PyCAMA report generated by tropl2-proc

tropl2-proc

2025-06-18 (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]	0.615 ± 0.371	18799502	0.995	0.630	0.770	0.0	1.000
cloud fraction [1]	0.608 ± 0.347	18799502	0.995	0.722	0.636	6.396×10^{-3}	1.000
cloud top height [m]	$(0.394 \pm 0.264) \times 10^4$	18799502	1.575×10^3	3.786×10^3	3.455×10^3	0.0	2.000×10^4
cloud optical thickness [1]	20.6 ± 35.2	18799502	8.91	12.6	10.0	1.000	250
cloud fraction crb [1]	0.607 ± 0.347	18799502	0.995	0.724	0.634	3.715×10^{-5}	1.000
cloud height crb [m]	$(0.308 \pm 0.234) \times 10^4$	18799502	75.0	3.478×10^3	2.631×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.565 ± 0.197	18799502	0.495	0.244	0.557	0.0	1.000
surface albedo fitted [1]	0.203 ± 0.248	18799502	2.500×10^{-2}	0.248	6.834×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.201 ± 0.254	18799502	1.500×10^{-2}	0.258	5.147×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.996 \pm 23.867) \times 10^{-4}$	18799502	5.000×10^{-5}	9.687×10^{-4}	3.702×10^{-4}	9.488×10^{-7}	1.03
fitted root mean square crb [1]	$(6.853 \pm 24.258) \times 10^{-4}$	18799502	5.000×10^{-5}	9.174×10^{-4}	3.012×10^{-4}	9.870×10^{-7}	1.54
wavelength shift [nm]	$(7.019 \pm 6.745) \times 10^{-3}$	18799502	-3.000×10^{-4}	9.877×10^{-3}	6.411×10^{-3}	-8.437×10^{-2}	0.621
cloud fraction apriori [1]	0.617 ± 0.352	18799502	0.995	0.724	0.659	0.0	1.000
reflectance blue ocra [1]	0.529 ± 0.198	18799502	0.265	0.319	0.510	0.130	2.01
reflectance green ocra [1]	0.477 ± 0.225	18799502	0.185	0.382	0.458	7.913×10^{-2}	2.27
reflectance continuum aband [1]	0.438 ± 0.254	18799502	4.500×10^{-2}	0.400	0.422	1.181×10^{-2}	5.06

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	2.000×10^{-2}	0.300	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.718×10^{-2}	7.088×10^{-2}	0.112	0.168	0.277	0.999	1.000	1.000	1.000	1.000
cloud top height [m]	172	586	969	1.312×10^{3}	1.788×10^{3}	5.574×10^{3}	6.711×10^{3}	7.704×10^{3}	9.009×10^{3}	1.121×10^{4}
cloud optical thickness [1]	1.000	2.40	3.74	4.80	6.17	18.8	28.4	41.7	72.2	246
cloud fraction crb [1]	2.659×10^{-2}	6.984×10^{-2}	0.111	0.167	0.275	0.999	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	76.8	398	728	1.143×10^{3}	4.621×10^{3}	5.621×10^{3}	6.434×10^{3}	7.522×10^{3}	9.354×10^{3}
cloud albedo crb [1]	1.909×10^{-3}	0.224	0.325	0.395	0.450	0.695	0.764	0.822	0.896	1.000
surface albedo fitted [1]	0.0	1.043×10^{-2}	1.613×10^{-2}	2.132×10^{-2}	2.891×10^{-2}	0.277	0.441	0.652	0.793	0.932
surface albedo fitted crb [1]	3.709×10^{-4}	7.038×10^{-3}	1.115×10^{-2}	1.509×10^{-2}	2.098×10^{-2}	0.279	0.487	0.676	0.786	0.904
fitted root mean square [1]	1.036×10^{-5}	2.344×10^{-5}	3.790×10^{-5}	6.010×10^{-5}	1.073×10^{-4}	1.076×10^{-3}	1.554×10^{-3}	2.038×10^{-3}	2.741×10^{-3}	4.569×10^{-3}
fitted root mean square crb [1]	5.529×10^{-6}	1.233×10^{-5}	2.138×10^{-5}	3.375×10^{-5}	6.184×10^{-5}	9.792×10^{-4}	1.426×10^{-3}	1.873×10^{-3}	2.504×10^{-3}	3.859×10^{-3}
wavelength shift [nm]	-7.435×10^{-3}	-1.041×10^{-3}	-2.314×10^{-4}	3.161×10^{-4}	1.657×10^{-3}	1.153×10^{-2}	1.385×10^{-2}	1.584×10^{-2}	1.850×10^{-2}	2.411×10^{-2}
cloud fraction apriori [1]	3.133×10^{-2}	6.714×10^{-2}	0.105	0.161	0.276	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.230	0.258	0.283	0.313	0.359	0.678	0.750	0.806	0.864	0.982
reflectance green ocra [1]	0.149	0.173	0.195	0.223	0.274	0.656	0.737	0.795	0.853	0.965
reflectance continuum aband [1]	3.121×10^{-2}	5.807×10^{-2}	9.623×10^{-2}	0.149	0.235	0.635	0.721	0.779	0.851	0.990

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]	0.611 ± 0.362	12841855	0.600	0.760	0.0	1.000	0.300	0.900
cloud fraction [1]	0.659 ± 0.343	12841855	0.659	0.750	6.396×10^{-3}	1.000	0.341	1.000
cloud top height [m]	$(0.390 \pm 0.271) \times 10^4$	12841855	3.950×10^3	3.455×10^3	0.0	2.000×10^4	1.663×10^3	5.613×10^3
cloud optical thickness [1]	17.6 ± 29.9	12841855	10.9	9.35	1.000	250	5.65	16.6
cloud fraction crb [1]	0.659 ± 0.343	12841855	0.660	0.750	3.715×10^{-5}	1.000	0.340	1.000
cloud height crb [m]	$(0.300 \pm 0.241) \times 10^4$	12841855	3.710×10^3	2.546×10^3	0.0	2.000×10^4	931	4.641×10^3
cloud albedo crb [1]	0.555 ± 0.208	12841855	0.268	0.550	0.0	1.000	0.433	0.701
surface albedo fitted [1]	0.267 ± 0.273	12841855	0.363	0.187	0.0	1.000	3.443×10^{-2}	0.398
surface albedo fitted crb [1]	0.270 ± 0.277	12841855	0.411	0.187	0.0	1.000	2.872×10^{-2}	0.440
fitted root mean square [1]	$(1.020 \pm 2.844) \times 10^{-3}$	12841855	1.248×10^{-3}	6.206×10^{-4}	2.027×10^{-6}	1.03	1.578×10^{-4}	1.406×10^{-3}
fitted root mean square crb [1]	$(8.740 \pm 29.001) \times 10^{-4}$	12841855	1.172×10^{-3}	5.365×10^{-4}	1.050×10^{-6}	1.54	1.068×10^{-4}	1.278×10^{-3}
wavelength shift [nm]	$(8.042 \pm 6.797) \times 10^{-3}$	12841855	9.852×10^{-3}	7.897×10^{-3}	-8.437×10^{-2}	0.621	2.777×10^{-3}	1.263×10^{-2}
cloud fraction apriori [1]	0.672 ± 0.345	12841855	0.647	0.787	0.0	1.000	0.353	1.000
reflectance blue ocra [1]	0.548 ± 0.206	12841855	0.348	0.545	0.130	1.77	0.363	0.711
reflectance green ocra [1]	0.505 ± 0.232	12841855	0.408	0.506	7.913×10^{-2}	2.27	0.288	0.696
reflectance continuum aband [1]	0.481 ± 0.250	12841855	0.394	0.479	1.181×10^{-2}	5.06	0.286	0.680

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 ± 0.387	5957647	0.700	0.850	0.0	1.000	0.300	1.000
cloud fraction [1]	0.498 ± 0.331	5957647	0.617	0.451	7.613×10^{-3}	1.000	0.191	0.808
cloud top height [m]	$(0.401 \pm 0.249) \times 10^4$	5957647	3.499×10^3	3.457×10^3	0.0	1.859×10^4	1.971×10^3	5.470×10^3
cloud optical thickness [1]	27.2 ± 43.9	5957647	17.0	12.0	1.000	250	7.31	24.3
cloud fraction crb [1]	0.496 ± 0.331	5957647	0.614	0.446	8.483×10^{-3}	1.000	0.189	0.804
cloud height crb [m]	$(0.325 \pm 0.218) \times 10^4$	5957647	3.128×10^3	2.797×10^3	0.0	2.000×10^4	1.443×10^3	4.571×10^3
cloud albedo crb [1]	0.586 ± 0.167	5957647	0.200	0.569	0.0	1.000	0.482	0.682
surface albedo fitted [1]	$(6.421 \pm 7.673) \times 10^{-2}$	5957647	4.134×10^{-2}	3.842×10^{-2}	0.0	1.000	2.310×10^{-2}	6.444×10^{-2}
surface albedo fitted crb [1]	$(5.207 \pm 7.710) \times 10^{-2}$	5957647	2.915×10^{-2}	2.485×10^{-2}	0.0	1.000	1.444×10^{-2}	4.358×10^{-2}
fitted root mean square [1]	$(3.251 \pm 4.610) \times 10^{-4}$	5957647	3.175×10^{-4}	1.681×10^{-4}	9.488×10^{-7}	3.815×10^{-2}	6.322×10^{-5}	3.808×10^{-4}
fitted root mean square crb [1]	$(2.786 \pm 4.439) \times 10^{-4}$	5957647	2.858×10^{-4}	9.810×10^{-5}	9.870×10^{-7}	2.870×10^{-2}	3.634×10^{-5}	3.222×10^{-4}
wavelength shift [nm]	$(4.814 \pm 6.070) \times 10^{-3}$	5957647	7.572×10^{-3}	3.527×10^{-3}	-4.331×10^{-2}	6.443×10^{-2}	6.043×10^{-4}	8.176×10^{-3}
cloud fraction apriori [1]	0.497 ± 0.338	5957647	0.637	0.447	0.0	1.000	0.180	0.817
reflectance blue ocra [1]	0.490 ± 0.174	5957647	0.241	0.458	0.162	2.01	0.354	0.595
reflectance green ocra [1]	0.419 ± 0.198	5957647	0.293	0.382	8.921×10^{-2}	2.07	0.255	0.549
reflectance continuum aband [1]	0.346 ± 0.238	5957647	0.356	0.310	1.232×10^{-2}	4.87	0.146	0.502

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]	0.625 ± 0.361	12335595	0.580	0.780	0.0	1.000	0.350	0.930
cloud fraction [1]	0.575 ± 0.347	12335595	0.737	0.574	7.240×10^{-3}	1.000	0.240	0.977
cloud top height [m]	$(0.377 \pm 0.267) \times 10^4$	12335595	3.656×10^3	3.170×10^3	0.0	2.000×10^4	1.634×10^3	5.290×10^3
cloud optical thickness [1]	22.2 ± 37.1	12335595	13.3	10.8	1.000	250	6.88	20.2
cloud fraction crb [1]	0.573 ± 0.347	12335595	0.737	0.571	3.715×10^{-5}	1.000	0.239	0.976
cloud height crb [m]	$(0.293 \pm 0.237) \times 10^4$	12335595	3.316×10^3	2.399×10^3	0.0	2.000×10^4	1.024×10^3	4.340×10^3
cloud albedo crb [1]	0.571 ± 0.183	12335595	0.233	0.558	0.0	1.000	0.458	0.691
surface albedo fitted [1]	0.140 ± 0.240	12335595	4.576×10^{-2}	3.659×10^{-2}	0.0	1.000	2.188×10^{-2}	6.764×10^{-2}
surface albedo fitted crb [1]	0.134 ± 0.244	12335595	3.503×10^{-2}	2.685×10^{-2}	0.0	1.000	1.550×10^{-2}	5.053×10^{-2}
fitted root mean square [1]	$(6.463 \pm 27.435) \times 10^{-4}$	12335595	7.256×10^{-4}	2.505×10^{-4}	9.488×10^{-7}	1.03	8.503×10^{-5}	8.106×10^{-4}
fitted root mean square crb [1]	$(5.547 \pm 28.849) \times 10^{-4}$	12335595	6.739×10^{-4}	1.881×10^{-4}	9.870×10^{-7}	1.54	5.396×10^{-5}	7.278×10^{-4}
wavelength shift [nm]	$(6.744 \pm 6.819) \times 10^{-3}$	12335595	9.658×10^{-3}	5.908×10^{-3}	-8.437×10^{-2}	0.621	1.568×10^{-3}	1.123×10^{-2}
cloud fraction apriori [1]	0.581 ± 0.352	12335595	0.763	0.591	0.0	1.000	0.237	1.000
reflectance blue ocra [1]	0.528 ± 0.193	12335595	0.310	0.510	0.162	2.01	0.363	0.673
reflectance green ocra [1]	0.473 ± 0.222	12335595	0.378	0.456	9.158×10^{-2}	2.07	0.270	0.648
reflectance continuum aband [1]	0.403 ± 0.261	12335595	0.451	0.390	1.208×10^{-2}	4.87	0.161	0.612

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]	0.628 ± 0.378	3908773	0.680	0.800	0.0	1.000	0.260	0.940
cloud fraction [1]	0.639 ± 0.346	3908773	0.685	0.699	6.396×10^{-3}	1.000	0.314	1.000
cloud top height [m]	$(0.448 \pm 0.259) \times 10^4$	3908773	3.699×10^3	4.146×10^3	0.0	2.000×10^4	2.445×10^3	6.143×10^3
cloud optical thickness [1]	16.0 ± 27.1	3908773	9.34	8.53	1.000	250	5.41	14.8
cloud fraction crb [1]	0.639 ± 0.346	3908773	0.686	0.699	7.832×10^{-3}	1.000	0.314	1.000
cloud height crb [m]	$(0.352 \pm 0.227) \times 10^4$	3908773	3.519×10^3	3.125×10^3	0.0	2.000×10^4	1.643×10^3	5.162×10^3
cloud albedo crb [1]	0.568 ± 0.216	3908773	0.268	0.567	0.0	1.000	0.447	0.715
surface albedo fitted [1]	0.346 ± 0.227	3908773	0.145	0.262	2.186×10^{-3}	1.000	0.206	0.351
surface albedo fitted crb [1]	0.348 ± 0.227	3908773	0.155	0.259	3.171×10^{-3}	1.000	0.204	0.359
fitted root mean square [1]	$(1.124 \pm 1.306) \times 10^{-3}$	3908773	1.273×10^{-3}	7.884×10^{-4}	1.772×10^{-6}	0.222	3.154×10^{-4}	1.588×10^{-3}
fitted root mean square crb [1]	$(1.026 \pm 1.116) \times 10^{-3}$	3908773	1.264×10^{-3}	7.497×10^{-4}	1.641×10^{-6}	0.661	2.492×10^{-4}	1.513×10^{-3}
wavelength shift [nm]	$(7.569 \pm 6.334) \times 10^{-3}$	3908773	9.330×10^{-3}	7.433×10^{-3}	-4.405×10^{-2}	6.305×10^{-2}	2.497×10^{-3}	1.183×10^{-2}
cloud fraction apriori [1]	0.652 ± 0.352	3908773	0.684	0.742	0.0	1.000	0.316	1.000
reflectance blue ocra [1]	0.527 ± 0.217	3908773	0.361	0.490	0.130	1.77	0.337	0.698
reflectance green ocra [1]	0.483 ± 0.242	3908773	0.414	0.440	7.913×10^{-2}	1.67	0.265	0.679
reflectance continuum aband [1]	0.512 ± 0.224	3908773	0.359	0.466	1.708×10^{-2}	4.37	0.326	0.685

3 Granule outlines

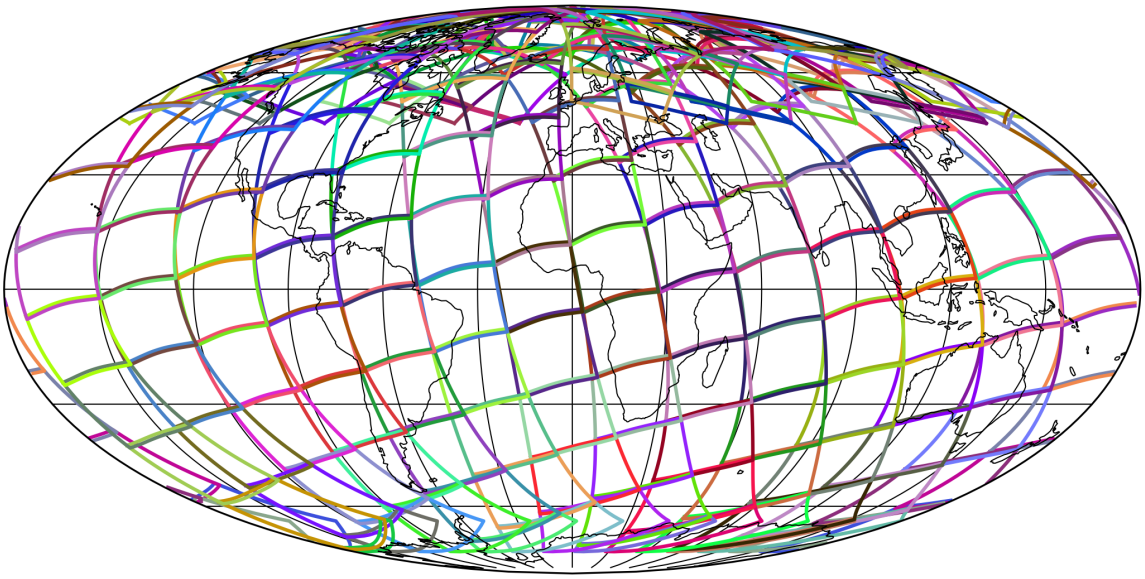

Figure 1: Outline of the granules.

4 Input data monitoring

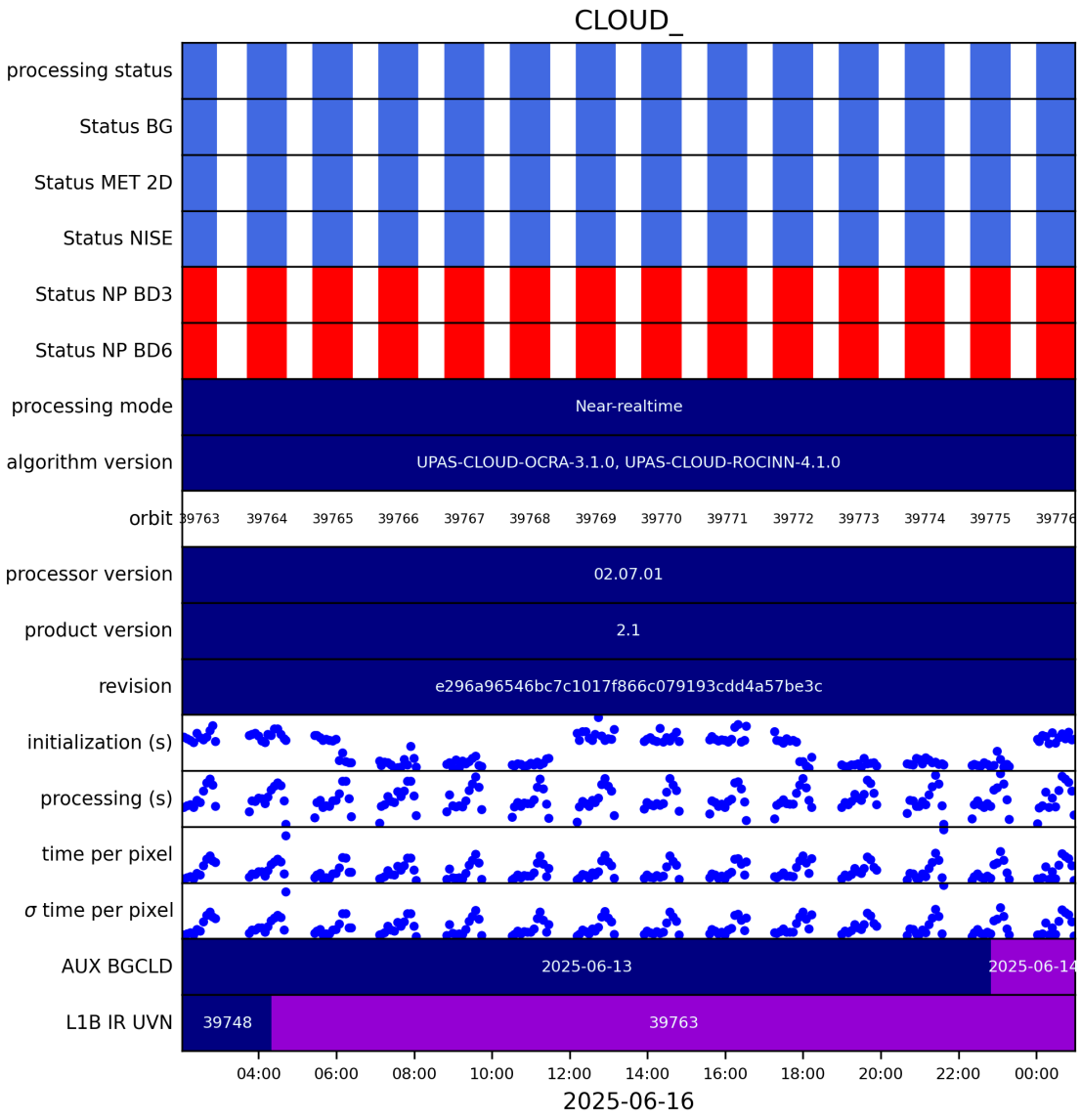

Figure 2: Input data per granule

5 Warnings and errors

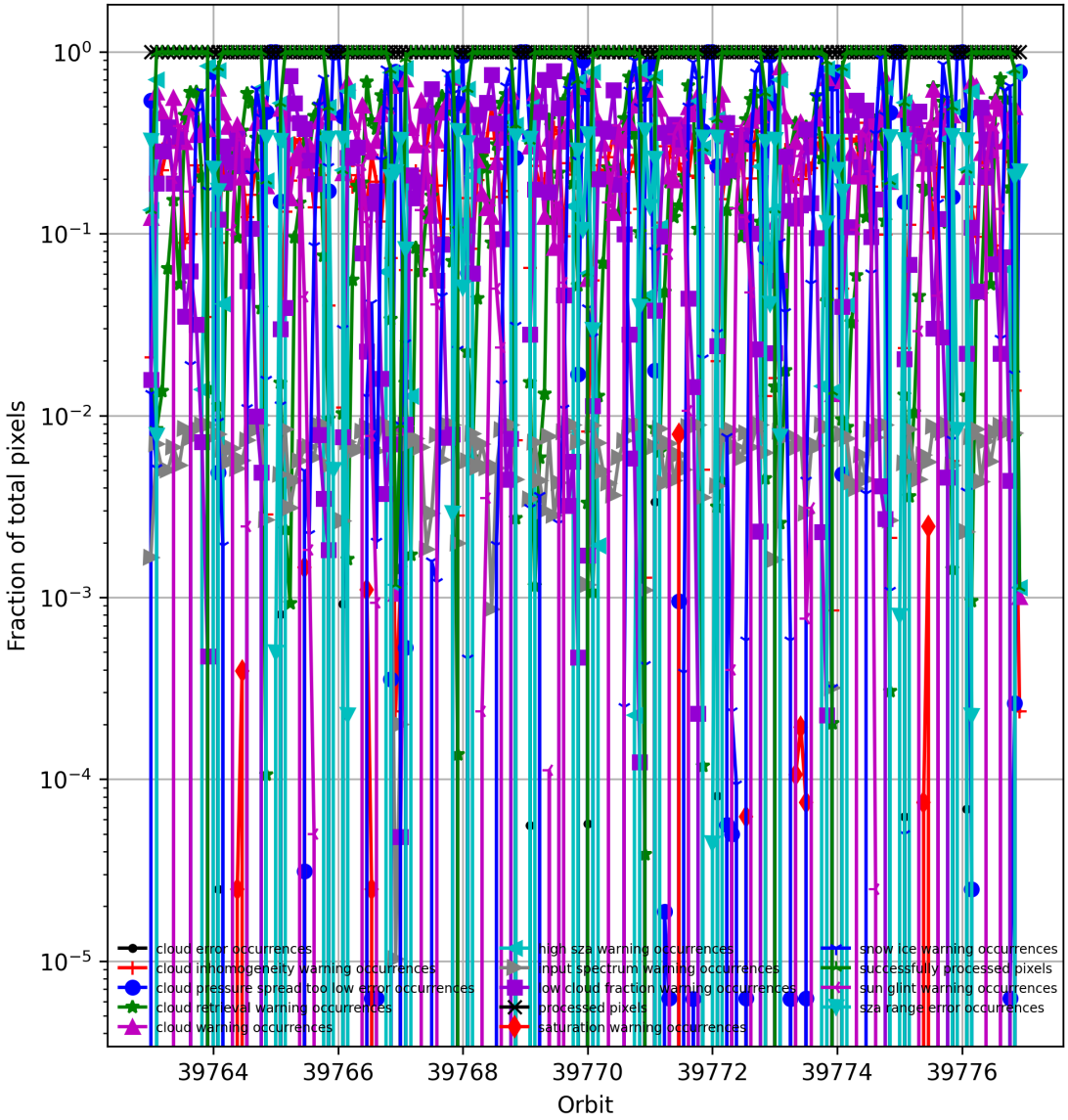

Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

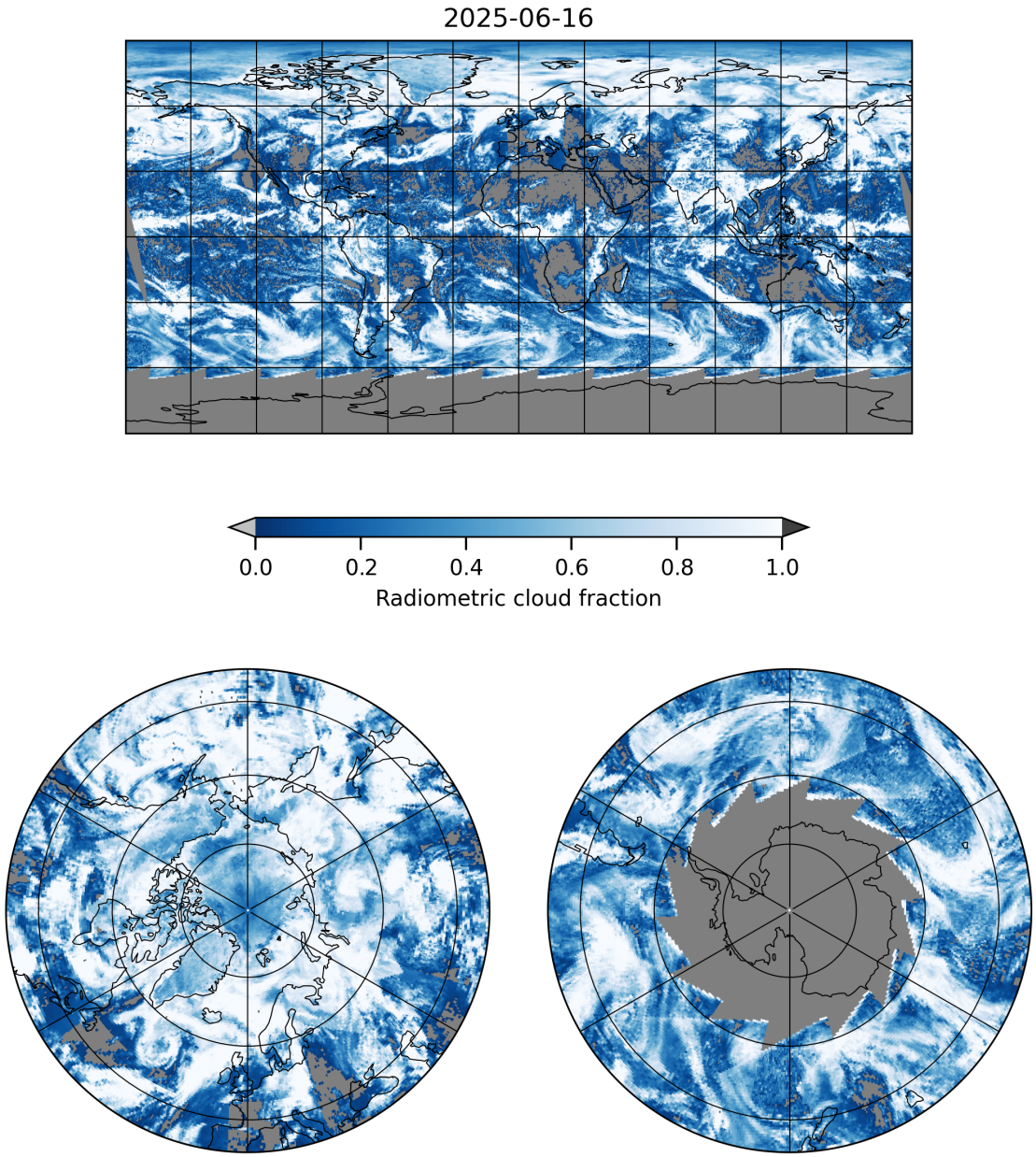

Figure 4: Map of “Radiometric cloud fraction” for 2025-06-16 to 2025-06-17

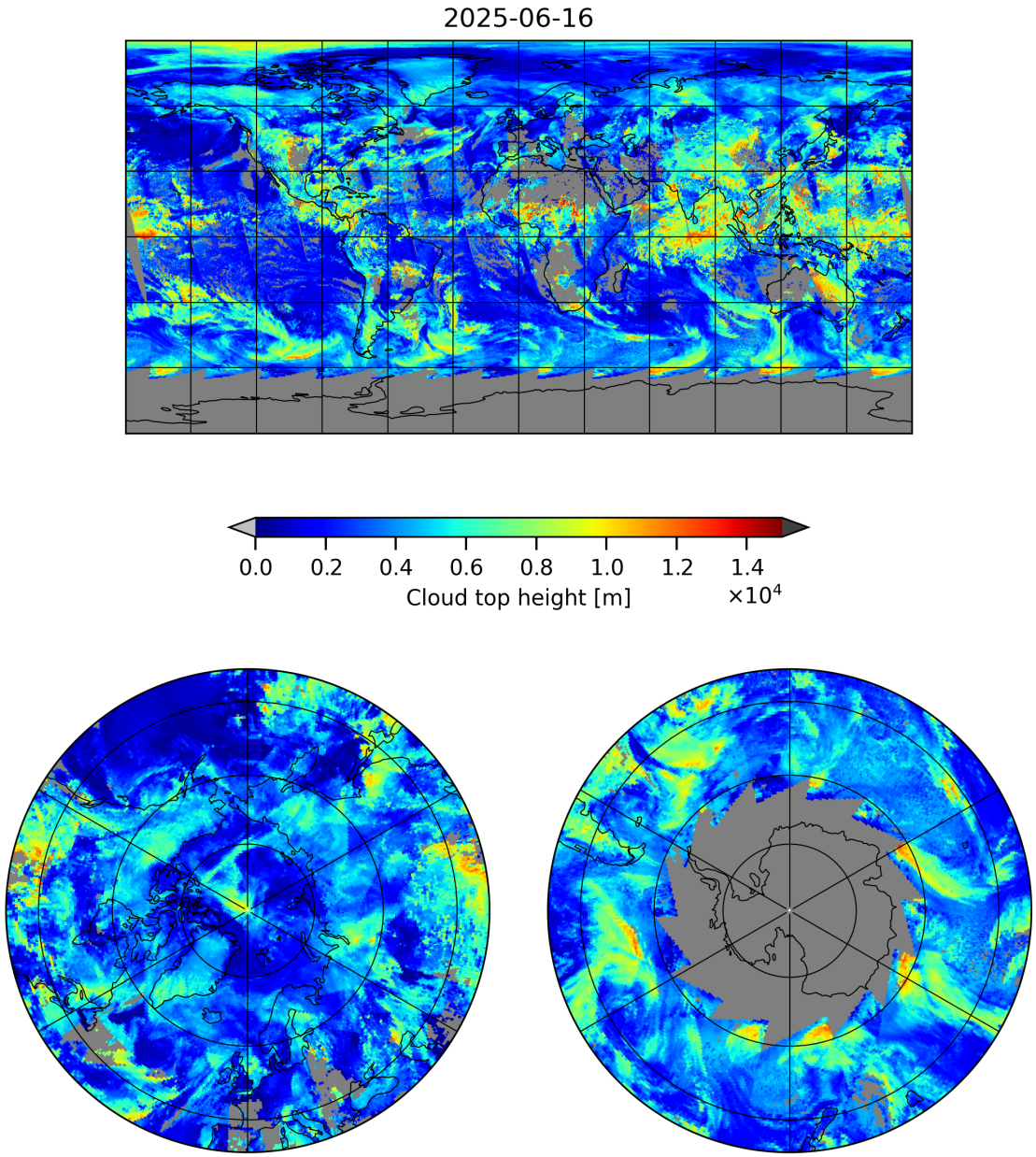

Figure 5: Map of “Cloud top height” for 2025-06-16 to 2025-06-17

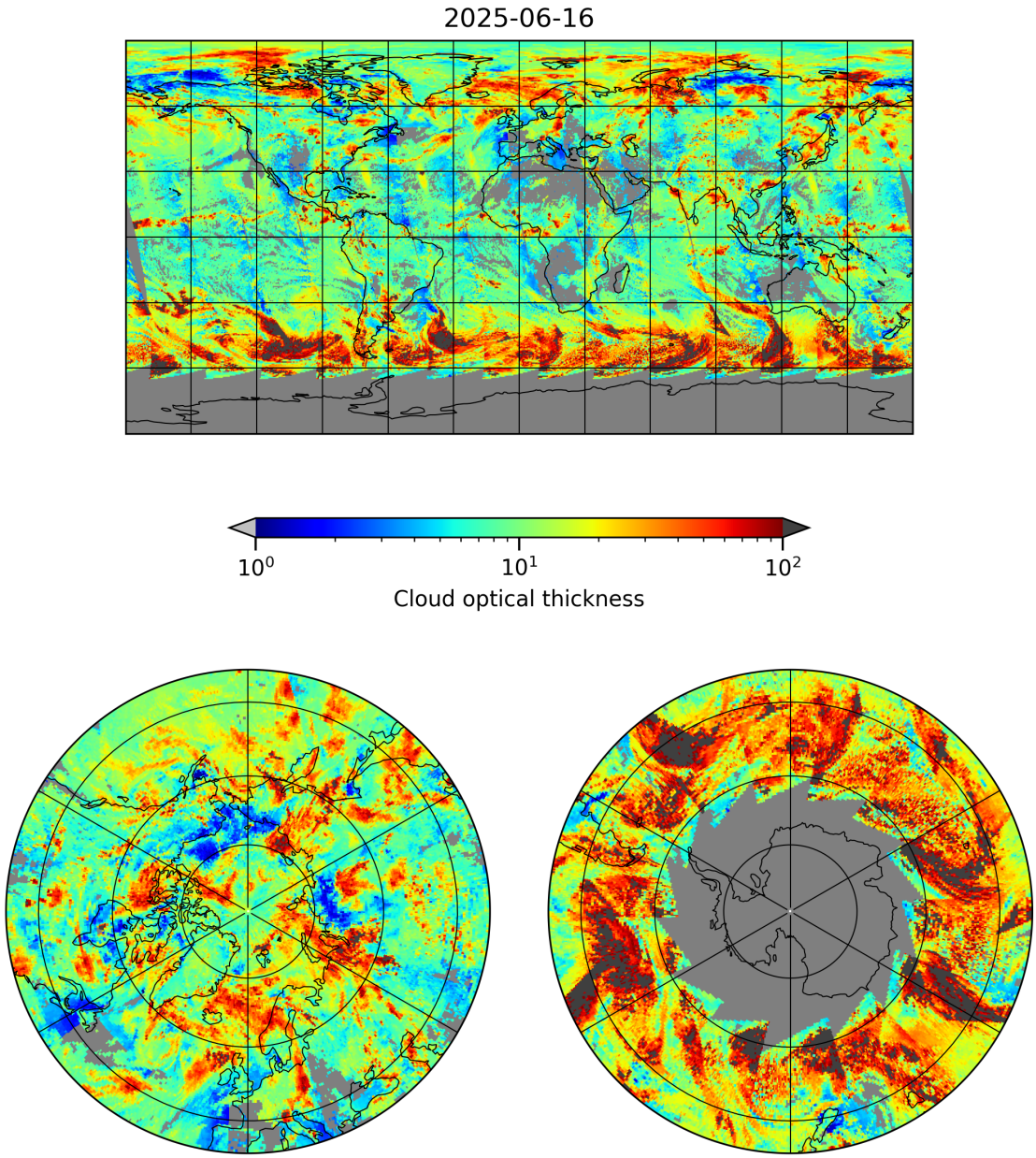

Figure 6: Map of “Cloud optical thickness” for 2025-06-16 to 2025-06-17

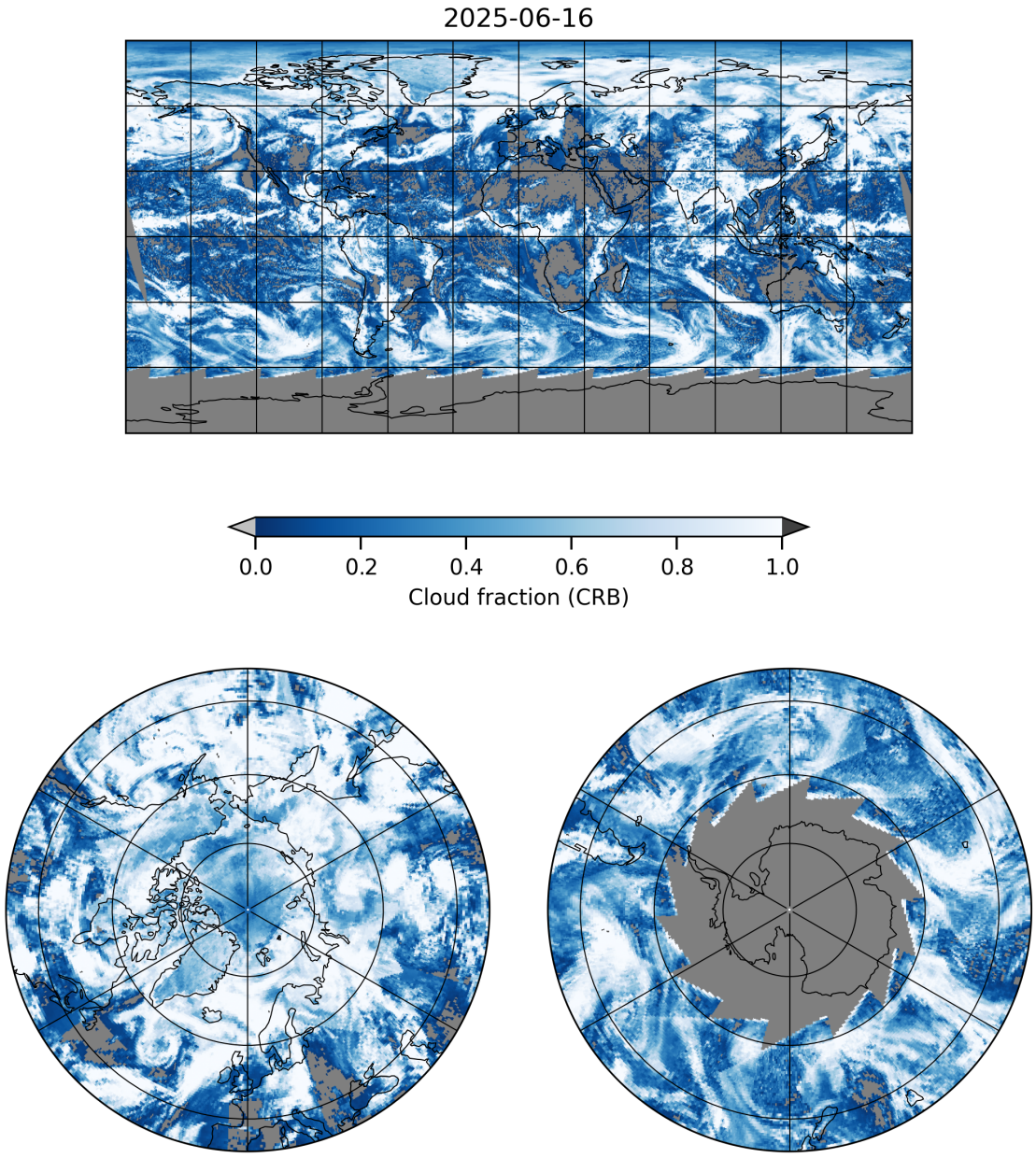

Figure 7: Map of “Cloud fraction (CRB)” for 2025-06-16 to 2025-06-17

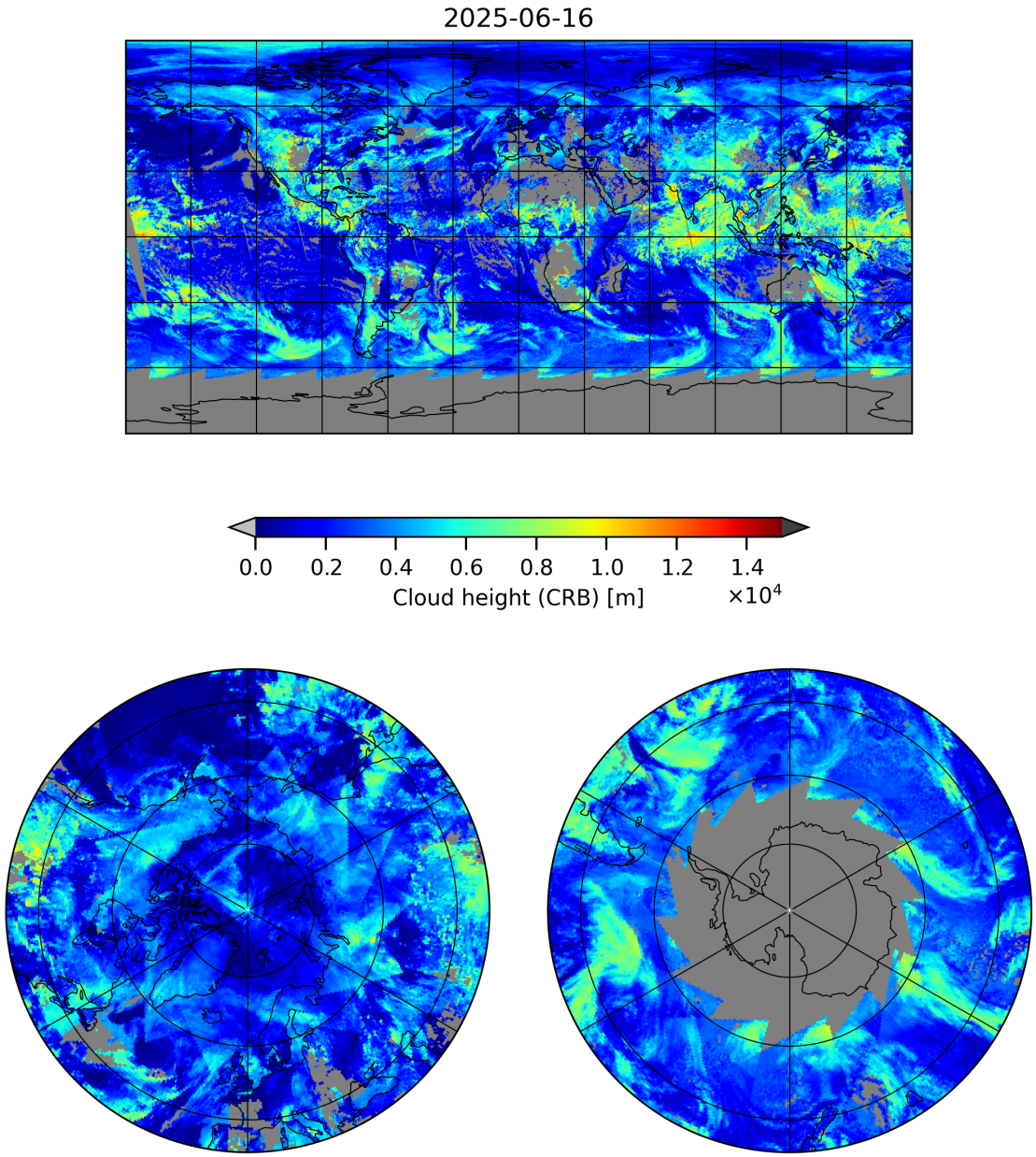

Figure 8: Map of “Cloud height (CRB)” for 2025-06-16 to 2025-06-17

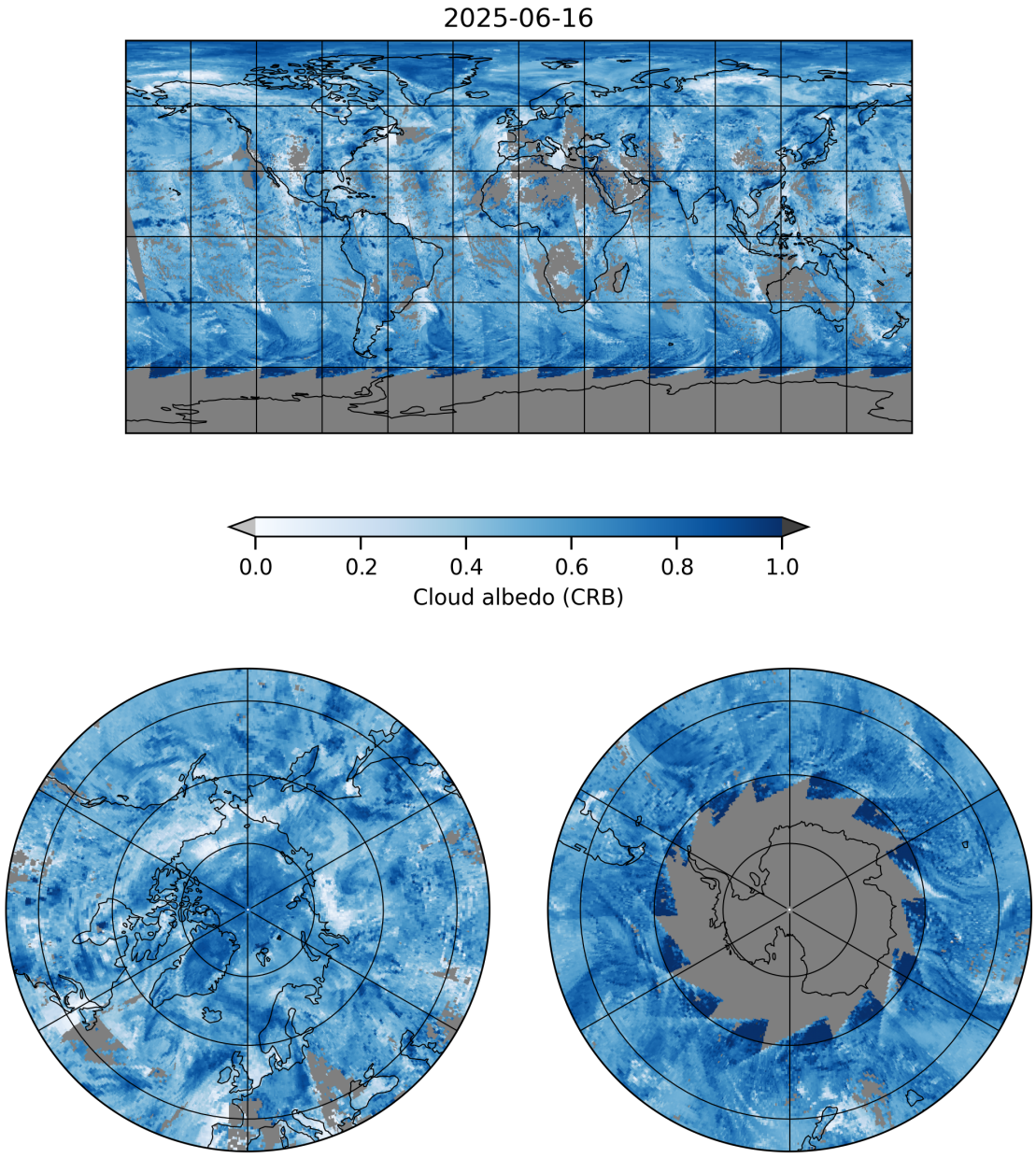

Figure 9: Map of “Cloud albedo (CRB)” for 2025-06-16 to 2025-06-17

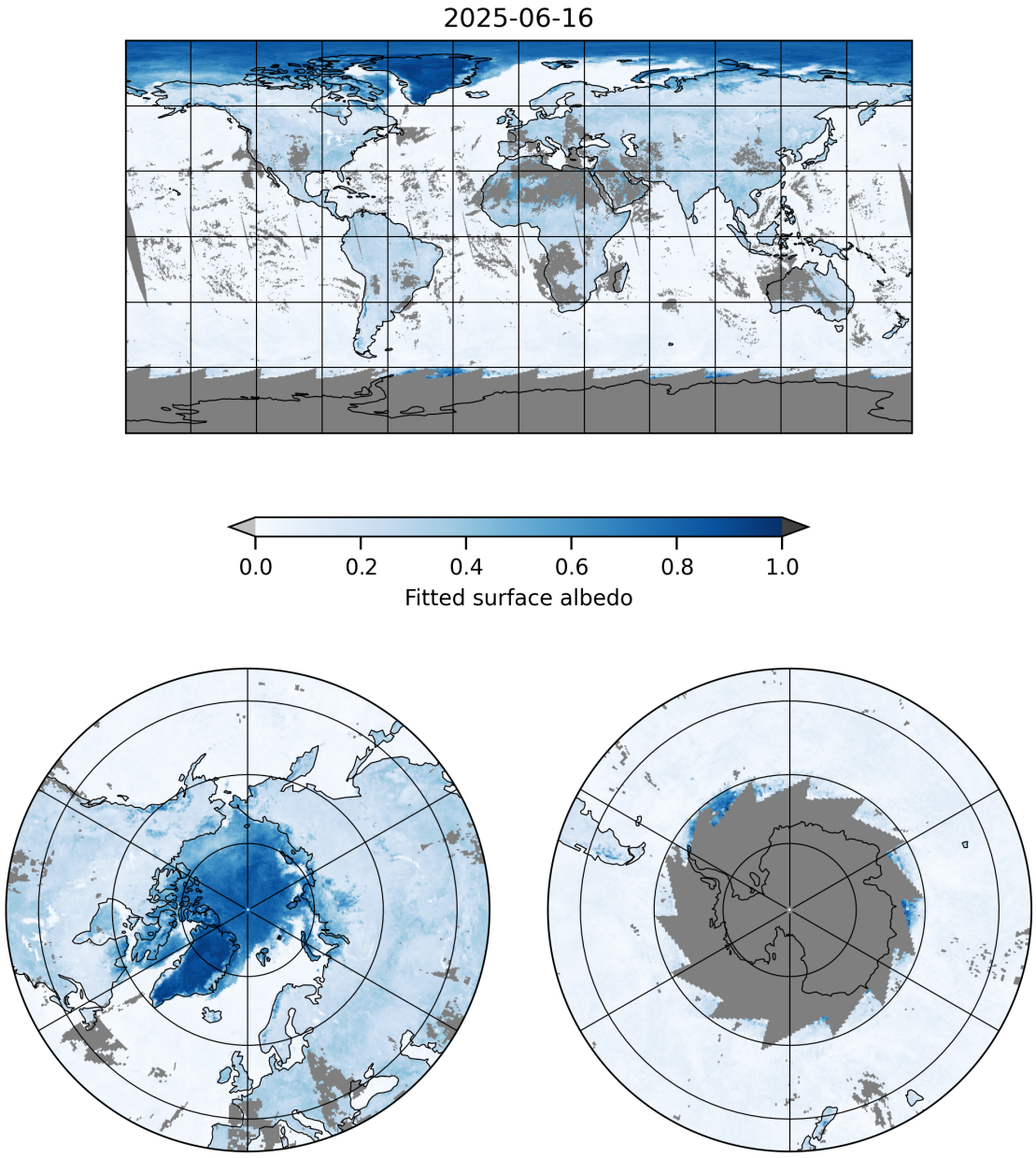

Figure 10: Map of “Fitted surface albedo” for 2025-06-16 to 2025-06-17

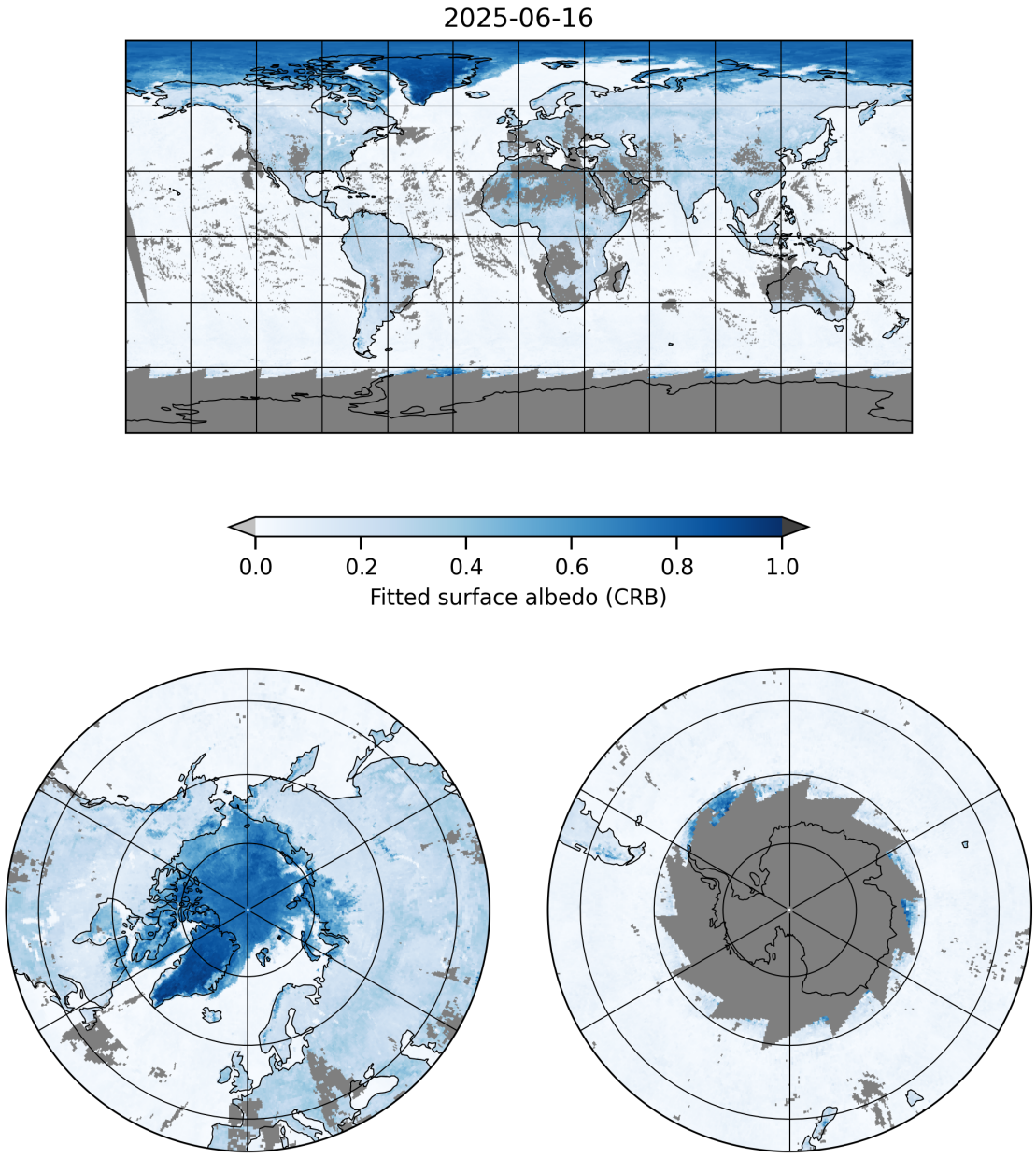

Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-06-16 to 2025-06-17

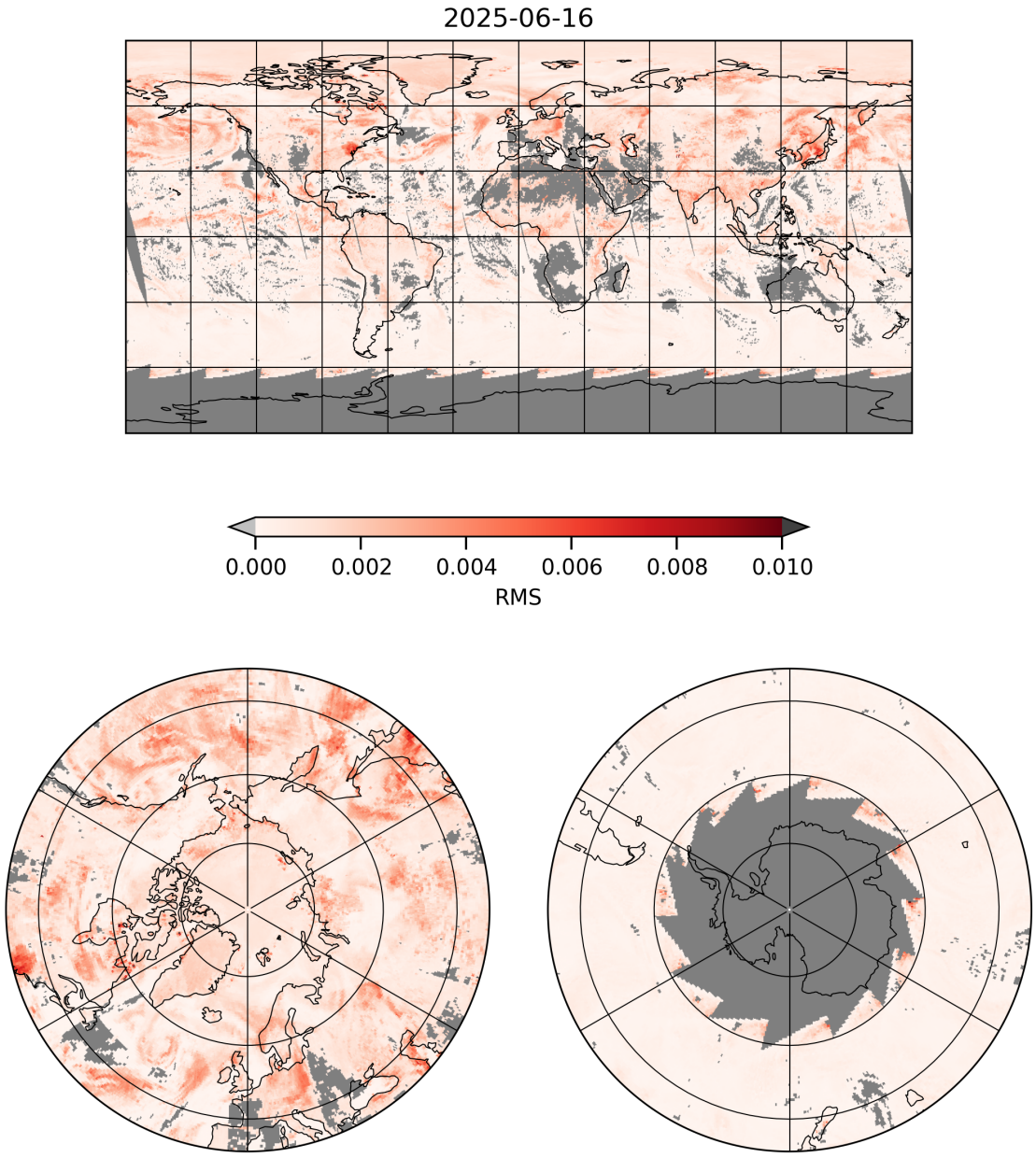

Figure 12: Map of “RMS” for 2025-06-16 to 2025-06-17

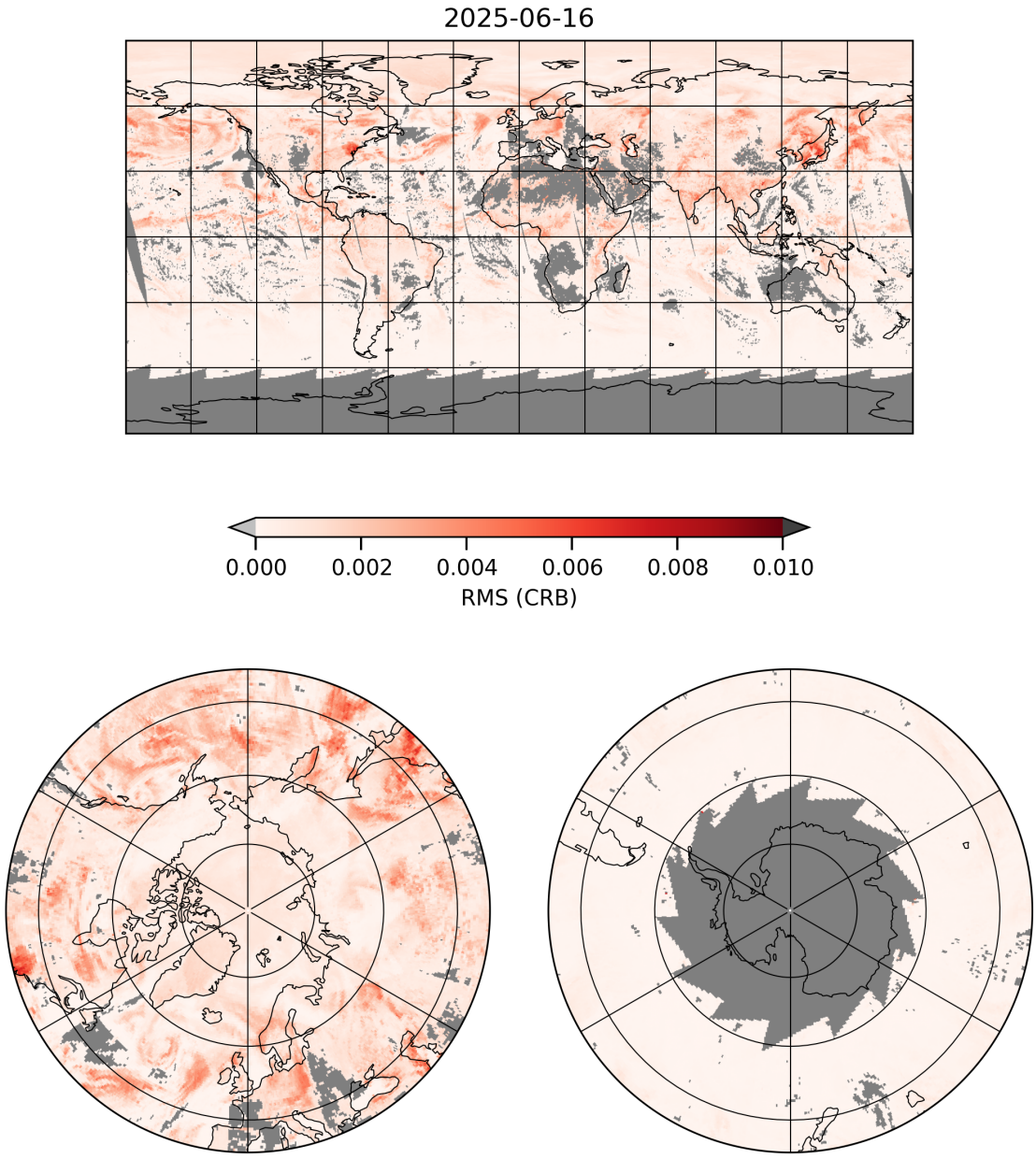

Figure 13: Map of “RMS (CRB)” for 2025-06-16 to 2025-06-17

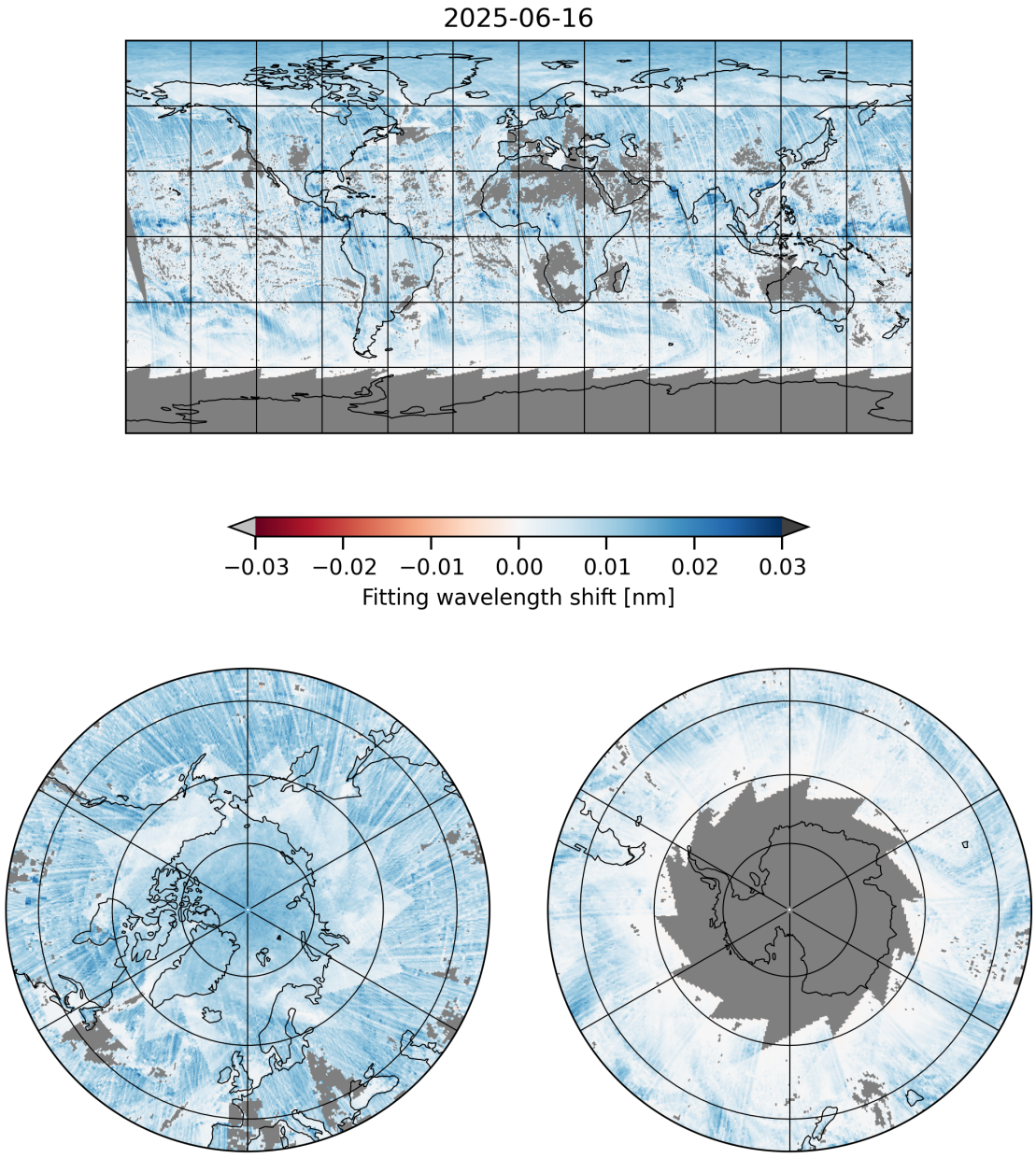

Figure 14: Map of “Fitting wavelength shift” for 2025-06-16 to 2025-06-17

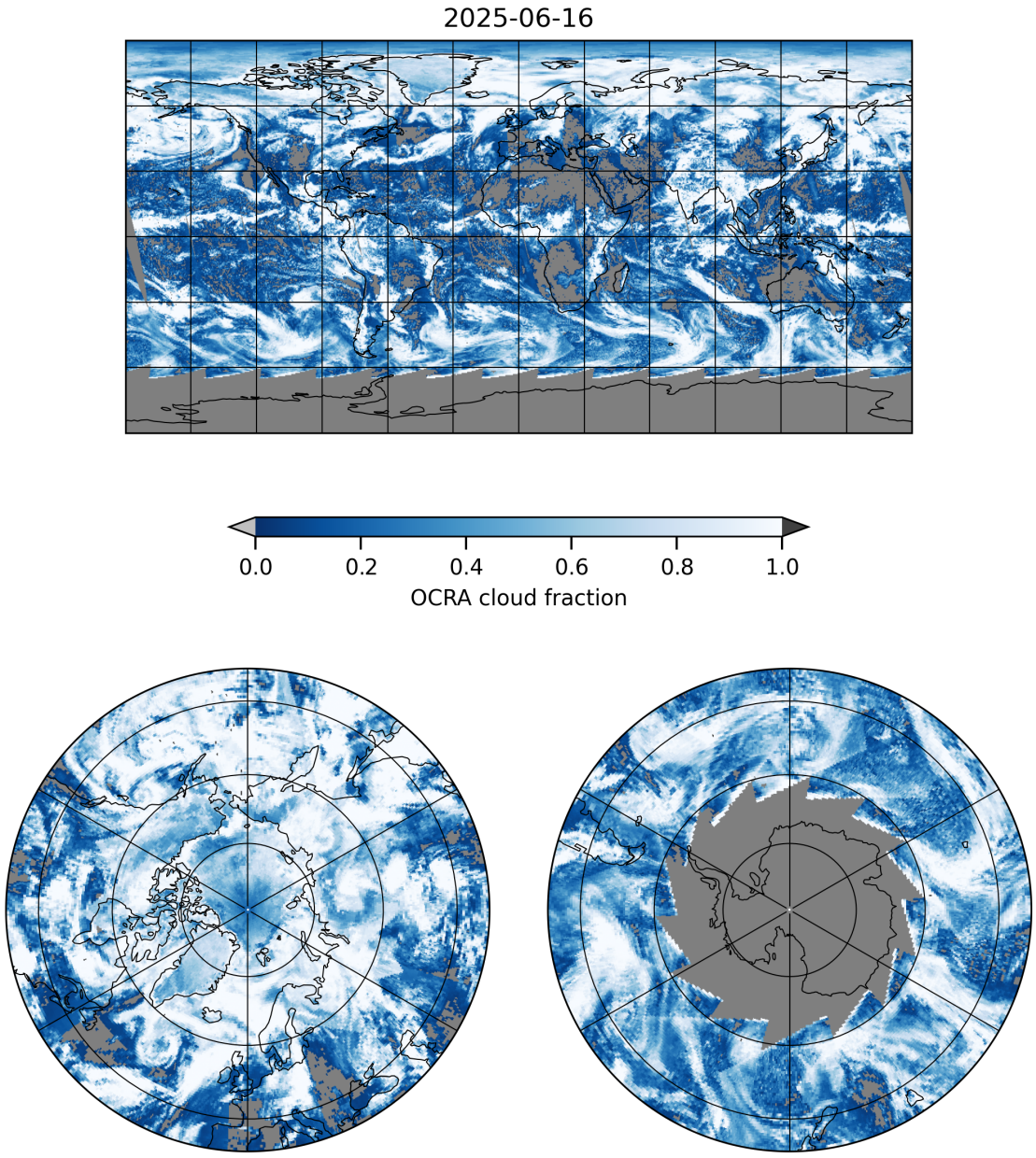

Figure 15: Map of “OCRA cloud fraction” for 2025-06-16 to 2025-06-17

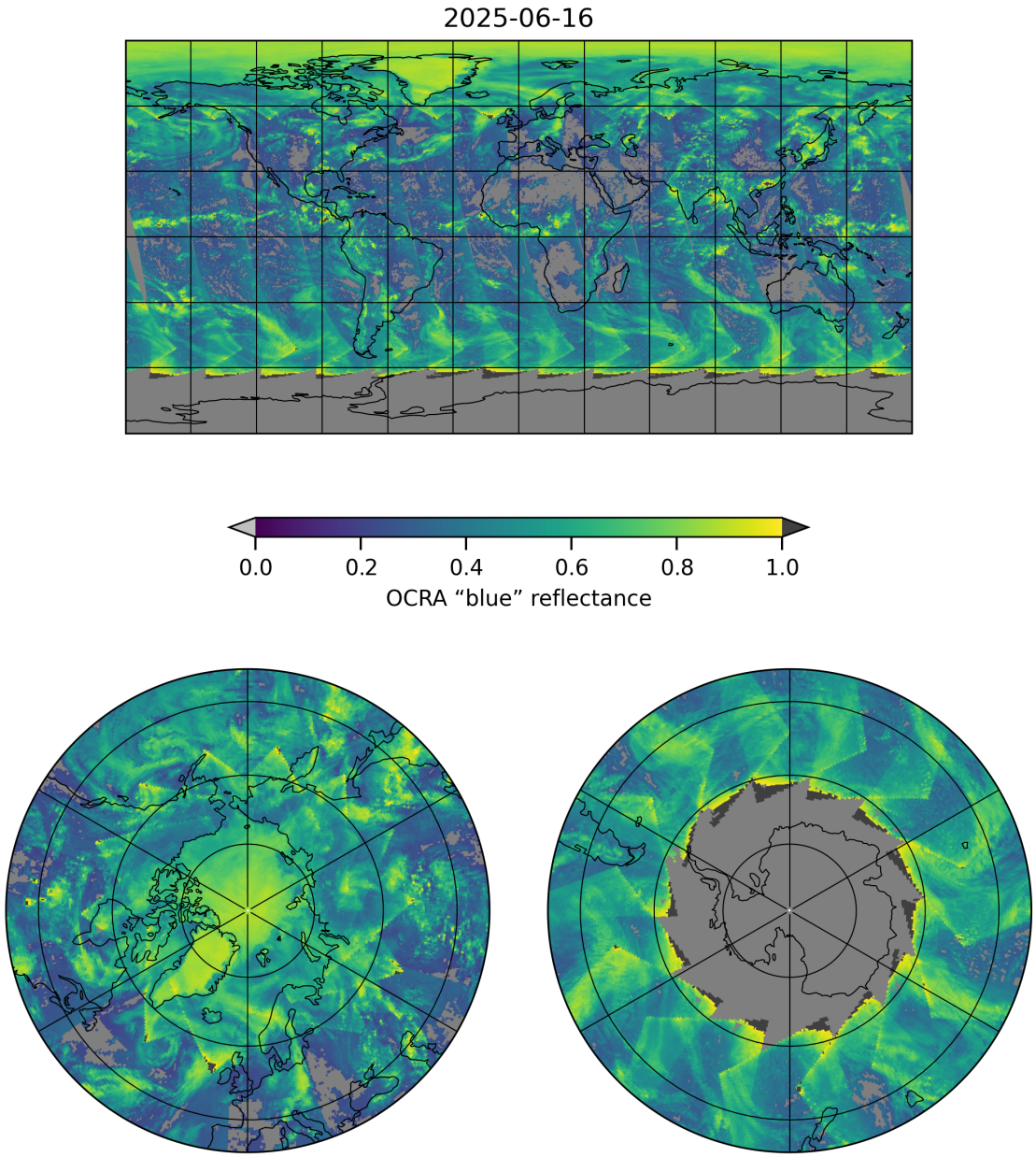

Figure 16: Map of “OCRA “blue” reflectance” for 2025-06-16 to 2025-06-17

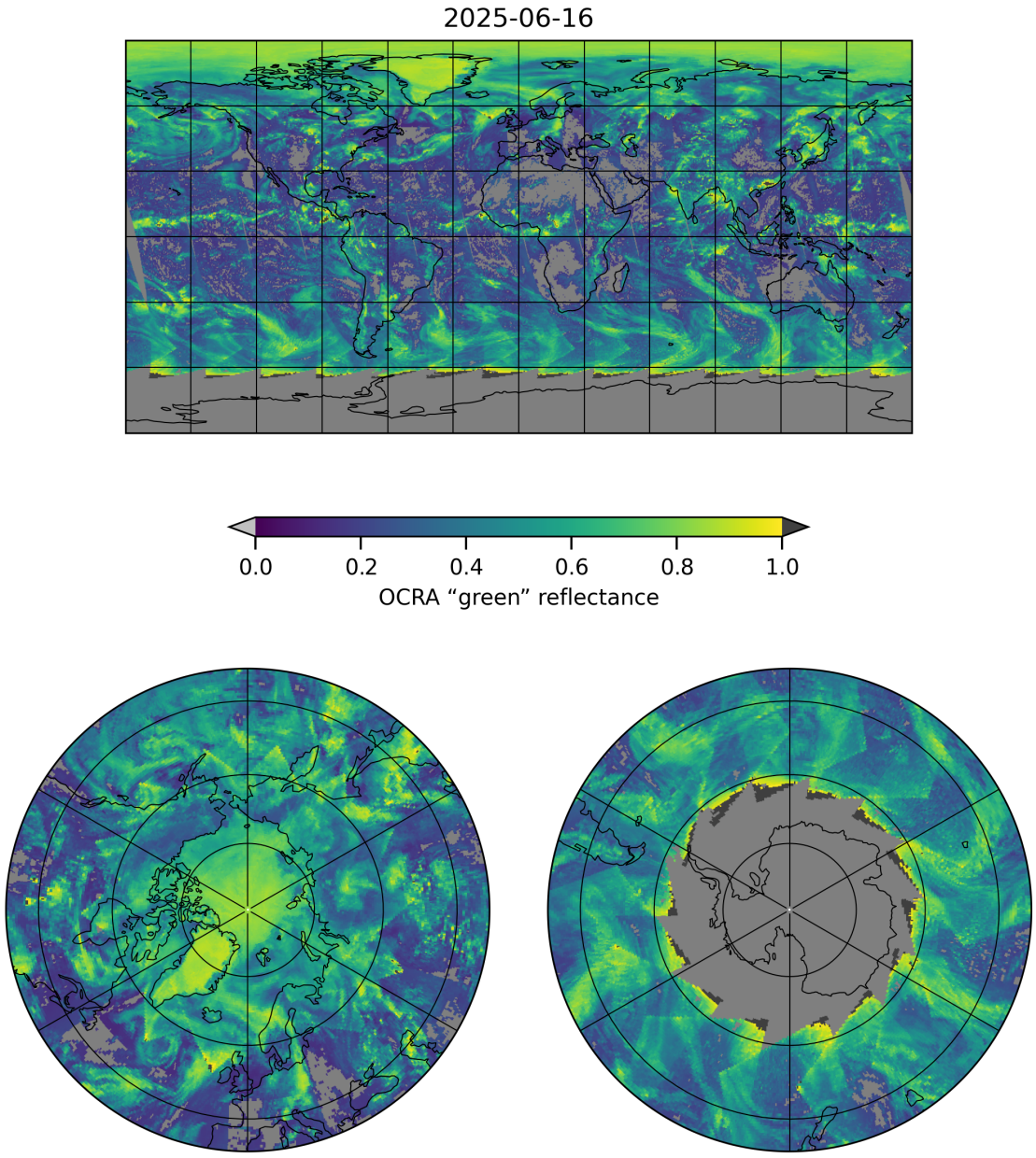

Figure 17: Map of “OCRA “green” reflectance” for 2025-06-16 to 2025-06-17

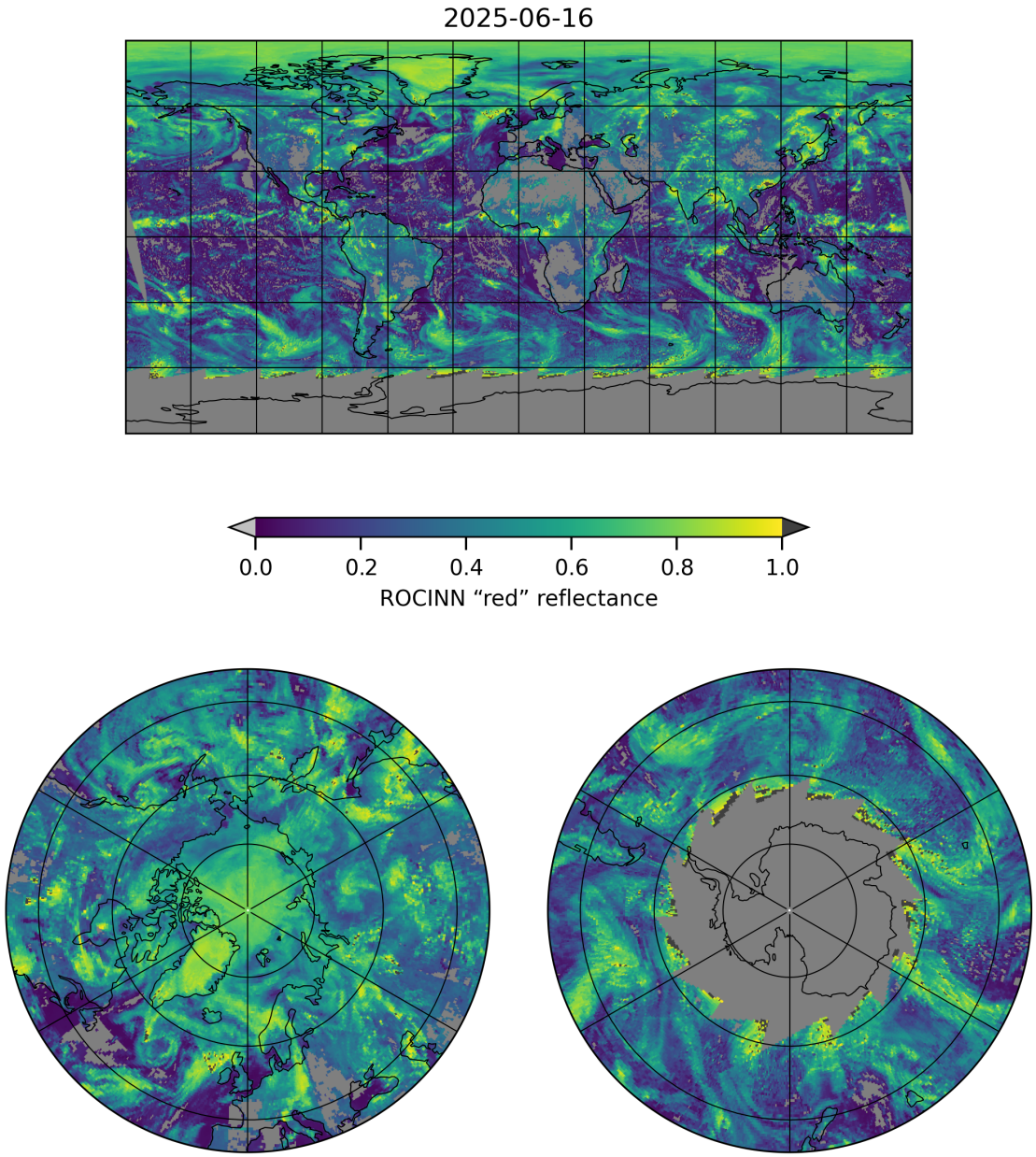

Figure 18: Map of “ROCINN “red” reflectance” for 2025-06-16 to 2025-06-17

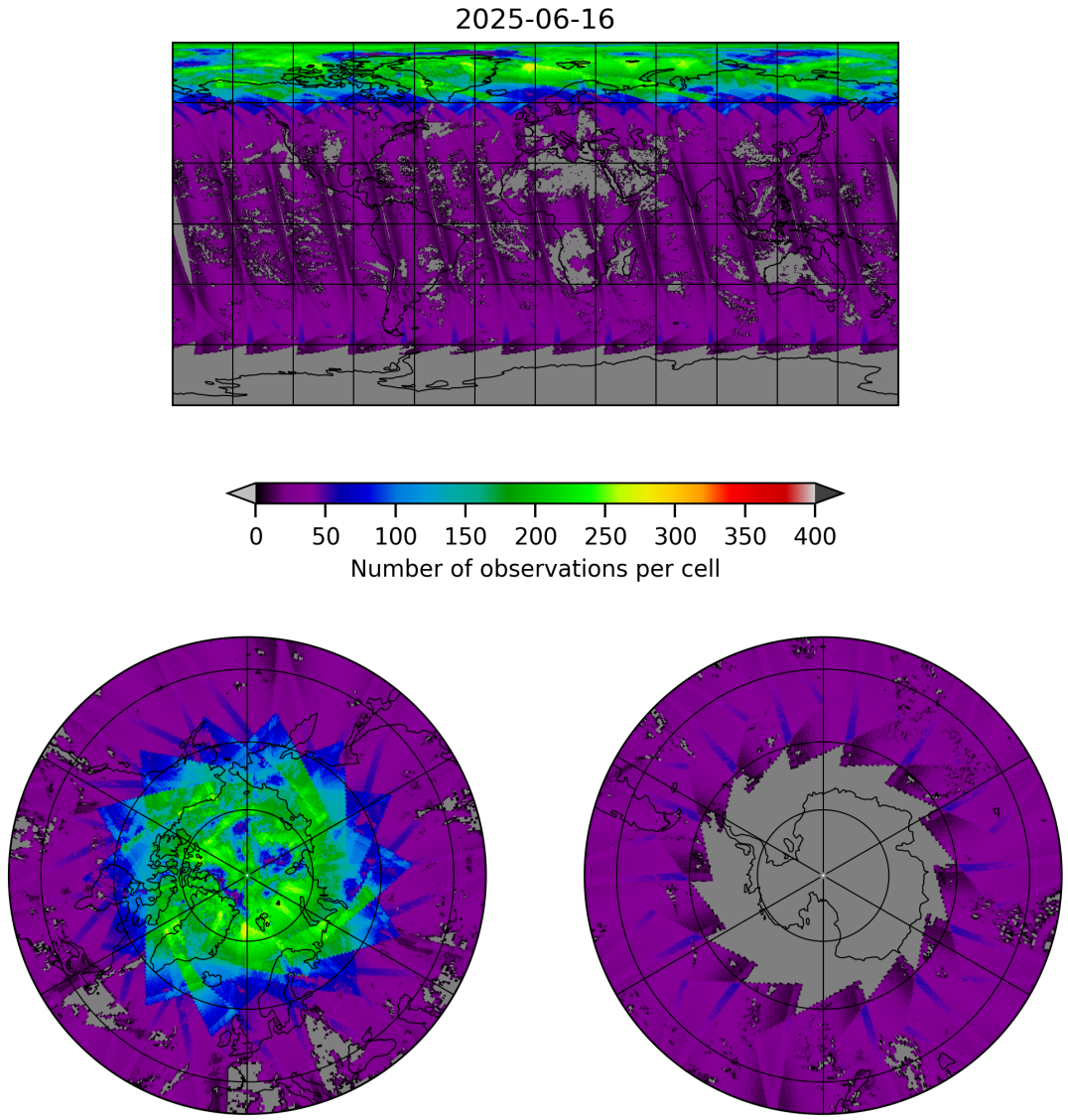

Figure 19: Map of the number of observations for 2025-06-16 to 2025-06-17

7 Zonal average

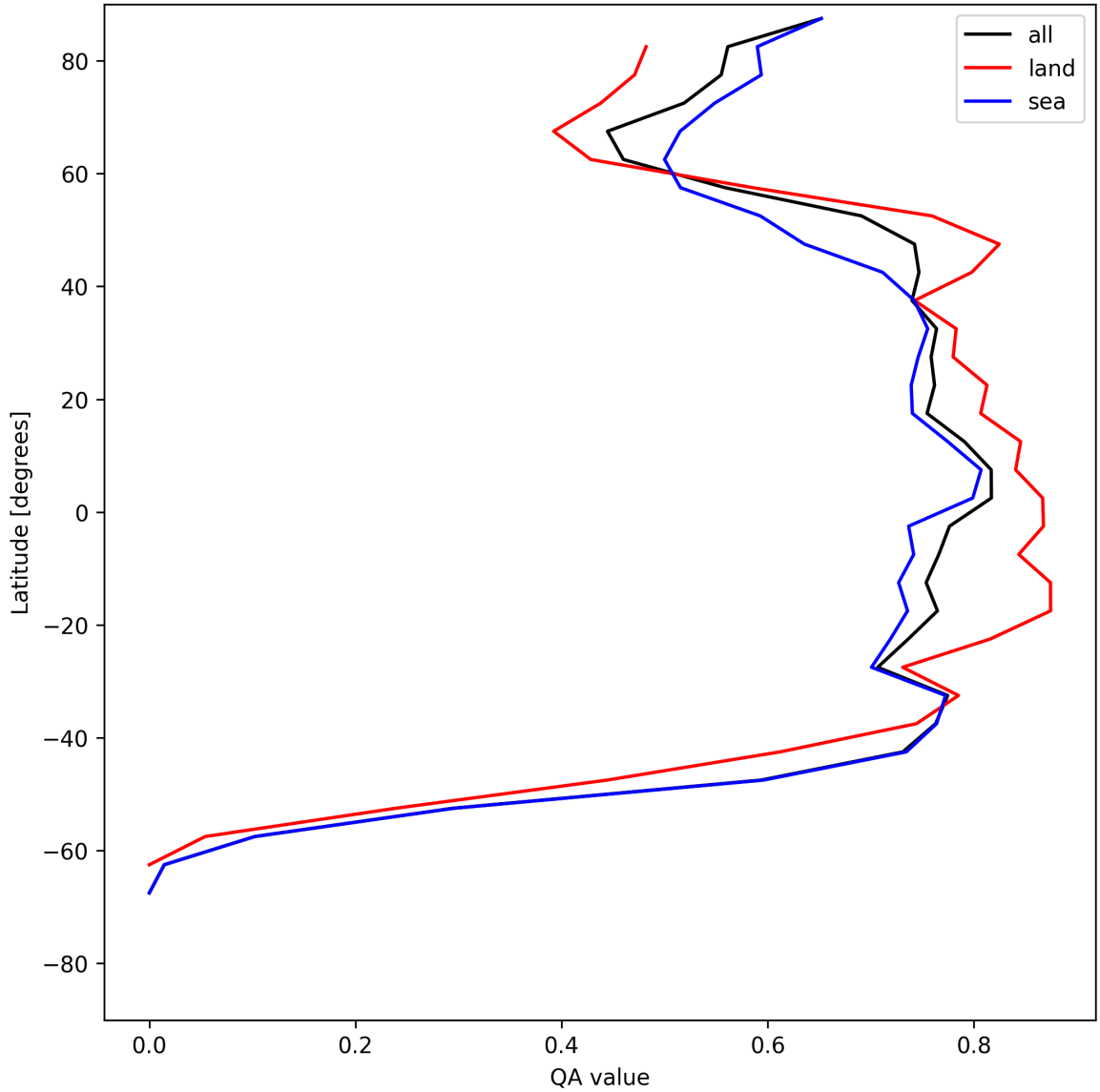

Figure 20: Zonal average of “QA value” for 2025-06-16 to 2025-06-17.

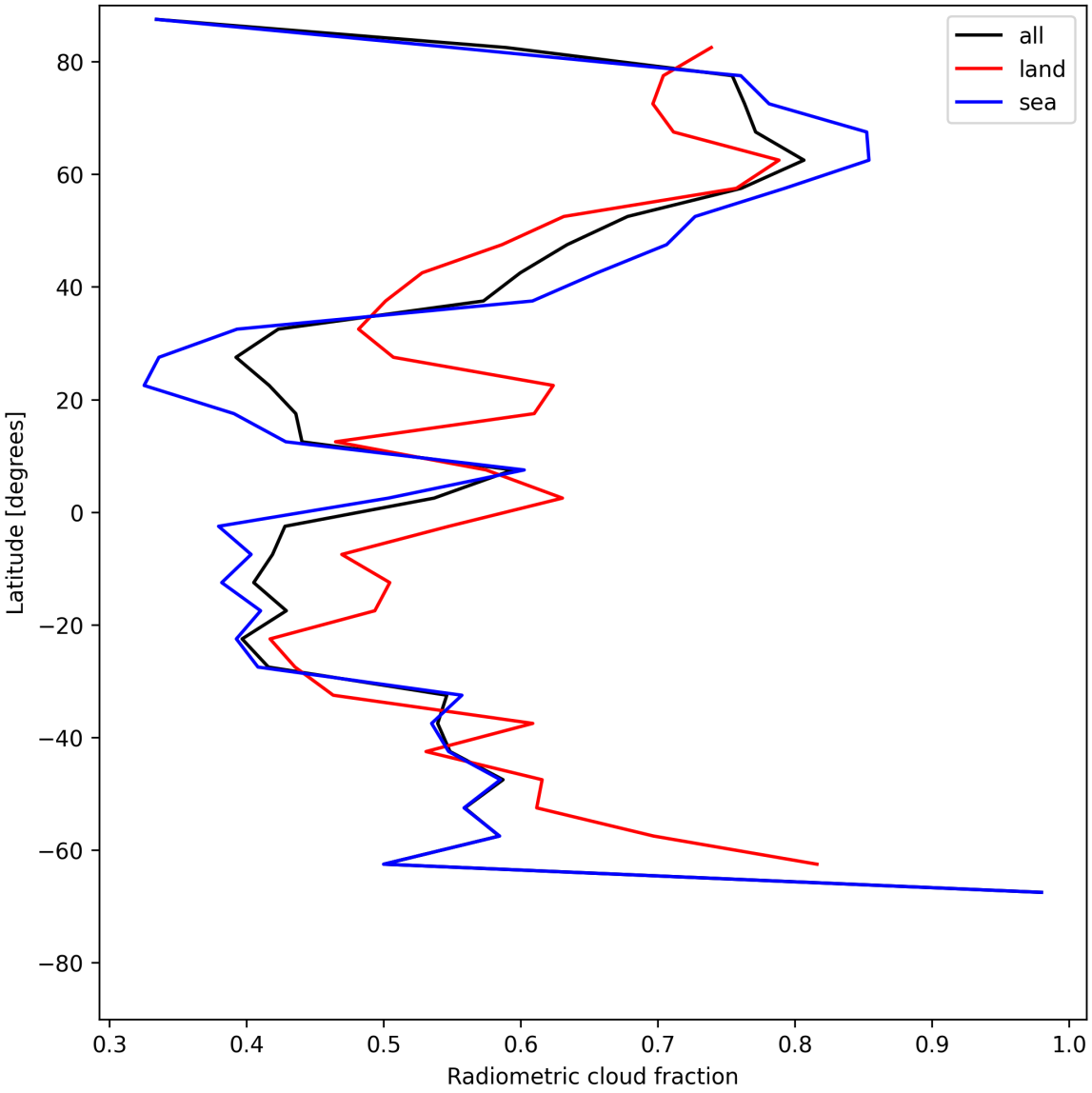

Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-06-16 to 2025-06-17.

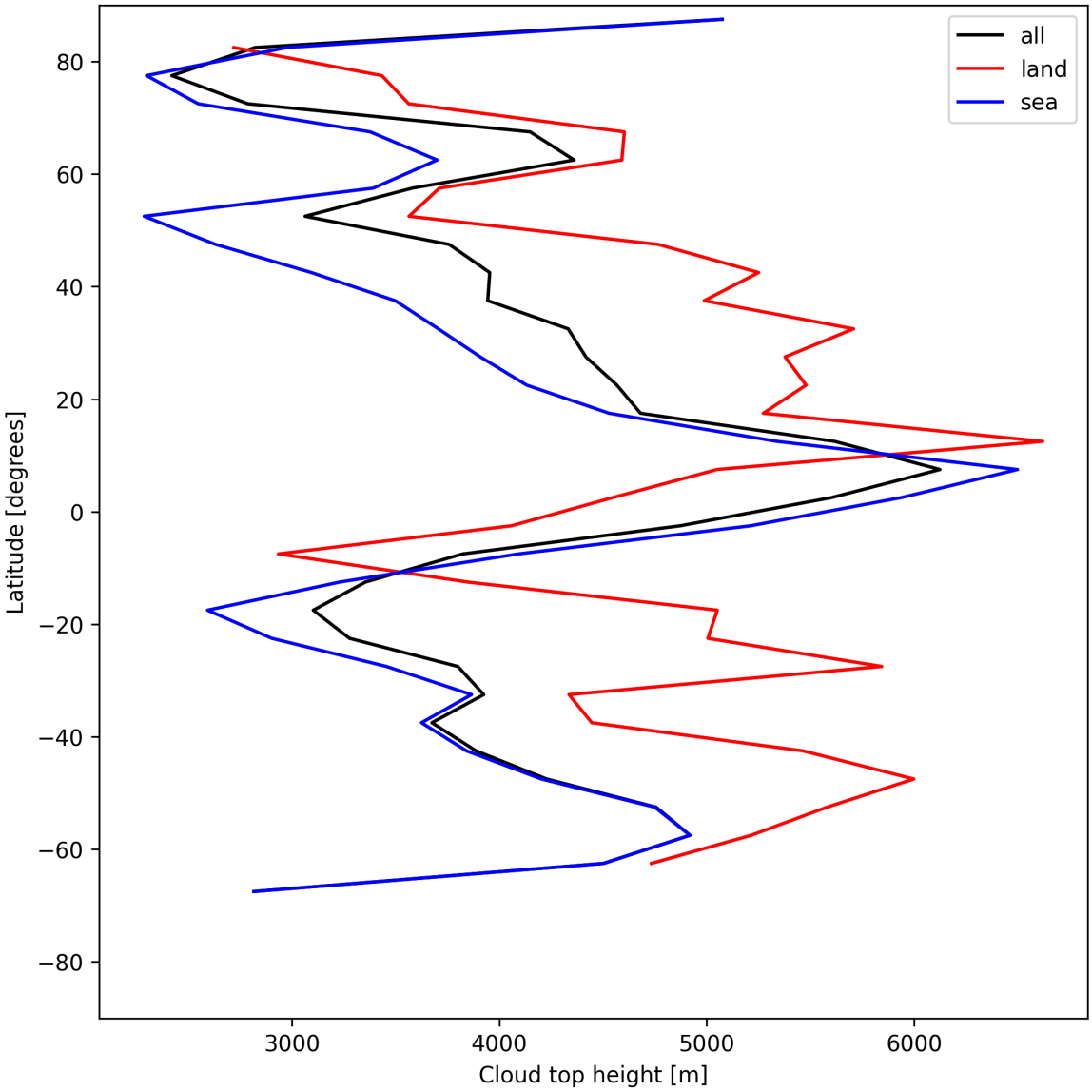

Figure 22: Zonal average of “Cloud top height” for 2025-06-16 to 2025-06-17.

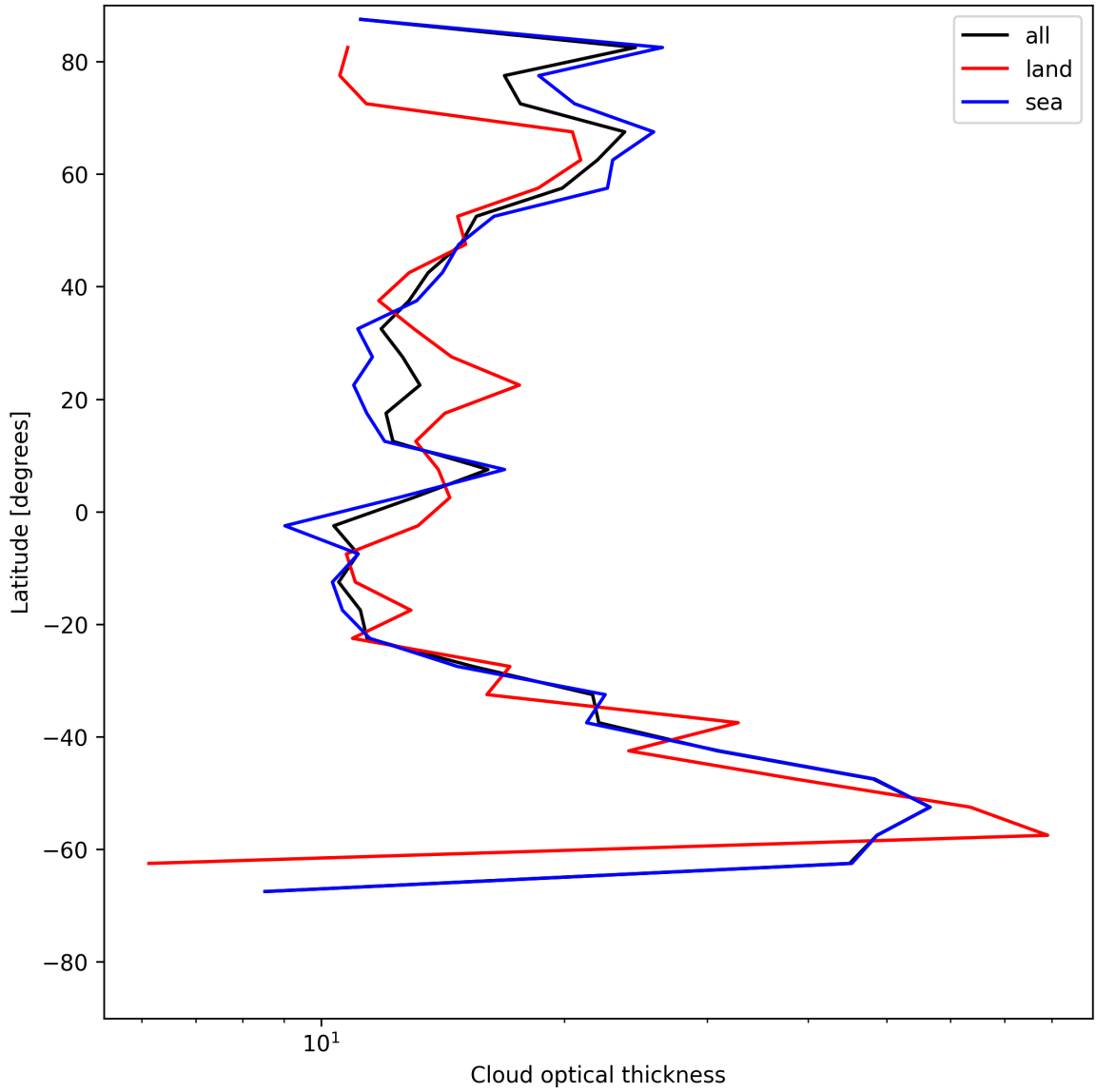

Figure 23: Zonal average of “Cloud optical thickness” for 2025-06-16 to 2025-06-17.

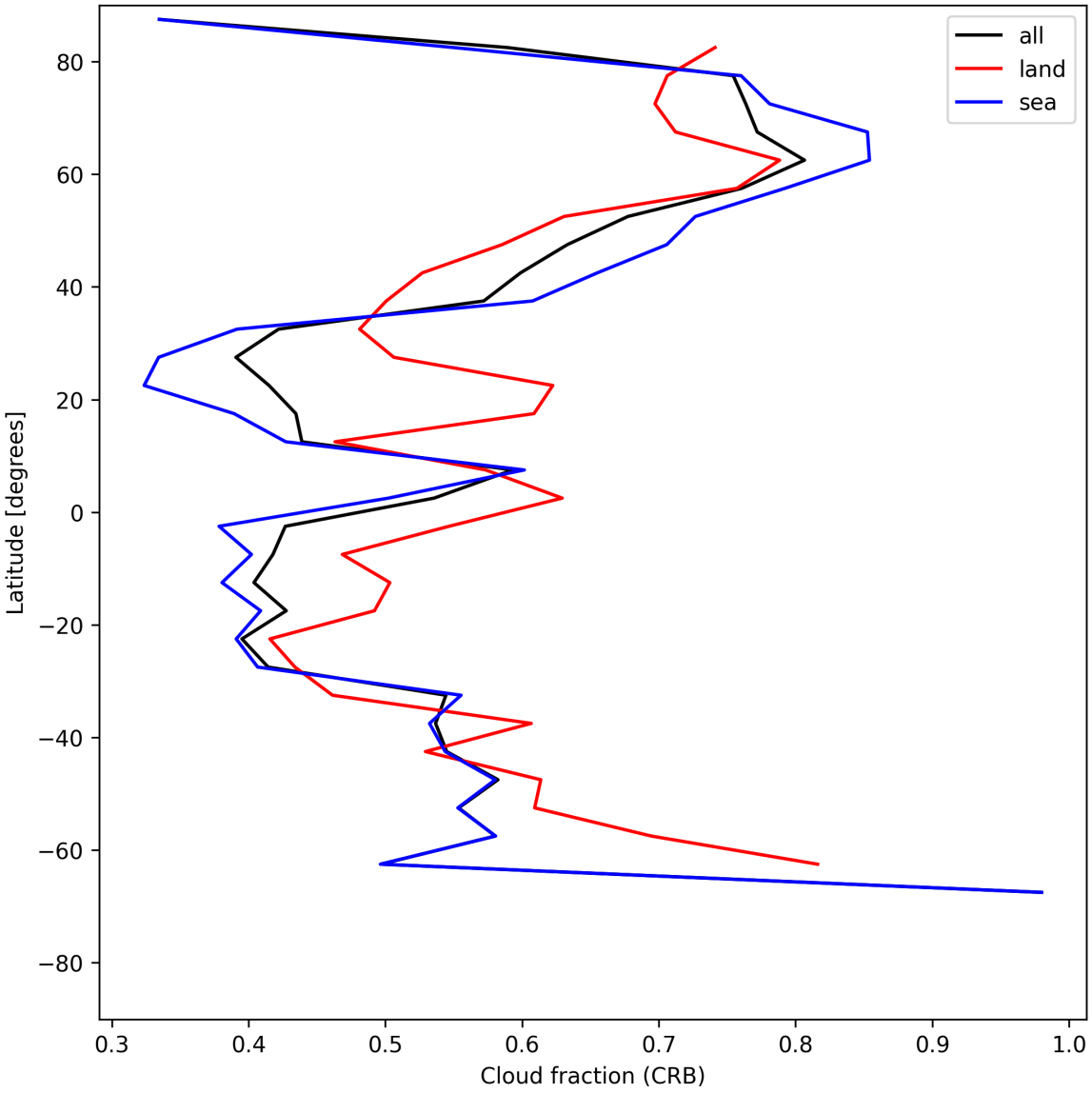

Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-06-16 to 2025-06-17.

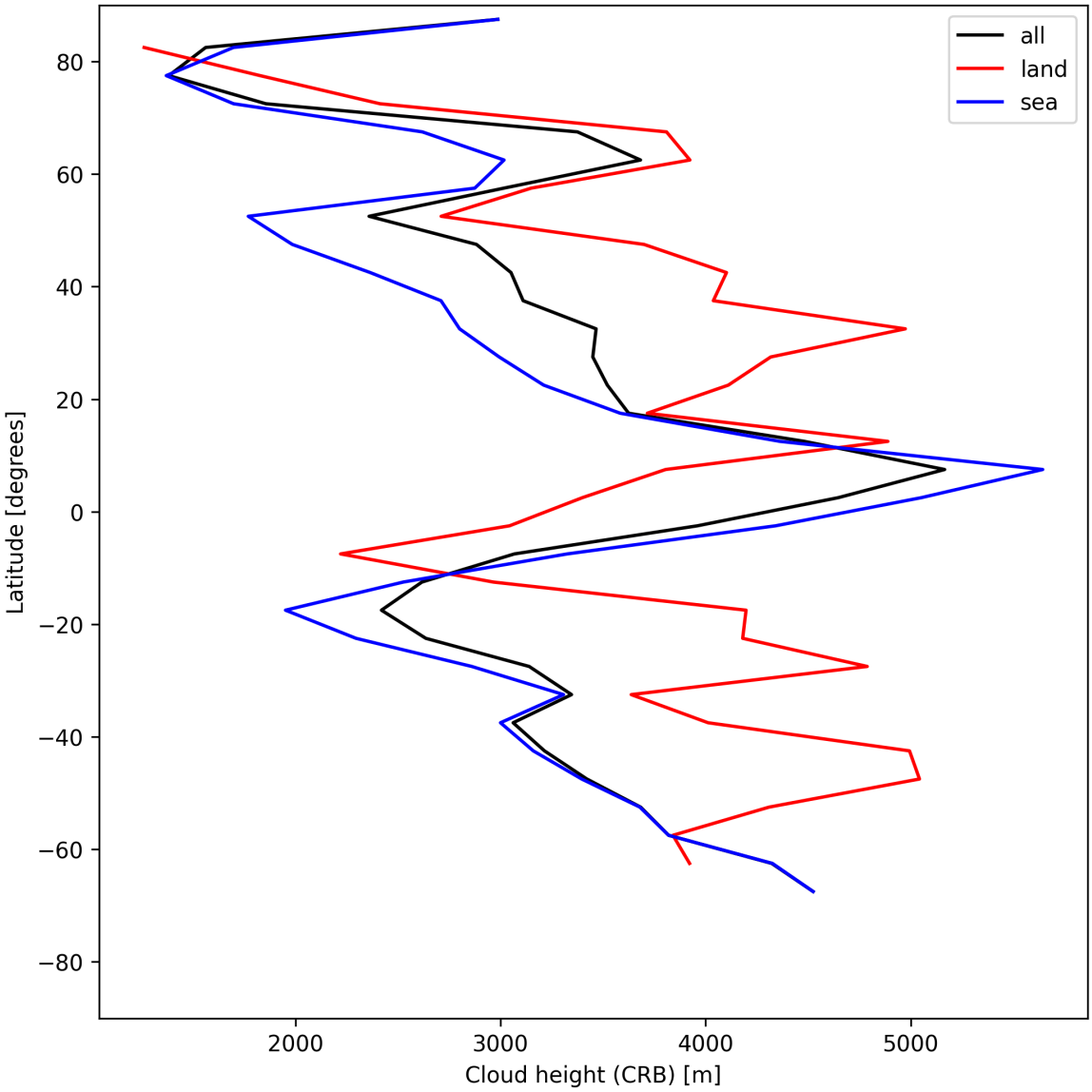

Figure 25: Zonal average of “Cloud height (CRB)” for 2025-06-16 to 2025-06-17.

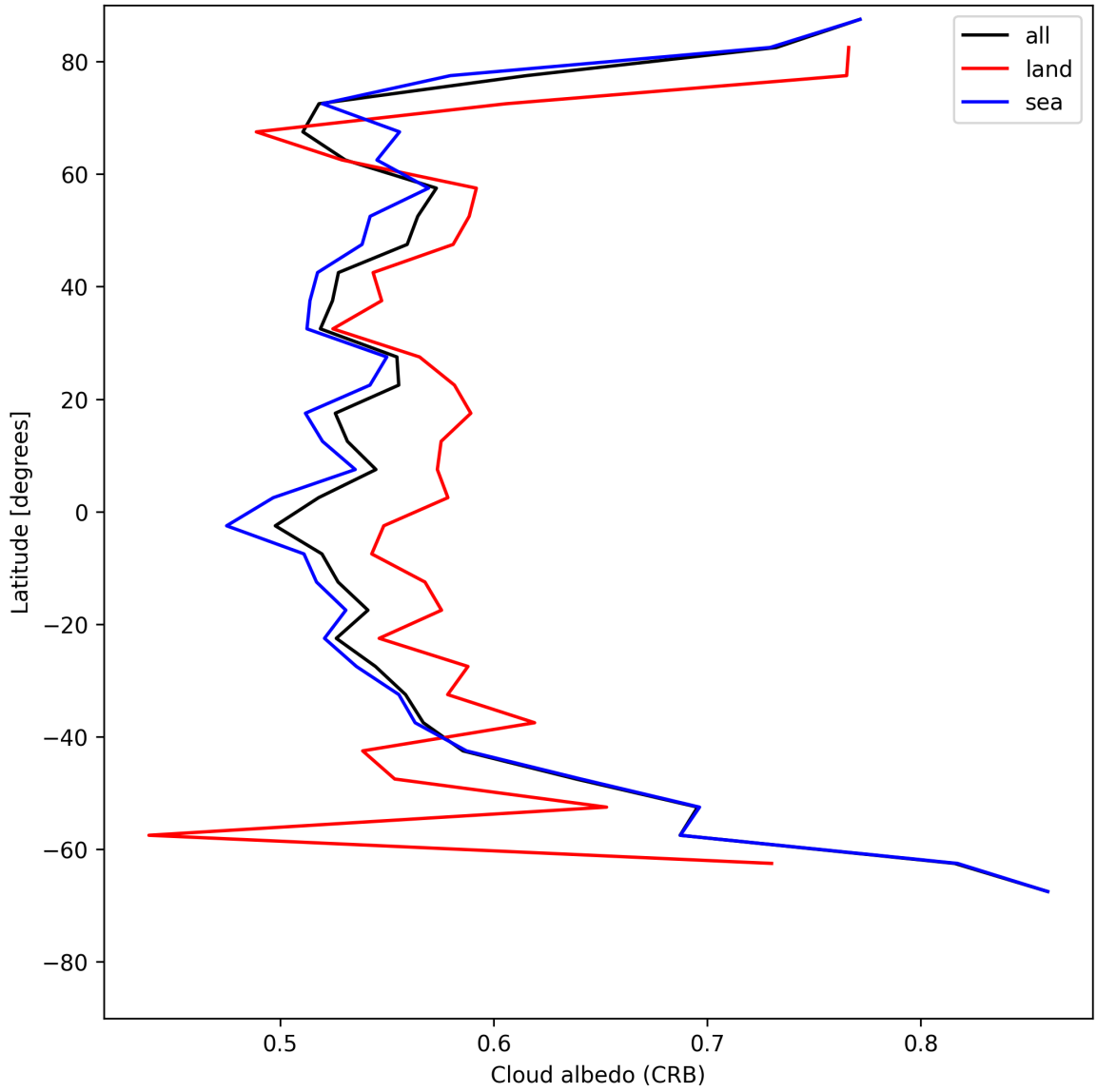

Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-06-16 to 2025-06-17.

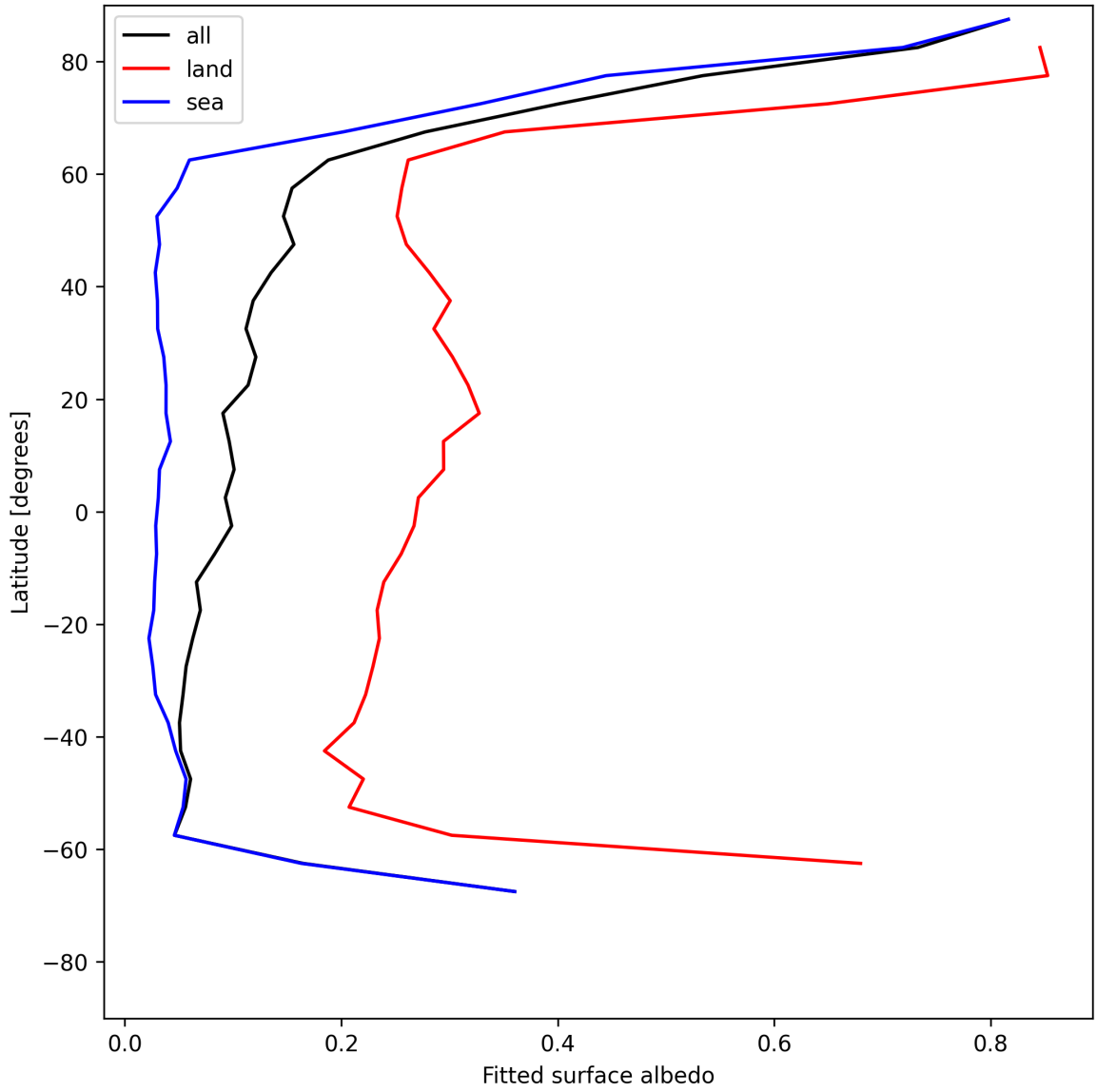

Figure 27: Zonal average of “Fitted surface albedo” for 2025-06-16 to 2025-06-17.

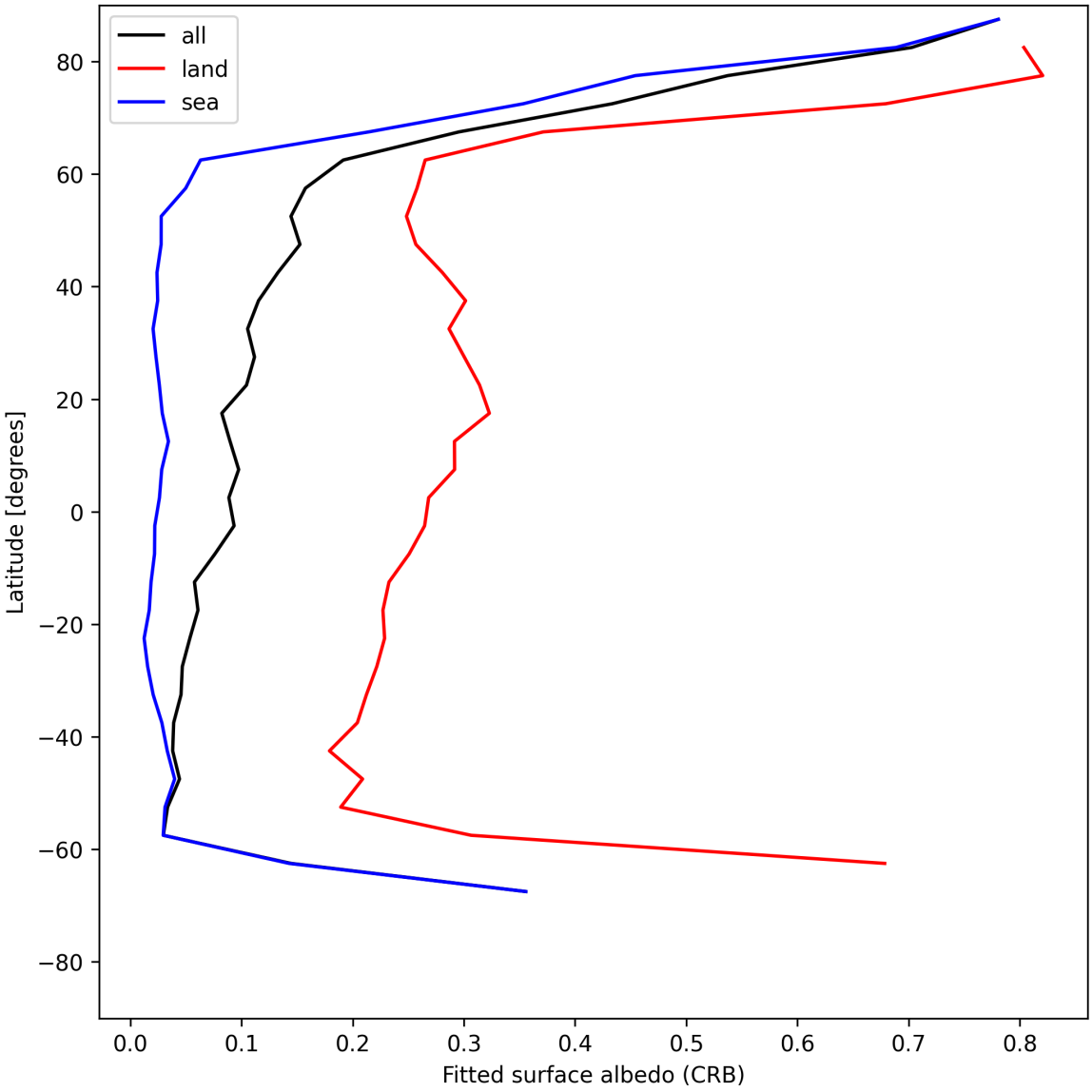

Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-06-16 to 2025-06-17.

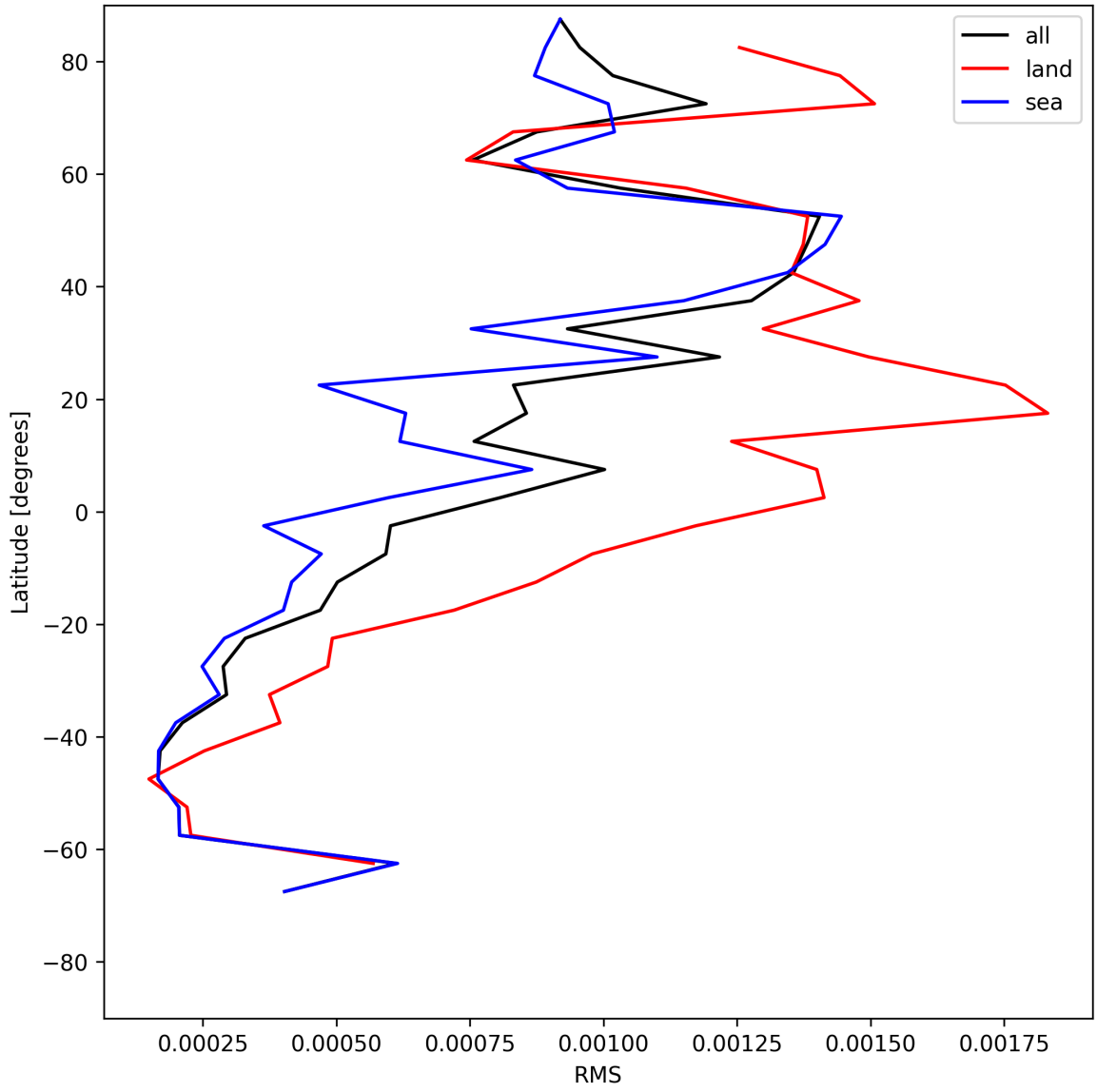

Figure 29: Zonal average of “RMS” for 2025-06-16 to 2025-06-17.

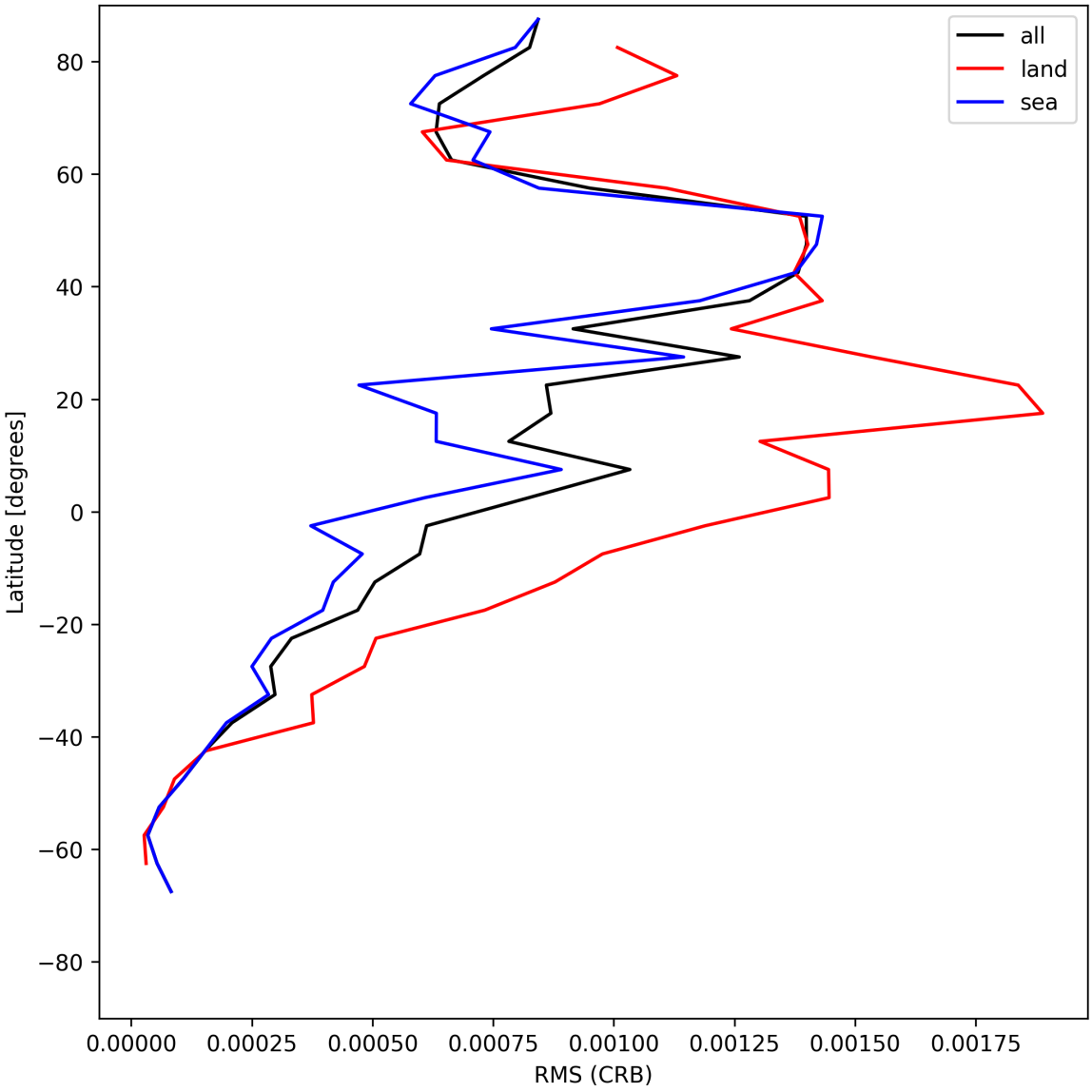

Figure 30: Zonal average of “RMS (CRB)” for 2025-06-16 to 2025-06-17.

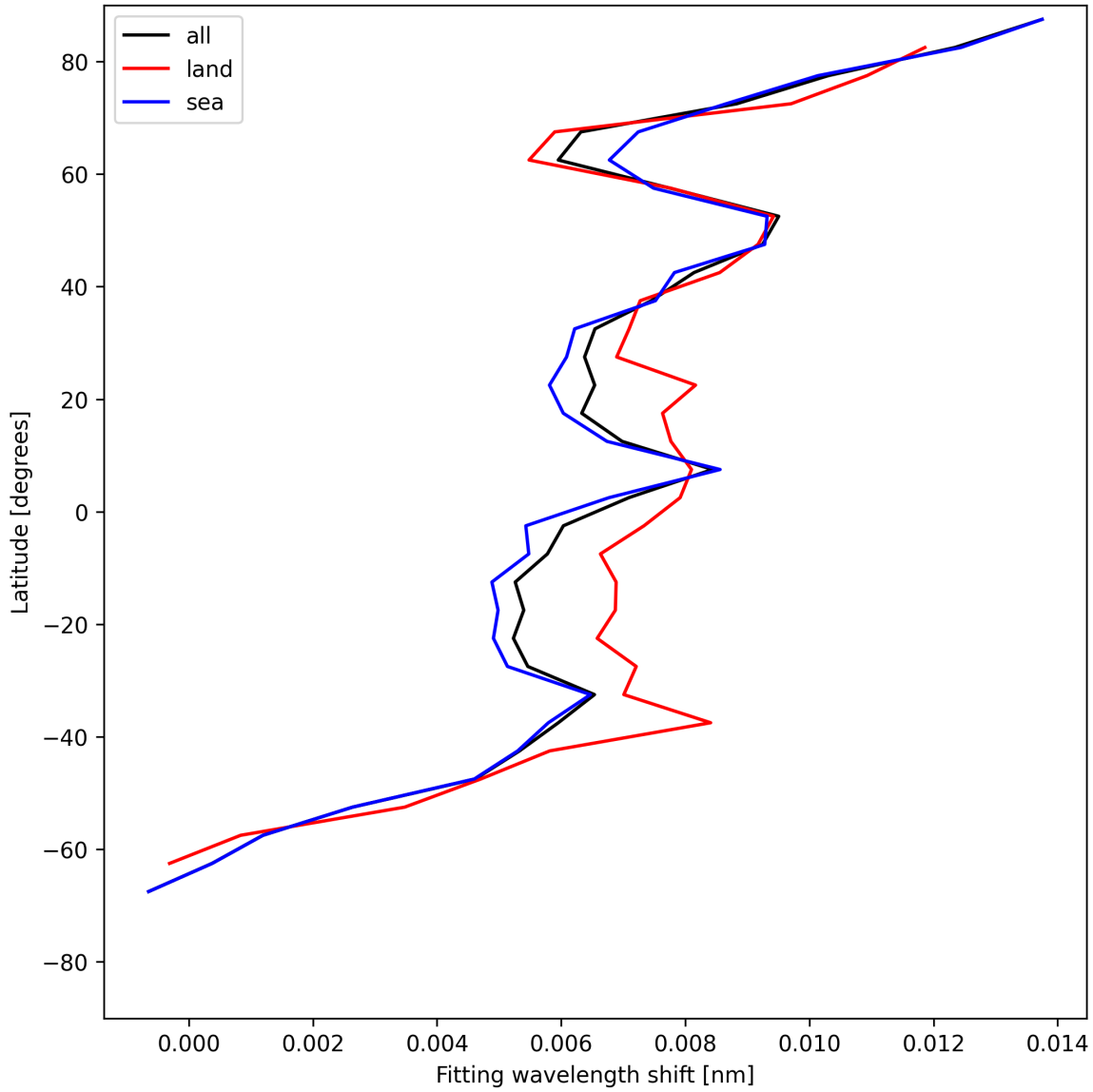

Figure 31: Zonal average of “Fitting wavelength shift” for 2025-06-16 to 2025-06-17.

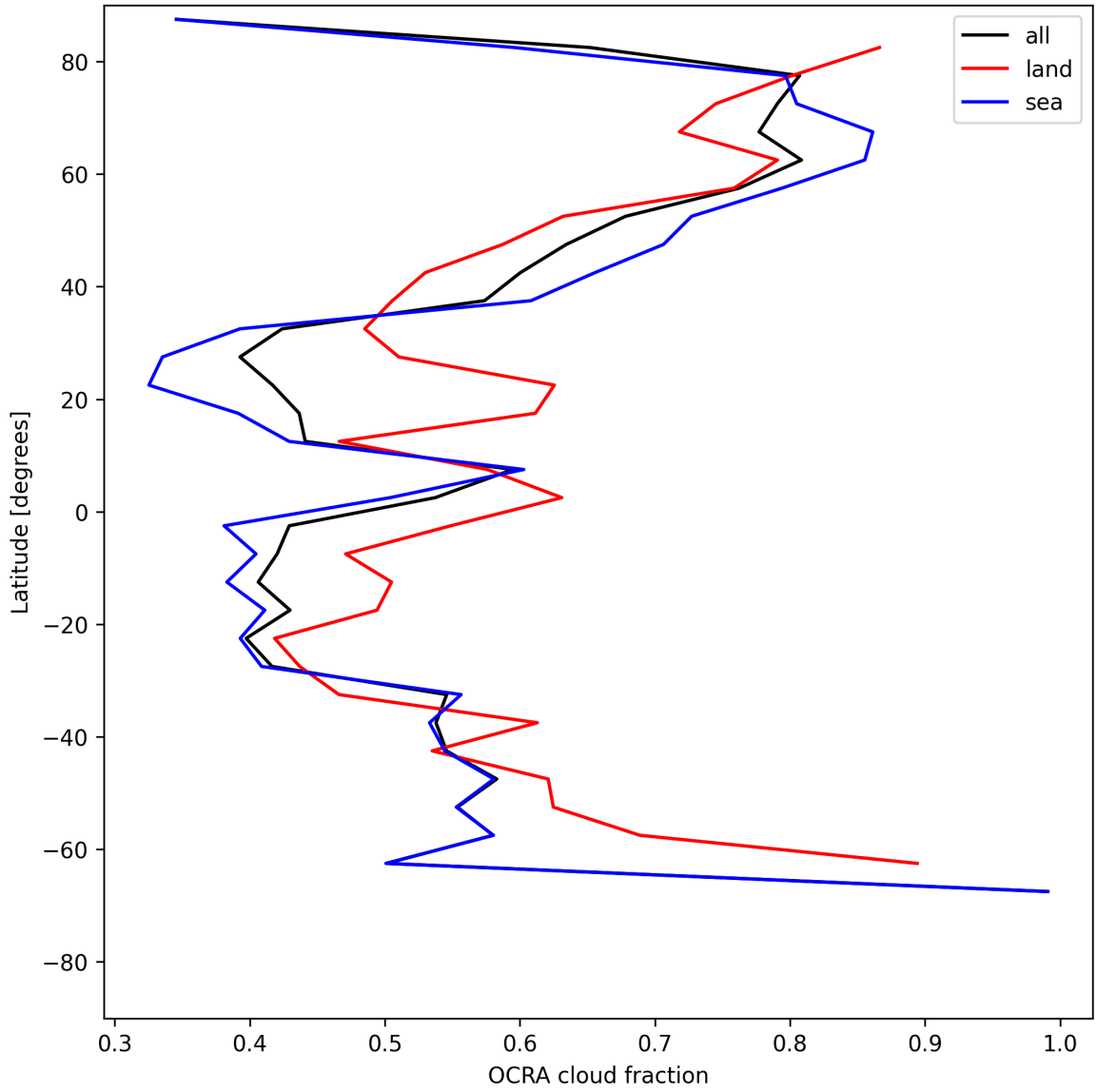

Figure 32: Zonal average of “OCRA cloud fraction” for 2025-06-16 to 2025-06-17.

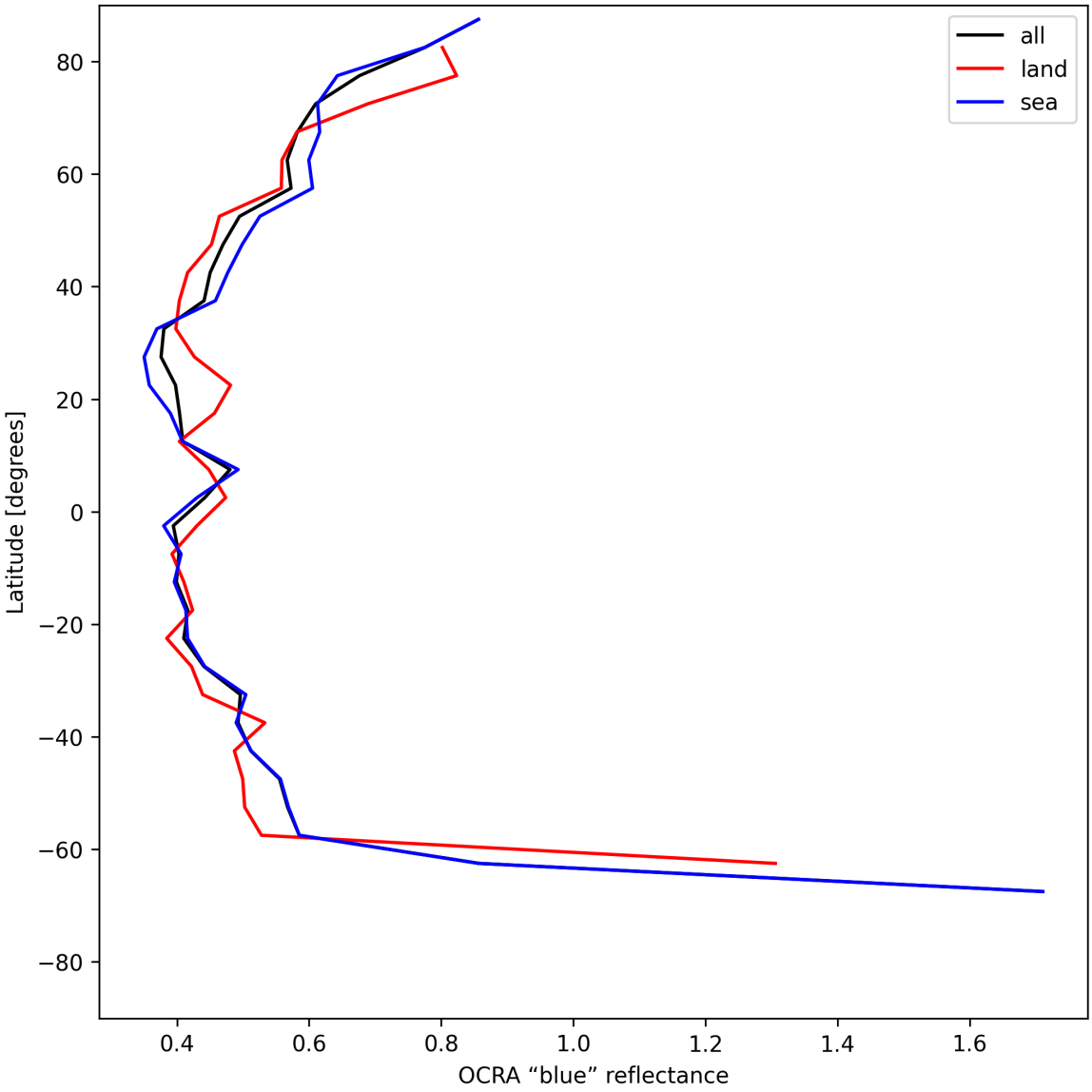

Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-06-16 to 2025-06-17.

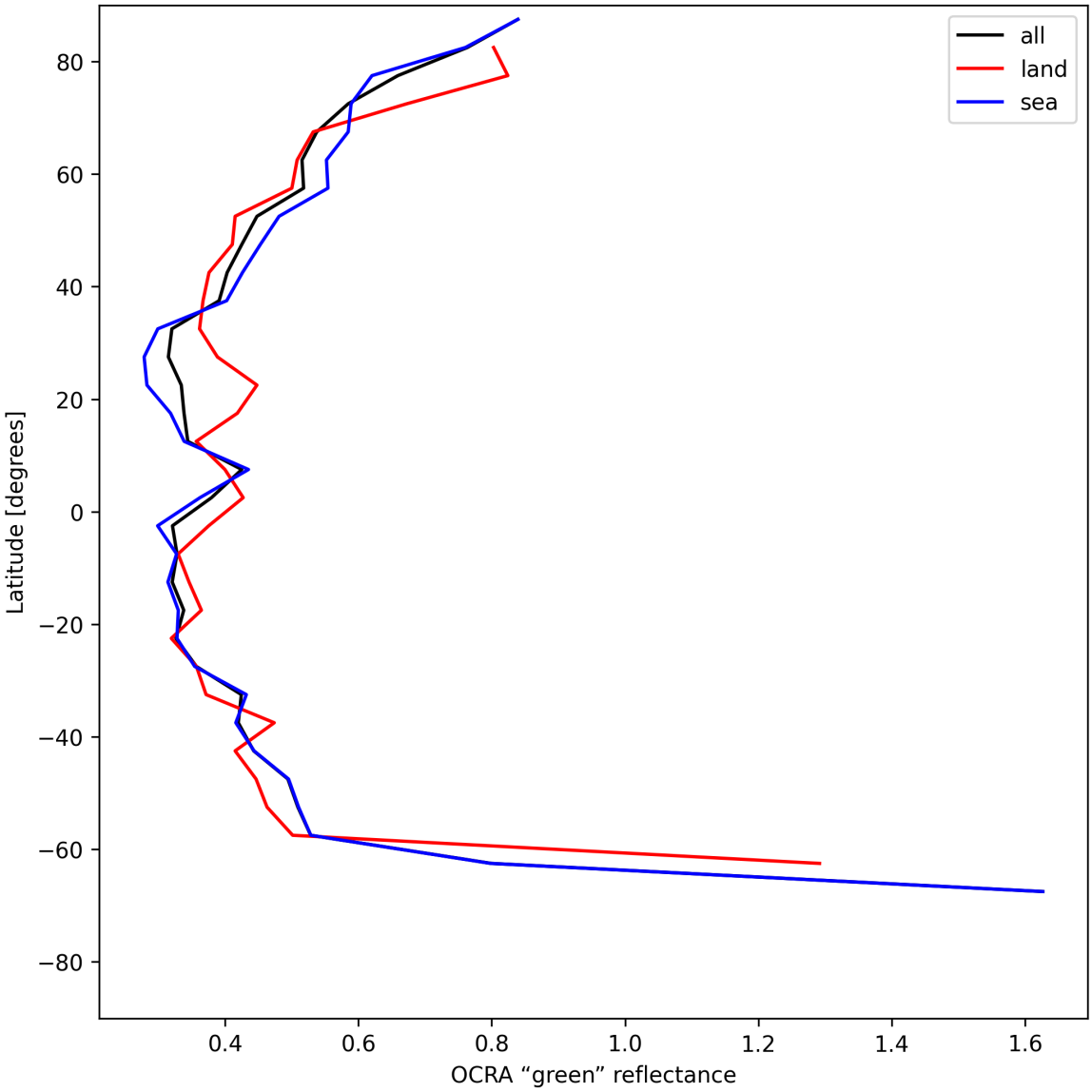

Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-06-16 to 2025-06-17.

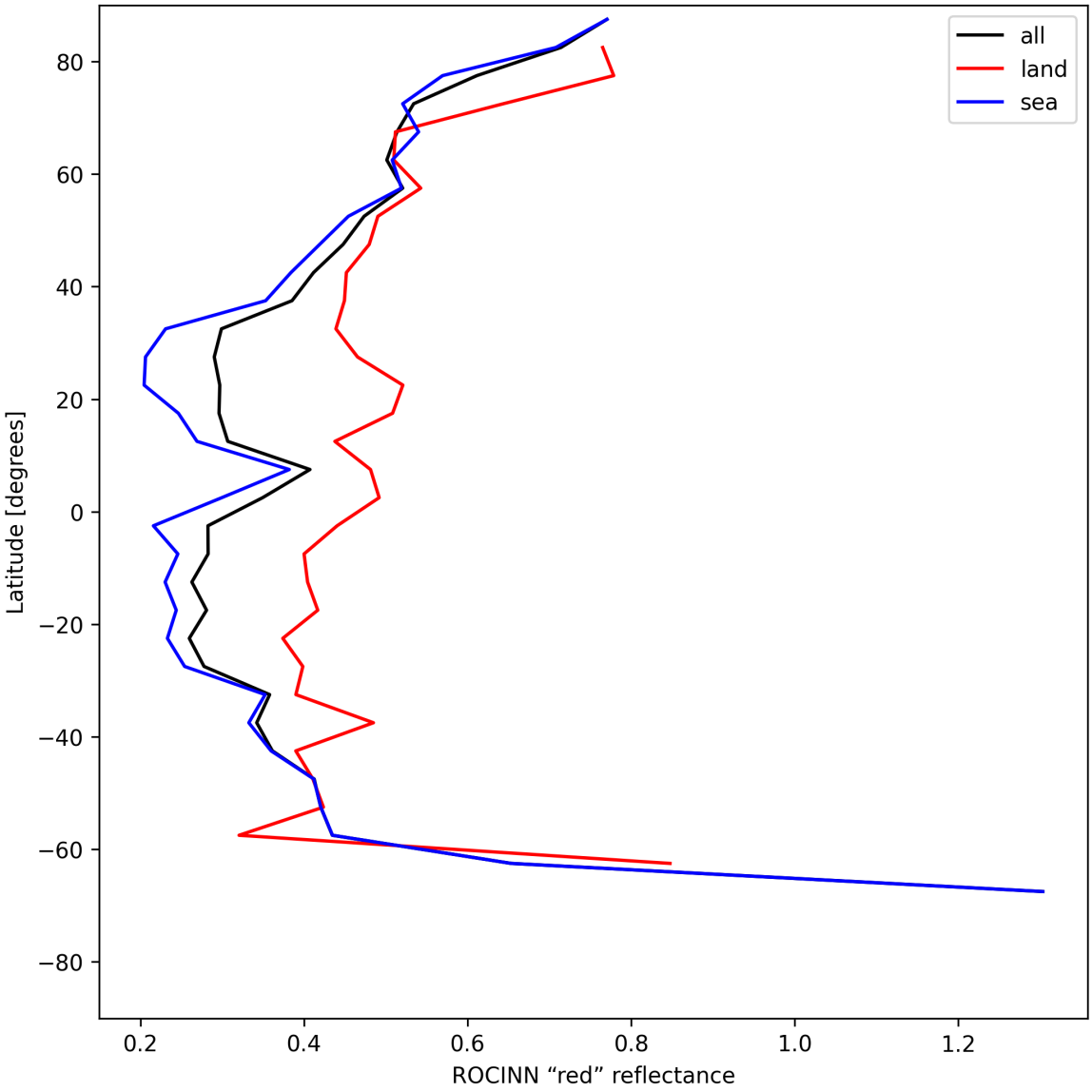

Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-06-16 to 2025-06-17.

8 Histograms

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

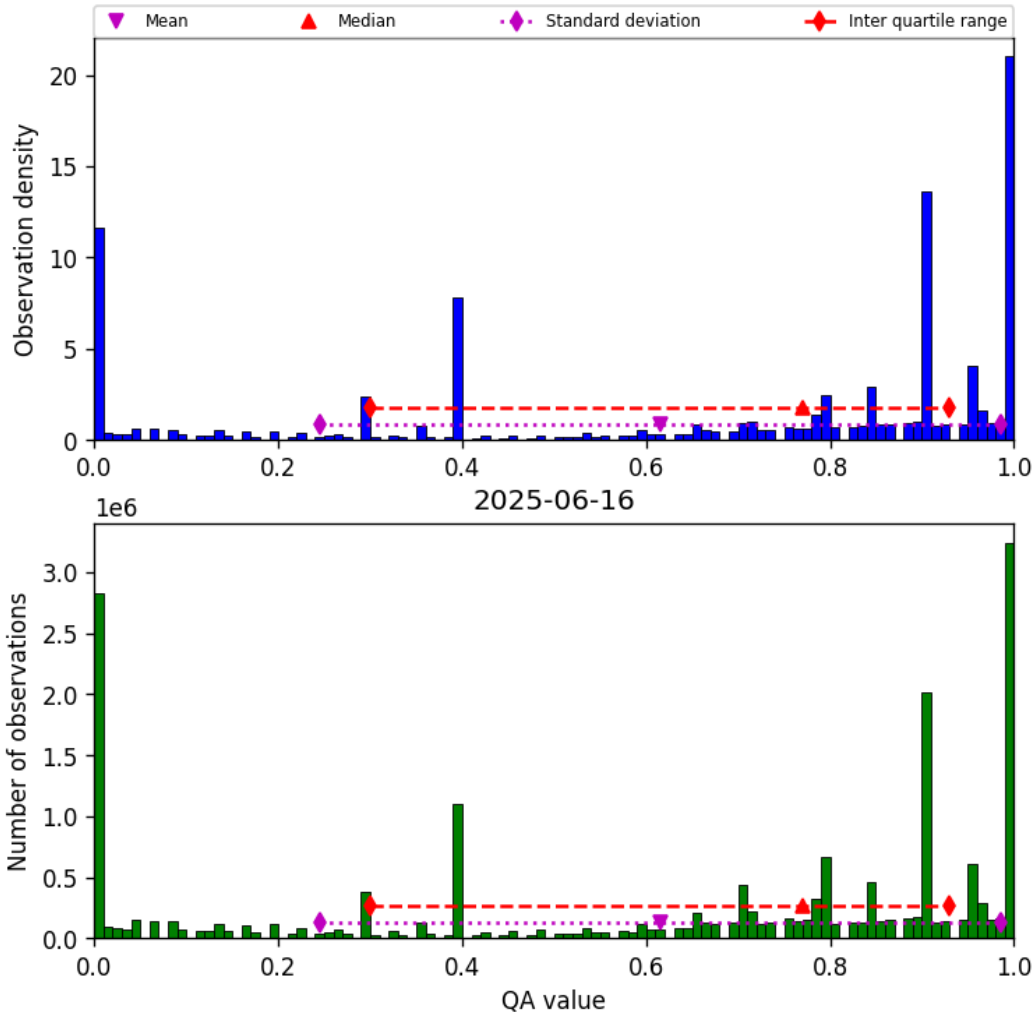

Figure 36: Histogram of “QA value” for 2025-06-16 to 2025-06-17

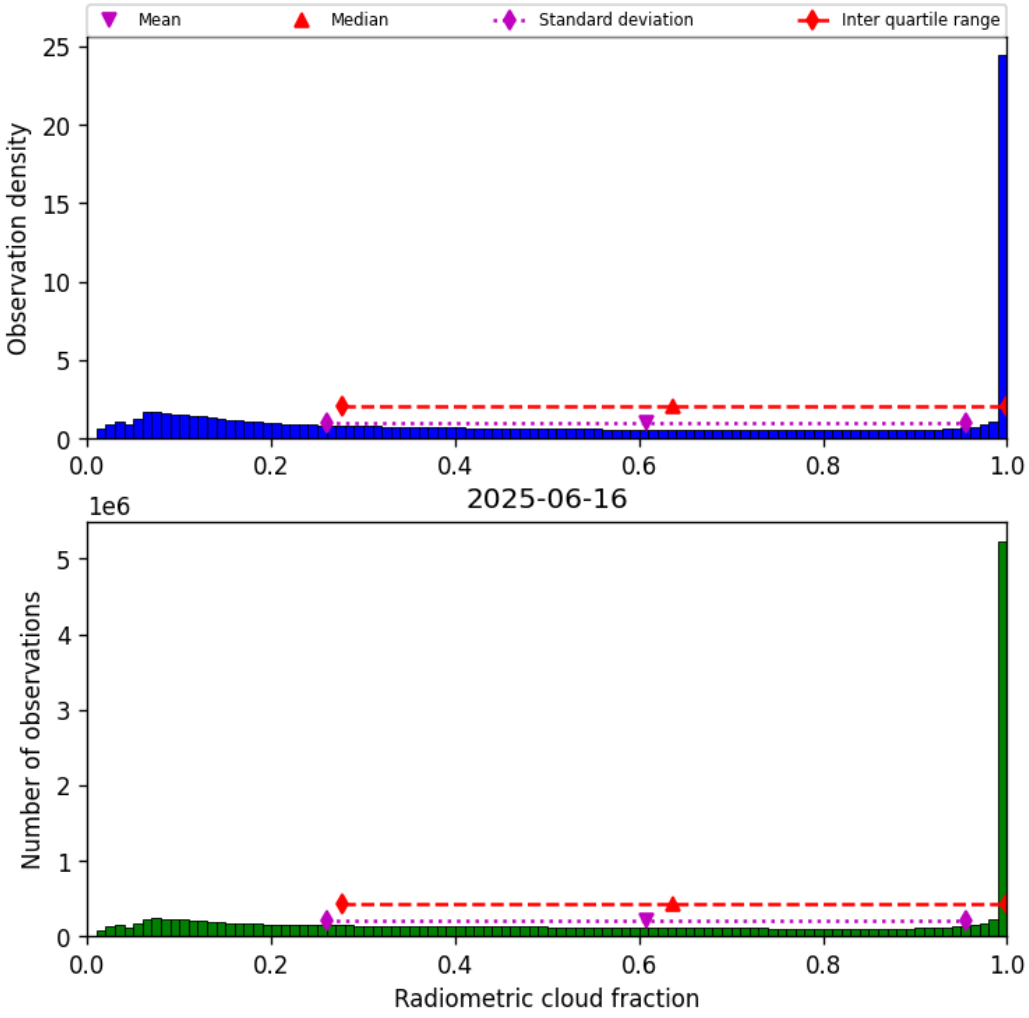

Figure 37: Histogram of “Radiometric cloud fraction” for 2025-06-16 to 2025-06-17

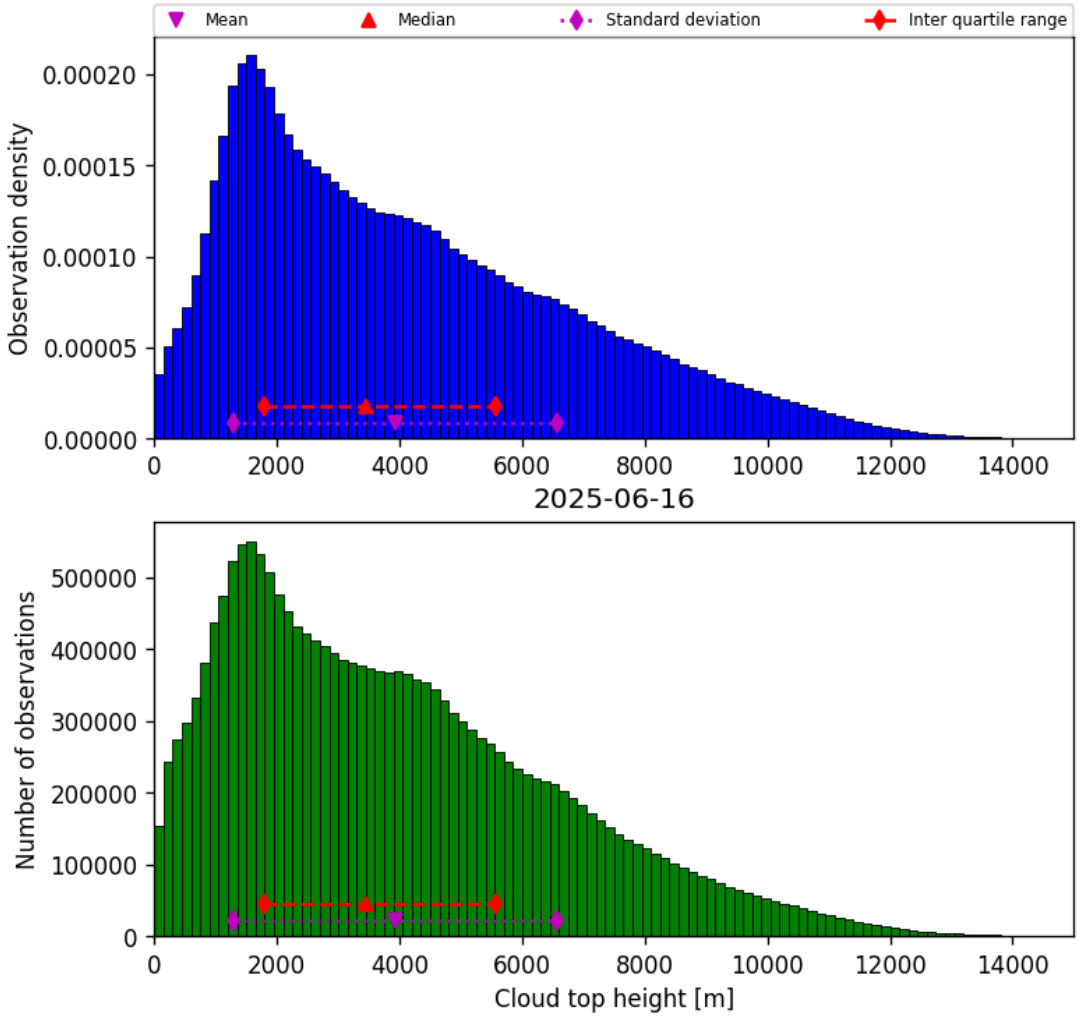

Figure 38: Histogram of “Cloud top height” for 2025-06-16 to 2025-06-17

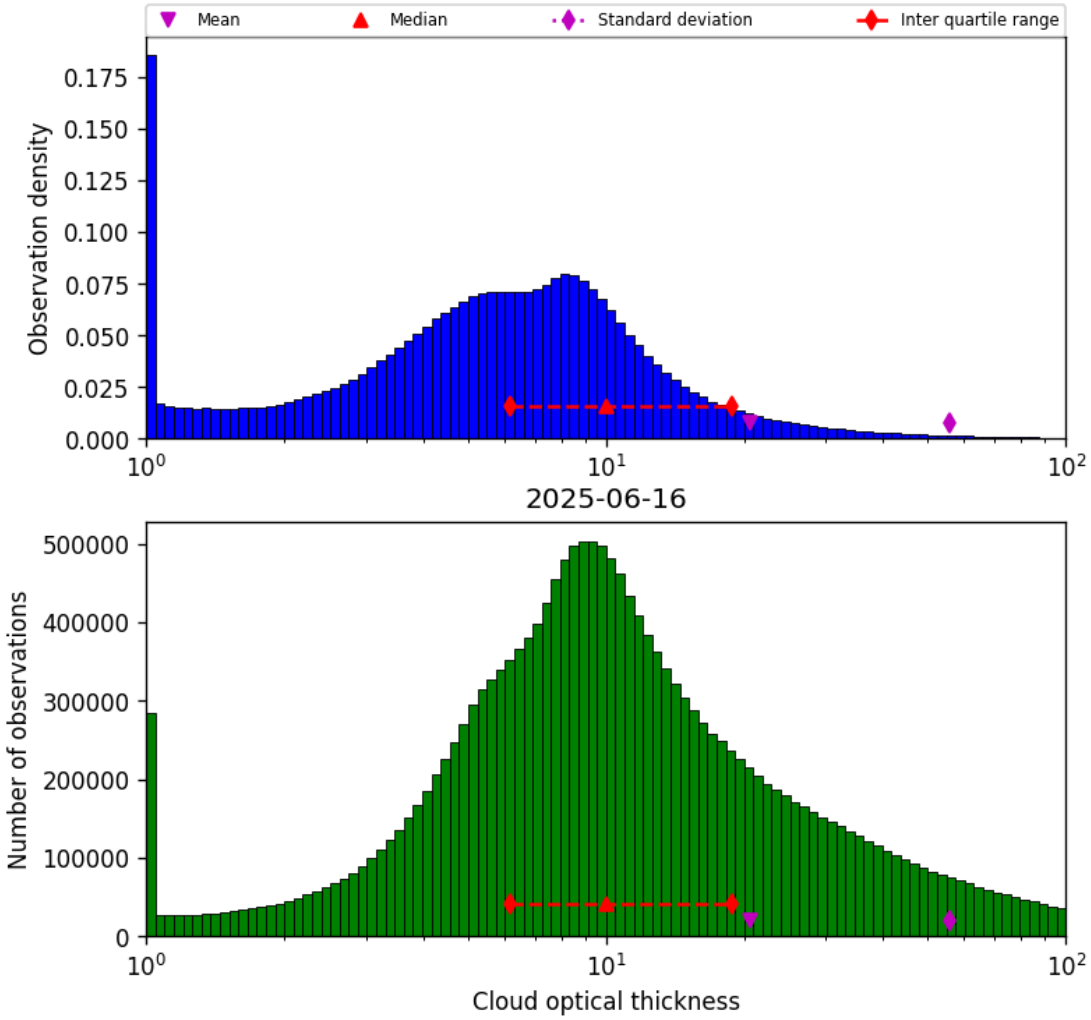

Figure 39: Histogram of “Cloud optical thickness” for 2025-06-16 to 2025-06-17

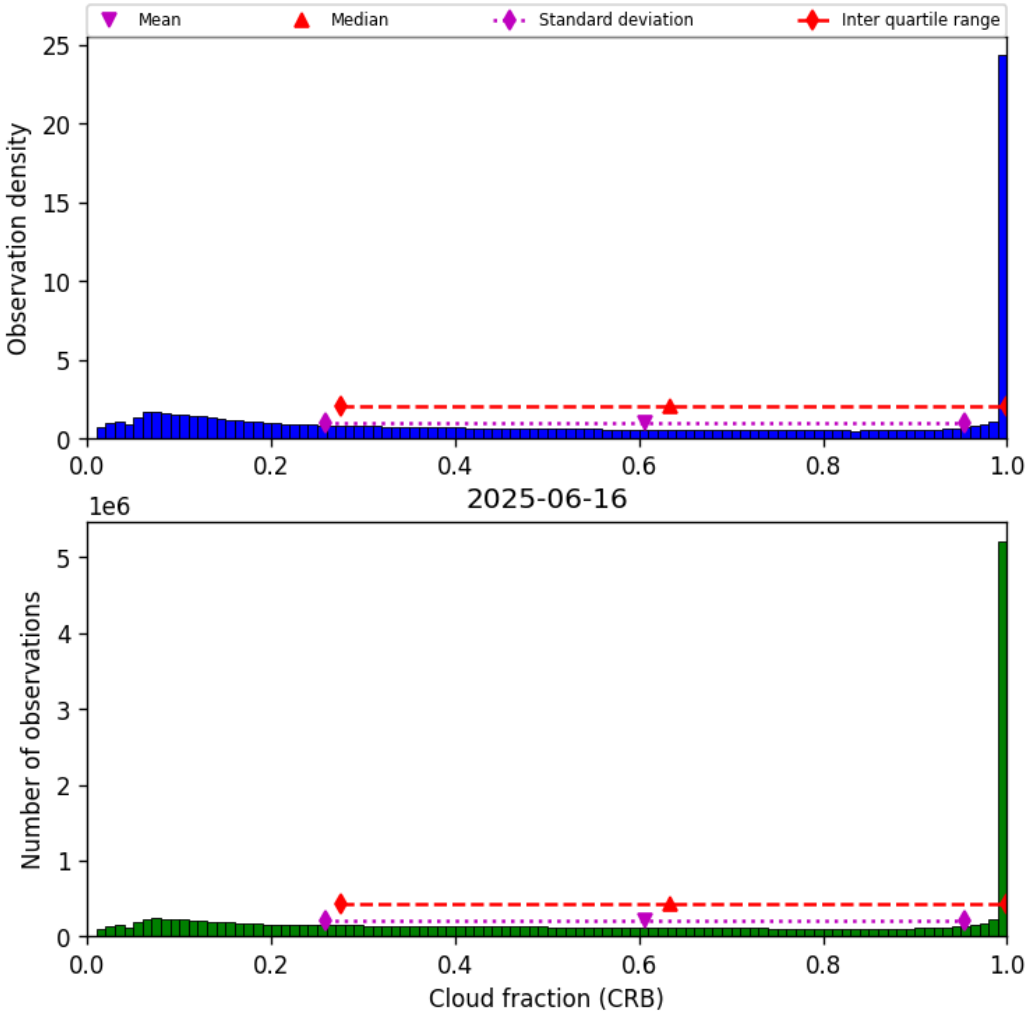

Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-06-16 to 2025-06-17

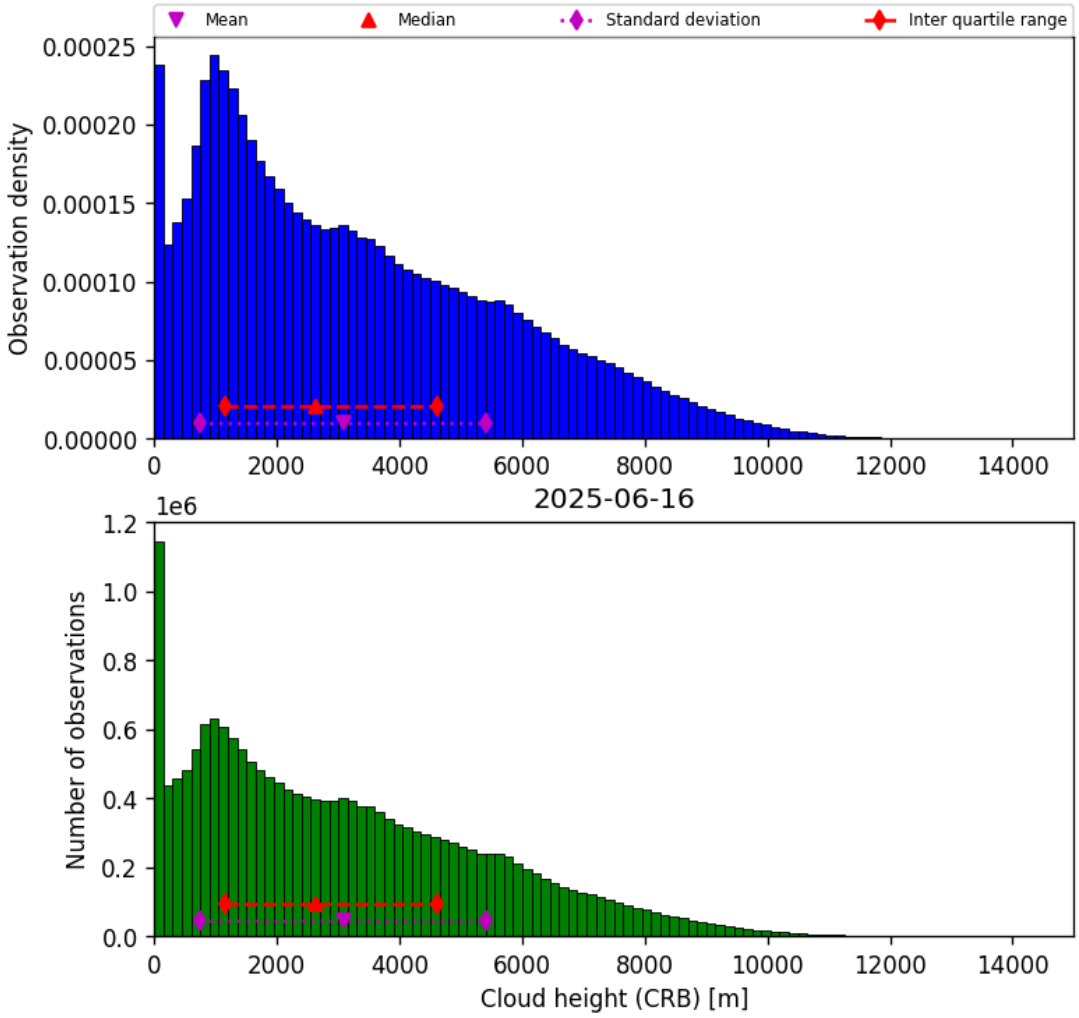

Figure 41: Histogram of “Cloud height (CRB)” for 2025-06-16 to 2025-06-17

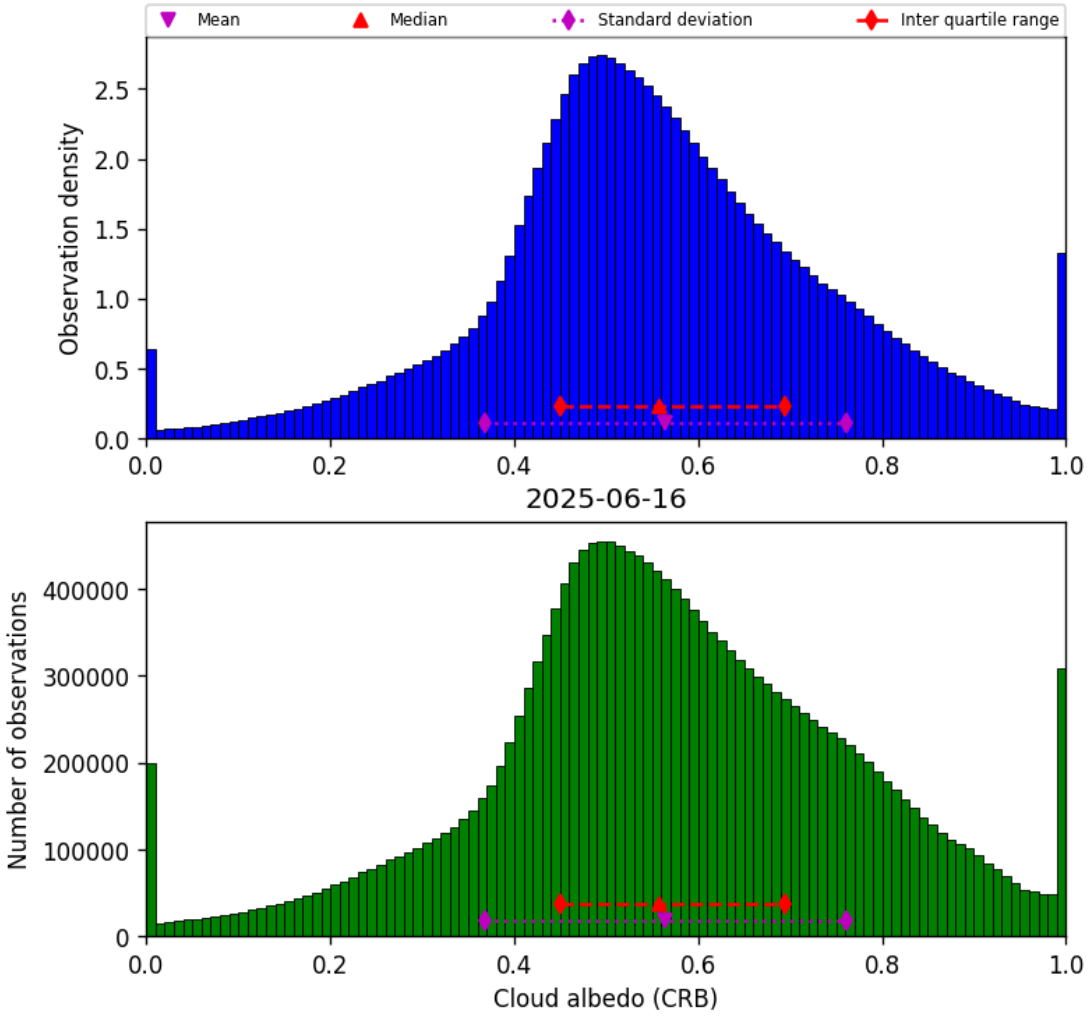

Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-06-16 to 2025-06-17

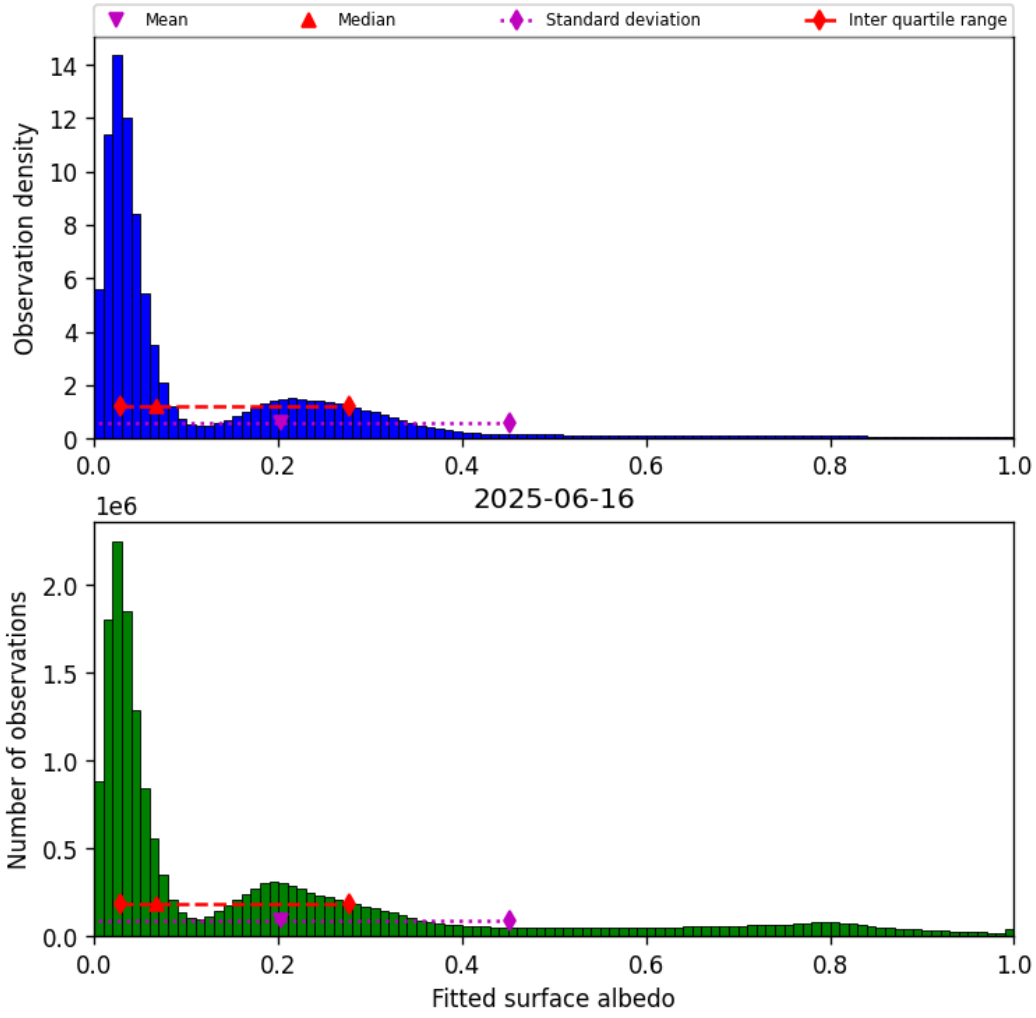

Figure 43: Histogram of “Fitted surface albedo” for 2025-06-16 to 2025-06-17

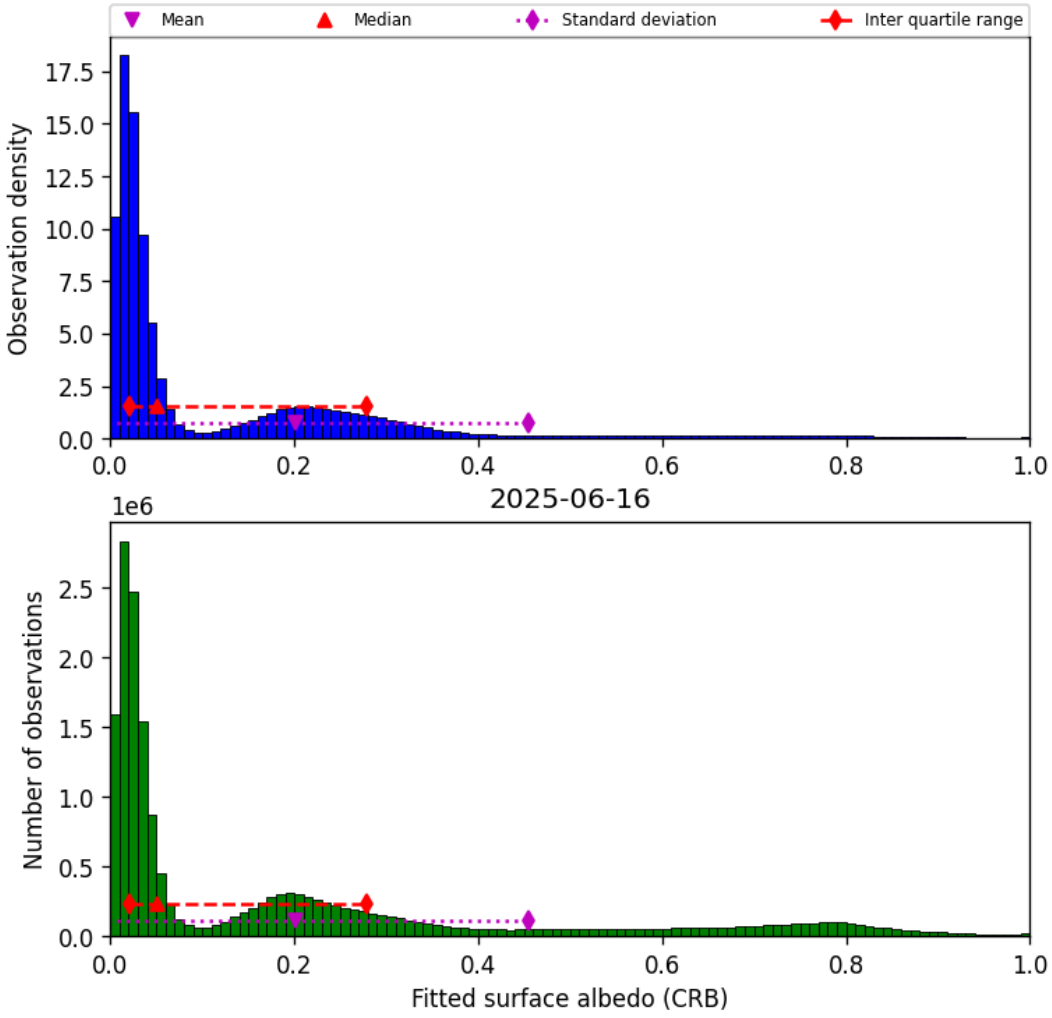

Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-06-16 to 2025-06-17

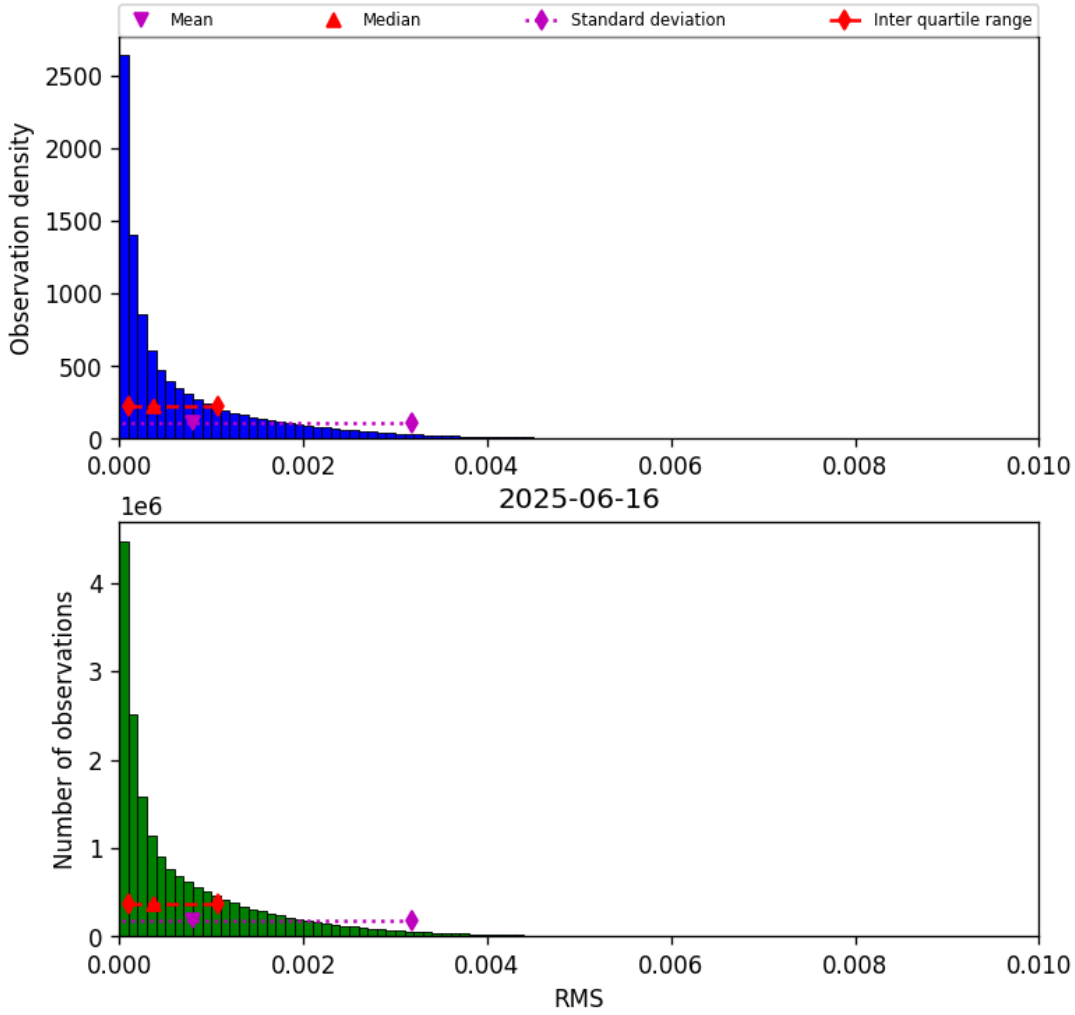

Figure 45: Histogram of “RMS” for 2025-06-16 to 2025-06-17

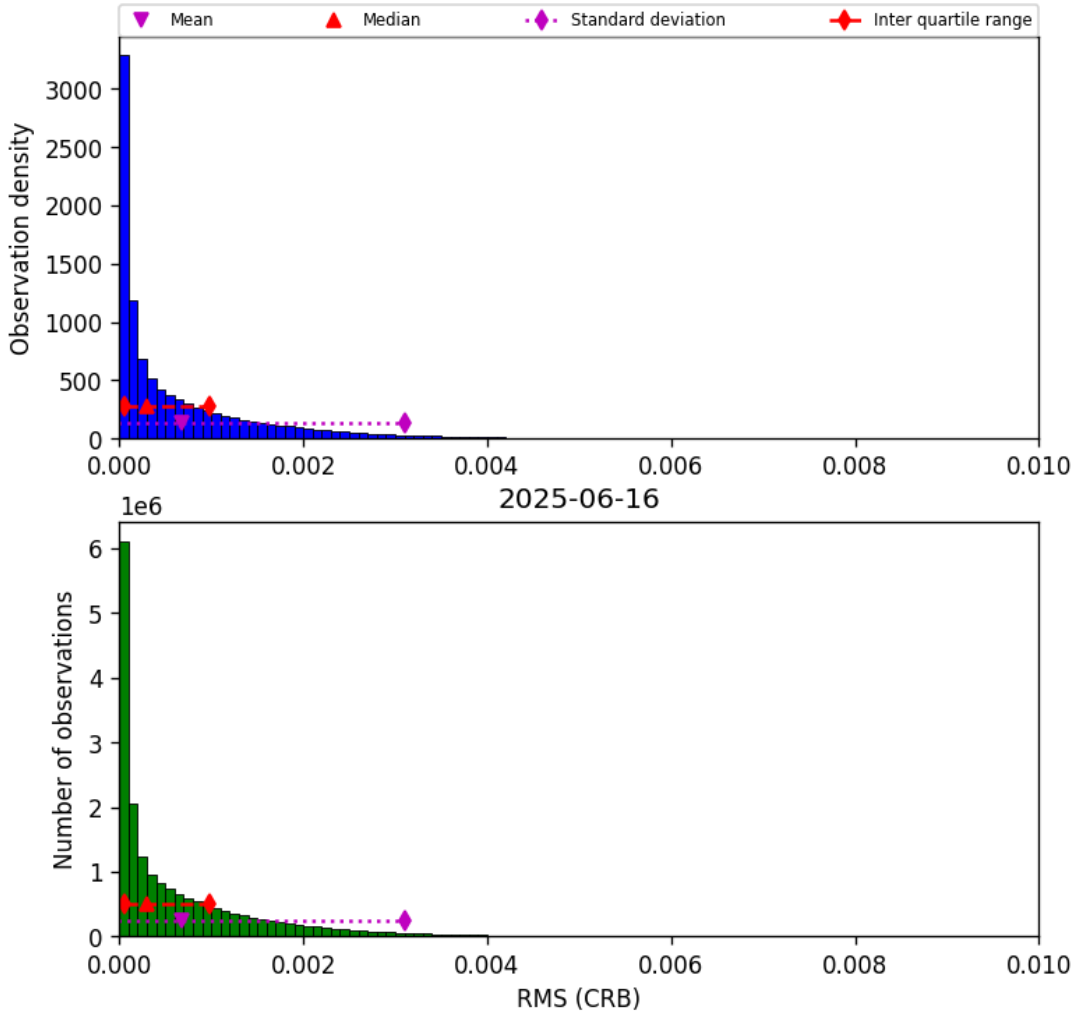

Figure 46: Histogram of “RMS (CRB)” for 2025-06-16 to 2025-06-17

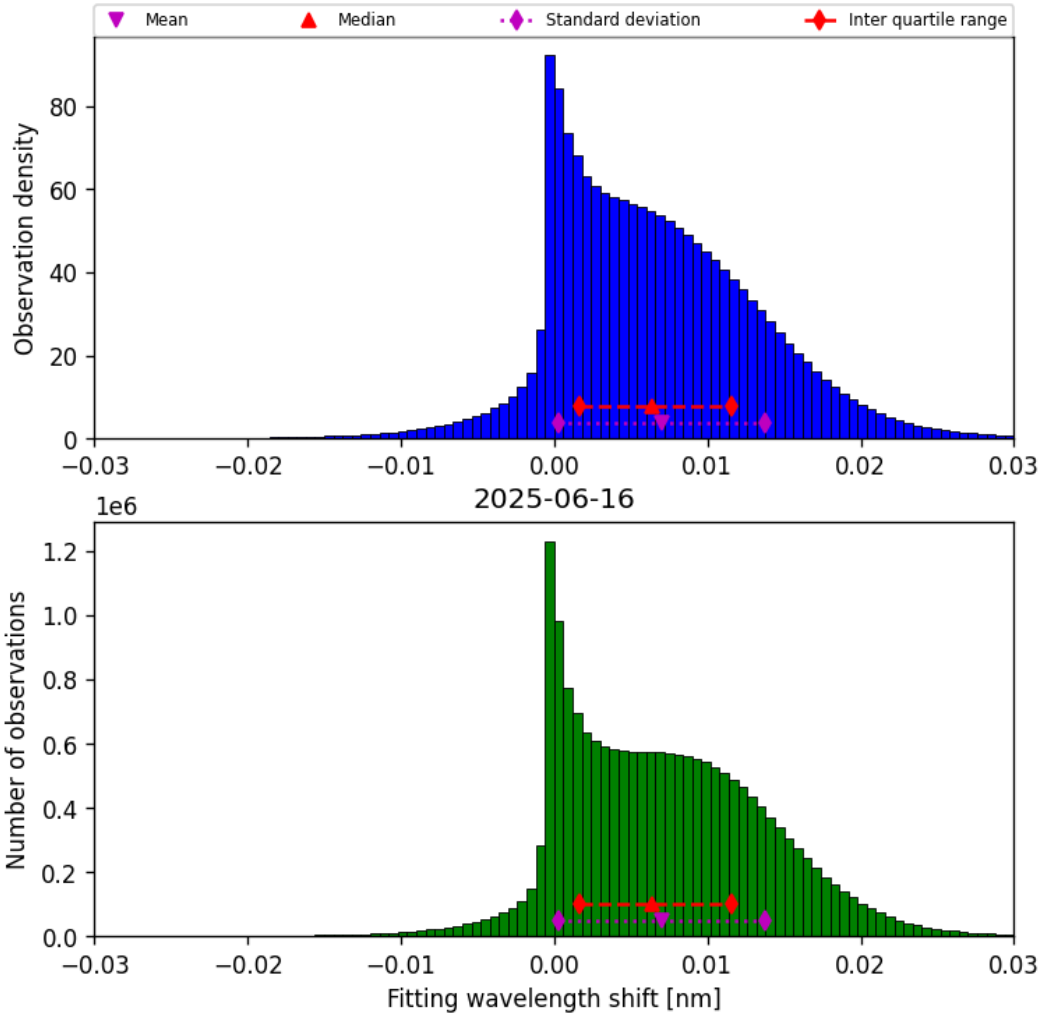

Figure 47: Histogram of “Fitting wavelength shift” for 2025-06-16 to 2025-06-17

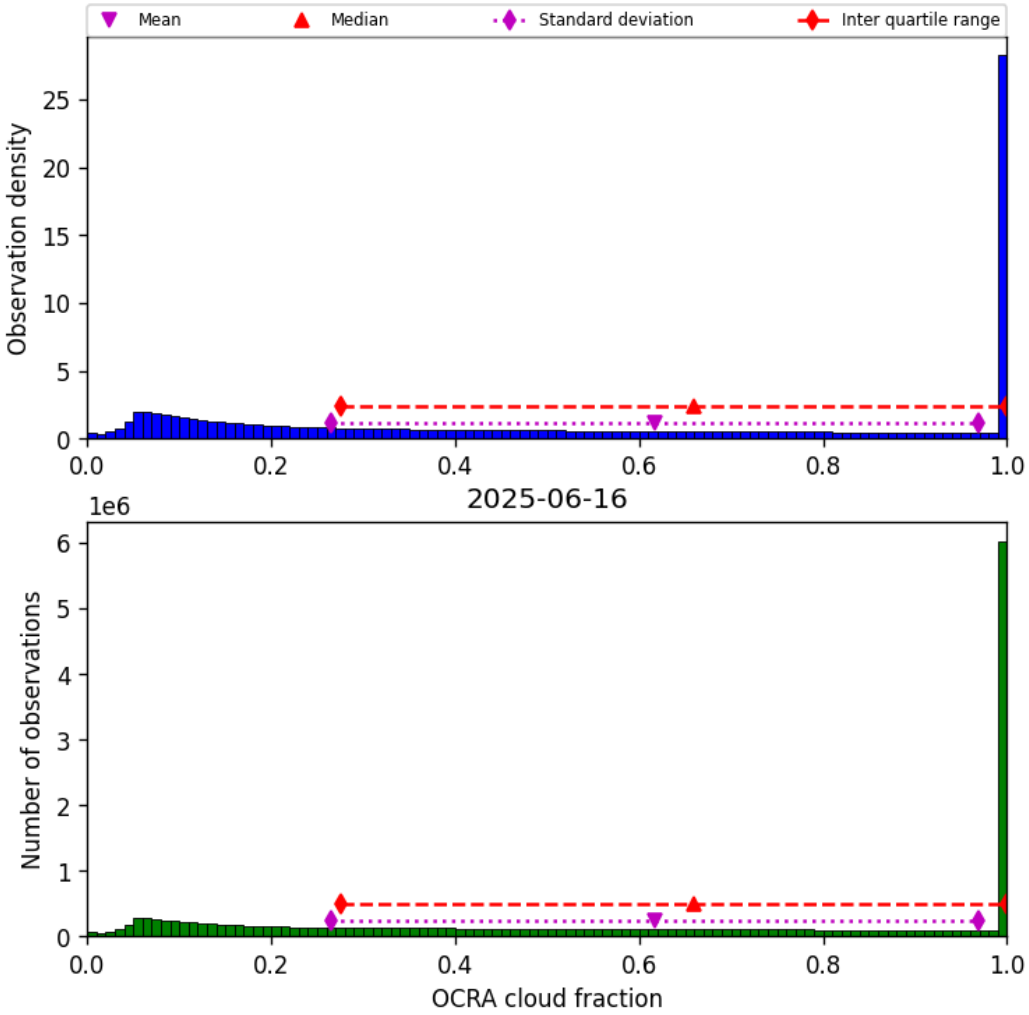

Figure 48: Histogram of “OCRA cloud fraction” for 2025-06-16 to 2025-06-17

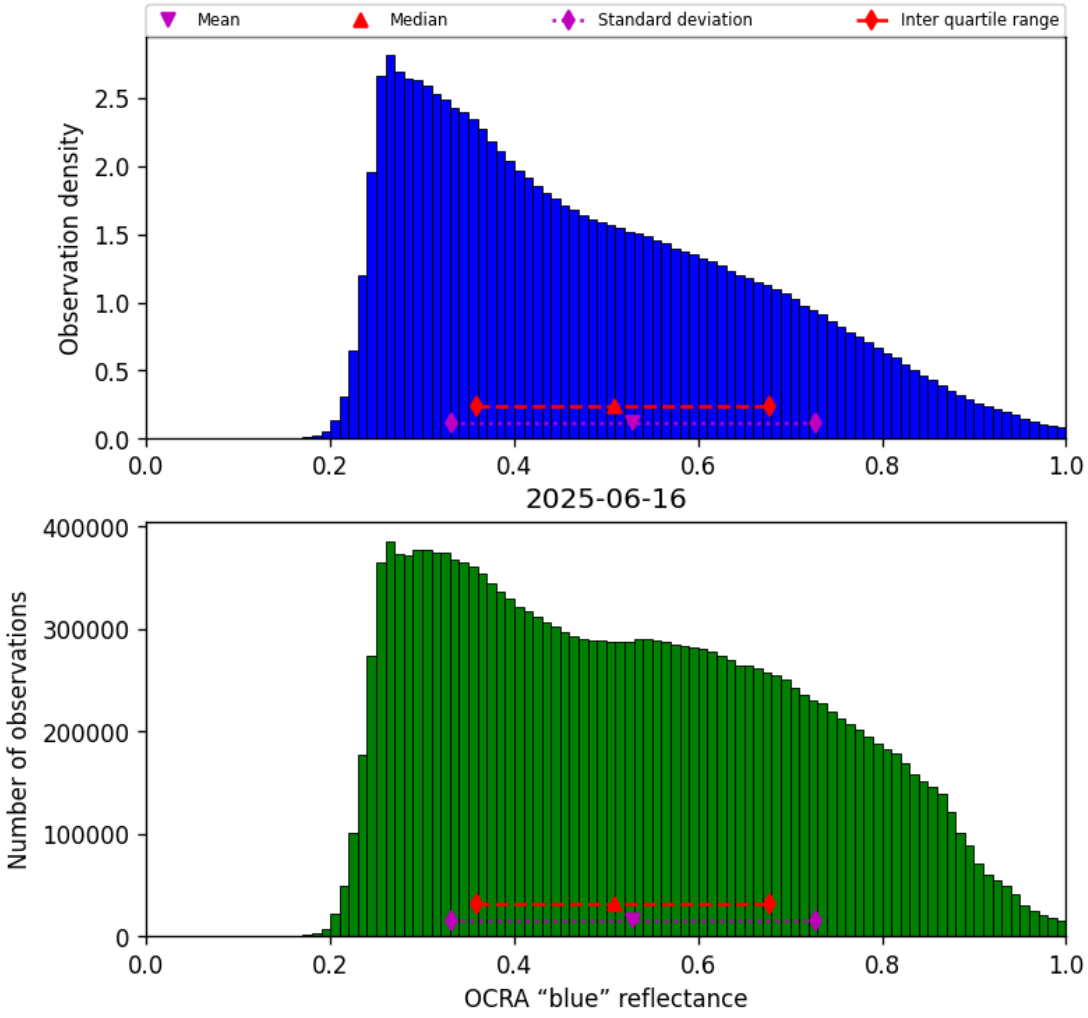

Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-06-16 to 2025-06-17

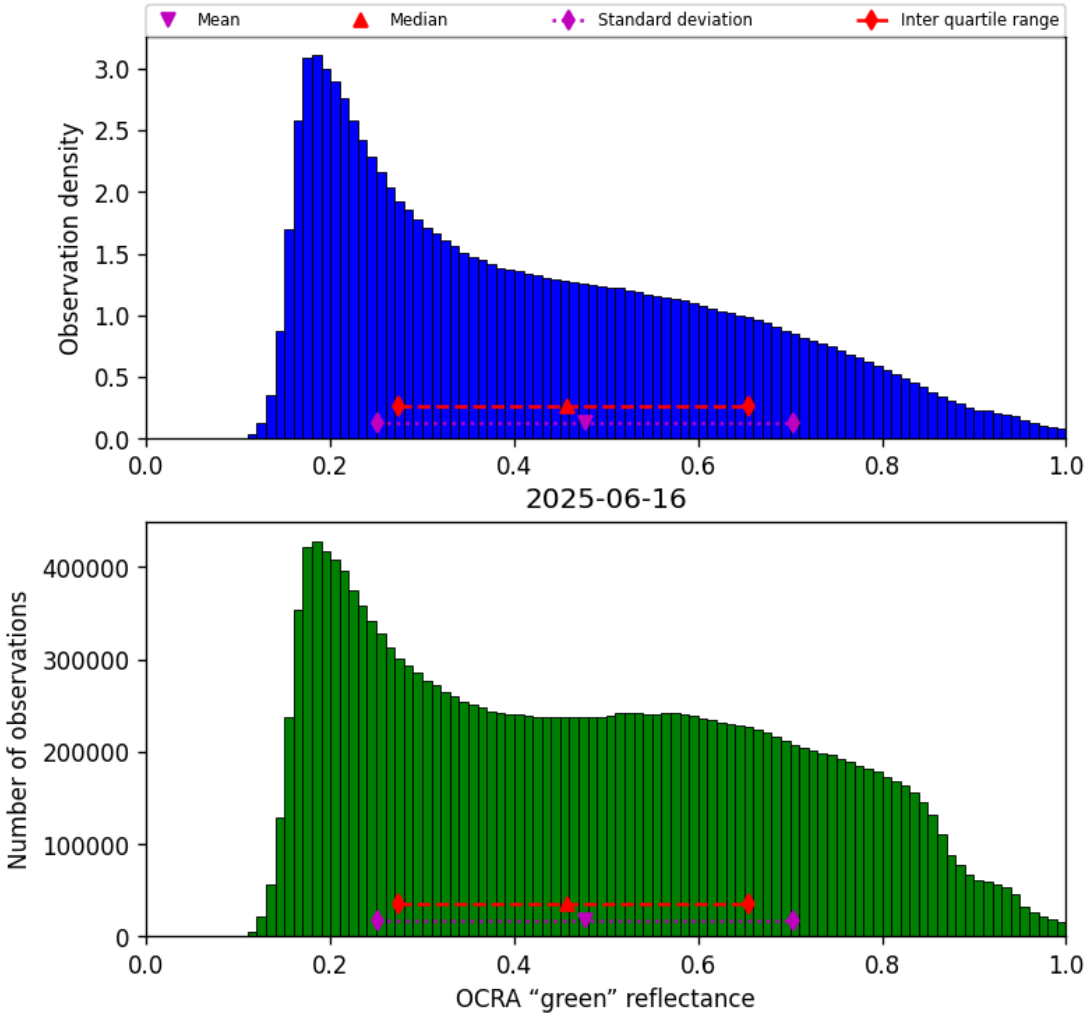

Figure 50: Histogram of “OCRA “green” reflectance” for 2025-06-16 to 2025-06-17

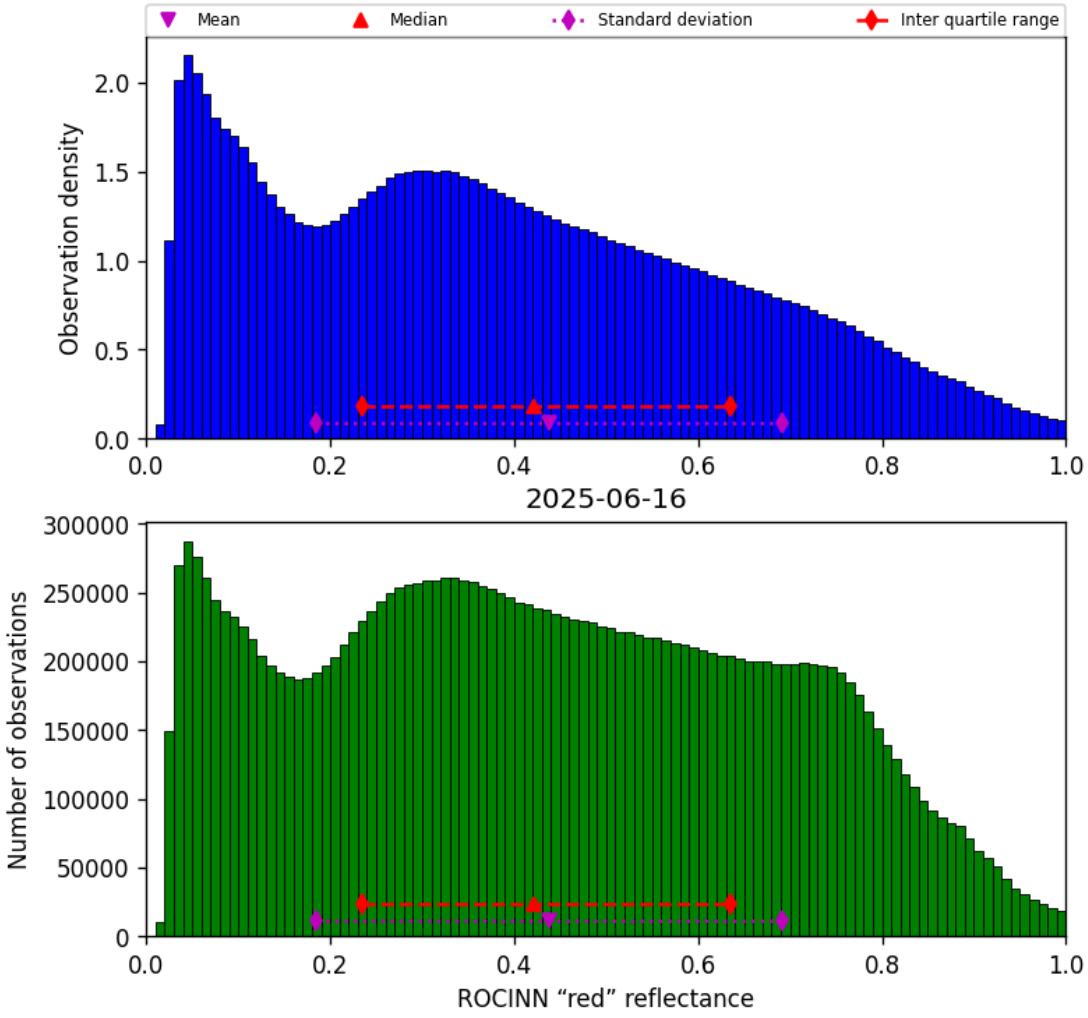

Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-06-16 to 2025-06-17

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.

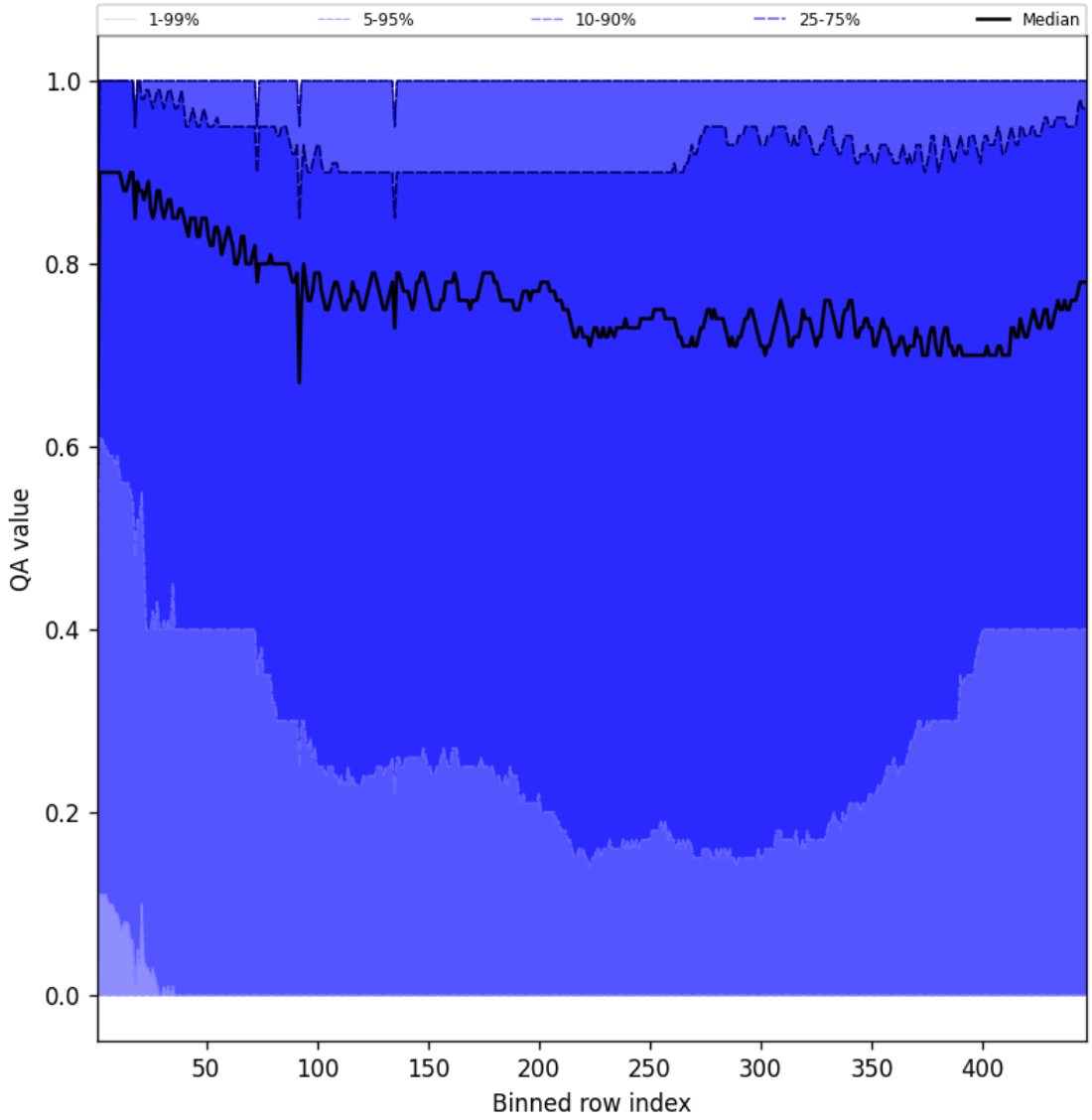

Figure 52: Along track statistics of “QA value” for 2025-06-16 to 2025-06-17

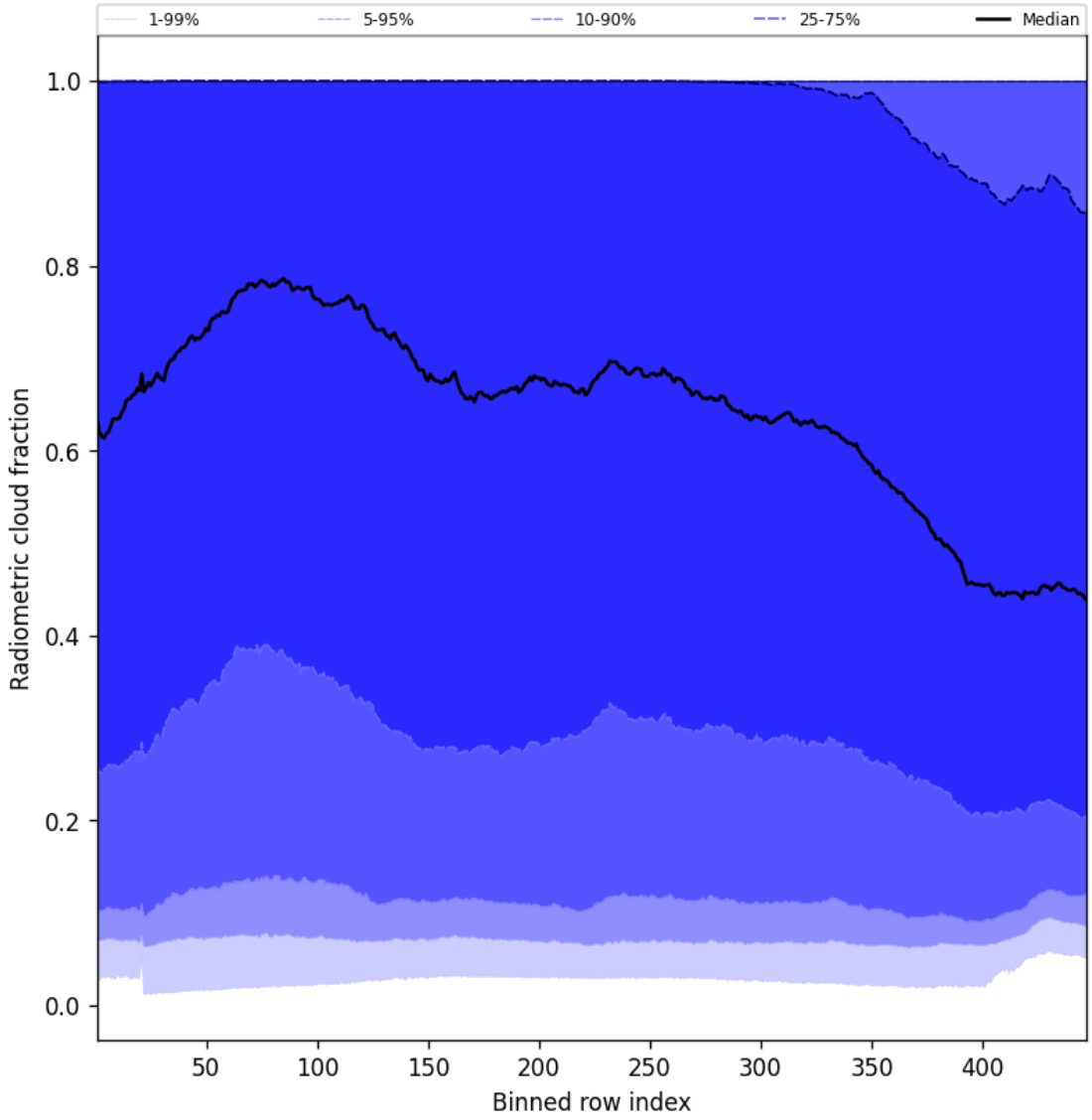

Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-06-16 to 2025-06-17

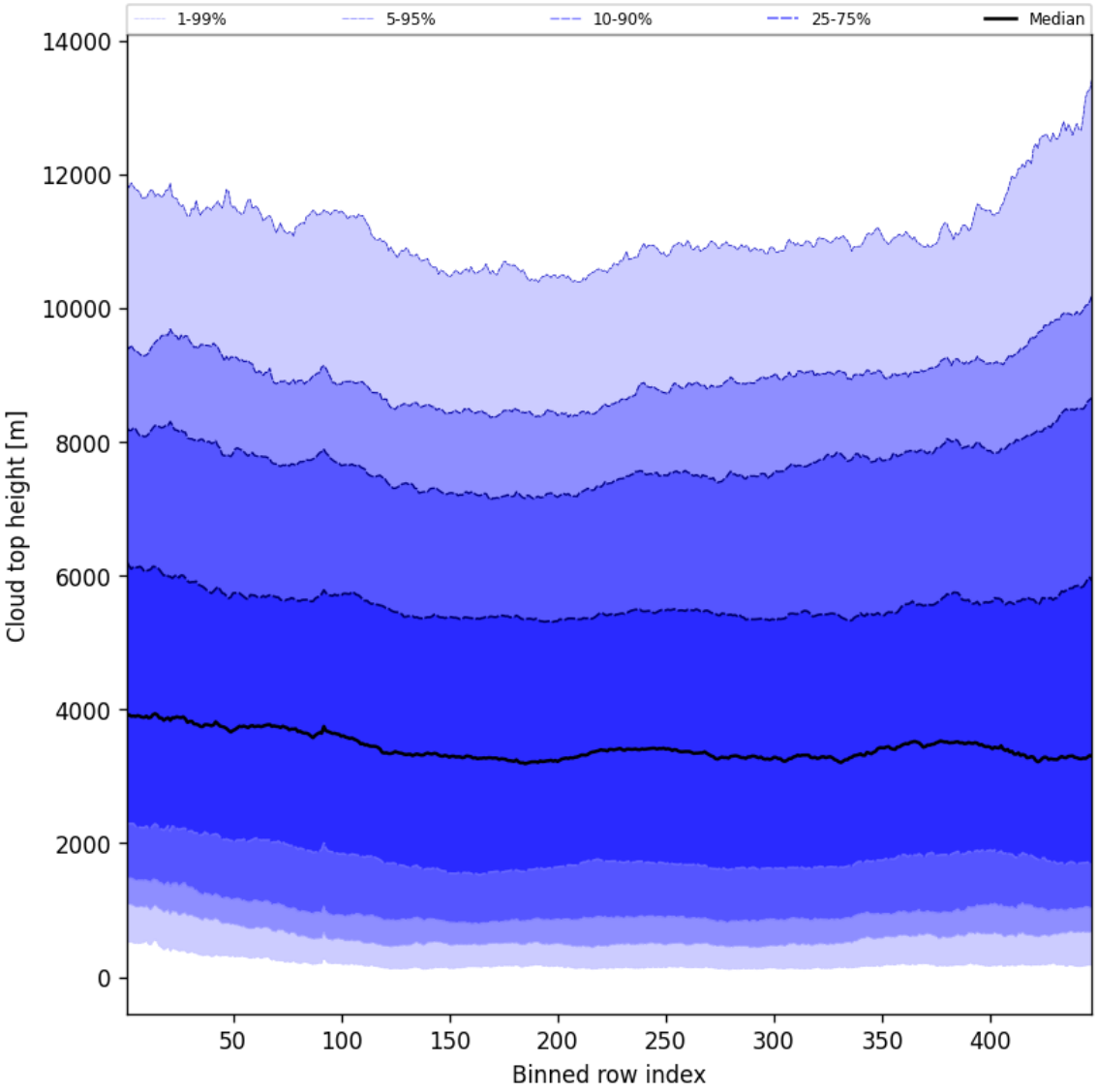

Figure 54: Along track statistics of “Cloud top height” for 2025-06-16 to 2025-06-17

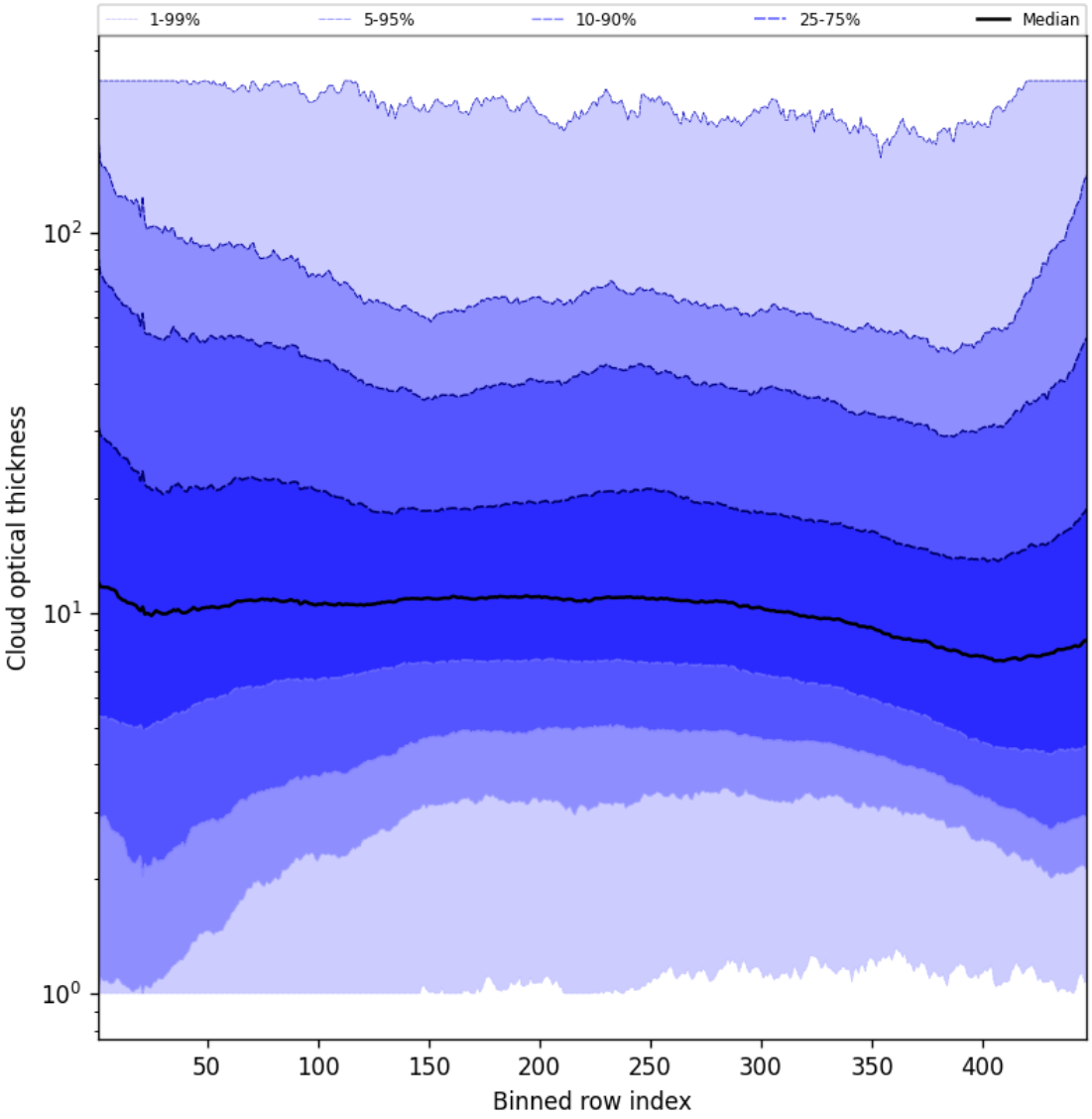

Figure 55: Along track statistics of “Cloud optical thickness” for 2025-06-16 to 2025-06-17

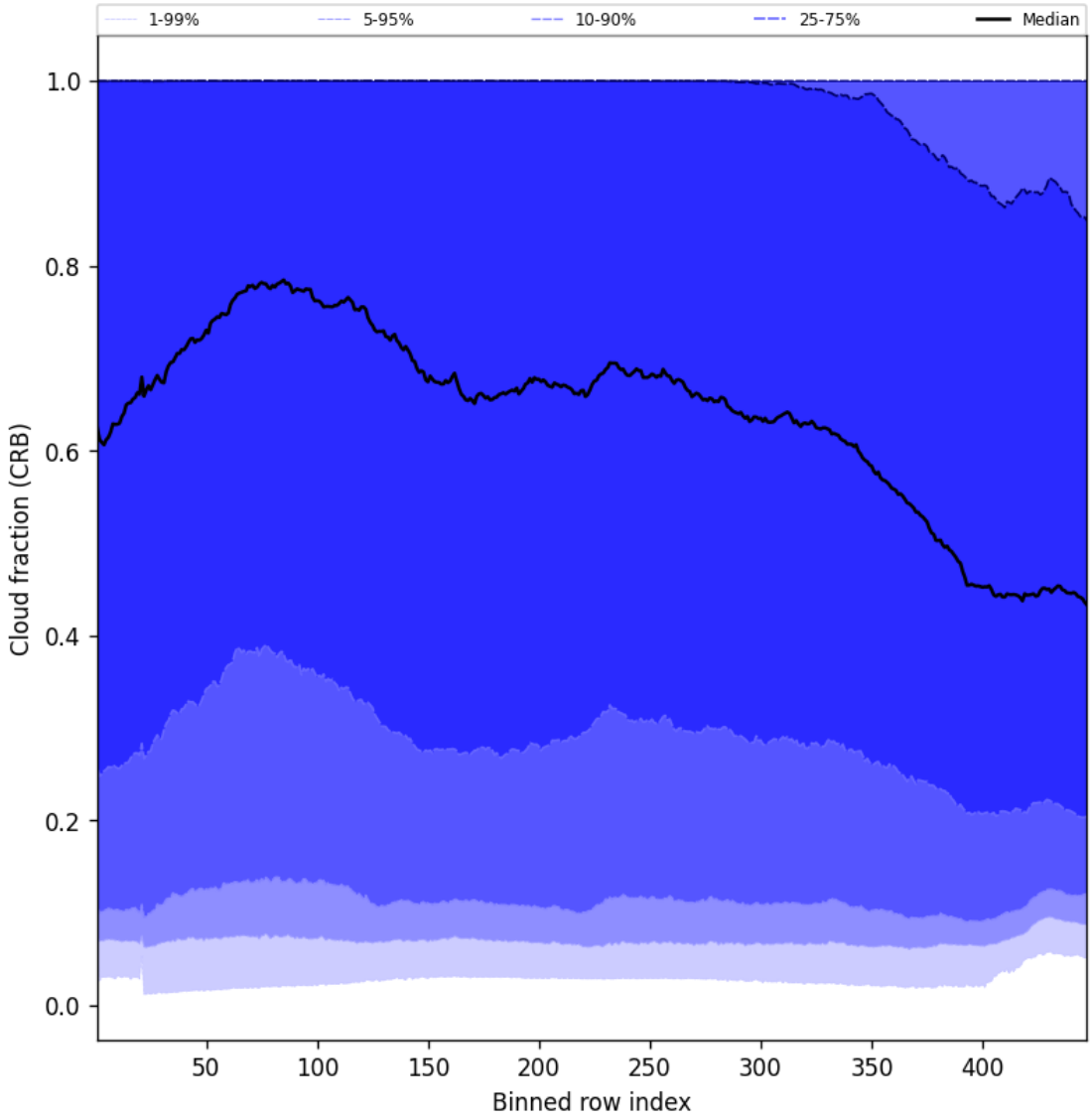

Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-06-16 to 2025-06-17

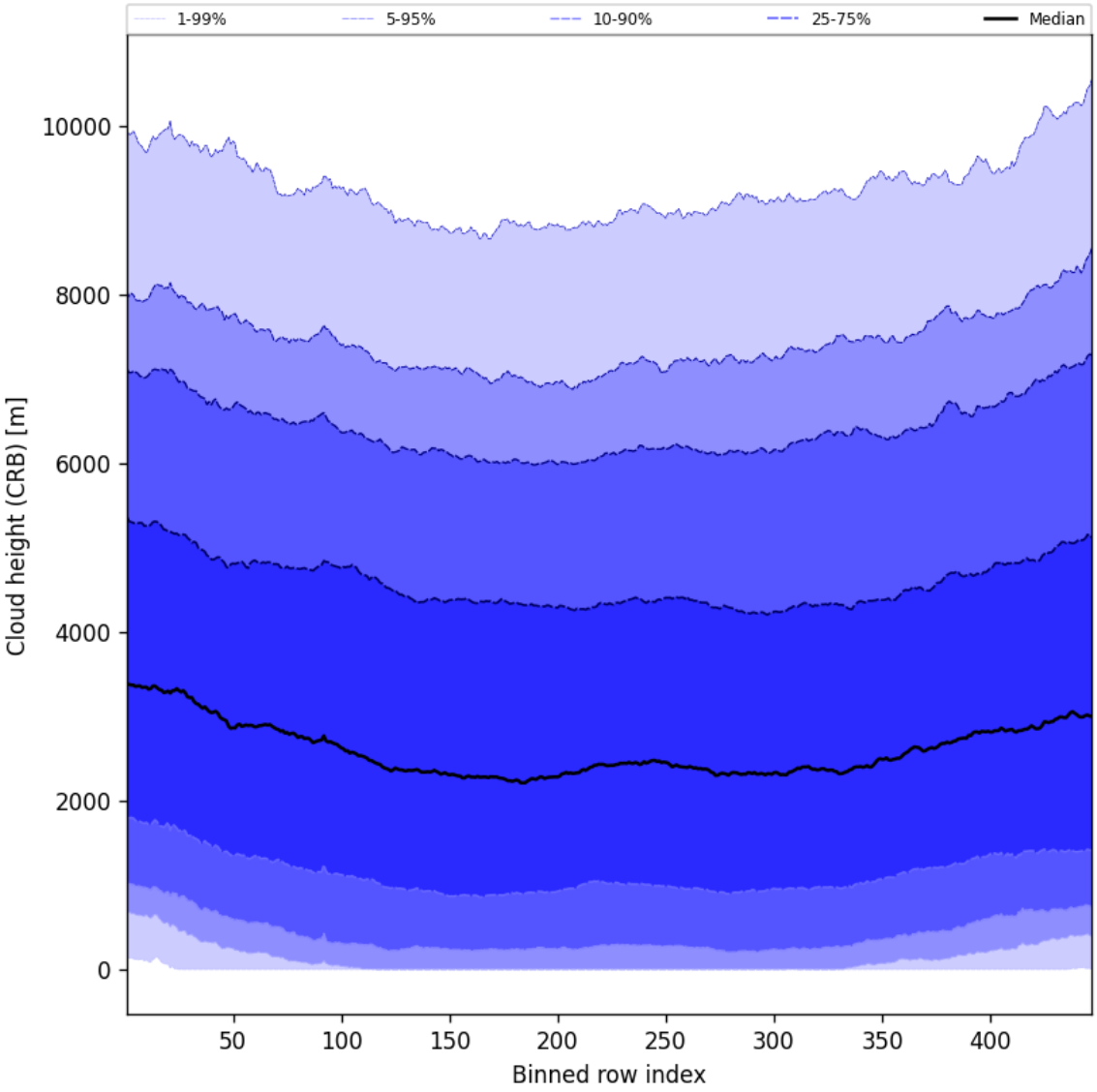

Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-06-16 to 2025-06-17

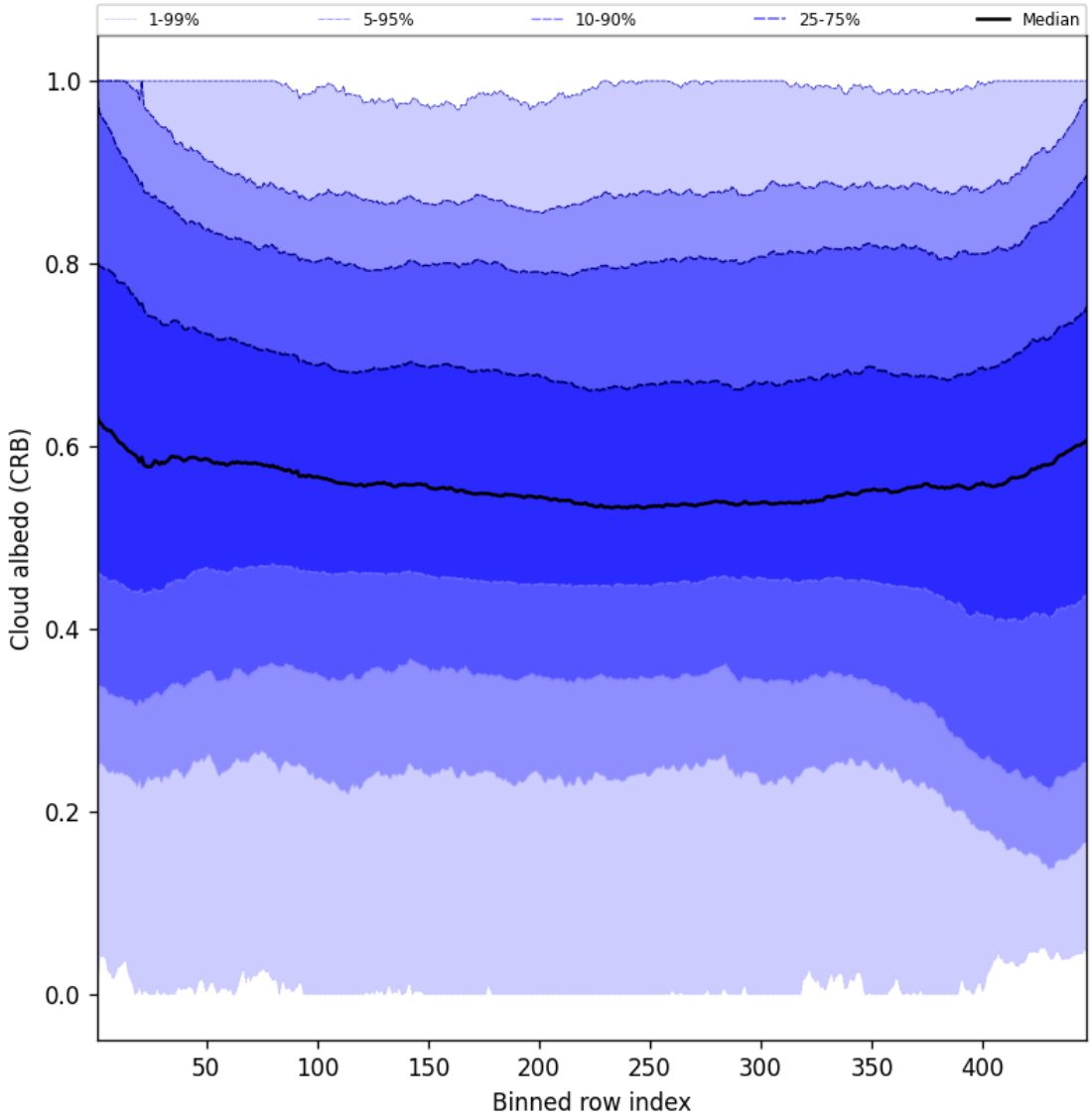

Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-06-16 to 2025-06-17

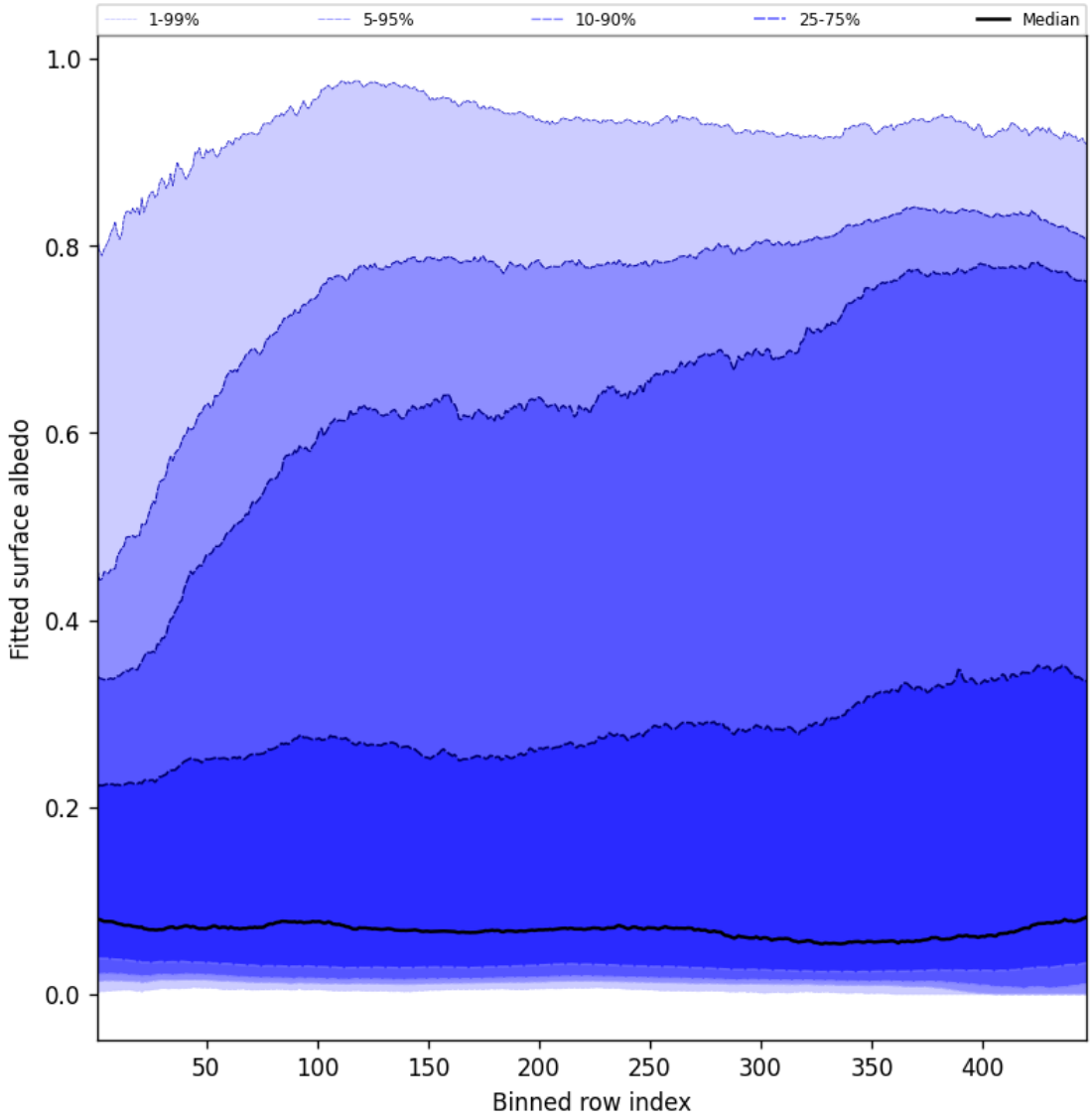

Figure 59: Along track statistics of “Fitted surface albedo” for 2025-06-16 to 2025-06-17

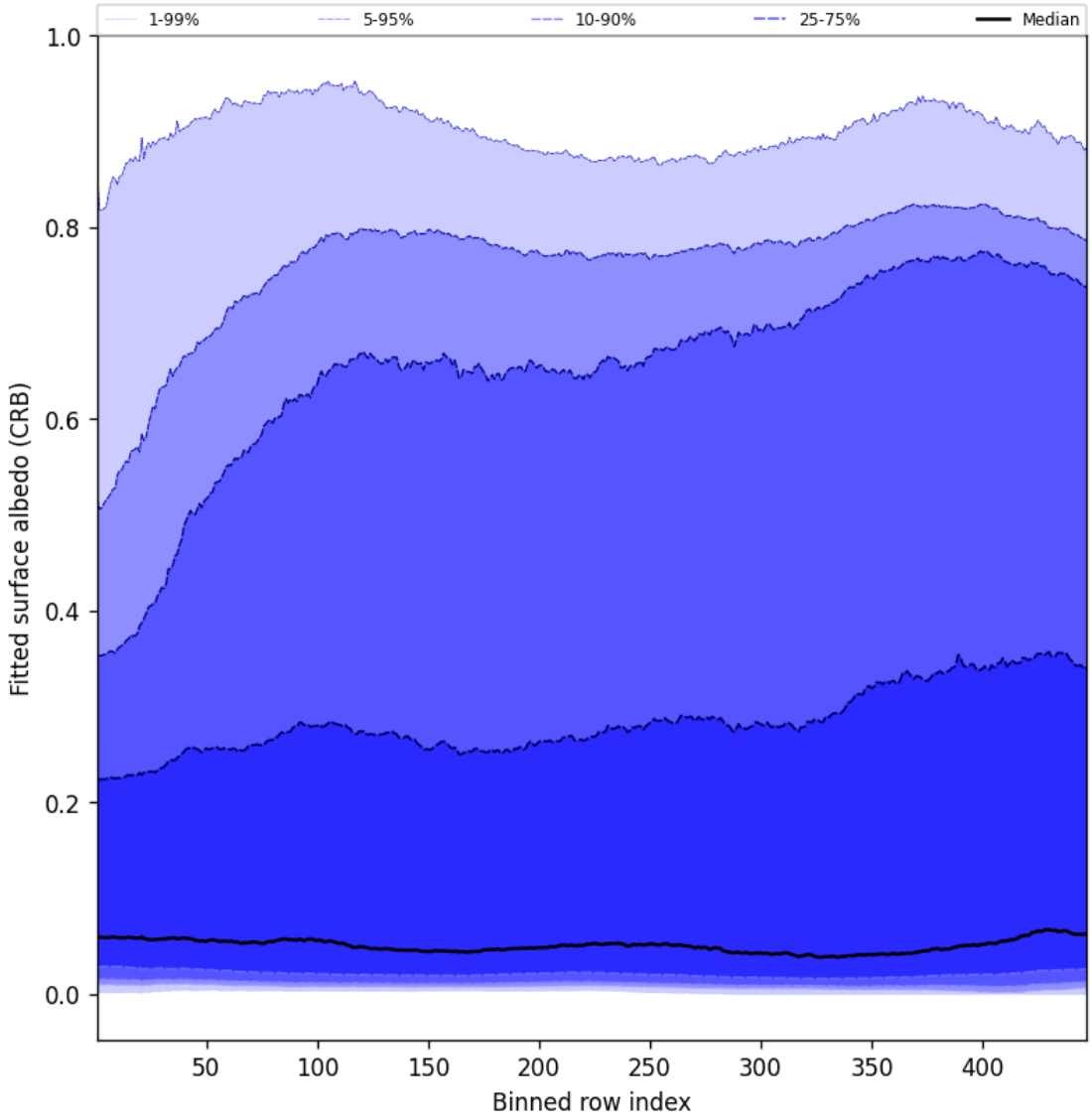

Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-06-16 to 2025-06-17

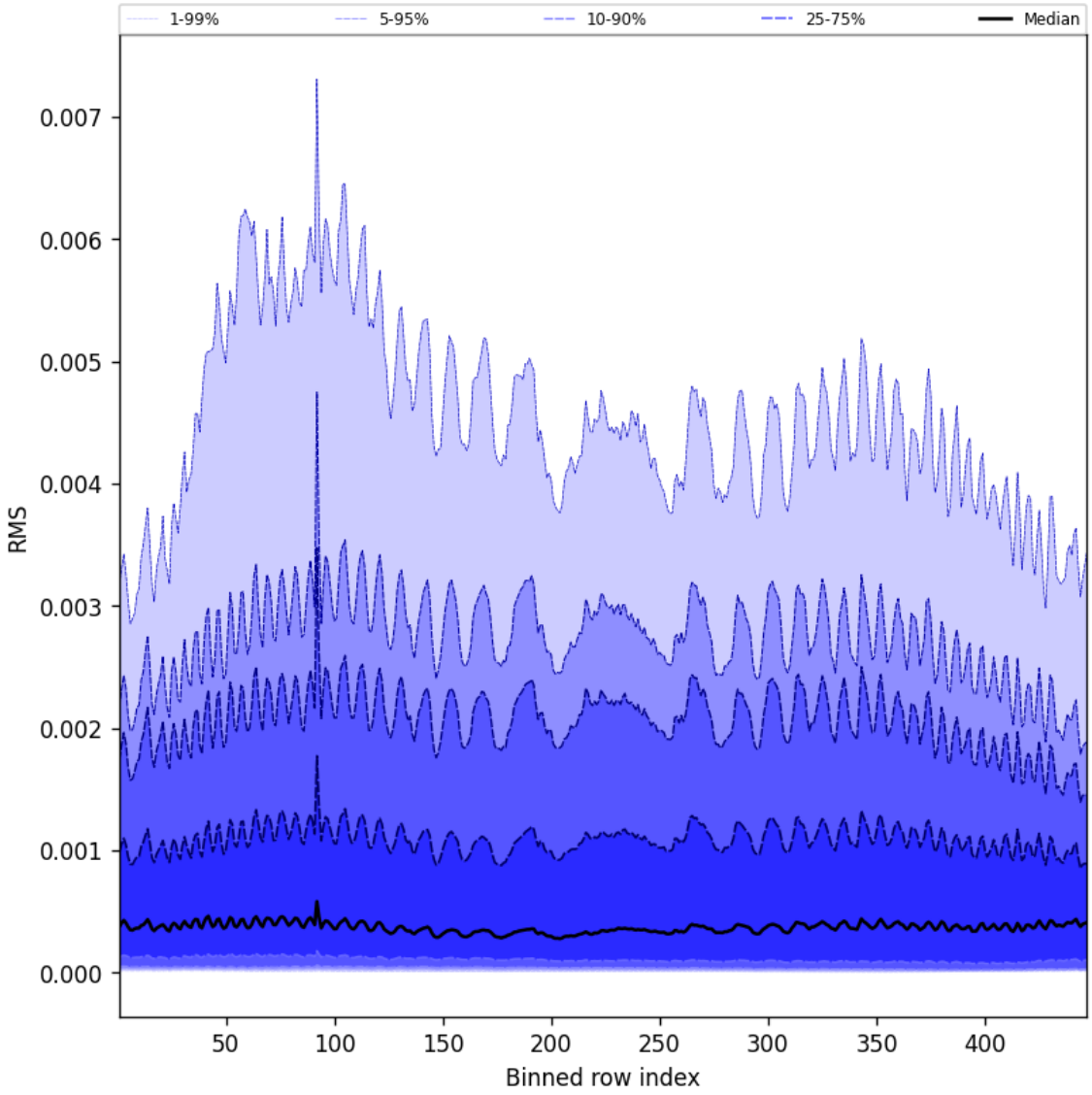

Figure 61: Along track statistics of “RMS” for 2025-06-16 to 2025-06-17

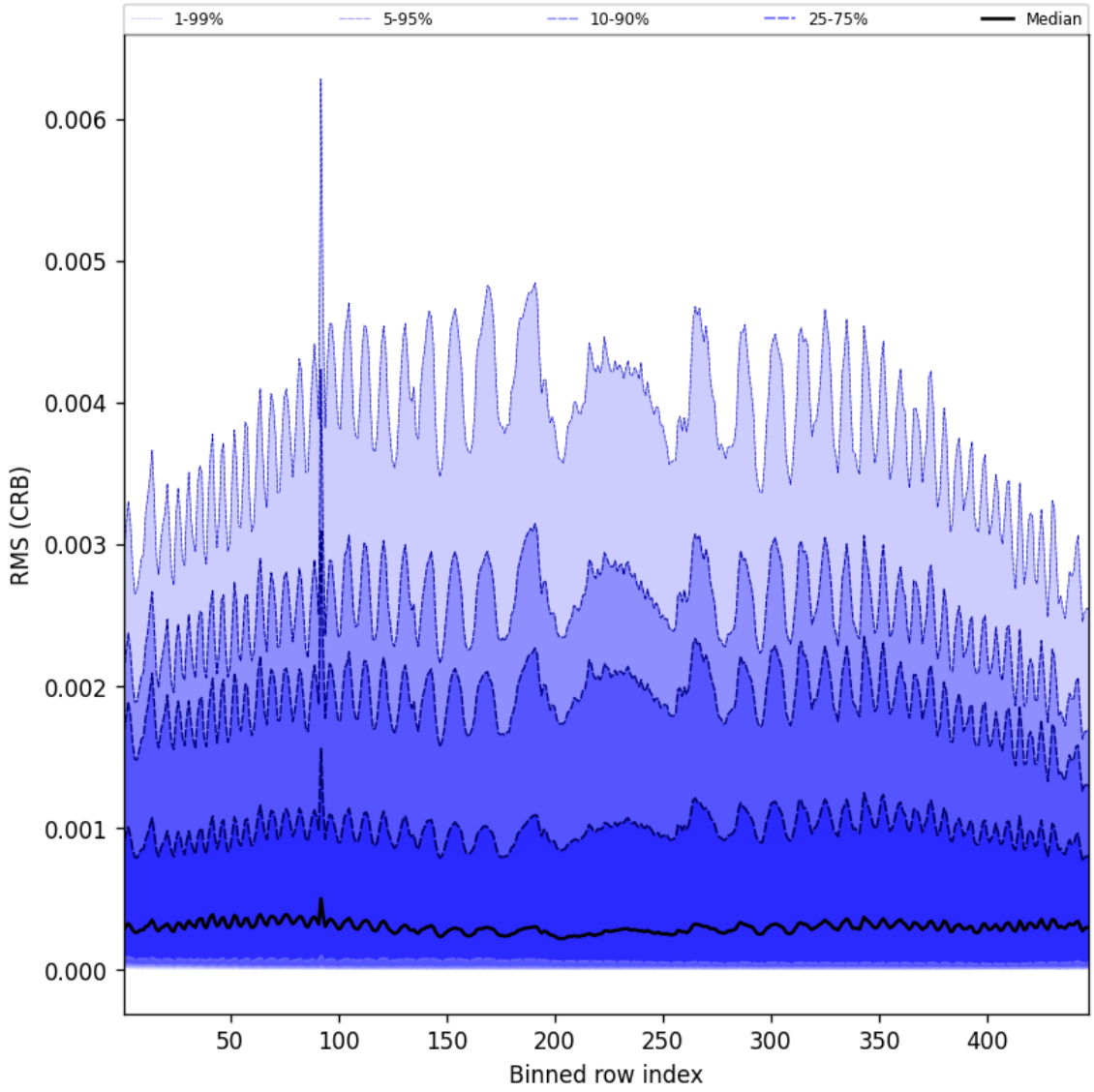

Figure 62: Along track statistics of “RMS (CRB)” for 2025-06-16 to 2025-06-17

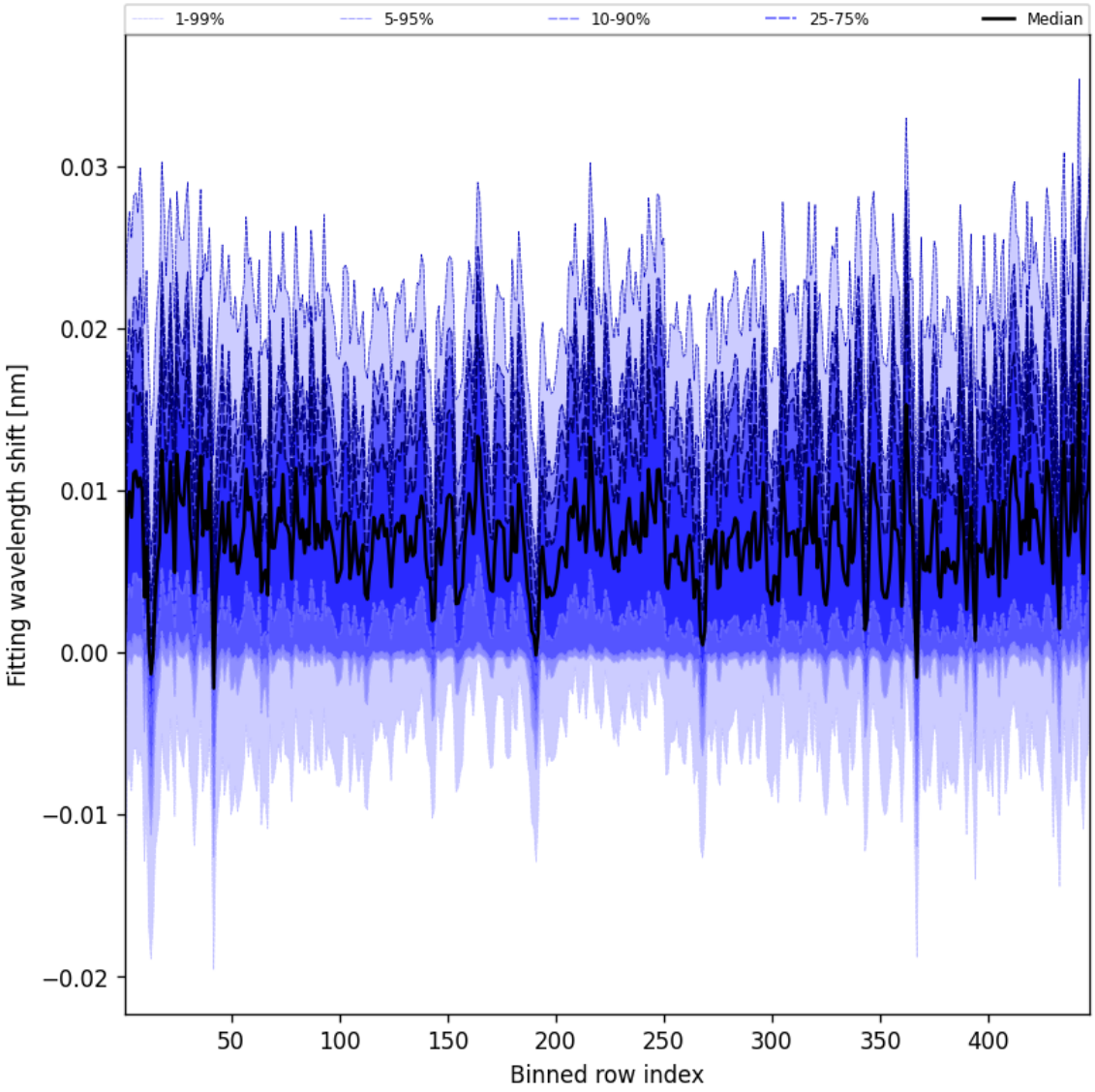

Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-06-16 to 2025-06-17

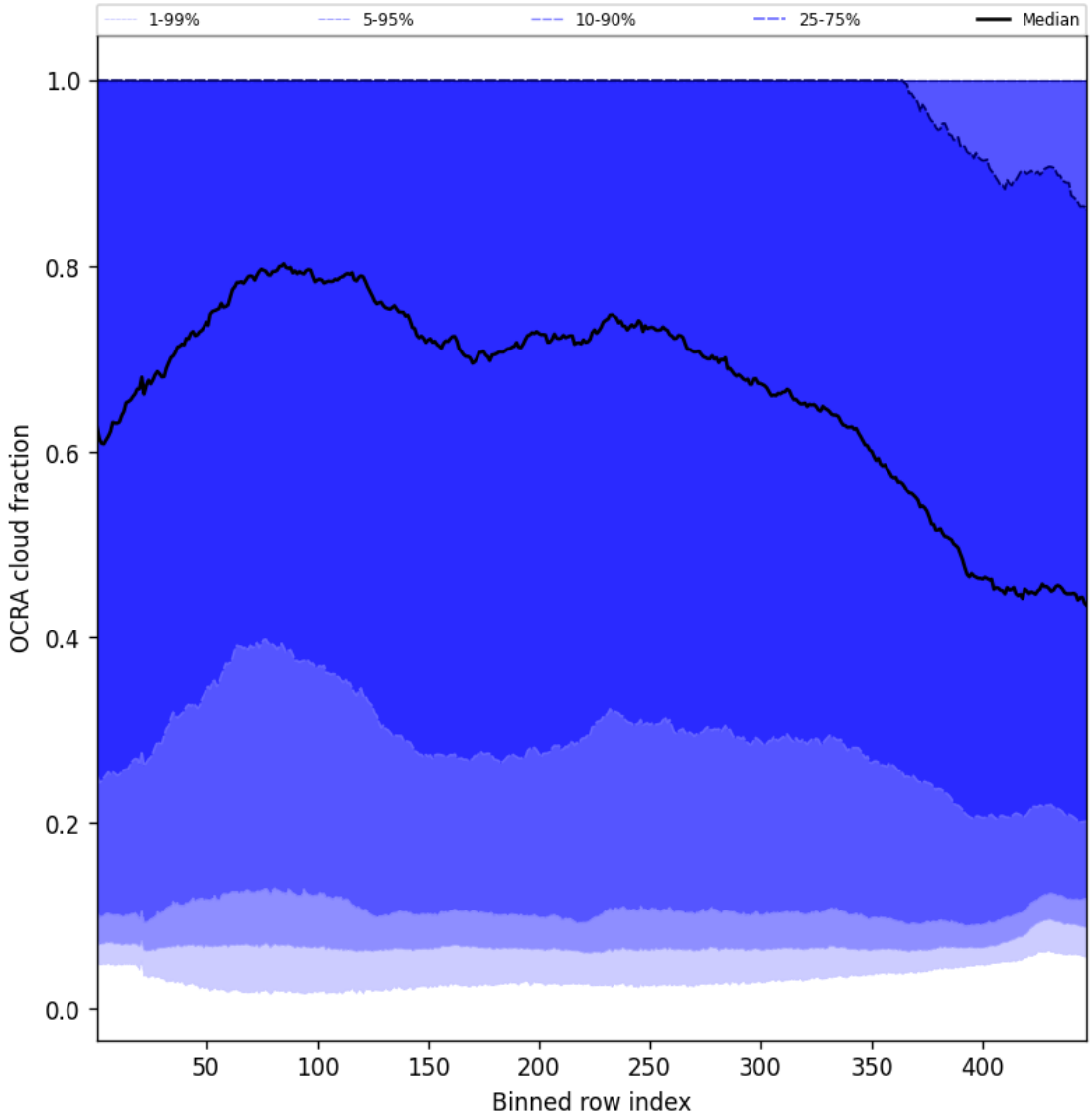

Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-06-16 to 2025-06-17

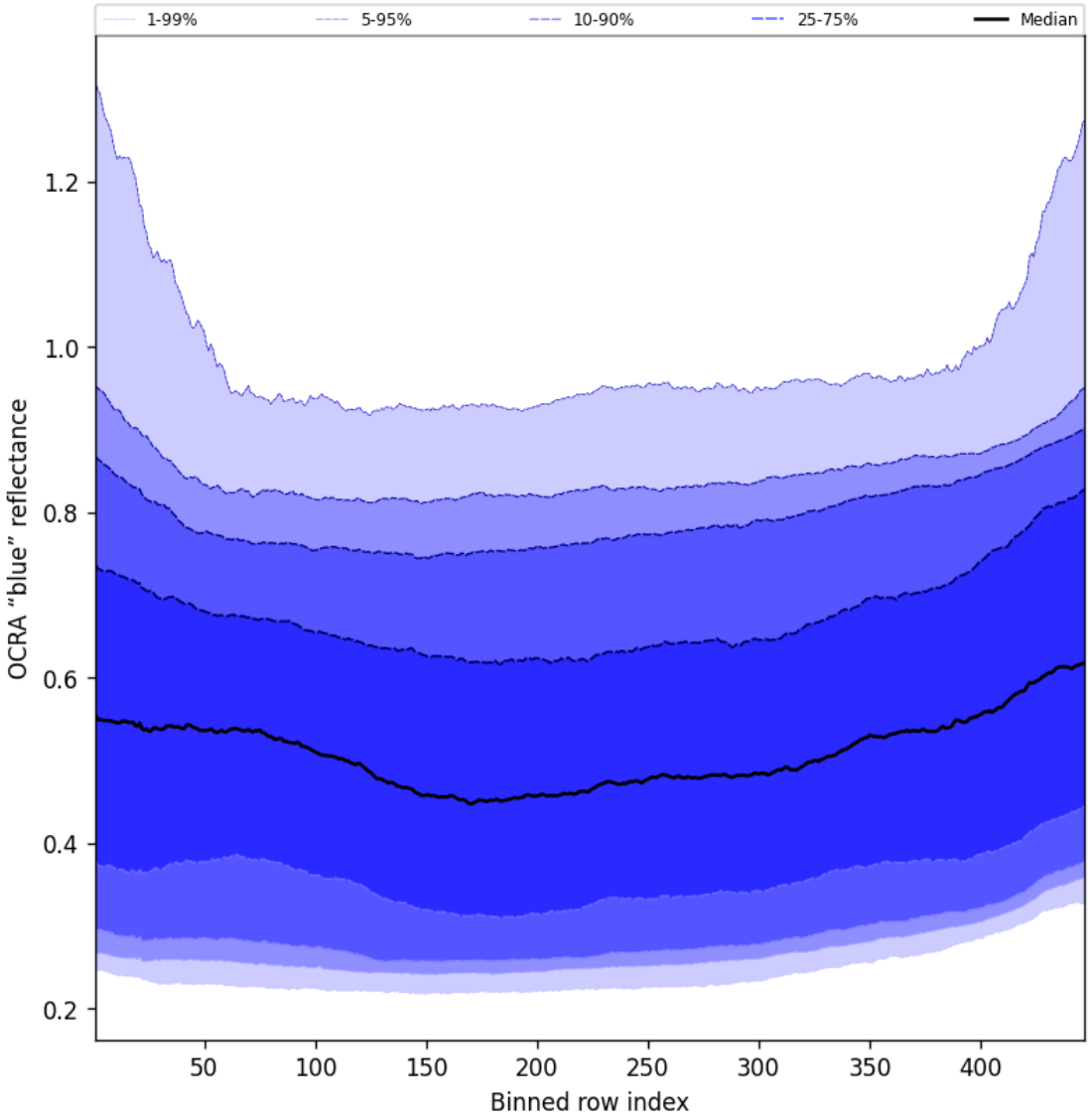

Figure 65: Along track statistics of "OCRA "blue" reflectance" for 2025-06-16 to 2025-06-17

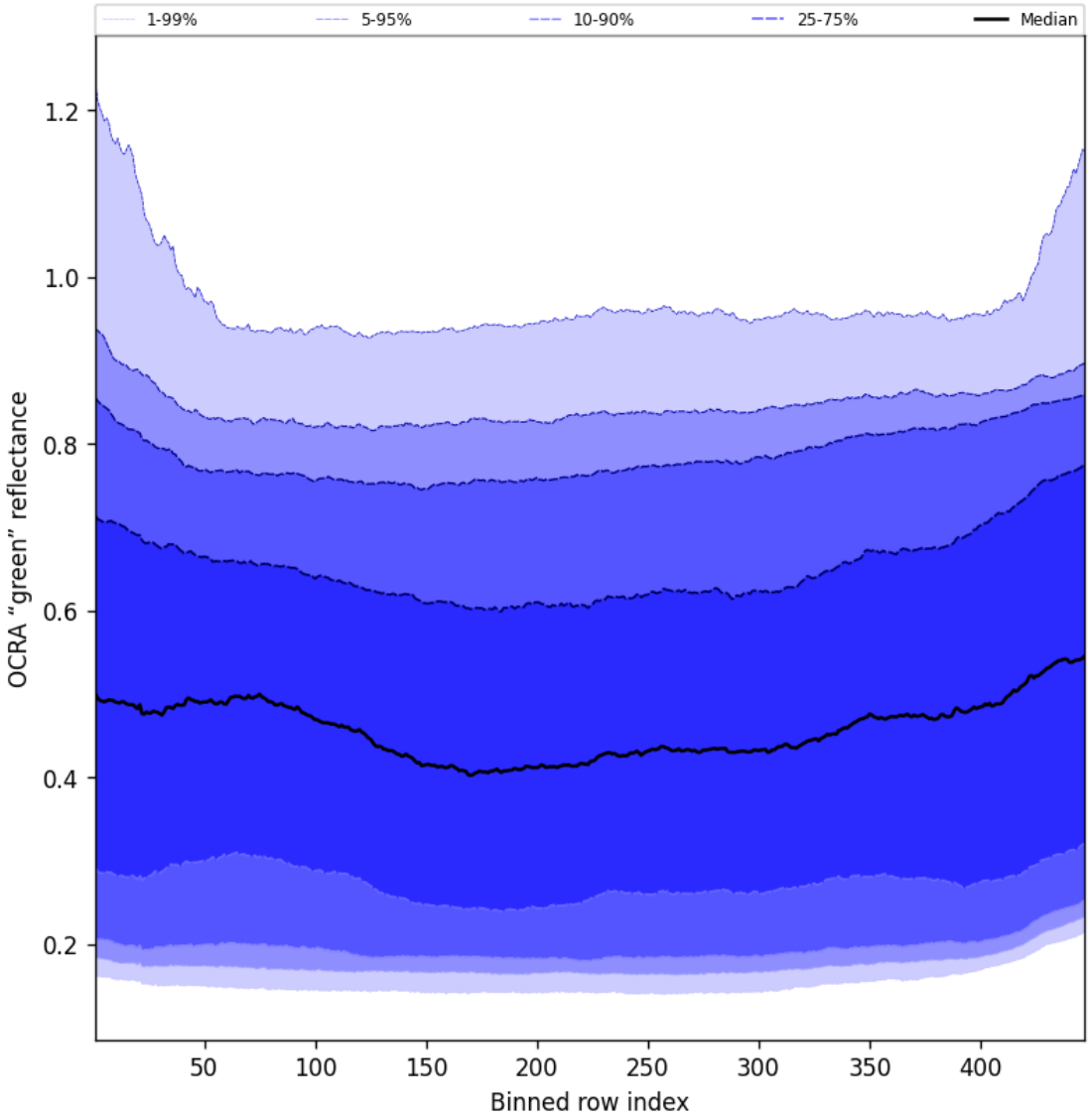

Figure 66: Along track statistics of "OCRA "green" reflectance" for 2025-06-16 to 2025-06-17

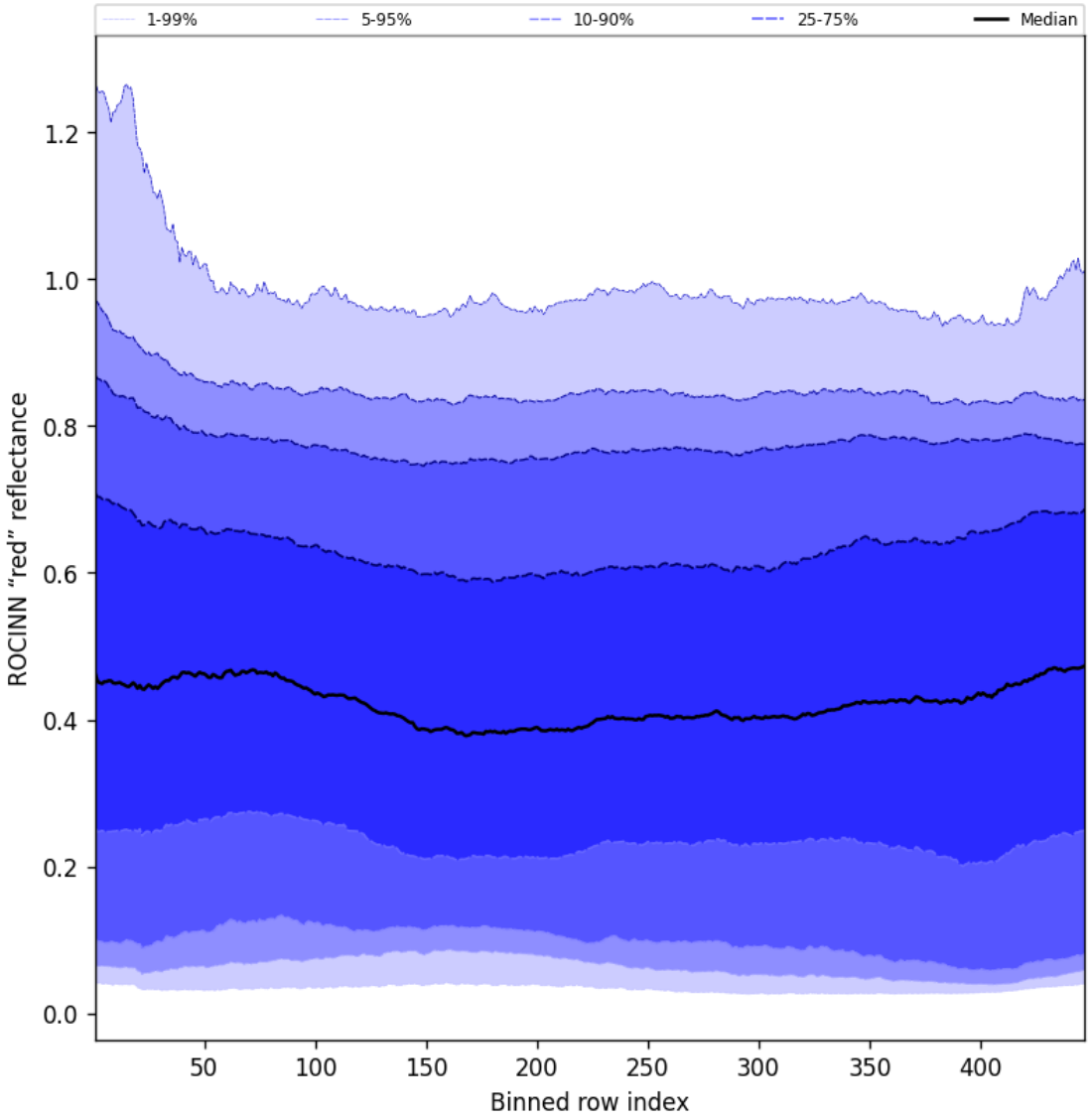

Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-06-16 to 2025-06-17

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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