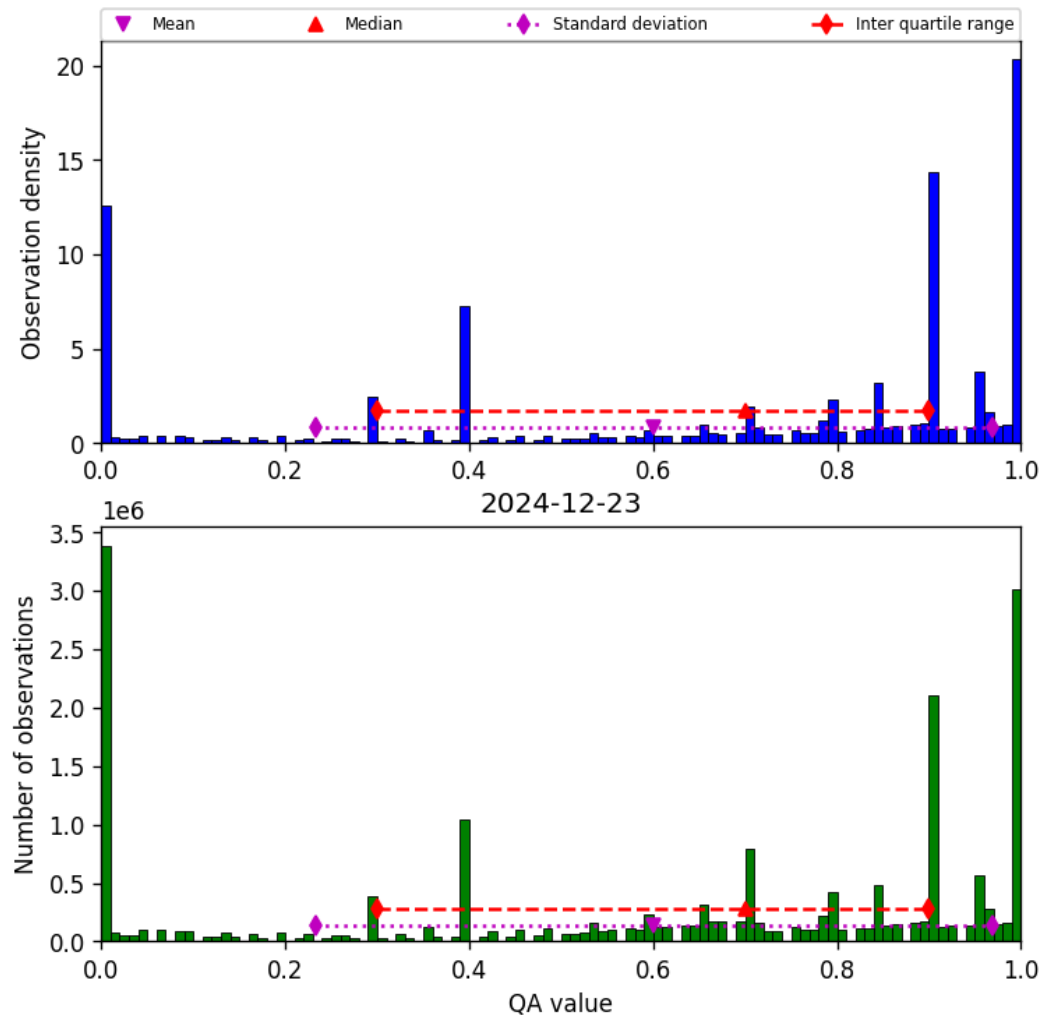


Figure 36: Histogram of “QA value” for 2024-12-23 to 2024-12-24

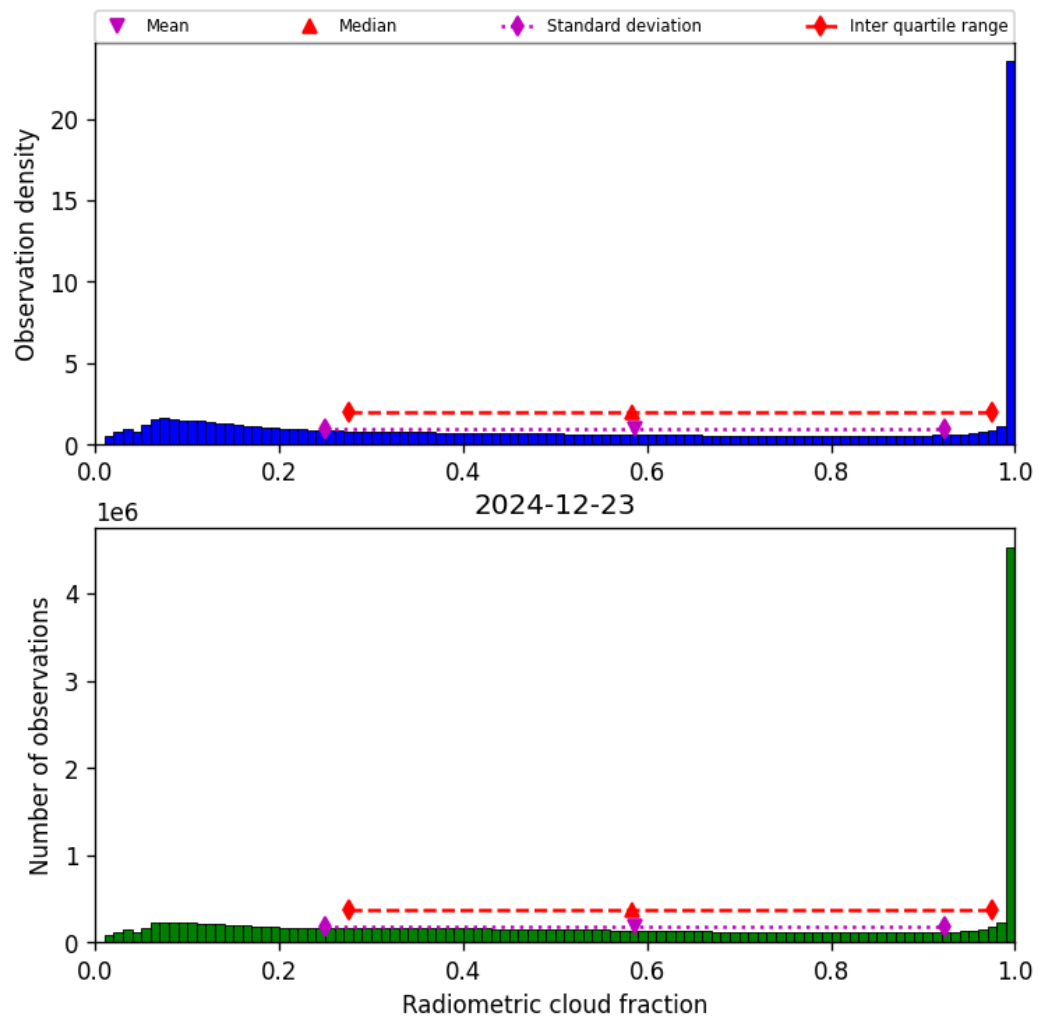


Figure 37: Histogram of “Radiometric cloud fraction” for 2024-12-23 to 2024-12-24

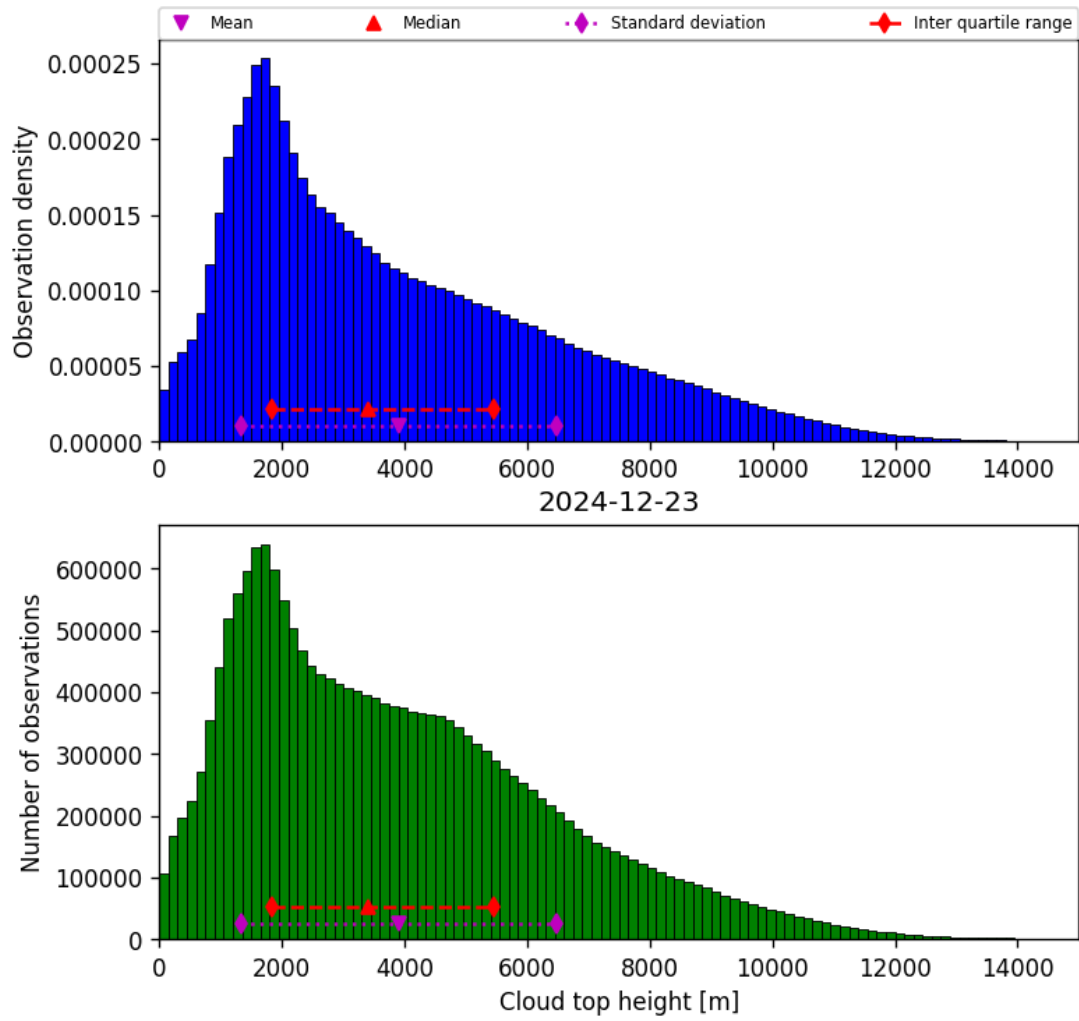


Figure 38: Histogram of “Cloud top height” for 2024-12-23 to 2024-12-24

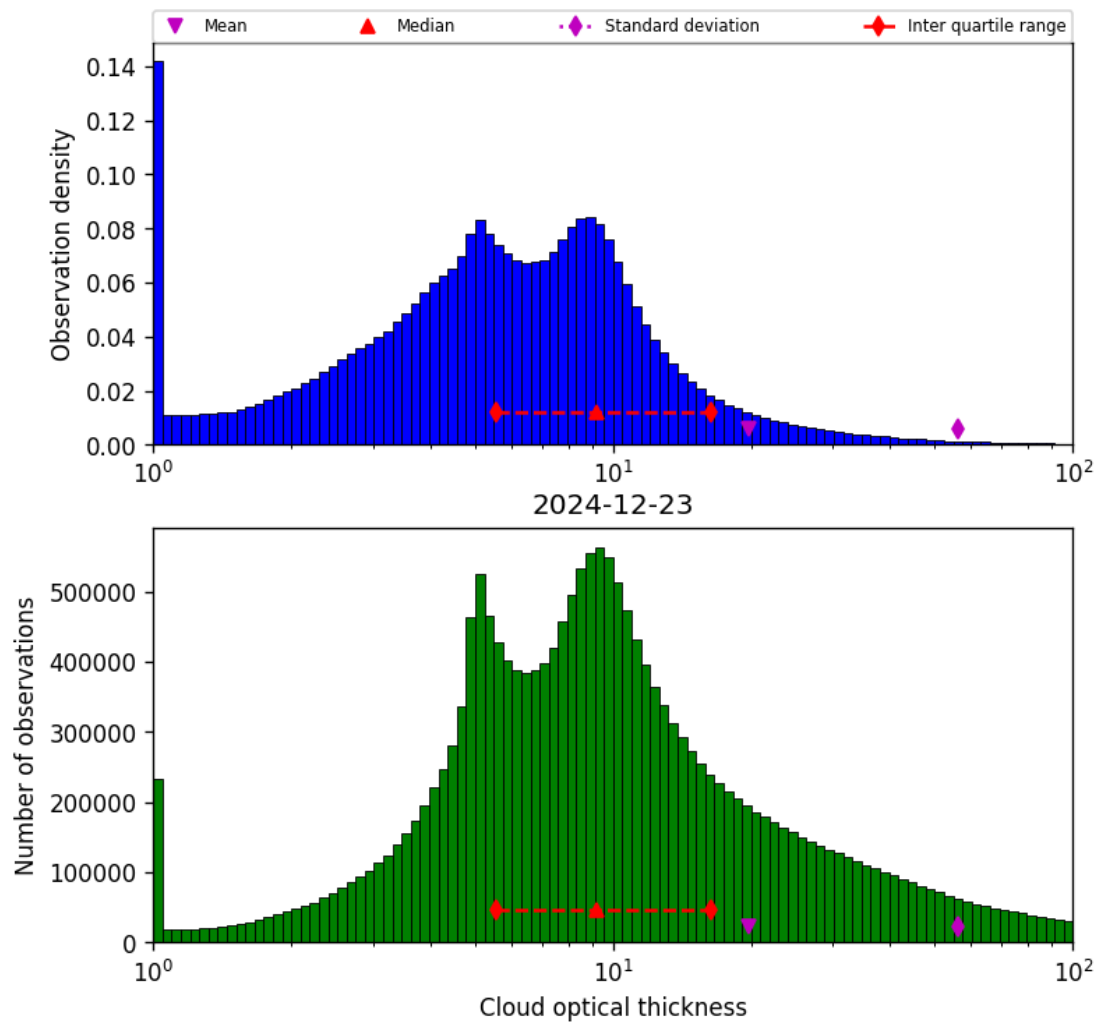


Figure 39: Histogram of “Cloud optical thickness” for 2024-12-23 to 2024-12-24

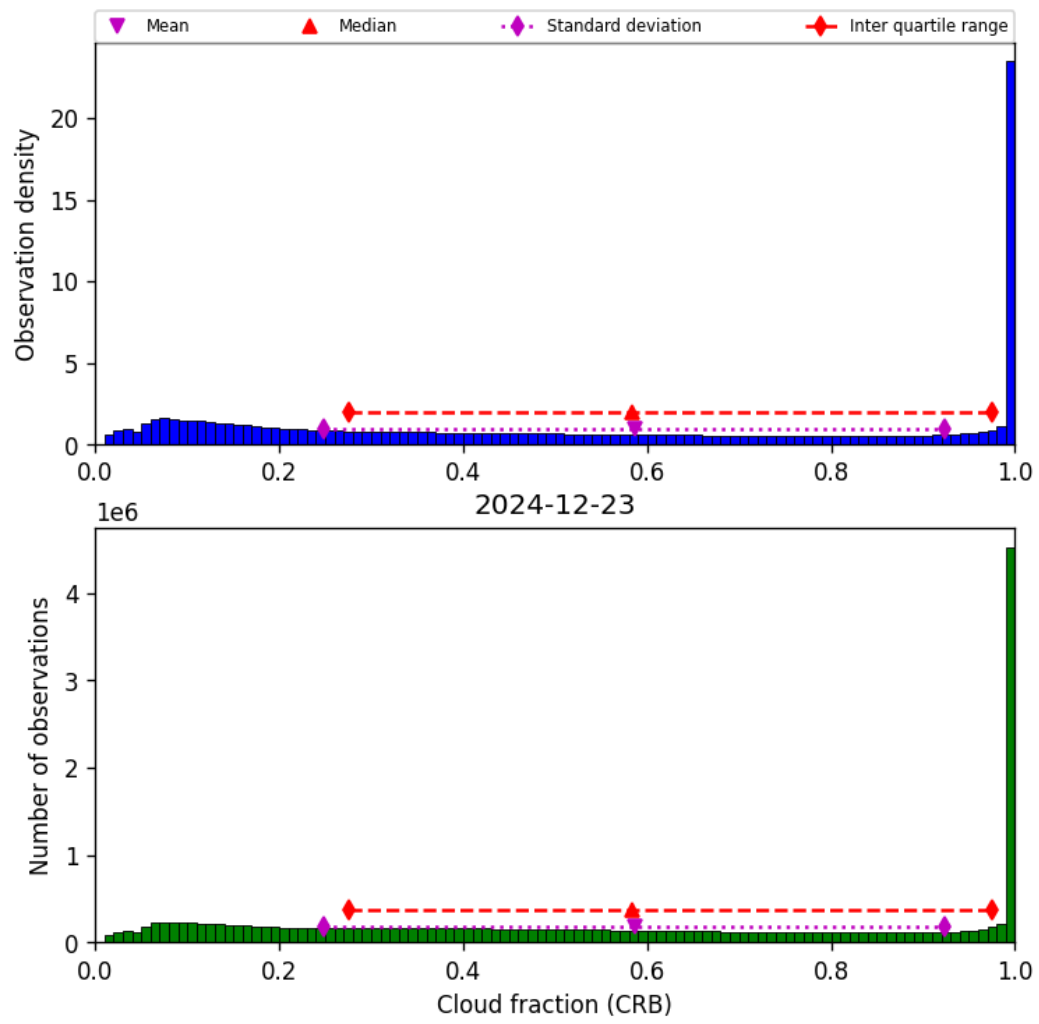


Figure 40: Histogram of “Cloud fraction (CRB)” for 2024-12-23 to 2024-12-24

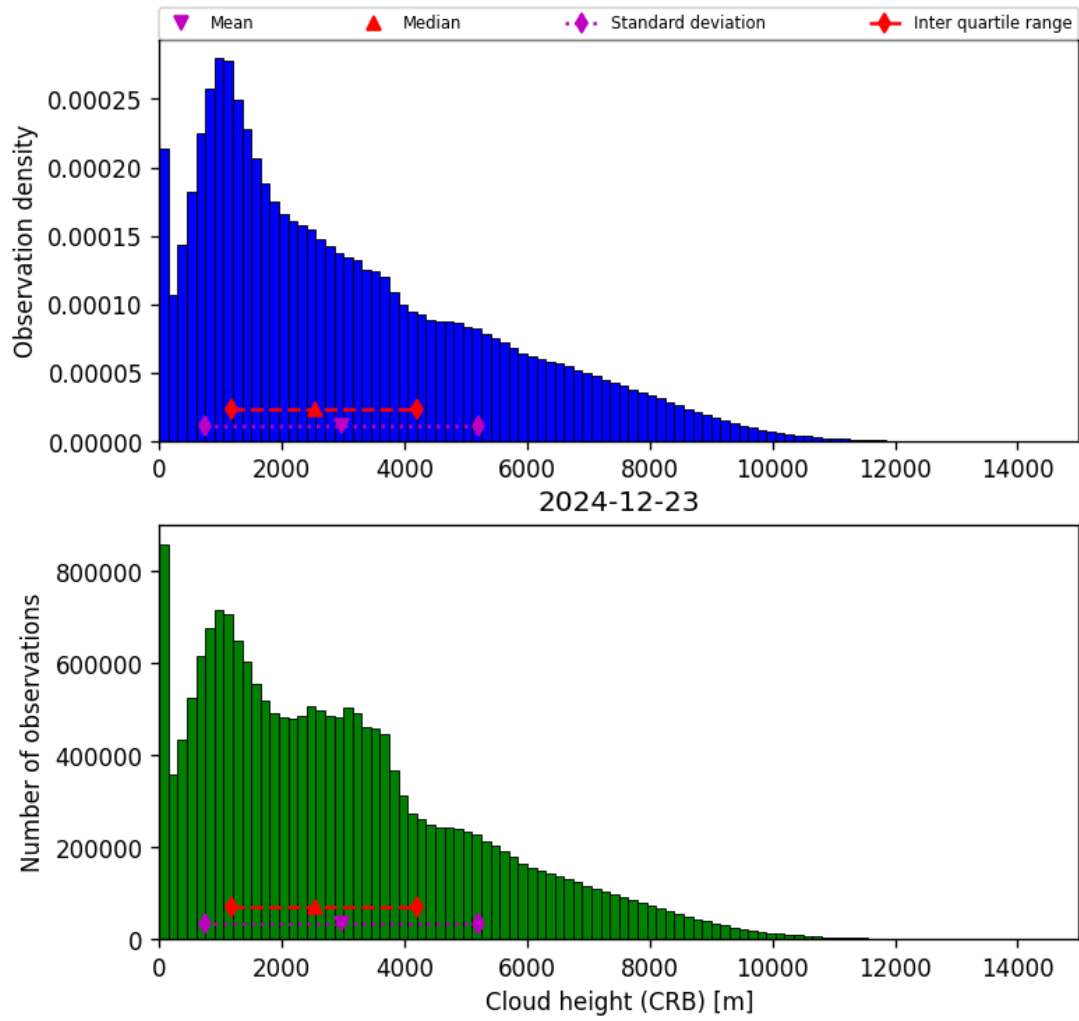


Figure 41: Histogram of “Cloud height (CRB)” for 2024-12-23 to 2024-12-24

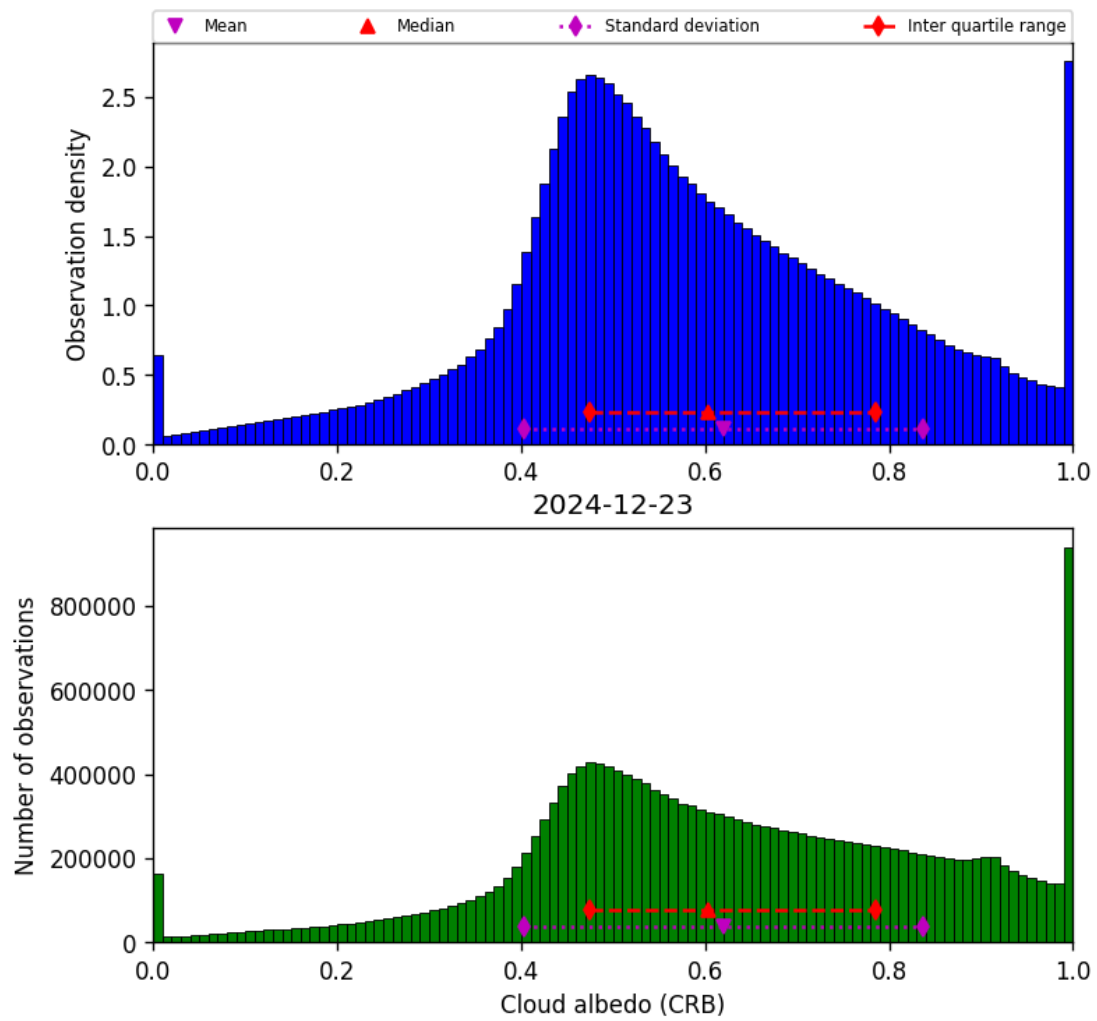


Figure 42: Histogram of “Cloud albedo (CRB)” for 2024-12-23 to 2024-12-24

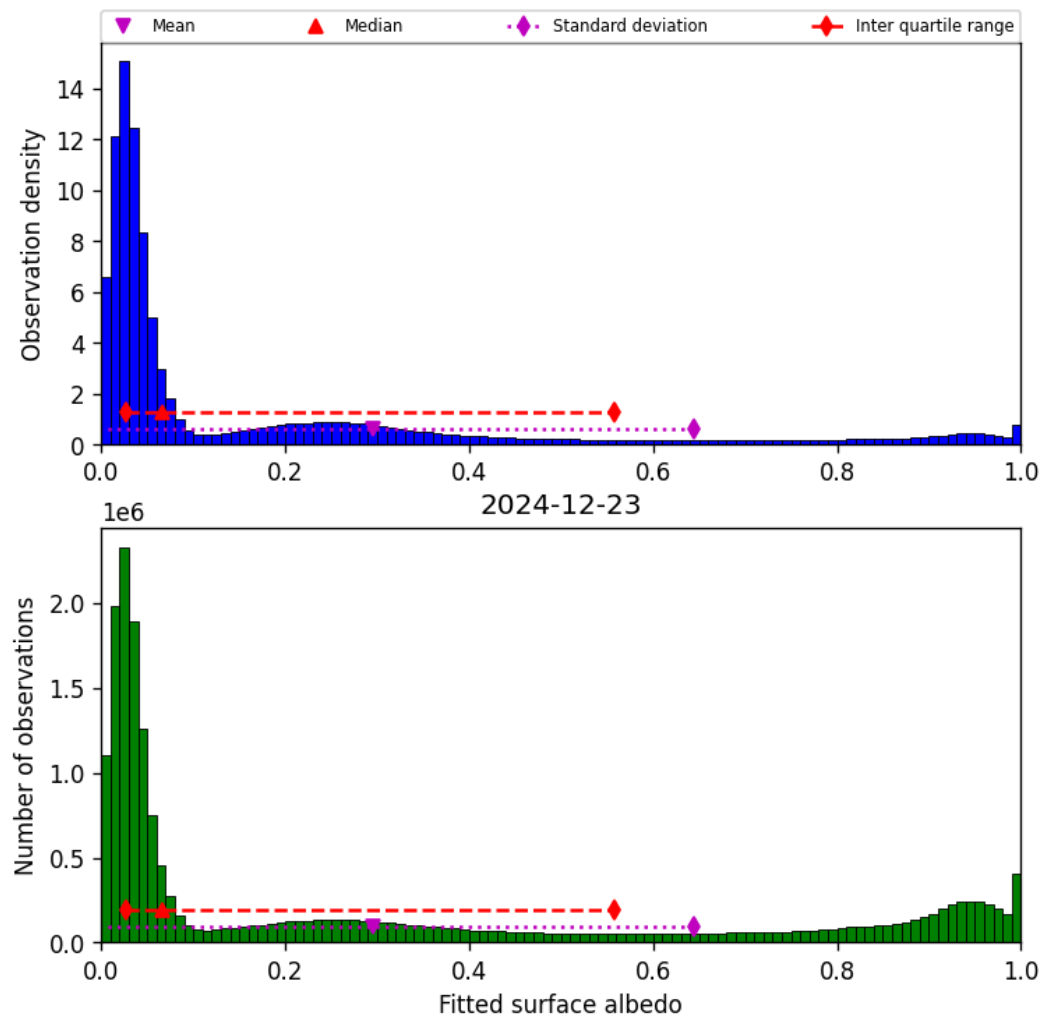


Figure 43: Histogram of “Fitted surface albedo” for 2024-12-23 to 2024-12-24

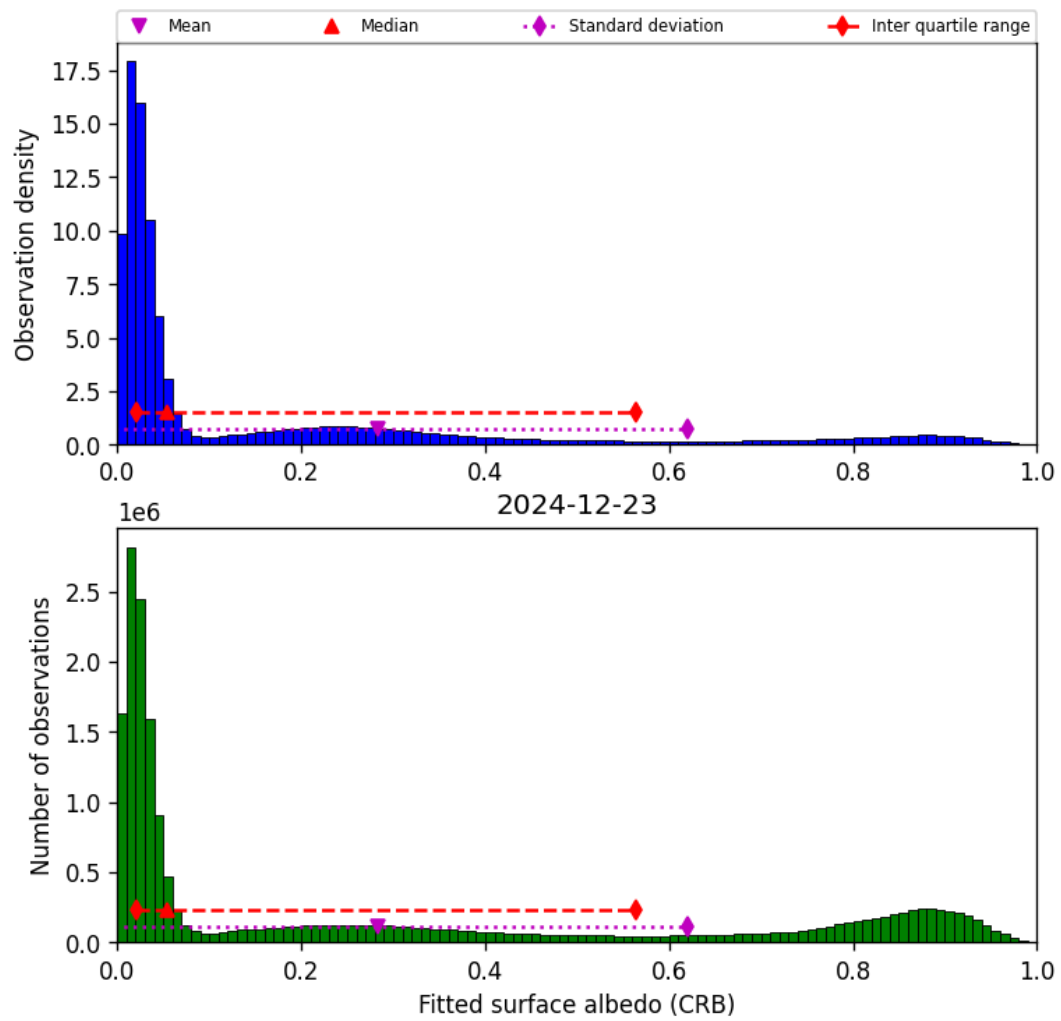


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2024-12-23 to 2024-12-24

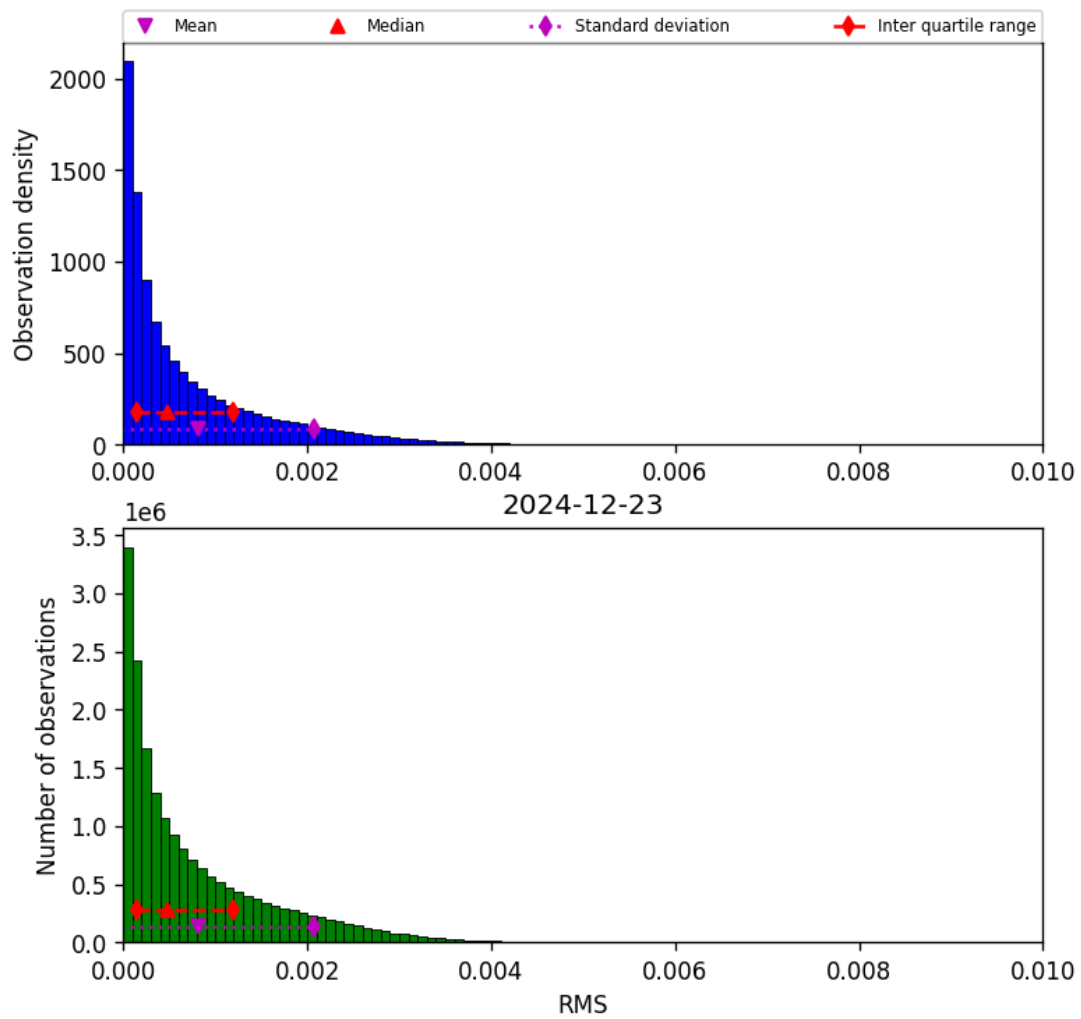


Figure 45: Histogram of “RMS” for 2024-12-23 to 2024-12-24

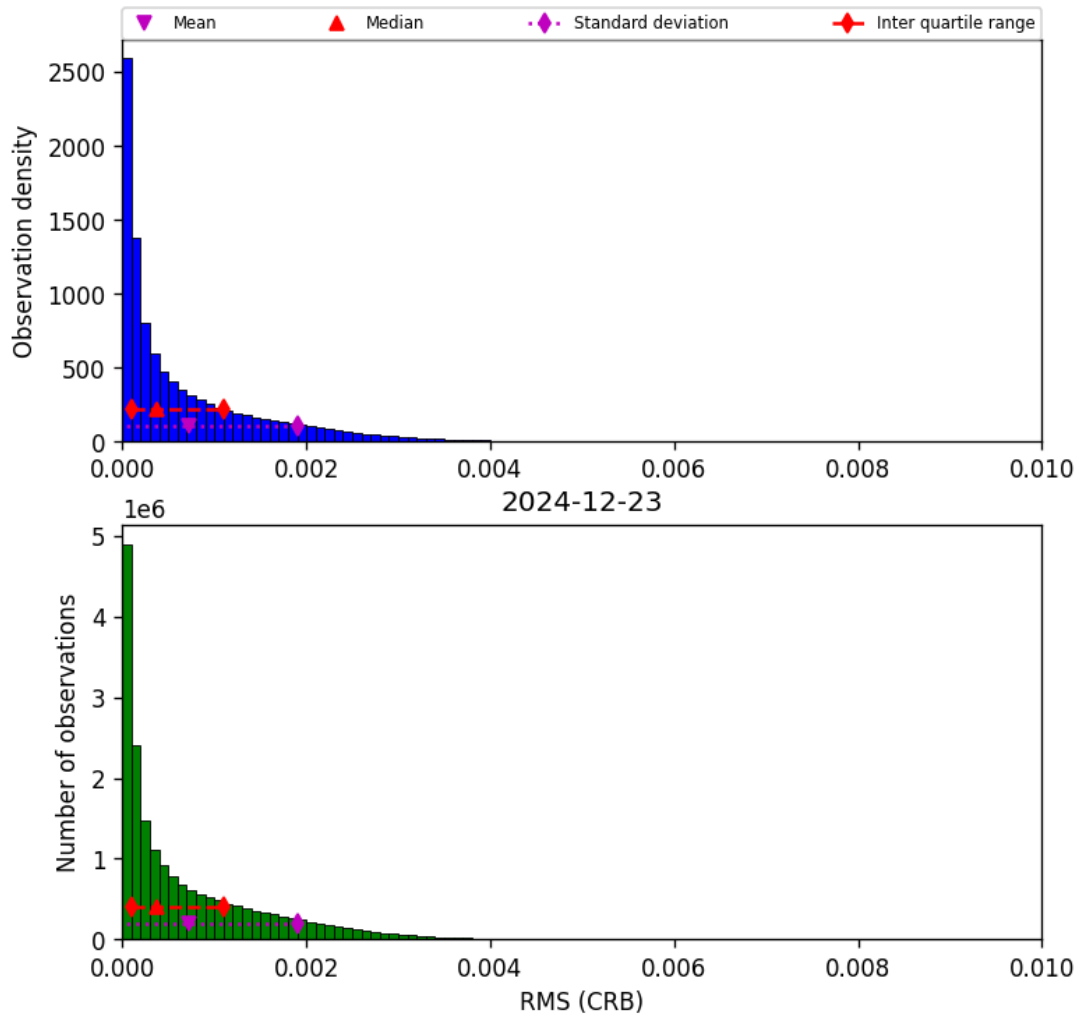


Figure 46: Histogram of “RMS (CRB)” for 2024-12-23 to 2024-12-24

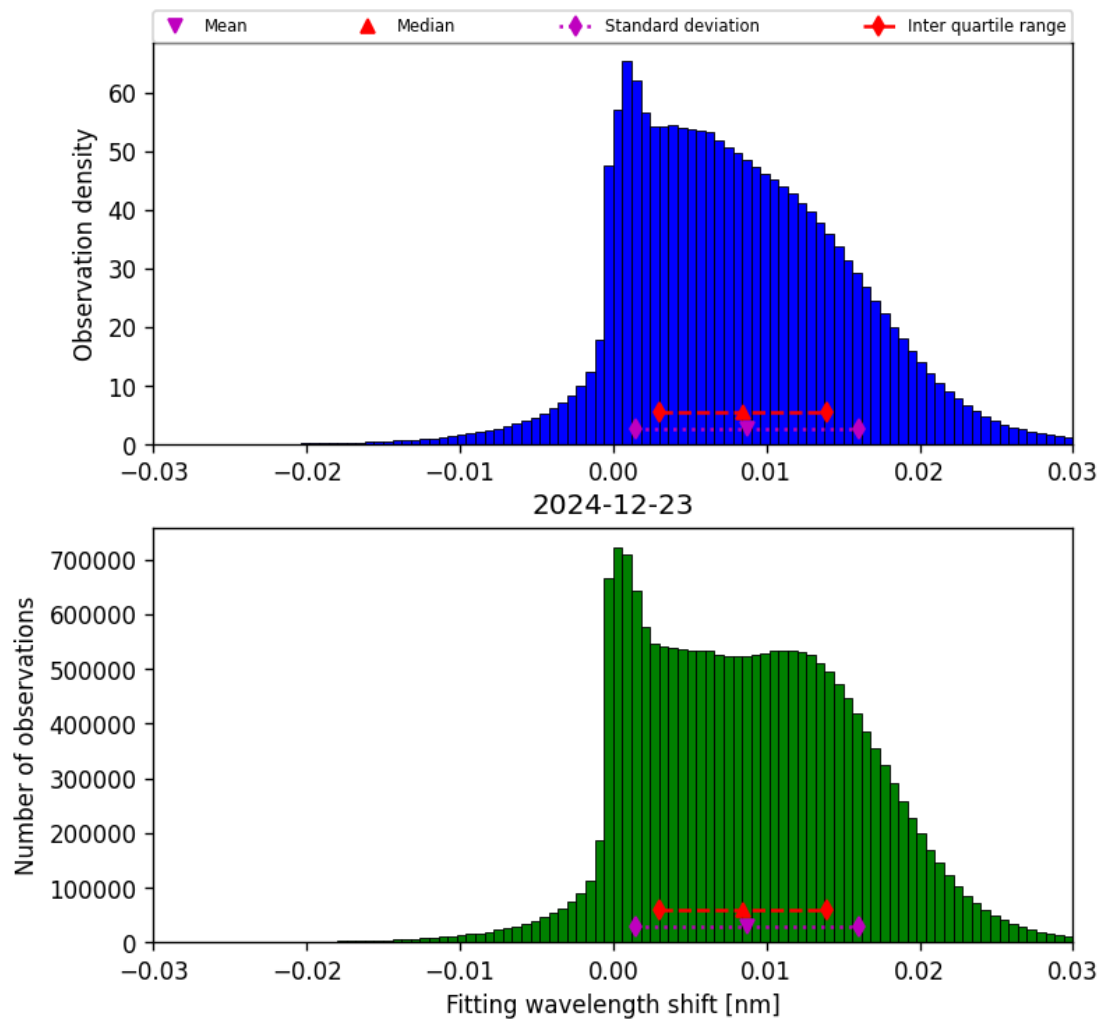


Figure 47: Histogram of “Fitting wavelength shift” for 2024-12-23 to 2024-12-24

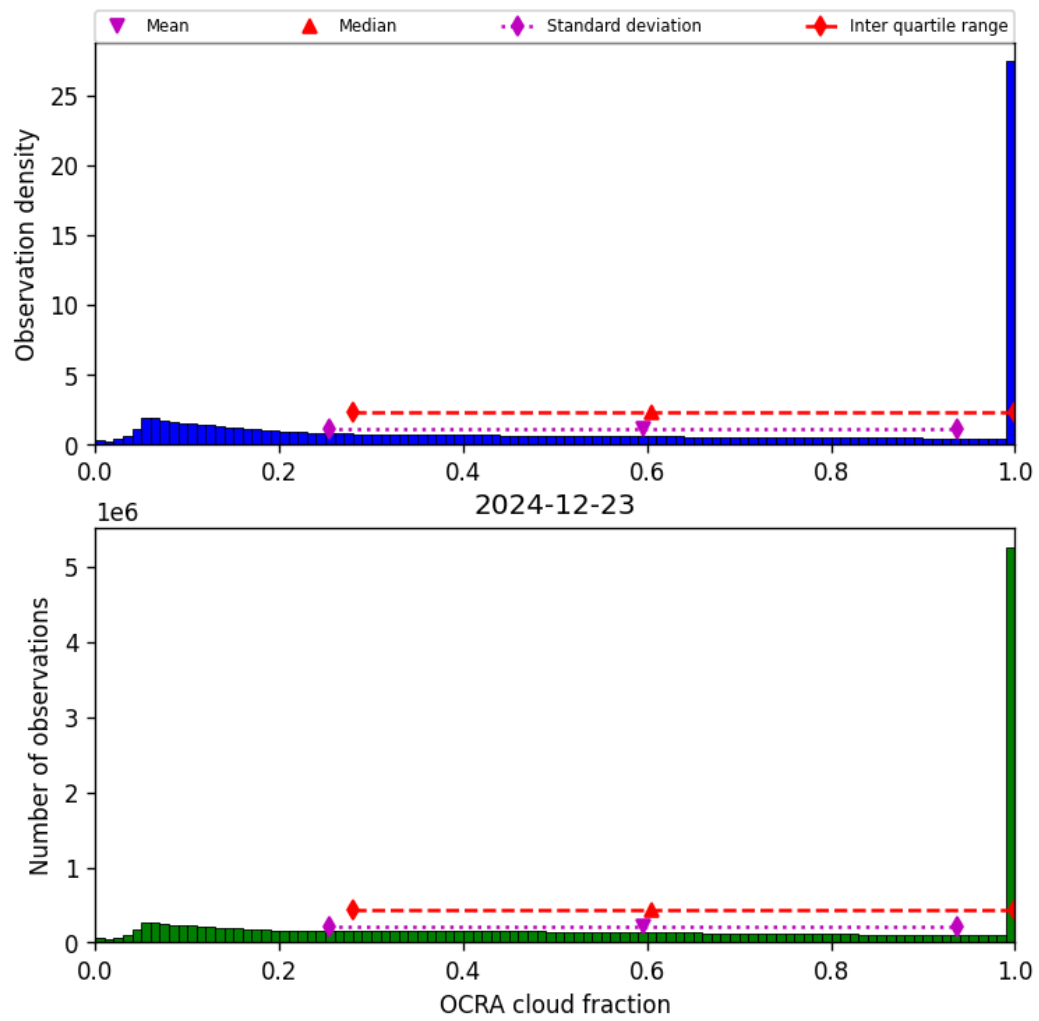


Figure 48: Histogram of “OCRA cloud fraction” for 2024-12-23 to 2024-12-24

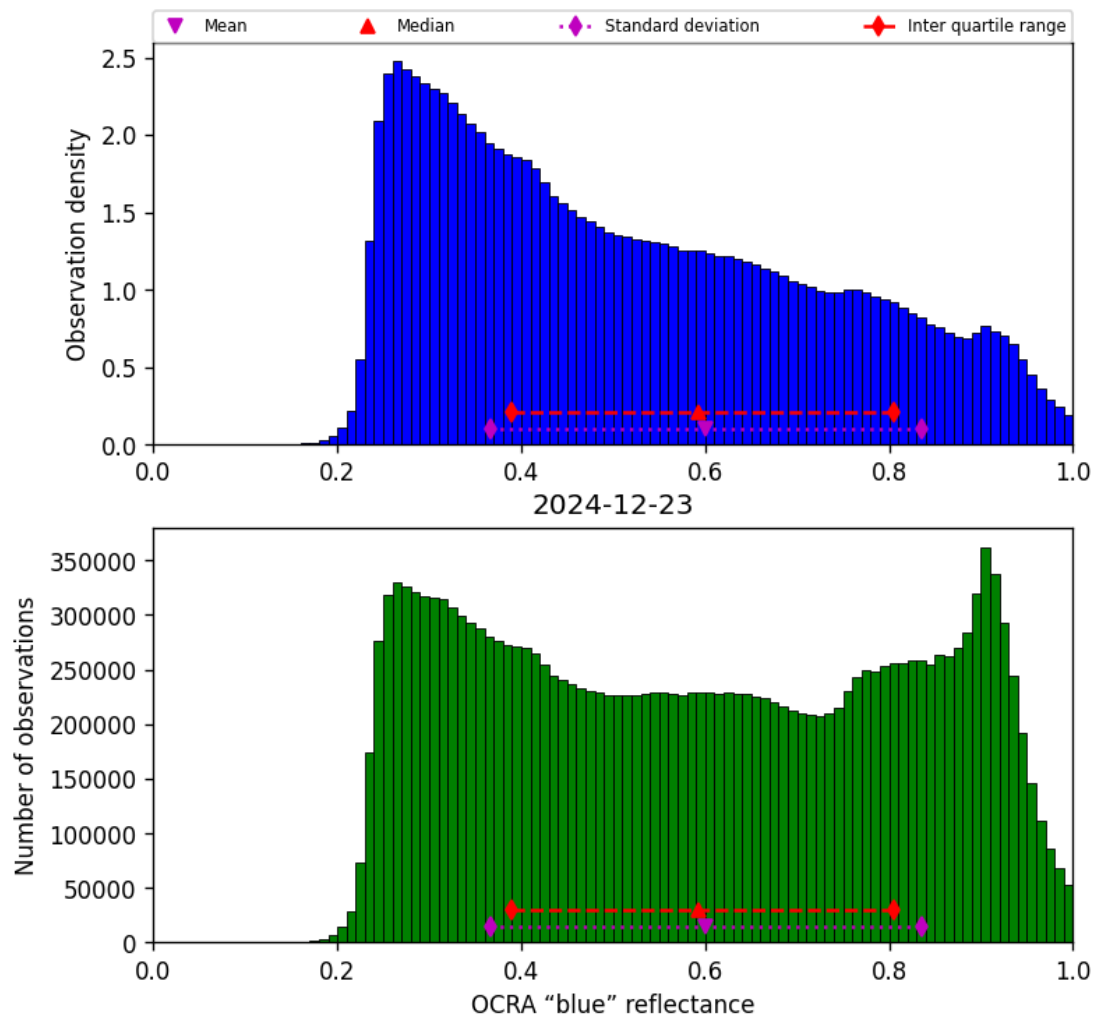


Figure 49: Histogram of “OCRA “blue” reflectance” for 2024-12-23 to 2024-12-24

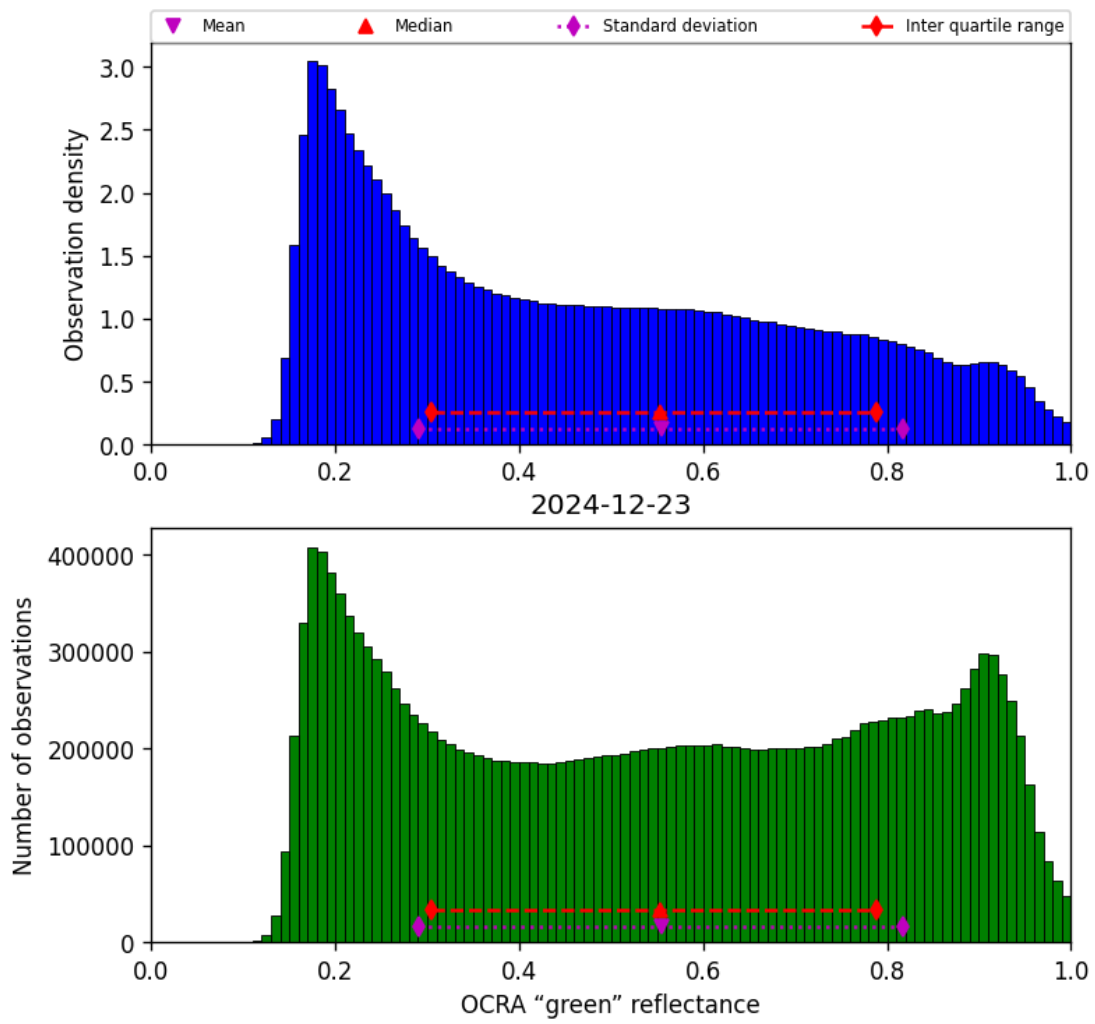


Figure 50: Histogram of “OCRA “green” reflectance” for 2024-12-23 to 2024-12-24

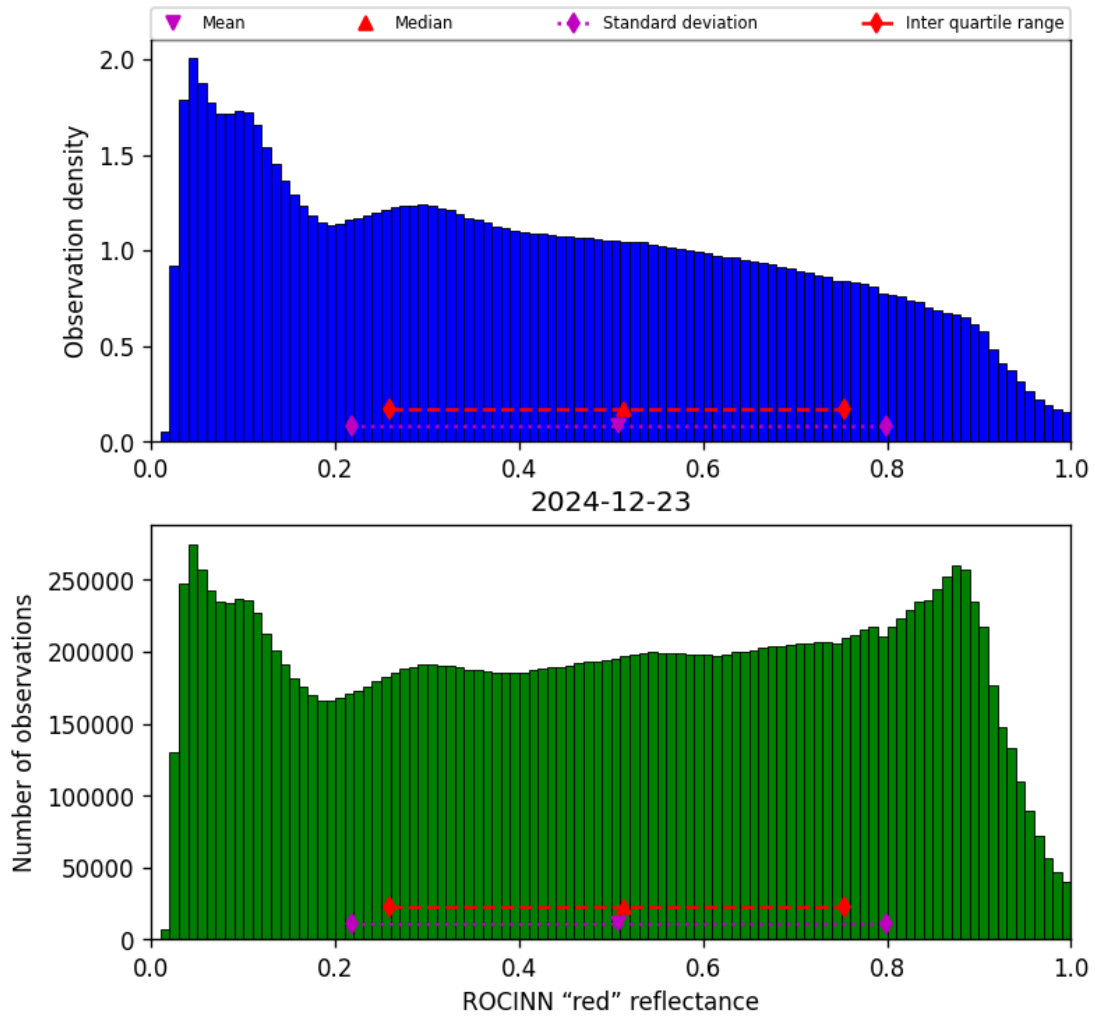


Figure 51: Histogram of “ROCINN “red” reflectance” for 2024-12-23 to 2024-12-24

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.

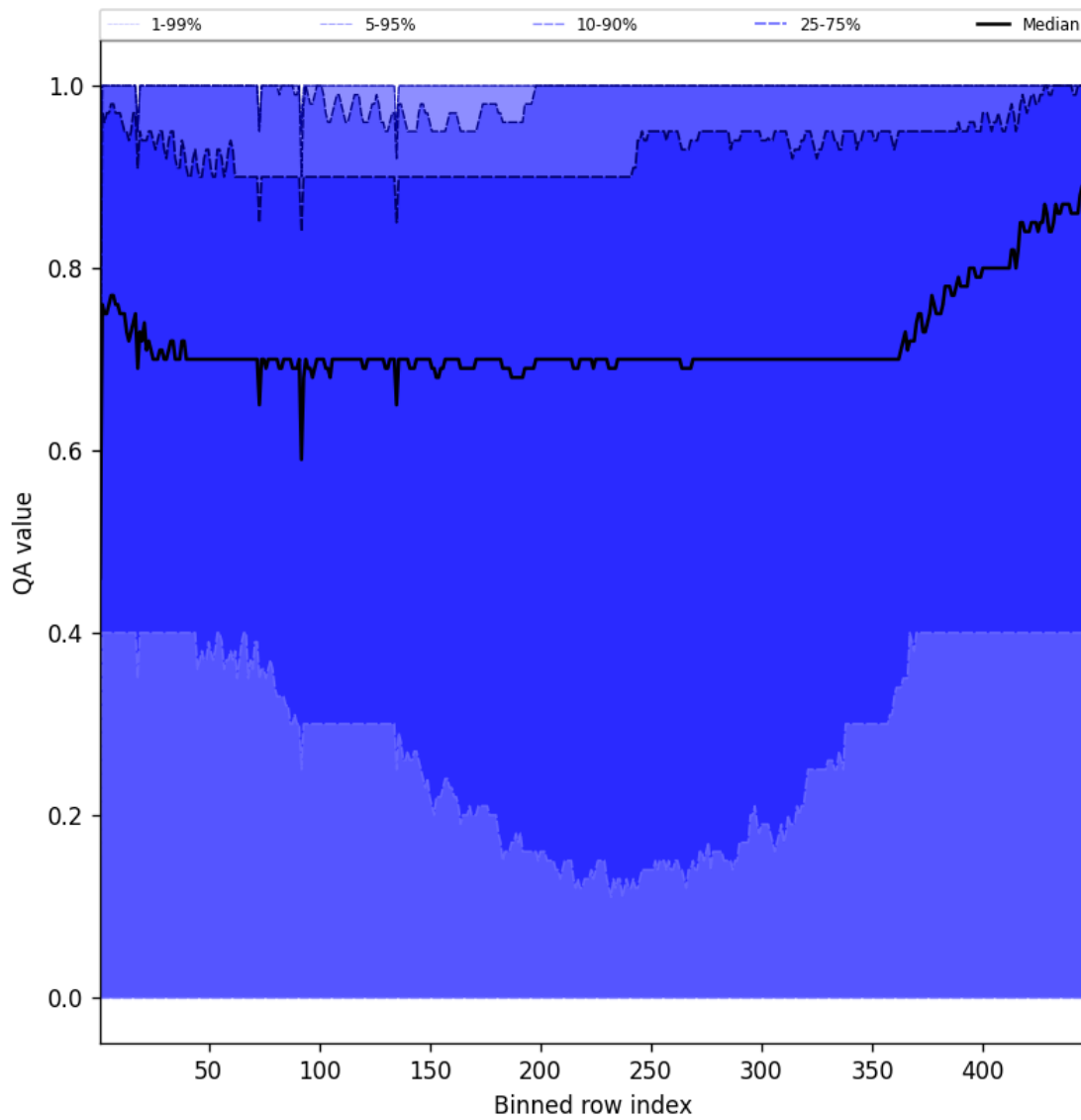


Figure 52: Along track statistics of "QA value" for 2024-12-23 to 2024-12-24

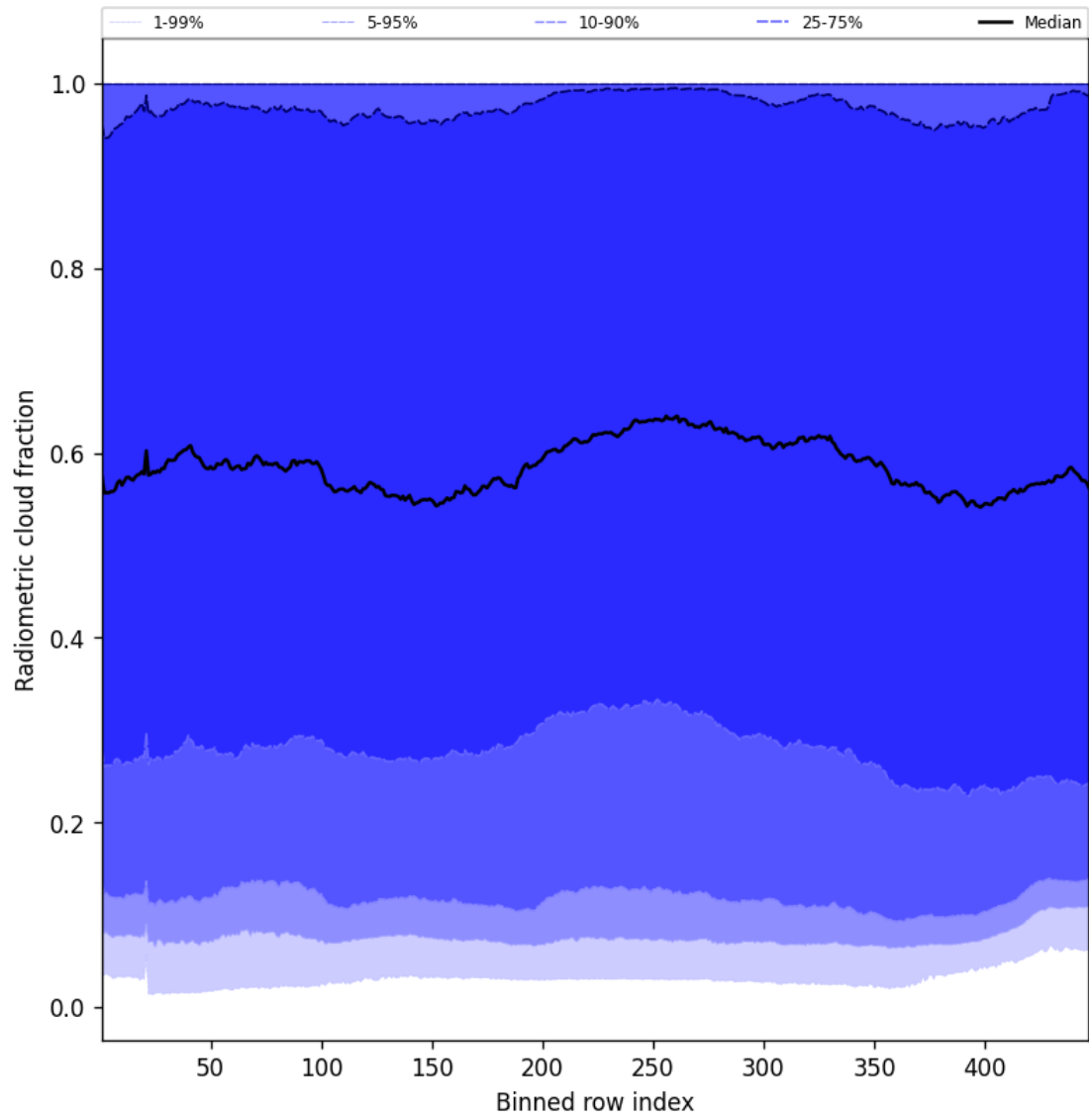


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2024-12-23 to 2024-12-24

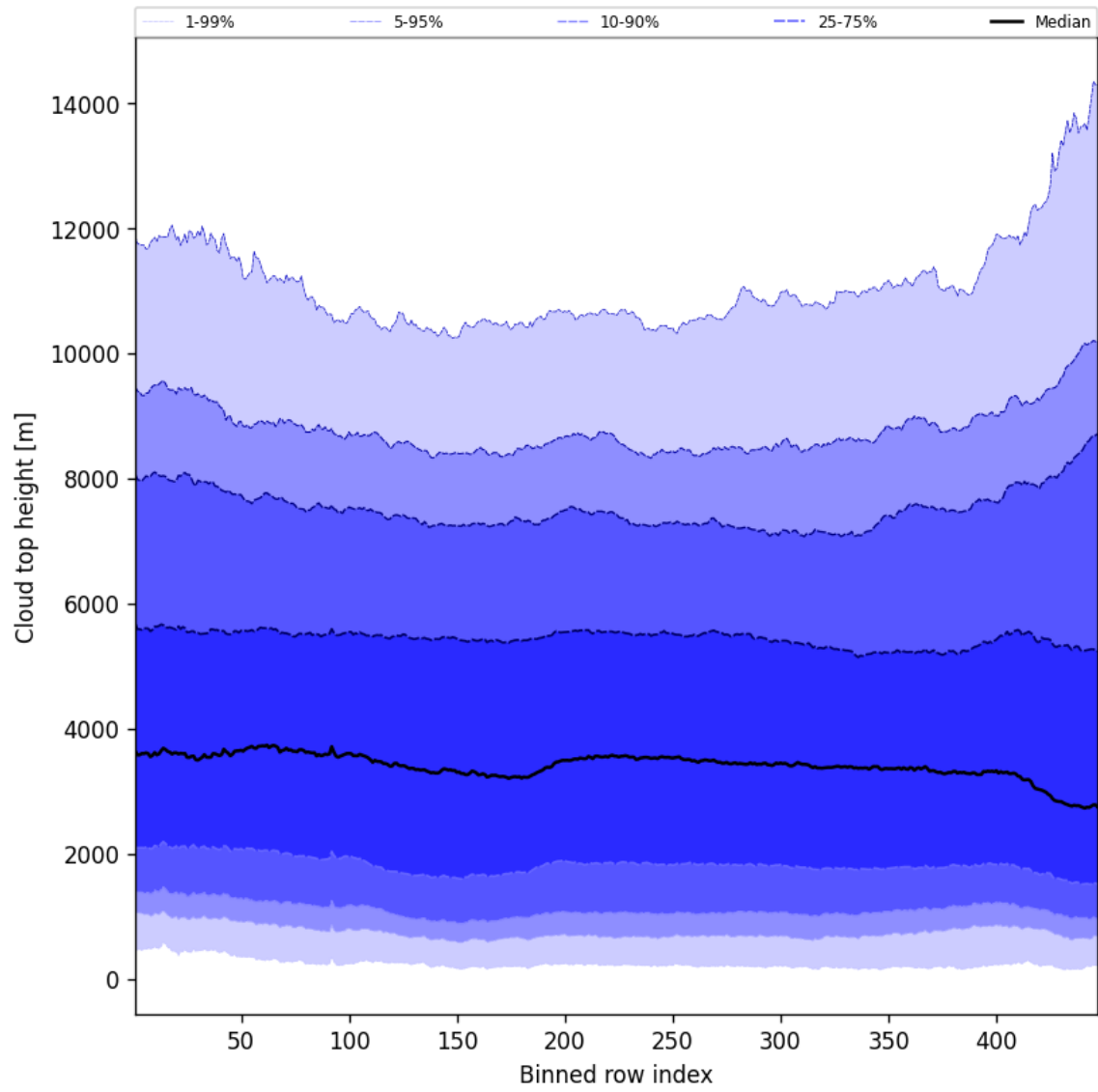


Figure 54: Along track statistics of “Cloud top height” for 2024-12-23 to 2024-12-24

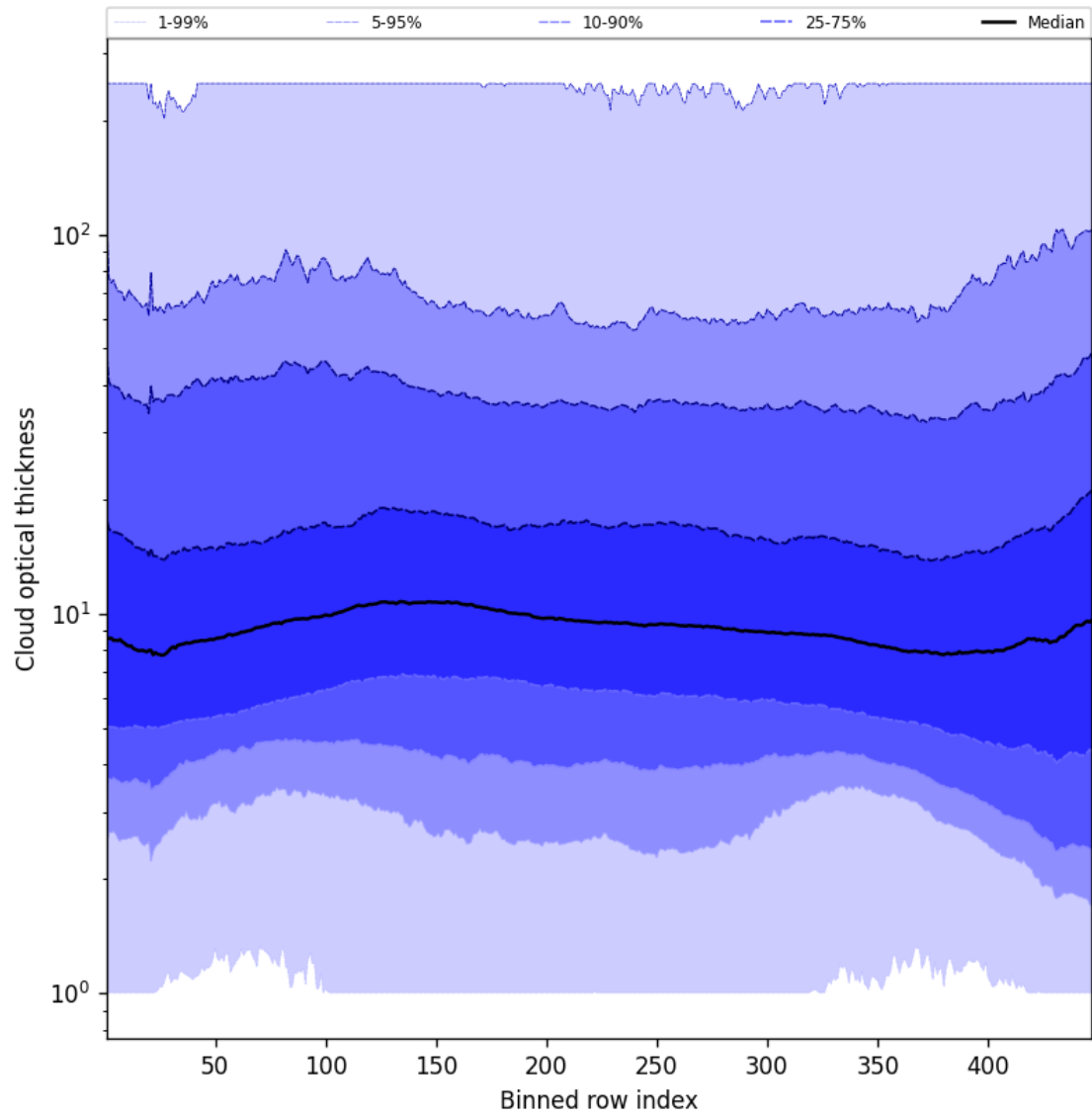


Figure 55: Along track statistics of “Cloud optical thickness” for 2024-12-23 to 2024-12-24

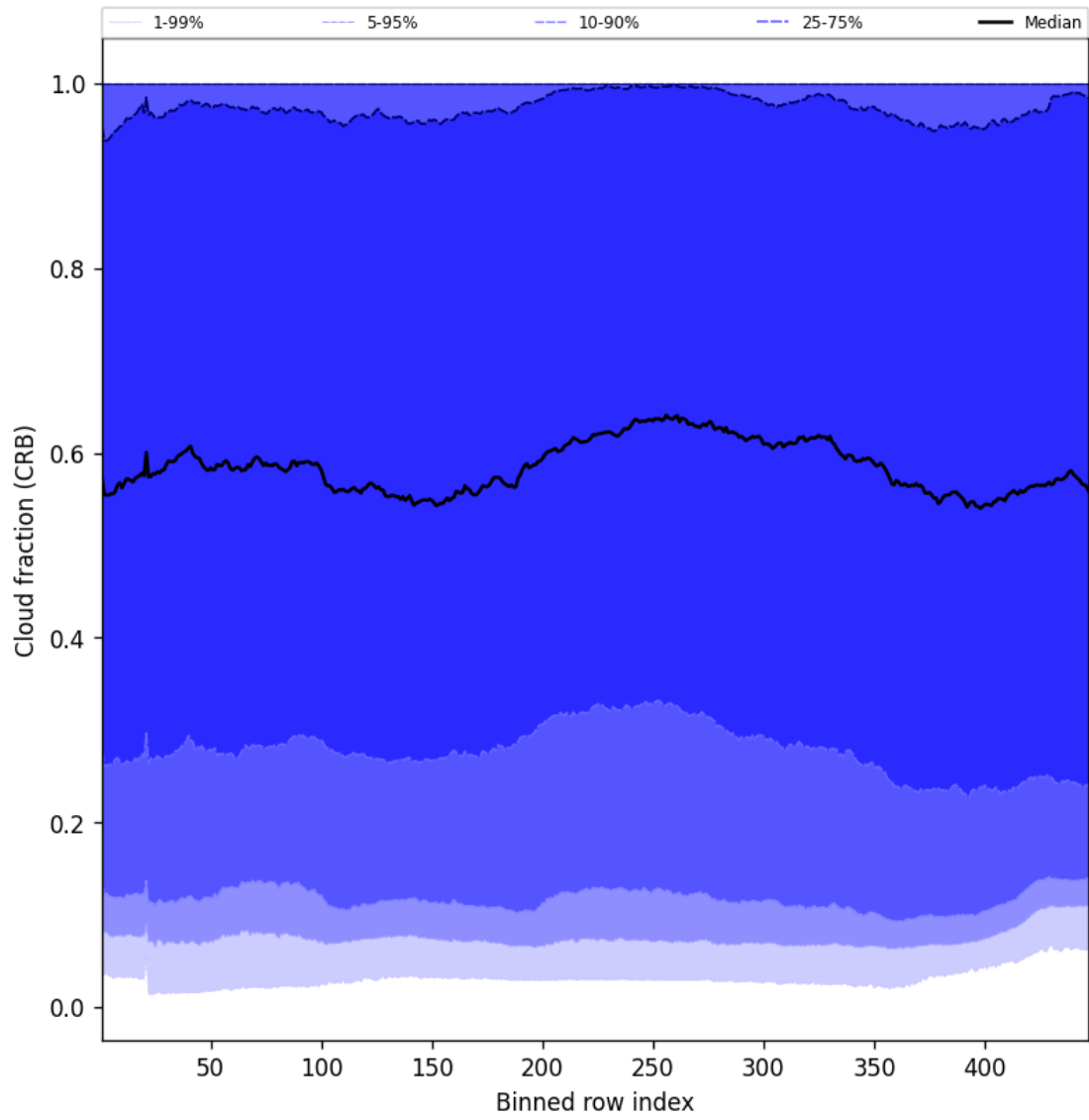


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2024-12-23 to 2024-12-24

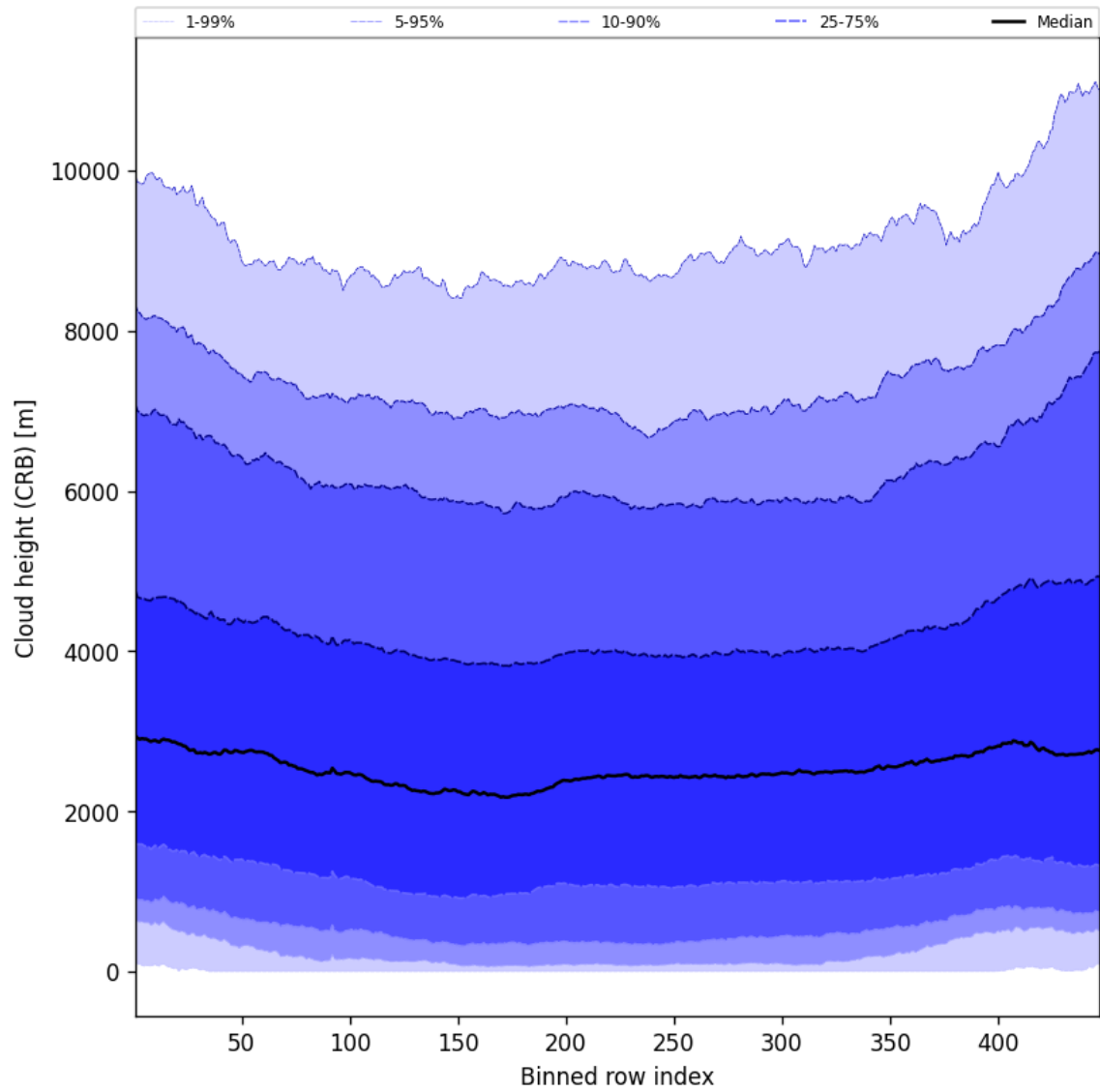


Figure 57: Along track statistics of “Cloud height (CRB)” for 2024-12-23 to 2024-12-24

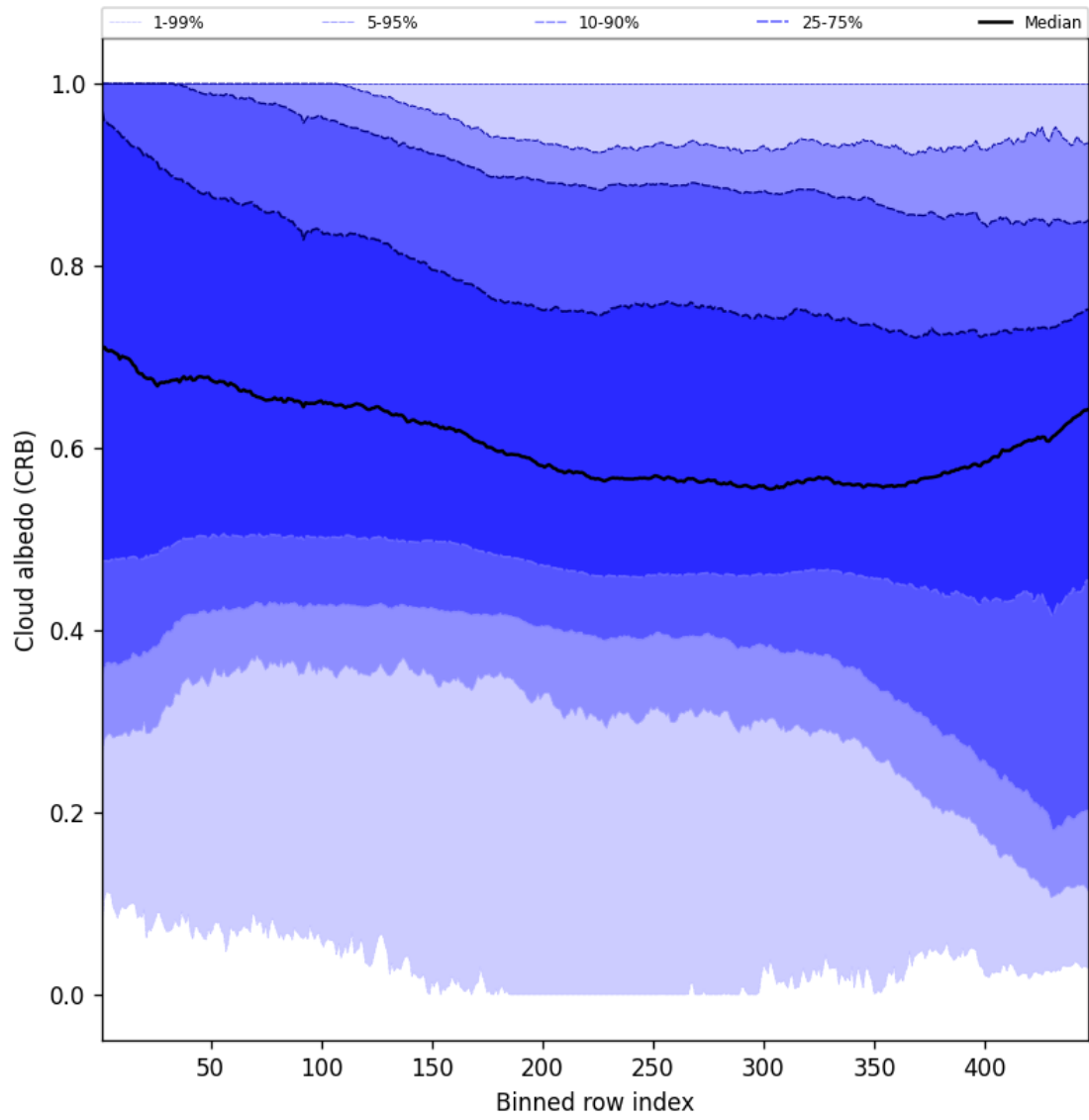


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2024-12-23 to 2024-12-24

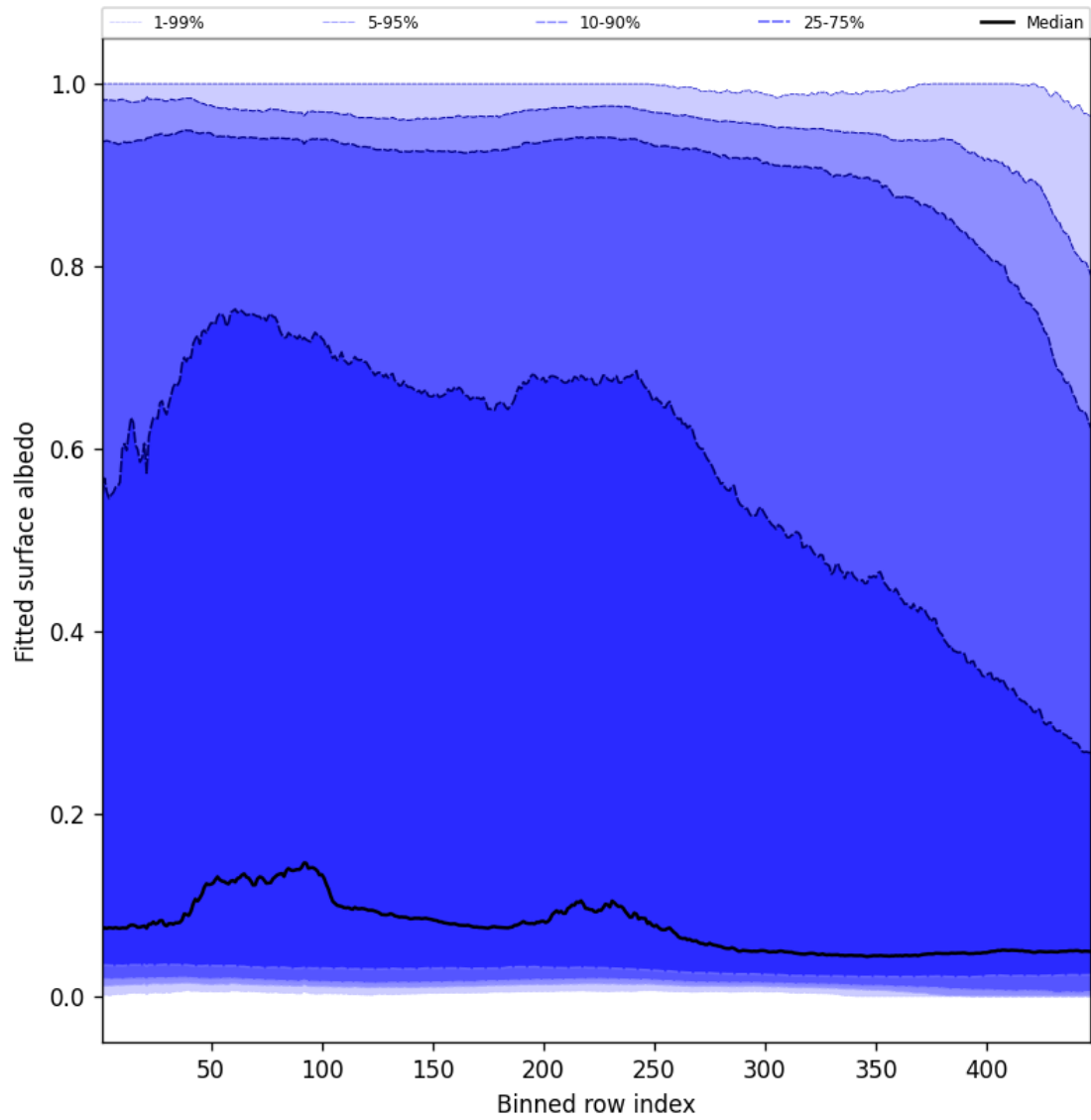


Figure 59: Along track statistics of “Fitted surface albedo” for 2024-12-23 to 2024-12-24

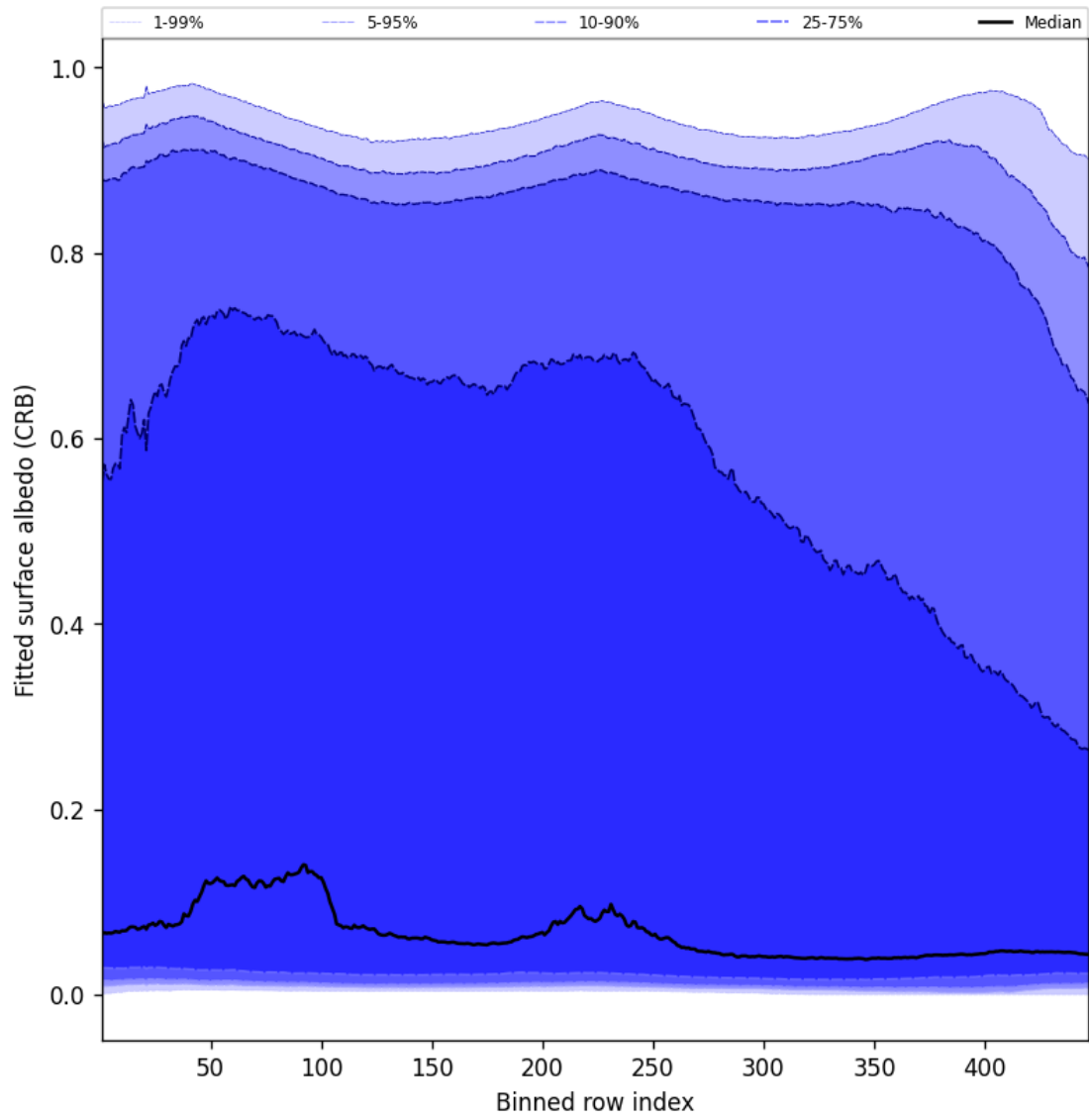


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2024-12-23 to 2024-12-24

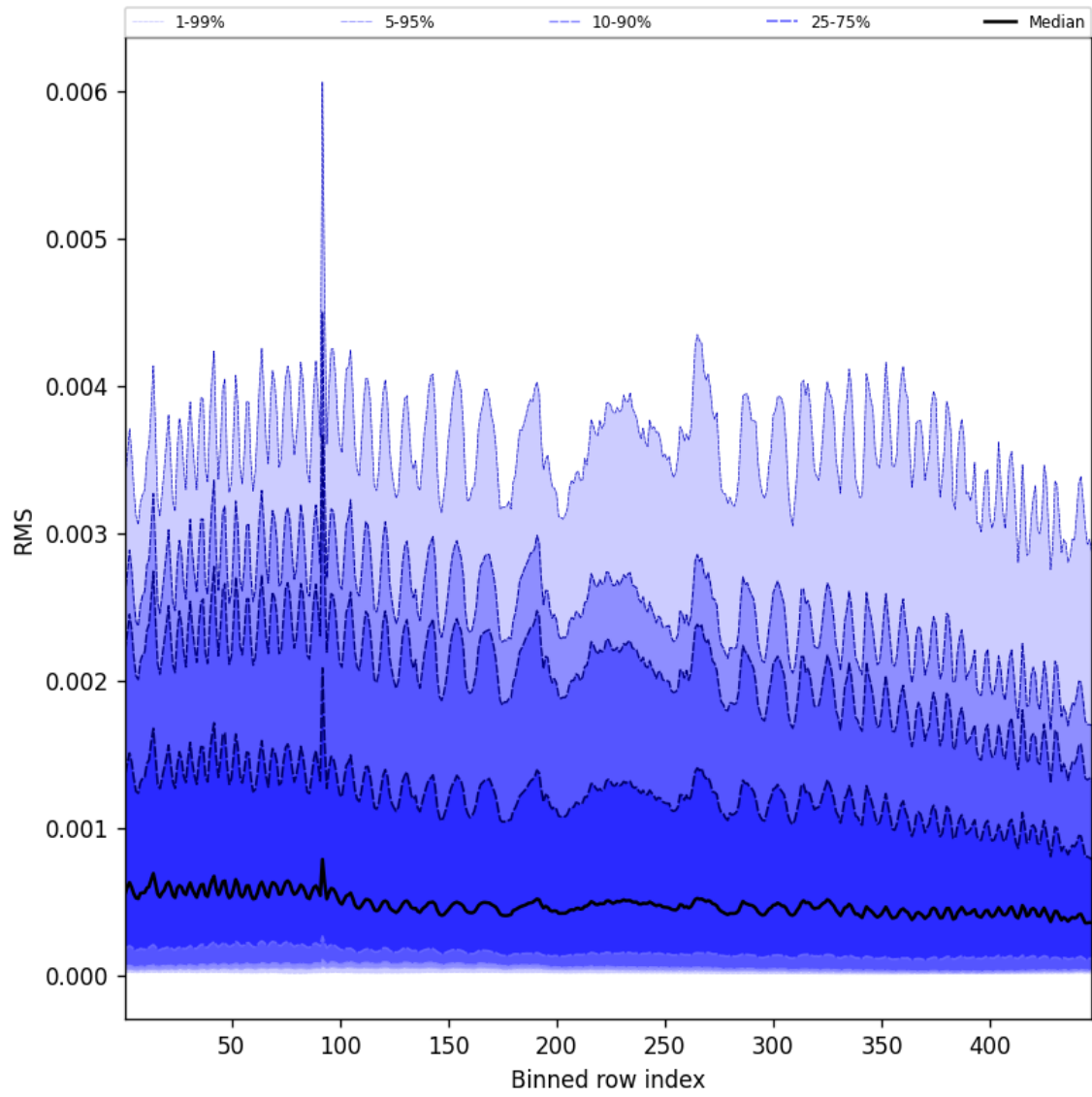


Figure 61: Along track statistics of “RMS” for 2024-12-23 to 2024-12-24

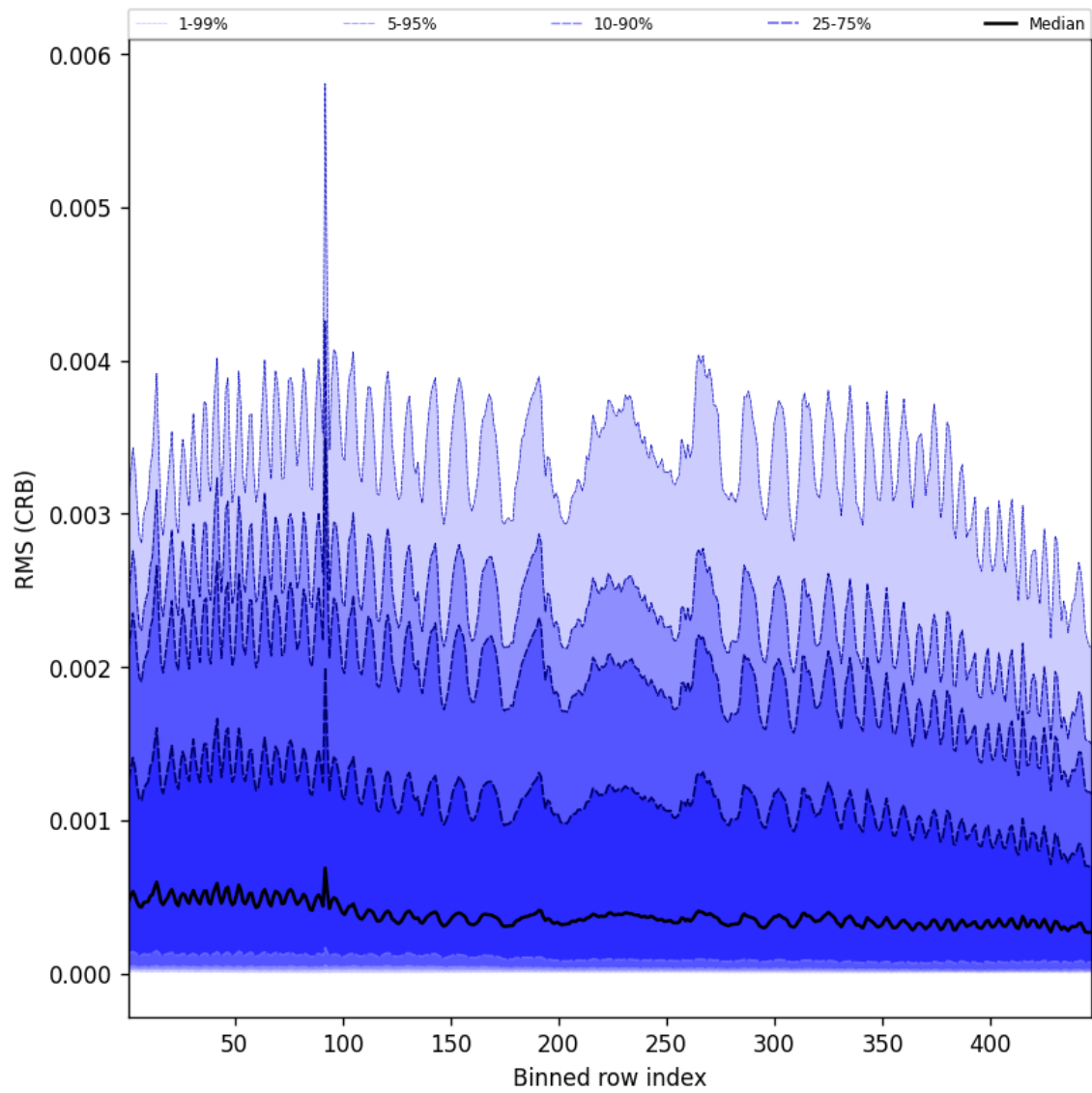


Figure 62: Along track statistics of “RMS (CRB)” for 2024-12-23 to 2024-12-24

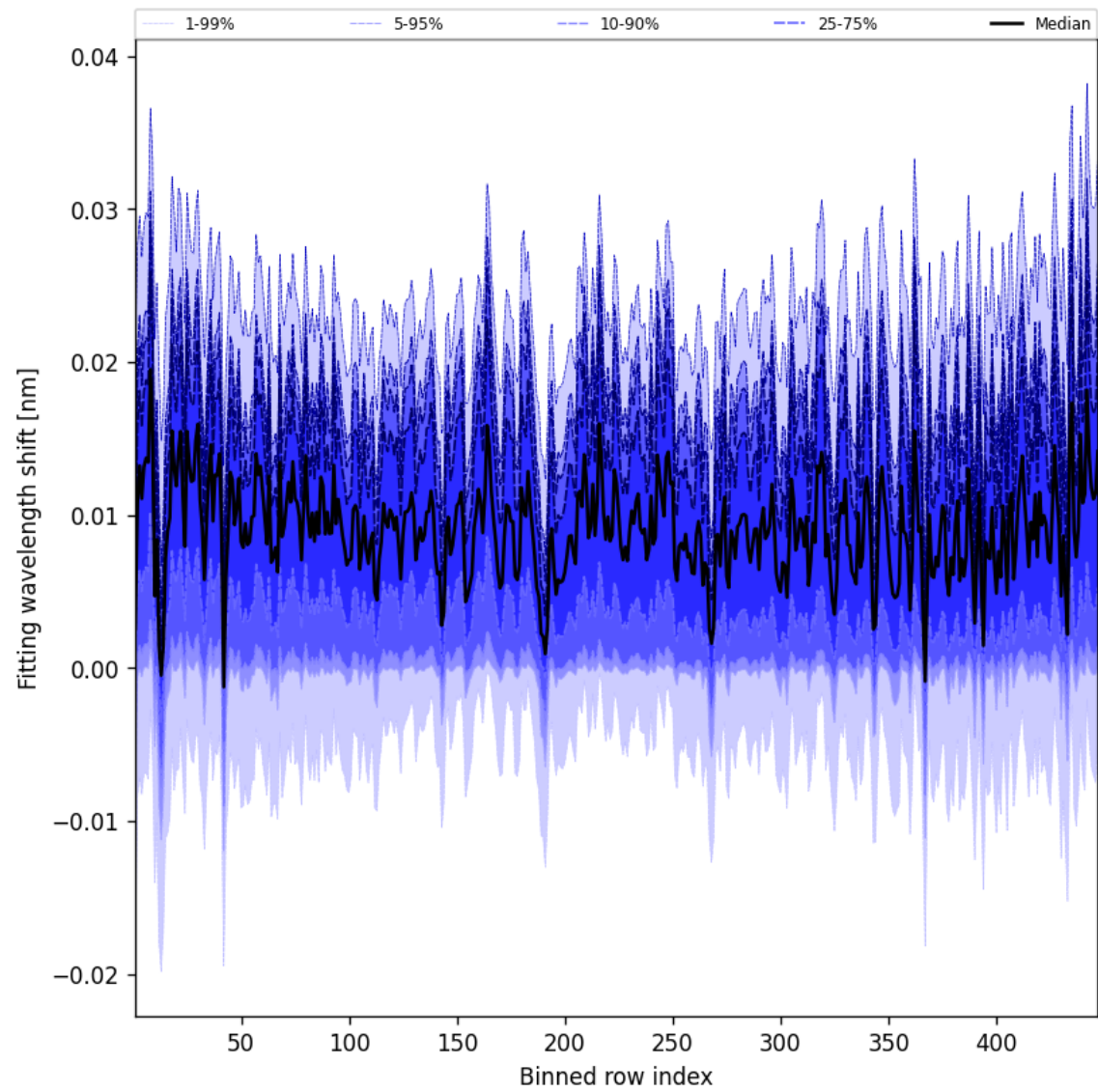


Figure 63: Along track statistics of “Fitting wavelength shift” for 2024-12-23 to 2024-12-24

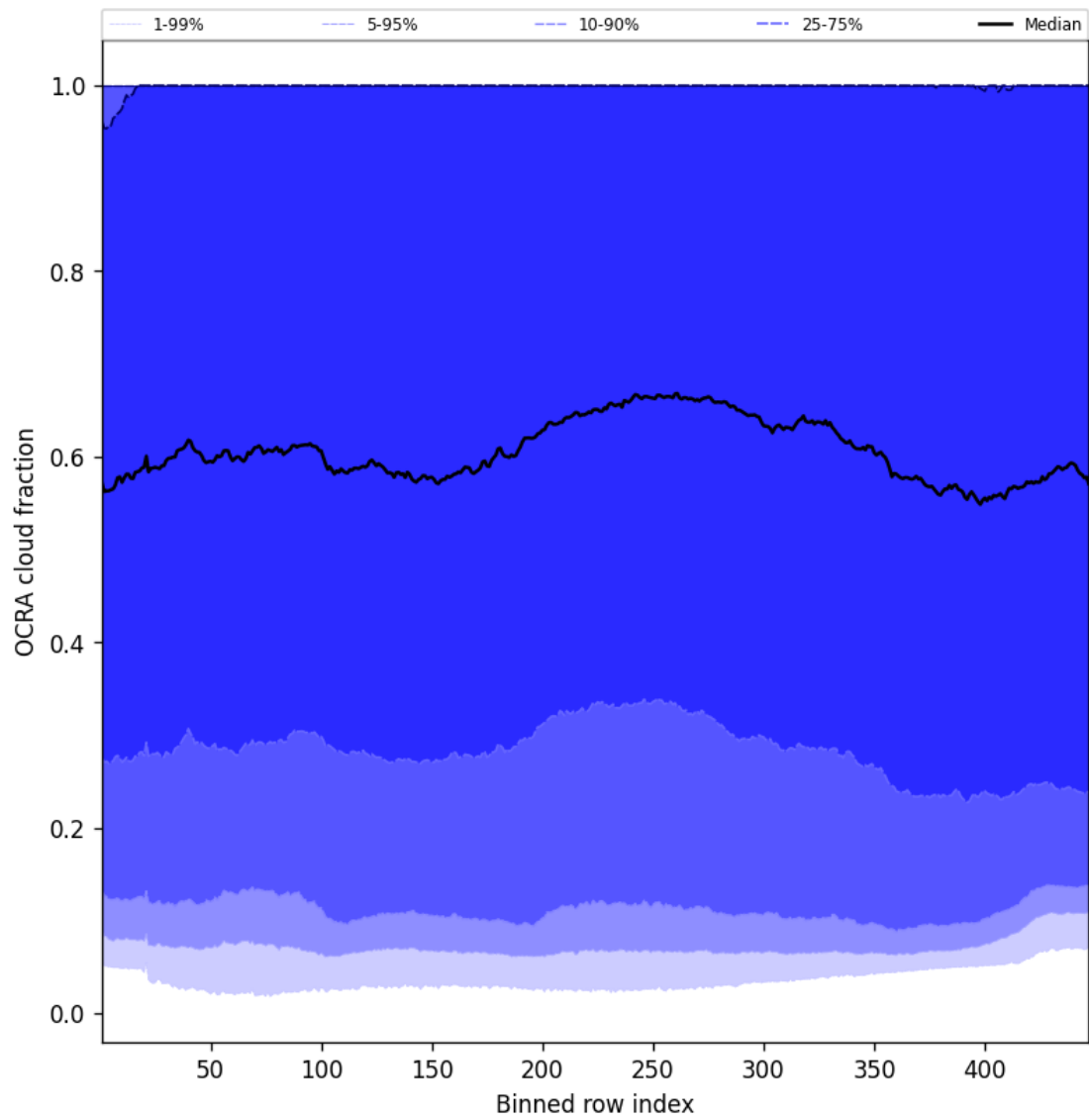


Figure 64: Along track statistics of “OCRA cloud fraction” for 2024-12-23 to 2024-12-24

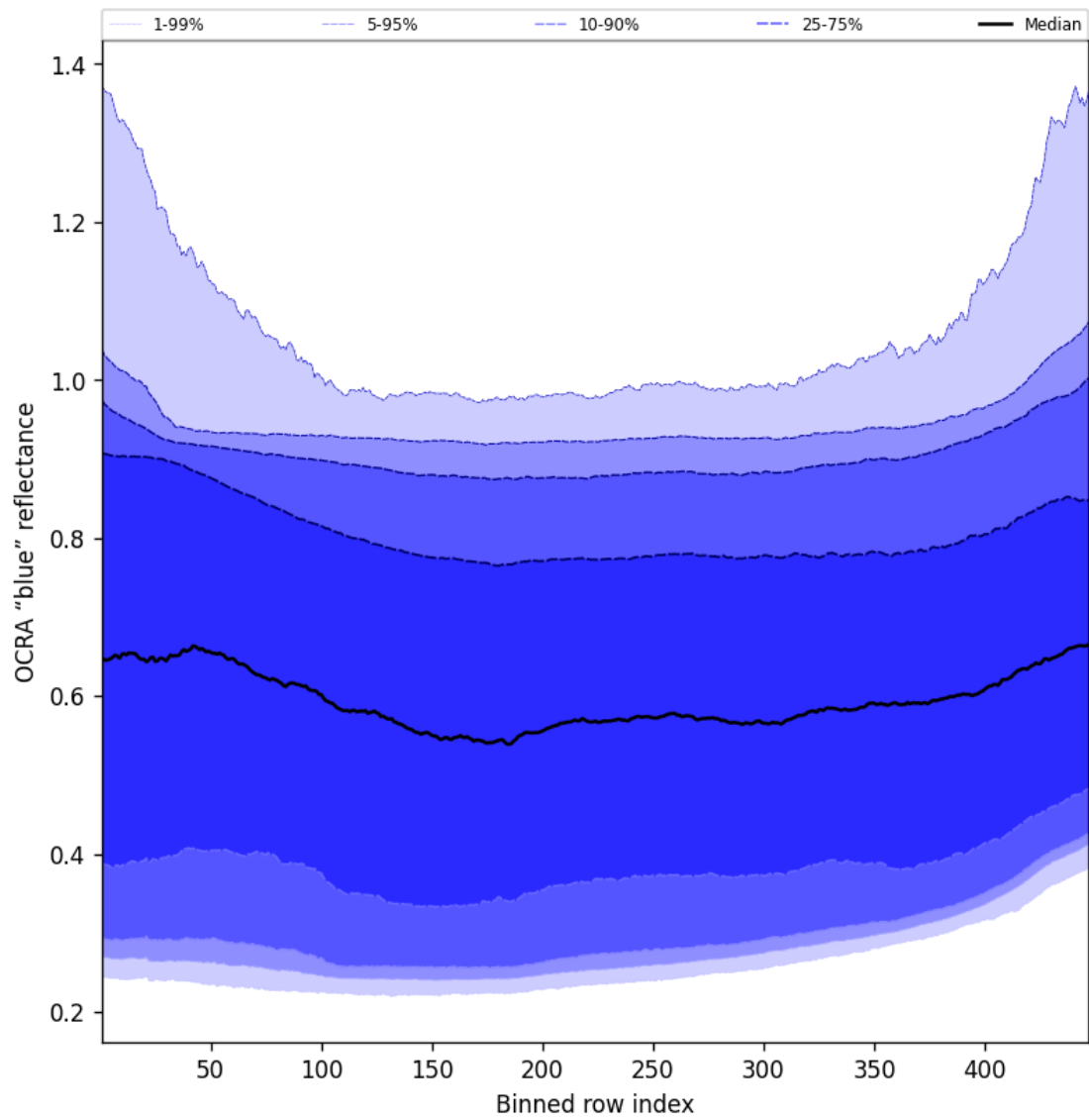


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2024-12-23 to 2024-12-24

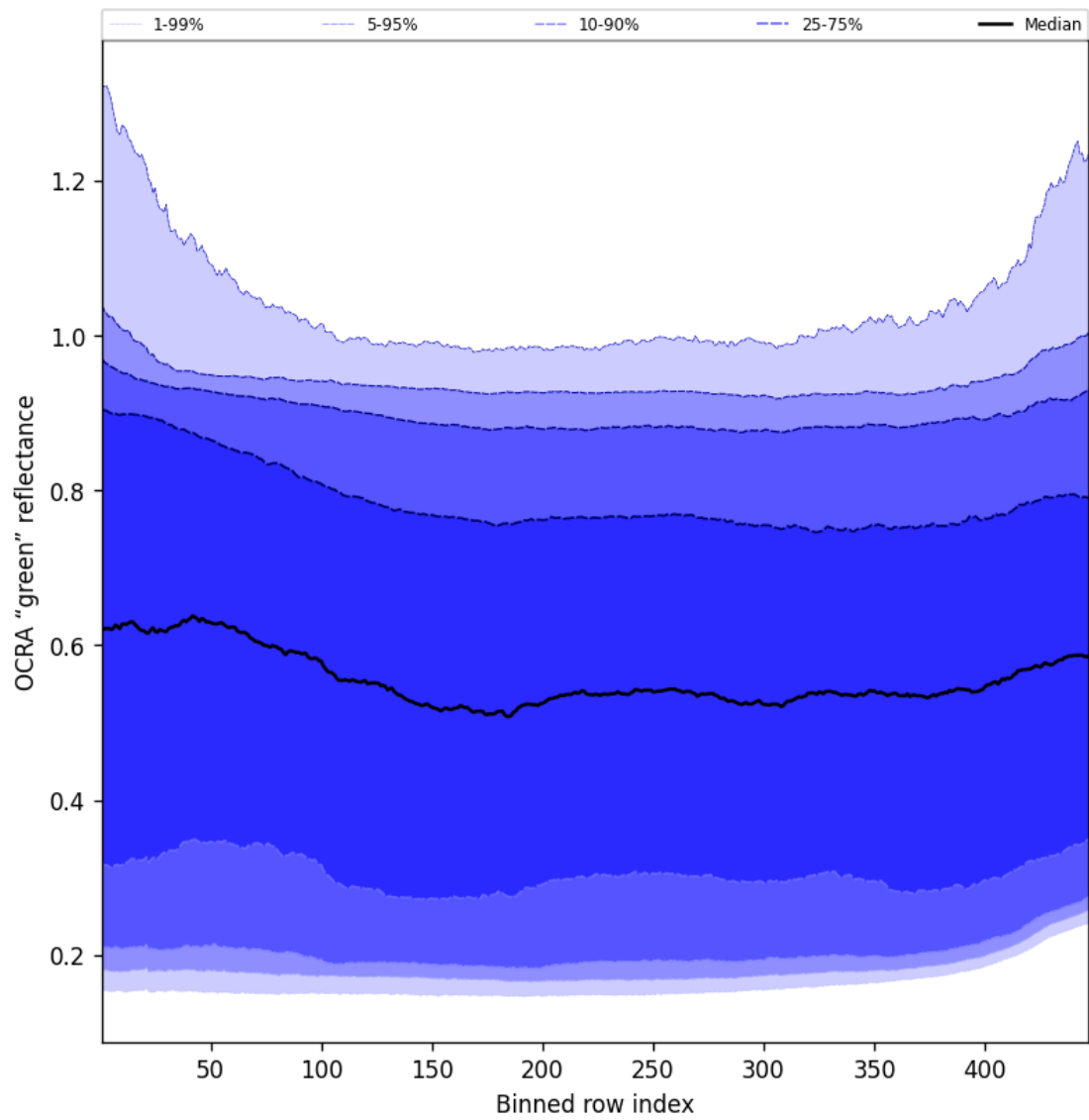


Figure 66: Along track statistics of "OCRA "green" reflectance" for 2024-12-23 to 2024-12-24

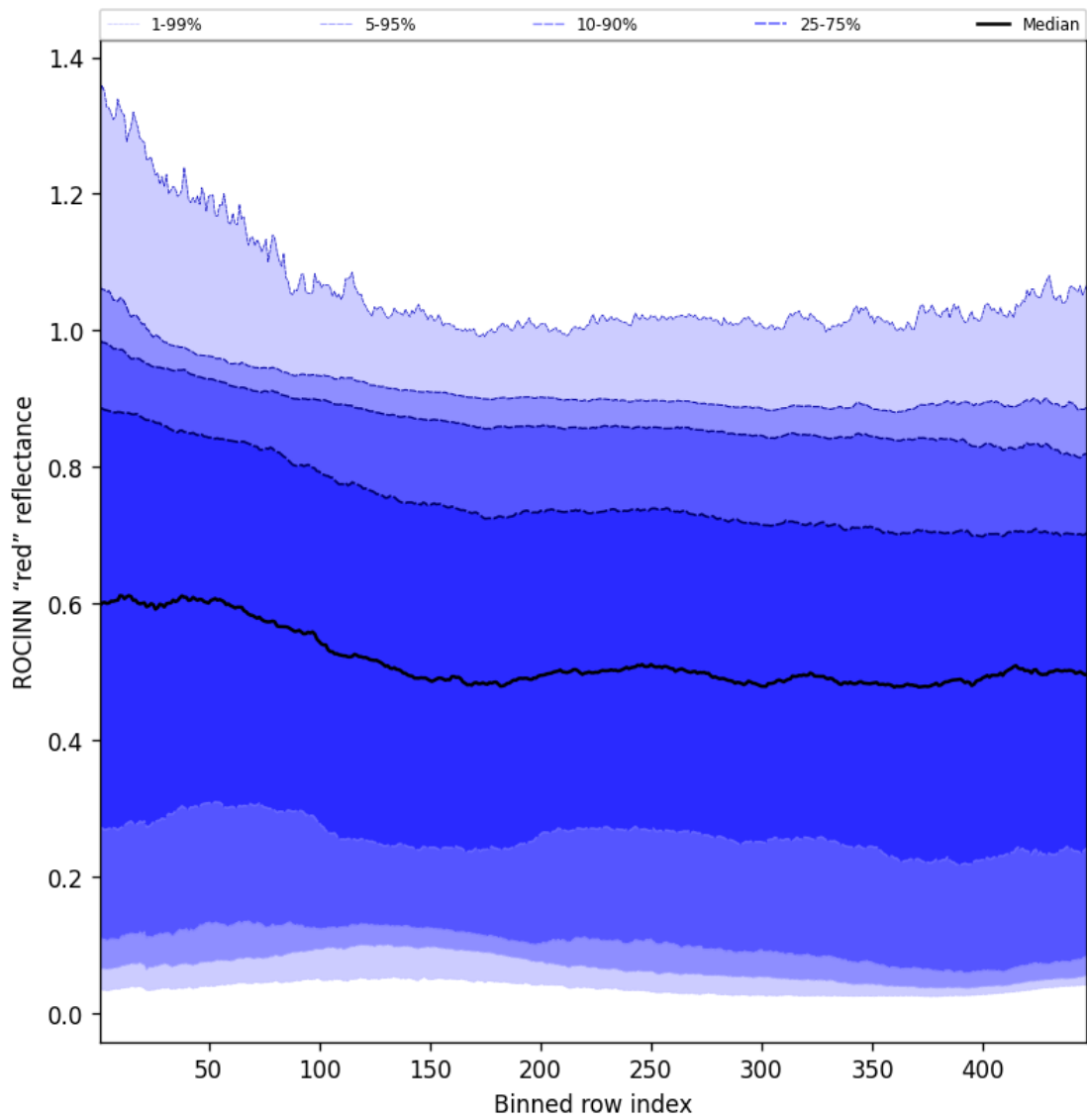


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2024-12-23 to 2024-12-24

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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