

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-09-30 (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 $\frac{1}{2}$ 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]	0.631 ± 0.375	18648991	0.995	0.640	0.800	0.0	1.000
cloud fraction [1]	0.570 ± 0.348	18648991	0.995	0.740	0.552	6.327×10^{-3}	1.000
cloud top height [m]	$(0.396 \pm 0.284) \times 10^4$	18648991	1.425×10^3	3.856×10^3	3.256×10^3	0.0	2.000×10^4
cloud optical thickness [1]	22.8 ± 41.7	18648991	9.77	12.6	10.1	1.000	250
cloud fraction crb [1]	0.569 ± 0.348	18648991	0.995	0.739	0.550	8.103×10^{-3}	1.000
cloud height crb [m]	$(0.314 \pm 0.238) \times 10^4$	18648991	825	3.323×10^3	2.623×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.602 ± 0.211	18648991	0.995	0.266	0.580	0.0	1.000
surface albedo fitted [1]	0.215 ± 0.280	18648991	2.500×10^{-2}	0.255	5.684×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.202 ± 0.265	18648991	1.500×10^{-2}	0.257	4.666×10^{-2}	0.0	1.000
fitted root mean square [1]	$(5.974 \pm 8.106) \times 10^{-4}$	18648991	5.000×10^{-5}	7.096×10^{-4}	3.758×10^{-4}	1.096×10^{-6}	0.335
fitted root mean square crb [1]	$(5.158 \pm 8.014) \times 10^{-4}$	18648991	5.000×10^{-5}	6.280×10^{-4}	2.773×10^{-4}	8.668×10^{-7}	0.520
wavelength shift [nm]	$(8.656 \pm 7.199) \times 10^{-3}$	18648991	9.000×10^{-4}	1.049×10^{-2}	8.073×10^{-3}	-5.274×10^{-2}	0.199
cloud fraction apriori [1]	0.575 ± 0.353	18648991	0.995	0.764	0.562	0.0	1.000
reflectance blue ocra [1]	0.566 ± 0.229	18648991	0.255	0.386	0.546	0.128	2.04
reflectance green ocra [1]	0.513 ± 0.256	18648991	0.185	0.456	0.499	7.878×10^{-2}	1.96
reflectance continuum aband [1]	0.465 ± 0.278	18648991	4.500×10^{-2}	0.457	0.463	1.185×10^{-2}	5.24

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	0.310	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.663×10^{-2}	6.854×10^{-2}	0.106	0.153	0.239	0.979	1.000	1.000	1.000	1.000
cloud top height [m]	247	735	1.055×10^3	1.320×10^3	1.720×10^3	5.576×10^3	6.843×10^3	7.931×10^3	9.396×10^3	1.251×10^4
cloud optical thickness [1]	1.000	2.67	3.84	4.84	6.19	18.8	29.4	44.9	86.1	250
cloud fraction crb [1]	2.612×10^{-2}	6.775×10^{-2}	0.105	0.152	0.239	0.978	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	323	584	826	1.200×10^3	4.524×10^3	5.661×10^3	6.646×10^3	7.843×10^3	9.783×10^3
cloud albedo crb [1]	6.159×10^{-2}	0.249	0.364	0.424	0.472	0.738	0.828	0.917	1.000	1.000
surface albedo fitted [1]	0.0	9.028×10^{-3}	1.459×10^{-2}	1.932×10^{-2}	2.633×10^{-2}	0.281	0.609	0.736	0.839	0.976
surface albedo fitted crb [1]	0.0	7.531×10^{-3}	1.141×10^{-2}	1.515×10^{-2}	2.082×10^{-2}	0.277	0.584	0.690	0.777	0.914
fitted root mean square [1]	1.548×10^{-5}	3.005×10^{-5}	4.885×10^{-5}	7.724×10^{-5}	1.282×10^{-4}	8.378×10^{-4}	1.124×10^{-3}	1.415×10^{-3}	1.873×10^{-3}	3.032×10^{-3}
fitted root mean square crb [1]	8.099×10^{-6}	1.869×10^{-5}	3.174×10^{-5}	4.947×10^{-5}	8.582×10^{-5}	7.138×10^{-4}	1.016×10^{-3}	1.320×10^{-3}	1.787×10^{-3}	2.901×10^{-3}
wavelength shift [nm]	-6.609×10^{-3}	-4.406×10^{-4}	3.617×10^{-4}	1.315×10^{-3}	3.058×10^{-3}	1.354×10^{-2}	1.604×10^{-2}	1.815×10^{-2}	2.090×10^{-2}	2.684×10^{-2}
cloud fraction apriori [1]	2.933×10^{-2}	6.507×10^{-2}	9.958×10^{-2}	0.146	0.236	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.255	0.281	0.312	0.365	0.751	0.812	0.860	0.930	1.14
reflectance green ocra [1]	0.151	0.172	0.191	0.217	0.271	0.726	0.799	0.850	0.918	1.09
reflectance continuum aband [1]	3.008×10^{-2}	5.376×10^{-2}	8.809×10^{-2}	0.136	0.227	0.683	0.766	0.824	0.898	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]	0.629 ± 0.378	9640954	0.650	0.810	0.0	1.000	0.300	0.950
cloud fraction [1]	0.601 ± 0.356	9640954	0.757	0.639	6.327×10^{-3}	1.000	0.243	1.000
cloud top height [m]	$(0.392 \pm 0.257) \times 10^4$	9640954	3.513×10^3	3.385×10^3	0.0	2.000×10^4	1.890×10^3	5.404×10^3
cloud optical thickness [1]	22.0 ± 35.0	9640954	15.1	10.7	1.000	250	6.51	21.6
cloud fraction crb [1]	0.600 ± 0.356	9640954	0.758	0.637	8.103×10^{-3}	1.000	0.242	1.000
cloud height crb [m]	$(0.321 \pm 0.223) \times 10^4$	9640954	3.091×10^3	2.825×10^3	0.0	2.000×10^4	1.389×10^3	4.481×10^3
cloud albedo crb [1]	0.582 ± 0.199	9640954	0.243	0.574	0.0	1.000	0.466	0.709
surface albedo fitted [1]	0.165 ± 0.206	9640954	0.193	7.045×10^{-2}	0.0	1.000	2.795×10^{-2}	0.221
surface albedo fitted crb [1]	0.159 ± 0.205	9640954	0.193	5.691×10^{-2}	0.0	1.000	2.224×10^{-2}	0.215
fitted root mean square [1]	$(5.373 \pm 8.899) \times 10^{-4}$	9640954	5.952×10^{-4}	2.797×10^{-4}	1.096×10^{-6}	0.335	1.104×10^{-4}	7.057×10^{-4}
fitted root mean square crb [1]	$(4.860 \pm 9.494) \times 10^{-4}$	9640954	5.834×10^{-4}	2.127×10^{-4}	8.668×10^{-7}	0.520	6.416×10^{-5}	6.476×10^{-4}
wavelength shift [nm]	$(7.688 \pm 6.867) \times 10^{-3}$	9640954	9.829×10^{-3}	6.863×10^{-3}	-5.274×10^{-2}	0.199	2.329×10^{-3}	1.216×10^{-2}
cloud fraction apriori [1]	0.605 ± 0.361	9640954	0.762	0.650	0.0	1.000	0.238	1.000
reflectance blue ocra [1]	0.546 ± 0.221	9640954	0.349	0.525	0.128	1.99	0.357	0.705
reflectance green ocra [1]	0.490 ± 0.246	9640954	0.417	0.475	7.878×10^{-2}	1.91	0.261	0.678
reflectance continuum aband [1]	0.445 ± 0.266	9640954	0.407	0.438	1.255×10^{-2}	3.22	0.228	0.635

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]	0.633 ± 0.372	9008037	0.600	0.800	0.0	1.000	0.350	0.950
cloud fraction [1]	0.537 ± 0.335	9008037	0.672	0.483	8.126×10^{-3}	1.000	0.236	0.908
cloud top height [m]	$(0.400 \pm 0.311) \times 10^4$	9008037	4.216×10^3	3.081×10^3	0.0	2.000×10^4	1.577×10^3	5.794×10^3
cloud optical thickness [1]	23.7 ± 47.9	9008037	9.96	9.69	1.000	250	5.88	15.8
cloud fraction crb [1]	0.537 ± 0.335	9008037	0.670	0.481	8.301×10^{-3}	1.000	0.237	0.906
cloud height crb [m]	$(0.307 \pm 0.252) \times 10^4$	9008037	3.549×10^3	2.352×10^3	0.0	2.000×10^4	1.030×10^3	4.580×10^3
cloud albedo crb [1]	0.624 ± 0.221	9008037	0.304	0.589	0.0	1.000	0.478	0.781
surface albedo fitted [1]	0.268 ± 0.334	9008037	0.610	4.840×10^{-2}	0.0	1.000	2.495×10^{-2}	0.635
surface albedo fitted crb [1]	0.248 ± 0.311	9008037	0.578	4.012×10^{-2}	0.0	1.000	1.955×10^{-2}	0.597
fitted root mean square [1]	$(6.618 \pm 7.105) \times 10^{-4}$	9008037	7.660×10^{-4}	4.957×10^{-4}	3.475×10^{-6}	0.160	1.705×10^{-4}	9.364×10^{-4}
fitted root mean square crb [1]	$(5.478 \pm 6.026) \times 10^{-4}$	9008037	6.469×10^{-4}	3.457×10^{-4}	2.404×10^{-6}	3.161×10^{-2}	1.210×10^{-4}	7.679×10^{-4}
wavelength shift [nm]	$(9.691 \pm 7.400) \times 10^{-3}$	9008037	1.074×10^{-2}	9.510×10^{-3}	-4.334×10^{-2}	6.736×10^{-2}	4.050×10^{-3}	1.479×10^{-2}
cloud fraction apriori [1]	0.543 ± 0.340	9008037	0.699	0.493	0.0	1.000	0.235	0.934
reflectance blue ocra [1]	0.588 ± 0.235	9008037	0.412	0.573	0.131	2.04	0.375	0.786
reflectance green ocra [1]	0.538 ± 0.265	9008037	0.491	0.530	7.992×10^{-2}	1.96	0.283	0.774
reflectance continuum aband [1]	0.486 ± 0.290	9008037	0.506	0.500	1.185×10^{-2}	5.24	0.224	0.730

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]	0.667 ± 0.356	12521940	0.550	0.850	0.0	1.000	0.400	0.950
cloud fraction [1]	0.576 ± 0.349	12521940	0.744	0.580	7.668×10^{-3}	1.000	0.234	0.978
cloud top height [m]	$(0.356 \pm 0.253) \times 10^4$	12521940	3.338×10^3	2.877×10^3	0.0	2.000×10^4	1.594×10^3	4.932×10^3
cloud optical thickness [1]	21.8 ± 37.5	12521940	11.7	10.5	1.000	250	7.03	18.8
cloud fraction crb [1]	0.575 ± 0.349	12521940	0.744	0.578	8.542×10^{-3}	1.000	0.232	0.977
cloud height crb [m]	$(0.286 \pm 0.225) \times 10^4$	12521940	3.085×10^3	2.284×10^3	0.0	2.000×10^4	1.057×10^3	4.142×10^3
cloud albedo crb [1]	0.566 ± 0.188	12521940	0.223	0.548	0.0	1.000	0.458	0.681
surface albedo fitted [1]	0.121 ± 0.225	12521940	3.959×10^{-2}	3.395×10^{-2}	0.0	1.000	2.015×10^{-2}	5.974×10^{-2}
surface albedo fitted crb [1]	0.112 ± 0.216	12521940	3.321×10^{-2}	2.716×10^{-2}	0.0	1.000	1.579×10^{-2}	4.900×10^{-2}
fitted root mean square [1]	$(5.303 \pm 7.930) \times 10^{-4}$	12521940	6.588×10^{-4}	2.759×10^{-4}	1.096×10^{-6}	0.335	9.347×10^{-5}	7.522×10^{-4}
fitted root mean square crb [1]	$(4.829 \pm 7.599) \times 10^{-4}$	12521940	6.160×10^{-4}	2.218×10^{-4}	8.668×10^{-7}	0.265	6.579×10^{-5}	6.818×10^{-4}
wavelength shift [nm]	$(8.285 \pm 7.433) \times 10^{-3}$	12521940	1.089×10^{-2}	7.419×10^{-3}	-5.174×10^{-2}	0.199	2.477×10^{-3}	1.337×10^{-2}
cloud fraction apriori [1]	0.580 ± 0.354	12521940	0.771	0.588	0.0	1.000	0.229	1.000
reflectance blue ocra [1]	0.535 ± 0.212	12521940	0.343	0.508	0.158	2.04	0.352	0.695
reflectance green ocra [1]	0.476 ± 0.238	12521940	0.413	0.453	8.745×10^{-2}	1.93	0.253	0.666
reflectance continuum aband [1]	0.405 ± 0.268	12521940	0.470	0.395	1.185×10^{-2}	5.24	0.149	0.619

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]	0.517 ± 0.410	4478302	0.900	0.660	0.0	1.000	0.0	0.900
cloud fraction [1]	0.515 ± 0.335	4478302	0.671	0.420	7.686×10^{-3}	1.000	0.230	0.900
cloud top height [m]	$(0.527 \pm 0.334) \times 10^4$	4478302	4.516×10^3	4.876×10^3	0.0	2.000×10^4	2.660×10^3	7.176×10^3
cloud optical thickness [1]	24.0 ± 51.3	4478302	11.0	7.79	1.000	250	4.78	15.8
cloud fraction crb [1]	0.515 ± 0.334	4478302	0.668	0.419	8.103×10^{-3}	1.000	0.231	0.899
cloud height crb [m]	$(0.406 \pm 0.257) \times 10^4$	4478302	3.743×10^3	3.690×10^3	0.0	2.000×10^4	1.980×10^3	5.723×10^3
cloud albedo crb [1]	0.696 ± 0.244	4478302	0.394	0.700	0.0	1.000	0.535	0.929
surface albedo fitted [1]	0.474 ± 0.286	4478302	0.533	0.341	0.0	1.000	0.215	0.748
surface albedo fitted crb [1]	0.448 ± 0.260	4478302	0.482	0.342	5.429×10^{-3}	1.000	0.210	0.692
fitted root mean square [1]	$(7.959 \pm 8.404) \times 10^{-4}$	4478302	7.050×10^{-4}	6.157×10^{-4}	2.746×10^{-6}	0.265	3.339×10^{-4}	1.039×10^{-3}
fitted root mean square crb [1]	$(6.094 \pm 8.819) \times 10^{-4}$	4478302	6.367×10^{-4}	3.959×10^{-4}	2.404×10^{-6}	0.504	1.702×10^{-4}	8.069×10^{-4}
wavelength shift [nm]	$(9.457 \pm 6.586) \times 10^{-3}$	4478302	9.339×10^{-3}	9.149×10^{-3}	-4.042×10^{-2}	5.443×10^{-2}	4.540×10^{-3}	1.388×10^{-2}
cloud fraction apriori [1]	0.522 ± 0.341	4478302	0.722	0.427	0.0	1.000	0.229	0.951
reflectance blue ocra [1]	0.649 ± 0.260	4478302	0.437	0.722	0.128	1.98	0.402	0.839
reflectance green ocra [1]	0.614 ± 0.285	4478302	0.510	0.695	7.878×10^{-2}	1.96	0.324	0.834
reflectance continuum aband [1]	0.615 ± 0.257	4478302	0.419	0.642	1.603×10^{-2}	4.20	0.387	0.806

3 Granule outlines

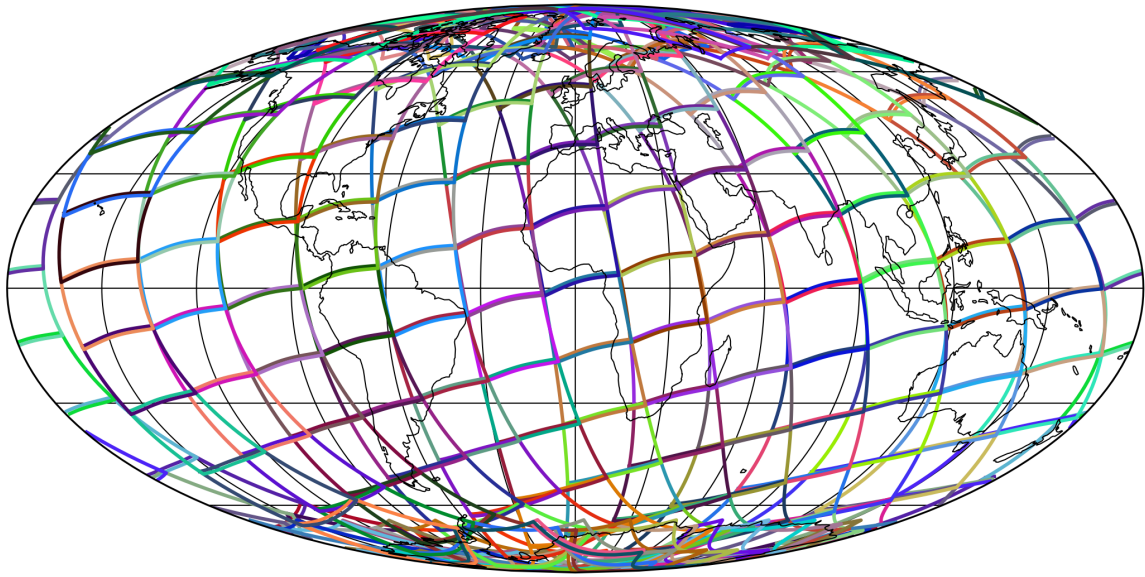


Figure 1: Outline of the granules.

4 Input data monitoring

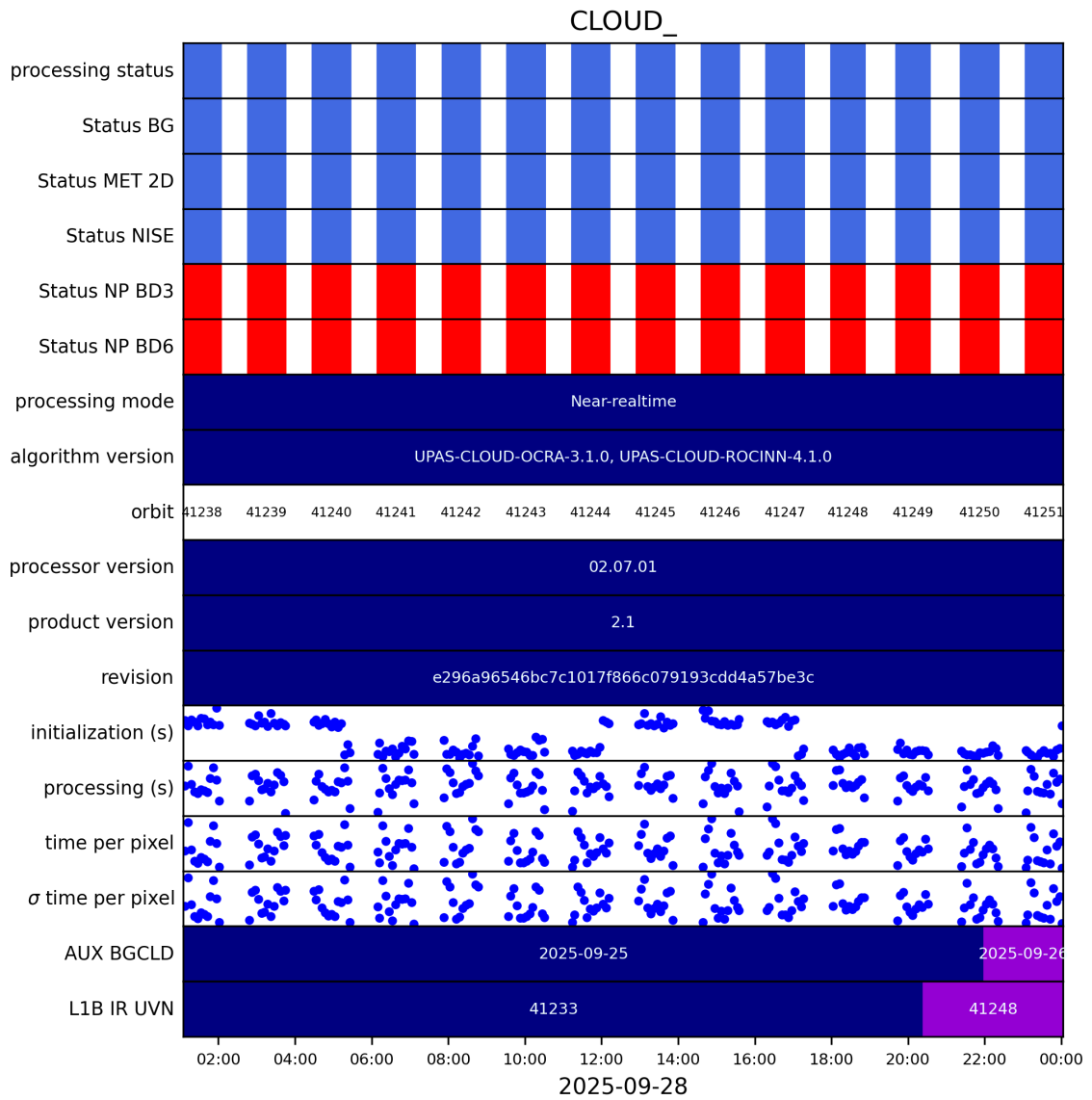


Figure 2: Input data per granule

5 Warnings and errors

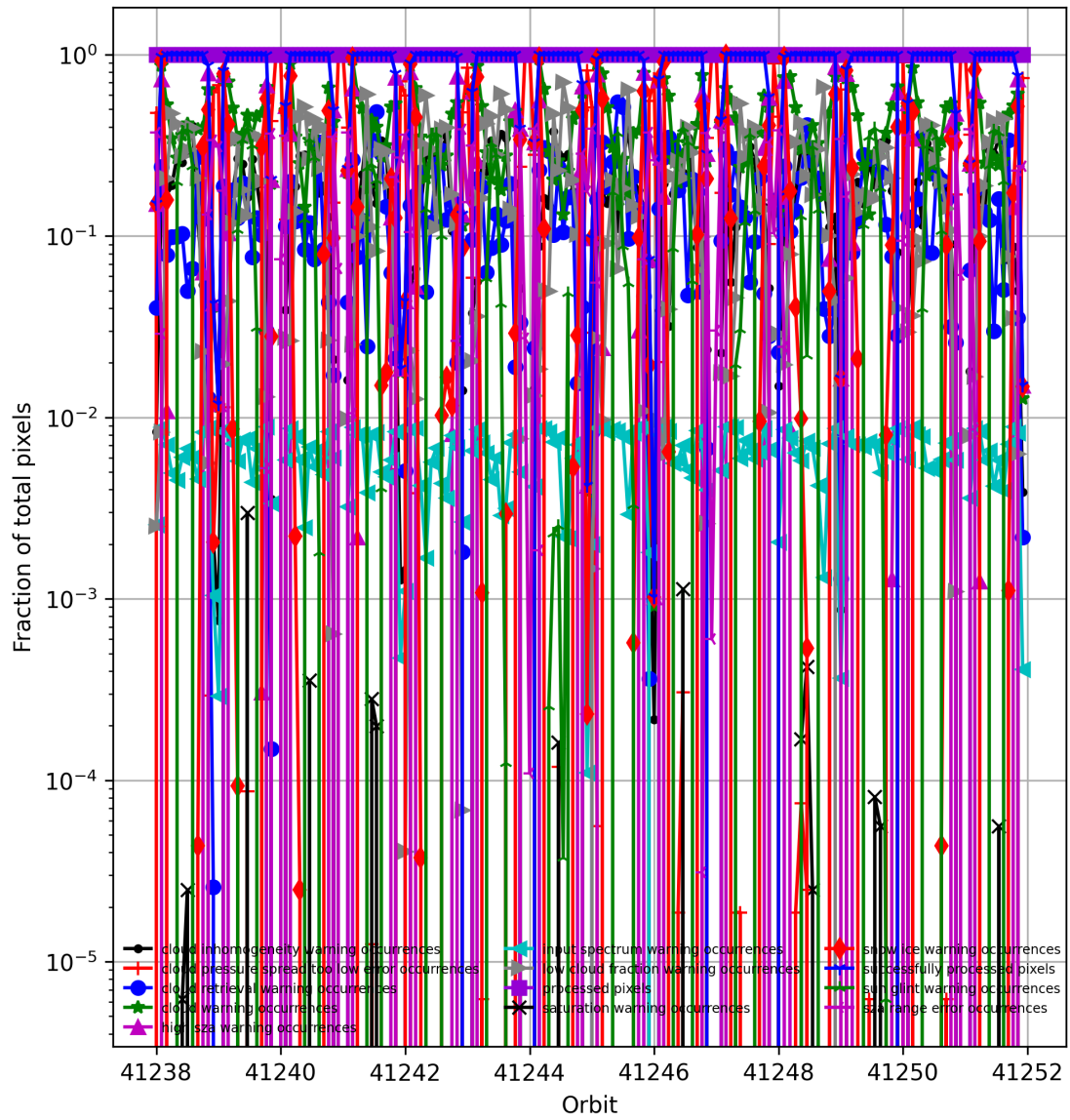


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

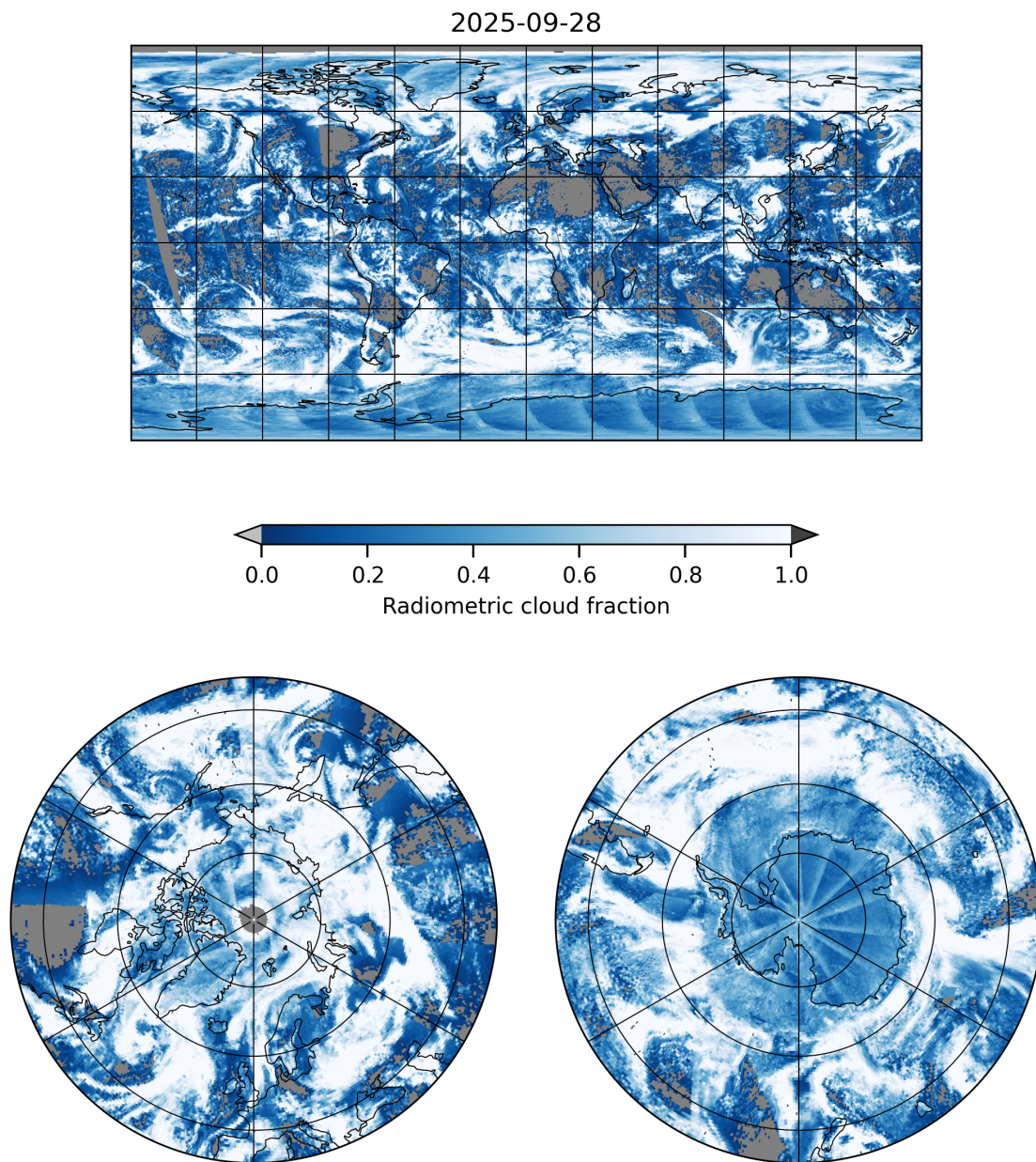


Figure 4: Map of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29

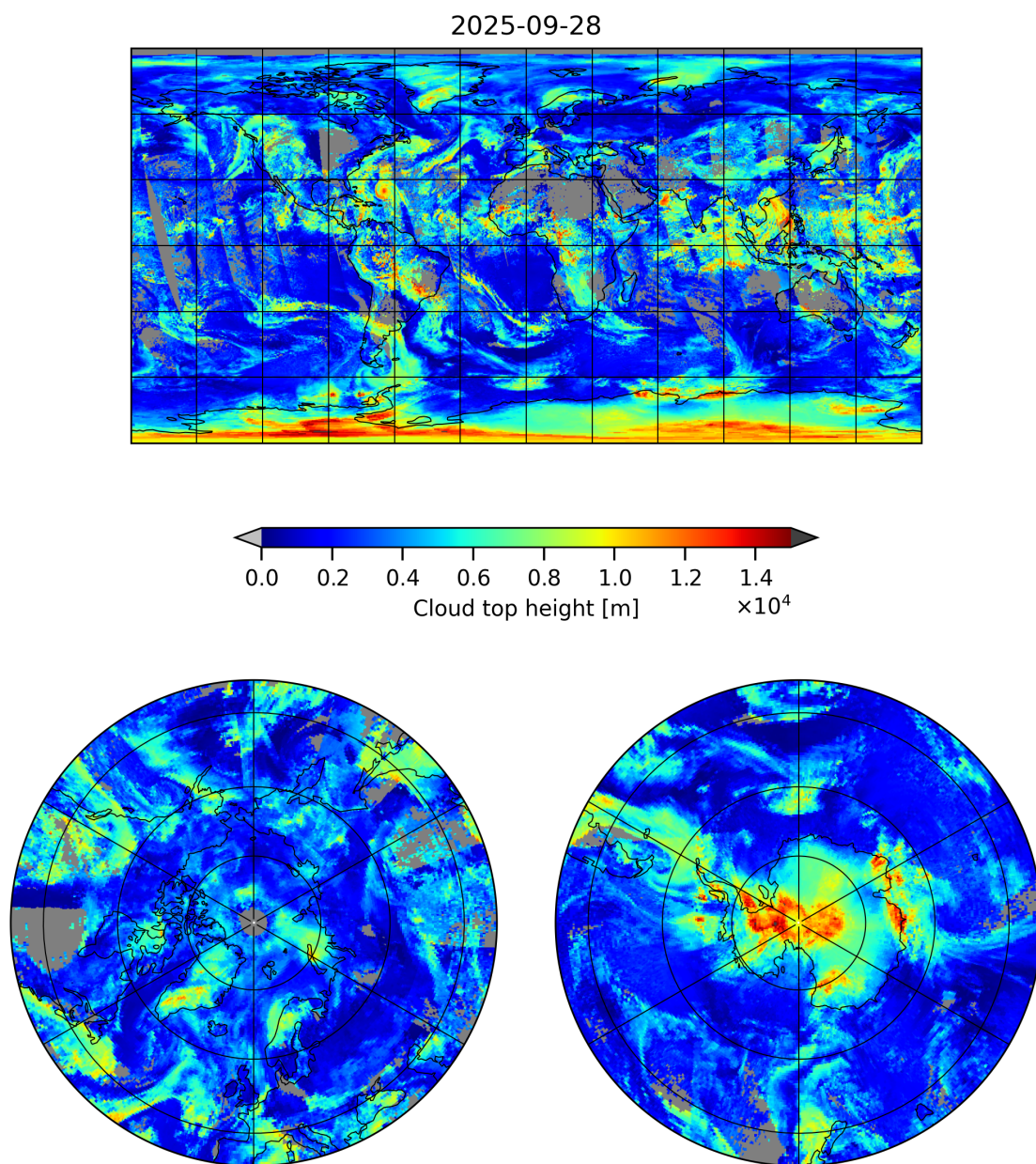


Figure 5: Map of “Cloud top height” for 2025-09-28 to 2025-09-29

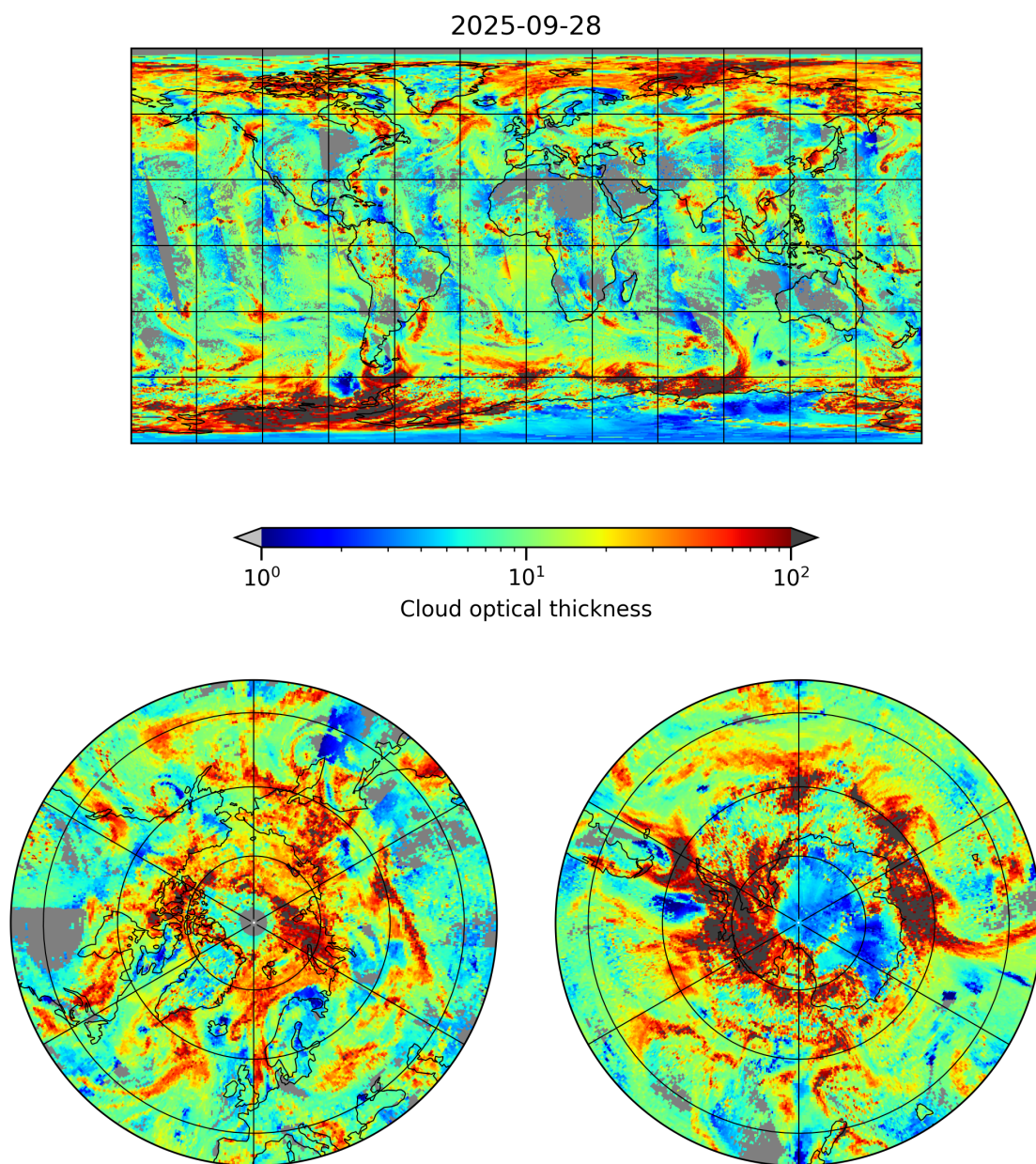


Figure 6: Map of “Cloud optical thickness” for 2025-09-28 to 2025-09-29

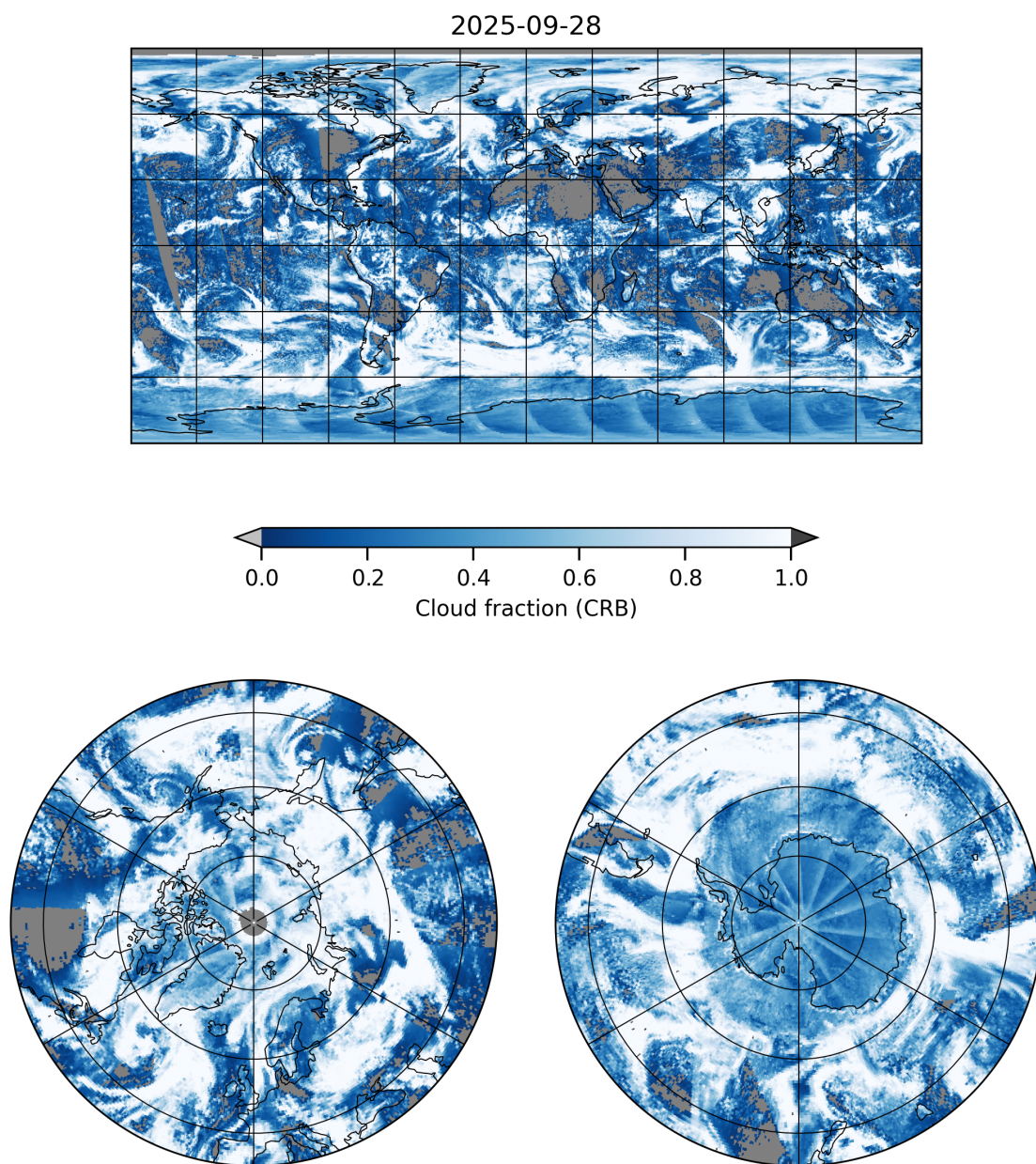


Figure 7: Map of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29

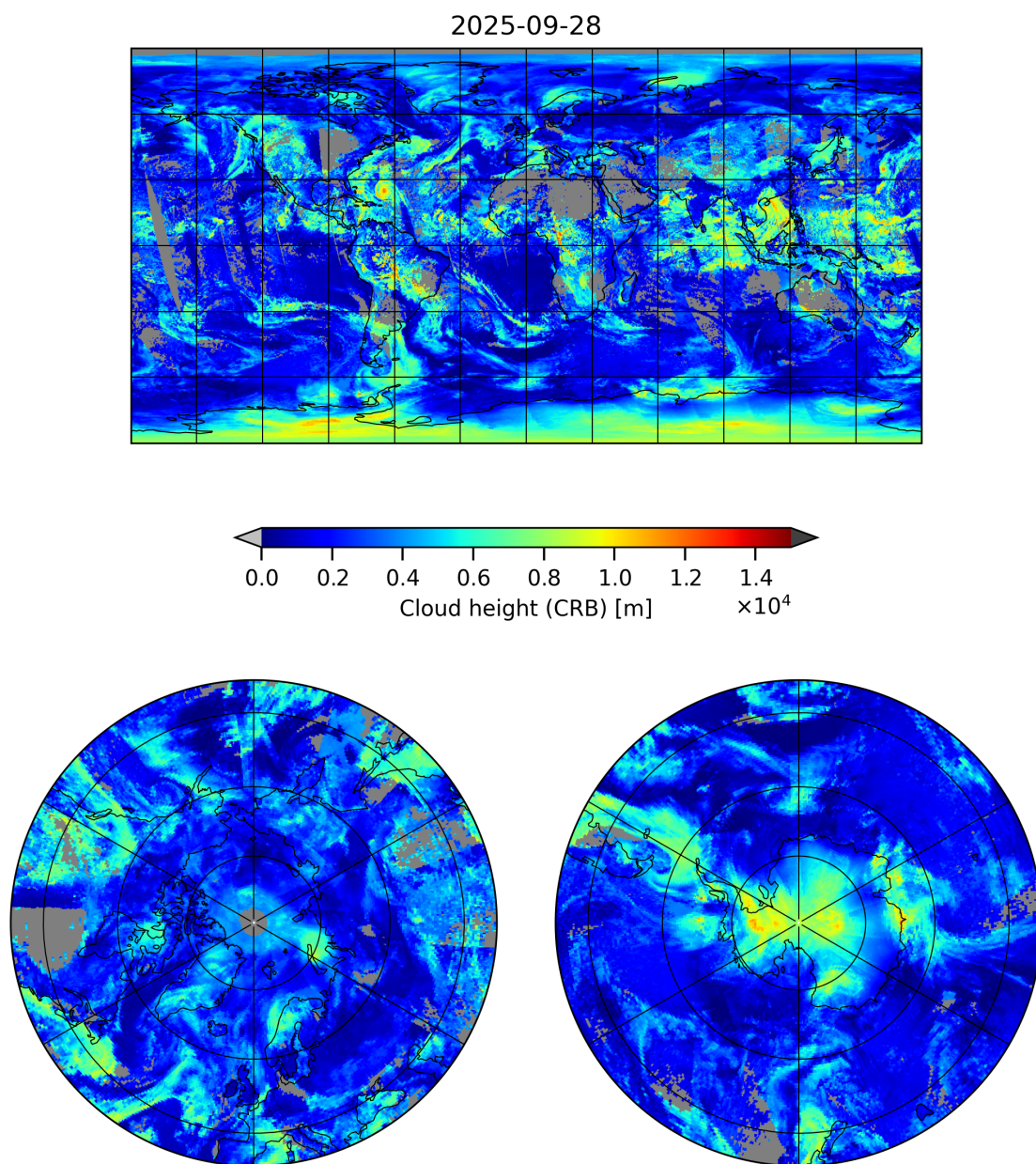


Figure 8: Map of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29

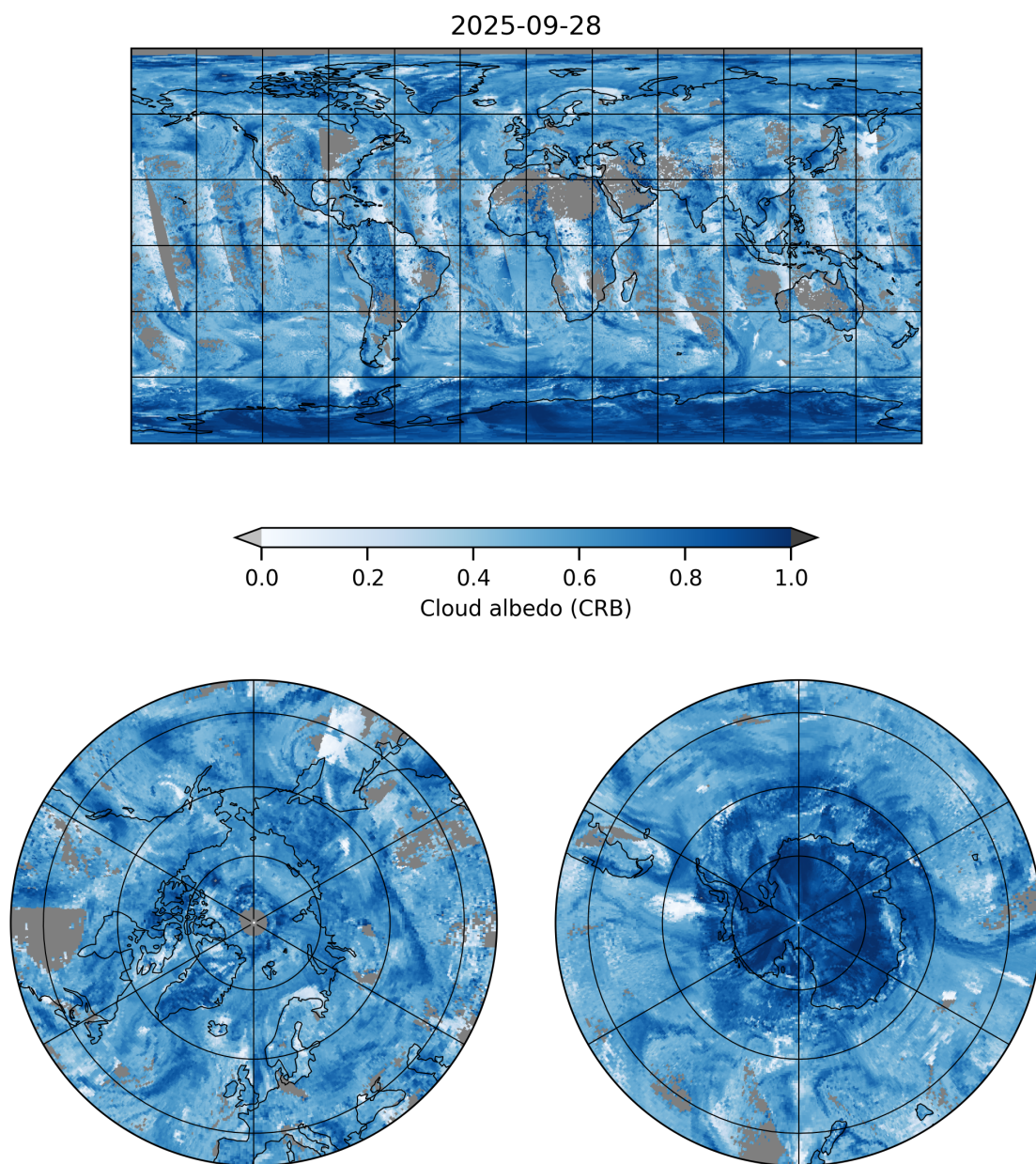


Figure 9: Map of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29

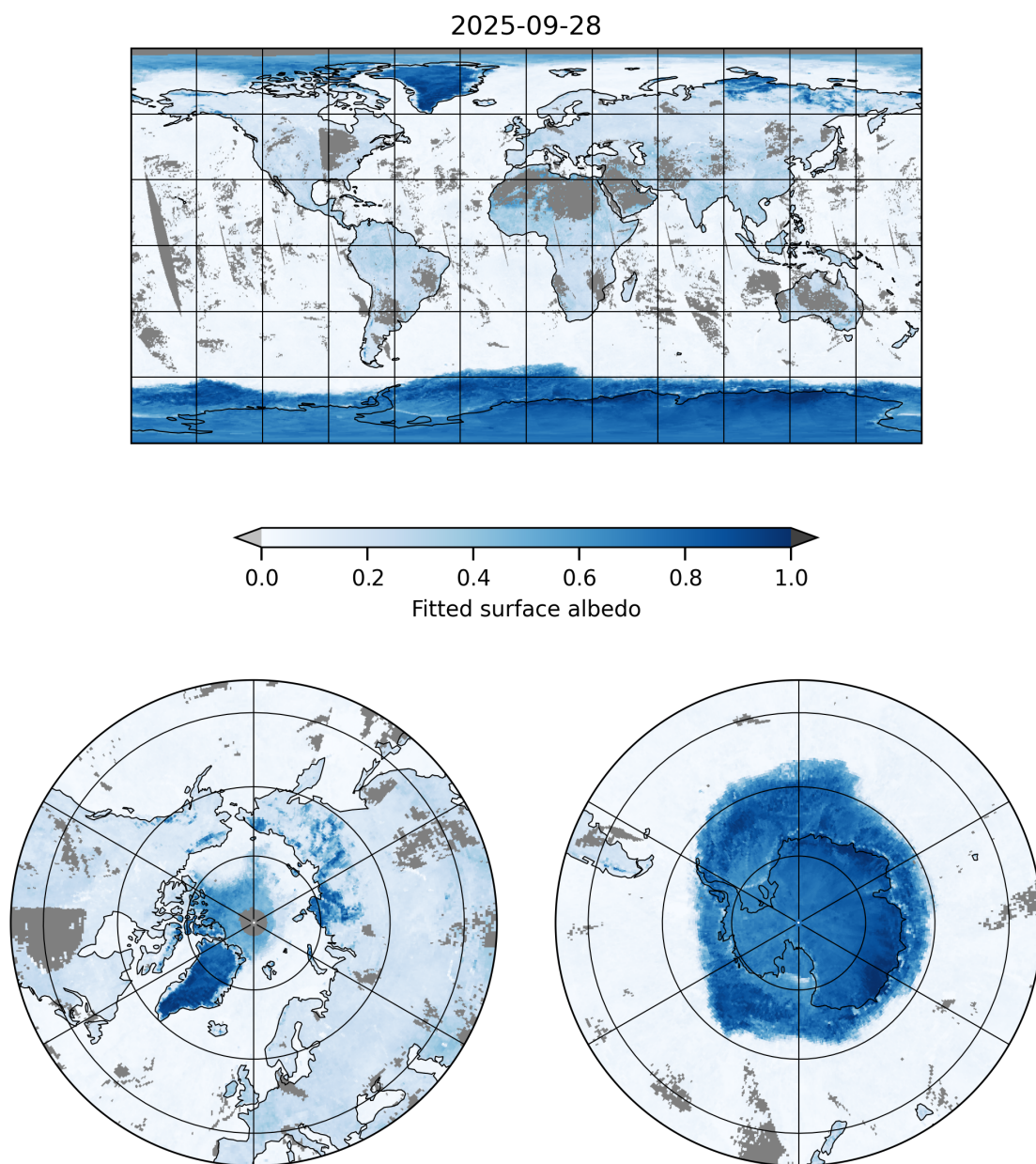


Figure 10: Map of “Fitted surface albedo” for 2025-09-28 to 2025-09-29

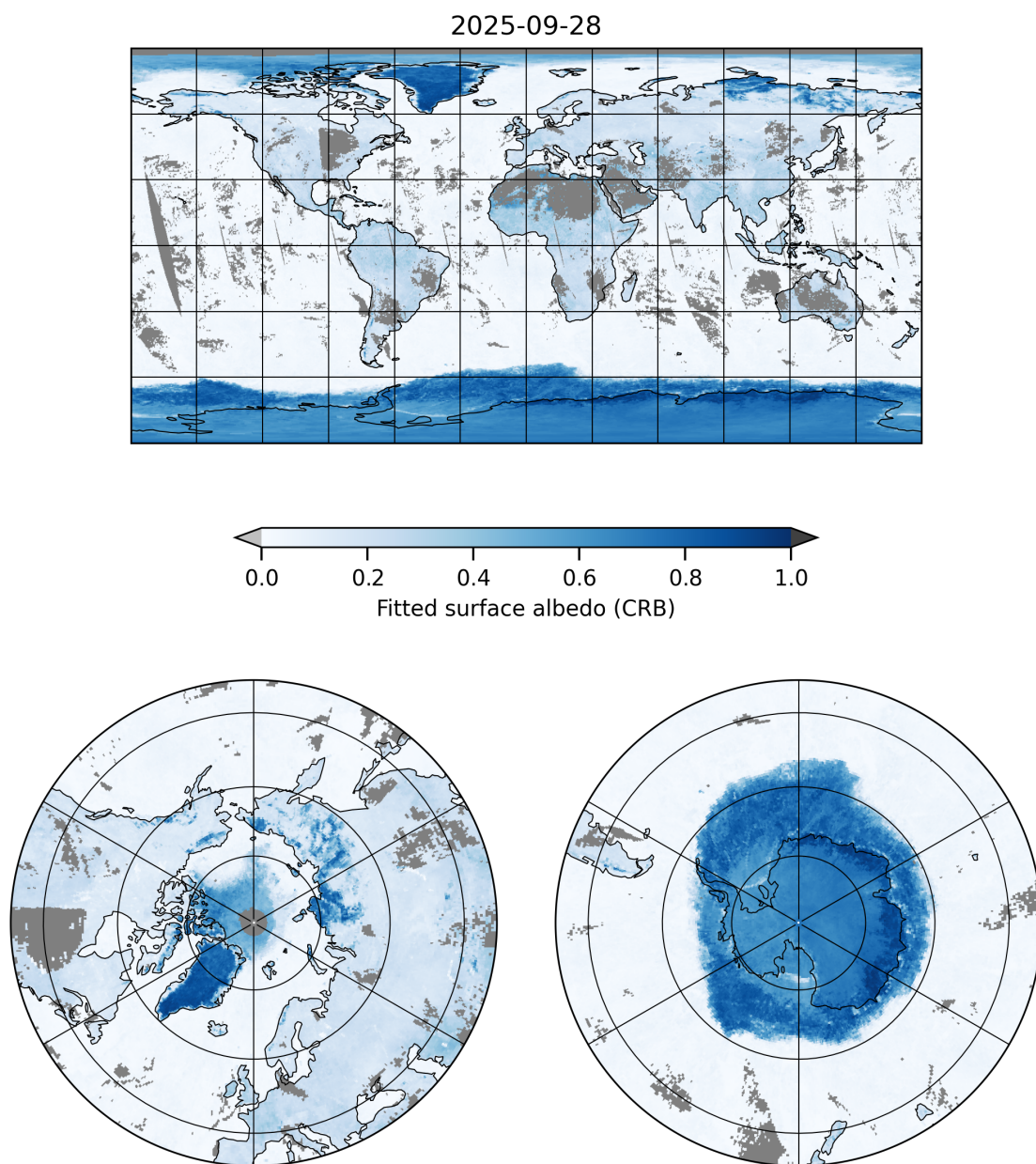


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29

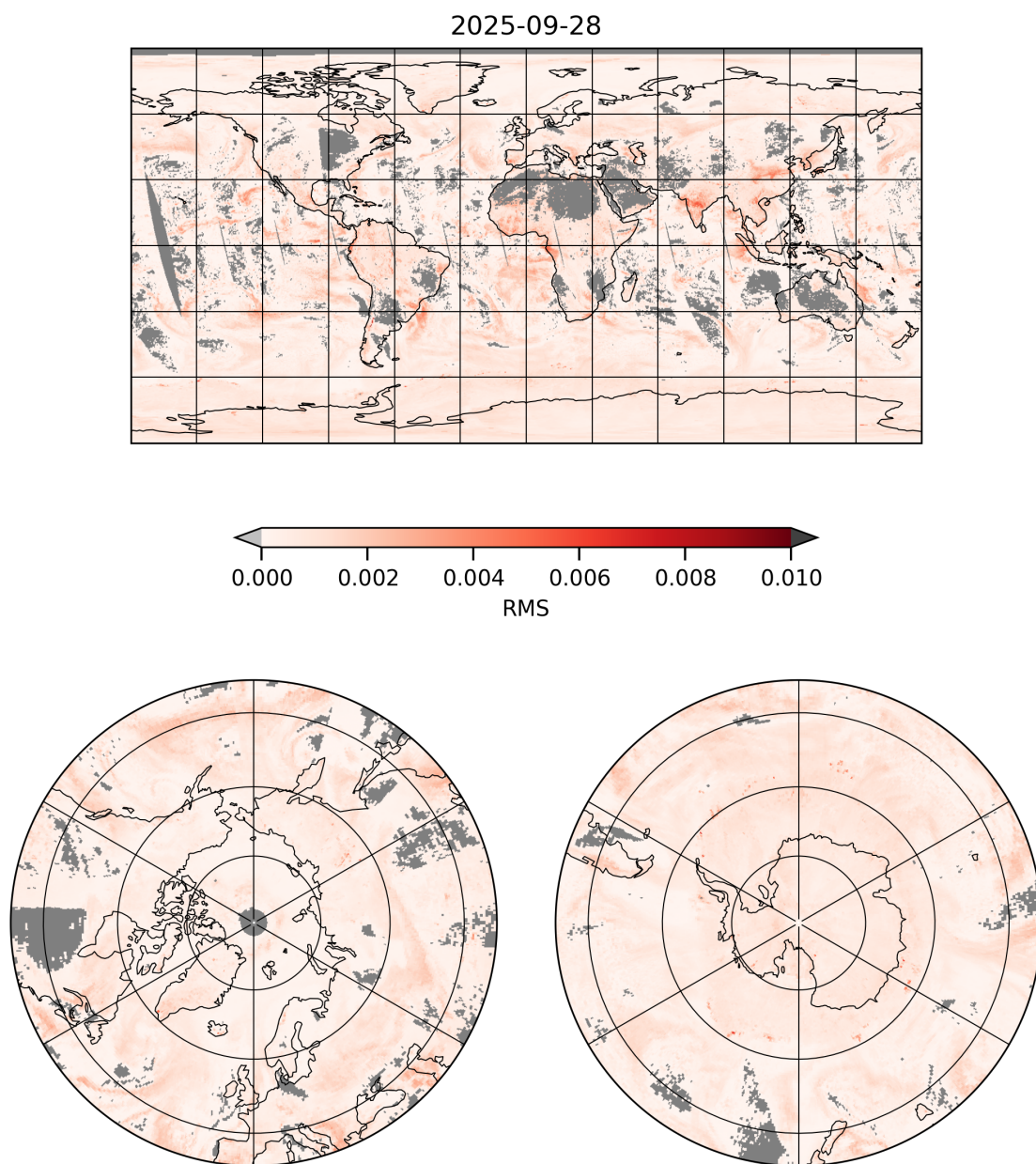


Figure 12: Map of “RMS” for 2025-09-28 to 2025-09-29

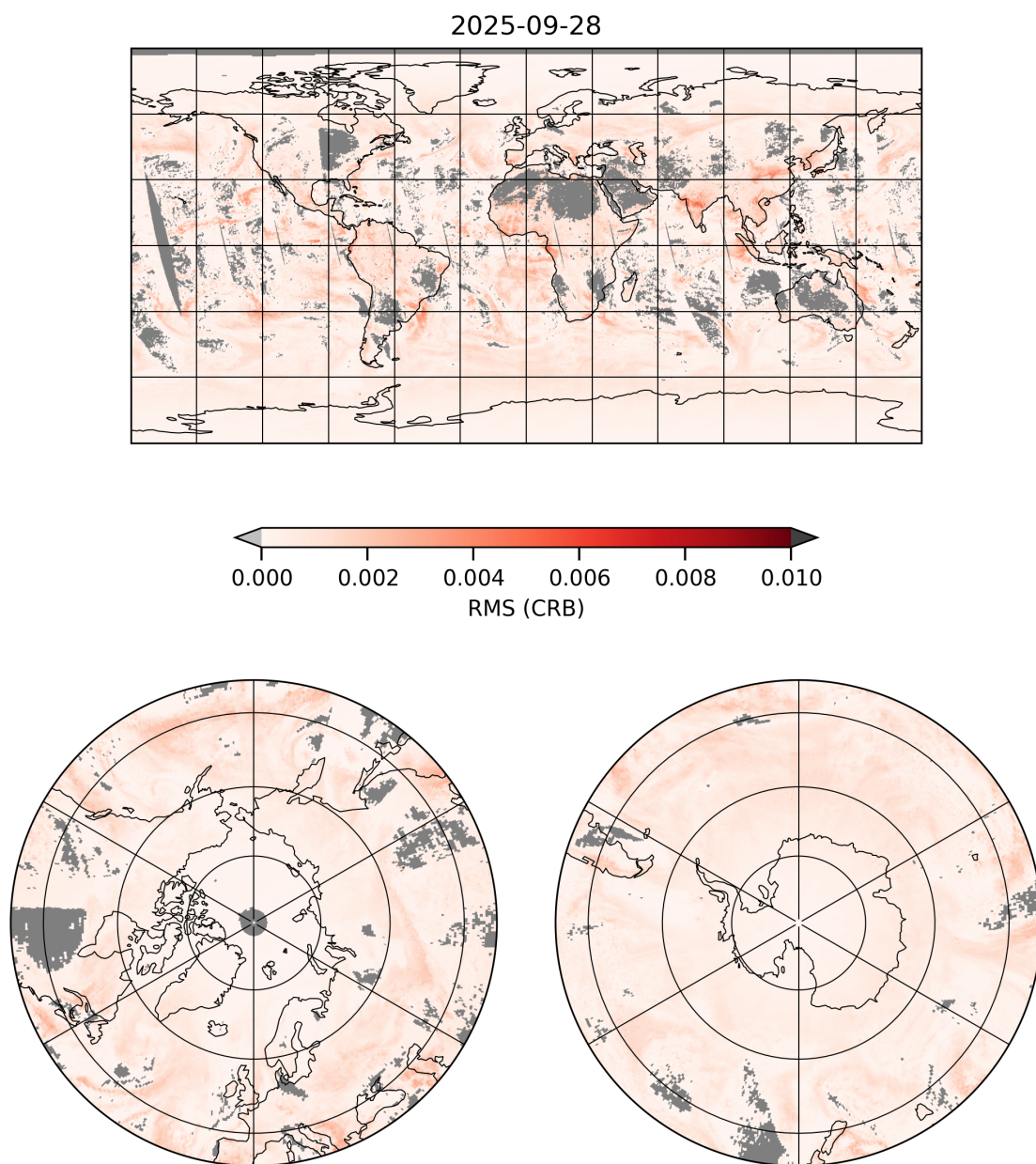


Figure 13: Map of “RMS (CRB)” for 2025-09-28 to 2025-09-29

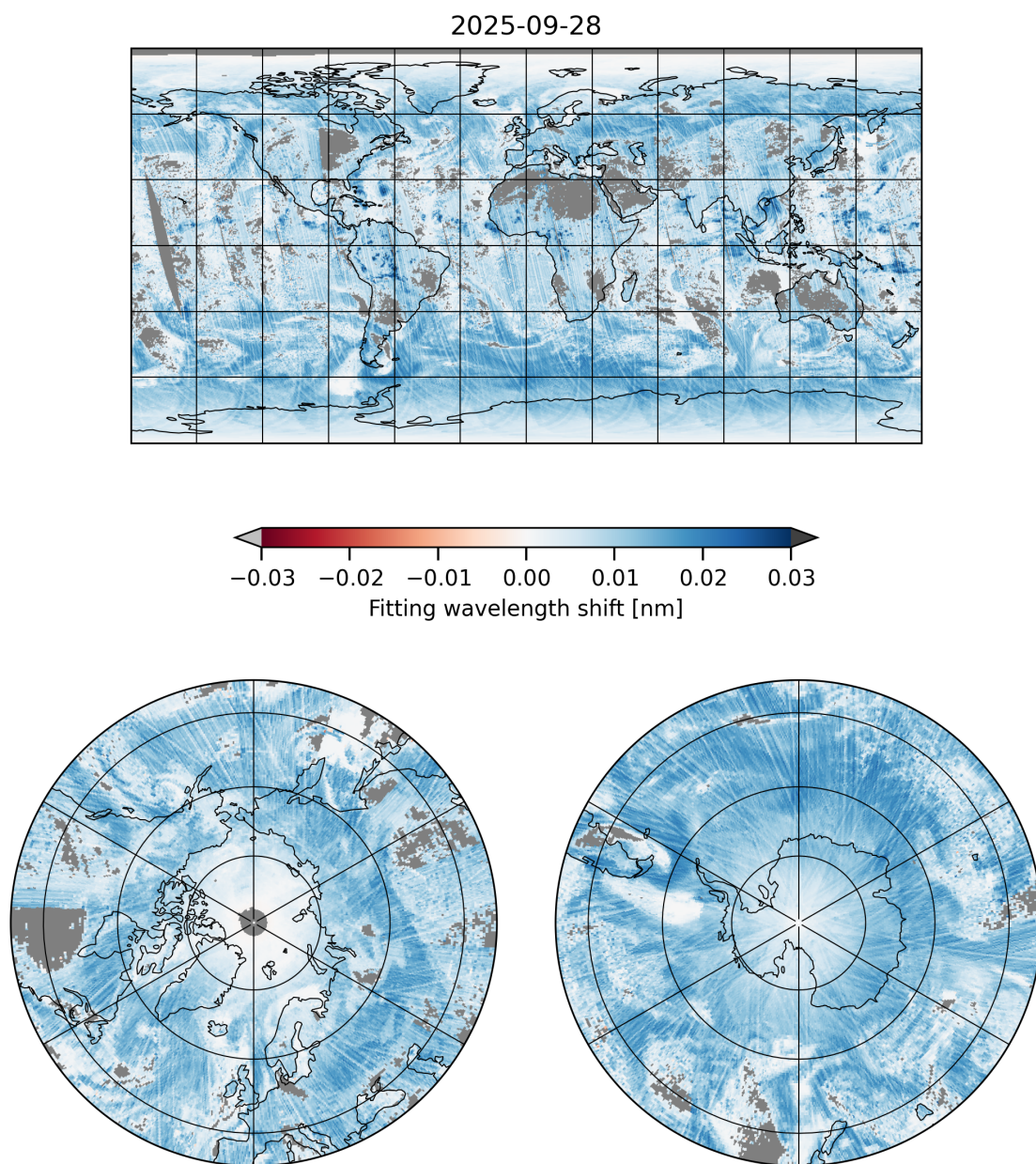


Figure 14: Map of "Fitting wavelength shift" for 2025-09-28 to 2025-09-29

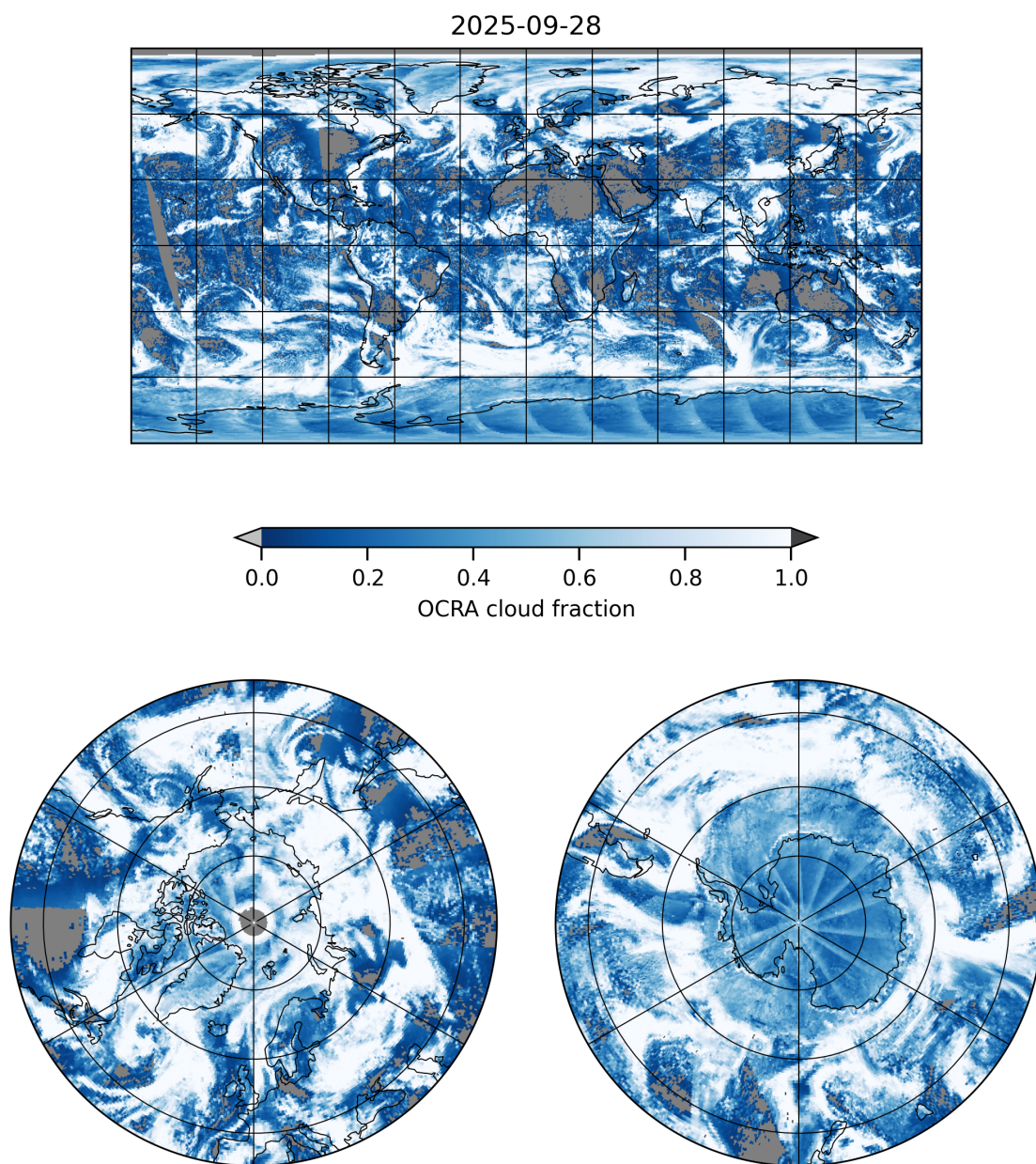


Figure 15: Map of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29

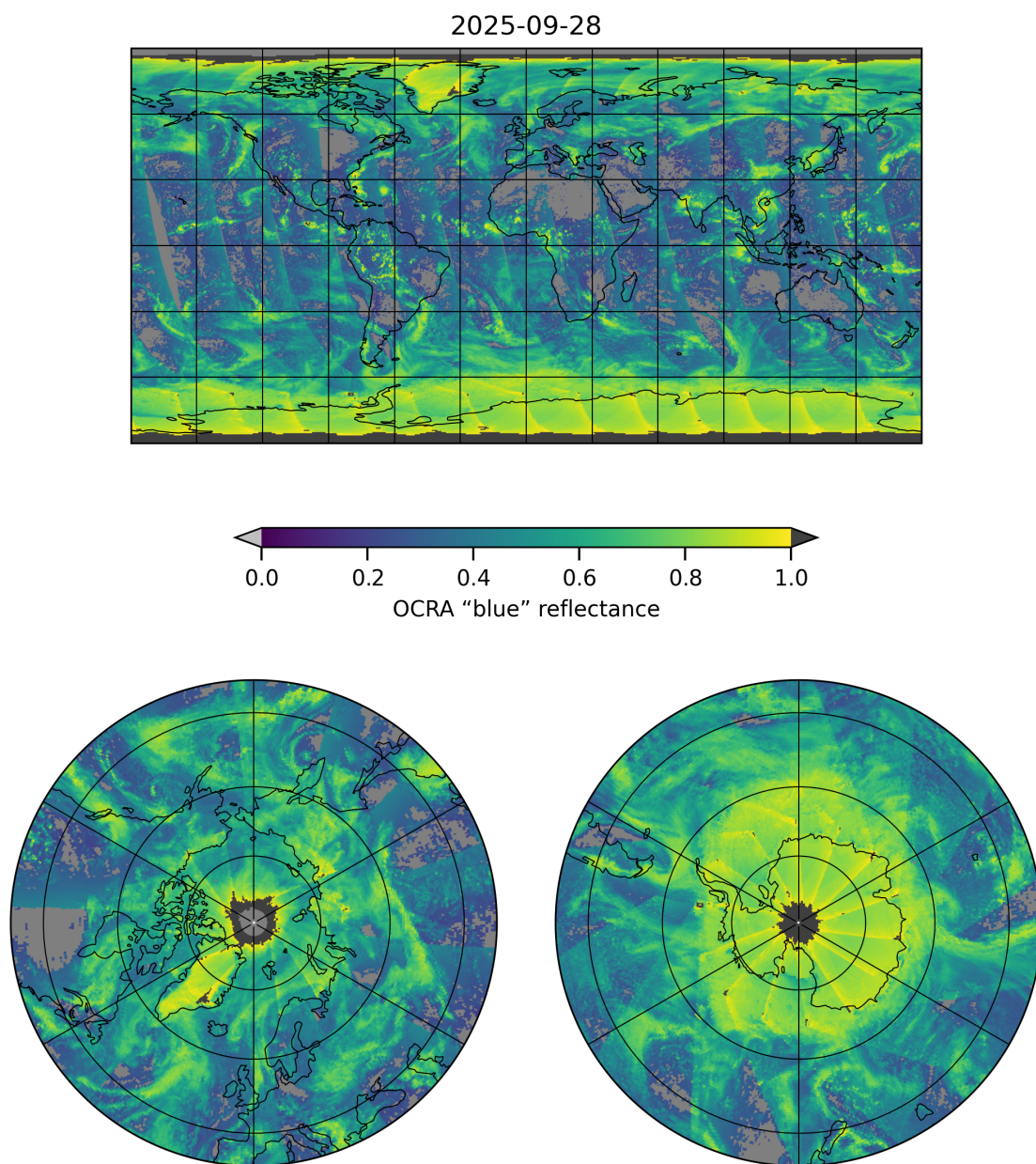


Figure 16: Map of "OCRA "blue" reflectance" for 2025-09-28 to 2025-09-29

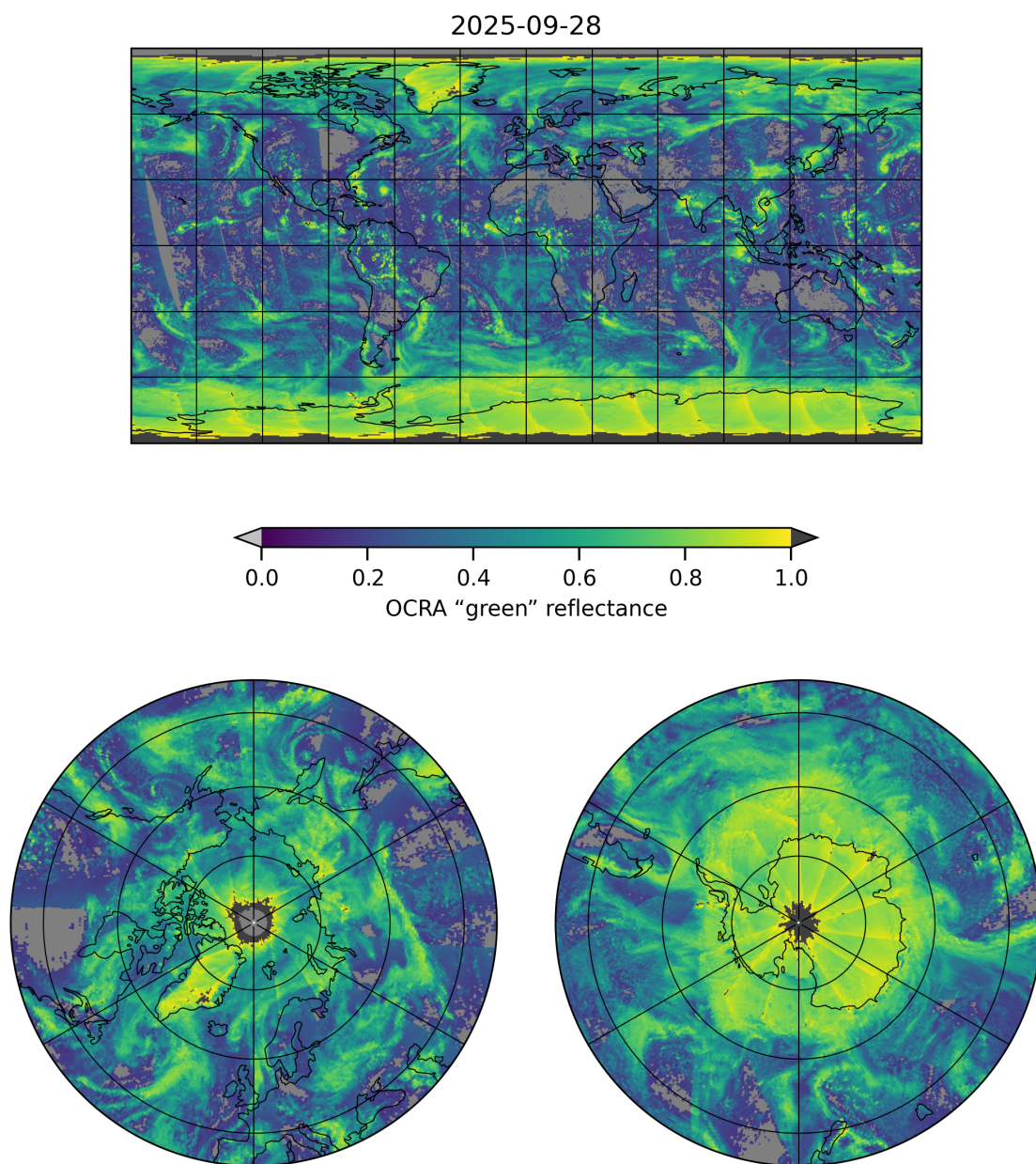


Figure 17: Map of "OCRA "green" reflectance" for 2025-09-28 to 2025-09-29

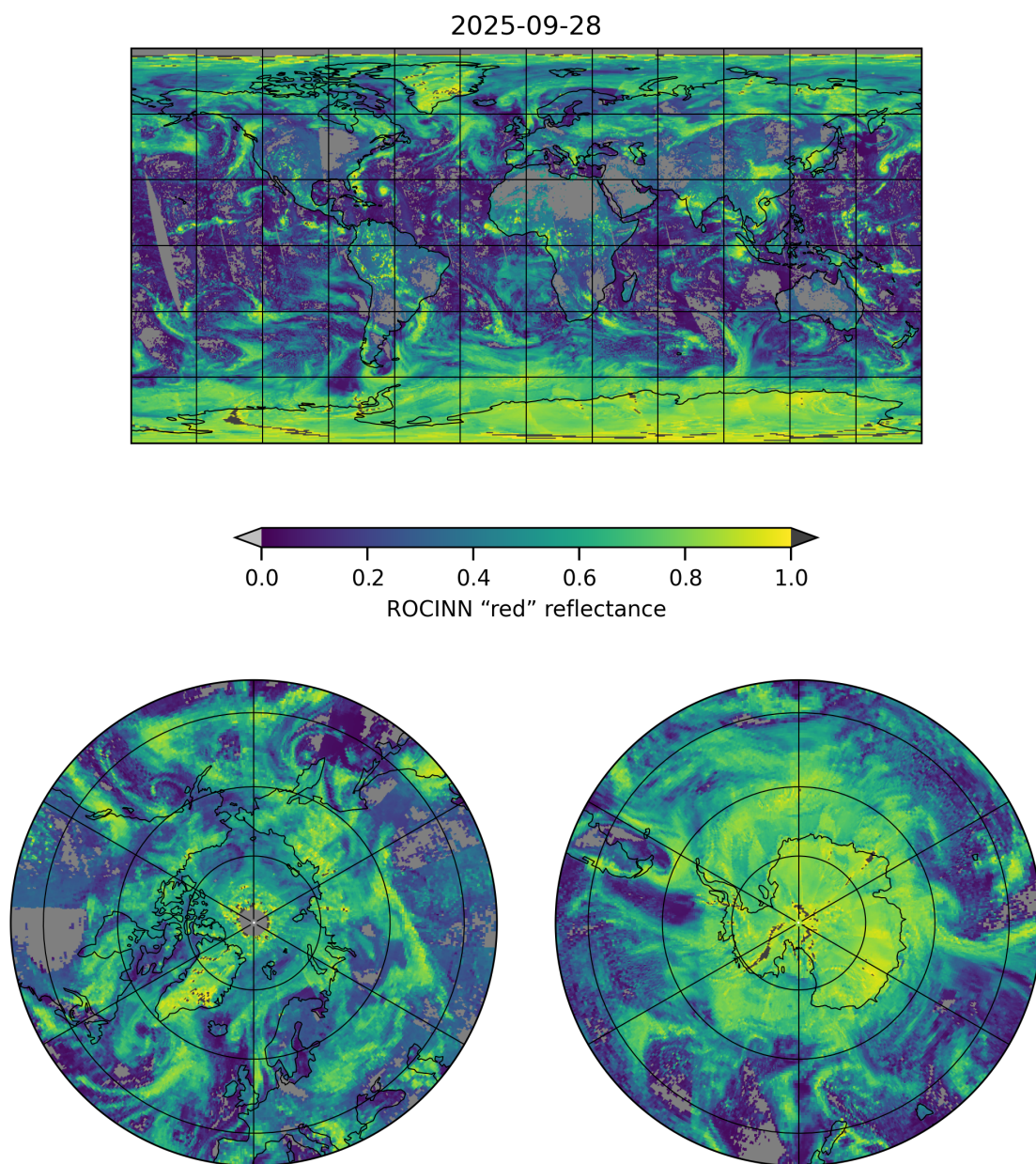


Figure 18: Map of "ROCINN "red" reflectance" for 2025-09-28 to 2025-09-29

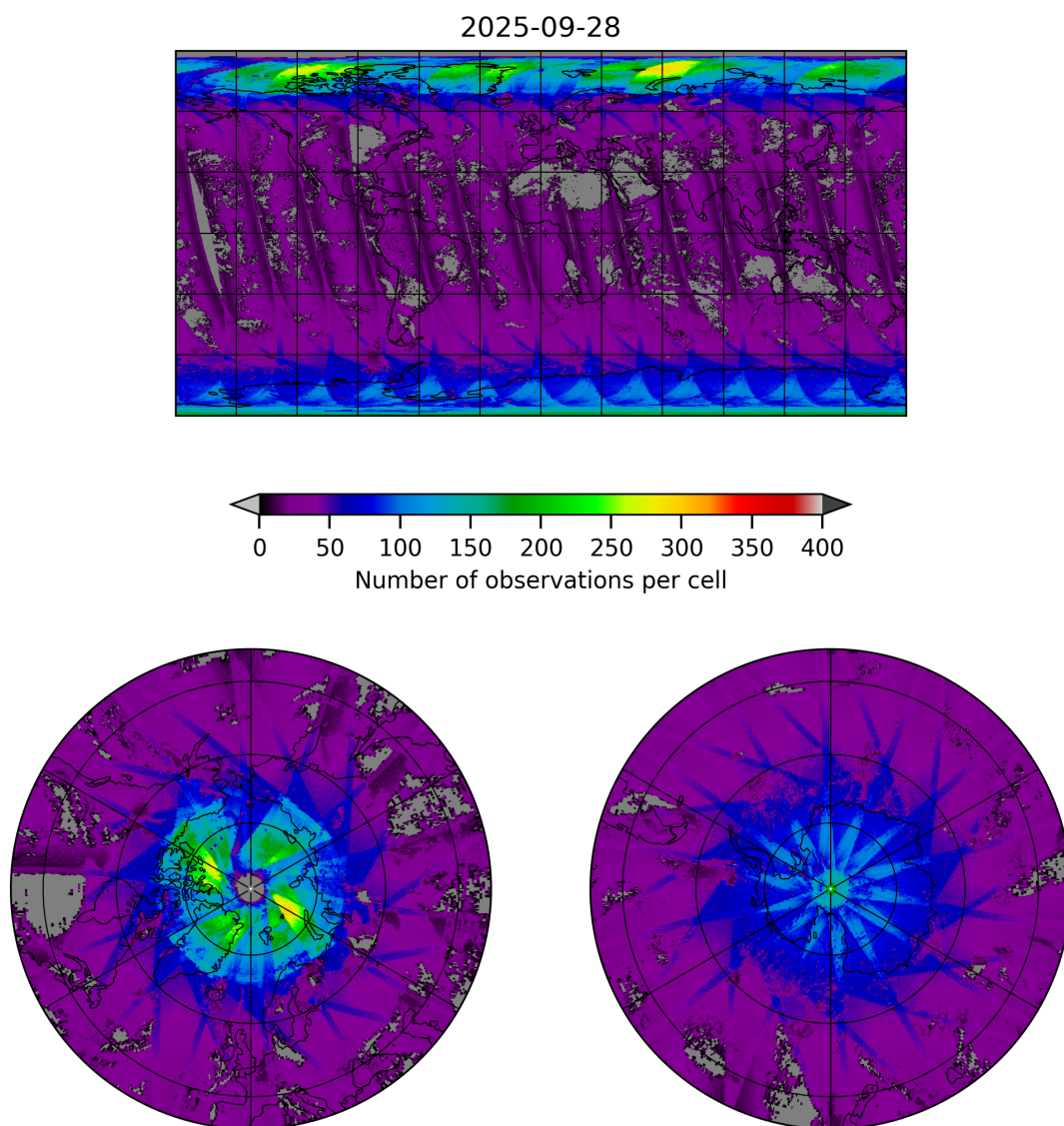


Figure 19: Map of the number of observations for 2025-09-28 to 2025-09-29

7 Zonal average

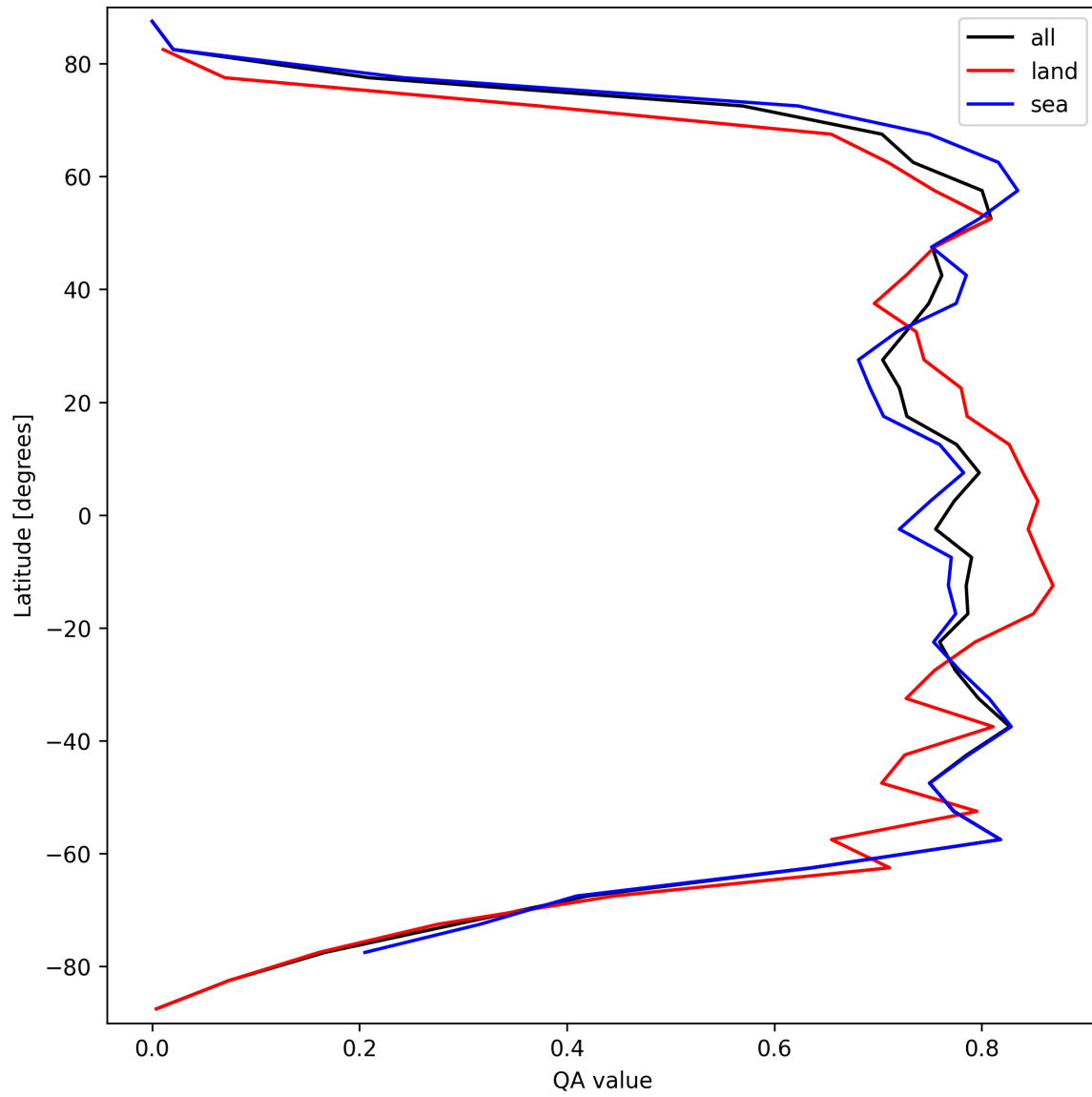


Figure 20: Zonal average of “QA value” for 2025-09-28 to 2025-09-29.

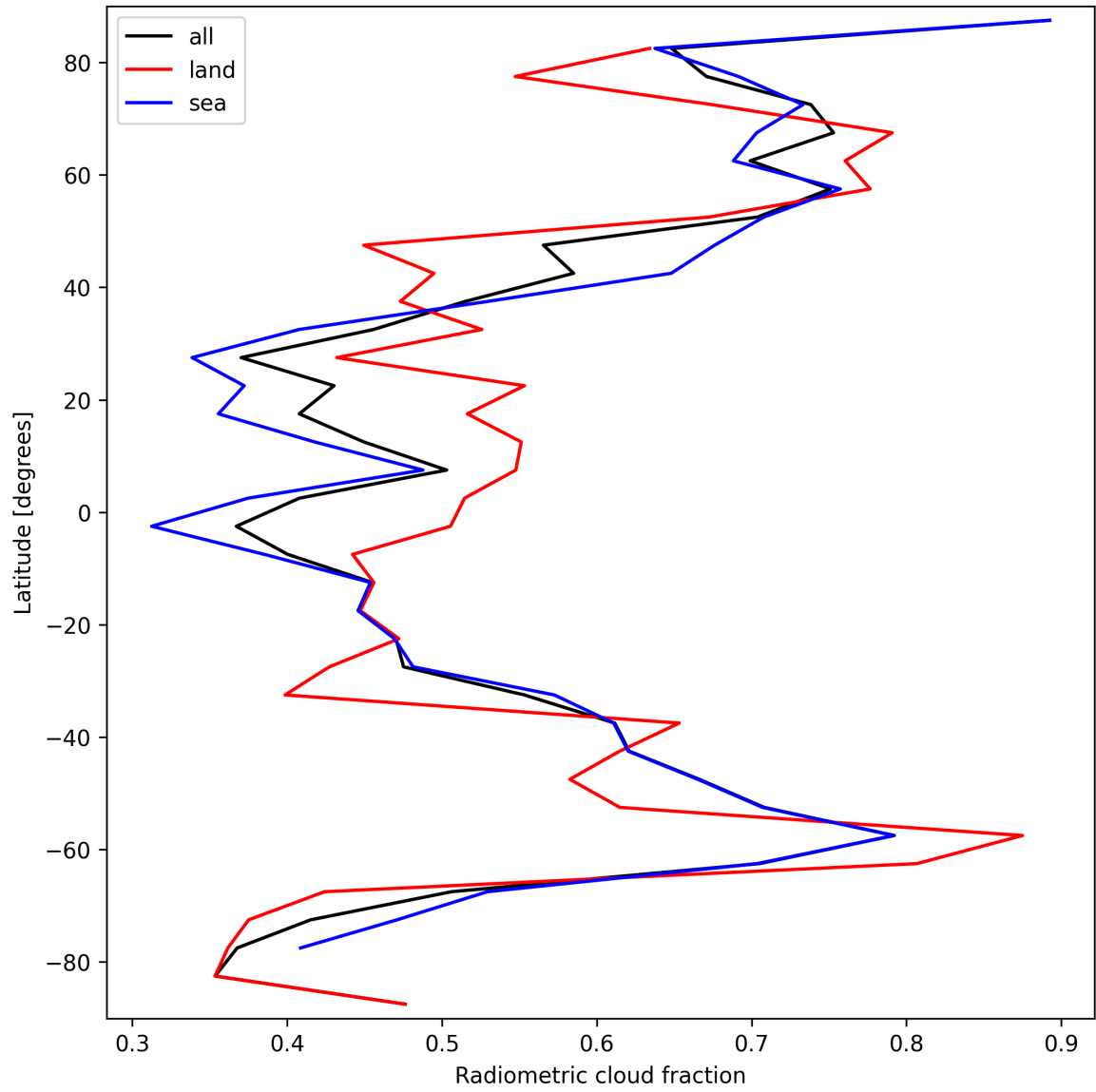


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29.

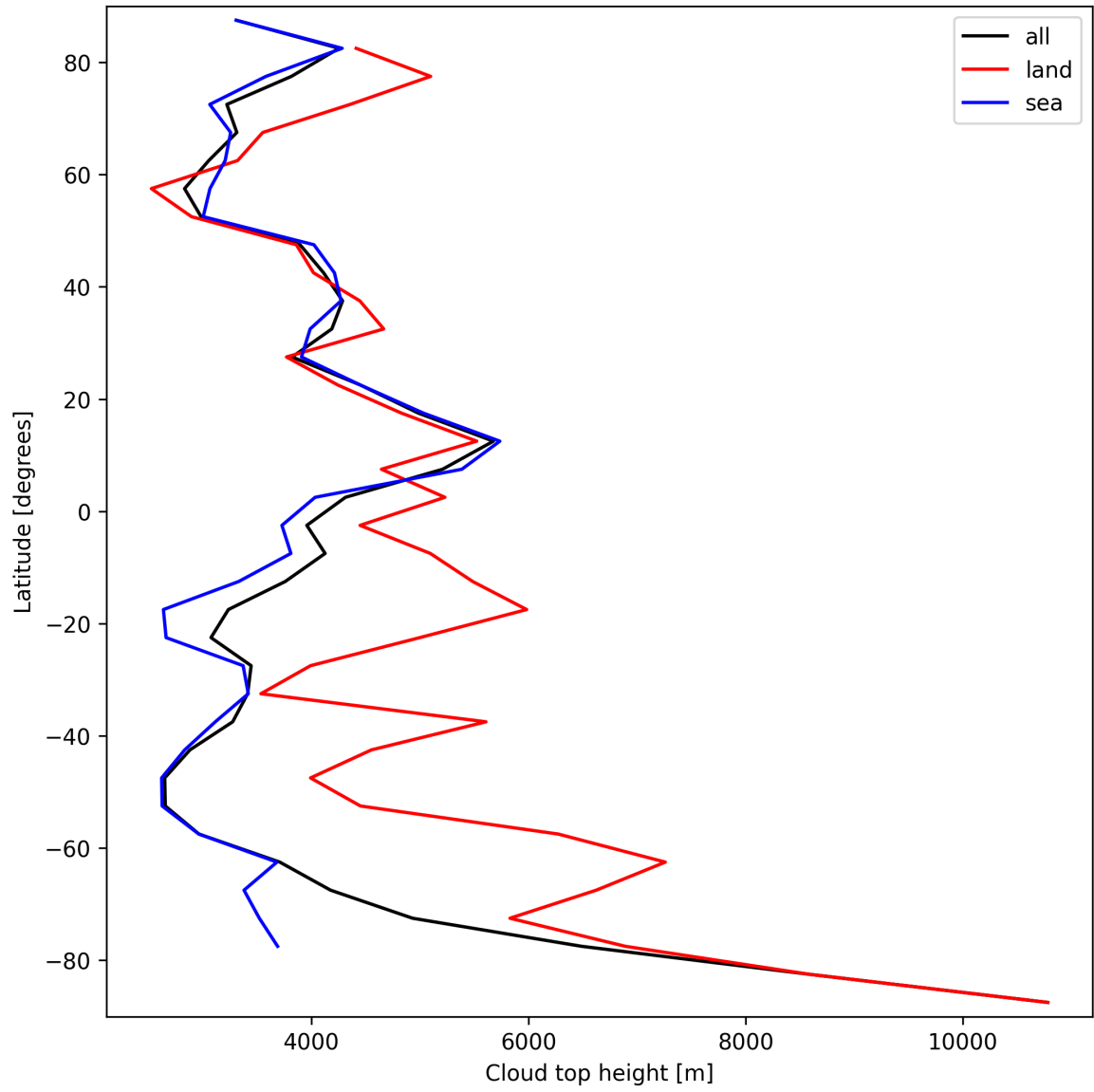


Figure 22: Zonal average of “Cloud top height” for 2025-09-28 to 2025-09-29.

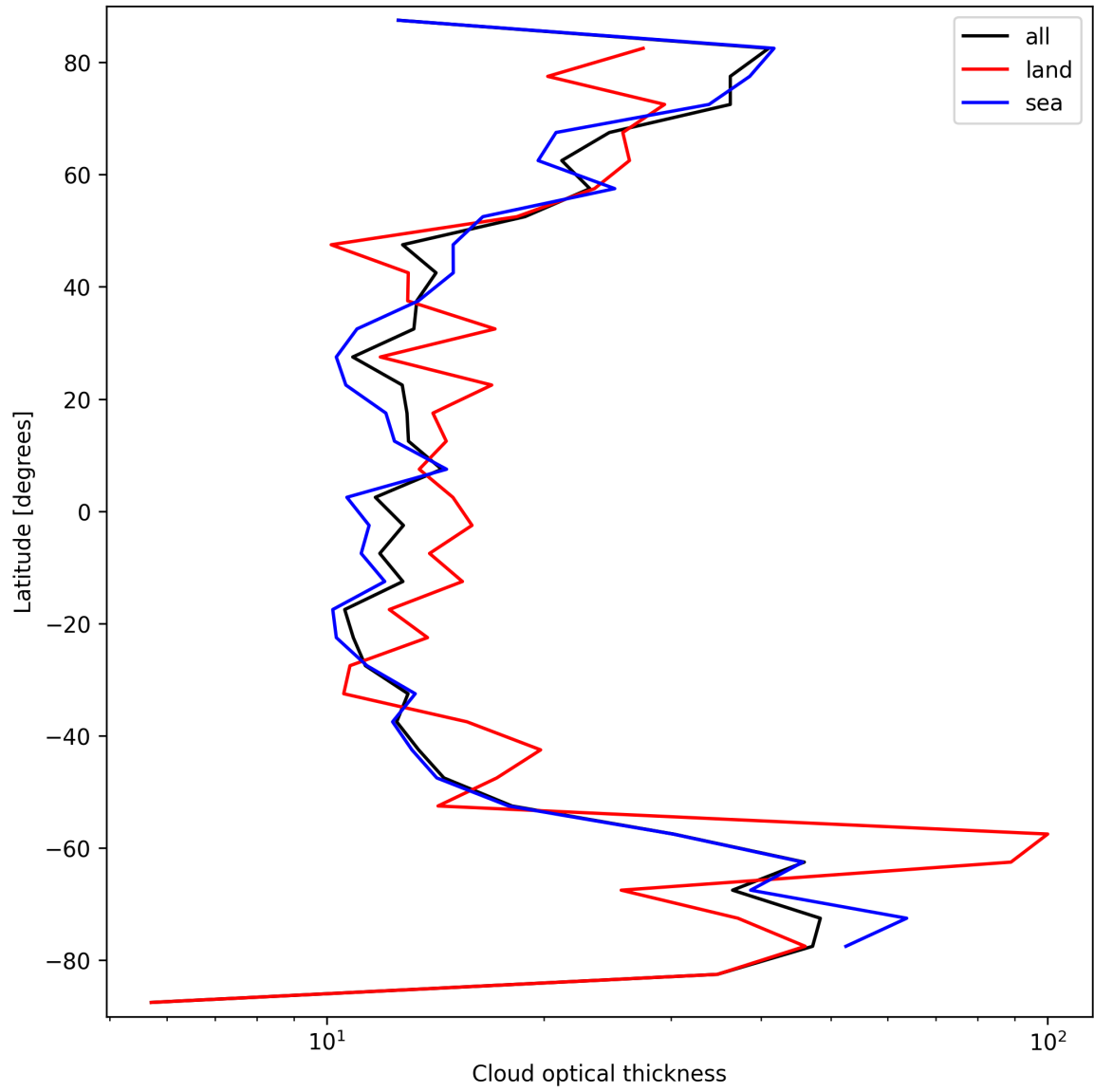


Figure 23: Zonal average of “Cloud optical thickness” for 2025-09-28 to 2025-09-29.

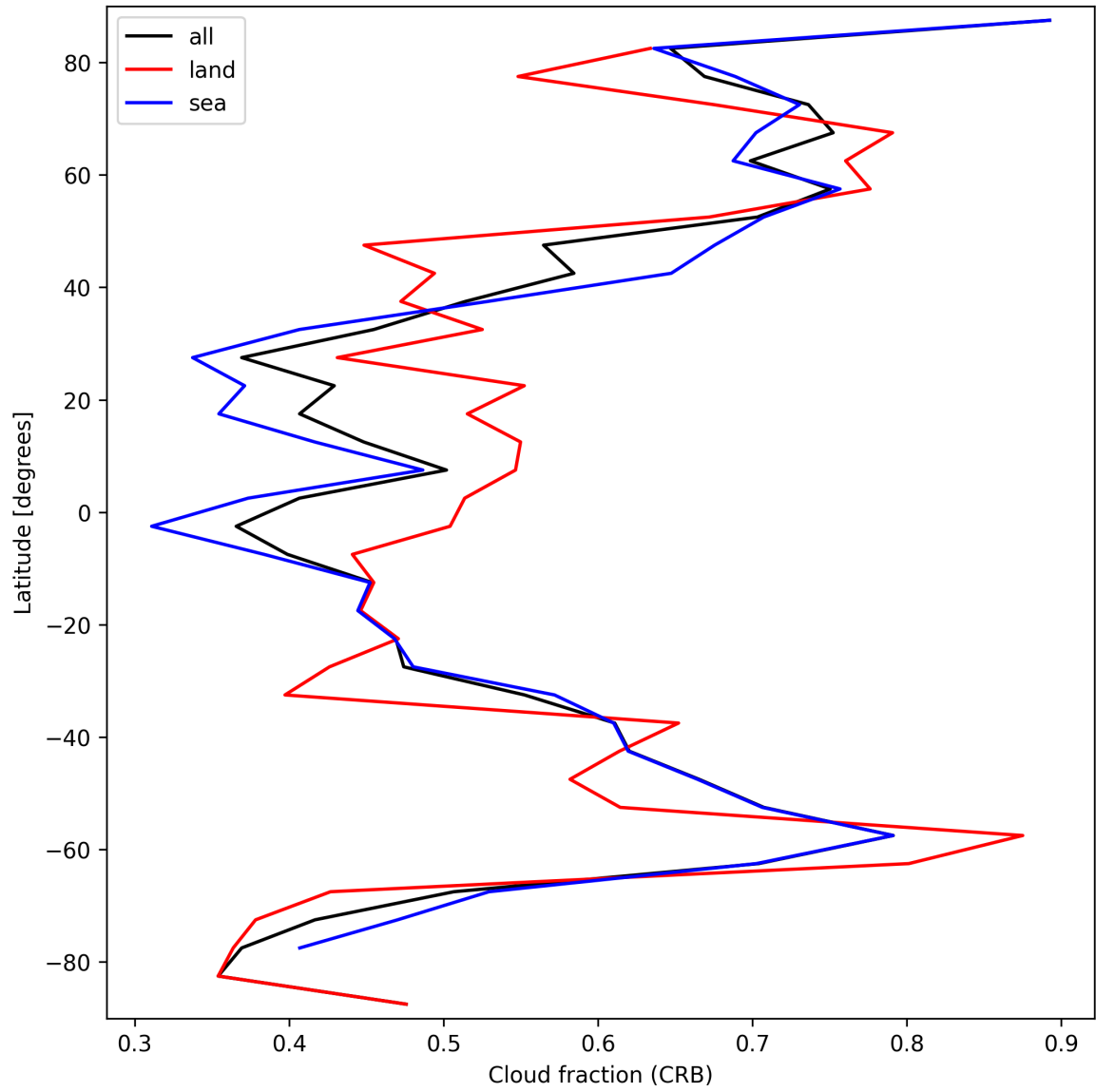


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29.

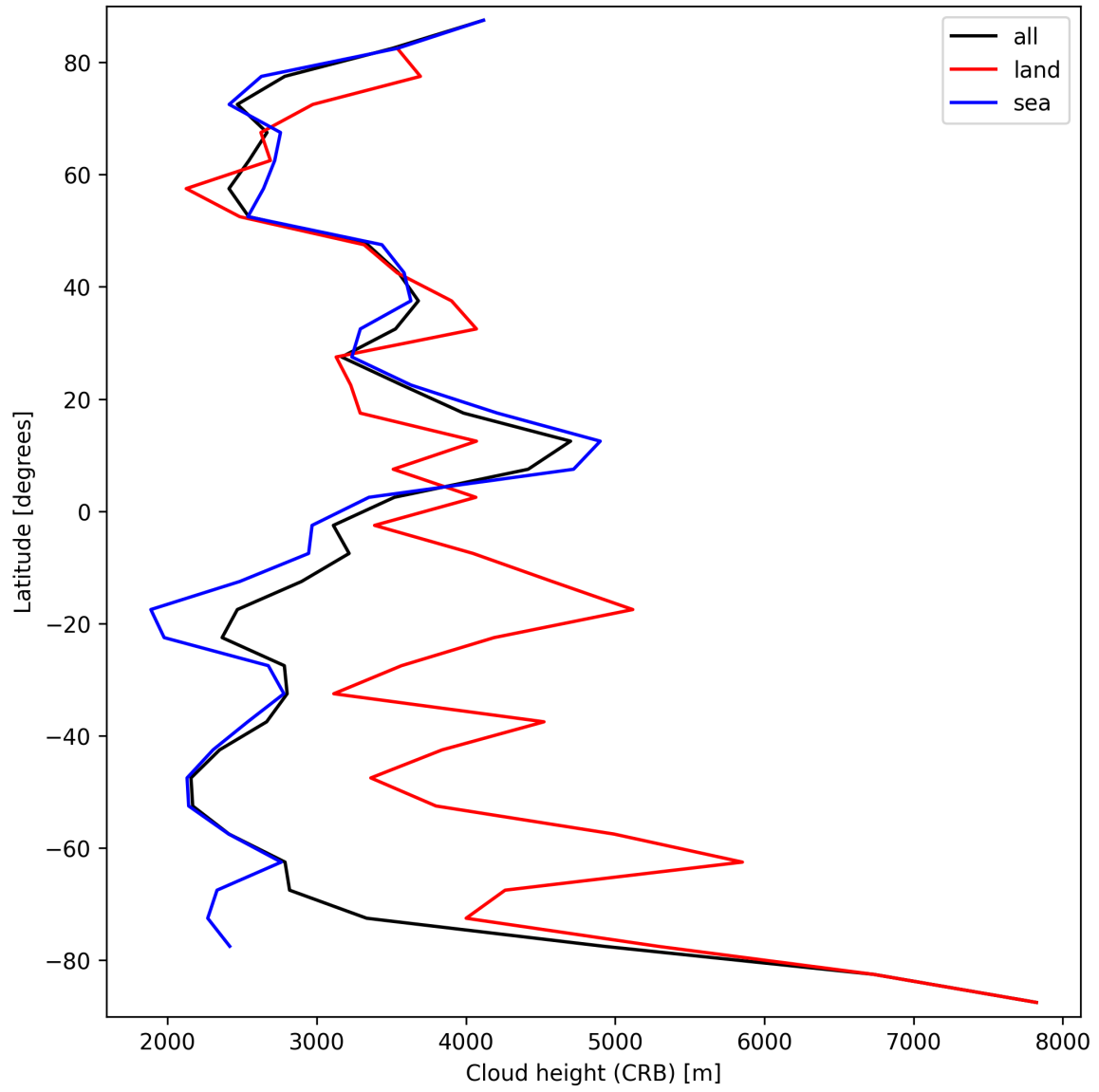


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29.

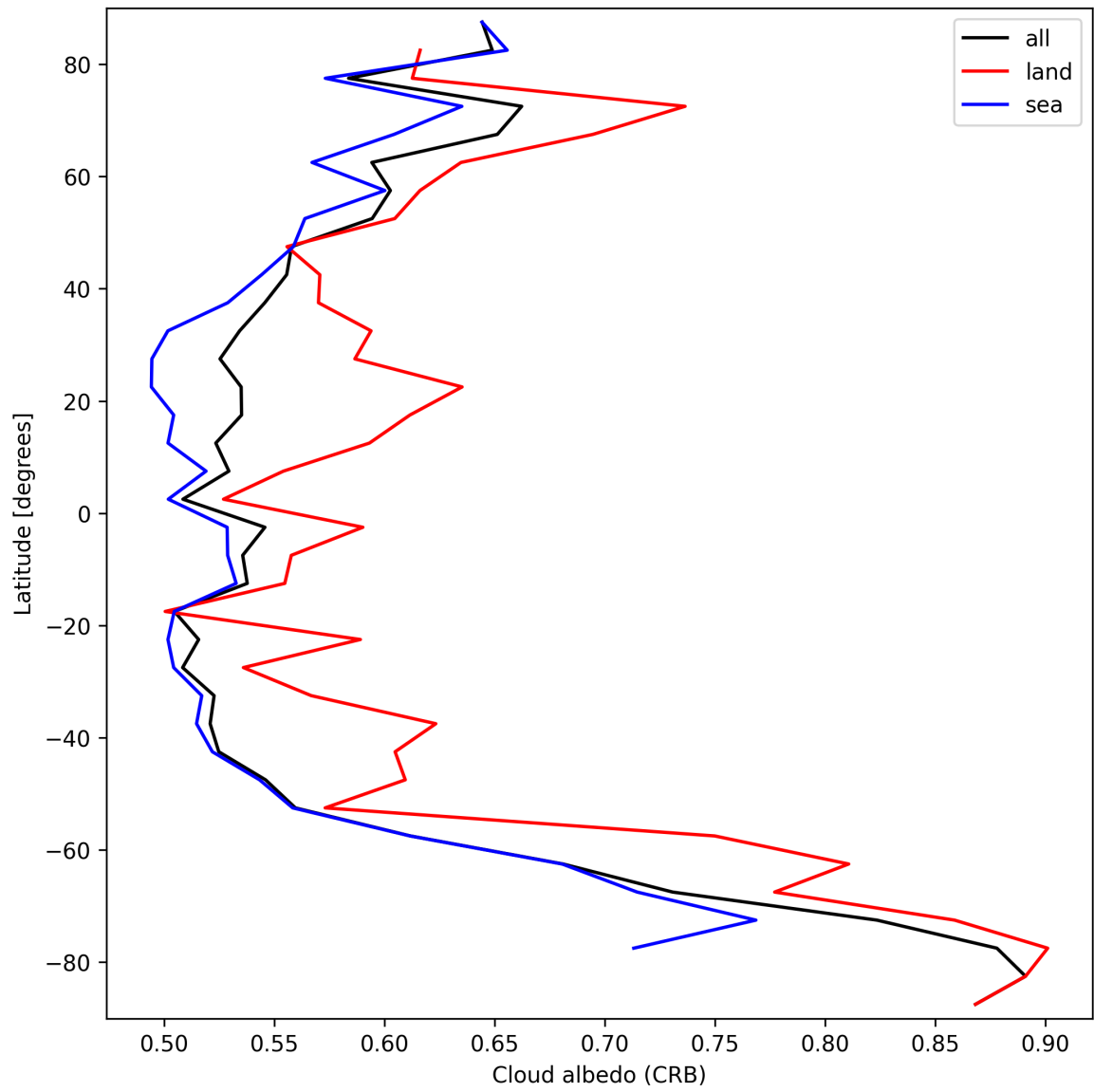


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29.

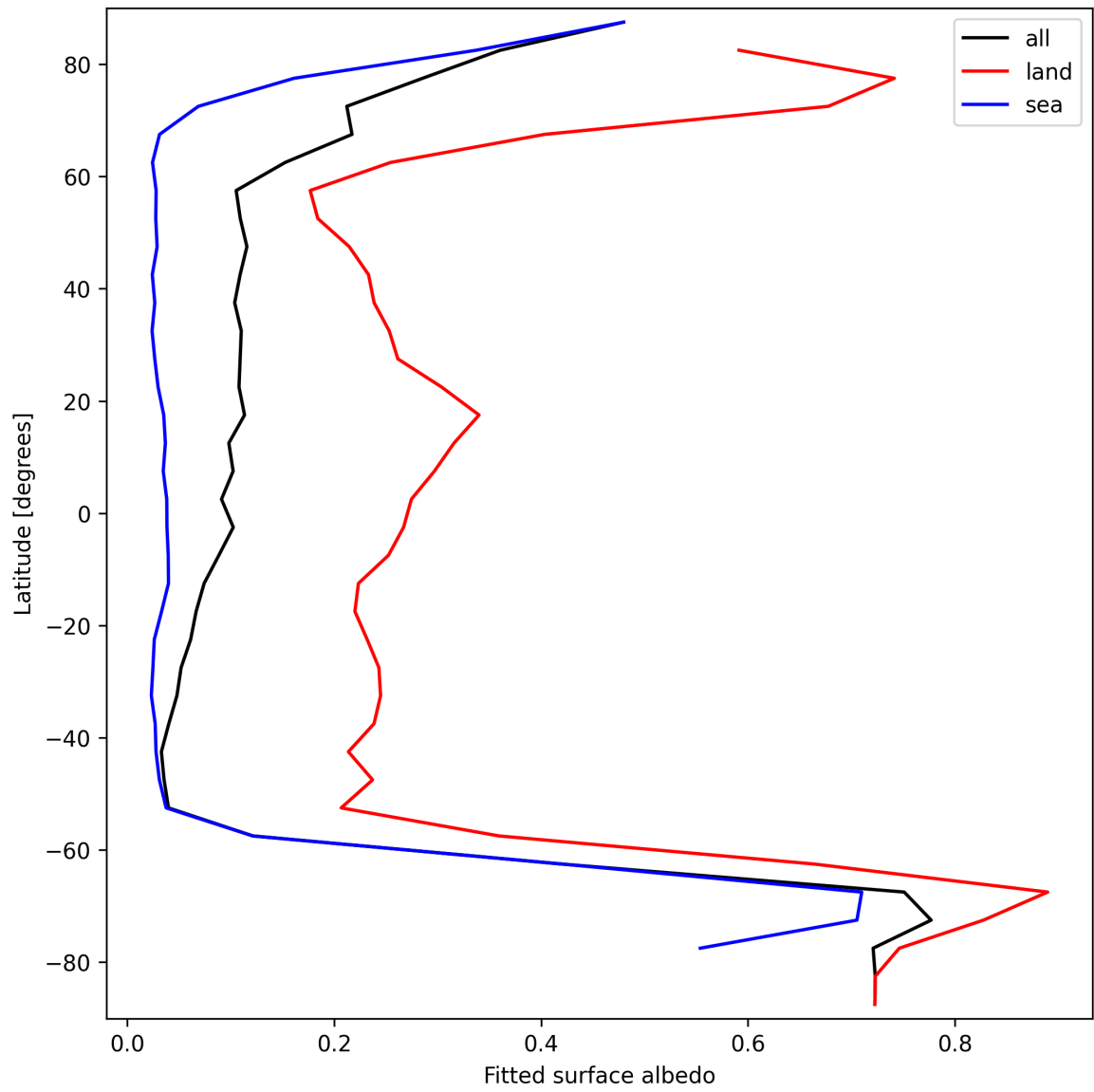


Figure 27: Zonal average of “Fitted surface albedo” for 2025-09-28 to 2025-09-29.

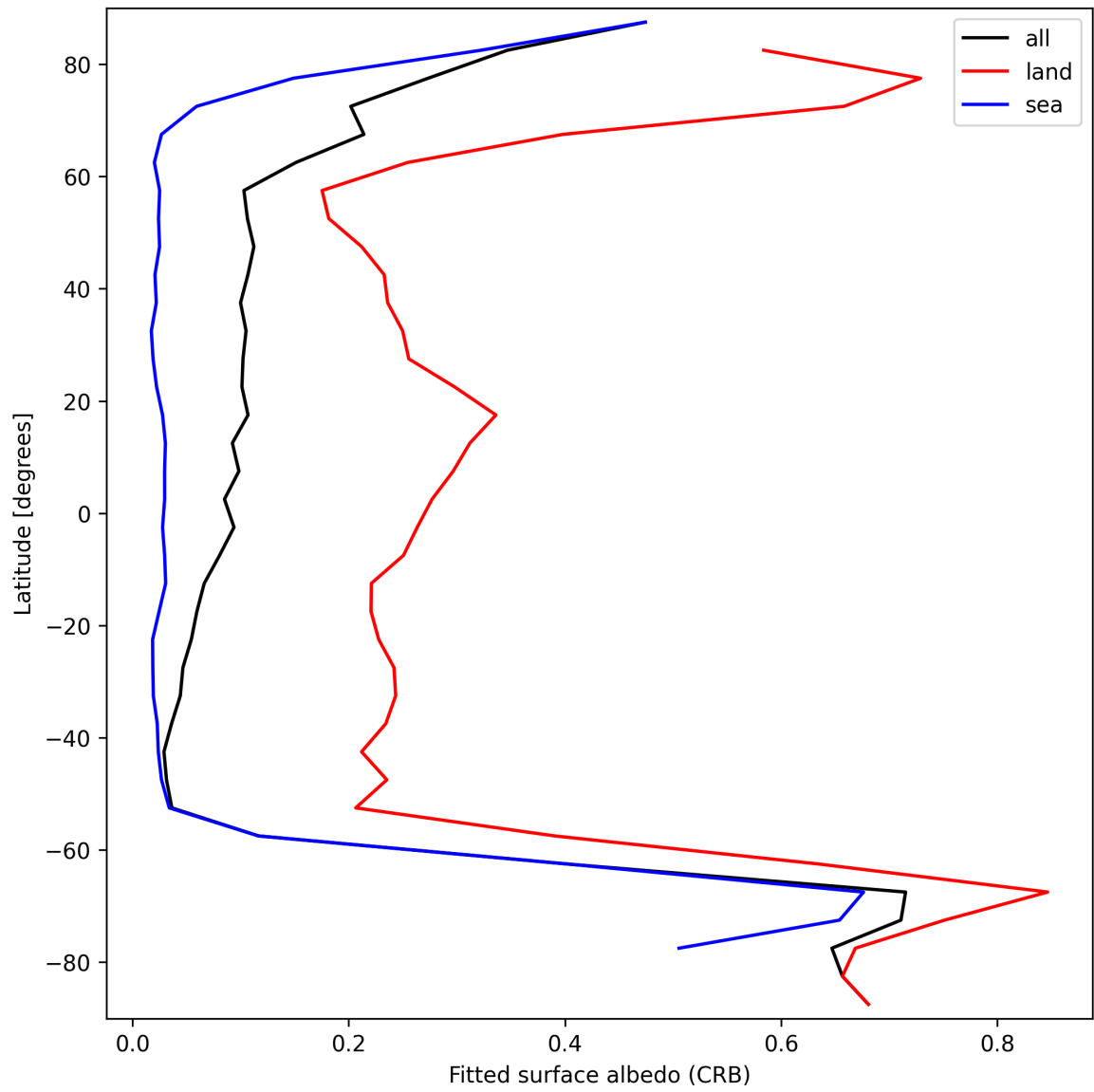


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29.

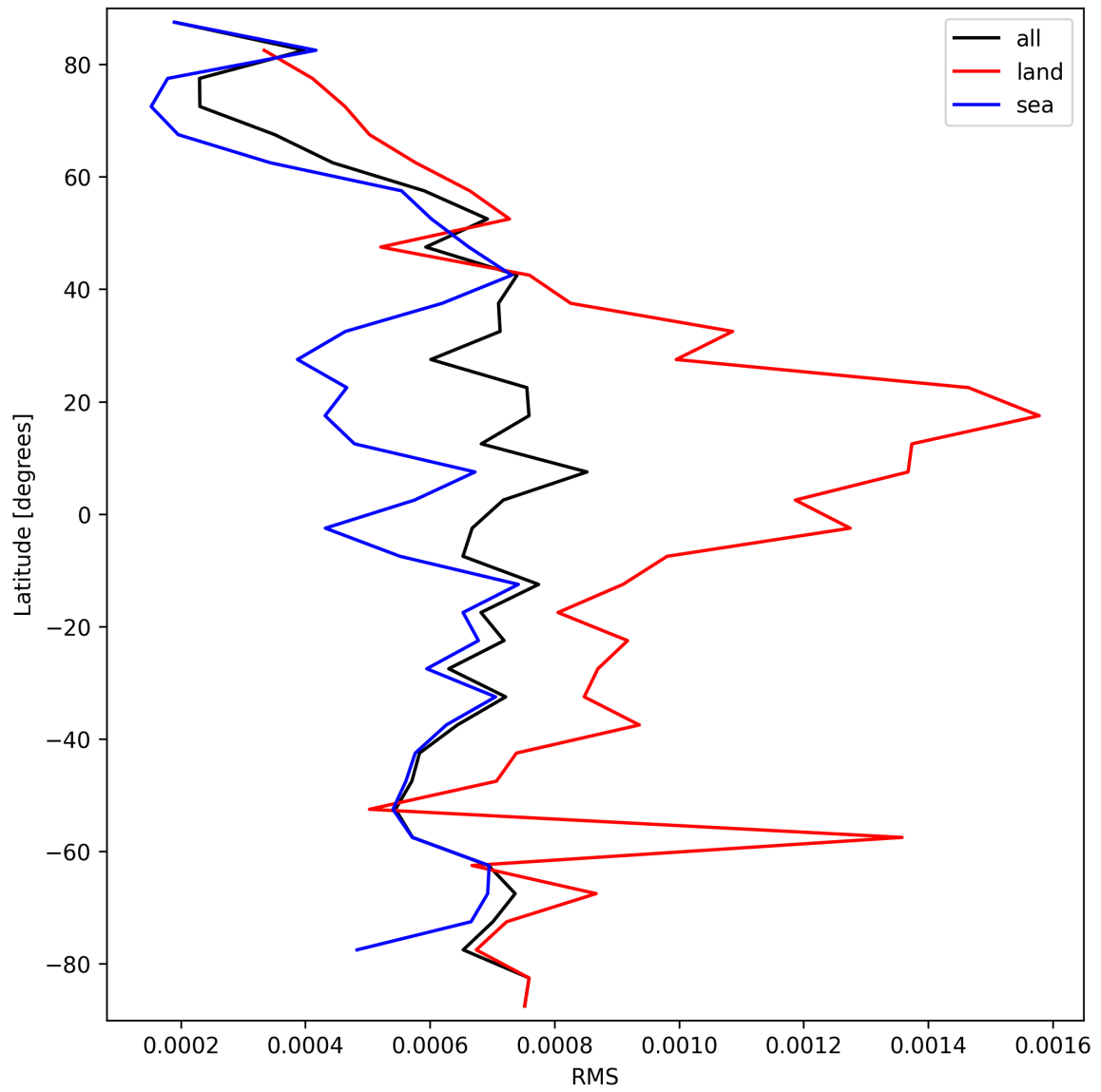


Figure 29: Zonal average of “RMS” for 2025-09-28 to 2025-09-29.

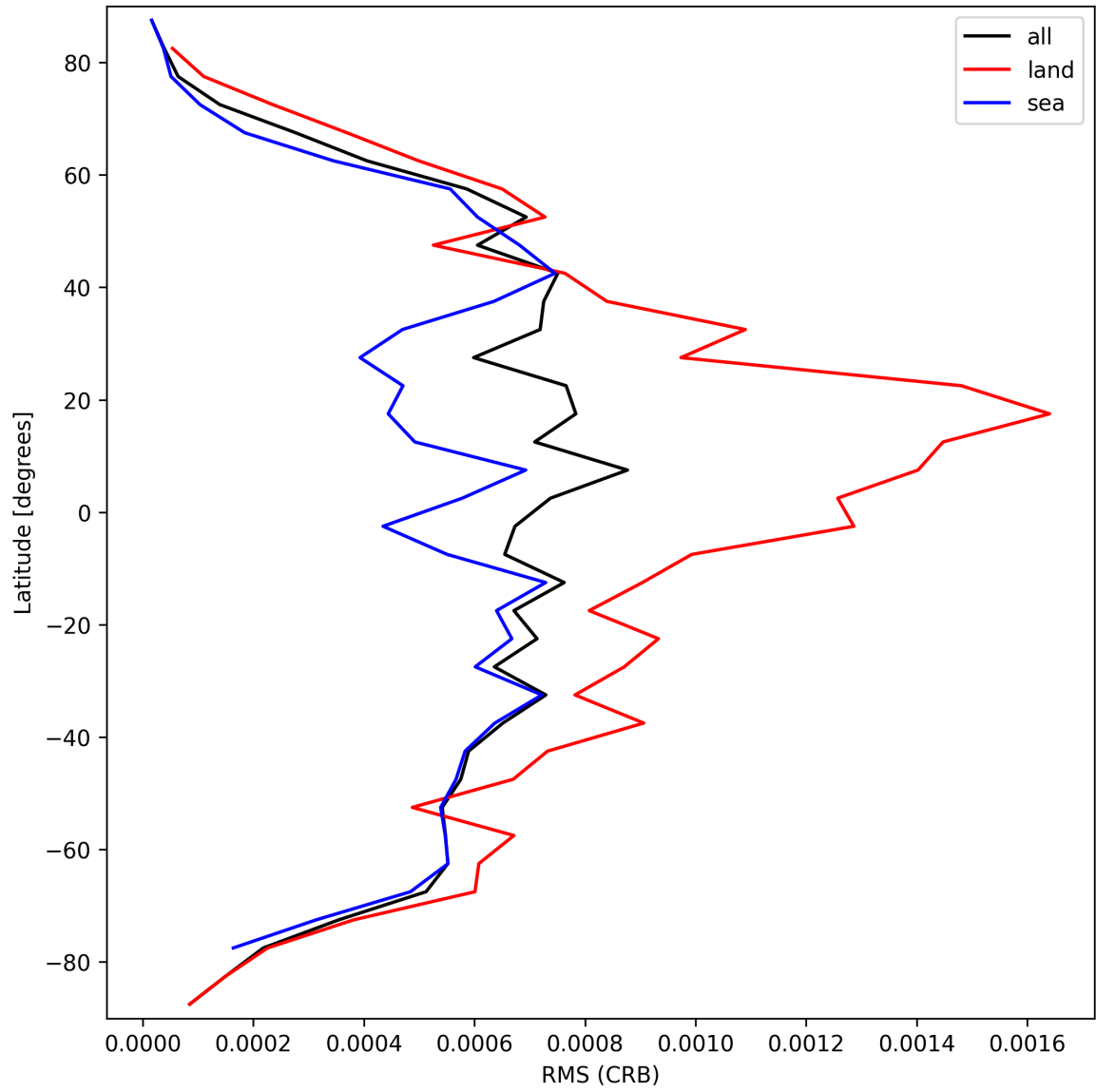


Figure 30: Zonal average of “RMS (CRB)” for 2025-09-28 to 2025-09-29.

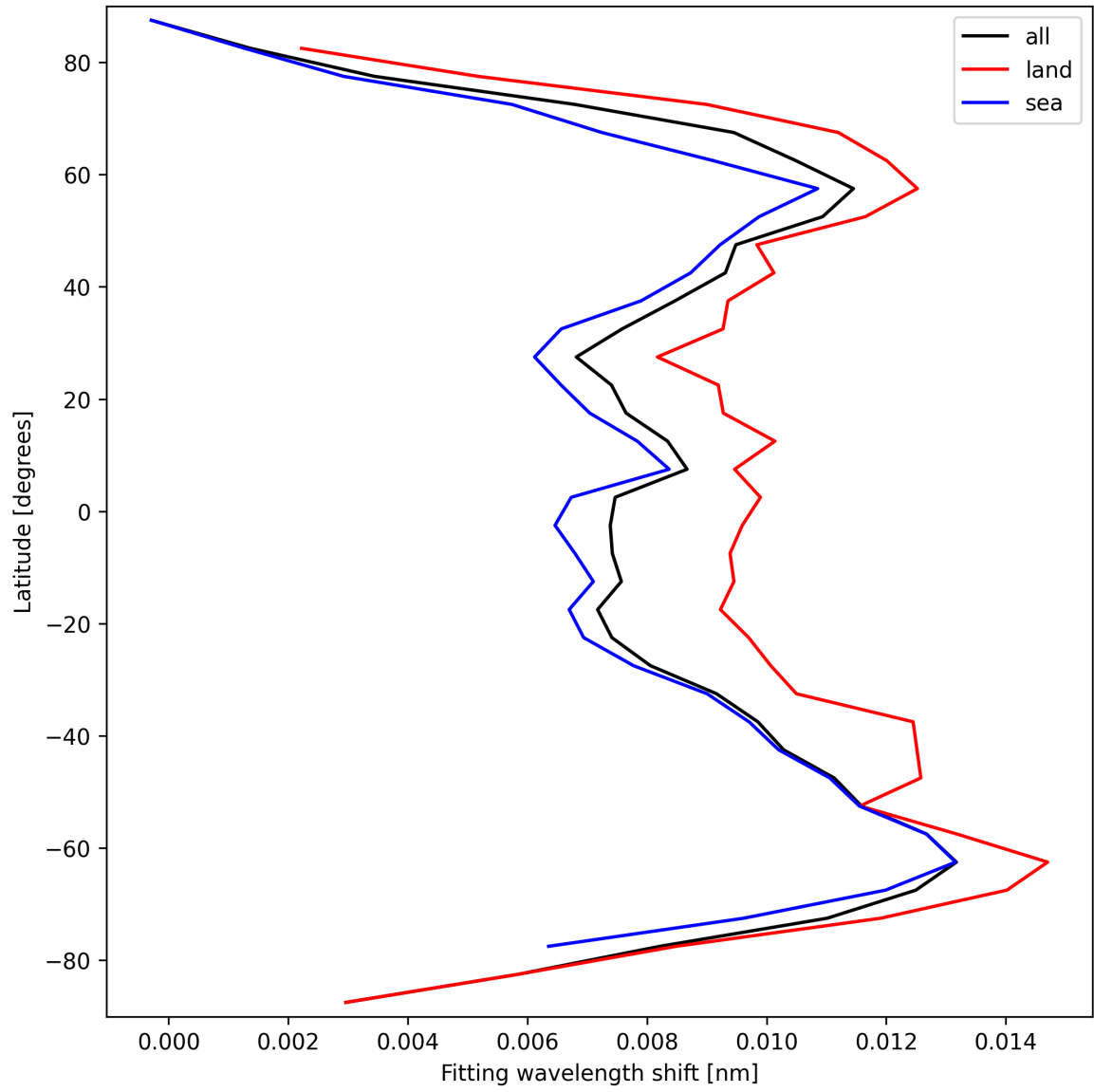


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29.

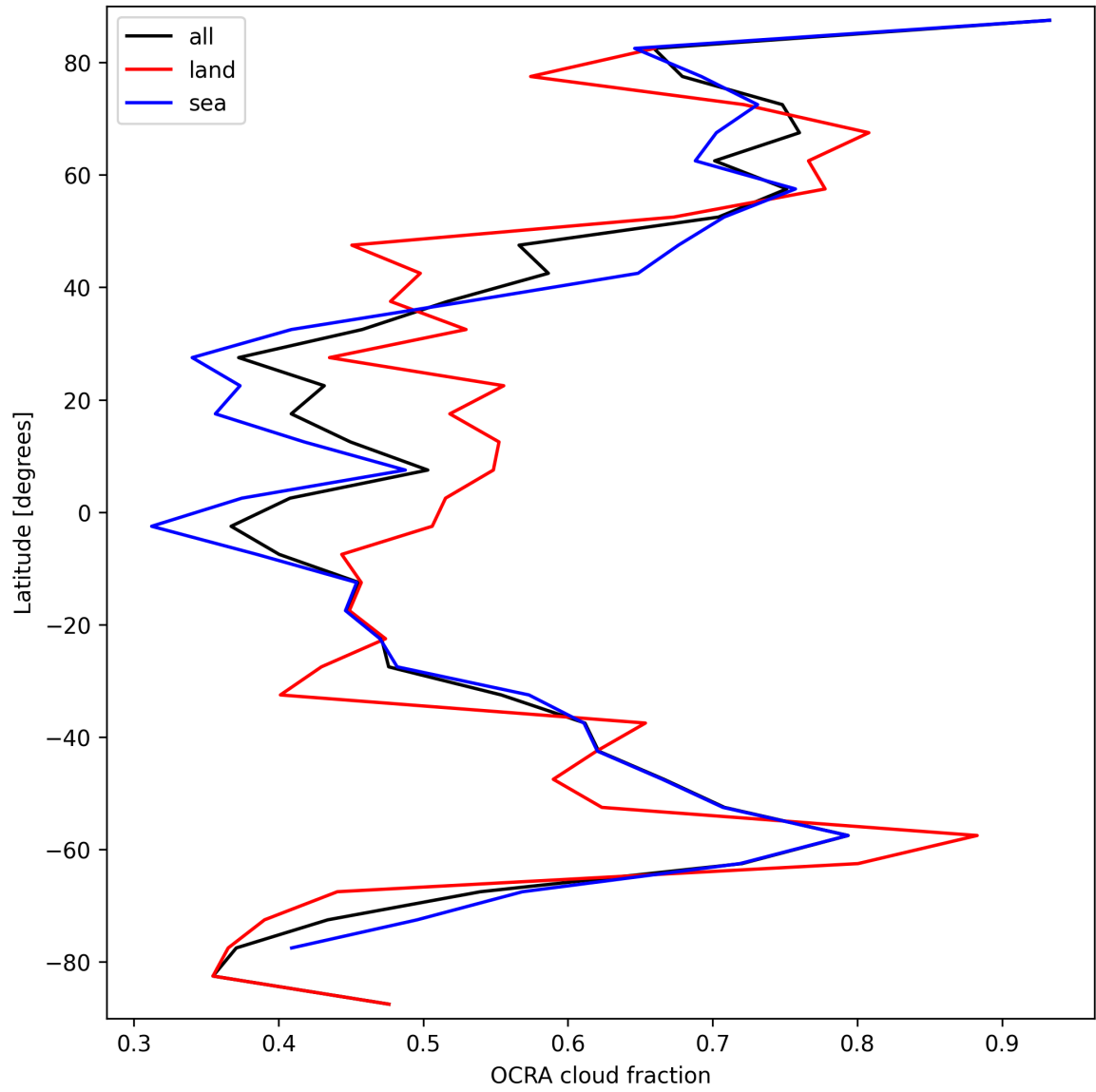


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29.

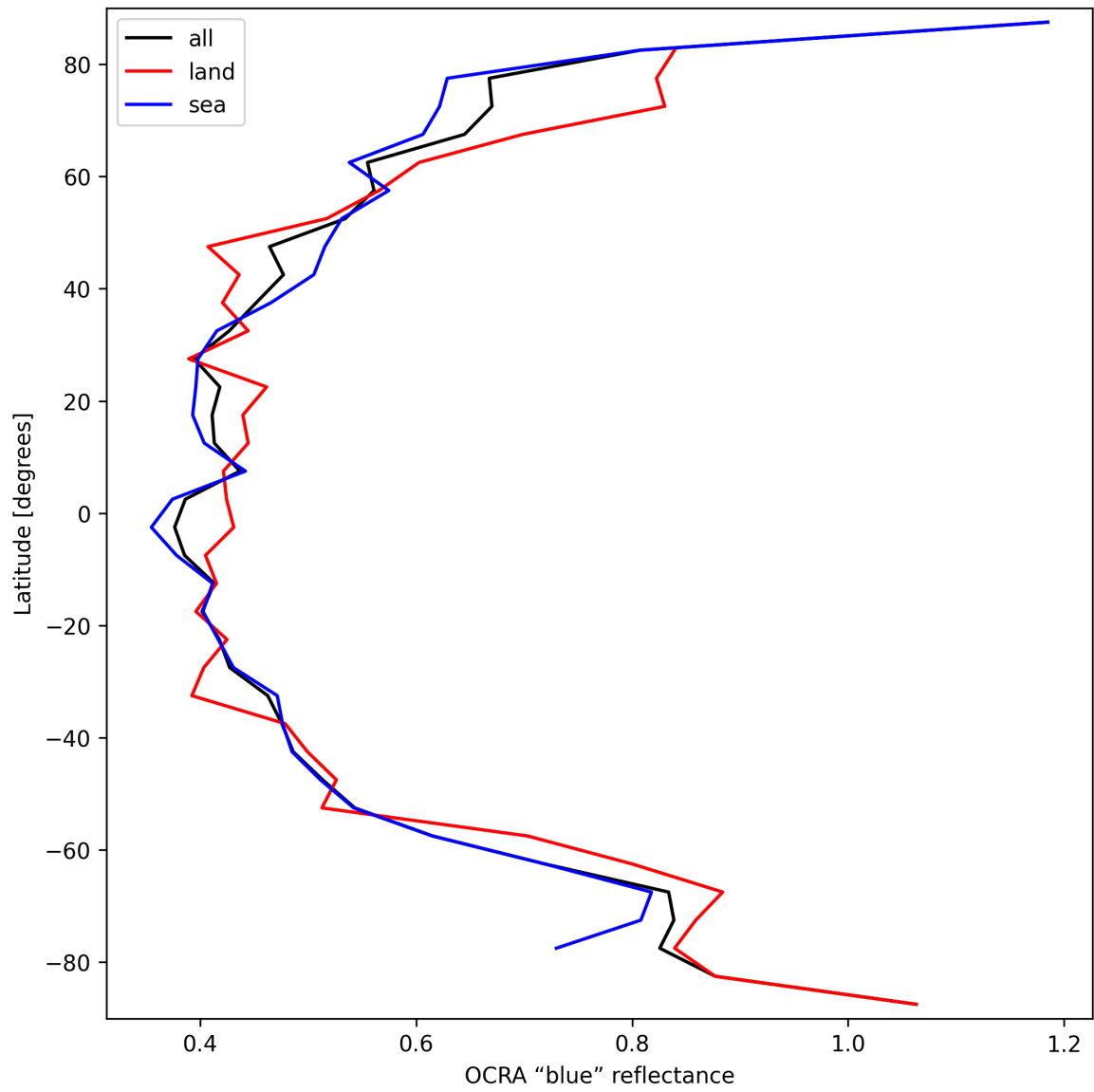


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29.

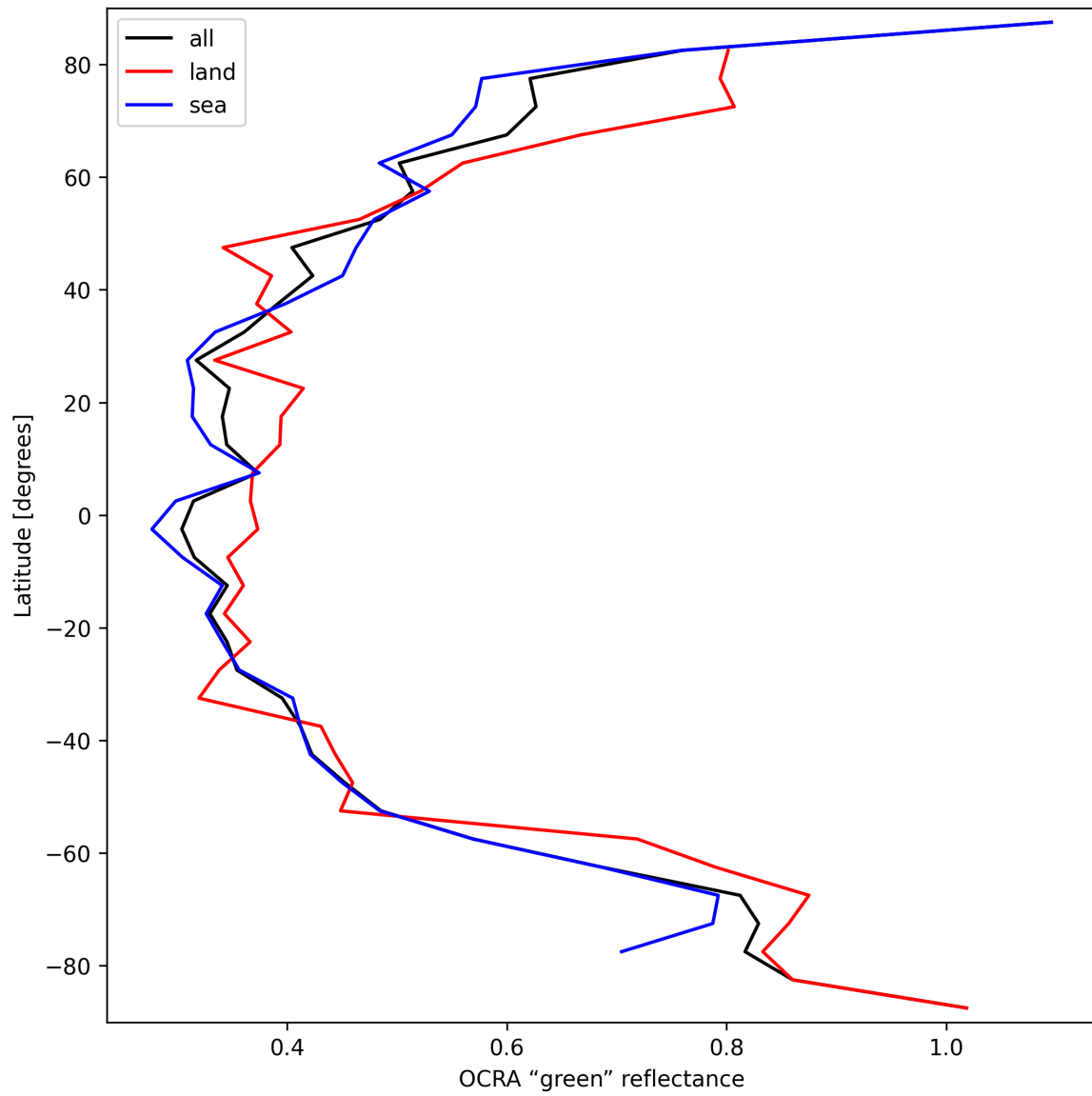


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29.

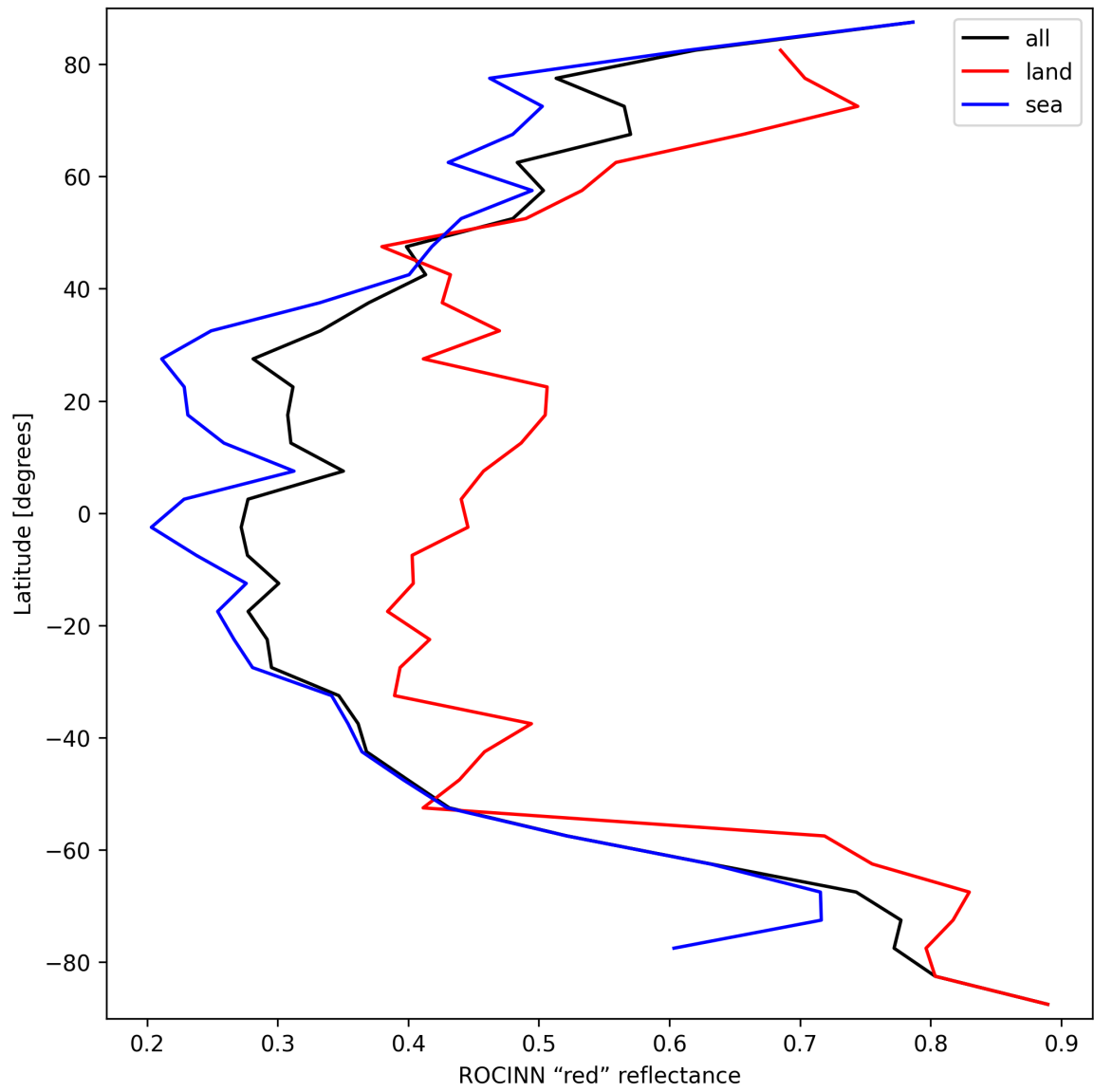


Figure 35: Zonal average of "ROCINN "red" reflectance" for 2025-09-28 to 2025-09-29.

8 Histograms

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

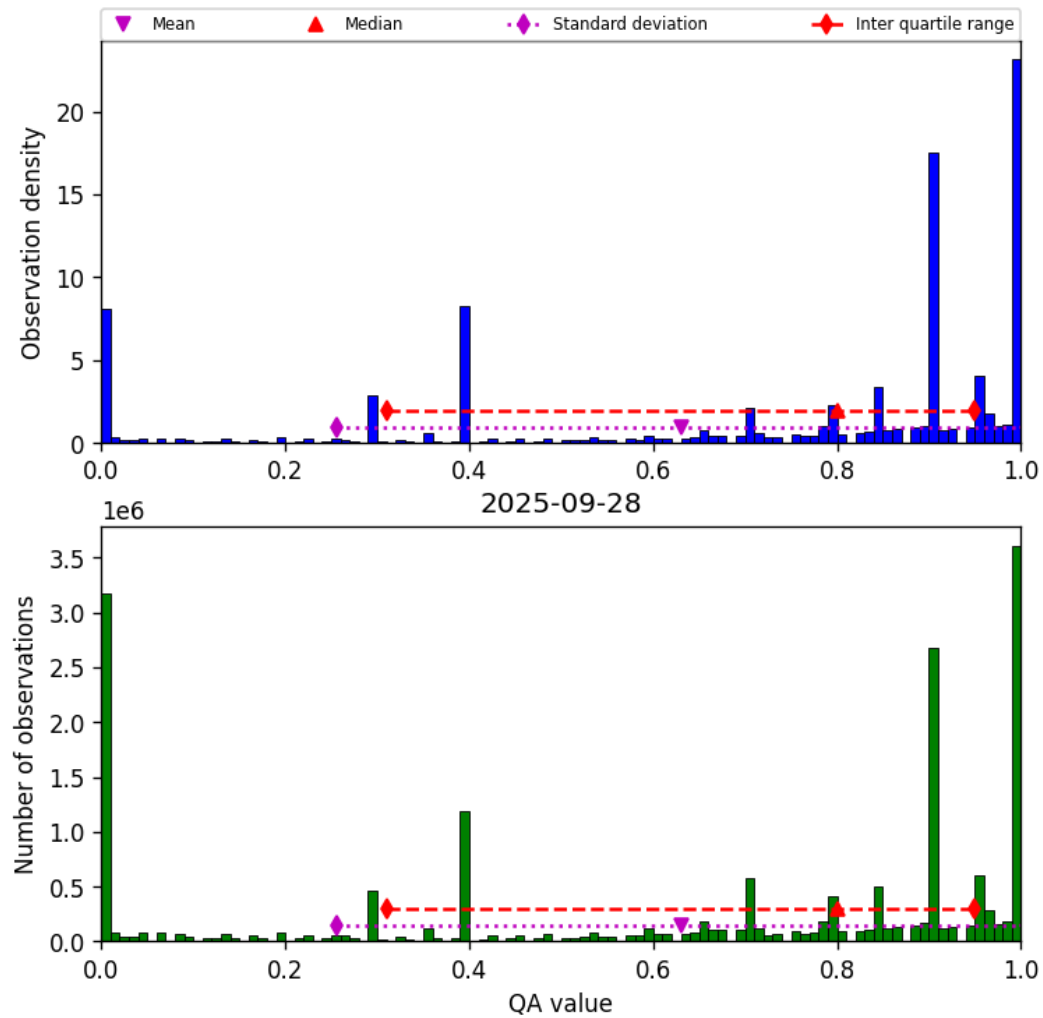


Figure 36: Histogram of “QA value” for 2025-09-28 to 2025-09-29

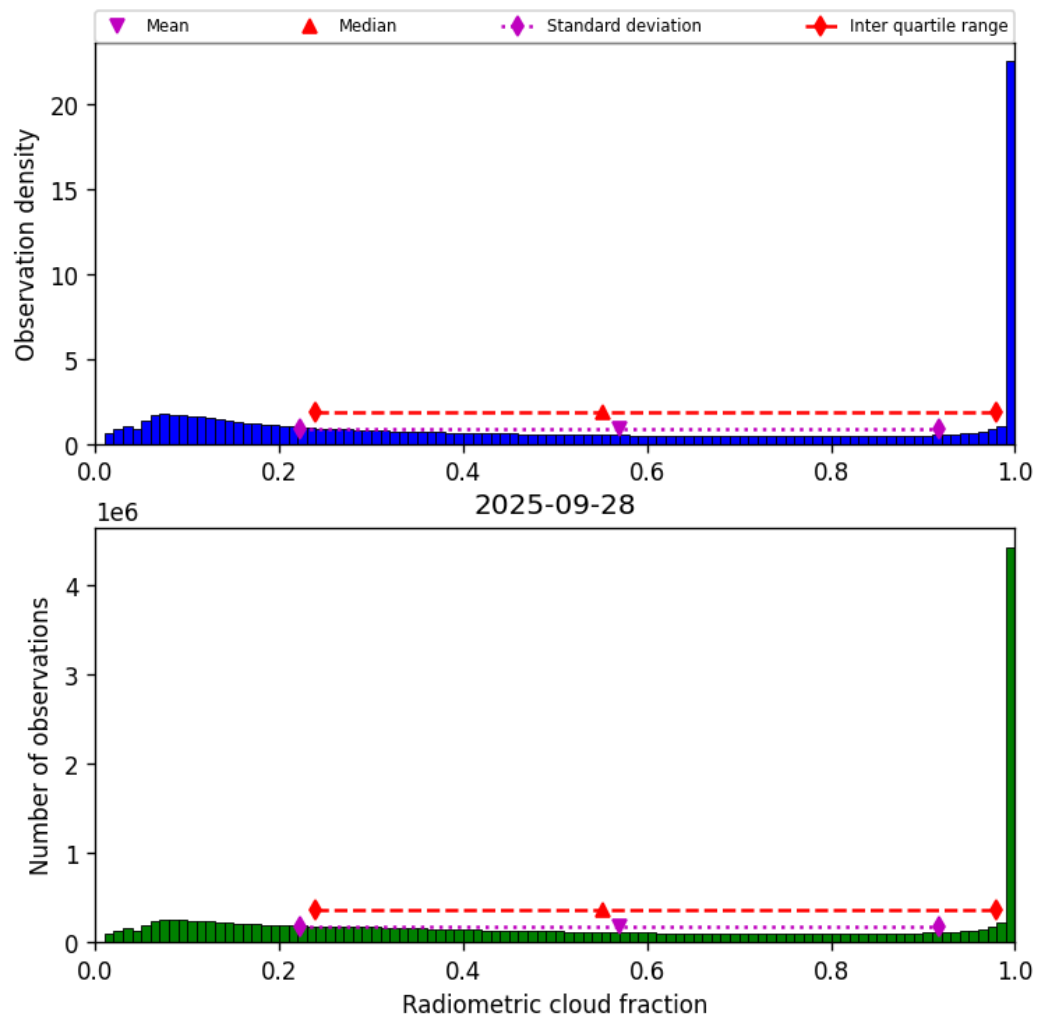


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29

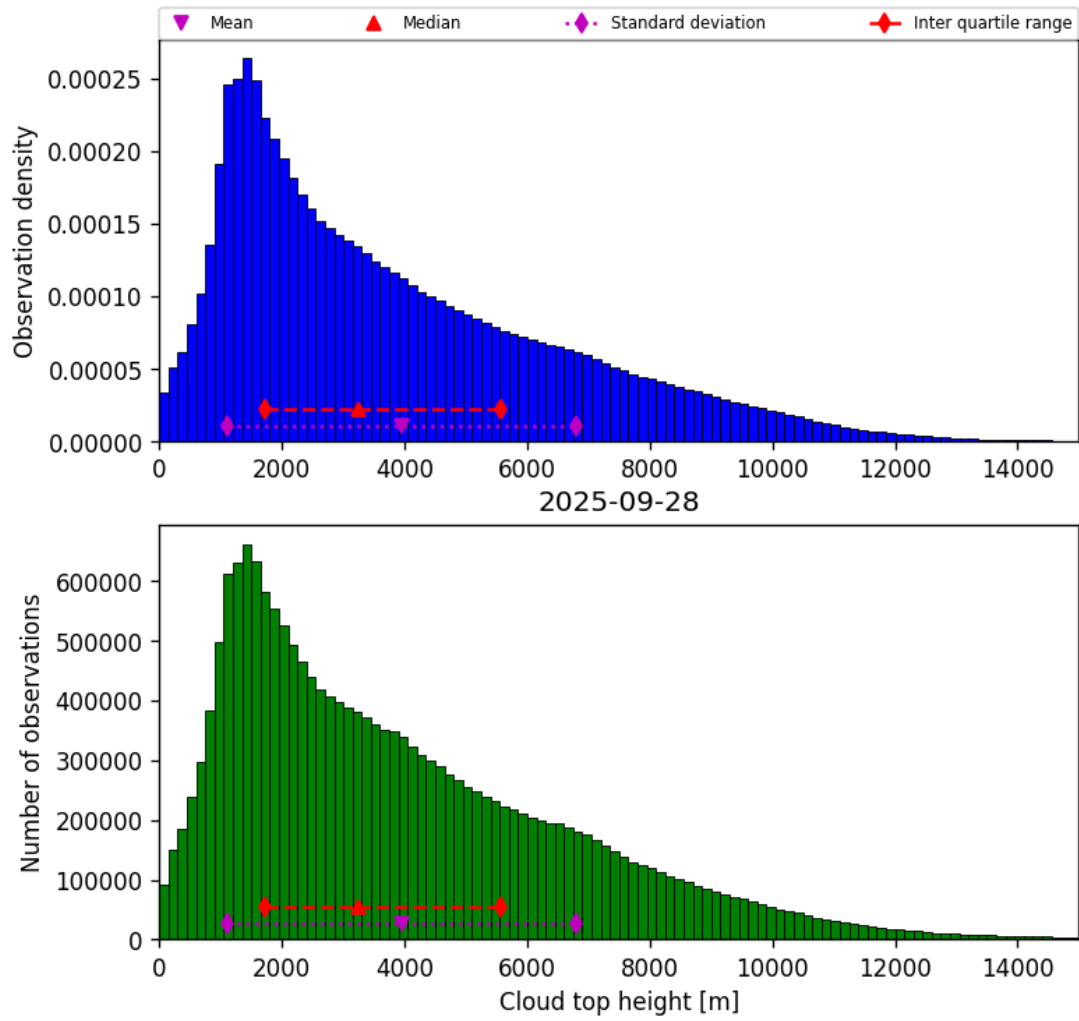


Figure 38: Histogram of “Cloud top height” for 2025-09-28 to 2025-09-29

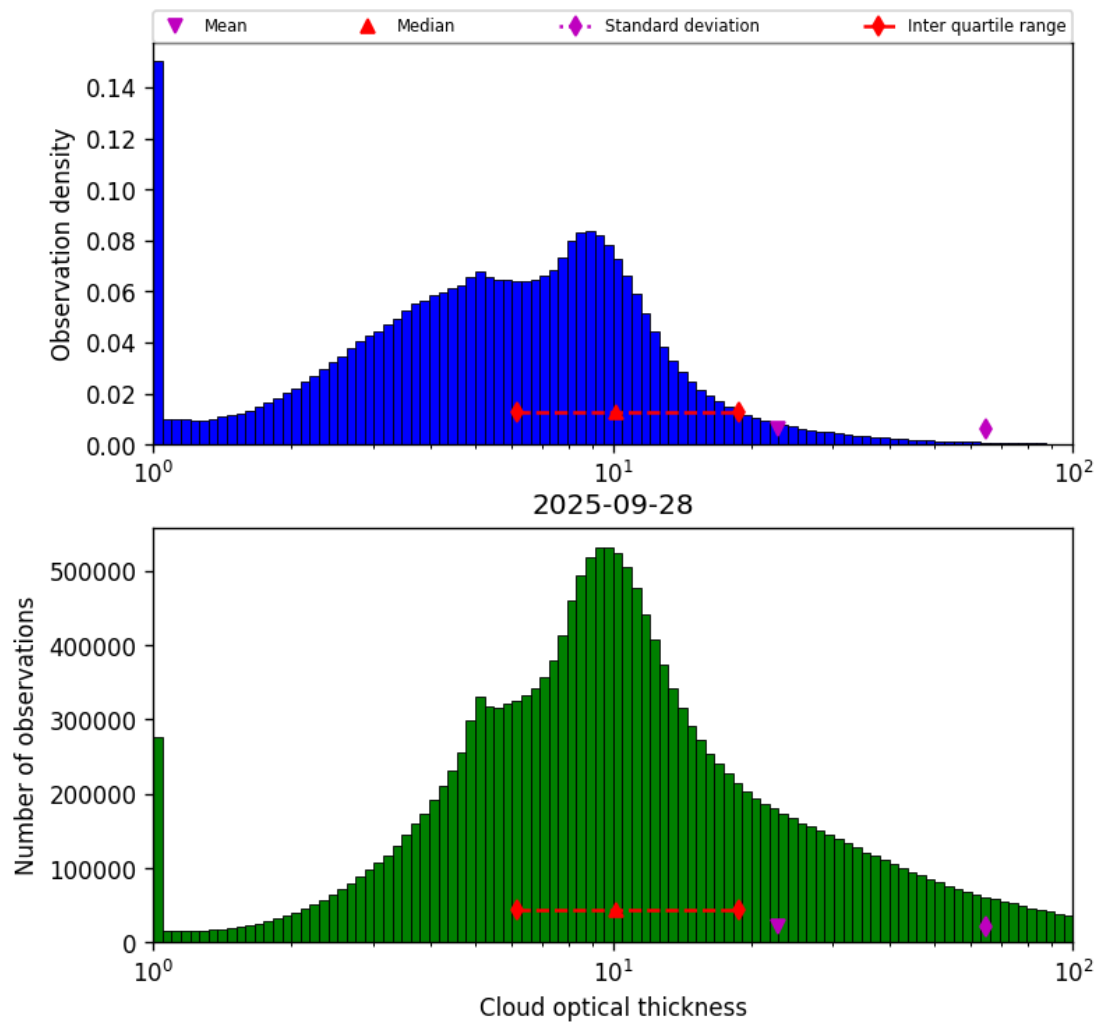


Figure 39: Histogram of “Cloud optical thickness” for 2025-09-28 to 2025-09-29

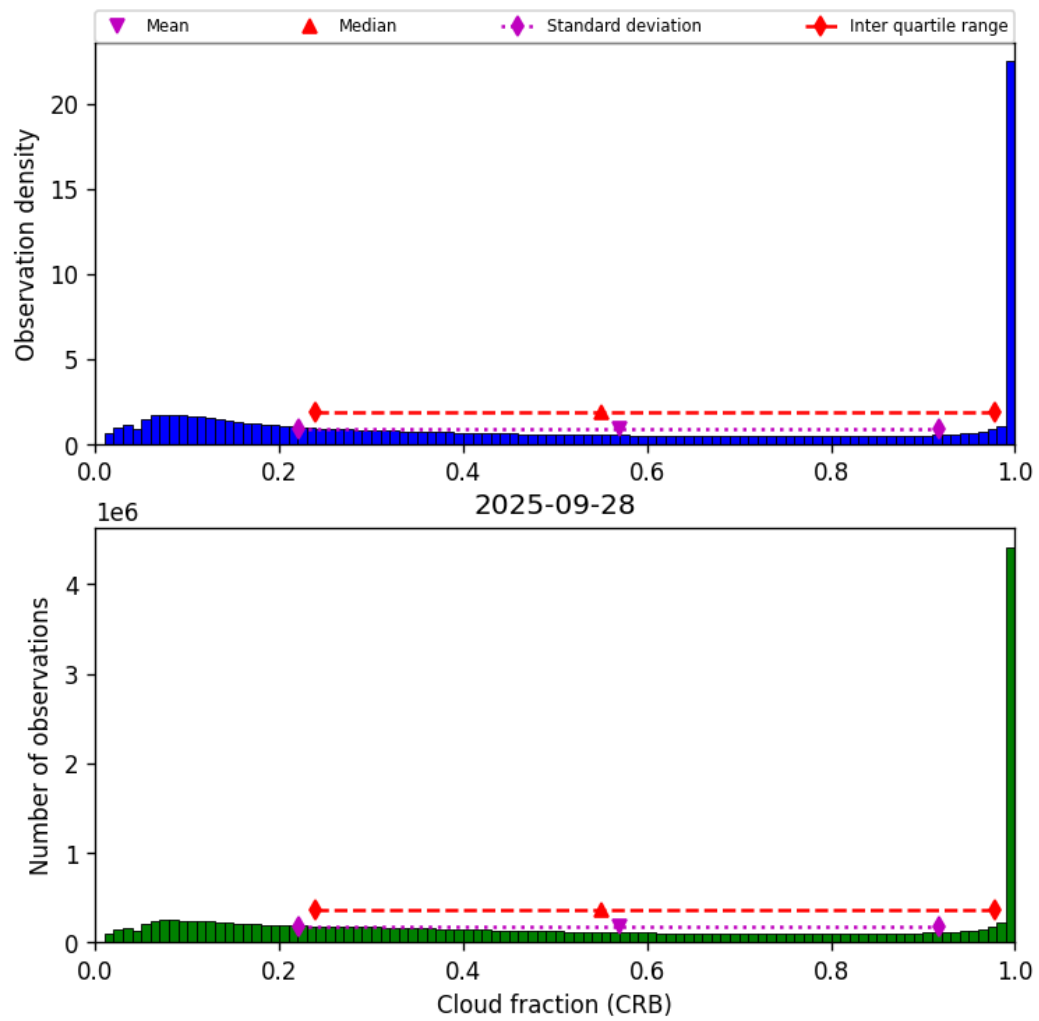


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29

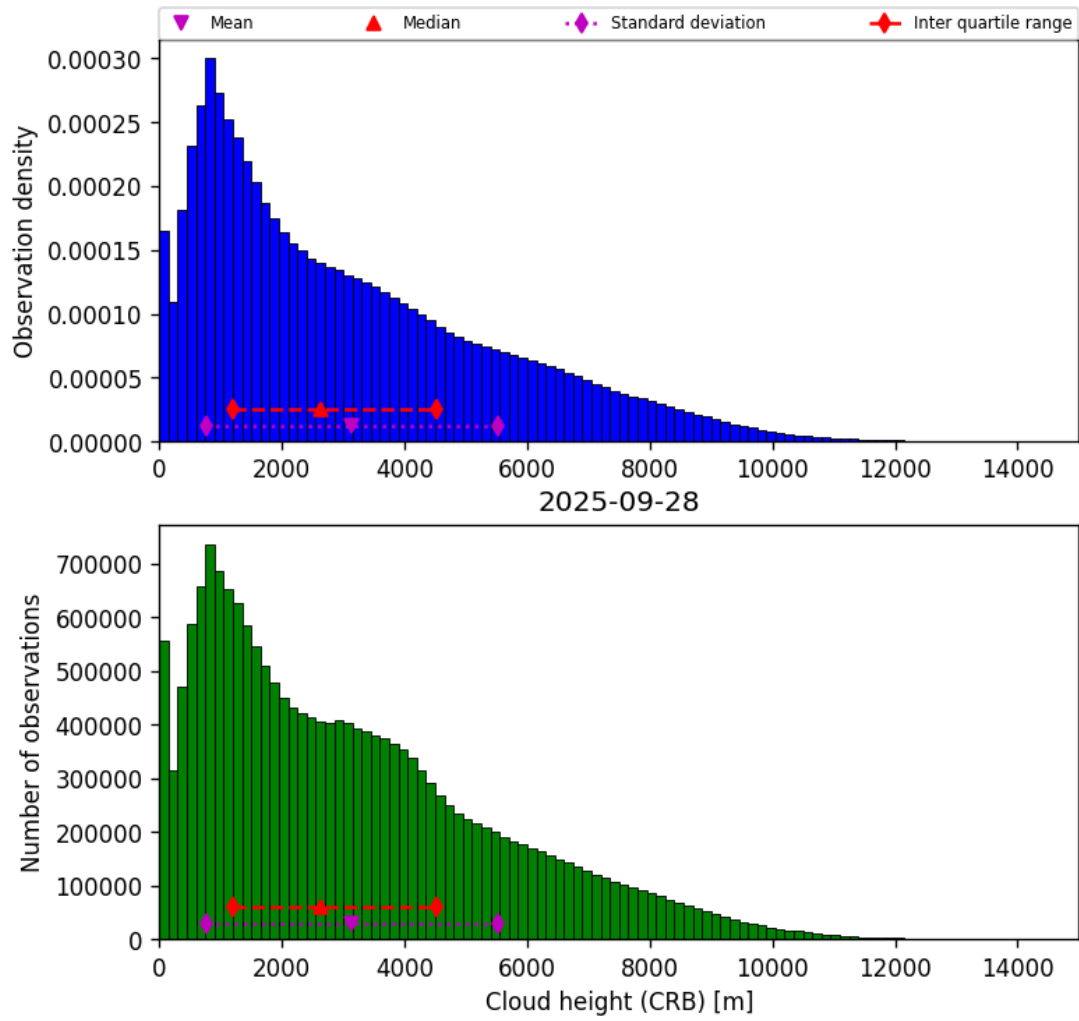


Figure 41: Histogram of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29

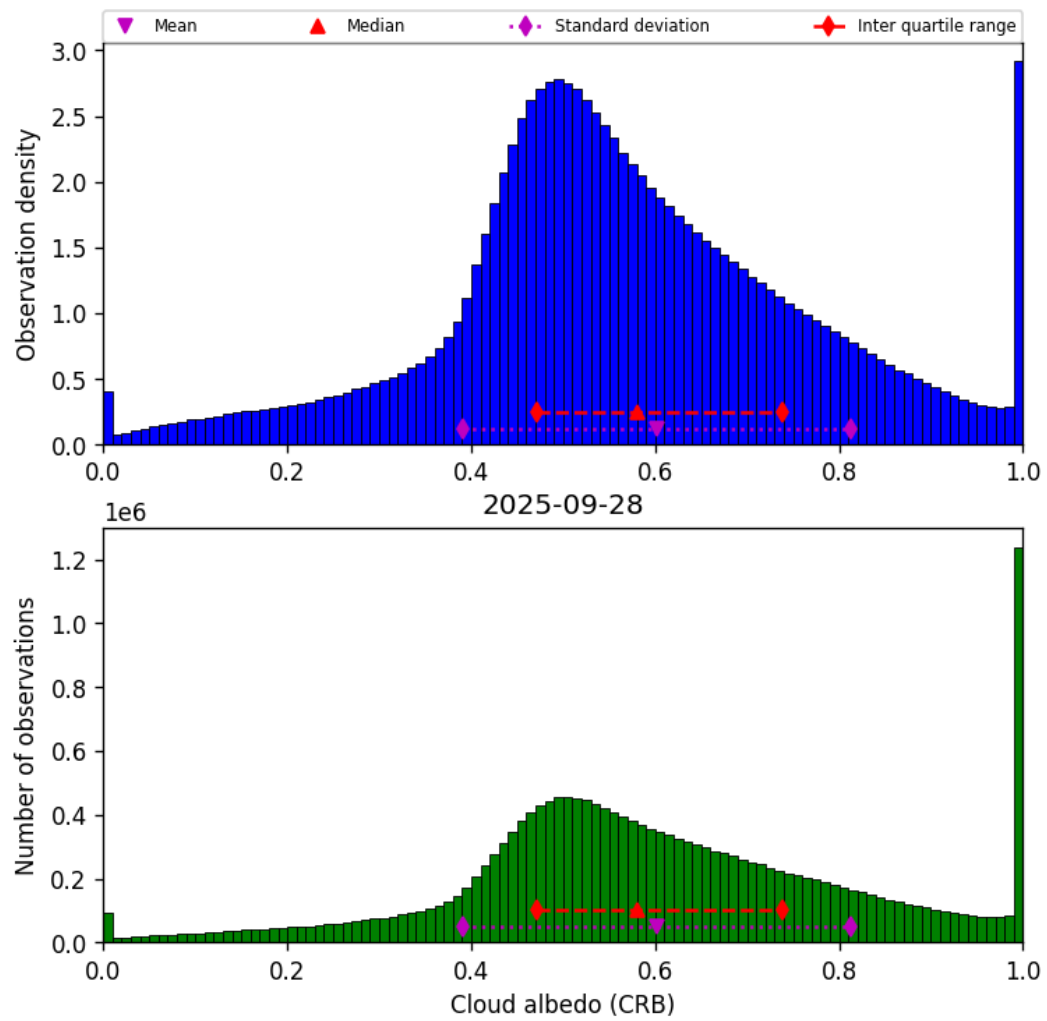


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29

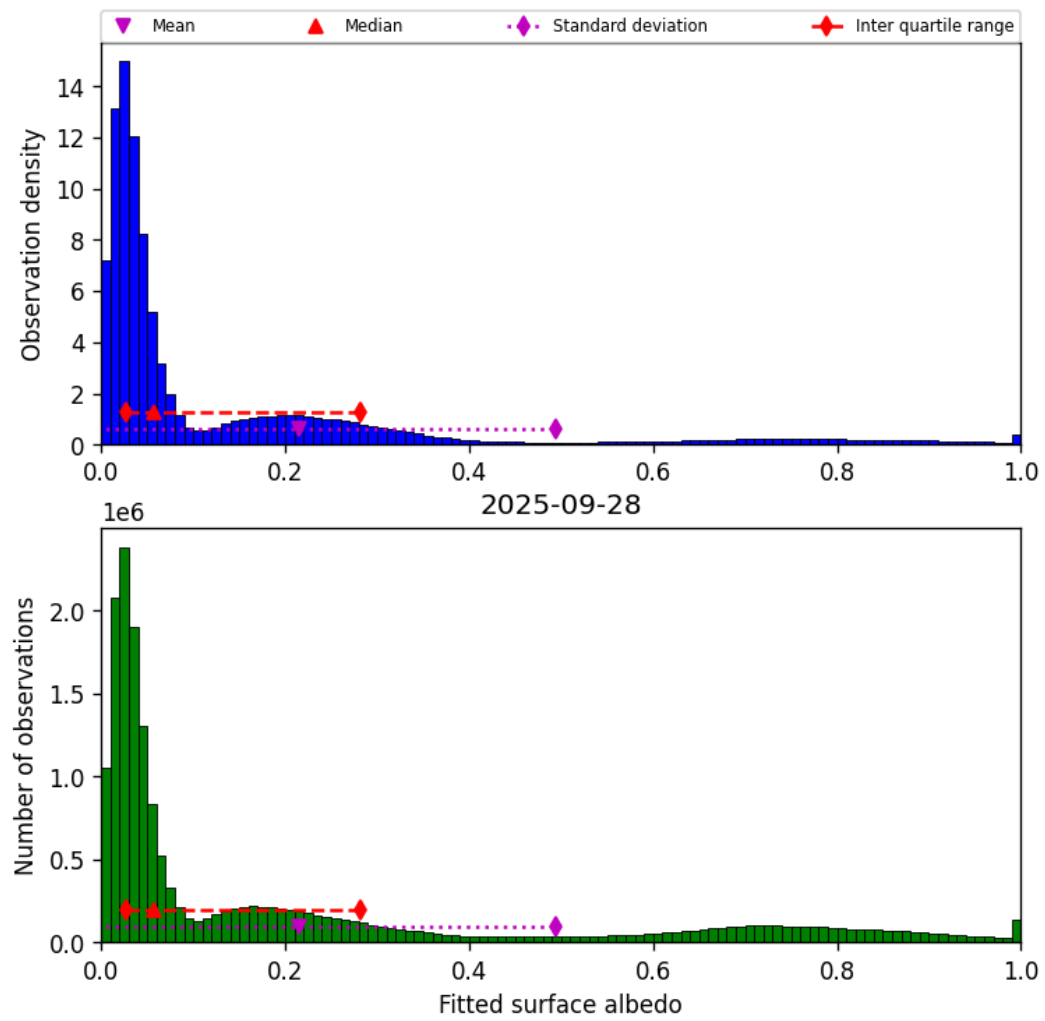


Figure 43: Histogram of “Fitted surface albedo” for 2025-09-28 to 2025-09-29

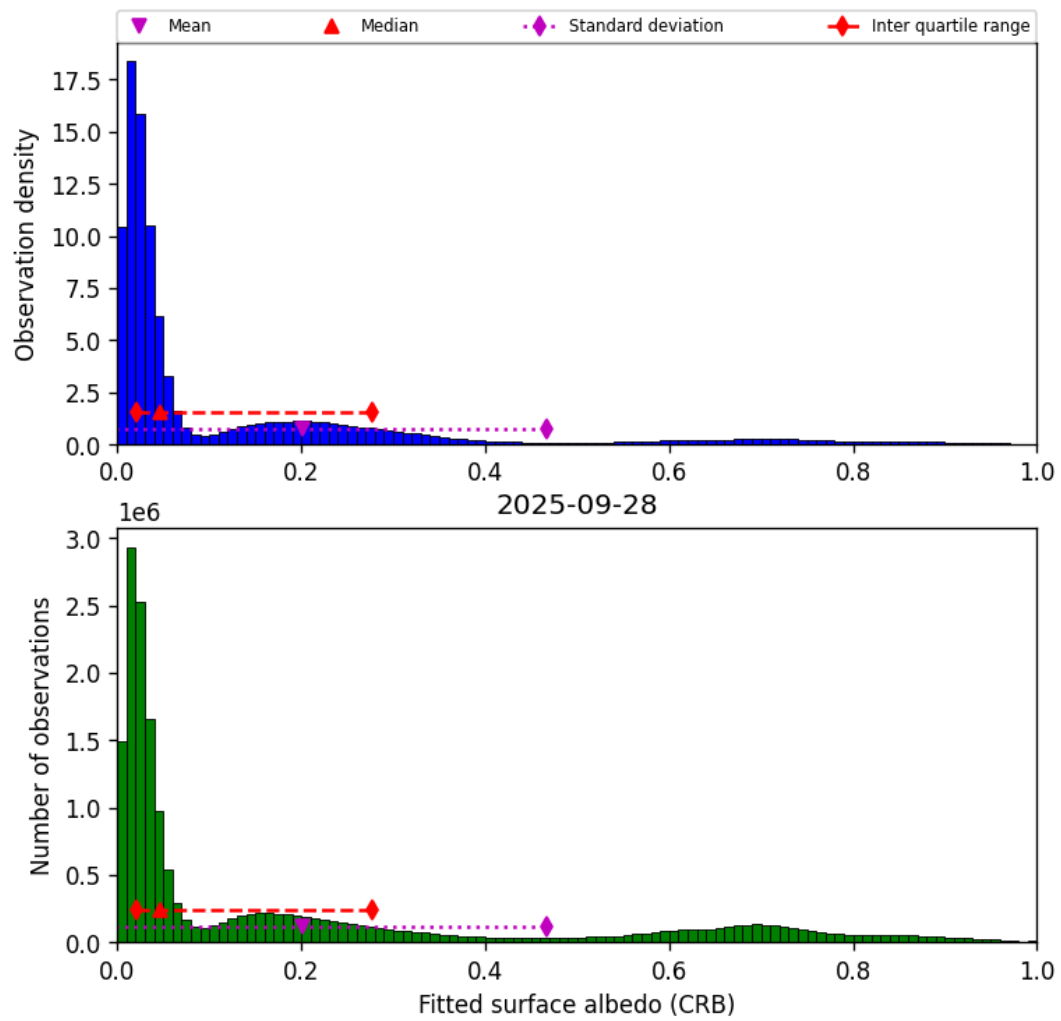


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29

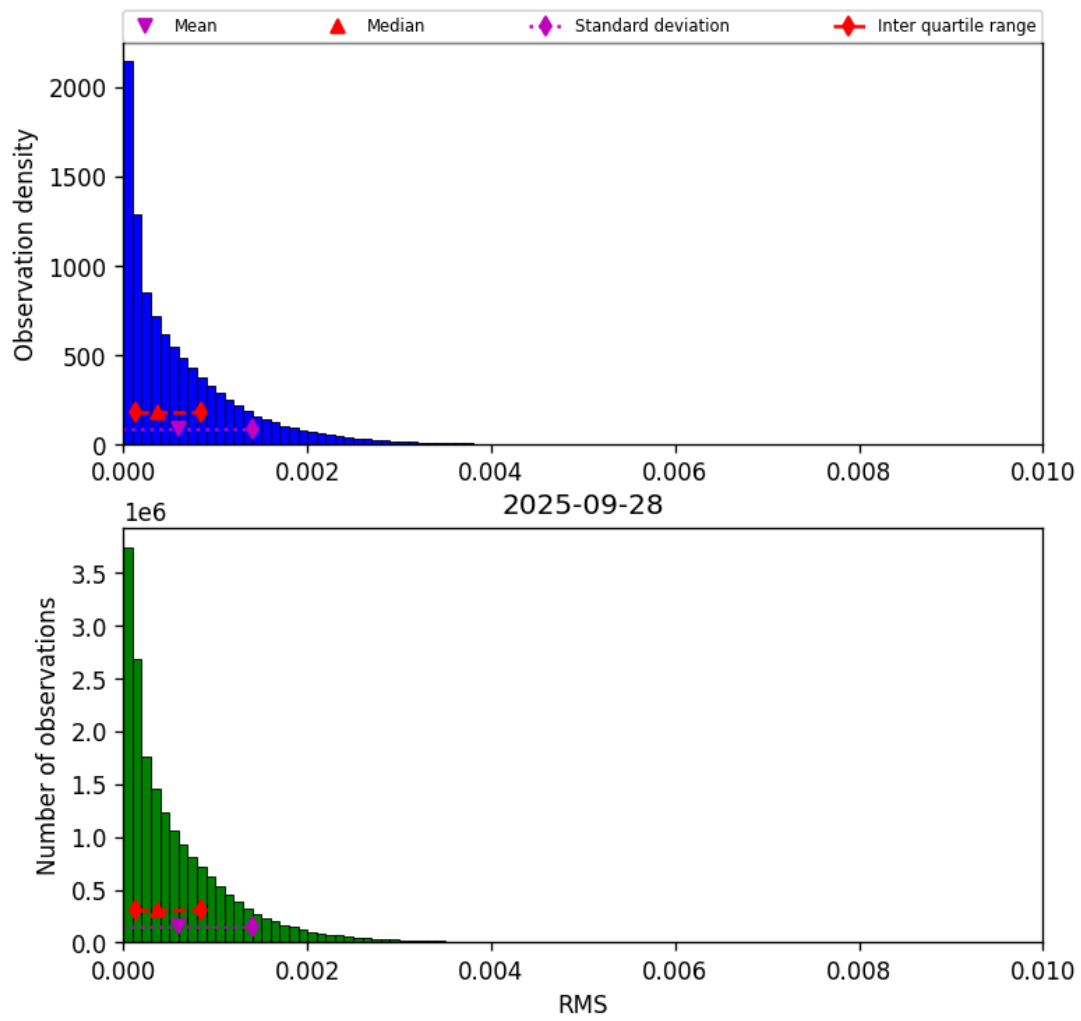


Figure 45: Histogram of “RMS” for 2025-09-28 to 2025-09-29

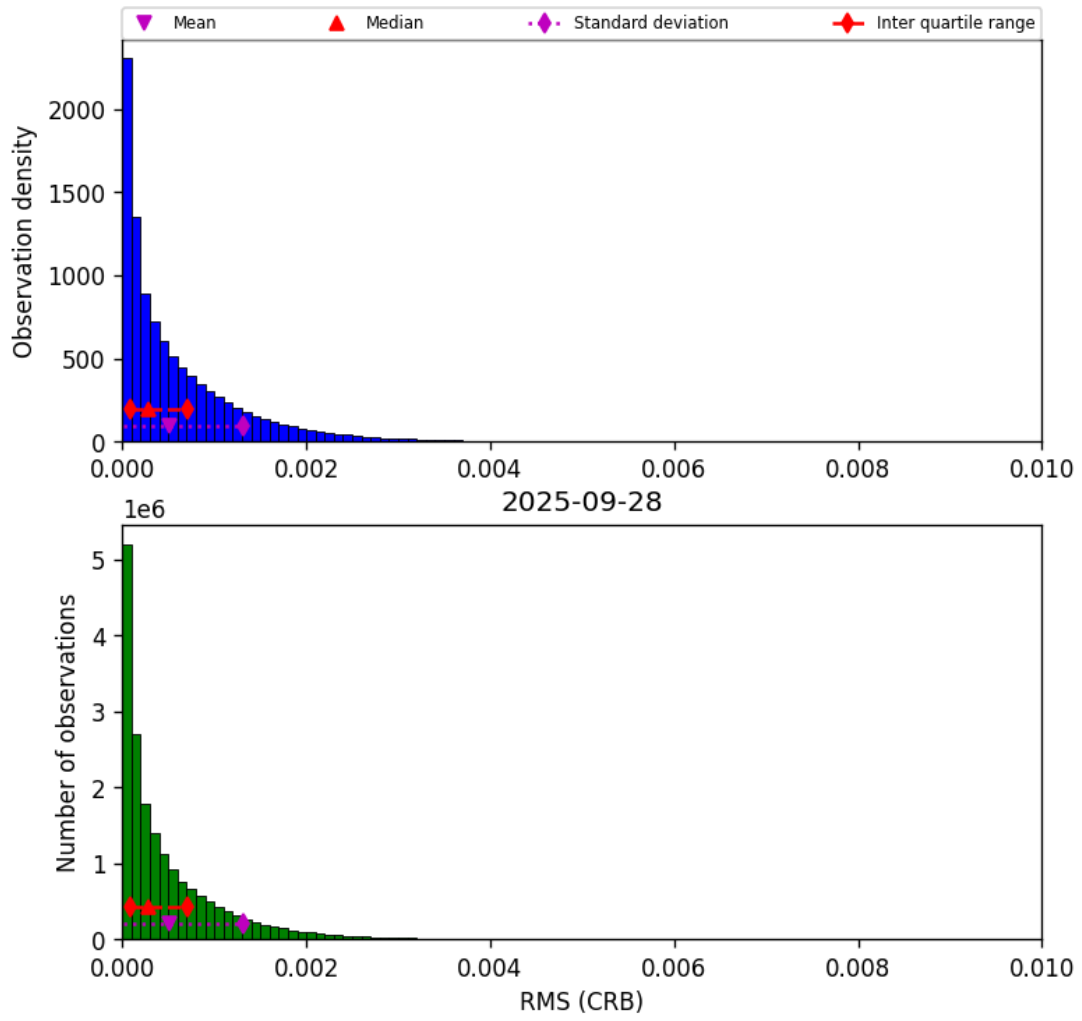


Figure 46: Histogram of “RMS (CRB)” for 2025-09-28 to 2025-09-29

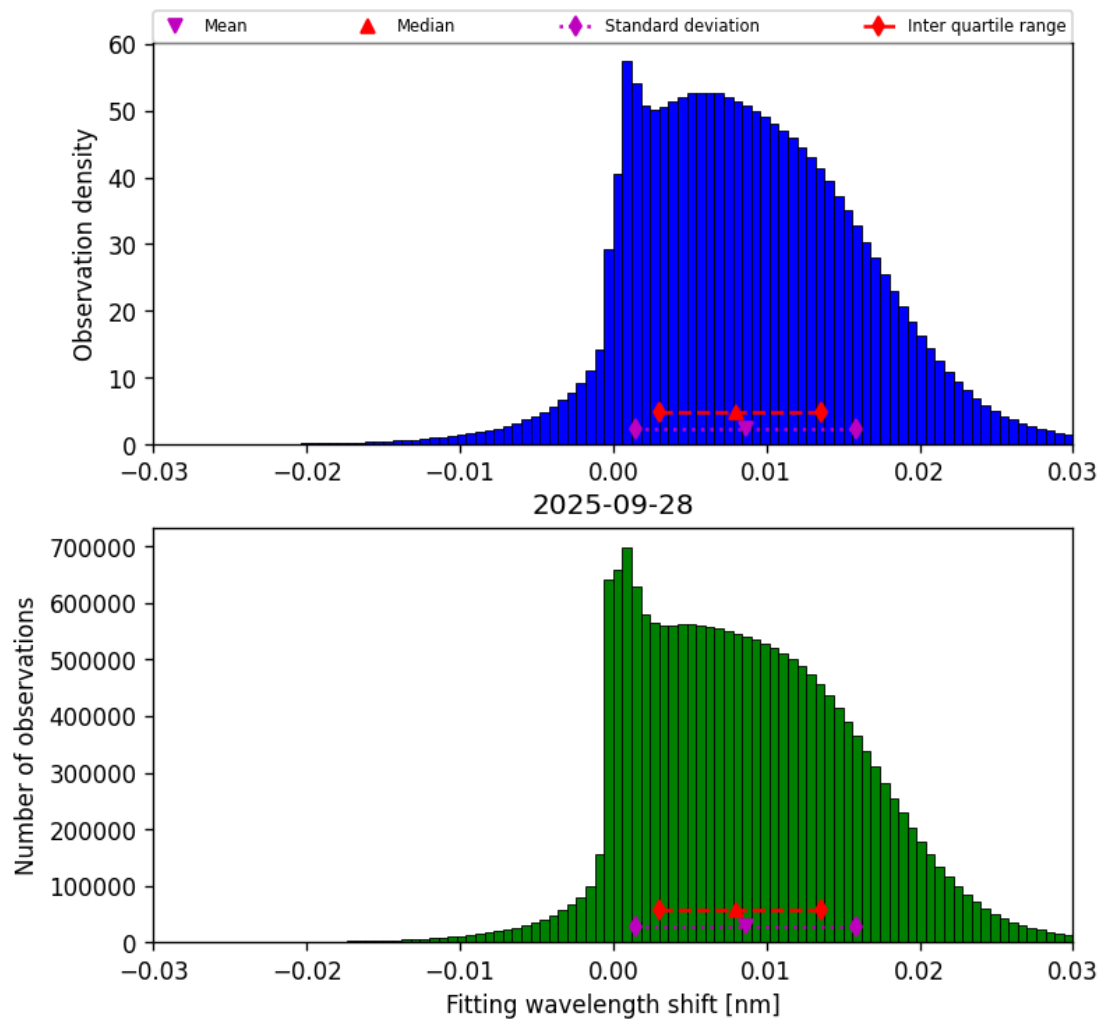


Figure 47: Histogram of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29

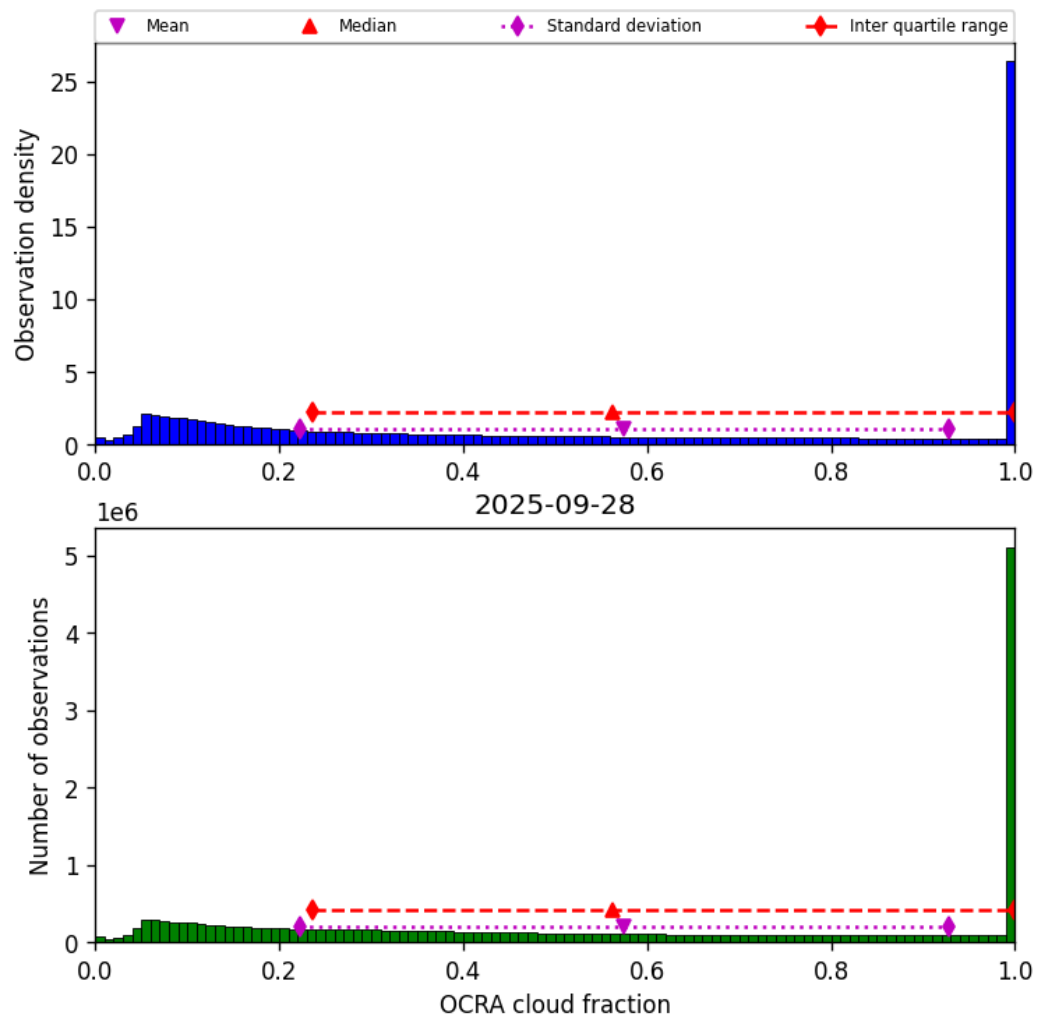


Figure 48: Histogram of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29

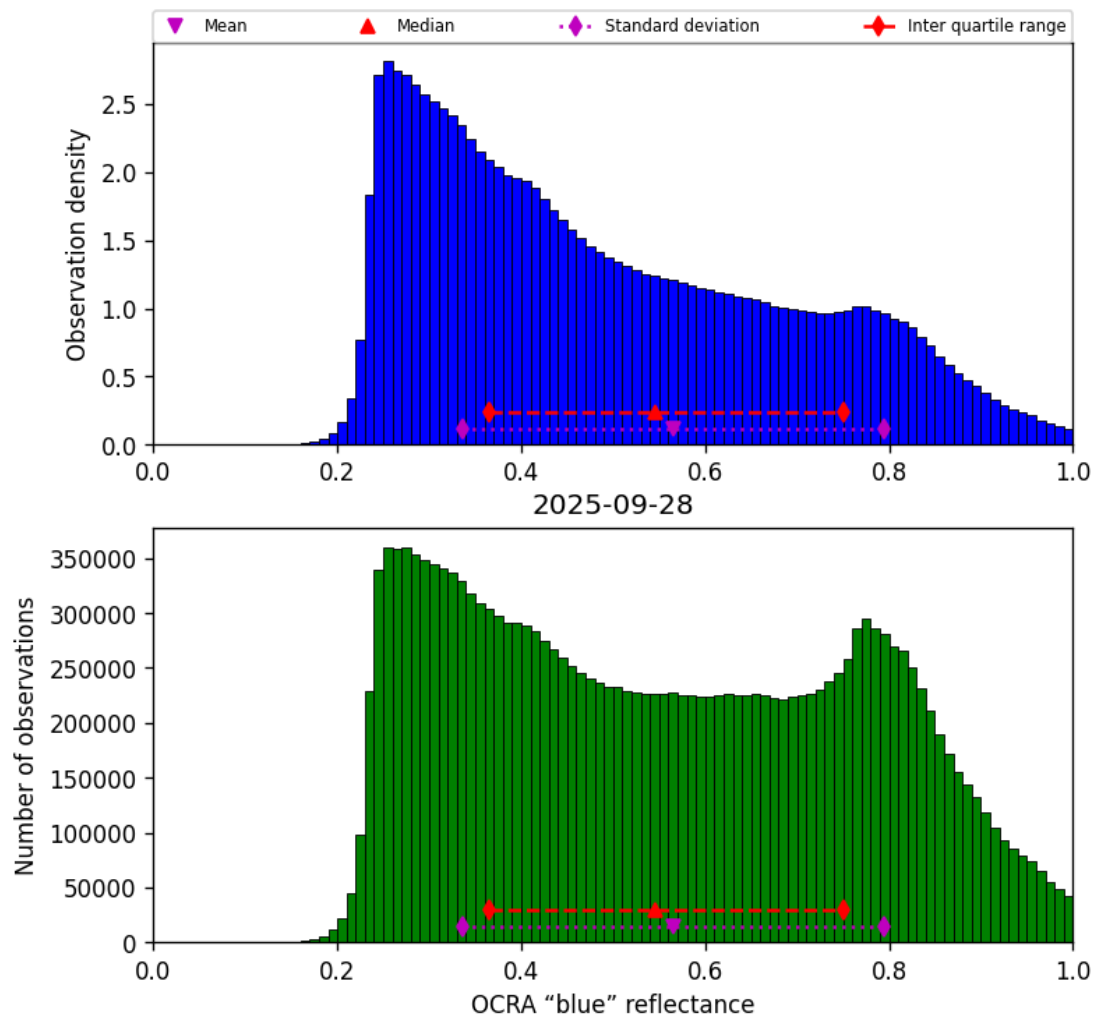


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29

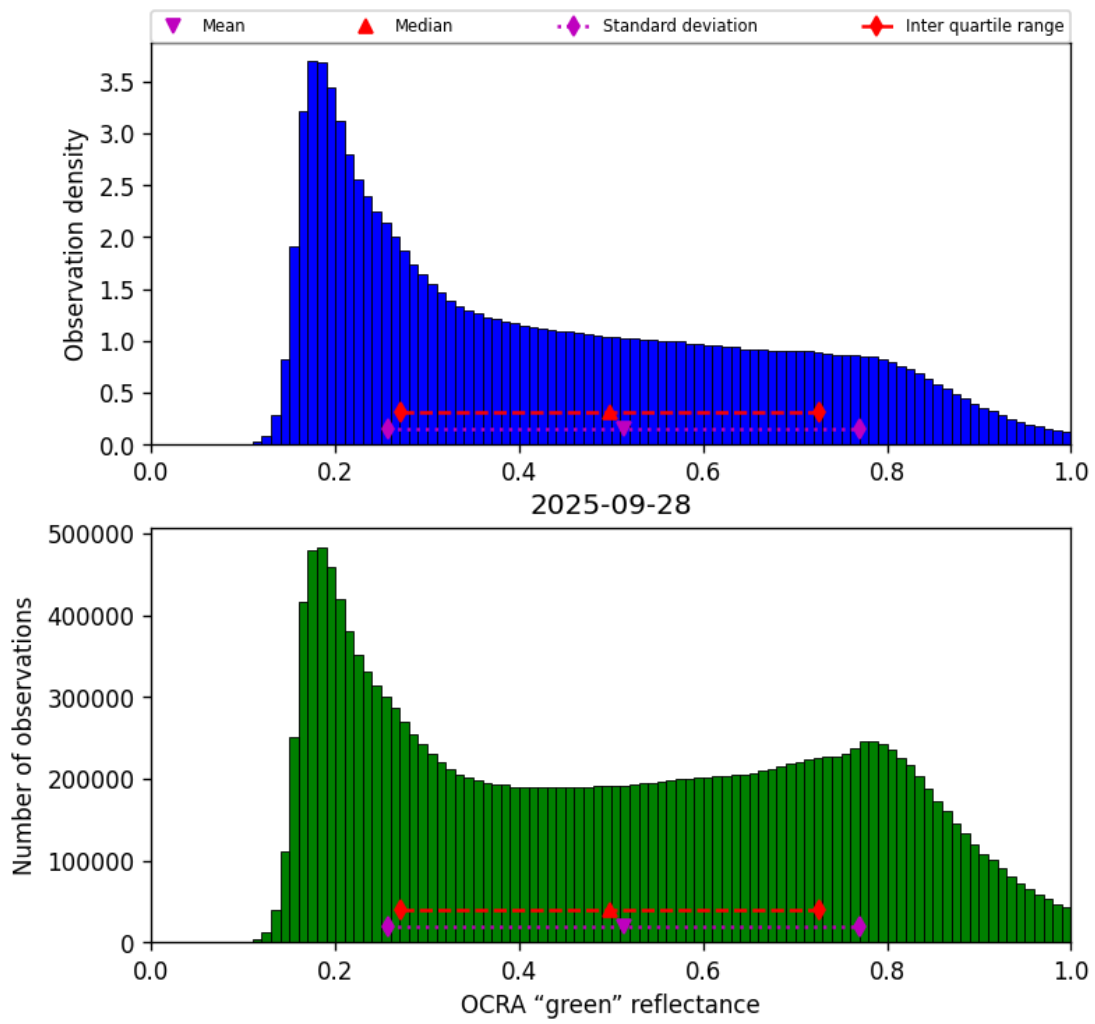


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29

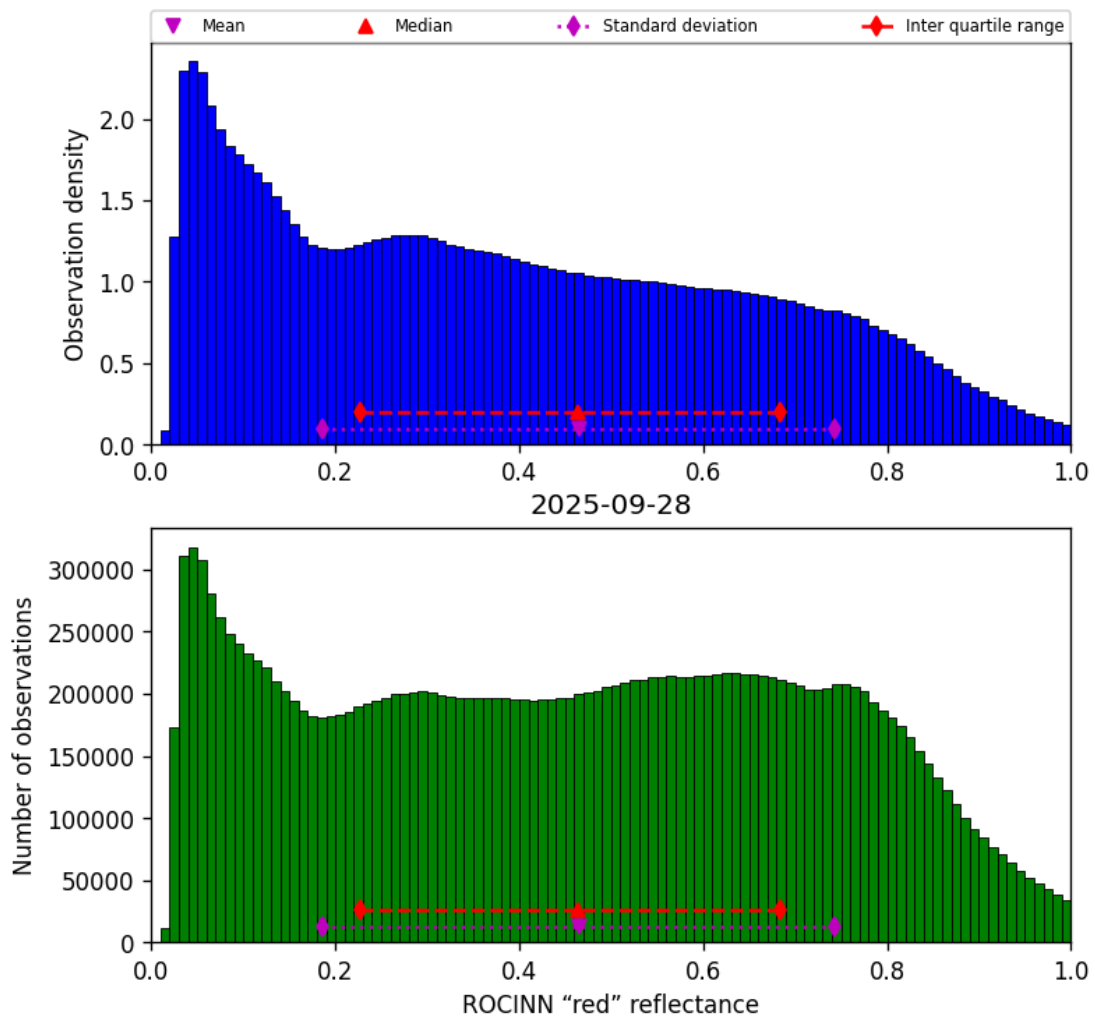


Figure 51: Histogram of "ROCINN "red" reflectance" for 2025-09-28 to 2025-09-29

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.

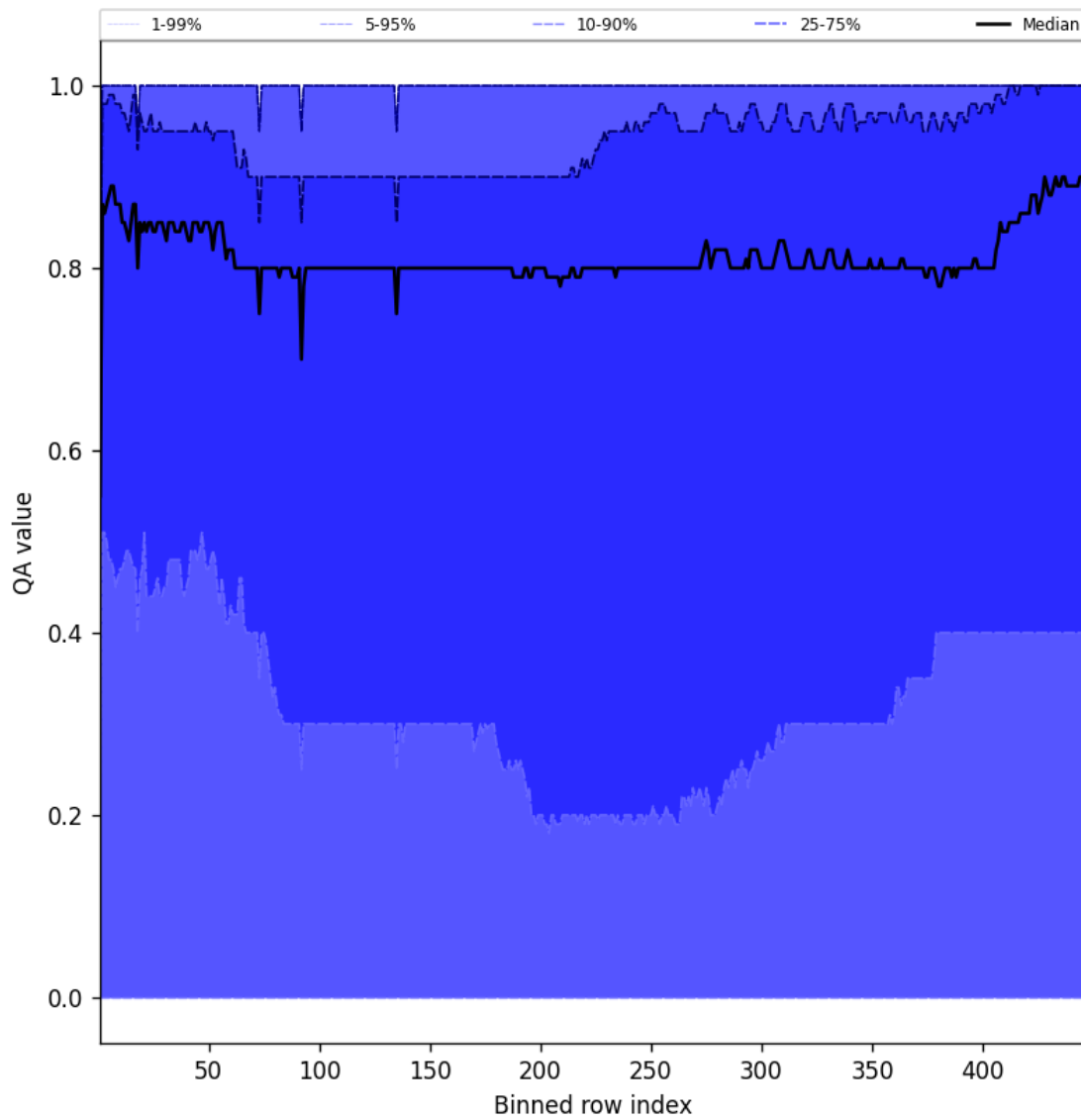


Figure 52: Along track statistics of “QA value” for 2025-09-28 to 2025-09-29

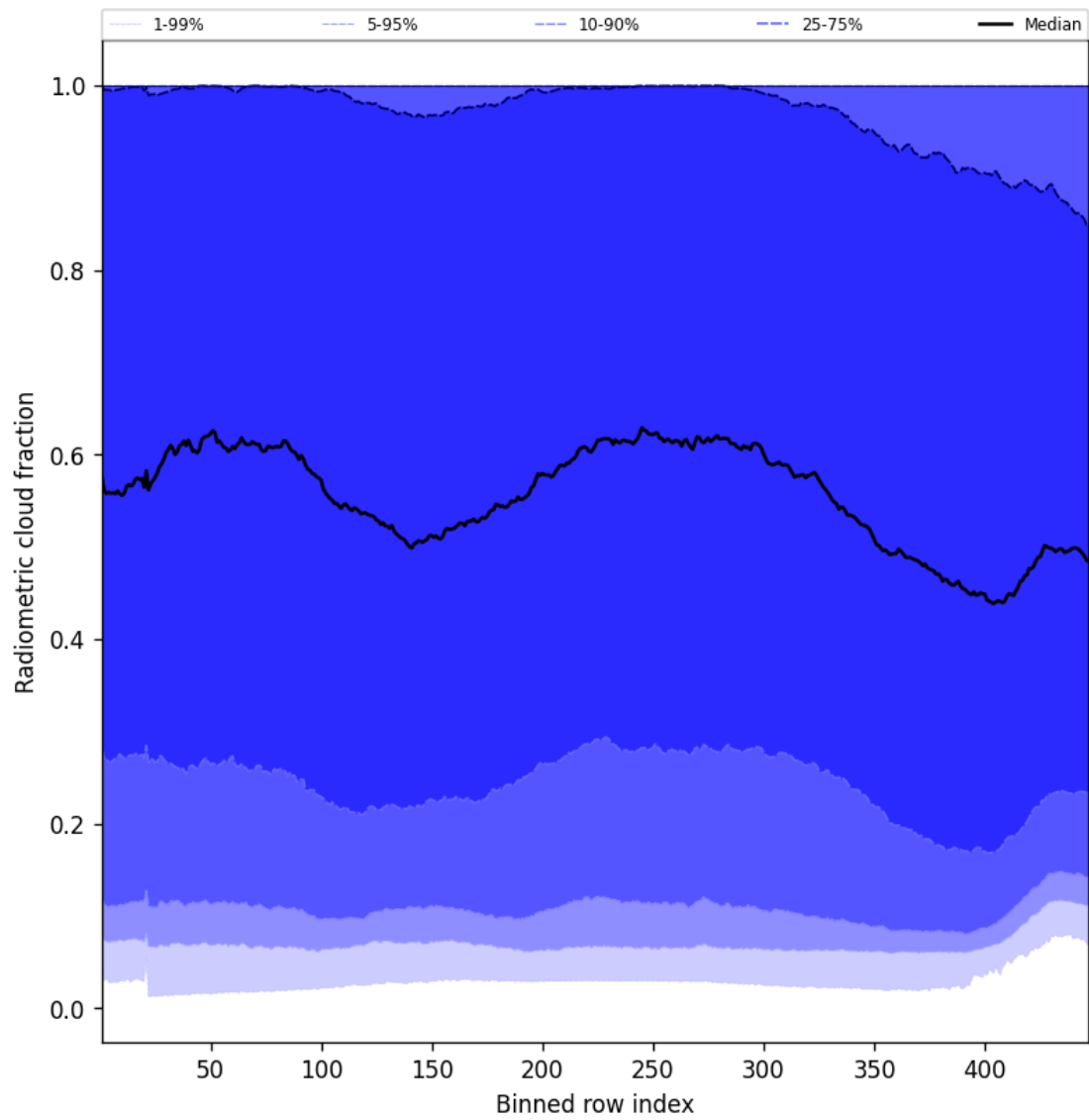


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29

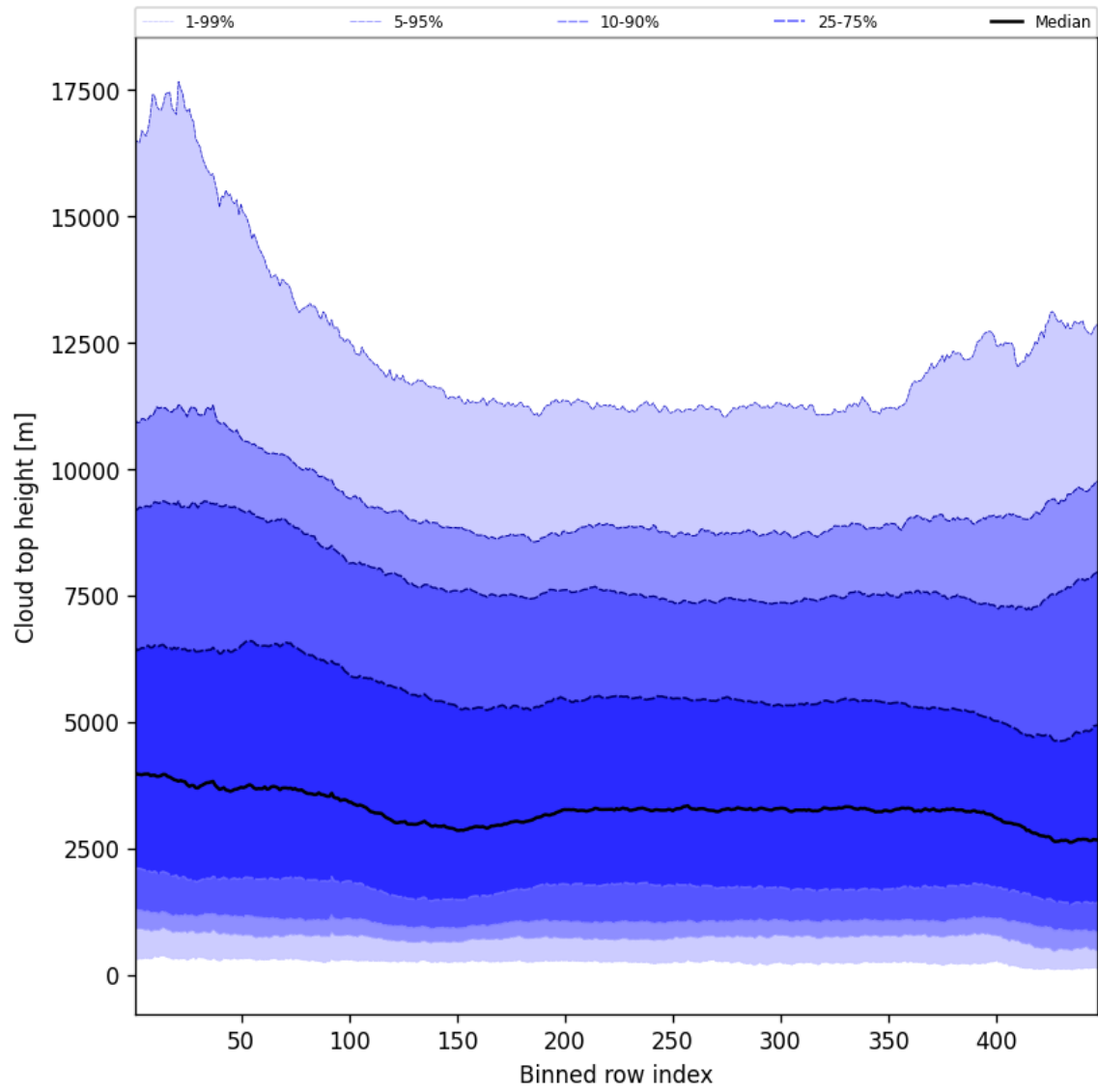


Figure 54: Along track statistics of “Cloud top height” for 2025-09-28 to 2025-09-29

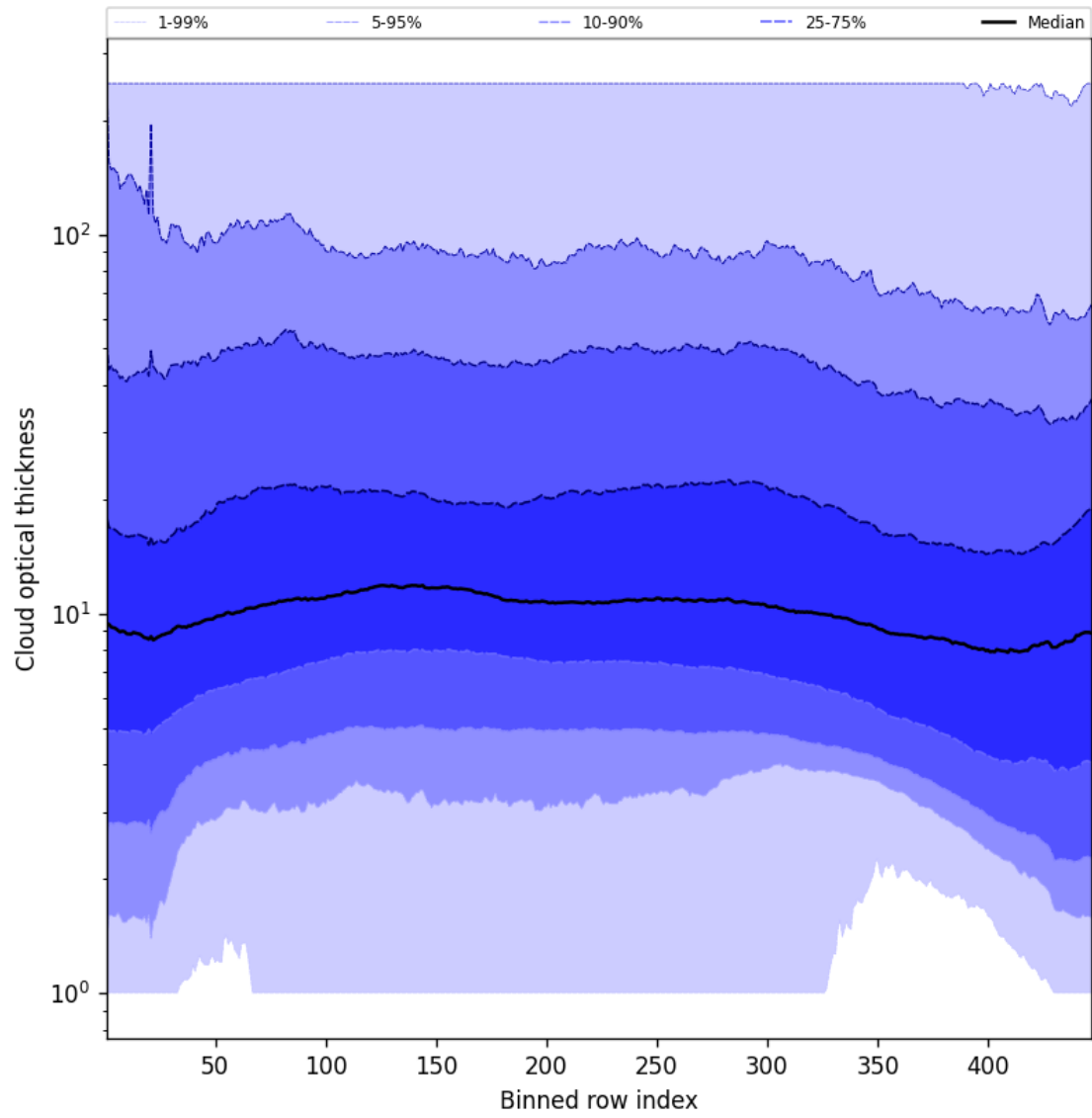


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-09-28 to 2025-09-29

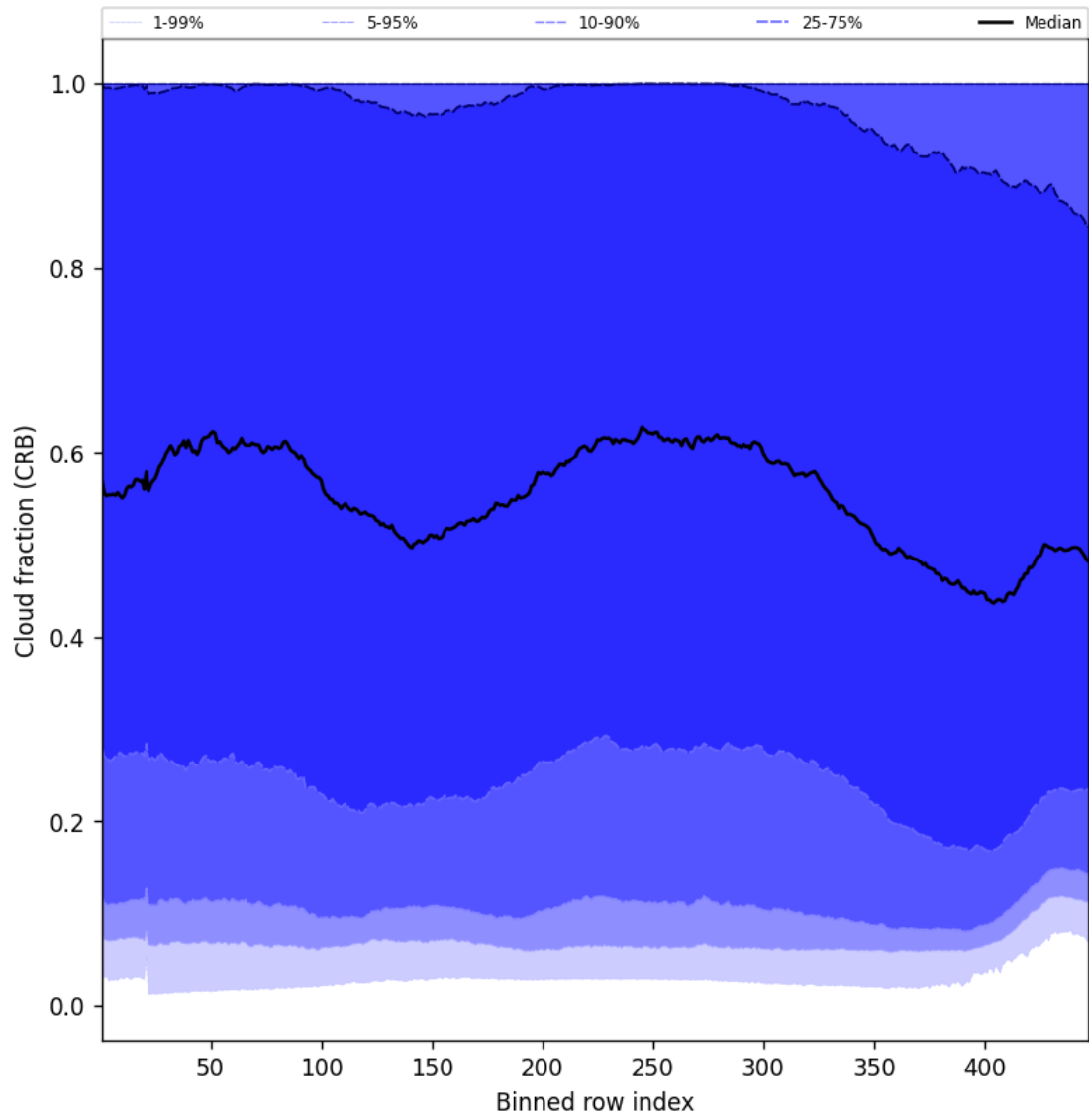


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29

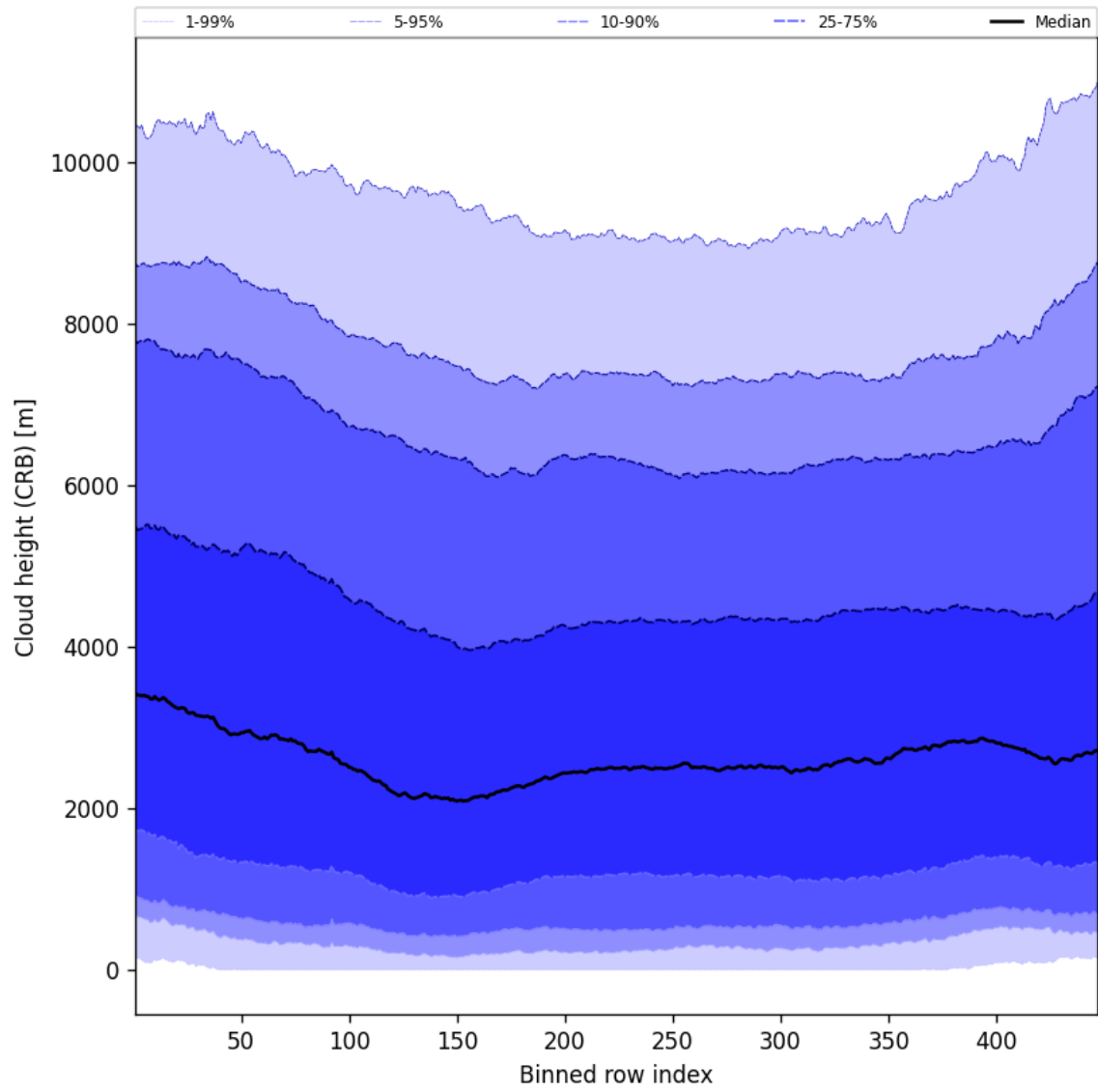


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29

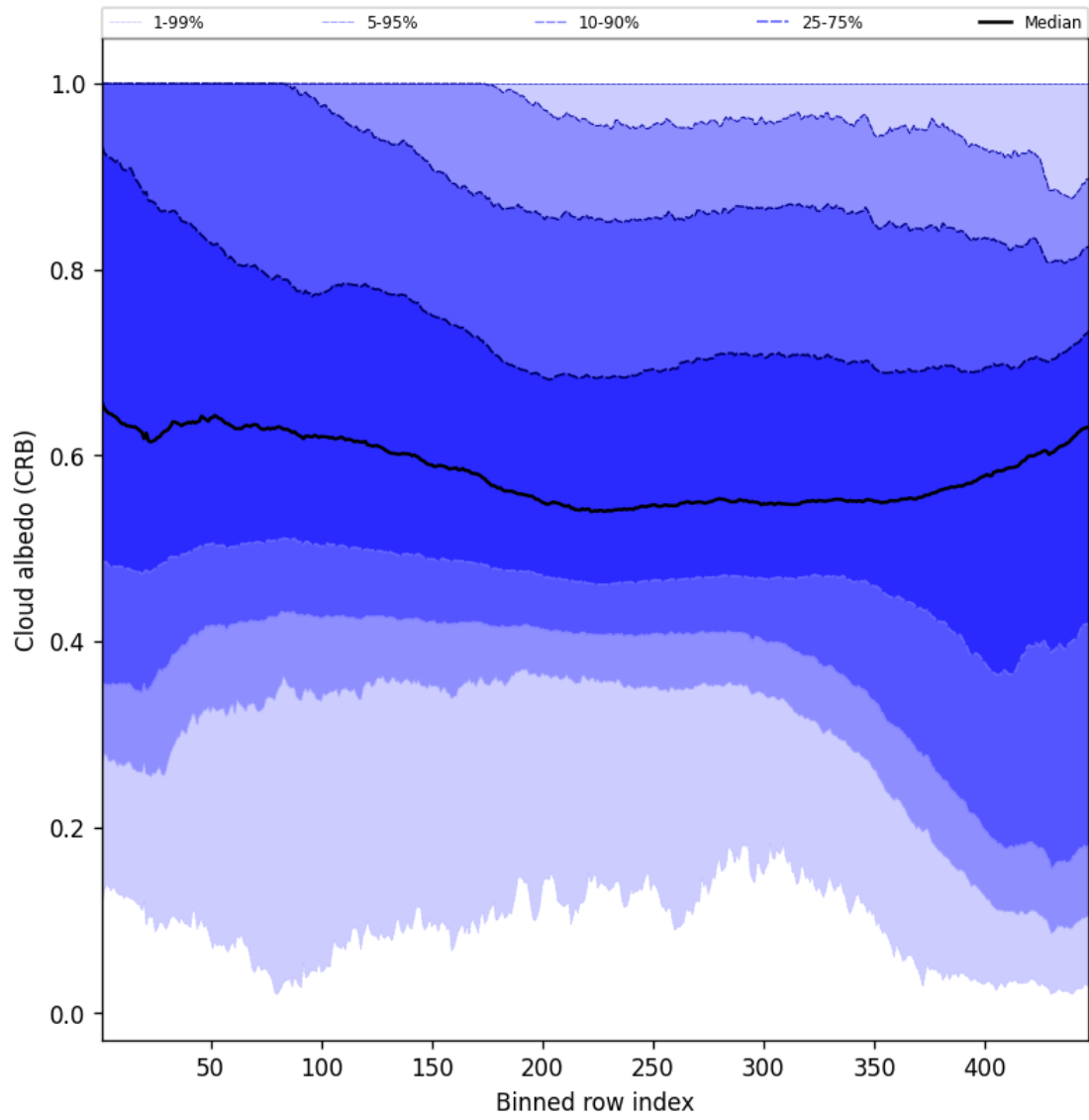


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29

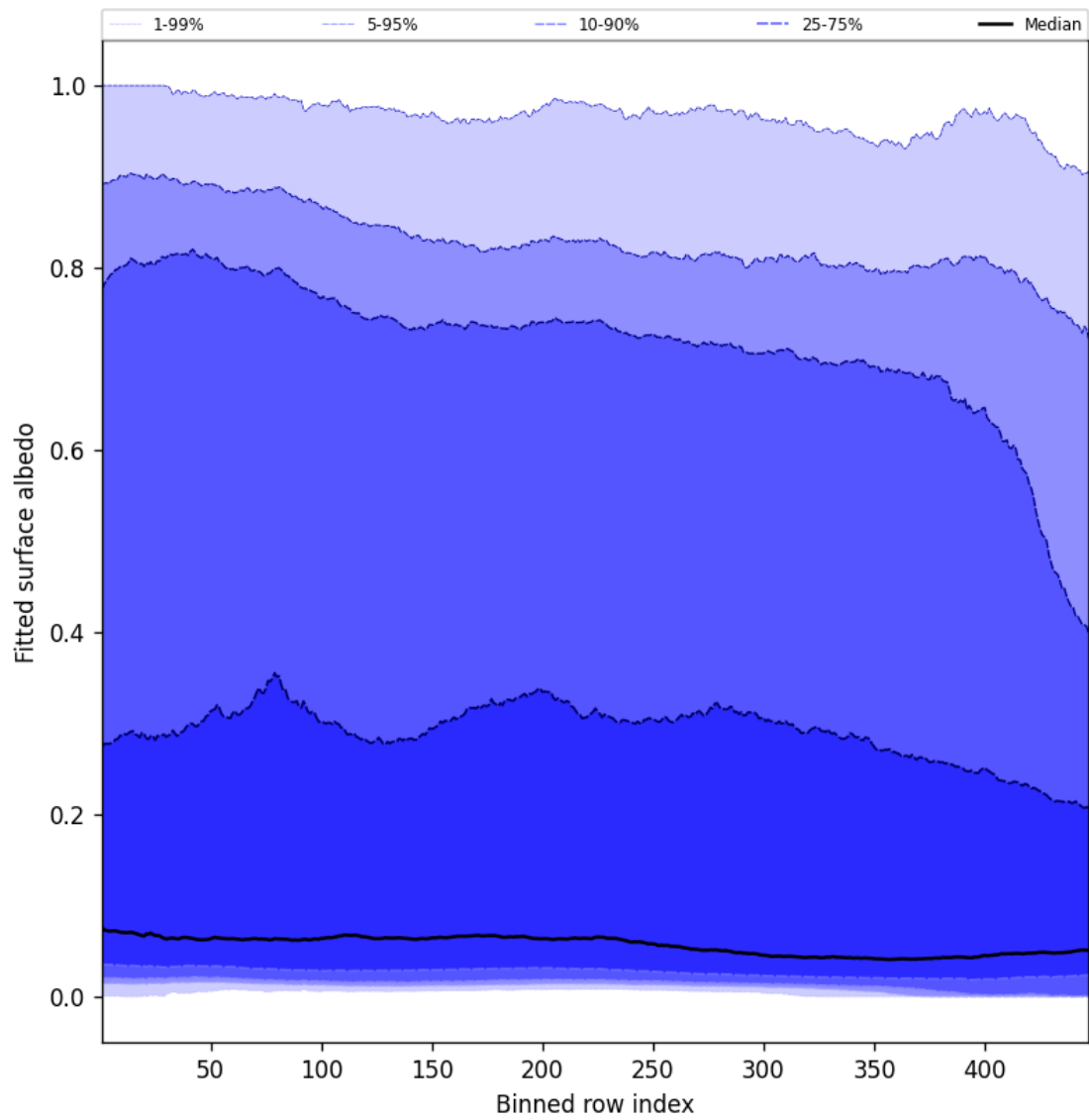


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-09-28 to 2025-09-29

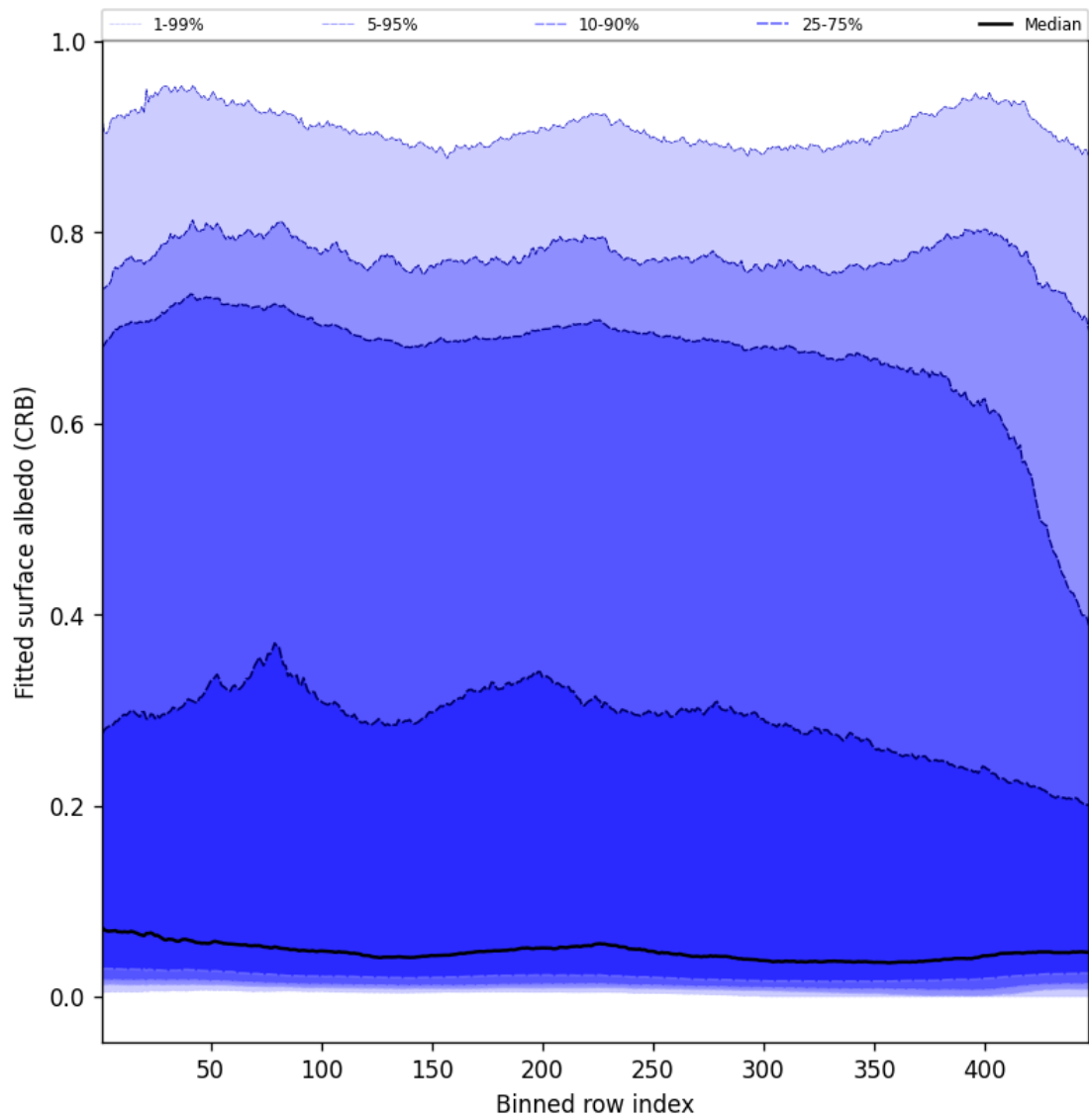


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29

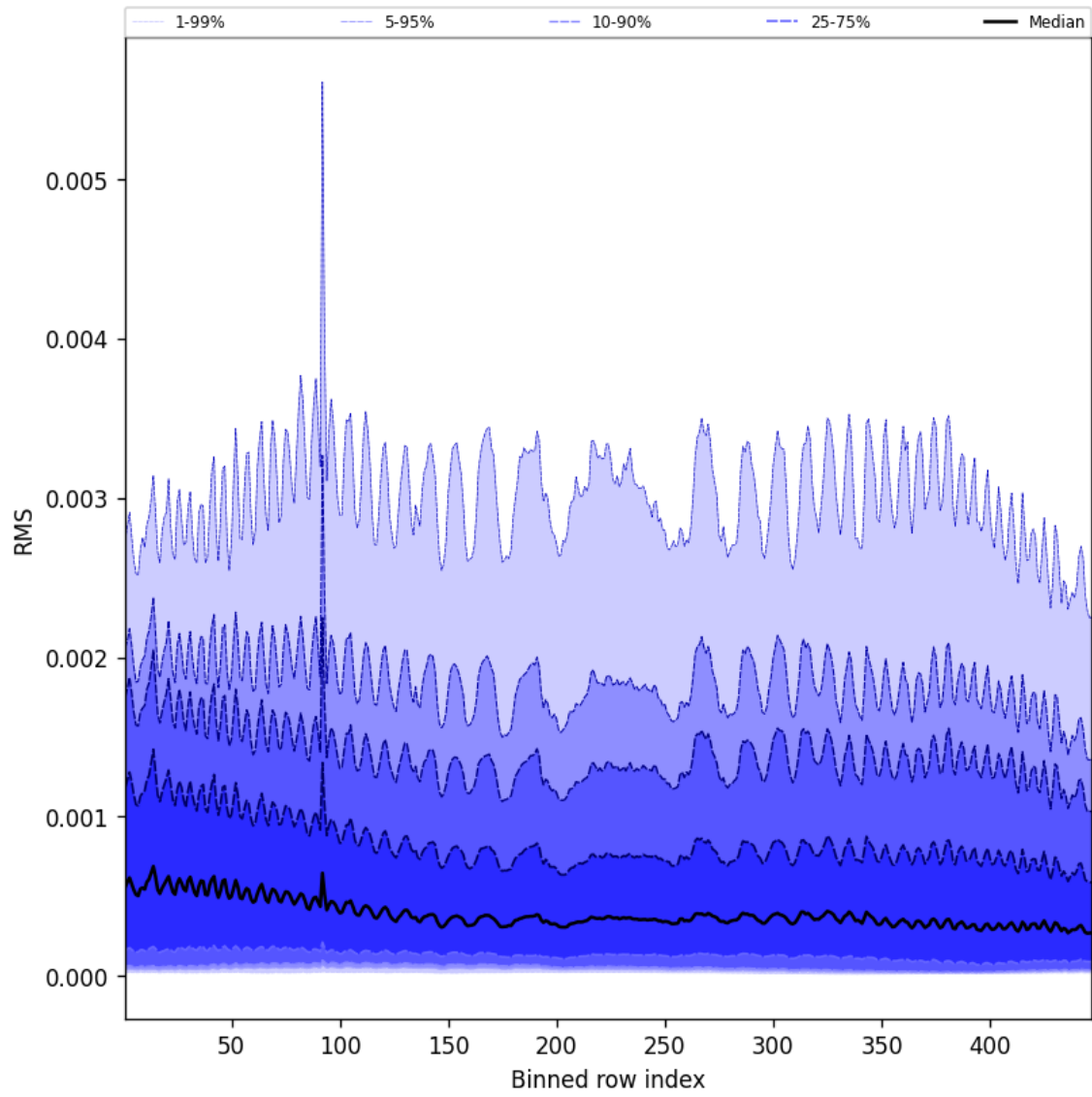


Figure 61: Along track statistics of “RMS” for 2025-09-28 to 2025-09-29

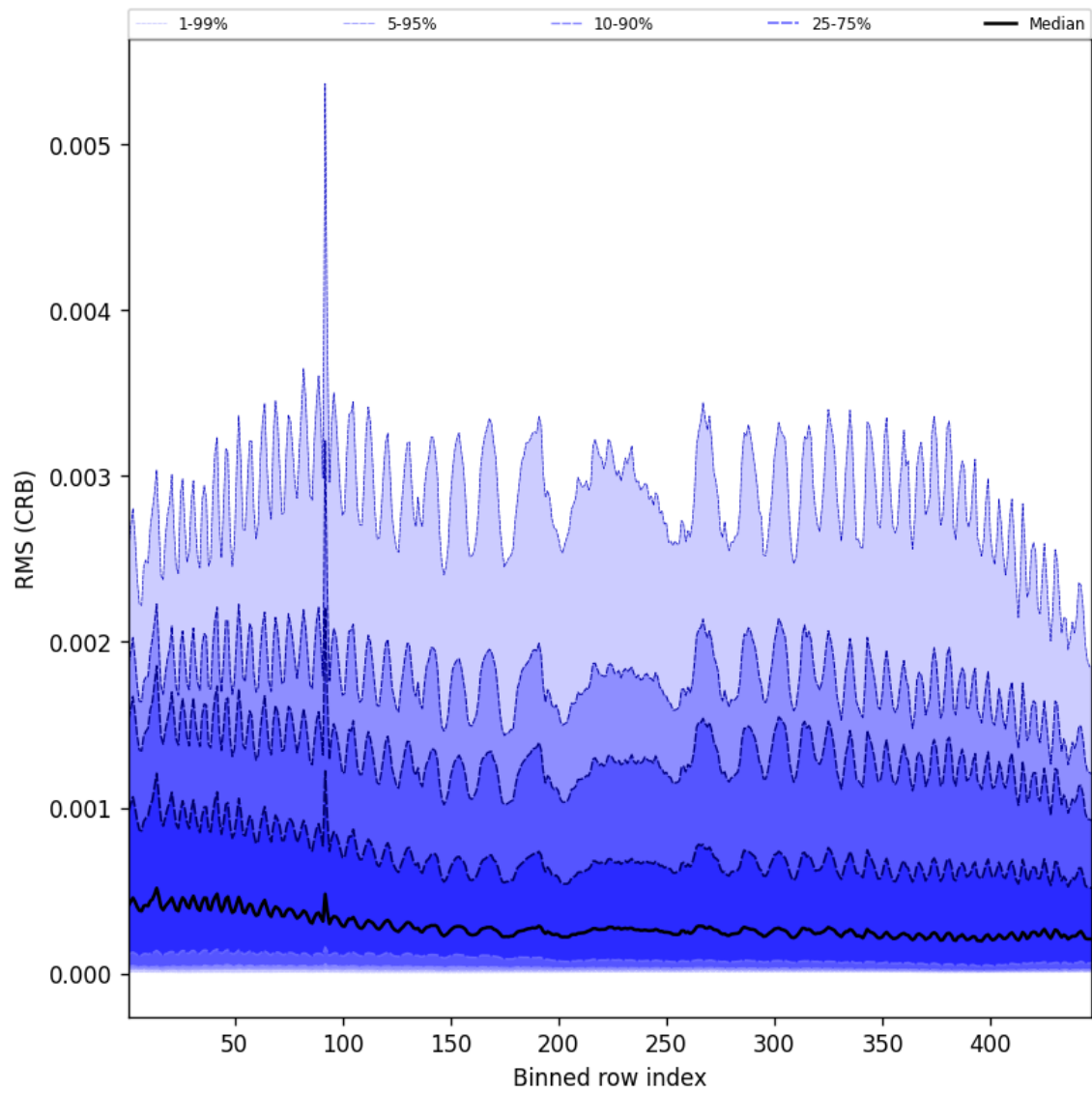


Figure 62: Along track statistics of “RMS (CRB)” for 2025-09-28 to 2025-09-29

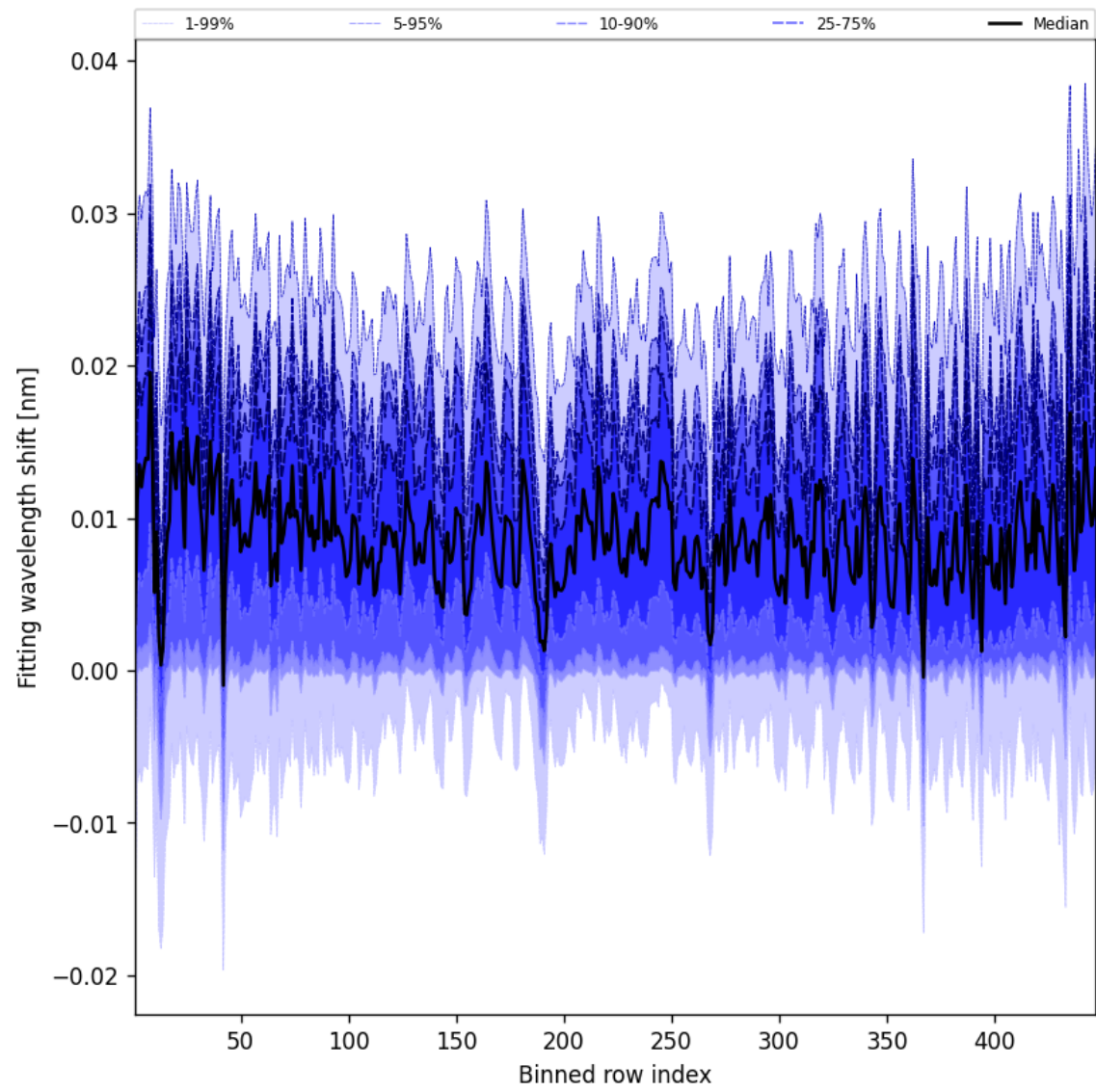


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29

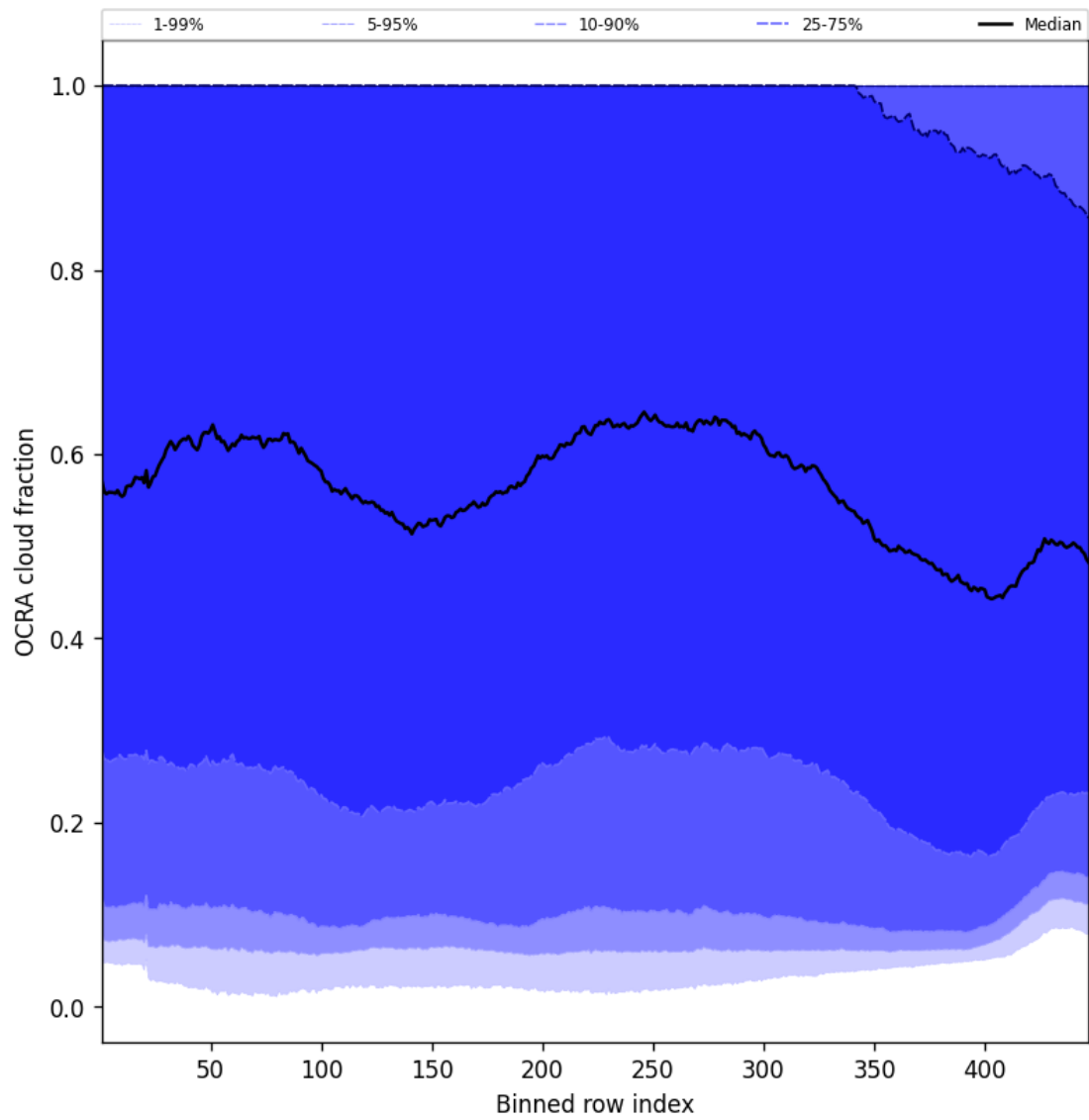


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29

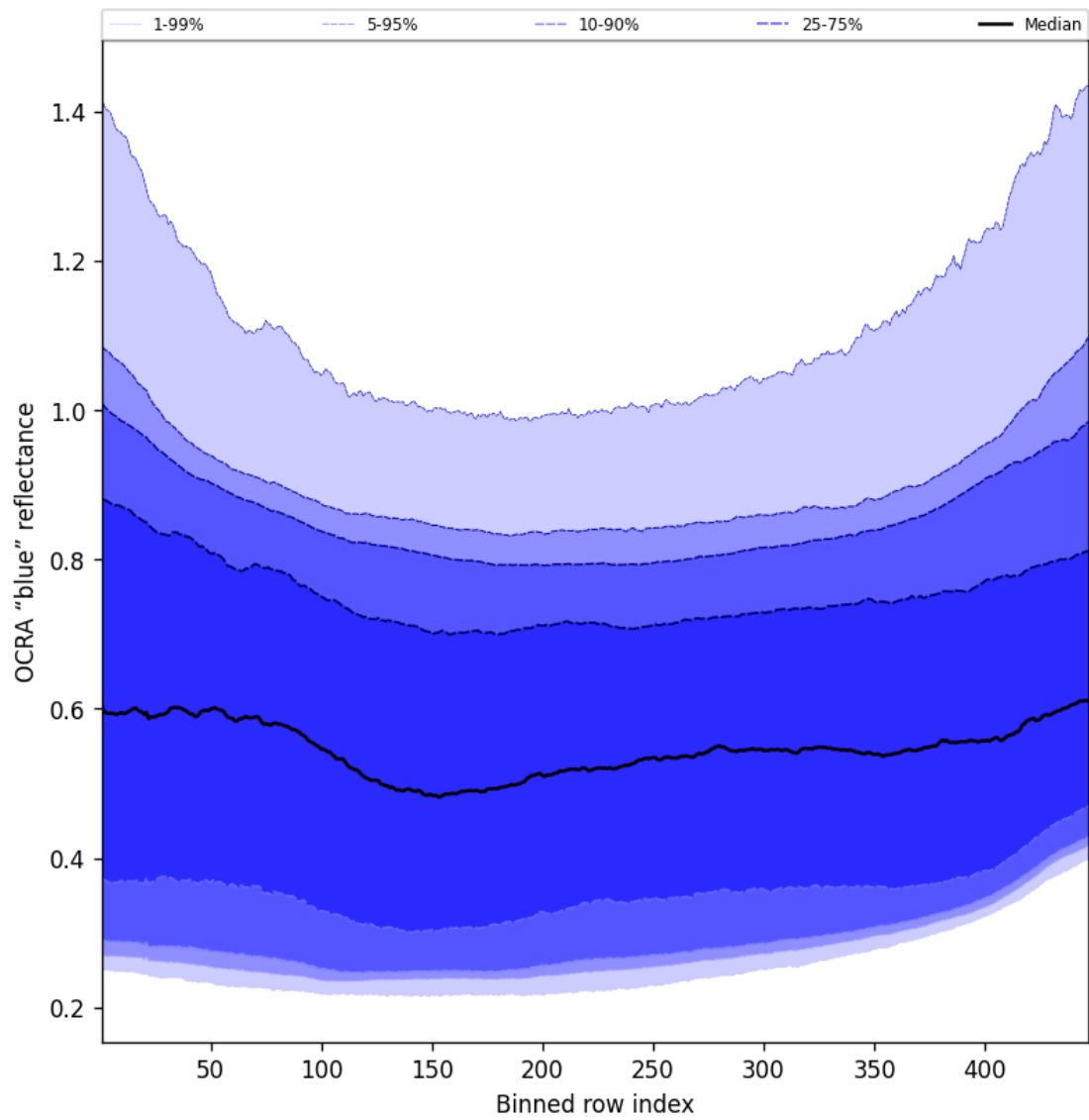


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29

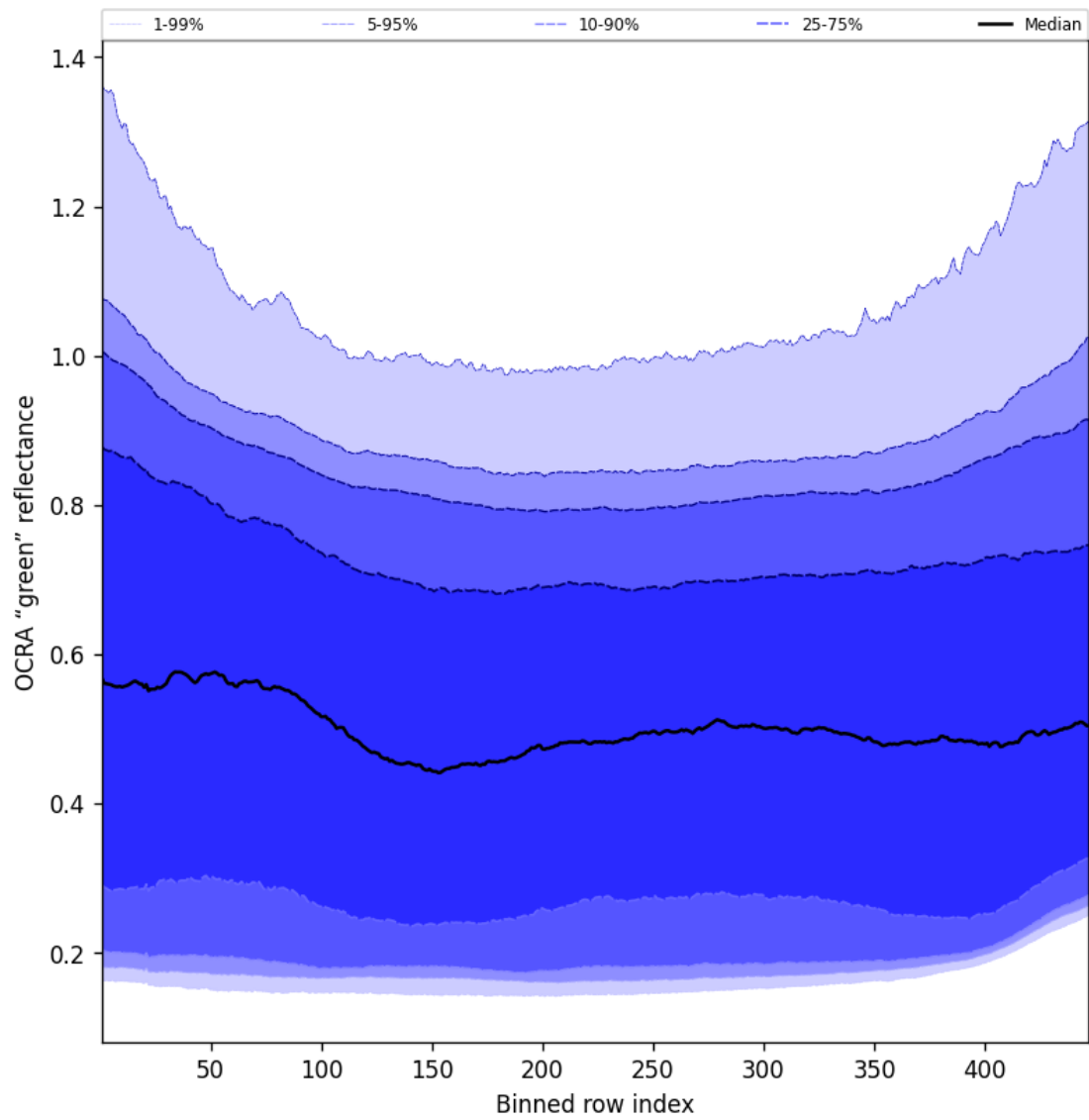


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29

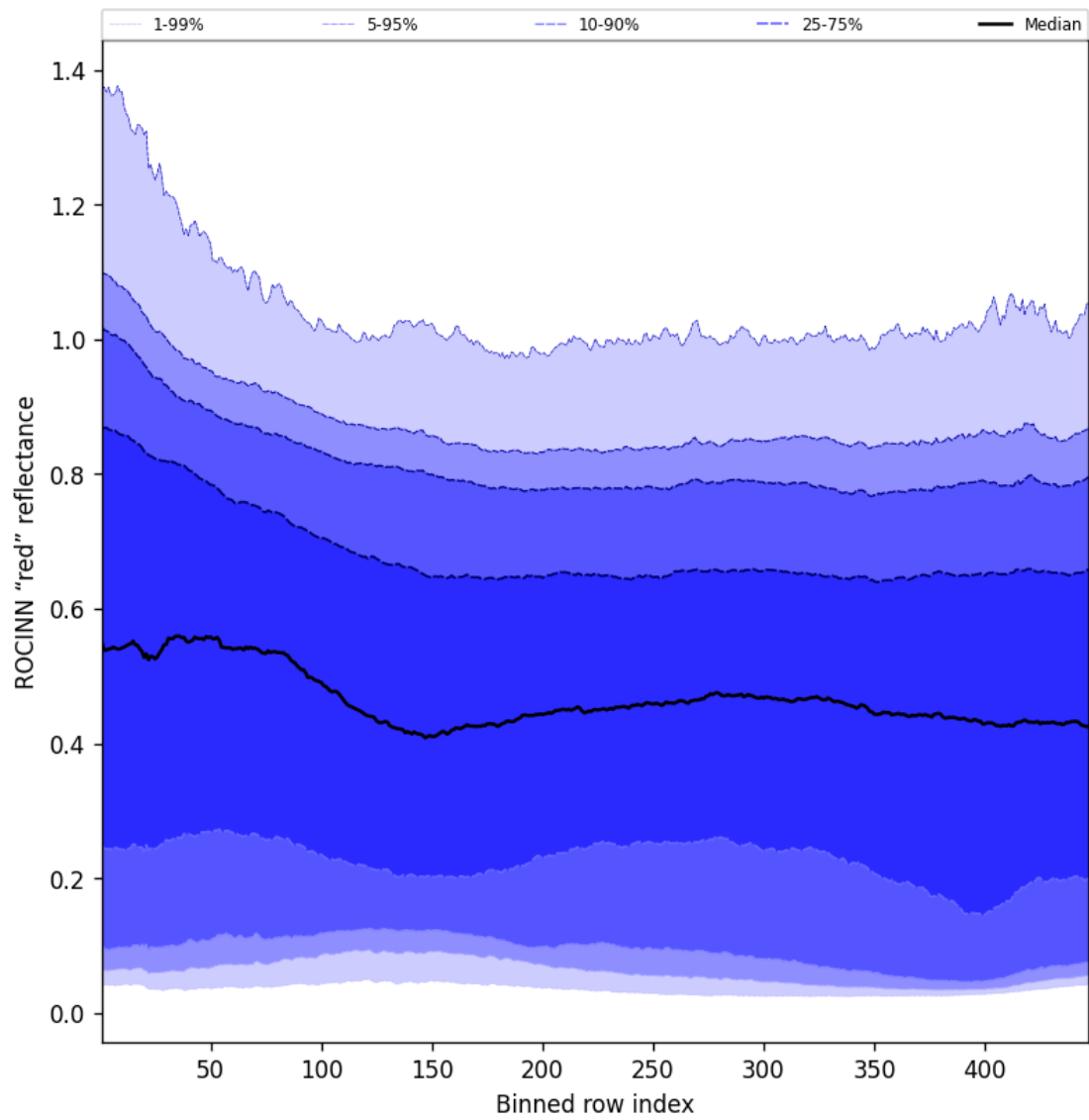


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-09-28 to 2025-09-29

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.

Contents

1	Short Introduction	1
1.1	The list of parameters	1
2	Definitions	1
3	Granule outlines	8
4	Input data monitoring	9
5	Warnings and errors	10
6	World maps	11
7	Zonal average	27
8	Histograms	43
9	Along track statistics	59
10	Coincidence density	75
11	Copyright information of ‘PyCAMA’	75

List of Figures

1	Outline of the granules.	8
2	Input data per granule	9
3	Fraction of pixels with specific warnings and errors during processing	10
4	Map of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29	11
5	Map of “Cloud top height” for 2025-09-28 to 2025-09-29	12
6	Map of “Cloud optical thickness” for 2025-09-28 to 2025-09-29	13
7	Map of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29	14
8	Map of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29	15
9	Map of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29	16
10	Map of “Fitted surface albedo” for 2025-09-28 to 2025-09-29	17
11	Map of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29	18
12	Map of “RMS” for 2025-09-28 to 2025-09-29	19
13	Map of “RMS (CRB)” for 2025-09-28 to 2025-09-29	20
14	Map of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29	21
15	Map of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29	22
16	Map of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29	23
17	Map of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29	24
18	Map of “ROCINN “red” reflectance” for 2025-09-28 to 2025-09-29	25
19	Map of the number of observations for 2025-09-28 to 2025-09-29	26
20	Zonal average of “QA value” for 2025-09-28 to 2025-09-29.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29.	28
22	Zonal average of “Cloud top height” for 2025-09-28 to 2025-09-29.	29
23	Zonal average of “Cloud optical thickness” for 2025-09-28 to 2025-09-29.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29.	31
25	Zonal average of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29.	33
27	Zonal average of “Fitted surface albedo” for 2025-09-28 to 2025-09-29.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29.	35
29	Zonal average of “RMS” for 2025-09-28 to 2025-09-29.	36

30	Zonal average of “RMS (CRB)” for 2025-09-28 to 2025-09-29.	37
31	Zonal average of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29.	38
32	Zonal average of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29.	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29.	40
34	Zonal average of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29.	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-09-28 to 2025-09-29.	42
36	Histogram of “QA value” for 2025-09-28 to 2025-09-29	43
37	Histogram of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29	44
38	Histogram of “Cloud top height” for 2025-09-28 to 2025-09-29	45
39	Histogram of “Cloud optical thickness” for 2025-09-28 to 2025-09-29	46
40	Histogram of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29	47
41	Histogram of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29	48
42	Histogram of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29	49
43	Histogram of “Fitted surface albedo” for 2025-09-28 to 2025-09-29	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29	51
45	Histogram of “RMS” for 2025-09-28 to 2025-09-29	52
46	Histogram of “RMS (CRB)” for 2025-09-28 to 2025-09-29	53
47	Histogram of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29	54
48	Histogram of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29	55
49	Histogram of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29	56
50	Histogram of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29	57
51	Histogram of “ROCINN “red” reflectance” for 2025-09-28 to 2025-09-29	58
52	Along track statistics of “QA value” for 2025-09-28 to 2025-09-29	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-09-28 to 2025-09-29	60
54	Along track statistics of “Cloud top height” for 2025-09-28 to 2025-09-29	61
55	Along track statistics of “Cloud optical thickness” for 2025-09-28 to 2025-09-29	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-09-28 to 2025-09-29	63
57	Along track statistics of “Cloud height (CRB)” for 2025-09-28 to 2025-09-29	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-09-28 to 2025-09-29	65
59	Along track statistics of “Fitted surface albedo” for 2025-09-28 to 2025-09-29	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-09-28 to 2025-09-29	67
61	Along track statistics of “RMS” for 2025-09-28 to 2025-09-29	68
62	Along track statistics of “RMS (CRB)” for 2025-09-28 to 2025-09-29	69
63	Along track statistics of “Fitting wavelength shift” for 2025-09-28 to 2025-09-29	70
64	Along track statistics of “OCRA cloud fraction” for 2025-09-28 to 2025-09-29	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-09-28 to 2025-09-29	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-09-28 to 2025-09-29	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-09-28 to 2025-09-29	74

List of Tables

1	Parameterlist and basic statistics for the analysis	2
2	Percentile ranges	3
3	Parameterlist and basic statistics for the analysis for observations in the northern hemisphere	4
4	Parameterlist and basic statistics for the analysis for observations in the southern hemisphere	5
5	Parameterlist and basic statistics for the analysis for observations over water	6
6	Parameterlist and basic statistics for the analysis for observations over land	7

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