

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-03-31 (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]	0.608 ± 0.386	18583034	5.000×10^{-3}	0.690	0.790	0.0	1.000
cloud fraction [1]	0.555 ± 0.345	18583034	0.995	0.730	0.517	4.873×10^{-3}	1.000
cloud top height [m]	$(0.386 \pm 0.271) \times 10^4$	18583034	1.575×10^3	3.532×10^3	3.263×10^3	0.0	2.000×10^4
cloud optical thickness [1]	19.3 ± 34.4	18583034	8.91	10.9	9.45	1.000	250
cloud fraction crb [1]	0.554 ± 0.345	18583034	0.995	0.729	0.516	7.284×10^{-3}	1.000
cloud height crb [m]	$(0.303 \pm 0.239) \times 10^4$	18583034	975	3.078×10^3	2.488×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.600 ± 0.212	18583034	0.995	0.272	0.579	0.0	1.000
surface albedo fitted [1]	0.256 ± 0.315	18583034	2.500×10^{-2}	0.457	5.442×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.245 ± 0.303	18583034	1.500×10^{-2}	0.475	4.496×10^{-2}	0.0	1.000
fitted root mean square [1]	$(6.859 \pm 12.727) \times 10^{-4}$	18583034	5.000×10^{-5}	7.960×10^{-4}	4.012×10^{-4}	1.448×10^{-6}	0.746
fitted root mean square crb [1]	$(6.047 \pm 12.264) \times 10^{-4}$	18583034	5.000×10^{-5}	7.237×10^{-4}	2.956×10^{-4}	1.216×10^{-6}	0.883
wavelength shift [nm]	$(7.415 \pm 6.773) \times 10^{-3}$	18583034	9.000×10^{-4}	9.267×10^{-3}	6.824×10^{-3}	-5.334×10^{-2}	0.470
cloud fraction apriori [1]	0.562 ± 0.349	18583034	0.995	0.768	0.530	0.0	1.000
reflectance blue ocra [1]	0.574 ± 0.234	18583034	0.265	0.395	0.557	0.134	1.97
reflectance green ocra [1]	0.524 ± 0.259	18583034	0.175	0.464	0.516	7.937×10^{-2}	1.91
reflectance continuum aband [1]	0.480 ± 0.281	18583034	4.500×10^{-2}	0.468	0.487	1.209×10^{-2}	4.30

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	0.260	0.950	1.000	1.000	1.000	1.000
cloud fraction [1]	2.615×10^{-2}	6.770×10^{-2}	0.103	0.148	0.231	0.961	1.000	1.000	1.000	1.000
cloud top height [m]	168	685	1.061×10^3	1.357×10^3	1.752×10^3	5.283×10^3	6.503×10^3	7.688×10^3	9.262×10^3	1.204×10^4
cloud optical thickness [1]	1.14	2.88	4.01	4.84	5.76	16.7	25.6	38.5	66.2	250
cloud fraction crb [1]	2.578×10^{-2}	6.689×10^{-2}	0.103	0.148	0.231	0.960	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	226	568	826	1.163×10^3	4.241×10^3	5.350×10^3	6.377×10^3	7.711×10^3	1.035×10^4
cloud albedo crb [1]	1.172×10^{-2}	0.247	0.363	0.422	0.470	0.742	0.832	0.907	0.992	1.000
surface albedo fitted [1]	0.0	9.604×10^{-3}	1.459×10^{-2}	1.916×10^{-2}	2.585×10^{-2}	0.483	0.708	0.802	0.892	0.988
surface albedo fitted crb [1]	8.745×10^{-4}	6.856×10^{-3}	1.051×10^{-2}	1.409×10^{-2}	1.962×10^{-2}	0.495	0.675	0.757	0.847	0.940
fitted root mean square [1]	1.650×10^{-5}	3.188×10^{-5}	5.016×10^{-5}	7.746×10^{-5}	1.322×10^{-4}	9.282×10^{-4}	1.274×10^{-3}	1.651×10^{-3}	2.255×10^{-3}	3.760×10^{-3}
fitted root mean square crb [1]	9.259×10^{-6}	2.104×10^{-5}	3.578×10^{-5}	5.492×10^{-5}	9.311×10^{-5}	8.168×10^{-4}	1.185×10^{-3}	1.575×10^{-3}	2.180×10^{-3}	3.597×10^{-3}
wavelength shift [nm]	-8.281×10^{-3}	-1.250×10^{-3}	8.213×10^{-6}	9.784×10^{-4}	2.484×10^{-3}	1.175×10^{-2}	1.410×10^{-2}	1.617×10^{-2}	1.897×10^{-2}	2.513×10^{-2}
cloud fraction apriori [1]	2.951×10^{-2}	6.536×10^{-2}	9.936×10^{-2}	0.145	0.232	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.233	0.257	0.280	0.311	0.365	0.760	0.819	0.870	0.941	1.18
reflectance green ocra [1]	0.152	0.173	0.193	0.221	0.278	0.741	0.806	0.857	0.923	1.11
reflectance continuum aband [1]	3.051×10^{-2}	5.571×10^{-2}	9.005×10^{-2}	0.137	0.240	0.708	0.781	0.838	0.905	1.06

Table 3: Parameterlist and basic statistics for the analysis for observations in the northern hemisphere

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.537 ± 0.388	9759792	0.900	0.680	0.0	1.000	0.0	0.900
cloud fraction [1]	0.518 ± 0.343	9759792	0.705	0.447	4.873×10^{-3}	1.000	0.207	0.912
cloud top height [m]	$(0.371 \pm 0.254) \times 10^4$	9759792	3.261×10^3	3.264×10^3	0.0	2.000×10^4	1.766×10^3	5.027×10^3
cloud optical thickness [1]	18.1 ± 35.2	9759792	9.00	8.47	1.000	250	5.40	14.4
cloud fraction crb [1]	0.518 ± 0.342	9759792	0.704	0.447	7.284×10^{-3}	1.000	0.208	0.911
cloud height crb [m]	$(0.278 \pm 0.212) \times 10^4$	9759792	2.807×10^3	2.408×10^3	0.0	2.000×10^4	1.103×10^3	3.910×10^3
cloud albedo crb [1]	0.626 ± 0.234	9759792	0.335	0.615	0.0	1.000	0.474	0.809
surface albedo fitted [1]	0.349 ± 0.329	9759792	0.634	0.227	0.0	1.000	3.855×10^{-2}	0.672
surface albedo fitted crb [1]	0.334 ± 0.314	9759792	0.619	0.224	0.0	1.000	3.103×10^{-2}	0.650
fitted root mean square [1]	$(8.361 \pm 16.391) \times 10^{-4}$	9759792	9.649×10^{-4}	5.328×10^{-4}	1.448×10^{-6}	0.746	1.647×10^{-4}	1.130×10^{-3}
fitted root mean square crb [1]	$(7.163 \pm 15.861) \times 10^{-4}$	9759792	8.791×10^{-4}	3.614×10^{-4}	1.216×10^{-6}	0.883	1.041×10^{-4}	9.832×10^{-4}
wavelength shift [nm]	$(8.080 \pm 6.872) \times 10^{-3}$	9759792	9.666×10^{-3}	7.608×10^{-3}	-5.334×10^{-2}	0.470	2.982×10^{-3}	1.265×10^{-2}
cloud fraction apriori [1]	0.531 ± 0.346	9759792	0.748	0.469	0.0	1.000	0.213	0.961
reflectance blue ocra [1]	0.596 ± 0.247	9759792	0.425	0.608	0.134	1.97	0.363	0.788
reflectance green ocra [1]	0.552 ± 0.269	9759792	0.492	0.581	8.752×10^{-2}	1.89	0.282	0.774
reflectance continuum aband [1]	0.517 ± 0.286	9759792	0.479	0.549	1.325×10^{-2}	4.30	0.269	0.747

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]	0.688 ± 0.368	8823242	0.600	0.900	0.0	1.000	0.400	1.000
cloud fraction [1]	0.595 ± 0.344	8823242	0.718	0.613	8.016×10^{-3}	1.000	0.267	0.985
cloud top height [m]	$(0.403 \pm 0.288) \times 10^4$	8823242	3.937×10^3	3.261×10^3	0.0	2.000×10^4	1.738×10^3	5.675×10^3
cloud optical thickness [1]	20.7 ± 33.4	8823242	12.7	10.6	1.000	250	6.52	19.2
cloud fraction crb [1]	0.594 ± 0.344	8823242	0.718	0.611	8.481×10^{-3}	1.000	0.266	0.984
cloud height crb [m]	$(0.330 \pm 0.262) \times 10^4$	8823242	3.546×10^3	2.591×10^3	0.0	2.000×10^4	1.217×10^3	4.763×10^3
cloud albedo crb [1]	0.571 ± 0.180	8823242	0.205	0.554	0.0	1.000	0.468	0.673
surface albedo fitted [1]	0.154 ± 0.262	8823242	7.229×10^{-2}	3.407×10^{-2}	0.0	1.000	1.985×10^{-2}	9.214×10^{-2}
surface albedo fitted crb [1]	0.146 ± 0.258	8823242	6.644×10^{-2}	2.648×10^{-2}	0.0	1.000	1.435×10^{-2}	8.079×10^{-2}
fitted root mean square [1]	$(5.198 \pm 6.221) \times 10^{-4}$	8823242	5.970×10^{-4}	3.004×10^{-4}	1.497×10^{-6}	0.185	1.093×10^{-4}	7.063×10^{-4}
fitted root mean square crb [1]	$(4.812 \pm 5.969) \times 10^{-4}$	8823242	5.752×10^{-4}	2.453×10^{-4}	1.530×10^{-6}	1.436×10^{-2}	8.371×10^{-5}	6.589×10^{-4}
wavelength shift [nm]	$(6.679 \pm 6.584) \times 10^{-3}$	8823242	8.679×10^{-3}	6.049×10^{-3}	-4.416×10^{-2}	6.148×10^{-2}	2.020×10^{-3}	1.070×10^{-2}
cloud fraction apriori [1]	0.596 ± 0.350	8823242	0.740	0.615	0.0	1.000	0.260	1.000
reflectance blue ocra [1]	0.550 ± 0.217	8823242	0.338	0.523	0.154	1.96	0.368	0.706
reflectance green ocra [1]	0.493 ± 0.244	8823242	0.404	0.472	7.937×10^{-2}	1.91	0.274	0.678
reflectance continuum aband [1]	0.439 ± 0.269	8823242	0.436	0.433	1.209×10^{-2}	3.79	0.209	0.645

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]	0.640 ± 0.380	13138480	0.660	0.850	0.0	1.000	0.300	0.960
cloud fraction [1]	0.562 ± 0.351	13138480	0.753	0.539	4.873×10^{-3}	1.000	0.222	0.975
cloud top height [m]	$(0.353 \pm 0.244) \times 10^4$	13138480	3.216×10^3	2.958×10^3	0.0	2.000×10^4	1.633×10^3	4.849×10^3
cloud optical thickness [1]	19.7 ± 33.1	13138480	11.0	10.1	1.000	250	6.55	17.5
cloud fraction crb [1]	0.561 ± 0.351	13138480	0.751	0.538	7.284×10^{-3}	1.000	0.222	0.973
cloud height crb [m]	$(0.278 \pm 0.216) \times 10^4$	13138480	2.847×10^3	2.284×10^3	0.0	2.000×10^4	1.077×10^3	3.924×10^3
cloud albedo crb [1]	0.578 ± 0.192	13138480	0.229	0.554	0.0	1.000	0.462	0.692
surface albedo fitted [1]	0.159 ± 0.269	13138480	4.428×10^{-2}	3.452×10^{-2}	0.0	1.000	2.056×10^{-2}	6.484×10^{-2}
surface albedo fitted crb [1]	0.147 ± 0.257	13138480	3.899×10^{-2}	2.712×10^{-2}	0.0	1.000	1.522×10^{-2}	5.420×10^{-2}
fitted root mean square [1]	$(5.495 \pm 13.284) \times 10^{-4}$	13138480	6.154×10^{-4}	2.683×10^{-4}	1.448×10^{-6}	0.746	9.595×10^{-5}	7.113×10^{-4}
fitted root mean square crb [1]	$(4.855 \pm 13.228) \times 10^{-4}$	13138480	5.206×10^{-4}	2.007×10^{-4}	1.216×10^{-6}	0.883	7.315×10^{-5}	5.938×10^{-4}
wavelength shift [nm]	$(6.794 \pm 6.705) \times 10^{-3}$	13138480	8.828×10^{-3}	6.053×10^{-3}	-5.028×10^{-2}	0.470	2.096×10^{-3}	1.092×10^{-2}
cloud fraction apriori [1]	0.565 ± 0.356	13138480	0.781	0.545	0.0	1.000	0.219	1.000
reflectance blue ocr [1]	0.547 ± 0.219	13138480	0.365	0.524	0.156	1.97	0.355	0.720
reflectance green ocr [1]	0.490 ± 0.244	13138480	0.435	0.474	7.937×10^{-2}	1.82	0.258	0.693
reflectance continuum aband [1]	0.424 ± 0.274	13138480	0.489	0.424	1.209×10^{-2}	4.19	0.159	0.648

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]	0.533 ± 0.398	4014271	0.900	0.690	0.0	1.000	0.0	0.900
cloud fraction [1]	0.531 ± 0.331	4014271	0.652	0.468	7.545×10^{-3}	1.000	0.245	0.897
cloud top height [m]	$(0.502 \pm 0.317) \times 10^4$	4014271	4.257×10^3	4.458×10^3	0.0	2.000×10^4	2.568×10^3	6.825×10^3
cloud optical thickness [1]	15.9 ± 31.8	4014271	8.22	7.03	1.000	250	4.64	12.9
cloud fraction crb [1]	0.531 ± 0.330	4014271	0.651	0.469	8.470×10^{-3}	1.000	0.245	0.896
cloud height crb [m]	$(0.394 \pm 0.285) \times 10^4$	4014271	3.678×10^3	3.284×10^3	0.0	2.000×10^4	1.744×10^3	5.422×10^3
cloud albedo crb [1]	0.644 ± 0.239	4014271	0.324	0.653	0.0	1.000	0.504	0.828
surface albedo fitted [1]	0.493 ± 0.287	4014271	0.543	0.360	0.0	1.000	0.242	0.785
surface albedo fitted crb [1]	0.483 ± 0.273	4014271	0.521	0.371	3.496×10^{-3}	1.000	0.238	0.759
fitted root mean square [1]	$(1.006 \pm 1.053) \times 10^{-3}$	4014271	9.159×10^{-4}	7.564×10^{-4}	4.703×10^{-6}	0.168	3.913×10^{-4}	1.307×10^{-3}
fitted root mean square crb [1]	$(8.943 \pm 8.894) \times 10^{-4}$	4014271	9.825×10^{-4}	6.489×10^{-4}	2.654×10^{-6}	3.599×10^{-2}	2.537×10^{-4}	1.236×10^{-3}
wavelength shift [nm]	$(8.559 \pm 6.564) \times 10^{-3}$	4014271	9.313×10^{-3}	8.283×10^{-3}	-3.717×10^{-2}	5.413×10^{-2}	3.609×10^{-3}	1.292×10^{-2}
cloud fraction apriori [1]	0.544 ± 0.335	4014271	0.704	0.488	0.0	1.000	0.251	0.955
reflectance blue ocra [1]	0.631 ± 0.262	4014271	0.447	0.660	0.141	1.97	0.383	0.830
reflectance green ocra [1]	0.599 ± 0.280	4014271	0.499	0.646	8.634×10^{-2}	1.91	0.324	0.823
reflectance continuum aband [1]	0.609 ± 0.243	4014271	0.406	0.629	1.606×10^{-2}	4.16	0.392	0.798

3 Granule outlines

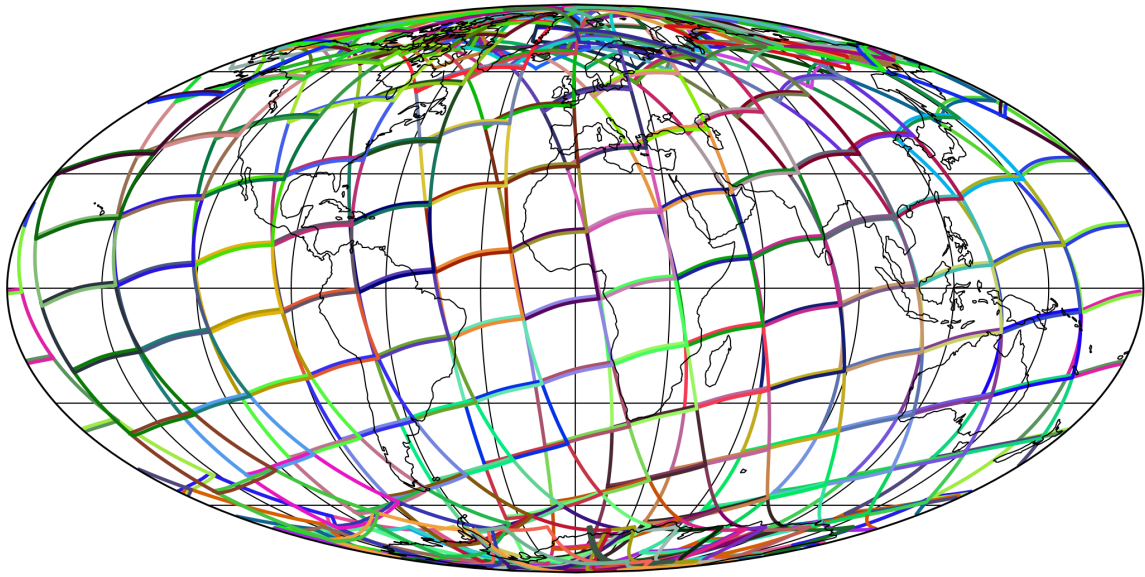


Figure 1: Outline of the granules.

4 Input data monitoring

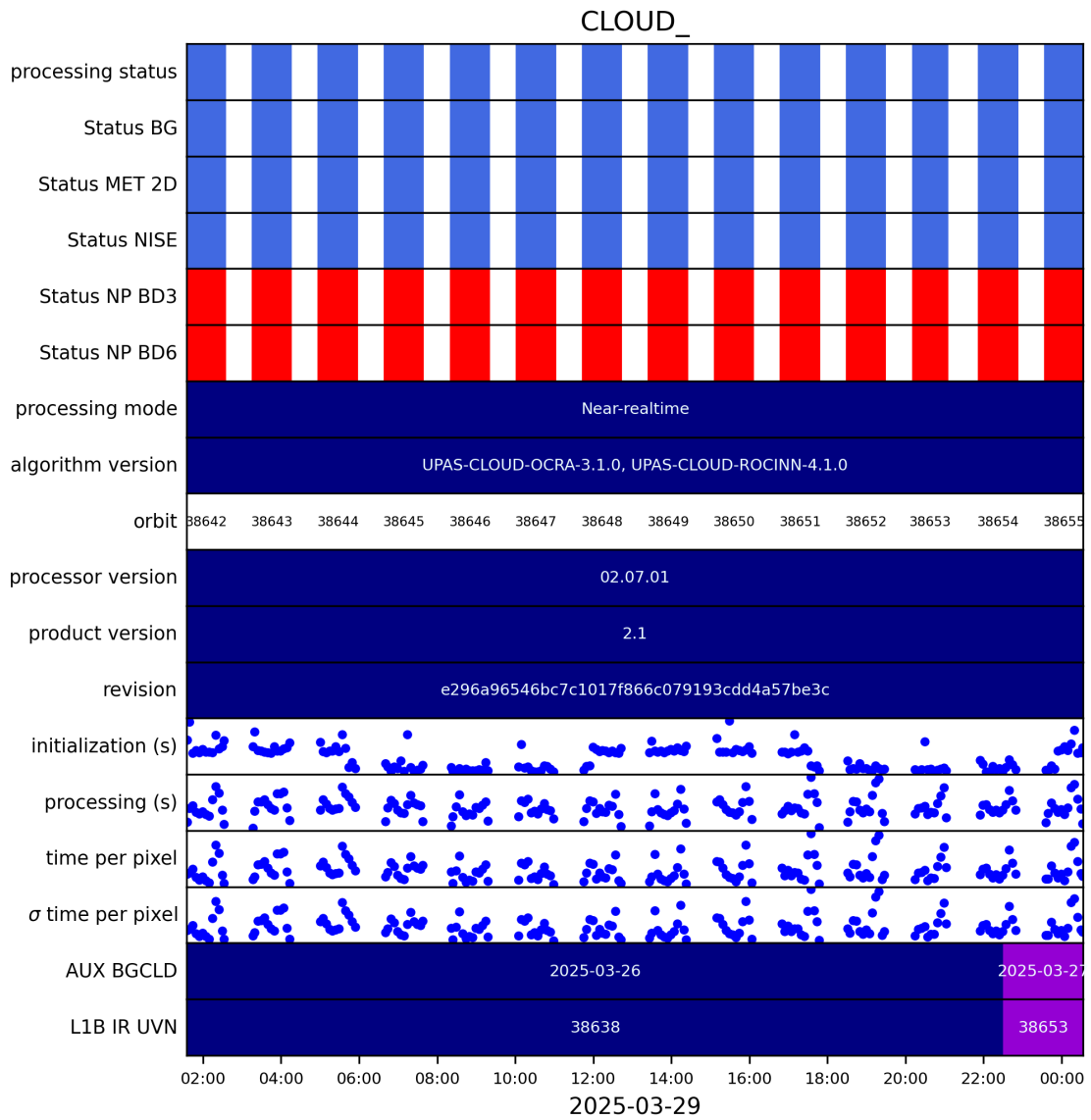


Figure 2: Input data per granule

5 Warnings and errors

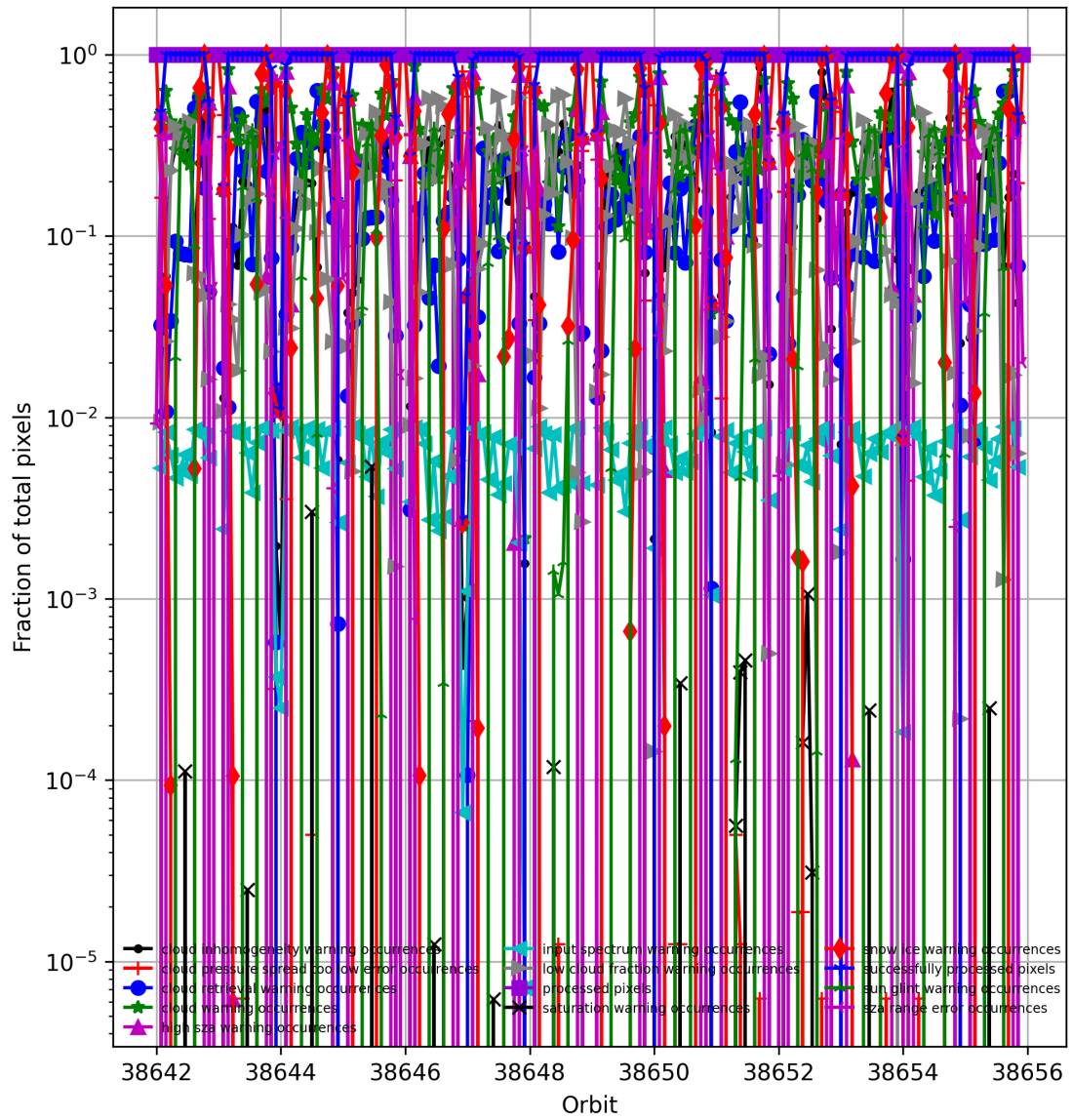


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

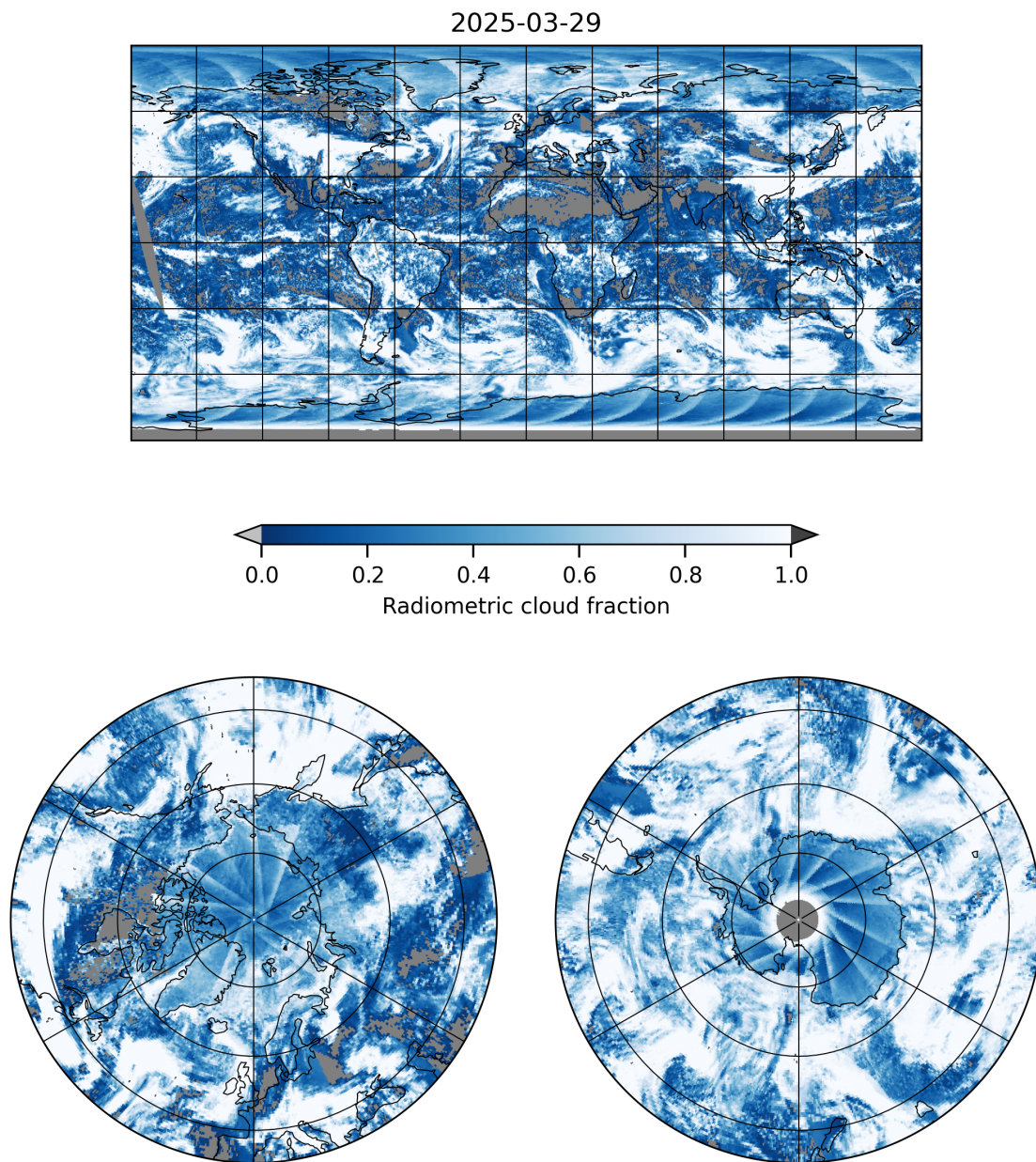


Figure 4: Map of “Radiometric cloud fraction” for 2025-03-29 to 2025-03-30

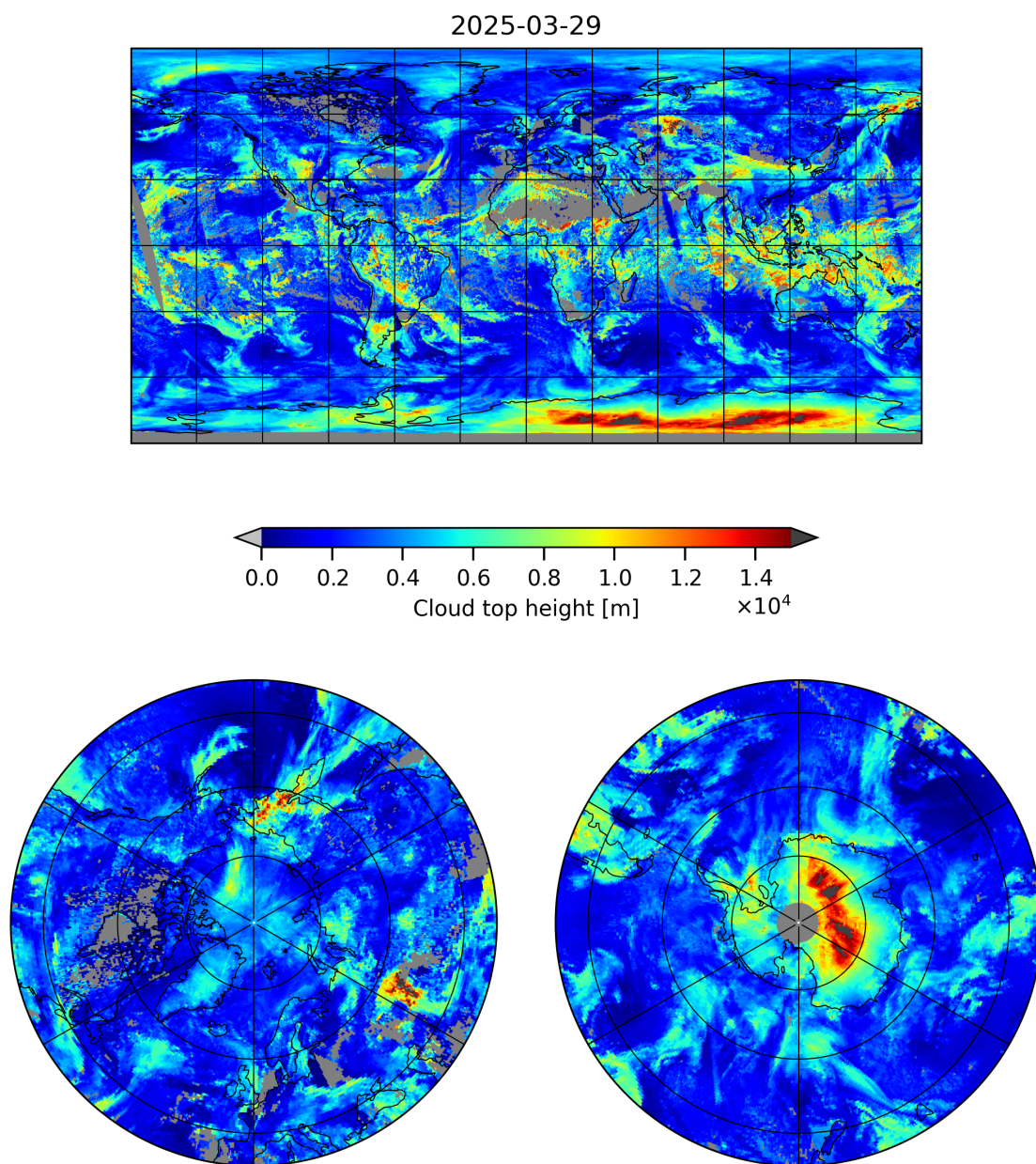


Figure 5: Map of “Cloud top height” for 2025-03-29 to 2025-03-30

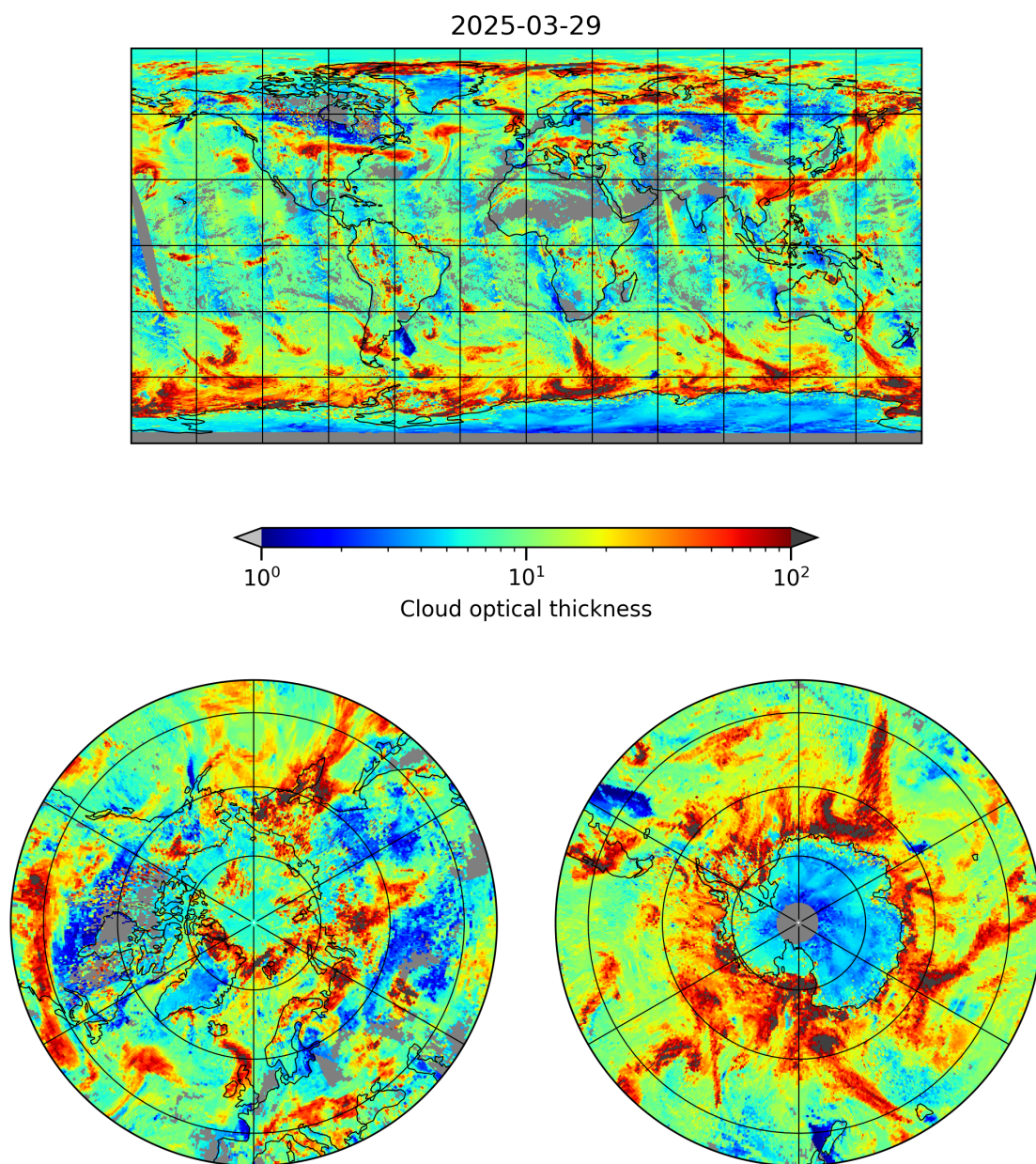


Figure 6: Map of “Cloud optical thickness” for 2025-03-29 to 2025-03-30

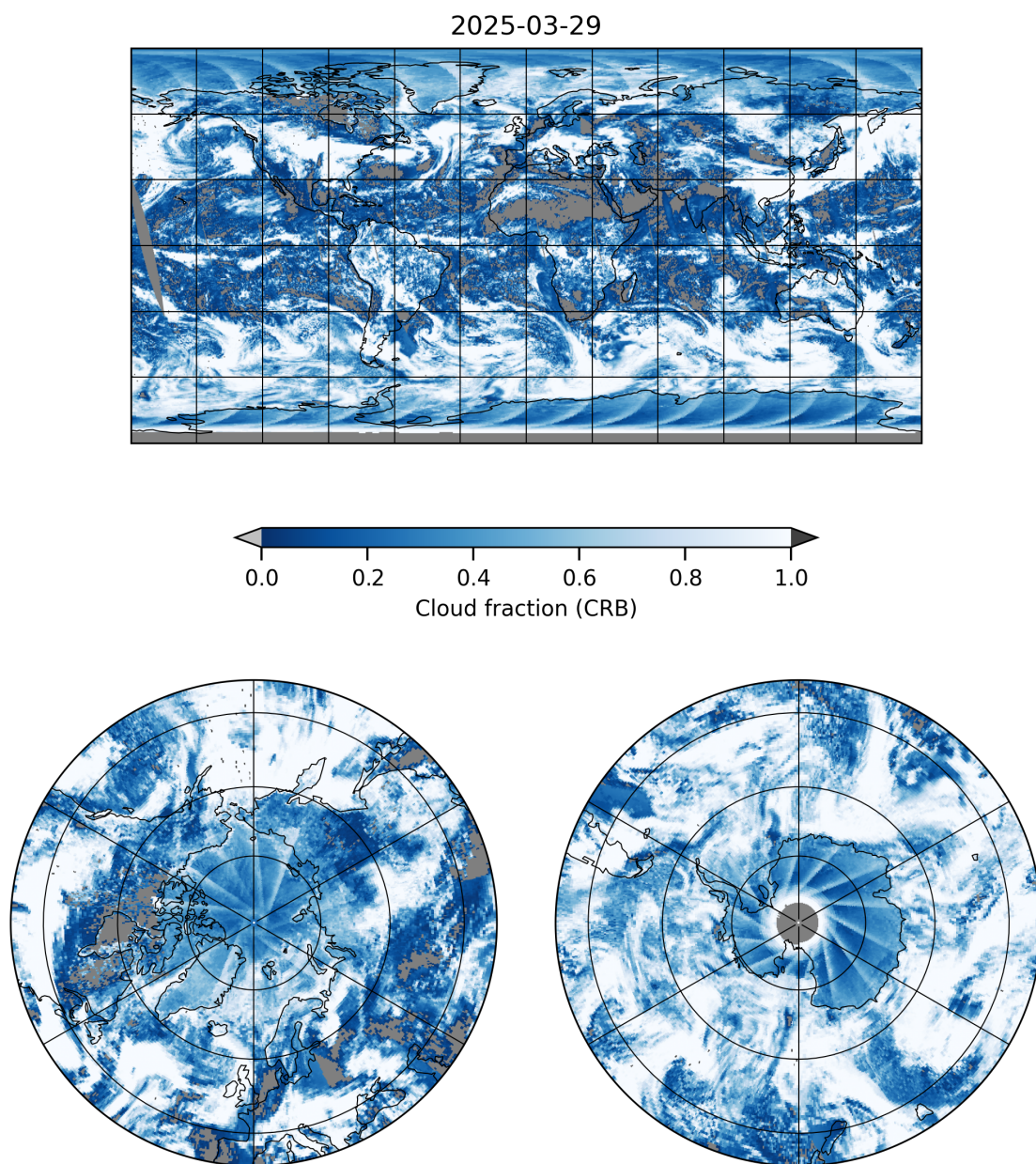


Figure 7: Map of “Cloud fraction (CRB)” for 2025-03-29 to 2025-03-30

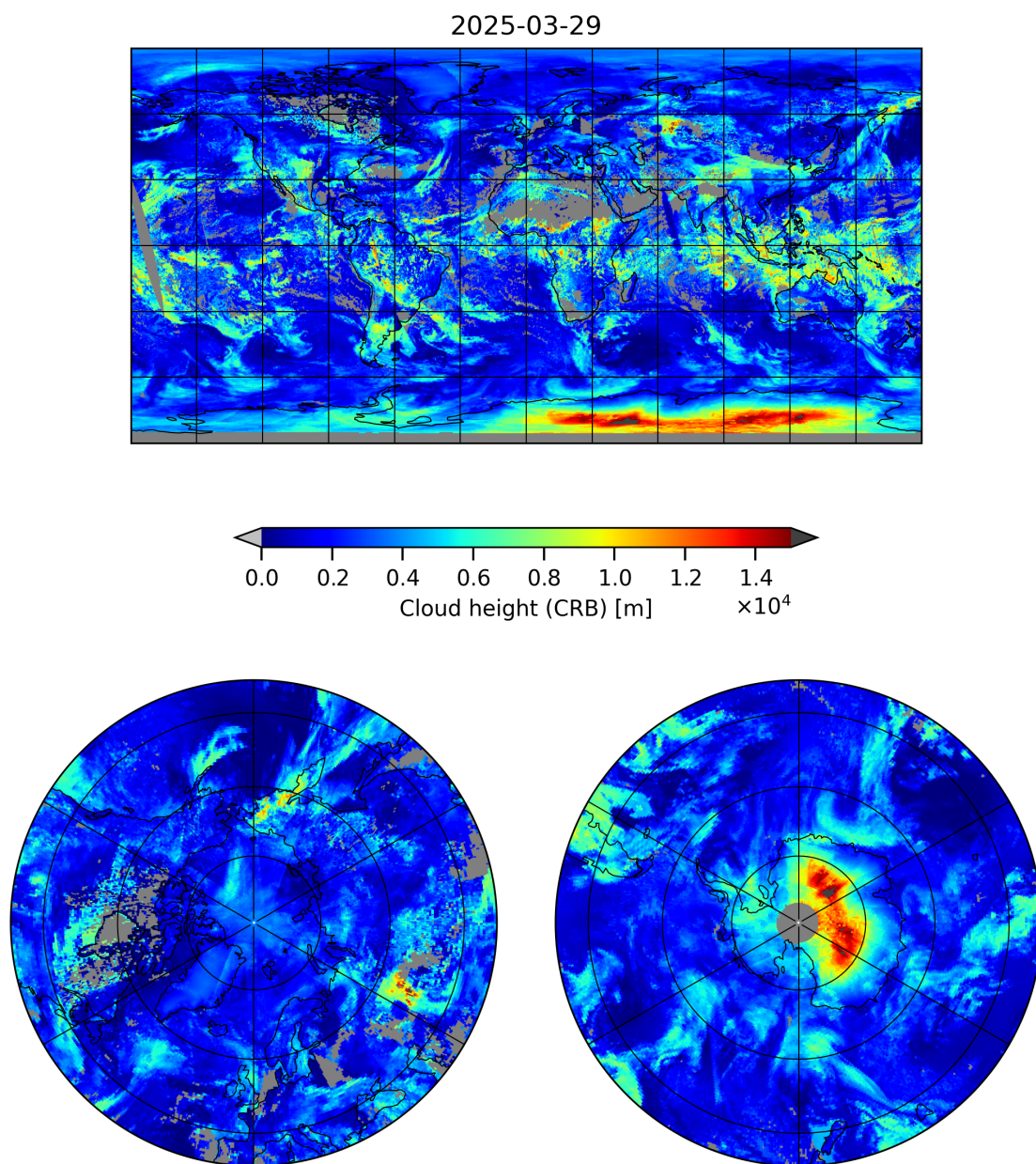


Figure 8: Map of “Cloud height (CRB)” for 2025-03-29 to 2025-03-30

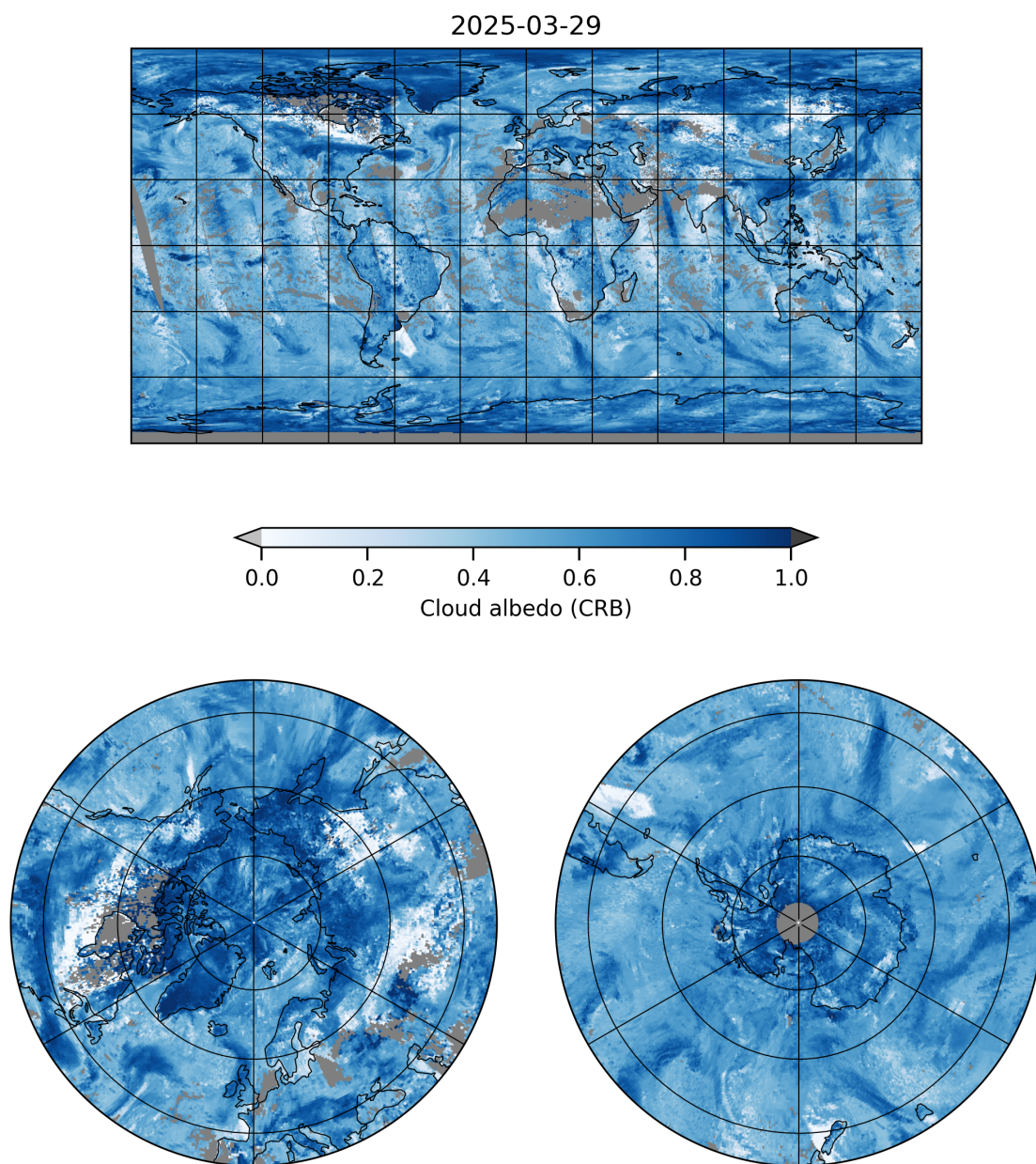


Figure 9: Map of “Cloud albedo (CRB)” for 2025-03-29 to 2025-03-30

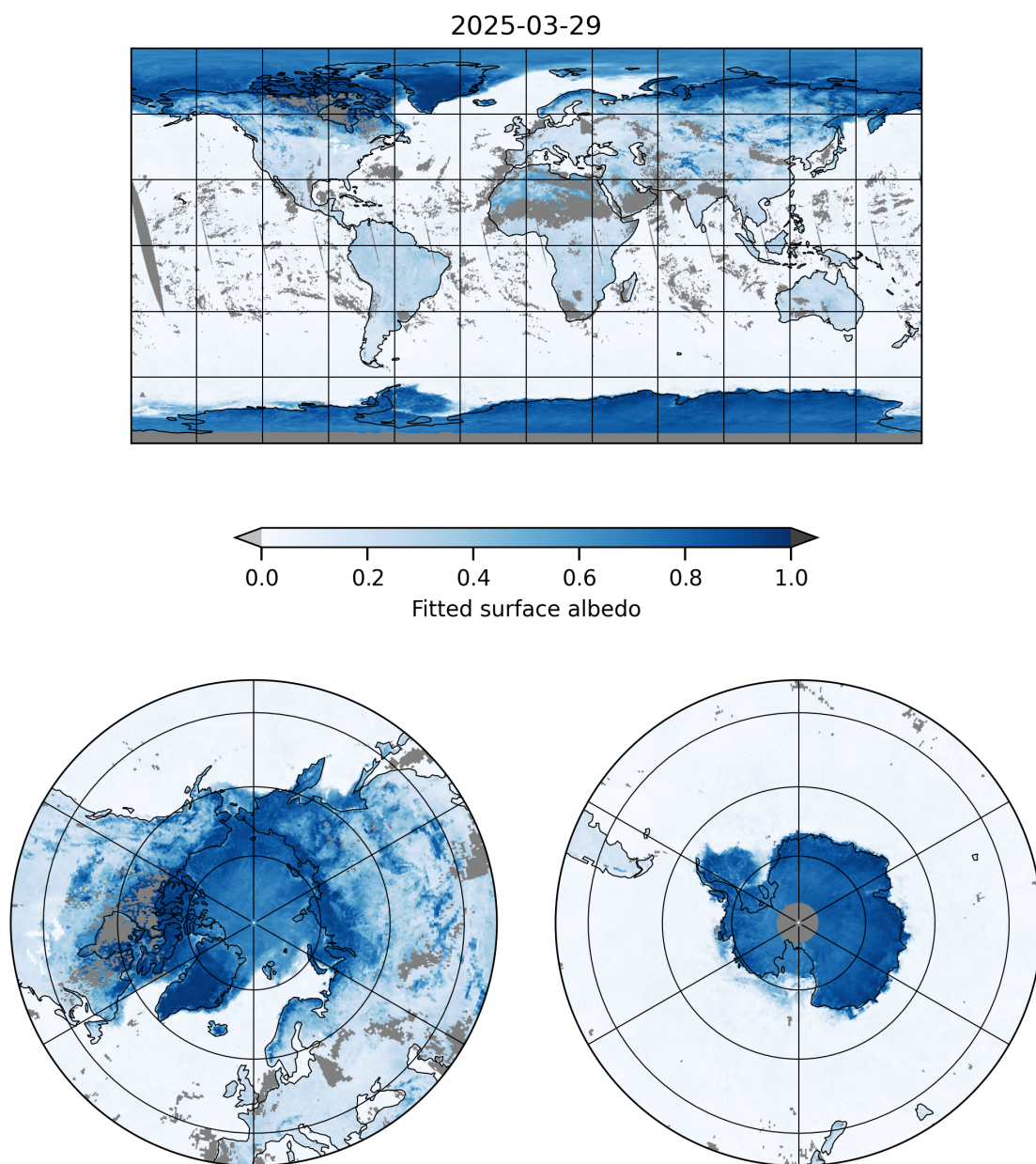


Figure 10: Map of “Fitted surface albedo” for 2025-03-29 to 2025-03-30

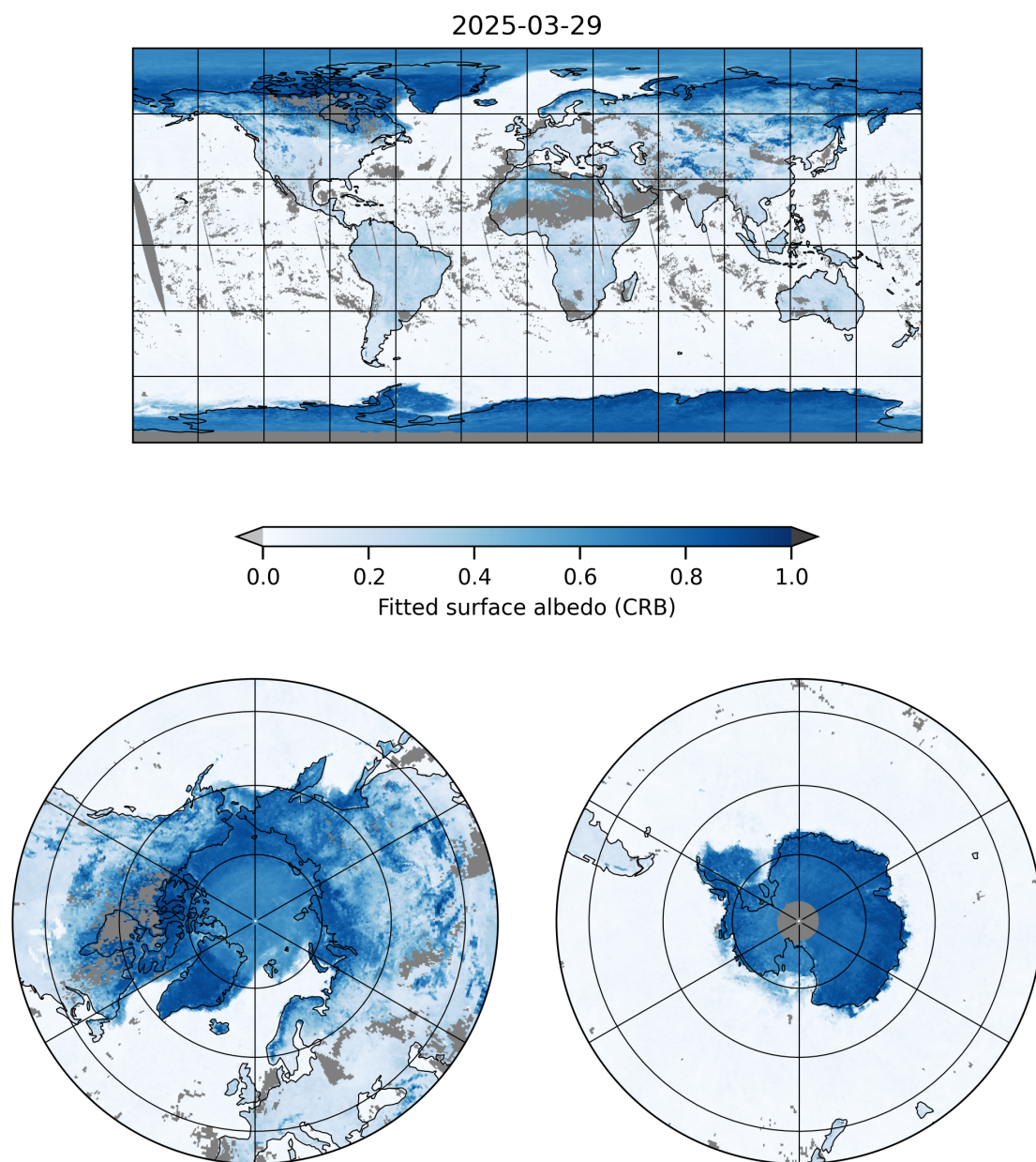


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-03-29 to 2025-03-30

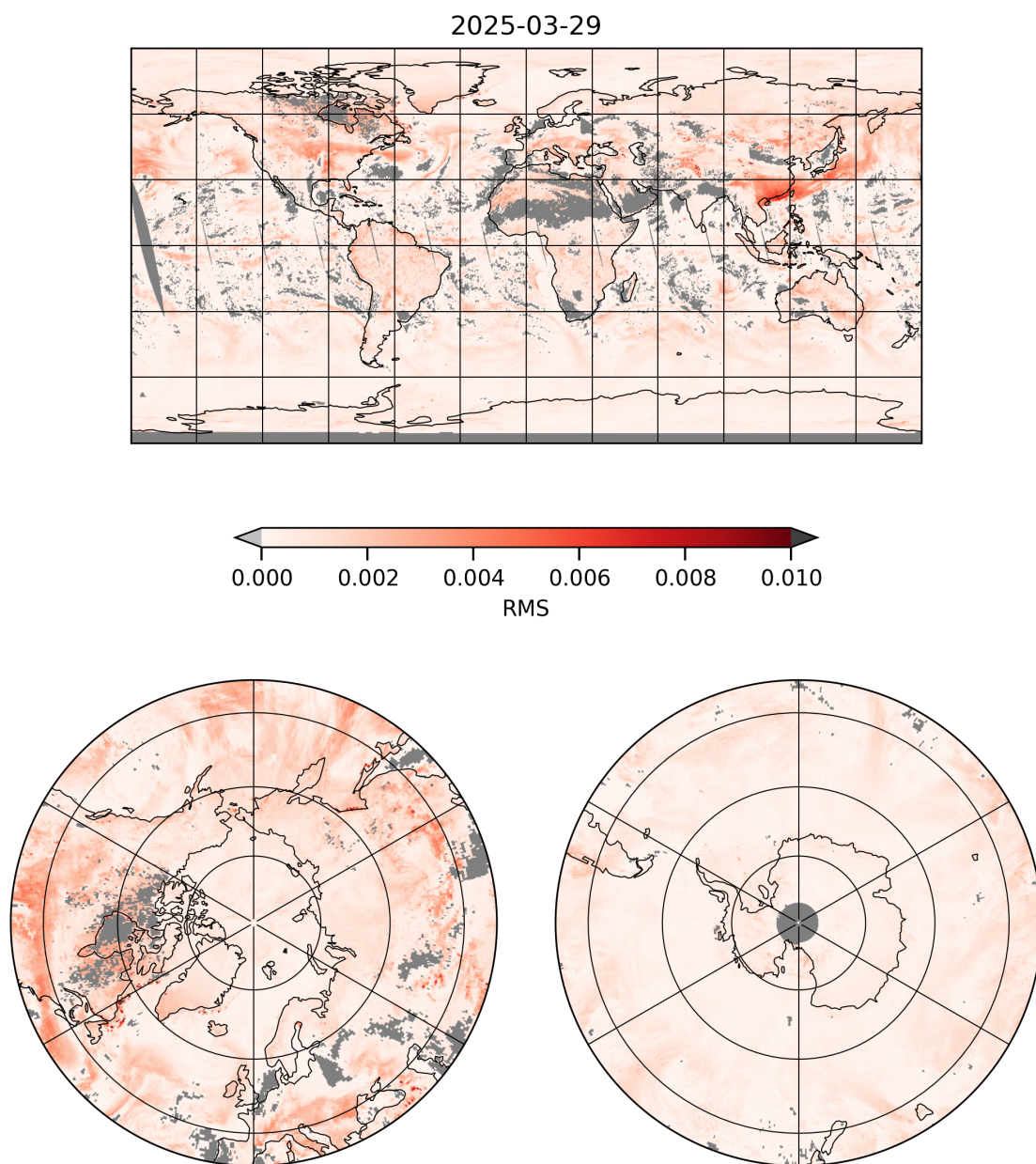


Figure 12: Map of “RMS” for 2025-03-29 to 2025-03-30

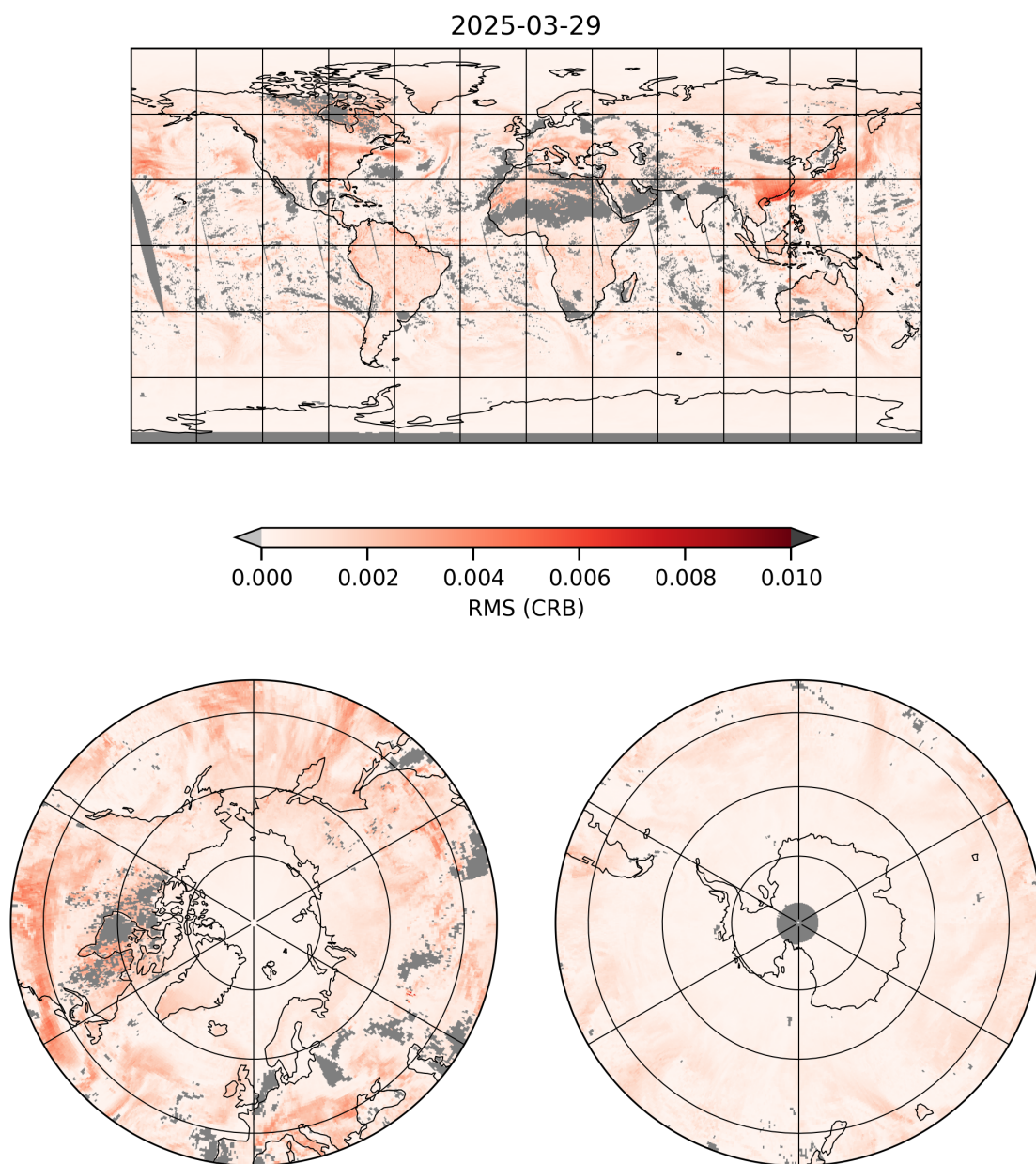


Figure 13: Map of “RMS (CRB)” for 2025-03-29 to 2025-03-30

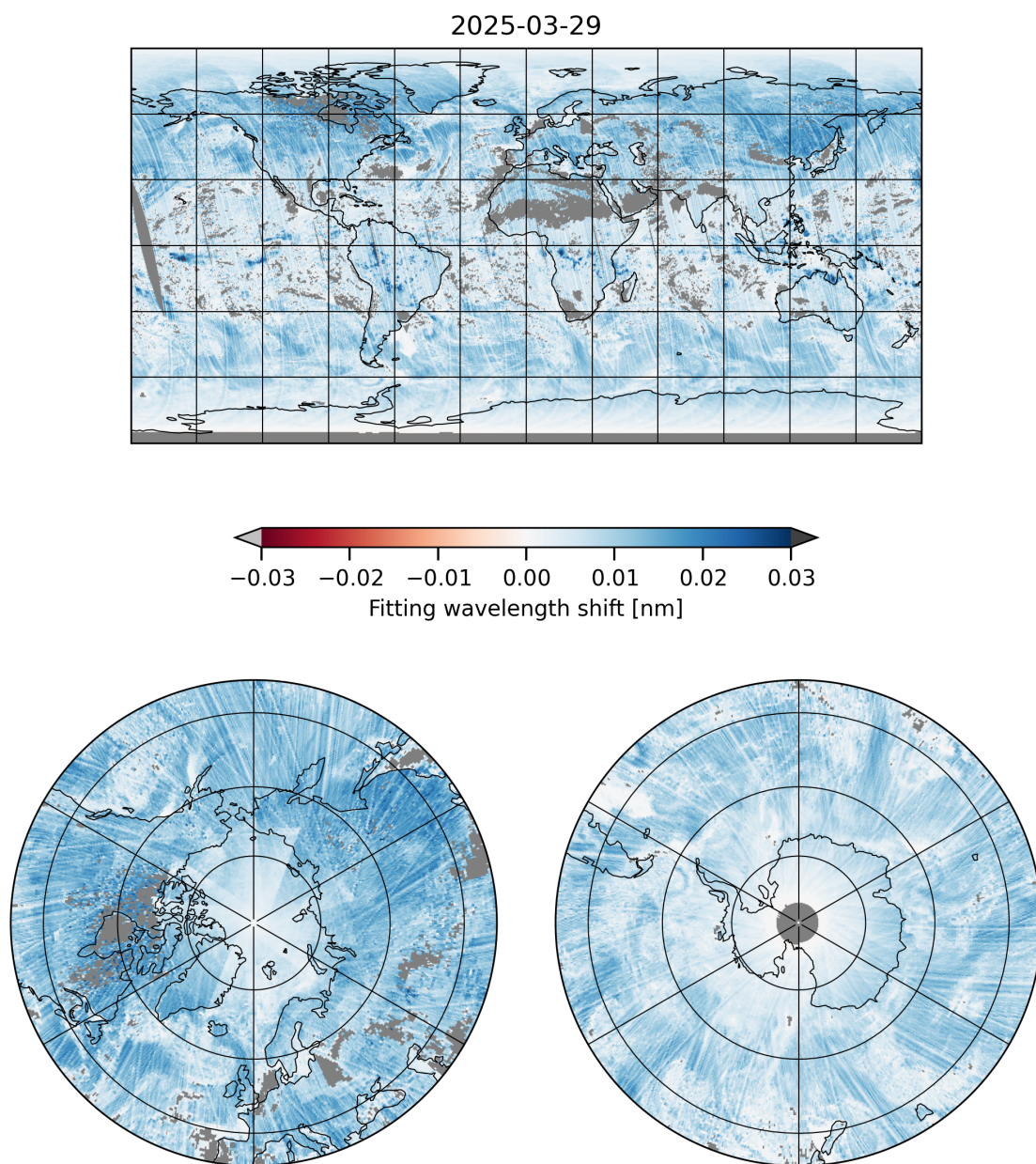


Figure 14: Map of “Fitting wavelength shift” for 2025-03-29 to 2025-03-30

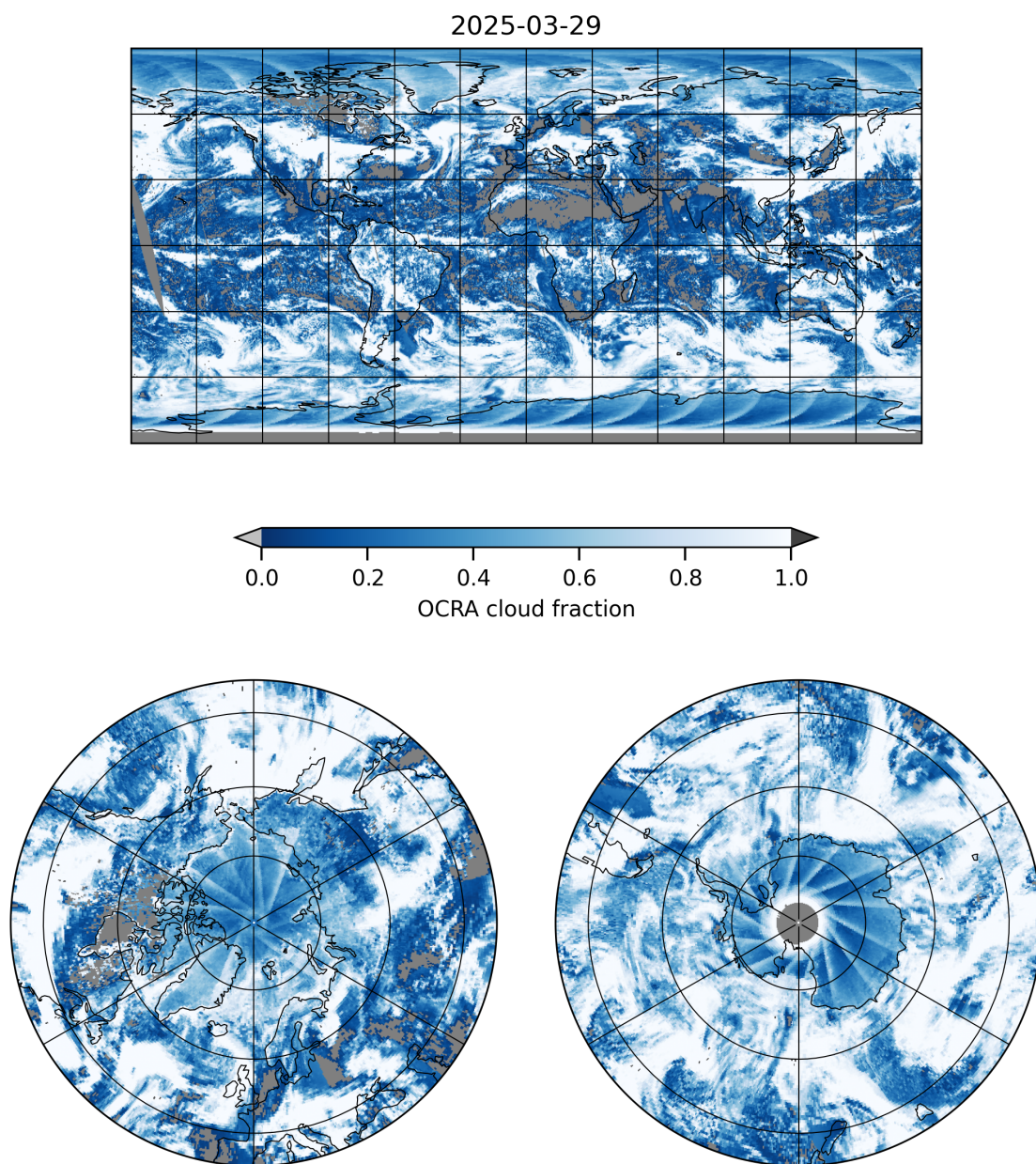


Figure 15: Map of “OCRA cloud fraction” for 2025-03-29 to 2025-03-30

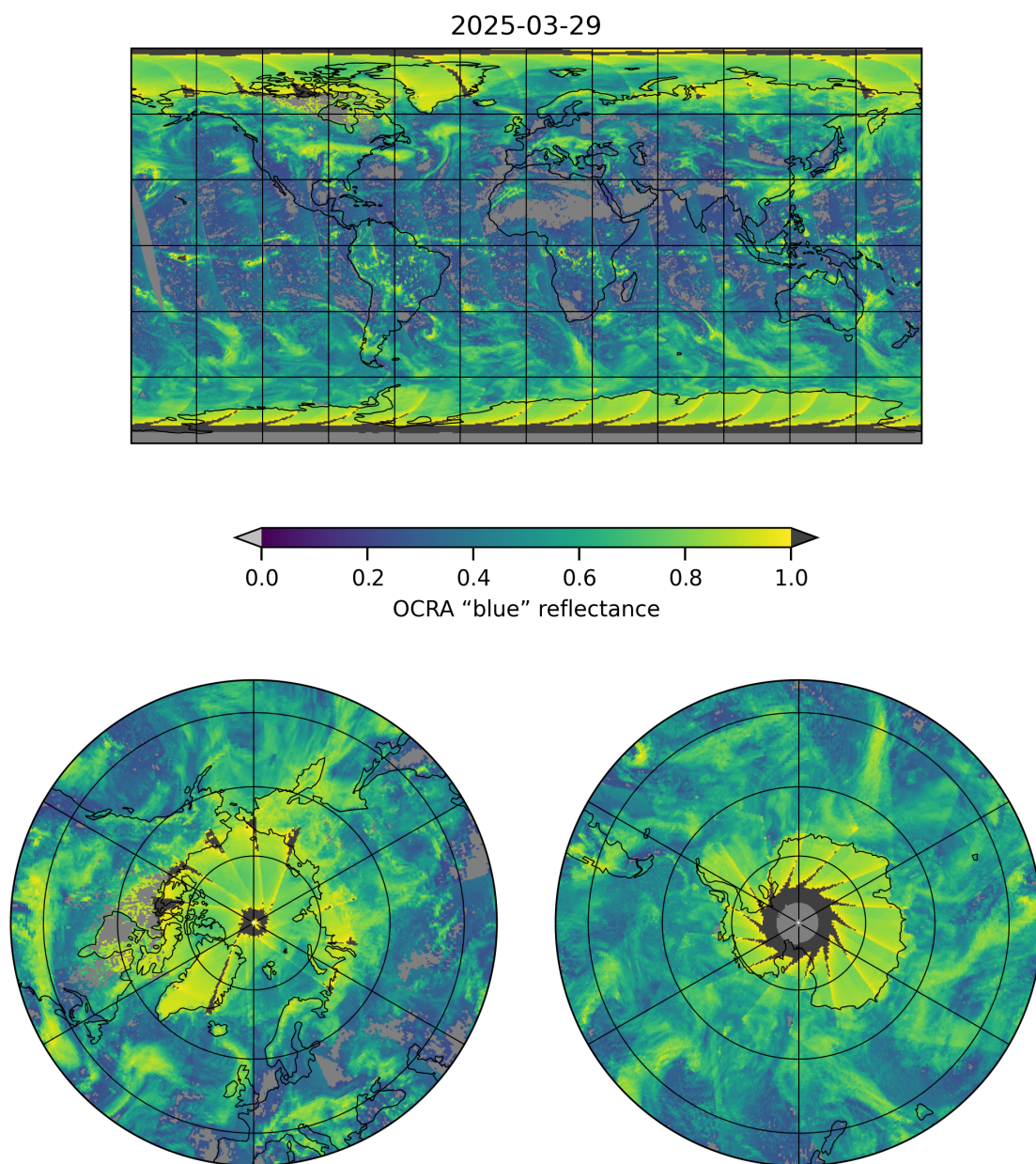


Figure 16: Map of "OCRA "blue" reflectance" for 2025-03-29 to 2025-03-30

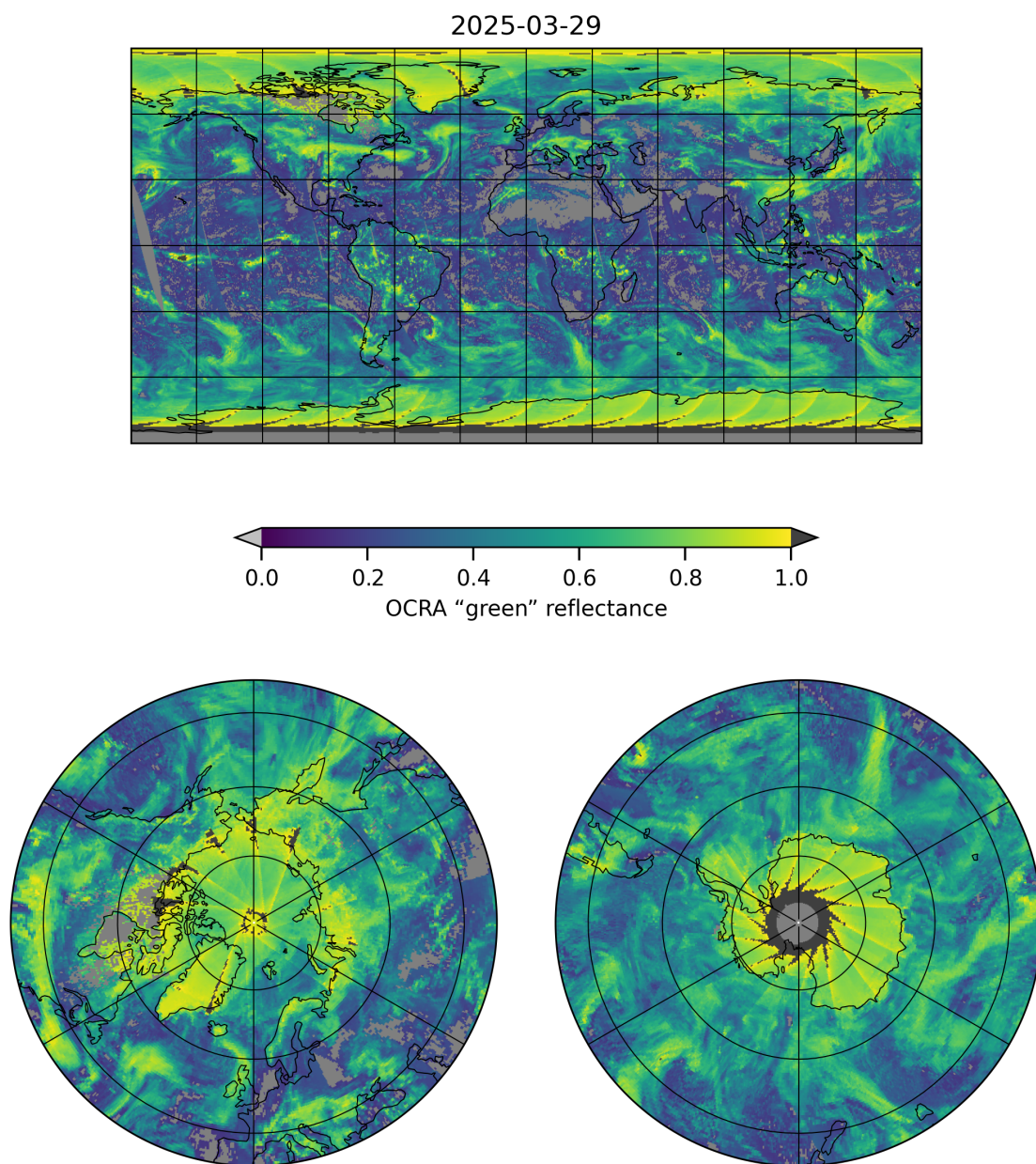


Figure 17: Map of "OCRA "green" reflectance" for 2025-03-29 to 2025-03-30

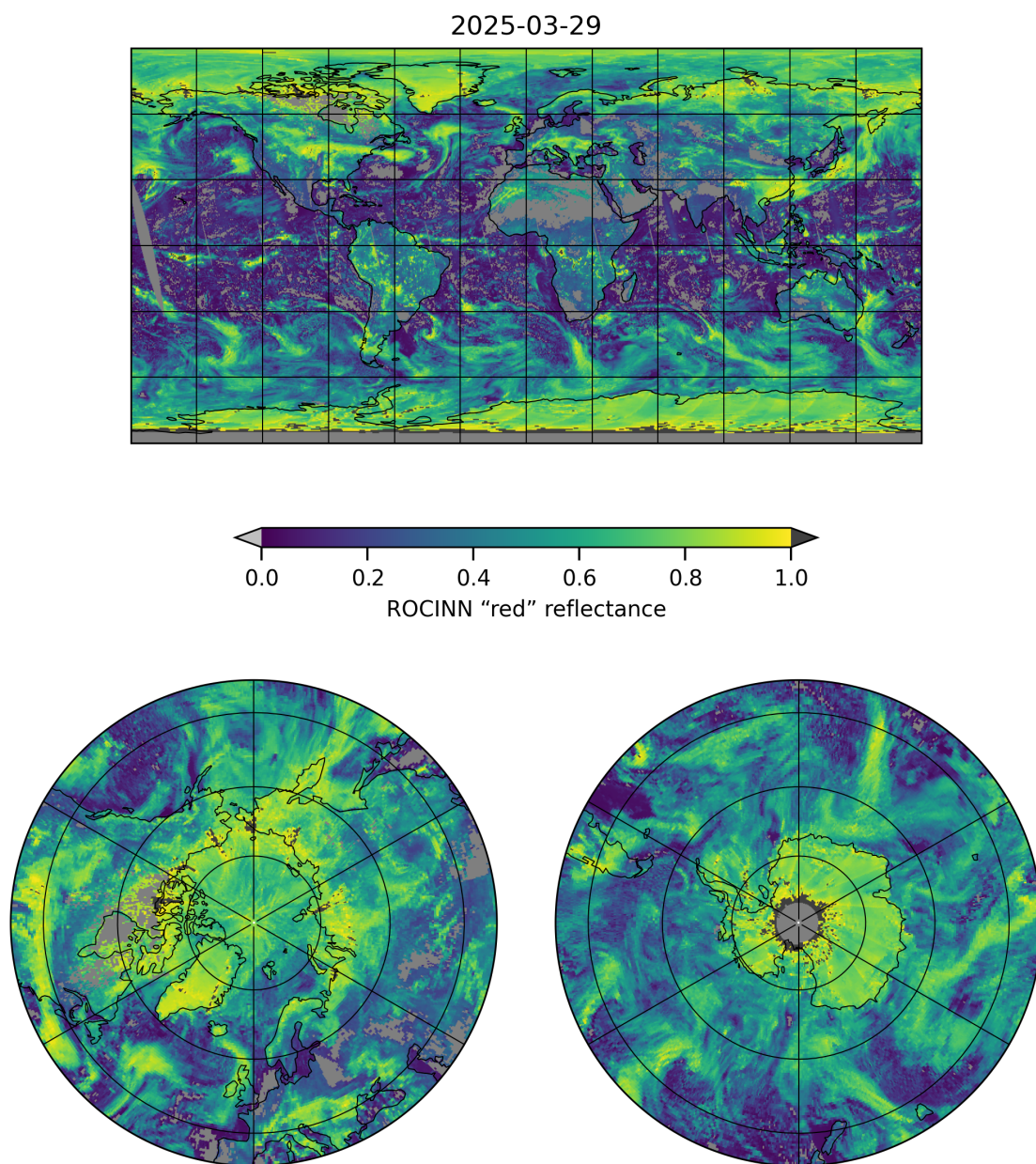


Figure 18: Map of "ROCINN "red" reflectance" for 2025-03-29 to 2025-03-30

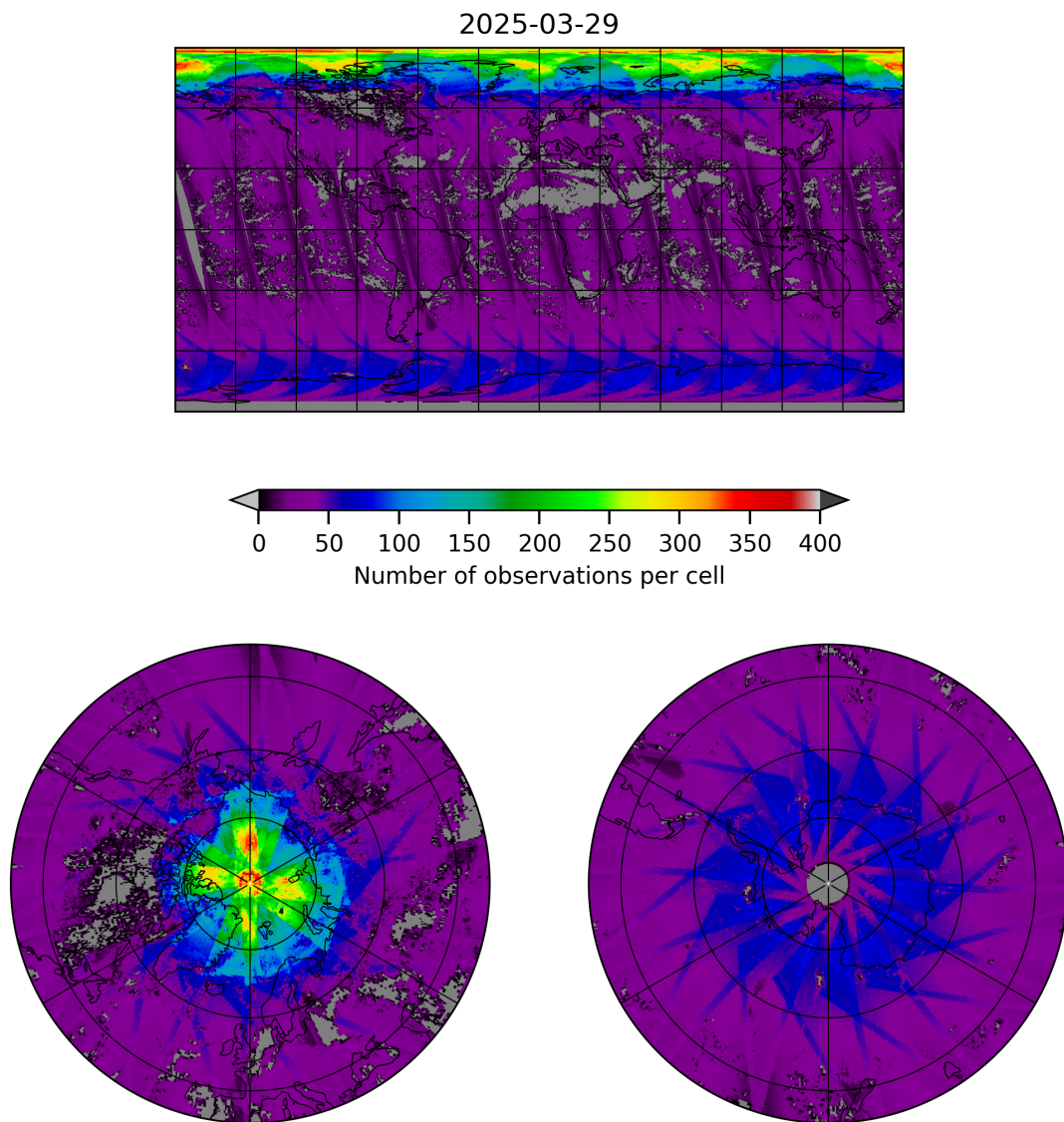


Figure 19: Map of the number of observations for 2025-03-29 to 2025-03-30

7 Zonal average

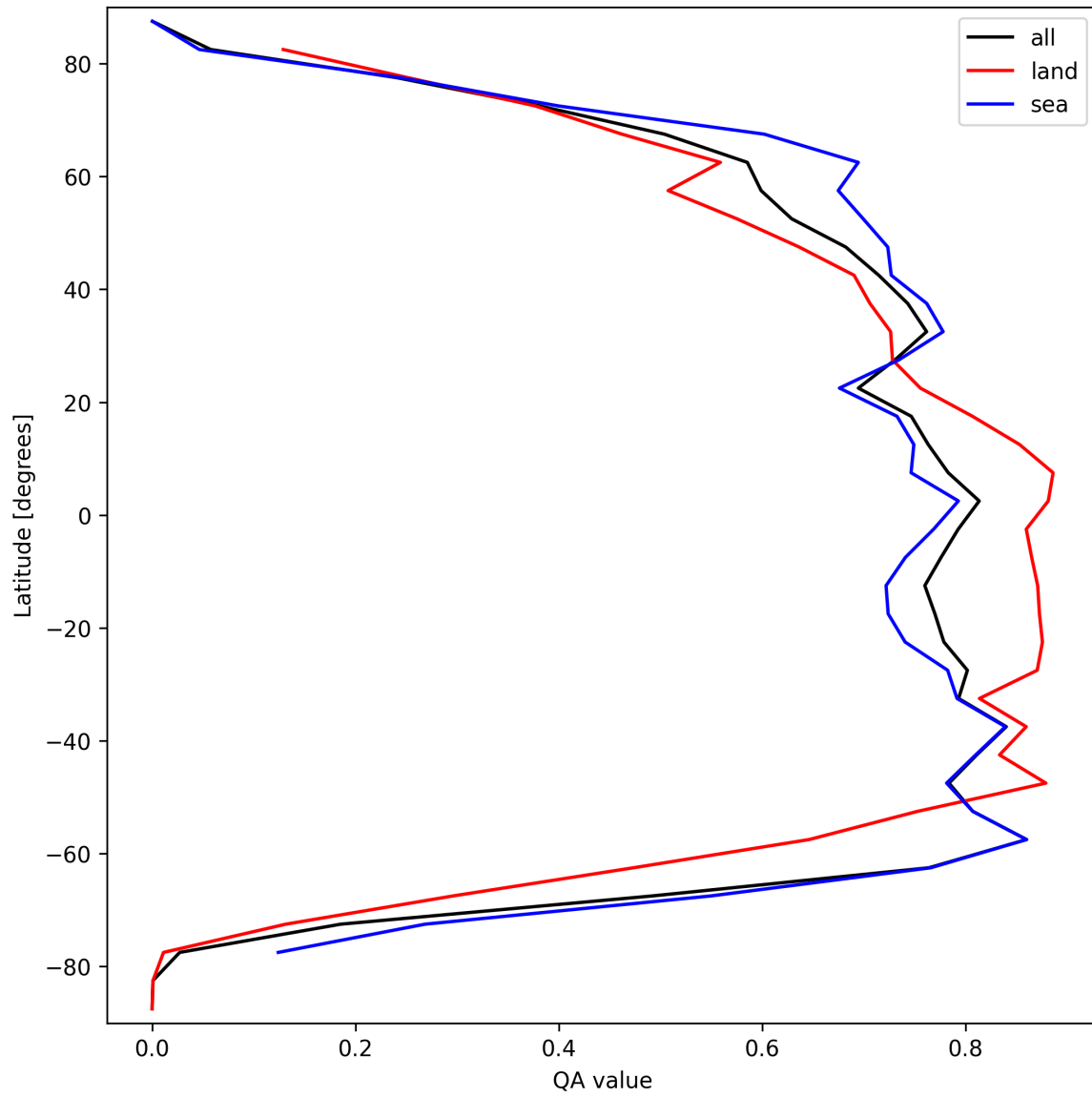


Figure 20: Zonal average of “QA value” for 2025-03-29 to 2025-03-30.

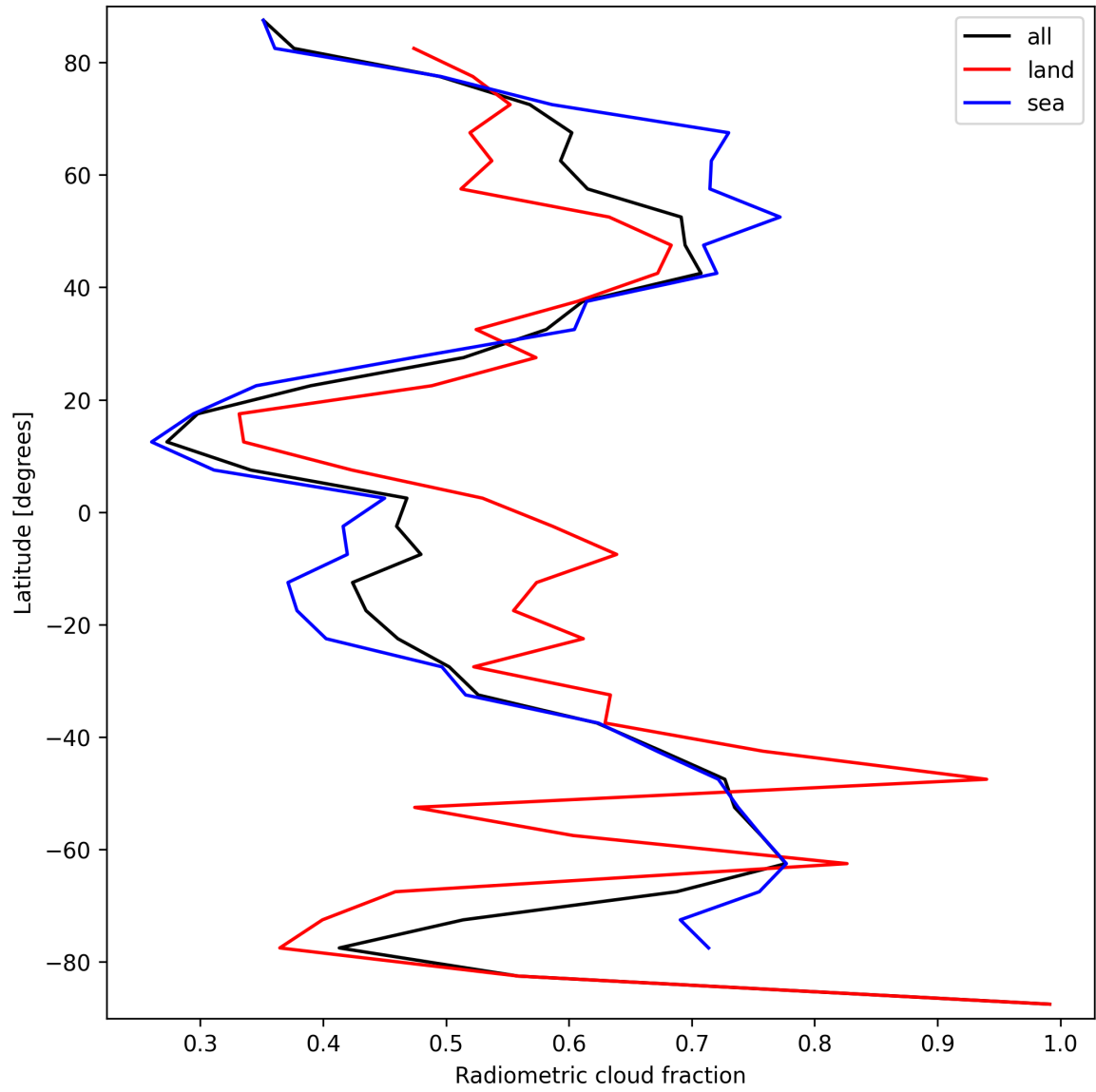


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-03-29 to 2025-03-30.

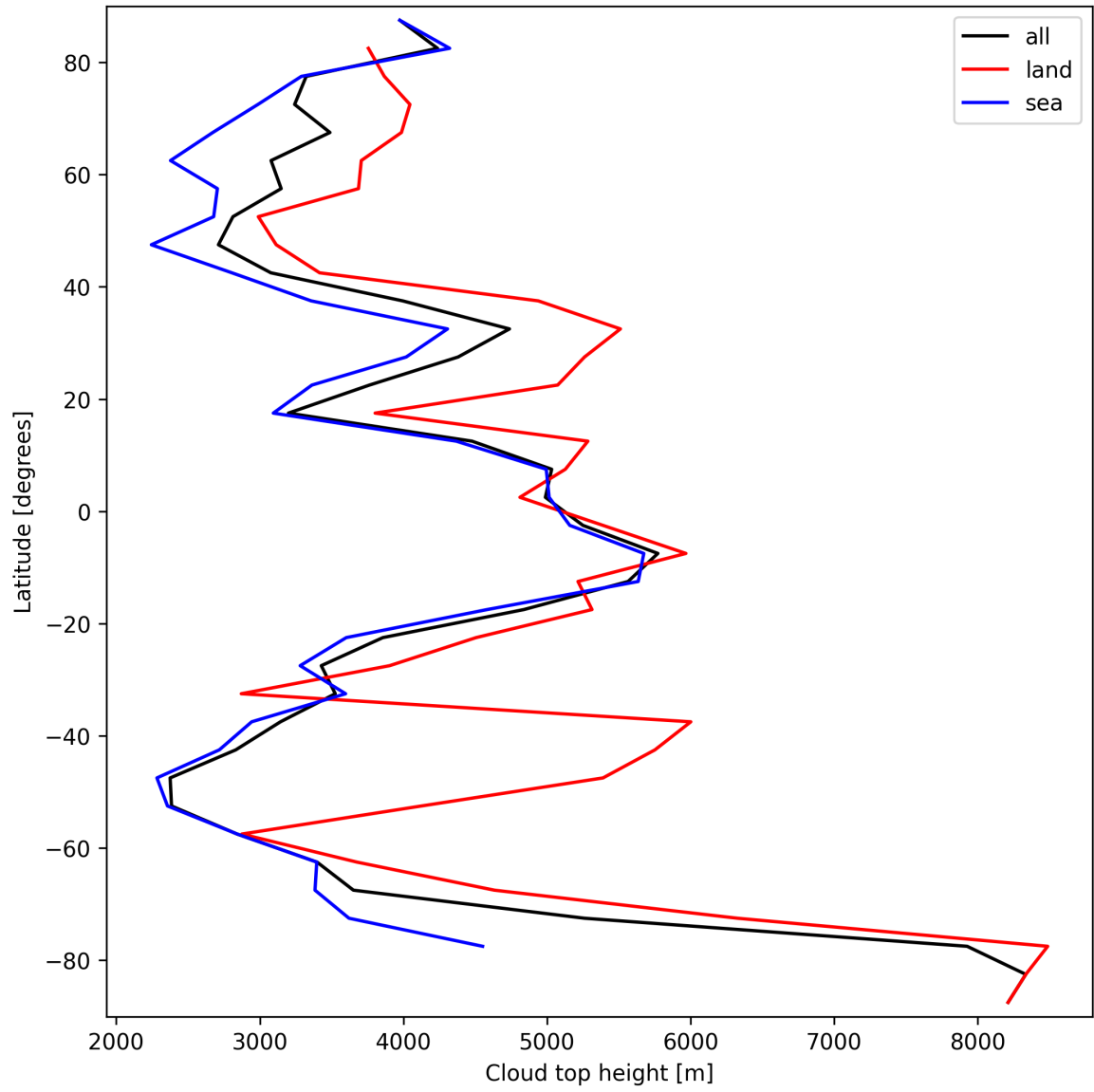


Figure 22: Zonal average of “Cloud top height” for 2025-03-29 to 2025-03-30.

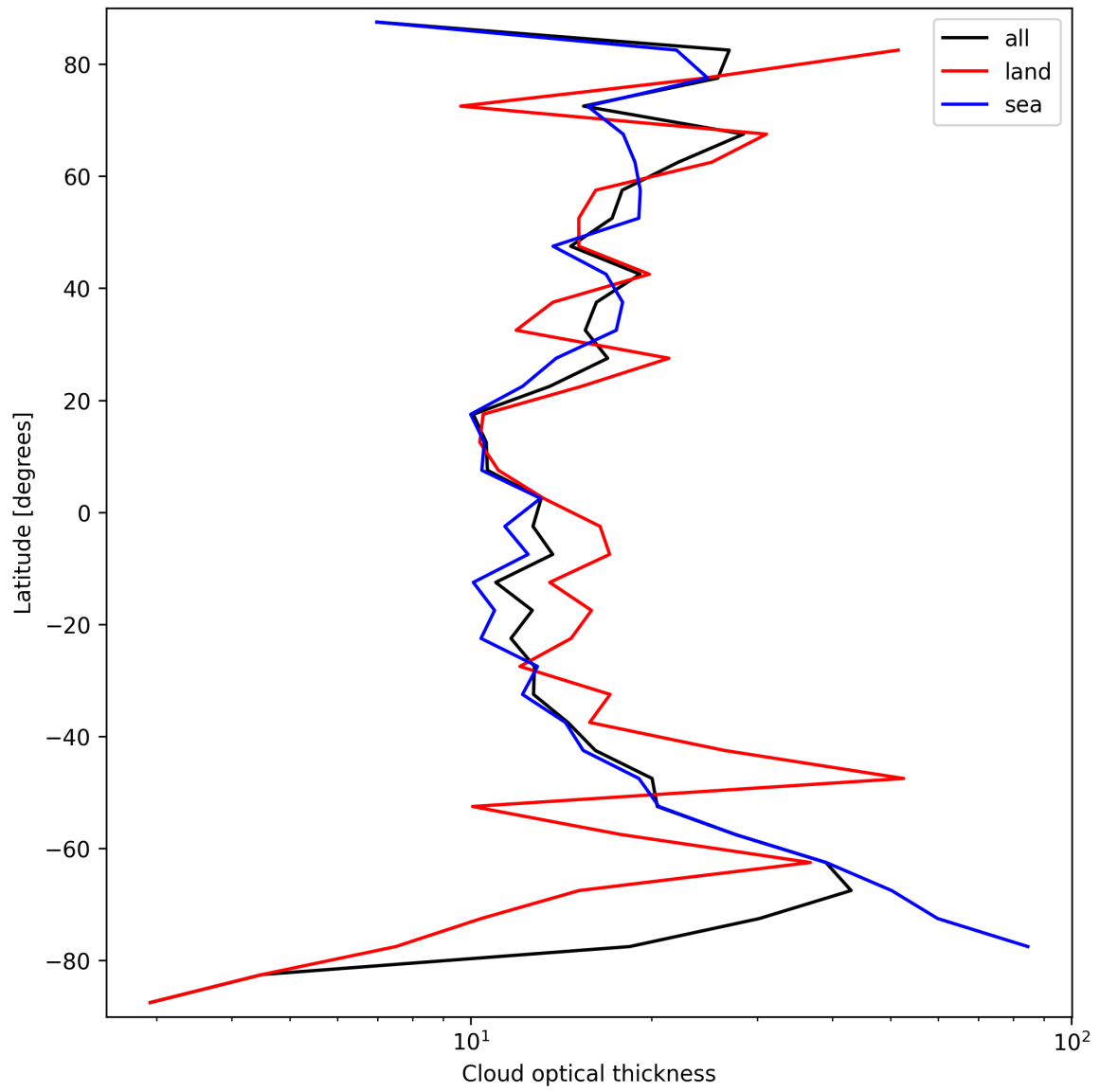


Figure 23: Zonal average of “Cloud optical thickness” for 2025-03-29 to 2025-03-30.

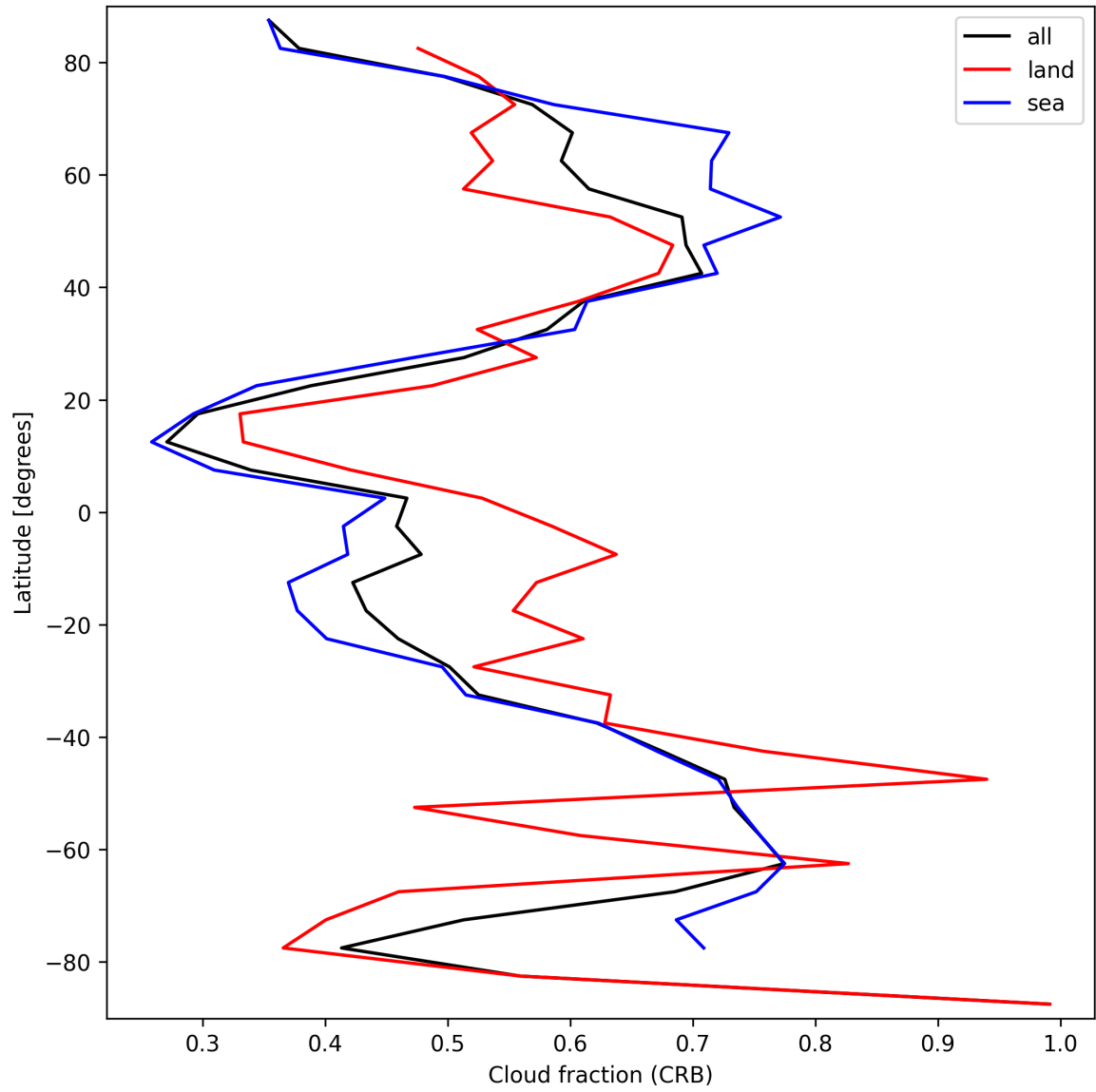


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-03-29 to 2025-03-30.

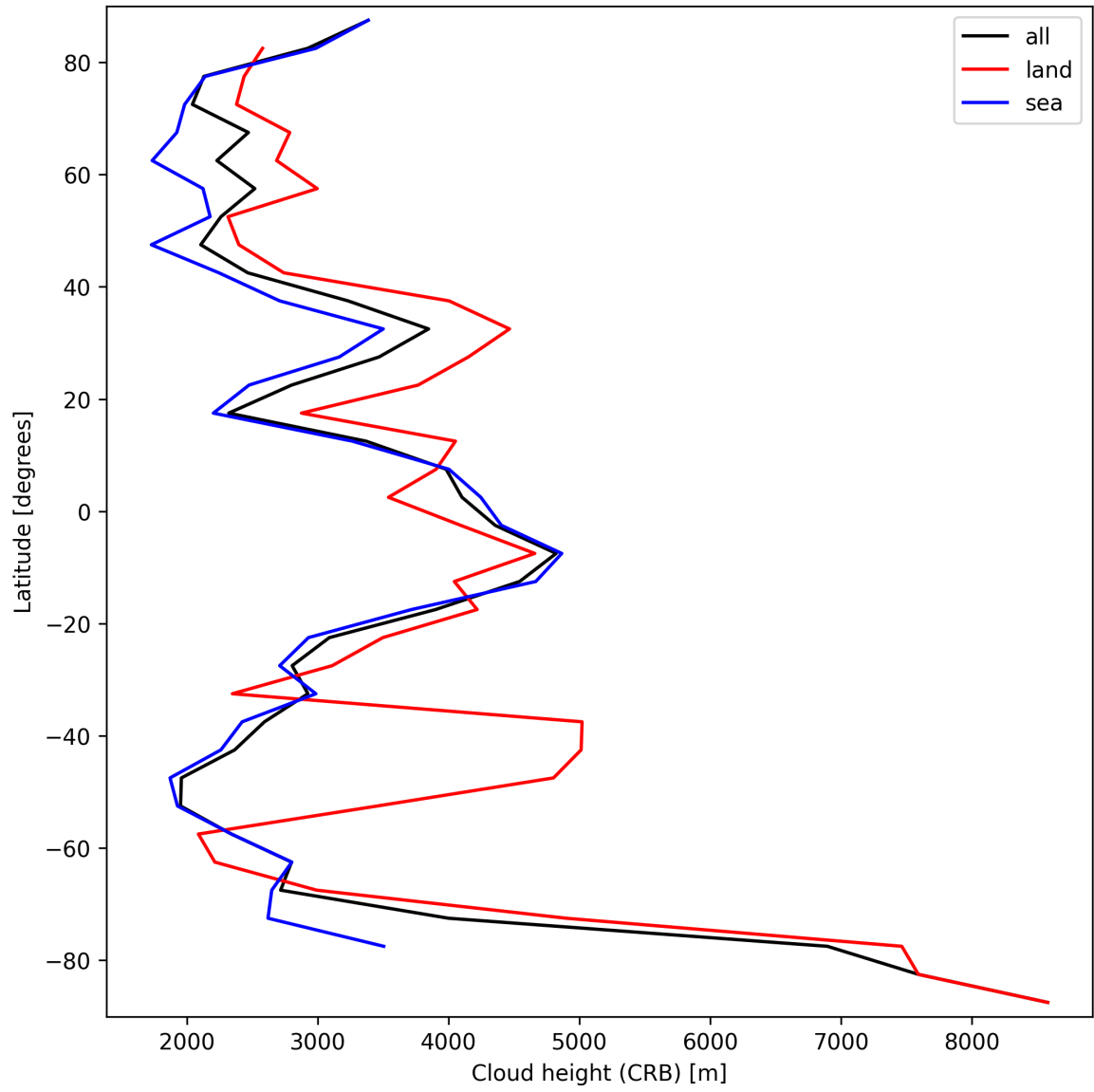


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-03-29 to 2025-03-30.

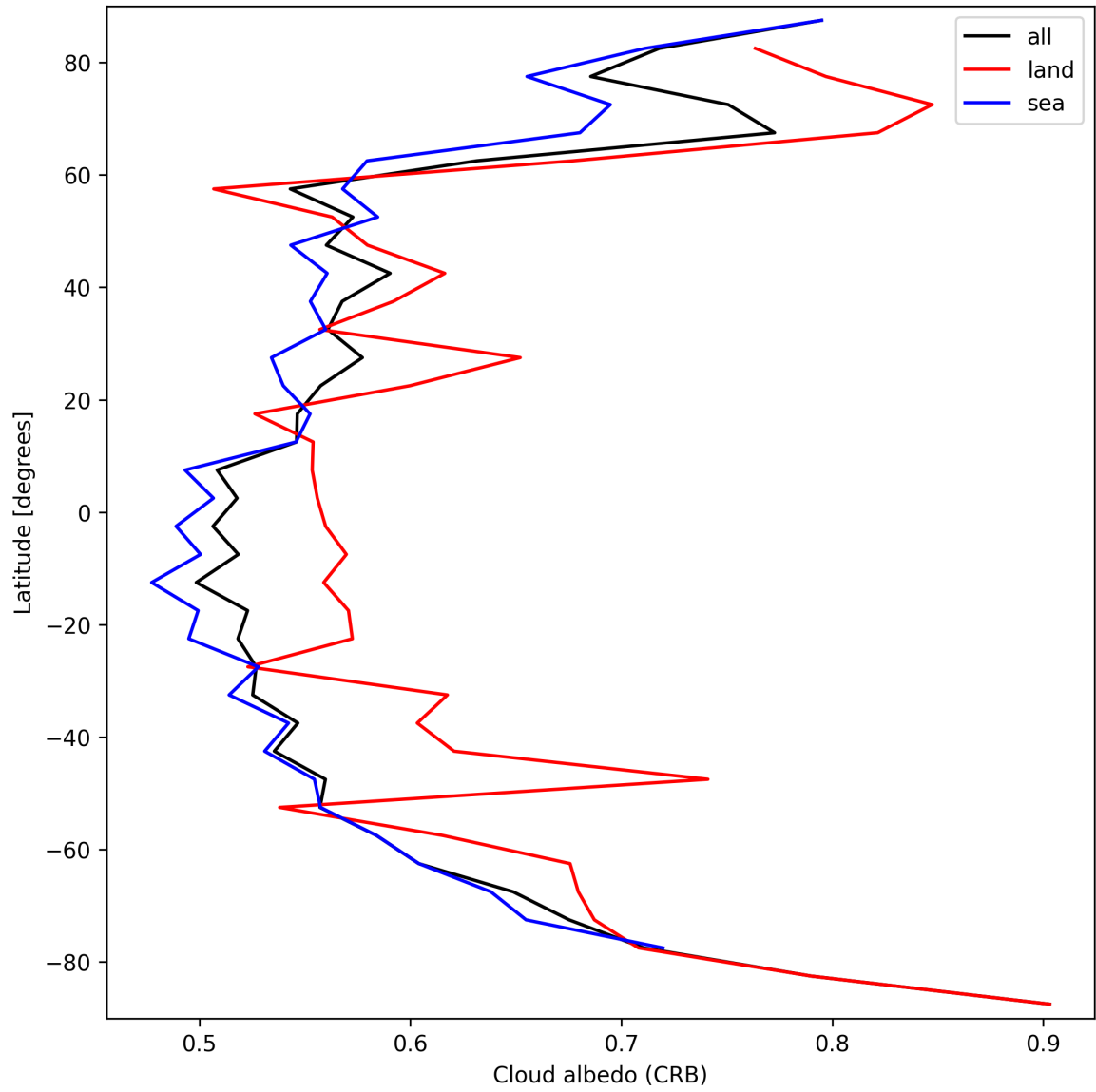


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-03-29 to 2025-03-30.

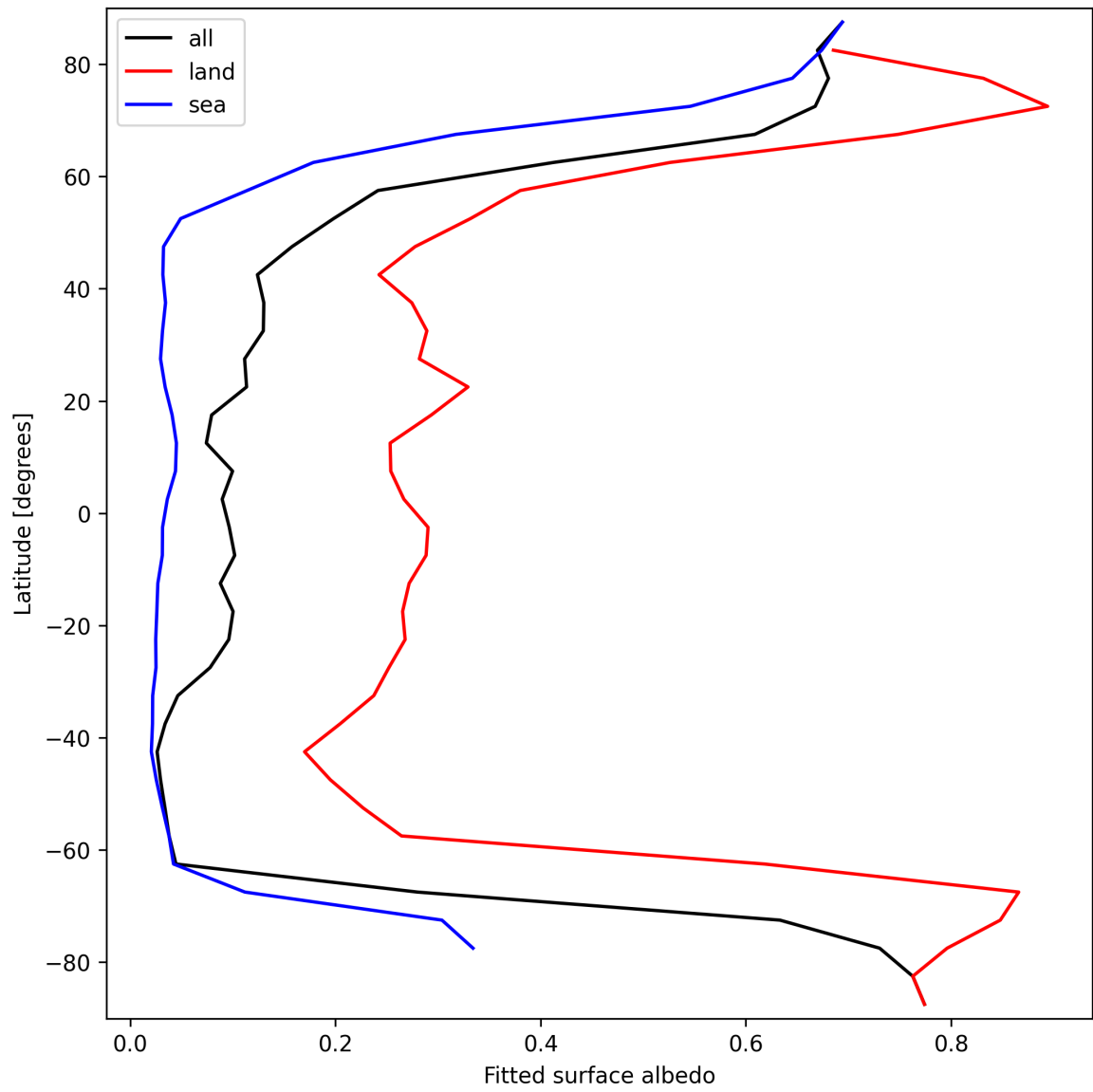


Figure 27: Zonal average of “Fitted surface albedo” for 2025-03-29 to 2025-03-30.

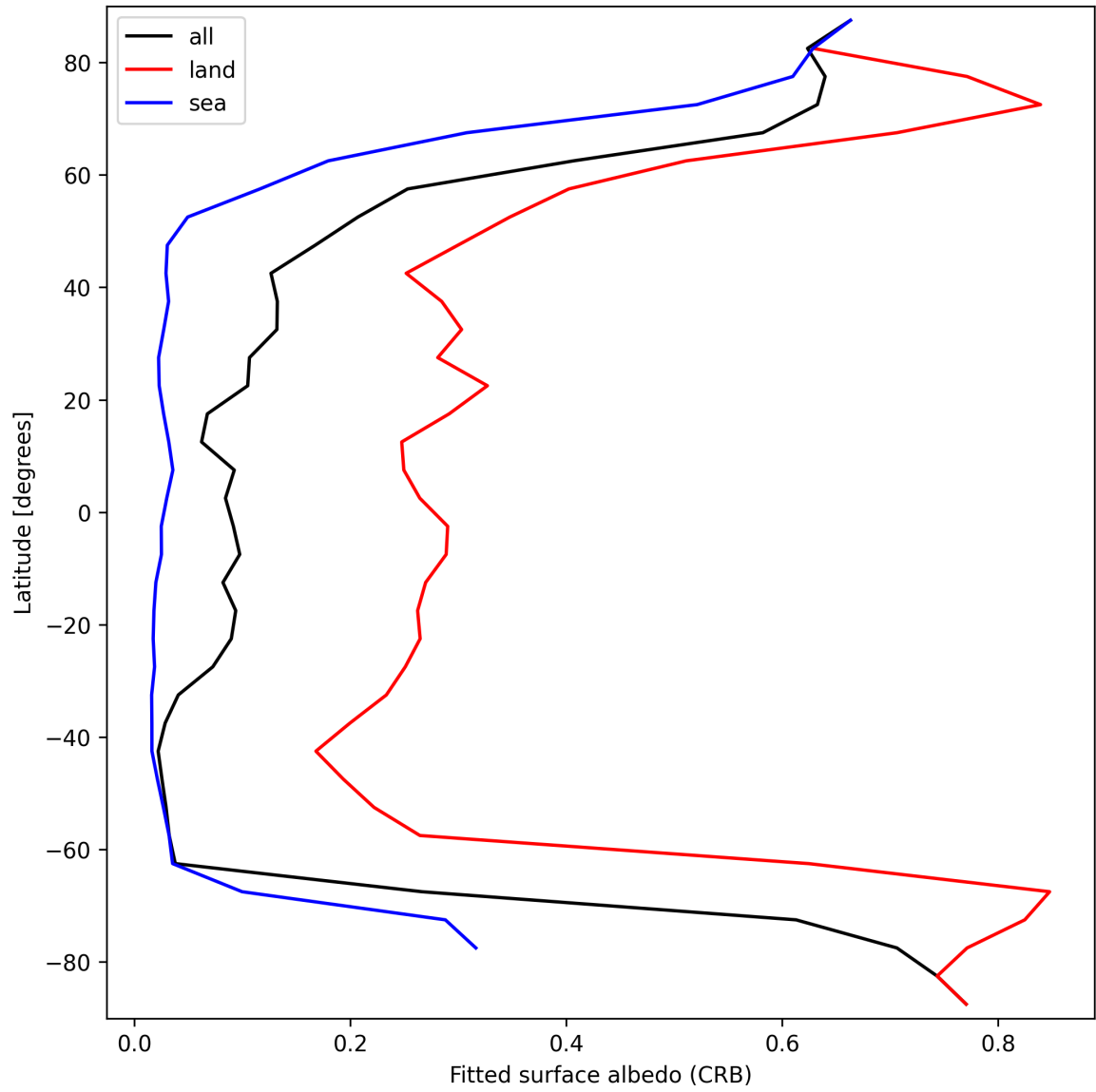


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-03-29 to 2025-03-30.

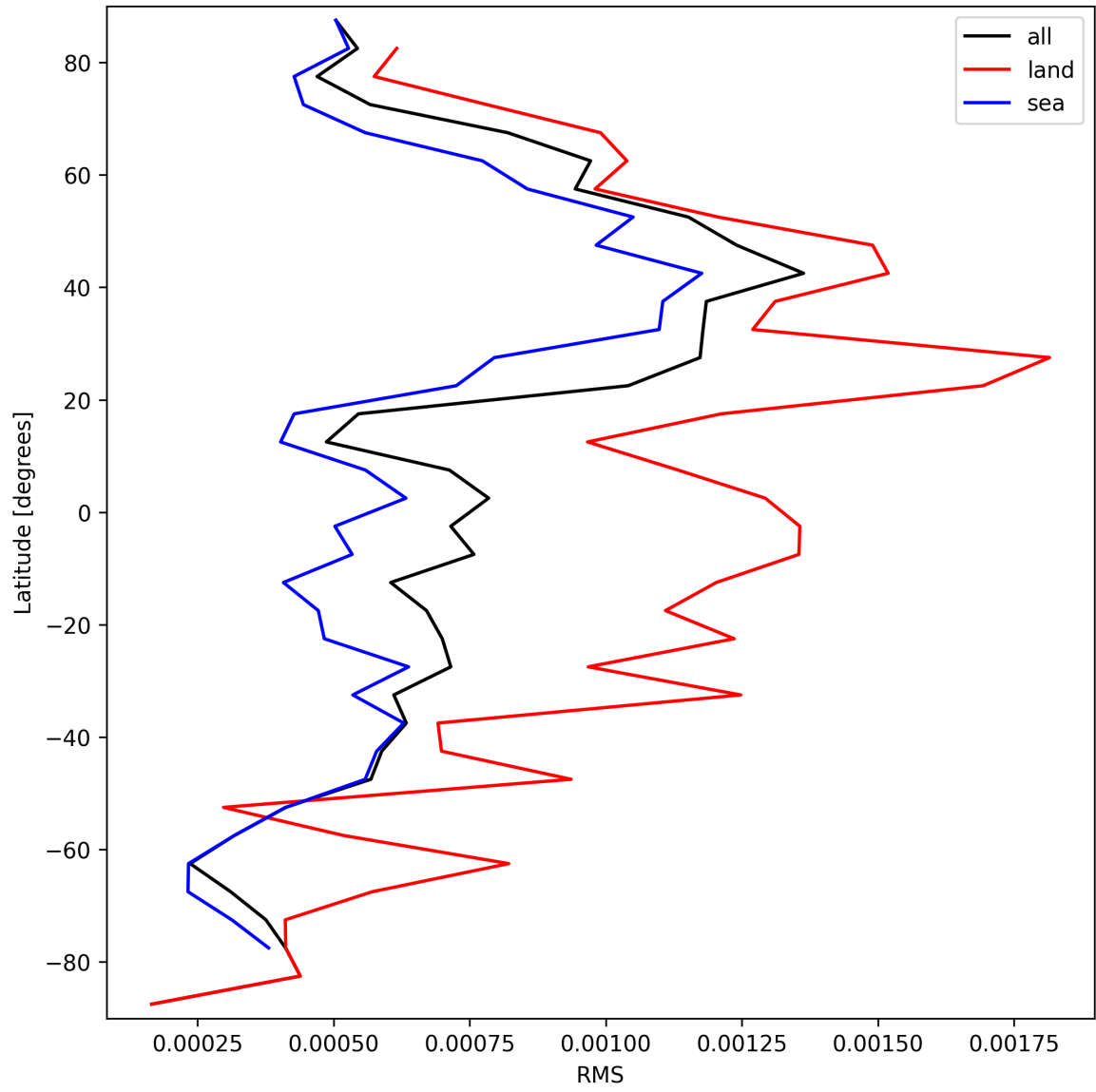


Figure 29: Zonal average of “RMS” for 2025-03-29 to 2025-03-30.

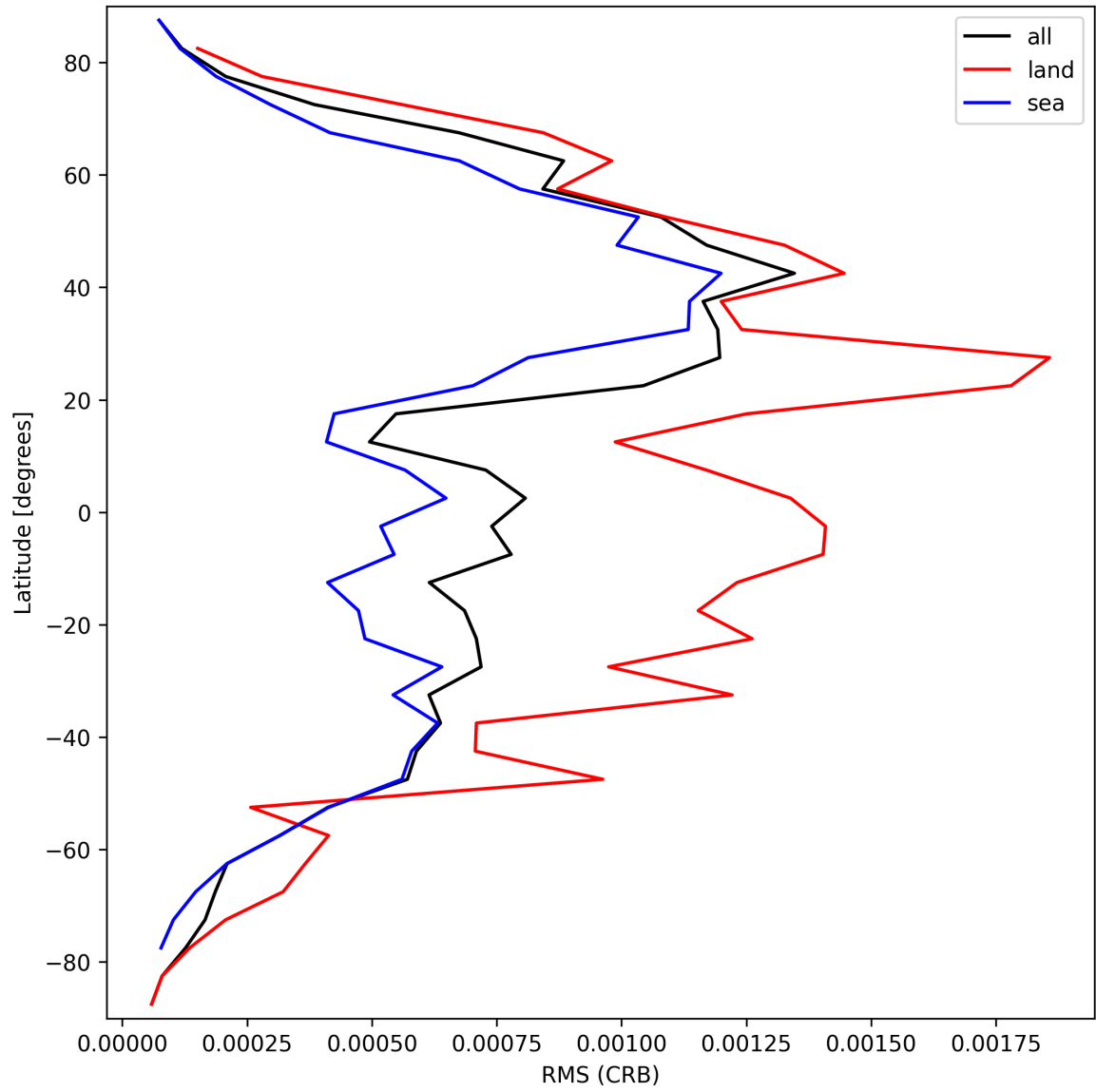


Figure 30: Zonal average of “RMS (CRB)” for 2025-03-29 to 2025-03-30.

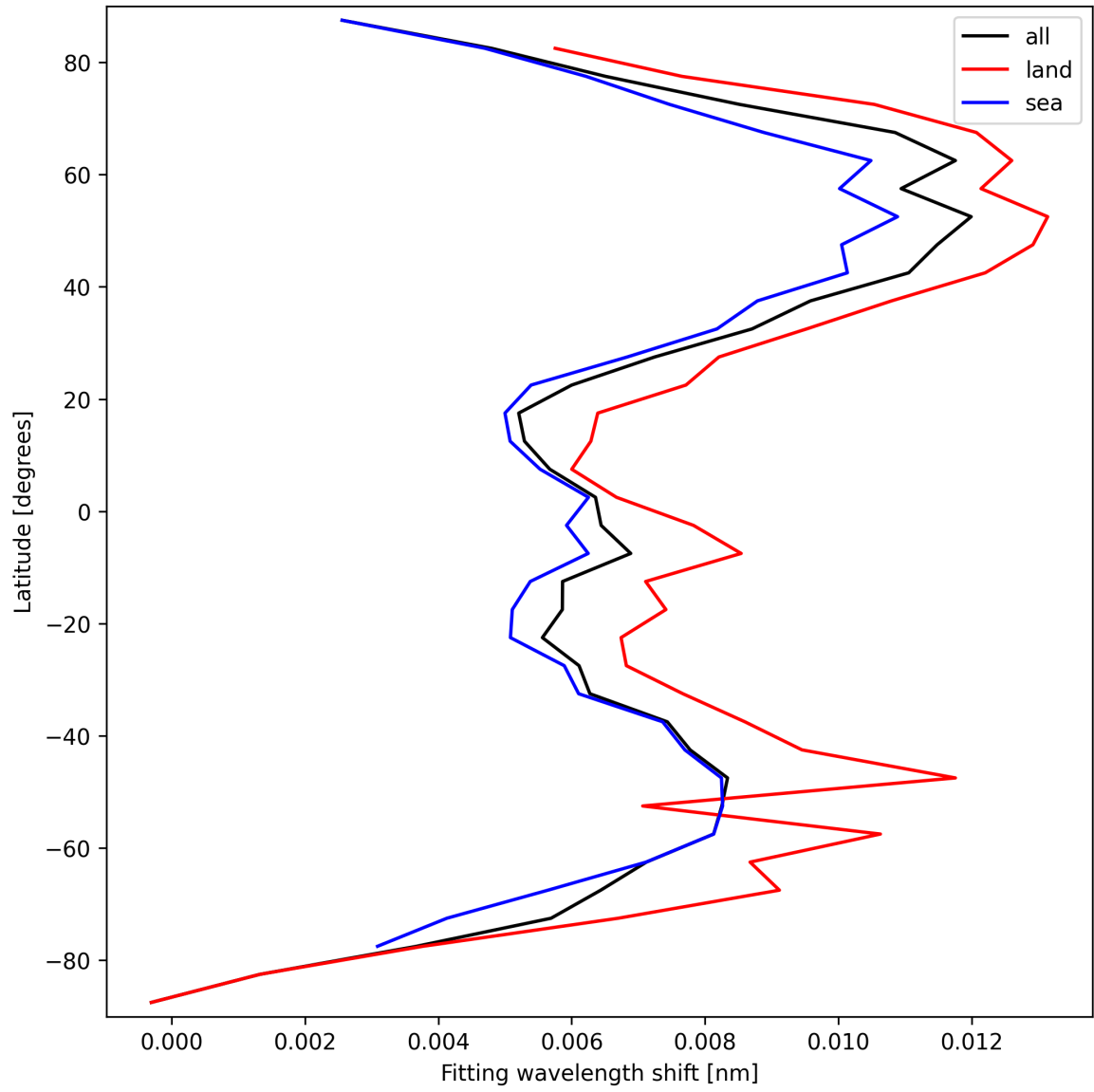


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-03-29 to 2025-03-30.

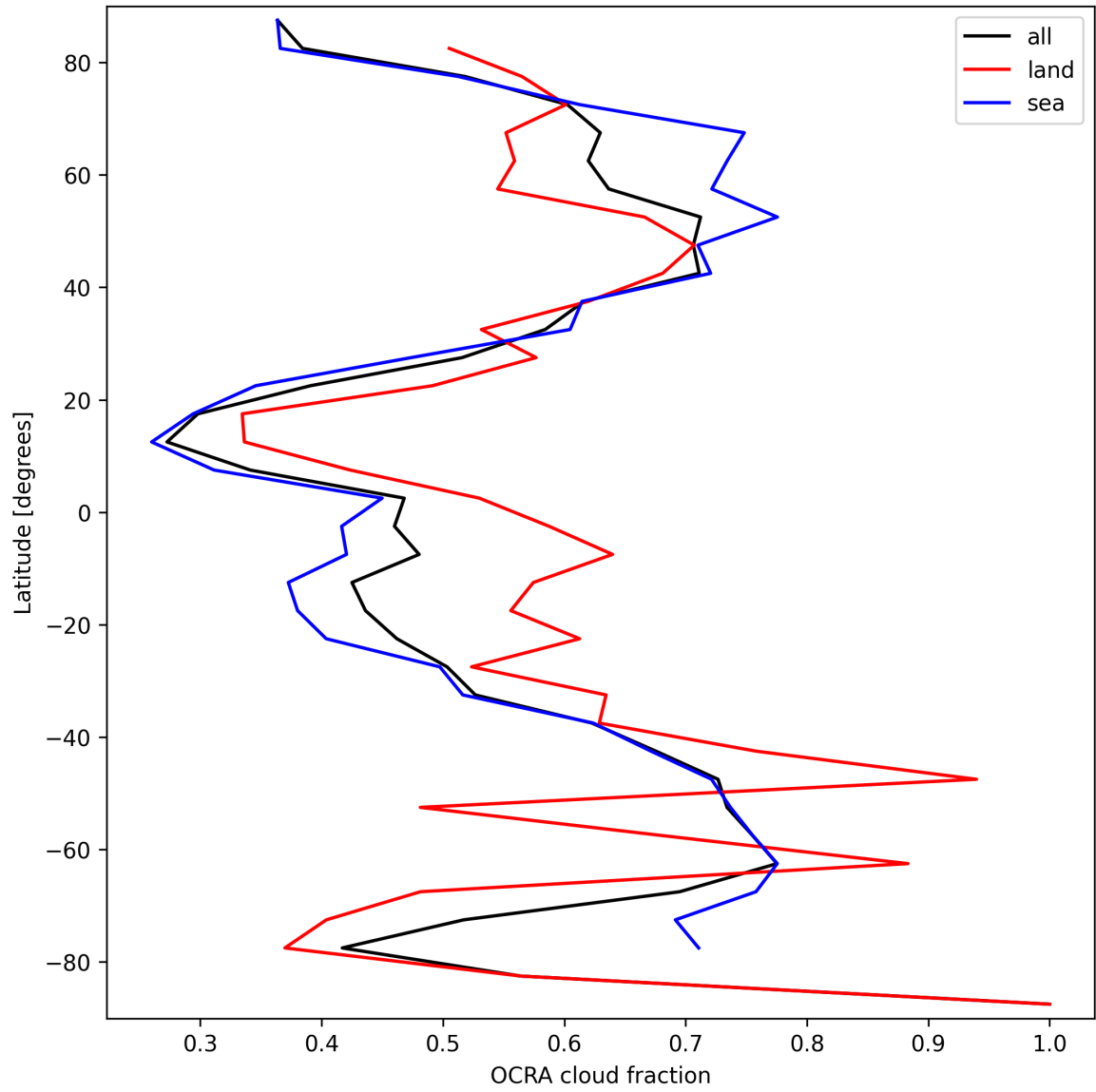


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-03-29 to 2025-03-30.

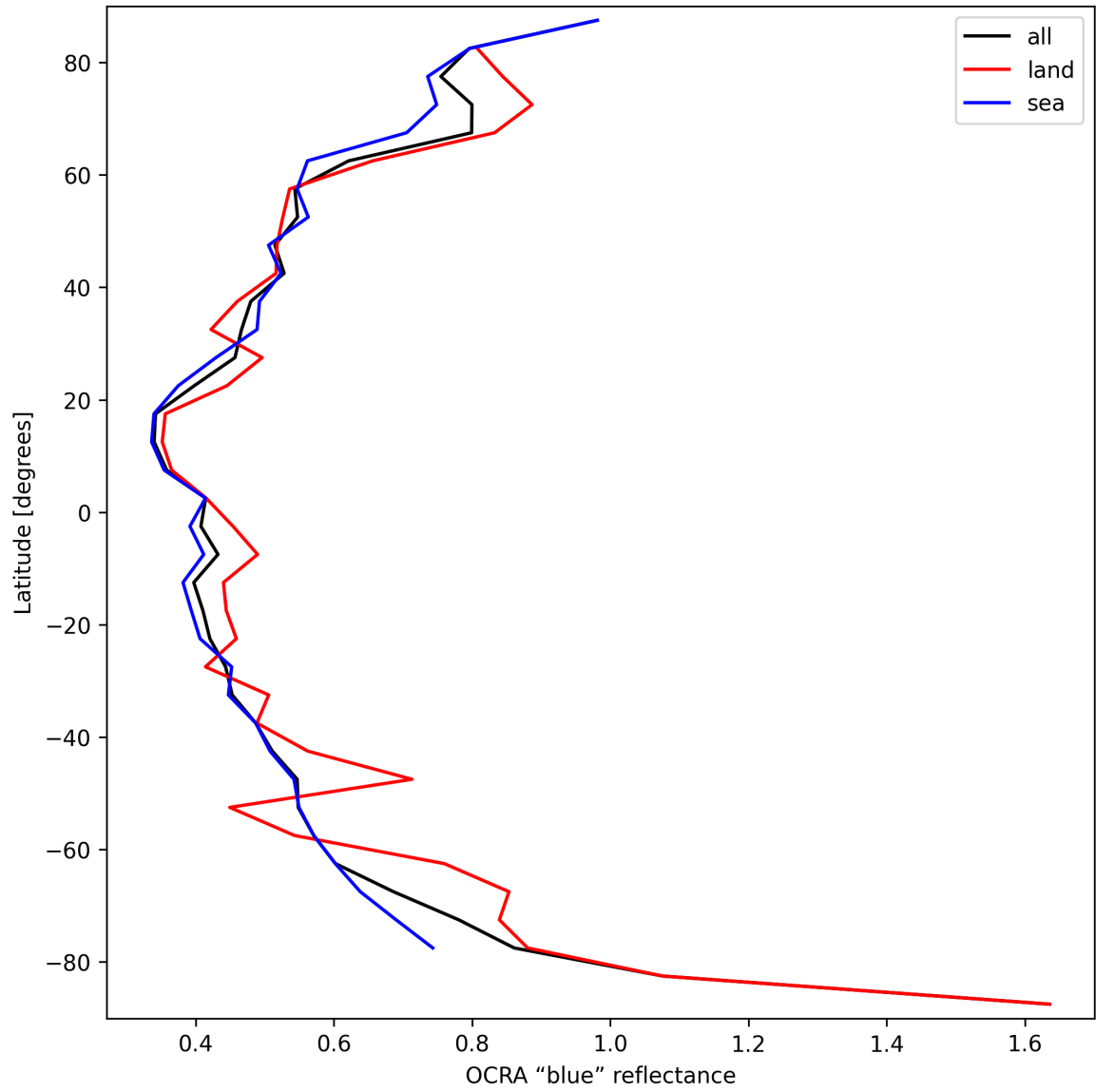


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-03-29 to 2025-03-30.

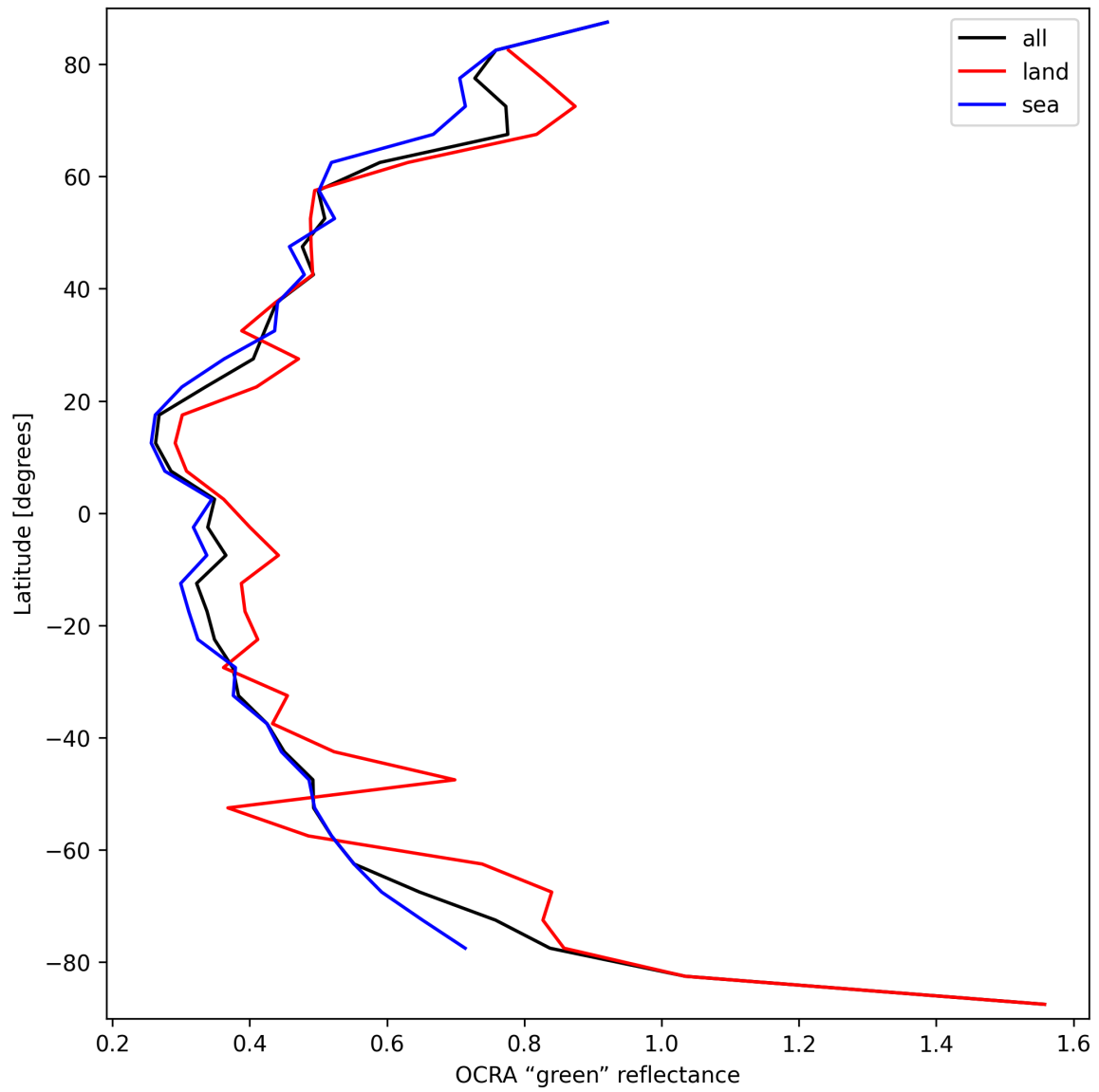


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-03-29 to 2025-03-30.

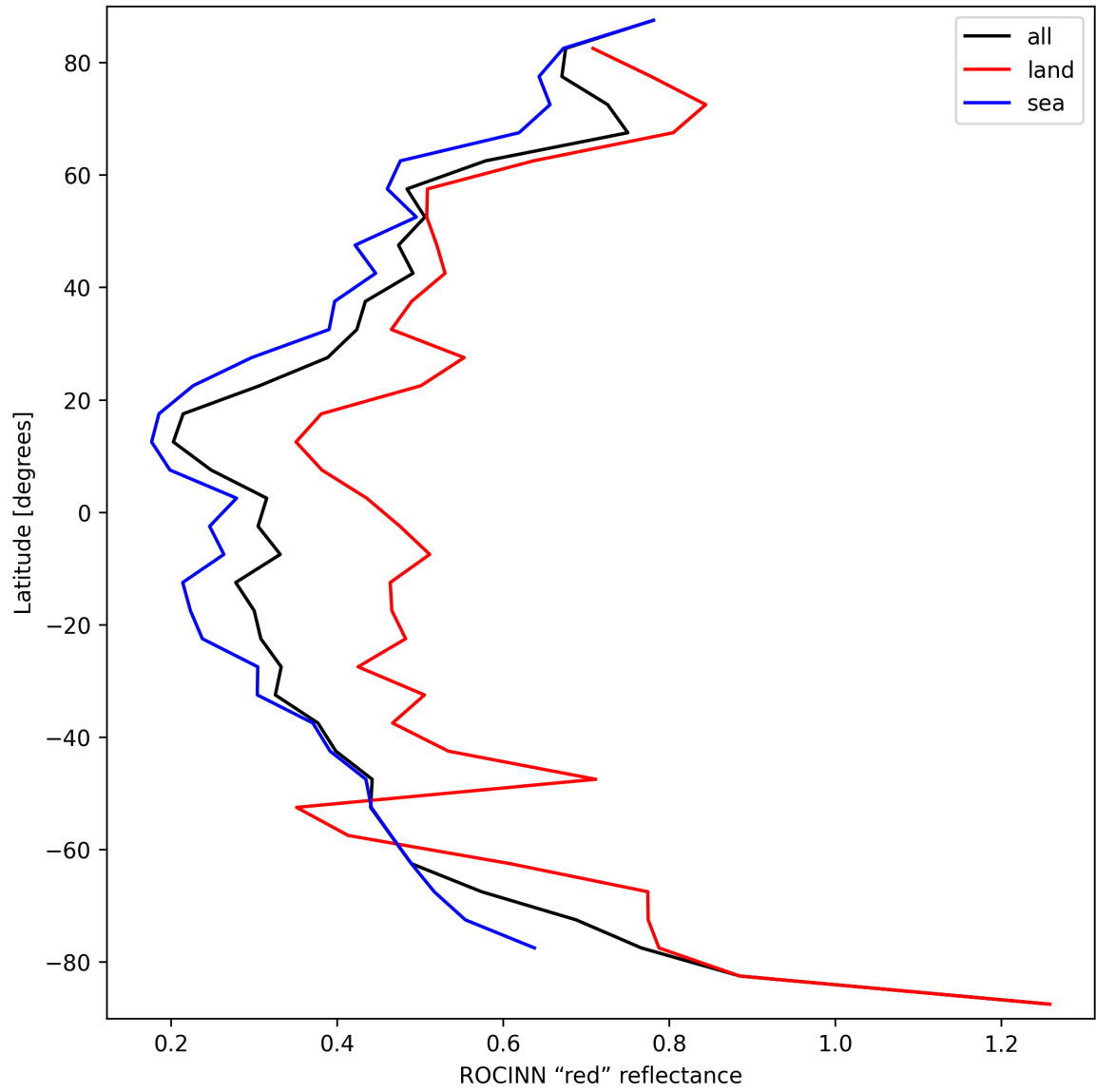


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-03-29 to 2025-03-30.

8 Histograms

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

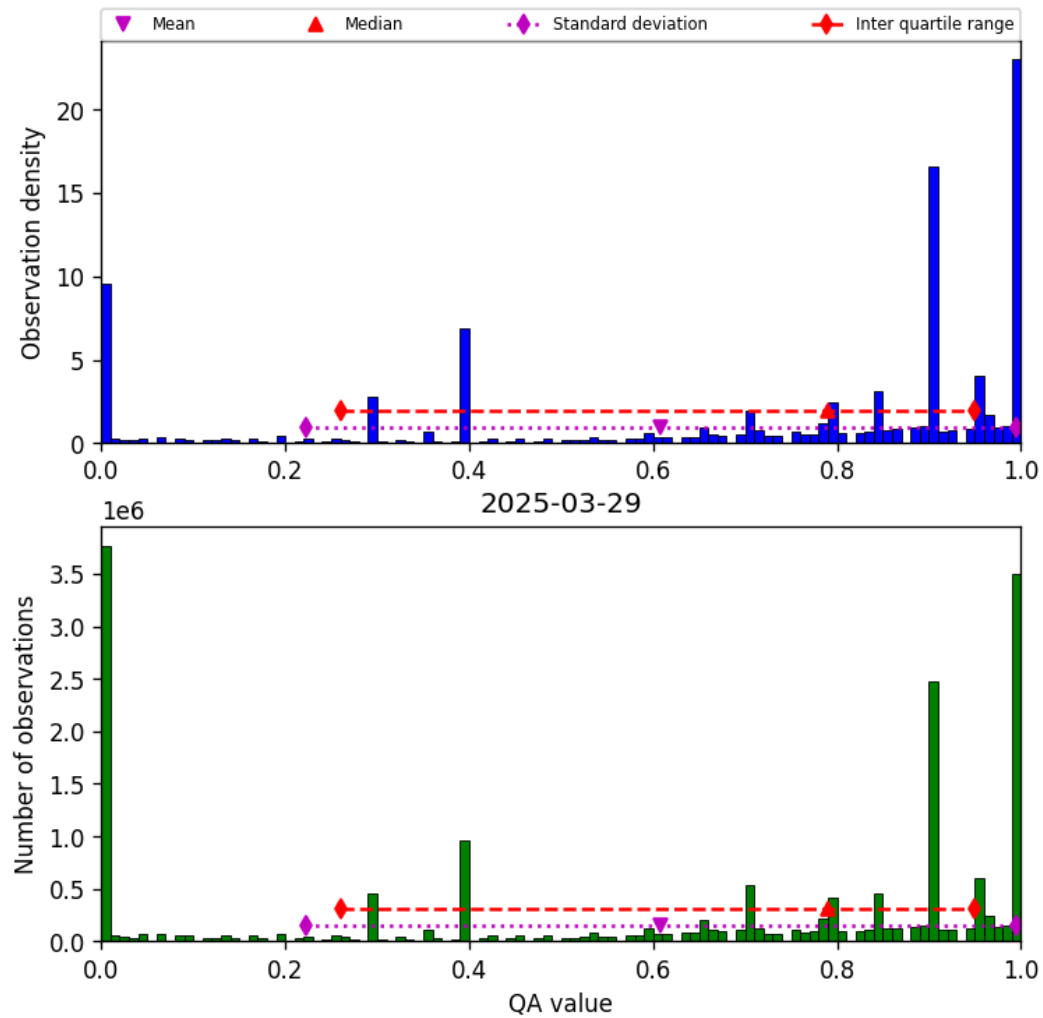


Figure 36: Histogram of “QA value” for 2025-03-29 to 2025-03-30

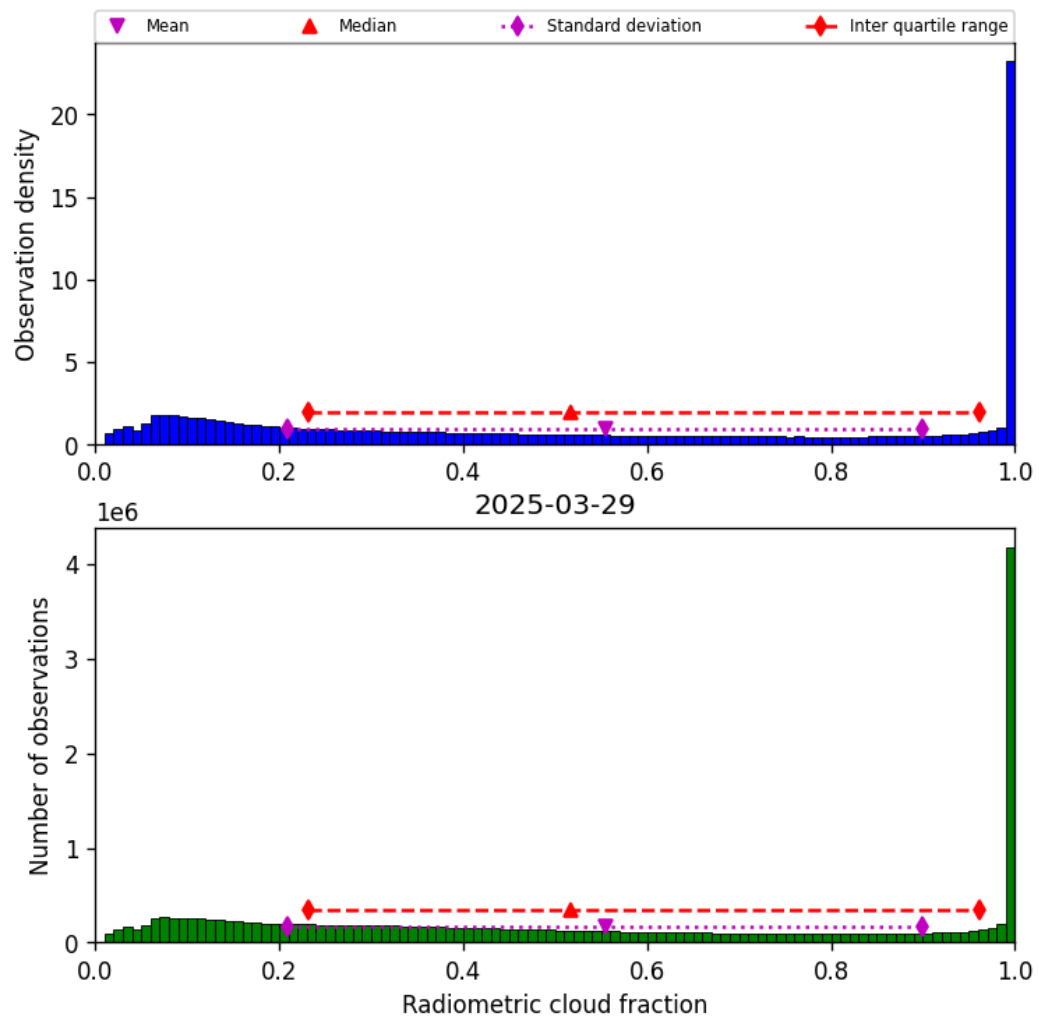


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-03-29 to 2025-03-30

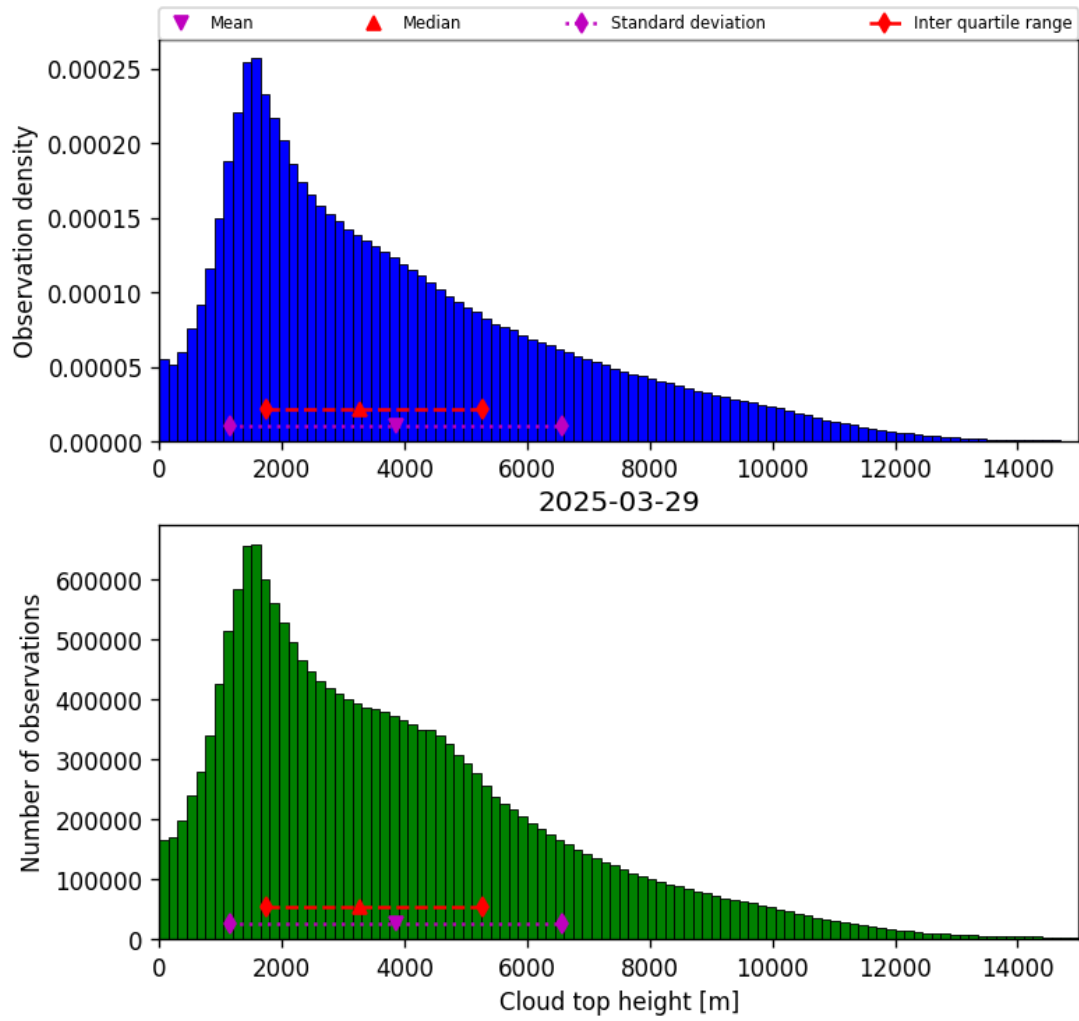


Figure 38: Histogram of “Cloud top height” for 2025-03-29 to 2025-03-30

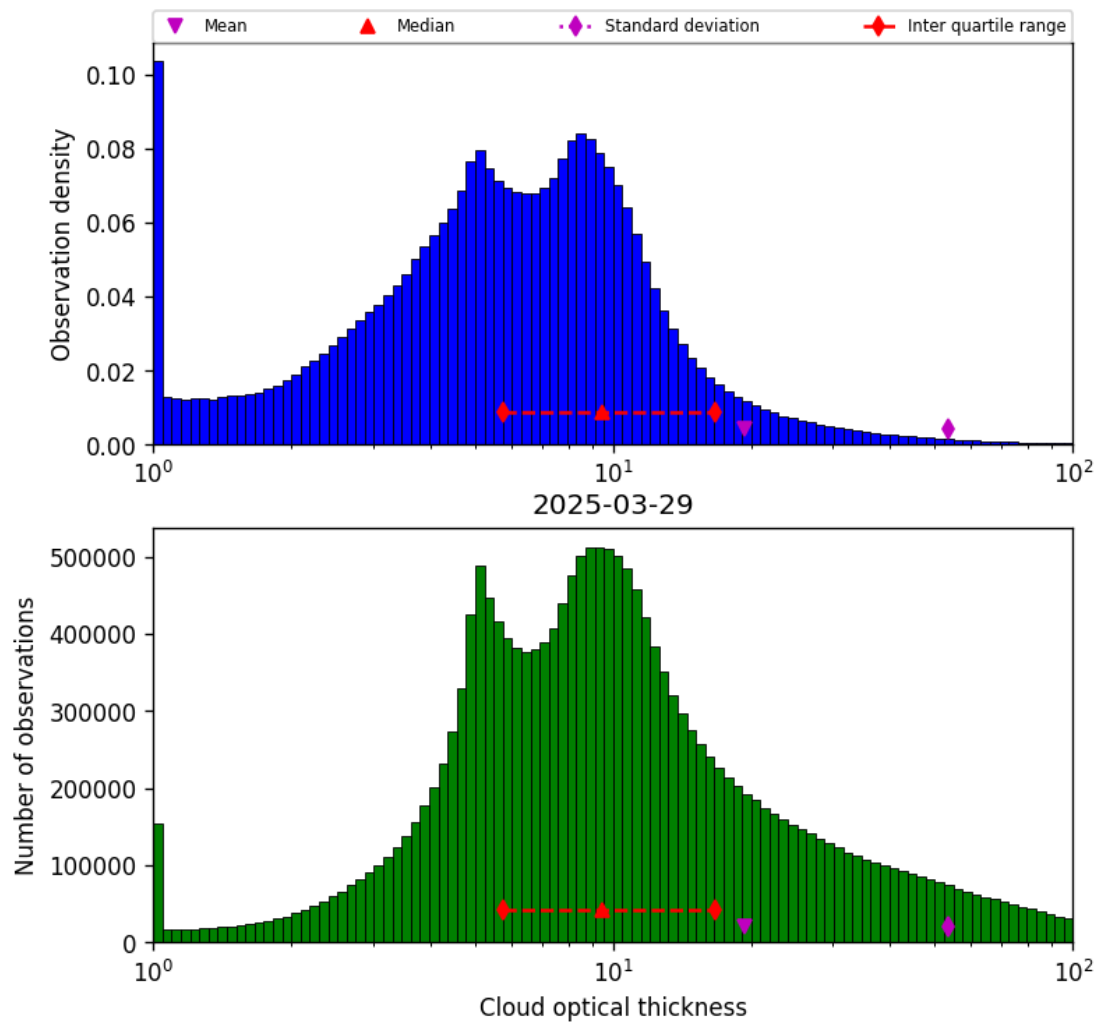


Figure 39: Histogram of “Cloud optical thickness” for 2025-03-29 to 2025-03-30

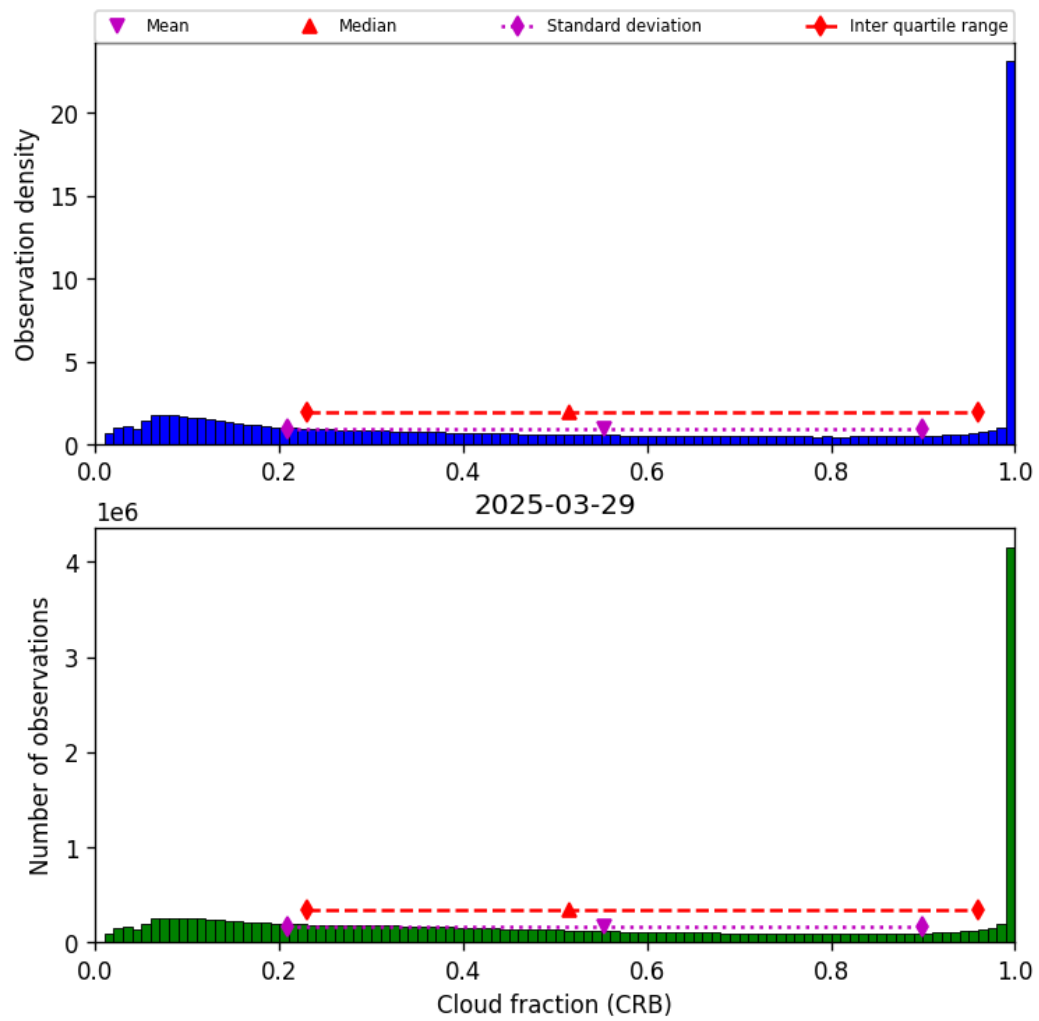


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-03-29 to 2025-03-30

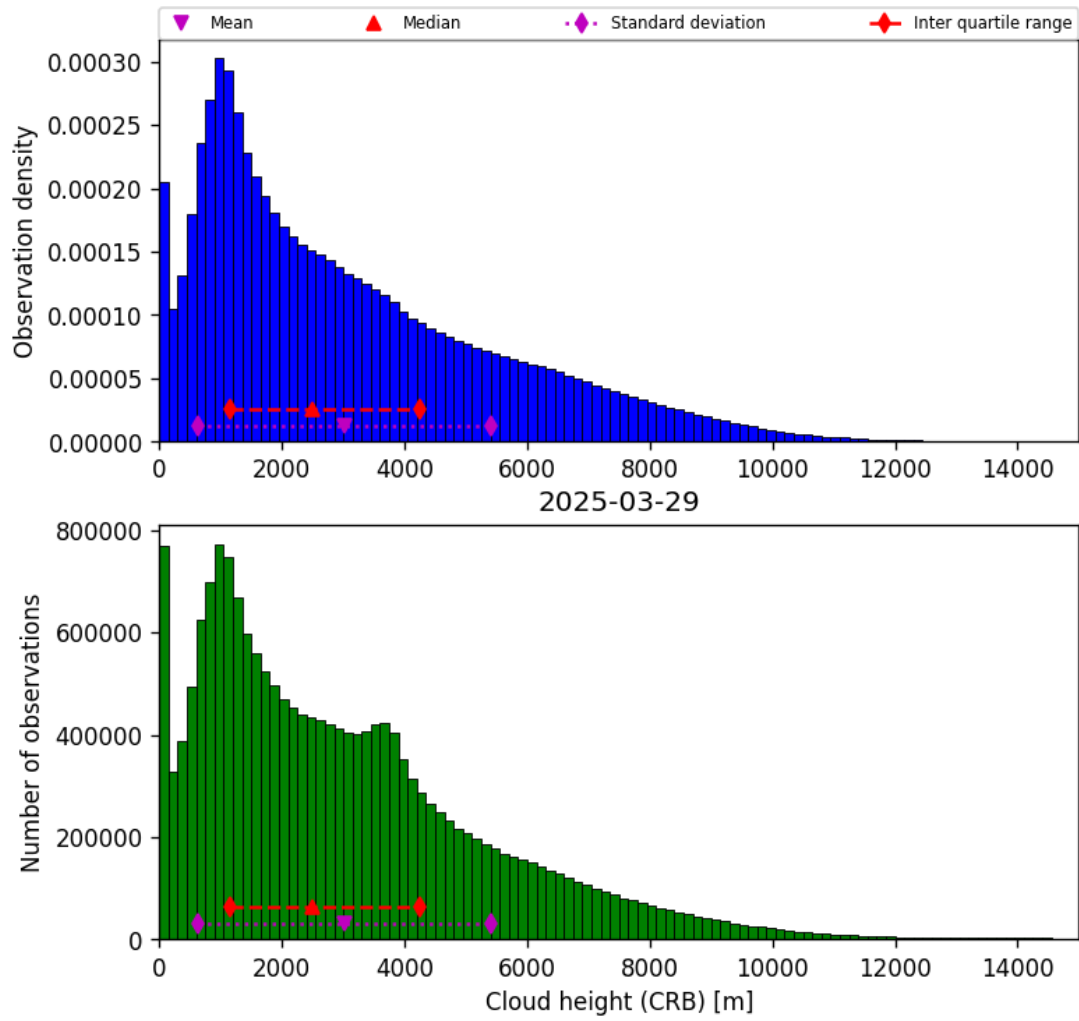


Figure 41: Histogram of “Cloud height (CRB)” for 2025-03-29 to 2025-03-30

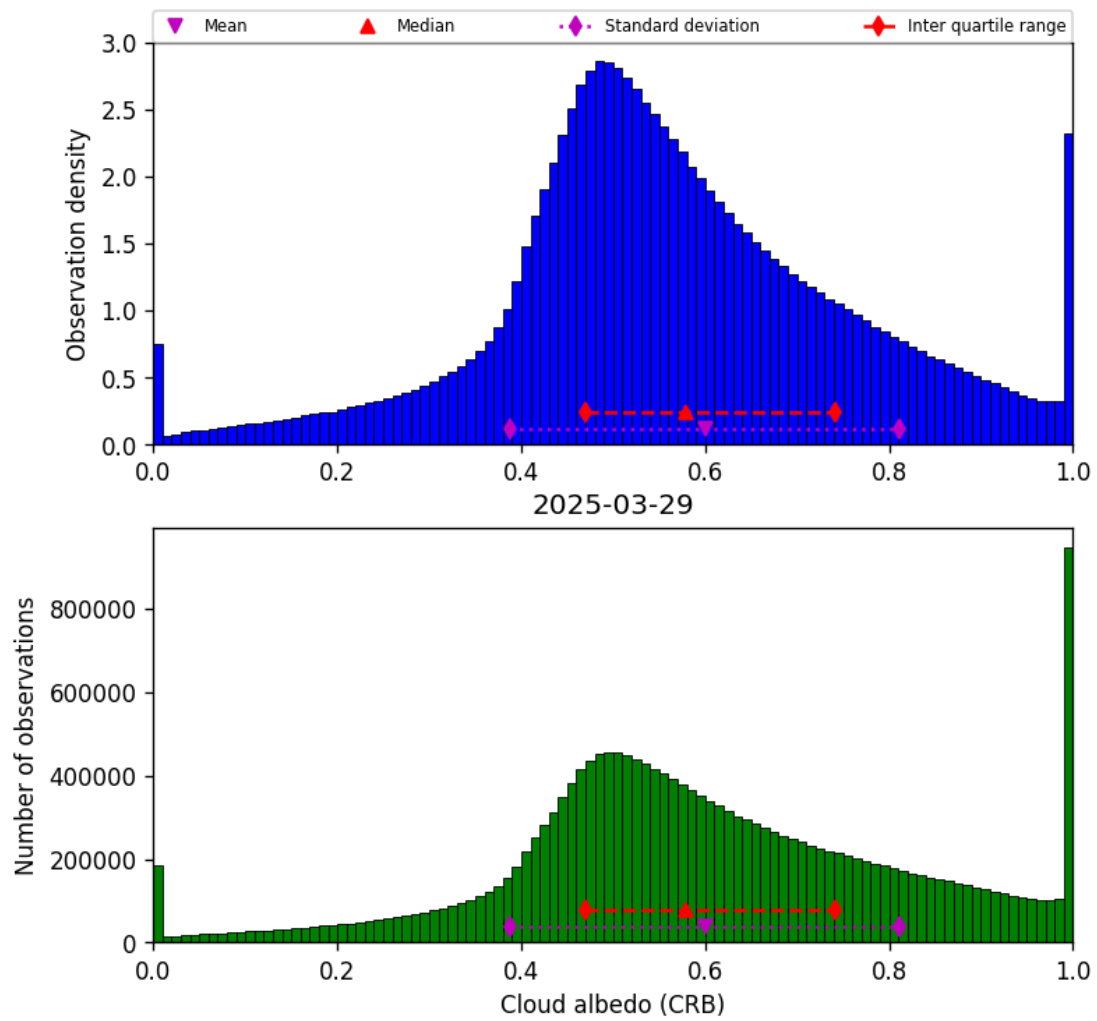


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-03-29 to 2025-03-30

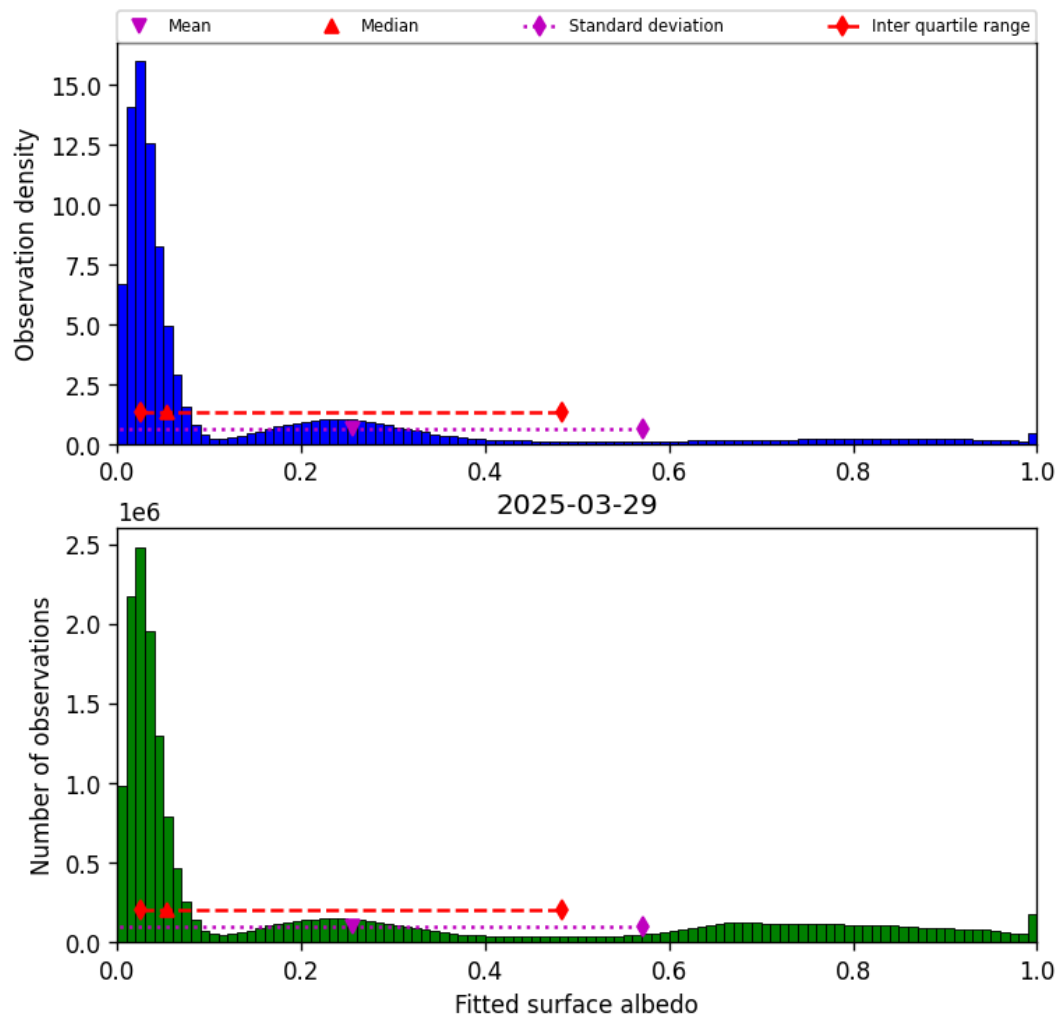


Figure 43: Histogram of “Fitted surface albedo” for 2025-03-29 to 2025-03-30

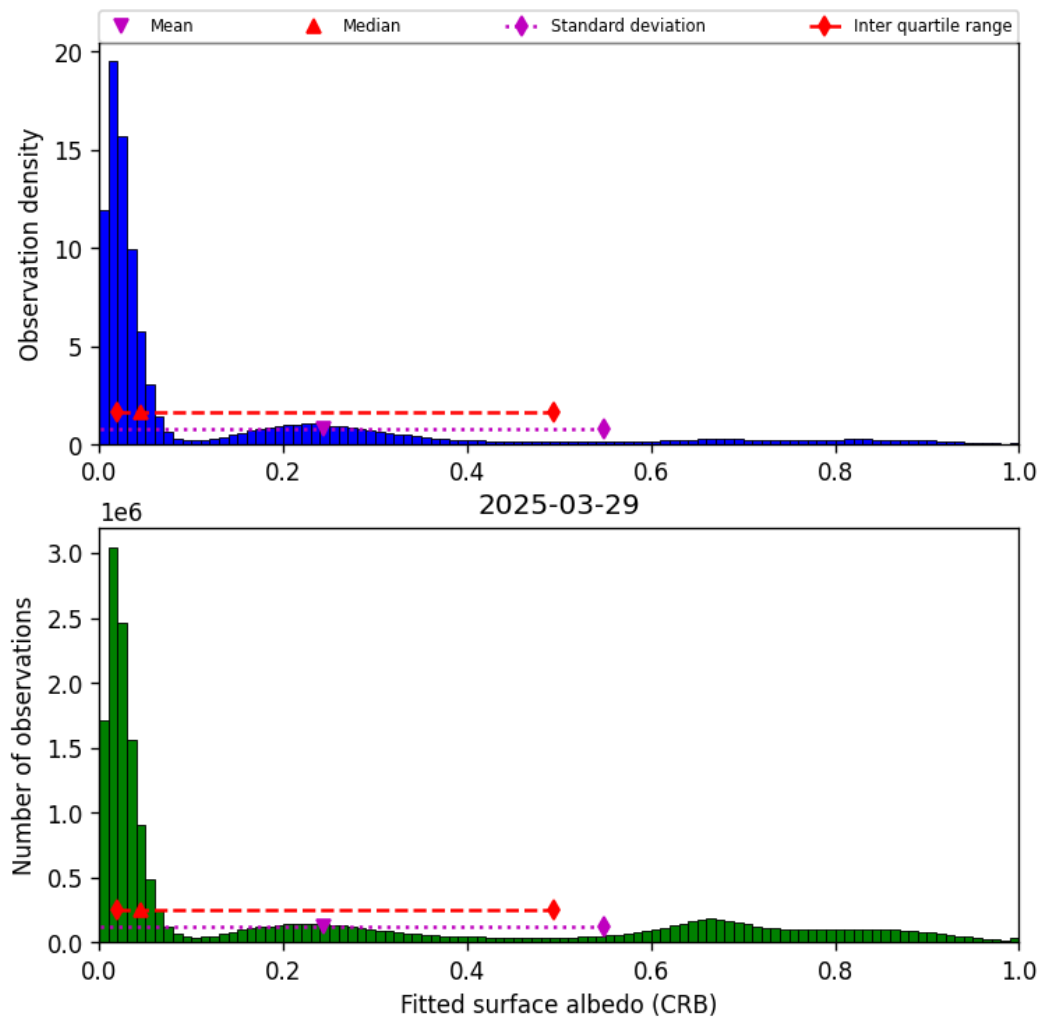


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-03-29 to 2025-03-30

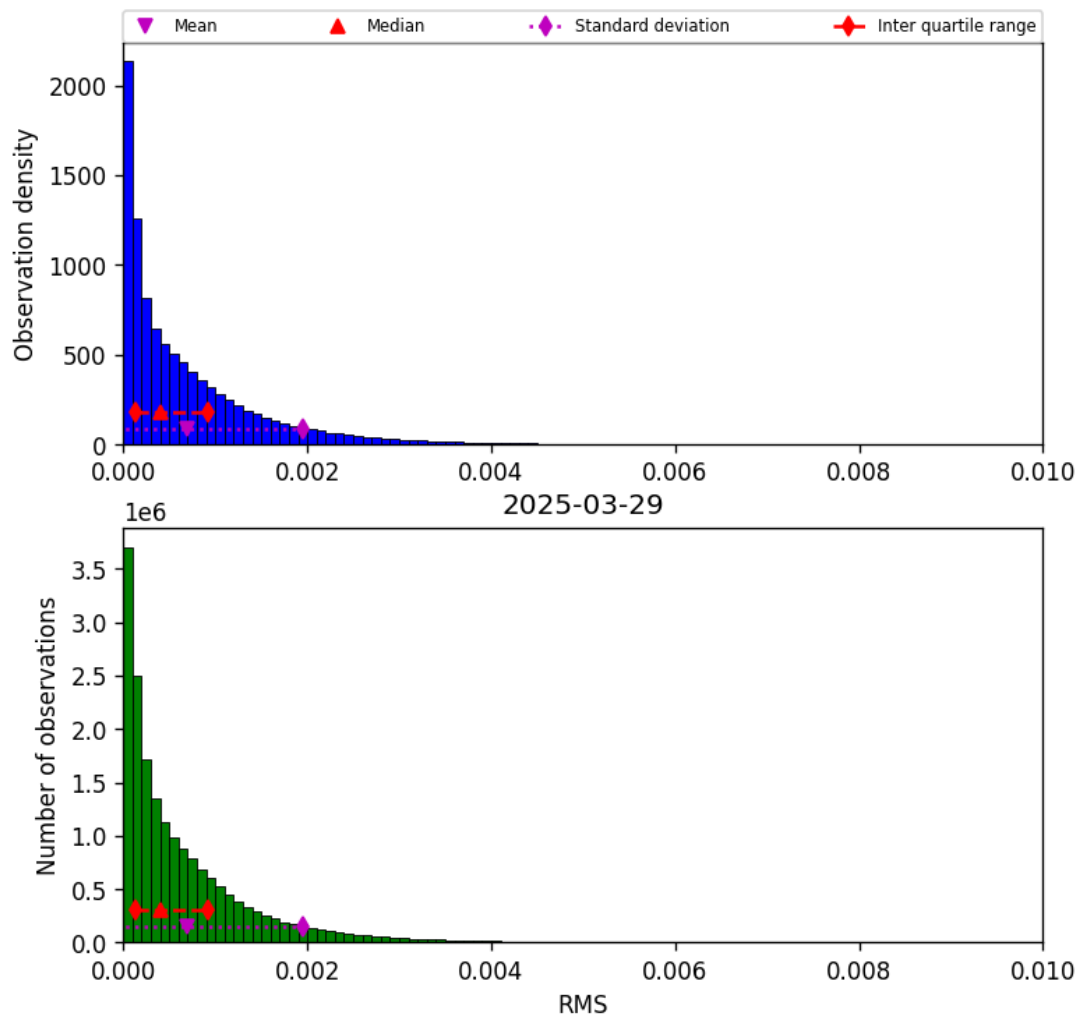


Figure 45: Histogram of “RMS” for 2025-03-29 to 2025-03-30

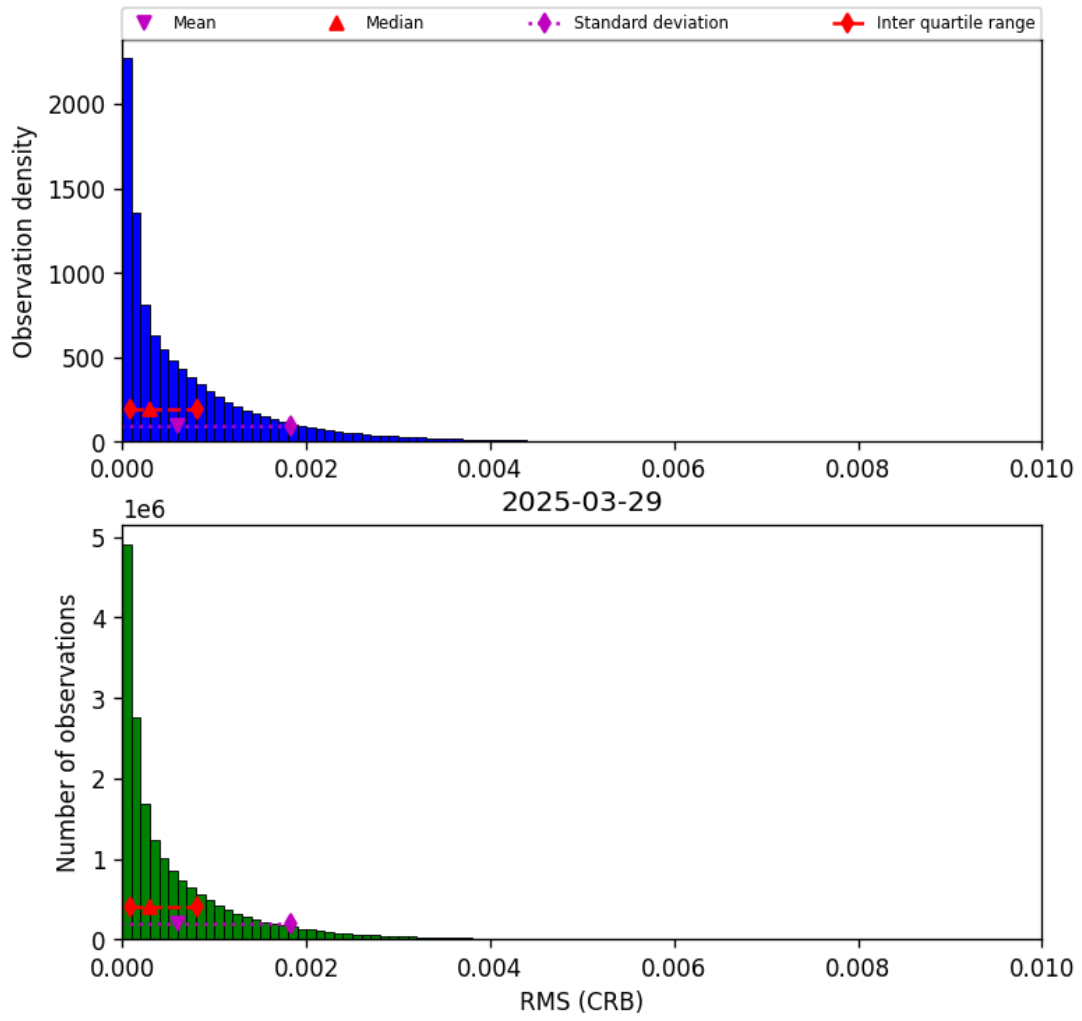


Figure 46: Histogram of “RMS (CRB)” for 2025-03-29 to 2025-03-30

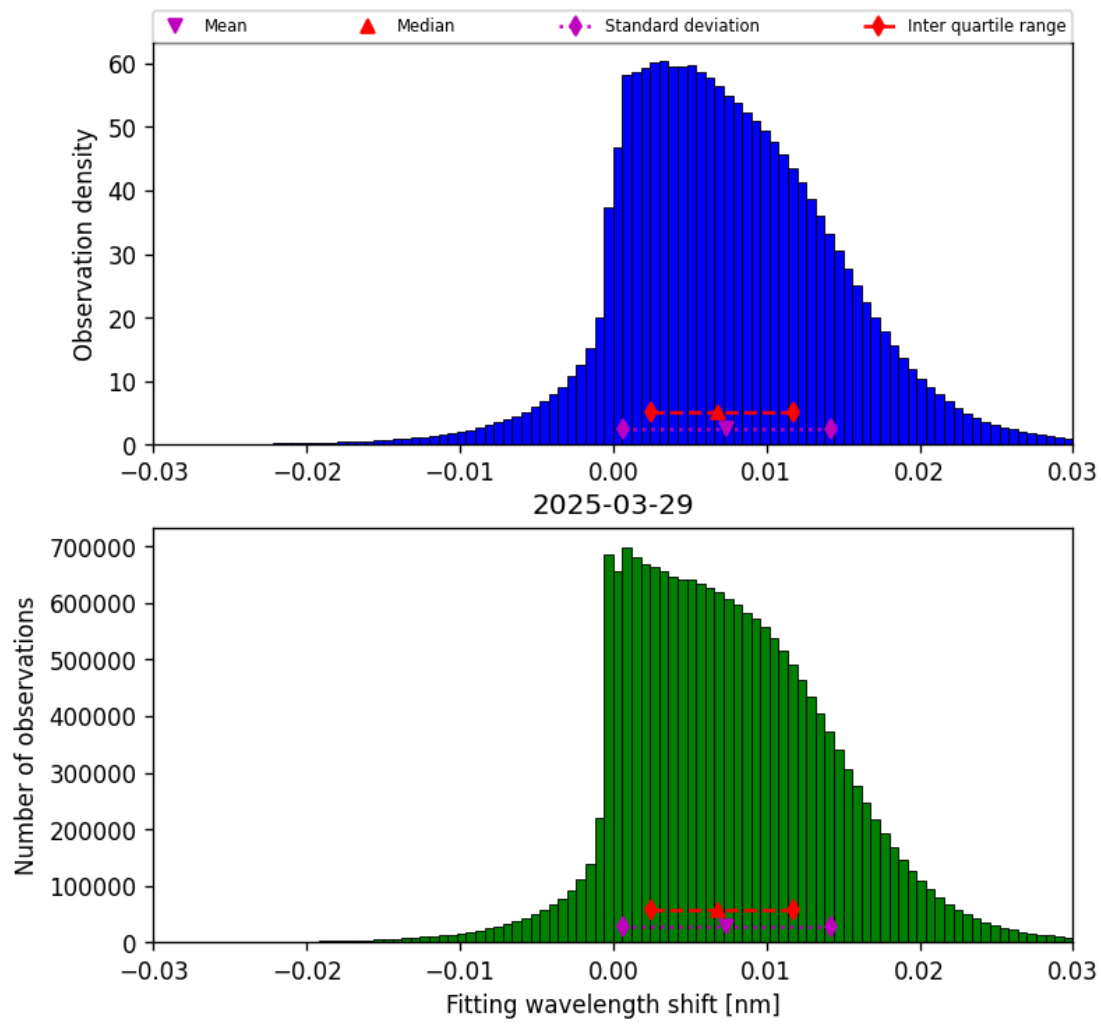


Figure 47: Histogram of “Fitting wavelength shift” for 2025-03-29 to 2025-03-30

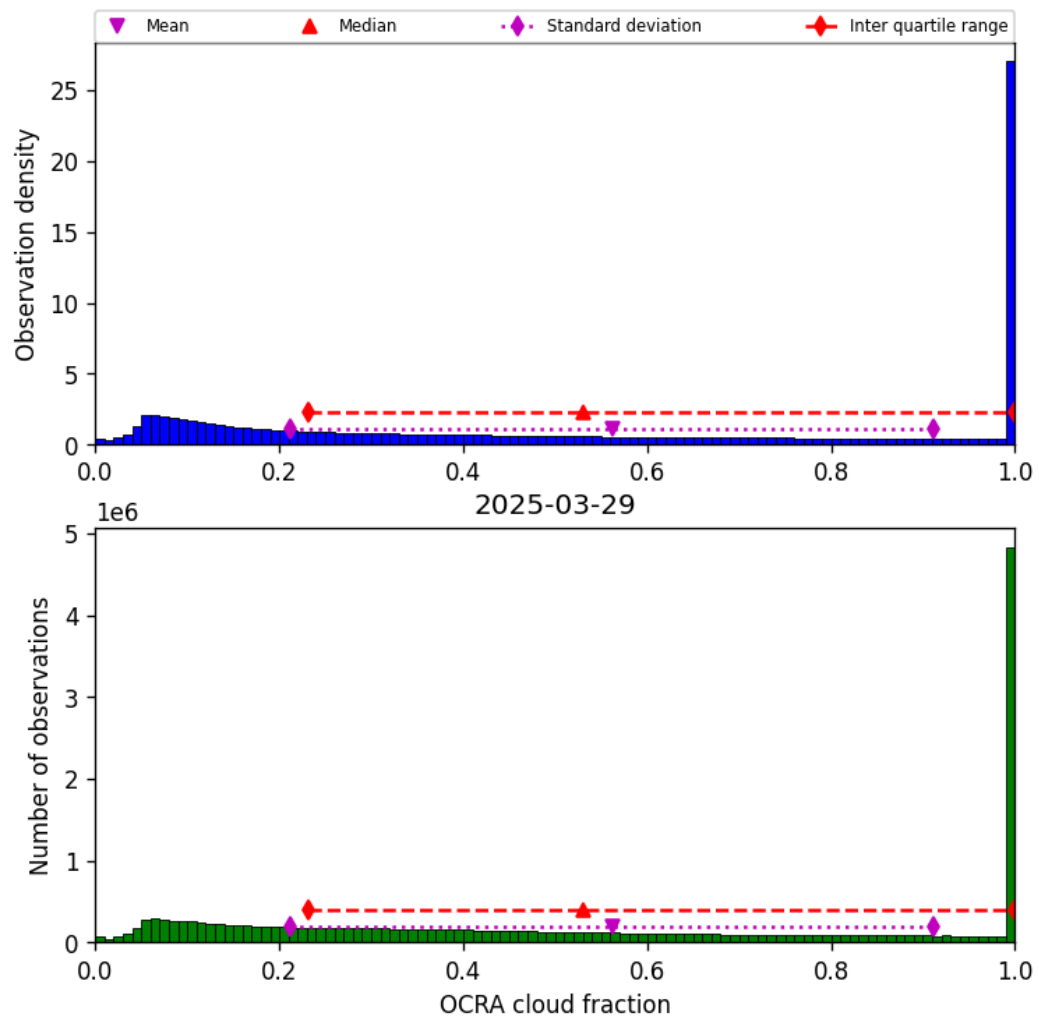


Figure 48: Histogram of “OCRA cloud fraction” for 2025-03-29 to 2025-03-30

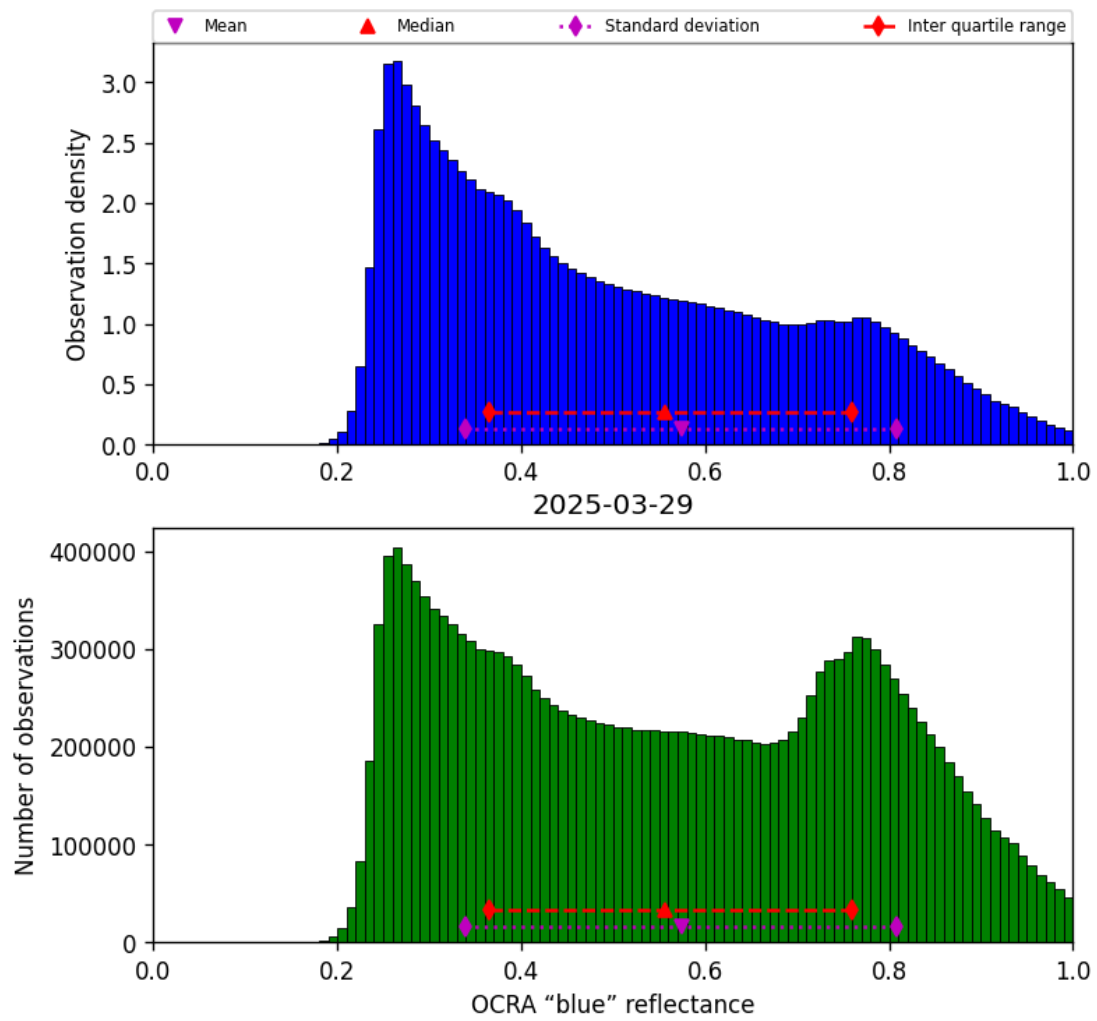


Figure 49: Histogram of "OCRA "blue" reflectance" for 2025-03-29 to 2025-03-30

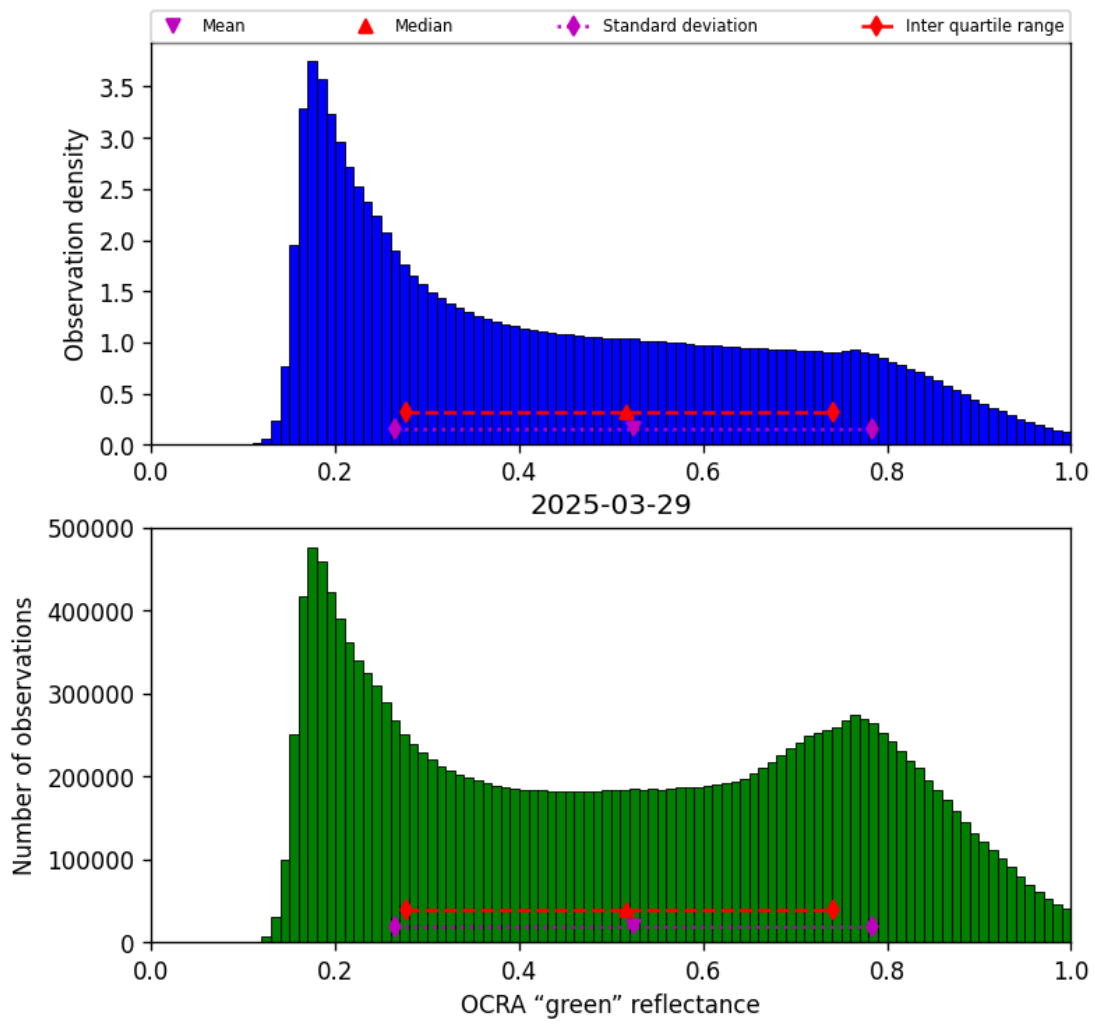


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-03-29 to 2025-03-30

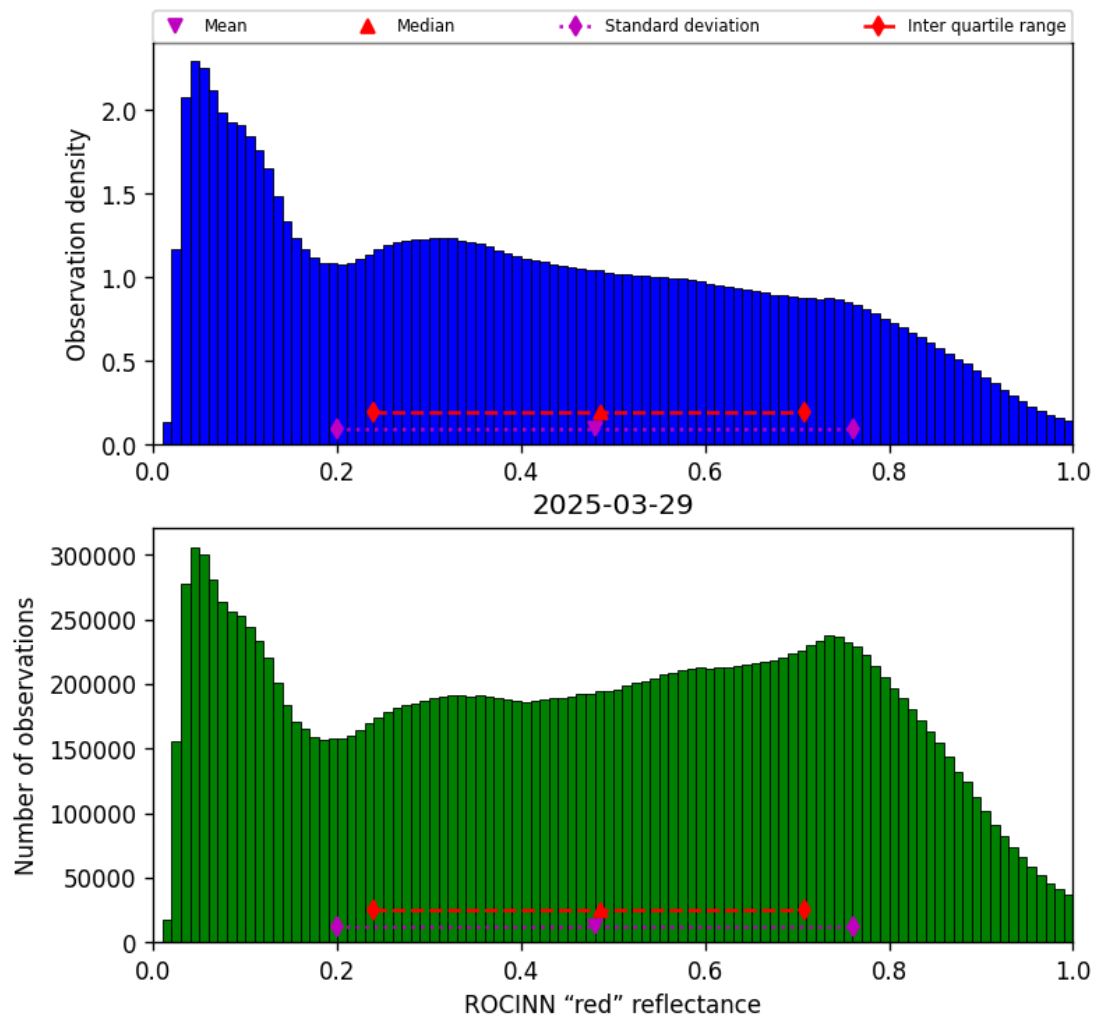


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-03-29 to 2025-03-30

9 Along track statistics

The TROPOMI instrument uses different binned detector rows for different viewing directions. In this section statistics are presented for each of the binned rows in the instrument.

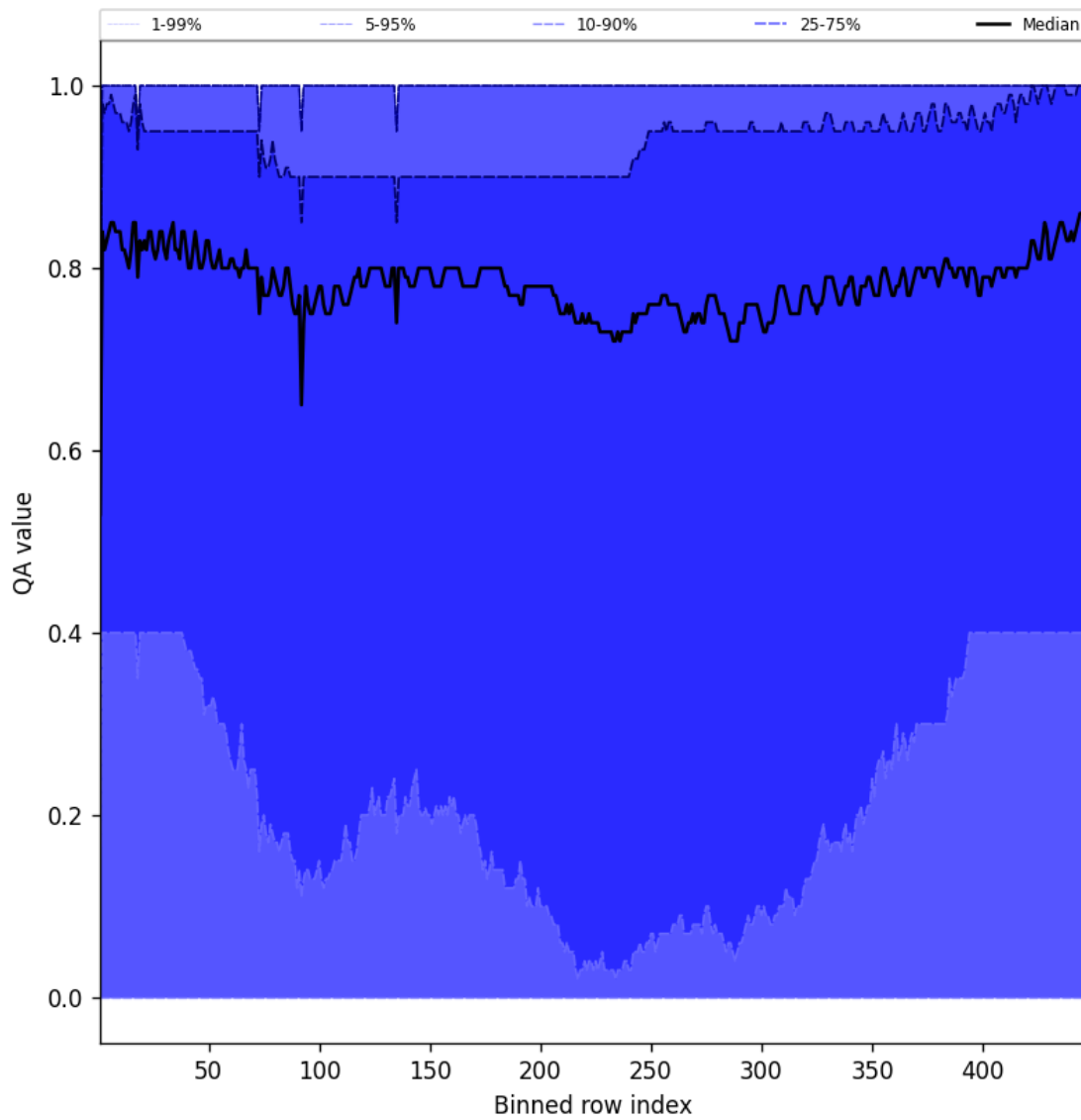


Figure 52: Along track statistics of “QA value” for 2025-03-29 to 2025-03-30

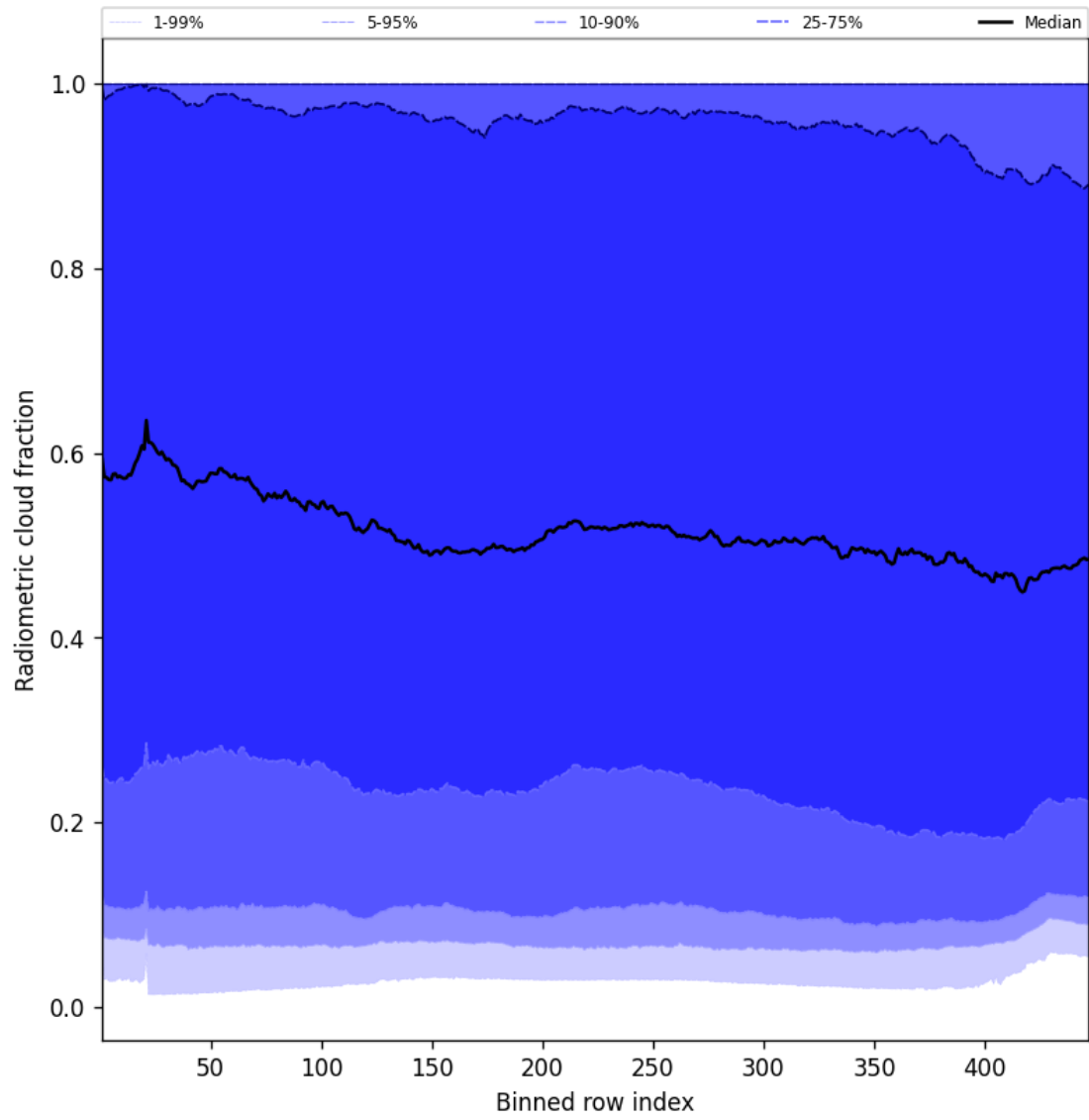


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-03-29 to 2025-03-30

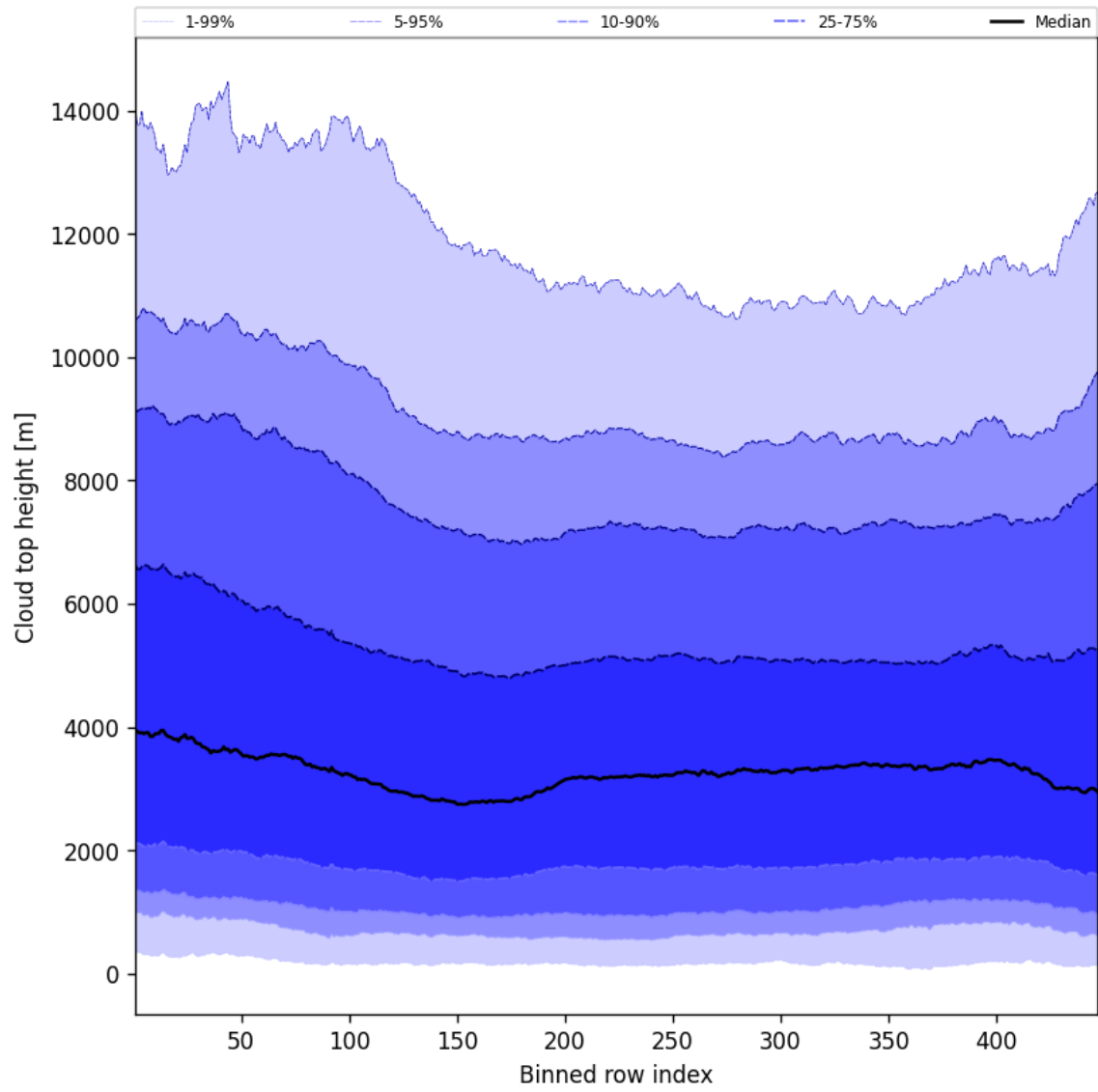


Figure 54: Along track statistics of “Cloud top height” for 2025-03-29 to 2025-03-30

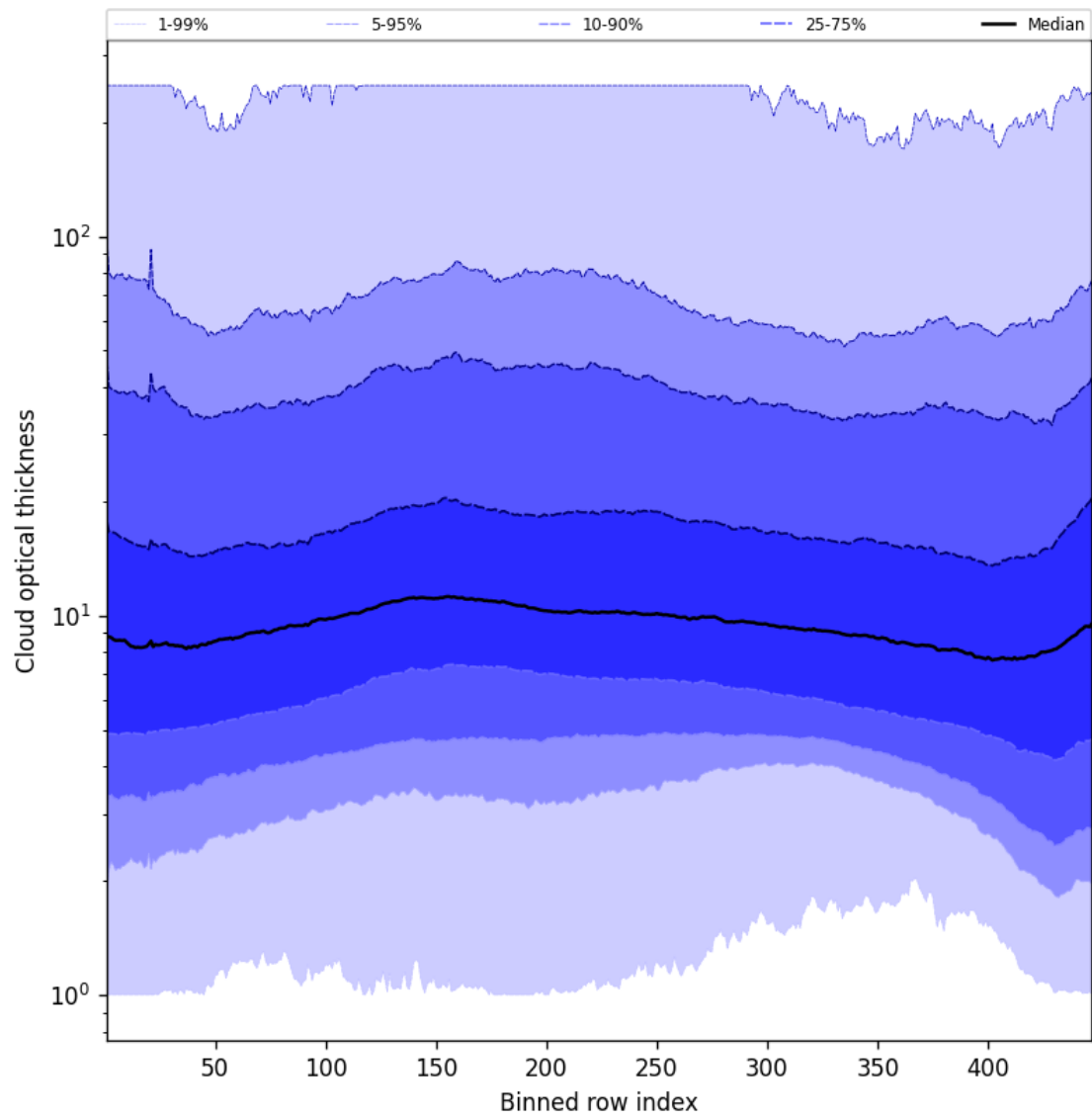


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-03-29 to 2025-03-30

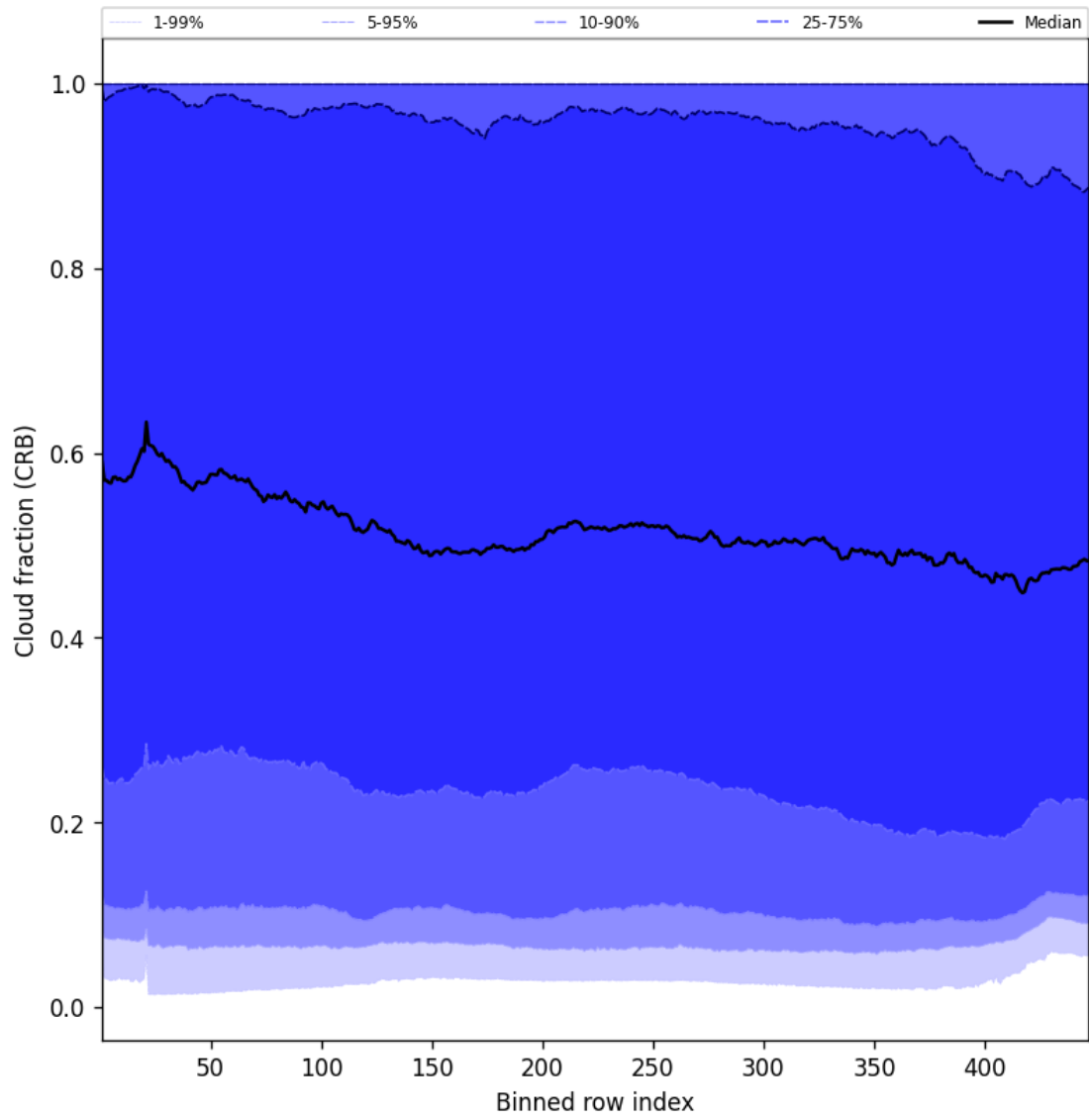


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-03-29 to 2025-03-30

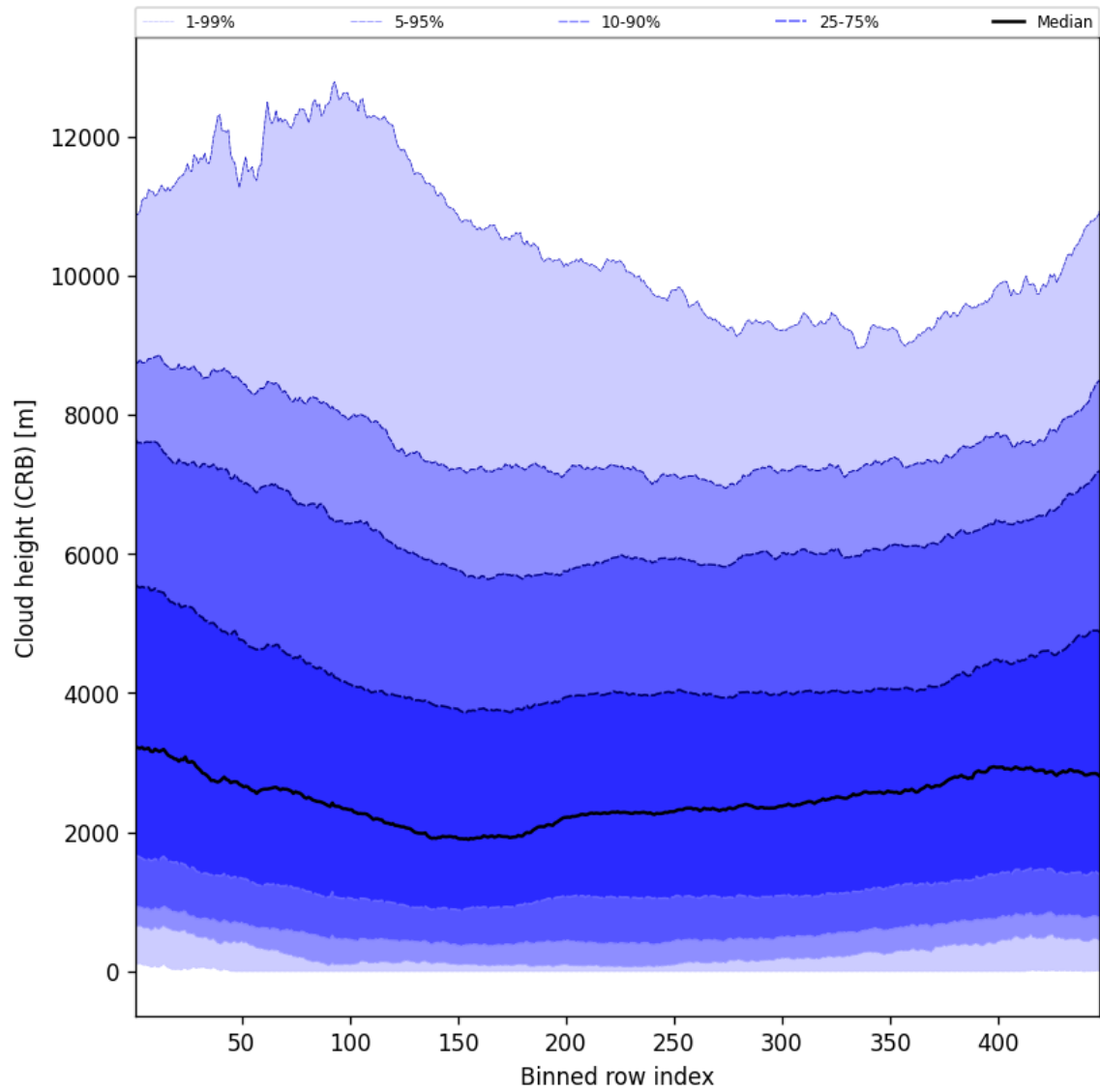


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-03-29 to 2025-03-30

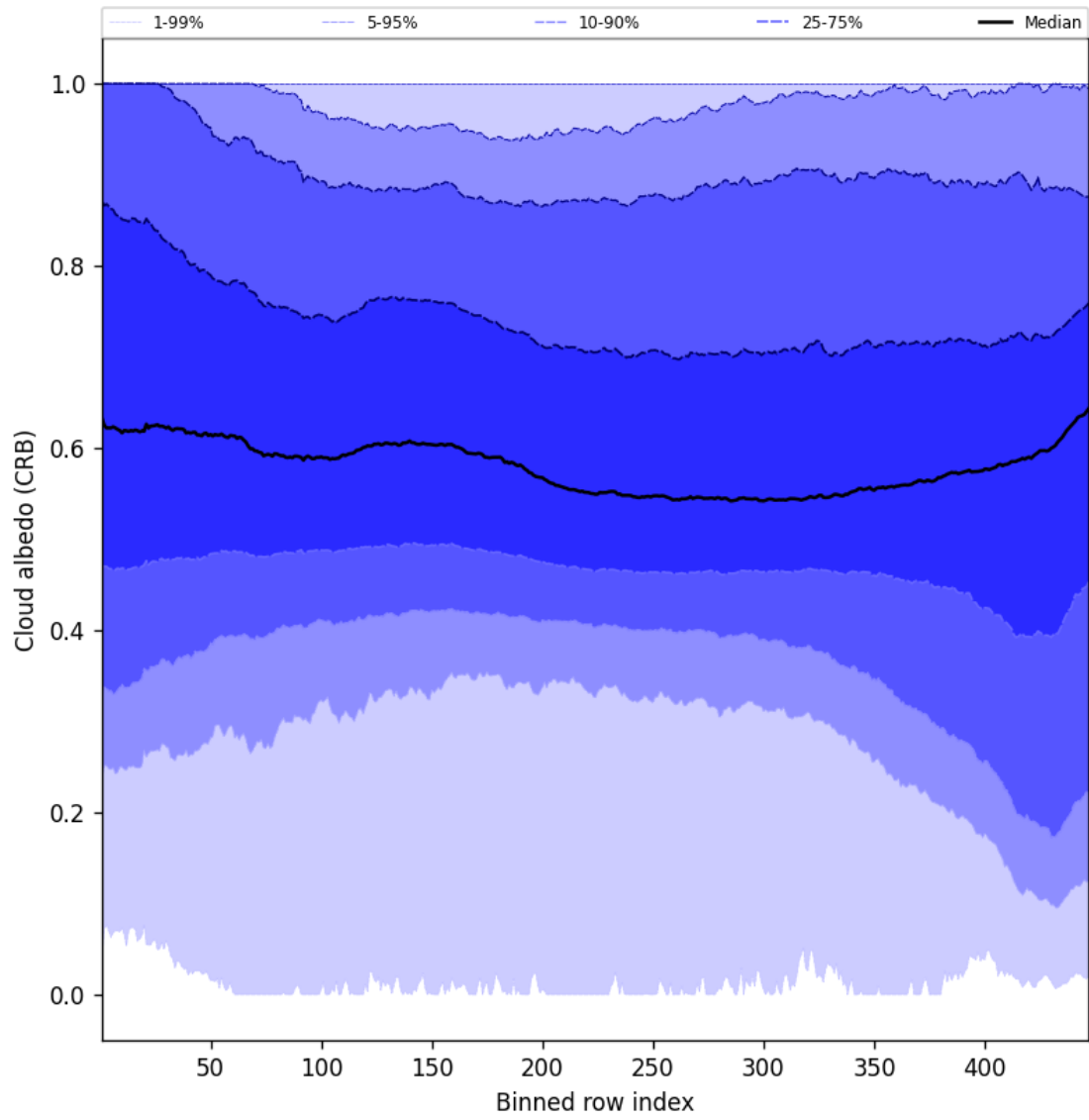


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-03-29 to 2025-03-30

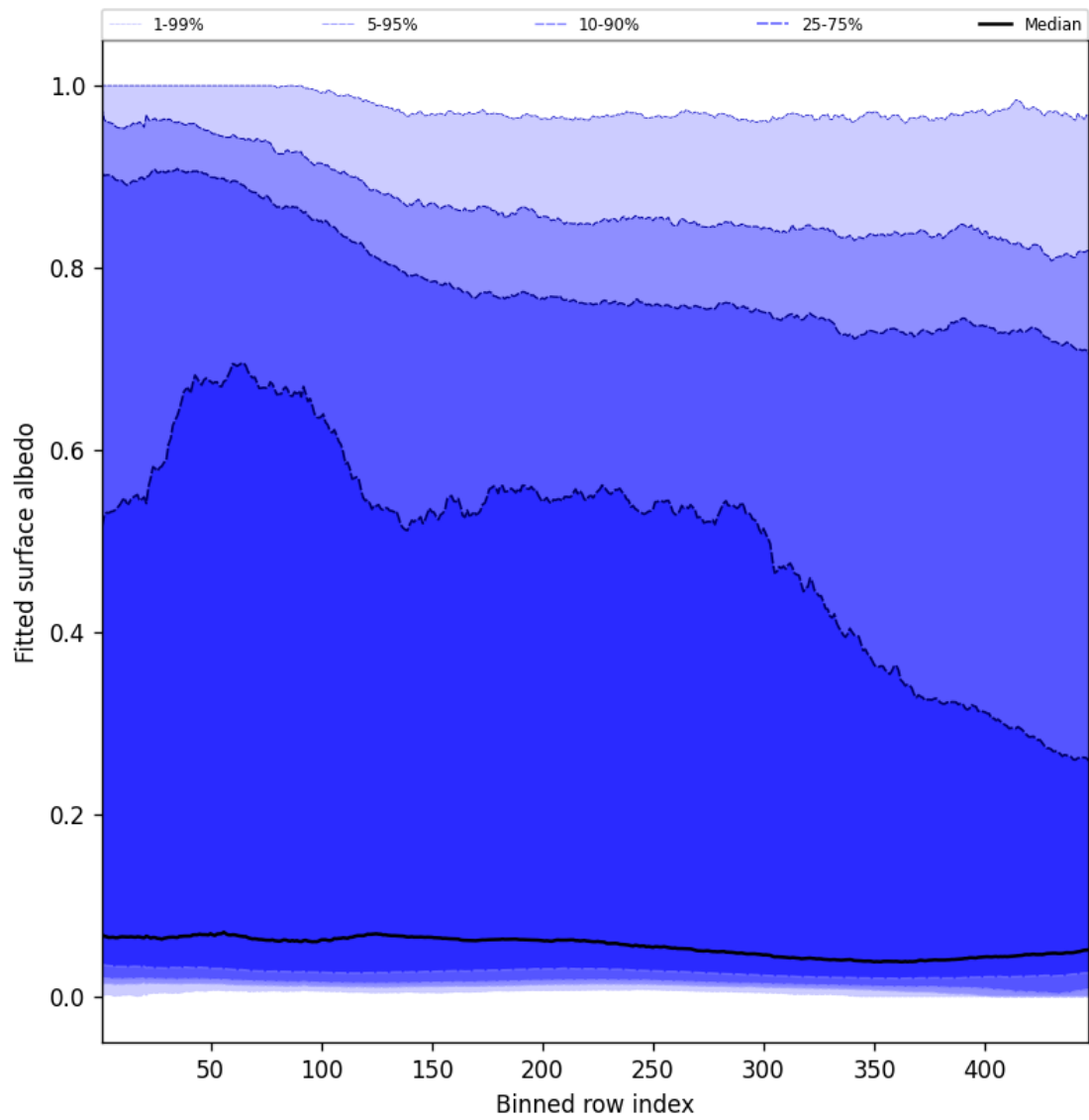


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-03-29 to 2025-03-30

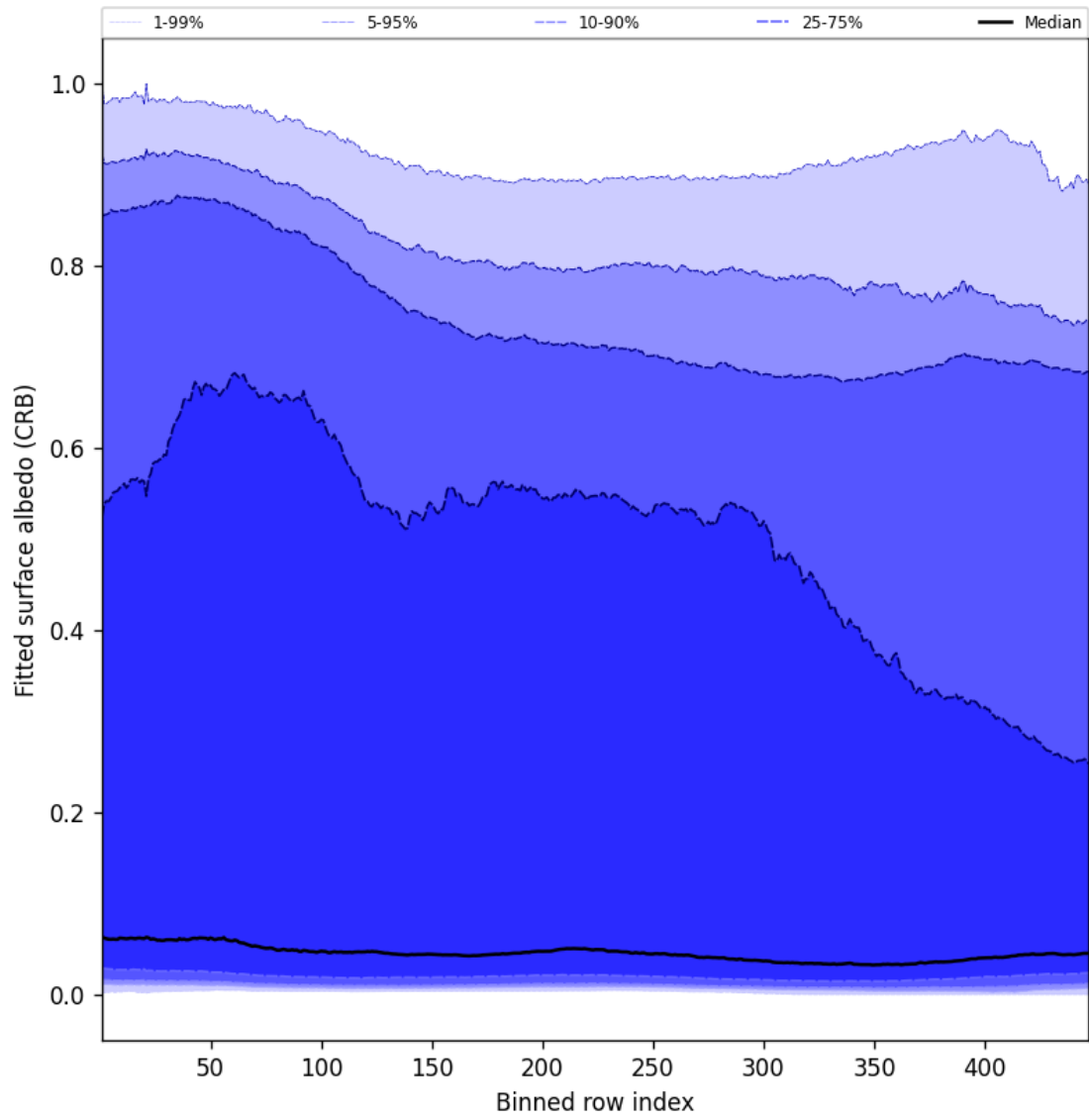


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-03-29 to 2025-03-30

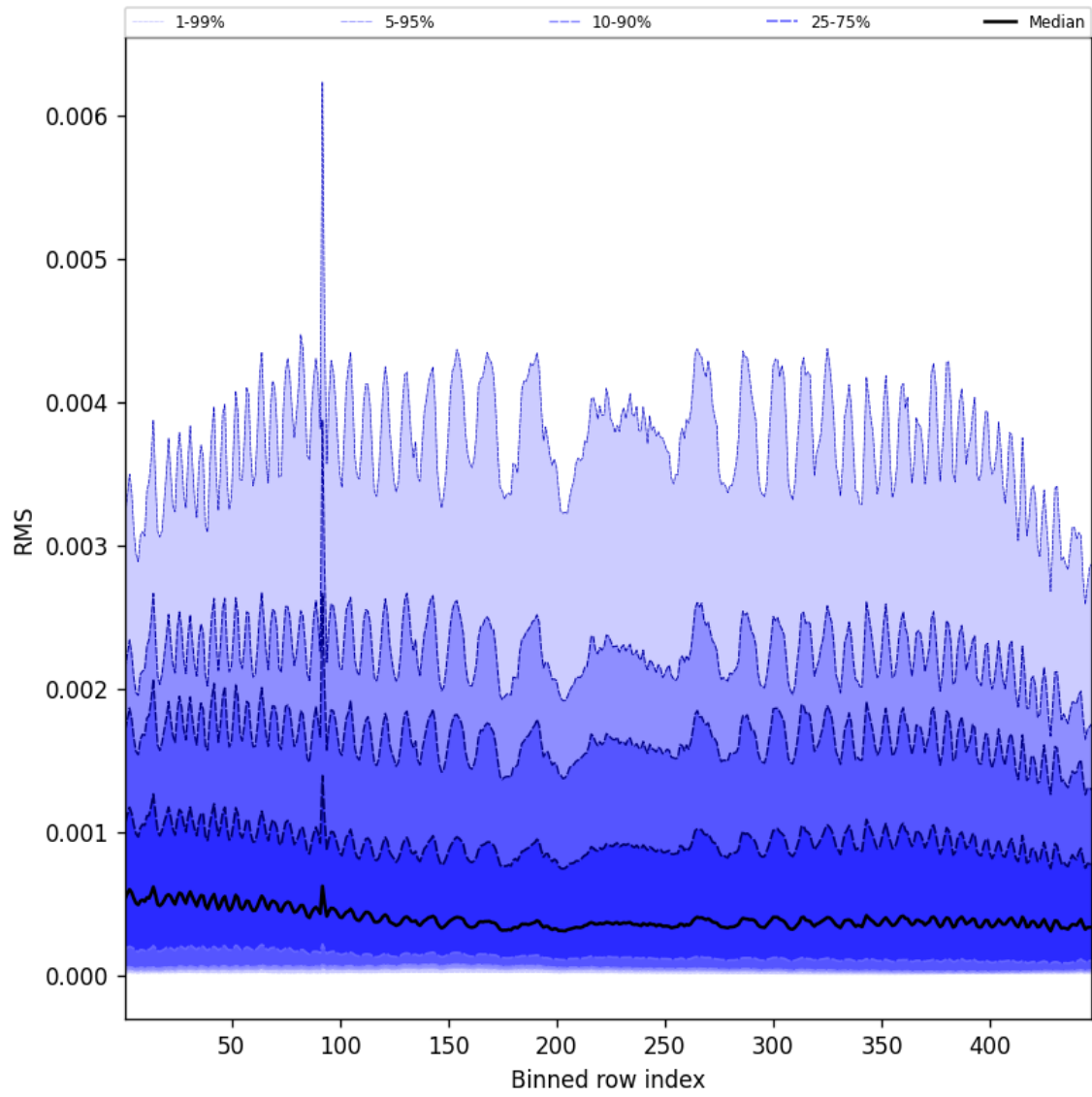


Figure 61: Along track statistics of “RMS” for 2025-03-29 to 2025-03-30

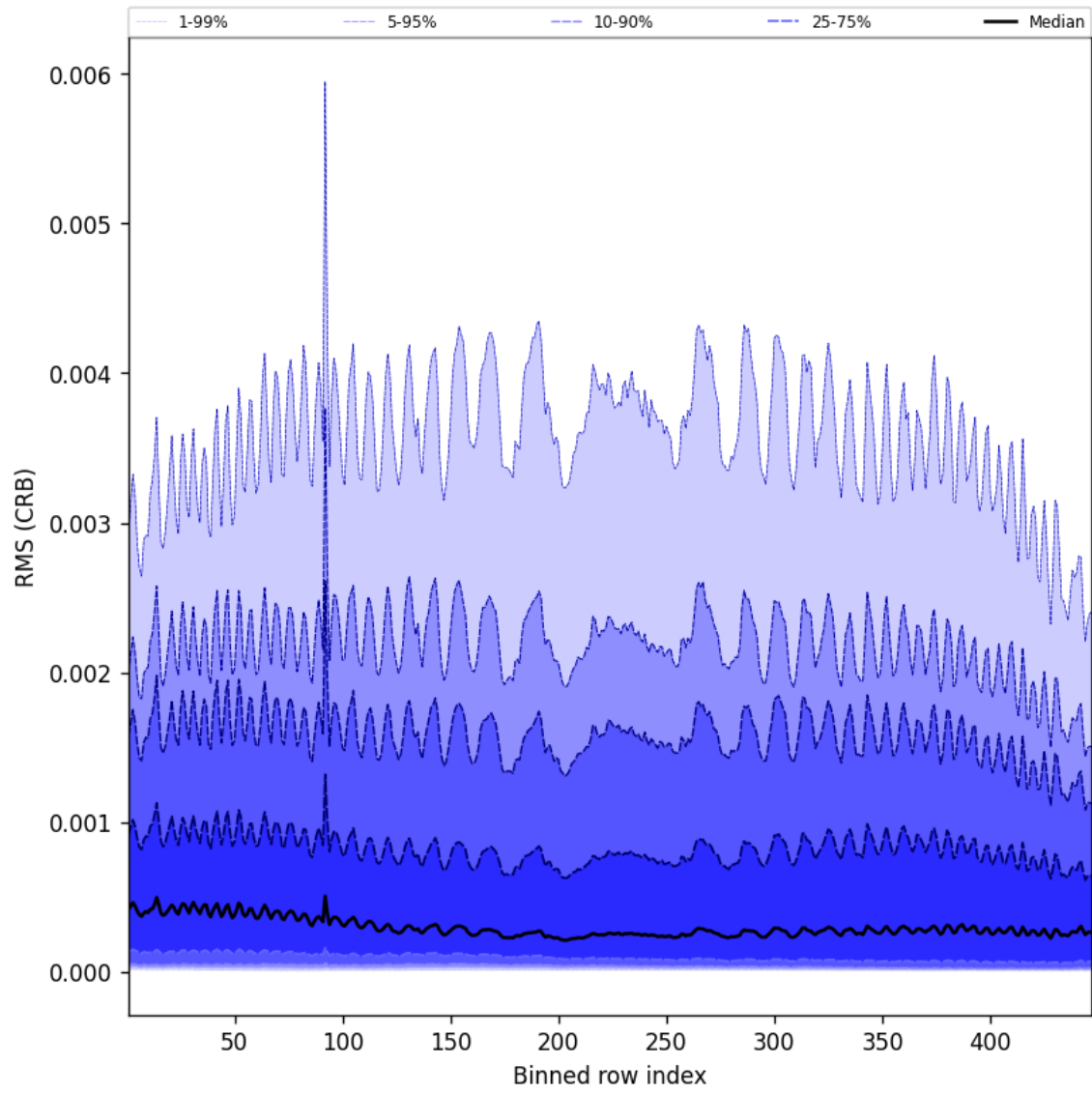


Figure 62: Along track statistics of “RMS (CRB)” for 2025-03-29 to 2025-03-30

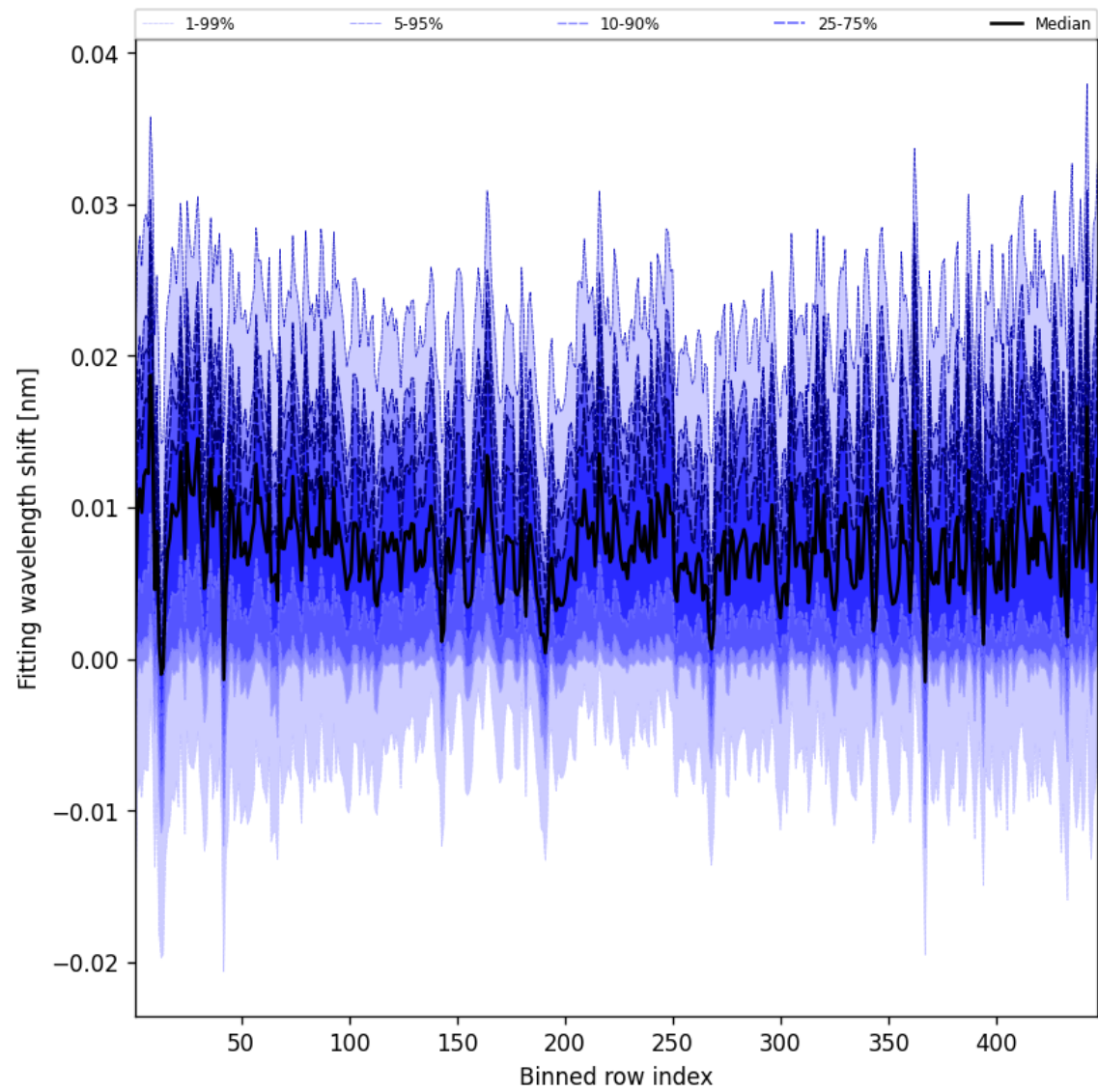


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-03-29 to 2025-03-30

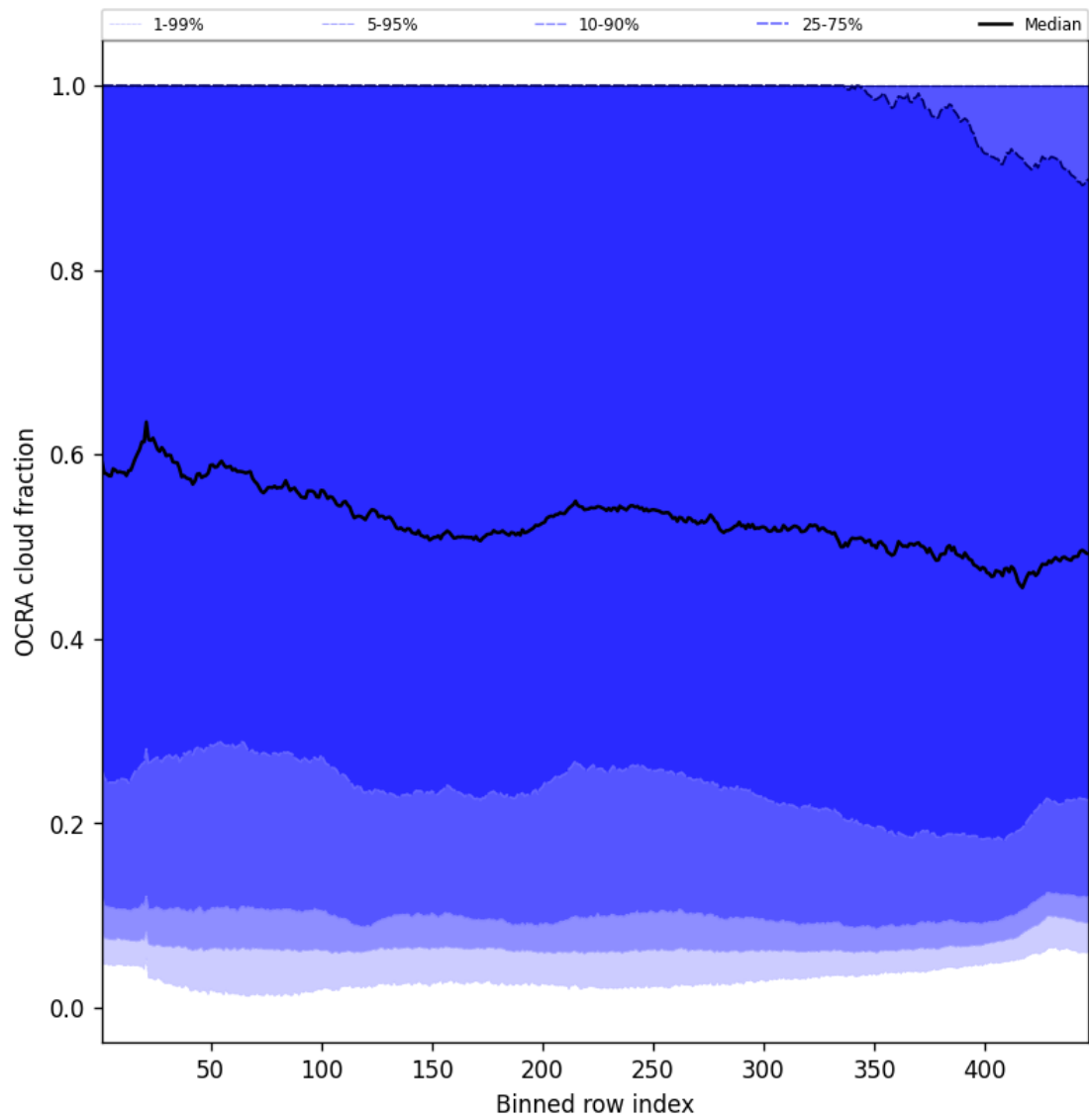


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-03-29 to 2025-03-30

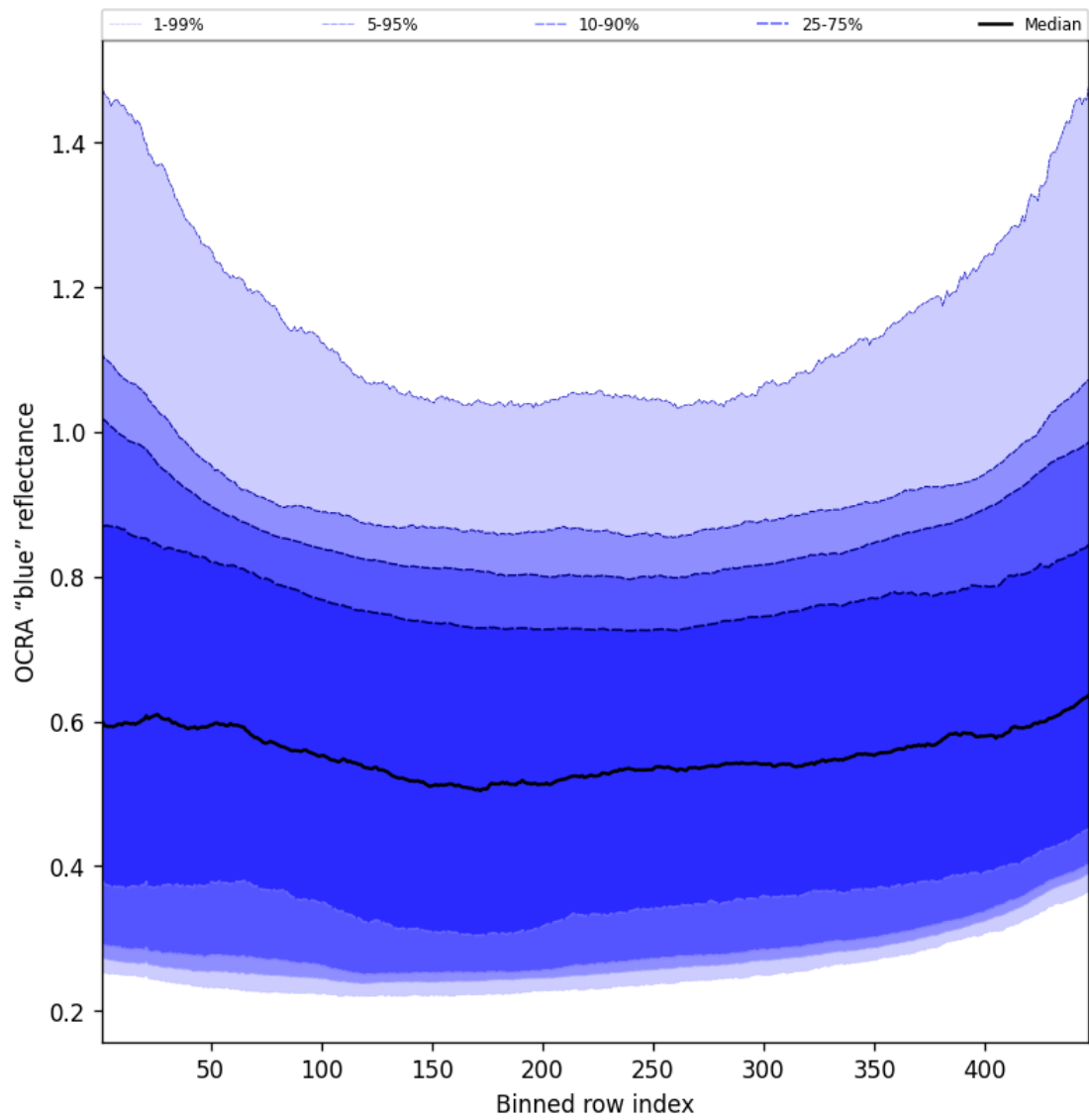


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-03-29 to 2025-03-30

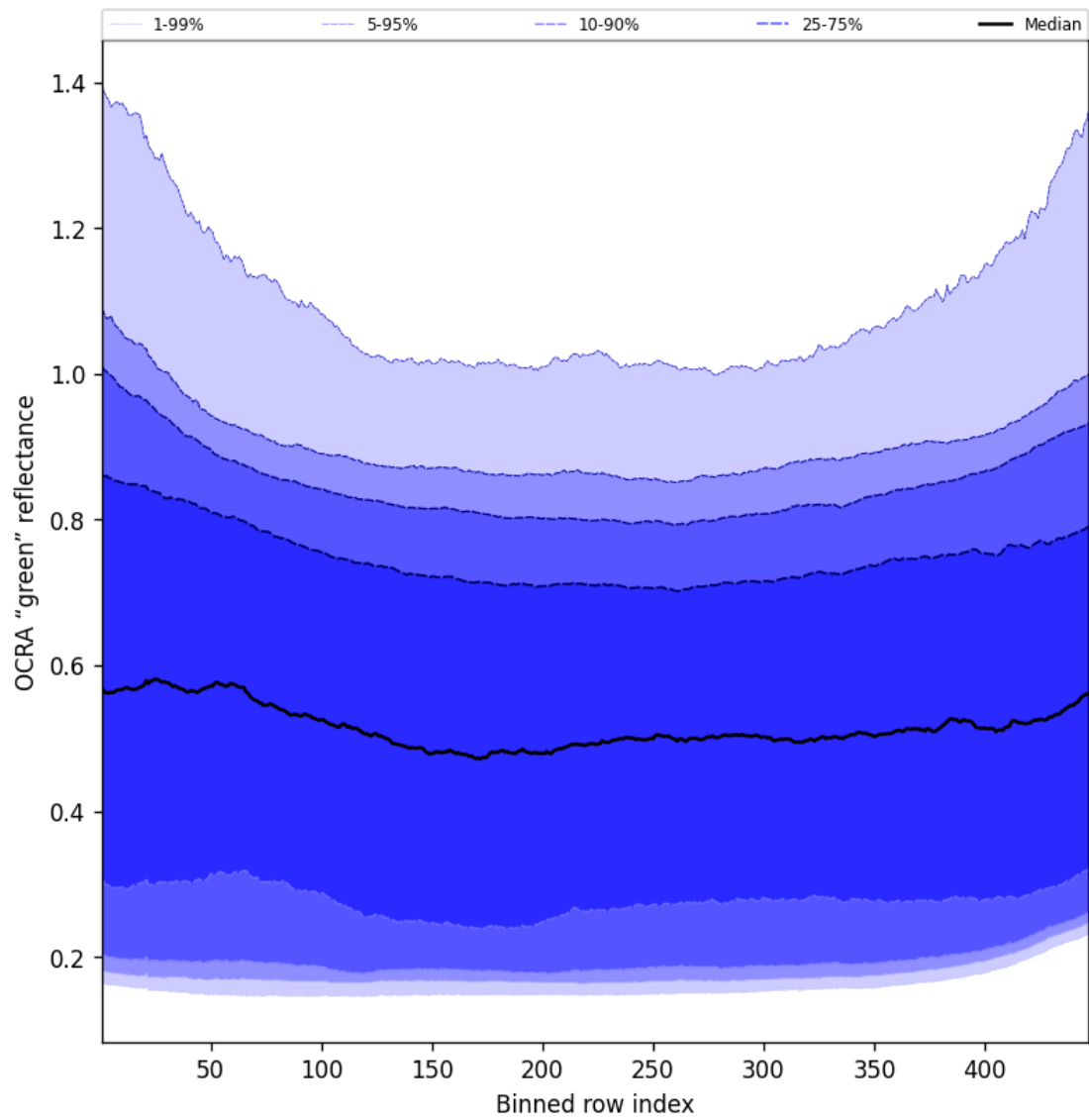


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-03-29 to 2025-03-30

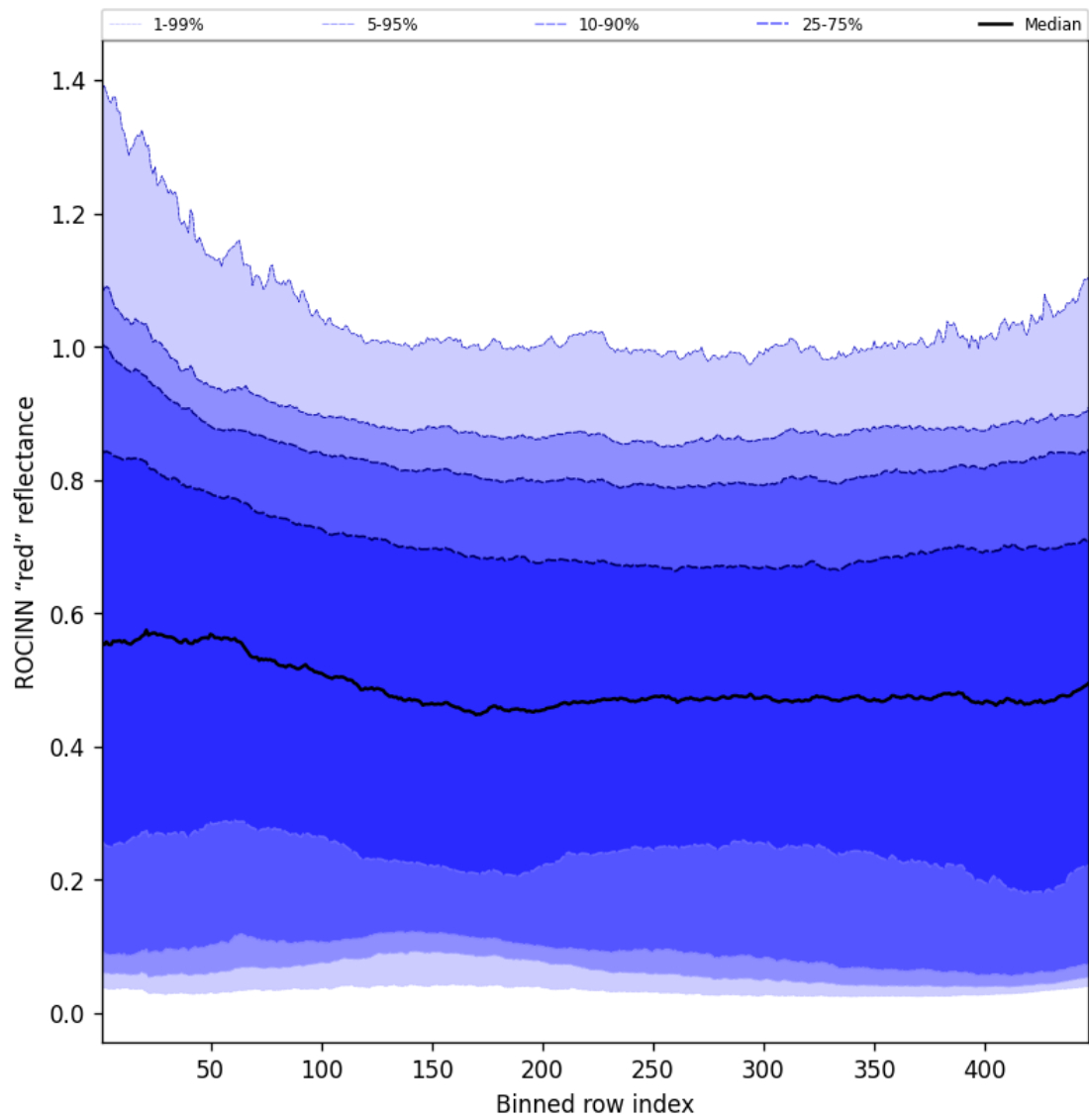


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-03-29 to 2025-03-30

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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