

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-04-24 (08:15)

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]	0.593 ± 0.385	17967421	5.000×10^{-3}	0.710	0.730	0.0	1.000
cloud fraction [1]	0.556 ± 0.341	17967421	0.995	0.703	0.531	6.860×10^{-3}	1.000
cloud top height [m]	$(0.374 \pm 0.256) \times 10^4$	17967421	1.575×10^3	3.454×10^3	3.206×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.5 ± 32.7	17967421	5.13	10.5	9.05	1.000	250
cloud fraction crb [1]	0.555 ± 0.341	17967421	0.995	0.702	0.530	4.501×10^{-3}	1.000
cloud height crb [m]	$(0.287 \pm 0.224) \times 10^4$	17967421	75.0	3.008×10^3	2.419×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.591 ± 0.209	17967421	0.995	0.271	0.574	0.0	1.000
surface albedo fitted [1]	0.265 ± 0.326	17967421	2.500×10^{-2}	0.457	5.994×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.254 ± 0.315	17967421	1.500×10^{-2}	0.479	4.747×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.125 \pm 21.484) \times 10^{-4}$	17967421	5.000×10^{-5}	8.284×10^{-4}	3.697×10^{-4}	9.008×10^{-7}	0.948
fitted root mean square crb [1]	$(6.379 \pm 20.892) \times 10^{-4}$	17967421	5.000×10^{-5}	7.854×10^{-4}	2.875×10^{-4}	1.066×10^{-6}	1.01
wavelength shift [nm]	$(7.267 \pm 6.898) \times 10^{-3}$	17967421	3.000×10^{-4}	9.732×10^{-3}	6.597×10^{-3}	-5.159×10^{-2}	0.584
cloud fraction apriori [1]	0.568 ± 0.346	17967421	0.995	0.749	0.556	0.0	1.000
reflectance blue ocra [1]	0.566 ± 0.228	17967421	0.265	0.389	0.547	0.128	1.96
reflectance green ocra [1]	0.516 ± 0.255	17967421	0.175	0.461	0.501	7.594×10^{-2}	1.93
reflectance continuum aband [1]	0.471 ± 0.281	17967421	4.500×10^{-2}	0.472	0.468	1.237×10^{-2}	6.53

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	0.210	0.920	1.000	1.000	1.000	1.000
cloud fraction [1]	2.633×10^{-2}	6.800×10^{-2}	0.105	0.152	0.237	0.940	1.000	1.000	1.000	1.000
cloud top height [m]	189	624	986	1.296×10^3	1.726×10^3	5.179×10^3	6.363×10^3	7.442×10^3	8.816×10^3	1.111×10^4
cloud optical thickness [1]	1.15	2.90	3.96	4.75	5.58	16.1	24.6	36.6	63.4	230
cloud fraction crb [1]	2.584×10^{-2}	6.702×10^{-2}	0.104	0.151	0.236	0.938	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	66.4	406	719	1.104×10^3	4.113×10^3	5.208×10^3	6.158×10^3	7.300×10^3	9.277×10^3
cloud albedo crb [1]	9.653×10^{-3}	0.240	0.351	0.413	0.463	0.734	0.818	0.886	0.961	1.000
surface albedo fitted [1]	0.0	9.891×10^{-3}	1.515×10^{-2}	1.998×10^{-2}	2.711×10^{-2}	0.484	0.763	0.839	0.913	0.991
surface albedo fitted crb [1]	3.586×10^{-4}	7.070×10^{-3}	1.094×10^{-2}	1.476×10^{-2}	2.063×10^{-2}	0.499	0.744	0.801	0.850	0.923
fitted root mean square [1]	1.366×10^{-5}	2.696×10^{-5}	4.304×10^{-5}	6.824×10^{-5}	1.180×10^{-4}	9.464×10^{-4}	1.376×10^{-3}	1.821×10^{-3}	2.425×10^{-3}	3.732×10^{-3}
fitted root mean square crb [1]	7.825×10^{-6}	1.721×10^{-5}	2.832×10^{-5}	4.375×10^{-5}	7.683×10^{-5}	8.623×10^{-4}	1.301×10^{-3}	1.753×10^{-3}	2.360×10^{-3}	3.559×10^{-3}
wavelength shift [nm]	-8.285×10^{-3}	-1.390×10^{-3}	-9.923×10^{-5}	6.890×10^{-4}	2.084×10^{-3}	1.182×10^{-2}	1.421×10^{-2}	1.625×10^{-2}	1.895×10^{-2}	2.477×10^{-2}
cloud fraction apriori [1]	2.865×10^{-2}	6.487×10^{-2}	9.976×10^{-2}	0.148	0.239	0.989	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.233	0.259	0.282	0.311	0.362	0.751	0.816	0.866	0.923	1.12
reflectance green ocra [1]	0.151	0.172	0.192	0.219	0.273	0.733	0.804	0.856	0.911	1.07
reflectance continuum aband [1]	2.957×10^{-2}	5.299×10^{-2}	8.583×10^{-2}	0.133	0.230	0.701	0.778	0.835	0.897	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]	0.535 ± 0.382	10550611	0.880	0.660	0.0	1.000	2.000×10^{-2}	0.900
cloud fraction [1]	0.547 ± 0.341	10550611	0.710	0.504	6.860×10^{-3}	1.000	0.231	0.941
cloud top height [m]	$(0.351 \pm 0.252) \times 10^4$	10550611	3.296×10^3	2.994×10^3	0.0	2.000×10^4	1.555×10^3	4.851×10^3
cloud optical thickness [1]	13.9 ± 25.7	10550611	7.25	7.79	1.000	250	5.09	12.3
cloud fraction crb [1]	0.547 ± 0.341	10550611	0.710	0.504	4.501×10^{-3}	1.000	0.231	0.941
cloud height crb [m]	$(0.254 \pm 0.215) \times 10^4$	10550611	2.801×10^3	2.126×10^3	0.0	2.000×10^4	849	3.649×10^3
cloud albedo crb [1]	0.606 ± 0.229	10550611	0.323	0.596	0.0	1.000	0.458	0.781
surface albedo fitted [1]	0.387 ± 0.357	10550611	0.733	0.254	0.0	1.000	3.767×10^{-2}	0.771
surface albedo fitted crb [1]	0.373 ± 0.342	10550611	0.718	0.254	0.0	1.000	3.124×10^{-2}	0.749
fitted root mean square [1]	$(9.313 \pm 27.486) \times 10^{-4}$	10550611	1.118×10^{-3}	5.789×10^{-4}	1.993×10^{-6}	0.948	1.771×10^{-4}	1.295×10^{-3}
fitted root mean square crb [1]	$(8.316 \pm 26.768) \times 10^{-4}$	10550611	1.080×10^{-3}	4.581×10^{-4}	1.632×10^{-6}	1.01	1.217×10^{-4}	1.202×10^{-3}
wavelength shift [nm]	$(8.497 \pm 6.959) \times 10^{-3}$	10550611	9.816×10^{-3}	8.233×10^{-3}	-5.159×10^{-2}	0.584	3.351×10^{-3}	1.317×10^{-2}
cloud fraction apriori [1]	0.567 ± 0.345	10550611	0.757	0.546	0.0	1.000	0.243	1.000
reflectance blue ocr [1]	0.599 ± 0.241	10550611	0.431	0.627	0.128	1.91	0.364	0.795
reflectance green ocr [1]	0.558 ± 0.267	10550611	0.501	0.601	7.622×10^{-2}	1.82	0.284	0.785
reflectance continuum aband [1]	0.525 ± 0.283	10550611	0.473	0.566	1.458×10^{-2}	3.46	0.283	0.756

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]	0.674 ± 0.374	7416810	0.600	0.900	0.0	1.000	0.400	1.000
cloud fraction [1]	0.569 ± 0.340	7416810	0.692	0.572	7.191×10^{-3}	1.000	0.246	0.938
cloud top height [m]	$(0.408 \pm 0.259) \times 10^4$	7416810	3.710×10^3	3.532×10^3	0.0	2.000×10^4	1.956×10^3	5.666×10^3
cloud optical thickness [1]	25.0 ± 39.8	7416810	16.1	11.6	1.000	250	7.12	23.2
cloud fraction crb [1]	0.567 ± 0.340	7416810	0.691	0.568	8.411×10^{-3}	1.000	0.244	0.935
cloud height crb [m]	$(0.334 \pm 0.228) \times 10^4$	7416810	3.371×10^3	2.850×10^3	0.0	1.886×10^4	1.444×10^3	4.815×10^3
cloud albedo crb [1]	0.571 ± 0.175	7416810	0.202	0.555	0.0	1.000	0.468	0.670
surface albedo fitted [1]	$(9.319 \pm 15.905) \times 10^{-2}$	7416810	4.587×10^{-2}	3.540×10^{-2}	0.0	1.000	2.067×10^{-2}	6.654×10^{-2}
surface albedo fitted crb [1]	$(8.438 \pm 15.653) \times 10^{-2}$	7416810	3.672×10^{-2}	2.631×10^{-2}	0.0	1.000	1.451×10^{-2}	5.123×10^{-2}
fitted root mean square [1]	$(4.014 \pm 5.194) \times 10^{-4}$	7416810	4.385×10^{-4}	2.129×10^{-4}	9.008×10^{-7}	0.112	8.029×10^{-5}	5.188×10^{-4}
fitted root mean square crb [1]	$(3.623 \pm 5.024) \times 10^{-4}$	7416810	4.273×10^{-4}	1.533×10^{-4}	1.066×10^{-6}	3.001×10^{-2}	4.949×10^{-5}	4.768×10^{-4}
wavelength shift [nm]	$(5.519 \pm 6.417) \times 10^{-3}$	7416810	8.314×10^{-3}	4.474×10^{-3}	-4.311×10^{-2}	6.298×10^{-2}	9.975×10^{-4}	9.311×10^{-3}
cloud fraction apriori [1]	0.569 ± 0.347	7416810	0.732	0.571	0.0	1.000	0.234	0.966
reflectance blue oca [1]	0.520 ± 0.200	7416810	0.284	0.489	0.143	1.96	0.360	0.645
reflectance green oca [1]	0.456 ± 0.225	7416810	0.346	0.425	7.594×10^{-2}	1.93	0.263	0.609
reflectance continuum aband [1]	0.393 ± 0.259	7416810	0.398	0.370	1.237×10^{-2}	6.53	0.173	0.571

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]	0.605 ± 0.385	12797680	0.680	0.790	0.0	1.000	0.270	0.950
cloud fraction [1]	0.543 ± 0.343	12797680	0.706	0.507	6.860×10^{-3}	1.000	0.220	0.925
cloud top height [m]	$(0.364 \pm 0.252) \times 10^4$	12797680	3.391×10^3	3.044×10^3	0.0	2.000×10^4	1.654×10^3	5.046×10^3
cloud optical thickness [1]	20.0 ± 34.5	12797680	11.3	9.69	1.000	250	6.09	17.4
cloud fraction crb [1]	0.542 ± 0.343	12797680	0.704	0.505	4.501×10^{-3}	1.000	0.219	0.923
cloud height crb [m]	$(0.284 \pm 0.224) \times 10^4$	12797680	3.018×10^3	2.357×10^3	0.0	2.000×10^4	1.062×10^3	4.079×10^3
cloud albedo crb [1]	0.570 ± 0.195	12797680	0.239	0.550	0.0	1.000	0.453	0.692
surface albedo fitted [1]	0.184 ± 0.302	12797680	5.390×10^{-2}	3.688×10^{-2}	0.0	1.000	2.158×10^{-2}	7.549×10^{-2}
surface albedo fitted crb [1]	0.171 ± 0.290	12797680	4.422×10^{-2}	2.877×10^{-2}	0.0	1.000	1.606×10^{-2}	6.028×10^{-2}
fitted root mean square [1]	$(5.318 \pm 23.729) \times 10^{-4}$	12797680	5.505×10^{-4}	2.370×10^{-4}	9.008×10^{-7}	0.948	8.556×10^{-5}	6.361×10^{-4}
fitted root mean square crb [1]	$(4.699 \pm 23.811) \times 10^{-4}$	12797680	4.817×10^{-4}	1.806×10^{-4}	1.066×10^{-6}	1.01	5.930×10^{-5}	5.410×10^{-4}
wavelength shift [nm]	$(6.549 \pm 6.764) \times 10^{-3}$	12797680	9.112×10^{-3}	5.694×10^{-3}	-4.408×10^{-2}	0.584	1.691×10^{-3}	1.080×10^{-2}
cloud fraction apriori [1]	0.550 ± 0.348	12797680	0.739	0.521	0.0	1.000	0.218	0.957
reflectance blue ocr [1]	0.547 ± 0.213	12797680	0.359	0.523	0.144	1.91	0.359	0.718
reflectance green ocr [1]	0.489 ± 0.241	12797680	0.434	0.470	8.320×10^{-2}	1.82	0.261	0.695
reflectance continuum aband [1]	0.420 ± 0.277	12797680	0.500	0.410	1.237×10^{-2}	6.53	0.155	0.655

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]	0.603 ± 0.378	3422308	0.700	0.710	0.0	1.000	0.220	0.920
cloud fraction [1]	0.574 ± 0.336	3422308	0.689	0.567	7.494×10^{-3}	1.000	0.262	0.952
cloud top height [m]	$(0.431 \pm 0.267) \times 10^4$	3422308	3.479×10^3	3.843×10^3	0.0	2.000×10^4	2.309×10^3	5.788×10^3
cloud optical thickness [1]	13.5 ± 23.3	3422308	7.67	7.47	1.000	250	4.89	12.6
cloud fraction crb [1]	0.573 ± 0.336	3422308	0.689	0.567	7.631×10^{-3}	1.000	0.262	0.951
cloud height crb [m]	$(0.324 \pm 0.224) \times 10^4$	3422308	3.017×10^3	2.772×10^3	0.0	2.000×10^4	1.520×10^3	4.537×10^3
cloud albedo crb [1]	0.634 ± 0.226	3422308	0.308	0.634	0.0	1.000	0.499	0.807
surface albedo fitted [1]	0.440 ± 0.276	3422308	0.455	0.307	2.249×10^{-3}	1.000	0.229	0.684
surface albedo fitted crb [1]	0.431 ± 0.260	3422308	0.457	0.308	7.363×10^{-4}	1.000	0.225	0.682
fitted root mean square [1]	$(1.143 \pm 1.370) \times 10^{-3}$	3422308	1.093×10^{-3}	8.803×10^{-4}	3.016×10^{-6}	0.284	4.677×10^{-4}	1.561×10^{-3}
fitted root mean square crb [1]	$(1.051 \pm 0.913) \times 10^{-3}$	3422308	1.104×10^{-3}	8.309×10^{-4}	2.275×10^{-6}	6.567×10^{-2}	3.883×10^{-4}	1.492×10^{-3}
wavelength shift [nm]	$(8.714 \pm 6.730) \times 10^{-3}$	3422308	9.610×10^{-3}	8.540×10^{-3}	-3.762×10^{-2}	6.334×10^{-2}	3.689×10^{-3}	1.330×10^{-2}
cloud fraction apriori [1]	0.591 ± 0.342	3422308	0.730	0.605	0.0	1.000	0.270	1.000
reflectance blue ocrs [1]	0.586 ± 0.261	3422308	0.461	0.562	0.128	1.96	0.344	0.804
reflectance green ocrs [1]	0.549 ± 0.282	3422308	0.520	0.534	7.594×10^{-2}	1.93	0.275	0.796
reflectance continuum aband [1]	0.573 ± 0.248	3422308	0.419	0.553	1.755×10^{-2}	4.38	0.357	0.776

3 Granule outlines

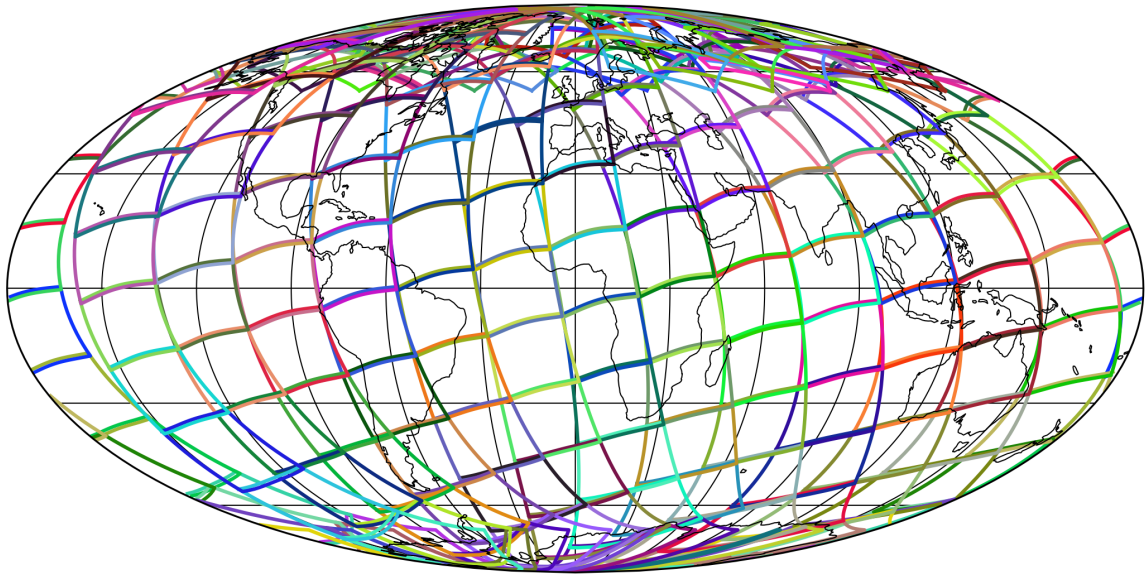


Figure 1: Outline of the granules.

4 Input data monitoring

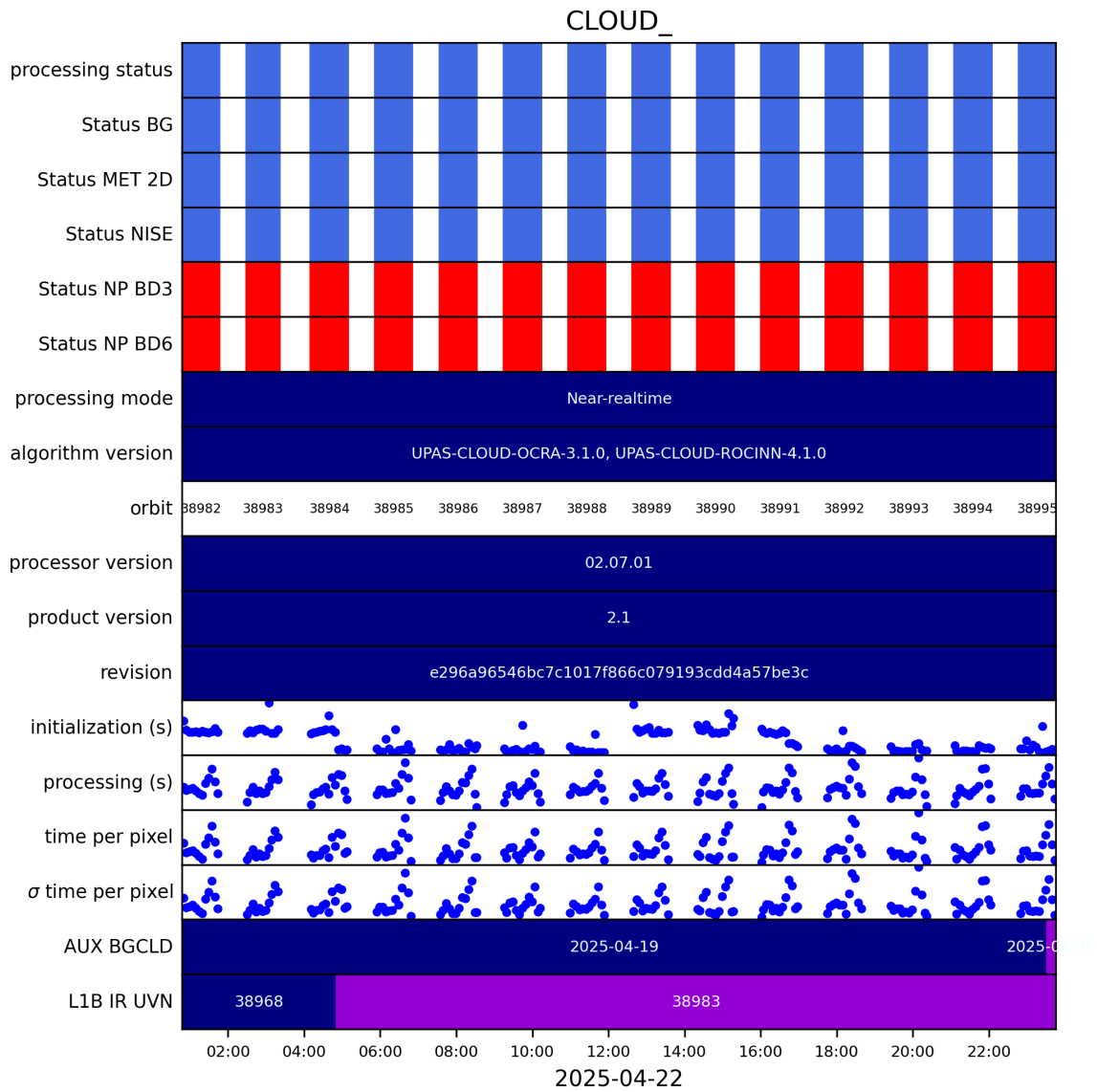


Figure 2: Input data per granule

5 Warnings and errors

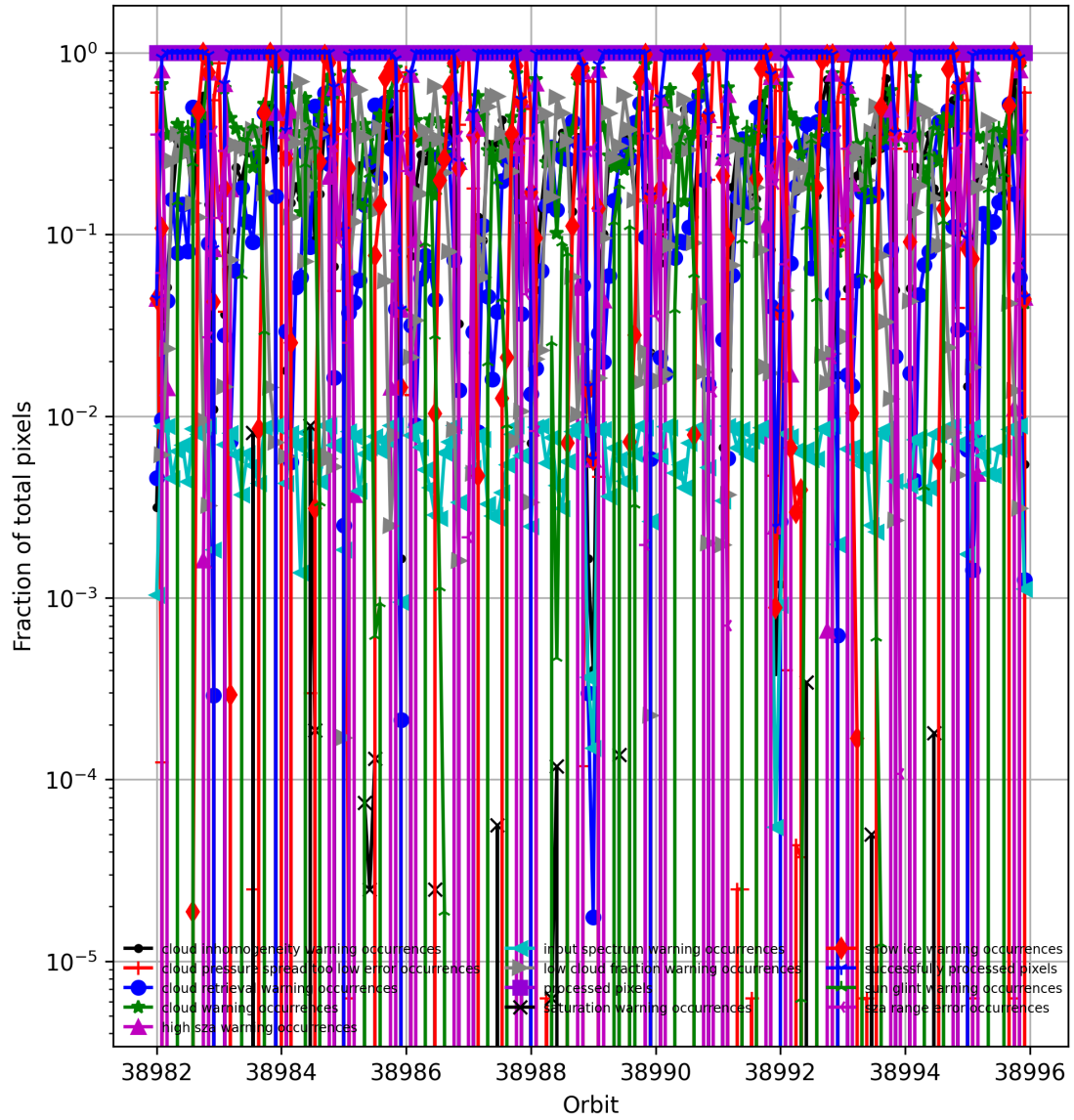


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

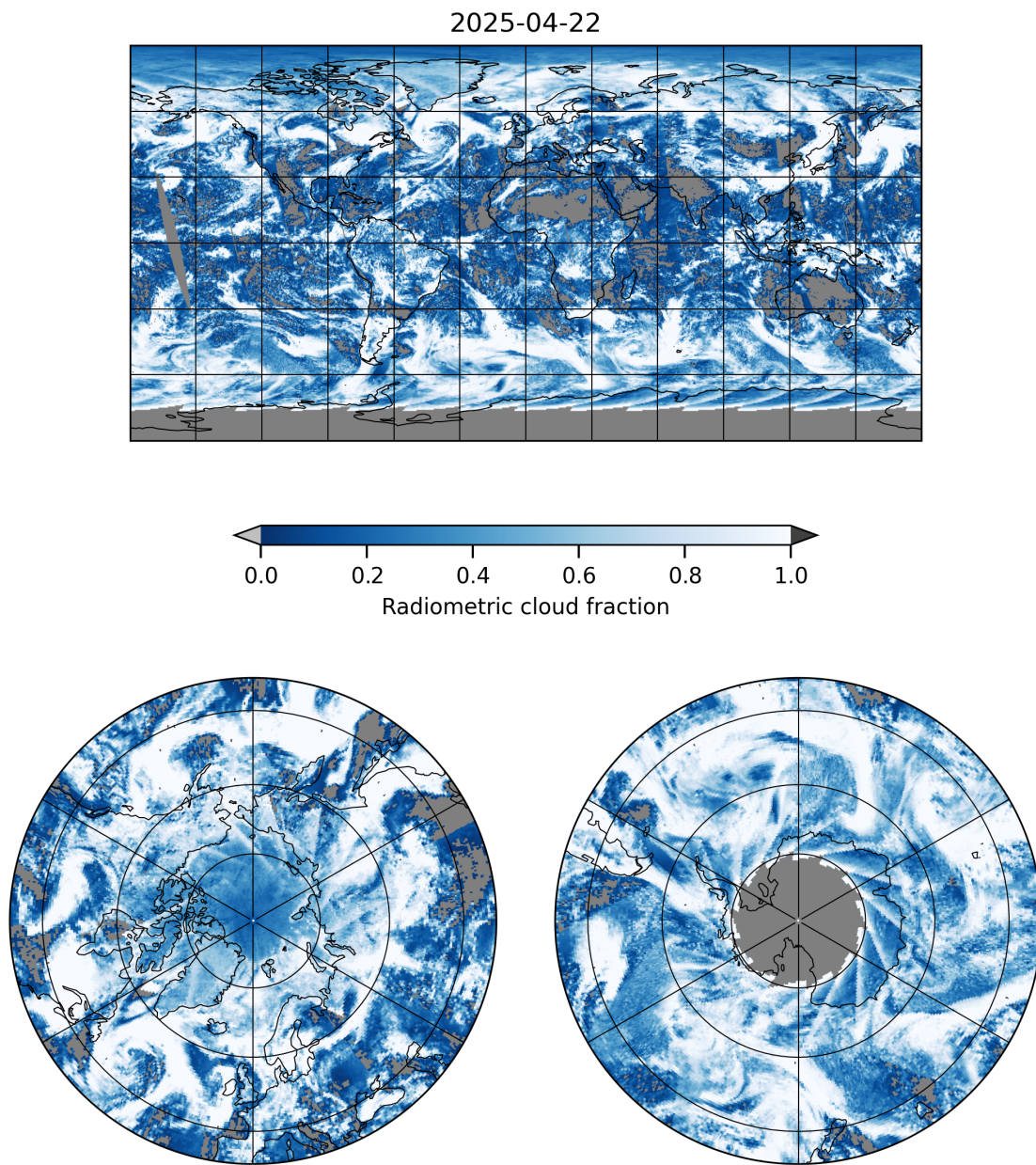


Figure 4: Map of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22

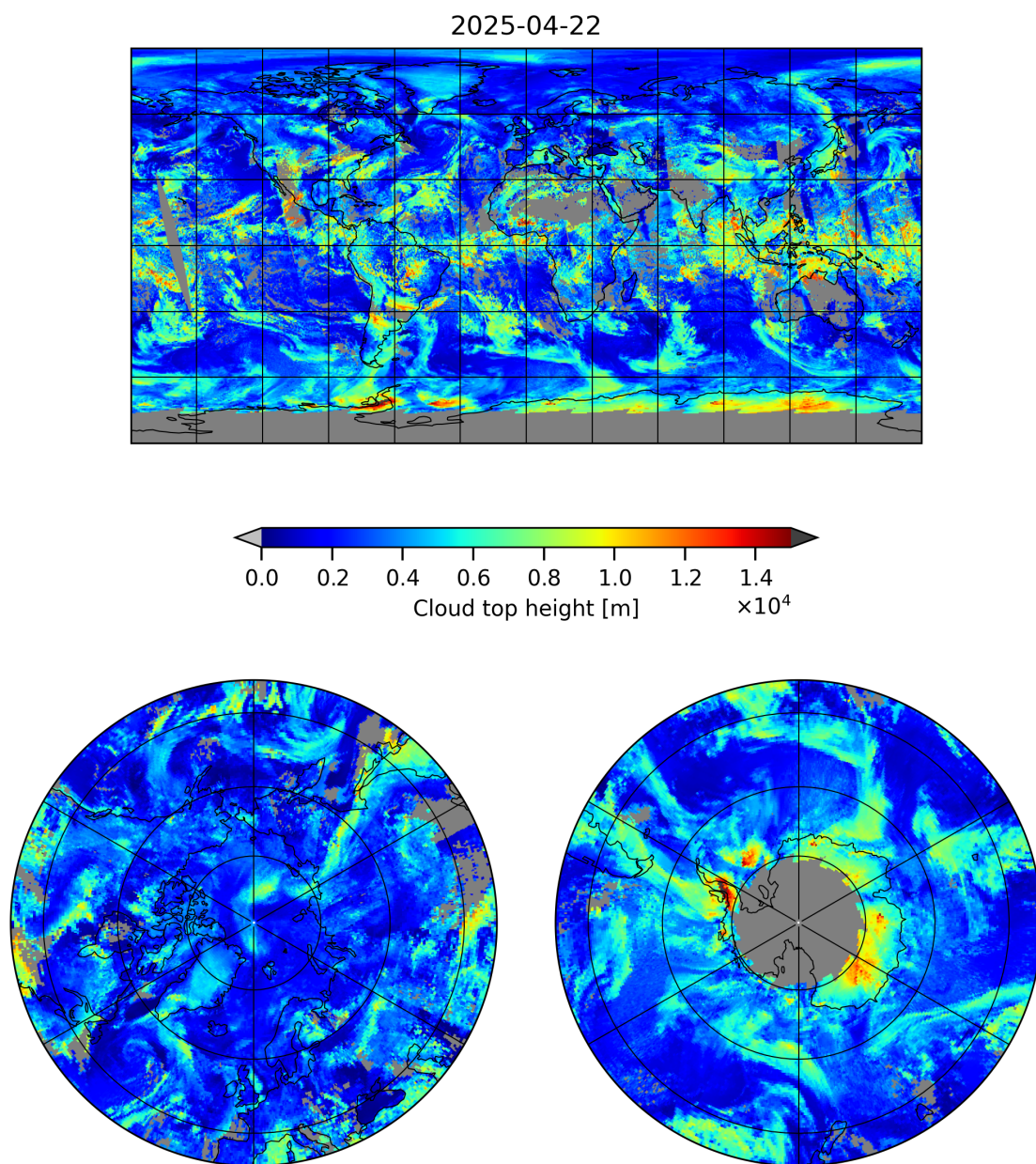


Figure 5: Map of “Cloud top height” for 2025-04-22 to 2025-04-22

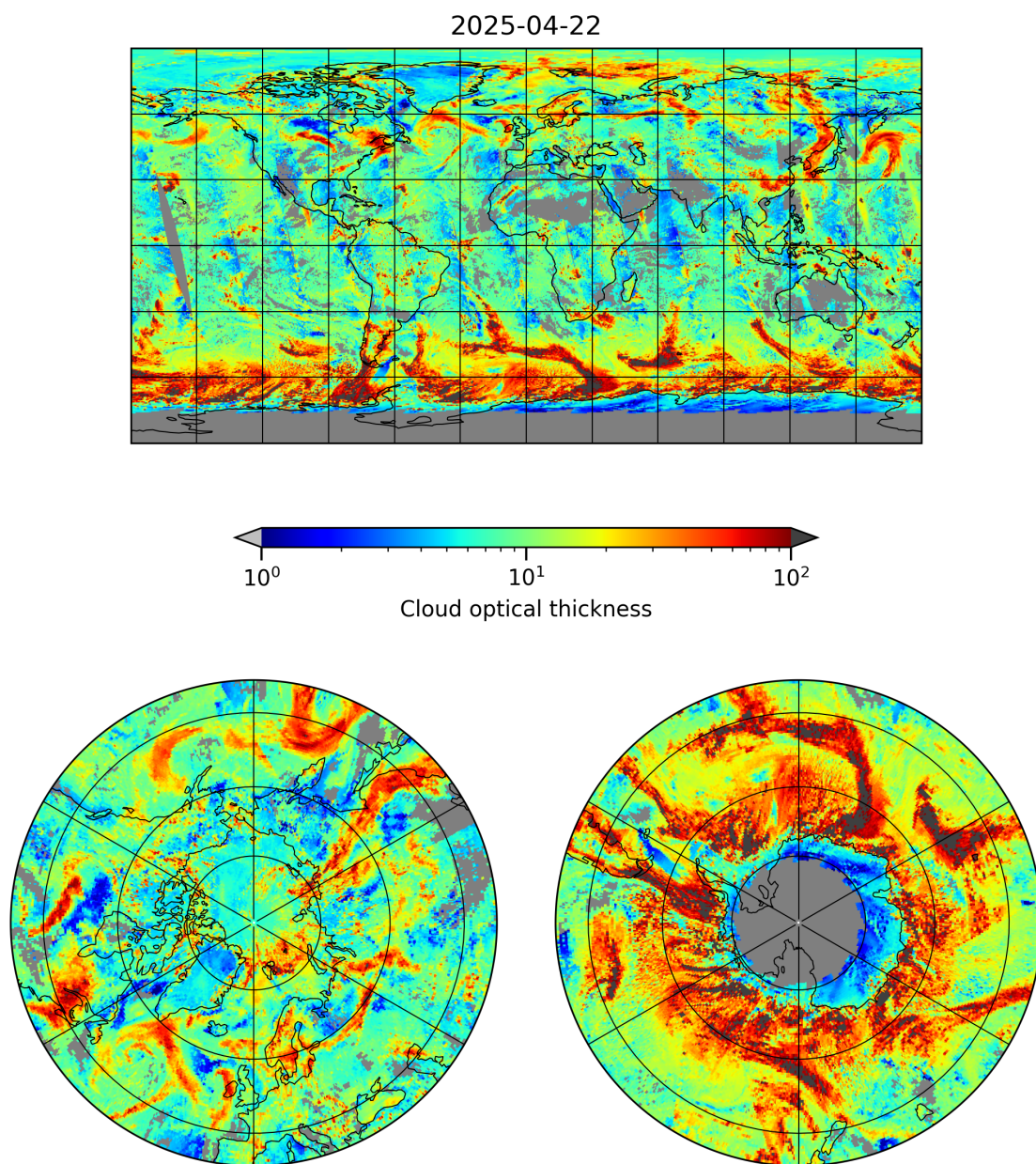


Figure 6: Map of “Cloud optical thickness” for 2025-04-22 to 2025-04-22

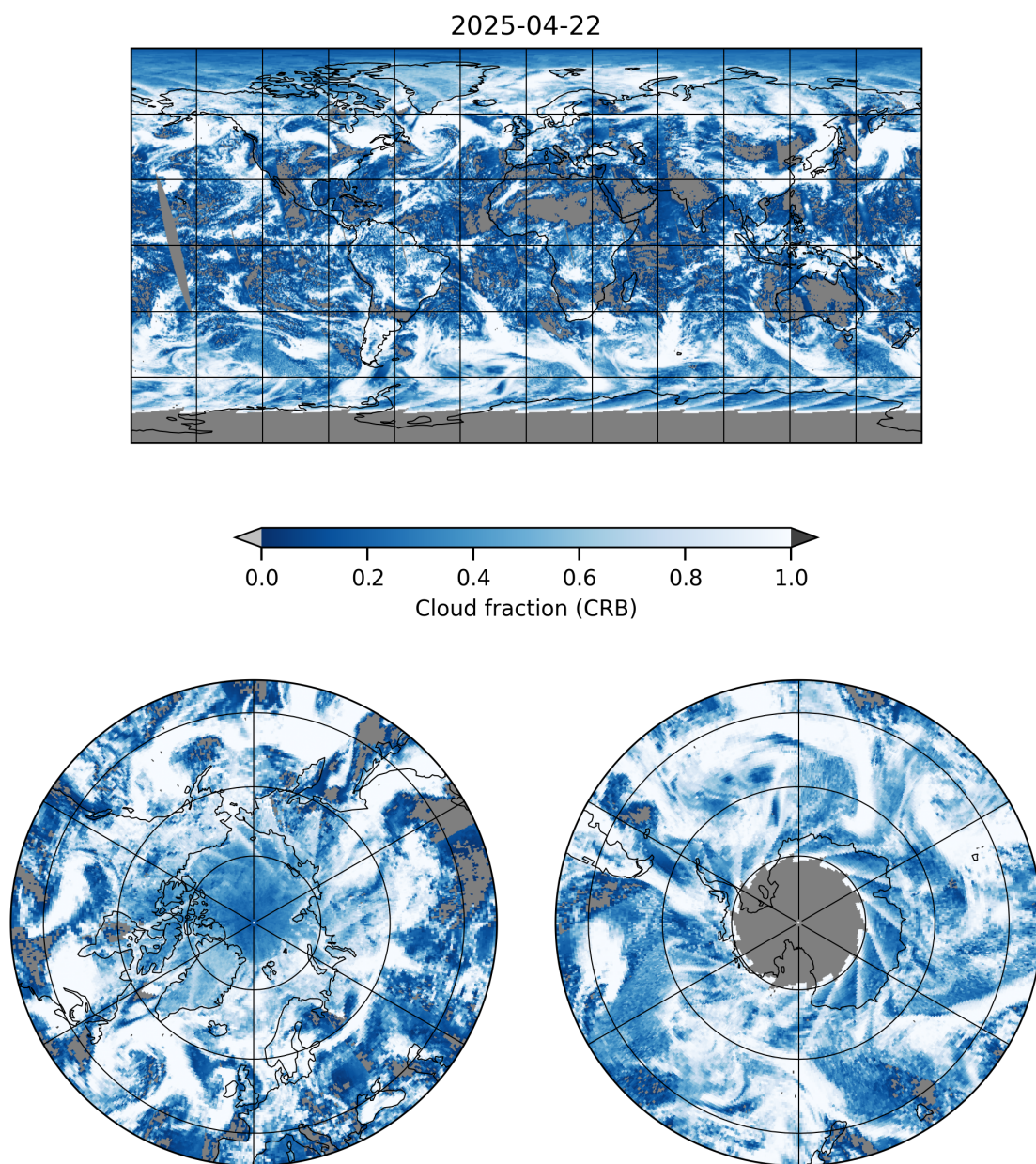


Figure 7: Map of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22

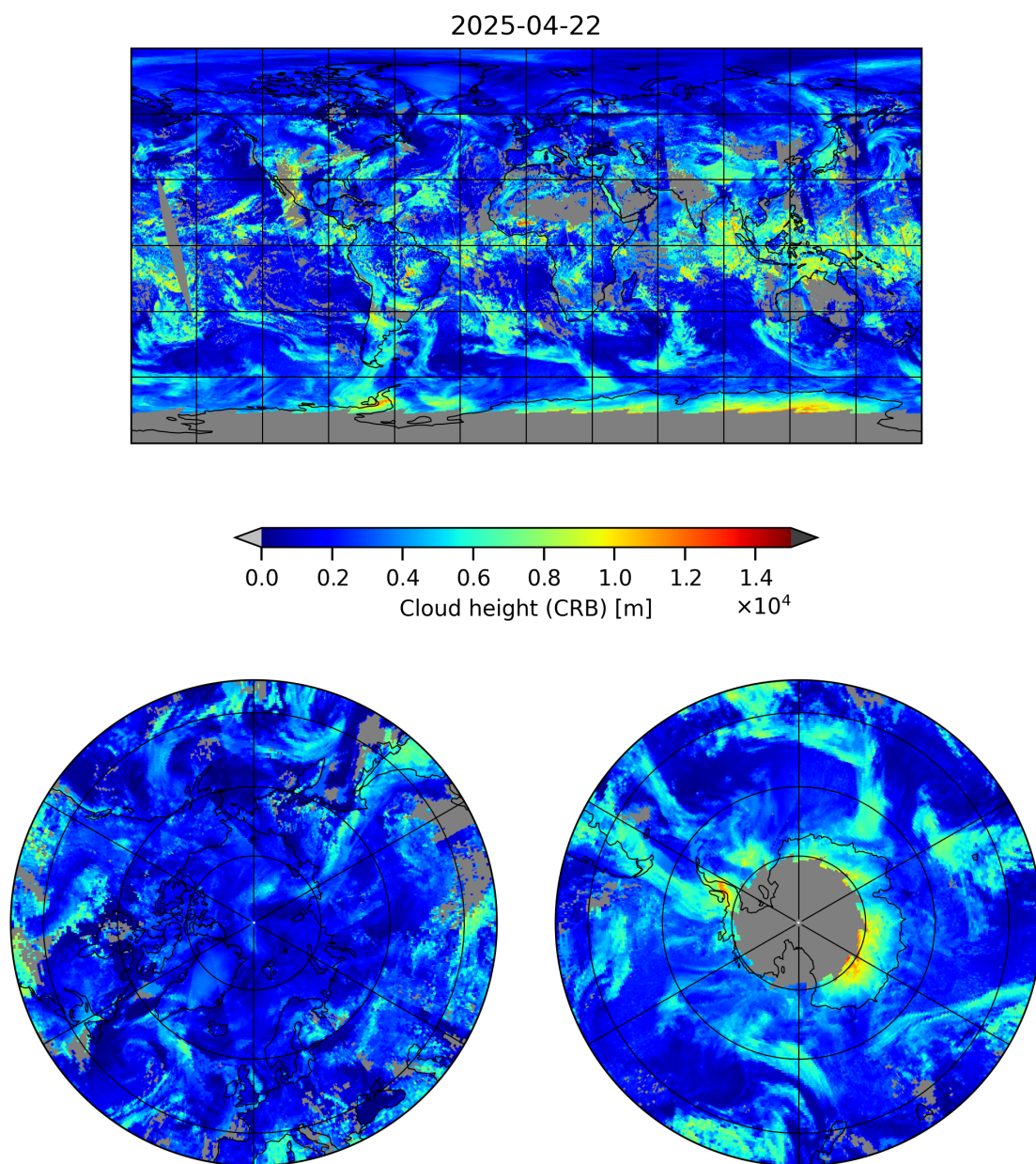


Figure 8: Map of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22

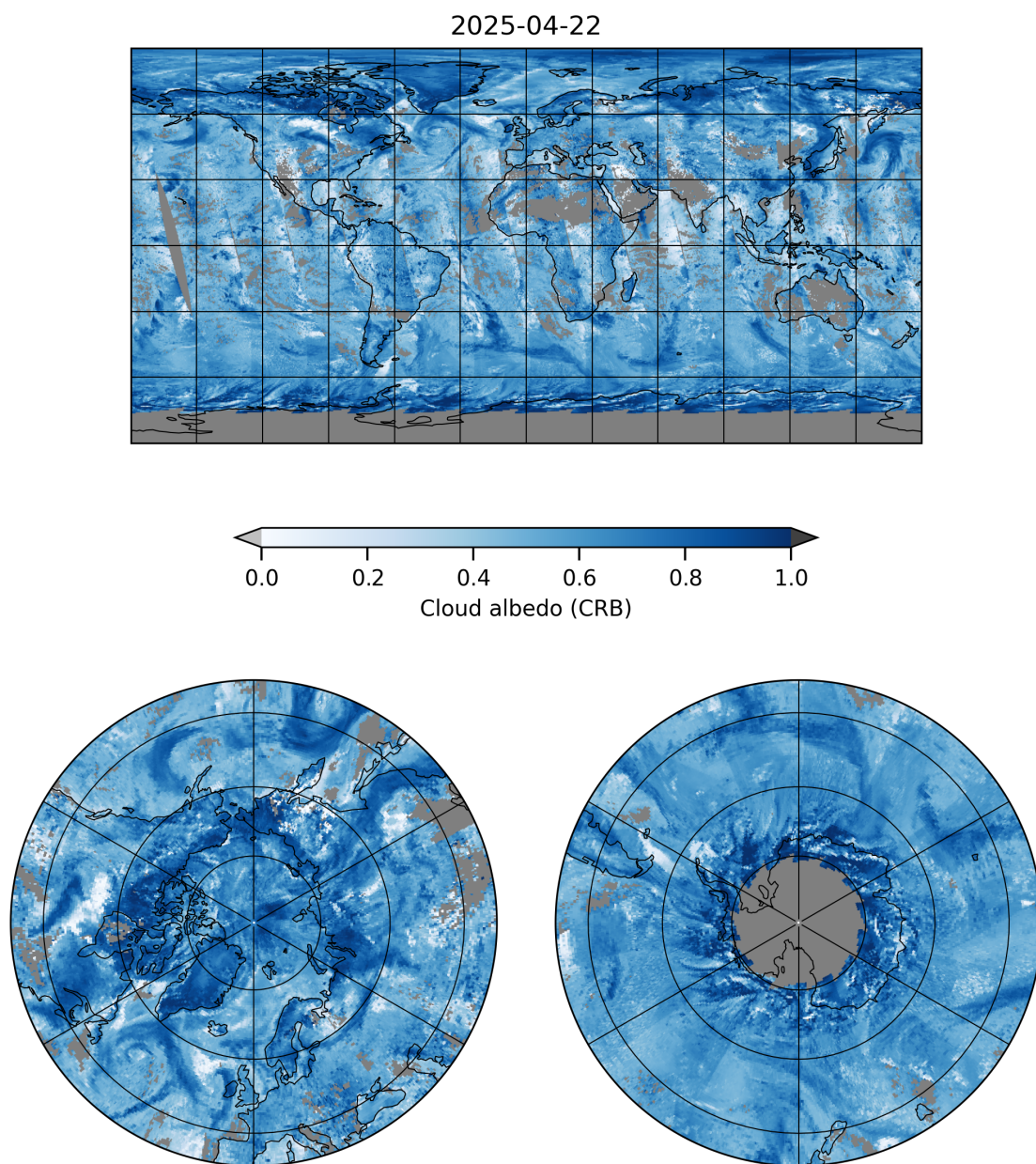


Figure 9: Map of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22

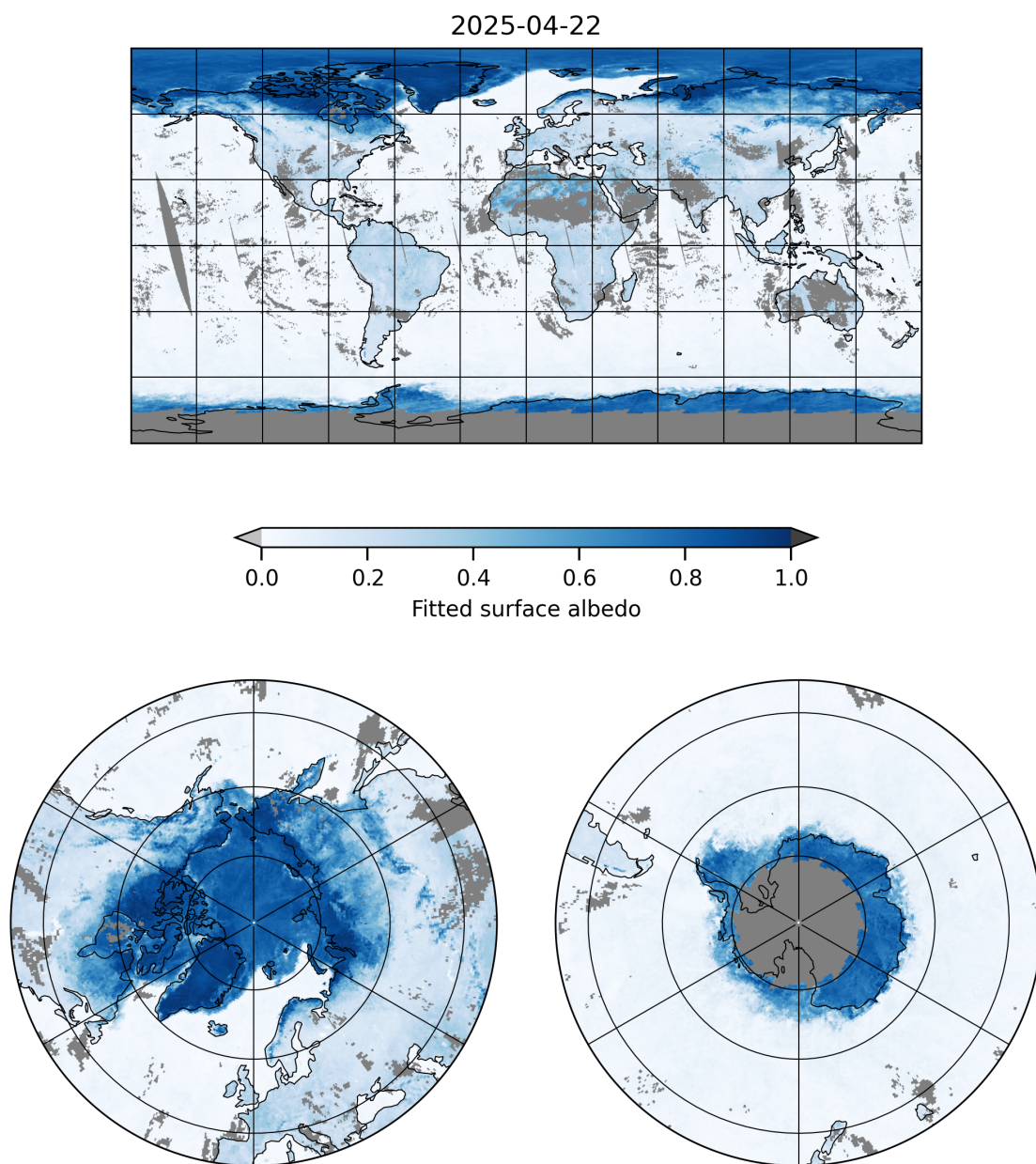


Figure 10: Map of “Fitted surface albedo” for 2025-04-22 to 2025-04-22

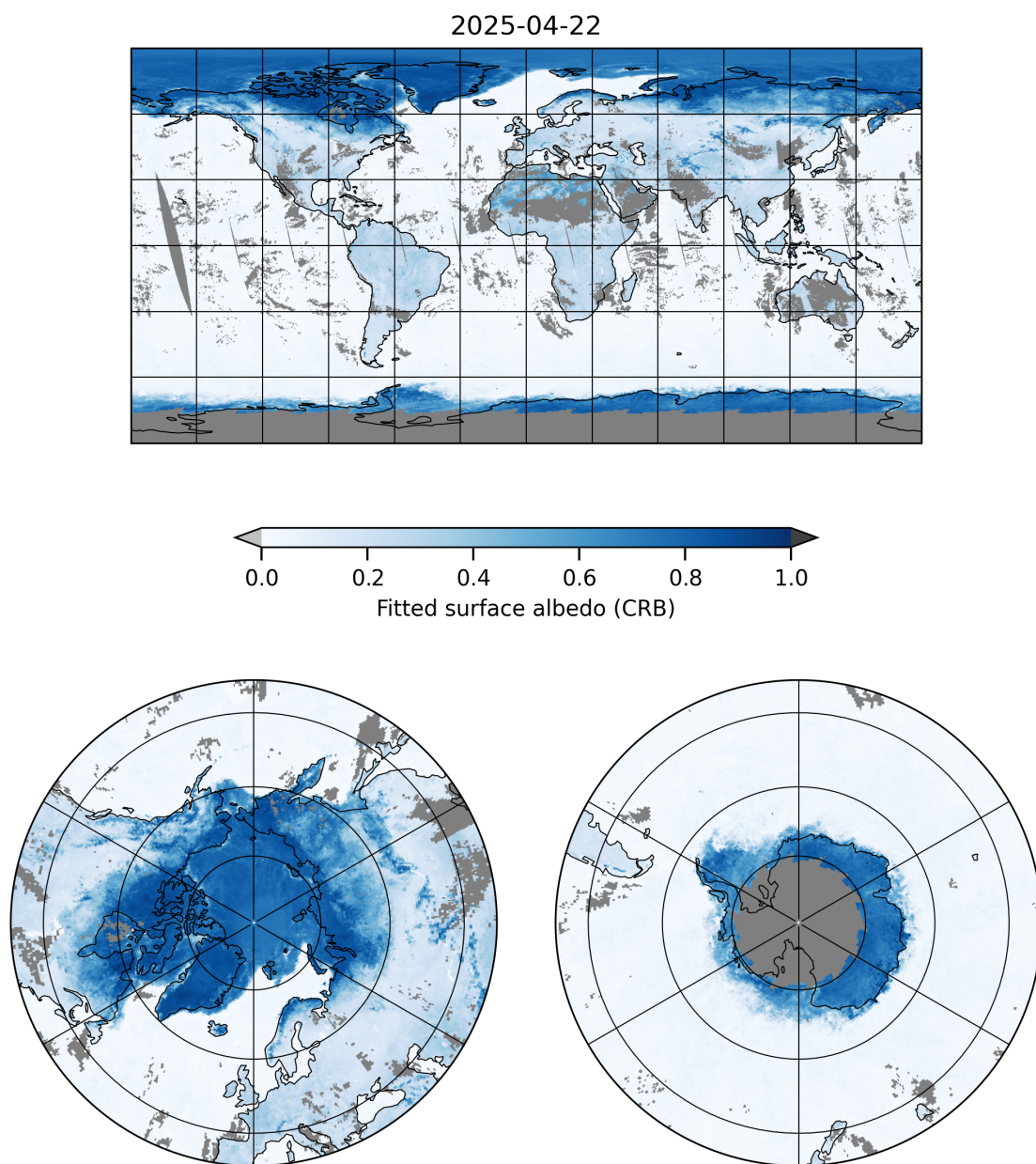


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22

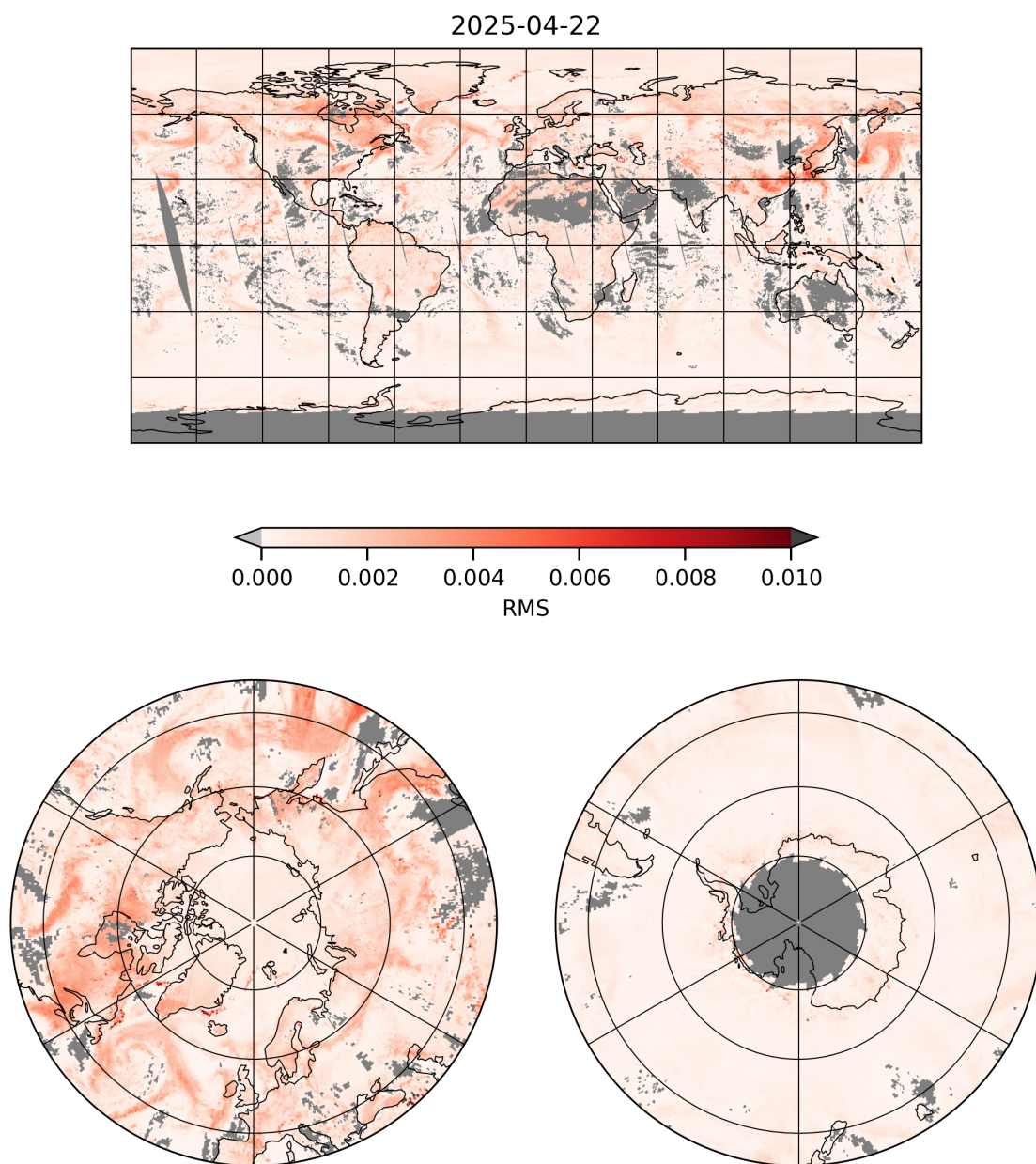


Figure 12: Map of “RMS” for 2025-04-22 to 2025-04-22

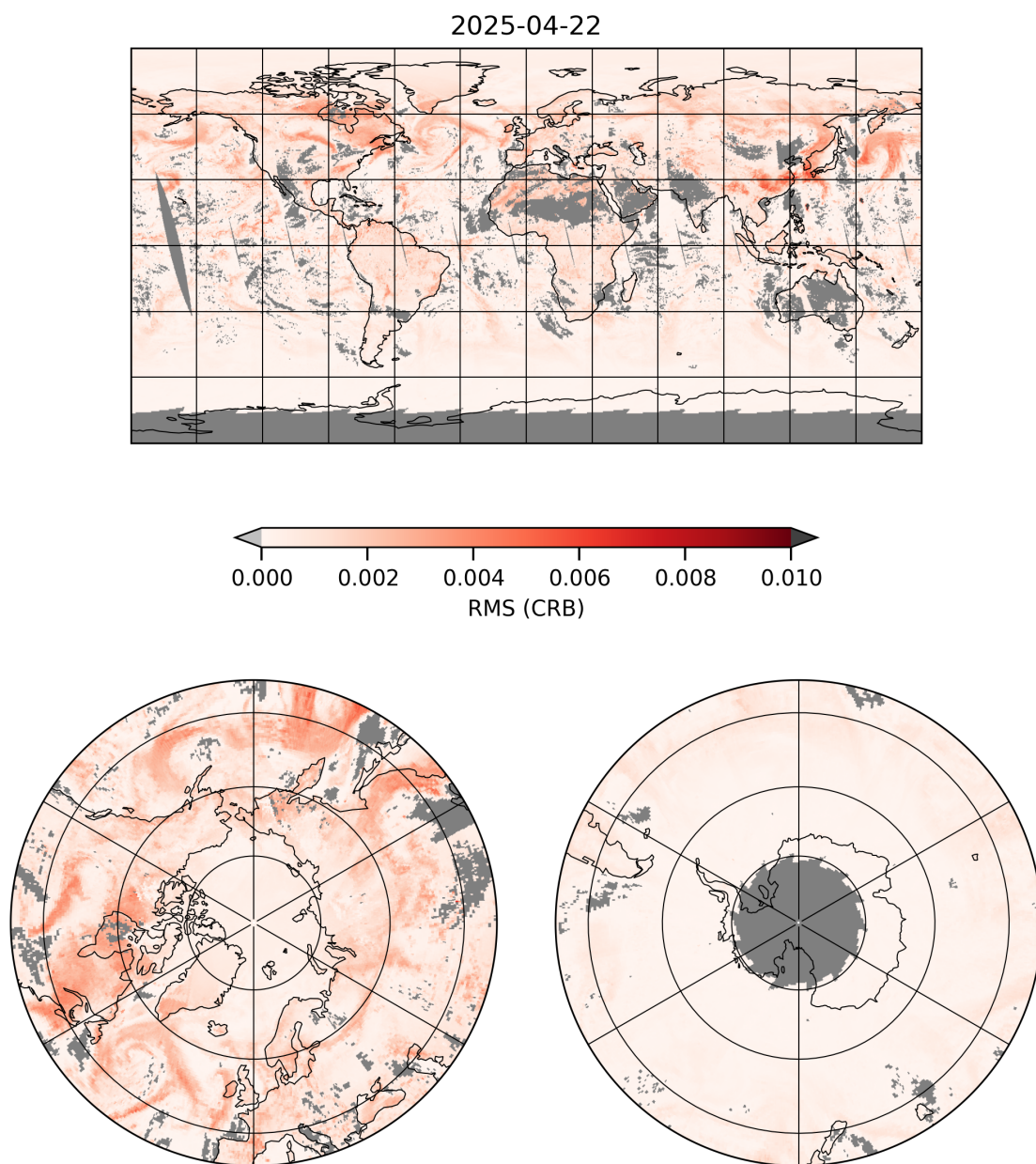


Figure 13: Map of “RMS (CRB)” for 2025-04-22 to 2025-04-22

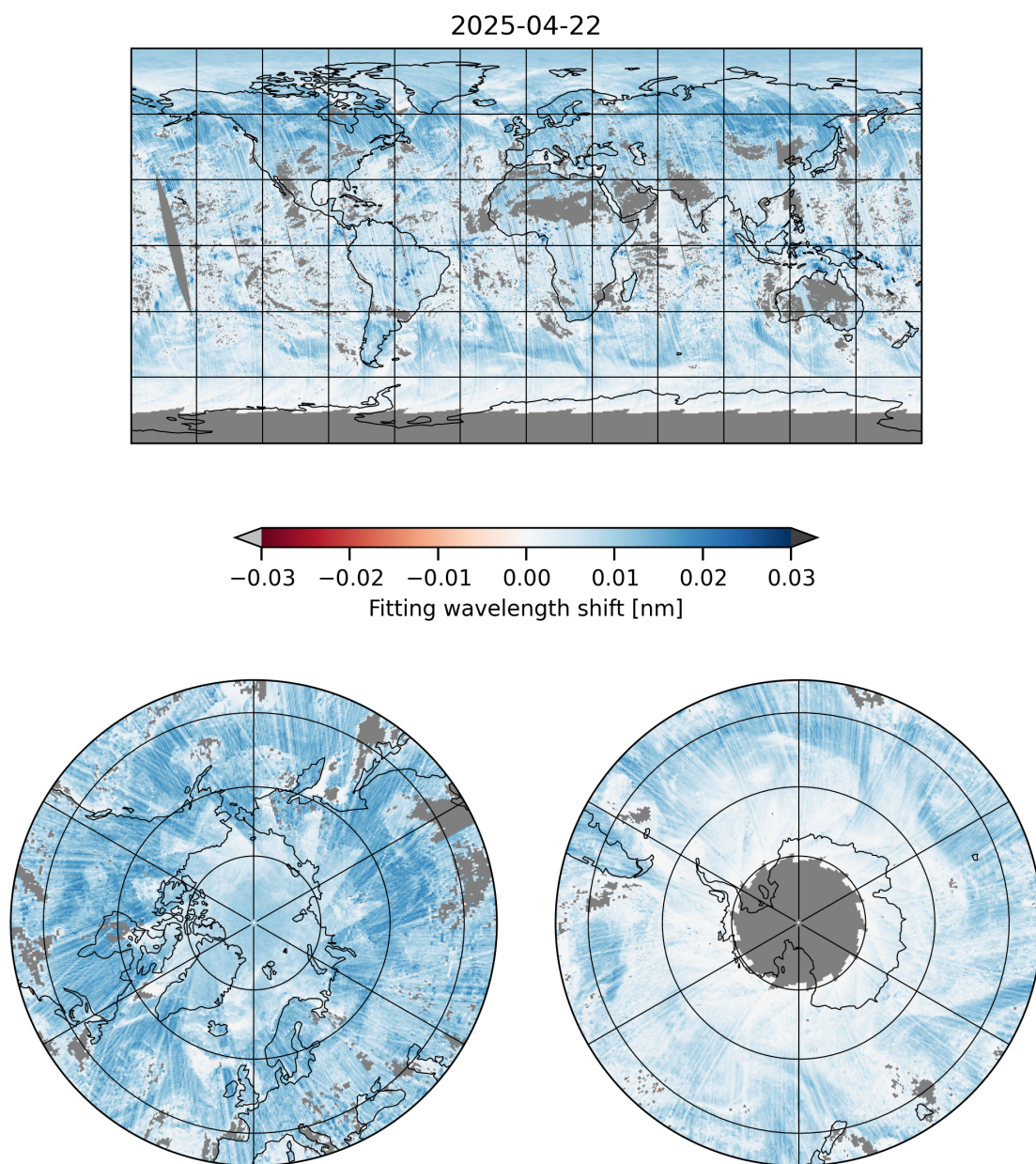


Figure 14: Map of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22

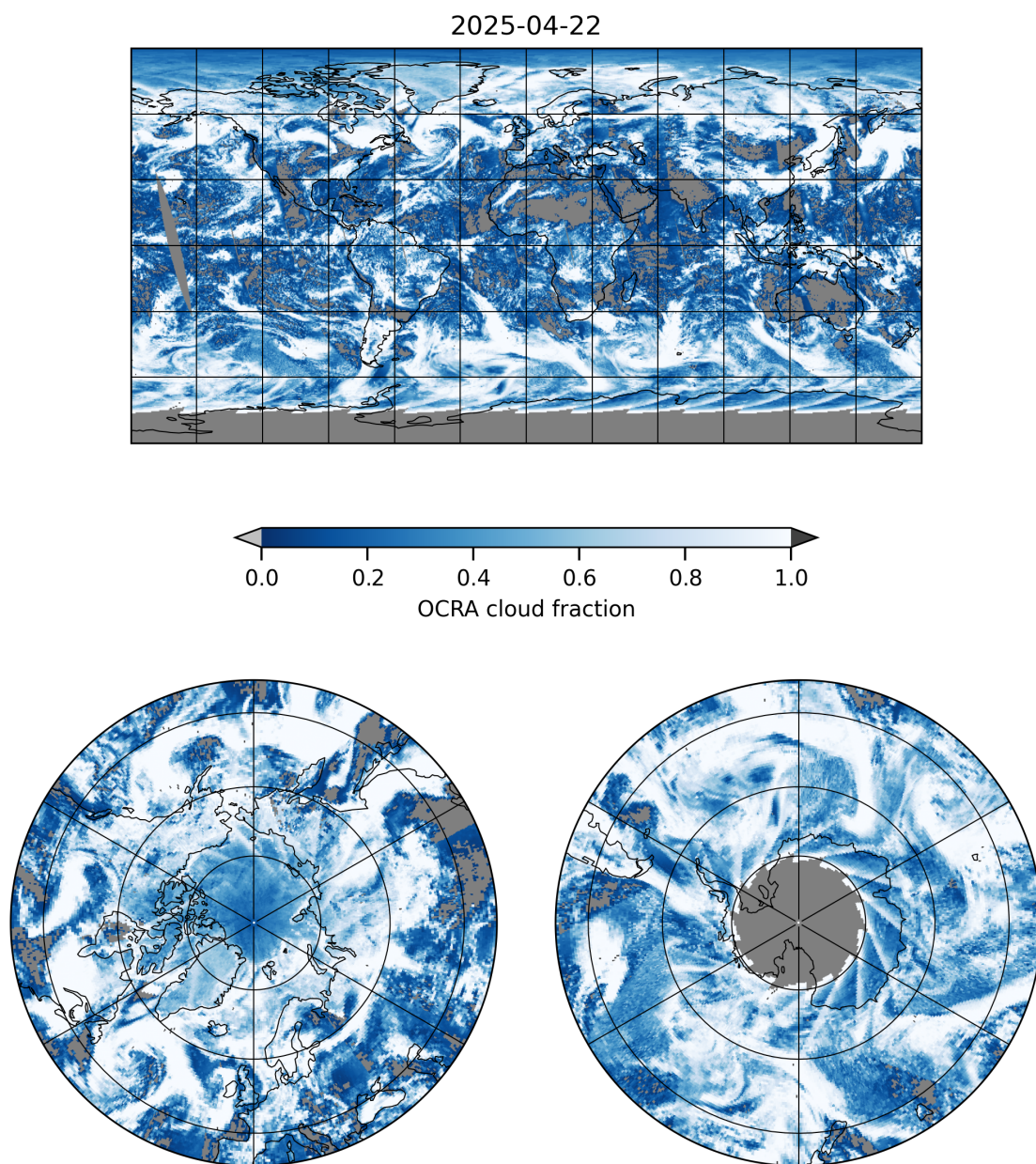


Figure 15: Map of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22

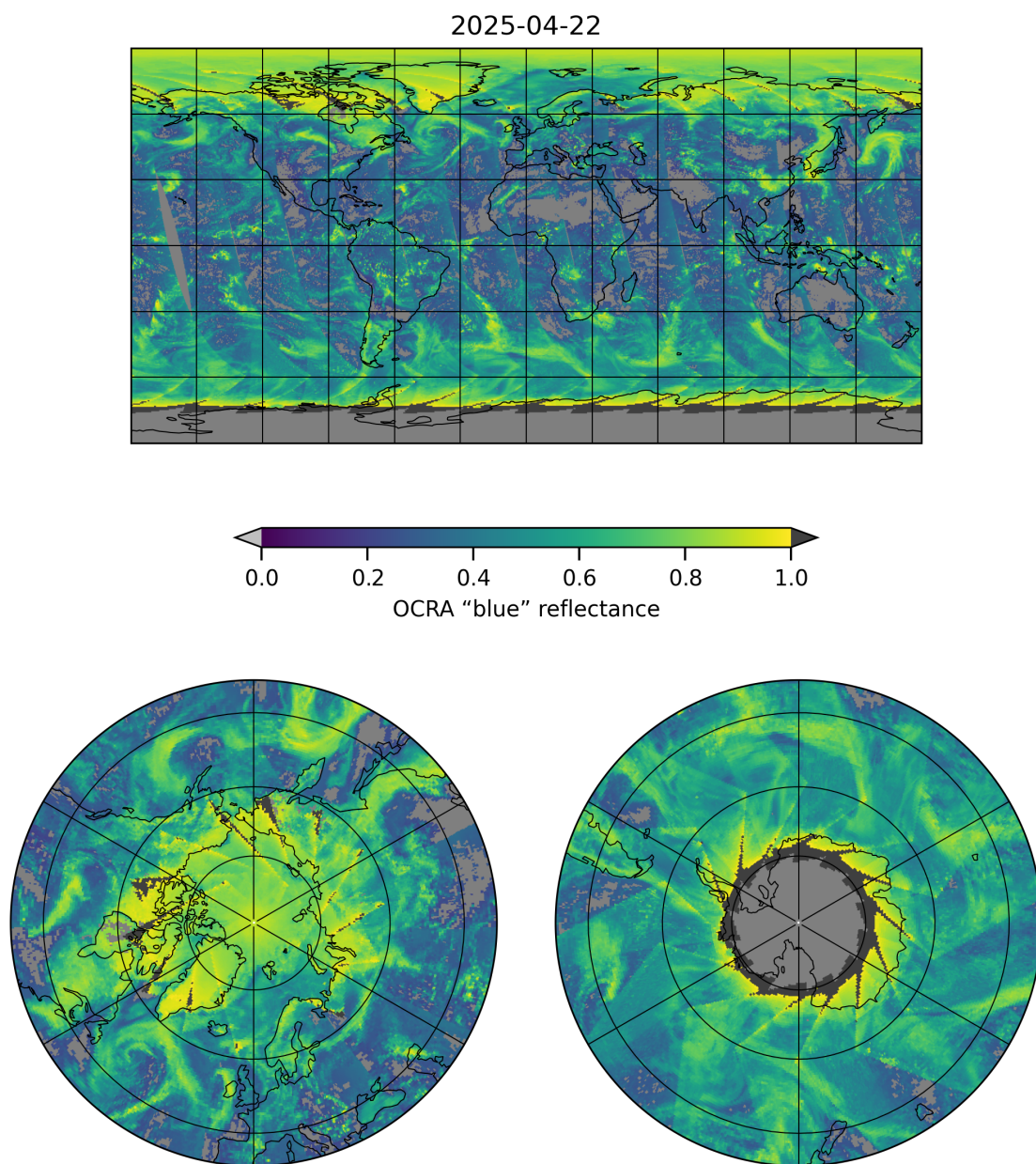


Figure 16: Map of "OCRA "blue" reflectance" for 2025-04-22 to 2025-04-22

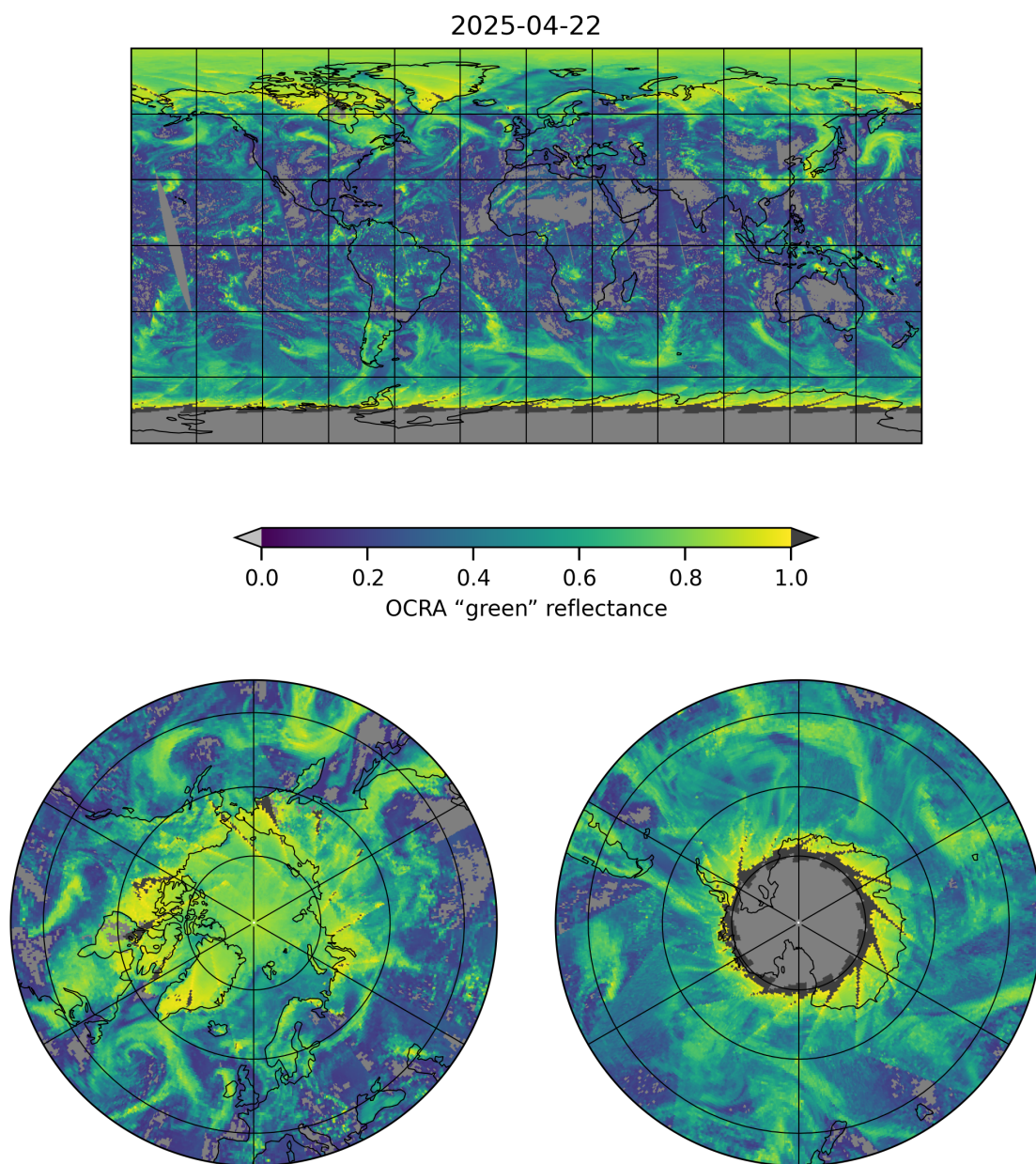


Figure 17: Map of "OCRA "green" reflectance" for 2025-04-22 to 2025-04-22

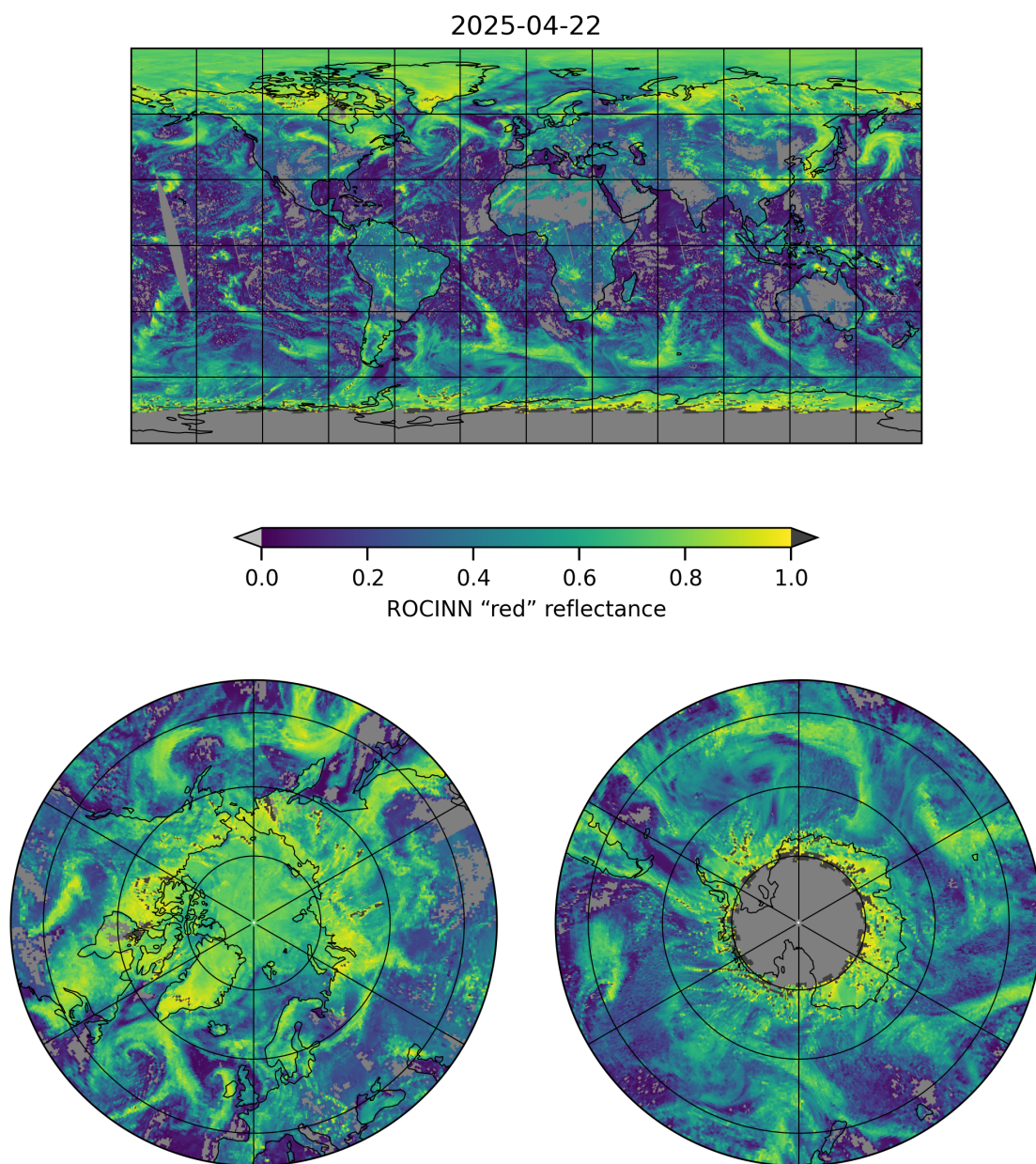


Figure 18: Map of "ROCINN "red" reflectance" for 2025-04-22 to 2025-04-22

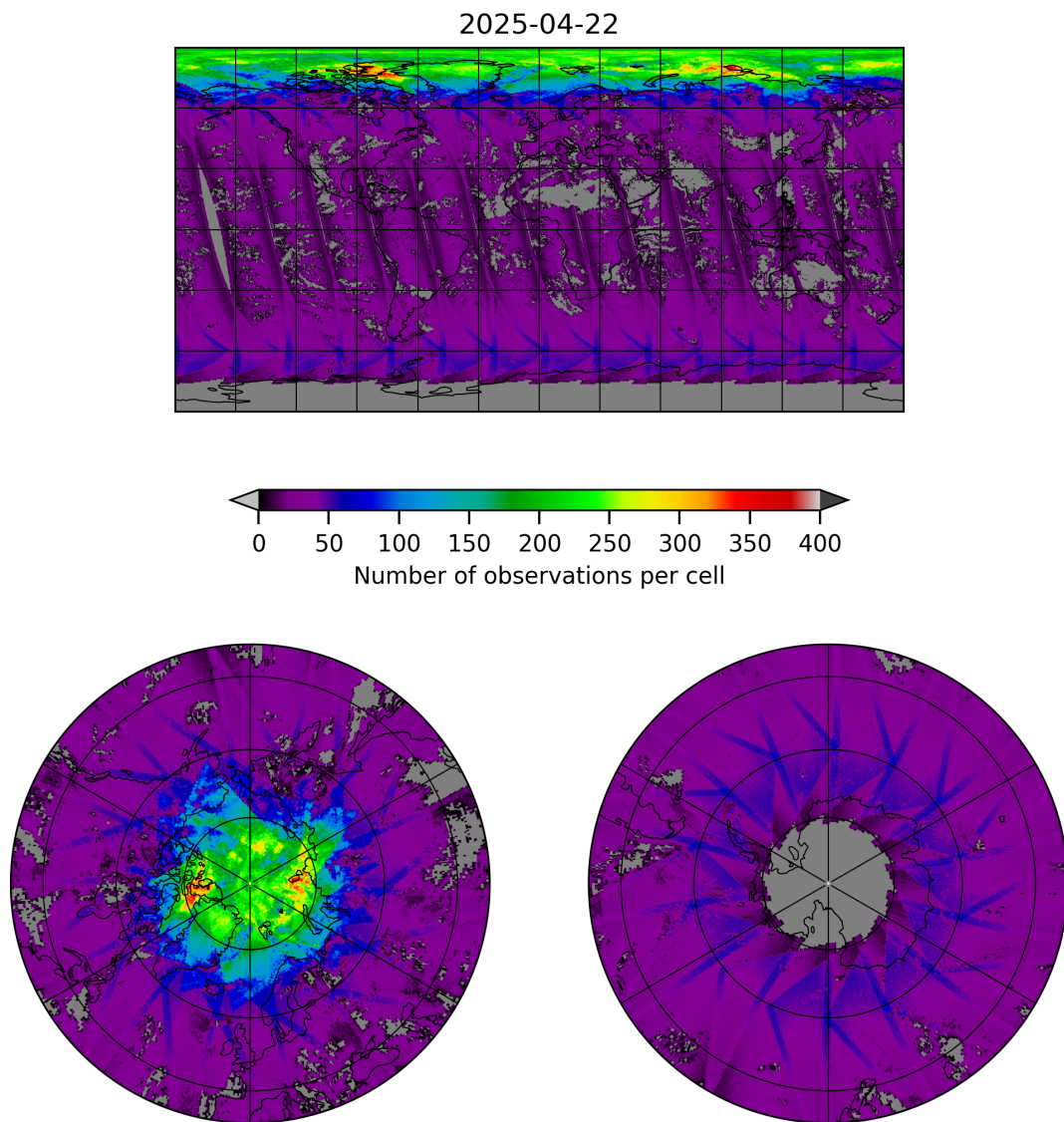


Figure 19: Map of the number of observations for 2025-04-22 to 2025-04-22

7 Zonal average

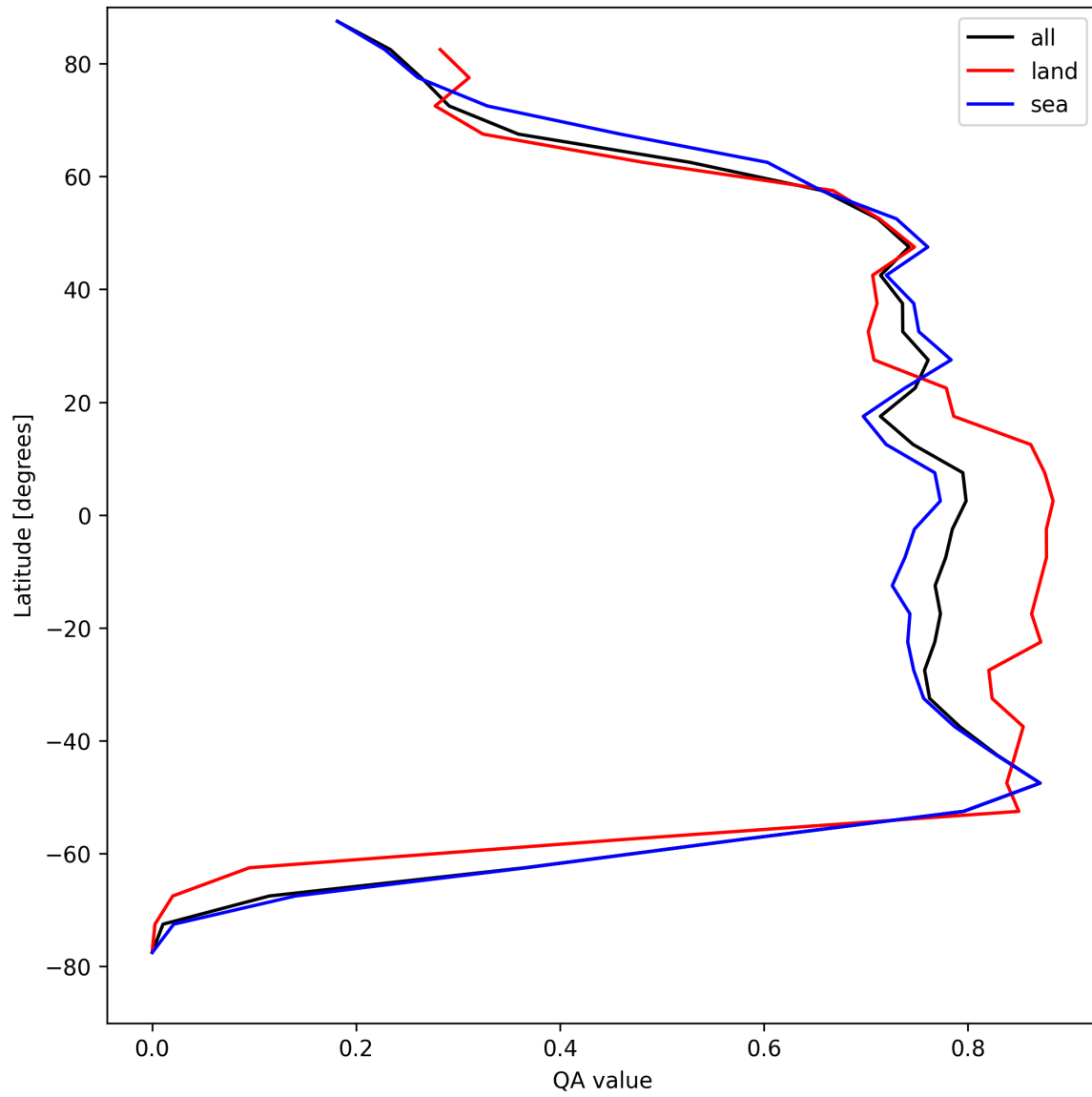


Figure 20: Zonal average of “QA value” for 2025-04-22 to 2025-04-22.

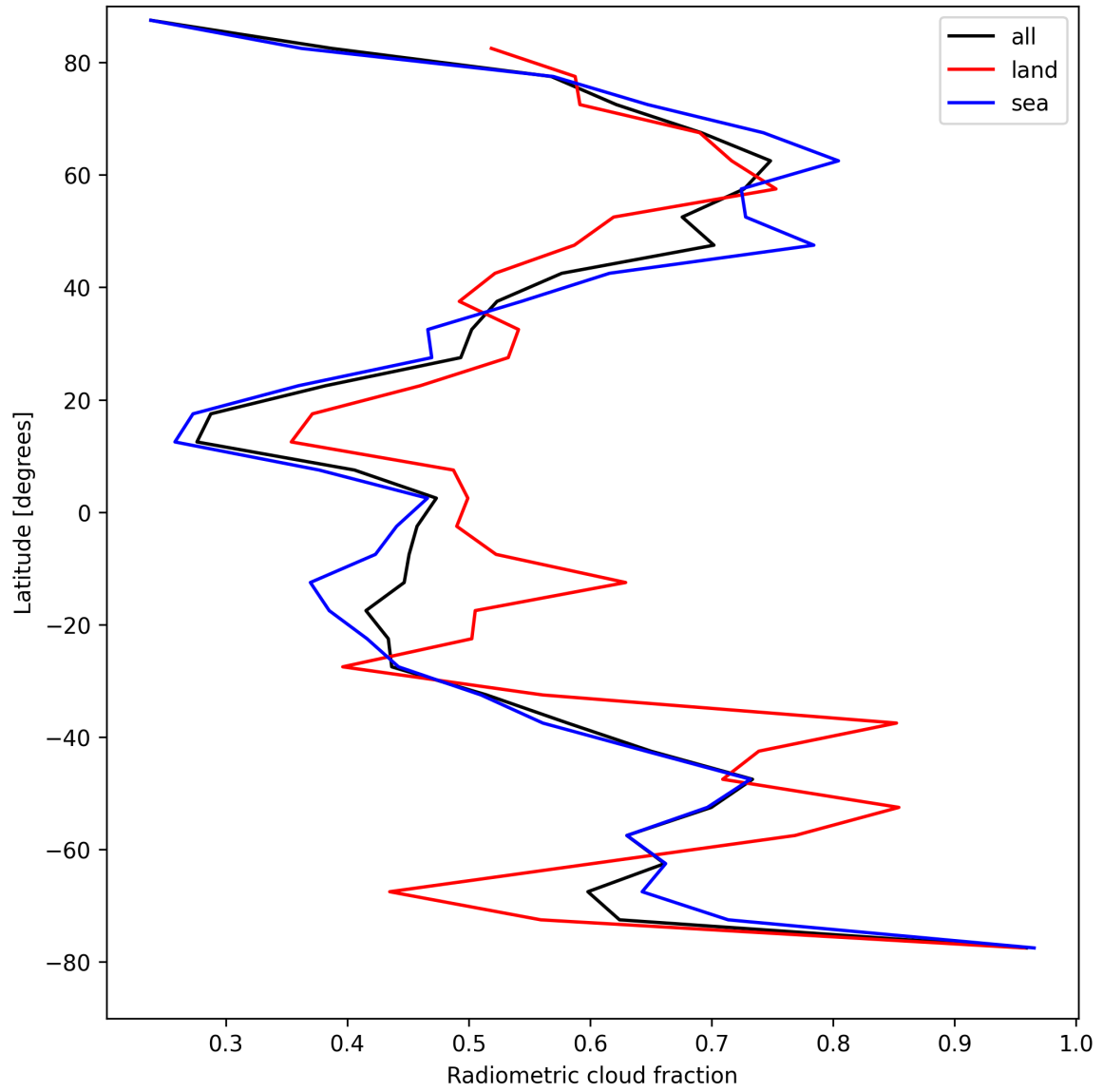


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22.

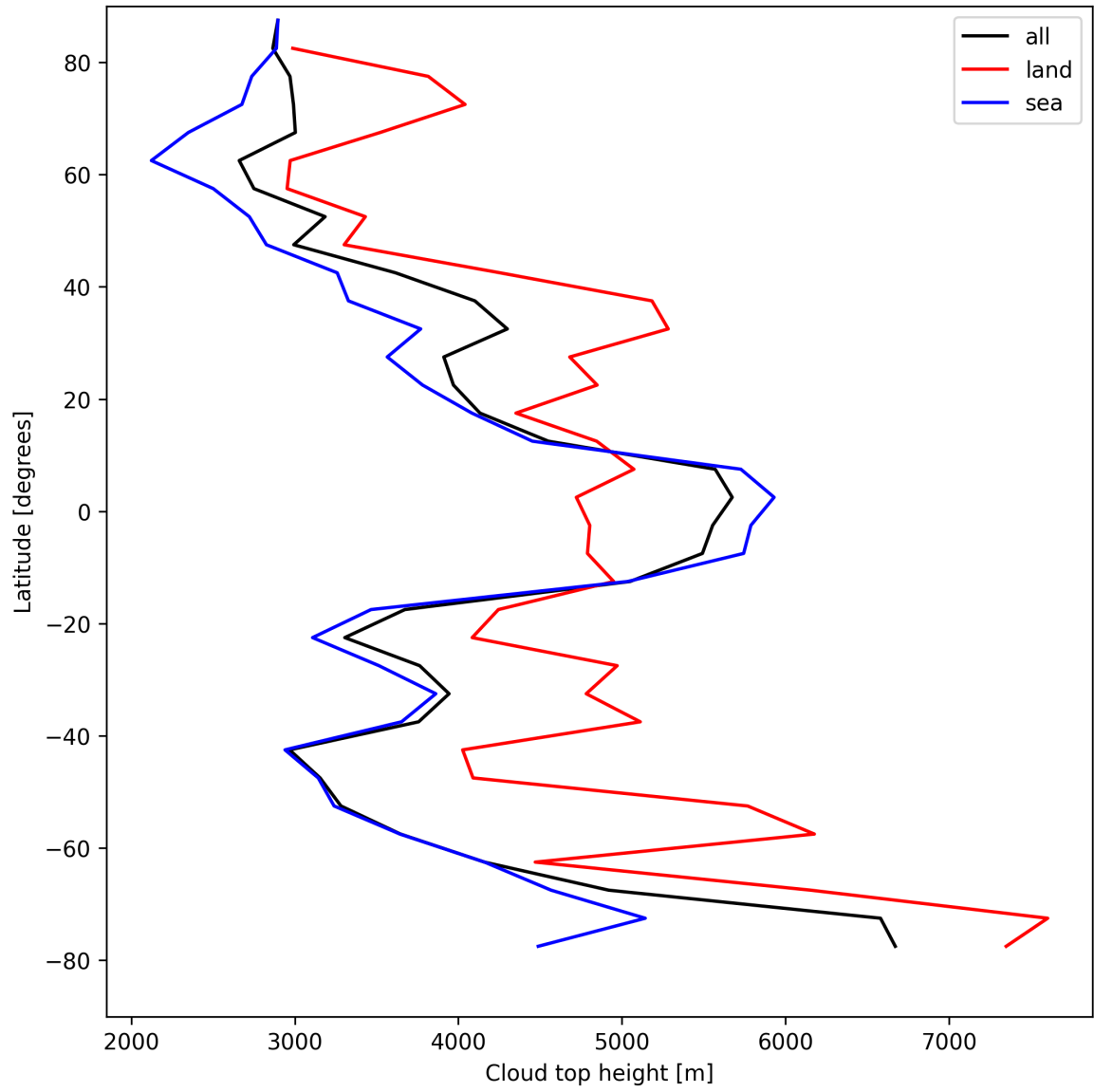


Figure 22: Zonal average of “Cloud top height” for 2025-04-22 to 2025-04-22.

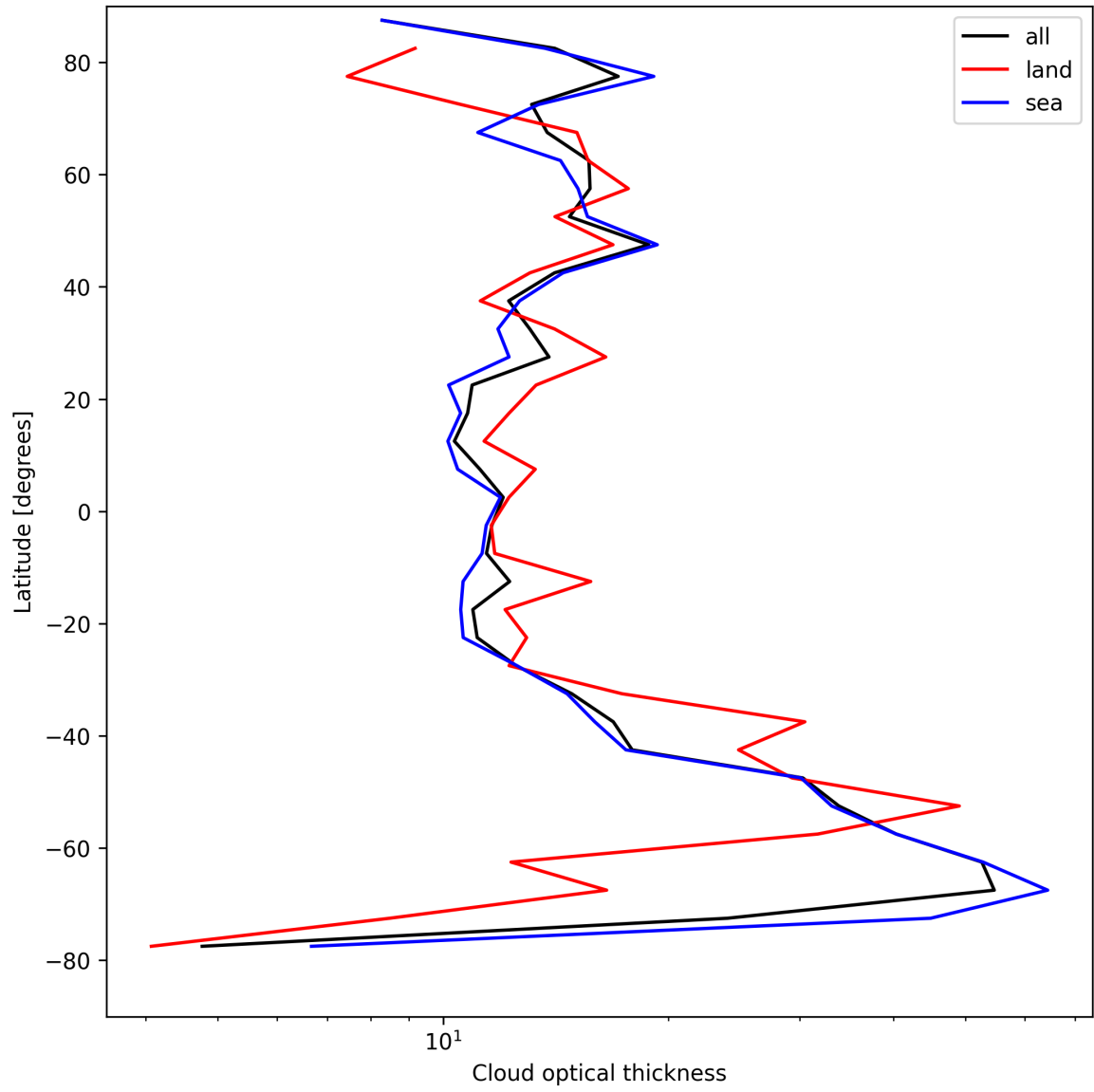


Figure 23: Zonal average of “Cloud optical thickness” for 2025-04-22 to 2025-04-22.

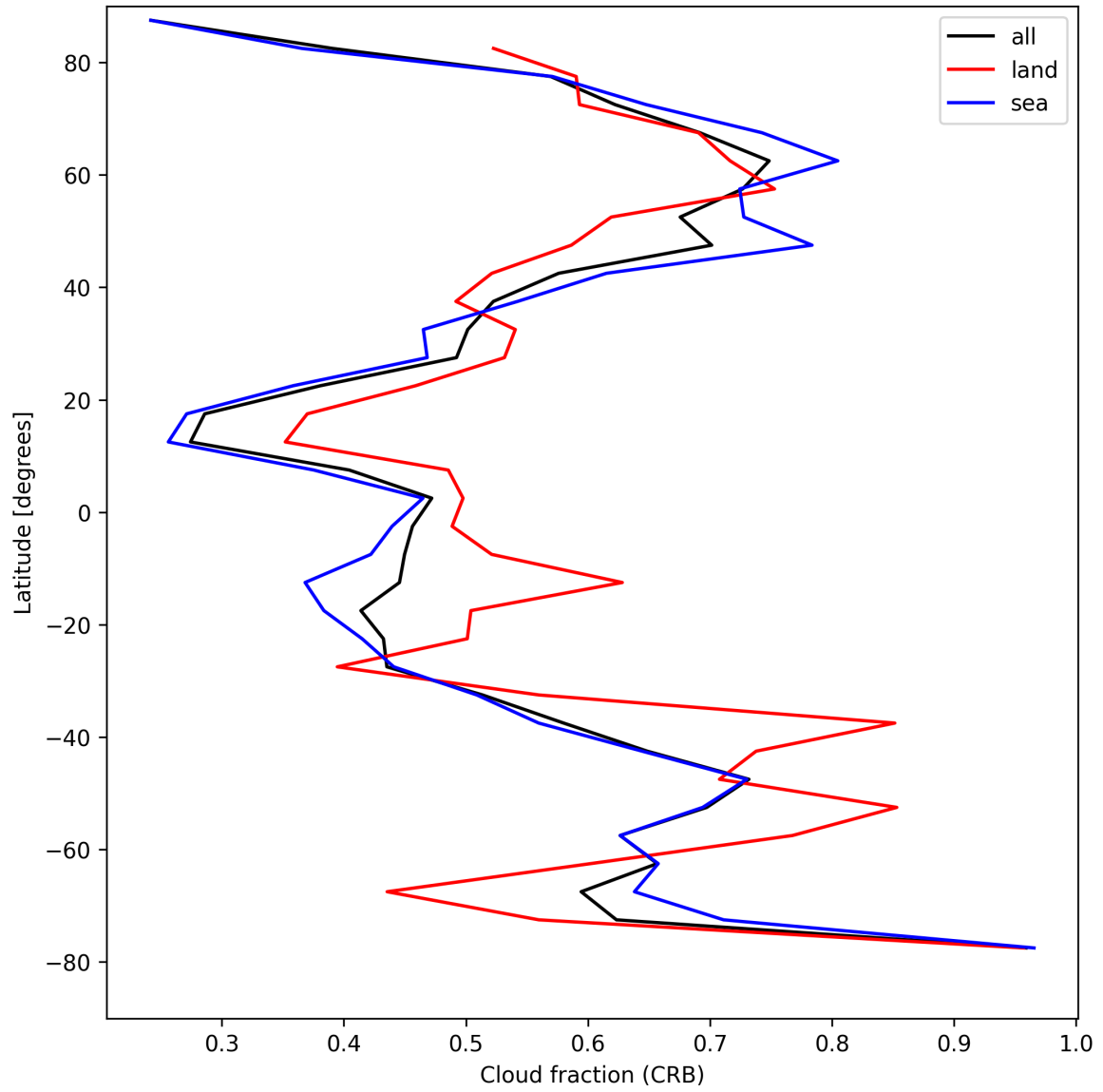


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22.

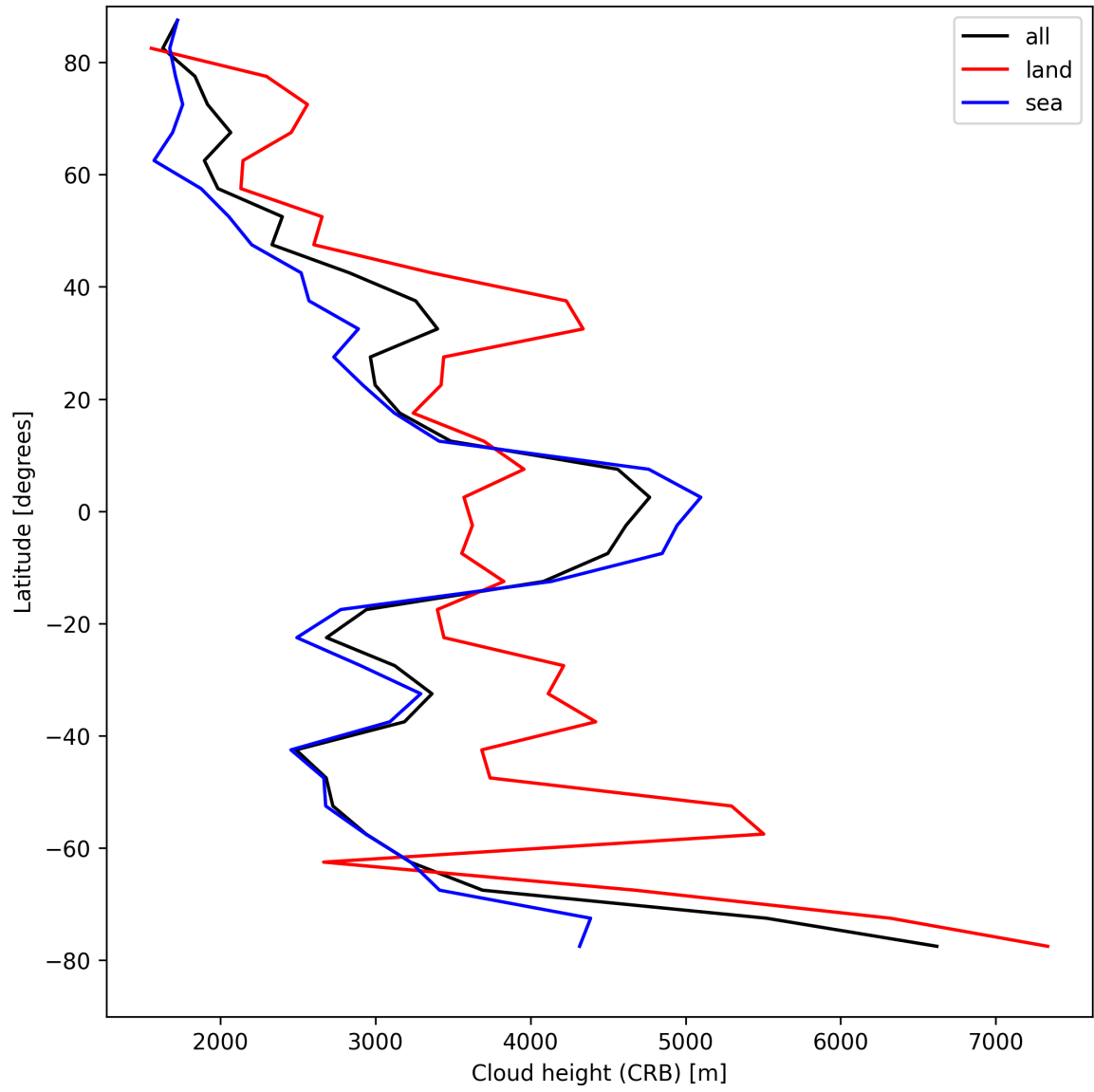


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22.

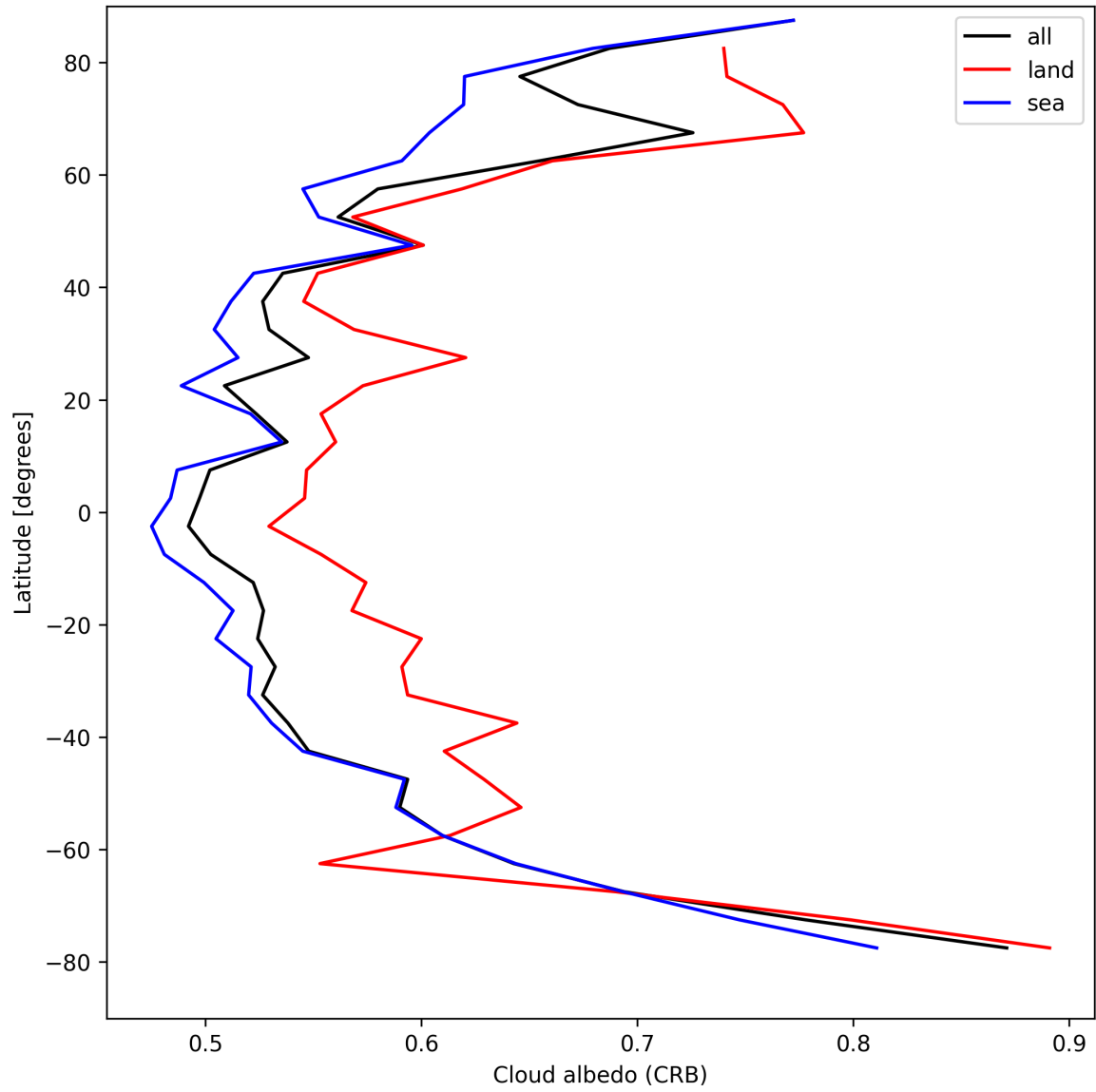


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22.

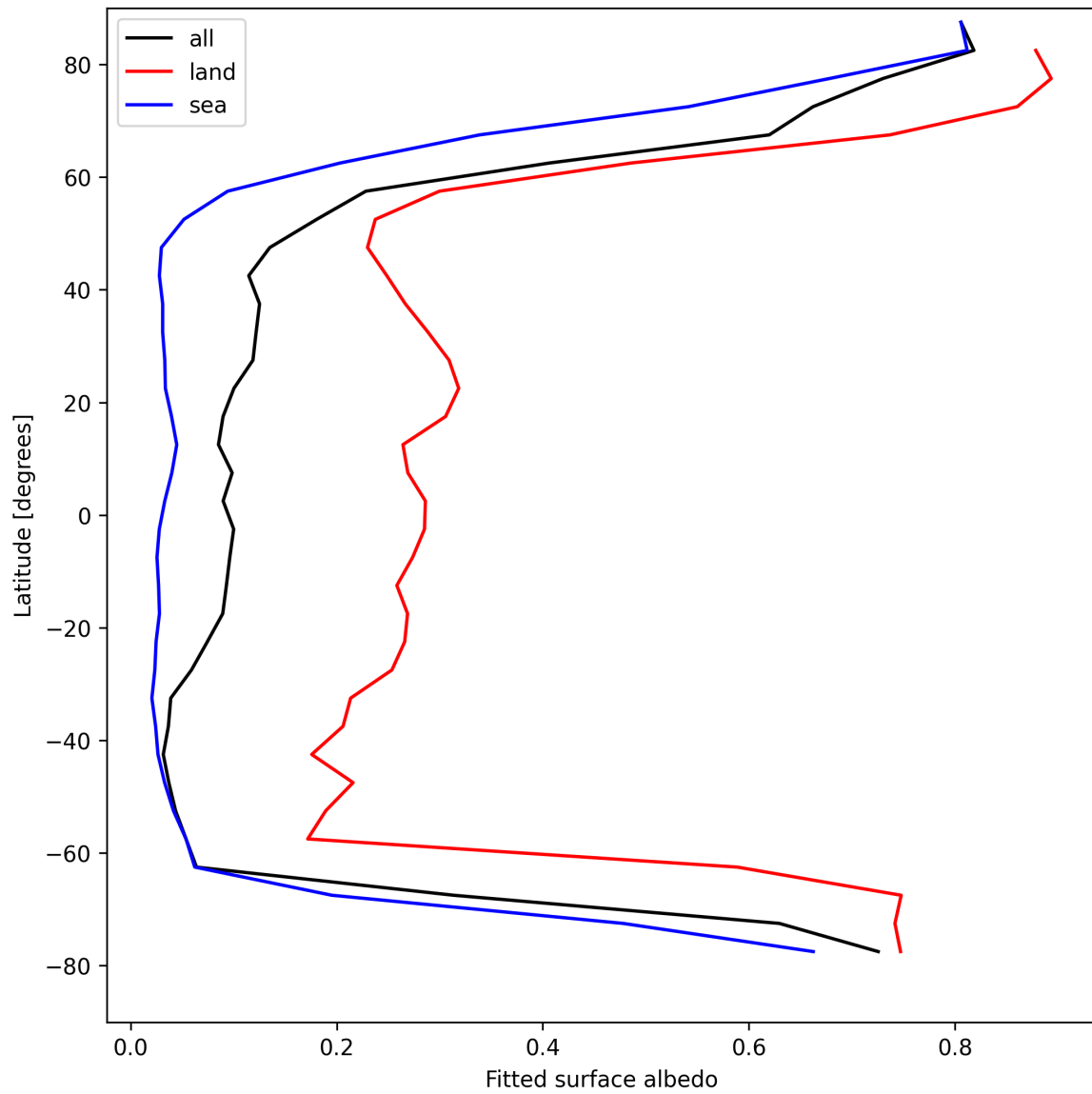


Figure 27: Zonal average of “Fitted surface albedo” for 2025-04-22 to 2025-04-22.

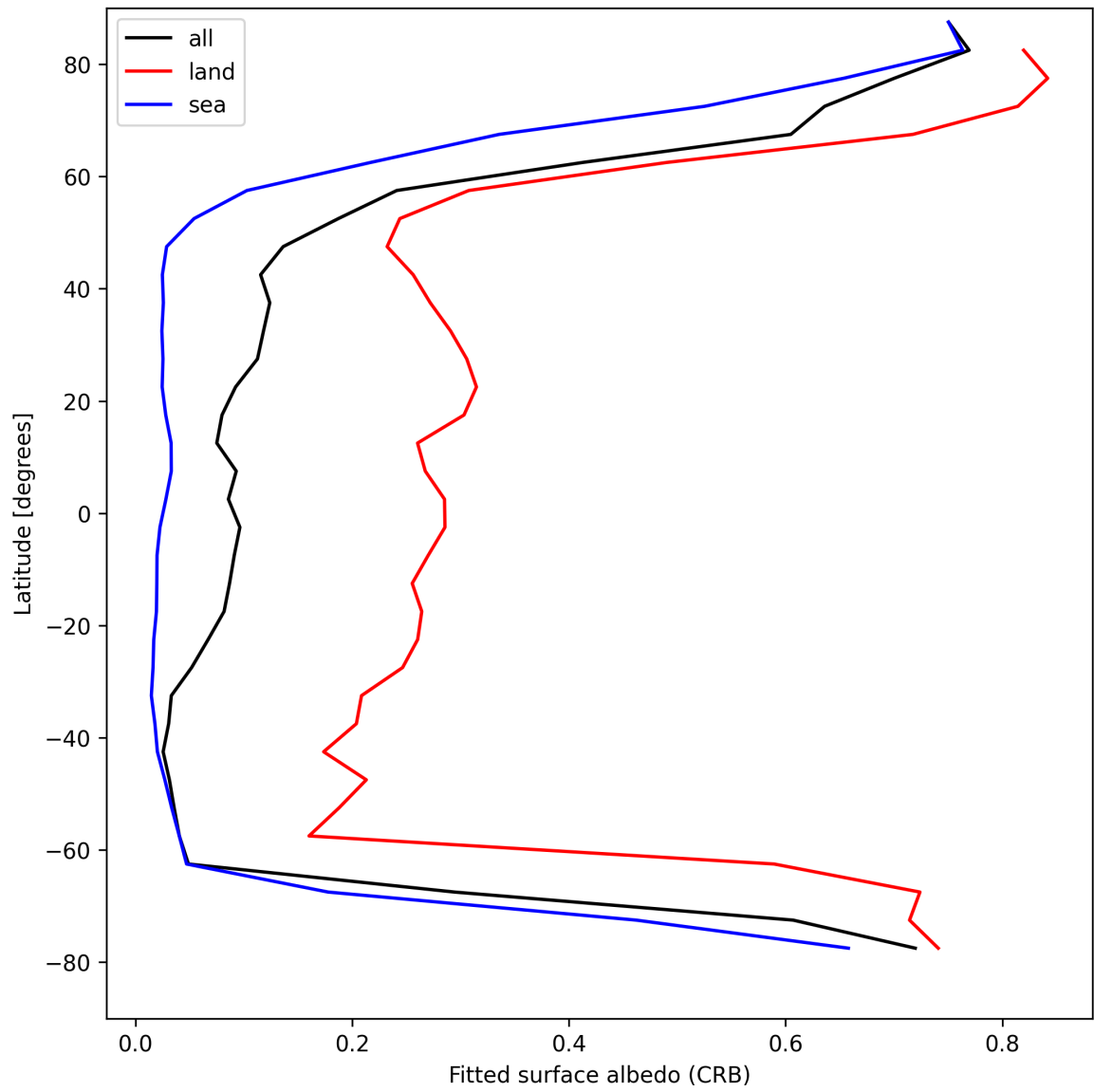


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22.

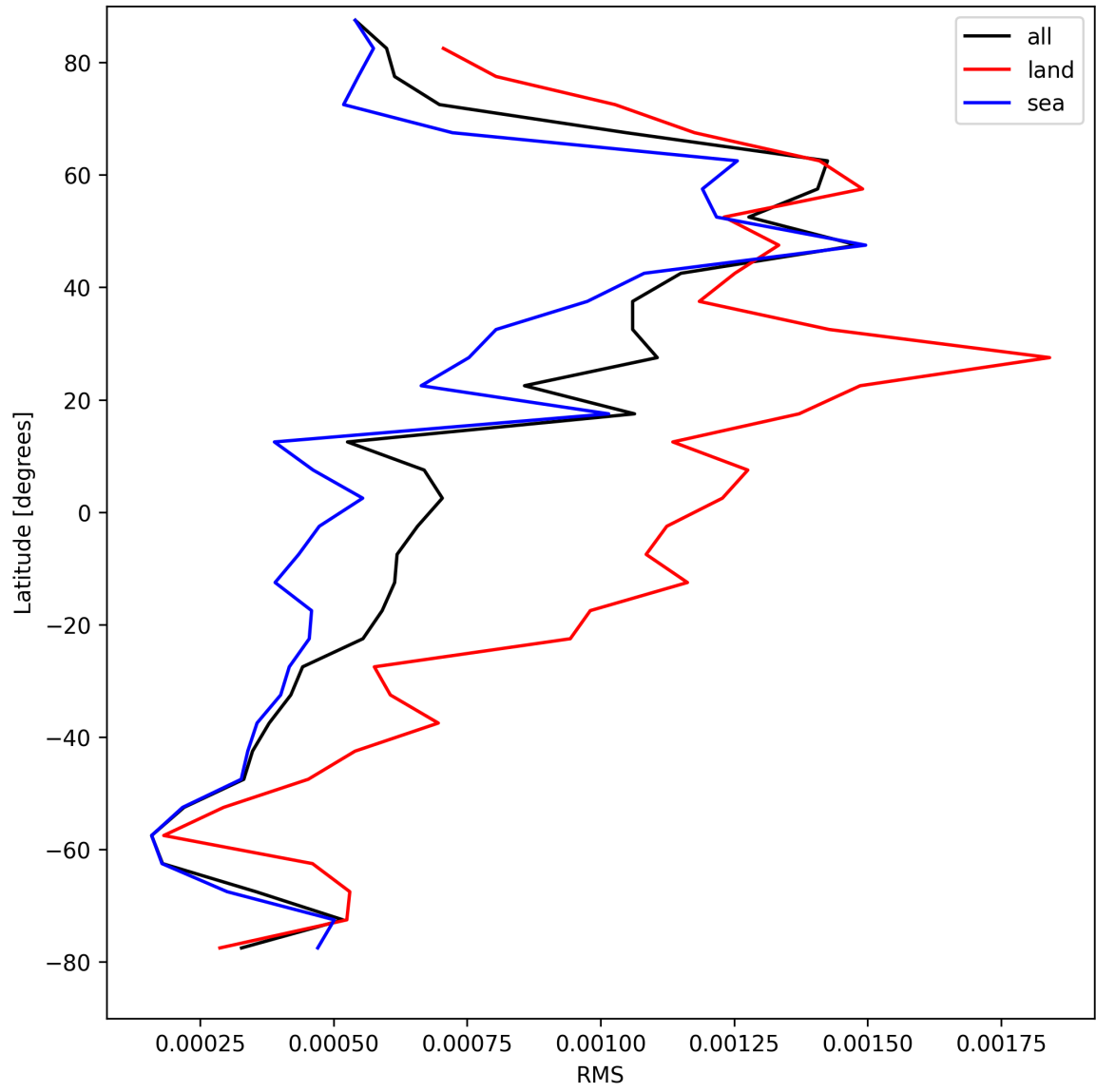


Figure 29: Zonal average of “RMS” for 2025-04-22 to 2025-04-22.

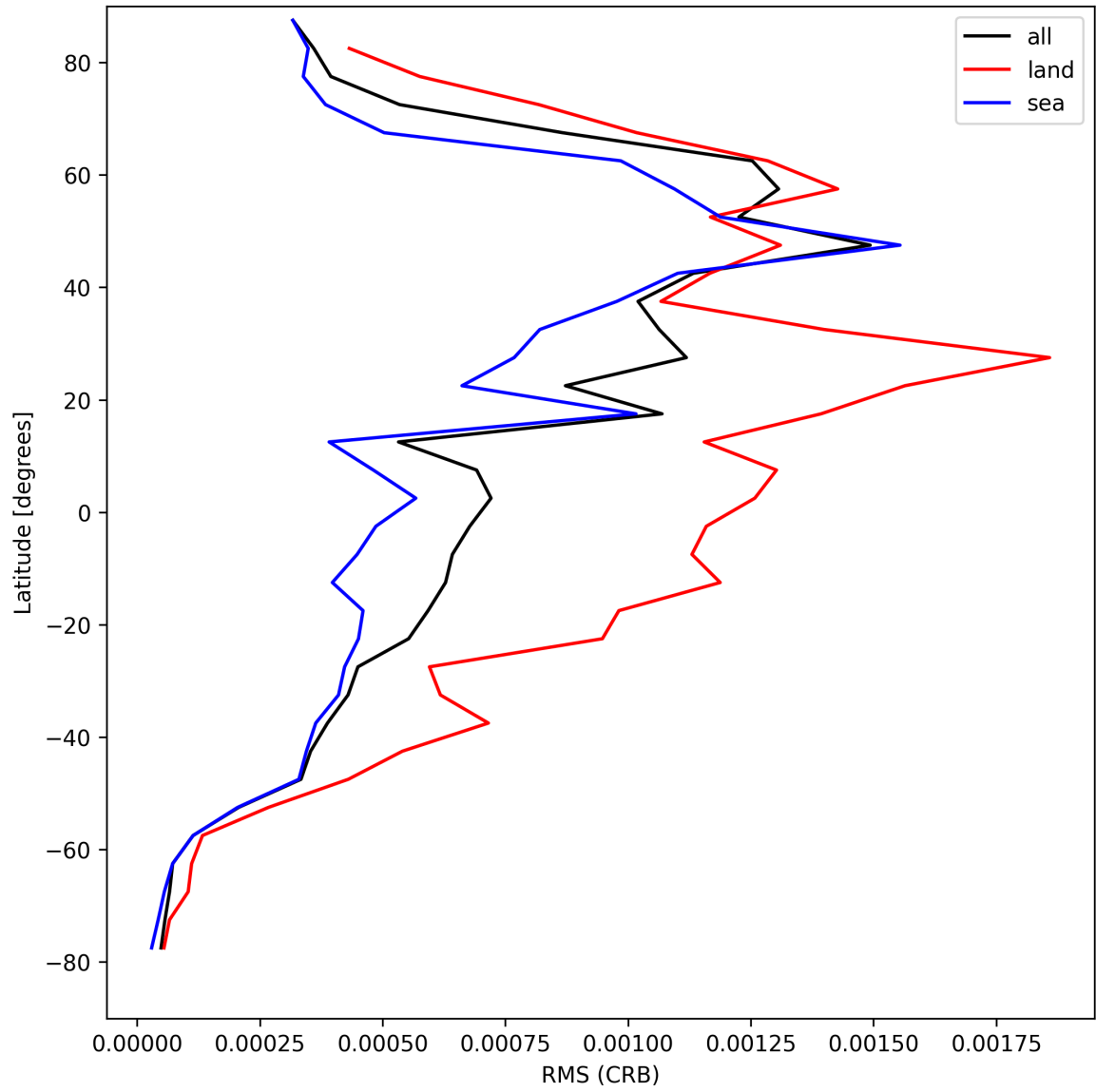


Figure 30: Zonal average of “RMS (CRB)” for 2025-04-22 to 2025-04-22.

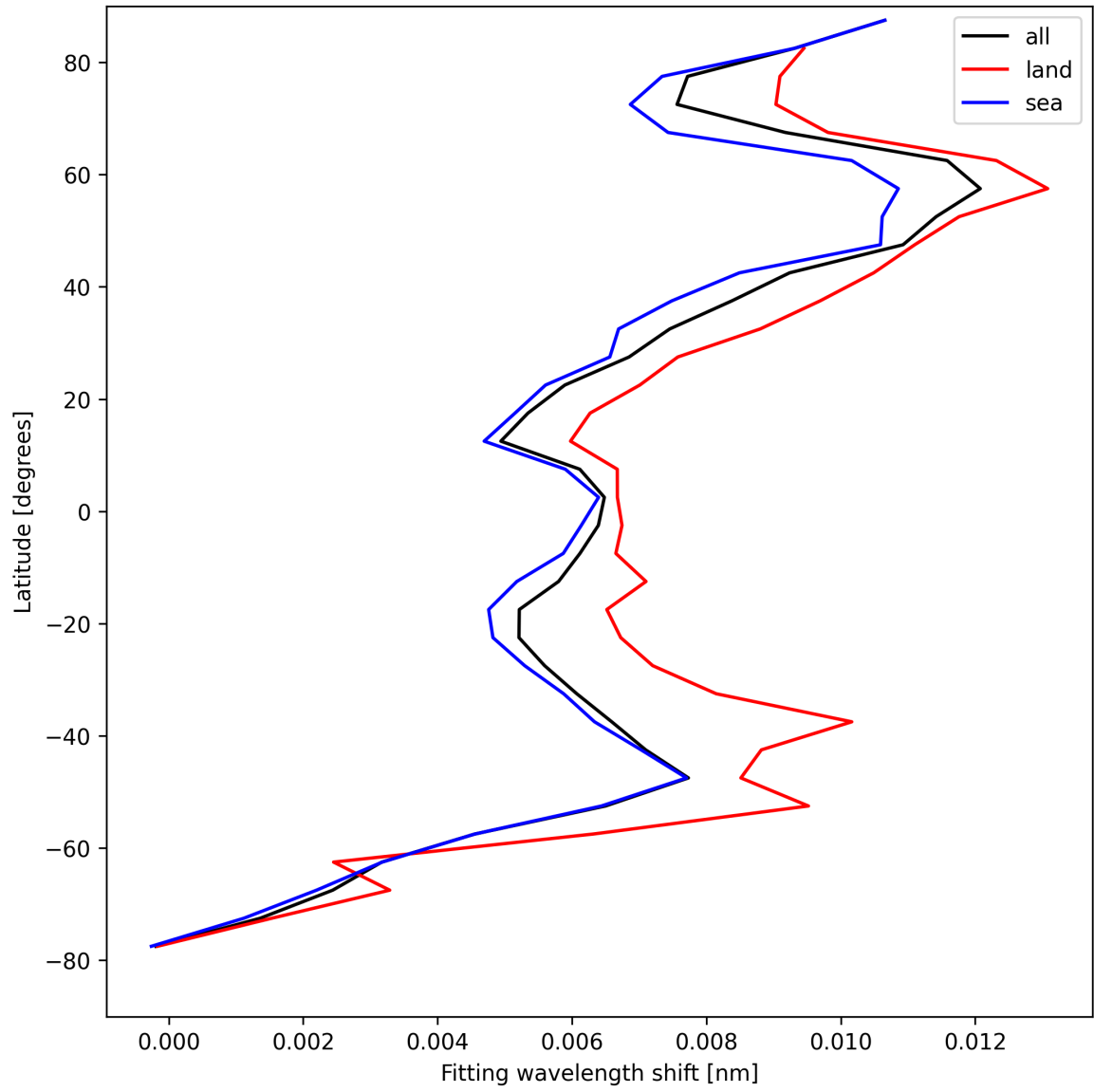


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22.

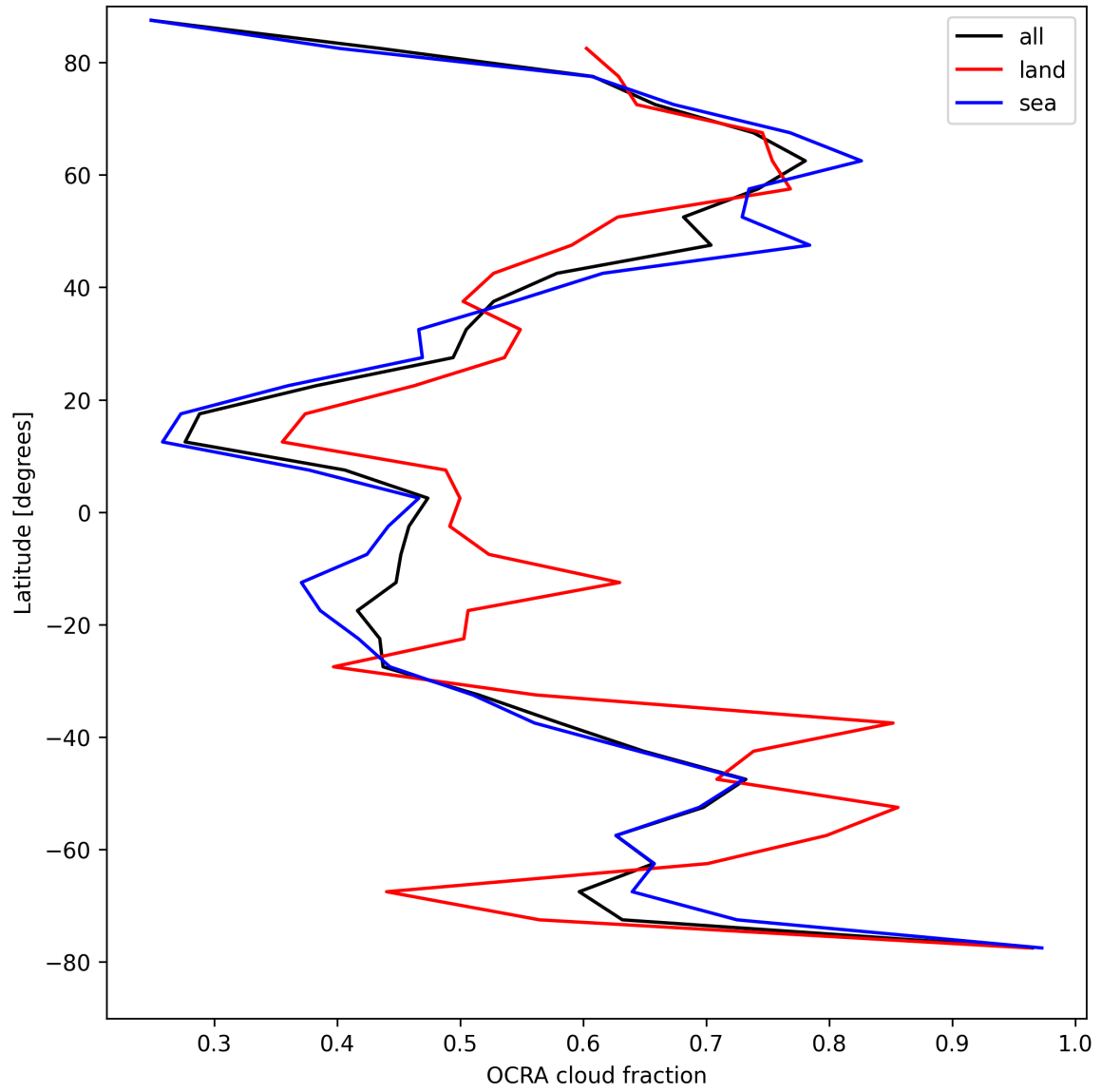


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22.

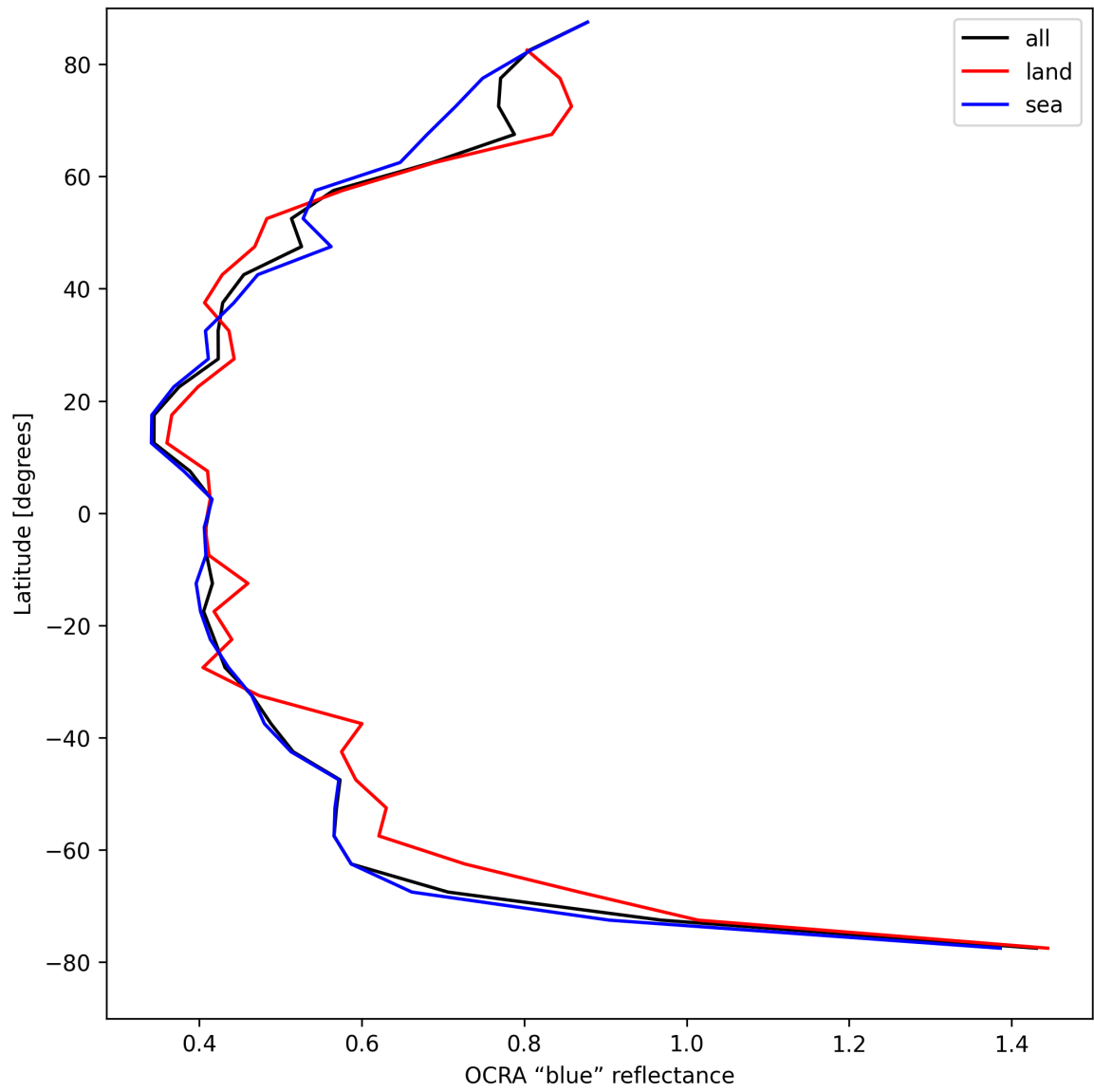


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22.

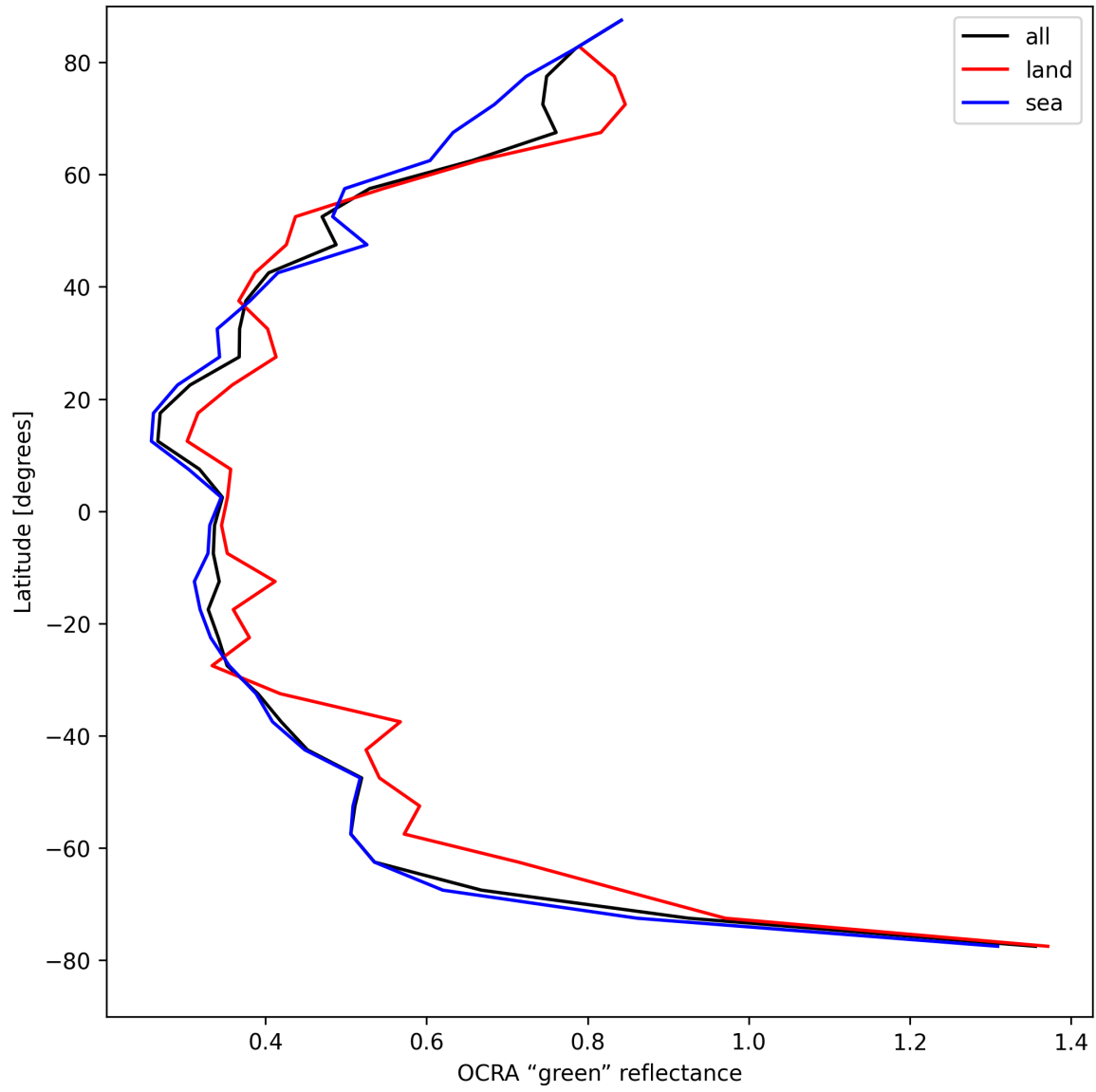


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22.

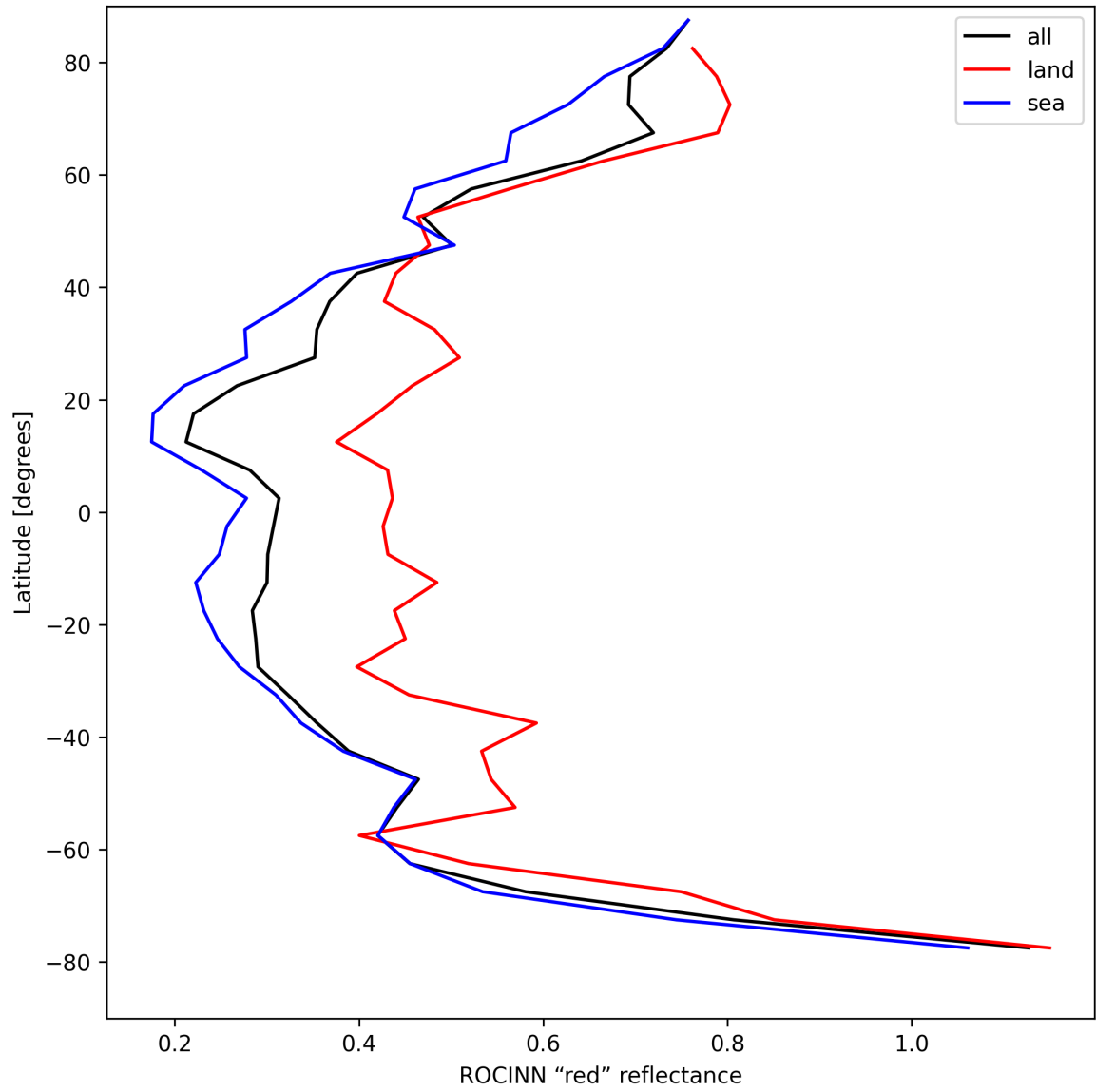


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22.

8 Histograms

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

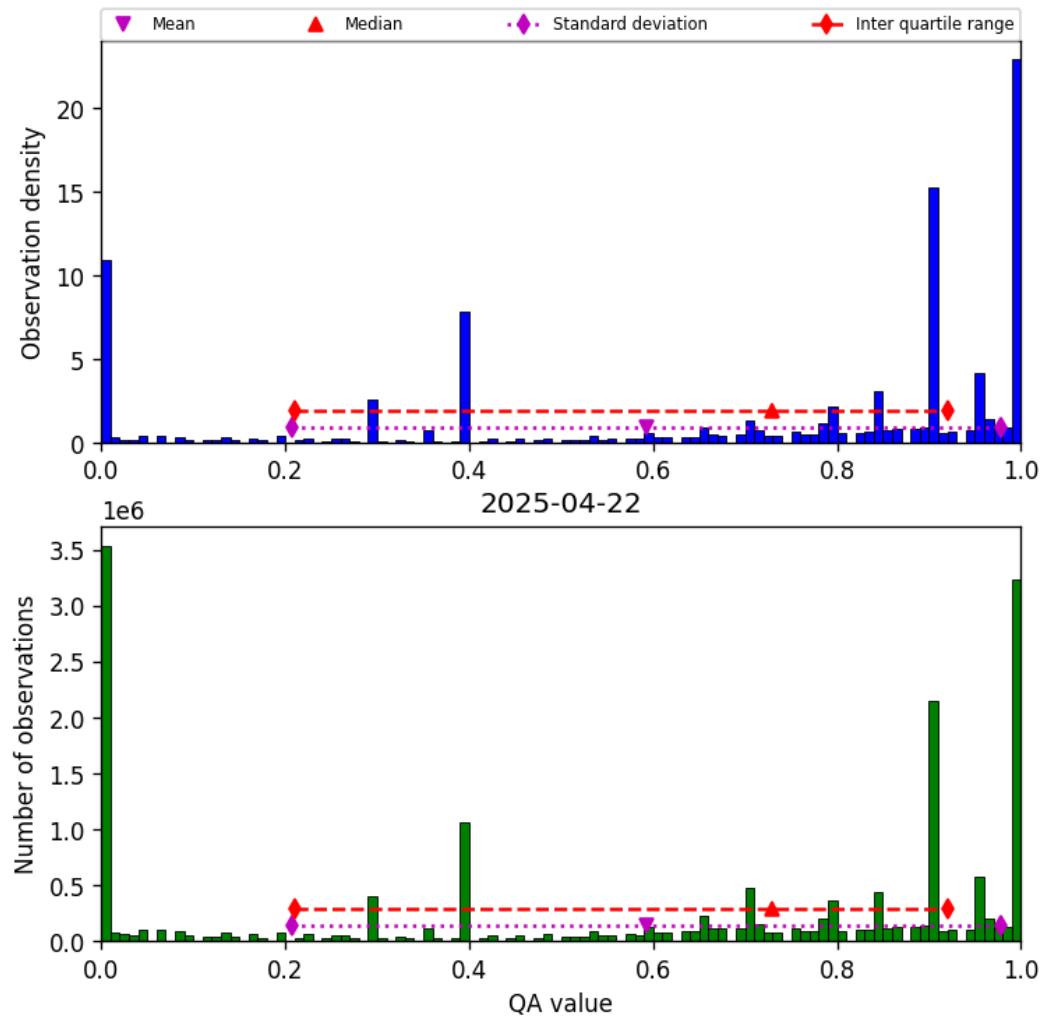


Figure 36: Histogram of “QA value” for 2025-04-22 to 2025-04-22

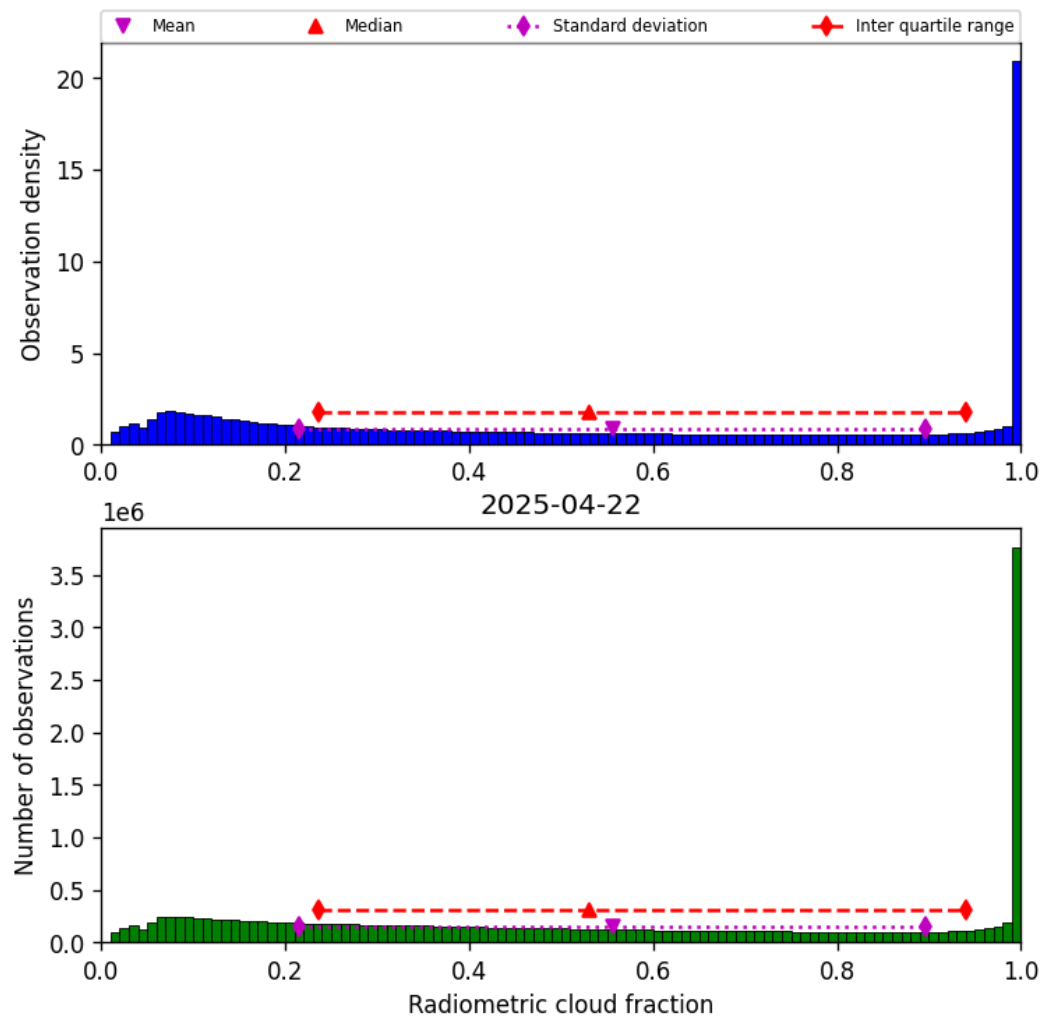


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22

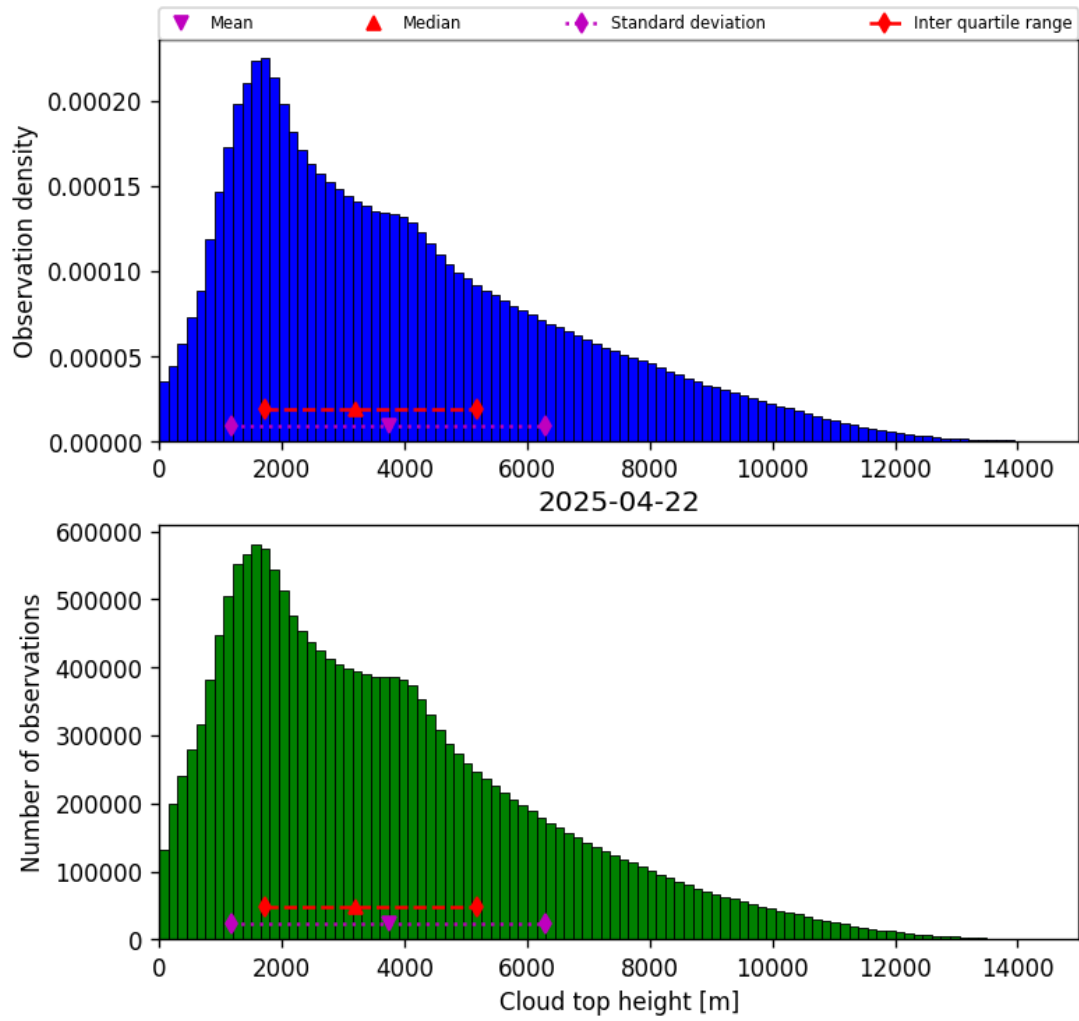


Figure 38: Histogram of “Cloud top height” for 2025-04-22 to 2025-04-22

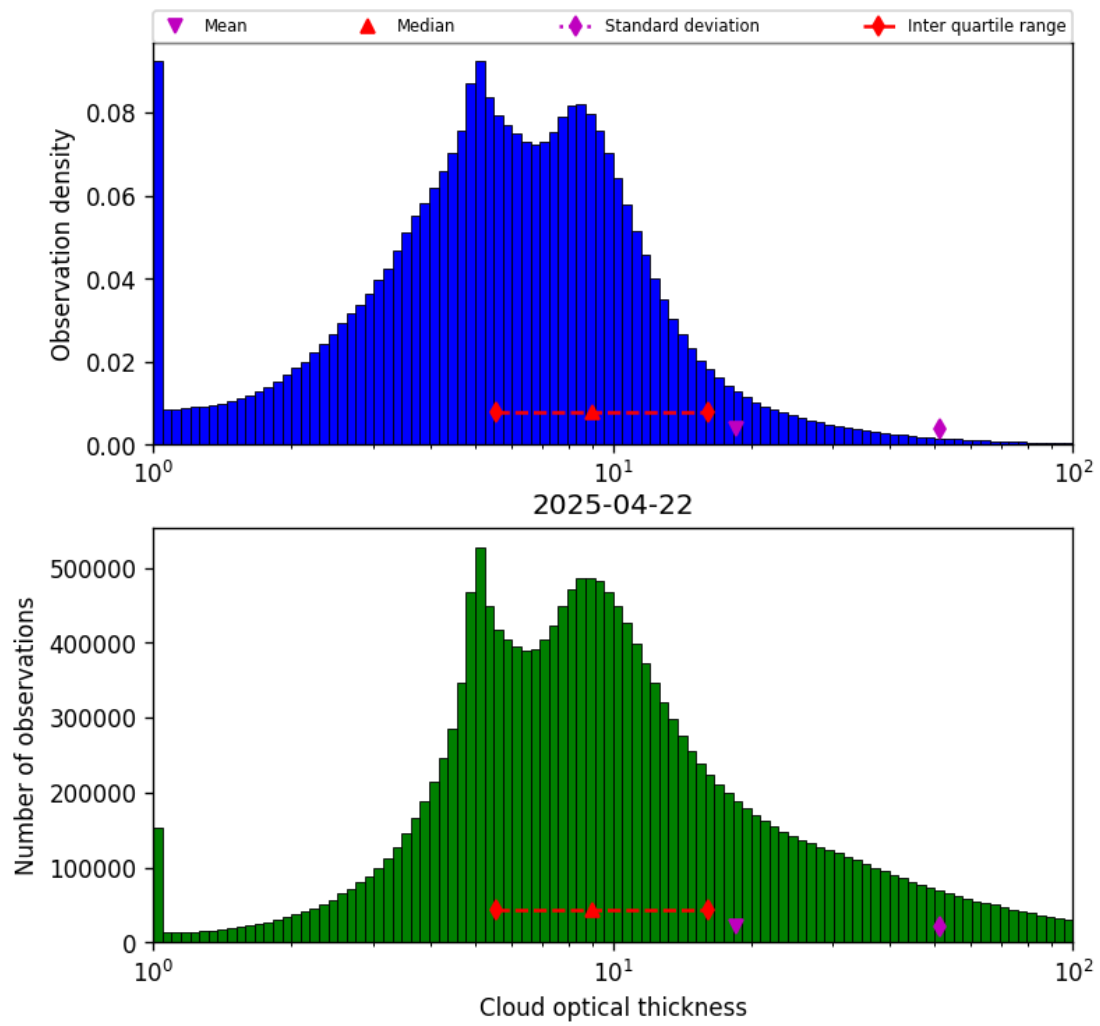


Figure 39: Histogram of “Cloud optical thickness” for 2025-04-22 to 2025-04-22

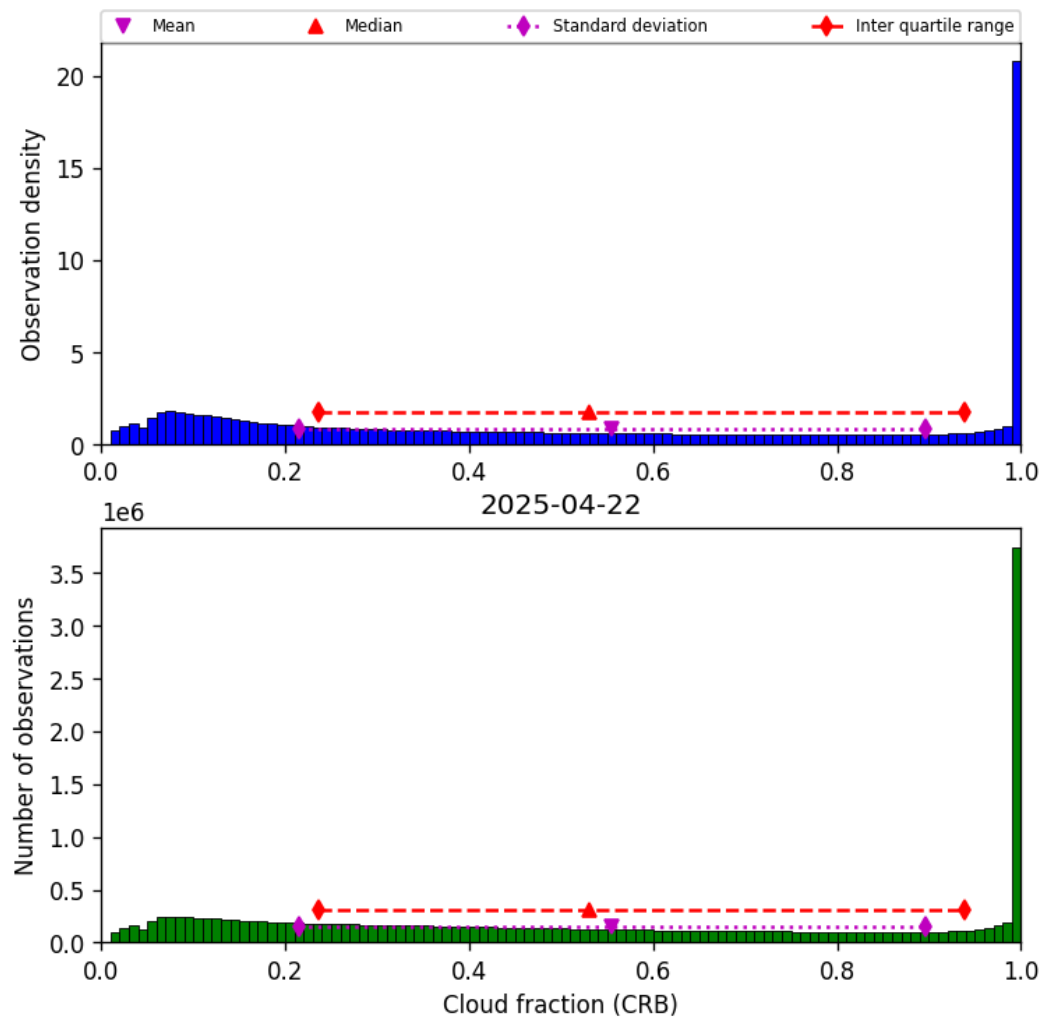


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22

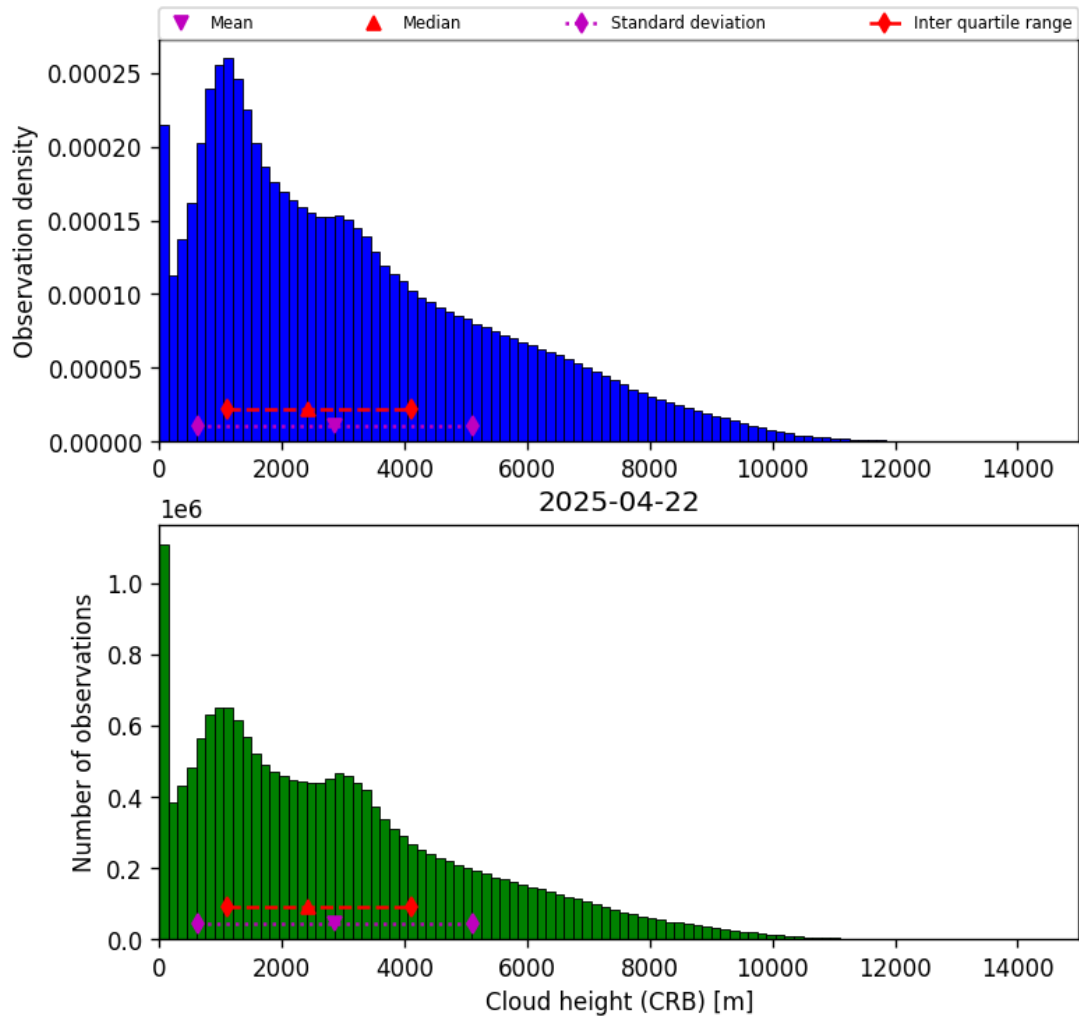


Figure 41: Histogram of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22

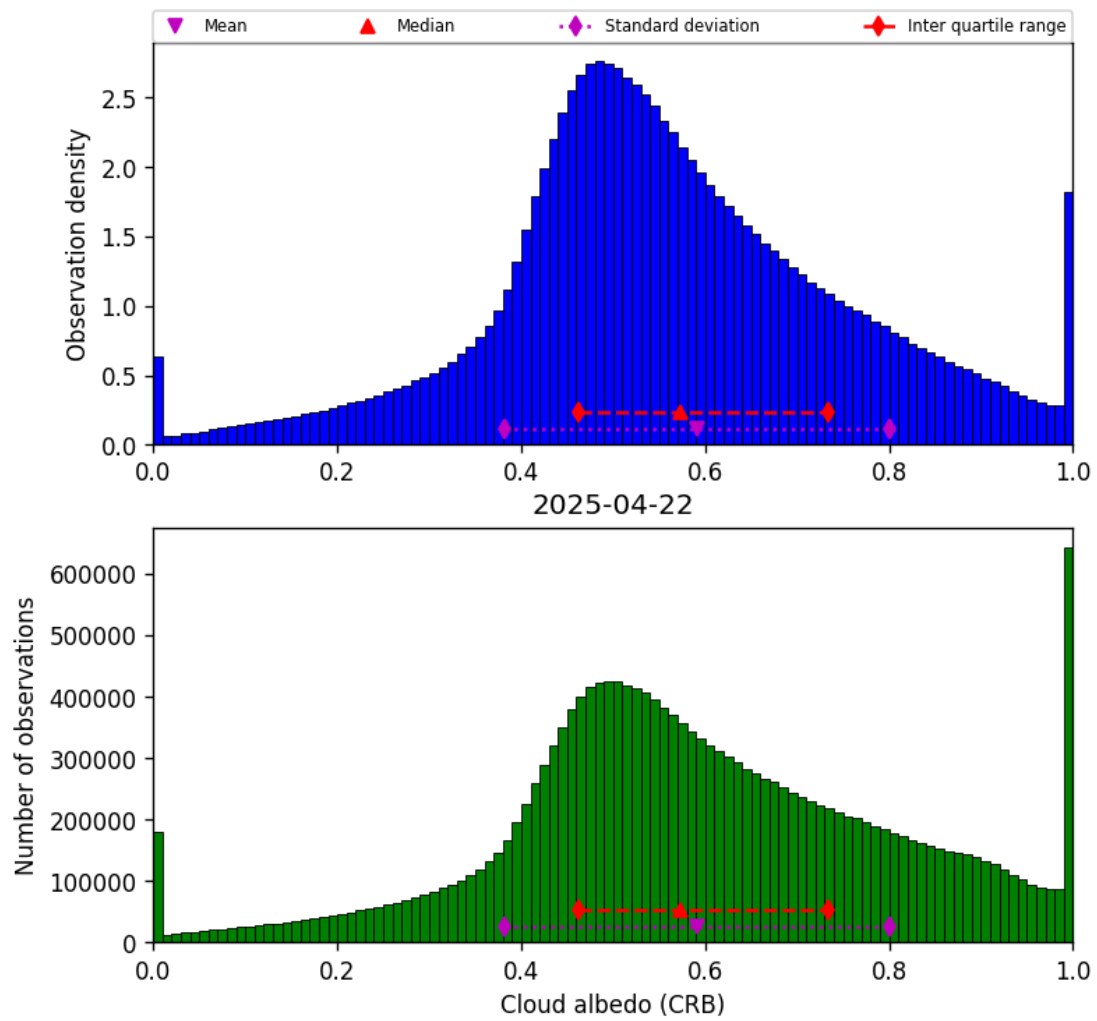


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22

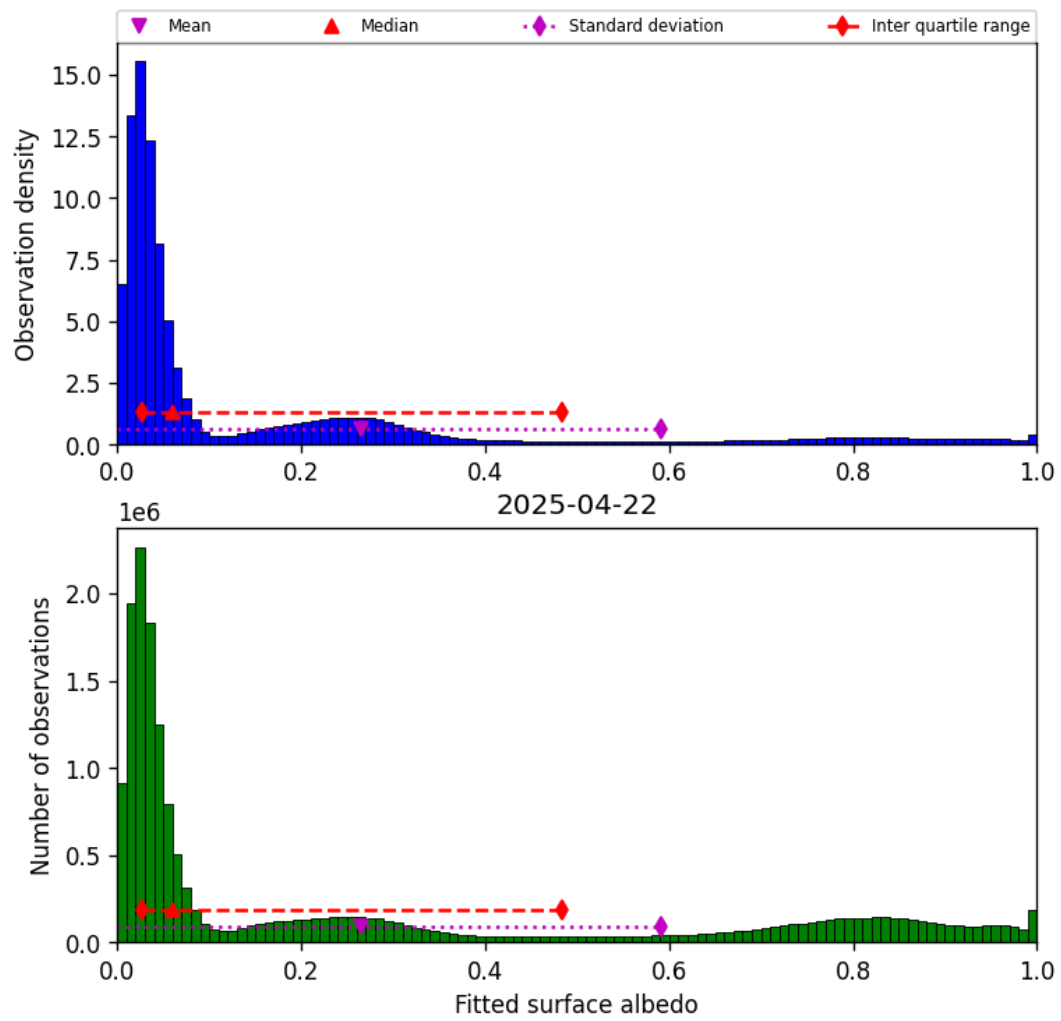


Figure 43: Histogram of “Fitted surface albedo” for 2025-04-22 to 2025-04-22

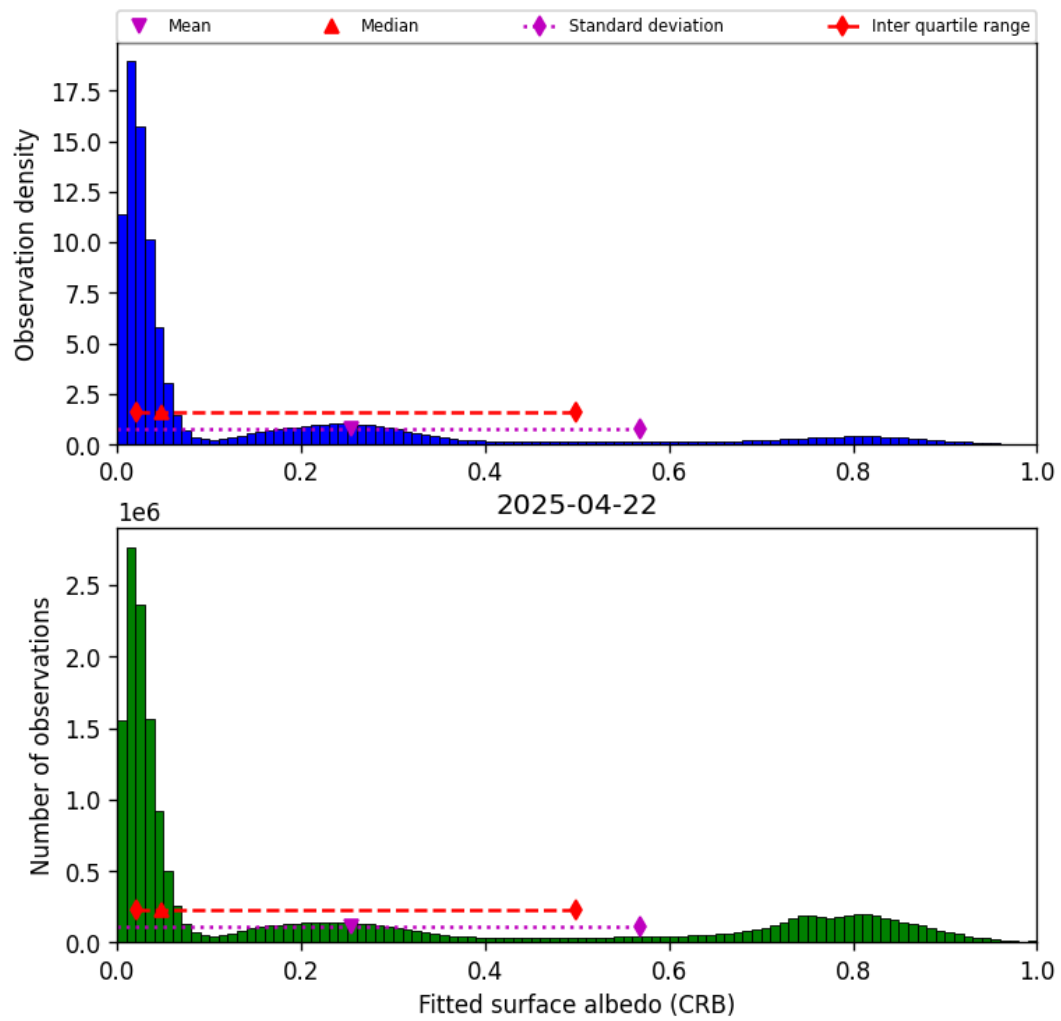


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22

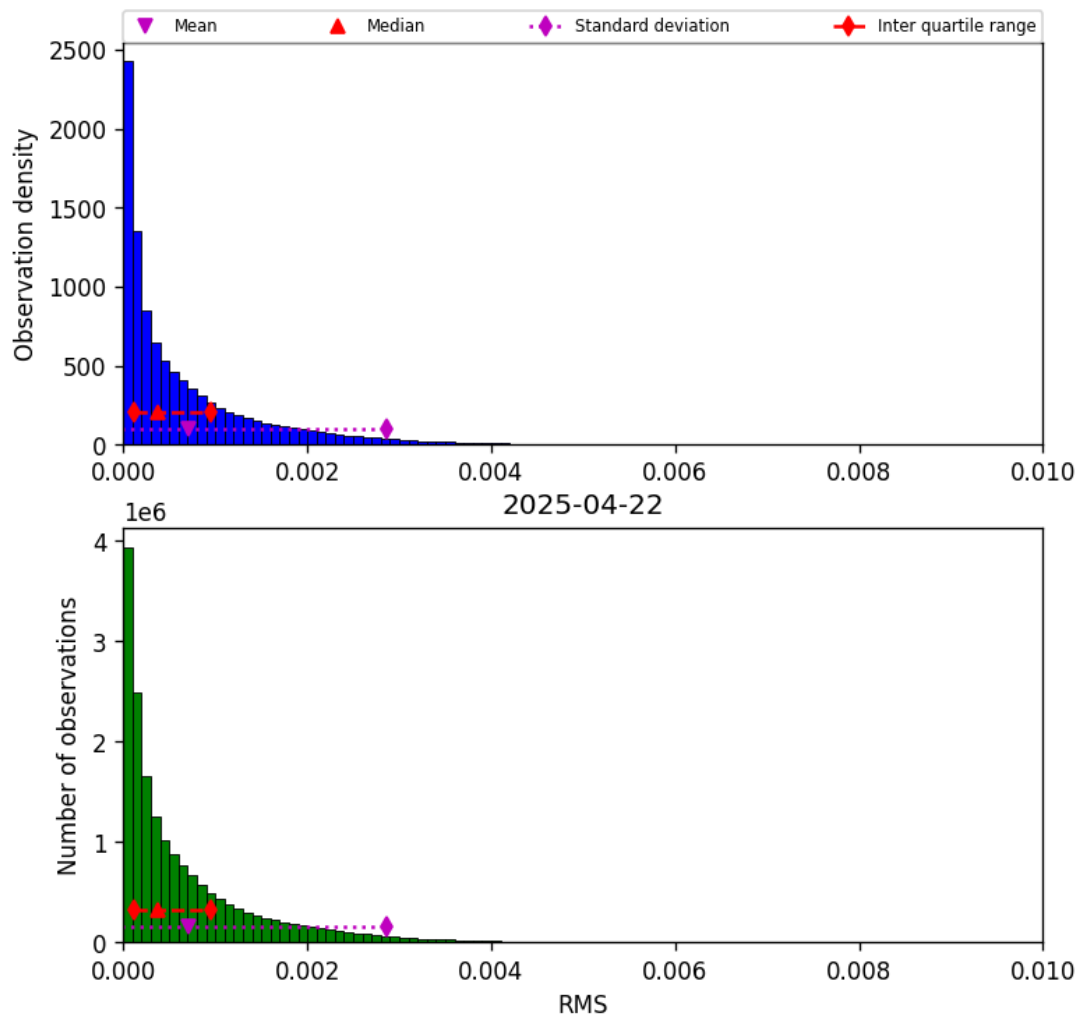


Figure 45: Histogram of “RMS” for 2025-04-22 to 2025-04-22

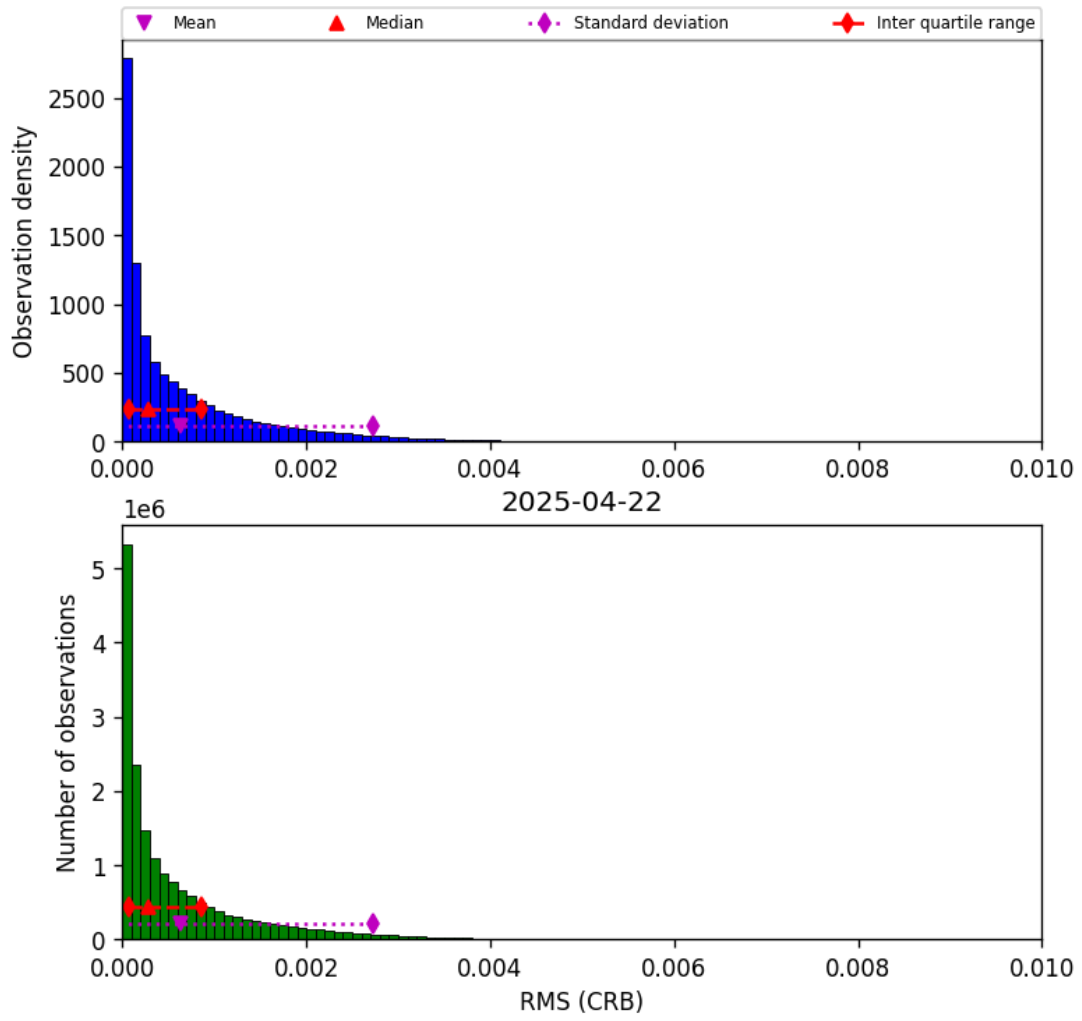


Figure 46: Histogram of “RMS (CRB)” for 2025-04-22 to 2025-04-22

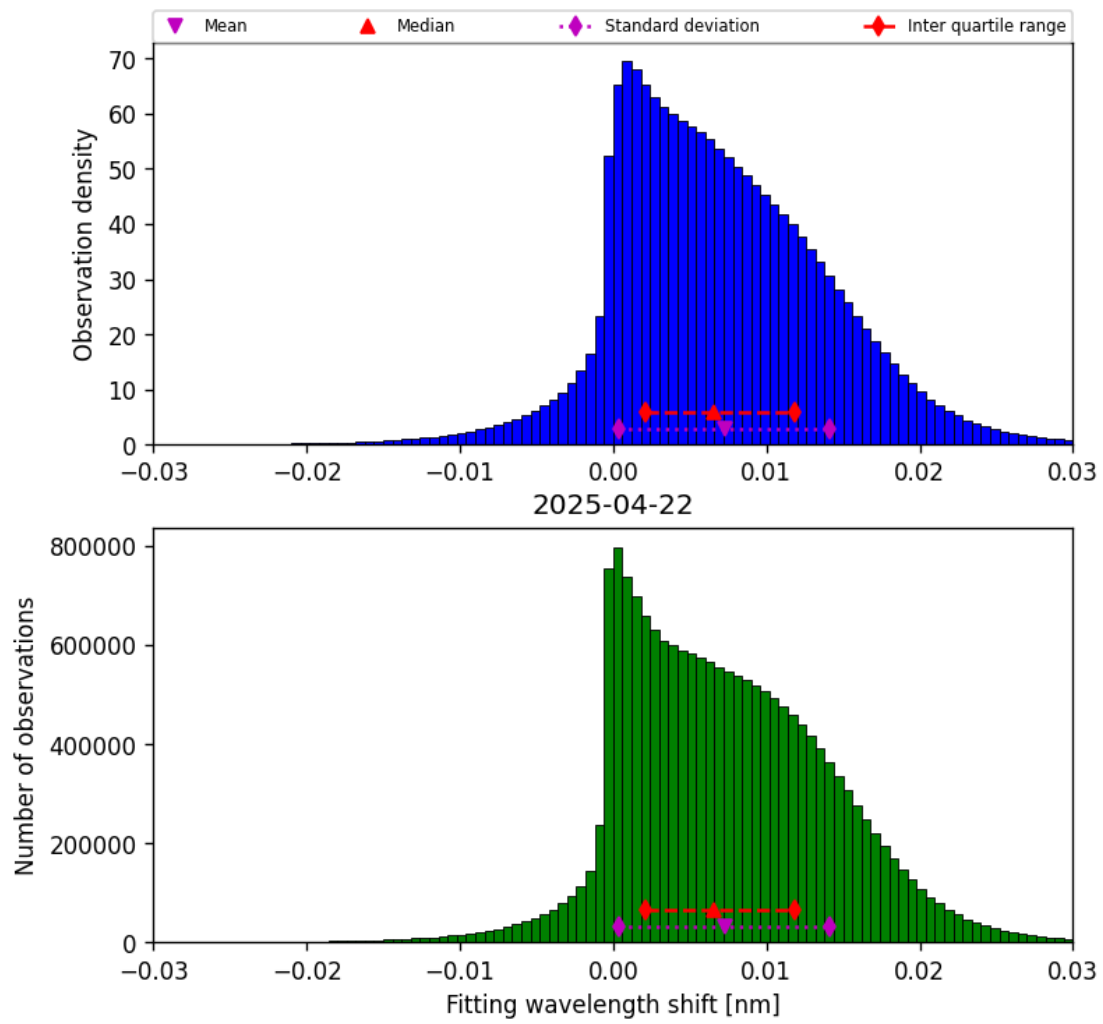


Figure 47: Histogram of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22

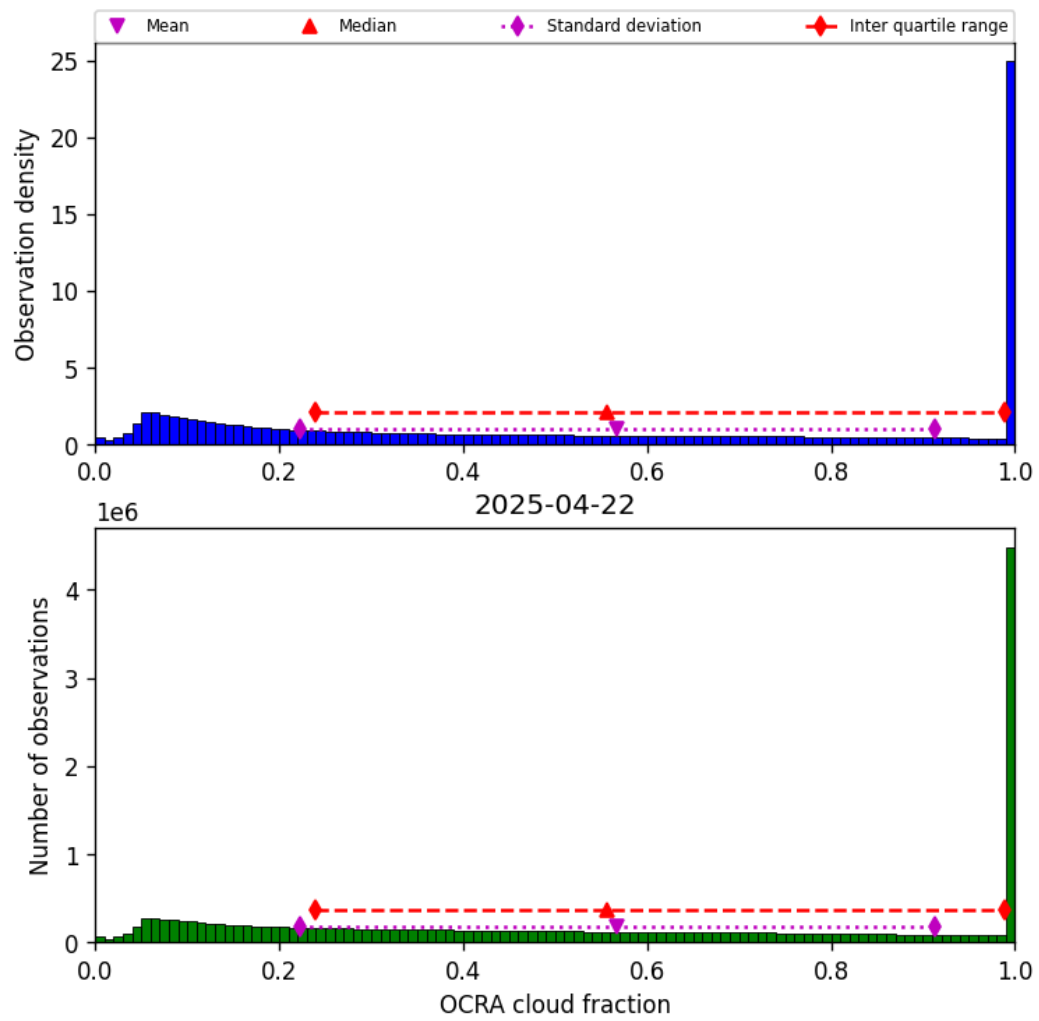


Figure 48: Histogram of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22

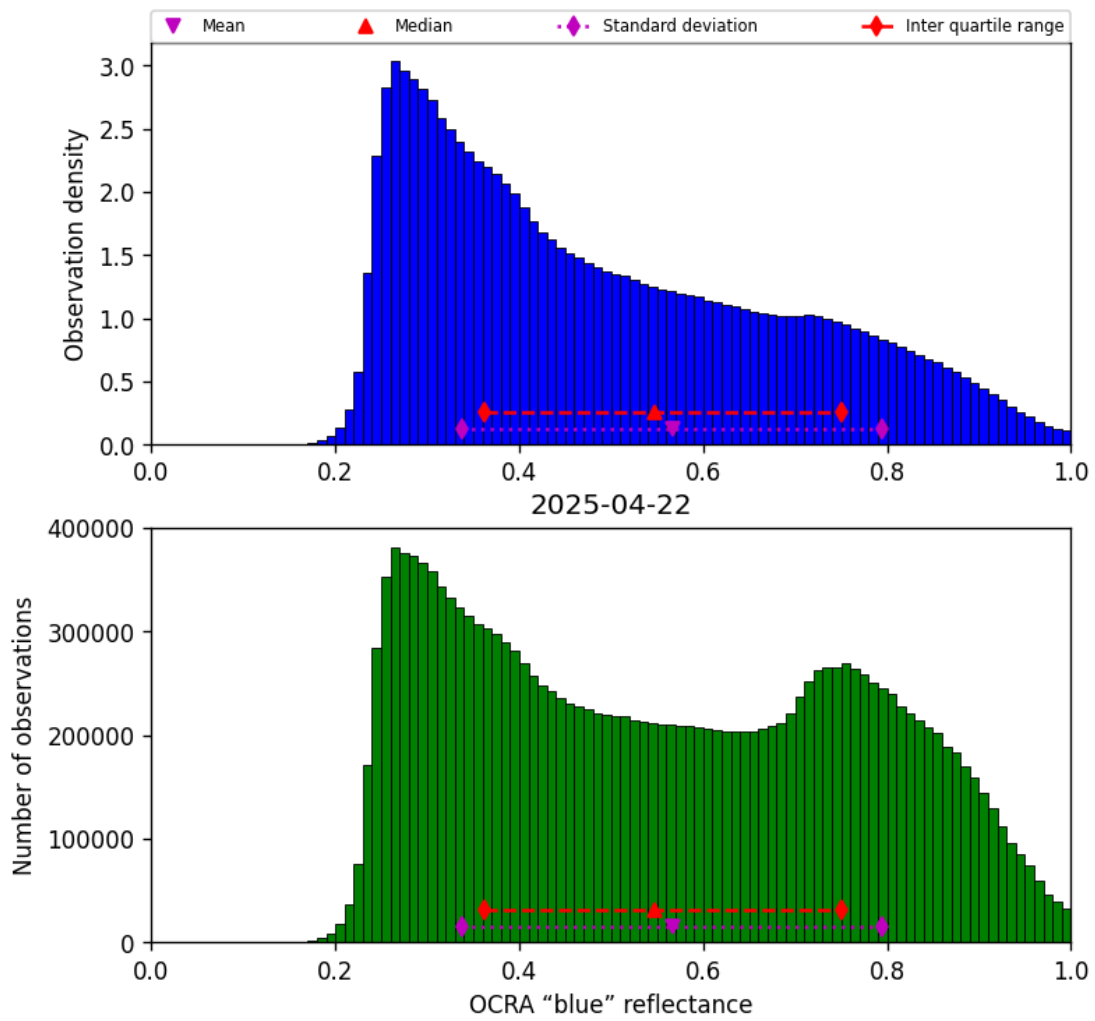


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22

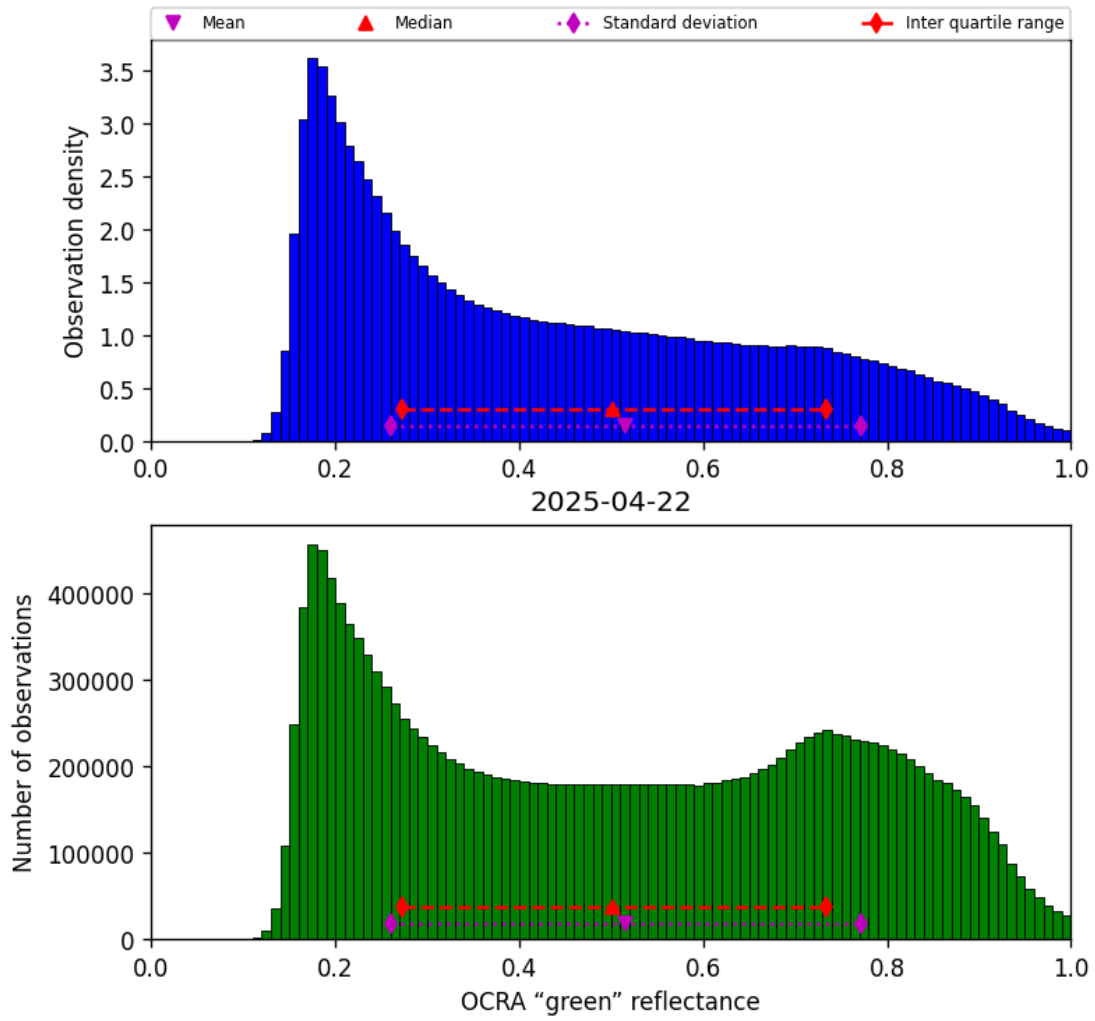


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22

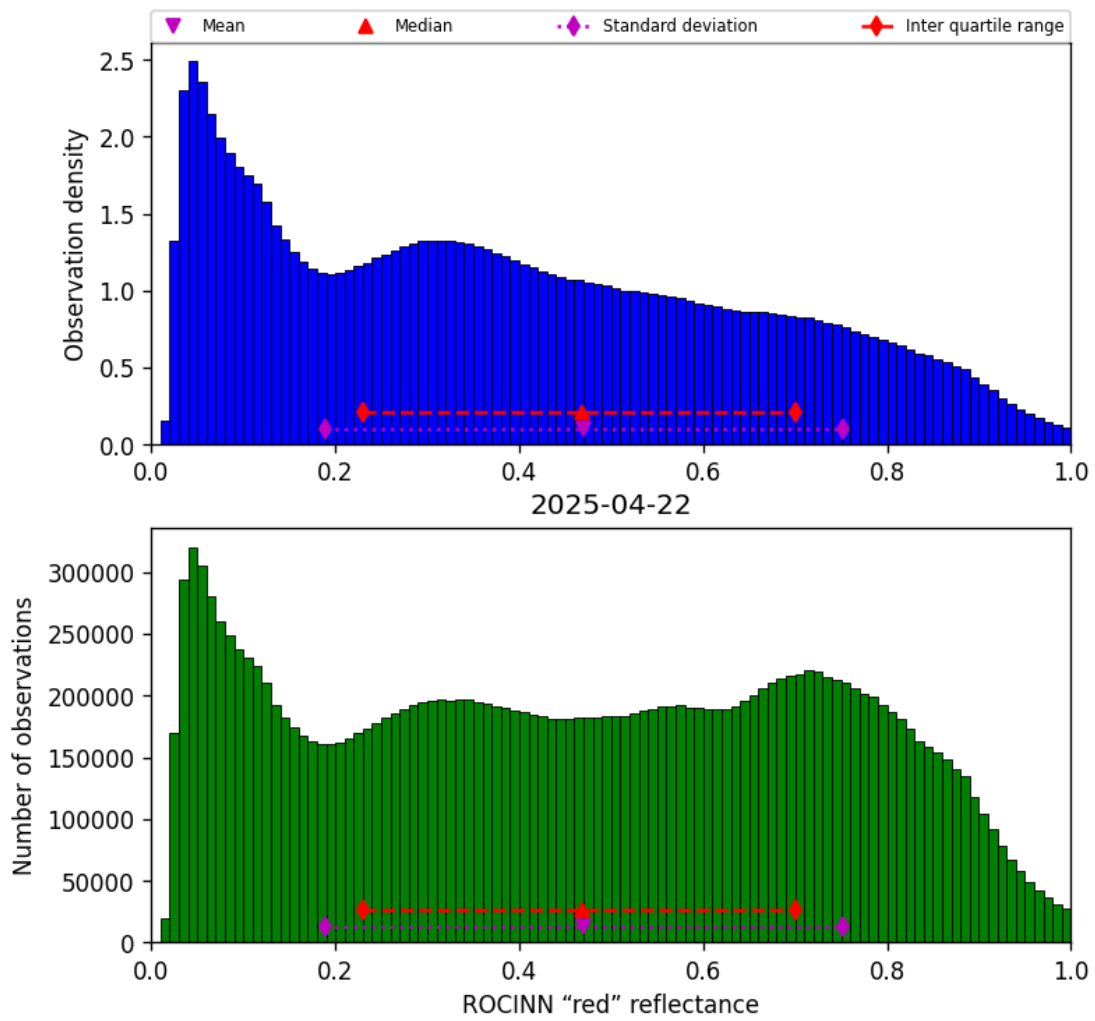


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22

9 Along track statistics

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

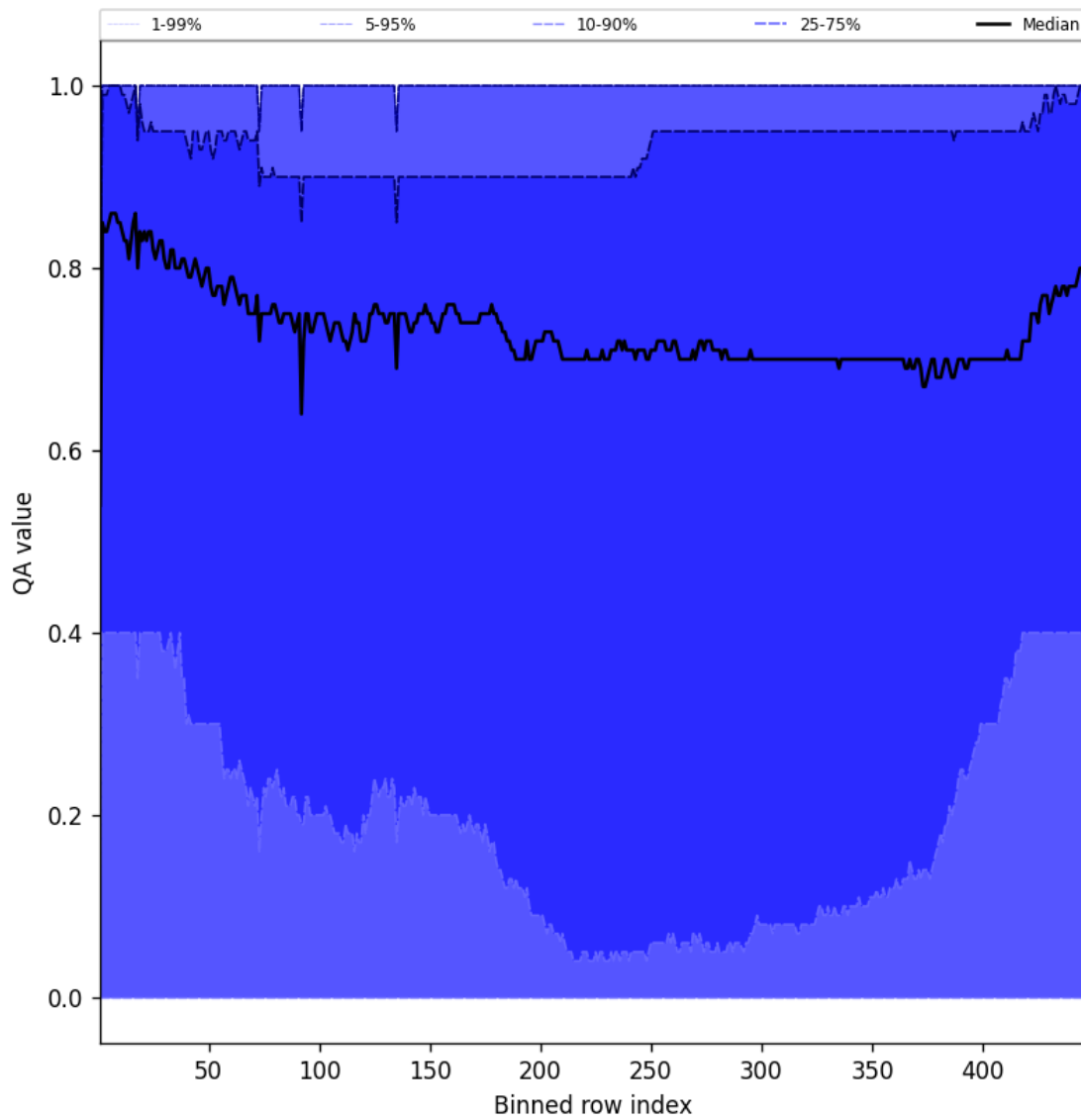


Figure 52: Along track statistics of “QA value” for 2025-04-22 to 2025-04-22

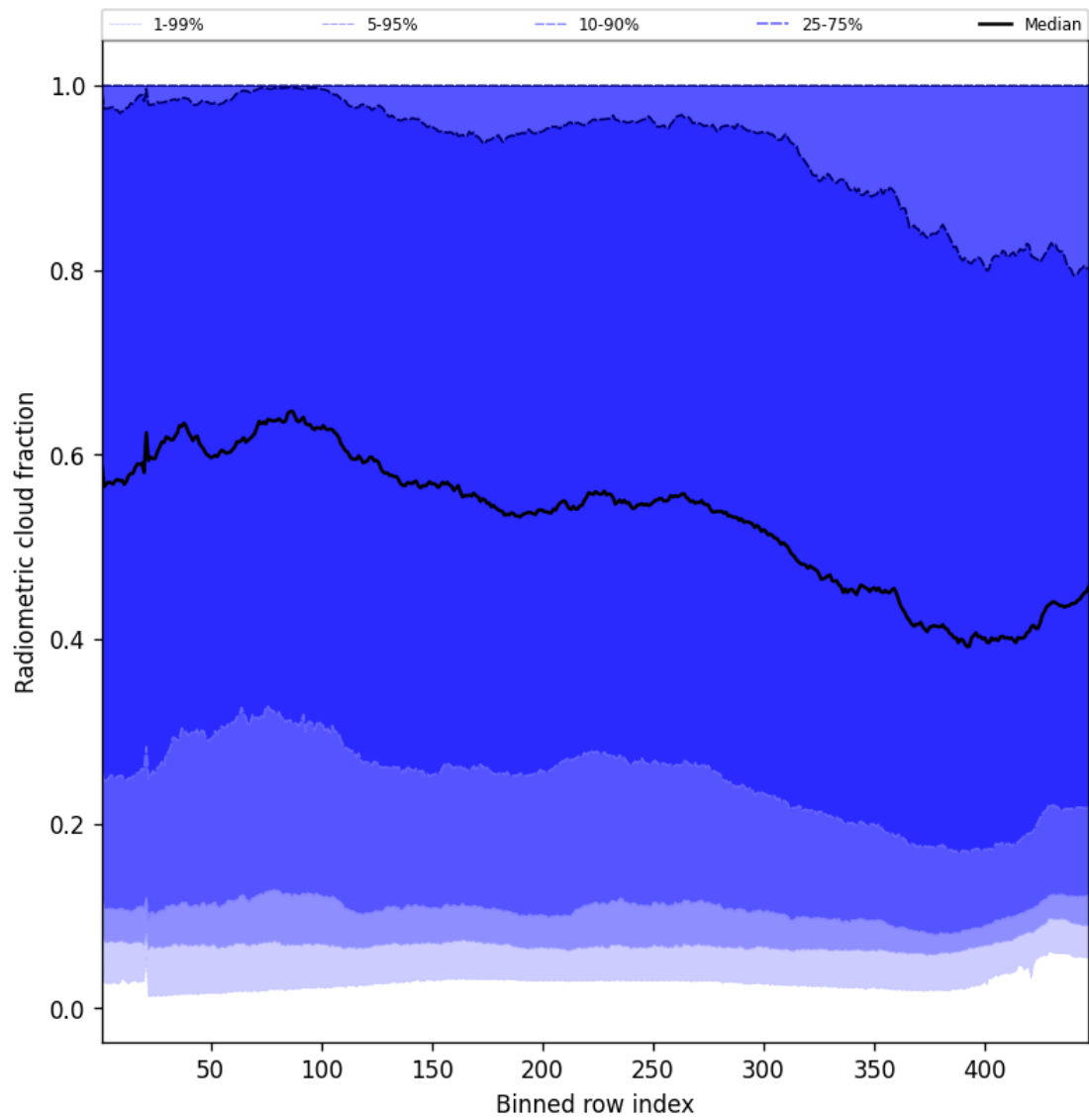


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22

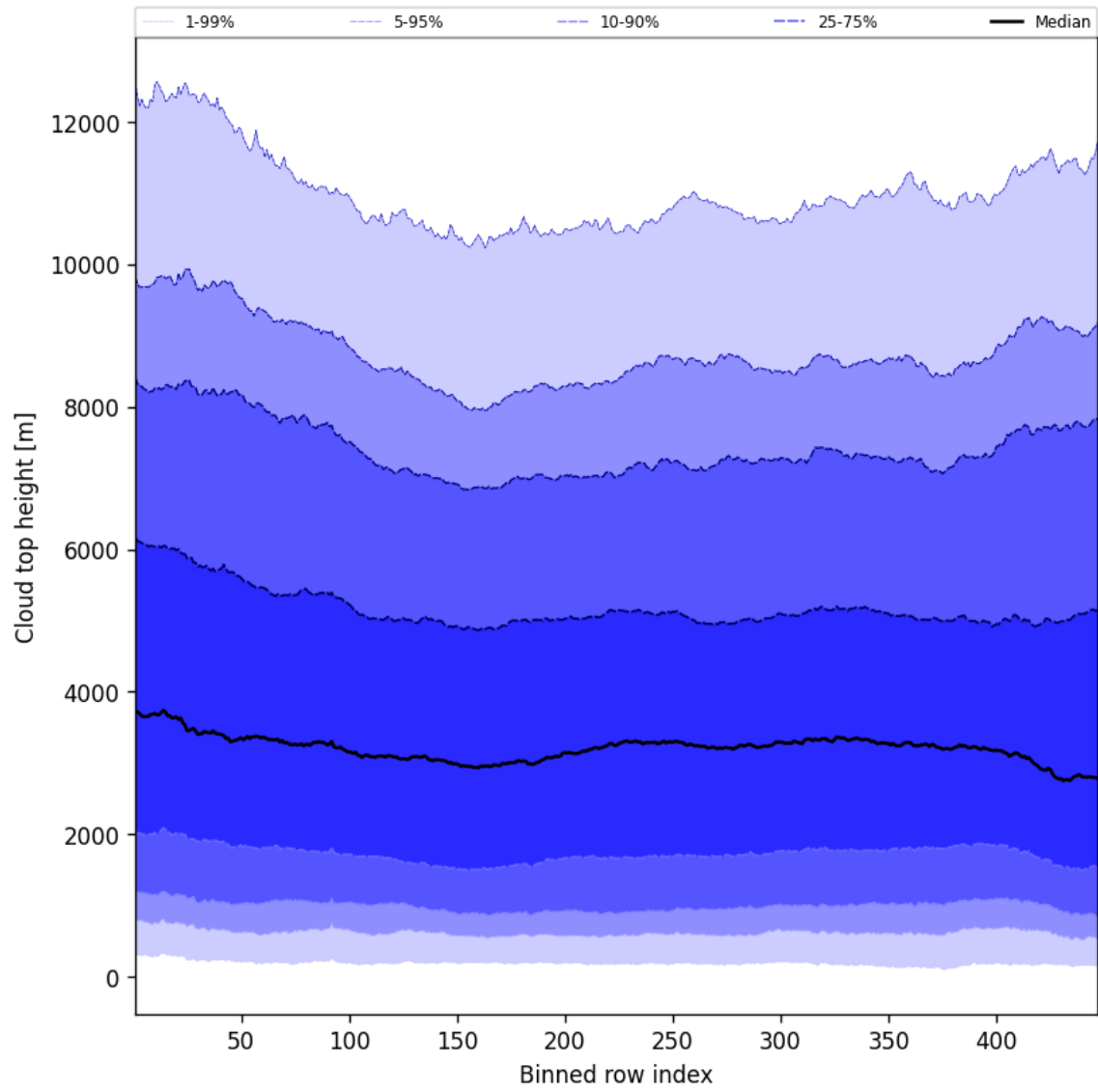


Figure 54: Along track statistics of “Cloud top height” for 2025-04-22 to 2025-04-22

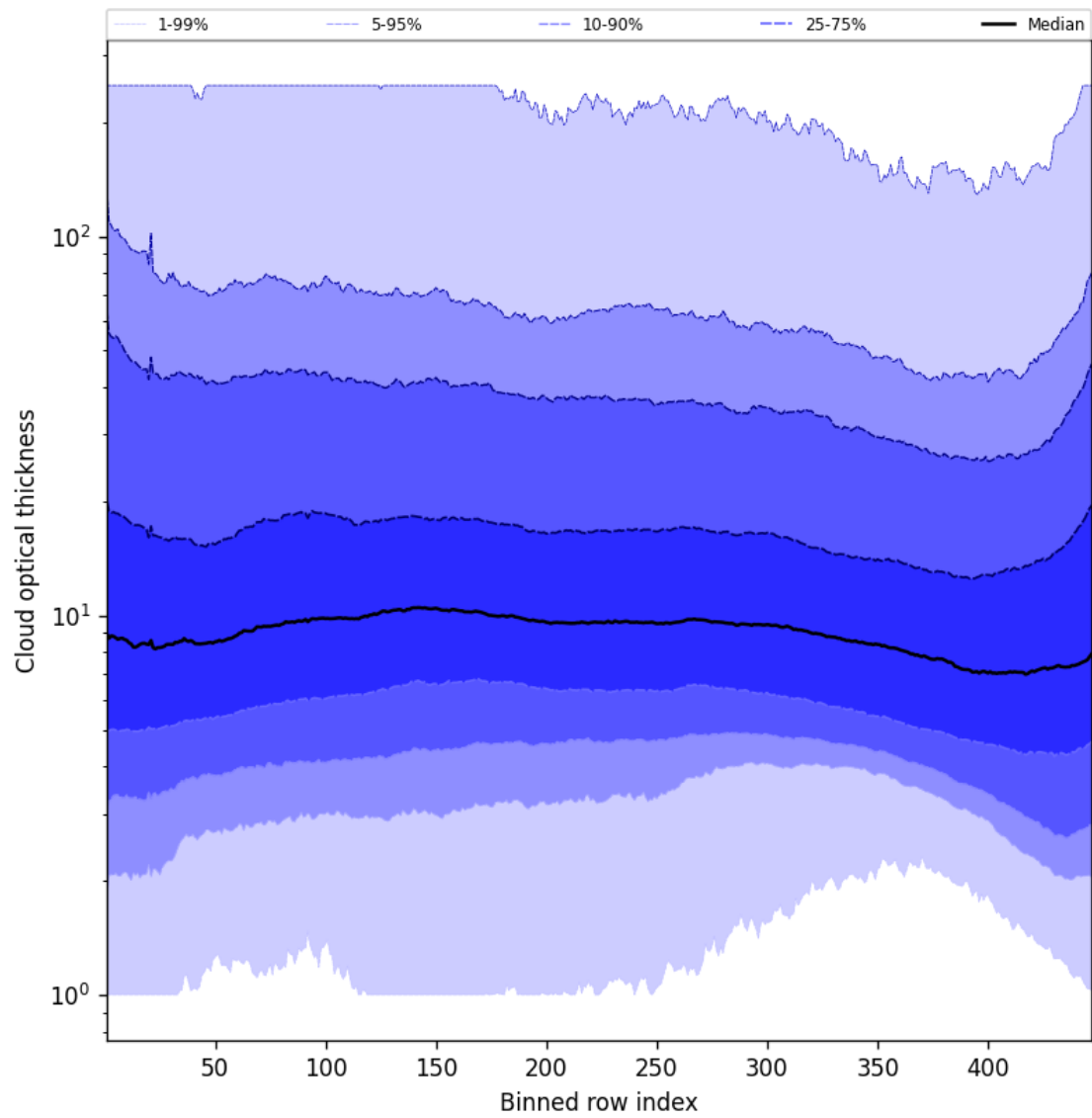


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-04-22 to 2025-04-22

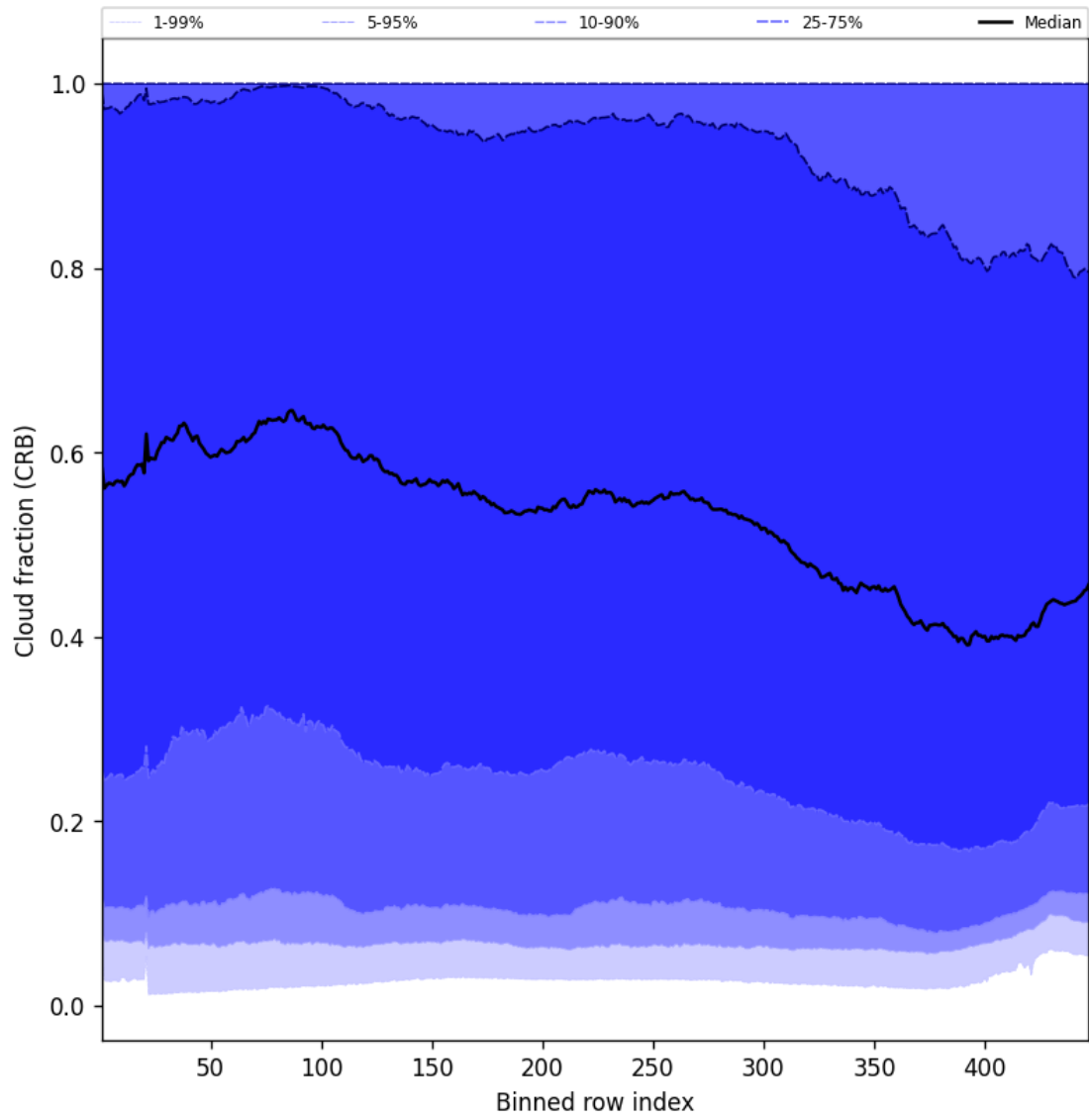


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22

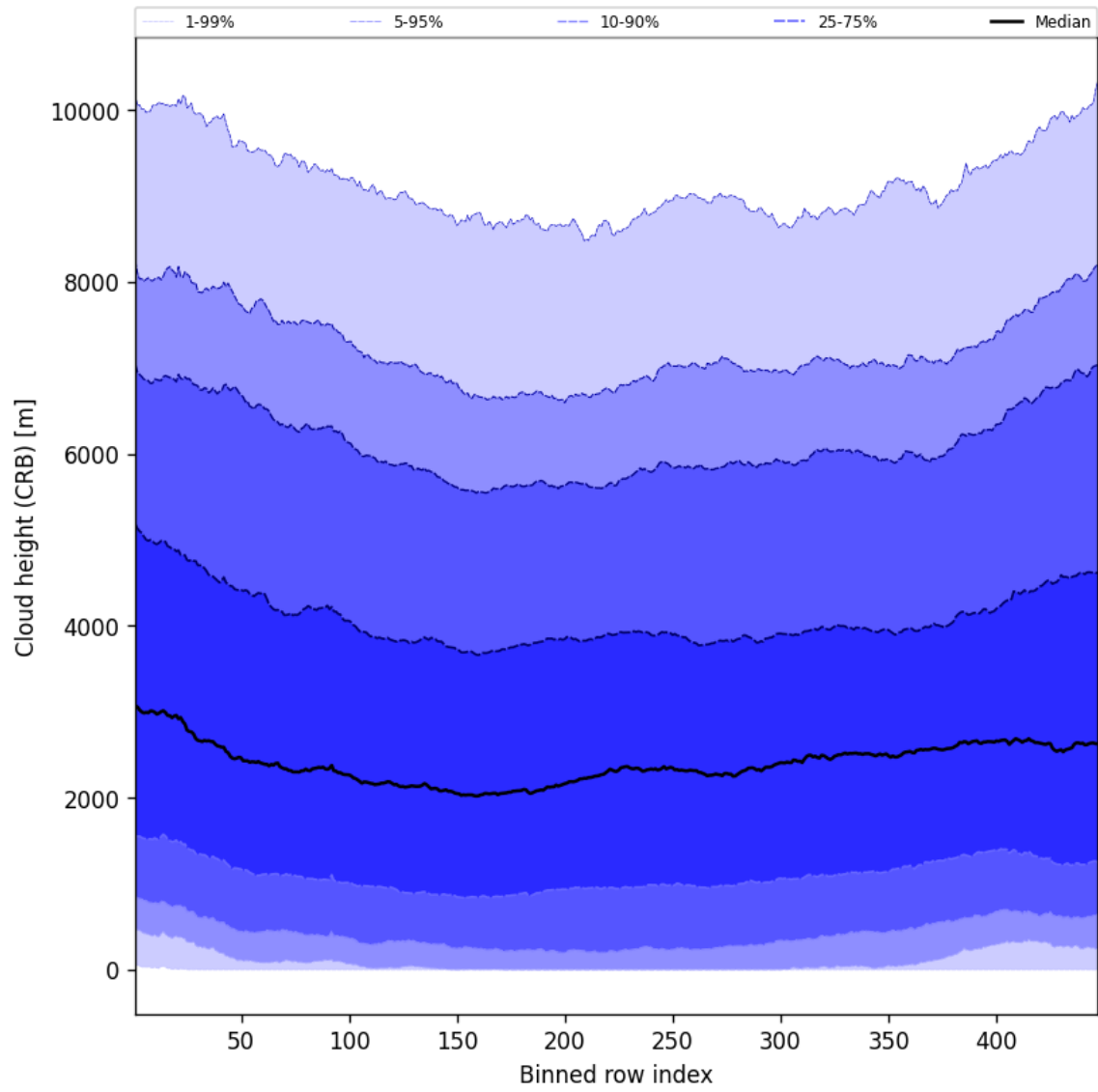


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22

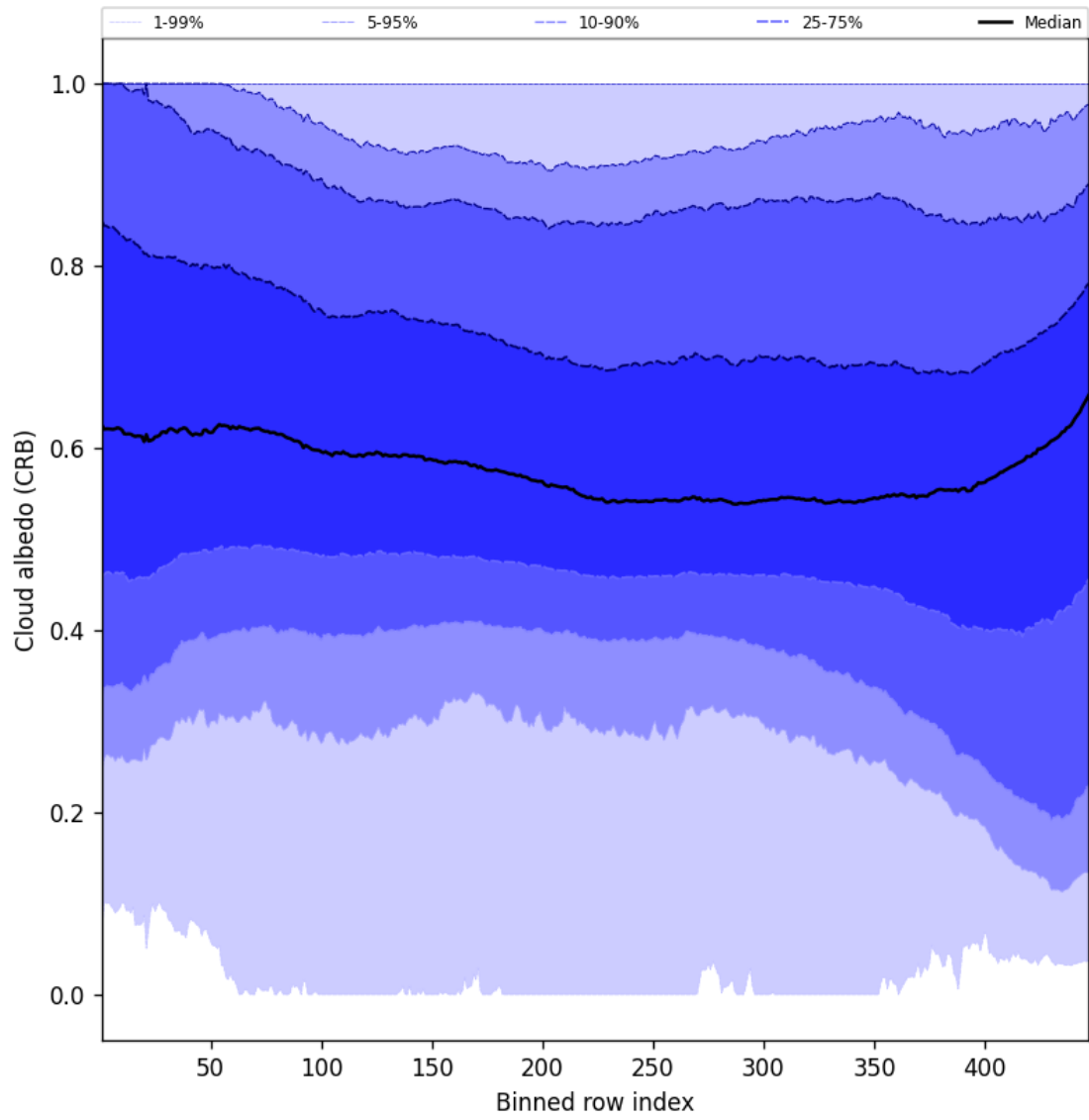


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22

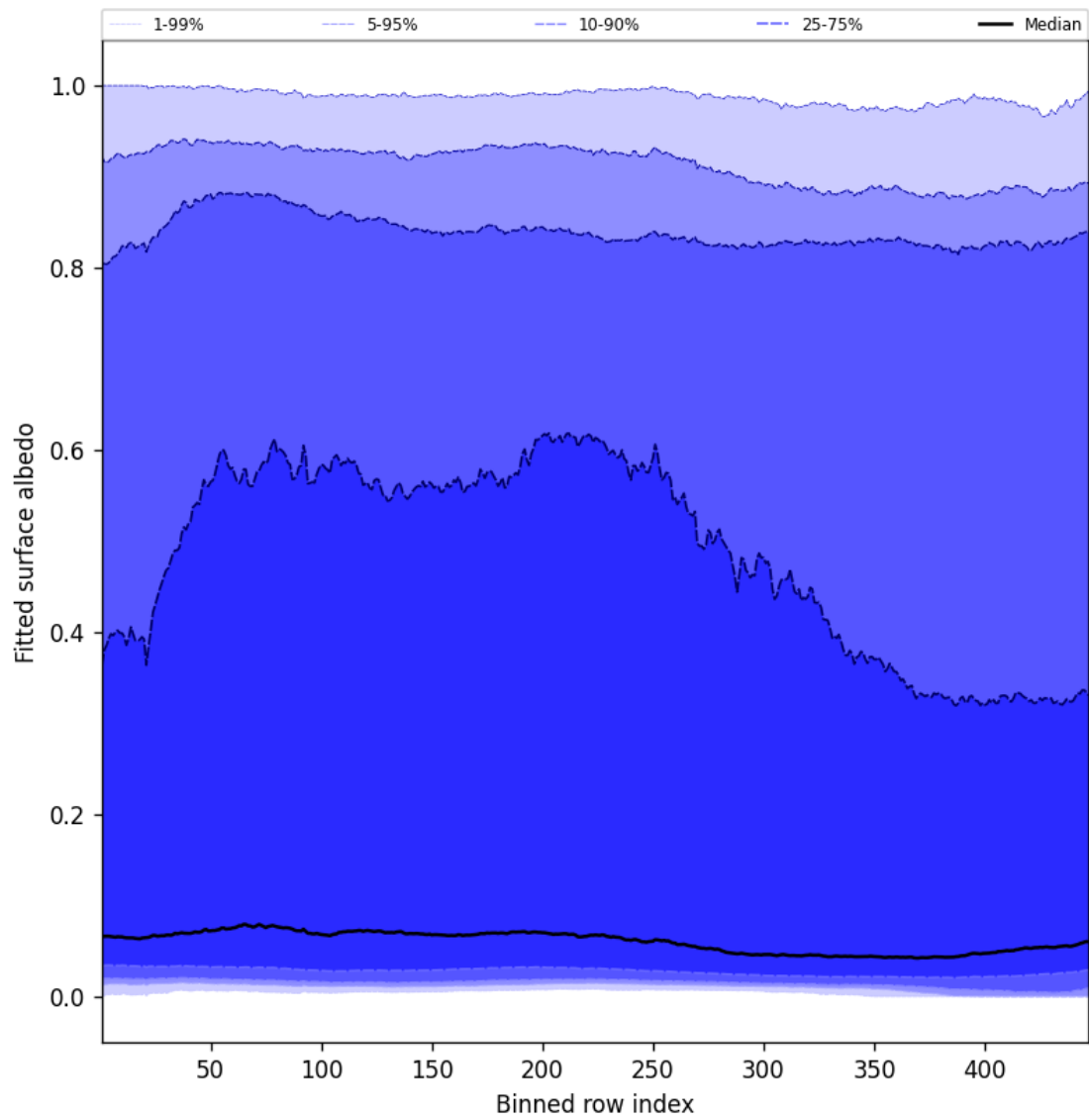


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-04-22 to 2025-04-22

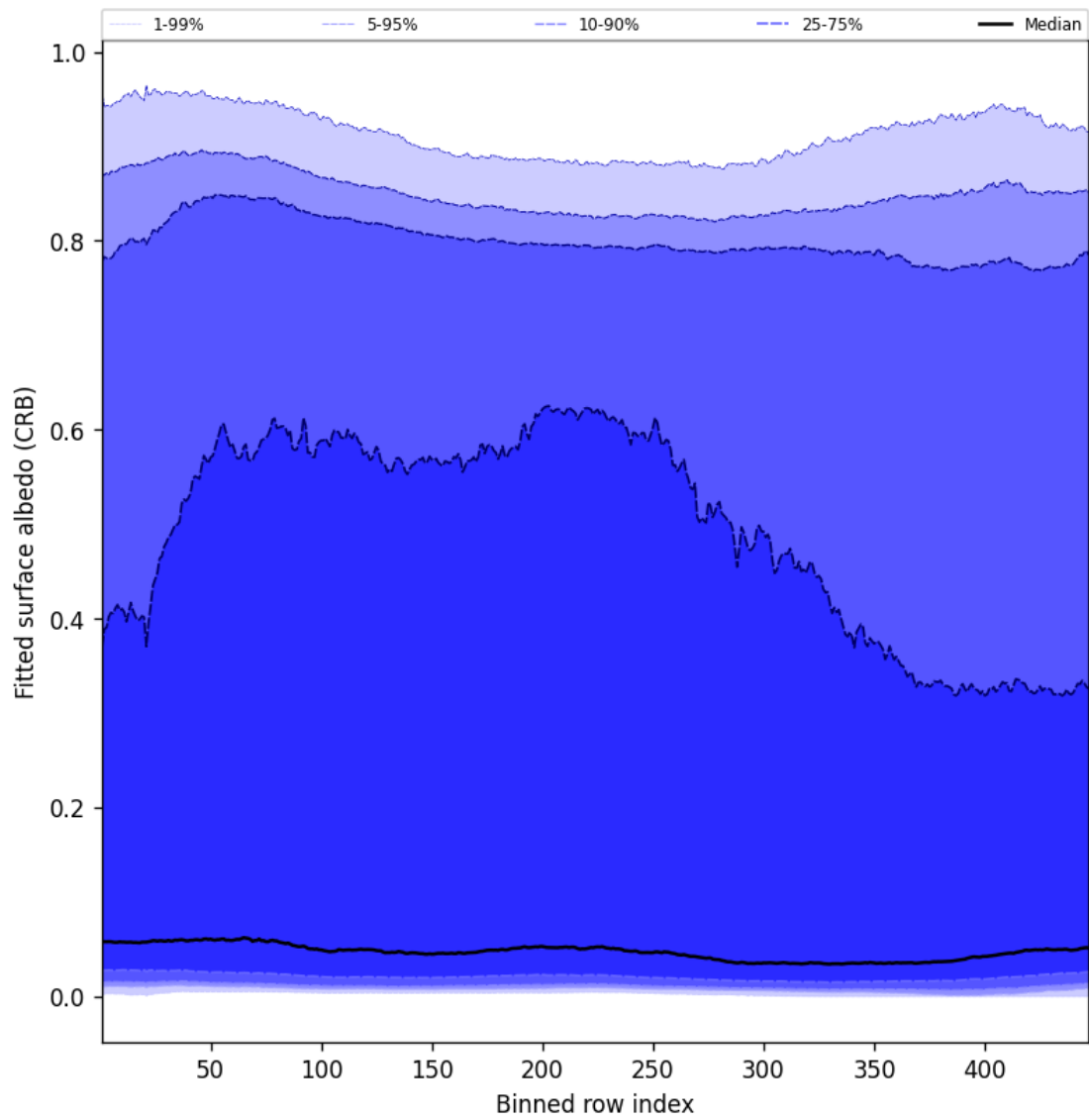


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22

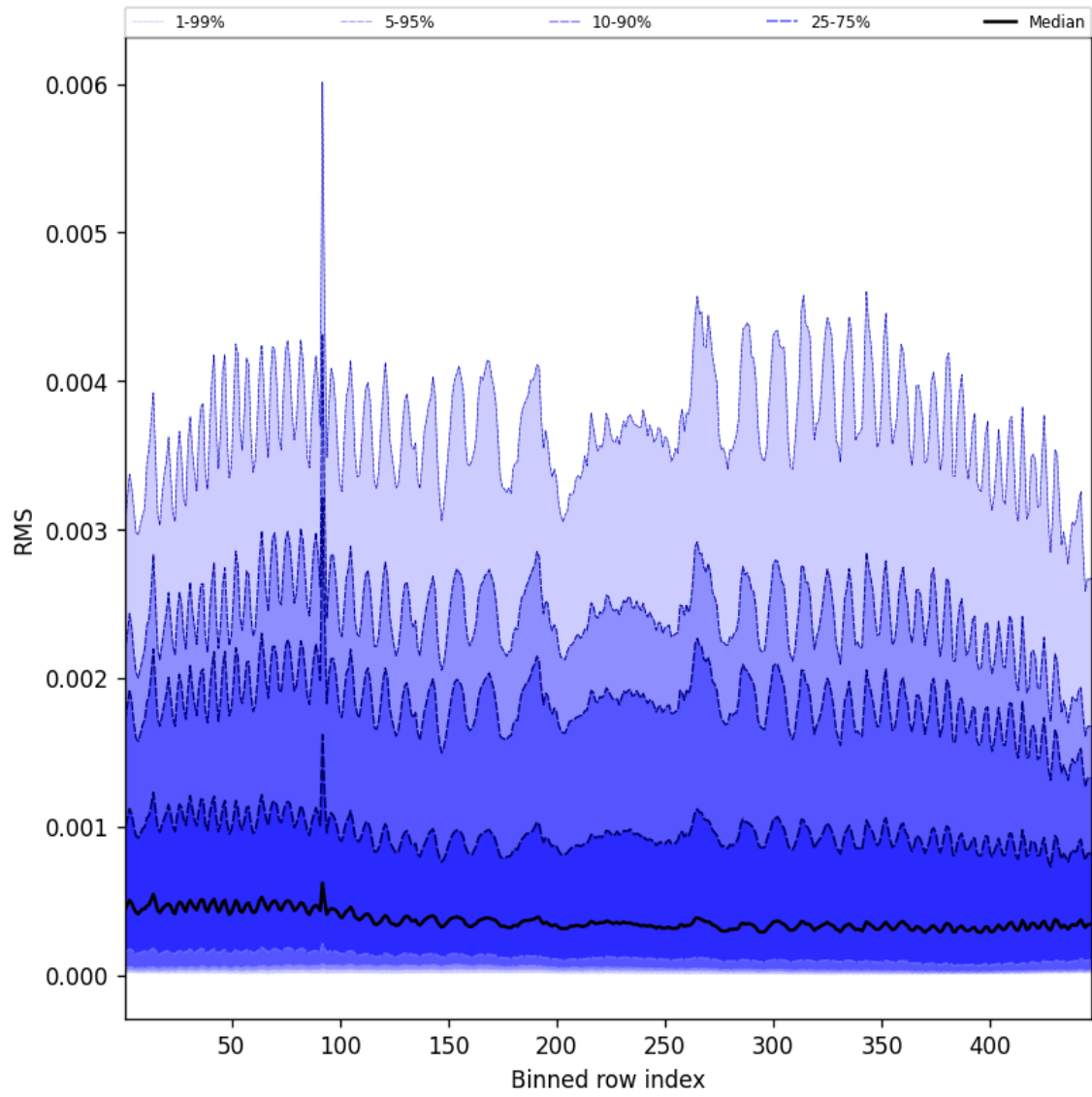


Figure 61: Along track statistics of “RMS” for 2025-04-22 to 2025-04-22

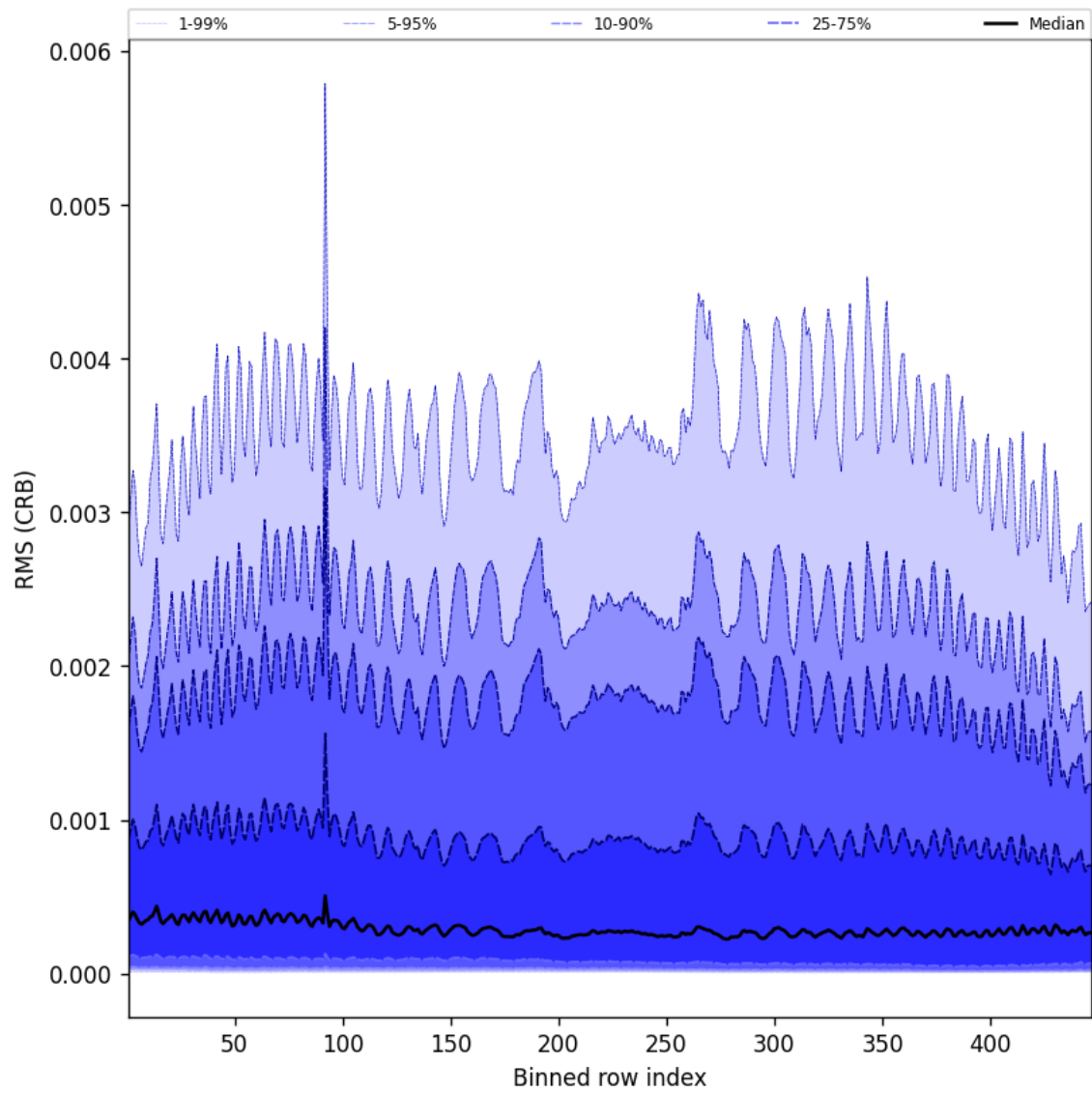


Figure 62: Along track statistics of “RMS (CRB)” for 2025-04-22 to 2025-04-22

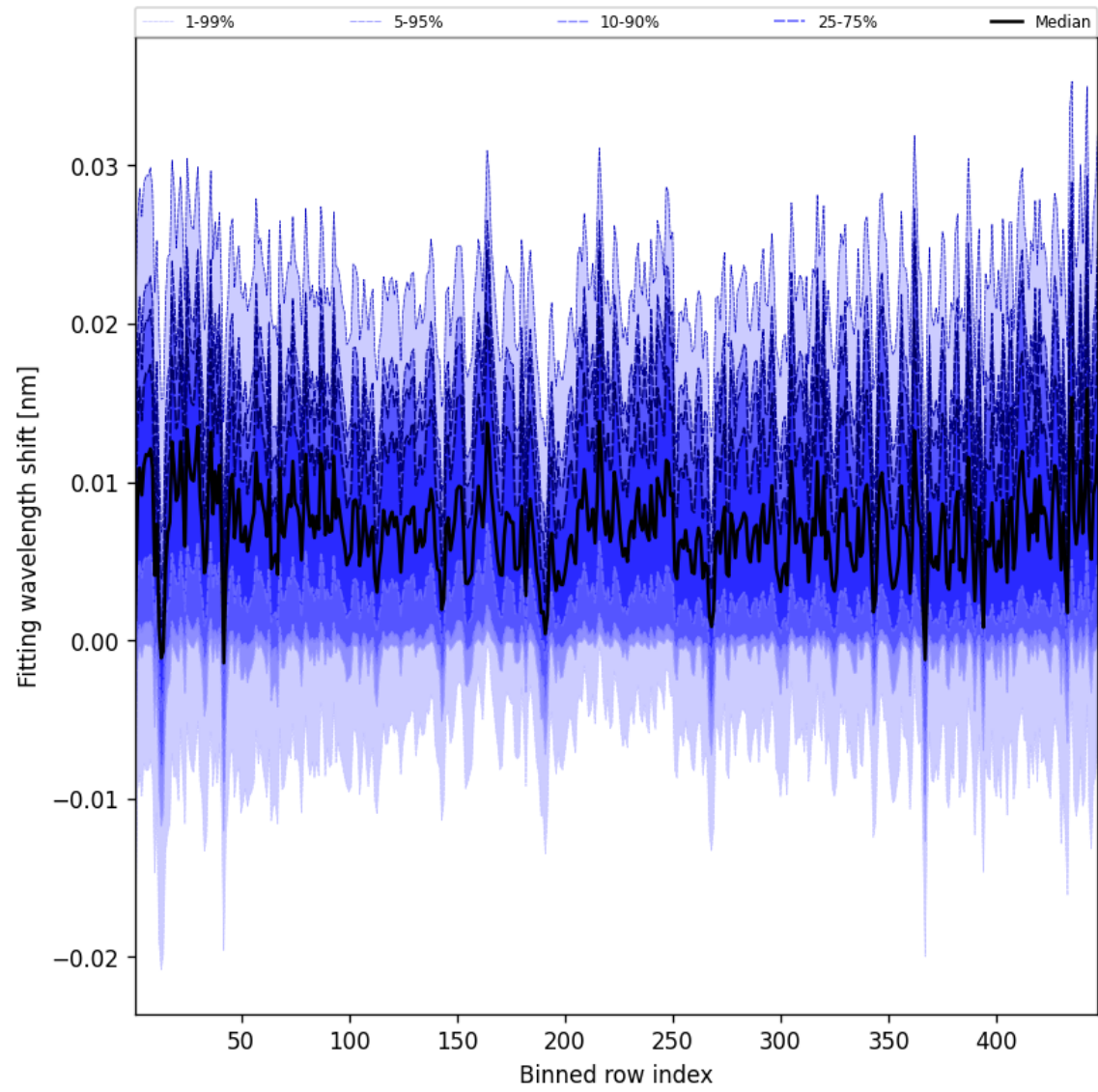


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22

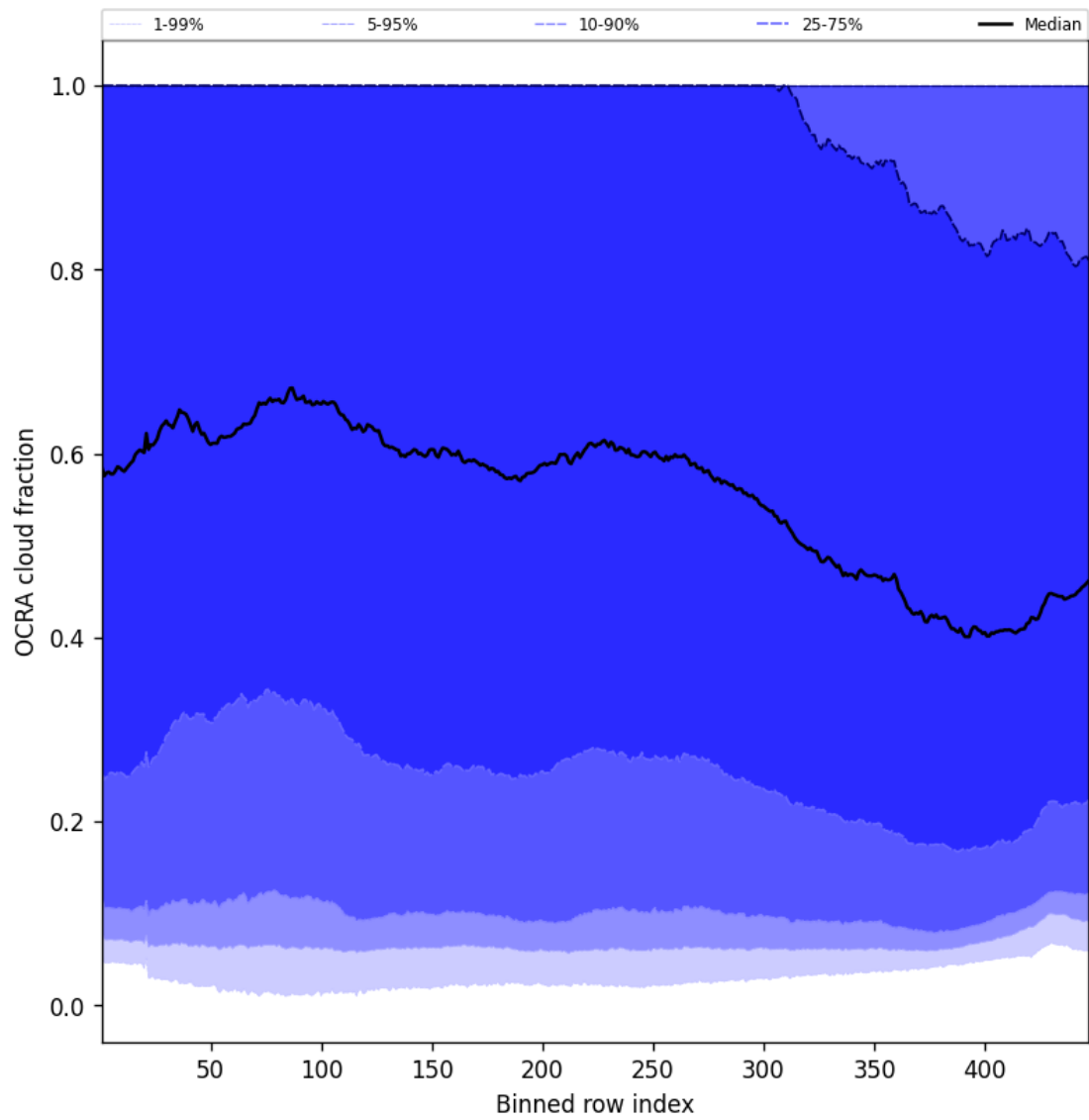


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22

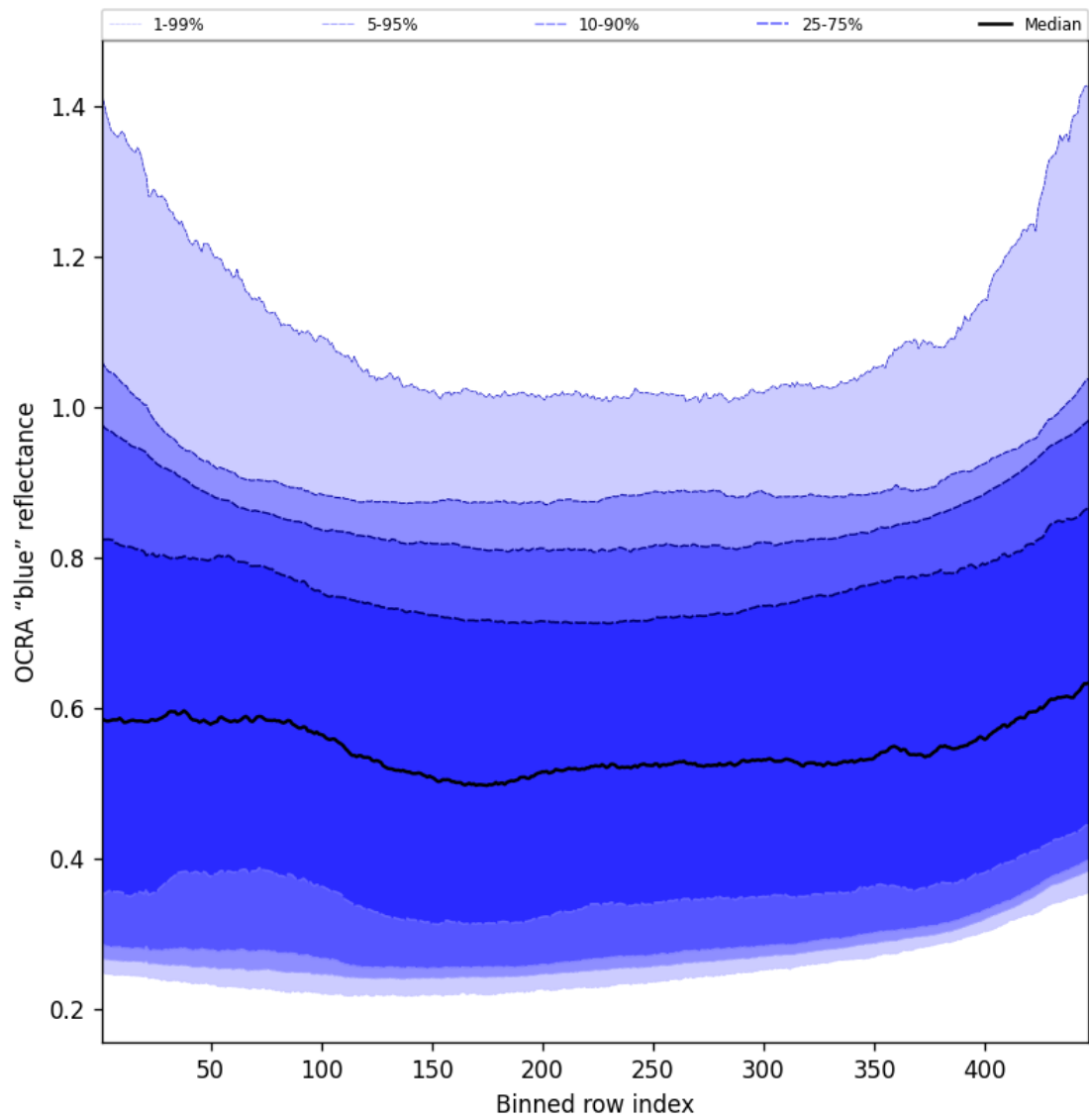


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22

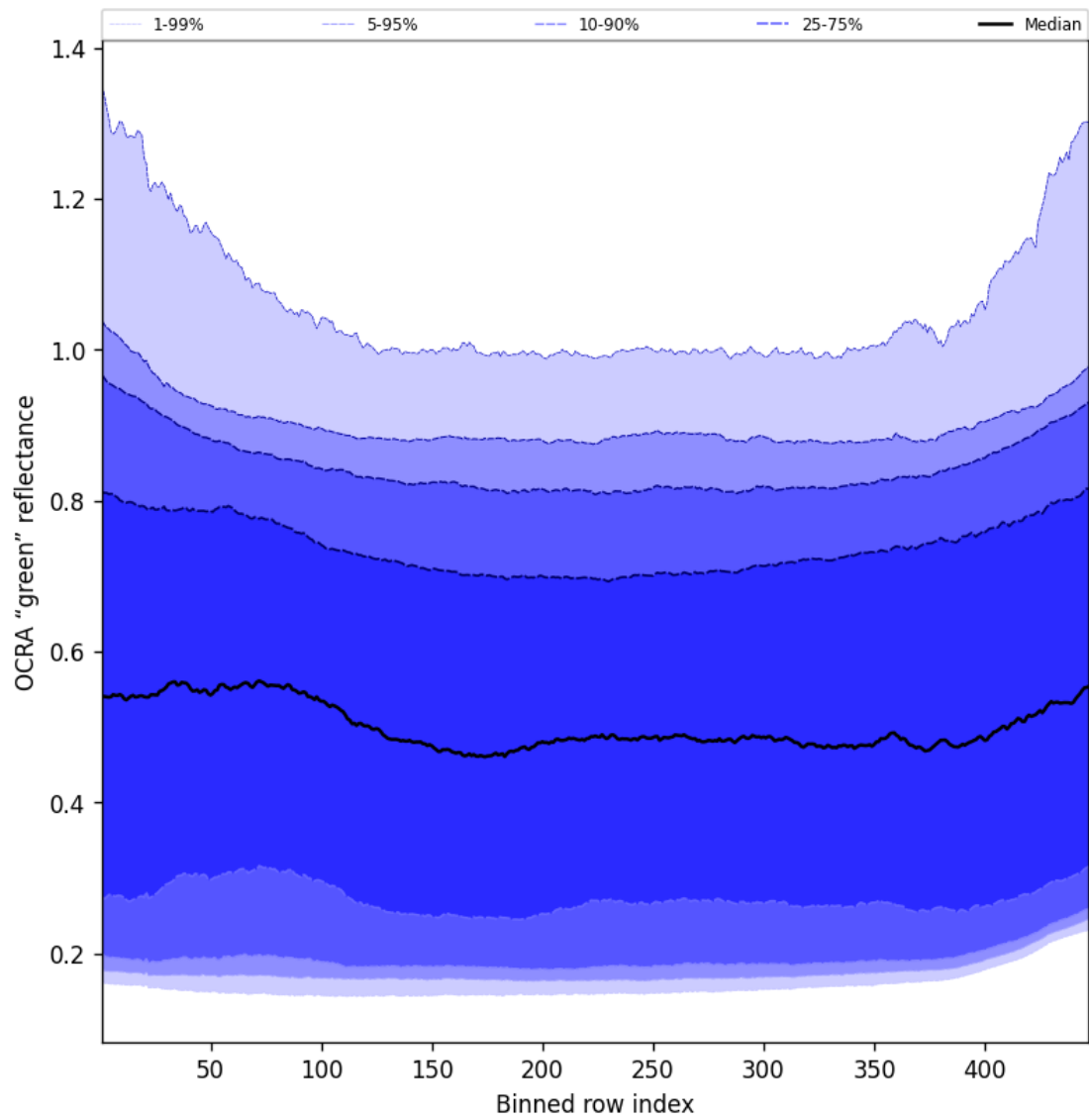


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22

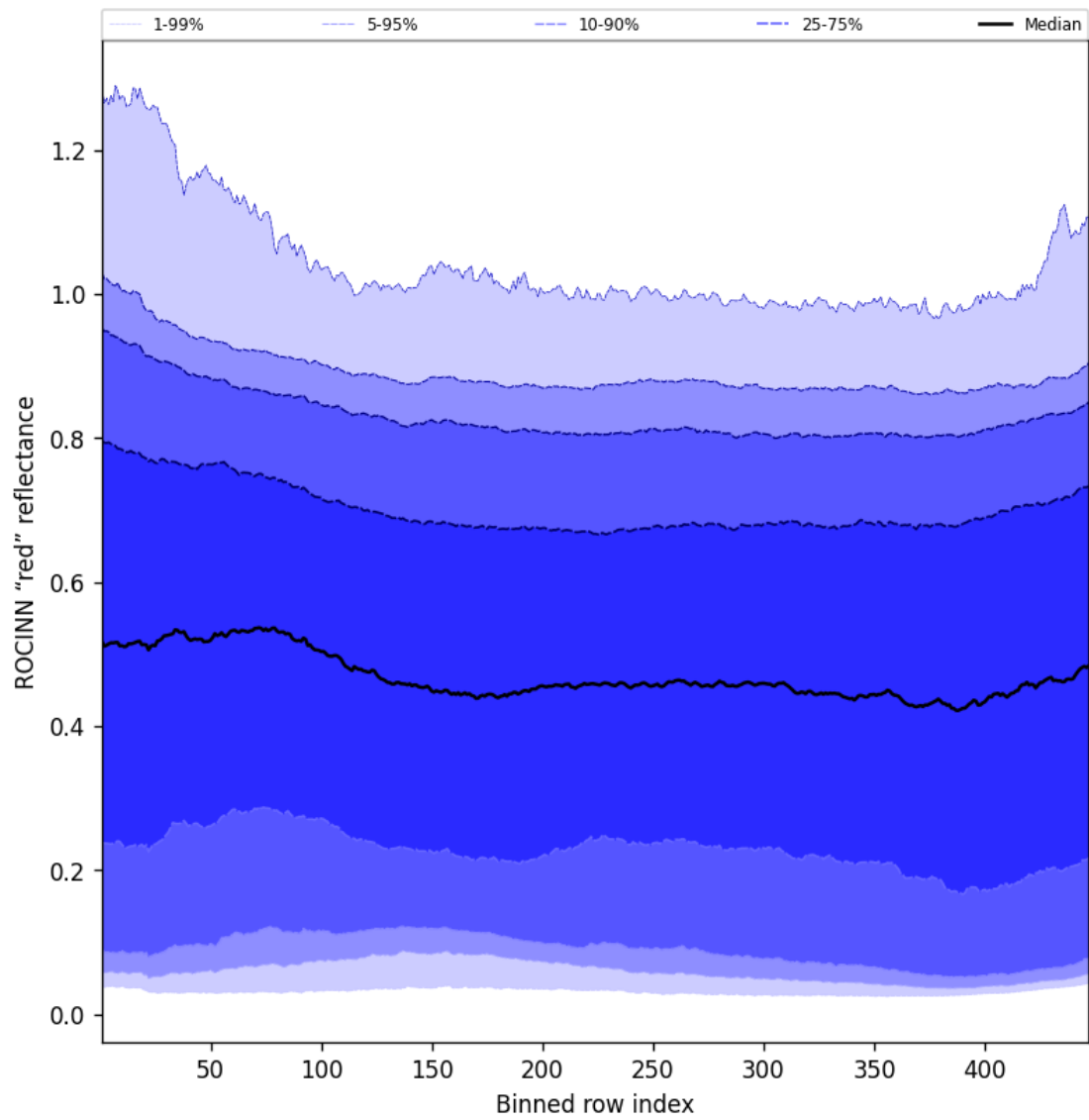


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-04-22 to 2025-04-22

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 2025-04-22 to 2025-04-22	11
5	Map of “Cloud top height” for 2025-04-22 to 2025-04-22	12
6	Map of “Cloud optical thickness” for 2025-04-22 to 2025-04-22	13
7	Map of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22	14
8	Map of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22	15
9	Map of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22	16
10	Map of “Fitted surface albedo” for 2025-04-22 to 2025-04-22	17
11	Map of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22	18
12	Map of “RMS” for 2025-04-22 to 2025-04-22	19
13	Map of “RMS (CRB)” for 2025-04-22 to 2025-04-22	20
14	Map of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22	21
15	Map of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22	22
16	Map of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22	23
17	Map of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22	24
18	Map of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22	25
19	Map of the number of observations for 2025-04-22 to 2025-04-22	26
20	Zonal average of “QA value” for 2025-04-22 to 2025-04-22.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22.	28
22	Zonal average of “Cloud top height” for 2025-04-22 to 2025-04-22.	29
23	Zonal average of “Cloud optical thickness” for 2025-04-22 to 2025-04-22.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22.	31
25	Zonal average of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22.	33
27	Zonal average of “Fitted surface albedo” for 2025-04-22 to 2025-04-22.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22.	35
29	Zonal average of “RMS” for 2025-04-22 to 2025-04-22.	36

30	Zonal average of “RMS (CRB)” for 2025-04-22 to 2025-04-22.	37
31	Zonal average of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22.	38
32	Zonal average of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22.	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22.	40
34	Zonal average of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22.	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22.	42
36	Histogram of “QA value” for 2025-04-22 to 2025-04-22	43
37	Histogram of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22	44
38	Histogram of “Cloud top height” for 2025-04-22 to 2025-04-22	45
39	Histogram of “Cloud optical thickness” for 2025-04-22 to 2025-04-22	46
40	Histogram of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22	47
41	Histogram of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22	48
42	Histogram of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22	49
43	Histogram of “Fitted surface albedo” for 2025-04-22 to 2025-04-22	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22	51
45	Histogram of “RMS” for 2025-04-22 to 2025-04-22	52
46	Histogram of “RMS (CRB)” for 2025-04-22 to 2025-04-22	53
47	Histogram of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22	54
48	Histogram of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22	55
49	Histogram of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22	56
50	Histogram of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22	57
51	Histogram of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22	58
52	Along track statistics of “QA value” for 2025-04-22 to 2025-04-22	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-04-22 to 2025-04-22	60
54	Along track statistics of “Cloud top height” for 2025-04-22 to 2025-04-22	61
55	Along track statistics of “Cloud optical thickness” for 2025-04-22 to 2025-04-22	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-04-22 to 2025-04-22	63
57	Along track statistics of “Cloud height (CRB)” for 2025-04-22 to 2025-04-22	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-04-22 to 2025-04-22	65
59	Along track statistics of “Fitted surface albedo” for 2025-04-22 to 2025-04-22	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-22 to 2025-04-22	67
61	Along track statistics of “RMS” for 2025-04-22 to 2025-04-22	68
62	Along track statistics of “RMS (CRB)” for 2025-04-22 to 2025-04-22	69
63	Along track statistics of “Fitting wavelength shift” for 2025-04-22 to 2025-04-22	70
64	Along track statistics of “OCRA cloud fraction” for 2025-04-22 to 2025-04-22	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-04-22 to 2025-04-22	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-04-22 to 2025-04-22	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-04-22 to 2025-04-22	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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