

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-22 (19:31)

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 ± 0.386	18414079	5.000×10^{-3}	0.680	0.760	0.0	1.000
cloud fraction [1]	0.545 ± 0.344	18414079	0.995	0.717	0.495	4.968×10^{-3}	1.000
cloud top height [m]	$(0.399 \pm 0.275) \times 10^4$	18414079	1.575×10^3	3.626×10^3	3.355×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.6 ± 35.0	18414079	8.91	9.95	9.02	1.000	250
cloud fraction crb [1]	0.545 ± 0.343	18414079	0.995	0.716	0.495	8.210×10^{-3}	1.000
cloud height crb [m]	$(0.312 \pm 0.238) \times 10^4$	18414079	75.0	3.168×10^3	2.586×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.594 ± 0.215	18414079	0.995	0.274	0.571	0.0	1.000
surface albedo fitted [1]	0.267 ± 0.321	18414079	2.500×10^{-2}	0.526	5.365×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.255 ± 0.310	18414079	1.500×10^{-2}	0.532	4.499×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.497 \pm 8.934) \times 10^{-4}$	18414079	5.000×10^{-5}	7.438×10^{-4}	4.042×10^{-4}	1.008×10^{-6}	0.231
fitted root mean square crb [1]	$(5.580 \pm 7.070) \times 10^{-4}$	18414079	5.000×10^{-5}	6.552×10^{-4}	2.918×10^{-4}	1.078×10^{-6}	0.198
wavelength shift [nm]	$(7.456 \pm 6.773) \times 10^{-3}$	18414079	9.000×10^{-4}	9.280×10^{-3}	6.921×10^{-3}	-5.178×10^{-2}	6.551×10^{-2}
cloud fraction apriori [1]	0.553 ± 0.348	18414079	0.995	0.761	0.508	0.0	1.000
reflectance blue ocra [1]	0.575 ± 0.235	18414079	0.275	0.401	0.560	0.136	2.05
reflectance green ocra [1]	0.525 ± 0.261	18414079	0.175	0.472	0.519	7.983×10^{-2}	1.96
reflectance continuum aband [1]	0.479 ± 0.283	18414079	4.500×10^{-2}	0.475	0.490	1.036×10^{-2}	4.28

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	0.250	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.595×10^{-2}	6.635×10^{-2}	0.103	0.149	0.229	0.946	1.000	1.000	1.000	1.000
cloud top height [m]	179	716	1.119×10^3	1.430×10^3	1.851×10^3	5.476×10^3	6.843×10^3	8.069×10^3	9.512×10^3	1.185×10^4
cloud optical thickness [1]	1.000	2.64	3.80	4.66	5.58	15.5	23.6	35.6	61.3	250
cloud fraction crb [1]	2.559×10^{-2}	6.554×10^{-2}	0.102	0.149	0.229	0.945	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	233	603	871	1.238×10^3	4.407×10^3	5.527×10^3	6.572×10^3	7.902×10^3	1.019×10^4
cloud albedo crb [1]	4.695×10^{-3}	0.234	0.351	0.414	0.463	0.737	0.832	0.910	0.994	1.000
surface albedo fitted [1]	0.0	9.860×10^{-3}	1.501×10^{-2}	1.948×10^{-2}	2.598×10^{-2}	0.552	0.724	0.813	0.898	0.992
surface albedo fitted crb [1]	7.950×10^{-5}	7.272×10^{-3}	1.111×10^{-2}	1.468×10^{-2}	2.013×10^{-2}	0.552	0.690	0.770	0.849	0.946
fitted root mean square [1]	1.582×10^{-5}	3.099×10^{-5}	4.913×10^{-5}	7.733×10^{-5}	1.358×10^{-4}	8.796×10^{-4}	1.195×10^{-3}	1.542×10^{-3}	2.090×10^{-3}	3.414×10^{-3}
fitted root mean square crb [1]	9.241×10^{-6}	2.086×10^{-5}	3.606×10^{-5}	5.582×10^{-5}	9.452×10^{-5}	7.497×10^{-4}	1.085×10^{-3}	1.446×10^{-3}	2.001×10^{-3}	3.247×10^{-3}
wavelength shift [nm]	-8.457×10^{-3}	-1.291×10^{-3}	6.031×10^{-5}	1.009×10^{-3}	2.527×10^{-3}	1.181×10^{-2}	1.413×10^{-2}	1.616×10^{-2}	1.893×10^{-2}	2.512×10^{-2}
cloud fraction apriori [1]	2.697×10^{-2}	6.444×10^{-2}	9.897×10^{-2}	0.146	0.231	0.991	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.234	0.258	0.282	0.312	0.363	0.764	0.820	0.869	0.941	1.17
reflectance green ocra [1]	0.152	0.172	0.192	0.219	0.274	0.746	0.809	0.857	0.924	1.11
reflectance continuum aband [1]	2.914×10^{-2}	5.231×10^{-2}	8.544×10^{-2}	0.132	0.231	0.707	0.779	0.832	0.902	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]	0.537 ± 0.388	9355553	0.900	0.690	0.0	1.000	0.0	0.900
cloud fraction [1]	0.518 ± 0.338	9355553	0.671	0.448	5.764×10^{-3}	1.000	0.217	0.888
cloud top height [m]	$(0.382 \pm 0.257) \times 10^4$	9355553	3.281×10^3	3.334×10^3	0.0	2.000×10^4	1.839×10^3	5.120×10^3
cloud optical thickness [1]	19.3 ± 39.1	9355553	8.92	8.44	1.000	250	5.43	14.4
cloud fraction crb [1]	0.518 ± 0.337	9355553	0.669	0.449	8.251×10^{-3}	1.000	0.218	0.887
cloud height crb [m]	$(0.288 \pm 0.215) \times 10^4$	9355553	2.927×10^3	2.522×10^3	0.0	2.000×10^4	1.159×10^3	4.086×10^3
cloud albedo crb [1]	0.621 ± 0.235	9355553	0.337	0.604	0.0	1.000	0.467	0.804
surface albedo fitted [1]	0.343 ± 0.323	9355553	0.617	0.236	0.0	1.000	3.660×10^{-2}	0.654
surface albedo fitted crb [1]	0.329 ± 0.307	9355553	0.606	0.237	0.0	1.000	2.962×10^{-2}	0.636
fitted root mean square [1]	$(7.527 \pm 10.680) \times 10^{-4}$	9355553	8.324×10^{-4}	4.887×10^{-4}	1.579×10^{-6}	0.231	1.701×10^{-4}	1.002×10^{-3}
fitted root mean square crb [1]	$(6.146 \pm 7.865) \times 10^{-4}$	9355553	7.100×10^{-4}	3.258×10^{-4}	1.879×10^{-6}	0.198	1.028×10^{-4}	8.128×10^{-4}
wavelength shift [nm]	$(8.040 \pm 6.846) \times 10^{-3}$	9355553	9.700×10^{-3}	7.584×10^{-3}	-5.178×10^{-2}	6.551×10^{-2}	2.910×10^{-3}	1.261×10^{-2}
cloud fraction apriori [1]	0.531 ± 0.341	9355553	0.703	0.468	0.0	1.000	0.225	0.928
reflectance blue oca [1]	0.596 ± 0.242	9355553	0.410	0.602	0.136	2.05	0.372	0.782
reflectance green oca [1]	0.552 ± 0.265	9355553	0.478	0.573	8.915×10^{-2}	1.96	0.290	0.768
reflectance continuum aband [1]	0.511 ± 0.283	9355553	0.470	0.543	1.353×10^{-2}	4.28	0.266	0.736

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]	0.668 ± 0.372	9058526	0.590	0.890	0.0	1.000	0.400	0.990
cloud fraction [1]	0.574 ± 0.347	9058526	0.736	0.557	4.968×10^{-3}	1.000	0.244	0.979
cloud top height [m]	$(0.417 \pm 0.292) \times 10^4$	9058526	4.063×10^3	3.380×10^3	0.0	2.000×10^4	1.862×10^3	5.925×10^3
cloud optical thickness [1]	18.0 ± 30.2	9058526	10.8	9.67	1.000	250	5.81	16.6
cloud fraction crb [1]	0.573 ± 0.348	9058526	0.735	0.556	8.210×10^{-3}	1.000	0.243	0.978
cloud height crb [m]	$(0.336 \pm 0.258) \times 10^4$	9058526	3.557×10^3	2.656×10^3	0.0	2.000×10^4	1.317×10^3	4.874×10^3
cloud albedo crb [1]	0.566 ± 0.189	9058526	0.214	0.550	0.0	1.000	0.459	0.673
surface albedo fitted [1]	0.188 ± 0.299	9058526	0.196	3.559×10^{-2}	0.0	1.000	2.081×10^{-2}	0.217
surface albedo fitted crb [1]	0.179 ± 0.293	9058526	0.196	2.852×10^{-2}	0.0	1.000	1.555×10^{-2}	0.211
fitted root mean square [1]	$(5.434 \pm 6.498) \times 10^{-4}$	9058526	6.406×10^{-4}	3.270×10^{-4}	1.008×10^{-6}	0.230	1.112×10^{-4}	7.518×10^{-4}
fitted root mean square crb [1]	$(4.995 \pm 6.085) \times 10^{-4}$	9058526	6.029×10^{-4}	2.621×10^{-4}	1.078×10^{-6}	1.617×10^{-2}	8.780×10^{-5}	6.907×10^{-4}
wavelength shift [nm]	$(6.854 \pm 6.642) \times 10^{-3}$	9058526	8.761×10^{-3}	6.306×10^{-3}	-4.440×10^{-2}	6.386×10^{-2}	2.183×10^{-3}	1.094×10^{-2}
cloud fraction apriori [1]	0.575 ± 0.353	9058526	0.763	0.561	0.0	1.000	0.237	1.000
reflectance blue ocra [1]	0.554 ± 0.226	9058526	0.377	0.526	0.137	2.00	0.356	0.733
reflectance green ocra [1]	0.498 ± 0.254	9058526	0.443	0.475	7.983×10^{-2}	1.95	0.261	0.705
reflectance continuum aband [1]	0.444 ± 0.280	9058526	0.470	0.440	1.036×10^{-2}	3.97	0.193	0.663

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]	0.655 ± 0.373	12646879	0.560	0.860	0.0	1.000	0.400	0.960
cloud fraction [1]	0.563 ± 0.353	12646879	0.756	0.539	4.968×10^{-3}	1.000	0.223	0.979
cloud top height [m]	$(0.359 \pm 0.247) \times 10^4$	12646879	3.105×10^3	2.970×10^3	0.0	2.000×10^4	1.725×10^3	4.830×10^3
cloud optical thickness [1]	18.9 ± 32.8	12646879	10.1	9.82	1.000	250	6.52	16.6
cloud fraction crb [1]	0.562 ± 0.353	12646879	0.755	0.538	8.472×10^{-3}	1.000	0.223	0.978
cloud height crb [m]	$(0.286 \pm 0.219) \times 10^4$	12646879	2.889×10^3	2.316×10^3	0.0	2.000×10^4	1.145×10^3	4.034×10^3
cloud albedo crb [1]	0.568 ± 0.189	12646879	0.221	0.544	0.0	1.000	0.455	0.677
surface albedo fitted [1]	0.145 ± 0.255	12646879	3.818×10^{-2}	3.348×10^{-2}	0.0	1.000	2.048×10^{-2}	5.867×10^{-2}
surface albedo fitted crb [1]	0.134 ± 0.242	12646879	3.408×10^{-2}	2.672×10^{-2}	0.0	1.000	1.549×10^{-2}	4.958×10^{-2}
fitted root mean square [1]	$(5.326 \pm 7.489) \times 10^{-4}$	12646879	6.153×10^{-4}	2.740×10^{-4}	1.010×10^{-6}	0.105	9.375×10^{-5}	7.091×10^{-4}
fitted root mean square crb [1]	$(4.717 \pm 6.495) \times 10^{-4}$	12646879	5.249×10^{-4}	2.079×10^{-4}	1.078×10^{-6}	0.135	7.324×10^{-5}	5.981×10^{-4}
wavelength shift [nm]	$(6.828 \pm 6.838) \times 10^{-3}$	12646879	9.028×10^{-3}	6.084×10^{-3}	-4.769×10^{-2}	6.551×10^{-2}	2.029×10^{-3}	1.106×10^{-2}
cloud fraction apriori [1]	0.566 ± 0.358	12646879	0.781	0.544	0.0	1.000	0.219	1.000
reflectance blue oca [1]	0.538 ± 0.219	12646879	0.362	0.509	0.155	2.05	0.346	0.708
reflectance green oca [1]	0.480 ± 0.245	12646879	0.435	0.456	8.851×10^{-2}	1.96	0.248	0.683
reflectance continuum aband [1]	0.412 ± 0.274	12646879	0.493	0.405	1.145×10^{-2}	4.28	0.147	0.640

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]	0.477 ± 0.399	4316362	0.860	0.630	0.0	1.000	0.0	0.860
cloud fraction [1]	0.499 ± 0.316	4316362	0.538	0.426	6.143×10^{-3}	1.000	0.238	0.776
cloud top height [m]	$(0.531 \pm 0.312) \times 10^4$	4316362	4.451×10^3	4.869×10^3	0.0	2.000×10^4	2.866×10^3	7.317×10^3
cloud optical thickness [1]	15.2 ± 34.3	4316362	6.95	6.22	1.000	250	4.38	11.3
cloud fraction crb [1]	0.499 ± 0.316	4316362	0.537	0.427	8.210×10^{-3}	1.000	0.239	0.776
cloud height crb [m]	$(0.406 \pm 0.269) \times 10^4$	4316362	3.709×10^3	3.592×10^3	0.0	2.000×10^4	1.931×10^3	5.641×10^3
cloud albedo crb [1]	0.642 ± 0.252	4316362	0.352	0.652	0.0	1.000	0.491	0.843
surface albedo fitted [1]	0.544 ± 0.286	4316362	0.550	0.512	0.0	1.000	0.267	0.817
surface albedo fitted crb [1]	0.533 ± 0.272	4316362	0.523	0.534	2.932×10^{-3}	1.000	0.266	0.789
fitted root mean square [1]	$(8.895 \pm 11.184) \times 10^{-4}$	4316362	7.755×10^{-4}	6.509×10^{-4}	1.008×10^{-6}	0.231	3.510×10^{-4}	1.127×10^{-3}
fitted root mean square crb [1]	$(7.369 \pm 8.013) \times 10^{-4}$	4316362	7.976×10^{-4}	4.916×10^{-4}	2.233×10^{-6}	0.198	1.974×10^{-4}	9.950×10^{-4}
wavelength shift [nm]	$(8.377 \pm 6.245) \times 10^{-3}$	4316362	8.776×10^{-3}	8.084×10^{-3}	-3.864×10^{-2}	5.372×10^{-2}	3.713×10^{-3}	1.249×10^{-2}
cloud fraction apriori [1]	0.512 ± 0.321	4316362	0.567	0.443	0.0	1.000	0.244	0.811
reflectance blue oca [1]	0.656 ± 0.255	4316362	0.426	0.735	0.136	2.01	0.414	0.839
reflectance green oca [1]	0.624 ± 0.274	4316362	0.475	0.708	8.684×10^{-2}	1.96	0.357	0.832
reflectance continuum aband [1]	0.623 ± 0.246	4316362	0.391	0.652	1.743×10^{-2}	3.97	0.411	0.802

3 Granule outlines

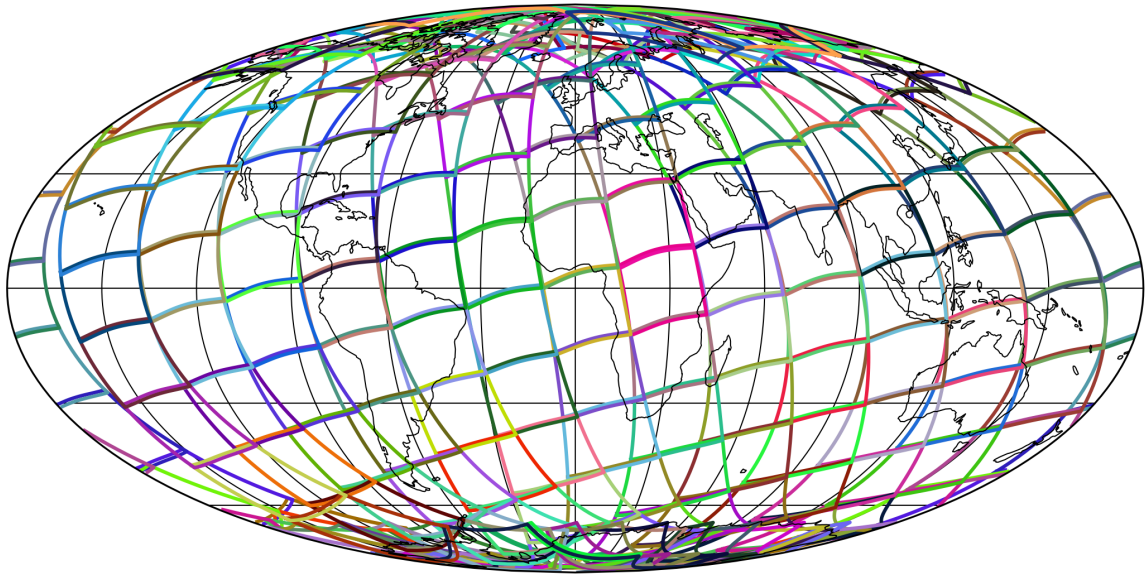


Figure 1: Outline of the granules.

4 Input data monitoring

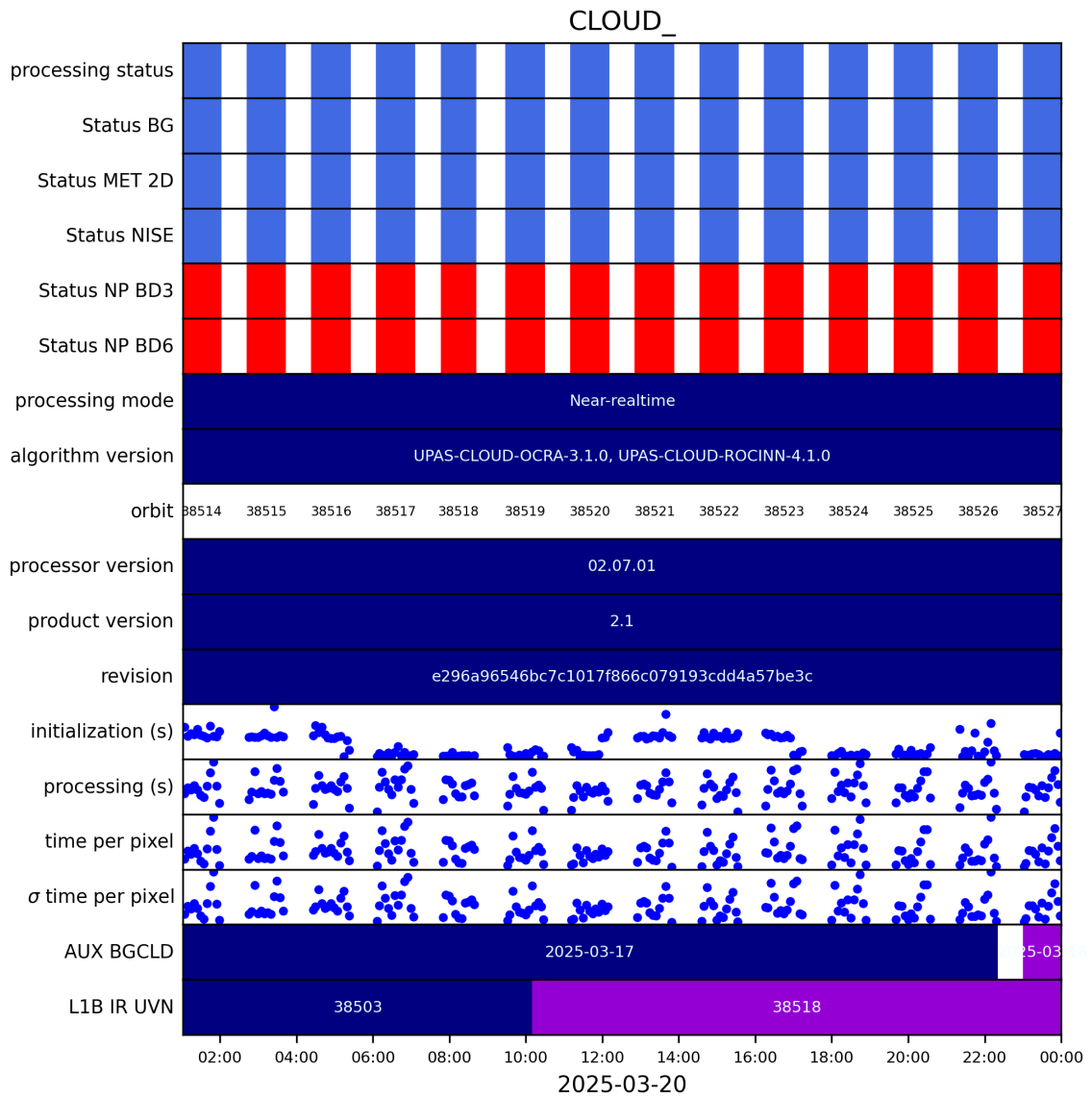


Figure 2: Input data per granule

5 Warnings and errors

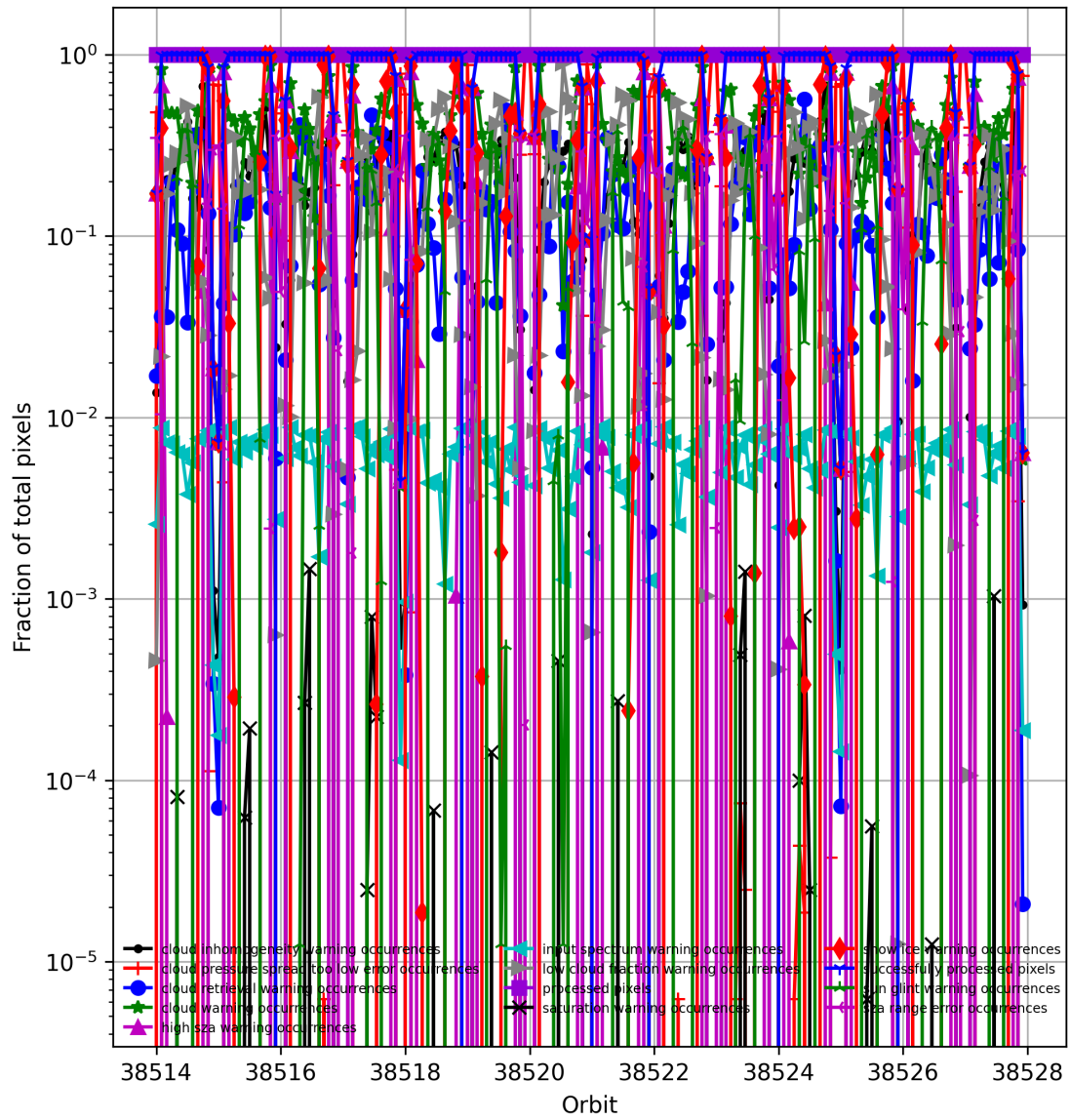


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

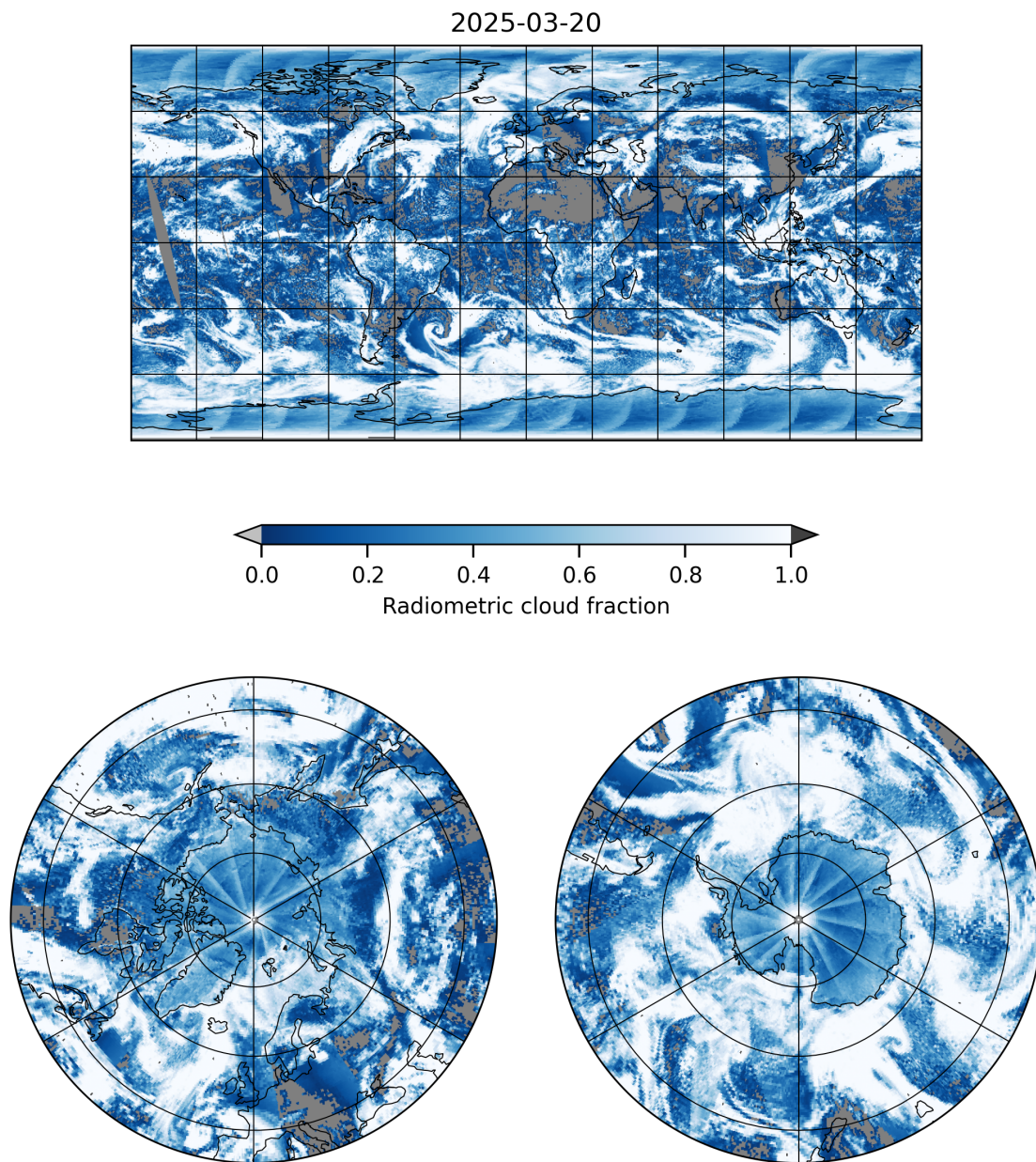


Figure 4: Map of “Radiometric cloud fraction” for 2025-03-20 to 2025-03-21

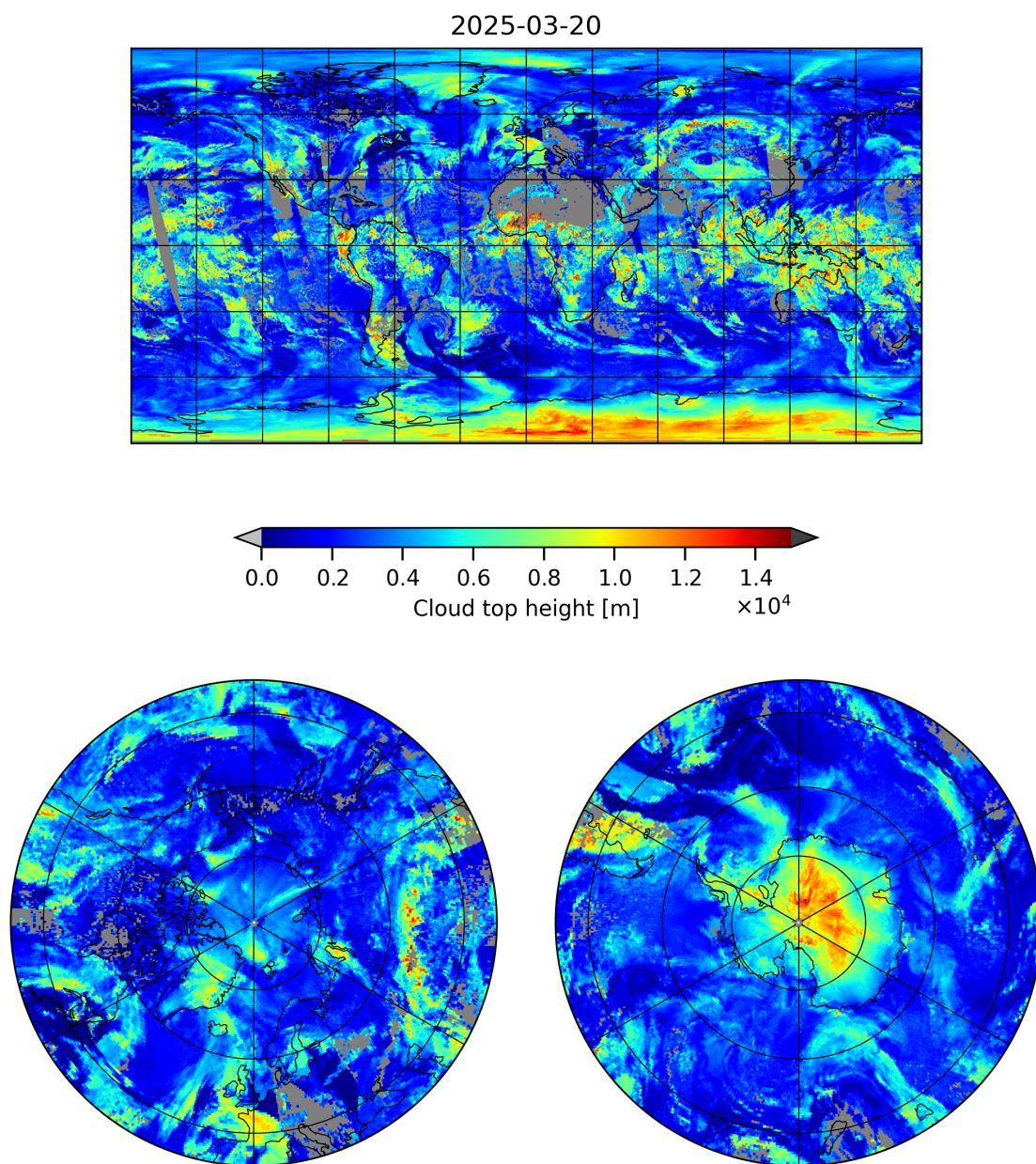


Figure 5: Map of “Cloud top height” for 2025-03-20 to 2025-03-21

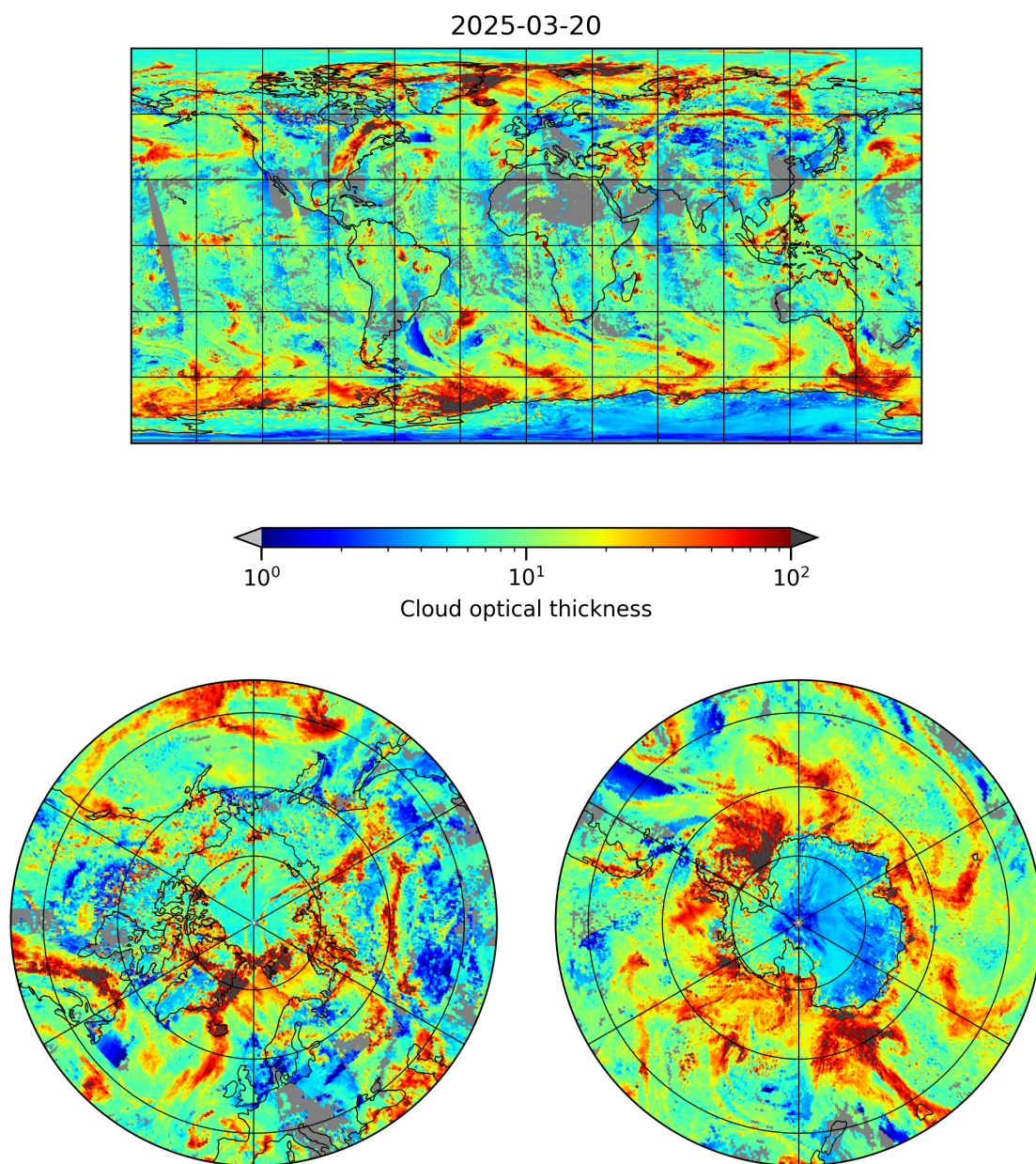


Figure 6: Map of “Cloud optical thickness” for 2025-03-20 to 2025-03-21

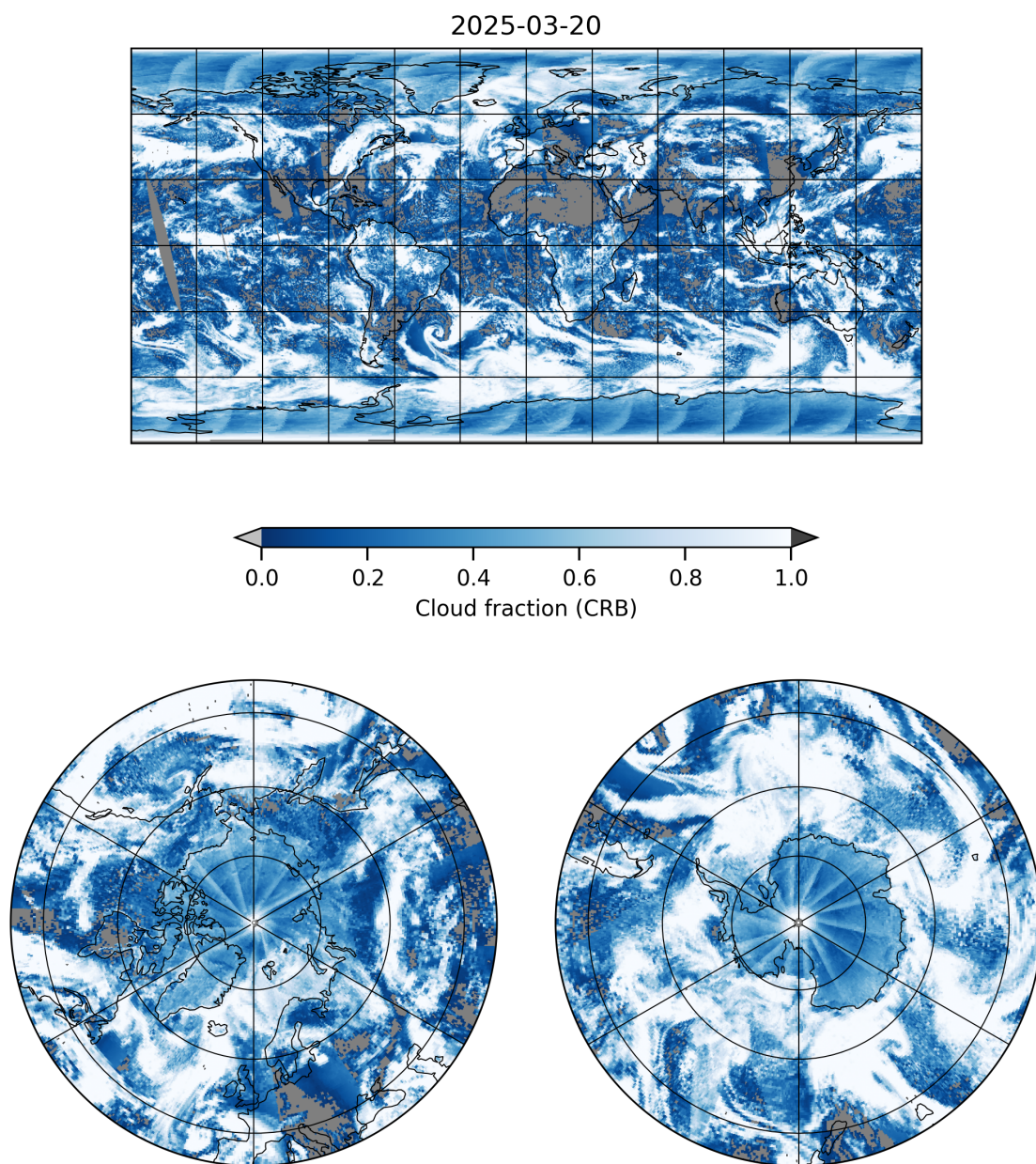


Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-20 to 2025-03-21

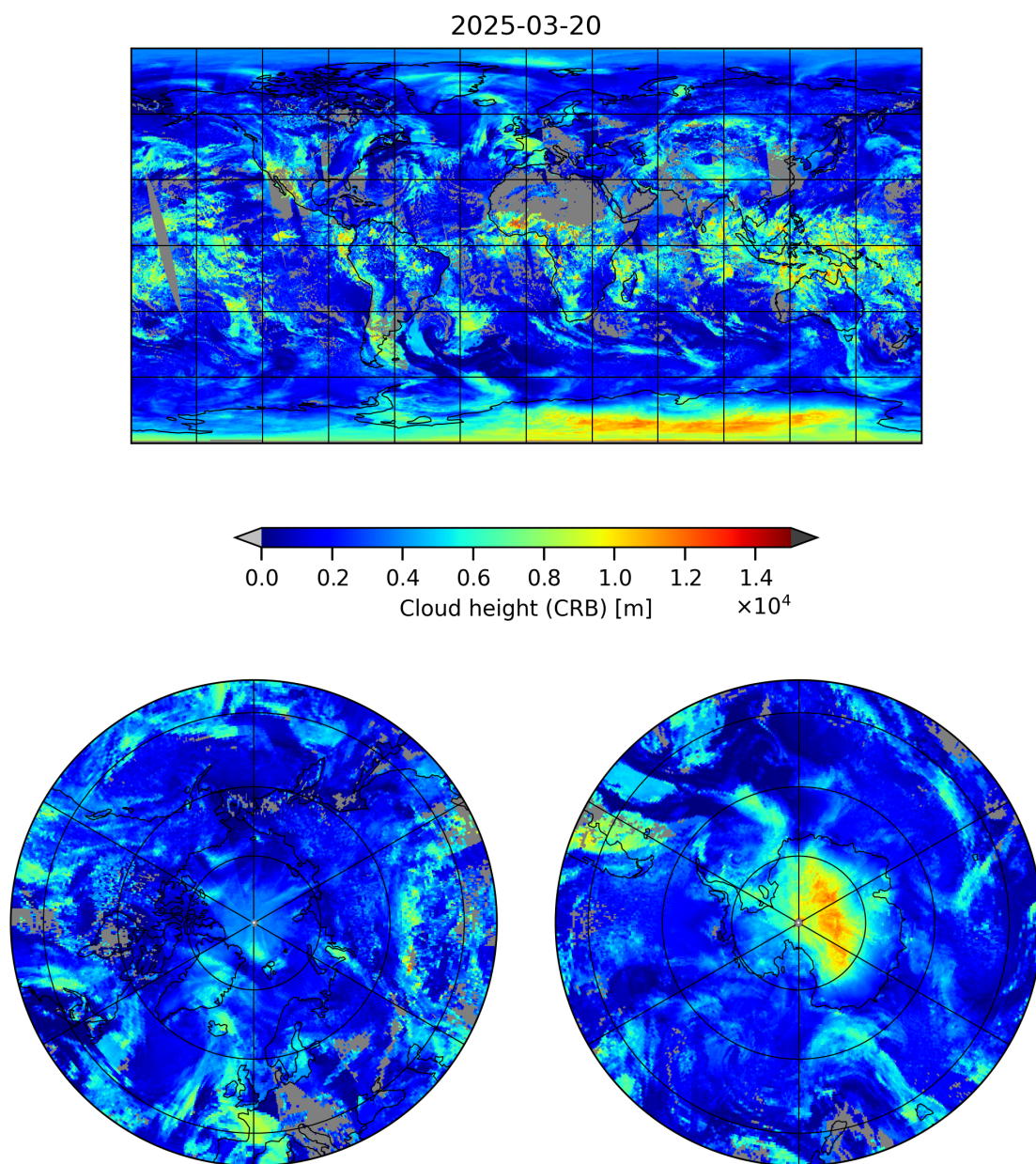


Figure 8: Map of “Cloud height (CRB)” for 2025-03-20 to 2025-03-21

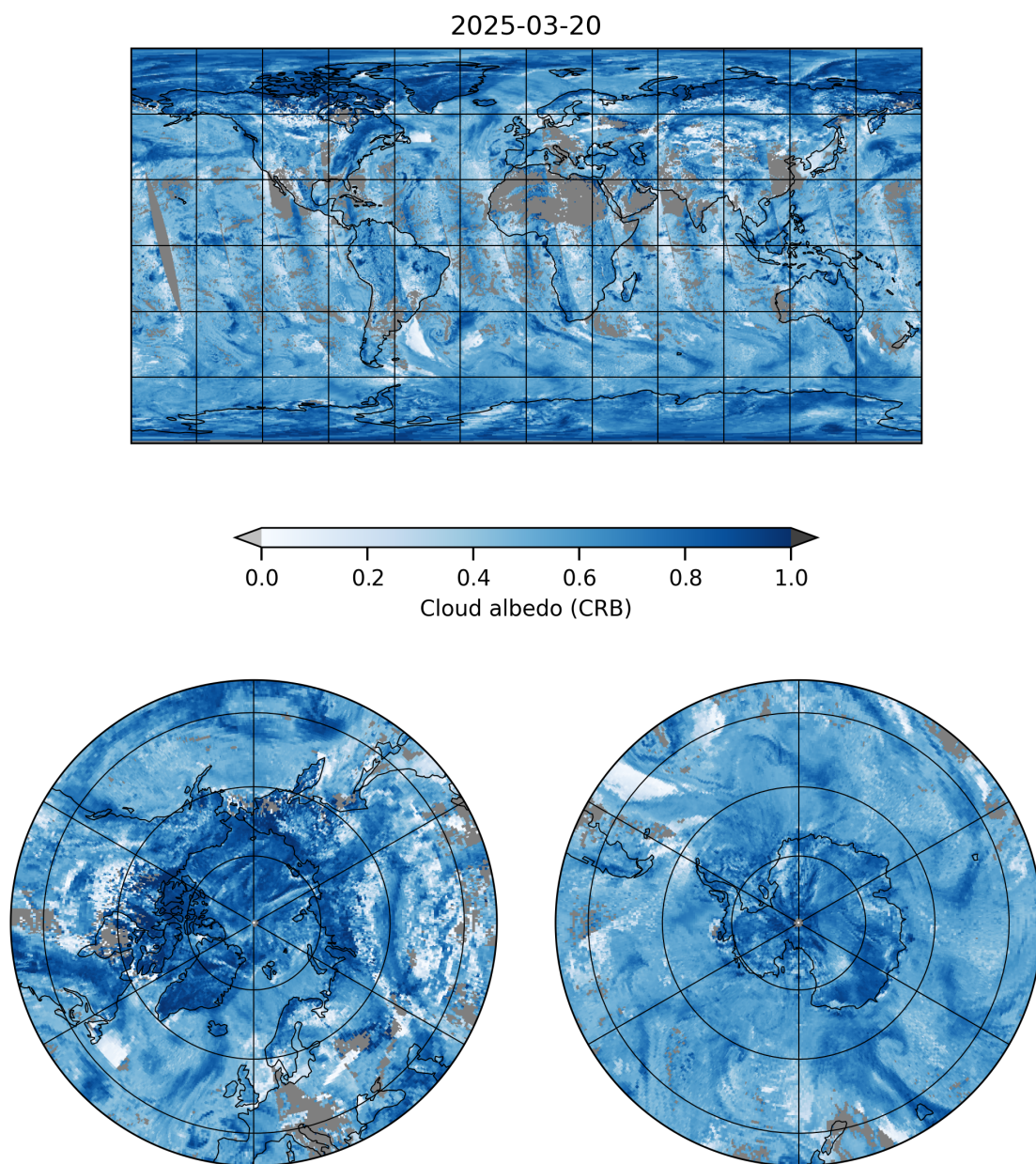


Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-20 to 2025-03-21

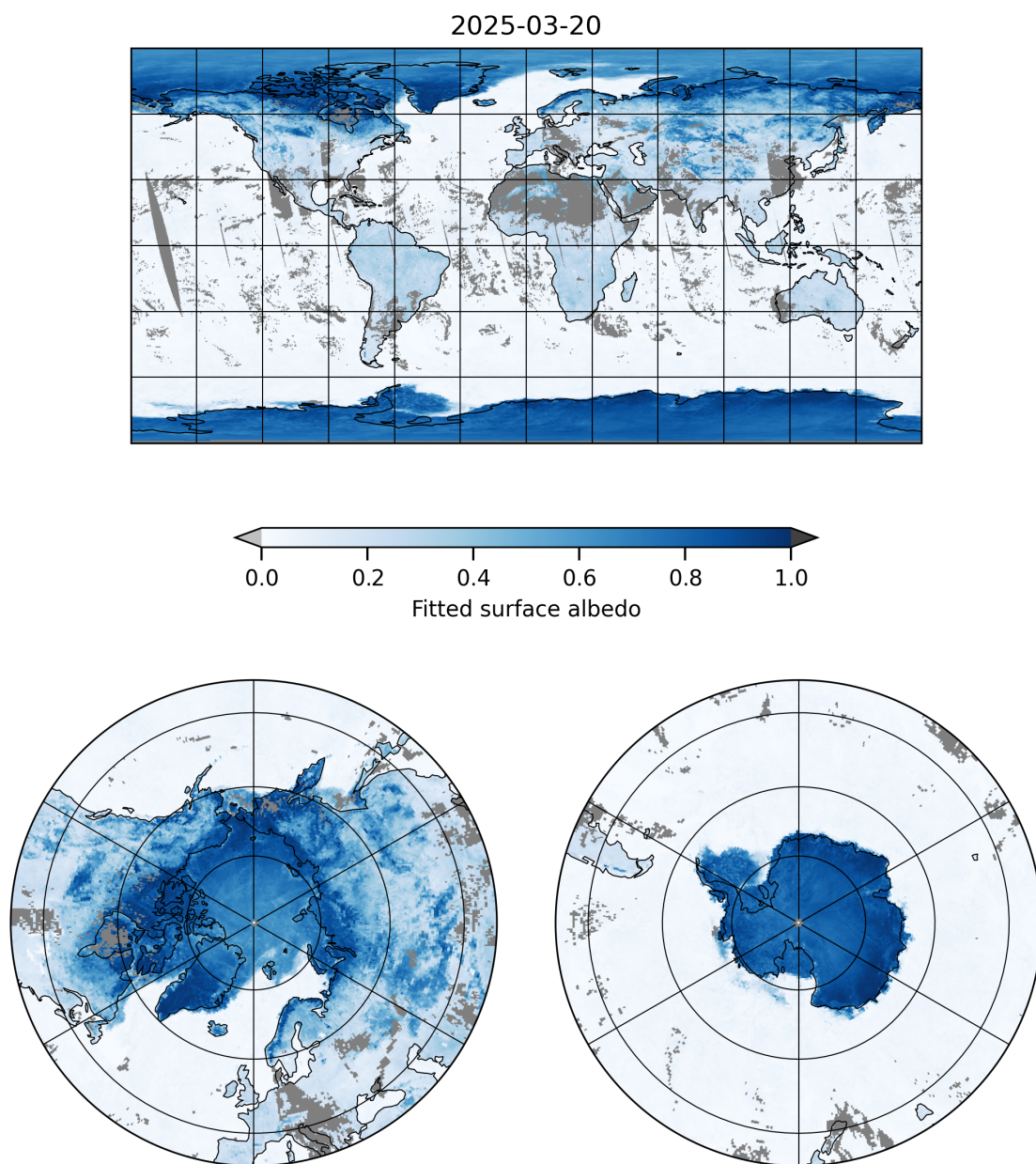


Figure 10: Map of “Fitted surface albedo” for 2025-03-20 to 2025-03-21

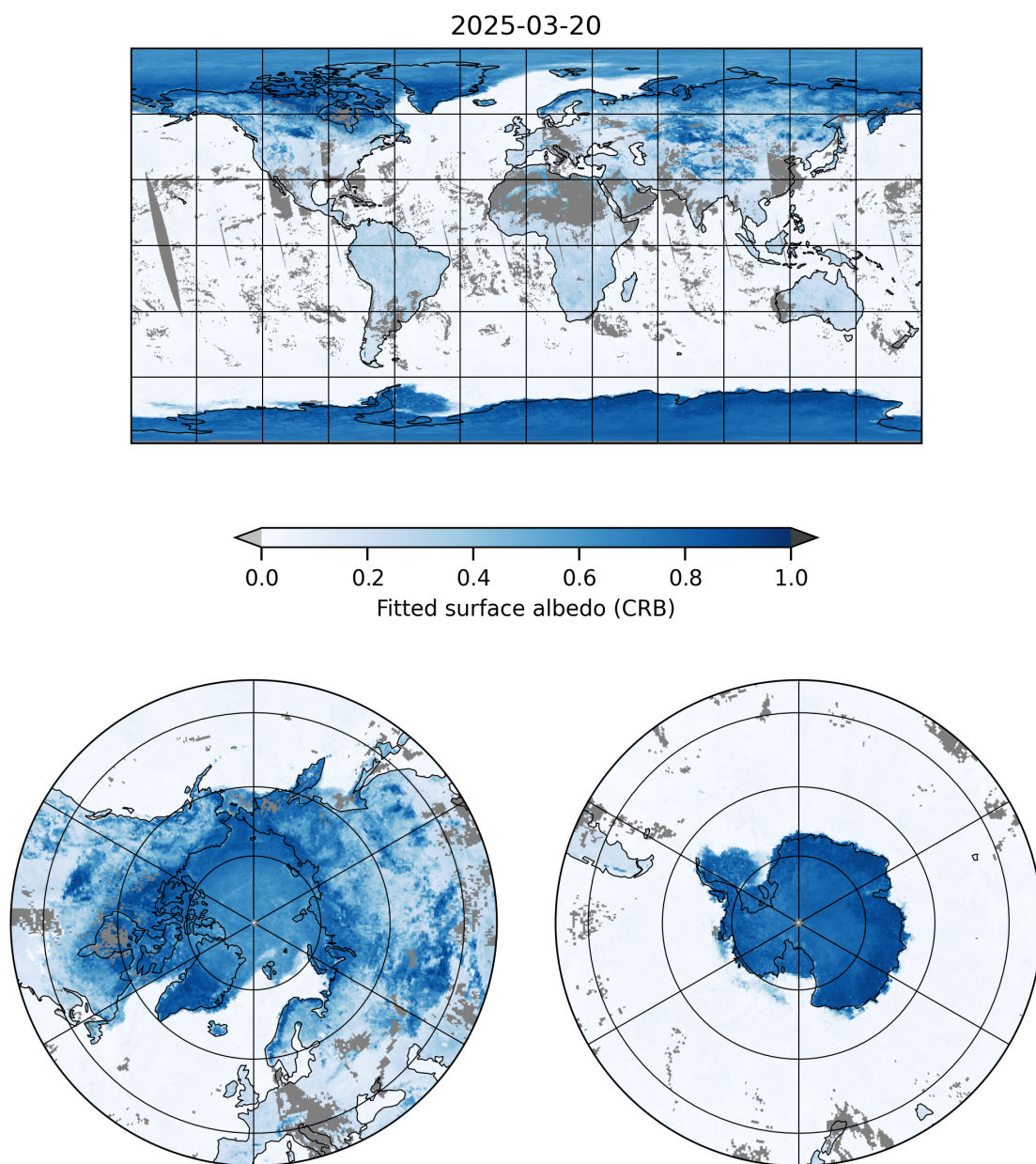


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-20 to 2025-03-21

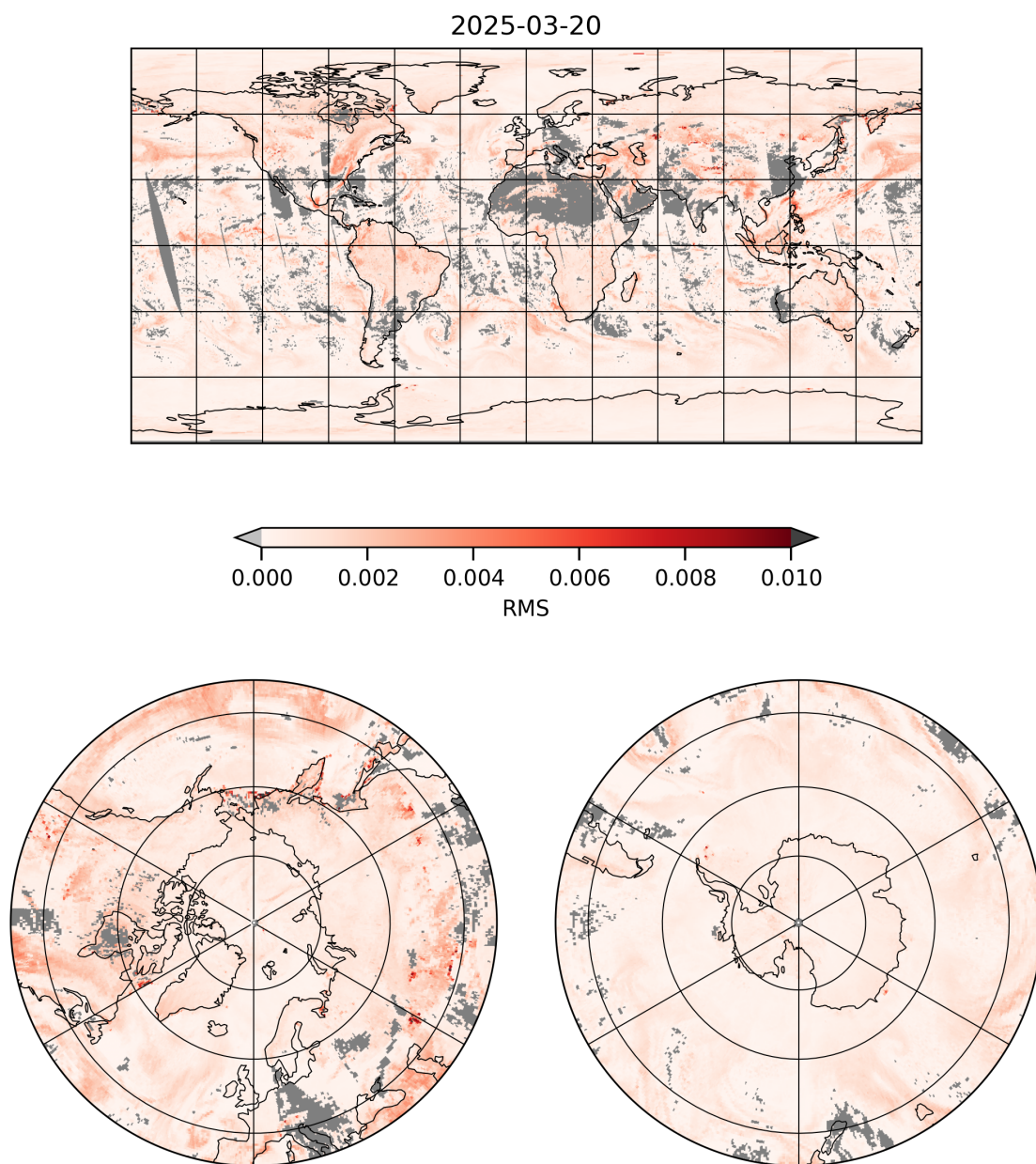


Figure 12: Map of “RMS” for 2025-03-20 to 2025-03-21

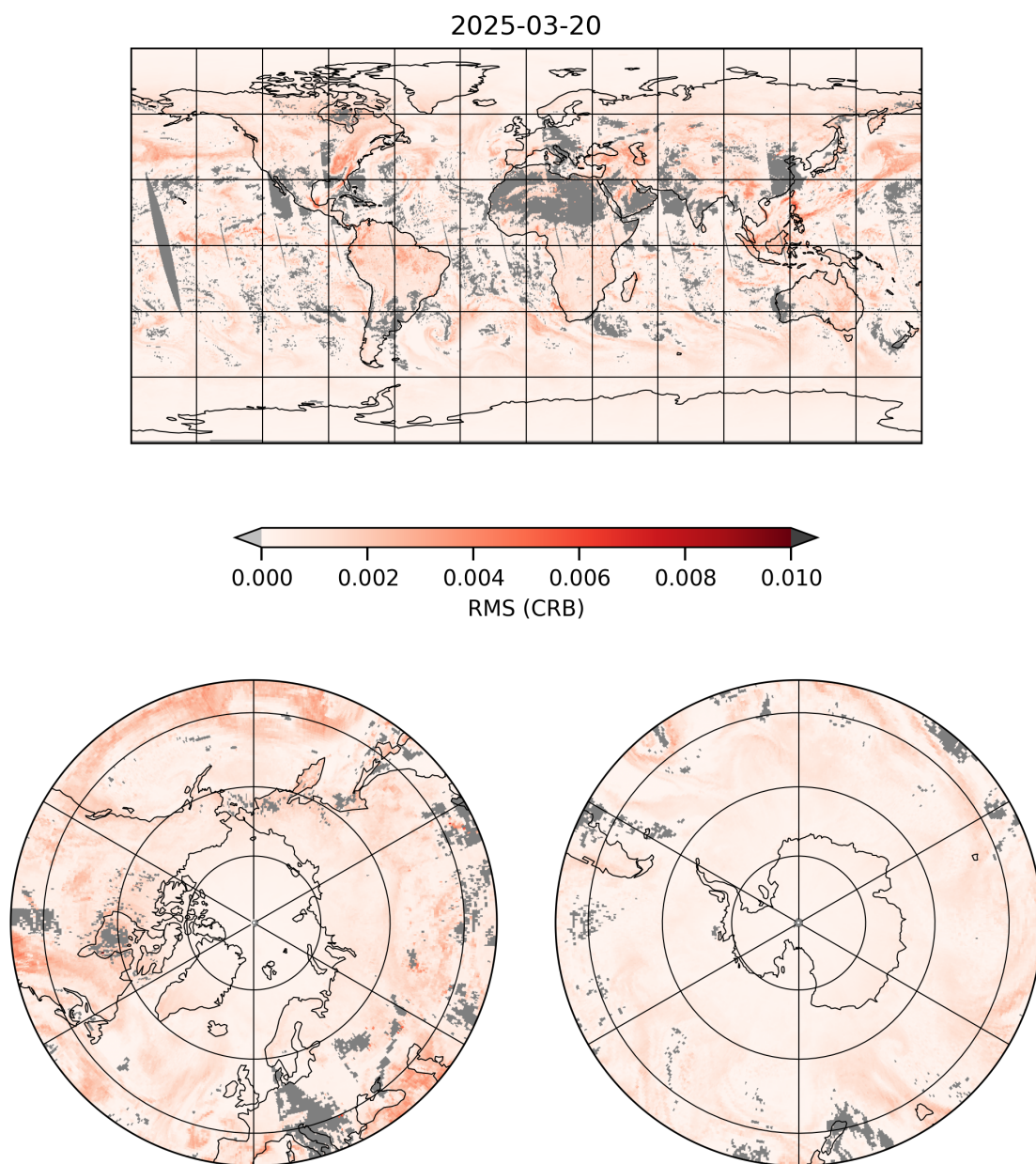


Figure 13: Map of “RMS (CRB)” for 2025-03-20 to 2025-03-21

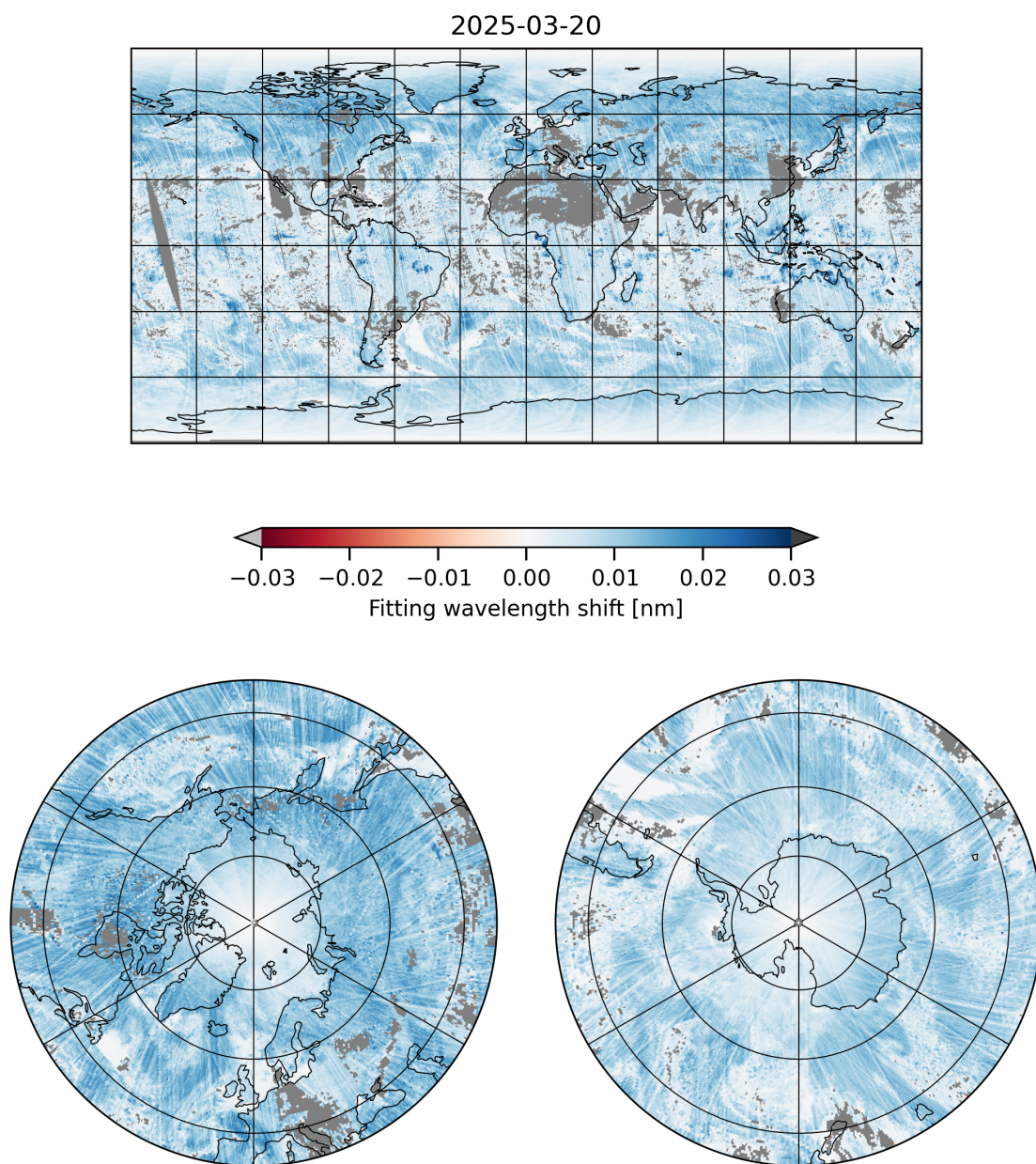


Figure 14: Map of "Fitting wavelength shift" for 2025-03-20 to 2025-03-21

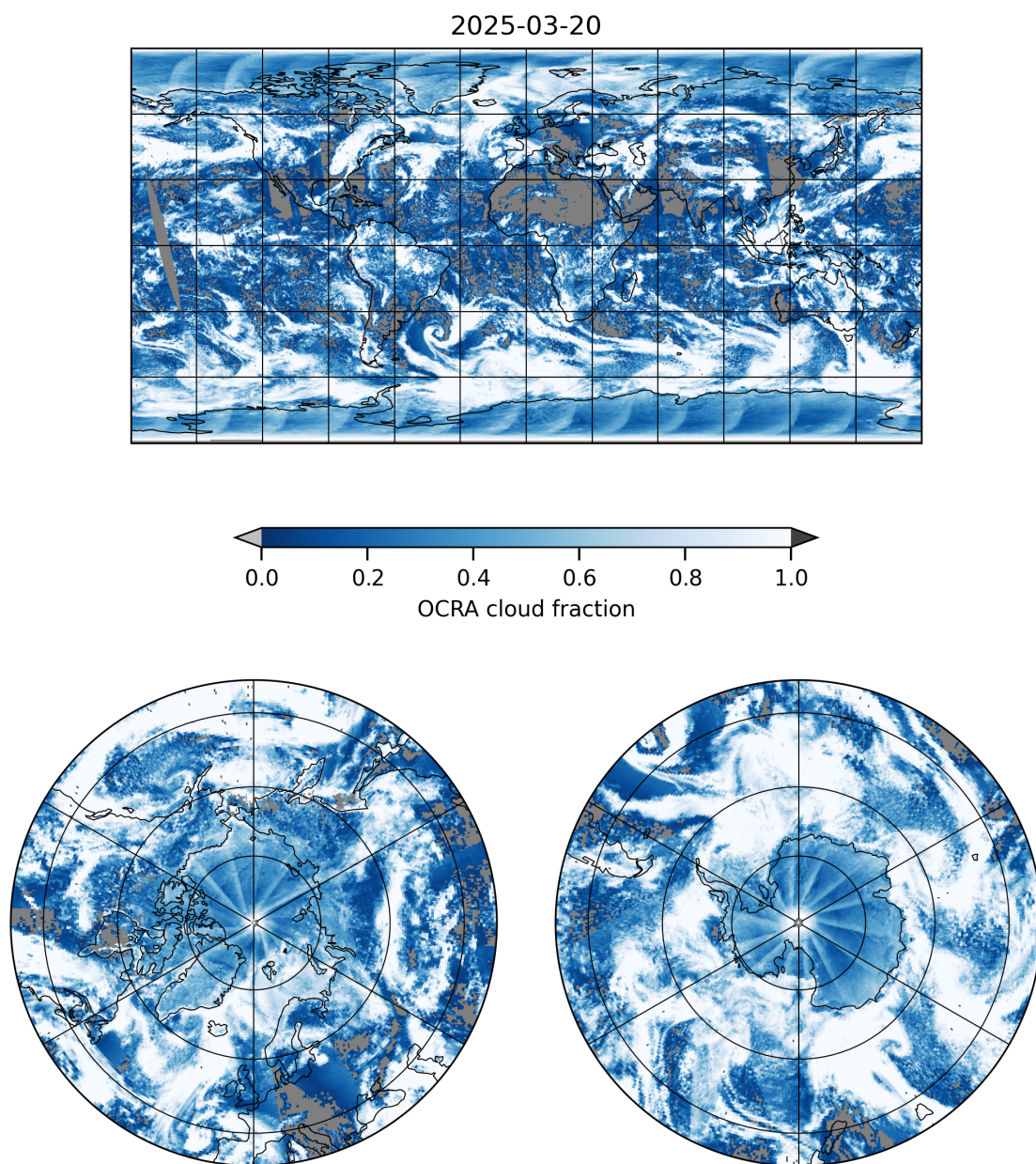


Figure 15: Map of “OCRA cloud fraction” for 2025-03-20 to 2025-03-21

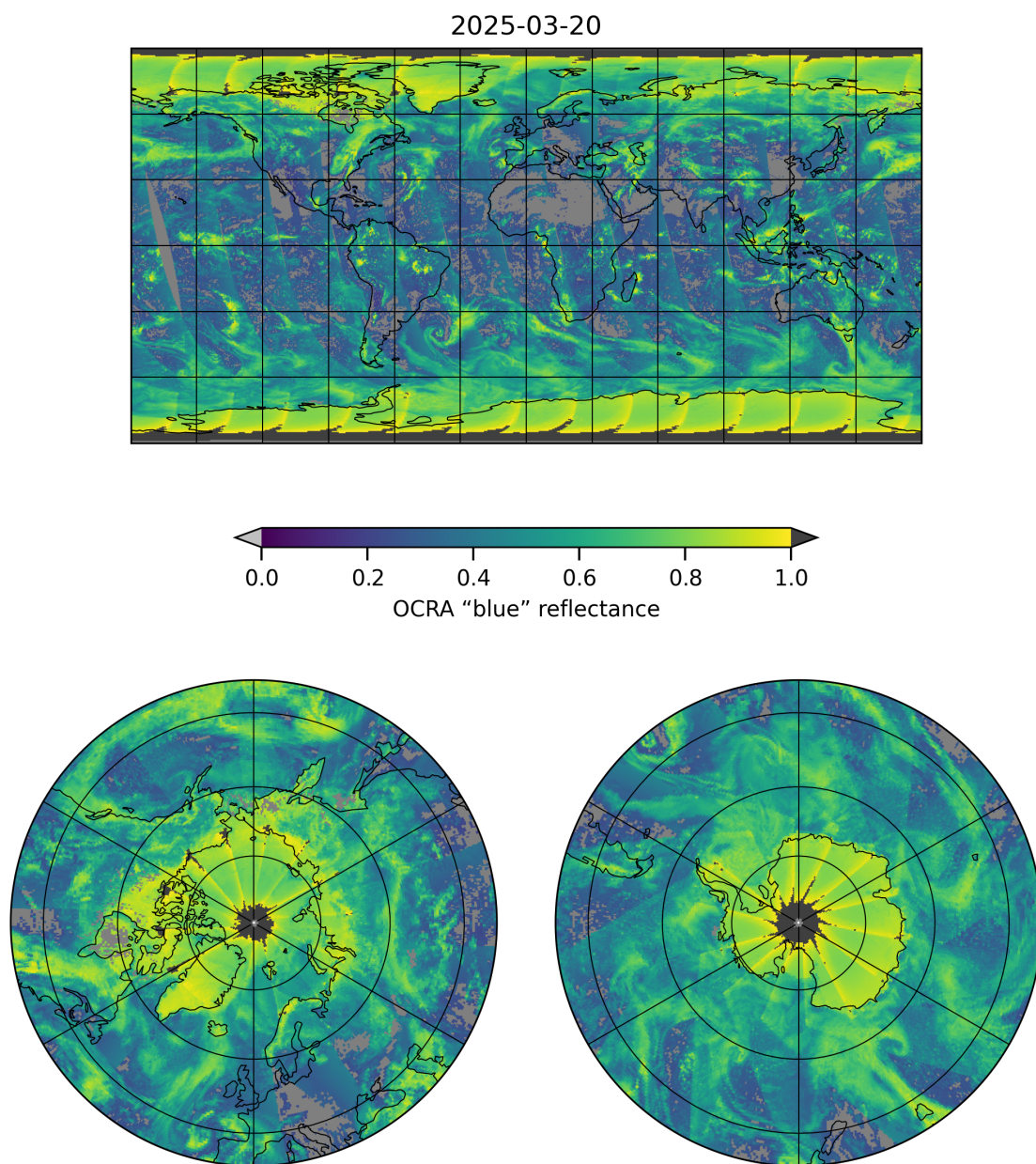


Figure 16: Map of "OCRA "blue" reflectance" for 2025-03-20 to 2025-03-21

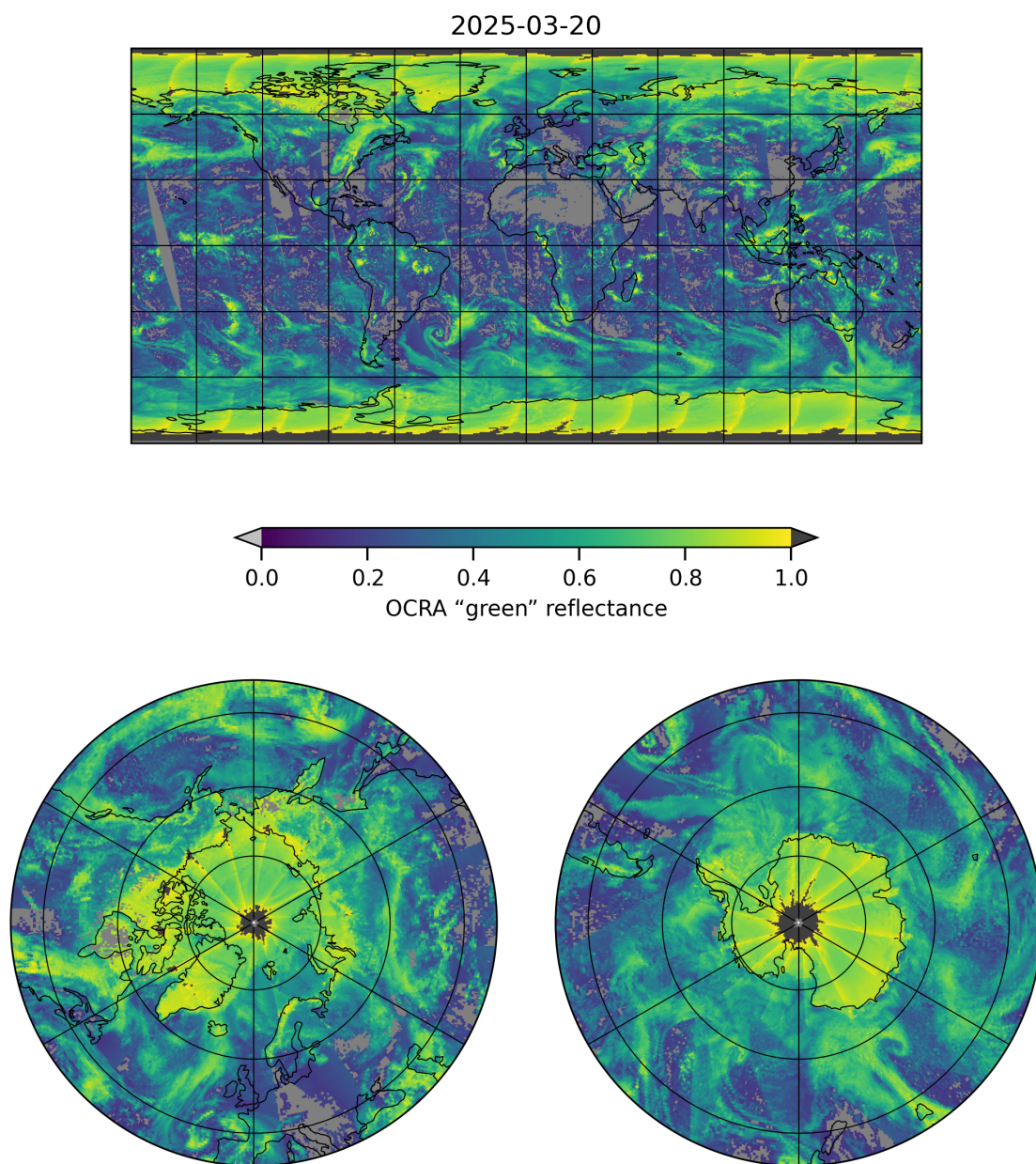


Figure 17: Map of "OCRA "green" reflectance" for 2025-03-20 to 2025-03-21

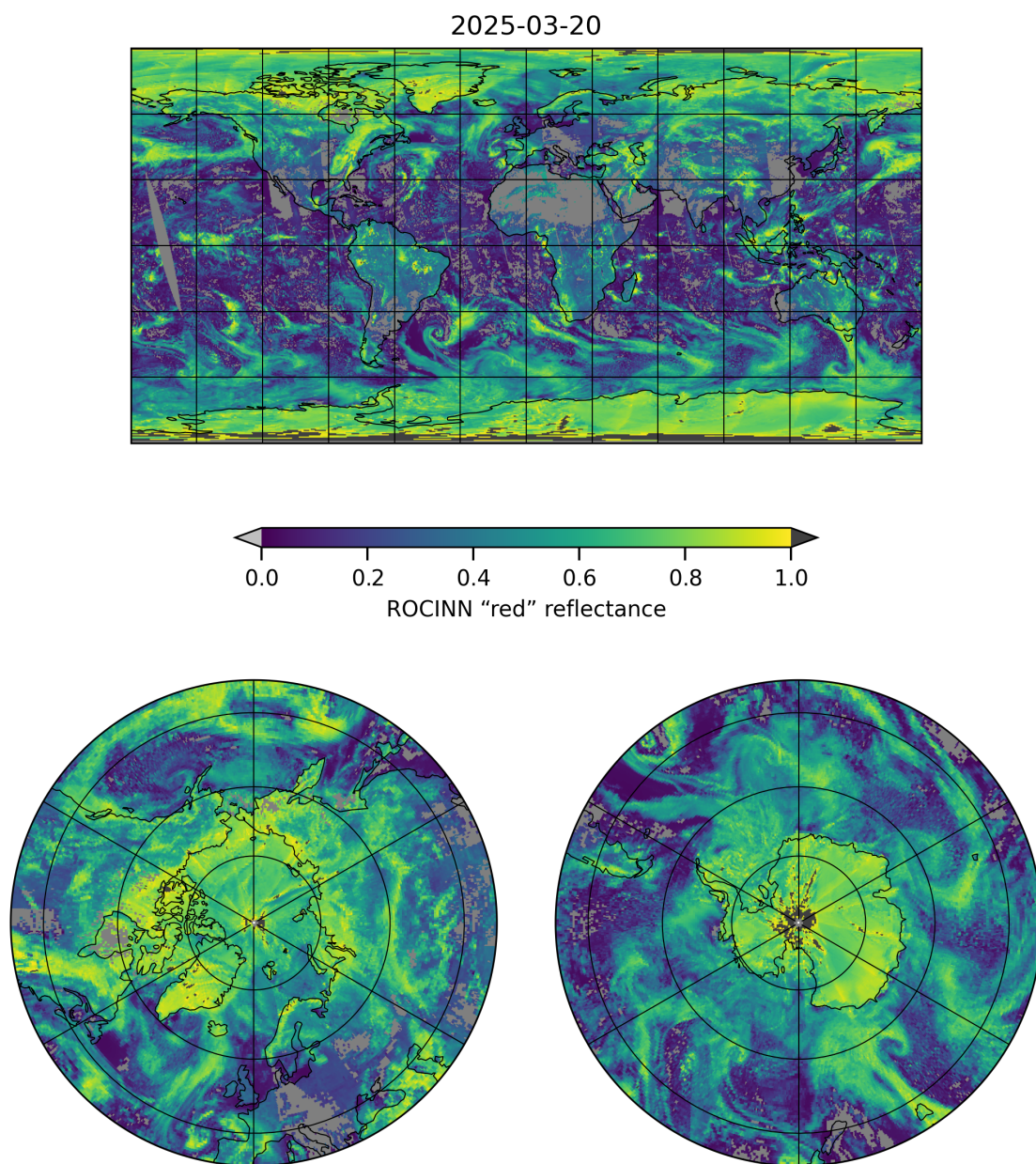


Figure 18: Map of "ROCINN "red" reflectance" for 2025-03-20 to 2025-03-21

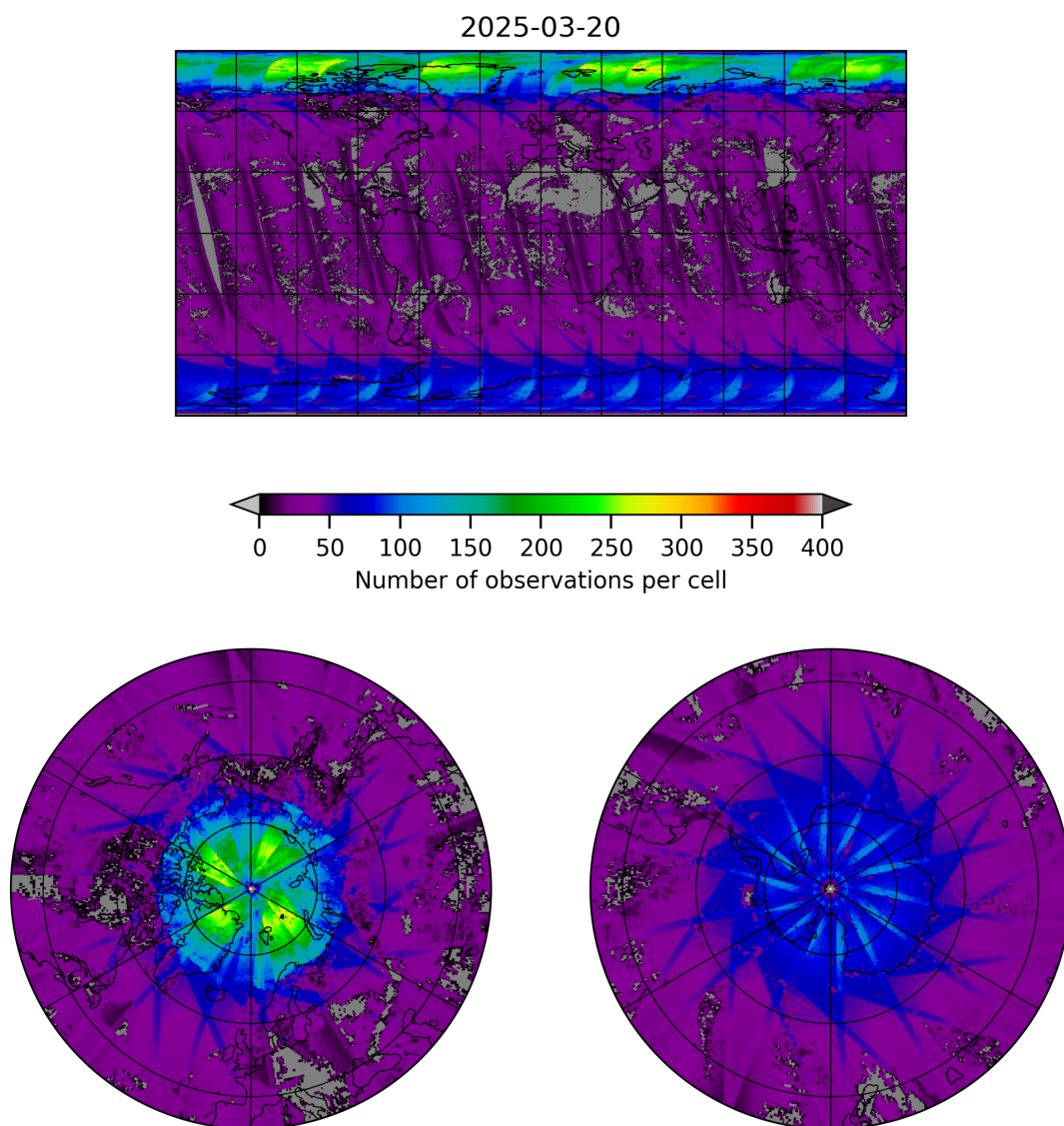


Figure 19: Map of the number of observations for 2025-03-20 to 2025-03-21

7 Zonal average

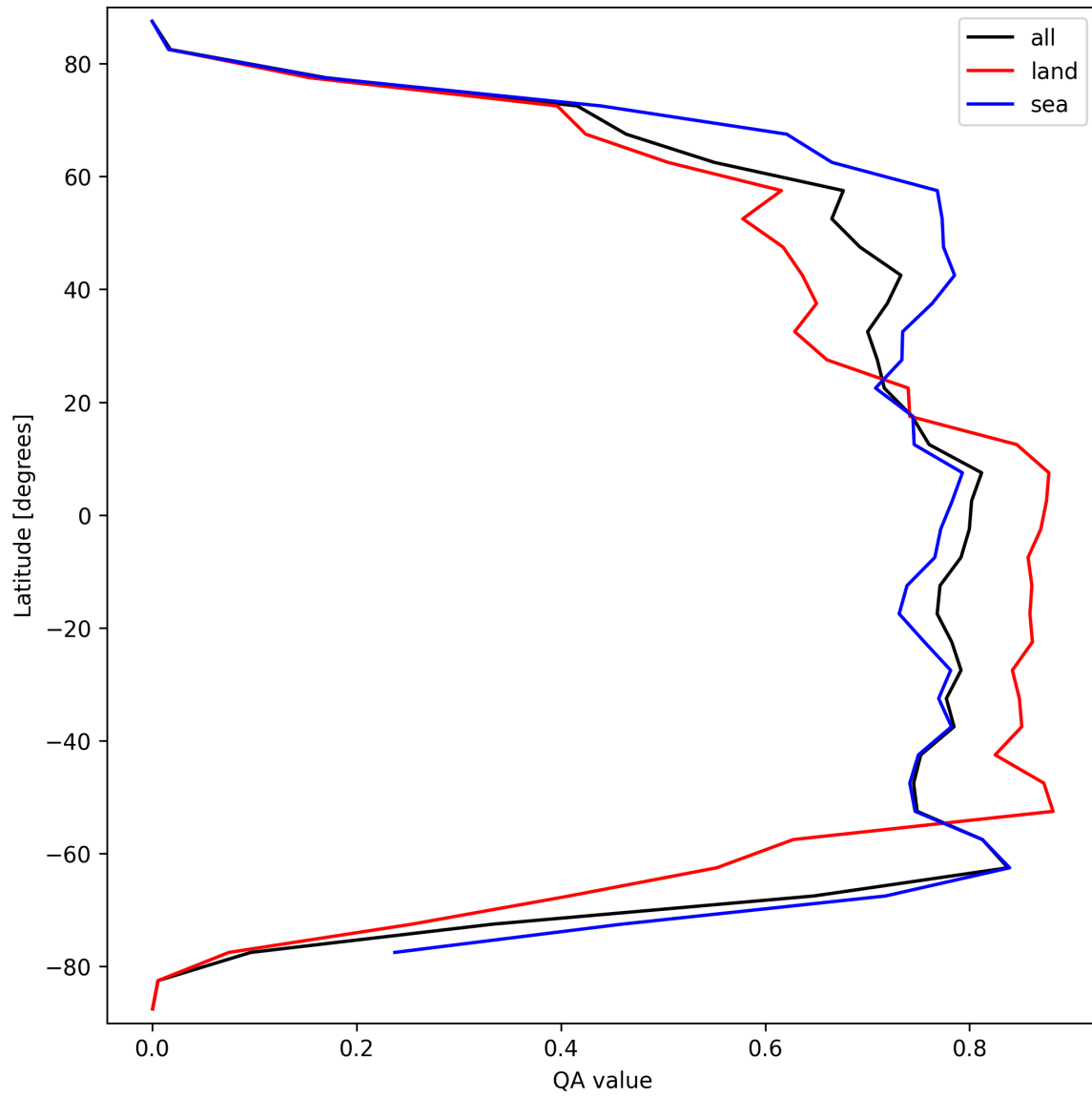


Figure 20: Zonal average of “QA value” for 2025-03-20 to 2025-03-21.

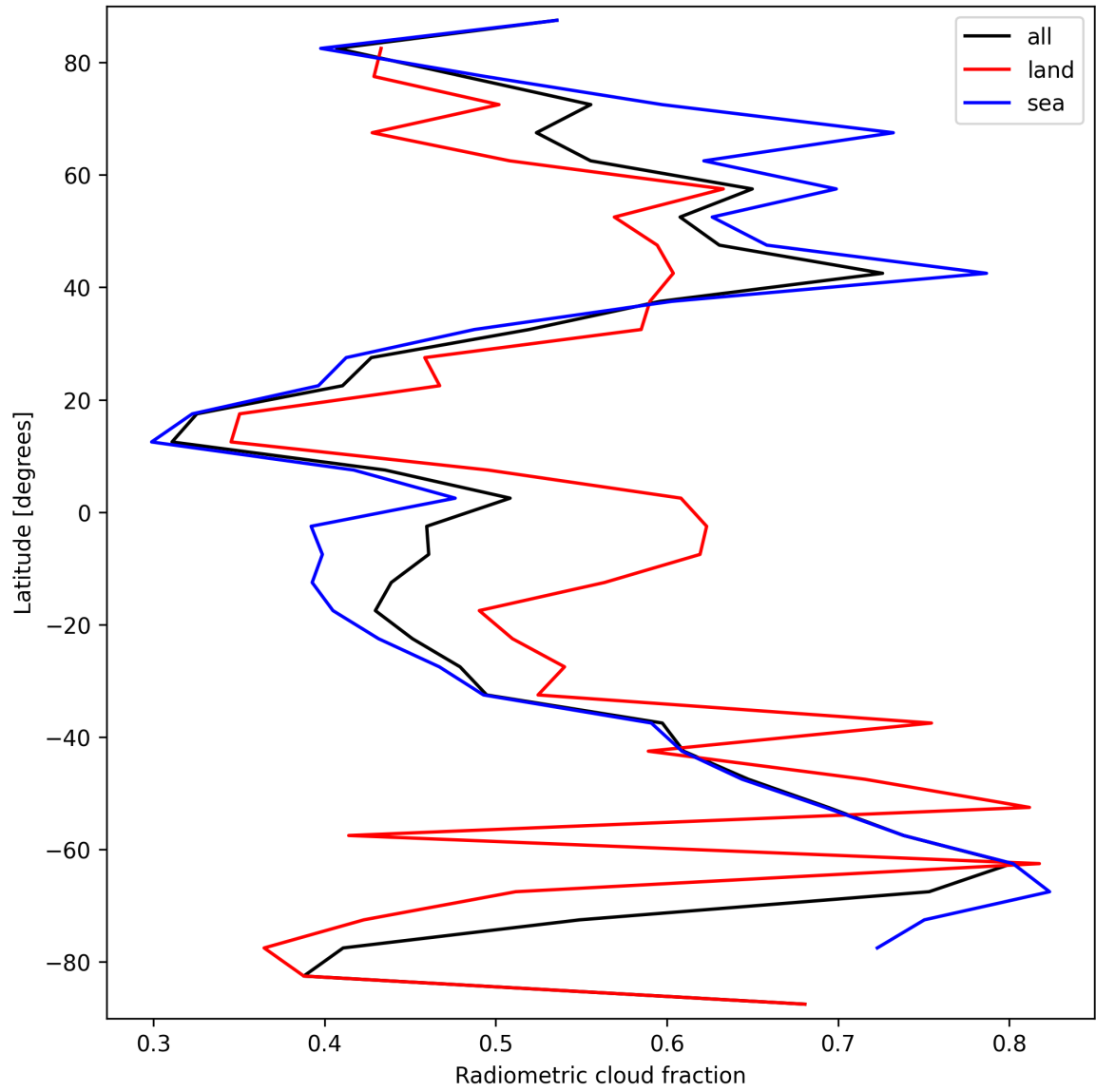


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-20 to 2025-03-21.

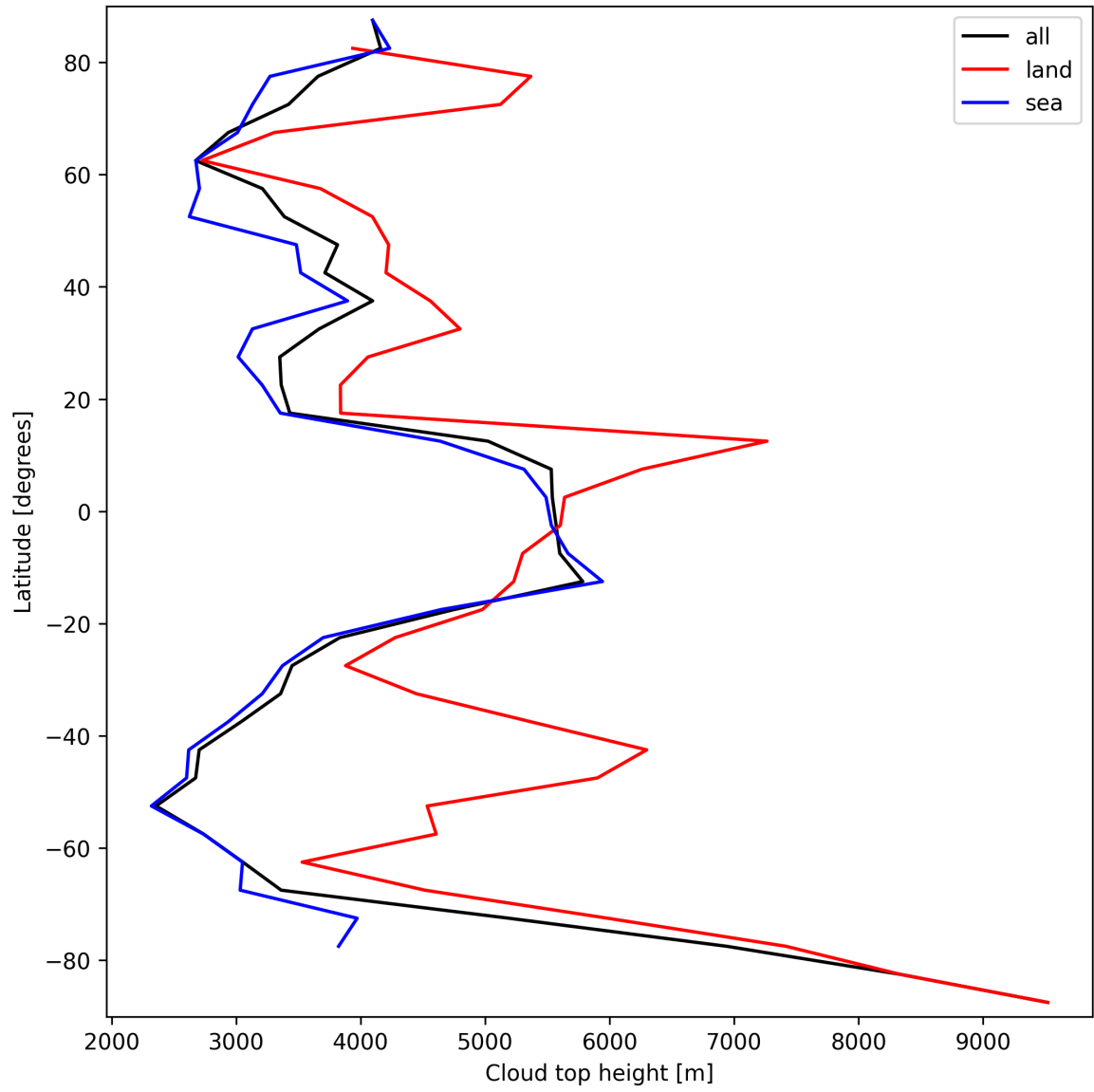


Figure 22: Zonal average of “Cloud top height” for 2025-03-20 to 2025-03-21.

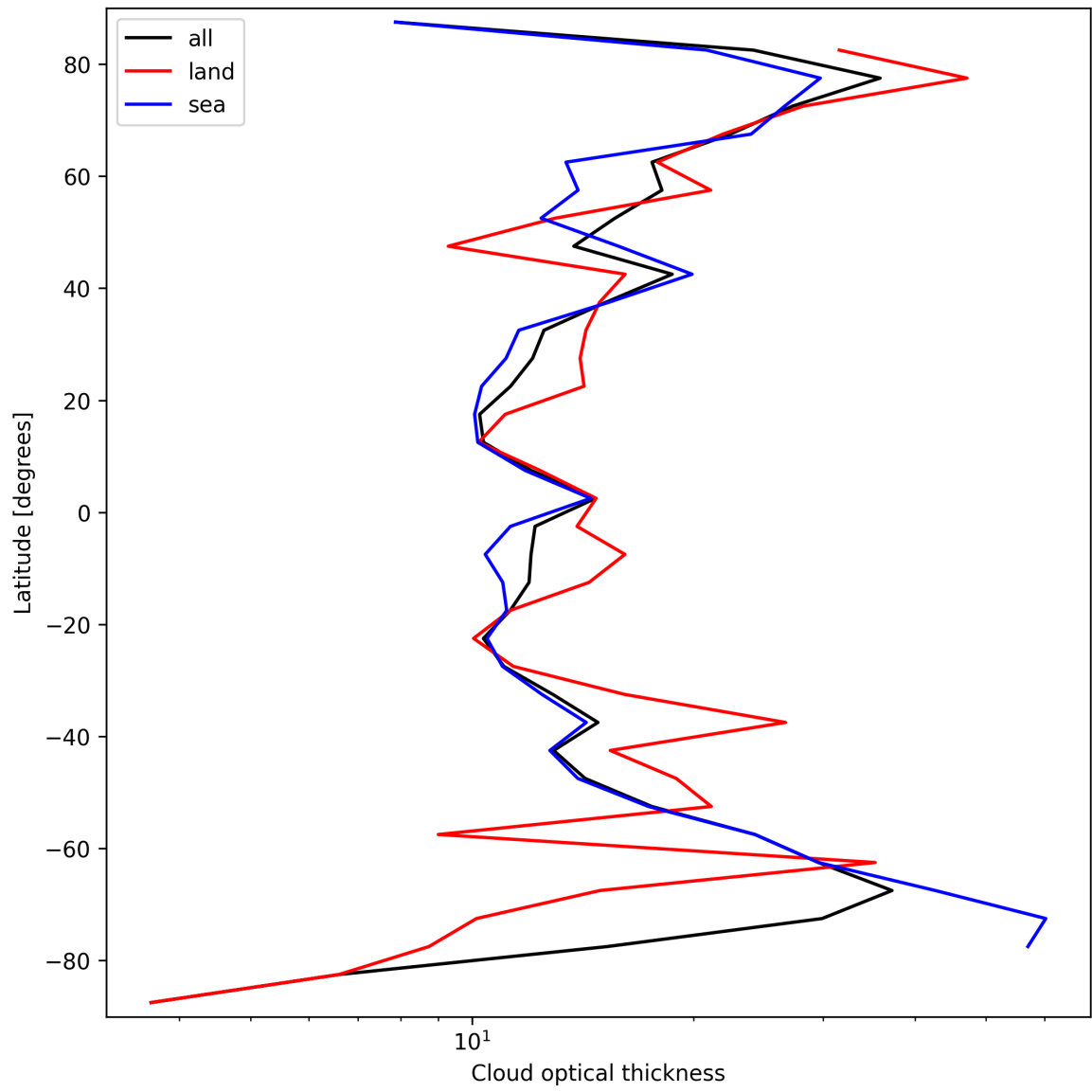


Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-20 to 2025-03-21.

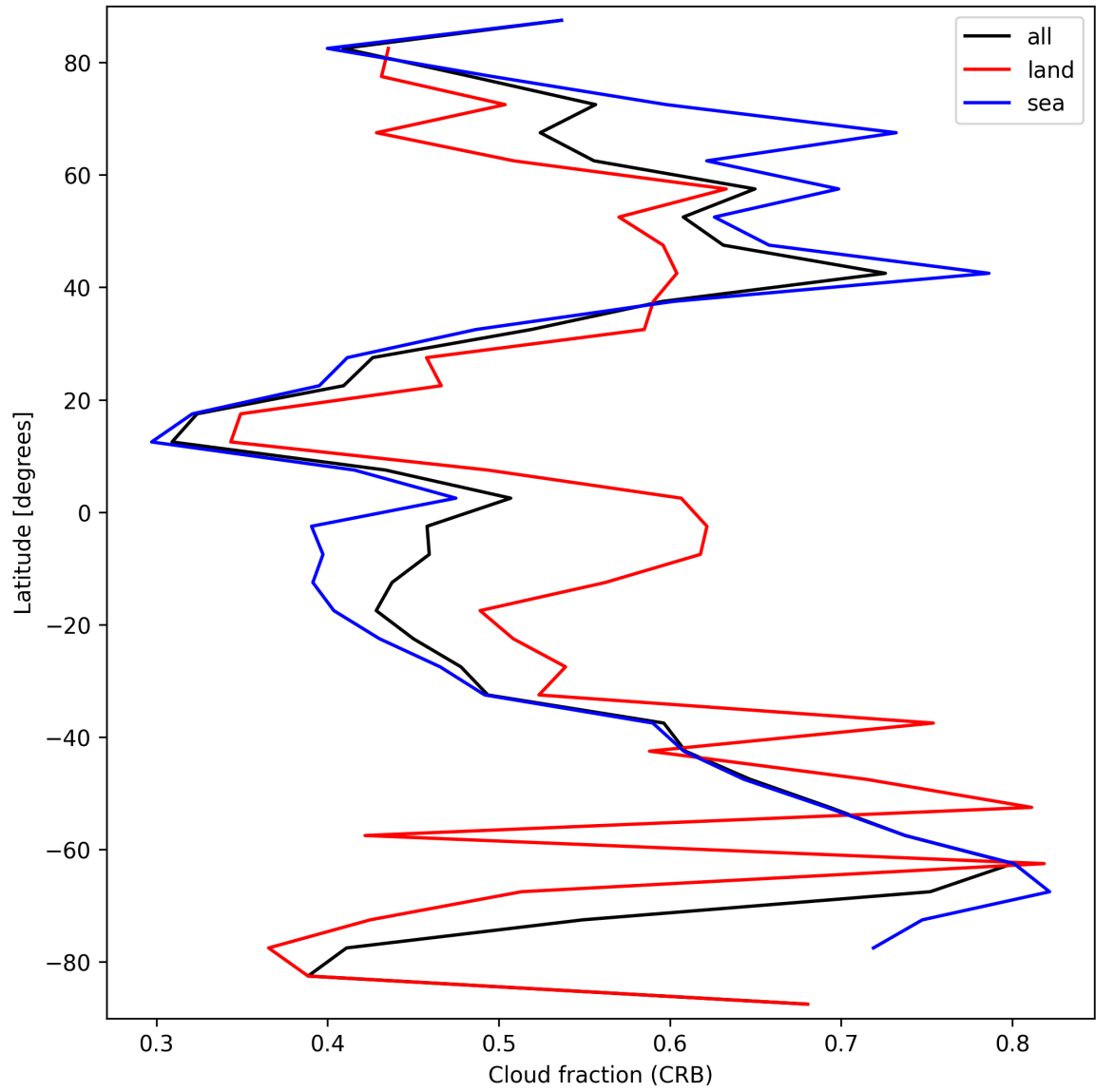


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-20 to 2025-03-21.

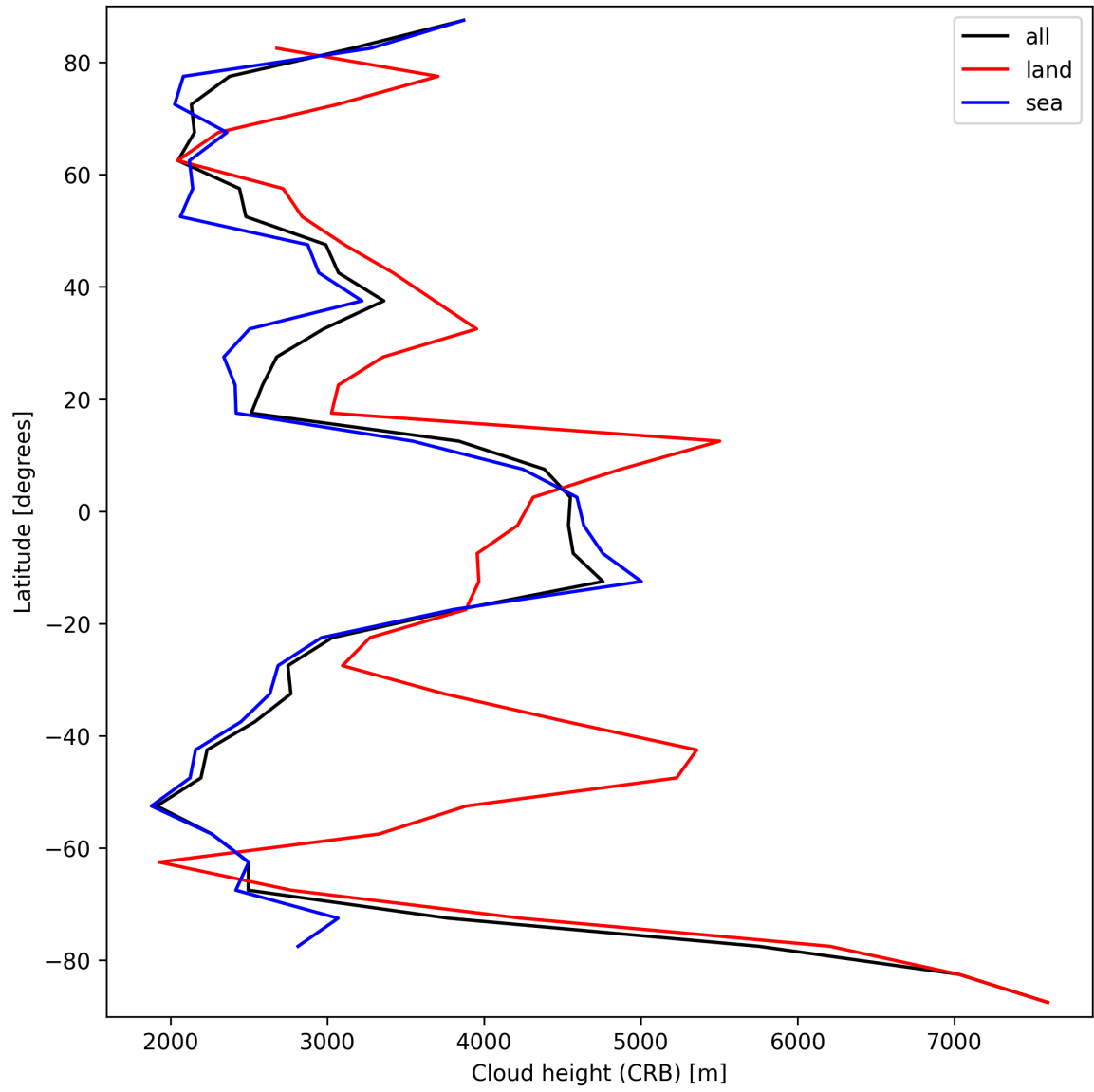


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-20 to 2025-03-21.

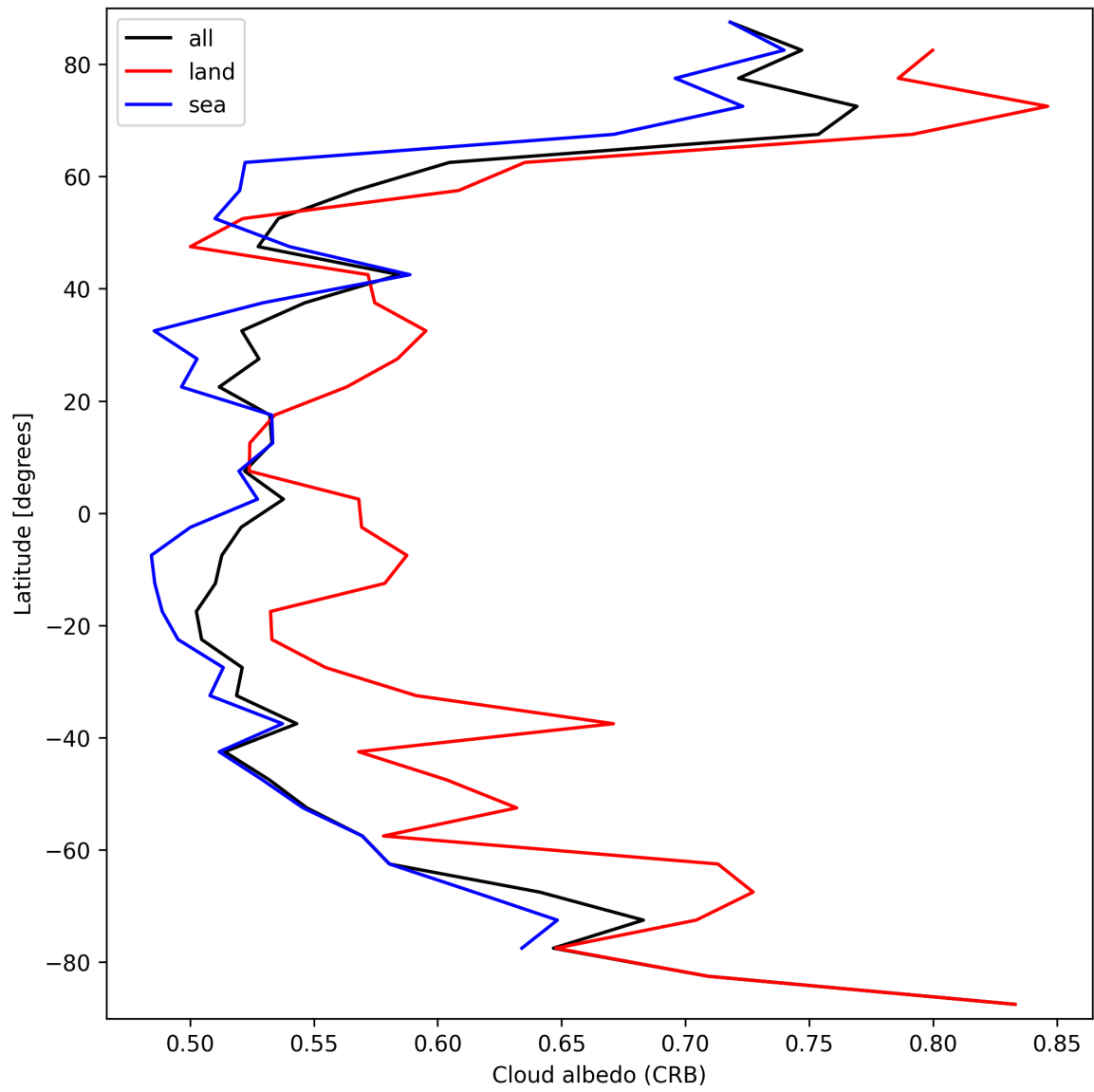


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-20 to 2025-03-21.

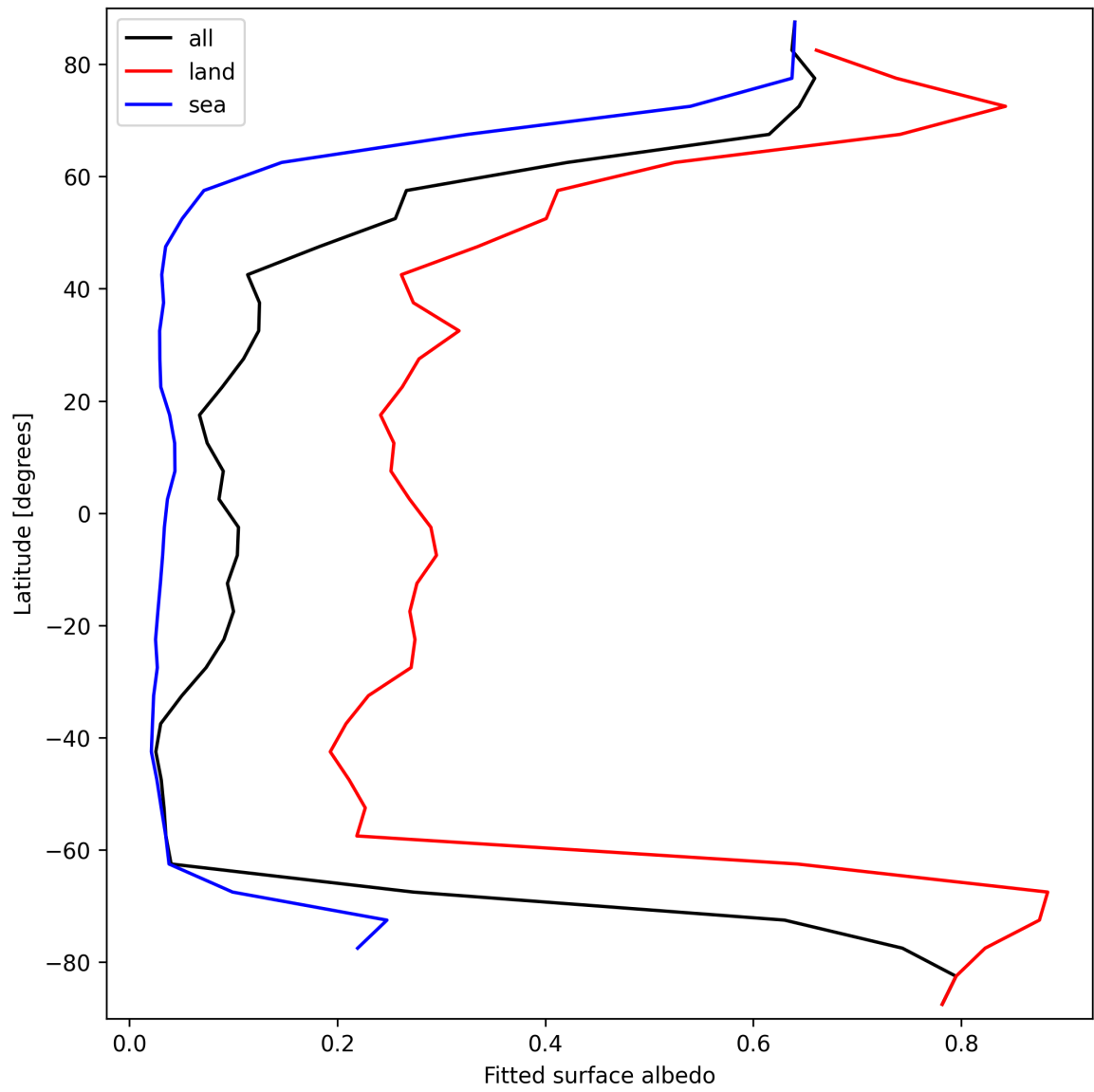


Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-20 to 2025-03-21.

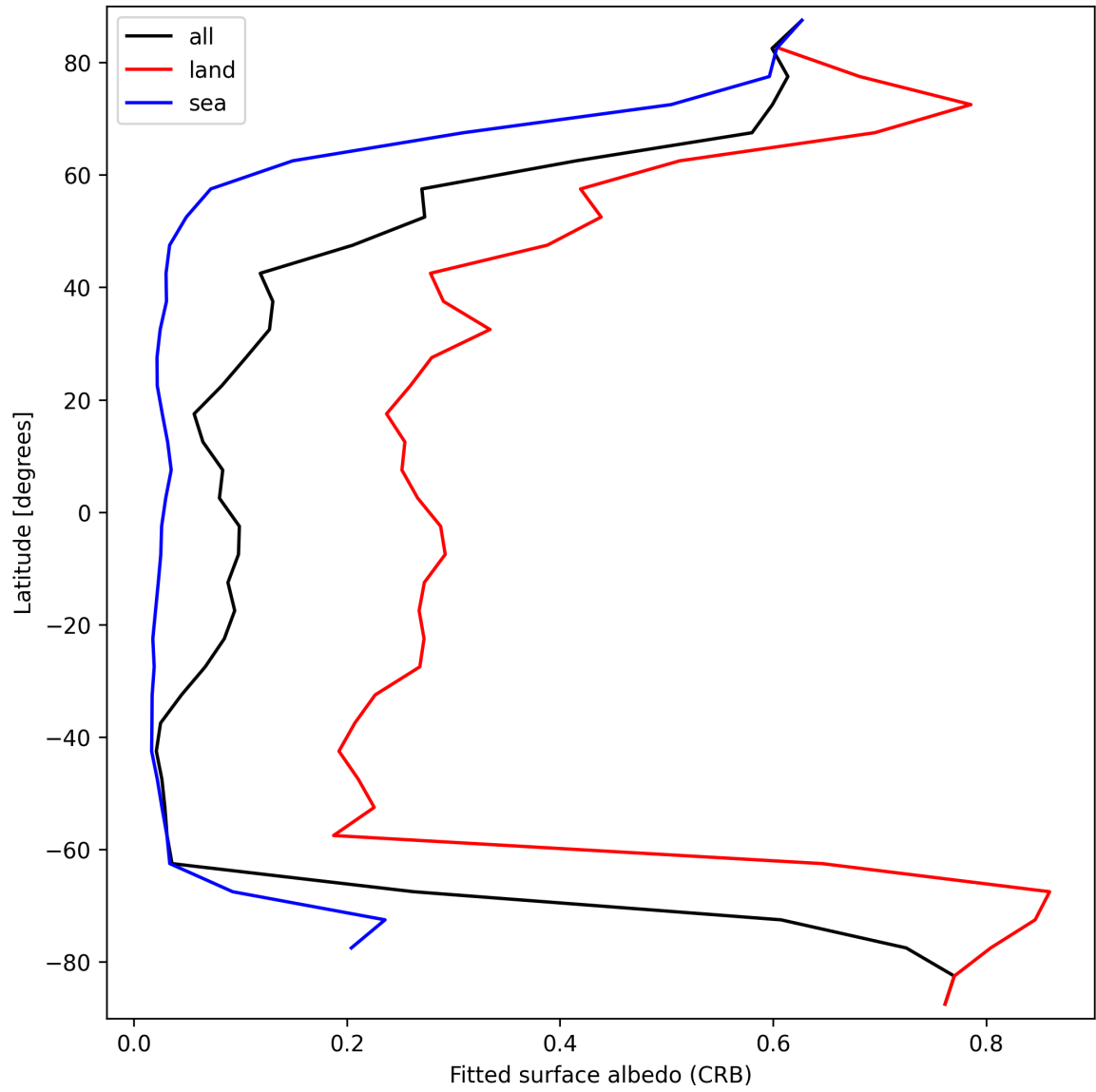


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-20 to 2025-03-21.

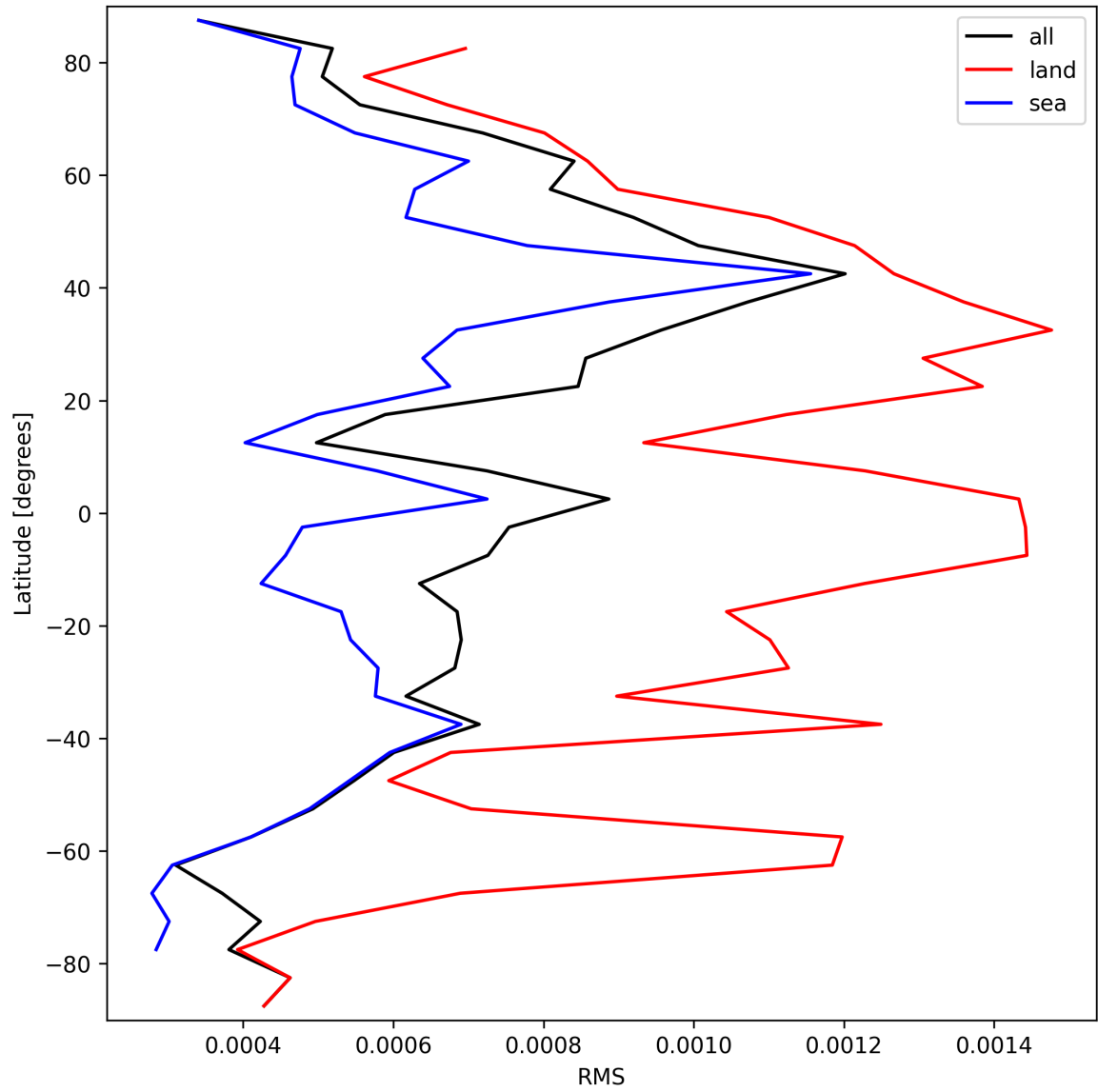


Figure 29: Zonal average of “RMS” for 2025-03-20 to 2025-03-21.

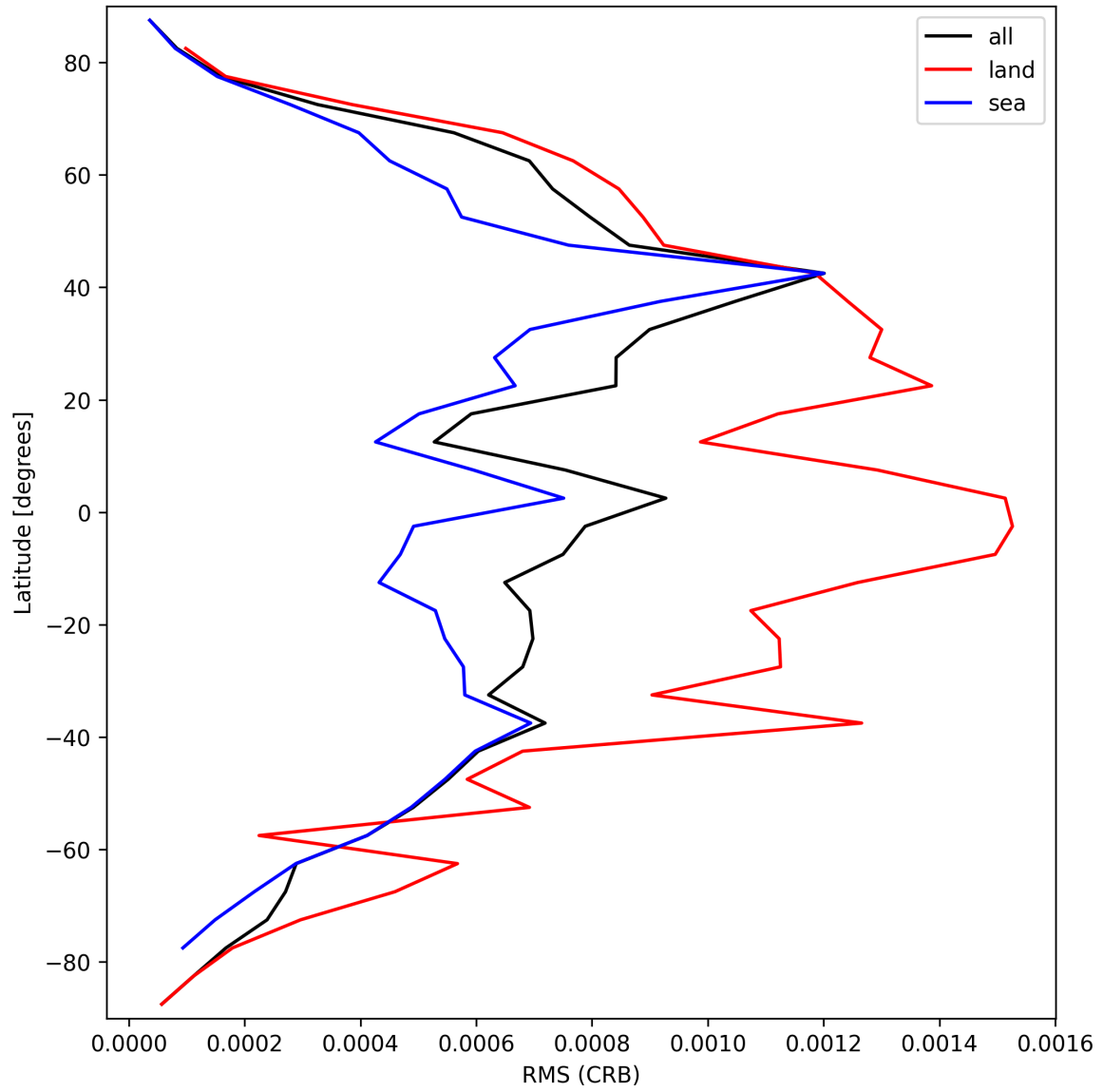


Figure 30: Zonal average of “RMS (CRB)” for 2025-03-20 to 2025-03-21.

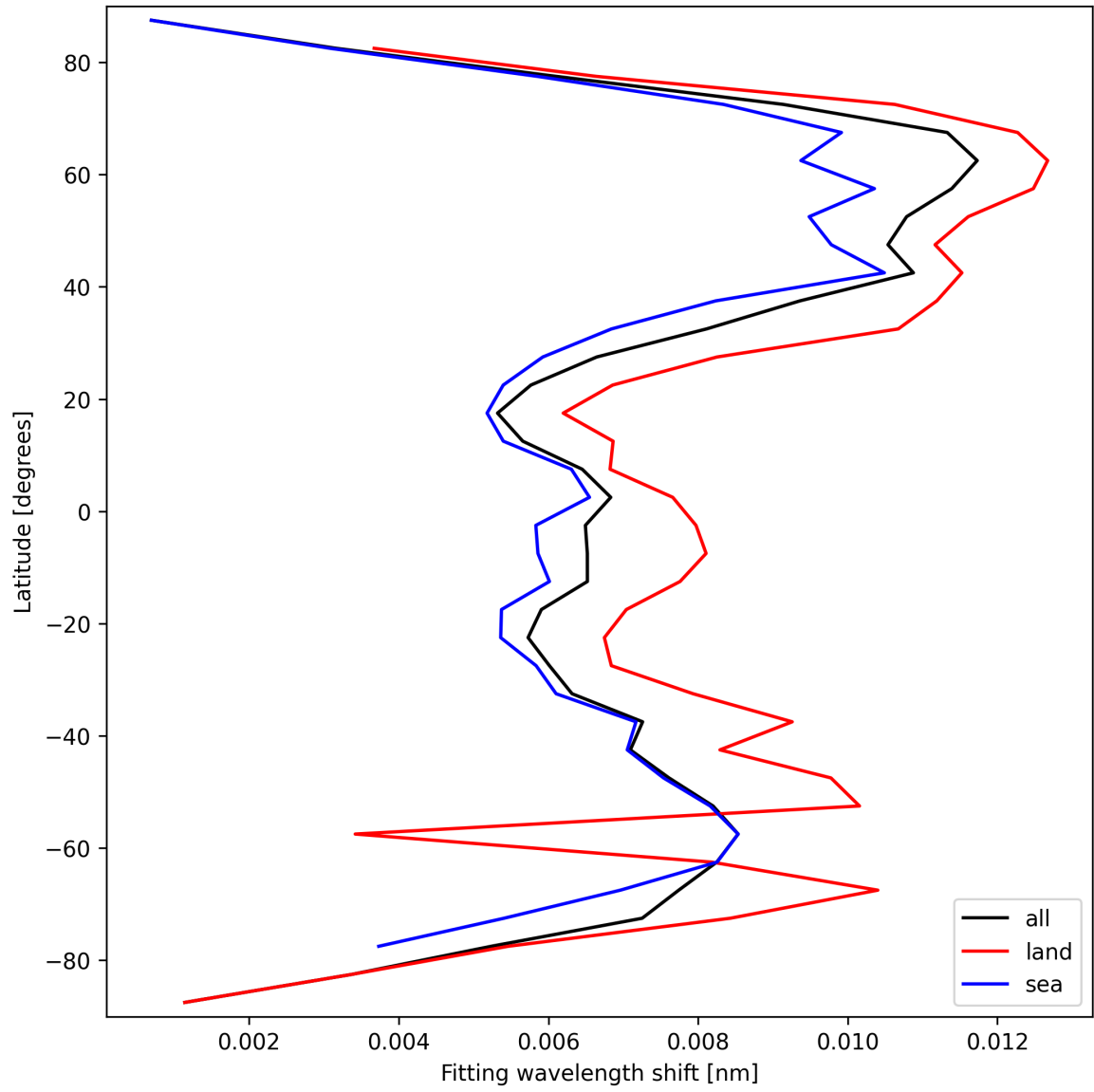


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-20 to 2025-03-21.

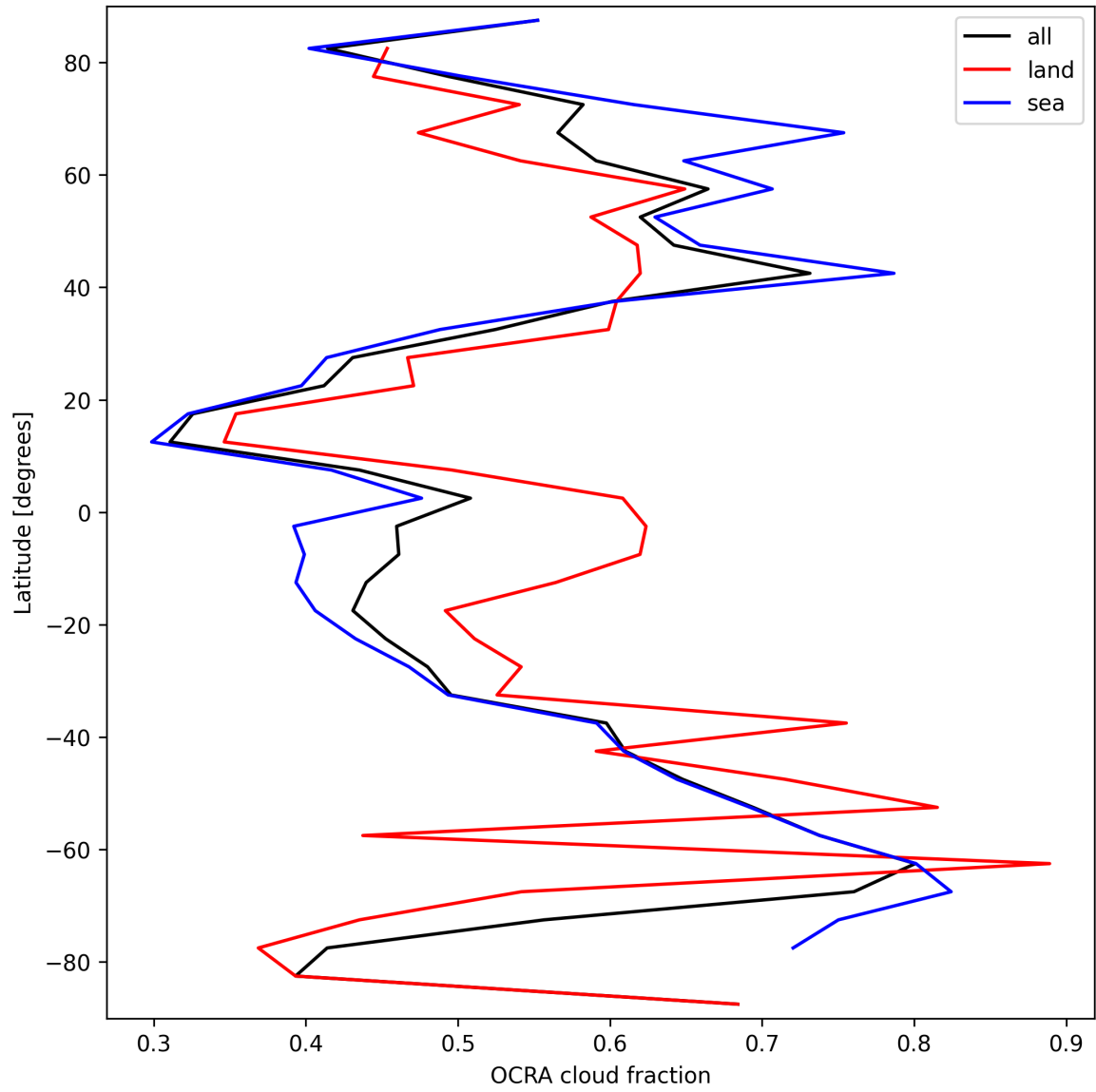


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-20 to 2025-03-21.

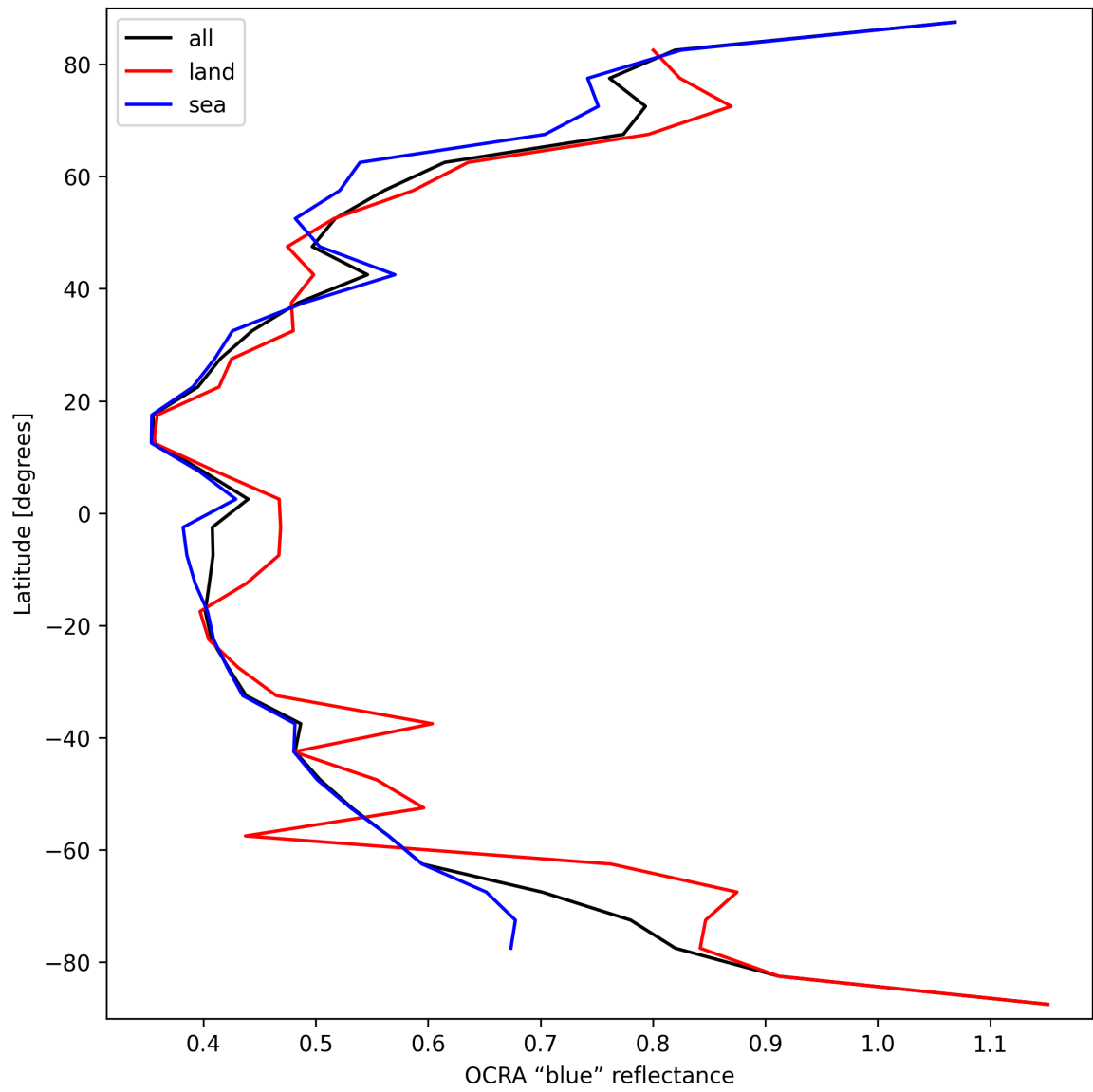


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-20 to 2025-03-21.

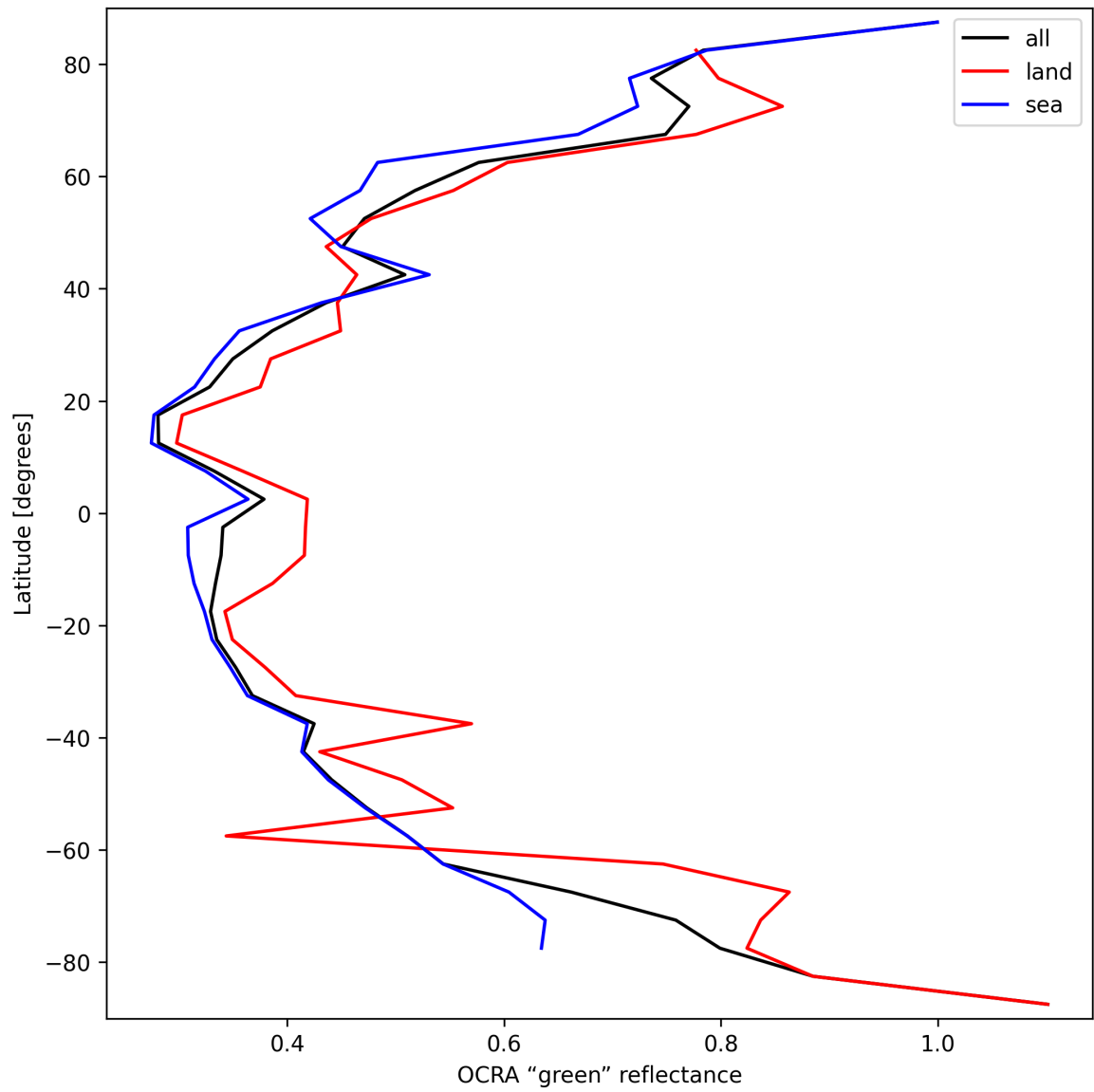


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-20 to 2025-03-21.

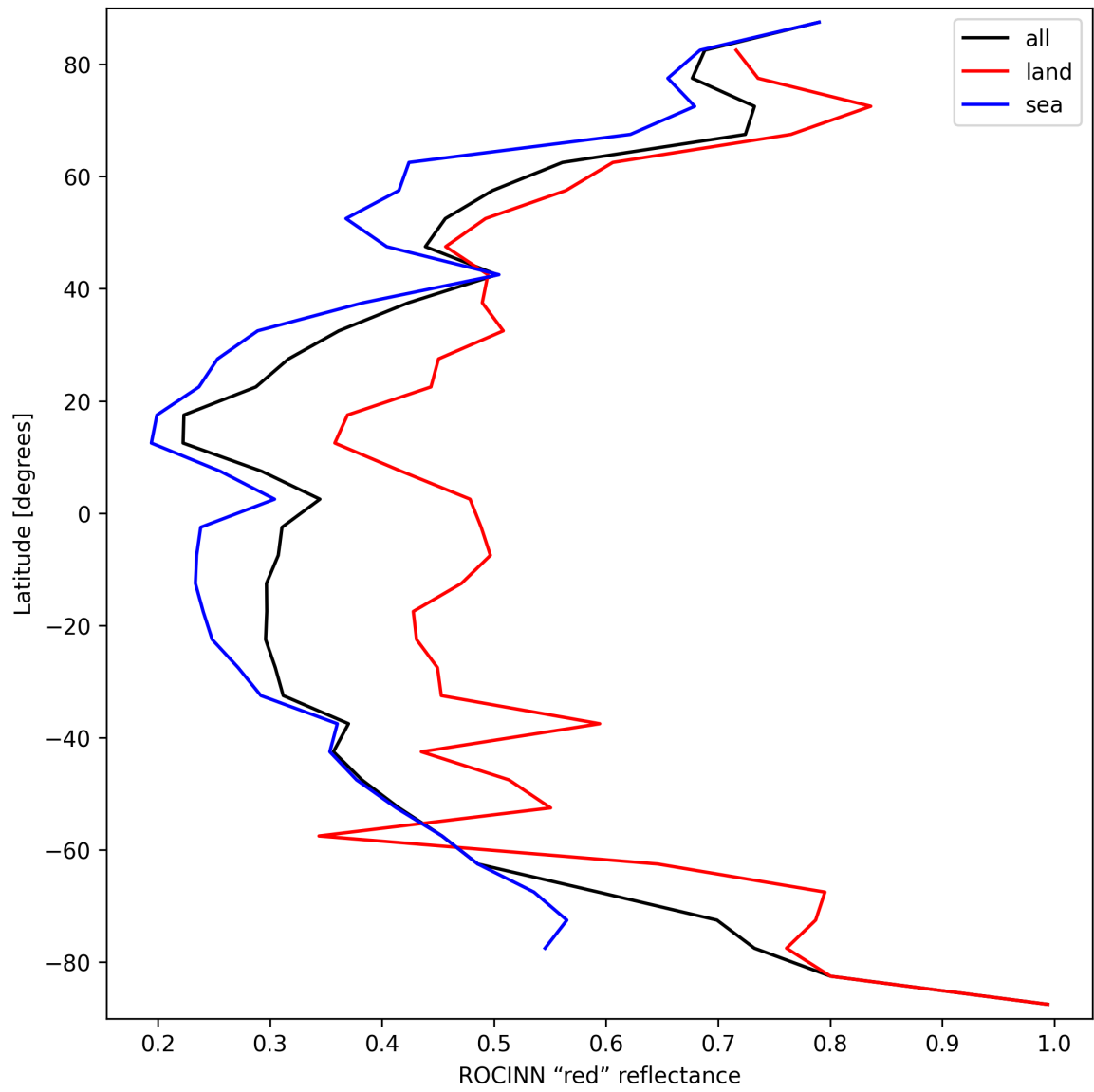


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-20 to 2025-03-21.

8 Histograms

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

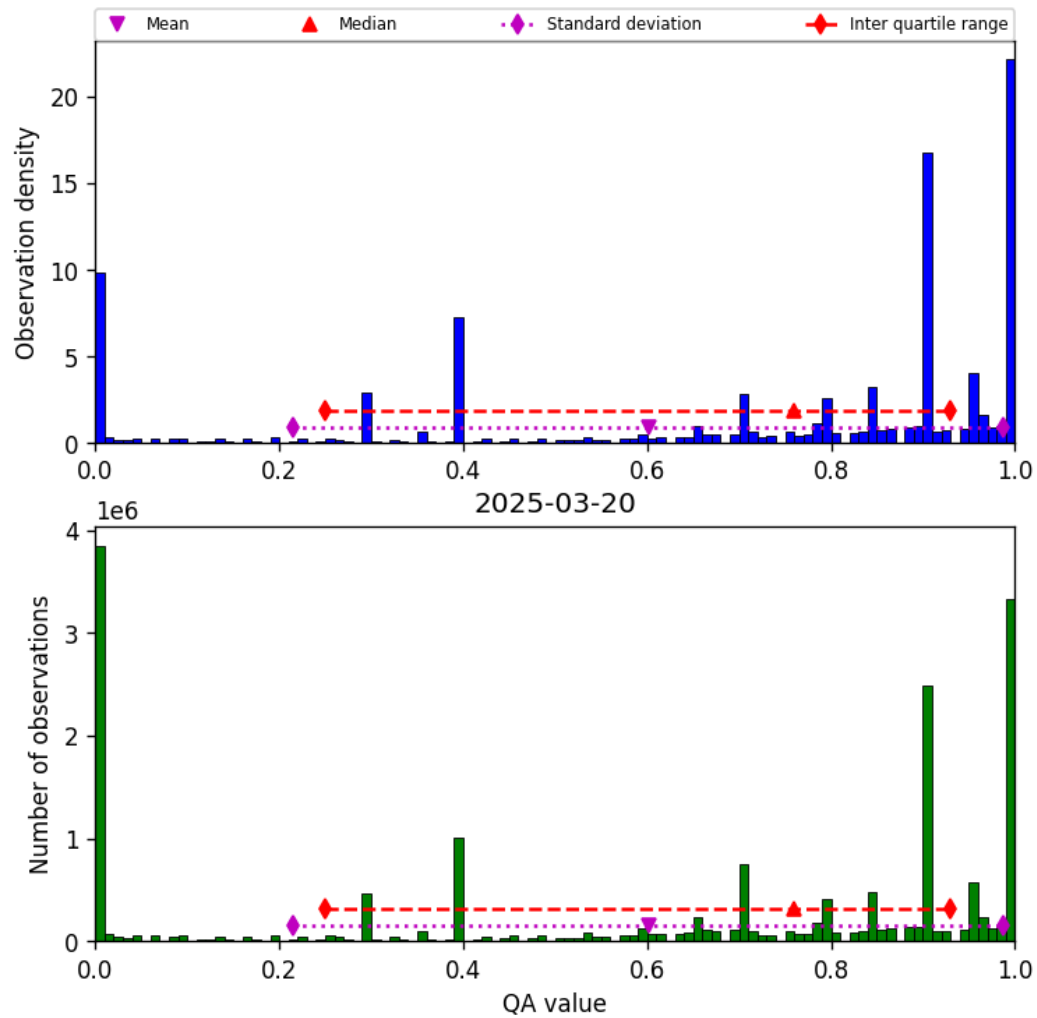


Figure 36: Histogram of “QA value” for 2025-03-20 to 2025-03-21

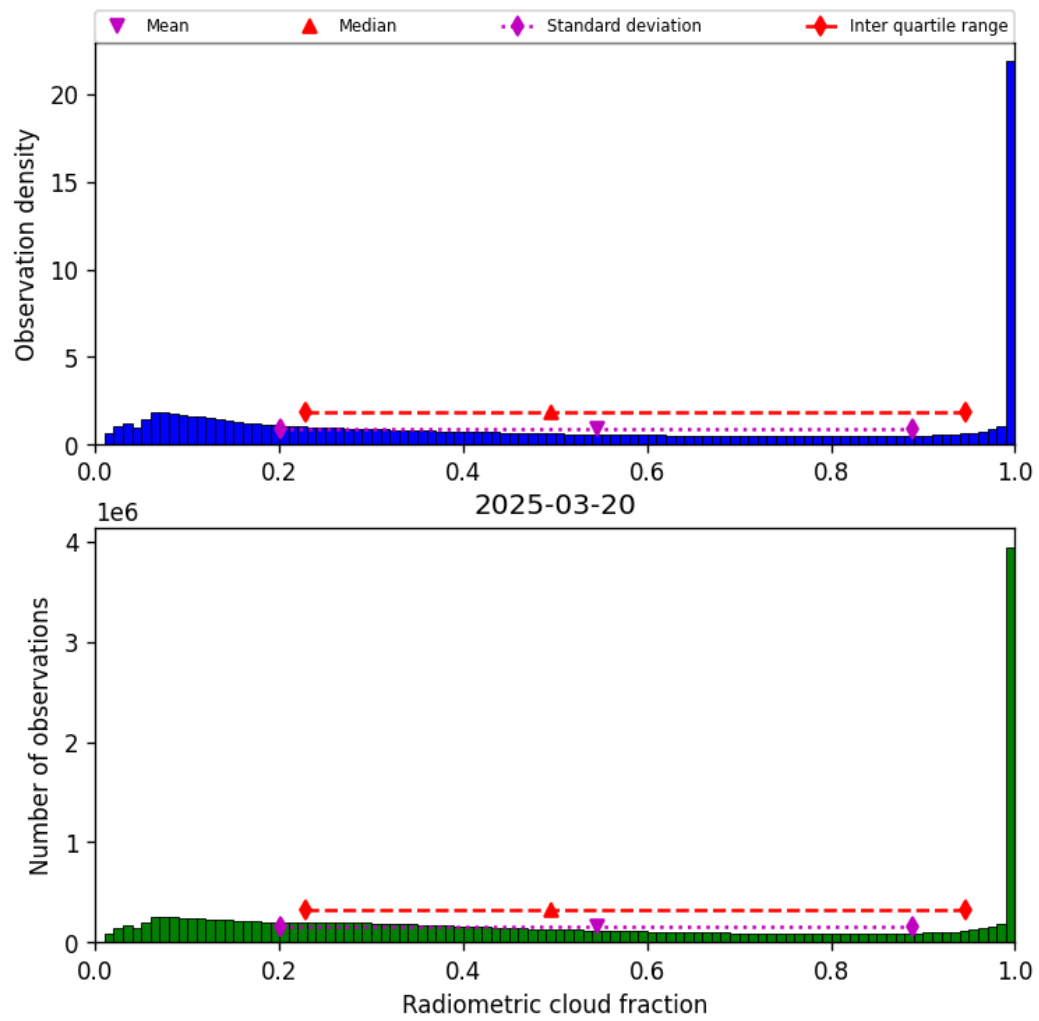


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-20 to 2025-03-21

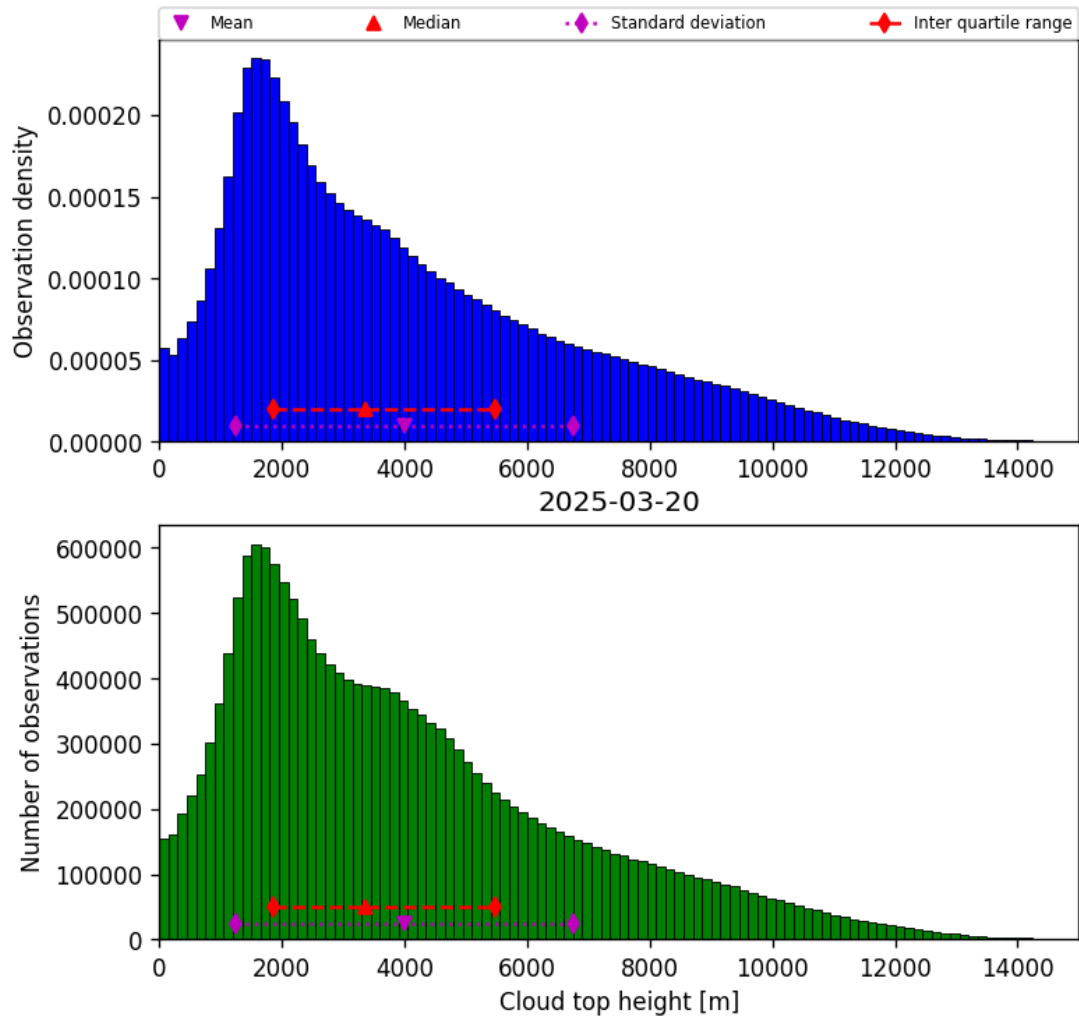


Figure 38: Histogram of “Cloud top height” for 2025-03-20 to 2025-03-21

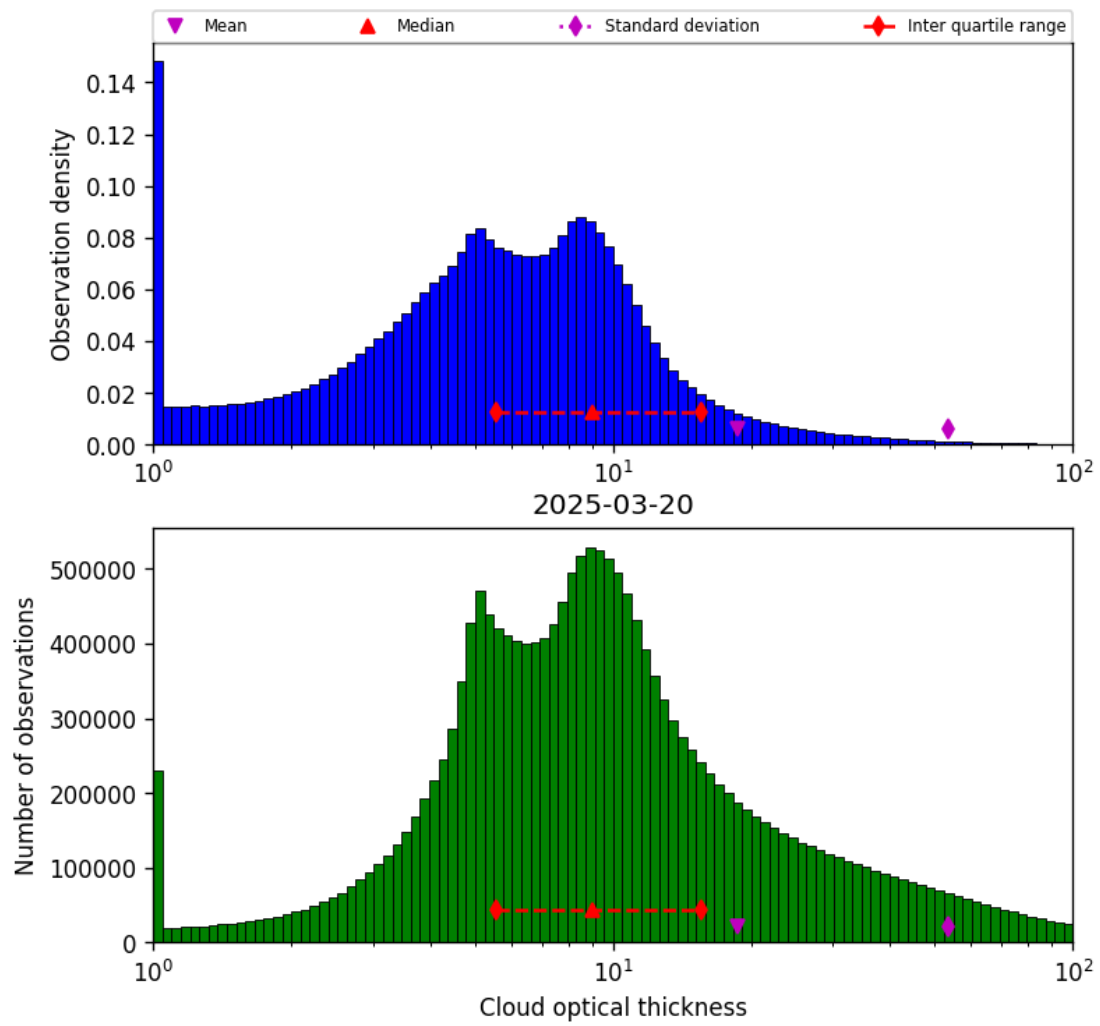


Figure 39: Histogram of “Cloud optical thickness” for 2025-03-20 to 2025-03-21

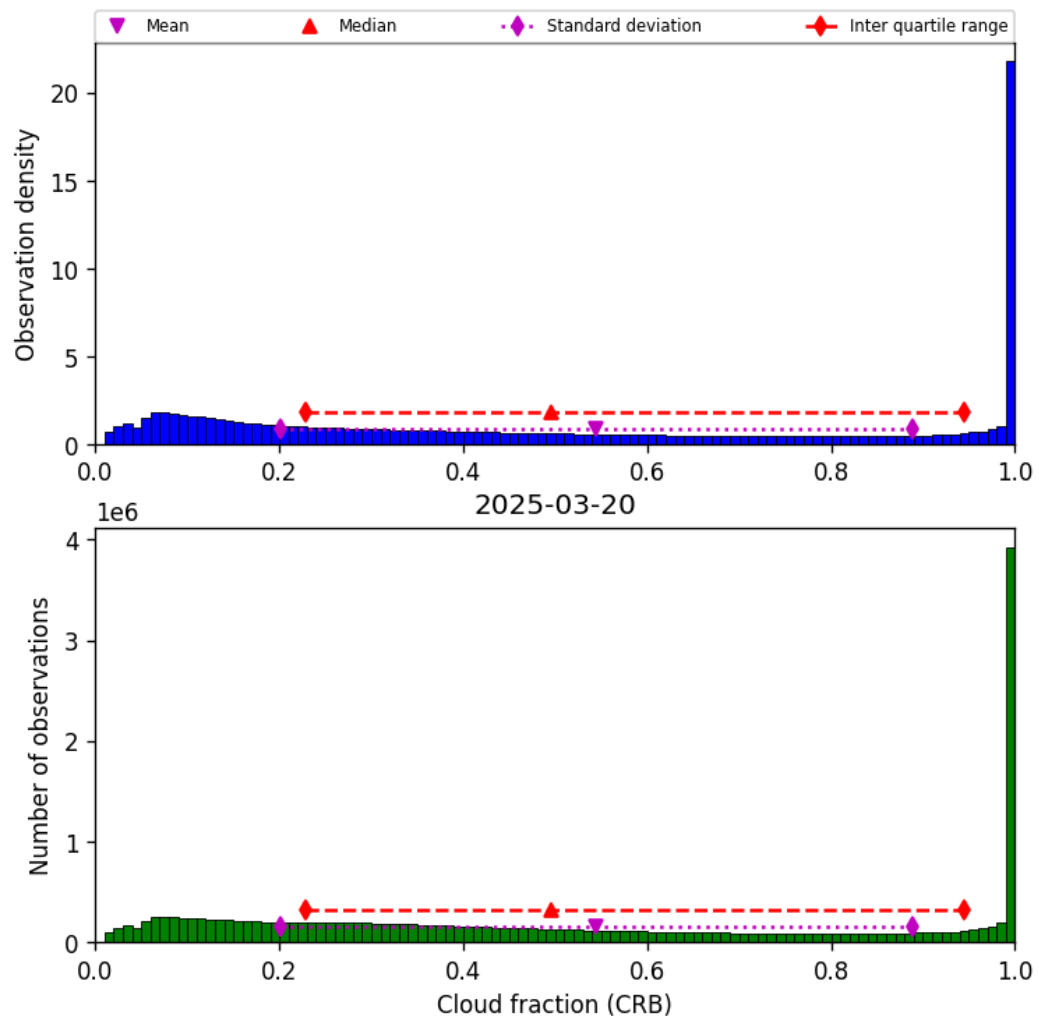


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-20 to 2025-03-21

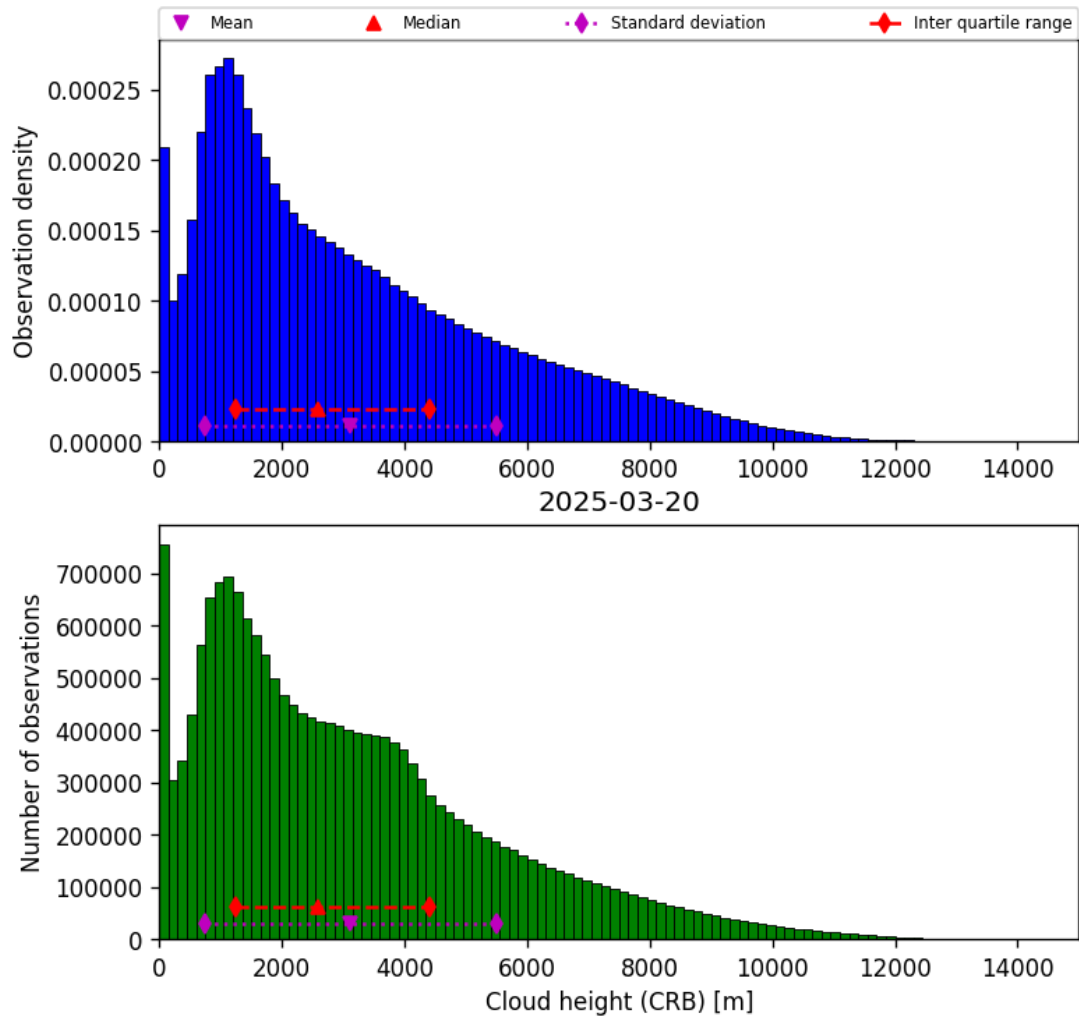


Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-20 to 2025-03-21

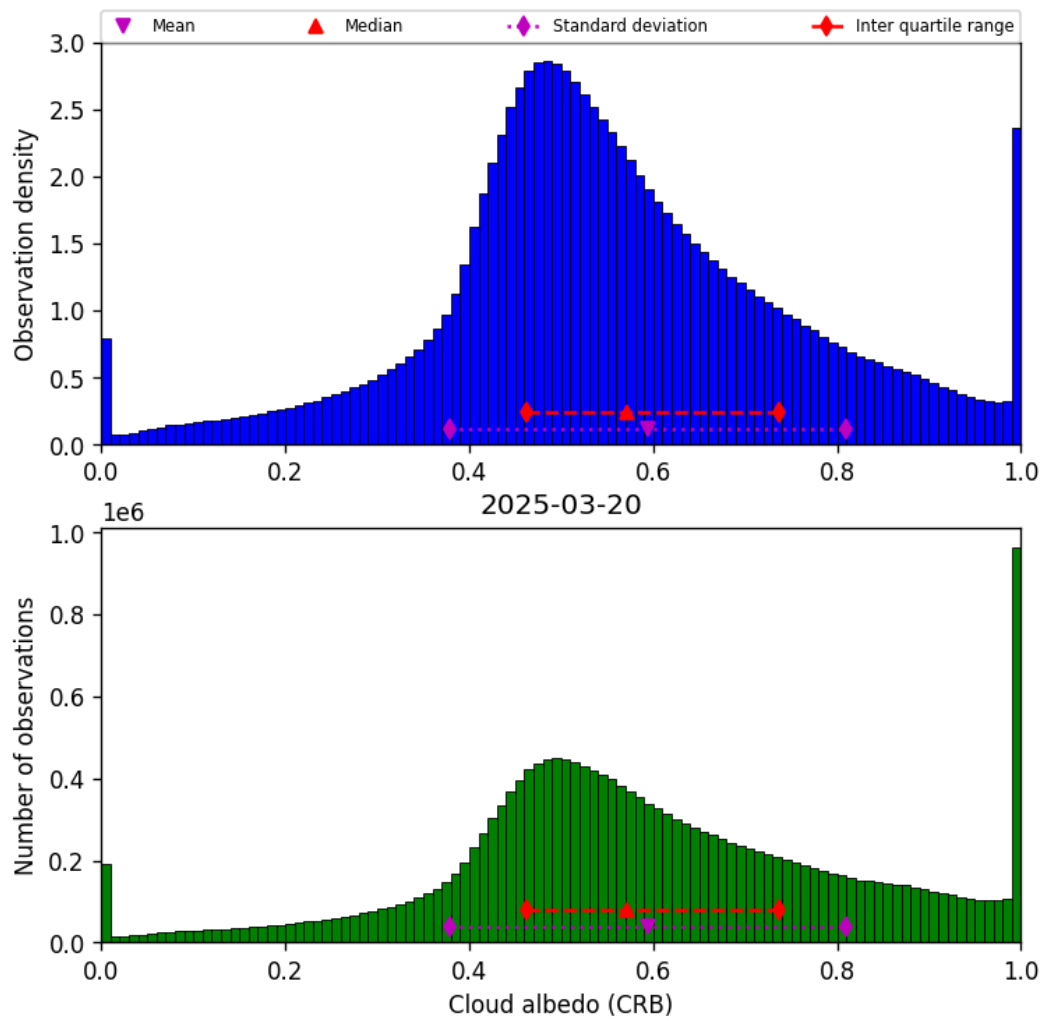


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-20 to 2025-03-21

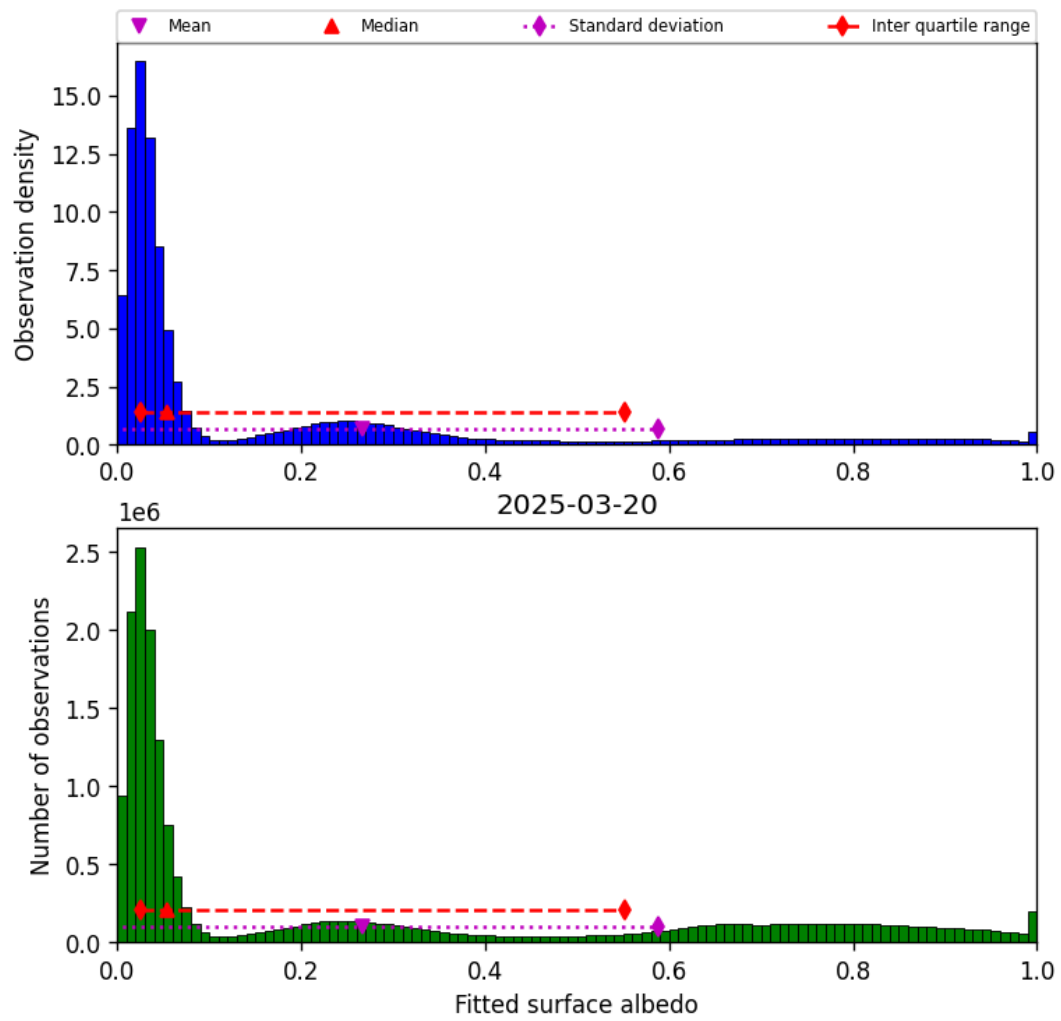


Figure 43: Histogram of “Fitted surface albedo” for 2025-03-20 to 2025-03-21

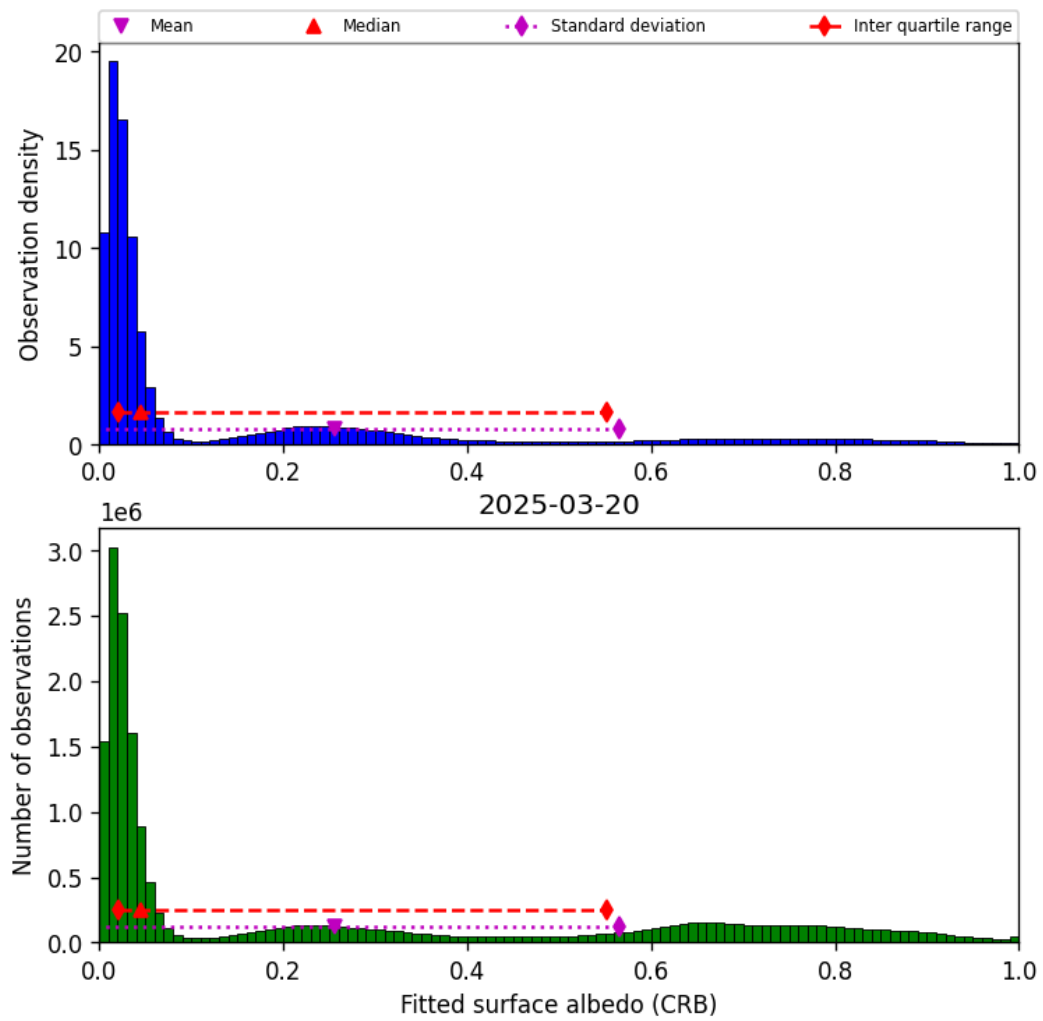


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-20 to 2025-03-21

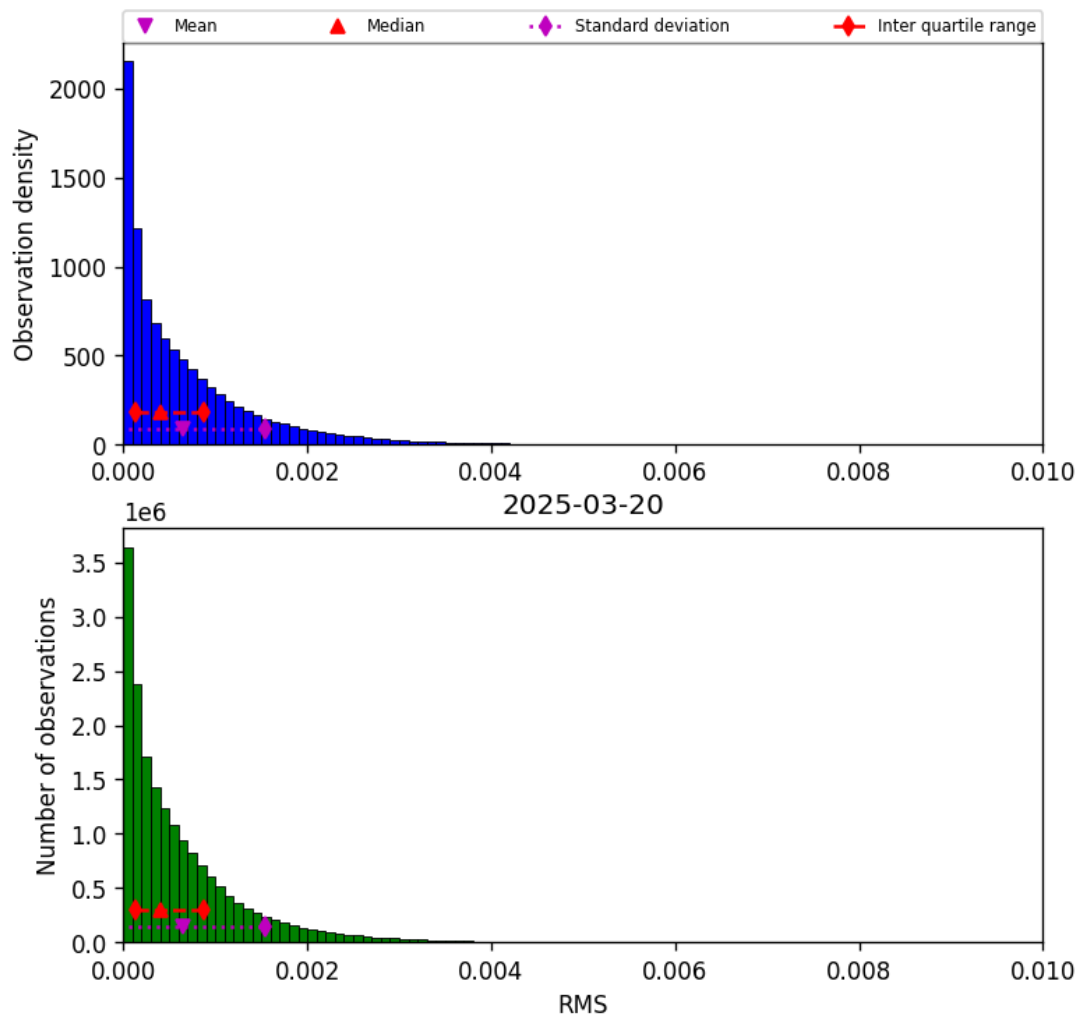


Figure 45: Histogram of “RMS” for 2025-03-20 to 2025-03-21

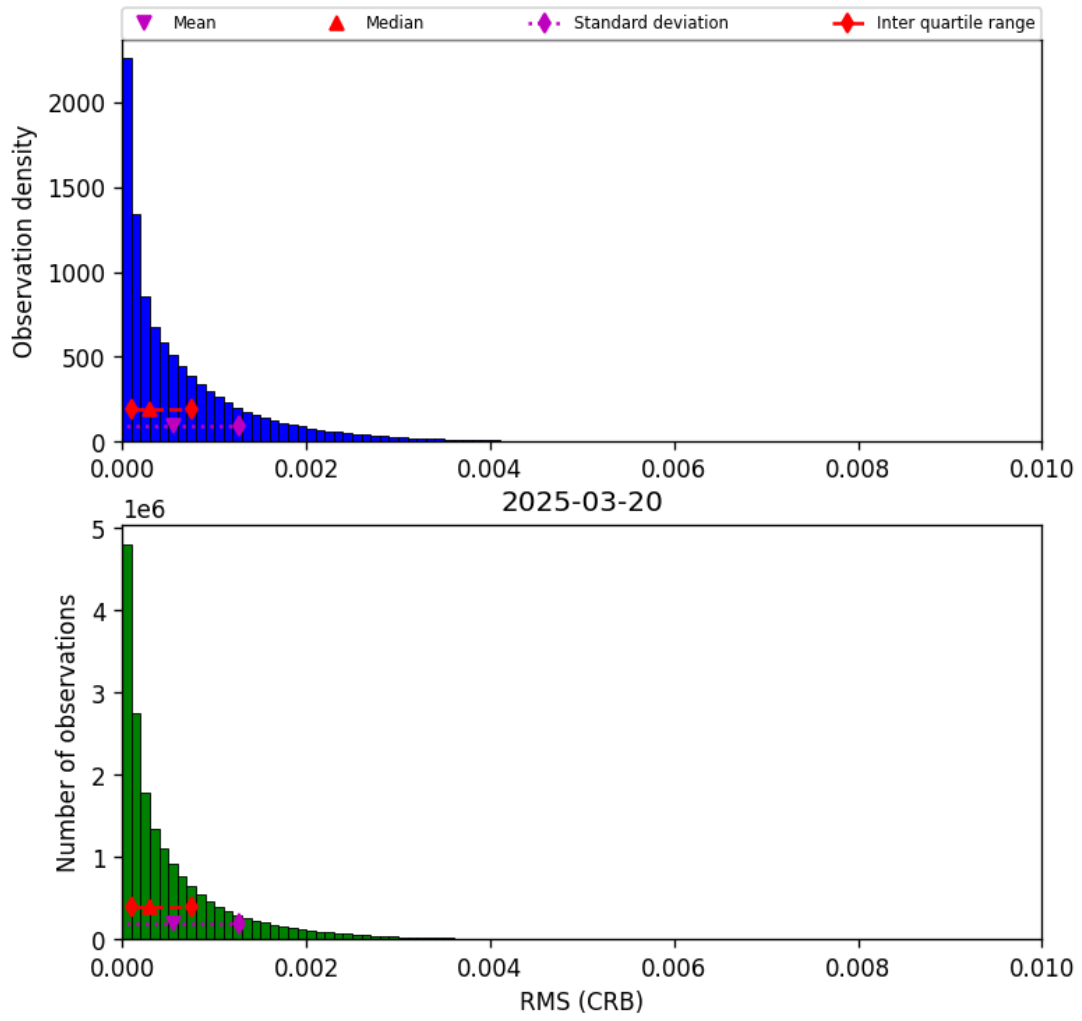


Figure 46: Histogram of "RMS (CRB)" for 2025-03-20 to 2025-03-21

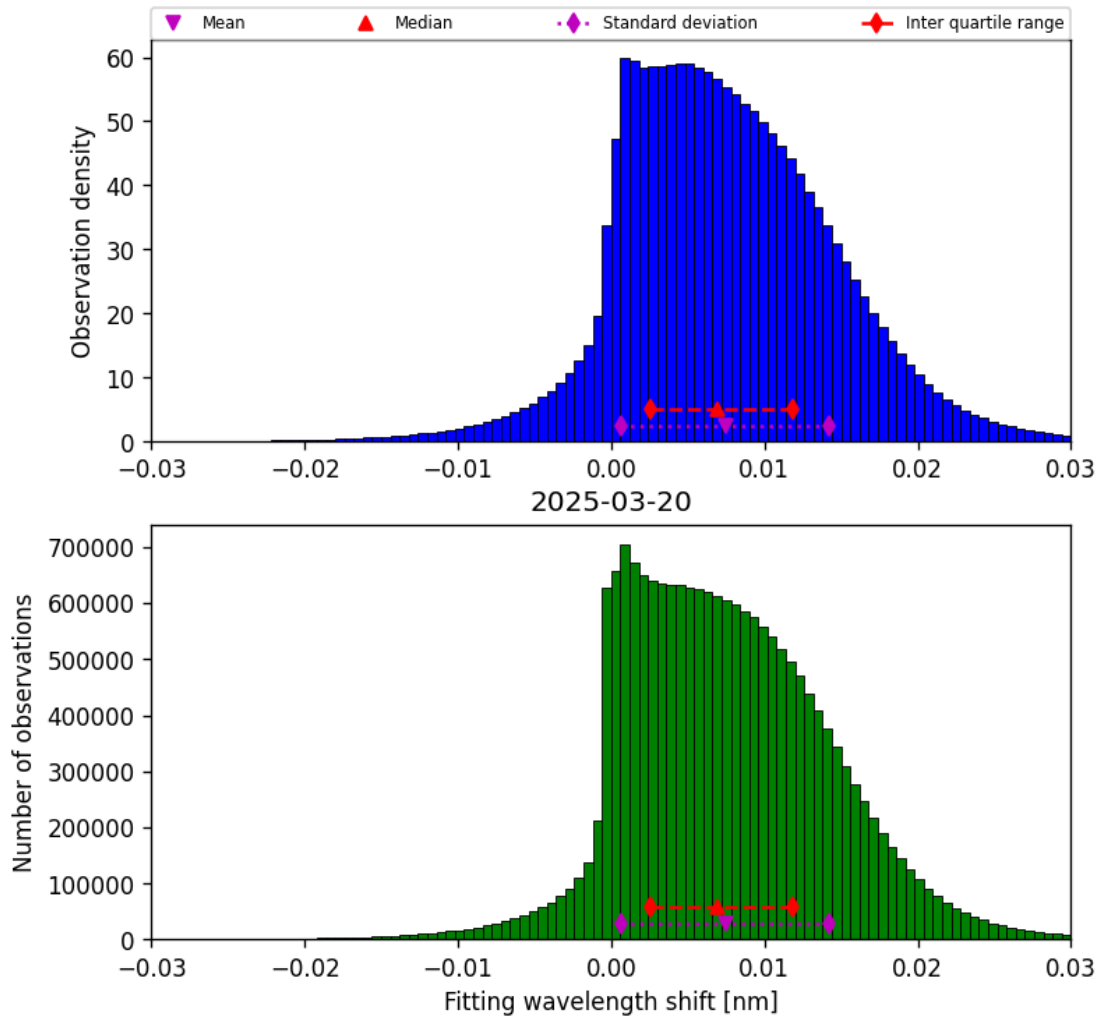


Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-20 to 2025-03-21

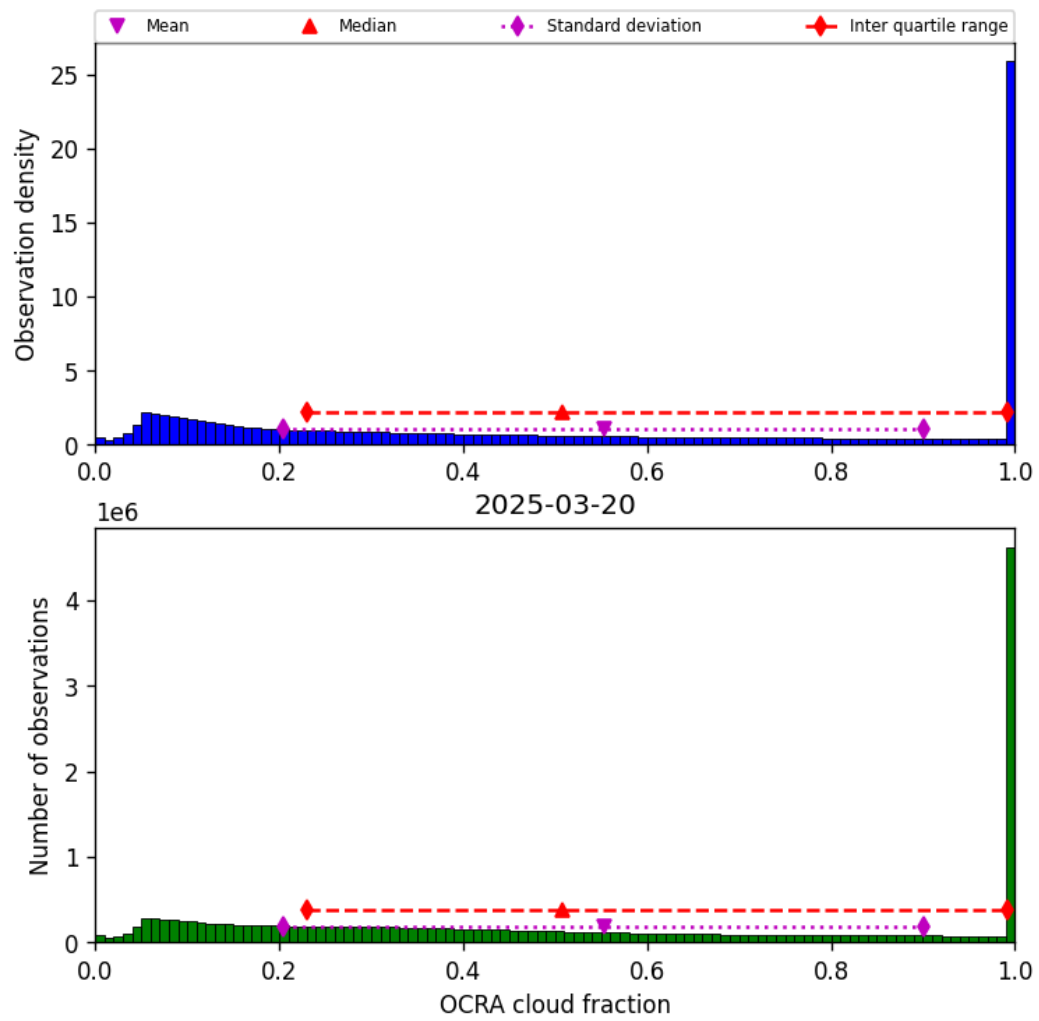


Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-20 to 2025-03-21

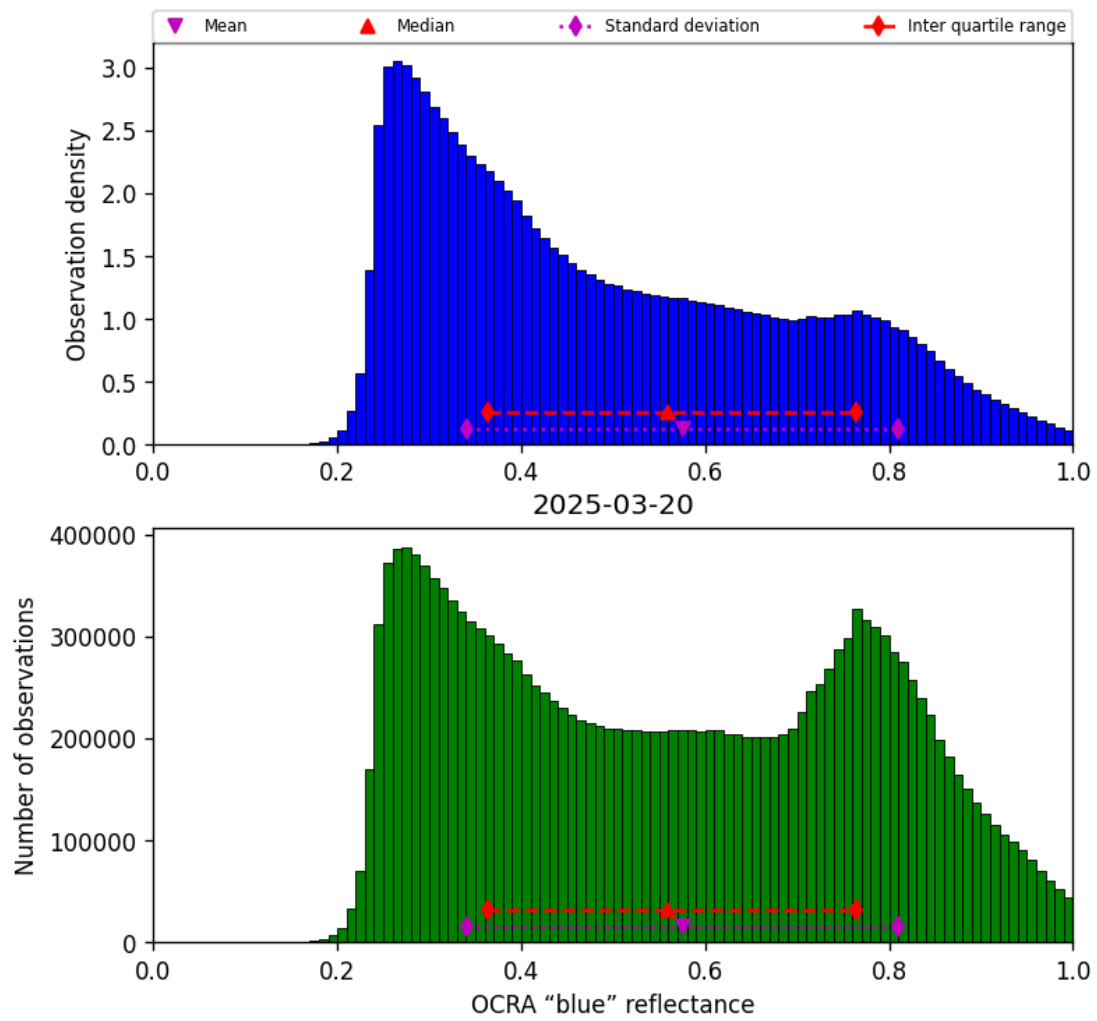


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-03-20 to 2025-03-21

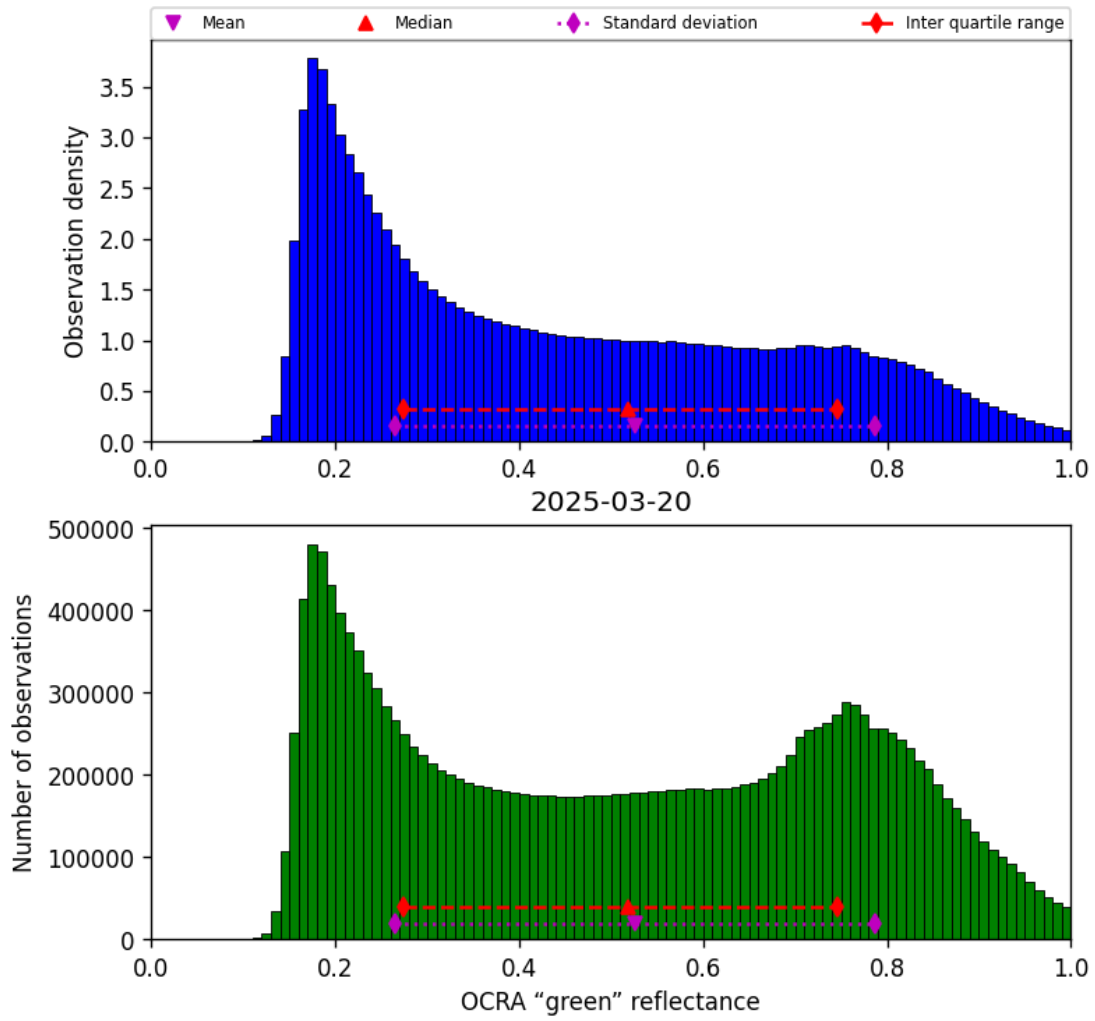


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-20 to 2025-03-21

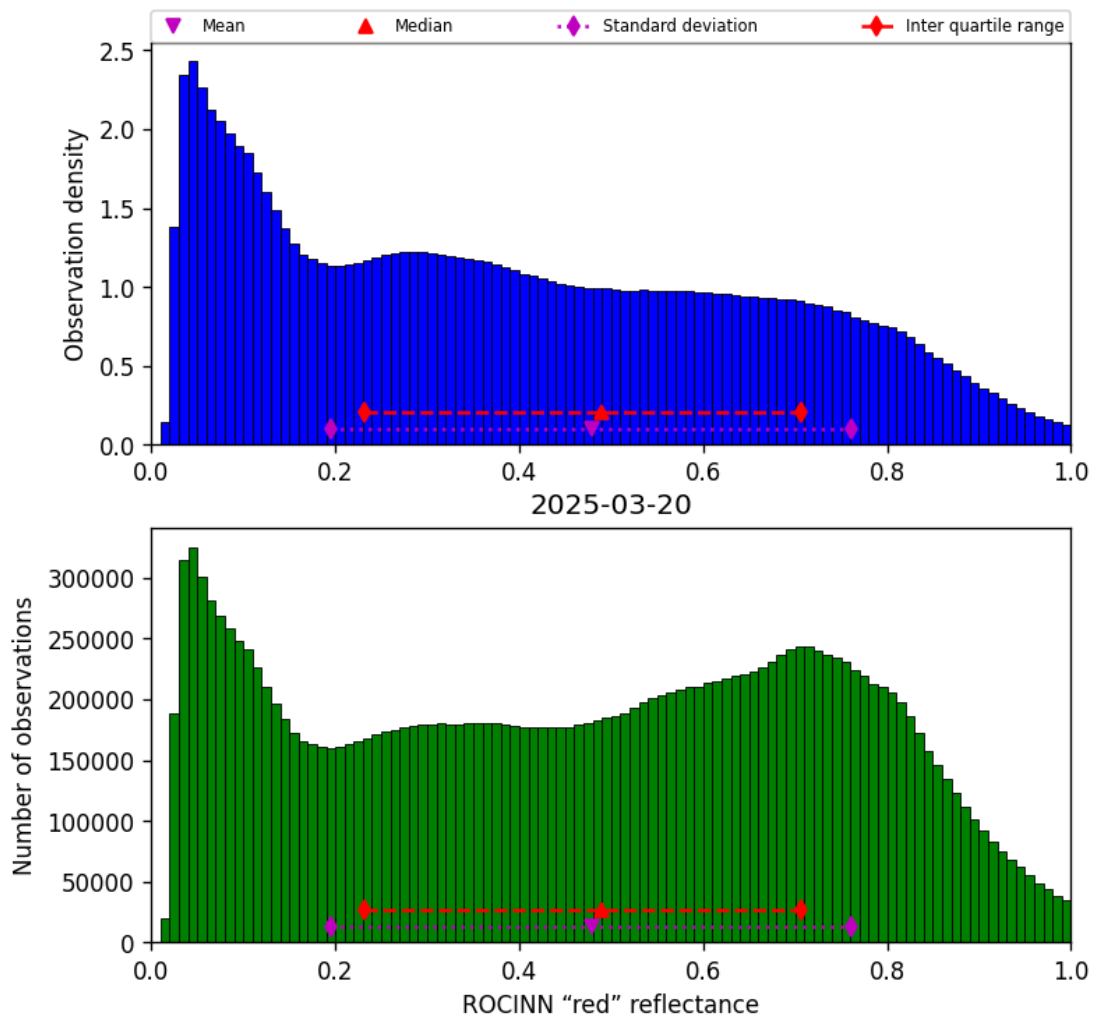


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-20 to 2025-03-21

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.

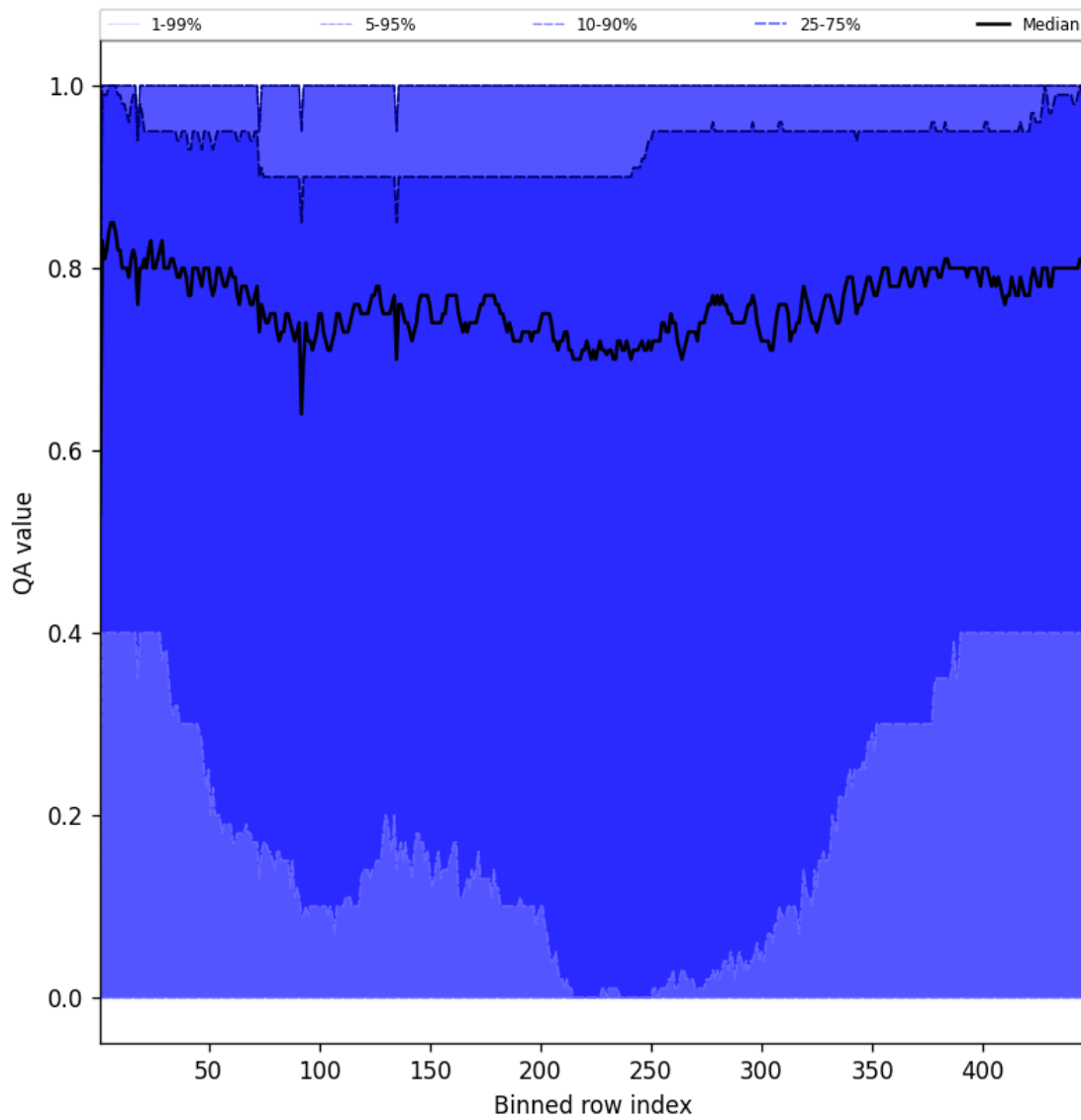


Figure 52: Along track statistics of “QA value” for 2025-03-20 to 2025-03-21

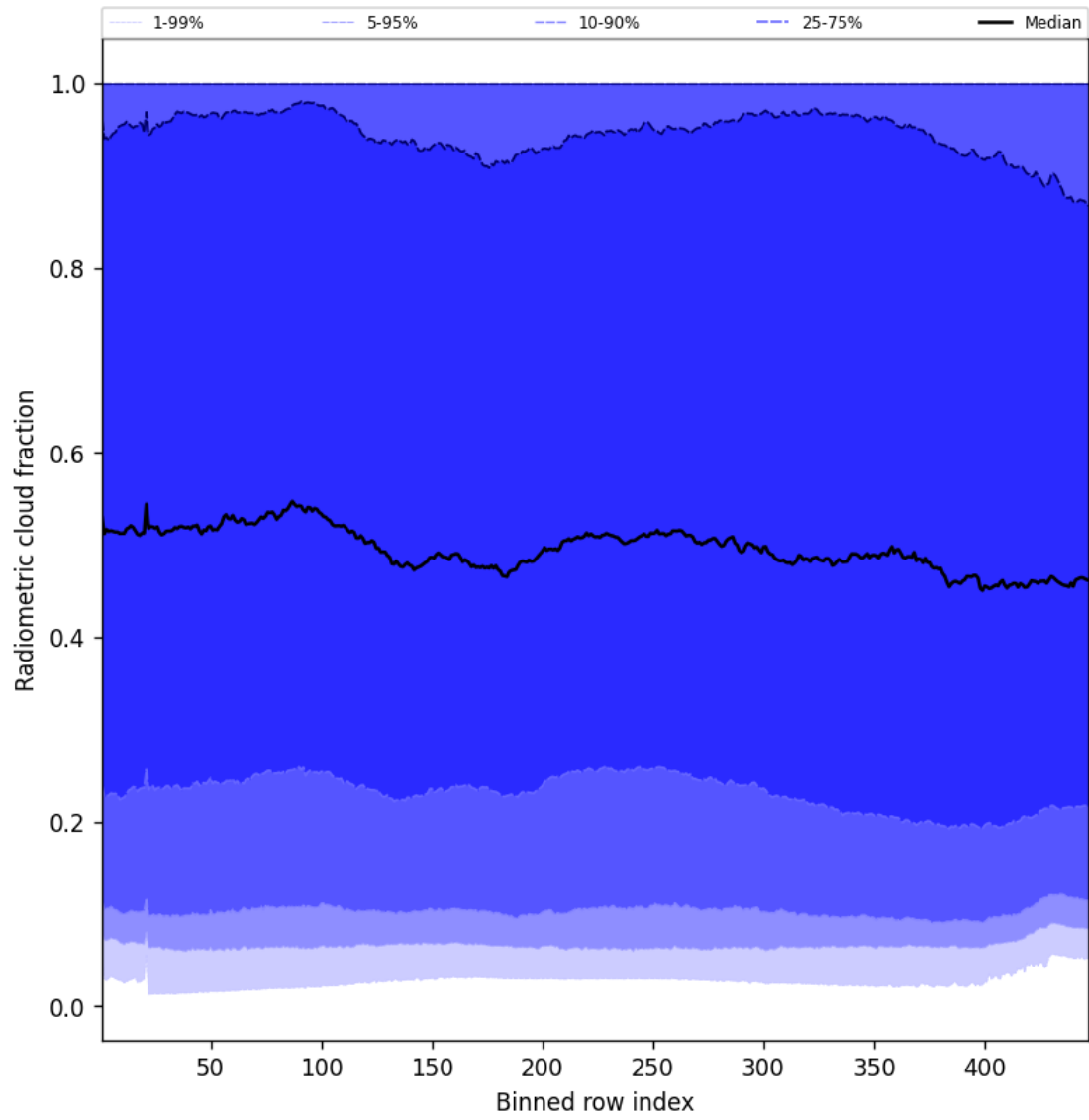


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-20 to 2025-03-21

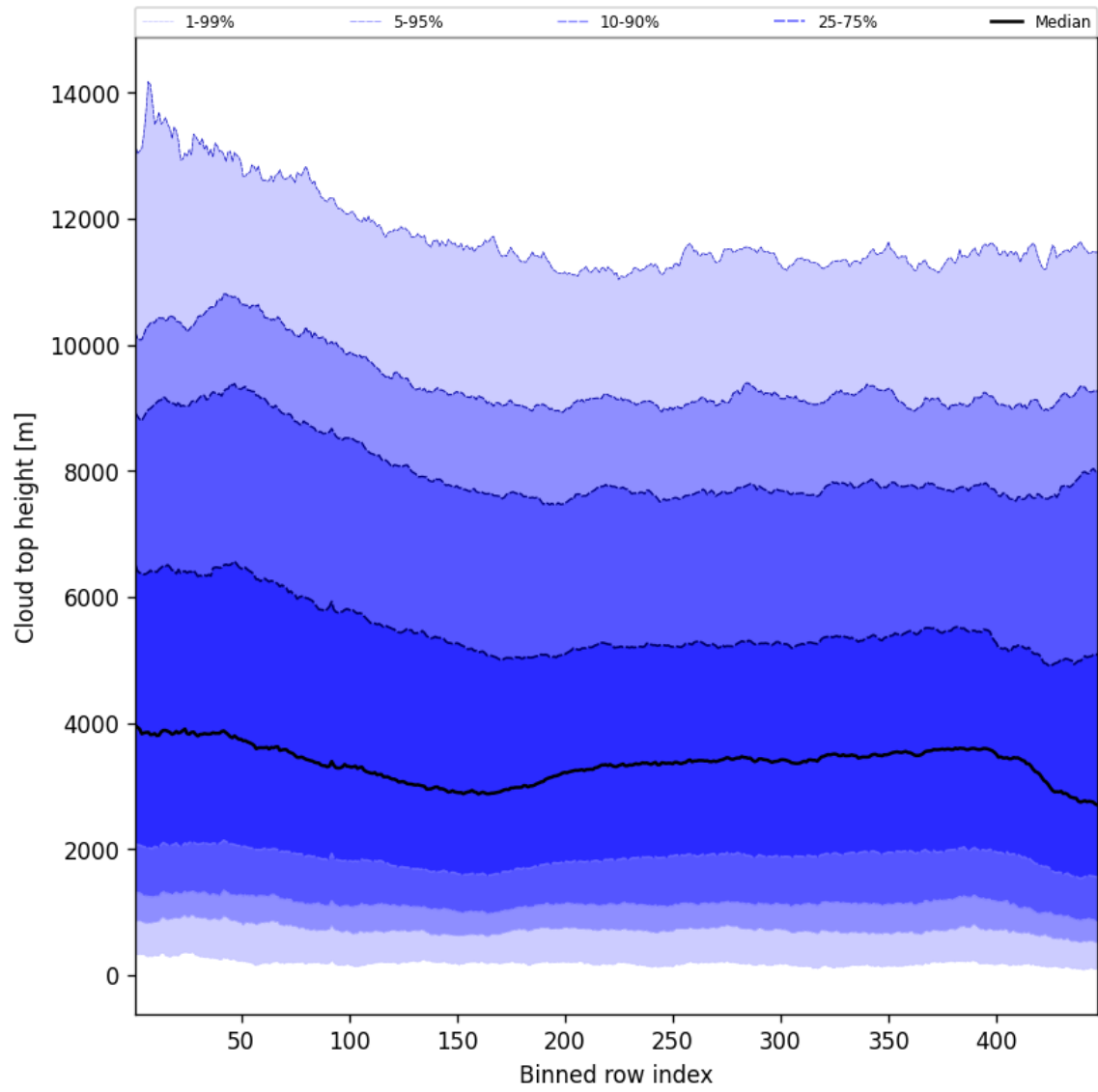


Figure 54: Along track statistics of “Cloud top height” for 2025-03-20 to 2025-03-21

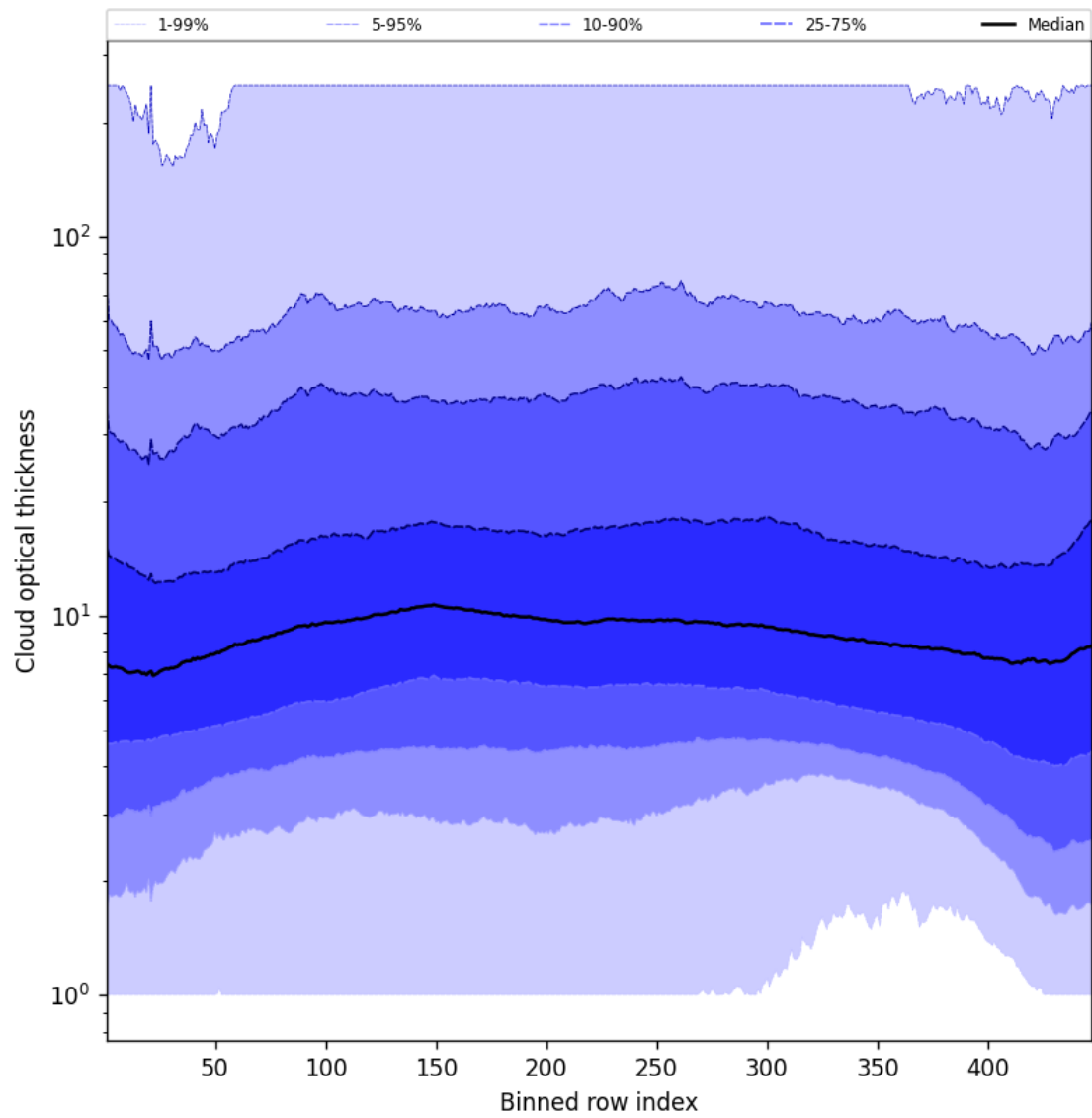


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-20 to 2025-03-21

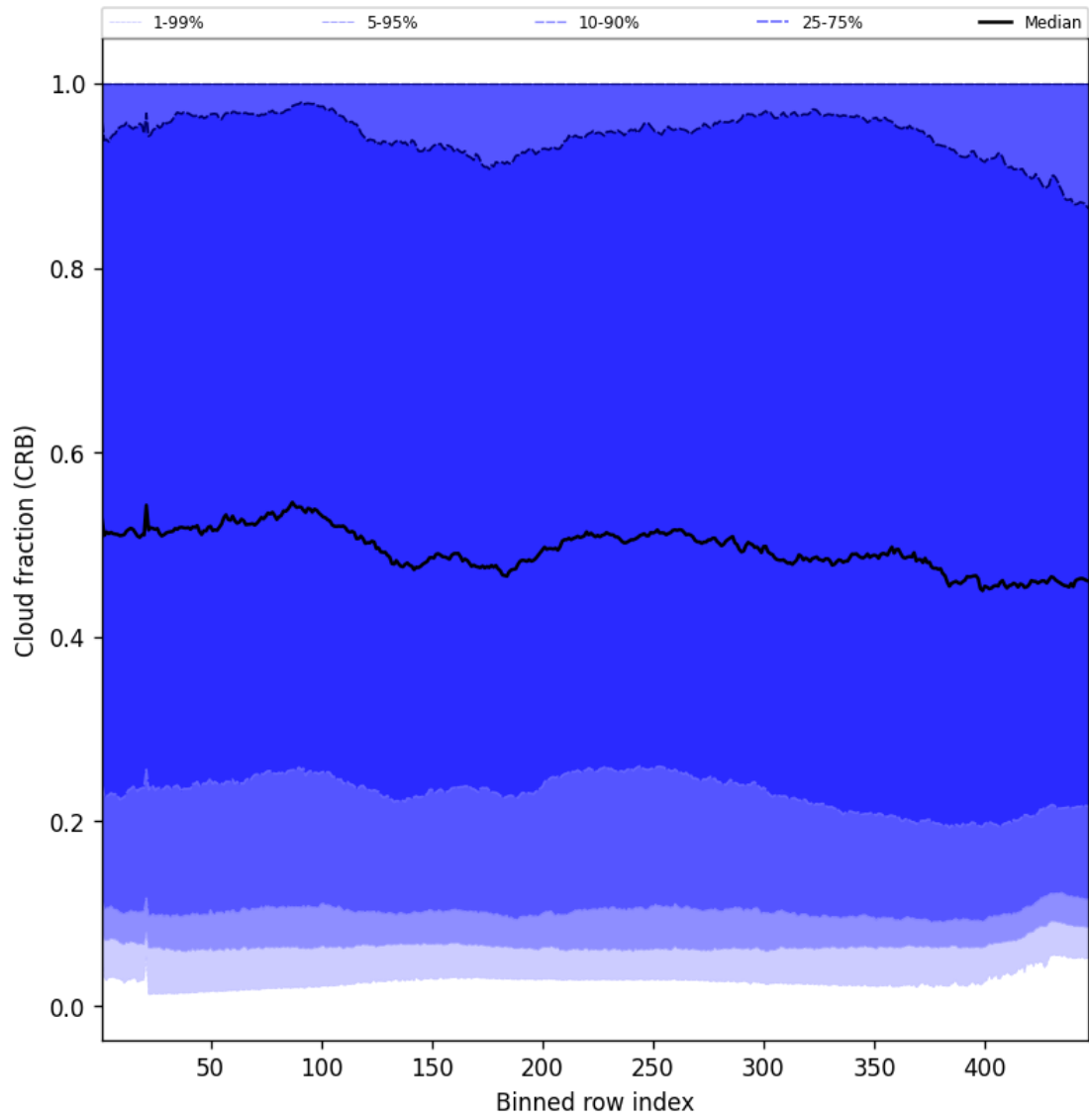


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-20 to 2025-03-21

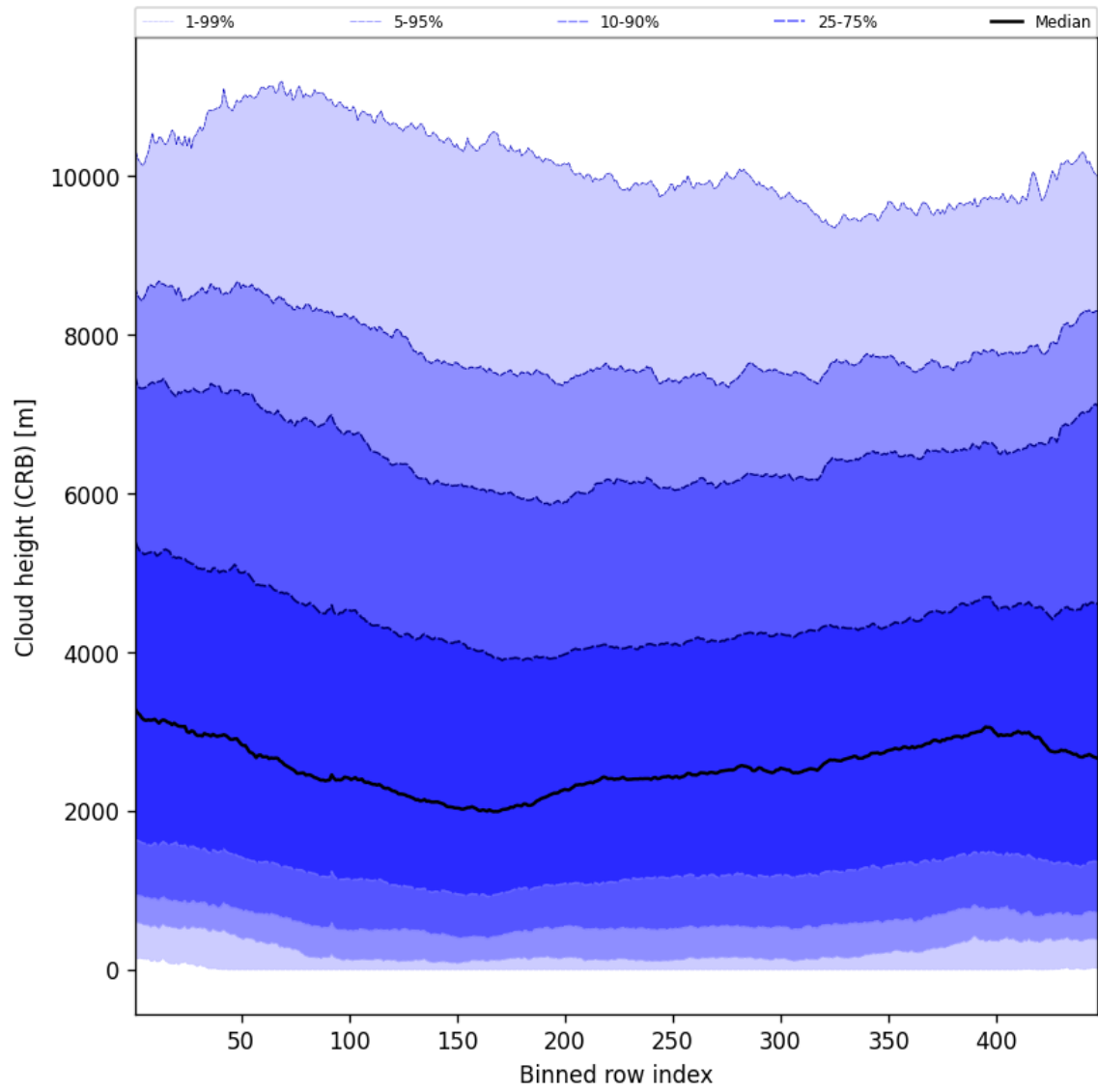


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-20 to 2025-03-21

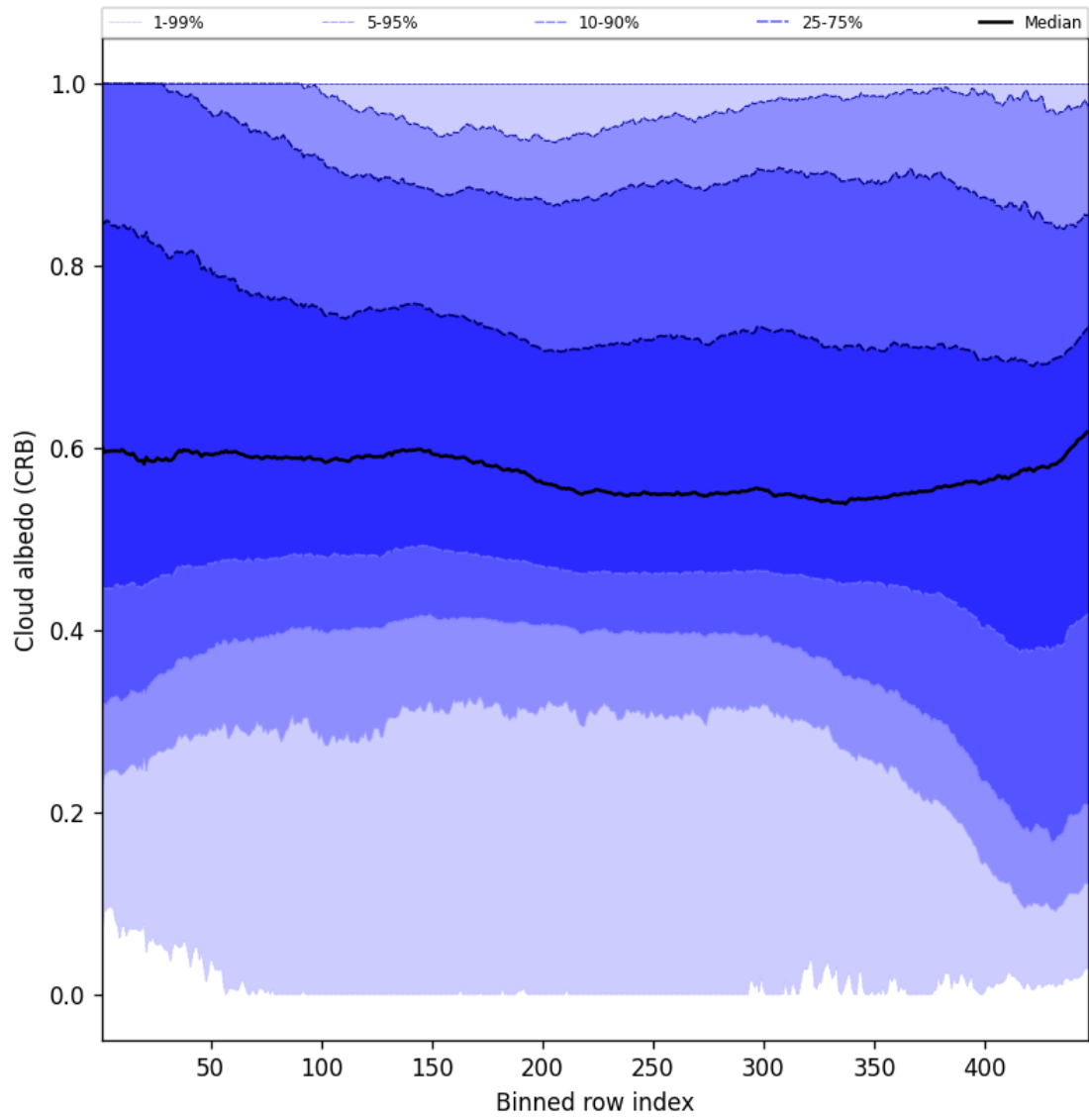


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-20 to 2025-03-21

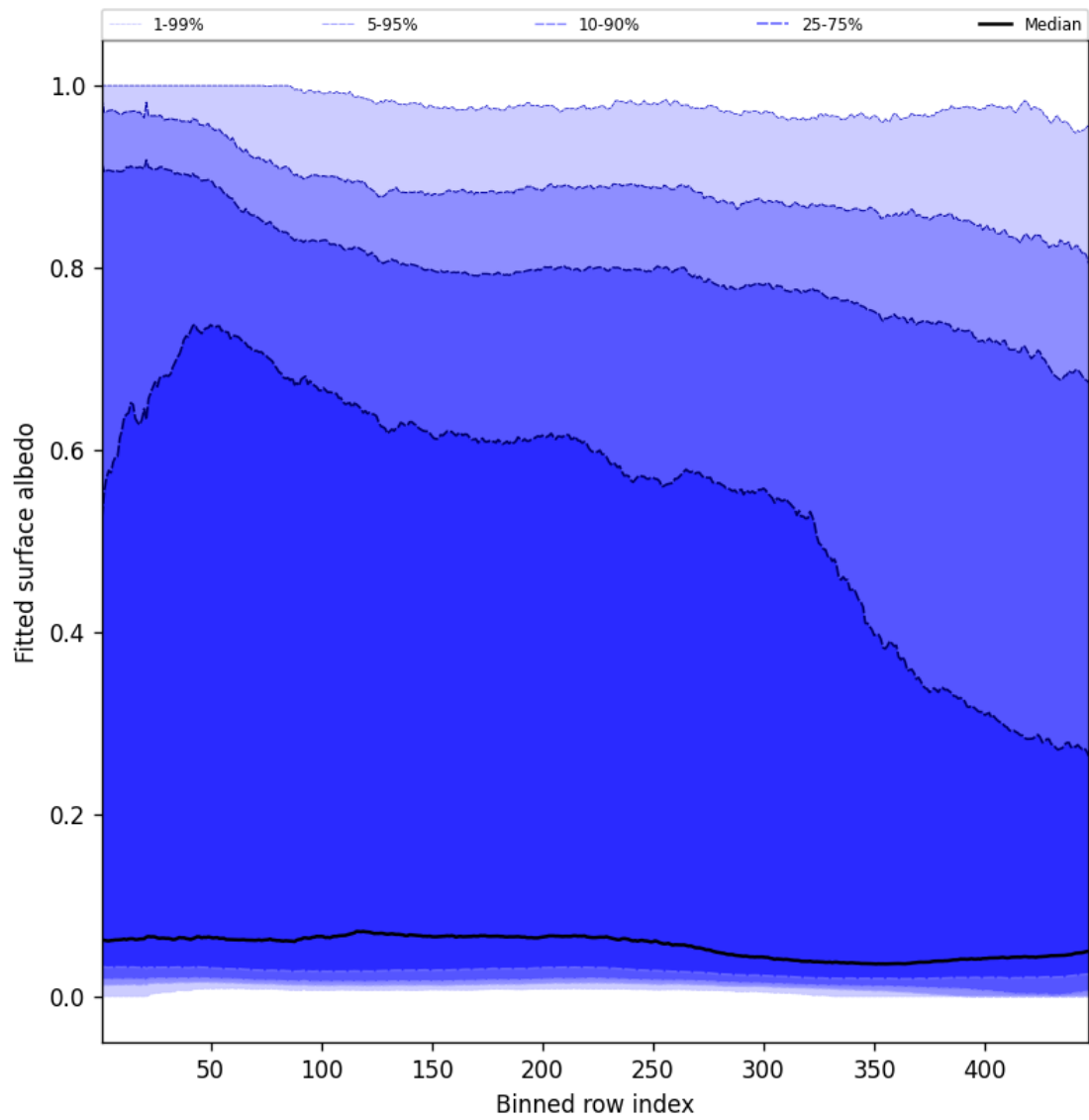


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-20 to 2025-03-21

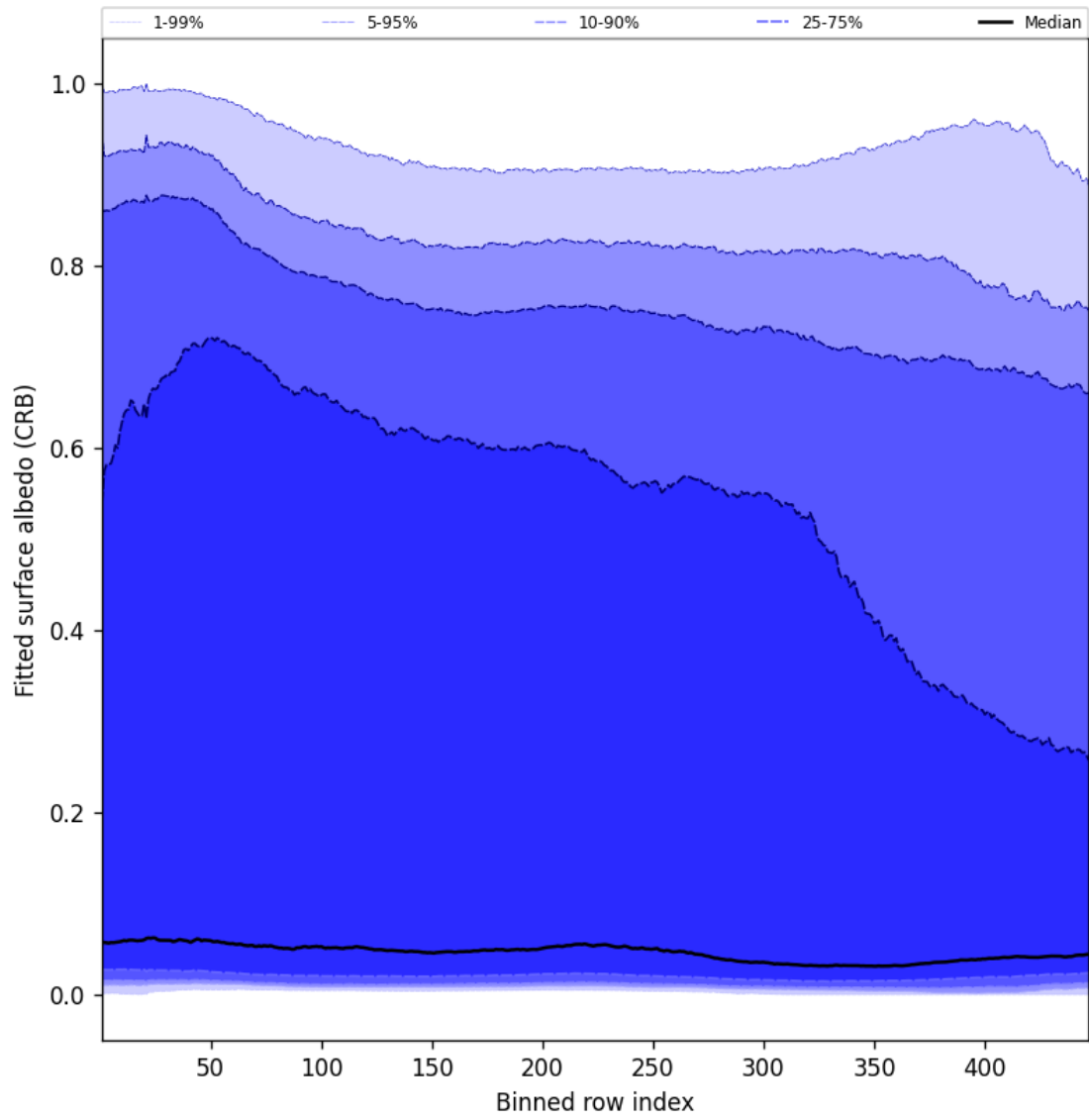


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-20 to 2025-03-21

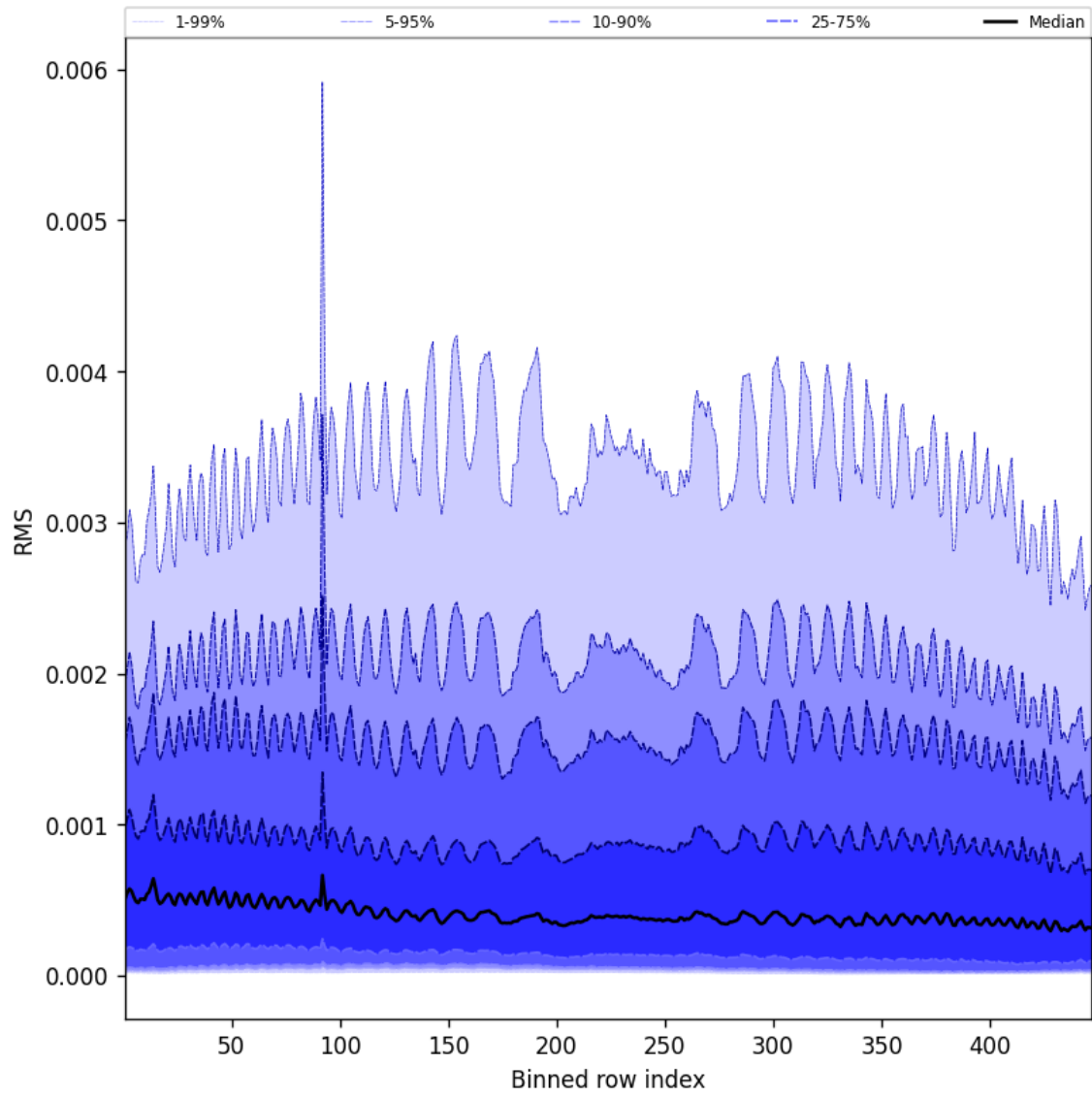


Figure 61: Along track statistics of “RMS” for 2025-03-20 to 2025-03-21

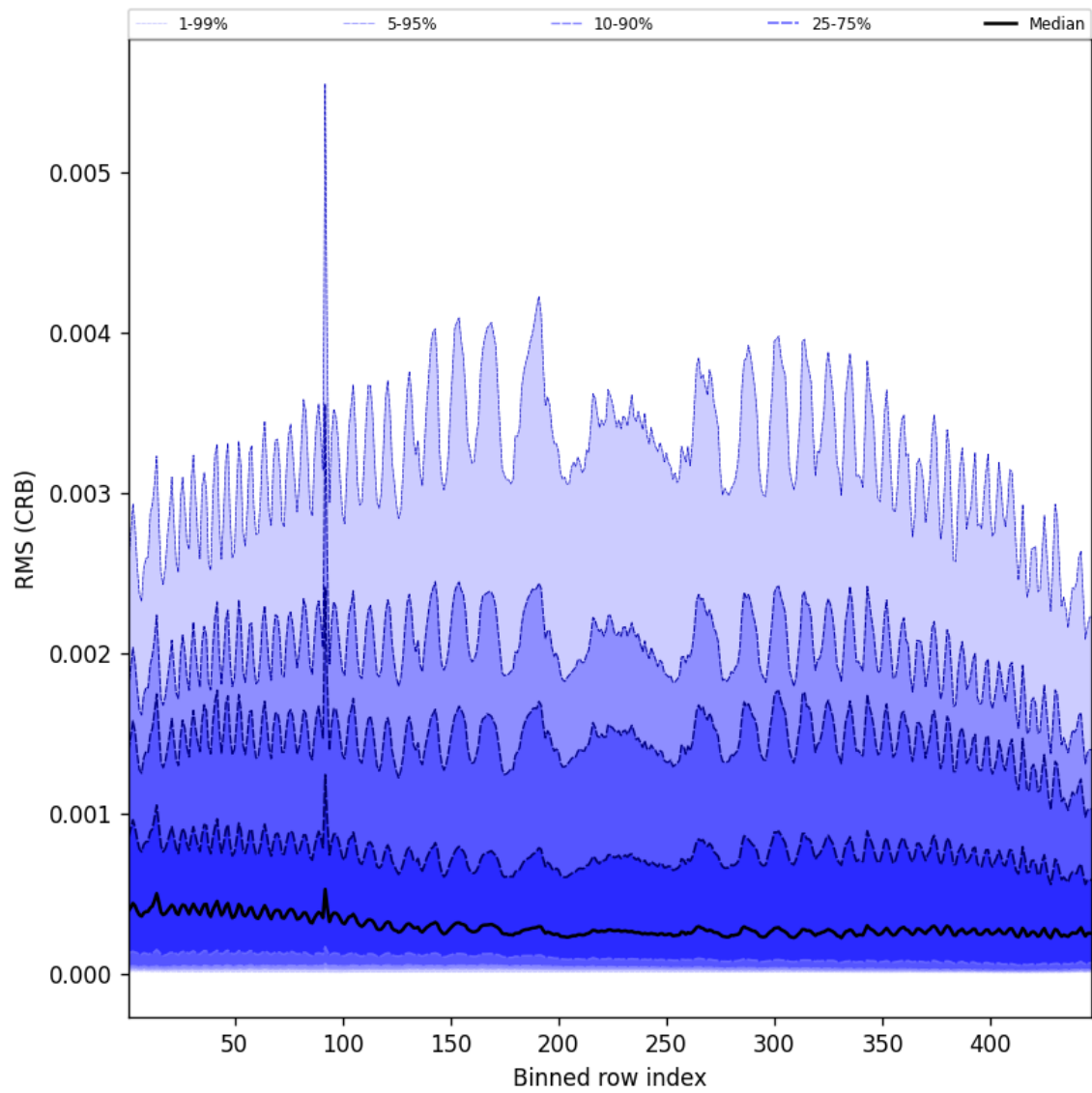


Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-20 to 2025-03-21

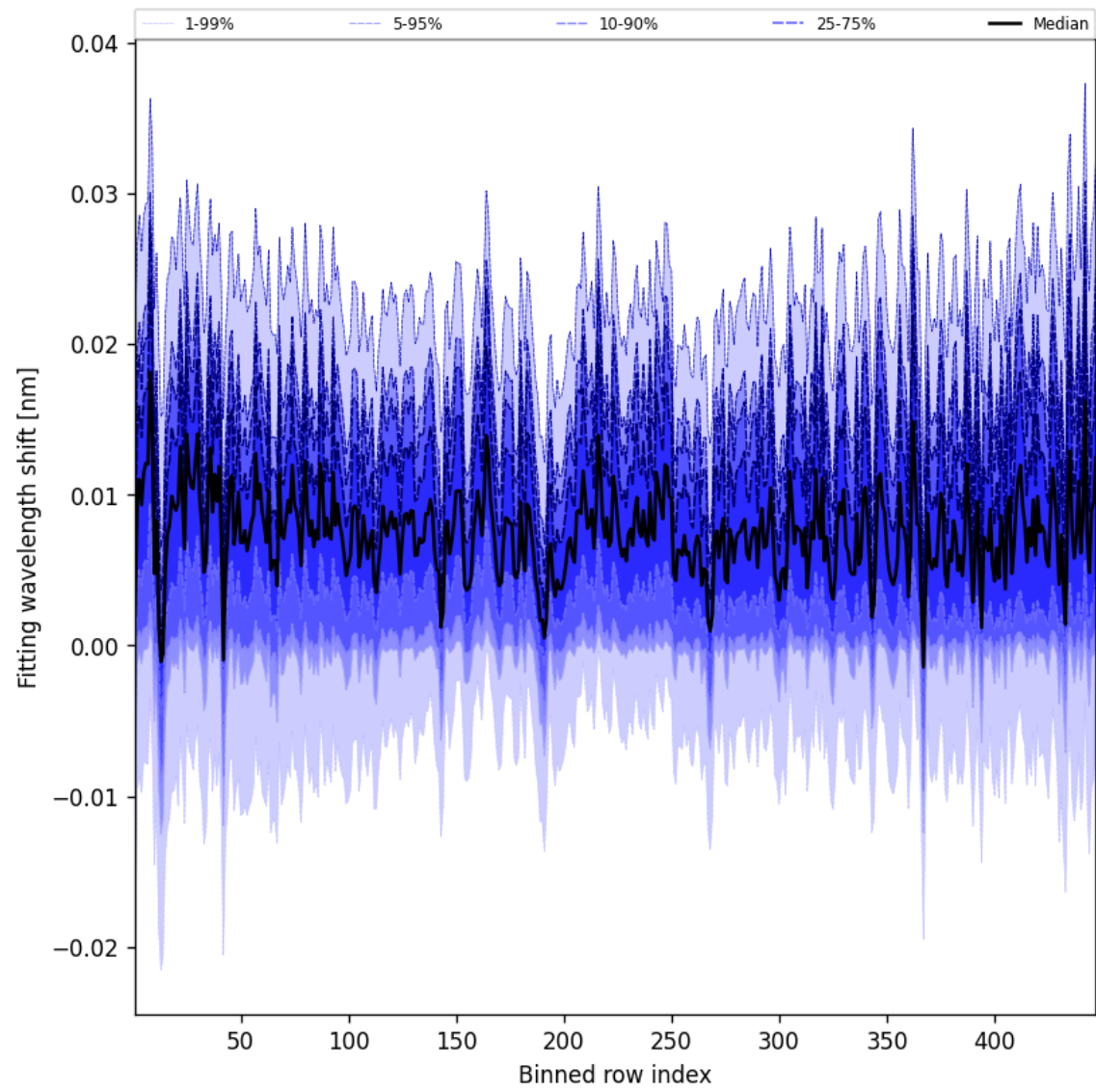


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-20 to 2025-03-21

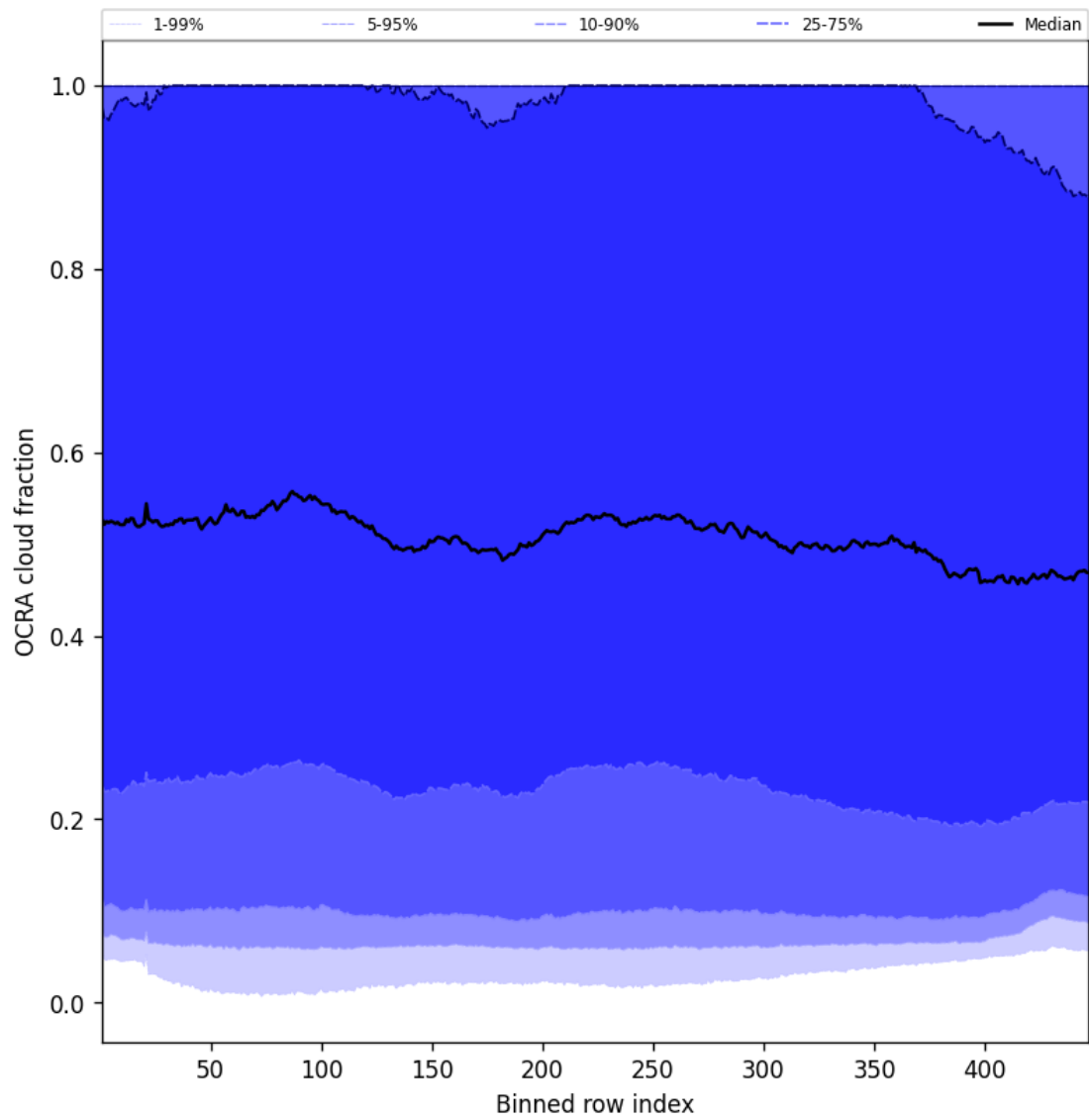


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-20 to 2025-03-21

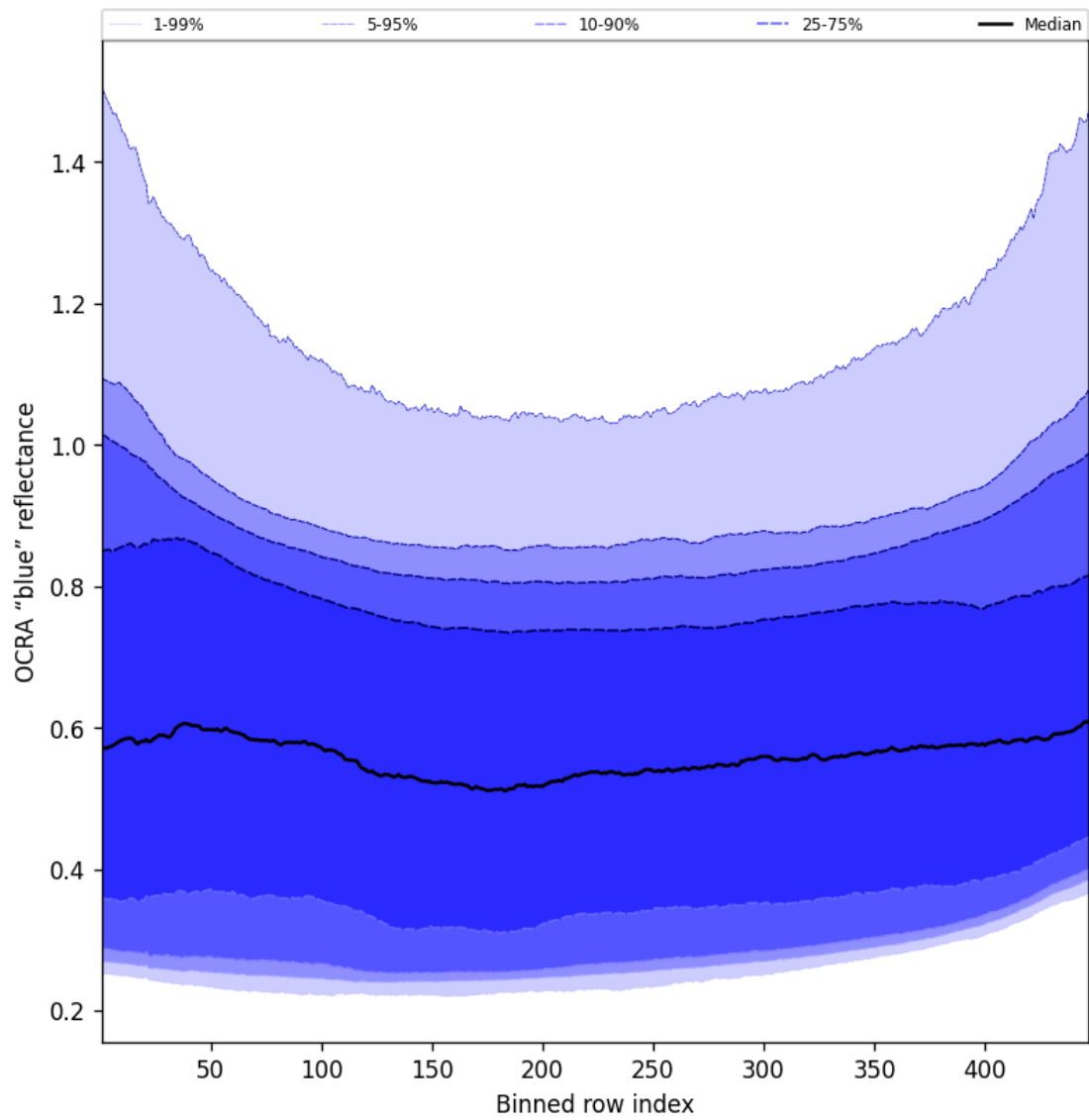


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-20 to 2025-03-21

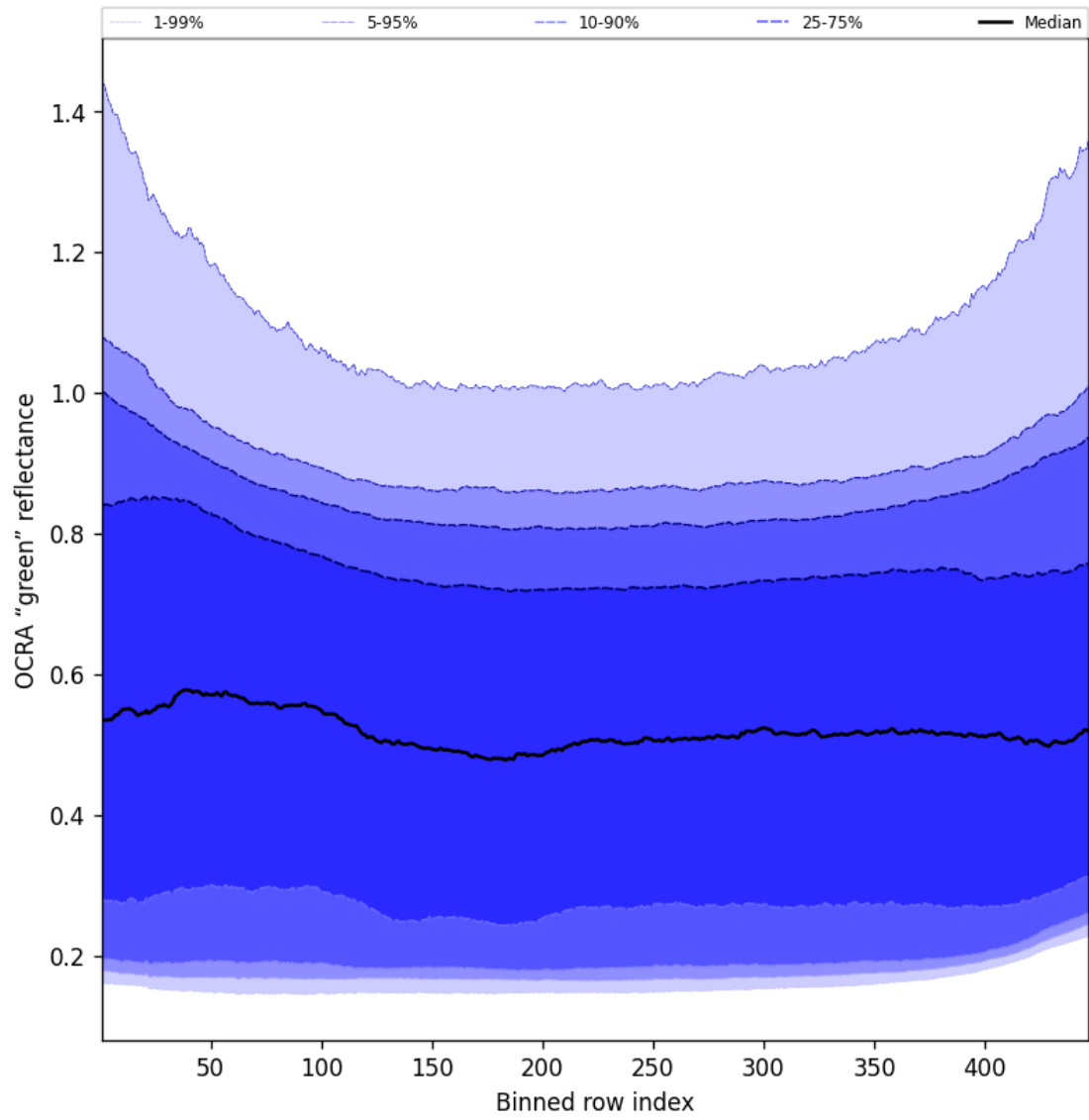


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-03-20 to 2025-03-21

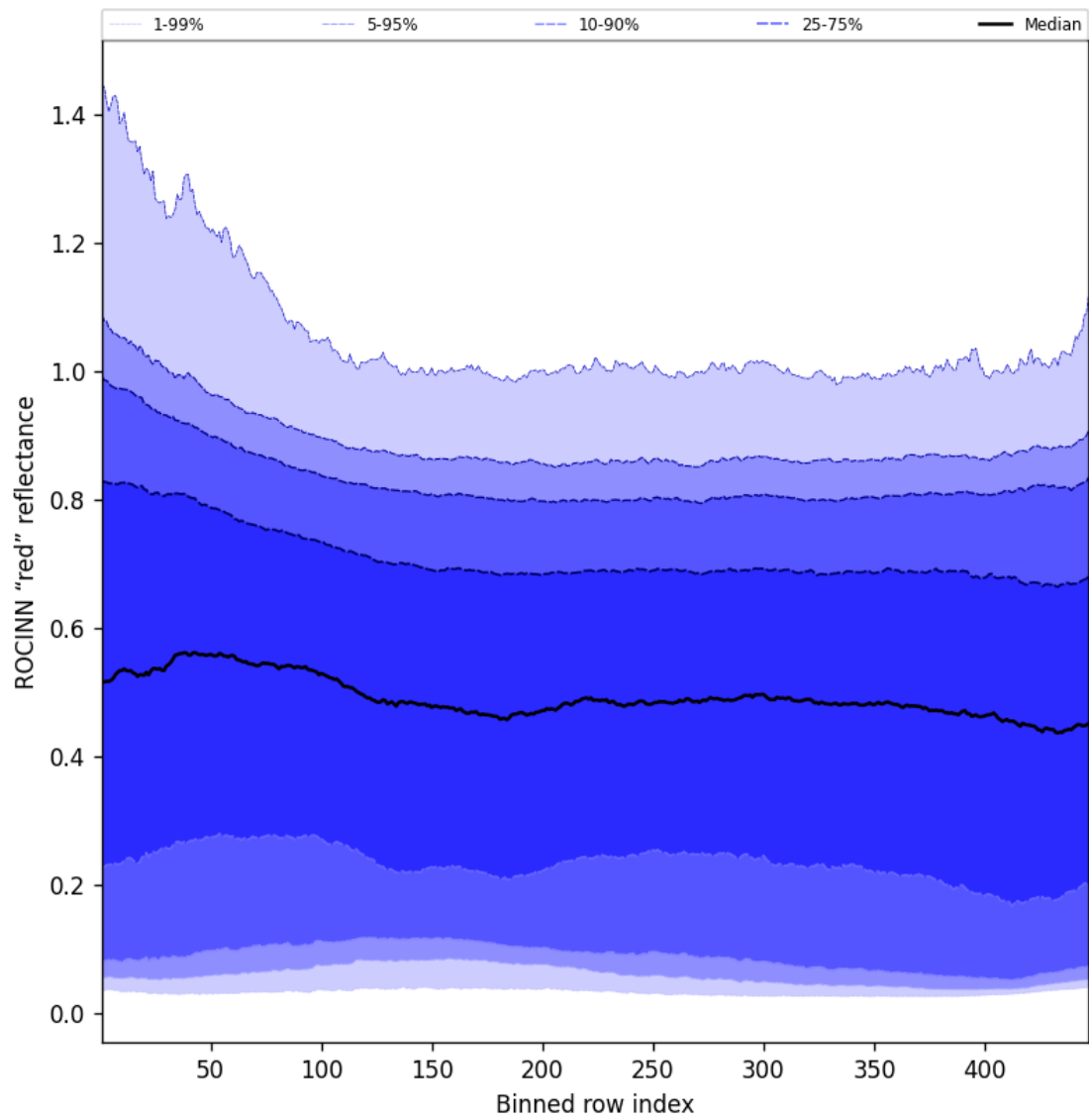


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-03-20 to 2025-03-21

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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