PyCAMA report generated by tropl2-proc

tropl2-proc

2025-05-31 (02:30)

1 Short Introduction

1.1 The list of parameters

You may want to keep the list given in table 1 at hand when viewing the results.

2 Definitions

The averages shown here are *unweighed* averages:

$$\overline{x} = \frac{1}{N}\sum_{i=1}^{N} x_i \tag{1}$$

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 $\sigma(x) = \sqrt{V(x)}$.

$$V(x) = \frac{1}{N-1}\sum_{i=1}^{N}(x_i - \overline{x})^2 \tag{2}$$

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:

$$P(x \leq m) = P(x \geq m) = \int_{-\infty}^{m} f(x)\,\mathrm{d}x = \frac{1}{2} \tag{3}$$

with $f(x)$ the probability density function.

The median is a special case of a percentile. Instead of ½ 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}.

$$C_{kl} = C(x_{(k)}, x_{(l)}) = \frac{1}{N-1}\sum_{i=1}^{N}(x_{(k),i} - \overline{x_{(k)}})(x_{(l),i} - \overline{x_{(l)}}) \tag{4}$$

Rather than a dimensionally dependent covariance, it is often easier to interpret a correlation matrix R_{kl}, a matrix of Pearson's r coefficients:

$$R_{kl} = R(x_{(k)}, x_{(l)}) = \frac{C_{kl}}{\sqrt{C_{kk}C_{ll}}} = \frac{C_{kl}}{\sqrt{V(x_k)V(x_l)}} \tag{5}$$

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]	0.601 ± 0.369	18456653	0.995	0.600	0.720	0.0	1.000
cloud fraction [1]	0.601 ± 0.347	18456653	0.995	0.729	0.623	3.989×10^{-3}	1.000
cloud top height [m]	$(0.391 \pm 0.271) \times 10^4$	18456653	1.575×10^3	3.827×10^3	3.342×10^3	0.0	2.000×10^4
cloud optical thickness [1]	20.7 ± 36.6	18456653	8.51	11.8	9.64	1.000	250
cloud fraction crb [1]	0.600 ± 0.348	18456653	0.995	0.731	0.621	8.243×10^{-3}	1.000
cloud height crb [m]	$(0.301 \pm 0.239) \times 10^4$	18456653	75.0	3.399×10^3	2.488×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.581 ± 0.205	18456653	0.495	0.270	0.570	0.0	1.000
surface albedo fitted [1]	0.242 ± 0.299	18456653	2.500×10^{-2}	0.308	6.928×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.236 ± 0.297	18456653	1.500×10^{-2}	0.326	5.299×10^{-2}	0.0	1.000
fitted root mean square [1]	$(8.130 \pm 13.630) \times 10^{-4}$	18456653	5.000×10^{-5}	1.014×10^{-3}	3.889×10^{-4}	9.768×10^{-7}	0.436
fitted root mean square crb [1]	$(7.258 \pm 11.113) \times 10^{-4}$	18456653	5.000×10^{-5}	9.781×10^{-4}	3.193×10^{-4}	7.438×10^{-7}	0.512
wavelength shift [nm]	$(7.252 \pm 6.857) \times 10^{-3}$	18456653	-3.000×10^{-4}	1.018×10^{-2}	6.640×10^{-3}	-5.165×10^{-2}	0.344
cloud fraction apriori [1]	0.613 ± 0.353	18456653	0.995	0.729	0.655	0.0	1.000
reflectance blue ocra [1]	0.549 ± 0.215	18456653	0.275	0.364	0.524	0.131	1.92
reflectance green ocra [1]	0.498 ± 0.243	18456653	0.185	0.431	0.474	8.023×10^{-2}	1.91
reflectance continuum aband [1]	0.454 ± 0.272	18456653	4.500×10^{-2}	0.455	0.436	1.065×10^{-2}	4.93

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	0.300	0.900	1.000	1.000	1.000	1.000
cloud fraction [1]	2.708×10^{-2}	7.046×10^{-2}	0.110	0.165	0.268	0.997	1.000	1.000	1.000	1.000
cloud top height [m]	159	575	947	1.274×10^{3}	1.729×10^{3}	5.556×10^{3}	6.853×10^{3}	7.890×10^{3}	9.157×10^{3}	1.131×10^{4}
cloud optical thickness [1]	1.000	2.66	3.83	4.79	6.00	17.8	27.3	41.4	75.5	250
cloud fraction crb [1]	2.657×10^{-2}	6.950×10^{-2}	0.109	0.164	0.267	0.998	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	18.9	335	657	1.088×10^{3}	4.487×10^{3}	5.640×10^{3}	6.578×10^{3}	7.657×10^{3}	9.462×10^{3}
cloud albedo crb [1]	2.098×10^{-2}	0.224	0.334	0.403	0.456	0.726	0.802	0.858	0.921	1.000
surface albedo fitted [1]	0.0	9.269×10^{-3}	1.490×10^{-2}	2.025×10^{-2}	2.826×10^{-2}	0.337	0.678	0.803	0.886	0.985
surface albedo fitted crb [1]	0.0	6.753×10^{-3}	1.059×10^{-2}	1.447×10^{-2}	2.051×10^{-2}	0.347	0.687	0.785	0.854	0.942
fitted root mean square [1]	1.026×10^{-5}	2.332×10^{-5}	3.853×10^{-5}	6.104×10^{-5}	1.096×10^{-4}	1.123×10^{-3}	1.663×10^{-3}	2.188×10^{-3}	2.877×10^{-3}	4.310×10^{-3}
fitted root mean square crb [1]	5.565×10^{-6}	1.300×10^{-5}	2.273×10^{-5}	3.591×10^{-5}	6.622×10^{-5}	1.044×10^{-3}	1.575×10^{-3}	2.077×10^{-3}	2.722×10^{-3}	3.954×10^{-3}
wavelength shift [nm]	-7.577×10^{-3}	-1.097×10^{-3}	-1.650×10^{-4}	3.660×10^{-4}	1.748×10^{-3}	1.193×10^{-2}	1.428×10^{-2}	1.629×10^{-2}	1.895×10^{-2}	2.466×10^{-2}
cloud fraction apriori [1]	3.061×10^{-2}	6.719×10^{-2}	0.104	0.159	0.271	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.259	0.283	0.312	0.359	0.723	0.803	0.853	0.903	1.00
reflectance green ocra [1]	0.150	0.174	0.195	0.222	0.273	0.703	0.791	0.844	0.893	0.988
reflectance continuum aband [1]	2.979×10^{-2}	5.561×10^{-2}	9.184×10^{-2}	0.141	0.225	0.680	0.766	0.821	0.883	1.00

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]	0.590 ± 0.362	12348621	0.620	0.700	0.0	1.000	0.280	0.900
cloud fraction [1]	0.645 ± 0.346	12348621	0.684	0.721	3.989×10^{-3}	1.000	0.316	1.000
cloud top height [m]	$(0.390 \pm 0.281) \times 10^4$	12348621	3.968×10^3	3.346×10^3	0.0	2.000×10^4	1.632×10^3	5.600×10^3
cloud optical thickness [1]	17.8 ± 32.4	12348621	9.80	8.91	1.000	250	5.58	15.4
cloud fraction crb [1]	0.645 ± 0.346	12348621	0.685	0.721	8.243×10^{-3}	1.000	0.315	1.000
cloud height crb [m]	$(0.291 \pm 0.246) \times 10^4$	12348621	3.580×10^3	2.380×10^3	0.0	2.000×10^4	877	4.457×10^3
cloud albedo crb [1]	0.586 ± 0.220	12348621	0.309	0.580	0.0	1.000	0.448	0.757
surface albedo fitted [1]	0.330 ± 0.327	12348621	0.612	0.206	0.0	1.000	3.531×10^{-2}	0.647
surface albedo fitted crb [1]	0.326 ± 0.323	12348621	0.635	0.205	0.0	1.000	2.845×10^{-2}	0.664
fitted root mean square [1]	$(1.053 \pm 1.578) \times 10^{-3}$	12348621	1.343×10^{-3}	6.580×10^{-4}	1.749×10^{-6}	0.436	1.838×10^{-4}	1.526×10^{-3}
fitted root mean square crb [1]	$(9.426 \pm 12.643) \times 10^{-4}$	12348621	1.308×10^{-3}	5.799×10^{-4}	7.438×10^{-7}	0.512	1.268×10^{-4}	1.435×10^{-3}
wavelength shift [nm]	$(8.491 \pm 6.882) \times 10^{-3}$	12348621	1.001×10^{-2}	8.414×10^{-3}	-5.165×10^{-2}	0.344	3.207×10^{-3}	1.321×10^{-2}
cloud fraction apriori [1]	0.663 ± 0.348	12348621	0.667	0.773	0.0	1.000	0.333	1.000
reflectance blue ocra [1]	0.576 ± 0.227	12348621	0.412	0.573	0.131	1.86	0.364	0.775
reflectance green ocra [1]	0.535 ± 0.253	12348621	0.474	0.539	8.023×10^{-2}	1.79	0.290	0.764
reflectance continuum aband [1]	0.505 ± 0.271	12348621	0.459	0.514	1.065×10^{-2}	4.56	0.277	0.736

Table 4: Parameterlist and basic statistics for the analysis for observations in the southern hemisphere

Variable	mean $\pm\sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.625 ± 0.383	6108032	0.700	0.850	0.0	1.000	0.300	1.000
cloud fraction [1]	0.513 ± 0.334	6108032	0.635	0.478	7.552×10^{-3}	1.000	0.200	0.835
cloud top height [m]	$(0.392 \pm 0.249) \times 10^4$	6108032	3.575×10^3	3.335×10^3	0.0	2.000×10^4	1.871×10^3	5.446×10^3
cloud optical thickness [1]	26.6 ± 43.3	6108032	16.3	11.7	1.000	250	7.00	23.3
cloud fraction crb [1]	0.511 ± 0.333	6108032	0.633	0.474	8.495×10^{-3}	1.000	0.198	0.831
cloud height crb [m]	$(0.321 \pm 0.221) \times 10^4$	6108032	3.180×10^3	2.699×10^3	0.0	1.826×10^4	1.375×10^3	4.555×10^3
cloud albedo crb [1]	0.571 ± 0.170	6108032	0.197	0.558	0.0	1.000	0.471	0.668
surface albedo fitted [1]	$(6.524 \pm 8.183) \times 10^{-2}$	6108032	4.116×10^{-2}	3.754×10^{-2}	0.0	1.000	2.263×10^{-2}	6.379×10^{-2}
surface albedo fitted crb [1]	$(5.481 \pm 8.283) \times 10^{-2}$	6108032	3.015×10^{-2}	2.566×10^{-2}	0.0	1.000	1.501×10^{-2}	4.515×10^{-2}
fitted root mean square [1]	$(3.273 \pm 4.759) \times 10^{-4}$	6108032	3.273×10^{-4}	1.625×10^{-4}	9.768×10^{-7}	0.103	5.939×10^{-5}	3.867×10^{-4}
fitted root mean square crb [1]	$(2.875 \pm 4.611) \times 10^{-4}$	6108032	3.021×10^{-4}	9.932×10^{-5}	1.080×10^{-6}	1.899×10^{-2}	3.642×10^{-5}	3.385×10^{-4}
wavelength shift [nm]	$(4.747 \pm 6.078) \times 10^{-3}$	6108032	7.538×10^{-3}	3.435×10^{-3}	-4.294×10^{-2}	6.156×10^{-2}	5.677×10^{-4}	8.106×10^{-3}
cloud fraction apriori [1]	0.512 ± 0.340	6108032	0.657	0.474	0.0	1.000	0.188	0.845
reflectance blue ocra [1]	0.494 ± 0.178	6108032	0.252	0.463	0.134	1.92	0.353	0.605
reflectance green ocra [1]	0.423 ± 0.202	6108032	0.305	0.388	8.125×10^{-2}	1.91	0.253	0.558
reflectance continuum aband [1]	0.350 ± 0.242	6108032	0.368	0.317	1.191×10^{-2}	4.93	0.144	0.512

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]	0.612 ± 0.365	12336989	0.620	0.750	0.0	1.000	0.300	0.920
cloud fraction [1]	0.562 ± 0.344	12336989	0.718	0.545	6.230×10^{-3}	1.000	0.236	0.954
cloud top height [m]	$(0.371 \pm 0.271) \times 10^4$	12336989	3.664×10^3	3.018×10^3	0.0	2.000×10^4	1.575×10^3	5.239×10^3
cloud optical thickness [1]	22.0 ± 37.8	12336989	12.2	10.3	1.000	250	6.65	18.9
cloud fraction crb [1]	0.560 ± 0.344	12336989	0.718	0.543	8.389×10^{-3}	1.000	0.235	0.953
cloud height crb [m]	$(0.288 \pm 0.243) \times 10^4$	12336989	3.245×10^3	2.266×10^3	0.0	2.000×10^4	974	4.218×10^3
cloud albedo crb [1]	0.576 ± 0.191	12336989	0.248	0.558	0.0	1.000	0.456	0.704
surface albedo fitted [1]	0.166 ± 0.282	12336989	5.156×10^{-2}	3.705×10^{-2}	0.0	1.000	2.112×10^{-2}	7.268×10^{-2}
surface albedo fitted crb [1]	0.156 ± 0.276	12336989	4.046×10^{-2}	2.726×10^{-2}	0.0	1.000	1.510×10^{-2}	5.556×10^{-2}
fitted root mean square [1]	$(6.249 \pm 12.747) \times 10^{-4}$	12336989	7.177×10^{-4}	2.502×10^{-4}	9.768×10^{-7}	0.436	8.135×10^{-5}	7.990×10^{-4}
fitted root mean square crb [1]	$(5.537 \pm 10.684) \times 10^{-4}$	12336989	6.729×10^{-4}	1.906×10^{-4}	9.293×10^{-7}	0.512	5.412×10^{-5}	7.270×10^{-4}
wavelength shift [nm]	$(6.794 \pm 6.877) \times 10^{-3}$	12336989	9.915×10^{-3}	5.896×10^{-3}	-4.533×10^{-2}	0.344	1.481×10^{-3}	1.140×10^{-2}
cloud fraction apriori [1]	0.572 ± 0.349	12336989	0.764	0.570	0.0	1.000	0.234	0.999
reflectance blue ocra [1]	0.538 ± 0.208	12336989	0.343	0.509	0.154	1.92	0.357	0.700
reflectance green ocra [1]	0.481 ± 0.237	12336989	0.411	0.452	8.204×10^{-2}	1.91	0.263	0.674
reflectance continuum aband [1]	0.410 ± 0.274	12336989	0.484	0.386	1.242×10^{-2}	4.93	0.155	0.638

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]	0.619 ± 0.366	3766287	0.580	0.740	0.0	1.000	0.340	0.920
cloud fraction [1]	0.657 ± 0.347	3766287	0.668	0.756	3.989×10^{-3}	1.000	0.332	1.000
cloud top height [m]	$(0.446 \pm 0.260) \times 10^4$	3766287	3.626×10^3	4.064×10^3	0.0	2.000×10^4	2.463×10^3	6.089×10^3
cloud optical thickness [1]	16.5 ± 29.1	3766287	9.85	8.35	1.000	250	5.20	15.1
cloud fraction crb [1]	0.657 ± 0.347	3766287	0.668	0.756	8.243×10^{-3}	1.000	0.332	1.000
cloud height crb [m]	$(0.340 \pm 0.223) \times 10^4$	3766287	3.366×10^3	2.928×10^3	0.0	2.000×10^4	1.611×10^3	4.977×10^3
cloud albedo crb [1]	0.597 ± 0.224	3766287	0.300	0.598	0.0	1.000	0.466	0.766
surface albedo fitted [1]	0.389 ± 0.262	3766287	0.243	0.282	0.0	1.000	0.214	0.457
surface albedo fitted crb [1]	0.389 ± 0.257	3766287	0.273	0.281	5.190×10^{-3}	1.000	0.210	0.484
fitted root mean square [1]	$(1.240 \pm 1.446) \times 10^{-3}$	3766287	1.405×10^{-3}	8.671×10^{-4}	2.146×10^{-6}	0.234	3.895×10^{-4}	1.795×10^{-3}
fitted root mean square crb [1]	$(1.146 \pm 1.073) \times 10^{-3}$	3766287	1.379×10^{-3}	8.319×10^{-4}	7.673×10^{-7}	4.532×10^{-2}	3.387×10^{-4}	1.718×10^{-3}
wavelength shift [nm]	$(8.290 \pm 6.528) \times 10^{-3}$	3766287	9.452×10^{-3}	8.165×10^{-3}	-3.285×10^{-2}	5.694×10^{-2}	3.292×10^{-3}	1.274×10^{-2}
cloud fraction apriori [1]	0.671 ± 0.351	3766287	0.660	0.800	0.0	1.000	0.340	1.000
reflectance blue ocra [1]	0.555 ± 0.232	3766287	0.407	0.525	0.131	1.90	0.346	0.753
reflectance green ocra [1]	0.516 ± 0.257	3766287	0.466	0.484	8.569×10^{-2}	1.86	0.277	0.743
reflectance continuum aband [1]	0.540 ± 0.240	3766287	0.412	0.502	1.541×10^{-2}	3.53	0.332	0.744

3 Granule outlines

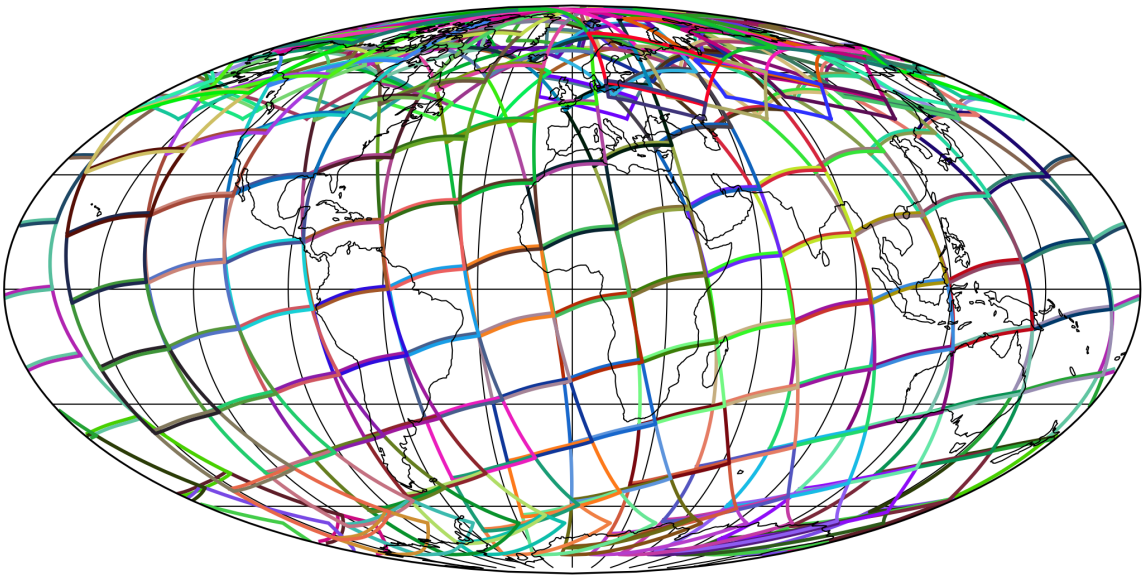

Figure 1: Outline of the granules.

4 Input data monitoring

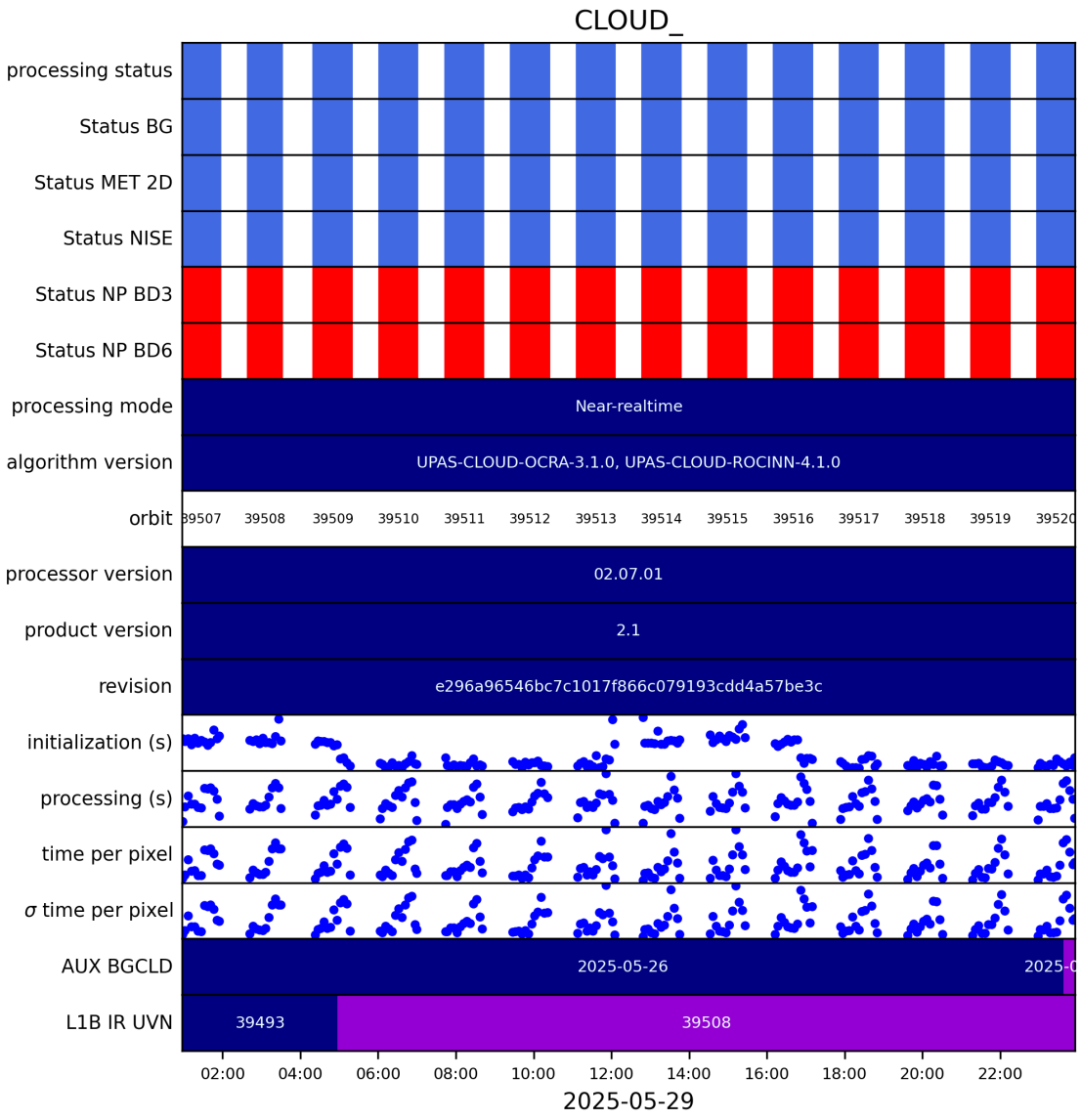

Figure 2: Input data per granule

5 Warnings and errors

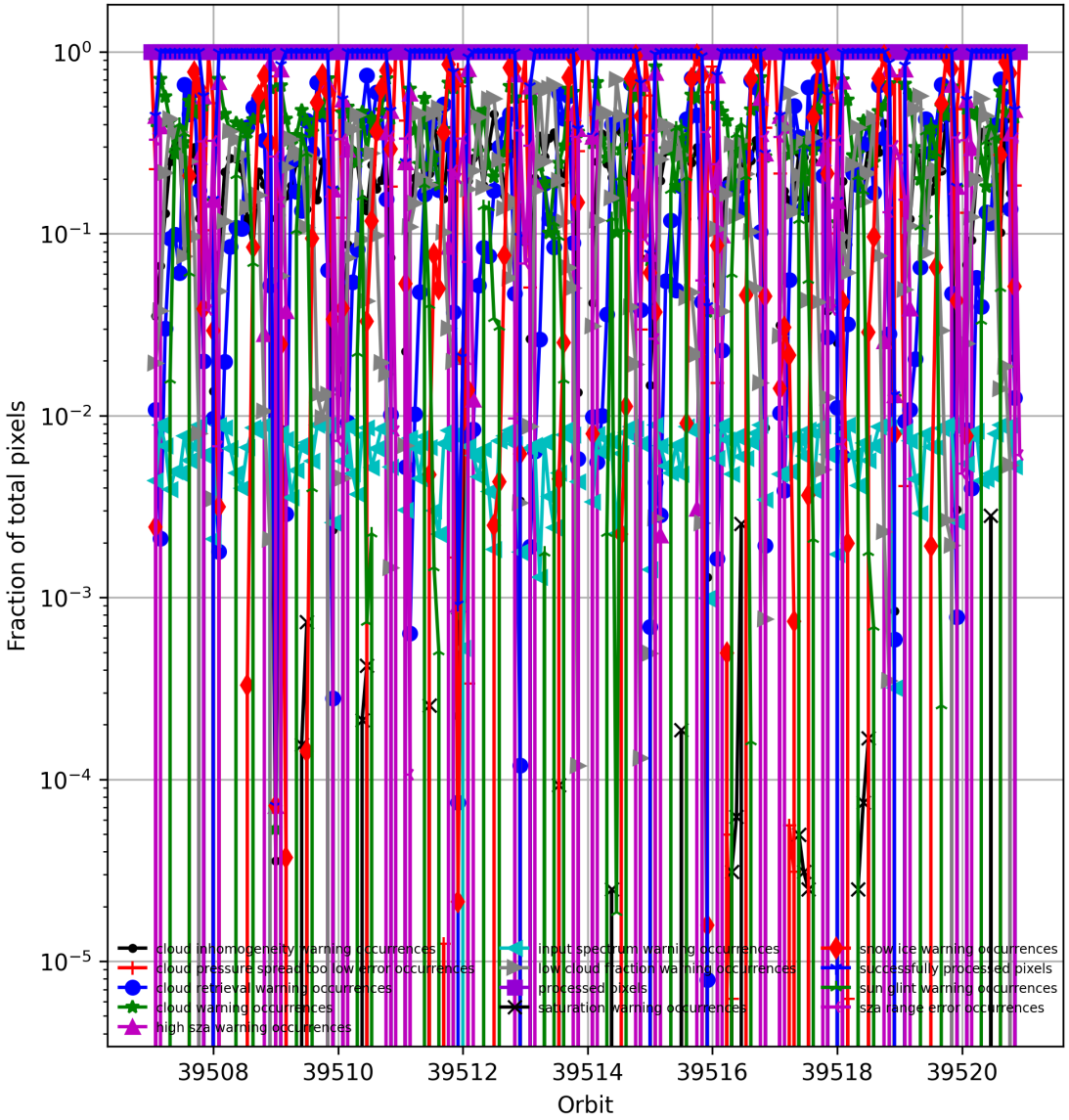

Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

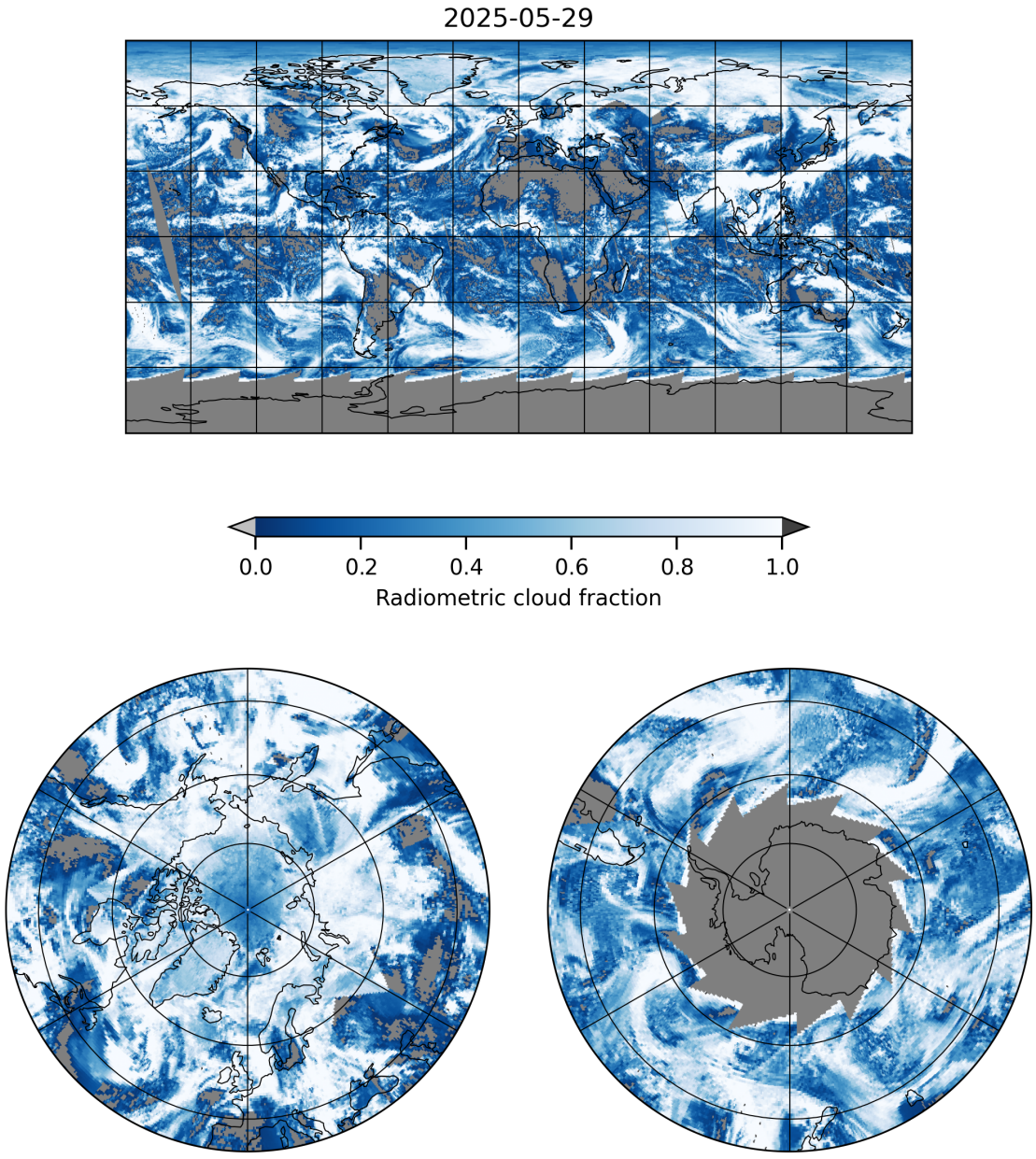

Figure 4: Map of “Radiometric cloud fraction” for 2025-05-29 to 2025-05-29

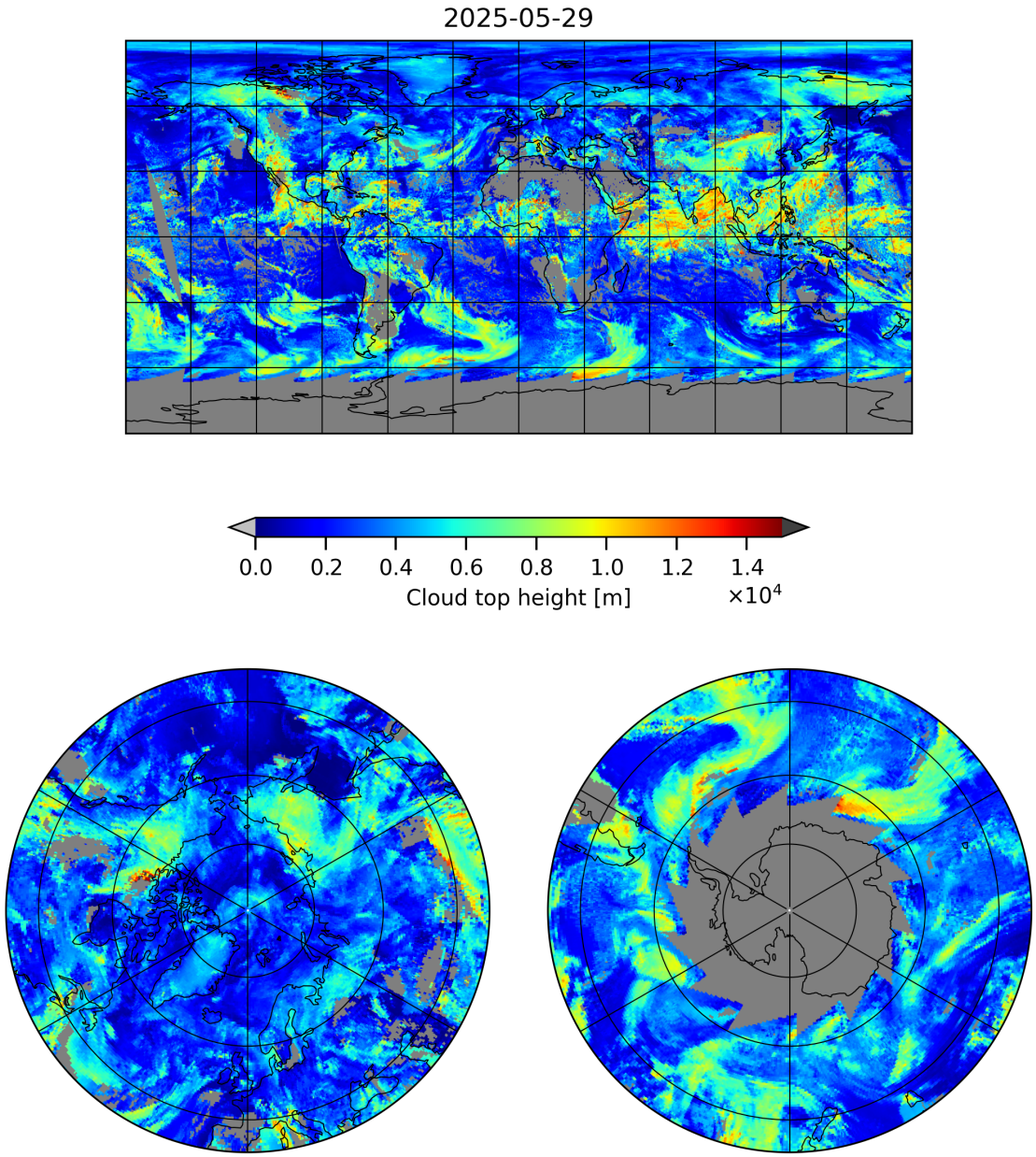

Figure 5: Map of “Cloud top height” for 2025-05-29 to 2025-05-29

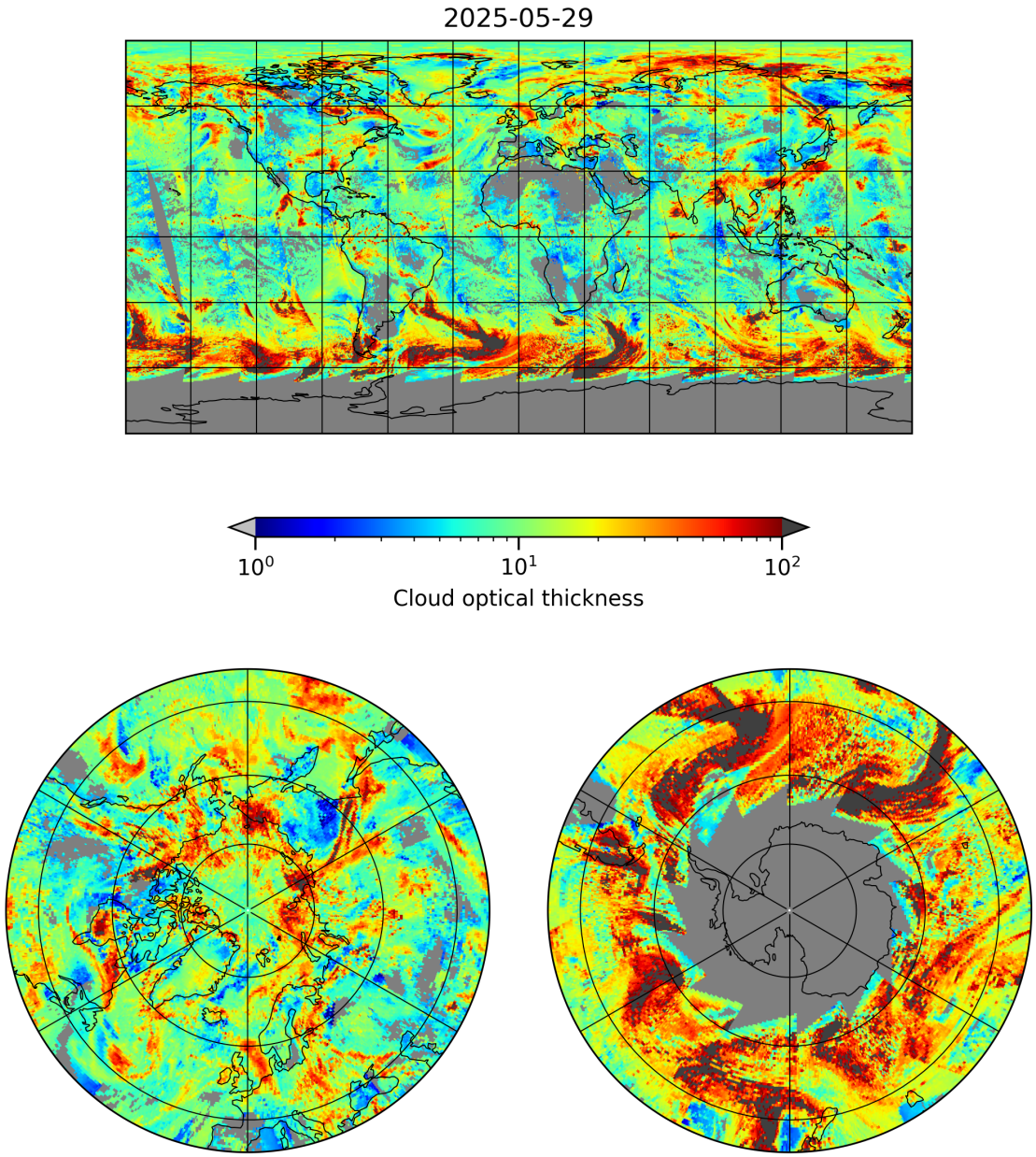

Figure 6: Map of “Cloud optical thickness” for 2025-05-29 to 2025-05-29

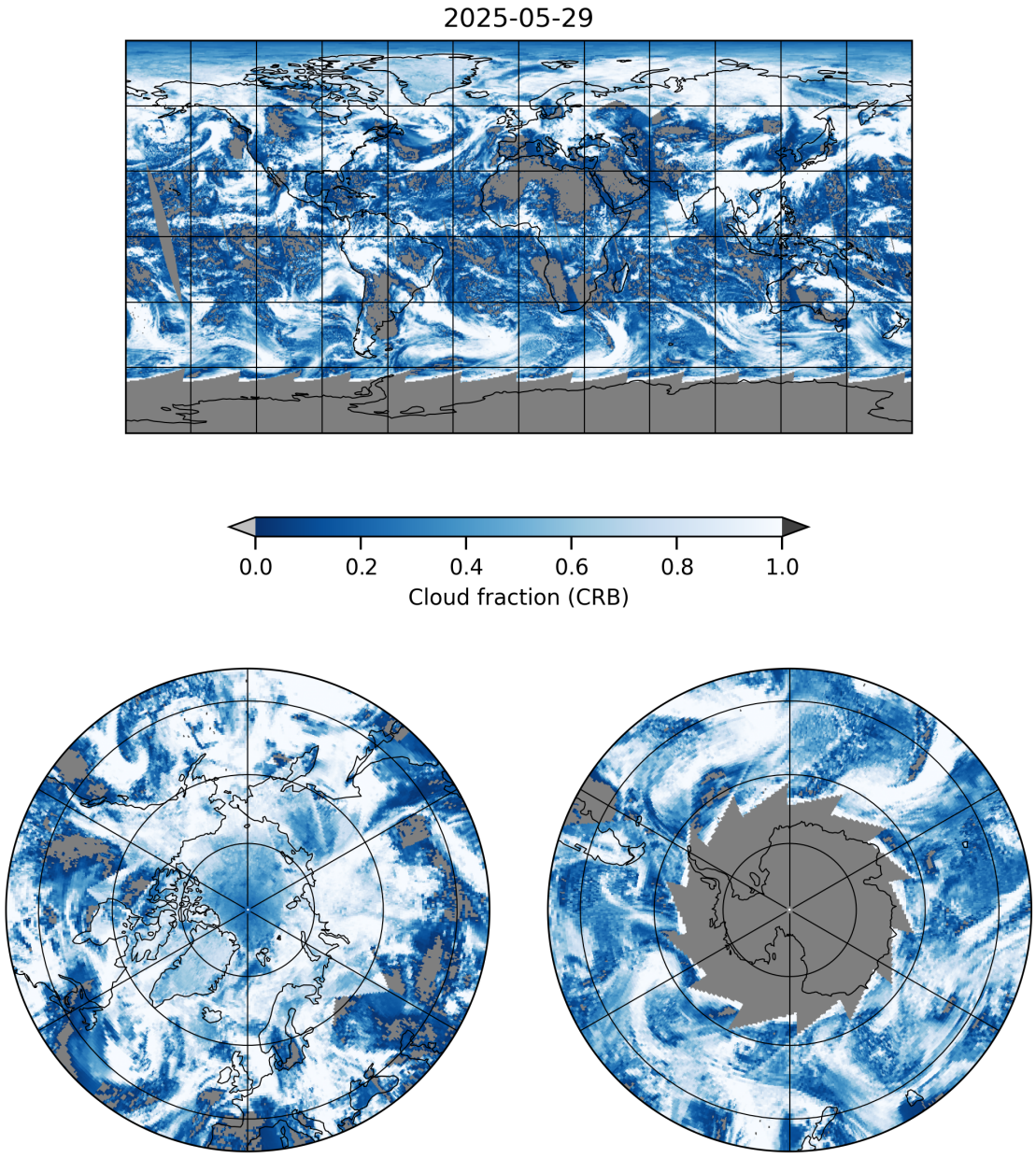

Figure 7: Map of “Cloud fraction (CRB)” for 2025-05-29 to 2025-05-29

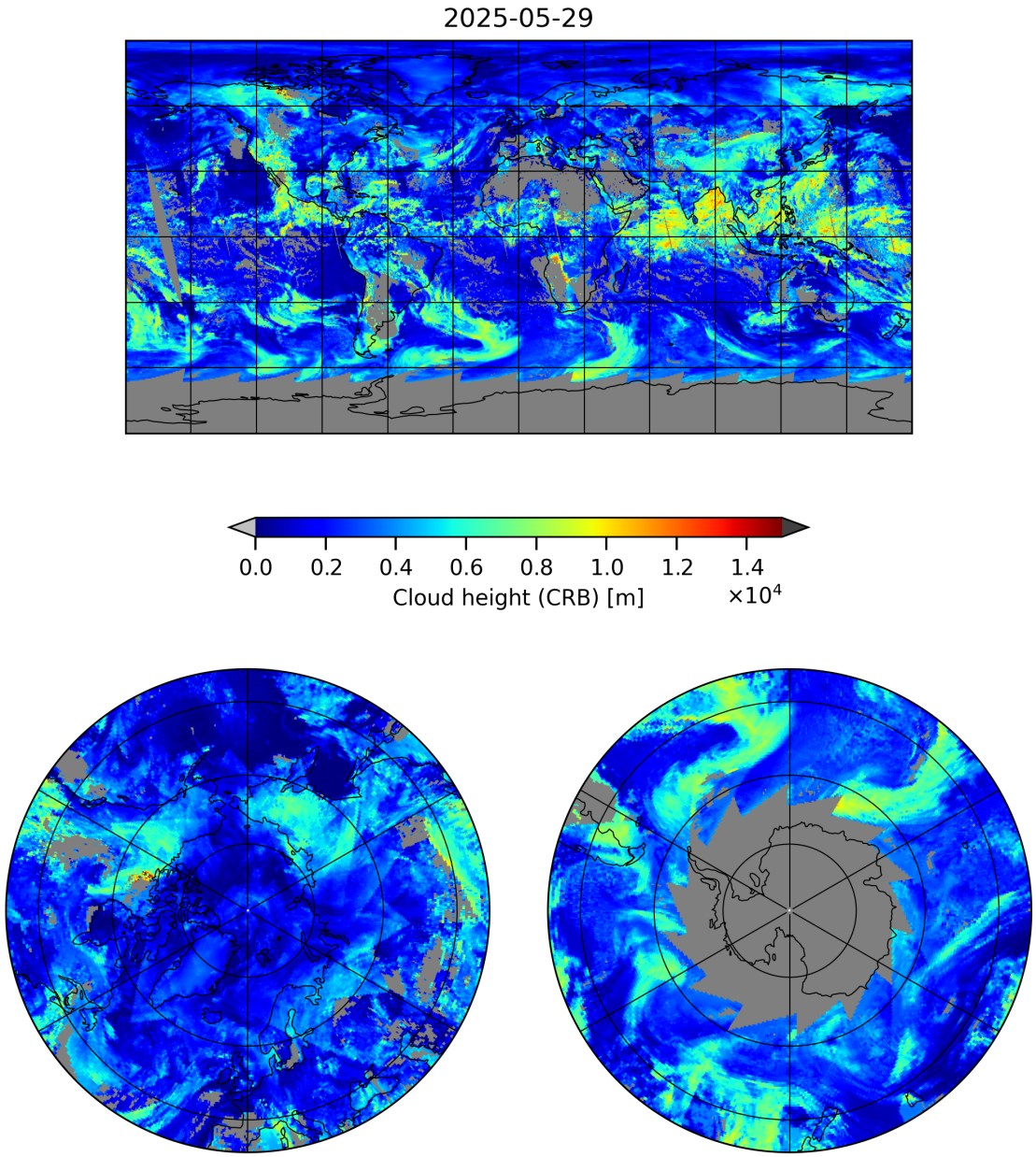

Figure 8: Map of “Cloud height (CRB)” for 2025-05-29 to 2025-05-29

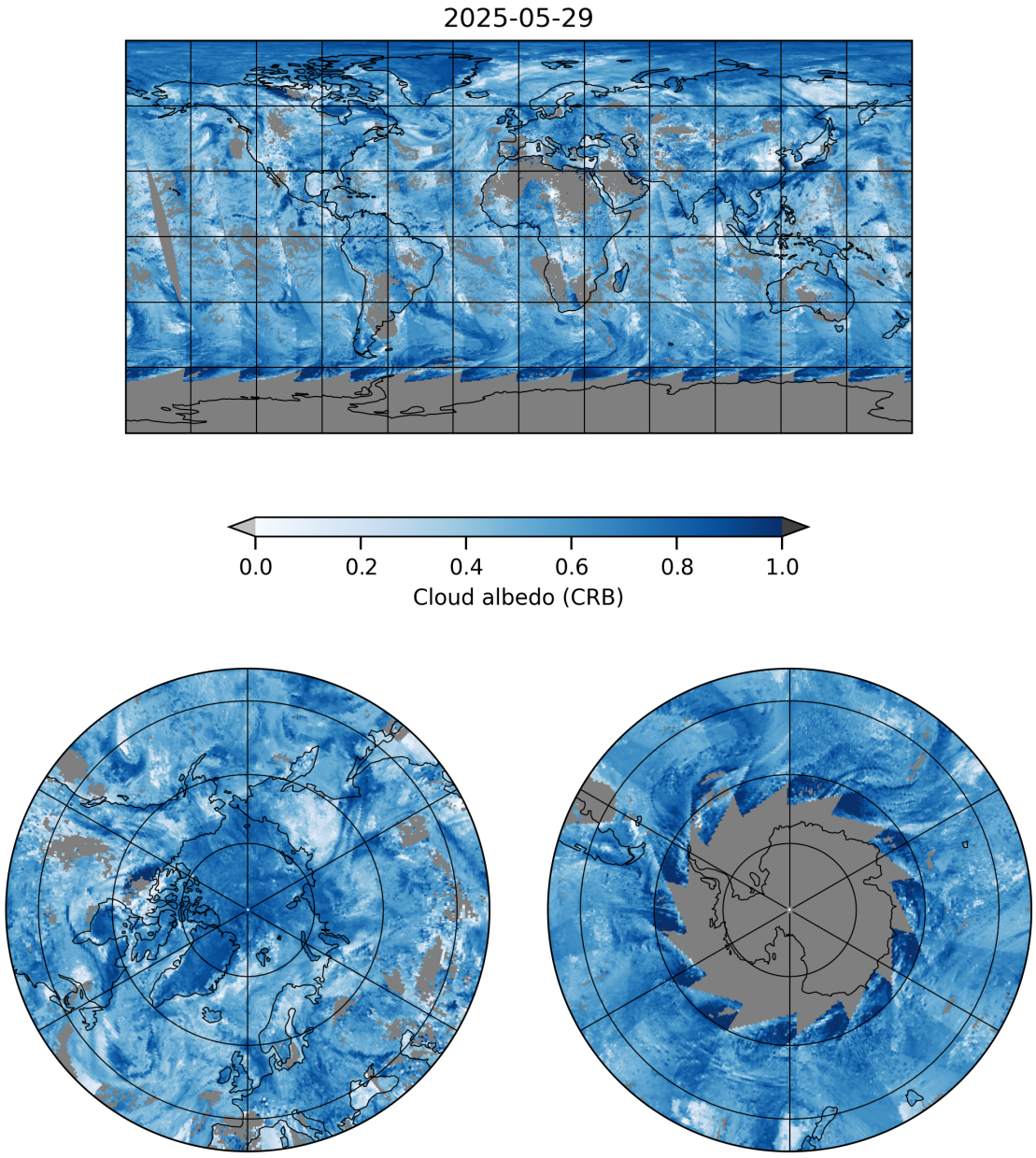

Figure 9: Map of “Cloud albedo (CRB)” for 2025-05-29 to 2025-05-29

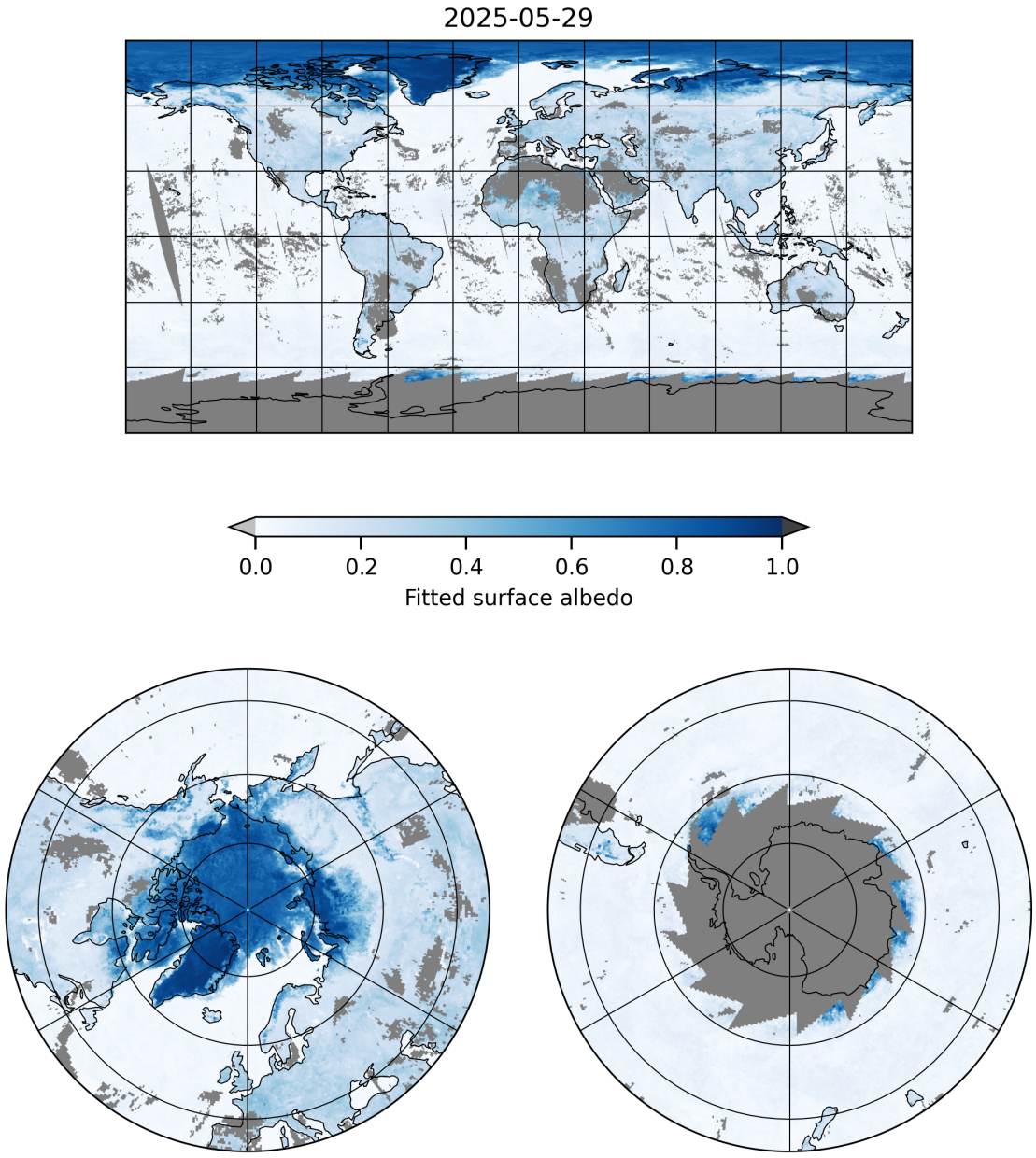

Figure 10: Map of “Fitted surface albedo” for 2025-05-29 to 2025-05-29

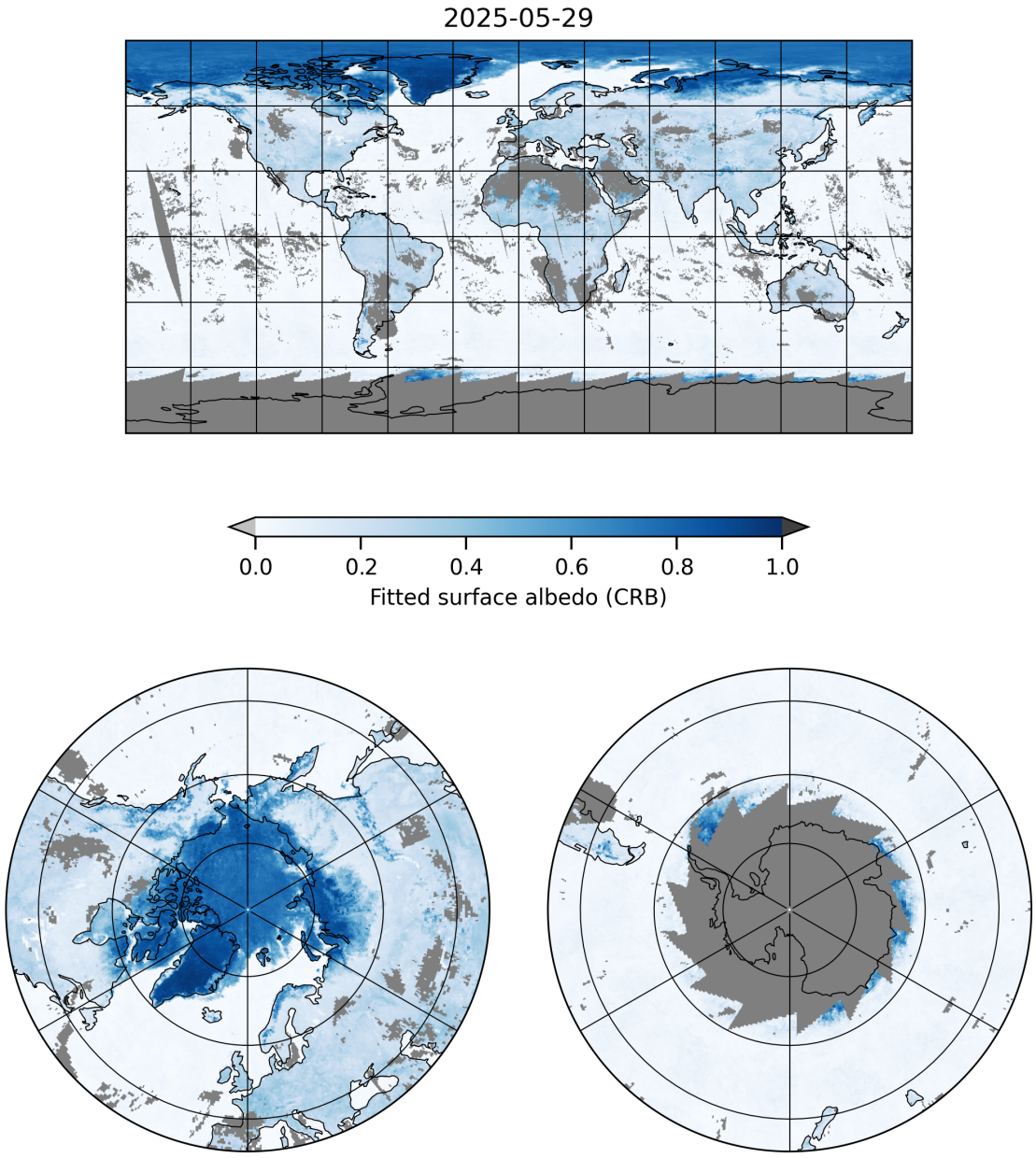

Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-05-29 to 2025-05-29

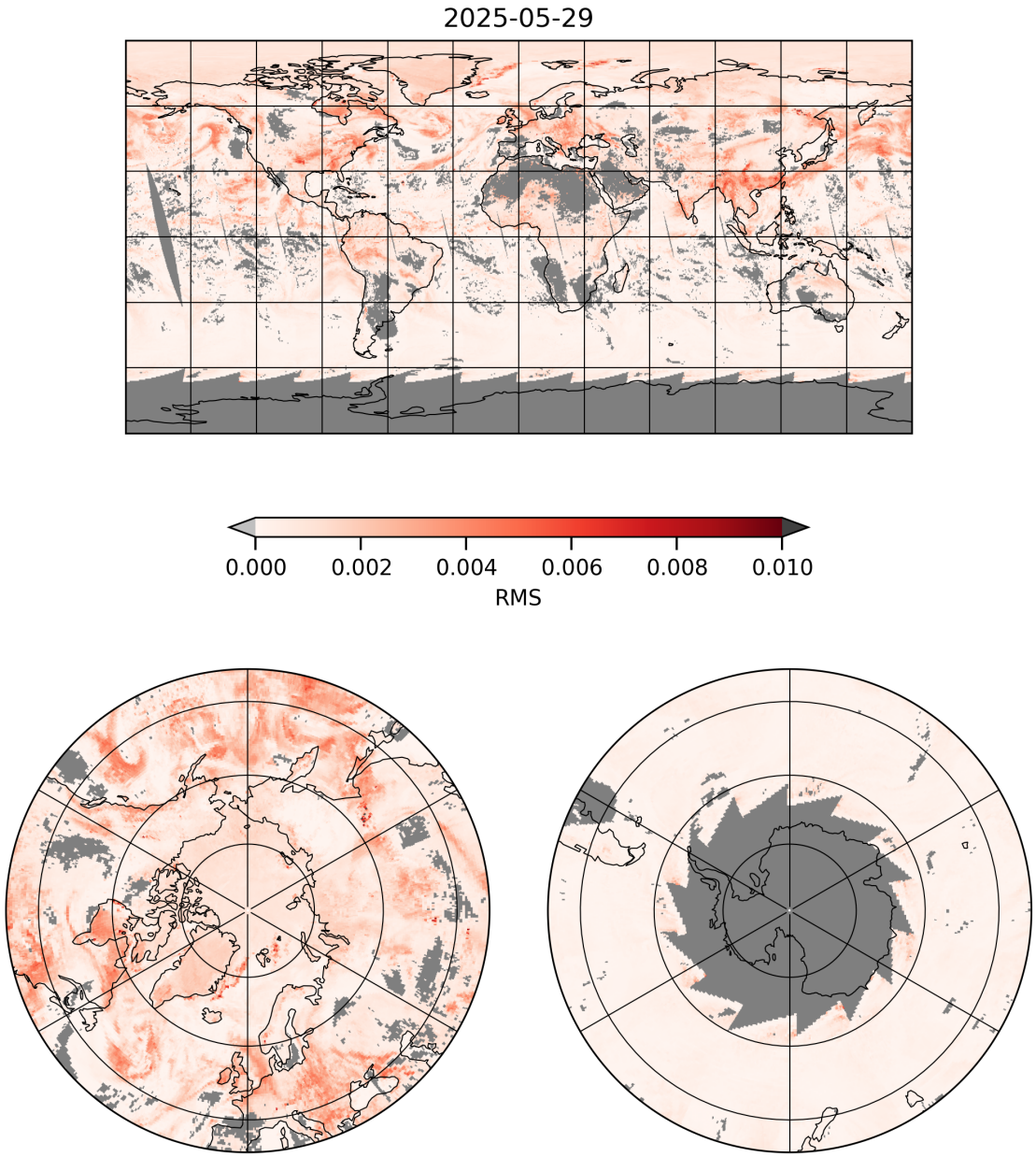

Figure 12: Map of “RMS” for 2025-05-29 to 2025-05-29

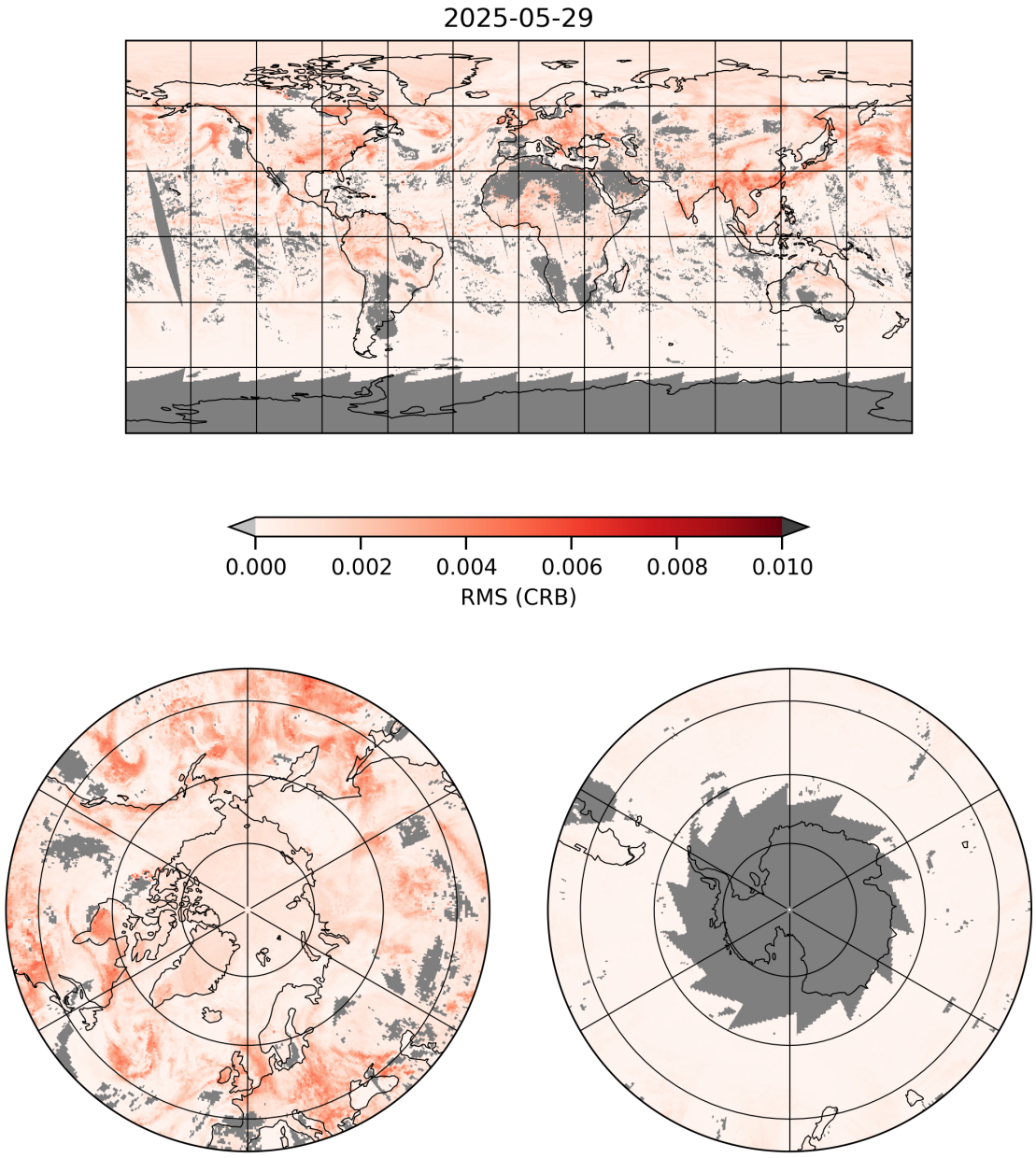

Figure 13: Map of “RMS (CRB)” for 2025-05-29 to 2025-05-29

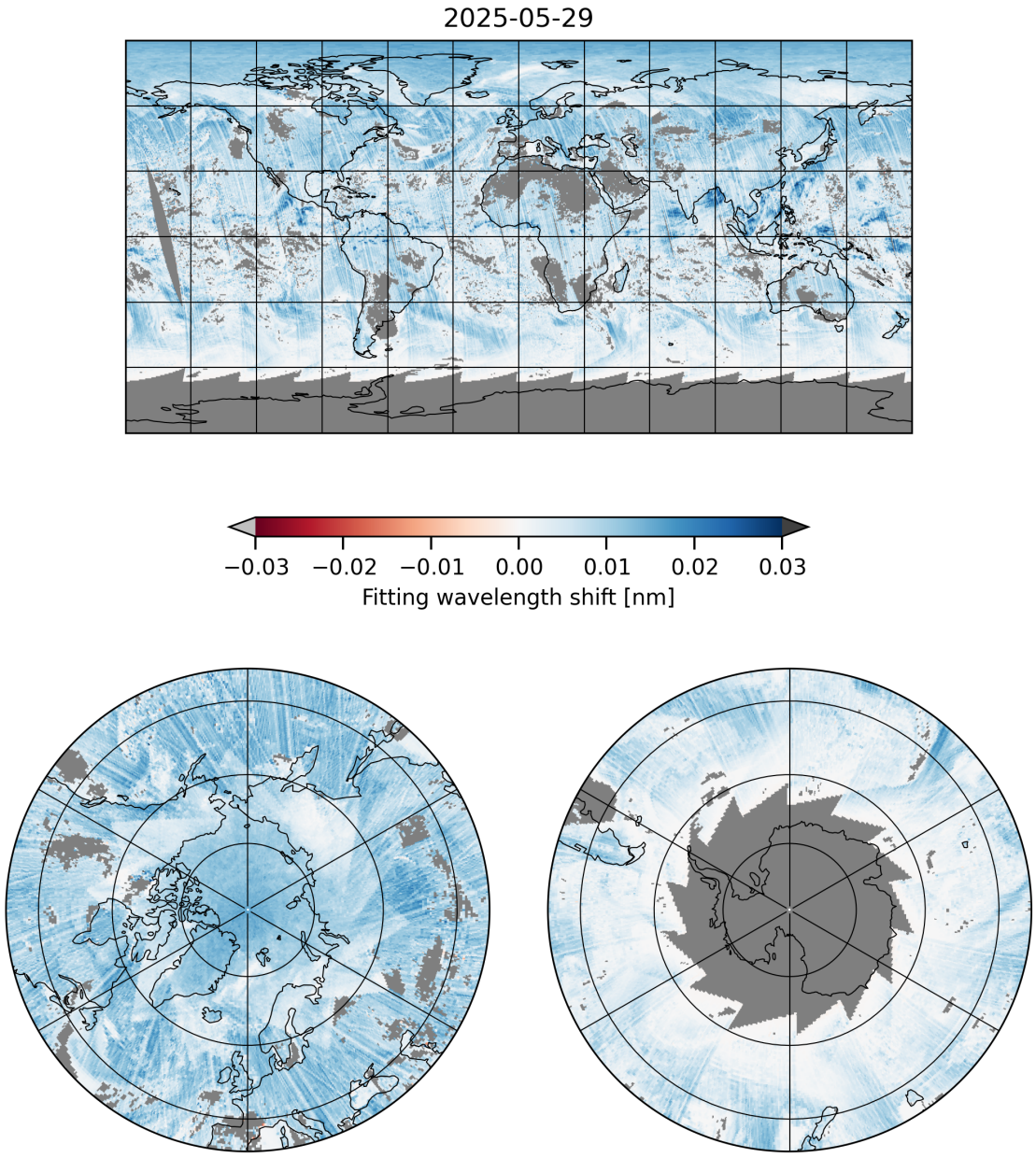

Figure 14: Map of “Fitting wavelength shift” for 2025-05-29 to 2025-05-29

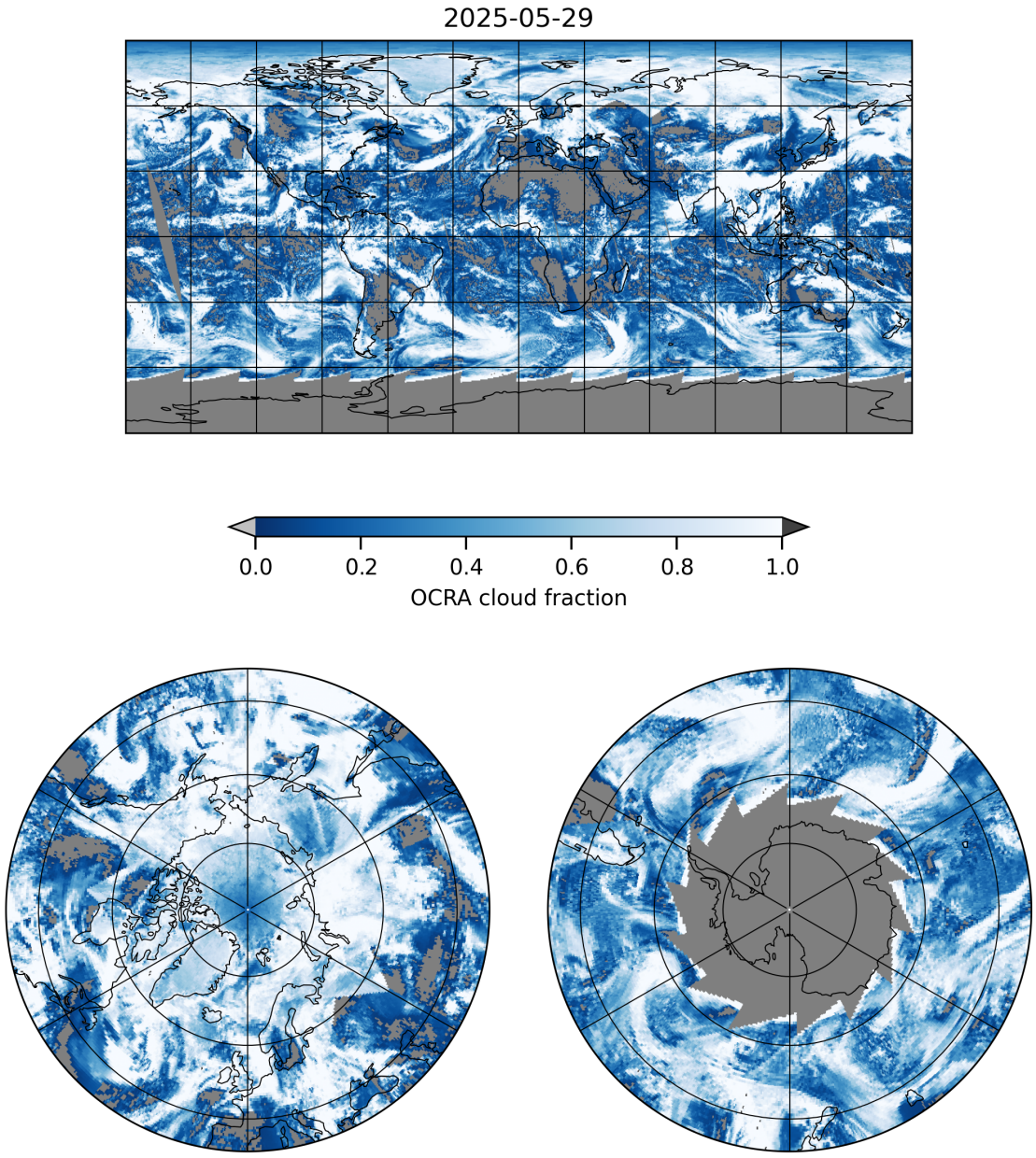

Figure 15: Map of “OCRA cloud fraction” for 2025-05-29 to 2025-05-29

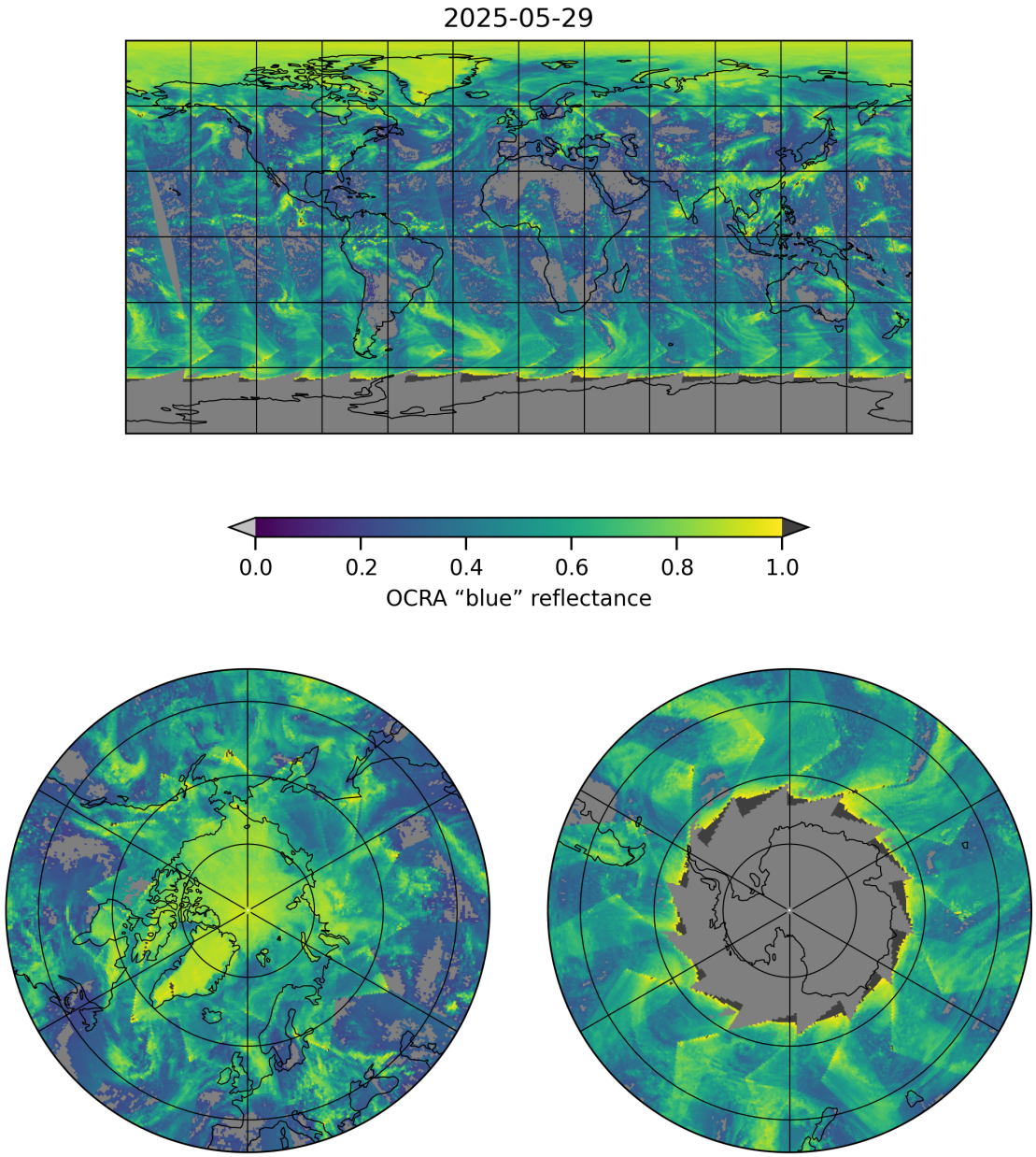

Figure 16: Map of “OCRA “blue” reflectance” for 2025-05-29 to 2025-05-29

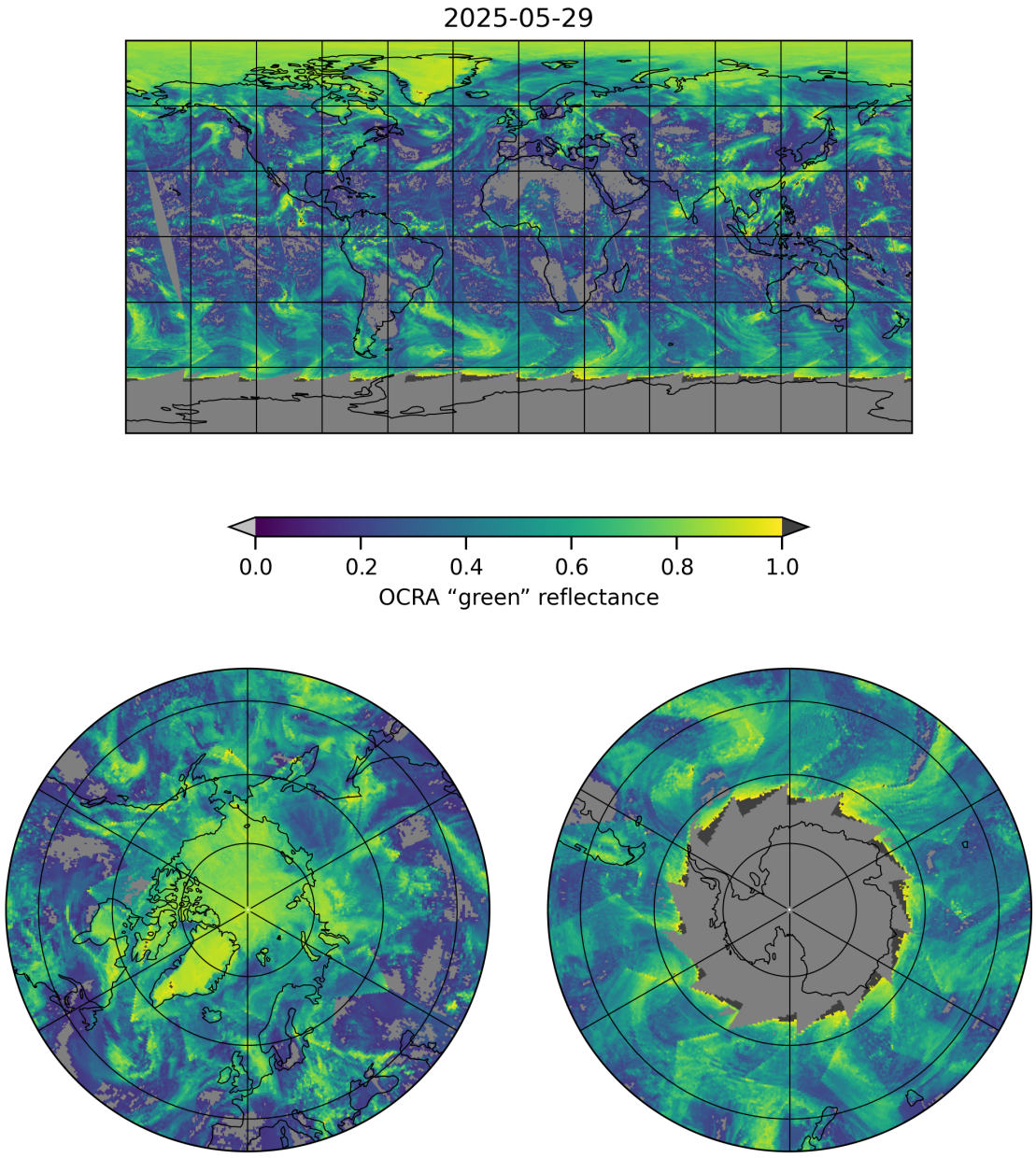

Figure 17: Map of “OCRA “green” reflectance” for 2025-05-29 to 2025-05-29

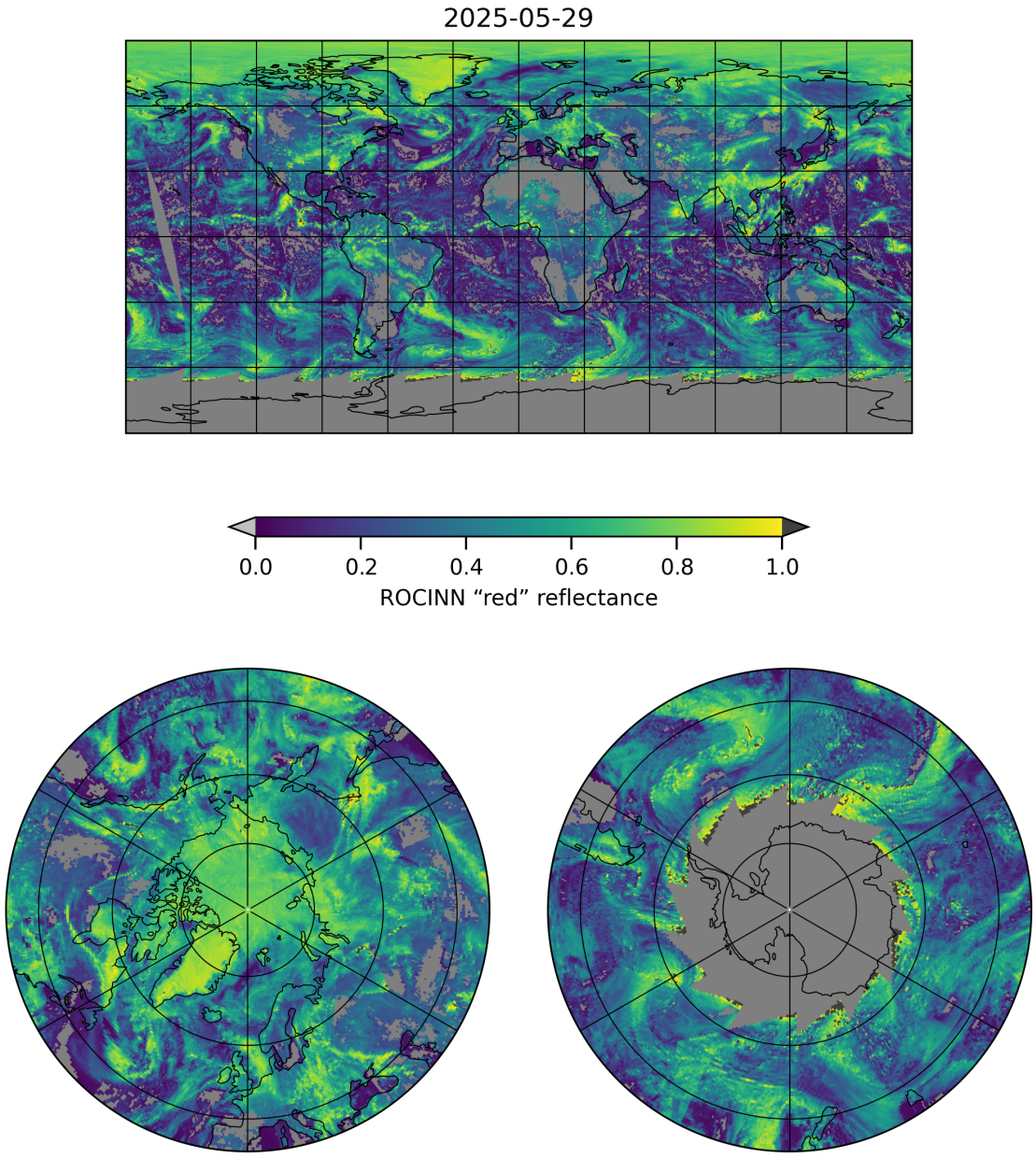

Figure 18: Map of “ROCINN “red” reflectance” for 2025-05-29 to 2025-05-29

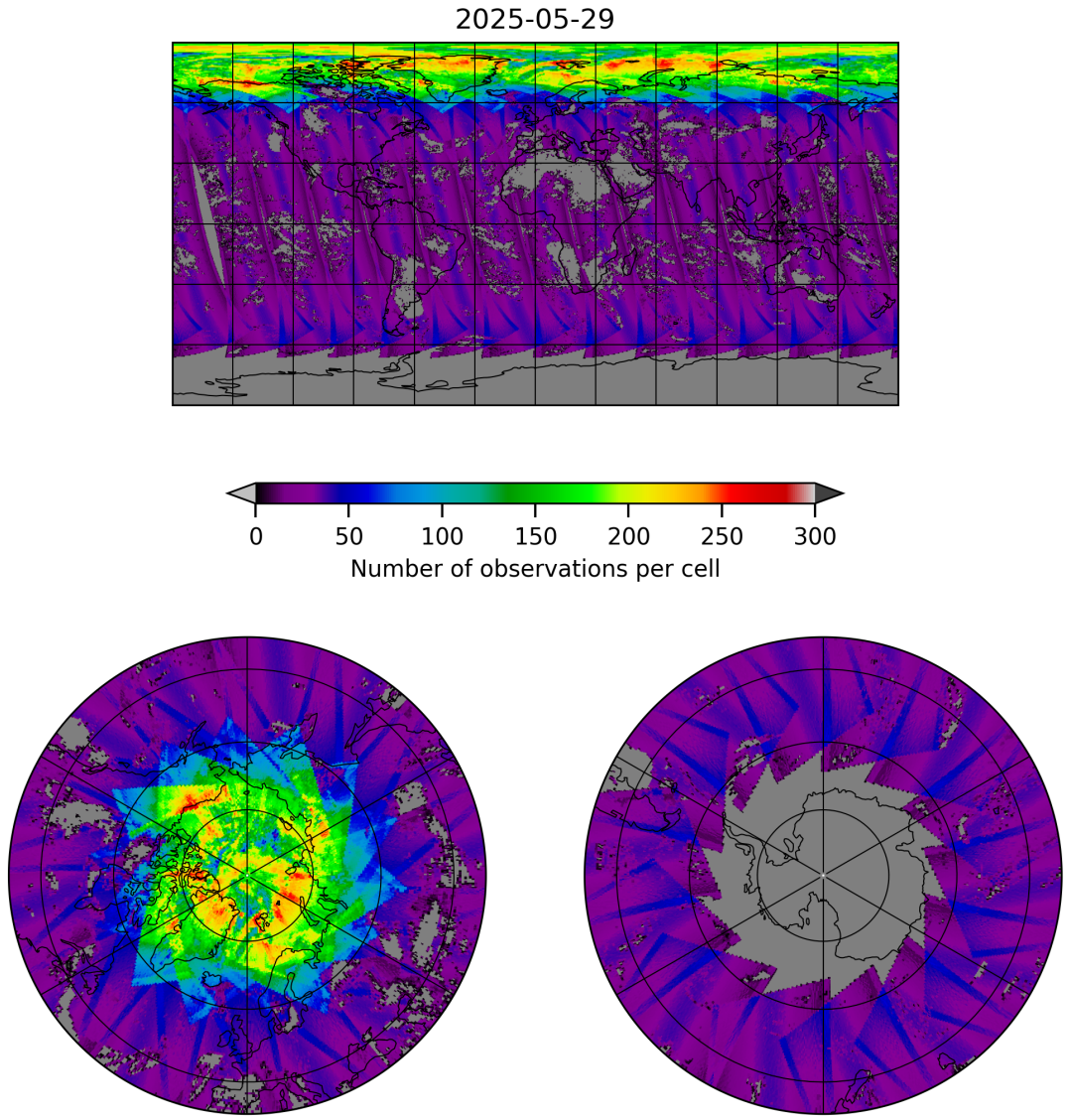

Figure 19: Map of the number of observations for 2025-05-29 to 2025-05-29

7 Zonal average

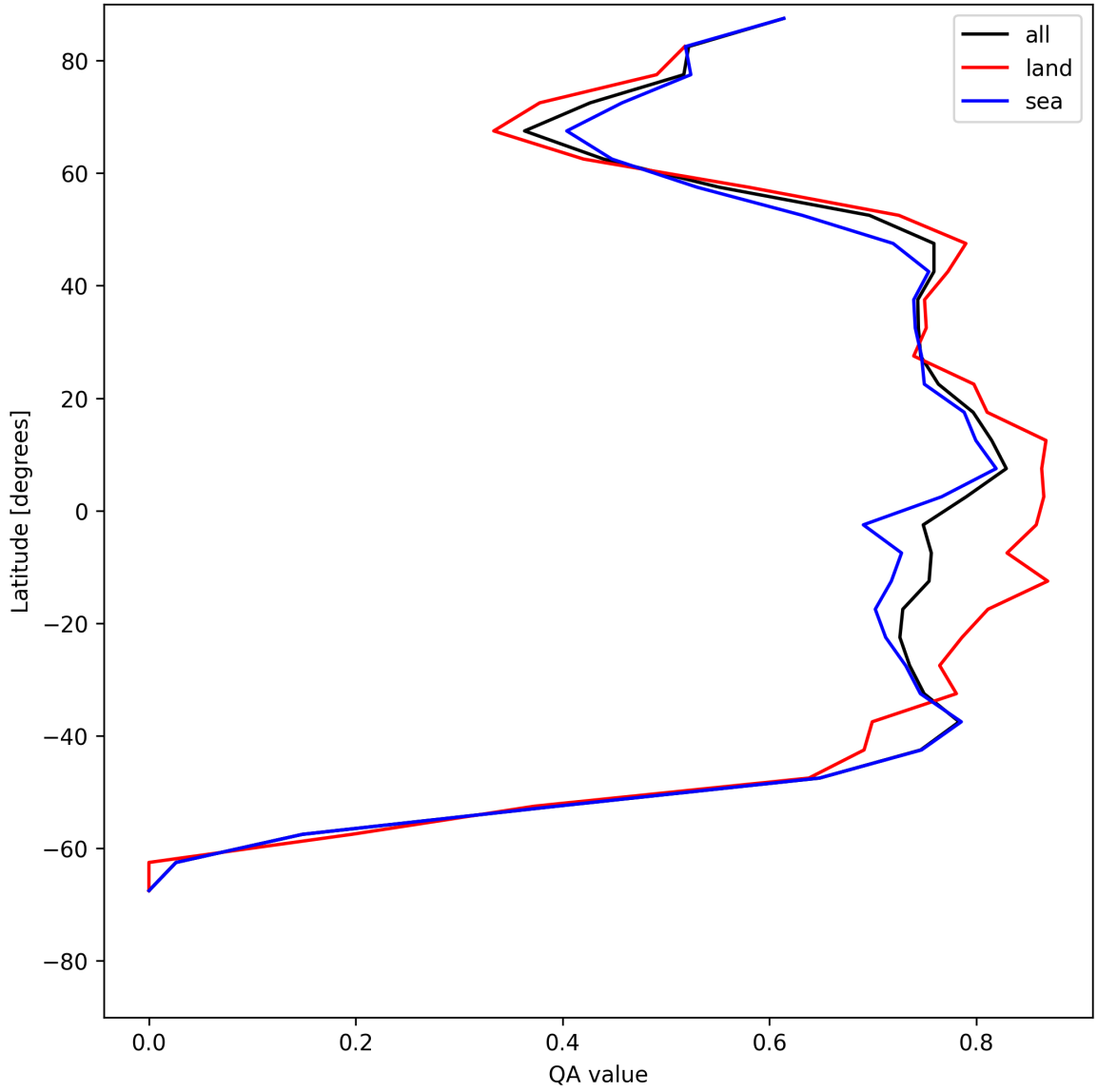

Figure 20: Zonal average of “QA value” for 2025-05-29 to 2025-05-29.

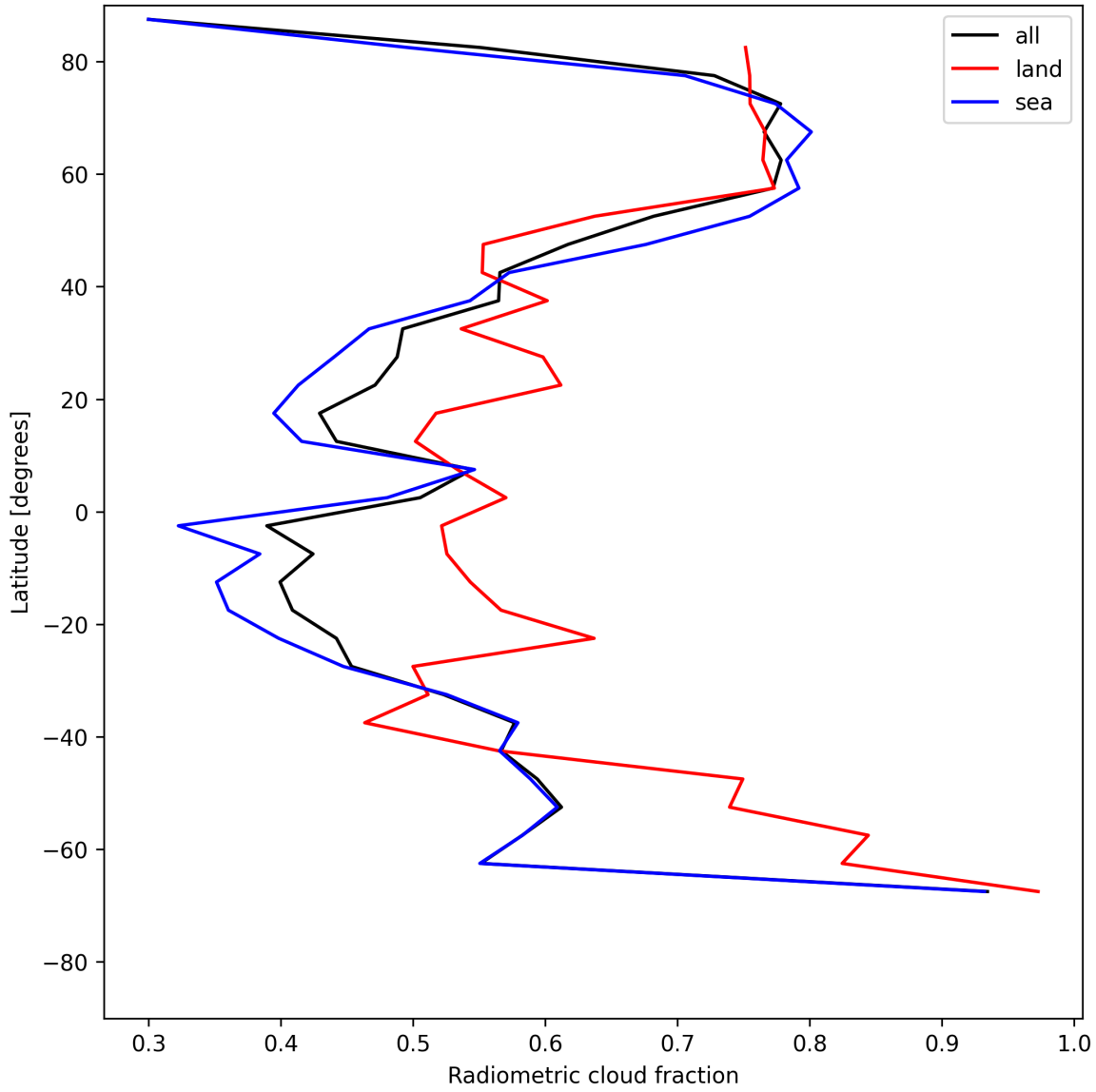

Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-05-29 to 2025-05-29.

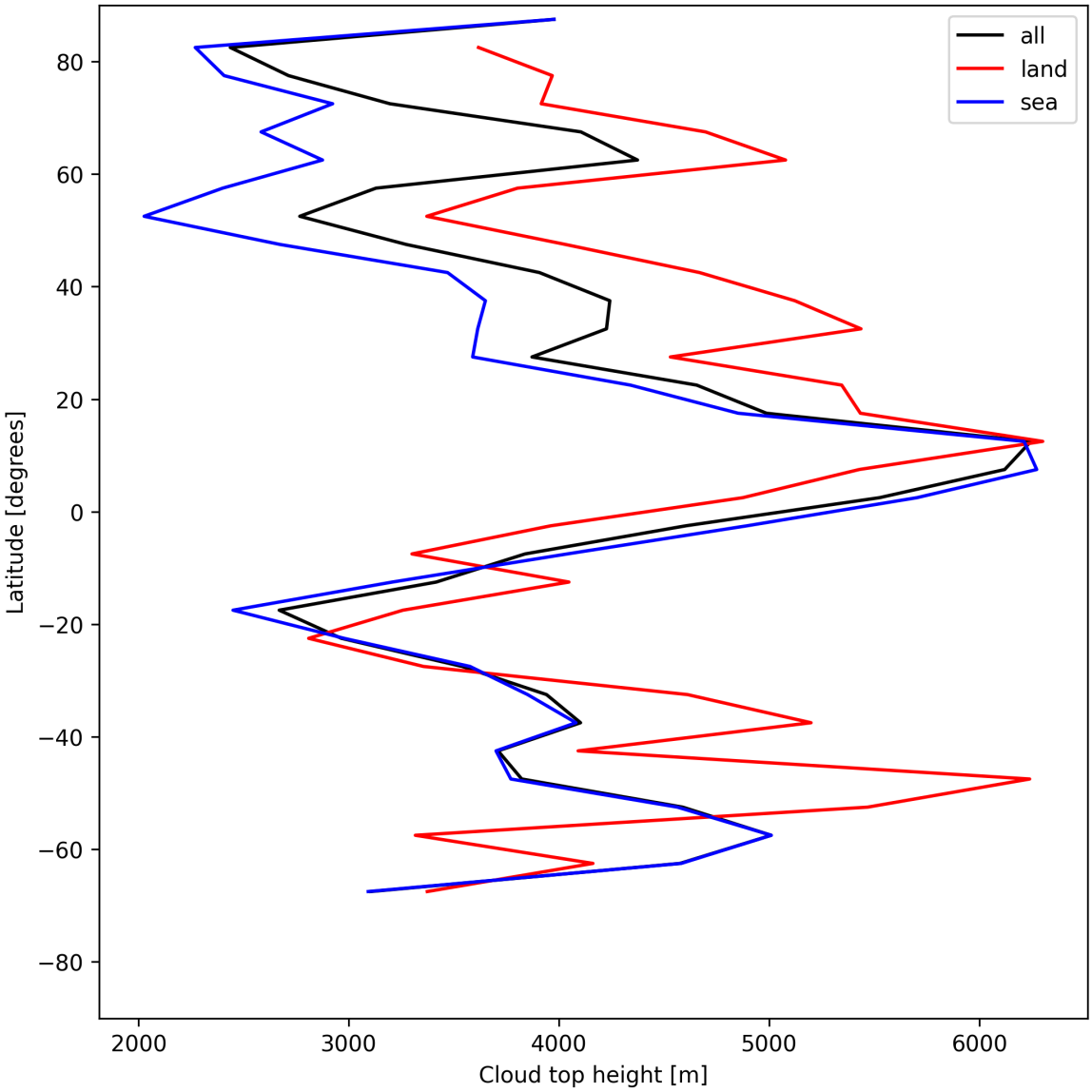

Figure 22: Zonal average of “Cloud top height” for 2025-05-29 to 2025-05-29.

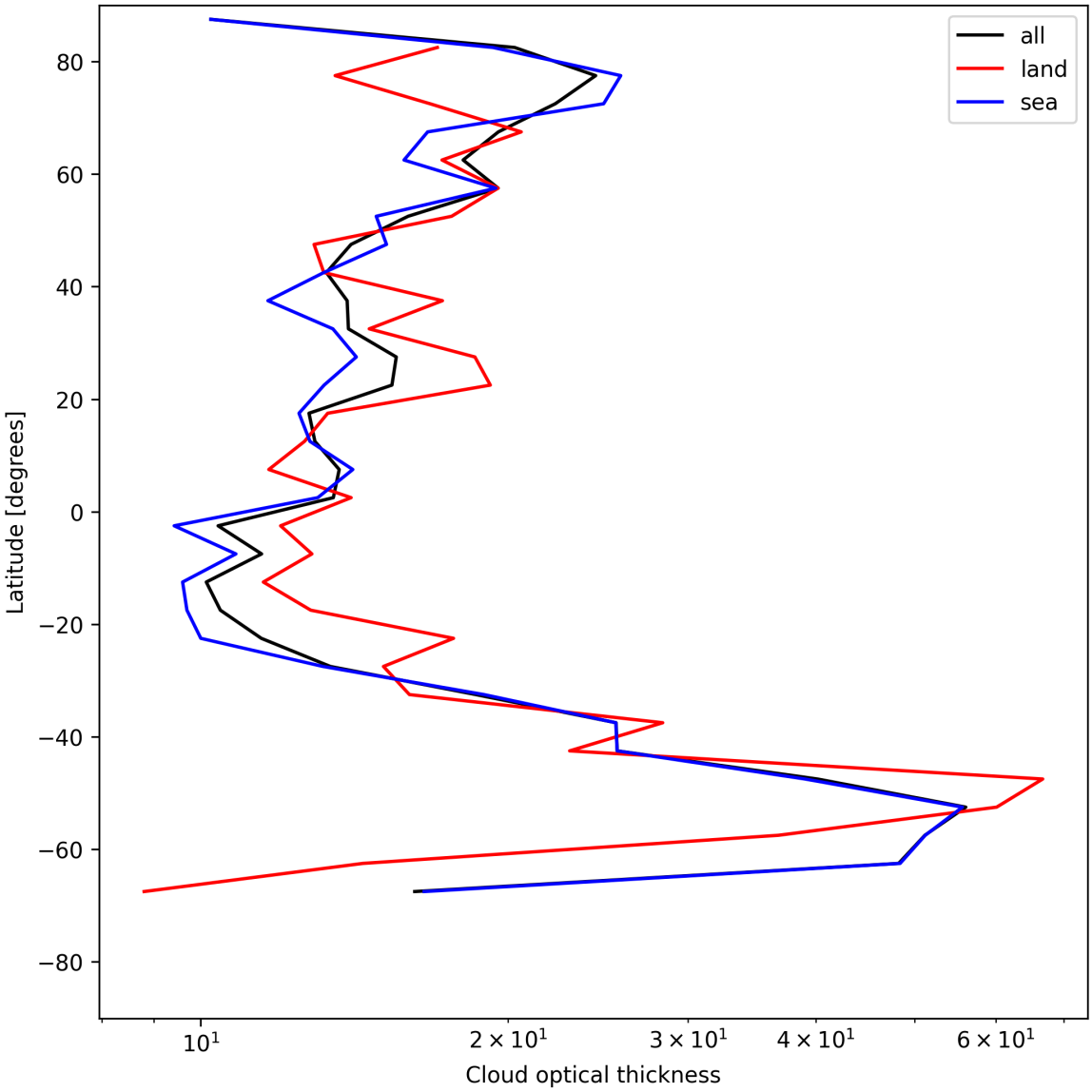

Figure 23: Zonal average of “Cloud optical thickness” for 2025-05-29 to 2025-05-29.

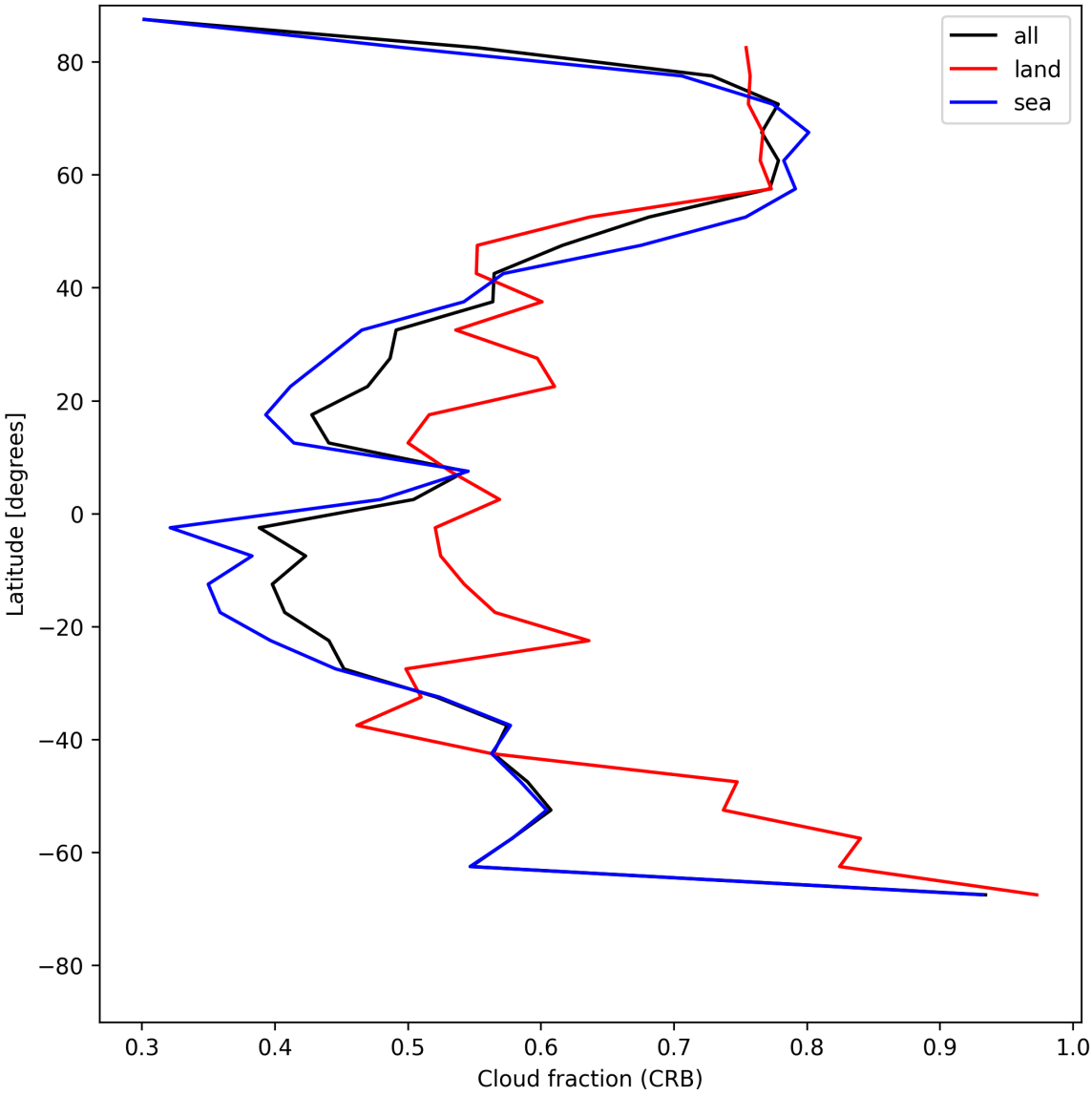

Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-05-29 to 2025-05-29.

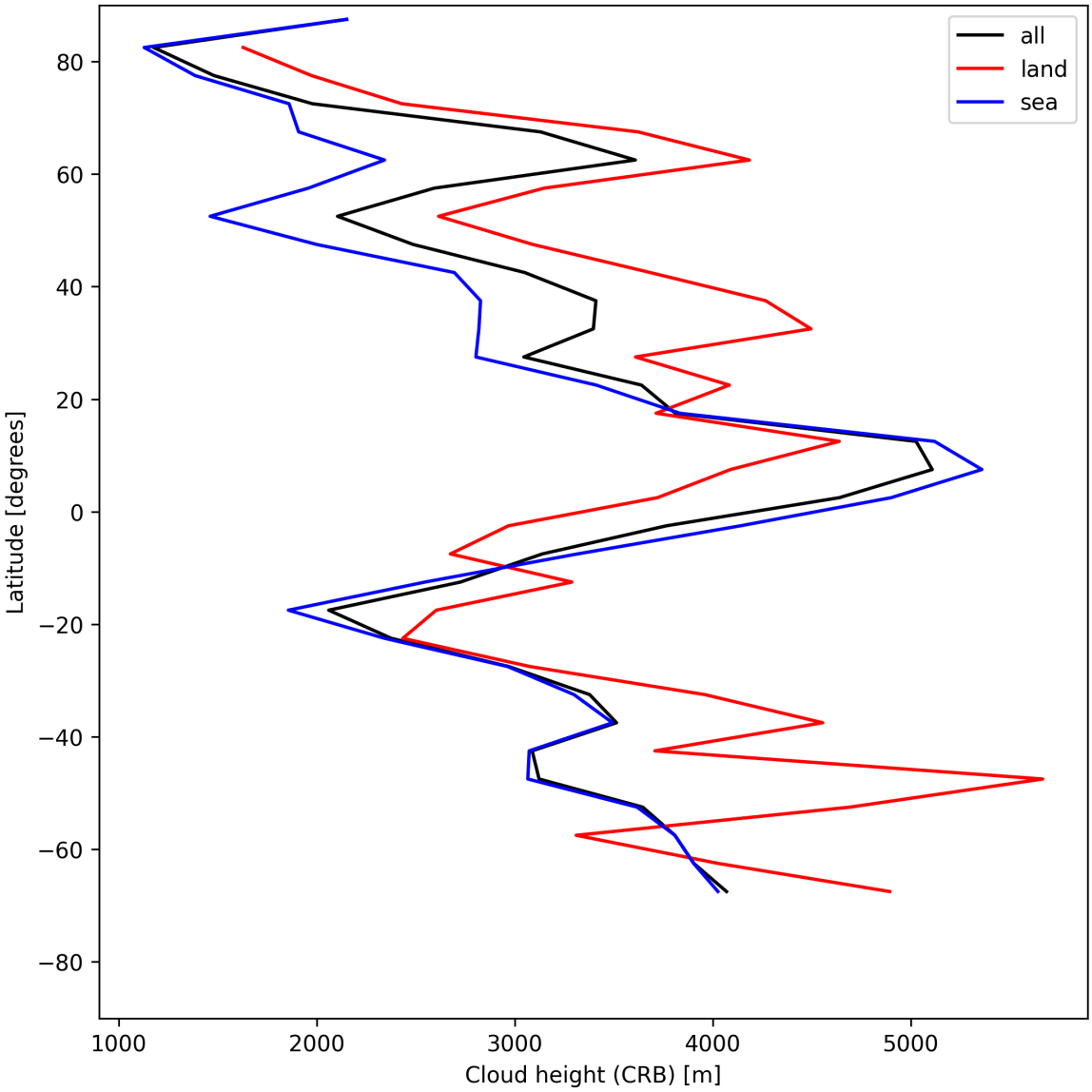

Figure 25: Zonal average of “Cloud height (CRB)” for 2025-05-29 to 2025-05-29.

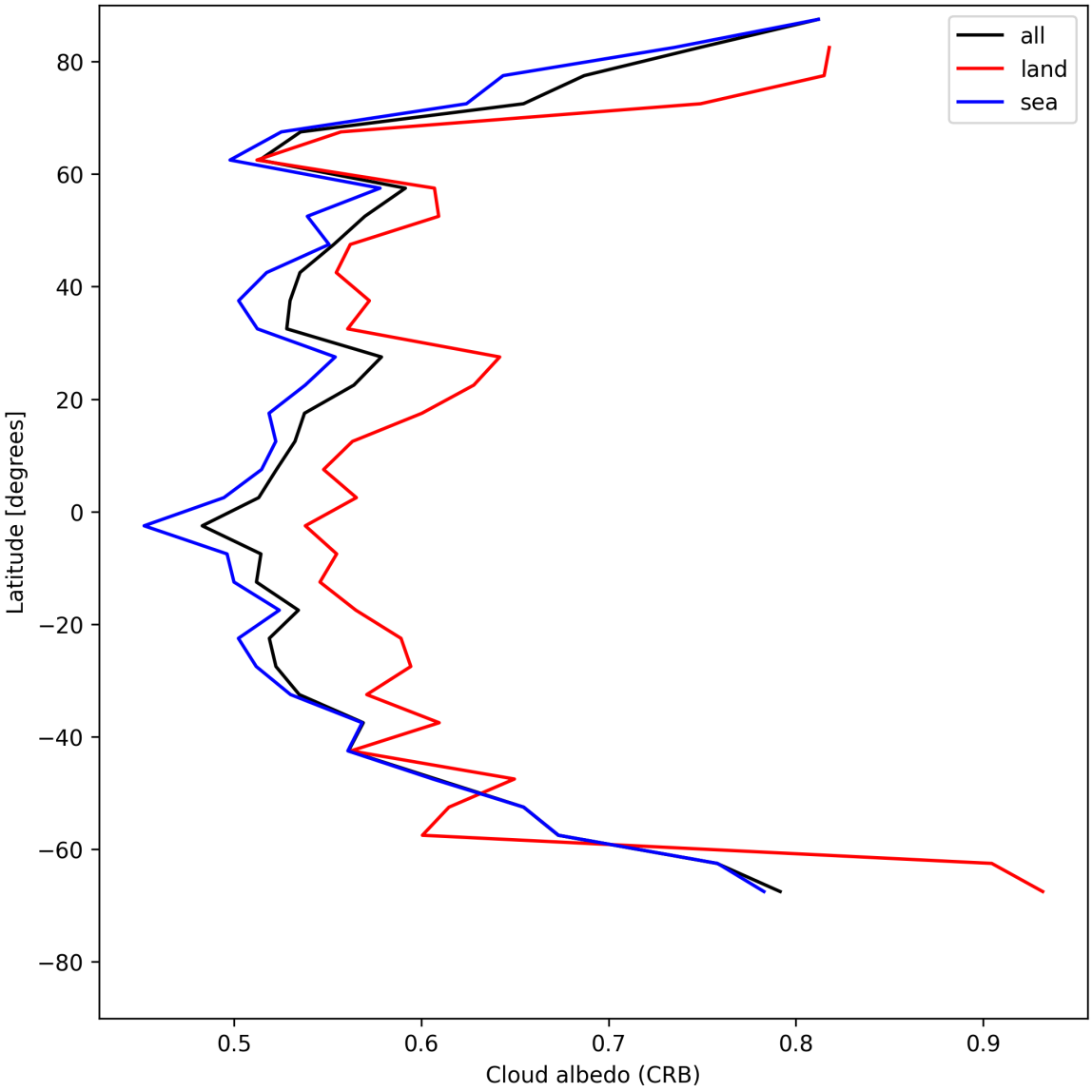

Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-05-29 to 2025-05-29.

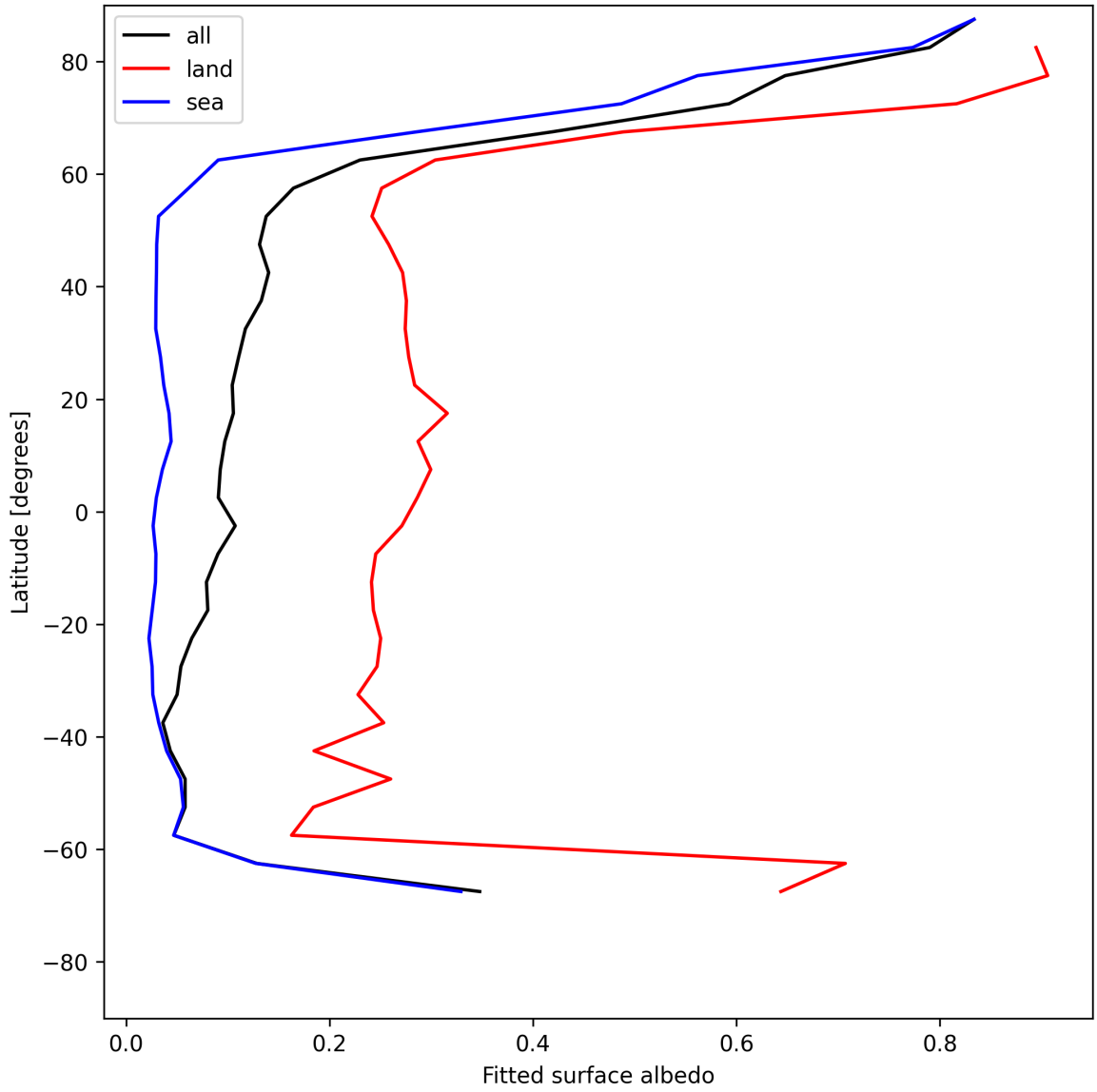

Figure 27: Zonal average of “Fitted surface albedo” for 2025-05-29 to 2025-05-29.

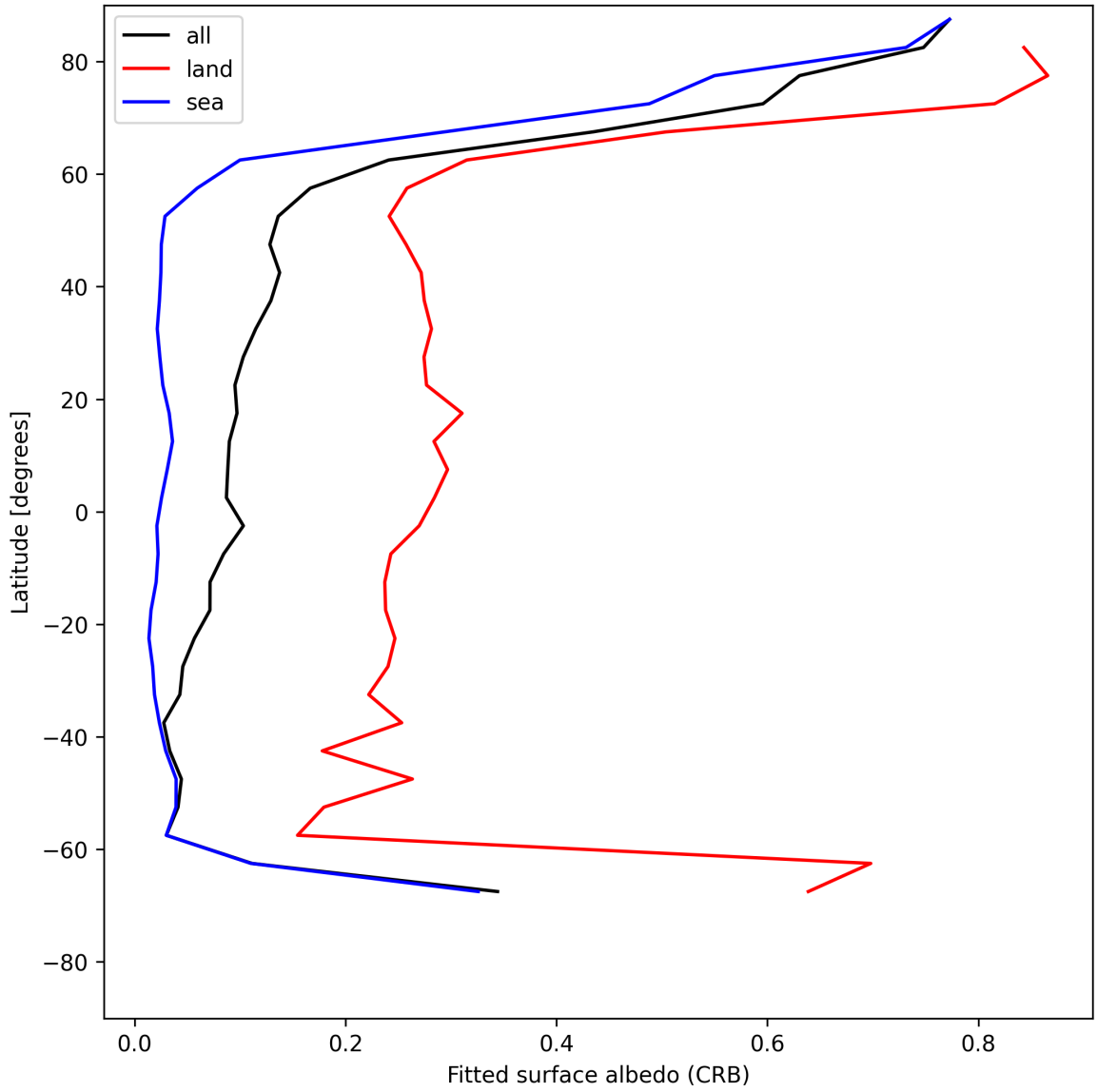

Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-05-29 to 2025-05-29.

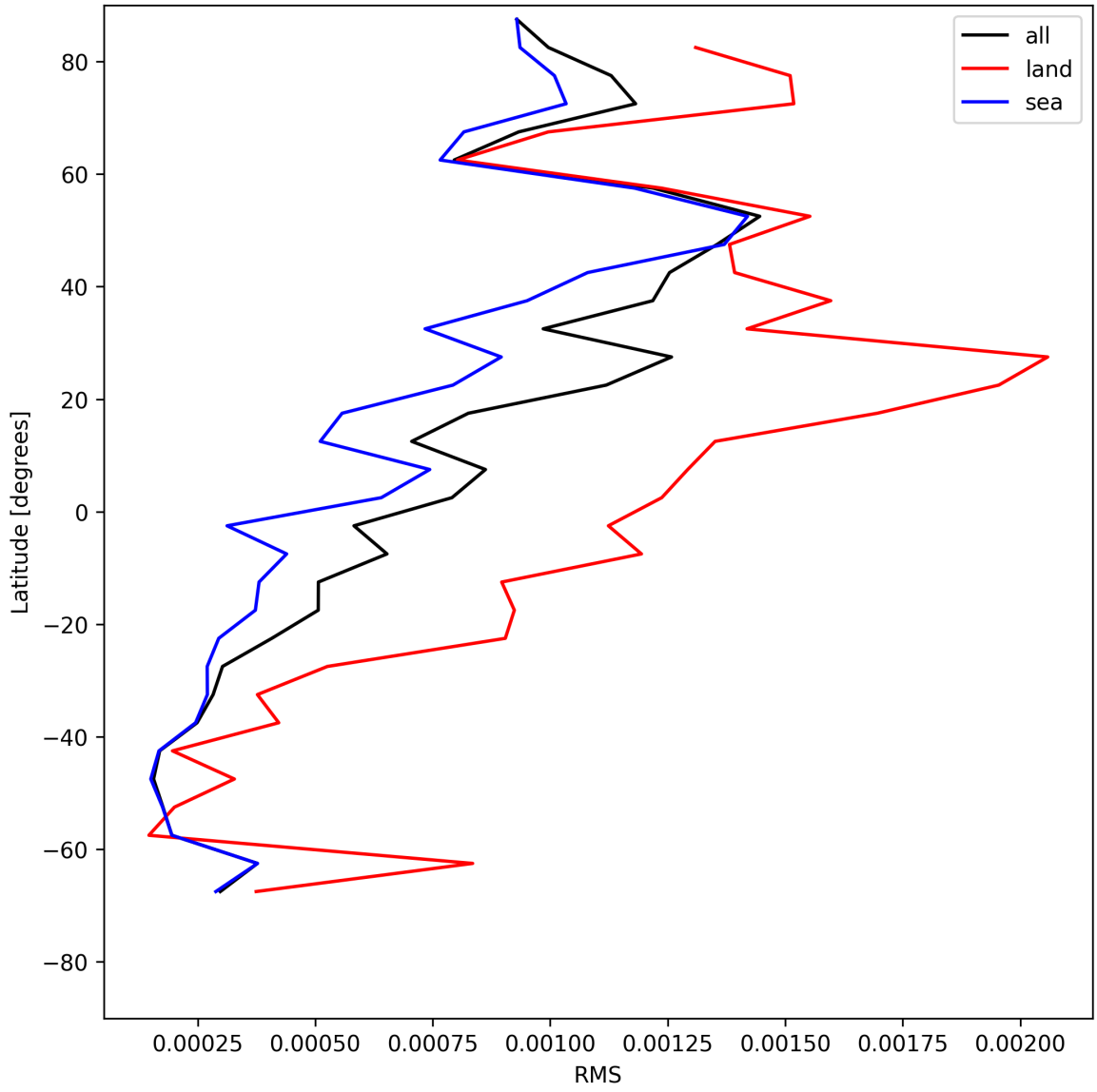

Figure 29: Zonal average of “RMS” for 2025-05-29 to 2025-05-29.

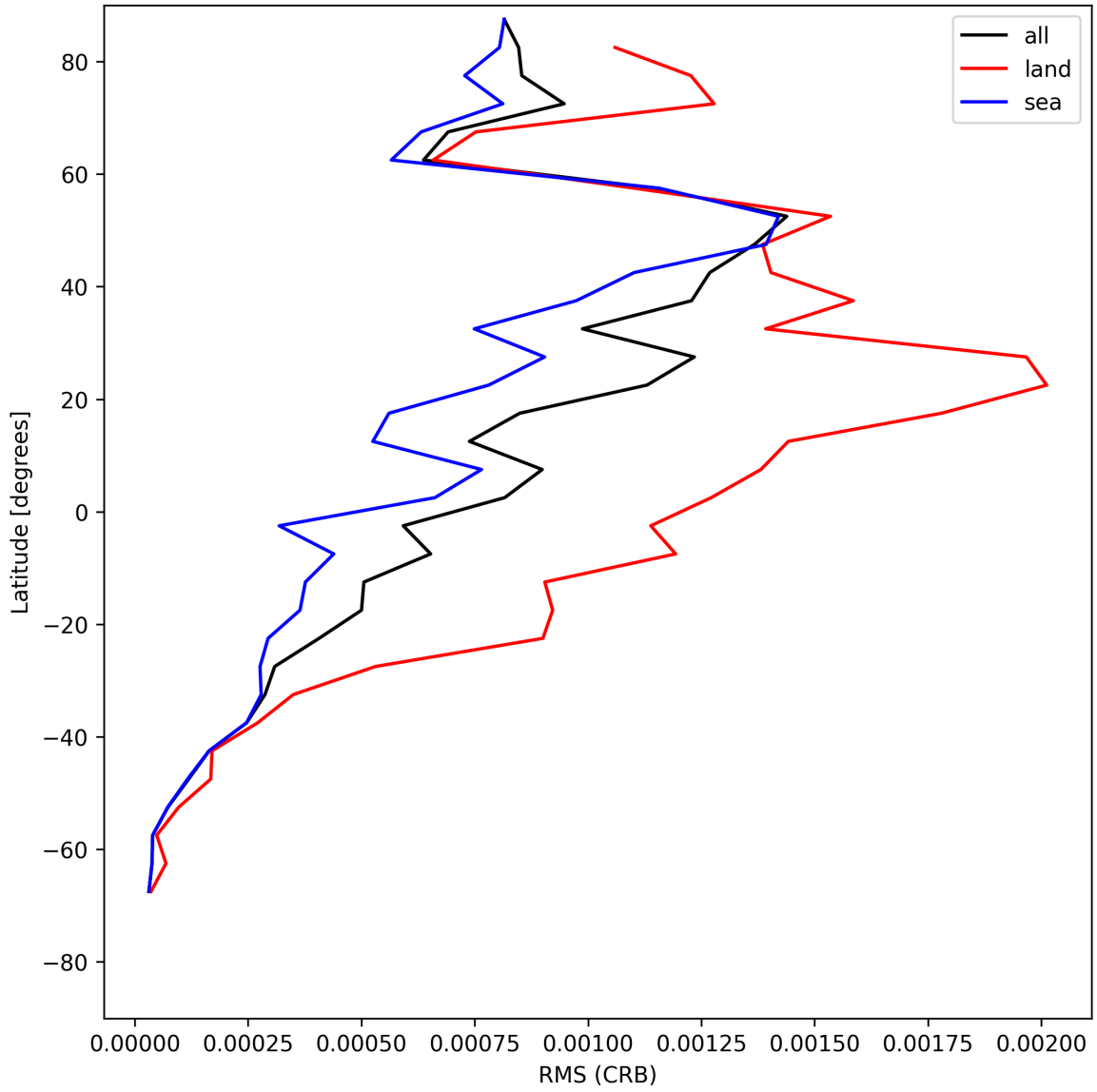

Figure 30: Zonal average of “RMS (CRB)” for 2025-05-29 to 2025-05-29.

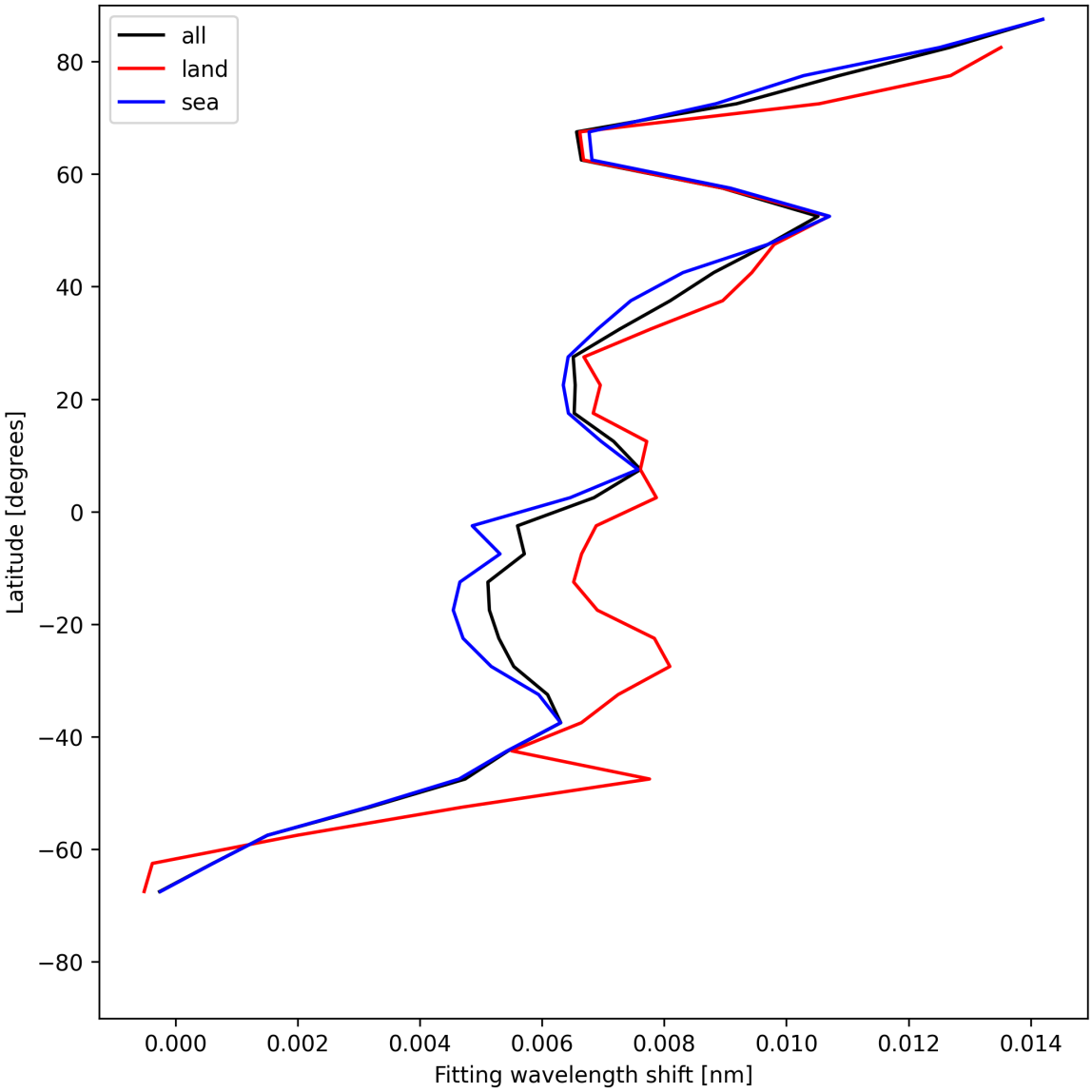

Figure 31: Zonal average of “Fitting wavelength shift” for 2025-05-29 to 2025-05-29.

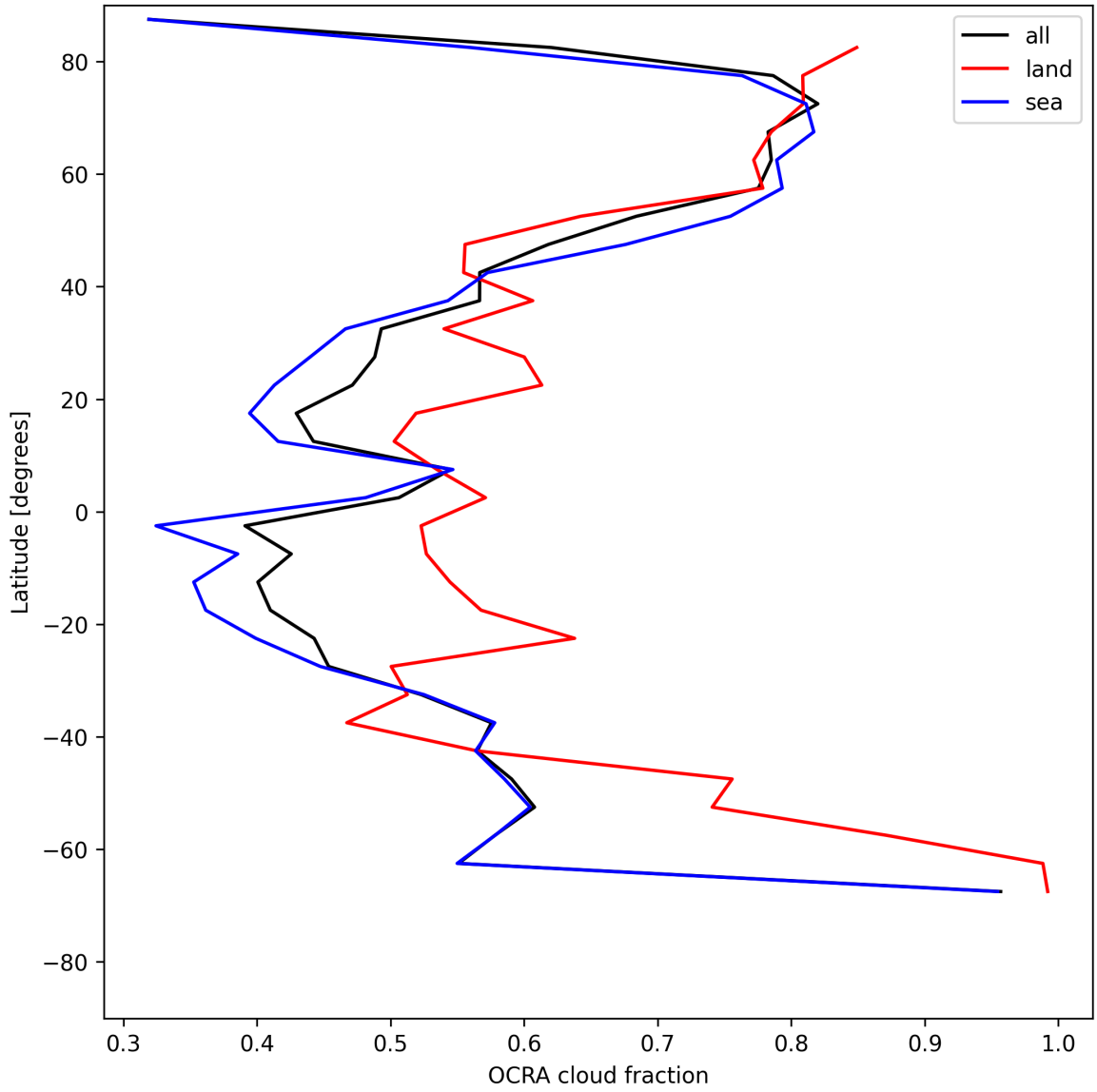

Figure 32: Zonal average of “OCRA cloud fraction” for 2025-05-29 to 2025-05-29.

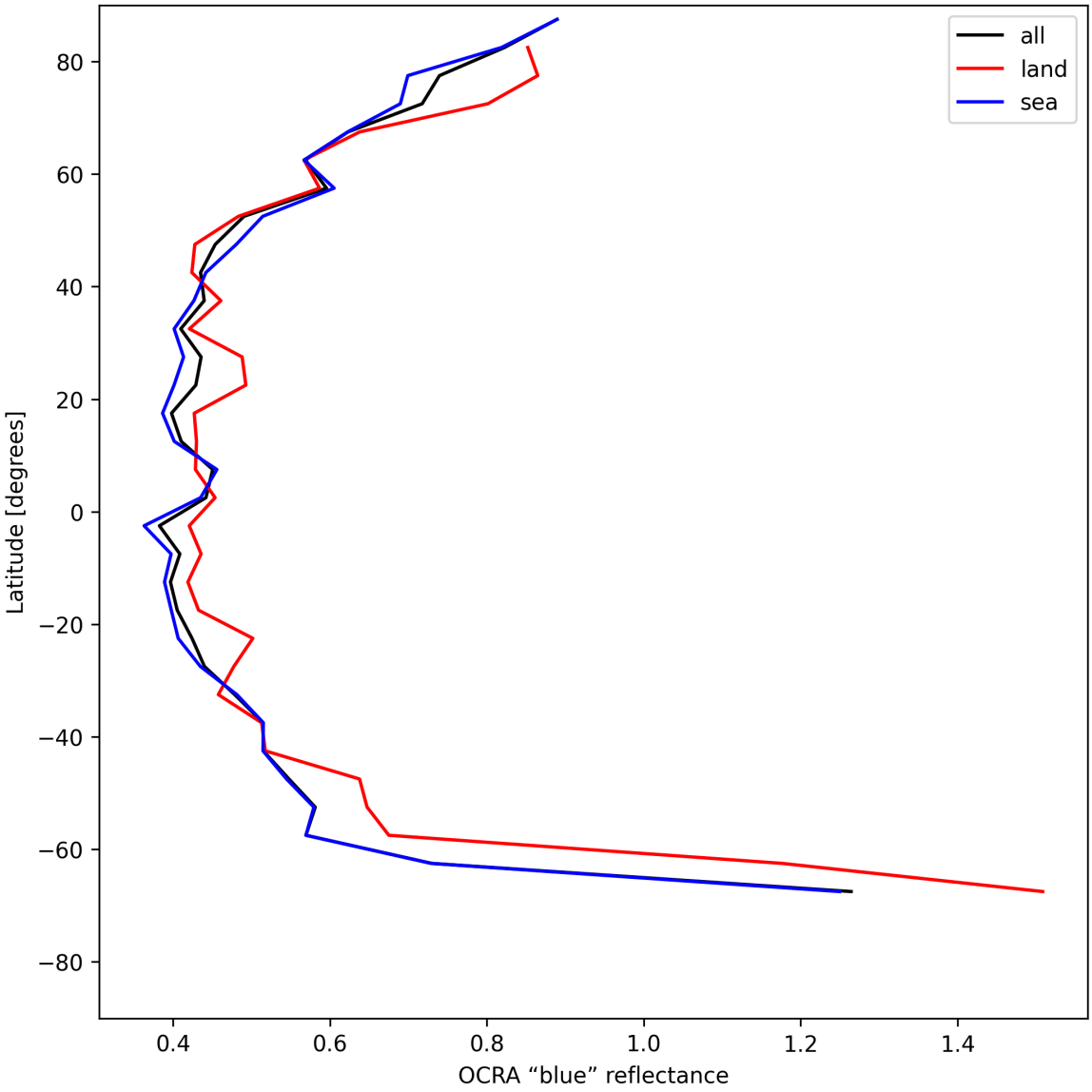

Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-05-29 to 2025-05-29.

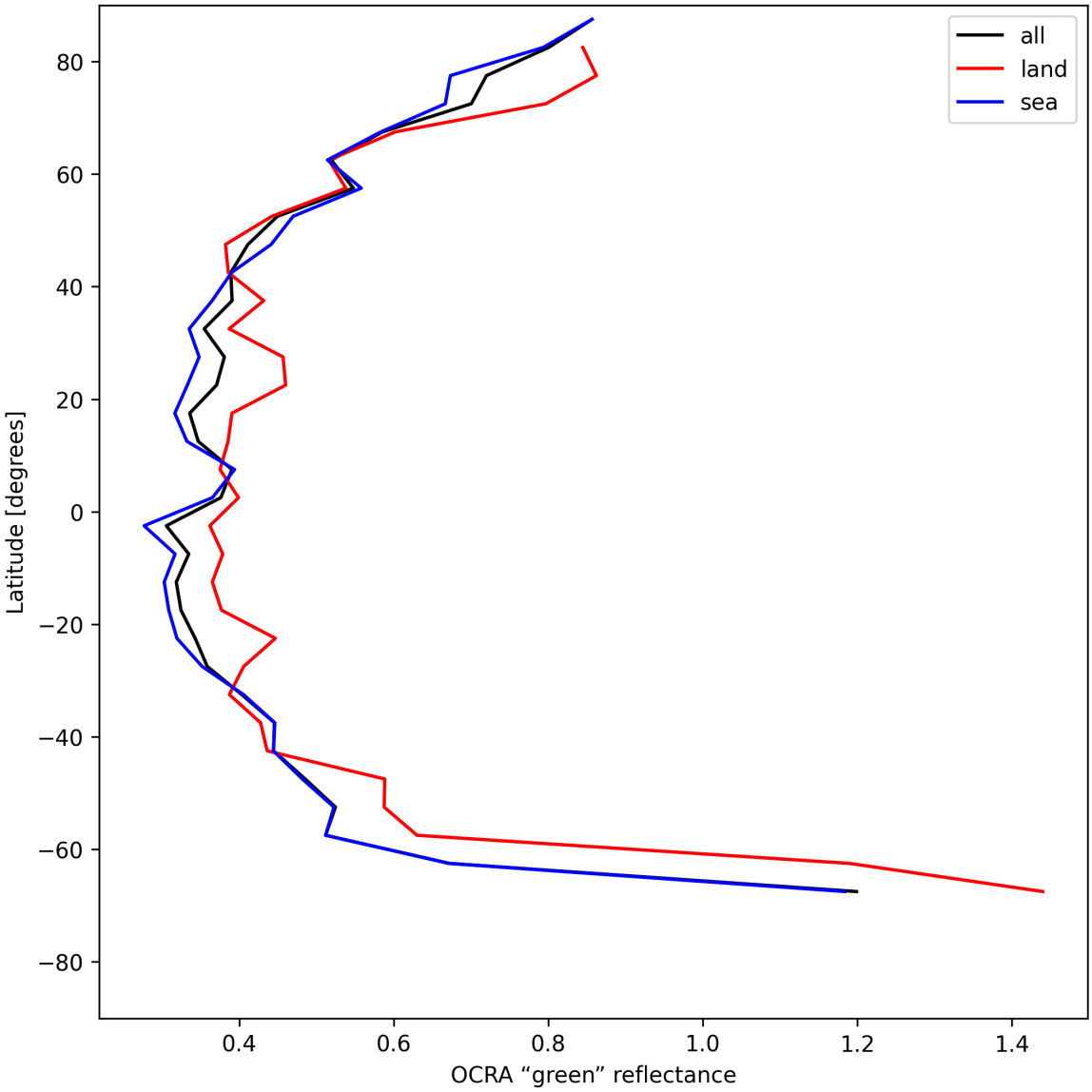

Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-05-29 to 2025-05-29.

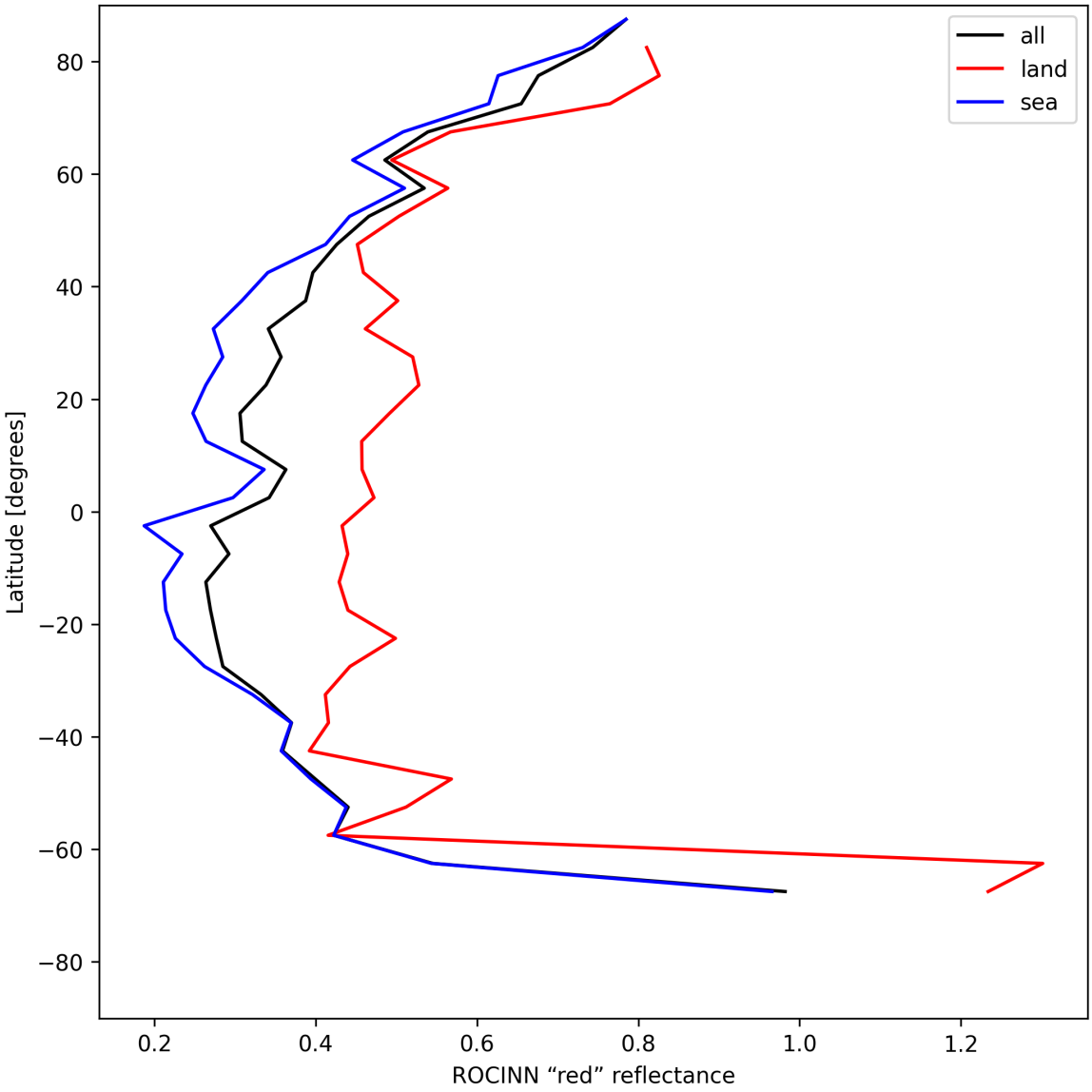

Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-05-29 to 2025-05-29.

8 Histograms

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

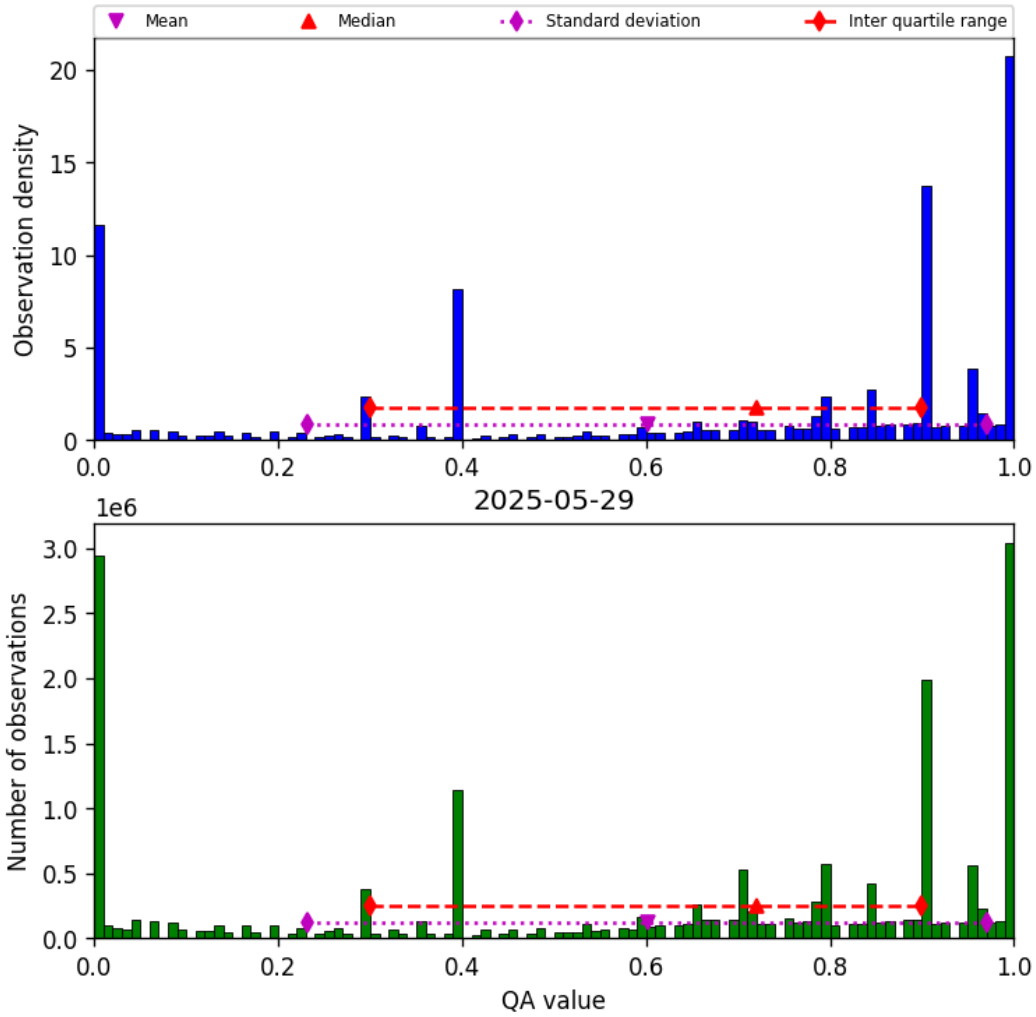

Figure 36: Histogram of “QA value” for 2025-05-29 to 2025-05-29

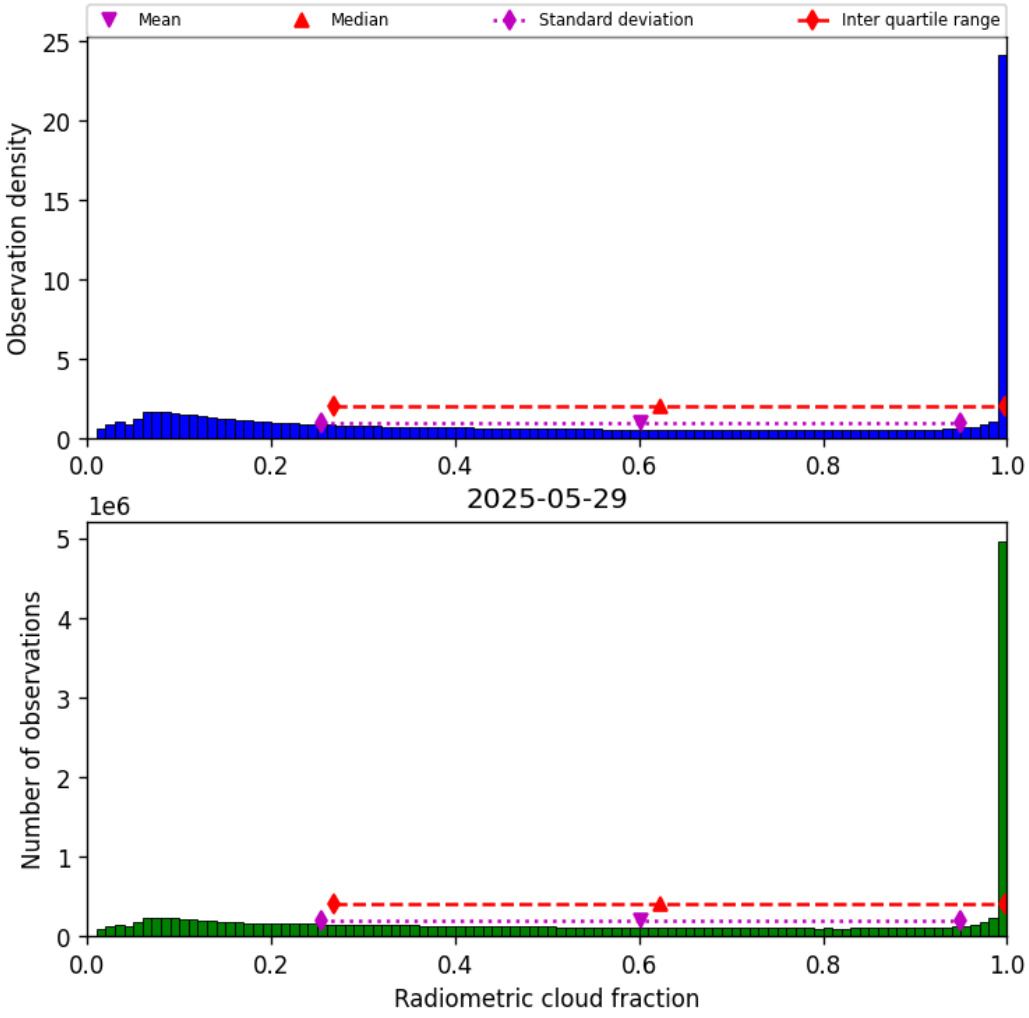

Figure 37: Histogram of “Radiometric cloud fraction” for 2025-05-29 to 2025-05-29

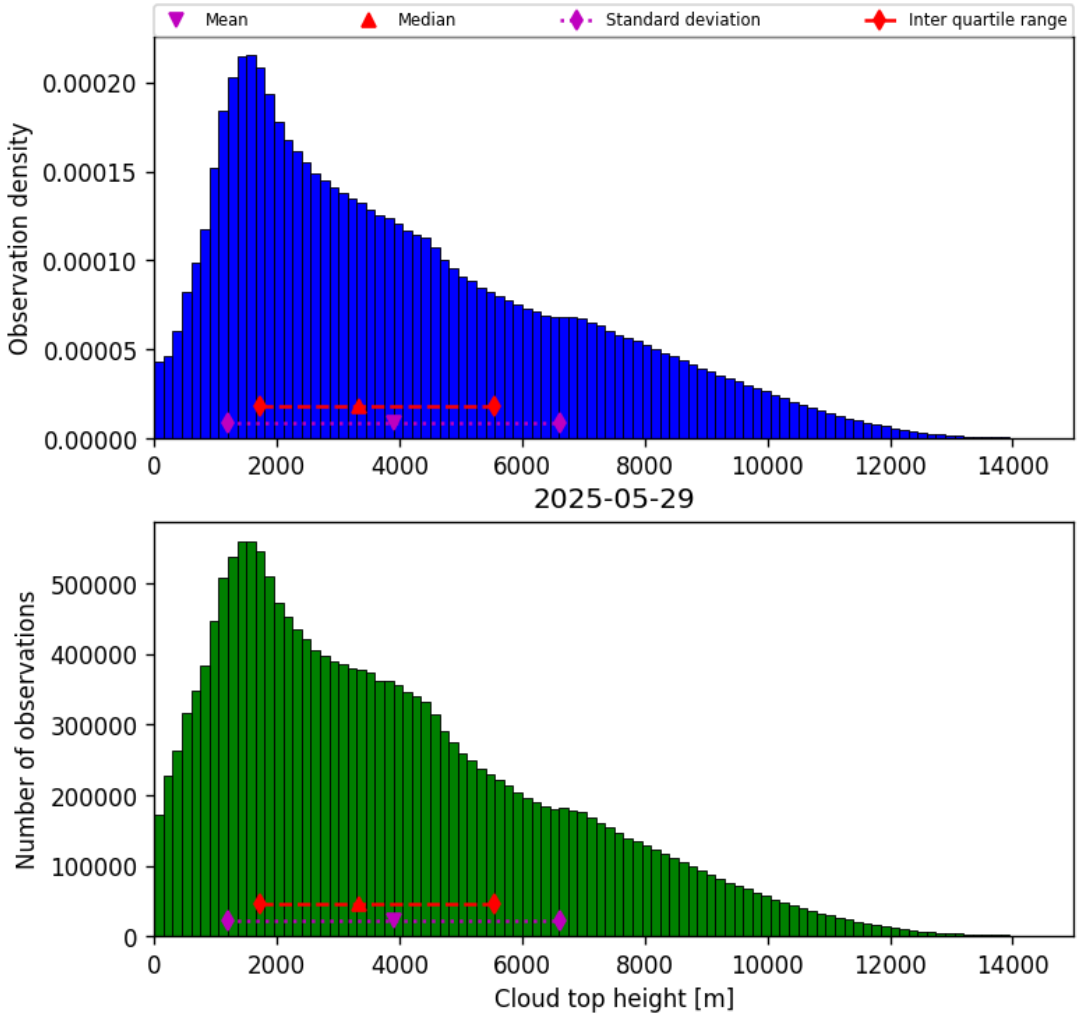

Figure 38: Histogram of “Cloud top height” for 2025-05-29 to 2025-05-29

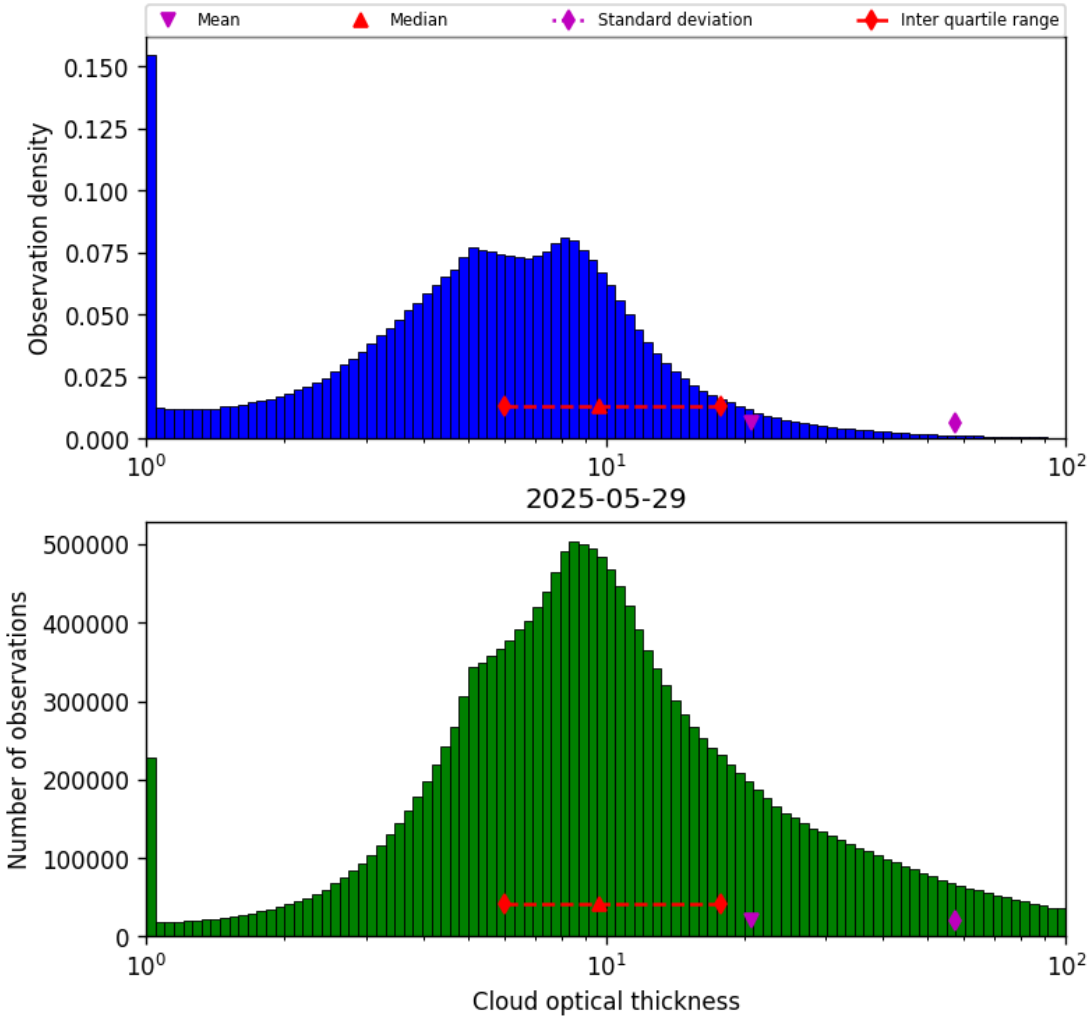

Figure 39: Histogram of “Cloud optical thickness” for 2025-05-29 to 2025-05-29

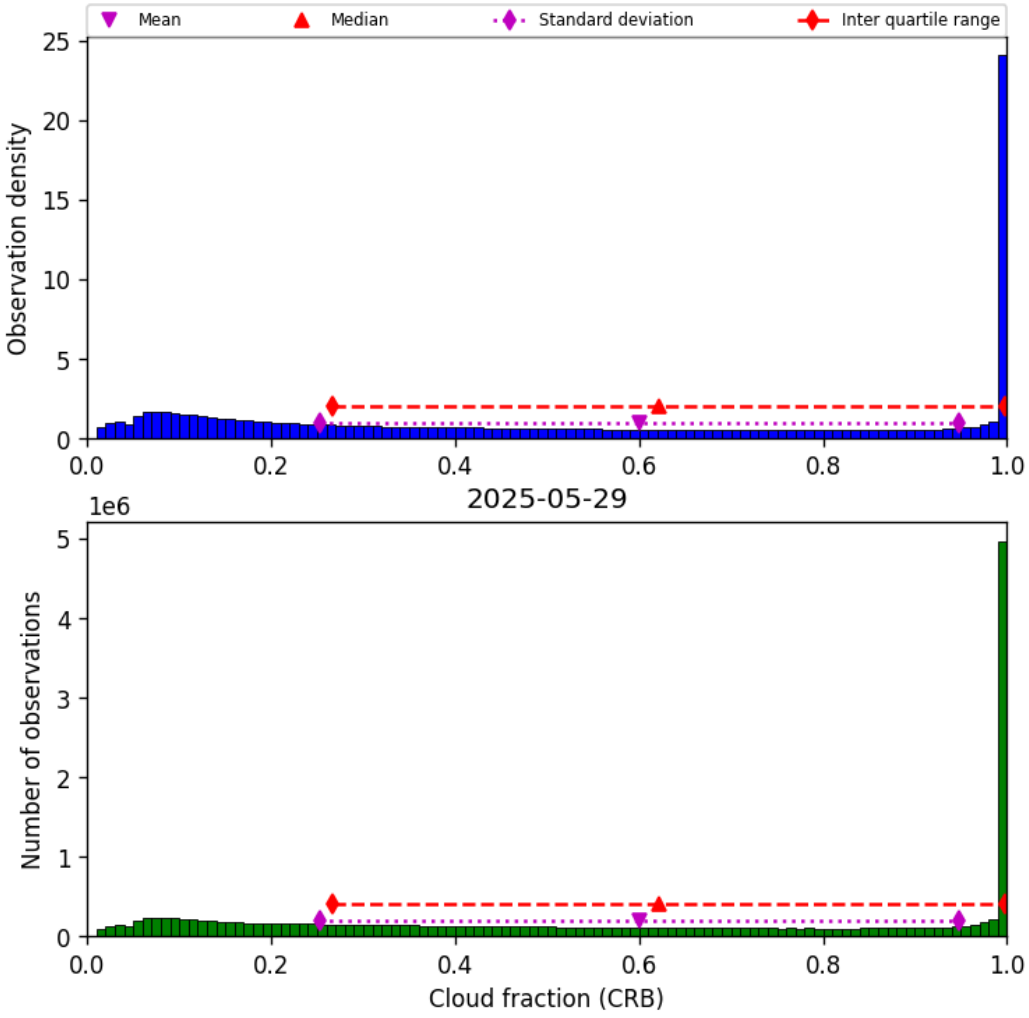

Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-05-29 to 2025-05-29

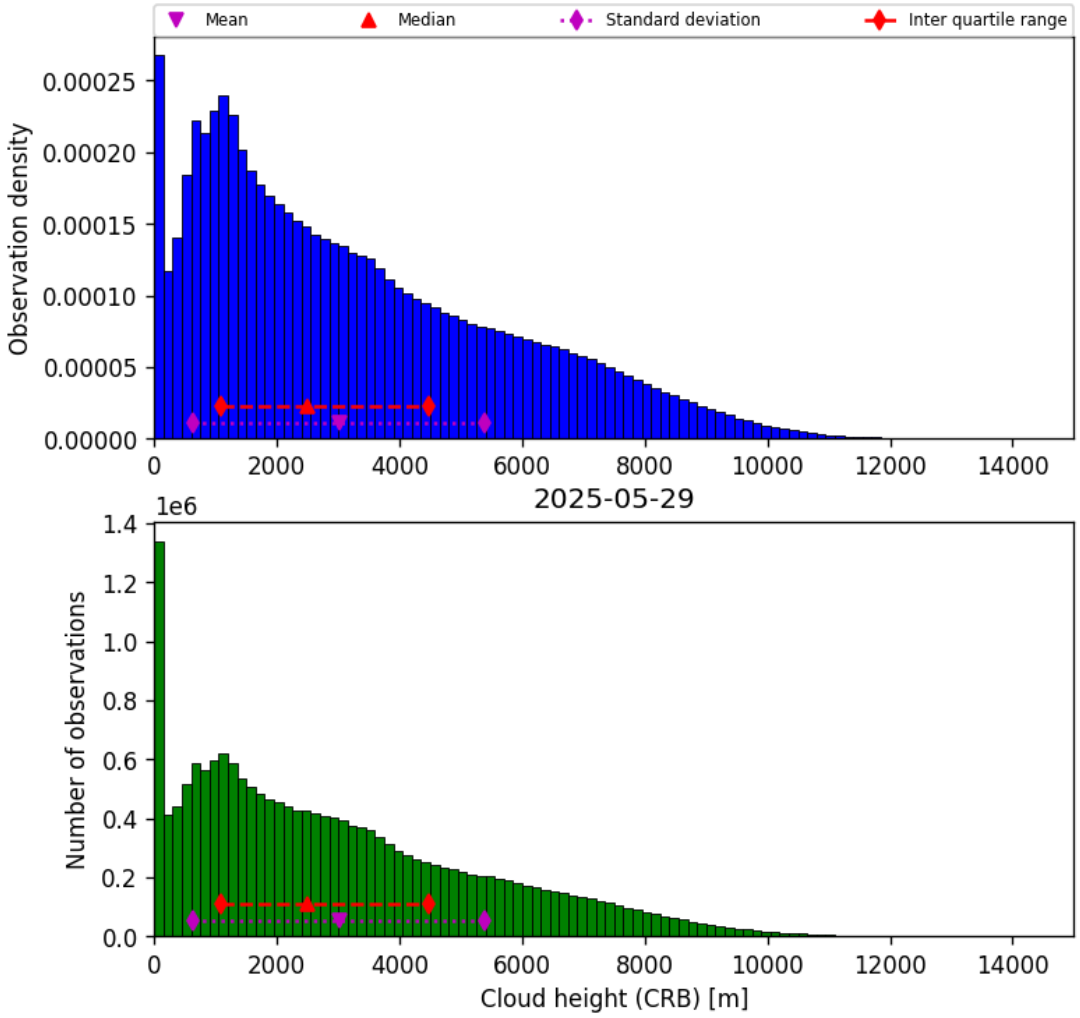

Figure 41: Histogram of “Cloud height (CRB)” for 2025-05-29 to 2025-05-29

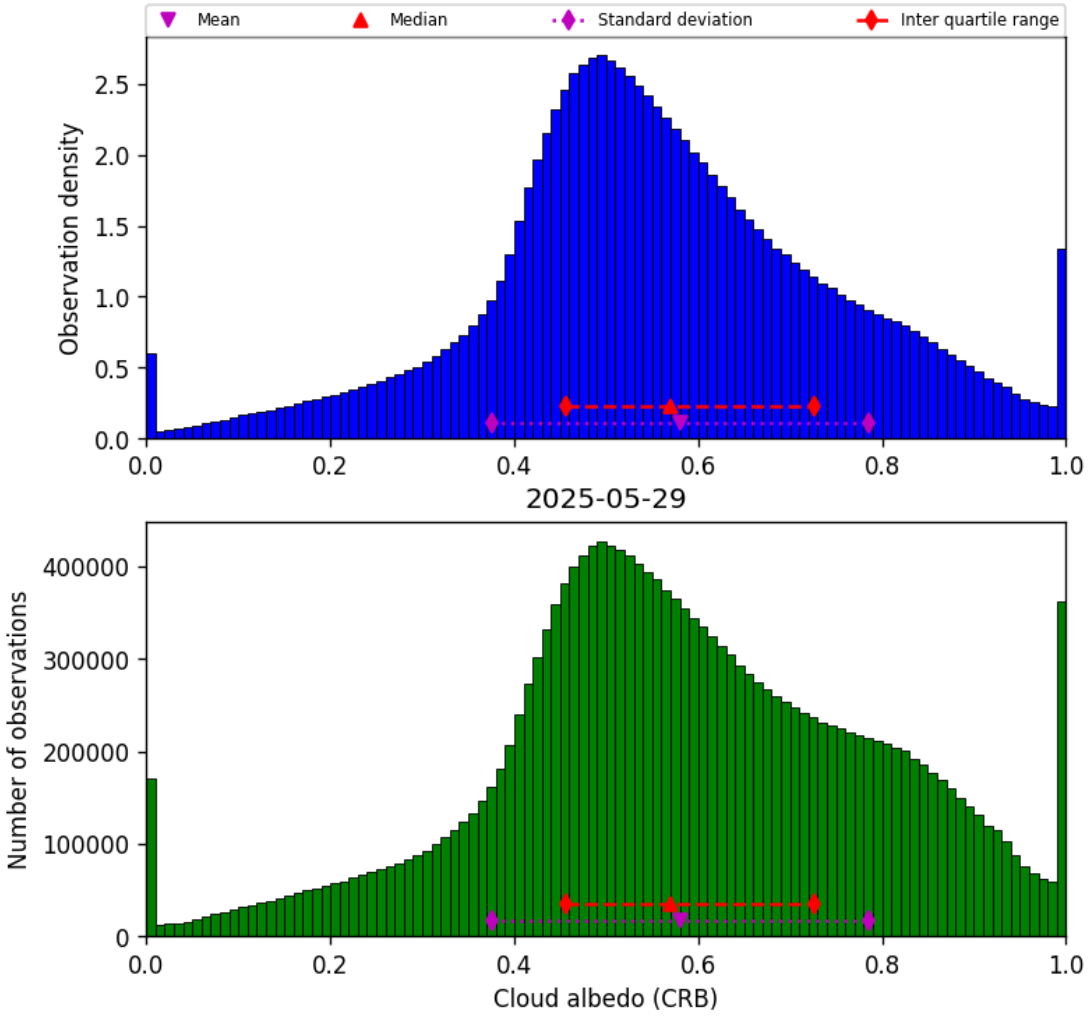

Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-05-29 to 2025-05-29

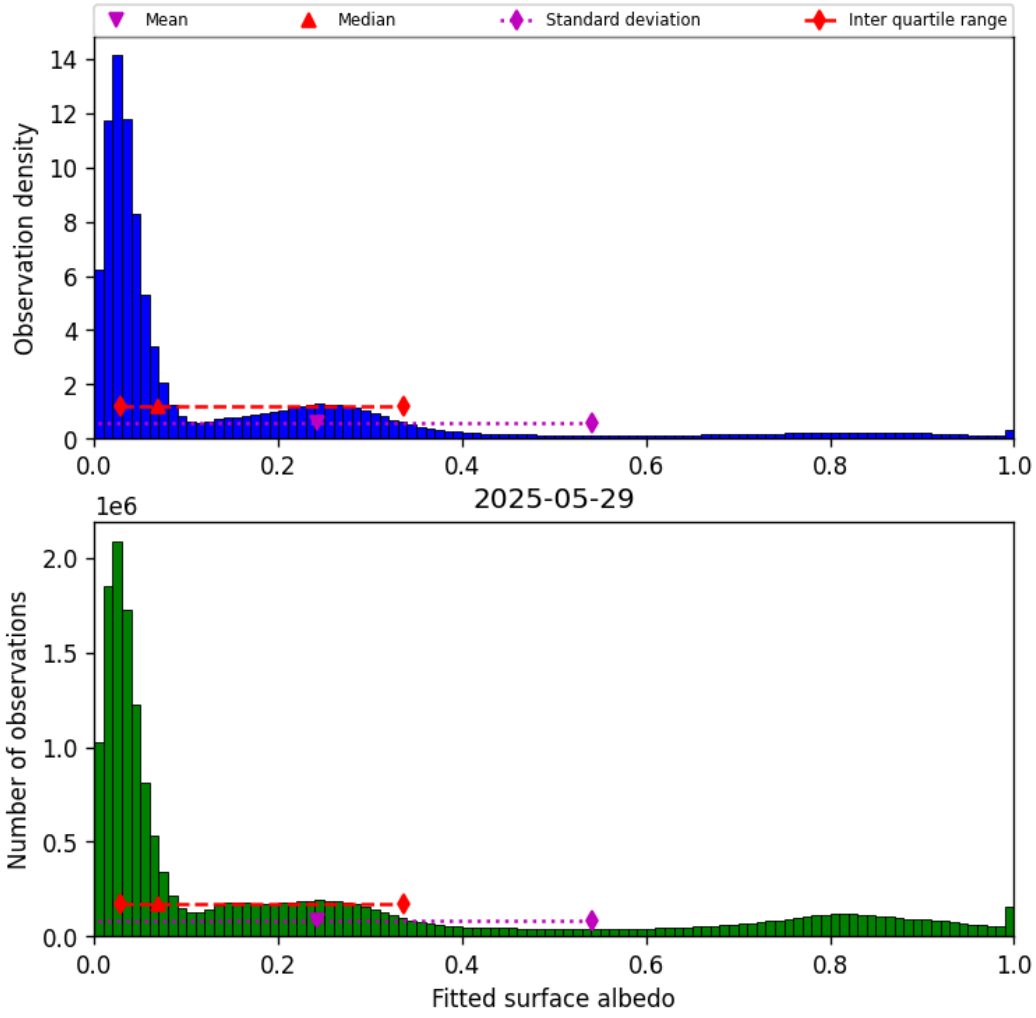

Figure 43: Histogram of “Fitted surface albedo” for 2025-05-29 to 2025-05-29

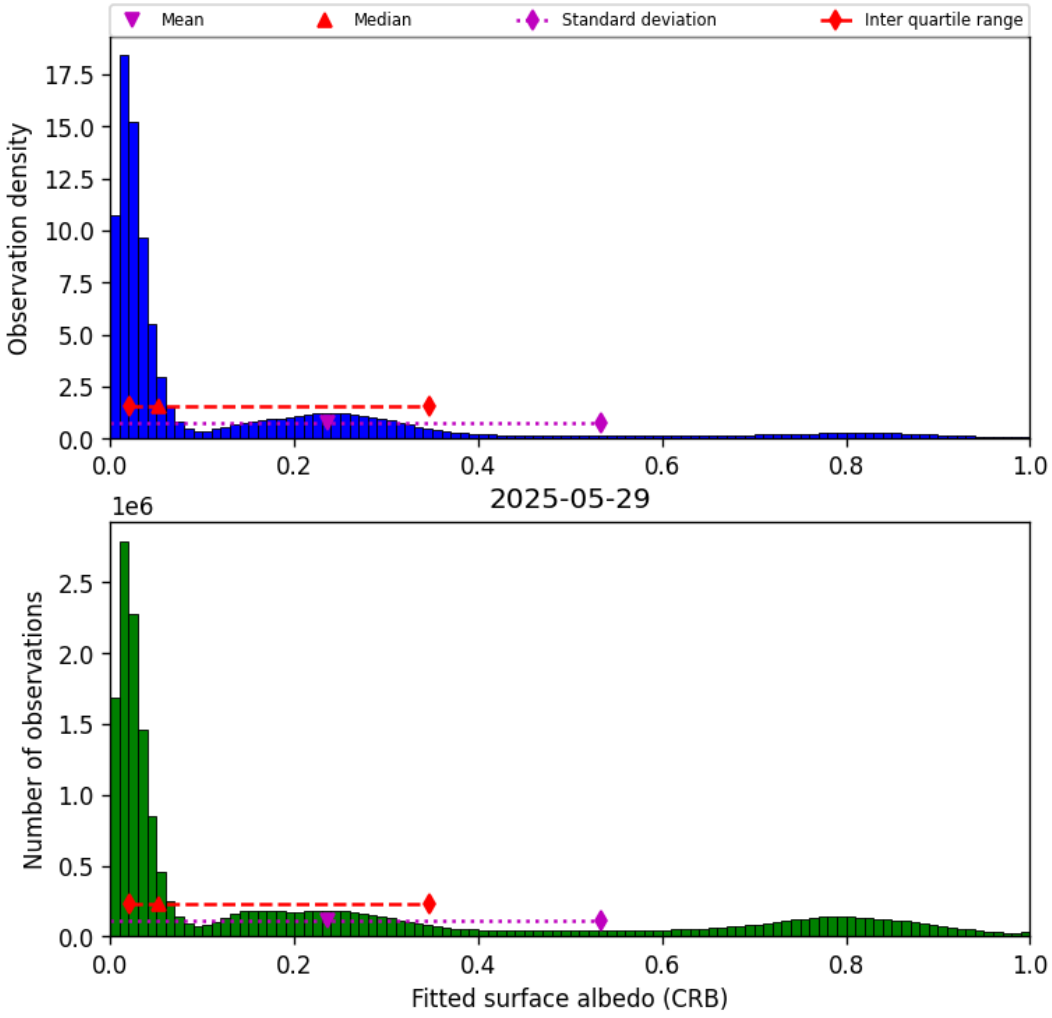

Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-05-29 to 2025-05-29

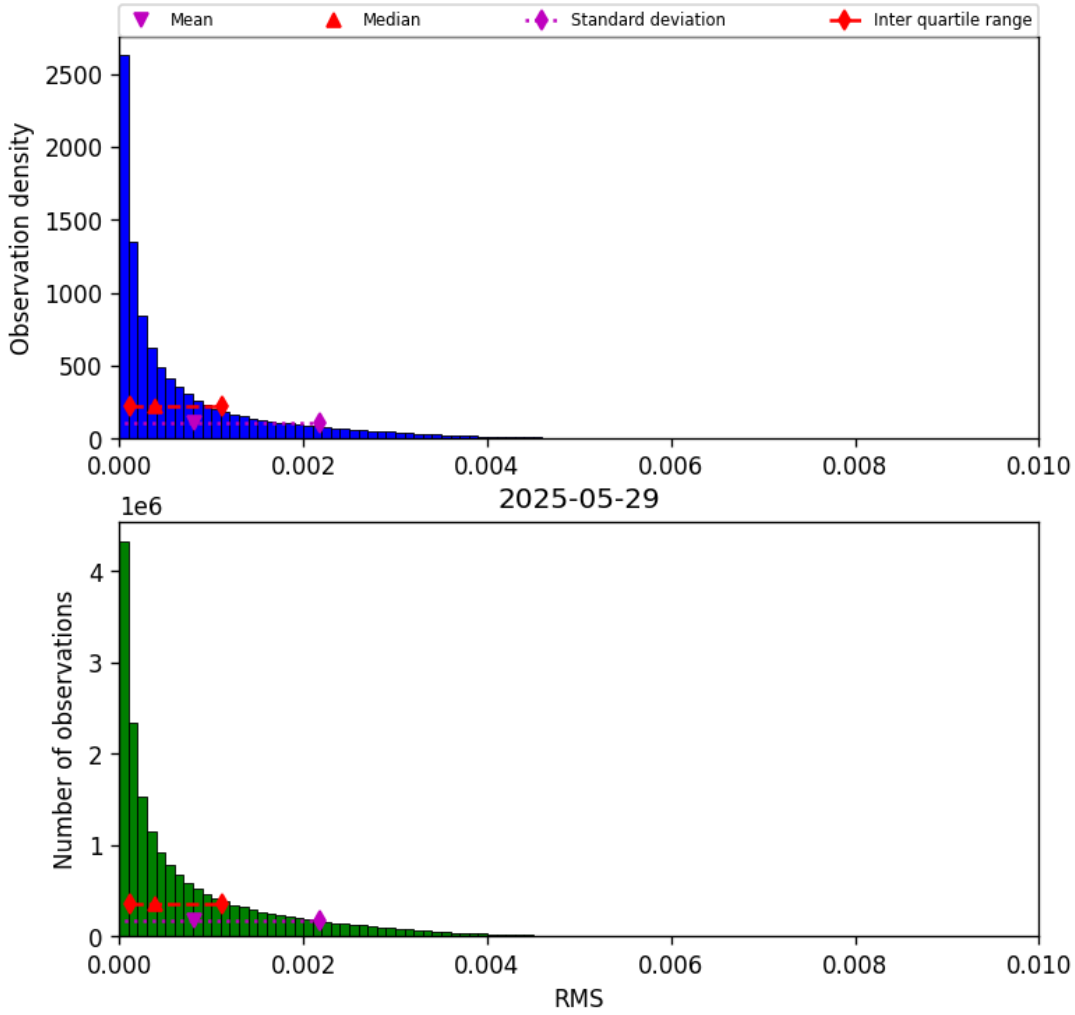

Figure 45: Histogram of “RMS” for 2025-05-29 to 2025-05-29

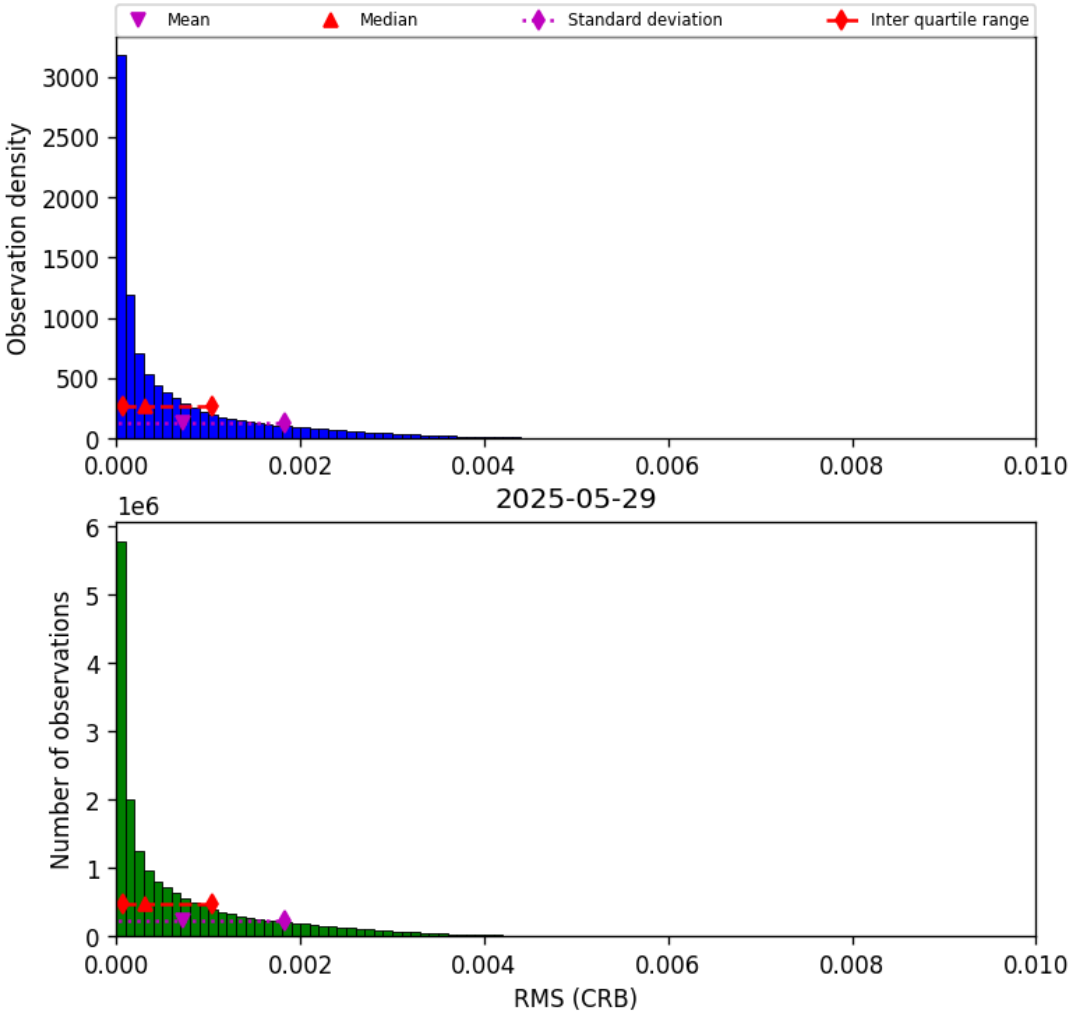

Figure 46: Histogram of “RMS (CRB)” for 2025-05-29 to 2025-05-29

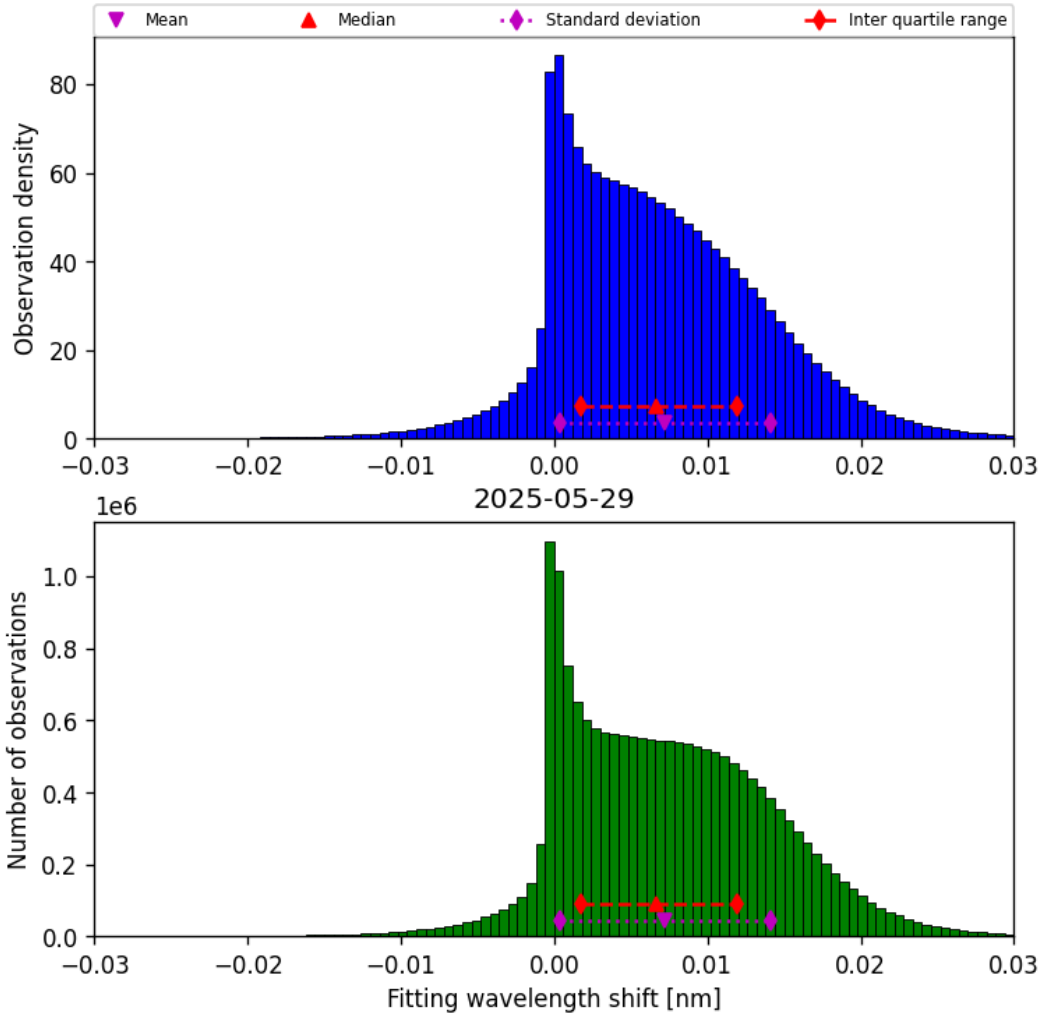

Figure 47: Histogram of “Fitting wavelength shift” for 2025-05-29 to 2025-05-29

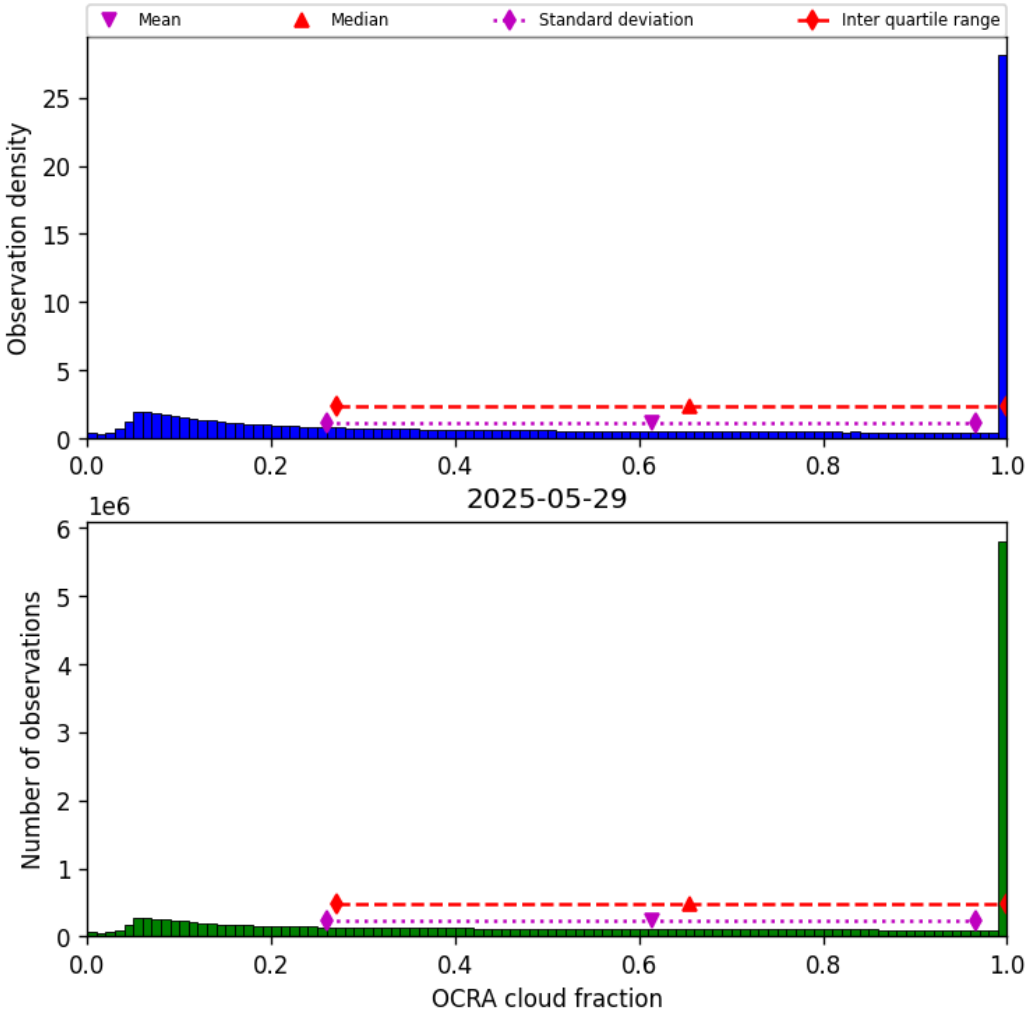

Figure 48: Histogram of “OCRA cloud fraction” for 2025-05-29 to 2025-05-29

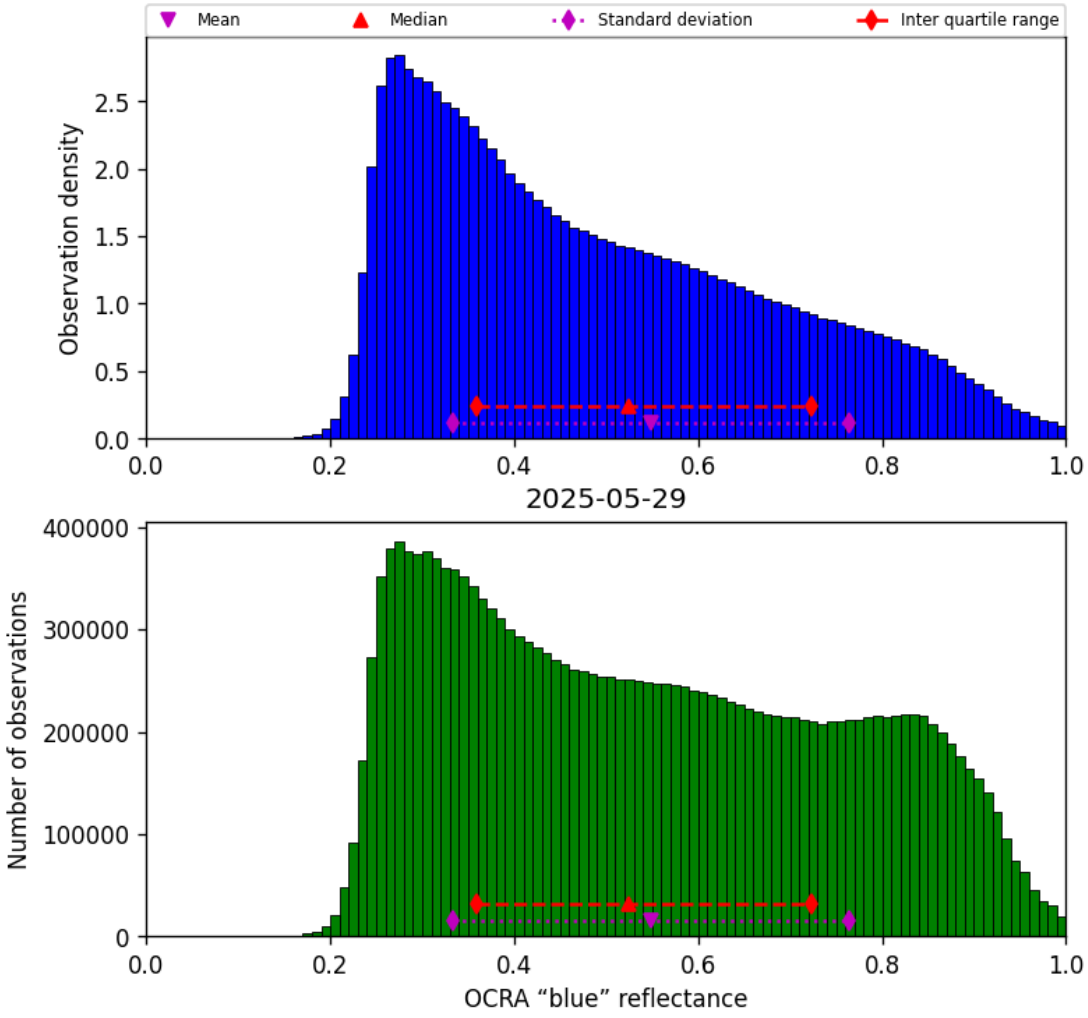

Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-05-29 to 2025-05-29

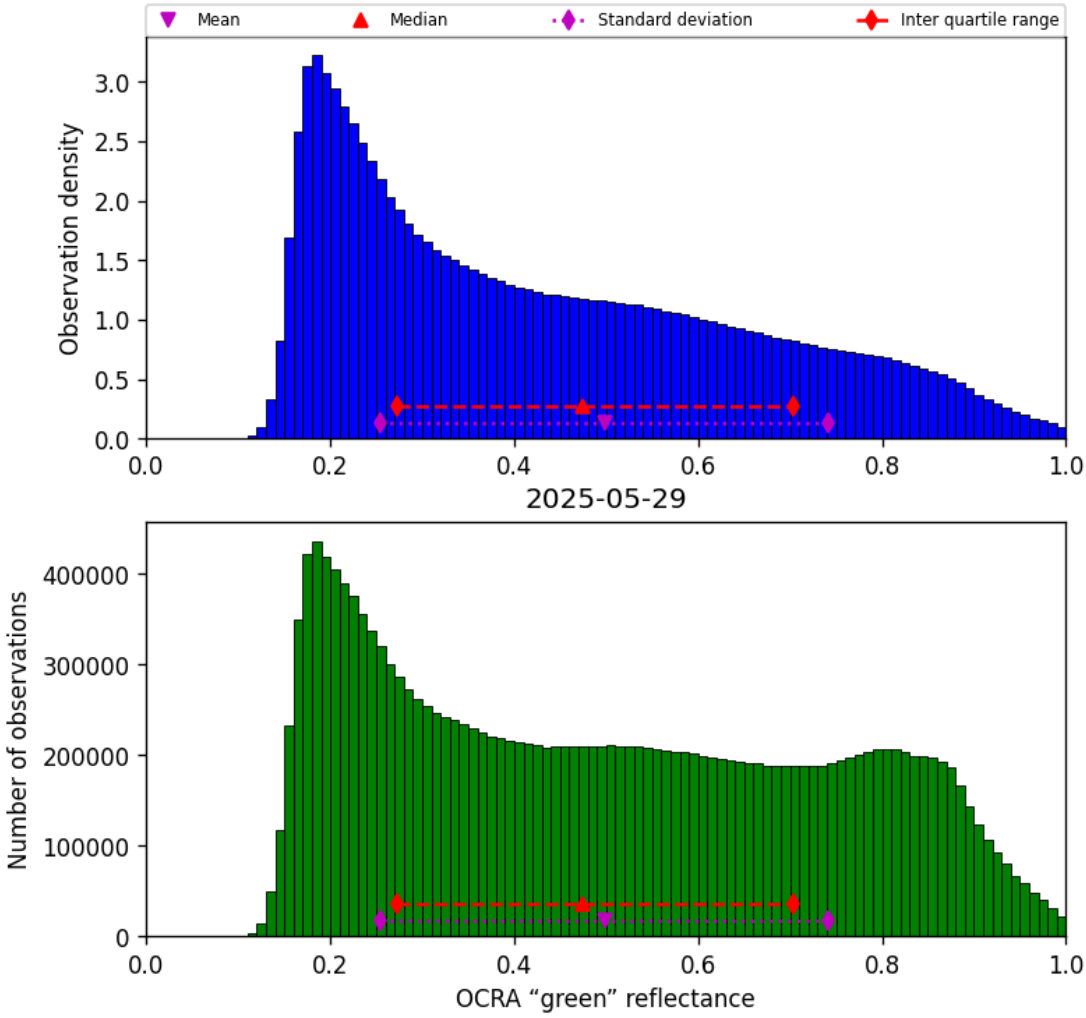

Figure 50: Histogram of “OCRA “green” reflectance” for 2025-05-29 to 2025-05-29

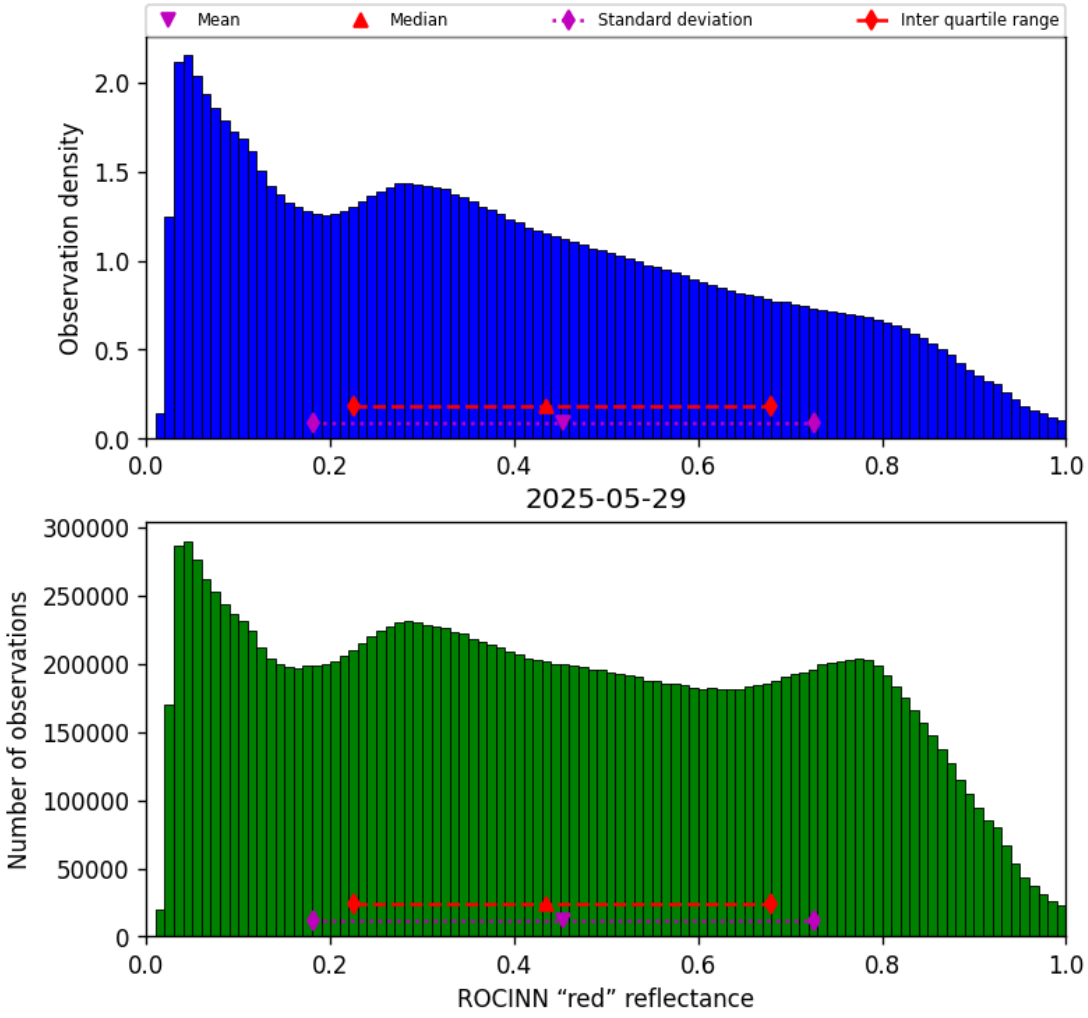

Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-05-29 to 2025-05-29

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.

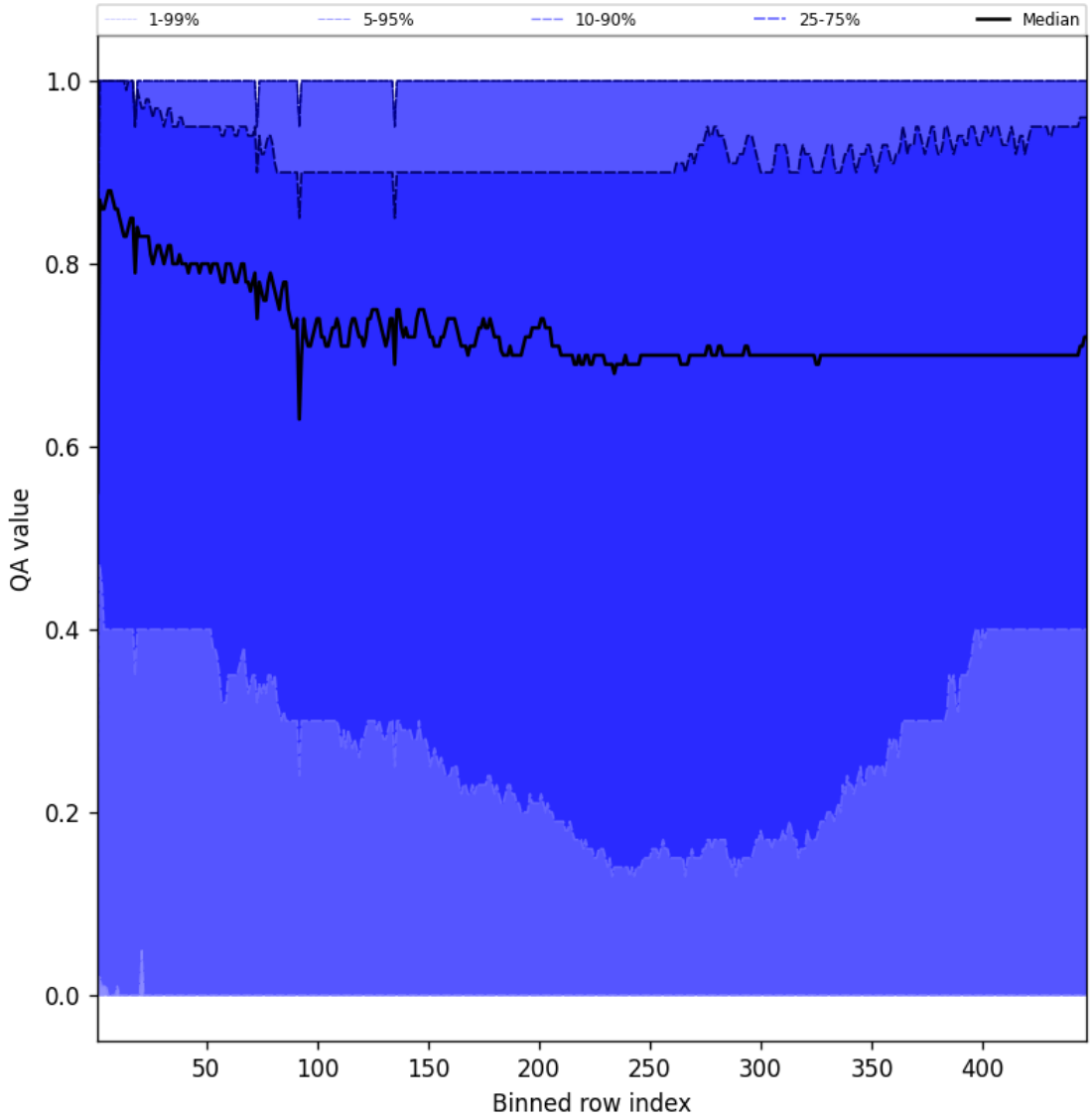

Figure 52: Along track statistics of “QA value” for 2025-05-29 to 2025-05-29

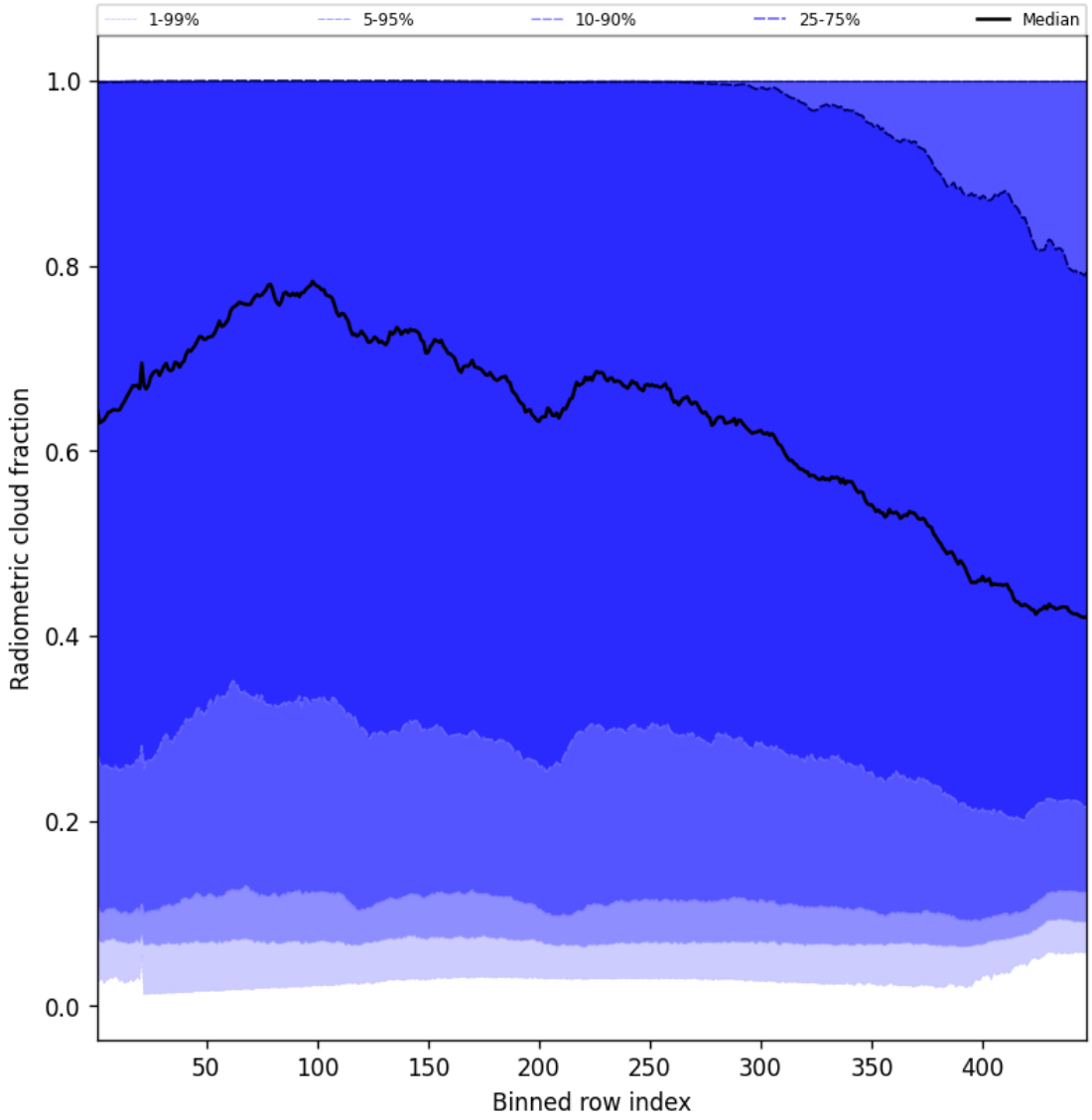

Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-05-29 to 2025-05-29

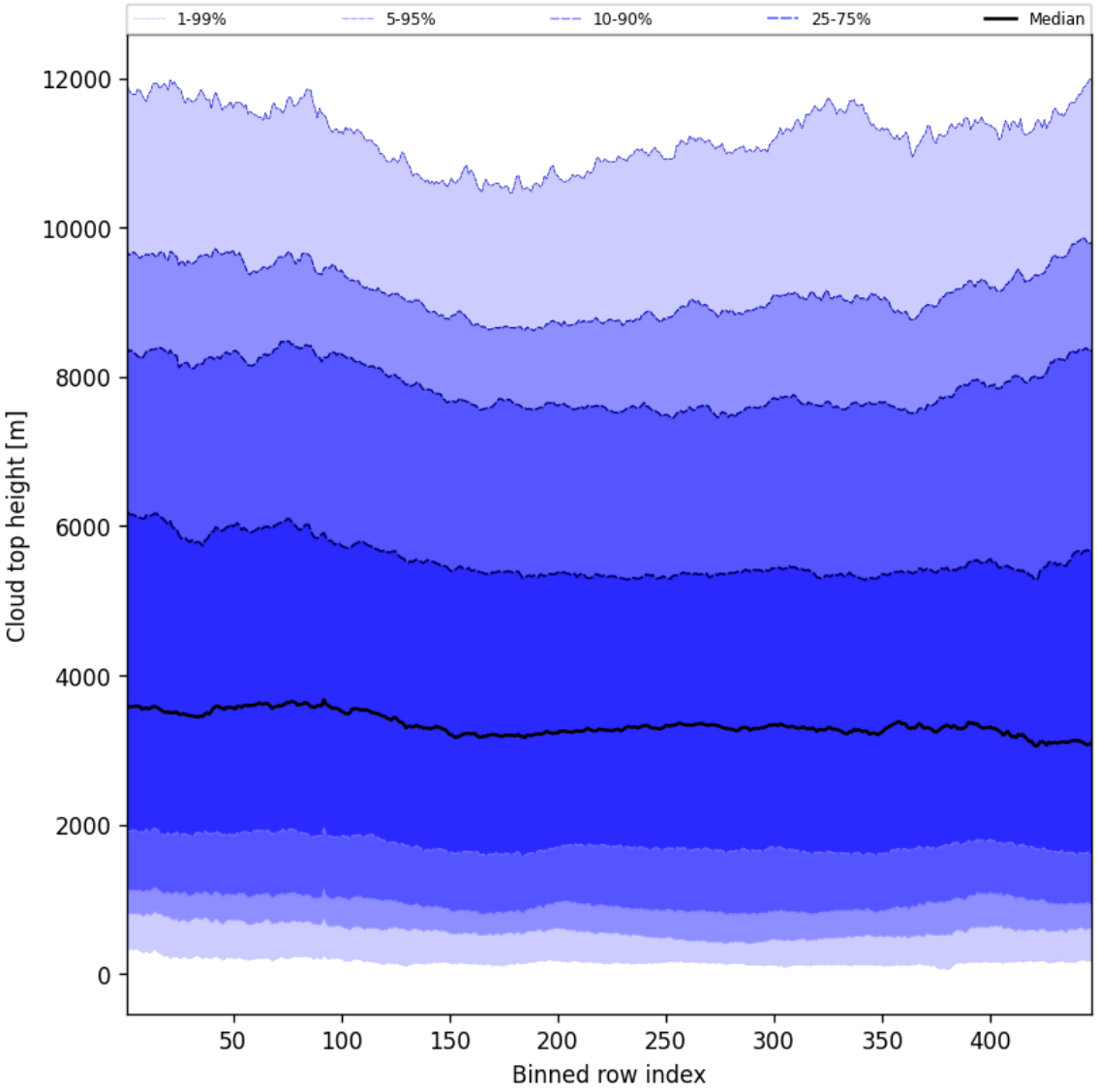

Figure 54: Along track statistics of “Cloud top height” for 2025-05-29 to 2025-05-29

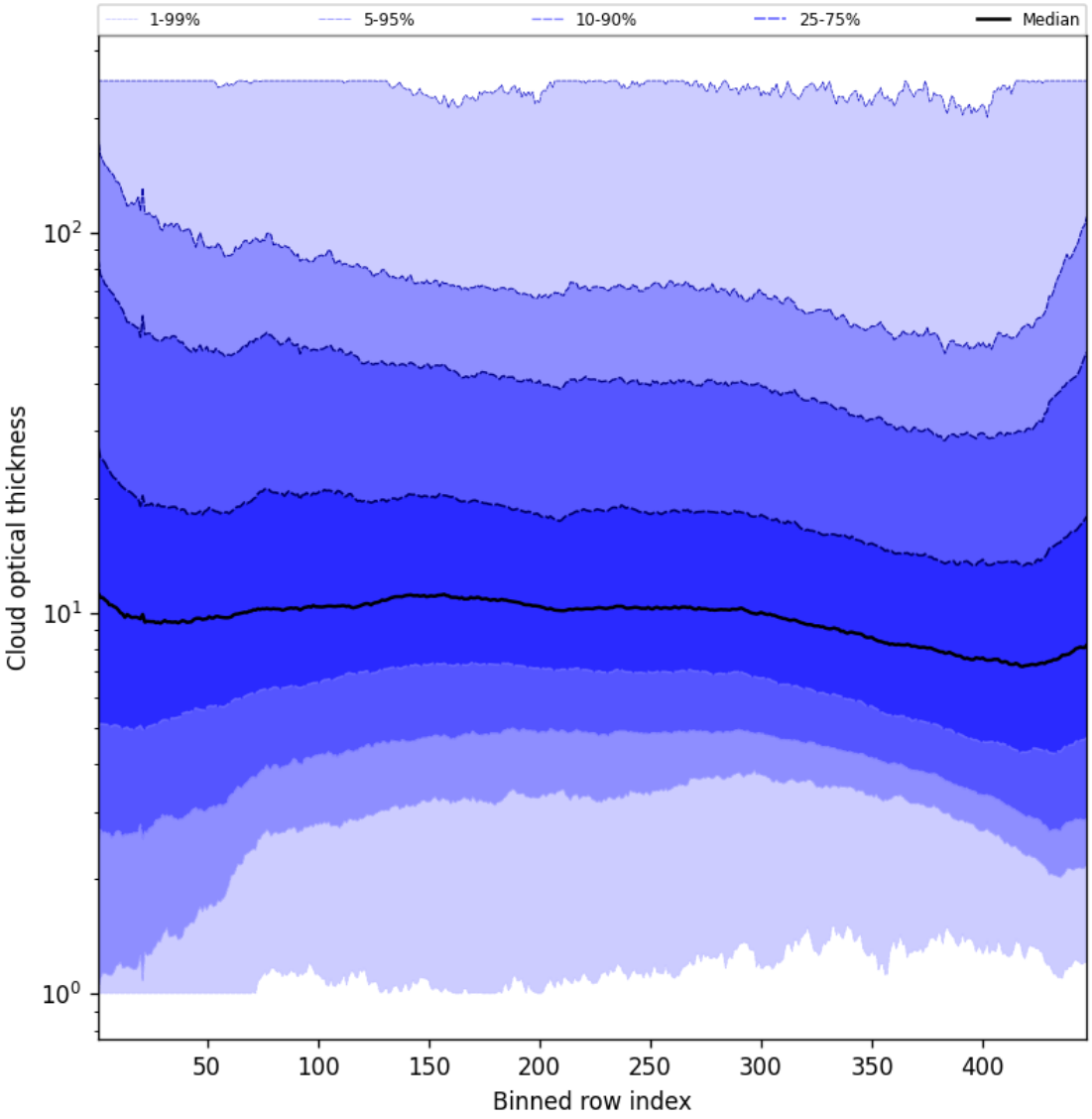

Figure 55: Along track statistics of “Cloud optical thickness” for 2025-05-29 to 2025-05-29

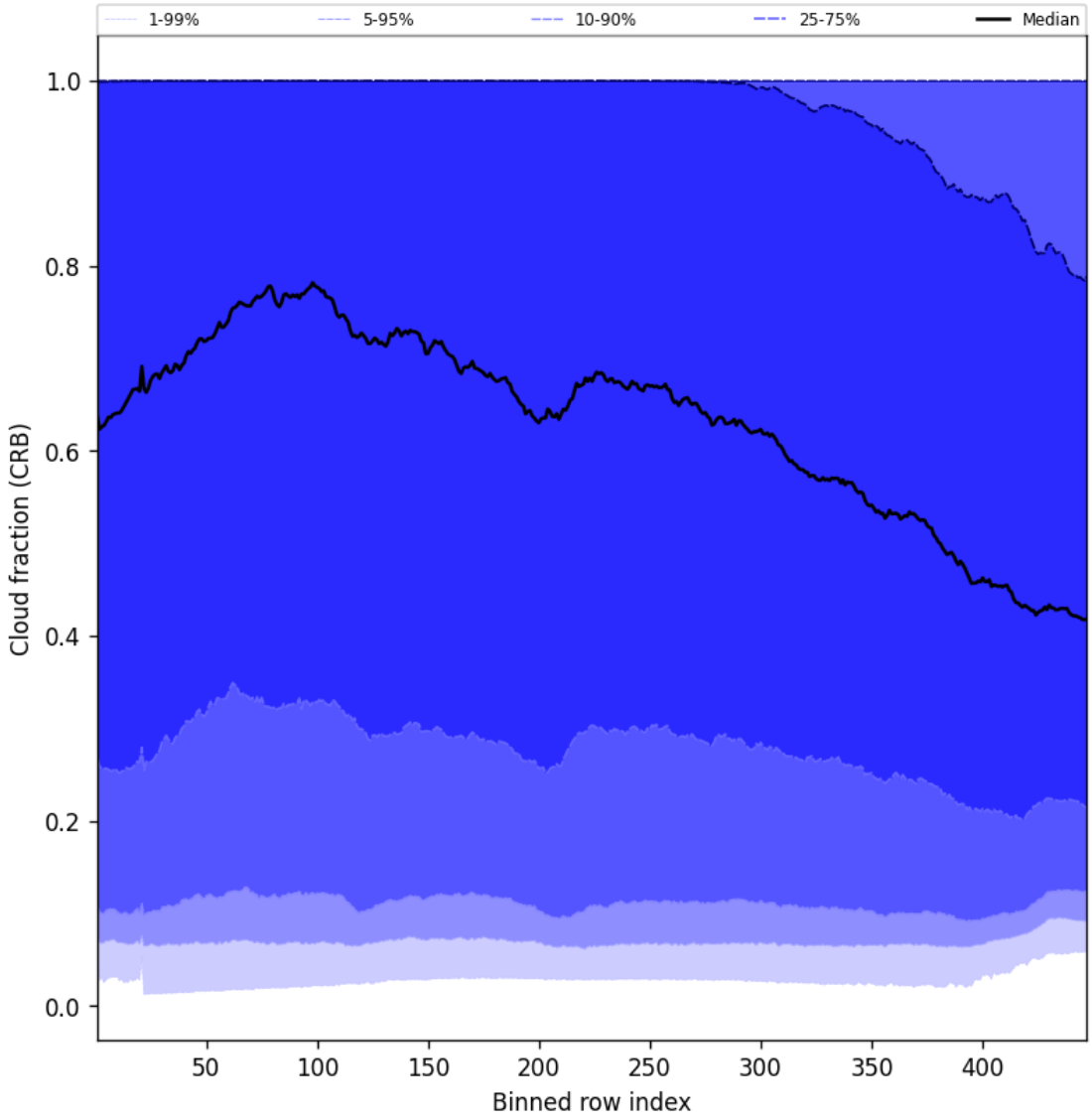

Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-05-29 to 2025-05-29

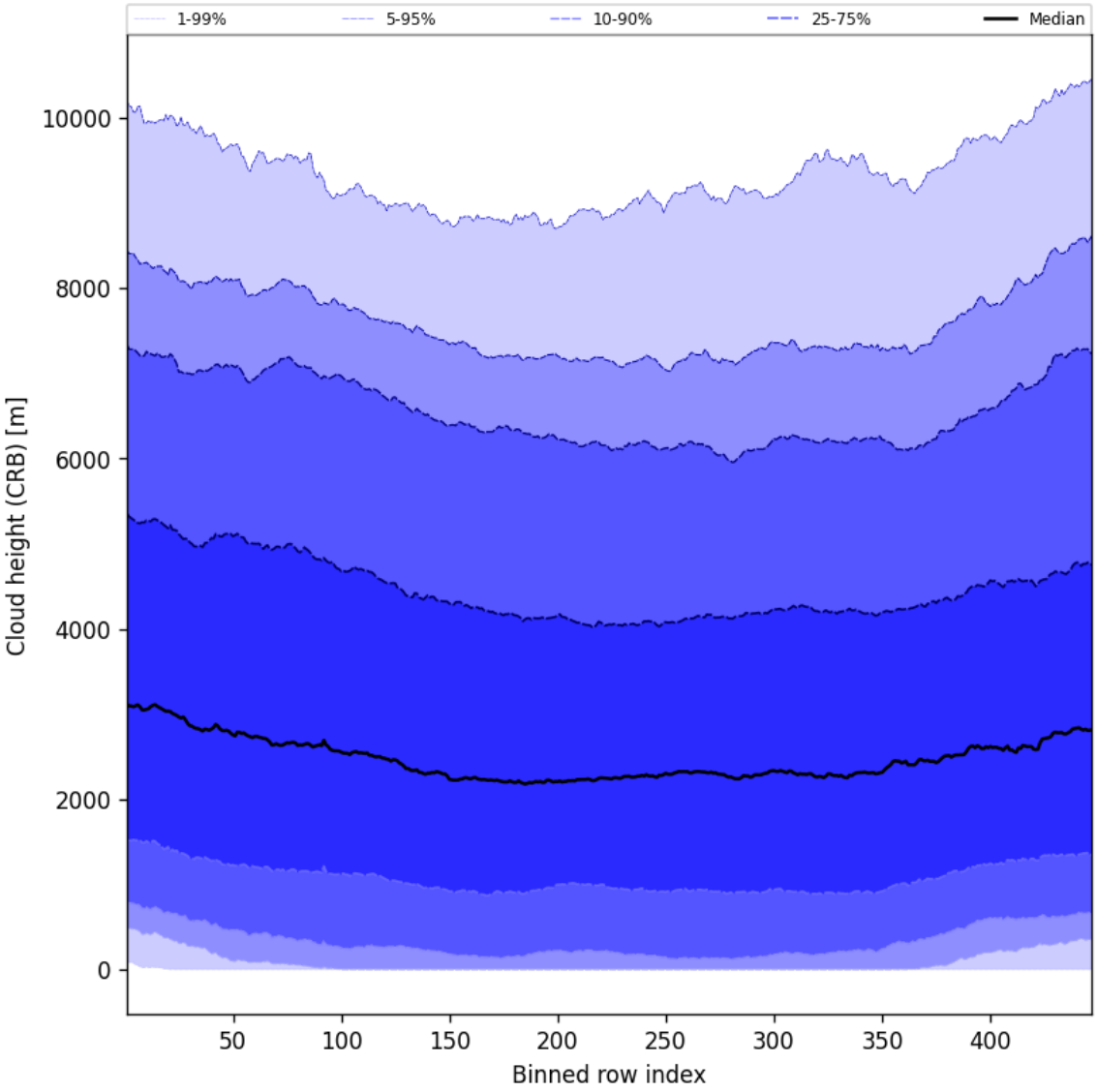

Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-05-29 to 2025-05-29

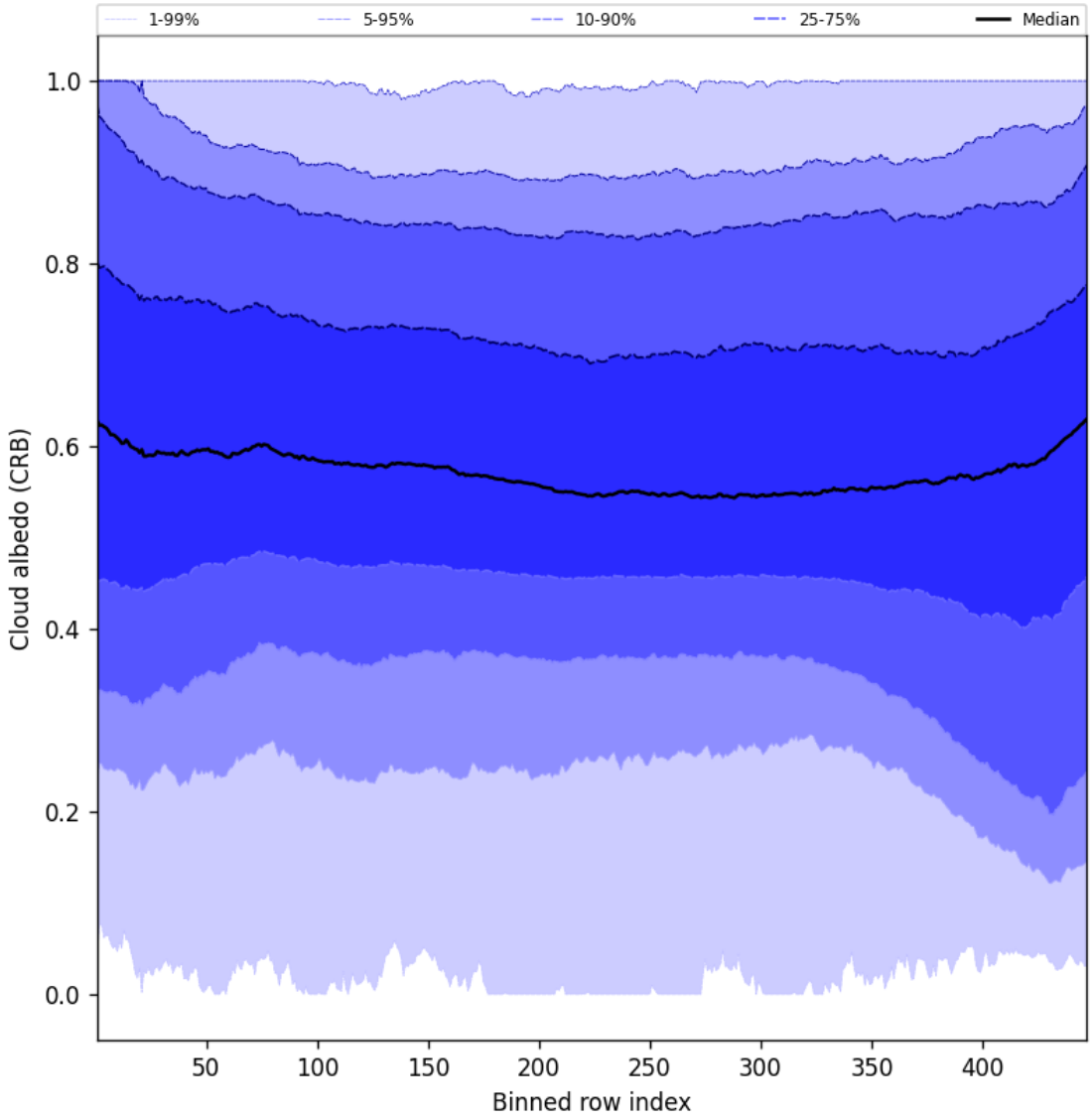

Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-05-29 to 2025-05-29

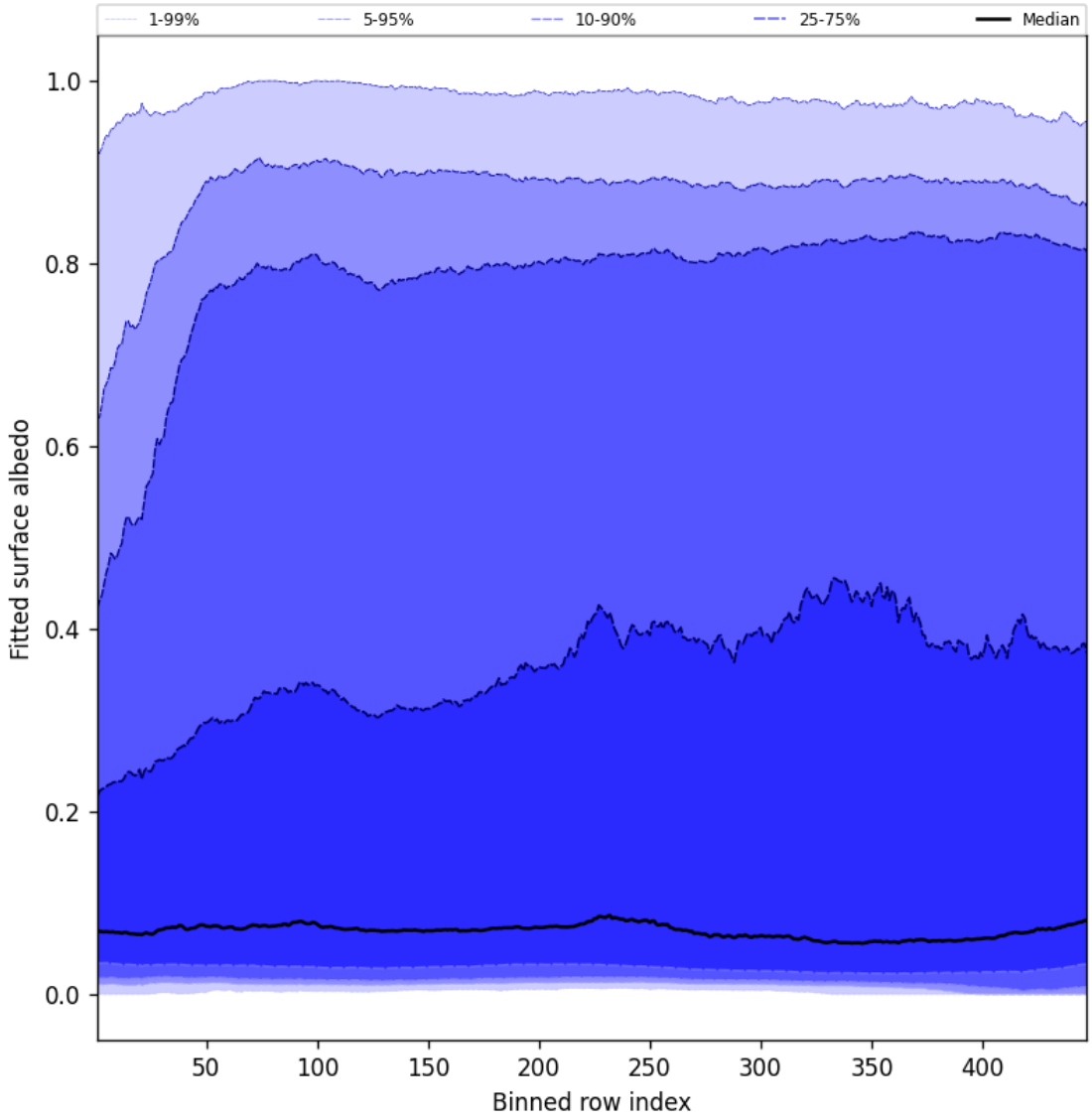

Figure 59: Along track statistics of “Fitted surface albedo” for 2025-05-29 to 2025-05-29

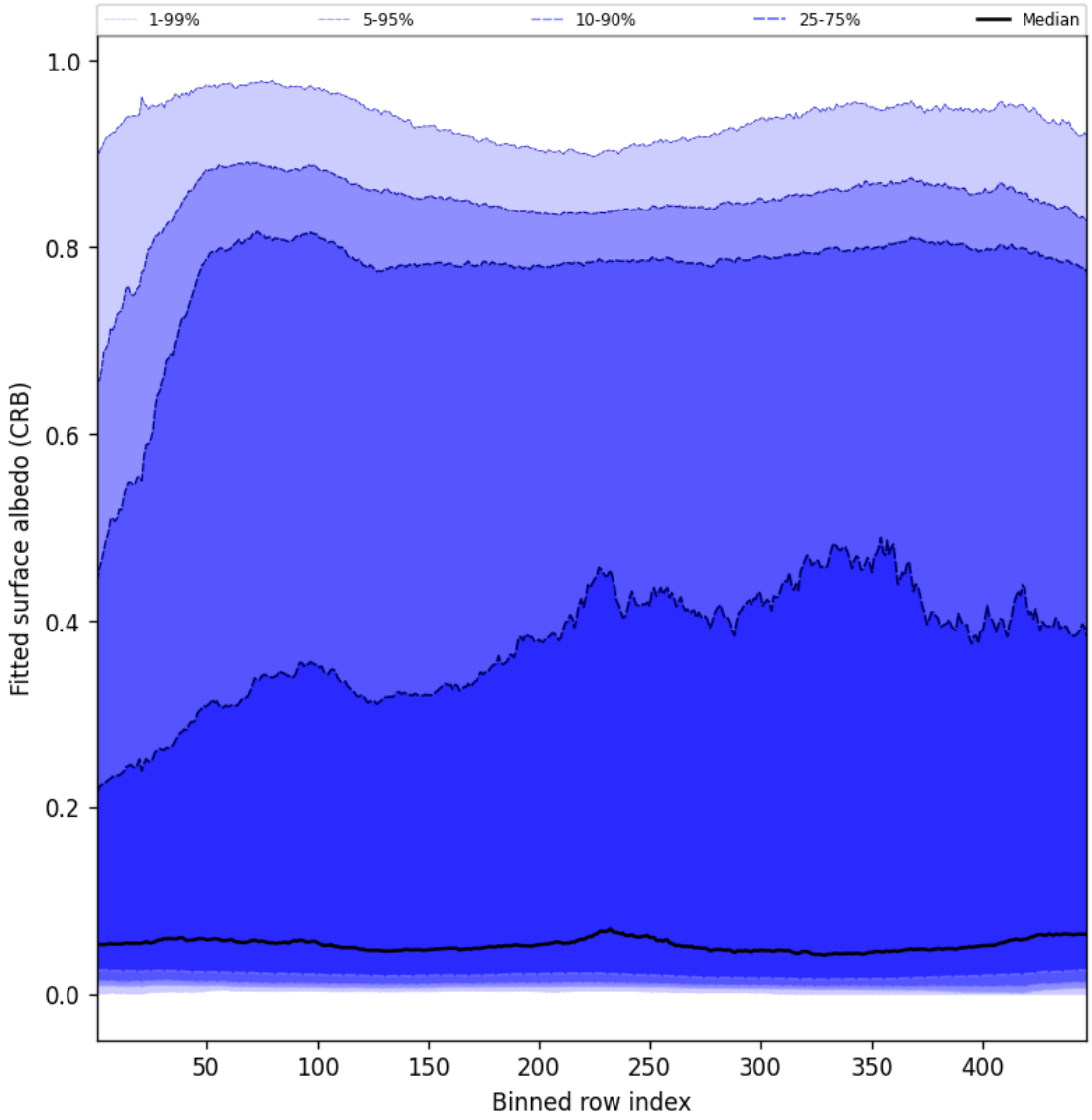

Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-05-29 to 2025-05-29

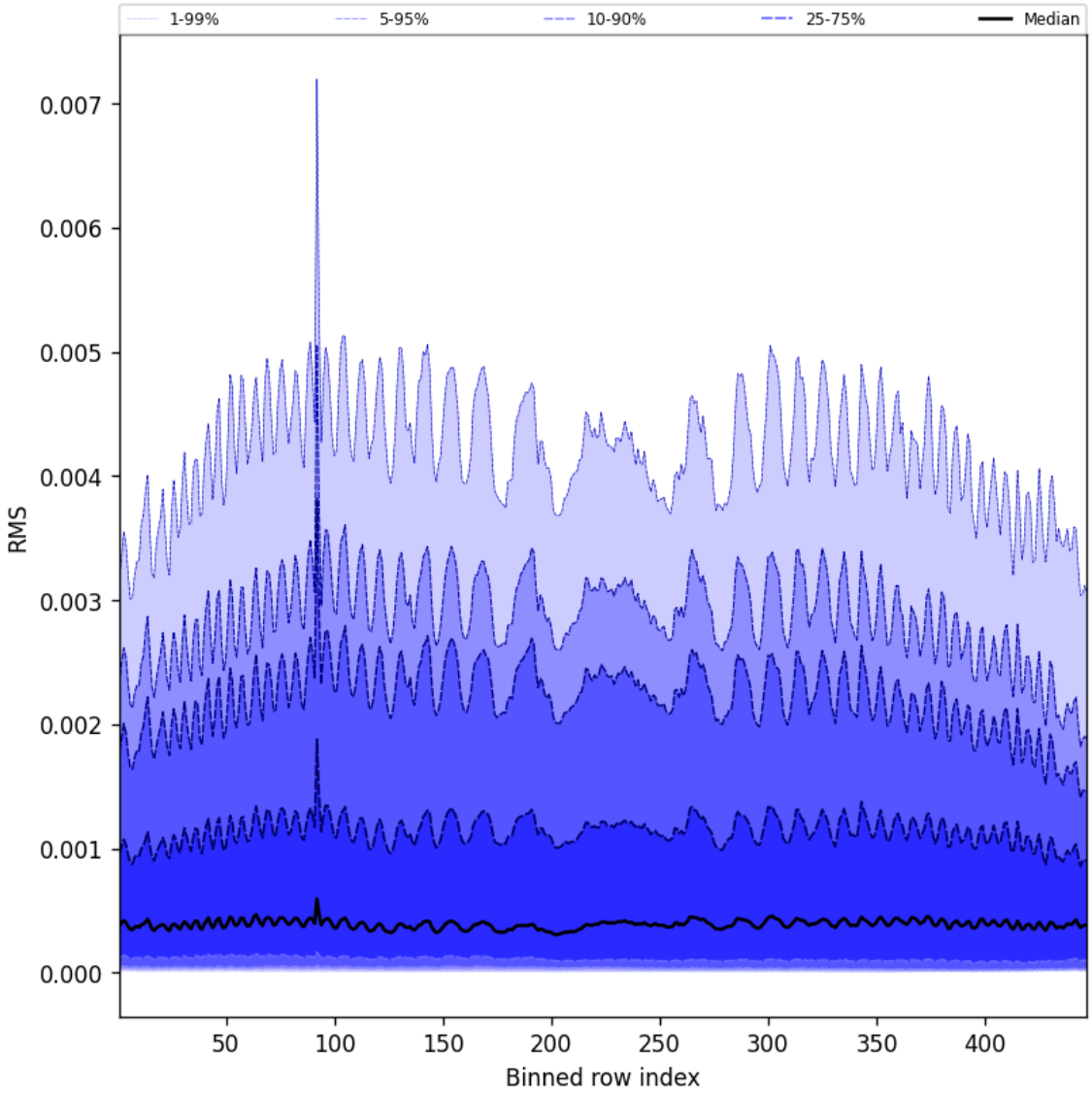

Figure 61: Along track statistics of “RMS” for 2025-05-29 to 2025-05-29

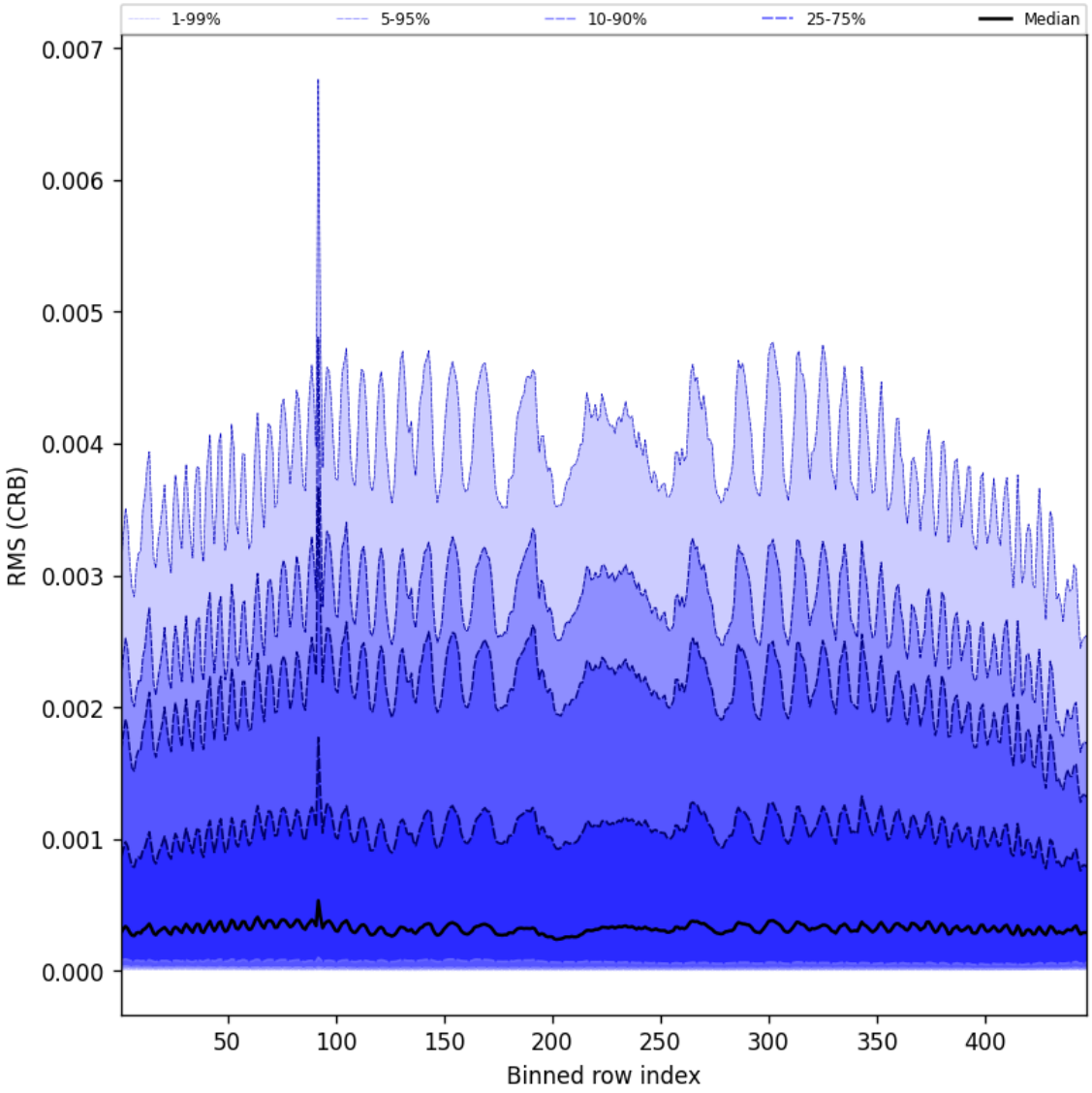

Figure 62: Along track statistics of “RMS (CRB)” for 2025-05-29 to 2025-05-29

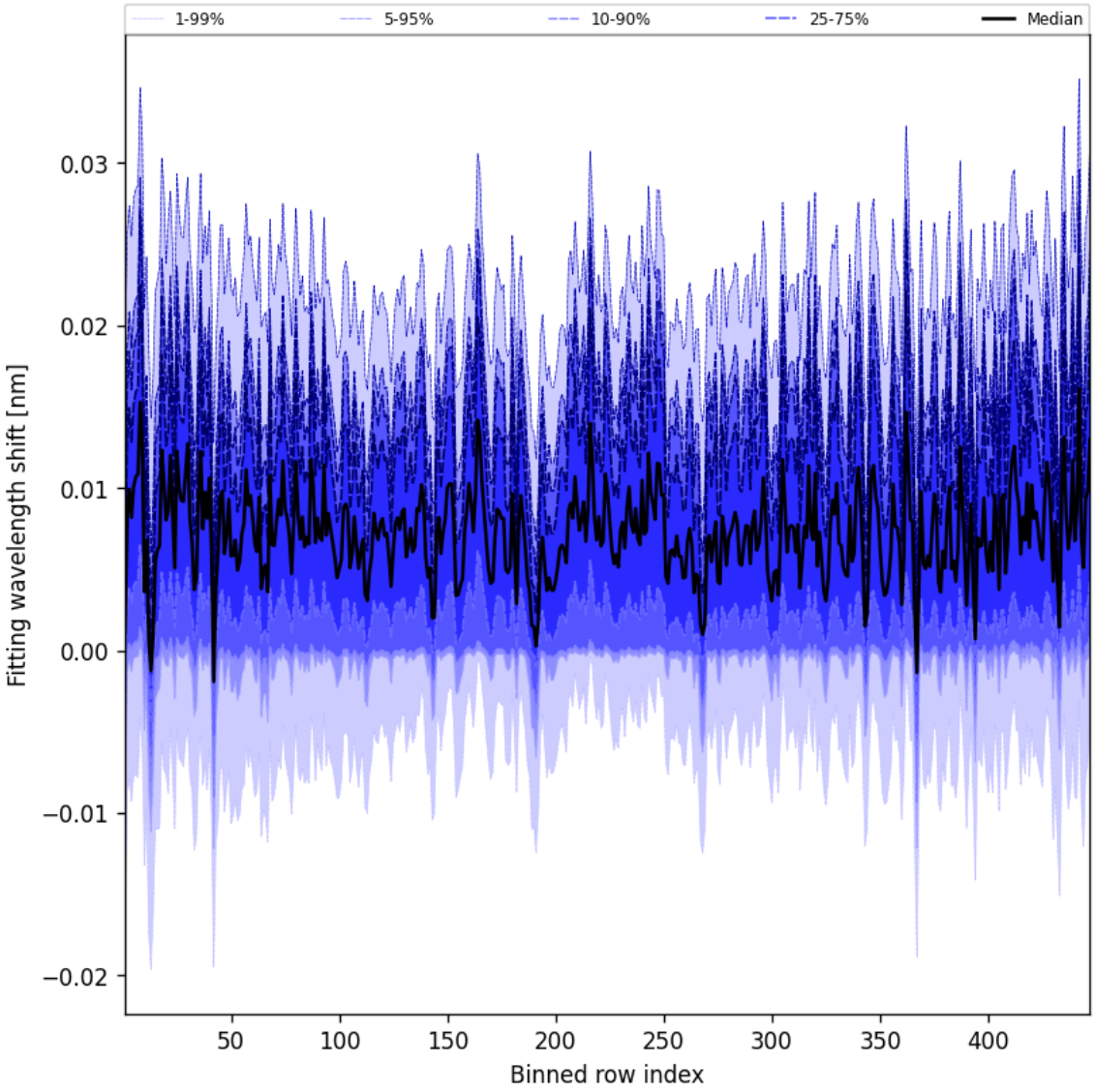

Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-05-29 to 2025-05-29

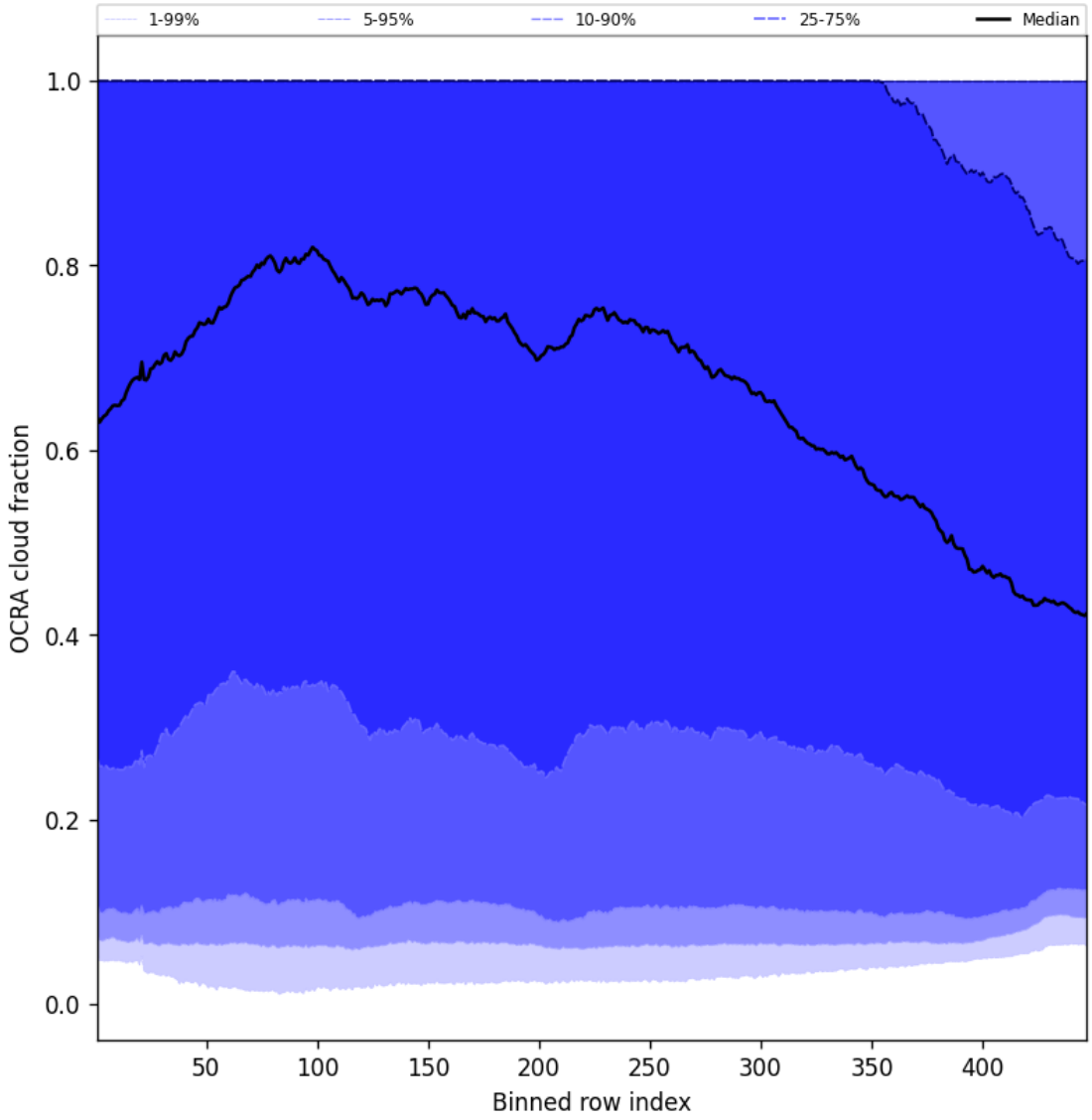

Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-05-29 to 2025-05-29

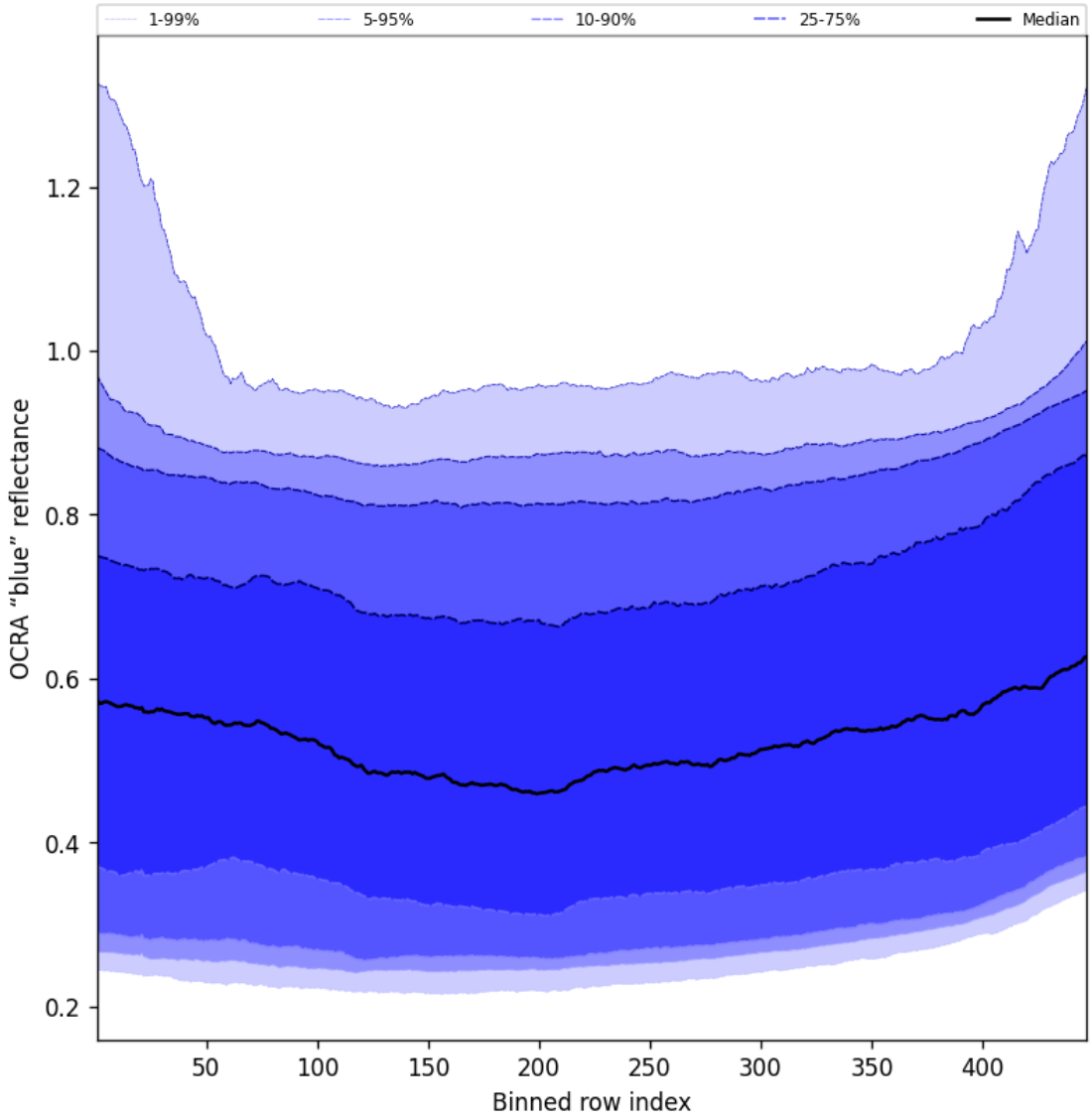

Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-05-29 to 2025-05-29

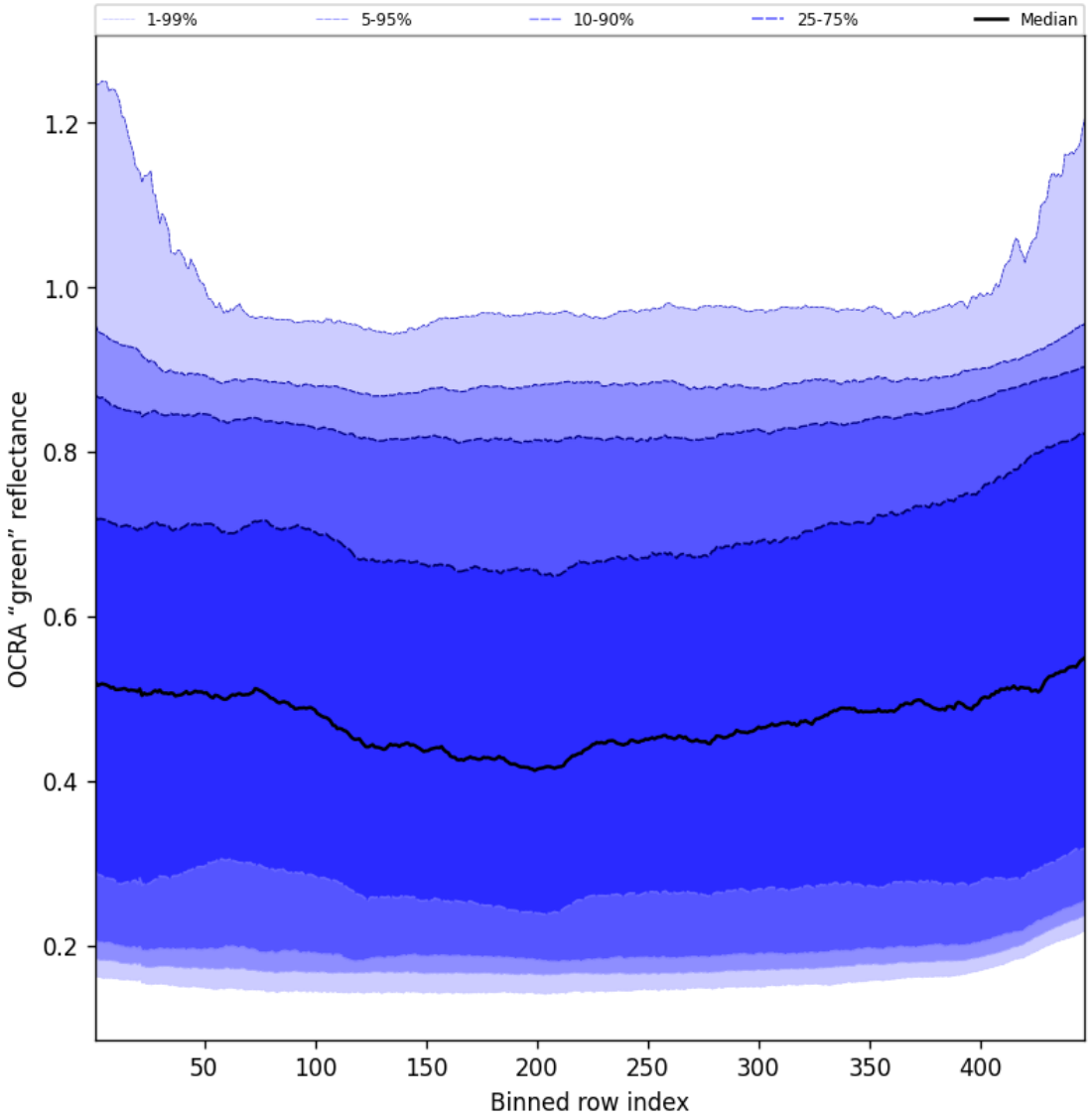

Figure 66: Along track statistics of "OCRA "green" reflectance" for 2025-05-29 to 2025-05-29

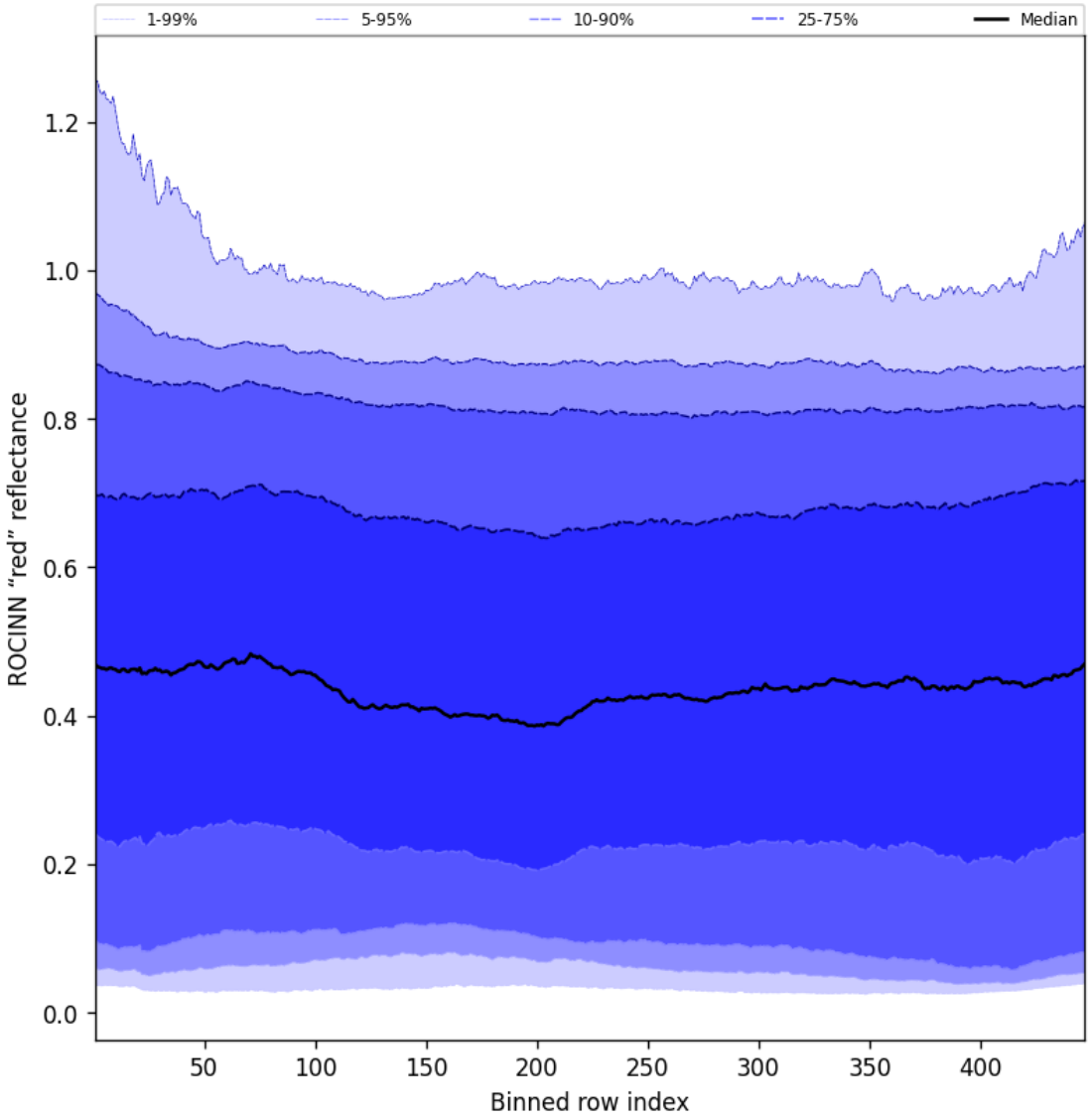

Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-05-29 to 2025-05-29

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.

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