

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-13 (01:30)

1 Short Introduction

1.1 The list of parameters

You may want to keep the list given in table 1 at hand when viewing the results.

2 Definitions

The averages shown here are *unweighed* averages:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

with N the number of observations in the dataset.

The spread of the measurements is indicated with the variance $V(x)$, or rather the standard deviation $\sigma(x) = \sqrt{V(x)}$.

$$V(x) = \frac{1}{N-1} \sum_{i=1}^N (x_i - \bar{x})^2 \quad (2)$$

We also report the more robust statistics median, minimum, maximum, various percentiles and inter quartile range.

The median m is the value of parameter x for which half of the observations of x is smaller than m :

$$P(x \leq m) = P(x \geq m) = \int_{-\infty}^m f(x) dx = \frac{1}{2} \quad (3)$$

with $f(x)$ the probability density function.

The median is a special case of a percentile. Instead of 1/2 in equation 3, other threshold values can be used. We report results for 1 %, 5 %, 10 %, 15.9 %, 25 %, 75 %, 84.1 %, 90 %, 95 % and 99 %. The inter quartile range is the difference between the 75 % and 25 % percentiles. Similarly the minimum and maximum values correspond to the 0 % and 100 % percentiles respectively.

For normally distributed parameters the mean and median are the same, while the $\mu \pm \sigma$ values and the 15.9 % and 84.1 % percentiles coincide.

To get a measure for the relation of one variable $x_{(k)}$ with another $x_{(l)}$, we calculate the covariance matrix C_{kl} .

$$C_{kl} = C(x_{(k)}, x_{(l)}) = \frac{1}{N-1} \sum_{i=1}^N (x_{(k),i} - \bar{x}_{(k)})(x_{(l),i} - \bar{x}_{(l)}) \quad (4)$$

Rather than a dimensionally dependent covariance, it is often easier to interpret a correlation matrix R_{kl} , a matrix of Pearson's r coefficients:

$$R_{kl} = R(x_{(k)}, x_{(l)}) = \frac{C_{kl}}{\sqrt{C_{kk}C_{ll}}} = \frac{C_{kl}}{\sqrt{V(x_{(k)})V(x_{(l)})}} \quad (5)$$

The diagonal elements of the covariance matrix are the variances of the elements, $V(x_{(k)}) = C_{kk}$ and obviously $R_{kk} = 1$.

Table 1: Parameterlist and basic statistics for the analysis

Variable	mean $\pm \sigma$	Count	Mode	IQR	Median	Minimum	Maximum
qa value [1]	0.599 ± 0.391	19933537	5.000×10^{-3}	0.740	0.770	0.0	1.000
cloud fraction [1]	0.535 ± 0.345	19933537	0.995	0.722	0.472	1.482×10^{-3}	1.000
cloud top height [m]	$(0.394 \pm 0.267) \times 10^4$	19933537	1.575×10^3	3.636×10^3	3.311×10^3	0.0	2.000×10^4
cloud optical thickness [1]	17.0 ± 31.4	19933537	9.34	9.15	8.77	1.000	250
cloud fraction crb [1]	0.534 ± 0.345	19933537	0.995	0.721	0.472	2.205×10^{-3}	1.000
cloud height crb [m]	$(0.308 \pm 0.230) \times 10^4$	19933537	975	3.171×10^3	2.590×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.594 ± 0.220	19933537	0.995	0.283	0.572	0.0	1.000
surface albedo fitted [1]	0.272 ± 0.328	19933537	2.500×10^{-2}	0.536	5.422×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.260 ± 0.316	19933537	1.500×10^{-2}	0.535	4.516×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.455 \pm 12.156) \times 10^{-4}$	19933537	5.000×10^{-5}	7.418×10^{-4}	4.043×10^{-4}	1.014×10^{-6}	1.17
fitted root mean square crb [1]	$(5.535 \pm 12.389) \times 10^{-4}$	19933537	5.000×10^{-5}	6.510×10^{-4}	2.865×10^{-4}	1.302×10^{-6}	1.31
wavelength shift [nm]	$(7.499 \pm 6.842) \times 10^{-3}$	19933537	9.000×10^{-4}	9.378×10^{-3}	6.976×10^{-3}	-0.133	0.379
cloud fraction apriori [1]	0.542 ± 0.349	19933537	0.995	0.767	0.484	0.0	1.000
reflectance blue ocra [1]	0.579 ± 0.238	19933537	0.255	0.408	0.562	0.132	2.03
reflectance green ocra [1]	0.528 ± 0.264	19933537	0.175	0.480	0.520	7.610×10^{-2}	1.97
reflectance continuum aband [1]	0.478 ± 0.285	19933537	4.500×10^{-2}	0.494	0.490	1.164×10^{-2}	5.37

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	0.190	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.536×10^{-2}	6.522×10^{-2}	9.939×10^{-2}	0.143	0.219	0.942	1.000	1.000	1.000	1.000
cloud top height [m]	302	804	1.121×10^3	1.408×10^3	1.831×10^3	5.467×10^3	6.727×10^3	7.817×10^3	9.150×10^3	1.154×10^4
cloud optical thickness [1]	1.000	2.52	3.67	4.54	5.45	14.6	21.6	32.1	54.6	250
cloud fraction crb [1]	2.510×10^{-2}	6.458×10^{-2}	9.908×10^{-2}	0.143	0.219	0.941	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	311	614	864	1.226×10^3	4.397×10^3	5.446×10^3	6.436×10^3	7.705×10^3	9.588×10^3
cloud albedo crb [1]	0.0	0.219	0.339	0.409	0.461	0.744	0.839	0.914	0.997	1.000
surface albedo fitted [1]	0.0	9.215×10^{-3}	1.429×10^{-2}	1.881×10^{-2}	2.540×10^{-2}	0.562	0.752	0.831	0.908	0.994
surface albedo fitted crb [1]	2.989×10^{-4}	7.002×10^{-3}	1.067×10^{-2}	1.424×10^{-2}	1.975×10^{-2}	0.555	0.718	0.787	0.861	0.948
fitted root mean square [1]	1.607×10^{-5}	3.067×10^{-5}	4.819×10^{-5}	7.575×10^{-5}	1.333×10^{-4}	8.752×10^{-4}	1.194×10^{-3}	1.538×10^{-3}	2.061×10^{-3}	3.247×10^{-3}
fitted root mean square crb [1]	8.932×10^{-6}	2.056×10^{-5}	3.512×10^{-5}	5.436×10^{-5}	9.321×10^{-5}	7.442×10^{-4}	1.090×10^{-3}	1.456×10^{-3}	1.993×10^{-3}	3.060×10^{-3}
wavelength shift [nm]	-8.678×10^{-3}	-1.217×10^{-3}	5.196×10^{-5}	9.856×10^{-4}	2.510×10^{-3}	1.189×10^{-2}	1.420×10^{-2}	1.624×10^{-2}	1.902×10^{-2}	2.535×10^{-2}
cloud fraction apriori [1]	2.748×10^{-2}	6.368×10^{-2}	9.628×10^{-2}	0.140	0.220	0.987	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.236	0.258	0.281	0.311	0.363	0.772	0.828	0.875	0.944	1.19
reflectance green ocra [1]	0.153	0.172	0.191	0.218	0.273	0.753	0.815	0.864	0.927	1.12
reflectance continuum aband [1]	2.941×10^{-2}	5.199×10^{-2}	8.283×10^{-2}	0.125	0.222	0.716	0.785	0.837	0.902	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]	0.517 ± 0.399	9689882	0.900	0.650	0.0	1.000	0.0	0.900
cloud fraction [1]	0.494 ± 0.338	9689882	0.649	0.409	1.482×10^{-3}	1.000	0.195	0.844
cloud top height [m]	$(0.366 \pm 0.255) \times 10^4$	9689882	3.142×10^3	3.099×10^3	0.0	2.000×10^4	1.758×10^3	4.901×10^3
cloud optical thickness [1]	17.5 ± 36.2	9689882	7.79	8.15	1.000	250	5.38	13.2
cloud fraction crb [1]	0.494 ± 0.338	9689882	0.647	0.410	8.101×10^{-3}	1.000	0.196	0.842
cloud height crb [m]	$(0.280 \pm 0.212) \times 10^4$	9689882	2.892×10^3	2.404×10^3	0.0	2.000×10^4	1.125×10^3	4.017×10^3
cloud albedo crb [1]	0.614 ± 0.241	9689882	0.338	0.597	0.0	1.000	0.463	0.801
surface albedo fitted [1]	0.333 ± 0.319	9689882	0.605	0.219	0.0	1.000	3.712×10^{-2}	0.643
surface albedo fitted crb [1]	0.318 ± 0.302	9689882	0.596	0.217	0.0	1.000	2.991×10^{-2}	0.626
fitted root mean square [1]	$(6.907 \pm 11.889) \times 10^{-4}$	9689882	7.690×10^{-4}	4.382×10^{-4}	1.605×10^{-6}	0.523	1.470×10^{-4}	9.160×10^{-4}
fitted root mean square crb [1]	$(5.469 \pm 8.895) \times 10^{-4}$	9689882	6.235×10^{-4}	2.757×10^{-4}	1.304×10^{-6}	0.684	8.776×10^{-5}	7.113×10^{-4}
wavelength shift [nm]	$(7.685 \pm 6.985) \times 10^{-3}$	9689882	9.805×10^{-3}	7.107×10^{-3}	-5.126×10^{-2}	0.370	2.440×10^{-3}	1.224×10^{-2}
cloud fraction apriori [1]	0.506 ± 0.342	9689882	0.679	0.427	0.0	1.000	0.200	0.879
reflectance blue ocra [1]	0.591 ± 0.245	9689882	0.412	0.587	0.132	2.03	0.366	0.778
reflectance green ocra [1]	0.543 ± 0.268	9689882	0.483	0.552	7.610×10^{-2}	1.97	0.280	0.763
reflectance continuum aband [1]	0.496 ± 0.285	9689882	0.485	0.517	1.210×10^{-2}	3.21	0.244	0.729

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]	0.676 ± 0.366	10243655	0.570	0.880	0.0	1.000	0.400	0.970
cloud fraction [1]	0.573 ± 0.347	10243655	0.741	0.547	7.859×10^{-3}	1.000	0.248	0.989
cloud top height [m]	$(0.419 \pm 0.275) \times 10^4$	10243655	4.102×10^3	3.555×10^3	0.0	2.000×10^4	1.915×10^3	6.017×10^3
cloud optical thickness [1]	16.5 ± 26.1	10243655	10.4	9.40	1.000	250	5.52	16.0
cloud fraction crb [1]	0.573 ± 0.347	10243655	0.741	0.546	2.205×10^{-3}	1.000	0.247	0.988
cloud height crb [m]	$(0.335 \pm 0.243) \times 10^4$	10243655	3.543×10^3	2.784×10^3	0.0	2.000×10^4	1.333×10^3	4.876×10^3
cloud albedo crb [1]	0.575 ± 0.196	10243655	0.236	0.555	0.0	1.000	0.460	0.696
surface albedo fitted [1]	0.215 ± 0.327	10243655	0.241	3.578×10^{-2}	0.0	1.000	2.003×10^{-2}	0.261
surface albedo fitted crb [1]	0.205 ± 0.319	10243655	0.241	2.874×10^{-2}	0.0	1.000	1.506×10^{-2}	0.256
fitted root mean square [1]	$(6.027 \pm 12.388) \times 10^{-4}$	10243655	7.132×10^{-4}	3.726×10^{-4}	1.014×10^{-6}	1.17	1.221×10^{-4}	8.353×10^{-4}
fitted root mean square crb [1]	$(5.598 \pm 14.961) \times 10^{-4}$	10243655	6.757×10^{-4}	2.976×10^{-4}	1.302×10^{-6}	1.31	9.834×10^{-5}	7.740×10^{-4}
wavelength shift [nm]	$(7.324 \pm 6.699) \times 10^{-3}$	10243655	8.998×10^{-3}	6.862×10^{-3}	-0.133	0.379	2.573×10^{-3}	1.157×10^{-2}
cloud fraction apriori [1]	0.576 ± 0.352	10243655	0.757	0.553	0.0	1.000	0.243	1.000
reflectance blue ocra [1]	0.567 ± 0.230	10243655	0.403	0.543	0.152	2.00	0.361	0.765
reflectance green ocra [1]	0.514 ± 0.259	10243655	0.473	0.497	8.186×10^{-2}	1.90	0.267	0.740
reflectance continuum aband [1]	0.461 ± 0.284	10243655	0.497	0.465	1.164×10^{-2}	5.37	0.200	0.697

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]	0.668 ± 0.370	13441776	0.570	0.890	0.0	1.000	0.400	0.970
cloud fraction [1]	0.555 ± 0.357	13441776	0.776	0.520	6.406×10^{-3}	1.000	0.208	0.984
cloud top height [m]	$(0.348 \pm 0.236) \times 10^4$	13441776	2.954×10^3	2.878×10^3	0.0	2.000×10^4	1.685×10^3	4.639×10^3
cloud optical thickness [1]	17.4 ± 28.3	13441776	9.48	9.72	1.000	250	6.49	16.0
cloud fraction crb [1]	0.554 ± 0.357	13441776	0.776	0.519	2.205×10^{-3}	1.000	0.207	0.983
cloud height crb [m]	$(0.279 \pm 0.213) \times 10^4$	13441776	2.817×10^3	2.260×10^3	0.0	2.000×10^4	1.117×10^3	3.933×10^3
cloud albedo crb [1]	0.564 ± 0.191	13441776	0.224	0.541	0.0	1.000	0.452	0.677
surface albedo fitted [1]	0.131 ± 0.239	13441776	3.693×10^{-2}	3.257×10^{-2}	0.0	1.000	1.958×10^{-2}	5.651×10^{-2}
surface albedo fitted crb [1]	0.121 ± 0.227	13441776	3.235×10^{-2}	2.590×10^{-2}	0.0	1.000	1.486×10^{-2}	4.721×10^{-2}
fitted root mean square [1]	$(5.456 \pm 10.566) \times 10^{-4}$	13441776	6.490×10^{-4}	2.793×10^{-4}	1.014×10^{-6}	0.731	9.080×10^{-5}	7.398×10^{-4}
fitted root mean square crb [1]	$(4.890 \pm 12.038) \times 10^{-4}$	13441776	5.656×10^{-4}	2.141×10^{-4}	1.302×10^{-6}	0.978	7.294×10^{-5}	6.386×10^{-4}
wavelength shift [nm]	$(6.890 \pm 6.985) \times 10^{-3}$	13441776	9.217×10^{-3}	6.107×10^{-3}	-0.133	0.370	1.996×10^{-3}	1.121×10^{-2}
cloud fraction apriori [1]	0.557 ± 0.362	13441776	0.798	0.524	0.0	1.000	0.202	1.000
reflectance blue ocra [1]	0.530 ± 0.219	13441776	0.359	0.495	0.153	1.99	0.340	0.699
reflectance green ocra [1]	0.470 ± 0.245	13441776	0.433	0.438	8.186×10^{-2}	1.88	0.240	0.673
reflectance continuum aband [1]	0.402 ± 0.274	13441776	0.500	0.383	1.164×10^{-2}	2.83	0.136	0.635

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]	0.451 ± 0.401	4937671	0.850	0.580	0.0	1.000	0.0	0.850
cloud fraction [1]	0.492 ± 0.312	4937671	0.509	0.414	1.482×10^{-3}	1.000	0.240	0.748
cloud top height [m]	$(0.529 \pm 0.296) \times 10^4$	4937671	4.292×10^3	5.104×10^3	0.0	2.000×10^4	2.944×10^3	7.236×10^3
cloud optical thickness [1]	13.8 ± 32.7	4937671	6.07	5.88	1.000	250	4.28	10.4
cloud fraction crb [1]	0.493 ± 0.311	4937671	0.508	0.415	8.101×10^{-3}	1.000	0.241	0.749
cloud height crb [m]	$(0.405 \pm 0.250) \times 10^4$	4937671	3.598×10^3	3.788×10^3	0.0	2.000×10^4	2.042×10^3	5.639×10^3
cloud albedo crb [1]	0.649 ± 0.255	4937671	0.358	0.667	0.0	1.000	0.498	0.856
surface albedo fitted [1]	0.579 ± 0.294	4937671	0.578	0.647	0.0	1.000	0.276	0.853
surface albedo fitted crb [1]	0.565 ± 0.279	4937671	0.547	0.639	0.0	1.000	0.275	0.822
fitted root mean square [1]	$(8.457 \pm 12.471) \times 10^{-4}$	4937671	7.395×10^{-4}	6.154×10^{-4}	1.805×10^{-6}	0.325	3.267×10^{-4}	1.066×10^{-3}
fitted root mean square crb [1]	$(6.893 \pm 8.338) \times 10^{-4}$	4937671	7.539×10^{-4}	4.389×10^{-4}	2.690×10^{-6}	0.428	1.739×10^{-4}	9.278×10^{-4}
wavelength shift [nm]	$(8.416 \pm 6.181) \times 10^{-3}$	4937671	8.735×10^{-3}	8.183×10^{-3}	-4.963×10^{-2}	0.175	3.768×10^{-3}	1.250×10^{-2}
cloud fraction apriori [1]	0.507 ± 0.316	4937671	0.538	0.432	0.0	1.000	0.248	0.786
reflectance blue ocra [1]	0.682 ± 0.249	4937671	0.395	0.766	0.132	2.00	0.457	0.852
reflectance green ocra [1]	0.651 ± 0.267	4937671	0.439	0.741	7.610×10^{-2}	1.97	0.409	0.848
reflectance continuum aband [1]	0.641 ± 0.236	4937671	0.372	0.679	1.529×10^{-2}	5.37	0.444	0.817

3 Granule outlines

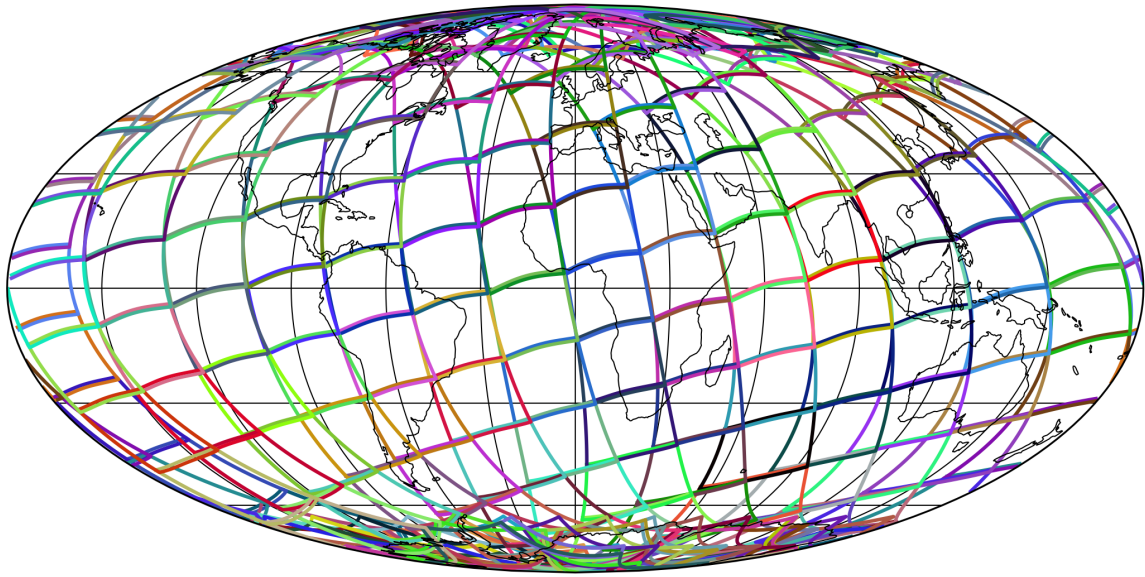


Figure 1: Outline of the granules.

4 Input data monitoring

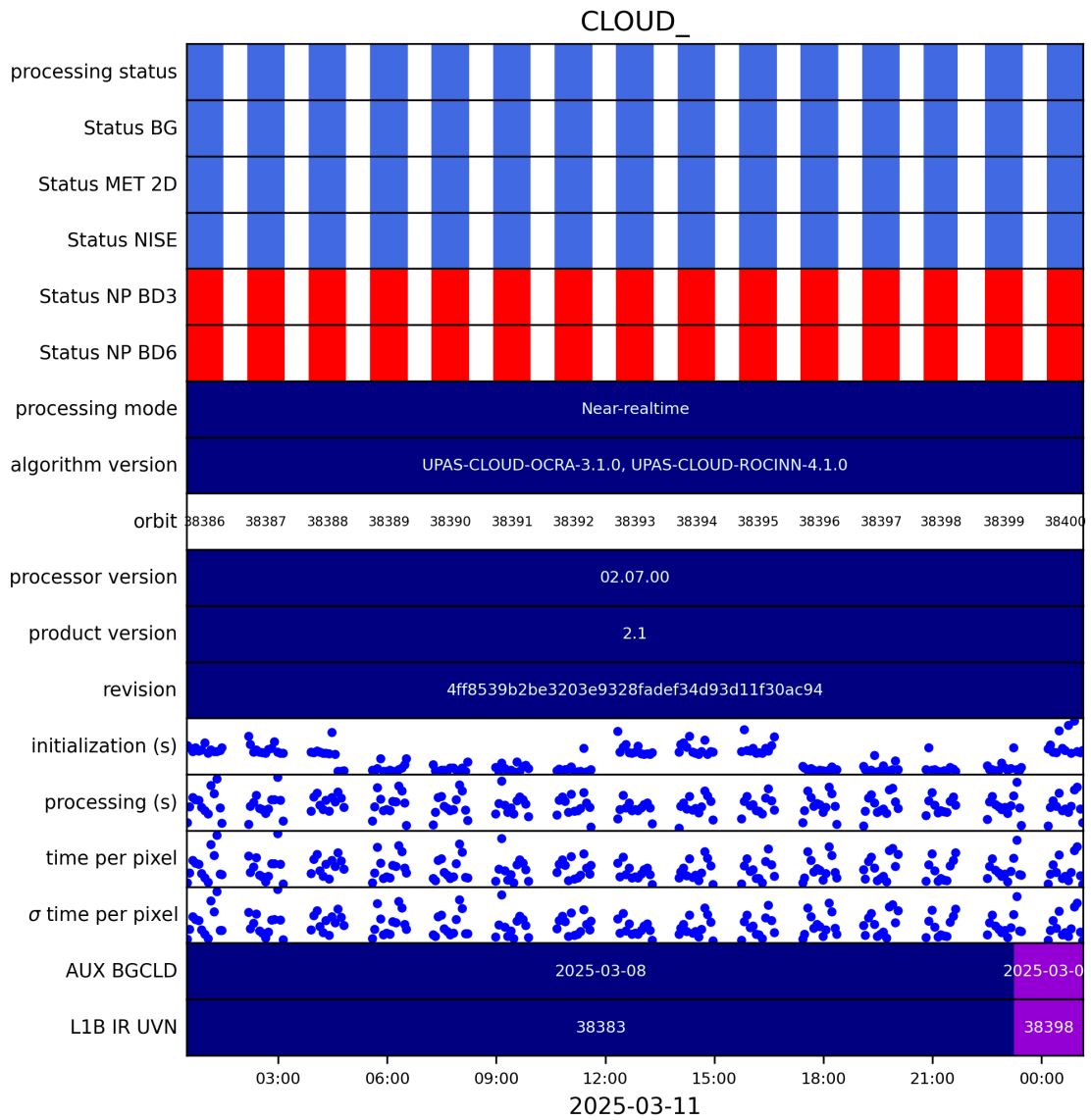


Figure 2: Input data per granule

5 Warnings and errors

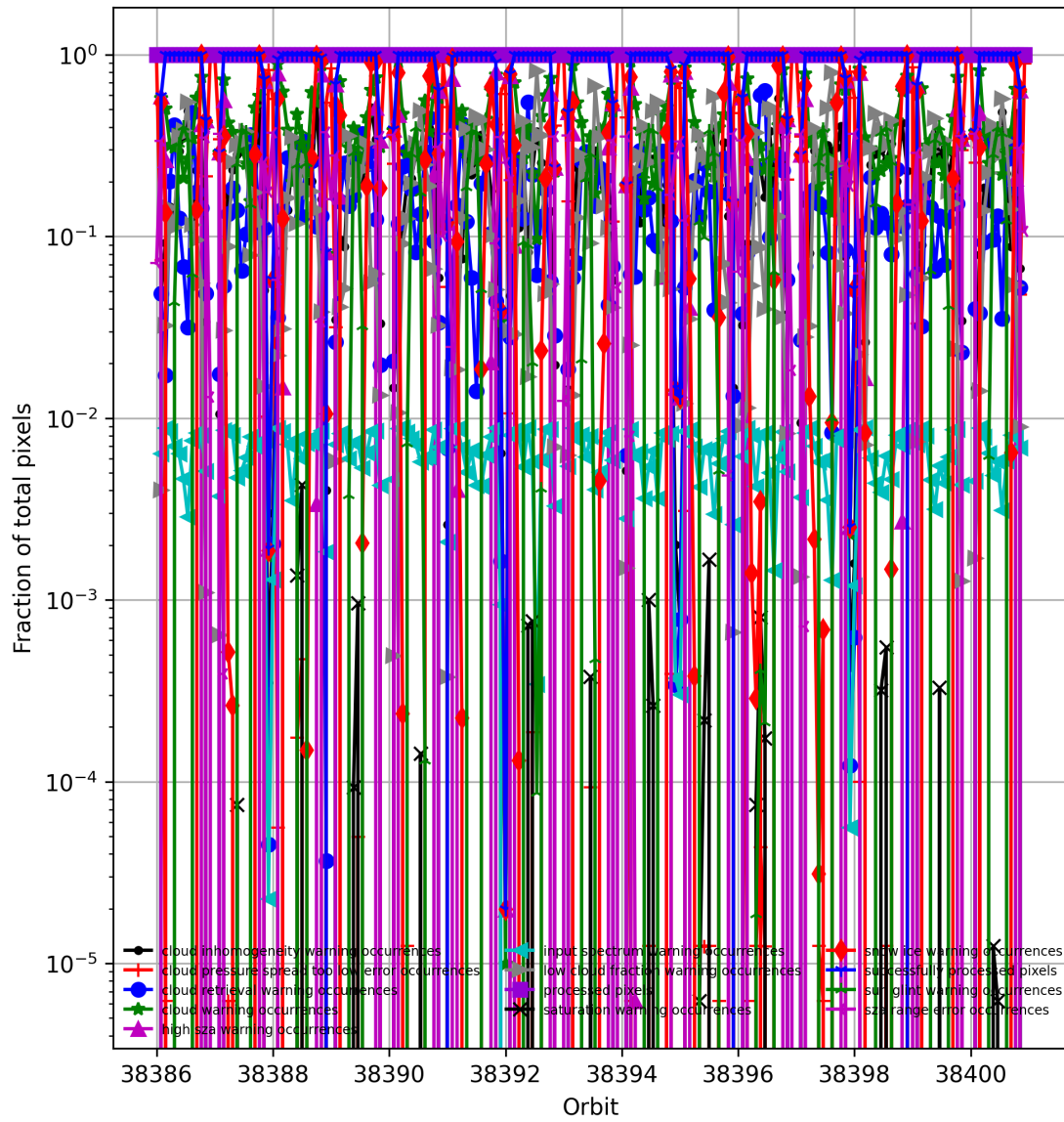


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

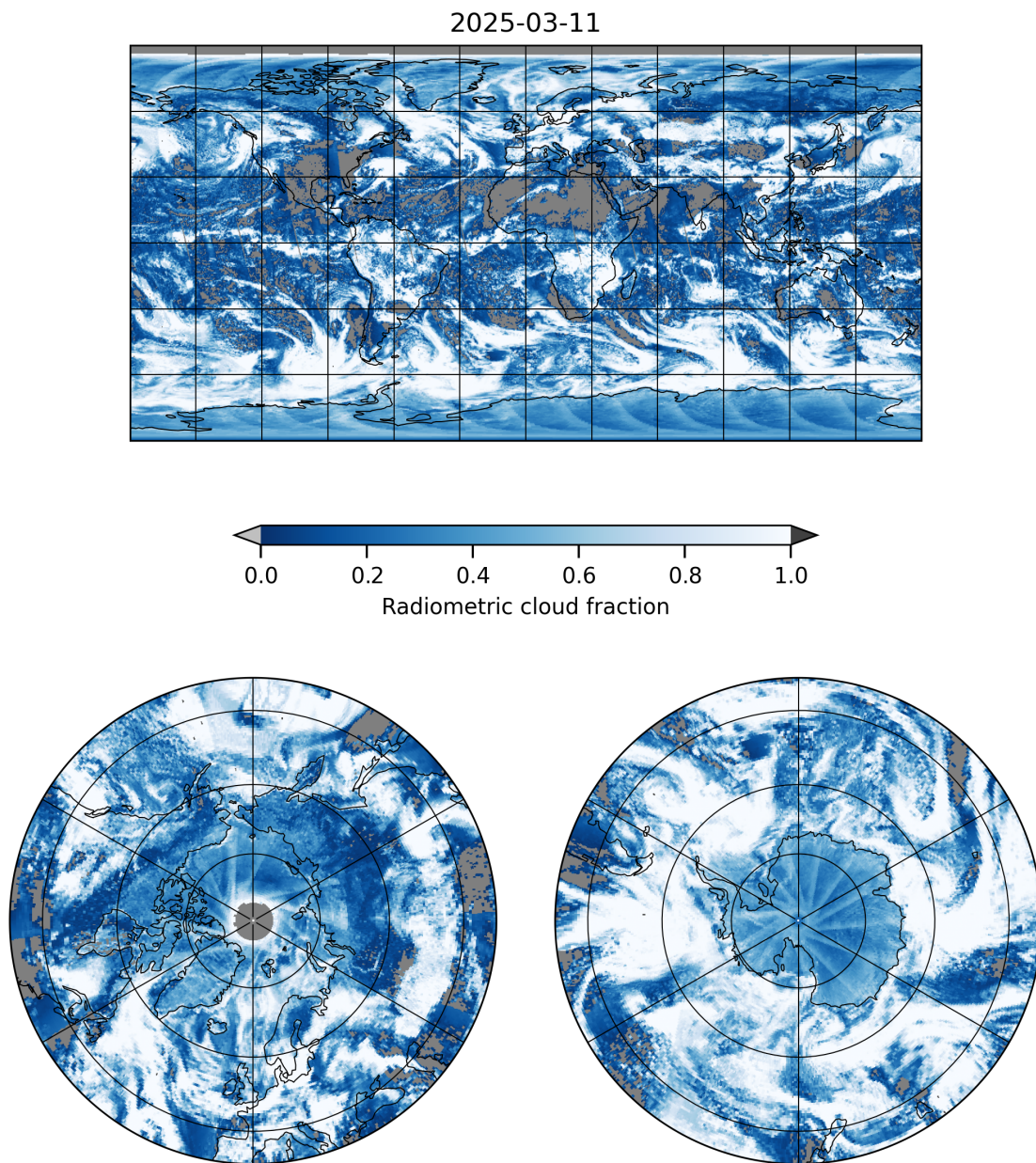


Figure 4: Map of “Radiometric cloud fraction” for 2025-03-11 to 2025-03-12

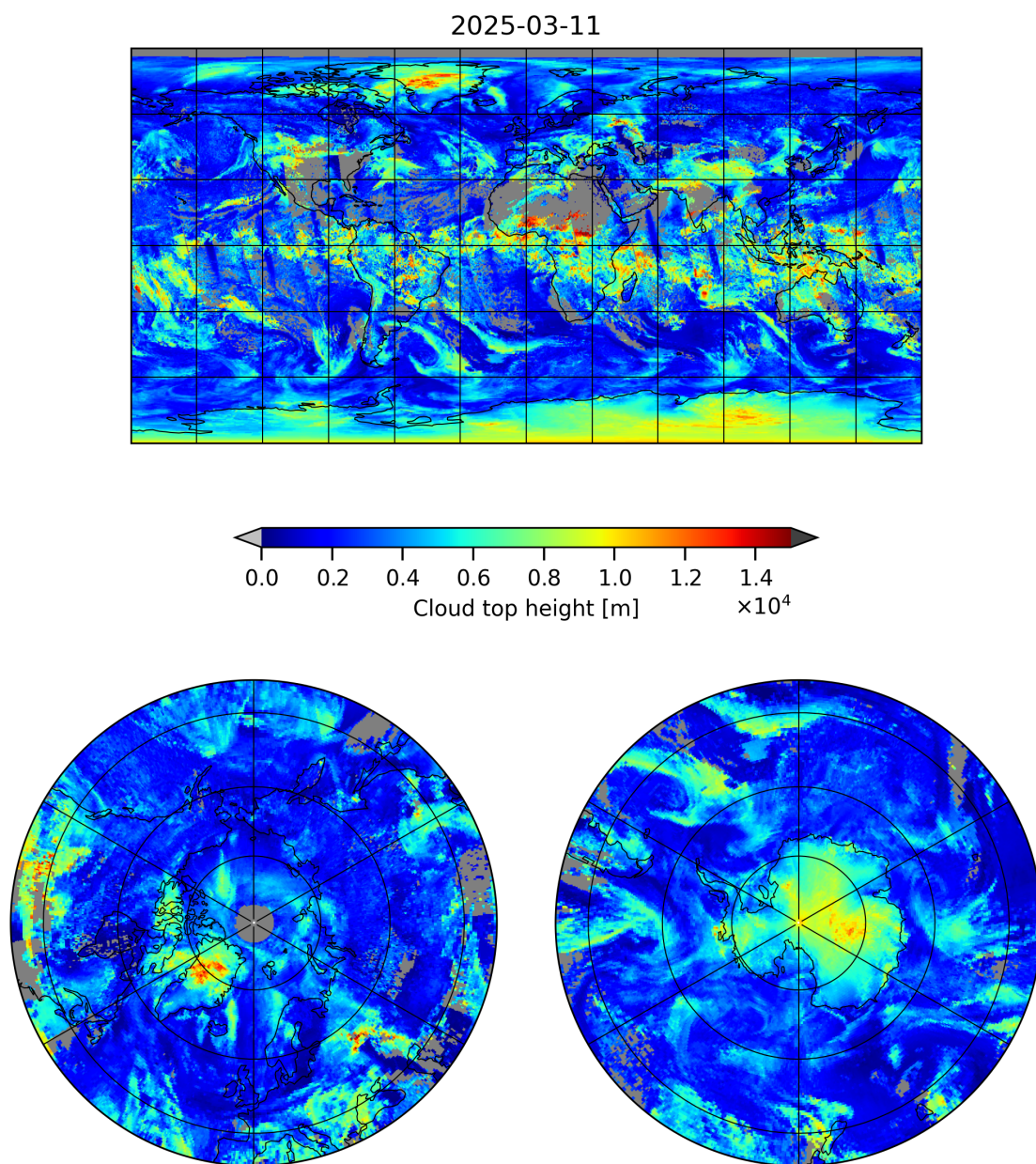


Figure 5: Map of “Cloud top height” for 2025-03-11 to 2025-03-12

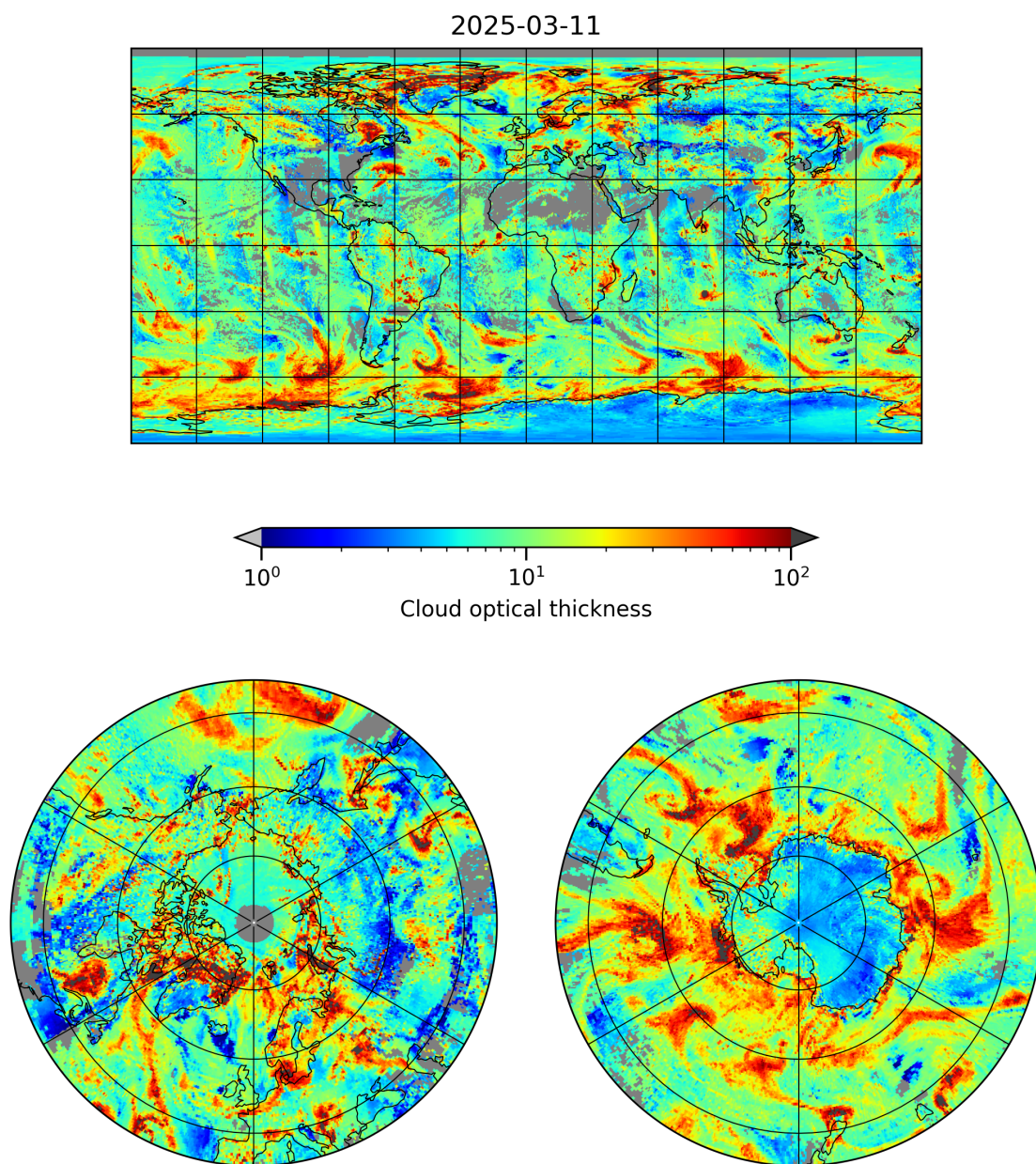


Figure 6: Map of “Cloud optical thickness” for 2025-03-11 to 2025-03-12

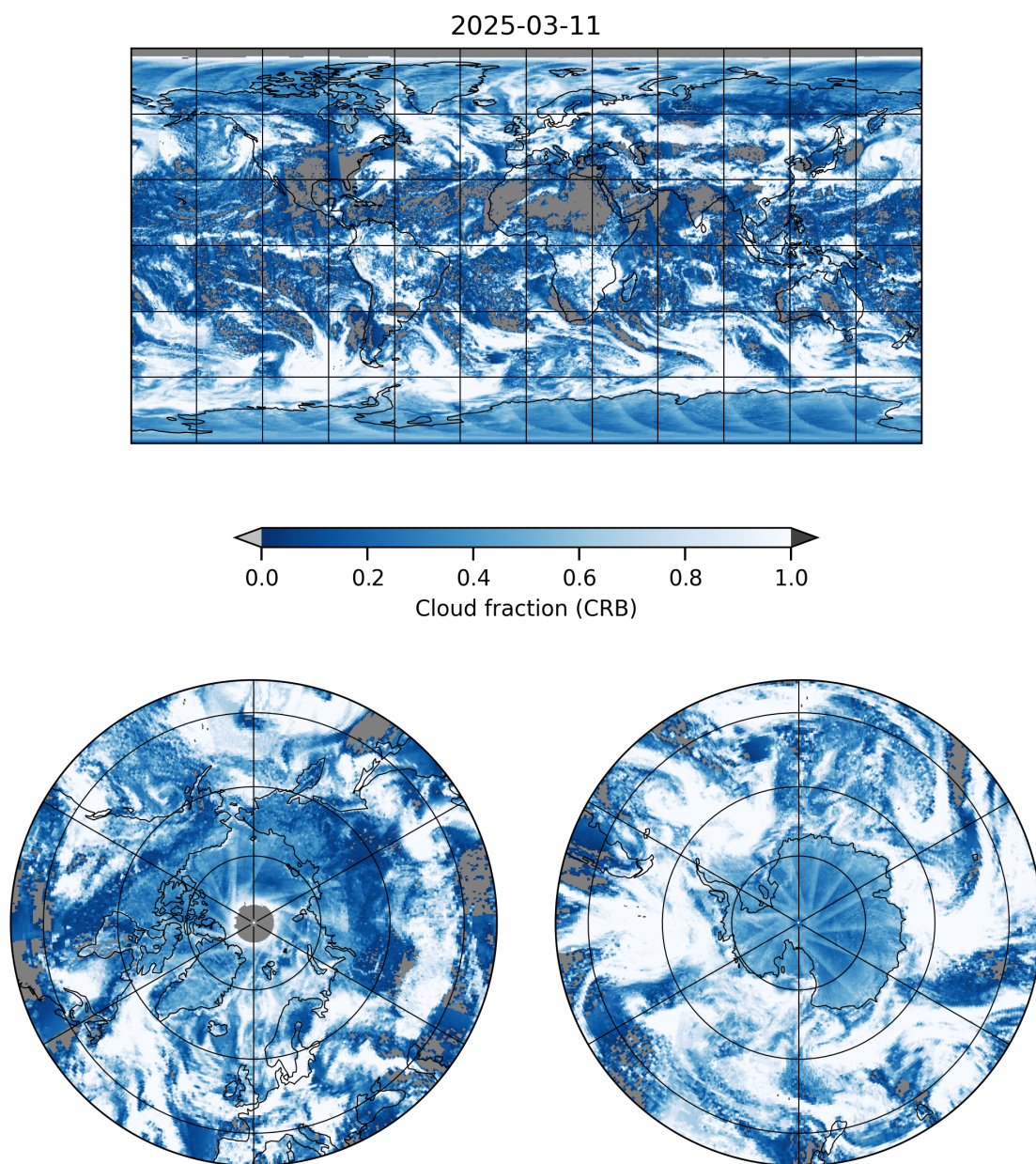


Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-11 to 2025-03-12

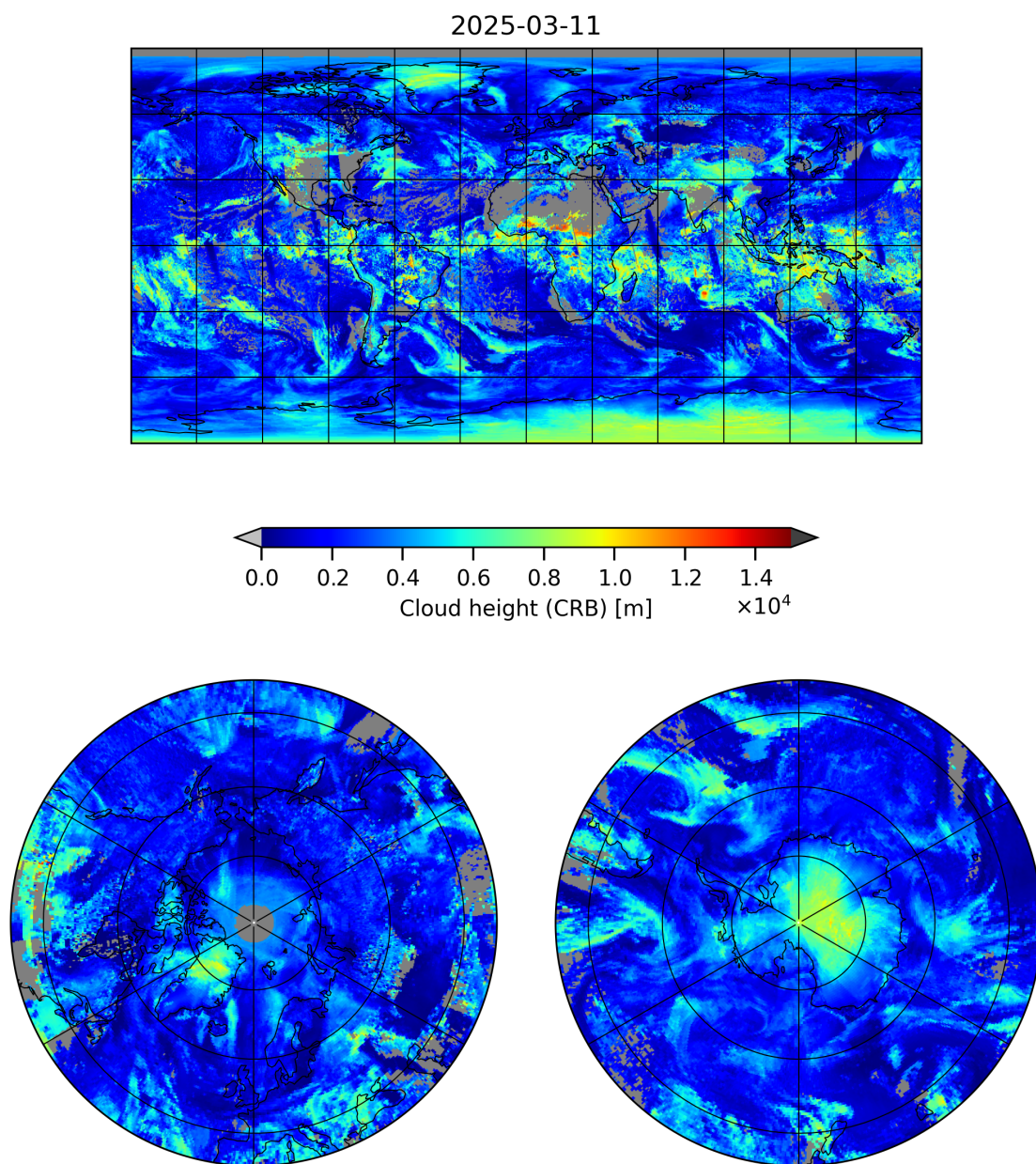


Figure 8: Map of “Cloud height (CRB)” for 2025-03-11 to 2025-03-12

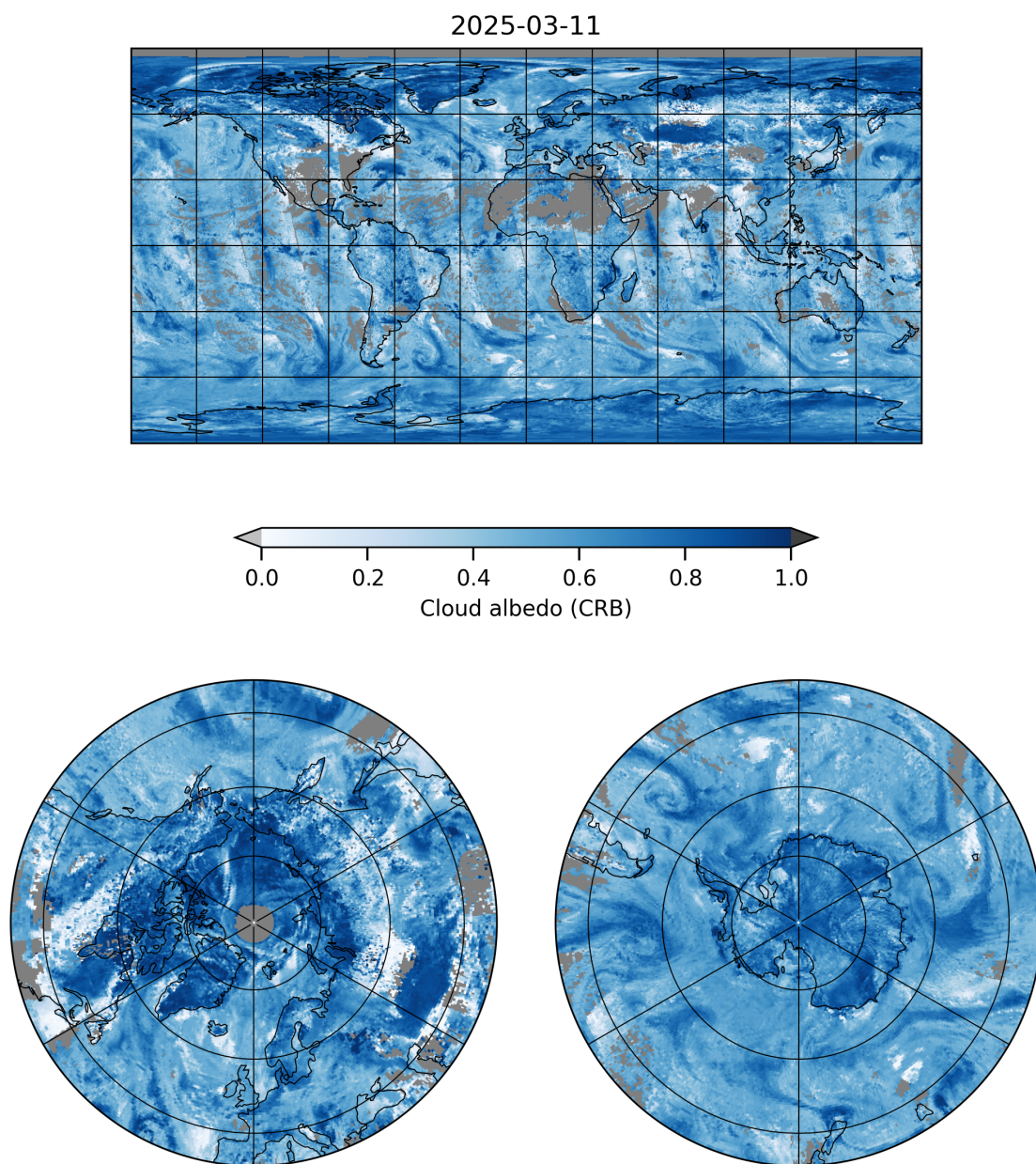


Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-11 to 2025-03-12

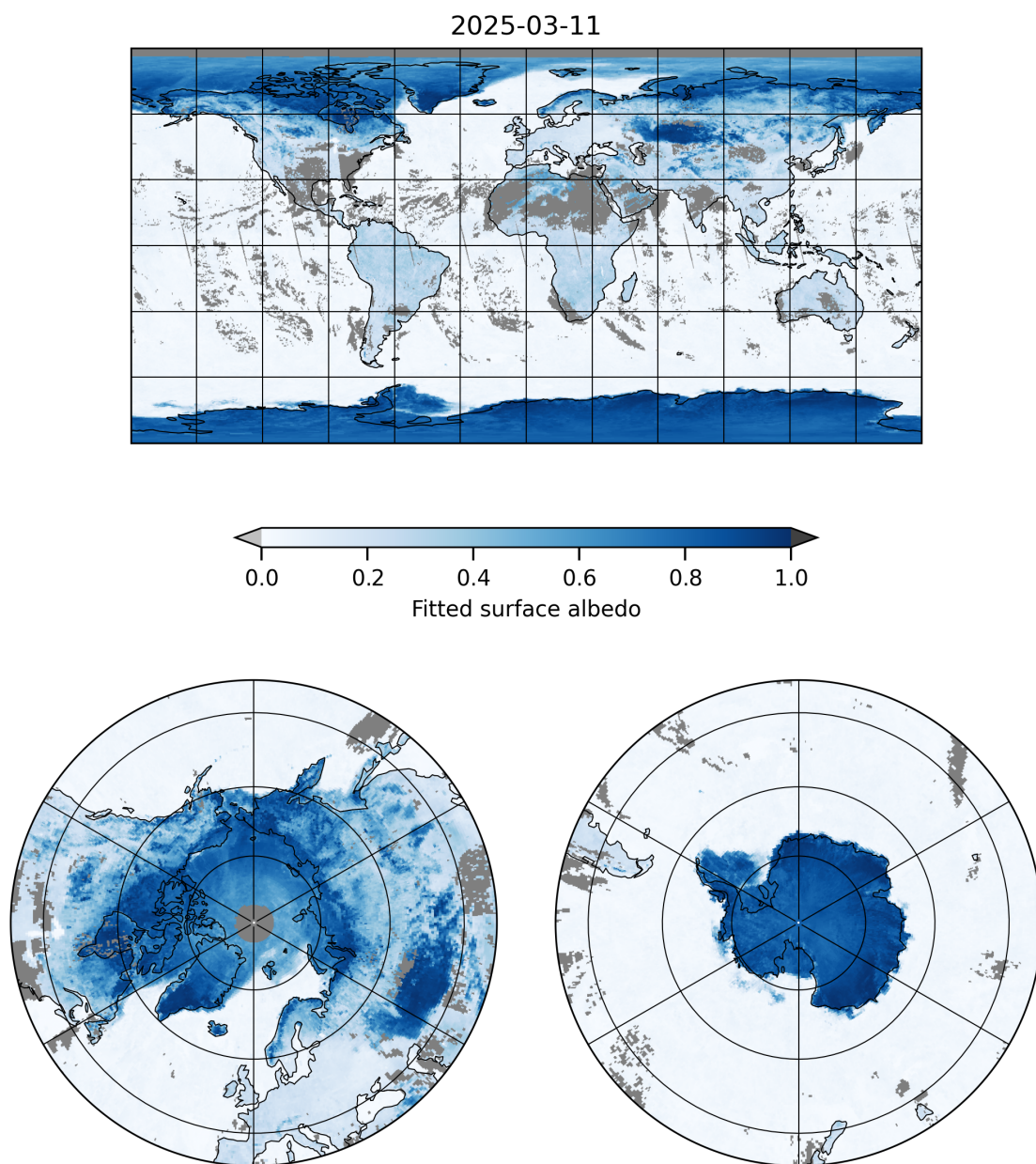


Figure 10: Map of “Fitted surface albedo” for 2025-03-11 to 2025-03-12

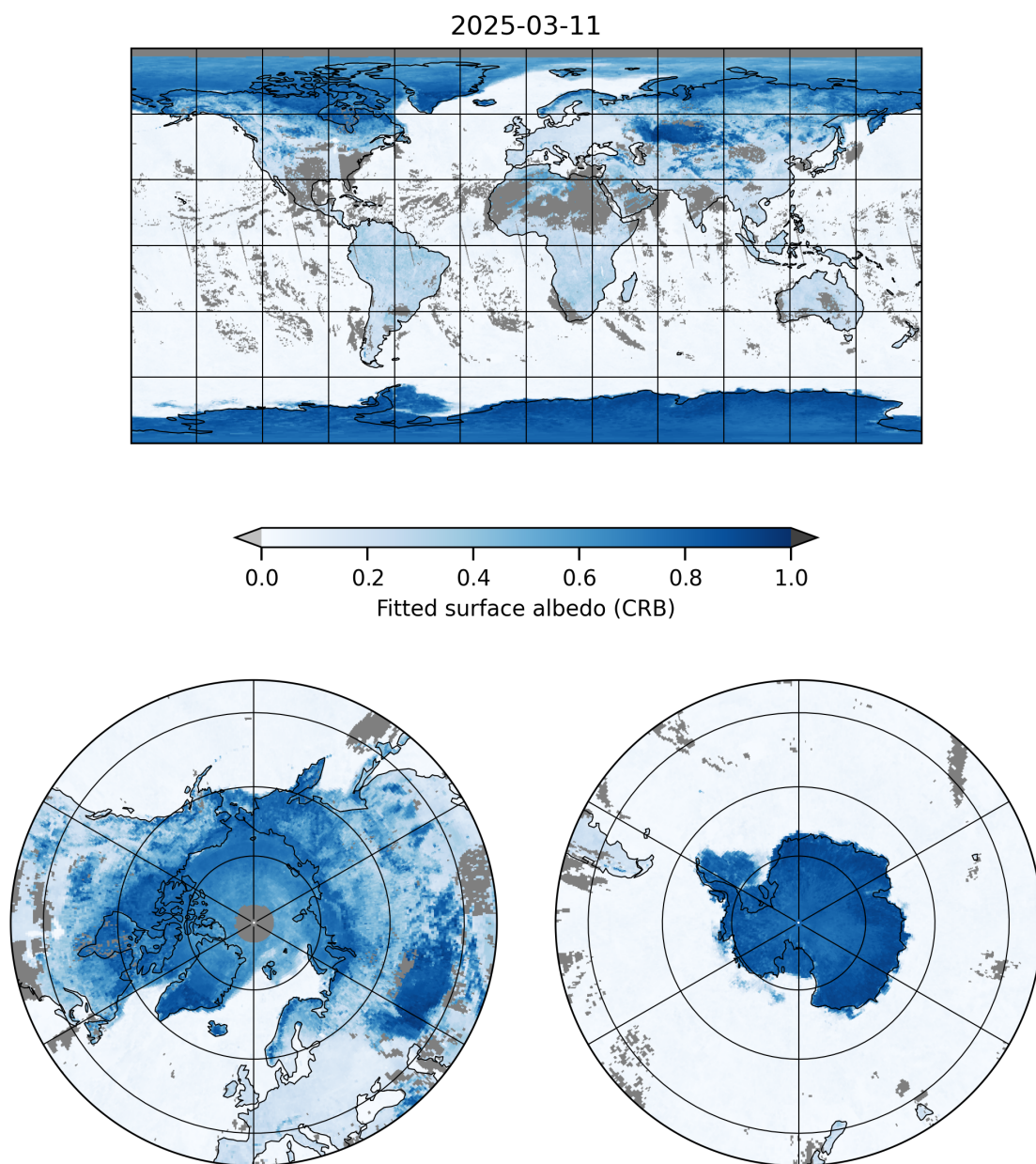


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-11 to 2025-03-12

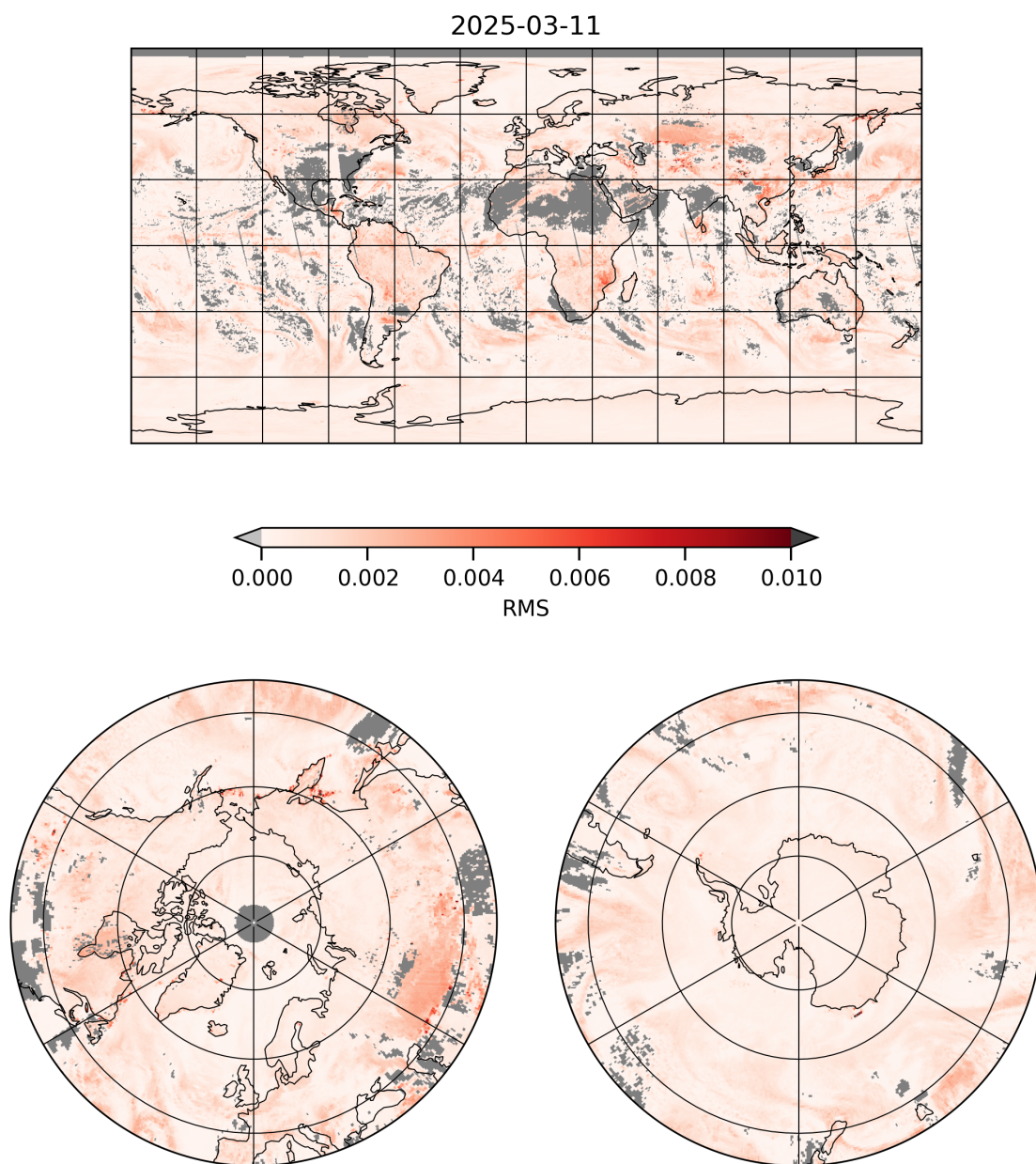


Figure 12: Map of “RMS” for 2025-03-11 to 2025-03-12

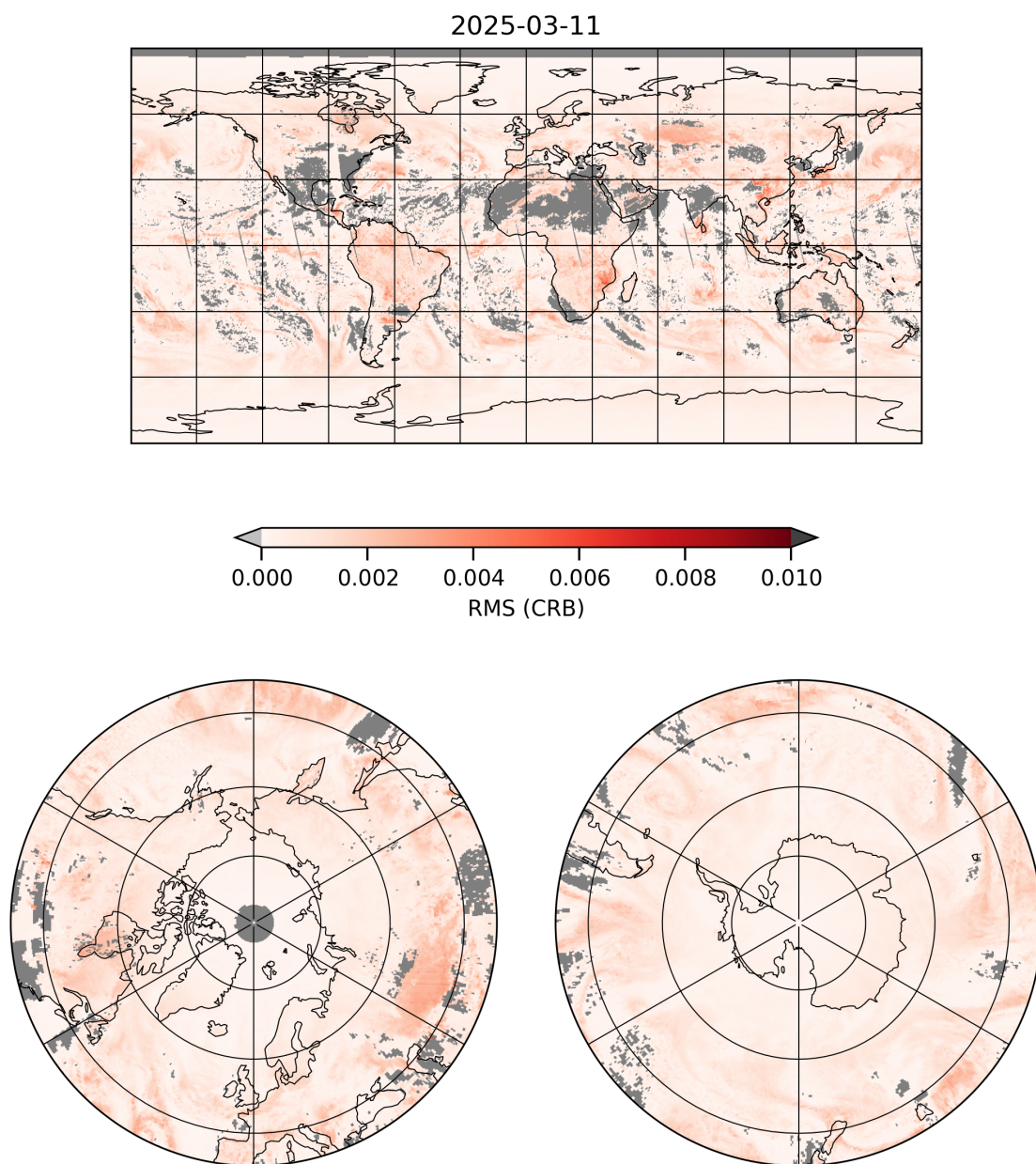


Figure 13: Map of “RMS (CRB)” for 2025-03-11 to 2025-03-12

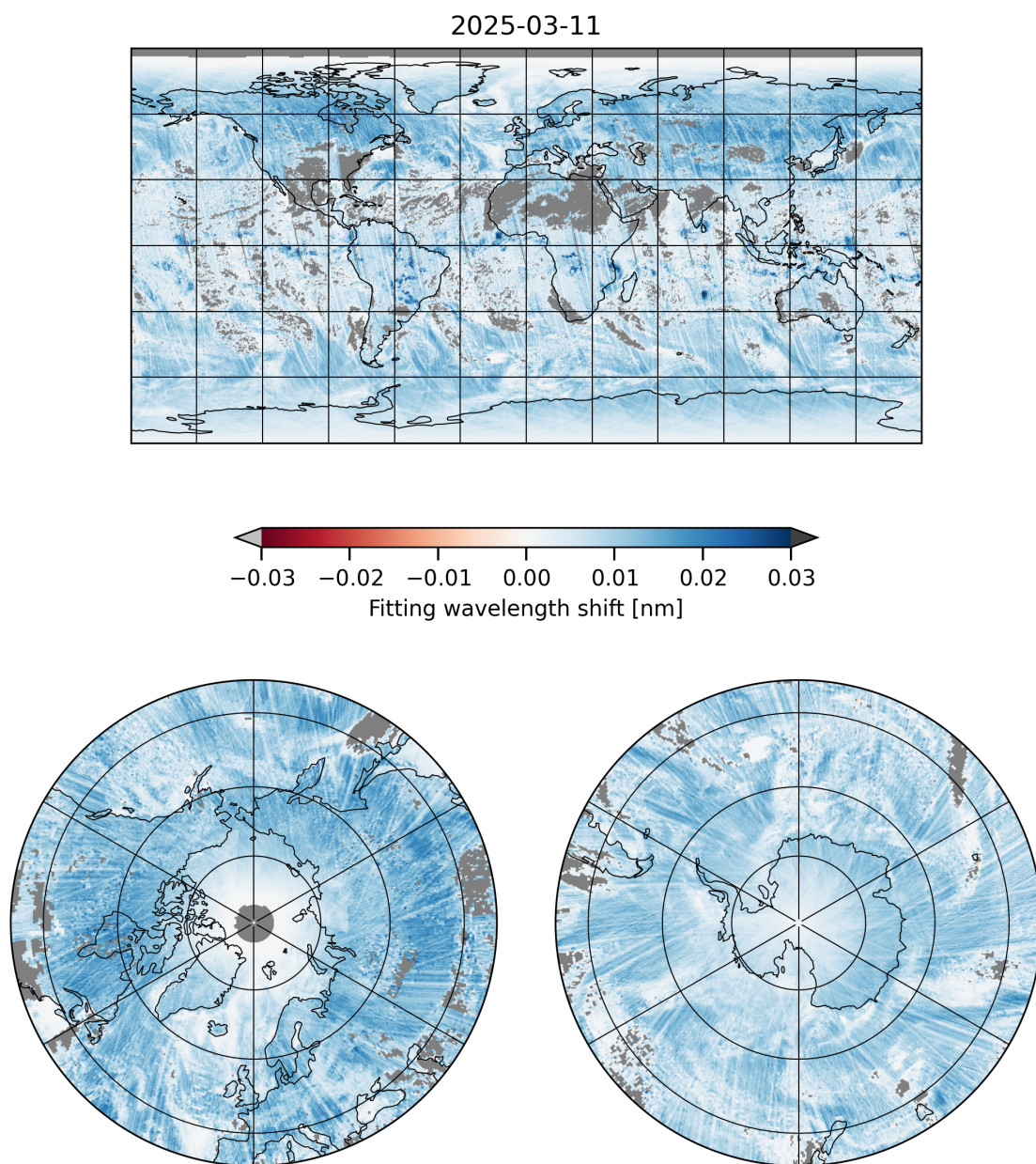


Figure 14: Map of "Fitting wavelength shift" for 2025-03-11 to 2025-03-12

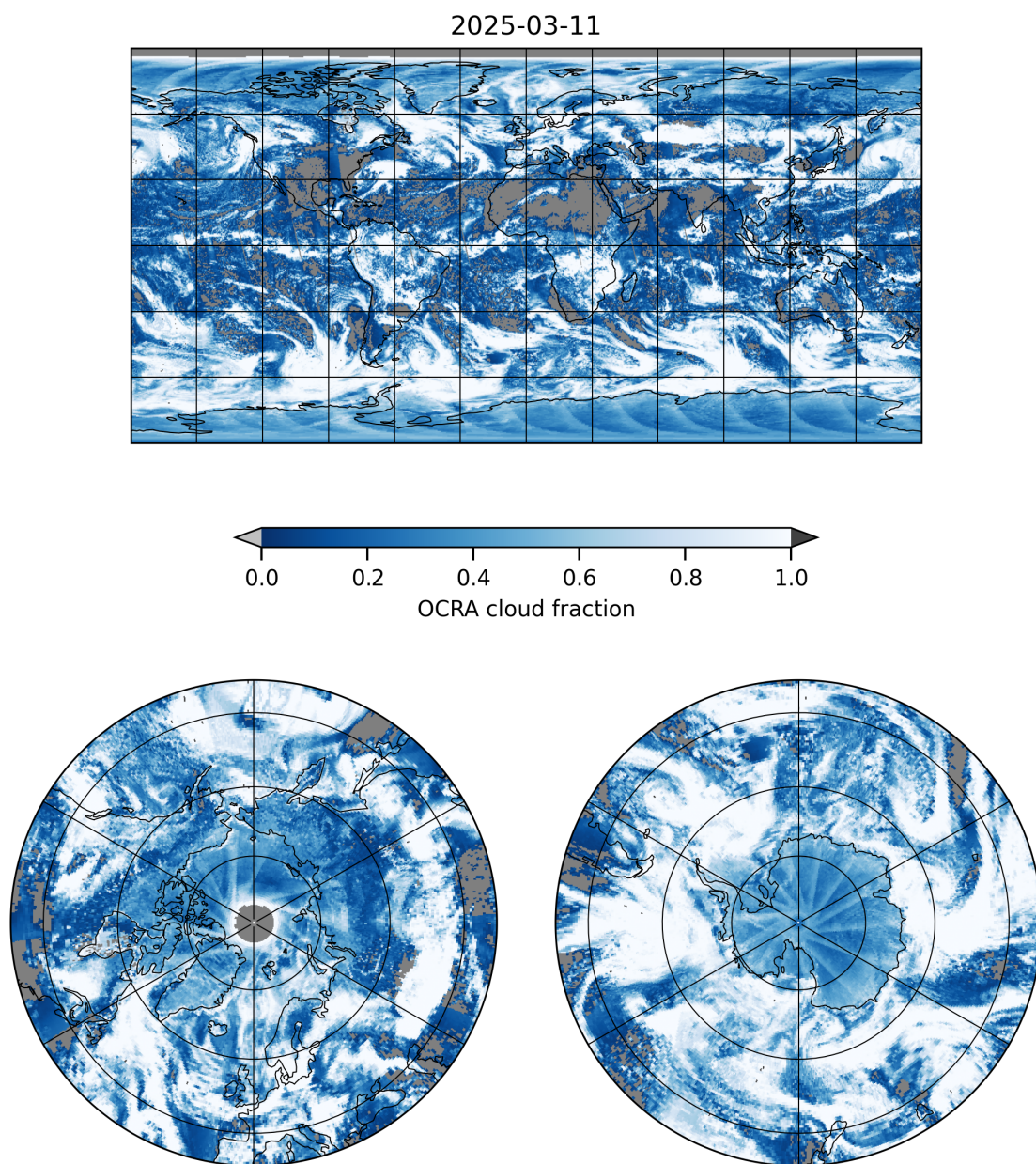


Figure 15: Map of “OCRA cloud fraction” for 2025-03-11 to 2025-03-12

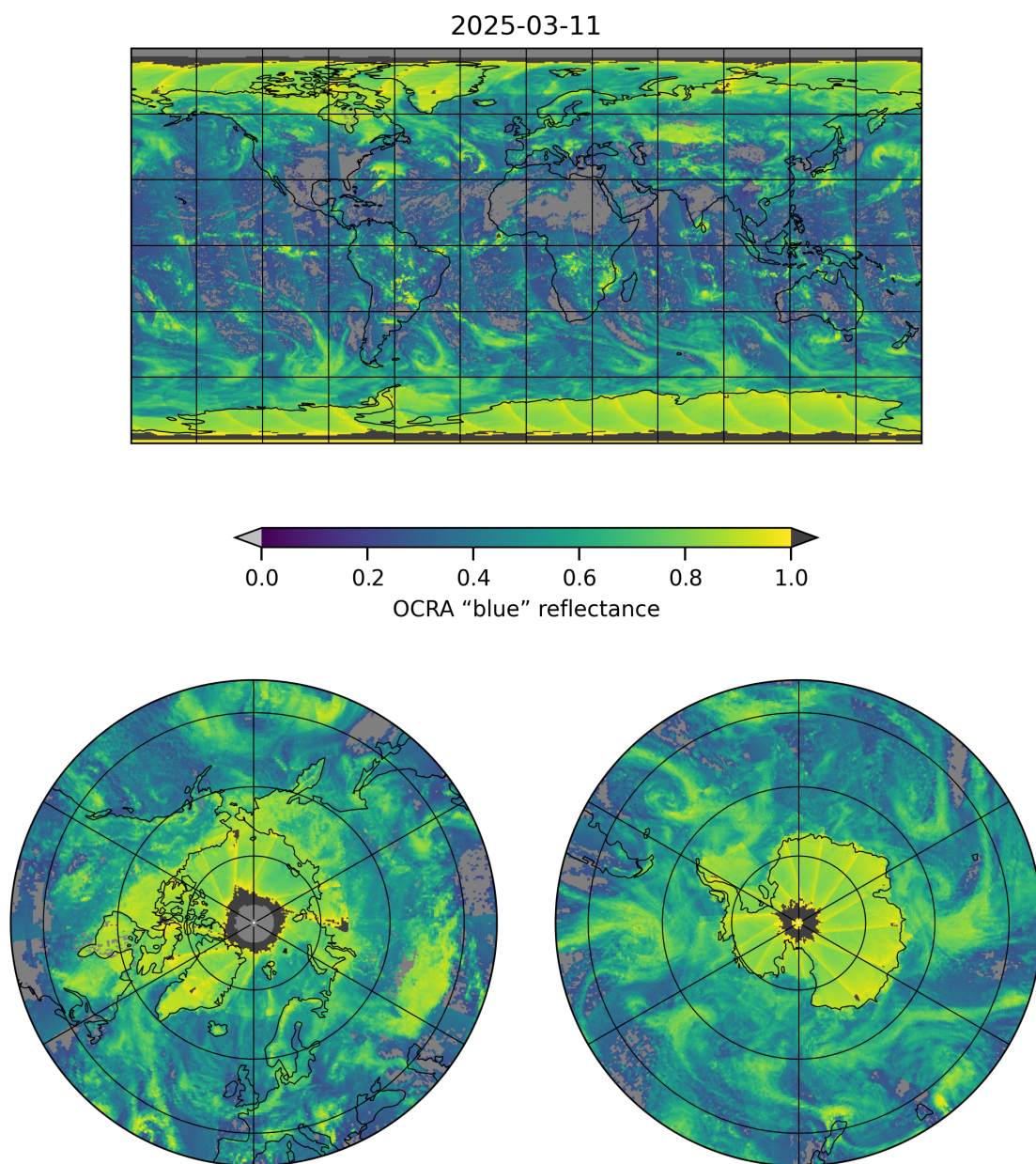


Figure 16: Map of "OCRA "blue" reflectance" for 2025-03-11 to 2025-03-12

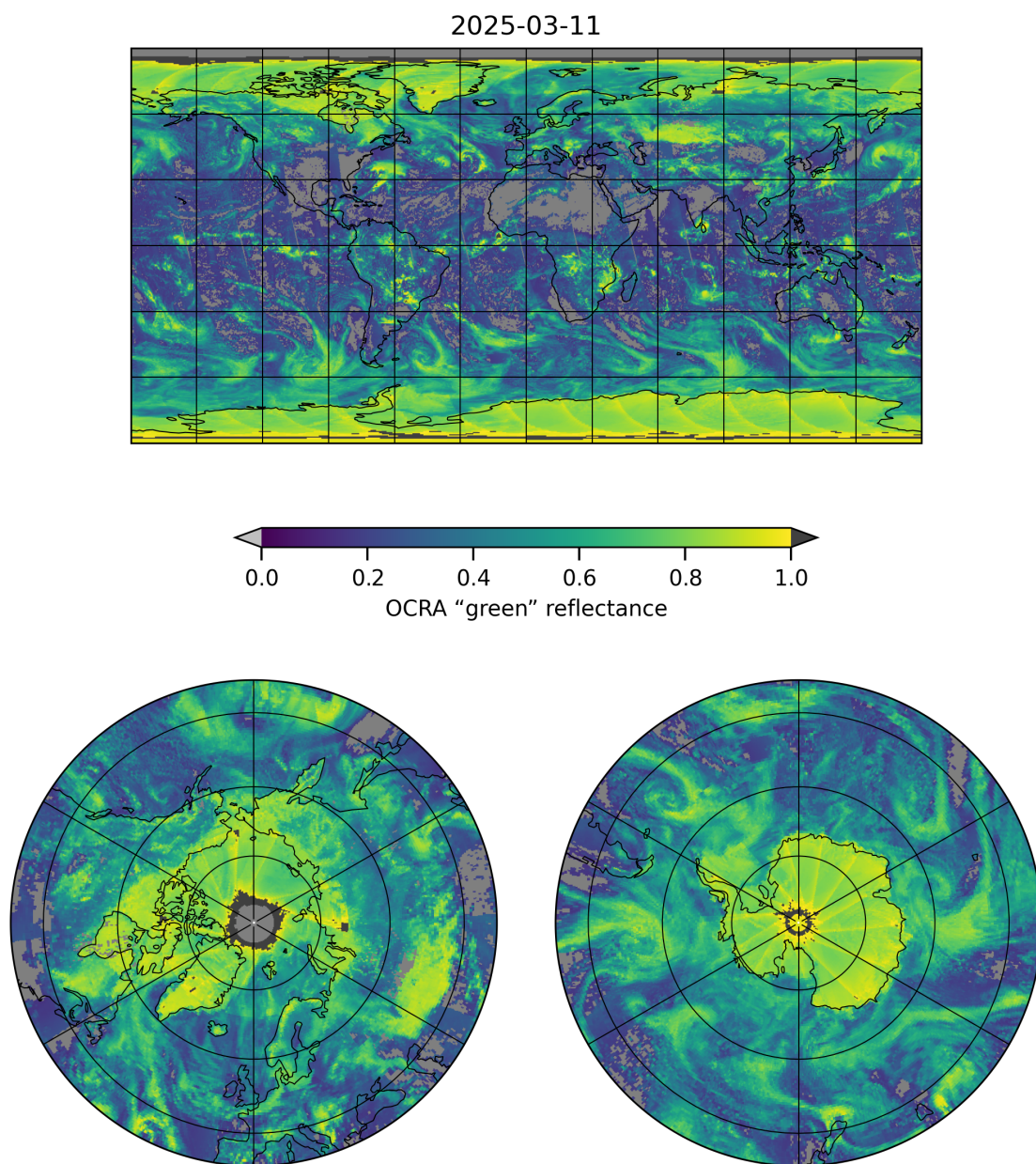


Figure 17: Map of "OCRA "green" reflectance" for 2025-03-11 to 2025-03-12

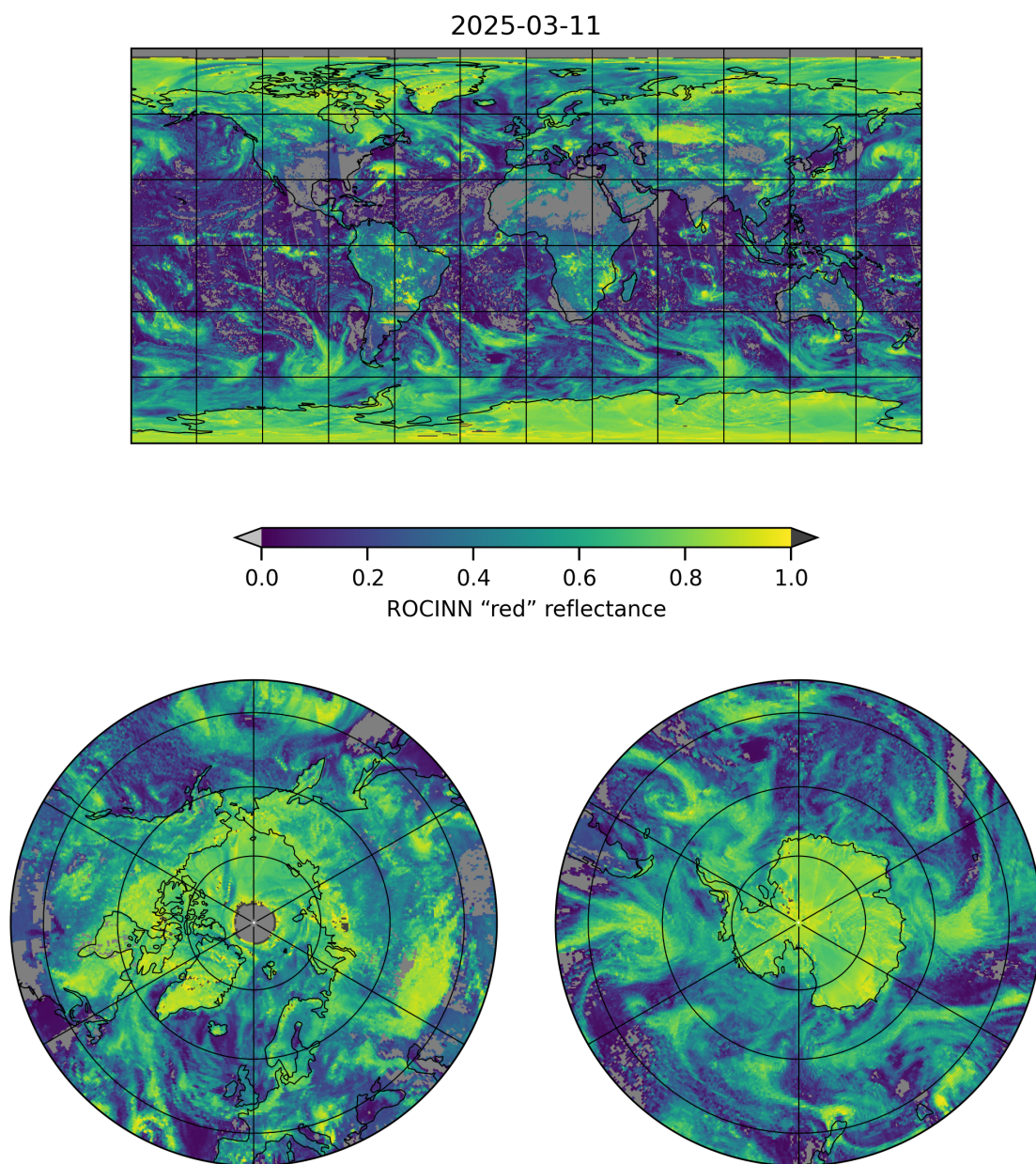


Figure 18: Map of "ROCINN "red" reflectance" for 2025-03-11 to 2025-03-12

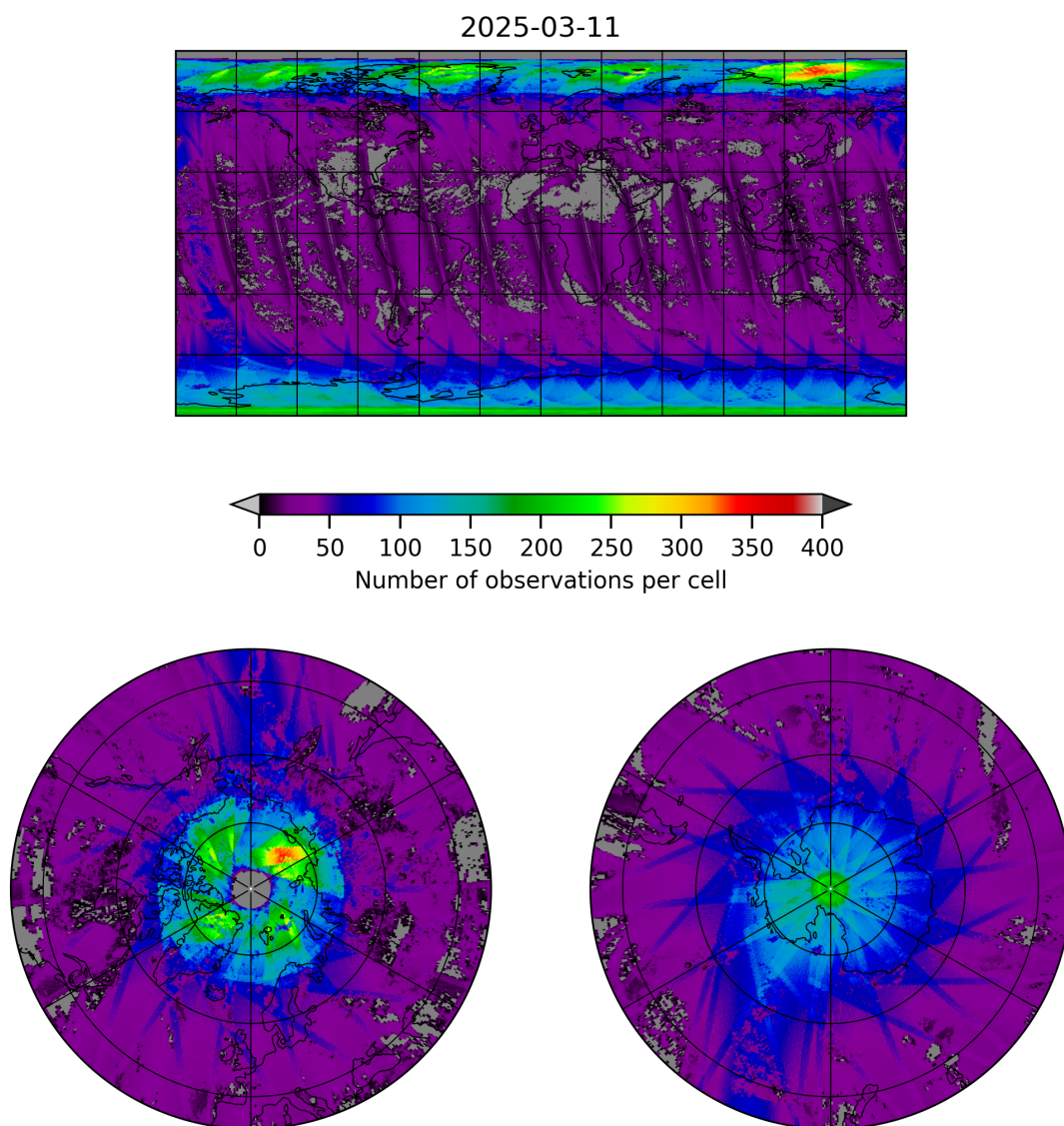


Figure 19: Map of the number of observations for 2025-03-11 to 2025-03-12

7 Zonal average

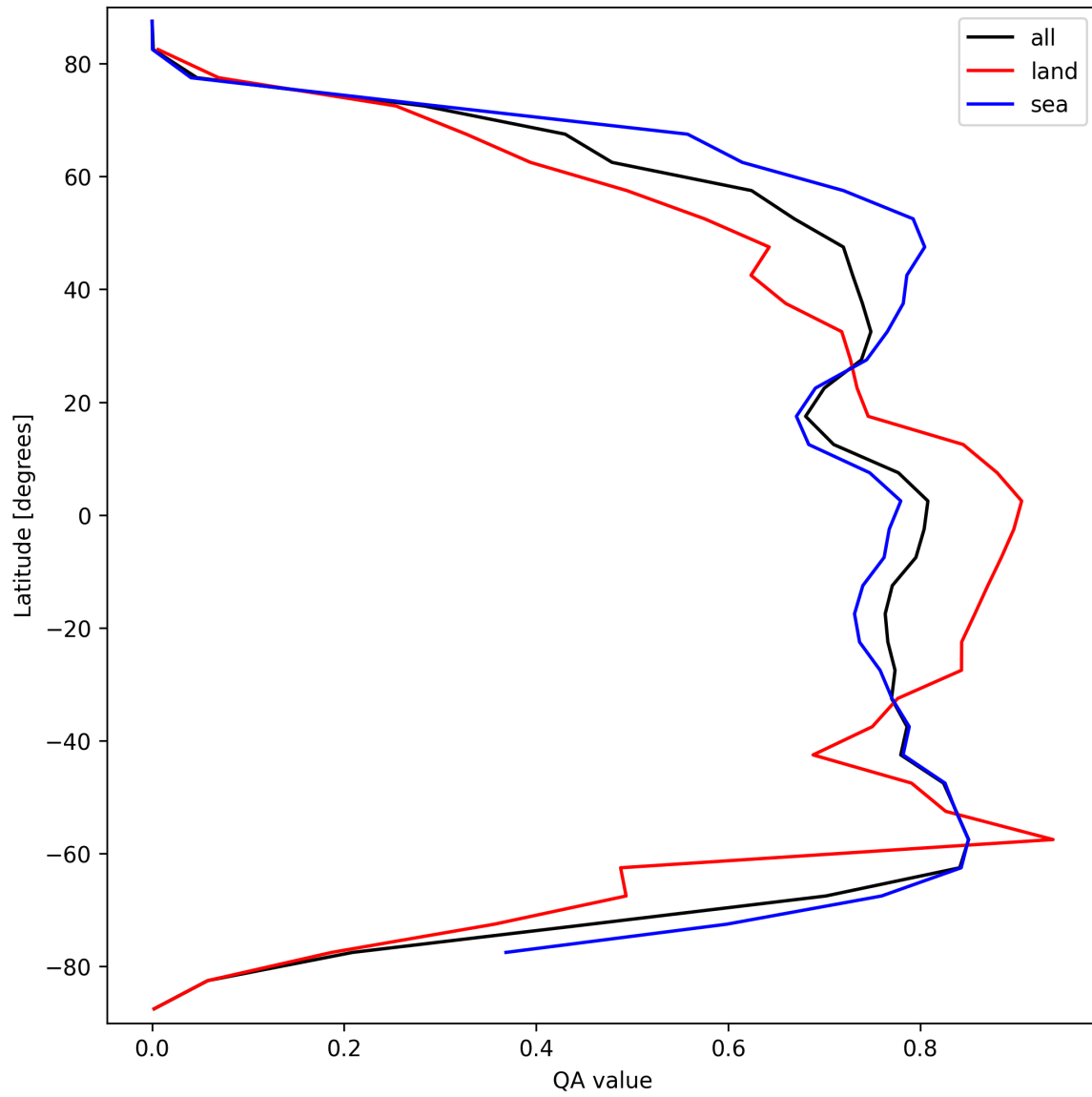


Figure 20: Zonal average of “QA value” for 2025-03-11 to 2025-03-12.

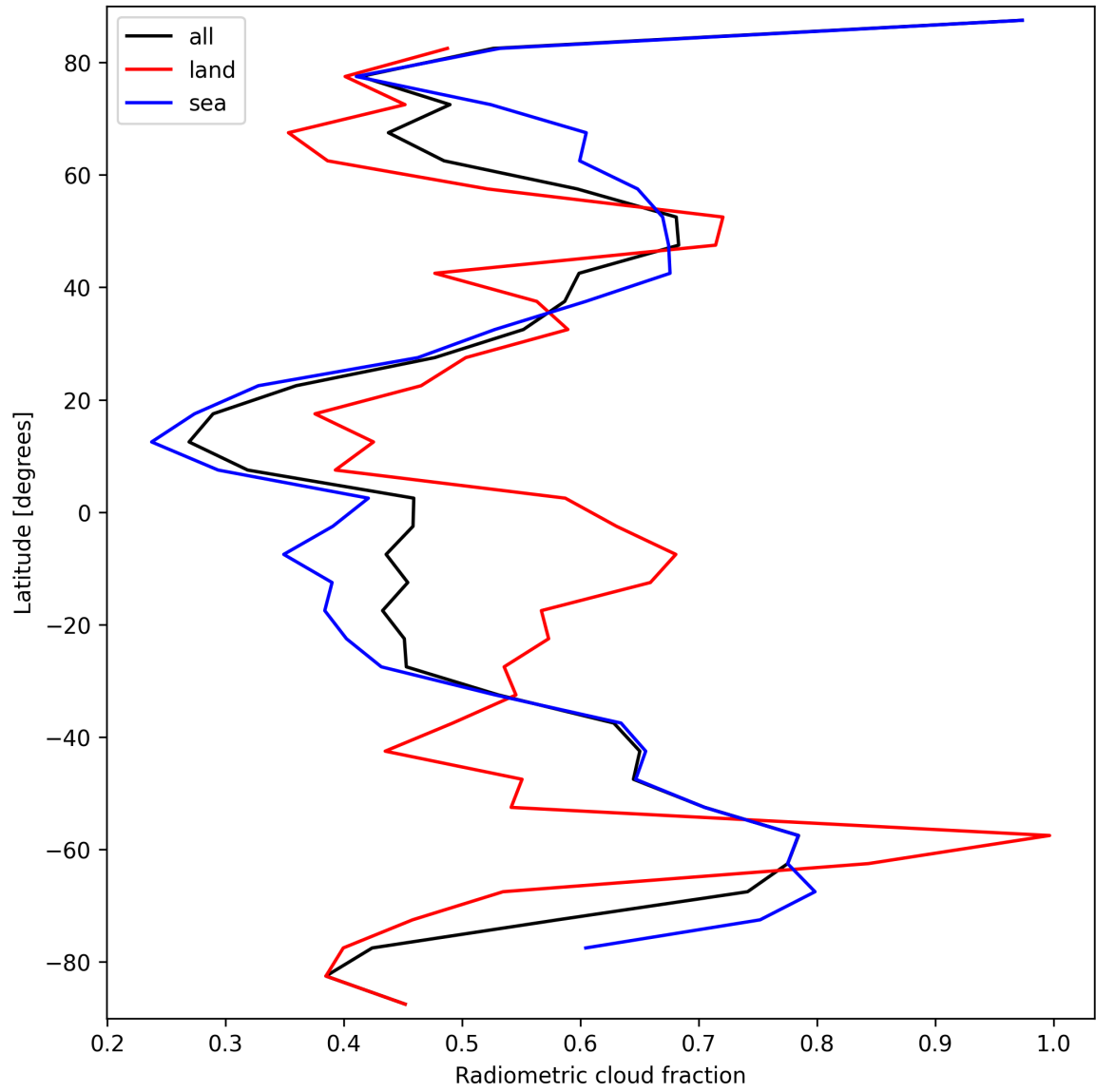


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-11 to 2025-03-12.

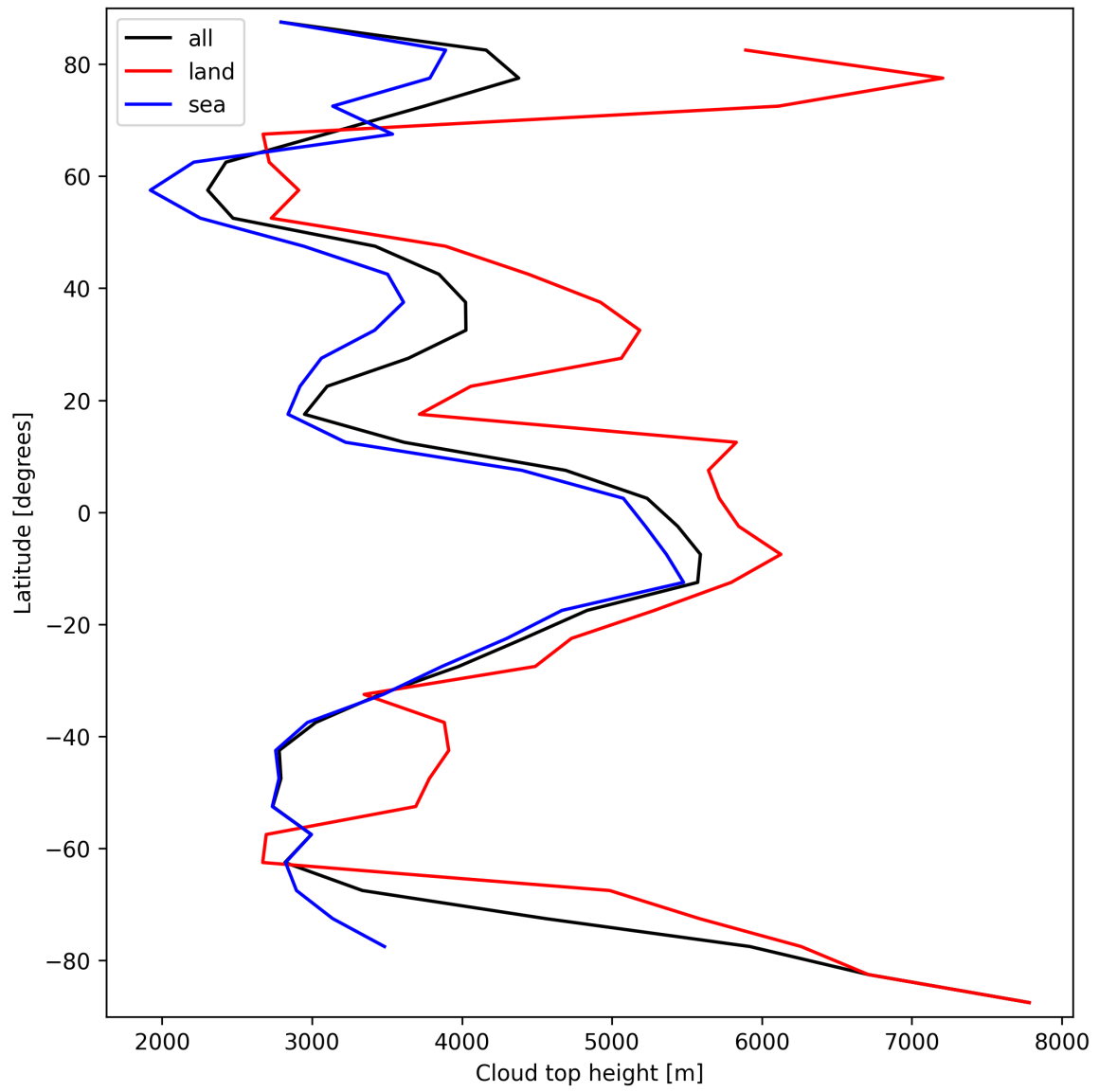


Figure 22: Zonal average of “Cloud top height” for 2025-03-11 to 2025-03-12.

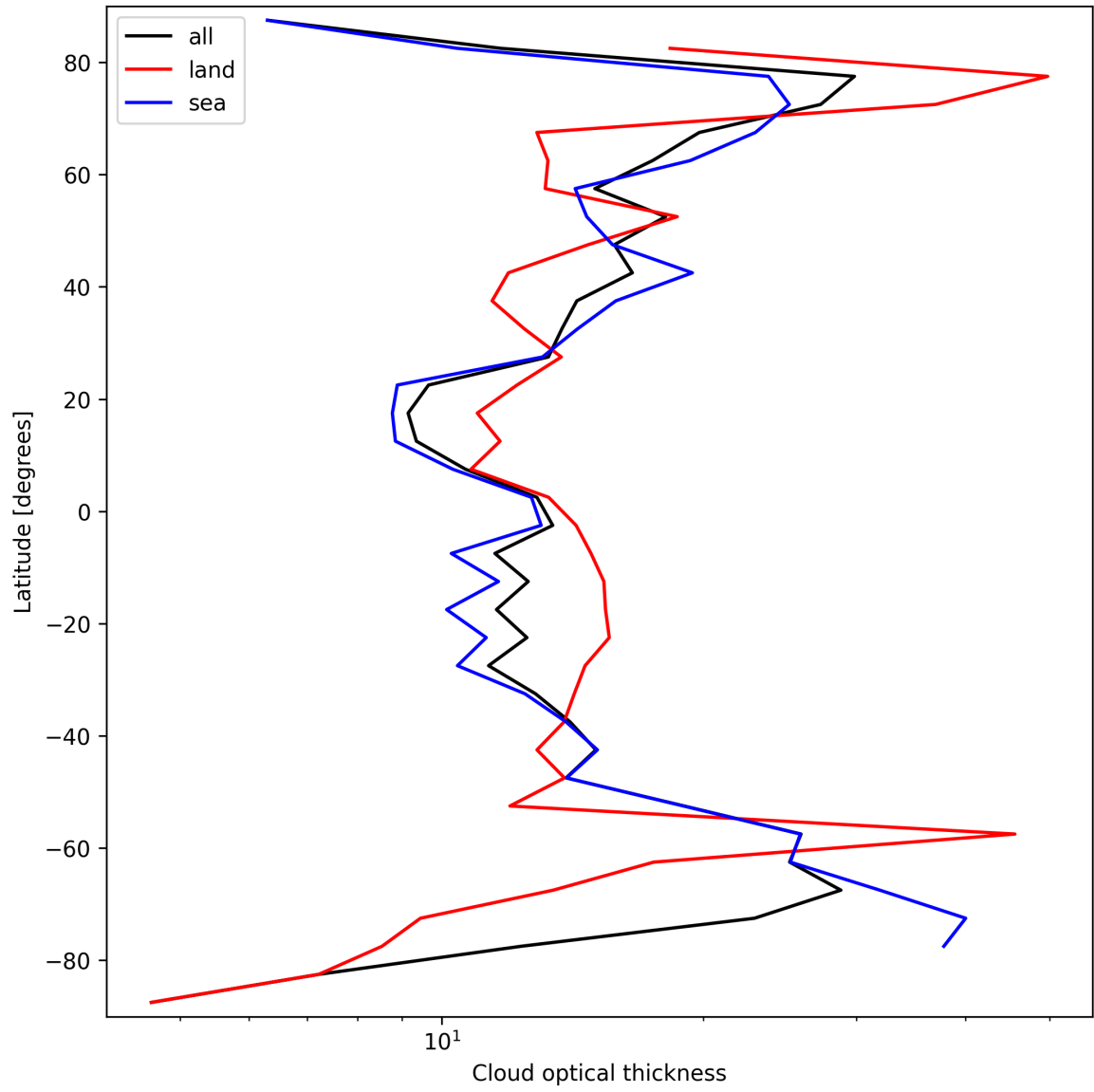


Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-11 to 2025-03-12.

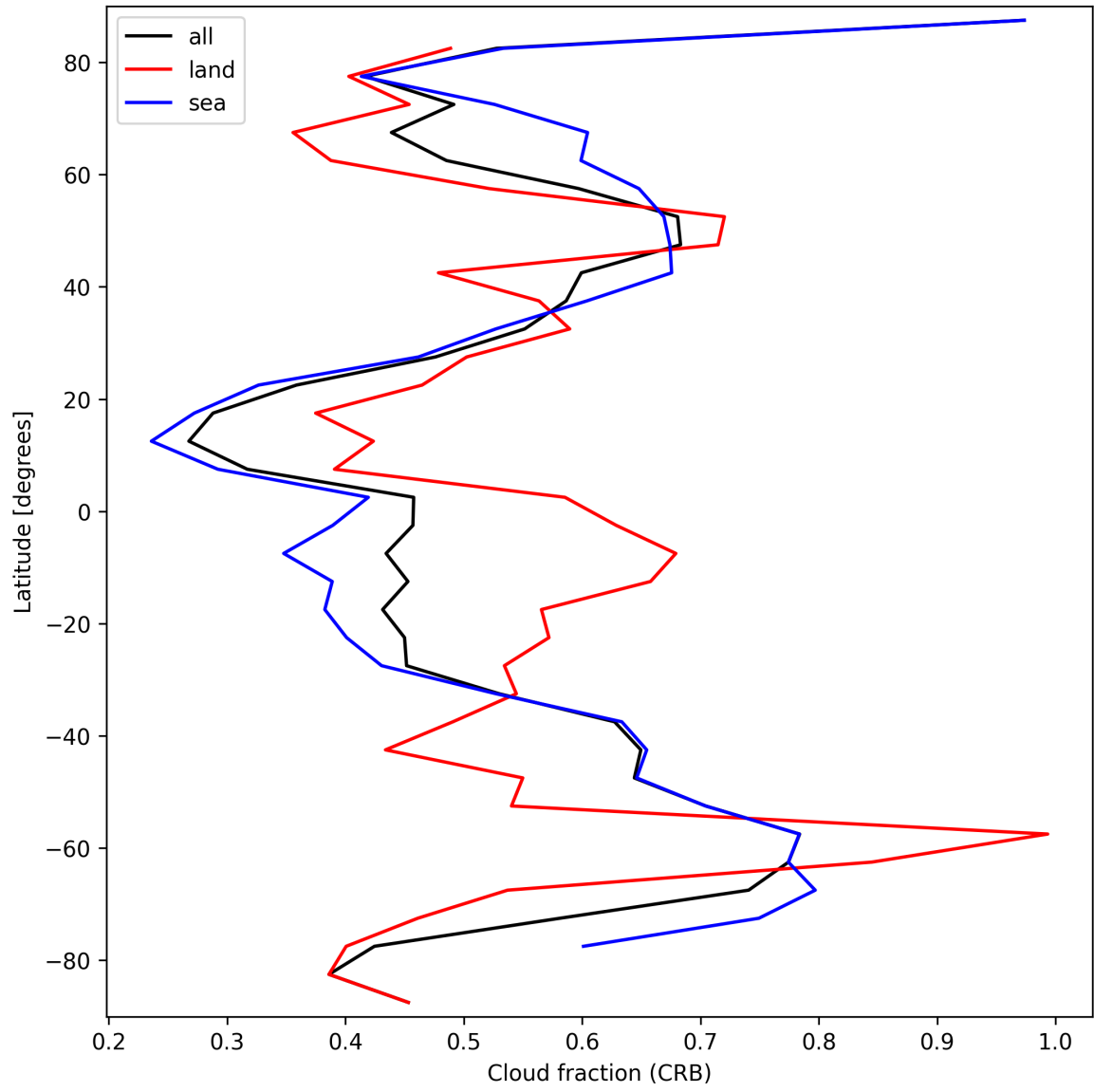


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-11 to 2025-03-12.

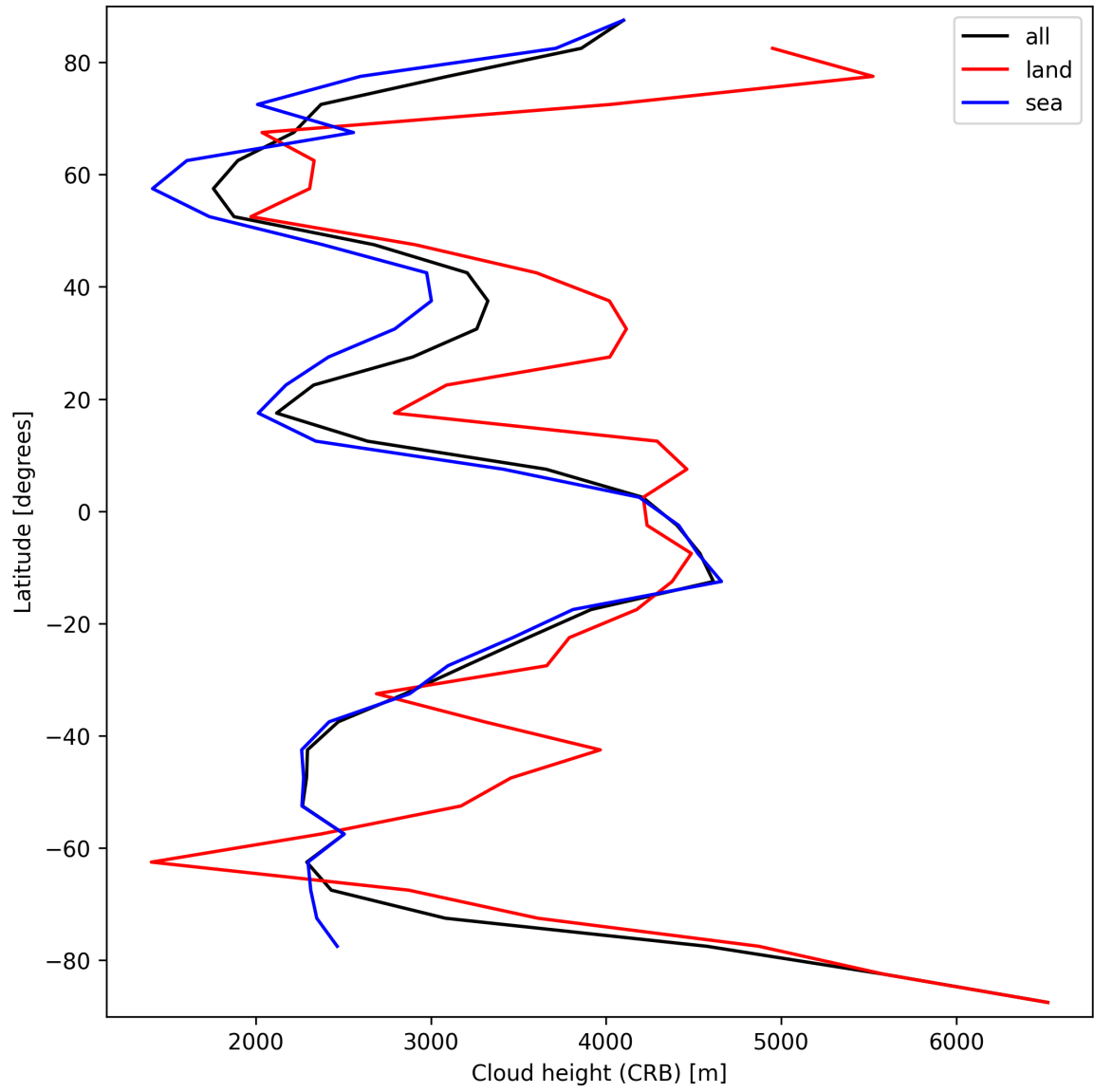


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-11 to 2025-03-12.

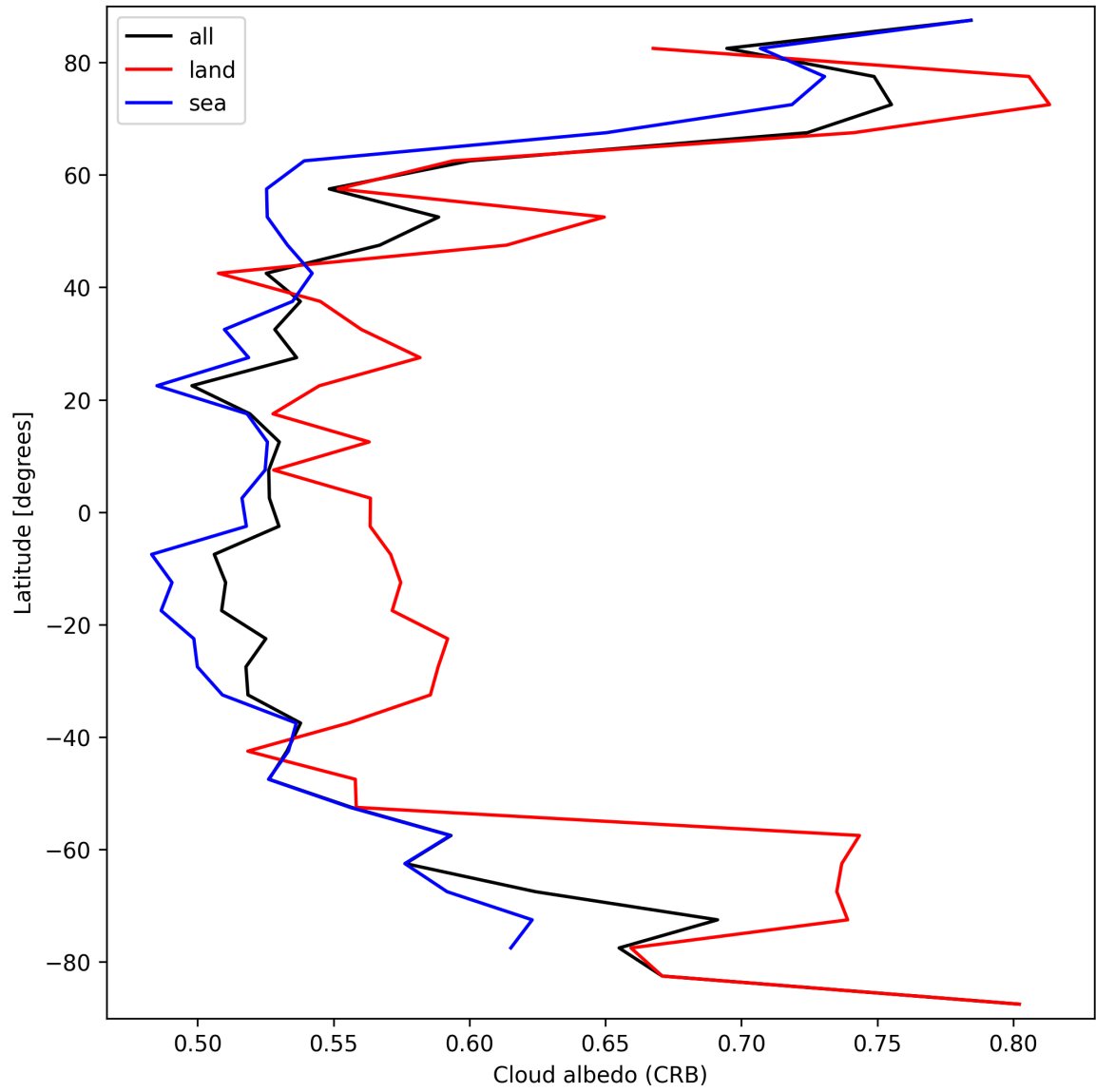


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-11 to 2025-03-12.

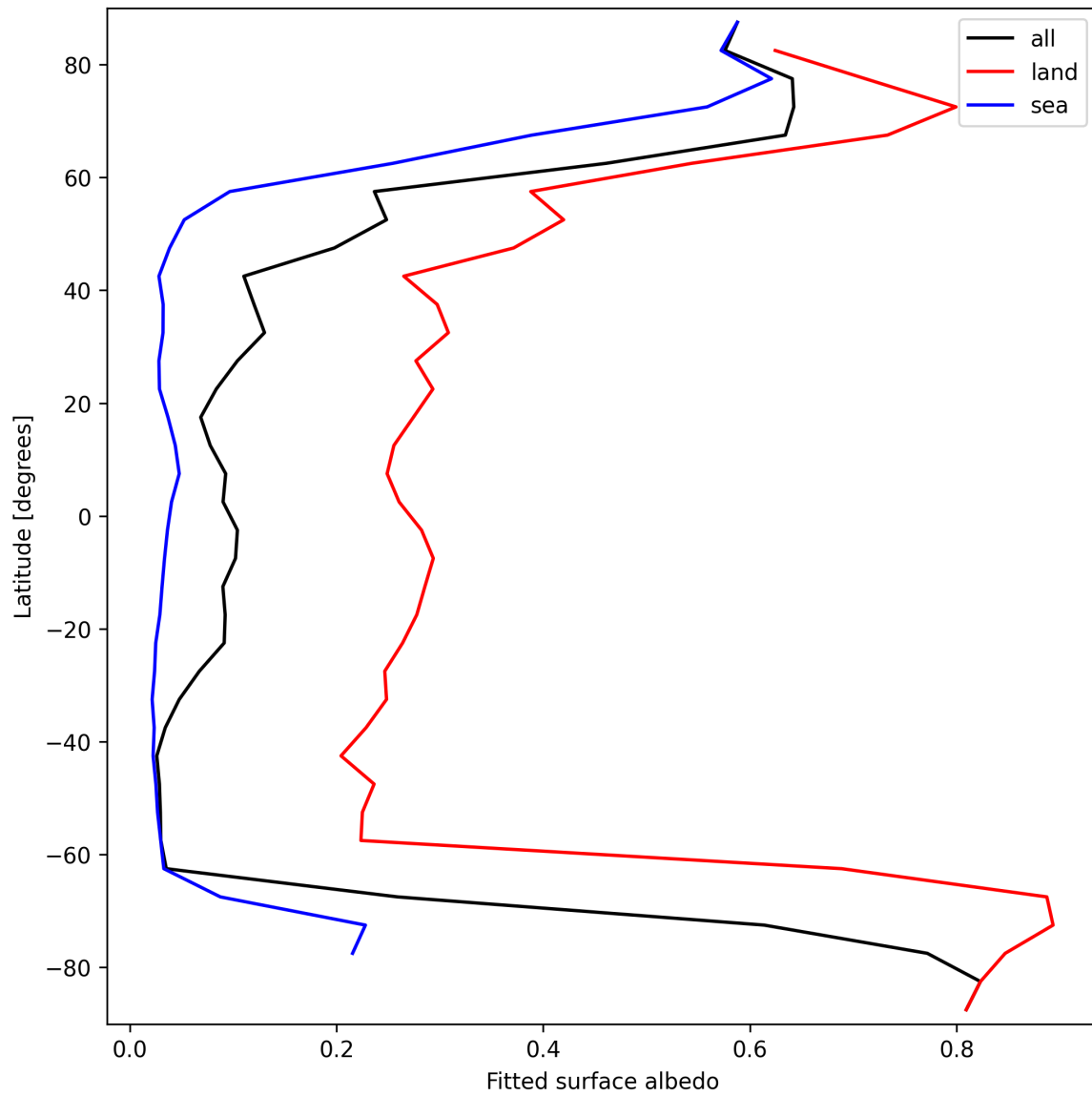


Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-11 to 2025-03-12.

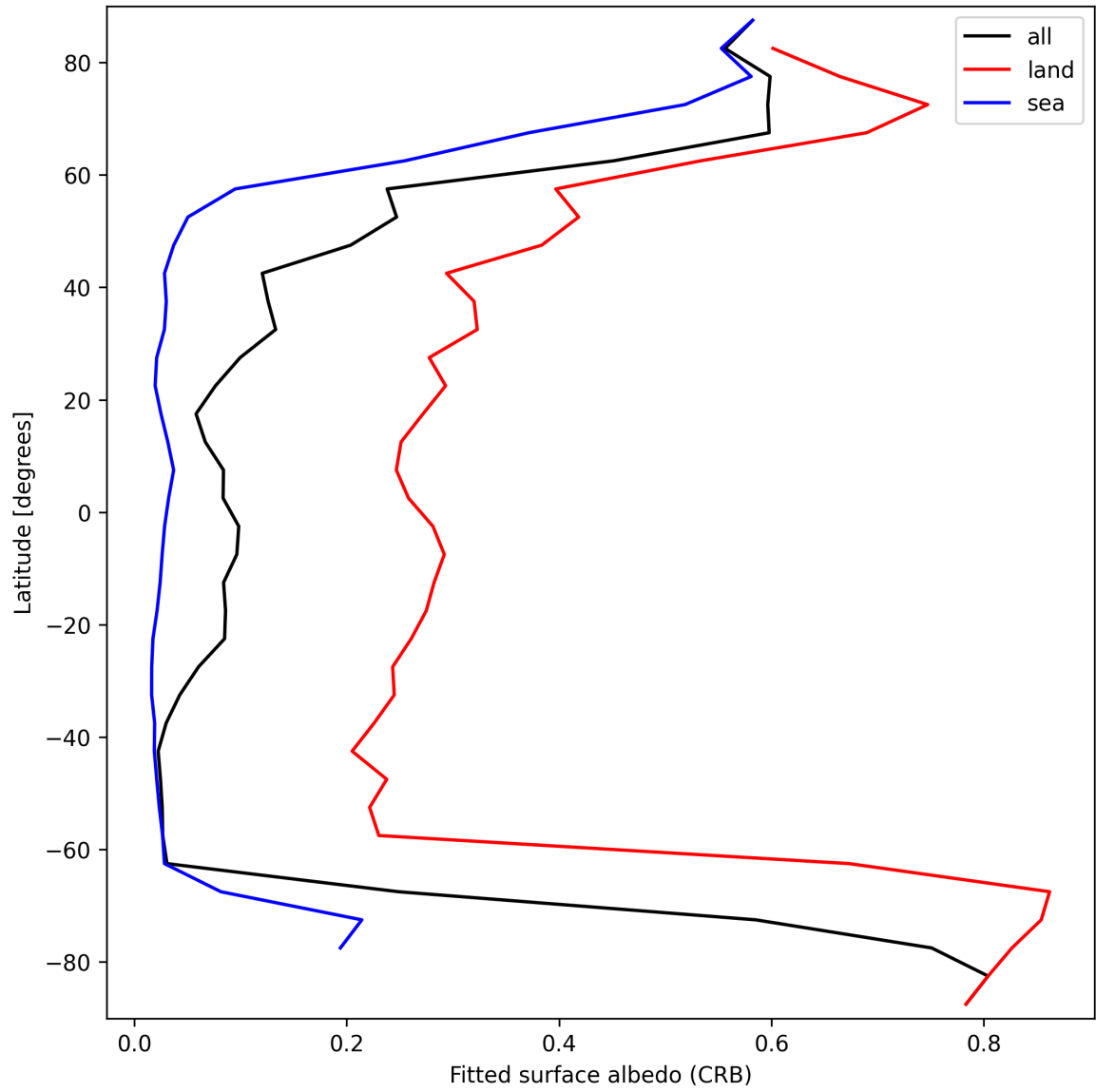


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-11 to 2025-03-12.

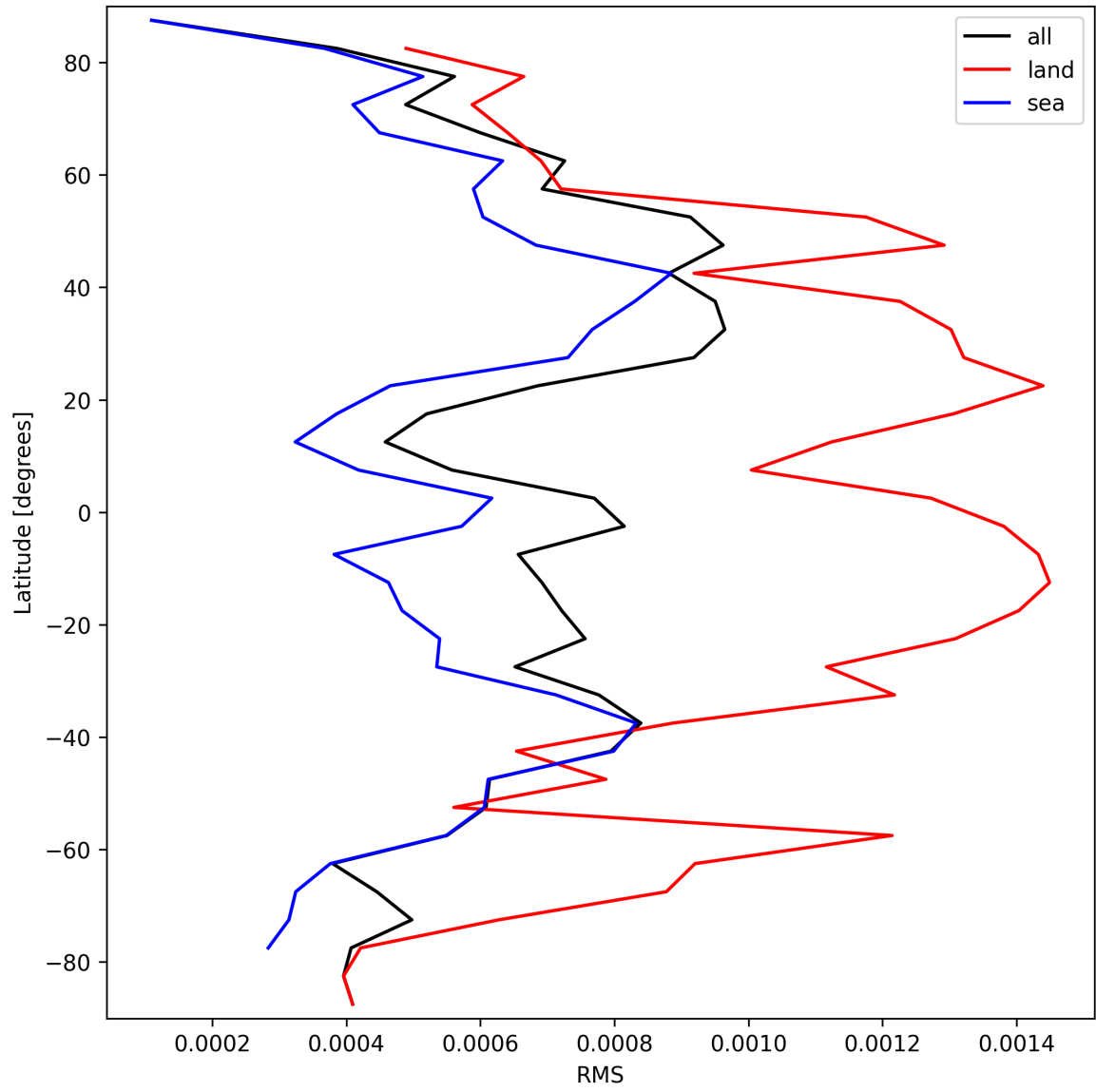


Figure 29: Zonal average of “RMS” for 2025-03-11 to 2025-03-12.

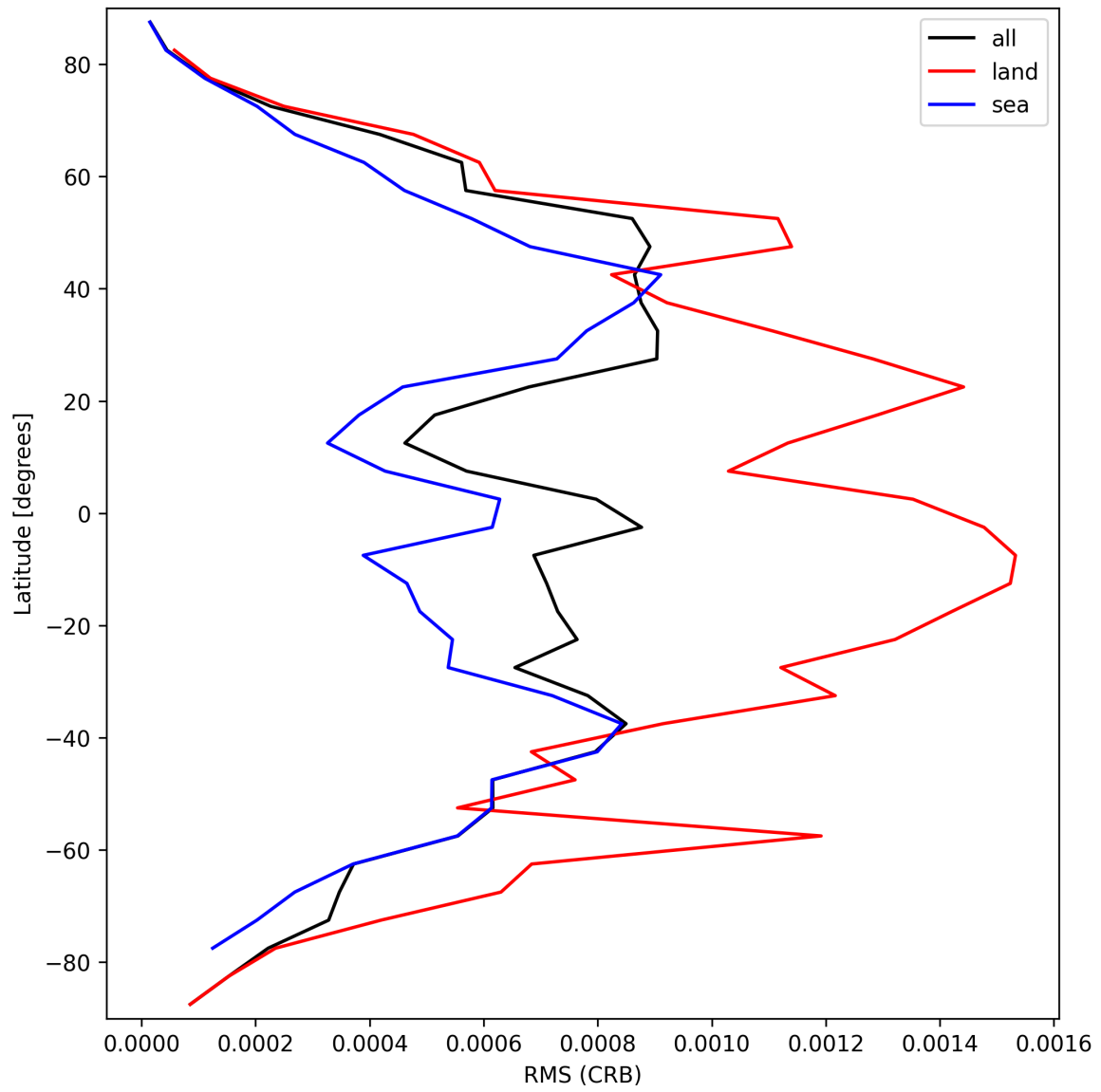


Figure 30: Zonal average of “RMS (CRB)” for 2025-03-11 to 2025-03-12.

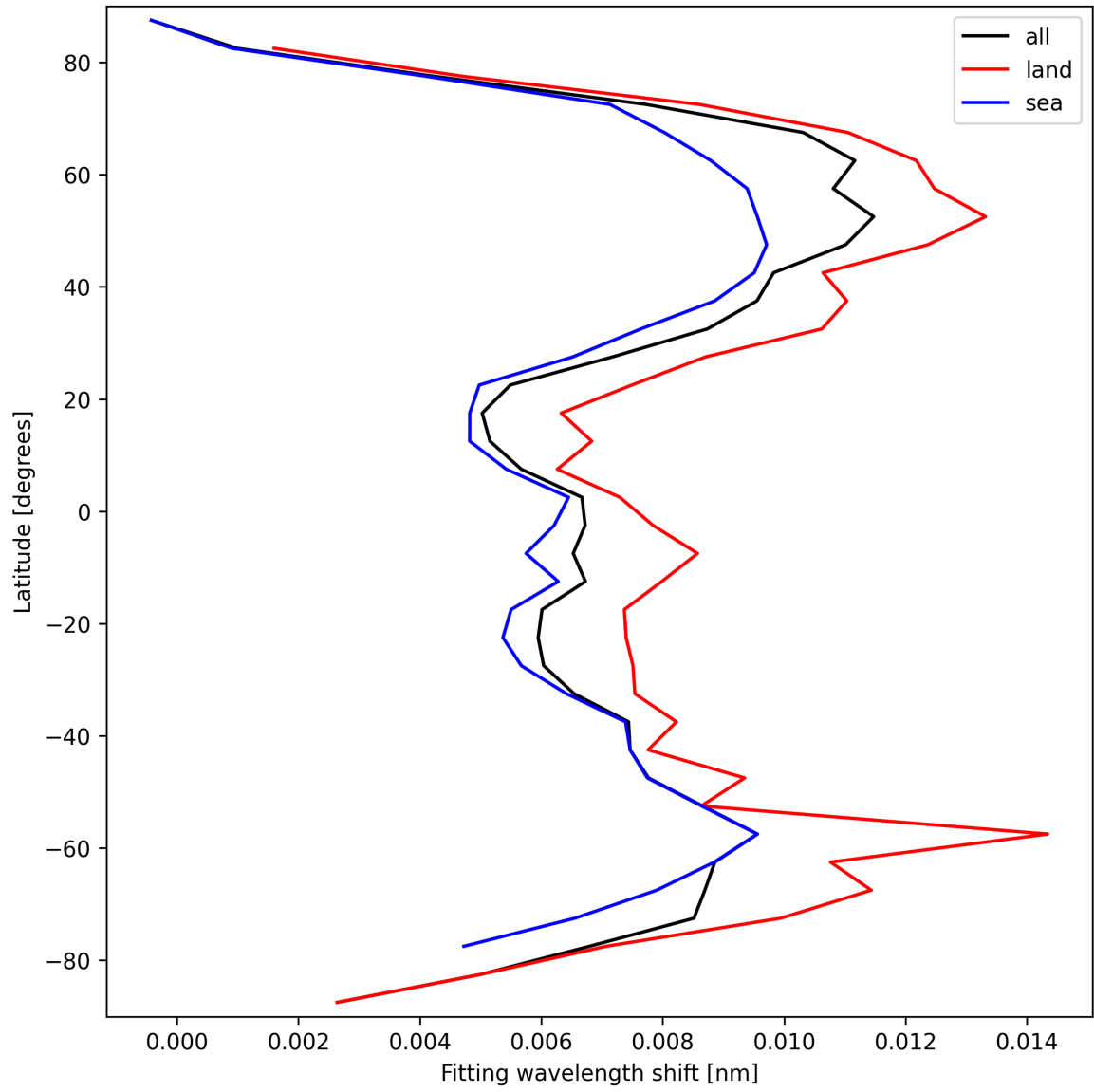


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-11 to 2025-03-12.

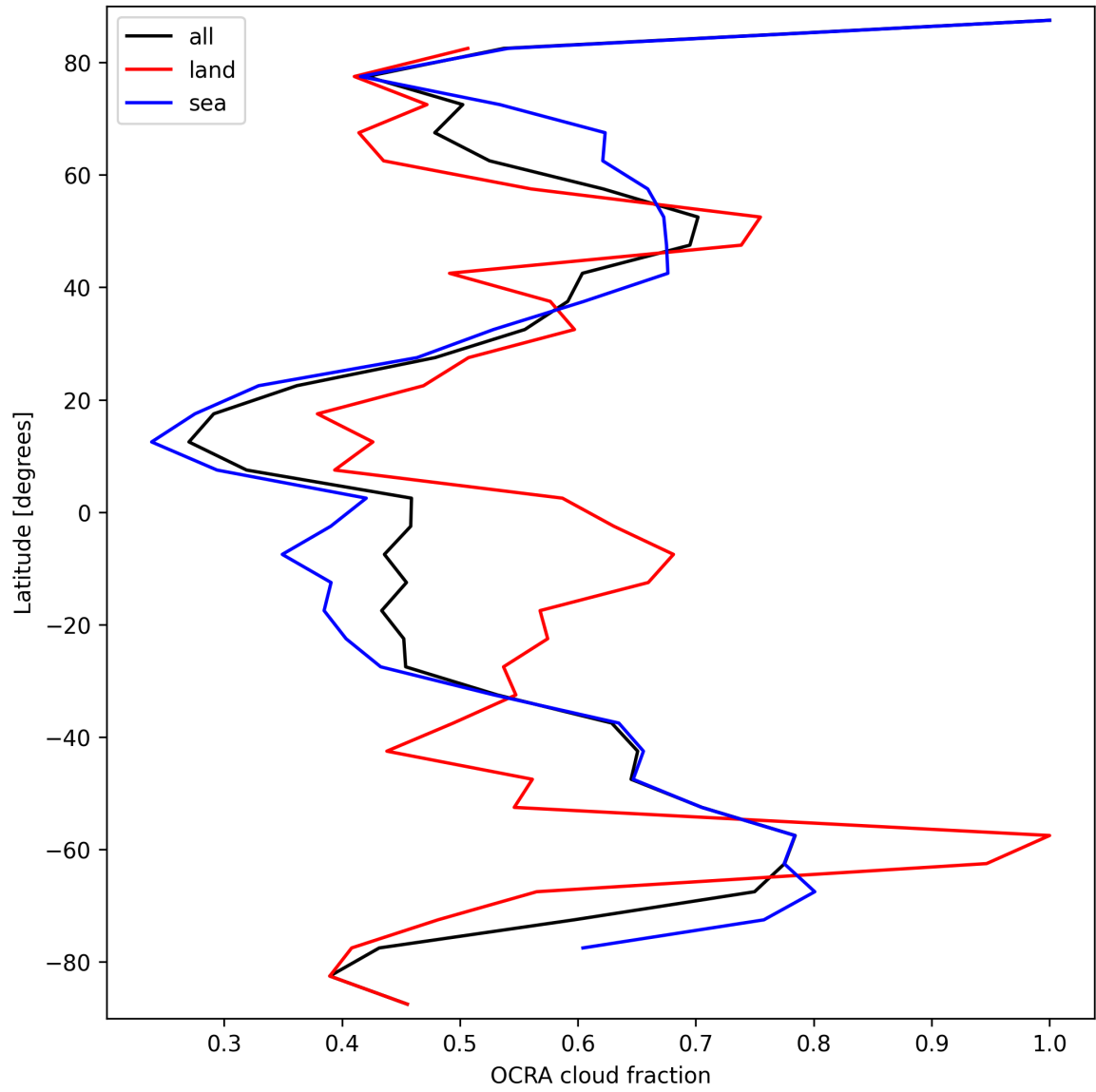


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-11 to 2025-03-12.

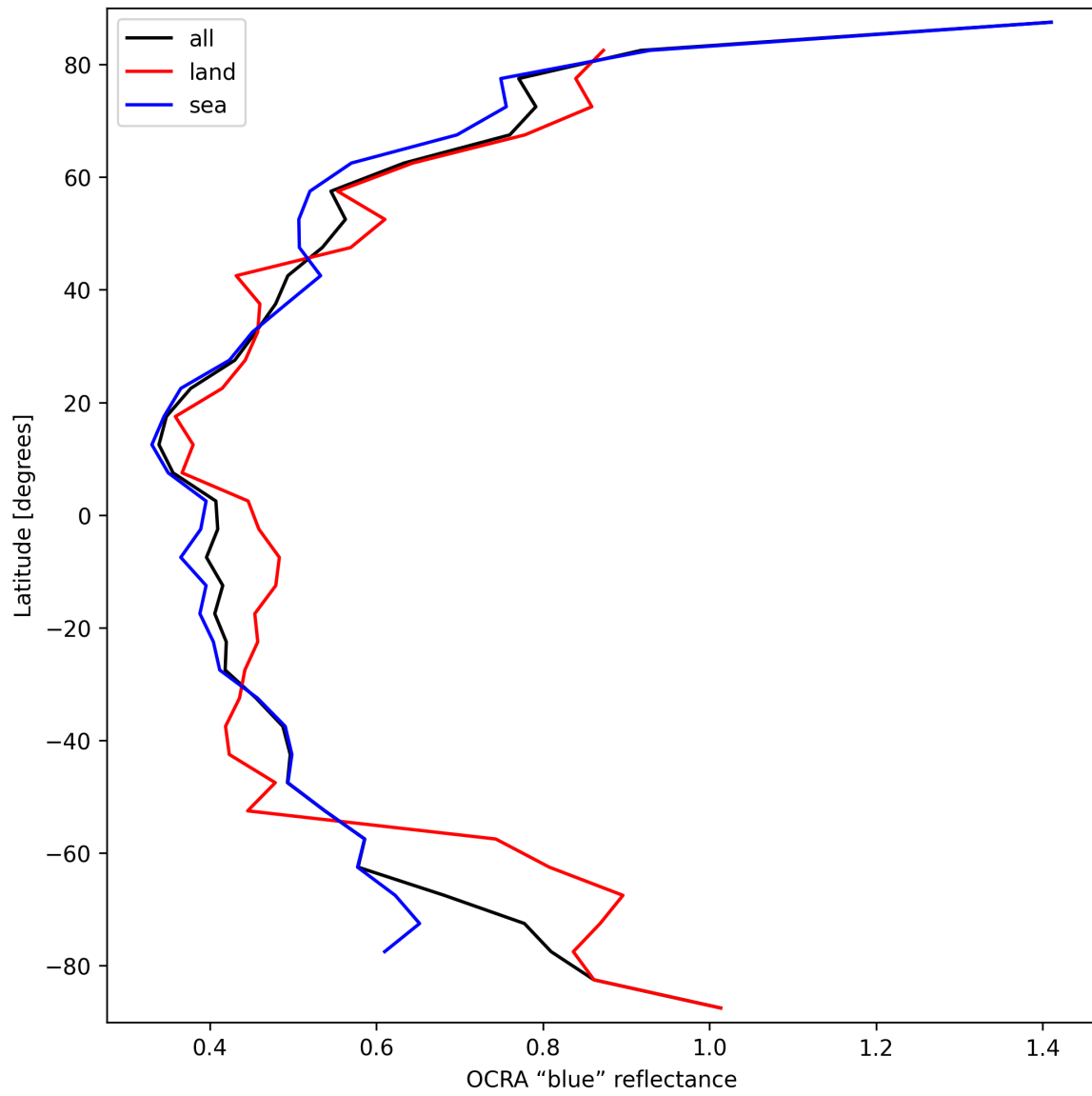


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-11 to 2025-03-12.

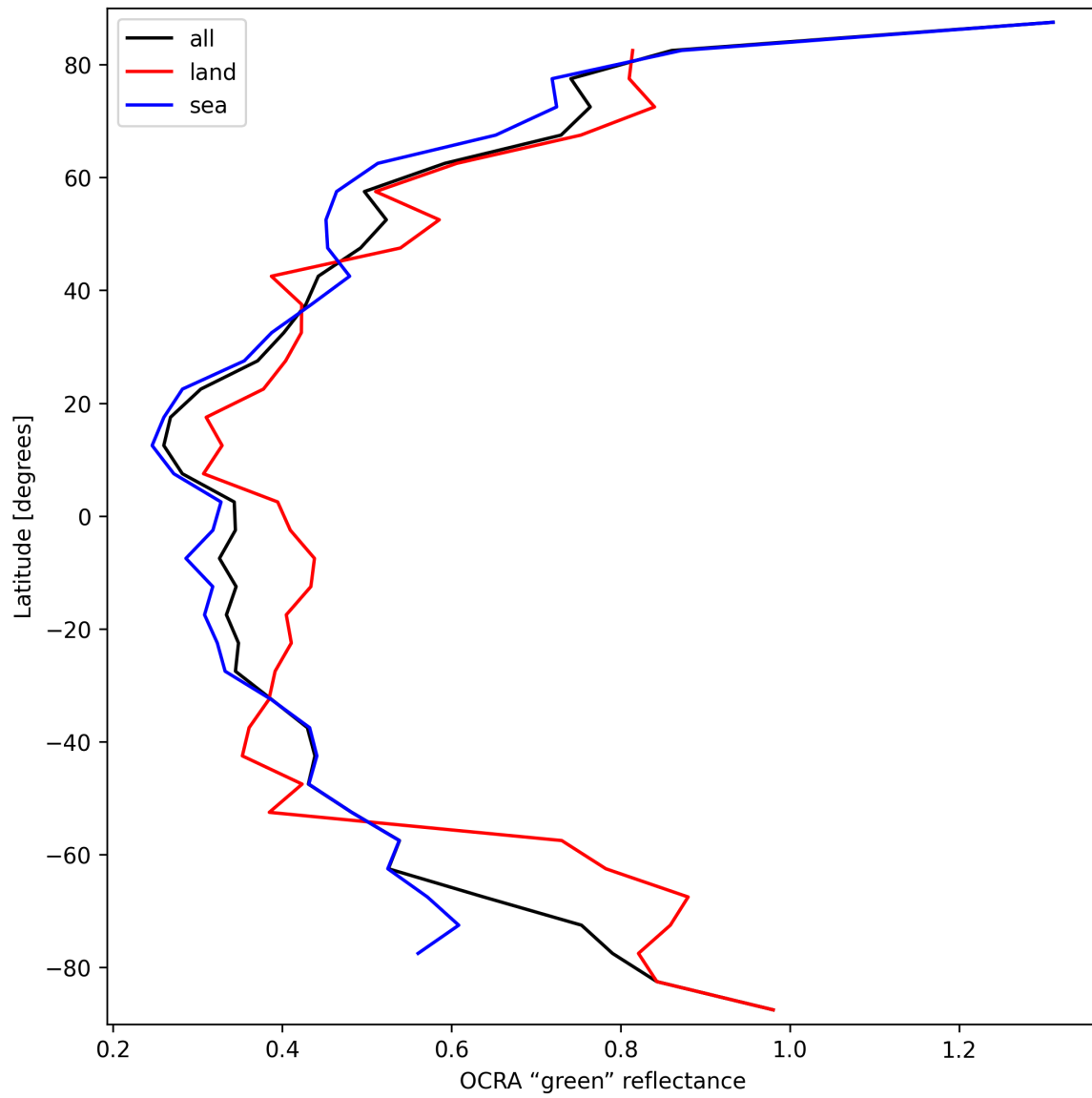


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-11 to 2025-03-12.

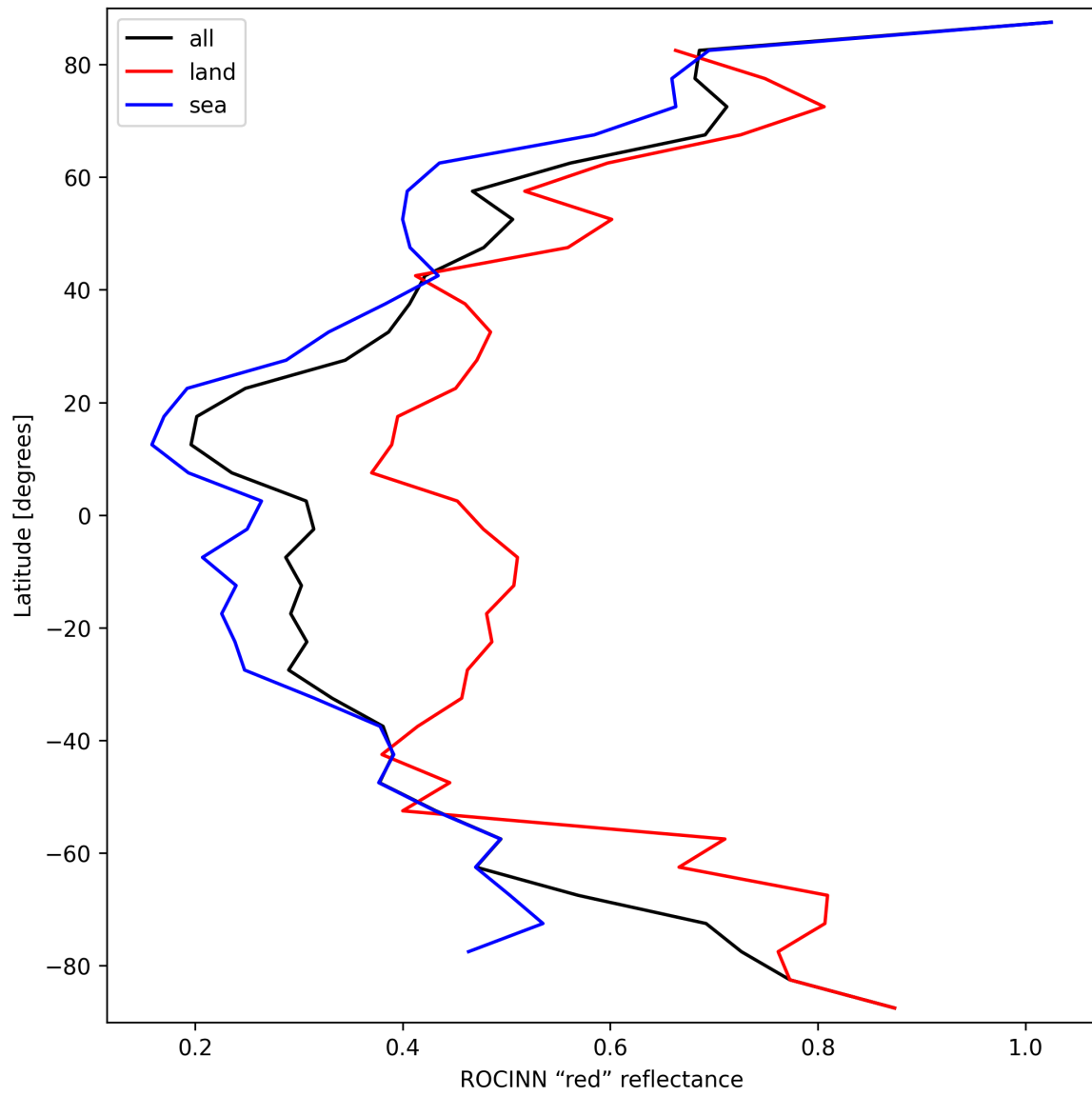


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-11 to 2025-03-12.

8 Histograms

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

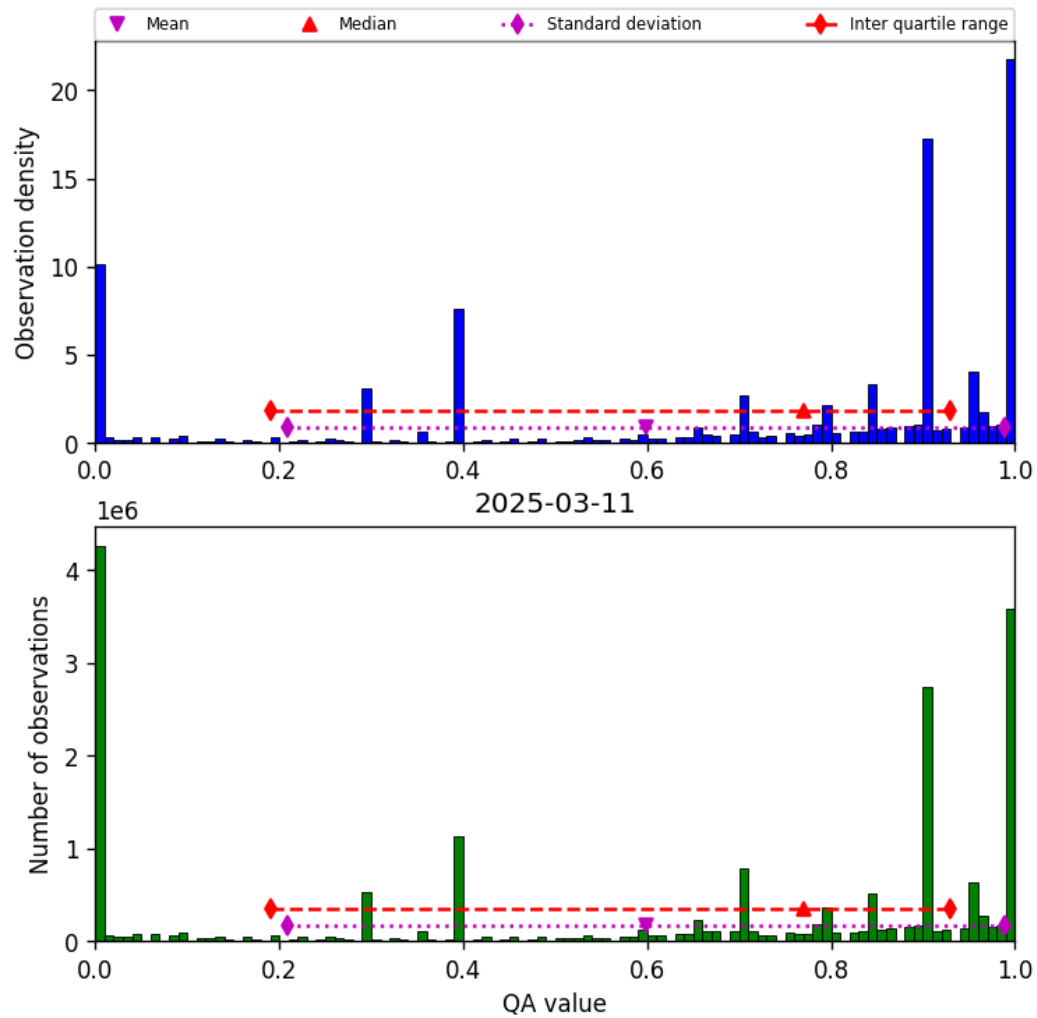


Figure 36: Histogram of “QA value” for 2025-03-11 to 2025-03-12

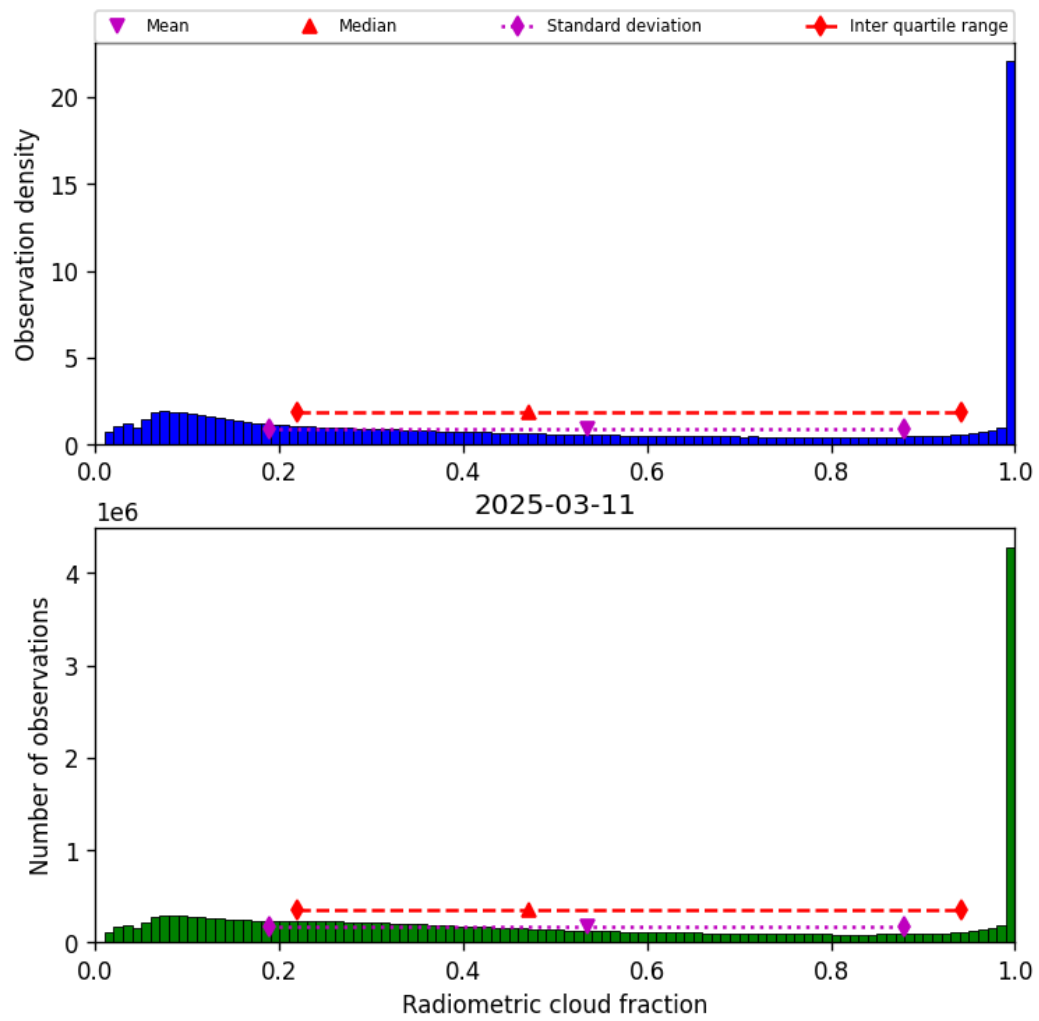


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-11 to 2025-03-12

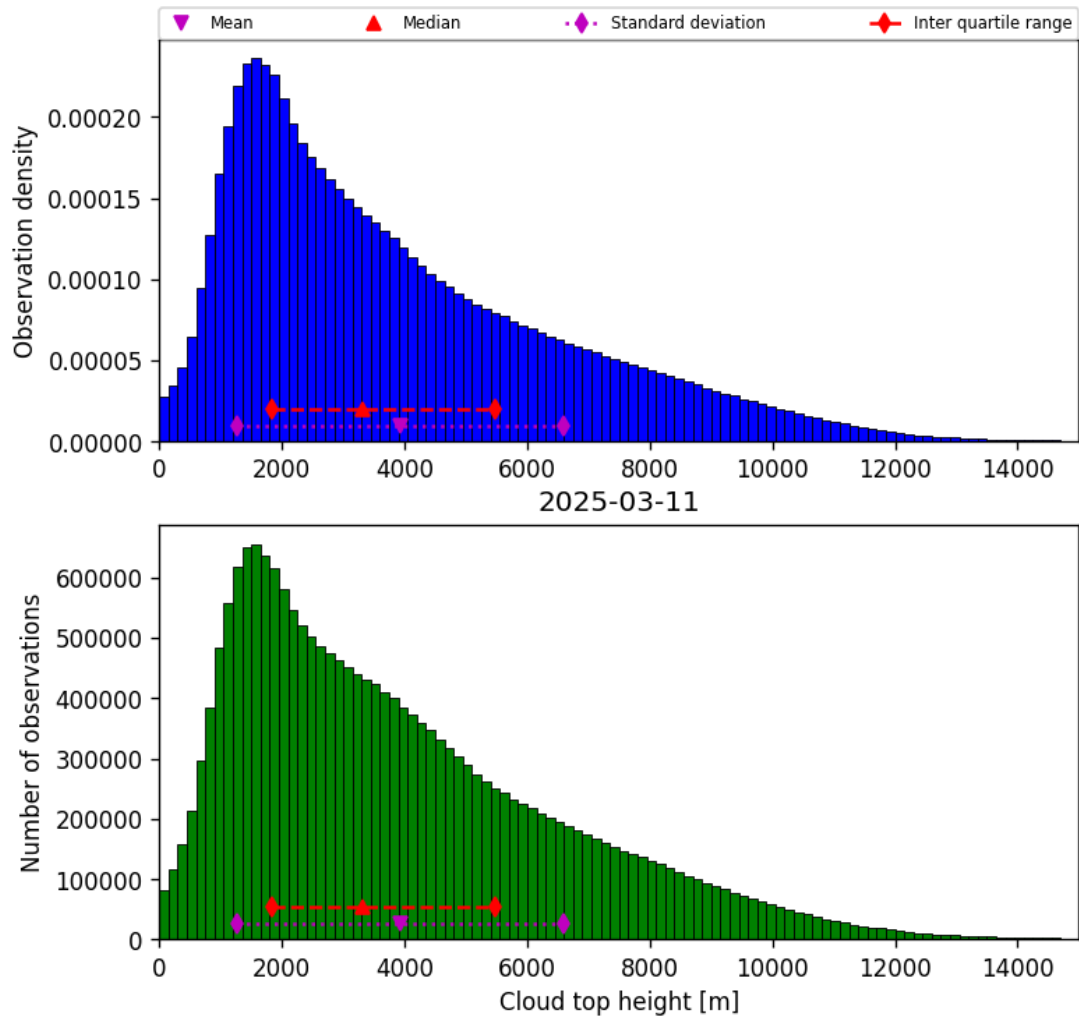


Figure 38: Histogram of “Cloud top height” for 2025-03-11 to 2025-03-12

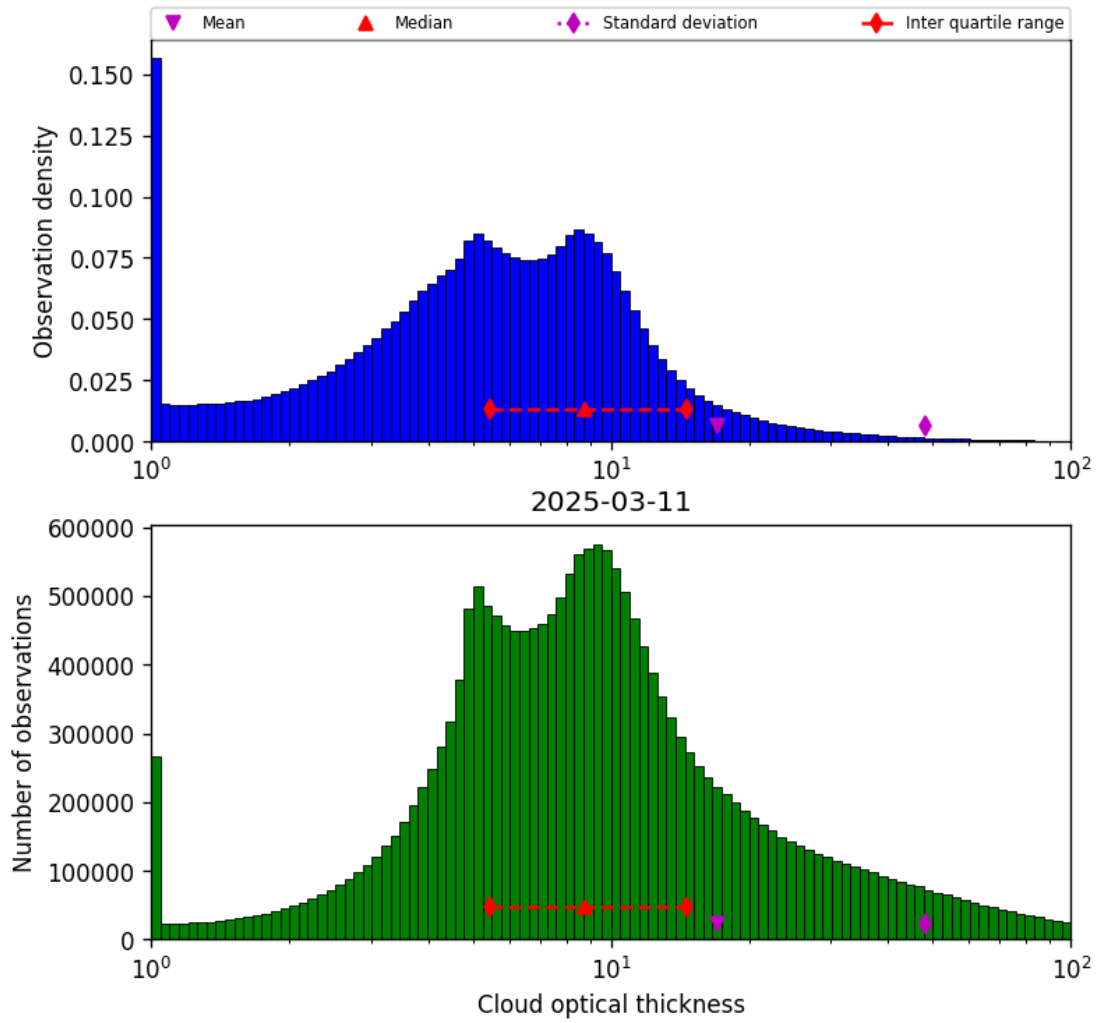


Figure 39: Histogram of “Cloud optical thickness” for 2025-03-11 to 2025-03-12

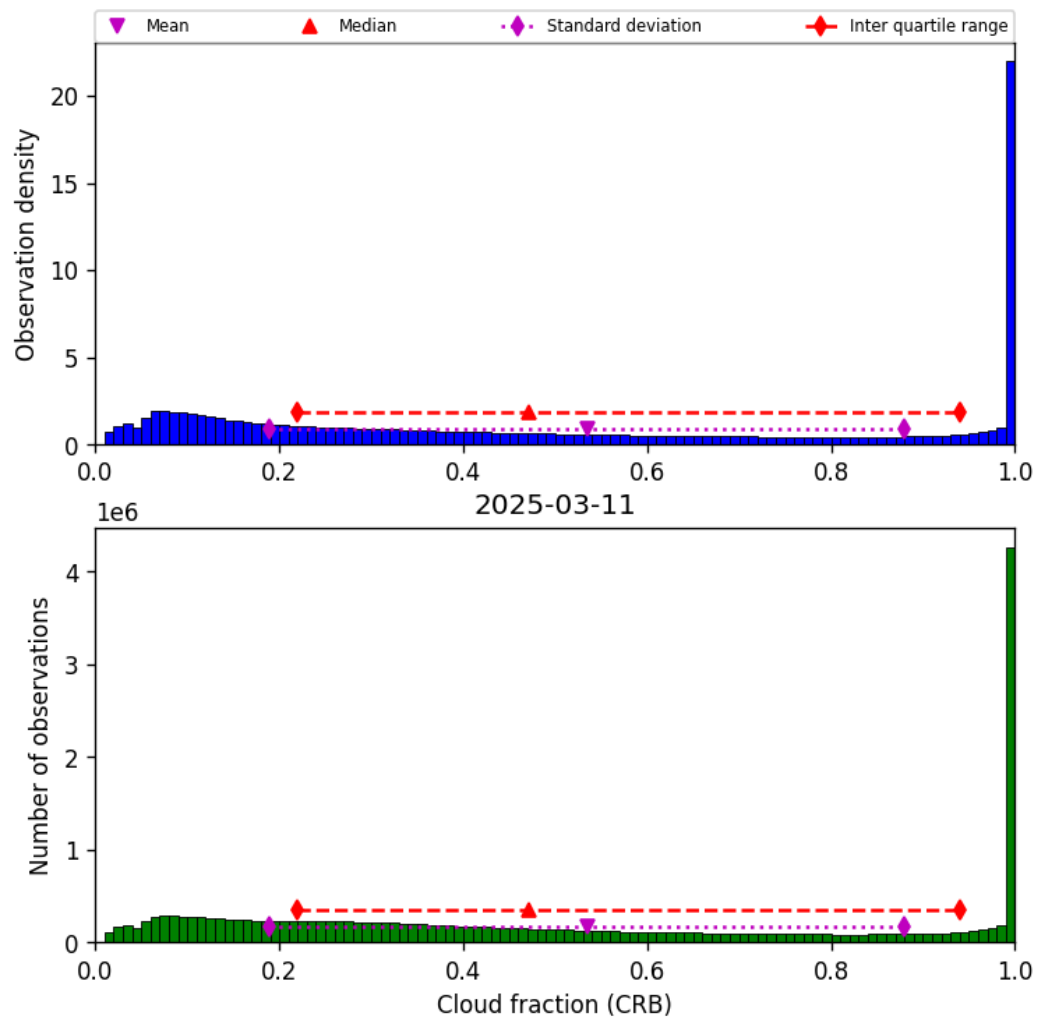


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-11 to 2025-03-12

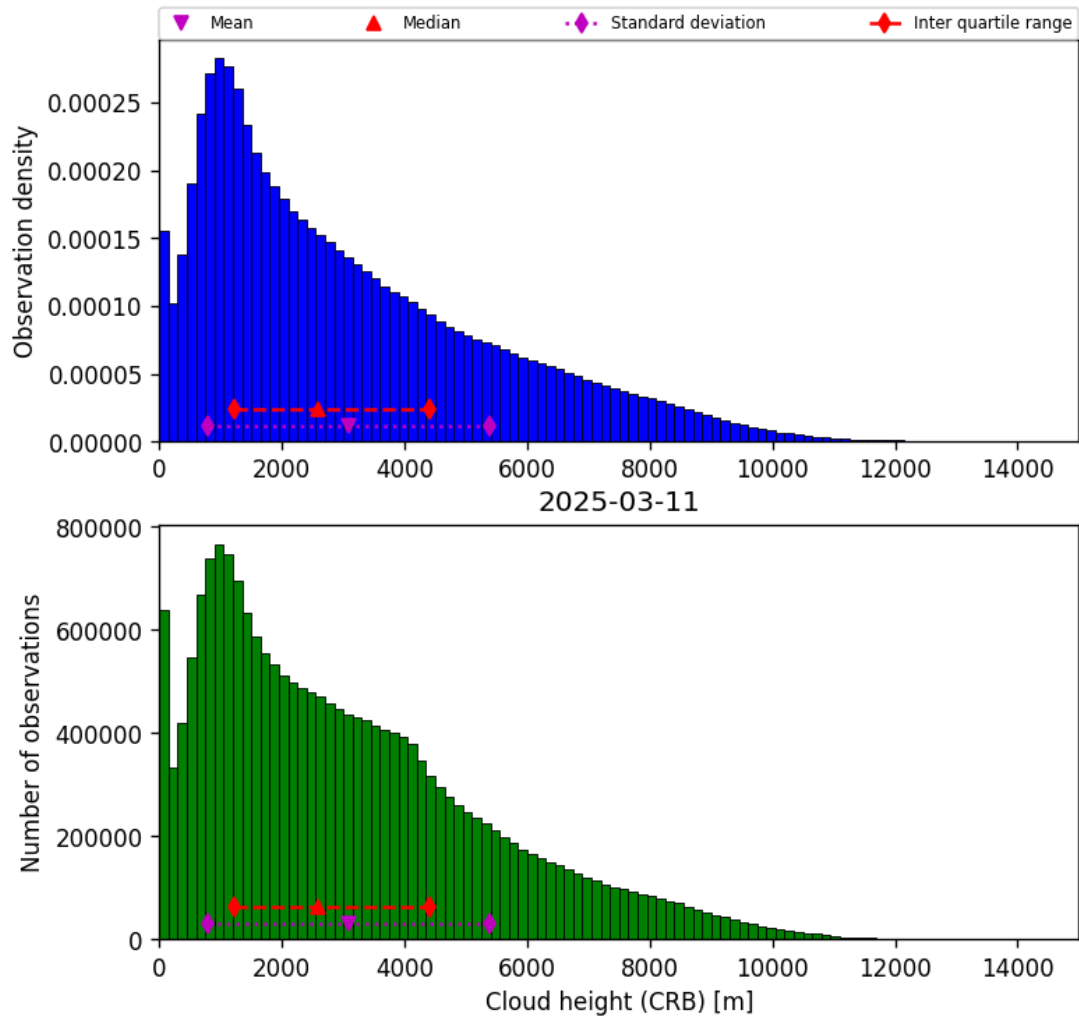


Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-11 to 2025-03-12

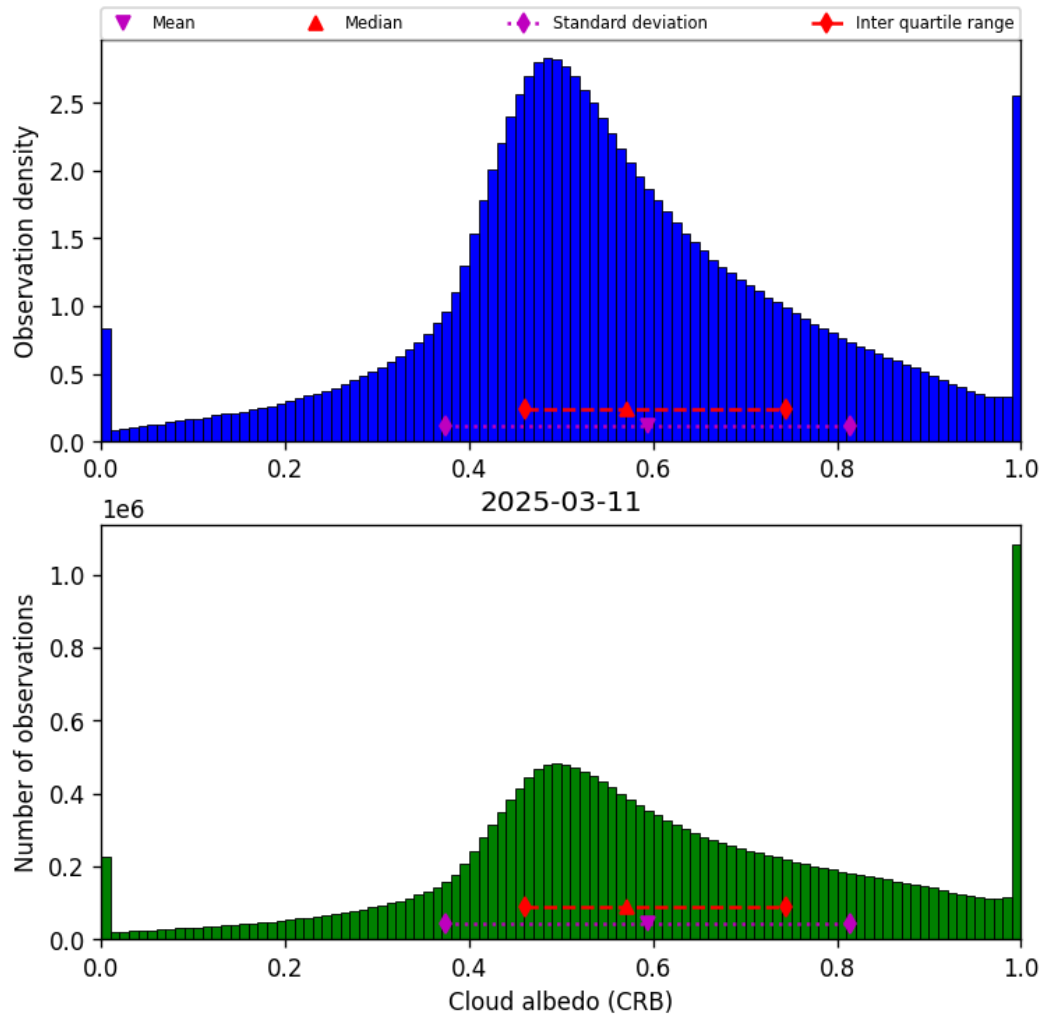


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-11 to 2025-03-12

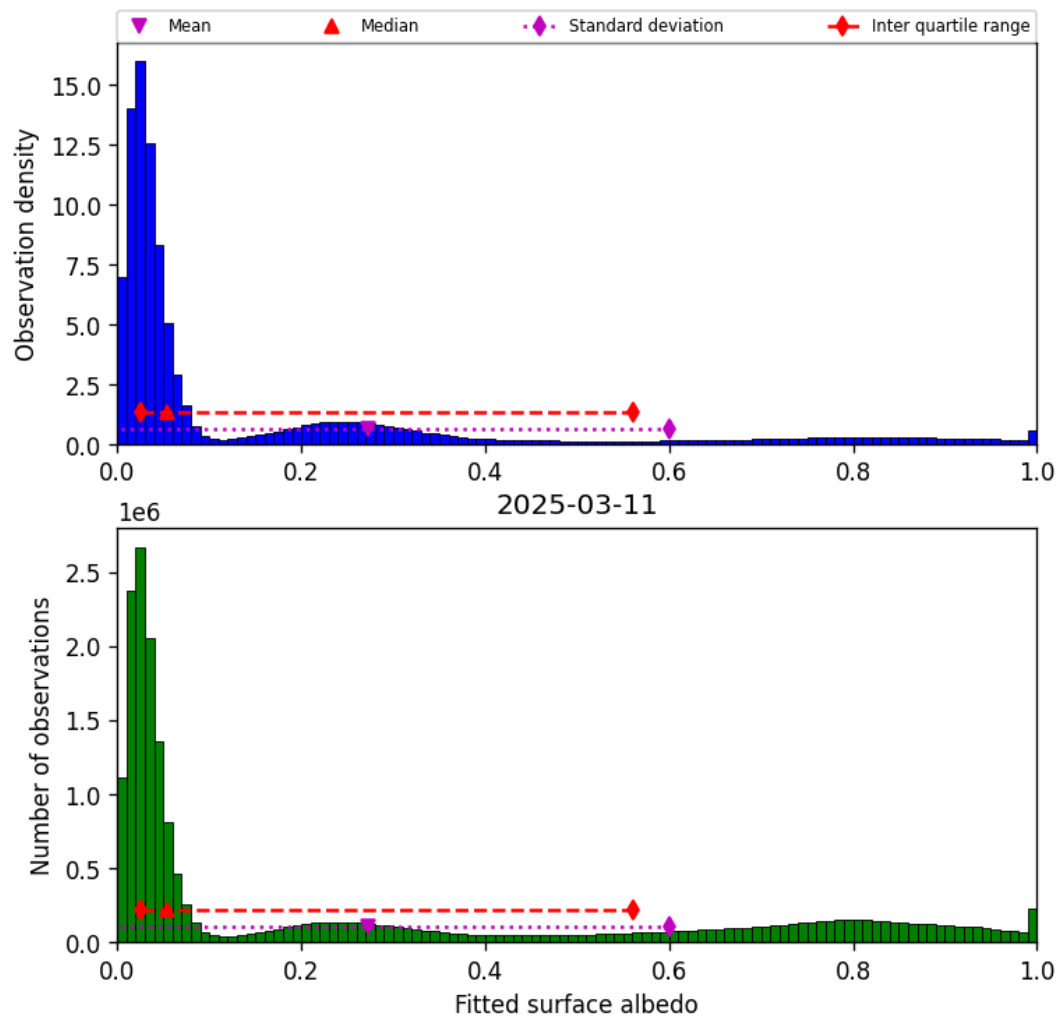


Figure 43: Histogram of “Fitted surface albedo” for 2025-03-11 to 2025-03-12

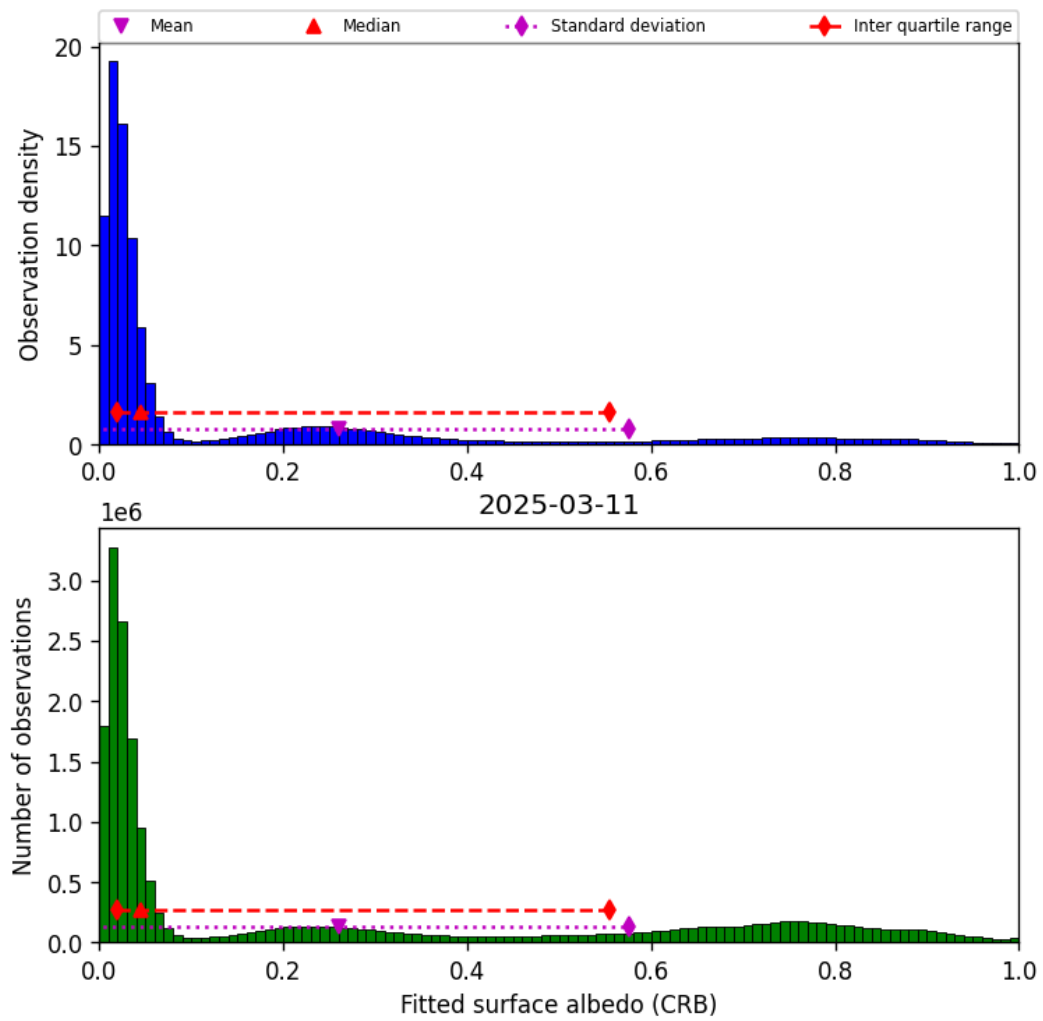


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-11 to 2025-03-12

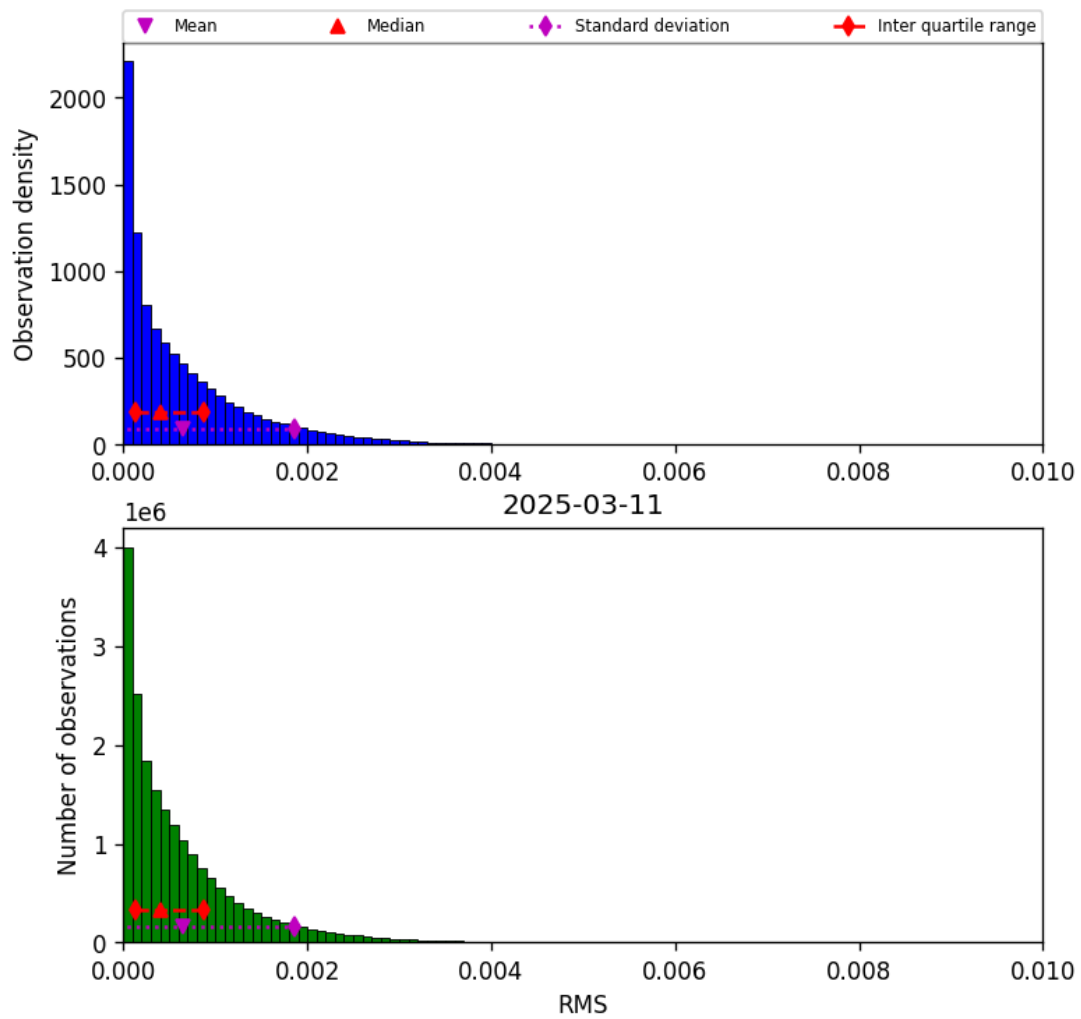


Figure 45: Histogram of “RMS” for 2025-03-11 to 2025-03-12

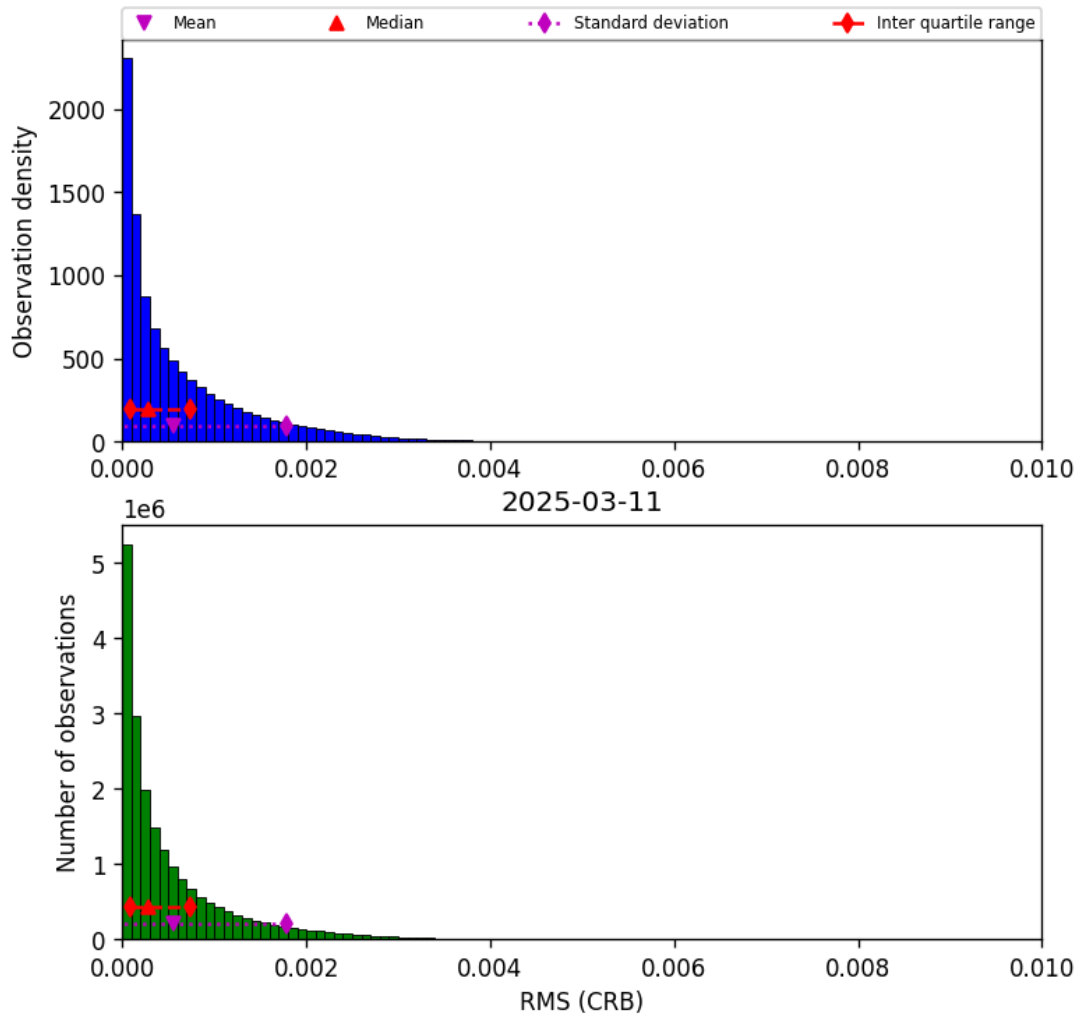


Figure 46: Histogram of "RMS (CRB)" for 2025-03-11 to 2025-03-12

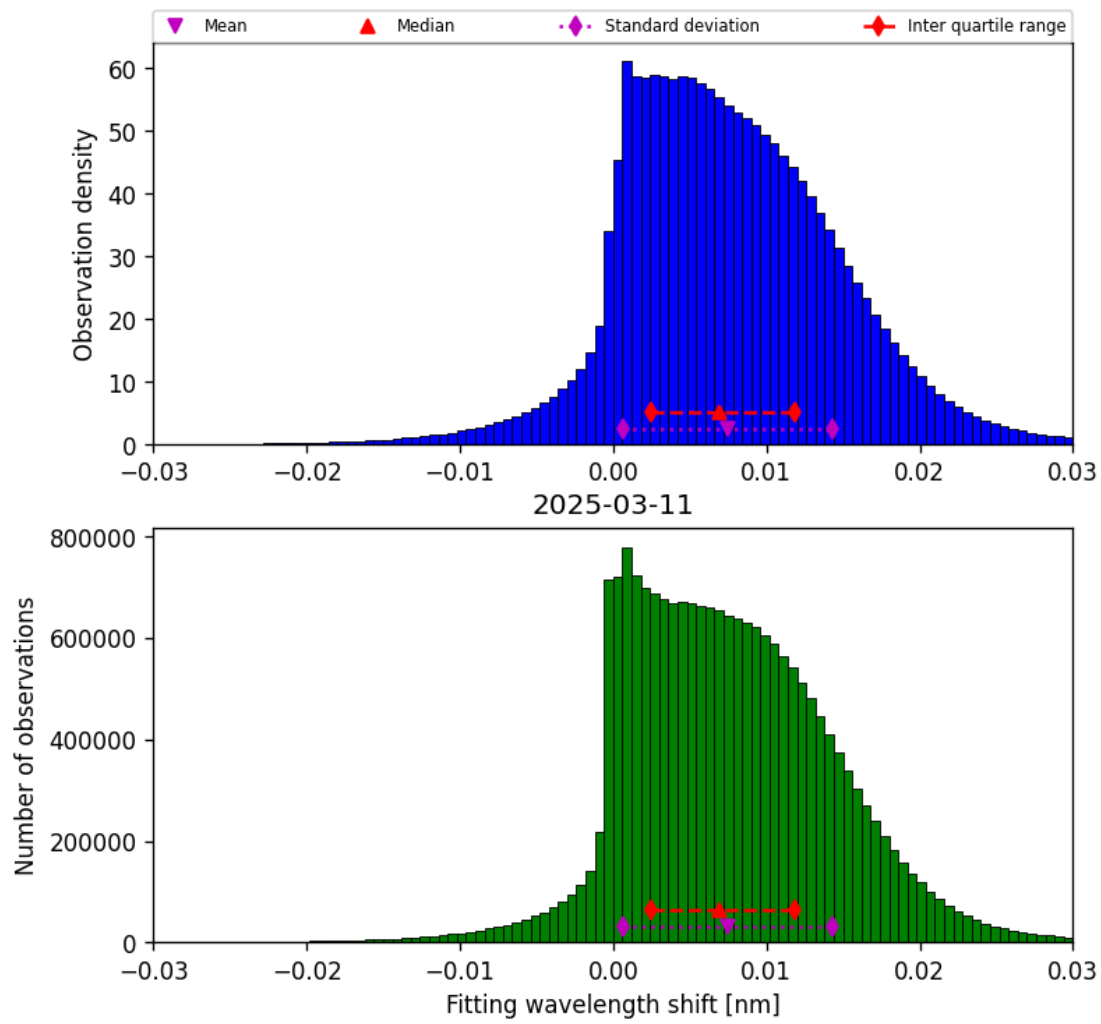


Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-11 to 2025-03-12

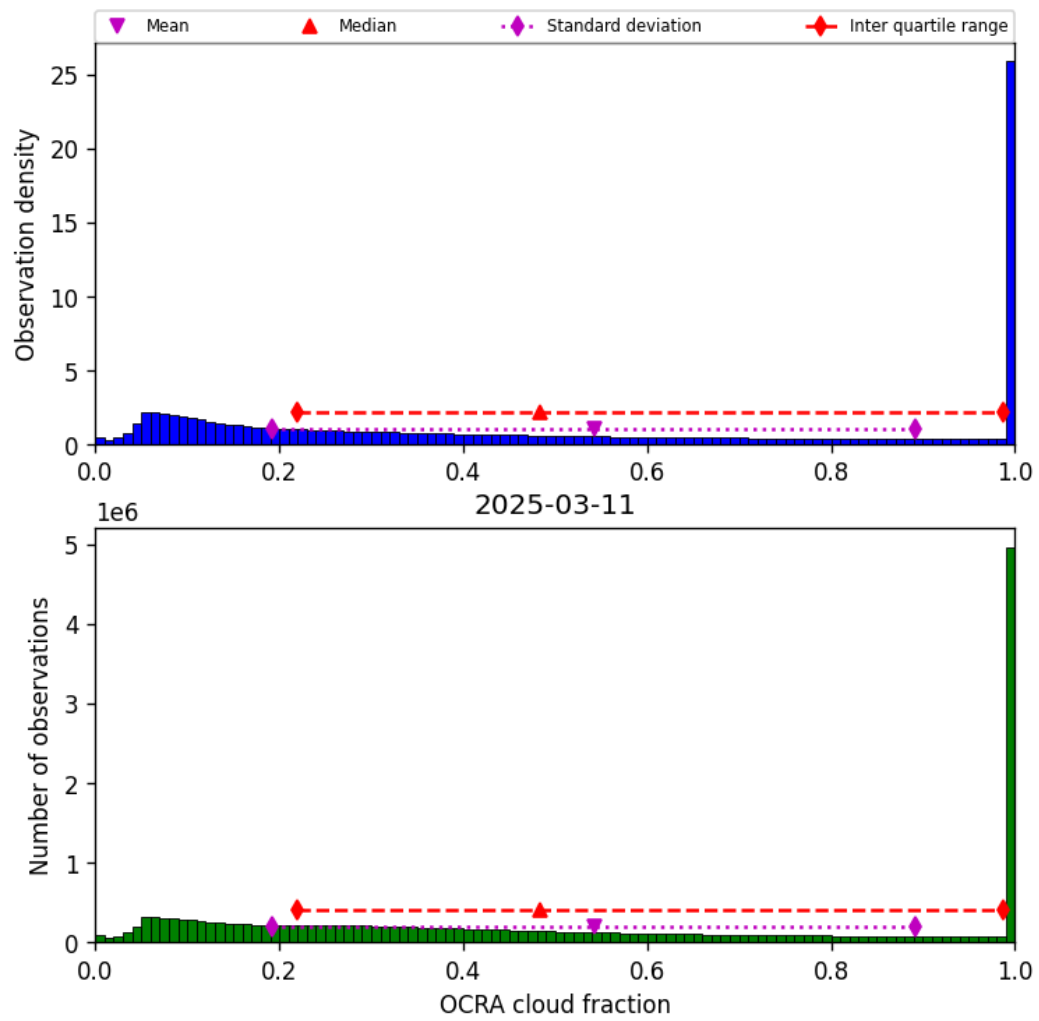


Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-11 to 2025-03-12

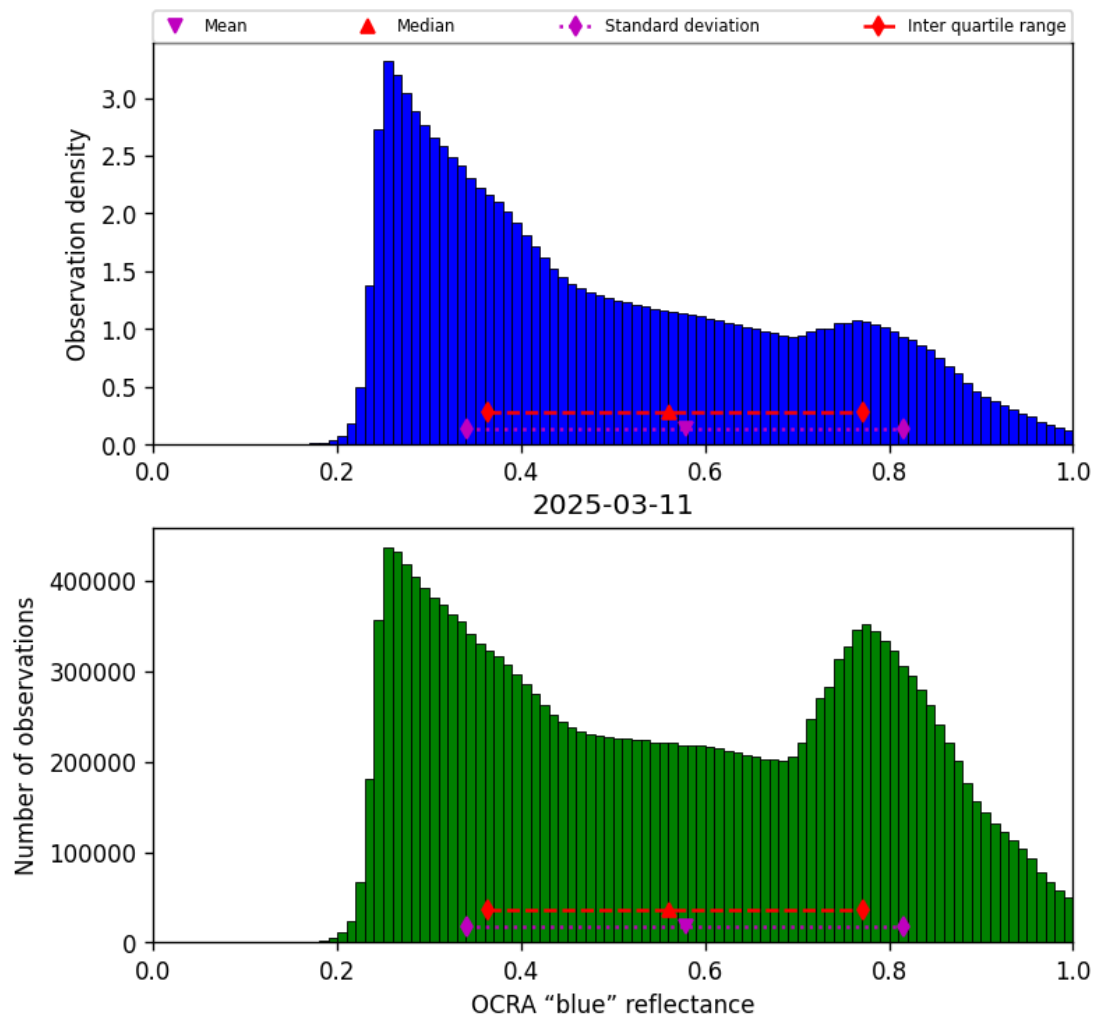


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-03-11 to 2025-03-12

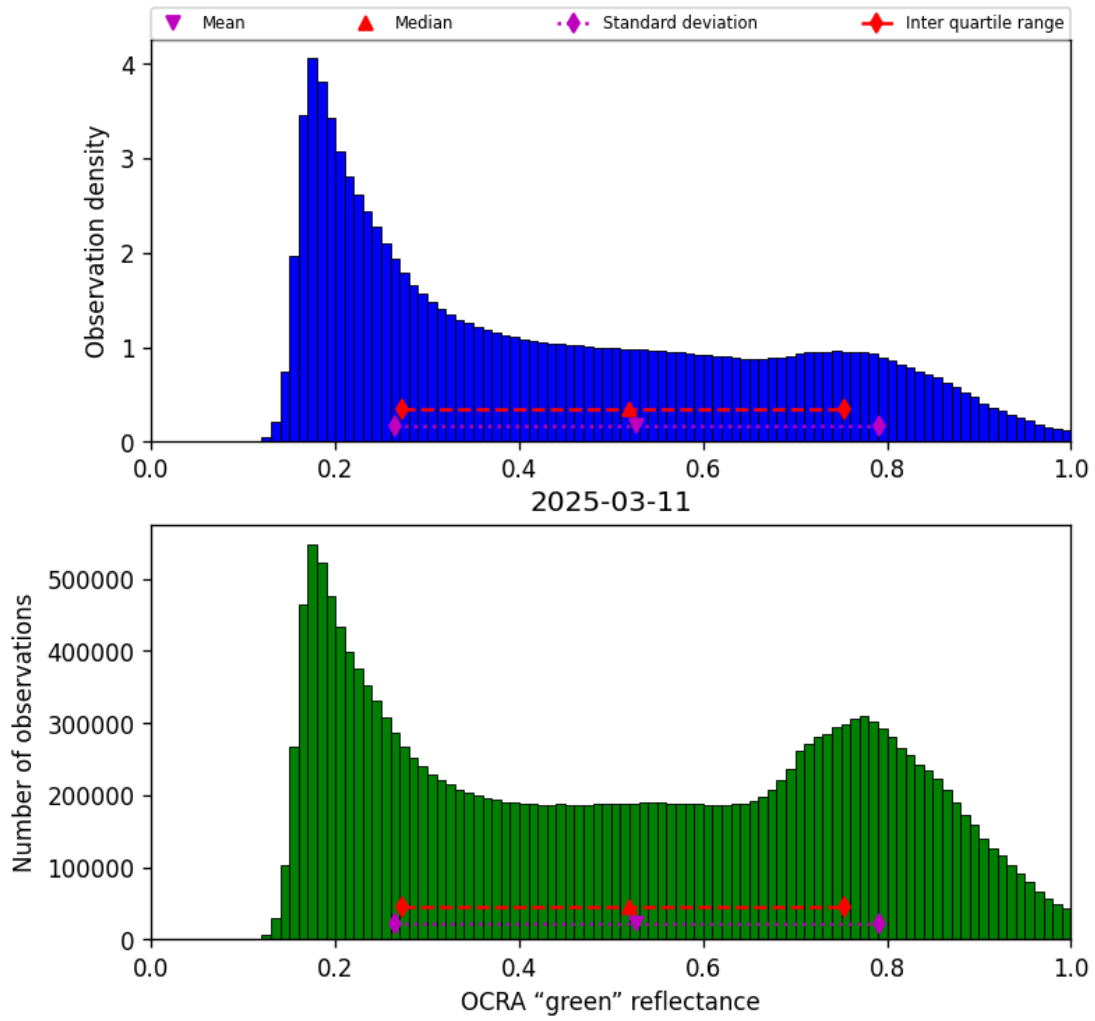


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-11 to 2025-03-12

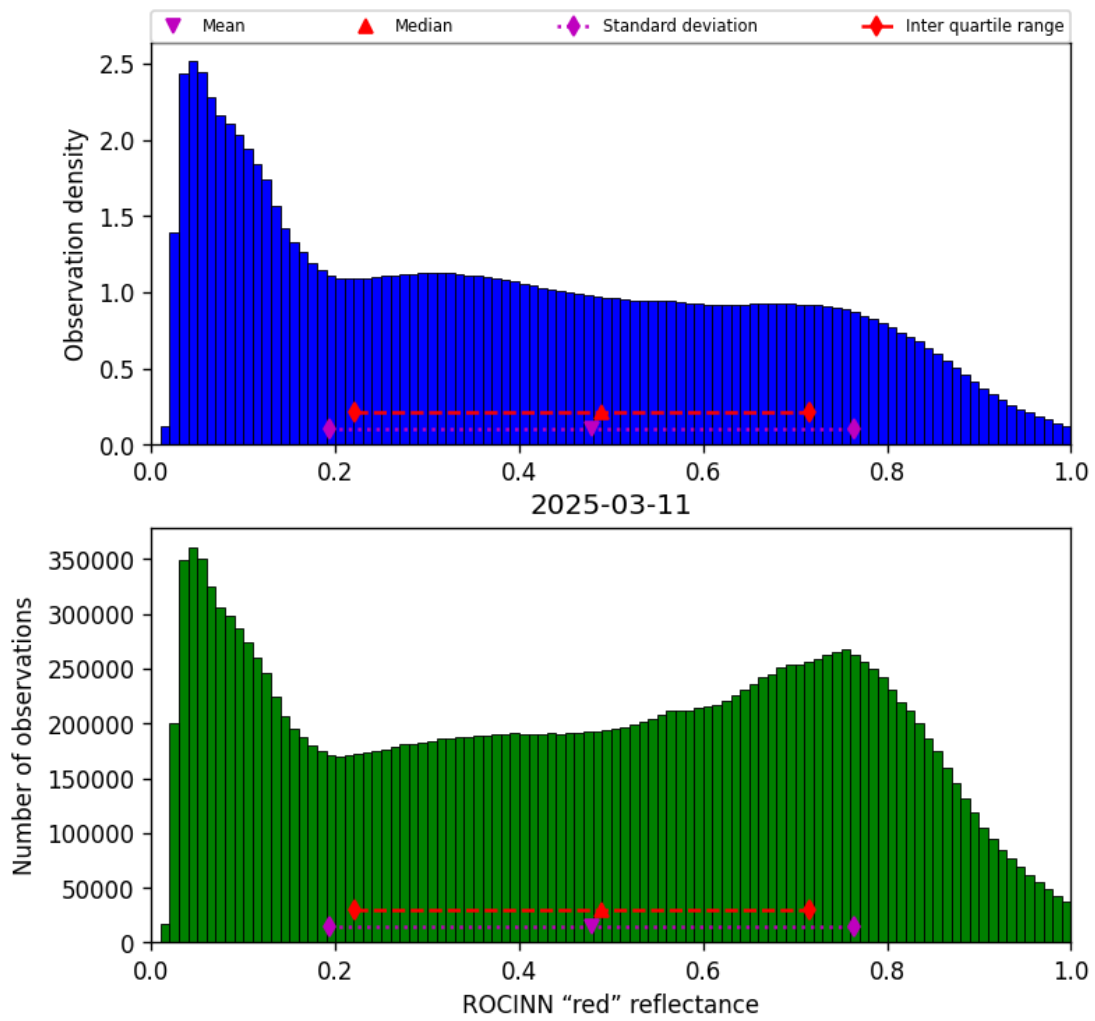


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-11 to 2025-03-12

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.

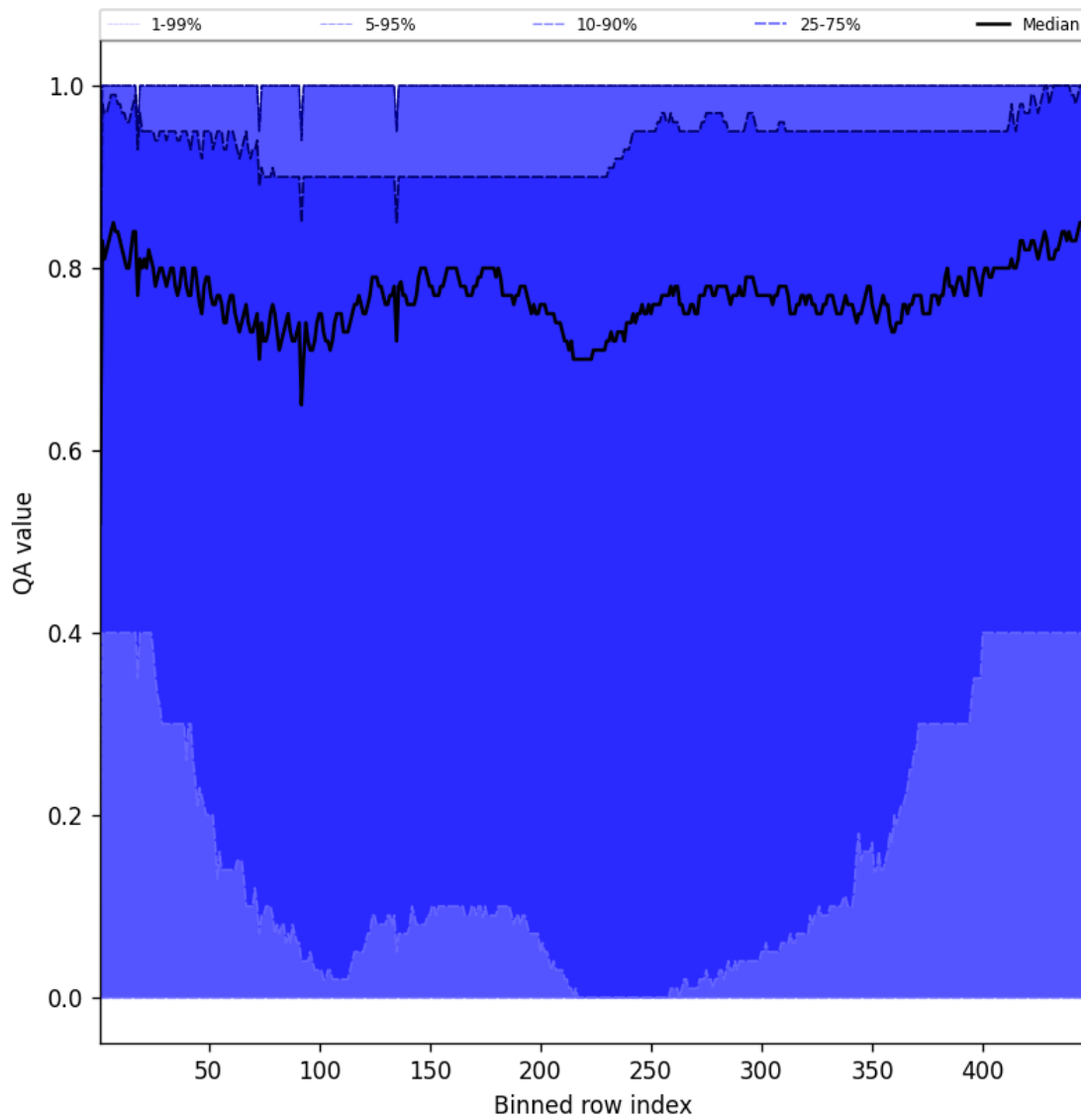


Figure 52: Along track statistics of "QA value" for 2025-03-11 to 2025-03-12

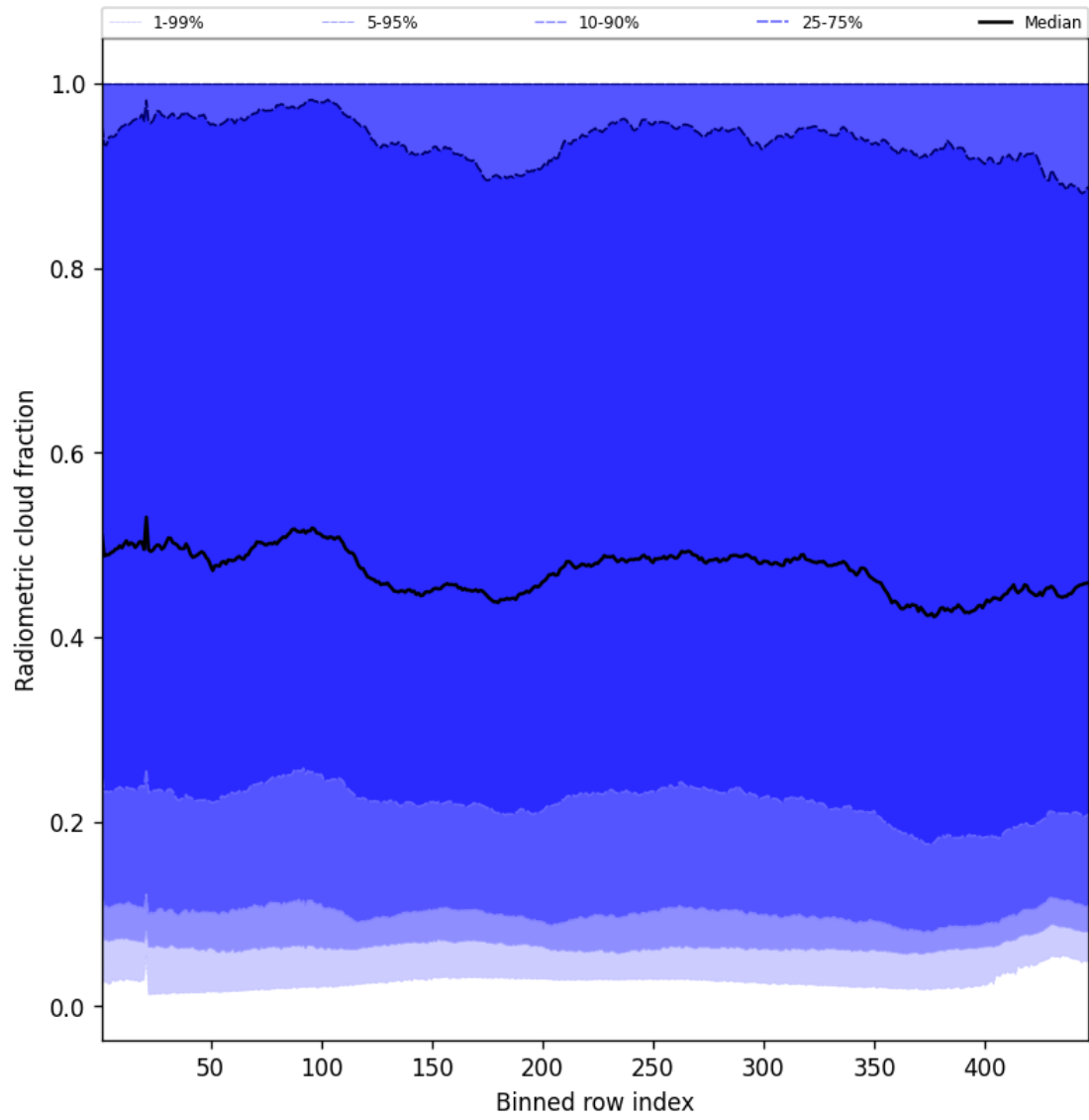


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-11 to 2025-03-12

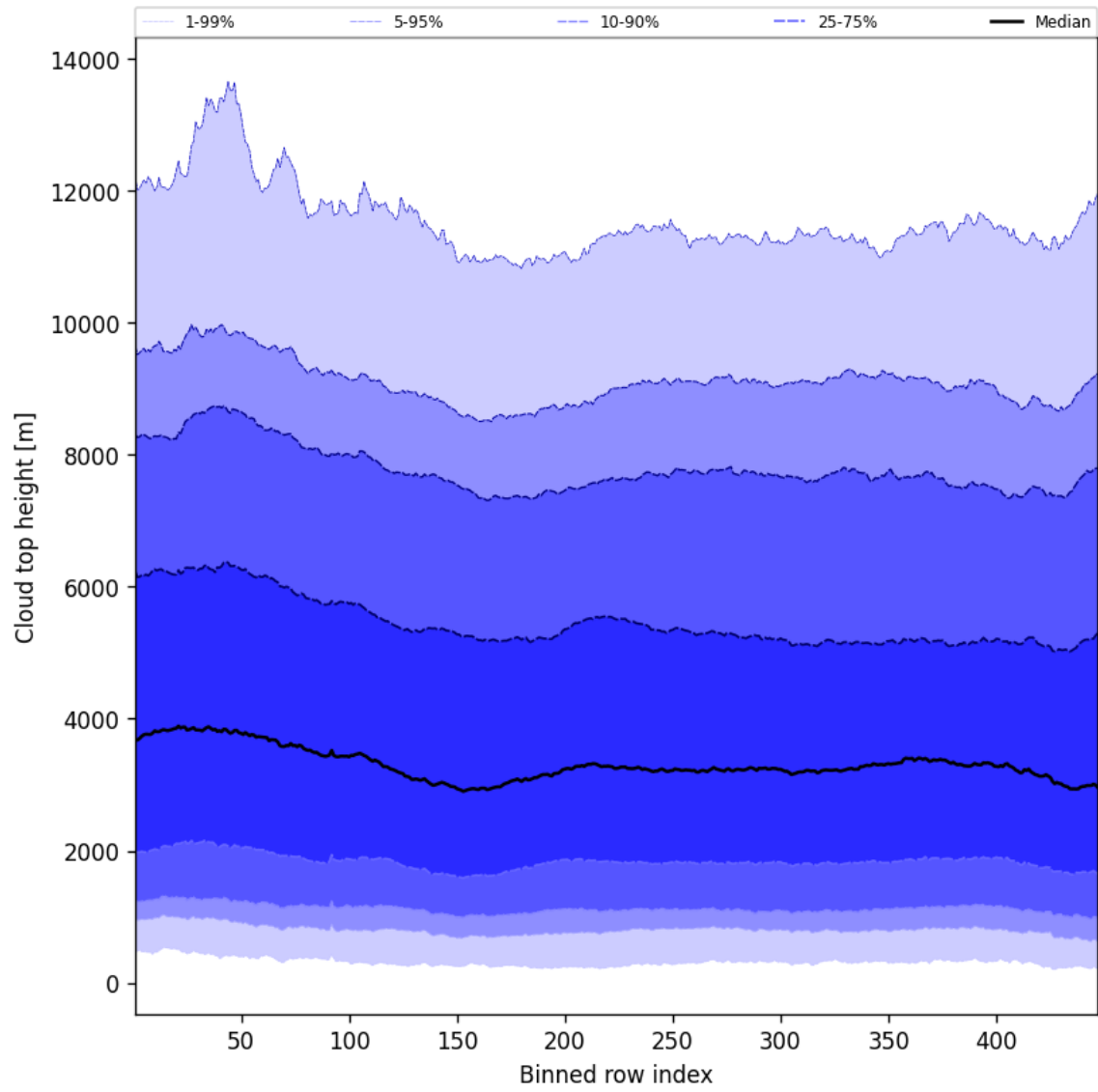


Figure 54: Along track statistics of “Cloud top height” for 2025-03-11 to 2025-03-12

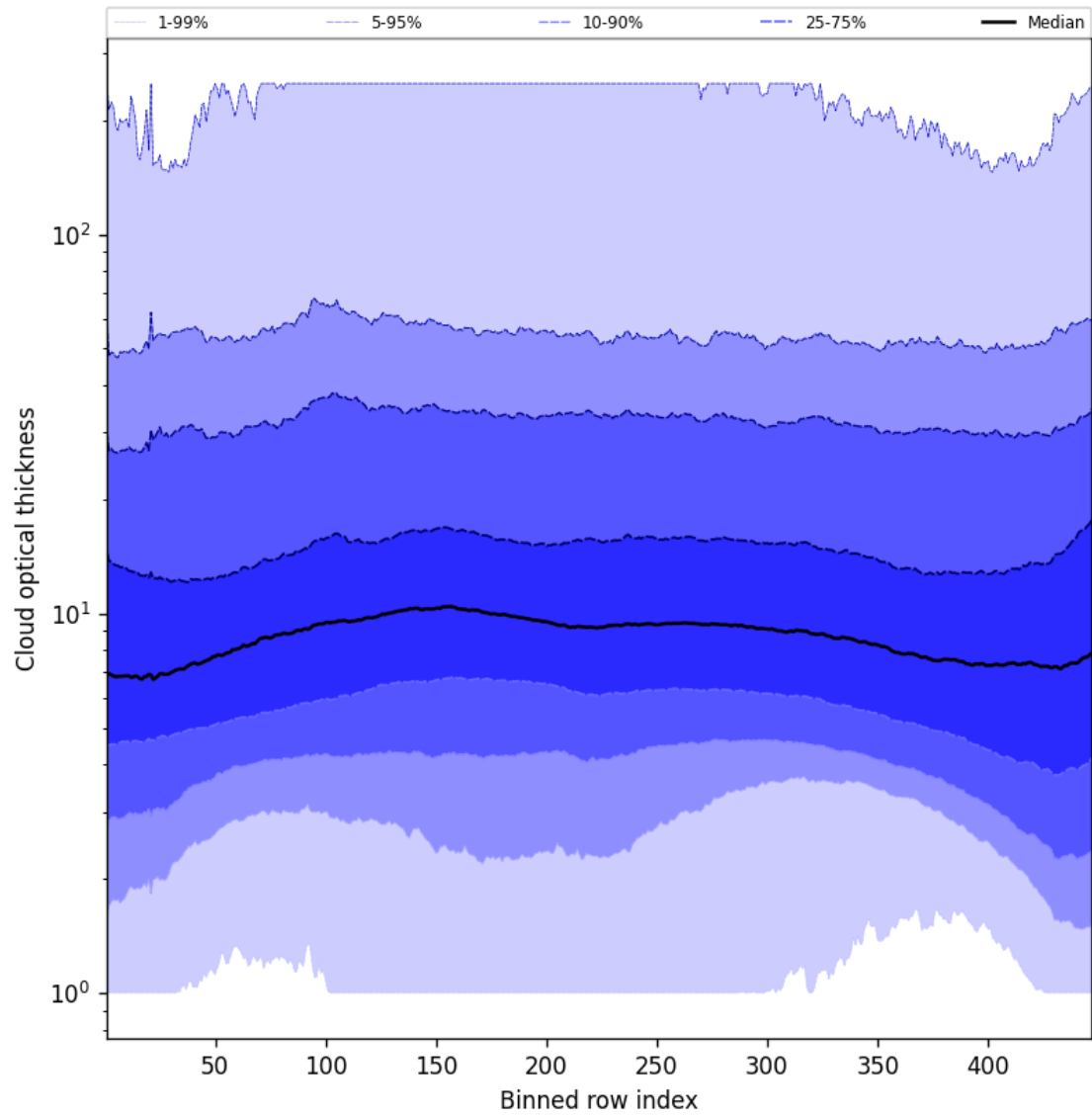


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-11 to 2025-03-12

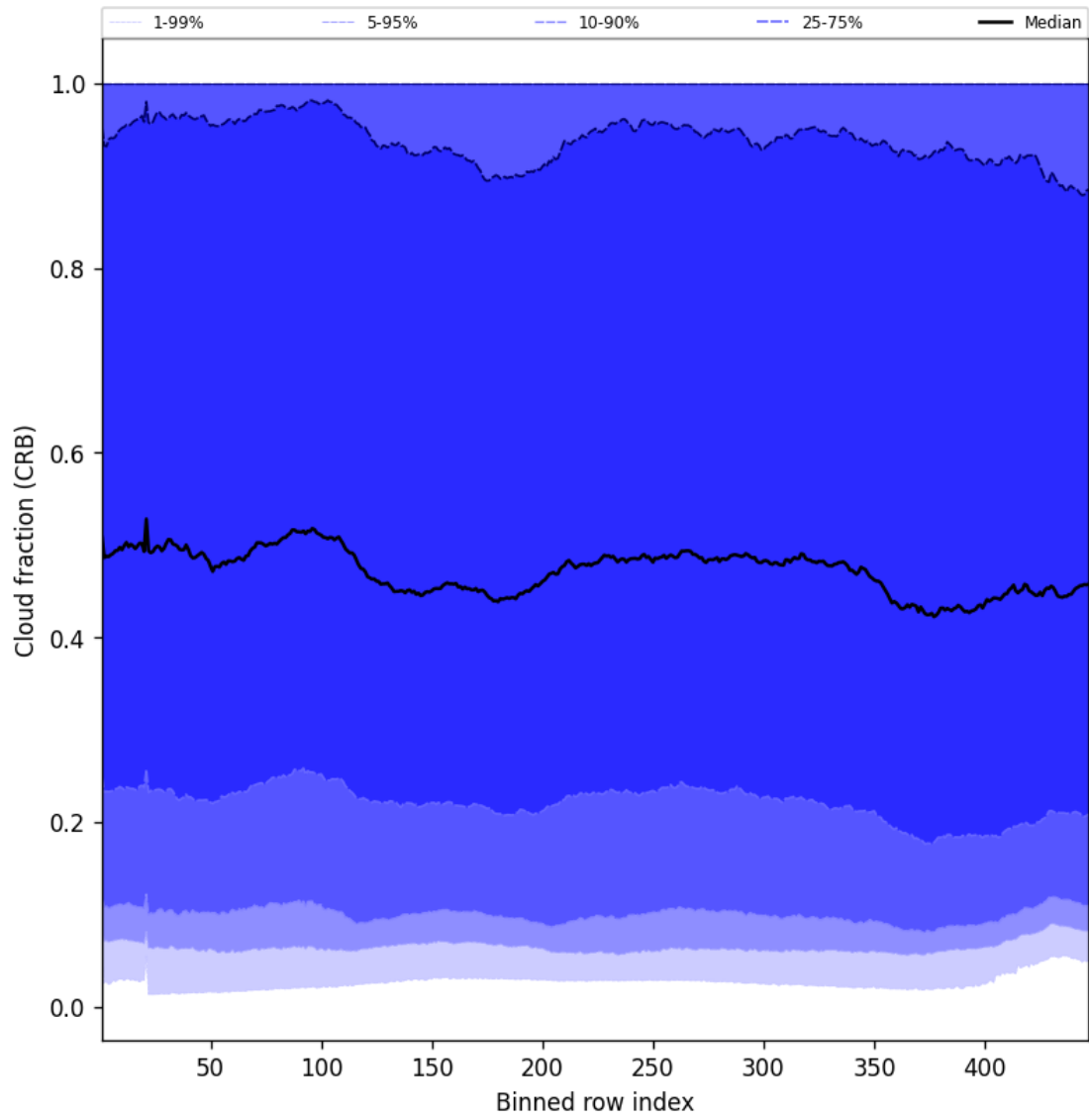


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-11 to 2025-03-12

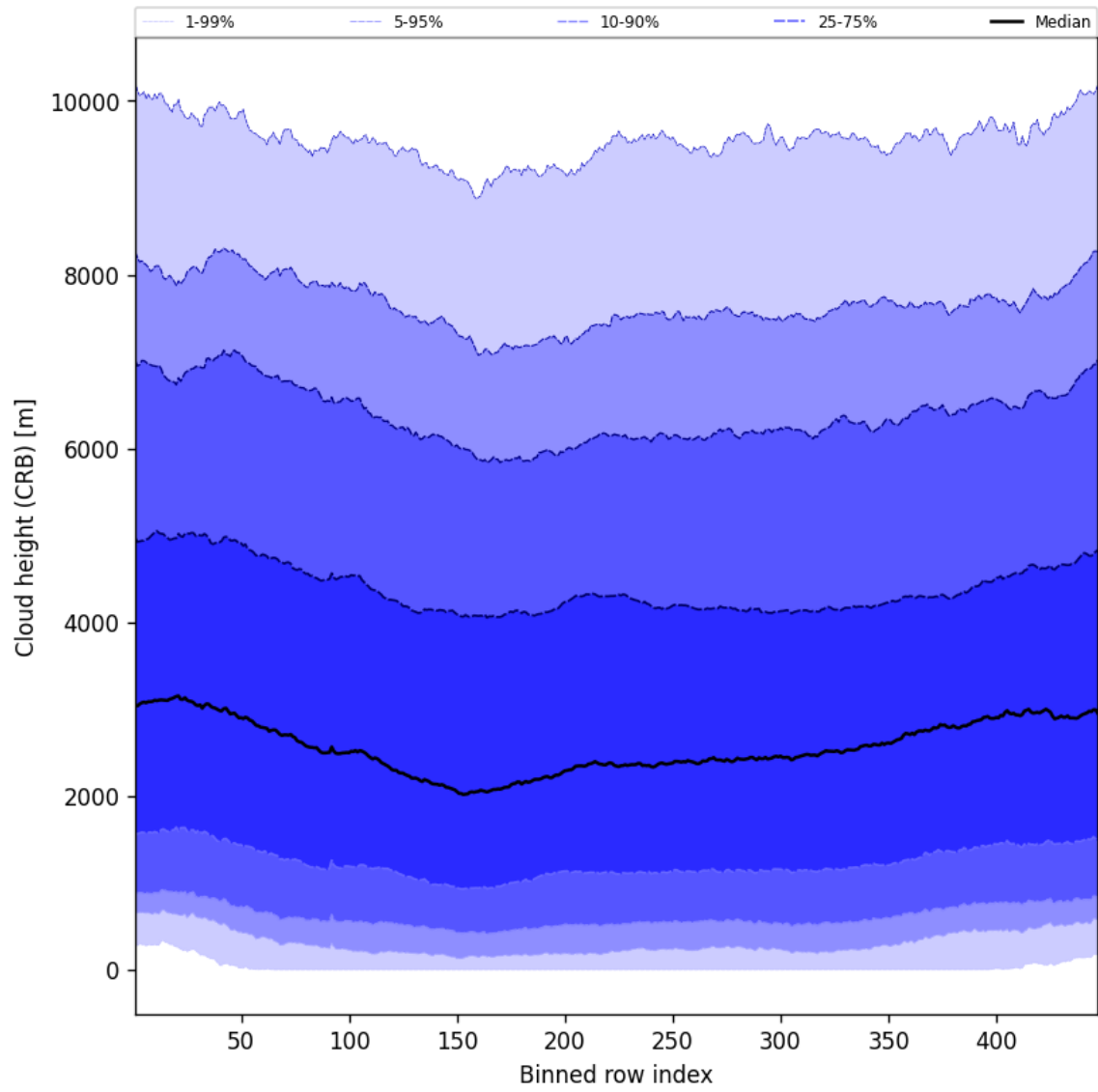


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-11 to 2025-03-12

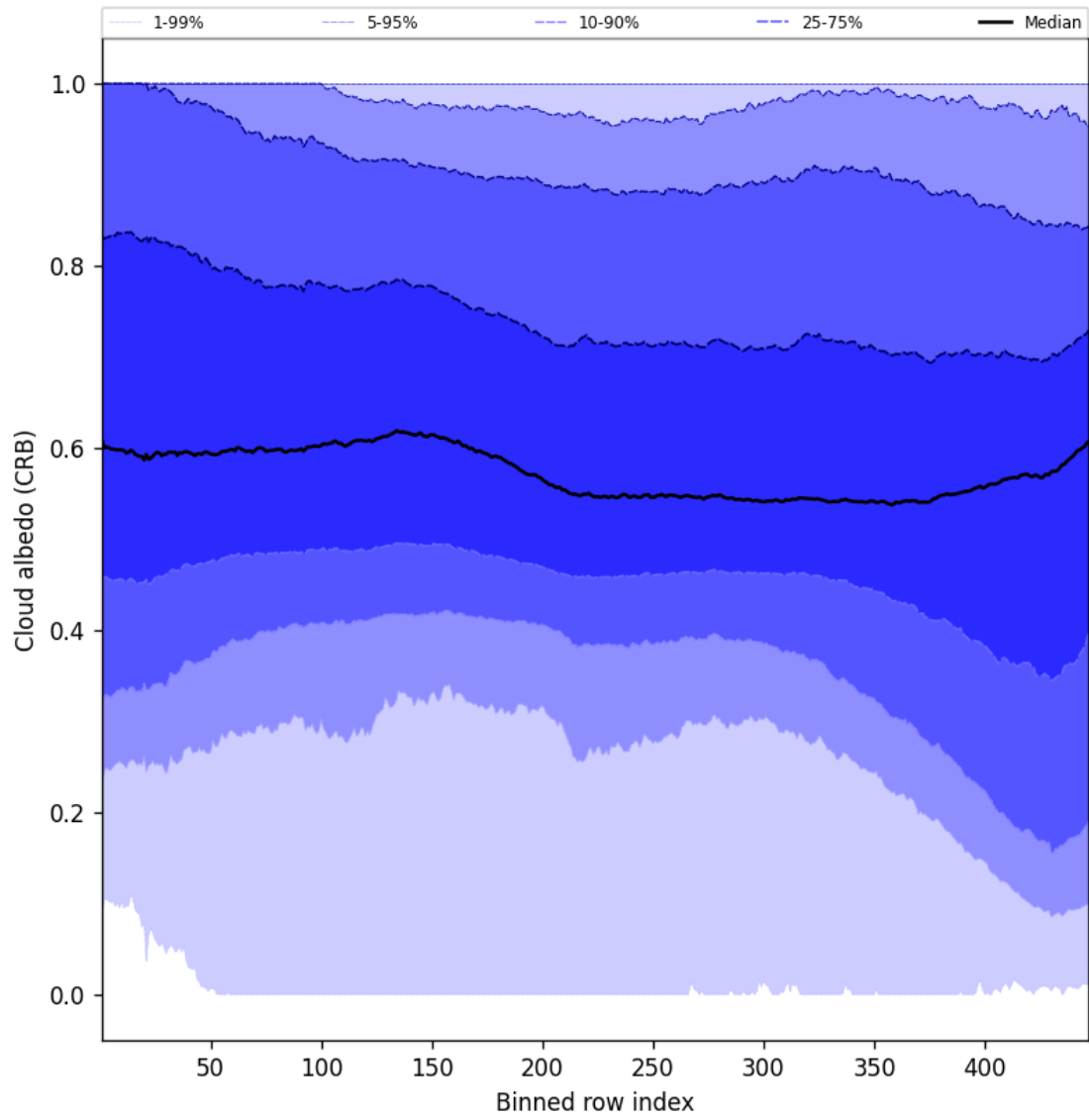


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-11 to 2025-03-12

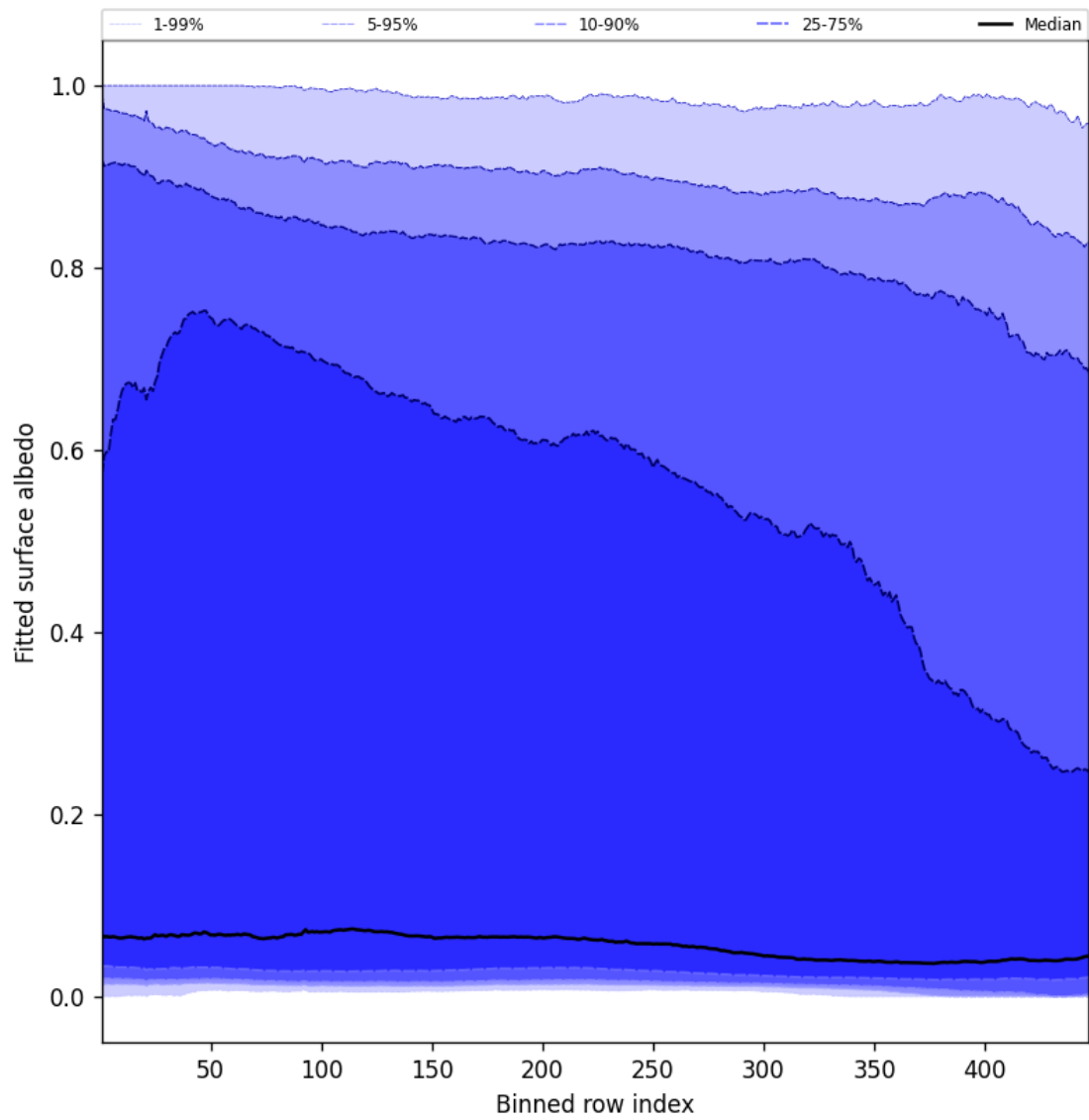


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-11 to 2025-03-12

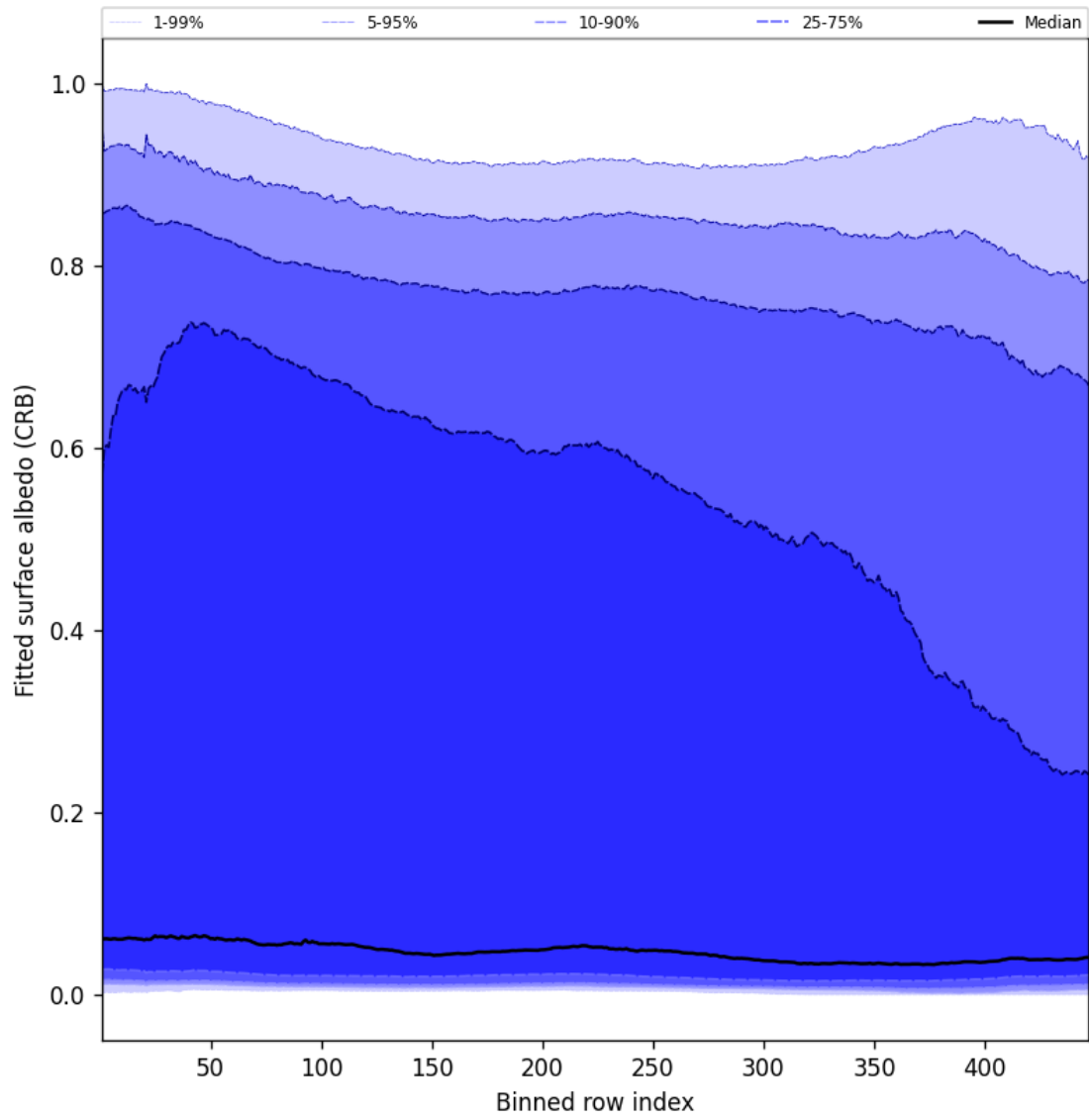


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-11 to 2025-03-12

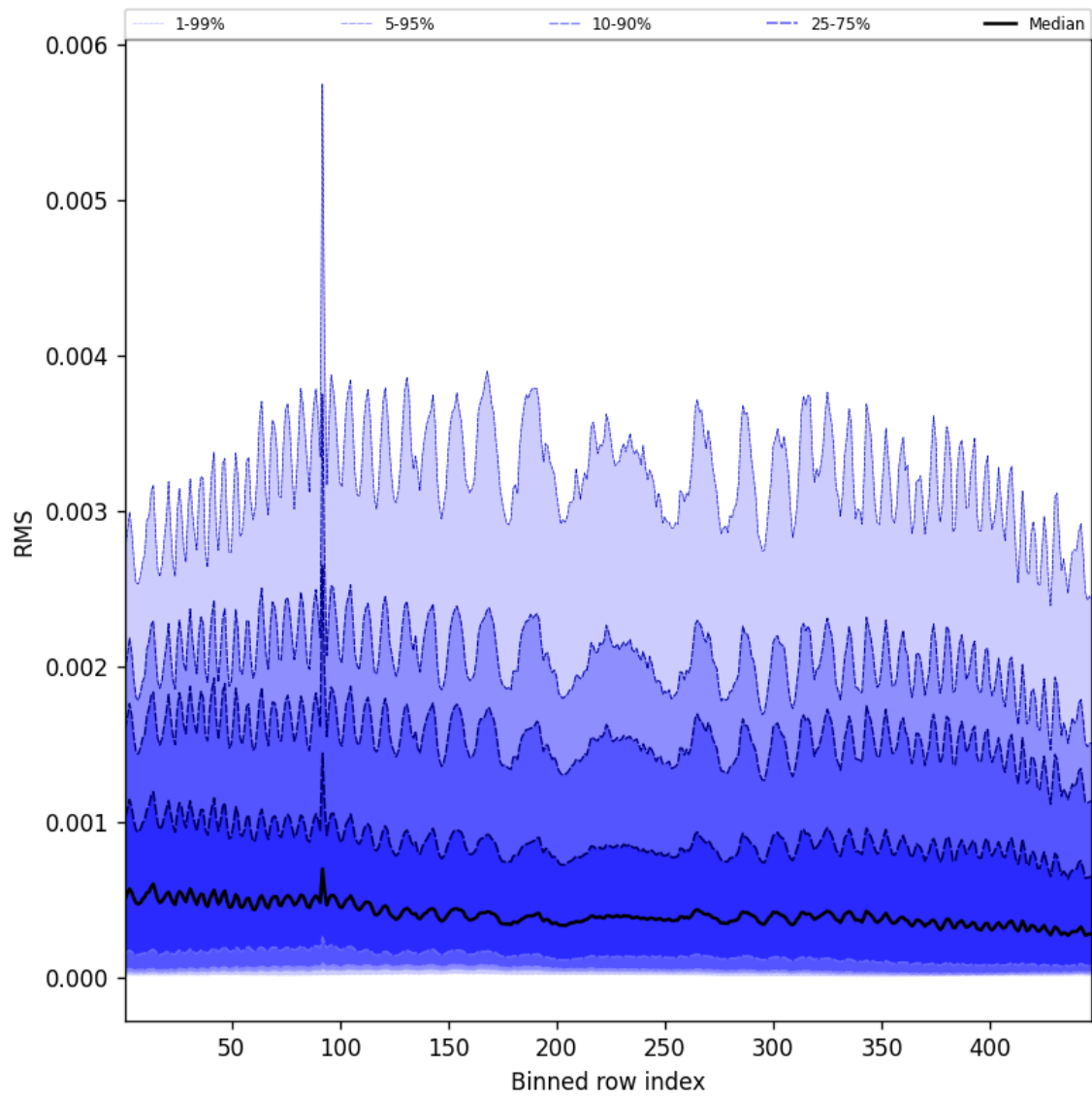


Figure 61: Along track statistics of “RMS” for 2025-03-11 to 2025-03-12

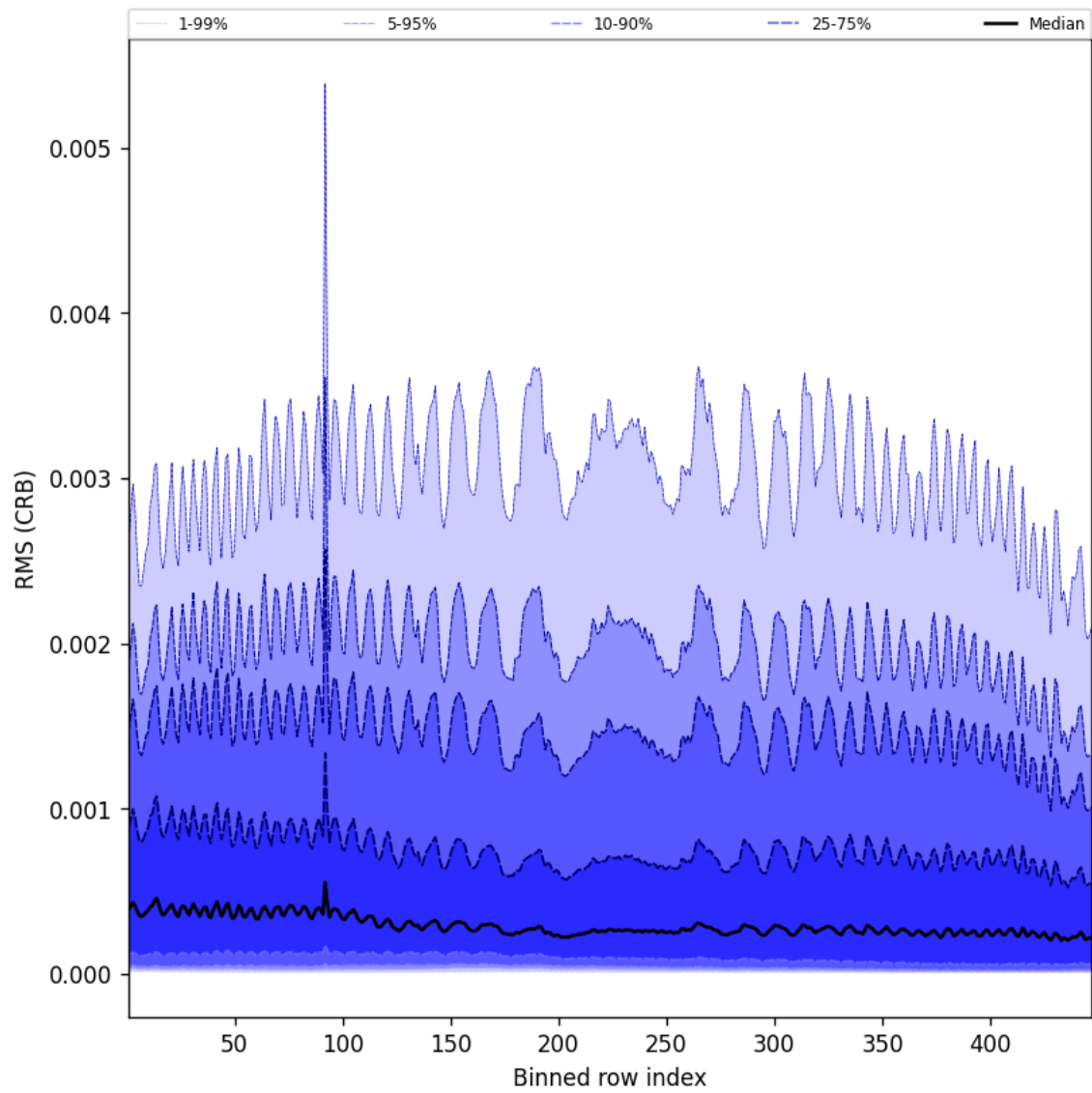


Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-11 to 2025-03-12

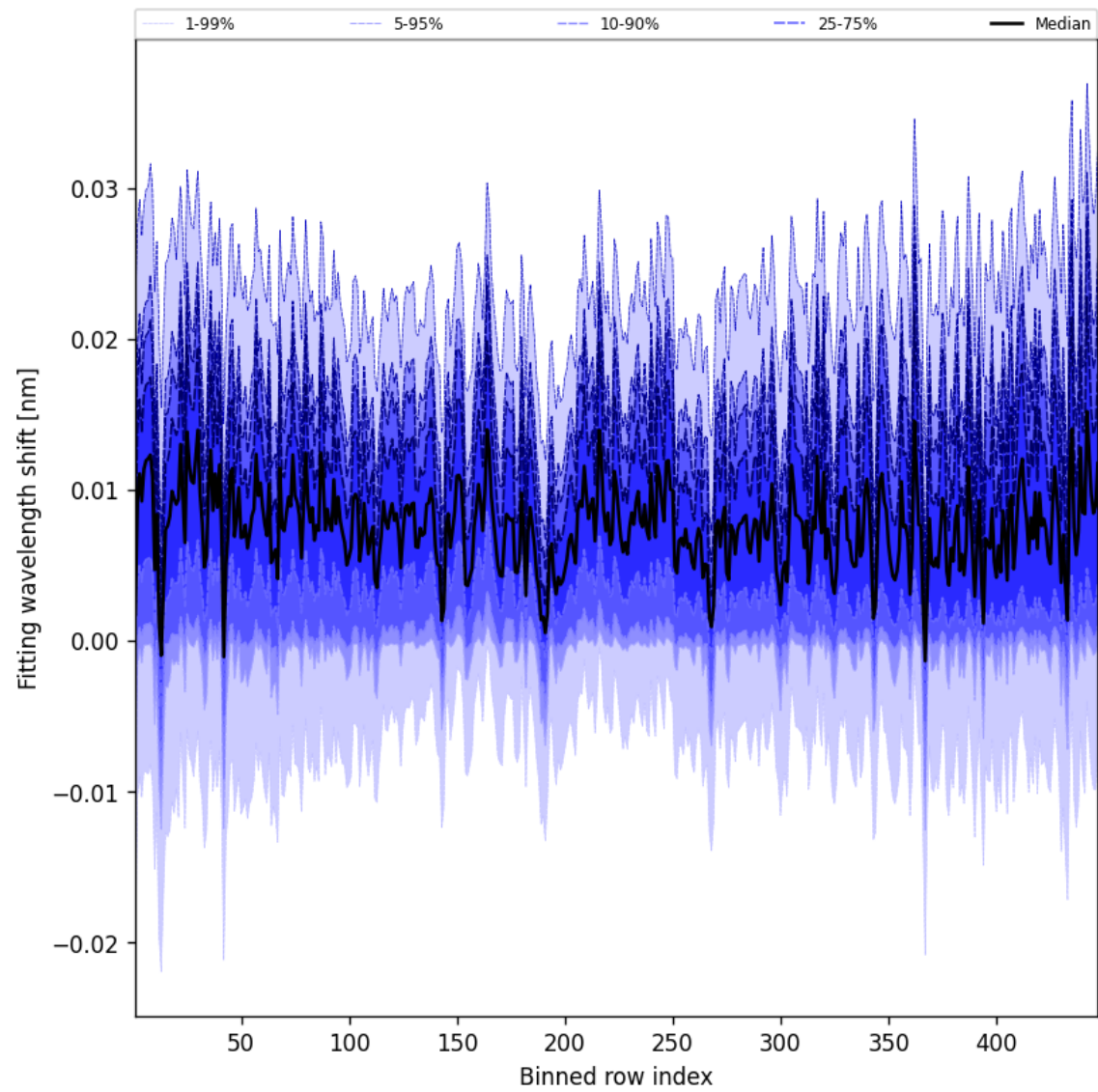


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-11 to 2025-03-12

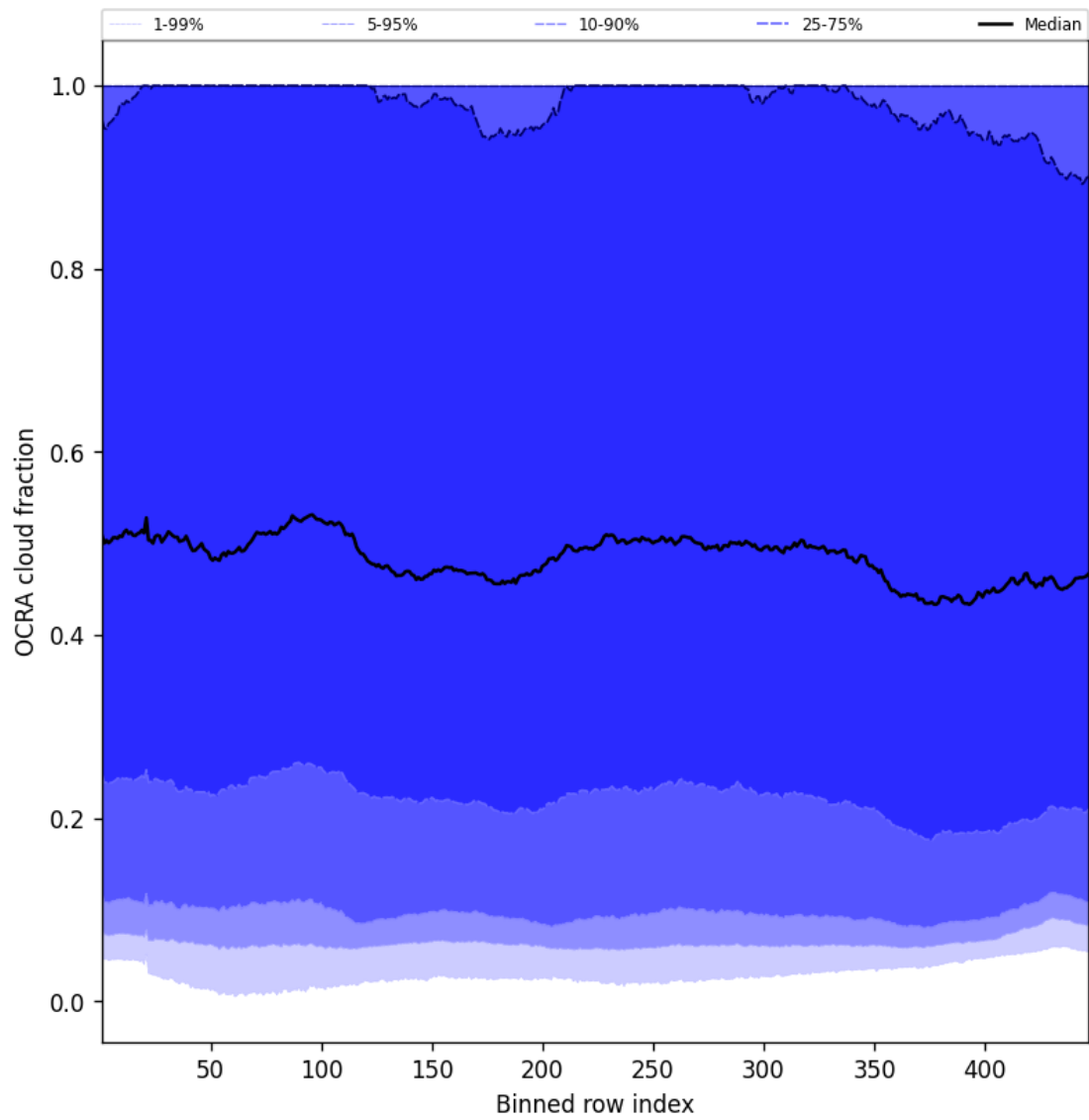


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-11 to 2025-03-12

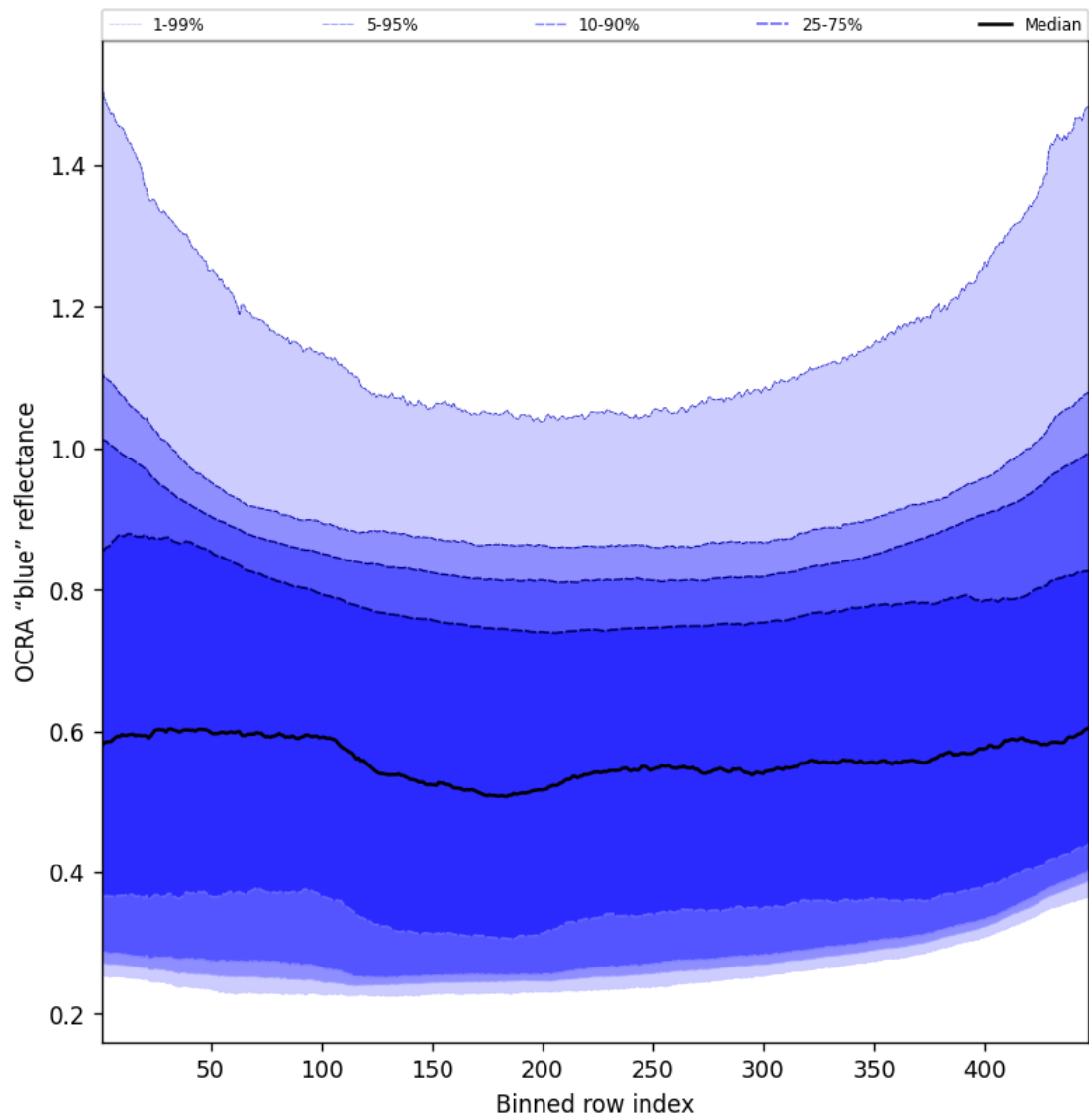


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-11 to 2025-03-12

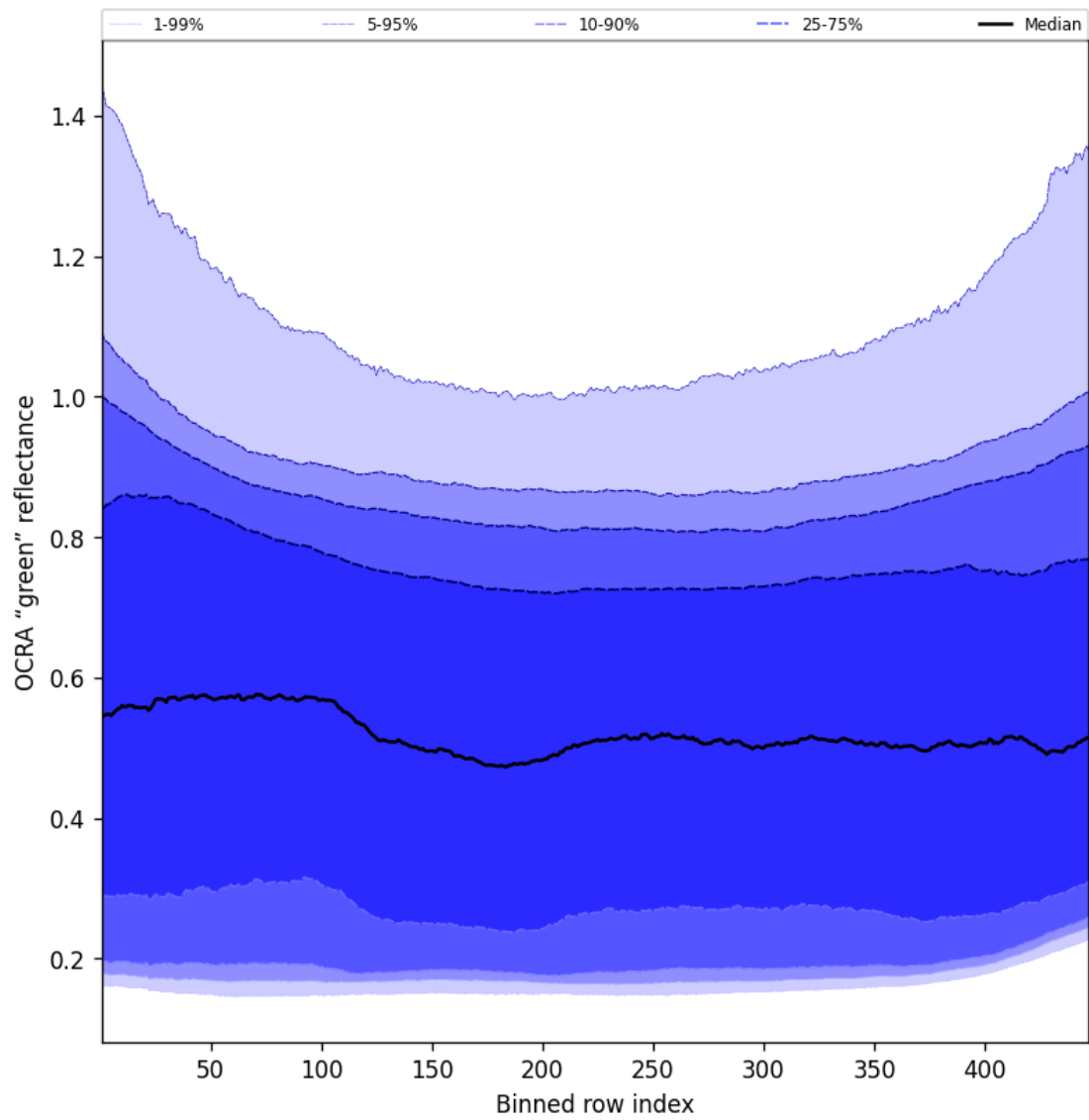


Figure 66: Along track statistics of "OCRA "green" reflectance" for 2025-03-11 to 2025-03-12

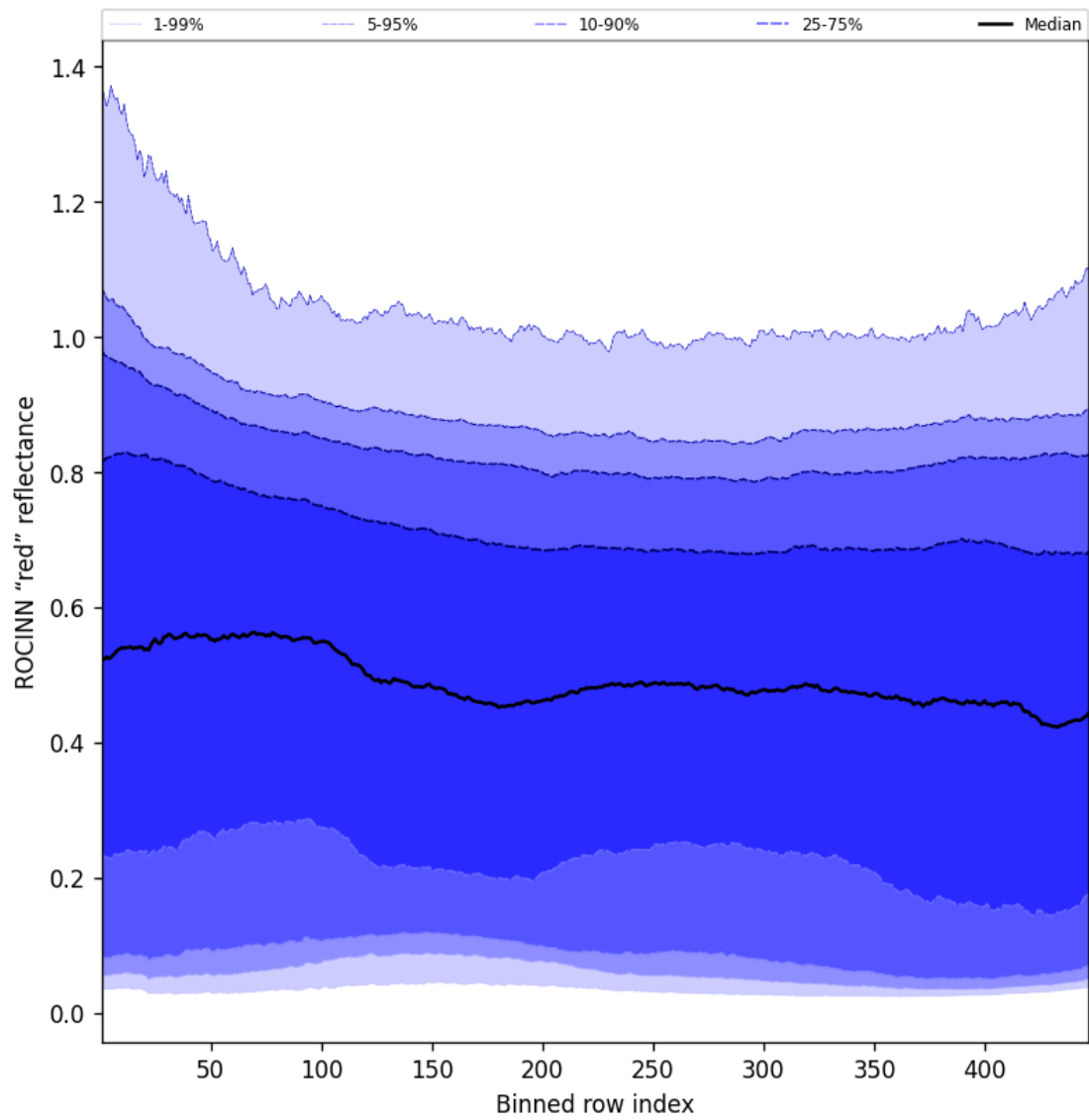


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-03-11 to 2025-03-12

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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