

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-15 (02:45)

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]	0.645 ± 0.375	18641048	0.995	0.610	0.850	0.0	1.000
cloud fraction [1]	0.566 ± 0.345	18641048	0.995	0.730	0.547	5.807×10^{-3}	1.000
cloud top height [m]	$(0.394 \pm 0.283) \times 10^4$	18641048	1.575×10^3	3.657×10^3	3.253×10^3	0.0	2.000×10^4
cloud optical thickness [1]	24.3 ± 46.0	18641048	9.77	12.1	10.2	1.000	250
cloud fraction crb [1]	0.565 ± 0.346	18641048	0.995	0.730	0.544	2.160×10^{-3}	1.000
cloud height crb [m]	$(0.315 \pm 0.240) \times 10^4$	18641048	975	3.224×10^3	2.624×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.584 ± 0.206	18641048	0.995	0.244	0.565	0.0	1.000
surface albedo fitted [1]	0.191 ± 0.243	18641048	2.500×10^{-2}	0.234	5.553×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.180 ± 0.232	18641048	1.500×10^{-2}	0.236	4.565×10^{-2}	0.0	1.000
fitted root mean square [1]	$(5.913 \pm 16.091) \times 10^{-4}$	18641048	5.000×10^{-5}	6.862×10^{-4}	3.445×10^{-4}	1.211×10^{-6}	1.47
fitted root mean square crb [1]	$(5.106 \pm 19.345) \times 10^{-4}$	18641048	5.000×10^{-5}	5.921×10^{-4}	2.475×10^{-4}	1.290×10^{-6}	2.63
wavelength shift [nm]	$(8.042 \pm 7.044) \times 10^{-3}$	18641048	-3.000×10^{-4}	9.925×10^{-3}	7.403×10^{-3}	-7.518×10^{-2}	0.741
cloud fraction apriori [1]	0.570 ± 0.351	18641048	0.995	0.767	0.553	0.0	1.000
reflectance blue ocra [1]	0.543 ± 0.220	18641048	0.275	0.356	0.514	0.123	1.98
reflectance green ocra [1]	0.488 ± 0.246	18641048	0.175	0.423	0.462	7.783×10^{-2}	2.01
reflectance continuum aband [1]	0.441 ± 0.269	18641048	4.500×10^{-2}	0.430	0.428	1.189×10^{-2}	4.92

Table 2: Percentile ranges

Variable	1 %	5 %	10 %	15.9 %	25 %	75 %	84.1 %	90 %	95 %	99 %
qa value [1]	0.0	0.0	0.0	0.0	0.360	0.970	1.000	1.000	1.000	1.000
cloud fraction [1]	2.619×10^{-2}	6.740×10^{-2}	0.104	0.150	0.239	0.969	1.000	1.000	1.000	1.000
cloud top height [m]	298	760	1.086×10^3	1.374×10^3	1.768×10^3	5.425×10^3	6.676×10^3	7.803×10^3	9.277×10^3	1.293×10^4
cloud optical thickness [1]	1.09	2.91	3.98	4.94	6.30	18.4	28.8	46.0	102	250
cloud fraction crb [1]	2.569×10^{-2}	6.660×10^{-2}	0.103	0.150	0.238	0.968	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	365	638	885	1.232×10^3	4.457×10^3	5.550×10^3	6.525×10^3	7.797×10^3	1.026×10^4
cloud albedo crb [1]	5.826×10^{-2}	0.240	0.348	0.412	0.463	0.707	0.794	0.881	0.997	1.000
surface albedo fitted [1]	0.0	8.469×10^{-3}	1.417×10^{-2}	1.892×10^{-2}	2.596×10^{-2}	0.260	0.476	0.634	0.738	0.910
surface albedo fitted crb [1]	0.0	6.727×10^{-3}	1.063×10^{-2}	1.424×10^{-2}	1.984×10^{-2}	0.256	0.465	0.596	0.686	0.864
fitted root mean square [1]	1.400×10^{-5}	2.760×10^{-5}	4.455×10^{-5}	6.963×10^{-5}	1.183×10^{-4}	8.044×10^{-4}	1.114×10^{-3}	1.438×10^{-3}	1.934×10^{-3}	3.115×10^{-3}
fitted root mean square crb [1]	7.325×10^{-6}	1.685×10^{-5}	2.926×10^{-5}	4.653×10^{-5}	8.130×10^{-5}	6.734×10^{-4}	9.970×10^{-4}	1.342×10^{-3}	1.858×10^{-3}	2.977×10^{-3}
wavelength shift [nm]	-7.074×10^{-3}	-6.132×10^{-4}	1.660×10^{-4}	1.049×10^{-3}	2.666×10^{-3}	1.259×10^{-2}	1.511×10^{-2}	1.730×10^{-2}	2.021×10^{-2}	2.651×10^{-2}
cloud fraction apriori [1]	2.793×10^{-2}	6.391×10^{-2}	9.722×10^{-2}	0.143	0.233	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.255	0.278	0.307	0.353	0.710	0.780	0.834	0.908	1.11
reflectance green ocra [1]	0.149	0.170	0.189	0.214	0.261	0.684	0.763	0.820	0.896	1.07
reflectance continuum aband [1]	2.906×10^{-2}	5.098×10^{-2}	8.365×10^{-2}	0.130	0.215	0.645	0.730	0.795	0.876	1.05

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]	0.645 ± 0.377	10434657	0.610	0.850	0.0	1.000	0.350	0.960
cloud fraction [1]	0.594 ± 0.352	10434657	0.750	0.611	5.807×10^{-3}	1.000	0.249	0.999
cloud top height [m]	$(0.391 \pm 0.252) \times 10^4$	10434657	3.485×10^3	3.453×10^3	0.0	2.000×10^4	1.899×10^3	5.385×10^3
cloud optical thickness [1]	20.5 ± 35.6	10434657	12.1	9.86	1.000	250	6.16	18.3
cloud fraction crb [1]	0.594 ± 0.353	10434657	0.750	0.610	2.160×10^{-3}	1.000	0.248	0.998
cloud height crb [m]	$(0.317 \pm 0.219) \times 10^4$	10434657	3.024×10^3	2.842×10^3	0.0	2.000×10^4	1.378×10^3	4.402×10^3
cloud albedo crb [1]	0.566 ± 0.198	10434657	0.241	0.556	0.0	1.000	0.450	0.691
surface albedo fitted [1]	0.175 ± 0.207	10434657	0.218	8.023×10^{-2}	0.0	1.000	2.710×10^{-2}	0.245
surface albedo fitted crb [1]	0.169 ± 0.203	10434657	0.221	6.892×10^{-2}	0.0	1.000	2.119×10^{-2}	0.242
fitted root mean square [1]	$(6.061 \pm 20.666) \times 10^{-4}$	10434657	6.911×10^{-4}	3.161×10^{-4}	1.211×10^{-6}	1.47	1.142×10^{-4}	8.053×10^{-4}
fitted root mean square crb [1]	$(5.522 \pm 25.354) \times 10^{-4}$	10434657	6.669×10^{-4}	2.452×10^{-4}	1.290×10^{-6}	2.63	7.364×10^{-5}	7.406×10^{-4}
wavelength shift [nm]	$(7.682 \pm 6.920) \times 10^{-3}$	10434657	9.719×10^{-3}	6.971×10^{-3}	-7.518×10^{-2}	0.741	2.364×10^{-3}	1.208×10^{-2}
cloud fraction apriori [1]	0.599 ± 0.358	10434657	0.755	0.621	0.0	1.000	0.245	1.000
reflectance blue ocrs [1]	0.529 ± 0.214	10434657	0.338	0.503	0.123	1.98	0.346	0.684
reflectance green ocrs [1]	0.474 ± 0.238	10434657	0.403	0.449	7.783×10^{-2}	2.01	0.255	0.658
reflectance continuum aband [1]	0.437 ± 0.261	10434657	0.397	0.420	1.189×10^{-2}	4.92	0.229	0.626

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]	0.645 ± 0.373	8206391	0.580	0.850	0.0	1.000	0.400	0.980
cloud fraction [1]	0.530 ± 0.333	8206391	0.650	0.483	7.146×10^{-3}	1.000	0.229	0.879
cloud top height [m]	$(0.397 \pm 0.318) \times 10^4$	8206391	3.838×10^3	2.970×10^3	0.0	2.000×10^4	1.657×10^3	5.495×10^3
cloud optical thickness [1]	29.0 ± 56.1	8206391	12.1	10.6	1.000	250	6.49	18.6
cloud fraction crb [1]	0.529 ± 0.333	8206391	0.649	0.480	8.473×10^{-3}	1.000	0.228	0.877
cloud height crb [m]	$(0.312 \pm 0.264) \times 10^4$	8206391	3.435×10^3	2.291×10^3	0.0	2.000×10^4	1.117×10^3	4.552×10^3
cloud albedo crb [1]	0.607 ± 0.212	8206391	0.255	0.576	0.0	1.000	0.477	0.732
surface albedo fitted [1]	0.211 ± 0.282	8206391	0.315	4.496×10^{-2}	0.0	1.000	2.495×10^{-2}	0.340
surface albedo fitted crb [1]	0.194 ± 0.263	8206391	0.313	3.644×10^{-2}	0.0	1.000	1.856×10^{-2}	0.332
fitted root mean square [1]	$(5.725 \pm 6.708) \times 10^{-4}$	8206391	6.782×10^{-4}	3.790×10^{-4}	2.178×10^{-6}	0.109	1.253×10^{-4}	8.035×10^{-4}
fitted root mean square crb [1]	$(4.578 \pm 5.678) \times 10^{-4}$	8206391	5.142×10^{-4}	2.499×10^{-4}	2.555×10^{-6}	5.826×10^{-2}	9.095×10^{-5}	6.051×10^{-4}
wavelength shift [nm]	$(8.500 \pm 7.173) \times 10^{-3}$	8206391	1.013×10^{-2}	7.988×10^{-3}	-4.299×10^{-2}	6.617×10^{-2}	3.066×10^{-3}	1.320×10^{-2}
cloud fraction apriori [1]	0.532 ± 0.339	8206391	0.677	0.486	0.0	1.000	0.222	0.899
reflectance blue ocra [1]	0.560 ± 0.226	8206391	0.379	0.530	0.133	1.98	0.364	0.743
reflectance green ocra [1]	0.505 ± 0.255	8206391	0.448	0.479	8.095×10^{-2}	1.95	0.269	0.717
reflectance continuum aband [1]	0.445 ± 0.278	8206391	0.472	0.441	1.276×10^{-2}	4.33	0.196	0.668

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]	0.654 ± 0.365	12932463	0.560	0.850	0.0	1.000	0.400	0.960
cloud fraction [1]	0.561 ± 0.344	12932463	0.717	0.545	6.986×10^{-3}	1.000	0.233	0.950
cloud top height [m]	$(0.371 \pm 0.271) \times 10^4$	12932463	3.338×10^3	3.022×10^3	0.0	2.000×10^4	1.675×10^3	5.013×10^3
cloud optical thickness [1]	24.9 ± 45.6	12932463	12.2	10.8	1.000	250	7.07	19.2
cloud fraction crb [1]	0.559 ± 0.344	12932463	0.717	0.542	6.526×10^{-3}	1.000	0.231	0.948
cloud height crb [m]	$(0.296 \pm 0.234) \times 10^4$	12932463	3.047×10^3	2.413×10^3	0.0	2.000×10^4	1.125×10^3	4.172×10^3
cloud albedo crb [1]	0.564 ± 0.193	12932463	0.219	0.548	0.0	1.000	0.454	0.673
surface albedo fitted [1]	0.124 ± 0.212	12932463	4.339×10^{-2}	3.475×10^{-2}	0.0	1.000	2.019×10^{-2}	6.359×10^{-2}
surface albedo fitted crb [1]	0.114 ± 0.202	12932463	3.758×10^{-2}	2.723×10^{-2}	0.0	1.000	1.521×10^{-2}	5.279×10^{-2}
fitted root mean square [1]	$(5.045 \pm 16.291) \times 10^{-4}$	12932463	5.858×10^{-4}	2.499×10^{-4}	1.211×10^{-6}	1.31	8.573×10^{-5}	6.715×10^{-4}
fitted root mean square crb [1]	$(4.369 \pm 17.112) \times 10^{-4}$	12932463	4.790×10^{-4}	1.850×10^{-4}	1.290×10^{-6}	1.11	6.380×10^{-5}	5.428×10^{-4}
wavelength shift [nm]	$(7.690 \pm 7.195) \times 10^{-3}$	12932463	1.011×10^{-2}	6.814×10^{-3}	-4.823×10^{-2}	0.741	2.214×10^{-3}	1.232×10^{-2}
cloud fraction apriori [1]	0.563 ± 0.349	12932463	0.756	0.549	0.0	1.000	0.226	0.982
reflectance blue ocr [1]	0.527 ± 0.205	12932463	0.328	0.501	0.152	1.98	0.352	0.680
reflectance green ocr [1]	0.467 ± 0.231	12932463	0.396	0.444	8.283×10^{-2}	2.01	0.254	0.650
reflectance continuum aband [1]	0.396 ± 0.265	12932463	0.455	0.382	1.189×10^{-2}	4.11	0.149	0.604

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]	0.589 ± 0.410	3962924	0.950	0.790	0.0	1.000	0.0	0.950
cloud fraction [1]	0.542 ± 0.343	3962924	0.725	0.478	5.807×10^{-3}	1.000	0.232	0.956
cloud top height [m]	$(0.488 \pm 0.315) \times 10^4$	3962924	4.386×10^3	4.386×10^3	0.0	2.000×10^4	2.396×10^3	6.782×10^3
cloud optical thickness [1]	22.8 ± 49.1	3962924	9.75	8.03	1.000	250	5.06	14.8
cloud fraction crb [1]	0.542 ± 0.343	3962924	0.724	0.476	3.224×10^{-3}	1.000	0.232	0.956
cloud height crb [m]	$(0.387 \pm 0.258) \times 10^4$	3962924	3.748×10^3	3.393×10^3	0.0	2.000×10^4	1.780×10^3	5.528×10^3
cloud albedo crb [1]	0.653 ± 0.234	3962924	0.334	0.641	0.0	1.000	0.503	0.838
surface albedo fitted [1]	0.404 ± 0.251	3962924	0.450	0.283	0.0	1.000	0.207	0.657
surface albedo fitted crb [1]	0.387 ± 0.230	3962924	0.418	0.282	0.0	1.000	0.204	0.621
fitted root mean square [1]	$(8.583 \pm 16.295) \times 10^{-4}$	3962924	7.855×10^{-4}	6.468×10^{-4}	3.786×10^{-6}	1.47	3.385×10^{-4}	1.124×10^{-3}
fitted root mean square crb [1]	$(7.199 \pm 27.011) \times 10^{-4}$	3962924	7.838×10^{-4}	4.773×10^{-4}	2.582×10^{-6}	2.63	1.878×10^{-4}	9.717×10^{-4}
wavelength shift [nm]	$(8.804 \pm 6.487) \times 10^{-3}$	3962924	8.933×10^{-3}	8.488×10^{-3}	-7.518×10^{-2}	9.864×10^{-2}	4.028×10^{-3}	1.296×10^{-2}
cloud fraction apriori [1]	0.549 ± 0.350	3962924	0.772	0.487	0.0	1.000	0.228	1.000
reflectance blue ocrs [1]	0.596 ± 0.261	3962924	0.451	0.582	0.123	1.98	0.355	0.806
reflectance green ocrs [1]	0.556 ± 0.285	3962924	0.517	0.552	7.783×10^{-2}	1.90	0.278	0.795
reflectance continuum aband [1]	0.566 ± 0.248	3962924	0.411	0.557	1.599×10^{-2}	4.92	0.349	0.760

3 Granule outlines

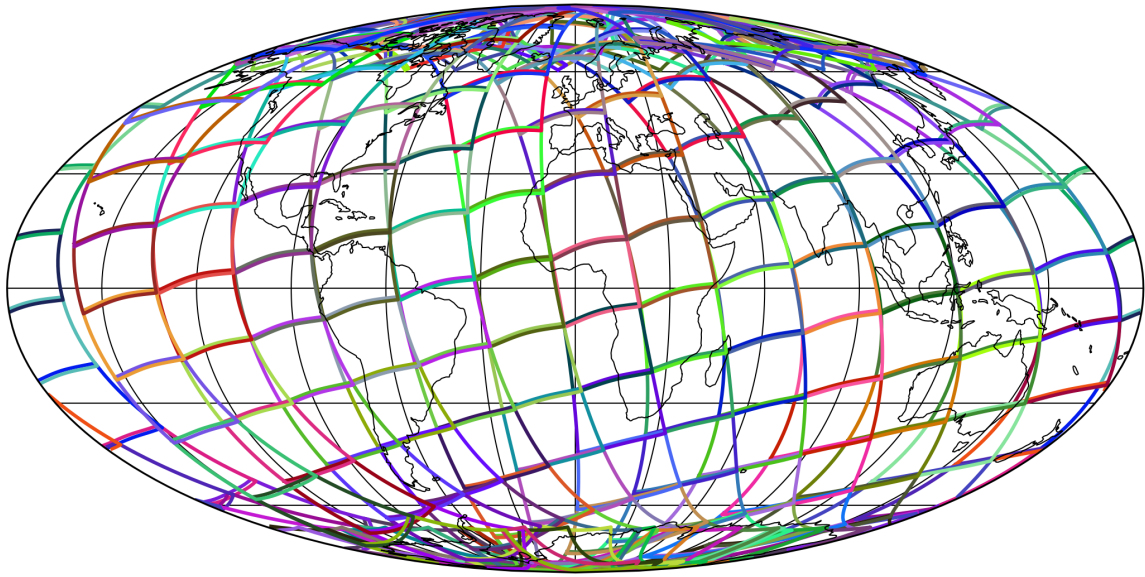


Figure 1: Outline of the granules.

4 Input data monitoring

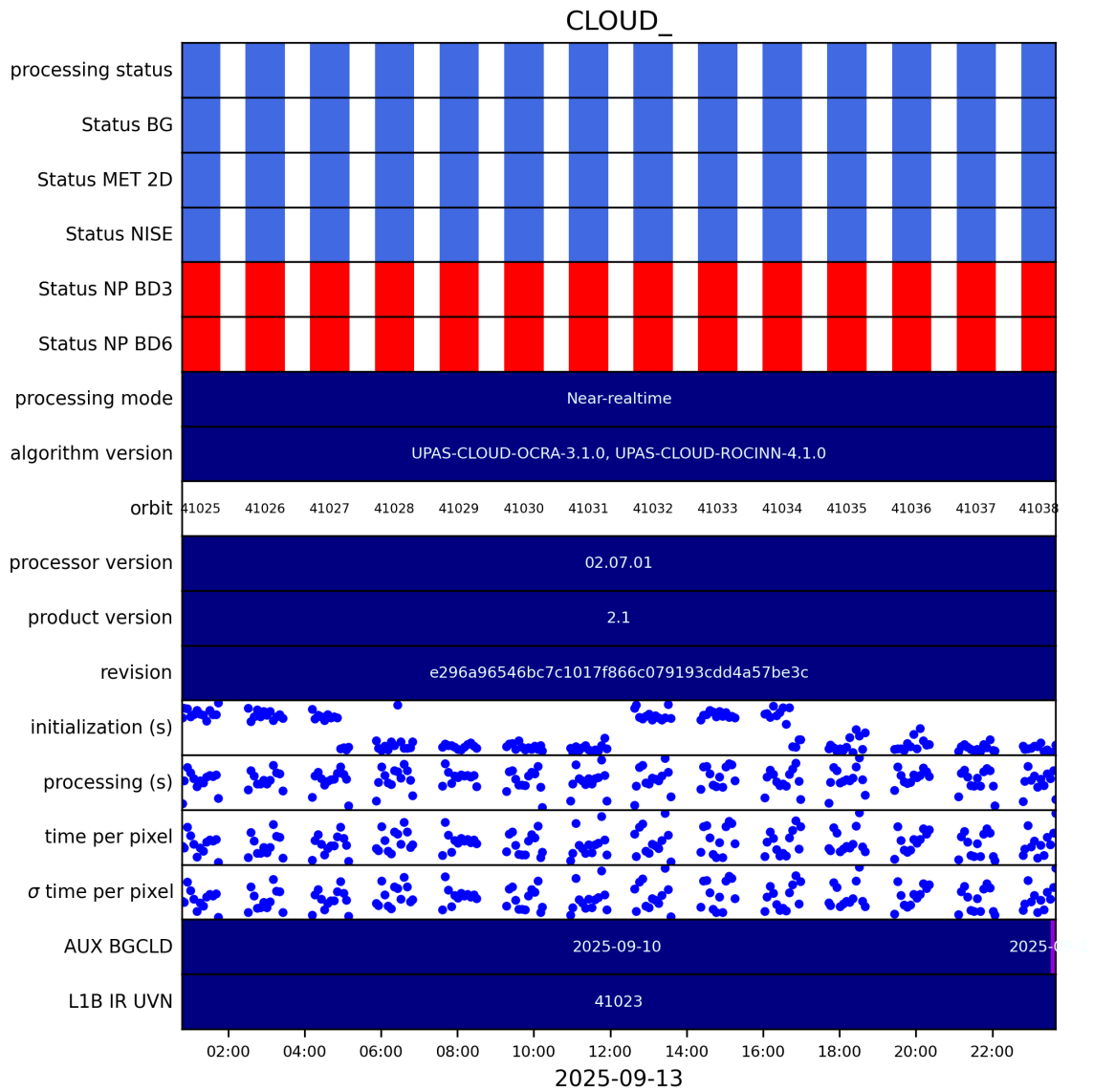


Figure 2: Input data per granule

5 Warnings and errors

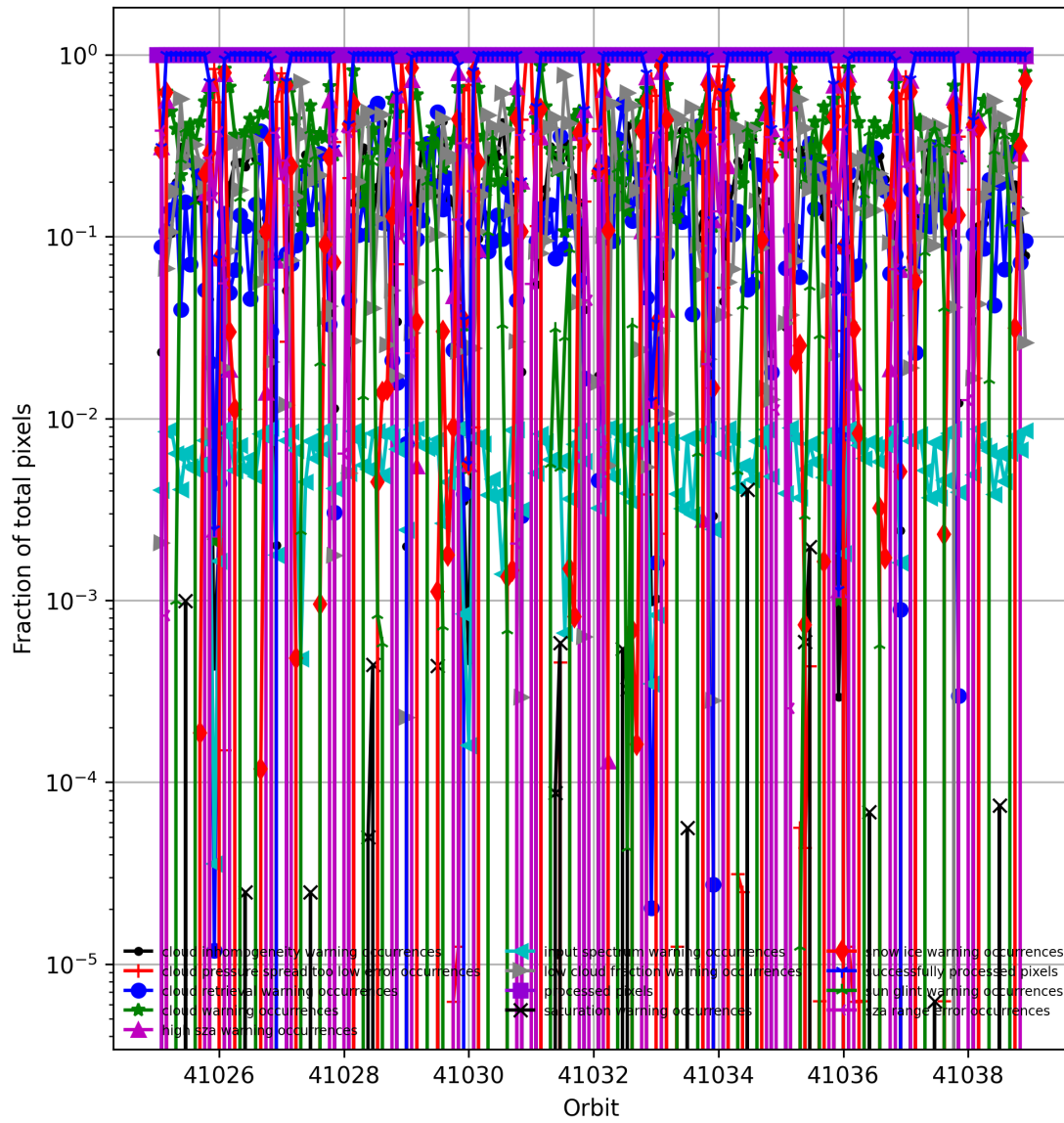


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

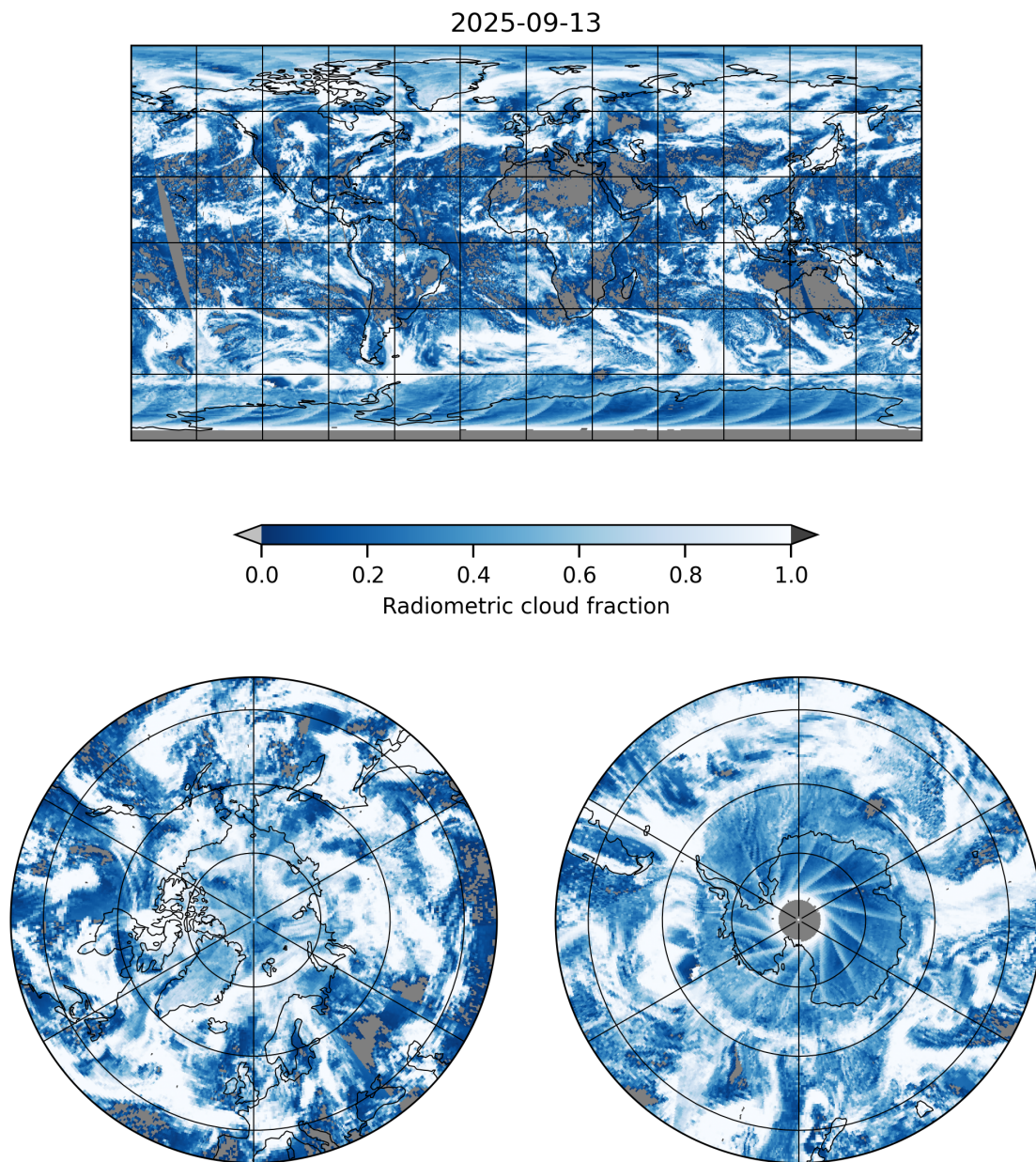


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-13 to 2025-09-13

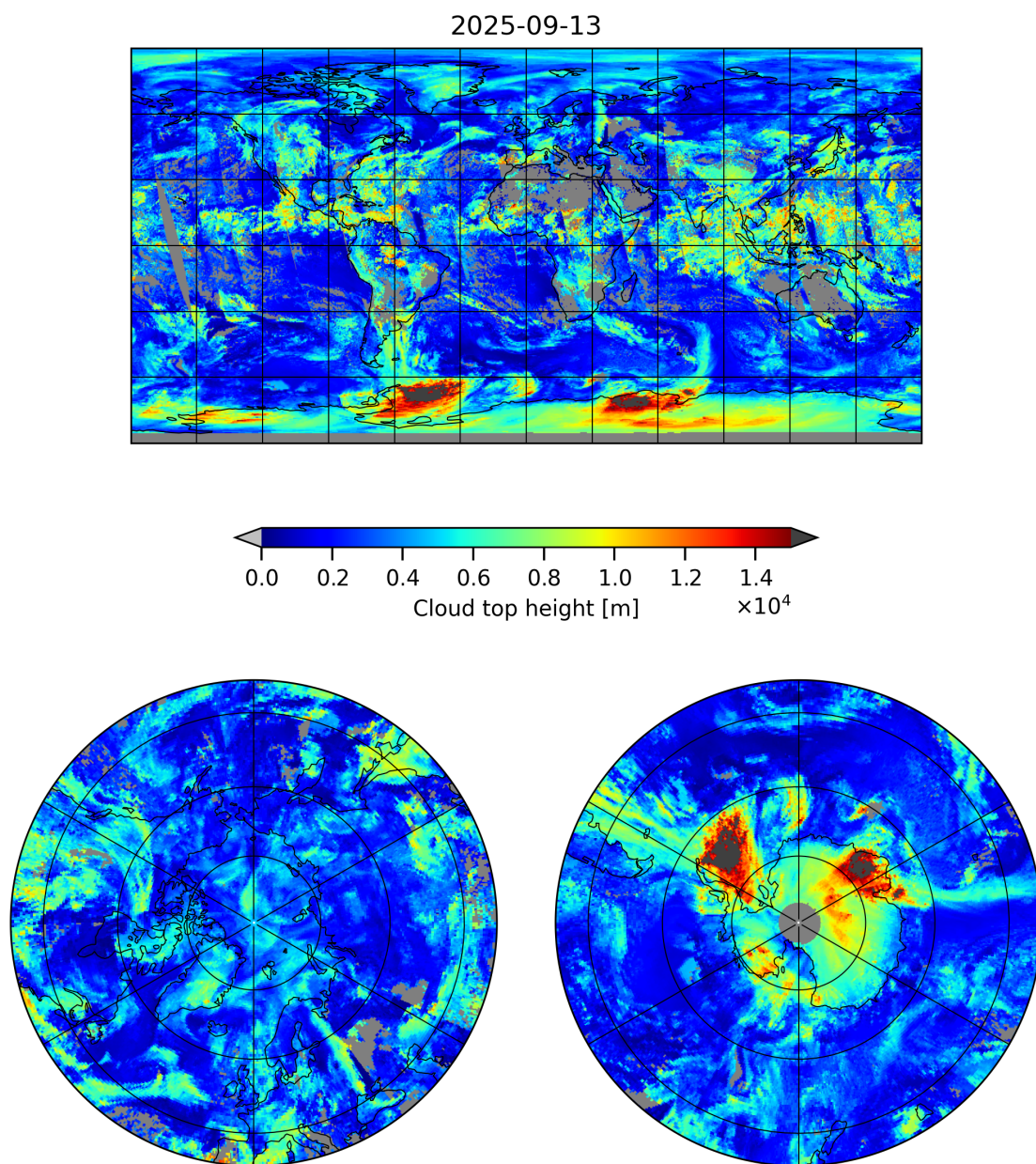


Figure 5: Map of “Cloud top height” for 2025-09-13 to 2025-09-13

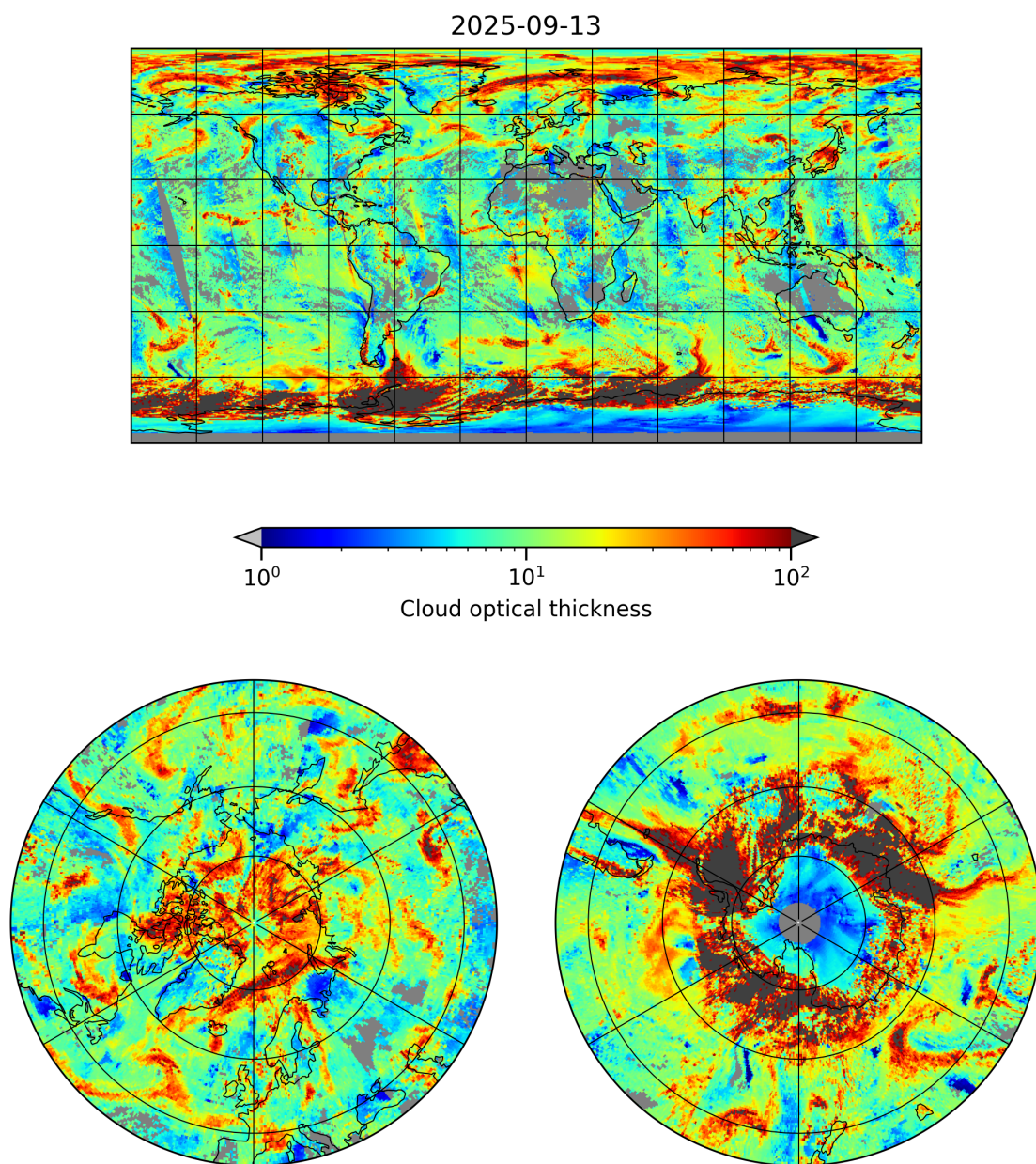


Figure 6: Map of “Cloud optical thickness” for 2025-09-13 to 2025-09-13

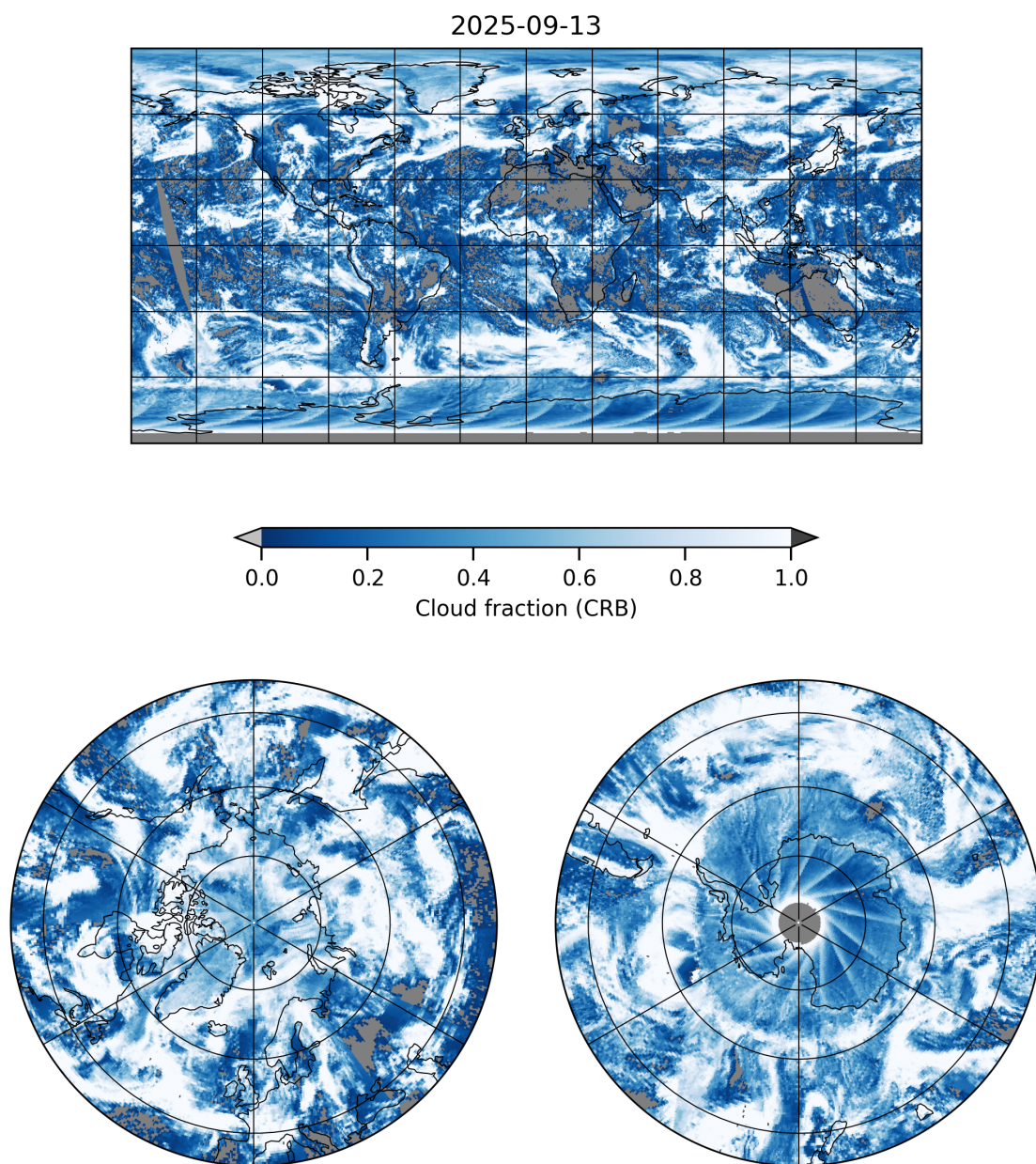


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-13 to 2025-09-13

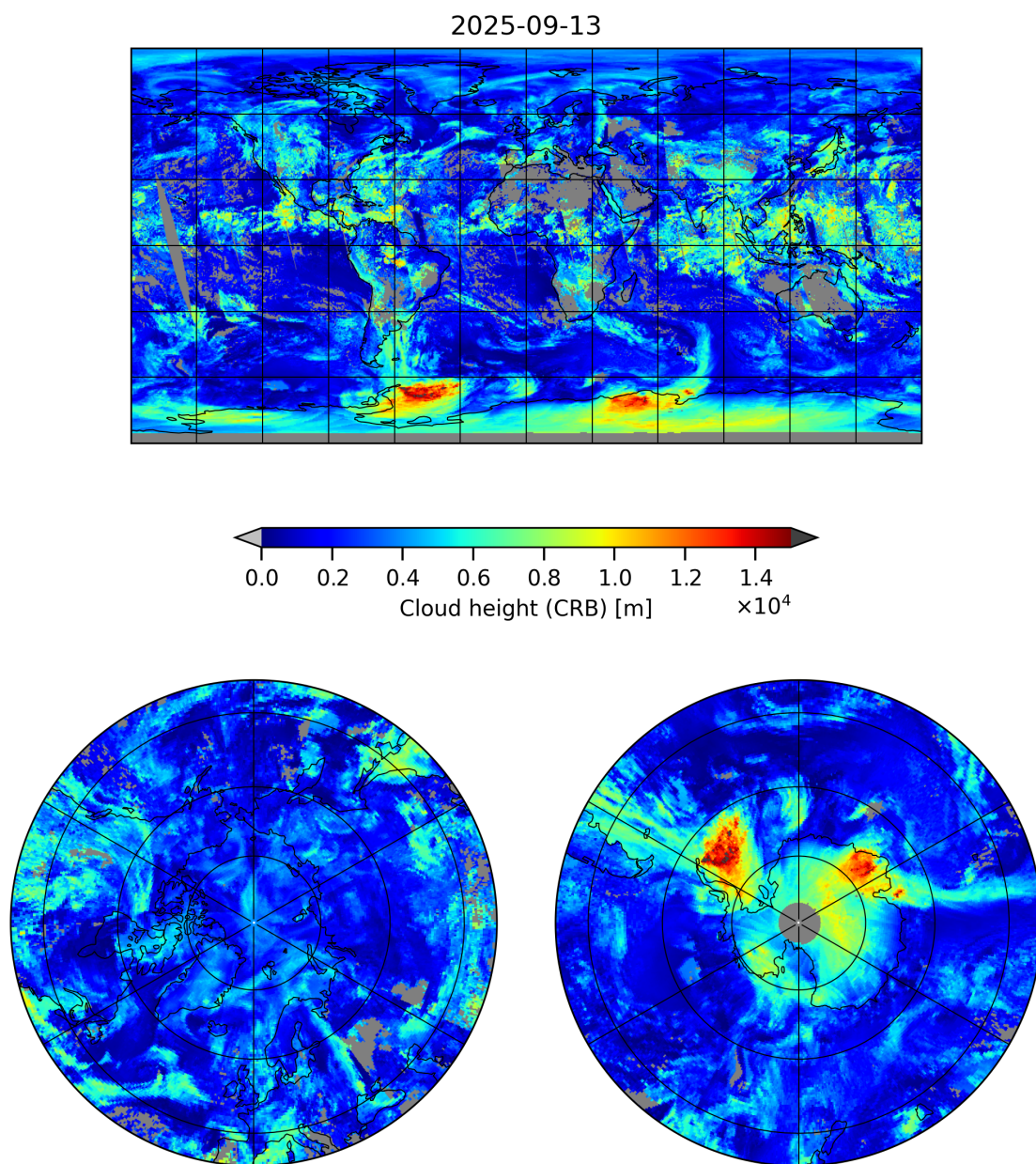


Figure 8: Map of “Cloud height (CRB)” for 2025-09-13 to 2025-09-13

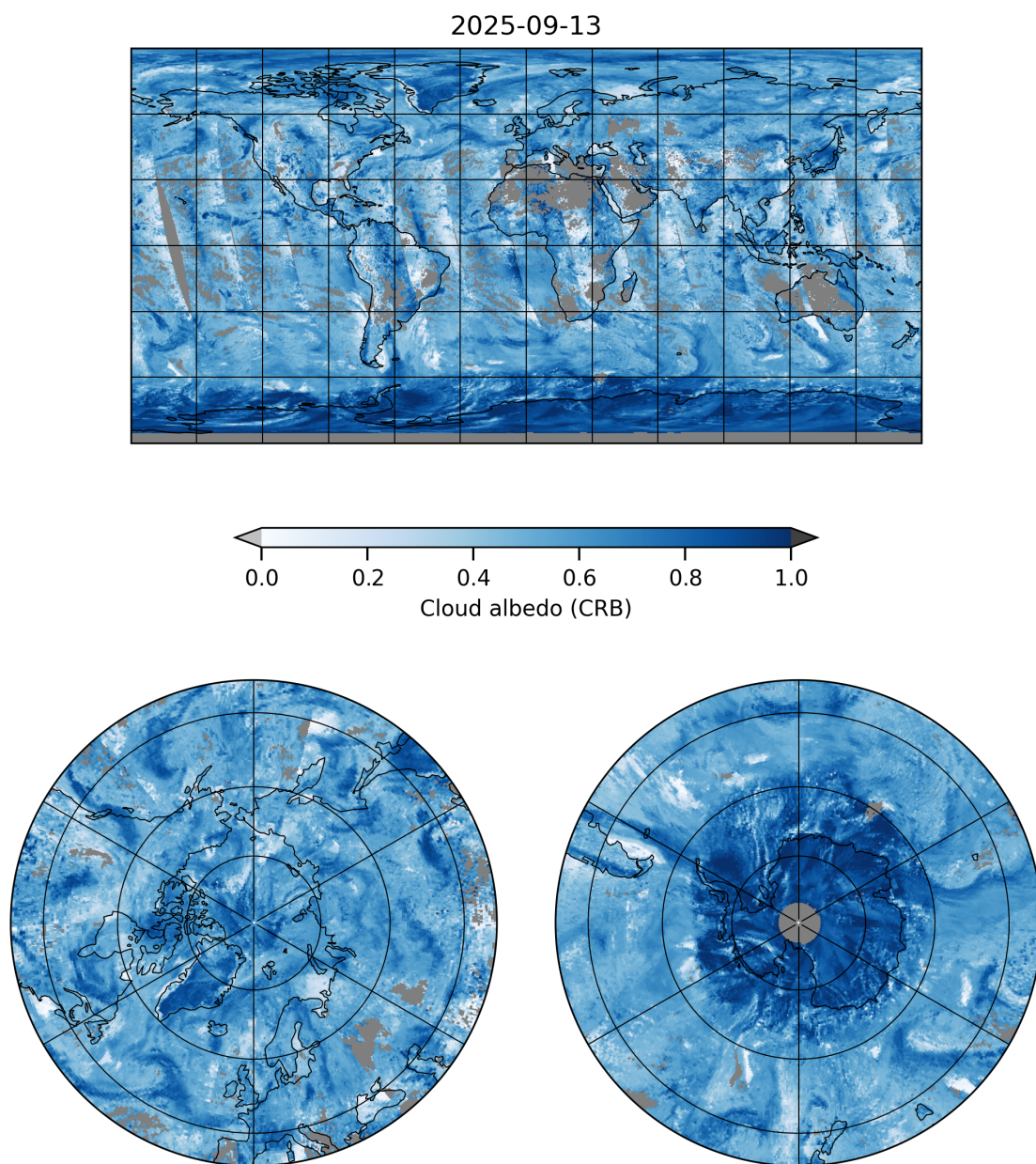


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-13 to 2025-09-13

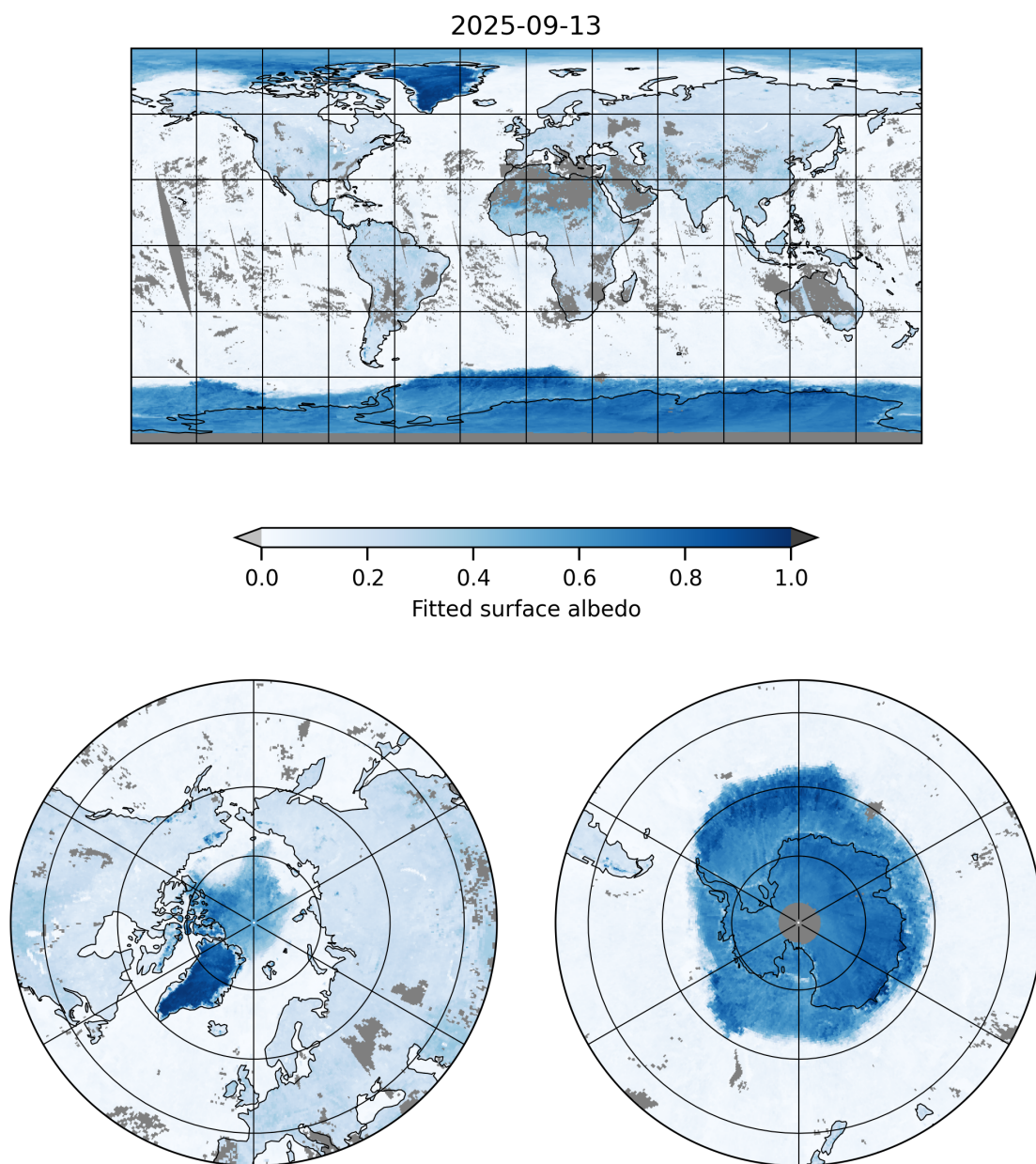


Figure 10: Map of “Fitted surface albedo” for 2025-09-13 to 2025-09-13

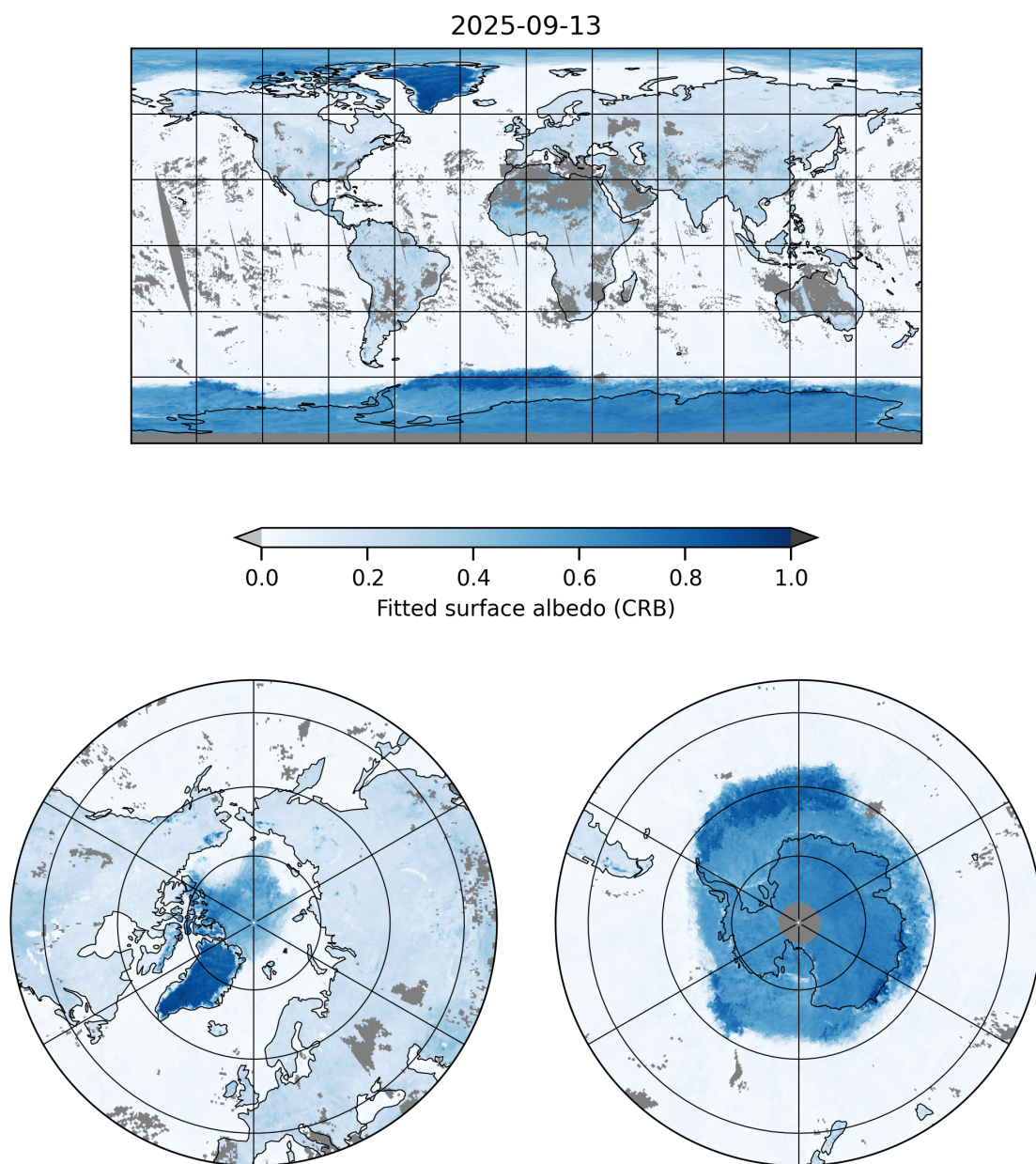


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-13 to 2025-09-13

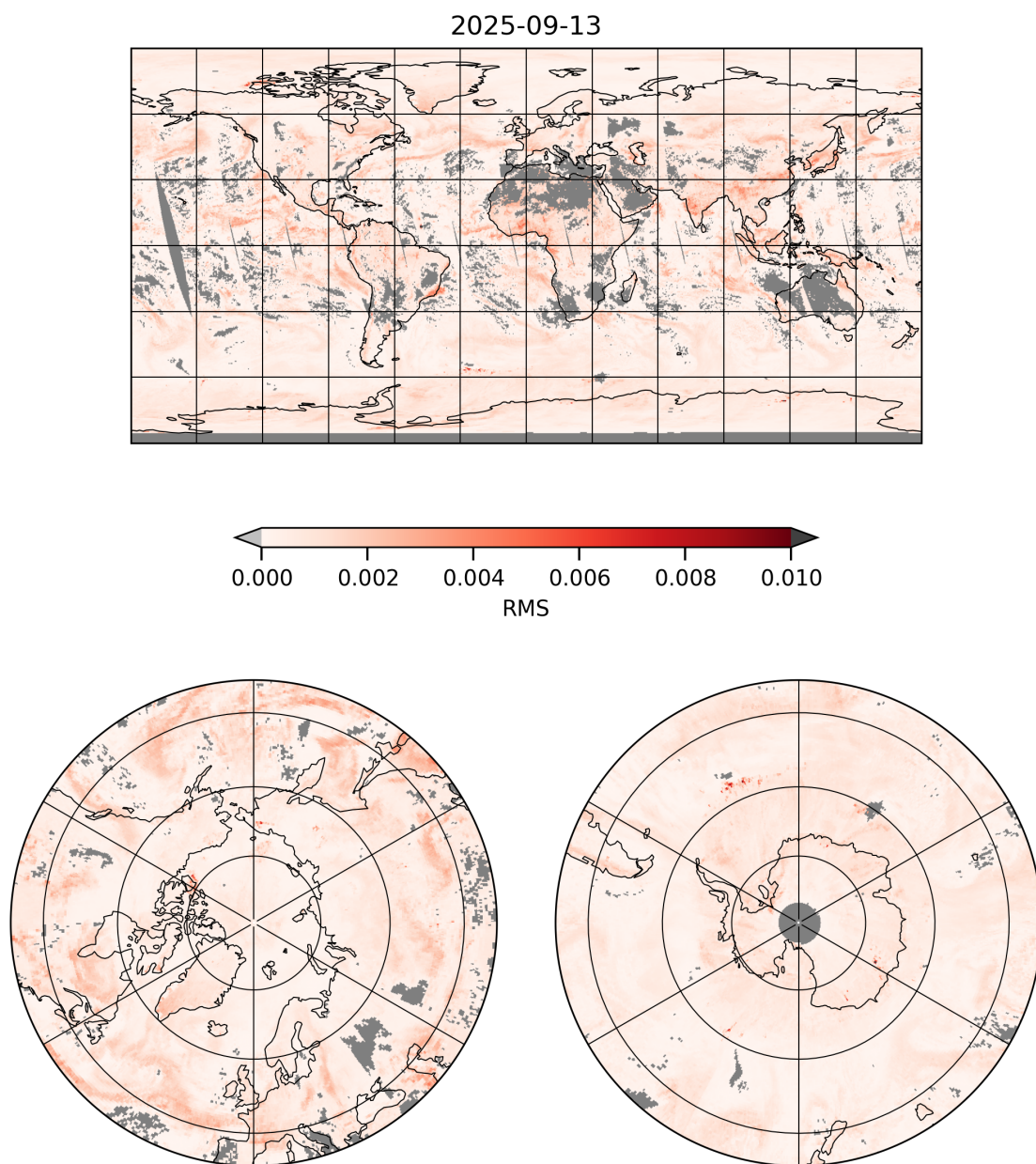


Figure 12: Map of “RMS” for 2025-09-13 to 2025-09-13

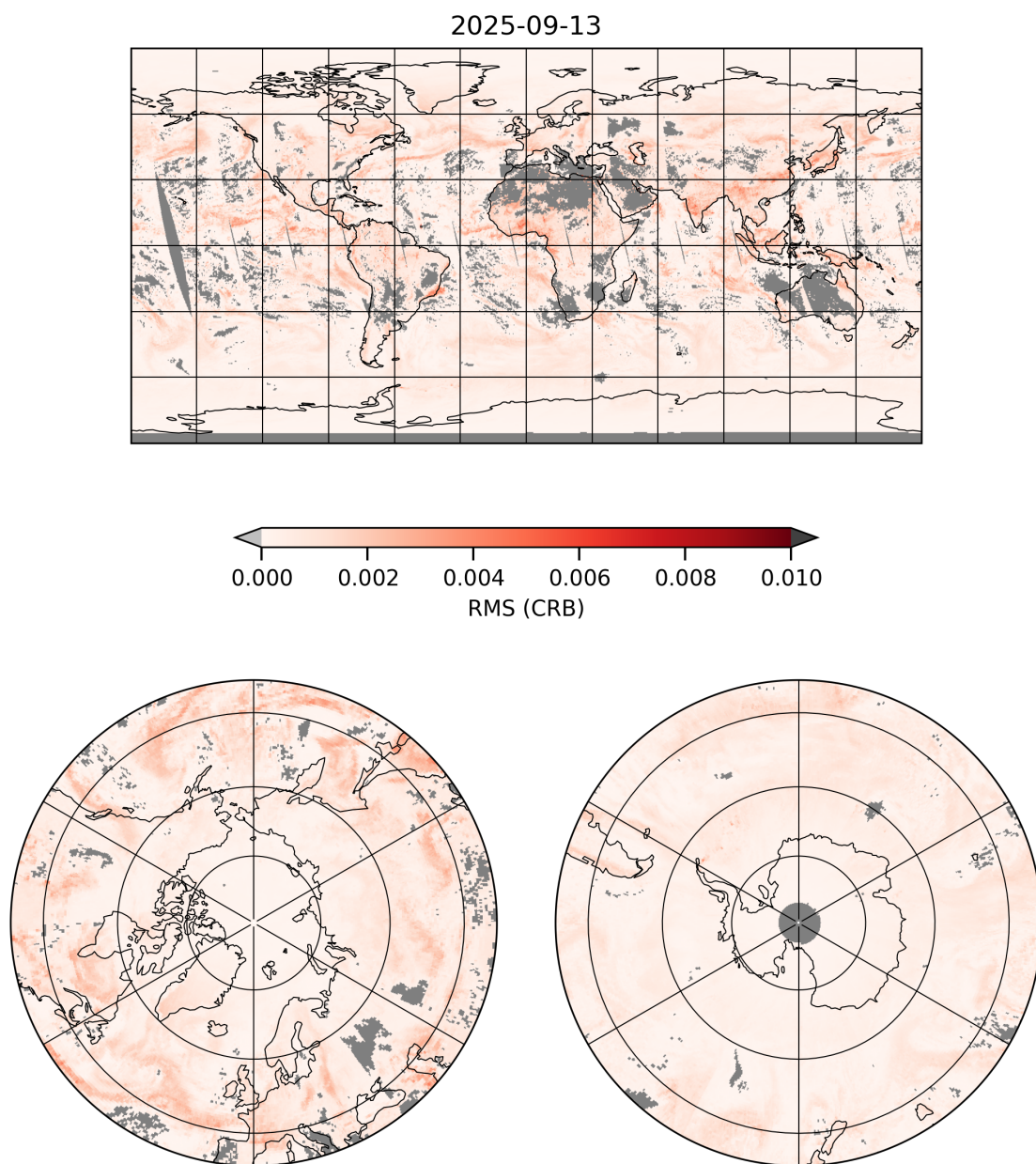


Figure 13: Map of “RMS (CRB)” for 2025-09-13 to 2025-09-13

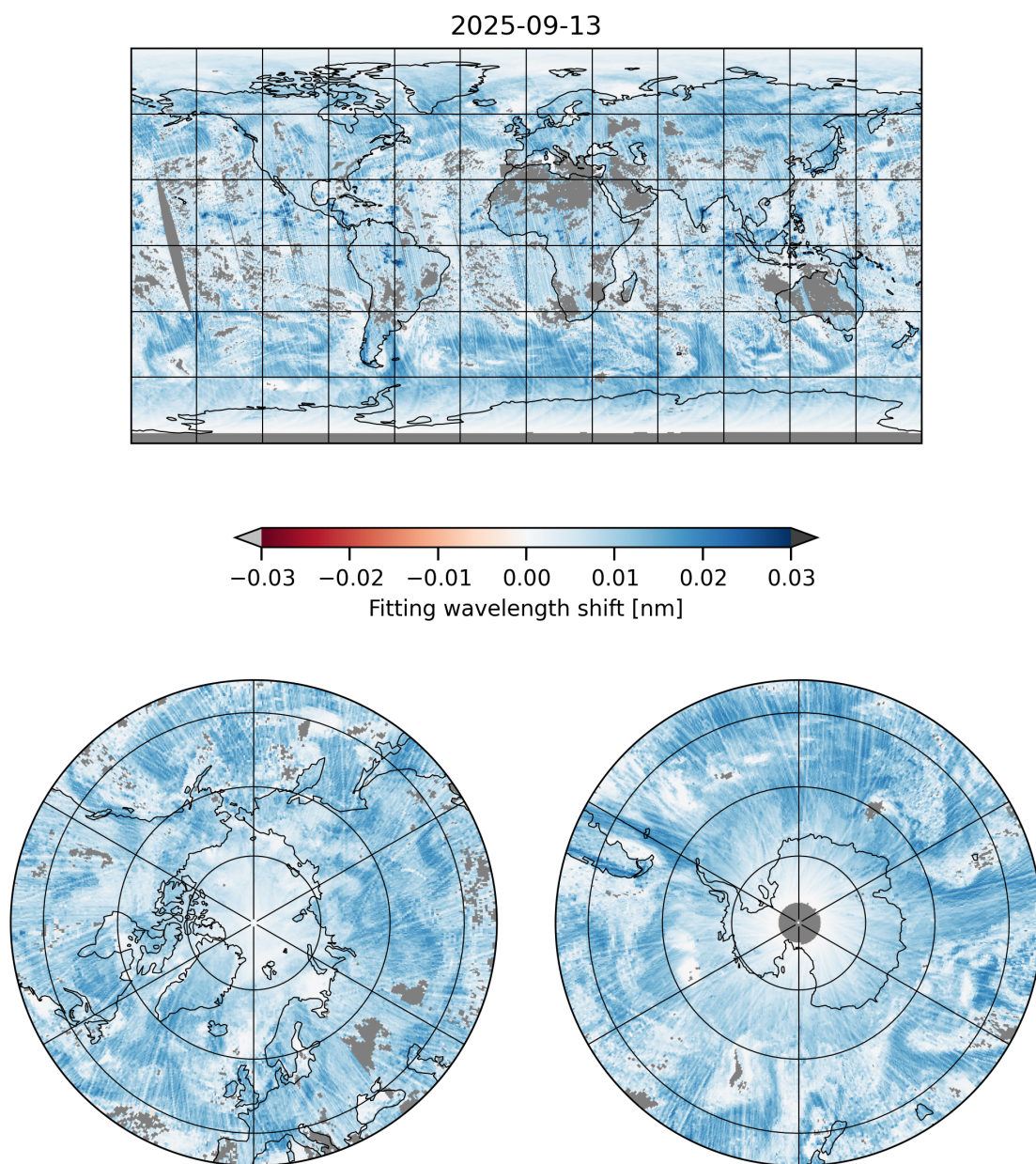


Figure 14: Map of "Fitting wavelength shift" for 2025-09-13 to 2025-09-13

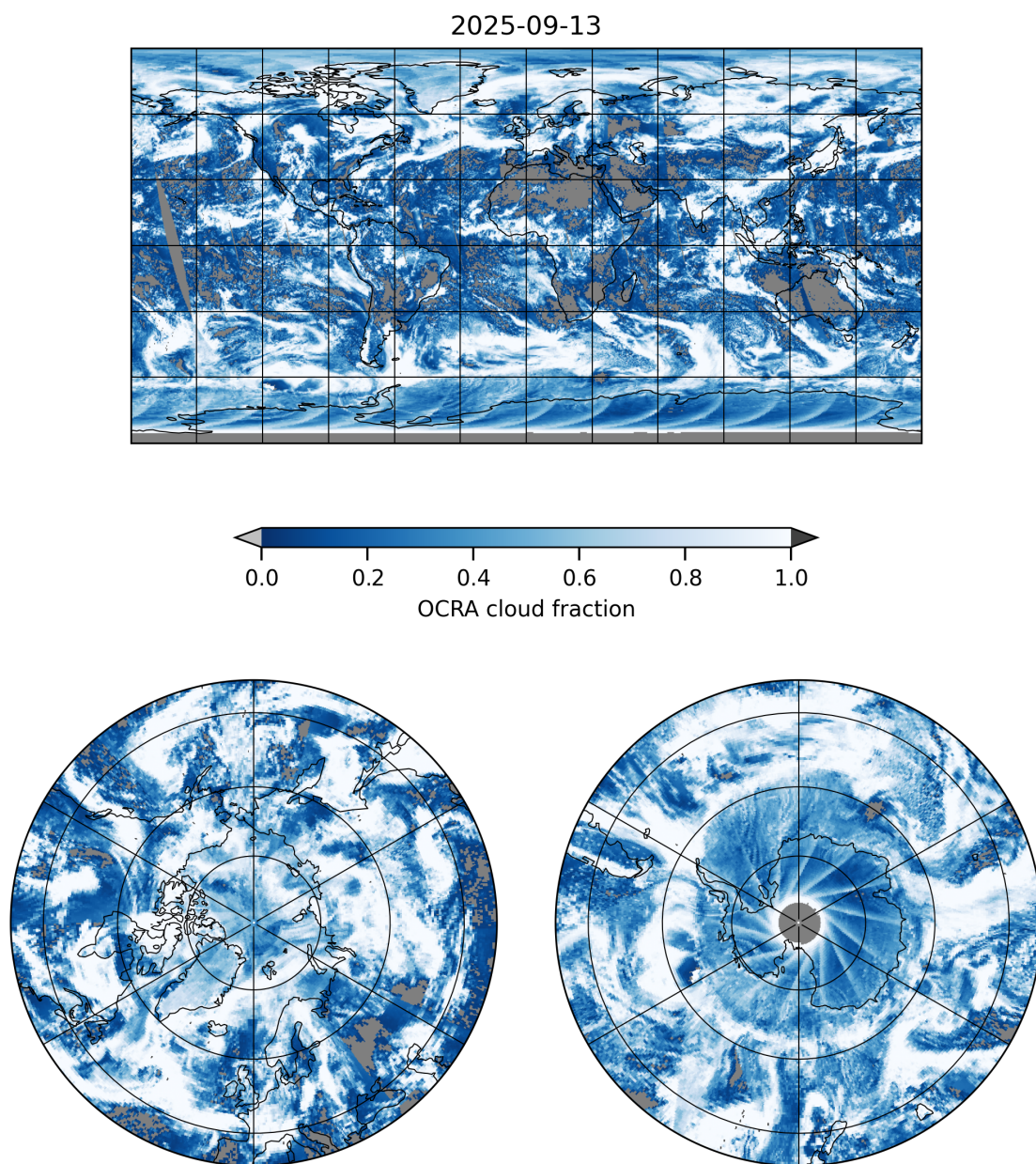


Figure 15: Map of “OCRA cloud fraction” for 2025-09-13 to 2025-09-13

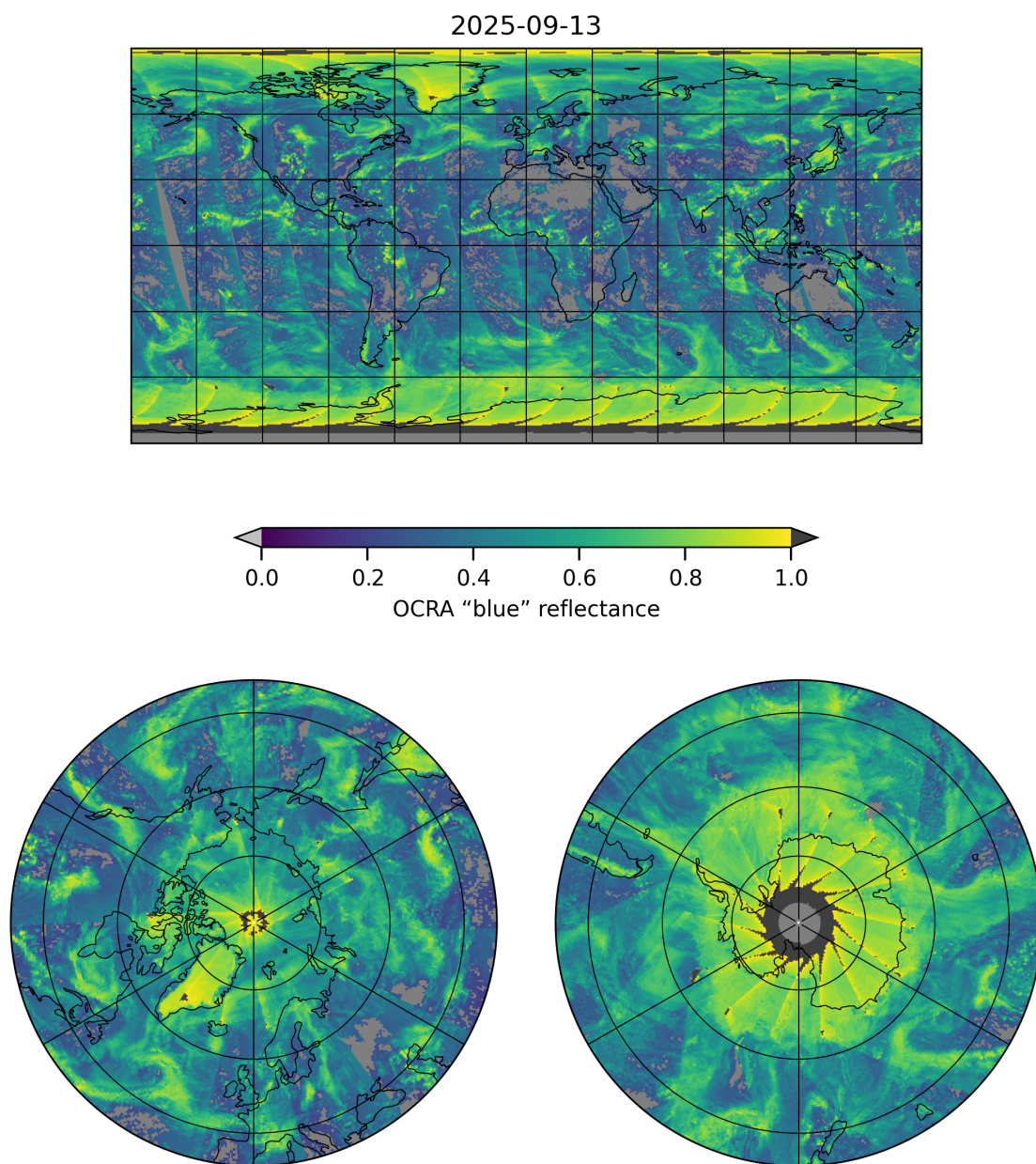


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-13 to 2025-09-13

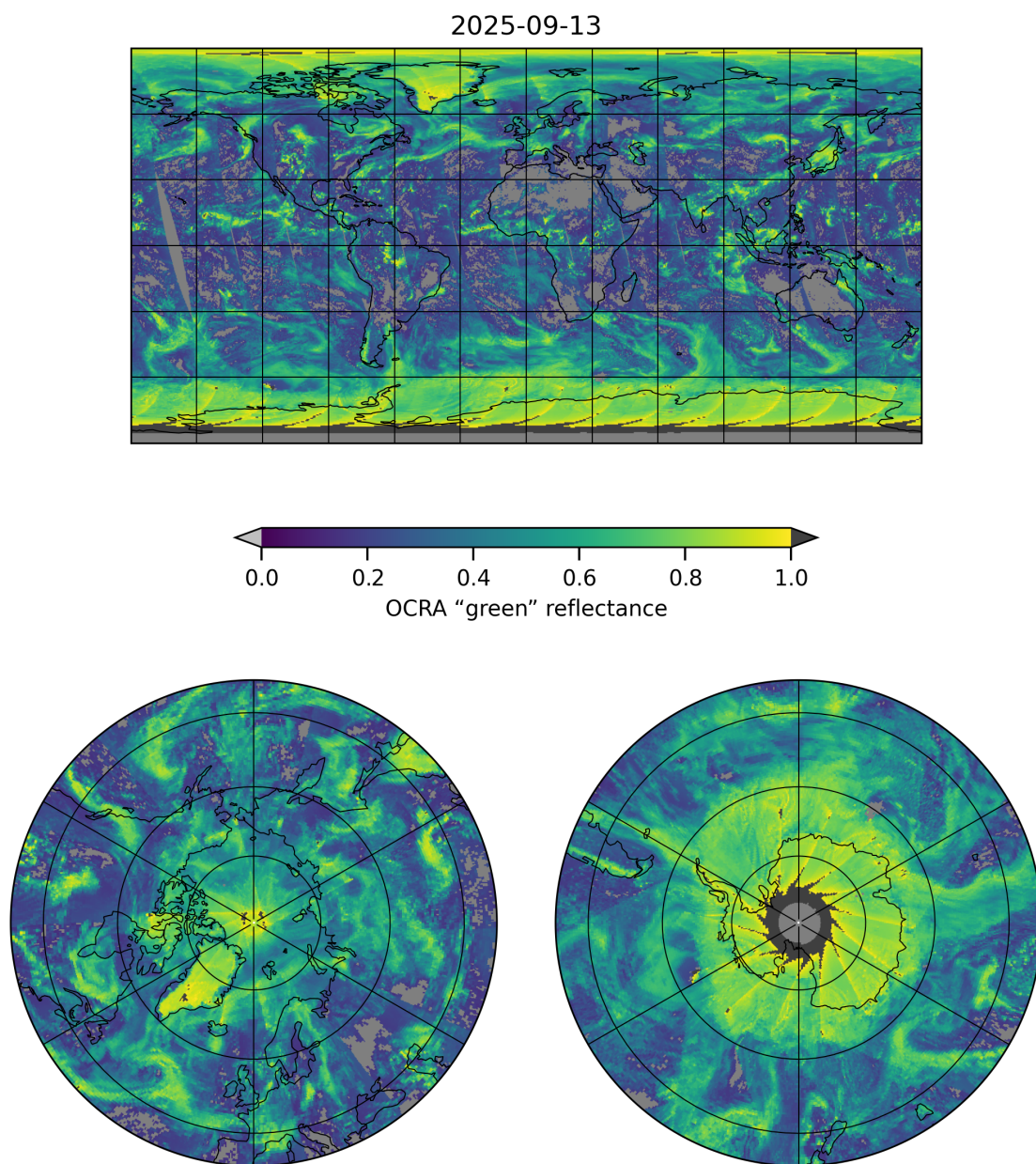


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-13 to 2025-09-13

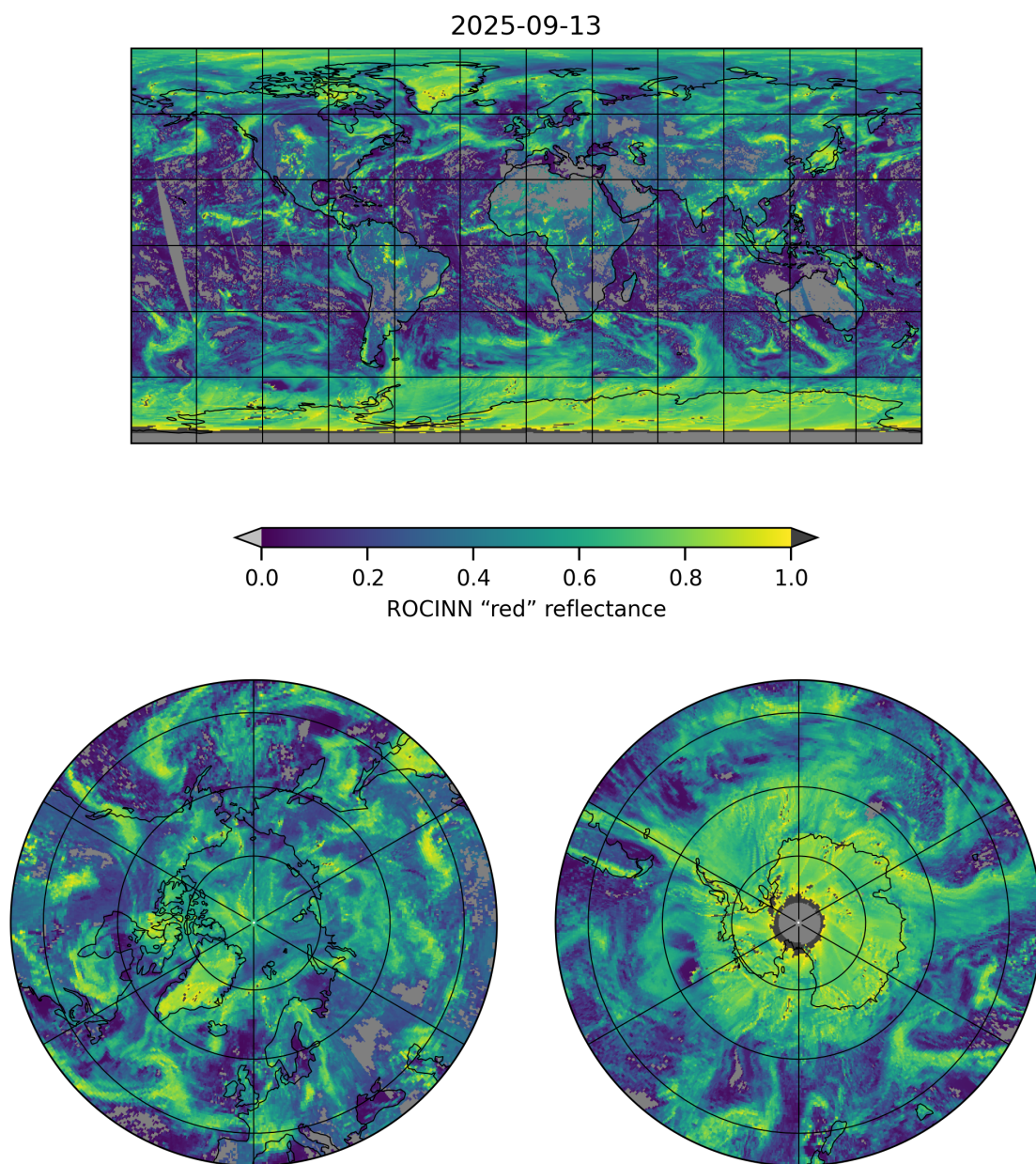


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-13 to 2025-09-13

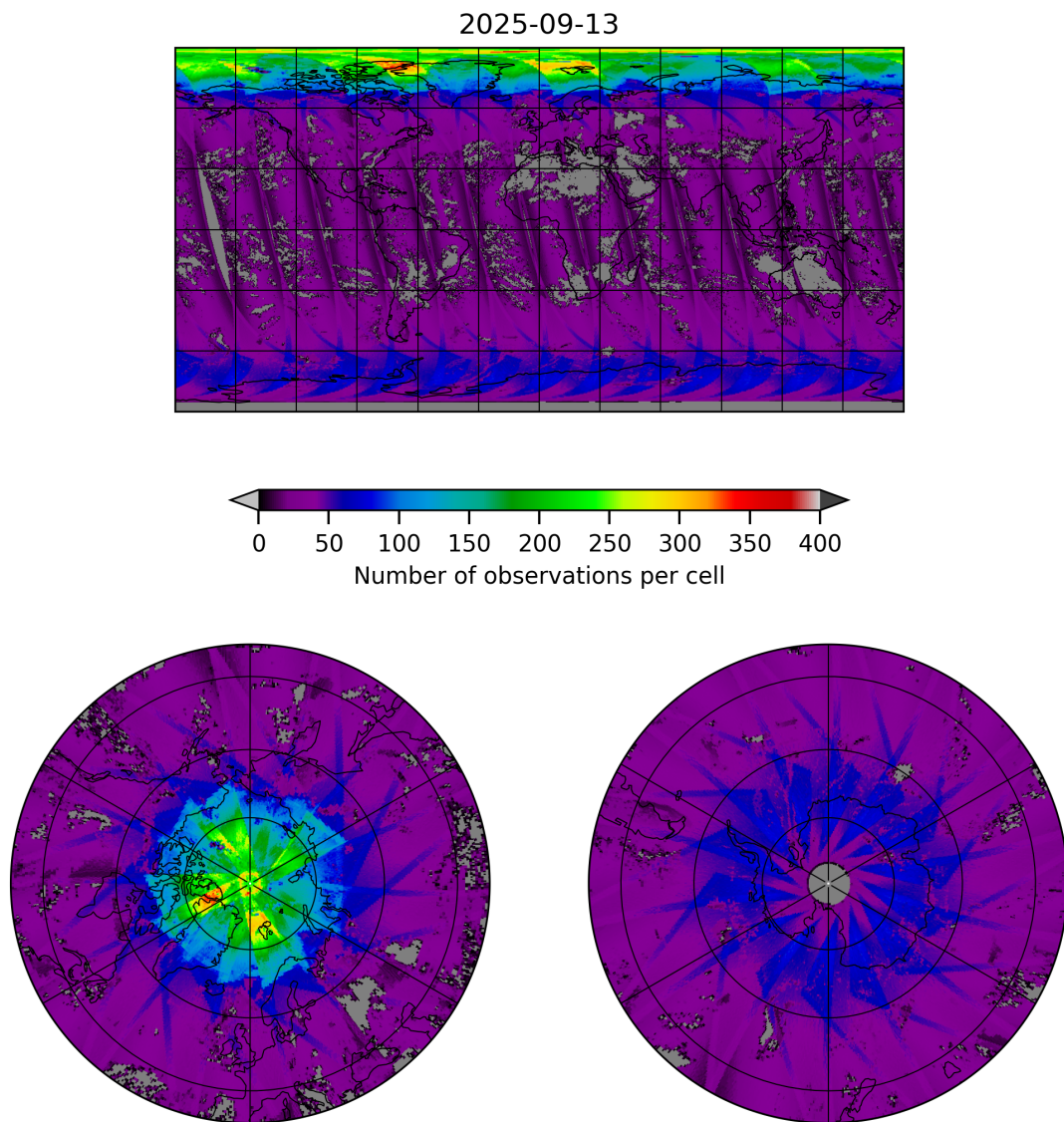


Figure 19: Map of the number of observations for 2025-09-13 to 2025-09-13

7 Zonal average

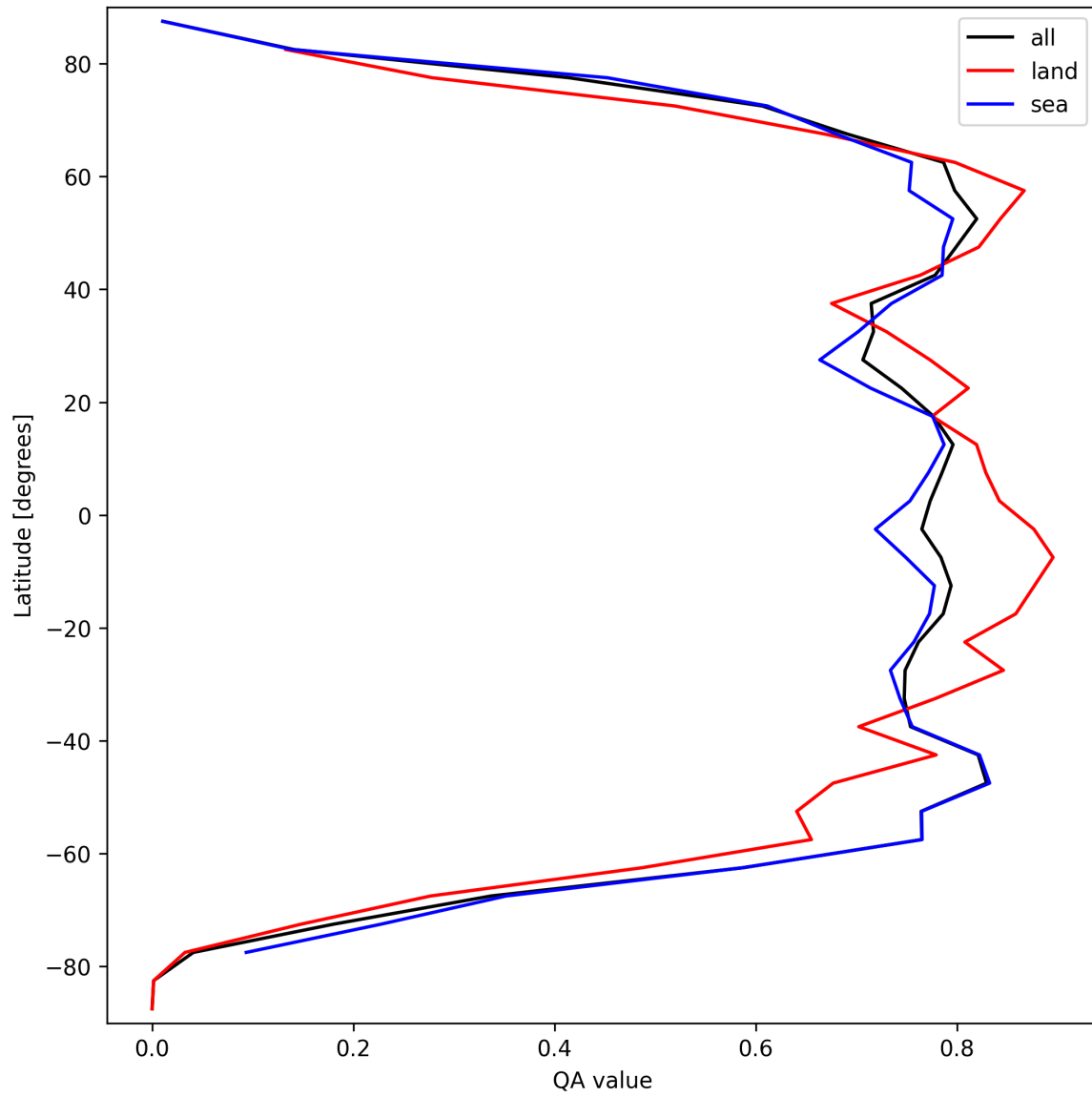


Figure 20: Zonal average of “QA value” for 2025-09-13 to 2025-09-13.

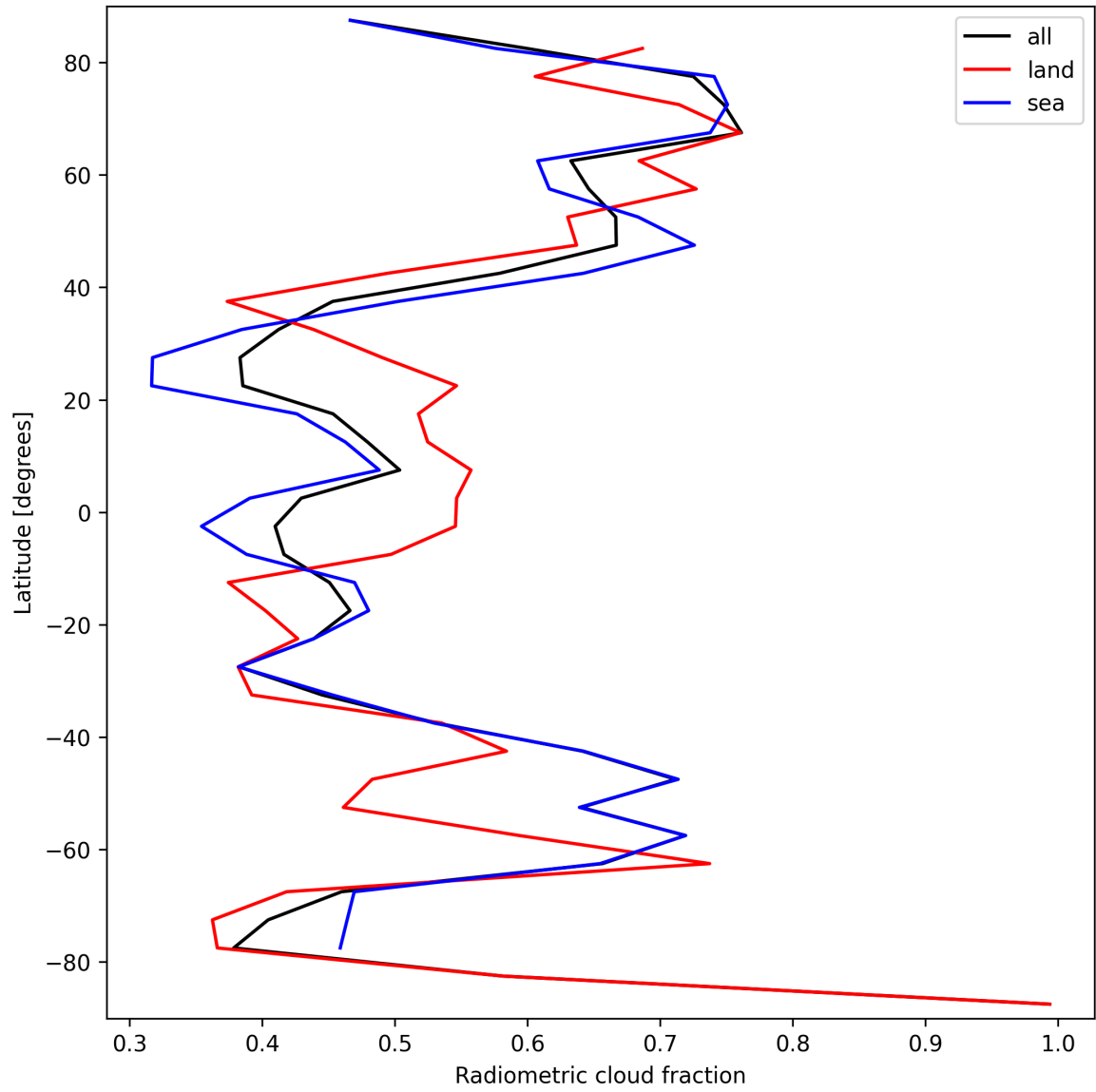


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-13 to 2025-09-13.

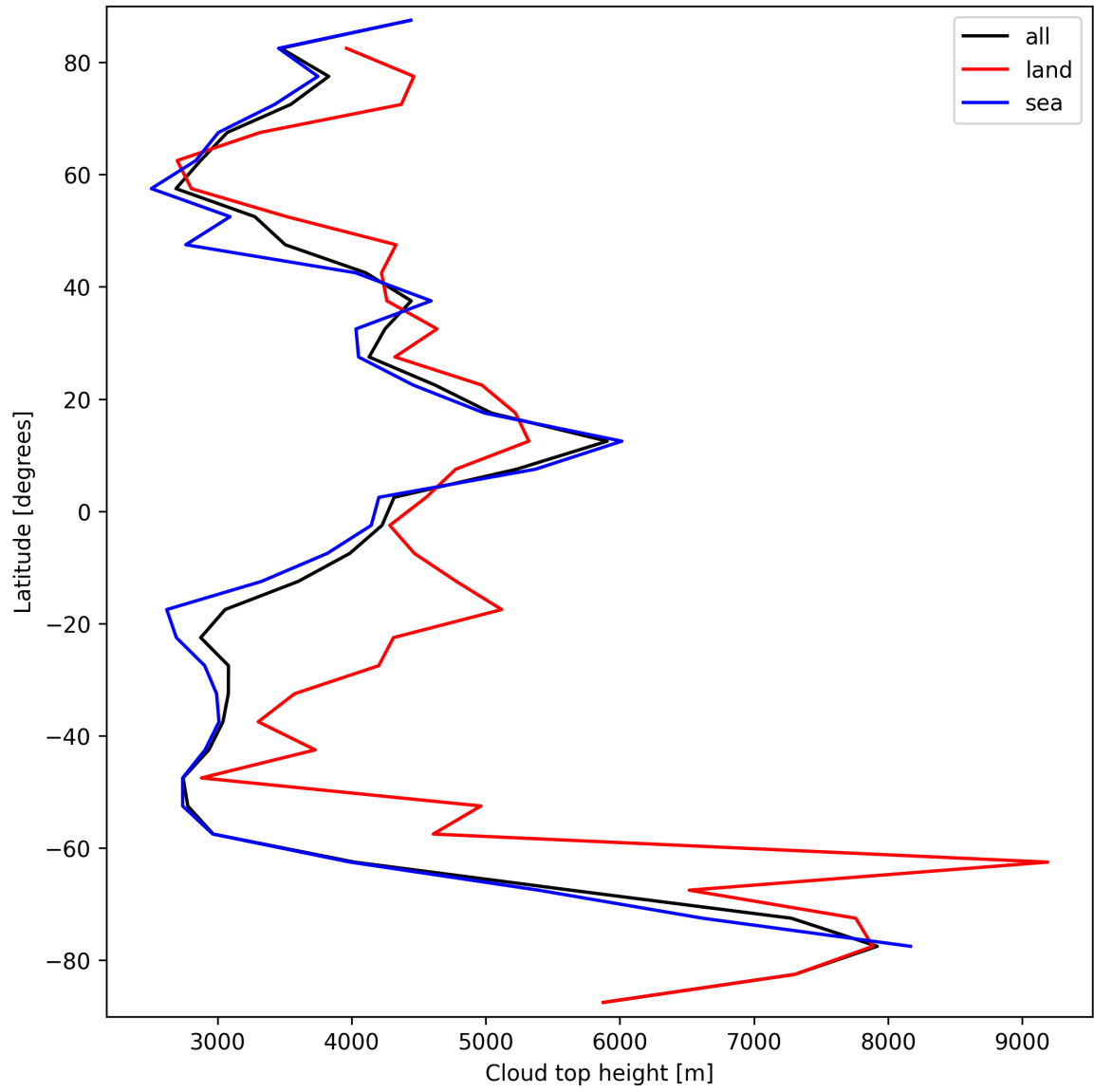


Figure 22: Zonal average of “Cloud top height” for 2025-09-13 to 2025-09-13.

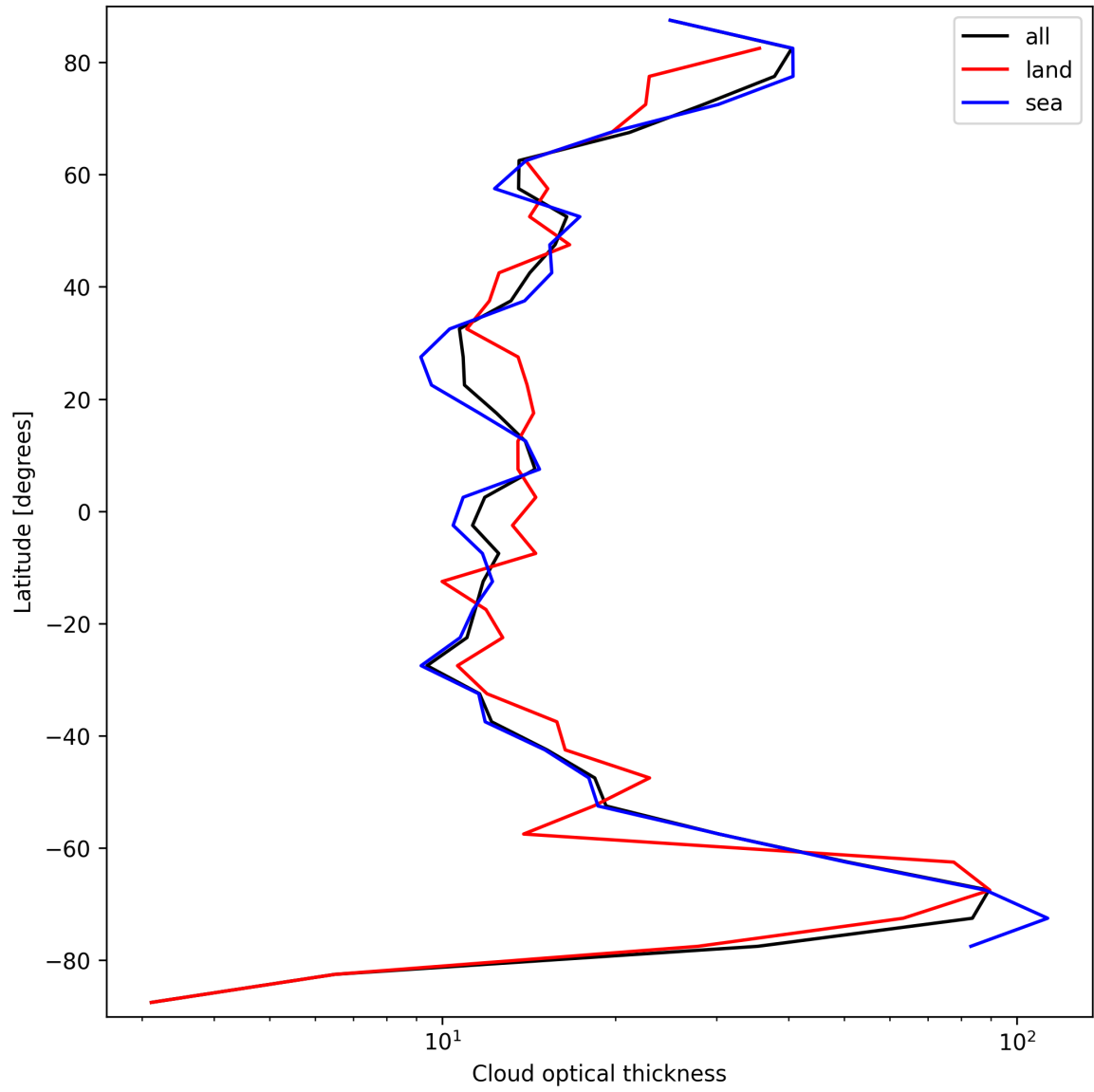


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-13 to 2025-09-13.

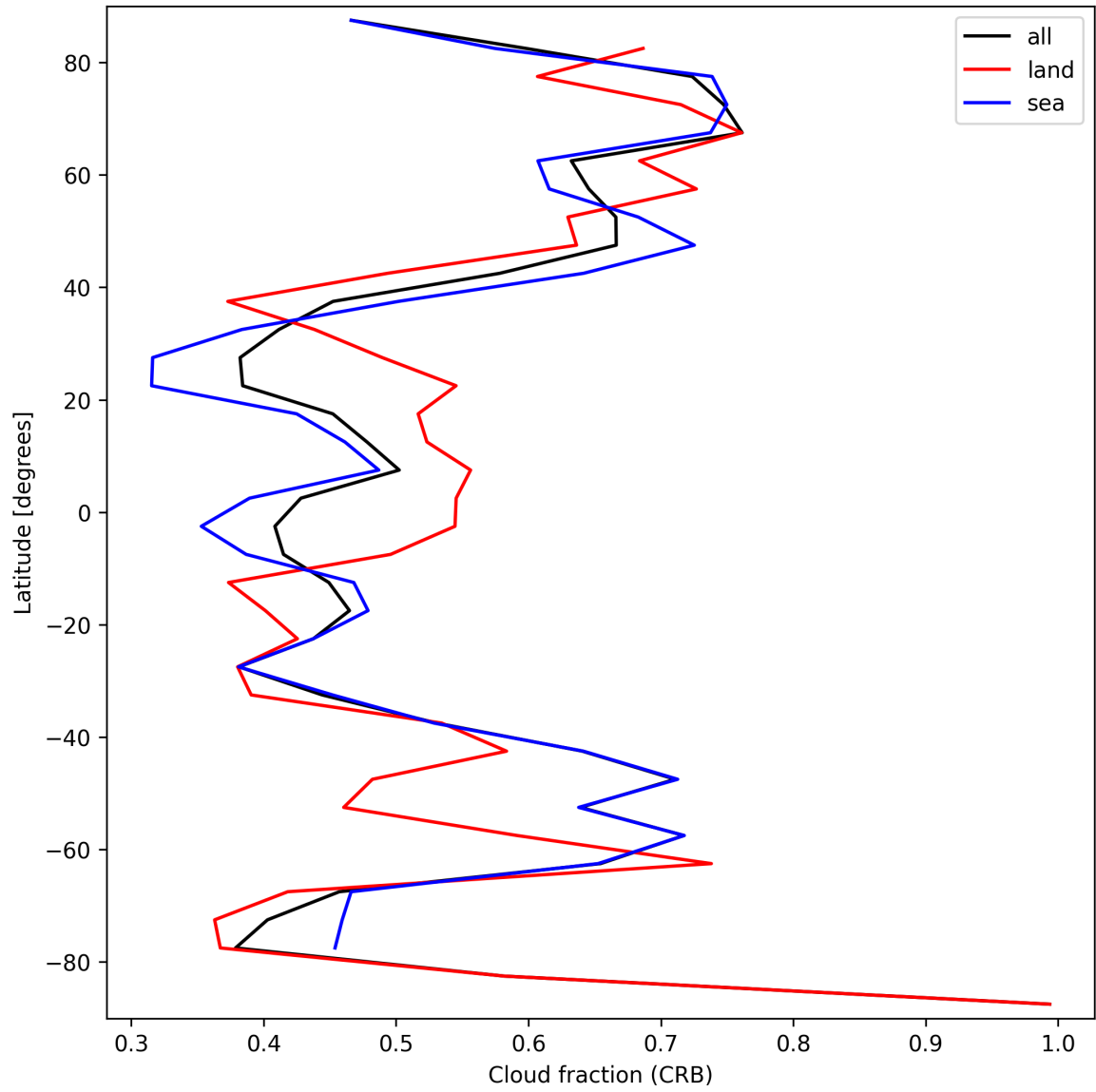


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-13 to 2025-09-13.

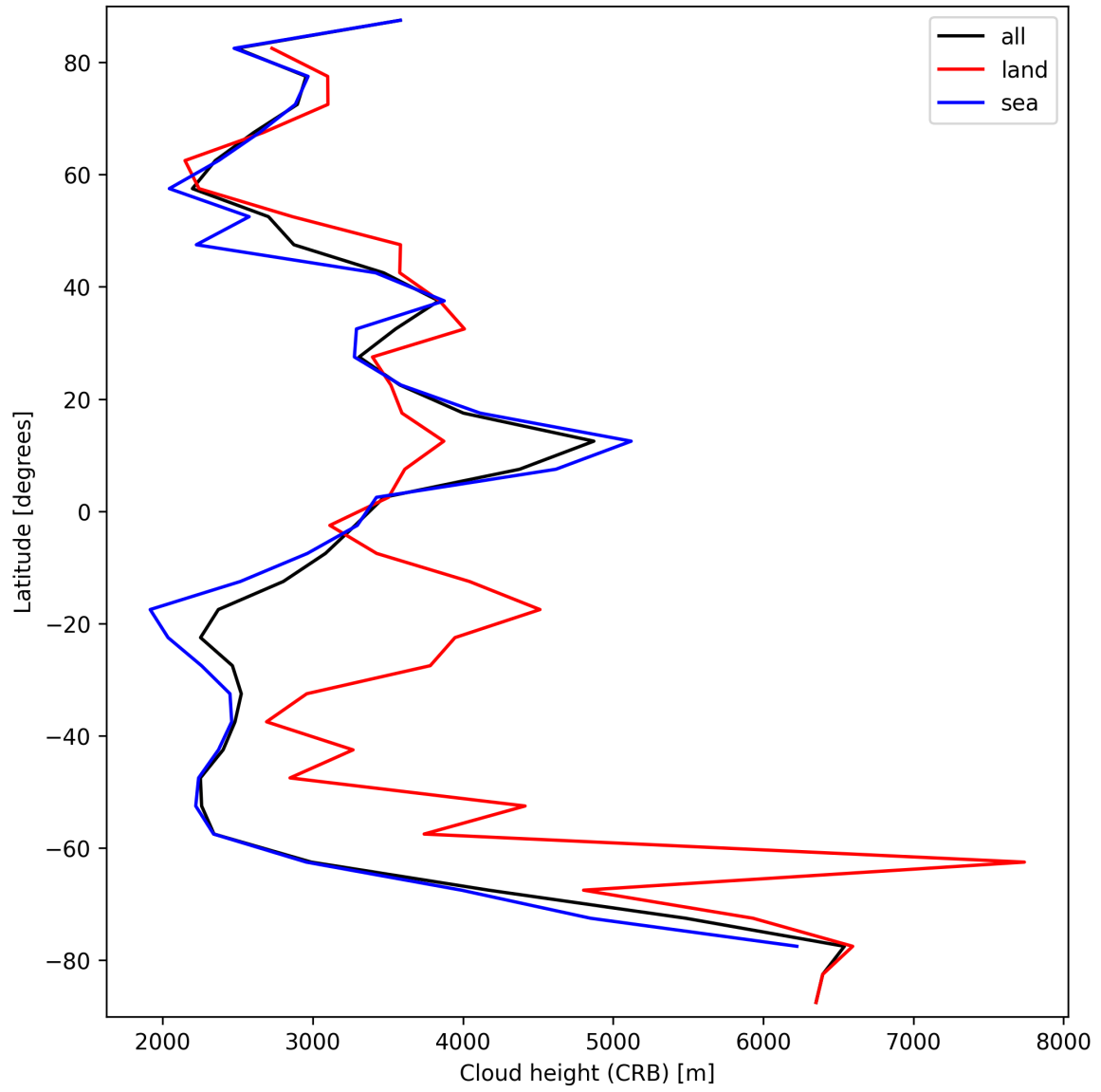


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-13 to 2025-09-13.

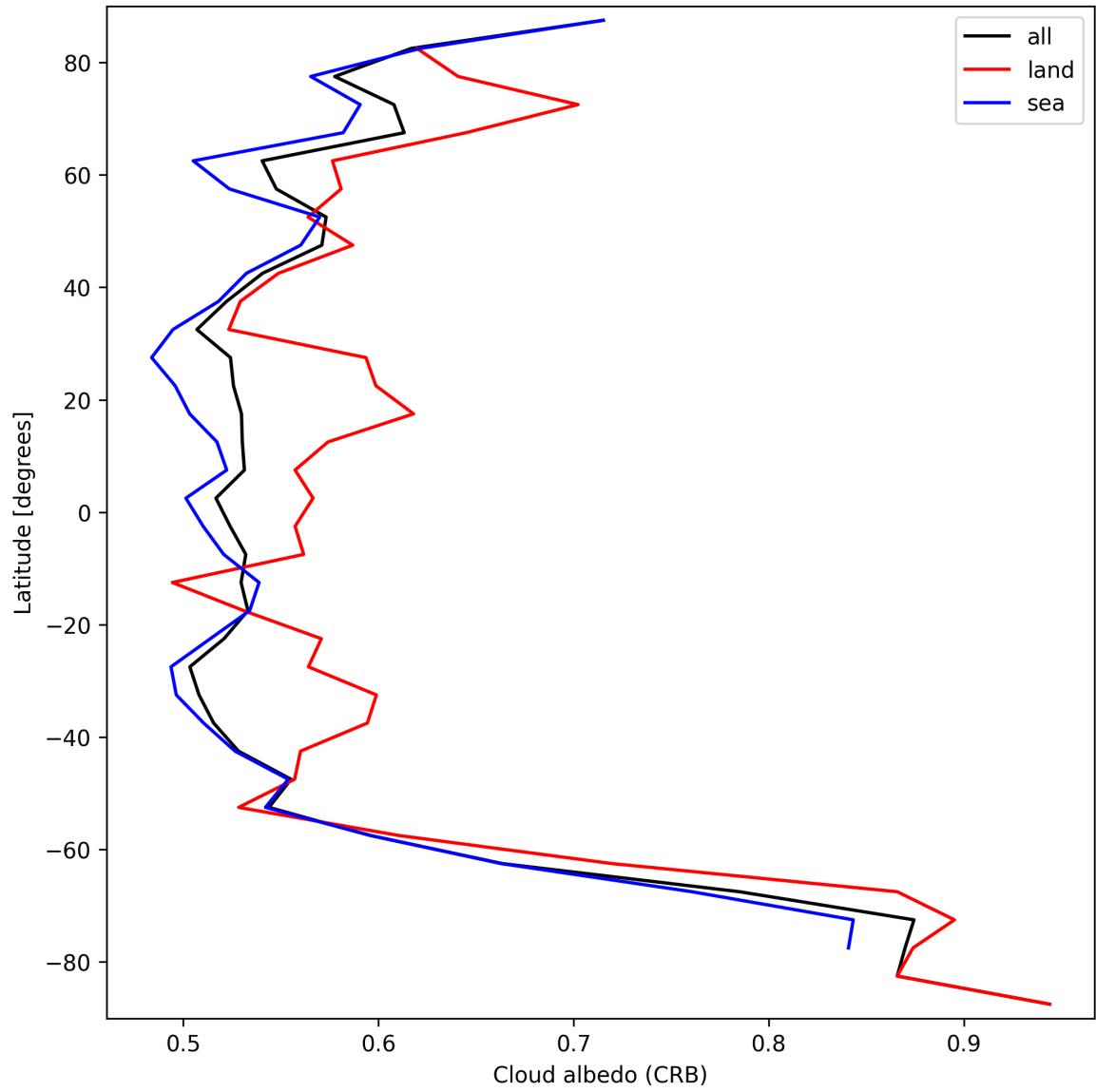


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-13 to 2025-09-13.

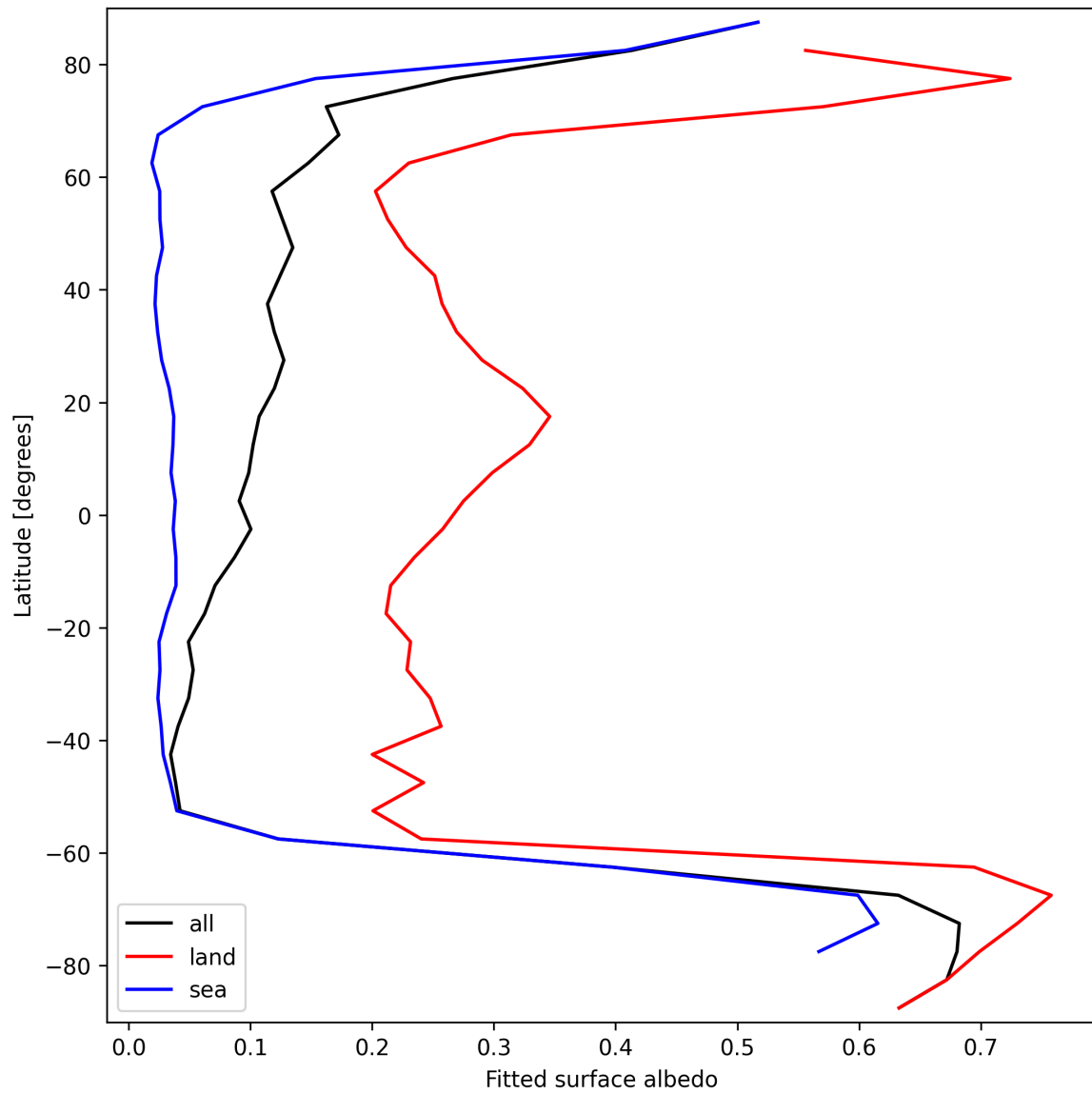


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-13 to 2025-09-13.

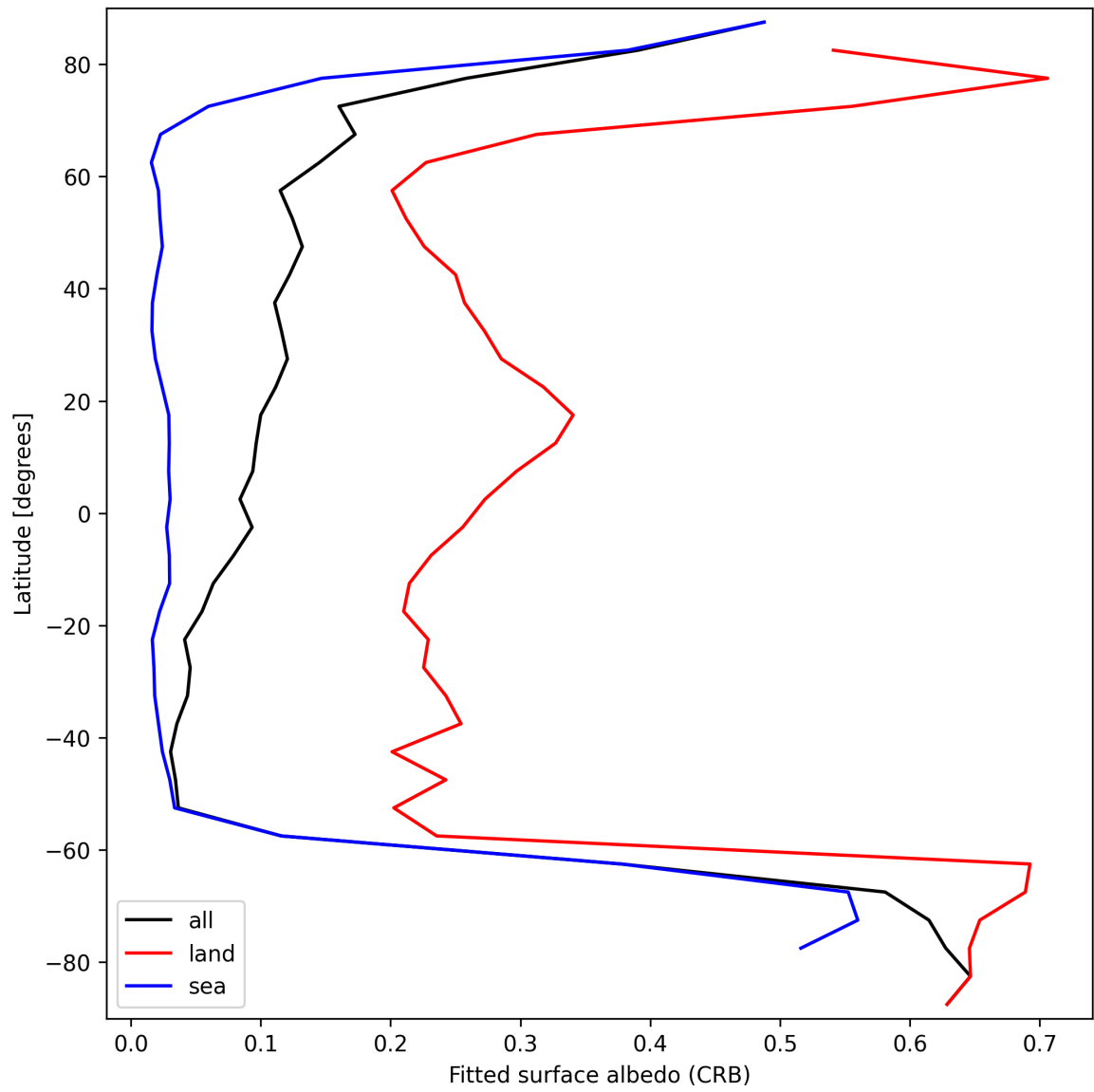


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-13 to 2025-09-13.

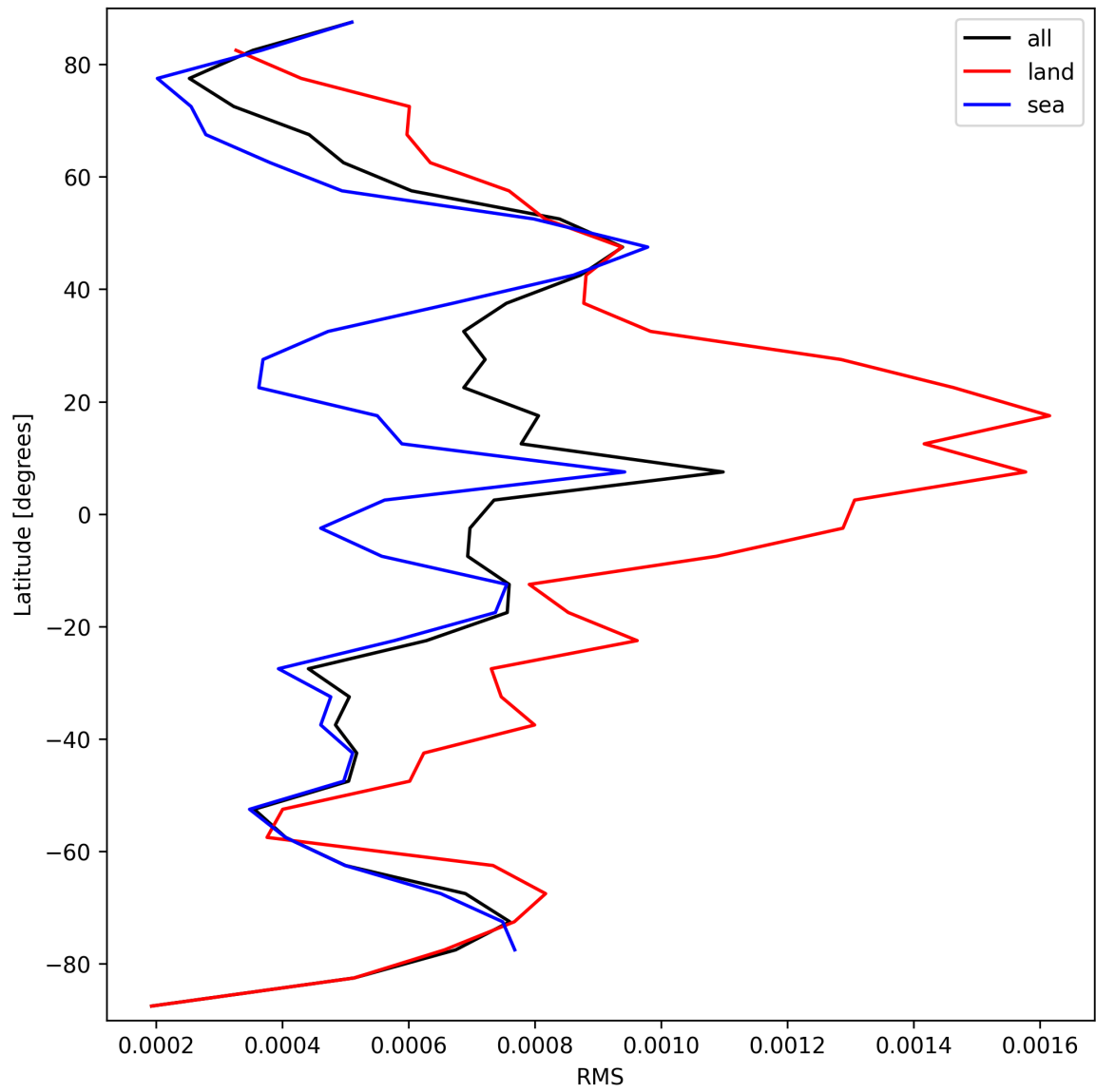


Figure 29: Zonal average of “RMS” for 2025-09-13 to 2025-09-13.

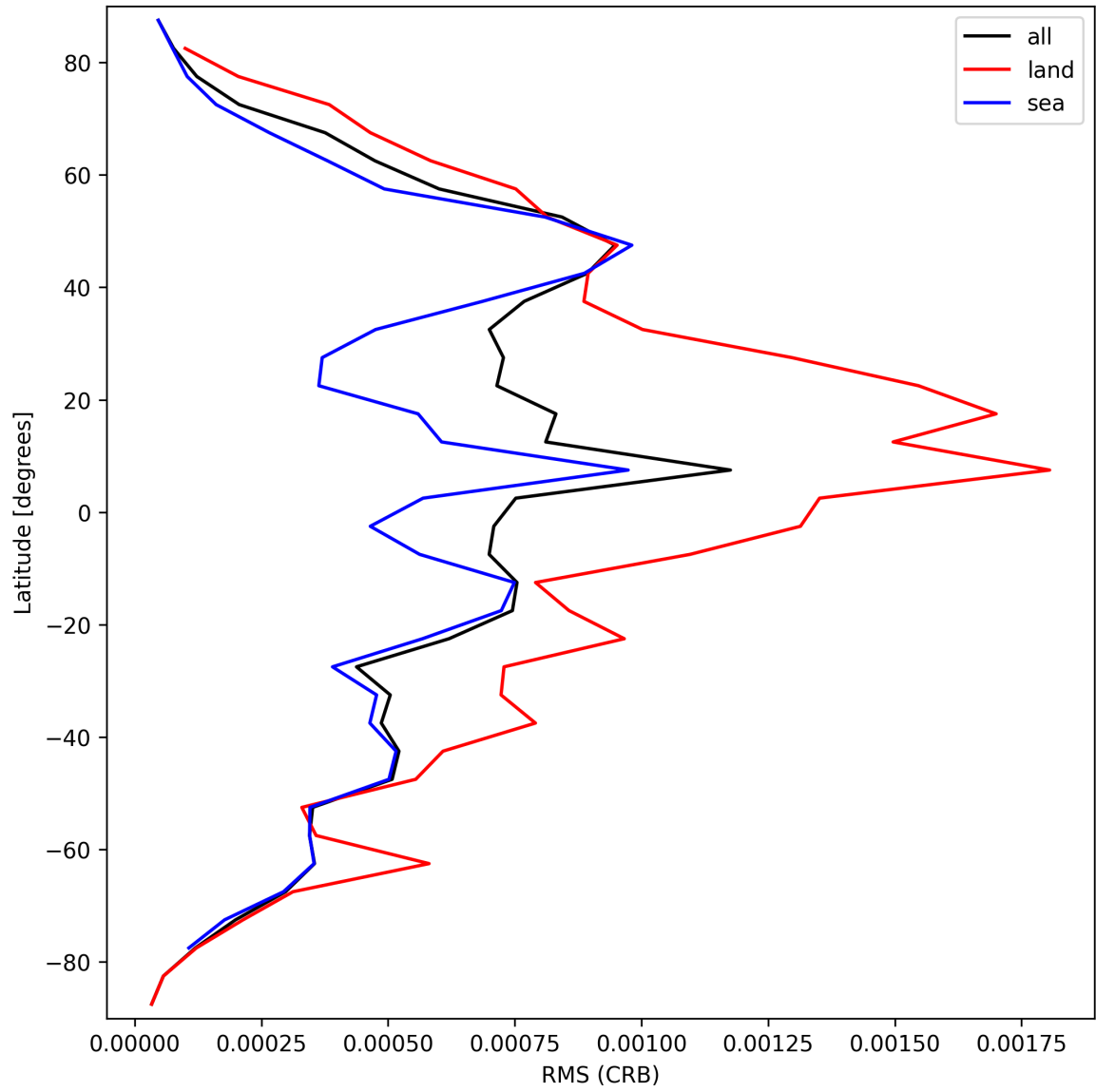


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-13 to 2025-09-13.

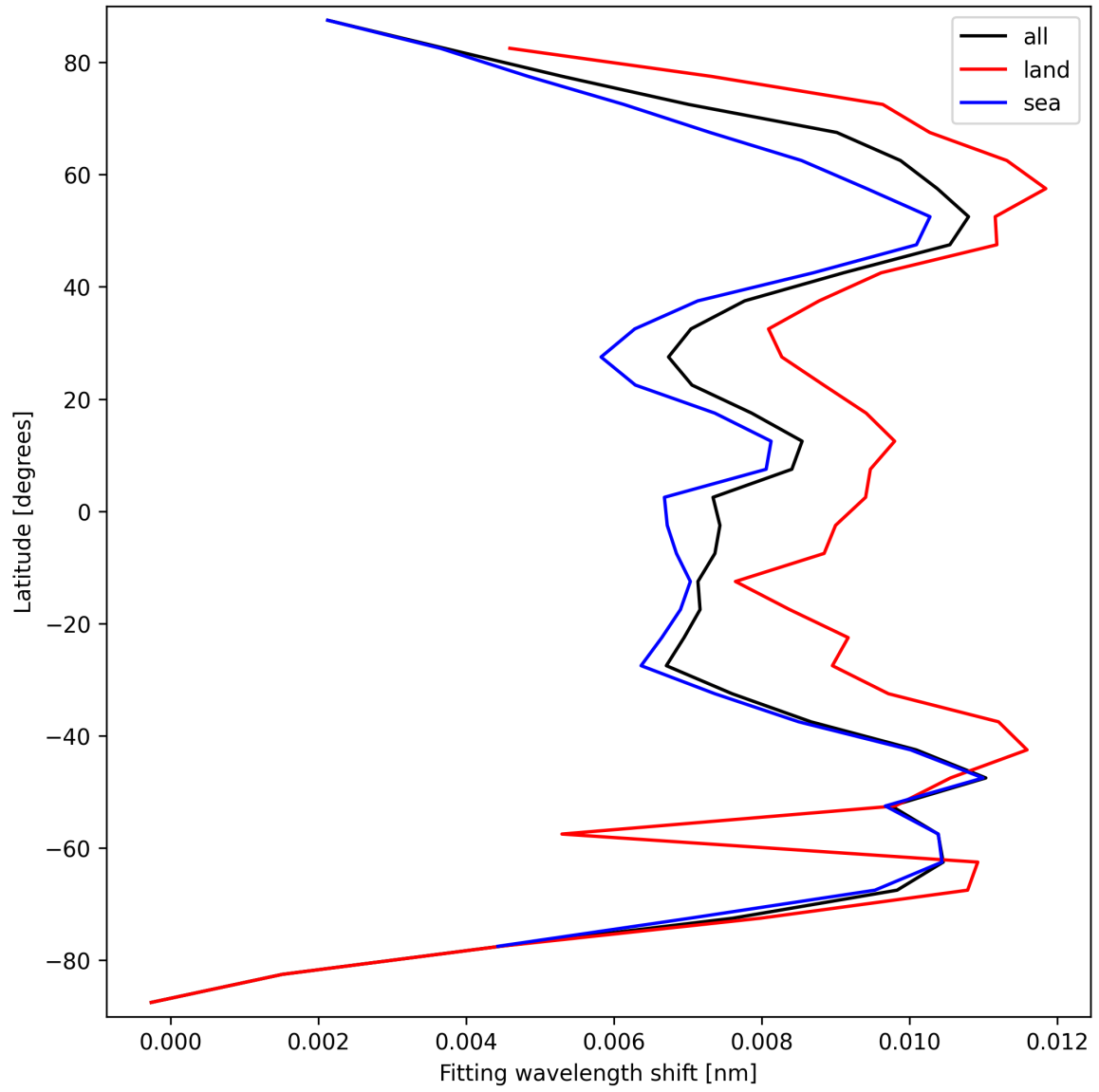


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-13 to 2025-09-13.

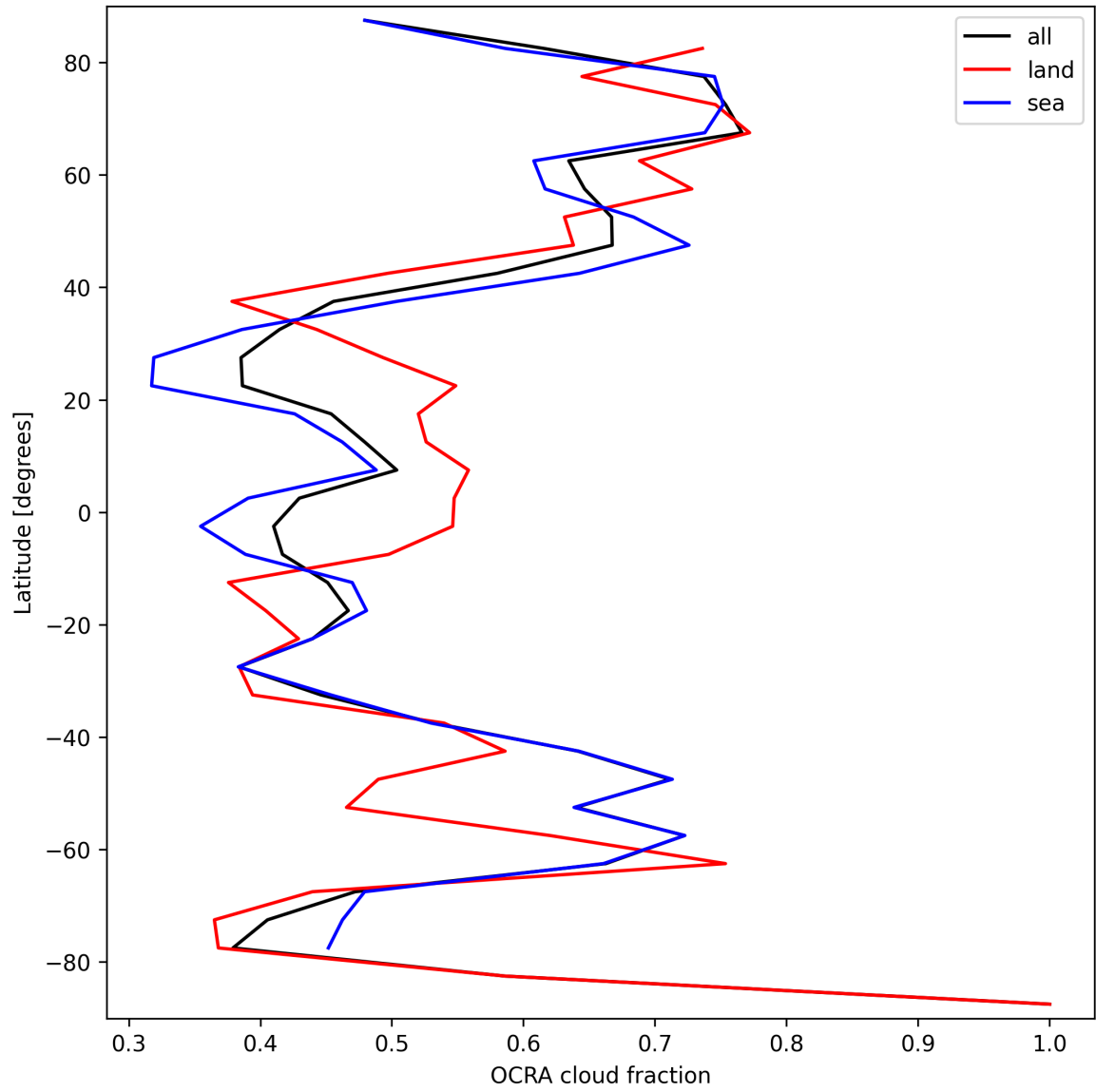


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-13 to 2025-09-13.

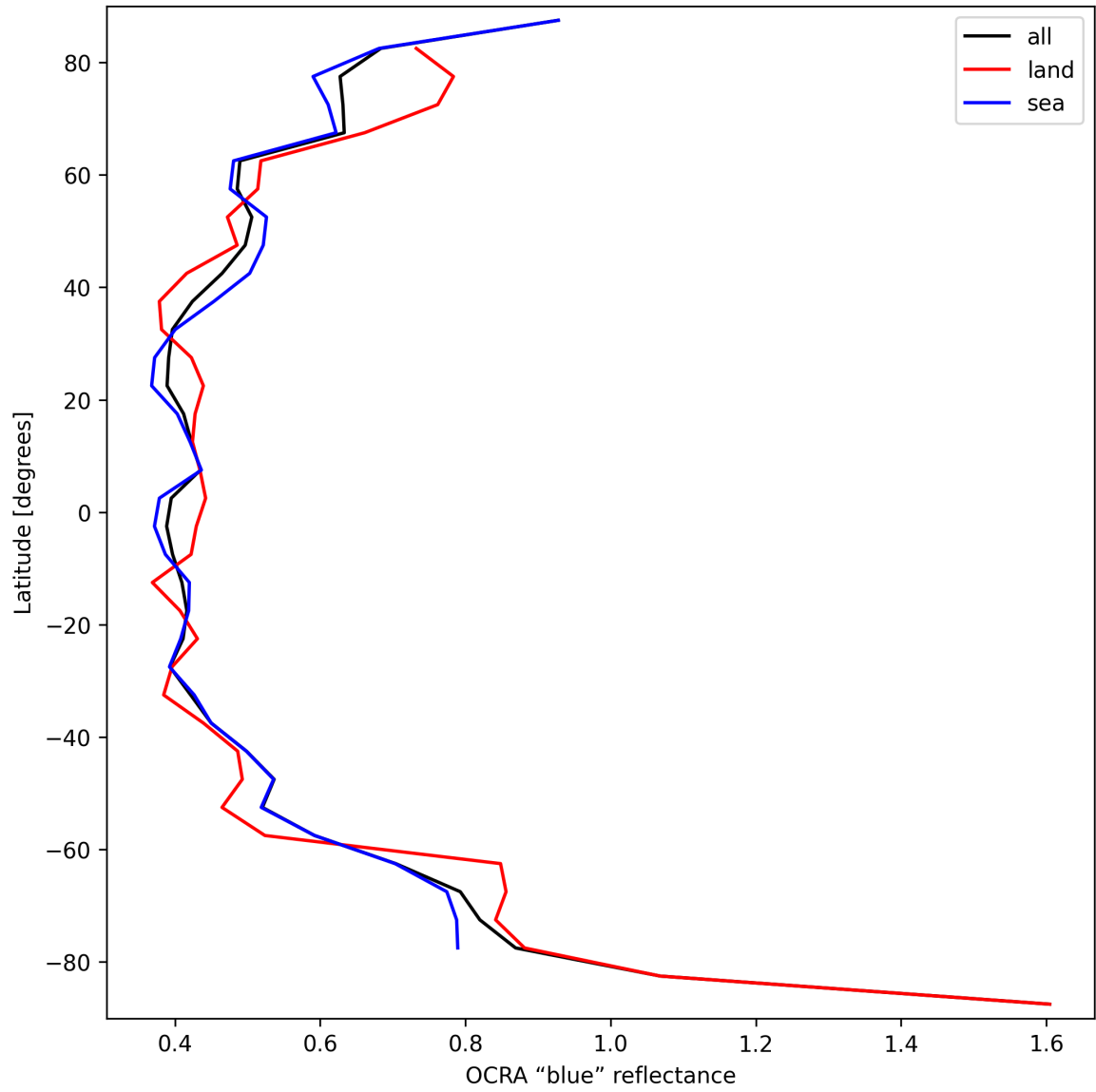


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-09-13 to 2025-09-13.

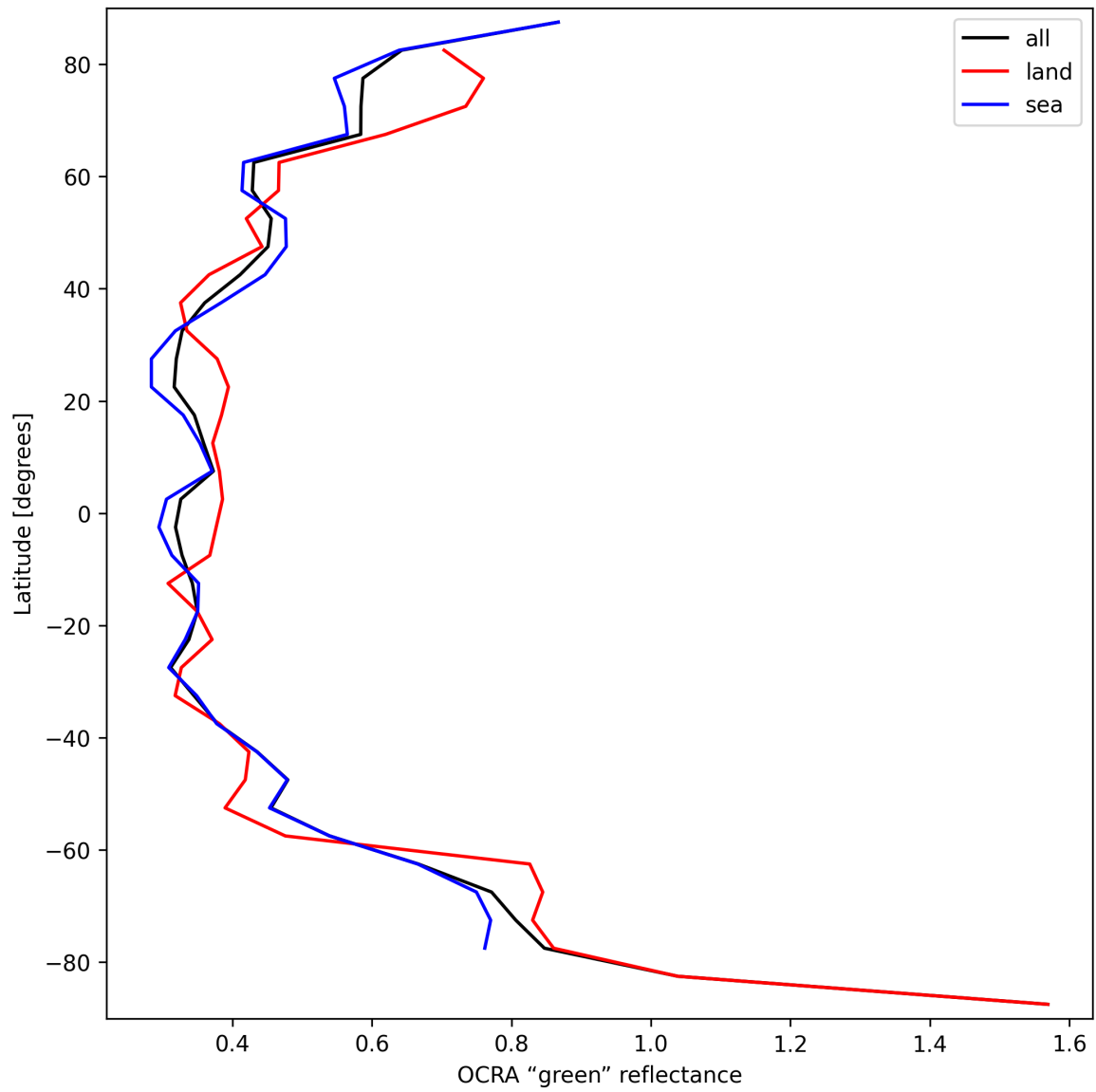


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-13 to 2025-09-13.

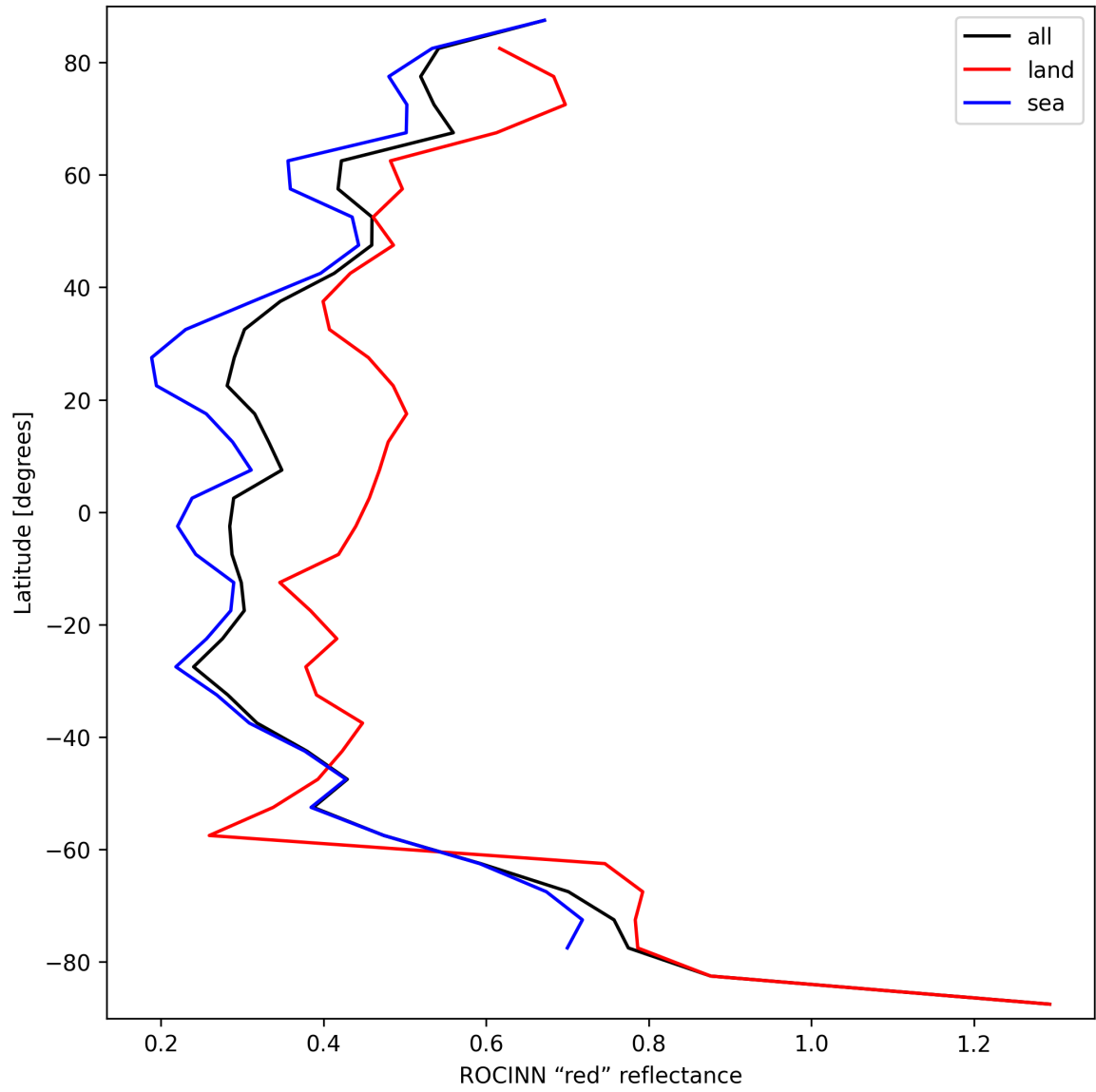


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-09-13 to 2025-09-13.

8 Histograms

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

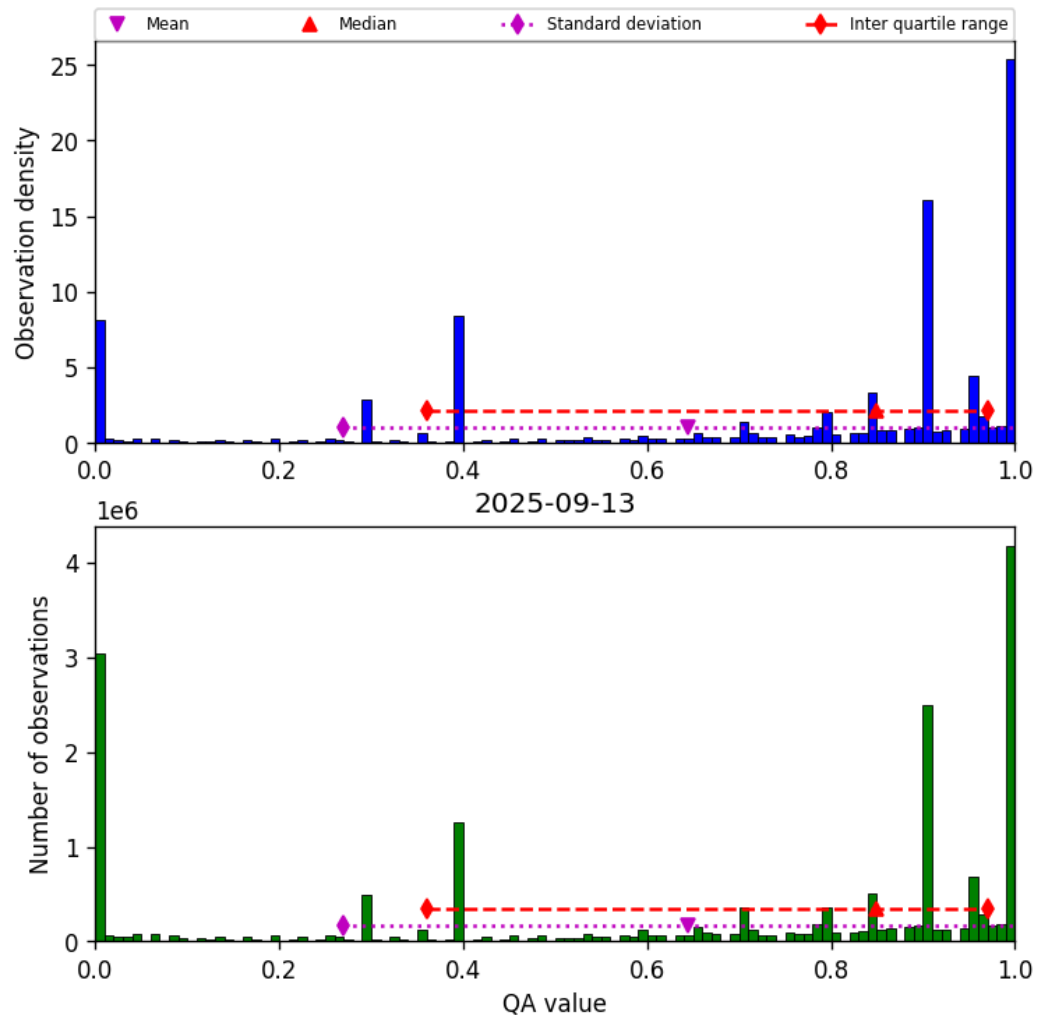


Figure 36: Histogram of “QA value” for 2025-09-13 to 2025-09-13

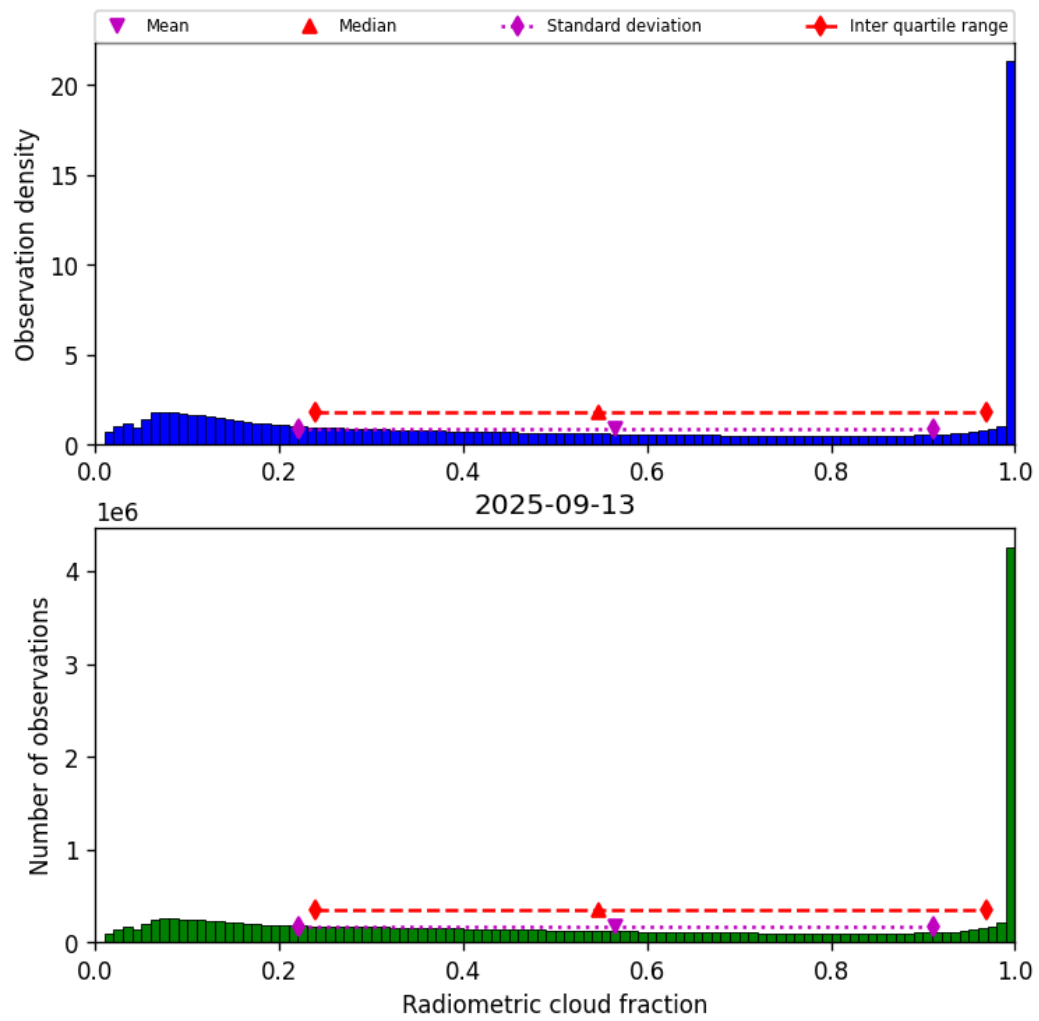


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-13 to 2025-09-13

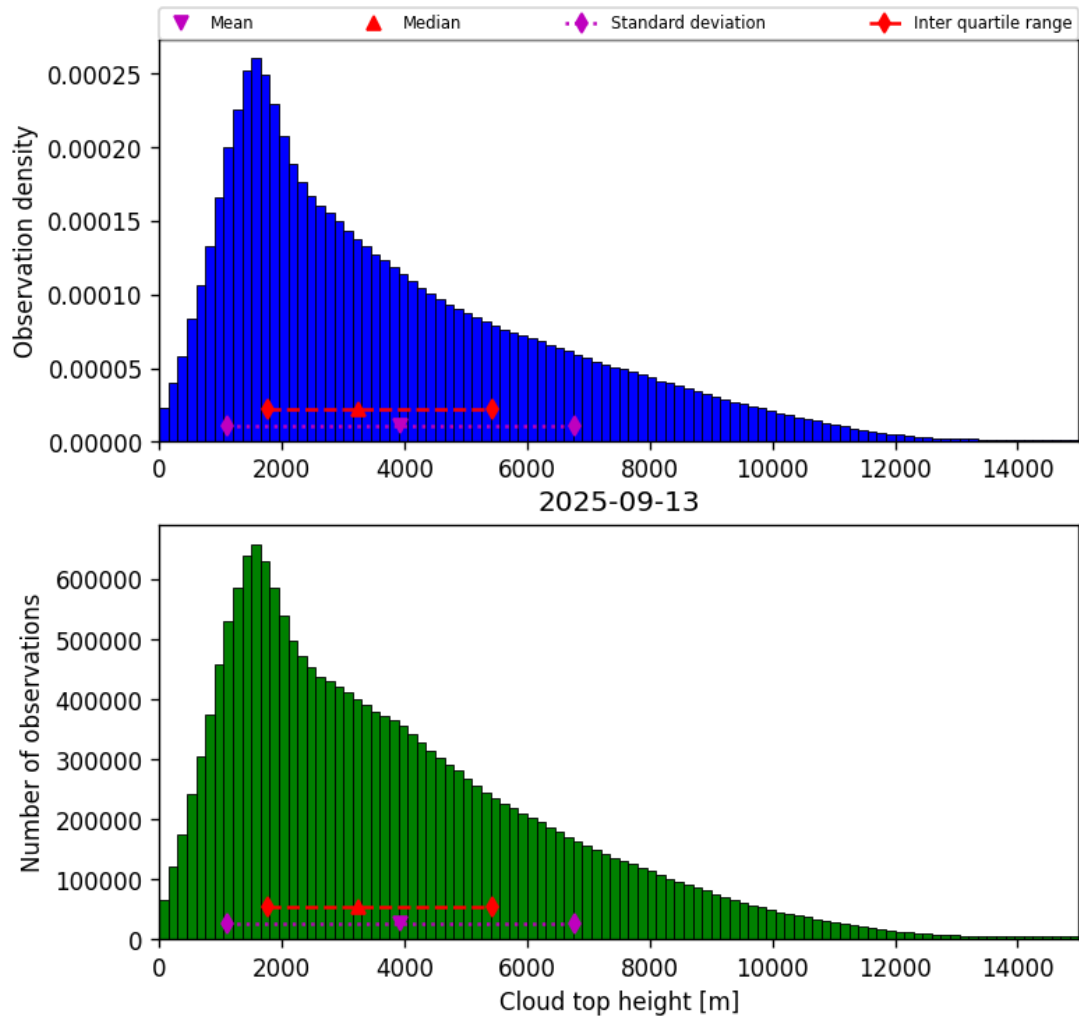


Figure 38: Histogram of “Cloud top height” for 2025-09-13 to 2025-09-13

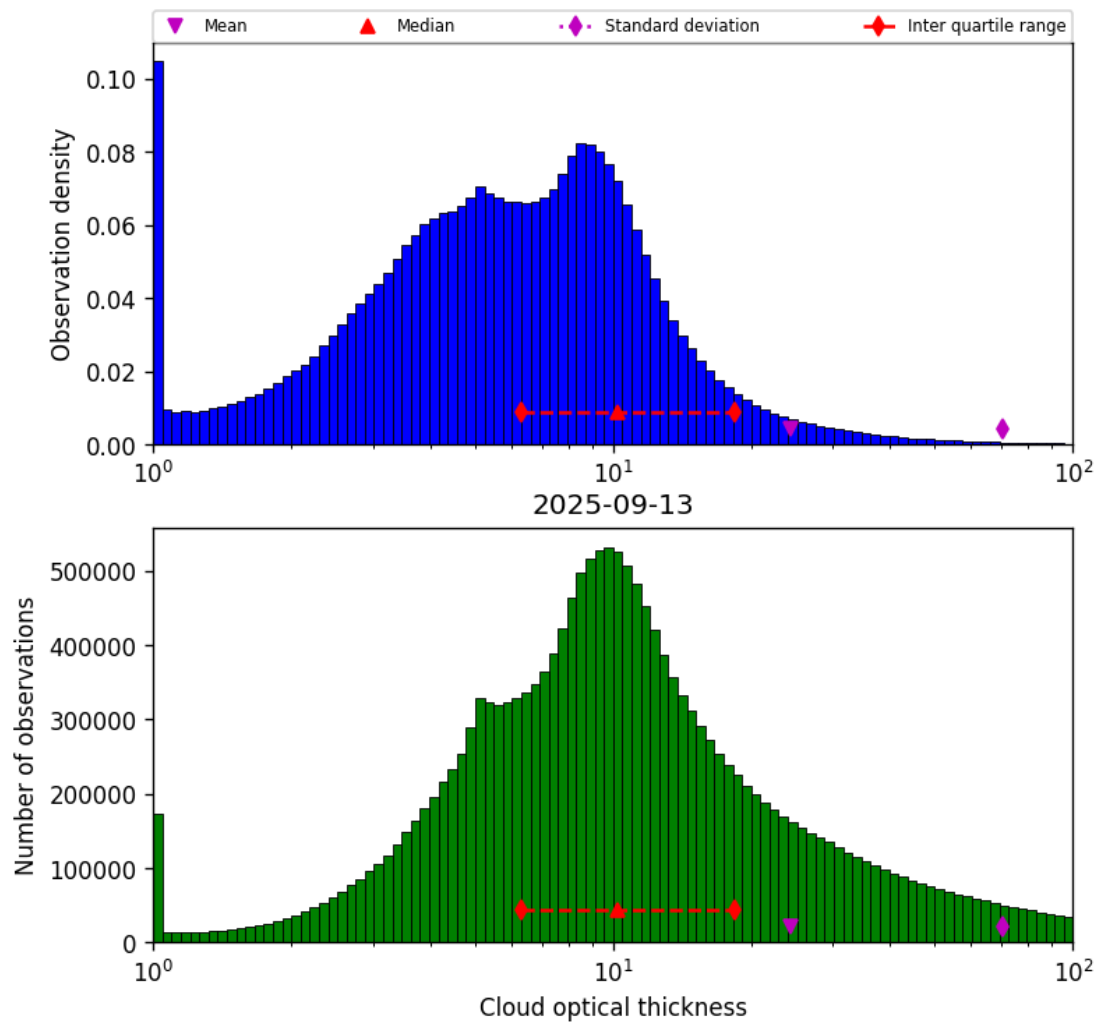


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-13 to 2025-09-13

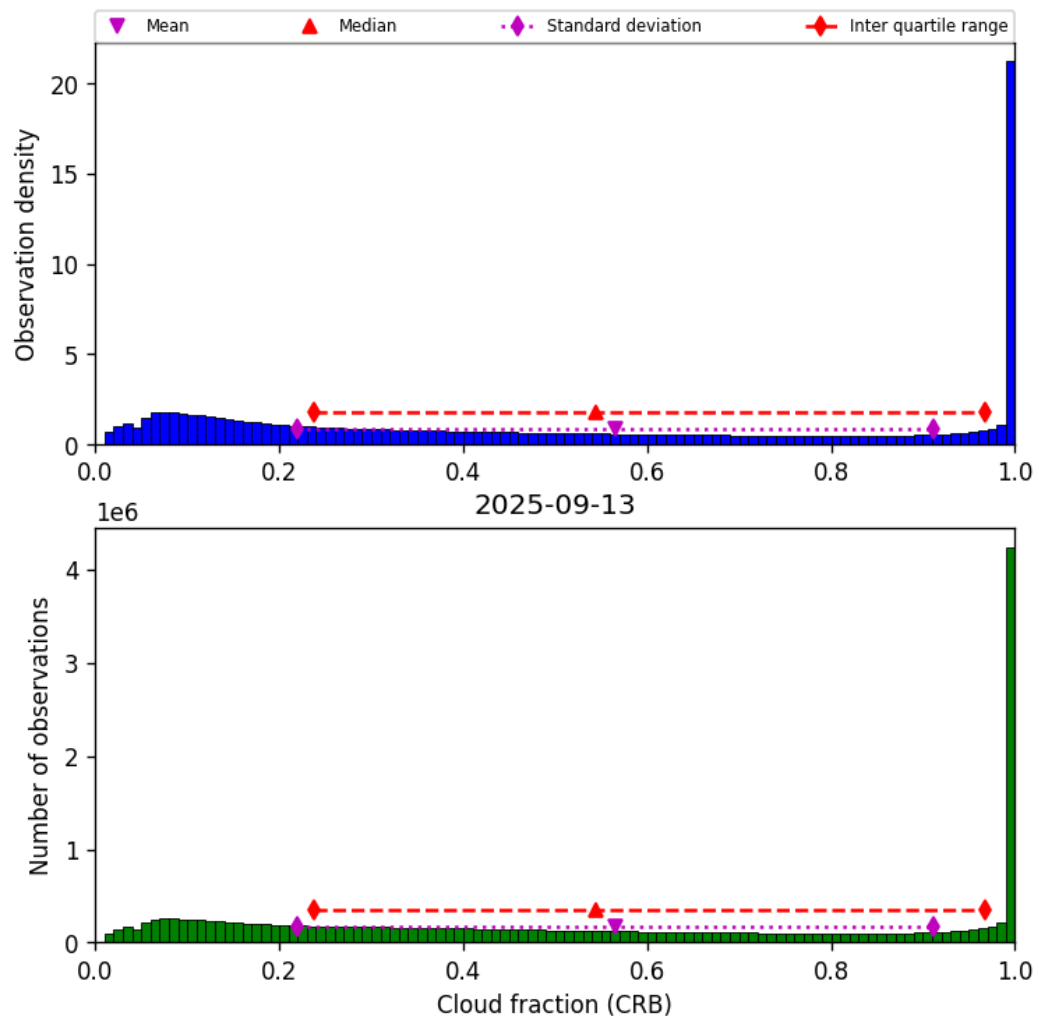


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-09-13 to 2025-09-13

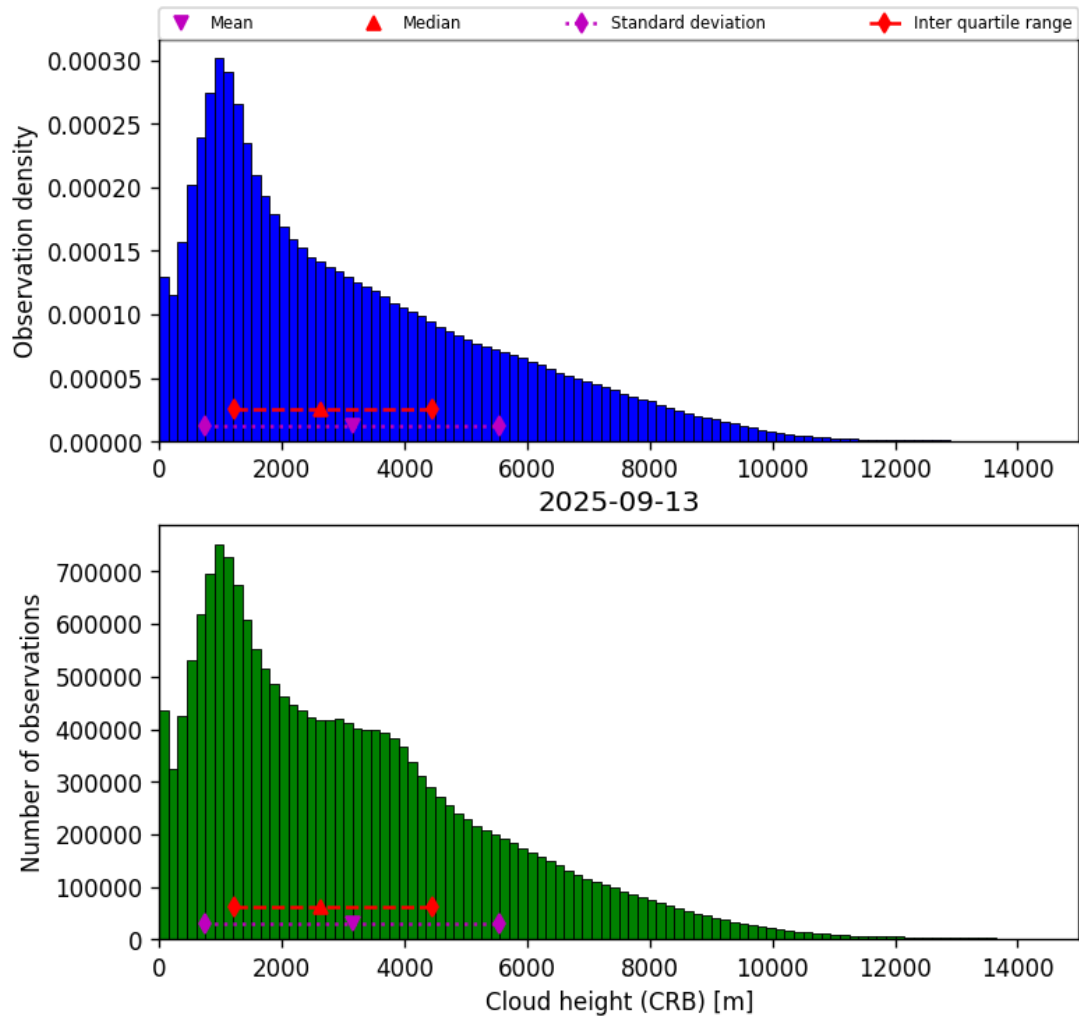


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-13 to 2025-09-13

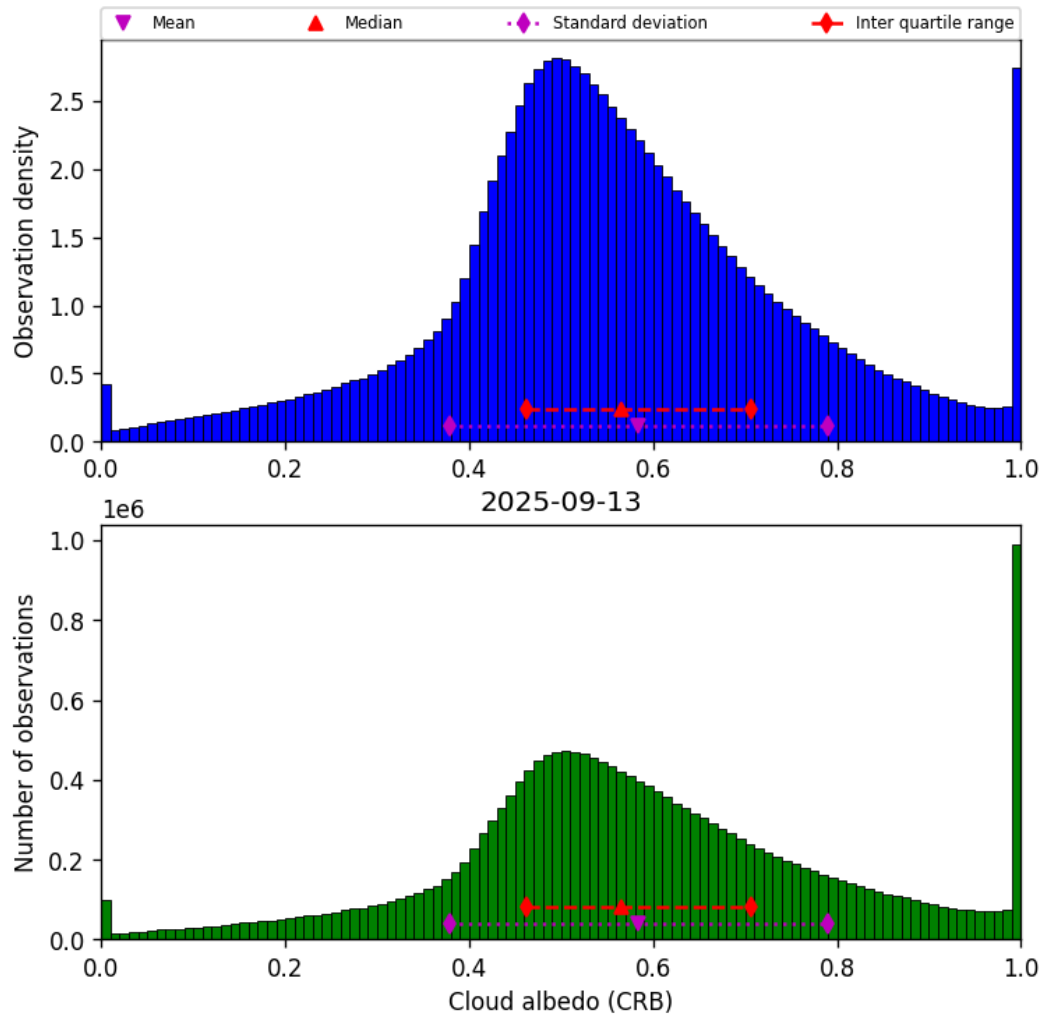


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-13 to 2025-09-13

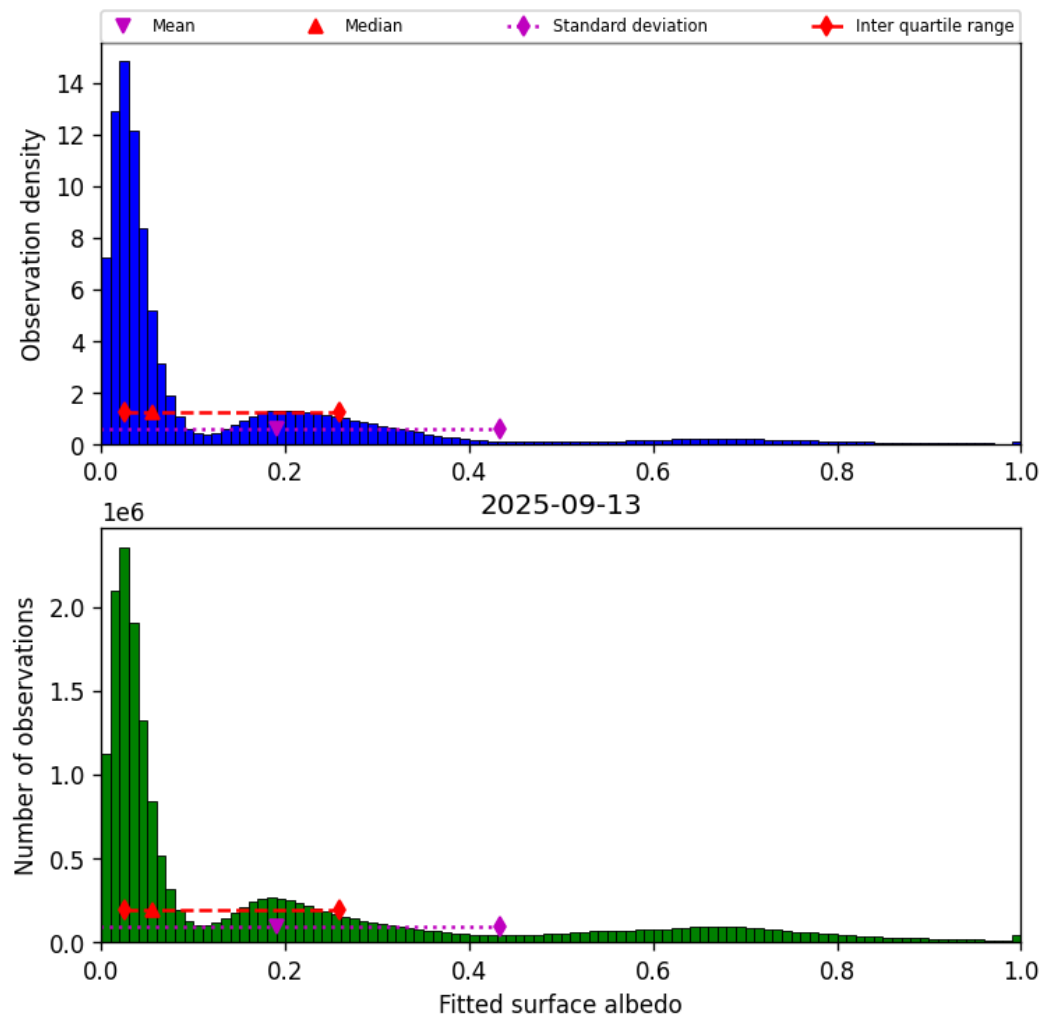


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-13 to 2025-09-13

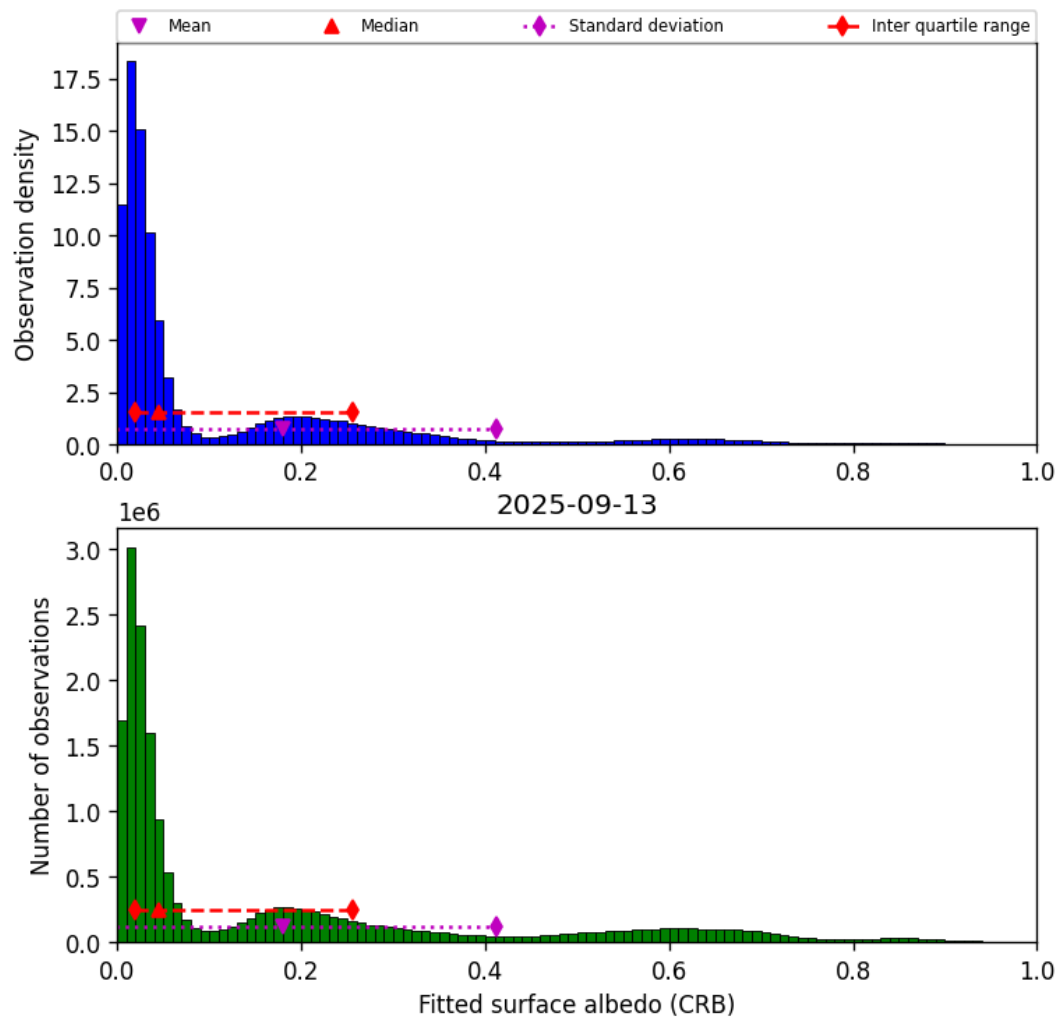


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-13 to 2025-09-13

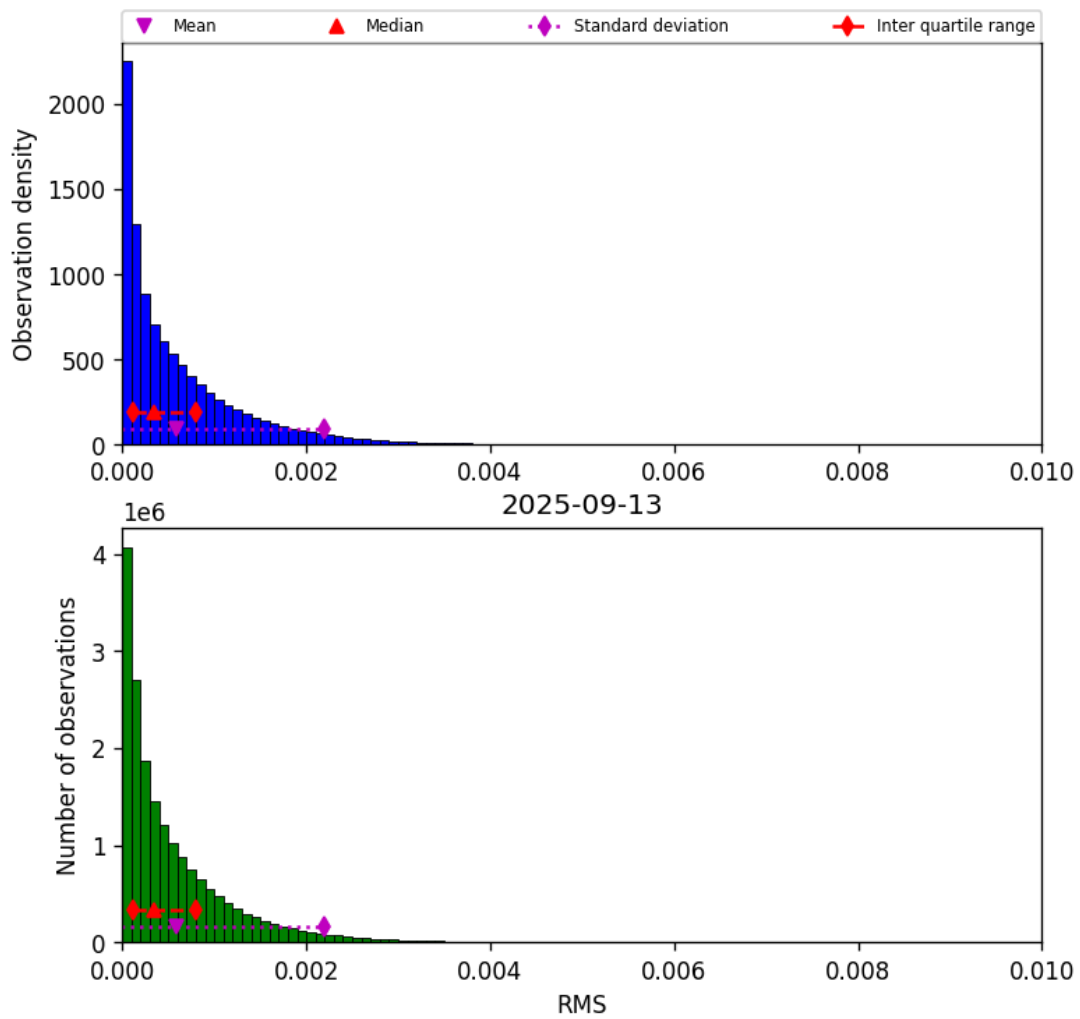


Figure 45: Histogram of “RMS” for 2025-09-13 to 2025-09-13

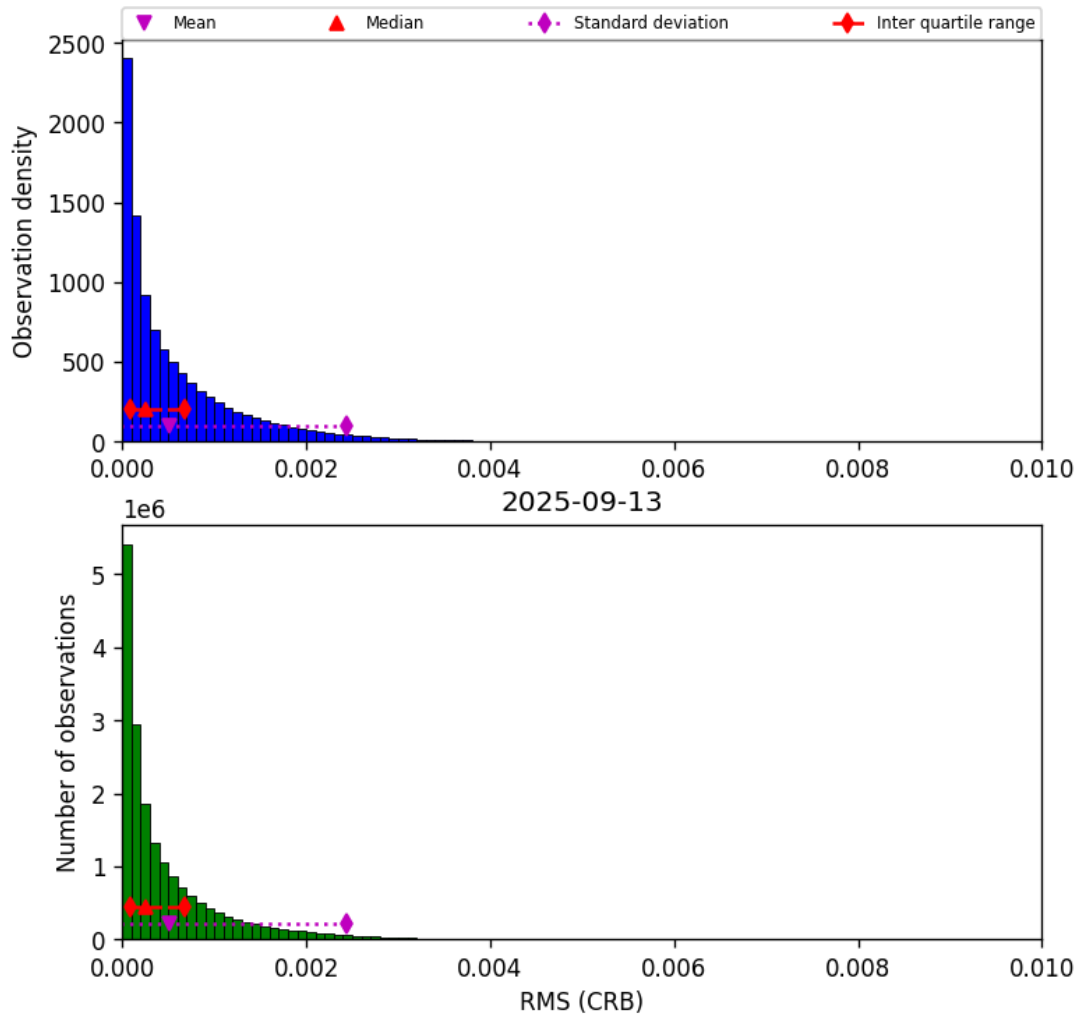


Figure 46: Histogram of “RMS (CRB)” for 2025-09-13 to 2025-09-13

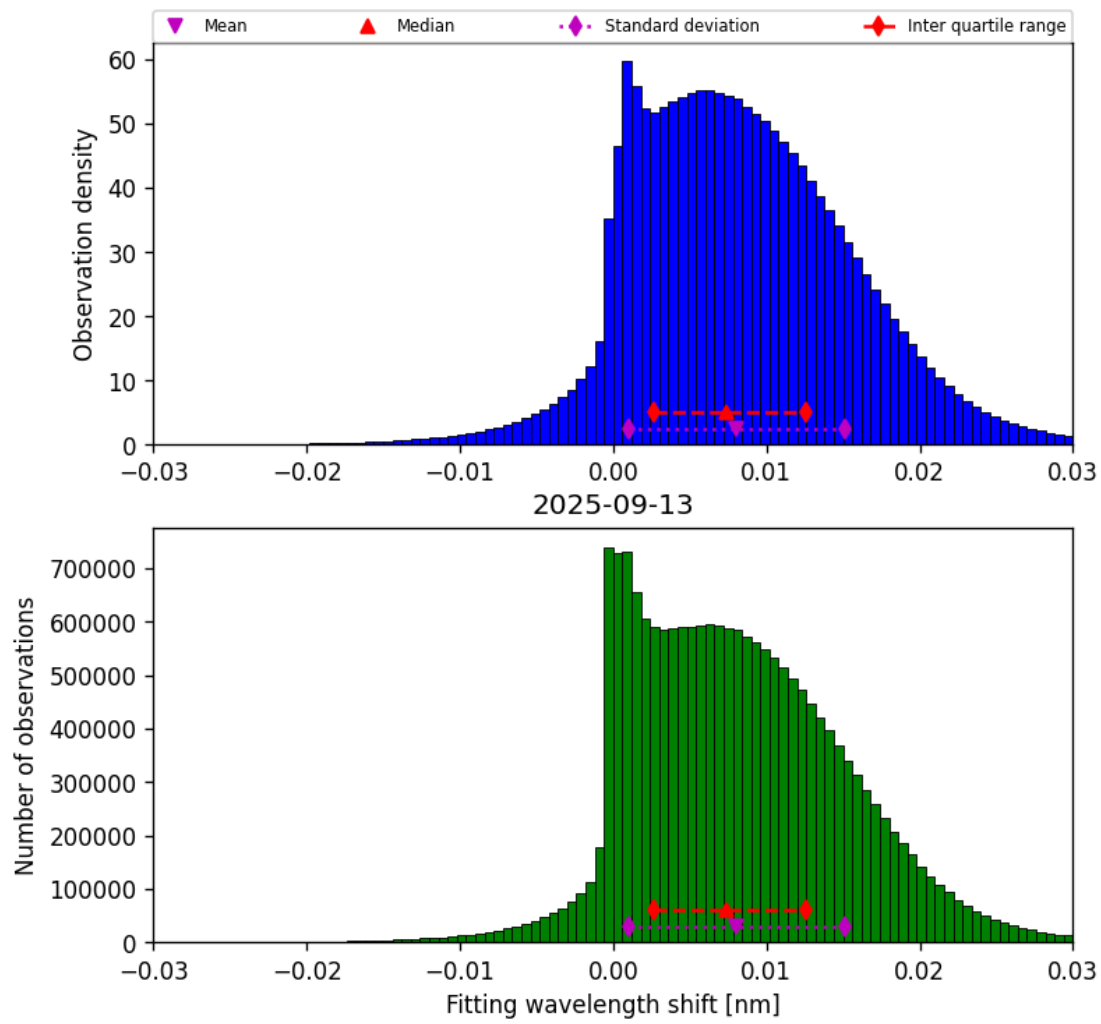


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-13 to 2025-09-13

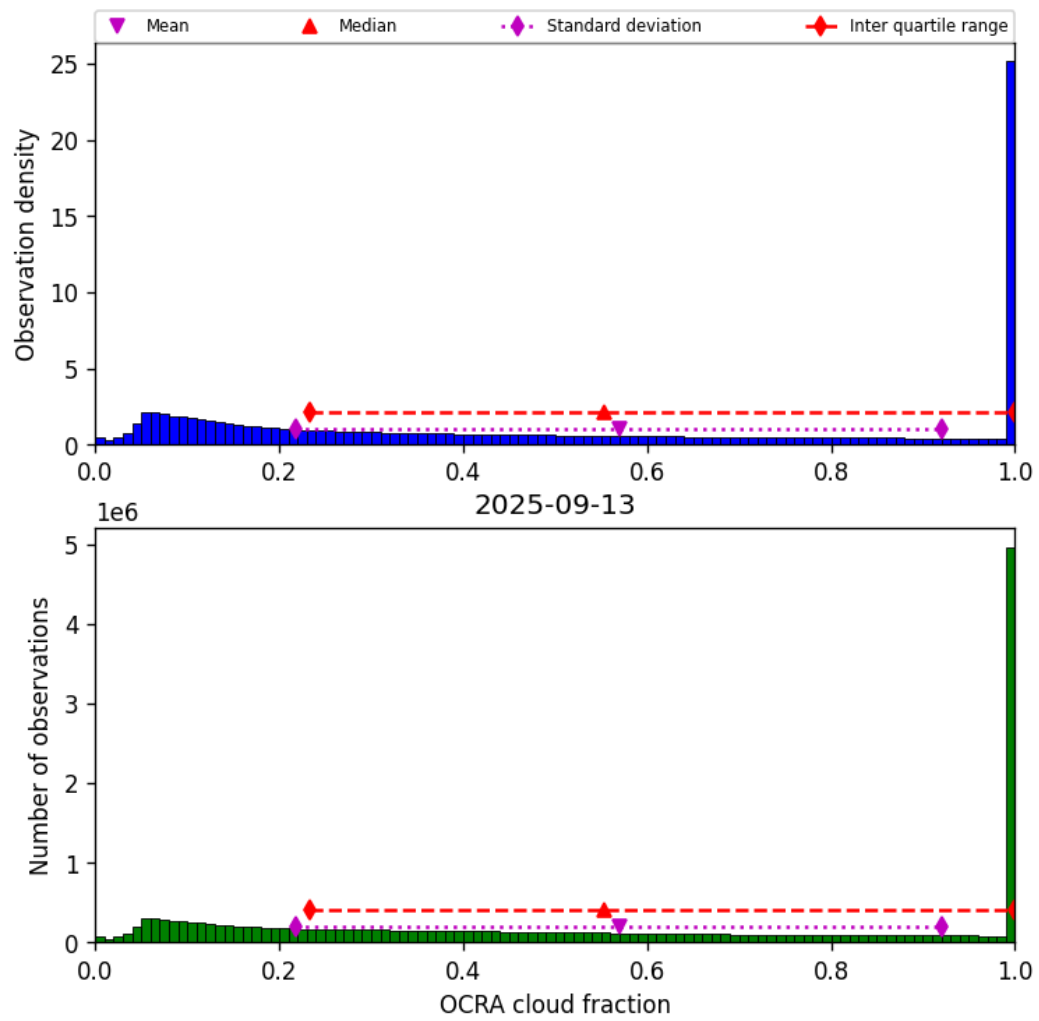


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-13 to 2025-09-13

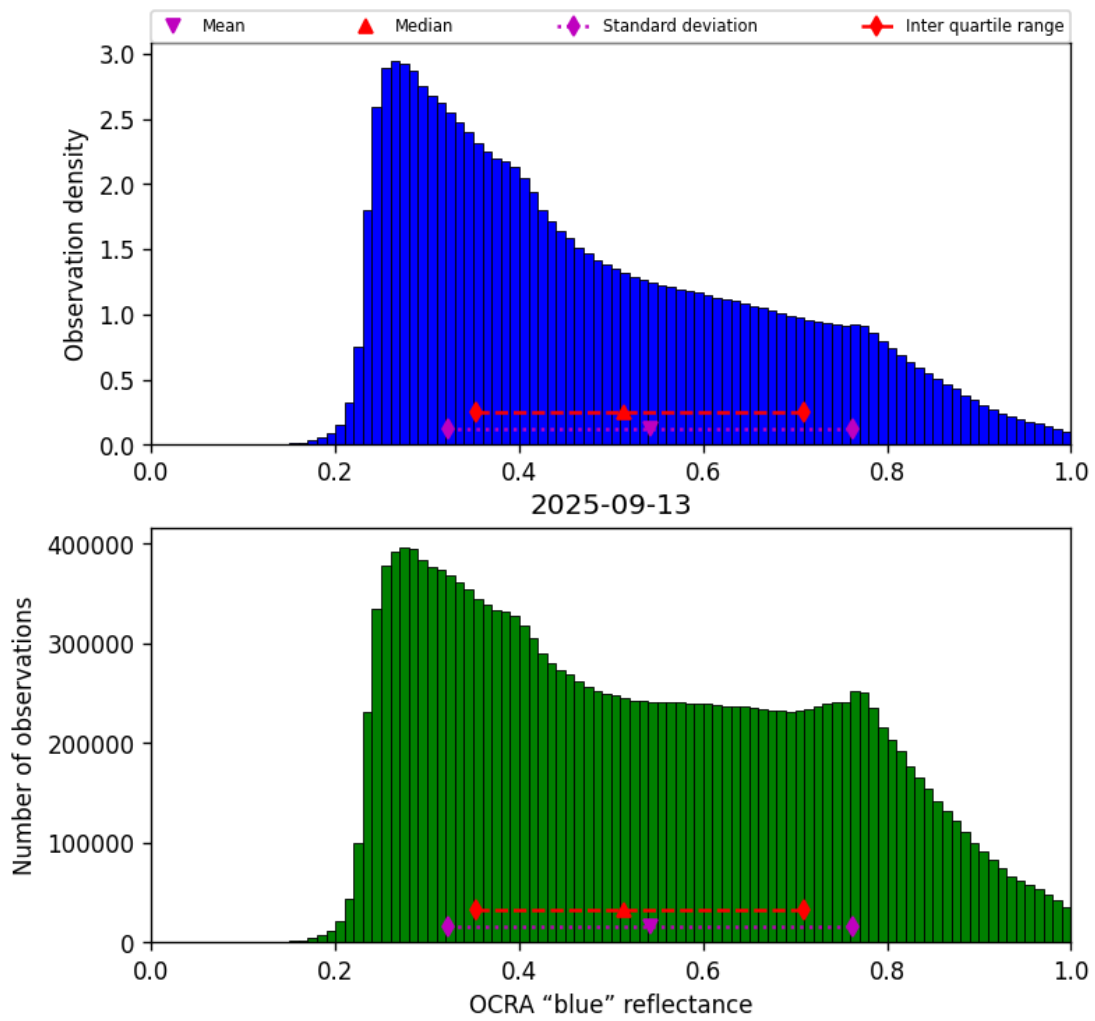


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-13 to 2025-09-13

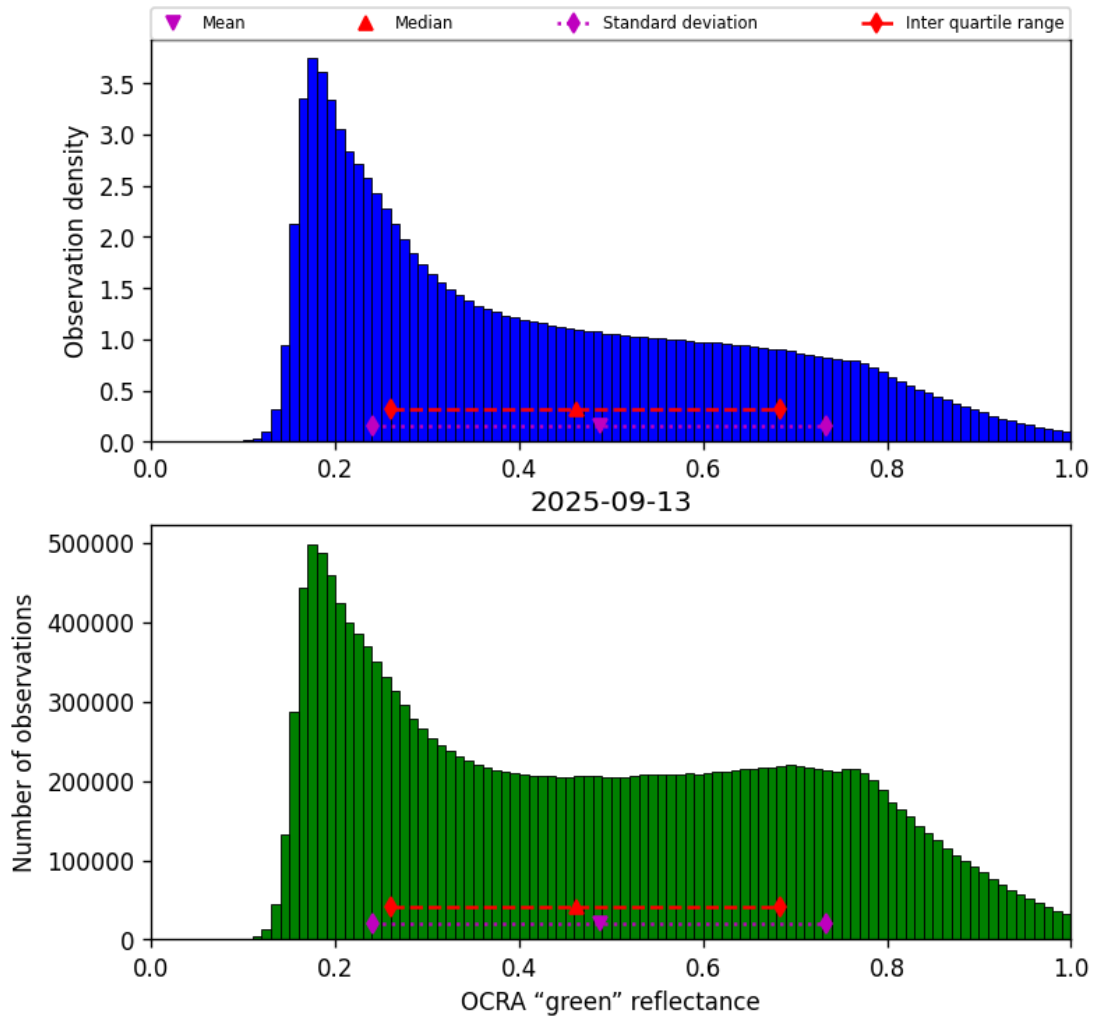


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-13 to 2025-09-13

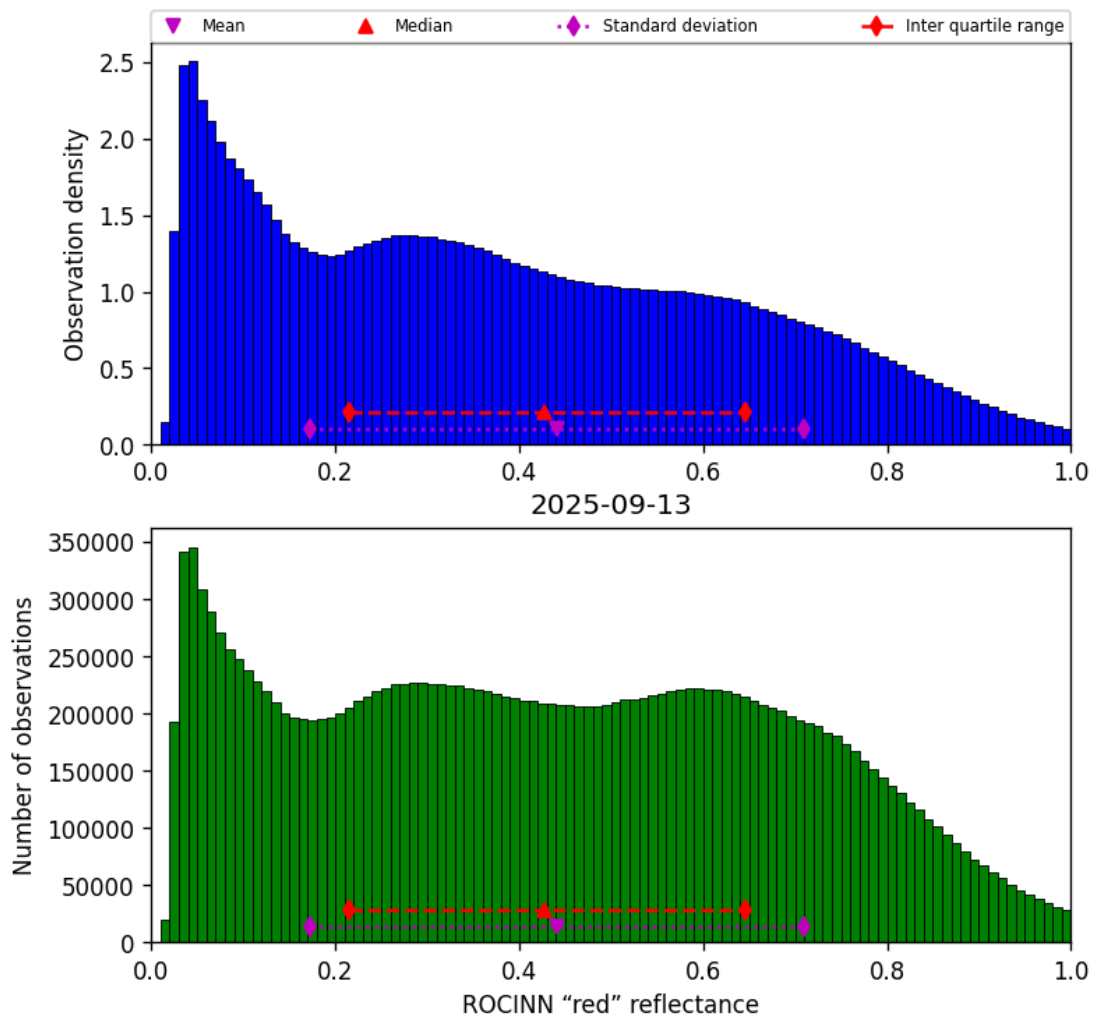


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-09-13 to 2025-09-13

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.

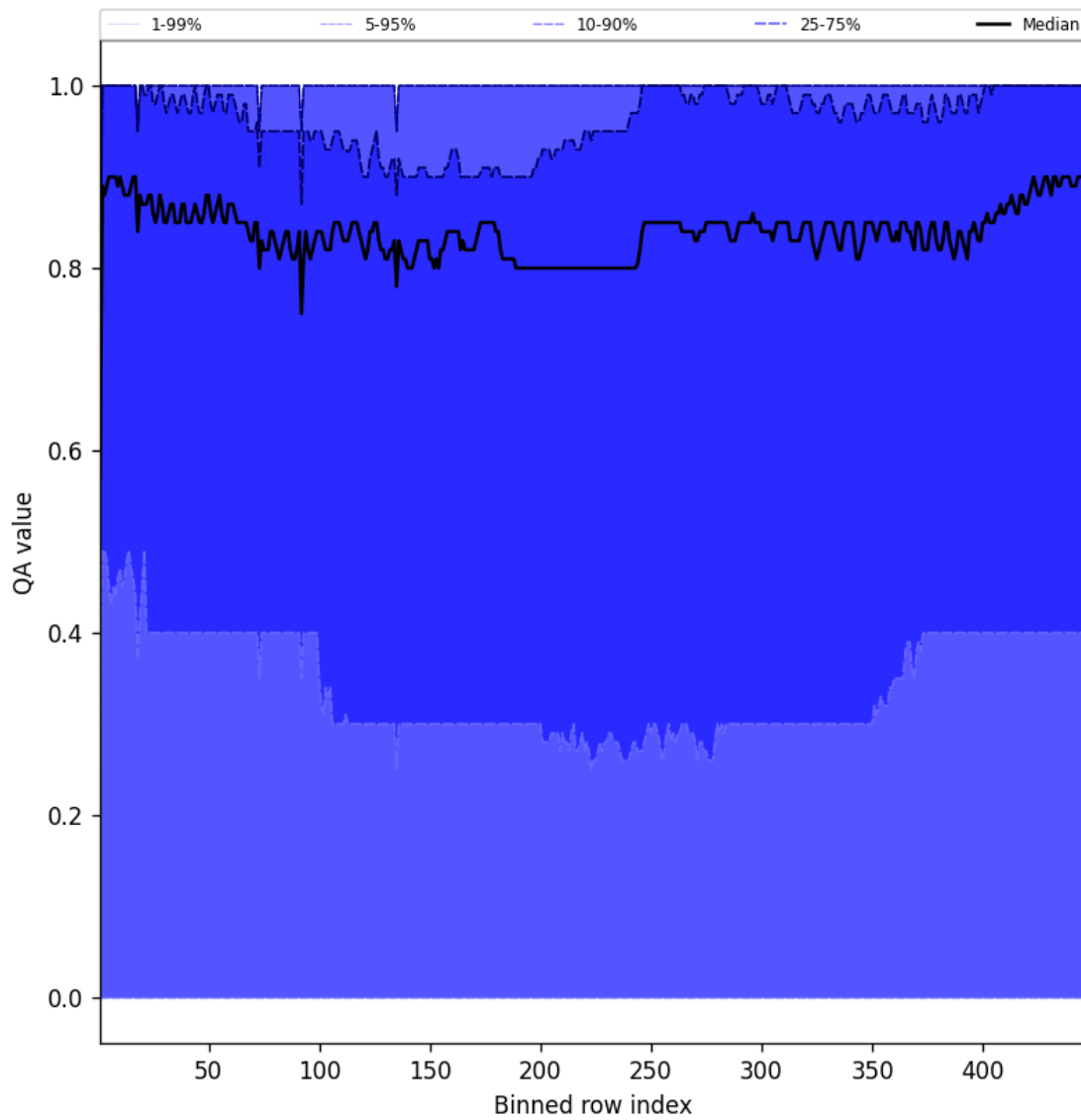


Figure 52: Along track statistics of “QA value” for 2025-09-13 to 2025-09-13

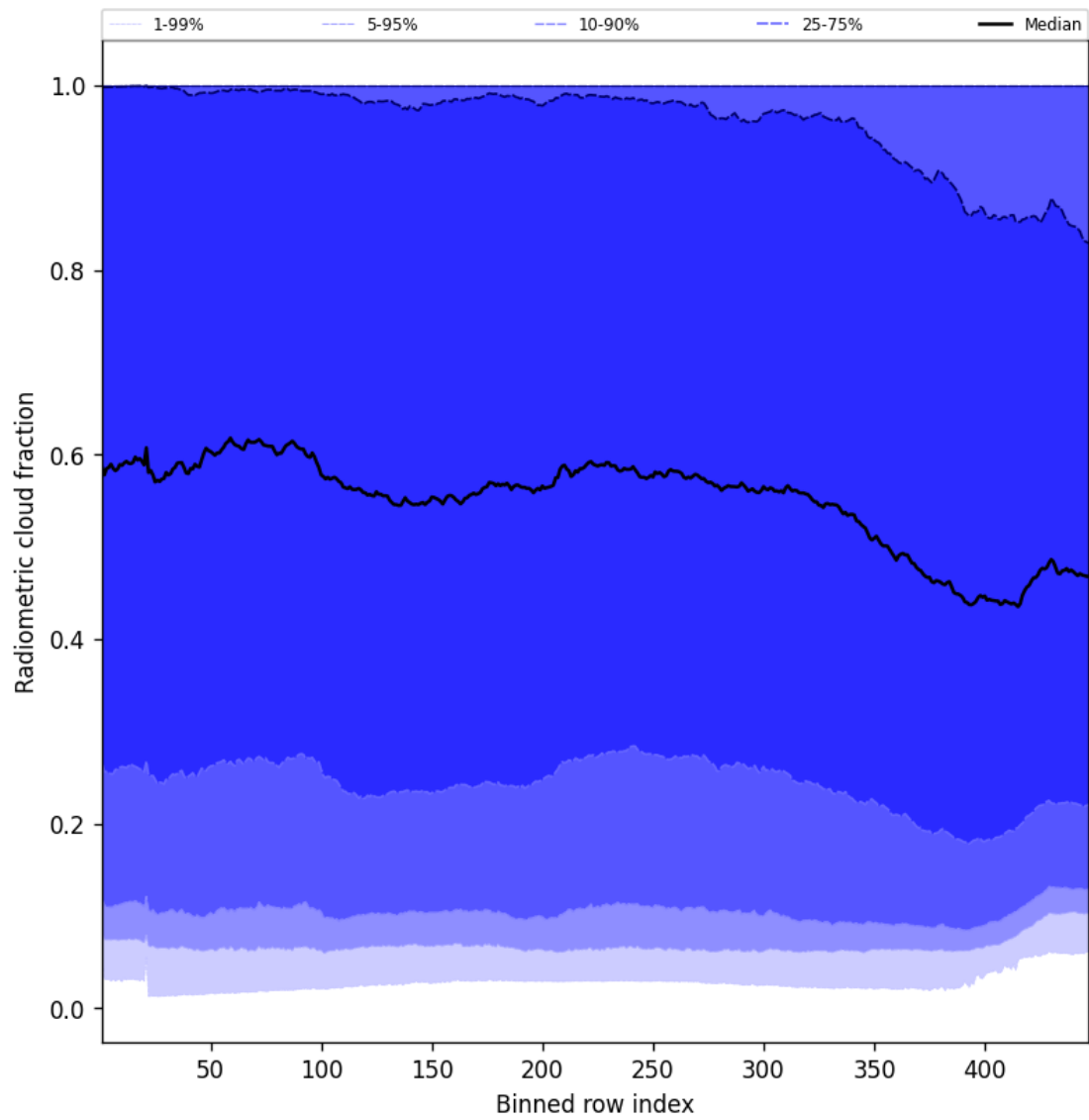


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-13 to 2025-09-13

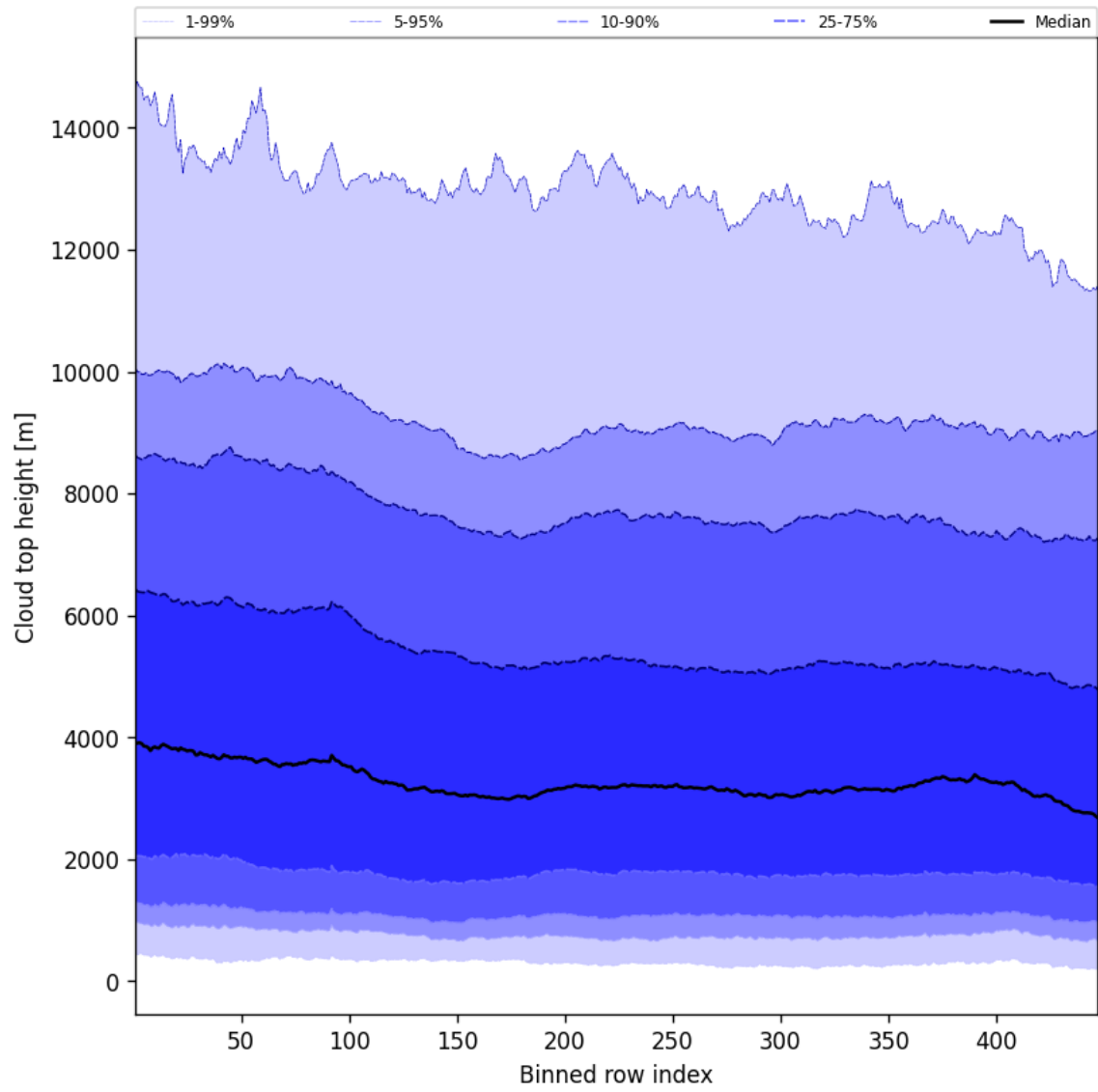


Figure 54: Along track statistics of “Cloud top height” for 2025-09-13 to 2025-09-13

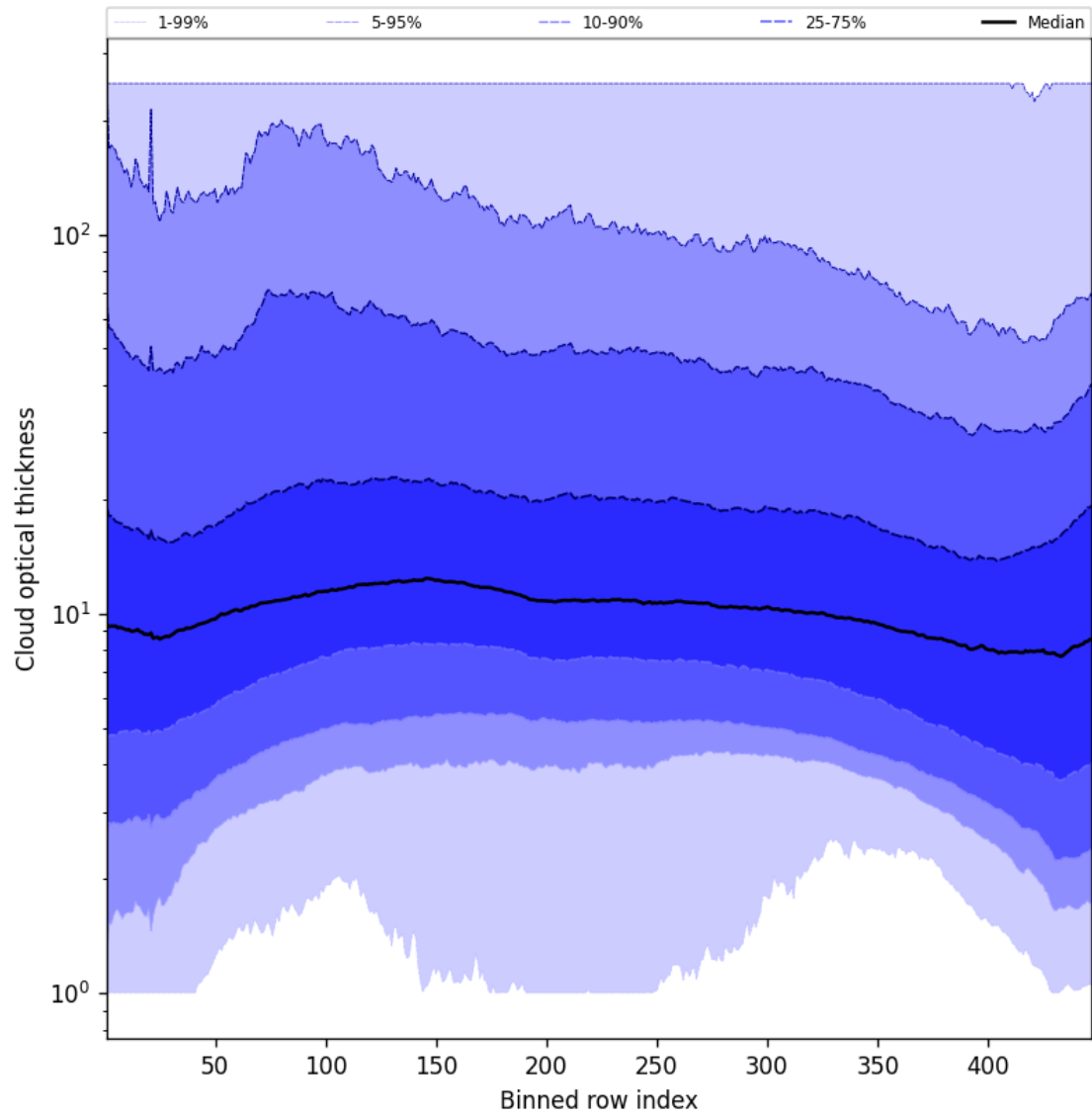


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-13 to 2025-09-13

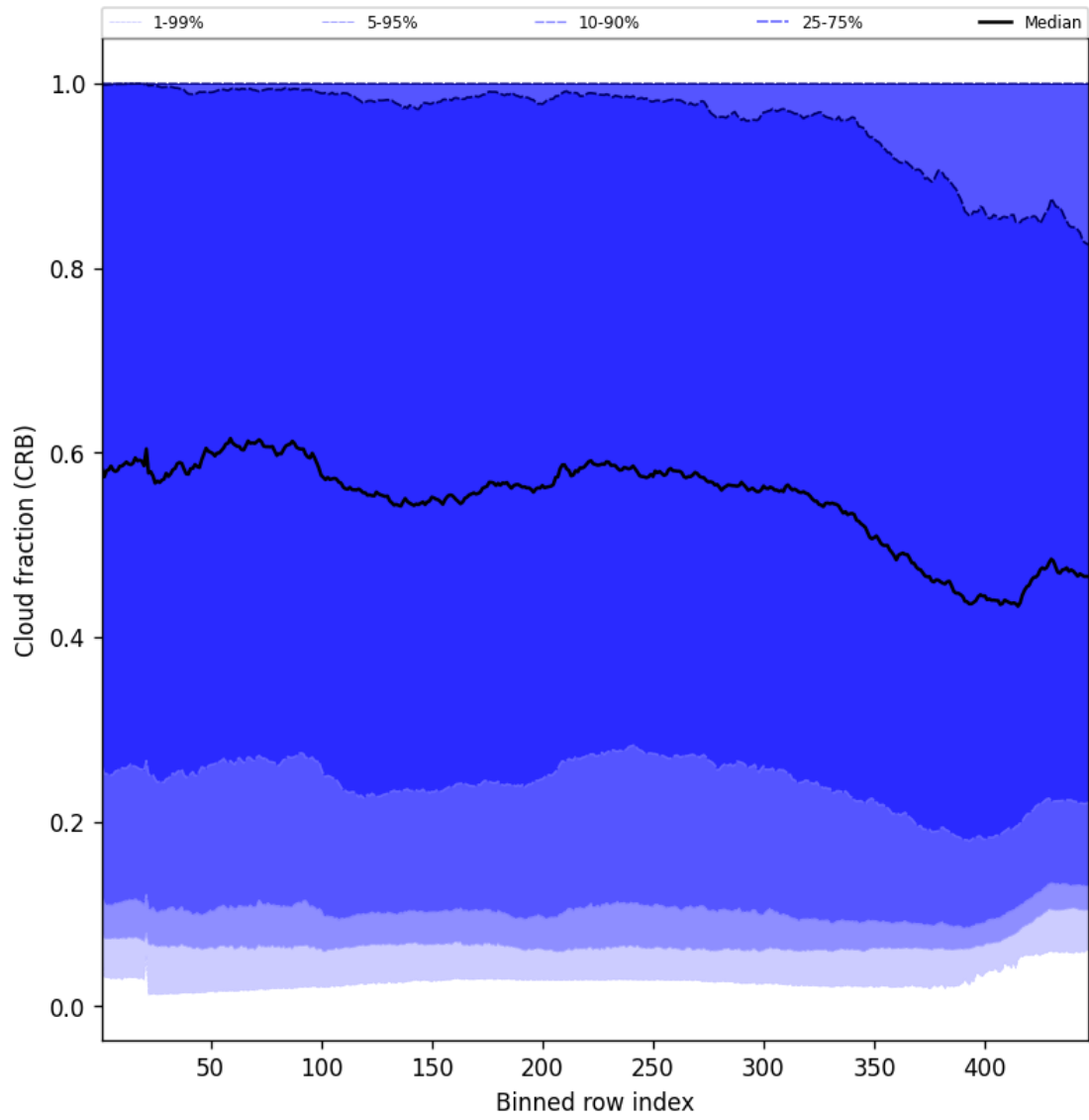


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-13 to 2025-09-13

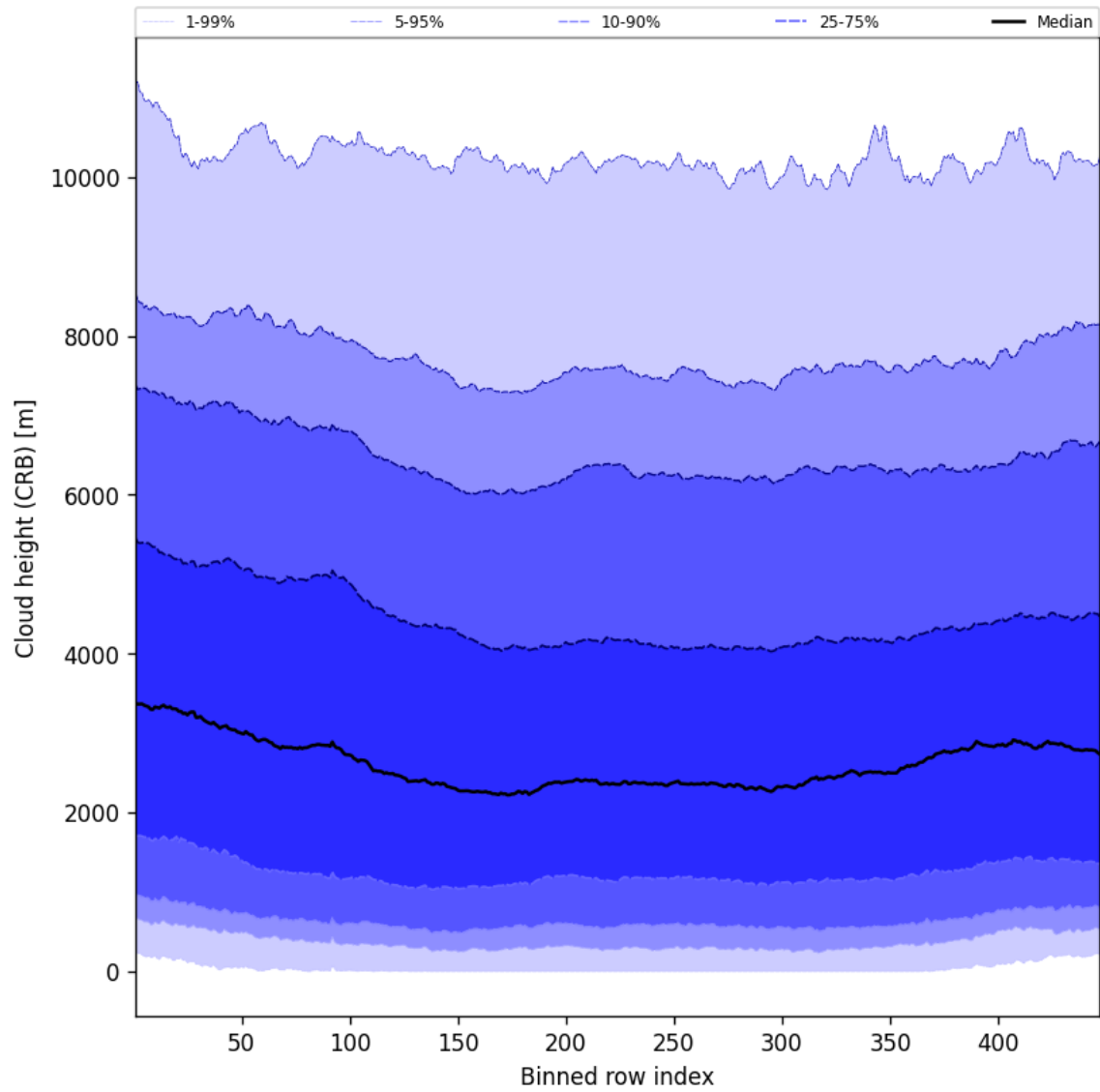


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-13 to 2025-09-13

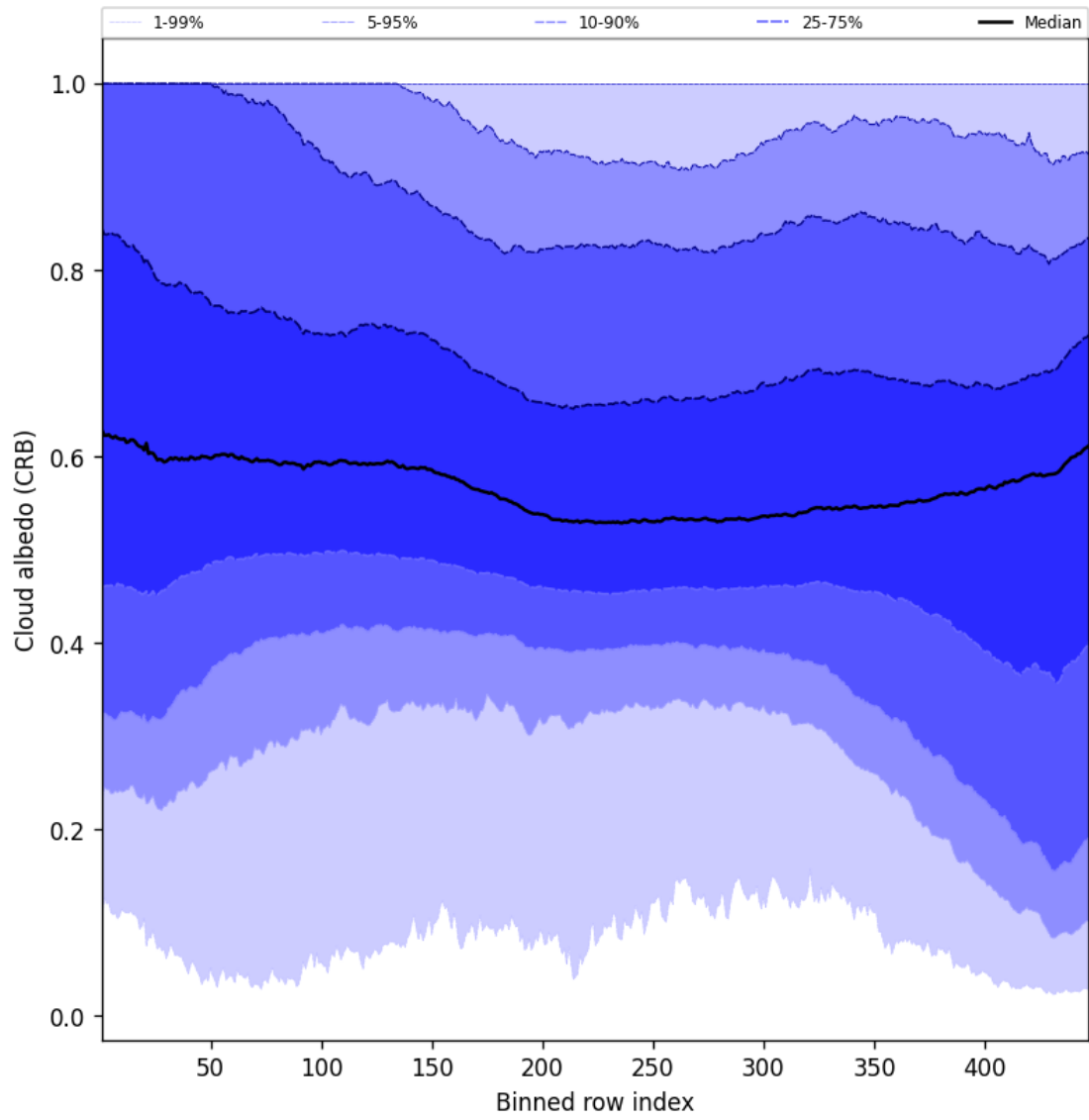
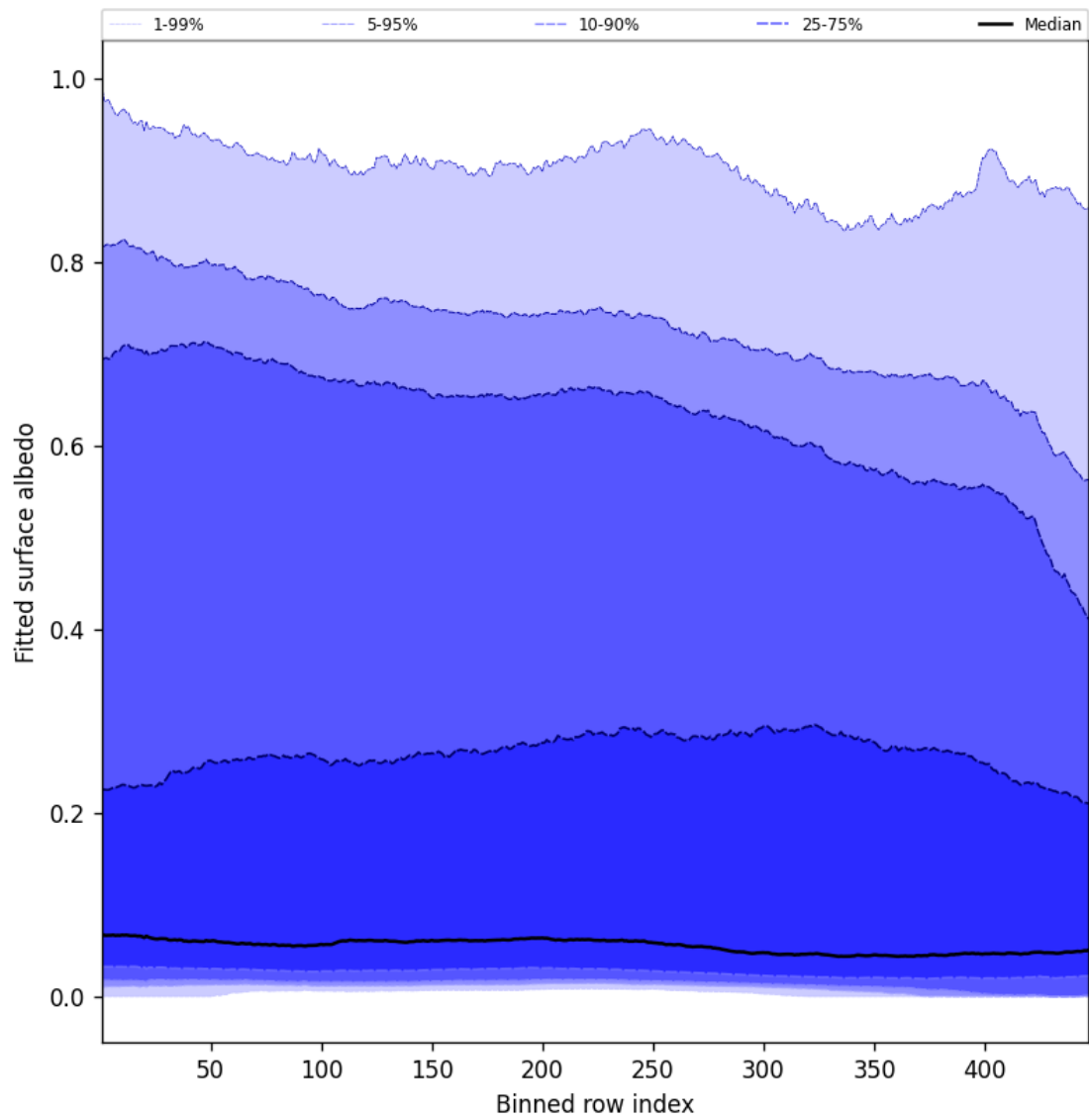


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-13 to 2025-09-13



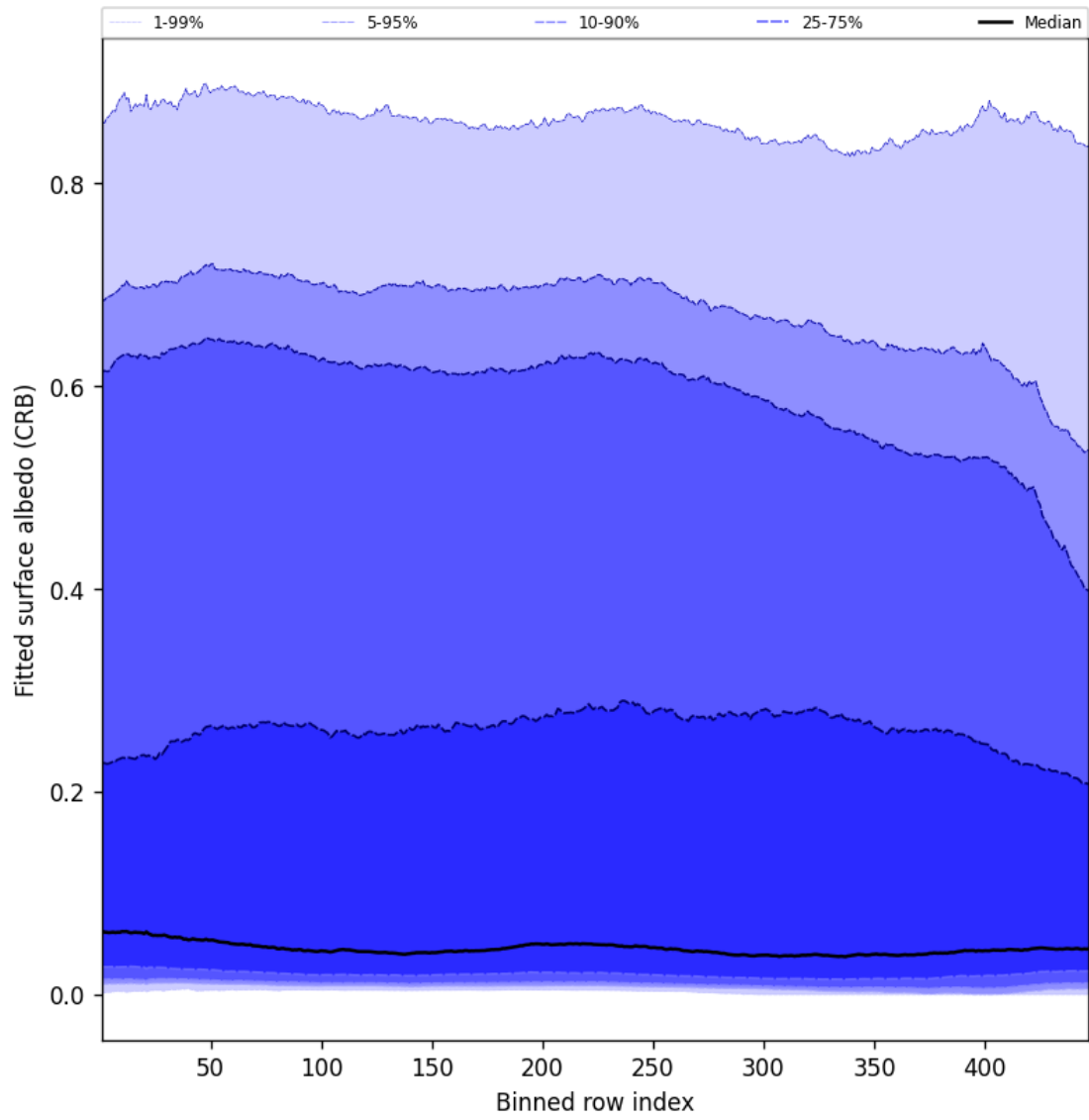


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-13 to 2025-09-13

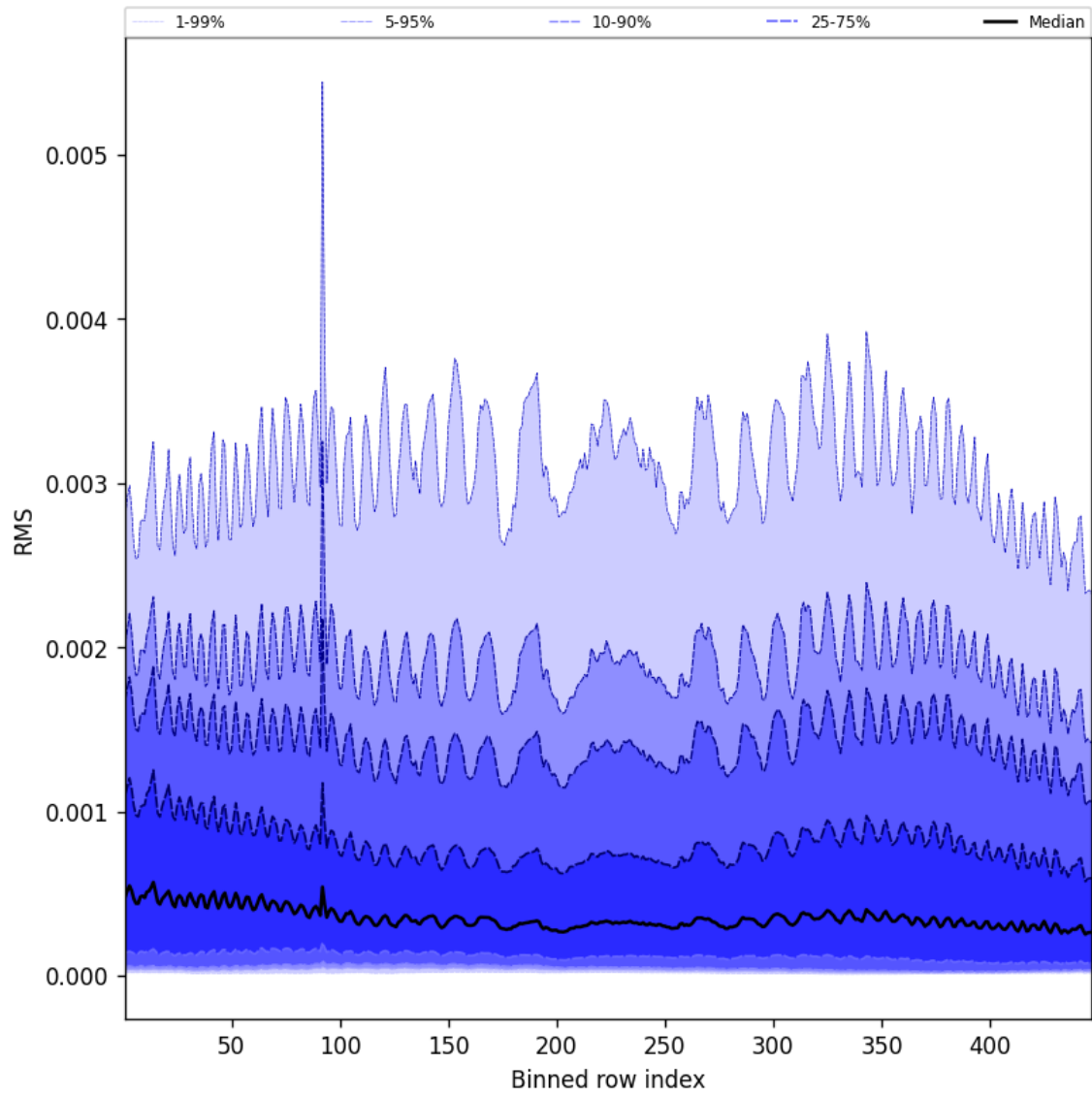


Figure 61: Along track statistics of “RMS” for 2025-09-13 to 2025-09-13

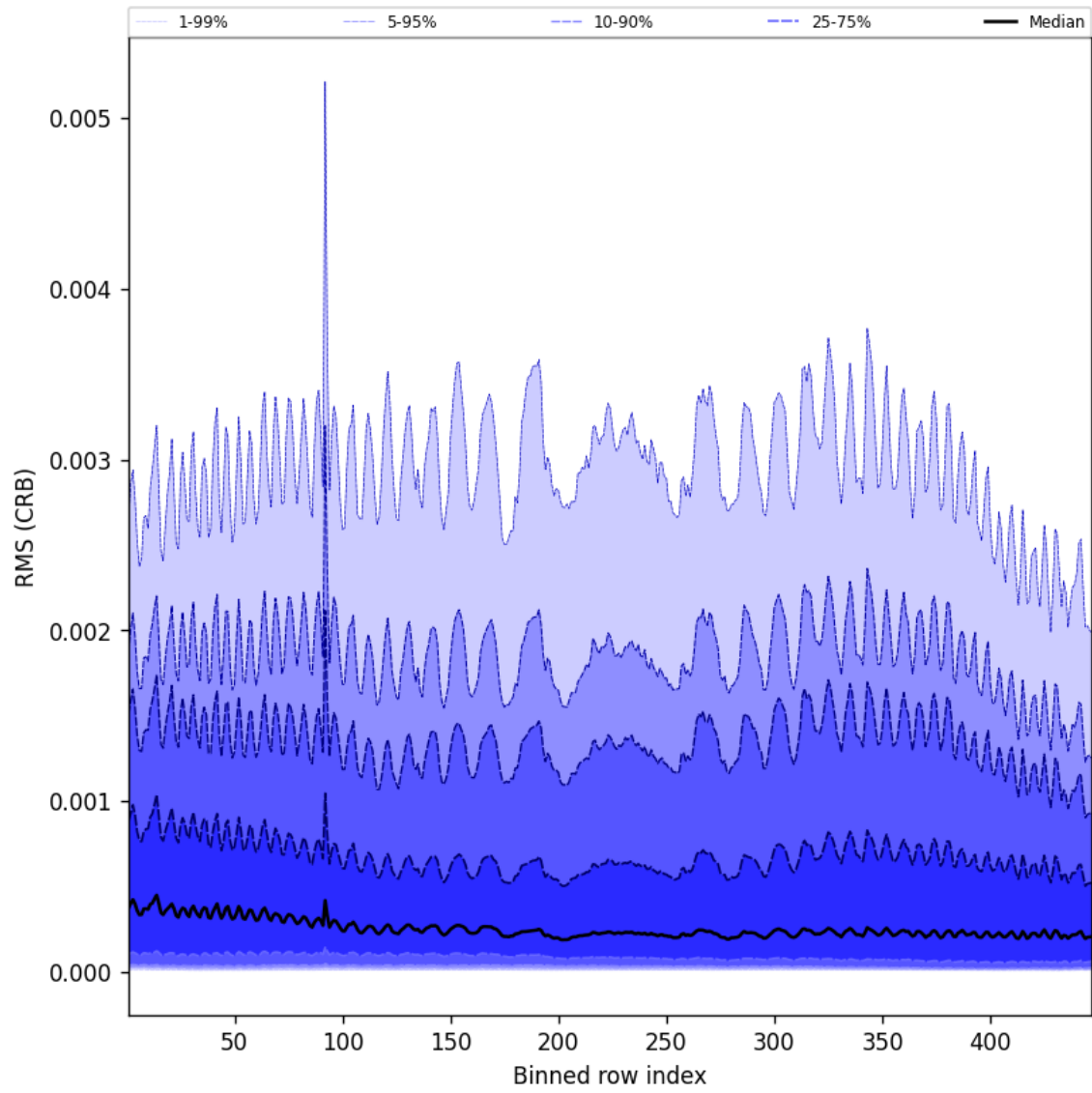


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-13 to 2025-09-13

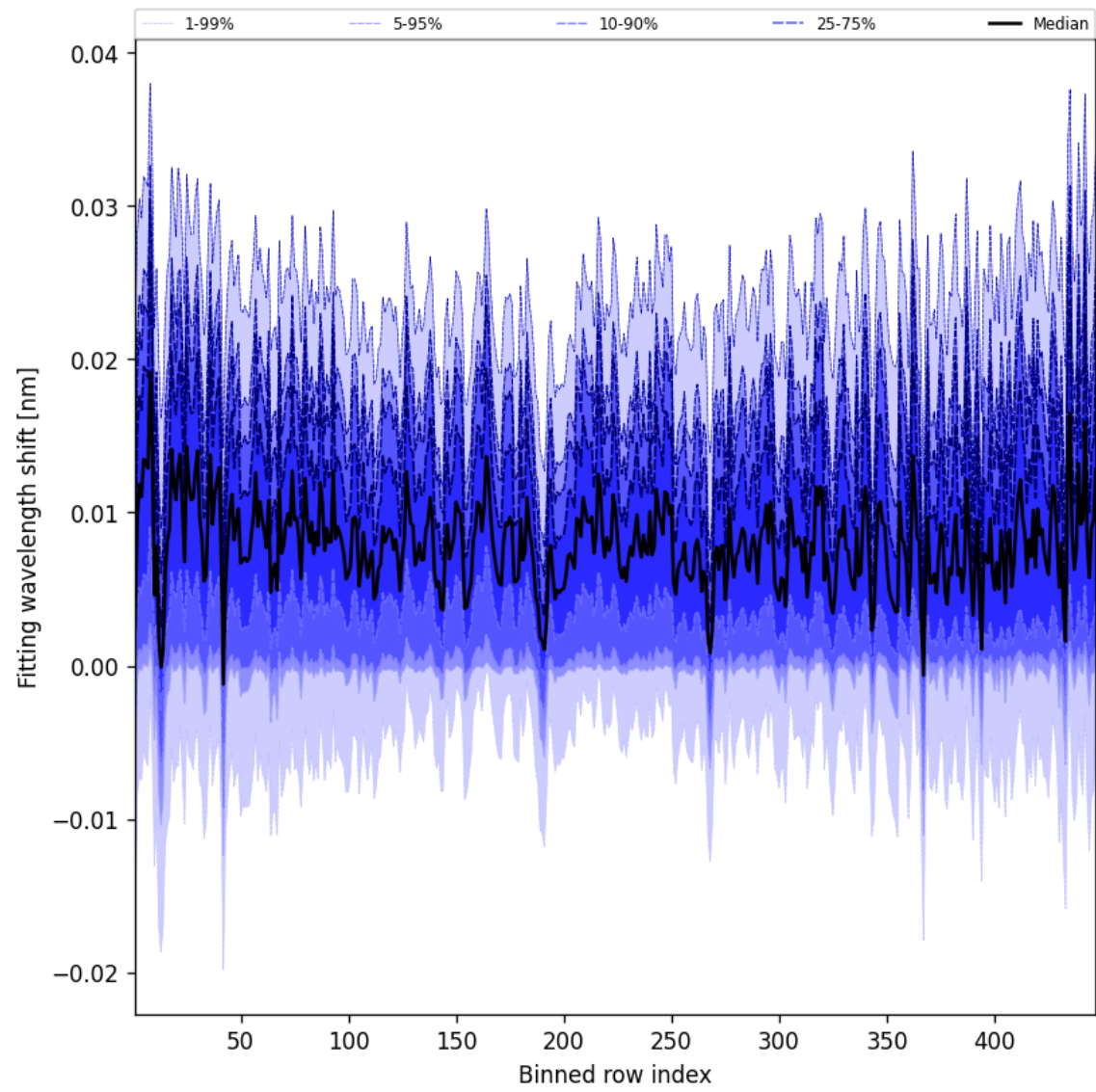


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-13 to 2025-09-13

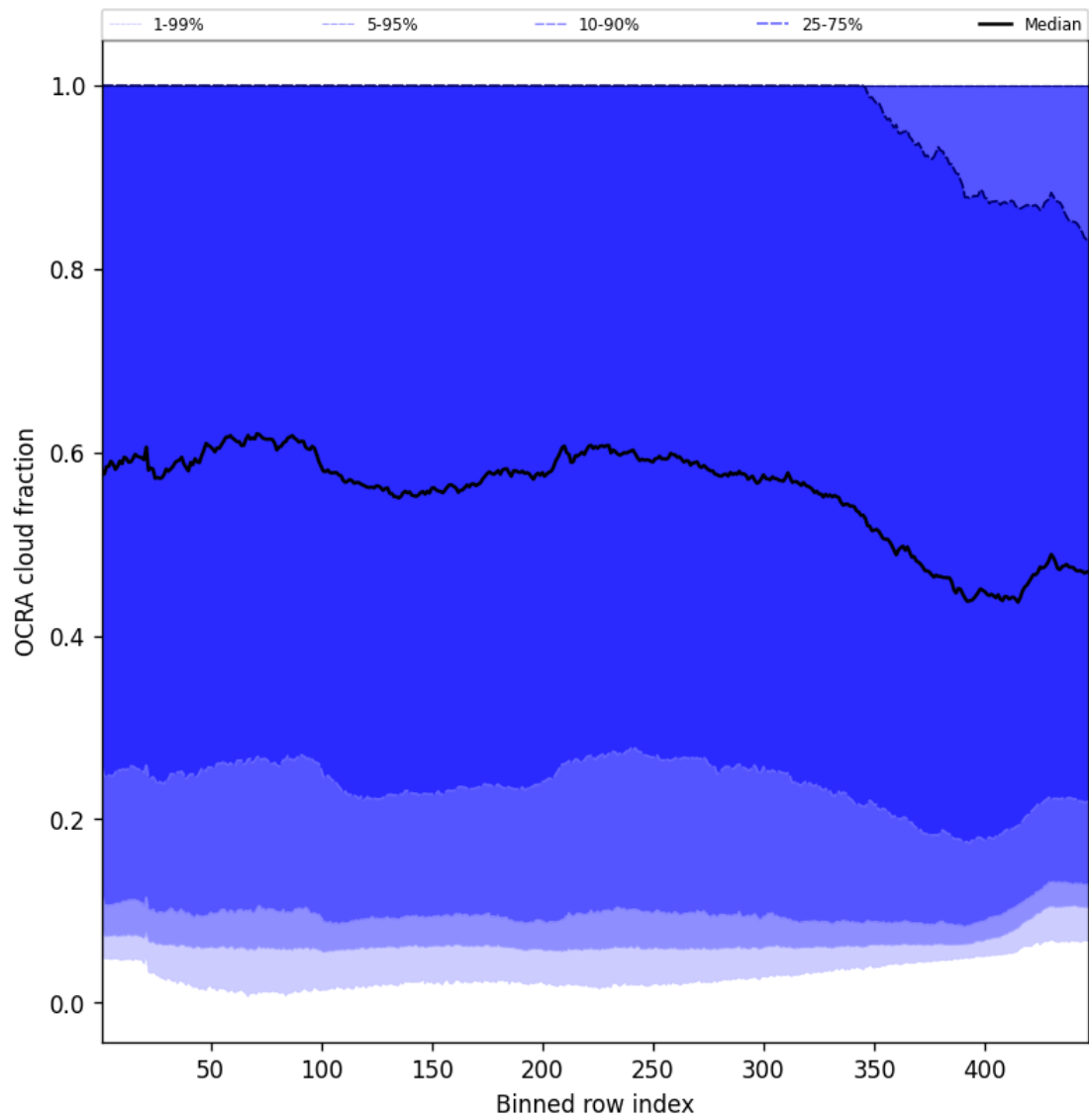


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-13 to 2025-09-13

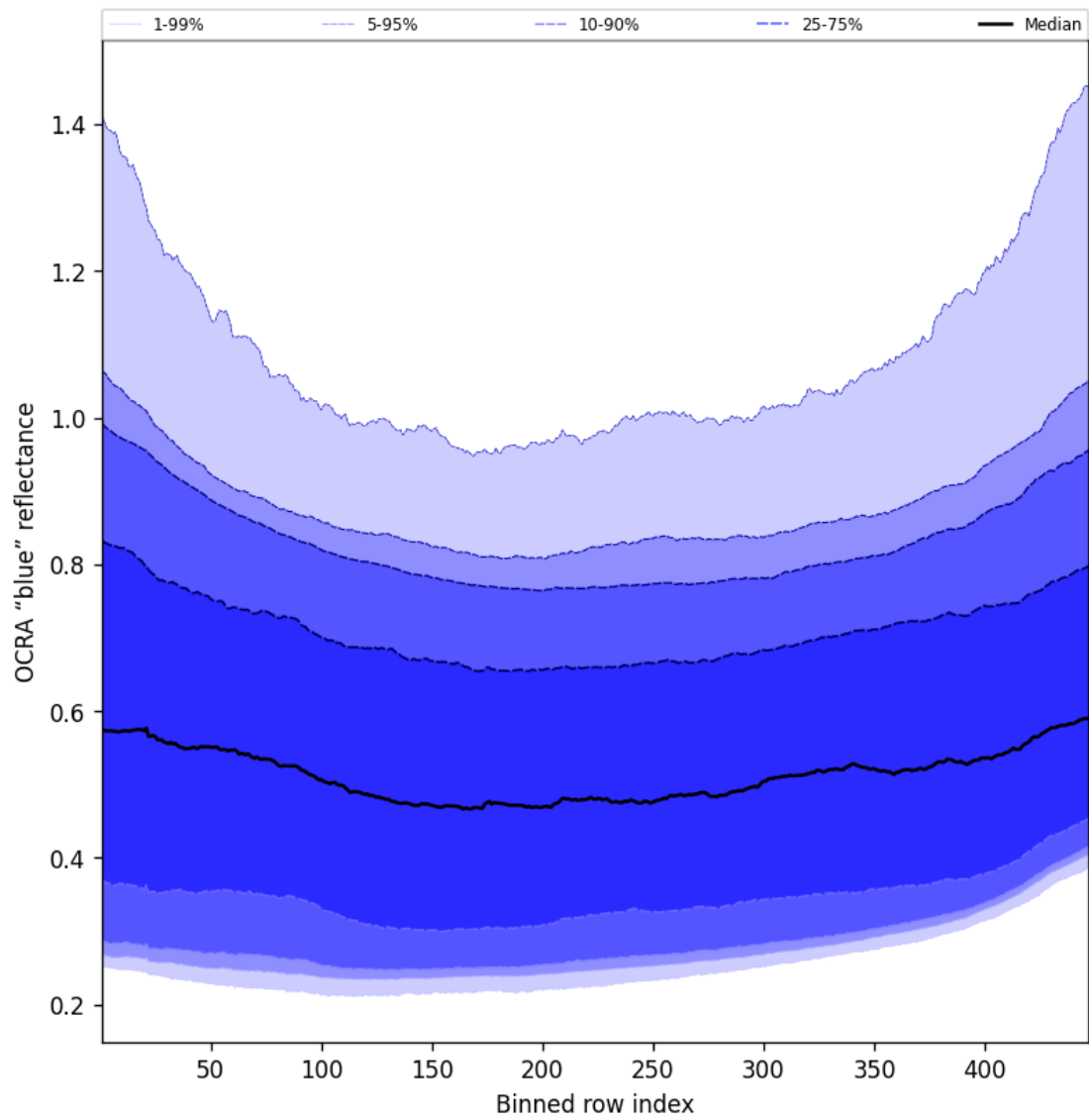


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-13 to 2025-09-13

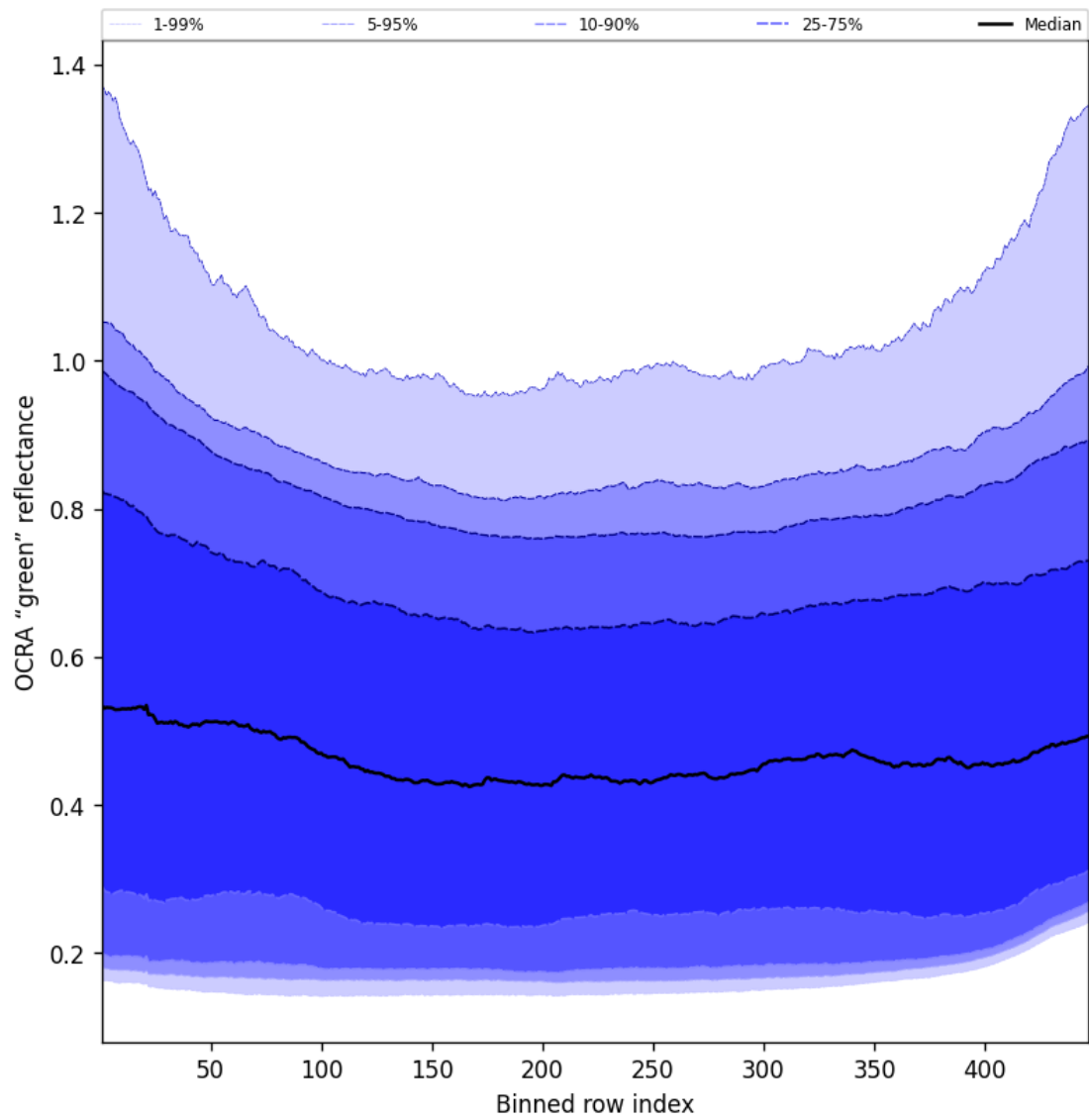


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-13 to 2025-09-13

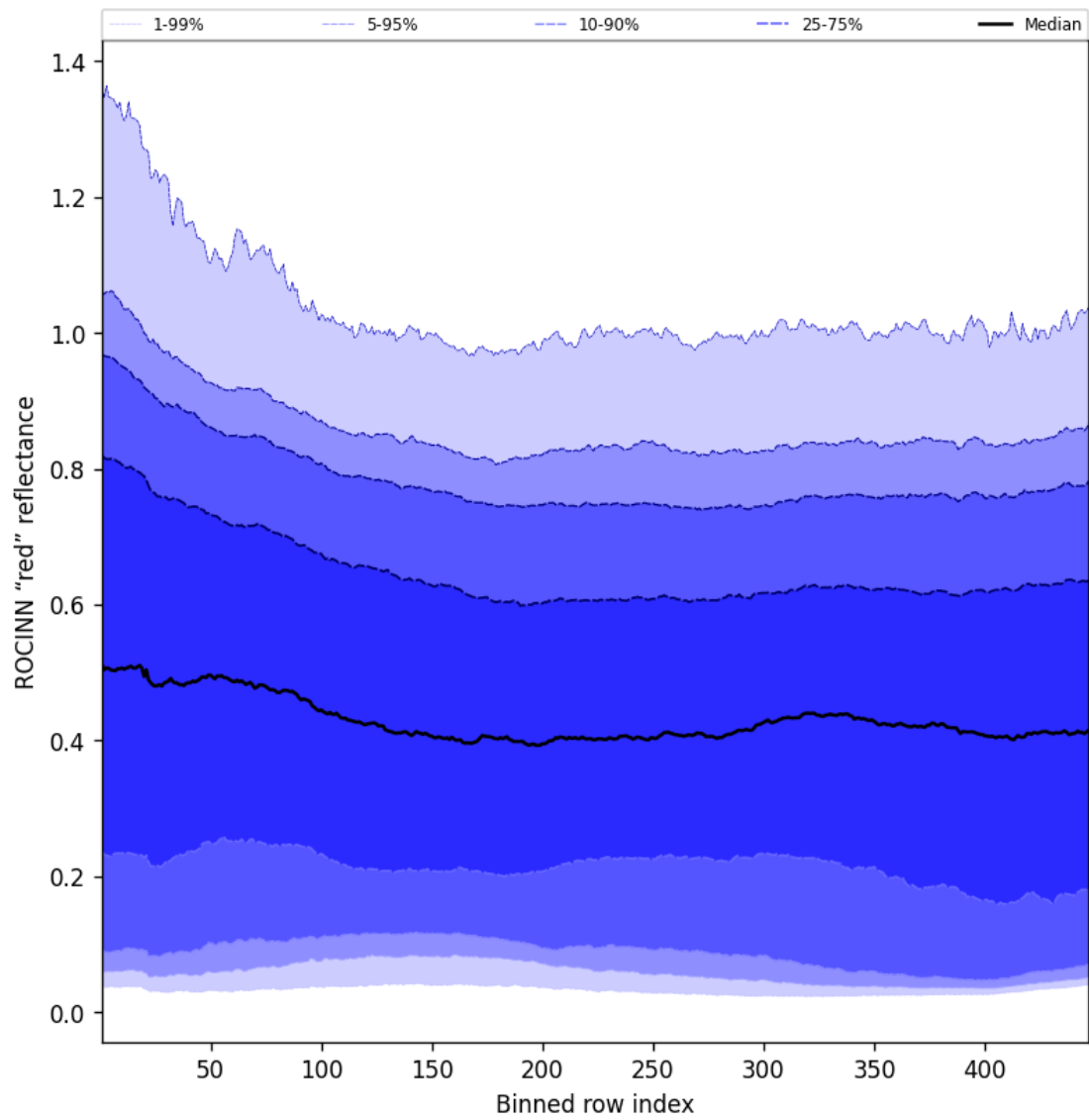


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-09-13 to 2025-09-13

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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