

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-07-03 (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]	0.617 ± 0.371	19983721	0.995	0.650	0.790	0.0	1.000
cloud fraction [1]	0.601 ± 0.347	19983721	0.995	0.731	0.622	6.511×10^{-3}	1.000
cloud top height [m]	$(0.382 \pm 0.257) \times 10^4$	19983721	1.575×10^3	3.661×10^3	3.328×10^3	0.0	2.000×10^4
cloud optical thickness [1]	21.9 ± 36.9	19983721	9.77	13.3	10.4	1.000	250
cloud fraction crb [1]	0.600 ± 0.348	19983721	0.995	0.732	0.619	8.189×10^{-3}	1.000
cloud height crb [m]	$(0.303 \pm 0.229) \times 10^4$	19983721	75.0	3.344×10^3	2.586×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.556 ± 0.193	19983721	0.495	0.232	0.548	0.0	1.000
surface albedo fitted [1]	0.163 ± 0.200	19983721	2.500×10^{-2}	0.211	5.735×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.159 ± 0.205	19983721	1.500×10^{-2}	0.218	4.200×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.327 \pm 11.207) \times 10^{-4}$	19983721	5.000×10^{-5}	8.895×10^{-4}	3.164×10^{-4}	1.208×10^{-6}	0.187
fitted root mean square crb [1]	$(6.560 \pm 9.014) \times 10^{-4}$	19983721	5.000×10^{-5}	8.652×10^{-4}	2.606×10^{-4}	9.608×10^{-7}	0.233
wavelength shift [nm]	$(6.686 \pm 6.668) \times 10^{-3}$	19983721	-3.000×10^{-4}	9.646×10^{-3}	5.952×10^{-3}	-4.714×10^{-2}	6.277×10^{-2}
cloud fraction apriori [1]	0.605 ± 0.353	19983721	0.995	0.735	0.633	0.0	1.000
reflectance blue ocra [1]	0.516 ± 0.193	19983721	0.295	0.300	0.492	0.142	1.88
reflectance green ocra [1]	0.460 ± 0.219	19983721	0.185	0.360	0.436	8.073×10^{-2}	2.74
reflectance continuum aband [1]	0.418 ± 0.251	19983721	4.500×10^{-2}	0.380	0.398	1.149×10^{-2}	8.58

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	5.000×10^{-2}	0.300	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.656×10^{-2}	6.946×10^{-2}	0.109	0.164	0.269	0.999	1.000	1.000	1.000	1.000
cloud top height [m]	132	544	961	1.288×10^3	1.739×10^3	5.400×10^3	6.549×10^3	7.538×10^3	8.767×10^3	1.086×10^4
cloud optical thickness [1]	1.01	2.71	3.91	4.95	6.39	19.7	30.2	45.2	79.7	250
cloud fraction crb [1]	2.594×10^{-2}	6.841×10^{-2}	0.108	0.162	0.267	0.999	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	83.6	436	753	1.161×10^3	4.504×10^3	5.522×10^3	6.350×10^3	7.418×10^3	9.208×10^3
cloud albedo crb [1]	4.300×10^{-2}	0.219	0.316	0.388	0.446	0.678	0.749	0.810	0.888	1.000
surface albedo fitted [1]	0.0	9.557×10^{-3}	1.482×10^{-2}	1.951×10^{-2}	2.653×10^{-2}	0.238	0.325	0.446	0.608	0.912
surface albedo fitted crb [1]	0.0	7.089×10^{-3}	1.060×10^{-2}	1.391×10^{-2}	1.893×10^{-2}	0.237	0.330	0.460	0.619	0.887
fitted root mean square [1]	8.877×10^{-6}	2.082×10^{-5}	3.490×10^{-5}	5.522×10^{-5}	9.556×10^{-5}	9.851×10^{-4}	1.471×10^{-3}	1.983×10^{-3}	2.714×10^{-3}	4.373×10^{-3}
fitted root mean square crb [1]	5.300×10^{-6}	1.167×10^{-5}	2.056×10^{-5}	3.220×10^{-5}	5.699×10^{-5}	9.222×10^{-4}	1.394×10^{-3}	1.883×10^{-3}	2.574×10^{-3}	3.947×10^{-3}
wavelength shift [nm]	-7.773×10^{-3}	-1.265×10^{-3}	-2.412×10^{-4}	2.334×10^{-4}	1.403×10^{-3}	1.105×10^{-2}	1.343×10^{-2}	1.549×10^{-2}	1.825×10^{-2}	2.433×10^{-2}
cloud fraction apriori [1]	2.819×10^{-2}	6.547×10^{-2}	0.102	0.156	0.265	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.232	0.260	0.283	0.310	0.352	0.653	0.726	0.784	0.853	0.982
reflectance green ocra [1]	0.150	0.173	0.194	0.219	0.265	0.624	0.706	0.768	0.842	0.968
reflectance continuum aband [1]	3.011×10^{-2}	5.379×10^{-2}	8.964×10^{-2}	0.138	0.219	0.599	0.690	0.761	0.848	0.989

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]	0.613 ± 0.363	13394644	0.600	0.770	0.0	1.000	0.300	0.900
cloud fraction [1]	0.642 ± 0.350	13394644	0.695	0.719	6.511×10^{-3}	1.000	0.305	1.000
cloud top height [m]	$(0.387 \pm 0.264) \times 10^4$	13394644	3.791×10^3	3.483×10^3	0.0	2.000×10^4	1.728×10^3	5.520×10^3
cloud optical thickness [1]	19.7 ± 34.4	13394644	11.9	9.77	1.000	250	5.91	17.8
cloud fraction crb [1]	0.641 ± 0.350	13394644	0.696	0.718	8.189×10^{-3}	1.000	0.304	1.000
cloud height crb [m]	$(0.305 \pm 0.235) \times 10^4$	13394644	3.528×10^3	2.672×10^3	0.0	2.000×10^4	1.082×10^3	4.610×10^3
cloud albedo crb [1]	0.546 ± 0.206	13394644	0.256	0.540	0.0	1.000	0.428	0.684
surface albedo fitted [1]	0.213 ± 0.222	13394644	0.275	0.170	0.0	1.000	3.044×10^{-2}	0.306
surface albedo fitted crb [1]	0.212 ± 0.225	13394644	0.284	0.170	0.0	1.000	2.442×10^{-2}	0.309
fitted root mean square [1]	$(9.179 \pm 12.786) \times 10^{-4}$	13394644	1.172×10^{-3}	5.047×10^{-4}	1.707×10^{-6}	0.187	1.232×10^{-4}	1.295×10^{-3}
fitted root mean square crb [1]	$(8.251 \pm 9.988) \times 10^{-4}$	13394644	1.130×10^{-3}	4.460×10^{-4}	9.608×10^{-7}	0.233	8.886×10^{-5}	1.219×10^{-3}
wavelength shift [nm]	$(7.508 \pm 6.695) \times 10^{-3}$	13394644	9.748×10^{-3}	7.160×10^{-3}	-4.714×10^{-2}	6.277×10^{-2}	2.230×10^{-3}	1.198×10^{-2}
cloud fraction apriori [1]	0.649 ± 0.353	13394644	0.692	0.739	0.0	1.000	0.308	1.000
reflectance blue oca [1]	0.527 ± 0.201	13394644	0.330	0.514	0.142	1.86	0.348	0.678
reflectance green oca [1]	0.479 ± 0.227	13394644	0.390	0.467	8.073×10^{-2}	2.74	0.268	0.658
reflectance continuum aband [1]	0.452 ± 0.251	13394644	0.381	0.440	1.149×10^{-2}	8.58	0.257	0.638

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]	0.626 ± 0.387	6589077	0.700	0.850	0.0	1.000	0.300	1.000
cloud fraction [1]	0.518 ± 0.328	6589077	0.612	0.485	7.386×10^{-3}	1.000	0.217	0.829
cloud top height [m]	$(0.371 \pm 0.242) \times 10^4$	6589077	3.295×10^3	3.046×10^3	0.0	2.000×10^4	1.751×10^3	5.046×10^3
cloud optical thickness [1]	26.2 ± 41.1	6589077	16.6	12.1	1.000	250	7.44	24.0
cloud fraction crb [1]	0.516 ± 0.328	6589077	0.611	0.480	8.288×10^{-3}	1.000	0.215	0.825
cloud height crb [m]	$(0.300 \pm 0.215) \times 10^4$	6589077	2.977×10^3	2.432×10^3	0.0	1.932×10^4	1.239×10^3	4.216×10^3
cloud albedo crb [1]	0.575 ± 0.162	6589077	0.192	0.560	0.0	1.000	0.477	0.669
surface albedo fitted [1]	$(6.203 \pm 8.020) \times 10^{-2}$	6589077	3.707×10^{-2}	3.683×10^{-2}	0.0	1.000	2.263×10^{-2}	5.970×10^{-2}
surface albedo fitted crb [1]	$(5.062 \pm 8.108) \times 10^{-2}$	6589077	2.513×10^{-2}	2.370×10^{-2}	0.0	1.000	1.469×10^{-2}	3.982×10^{-2}
fitted root mean square [1]	$(3.564 \pm 5.239) \times 10^{-4}$	6589077	3.355×10^{-4}	1.685×10^{-4}	1.208×10^{-6}	3.592×10^{-2}	6.704×10^{-5}	4.026×10^{-4}
fitted root mean square crb [1]	$(3.122 \pm 5.097) \times 10^{-4}$	6589077	3.183×10^{-4}	1.008×10^{-4}	1.110×10^{-6}	1.969×10^{-2}	3.704×10^{-5}	3.554×10^{-4}
wavelength shift [nm]	$(5.013 \pm 6.289) \times 10^{-3}$	6589077	7.875×10^{-3}	3.624×10^{-3}	-4.415×10^{-2}	5.918×10^{-2}	6.515×10^{-4}	8.527×10^{-3}
cloud fraction apriori [1]	0.517 ± 0.335	6589077	0.633	0.482	0.0	1.000	0.205	0.838
reflectance blue ocrs [1]	0.493 ± 0.174	6589077	0.240	0.462	0.155	1.88	0.358	0.597
reflectance green ocrs [1]	0.423 ± 0.197	6589077	0.290	0.391	9.490×10^{-2}	1.90	0.260	0.550
reflectance continuum aband [1]	0.350 ± 0.237	6589077	0.353	0.318	1.366×10^{-2}	5.06	0.154	0.506

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]	0.616 ± 0.367	13418427	0.650	0.780	0.0	1.000	0.300	0.950
cloud fraction [1]	0.569 ± 0.346	13418427	0.731	0.563	6.511×10^{-3}	1.000	0.236	0.968
cloud top height [m]	$(0.359 \pm 0.259) \times 10^4$	13418427	3.452×10^3	2.968×10^3	0.0	2.000×10^4	1.558×10^3	5.010×10^3
cloud optical thickness [1]	23.3 ± 38.9	13418427	13.6	10.9	1.000	250	6.97	20.5
cloud fraction crb [1]	0.567 ± 0.346	13418427	0.732	0.560	8.445×10^{-3}	1.000	0.234	0.966
cloud height crb [m]	$(0.285 \pm 0.232) \times 10^4$	13418427	3.168×10^3	2.303×10^3	0.0	2.000×10^4	1.000×10^3	4.169×10^3
cloud albedo crb [1]	0.553 ± 0.180	13418427	0.214	0.542	0.0	1.000	0.450	0.664
surface albedo fitted [1]	0.102 ± 0.175	13418427	3.949×10^{-2}	3.430×10^{-2}	0.0	1.000	2.033×10^{-2}	5.982×10^{-2}
surface albedo fitted crb [1]	$(9.521 \pm 17.907) \times 10^{-2}$	13418427	2.930×10^{-2}	2.446×10^{-2}	0.0	1.000	1.448×10^{-2}	4.378×10^{-2}
fitted root mean square [1]	$(5.716 \pm 10.045) \times 10^{-4}$	13418427	6.206×10^{-4}	2.196×10^{-4}	1.208×10^{-6}	9.435×10^{-2}	7.943×10^{-5}	7.000×10^{-4}
fitted root mean square crb [1]	$(4.962 \pm 7.396) \times 10^{-4}$	13418427	5.847×10^{-4}	1.660×10^{-4}	9.608×10^{-7}	2.607×10^{-2}	5.029×10^{-5}	6.350×10^{-4}
wavelength shift [nm]	$(6.376 \pm 6.708) \times 10^{-3}$	13418427	9.316×10^{-3}	5.441×10^{-3}	-4.714×10^{-2}	6.004×10^{-2}	1.313×10^{-3}	1.063×10^{-2}
cloud fraction apriori [1]	0.572 ± 0.350	13418427	0.768	0.571	0.0	1.000	0.232	1.000
reflectance blue oca [1]	0.510 ± 0.184	13418427	0.286	0.489	0.162	1.88	0.354	0.640
reflectance green oca [1]	0.450 ± 0.211	13418427	0.349	0.431	9.547×10^{-2}	1.90	0.260	0.609
reflectance continuum aband [1]	0.377 ± 0.249	13418427	0.411	0.360	1.278×10^{-2}	5.06	0.152	0.563

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]	0.653 ± 0.361	3973341	0.550	0.810	0.0	1.000	0.400	0.950
cloud fraction [1]	0.652 ± 0.347	3973341	0.675	0.739	7.386×10^{-3}	1.000	0.325	1.000
cloud top height [m]	$(0.445 \pm 0.250) \times 10^4$	3973341	3.525×10^3	4.114×10^3	0.0	2.000×10^4	2.526×10^3	6.051×10^3
cloud optical thickness [1]	18.1 ± 30.2	3973341	11.6	9.34	1.000	250	5.75	17.3
cloud fraction crb [1]	0.652 ± 0.347	3973341	0.676	0.739	8.189×10^{-3}	1.000	0.324	1.000
cloud height crb [m]	$(0.350 \pm 0.219) \times 10^4$	3973341	3.322×10^3	3.083×10^3	0.0	2.000×10^4	1.751×10^3	5.073×10^3
cloud albedo crb [1]	0.586 ± 0.213	3973341	0.270	0.584	0.0	1.000	0.464	0.734
surface albedo fitted [1]	0.328 ± 0.211	3973341	0.125	0.256	0.0	1.000	0.208	0.333
surface albedo fitted crb [1]	0.326 ± 0.209	3973341	0.127	0.253	2.660×10^{-3}	1.000	0.206	0.332
fitted root mean square [1]	$(1.189 \pm 1.197) \times 10^{-3}$	3973341	1.395×10^{-3}	8.524×10^{-4}	2.490×10^{-6}	0.187	3.315×10^{-4}	1.726×10^{-3}
fitted root mean square crb [1]	$(1.134 \pm 1.120) \times 10^{-3}$	3973341	1.414×10^{-3}	8.291×10^{-4}	1.166×10^{-6}	0.233	2.758×10^{-4}	1.690×10^{-3}
wavelength shift [nm]	$(7.661 \pm 6.373) \times 10^{-3}$	3973341	9.273×10^{-3}	7.528×10^{-3}	-4.706×10^{-2}	6.268×10^{-2}	2.671×10^{-3}	1.194×10^{-2}
cloud fraction apriori [1]	0.662 ± 0.353	3973341	0.677	0.772	0.0	1.000	0.323	1.000
reflectance blue ocra [1]	0.533 ± 0.221	3973341	0.367	0.498	0.142	1.86	0.340	0.707
reflectance green ocra [1]	0.491 ± 0.245	3973341	0.421	0.450	8.073×10^{-2}	1.83	0.269	0.690
reflectance continuum aband [1]	0.525 ± 0.231	3973341	0.369	0.481	1.740×10^{-2}	7.05	0.334	0.703

3 Granule outlines

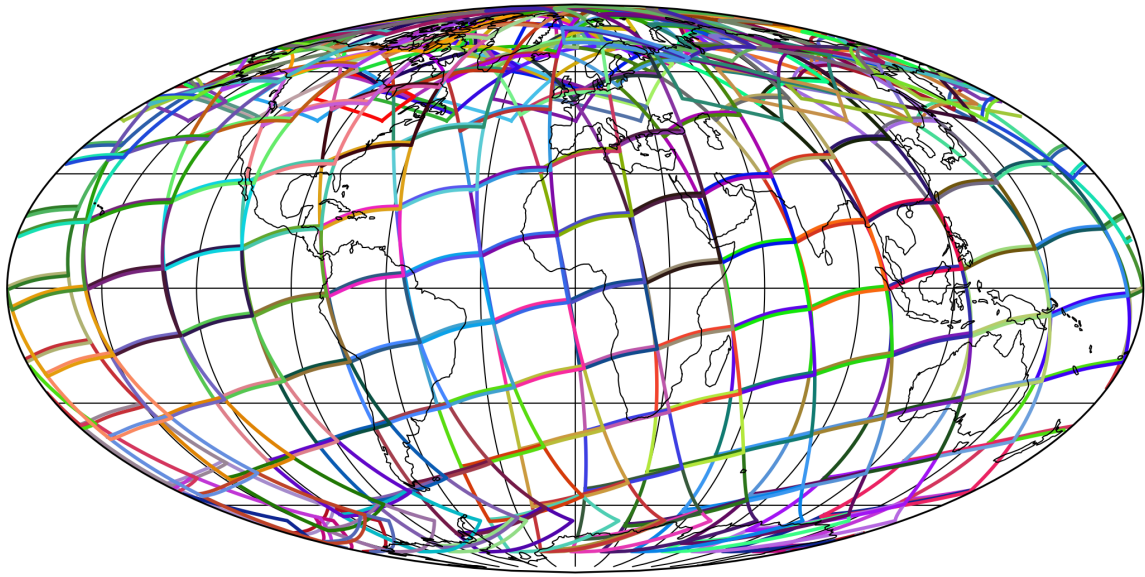


Figure 1: Outline of the granules.

4 Input data monitoring

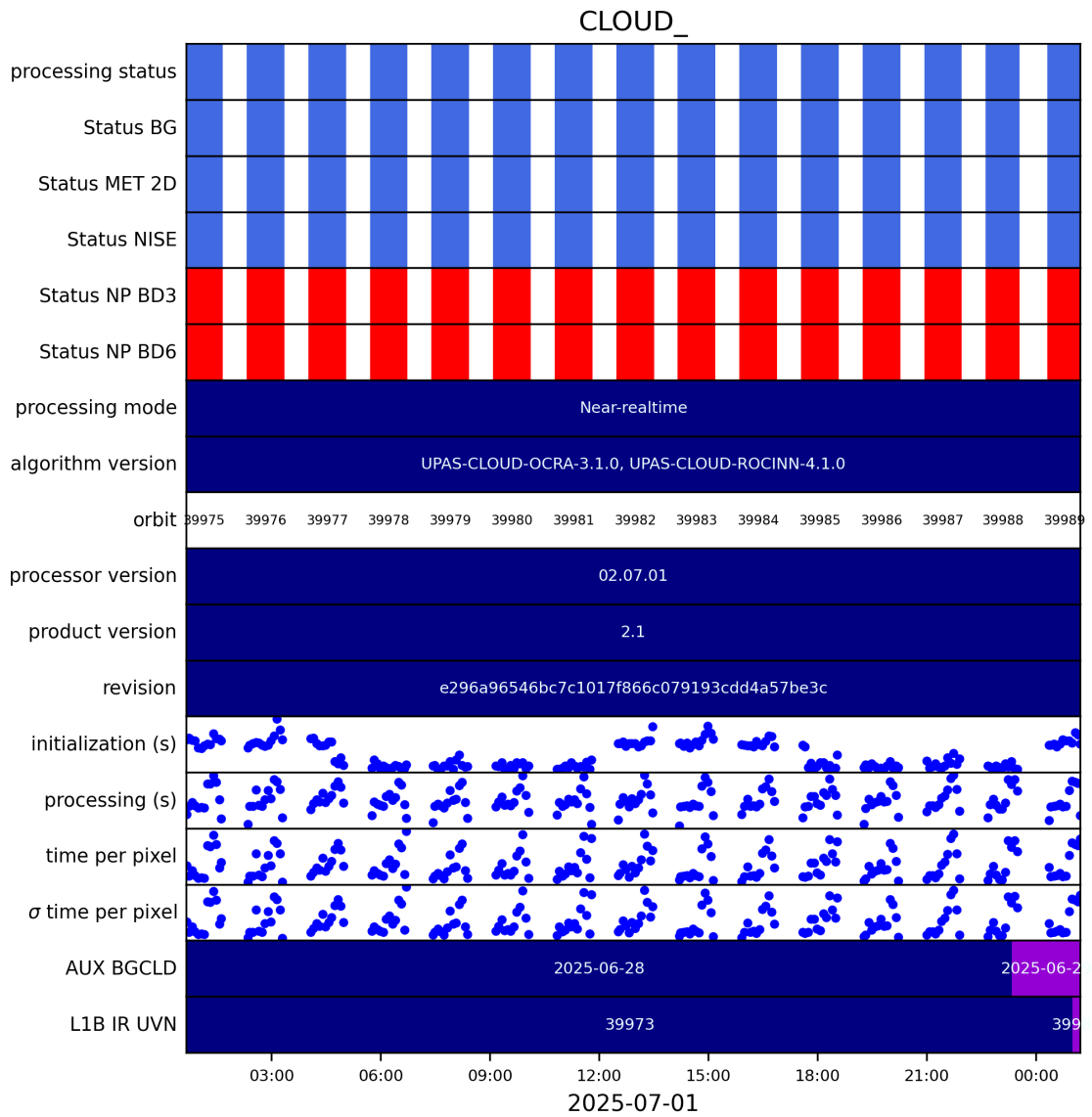


Figure 2: Input data per granule

5 Warnings and errors

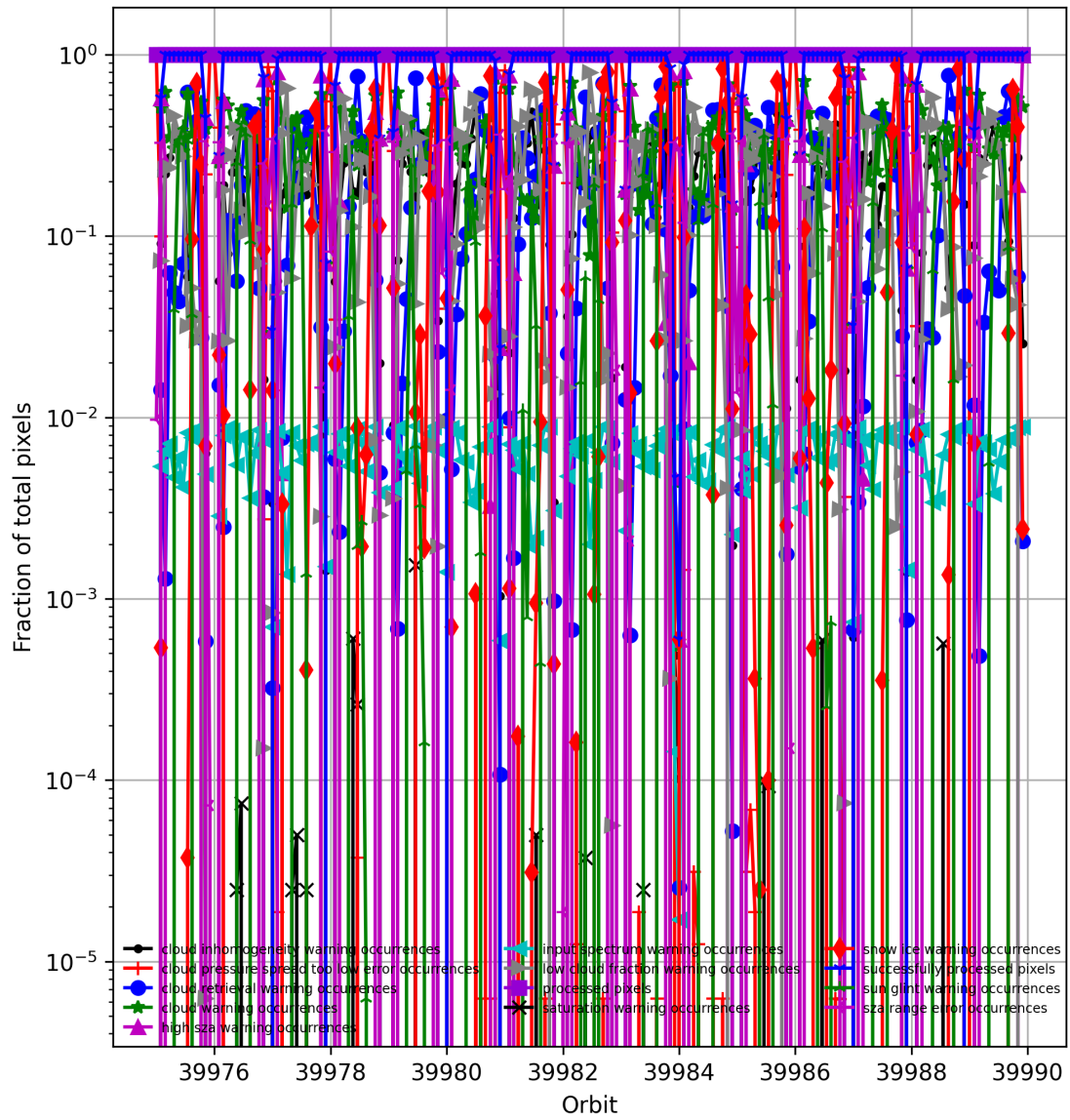


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

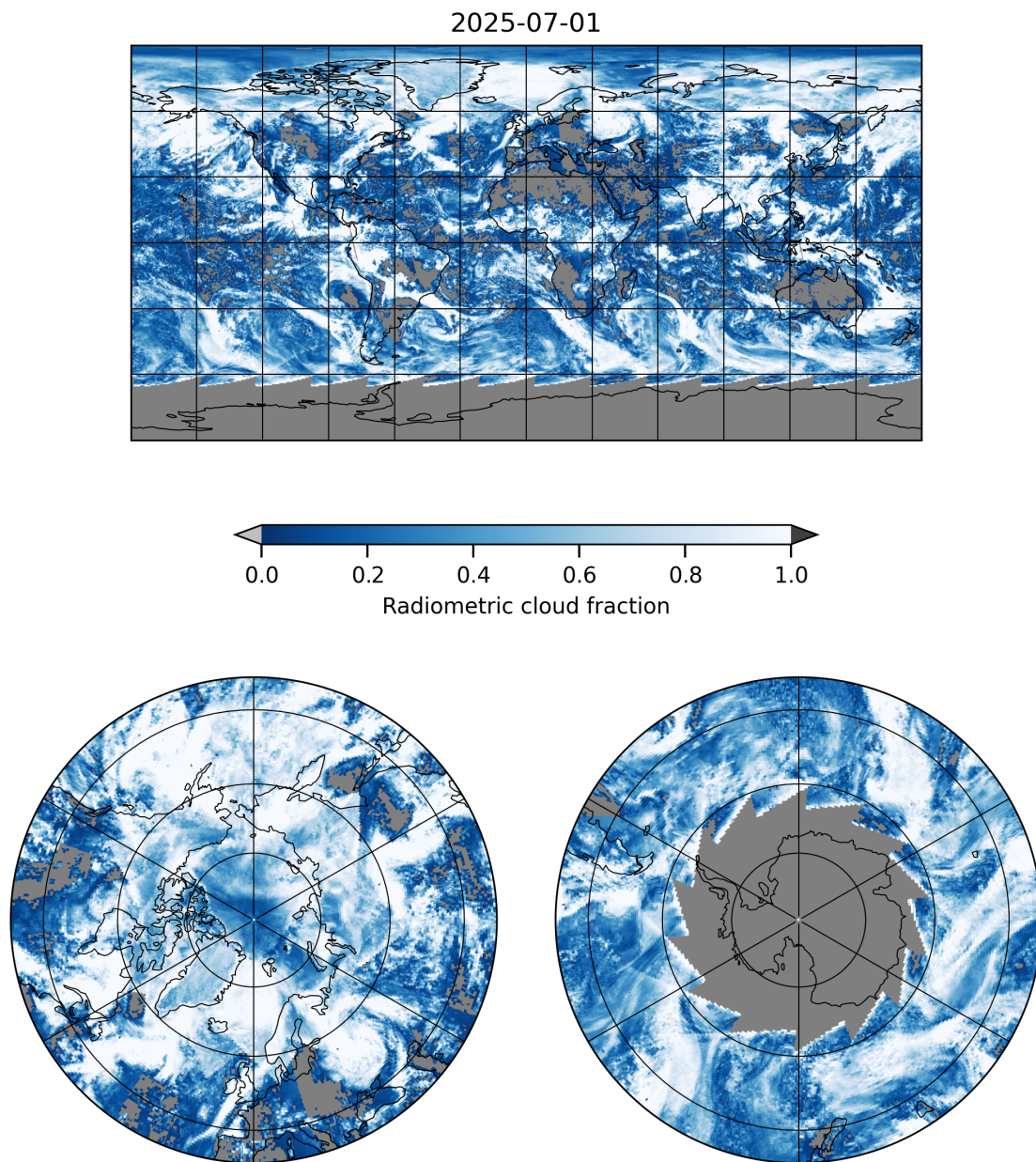


Figure 4: Map of “Radiometric cloud fraction” for 2025-07-01 to 2025-07-02

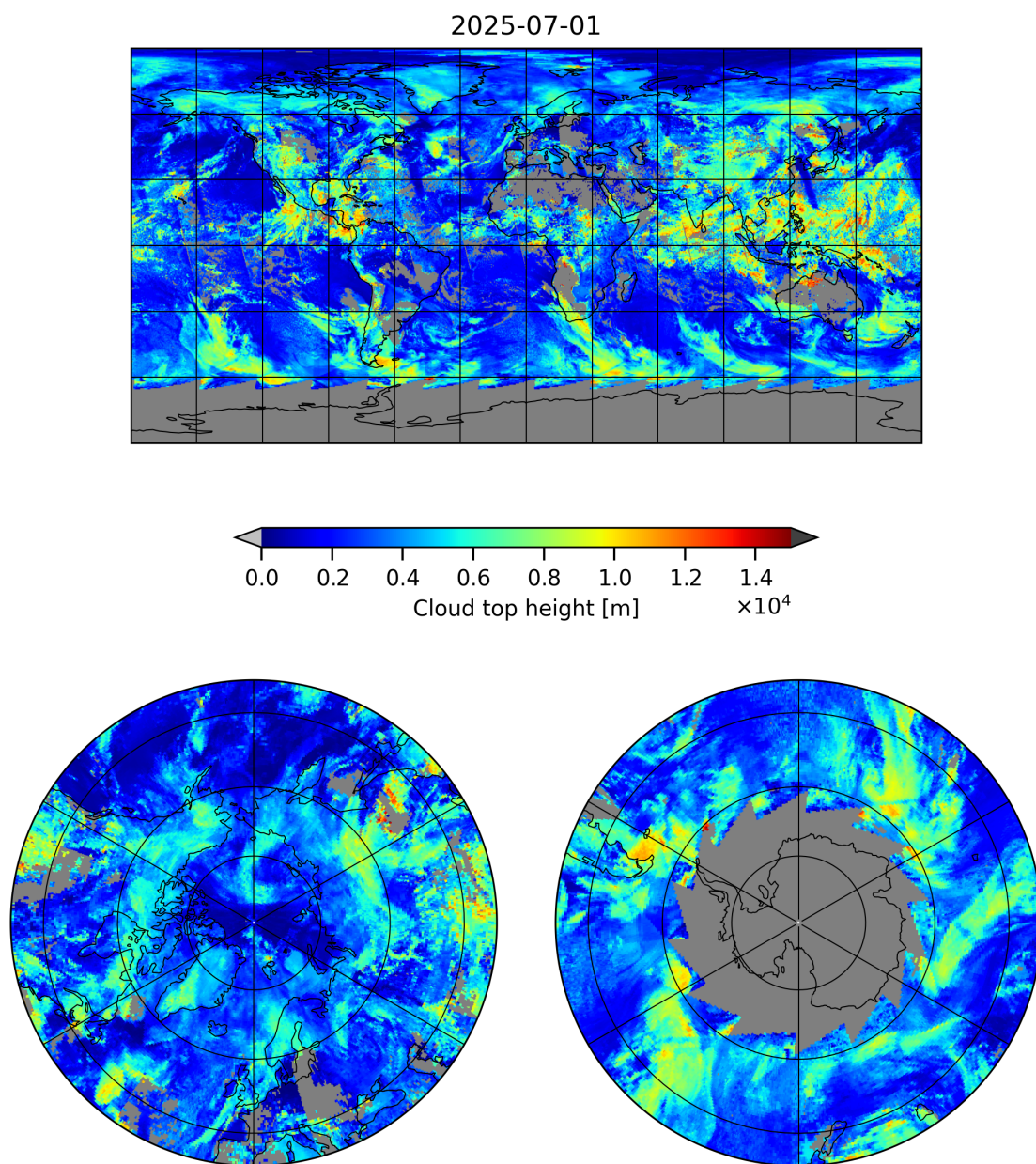


Figure 5: Map of “Cloud top height” for 2025-07-01 to 2025-07-02

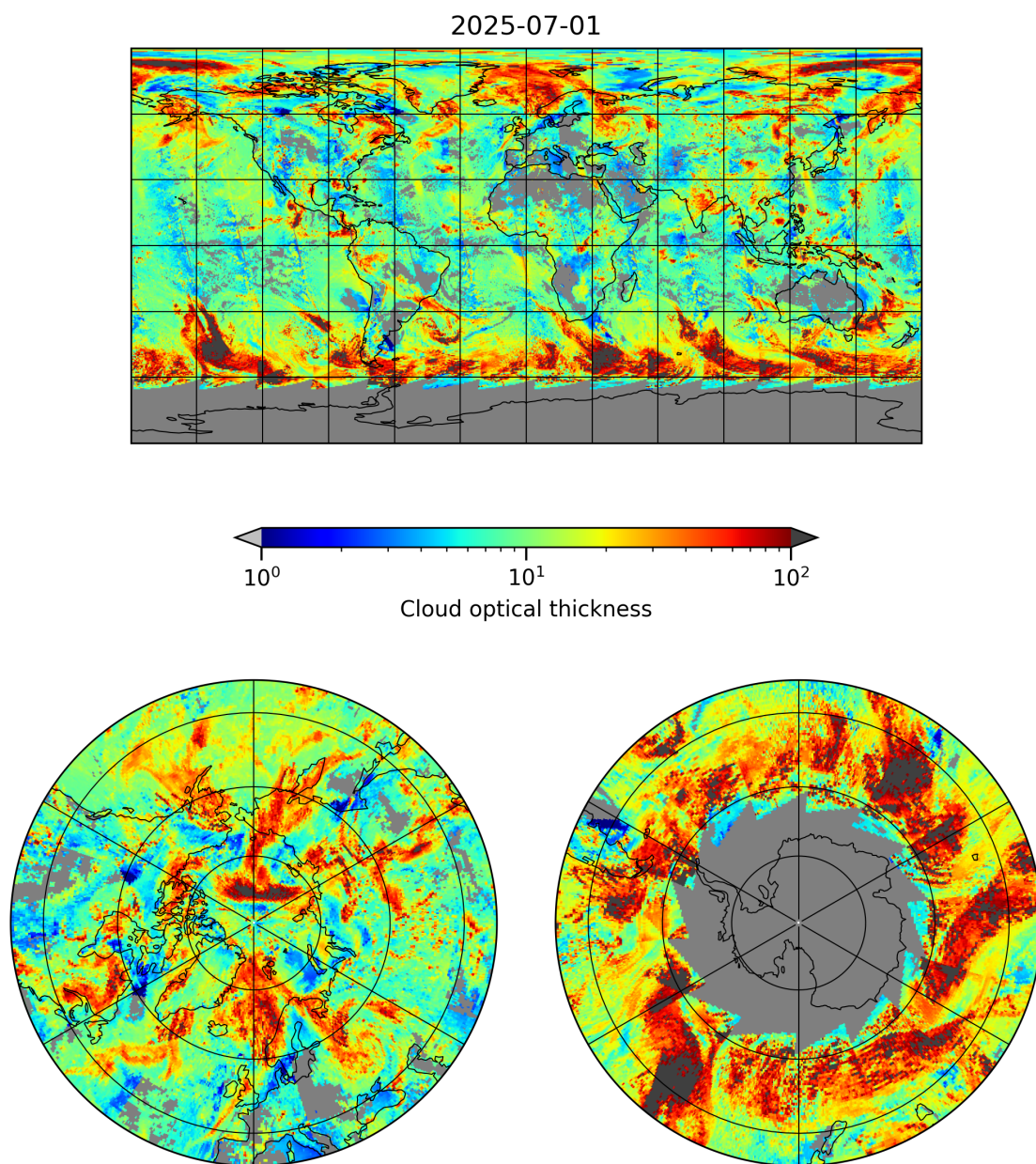


Figure 6: Map of “Cloud optical thickness” for 2025-07-01 to 2025-07-02

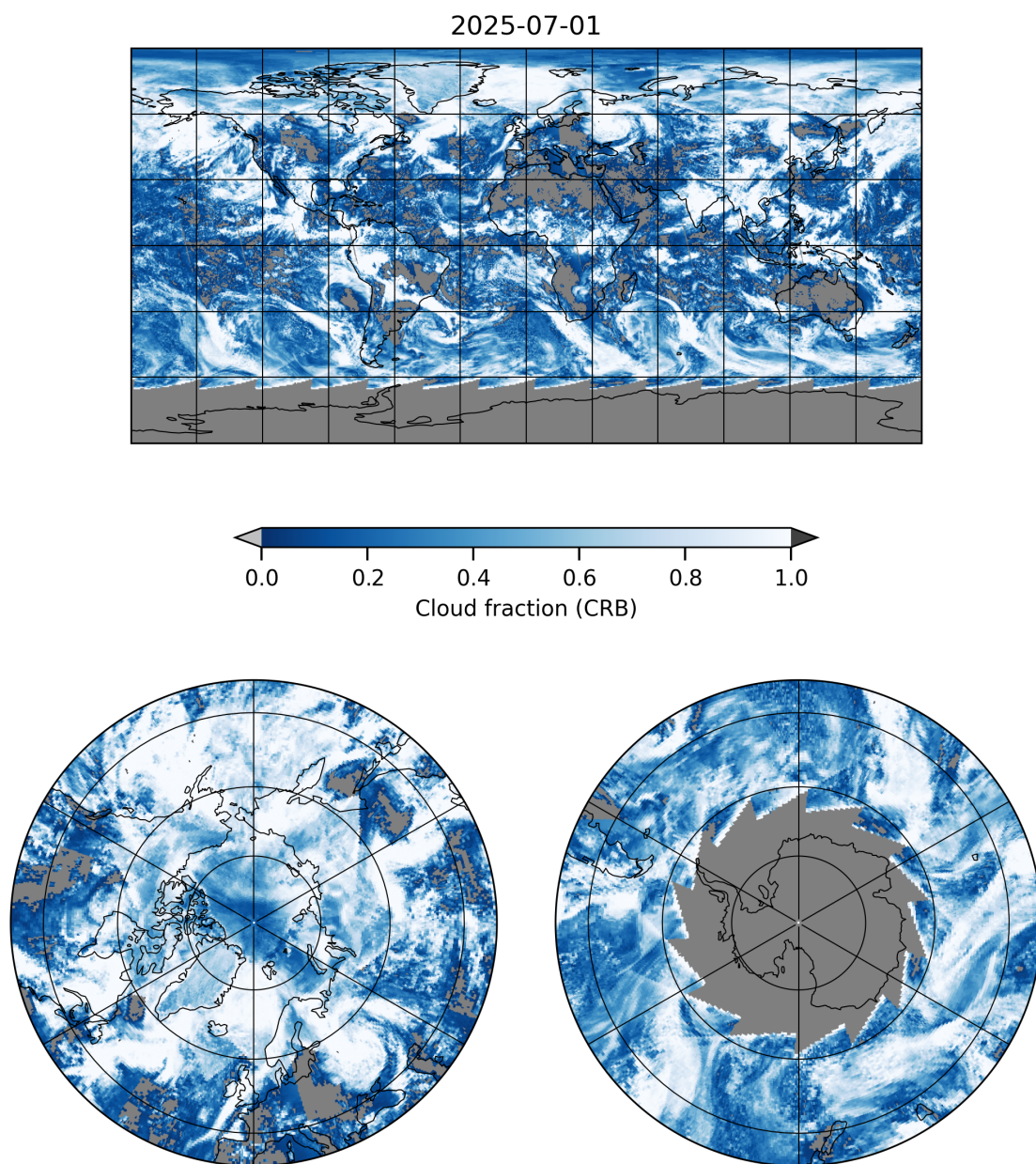


Figure 7: Map of “Cloud fraction (CRB)” for 2025-07-01 to 2025-07-02

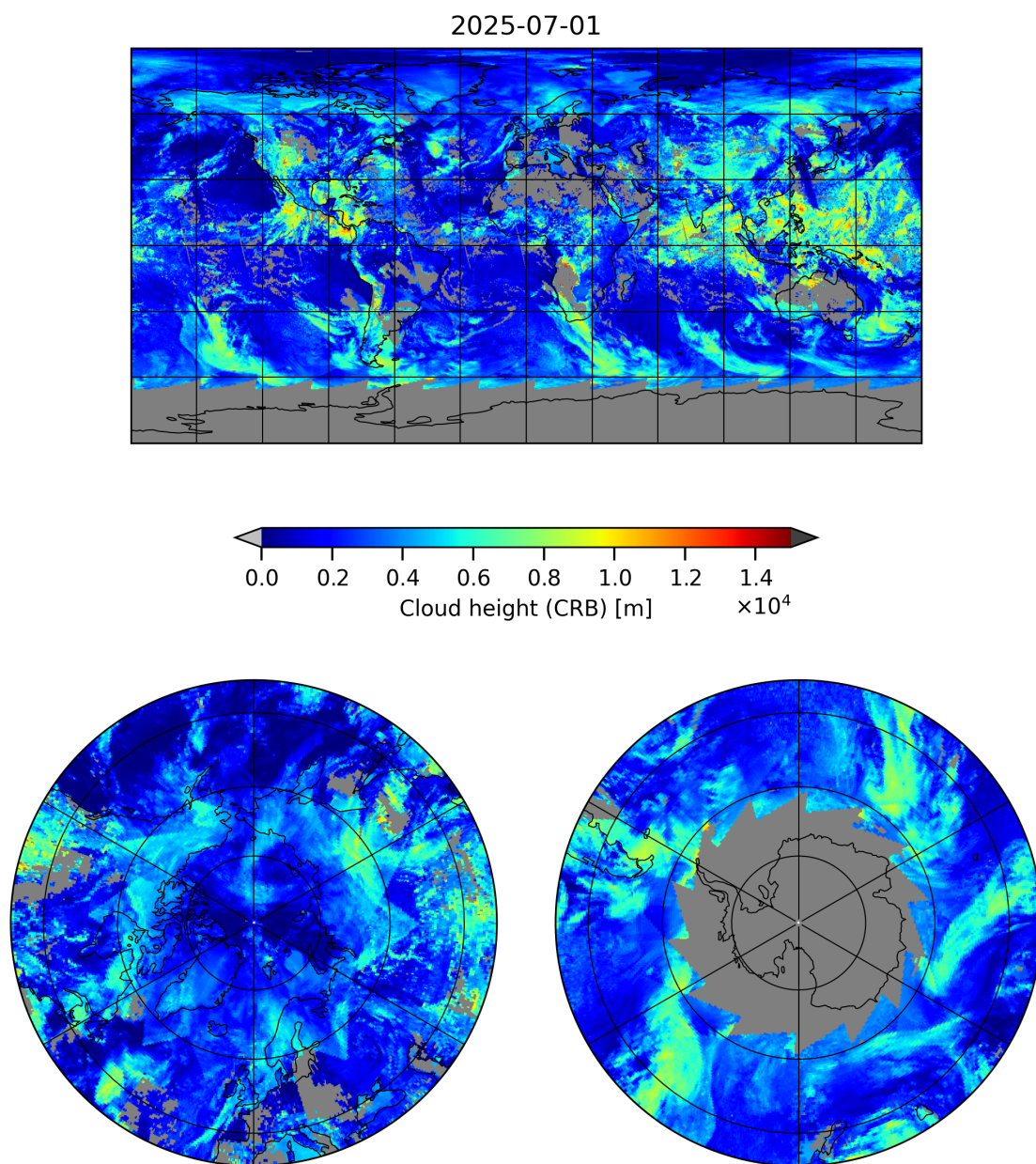


Figure 8: Map of “Cloud height (CRB)” for 2025-07-01 to 2025-07-02

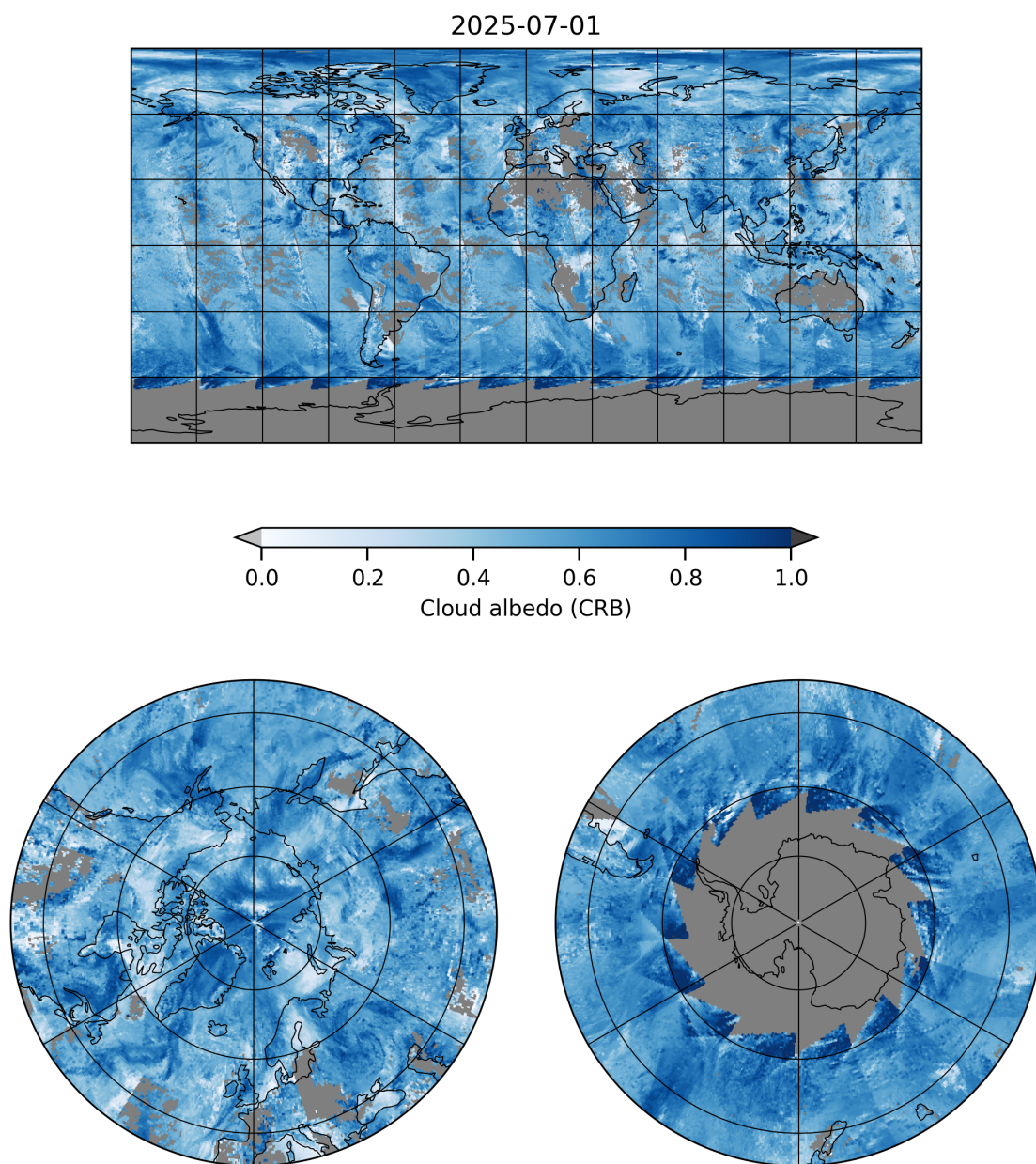


Figure 9: Map of “Cloud albedo (CRB)” for 2025-07-01 to 2025-07-02

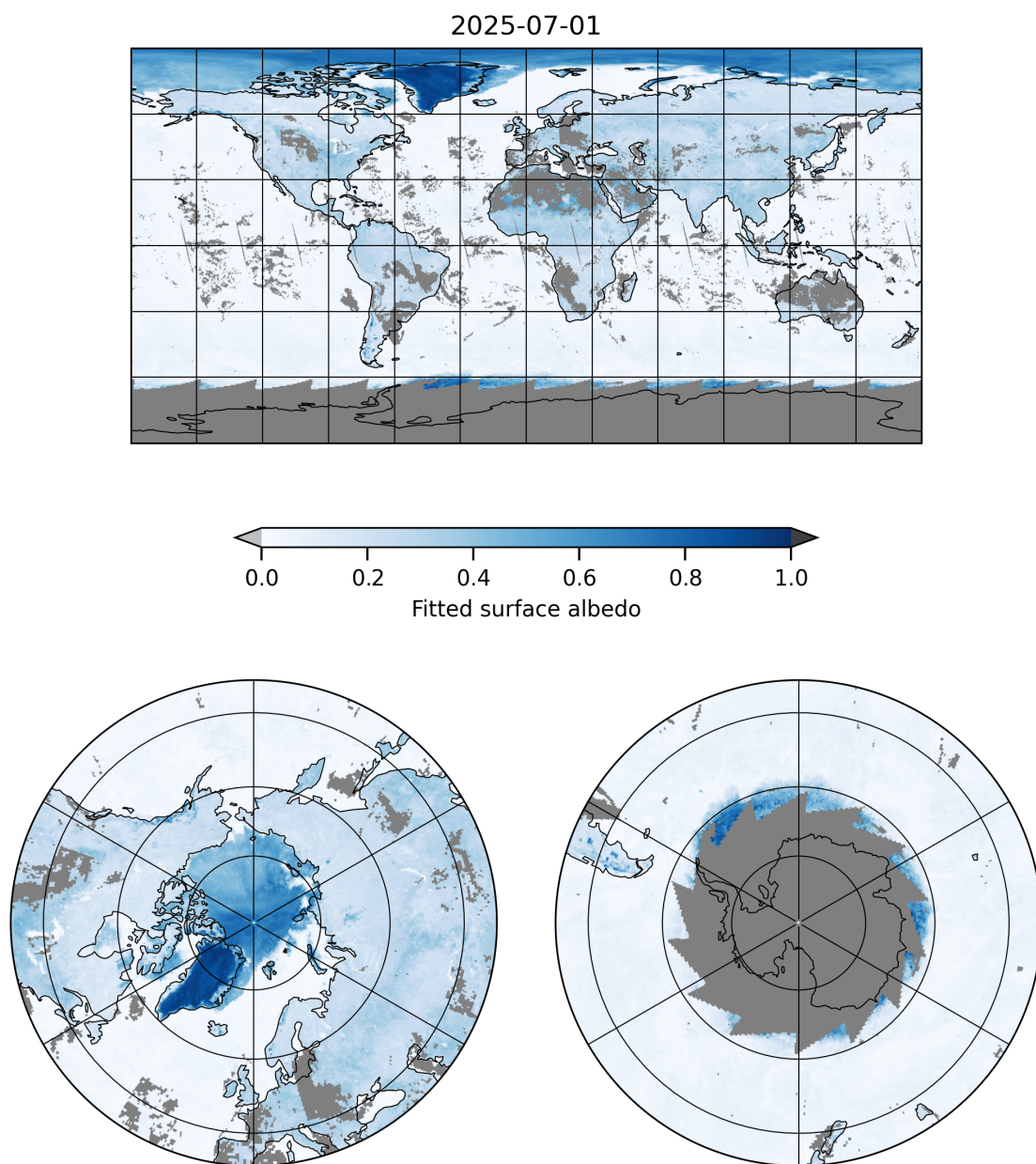


Figure 10: Map of “Fitted surface albedo” for 2025-07-01 to 2025-07-02

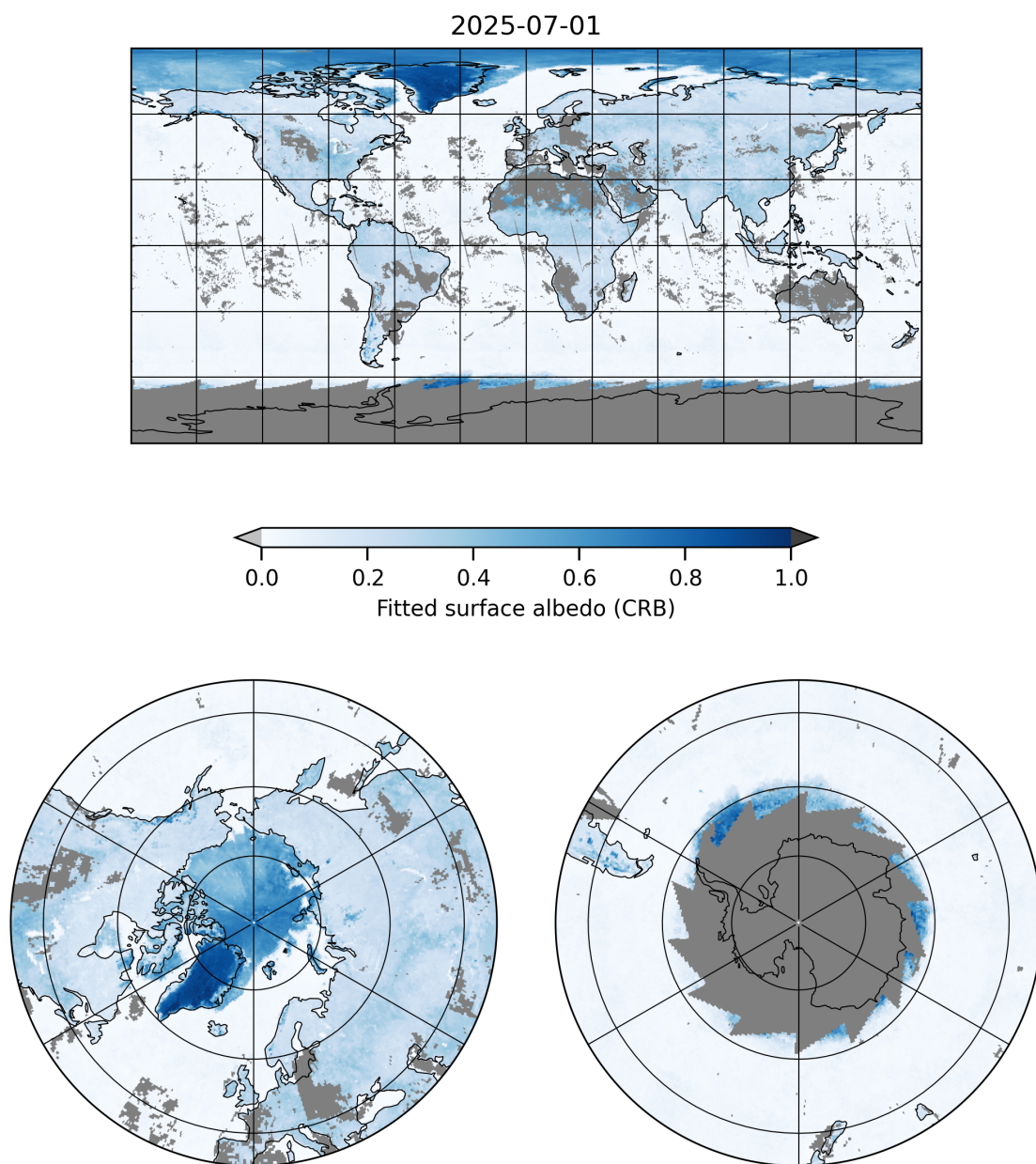


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-07-01 to 2025-07-02

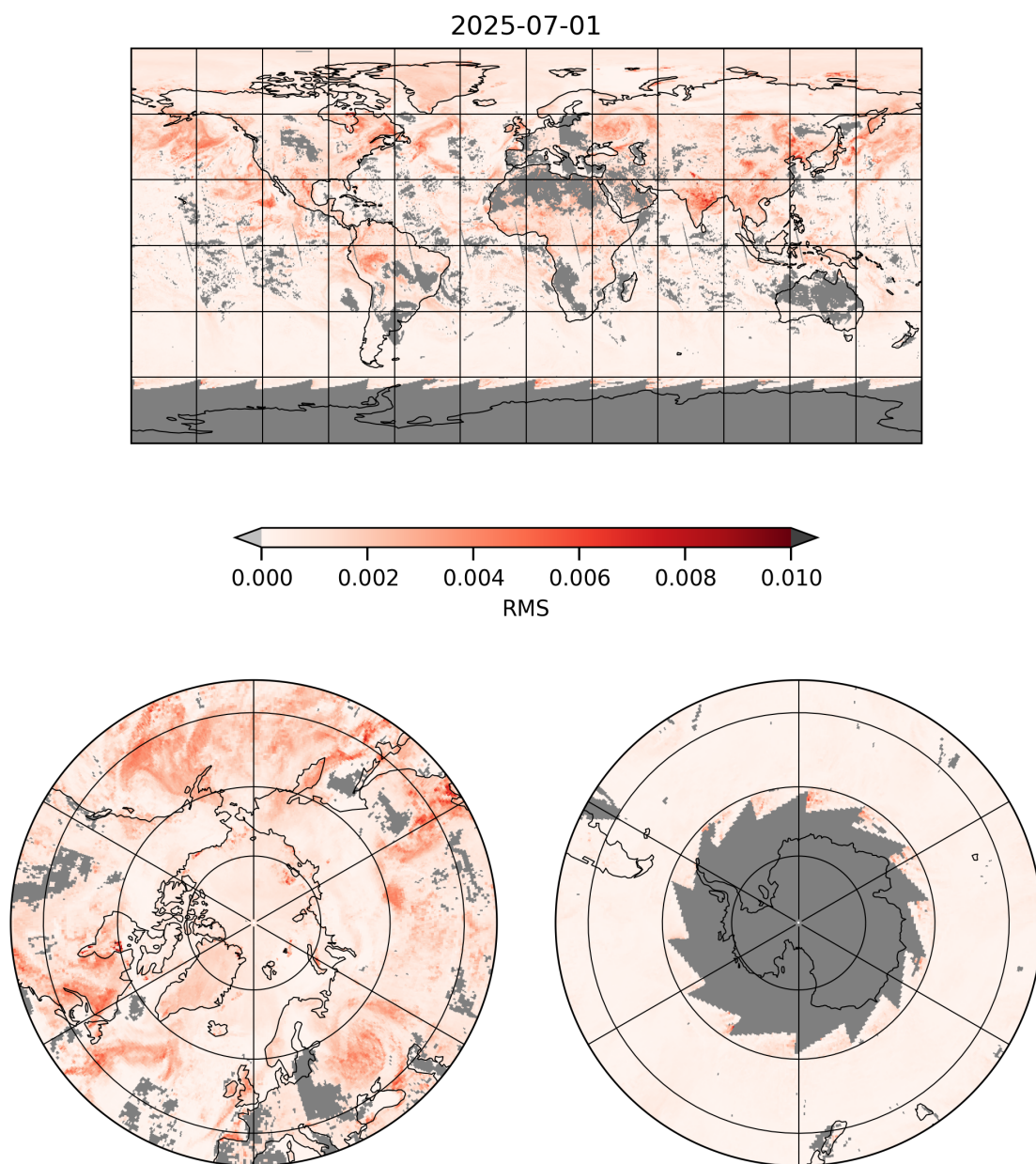


Figure 12: Map of “RMS” for 2025-07-01 to 2025-07-02

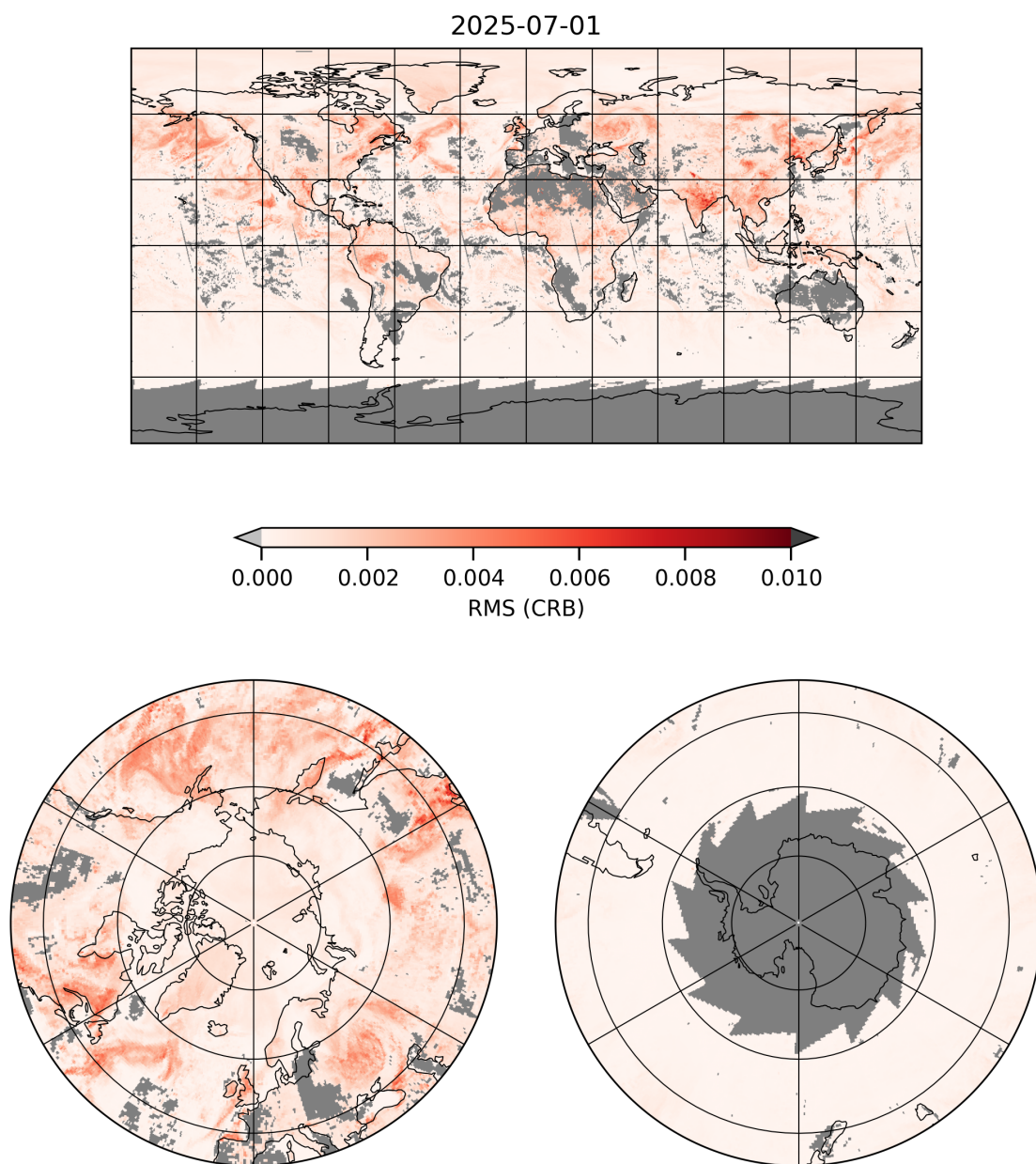


Figure 13: Map of “RMS (CRB)” for 2025-07-01 to 2025-07-02

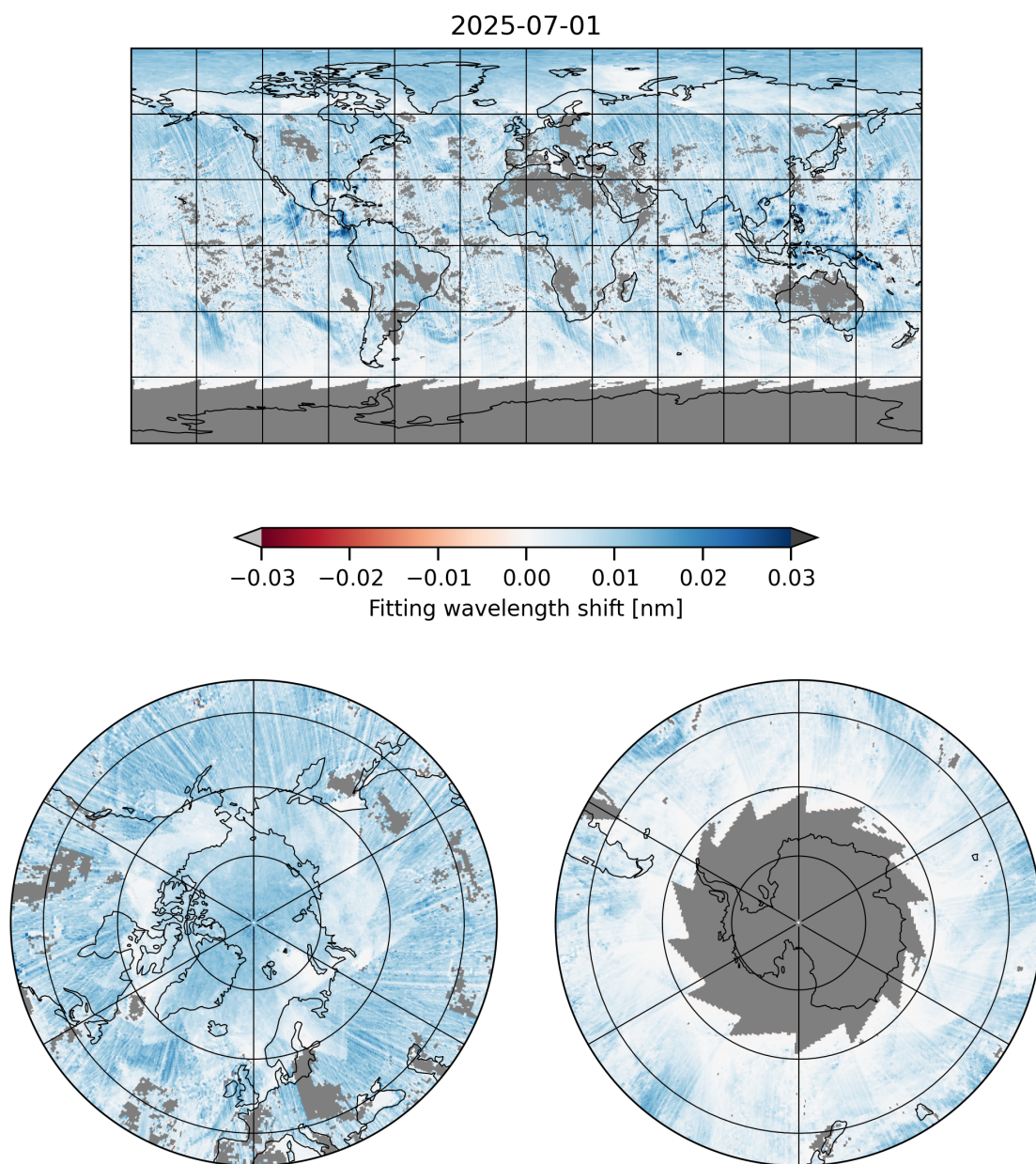


Figure 14: Map of "Fitting wavelength shift" for 2025-07-01 to 2025-07-02

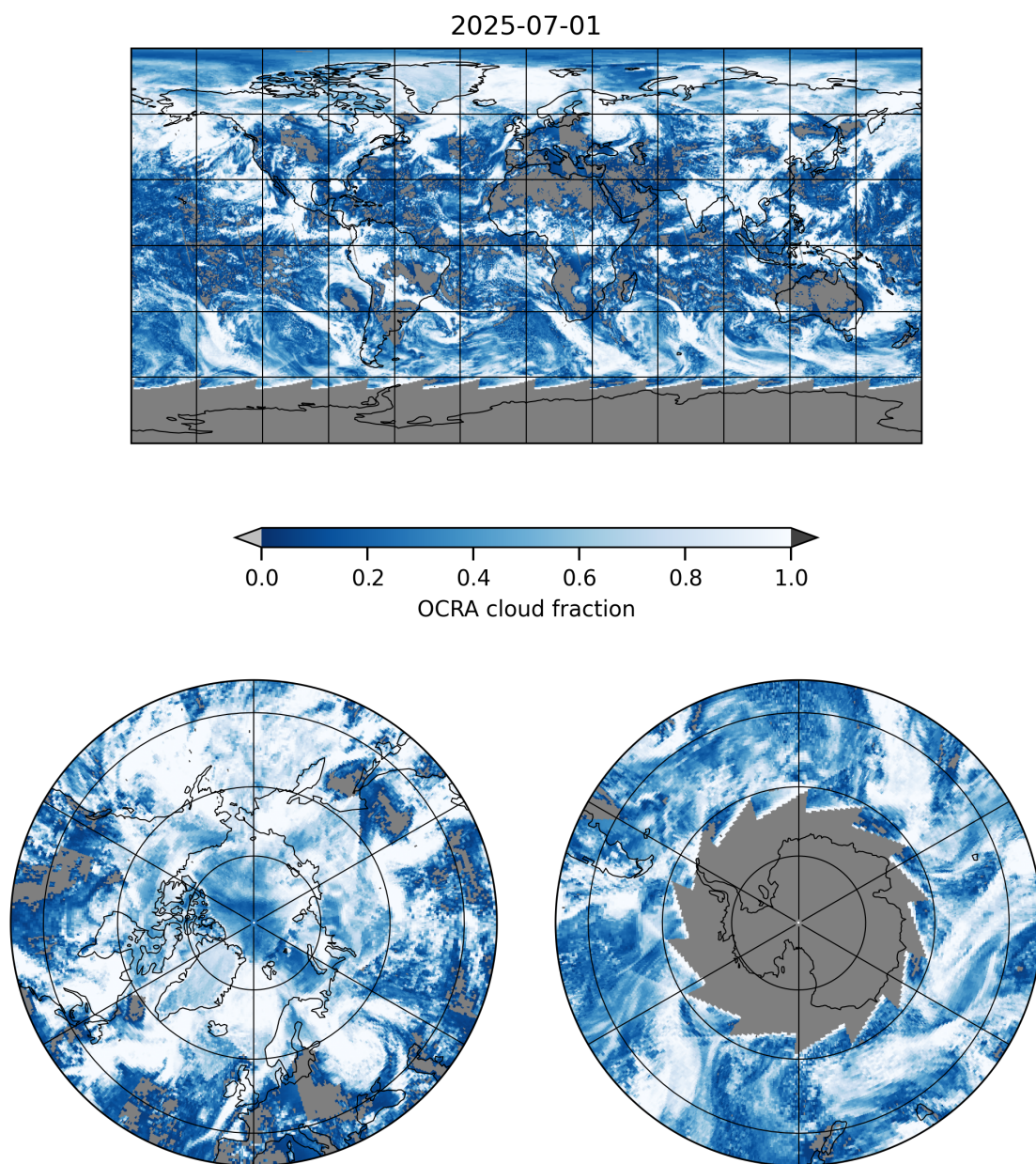


Figure 15: Map of “OCRA cloud fraction” for 2025-07-01 to 2025-07-02

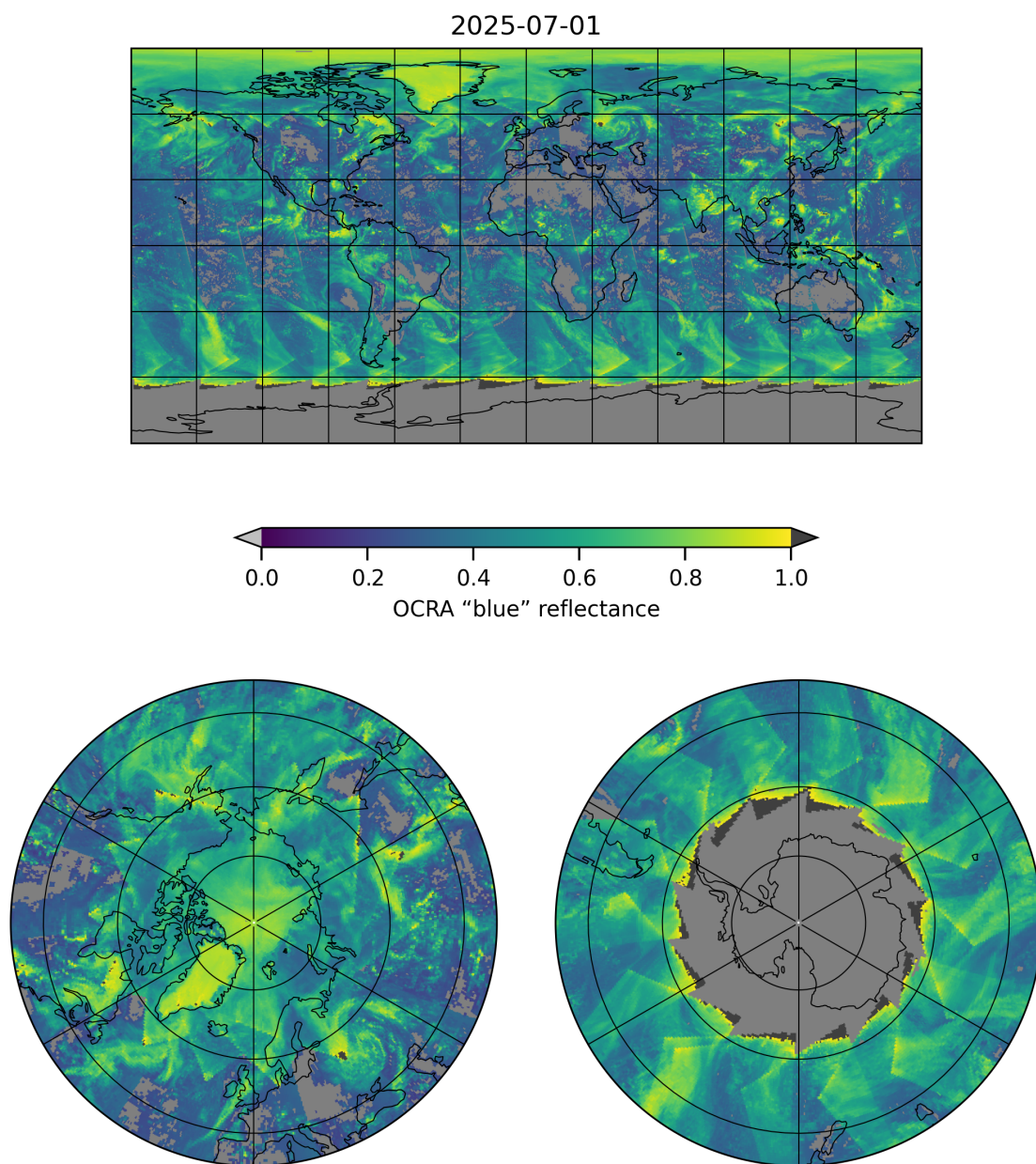


Figure 16: Map of "OCRA "blue" reflectance" for 2025-07-01 to 2025-07-02

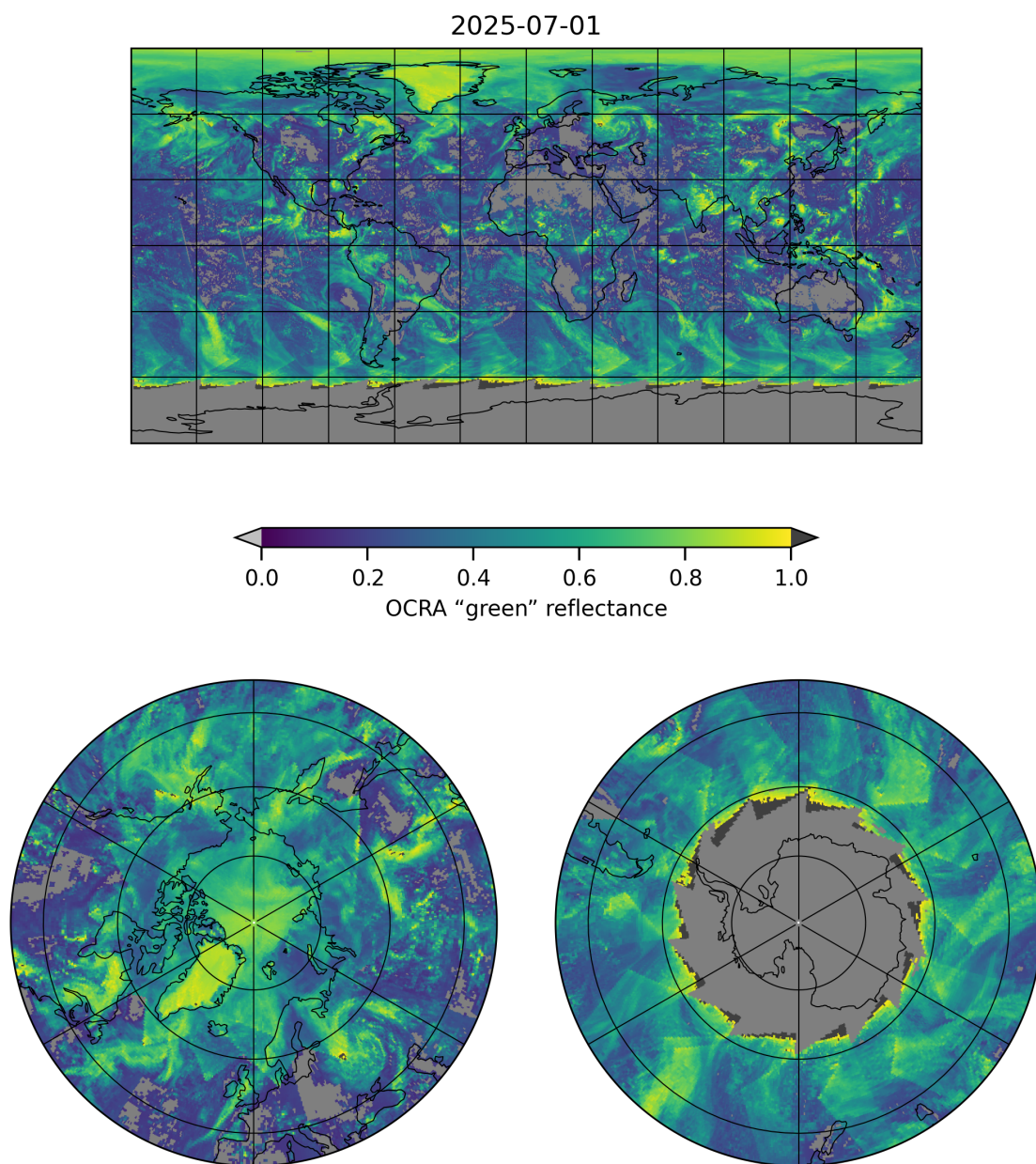


Figure 17: Map of "OCRA "green" reflectance" for 2025-07-01 to 2025-07-02

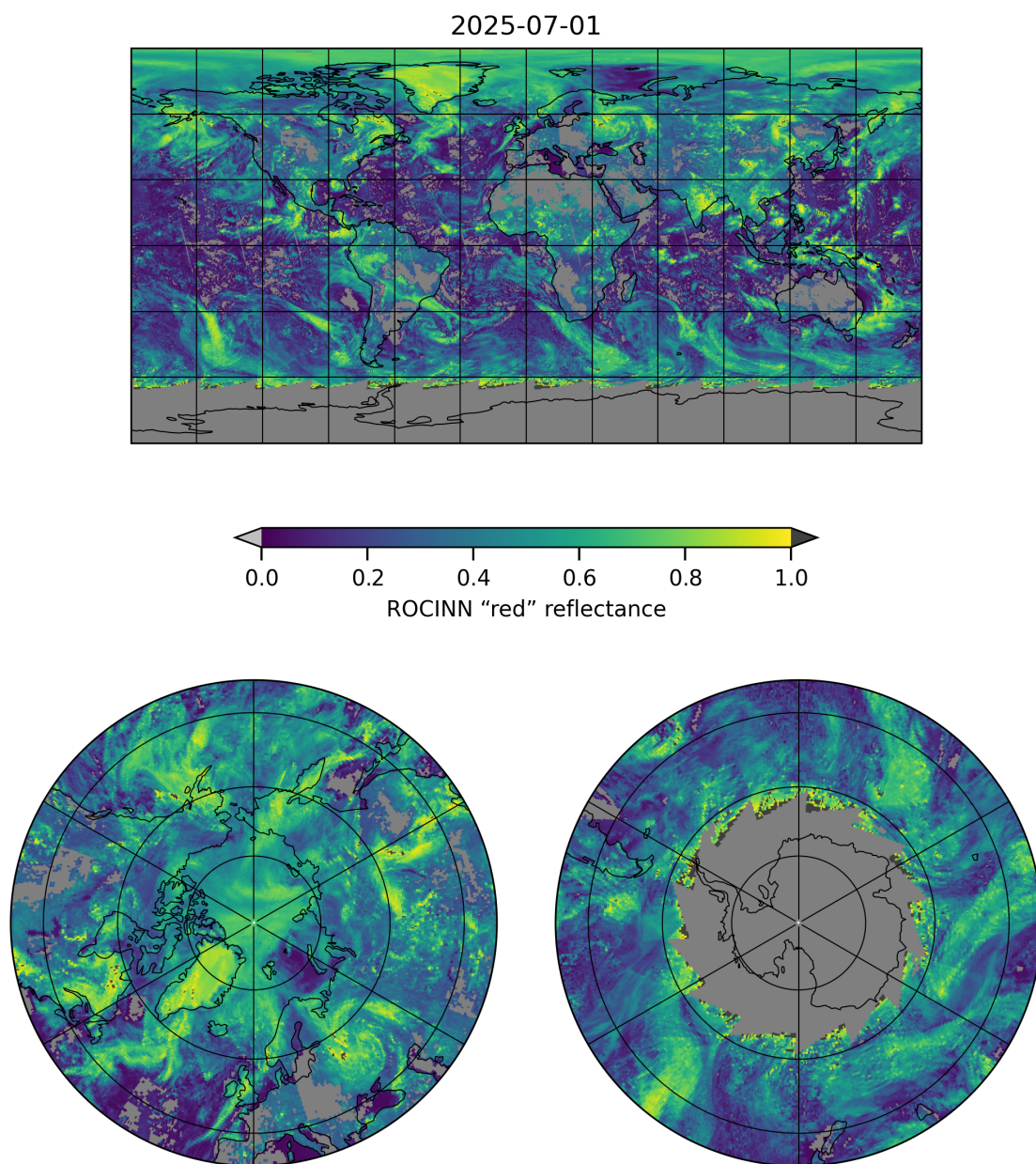


Figure 18: Map of "ROCINN "red" reflectance" for 2025-07-01 to 2025-07-02

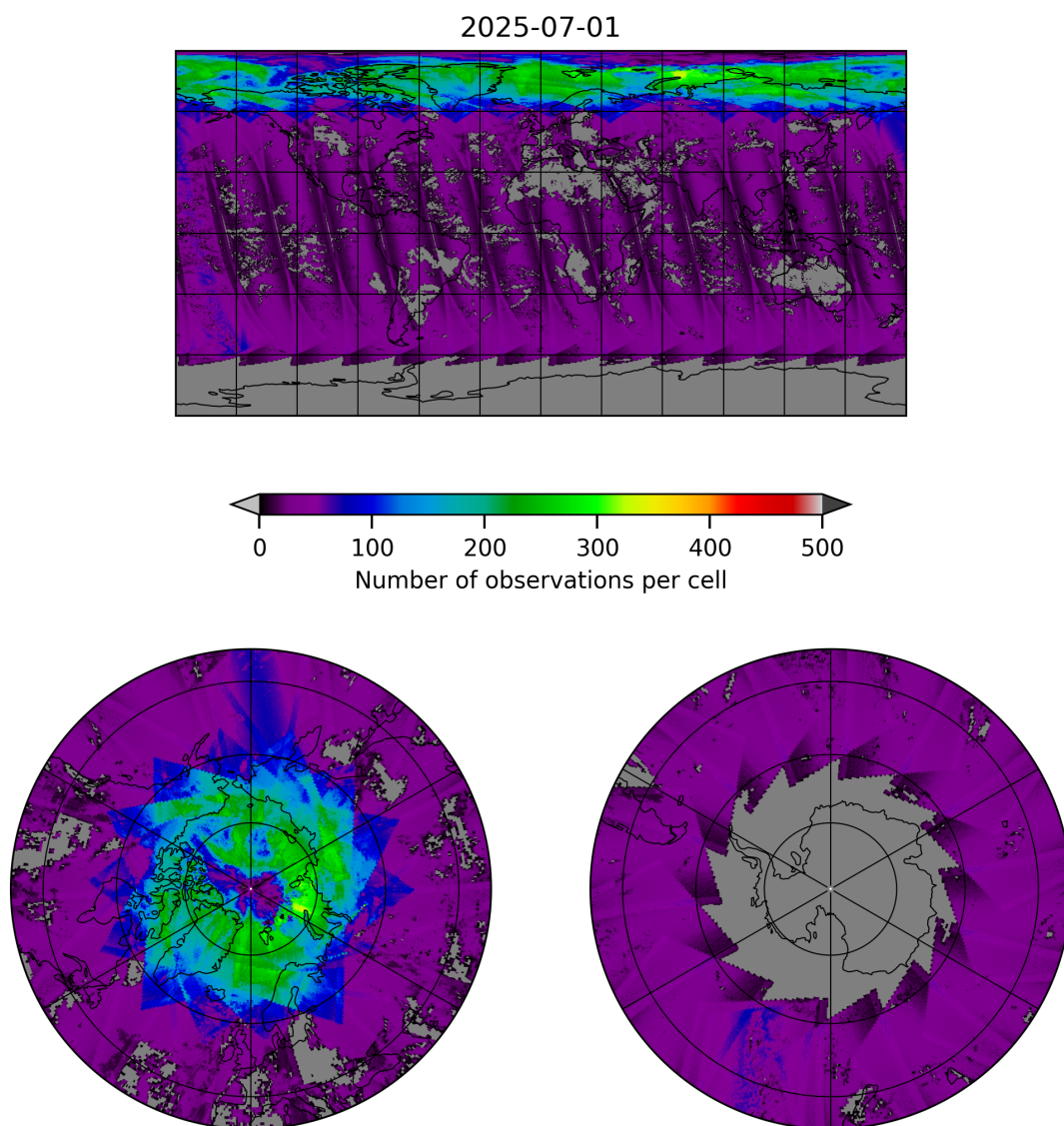


Figure 19: Map of the number of observations for 2025-07-01 to 2025-07-02

7 Zonal average

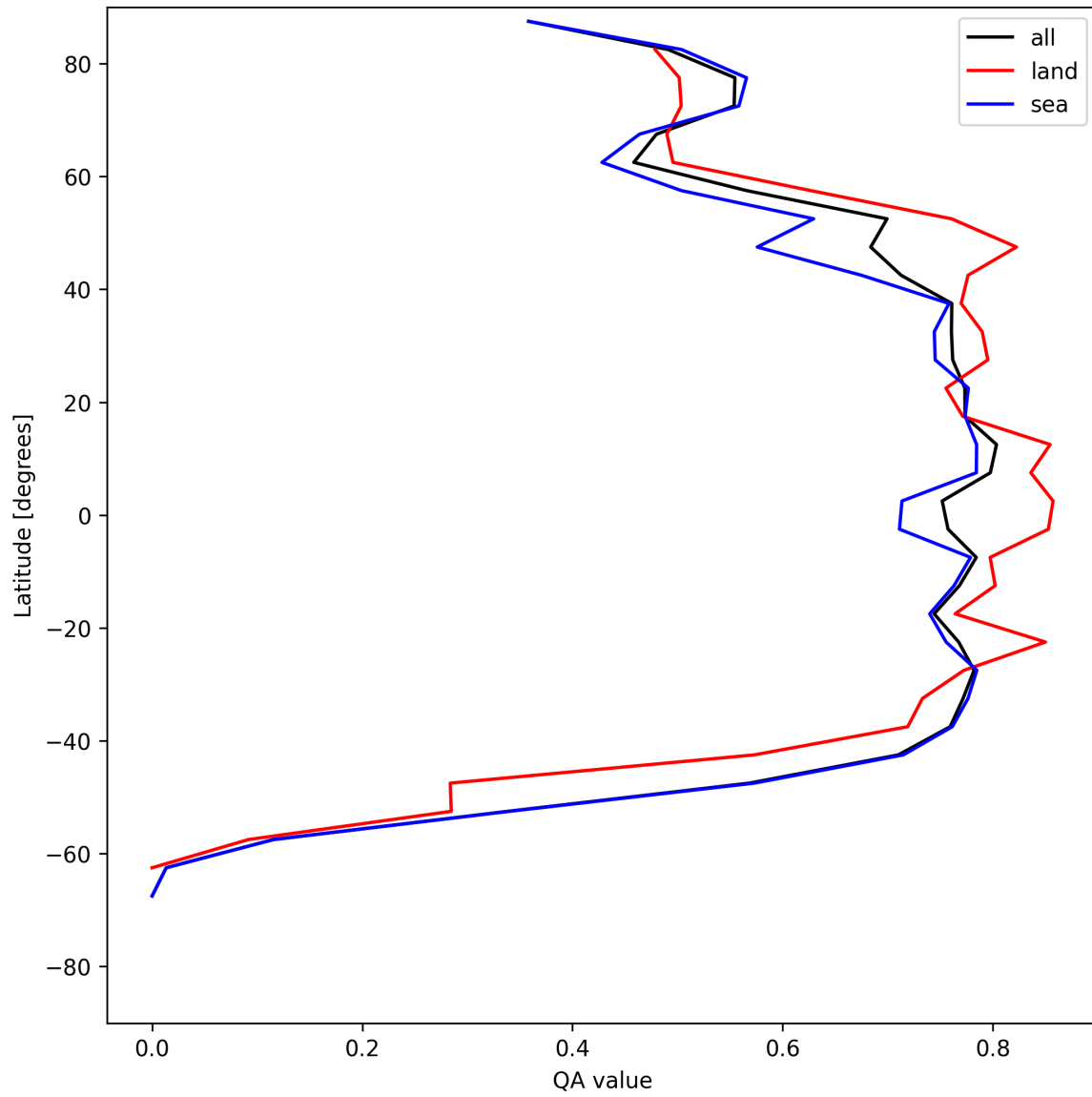


Figure 20: Zonal average of “QA value” for 2025-07-01 to 2025-07-02.

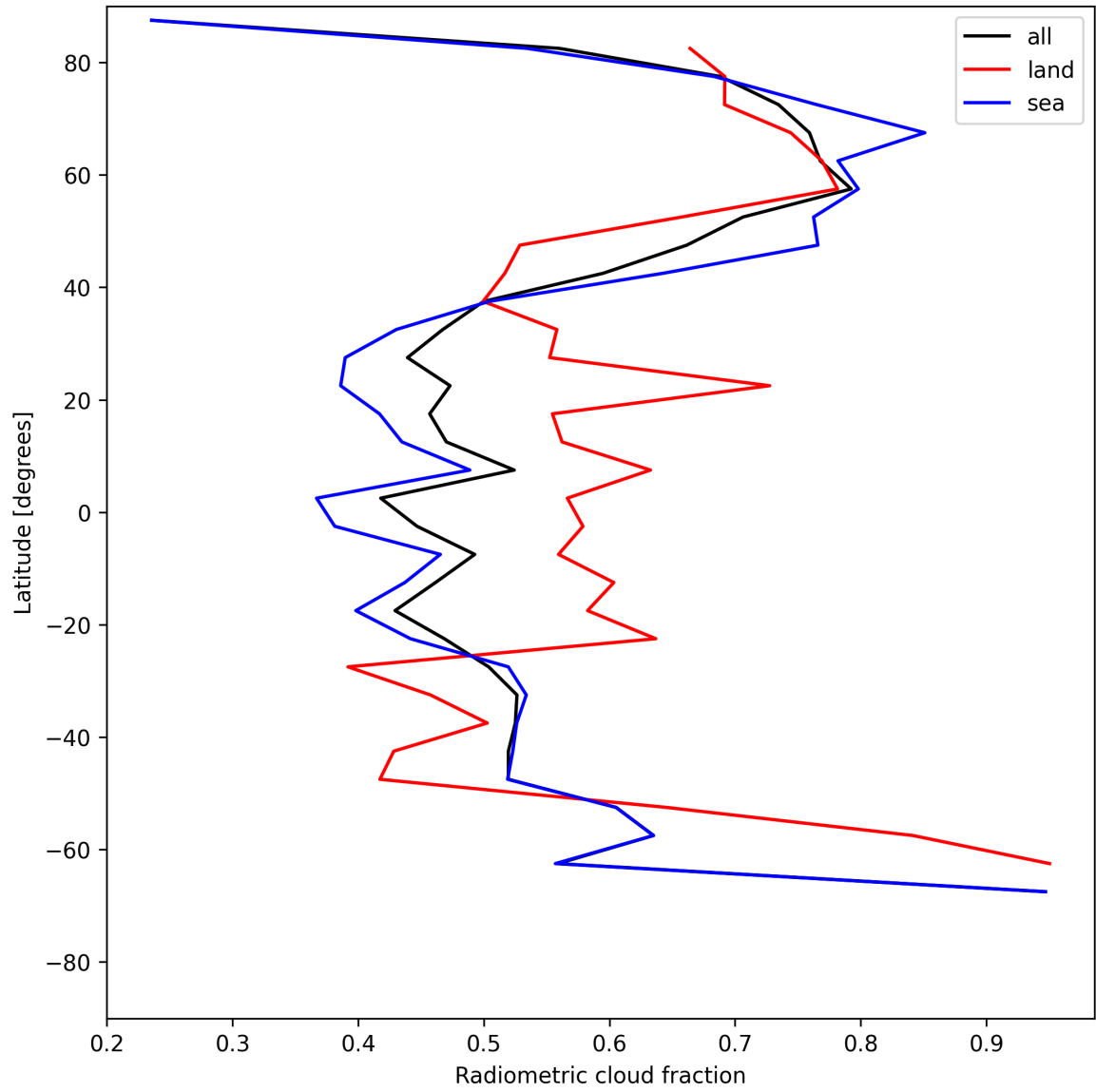


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-07-01 to 2025-07-02.

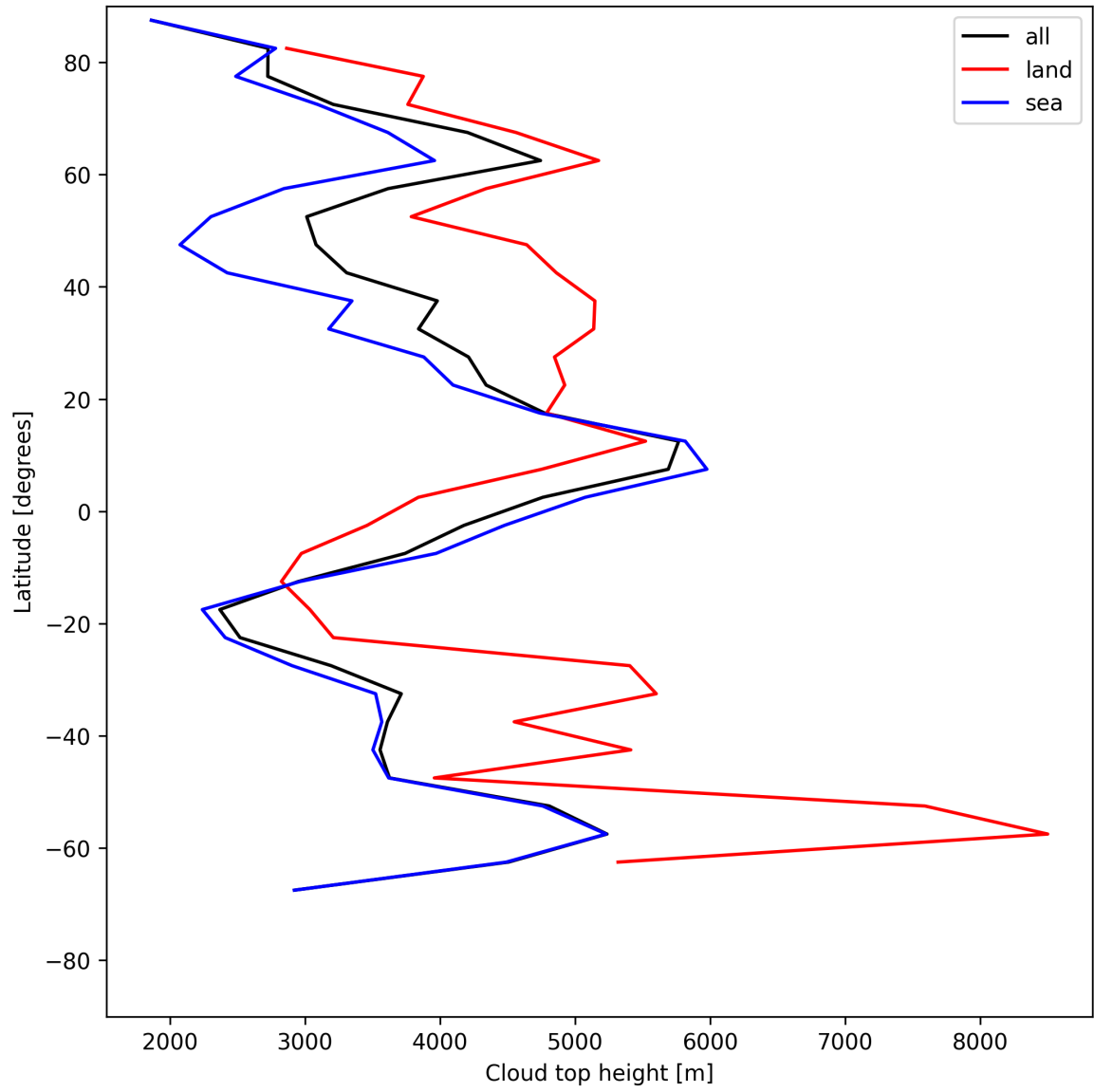


Figure 22: Zonal average of “Cloud top height” for 2025-07-01 to 2025-07-02.

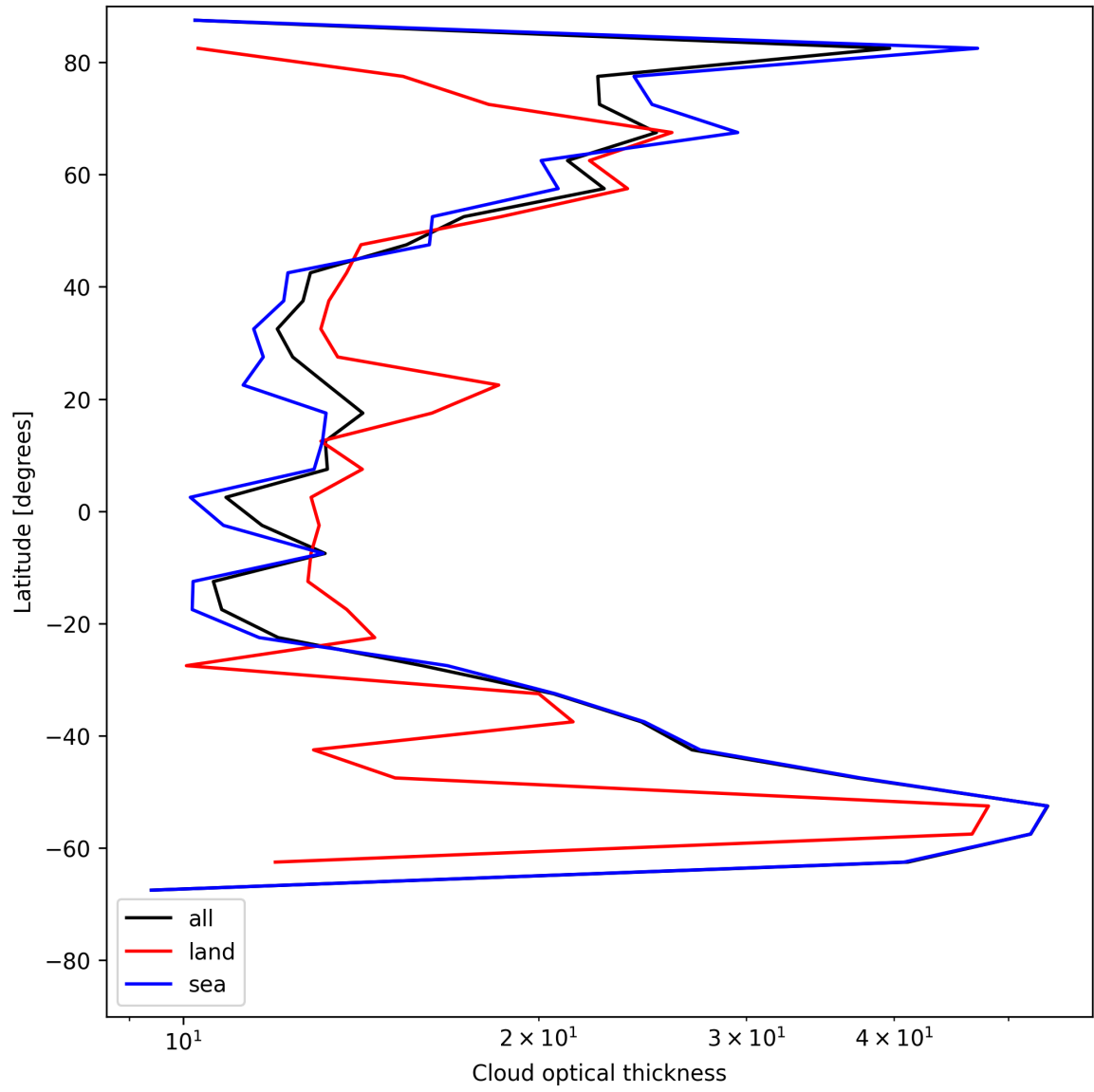


Figure 23: Zonal average of “Cloud optical thickness” for 2025-07-01 to 2025-07-02.

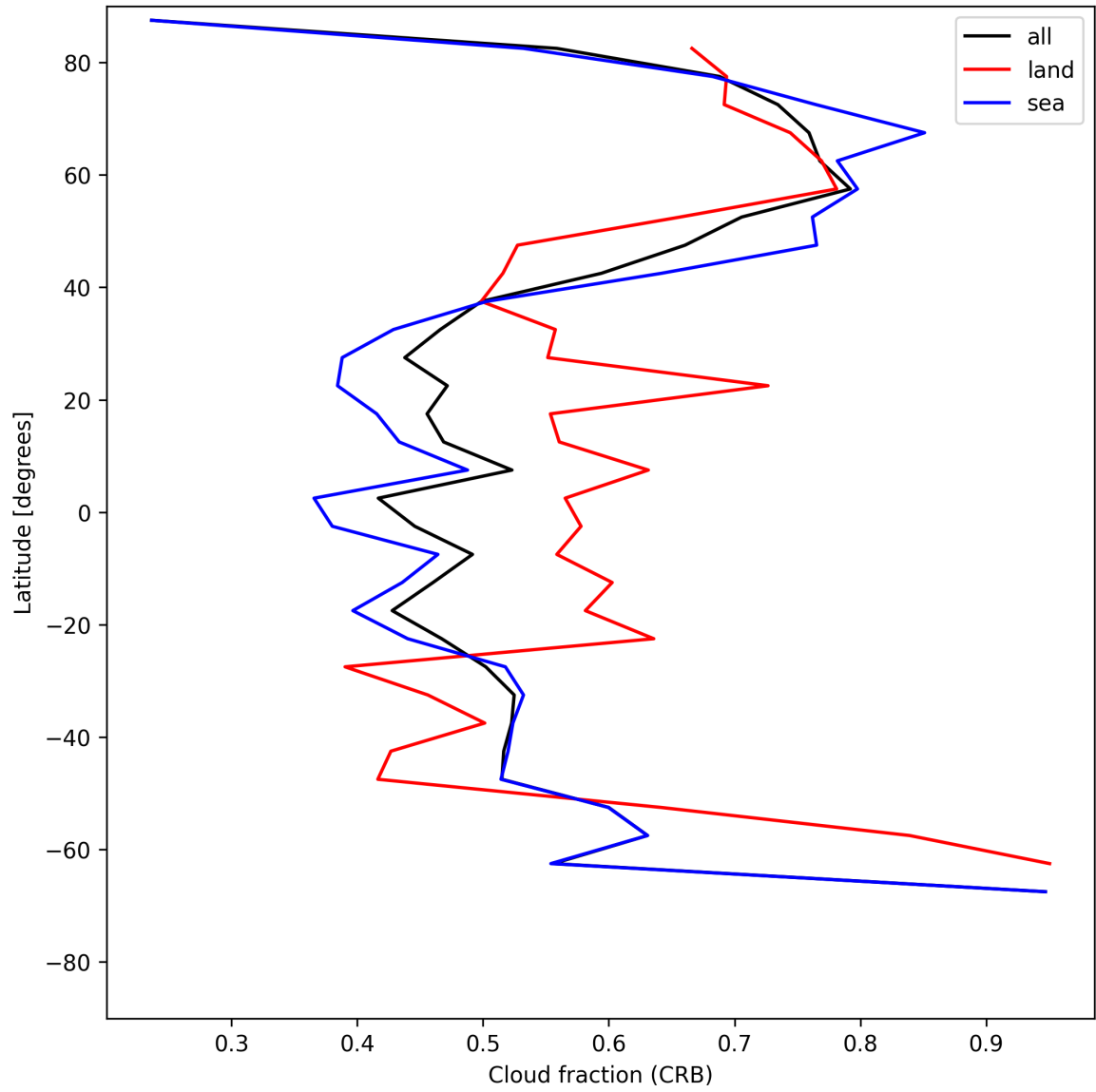


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-07-01 to 2025-07-02.

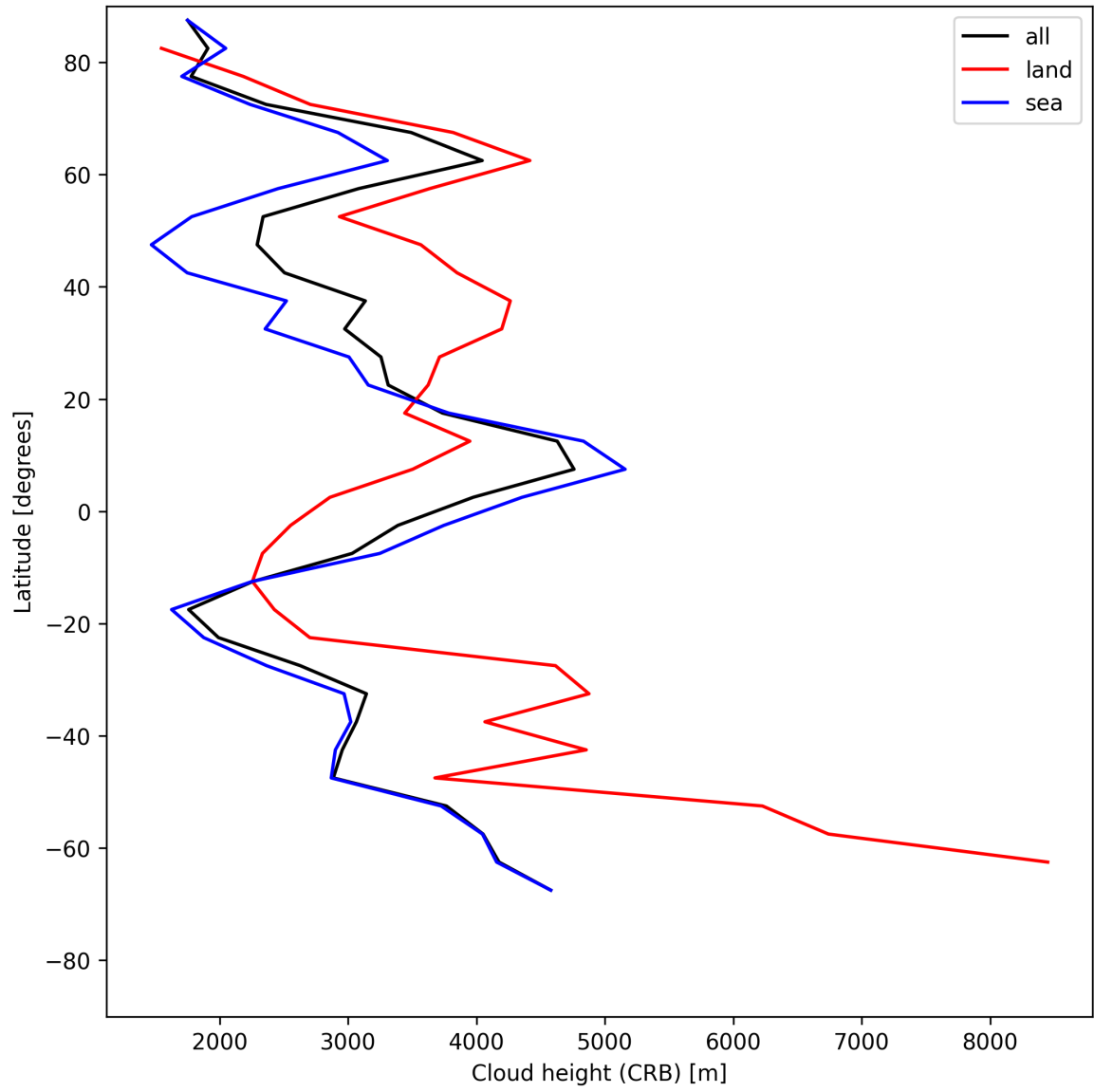


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-07-01 to 2025-07-02.

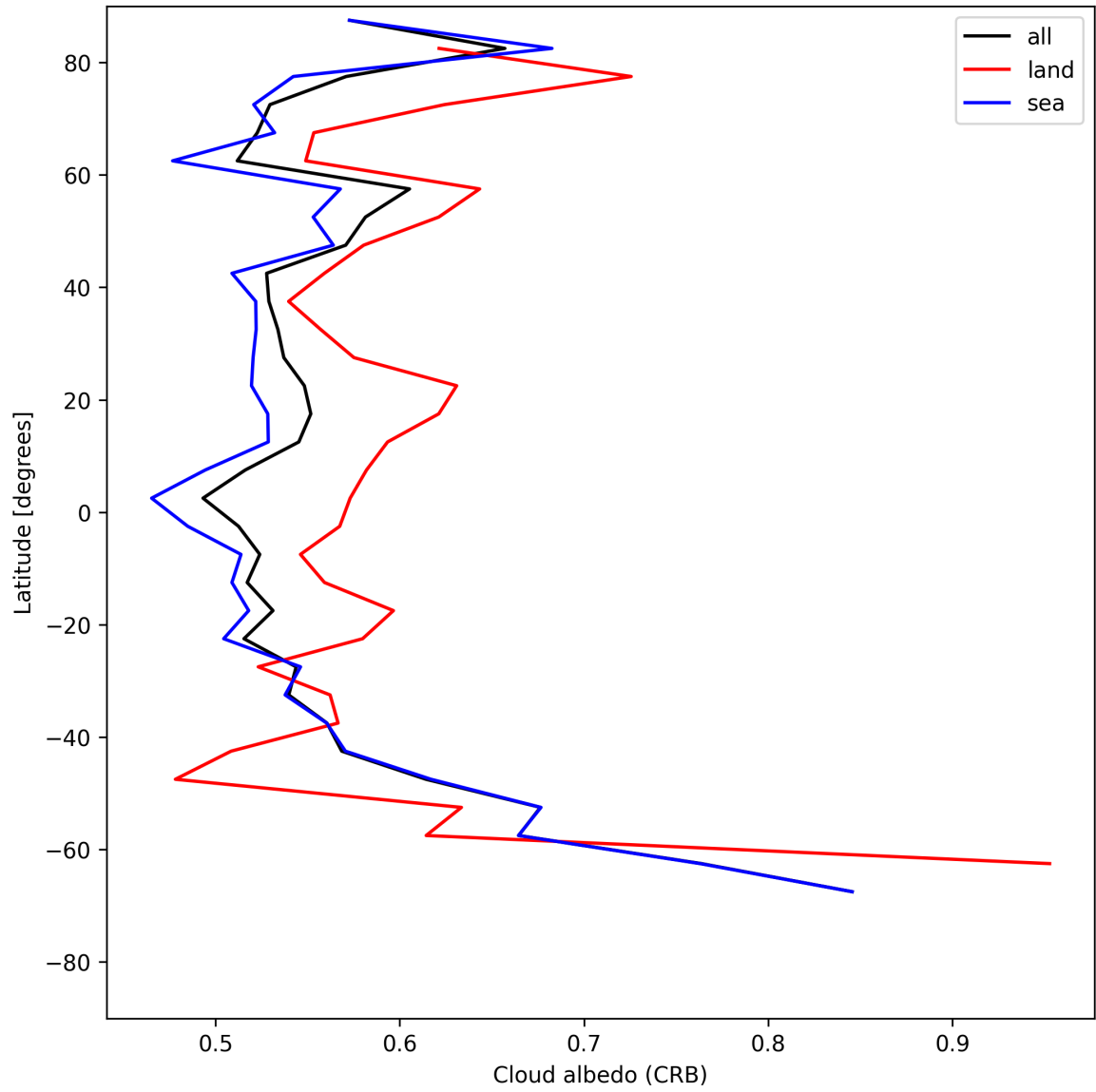


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-07-01 to 2025-07-02.

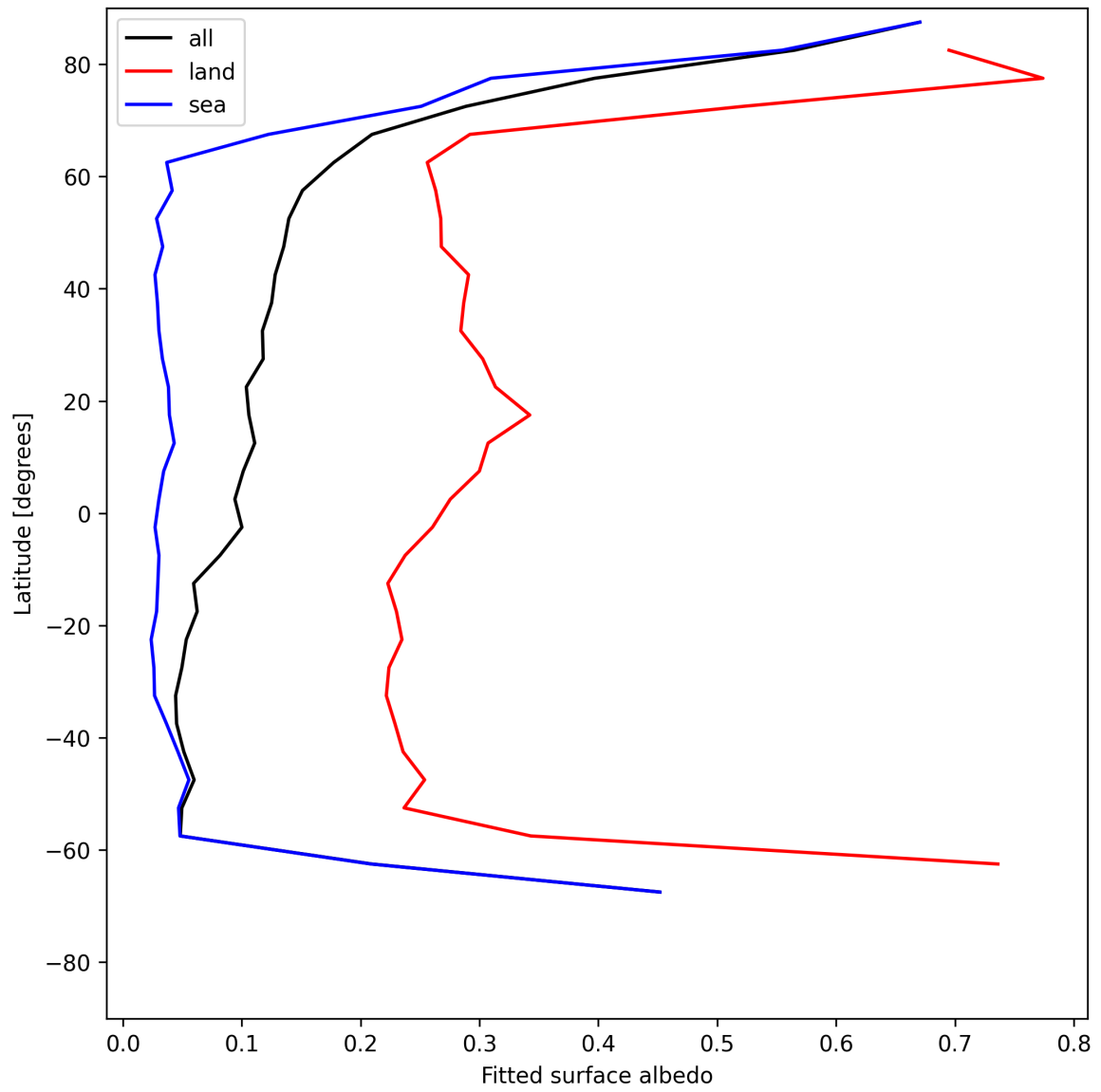


Figure 27: Zonal average of “Fitted surface albedo” for 2025-07-01 to 2025-07-02.

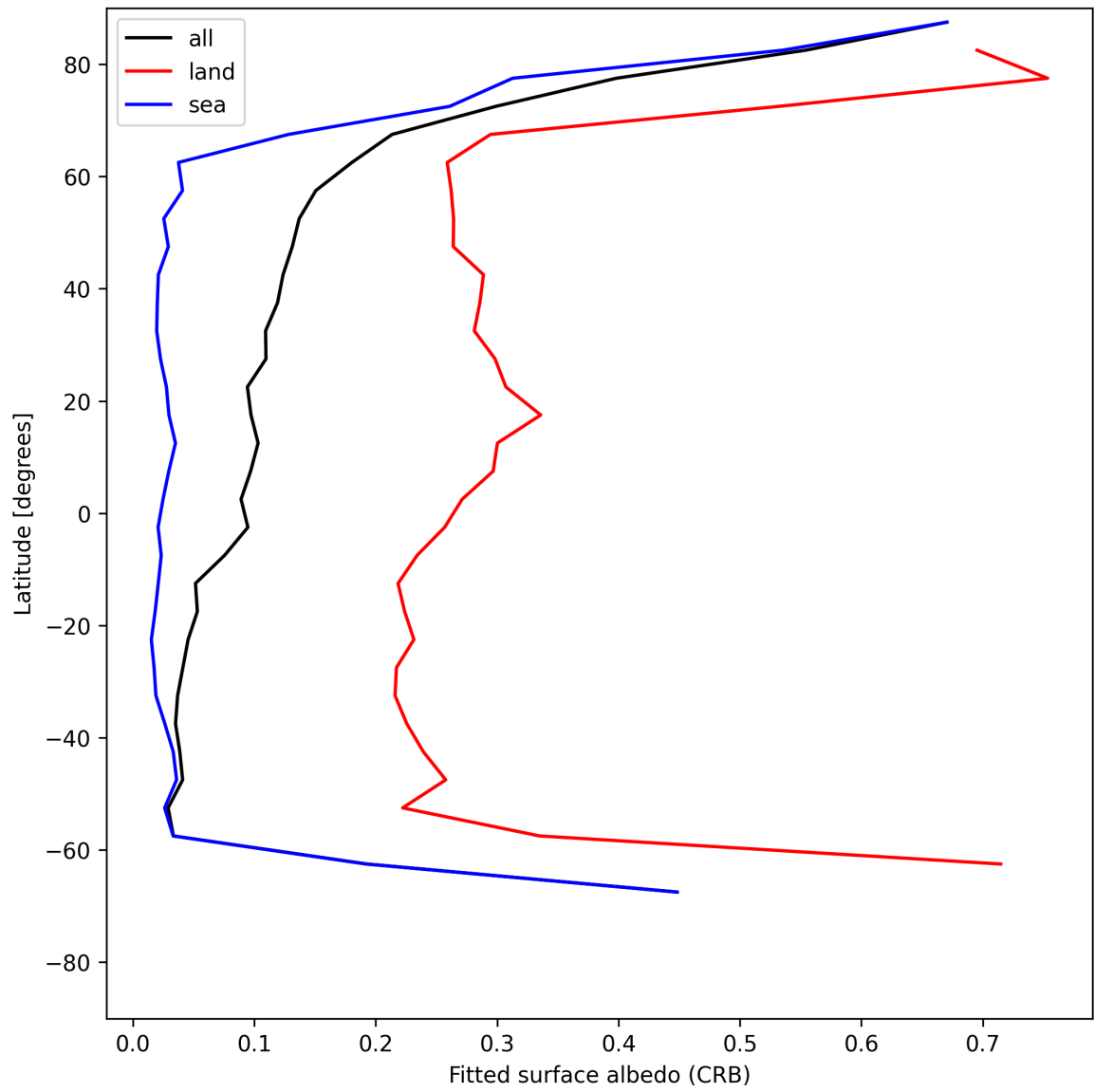


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-07-01 to 2025-07-02.

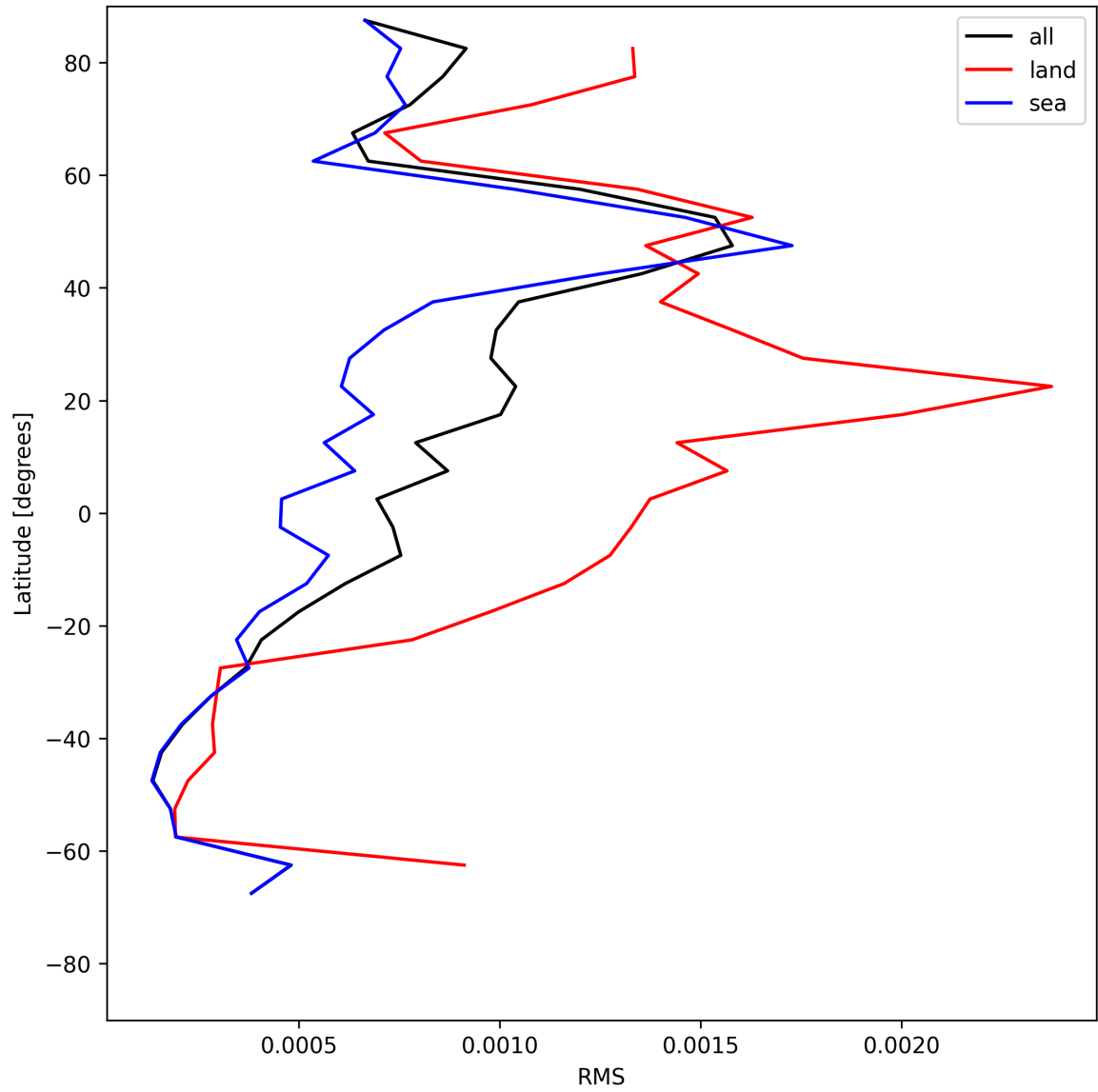


Figure 29: Zonal average of “RMS” for 2025-07-01 to 2025-07-02.

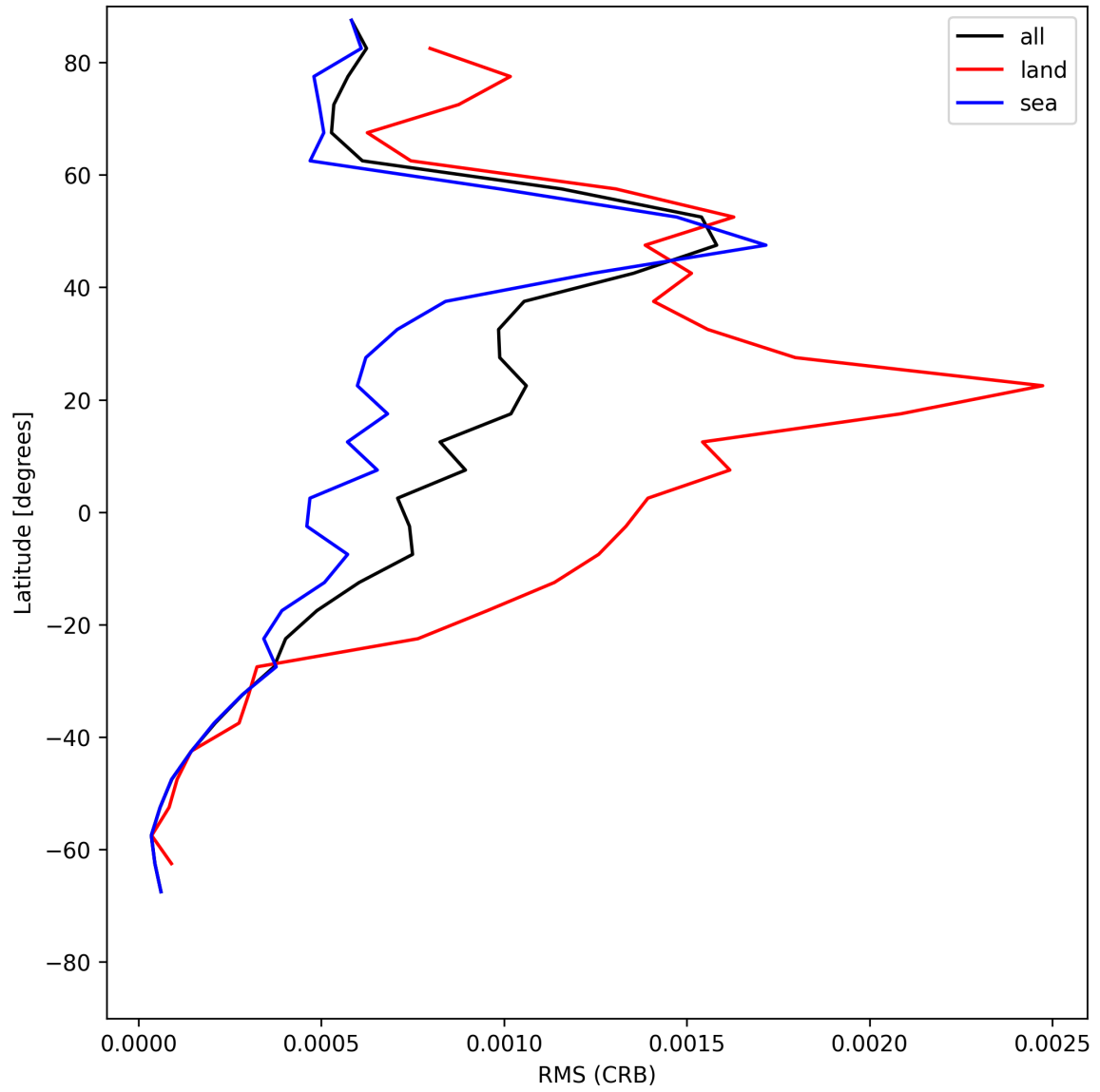


Figure 30: Zonal average of “RMS (CRB)” for 2025-07-01 to 2025-07-02.

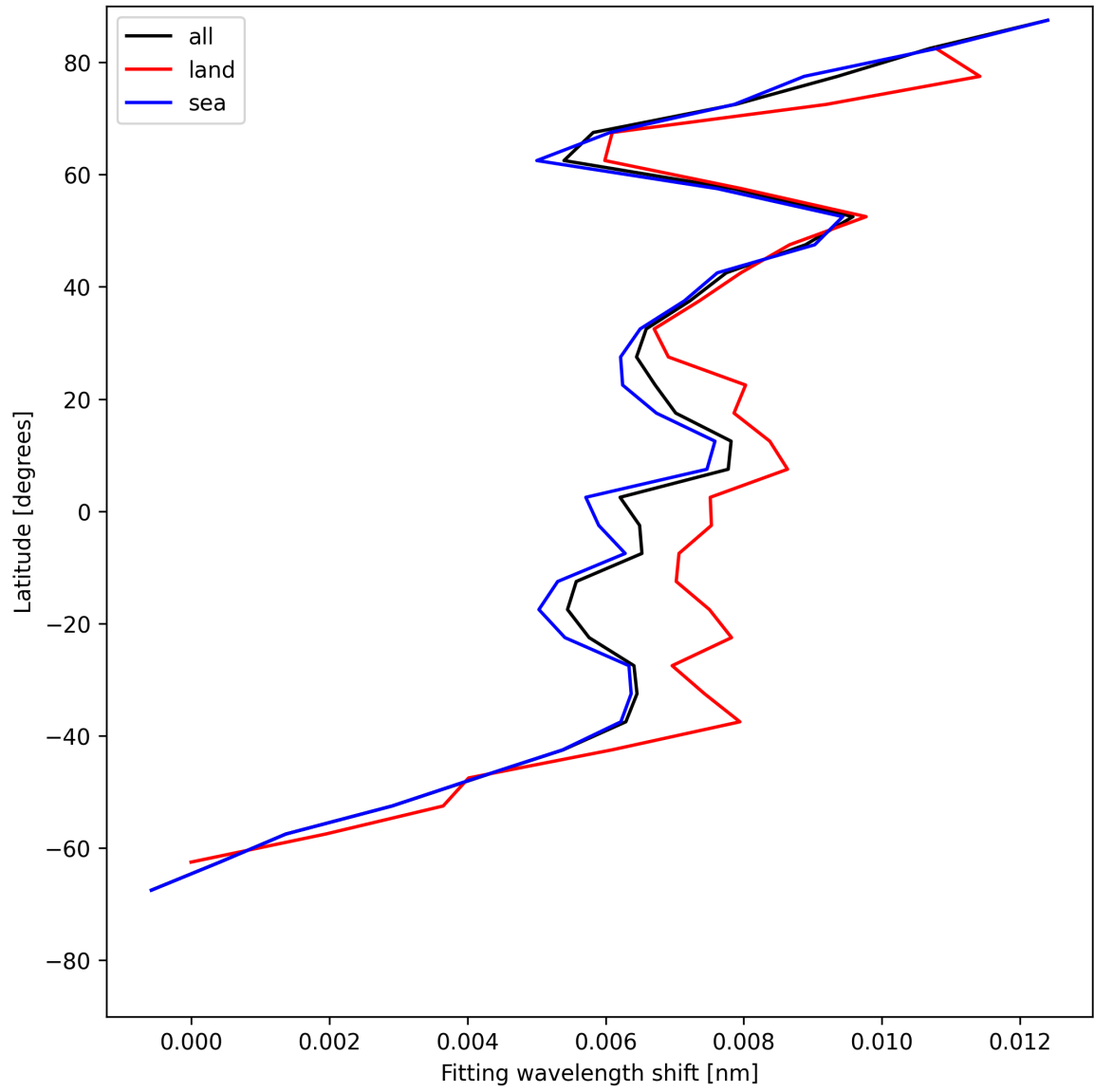


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-07-01 to 2025-07-02.

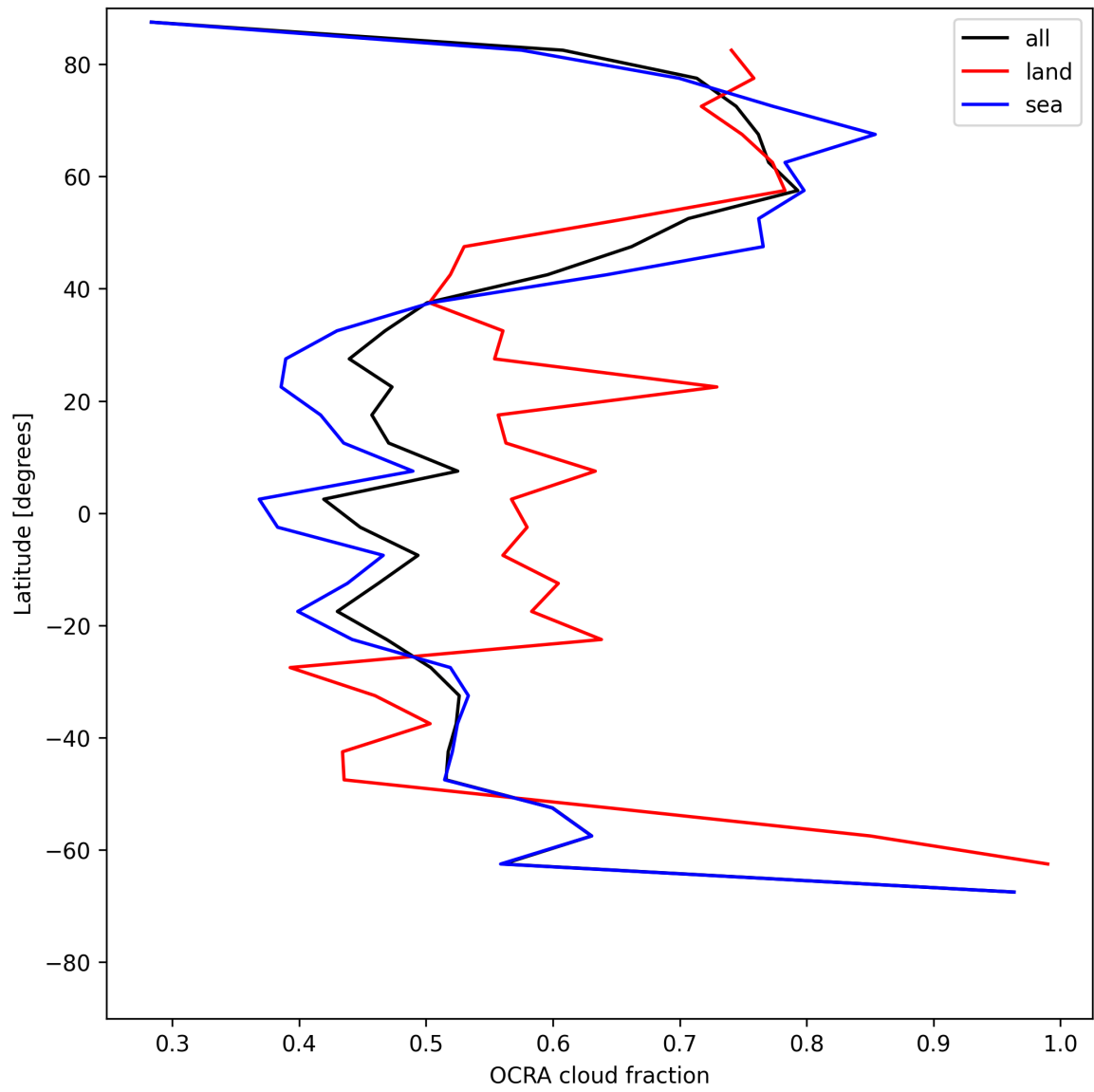


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-07-01 to 2025-07-02.

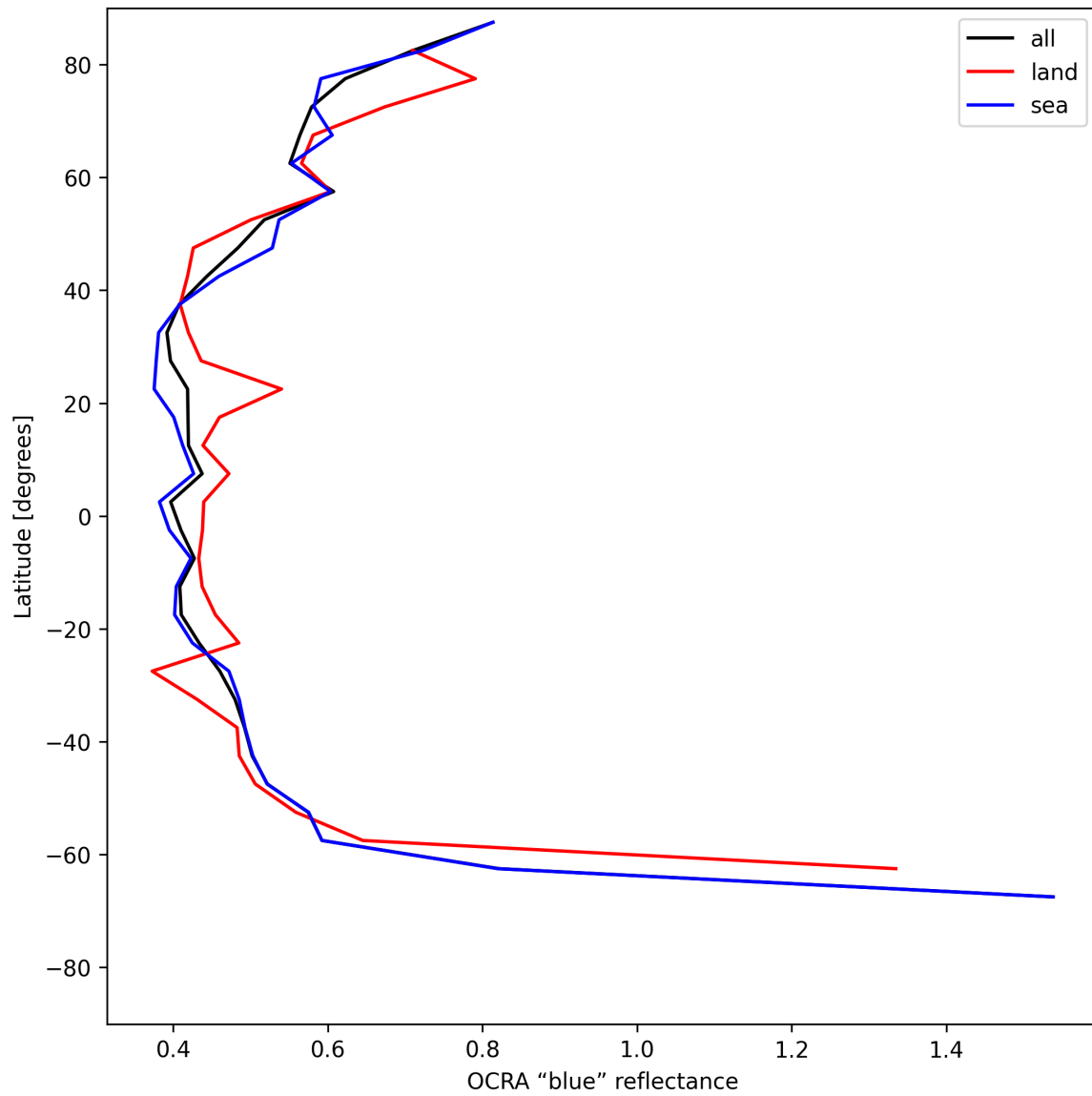


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-07-01 to 2025-07-02.

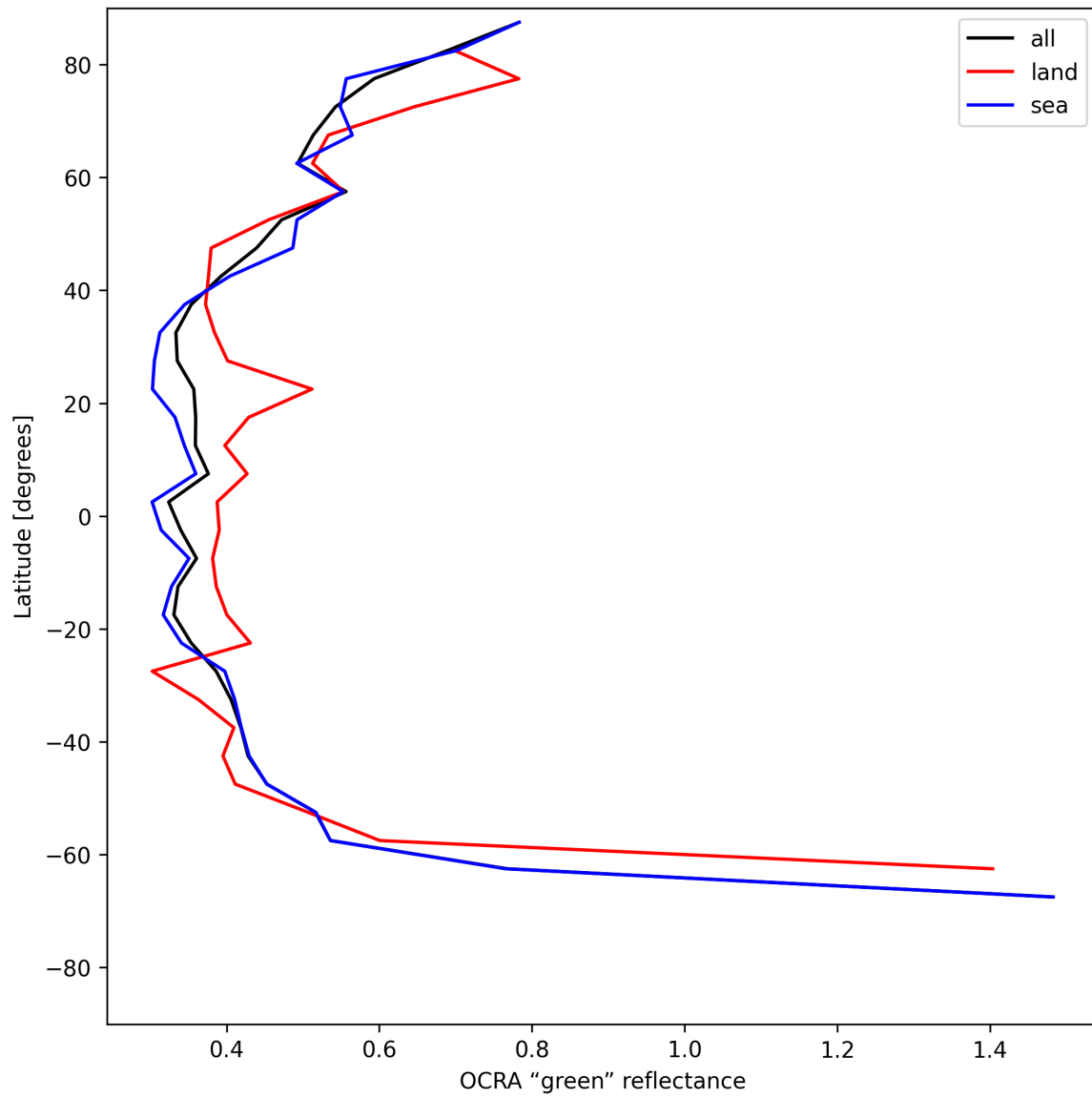


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-07-01 to 2025-07-02.

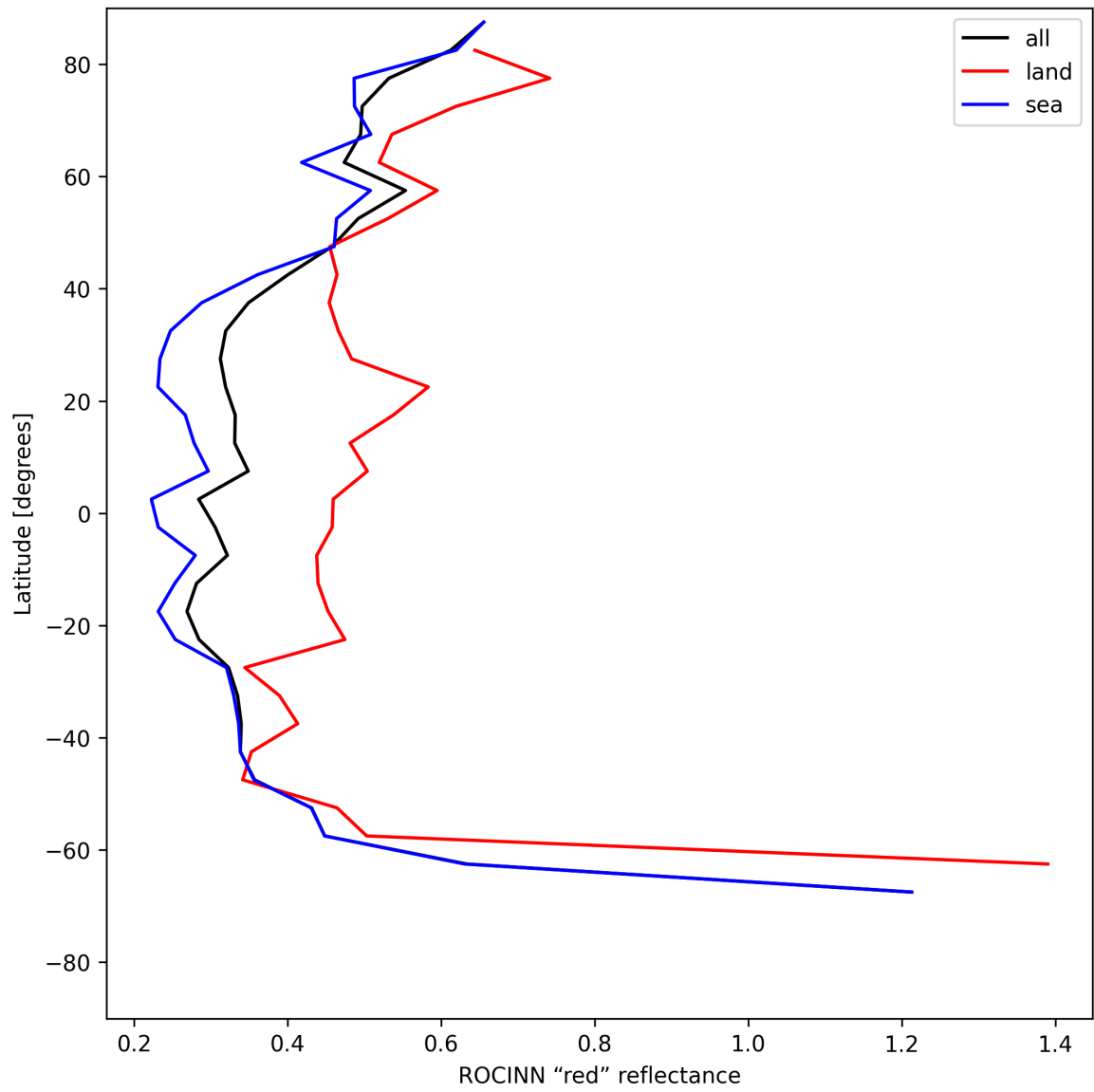


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-07-01 to 2025-07-02.

8 Histograms

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

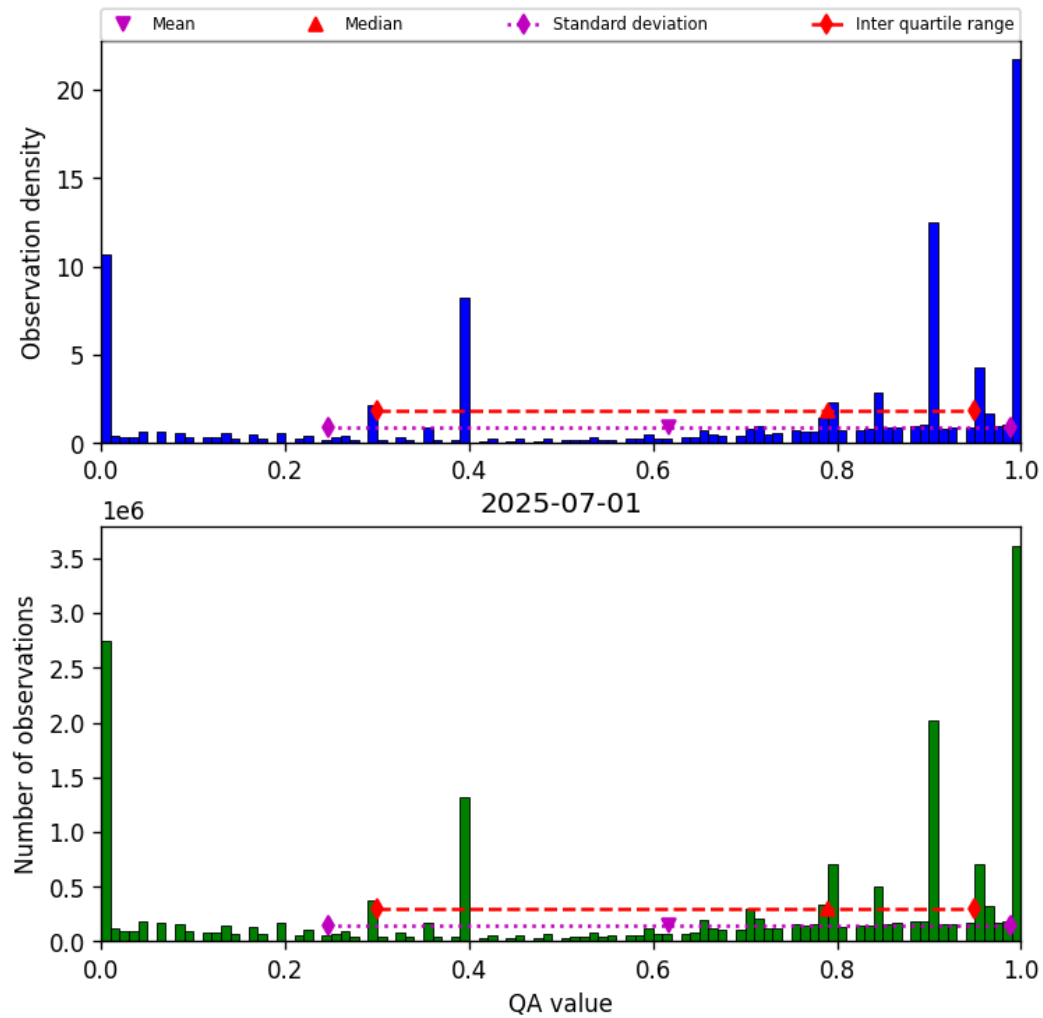


Figure 36: Histogram of “QA value” for 2025-07-01 to 2025-07-02

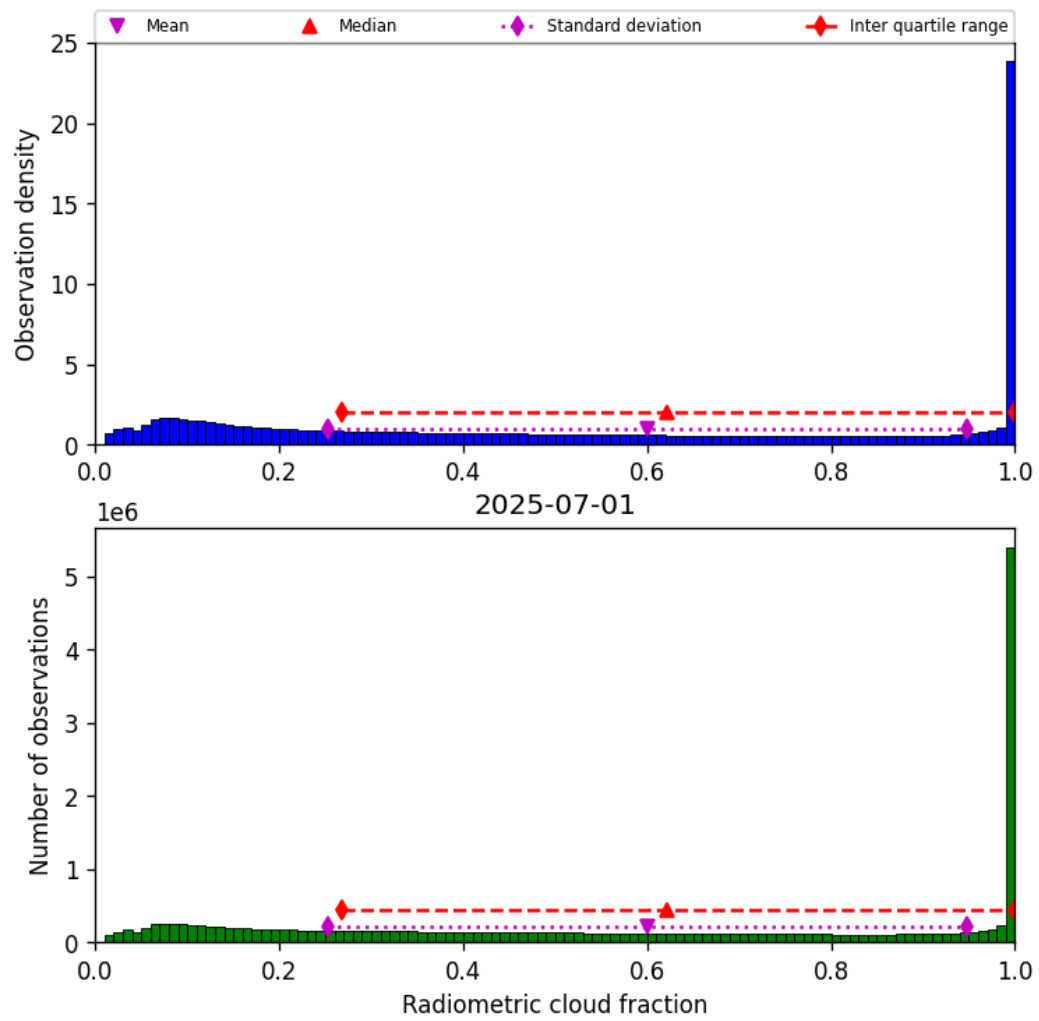


Figure 37: Histogram of "Radiometric cloud fraction" for 2025-07-01 to 2025-07-02

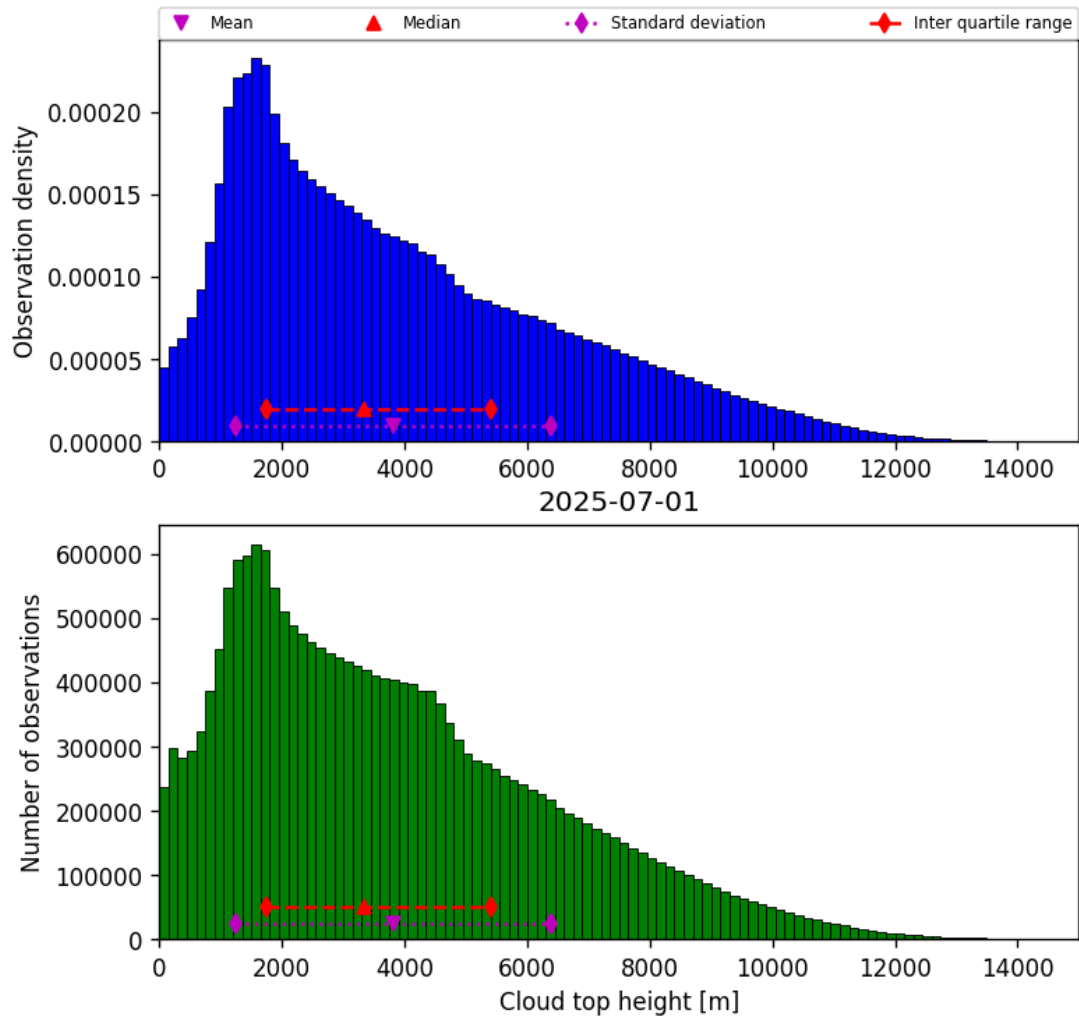


Figure 38: Histogram of “Cloud top height” for 2025-07-01 to 2025-07-02

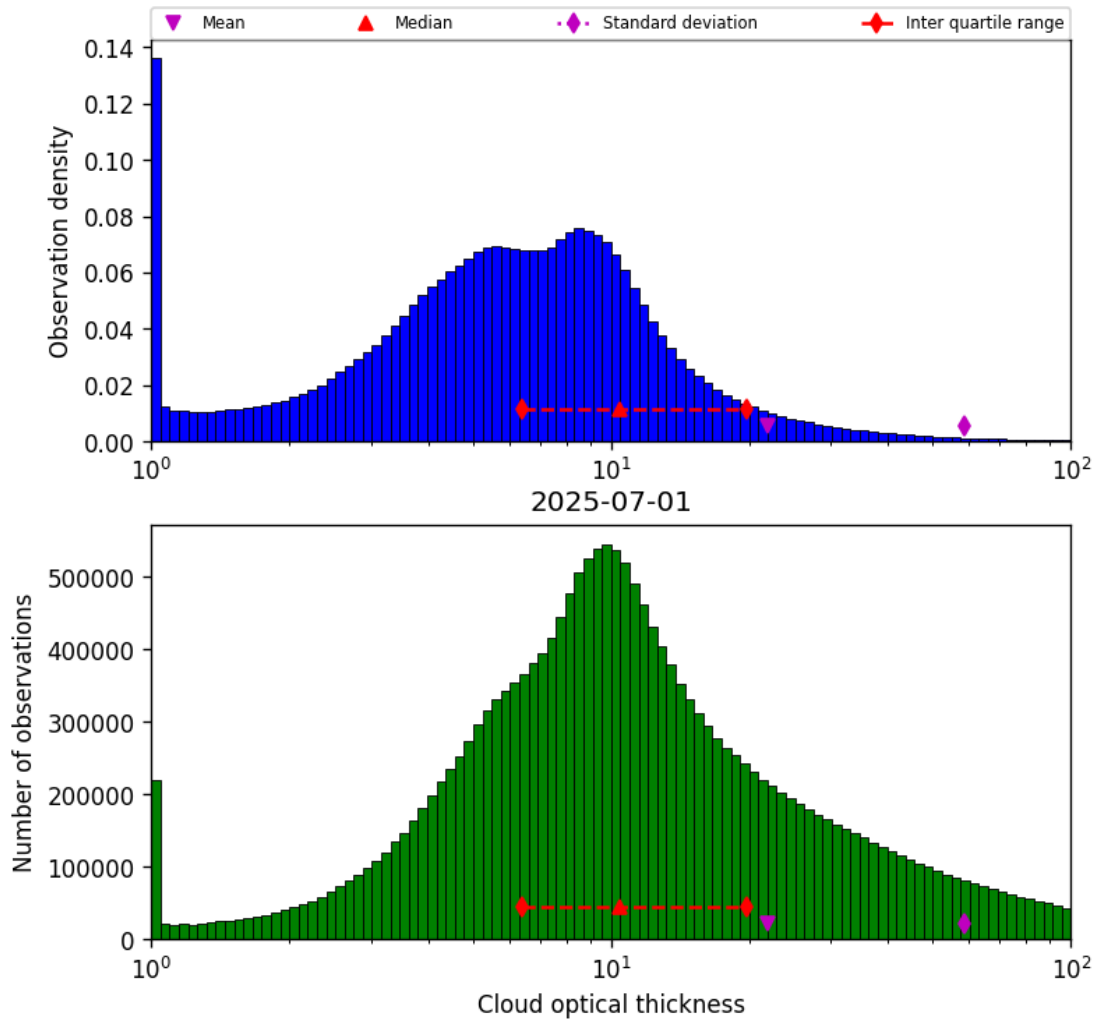


Figure 39: Histogram of “Cloud optical thickness” for 2025-07-01 to 2025-07-02

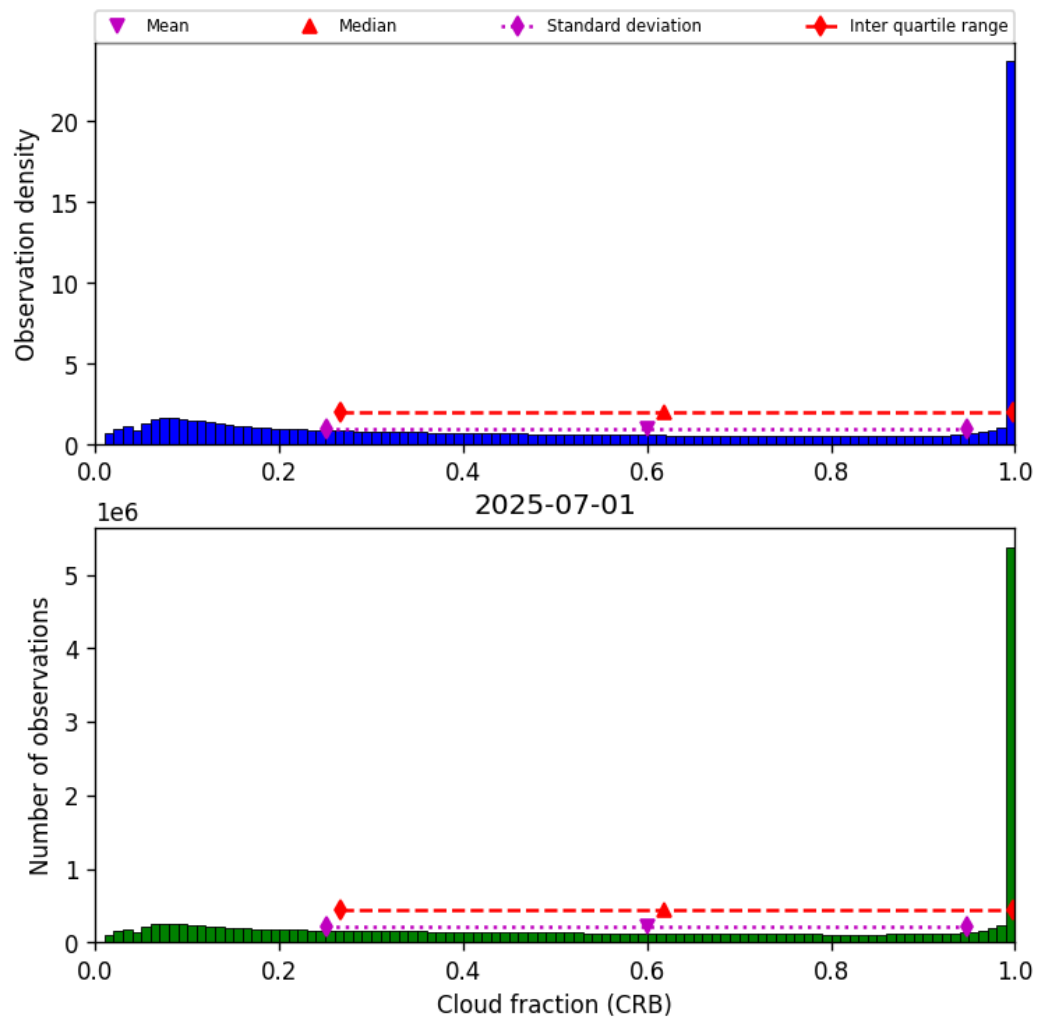


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-07-01 to 2025-07-02

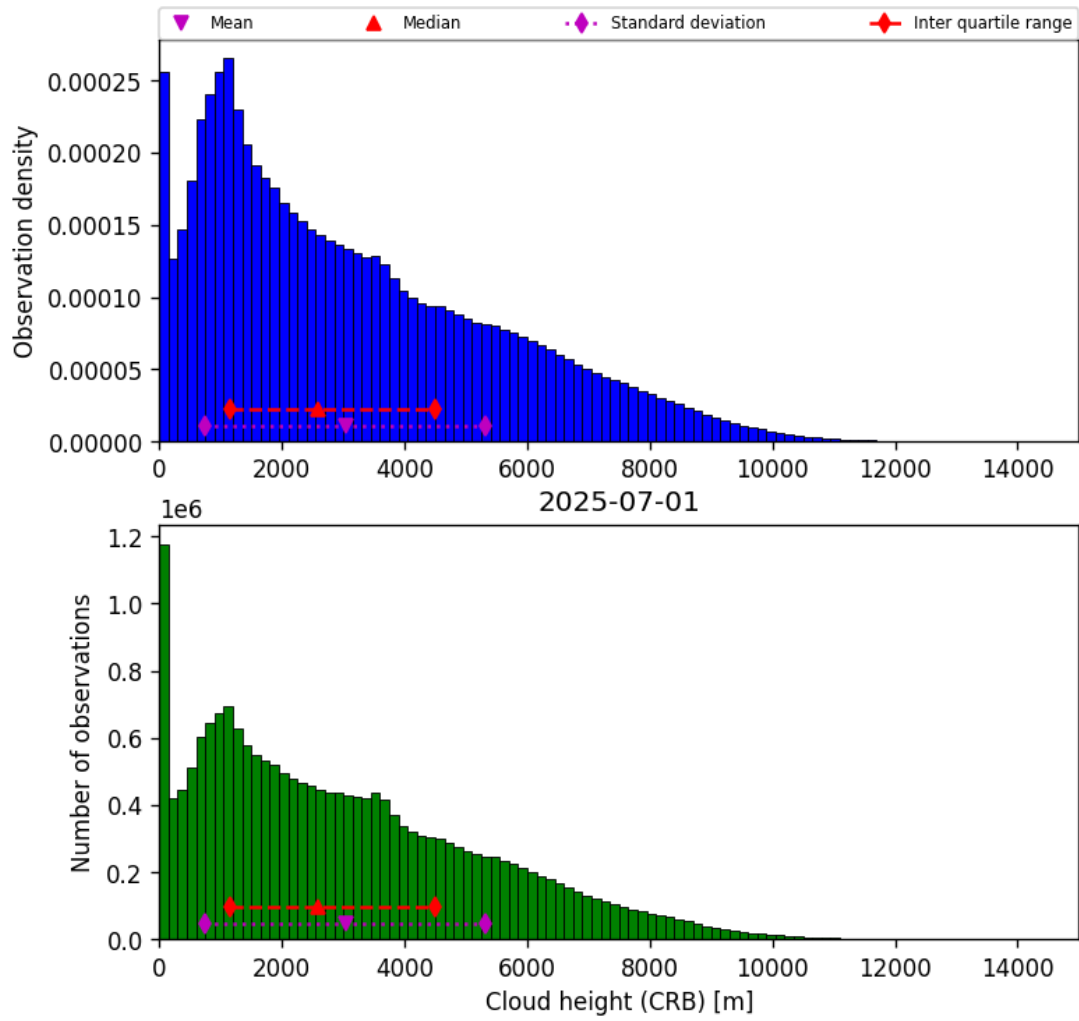


Figure 41: Histogram of “Cloud height (CRB)” for 2025-07-01 to 2025-07-02

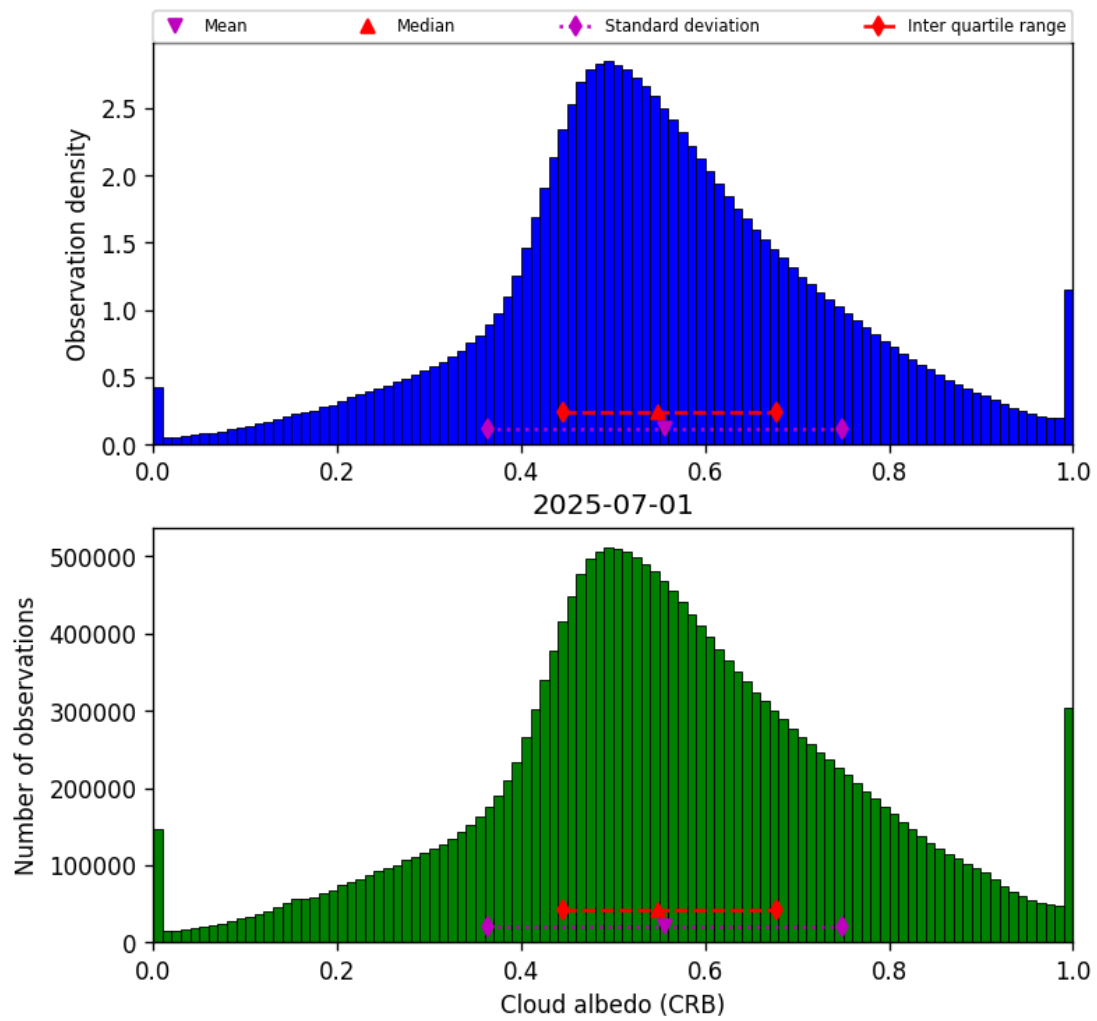


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-07-01 to 2025-07-02

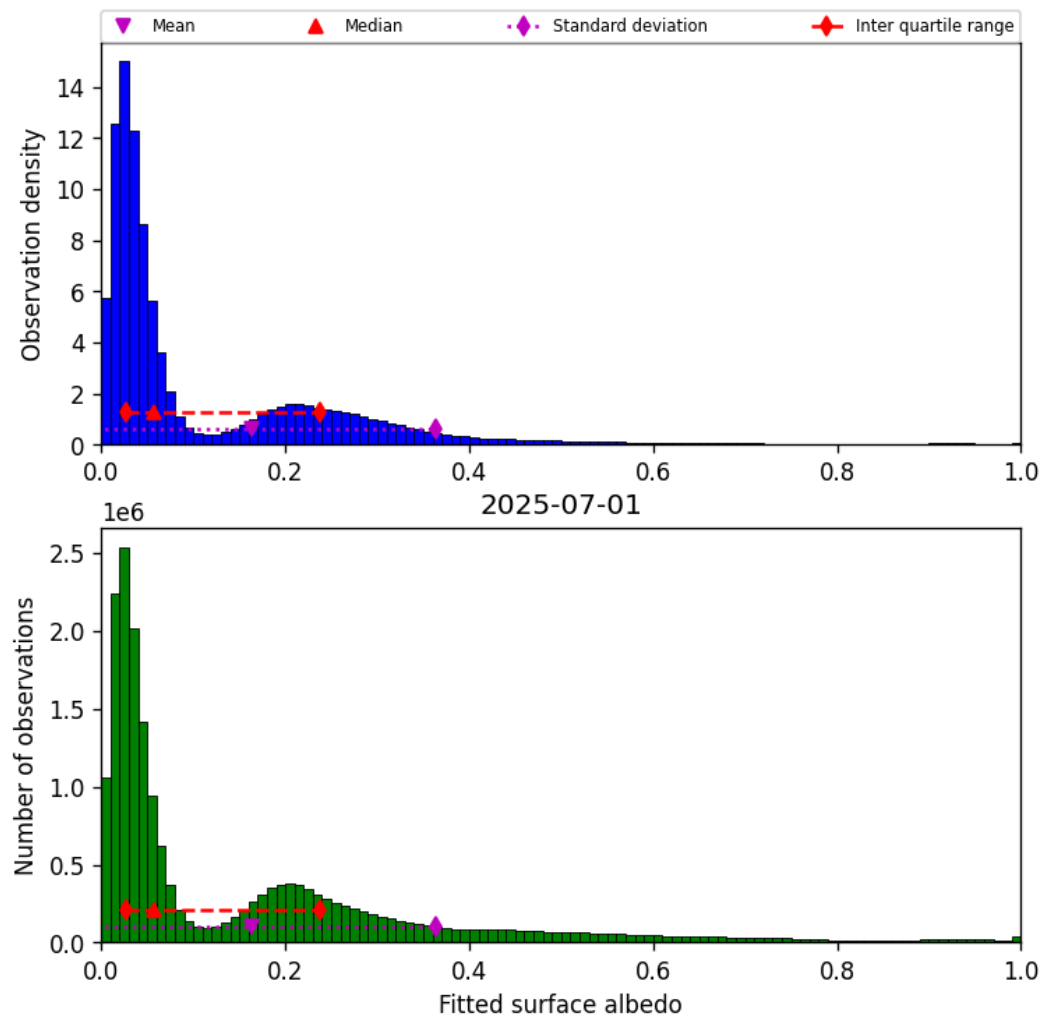


Figure 43: Histogram of “Fitted surface albedo” for 2025-07-01 to 2025-07-02

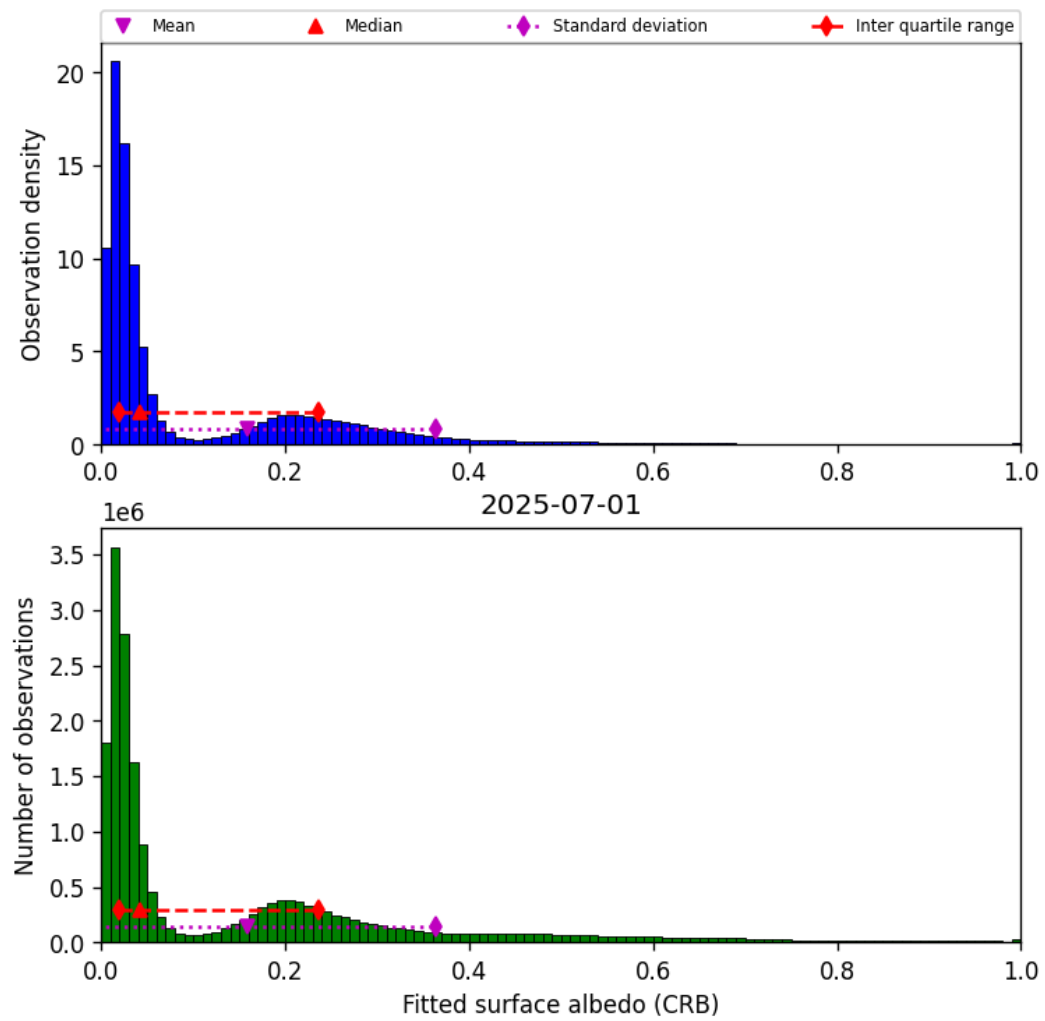


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-07-01 to 2025-07-02

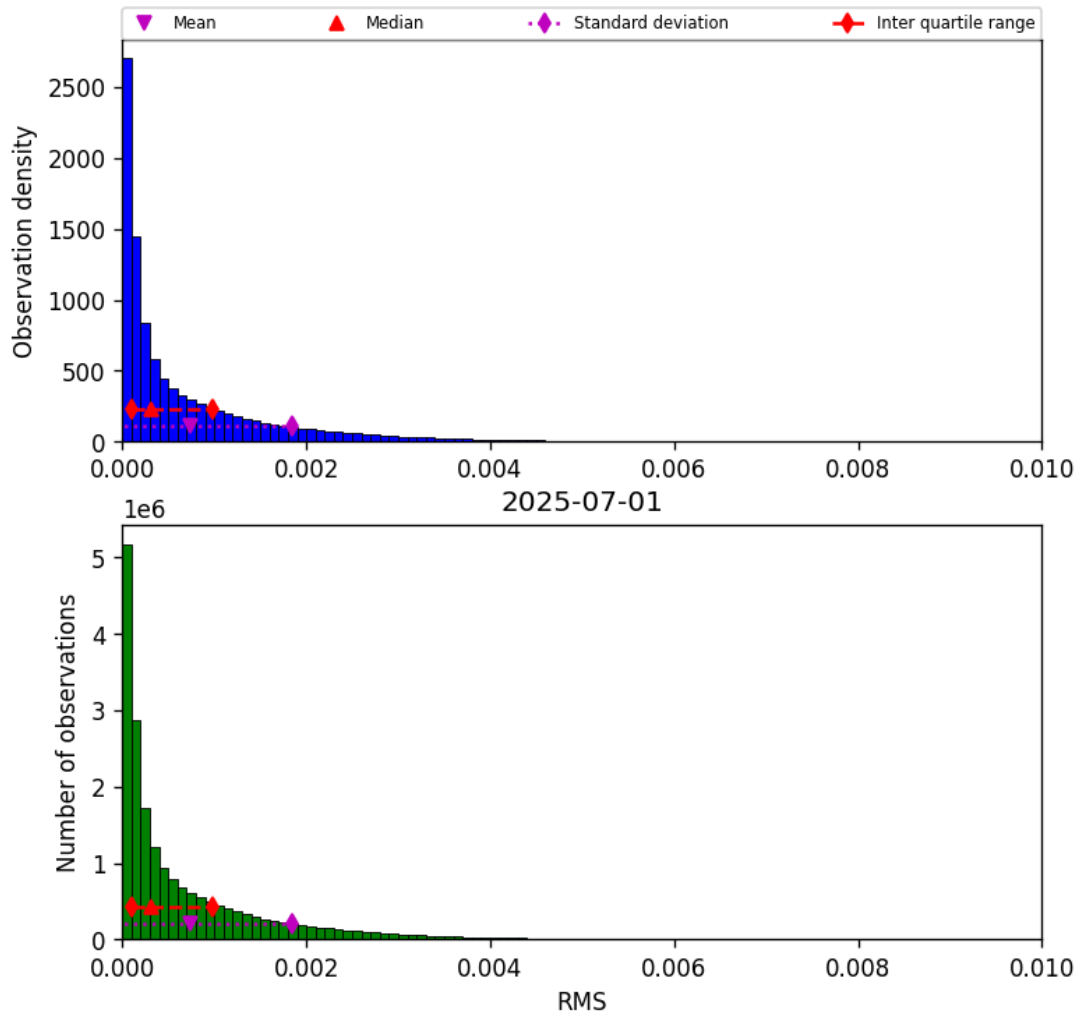


Figure 45: Histogram of “RMS” for 2025-07-01 to 2025-07-02

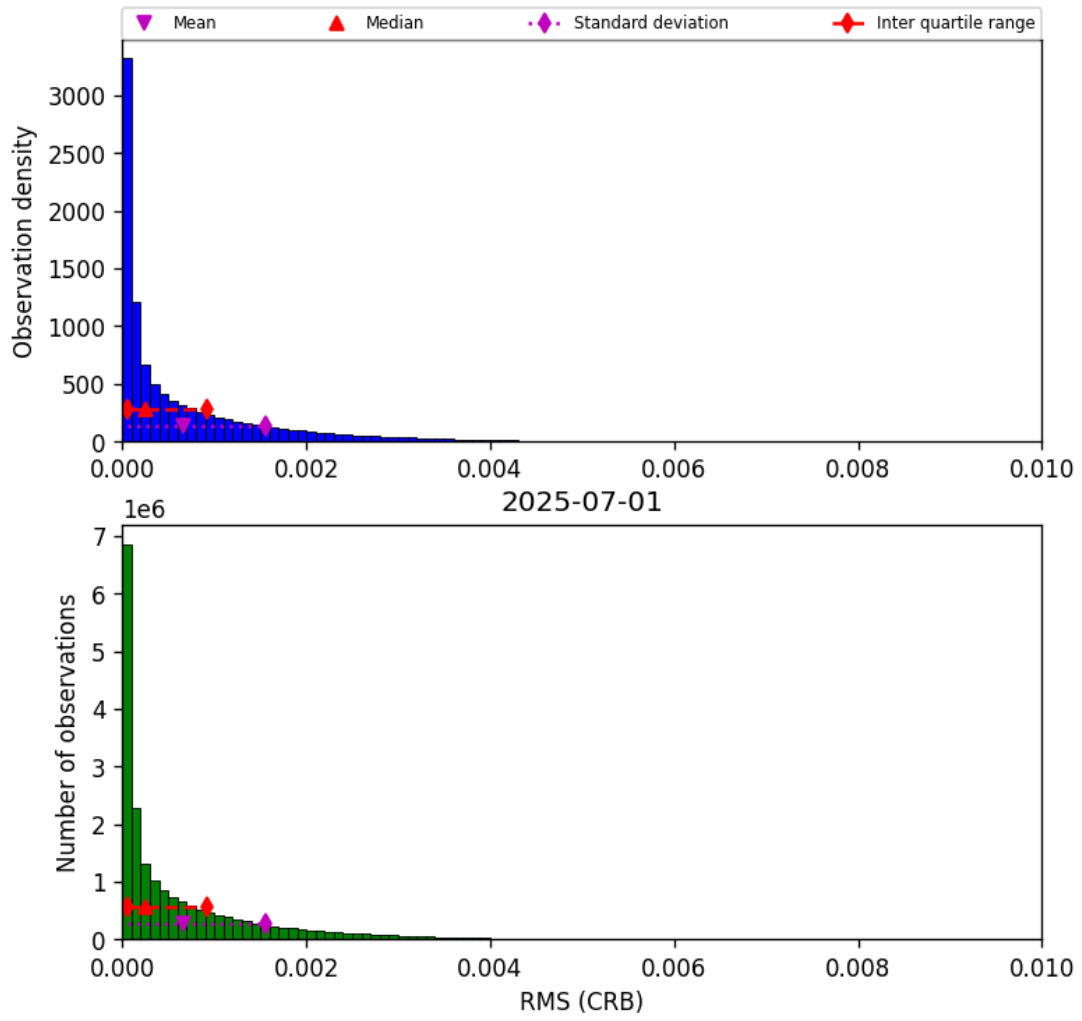


Figure 46: Histogram of “RMS (CRB)” for 2025-07-01 to 2025-07-02

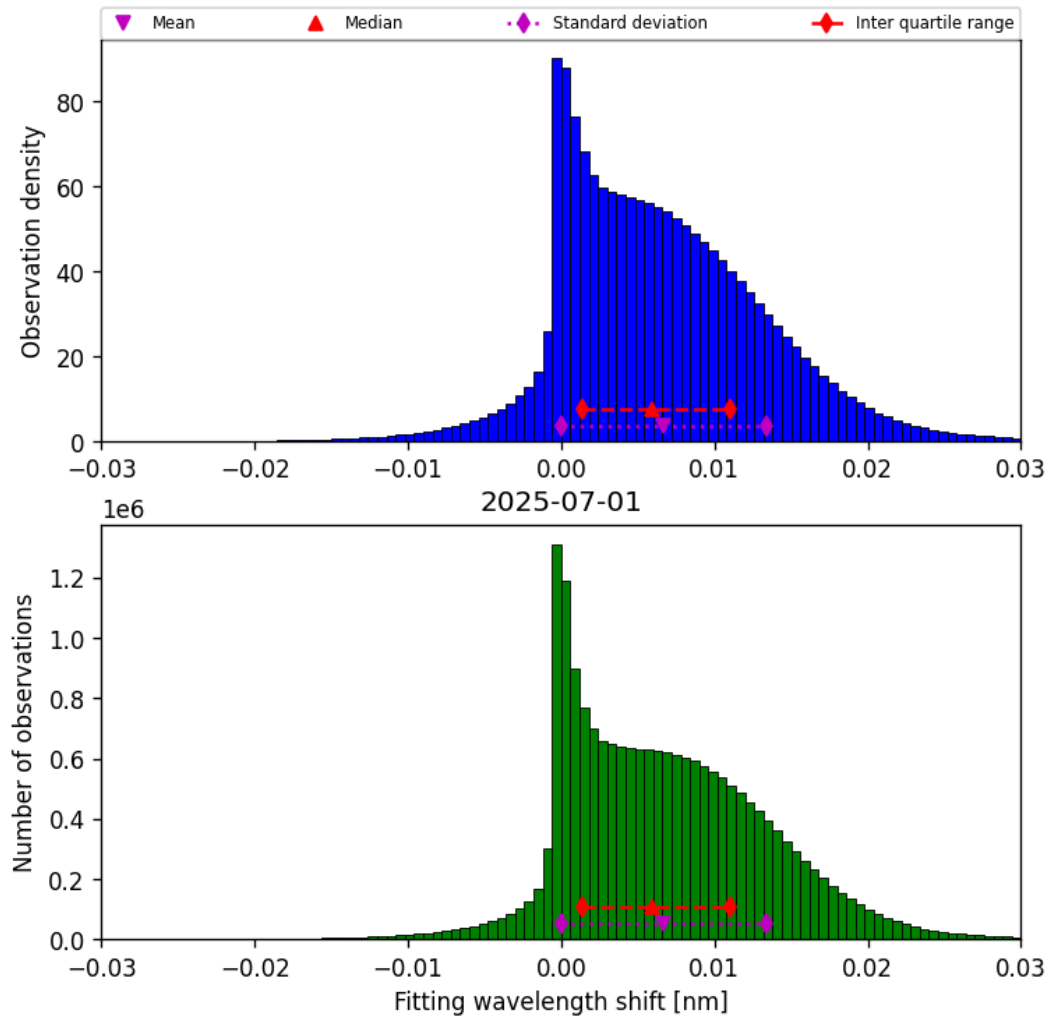


Figure 47: Histogram of “Fitting wavelength shift” for 2025-07-01 to 2025-07-02

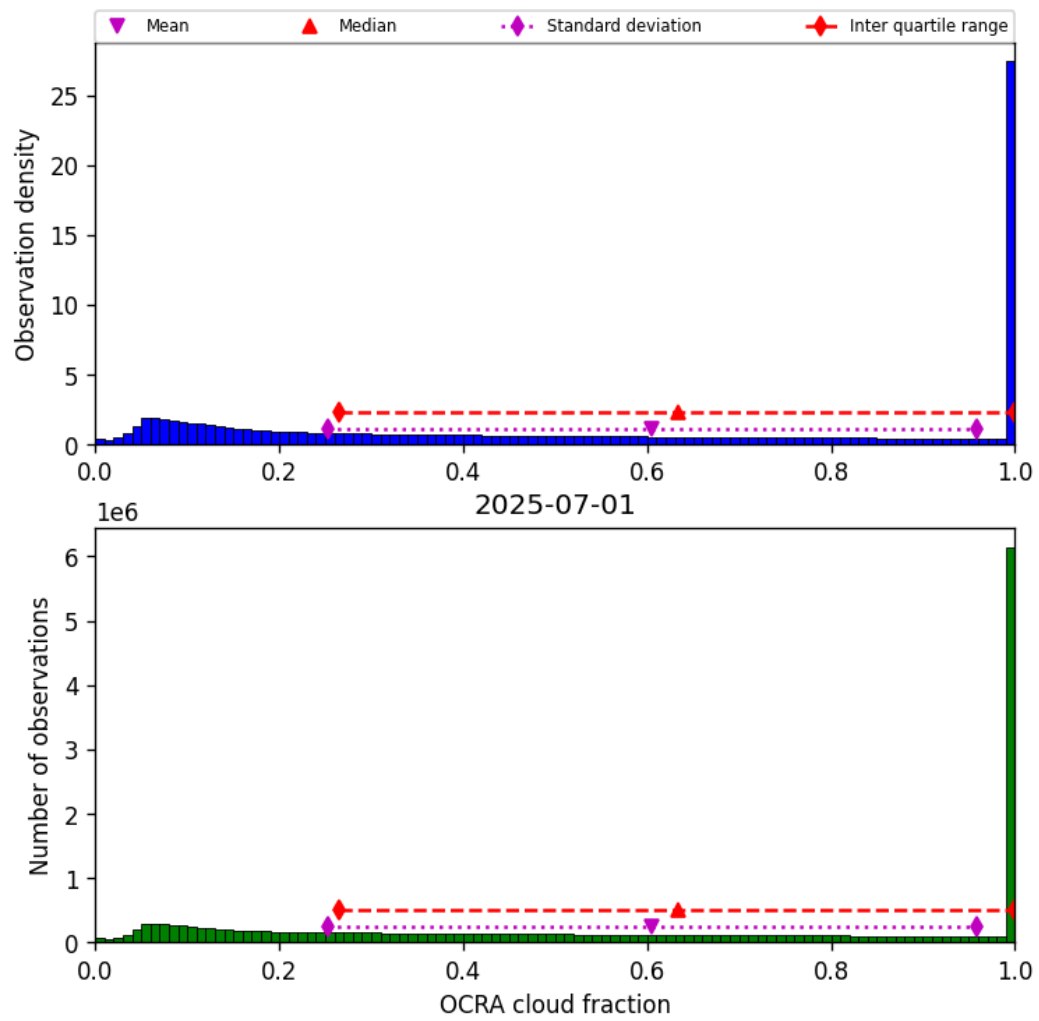


Figure 48: Histogram of “OCRA cloud fraction” for 2025-07-01 to 2025-07-02

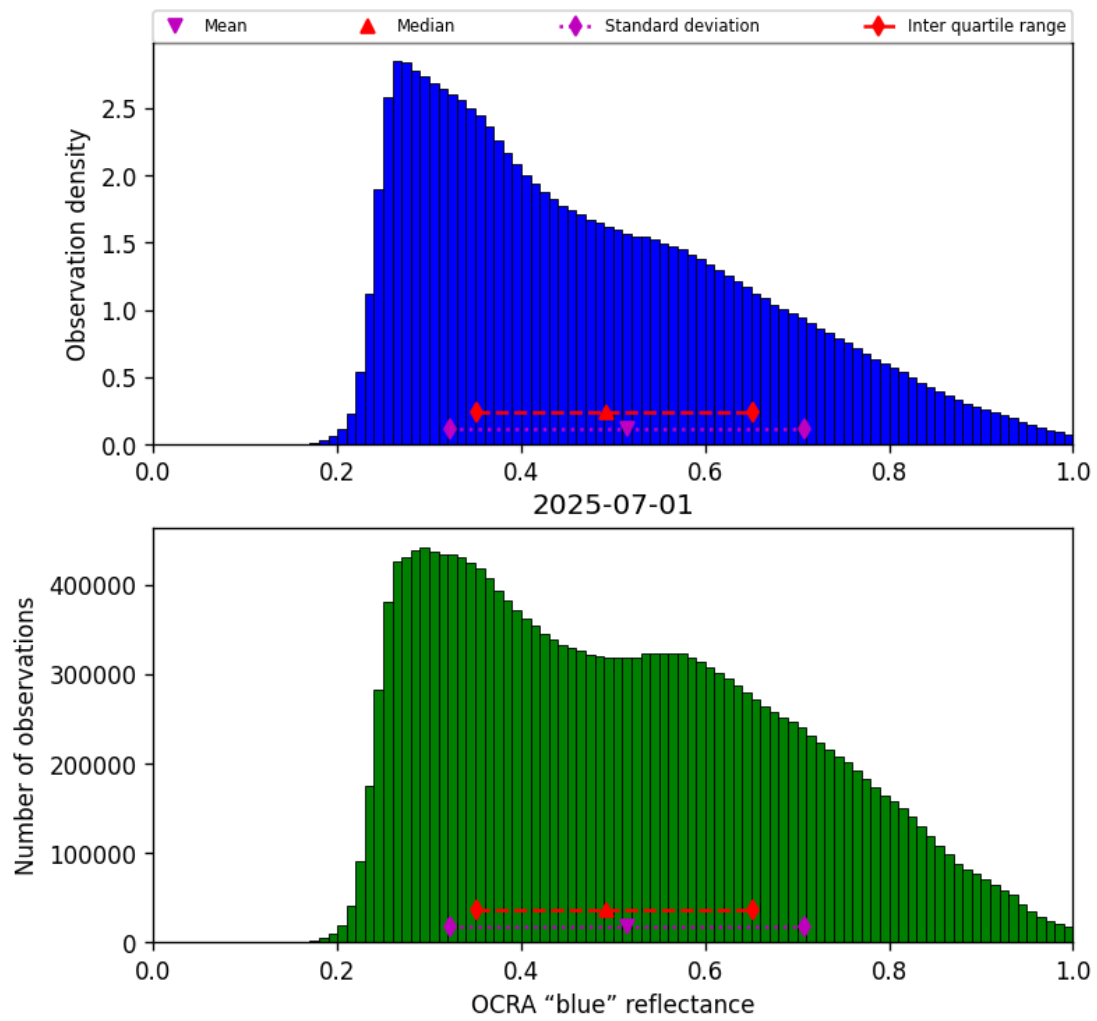


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-07-01 to 2025-07-02

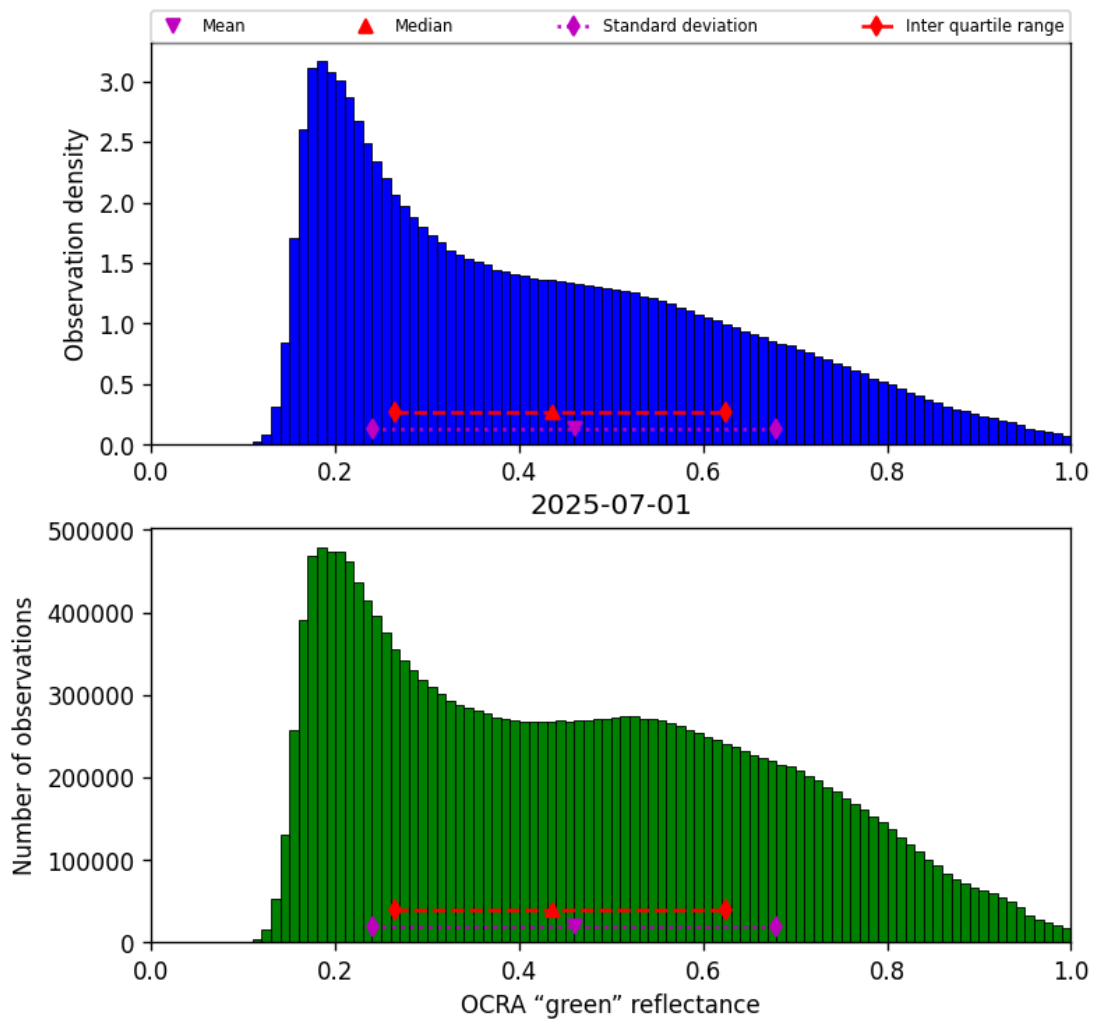


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-07-01 to 2025-07-02

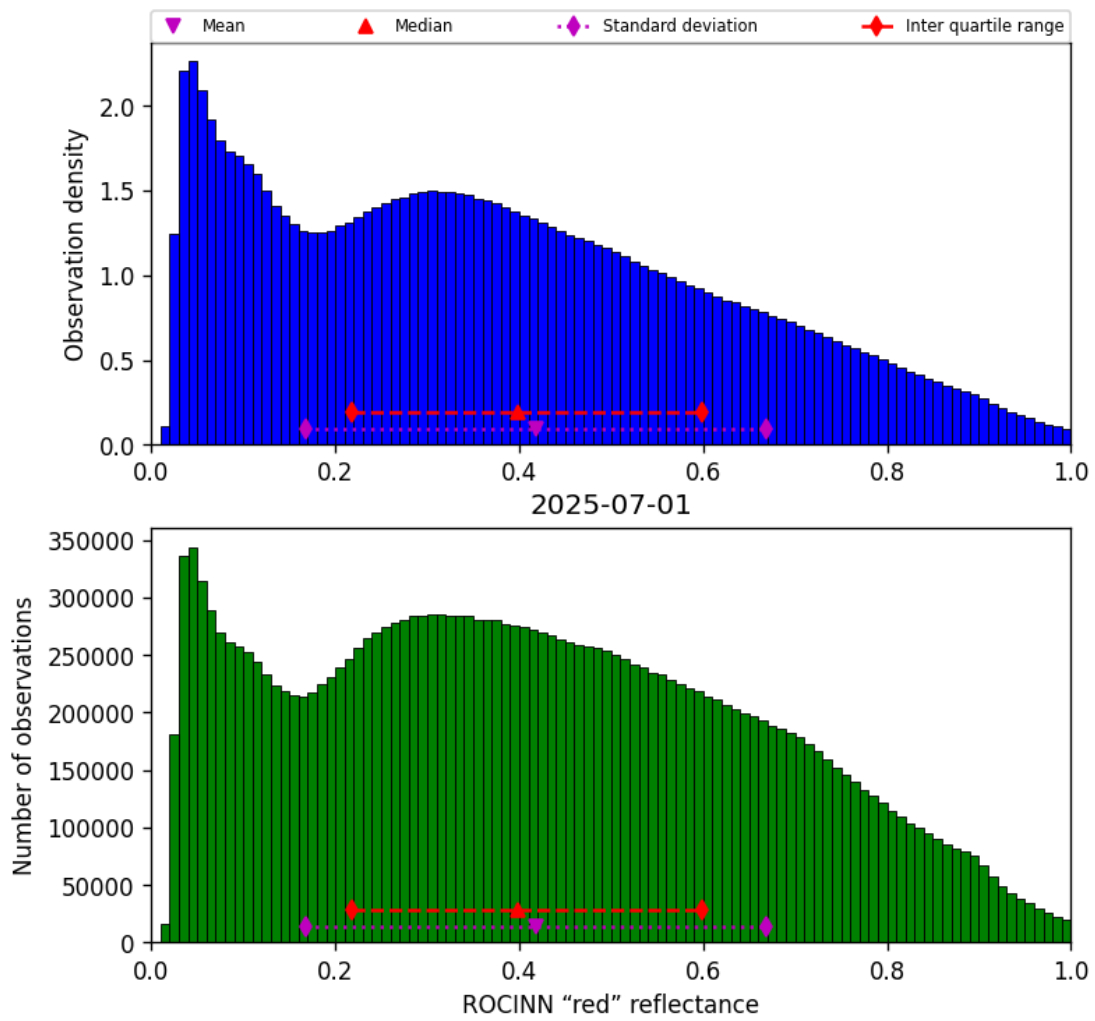


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-07-01 to 2025-07-02

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.

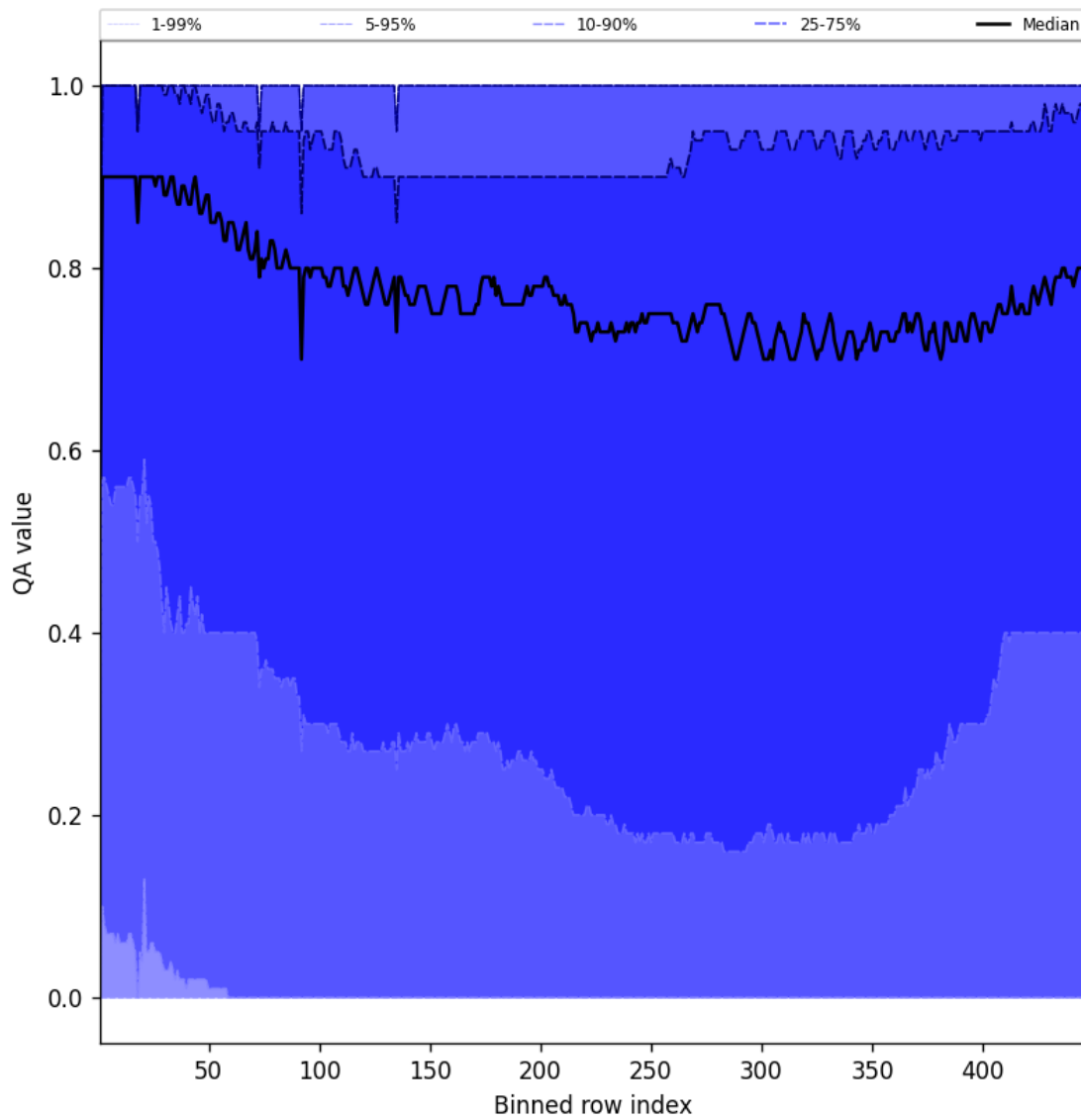


Figure 52: Along track statistics of “QA value” for 2025-07-01 to 2025-07-02

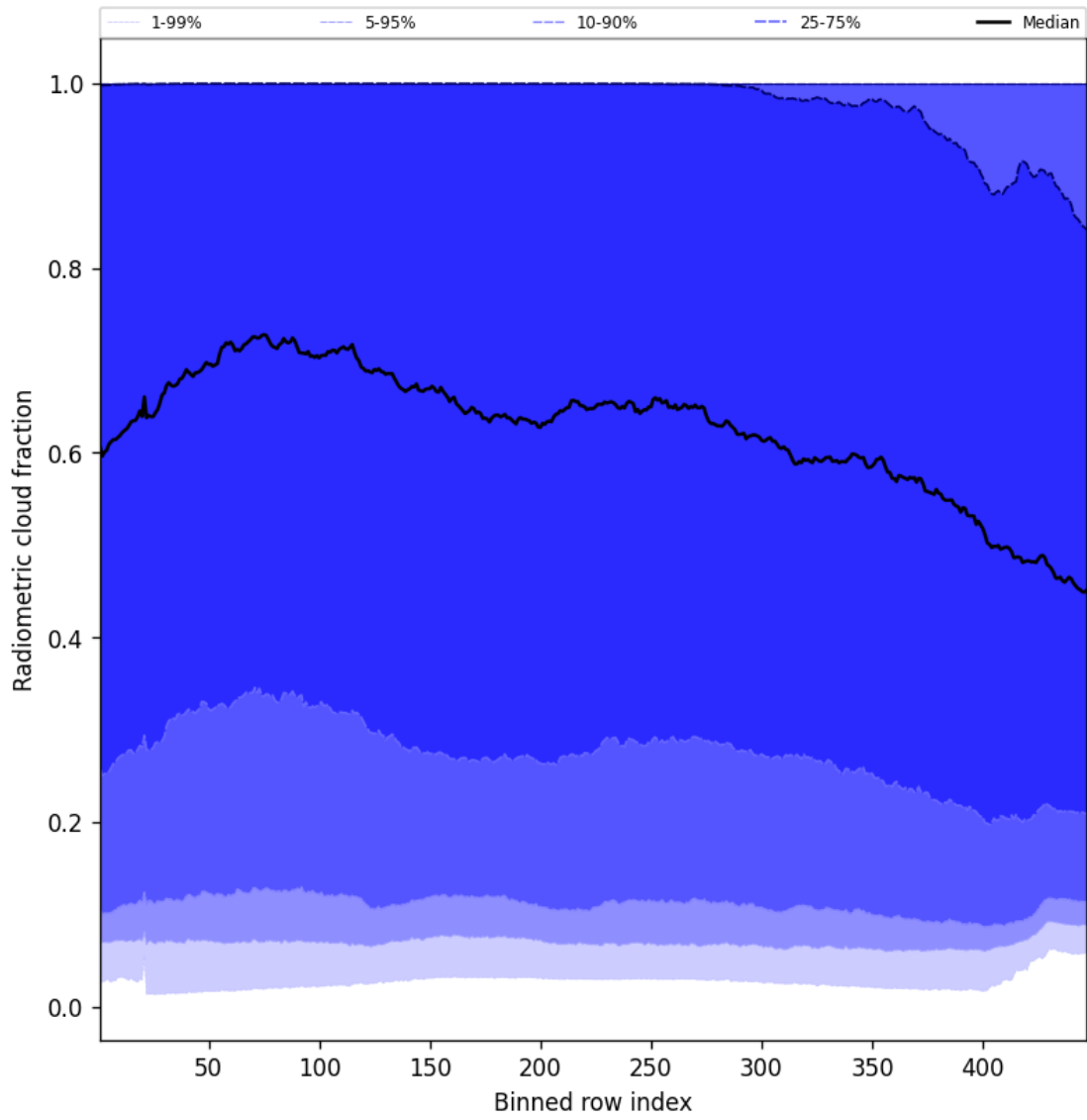


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-07-01 to 2025-07-02

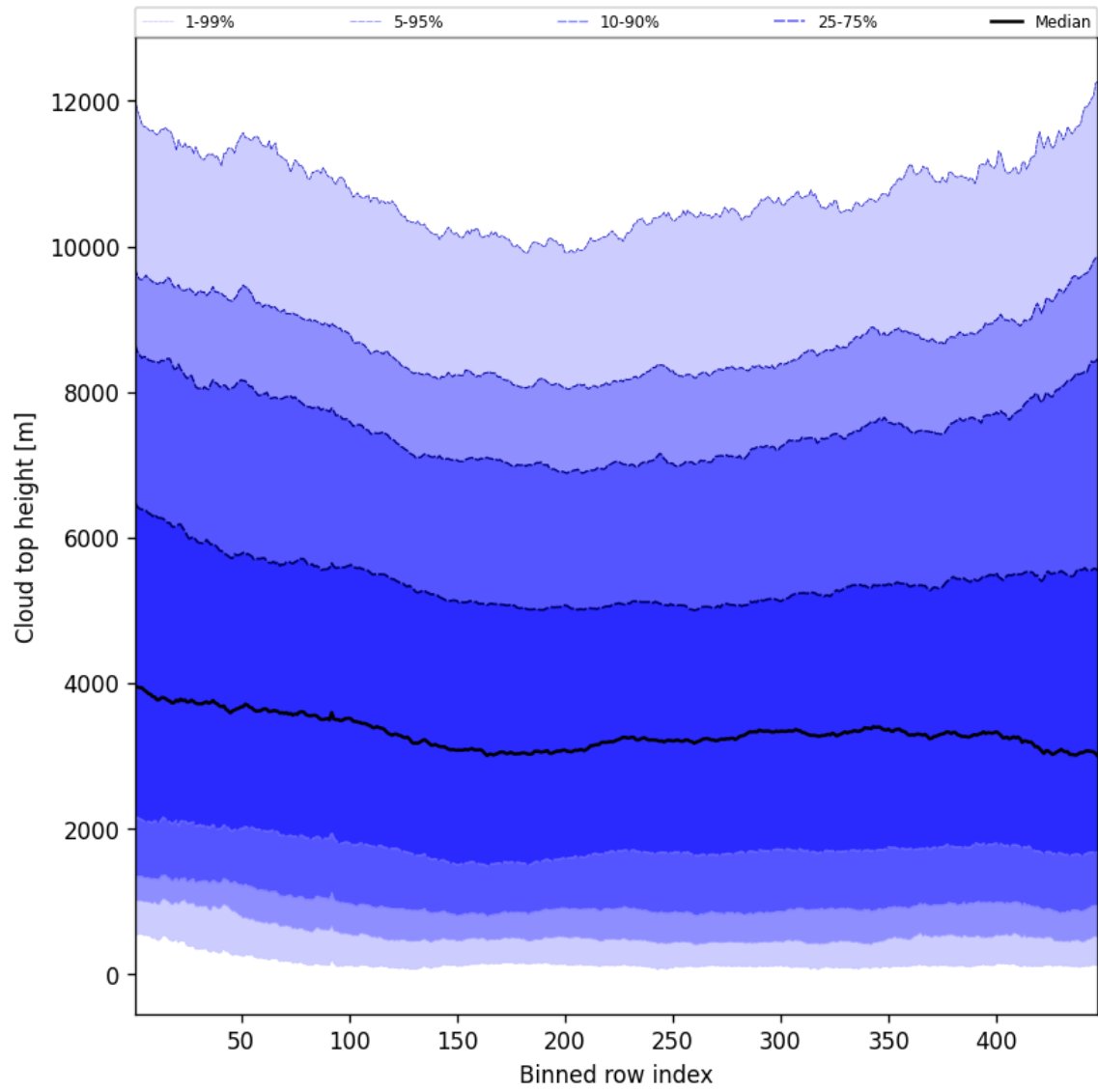


Figure 54: Along track statistics of “Cloud top height” for 2025-07-01 to 2025-07-02

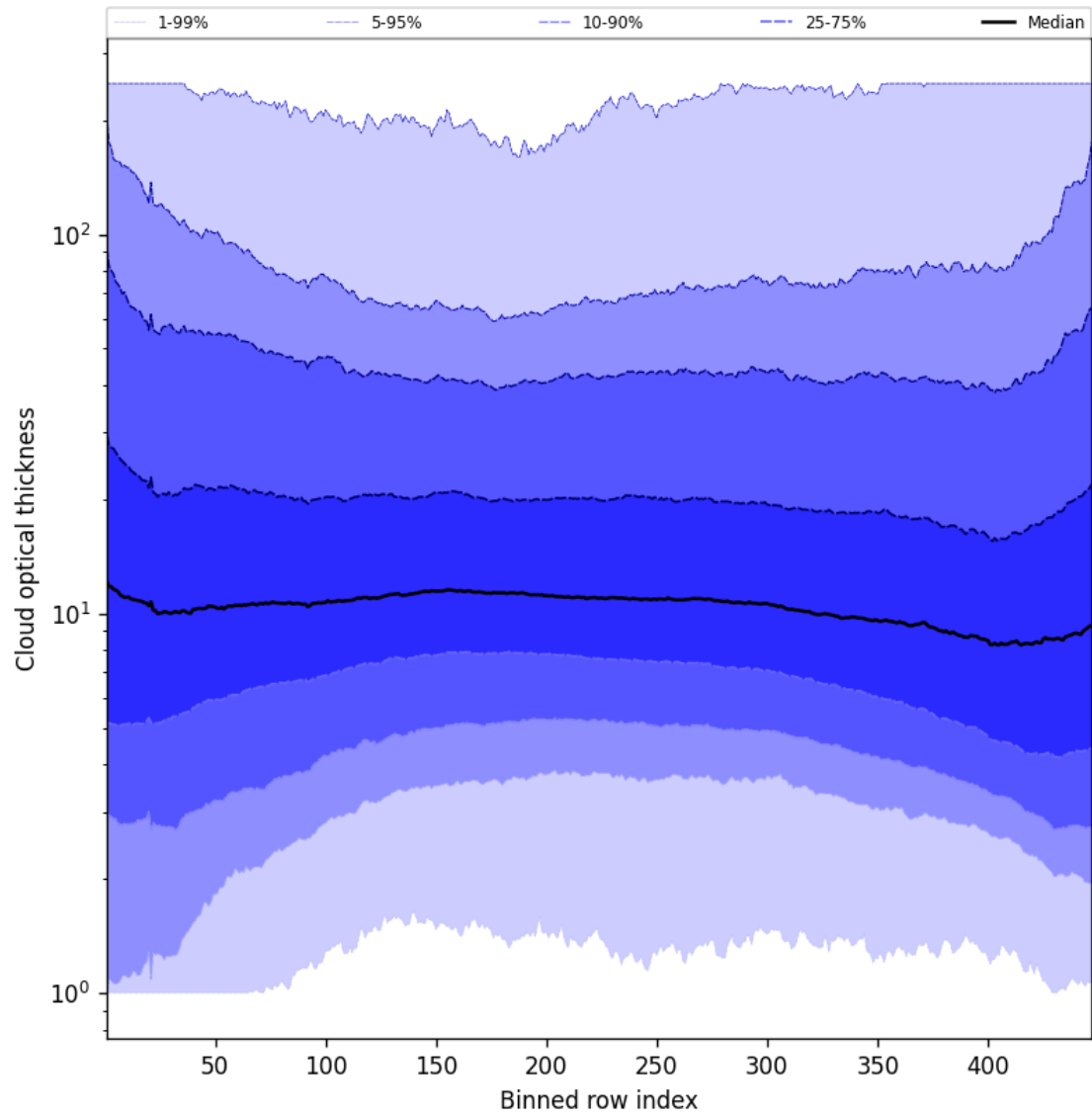


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-07-01 to 2025-07-02

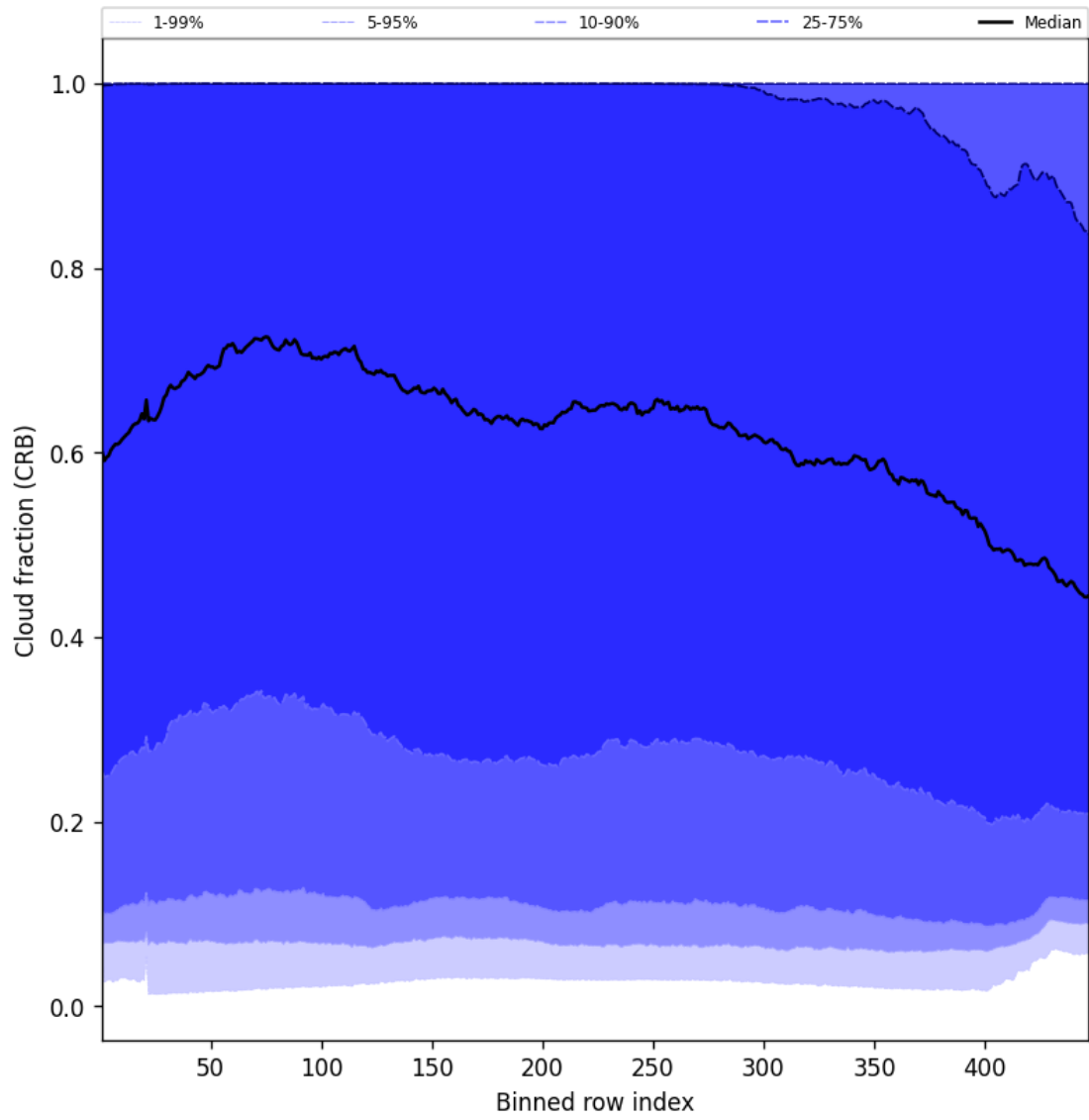


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-07-01 to 2025-07-02

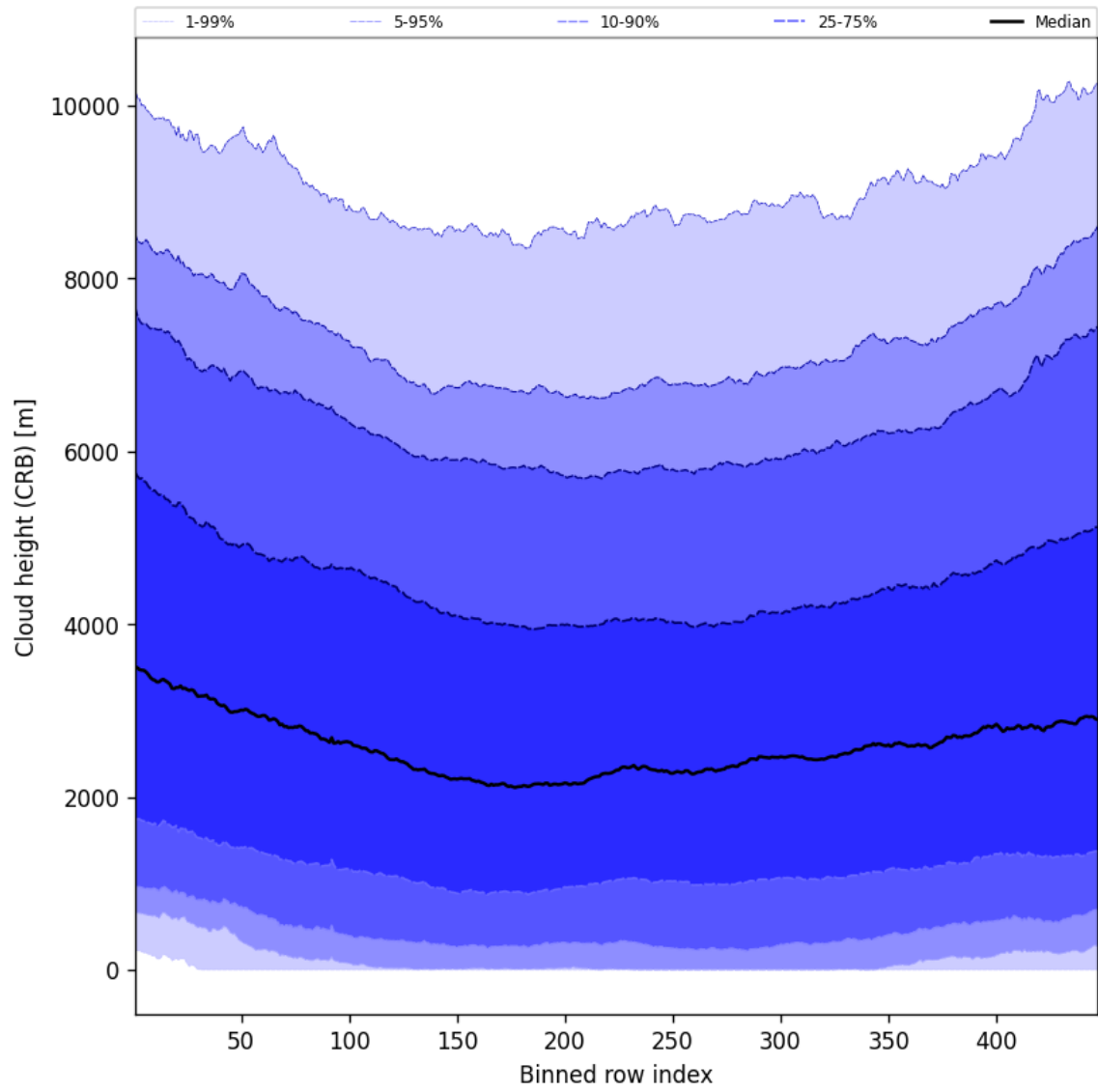


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-07-01 to 2025-07-02

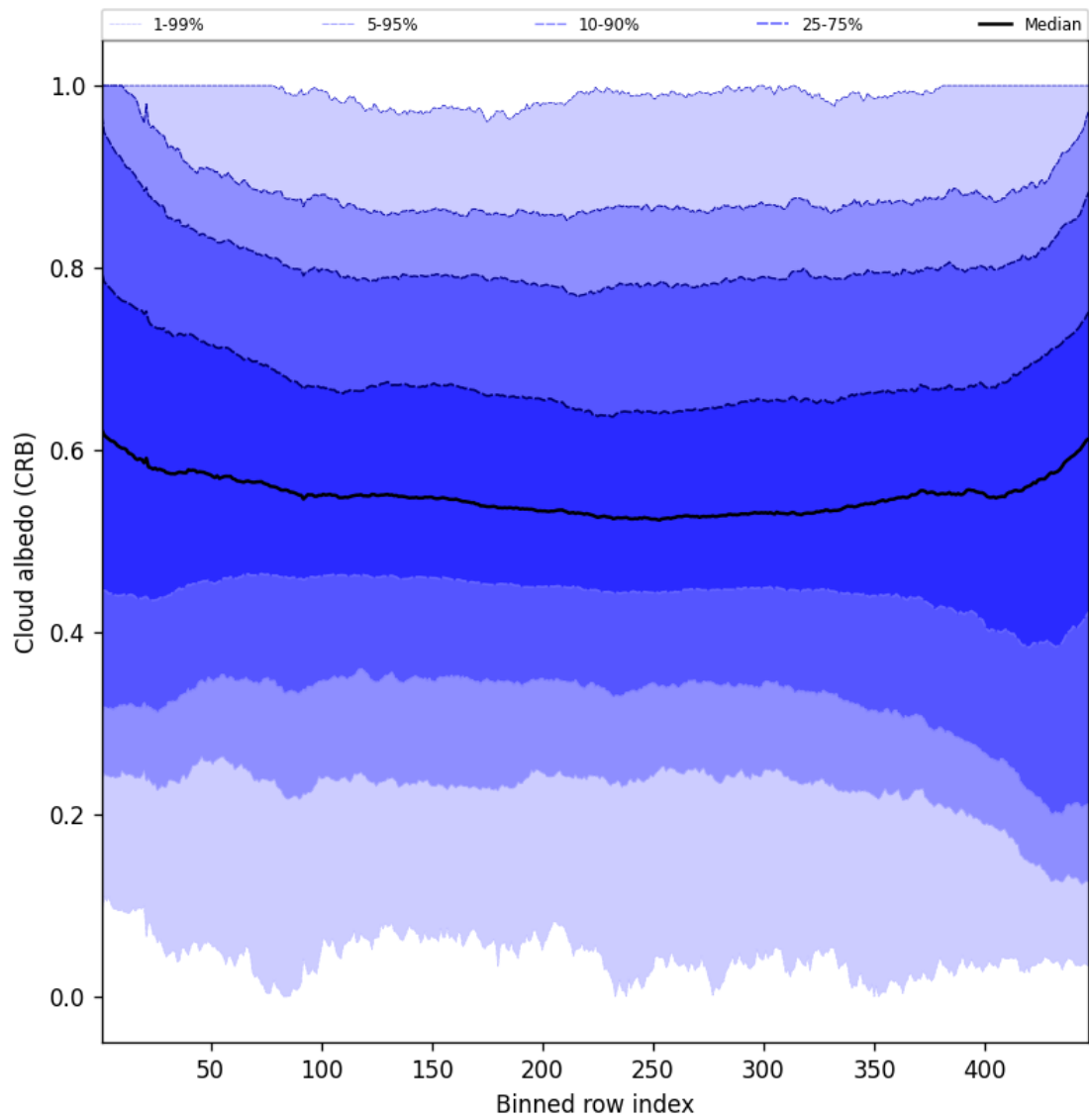


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-07-01 to 2025-07-02

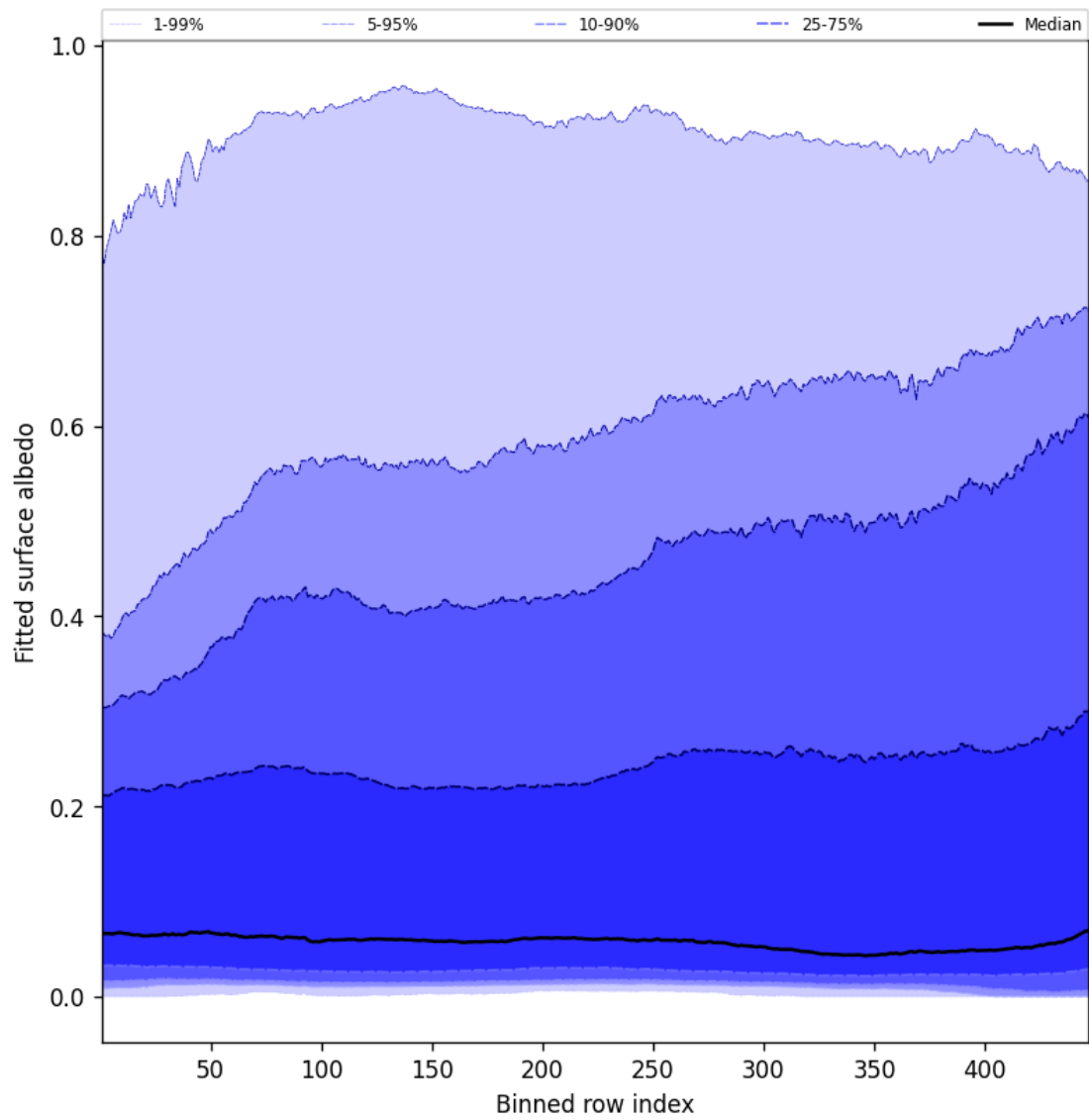


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-07-01 to 2025-07-02

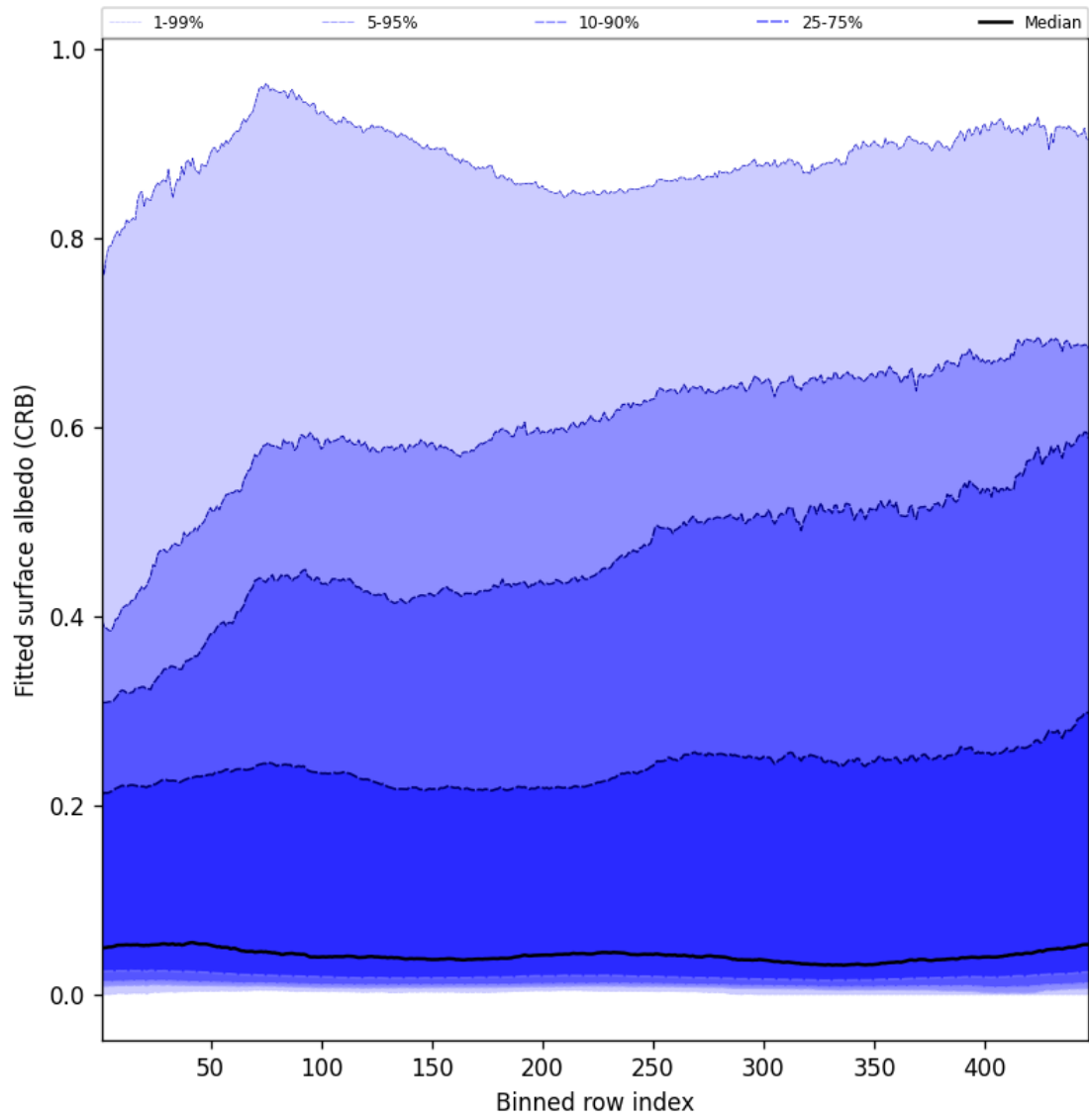


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-07-01 to 2025-07-02

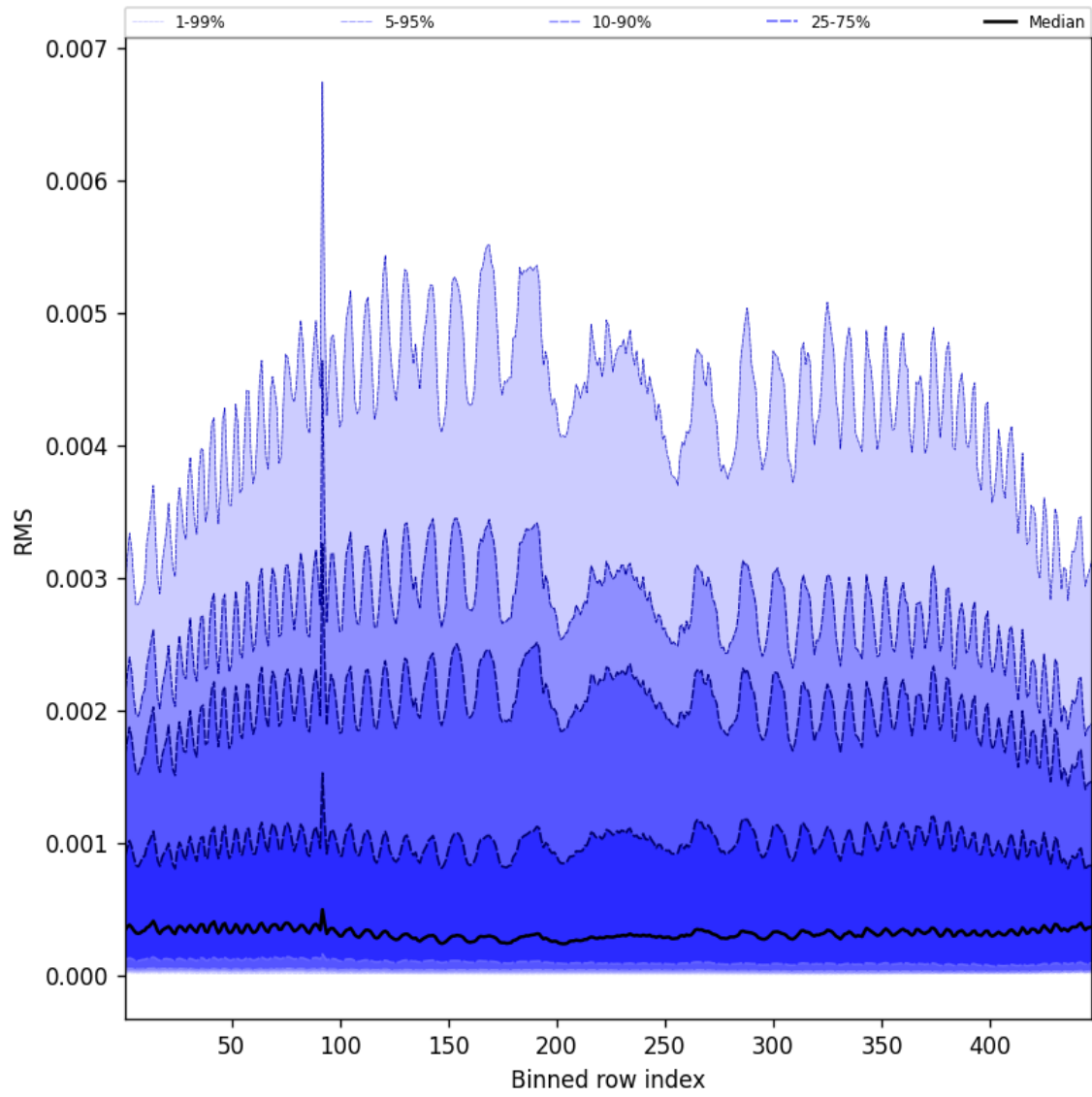


Figure 61: Along track statistics of “RMS” for 2025-07-01 to 2025-07-02

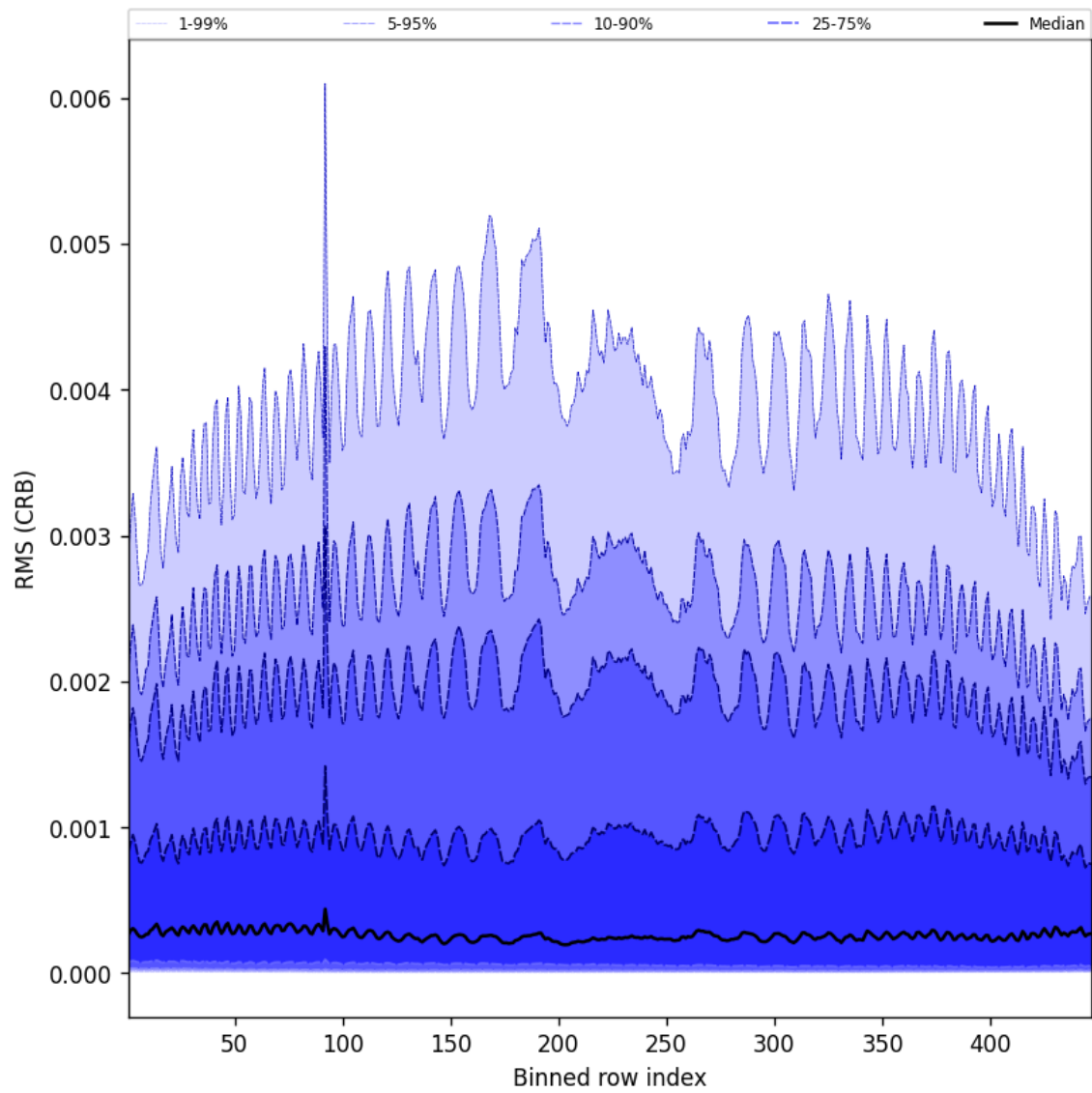


Figure 62: Along track statistics of “RMS (CRB)” for 2025-07-01 to 2025-07-02

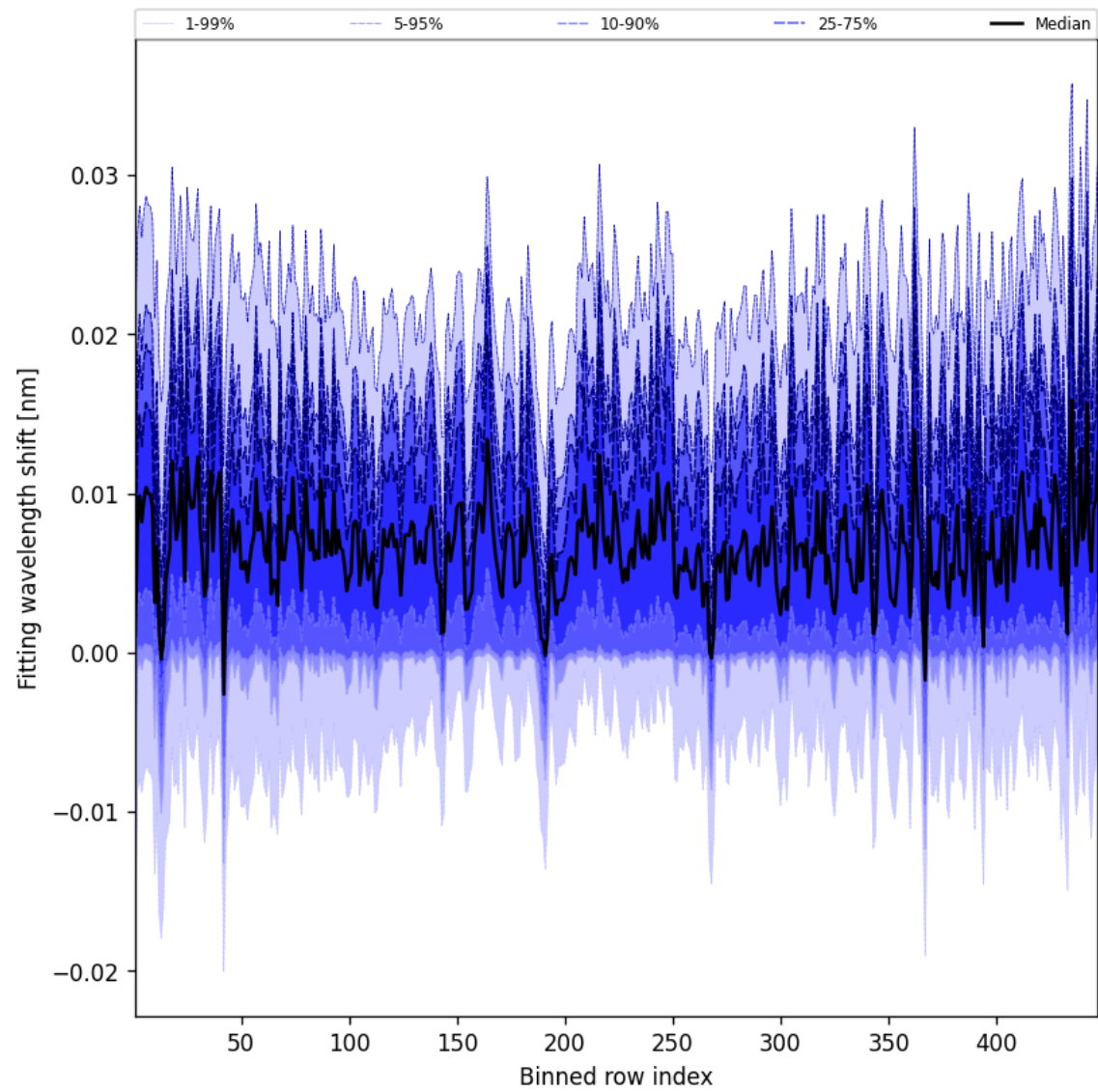


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-07-01 to 2025-07-02

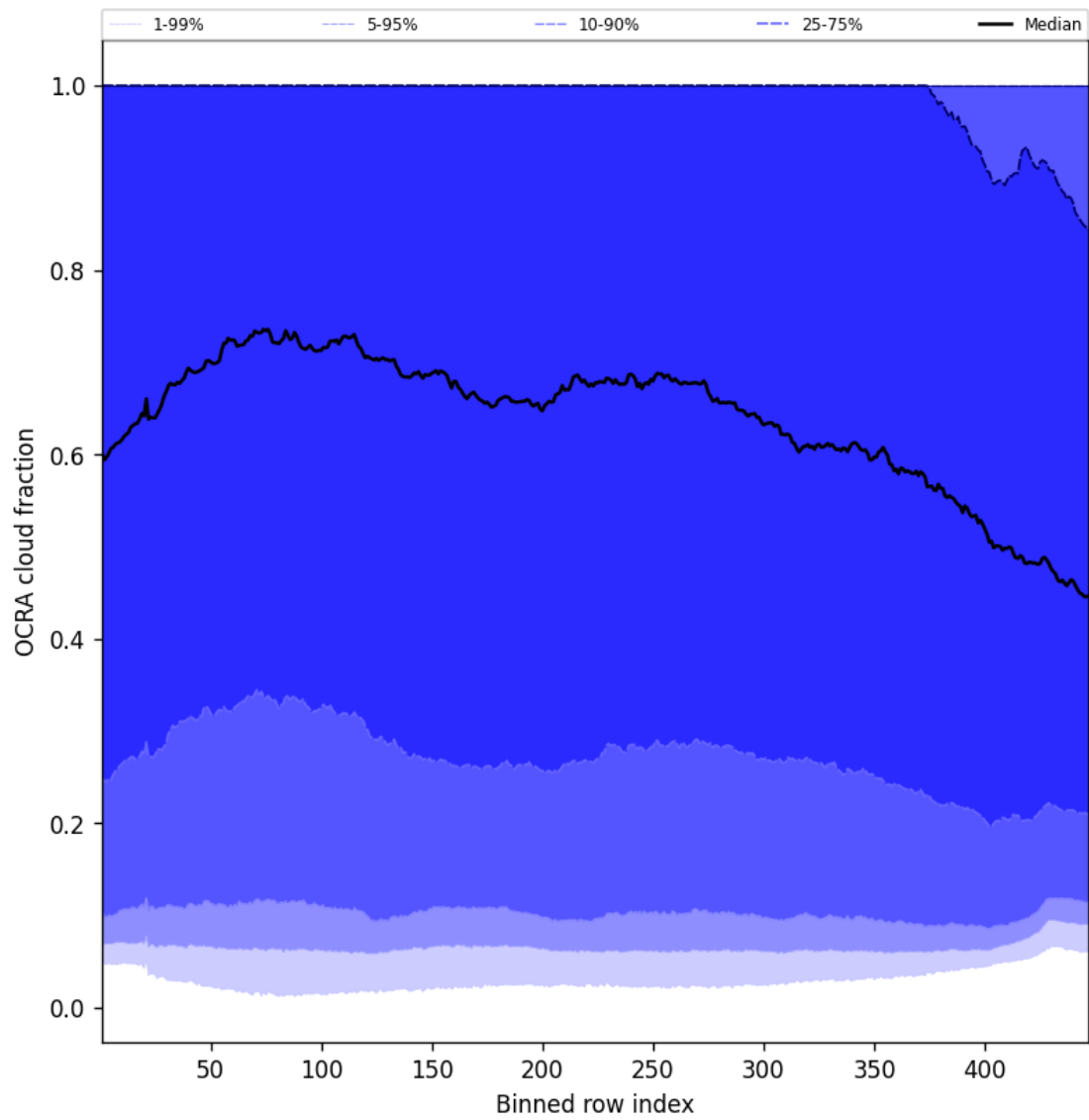


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-07-01 to 2025-07-02

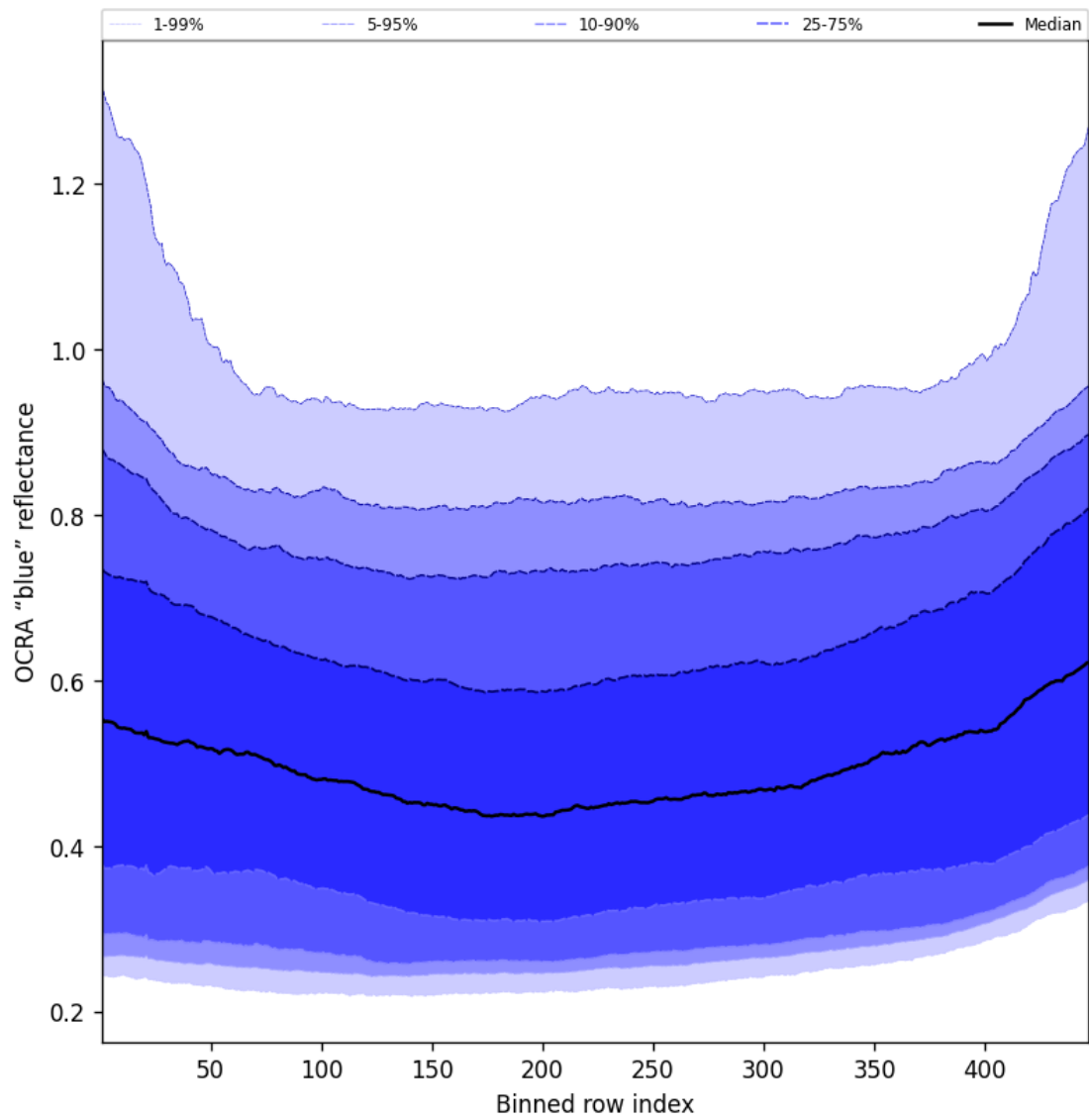


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-07-01 to 2025-07-02

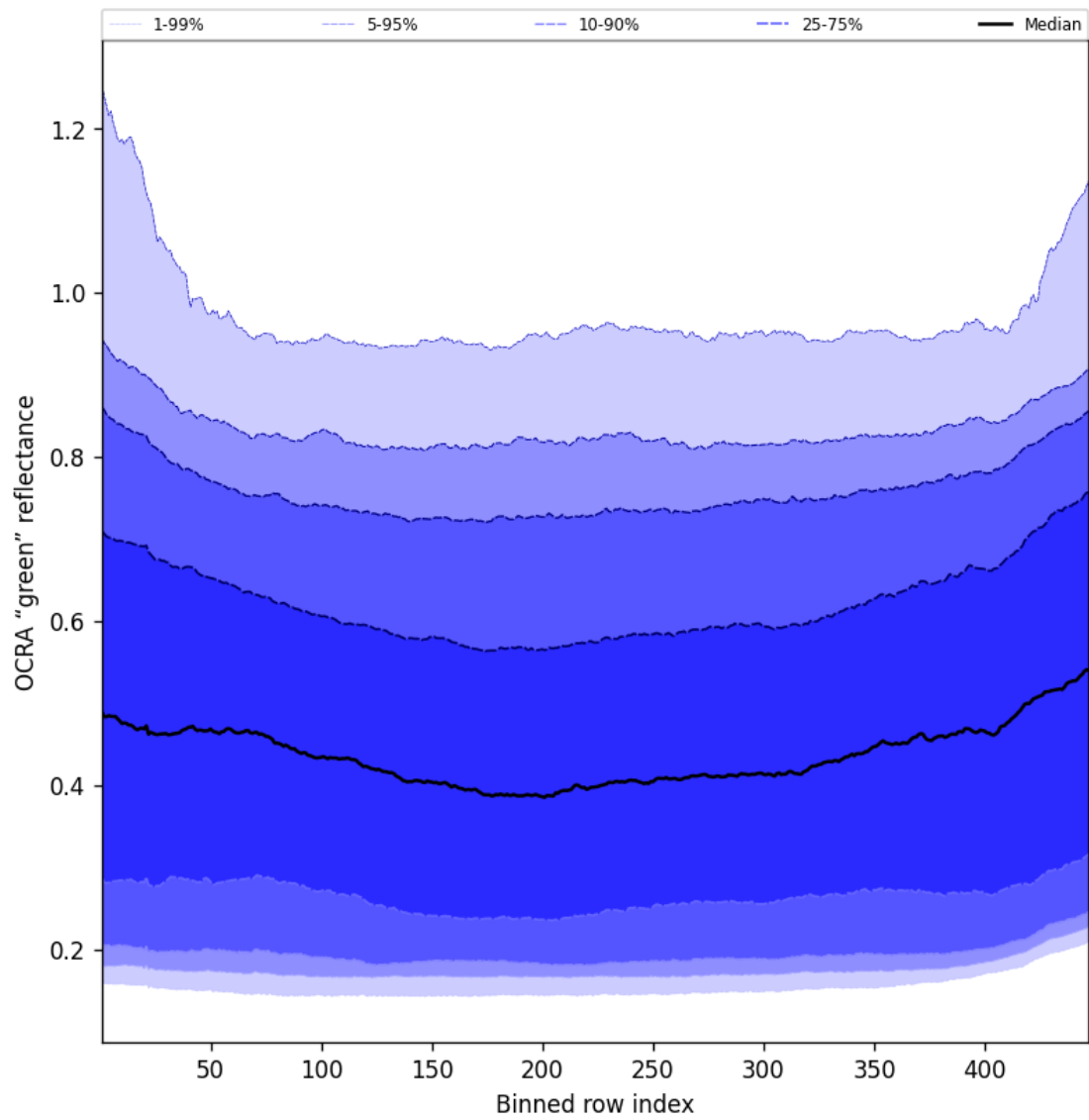


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-07-01 to 2025-07-02

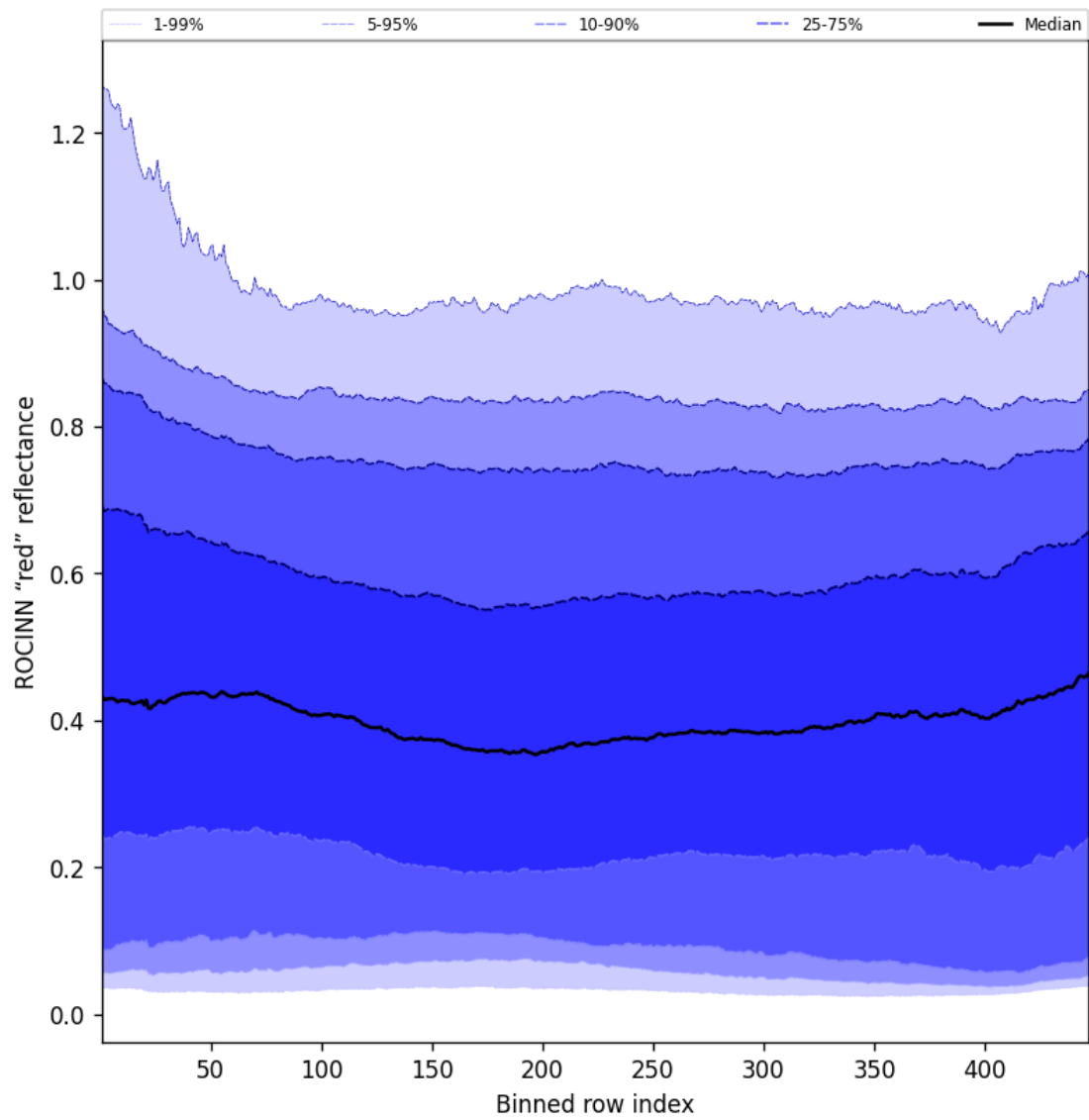


Figure 67: Along track statistics of "ROCINN "red" reflectance" for 2025-07-01 to 2025-07-02

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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