

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-04-04 (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 ± 0.388	18292143	5.000×10^{-3}	0.700	0.780	0.0	1.000
cloud fraction [1]	0.554 ± 0.345	18292143	0.995	0.731	0.513	5.043×10^{-3}	1.000
cloud top height [m]	$(0.382 \pm 0.272) \times 10^4$	18292143	1.575×10^3	3.453×10^3	3.185×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.3 ± 34.2	18292143	8.91	11.0	9.34	1.000	250
cloud fraction crb [1]	0.554 ± 0.345	18292143	0.995	0.730	0.513	3.217×10^{-3}	1.000
cloud height crb [m]	$(0.297 \pm 0.241) \times 10^4$	18292143	75.0	3.053×10^3	2.400×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.603 ± 0.213	18292143	0.995	0.276	0.581	0.0	1.000
surface albedo fitted [1]	0.259 ± 0.318	18292143	2.500×10^{-2}	0.454	5.552×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.246 ± 0.304	18292143	1.500×10^{-2}	0.472	4.598×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.849 \pm 14.990) \times 10^{-4}$	18292143	5.000×10^{-5}	8.152×10^{-4}	3.974×10^{-4}	1.249×10^{-6}	0.919
fitted root mean square crb [1]	$(5.926 \pm 14.218) \times 10^{-4}$	18292143	5.000×10^{-5}	7.319×10^{-4}	2.881×10^{-4}	1.399×10^{-6}	1.01
wavelength shift [nm]	$(7.327 \pm 6.839) \times 10^{-3}$	18292143	9.000×10^{-4}	9.431×10^{-3}	6.677×10^{-3}	-5.952×10^{-2}	0.593
cloud fraction apriori [1]	0.563 ± 0.349	18292143	0.995	0.764	0.532	0.0	1.000
reflectance blue ocra [1]	0.574 ± 0.236	18292143	0.275	0.397	0.558	0.142	1.97
reflectance green ocra [1]	0.524 ± 0.261	18292143	0.175	0.469	0.517	8.000×10^{-2}	1.92
reflectance continuum aband [1]	0.479 ± 0.283	18292143	4.500×10^{-2}	0.478	0.488	1.269×10^{-2}	4.70

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	0.240	0.940	1.000	1.000	1.000	1.000
cloud fraction [1]	2.612×10^{-2}	6.778×10^{-2}	0.104	0.150	0.233	0.964	1.000	1.000	1.000	1.000
cloud top height [m]	194	685	1.047×10^3	1.352×10^3	1.738×10^3	5.191×10^3	6.455×10^3	7.661×10^3	9.237×10^3	1.218×10^4
cloud optical thickness [1]	1.16	2.90	4.02	4.83	5.74	16.7	25.9	38.7	66.3	250
cloud fraction crb [1]	2.569×10^{-2}	6.693×10^{-2}	0.103	0.150	0.233	0.963	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	167	505	782	1.118×10^3	4.171×10^3	5.321×10^3	6.385×10^3	7.747×10^3	1.033×10^4
cloud albedo crb [1]	2.677×10^{-2}	0.254	0.365	0.423	0.470	0.746	0.839	0.915	0.996	1.000
surface albedo fitted [1]	0.0	9.528×10^{-3}	1.475×10^{-2}	1.935×10^{-2}	2.610×10^{-2}	0.481	0.722	0.810	0.899	0.989
surface albedo fitted crb [1]	6.647×10^{-4}	7.116×10^{-3}	1.087×10^{-2}	1.455×10^{-2}	2.013×10^{-2}	0.492	0.682	0.758	0.846	0.938
fitted root mean square [1]	1.556×10^{-5}	2.996×10^{-5}	4.711×10^{-5}	7.368×10^{-5}	1.278×10^{-4}	9.430×10^{-4}	1.286×10^{-3}	1.649×10^{-3}	2.234×10^{-3}	3.540×10^{-3}
fitted root mean square crb [1]	9.627×10^{-6}	1.968×10^{-5}	3.264×10^{-5}	5.052×10^{-5}	8.738×10^{-5}	8.193×10^{-4}	1.185×10^{-3}	1.562×10^{-3}	2.148×10^{-3}	3.372×10^{-3}
wavelength shift [nm]	-8.514×10^{-3}	-1.356×10^{-3}	-3.915×10^{-5}	8.621×10^{-4}	2.301×10^{-3}	1.173×10^{-2}	1.415×10^{-2}	1.624×10^{-2}	1.903×10^{-2}	2.509×10^{-2}
cloud fraction apriori [1]	2.961×10^{-2}	6.511×10^{-2}	9.956×10^{-2}	0.147	0.236	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.233	0.258	0.282	0.312	0.362	0.760	0.819	0.871	0.944	1.19
reflectance green ocra [1]	0.152	0.173	0.193	0.220	0.274	0.743	0.807	0.858	0.923	1.12
reflectance continuum aband [1]	3.032×10^{-2}	5.355×10^{-2}	8.629×10^{-2}	0.133	0.233	0.711	0.782	0.835	0.901	1.07

Table 3: Parameterlist and basic statistics for the analysis for observations in the northern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.534 ± 0.392	9909649	0.900	0.670	0.0	1.000	0.0	0.900
cloud fraction [1]	0.522 ± 0.340	9909649	0.694	0.452	5.043×10^{-3}	1.000	0.217	0.911
cloud top height [m]	$(0.356 \pm 0.247) \times 10^4$	9909649	3.131×10^3	3.085×10^3	0.0	2.000×10^4	1.671×10^3	4.803×10^3
cloud optical thickness [1]	17.1 ± 32.8	9909649	8.49	8.43	1.000	250	5.40	13.9
cloud fraction crb [1]	0.523 ± 0.340	9909649	0.692	0.453	3.217×10^{-3}	1.000	0.218	0.910
cloud height crb [m]	$(0.263 \pm 0.213) \times 10^4$	9909649	2.767×10^3	2.205×10^3	0.0	2.000×10^4	958	3.725×10^3
cloud albedo crb [1]	0.631 ± 0.233	9909649	0.339	0.619	0.0	1.000	0.477	0.816
surface albedo fitted [1]	0.356 ± 0.337	9909649	0.656	0.227	0.0	1.000	3.857×10^{-2}	0.695
surface albedo fitted crb [1]	0.338 ± 0.318	9909649	0.633	0.225	0.0	1.000	3.113×10^{-2}	0.664
fitted root mean square [1]	$(8.393 \pm 19.388) \times 10^{-4}$	9909649	9.800×10^{-4}	5.469×10^{-4}	1.851×10^{-6}	0.919	1.725×10^{-4}	1.153×10^{-3}
fitted root mean square crb [1]	$(7.027 \pm 18.444) \times 10^{-4}$	9909649	8.891×10^{-4}	3.719×10^{-4}	1.780×10^{-6}	1.01	1.052×10^{-4}	9.943×10^{-4}
wavelength shift [nm]	$(8.138 \pm 6.936) \times 10^{-3}$	9909649	9.859×10^{-3}	7.686×10^{-3}	-5.952×10^{-2}	0.593	2.947×10^{-3}	1.281×10^{-2}
cloud fraction apriori [1]	0.538 ± 0.343	9909649	0.734	0.483	0.0	1.000	0.227	0.961
reflectance blue ocra [1]	0.596 ± 0.249	9909649	0.432	0.608	0.142	1.97	0.358	0.791
reflectance green ocra [1]	0.553 ± 0.272	9909649	0.501	0.583	8.676×10^{-2}	1.92	0.277	0.779
reflectance continuum aband [1]	0.518 ± 0.287	9909649	0.486	0.557	1.351×10^{-2}	3.37	0.266	0.752

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]	0.683 ± 0.368	8382494	0.600	0.900	0.0	1.000	0.400	1.000
cloud fraction [1]	0.592 ± 0.348	8382494	0.733	0.605	7.929×10^{-3}	1.000	0.258	0.991
cloud top height [m]	$(0.413 \pm 0.295) \times 10^4$	8382494	3.982×10^3	3.325×10^3	0.0	2.000×10^4	1.809×10^3	5.791×10^3
cloud optical thickness [1]	21.9 ± 35.6	8382494	14.2	10.7	1.000	250	6.45	20.6
cloud fraction crb [1]	0.591 ± 0.348	8382494	0.733	0.603	8.381×10^{-3}	1.000	0.257	0.990
cloud height crb [m]	$(0.338 \pm 0.264) \times 10^4$	8382494	3.578×10^3	2.664×10^3	0.0	2.000×10^4	1.291×10^3	4.869×10^3
cloud albedo crb [1]	0.569 ± 0.180	8382494	0.207	0.554	0.0	1.000	0.465	0.672
surface albedo fitted [1]	0.145 ± 0.249	8382494	6.428×10^{-2}	3.396×10^{-2}	0.0	1.000	1.981×10^{-2}	8.409×10^{-2}
surface albedo fitted crb [1]	0.137 ± 0.245	8382494	5.867×10^{-2}	2.672×10^{-2}	0.0	1.000	1.482×10^{-2}	7.348×10^{-2}
fitted root mean square [1]	$(5.025 \pm 6.311) \times 10^{-4}$	8382494	5.765×10^{-4}	2.758×10^{-4}	1.249×10^{-6}	0.155	9.861×10^{-5}	6.752×10^{-4}
fitted root mean square crb [1]	$(4.625 \pm 5.986) \times 10^{-4}$	8382494	5.503×10^{-4}	2.181×10^{-4}	1.399×10^{-6}	2.666×10^{-2}	7.316×10^{-5}	6.235×10^{-4}
wavelength shift [nm]	$(6.369 \pm 6.595) \times 10^{-3}$	8382494	8.595×10^{-3}	5.627×10^{-3}	-4.472×10^{-2}	6.149×10^{-2}	1.723×10^{-3}	1.032×10^{-2}
cloud fraction apriori [1]	0.593 ± 0.354	8382494	0.751	0.608	0.0	1.000	0.249	1.000
reflectance blue ocra [1]	0.548 ± 0.215	8382494	0.331	0.524	0.144	1.97	0.366	0.698
reflectance green ocra [1]	0.490 ± 0.243	8382494	0.401	0.469	8.000×10^{-2}	1.92	0.271	0.671
reflectance continuum aband [1]	0.433 ± 0.271	8382494	0.443	0.427	1.269×10^{-2}	4.70	0.196	0.639

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]	0.633 ± 0.382	12904924	0.650	0.850	0.0	1.000	0.300	0.950
cloud fraction [1]	0.556 ± 0.351	12904924	0.750	0.519	6.952×10^{-3}	1.000	0.223	0.973
cloud top height [m]	$(0.353 \pm 0.244) \times 10^4$	12904924	3.133×10^3	2.936×10^3	0.0	2.000×10^4	1.657×10^3	4.790×10^3
cloud optical thickness [1]	20.4 ± 34.8	12904924	11.4	10.1	1.000	250	6.50	17.9
cloud fraction crb [1]	0.555 ± 0.350	12904924	0.749	0.518	3.217×10^{-3}	1.000	0.223	0.971
cloud height crb [m]	$(0.278 \pm 0.220) \times 10^4$	12904924	2.862×10^3	2.233×10^3	0.0	2.000×10^4	1.056×10^3	3.918×10^3
cloud albedo crb [1]	0.582 ± 0.197	12904924	0.239	0.557	0.0	1.000	0.462	0.701
surface albedo fitted [1]	0.164 ± 0.278	12904924	4.513×10^{-2}	3.483×10^{-2}	0.0	1.000	2.073×10^{-2}	6.586×10^{-2}
surface albedo fitted crb [1]	0.151 ± 0.261	12904924	3.983×10^{-2}	2.762×10^{-2}	0.0	1.000	1.566×10^{-2}	5.549×10^{-2}
fitted root mean square [1]	$(5.388 \pm 15.062) \times 10^{-4}$	12904924	6.080×10^{-4}	2.634×10^{-4}	1.249×10^{-6}	0.919	9.244×10^{-5}	7.005×10^{-4}
fitted root mean square crb [1]	$(4.637 \pm 15.797) \times 10^{-4}$	12904924	4.923×10^{-4}	1.941×10^{-4}	1.399×10^{-6}	1.01	6.837×10^{-5}	5.606×10^{-4}
wavelength shift [nm]	$(6.656 \pm 6.743) \times 10^{-3}$	12904924	8.895×10^{-3}	5.876×10^{-3}	-5.054×10^{-2}	0.593	1.915×10^{-3}	1.081×10^{-2}
cloud fraction apriori [1]	0.561 ± 0.355	12904924	0.779	0.530	0.0	1.000	0.221	1.000
reflectance blue ocr [1]	0.549 ± 0.221	12904924	0.372	0.525	0.162	1.96	0.353	0.725
reflectance green ocr [1]	0.492 ± 0.247	12904924	0.446	0.474	8.767×10^{-2}	1.82	0.256	0.701
reflectance continuum aband [1]	0.425 ± 0.278	12904924	0.507	0.423	1.269×10^{-2}	3.03	0.154	0.661

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]	0.541 ± 0.398	3920425	0.900	0.690	0.0	1.000	0.0	0.900
cloud fraction [1]	0.544 ± 0.333	3920425	0.677	0.494	5.043×10^{-3}	1.000	0.249	0.926
cloud top height [m]	$(0.490 \pm 0.328) \times 10^4$	3920425	4.210×10^3	4.267×10^3	0.0	2.000×10^4	2.399×10^3	6.609×10^3
cloud optical thickness [1]	14.6 ± 27.5	3920425	8.00	7.05	1.000	250	4.70	12.7
cloud fraction crb [1]	0.544 ± 0.332	3920425	0.676	0.494	8.381×10^{-3}	1.000	0.249	0.925
cloud height crb [m]	$(0.378 \pm 0.290) \times 10^4$	3920425	3.611×10^3	3.063×10^3	0.0	2.000×10^4	1.604×10^3	5.215×10^3
cloud albedo crb [1]	0.642 ± 0.233	3920425	0.321	0.647	0.0	1.000	0.501	0.822
surface albedo fitted [1]	0.481 ± 0.287	3920425	0.536	0.337	2.567×10^{-4}	1.000	0.238	0.774
surface albedo fitted crb [1]	0.472 ± 0.274	3920425	0.518	0.345	0.0	1.000	0.234	0.751
fitted root mean square [1]	$(1.030 \pm 1.492) \times 10^{-3}$	3920425	9.347×10^{-4}	7.828×10^{-4}	1.316×10^{-6}	0.269	4.040×10^{-4}	1.339×10^{-3}
fitted root mean square crb [1]	$(9.024 \pm 8.734) \times 10^{-4}$	3920425	1.000×10^{-3}	6.868×10^{-4}	1.693×10^{-6}	0.104	2.636×10^{-4}	1.264×10^{-3}
wavelength shift [nm]	$(8.577 \pm 6.636) \times 10^{-3}$	3920425	9.543×10^{-3}	8.231×10^{-3}	-5.952×10^{-2}	5.206×10^{-2}	3.495×10^{-3}	1.304×10^{-2}
cloud fraction apriori [1]	0.558 ± 0.336	3920425	0.735	0.516	0.0	1.000	0.257	0.992
reflectance blue ocra [1]	0.625 ± 0.263	3920425	0.449	0.644	0.142	1.97	0.376	0.825
reflectance green ocra [1]	0.592 ± 0.280	3920425	0.503	0.627	8.000×10^{-2}	1.92	0.314	0.818
reflectance continuum aband [1]	0.601 ± 0.244	3920425	0.406	0.614	1.626×10^{-2}	4.70	0.385	0.791

3 Granule outlines

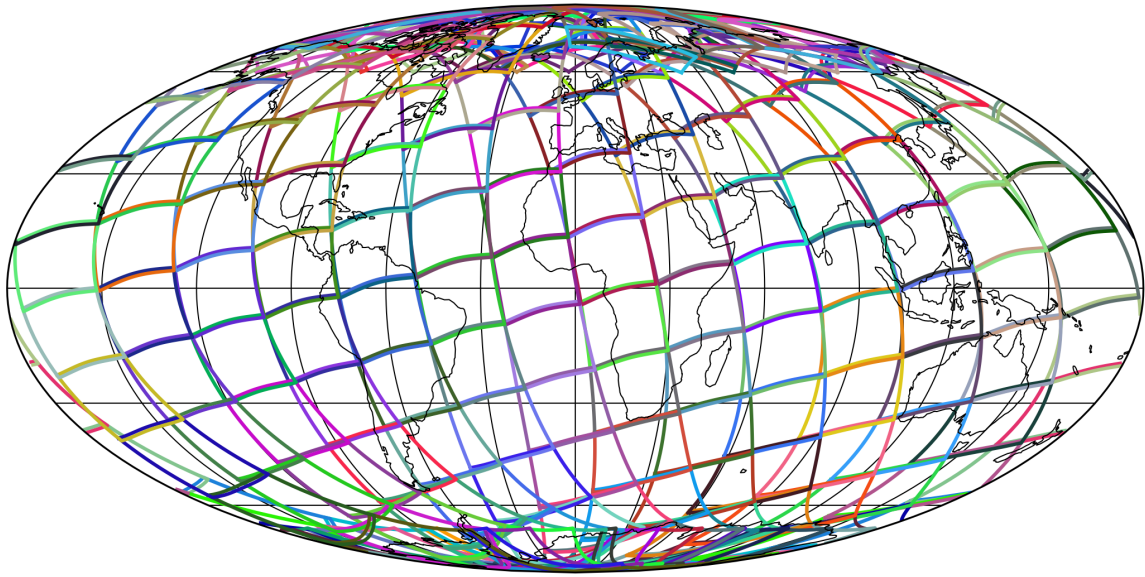


Figure 1: Outline of the granules.

4 Input data monitoring

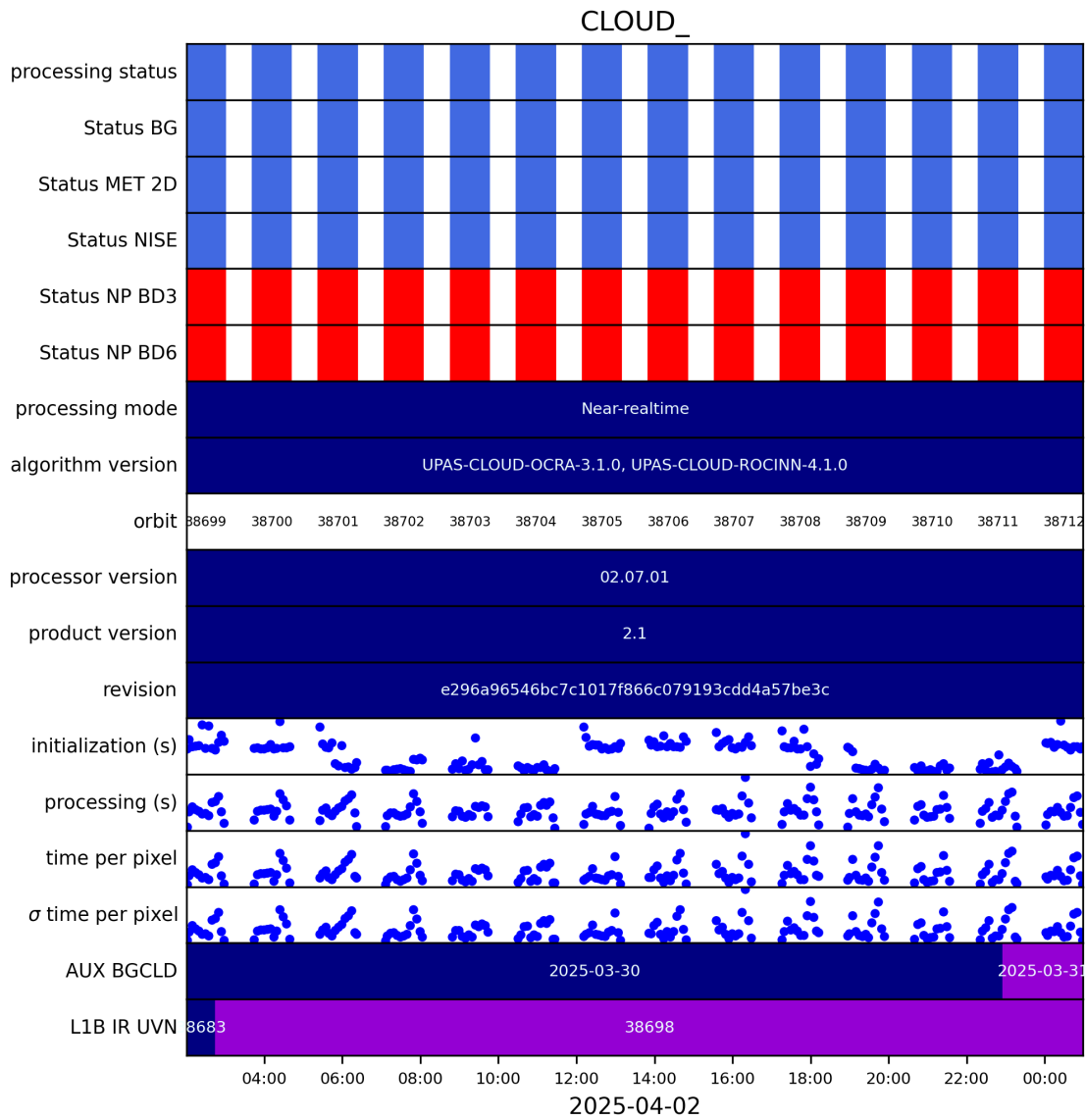


Figure 2: Input data per granule

5 Warnings and errors

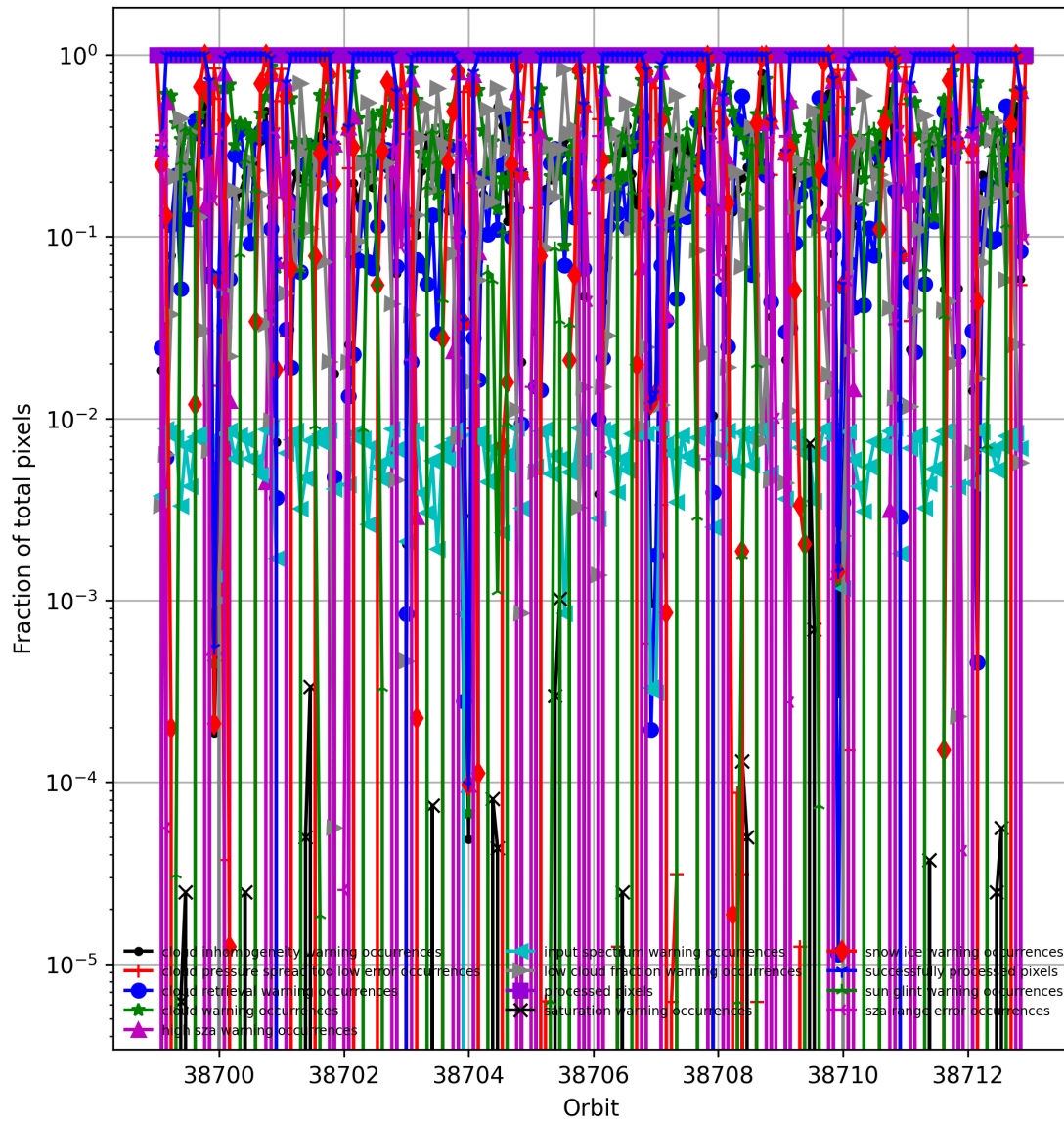


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

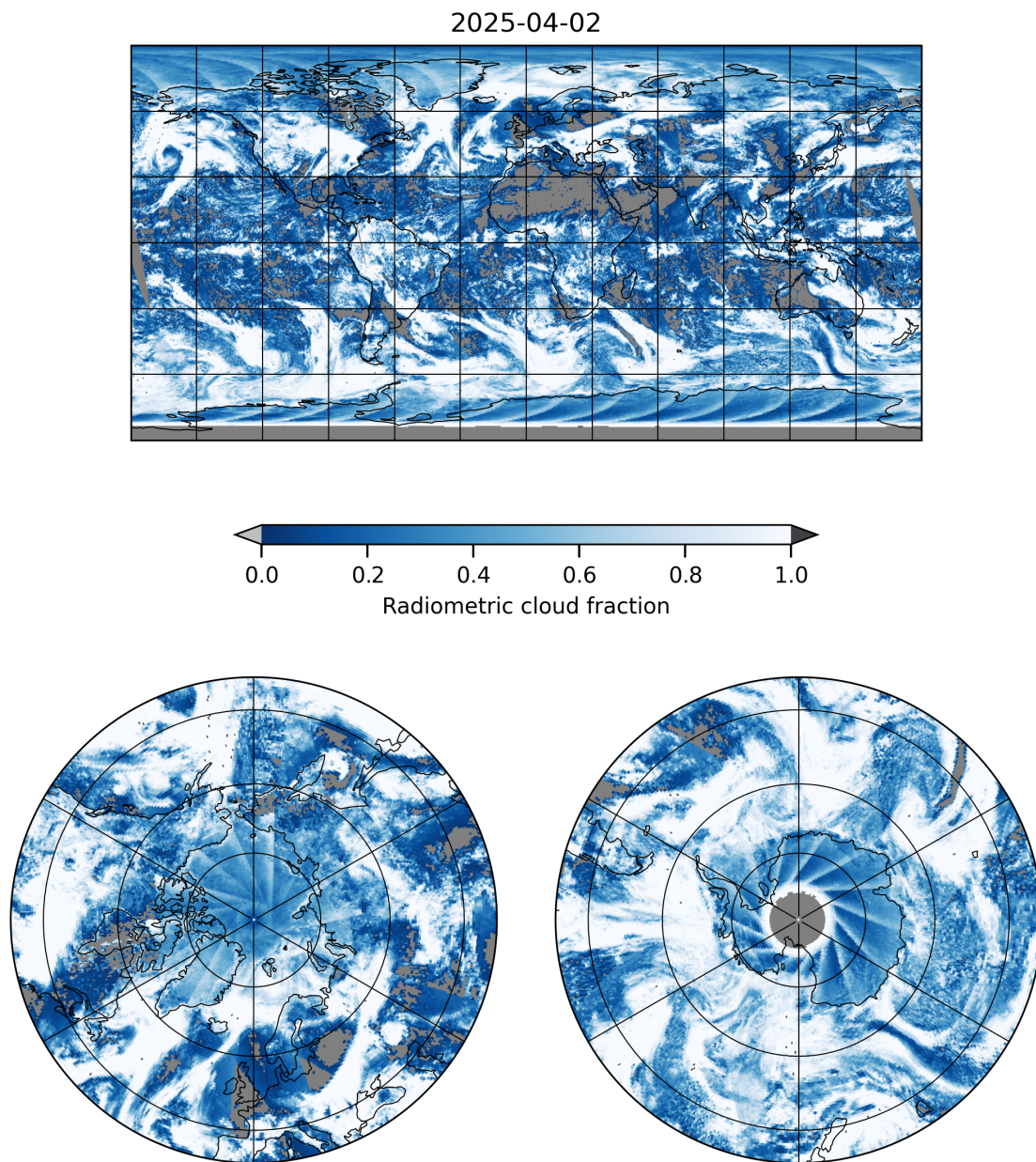


Figure 4: Map of “Radiometric cloud fraction” for 2025-04-02 to 2025-04-03

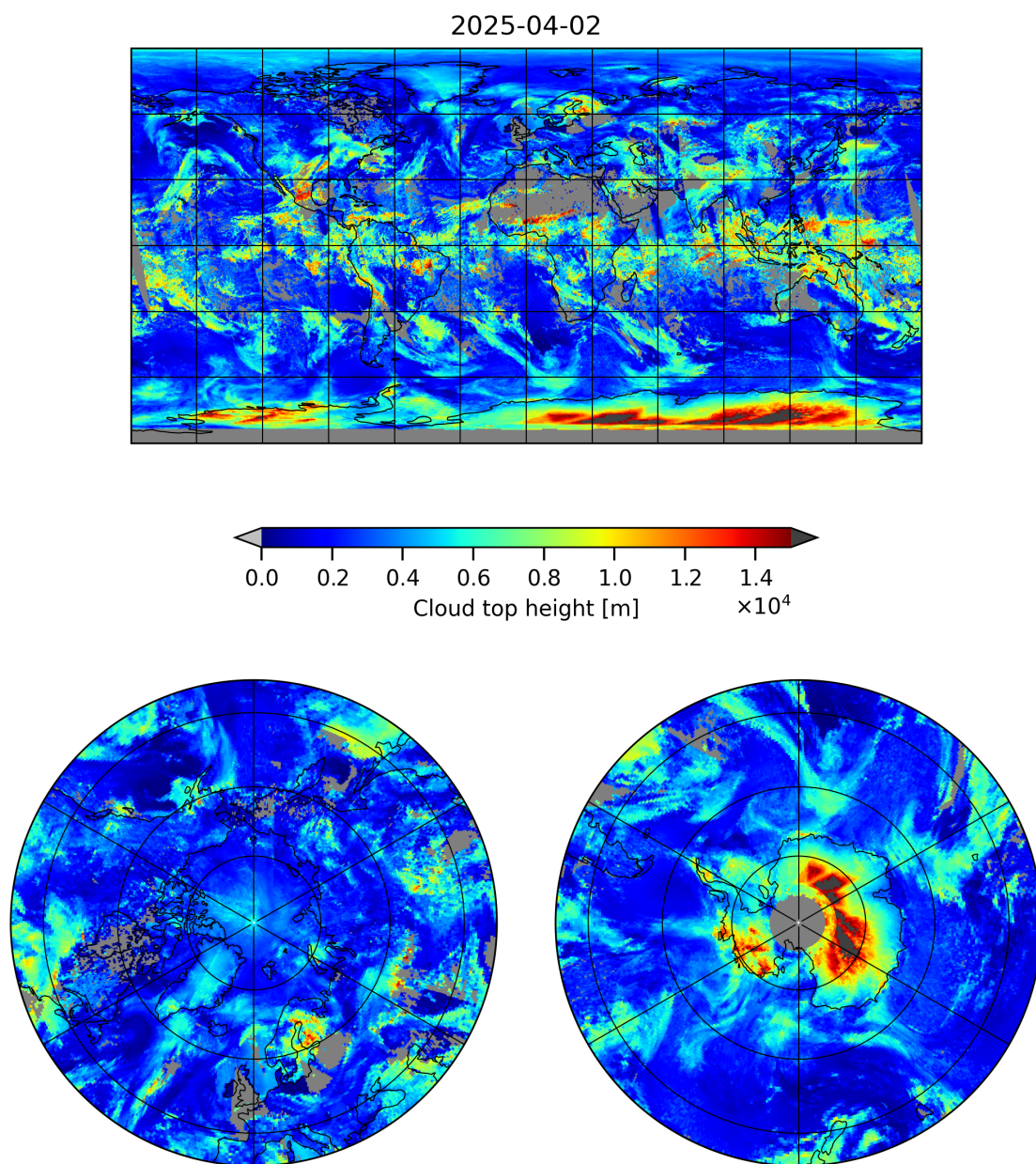


Figure 5: Map of “Cloud top height” for 2025-04-02 to 2025-04-03

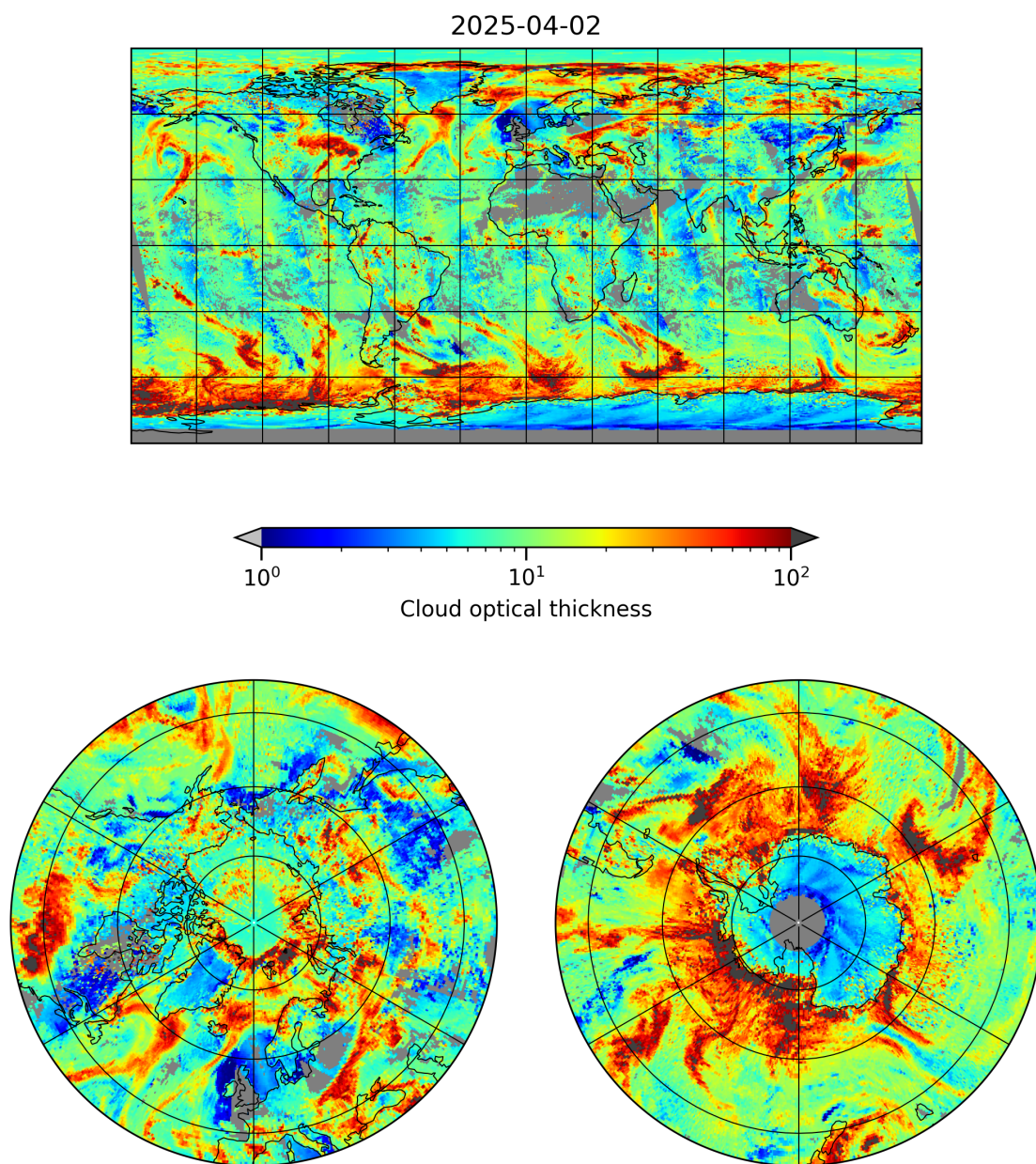


Figure 6: Map of “Cloud optical thickness” for 2025-04-02 to 2025-04-03

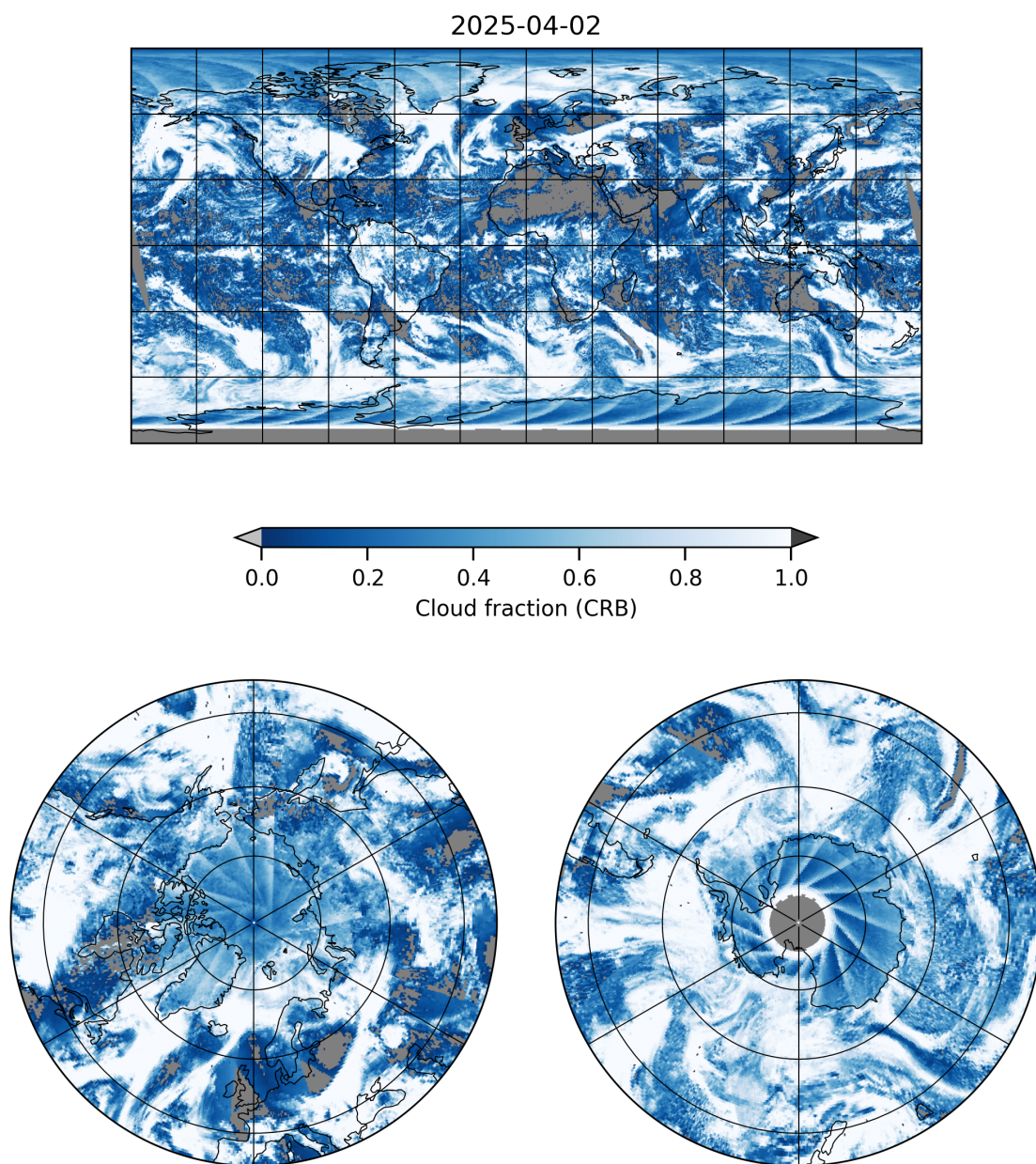


Figure 7: Map of “Cloud fraction (CRB)” for 2025-04-02 to 2025-04-03

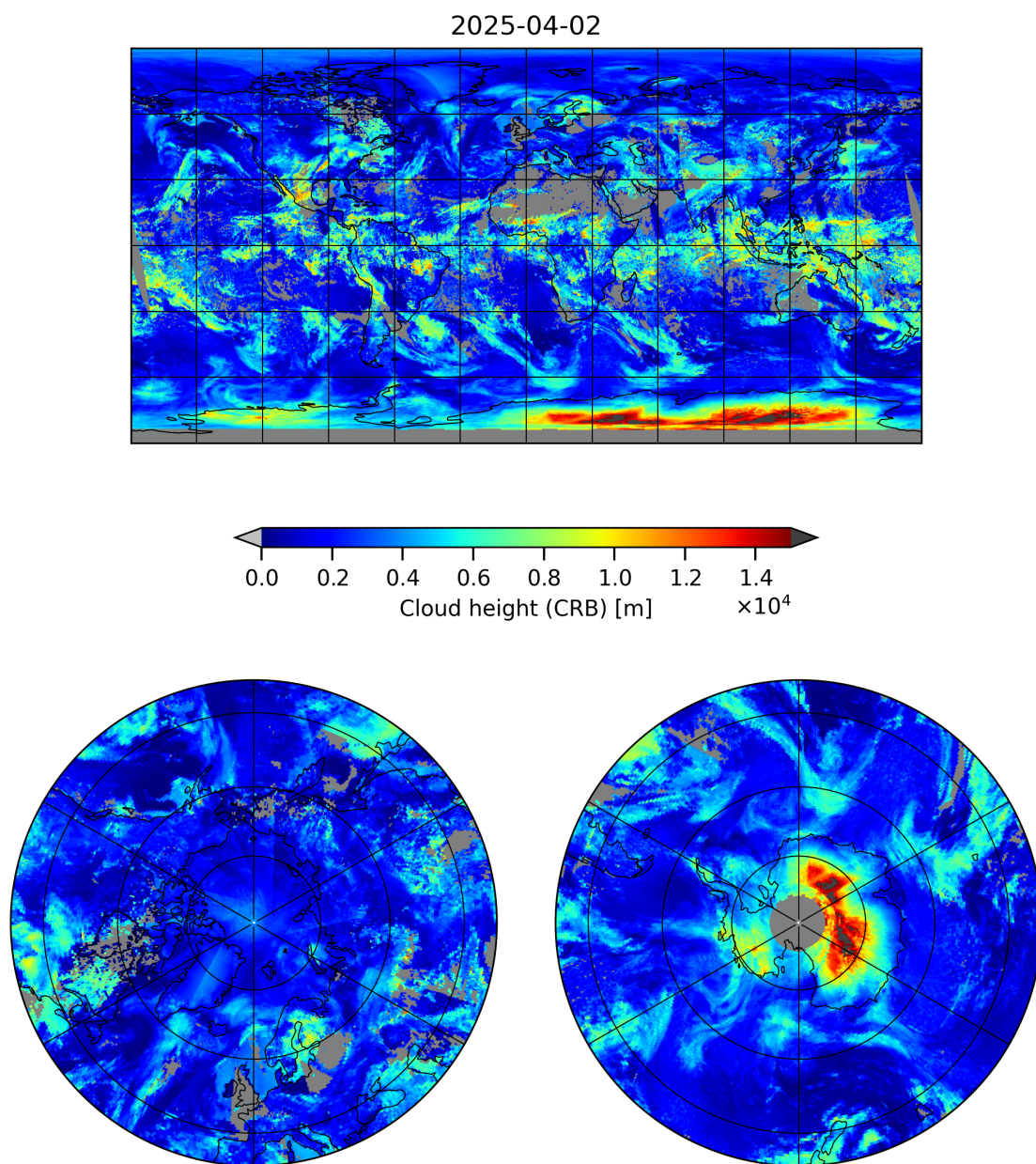


Figure 8: Map of “Cloud height (CRB)” for 2025-04-02 to 2025-04-03

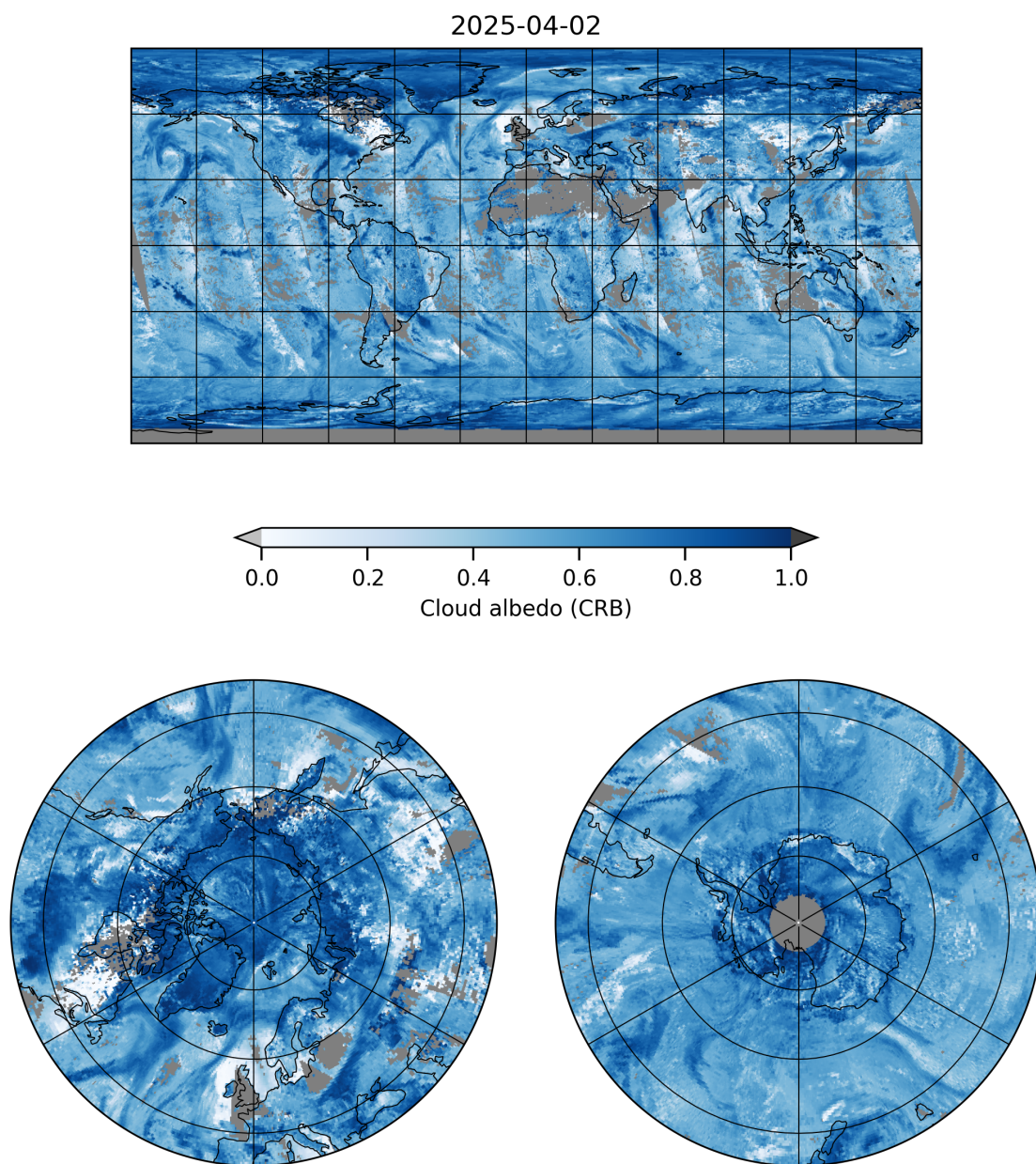


Figure 9: Map of “Cloud albedo (CRB)” for 2025-04-02 to 2025-04-03

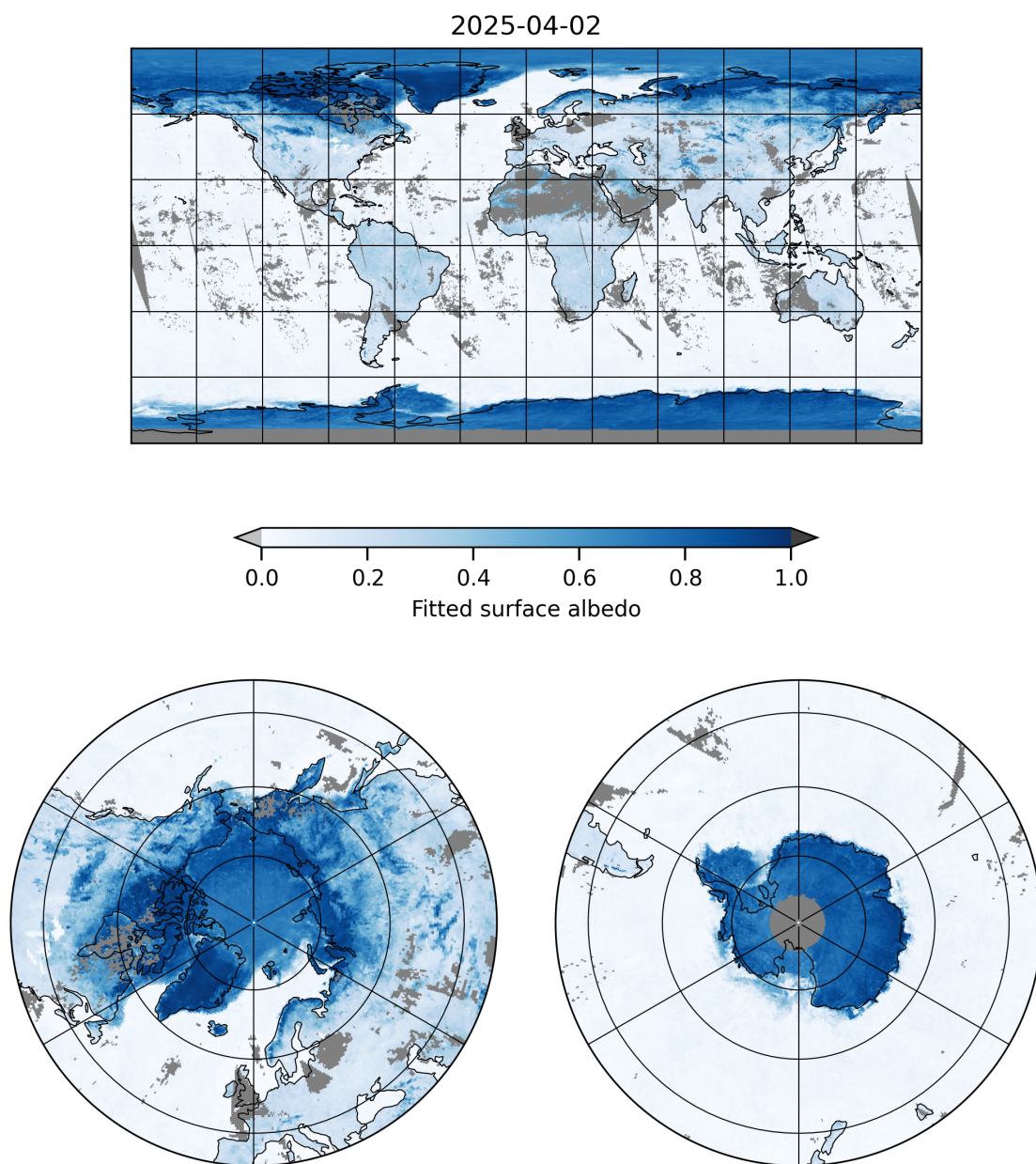


Figure 10: Map of “Fitted surface albedo” for 2025-04-02 to 2025-04-03

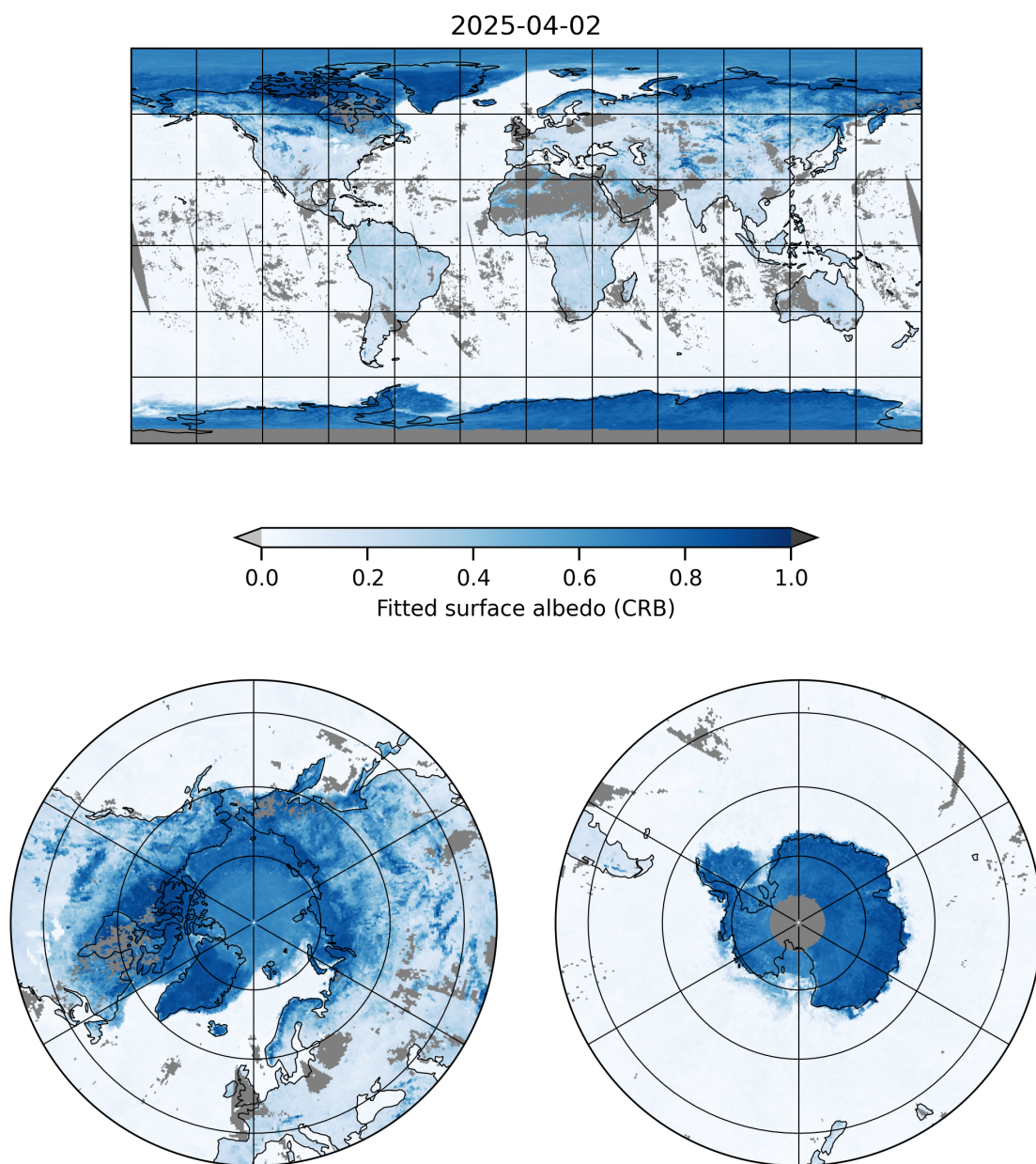


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-04-02 to 2025-04-03

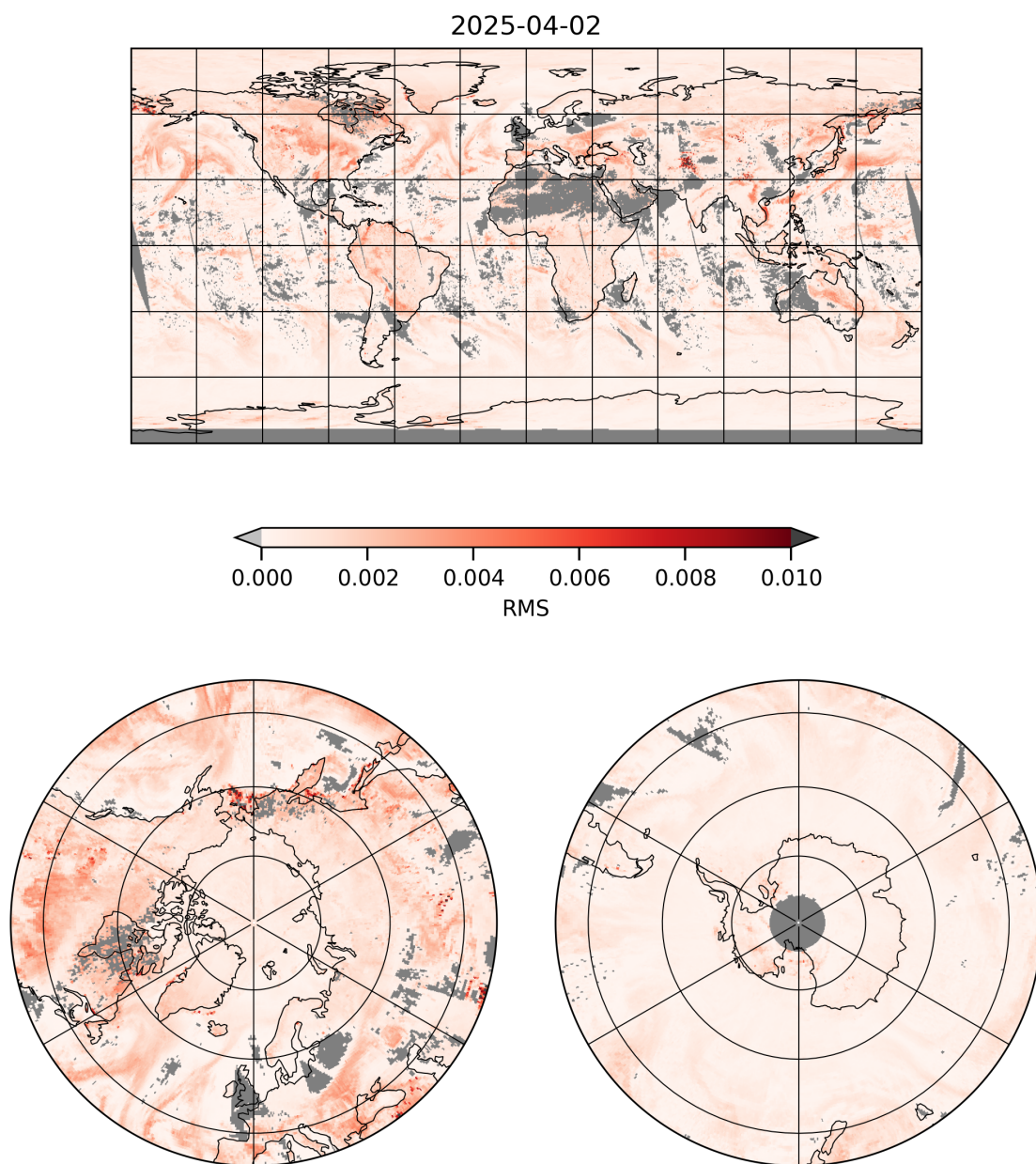


Figure 12: Map of “RMS” for 2025-04-02 to 2025-04-03

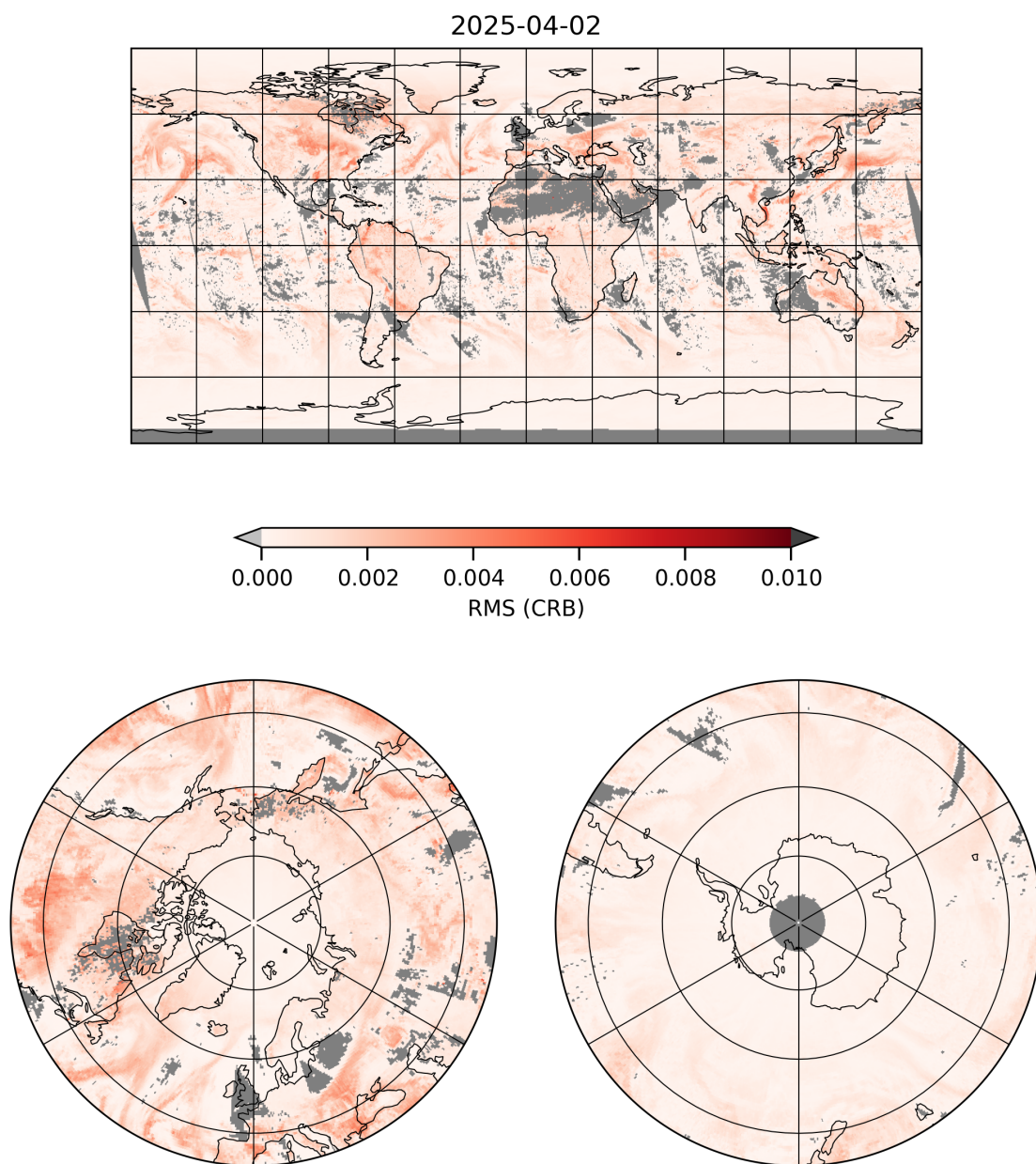


Figure 13: Map of “RMS (CRB)” for 2025-04-02 to 2025-04-03

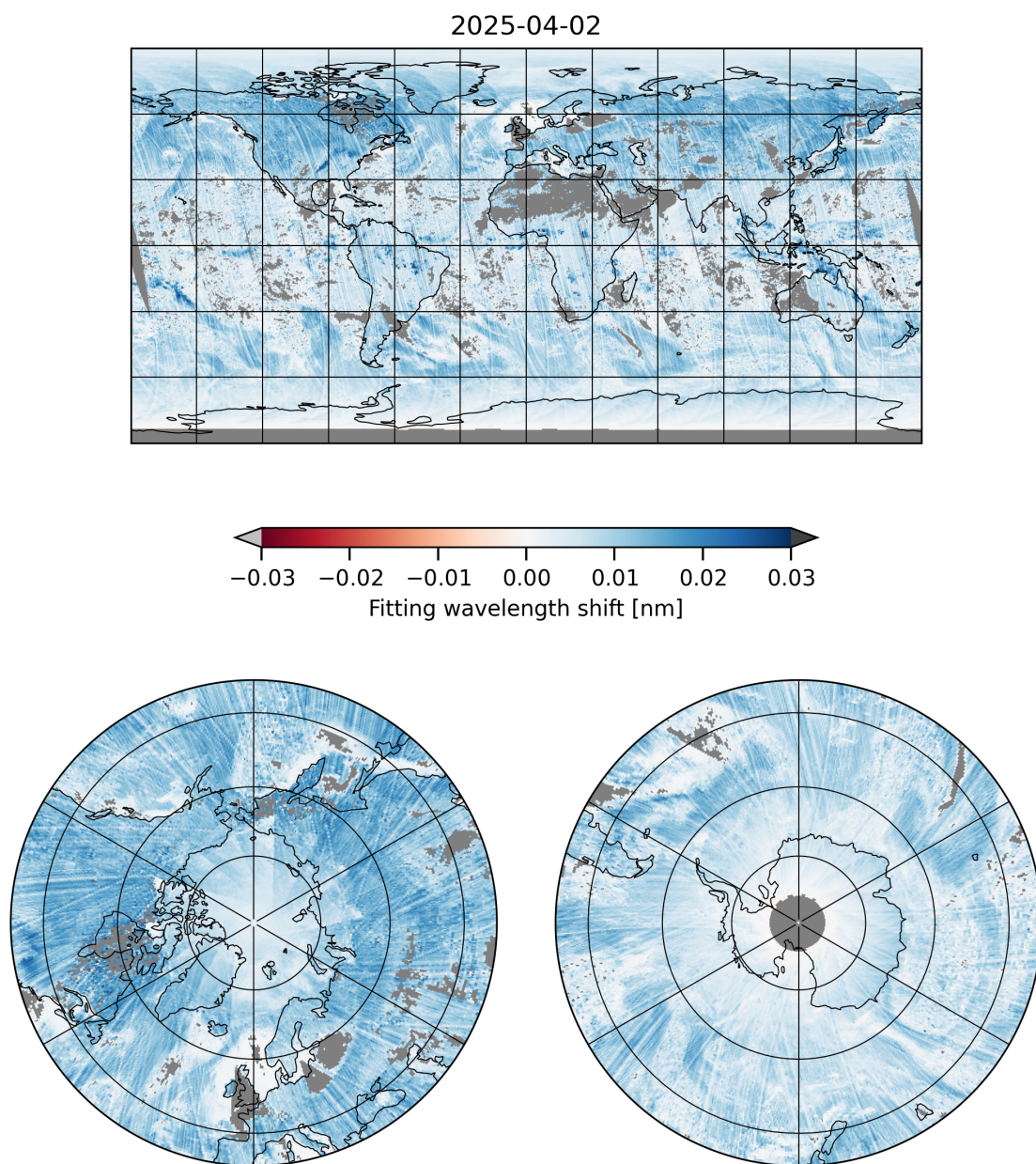


Figure 14: Map of “Fitting wavelength shift” for 2025-04-02 to 2025-04-03

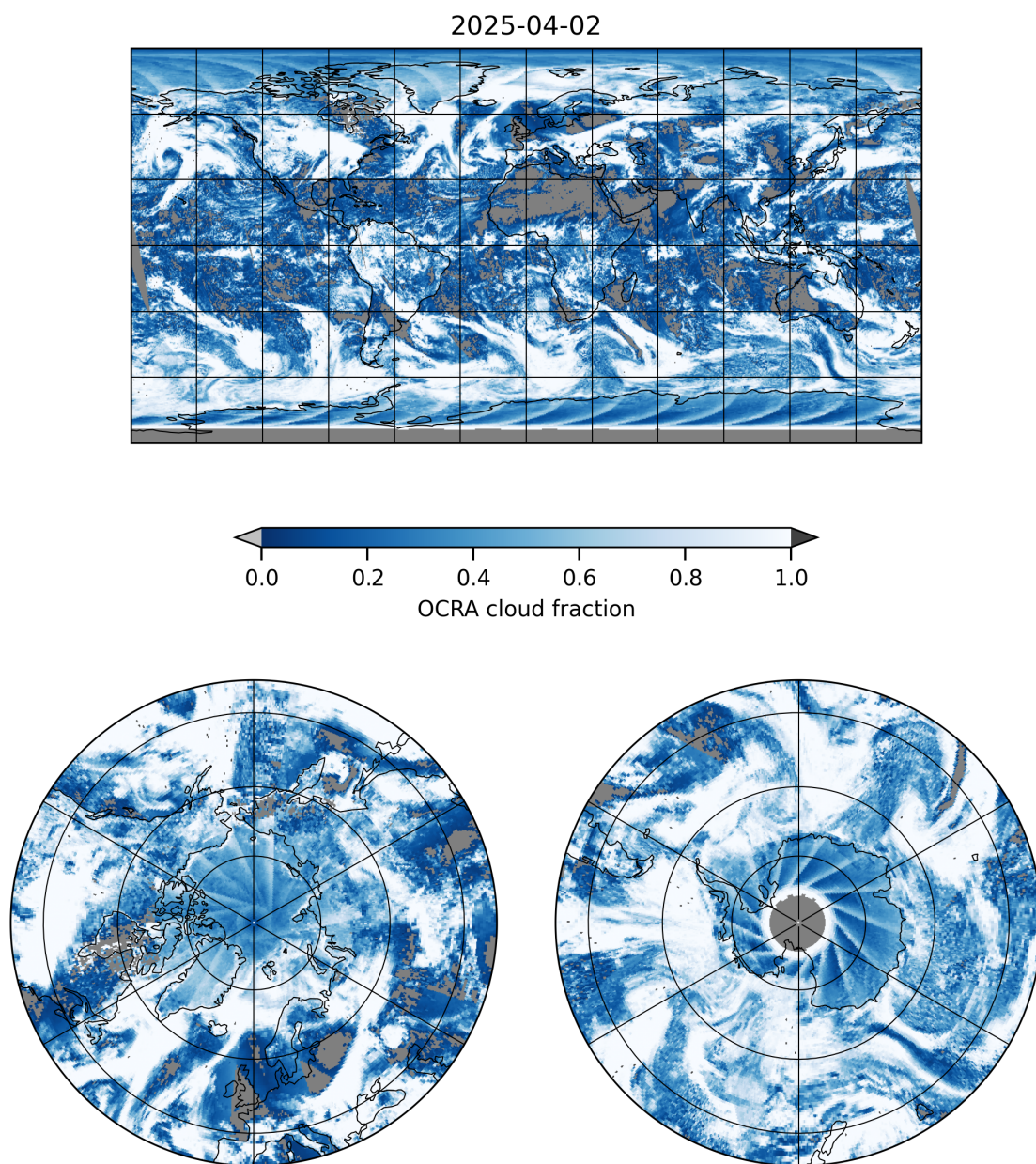


Figure 15: Map of “OCRA cloud fraction” for 2025-04-02 to 2025-04-03

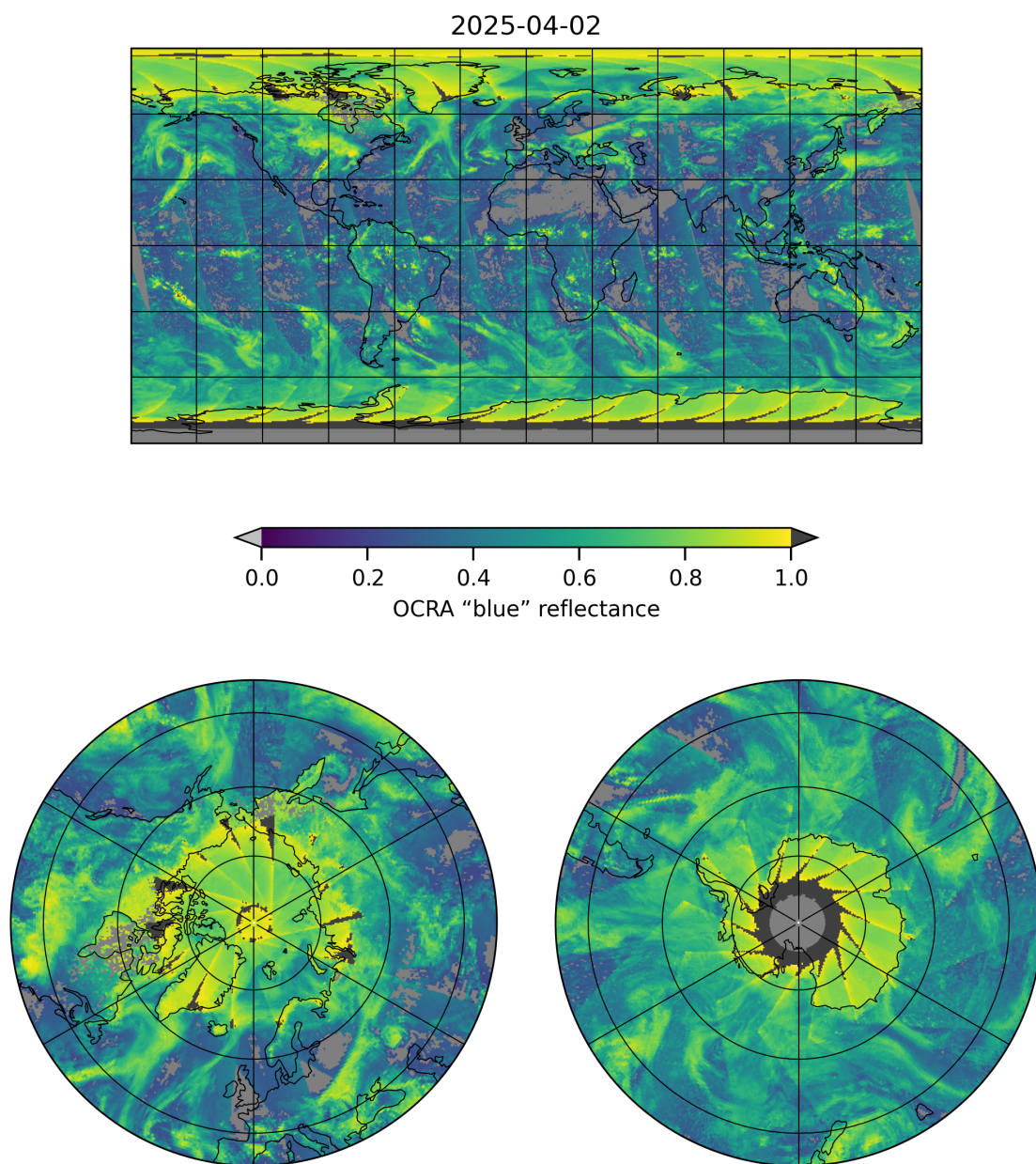


Figure 16: Map of "OCRA "blue" reflectance" for 2025-04-02 to 2025-04-03

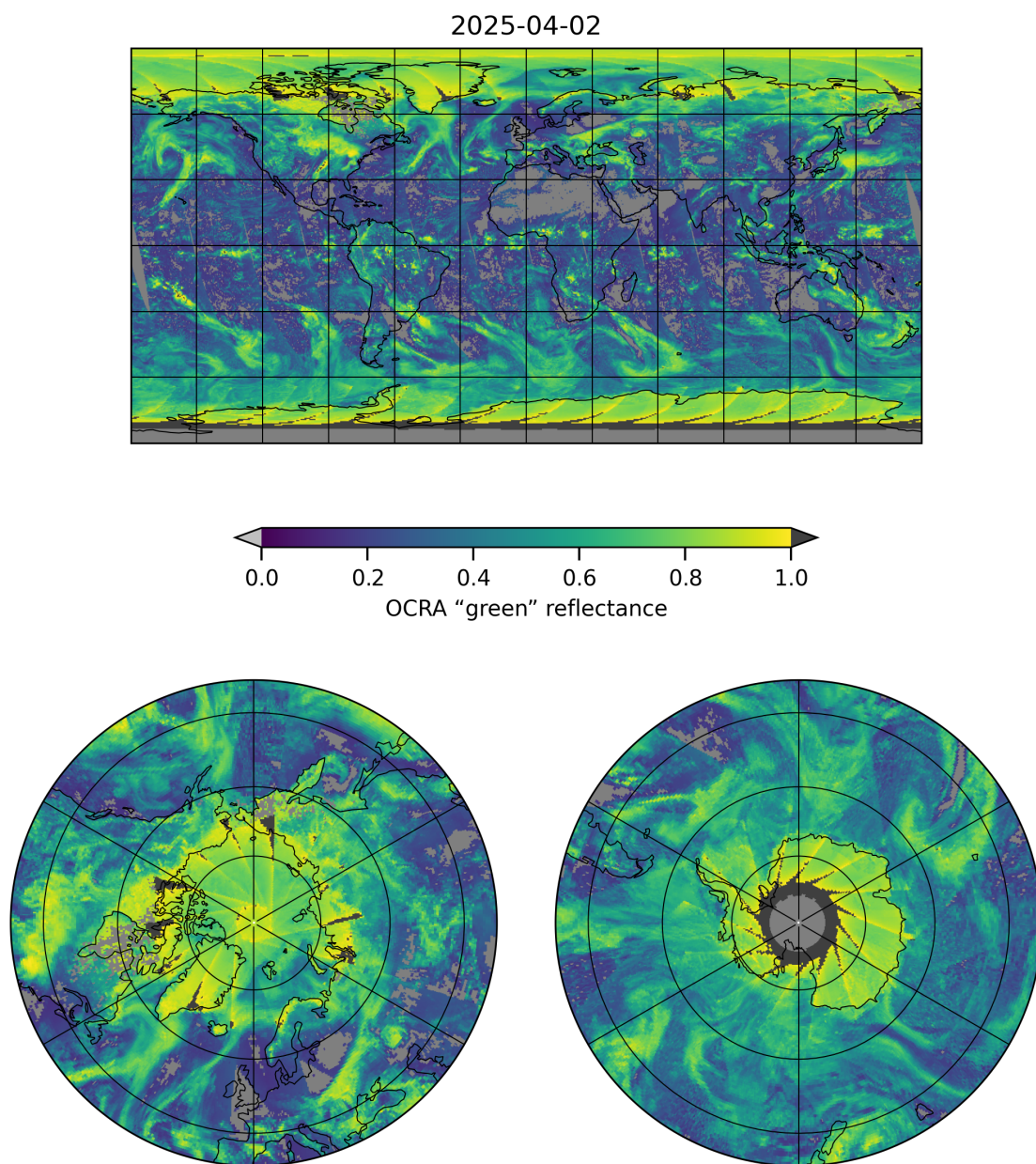


Figure 17: Map of "OCRA "green" reflectance" for 2025-04-02 to 2025-04-03

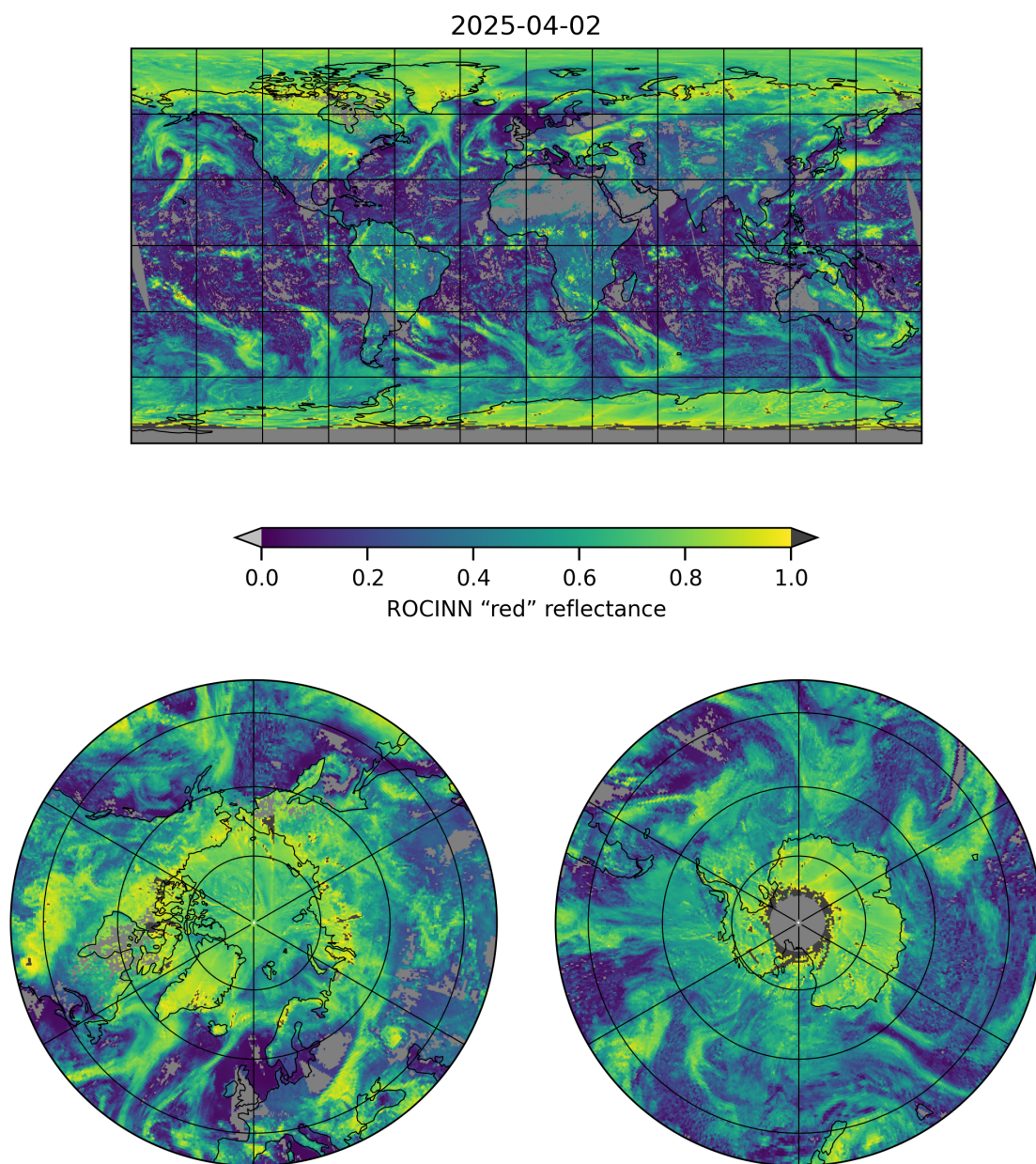


Figure 18: Map of "ROCINN "red" reflectance" for 2025-04-02 to 2025-04-03

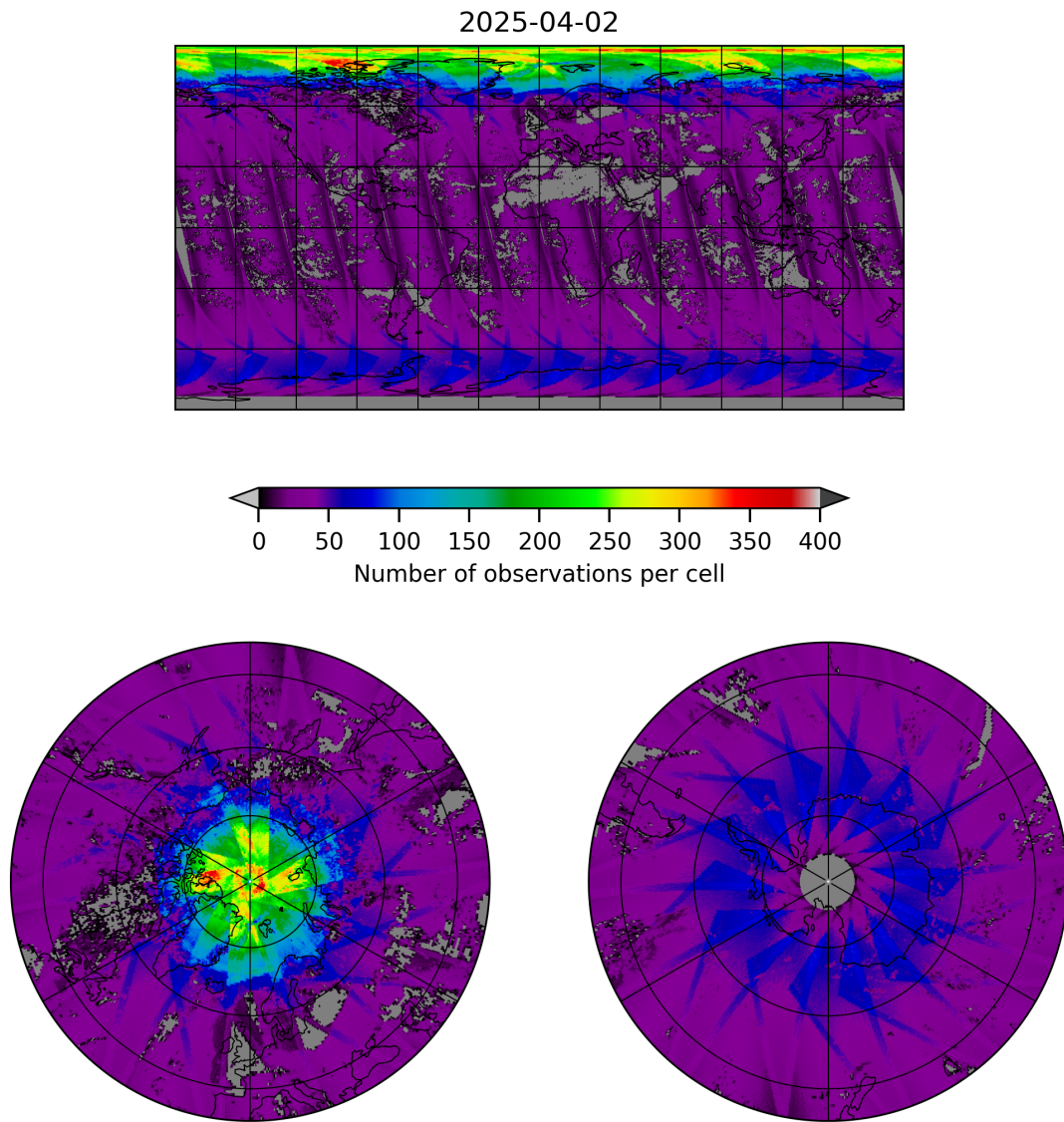


Figure 19: Map of the number of observations for 2025-04-02 to 2025-04-03

7 Zonal average

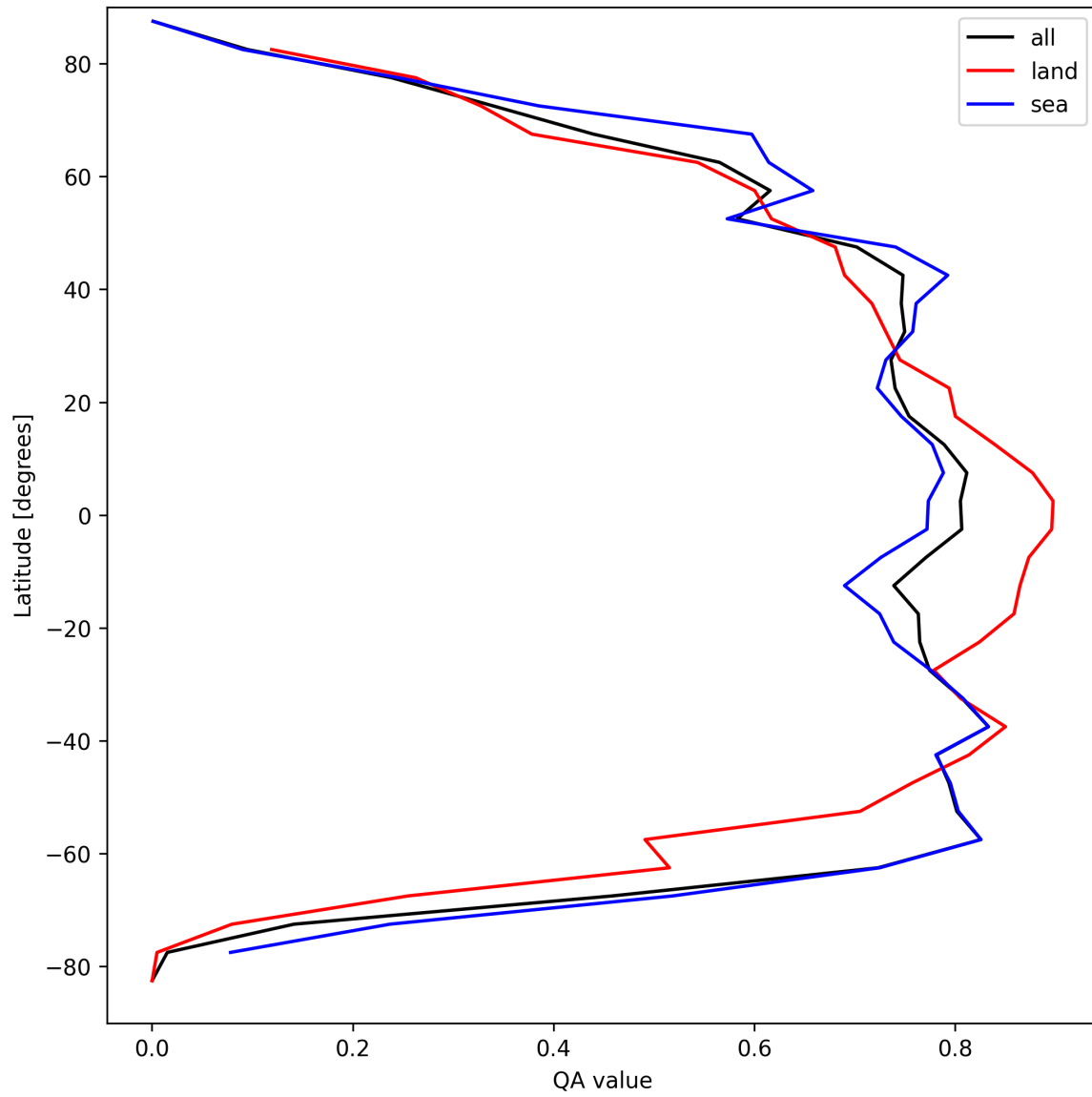


Figure 20: Zonal average of “QA value” for 2025-04-02 to 2025-04-03.

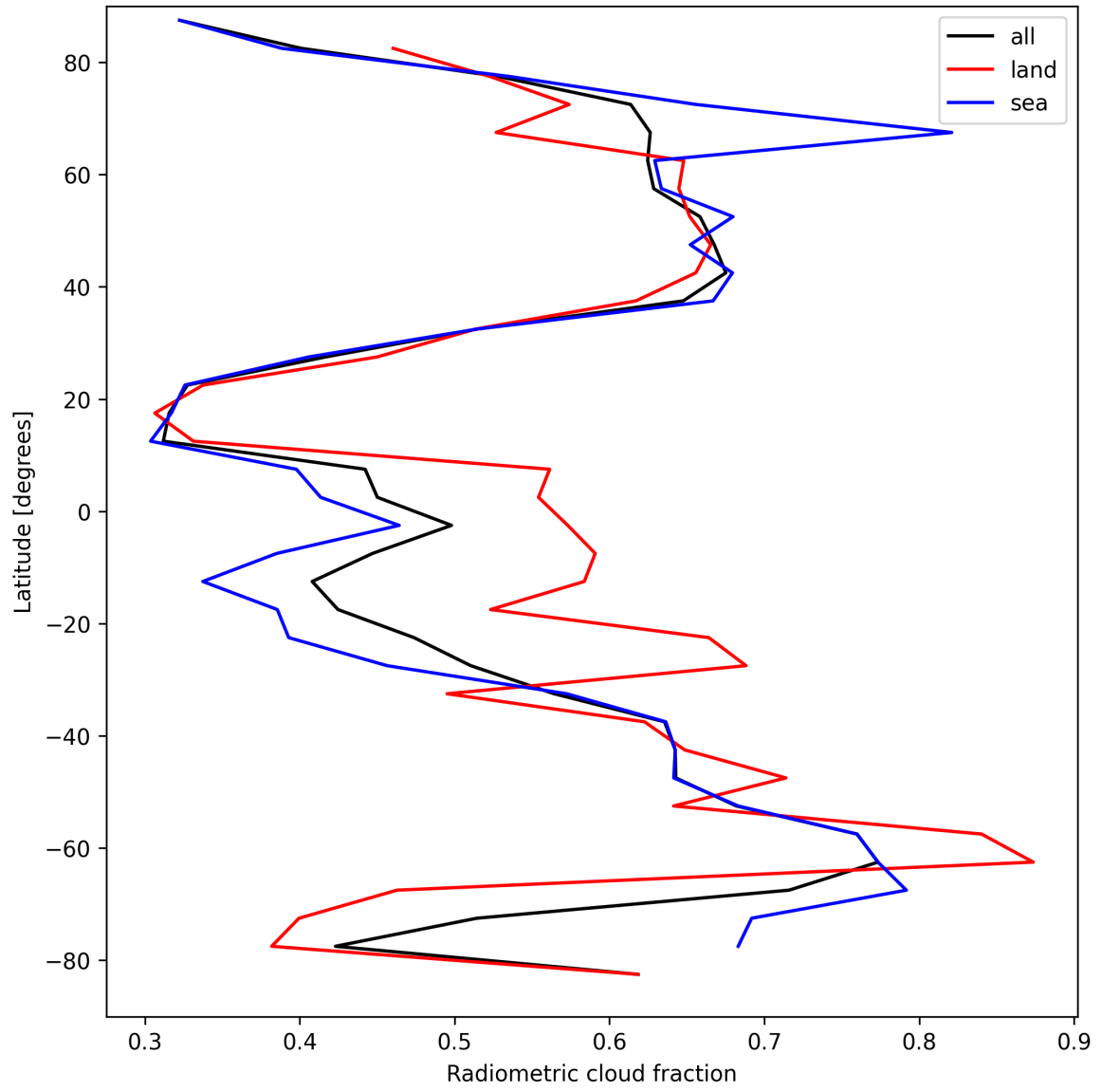


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-04-02 to 2025-04-03.

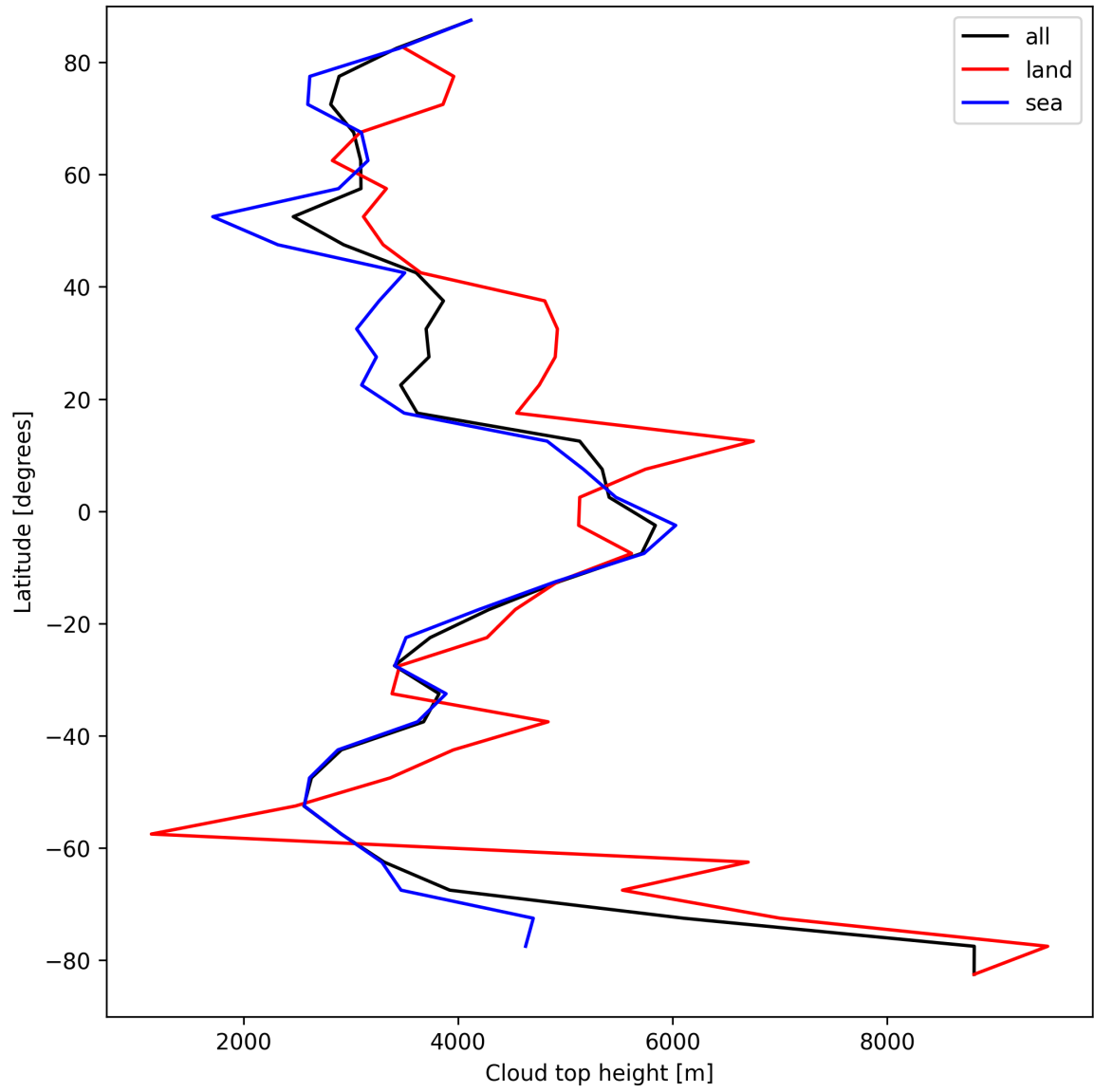


Figure 22: Zonal average of “Cloud top height” for 2025-04-02 to 2025-04-03.

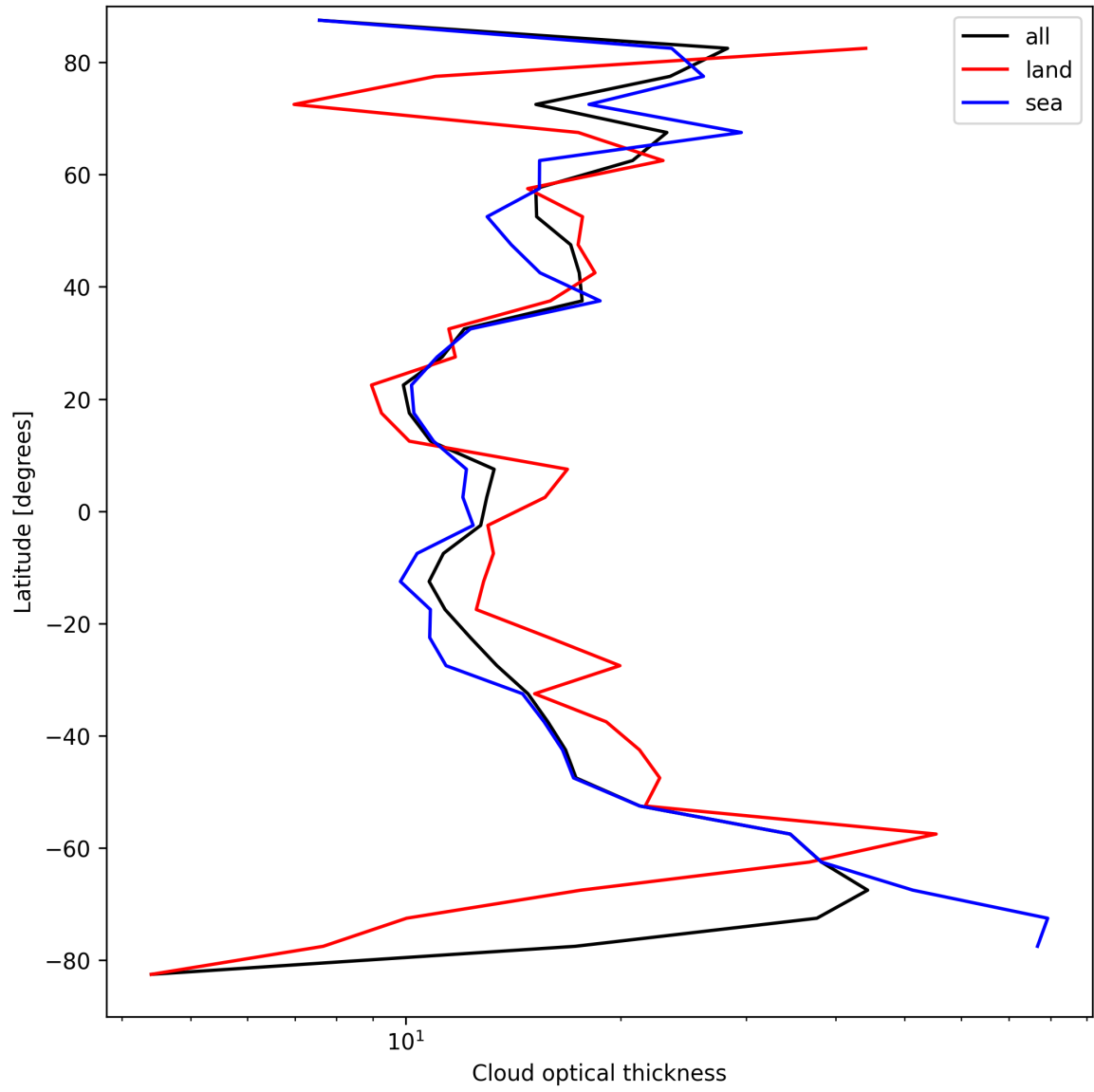


Figure 23: Zonal average of “Cloud optical thickness” for 2025-04-02 to 2025-04-03.

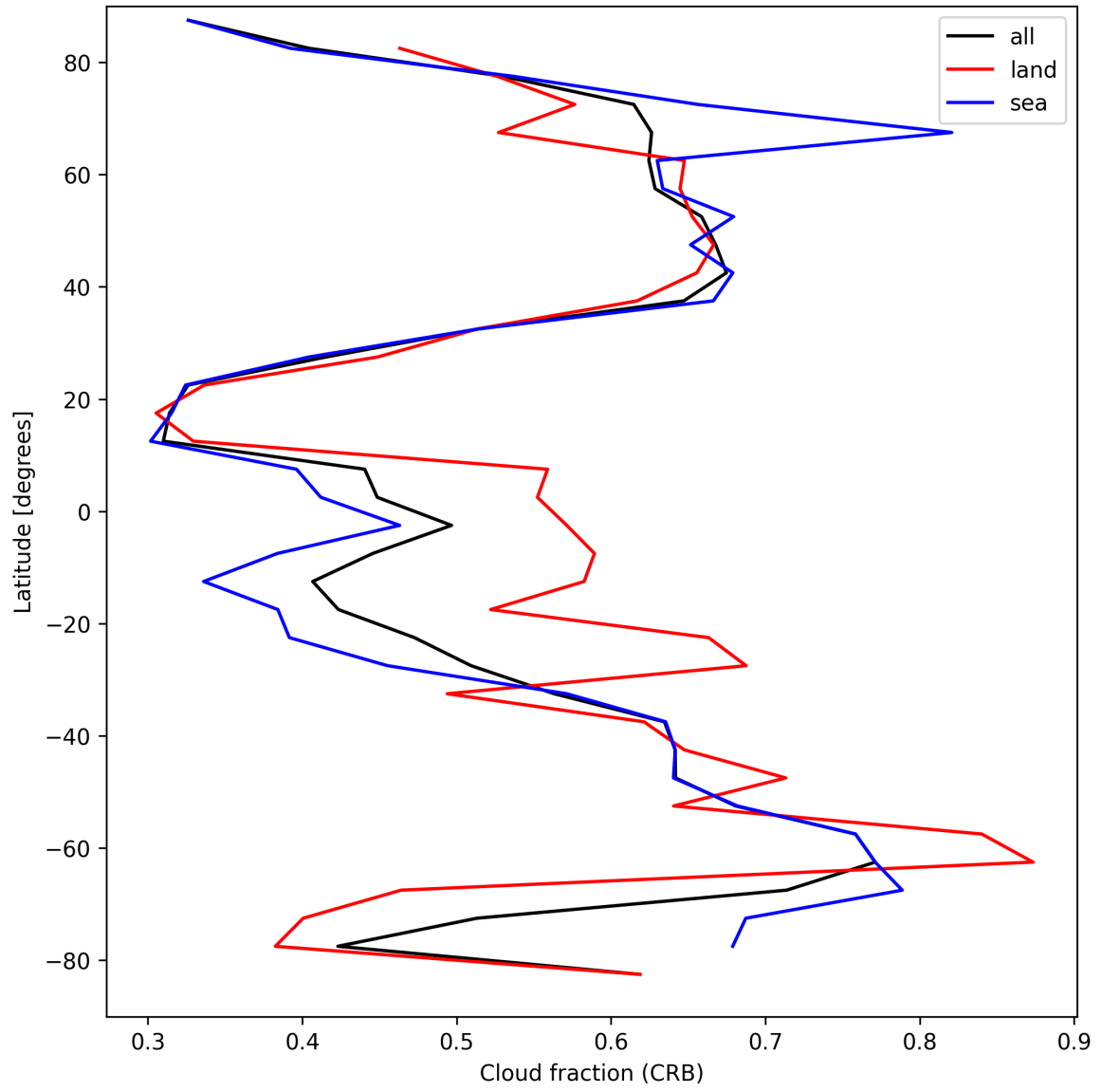


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-04-02 to 2025-04-03.

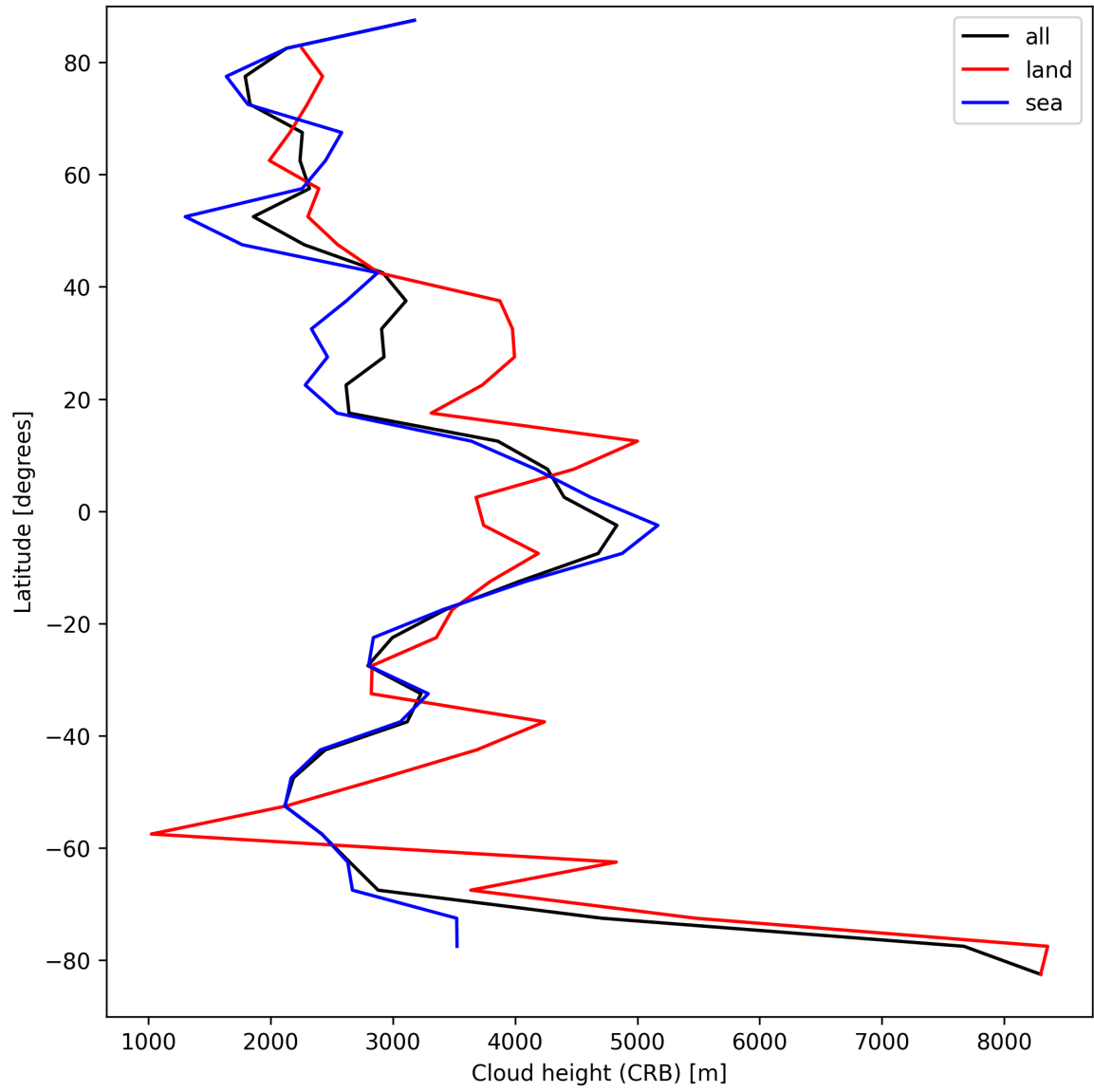


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-04-02 to 2025-04-03.

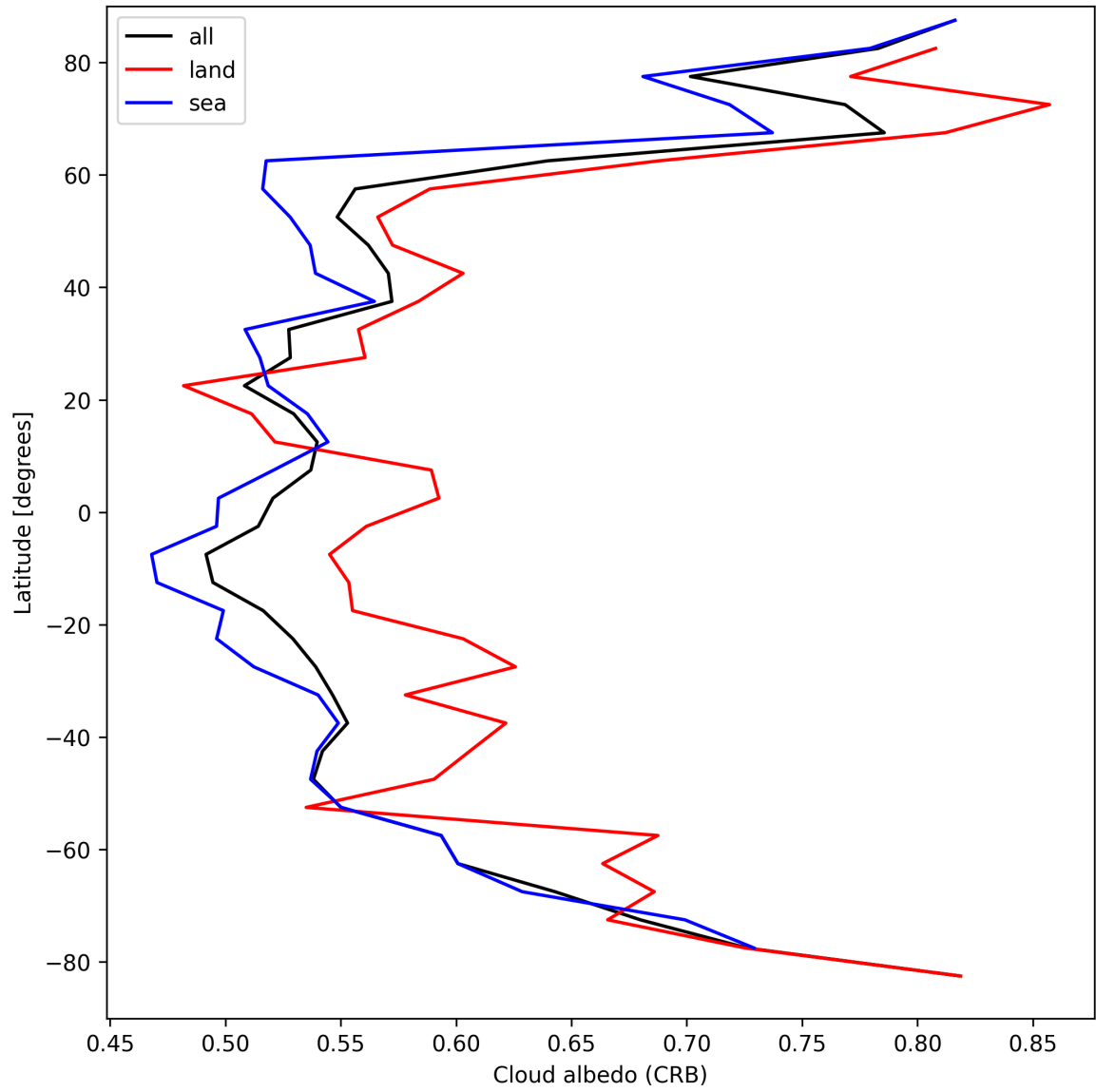


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-04-02 to 2025-04-03.

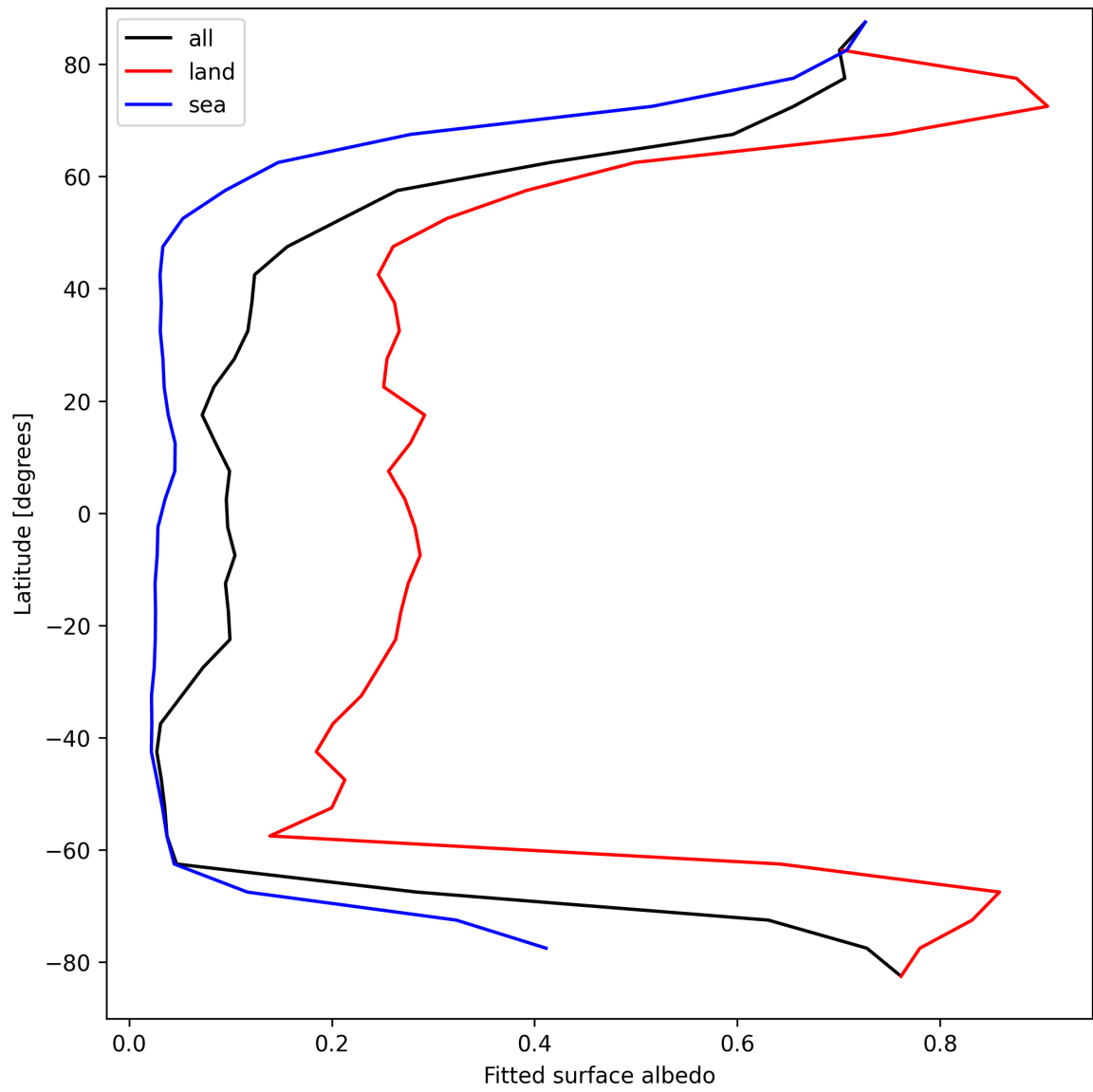


Figure 27: Zonal average of “Fitted surface albedo” for 2025-04-02 to 2025-04-03.

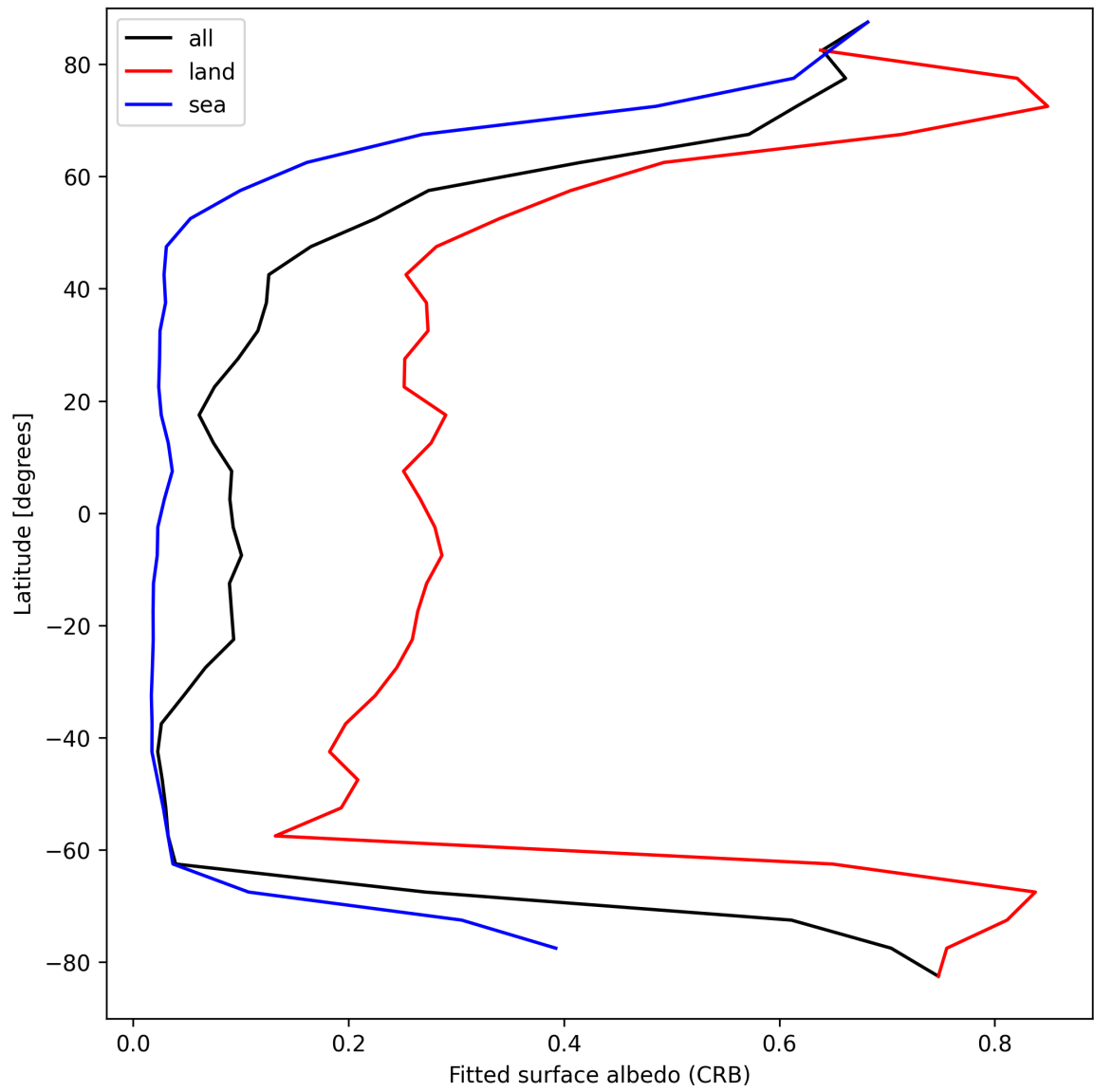


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-04-02 to 2025-04-03.

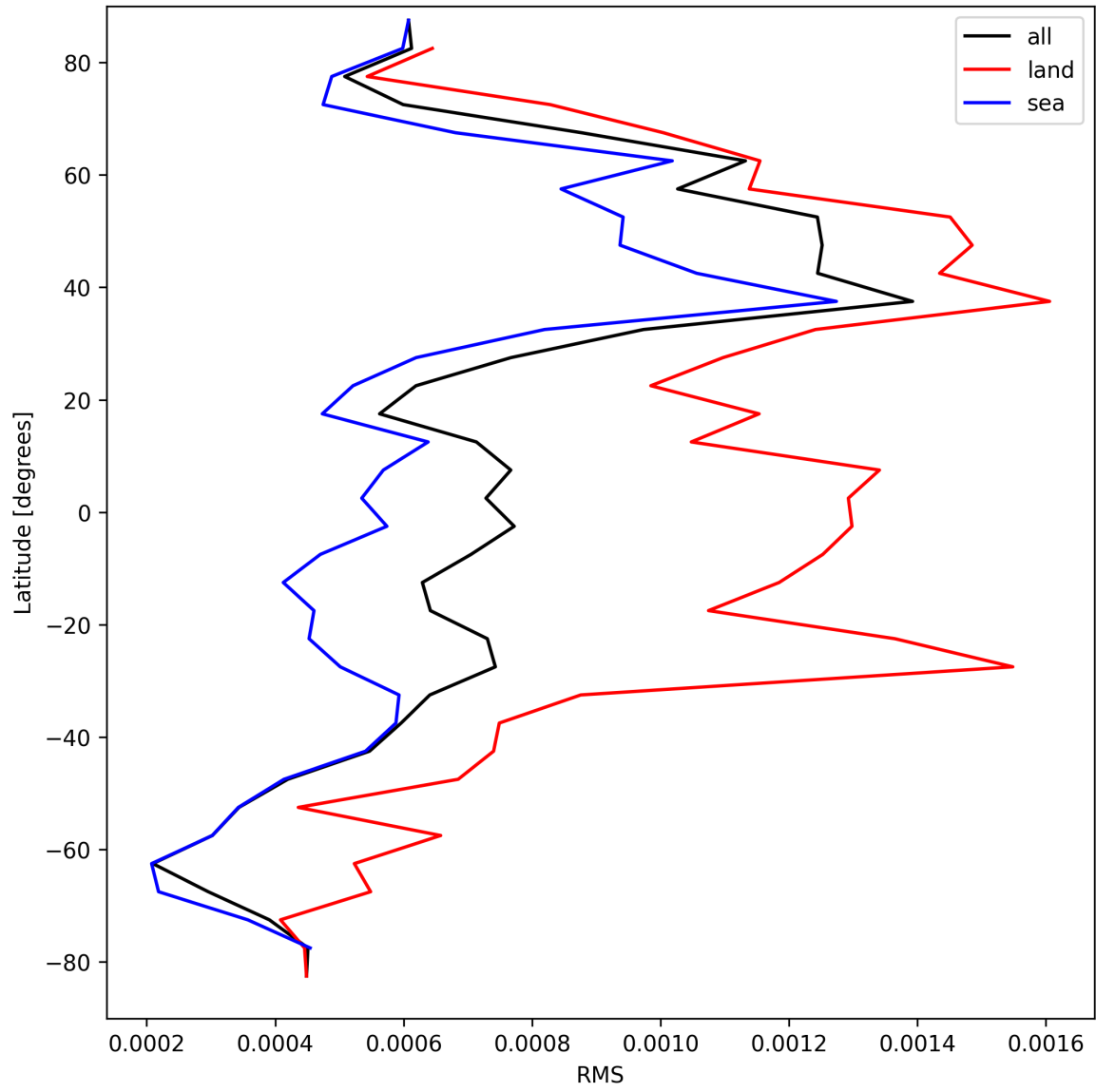


Figure 29: Zonal average of “RMS” for 2025-04-02 to 2025-04-03.

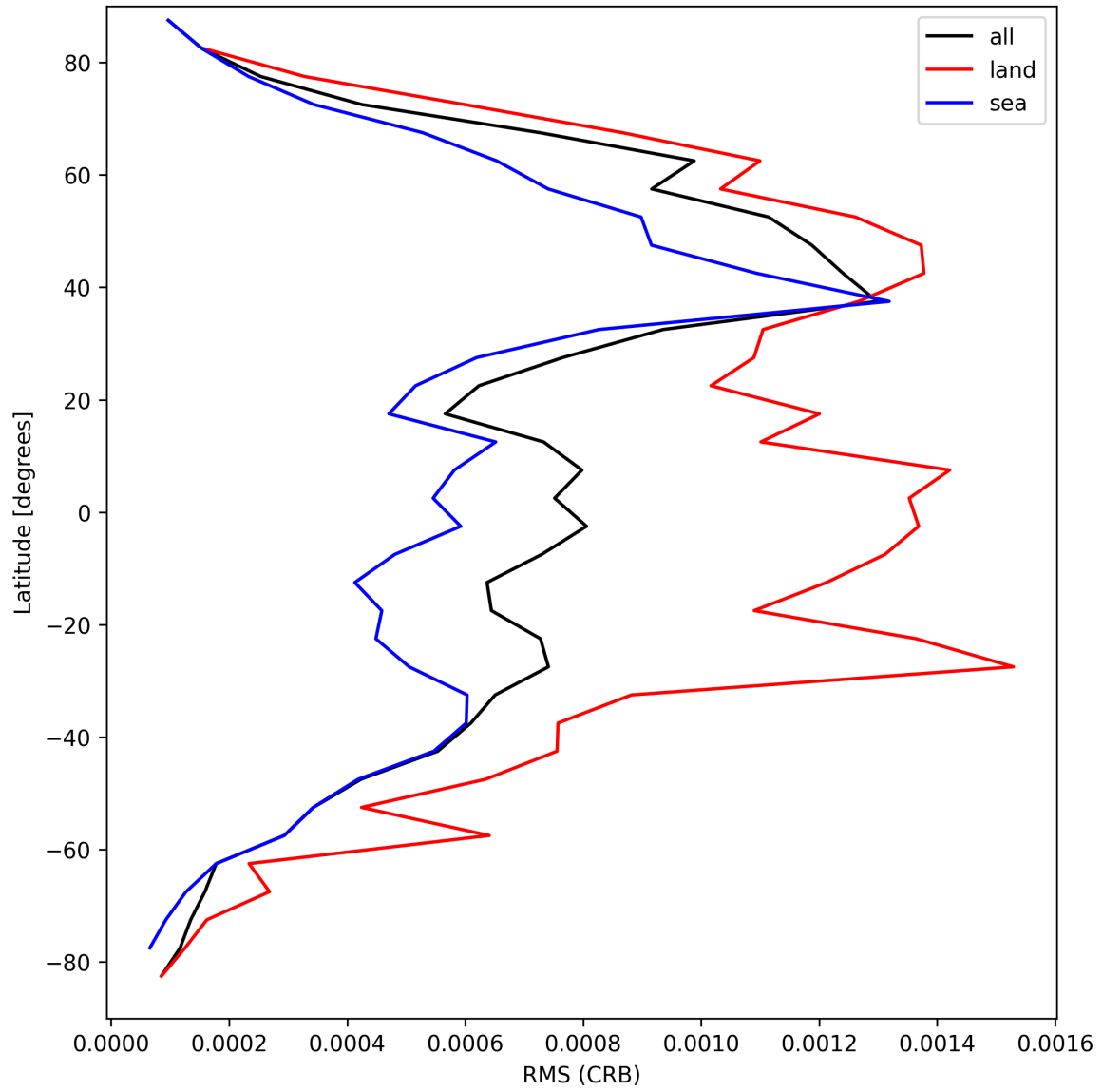


Figure 30: Zonal average of “RMS (CRB)” for 2025-04-02 to 2025-04-03.

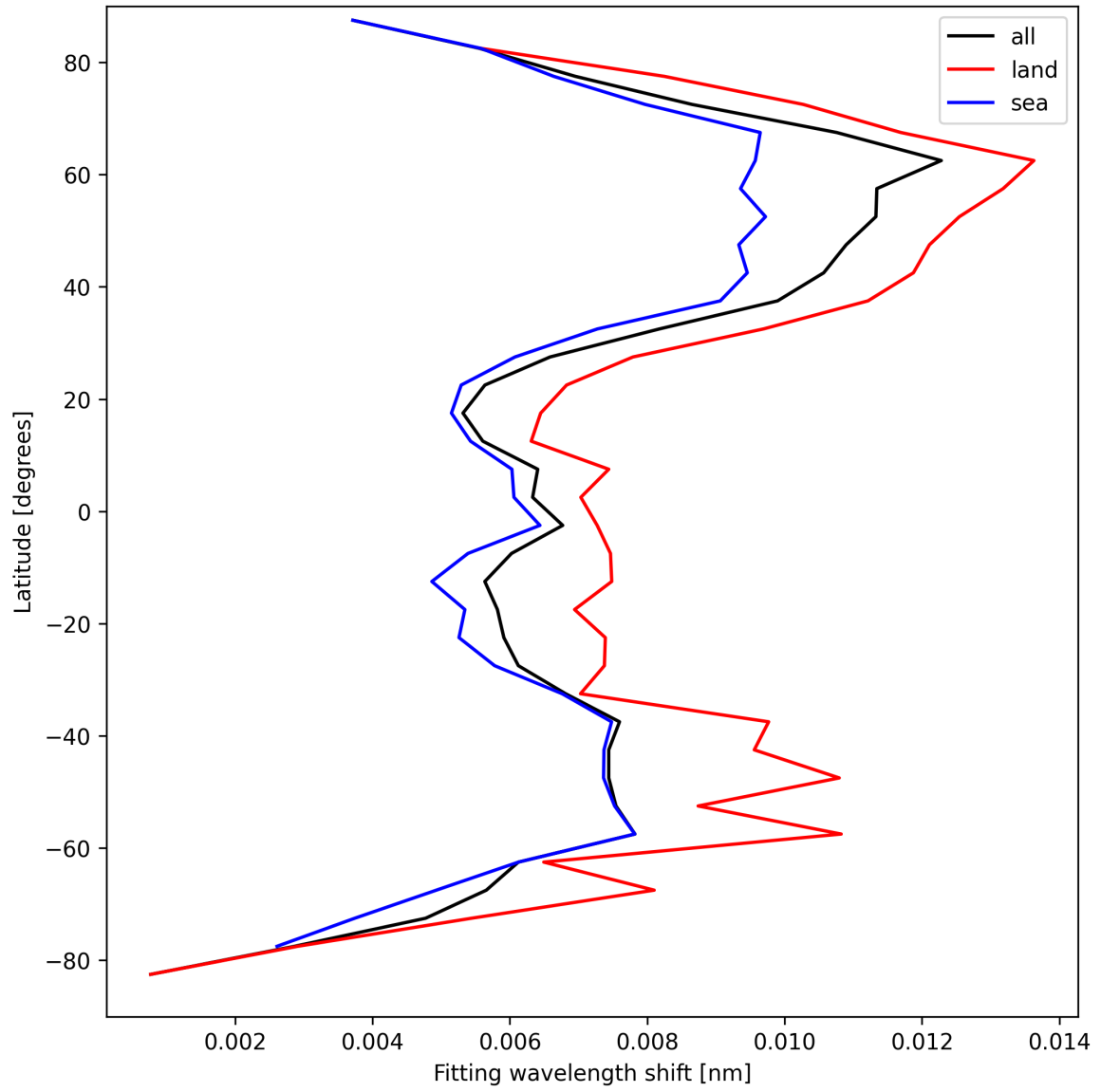


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-04-02 to 2025-04-03.

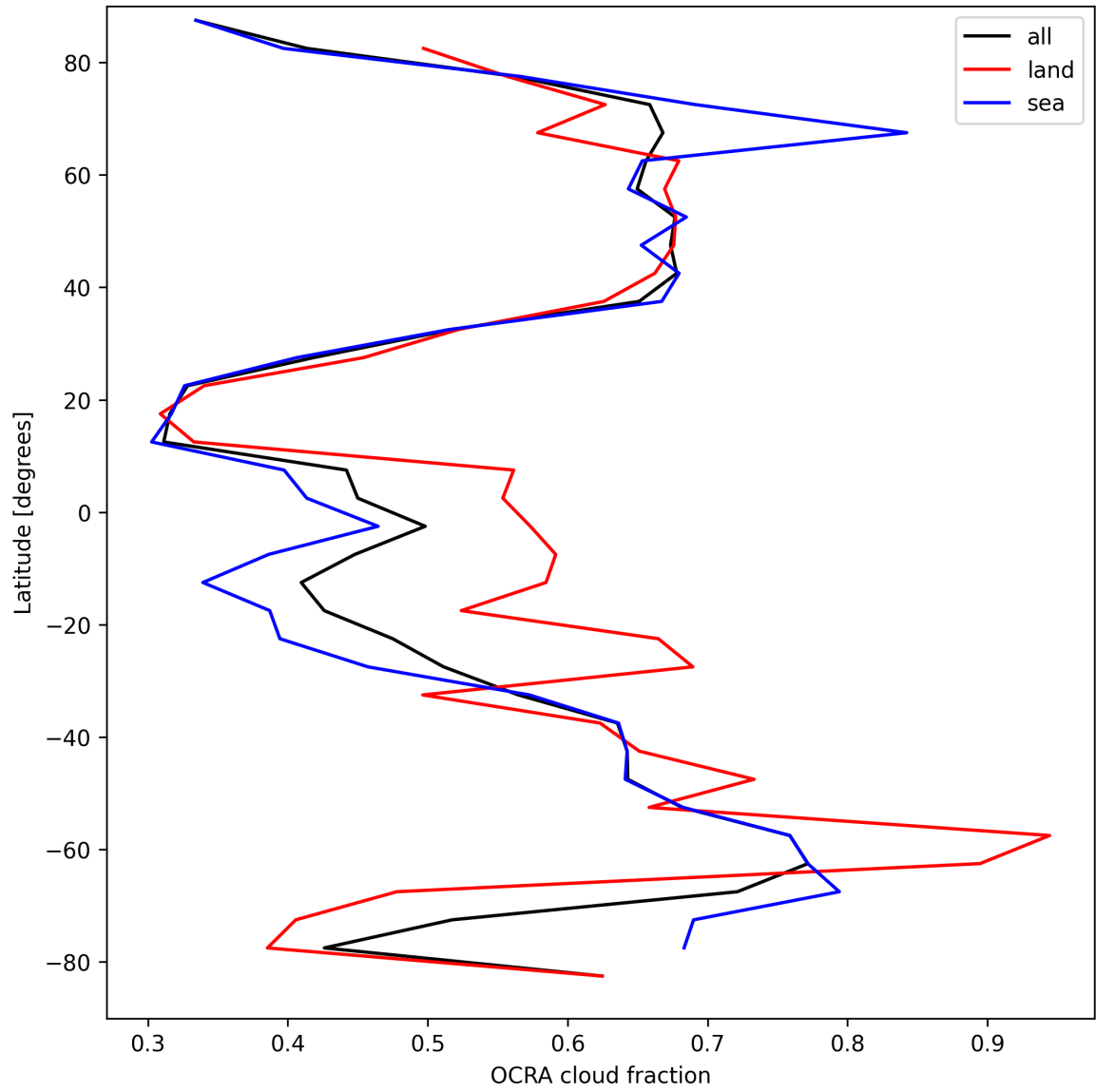


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-04-02 to 2025-04-03.

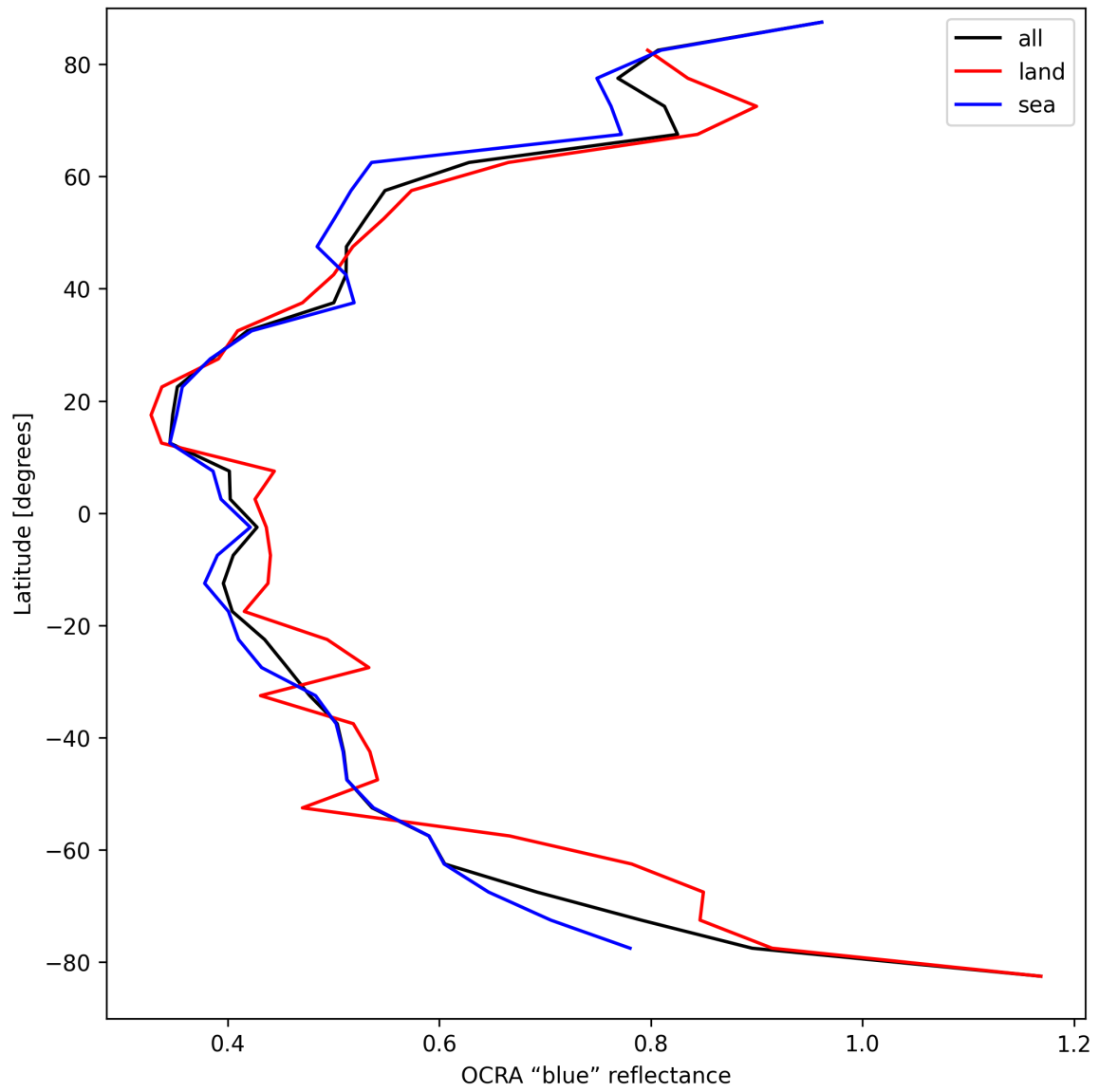


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-04-02 to 2025-04-03.

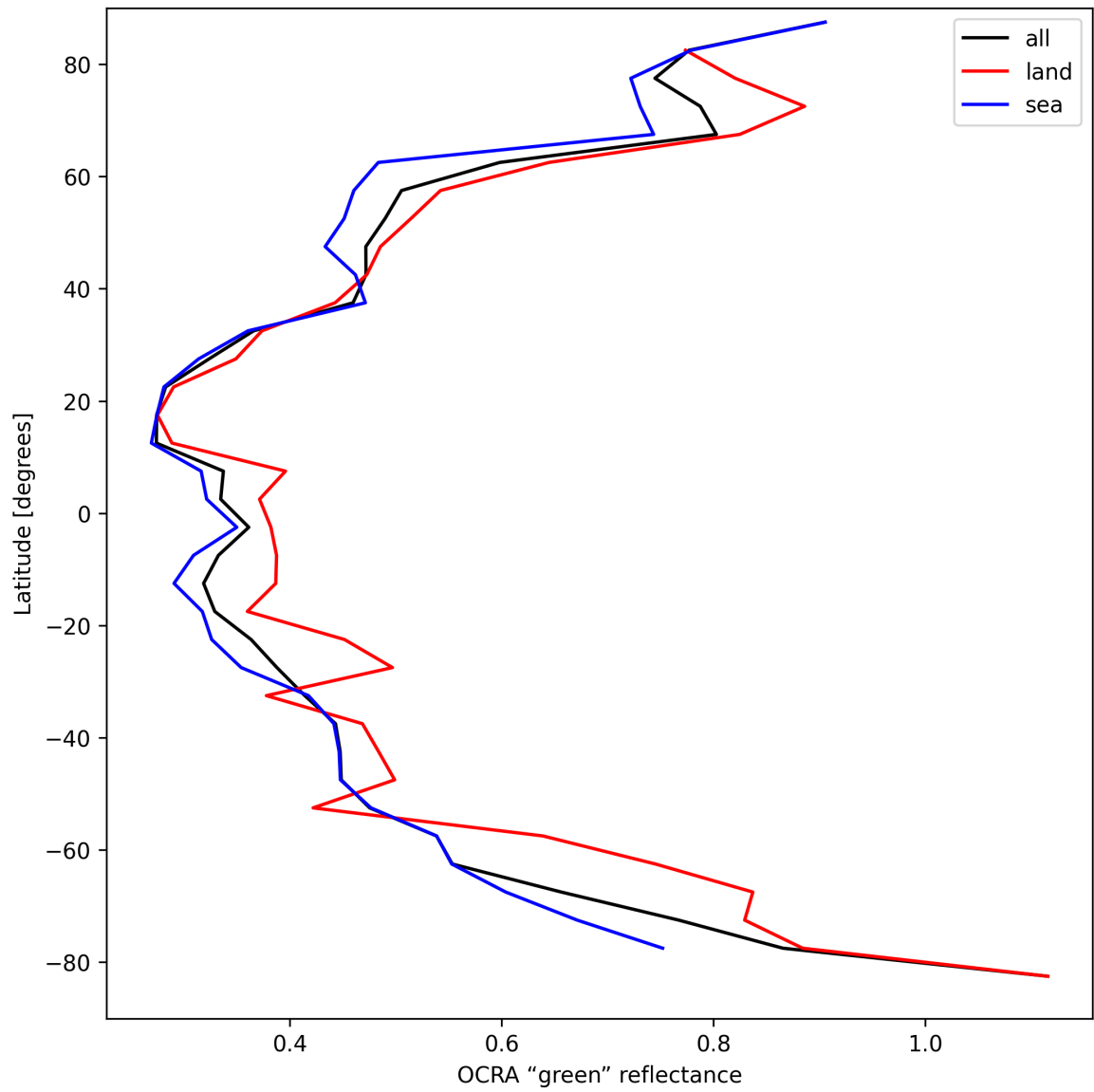


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-04-02 to 2025-04-03.

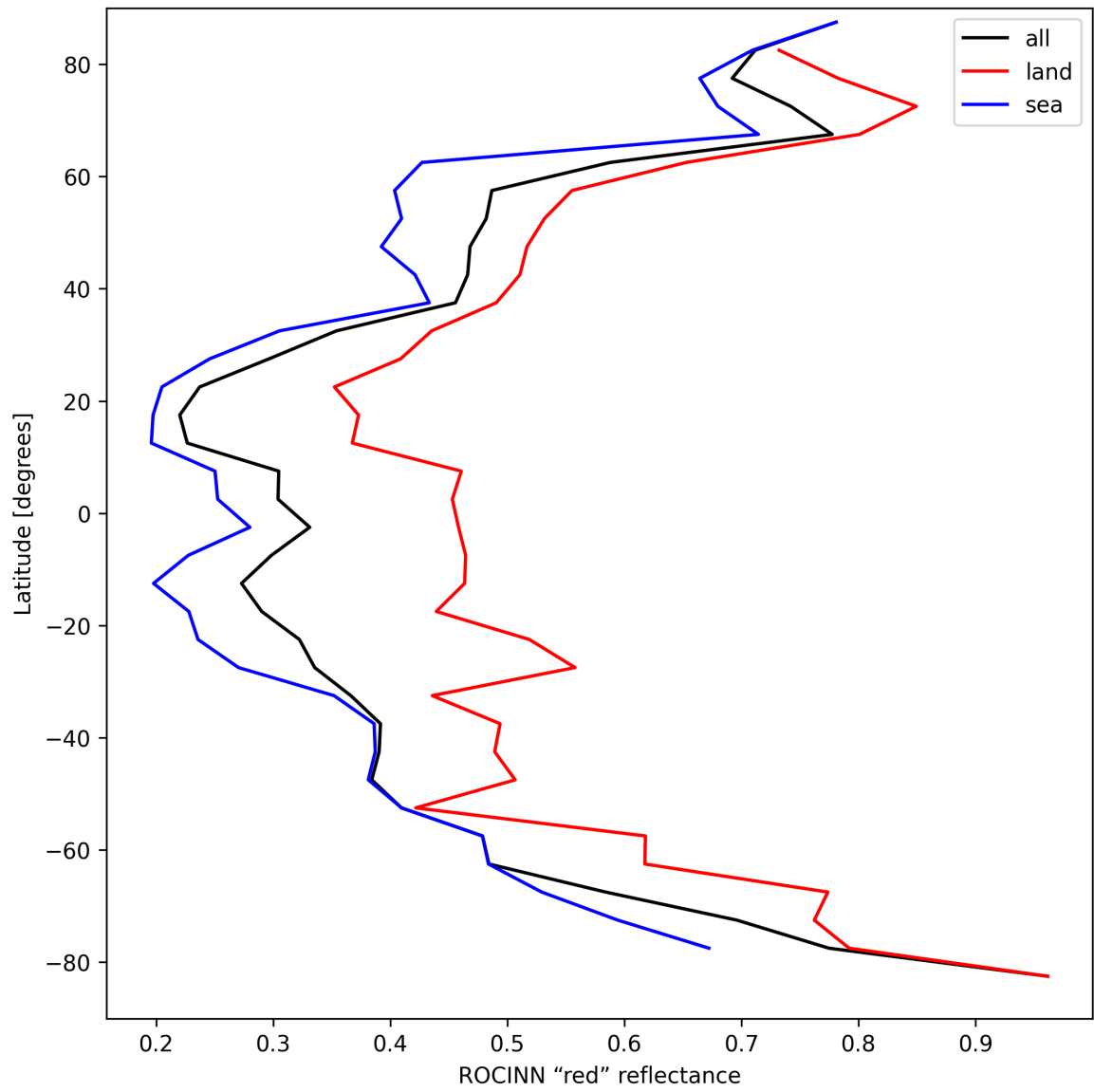


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-04-02 to 2025-04-03.

8 Histograms

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

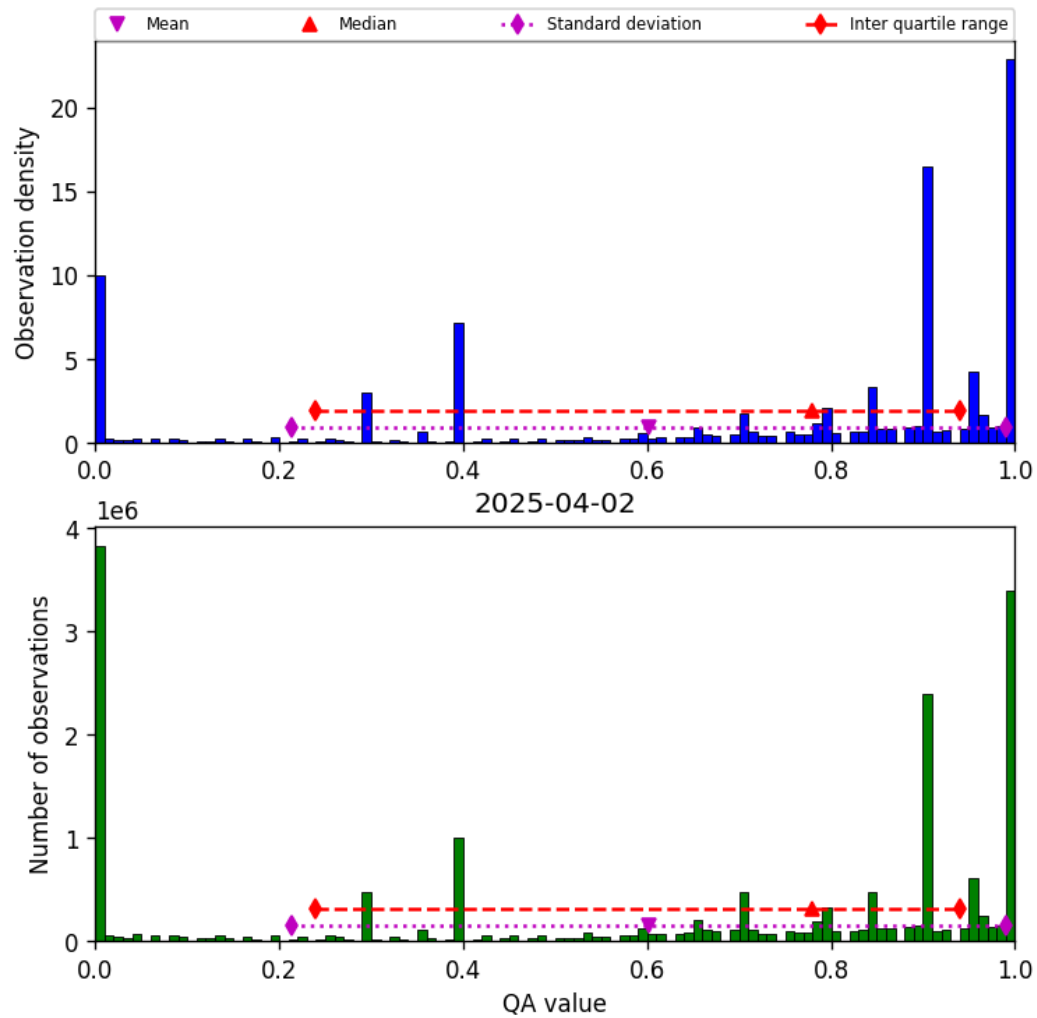


Figure 36: Histogram of “QA value” for 2025-04-02 to 2025-04-03

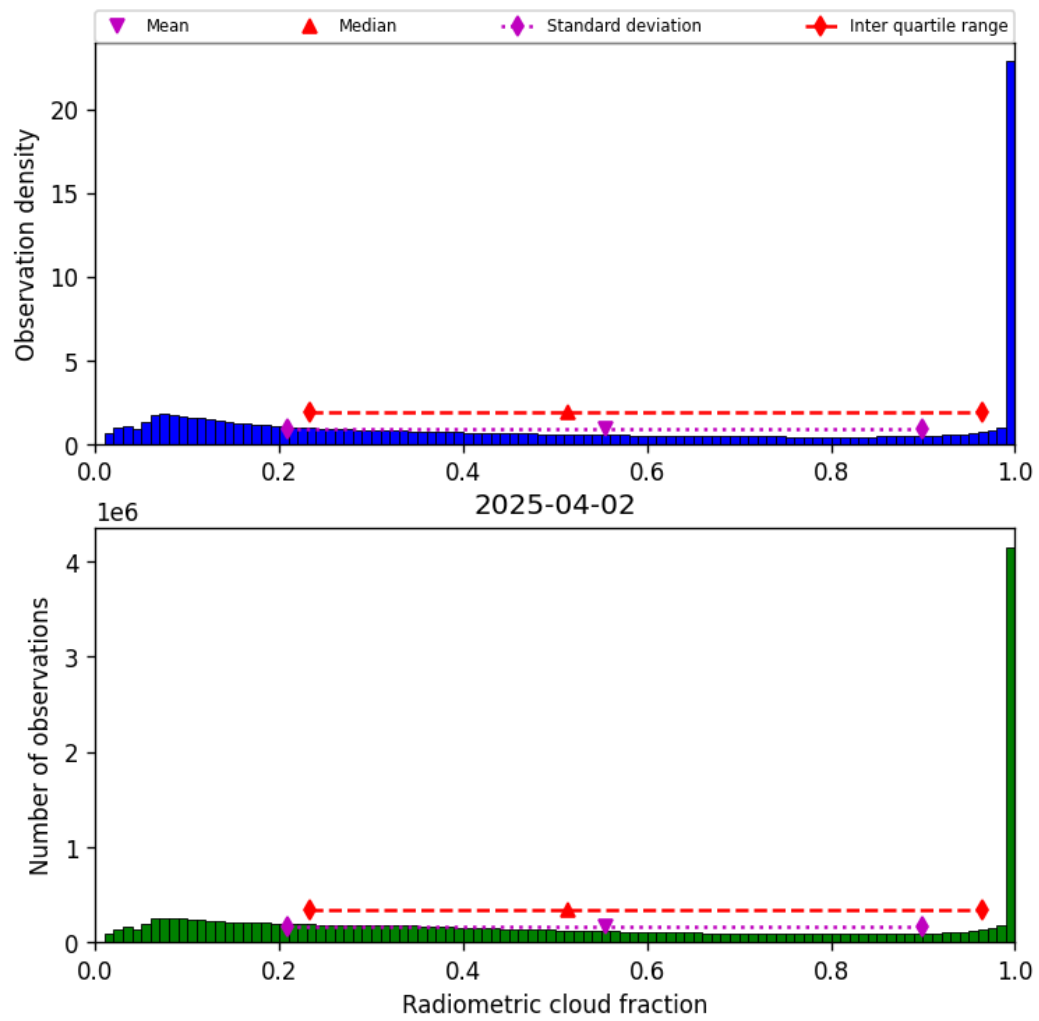


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-04-02 to 2025-04-03

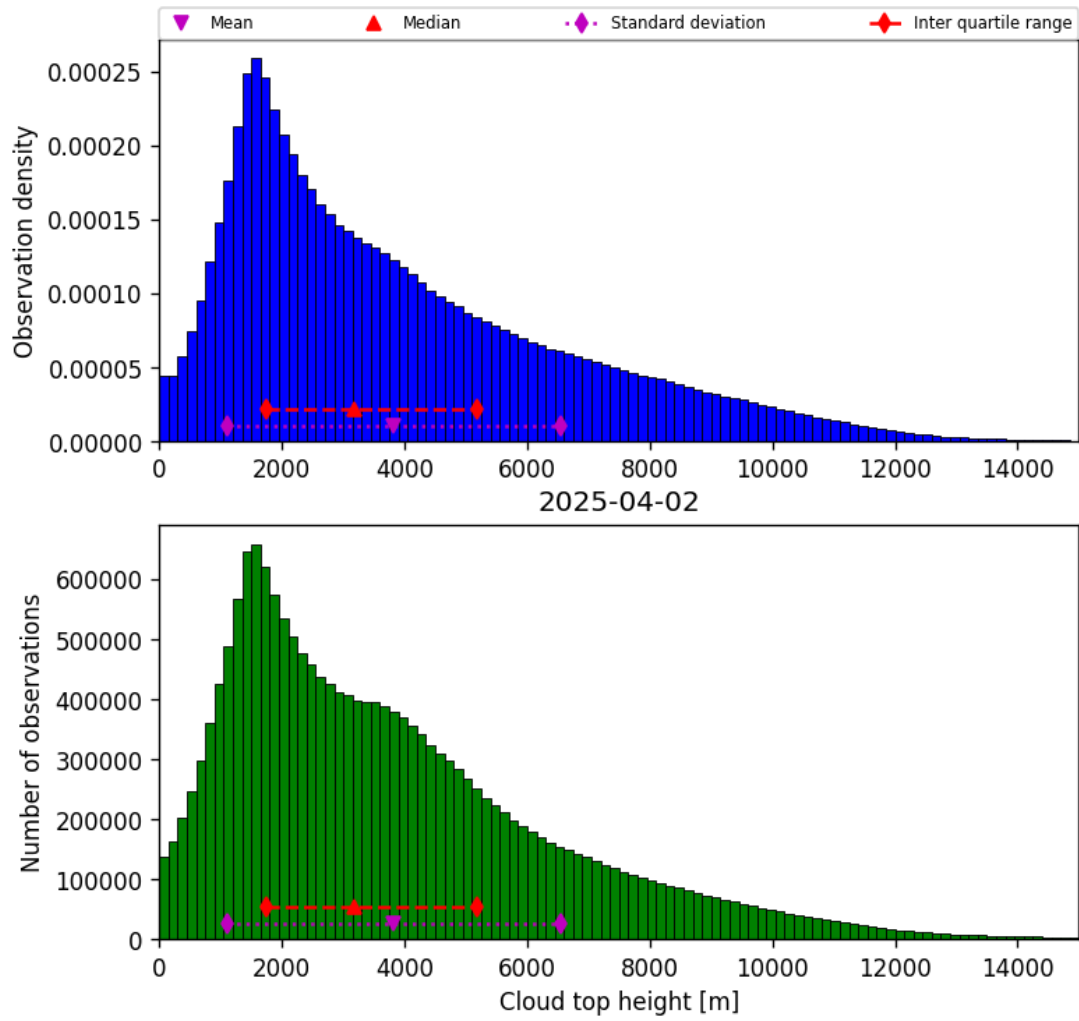


Figure 38: Histogram of “Cloud top height” for 2025-04-02 to 2025-04-03

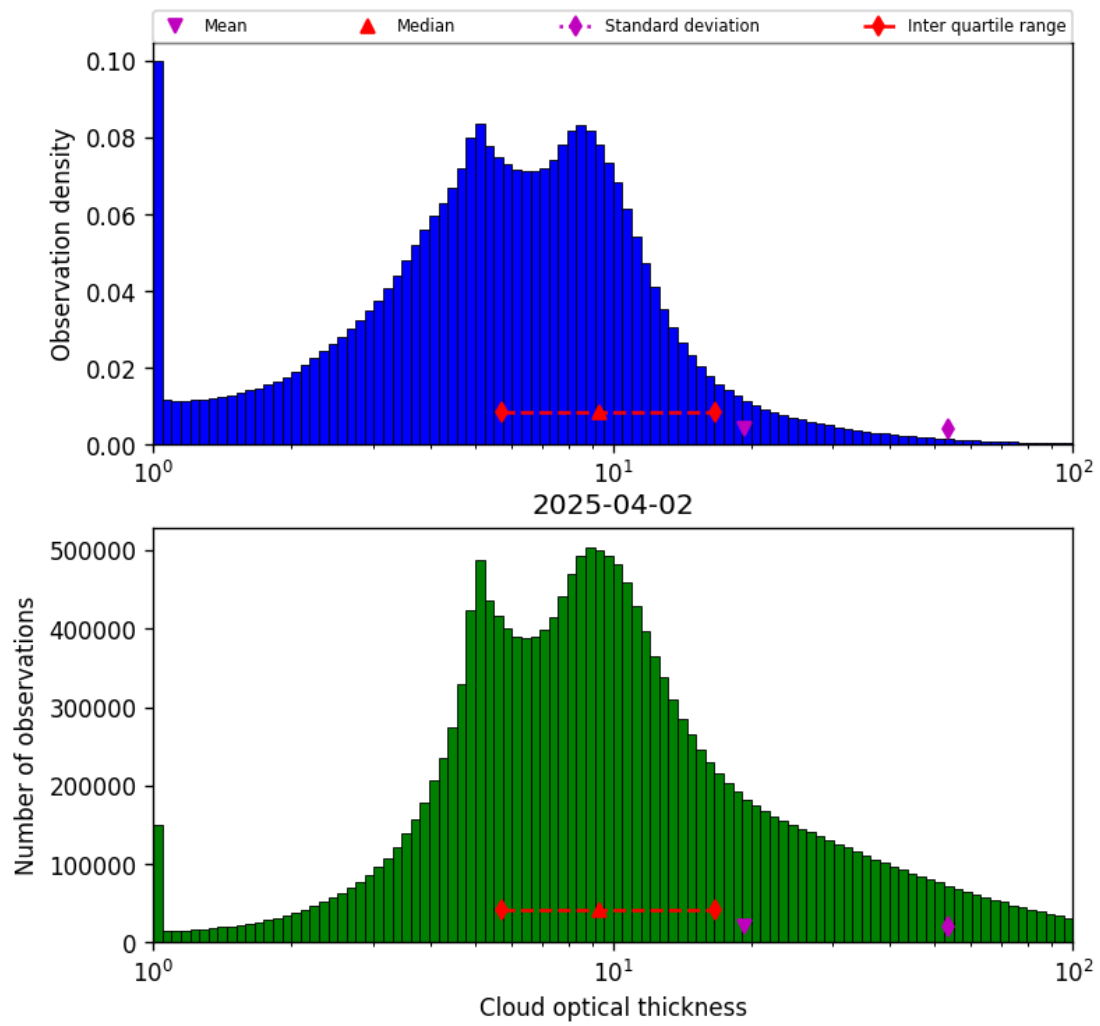


Figure 39: Histogram of “Cloud optical thickness” for 2025-04-02 to 2025-04-03

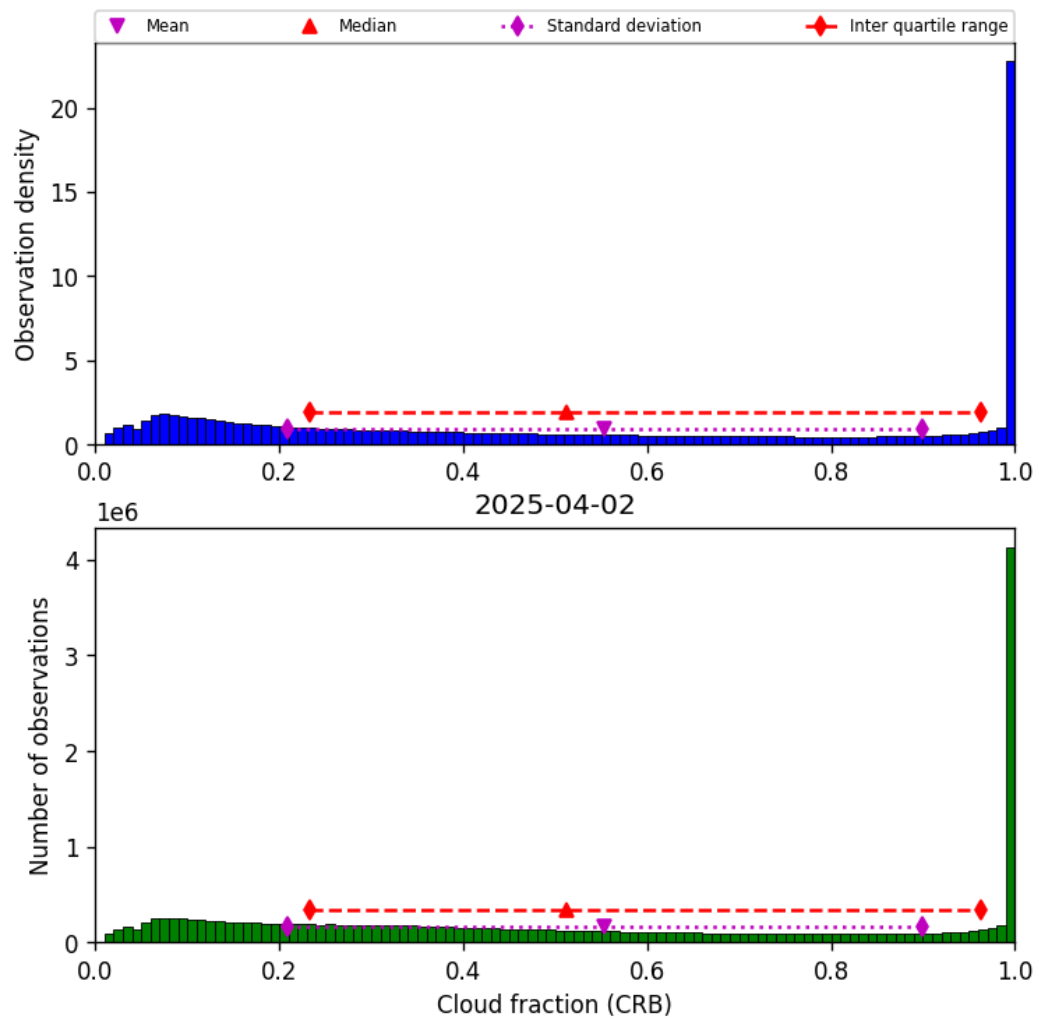


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-04-02 to 2025-04-03

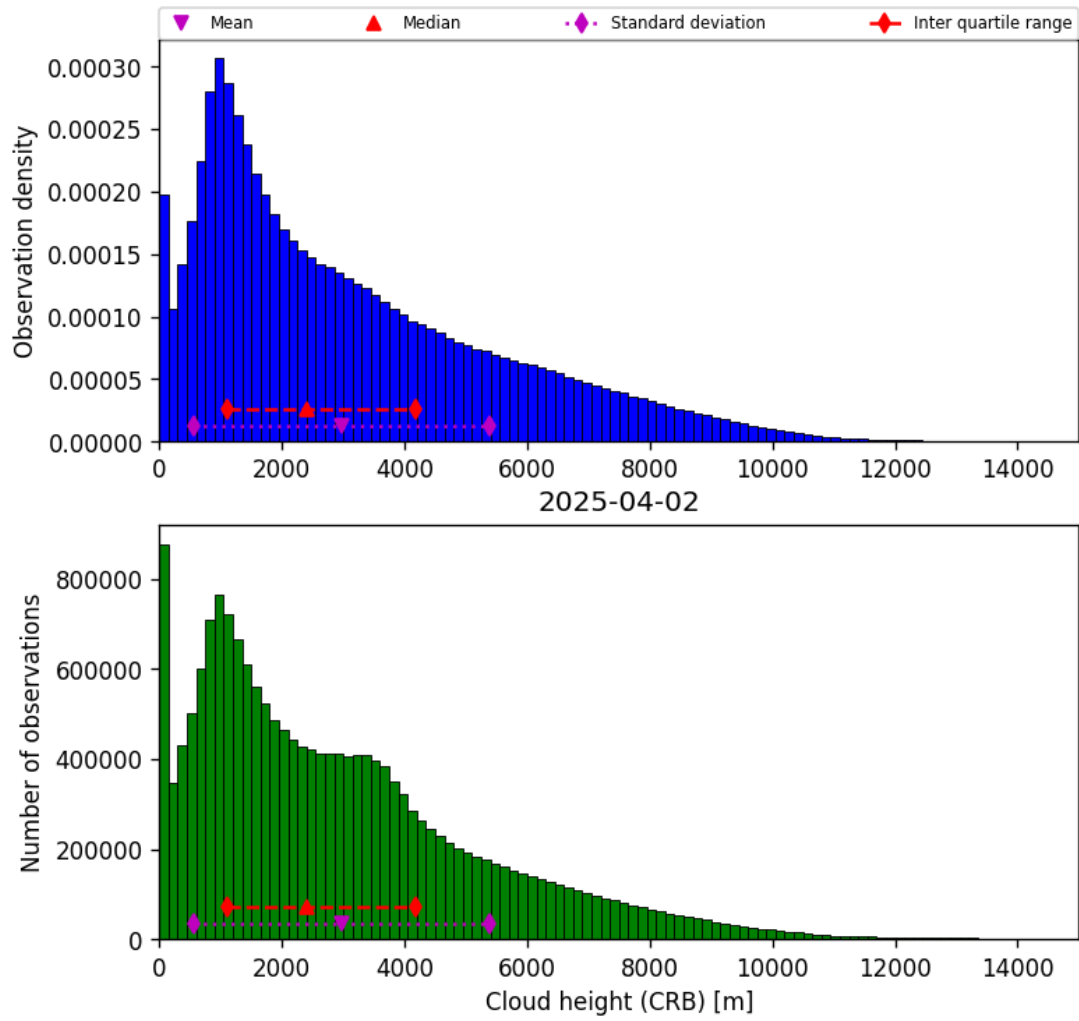


Figure 41: Histogram of “Cloud height (CRB)” for 2025-04-02 to 2025-04-03

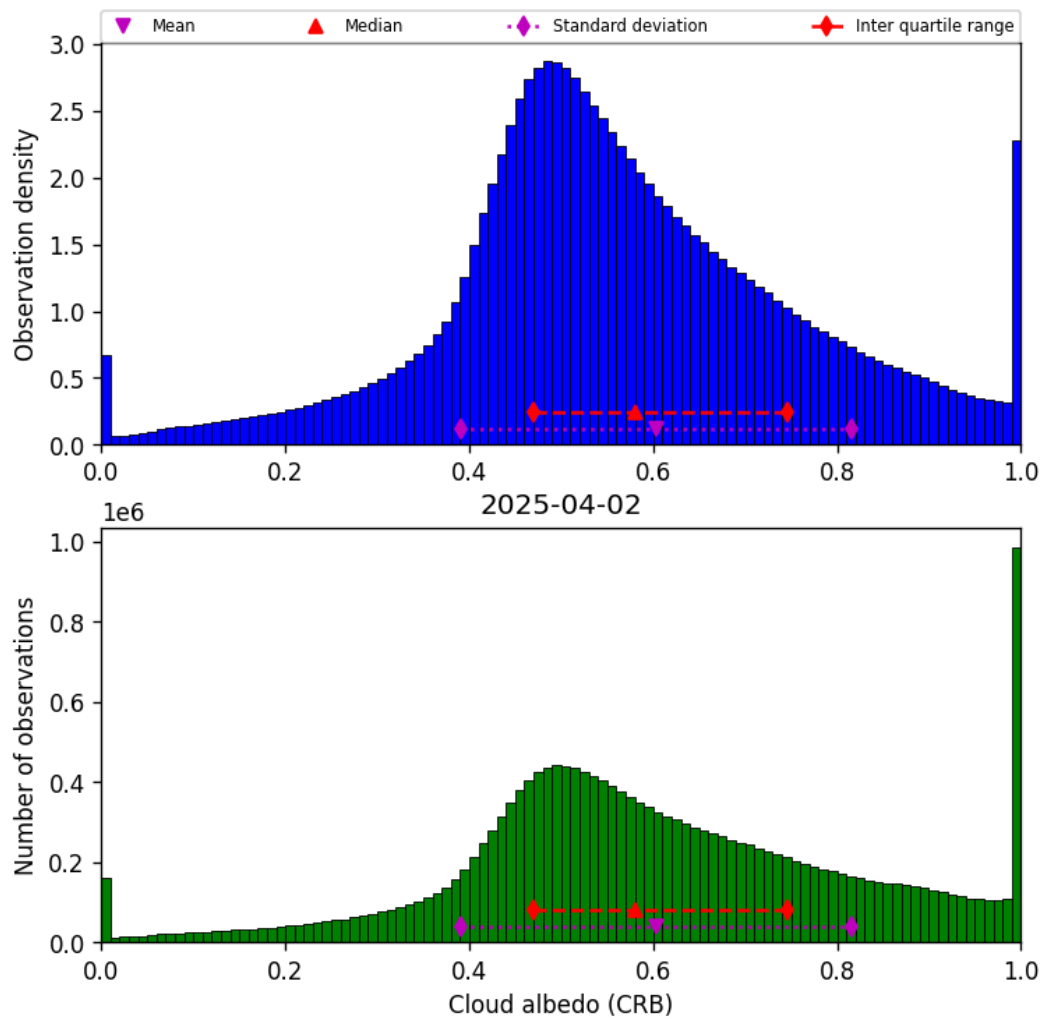


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-04-02 to 2025-04-03

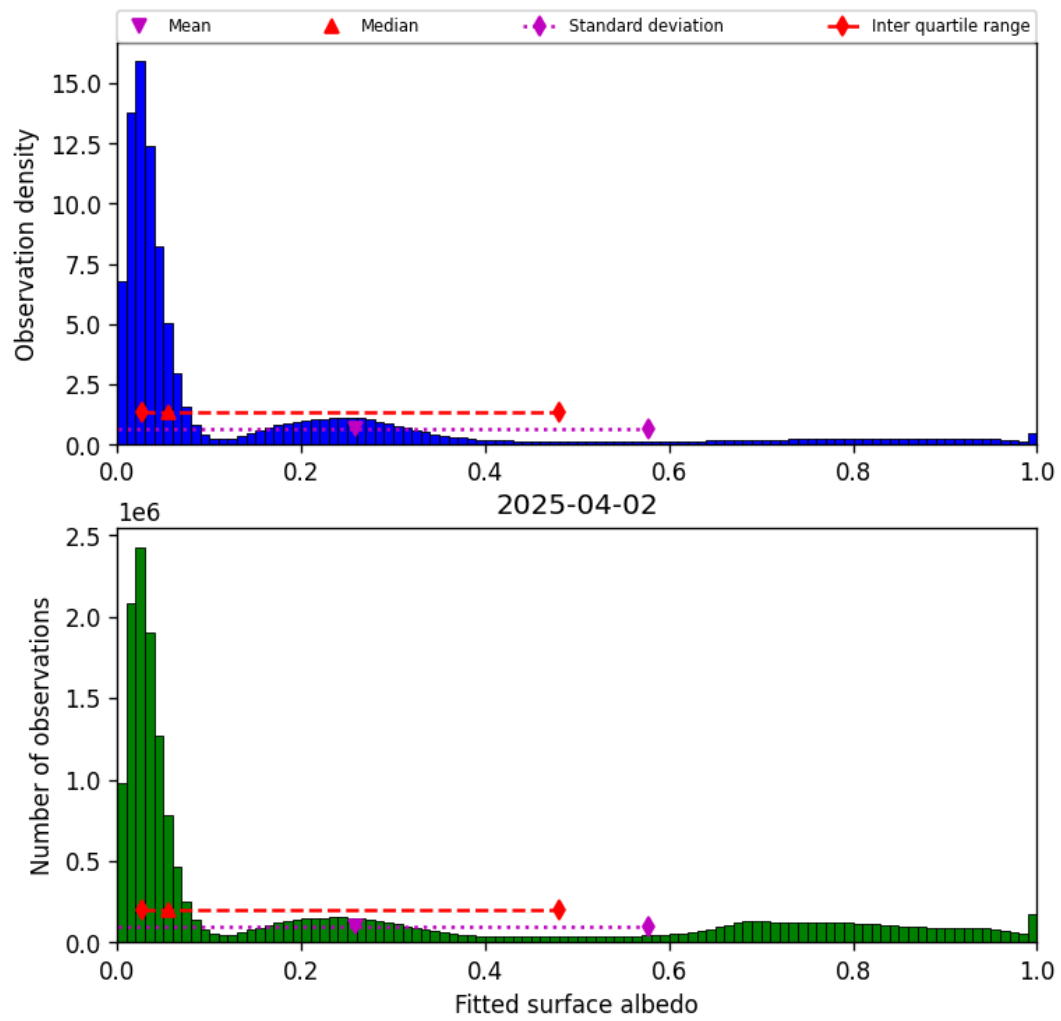


Figure 43: Histogram of “Fitted surface albedo” for 2025-04-02 to 2025-04-03

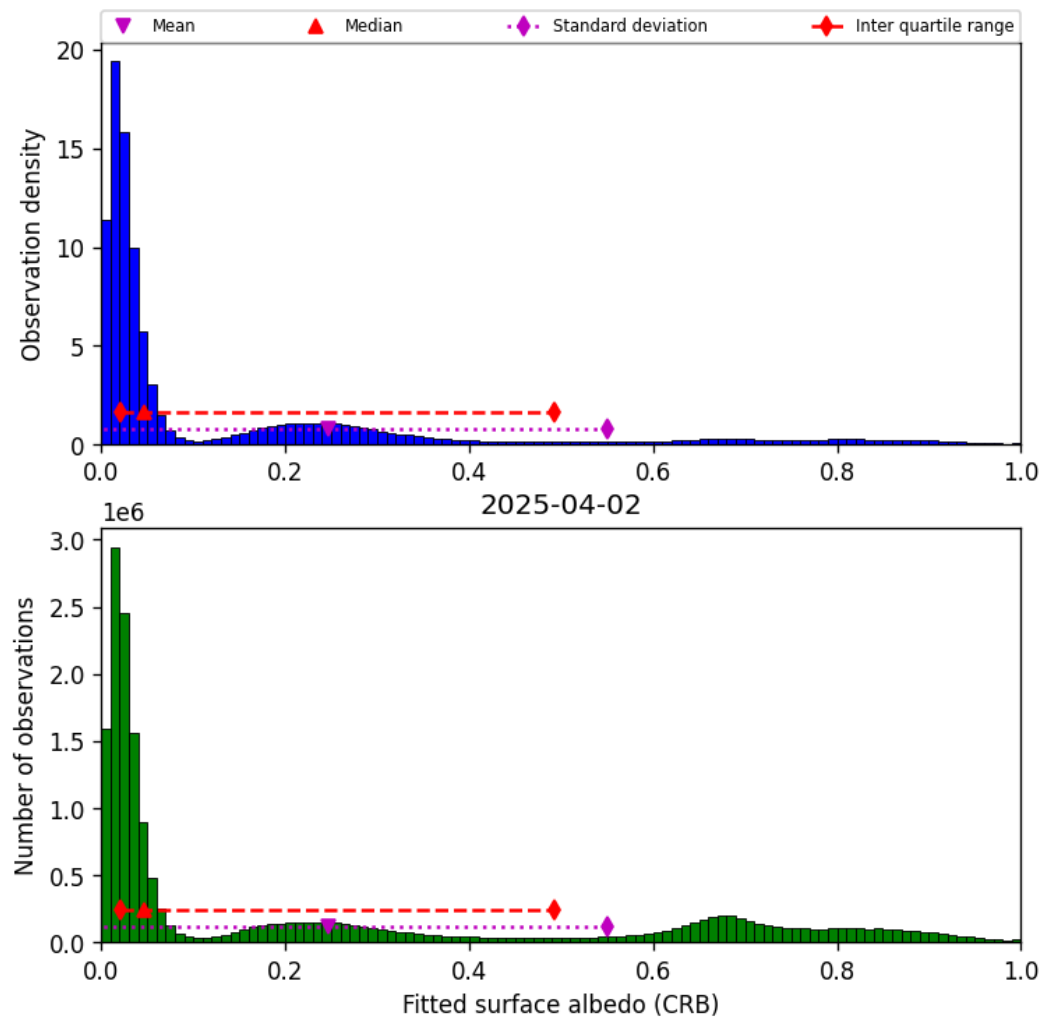


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-04-02 to 2025-04-03

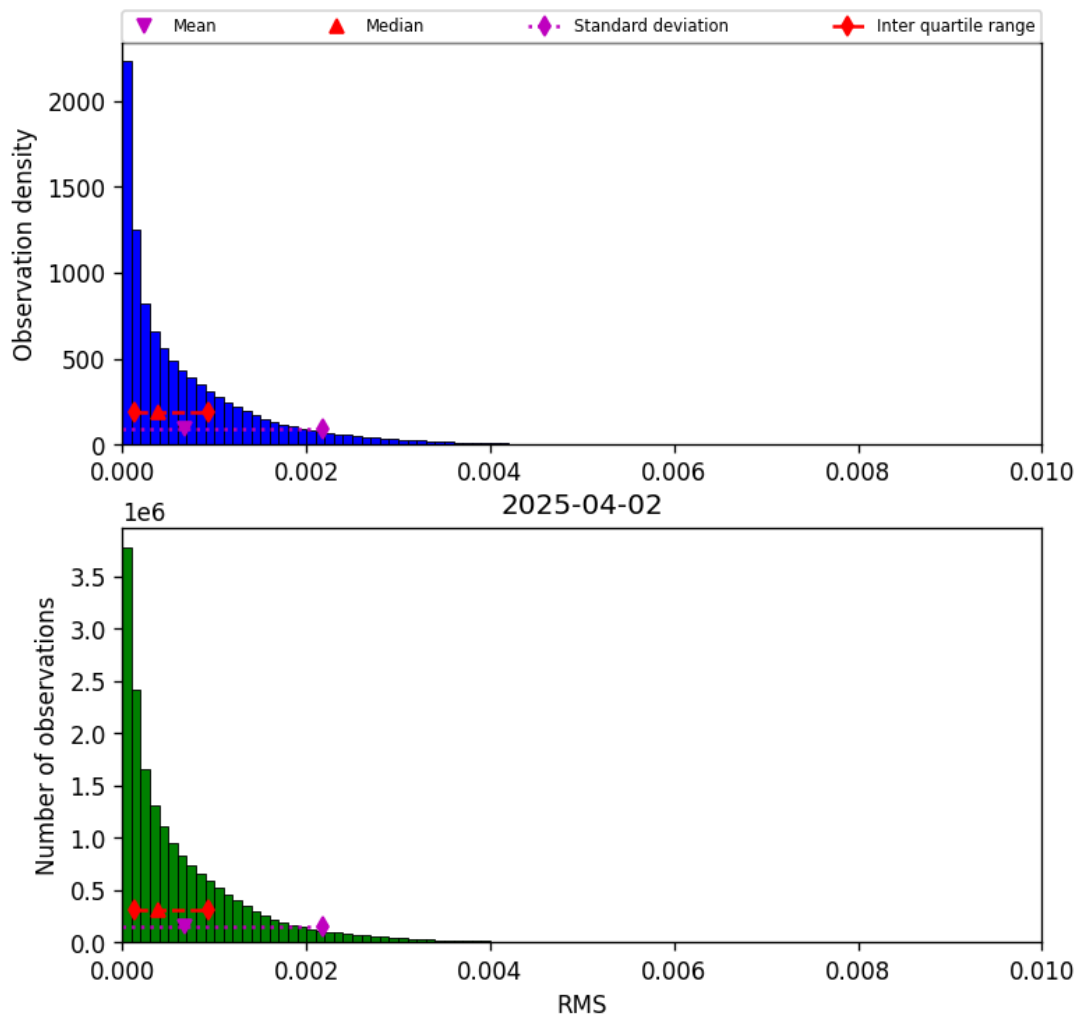


Figure 45: Histogram of “RMS” for 2025-04-02 to 2025-04-03

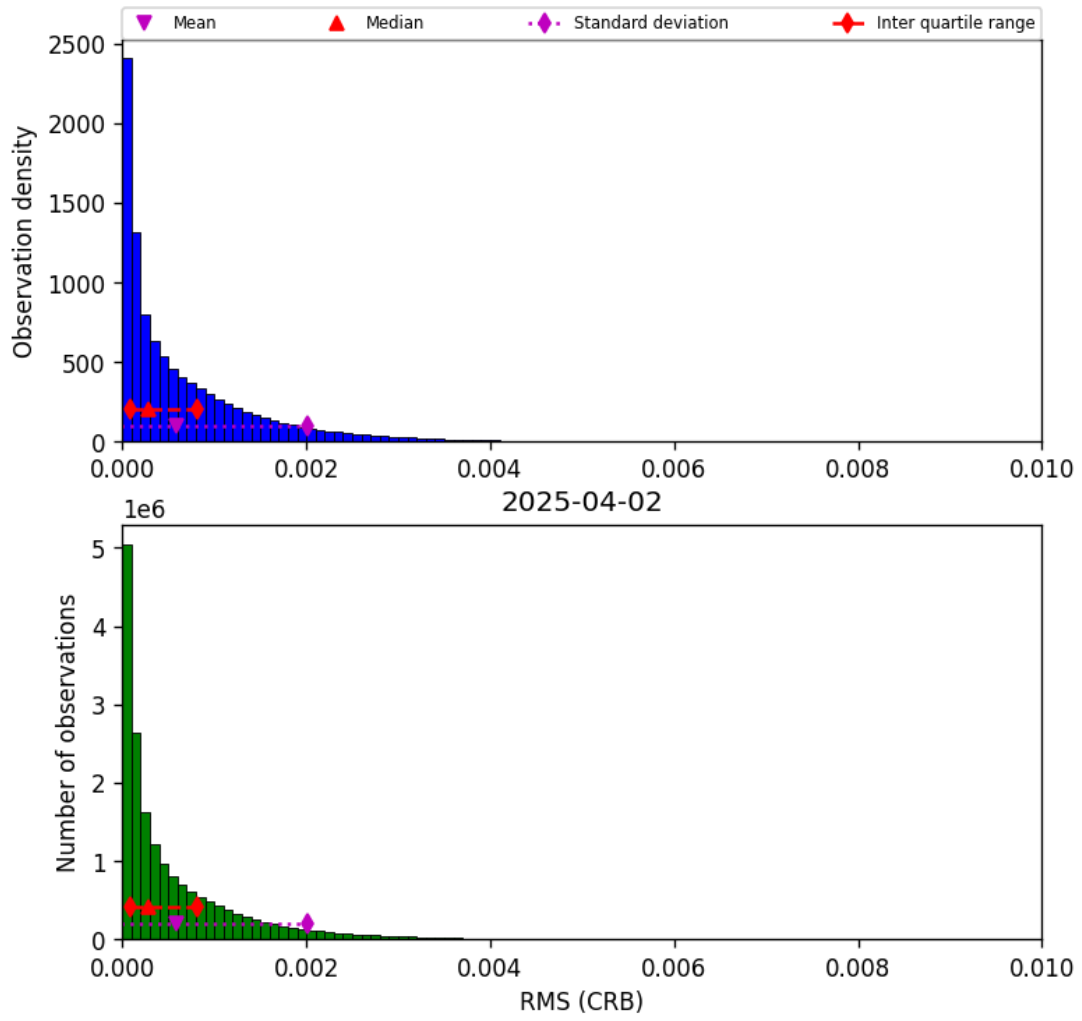


Figure 46: Histogram of “RMS (CRB)” for 2025-04-02 to 2025-04-03

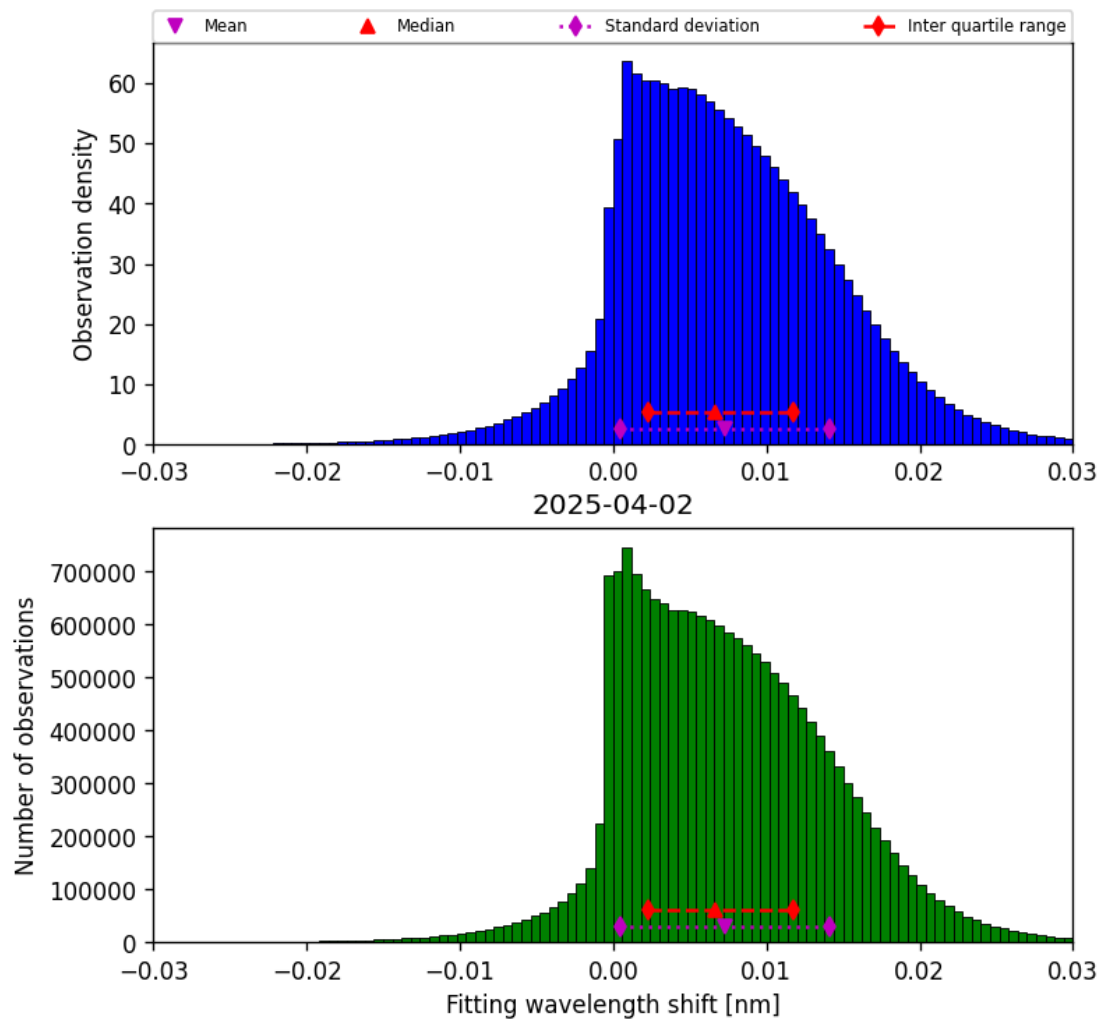


Figure 47: Histogram of “Fitting wavelength shift” for 2025-04-02 to 2025-04-03

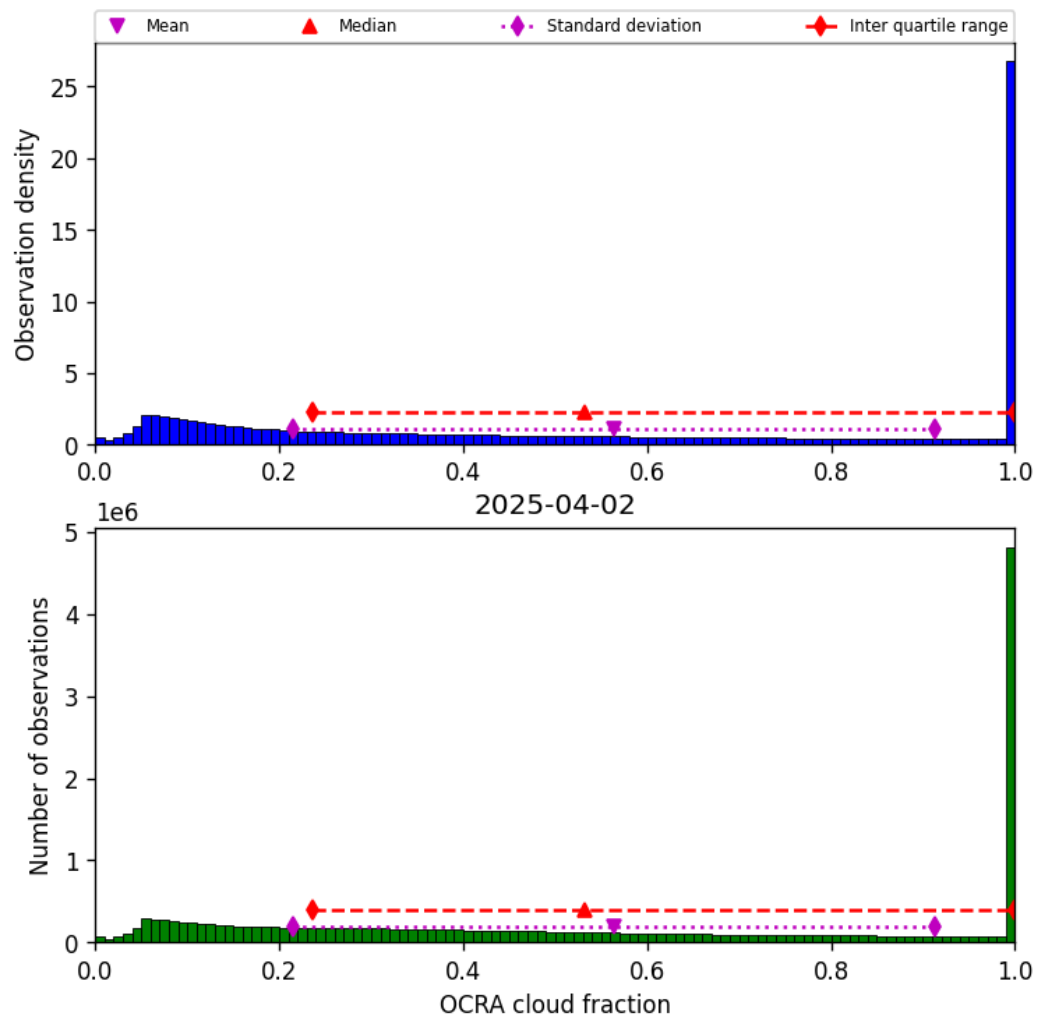


Figure 48: Histogram of “OCRA cloud fraction” for 2025-04-02 to 2025-04-03

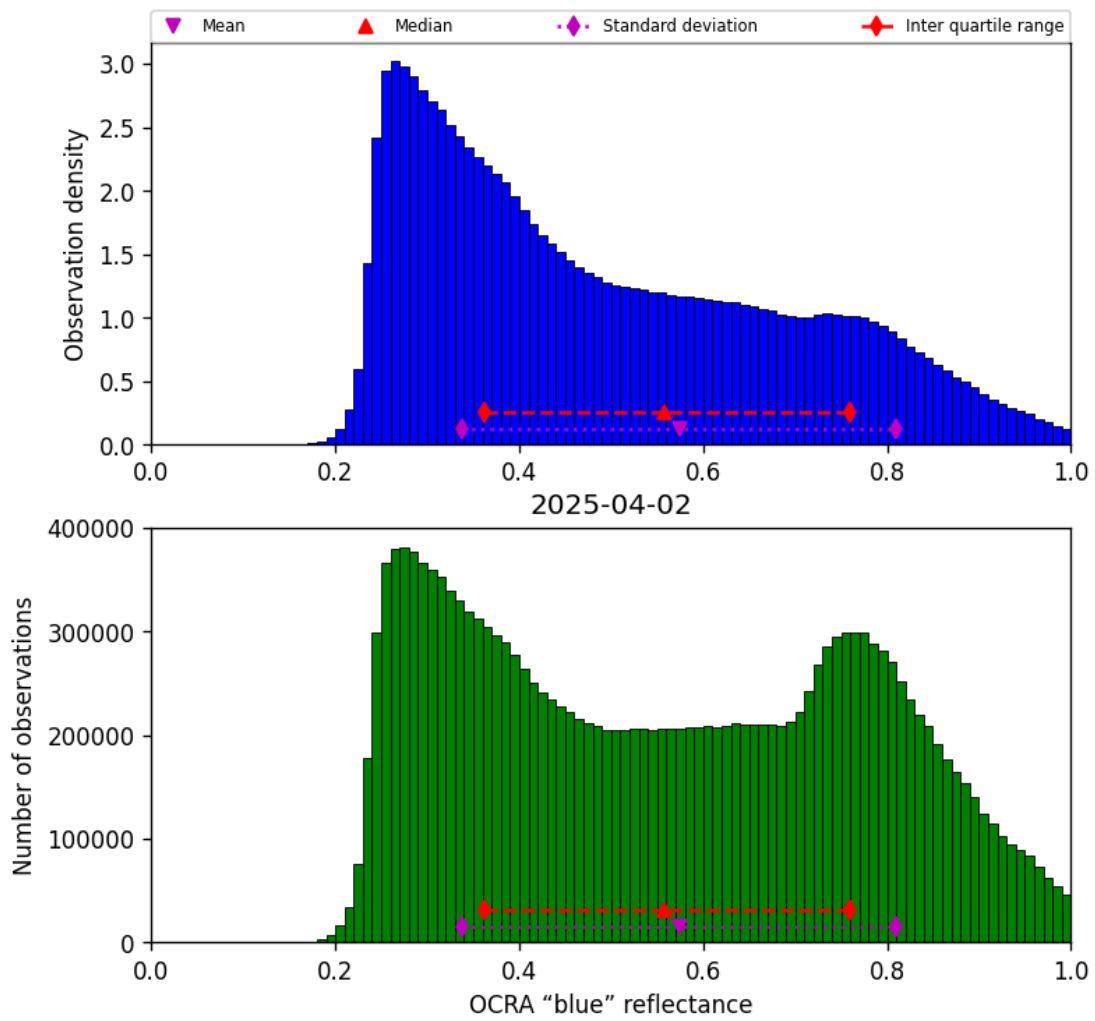


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-04-02 to 2025-04-03

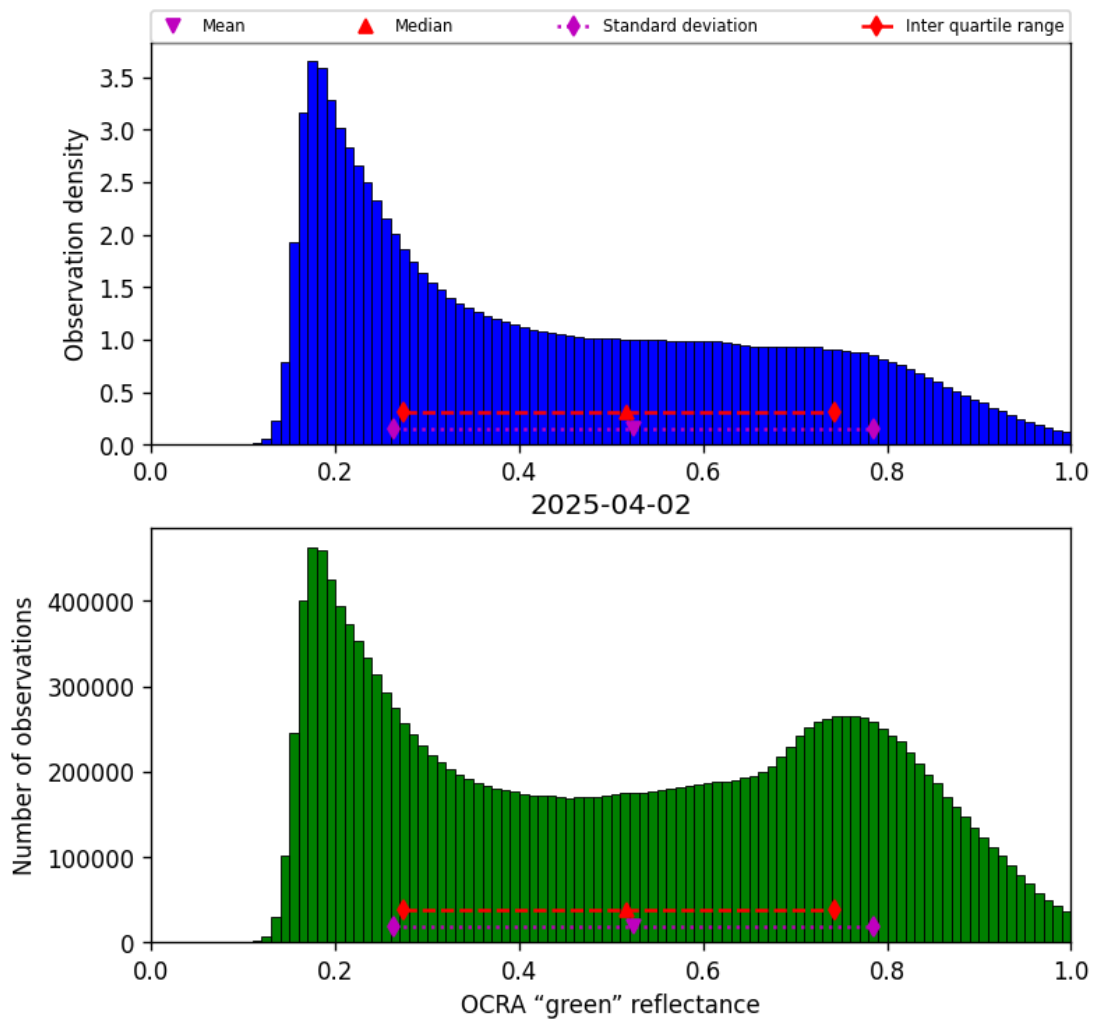


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-04-02 to 2025-04-03

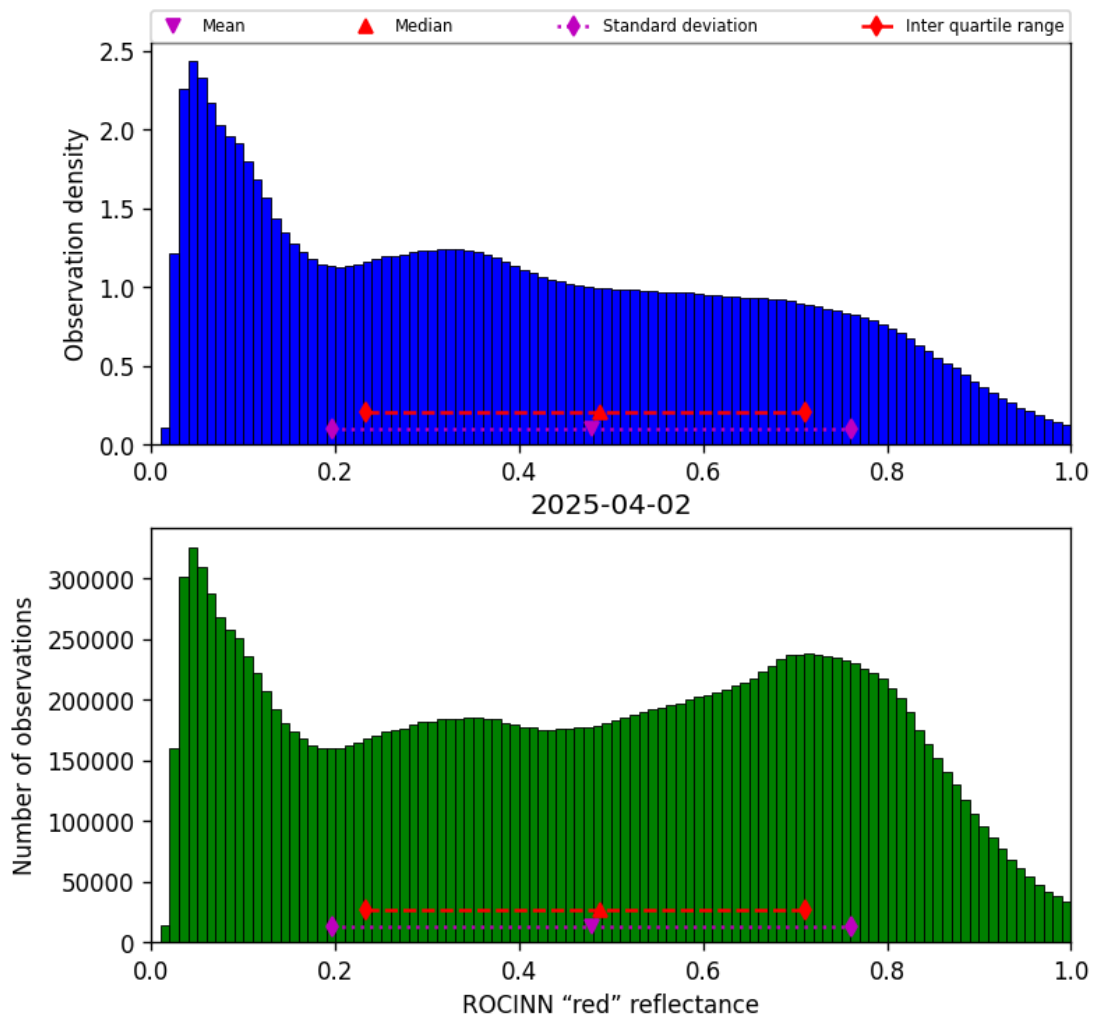


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-04-02 to 2025-04-03

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.

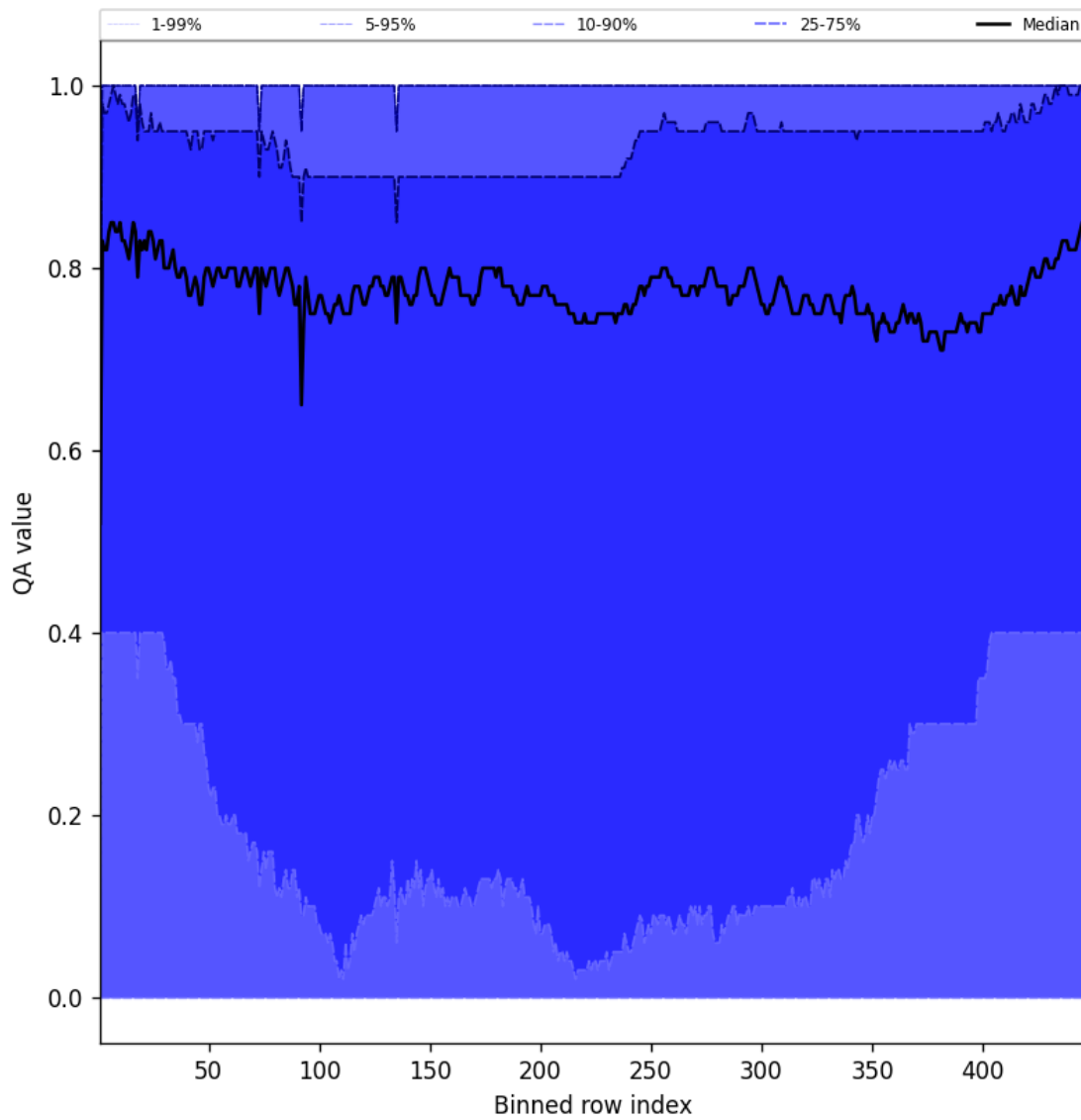


Figure 52: Along track statistics of “QA value” for 2025-04-02 to 2025-04-03

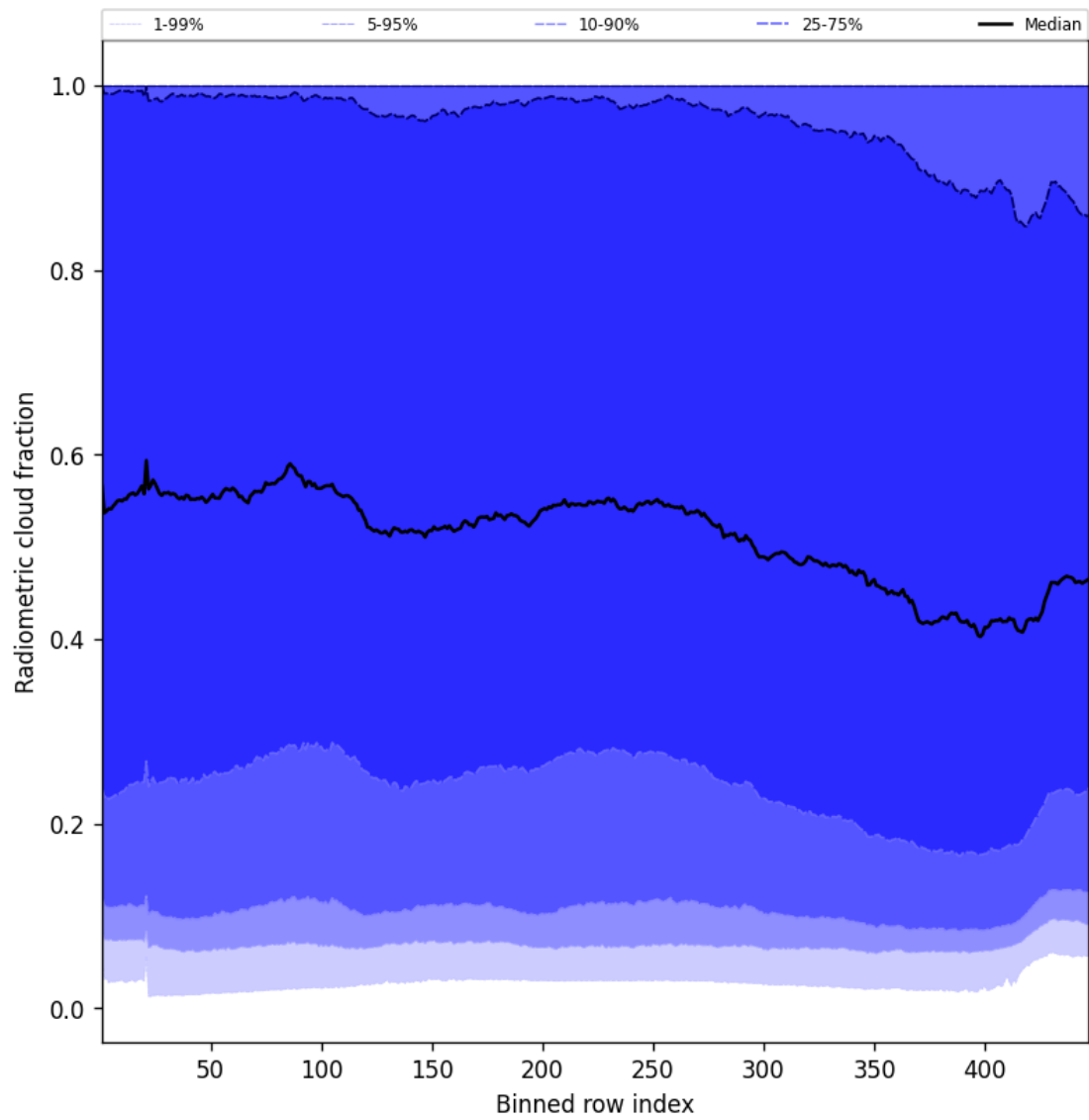


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-04-02 to 2025-04-03

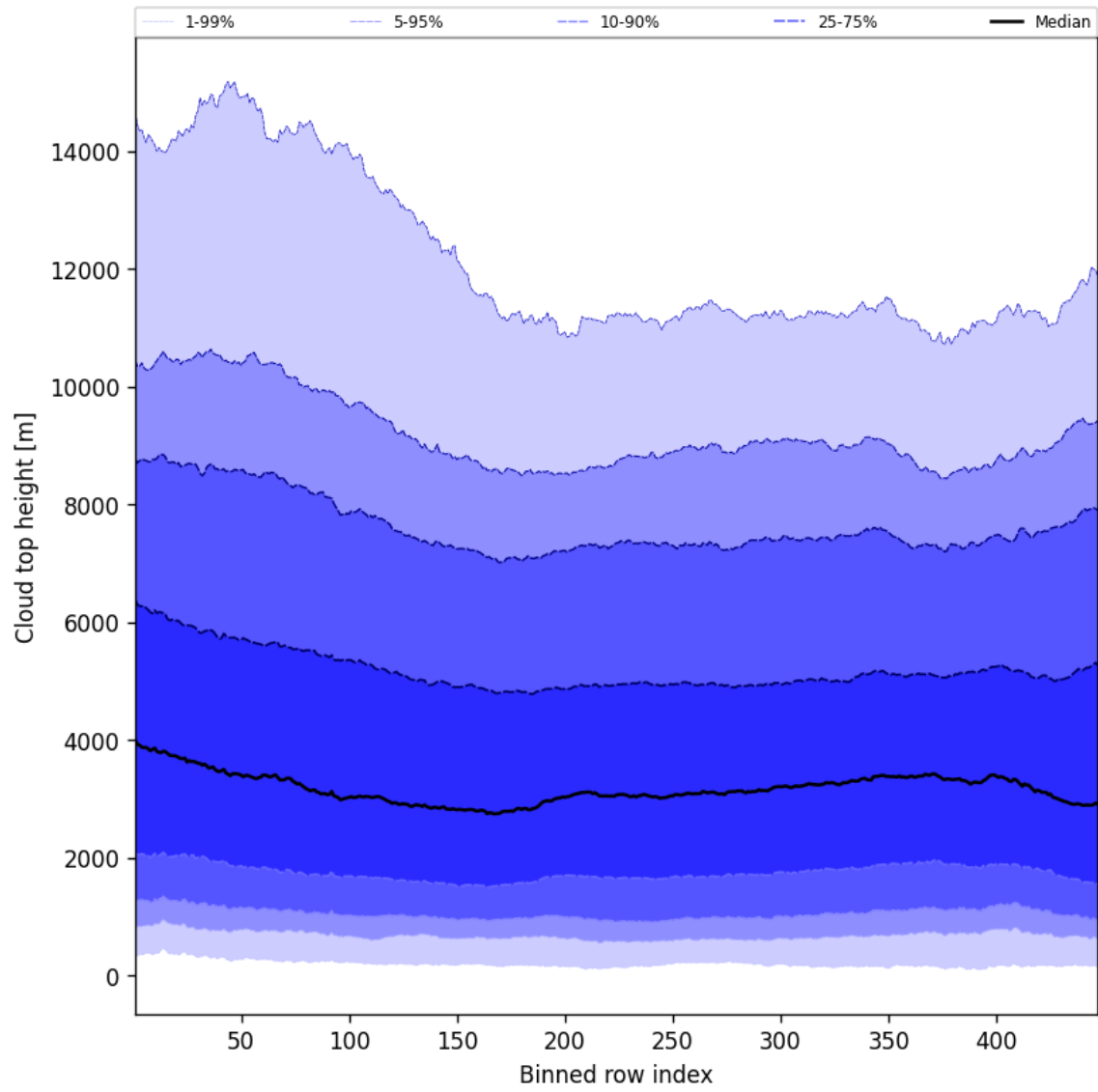


Figure 54: Along track statistics of “Cloud top height” for 2025-04-02 to 2025-04-03

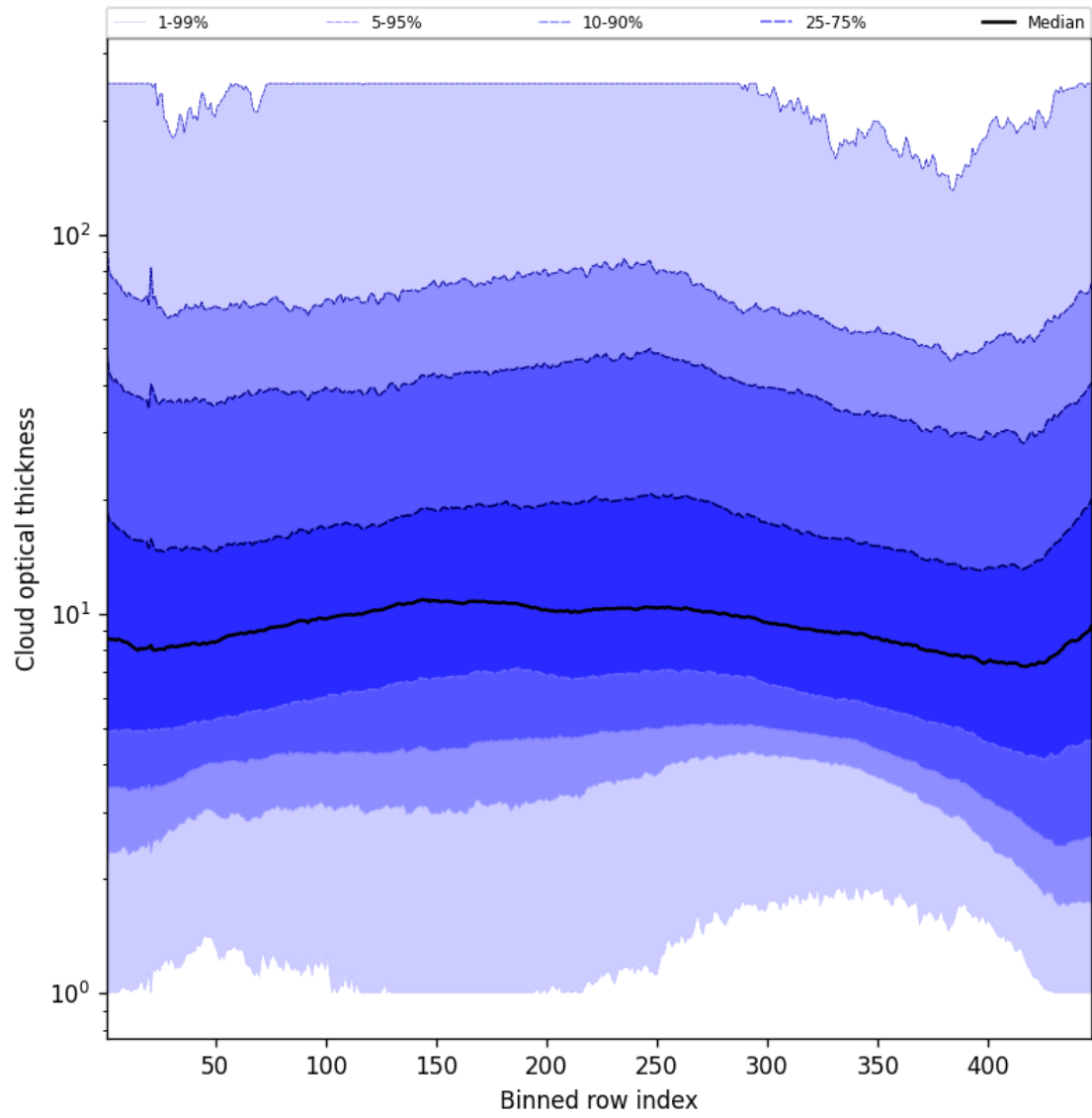


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-04-02 to 2025-04-03

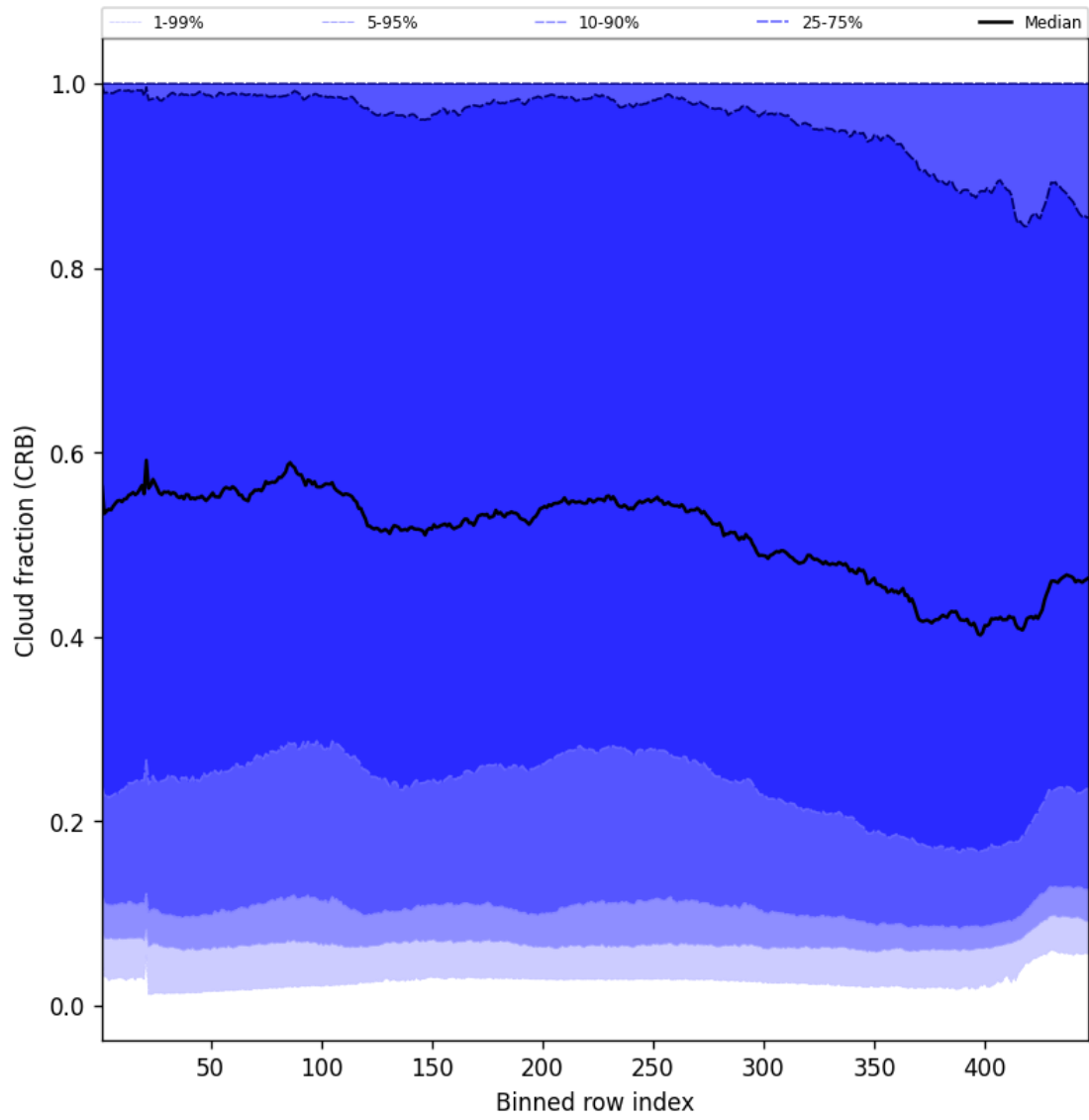


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-04-02 to 2025-04-03

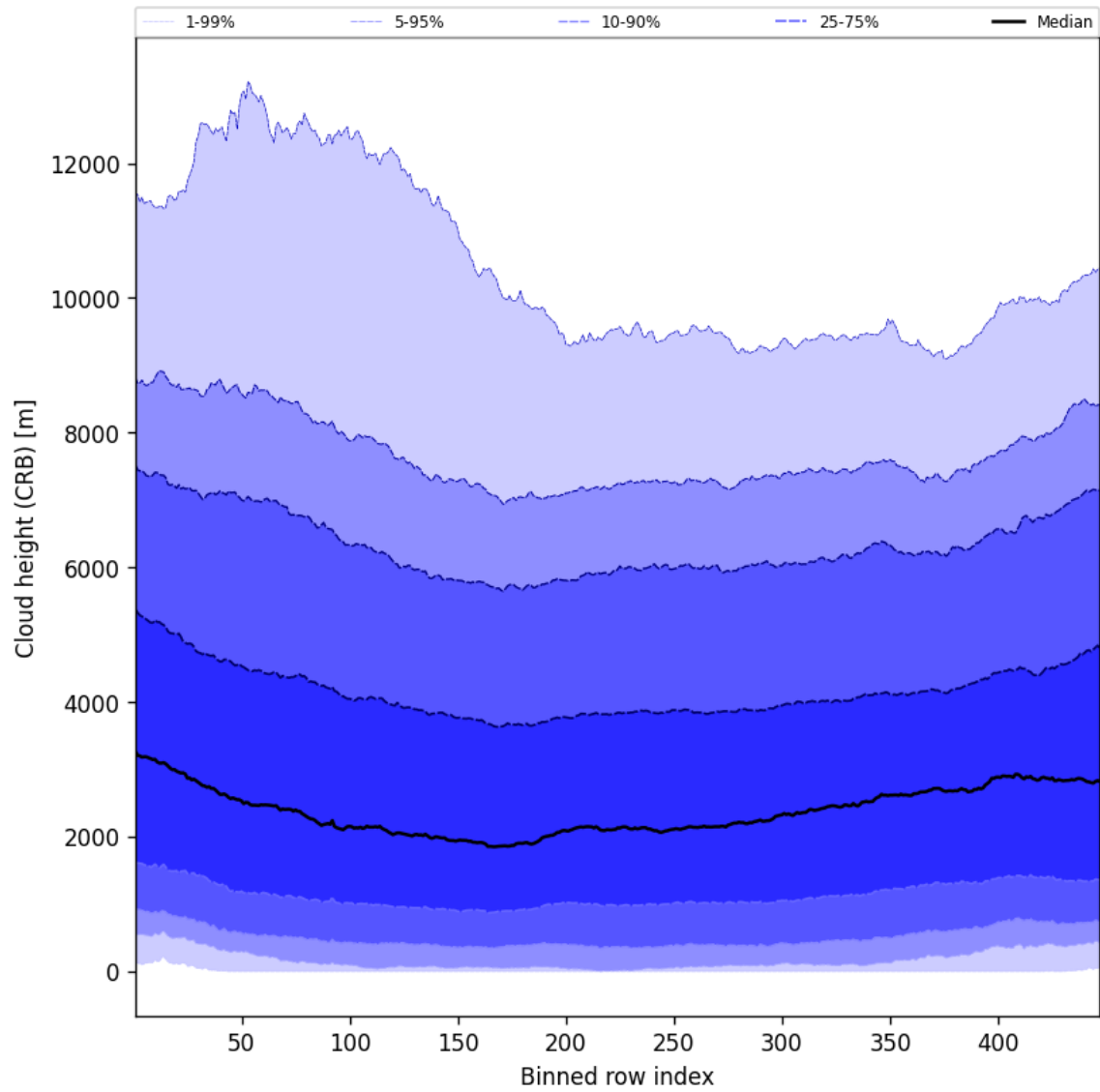


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-04-02 to 2025-04-03

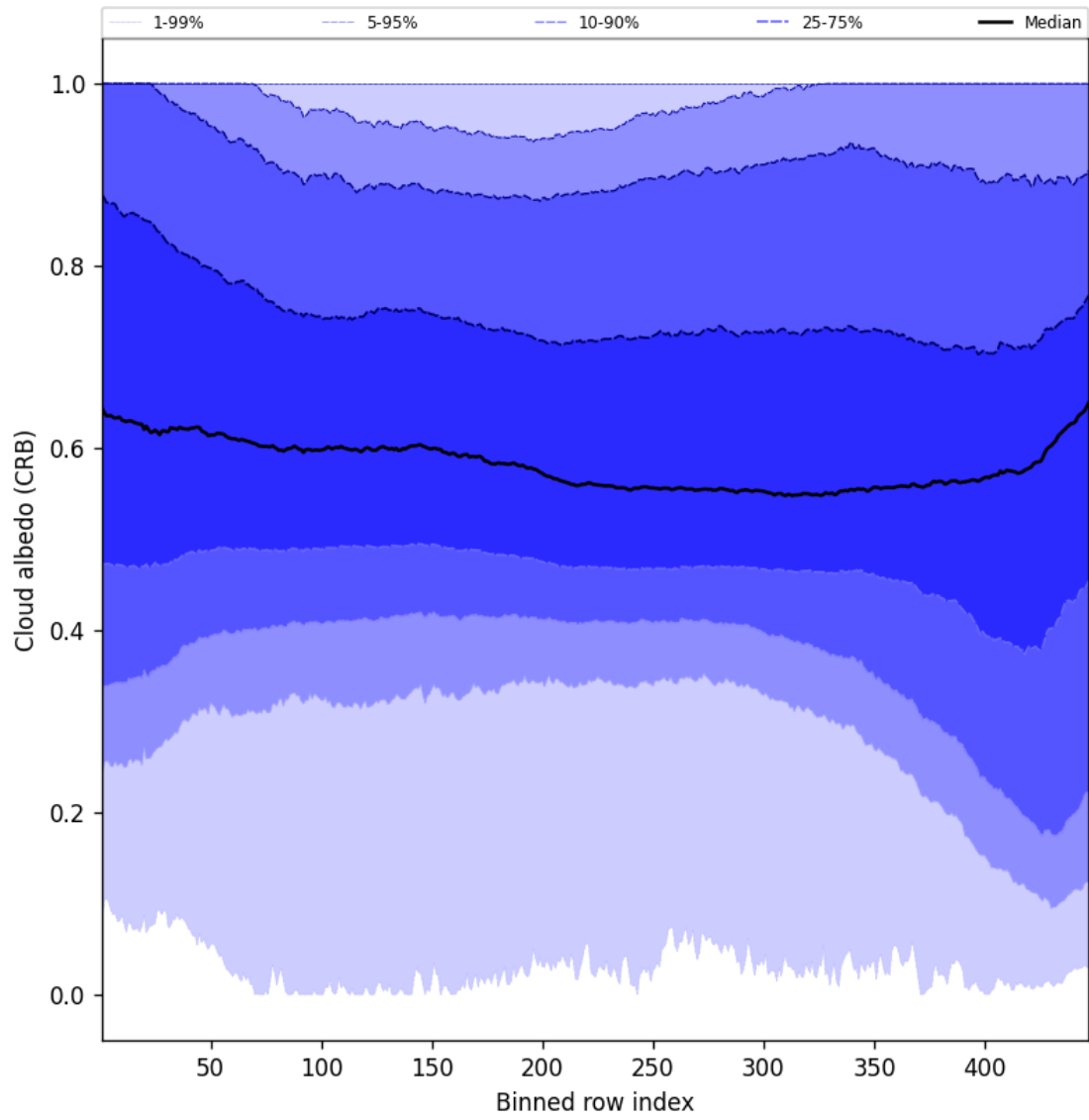


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-04-02 to 2025-04-03

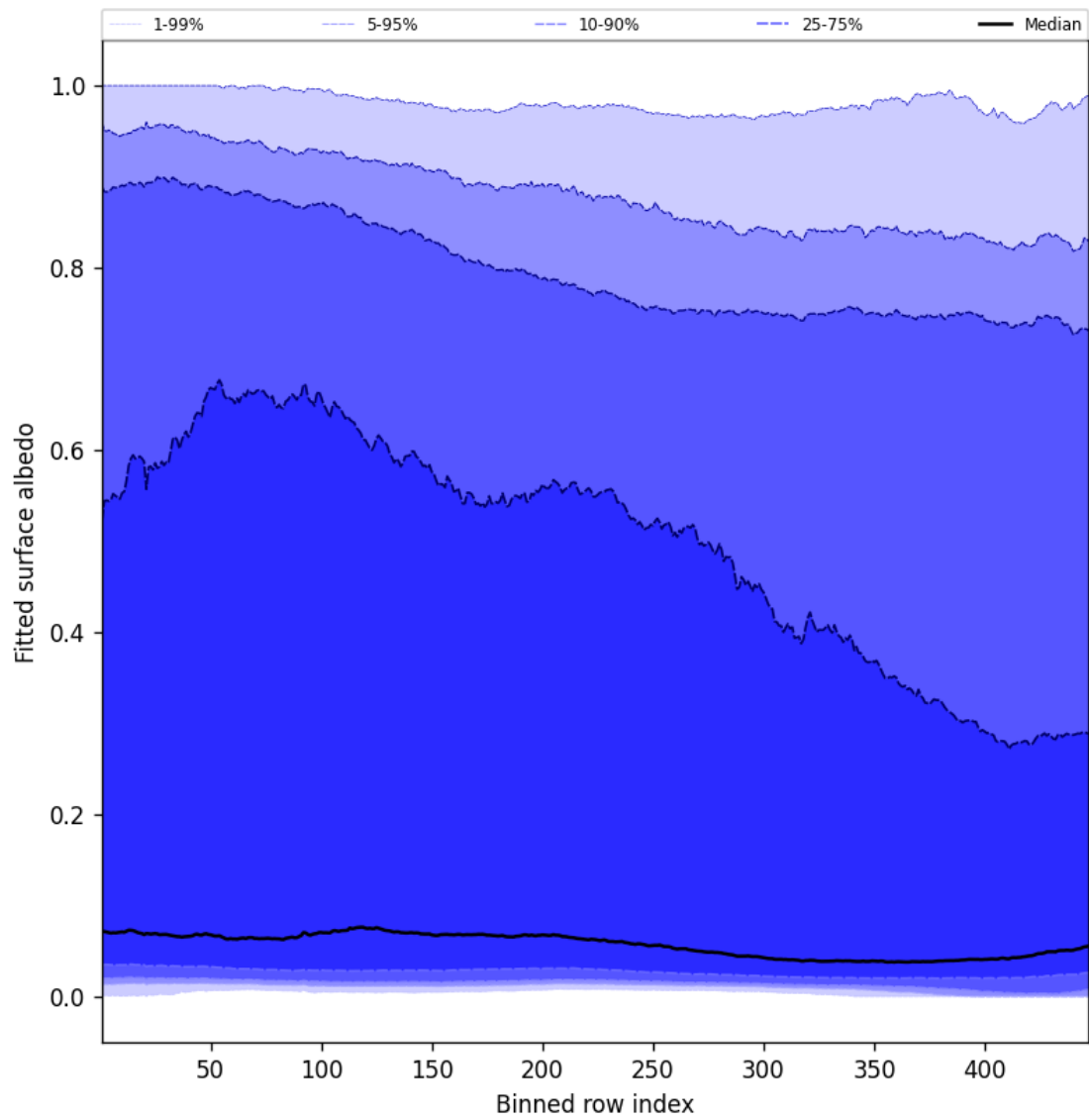


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-04-02 to 2025-04-03

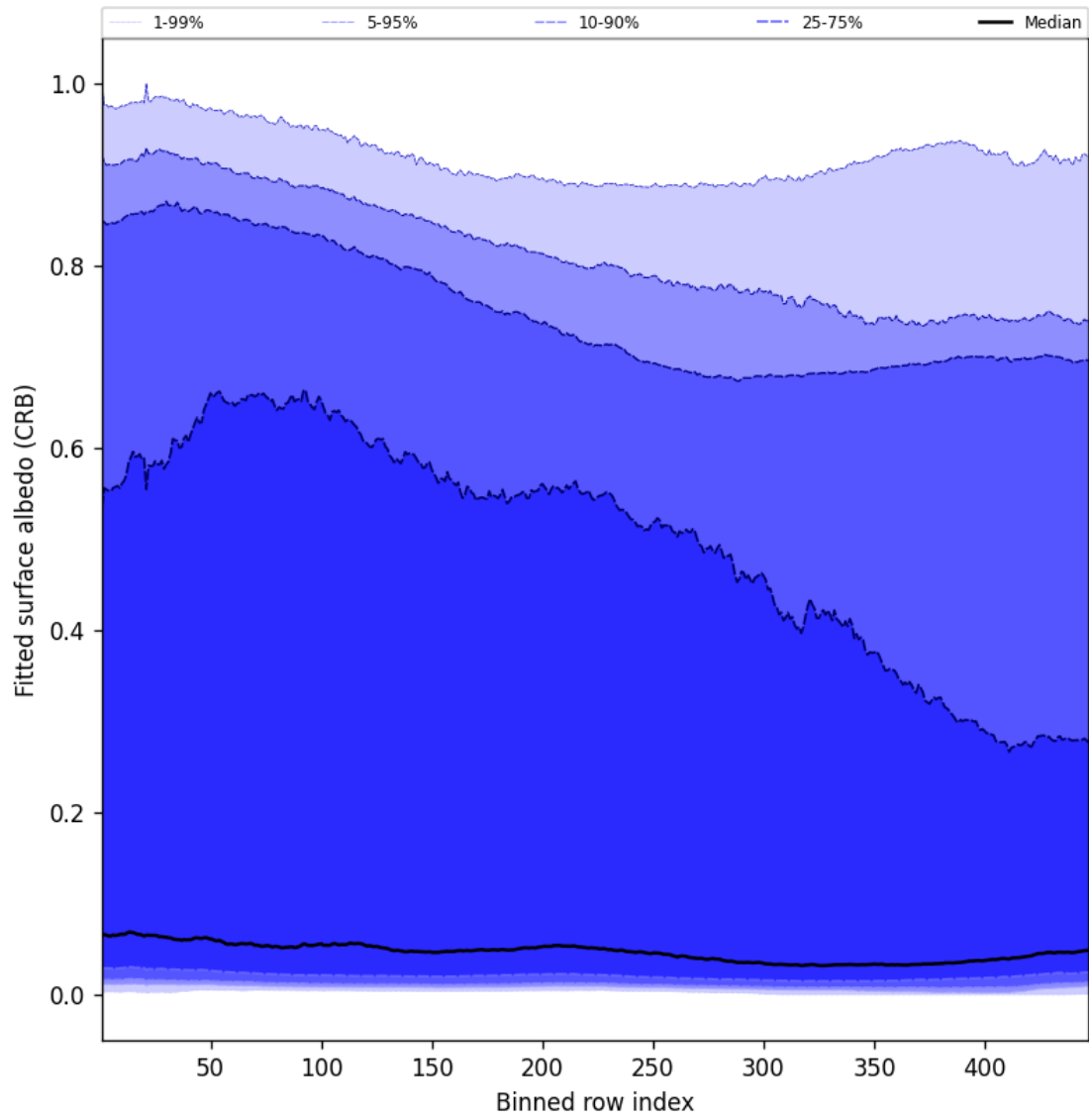


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-04-02 to 2025-04-03

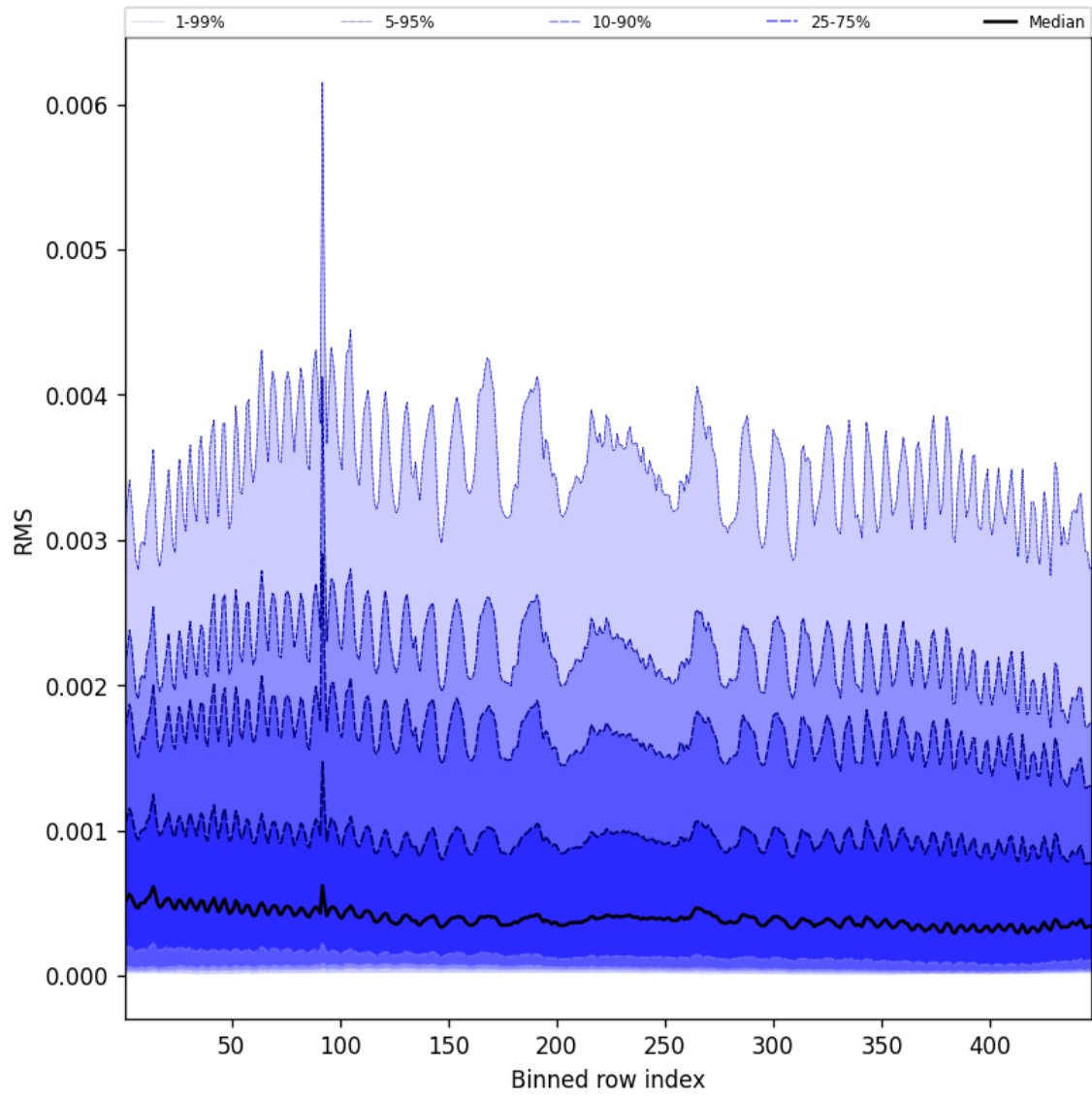


Figure 61: Along track statistics of “RMS” for 2025-04-02 to 2025-04-03

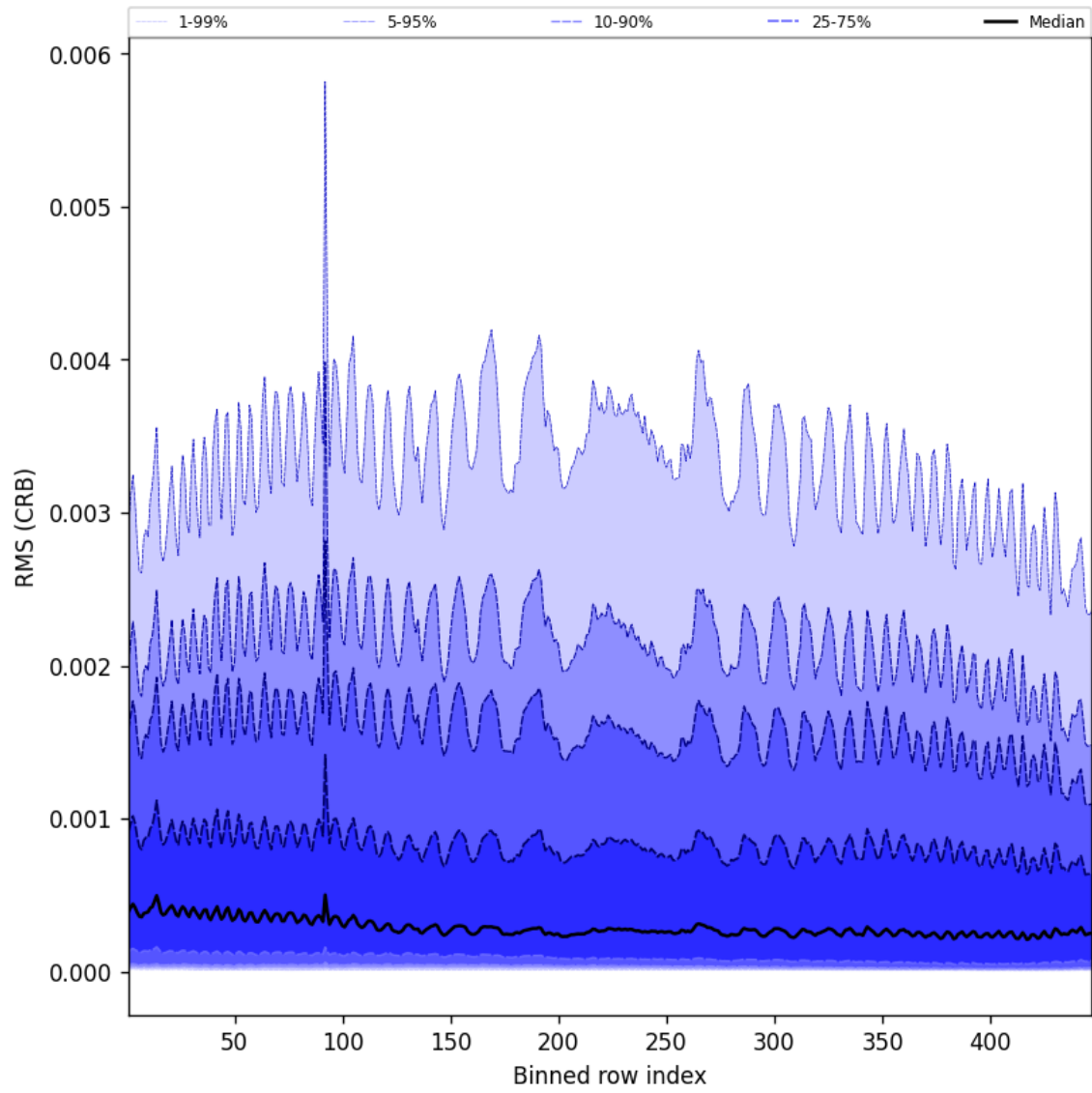


Figure 62: Along track statistics of “RMS (CRB)” for 2025-04-02 to 2025-04-03

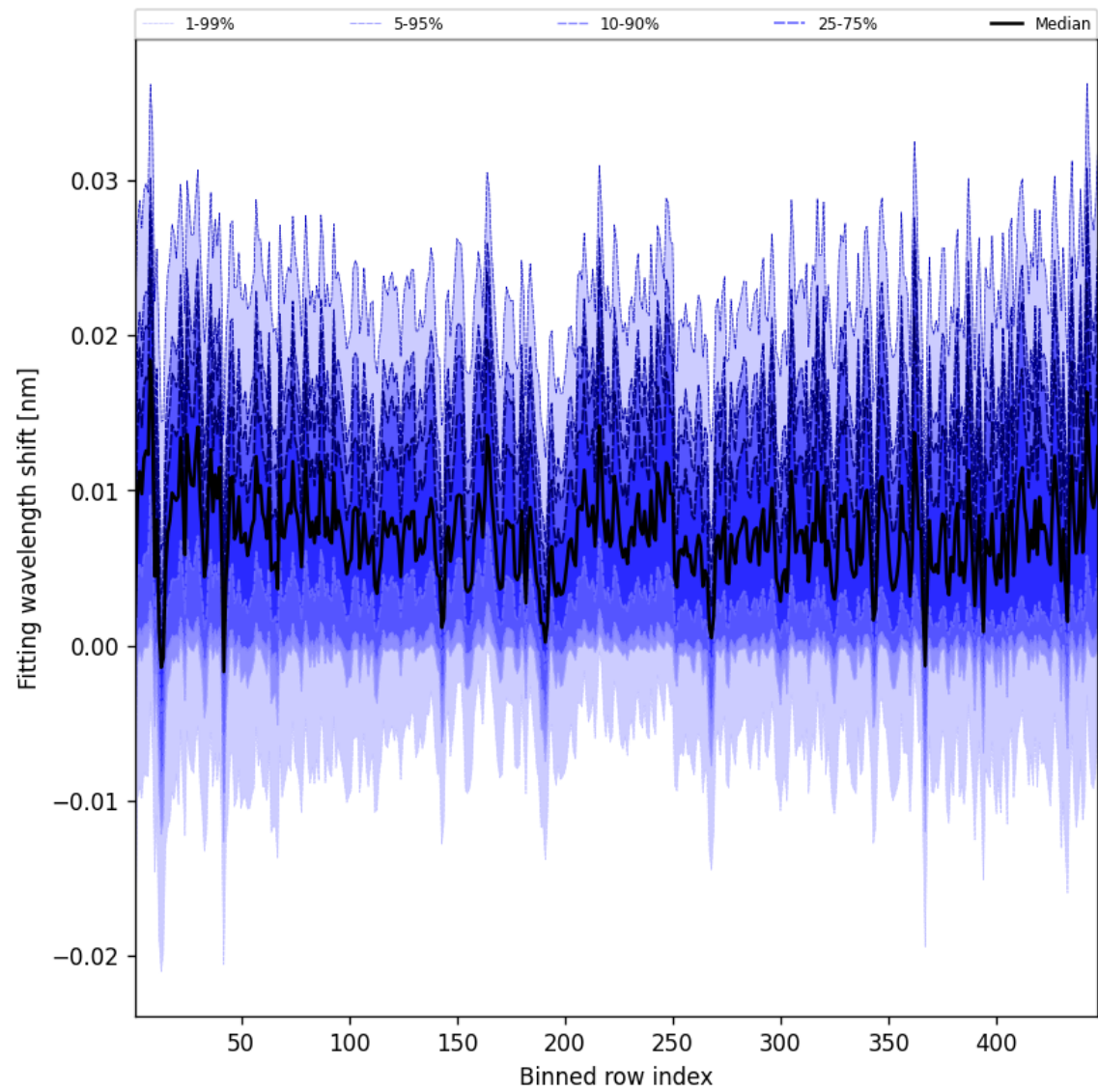


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-04-02 to 2025-04-03

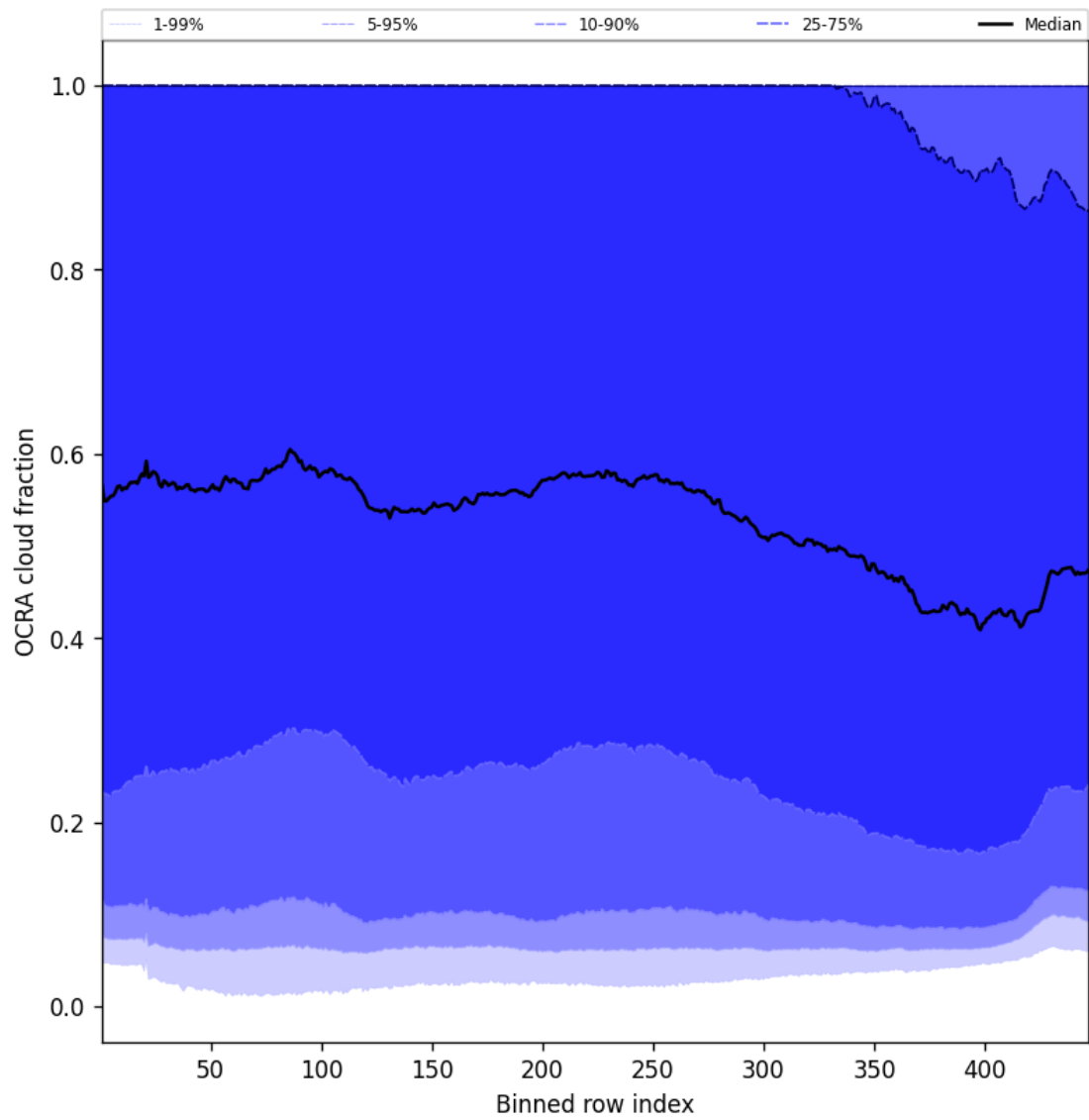


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-04-02 to 2025-04-03

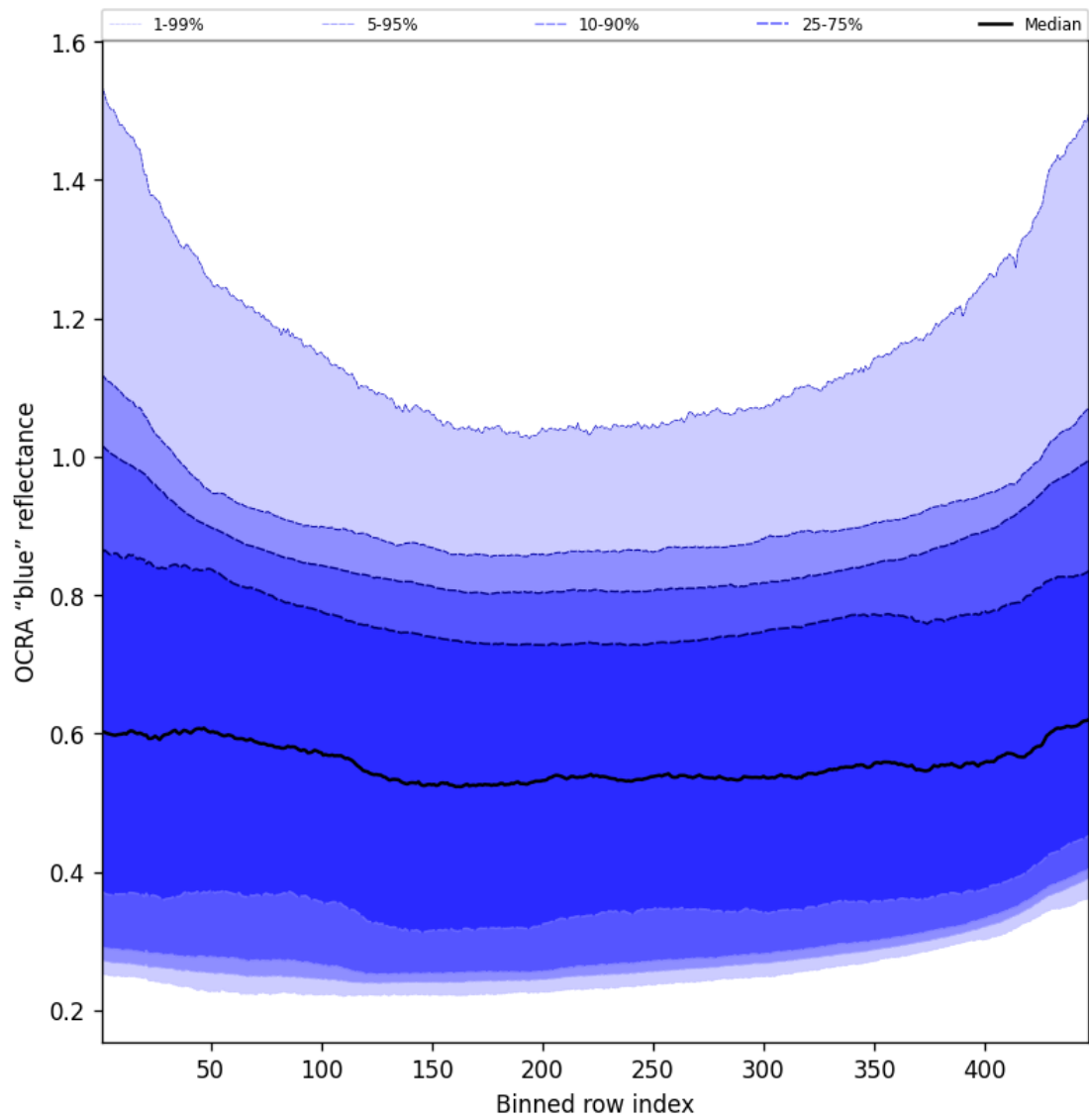


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-04-02 to 2025-04-03

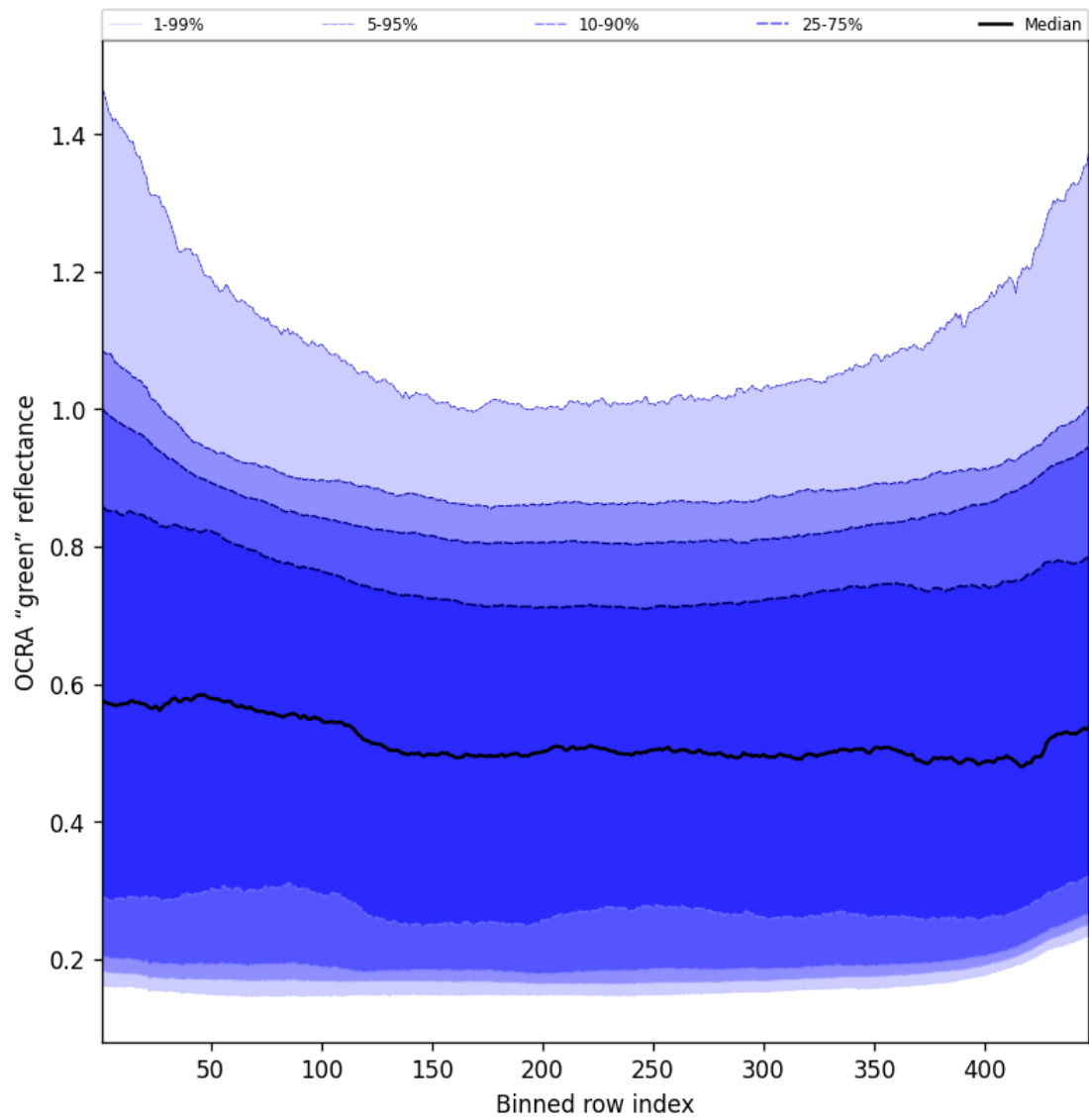


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-04-02 to 2025-04-03

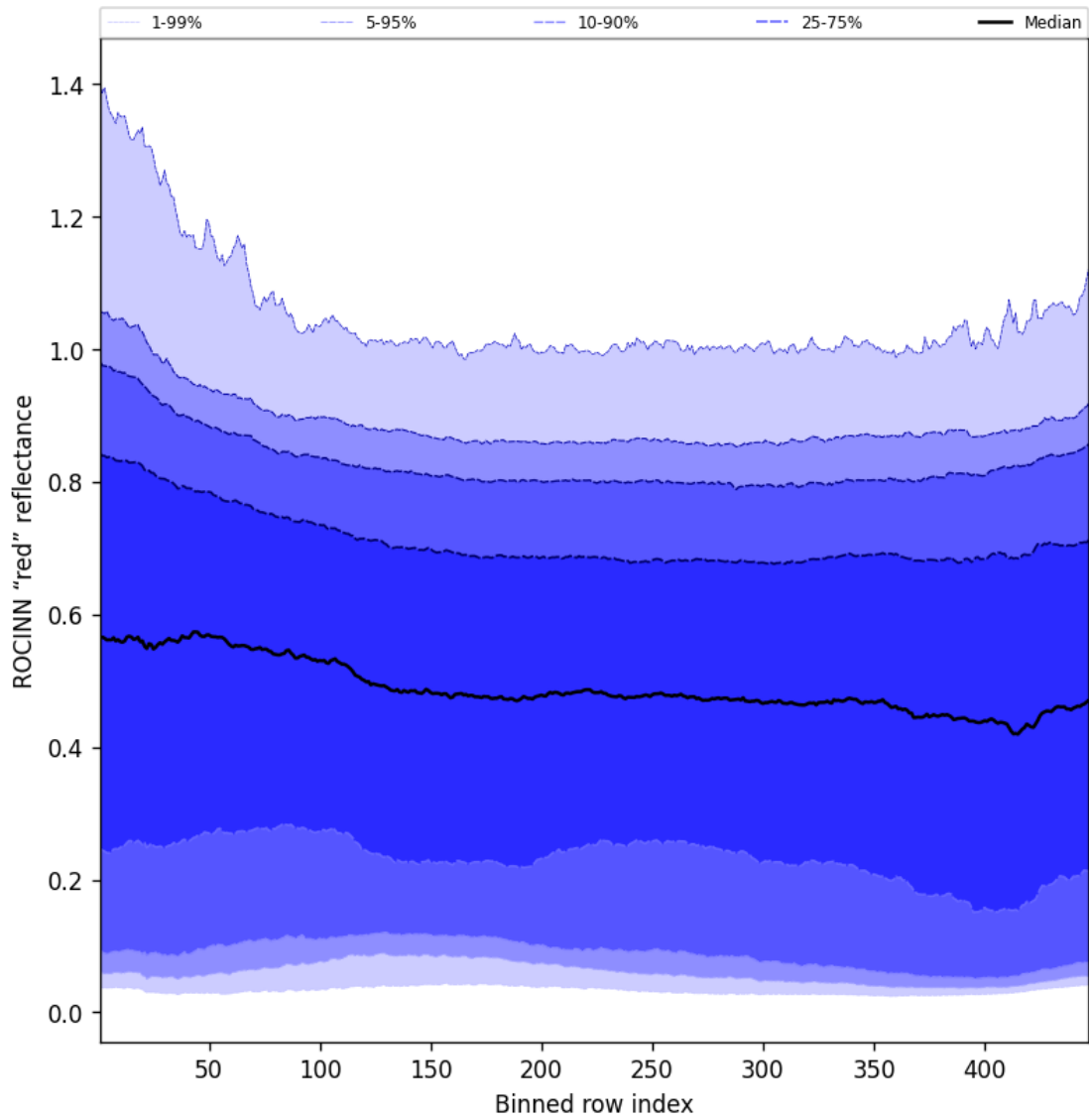


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-04-02 to 2025-04-03

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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