

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-04-09 (02:30)

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]	0.602 ± 0.382	19465383	5.000×10^{-3}	0.670	0.740	0.0	1.000
cloud fraction [1]	0.555 ± 0.341	19465383	0.995	0.704	0.526	6.572×10^{-3}	1.000
cloud top height [m]	$(0.376 \pm 0.271) \times 10^4$	19465383	1.575×10^3	3.454×10^3	3.100×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.1 ± 34.3	19465383	8.91	10.7	9.39	1.000	250
cloud fraction crb [1]	0.555 ± 0.341	19465383	0.995	0.703	0.525	8.342×10^{-3}	1.000
cloud height crb [m]	$(0.288 \pm 0.236) \times 10^4$	19465383	75.0	3.055×10^3	2.325×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.603 ± 0.212	19465383	0.995	0.276	0.578	0.0	1.000
surface albedo fitted [1]	0.263 ± 0.325	19465383	2.500×10^{-2}	0.470	5.522×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.250 ± 0.310	19465383	1.500×10^{-2}	0.488	4.551×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.743 \pm 9.848) \times 10^{-4}$	19465383	5.000×10^{-5}	8.003×10^{-4}	3.923×10^{-4}	1.281×10^{-6}	0.246
fitted root mean square crb [1]	$(5.940 \pm 7.579) \times 10^{-4}$	19465383	5.000×10^{-5}	7.303×10^{-4}	2.961×10^{-4}	1.280×10^{-6}	7.293×10^{-2}
wavelength shift [nm]	$(7.383 \pm 6.870) \times 10^{-3}$	19465383	3.000×10^{-4}	9.557×10^{-3}	6.751×10^{-3}	-4.920×10^{-2}	6.242×10^{-2}
cloud fraction apriori [1]	0.564 ± 0.345	19465383	0.995	0.745	0.543	0.0	1.000
reflectance blue ocra [1]	0.573 ± 0.232	19465383	0.265	0.393	0.556	0.137	1.96
reflectance green ocra [1]	0.523 ± 0.258	19465383	0.175	0.465	0.514	8.088×10^{-2}	2.64
reflectance continuum aband [1]	0.477 ± 0.282	19465383	4.500×10^{-2}	0.477	0.482	1.214×10^{-2}	6.92

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	0.270	0.940	1.000	1.000	1.000	1.000
cloud fraction [1]	2.612×10^{-2}	6.766×10^{-2}	0.105	0.153	0.239	0.943	1.000	1.000	1.000	1.000
cloud top height [m]	189	602	947	1.269×10^3	1.695×10^3	5.149×10^3	6.452×10^3	7.677×10^3	9.235×10^3	1.185×10^4
cloud optical thickness [1]	1.14	2.94	4.04	4.87	5.80	16.5	24.9	36.9	63.5	250
cloud fraction crb [1]	2.559×10^{-2}	6.671×10^{-2}	0.104	0.153	0.239	0.942	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	71.3	392	688	1.062×10^3	4.117×10^3	5.251×10^3	6.290×10^3	7.604×10^3	9.862×10^3
cloud albedo crb [1]	3.385×10^{-2}	0.259	0.366	0.423	0.470	0.746	0.839	0.914	0.993	1.000
surface albedo fitted [1]	0.0	1.056×10^{-2}	1.576×10^{-2}	2.039×10^{-2}	2.713×10^{-2}	0.497	0.749	0.827	0.908	0.993
surface albedo fitted crb [1]	5.750×10^{-4}	7.604×10^{-3}	1.158×10^{-2}	1.534×10^{-2}	2.096×10^{-2}	0.509	0.709	0.781	0.847	0.929
fitted root mean square [1]	1.545×10^{-5}	3.024×10^{-5}	4.752×10^{-5}	7.372×10^{-5}	1.248×10^{-4}	9.252×10^{-4}	1.278×10^{-3}	1.650×10^{-3}	2.207×10^{-3}	3.594×10^{-3}
fitted root mean square crb [1]	9.004×10^{-6}	1.996×10^{-5}	3.316×10^{-5}	5.071×10^{-5}	8.705×10^{-5}	8.174×10^{-4}	1.192×10^{-3}	1.577×10^{-3}	2.141×10^{-3}	3.457×10^{-3}
wavelength shift [nm]	-8.579×10^{-3}	-1.407×10^{-3}	-5.843×10^{-5}	8.413×10^{-4}	2.315×10^{-3}	1.187×10^{-2}	1.428×10^{-2}	1.634×10^{-2}	1.908×10^{-2}	2.510×10^{-2}
cloud fraction apriori [1]	2.838×10^{-2}	6.464×10^{-2}	9.981×10^{-2}	0.149	0.241	0.986	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.258	0.282	0.312	0.364	0.758	0.821	0.870	0.934	1.16
reflectance green ocra [1]	0.152	0.173	0.192	0.220	0.276	0.741	0.808	0.861	0.919	1.10
reflectance continuum aband [1]	2.933×10^{-2}	5.324×10^{-2}	8.621×10^{-2}	0.132	0.233	0.710	0.782	0.838	0.901	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]	0.547 ± 0.383	10845233	0.890	0.680	0.0	1.000	1.000×10^{-2}	0.900
cloud fraction [1]	0.538 ± 0.339	10845233	0.701	0.483	6.572×10^{-3}	1.000	0.233	0.933
cloud top height [m]	$(0.356 \pm 0.261) \times 10^4$	10845233	3.286×10^3	2.956×10^3	0.0	2.000×10^4	1.579×10^3	4.865×10^3
cloud optical thickness [1]	16.6 ± 31.7	10845233	8.53	8.47	1.000	250	5.42	13.9
cloud fraction crb [1]	0.538 ± 0.338	10845233	0.700	0.484	8.342×10^{-3}	1.000	0.233	0.933
cloud height crb [m]	$(0.257 \pm 0.219) \times 10^4$	10845233	2.832×10^3	2.075×10^3	0.0	2.000×10^4	854	3.685×10^3
cloud albedo crb [1]	0.636 ± 0.230	10845233	0.340	0.627	0.0	1.000	0.481	0.821
surface albedo fitted [1]	0.372 ± 0.351	10845233	0.701	0.233	0.0	1.000	3.901×10^{-2}	0.740
surface albedo fitted crb [1]	0.354 ± 0.331	10845233	0.668	0.231	0.0	1.000	3.182×10^{-2}	0.700
fitted root mean square [1]	$(8.578 \pm 11.806) \times 10^{-4}$	10845233	9.959×10^{-4}	5.909×10^{-4}	2.257×10^{-6}	0.246	1.910×10^{-4}	1.187×10^{-3}
fitted root mean square crb [1]	$(7.454 \pm 8.633) \times 10^{-4}$	10845233	9.477×10^{-4}	4.315×10^{-4}	2.463×10^{-6}	7.293×10^{-2}	1.250×10^{-4}	1.073×10^{-3}
wavelength shift [nm]	$(8.554 \pm 6.955) \times 10^{-3}$	10845233	9.881×10^{-3}	8.316×10^{-3}	-4.920×10^{-2}	6.024×10^{-2}	3.405×10^{-3}	1.329×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.341	10845233	0.747	0.513	0.0	1.000	0.242	0.989
reflectance blue oca [1]	0.605 ± 0.243	10845233	0.427	0.629	0.137	1.94	0.371	0.798
reflectance green oca [1]	0.564 ± 0.267	10845233	0.494	0.605	8.088×10^{-2}	1.83	0.293	0.787
reflectance continuum aband [1]	0.531 ± 0.284	10845233	0.476	0.578	1.287×10^{-2}	4.21	0.285	0.760

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]	0.671 ± 0.370	8620150	0.600	0.890	0.0	1.000	0.400	1.000
cloud fraction [1]	0.577 ± 0.342	8620150	0.702	0.588	7.724×10^{-3}	1.000	0.250	0.951
cloud top height [m]	$(0.401 \pm 0.281) \times 10^4$	8620150	3.701×10^3	3.279×10^3	0.0	2.000×10^4	1.834×10^3	5.536×10^3
cloud optical thickness [1]	22.1 ± 37.0	8620150	13.3	10.8	1.000	250	6.64	20.0
cloud fraction crb [1]	0.575 ± 0.342	8620150	0.701	0.586	8.547×10^{-3}	1.000	0.248	0.949
cloud height crb [m]	$(0.328 \pm 0.250) \times 10^4$	8620150	3.401×10^3	2.648×10^3	0.0	2.000×10^4	1.307×10^3	4.708×10^3
cloud albedo crb [1]	0.560 ± 0.177	8620150	0.196	0.544	0.0	1.000	0.461	0.657
surface albedo fitted [1]	0.126 ± 0.224	8620150	4.687×10^{-2}	3.459×10^{-2}	0.0	1.000	2.081×10^{-2}	6.768×10^{-2}
surface albedo fitted crb [1]	0.119 ± 0.221	8620150	4.195×10^{-2}	2.689×10^{-2}	0.0	1.000	1.521×10^{-2}	5.716×10^{-2}
fitted root mean square [1]	$(4.435 \pm 5.839) \times 10^{-4}$	8620150	4.945×10^{-4}	2.384×10^{-4}	1.281×10^{-6}	8.960×10^{-2}	8.780×10^{-5}	5.823×10^{-4}
fitted root mean square crb [1]	$(4.036 \pm 5.426) \times 10^{-4}$	8620150	4.690×10^{-4}	1.867×10^{-4}	1.280×10^{-6}	3.561×10^{-2}	6.319×10^{-5}	5.322×10^{-4}
wavelength shift [nm]	$(5.910 \pm 6.467) \times 10^{-3}$	8620150	8.266×10^{-3}	5.044×10^{-3}	-4.862×10^{-2}	6.242×10^{-2}	1.426×10^{-3}	9.692×10^{-3}
cloud fraction apriori [1]	0.577 ± 0.349	8620150	0.744	0.589	0.0	1.000	0.240	0.984
reflectance blue ocrs [1]	0.532 ± 0.210	8620150	0.311	0.503	0.145	1.96	0.359	0.670
reflectance green ocrs [1]	0.471 ± 0.237	8620150	0.377	0.444	8.639×10^{-2}	2.64	0.262	0.638
reflectance continuum aband [1]	0.410 ± 0.266	8620150	0.419	0.394	1.214×10^{-2}	6.92	0.180	0.599

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]	0.620 ± 0.380	14121239	0.650	0.800	0.0	1.000	0.300	0.950
cloud fraction [1]	0.556 ± 0.346	14121239	0.724	0.530	7.724×10^{-3}	1.000	0.230	0.954
cloud top height [m]	$(0.348 \pm 0.250) \times 10^4$	14121239	3.100×10^3	2.853×10^3	0.0	2.000×10^4	1.595×10^3	4.694×10^3
cloud optical thickness [1]	20.2 ± 35.0	14121239	11.2	10.1	1.000	250	6.46	17.7
cloud fraction crb [1]	0.556 ± 0.346	14121239	0.723	0.529	8.471×10^{-3}	1.000	0.230	0.952
cloud height crb [m]	$(0.270 \pm 0.221) \times 10^4$	14121239	2.841×10^3	2.161×10^3	0.0	2.000×10^4	986	3.827×10^3
cloud albedo crb [1]	0.584 ± 0.196	14121239	0.242	0.556	0.0	1.000	0.463	0.705
surface albedo fitted [1]	0.179 ± 0.295	14121239	4.846×10^{-2}	3.668×10^{-2}	0.0	1.000	2.213×10^{-2}	7.059×10^{-2}
surface albedo fitted crb [1]	0.165 ± 0.278	14121239	4.258×10^{-2}	2.916×10^{-2}	0.0	1.000	1.677×10^{-2}	5.935×10^{-2}
fitted root mean square [1]	$(5.264 \pm 8.062) \times 10^{-4}$	14121239	5.961×10^{-4}	2.616×10^{-4}	1.281×10^{-6}	0.246	9.274×10^{-5}	6.888×10^{-4}
fitted root mean square crb [1]	$(4.603 \pm 6.614) \times 10^{-4}$	14121239	4.922×10^{-4}	2.006×10^{-4}	1.280×10^{-6}	3.561×10^{-2}	6.844×10^{-5}	5.607×10^{-4}
wavelength shift [nm]	$(6.721 \pm 6.789) \times 10^{-3}$	14121239	9.033×10^{-3}	5.918×10^{-3}	-4.657×10^{-2}	6.242×10^{-2}	1.915×10^{-3}	1.095×10^{-2}
cloud fraction apriori [1]	0.561 ± 0.350	14121239	0.763	0.541	0.0	1.000	0.227	0.991
reflectance blue oca [1]	0.551 ± 0.218	14121239	0.371	0.530	0.163	1.94	0.357	0.728
reflectance green oca [1]	0.495 ± 0.246	14121239	0.446	0.480	9.038×10^{-2}	1.80	0.259	0.705
reflectance continuum aband [1]	0.429 ± 0.279	14121239	0.508	0.426	1.241×10^{-2}	4.05	0.158	0.666

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]	0.571 ± 0.389	3752256	0.900	0.700	0.0	1.000	0.0	0.900
cloud fraction [1]	0.543 ± 0.329	3752256	0.648	0.500	6.572×10^{-3}	1.000	0.252	0.900
cloud top height [m]	$(0.485 \pm 0.310) \times 10^4$	3752256	4.270×10^3	4.277×10^3	0.0	2.000×10^4	2.423×10^3	6.693×10^3
cloud optical thickness [1]	14.4 ± 27.5	3752256	7.86	7.26	1.000	250	4.75	12.6
cloud fraction crb [1]	0.543 ± 0.329	3752256	0.648	0.500	8.342×10^{-3}	1.000	0.252	0.899
cloud height crb [m]	$(0.371 \pm 0.270) \times 10^4$	3752256	3.652×10^3	3.072×10^3	0.0	2.000×10^4	1.609×10^3	5.261×10^3
cloud albedo crb [1]	0.639 ± 0.235	3752256	0.324	0.639	0.0	1.000	0.499	0.823
surface albedo fitted [1]	0.470 ± 0.283	3752256	0.517	0.328	6.658×10^{-4}	1.000	0.237	0.755
surface albedo fitted crb [1]	0.459 ± 0.267	3752256	0.503	0.333	4.685×10^{-3}	1.000	0.233	0.736
fitted root mean square [1]	$(1.050 \pm 1.303) \times 10^{-3}$	3752256	9.600×10^{-4}	8.037×10^{-4}	4.649×10^{-6}	0.228	4.299×10^{-4}	1.390×10^{-3}
fitted root mean square crb [1]	$(9.380 \pm 8.743) \times 10^{-4}$	3752256	1.008×10^{-3}	7.267×10^{-4}	2.892×10^{-6}	7.293×10^{-2}	3.005×10^{-4}	1.308×10^{-3}
wavelength shift [nm]	$(8.659 \pm 6.593) \times 10^{-3}$	3752256	9.481×10^{-3}	8.429×10^{-3}	-3.496×10^{-2}	4.918×10^{-2}	3.684×10^{-3}	1.317×10^{-2}
cloud fraction apriori [1]	0.557 ± 0.334	3752256	0.697	0.524	0.0	1.000	0.258	0.955
reflectance blue ocra [1]	0.612 ± 0.263	3752256	0.452	0.605	0.137	1.96	0.368	0.820
reflectance green ocra [1]	0.577 ± 0.282	3752256	0.508	0.584	8.088×10^{-2}	2.64	0.305	0.812
reflectance continuum aband [1]	0.591 ± 0.247	3752256	0.411	0.584	1.300×10^{-2}	6.92	0.375	0.787

3 Granule outlines

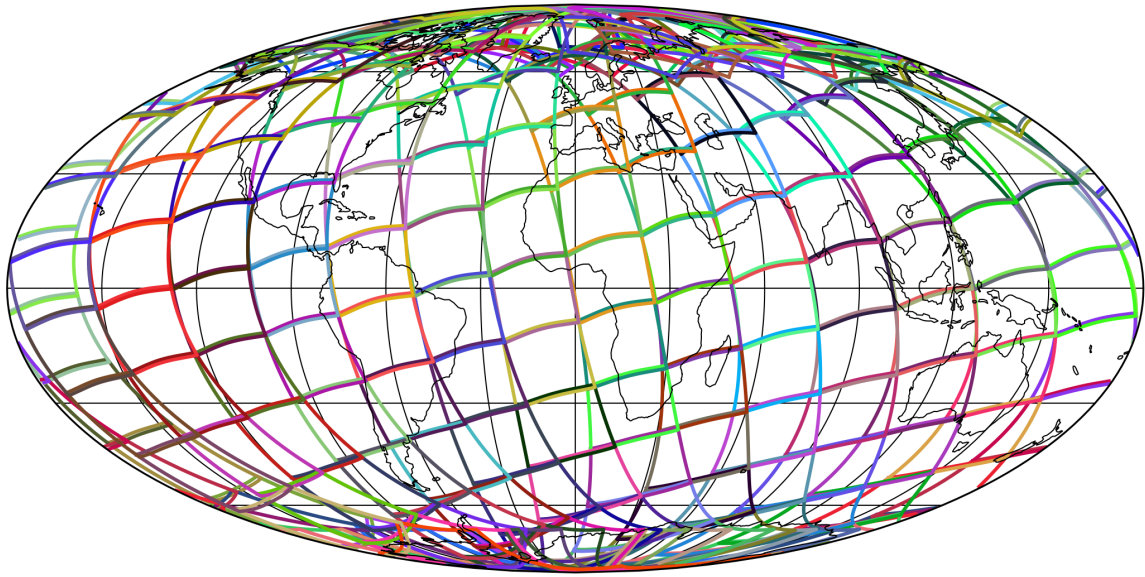


Figure 1: Outline of the granules.

4 Input data monitoring

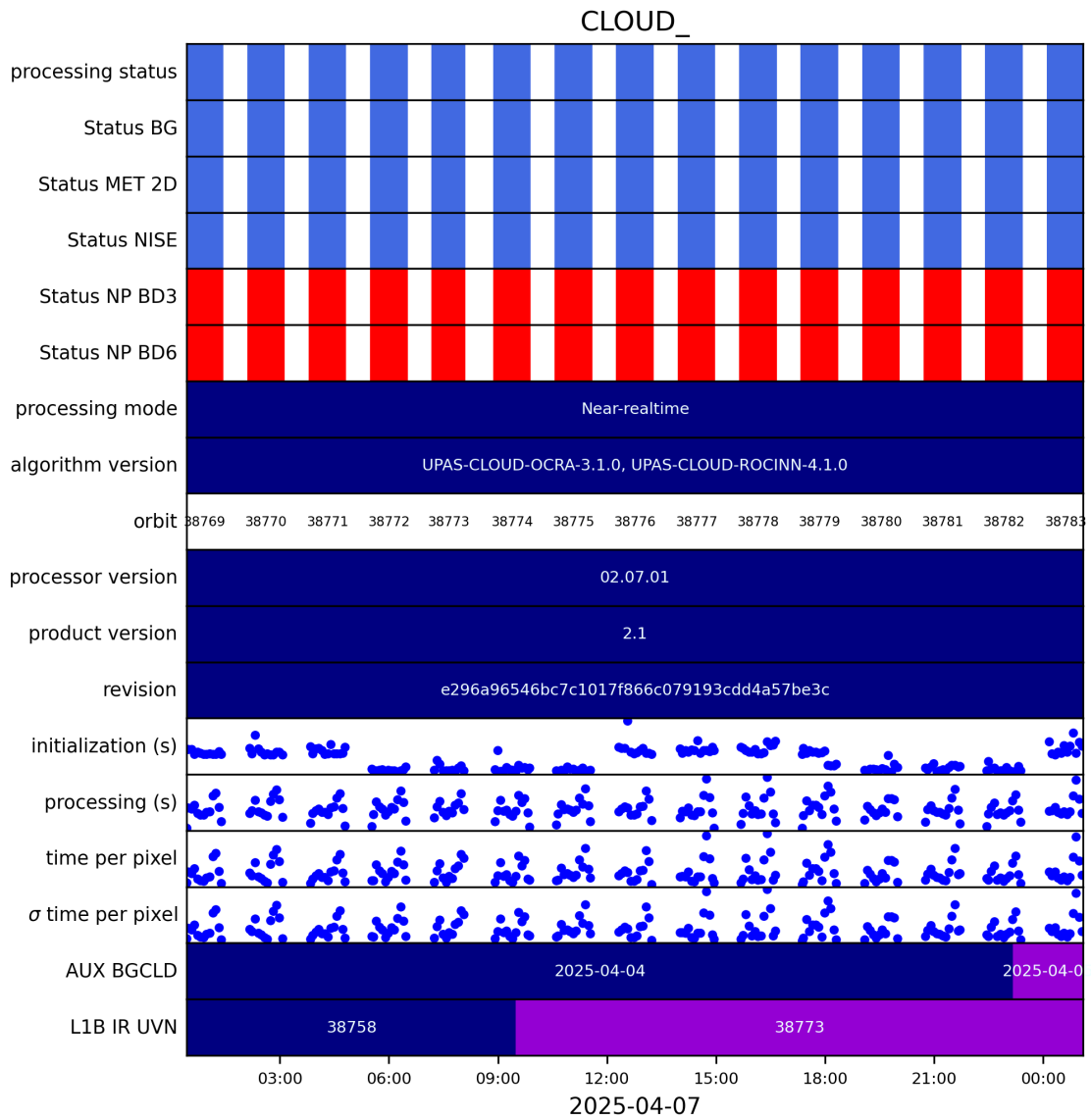


Figure 2: Input data per granule

5 Warnings and errors

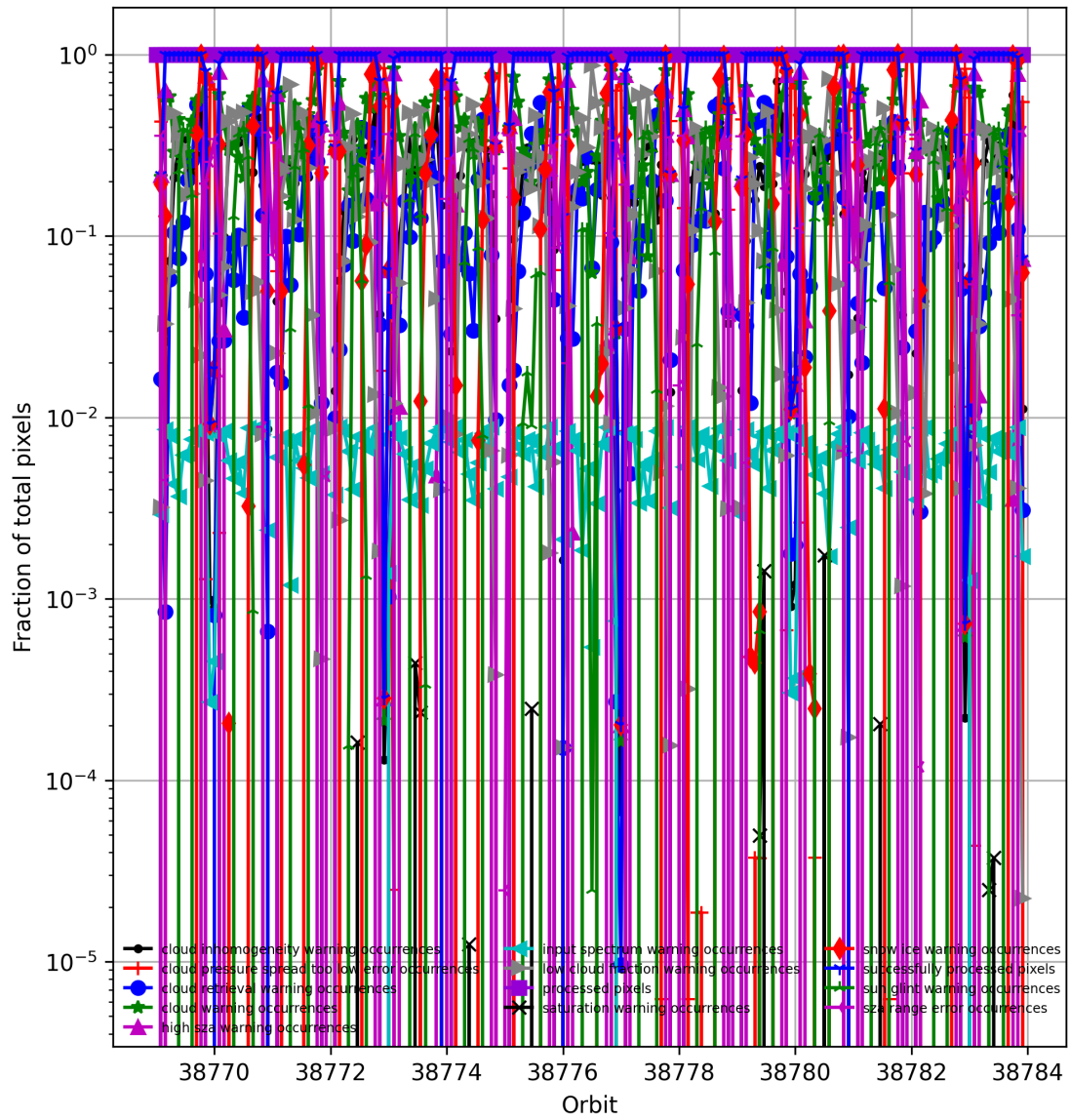


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

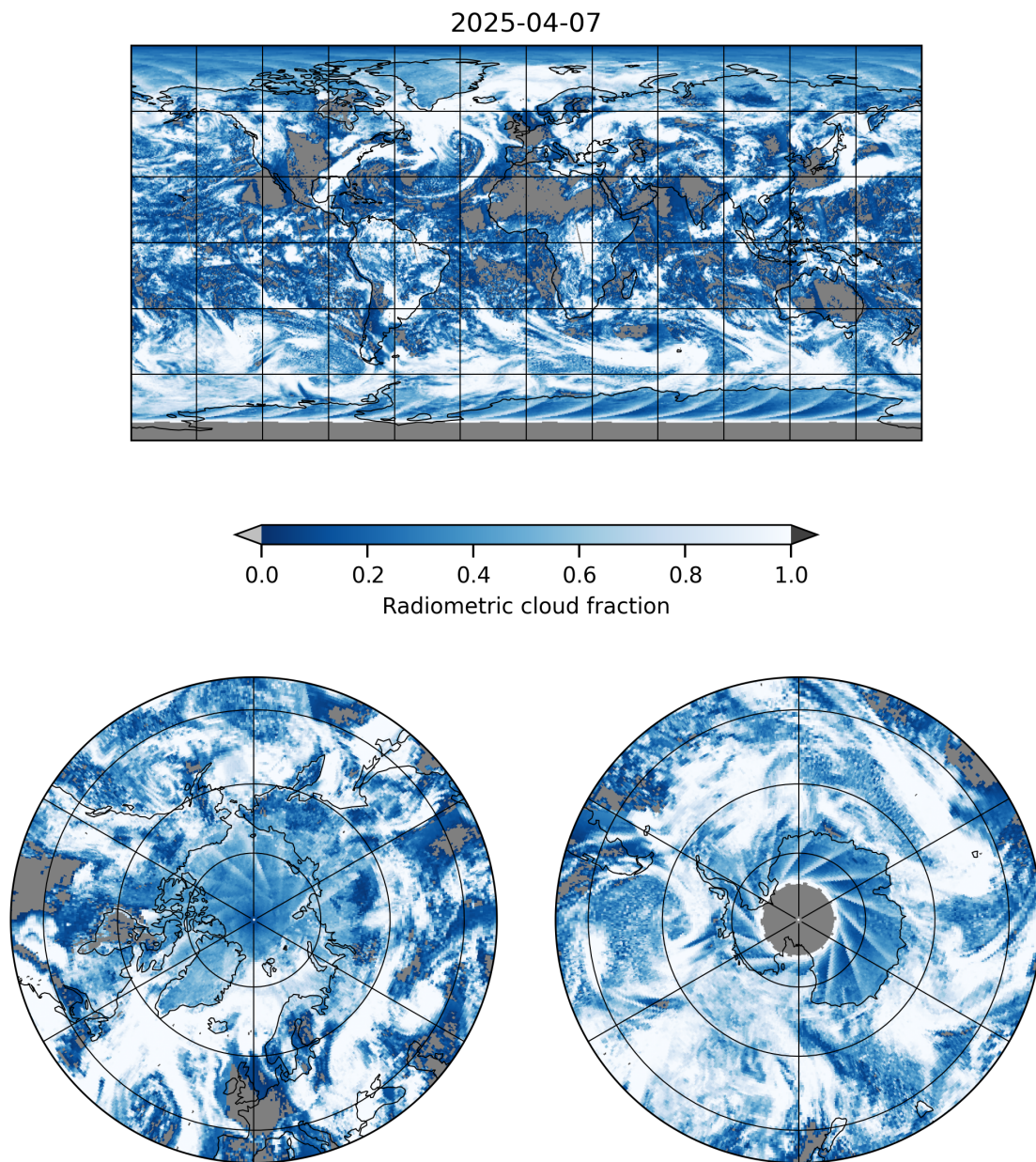


Figure 4: Map of “Radiometric cloud fraction” for 2025-04-07 to 2025-04-08

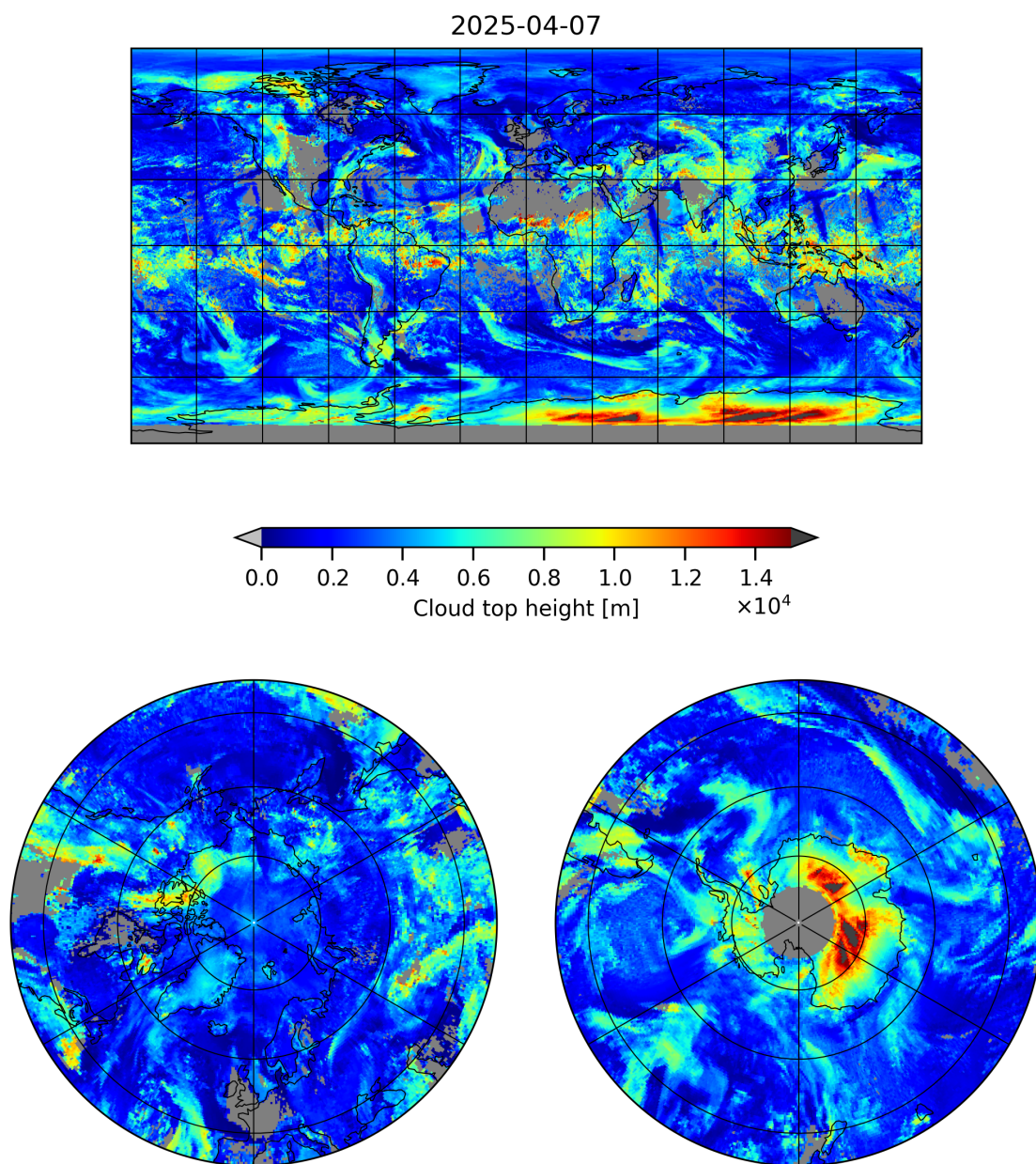


Figure 5: Map of “Cloud top height” for 2025-04-07 to 2025-04-08

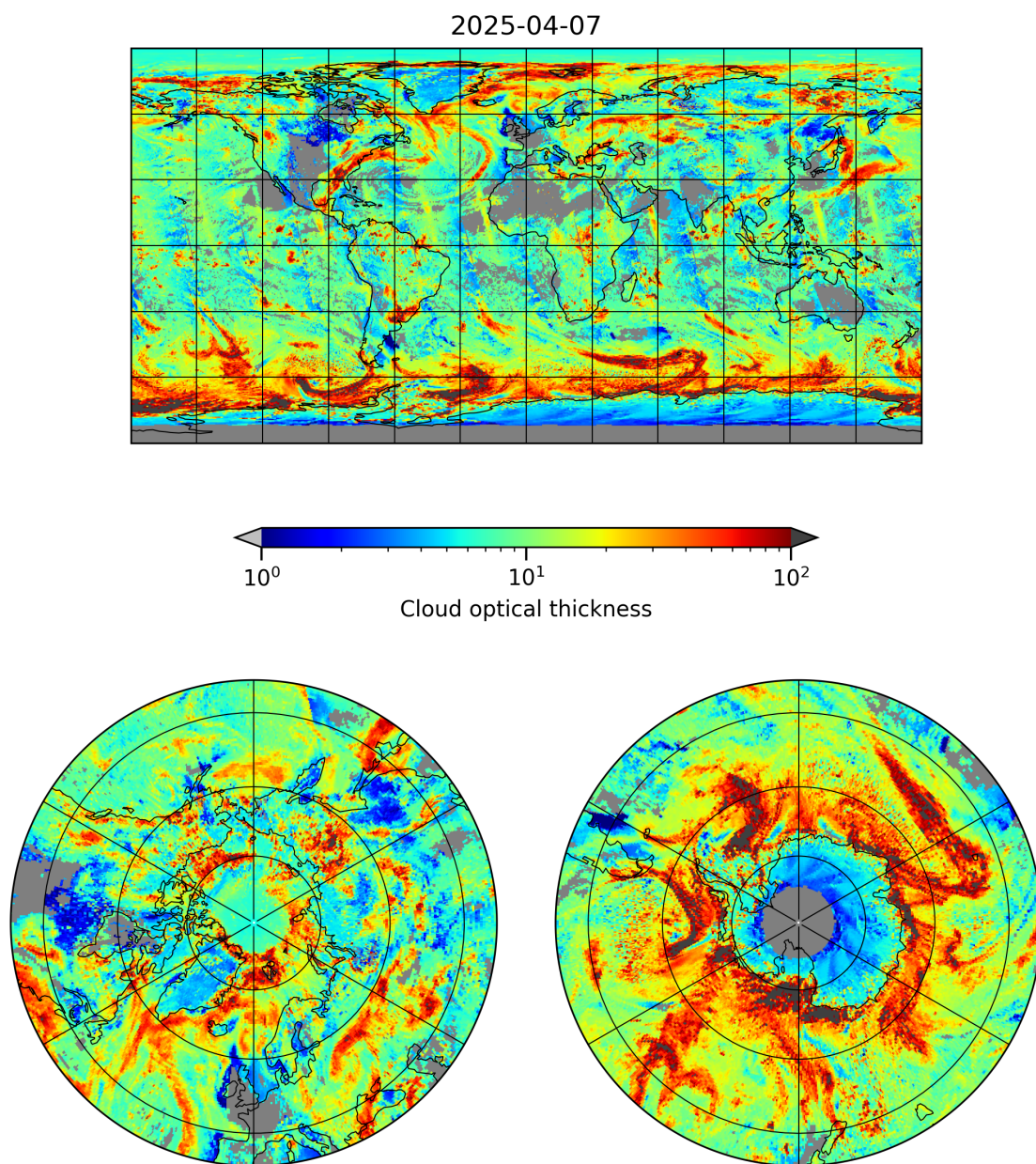


Figure 6: Map of “Cloud optical thickness” for 2025-04-07 to 2025-04-08

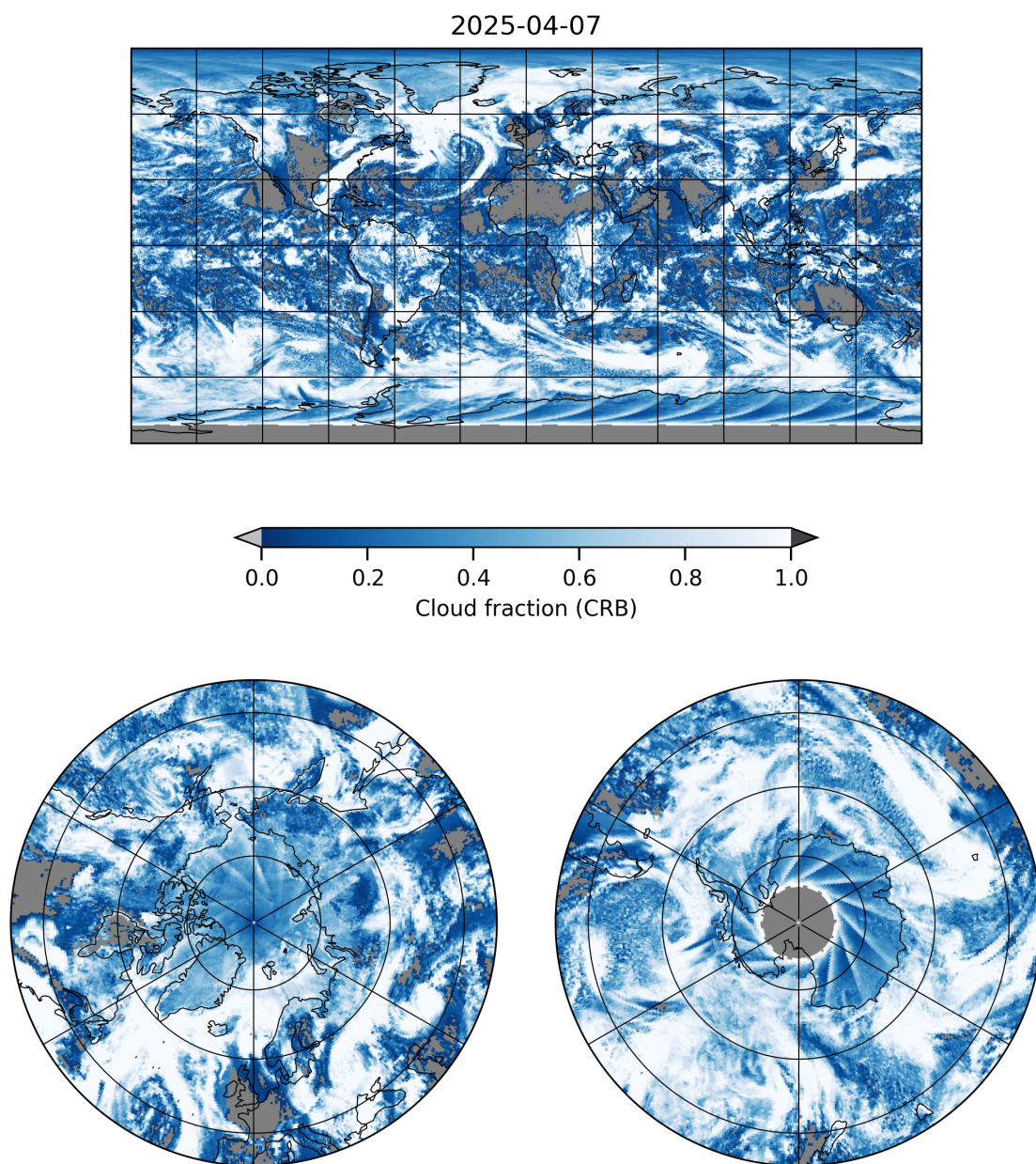


Figure 7: Map of “Cloud fraction (CRB)” for 2025-04-07 to 2025-04-08

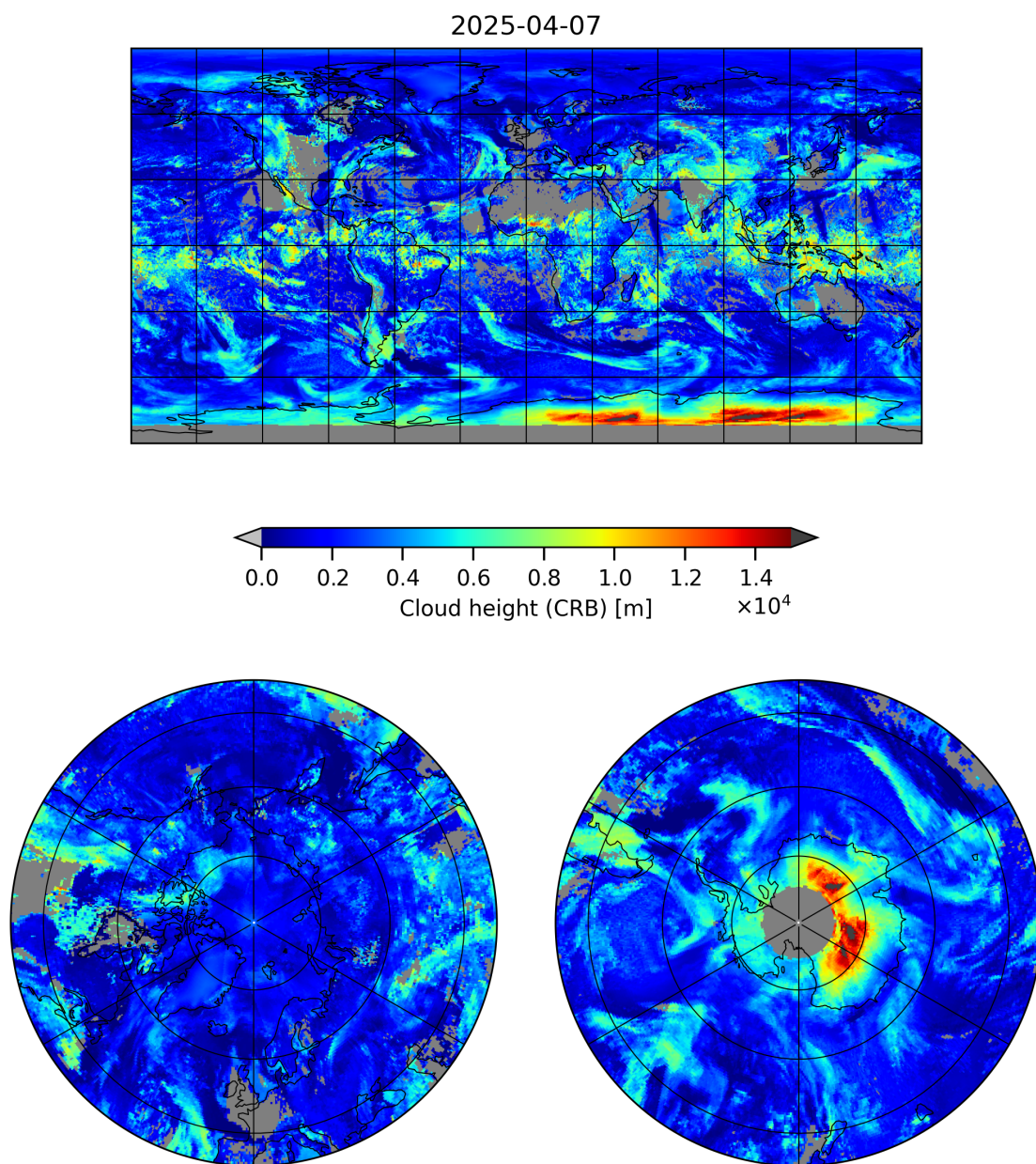


Figure 8: Map of “Cloud height (CRB)” for 2025-04-07 to 2025-04-08

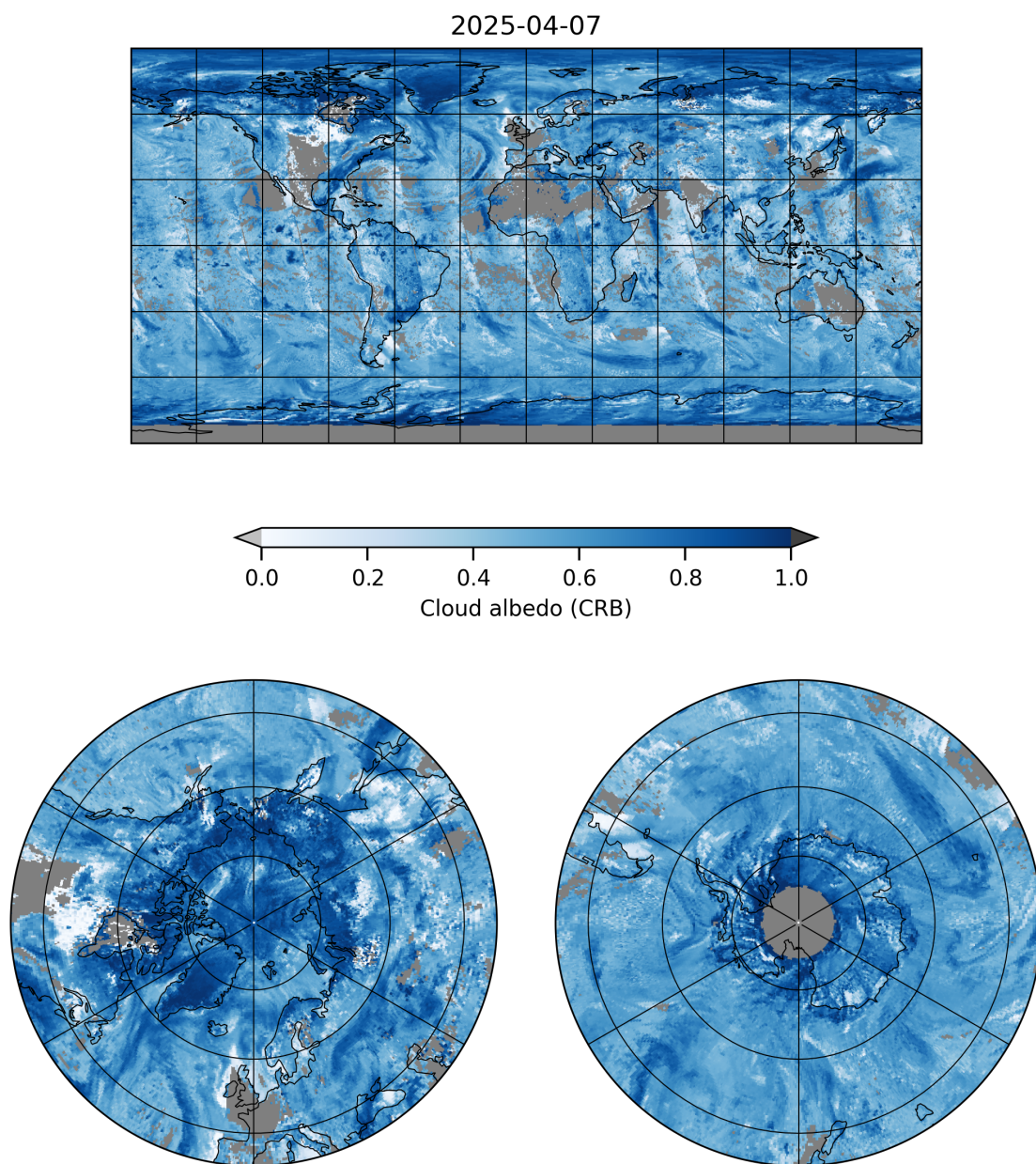


Figure 9: Map of “Cloud albedo (CRB)” for 2025-04-07 to 2025-04-08

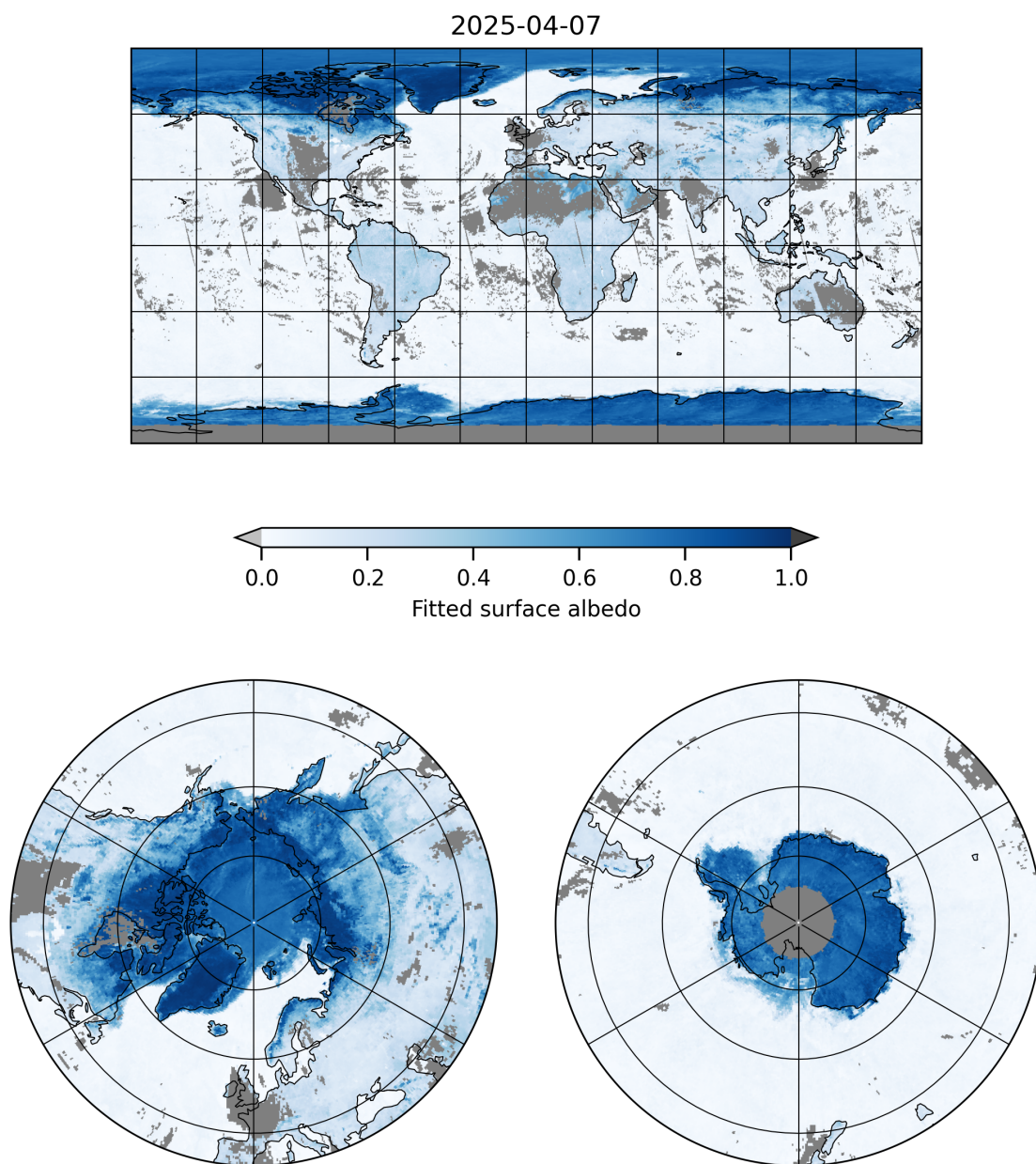


Figure 10: Map of “Fitted surface albedo” for 2025-04-07 to 2025-04-08

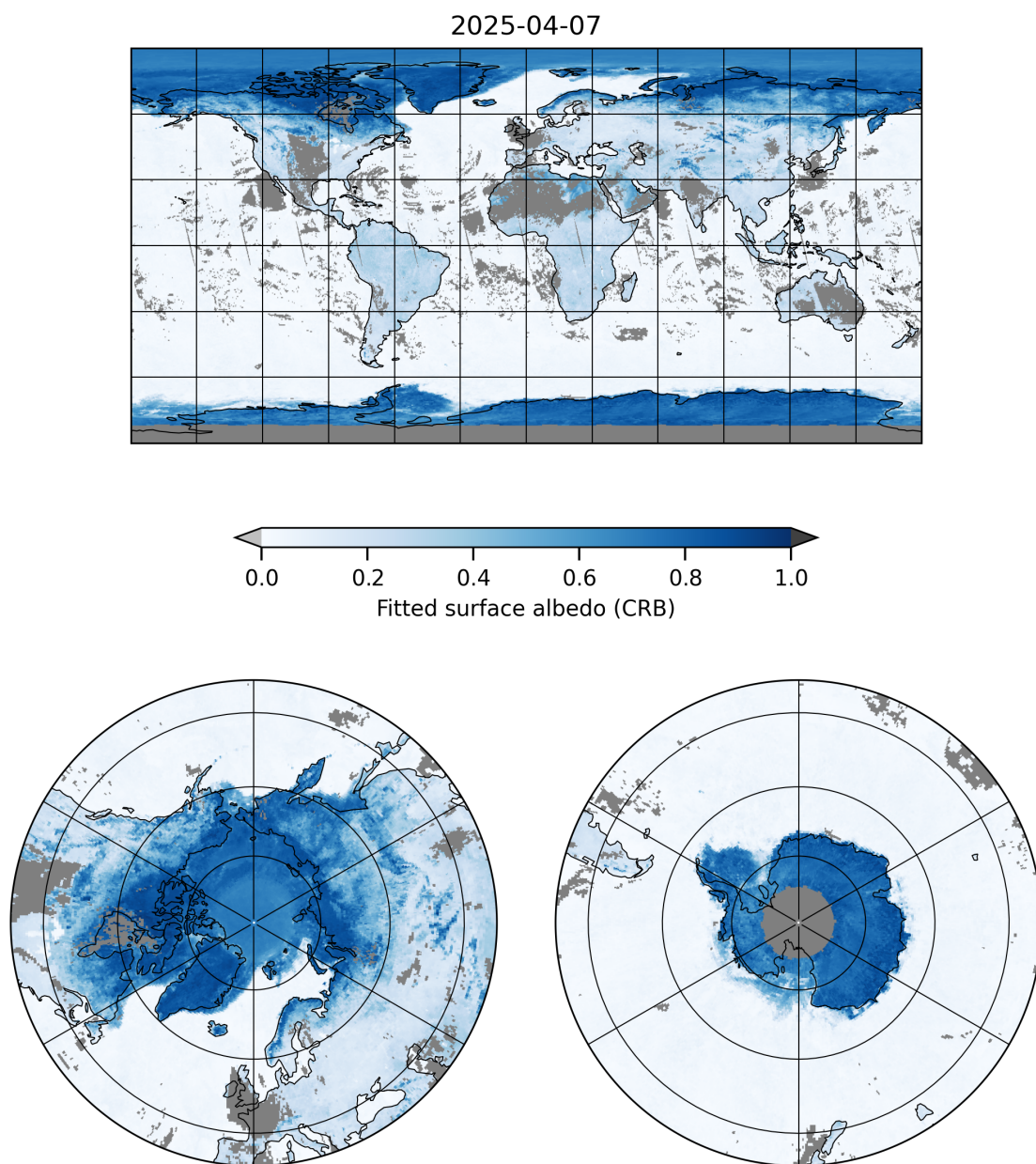


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-04-07 to 2025-04-08

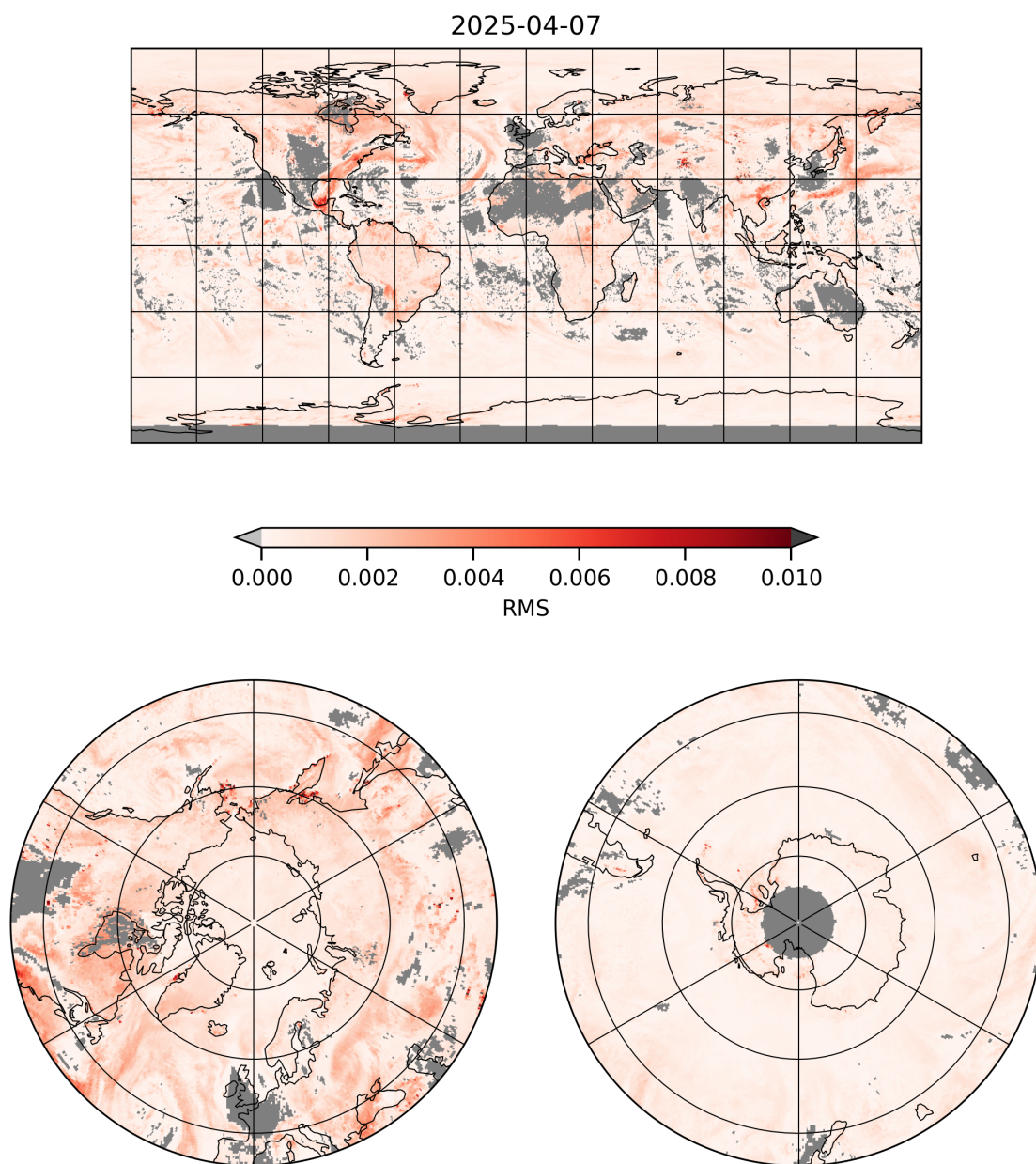


Figure 12: Map of “RMS” for 2025-04-07 to 2025-04-08

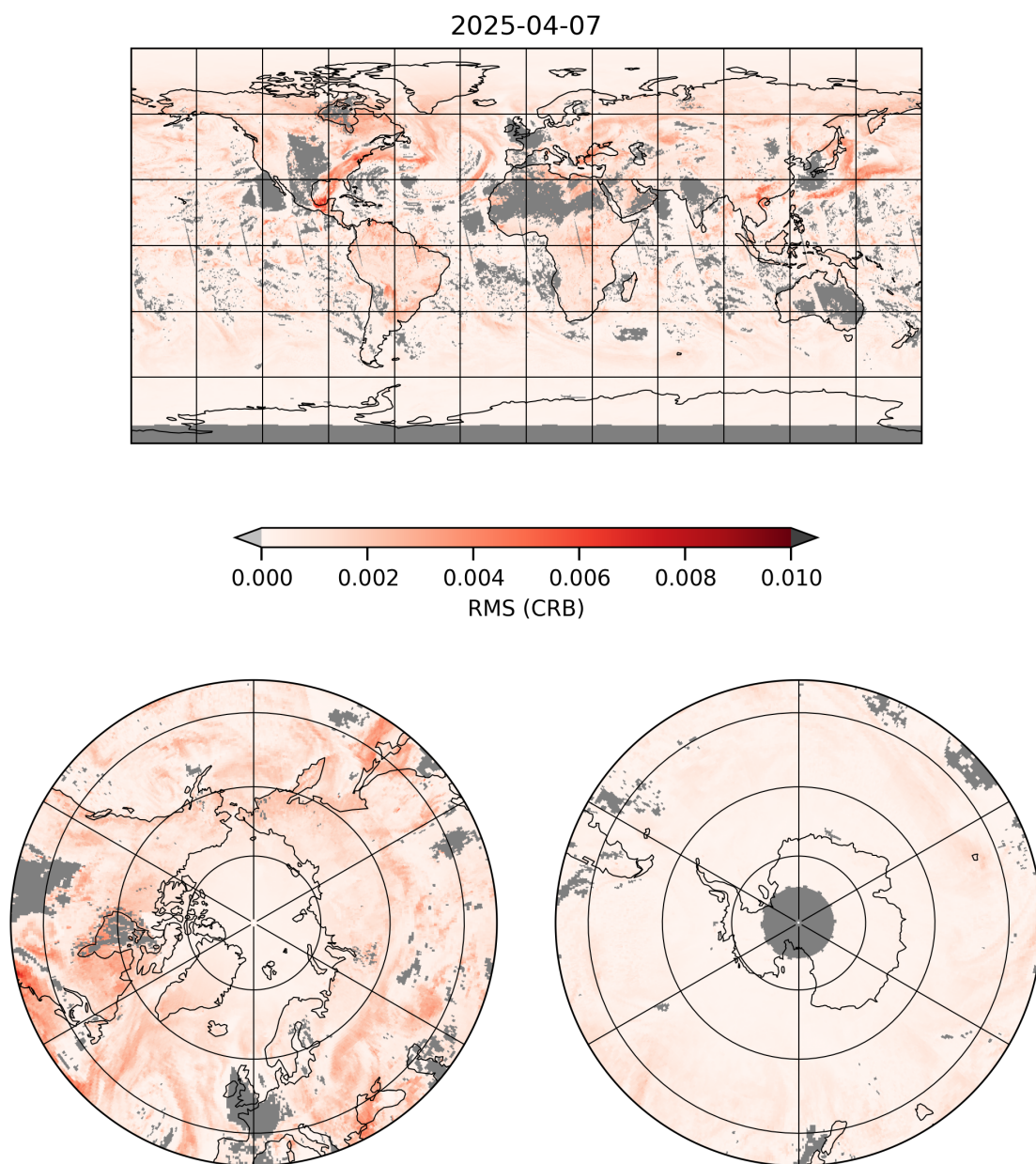


Figure 13: Map of “RMS (CRB)” for 2025-04-07 to 2025-04-08

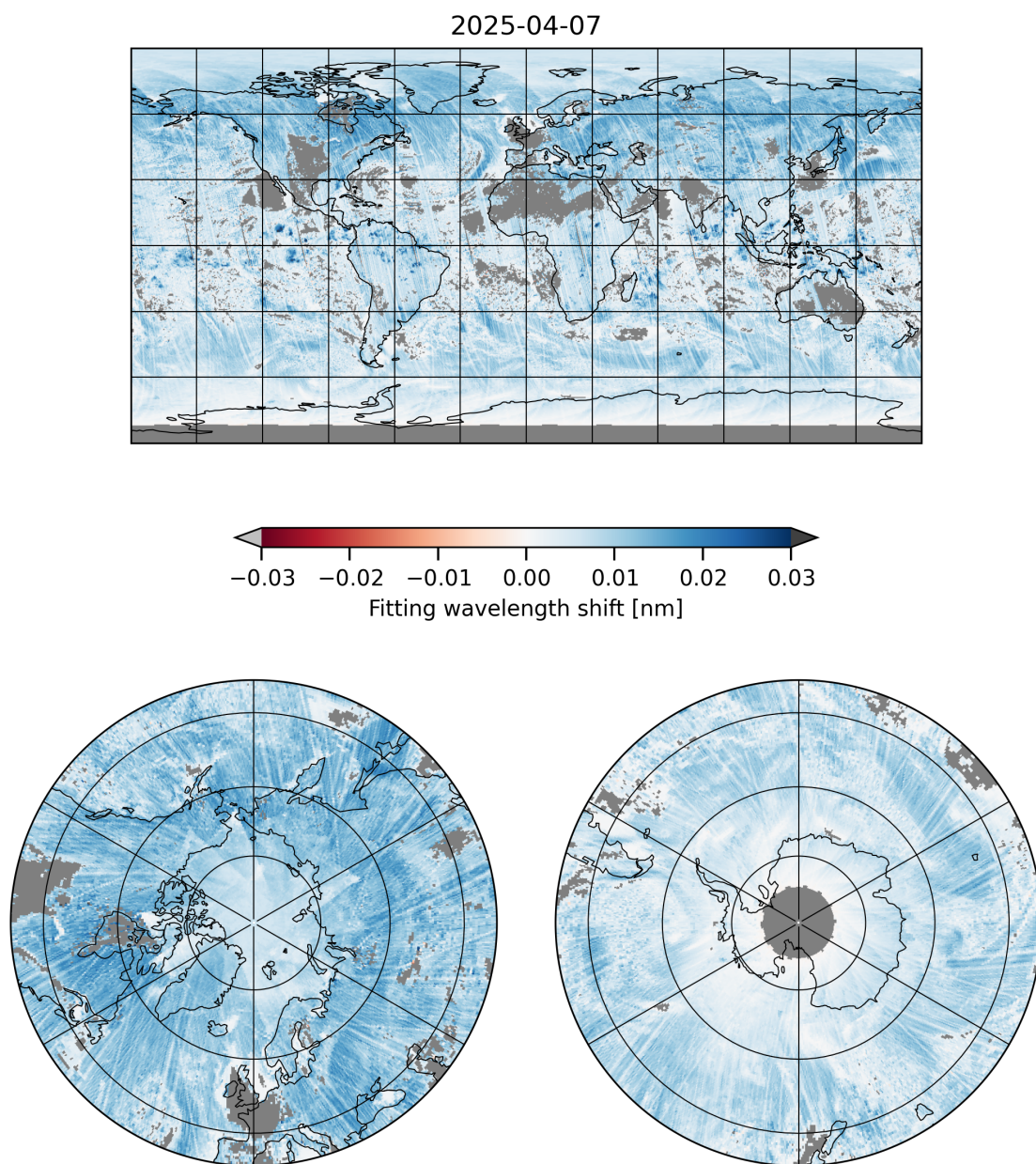


Figure 14: Map of “Fitting wavelength shift” for 2025-04-07 to 2025-04-08

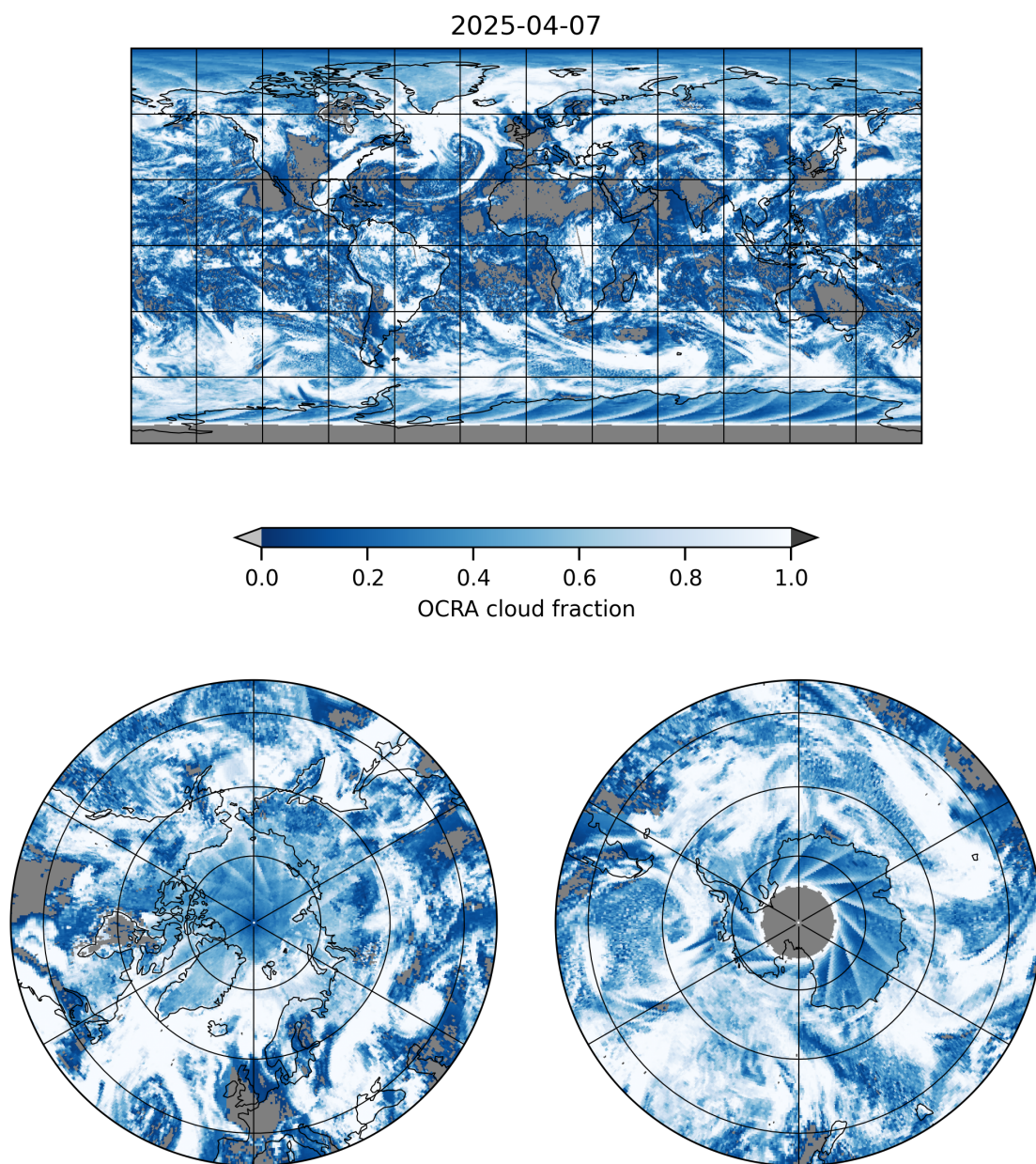
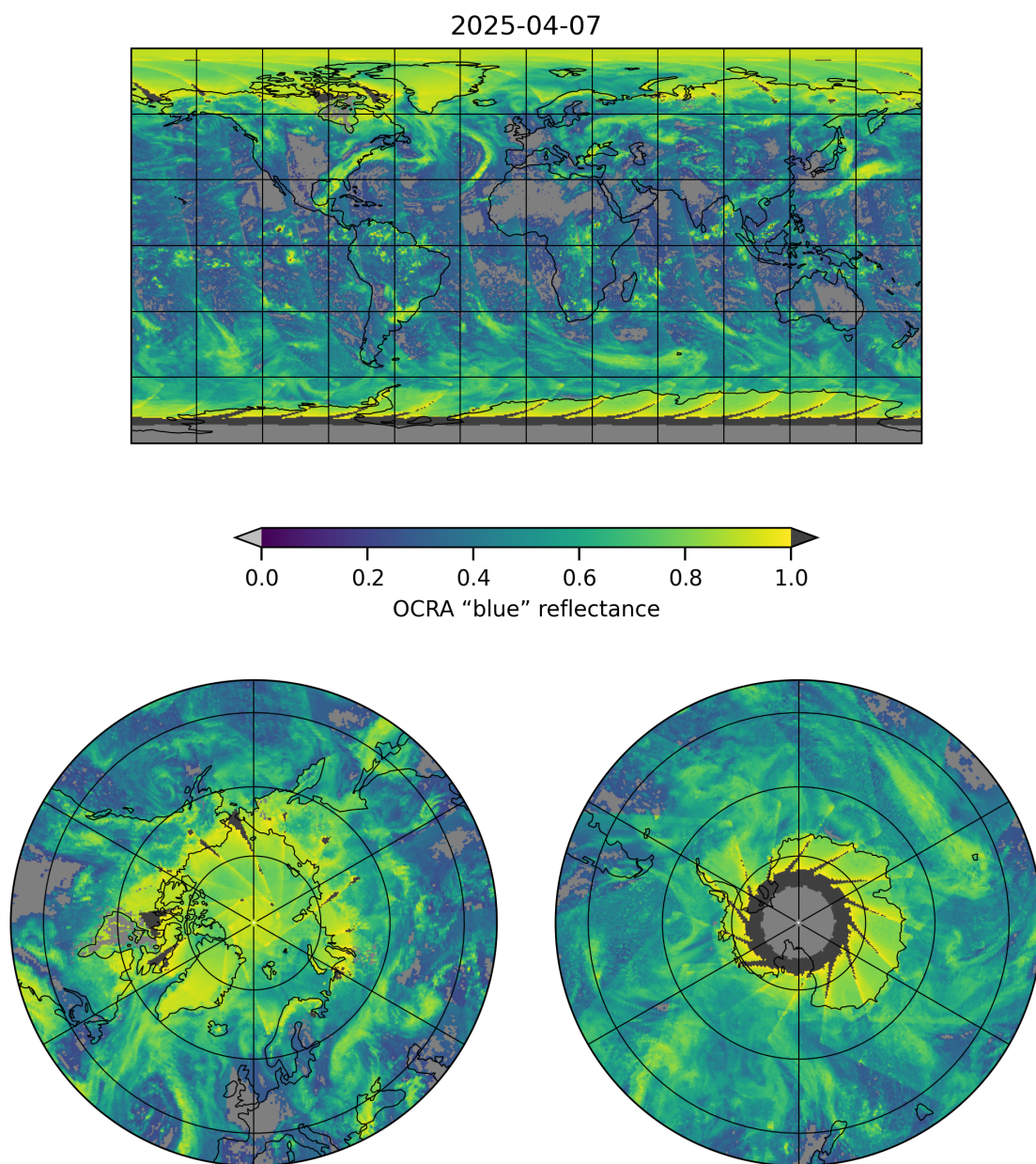


Figure 15: Map of “OCRA cloud fraction” for 2025-04-07 to 2025-04-08



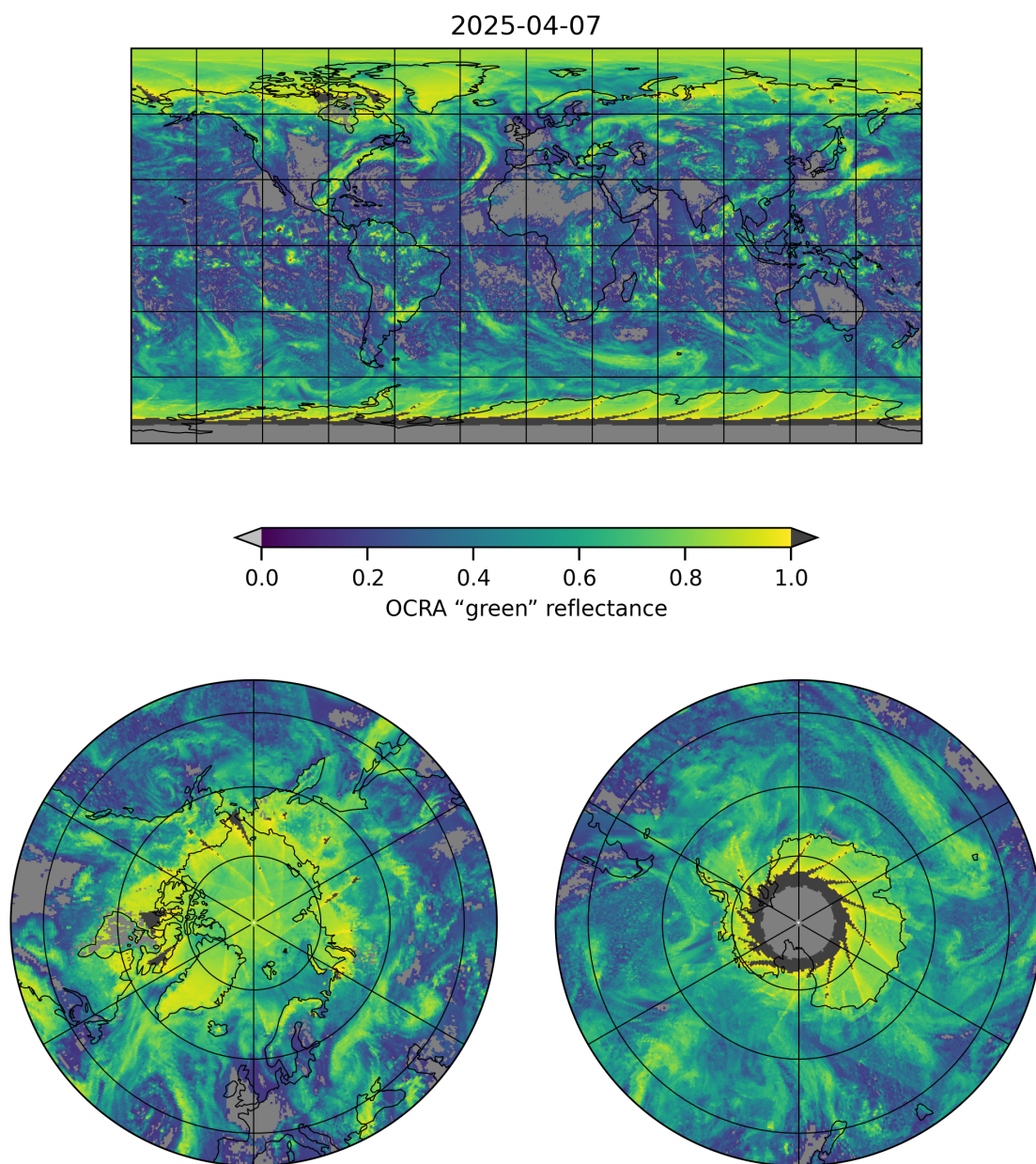


Figure 17: Map of "OCRA "green" reflectance" for 2025-04-07 to 2025-04-08

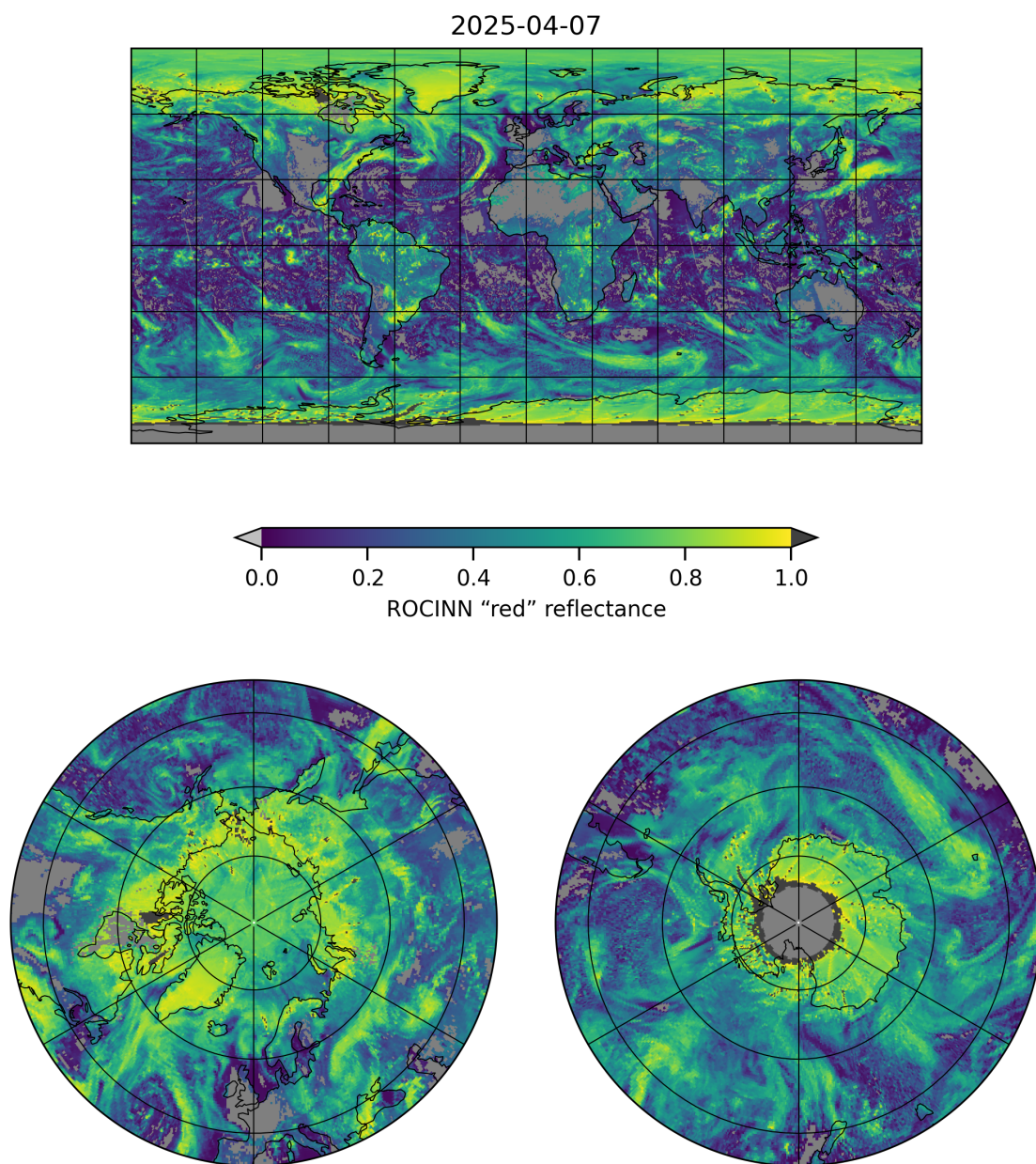


Figure 18: Map of "ROCINN "red" reflectance" for 2025-04-07 to 2025-04-08

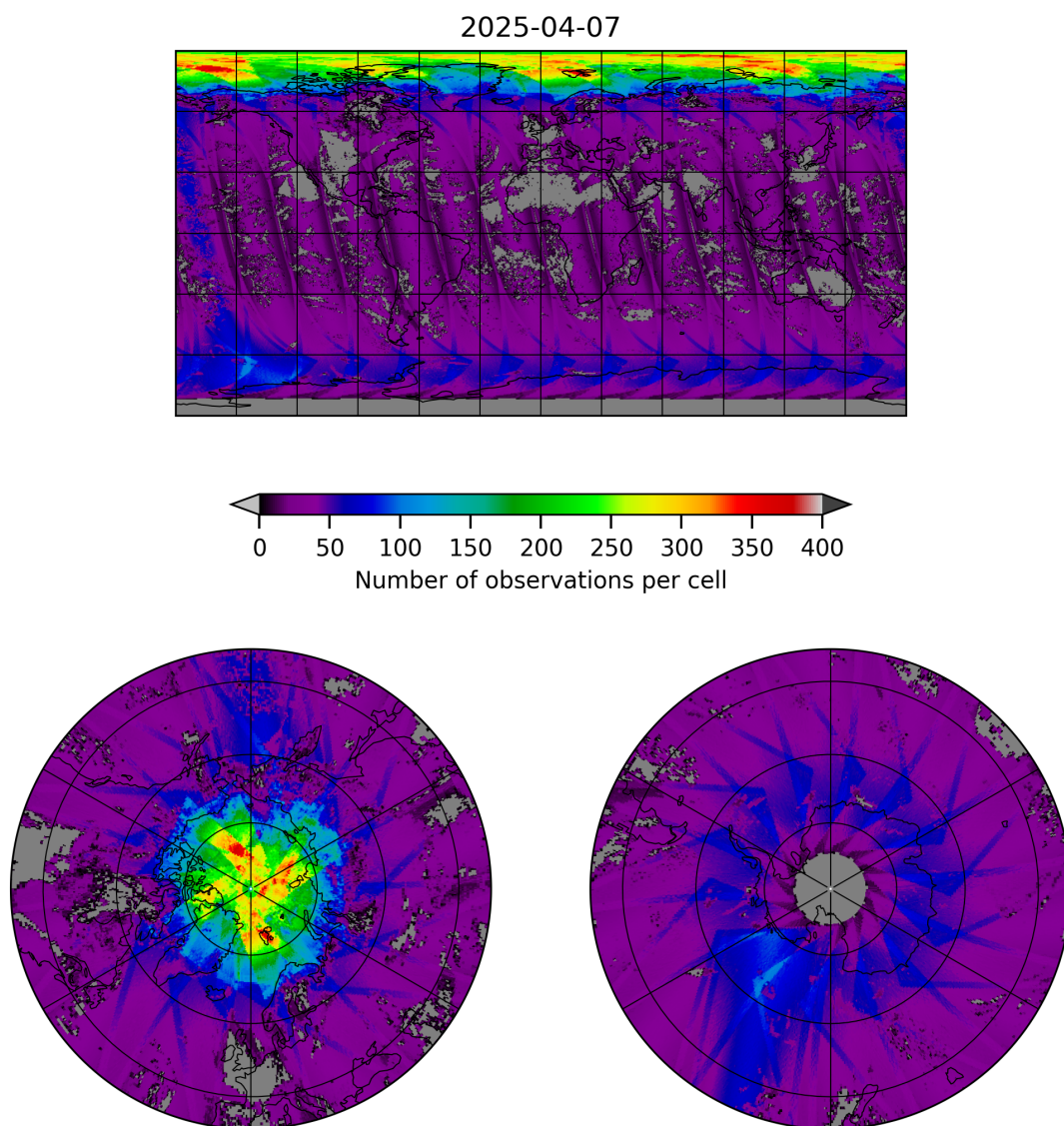


Figure 19: Map of the number of observations for 2025-04-07 to 2025-04-08

7 Zonal average

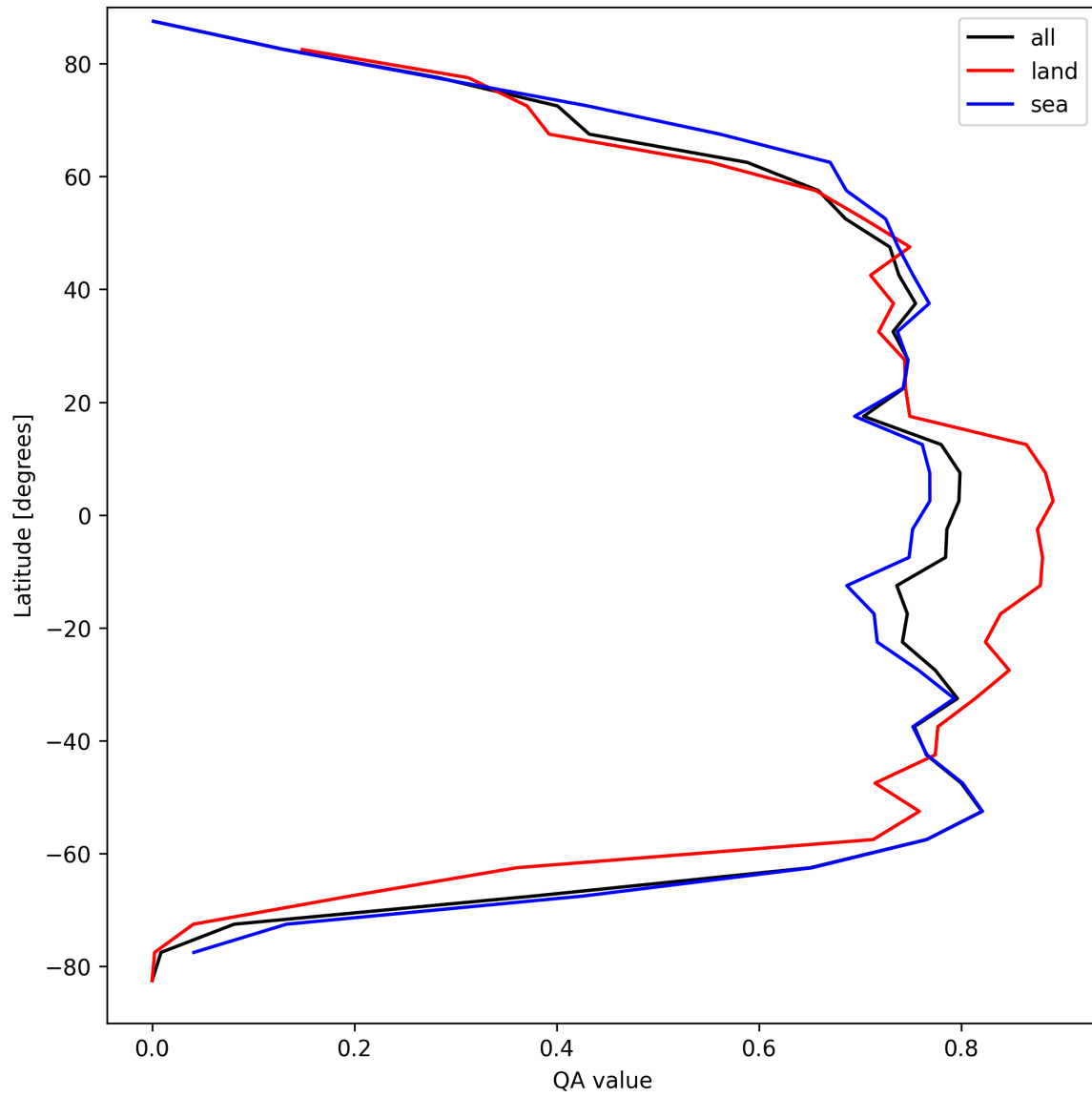


Figure 20: Zonal average of “QA value” for 2025-04-07 to 2025-04-08.

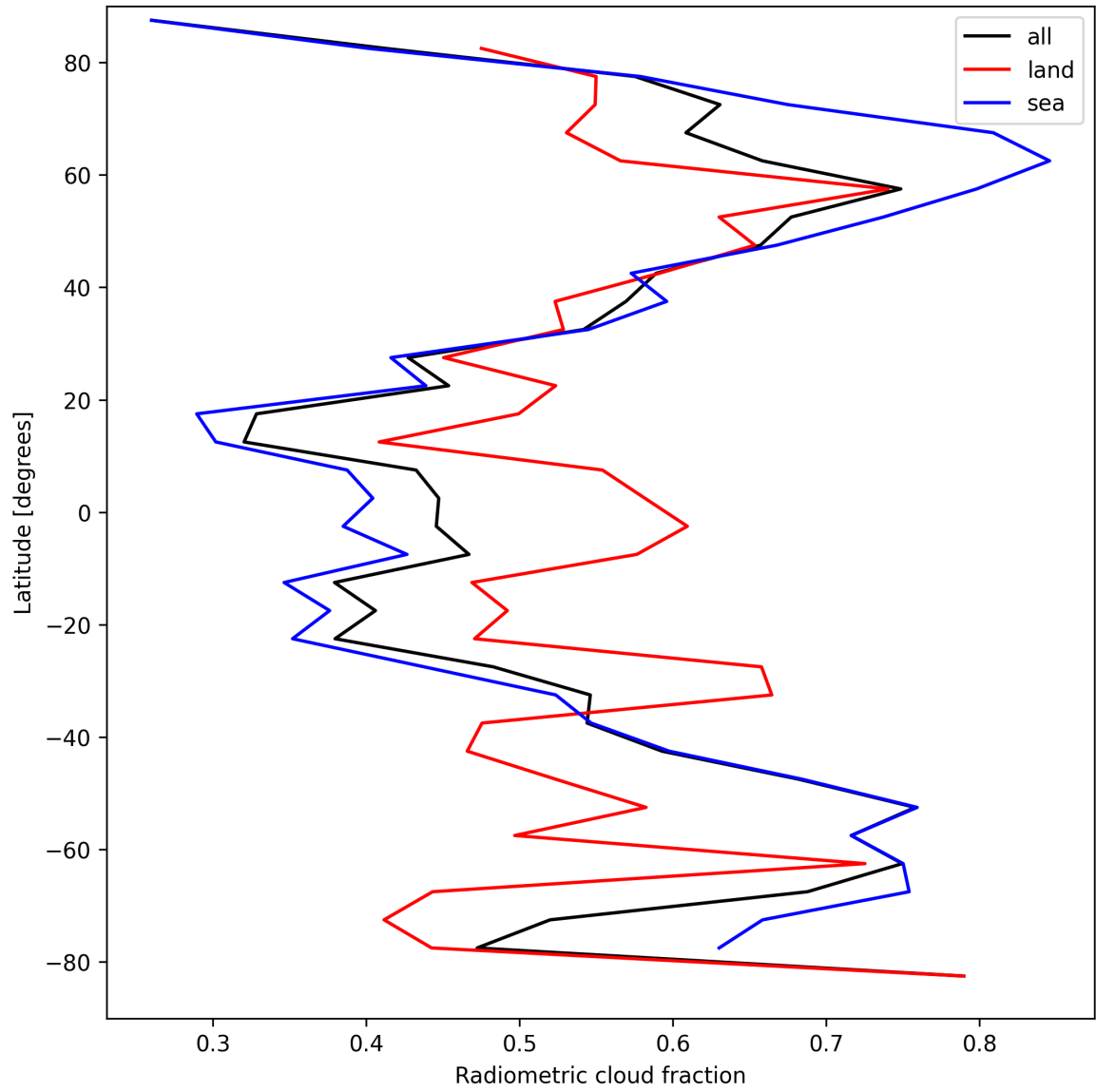


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-04-07 to 2025-04-08.

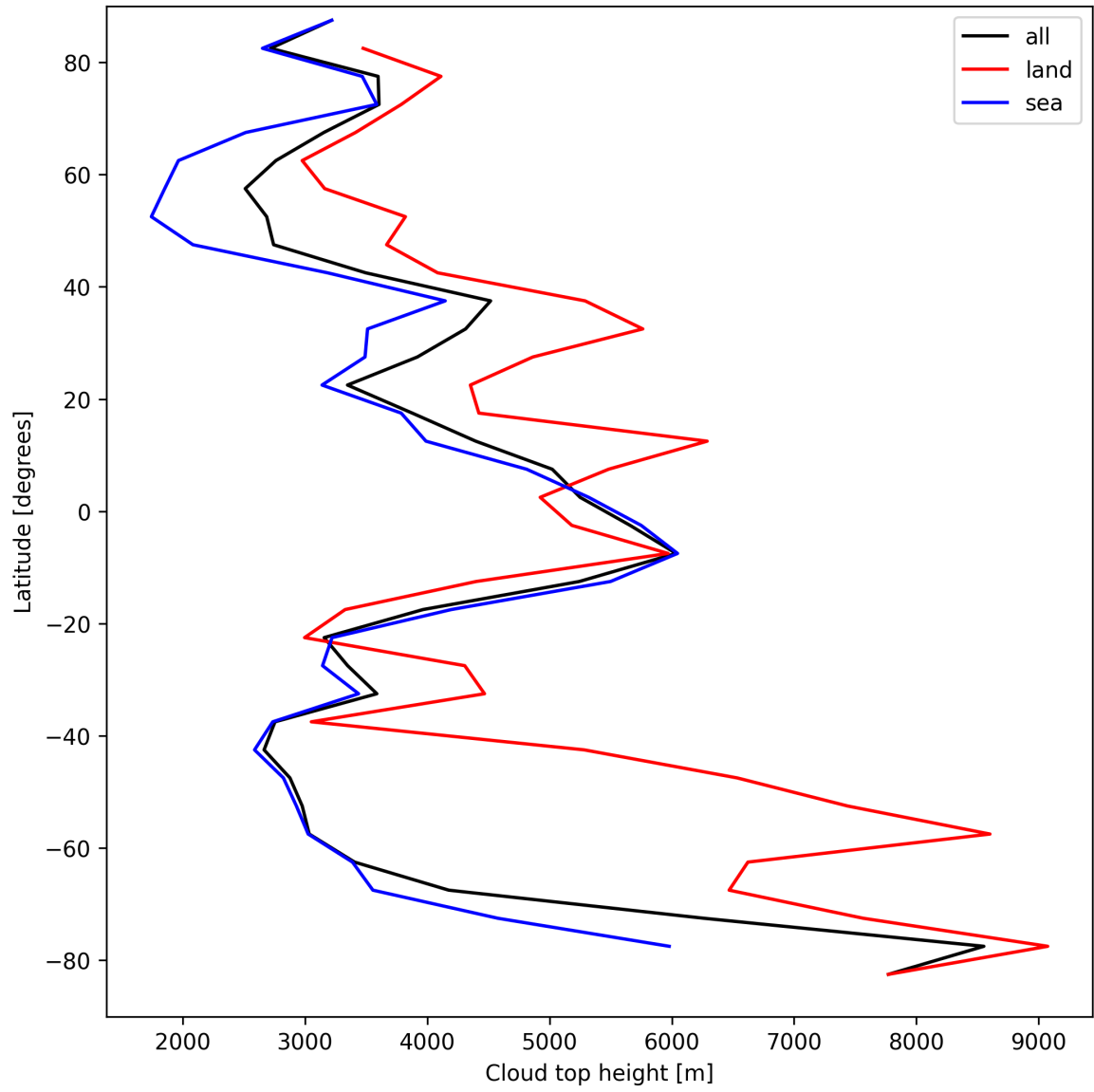


Figure 22: Zonal average of “Cloud top height” for 2025-04-07 to 2025-04-08.

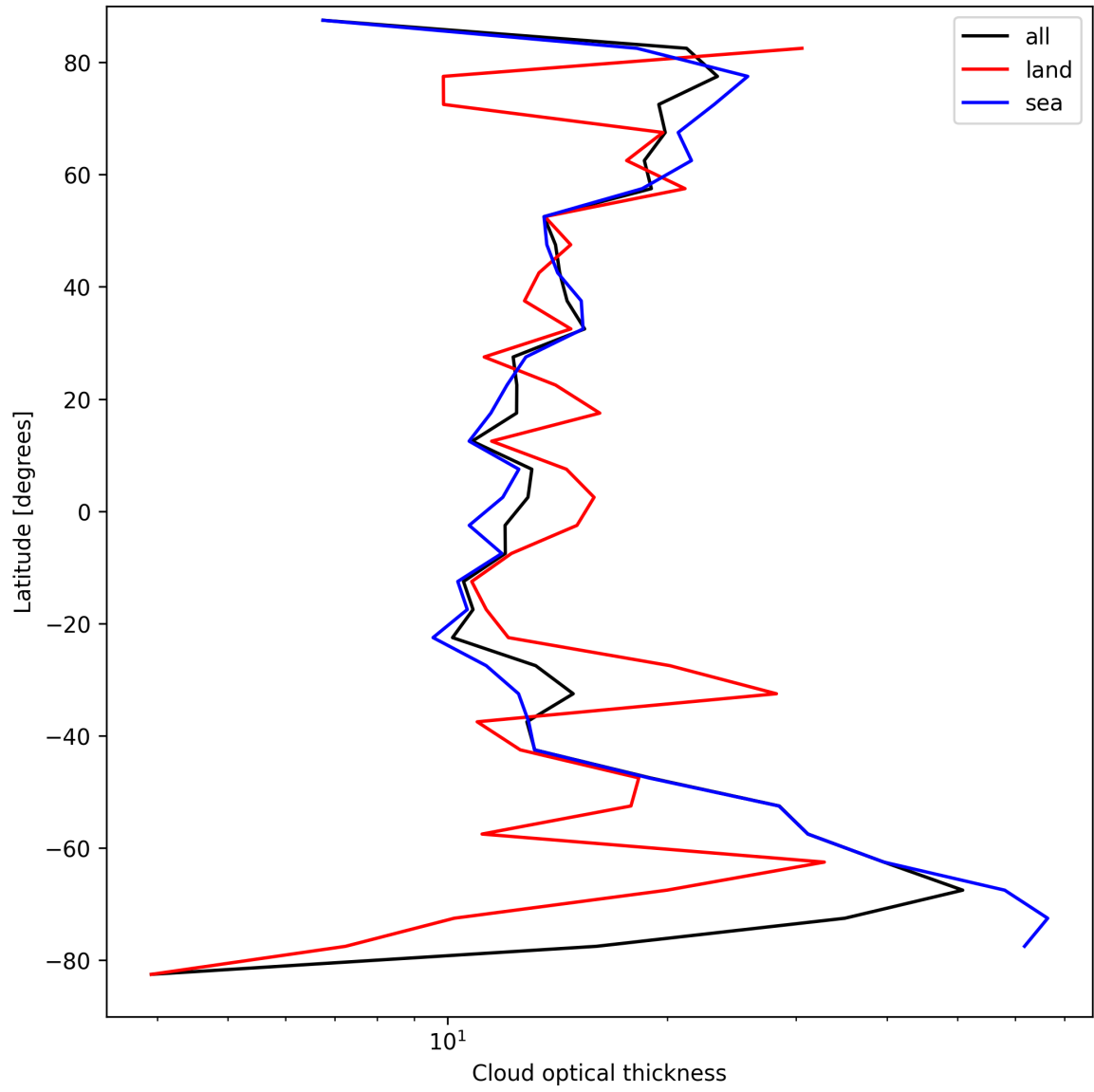


Figure 23: Zonal average of “Cloud optical thickness” for 2025-04-07 to 2025-04-08.

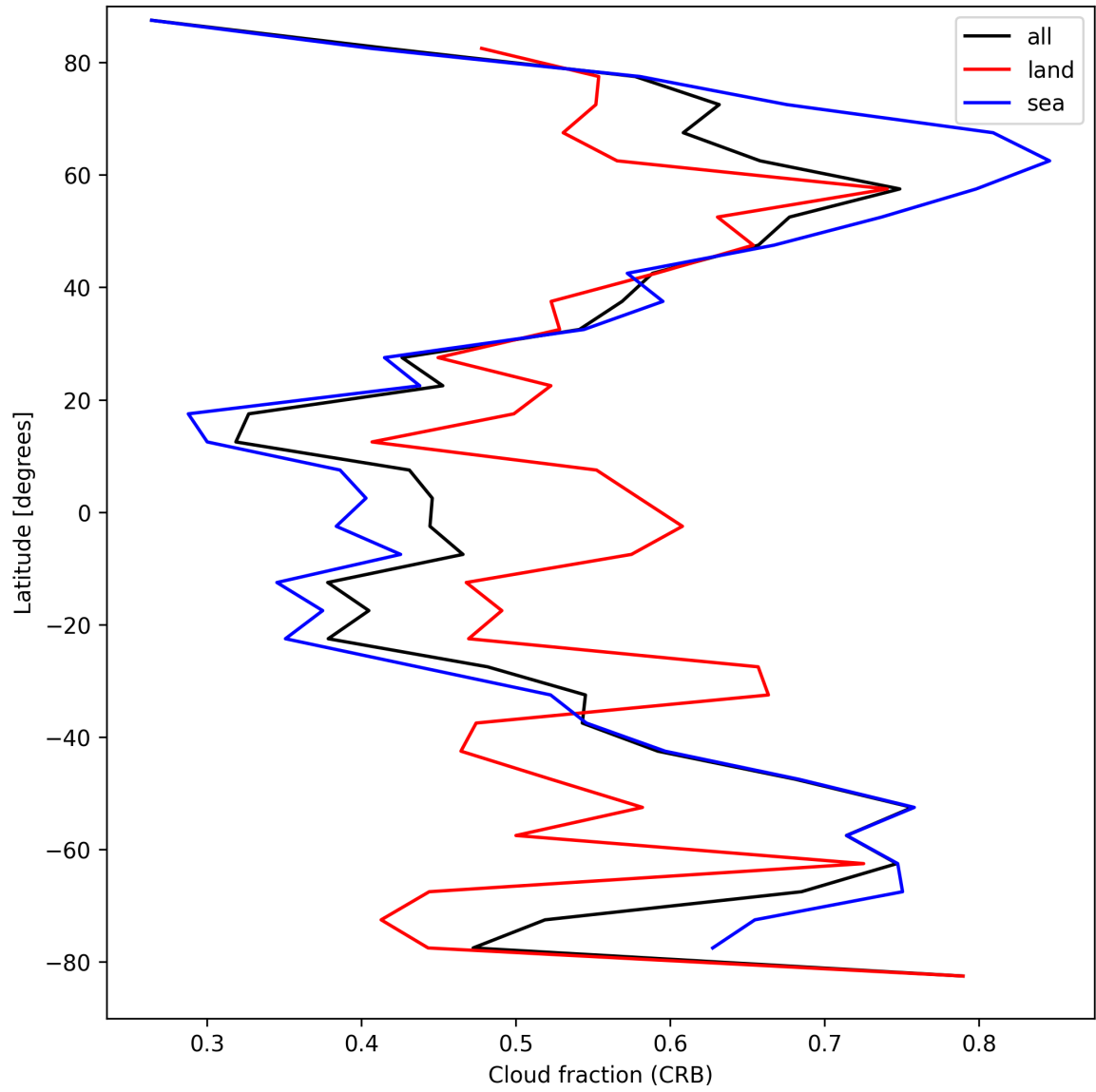


Figure 24: Zonal average of "Cloud fraction (CRB)" for 2025-04-07 to 2025-04-08.

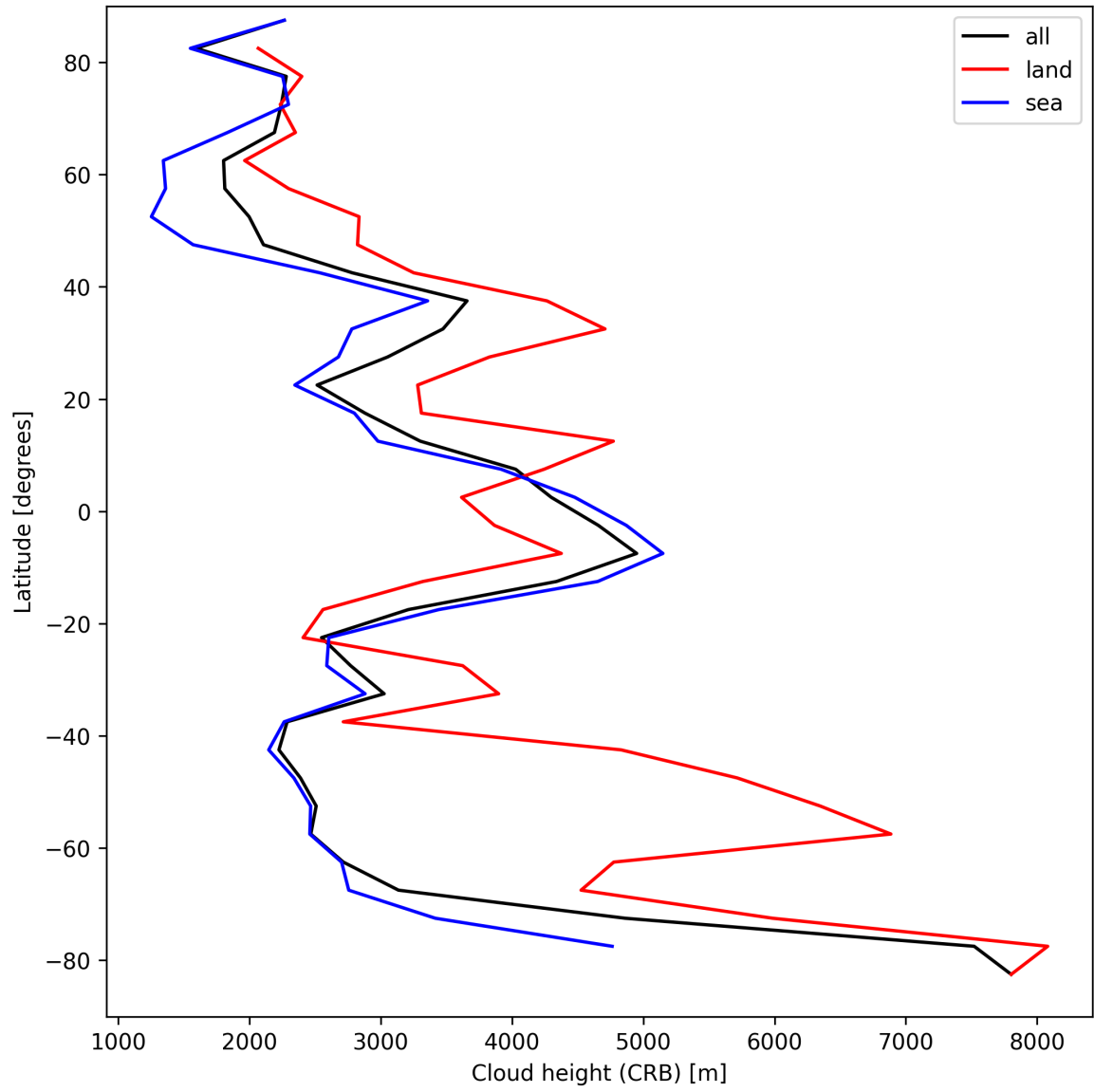


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-04-07 to 2025-04-08.

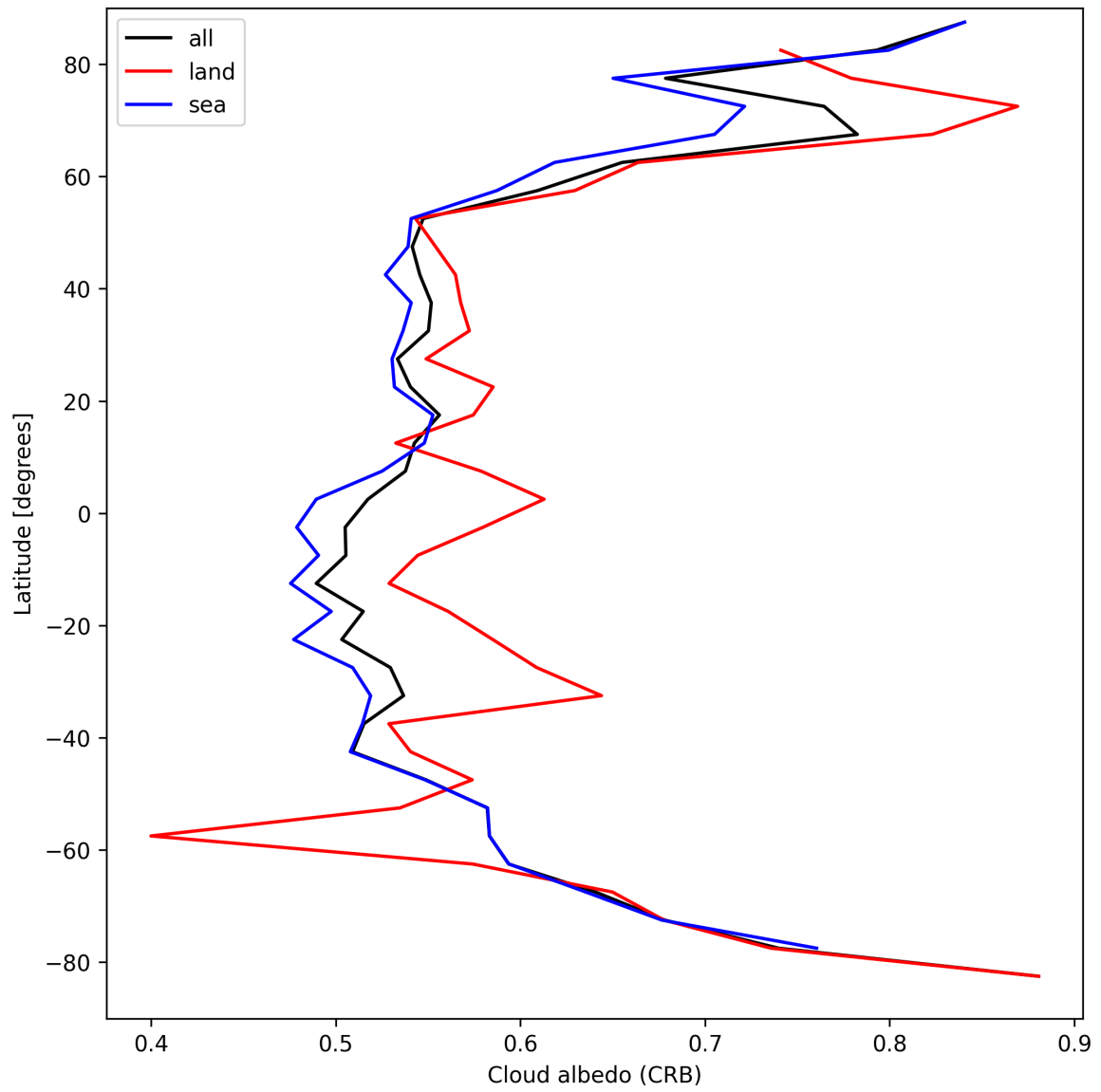


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-04-07 to 2025-04-08.

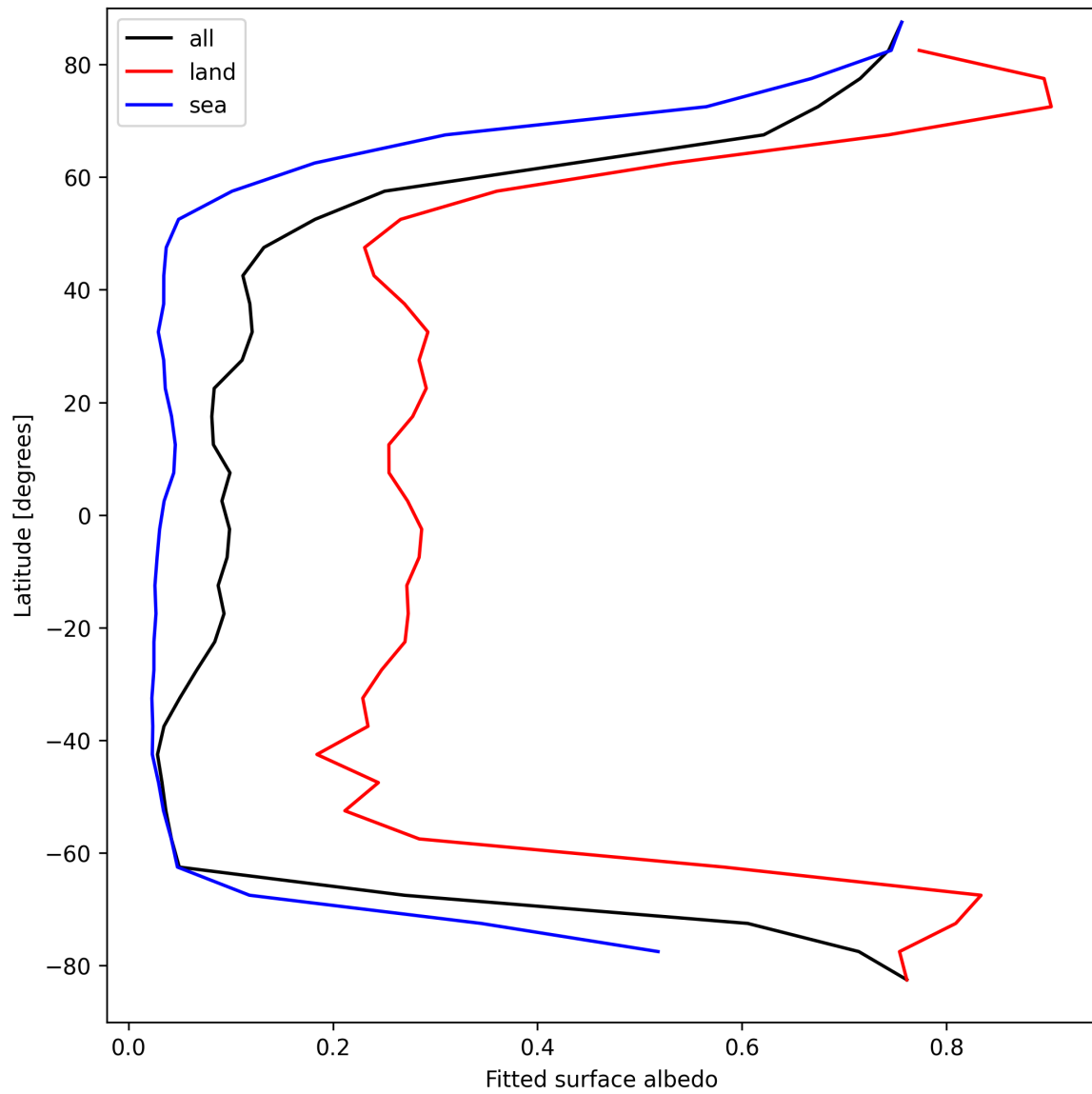


Figure 27: Zonal average of “Fitted surface albedo” for 2025-04-07 to 2025-04-08.

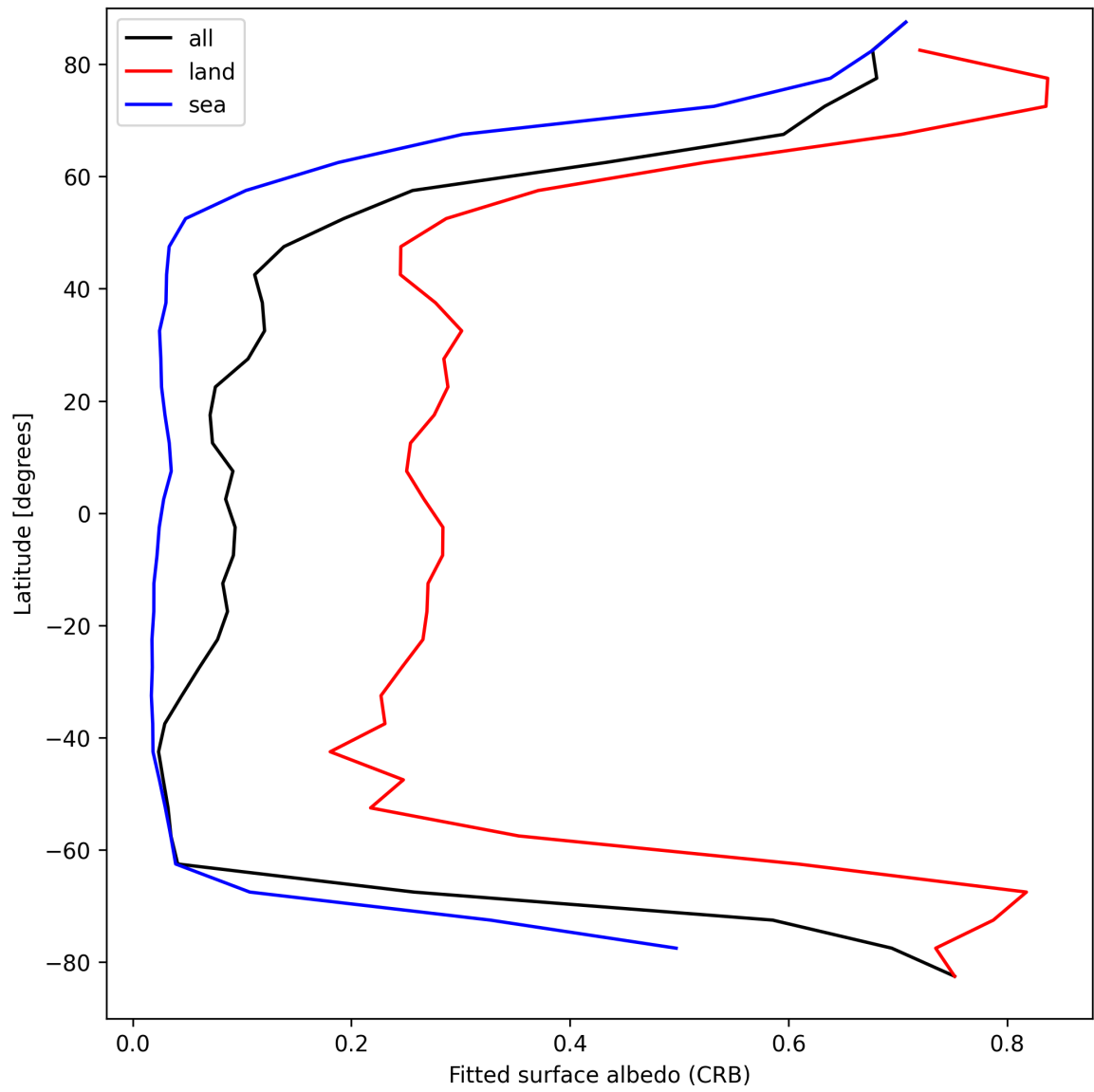


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-04-07 to 2025-04-08.

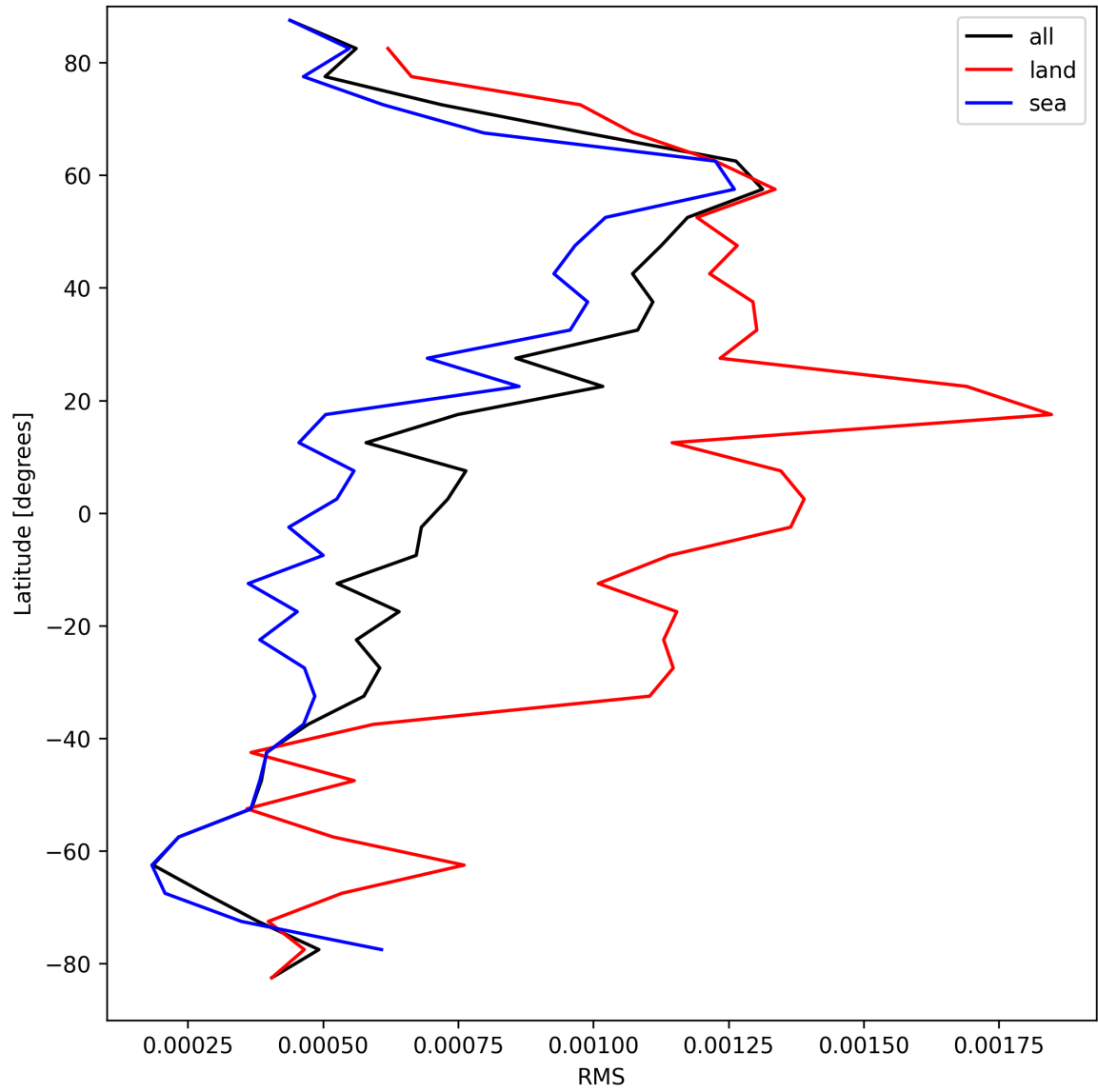


Figure 29: Zonal average of “RMS” for 2025-04-07 to 2025-04-08.

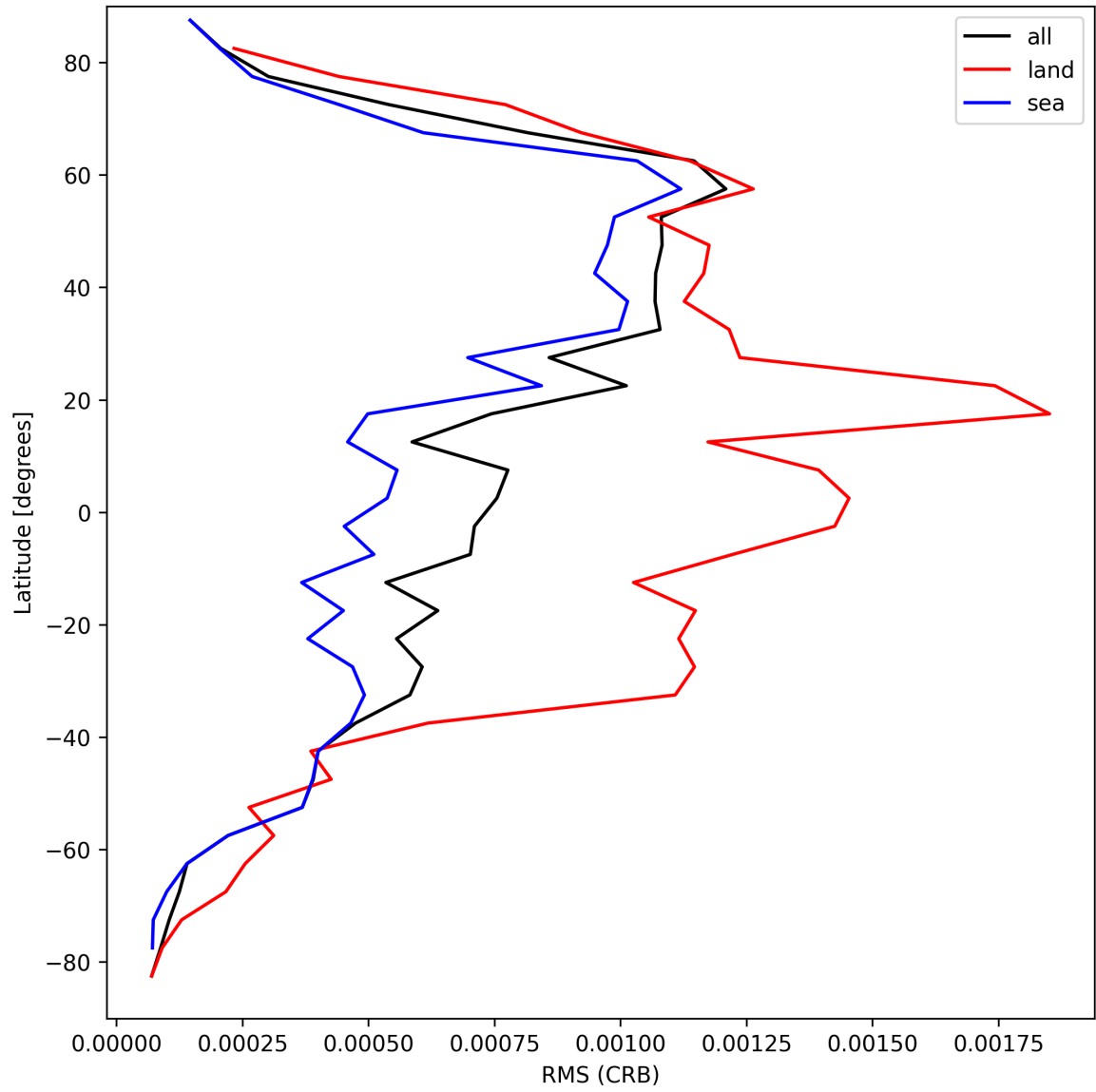


Figure 30: Zonal average of “RMS (CRB)” for 2025-04-07 to 2025-04-08.

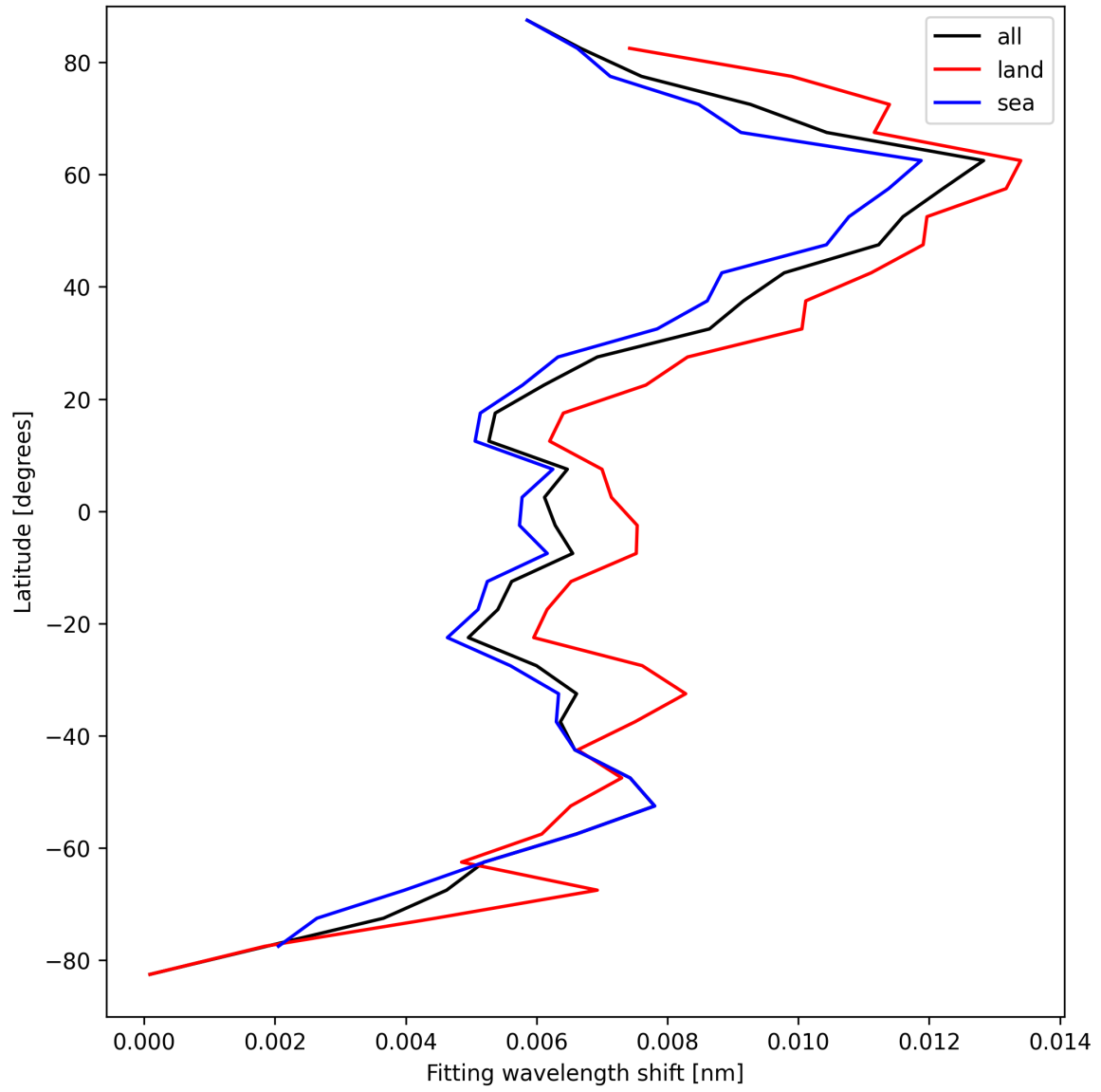


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-04-07 to 2025-04-08.

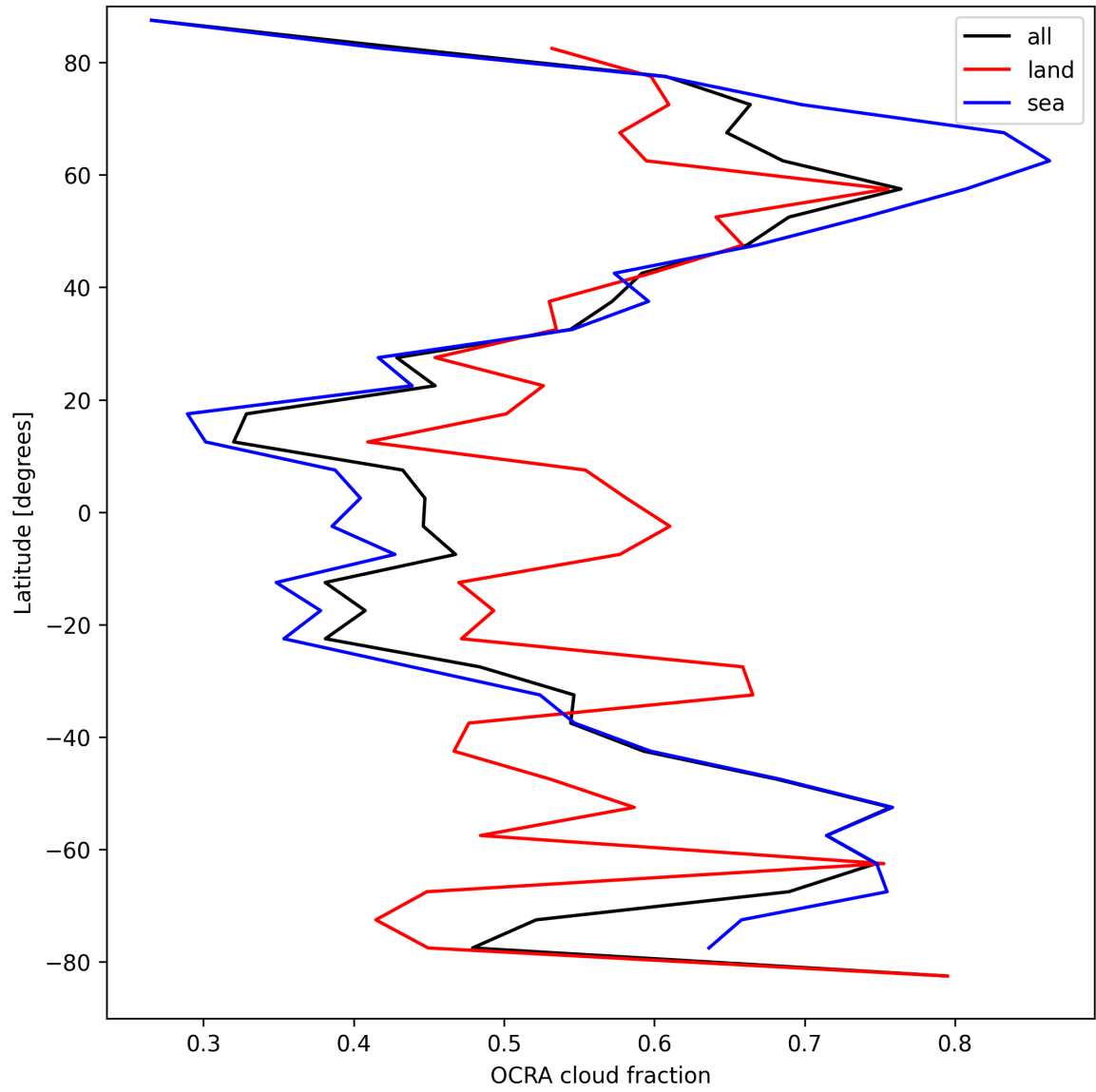


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-04-07 to 2025-04-08.

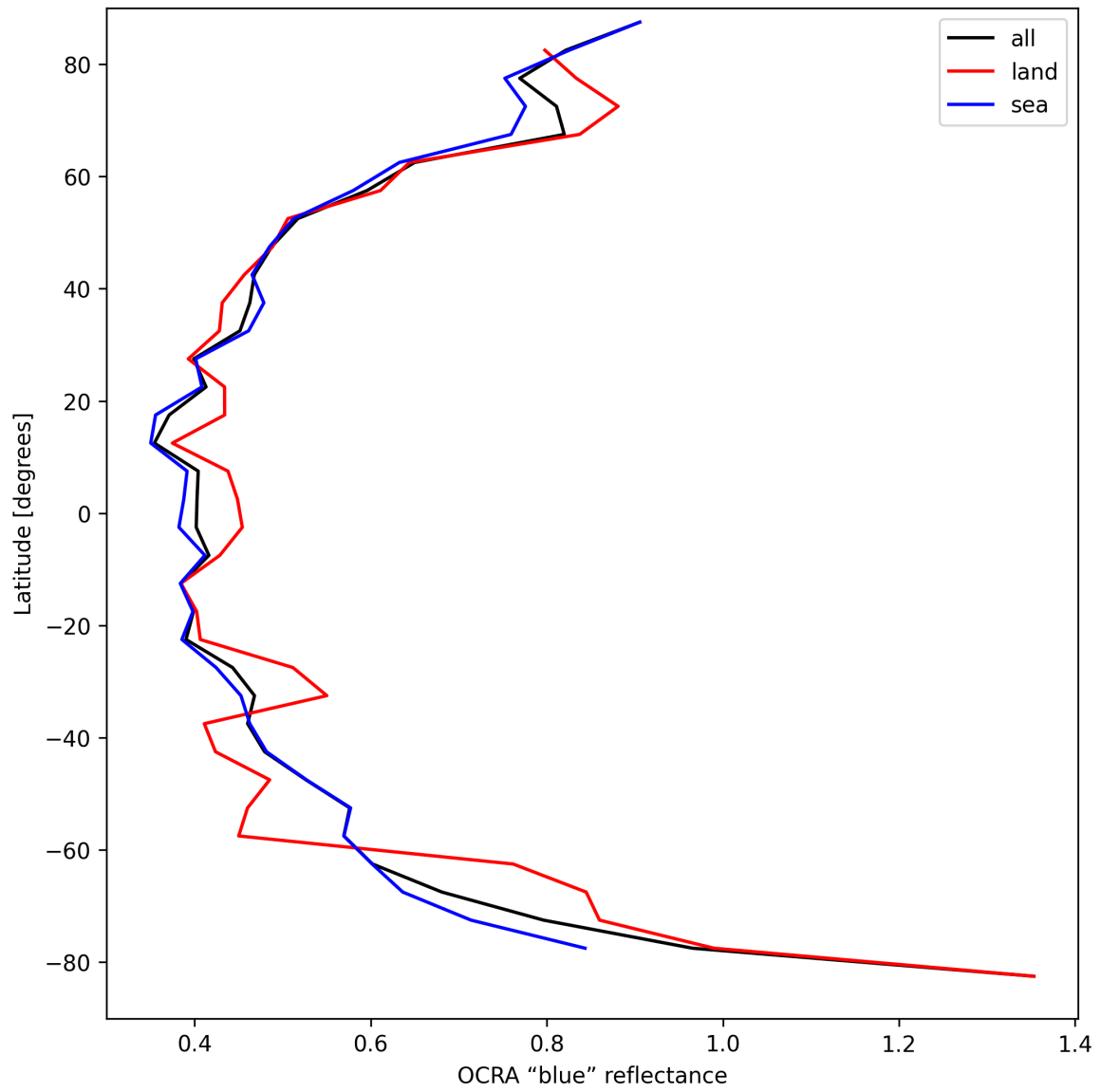


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-04-07 to 2025-04-08.

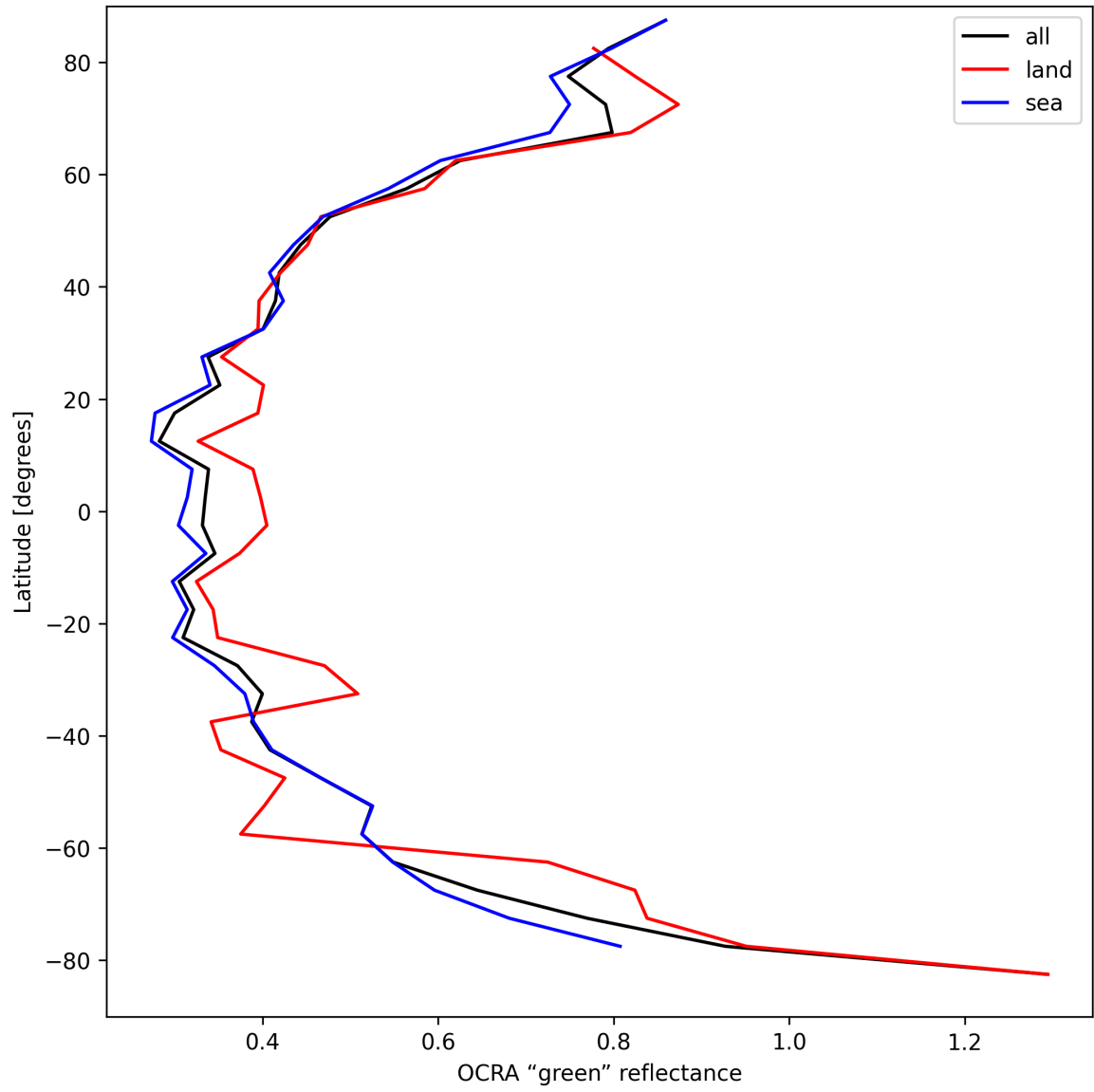


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-04-07 to 2025-04-08.

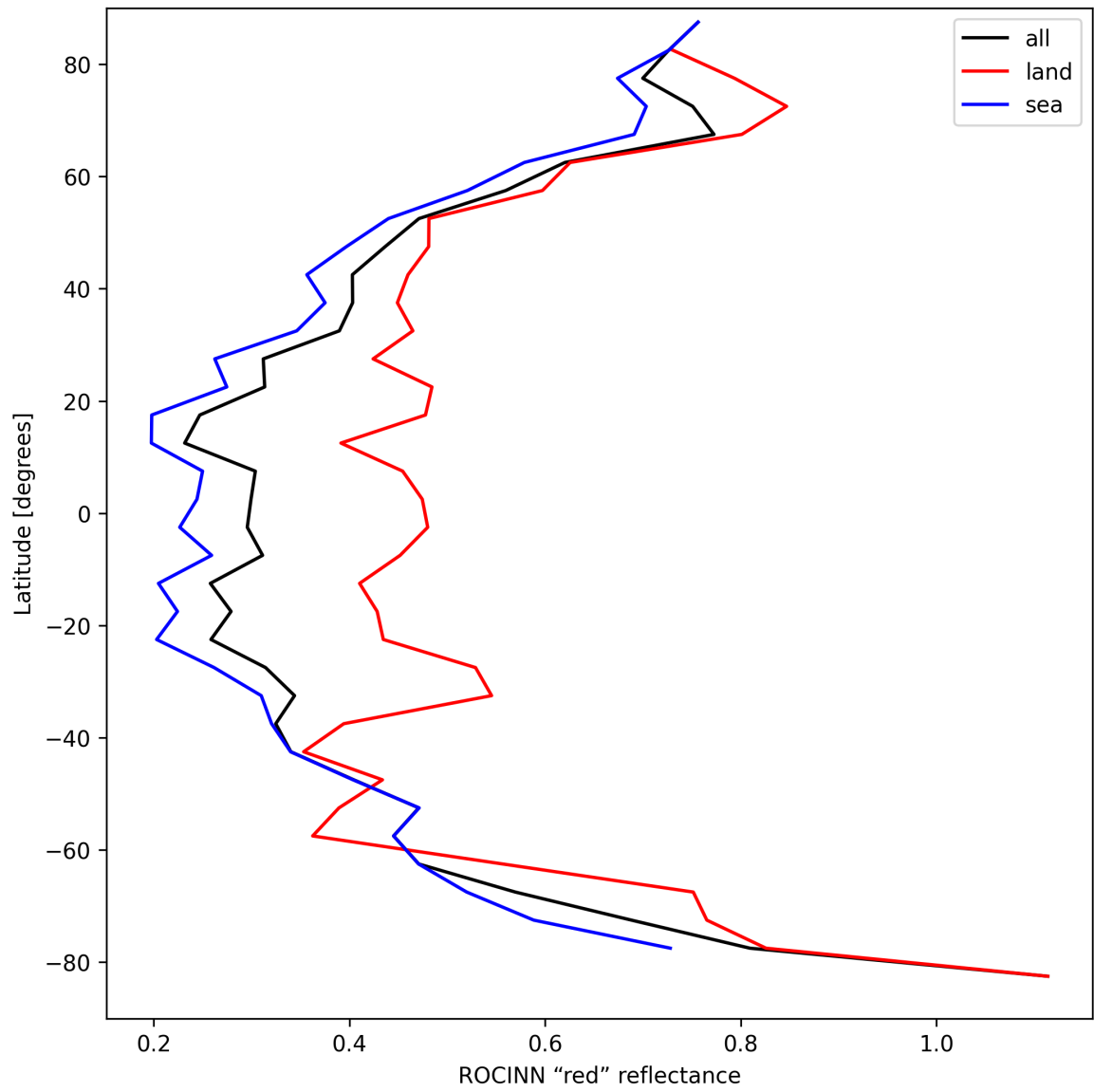


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-04-07 to 2025-04-08.

8 Histograms

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

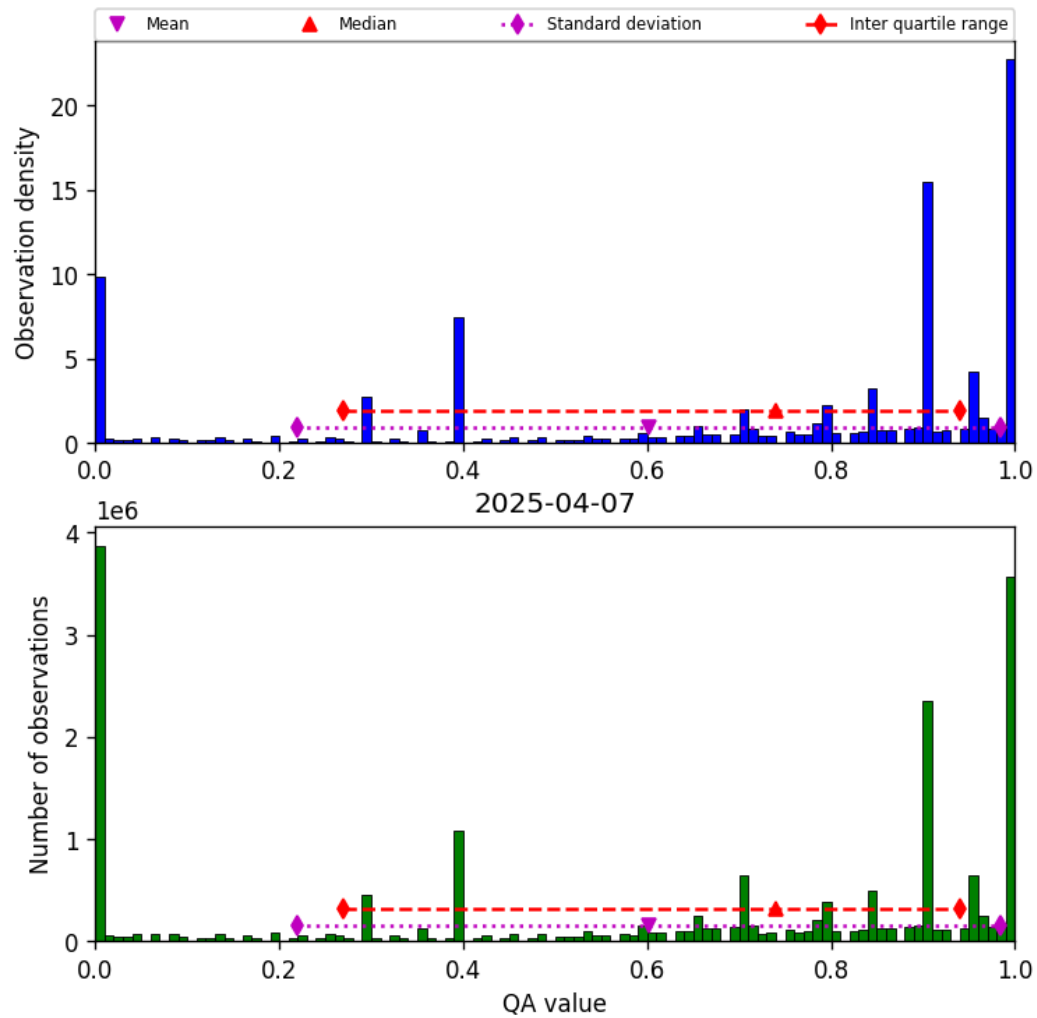


Figure 36: Histogram of “QA value” for 2025-04-07 to 2025-04-08

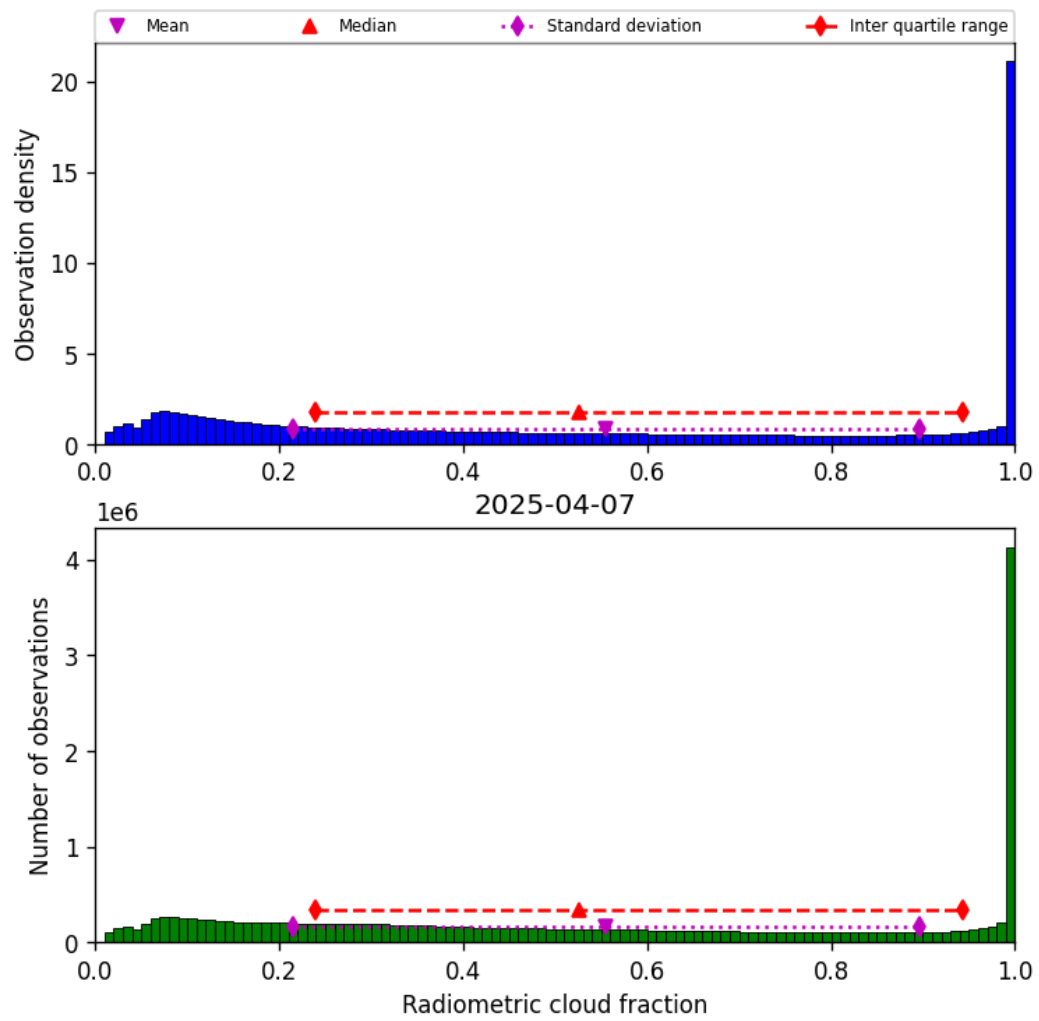


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-04-07 to 2025-04-08

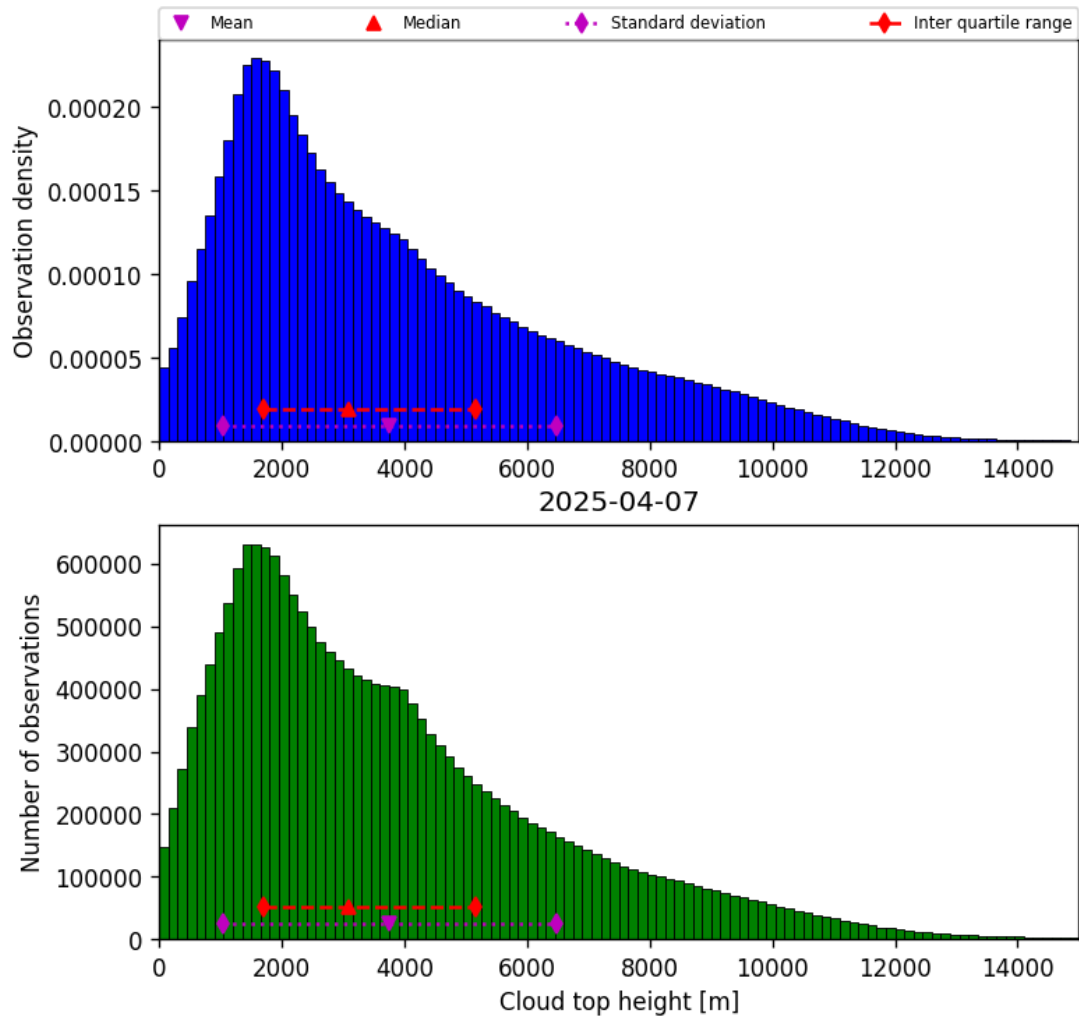


Figure 38: Histogram of “Cloud top height” for 2025-04-07 to 2025-04-08

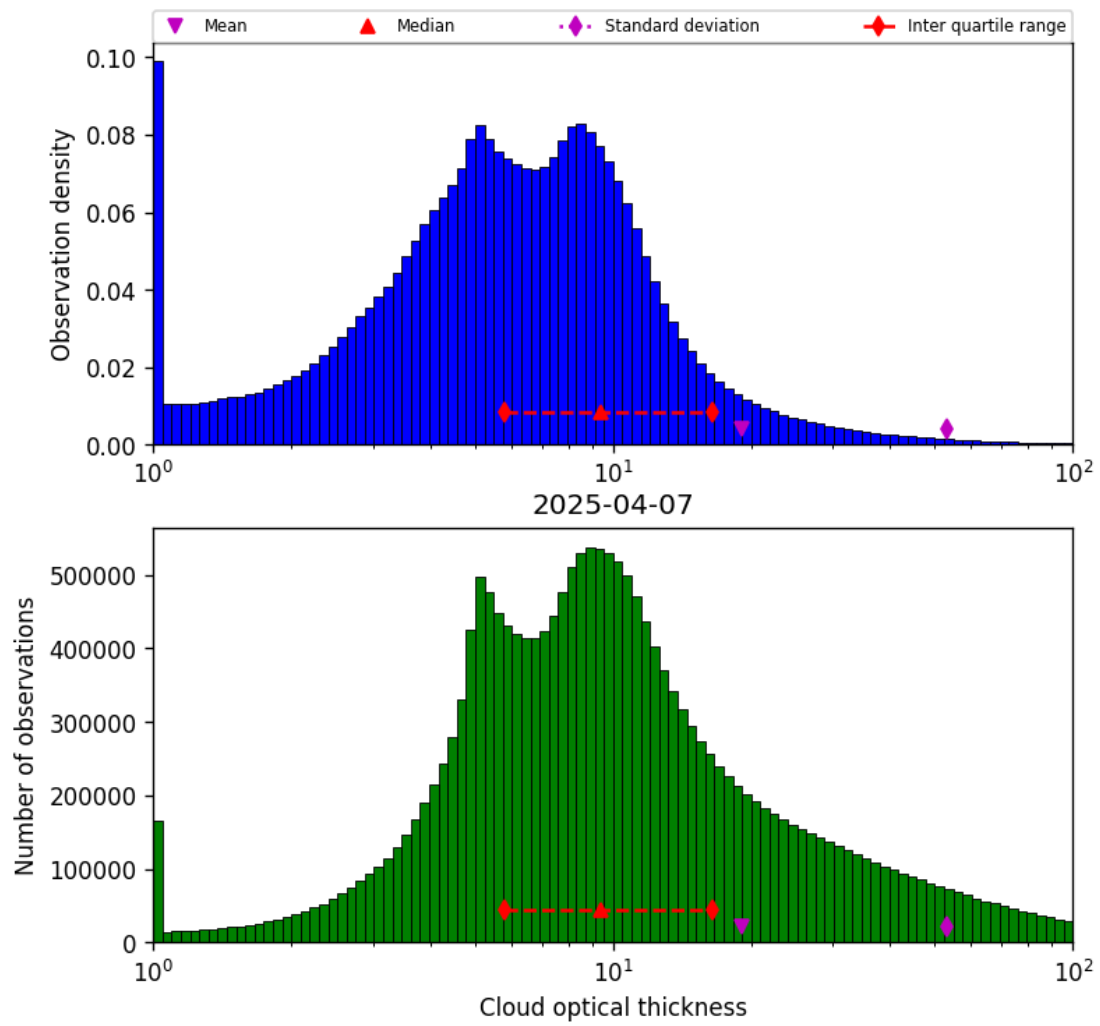


Figure 39: Histogram of “Cloud optical thickness” for 2025-04-07 to 2025-04-08

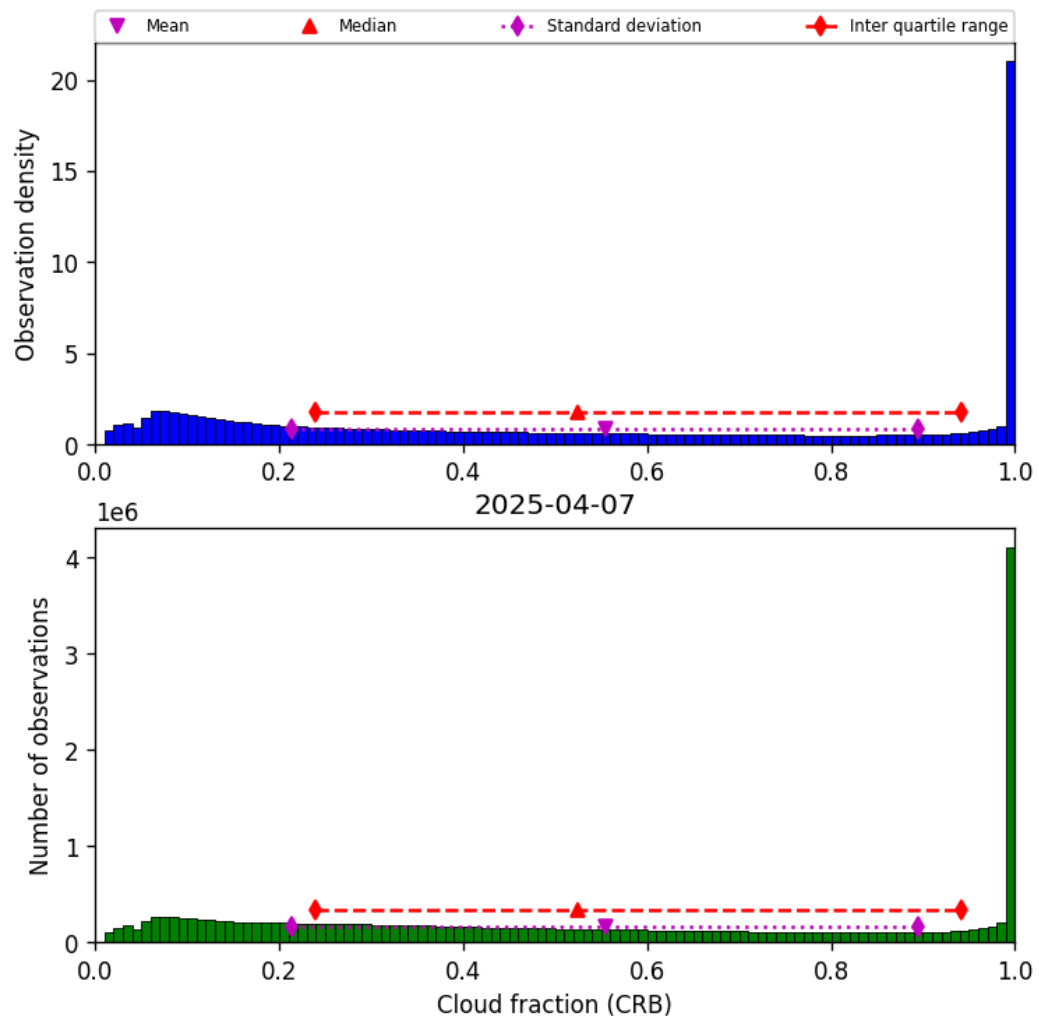


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-04-07 to 2025-04-08

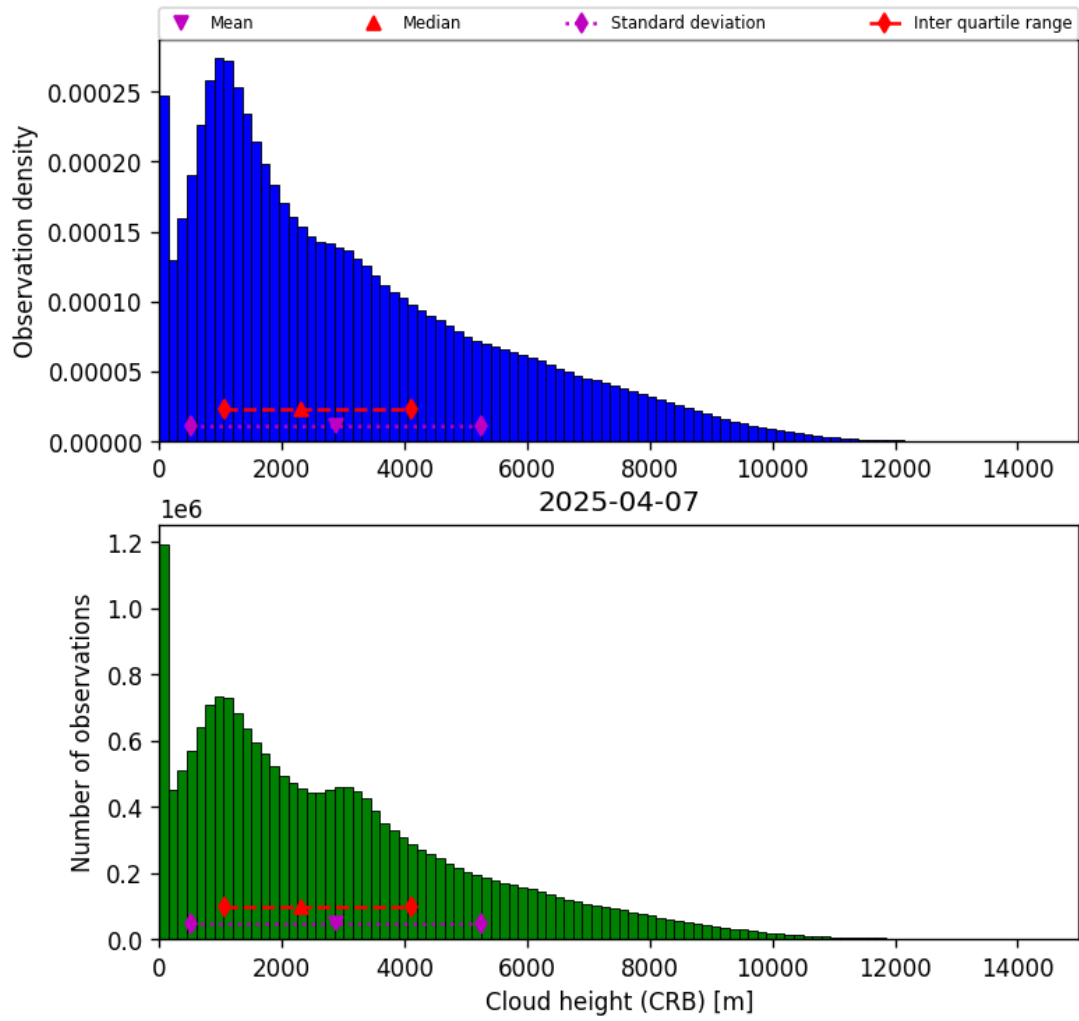


Figure 41: Histogram of “Cloud height (CRB)” for 2025-04-07 to 2025-04-08

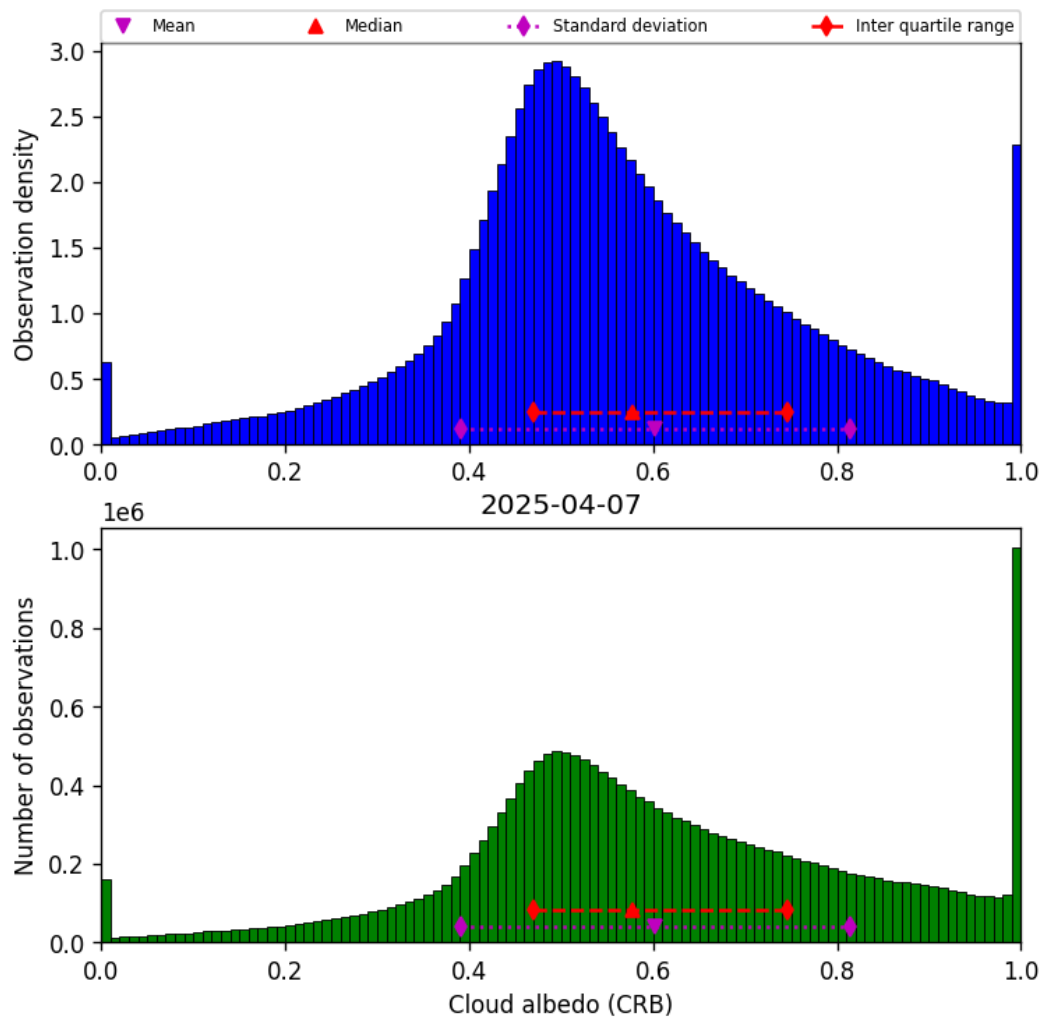


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-04-07 to 2025-04-08

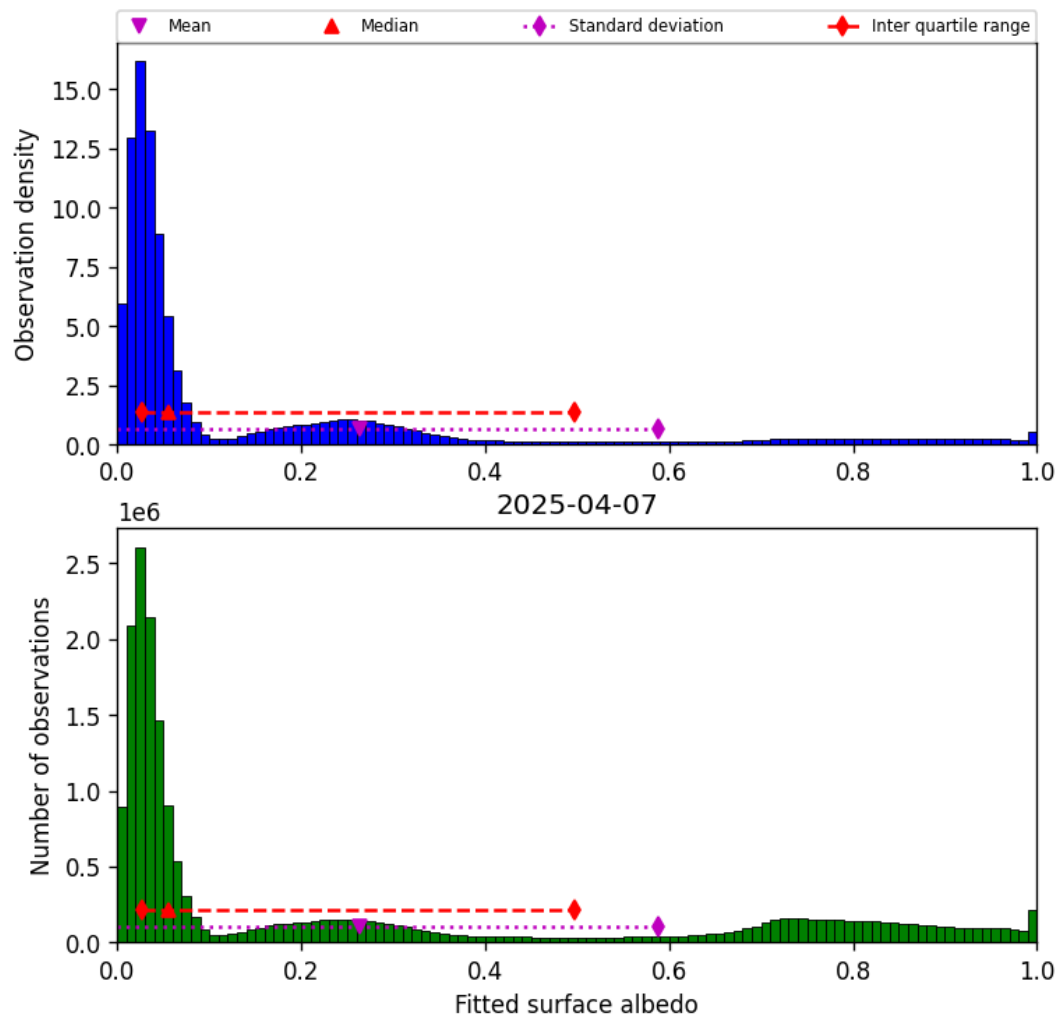


Figure 43: Histogram of “Fitted surface albedo” for 2025-04-07 to 2025-04-08

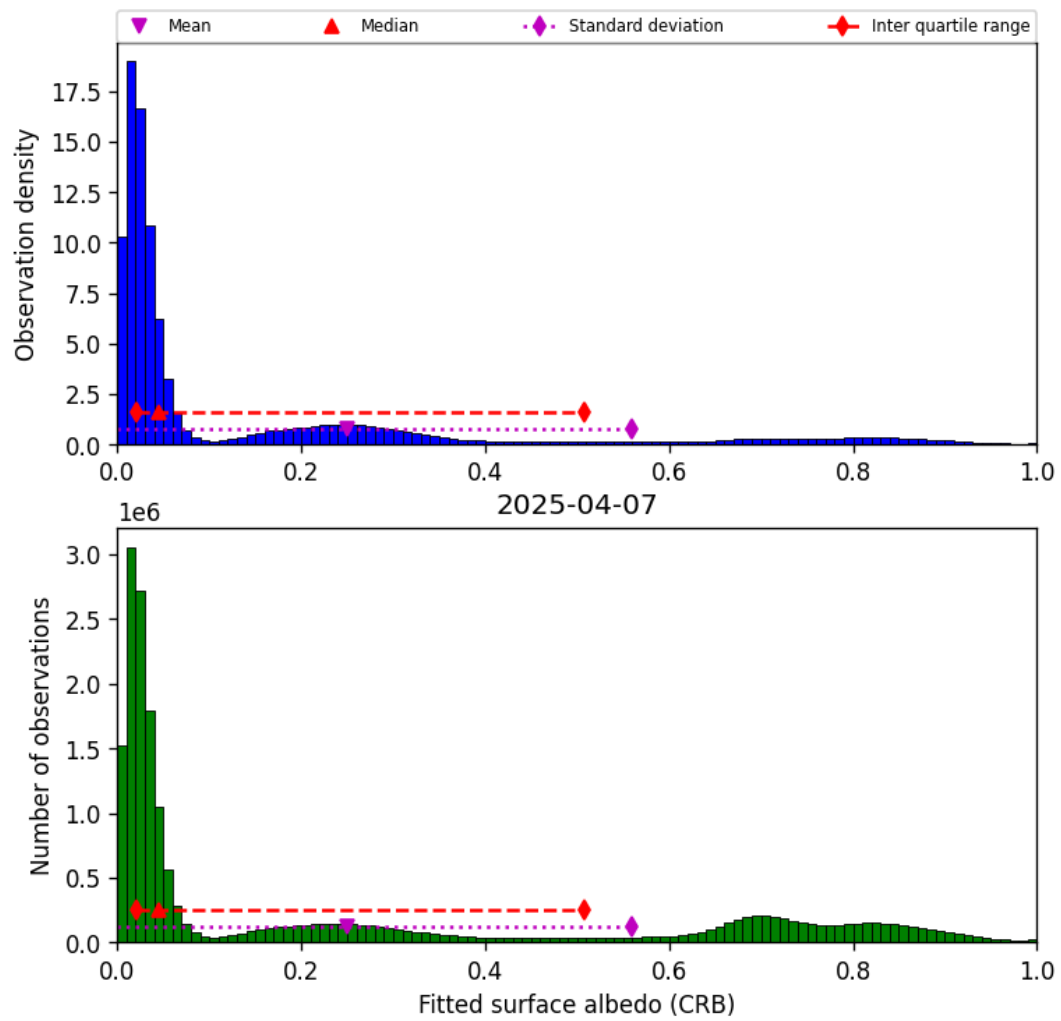


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-04-07 to 2025-04-08

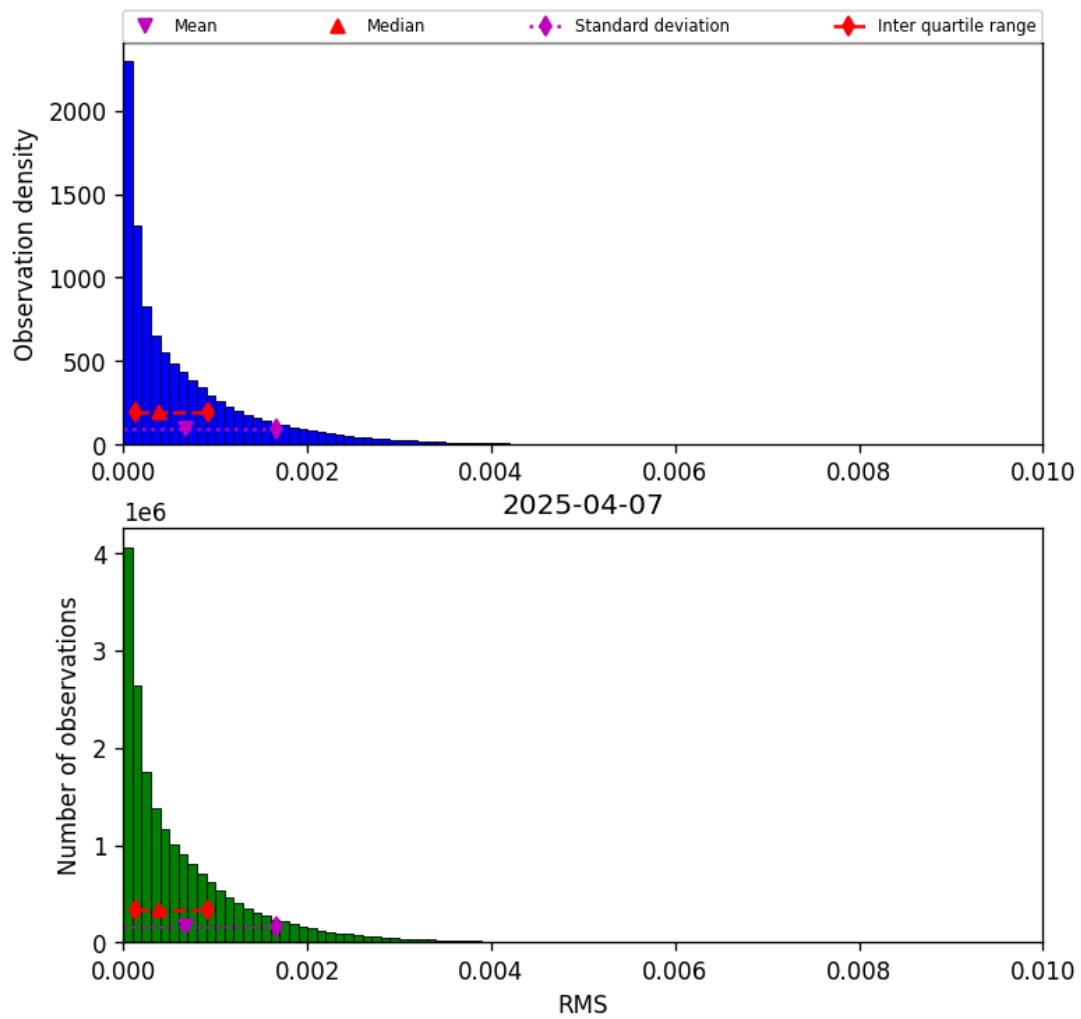


Figure 45: Histogram of “RMS” for 2025-04-07 to 2025-04-08

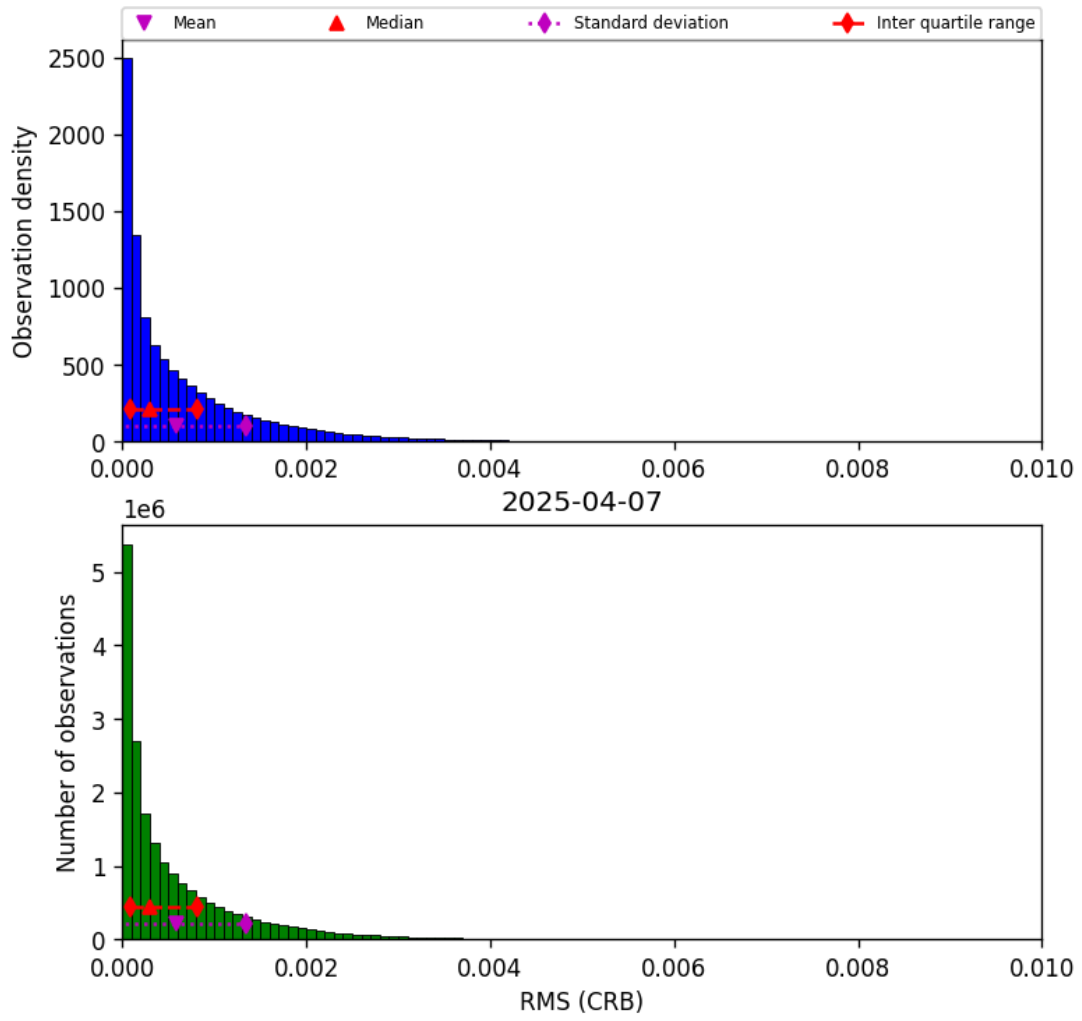


Figure 46: Histogram of “RMS (CRB)” for 2025-04-07 to 2025-04-08

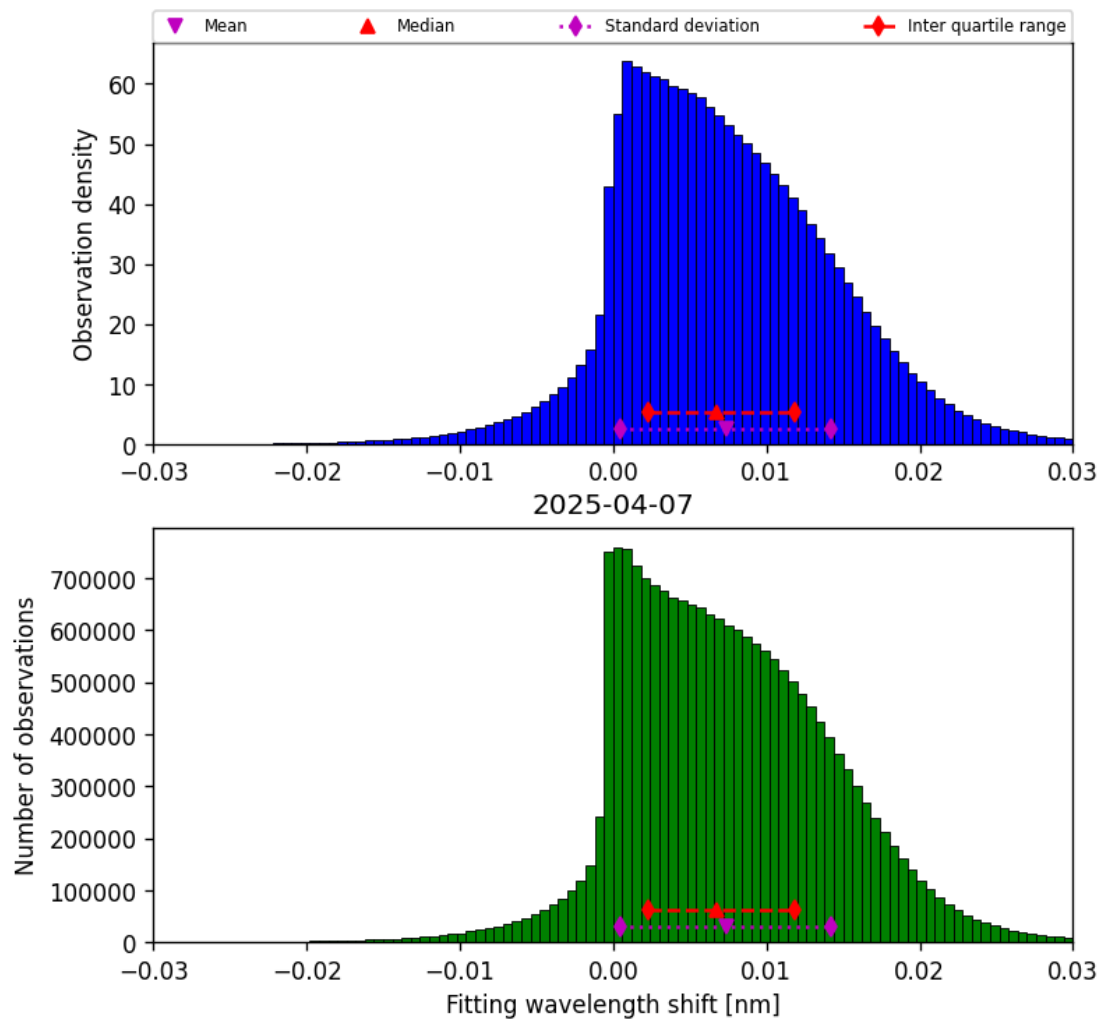


Figure 47: Histogram of “Fitting wavelength shift” for 2025-04-07 to 2025-04-08

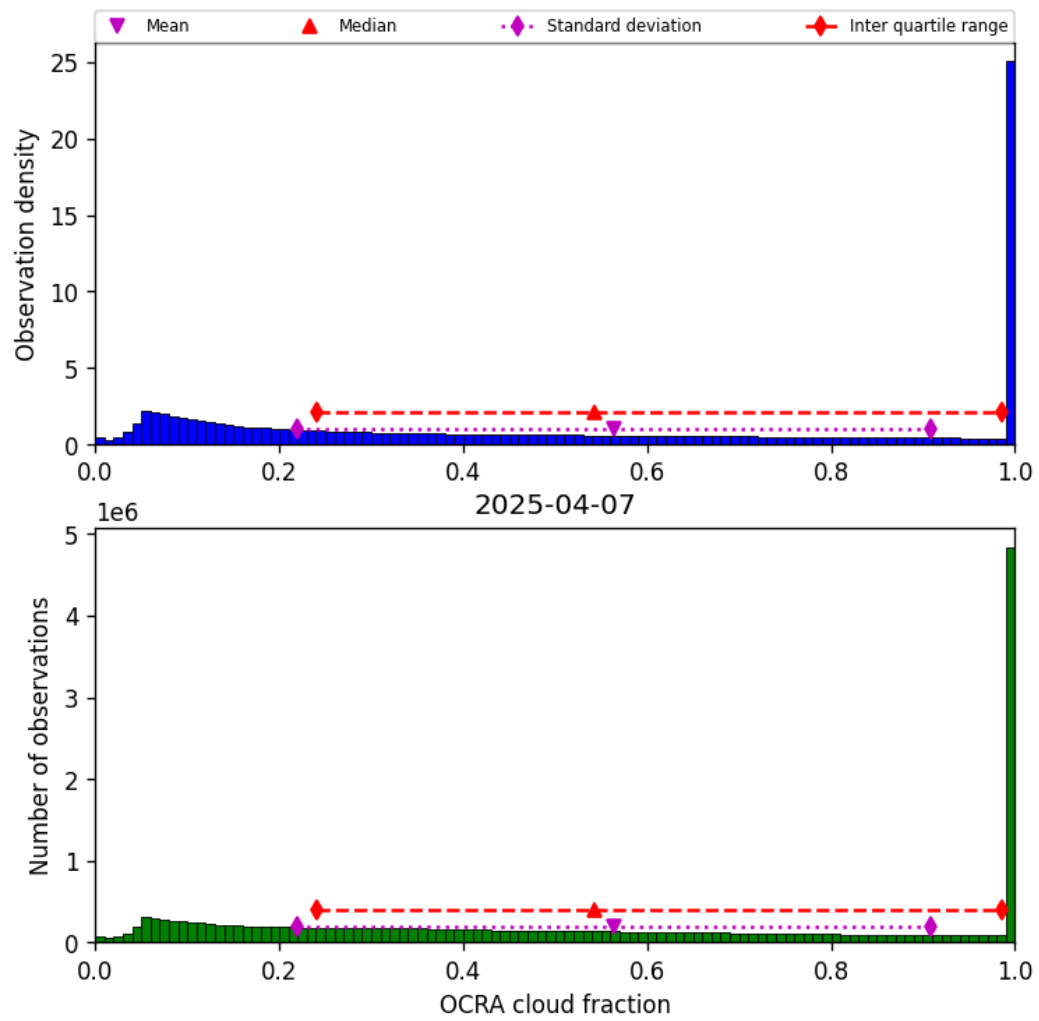


Figure 48: Histogram of “OCRA cloud fraction” for 2025-04-07 to 2025-04-08

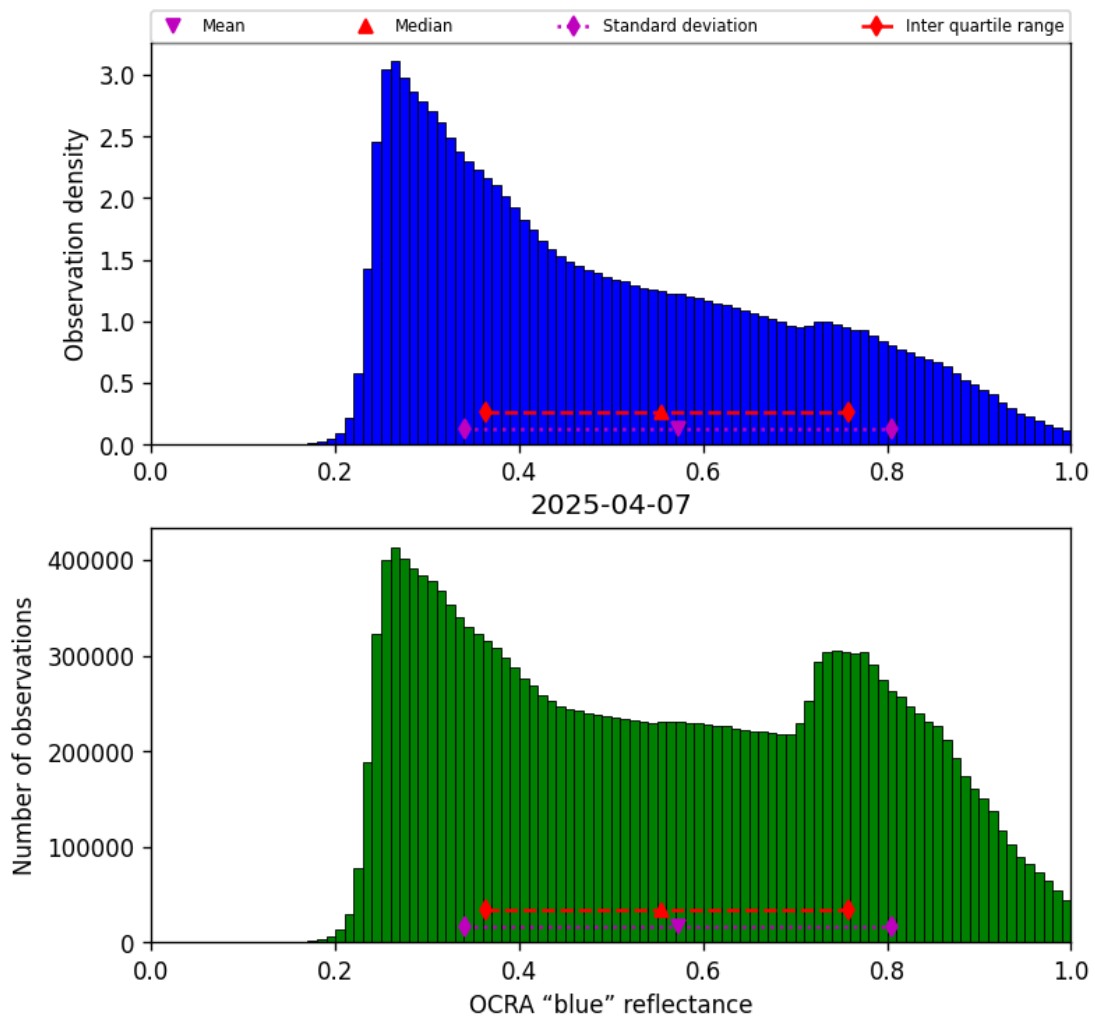


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-04-07 to 2025-04-08

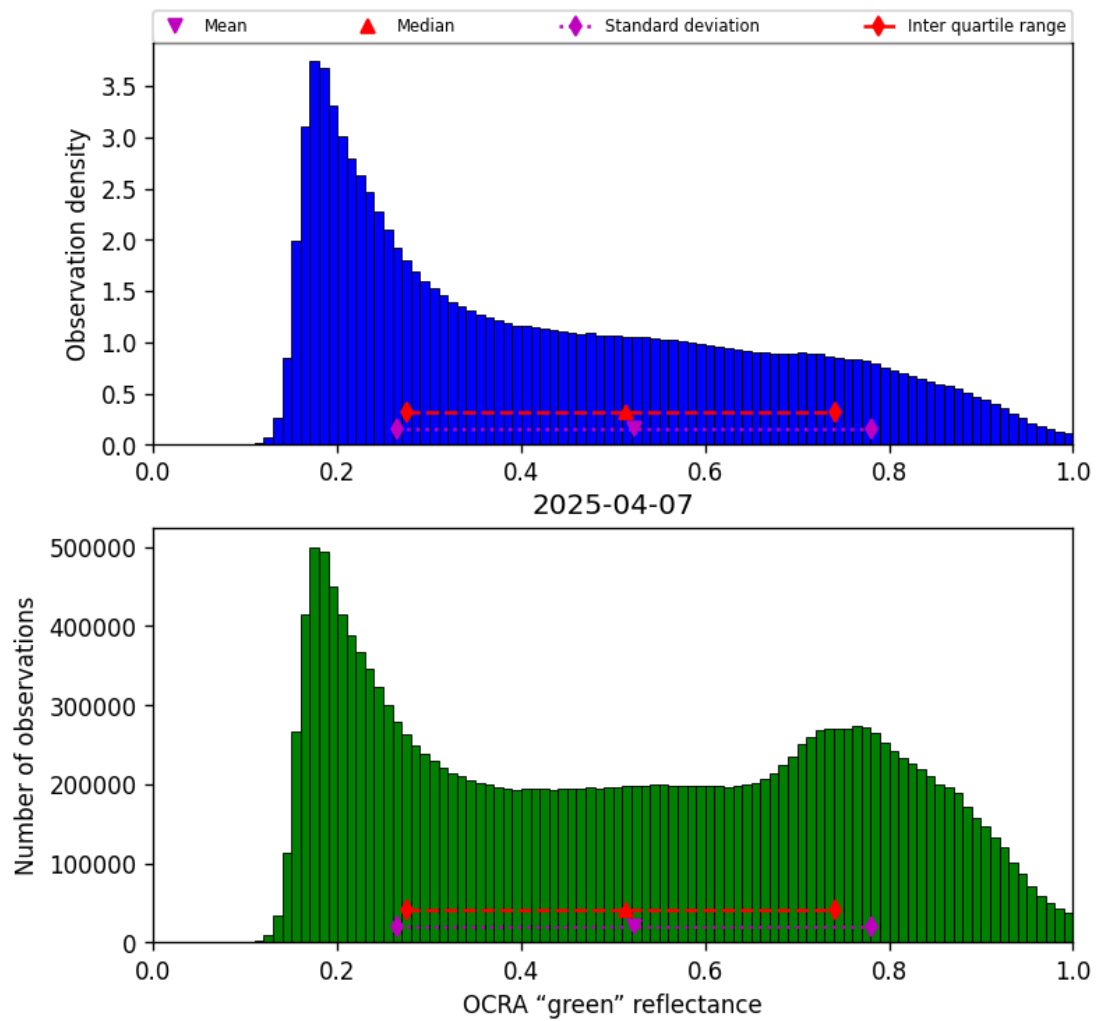


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-04-07 to 2025-04-08

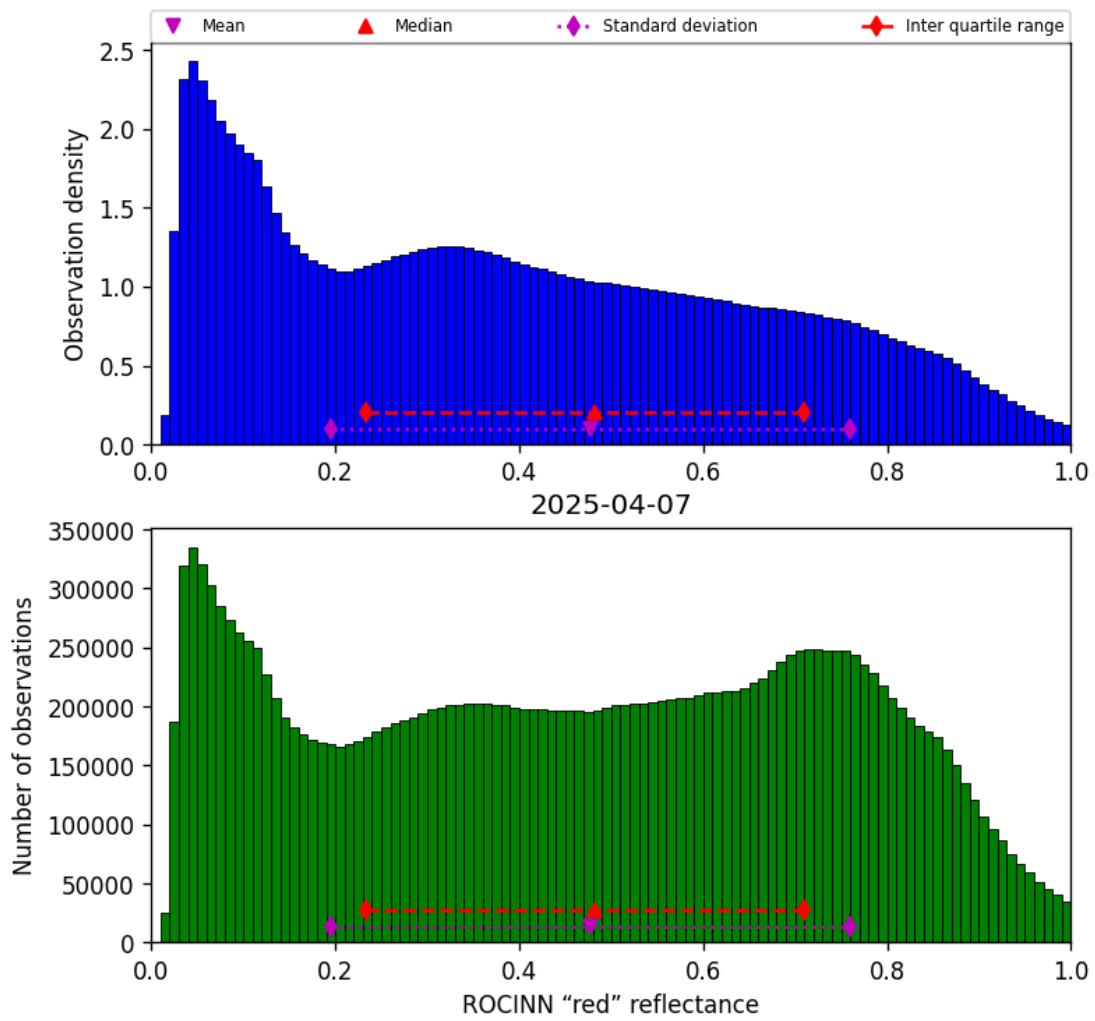


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-04-07 to 2025-04-08

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.

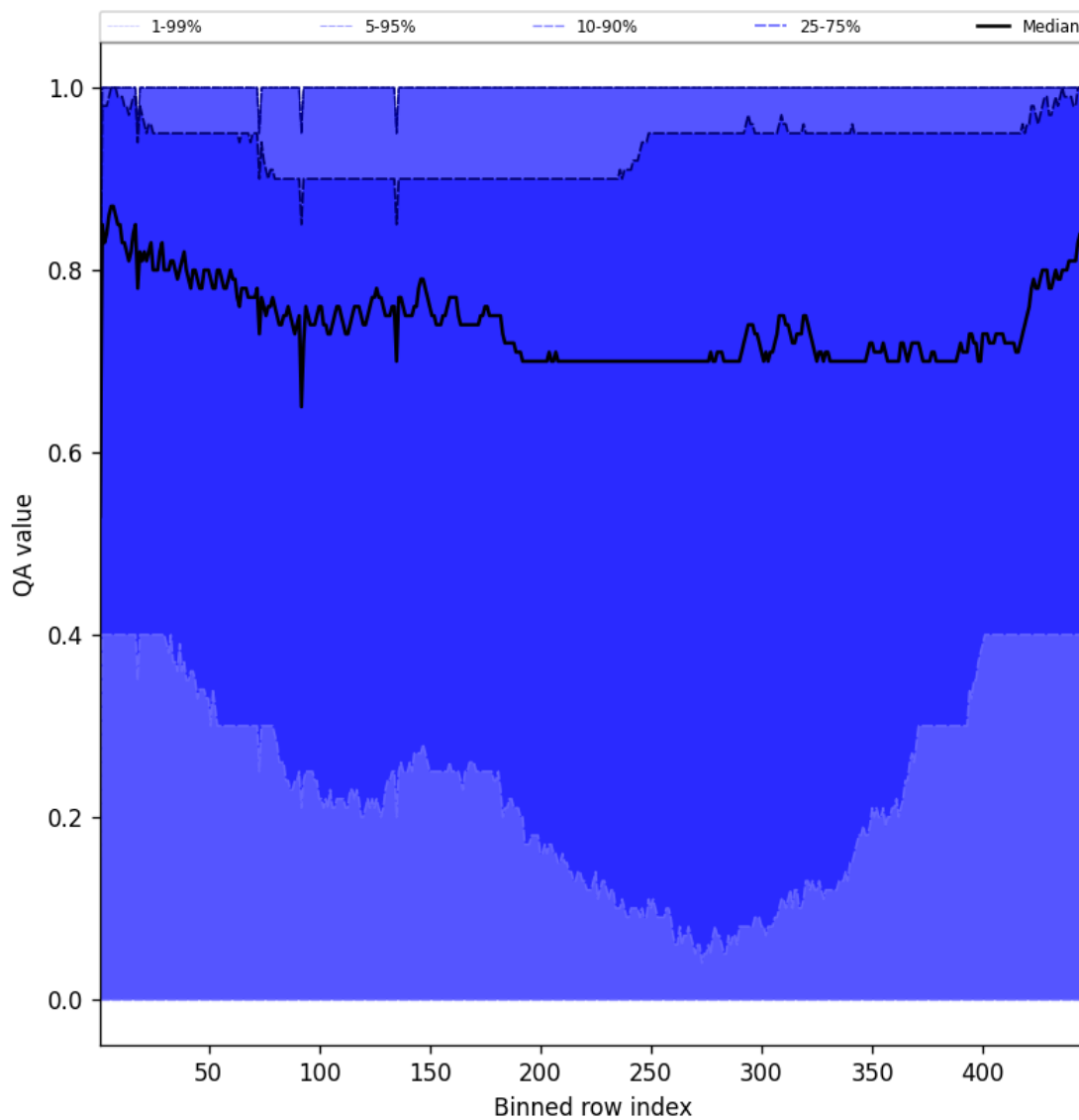


Figure 52: Along track statistics of “QA value” for 2025-04-07 to 2025-04-08

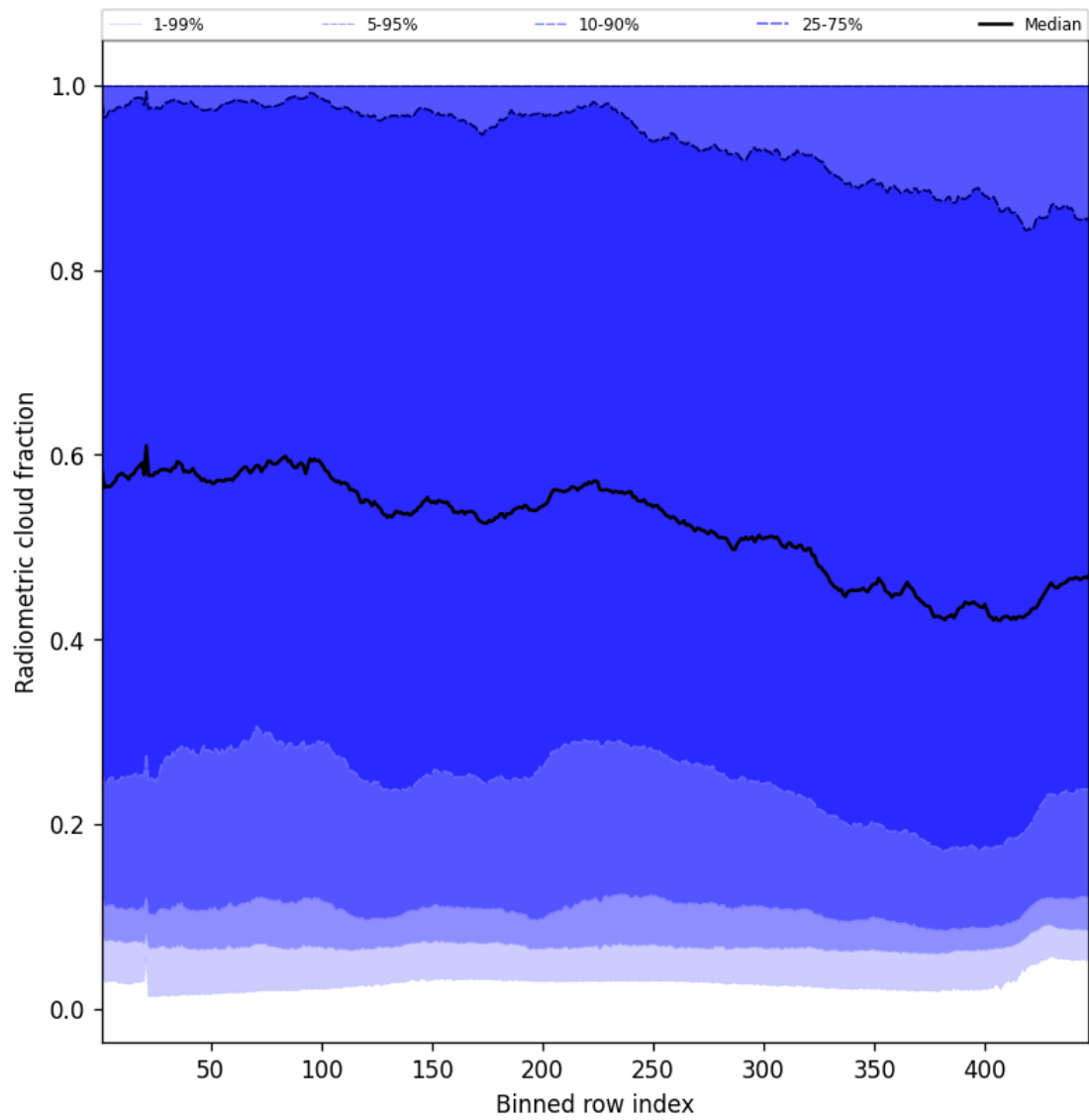


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-04-07 to 2025-04-08

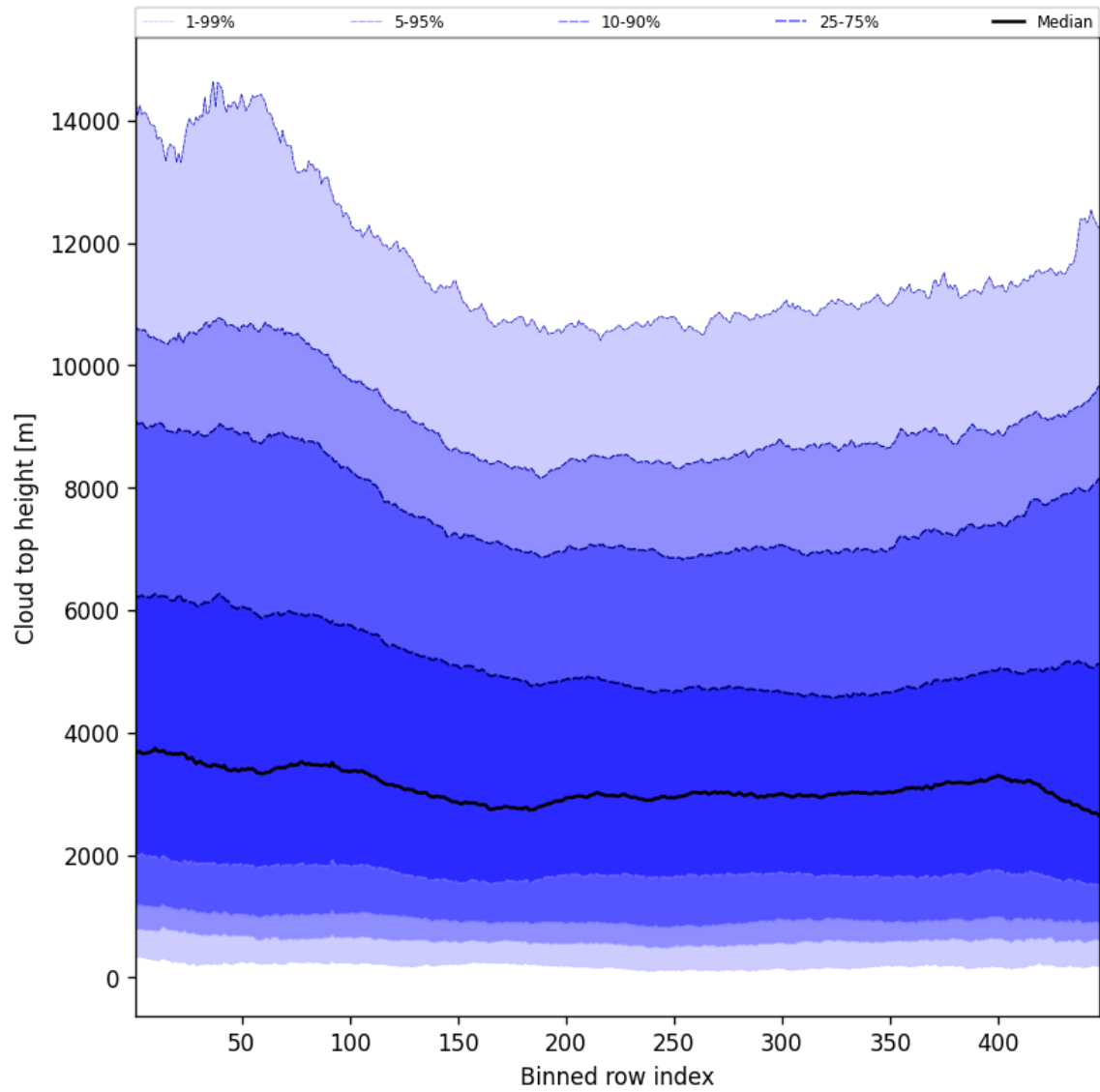


Figure 54: Along track statistics of “Cloud top height” for 2025-04-07 to 2025-04-08

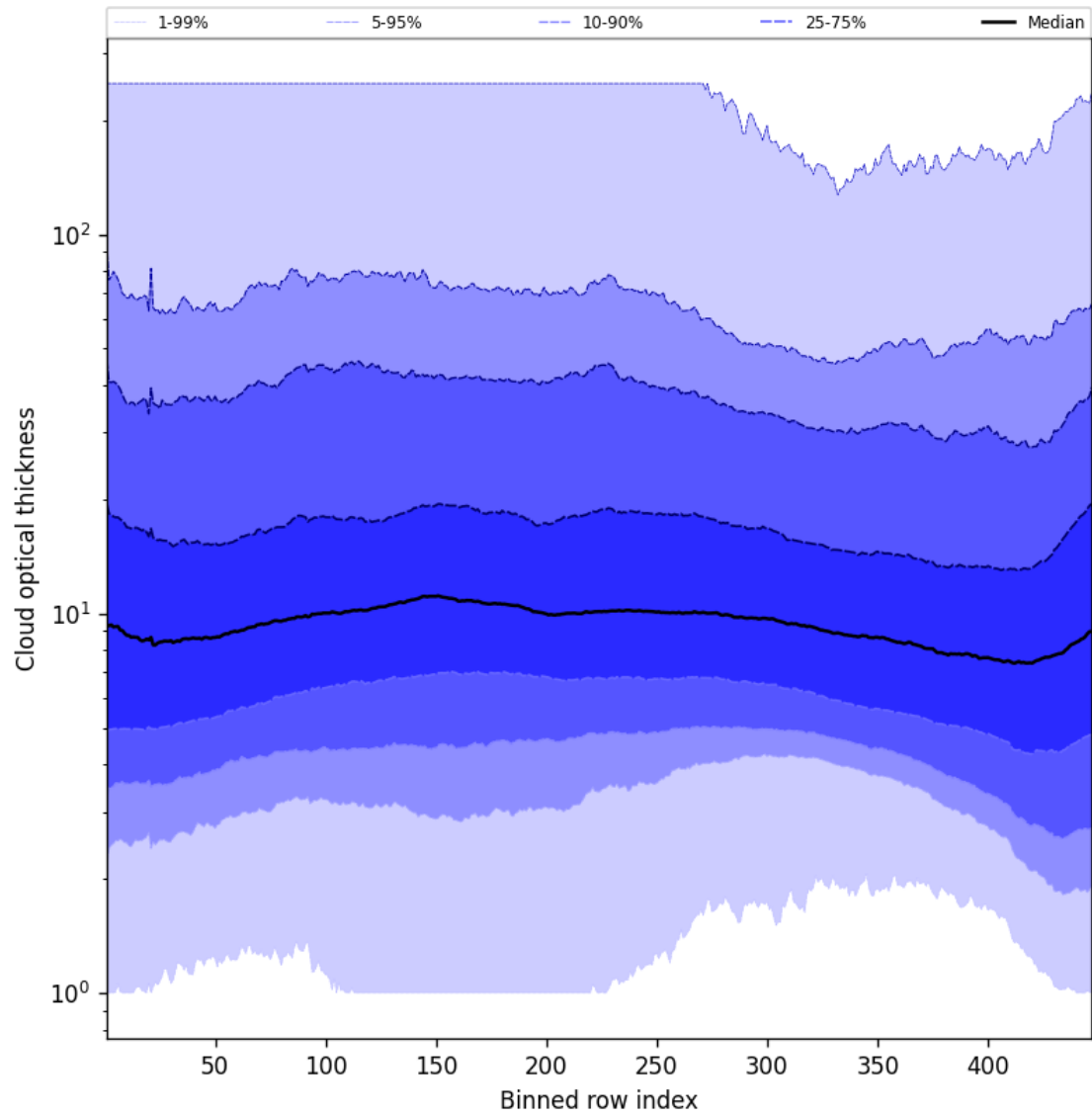


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-04-07 to 2025-04-08

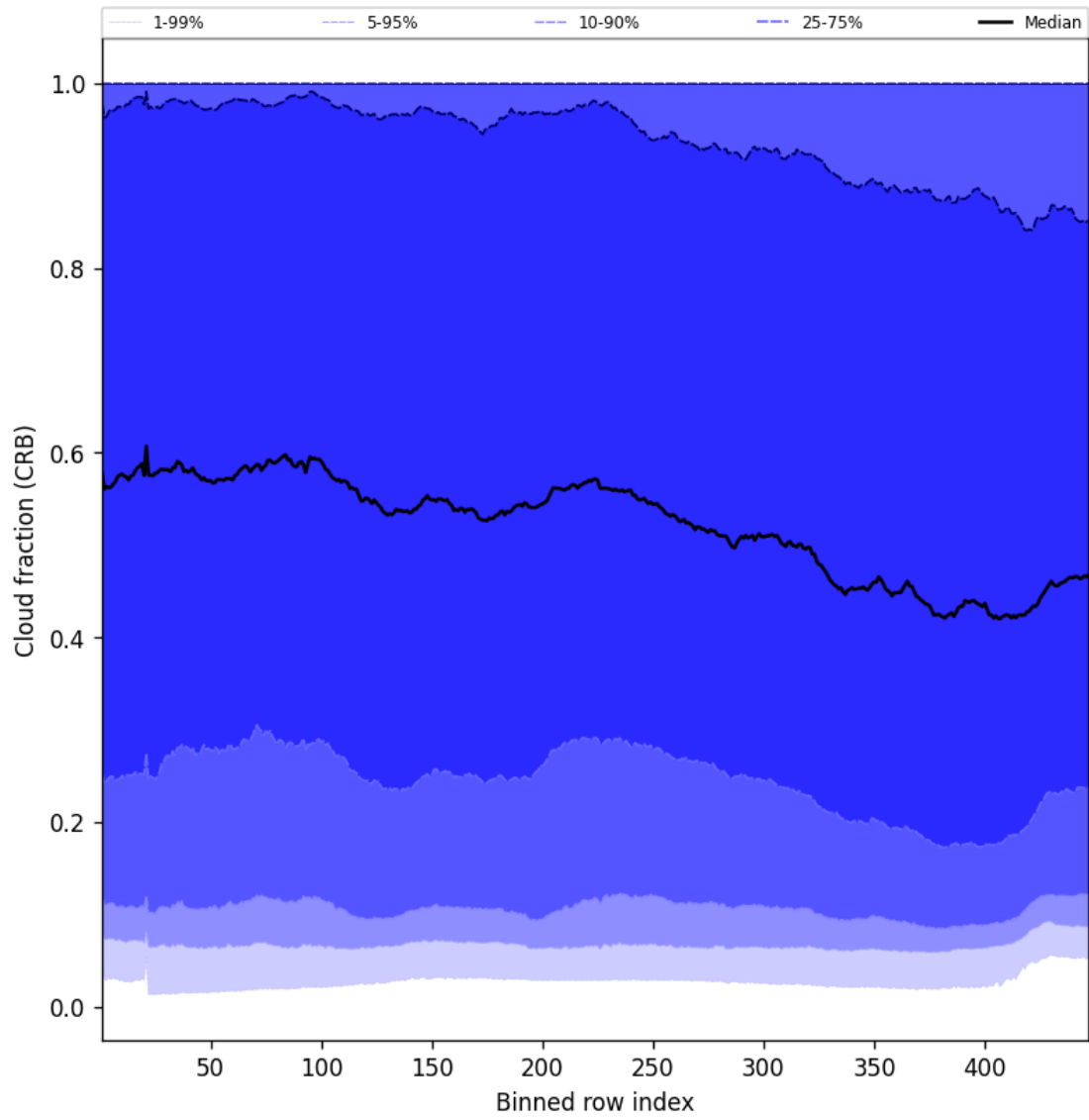


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-04-07 to 2025-04-08

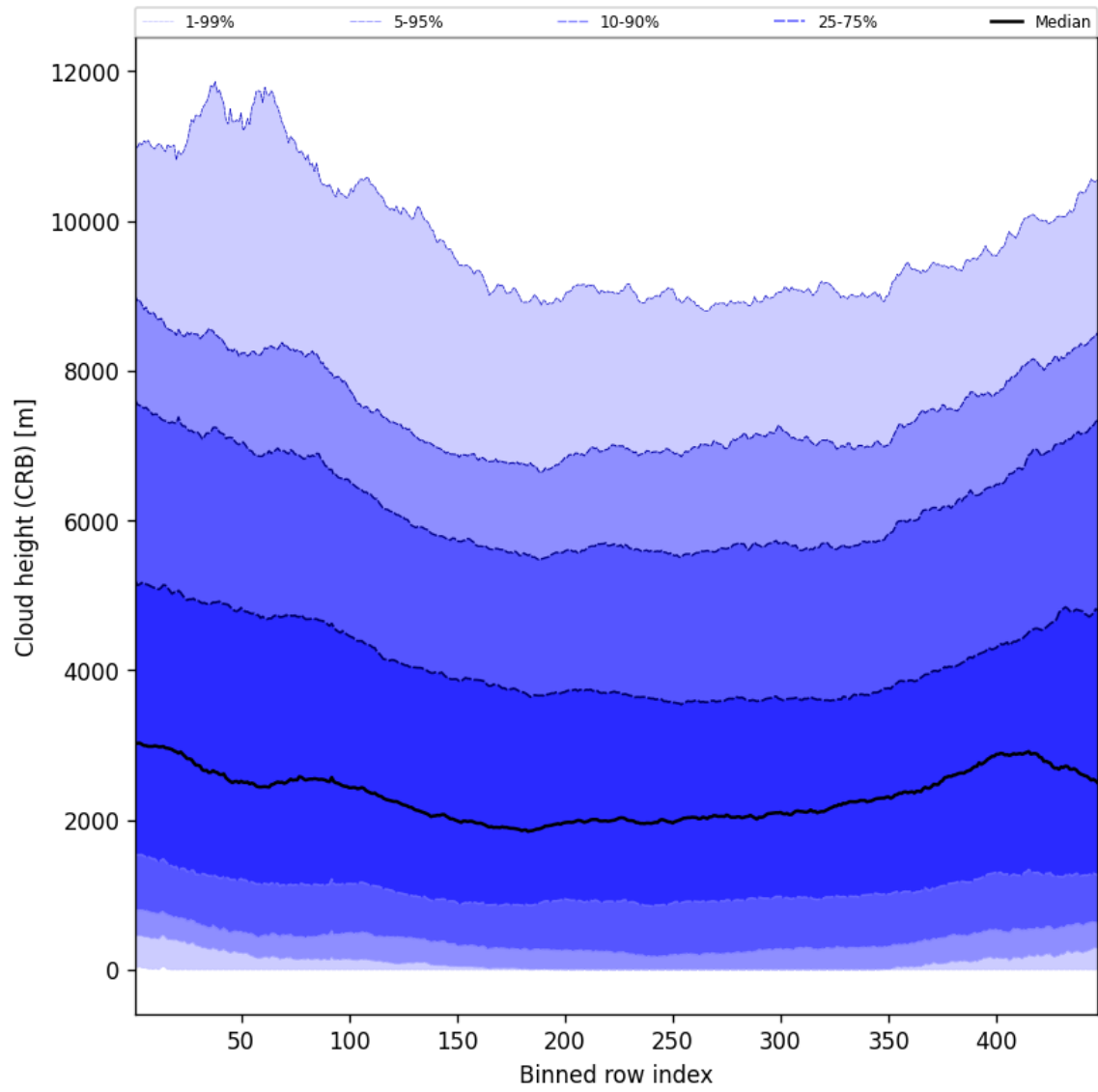


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-04-07 to 2025-04-08

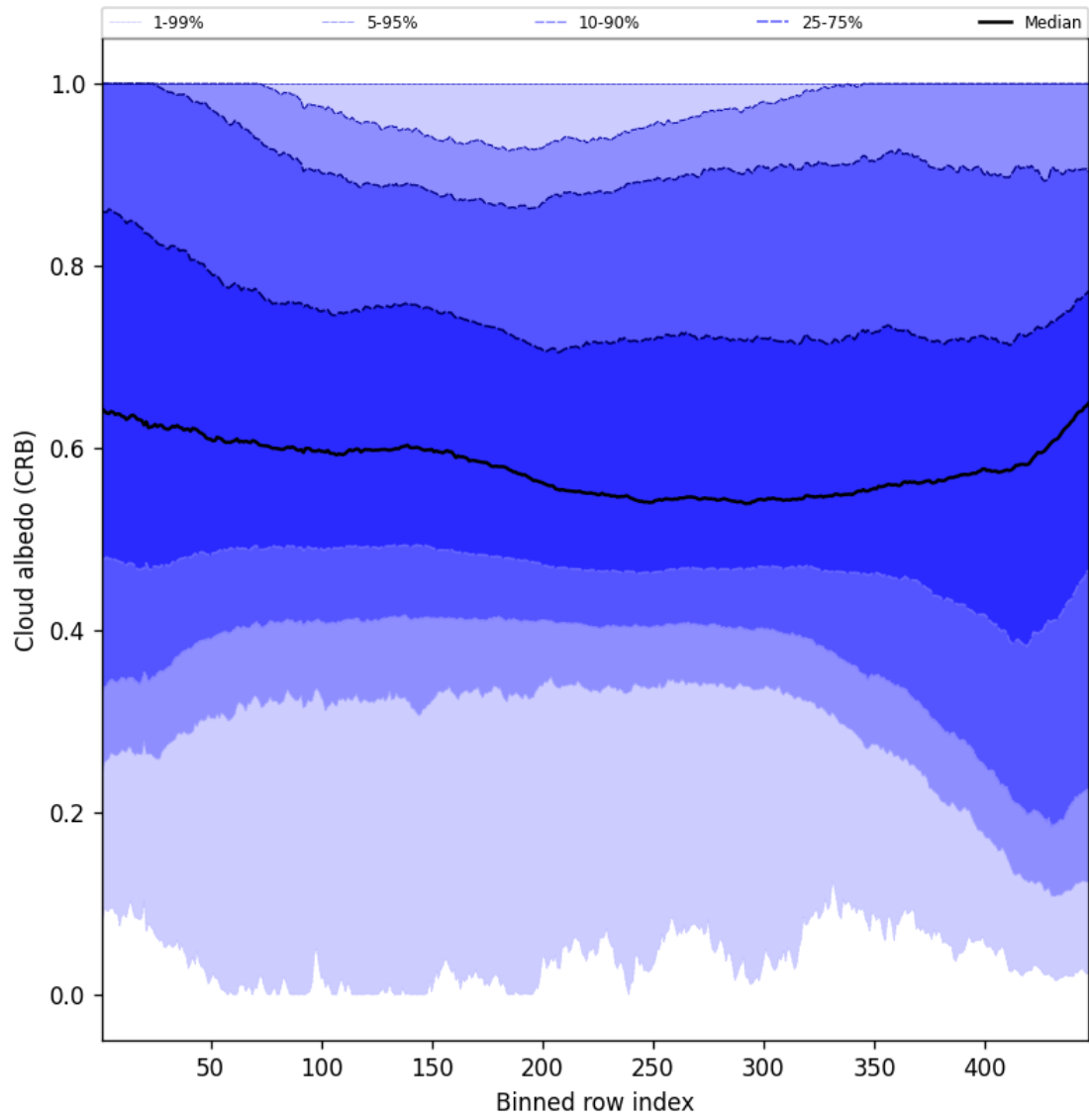


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-04-07 to 2025-04-08

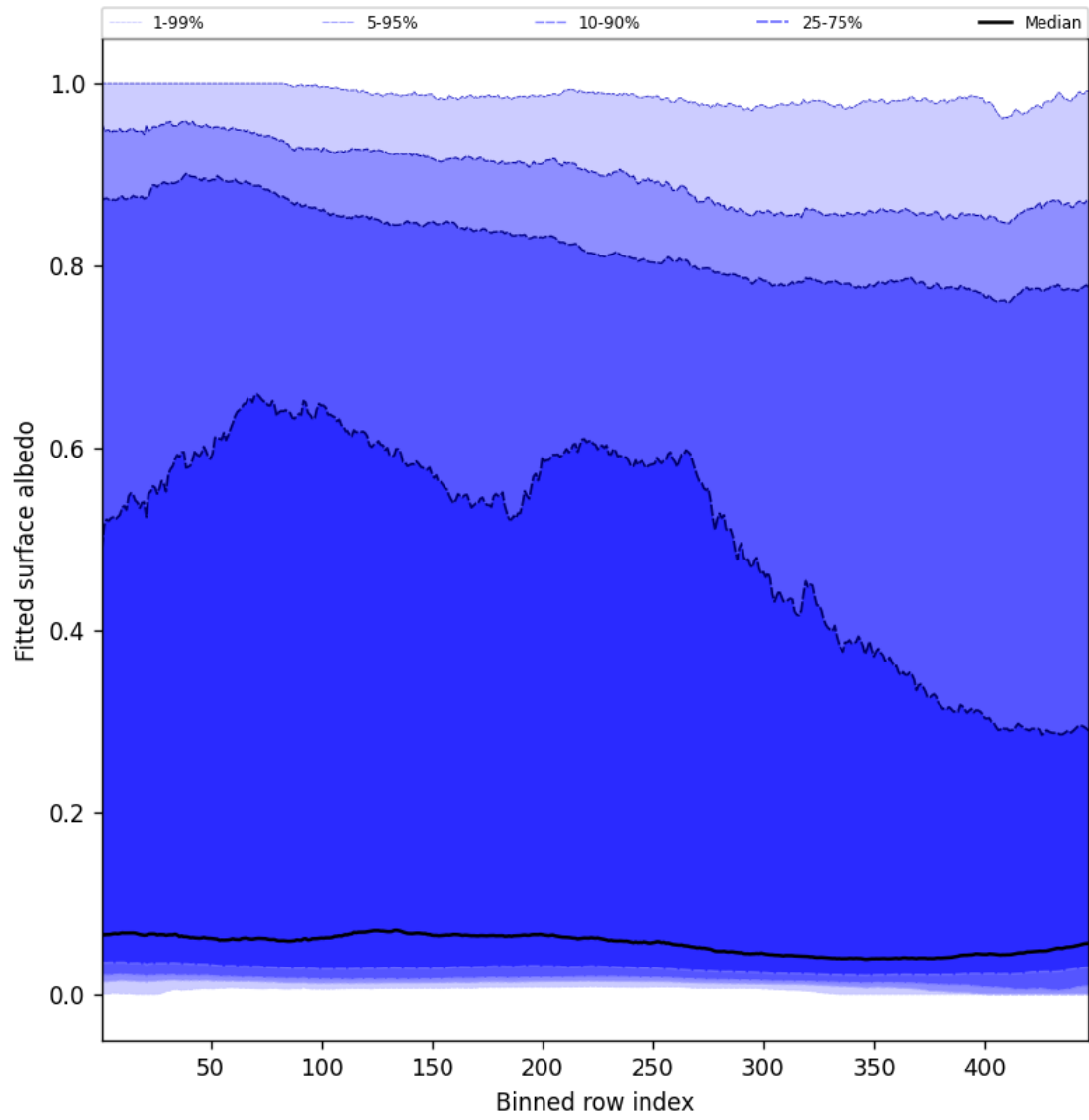


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-04-07 to 2025-04-08

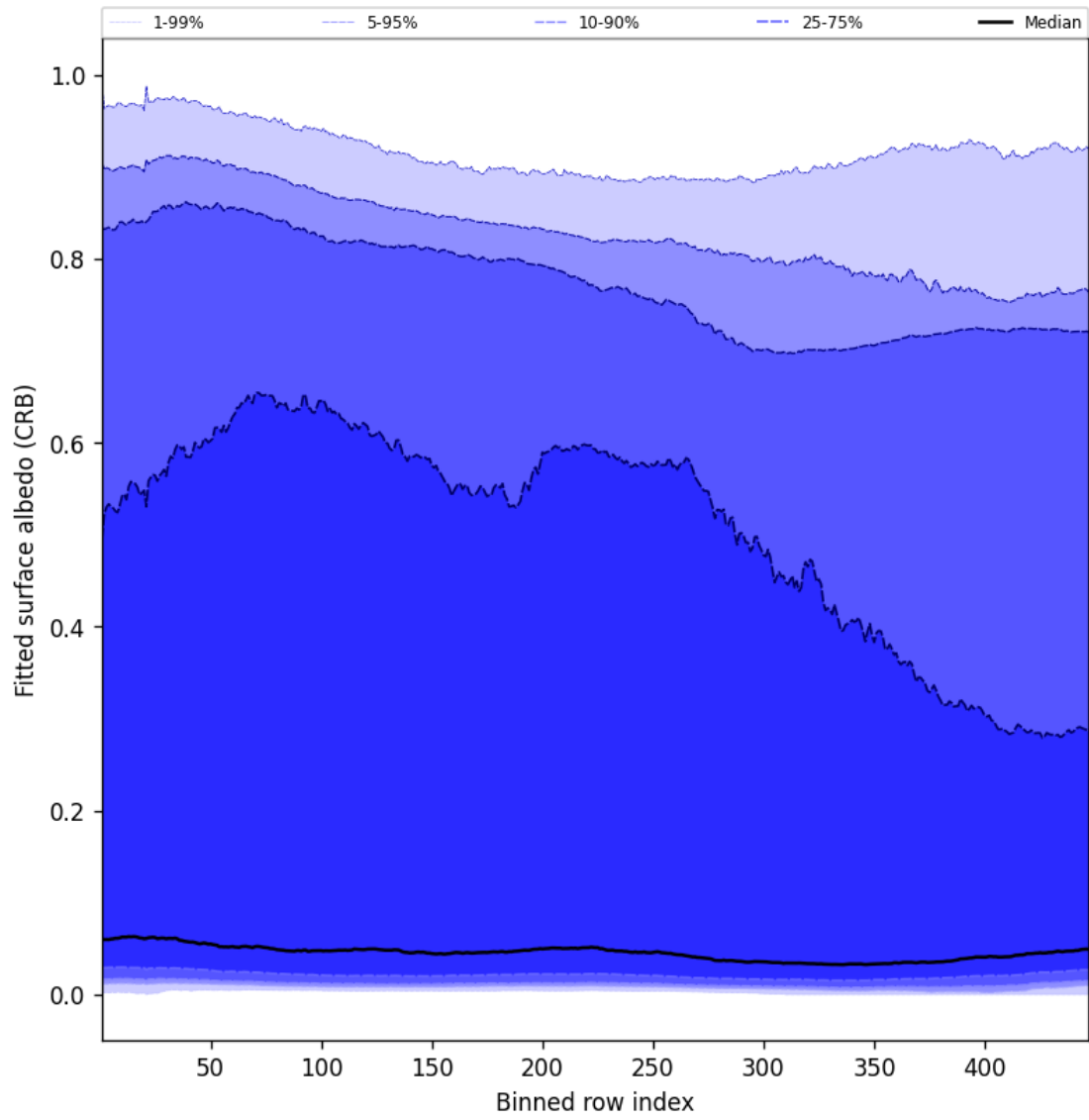


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-07 to 2025-04-08

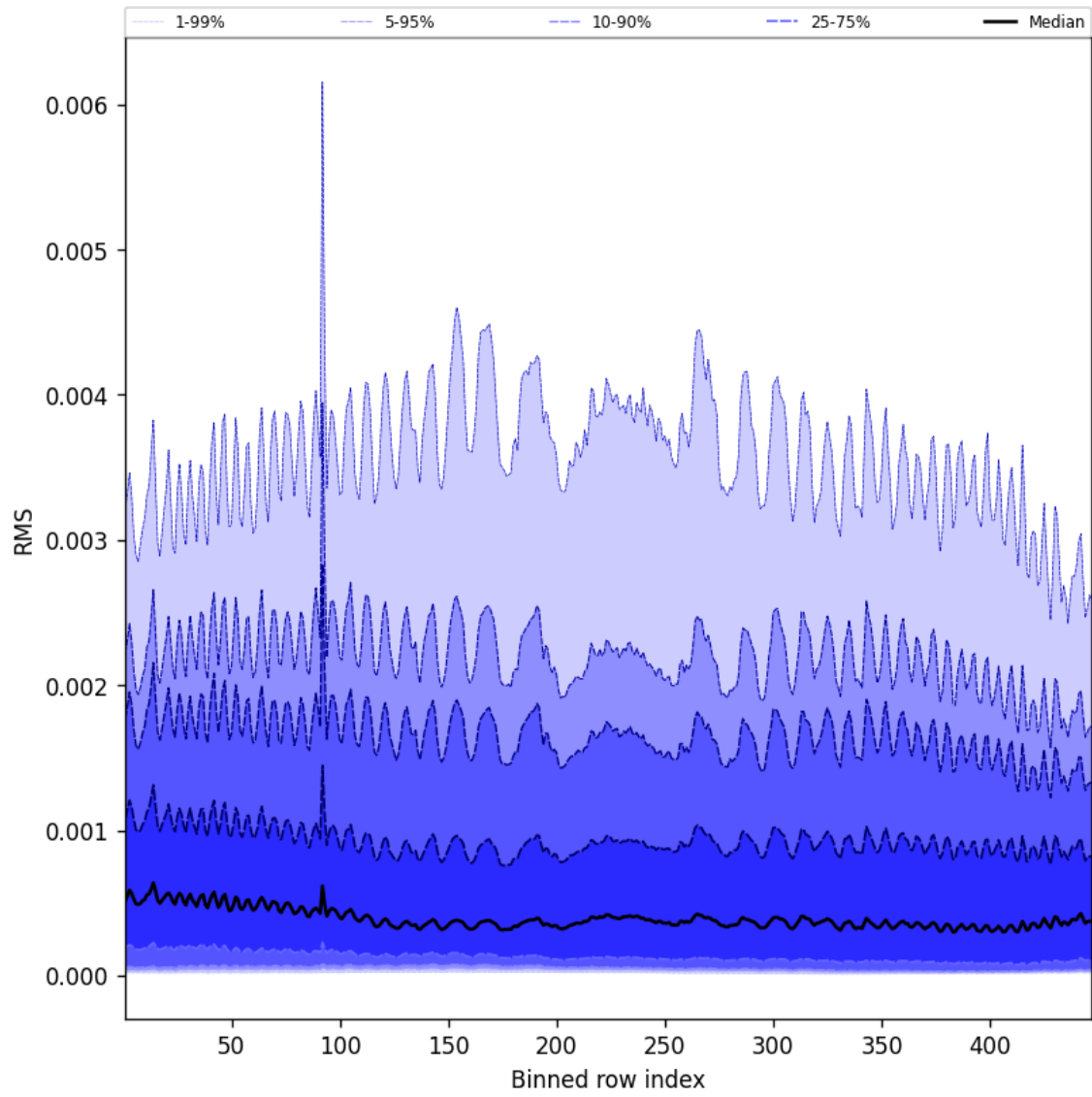


Figure 61: Along track statistics of “RMS” for 2025-04-07 to 2025-04-08

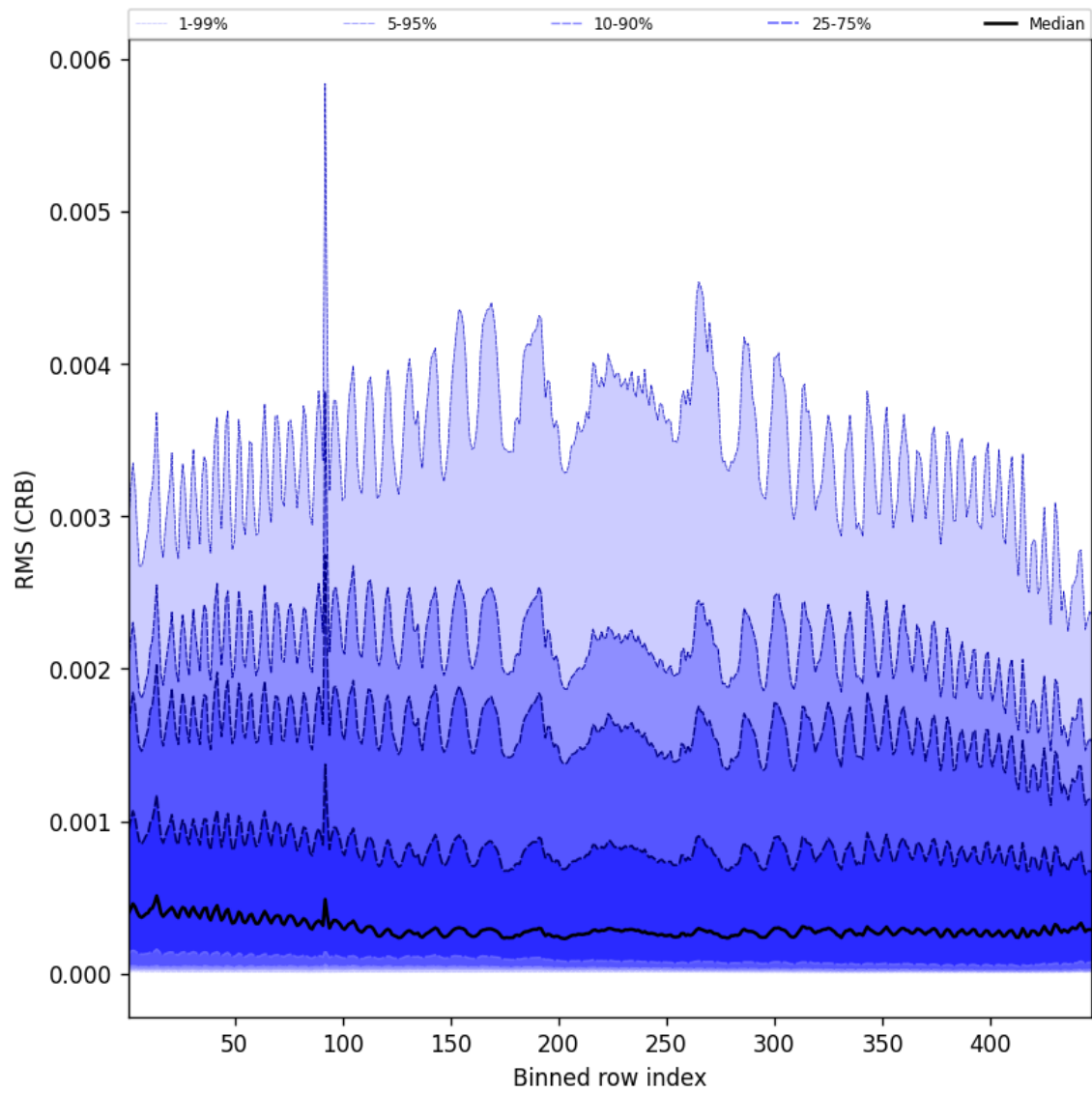


Figure 62: Along track statistics of “RMS (CRB)” for 2025-04-07 to 2025-04-08

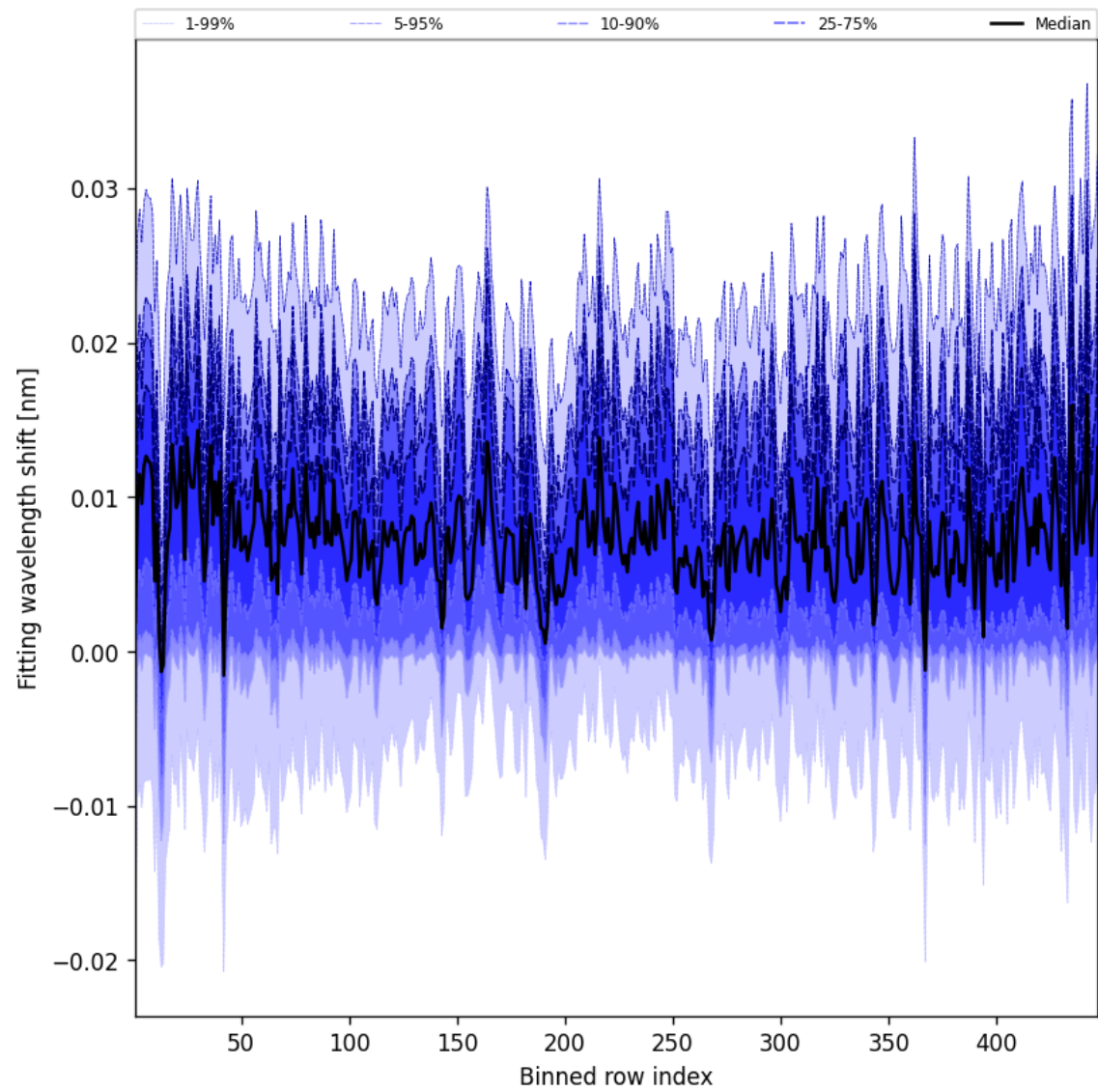


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-04-07 to 2025-04-08

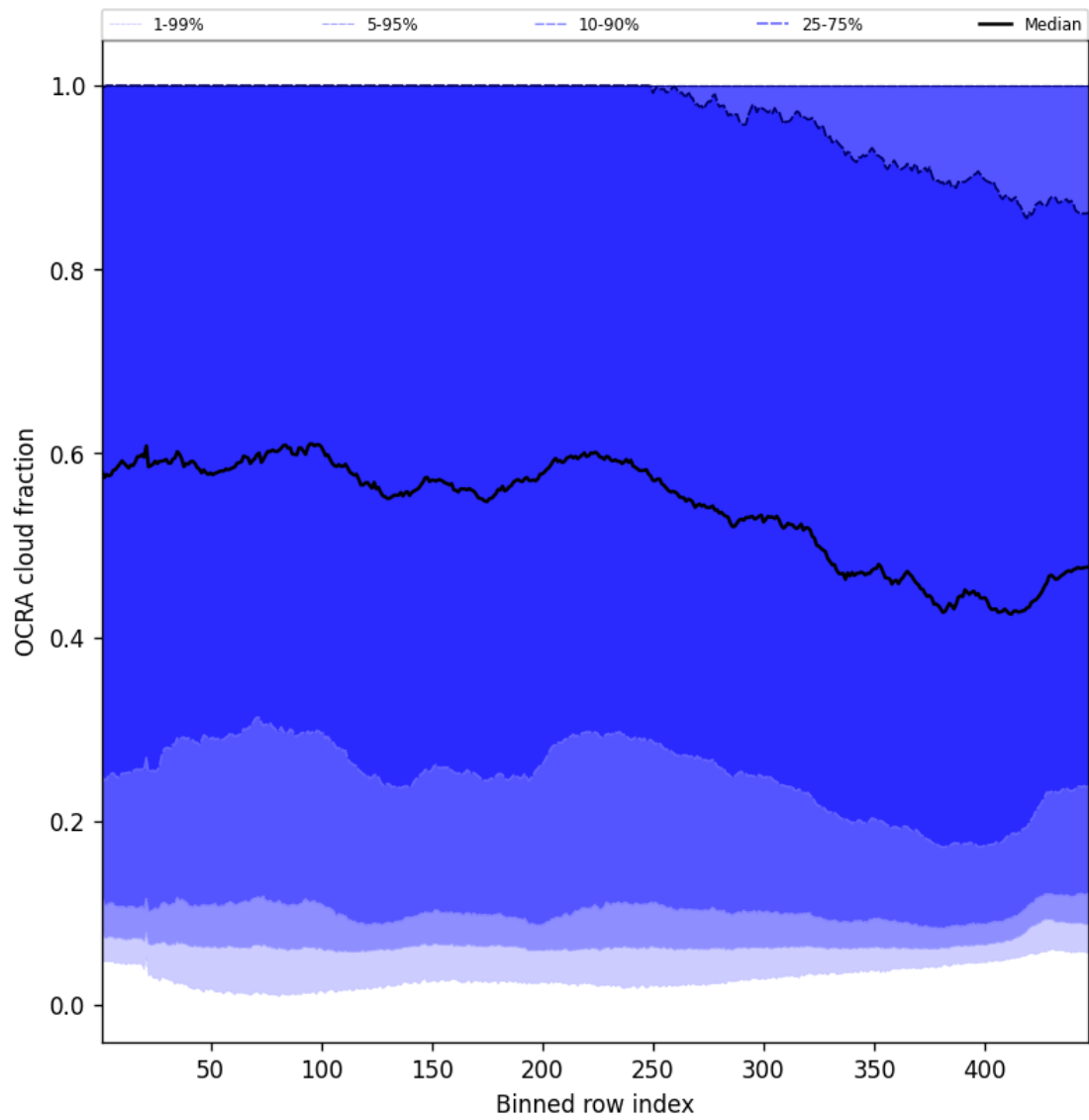


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-04-07 to 2025-04-08

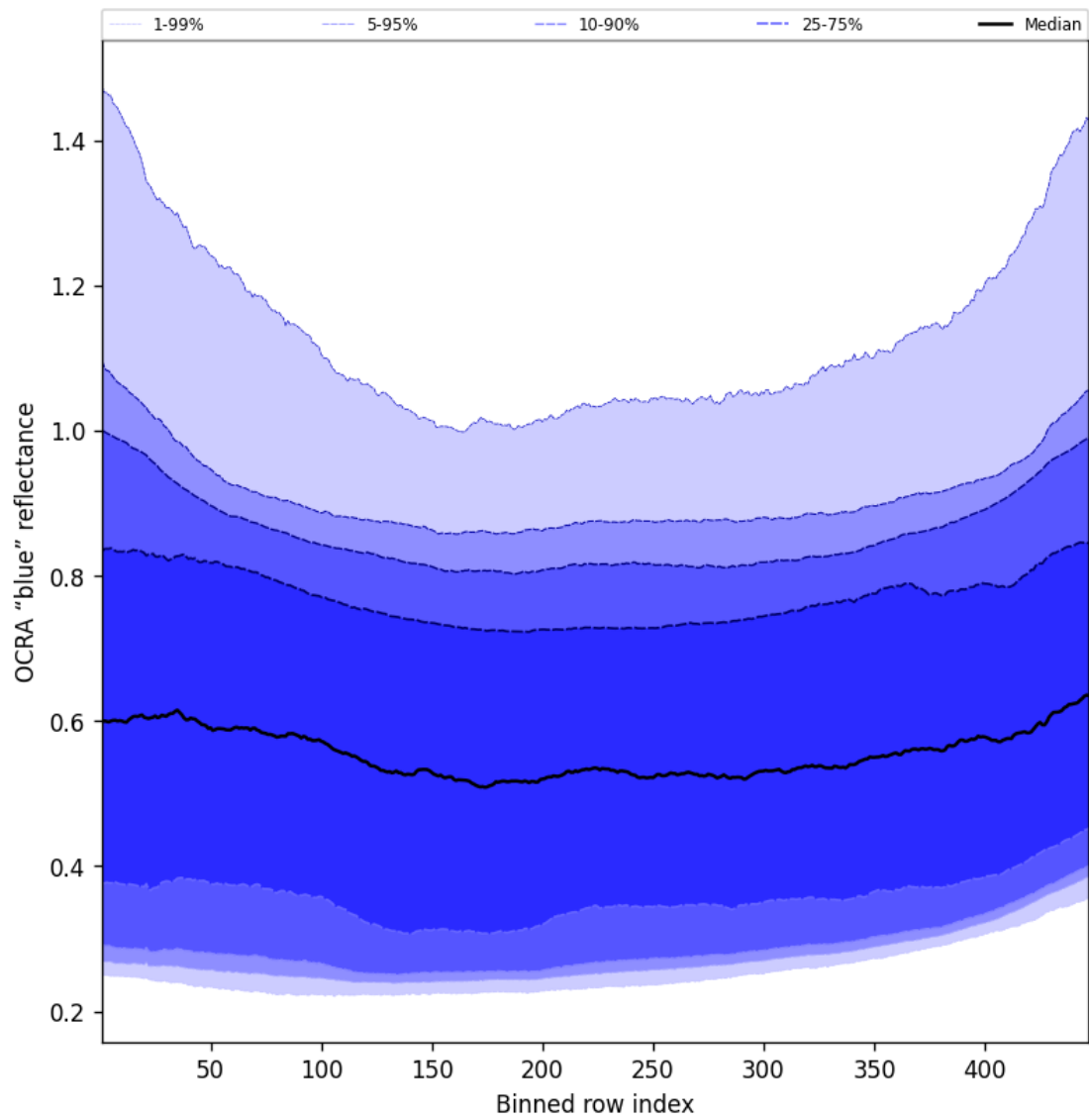


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-04-07 to 2025-04-08

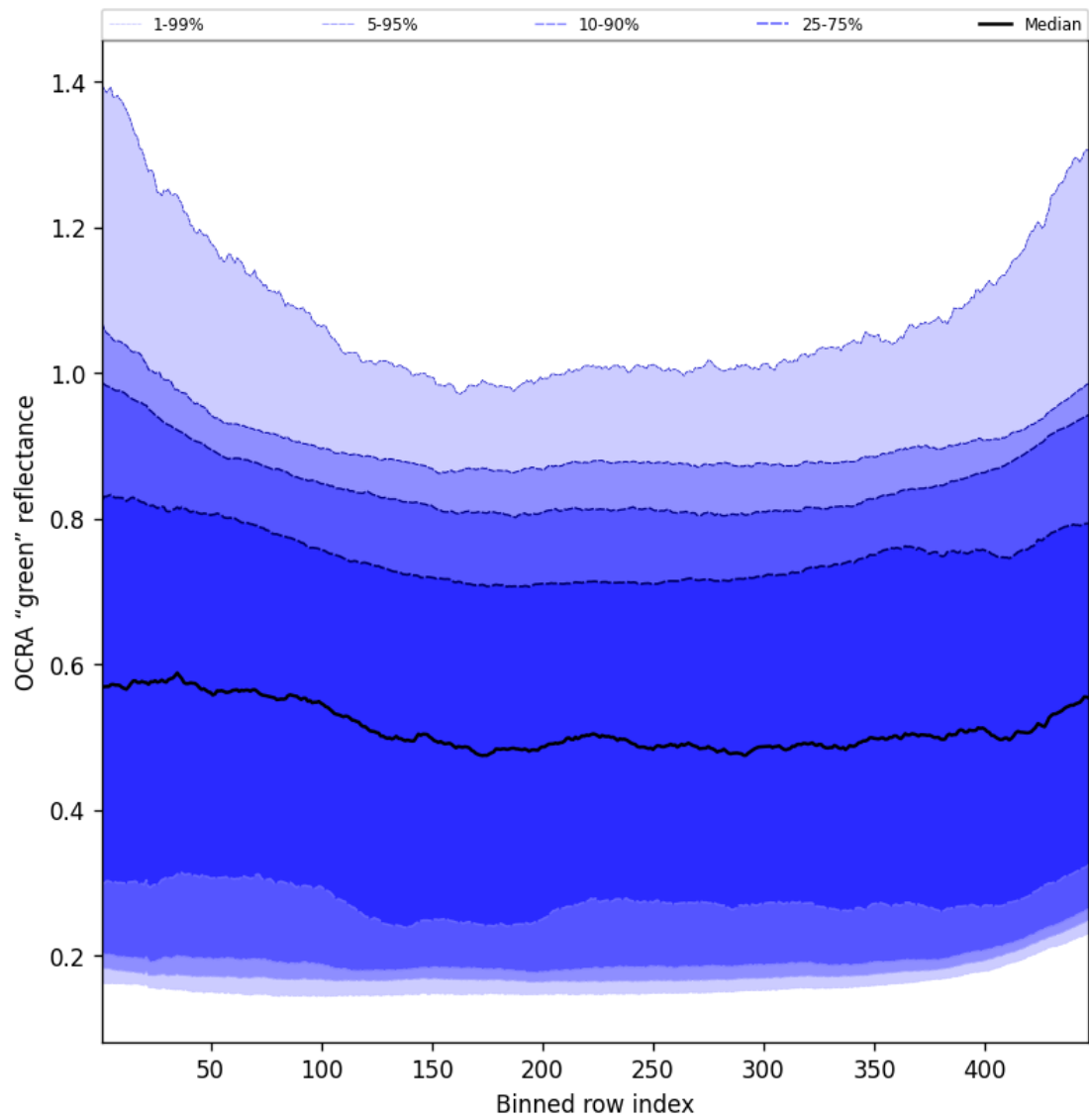


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-04-07 to 2025-04-08

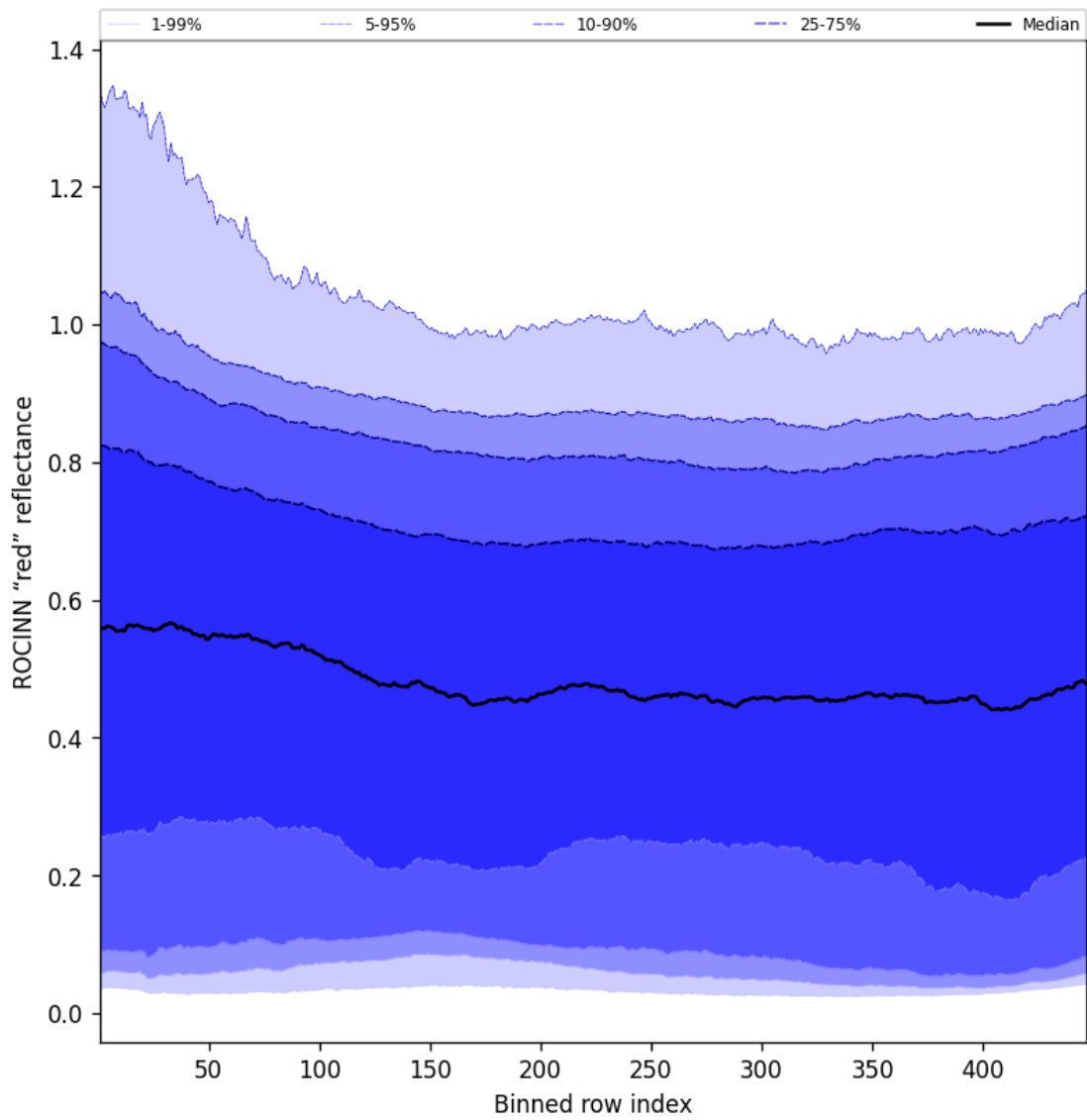


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-04-07 to 2025-04-08

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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