

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-01-09 (07:23)

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]	0.594 ± 0.365	18775432	5.000×10^{-3}	0.600	0.700	0.0	1.000
cloud fraction [1]	0.572 ± 0.336	18775432	0.995	0.694	0.558	3.698×10^{-3}	1.000
cloud top height [m]	$(0.396 \pm 0.257) \times 10^4$	18775432	1.575×10^3	3.655×10^3	3.565×10^3	0.0	2.000×10^4
cloud optical thickness [1]	20.1 ± 37.4	18775432	9.34	11.0	9.32	1.000	250
cloud fraction crb [1]	0.572 ± 0.337	18775432	0.995	0.694	0.557	7.971×10^{-3}	1.000
cloud height crb [m]	$(0.299 \pm 0.221) \times 10^4$	18775432	75.0	3.038×10^3	2.620×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.619 ± 0.219	18775432	0.995	0.308	0.606	0.0	1.000
surface albedo fitted [1]	0.302 ± 0.348	18775432	2.500×10^{-2}	0.542	7.417×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.289 ± 0.337	18775432	1.500×10^{-2}	0.548	6.098×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.860 \pm 9.710) \times 10^{-4}$	18775432	5.000×10^{-5}	9.908×10^{-4}	4.629×10^{-4}	8.387×10^{-7}	0.170
fitted root mean square crb [1]	$(6.939 \pm 8.190) \times 10^{-4}$	18775432	5.000×10^{-5}	9.589×10^{-4}	3.581×10^{-4}	7.962×10^{-7}	0.369
wavelength shift [nm]	$(8.618 \pm 7.201) \times 10^{-3}$	18775432	3.000×10^{-4}	1.084×10^{-2}	8.248×10^{-3}	-4.583×10^{-2}	6.980×10^{-2}
cloud fraction apriori [1]	0.581 ± 0.341	18775432	0.995	0.735	0.578	0.0	1.000
reflectance blue ocra [1]	0.599 ± 0.235	18775432	0.905	0.415	0.590	0.138	1.98
reflectance green ocra [1]	0.553 ± 0.264	18775432	0.185	0.484	0.552	8.674×10^{-2}	2.00
reflectance continuum aband [1]	0.504 ± 0.289	18775432	4.500×10^{-2}	0.495	0.511	1.282×10^{-2}	5.74

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	0.970	1.000	1.000	1.000
cloud fraction [1]	2.846×10^{-2}	7.273×10^{-2}	0.114	0.166	0.261	0.955	1.000	1.000	1.000	1.000
cloud top height [m]	269	735	1.068×10^3	1.390×10^3	1.850×10^3	5.505×10^3	6.507×10^3	7.495×10^3	8.852×10^3	1.123×10^4
cloud optical thickness [1]	1.07	2.75	3.87	4.76	5.66	16.6	25.2	37.9	71.2	250
cloud fraction crb [1]	2.804×10^{-2}	7.213×10^{-2}	0.113	0.166	0.261	0.954	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	236	526	806	1.199×10^3	4.237×10^3	5.214×10^3	6.123×10^3	7.326×10^3	9.333×10^3
cloud albedo crb [1]	1.147×10^{-2}	0.246	0.368	0.427	0.475	0.783	0.866	0.922	0.986	1.000
surface albedo fitted [1]	0.0	9.312×10^{-3}	1.486×10^{-2}	2.012×10^{-2}	2.799×10^{-2}	0.570	0.835	0.919	0.963	1.000
surface albedo fitted crb [1]	5.471×10^{-4}	6.892×10^{-3}	1.085×10^{-2}	1.490×10^{-2}	2.121×10^{-2}	0.569	0.810	0.870	0.909	0.953
fitted root mean square [1]	1.554×10^{-5}	3.177×10^{-5}	5.300×10^{-5}	8.518×10^{-5}	1.490×10^{-4}	1.140×10^{-3}	1.580×10^{-3}	1.992×10^{-3}	2.510×10^{-3}	3.613×10^{-3}
fitted root mean square crb [1]	8.277×10^{-6}	1.932×10^{-5}	3.276×10^{-5}	5.165×10^{-5}	9.283×10^{-5}	1.052×10^{-3}	1.480×10^{-3}	1.877×10^{-3}	2.384×10^{-3}	3.361×10^{-3}
wavelength shift [nm]	-7.046×10^{-3}	-5.527×10^{-4}	2.172×10^{-4}	1.115×10^{-3}	2.868×10^{-3}	1.371×10^{-2}	1.602×10^{-2}	1.798×10^{-2}	2.050×10^{-2}	2.609×10^{-2}
cloud fraction apriori [1]	3.266×10^{-2}	6.897×10^{-2}	0.108	0.162	0.264	0.999	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.261	0.289	0.325	0.387	0.803	0.874	0.910	0.944	1.08
reflectance green ocra [1]	0.153	0.177	0.201	0.234	0.301	0.785	0.864	0.908	0.942	1.05
reflectance continuum aband [1]	3.185×10^{-2}	6.040×10^{-2}	9.954×10^{-2}	0.153	0.254	0.748	0.830	0.878	0.921	1.06

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]	0.534 ± 0.399	6899024	0.890	0.650	0.0	1.000	1.000×10^{-2}	0.900
cloud fraction [1]	0.548 ± 0.335	6899024	0.664	0.526	3.698×10^{-3}	1.000	0.236	0.900
cloud top height [m]	$(0.445 \pm 0.267) \times 10^4$	6899024	3.942×10^3	4.124×10^3	0.0	2.000×10^4	2.233×10^3	6.176×10^3
cloud optical thickness [1]	29.5 ± 50.2	6899024	19.5	10.8	1.000	250	6.36	25.8
cloud fraction crb [1]	0.547 ± 0.335	6899024	0.662	0.523	8.476×10^{-3}	1.000	0.235	0.897
cloud height crb [m]	$(0.371 \pm 0.228) \times 10^4$	6899024	3.473×10^3	3.502×10^3	0.0	2.000×10^4	1.773×10^3	5.246×10^3
cloud albedo crb [1]	0.603 ± 0.209	6899024	0.264	0.594	0.0	1.000	0.476	0.740
surface albedo fitted [1]	0.191 ± 0.206	6899024	0.286	7.580×10^{-2}	0.0	1.000	3.180×10^{-2}	0.318
surface albedo fitted crb [1]	0.182 ± 0.205	6899024	0.286	6.262×10^{-2}	0.0	1.000	2.321×10^{-2}	0.309
fitted root mean square [1]	$(4.056 \pm 5.906) \times 10^{-4}$	6899024	4.098×10^{-4}	2.347×10^{-4}	8.387×10^{-7}	8.640×10^{-2}	9.316×10^{-5}	5.029×10^{-4}
fitted root mean square crb [1]	$(3.199 \pm 4.674) \times 10^{-4}$	6899024	3.447×10^{-4}	1.362×10^{-4}	7.962×10^{-7}	1.889×10^{-2}	4.719×10^{-5}	3.919×10^{-4}
wavelength shift [nm]	$(6.239 \pm 6.514) \times 10^{-3}$	6899024	9.030×10^{-3}	5.034×10^{-3}	-4.583×10^{-2}	6.767×10^{-2}	1.217×10^{-3}	1.025×10^{-2}
cloud fraction apriori [1]	0.552 ± 0.341	6899024	0.692	0.534	0.0	1.000	0.231	0.923
reflectance blue ocra [1]	0.559 ± 0.210	6899024	0.311	0.541	0.153	1.98	0.389	0.699
reflectance green ocra [1]	0.503 ± 0.234	6899024	0.373	0.489	8.807×10^{-2}	2.00	0.298	0.671
reflectance continuum aband [1]	0.449 ± 0.268	6899024	0.402	0.434	1.377×10^{-2}	4.46	0.234	0.636

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]	0.628 ± 0.339	11876408	0.500	0.700	0.0	1.000	0.400	0.900
cloud fraction [1]	0.586 ± 0.336	11876408	0.702	0.577	7.612×10^{-3}	1.000	0.277	0.979
cloud top height [m]	$(0.367 \pm 0.246) \times 10^4$	11876408	3.434×10^3	3.272×10^3	0.0	2.000×10^4	1.673×10^3	5.107×10^3
cloud optical thickness [1]	14.6 ± 25.9	11876408	8.36	8.80	1.000	250	5.39	13.7
cloud fraction crb [1]	0.586 ± 0.337	11876408	0.702	0.577	7.971×10^{-3}	1.000	0.277	0.979
cloud height crb [m]	$(0.257 \pm 0.205) \times 10^4$	11876408	2.619×10^3	2.214×10^3	0.0	2.000×10^4	969	3.588×10^3
cloud albedo crb [1]	0.627 ± 0.224	11876408	0.334	0.616	0.0	1.000	0.474	0.808
surface albedo fitted [1]	0.366 ± 0.394	11876408	0.803	7.265×10^{-2}	0.0	1.000	2.584×10^{-2}	0.829
surface albedo fitted crb [1]	0.351 ± 0.380	11876408	0.785	5.947×10^{-2}	0.0	1.000	2.002×10^{-2}	0.805
fitted root mean square [1]	$(1.007 \pm 1.075) \times 10^{-3}$	11876408	1.257×10^{-3}	7.484×10^{-4}	1.188×10^{-6}	0.170	2.390×10^{-4}	1.496×10^{-3}
fitted root mean square crb [1]	$(9.112 \pm 8.973) \times 10^{-4}$	11876408	1.226×10^{-3}	6.549×10^{-4}	1.269×10^{-6}	0.369	1.771×10^{-4}	1.403×10^{-3}
wavelength shift [nm]	$(1.000 \pm 0.722) \times 10^{-2}$	11876408	1.038×10^{-2}	1.024×10^{-2}	-4.394×10^{-2}	6.980×10^{-2}	4.653×10^{-3}	1.504×10^{-2}
cloud fraction apriori [1]	0.598 ± 0.340	11876408	0.714	0.603	0.0	1.000	0.286	1.000
reflectance blue oca [1]	0.623 ± 0.246	11876408	0.464	0.642	0.138	1.90	0.386	0.850
reflectance green oca [1]	0.582 ± 0.276	11876408	0.535	0.615	8.674×10^{-2}	1.86	0.304	0.839
reflectance continuum aband [1]	0.535 ± 0.296	11876408	0.526	0.575	1.282×10^{-2}	5.74	0.272	0.797

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]	0.687 ± 0.340	11119693	0.550	0.850	0.0	1.000	0.400	0.950
cloud fraction [1]	0.598 ± 0.358	11119693	0.765	0.633	6.996×10^{-3}	1.000	0.235	1.000
cloud top height [m]	$(0.351 \pm 0.258) \times 10^4$	11119693	3.355×10^3	2.713×10^3	0.0	2.000×10^4	1.546×10^3	4.900×10^3
cloud optical thickness [1]	18.0 ± 28.9	11119693	9.99	10.2	1.000	250	7.02	17.0
cloud fraction crb [1]	0.597 ± 0.359	11119693	0.767	0.631	8.446×10^{-3}	1.000	0.233	1.000
cloud height crb [m]	$(0.277 \pm 0.231) \times 10^4$	11119693	3.051×10^3	2.060×10^3	0.0	2.000×10^4	974	4.026×10^3
cloud albedo crb [1]	0.561 ± 0.178	11119693	0.223	0.545	0.0	1.000	0.455	0.678
surface albedo fitted [1]	0.103 ± 0.195	11119693	3.489×10^{-2}	3.254×10^{-2}	0.0	1.000	1.932×10^{-2}	5.421×10^{-2}
surface albedo fitted crb [1]	$(9.712 \pm 19.768) \times 10^{-2}$	11119693	2.886×10^{-2}	2.497×10^{-2}	0.0	1.000	1.426×10^{-2}	4.313×10^{-2}
fitted root mean square [1]	$(7.129 \pm 10.016) \times 10^{-4}$	11119693	9.620×10^{-4}	3.245×10^{-4}	8.387×10^{-7}	0.119	9.701×10^{-5}	1.059×10^{-3}
fitted root mean square crb [1]	$(6.701 \pm 8.288) \times 10^{-4}$	11119693	9.478×10^{-4}	2.901×10^{-4}	7.962×10^{-7}	4.101×10^{-2}	7.540×10^{-5}	1.023×10^{-3}
wavelength shift [nm]	$(8.034 \pm 7.479) \times 10^{-3}$	11119693	1.080×10^{-2}	7.265×10^{-3}	-4.583×10^{-2}	6.970×10^{-2}	2.338×10^{-3}	1.314×10^{-2}
cloud fraction apriori [1]	0.600 ± 0.364	11119693	0.774	0.639	0.0	1.000	0.226	1.000
reflectance blue oca [1]	0.516 ± 0.202	11119693	0.322	0.482	0.170	1.90	0.344	0.666
reflectance green oca [1]	0.457 ± 0.228	11119693	0.390	0.422	9.605×10^{-2}	1.86	0.248	0.638
reflectance continuum aband [1]	0.391 ± 0.264	11119693	0.461	0.366	1.282×10^{-2}	5.74	0.145	0.607

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]	0.474 ± 0.349	6273794	0.700	0.590	0.0	1.000	0.0	0.700
cloud fraction [1]	0.520 ± 0.292	6273794	0.472	0.485	3.698×10^{-3}	1.000	0.283	0.755
cloud top height [m]	$(0.460 \pm 0.234) \times 10^4$	6273794	2.813×10^3	4.523×10^3	0.0	2.000×10^4	3.033×10^3	5.846×10^3
cloud optical thickness [1]	18.9 ± 39.9	6273794	8.44	6.66	1.000	250	4.87	13.3
cloud fraction crb [1]	0.521 ± 0.292	6273794	0.472	0.485	7.971×10^{-3}	1.000	0.284	0.756
cloud height crb [m]	$(0.319 \pm 0.193) \times 10^4$	6273794	2.291×10^3	3.063×10^3	0.0	2.000×10^4	1.877×10^3	4.168×10^3
cloud albedo crb [1]	0.714 ± 0.243	6273794	0.334	0.769	0.0	1.000	0.573	0.907
surface albedo fitted [1]	0.644 ± 0.312	6273794	0.625	0.791	0.0	1.000	0.308	0.933
surface albedo fitted crb [1]	0.618 ± 0.294	6273794	0.580	0.773	0.0	1.000	0.302	0.882
fitted root mean square [1]	$(9.693 \pm 9.082) \times 10^{-4}$	6273794	1.016×10^{-3}	7.047×10^{-4}	1.969×10^{-6}	0.170	3.391×10^{-4}	1.355×10^{-3}
fitted root mean square crb [1]	$(8.077 \pm 8.109) \times 10^{-4}$	6273794	1.008×10^{-3}	5.505×10^{-4}	2.539×10^{-6}	0.369	1.948×10^{-4}	1.203×10^{-3}
wavelength shift [nm]	$(1.025 \pm 0.652) \times 10^{-2}$	6273794	9.709×10^{-3}	1.054×10^{-2}	-3.673×10^{-2}	6.980×10^{-2}	5.224×10^{-3}	1.493×10^{-2}
cloud fraction apriori [1]	0.543 ± 0.296	6273794	0.490	0.518	0.0	1.000	0.303	0.793
reflectance blue ocrs [1]	0.733 ± 0.226	6273794	0.330	0.817	0.139	1.95	0.574	0.904
reflectance green ocrs [1]	0.708 ± 0.250	6273794	0.369	0.804	8.674×10^{-2}	1.86	0.535	0.904
reflectance continuum aband [1]	0.688 ± 0.233	6273794	0.364	0.759	1.650×10^{-2}	3.39	0.506	0.871

3 Granule outlines

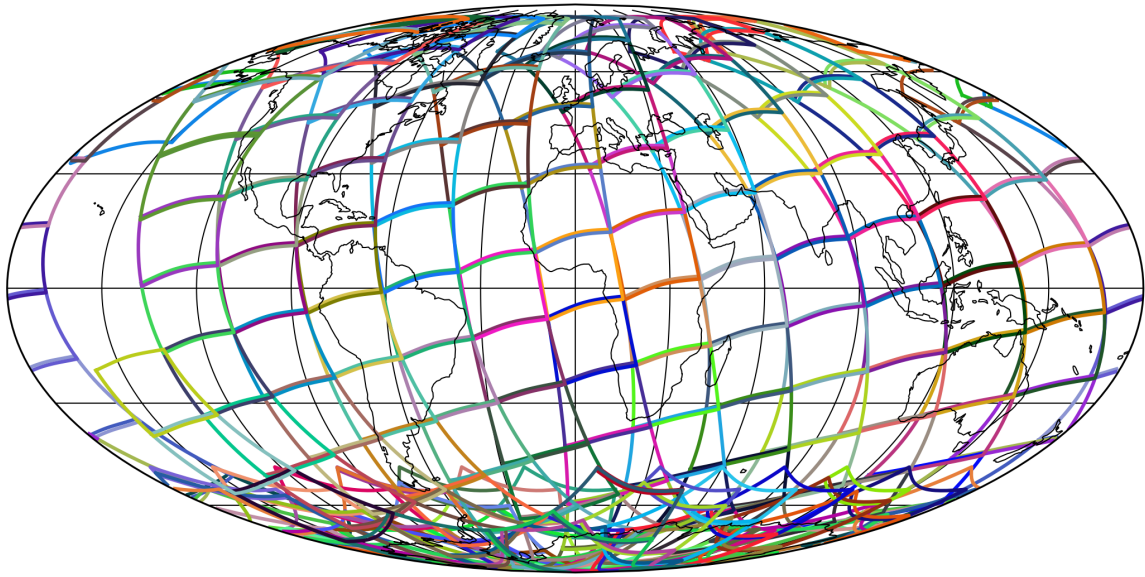


Figure 1: Outline of the granules.

4 Input data monitoring

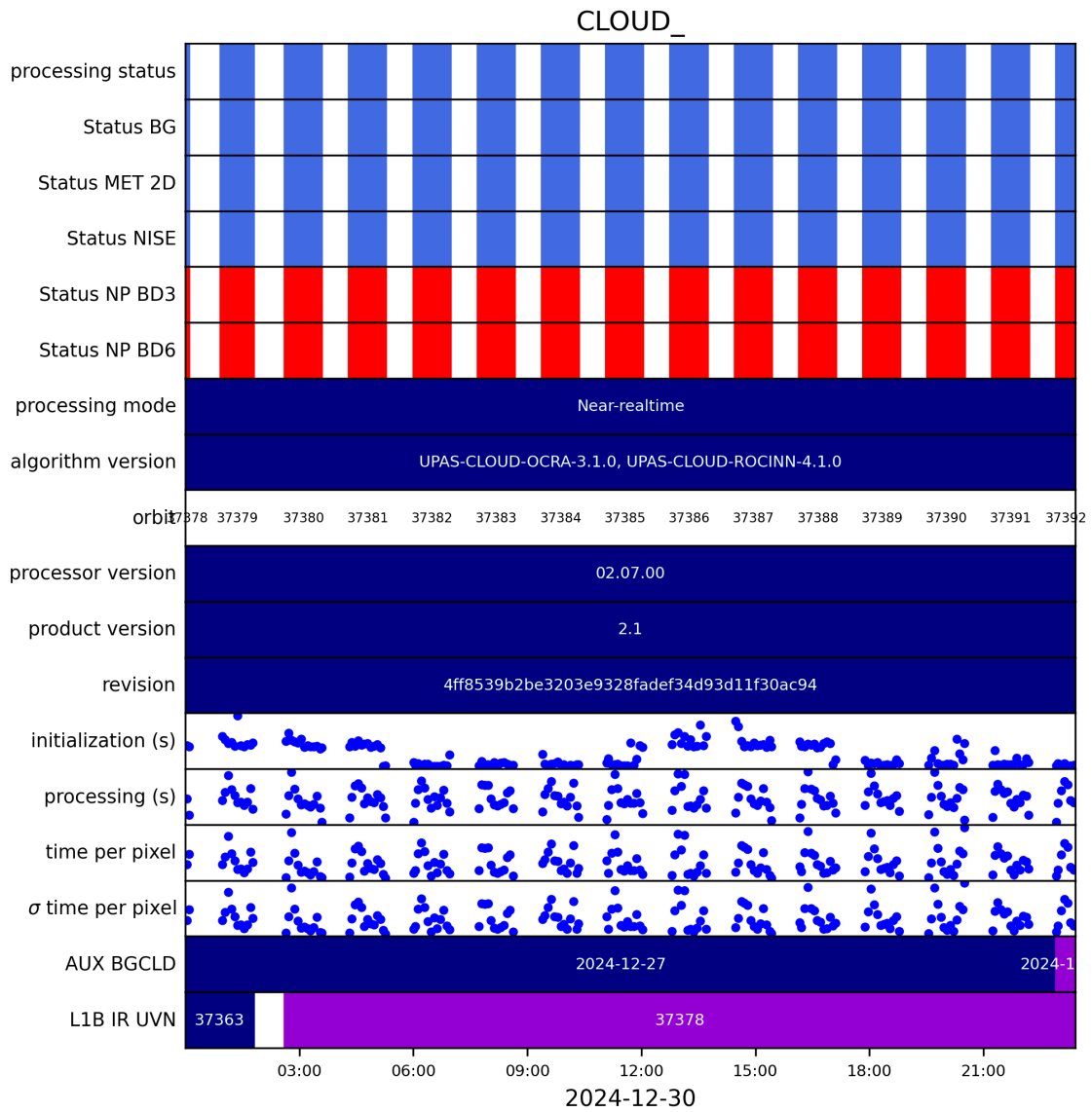


Figure 2: Input data per granule

5 Warnings and errors

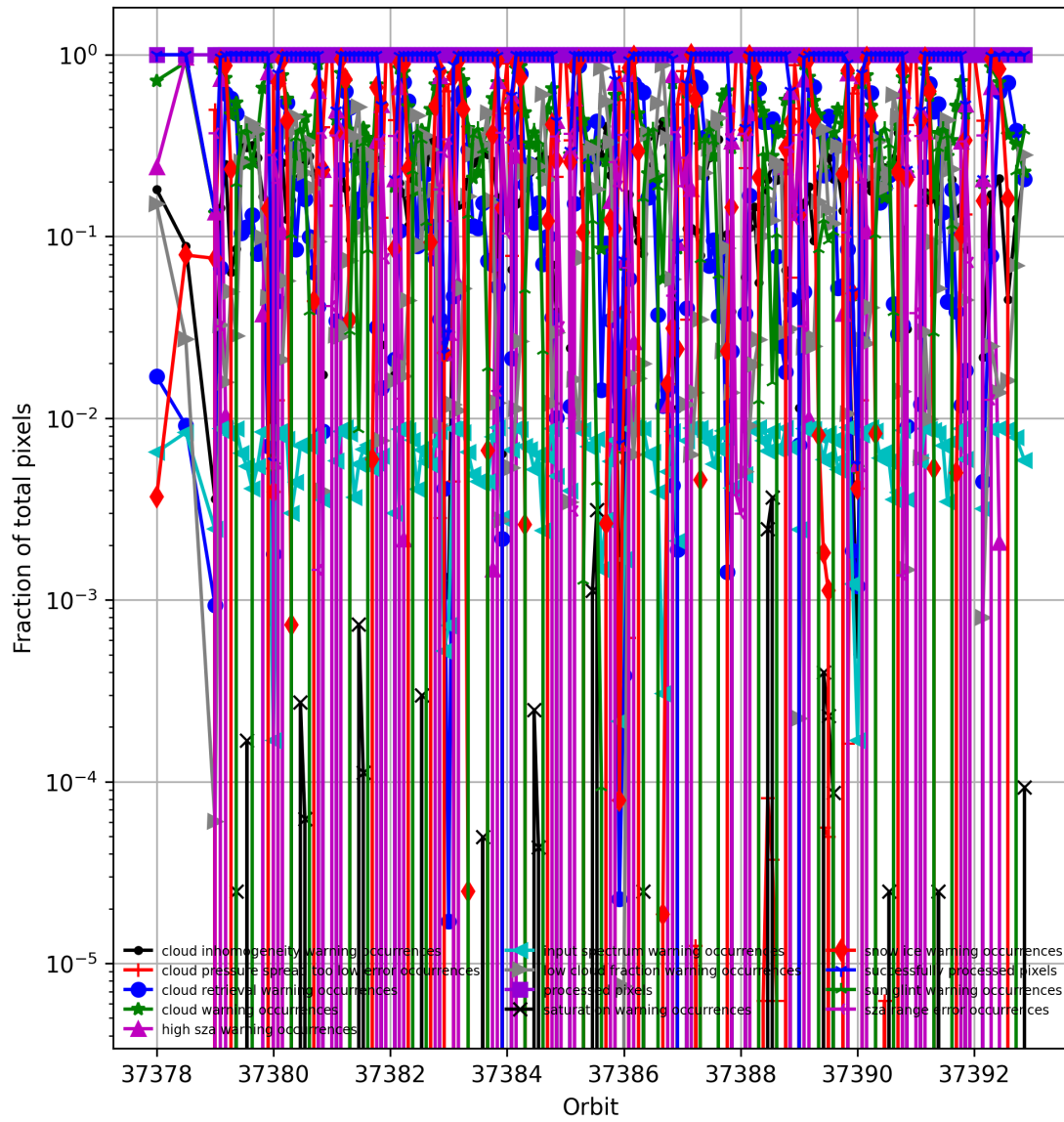


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

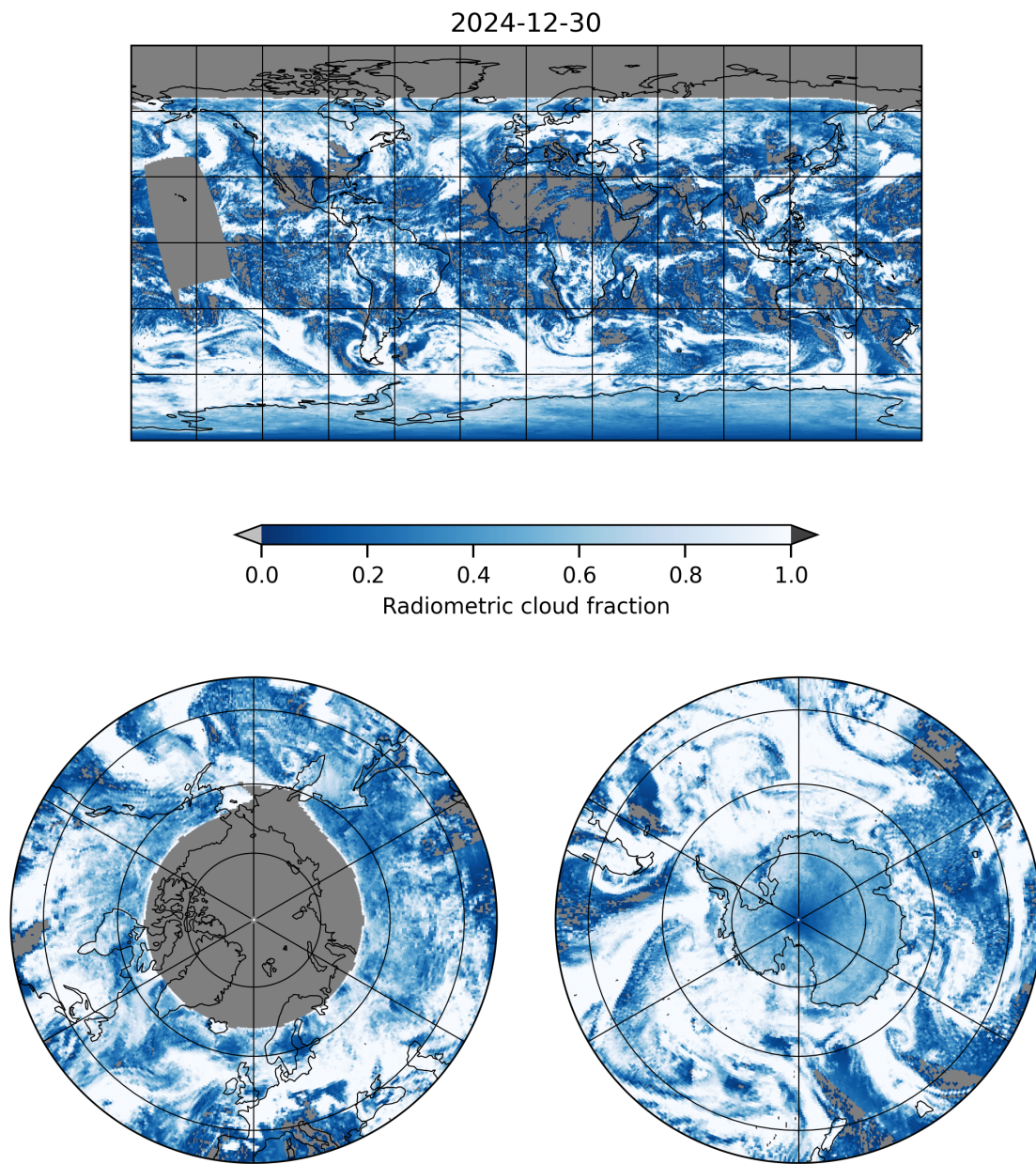


Figure 4: Map of “Radiometric cloud fraction” for 2024-12-30 to 2024-12-30

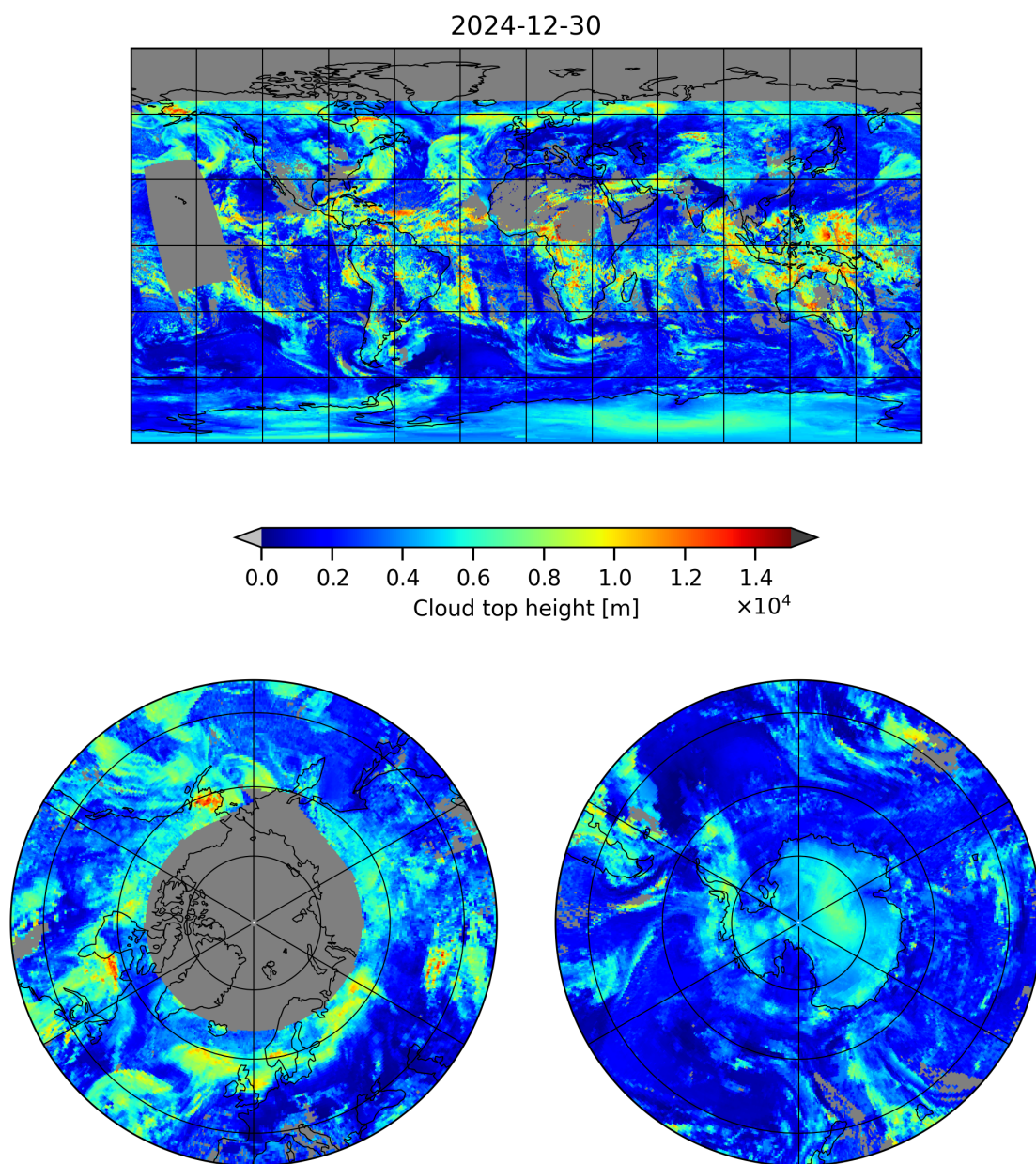


Figure 5: Map of “Cloud top height” for 2024-12-30 to 2024-12-30

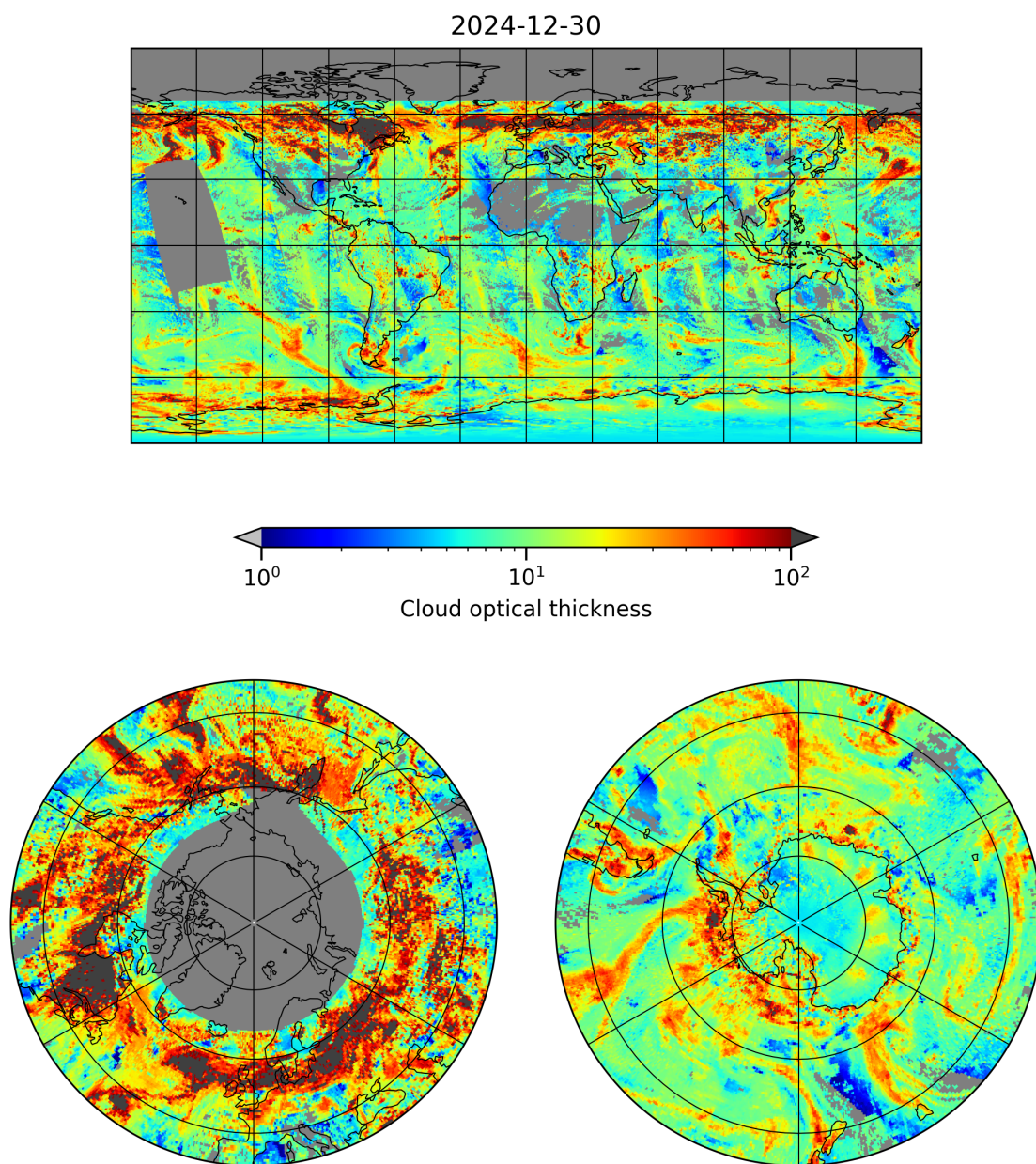


Figure 6: Map of “Cloud optical thickness” for 2024-12-30 to 2024-12-30

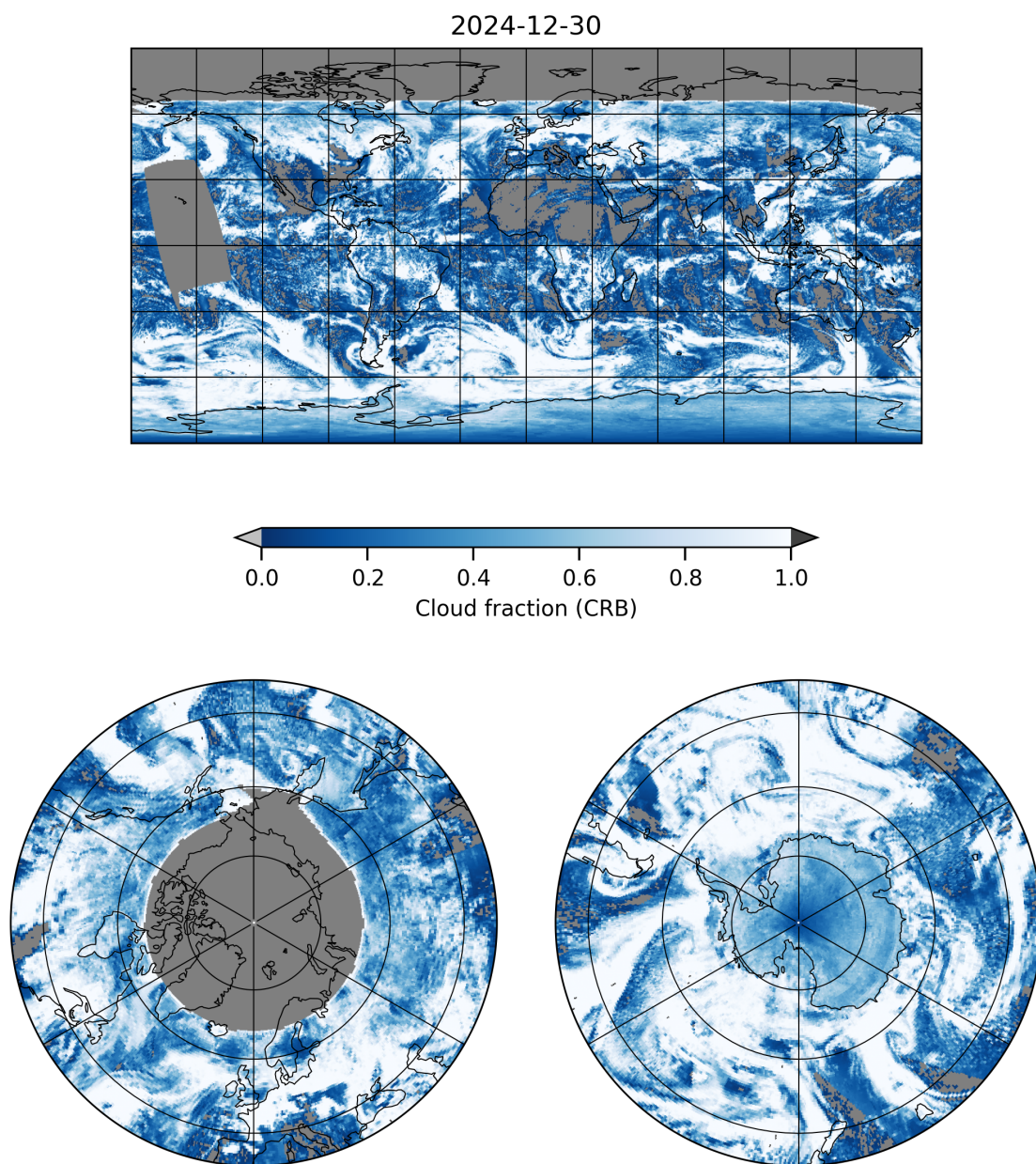


Figure 7: Map of “Cloud fraction (CRB)” for 2024-12-30 to 2024-12-30

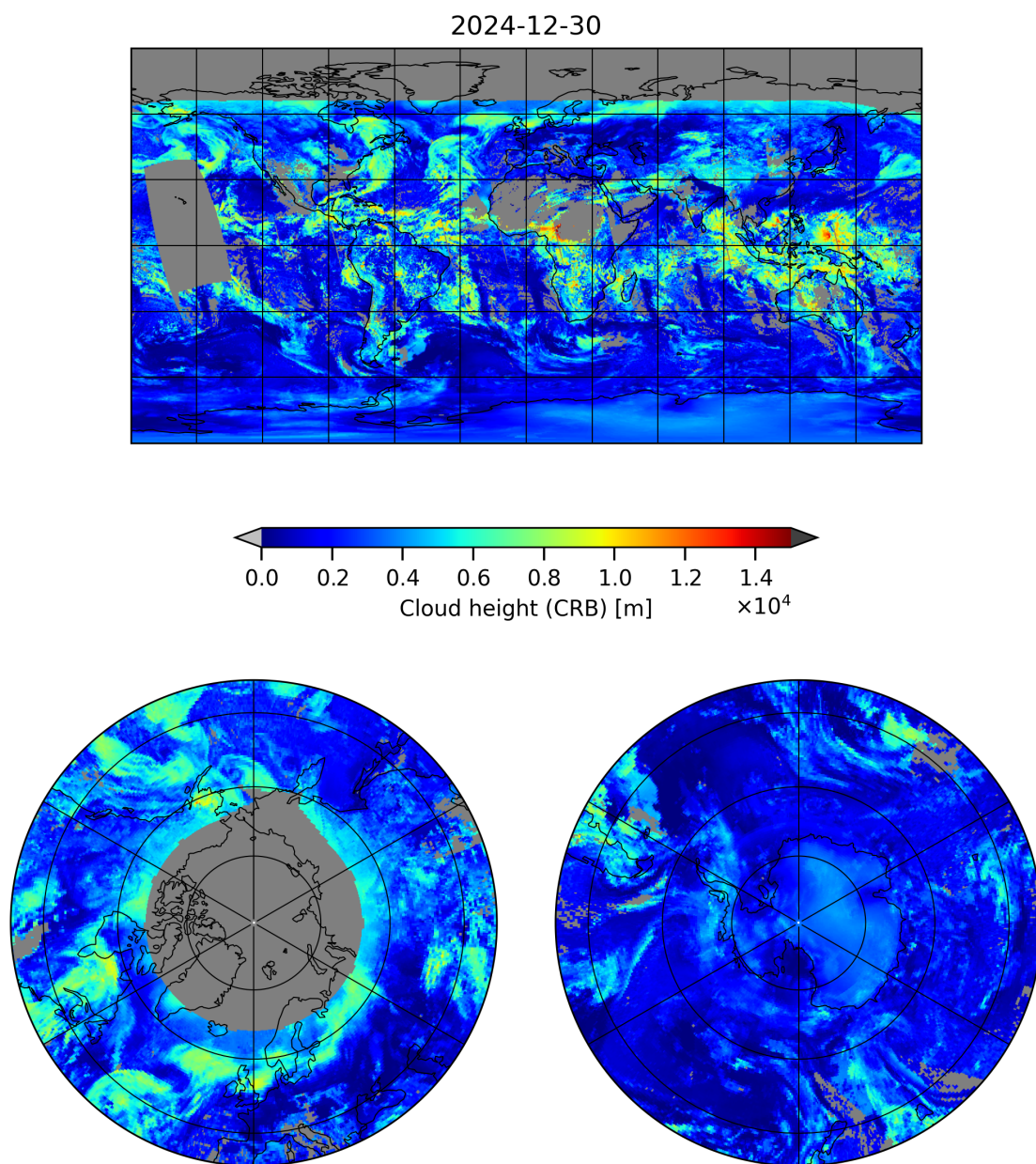


Figure 8: Map of “Cloud height (CRB)” for 2024-12-30 to 2024-12-30

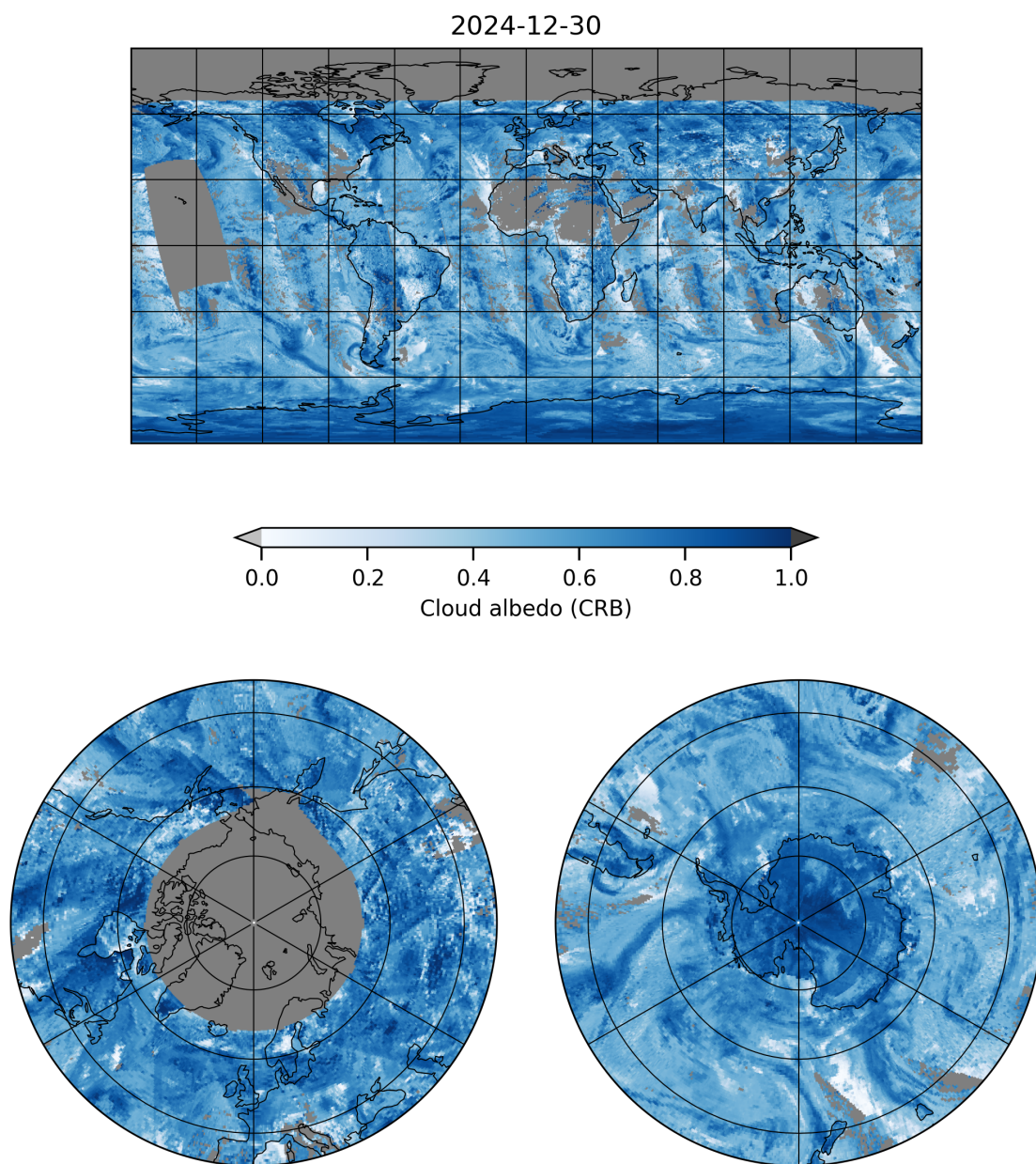


Figure 9: Map of “Cloud albedo (CRB)” for 2024-12-30 to 2024-12-30

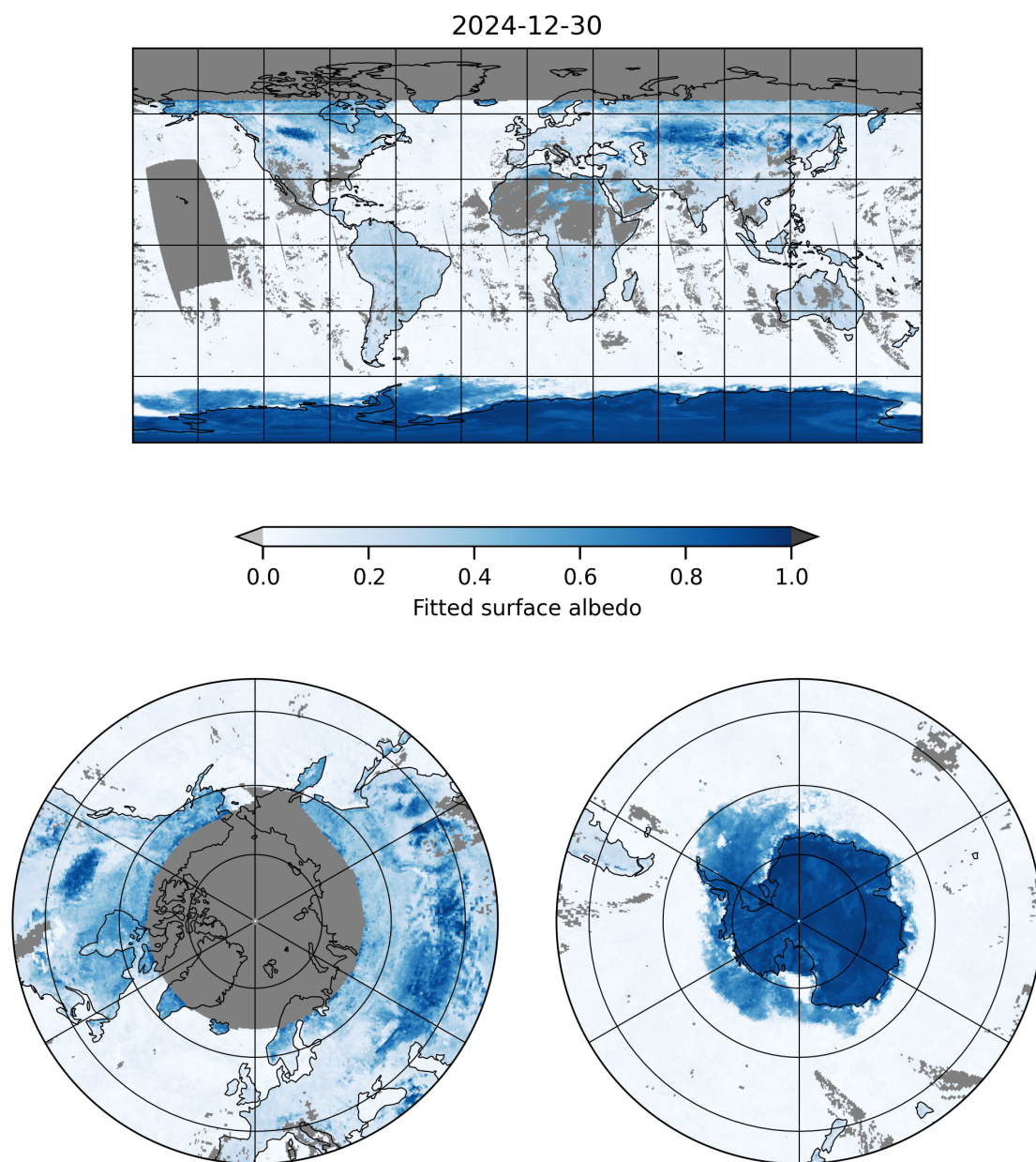


Figure 10: Map of “Fitted surface albedo” for 2024-12-30 to 2024-12-30

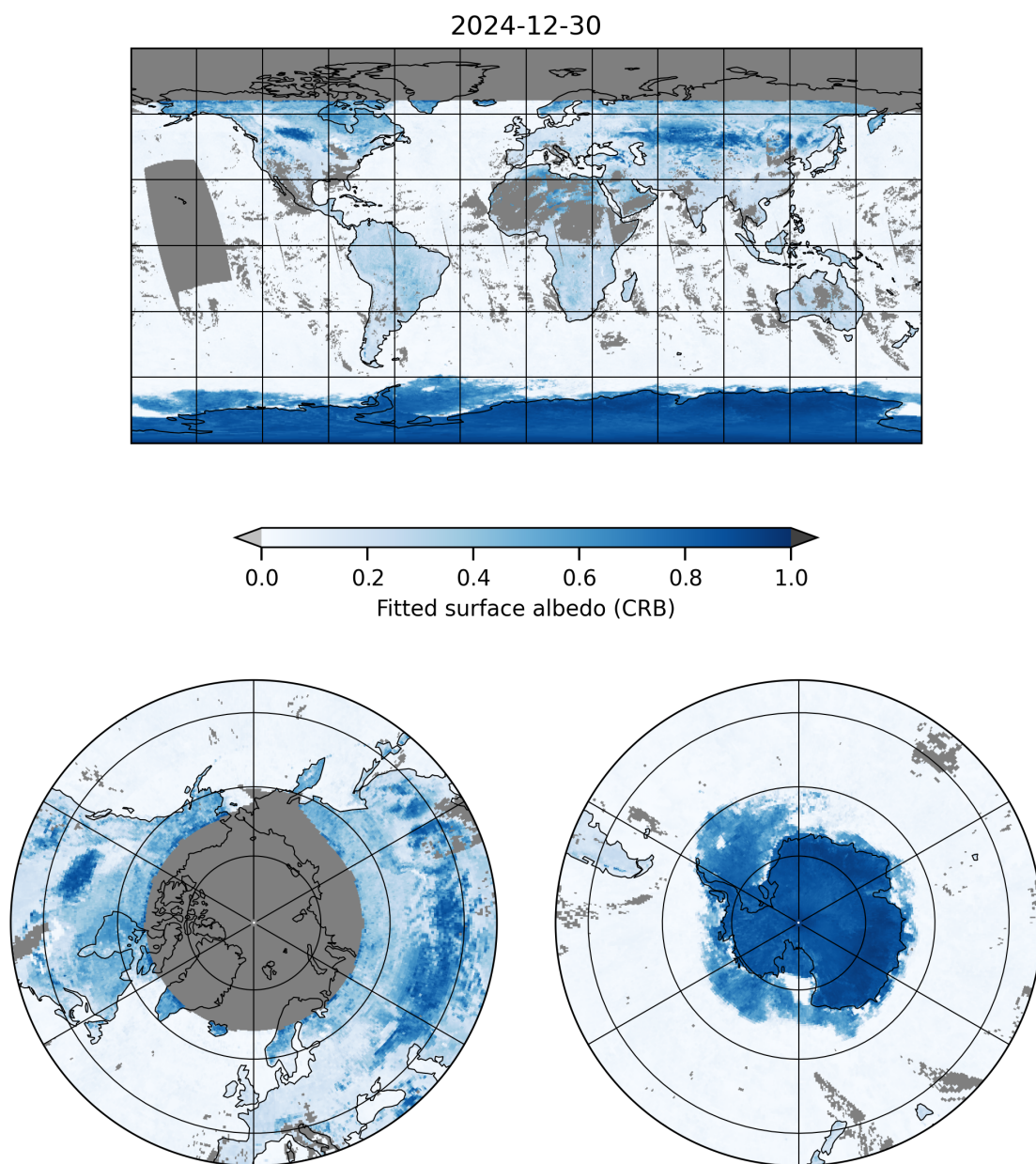


Figure 11: Map of “Fitted surface albedo (CRB)” for 2024-12-30 to 2024-12-30

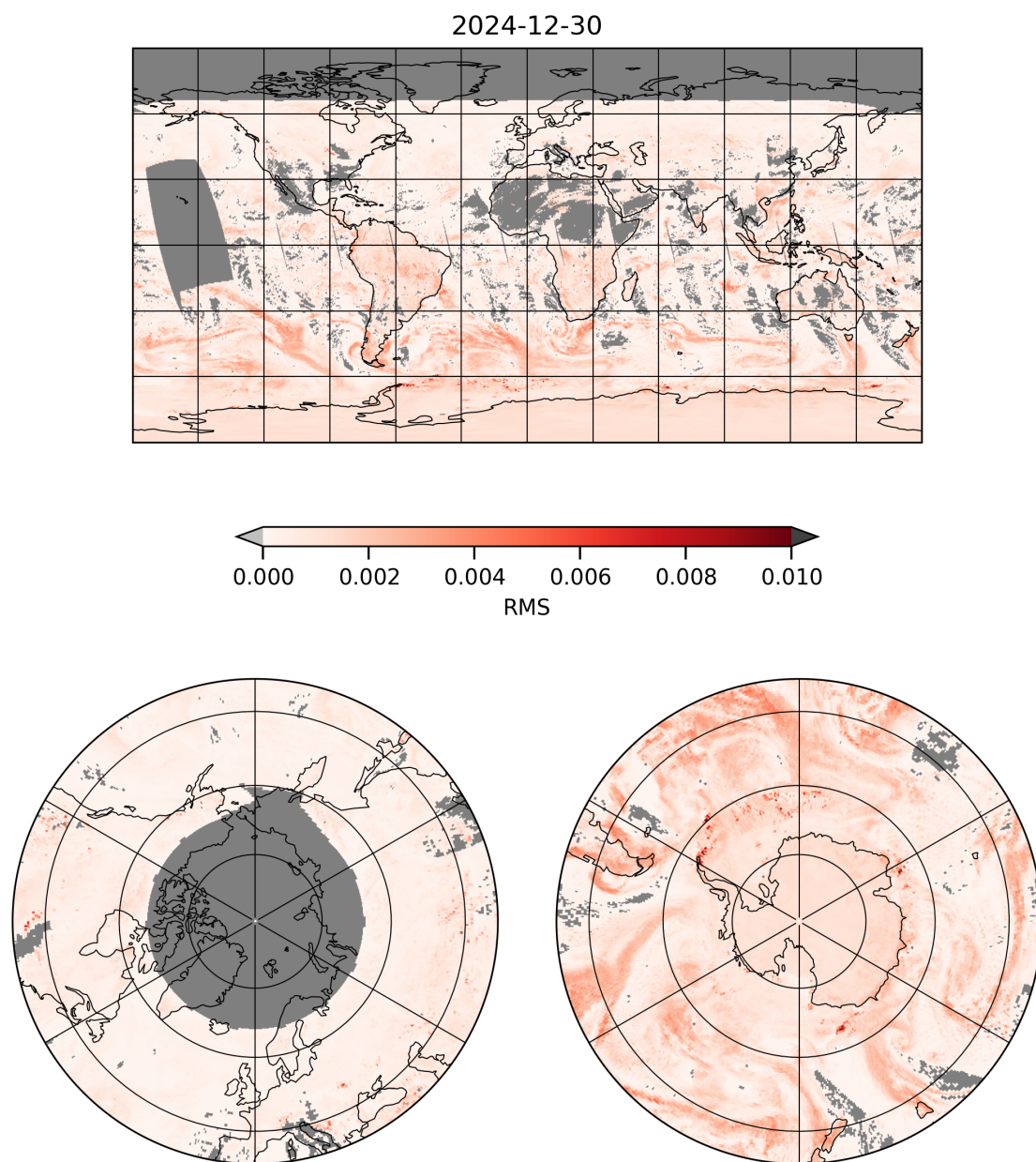


Figure 12: Map of “RMS” for 2024-12-30 to 2024-12-30

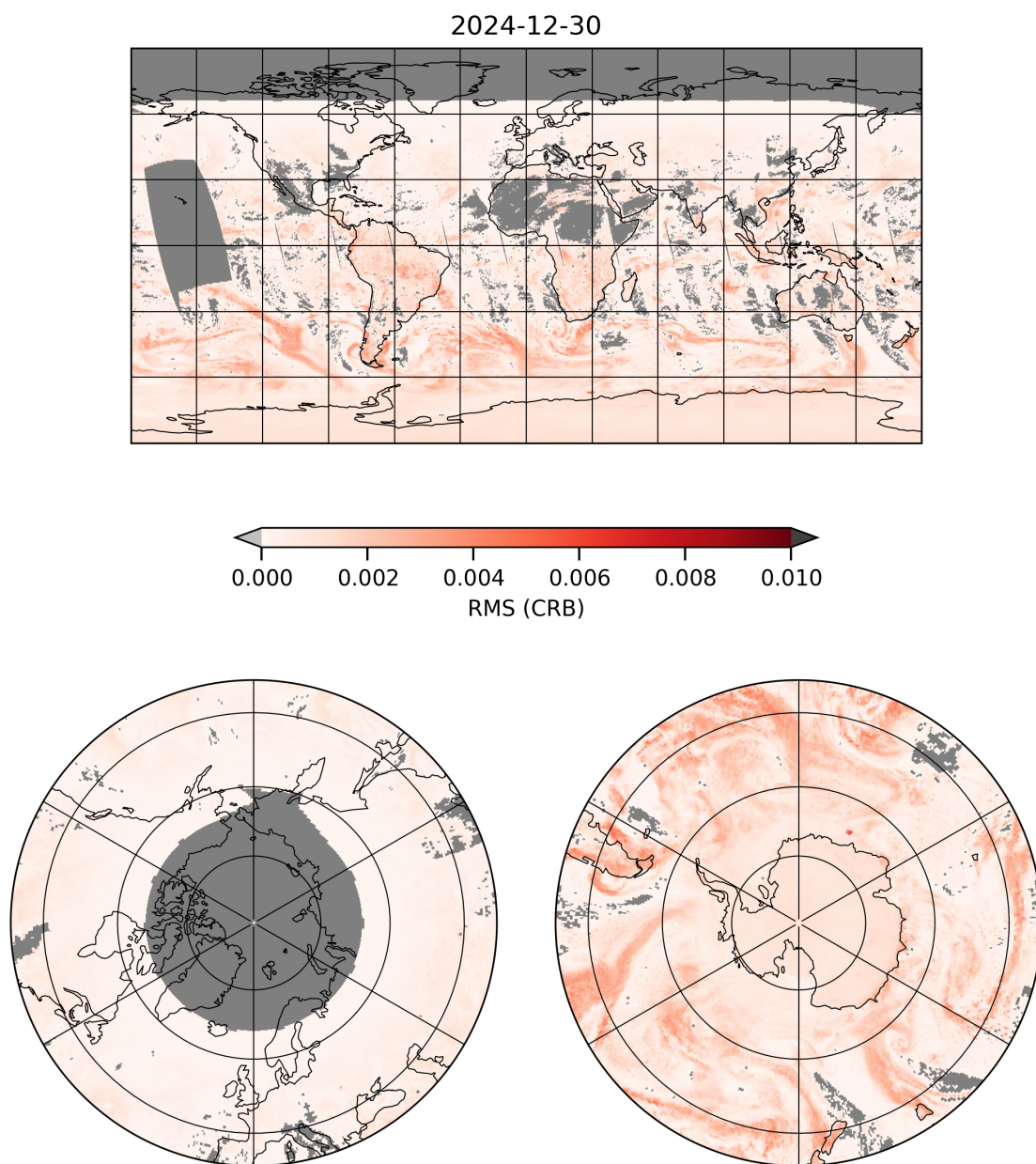


Figure 13: Map of “RMS (CRB)” for 2024-12-30 to 2024-12-30

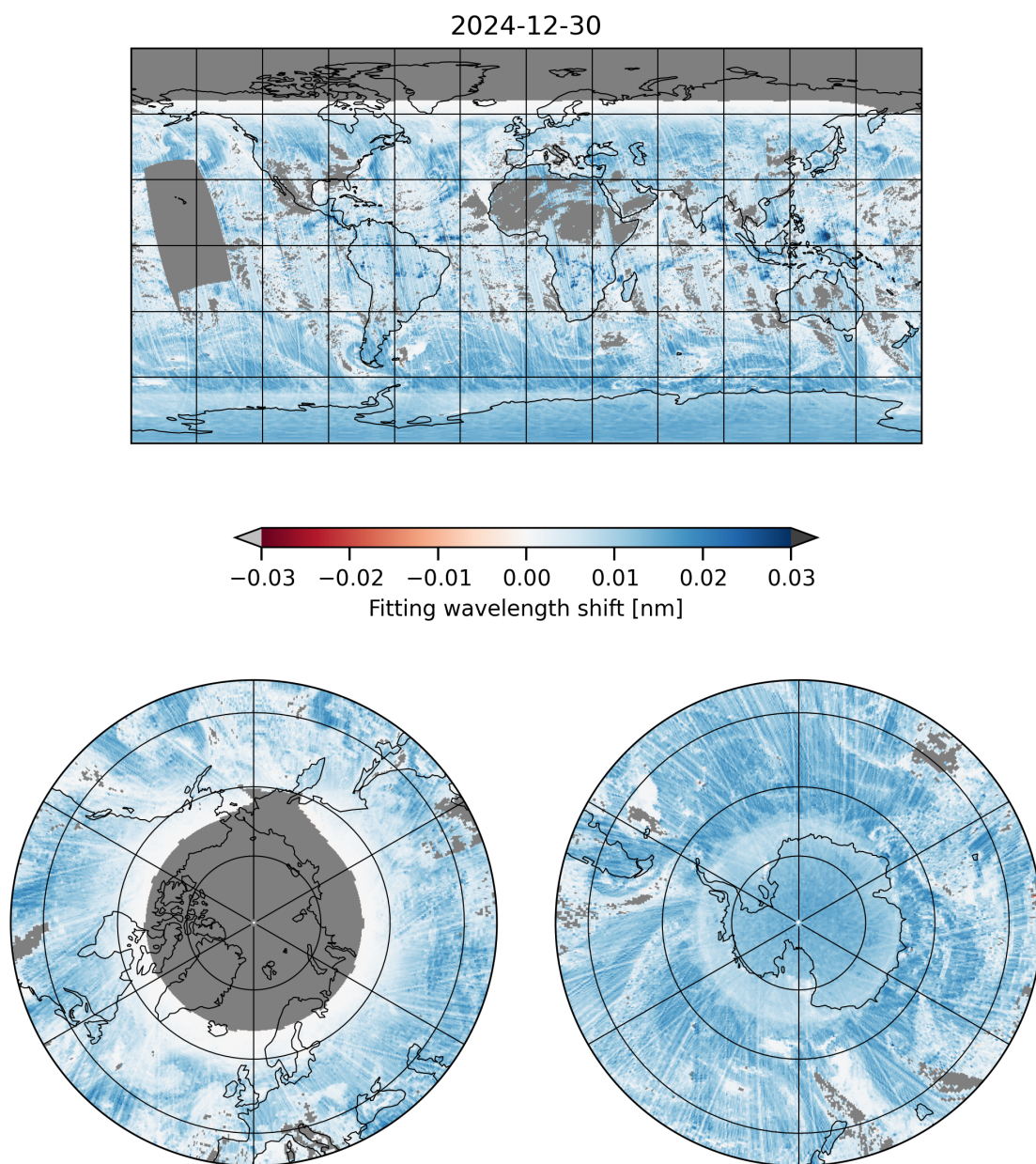


Figure 14: Map of “Fitting wavelength shift” for 2024-12-30 to 2024-12-30

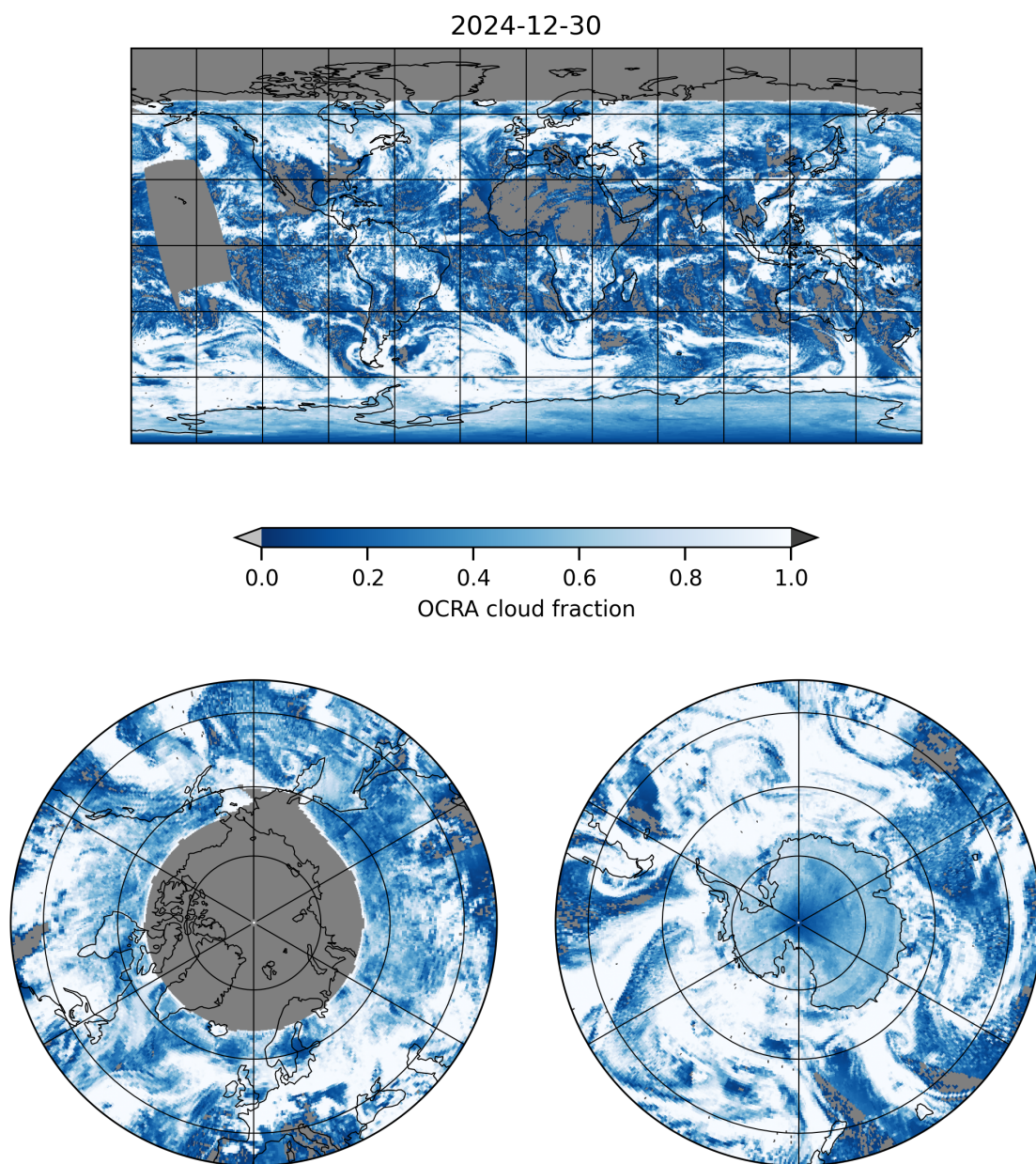


Figure 15: Map of “OCRA cloud fraction” for 2024-12-30 to 2024-12-30

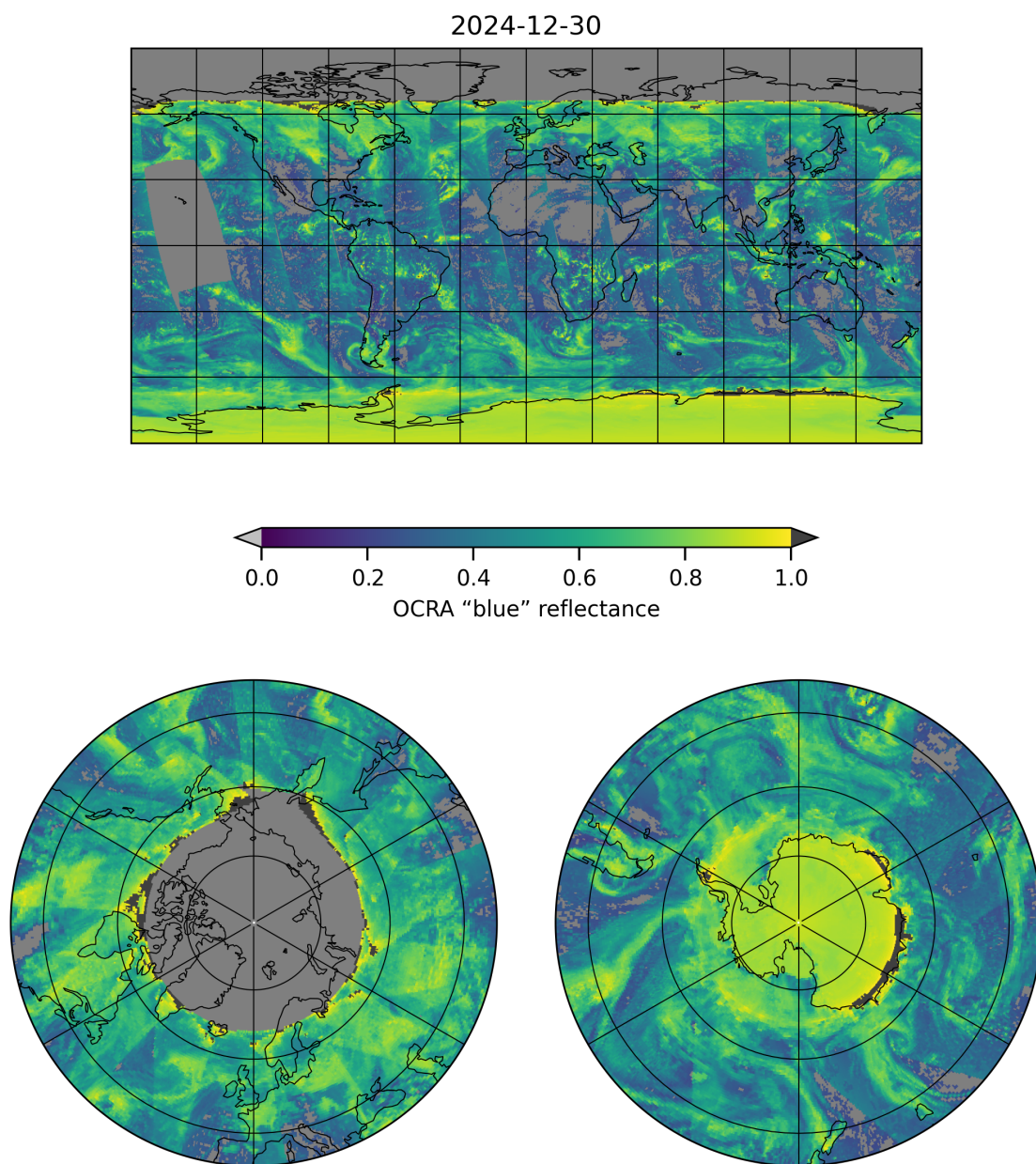


Figure 16: Map of "OCRA "blue" reflectance" for 2024-12-30 to 2024-12-30

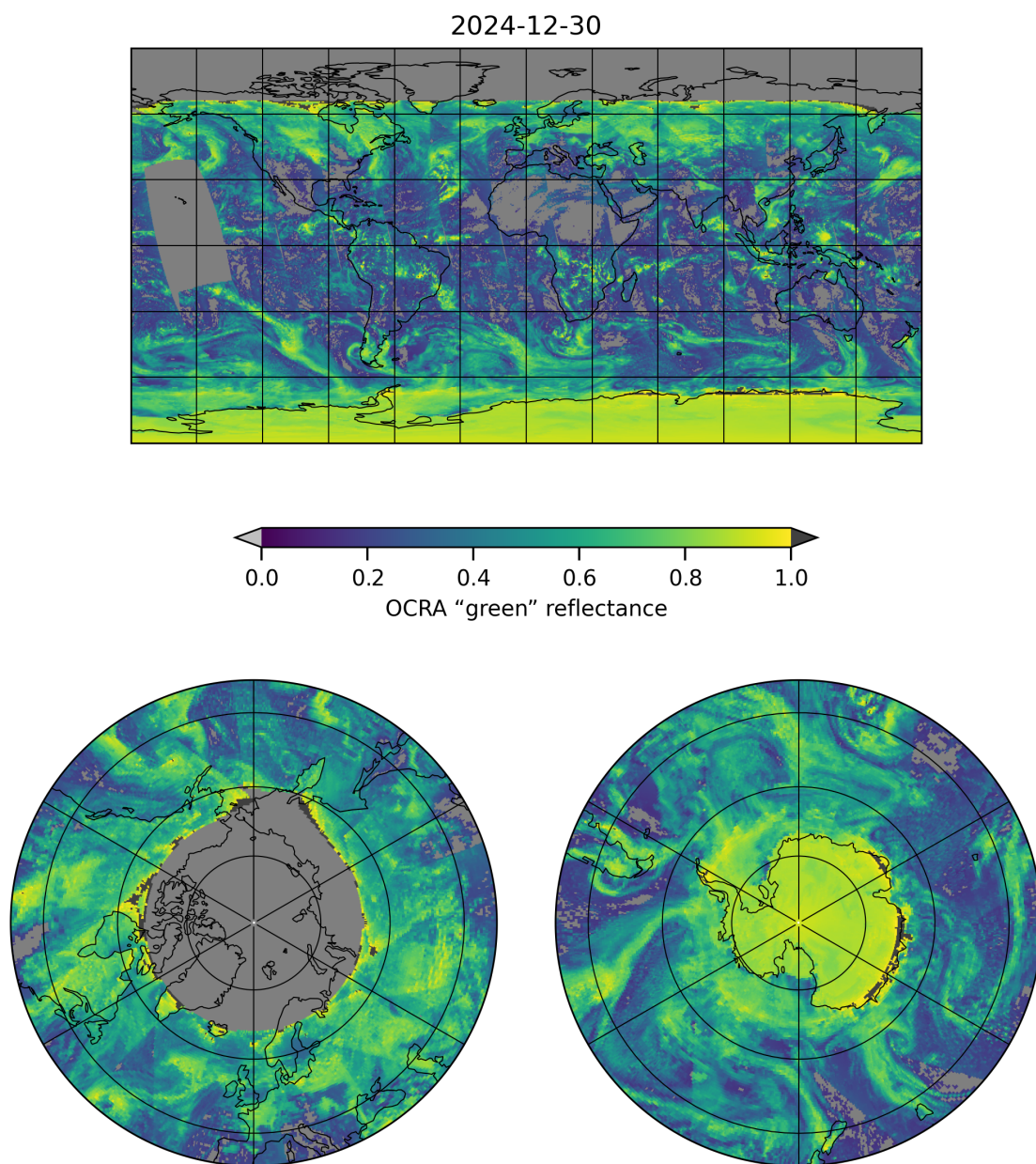


Figure 17: Map of "OCRA "green" reflectance" for 2024-12-30 to 2024-12-30

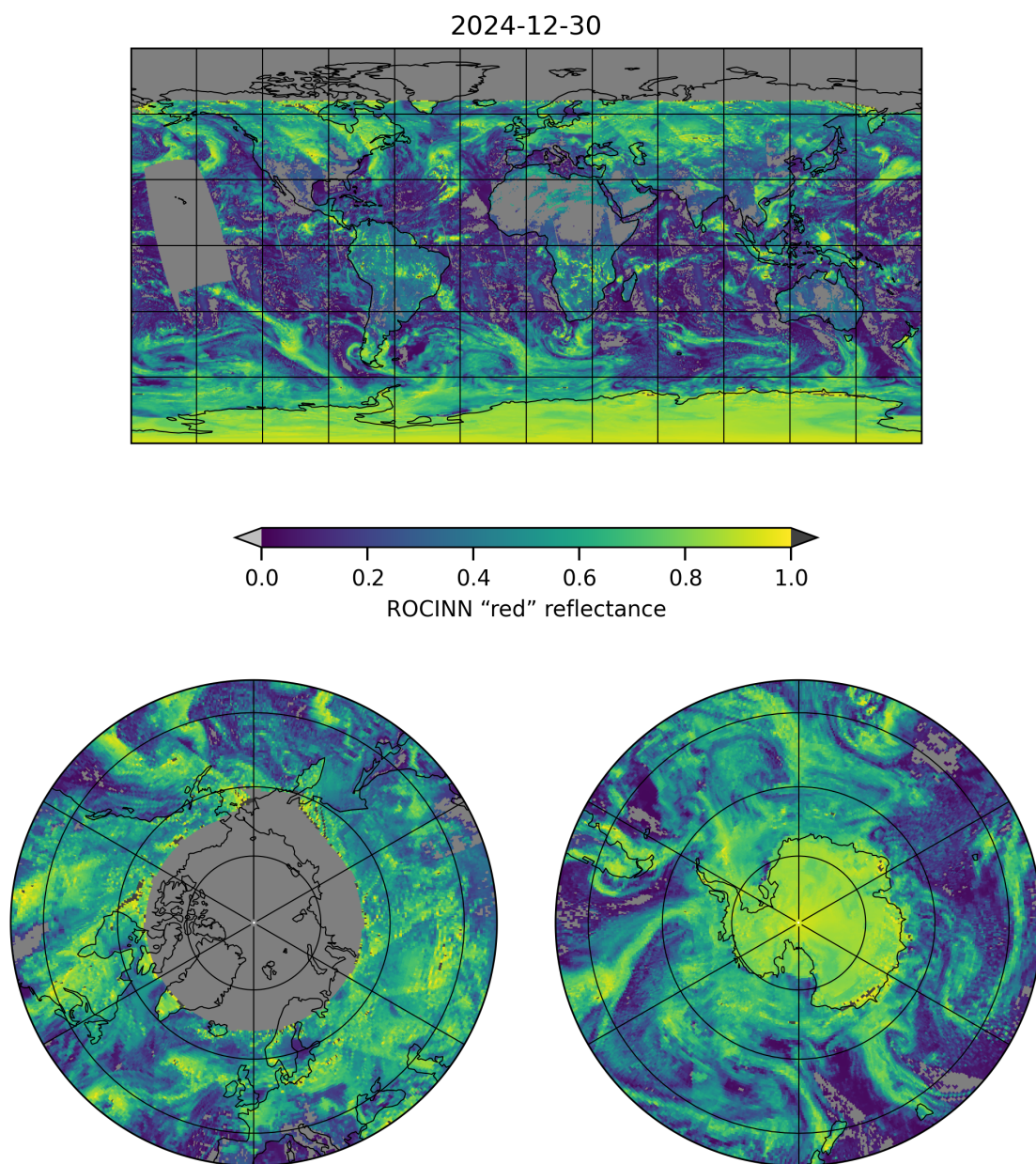


Figure 18: Map of "ROCINN "red" reflectance" for 2024-12-30 to 2024-12-30

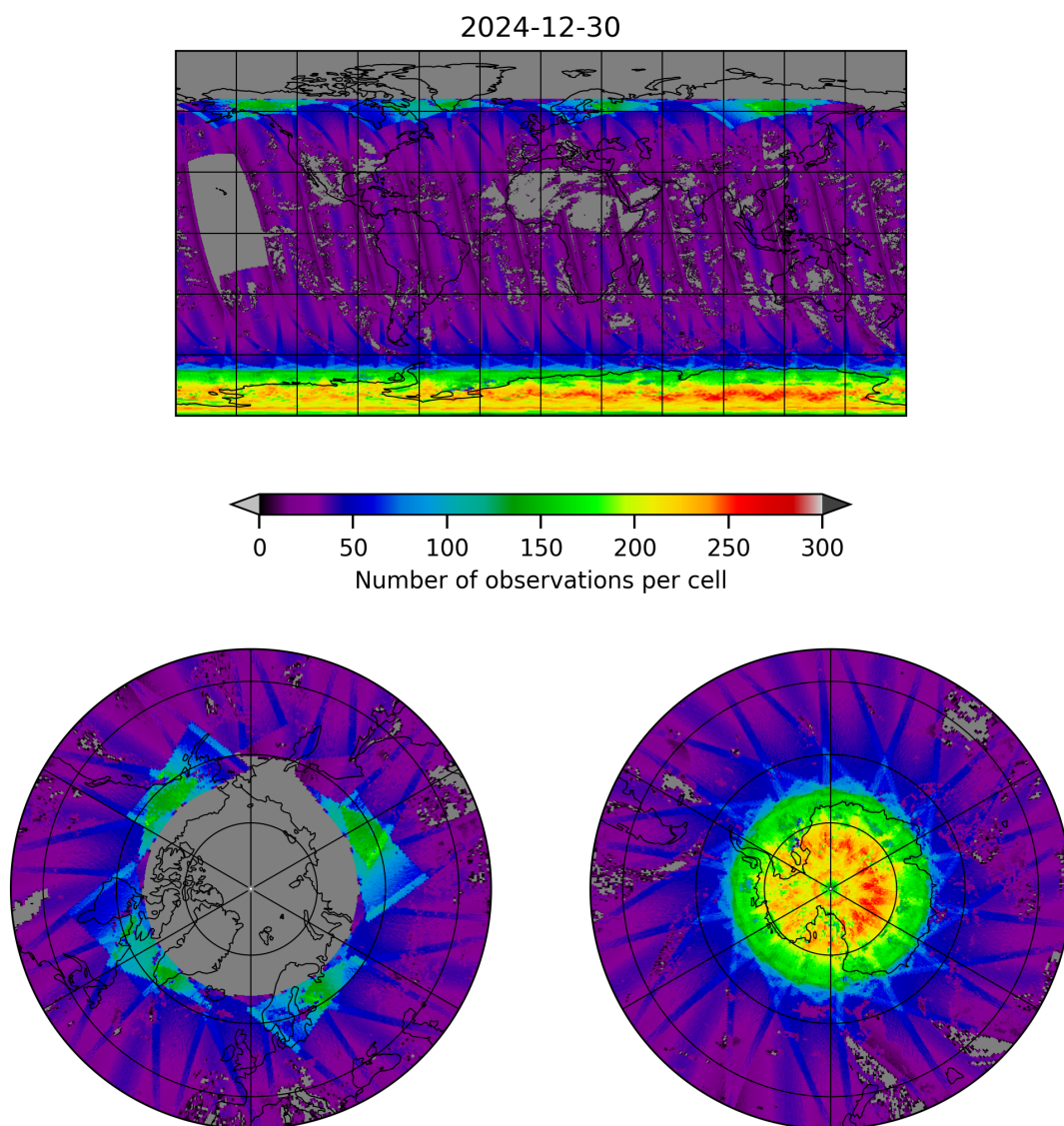


Figure 19: Map of the number of observations for 2024-12-30 to 2024-12-30

7 Zonal average

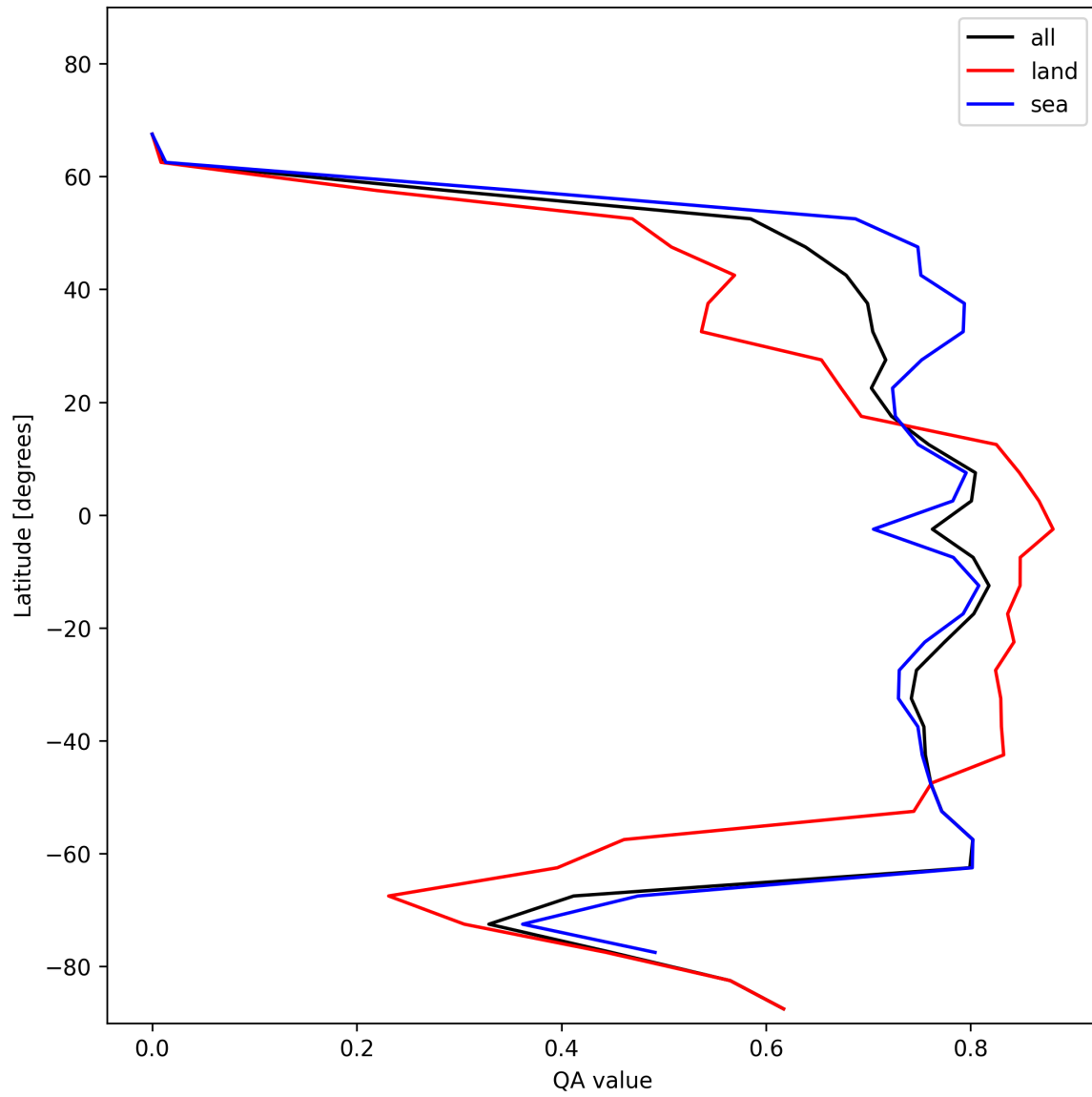


Figure 20: Zonal average of “QA value” for 2024-12-30 to 2024-12-30.

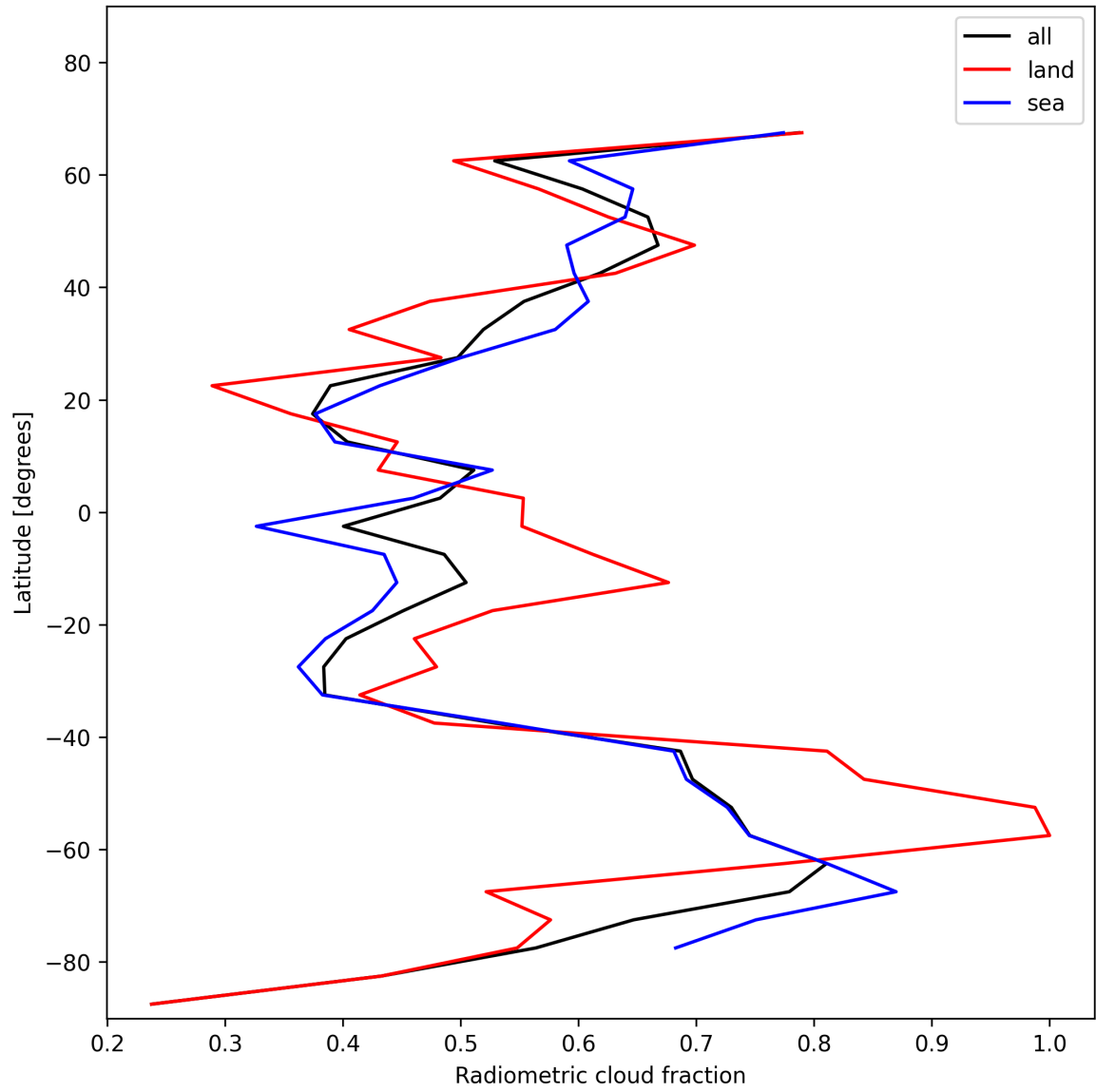


Figure 21: Zonal average of “Radiometric cloud fraction” for 2024-12-30 to 2024-12-30.

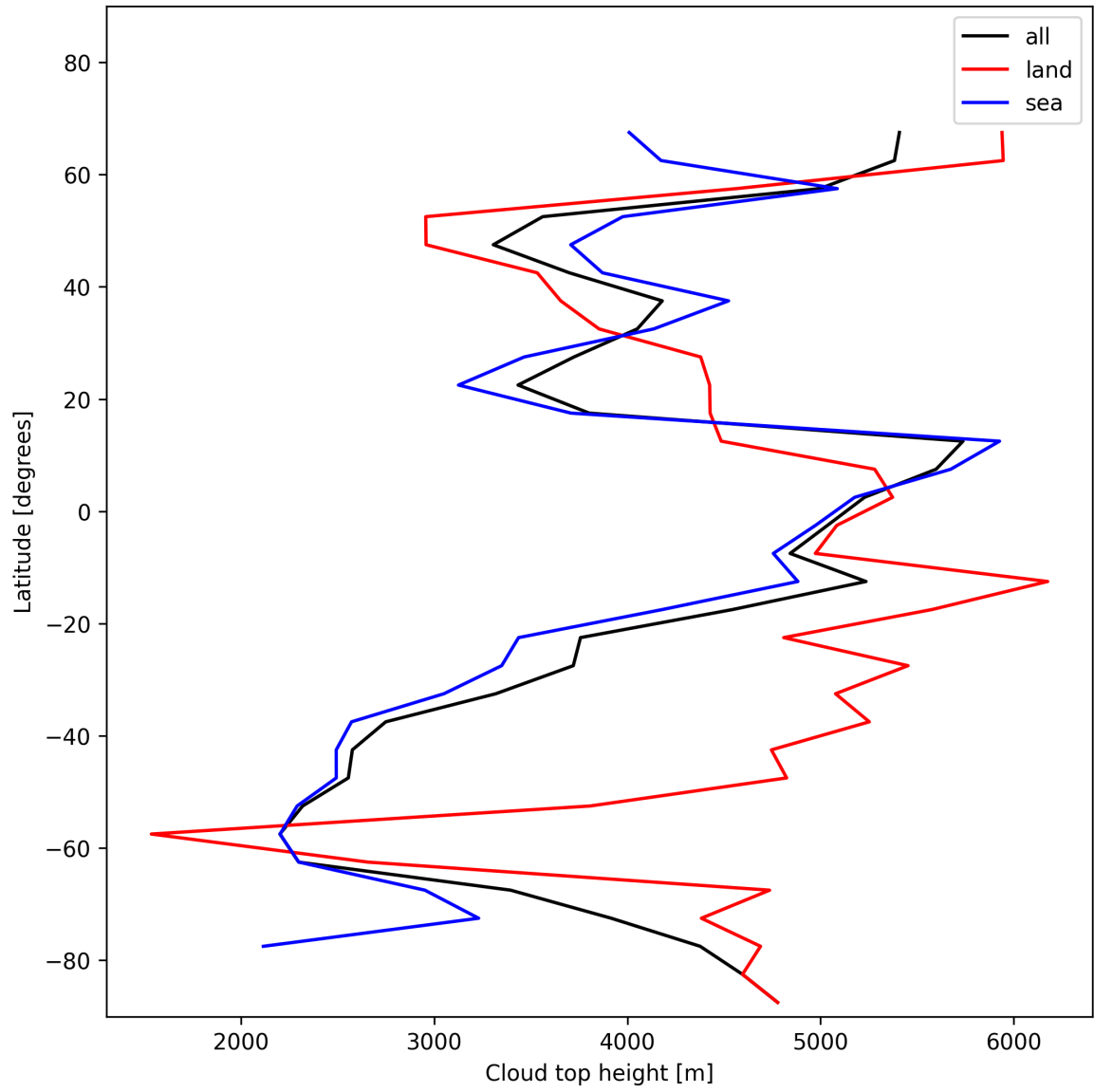


Figure 22: Zonal average of “Cloud top height” for 2024-12-30 to 2024-12-30.

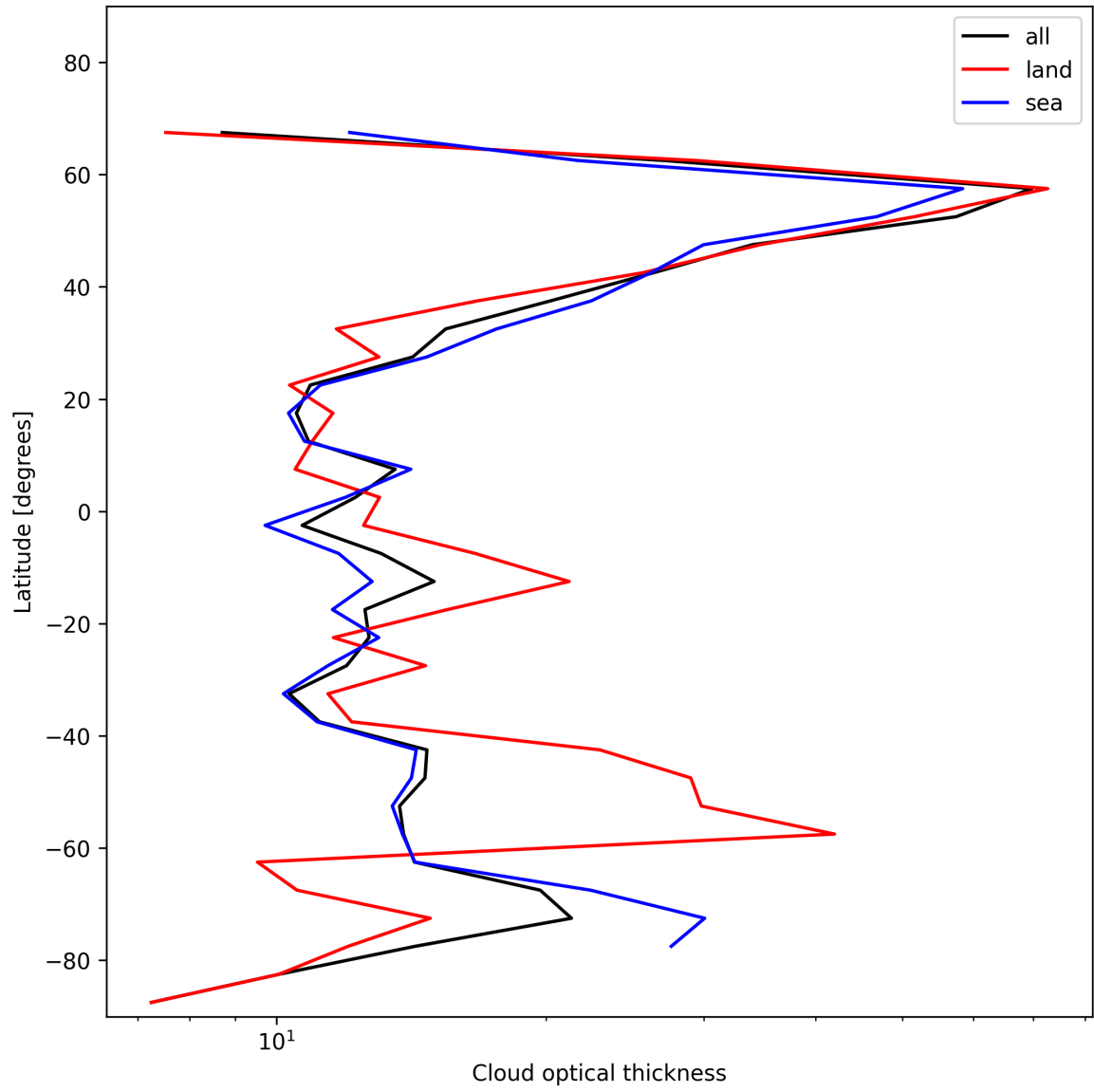


Figure 23: Zonal average of “Cloud optical thickness” for 2024-12-30 to 2024-12-30.

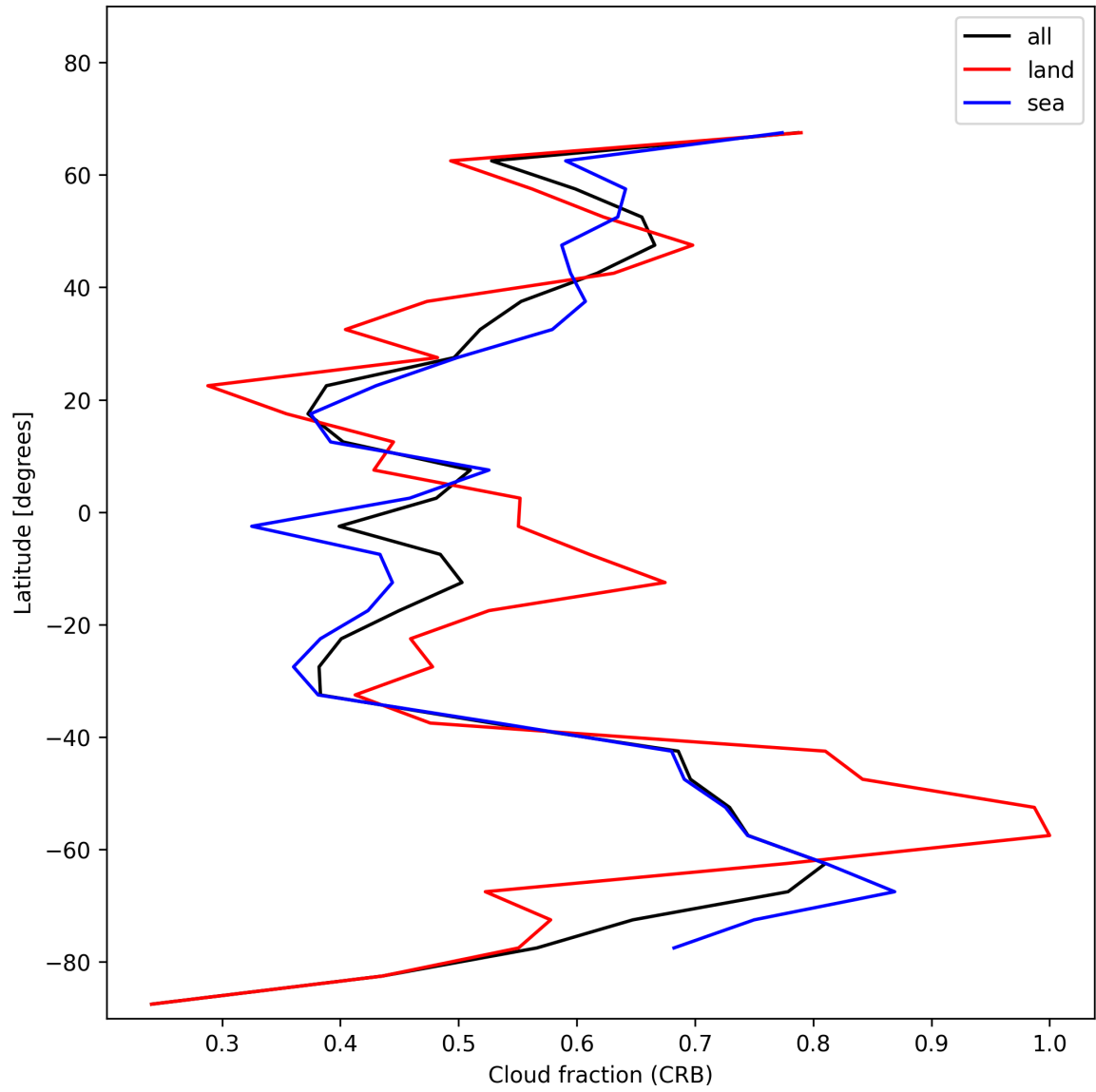


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2024-12-30 to 2024-12-30.

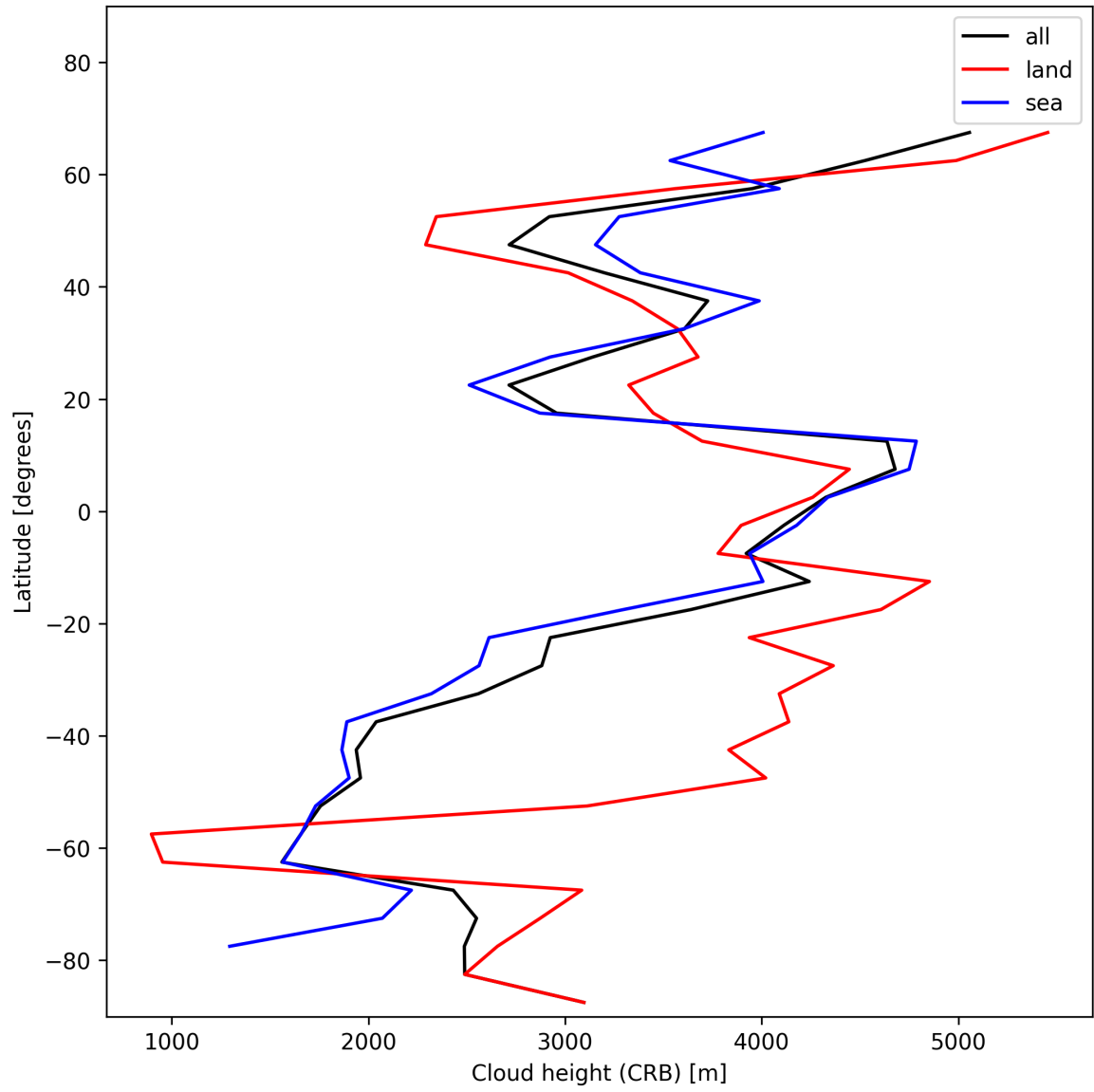


Figure 25: Zonal average of “Cloud height (CRB)” for 2024-12-30 to 2024-12-30.

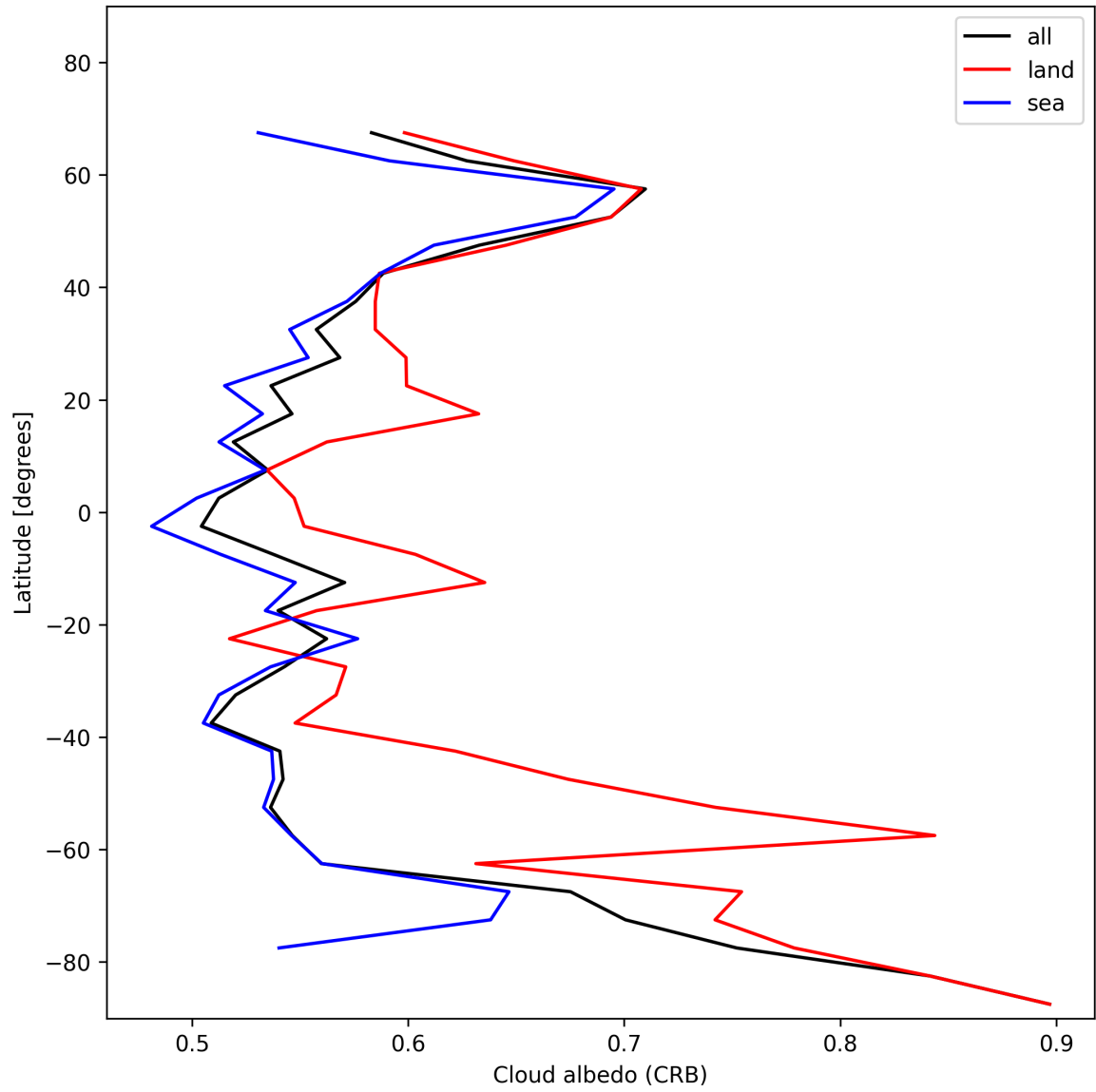


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2024-12-30 to 2024-12-30.

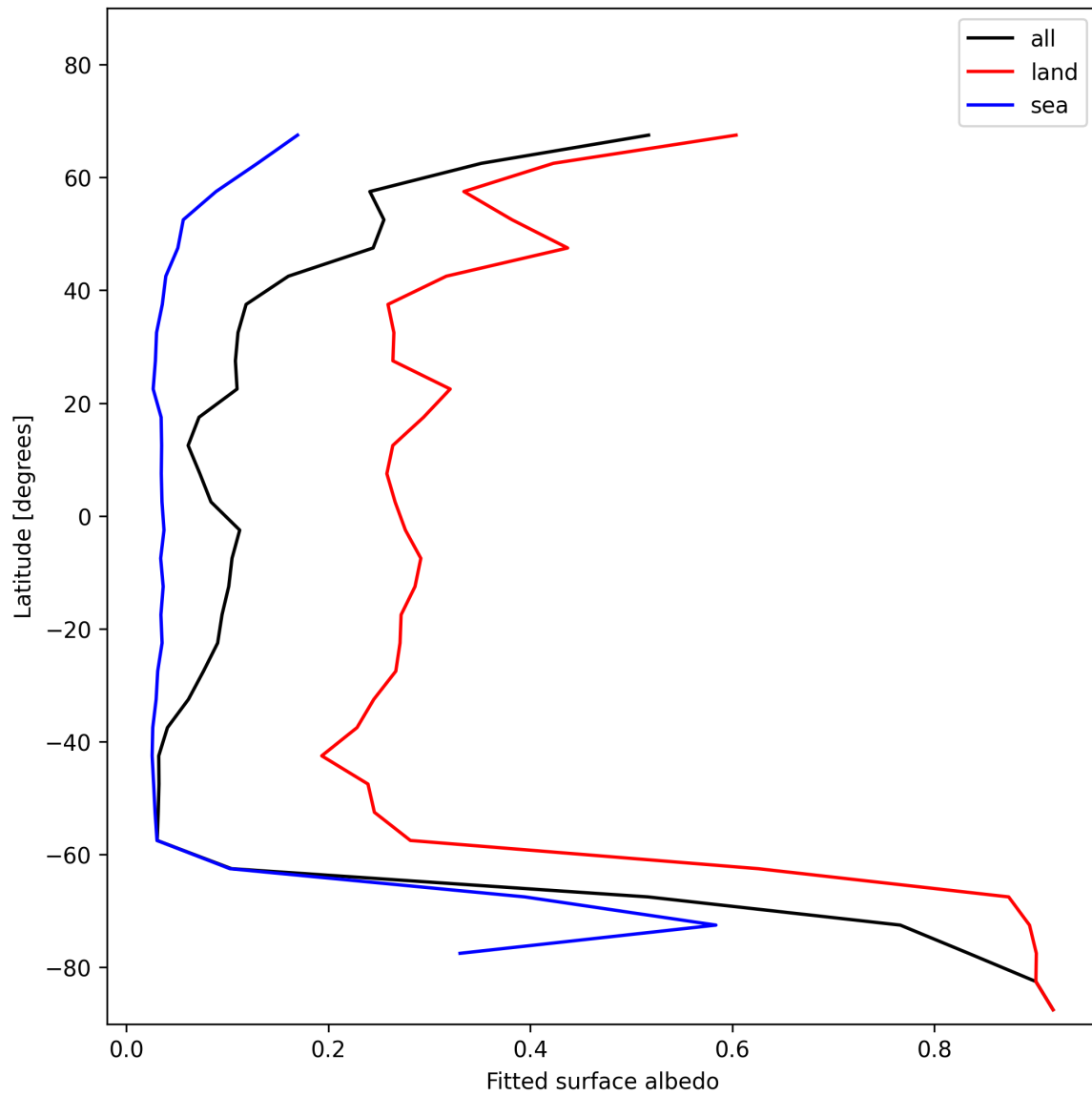


Figure 27: Zonal average of “Fitted surface albedo” for 2024-12-30 to 2024-12-30.

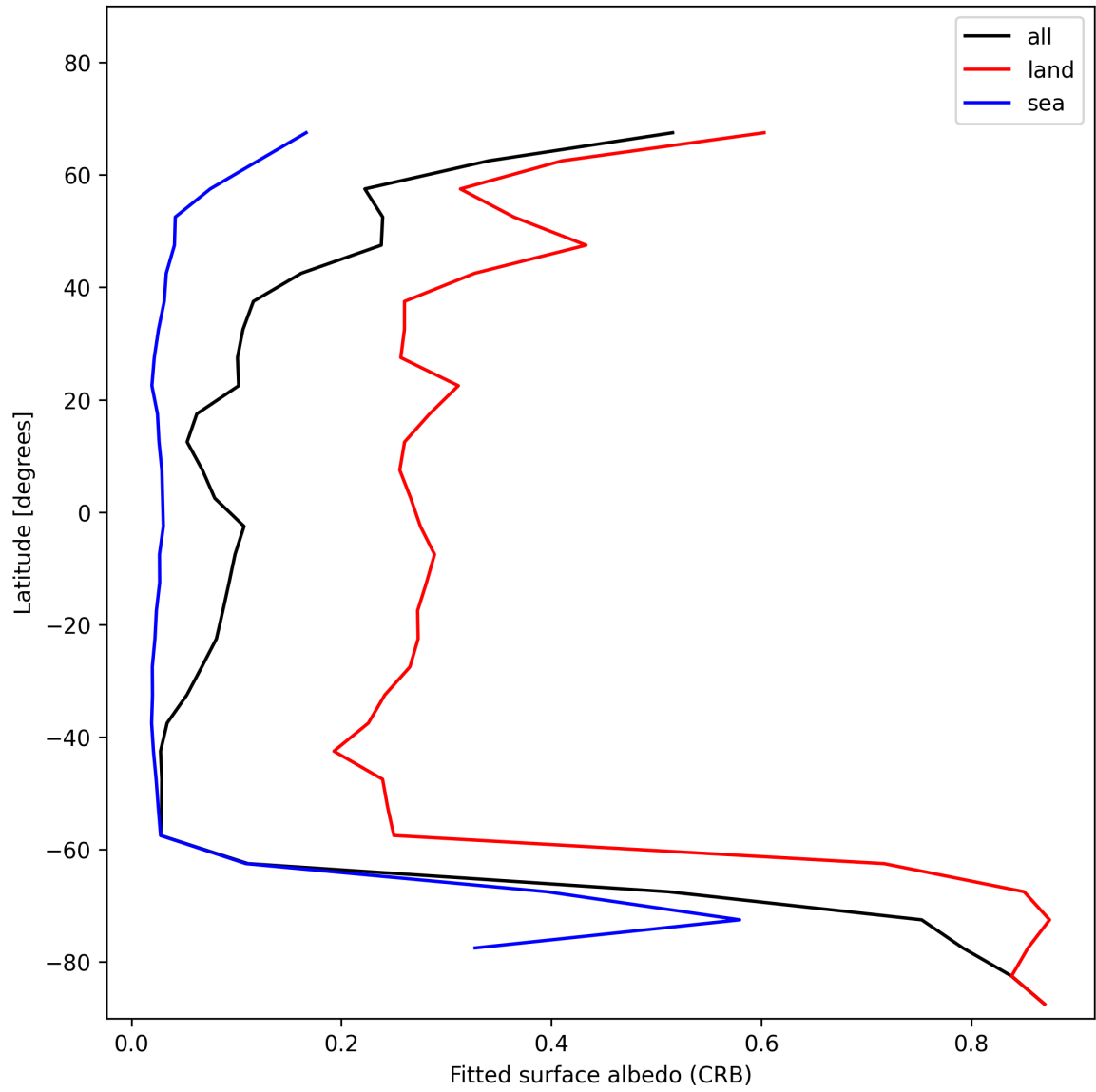


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2024-12-30 to 2024-12-30.

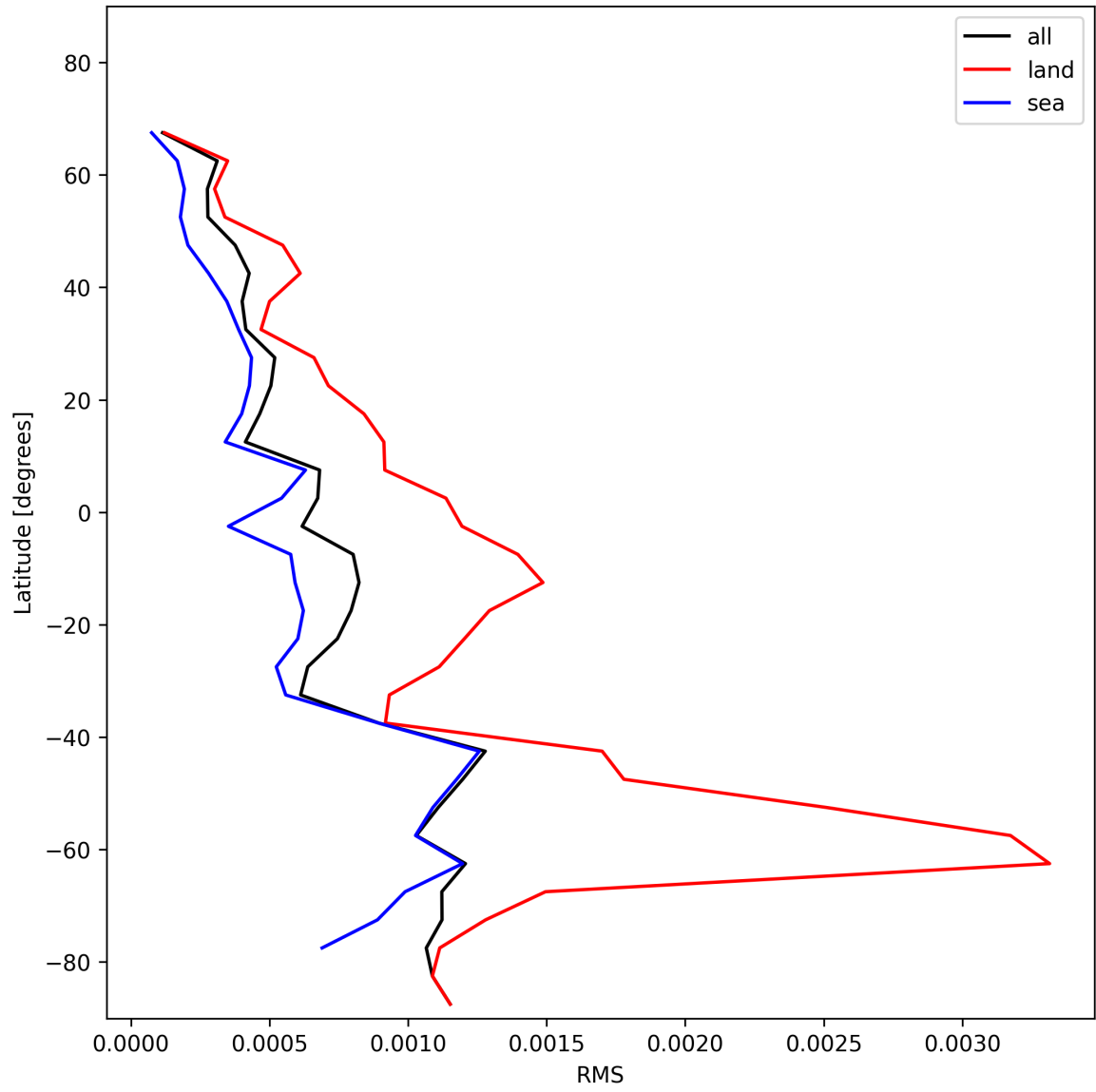


Figure 29: Zonal average of “RMS” for 2024-12-30 to 2024-12-30.

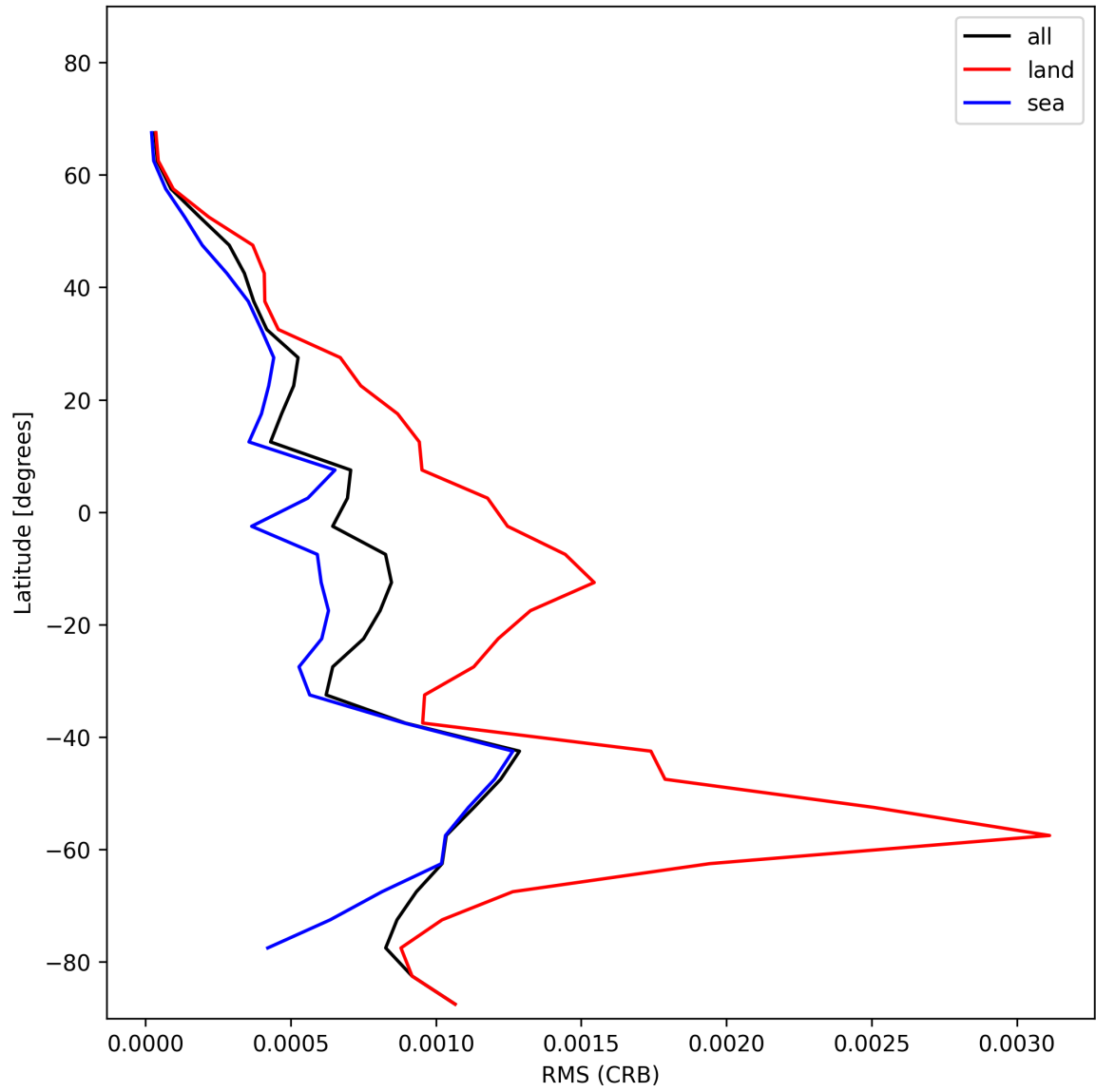


Figure 30: Zonal average of “RMS (CRB)” for 2024-12-30 to 2024-12-30.

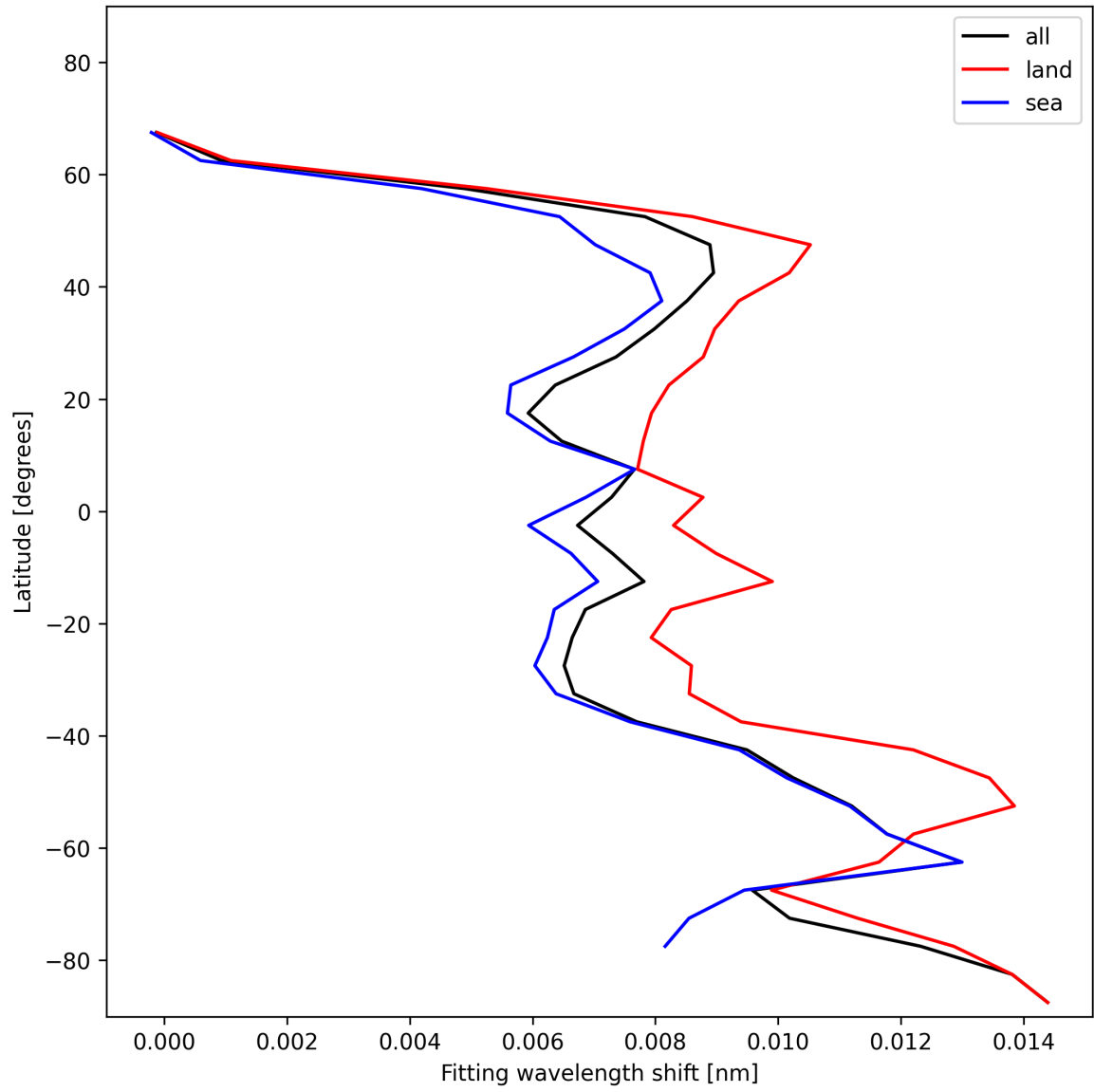


Figure 31: Zonal average of “Fitting wavelength shift” for 2024-12-30 to 2024-12-30.

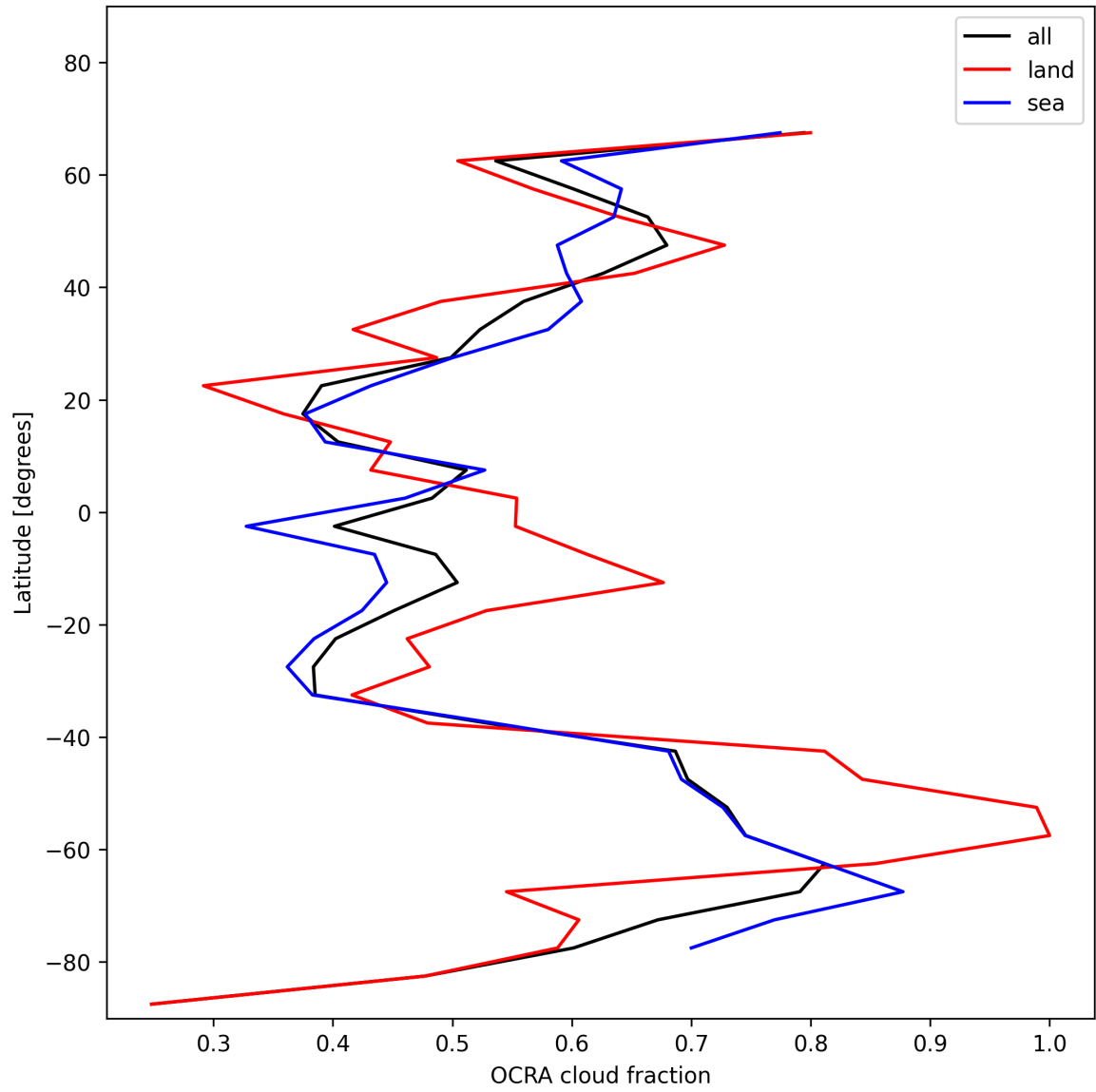


Figure 32: Zonal average of “OCRA cloud fraction” for 2024-12-30 to 2024-12-30.

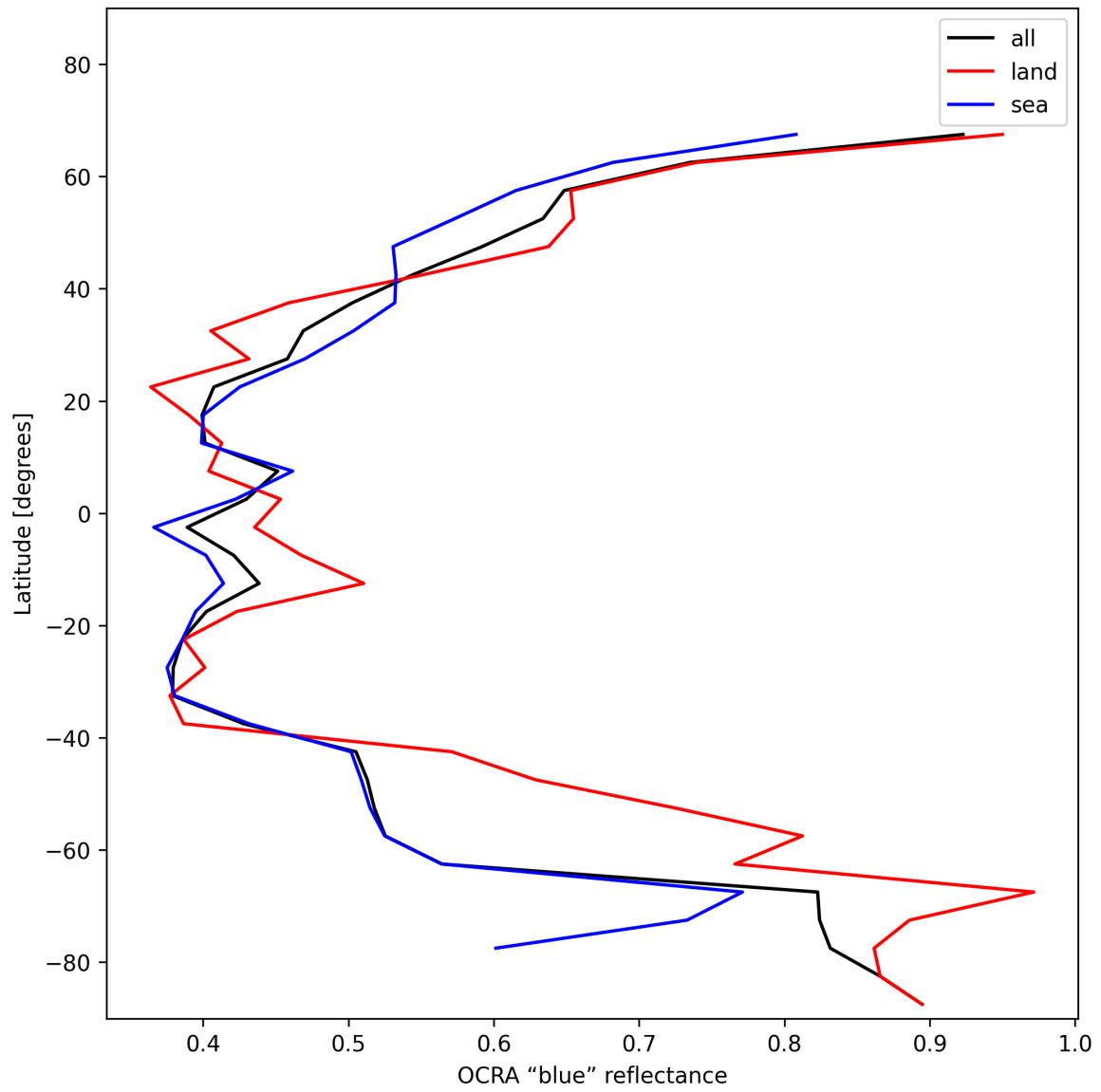


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2024-12-30 to 2024-12-30.

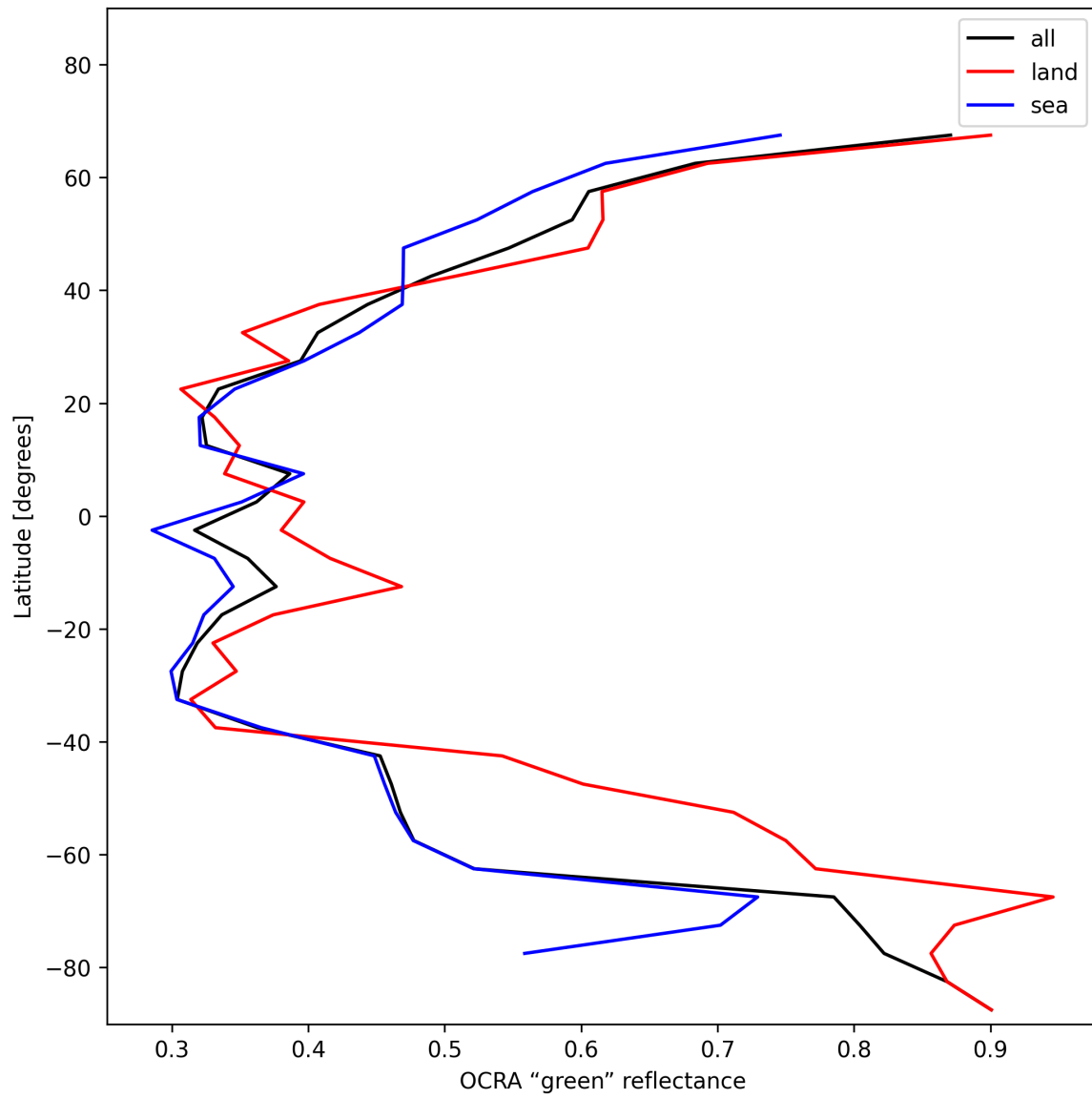


Figure 34: Zonal average of “OCRA “green” reflectance” for 2024-12-30 to 2024-12-30.

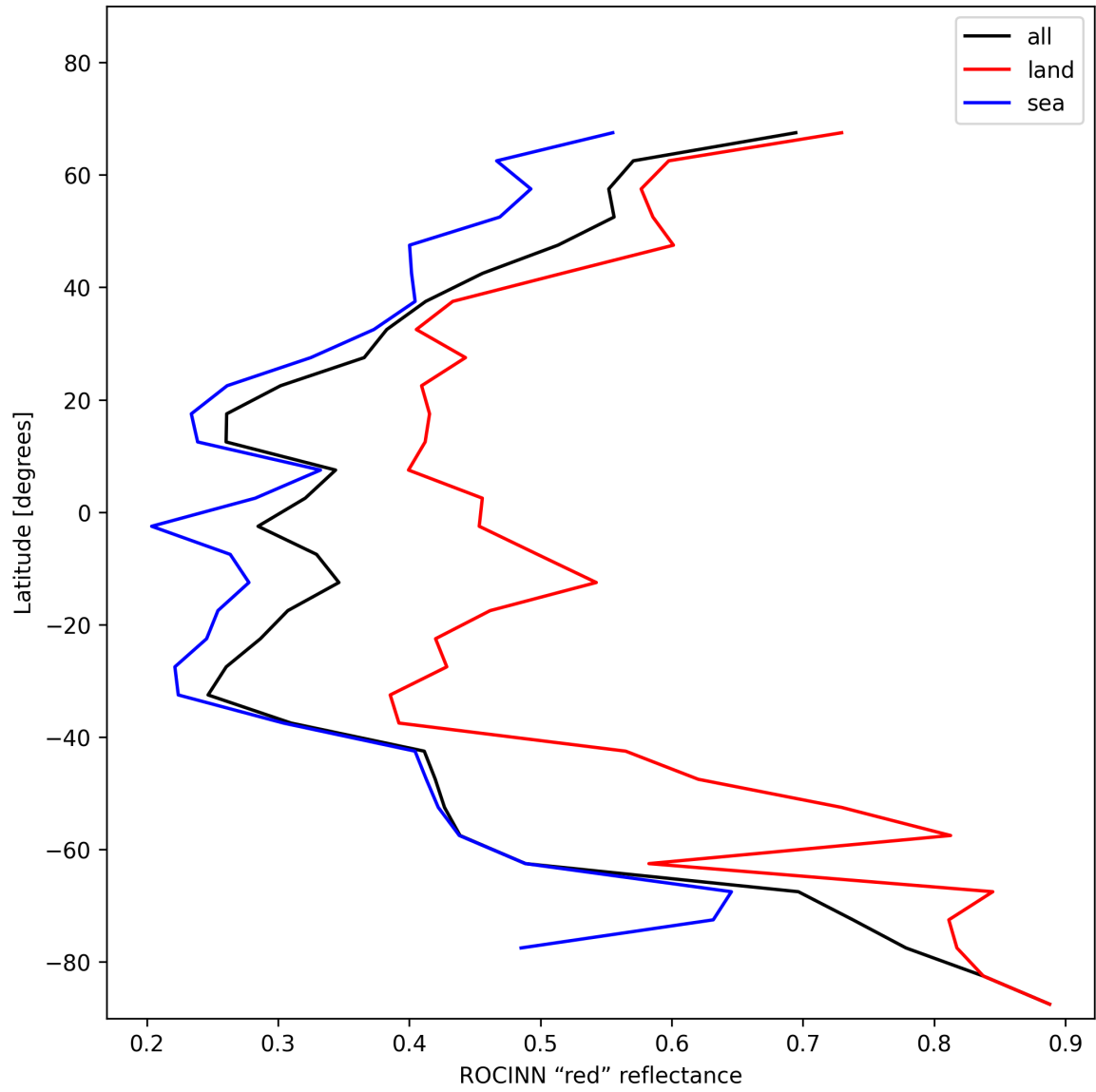


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2024-12-30 to 2024-12-30.

8 Histograms

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

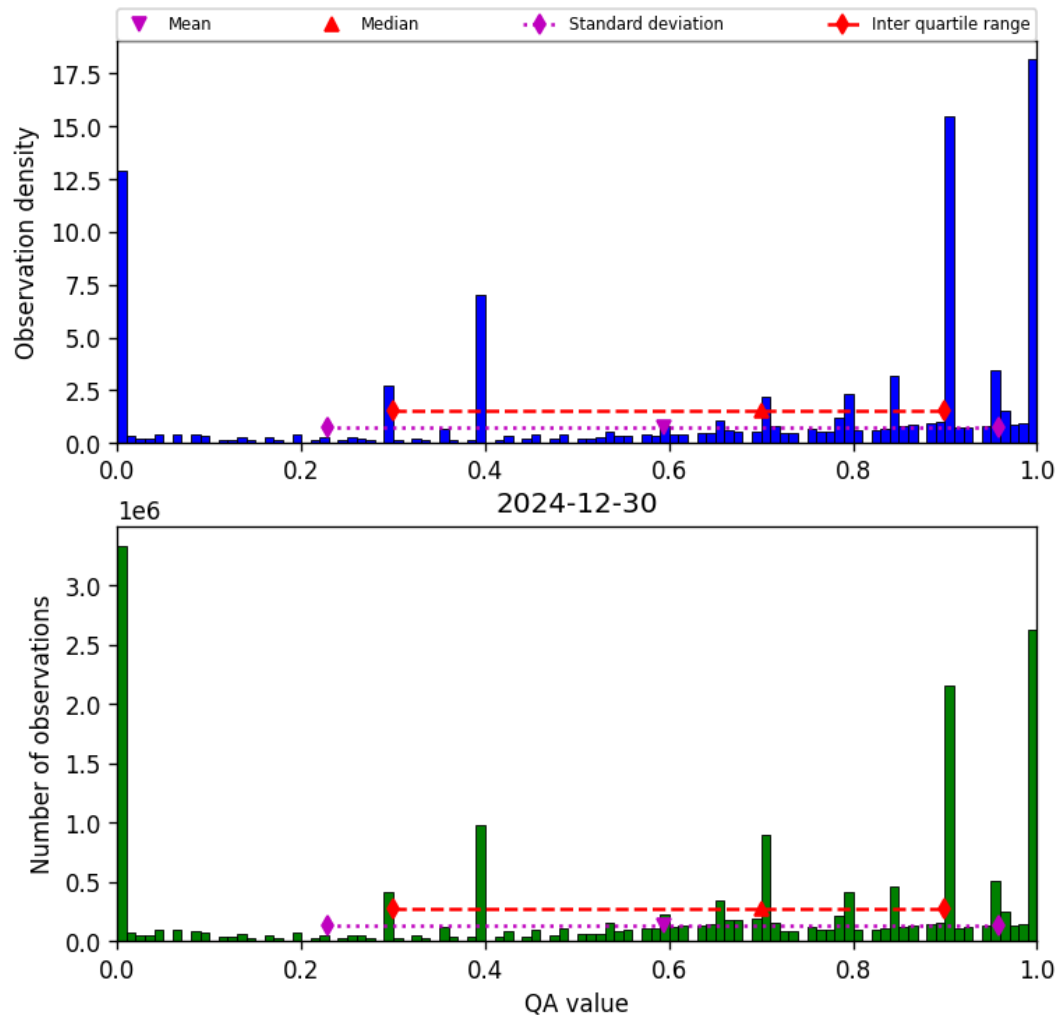


Figure 36: Histogram of “QA value” for 2024-12-30 to 2024-12-30

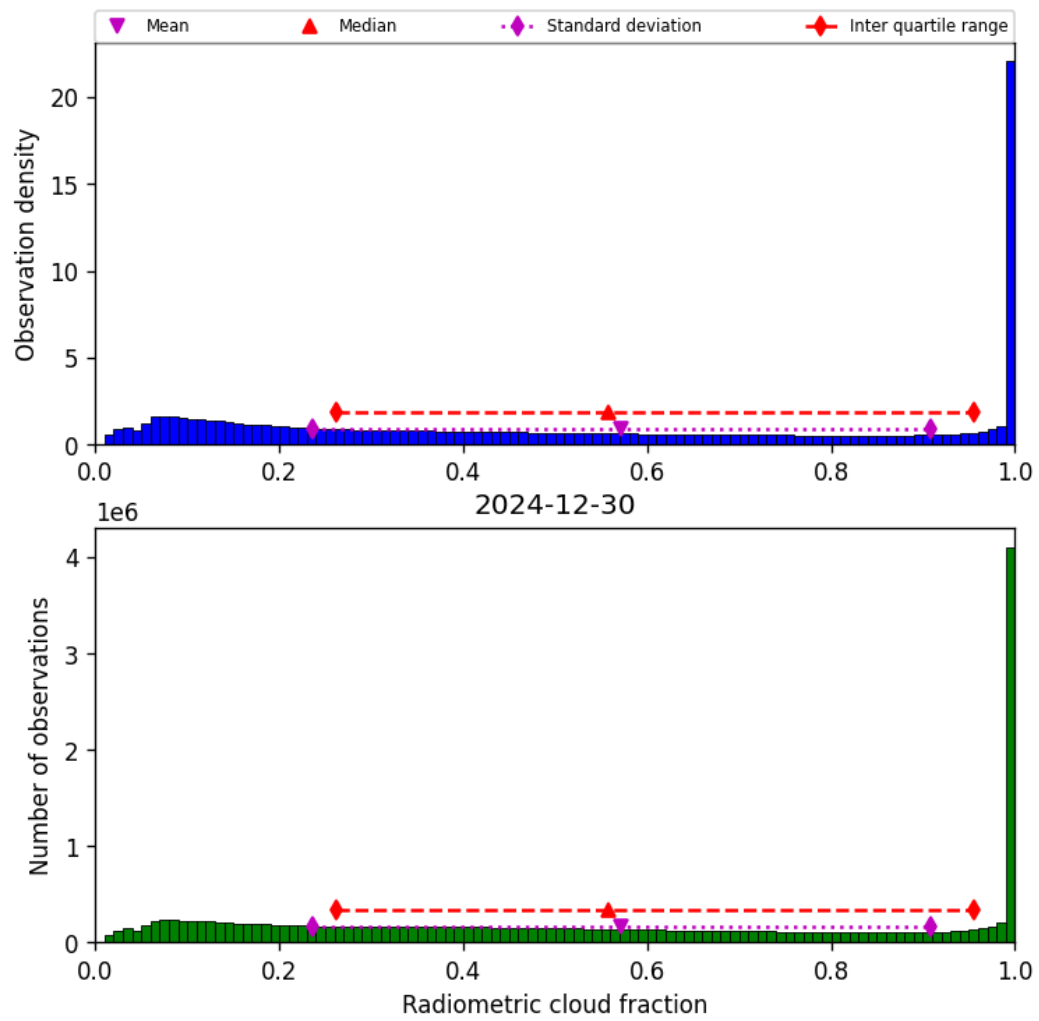


Figure 37: Histogram of “Radiometric cloud fraction” for 2024-12-30 to 2024-12-30

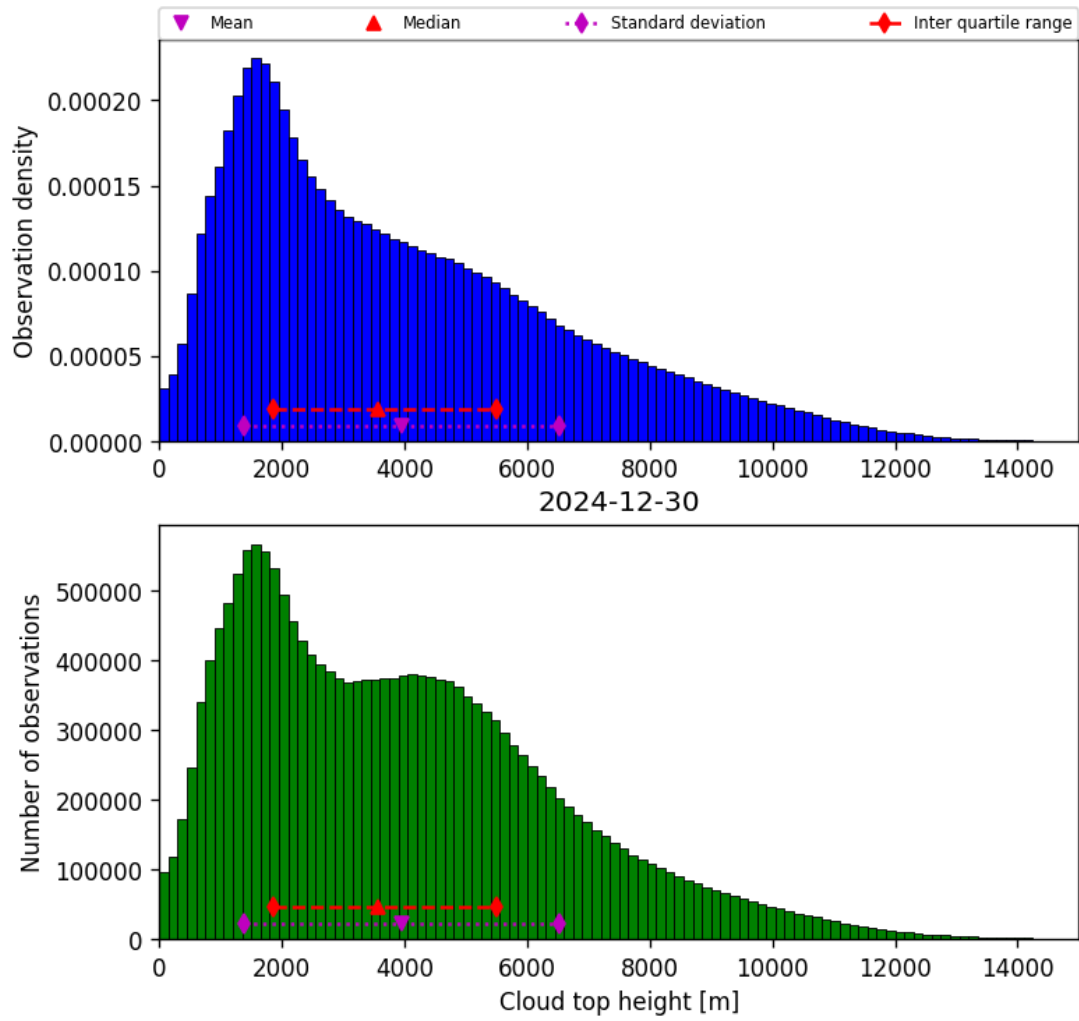


Figure 38: Histogram of “Cloud top height” for 2024-12-30 to 2024-12-30

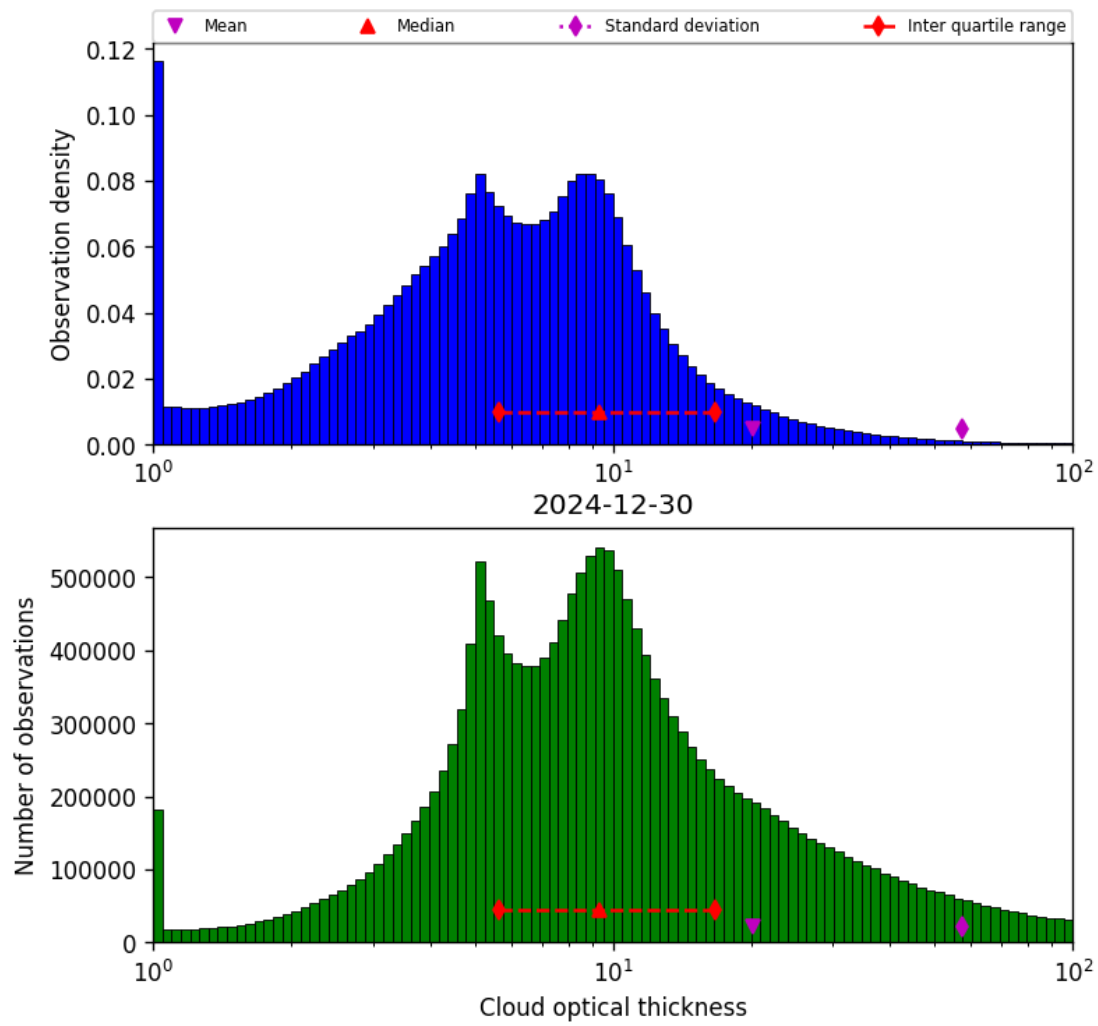


Figure 39: Histogram of “Cloud optical thickness” for 2024-12-30 to 2024-12-30

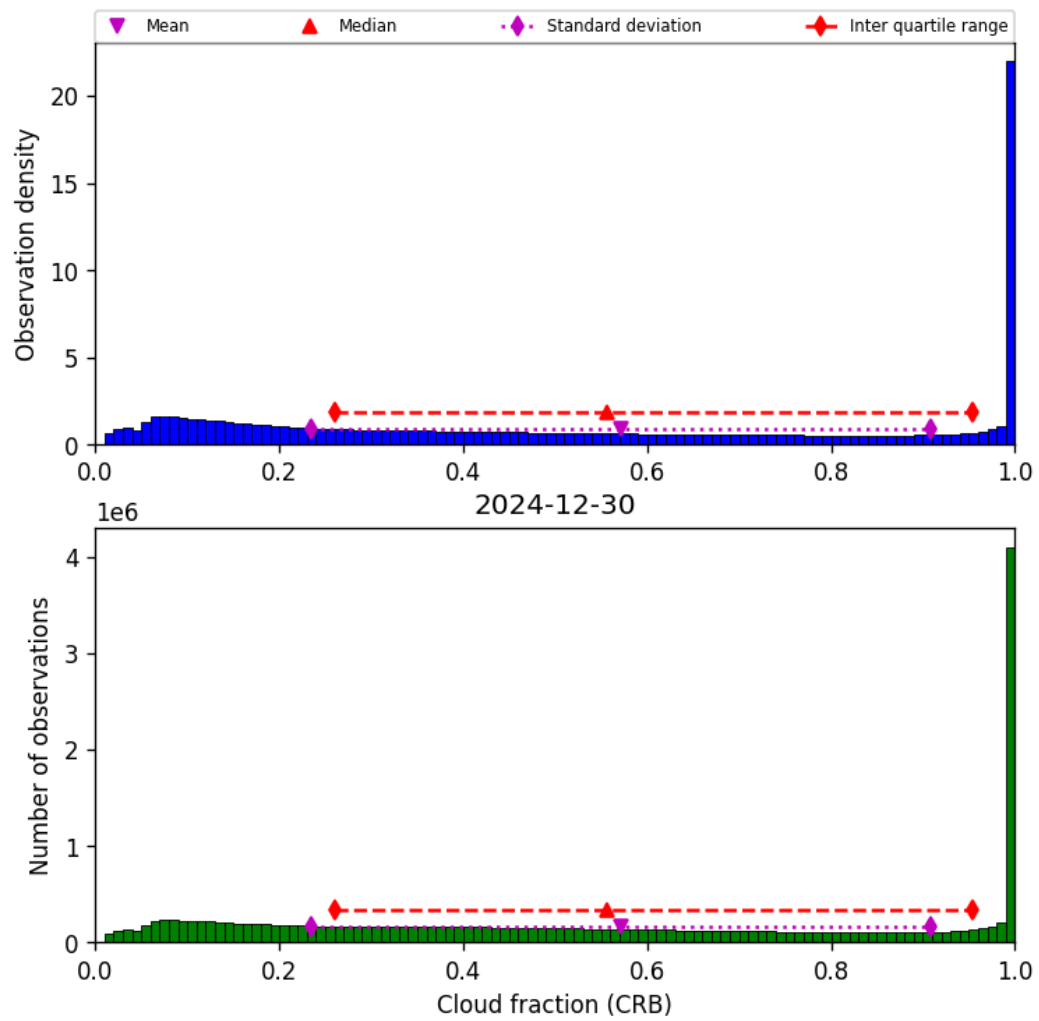


Figure 40: Histogram of “Cloud fraction (CRB)” for 2024-12-30 to 2024-12-30

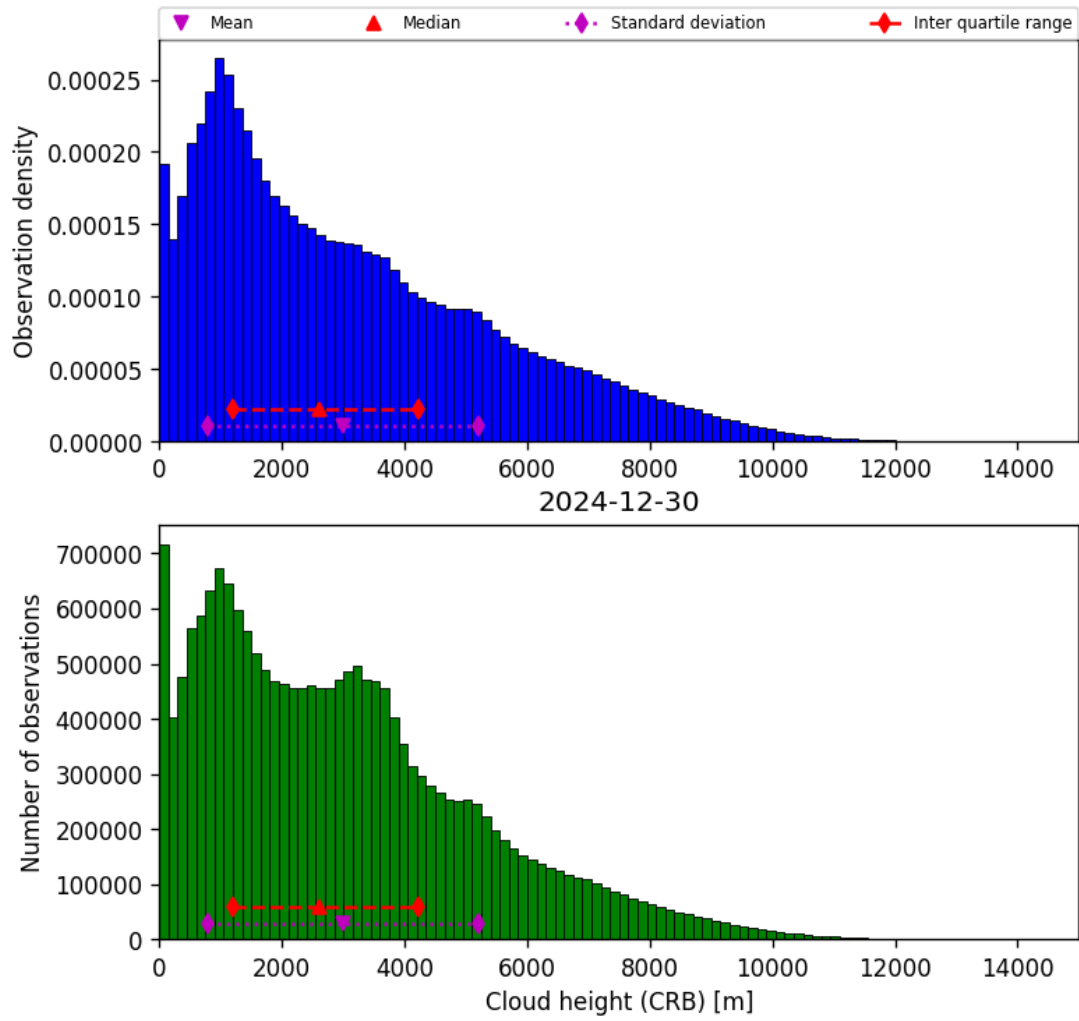


Figure 41: Histogram of “Cloud height (CRB)” for 2024-12-30 to 2024-12-30

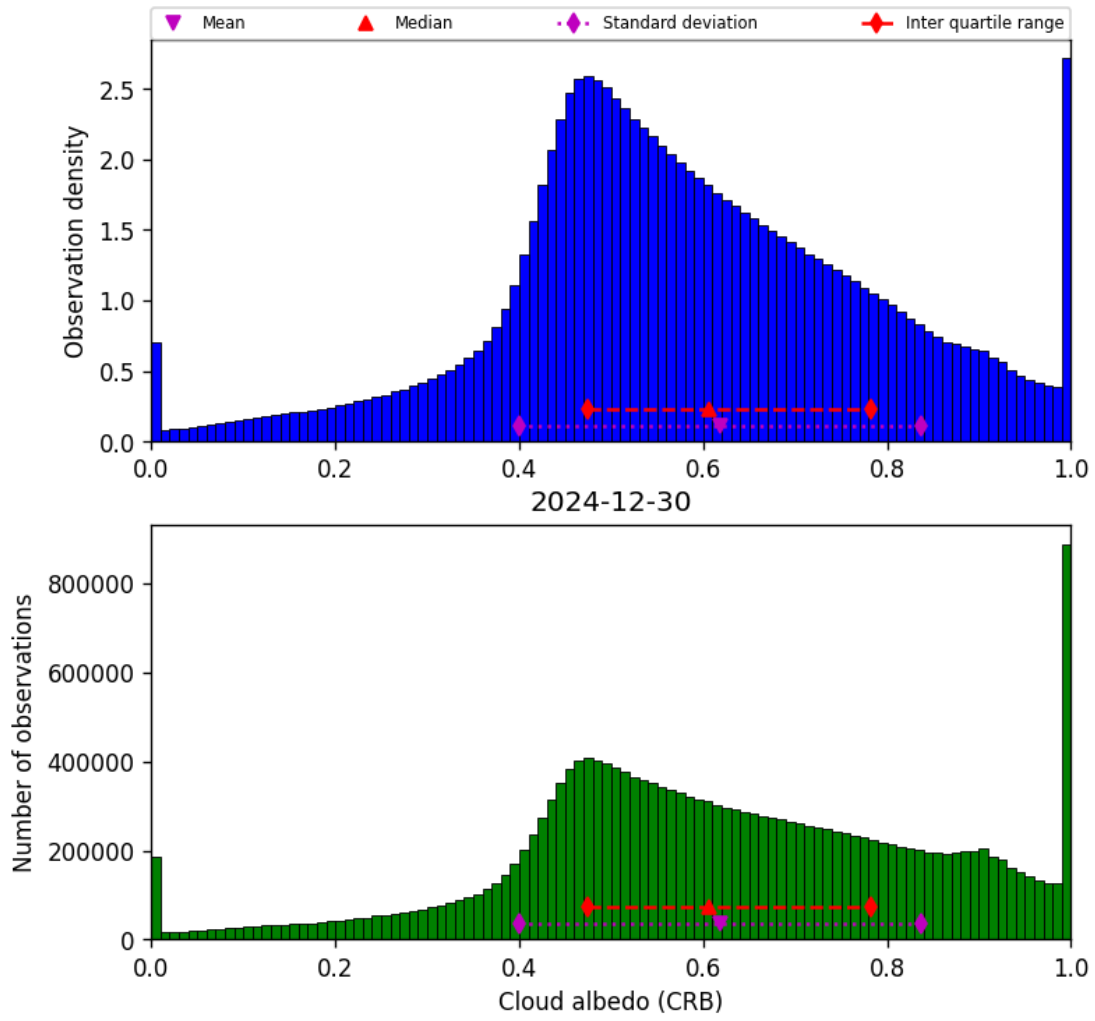


Figure 42: Histogram of “Cloud albedo (CRB)” for 2024-12-30 to 2024-12-30

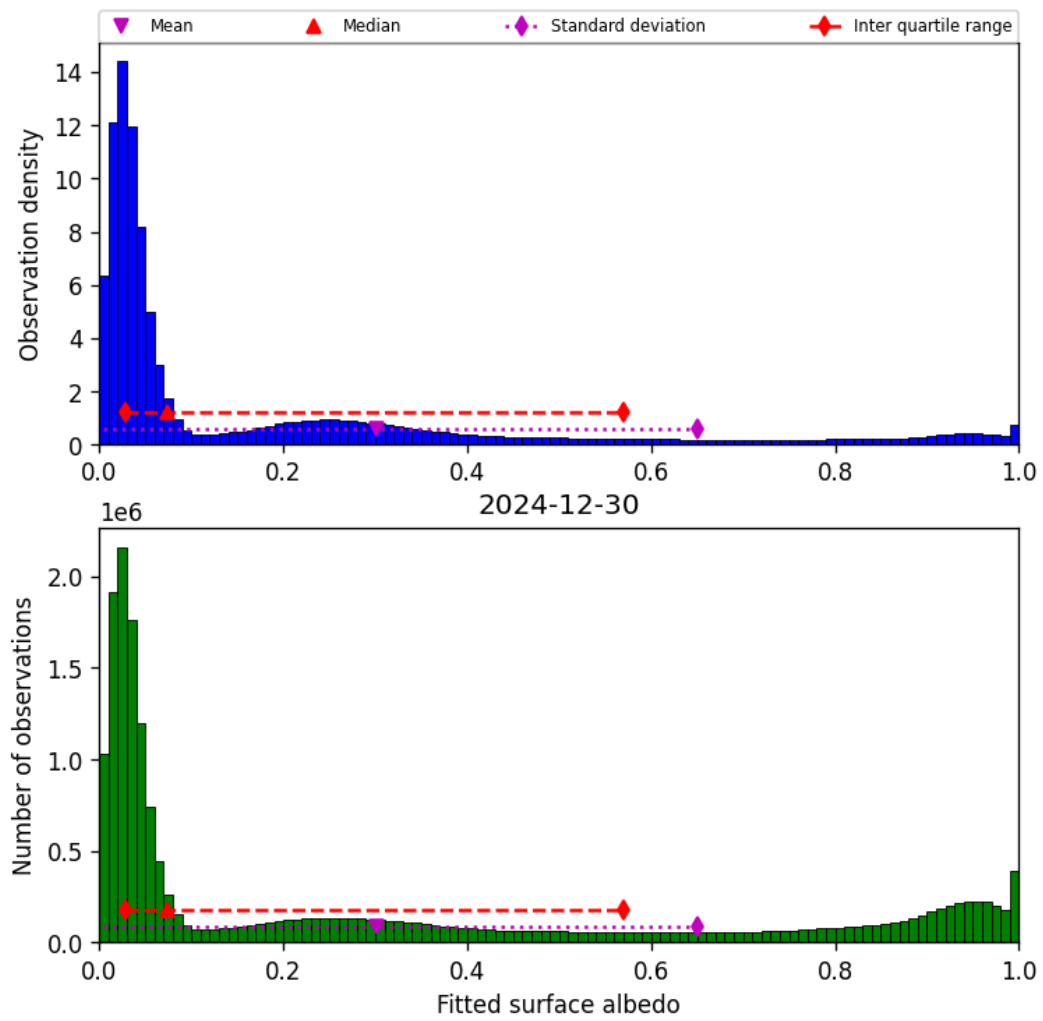


Figure 43: Histogram of “Fitted surface albedo” for 2024-12-30 to 2024-12-30

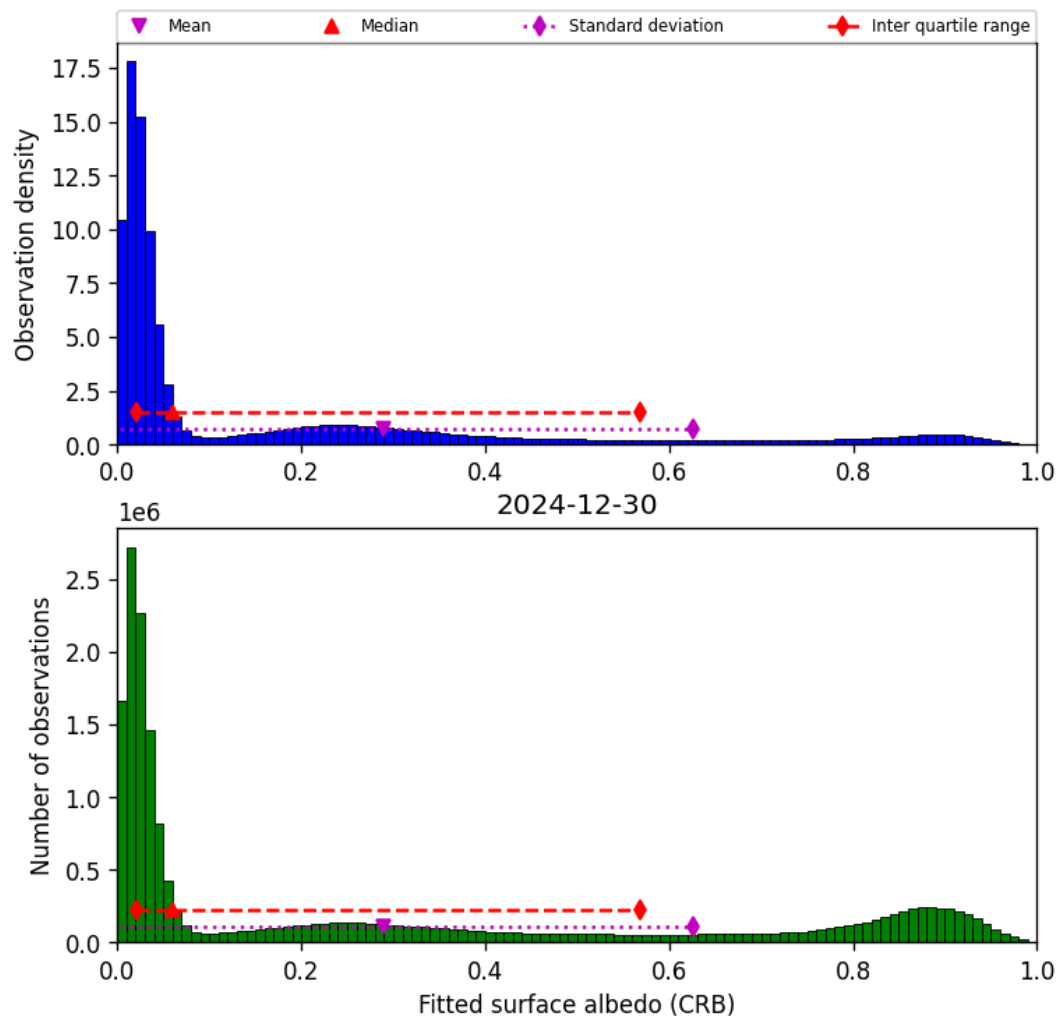


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2024-12-30 to 2024-12-30

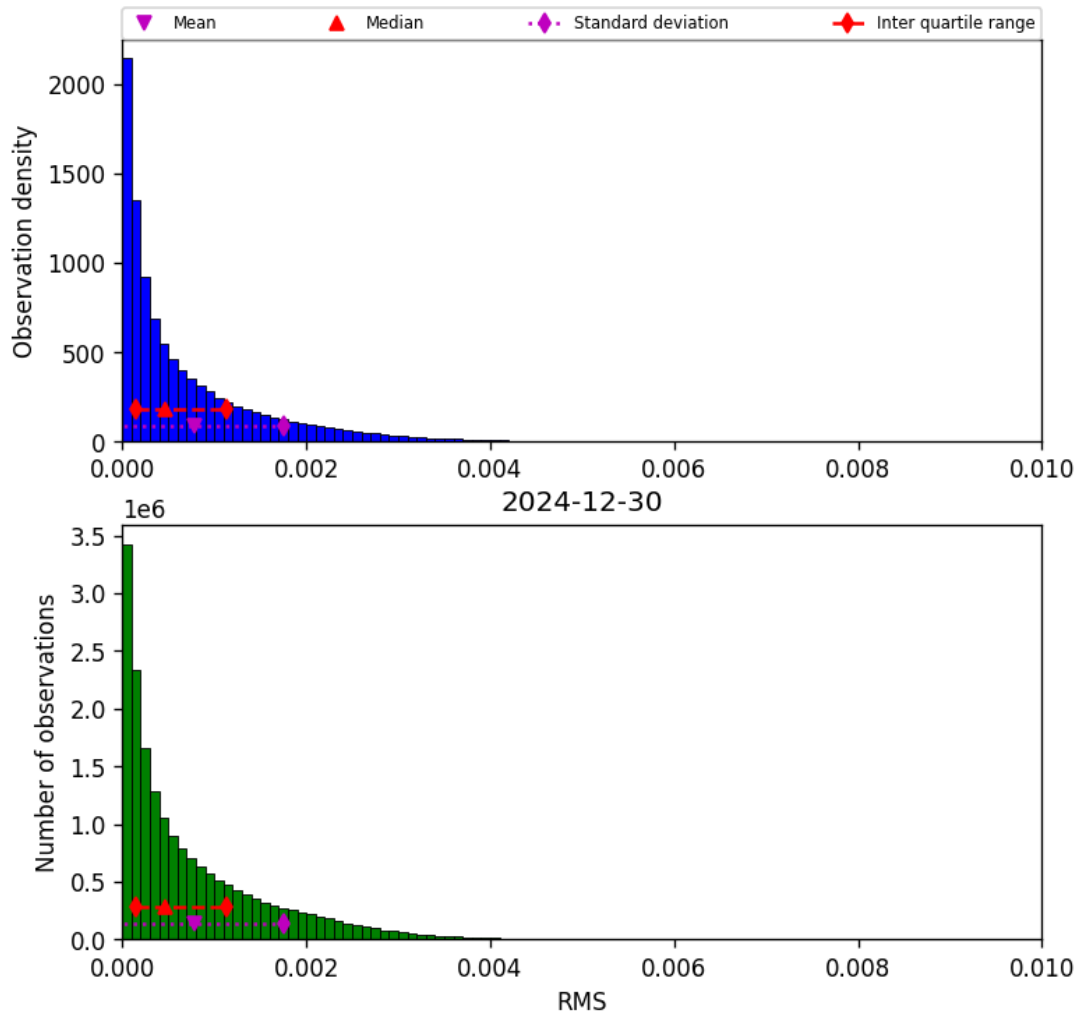


Figure 45: Histogram of “RMS” for 2024-12-30 to 2024-12-30

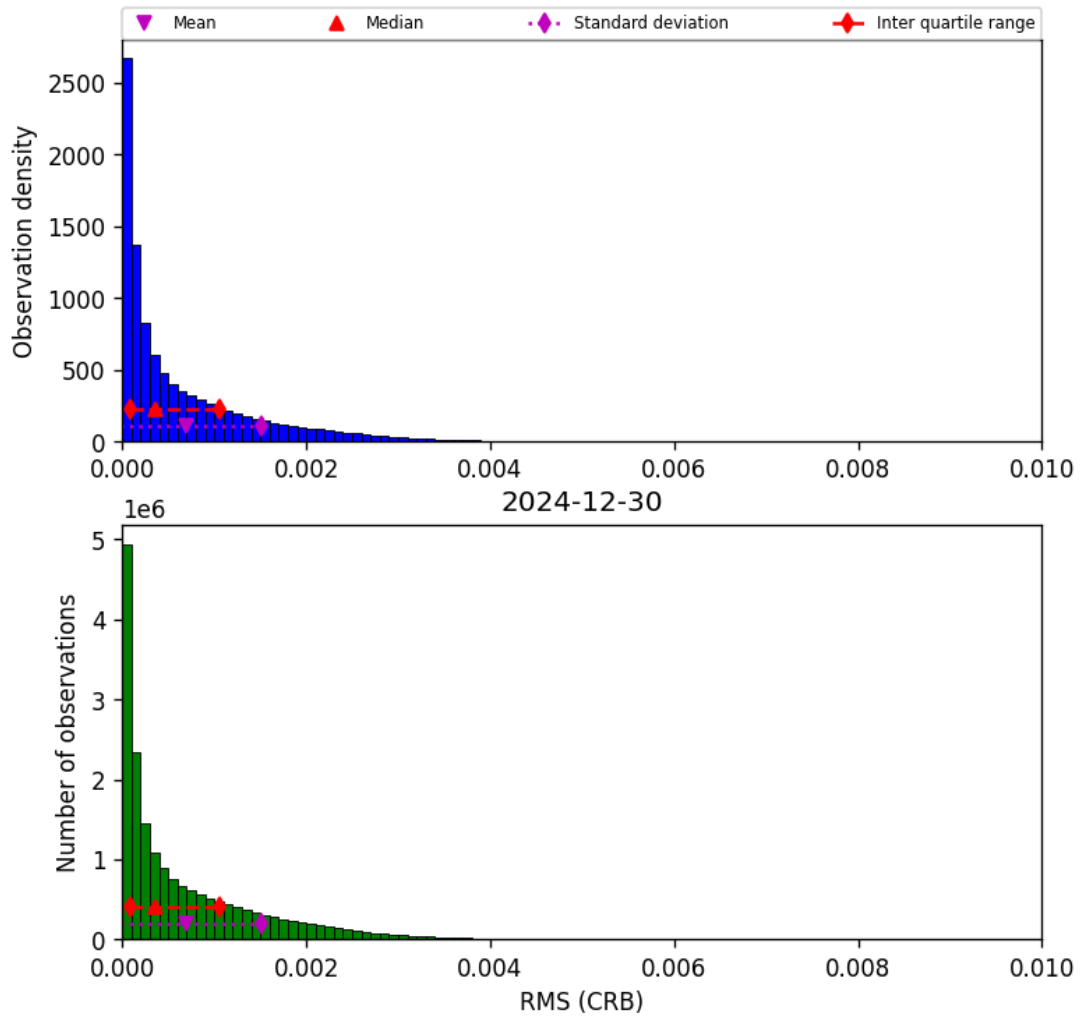


Figure 46: Histogram of “RMS (CRB)” for 2024-12-30 to 2024-12-30

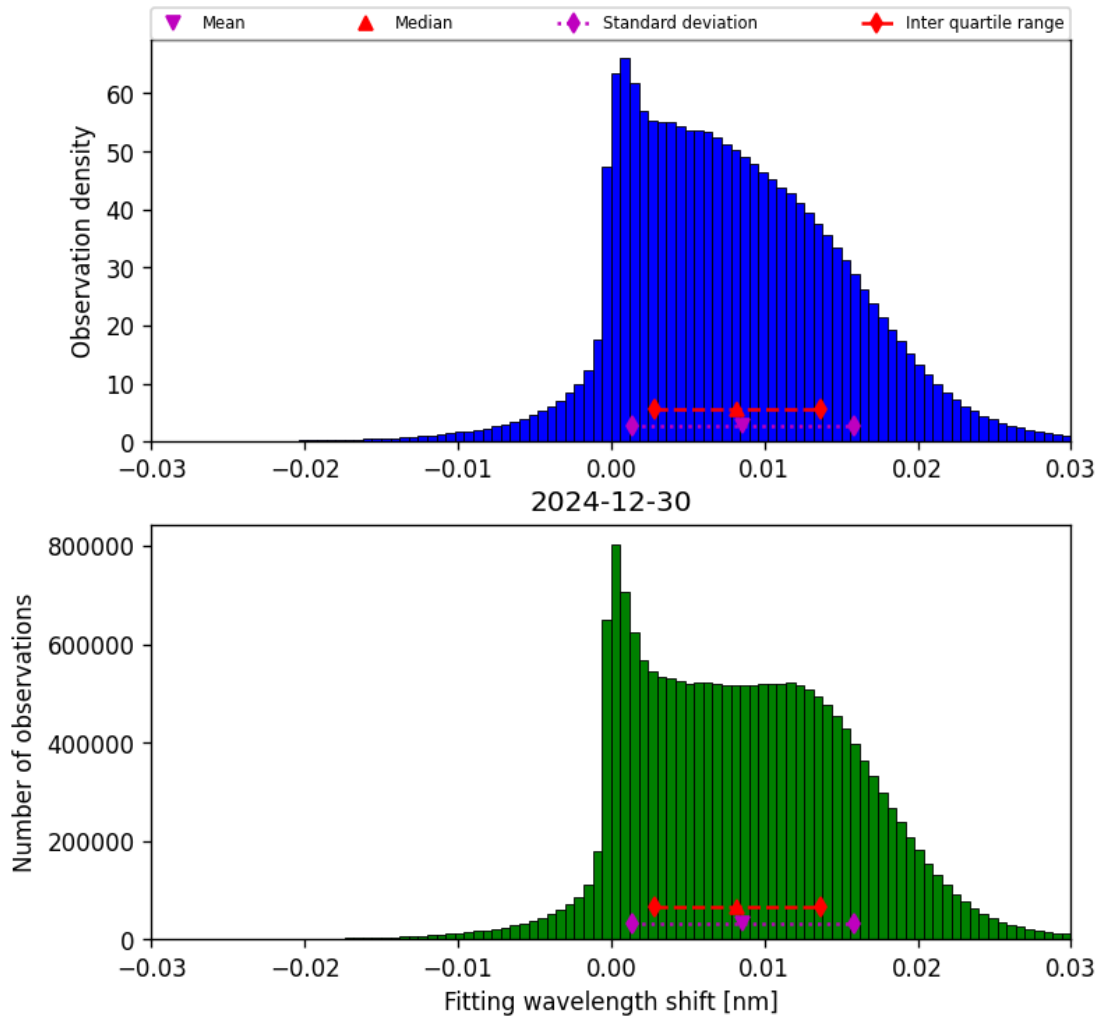


Figure 47: Histogram of “Fitting wavelength shift” for 2024-12-30 to 2024-12-30

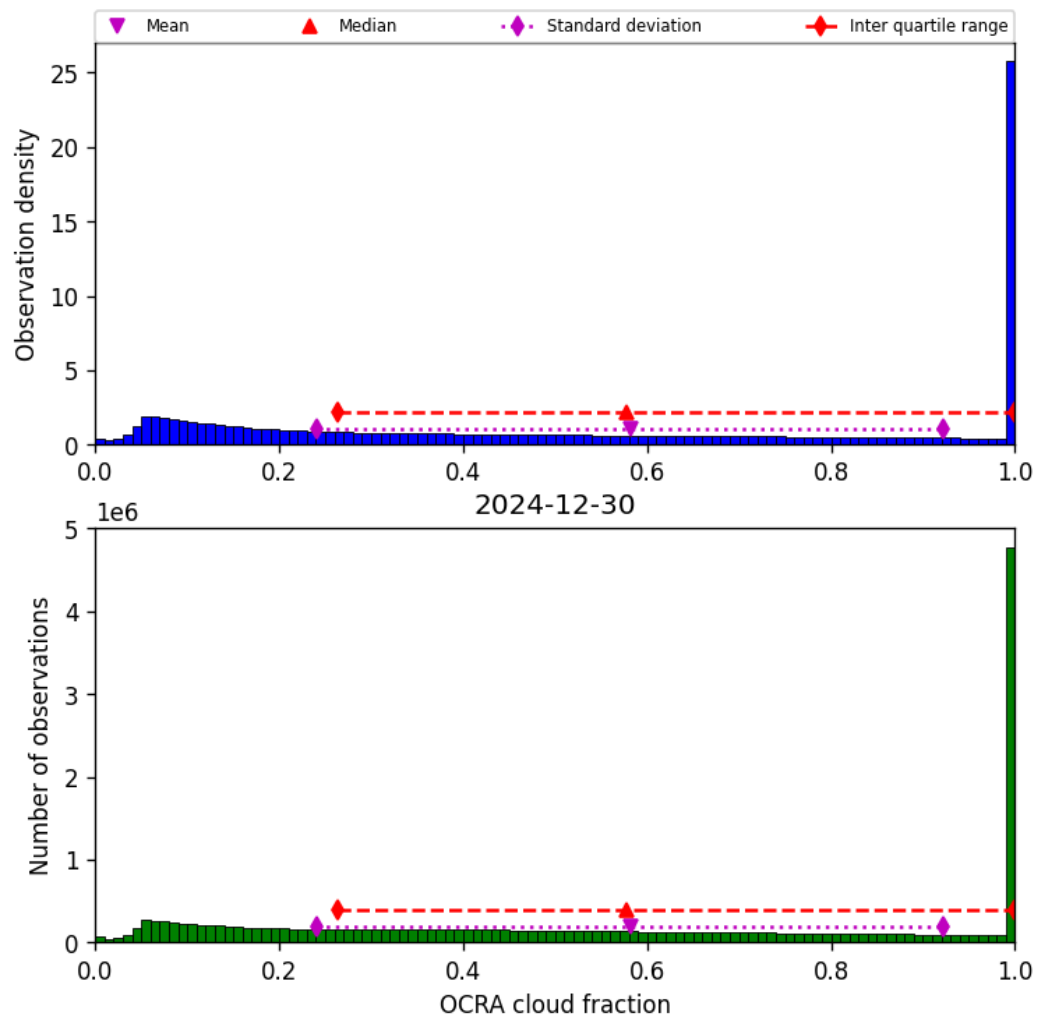


Figure 48: Histogram of “OCRA cloud fraction” for 2024-12-30 to 2024-12-30

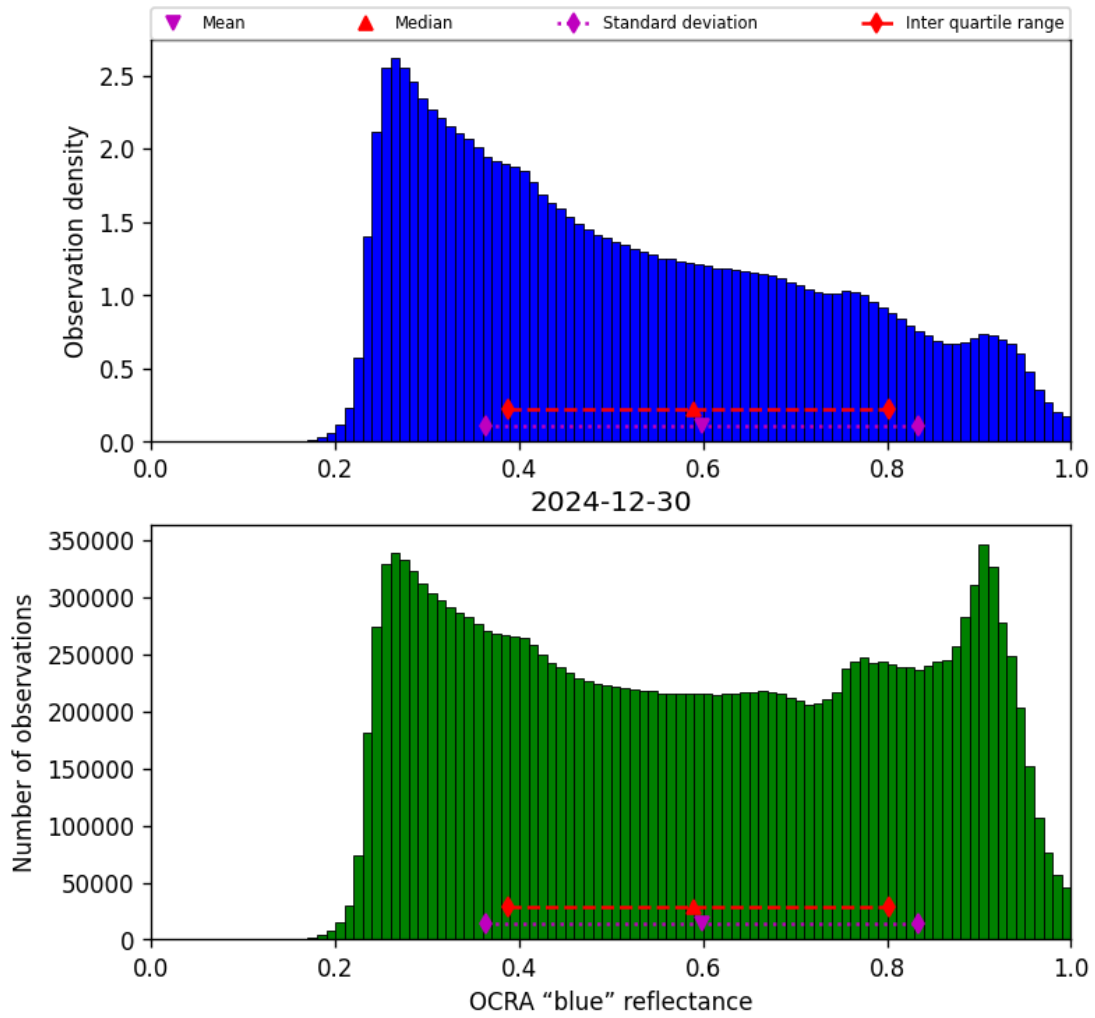


Figure 49: Histogram of “OCRA “blue” reflectance” for 2024-12-30 to 2024-12-30

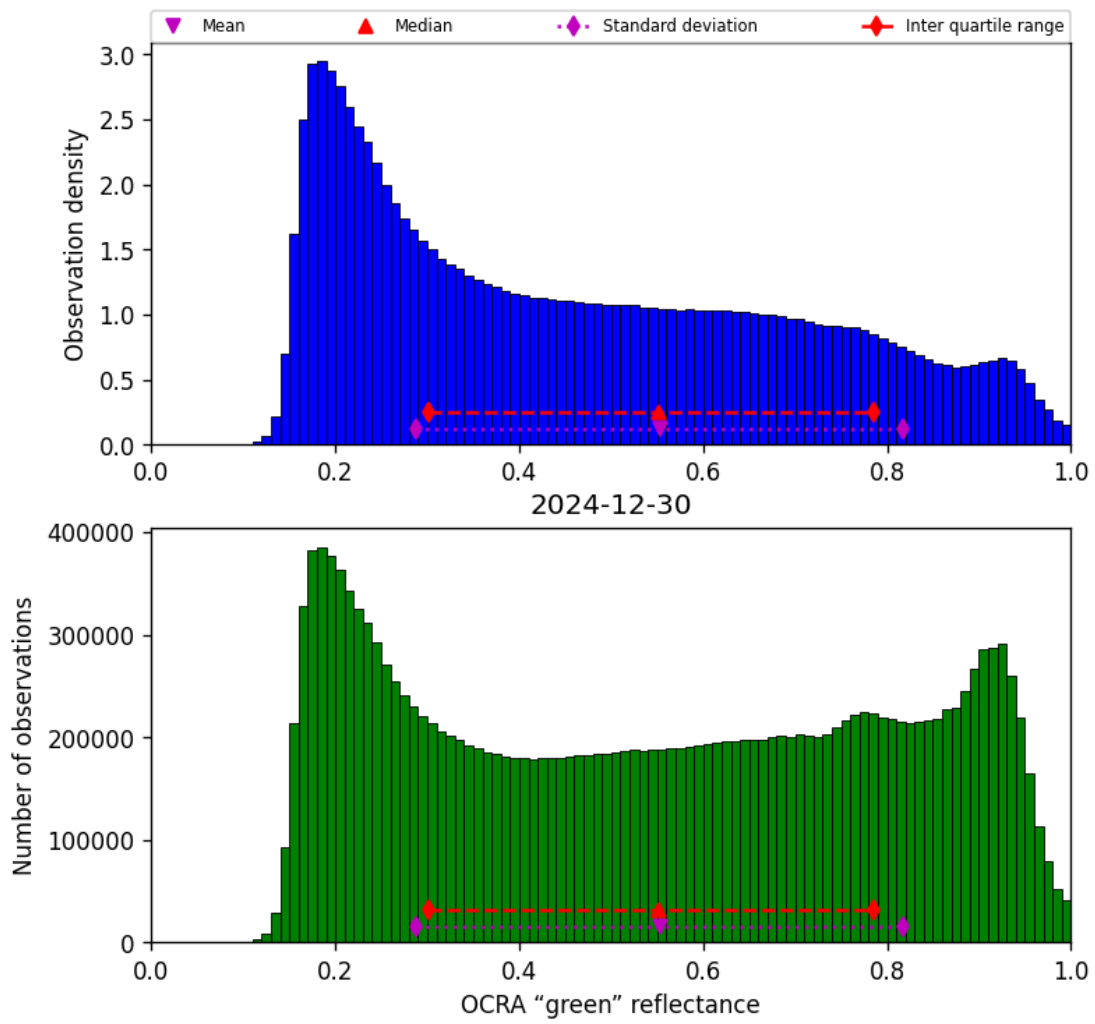


Figure 50: Histogram of “OCRA “green” reflectance” for 2024-12-30 to 2024-12-30

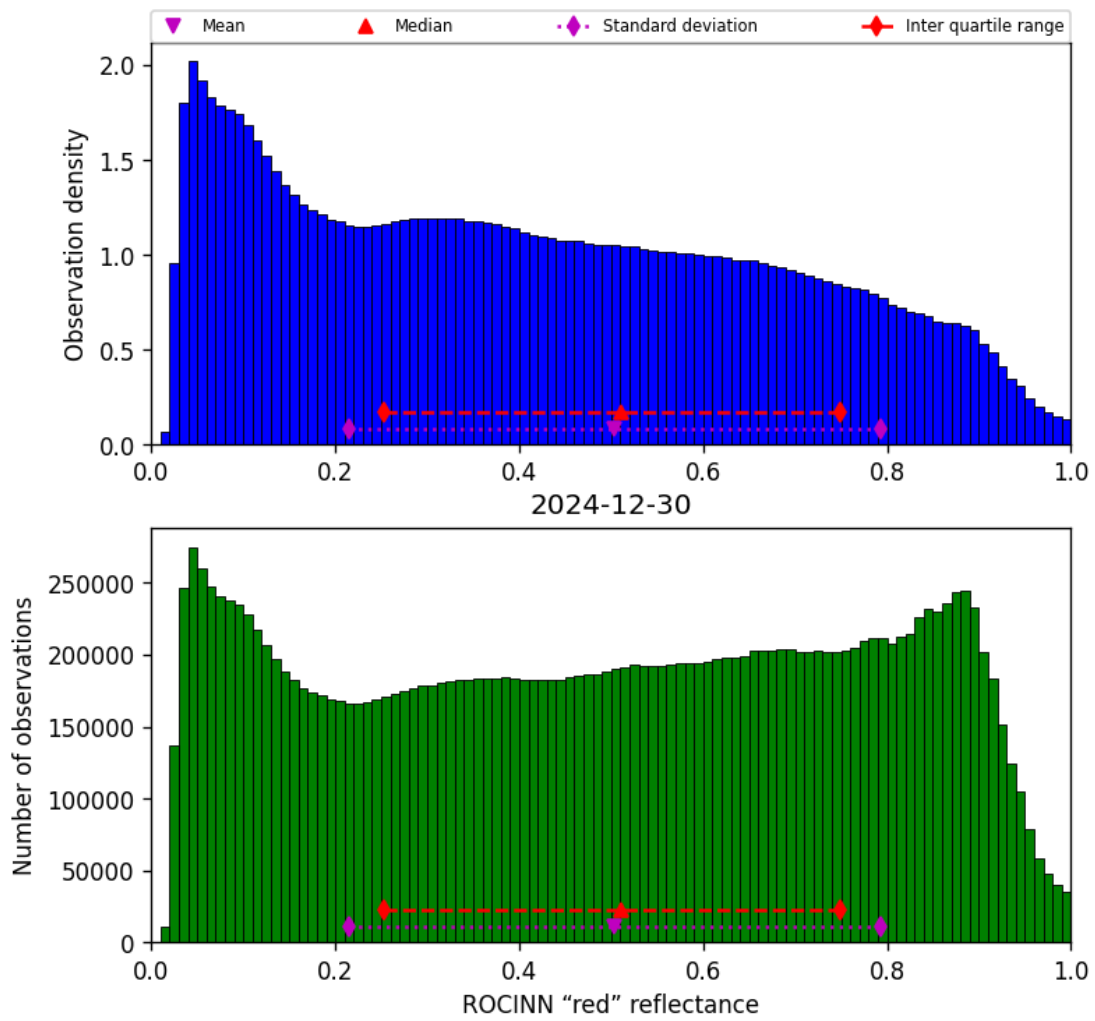


Figure 51: Histogram of “ROCINN “red” reflectance” for 2024-12-30 to 2024-12-30

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.

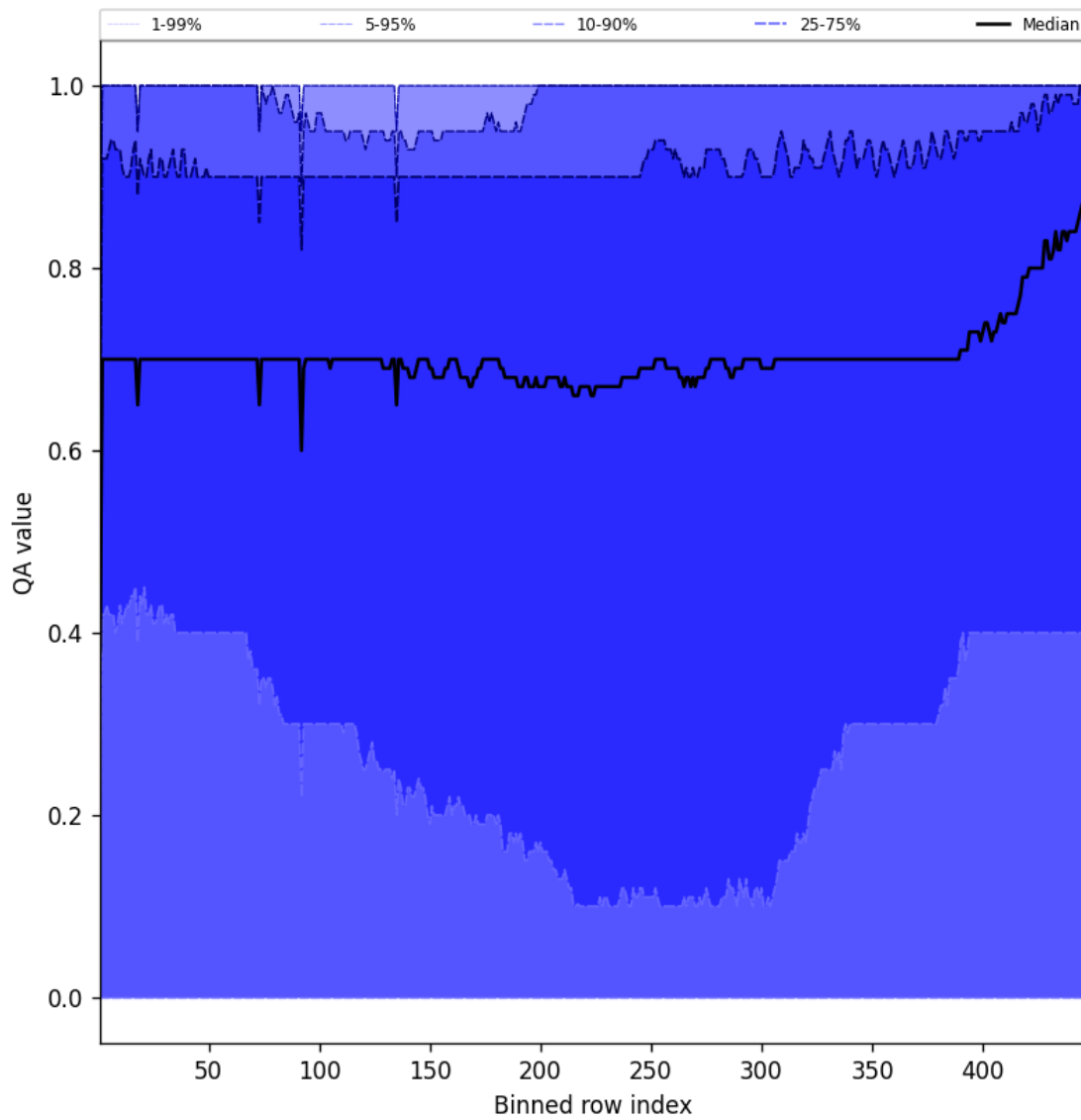


Figure 52: Along track statistics of “QA value” for 2024-12-30 to 2024-12-30

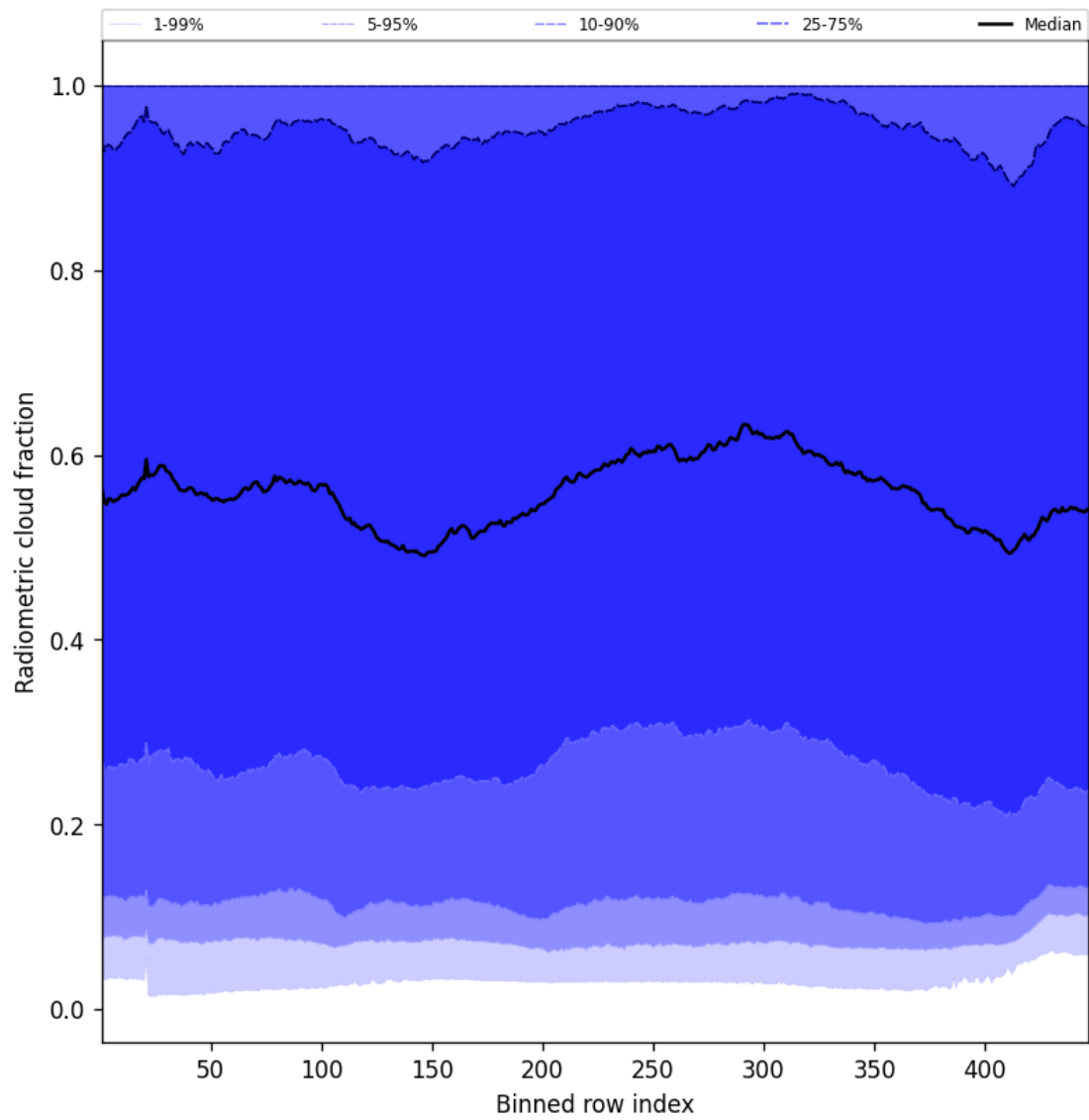


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2024-12-30 to 2024-12-30

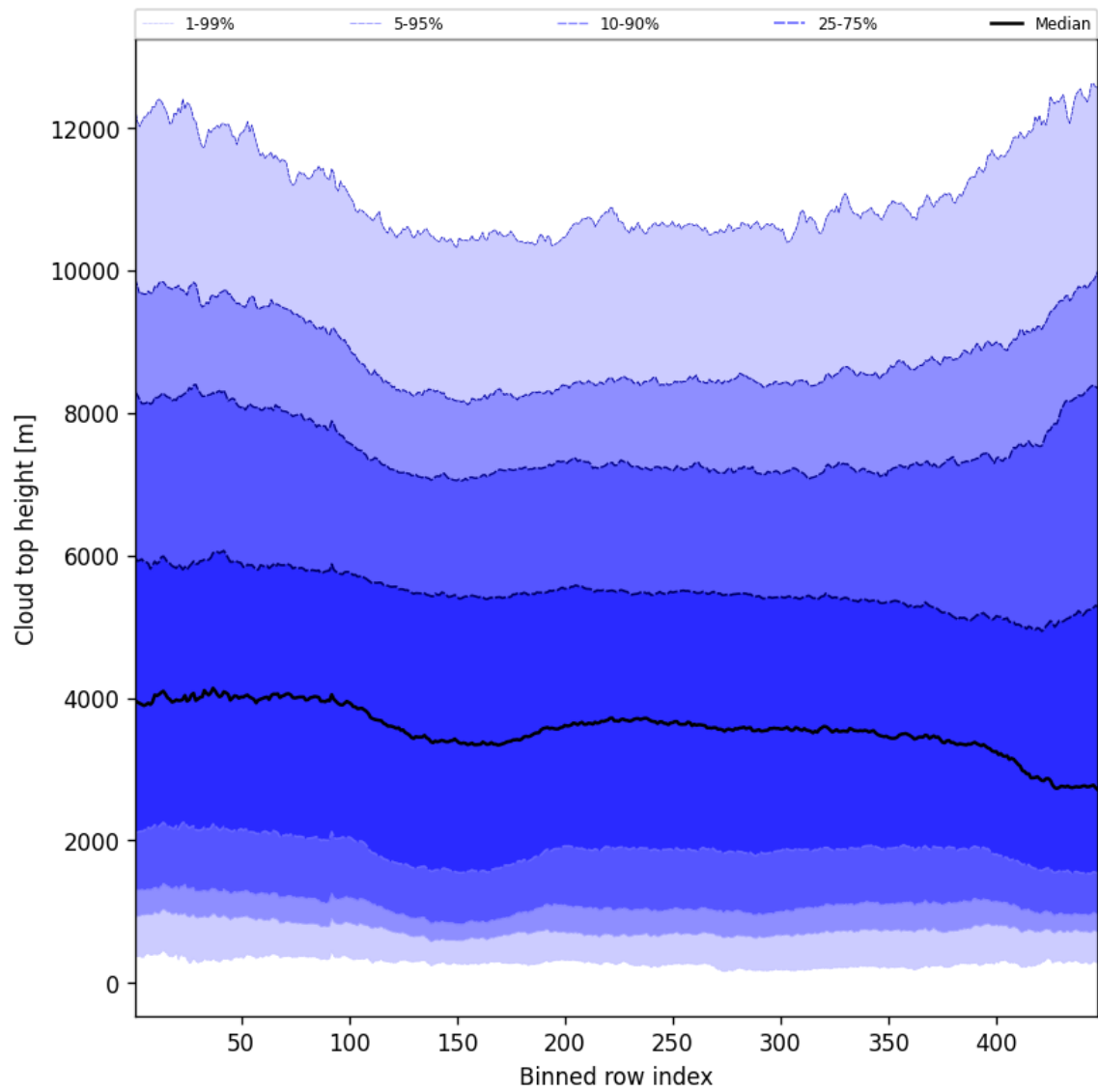


Figure 54: Along track statistics of “Cloud top height” for 2024-12-30 to 2024-12-30

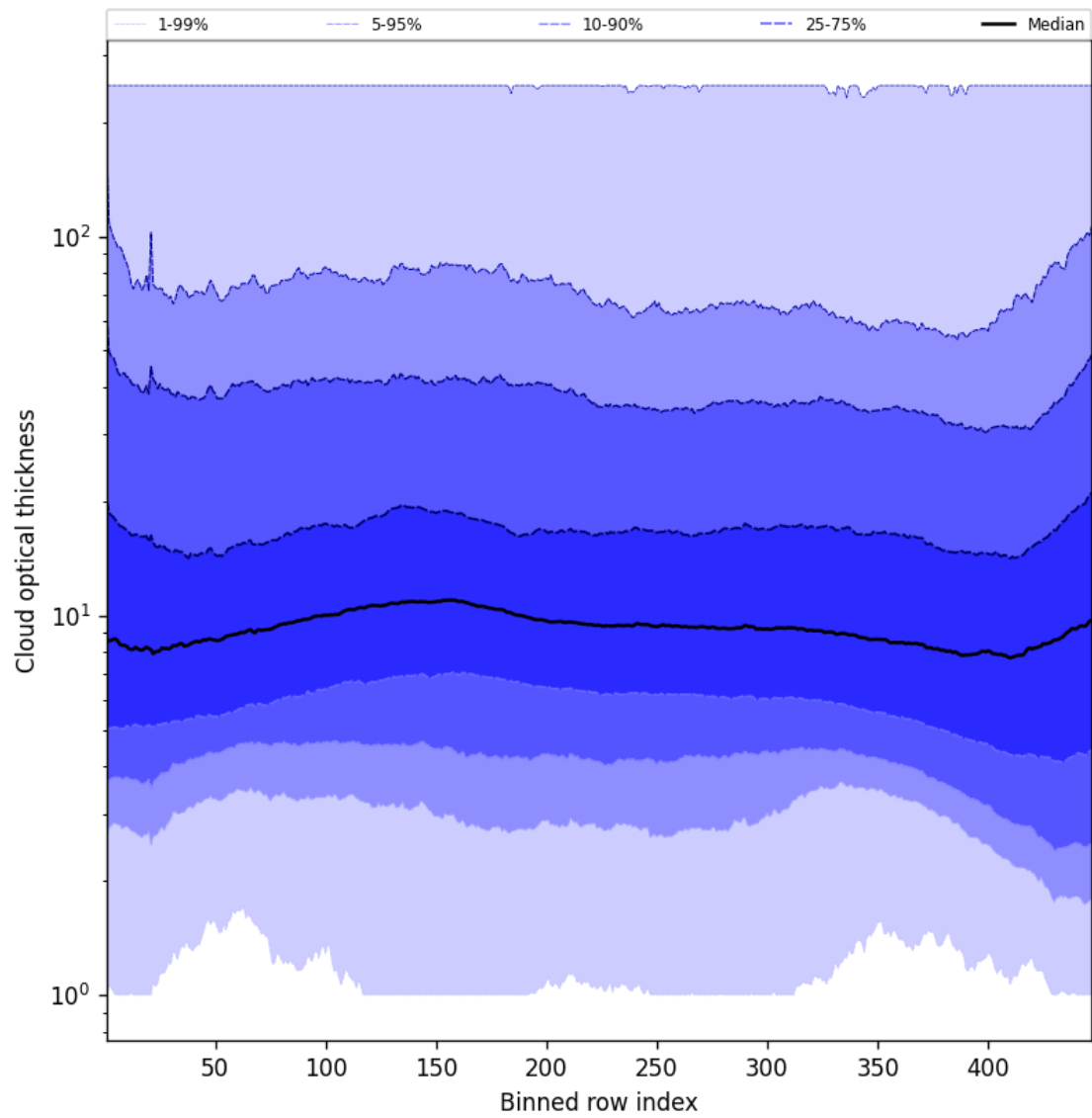


Figure 55: Along track statistics of “Cloud optical thickness” for 2024-12-30 to 2024-12-30

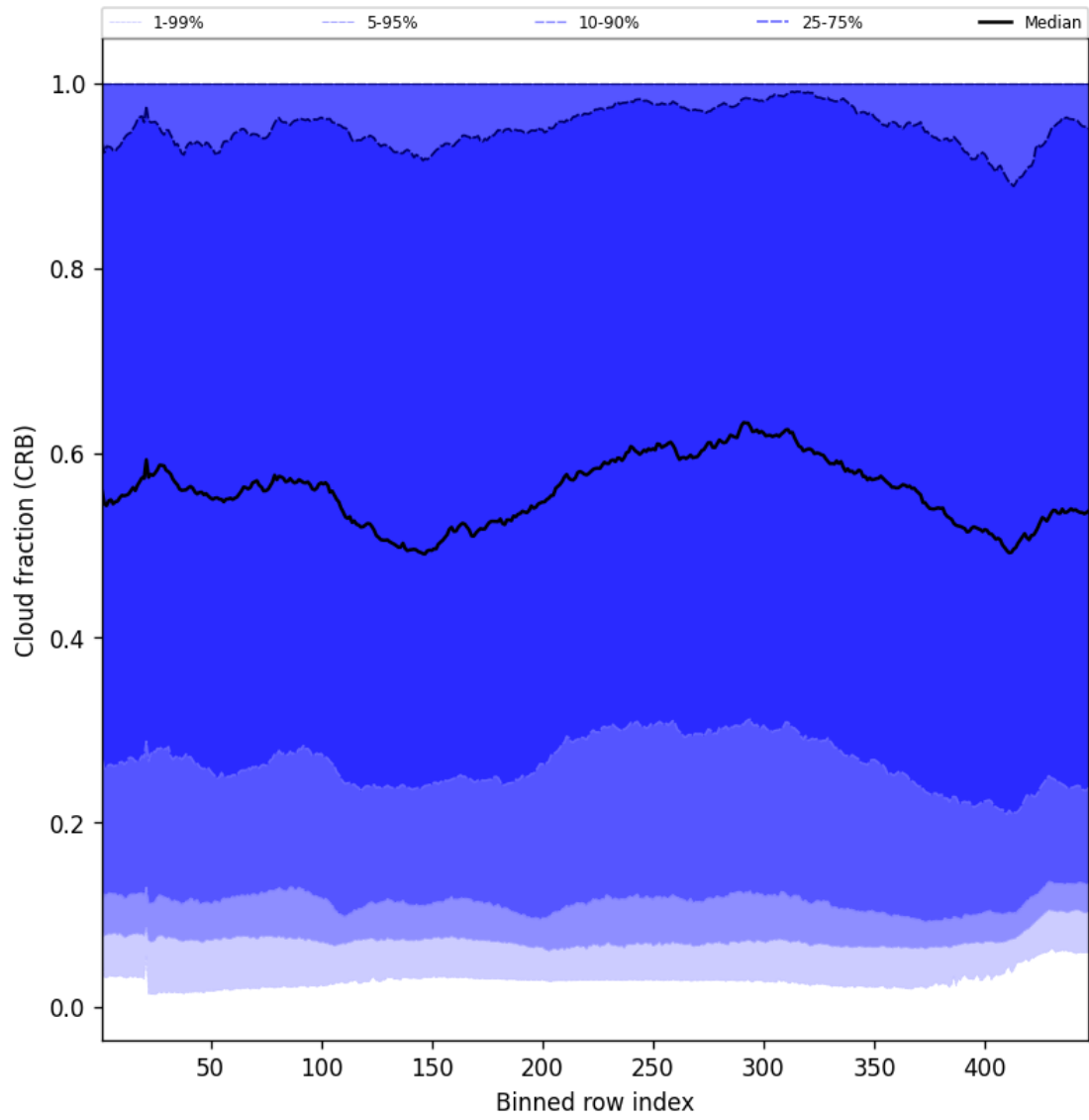


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2024-12-30 to 2024-12-30

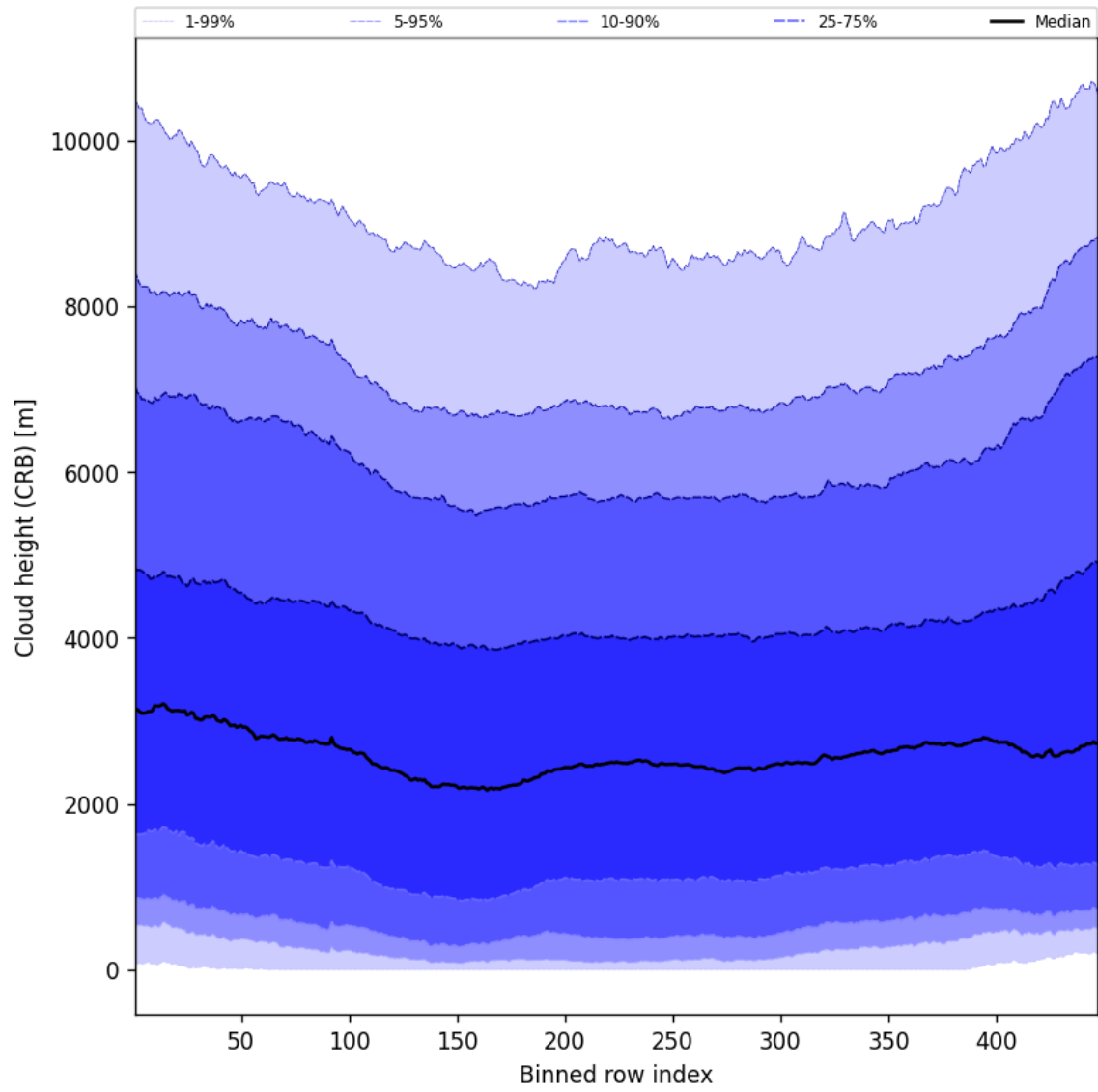


Figure 57: Along track statistics of “Cloud height (CRB)” for 2024-12-30 to 2024-12-30

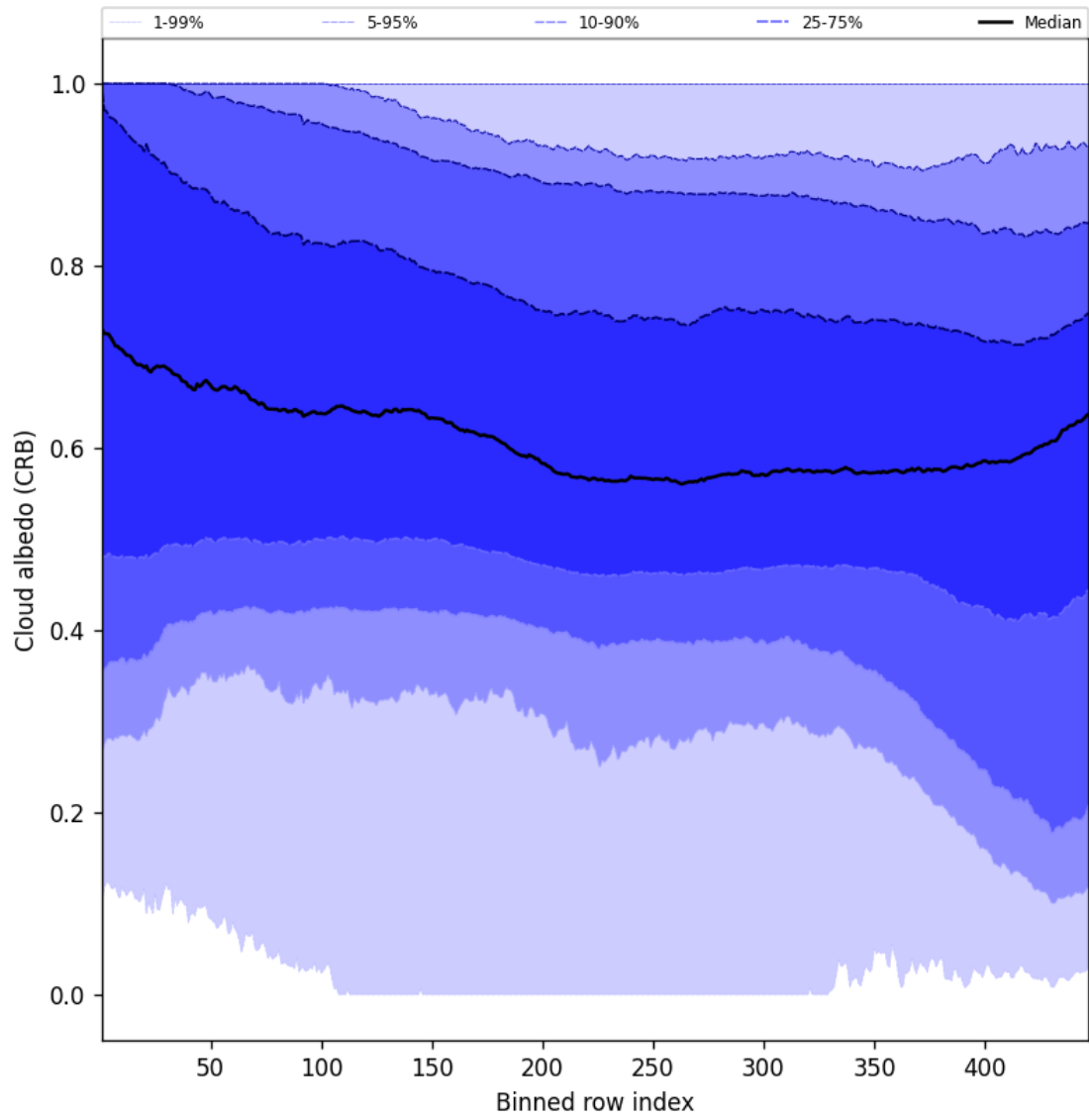


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2024-12-30 to 2024-12-30

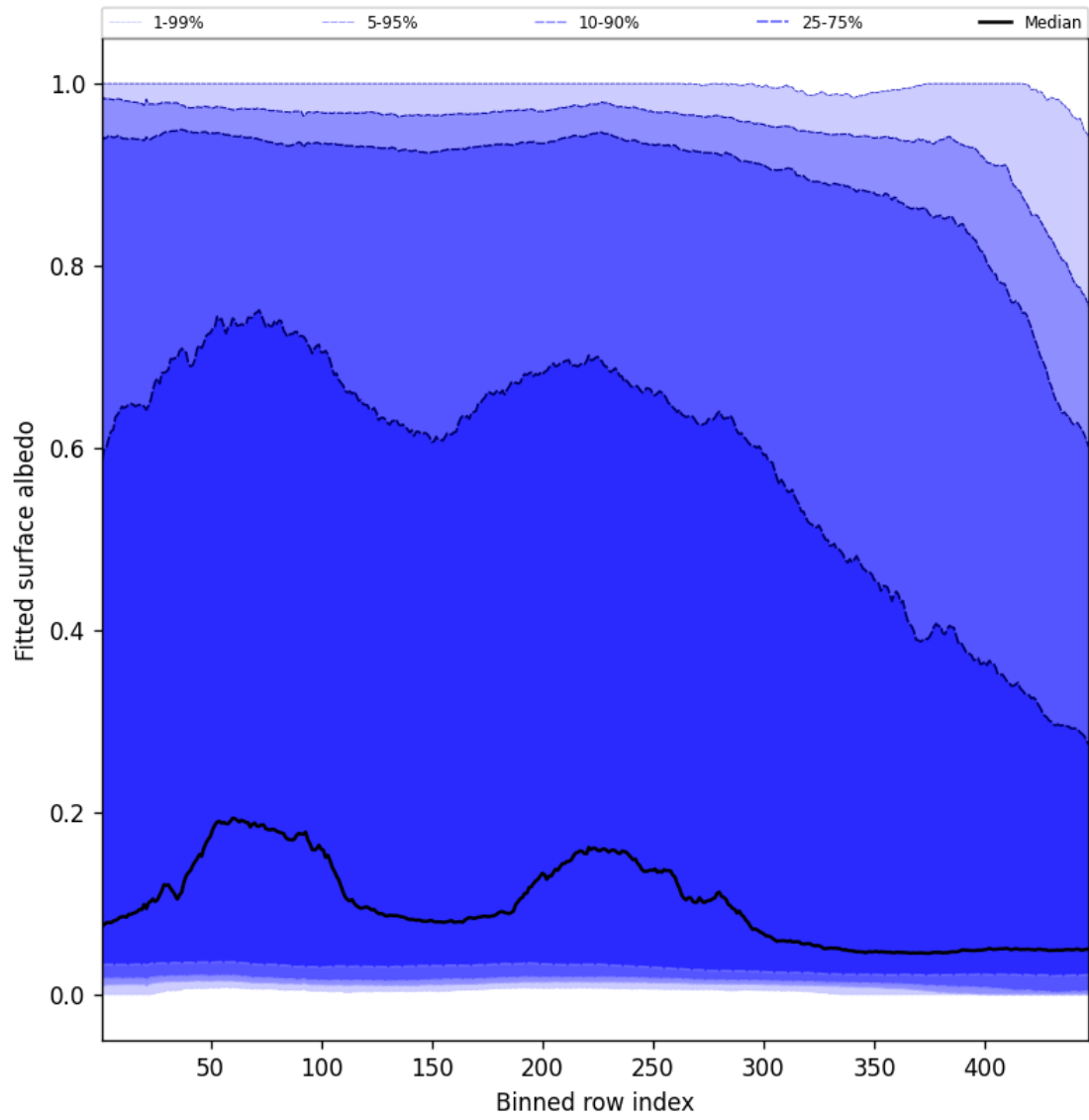


Figure 59: Along track statistics of “Fitted surface albedo” for 2024-12-30 to 2024-12-30

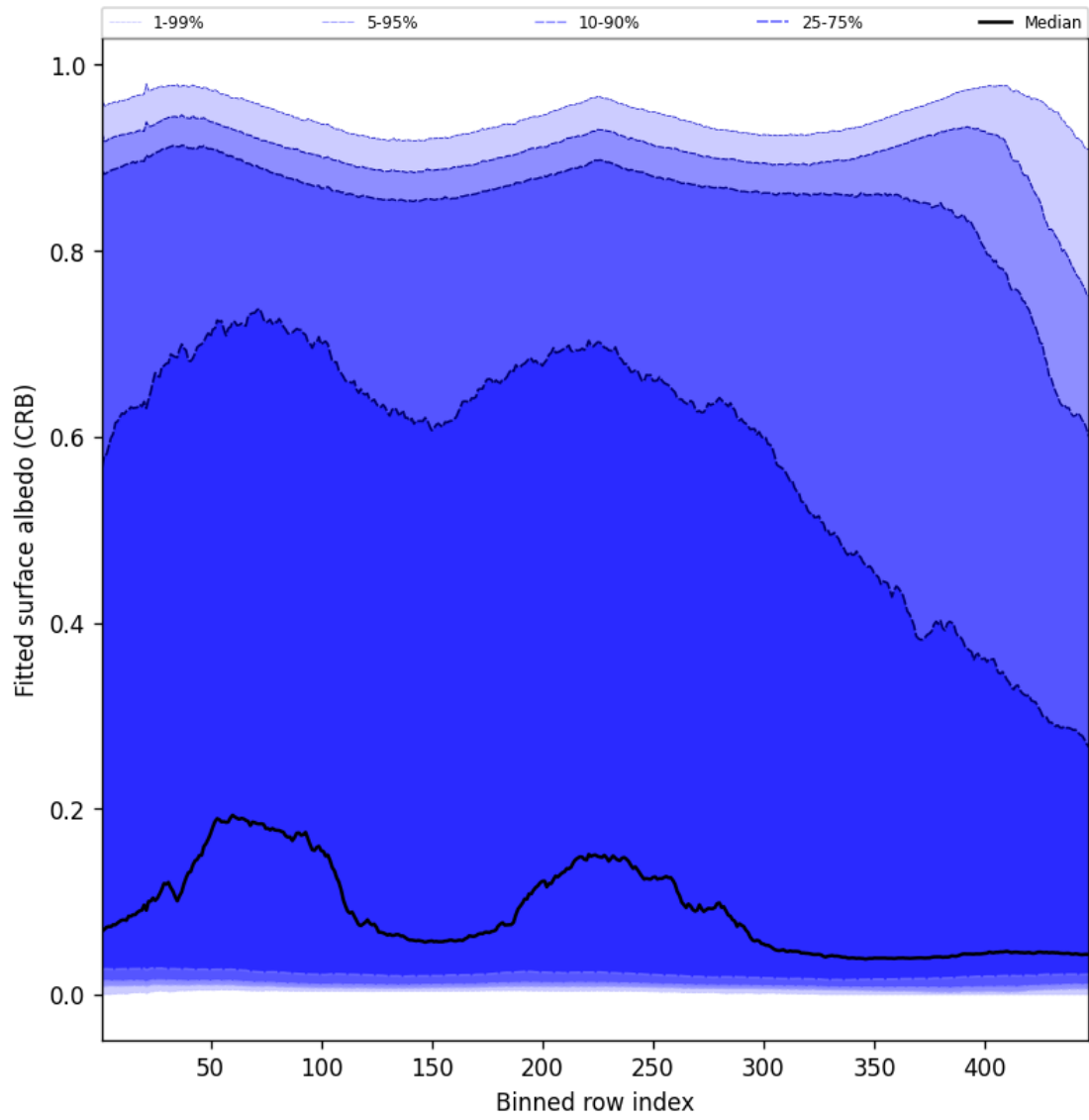


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2024-12-30 to 2024-12-30

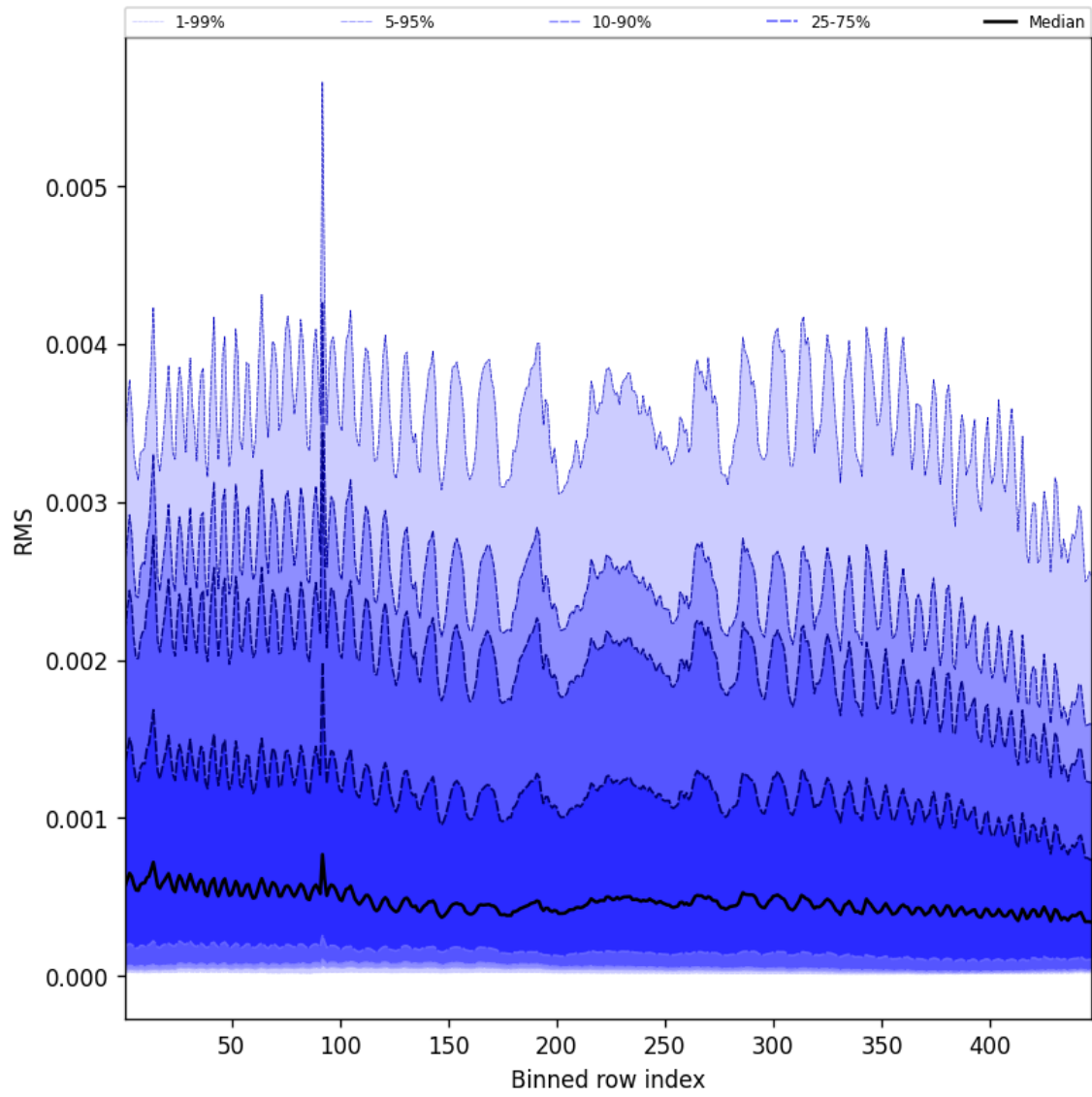


Figure 61: Along track statistics of “RMS” for 2024-12-30 to 2024-12-30

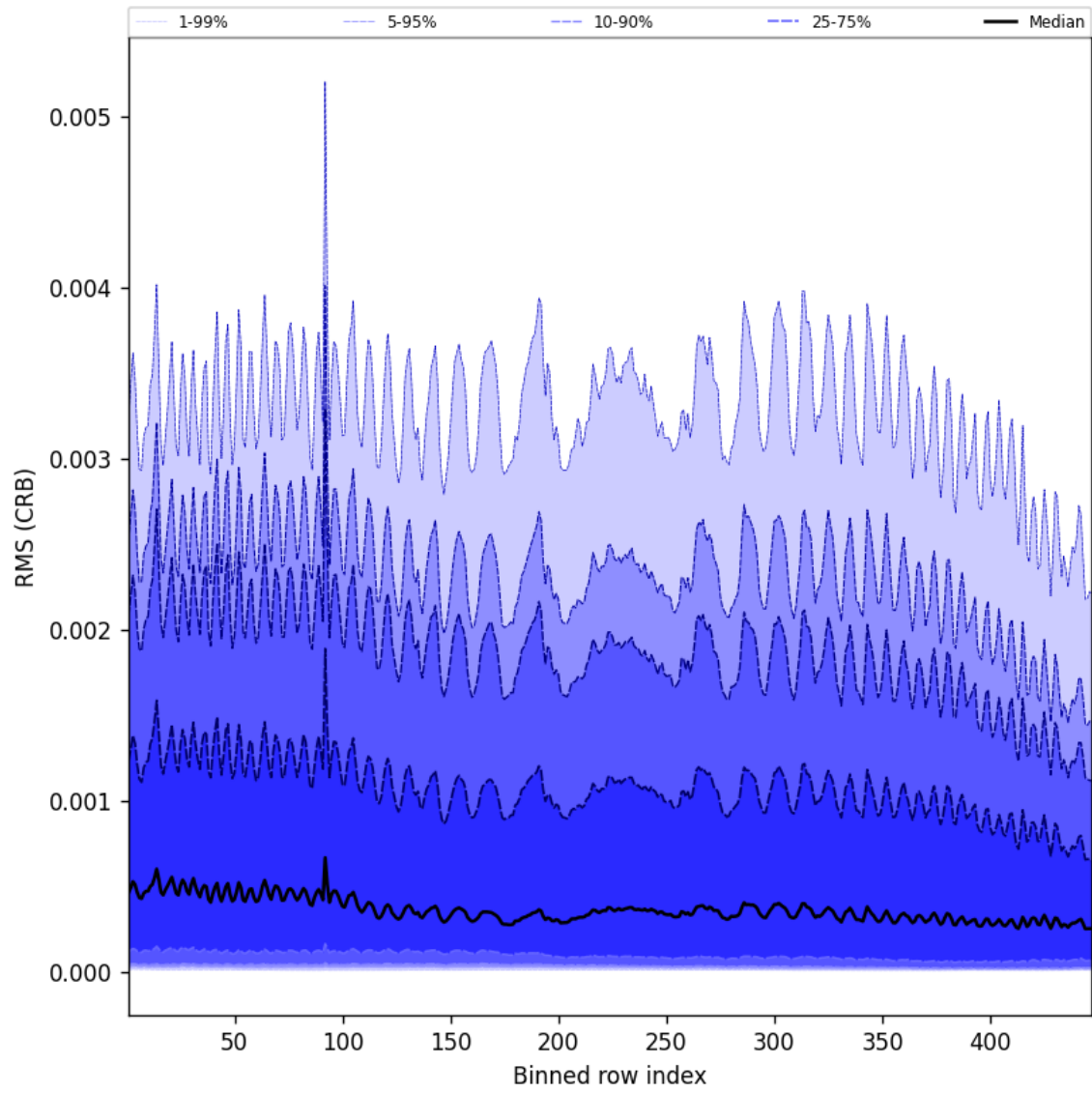


Figure 62: Along track statistics of “RMS (CRB)” for 2024-12-30 to 2024-12-30

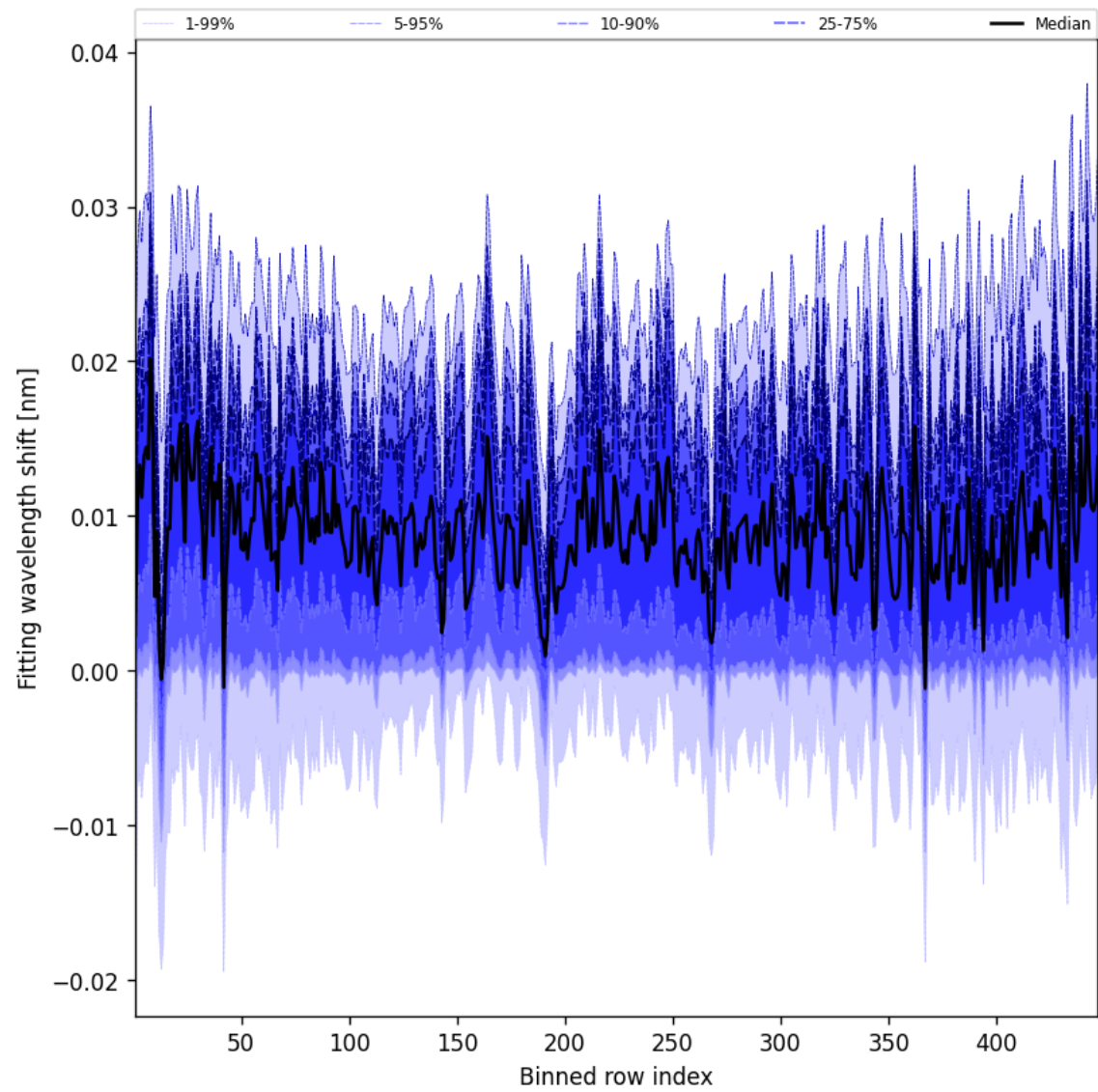


Figure 63: Along track statistics of “Fitting wavelength shift” for 2024-12-30 to 2024-12-30

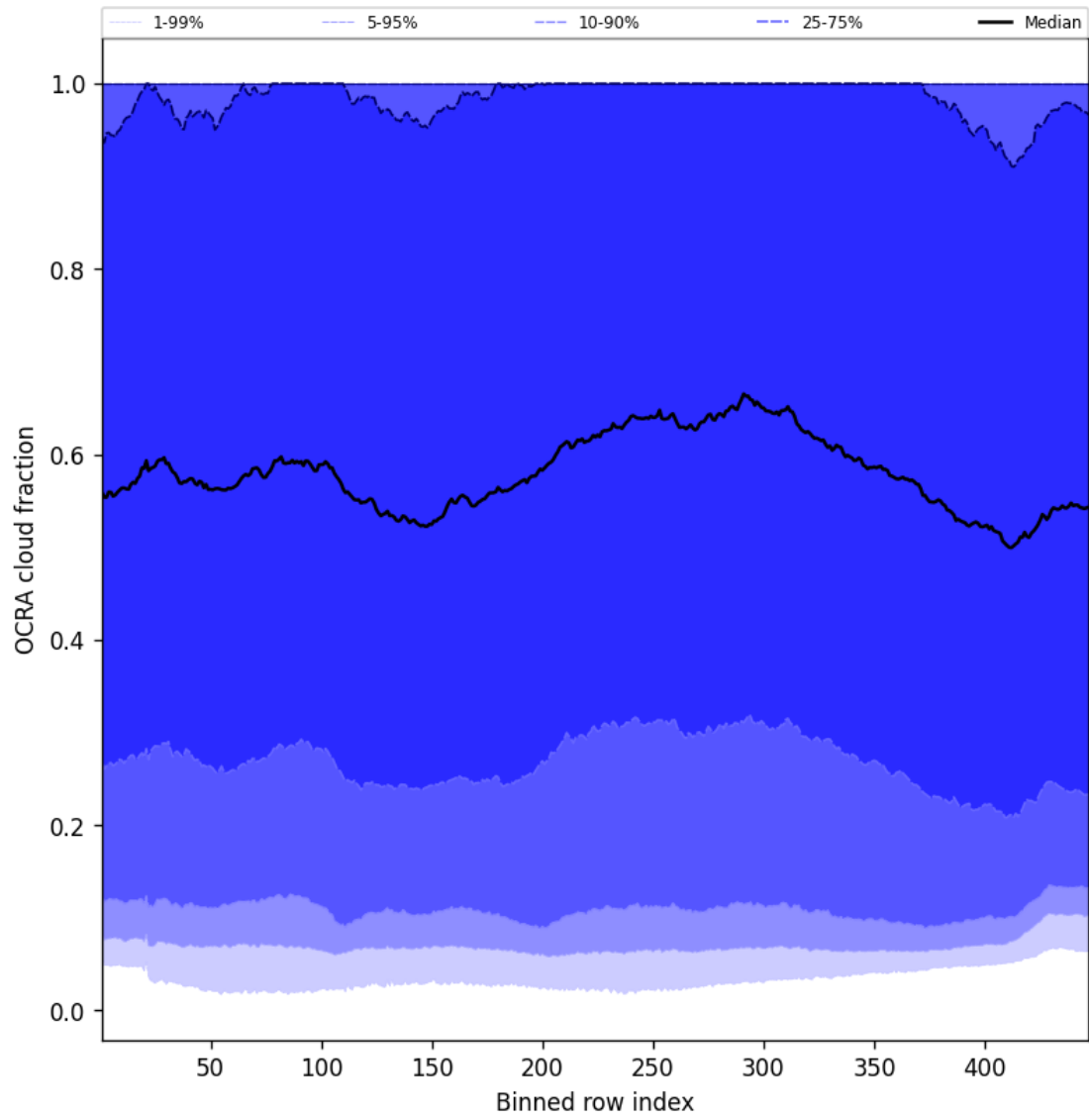


Figure 64: Along track statistics of “OCRA cloud fraction” for 2024-12-30 to 2024-12-30

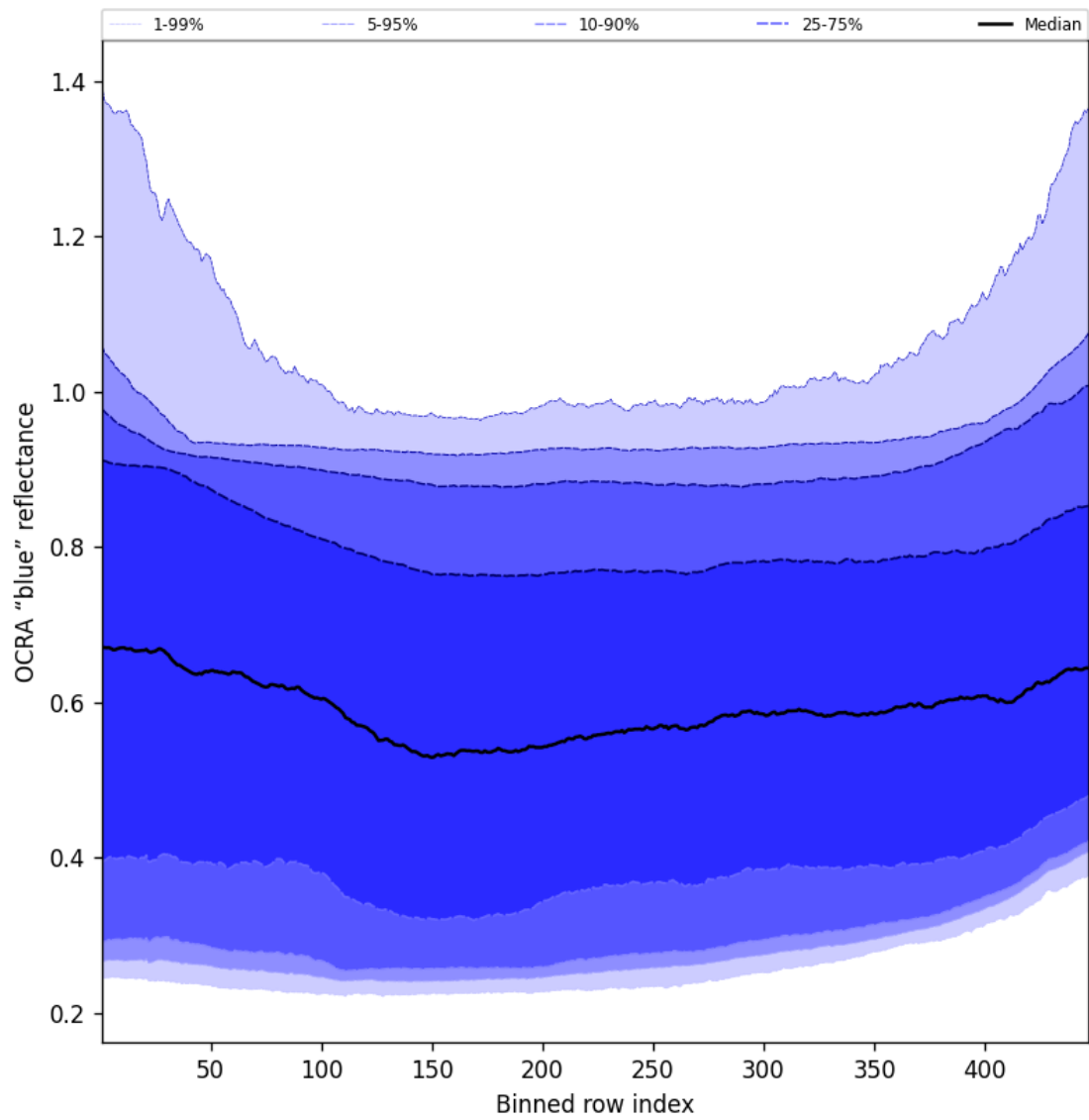


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2024-12-30 to 2024-12-30

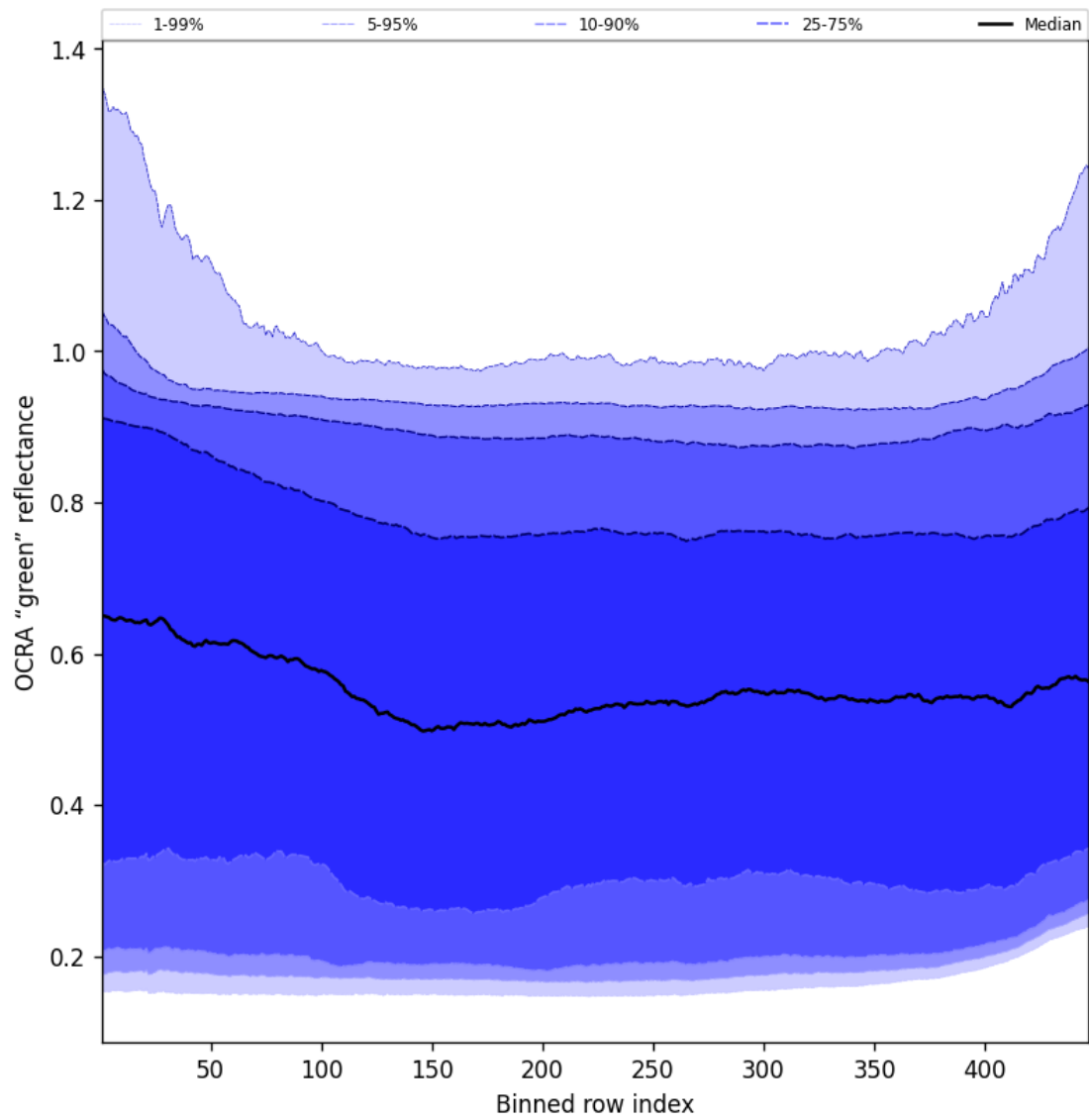


Figure 66: Along track statistics of "OCRA "green" reflectance" for 2024-12-30 to 2024-12-30

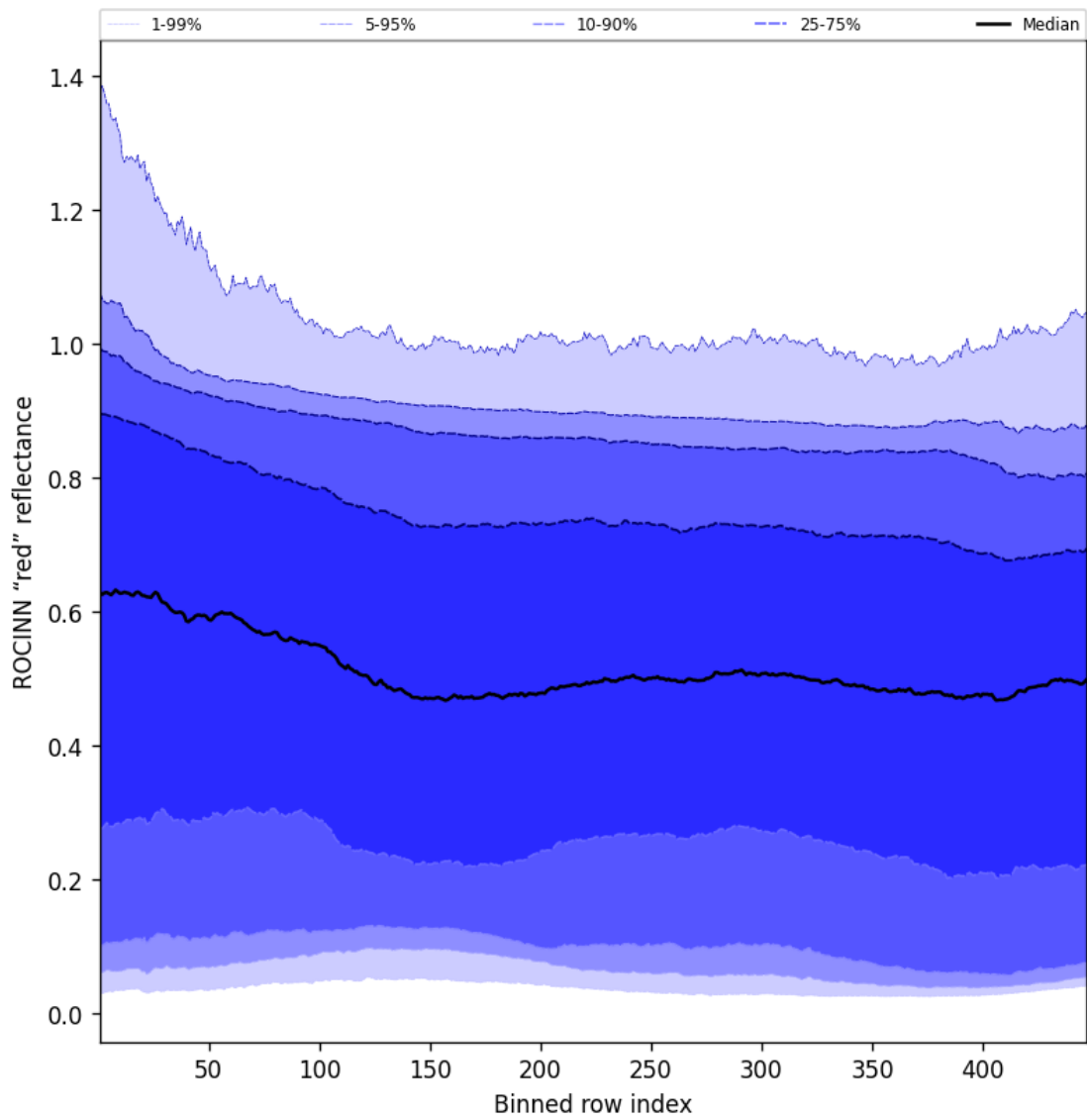


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2024-12-30 to 2024-12-30

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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