

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-06-23 (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:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

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]	0.607 ± 0.372	18732070	0.995	0.640	0.760	0.0	1.000
cloud fraction [1]	0.595 ± 0.345	18732070	0.995	0.727	0.607	7.156×10^{-3}	1.000
cloud top height [m]	$(0.376 \pm 0.256) \times 10^4$	18732070	1.575×10^3	3.662×10^3	3.243×10^3	0.0	2.000×10^4
cloud optical thickness [1]	20.0 ± 34.0	18732070	9.77	12.3	9.93	1.000	250
cloud fraction crb [1]	0.593 ± 0.346	18732070	0.995	0.728	0.605	8.095×10^{-3}	1.000
cloud height crb [m]	$(0.295 \pm 0.227) \times 10^4$	18732070	75.0	3.354×10^3	2.474×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.554 ± 0.199	18732070	0.505	0.242	0.548	0.0	1.000
surface albedo fitted [1]	0.193 ± 0.237	18732070	2.500×10^{-2}	0.239	6.397×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.190 ± 0.241	18732070	1.500×10^{-2}	0.249	4.819×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.774 \pm 14.664) \times 10^{-4}$	18732070	5.000×10^{-5}	9.207×10^{-4}	3.426×10^{-4}	9.034×10^{-7}	0.660
fitted root mean square crb [1]	$(6.631 \pm 11.256) \times 10^{-4}$	18732070	5.000×10^{-5}	8.614×10^{-4}	2.769×10^{-4}	8.877×10^{-7}	0.807
wavelength shift [nm]	$(6.836 \pm 6.729) \times 10^{-3}$	18732070	-3.000×10^{-4}	9.845×10^{-3}	6.145×10^{-3}	-7.449×10^{-2}	0.469
cloud fraction apriori [1]	0.602 ± 0.351	18732070	0.995	0.735	0.625	0.0	1.000
reflectance blue ocra [1]	0.523 ± 0.197	18732070	0.295	0.313	0.498	0.134	1.91
reflectance green ocra [1]	0.469 ± 0.224	18732070	0.175	0.373	0.442	7.967×10^{-2}	2.18
reflectance continuum aband [1]	0.426 ± 0.252	18732070	4.500×10^{-2}	0.393	0.403	9.960×10^{-3}	6.73

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}	0.290	0.930	1.000	1.000	1.000	1.000
cloud fraction [1]	2.629×10^{-2}	6.926×10^{-2}	0.109	0.163	0.268	0.995	1.000	1.000	1.000	1.000
cloud top height [m]	155	567	950	1.272×10^3	1.694×10^3	5.356×10^3	6.487×10^3	7.412×10^3	8.672×10^3	1.089×10^4
cloud optical thickness [1]	1.000	2.31	3.56	4.60	5.97	18.2	27.7	41.0	70.4	227
cloud fraction crb [1]	2.572×10^{-2}	6.835×10^{-2}	0.108	0.163	0.266	0.994	1.000	1.000	1.000	1.000
cloud height crb [m]	0.0	82.1	401	689	1.085×10^3	4.439×10^3	5.456×10^3	6.241×10^3	7.275×10^3	9.135×10^3
cloud albedo crb [1]	0.0	0.204	0.307	0.381	0.442	0.684	0.756	0.815	0.890	1.000
surface albedo fitted [1]	0.0	1.050×10^{-2}	1.601×10^{-2}	2.089×10^{-2}	2.807×10^{-2}	0.267	0.406	0.593	0.761	0.927
surface albedo fitted crb [1]	4.409×10^{-4}	7.374×10^{-3}	1.129×10^{-2}	1.495×10^{-2}	2.045×10^{-2}	0.270	0.443	0.620	0.751	0.887
fitted root mean square [1]	9.188×10^{-6}	2.156×10^{-5}	3.543×10^{-5}	5.570×10^{-5}	9.841×10^{-5}	1.019×10^{-3}	1.492×10^{-3}	2.026×10^{-3}	2.814×10^{-3}	4.750×10^{-3}
fitted root mean square crb [1]	5.398×10^{-6}	1.136×10^{-5}	2.011×10^{-5}	3.222×10^{-5}	5.879×10^{-5}	9.202×10^{-4}	1.361×10^{-3}	1.847×10^{-3}	2.573×10^{-3}	4.040×10^{-3}
wavelength shift [nm]	-7.803×10^{-3}	-1.246×10^{-3}	-2.630×10^{-4}	2.426×10^{-4}	1.480×10^{-3}	1.133×10^{-2}	1.369×10^{-2}	1.572×10^{-2}	1.844×10^{-2}	2.429×10^{-2}
cloud fraction apriori [1]	2.998×10^{-2}	6.585×10^{-2}	0.103	0.156	0.265	1.000	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.231	0.258	0.283	0.311	0.355	0.668	0.746	0.805	0.863	0.975
reflectance green ocra [1]	0.149	0.173	0.194	0.221	0.268	0.642	0.729	0.791	0.853	0.962
reflectance continuum aband [1]	3.040×10^{-2}	5.581×10^{-2}	9.332×10^{-2}	0.143	0.224	0.617	0.709	0.773	0.848	0.978

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]	0.601 ± 0.365	12767624	0.630	0.750	0.0	1.000	0.270	0.900
cloud fraction [1]	0.637 ± 0.344	12767624	0.683	0.695	7.156×10^{-3}	1.000	0.317	1.000
cloud top height [m]	$(0.374 \pm 0.262) \times 10^4$	12767624	3.840×10^3	3.244×10^3	0.0	2.000×10^4	1.589×10^3	5.429×10^3
cloud optical thickness [1]	17.0 ± 28.7	12767624	10.7	9.26	1.000	250	5.44	16.1
cloud fraction crb [1]	0.637 ± 0.344	12767624	0.683	0.694	8.095×10^{-3}	1.000	0.316	1.000
cloud height crb [m]	$(0.288 \pm 0.233) \times 10^4$	12767624	3.595×10^3	2.391×10^3	0.0	2.000×10^4	896	4.492×10^3
cloud albedo crb [1]	0.545 ± 0.212	12767624	0.268	0.541	0.0	1.000	0.423	0.691
surface albedo fitted [1]	0.254 ± 0.260	12767624	0.338	0.185	0.0	1.000	3.329×10^{-2}	0.372
surface albedo fitted crb [1]	0.256 ± 0.262	12767624	0.377	0.185	0.0	1.000	2.745×10^{-2}	0.404
fitted root mean square [1]	$(9.865 \pm 17.056) \times 10^{-4}$	12767624	1.192×10^{-3}	5.643×10^{-4}	2.030×10^{-6}	0.660	1.372×10^{-4}	1.329×10^{-3}
fitted root mean square crb [1]	$(8.399 \pm 12.891) \times 10^{-4}$	12767624	1.105×10^{-3}	4.784×10^{-4}	1.343×10^{-6}	0.807	9.669×10^{-5}	1.202×10^{-3}
wavelength shift [nm]	$(7.771 \pm 6.739) \times 10^{-3}$	12767624	9.869×10^{-3}	7.529×10^{-3}	-7.449×10^{-2}	0.469	2.477×10^{-3}	1.235×10^{-2}
cloud fraction apriori [1]	0.648 ± 0.347	12767624	0.676	0.724	0.0	1.000	0.324	1.000
reflectance blue ocr [1]	0.538 ± 0.206	12767624	0.348	0.525	0.134	1.79	0.354	0.702
reflectance green ocr [1]	0.493 ± 0.232	12767624	0.406	0.483	7.967×10^{-2}	1.70	0.277	0.683
reflectance continuum aband [1]	0.464 ± 0.250	12767624	0.393	0.452	9.960×10^{-3}	6.73	0.269	0.661

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]	0.620 ± 0.387	5964446	0.700	0.830	0.0	1.000	0.300	1.000
cloud fraction [1]	0.503 ± 0.331	5964446	0.618	0.457	7.563×10^{-3}	1.000	0.197	0.815
cloud top height [m]	$(0.382 \pm 0.241) \times 10^4$	5964446	3.331×10^3	3.240×10^3	0.0	2.000×10^4	1.850×10^3	5.181×10^3
cloud optical thickness [1]	26.6 ± 42.5	5964446	16.8	11.7	1.000	250	7.07	23.9
cloud fraction crb [1]	0.500 ± 0.330	5964446	0.616	0.453	8.455×10^{-3}	1.000	0.195	0.811
cloud height crb [m]	$(0.311 \pm 0.214) \times 10^4$	5964446	2.962×10^3	2.632×10^3	0.0	1.502×10^4	1.351×10^3	4.312×10^3
cloud albedo crb [1]	0.575 ± 0.165	5964446	0.196	0.560	0.0	1.000	0.475	0.671
surface albedo fitted [1]	$(6.128 \pm 7.517) \times 10^{-2}$	5964446	3.782×10^{-2}	3.694×10^{-2}	0.0	1.000	2.286×10^{-2}	6.068×10^{-2}
surface albedo fitted crb [1]	$(4.991 \pm 7.536) \times 10^{-2}$	5964446	2.683×10^{-2}	2.441×10^{-2}	0.0	1.000	1.472×10^{-2}	4.155×10^{-2}
fitted root mean square [1]	$(3.296 \pm 4.818) \times 10^{-4}$	5964446	3.220×10^{-4}	1.631×10^{-4}	9.034×10^{-7}	3.293×10^{-2}	6.088×10^{-5}	3.829×10^{-4}
fitted root mean square crb [1]	$(2.846 \pm 4.599) \times 10^{-4}$	5964446	2.929×10^{-4}	9.705×10^{-5}	8.877×10^{-7}	2.171×10^{-2}	3.553×10^{-5}	3.285×10^{-4}
wavelength shift [nm]	$(4.835 \pm 6.254) \times 10^{-3}$	5964446	7.667×10^{-3}	3.445×10^{-3}	-4.441×10^{-2}	5.963×10^{-2}	5.566×10^{-4}	8.223×10^{-3}
cloud fraction apriori [1]	0.502 ± 0.338	5964446	0.639	0.453	0.0	1.000	0.185	0.824
reflectance blue ocra [1]	0.490 ± 0.173	5964446	0.238	0.459	0.168	1.91	0.355	0.593
reflectance green ocra [1]	0.418 ± 0.197	5964446	0.288	0.382	9.399×10^{-2}	2.18	0.257	0.545
reflectance continuum aband [1]	0.344 ± 0.238	5964446	0.356	0.307	1.348×10^{-2}	5.90	0.143	0.499

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]	0.613 ± 0.364	12518476	0.620	0.770	0.0	1.000	0.300	0.920
cloud fraction [1]	0.566 ± 0.343	12518476	0.718	0.558	7.563×10^{-3}	1.000	0.239	0.957
cloud top height [m]	$(0.361 \pm 0.260) \times 10^4$	12518476	3.545×10^3	2.967×10^3	0.0	2.000×10^4	1.554×10^3	5.099×10^3
cloud optical thickness [1]	21.7 ± 36.2	12518476	12.9	10.6	1.000	250	6.65	19.5
cloud fraction crb [1]	0.565 ± 0.343	12518476	0.718	0.555	8.455×10^{-3}	1.000	0.238	0.955
cloud height crb [m]	$(0.282 \pm 0.232) \times 10^4$	12518476	3.221×10^3	2.242×10^3	0.0	1.856×10^4	960	4.181×10^3
cloud albedo crb [1]	0.560 ± 0.184	12518476	0.227	0.548	0.0	1.000	0.451	0.678
surface albedo fitted [1]	0.134 ± 0.228	12518476	4.502×10^{-2}	3.591×10^{-2}	0.0	1.000	2.166×10^{-2}	6.668×10^{-2}
surface albedo fitted crb [1]	0.128 ± 0.230	12518476	3.464×10^{-2}	2.640×10^{-2}	0.0	1.000	1.552×10^{-2}	5.016×10^{-2}
fitted root mean square [1]	$(6.242 \pm 13.781) \times 10^{-4}$	12518476	6.927×10^{-4}	2.349×10^{-4}	9.034×10^{-7}	0.439	7.992×10^{-5}	7.726×10^{-4}
fitted root mean square crb [1]	$(5.235 \pm 10.241) \times 10^{-4}$	12518476	6.321×10^{-4}	1.785×10^{-4}	8.877×10^{-7}	0.610	5.182×10^{-5}	6.839×10^{-4}
wavelength shift [nm]	$(6.600 \pm 6.796) \times 10^{-3}$	12518476	9.637×10^{-3}	5.697×10^{-3}	-4.720×10^{-2}	0.469	1.416×10^{-3}	1.105×10^{-2}
cloud fraction apriori [1]	0.571 ± 0.348	12518476	0.761	0.571	0.0	1.000	0.235	0.996
reflectance blue ocrs [1]	0.523 ± 0.192	12518476	0.302	0.501	0.154	1.91	0.361	0.663
reflectance green ocrs [1]	0.466 ± 0.220	12518476	0.367	0.444	9.241×10^{-2}	1.89	0.269	0.635
reflectance continuum aband [1]	0.393 ± 0.258	12518476	0.436	0.373	9.960×10^{-3}	5.90	0.158	0.593

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]	0.625 ± 0.378	3680720	0.700	0.790	0.0	1.000	0.250	0.950
cloud fraction [1]	0.630 ± 0.350	3680720	0.700	0.684	7.916×10^{-3}	1.000	0.300	1.000
cloud top height [m]	$(0.423 \pm 0.246) \times 10^4$	3680720	3.558×10^3	3.867×10^3	0.0	2.000×10^4	2.297×10^3	5.856×10^3
cloud optical thickness [1]	16.5 ± 27.9	3680720	10.1	8.51	1.000	250	5.26	15.3
cloud fraction crb [1]	0.630 ± 0.350	3680720	0.701	0.683	8.095×10^{-3}	1.000	0.299	1.000
cloud height crb [m]	$(0.335 \pm 0.218) \times 10^4$	3680720	3.365×10^3	2.898×10^3	0.0	2.000×10^4	1.587×10^3	4.952×10^3
cloud albedo crb [1]	0.570 ± 0.221	3680720	0.285	0.572	0.0	1.000	0.443	0.728
surface albedo fitted [1]	0.342 ± 0.224	3680720	0.136	0.259	1.525×10^{-3}	1.000	0.207	0.343
surface albedo fitted crb [1]	0.341 ± 0.221	3680720	0.145	0.256	8.056×10^{-3}	1.000	0.204	0.349
fitted root mean square [1]	$(1.154 \pm 1.540) \times 10^{-3}$	3680720	1.308×10^{-3}	7.796×10^{-4}	2.434×10^{-6}	0.660	3.158×10^{-4}	1.623×10^{-3}
fitted root mean square crb [1]	$(1.069 \pm 1.279) \times 10^{-3}$	3680720	1.298×10^{-3}	7.414×10^{-4}	1.347×10^{-6}	0.511	2.530×10^{-4}	1.551×10^{-3}
wavelength shift [nm]	$(7.431 \pm 6.366) \times 10^{-3}$	3680720	9.371×10^{-3}	7.282×10^{-3}	-4.441×10^{-2}	0.109	2.349×10^{-3}	1.172×10^{-2}
cloud fraction apriori [1]	0.643 ± 0.356	3680720	0.701	0.725	0.0	1.000	0.299	1.000
reflectance blue ocra [1]	0.526 ± 0.221	3680720	0.376	0.486	0.134	1.75	0.331	0.707
reflectance green ocra [1]	0.482 ± 0.247	3680720	0.428	0.435	7.967×10^{-2}	2.18	0.258	0.686
reflectance continuum aband [1]	0.512 ± 0.231	3680720	0.371	0.460	1.763×10^{-2}	6.73	0.321	0.692

3 Granule outlines

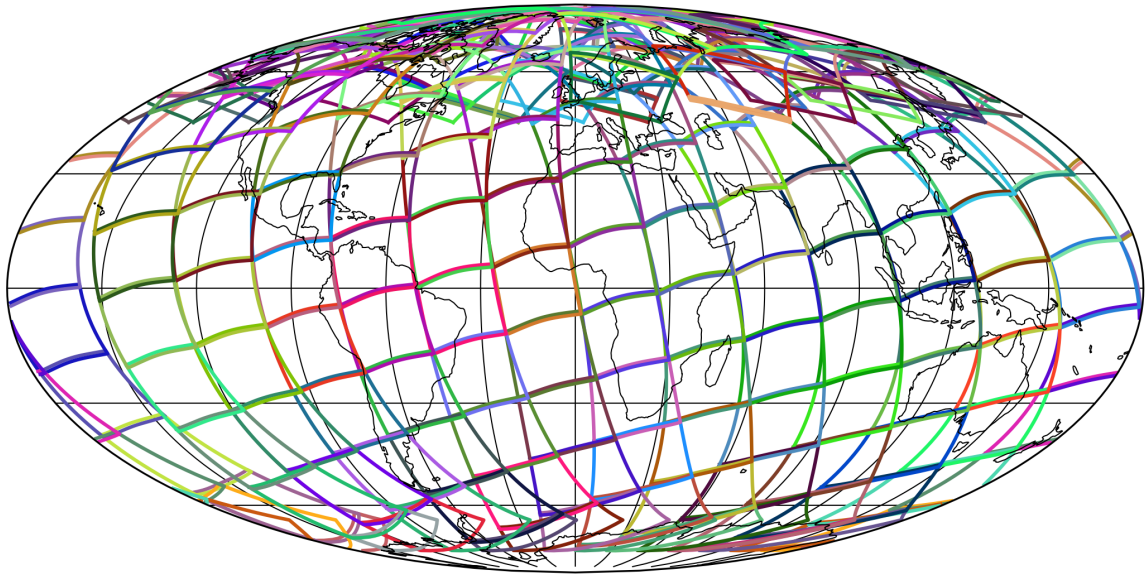


Figure 1: Outline of the granules.

4 Input data monitoring

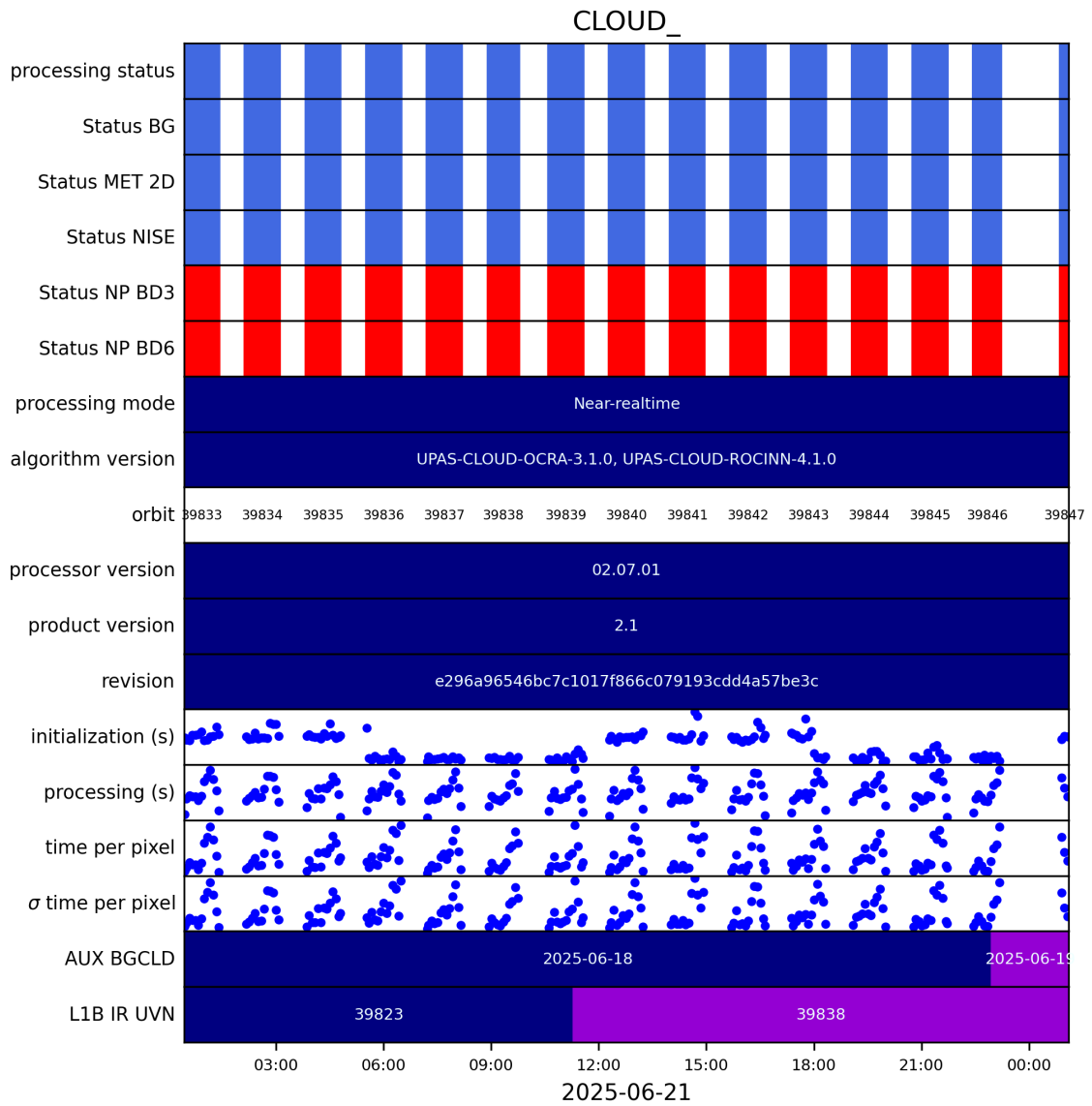


Figure 2: Input data per granule

5 Warnings and errors

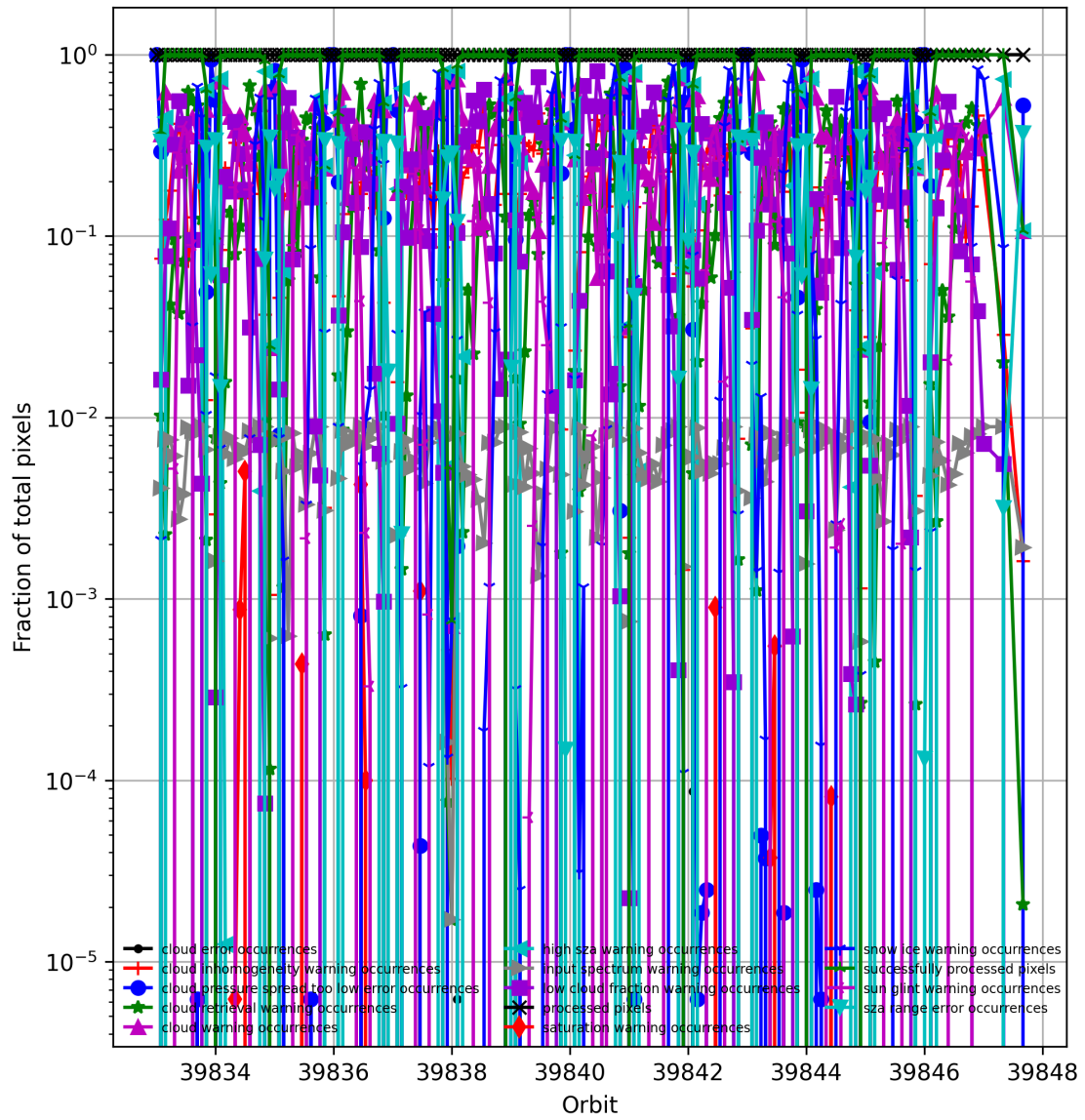


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

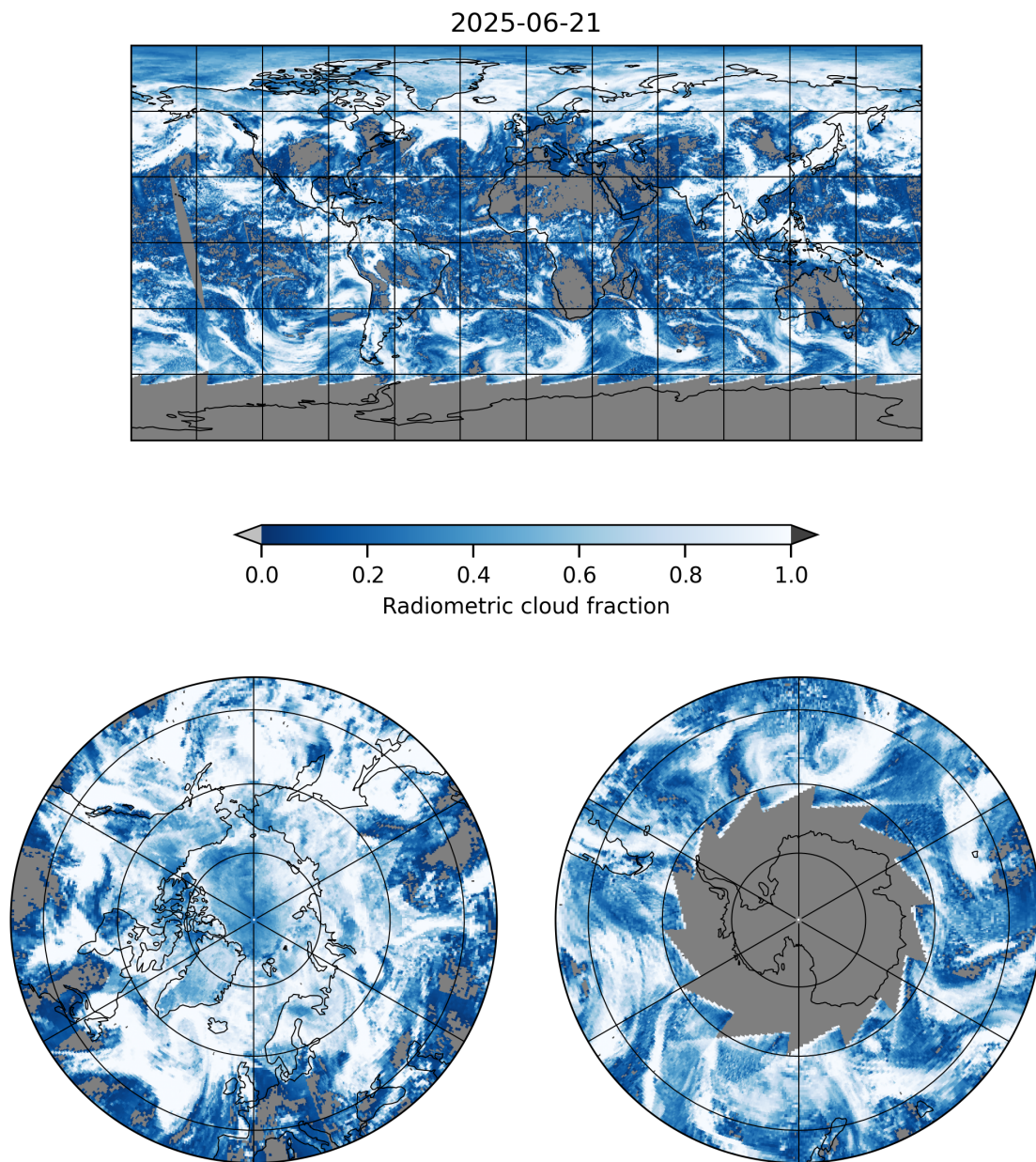


Figure 4: Map of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22

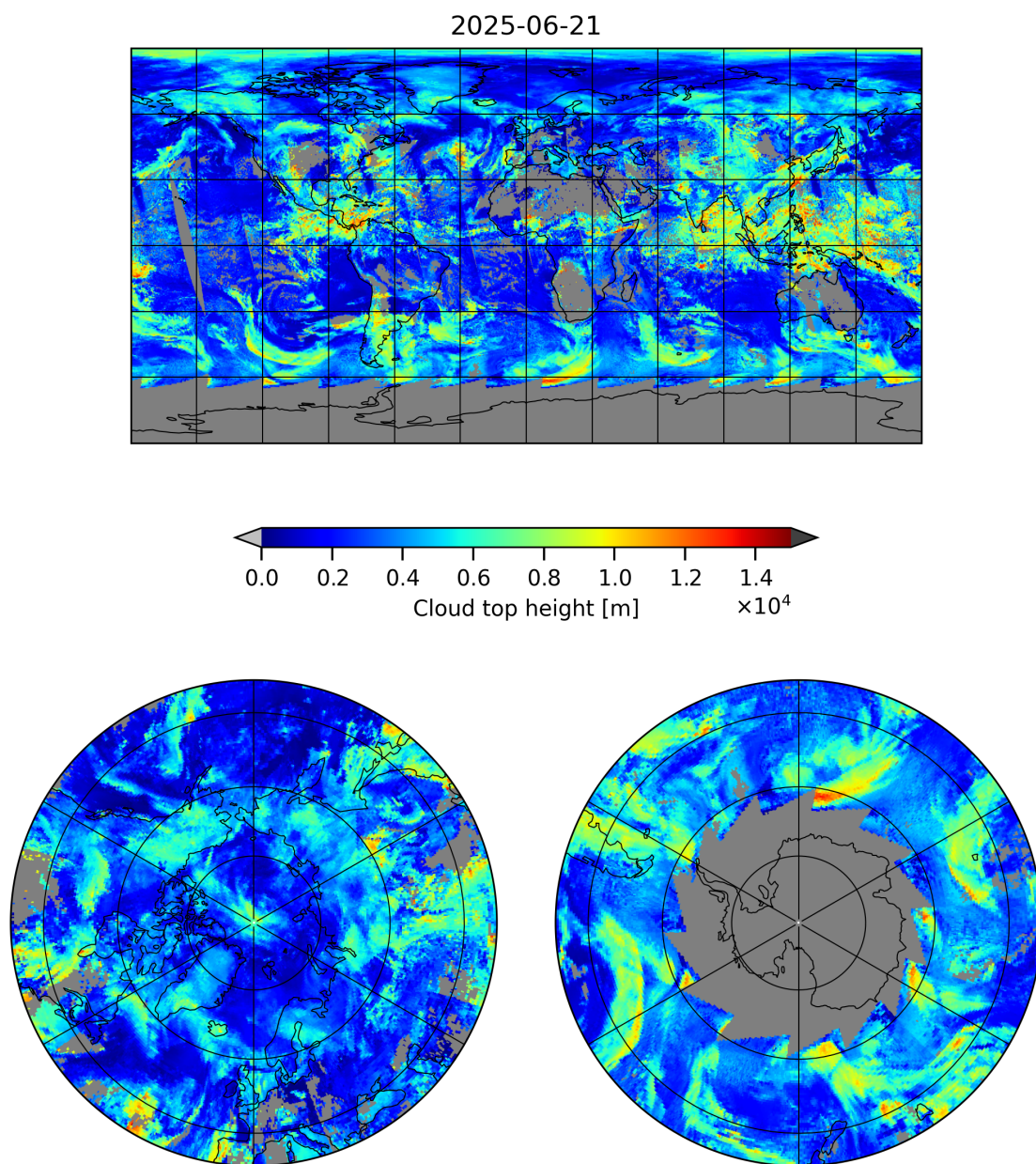


Figure 5: Map of “Cloud top height” for 2025-06-21 to 2025-06-22

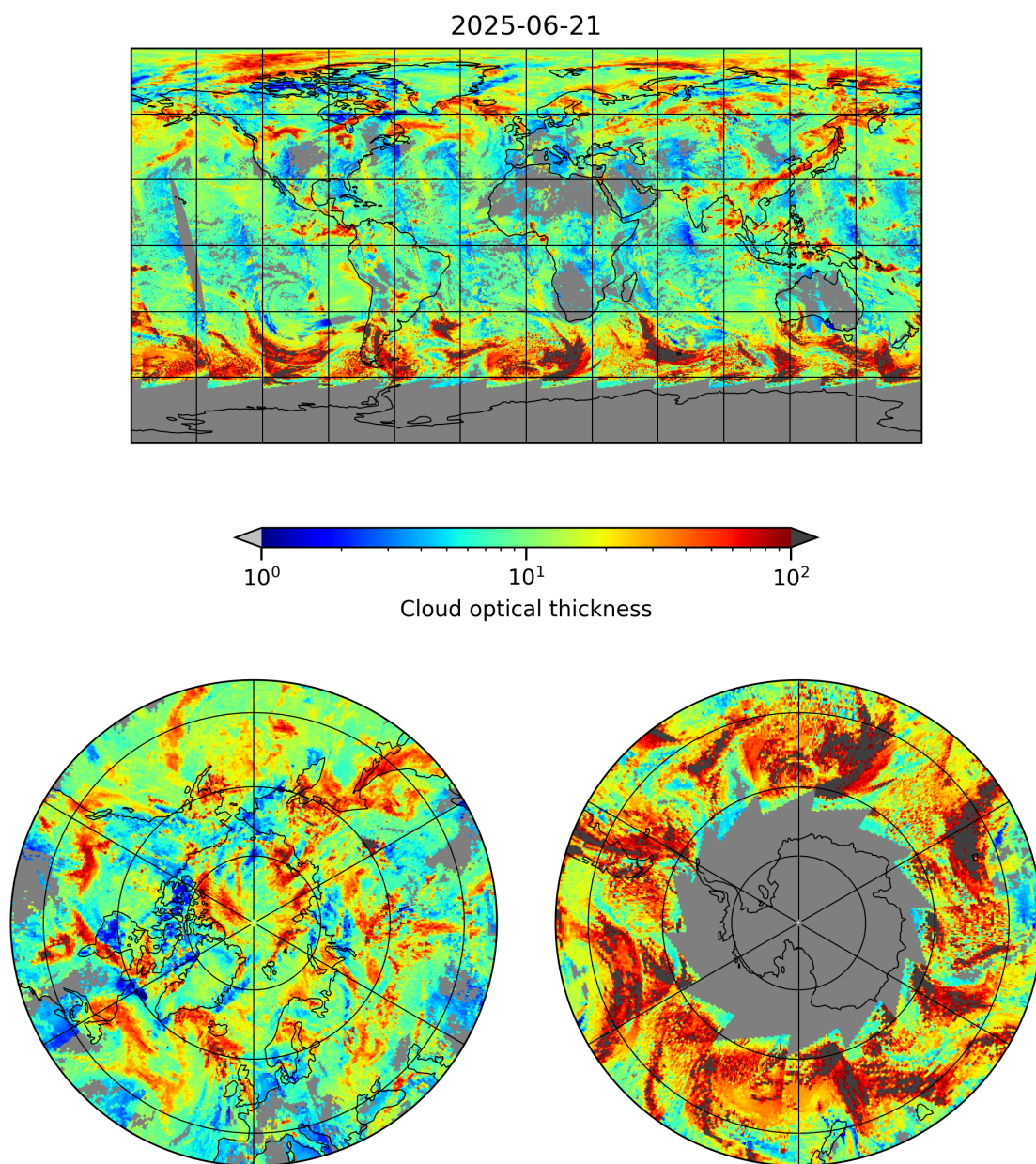


Figure 6: Map of “Cloud optical thickness” for 2025-06-21 to 2025-06-22

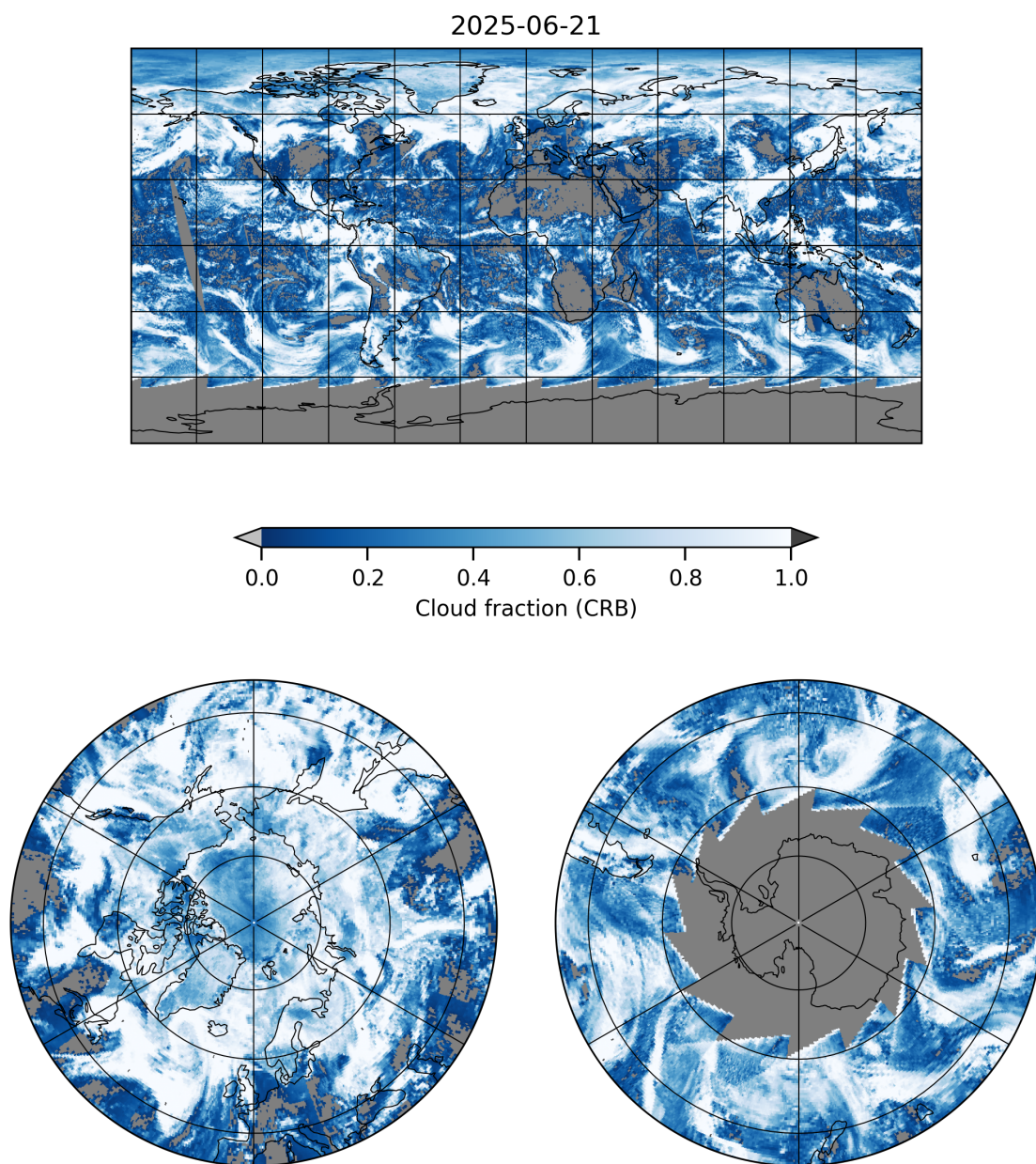


Figure 7: Map of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22

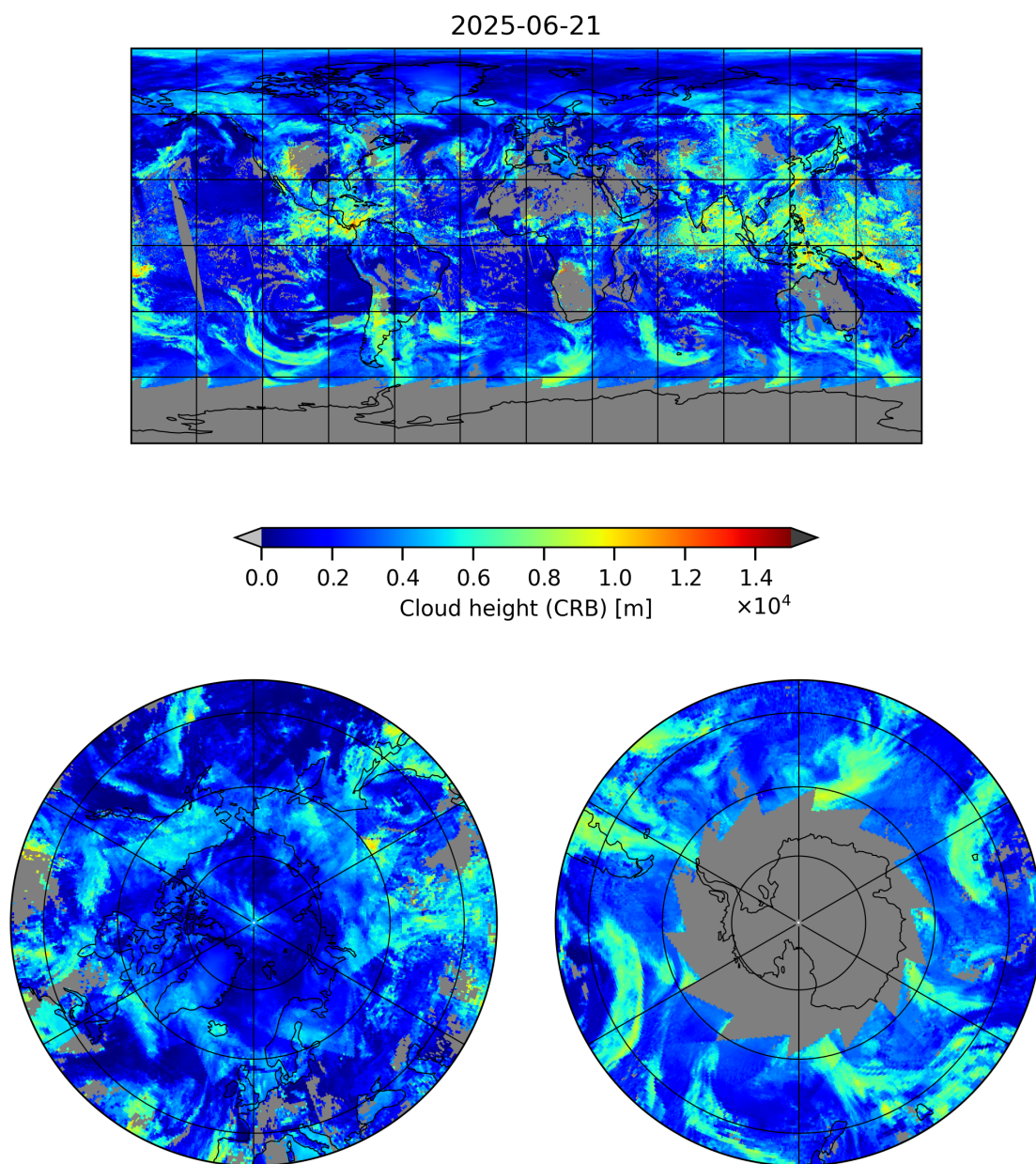


Figure 8: Map of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22

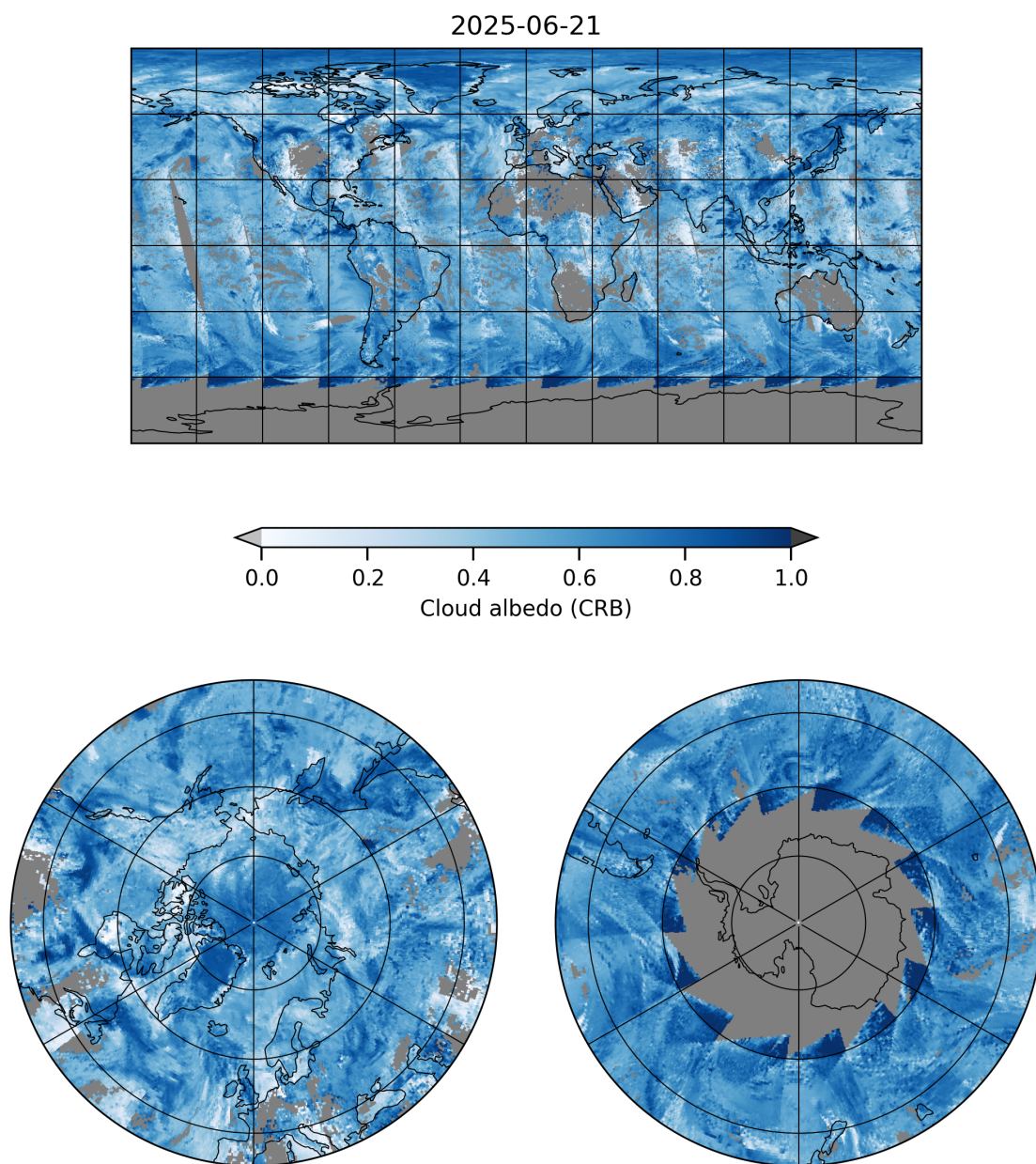


Figure 9: Map of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22

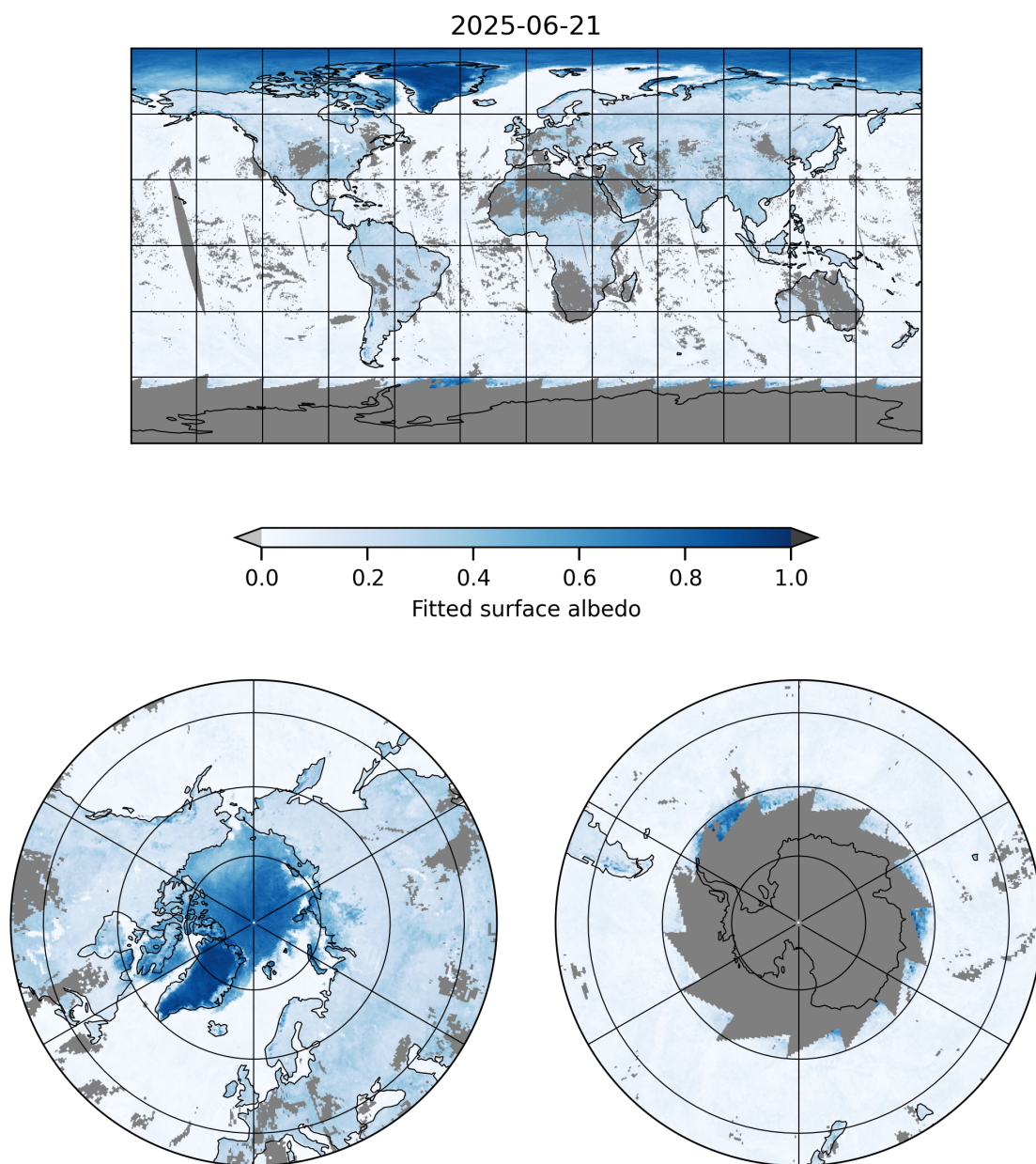


Figure 10: Map of “Fitted surface albedo” for 2025-06-21 to 2025-06-22

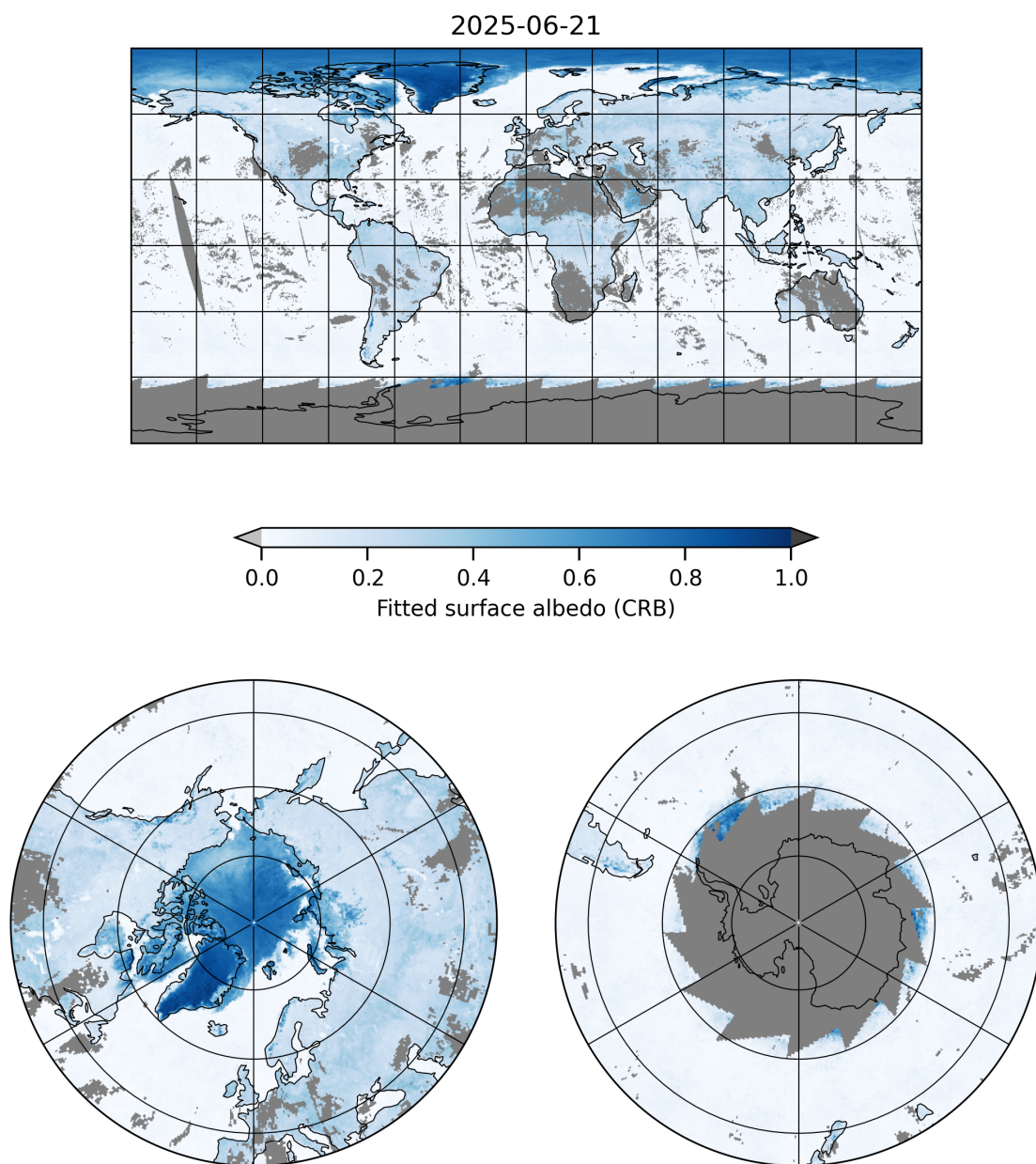


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22

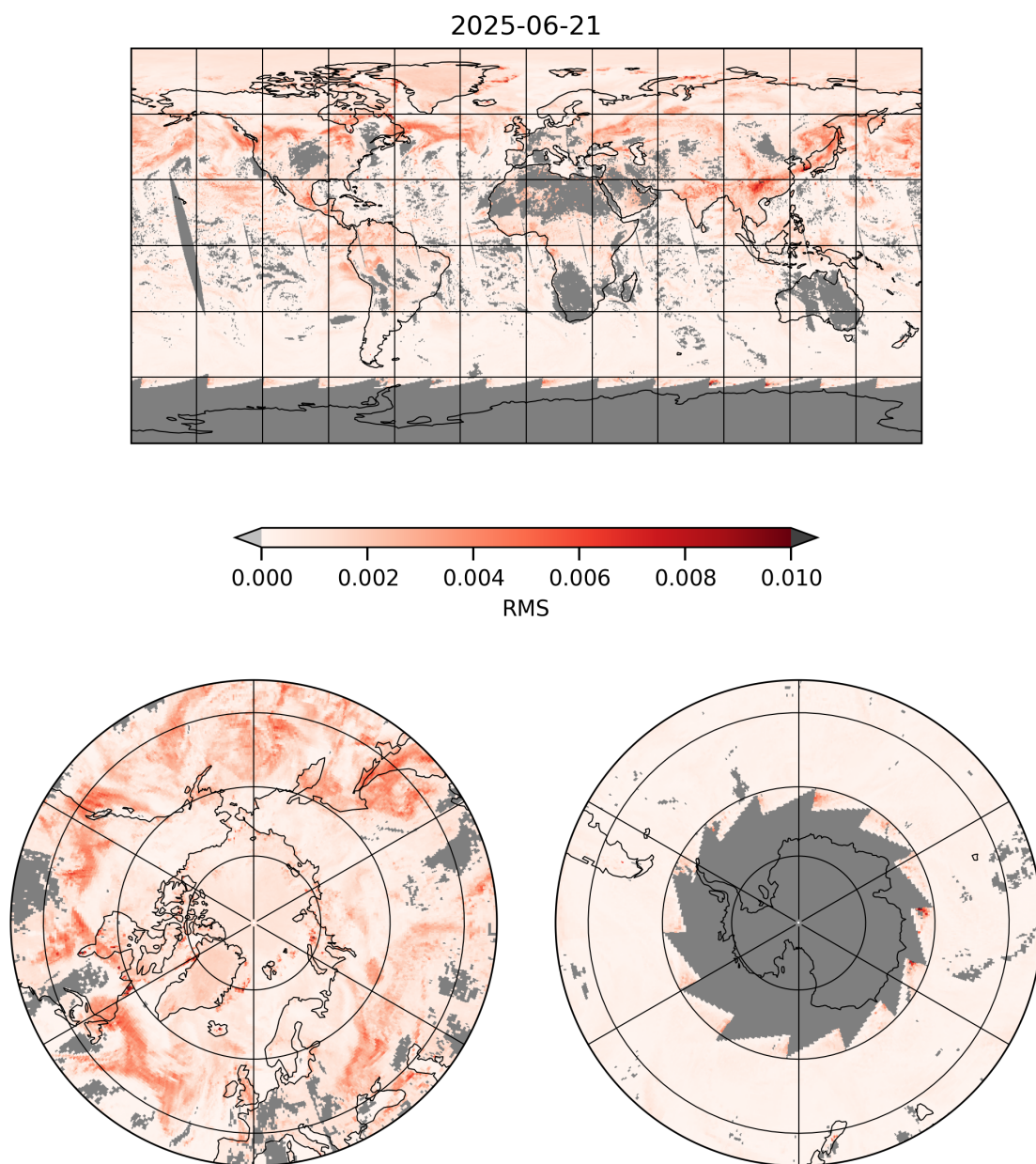


Figure 12: Map of “RMS” for 2025-06-21 to 2025-06-22

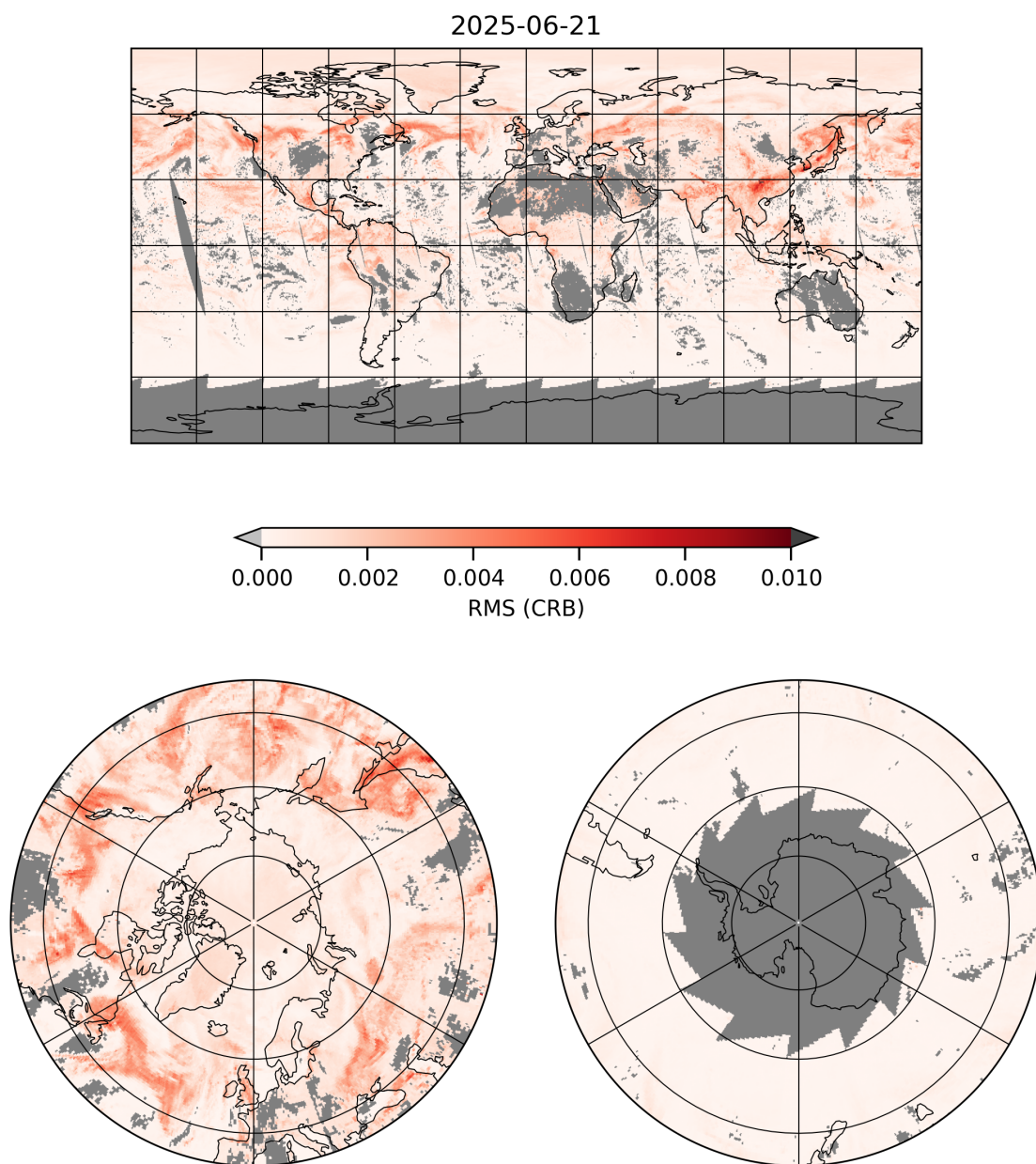


Figure 13: Map of “RMS (CRB)” for 2025-06-21 to 2025-06-22

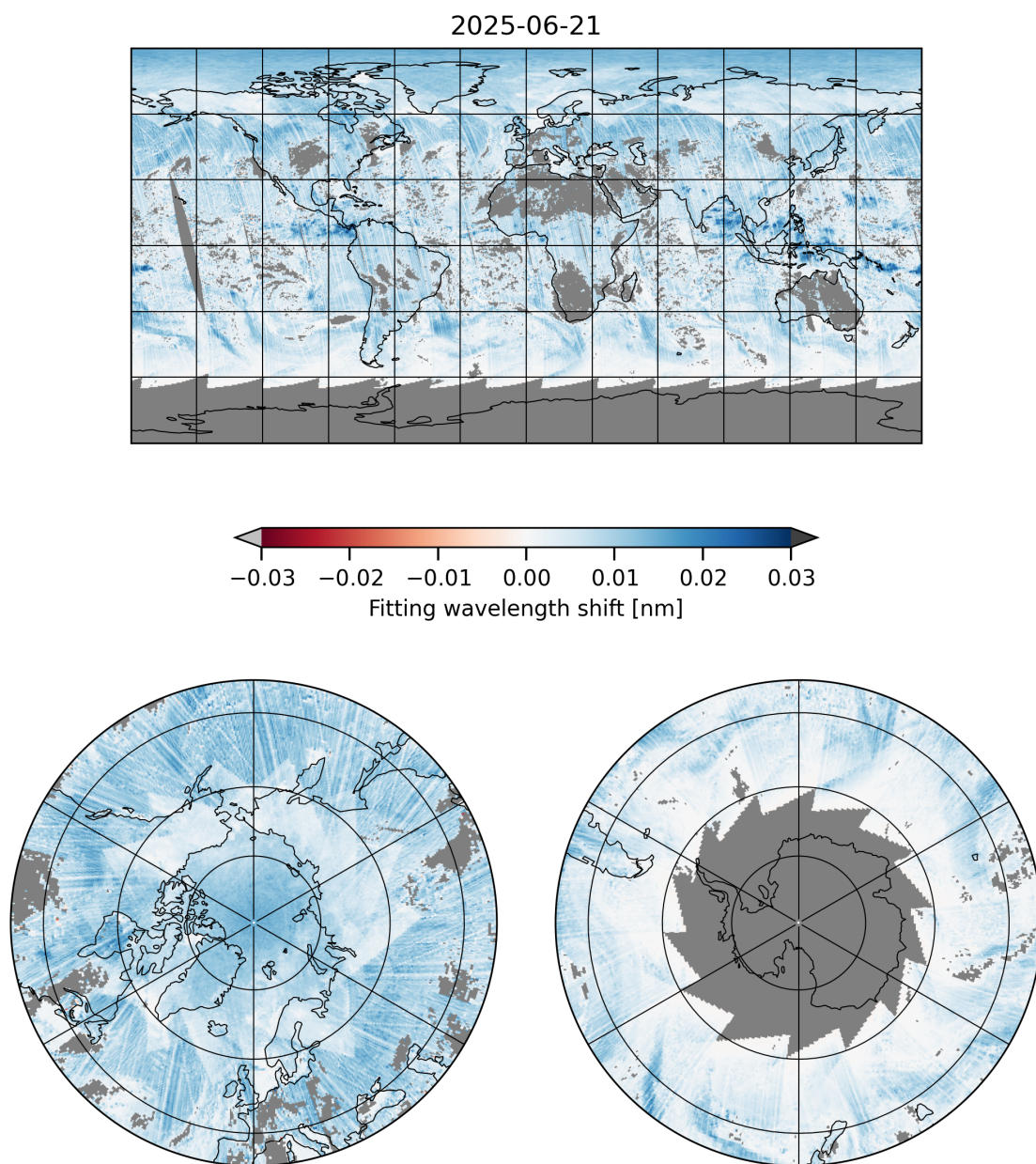


Figure 14: Map of "Fitting wavelength shift" for 2025-06-21 to 2025-06-22

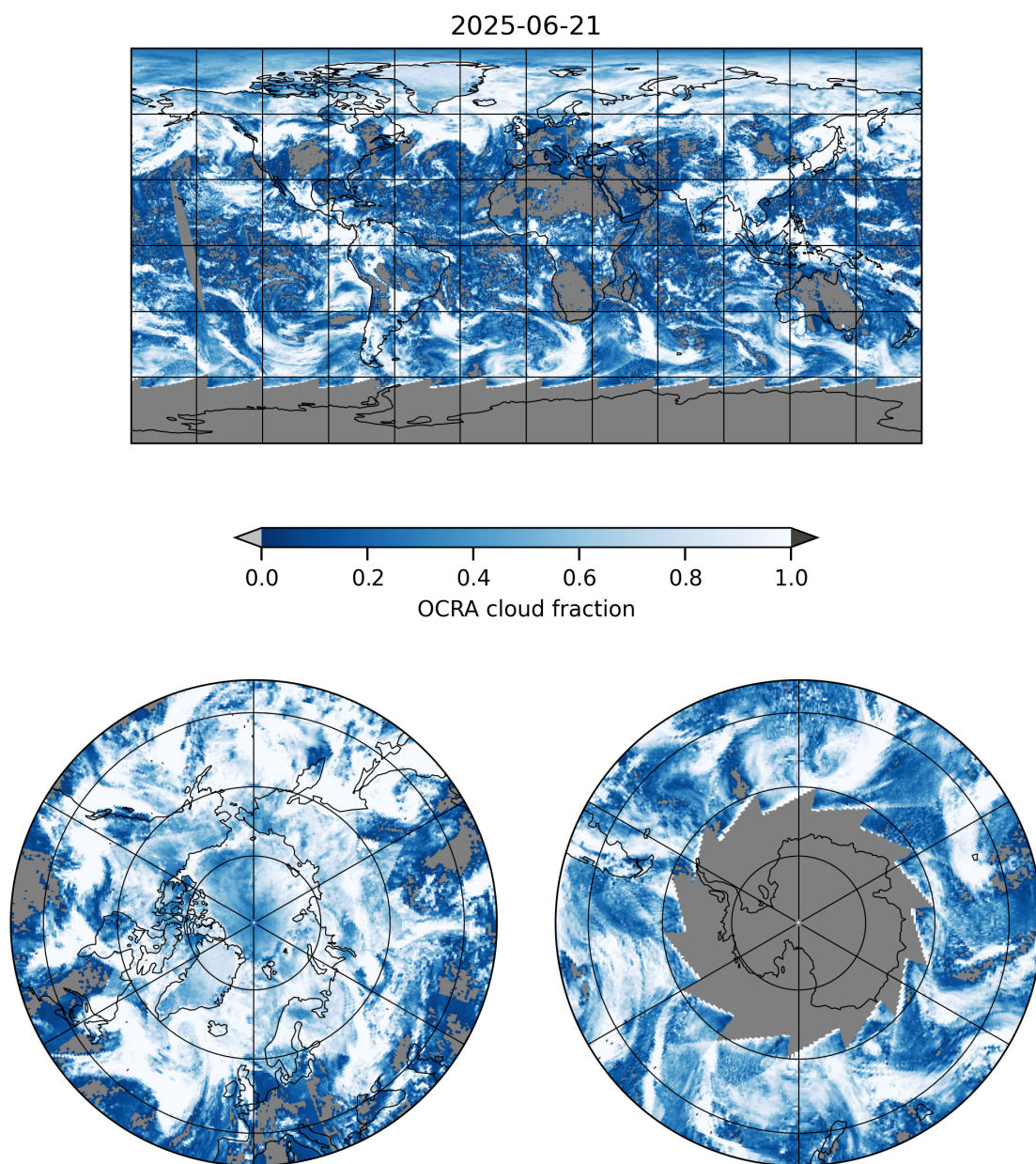


Figure 15: Map of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22

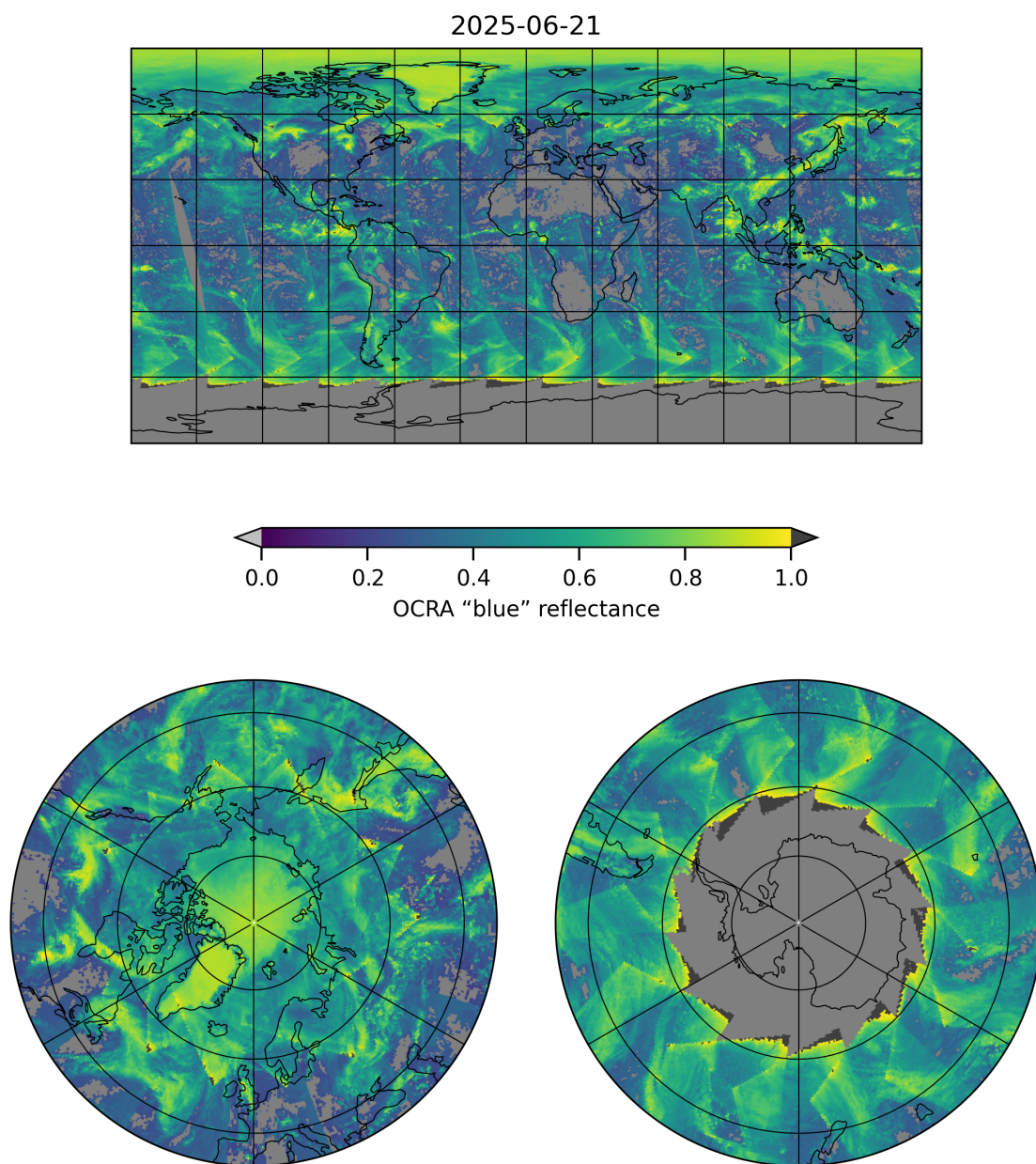


Figure 16: Map of "OCRA "blue" reflectance" for 2025-06-21 to 2025-06-22

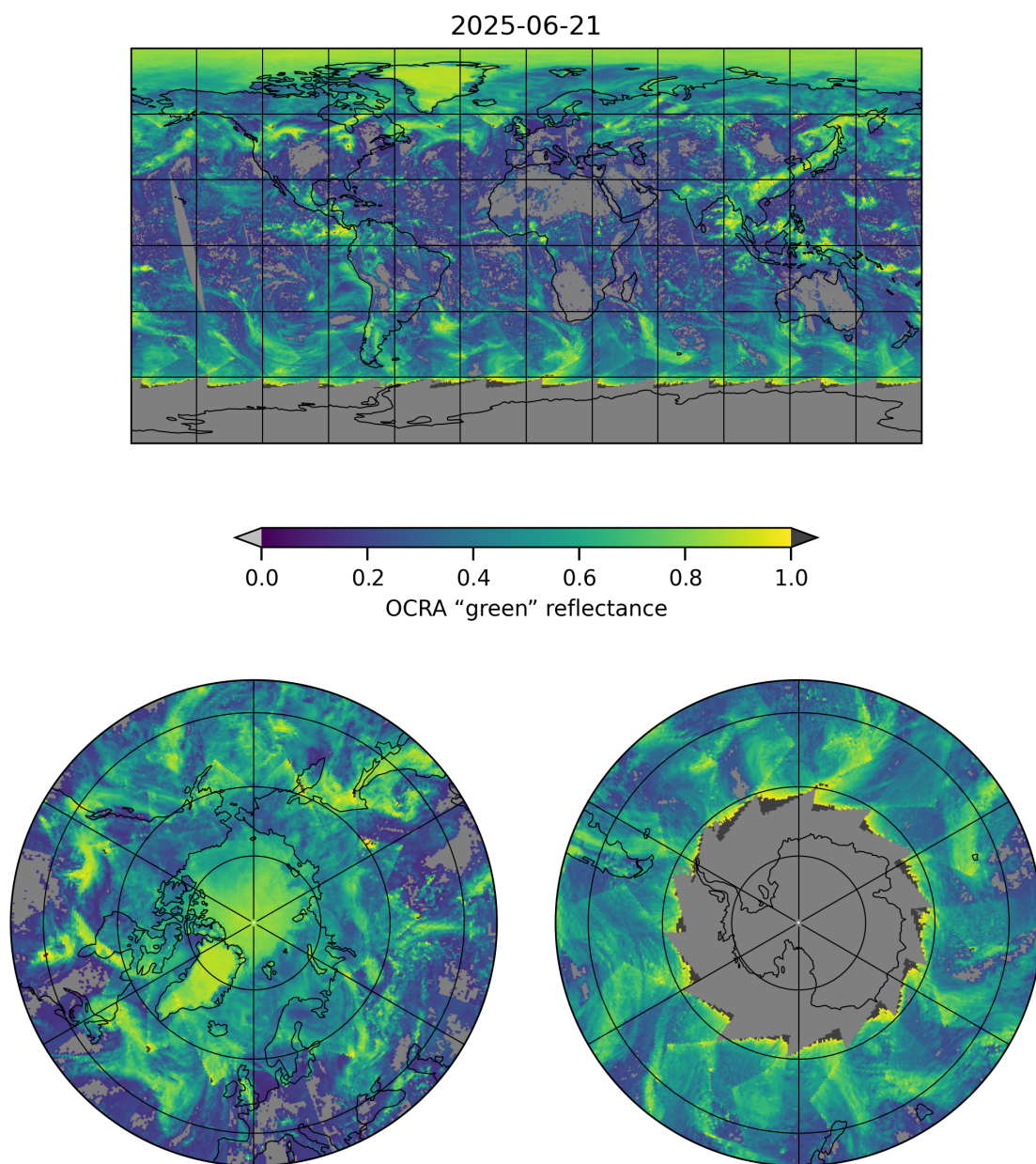


Figure 17: Map of "OCRA "green" reflectance" for 2025-06-21 to 2025-06-22

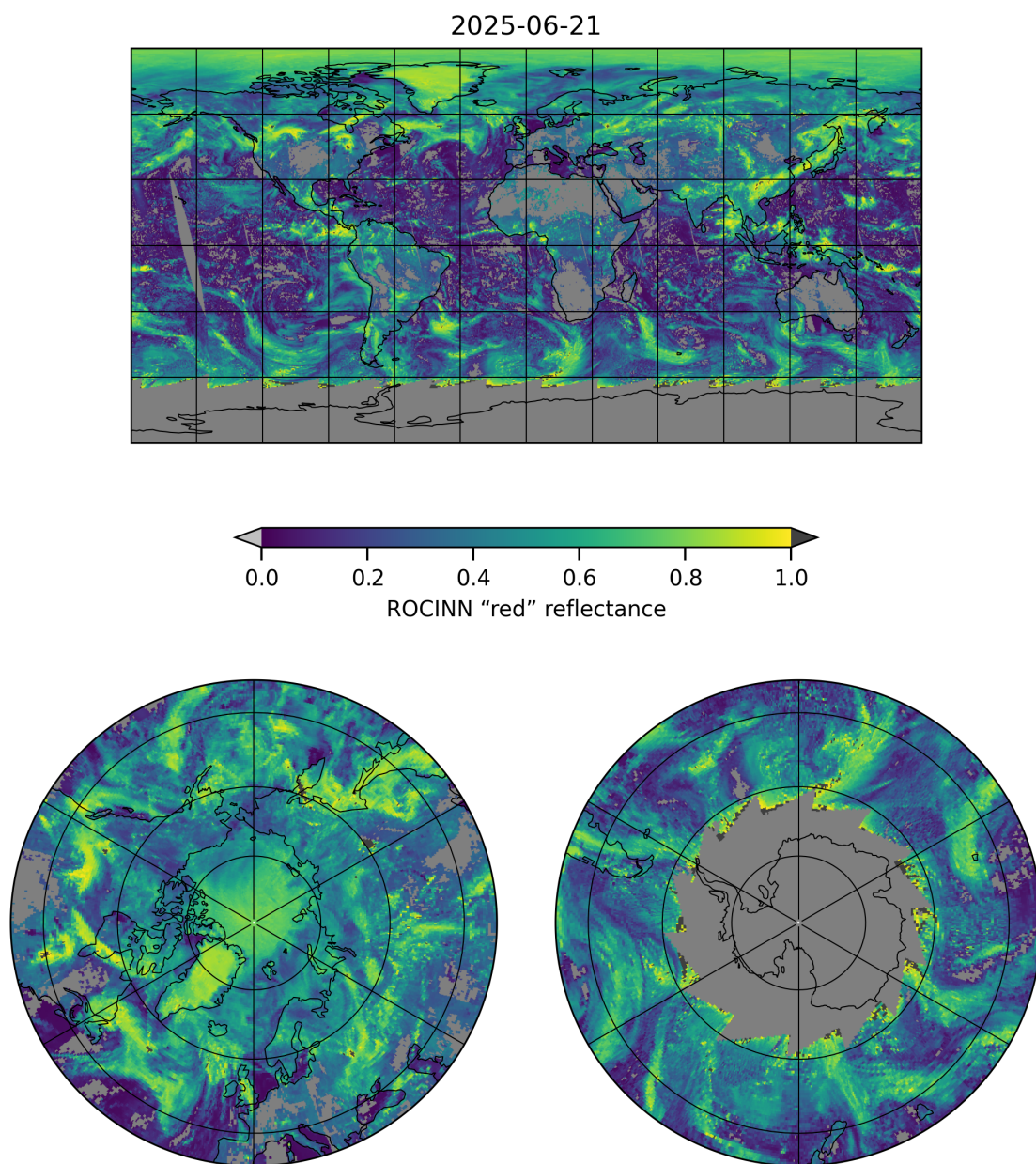


Figure 18: Map of "ROCINN "red" reflectance" for 2025-06-21 to 2025-06-22

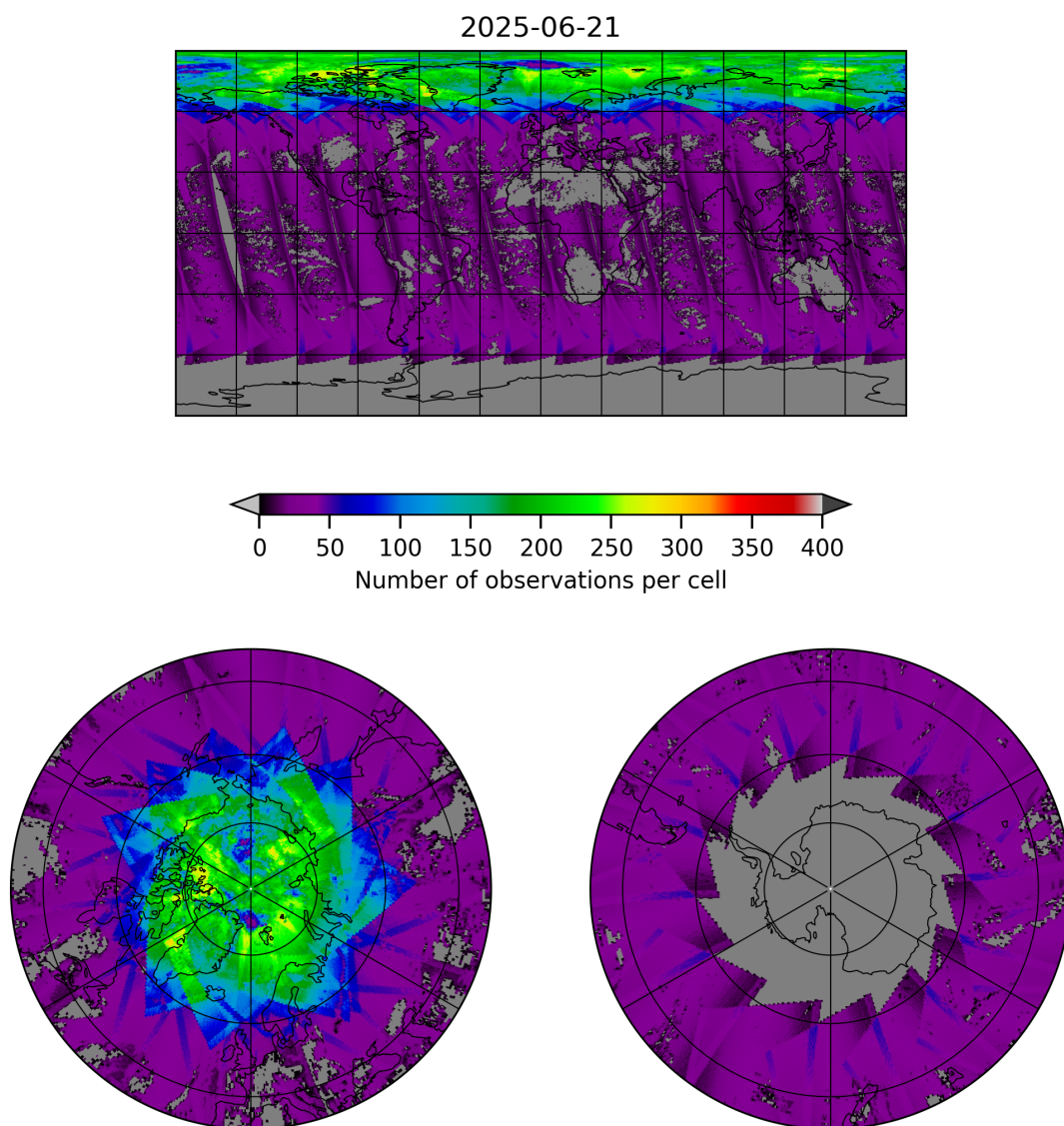


Figure 19: Map of the number of observations for 2025-06-21 to 2025-06-22

7 Zonal average

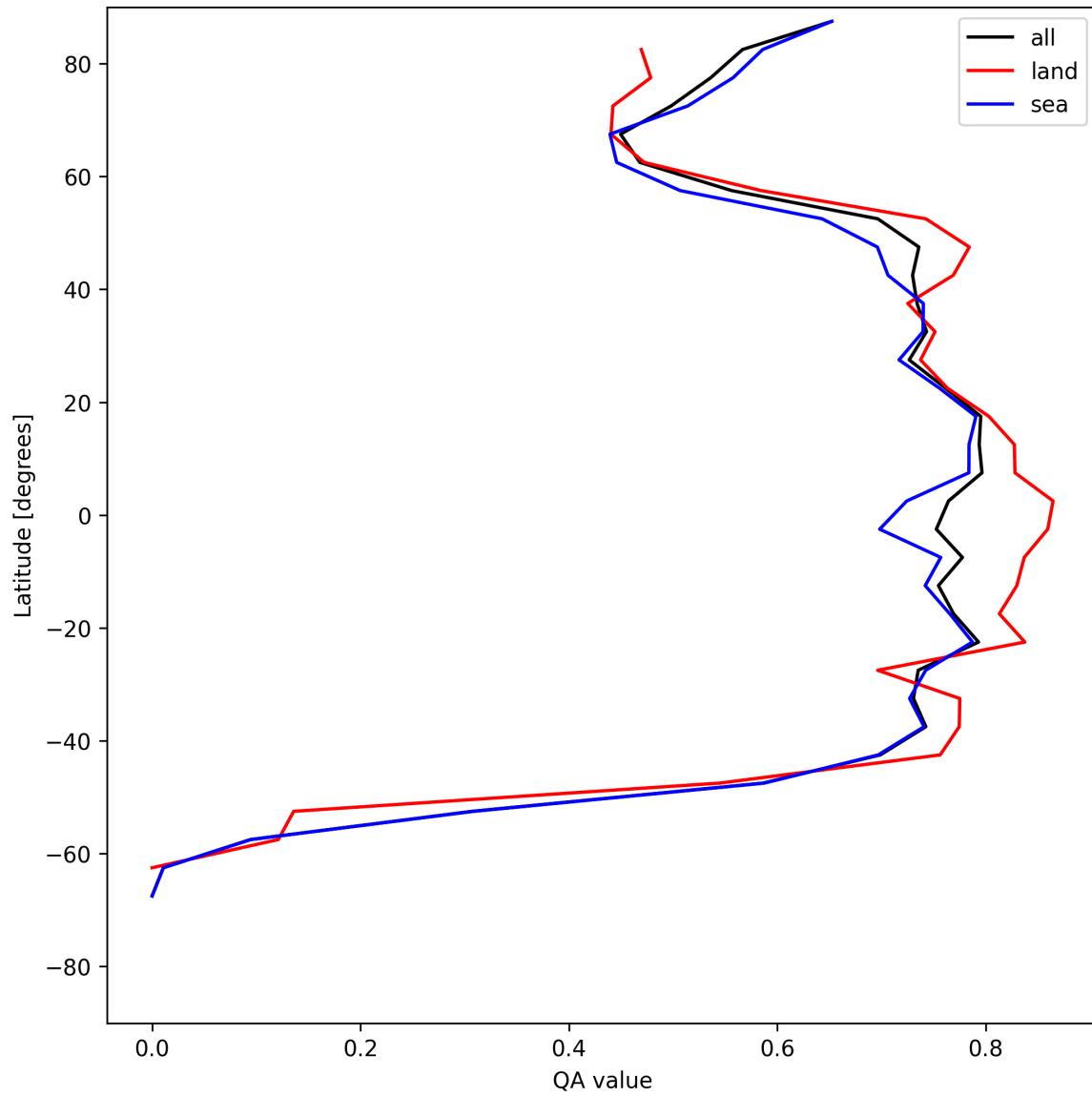


Figure 20: Zonal average of “QA value” for 2025-06-21 to 2025-06-22.

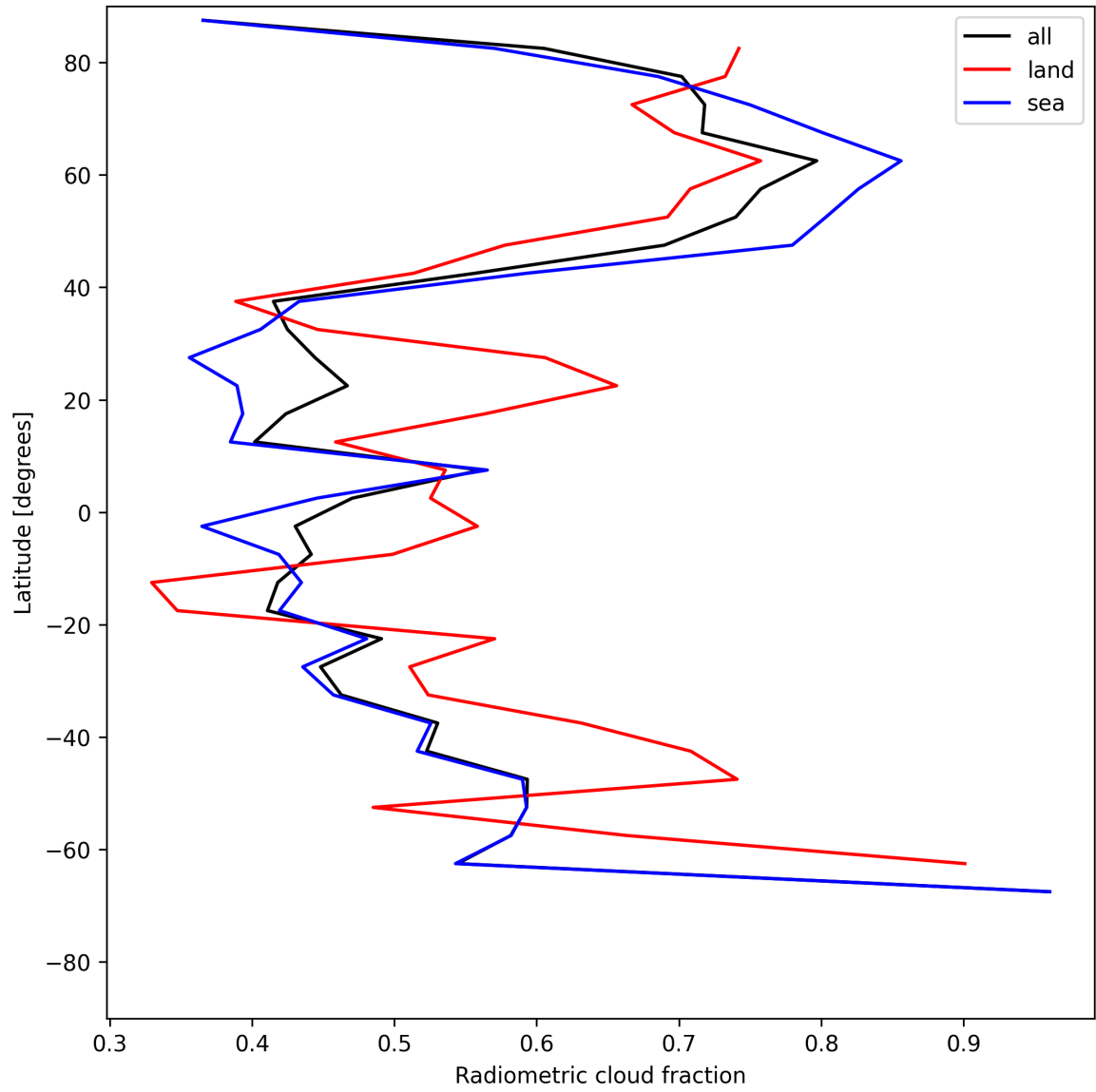


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22.

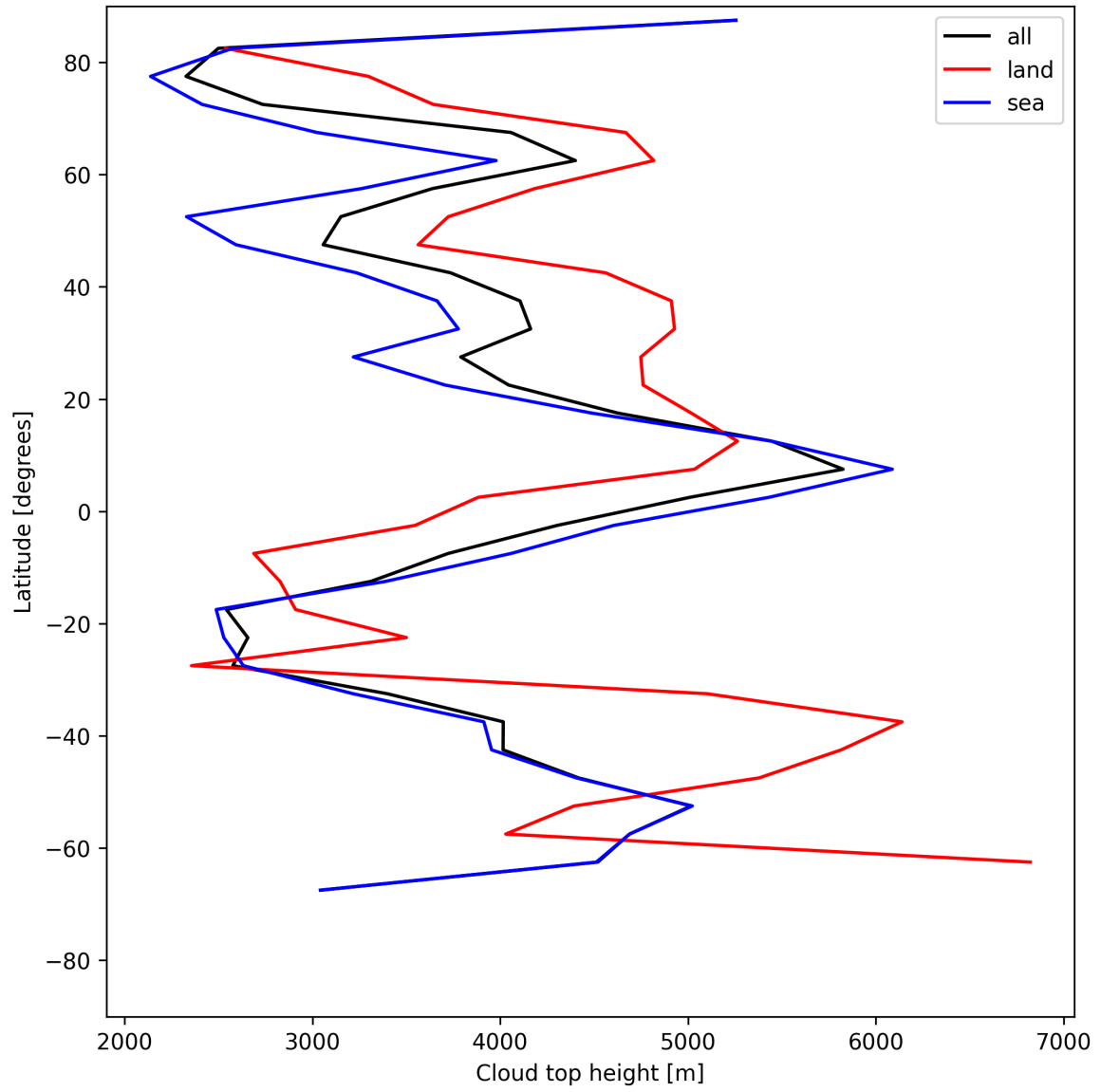


Figure 22: Zonal average of “Cloud top height” for 2025-06-21 to 2025-06-22.

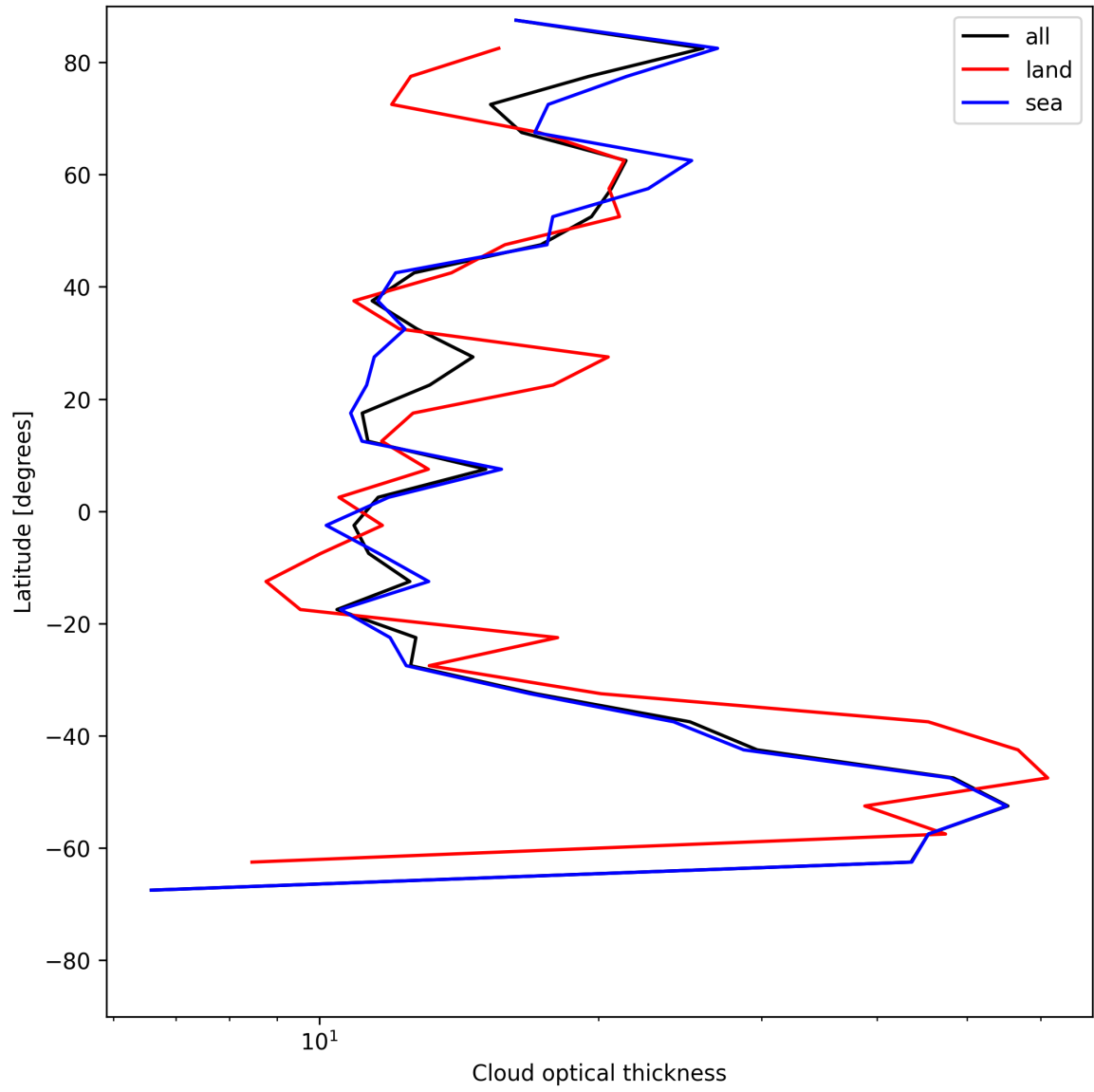


Figure 23: Zonal average of “Cloud optical thickness” for 2025-06-21 to 2025-06-22.

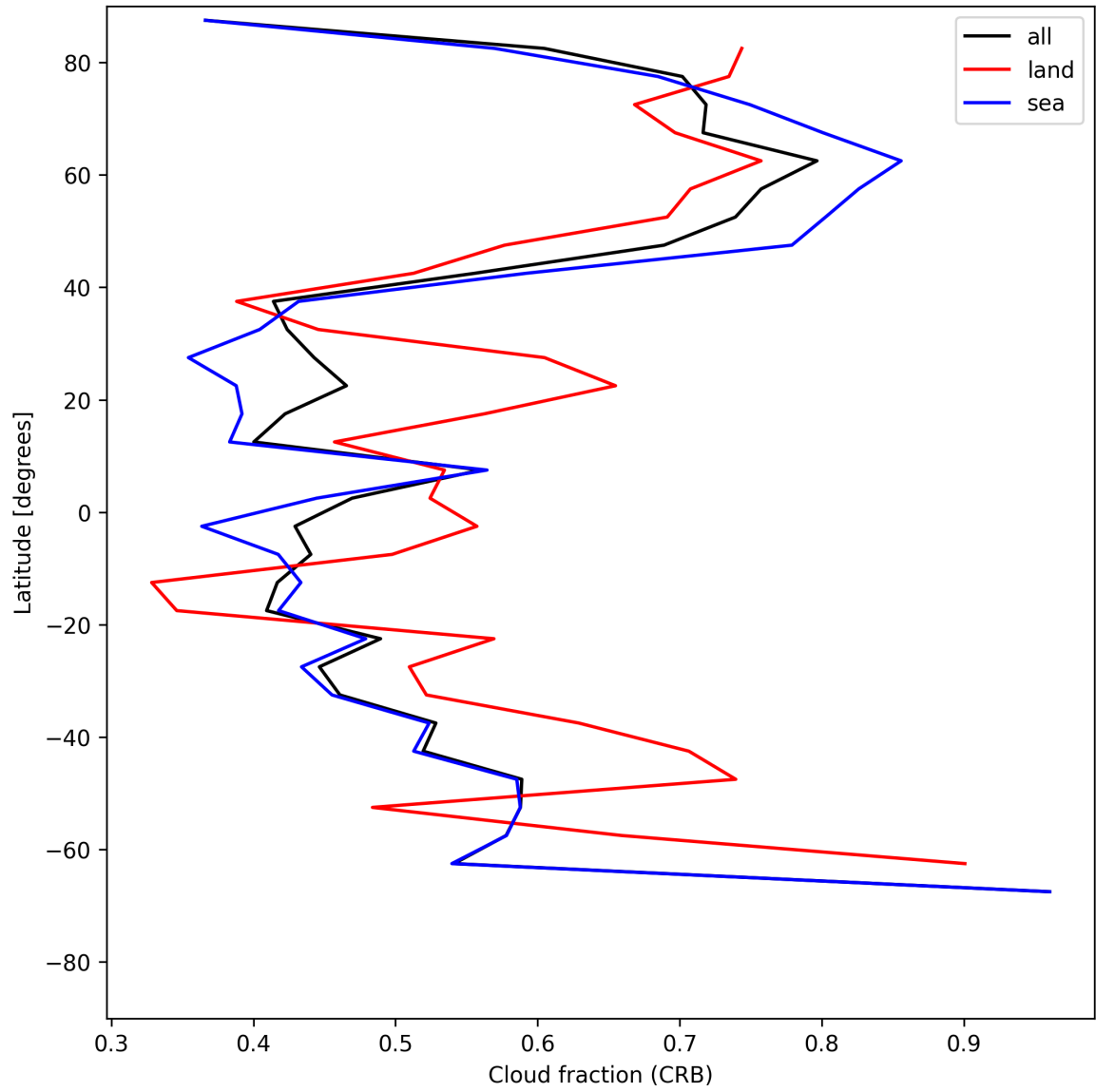


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22.

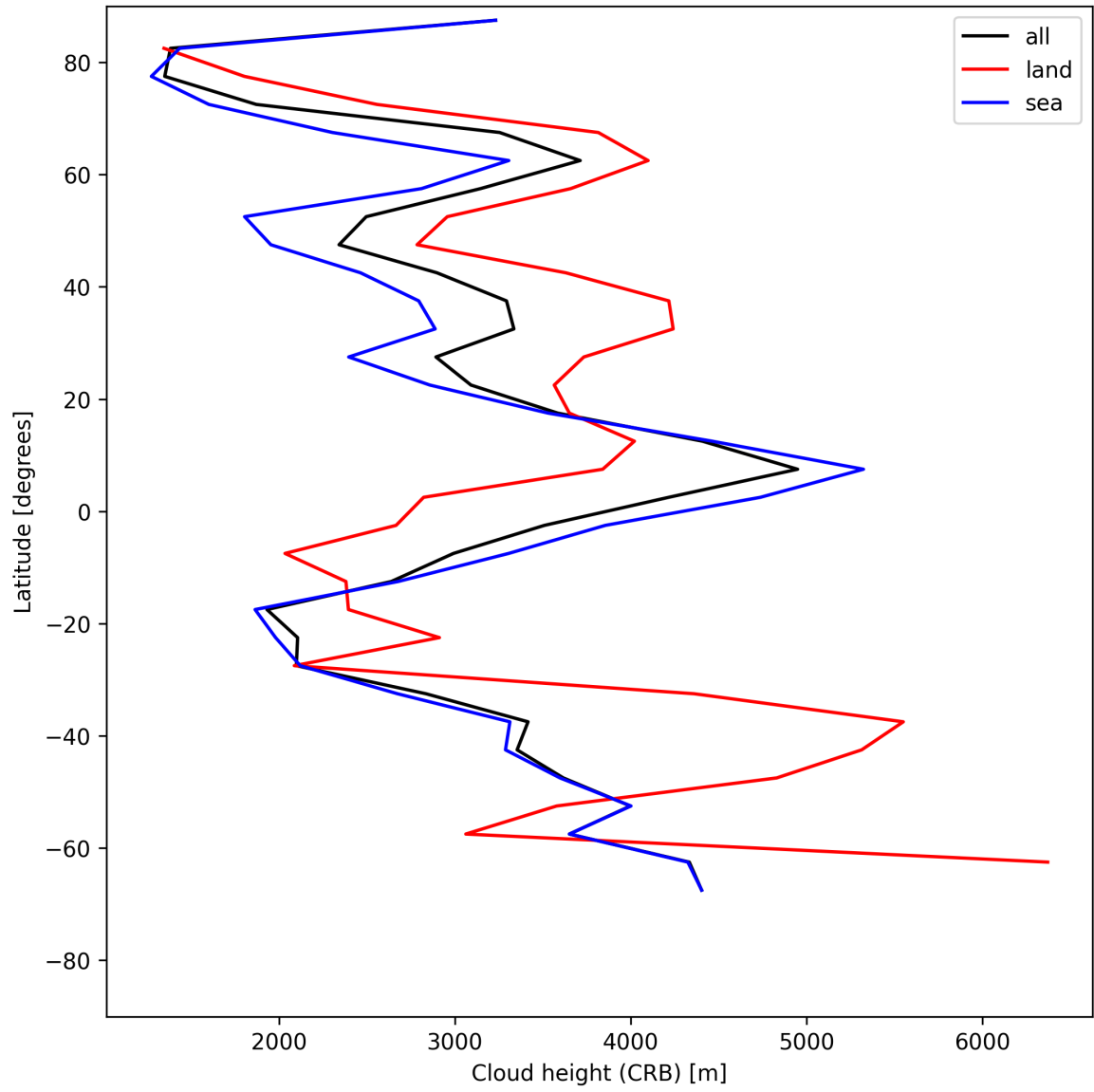


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22.

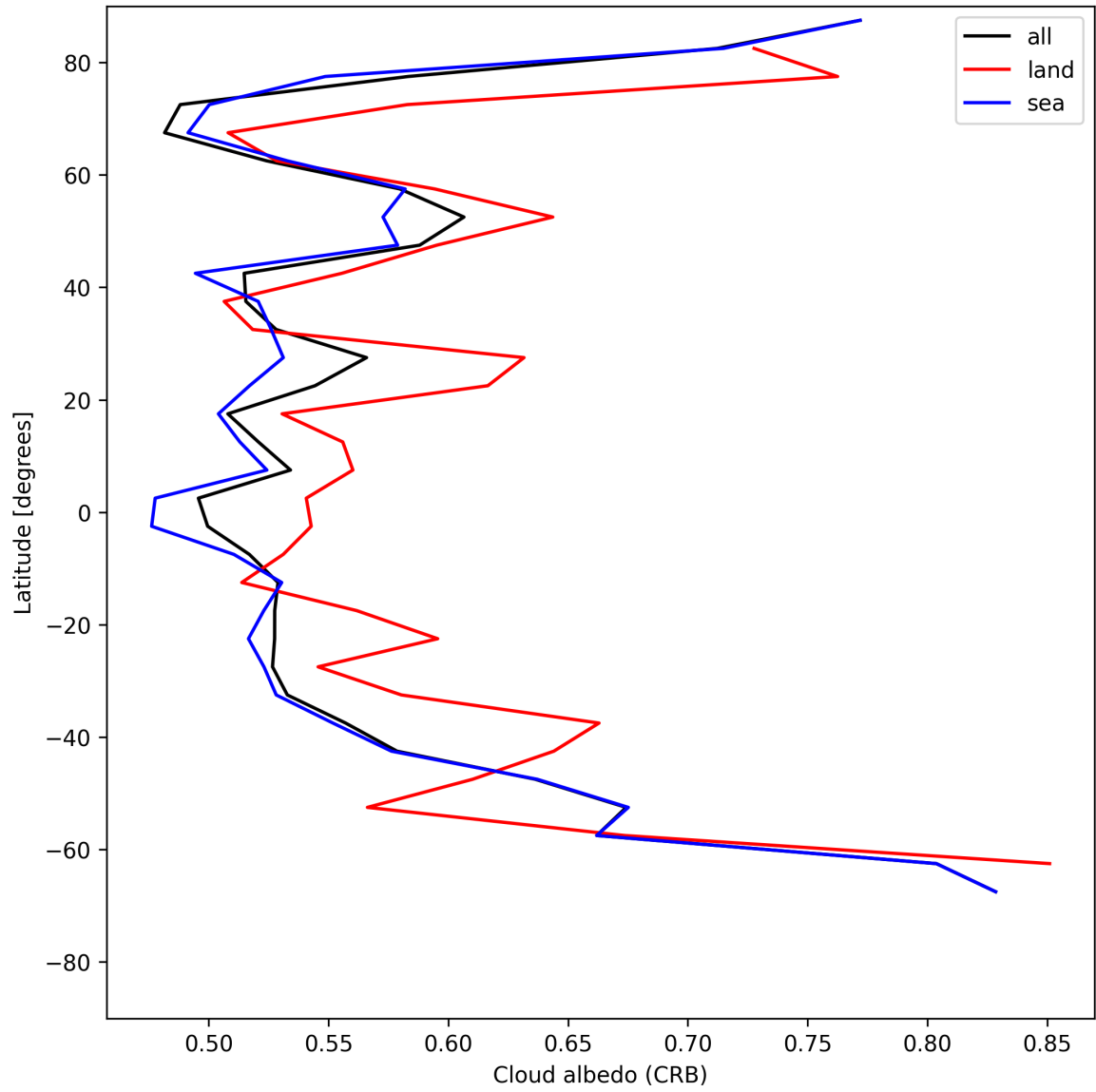


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22.

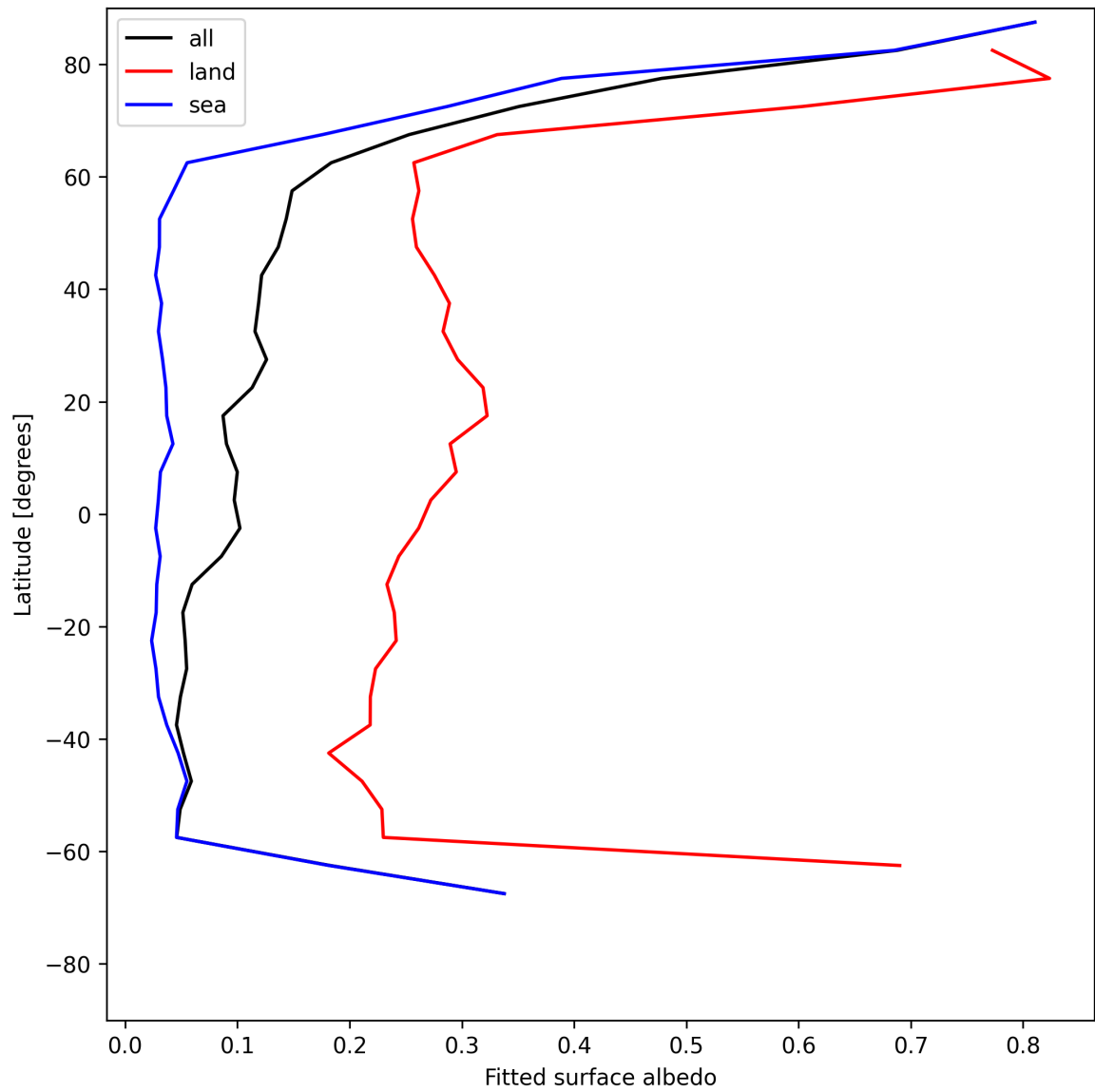


Figure 27: Zonal average of “Fitted surface albedo” for 2025-06-21 to 2025-06-22.

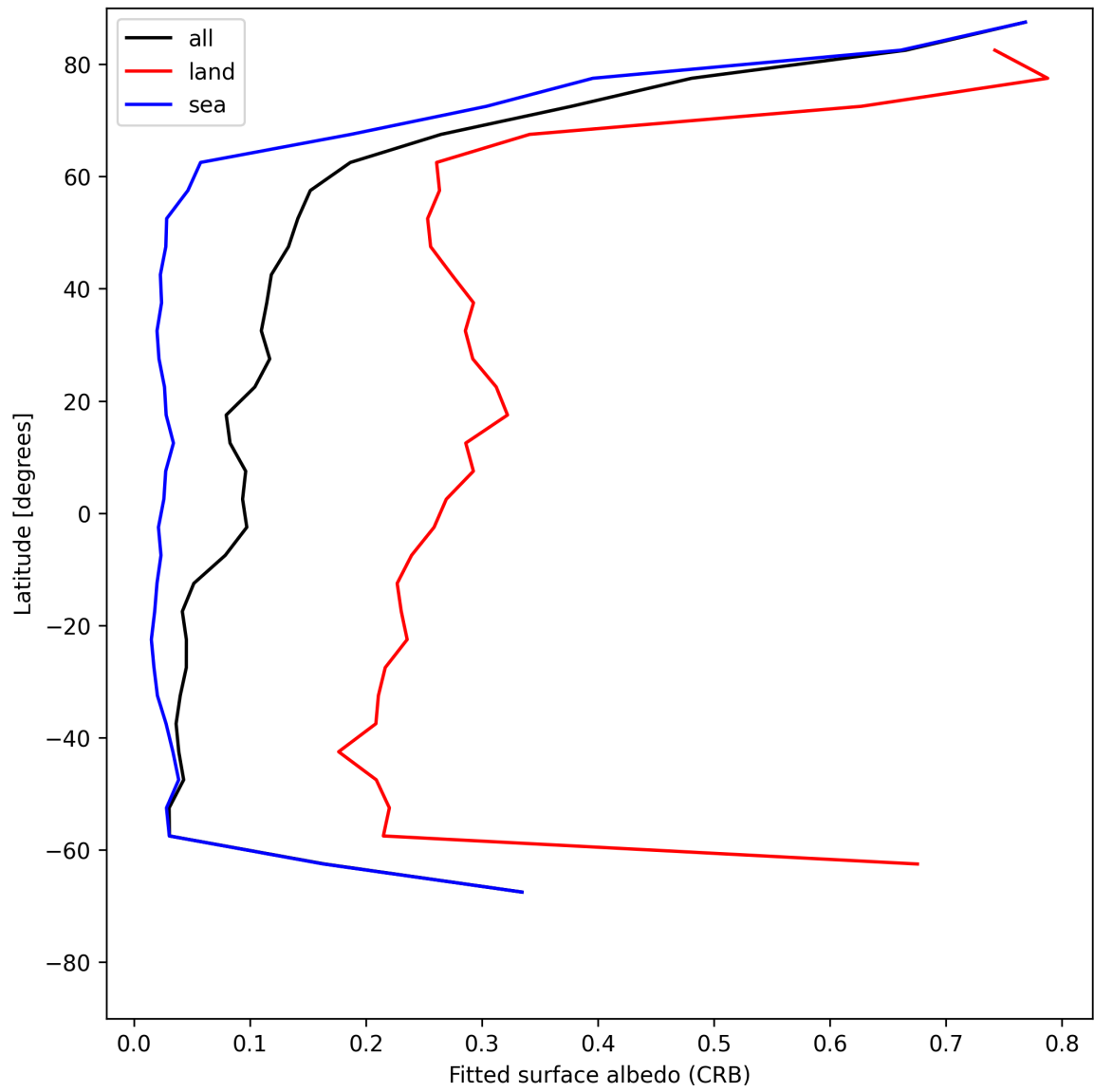


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22.

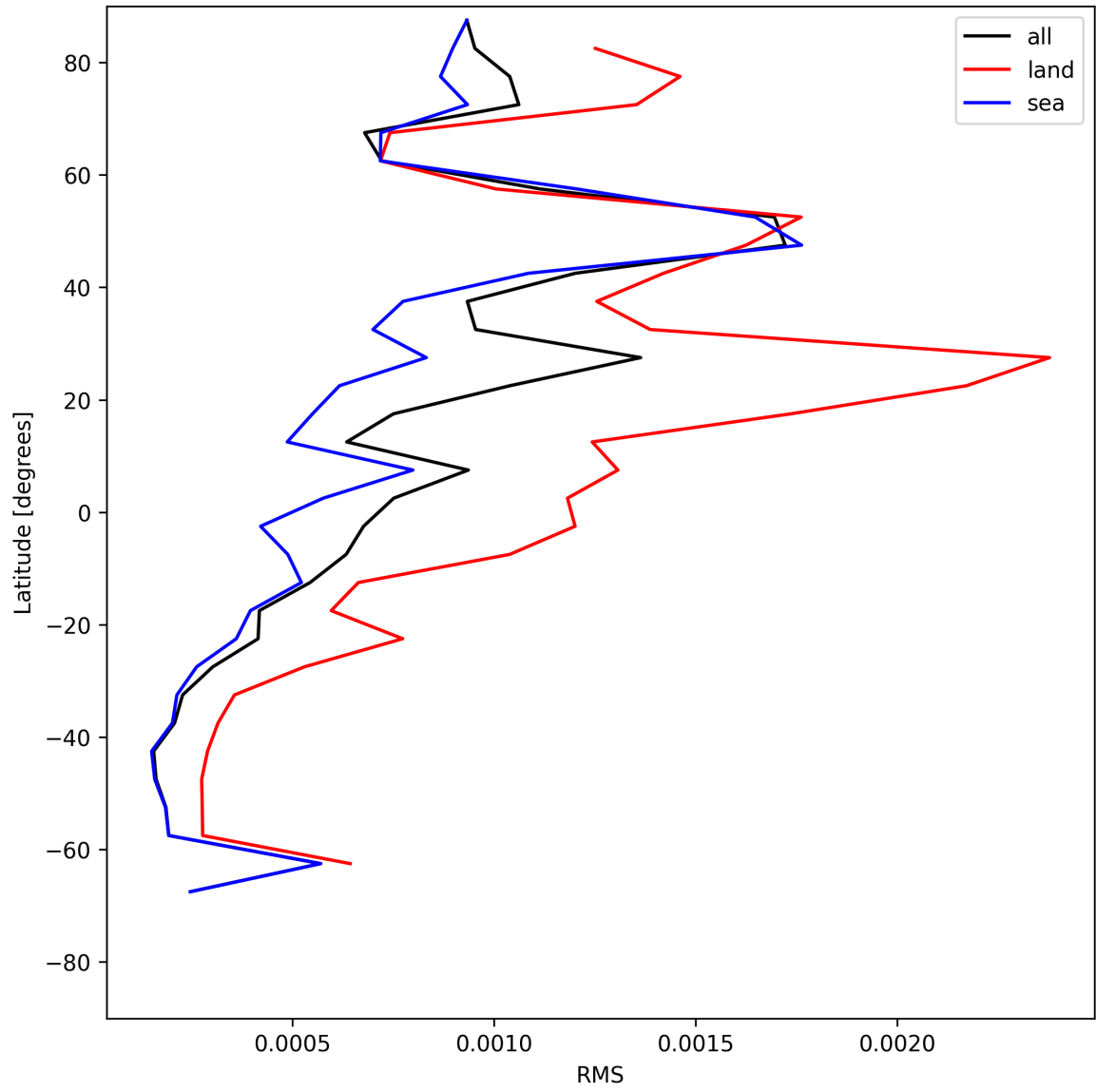


Figure 29: Zonal average of “RMS” for 2025-06-21 to 2025-06-22.

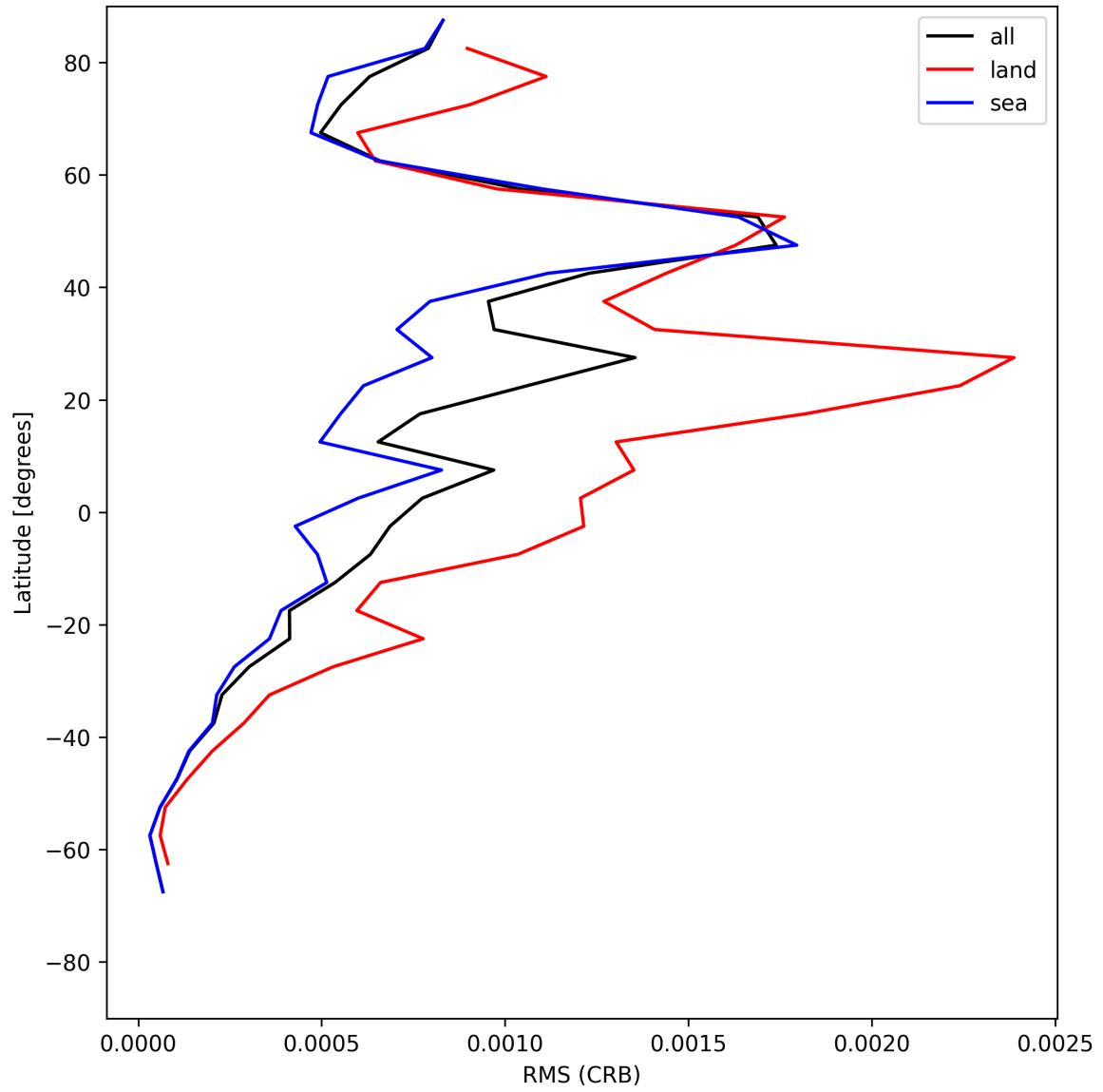


Figure 30: Zonal average of “RMS (CRB)” for 2025-06-21 to 2025-06-22.

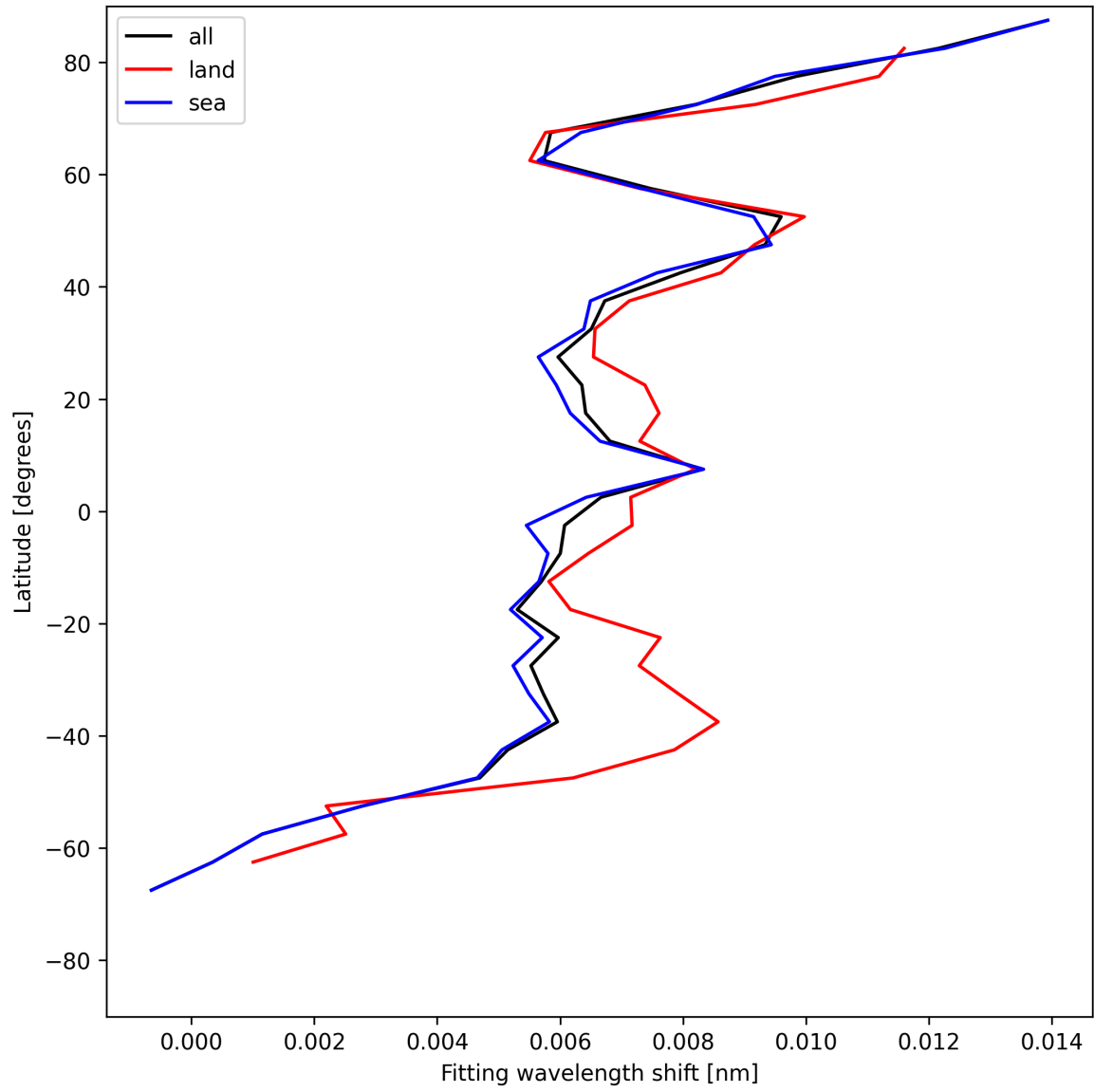


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22.

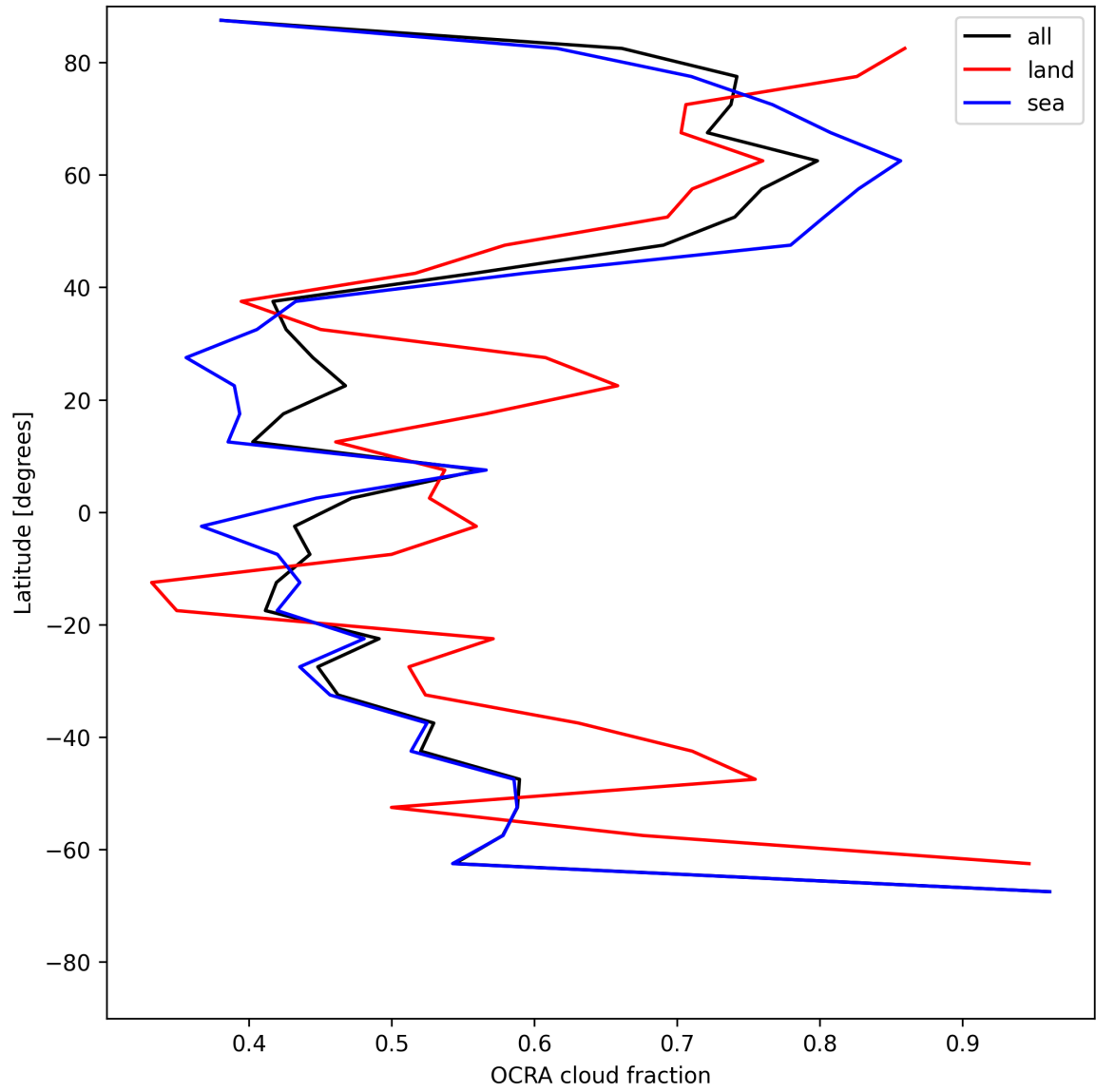


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22.

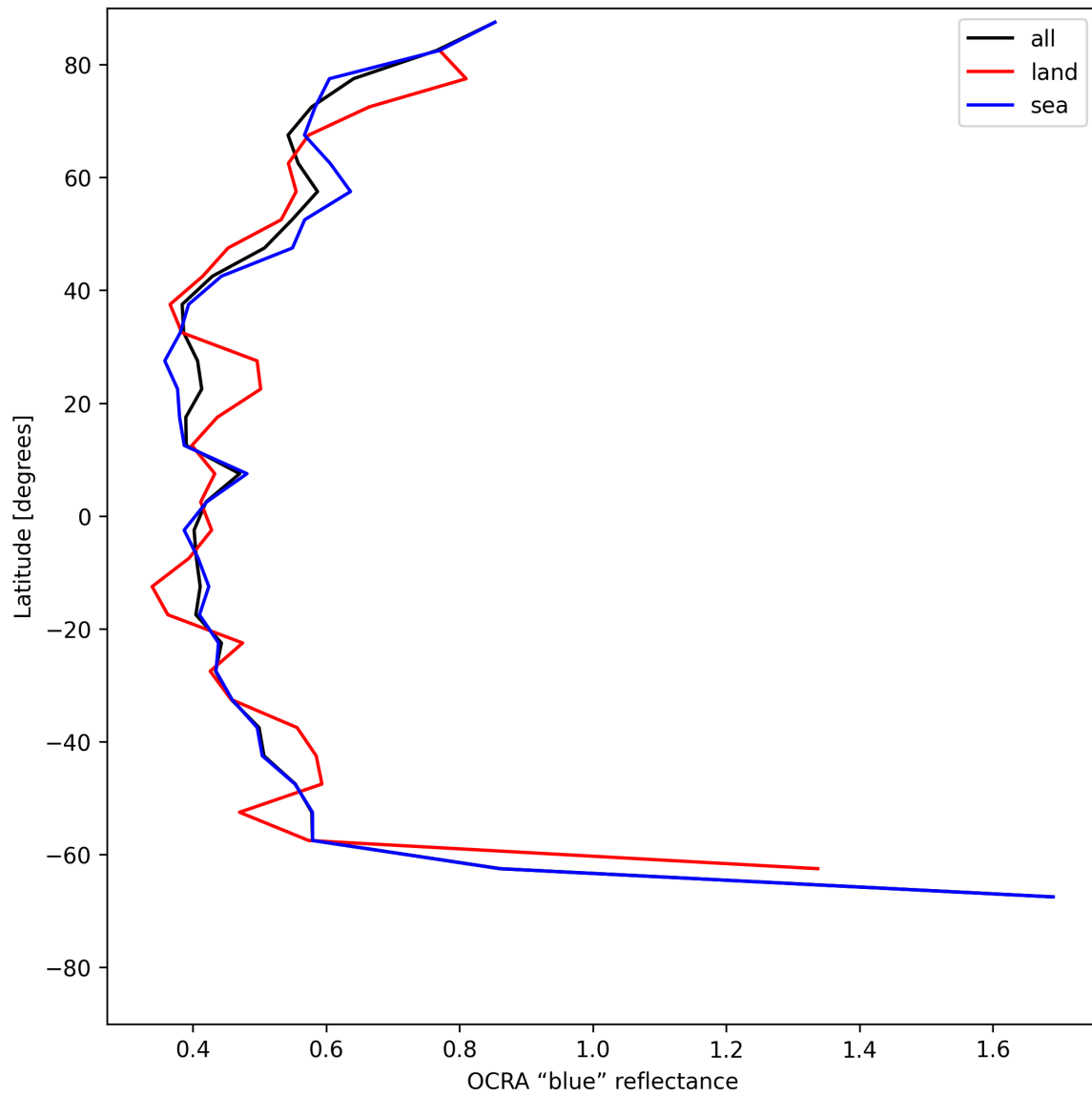


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22.

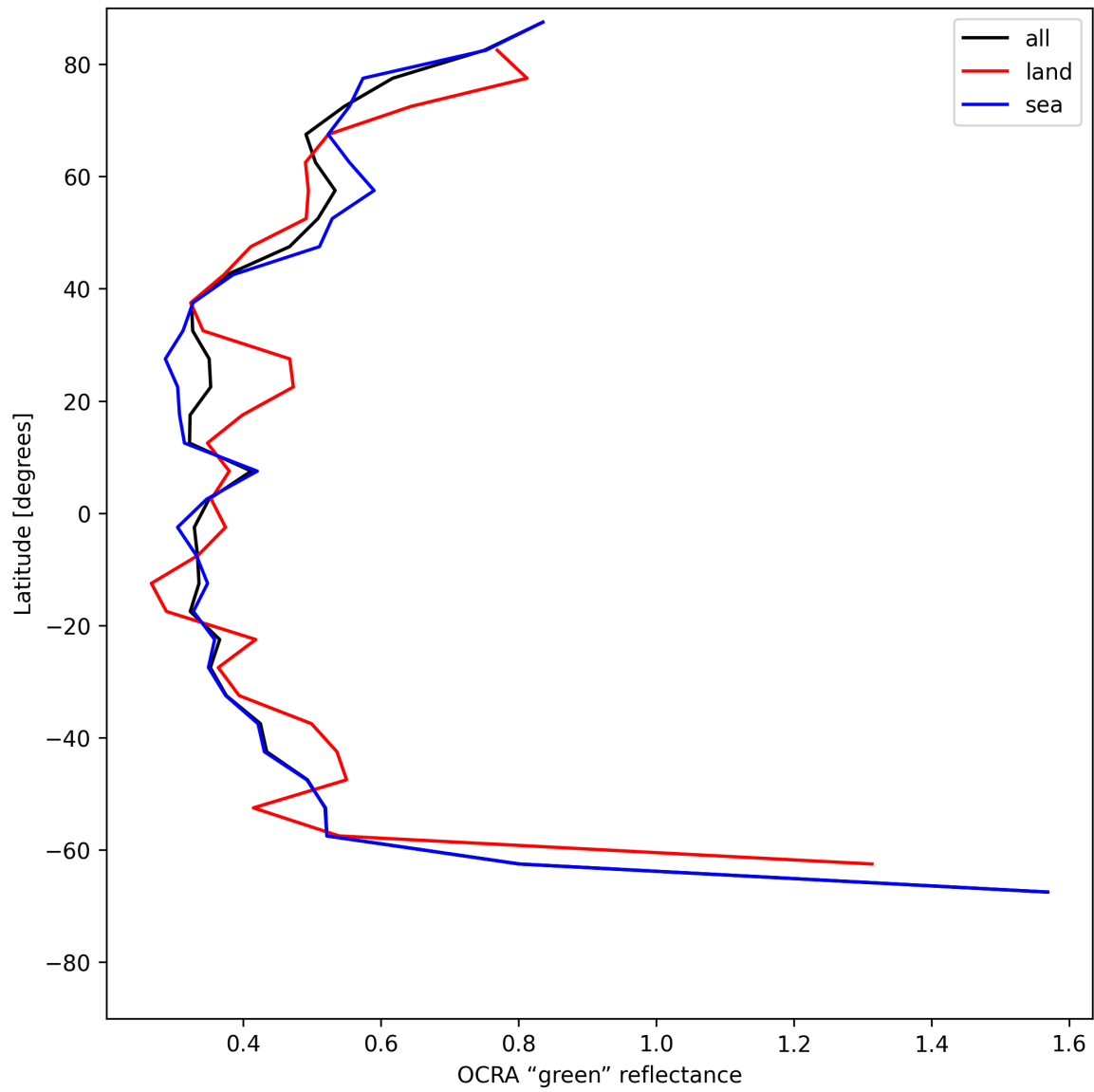


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22.

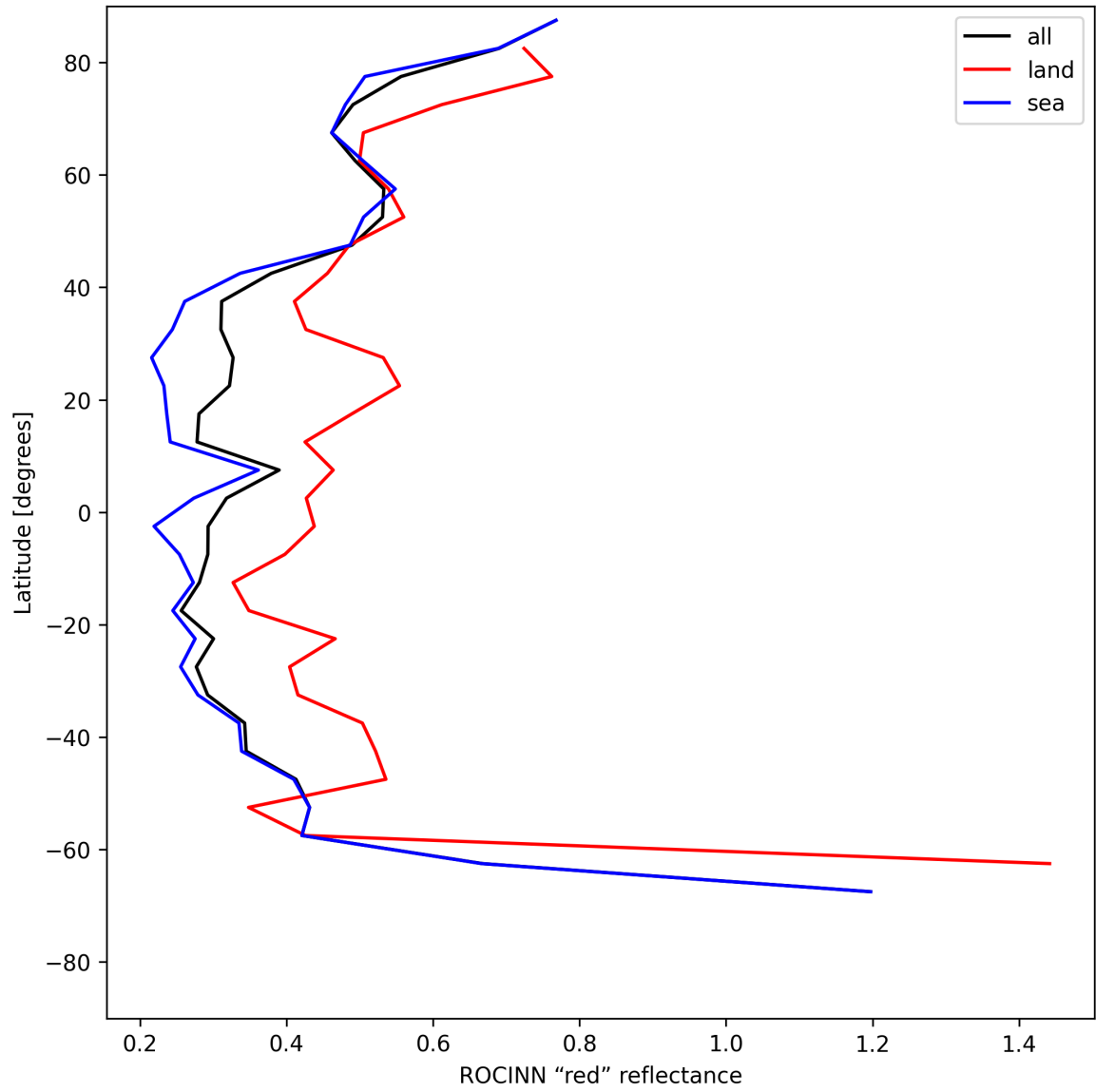


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22.

8 Histograms

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

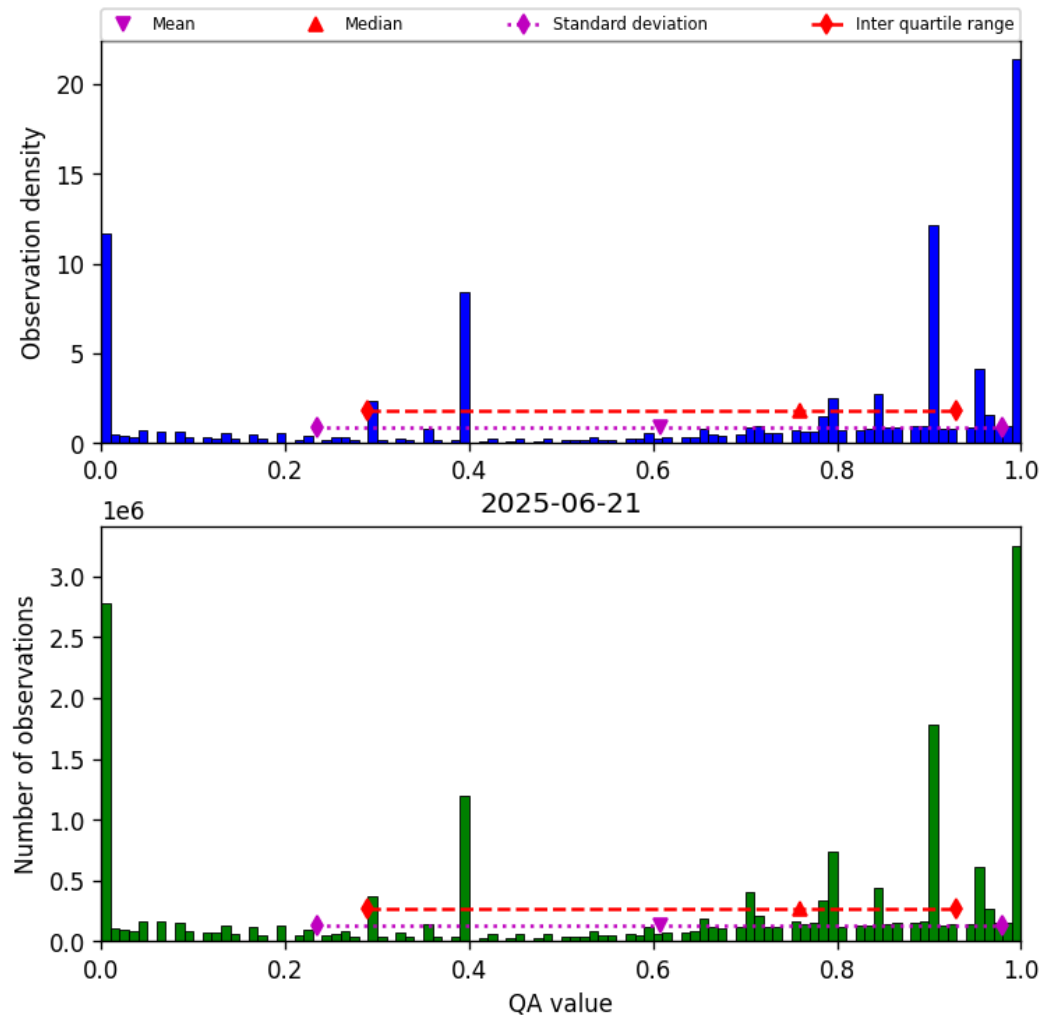


Figure 36: Histogram of “QA value” for 2025-06-21 to 2025-06-22

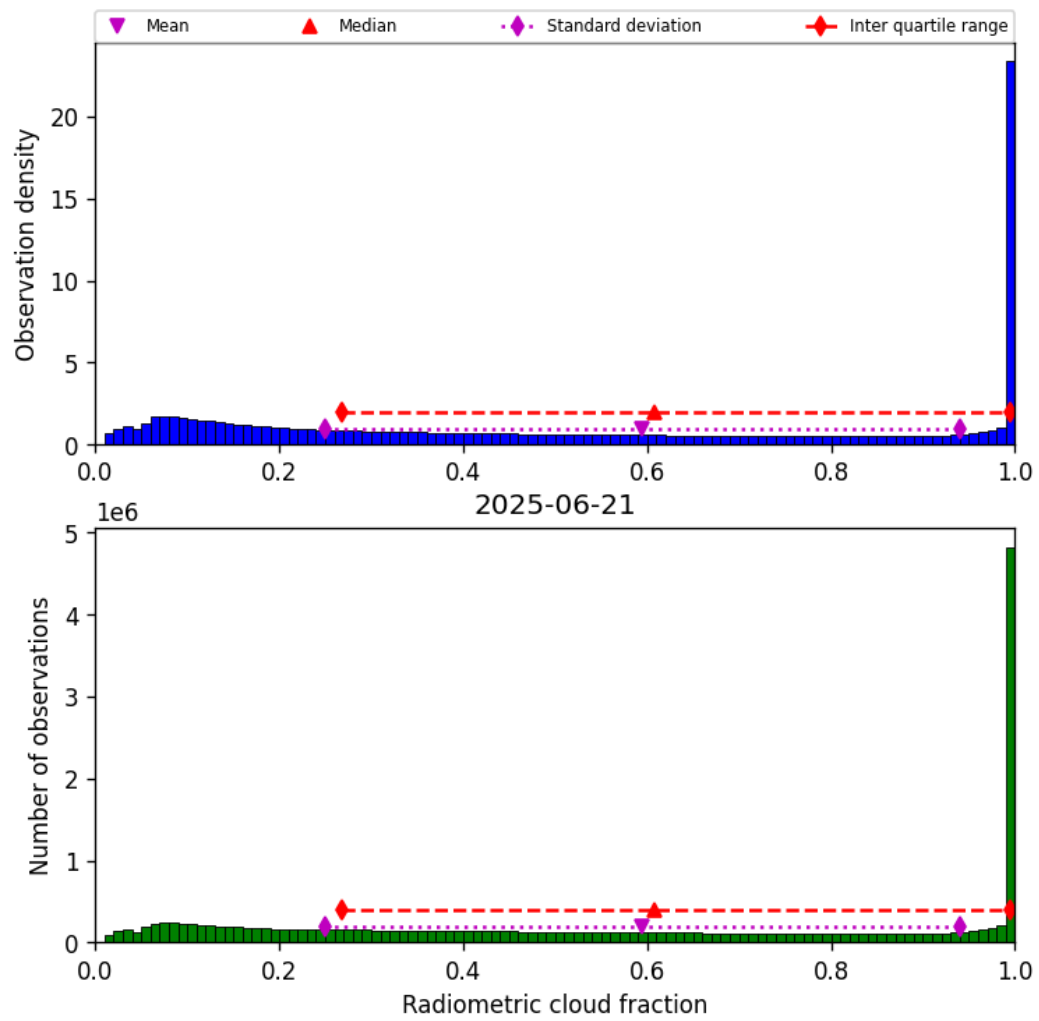


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22

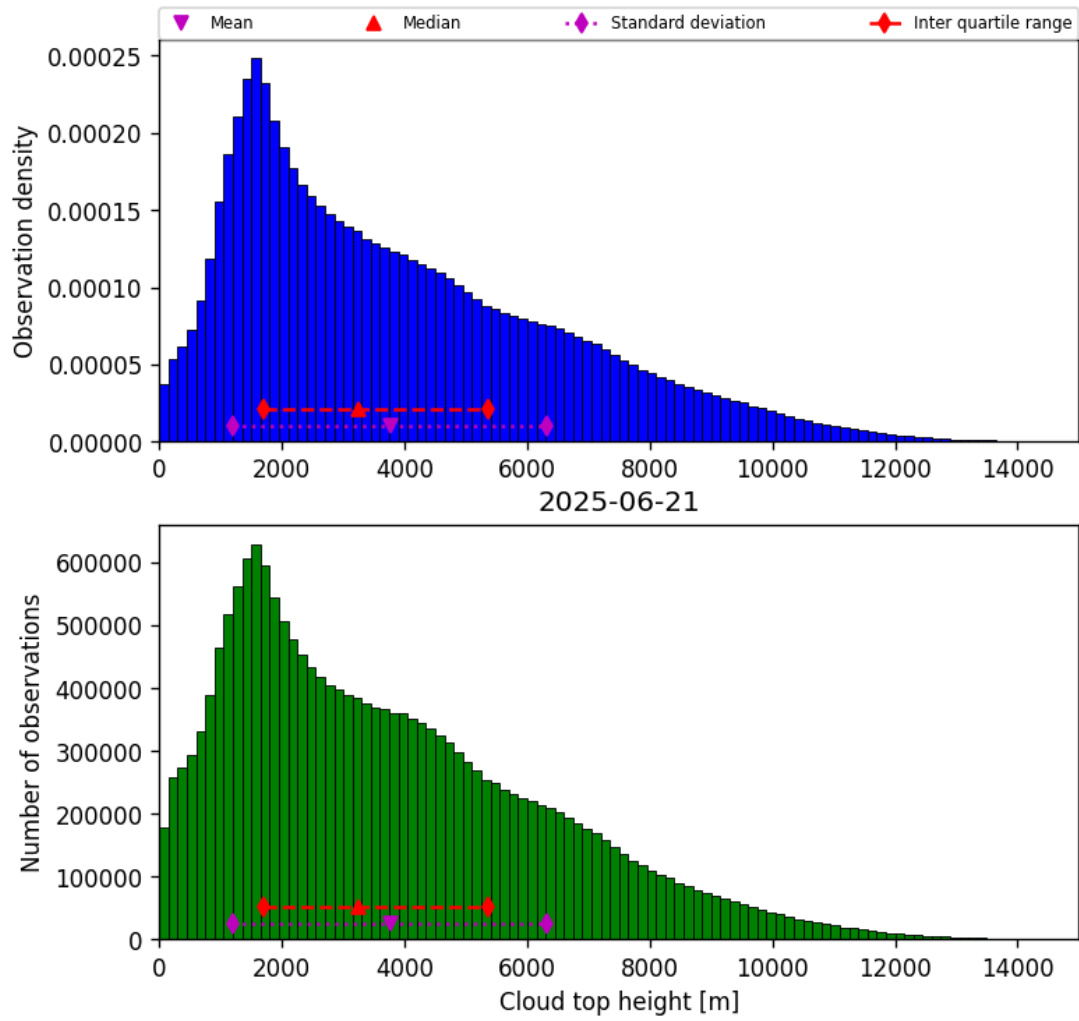


Figure 38: Histogram of “Cloud top height” for 2025-06-21 to 2025-06-22

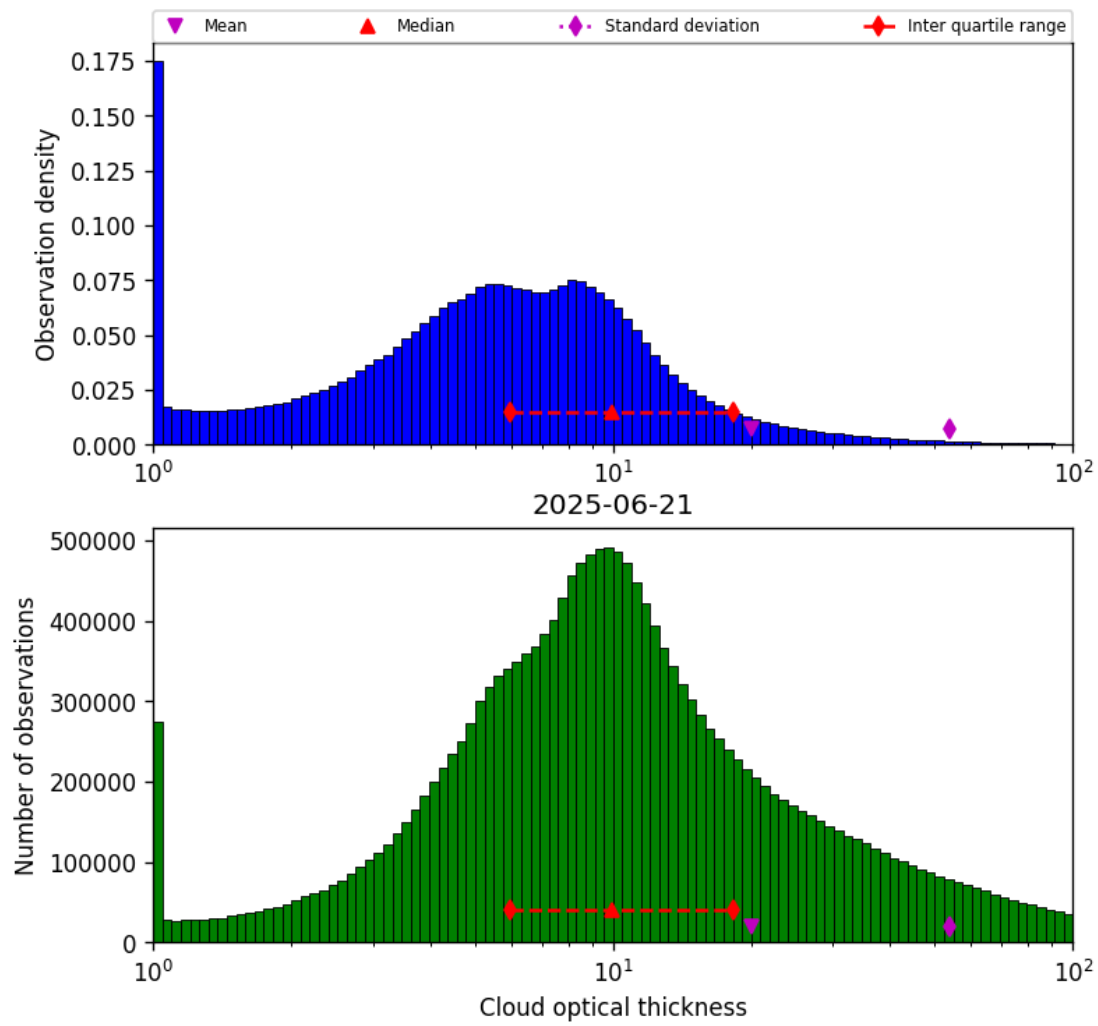


Figure 39: Histogram of “Cloud optical thickness” for 2025-06-21 to 2025-06-22

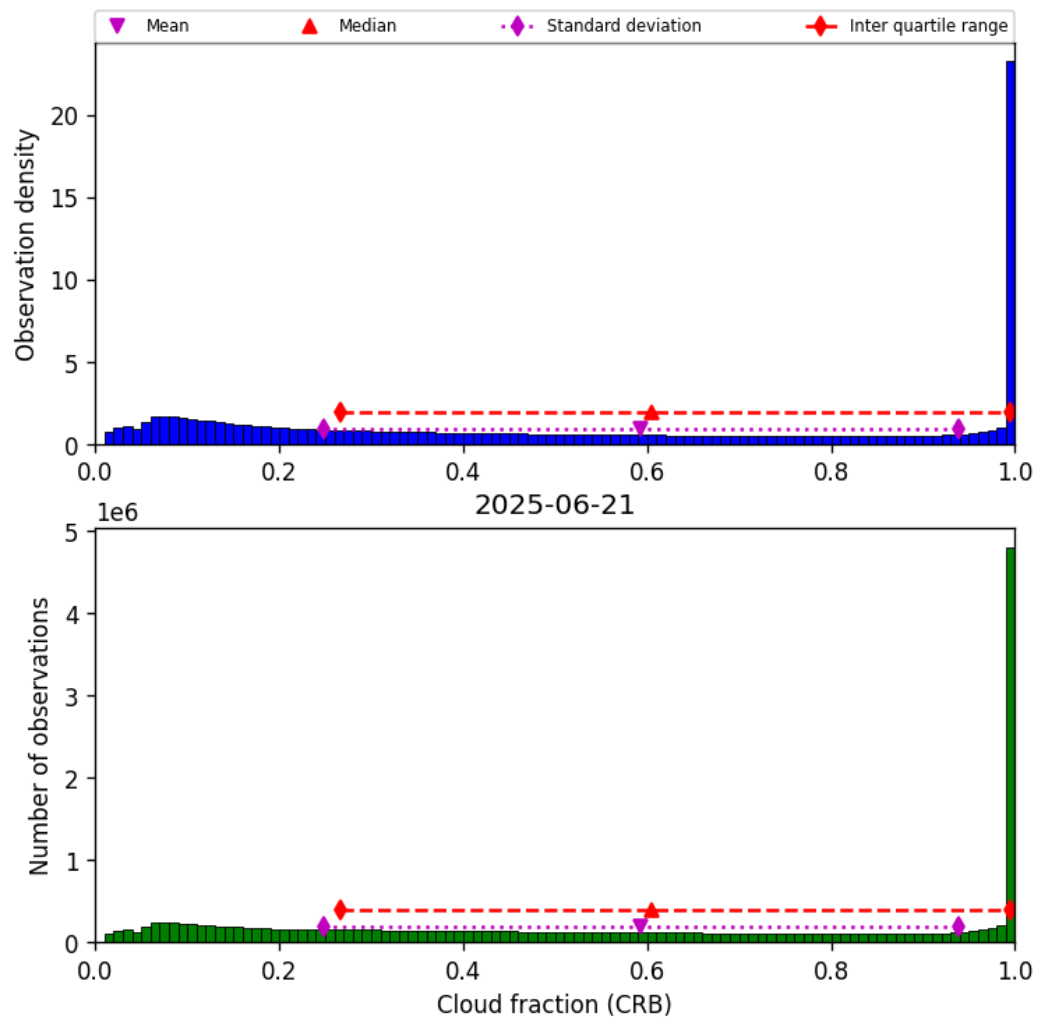


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22

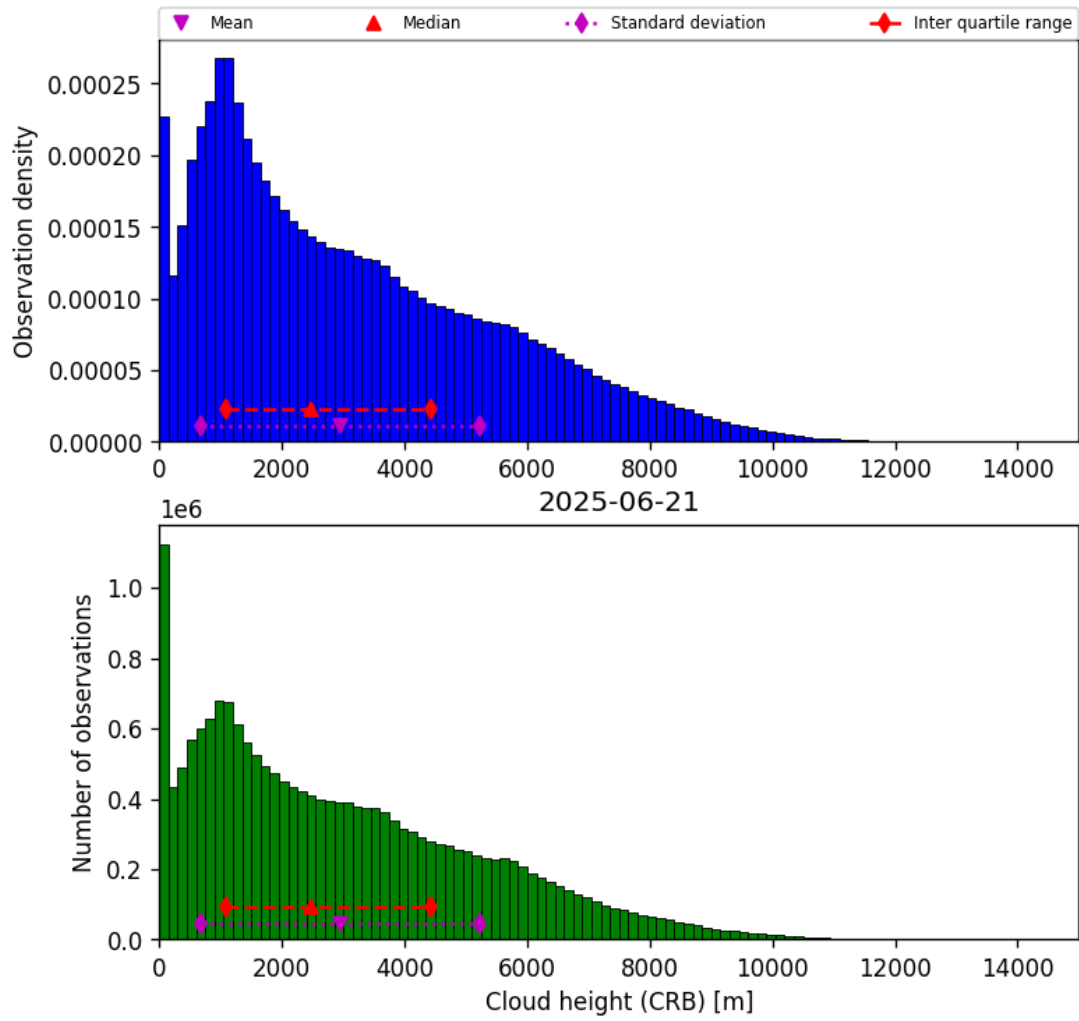


Figure 41: Histogram of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22

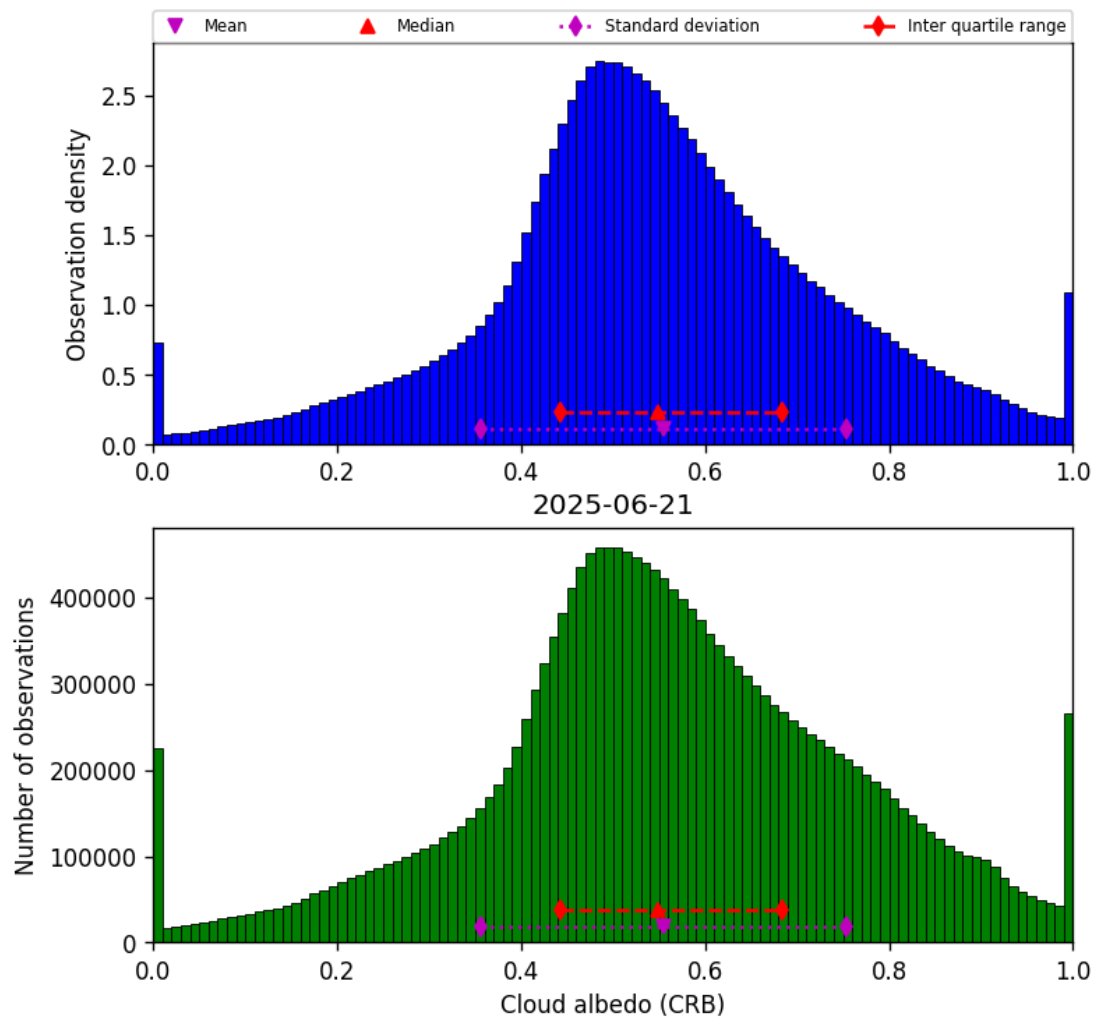


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22

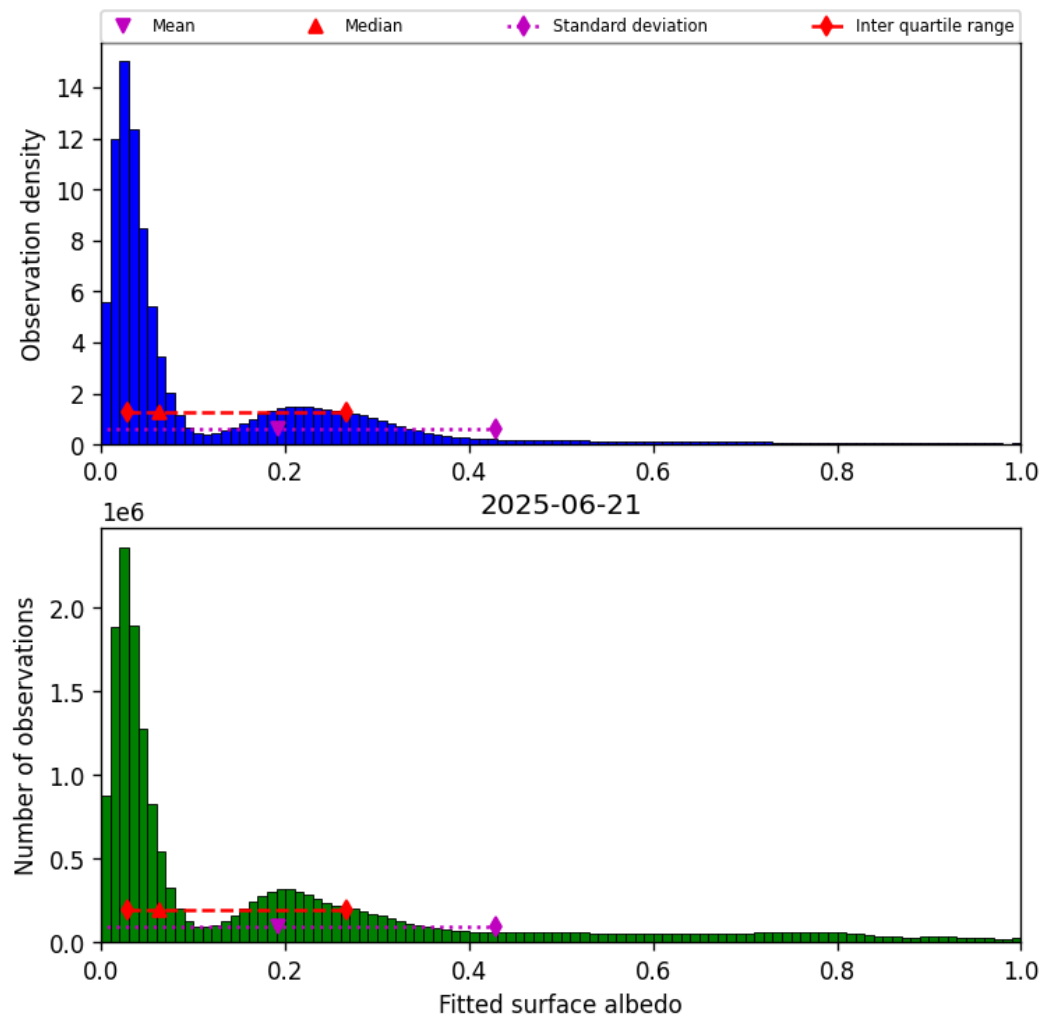


Figure 43: Histogram of “Fitted surface albedo” for 2025-06-21 to 2025-06-22

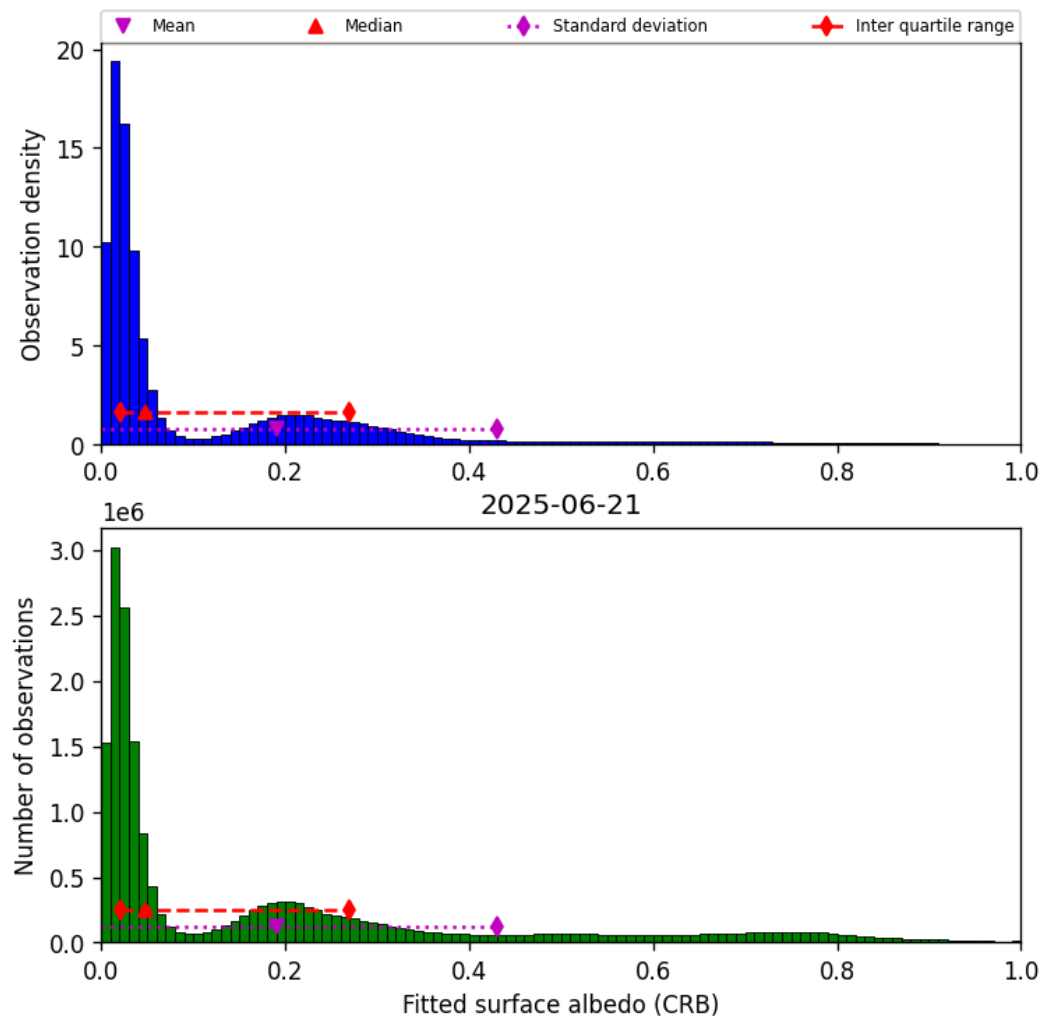


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22

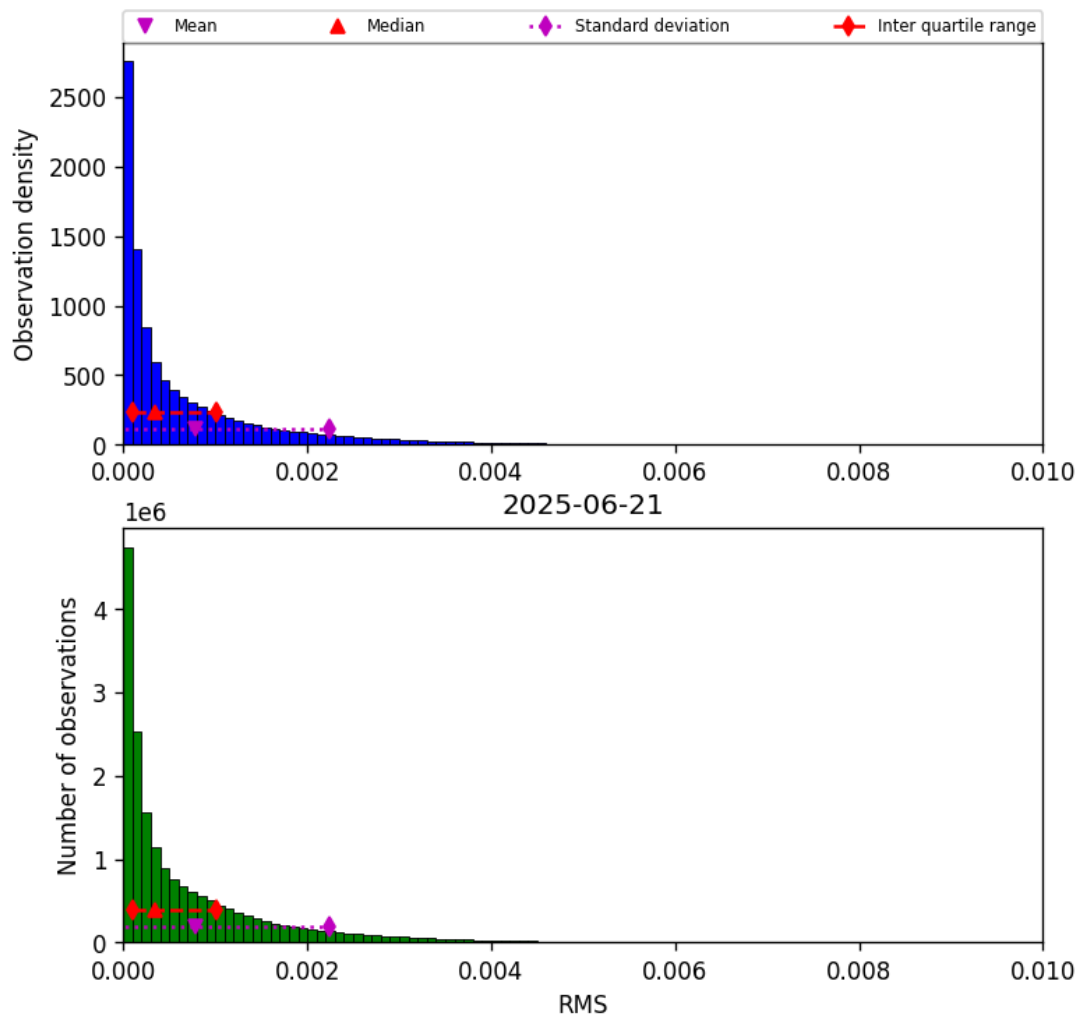


Figure 45: Histogram of “RMS” for 2025-06-21 to 2025-06-22

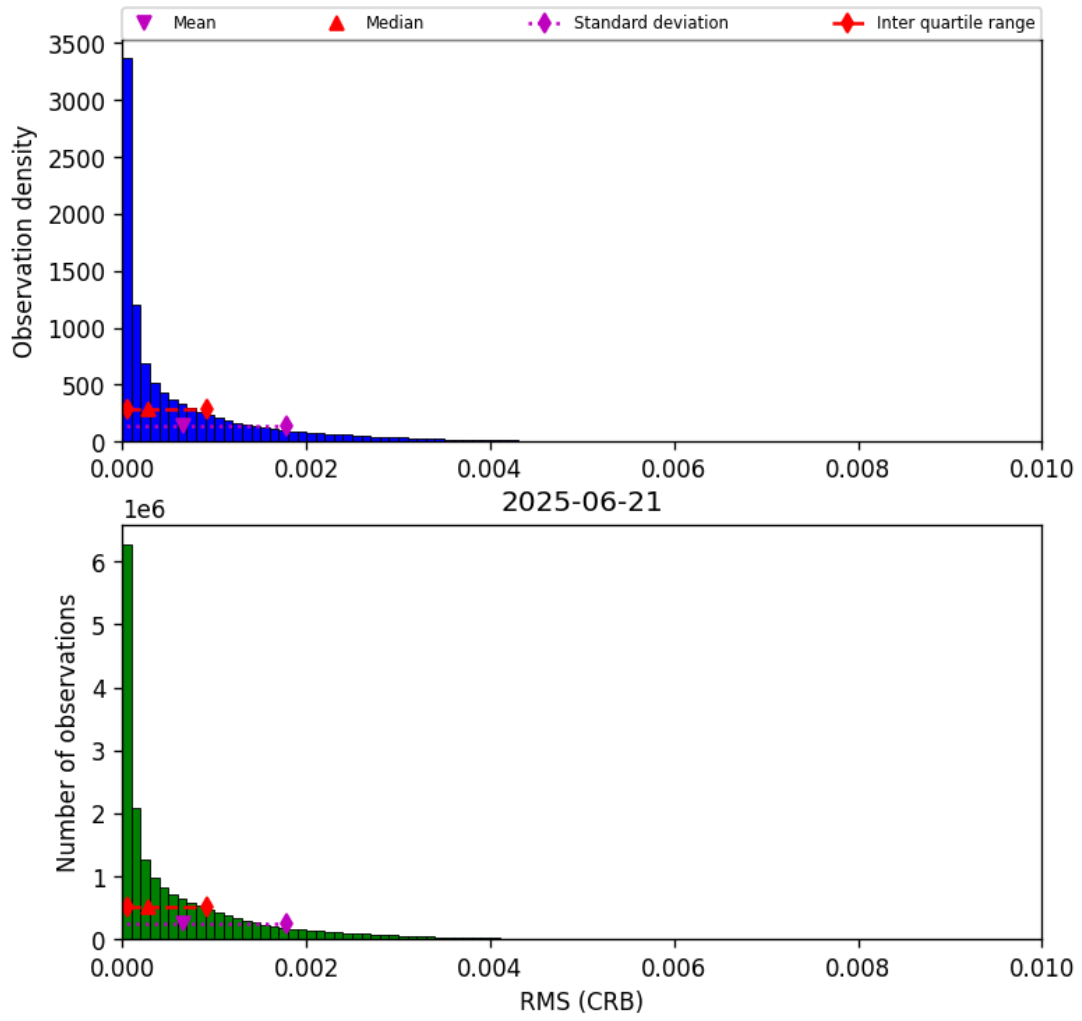


Figure 46: Histogram of “RMS (CRB)” for 2025-06-21 to 2025-06-22

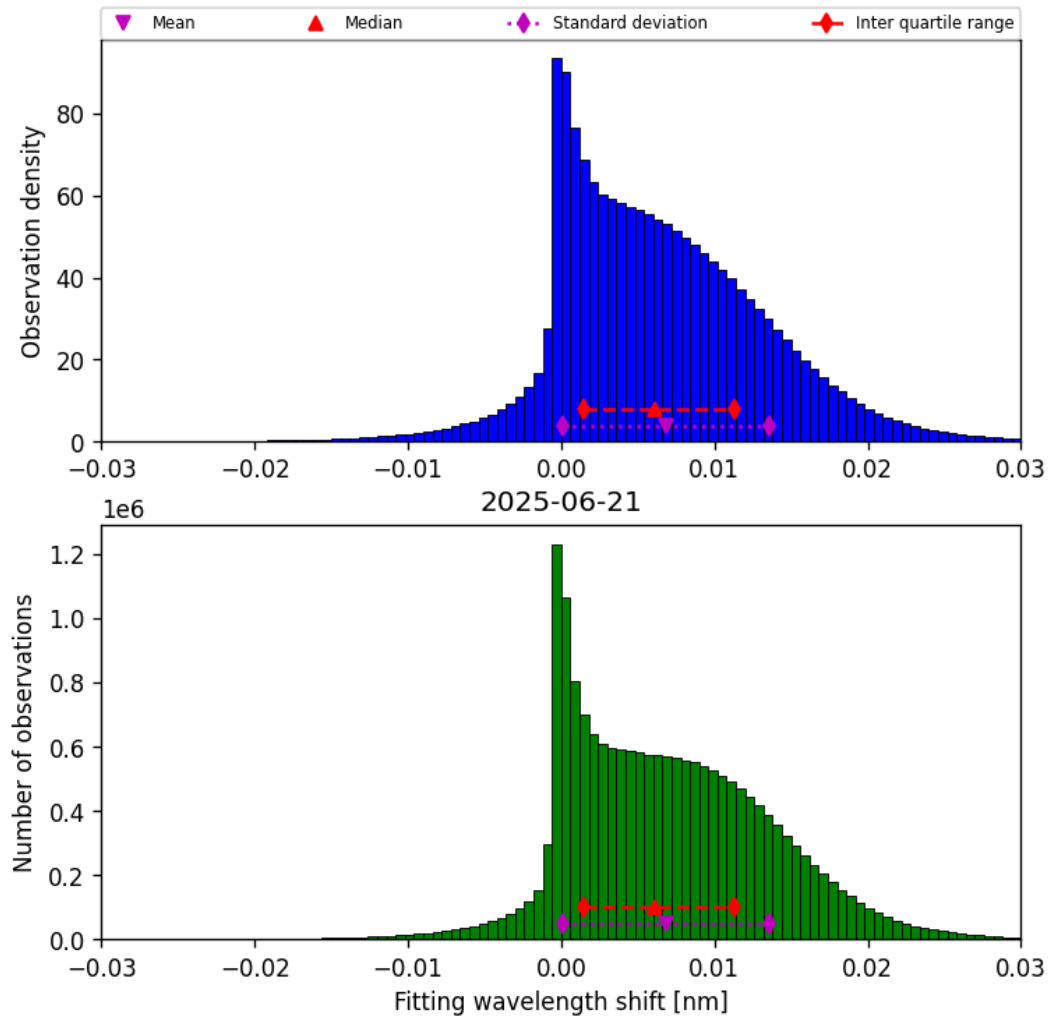


Figure 47: Histogram of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22

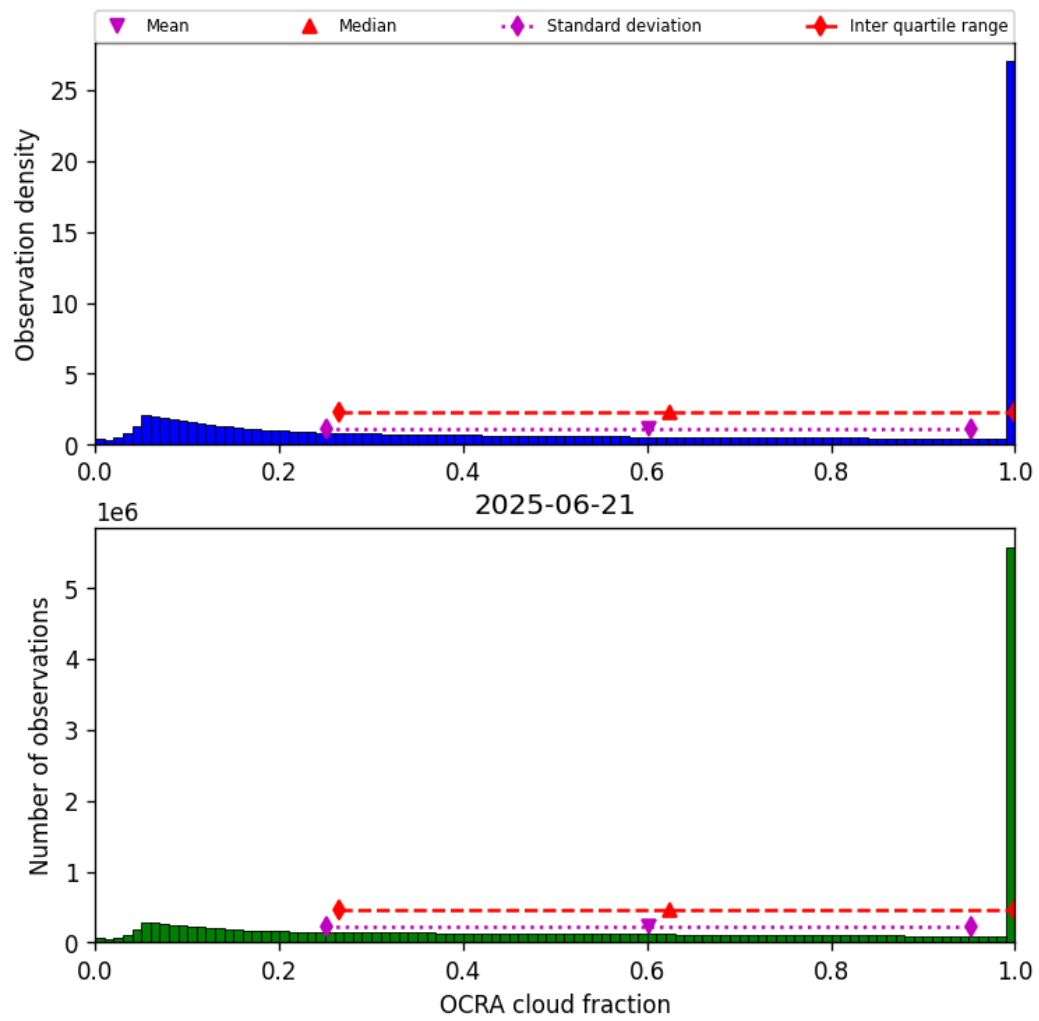


Figure 48: Histogram of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22

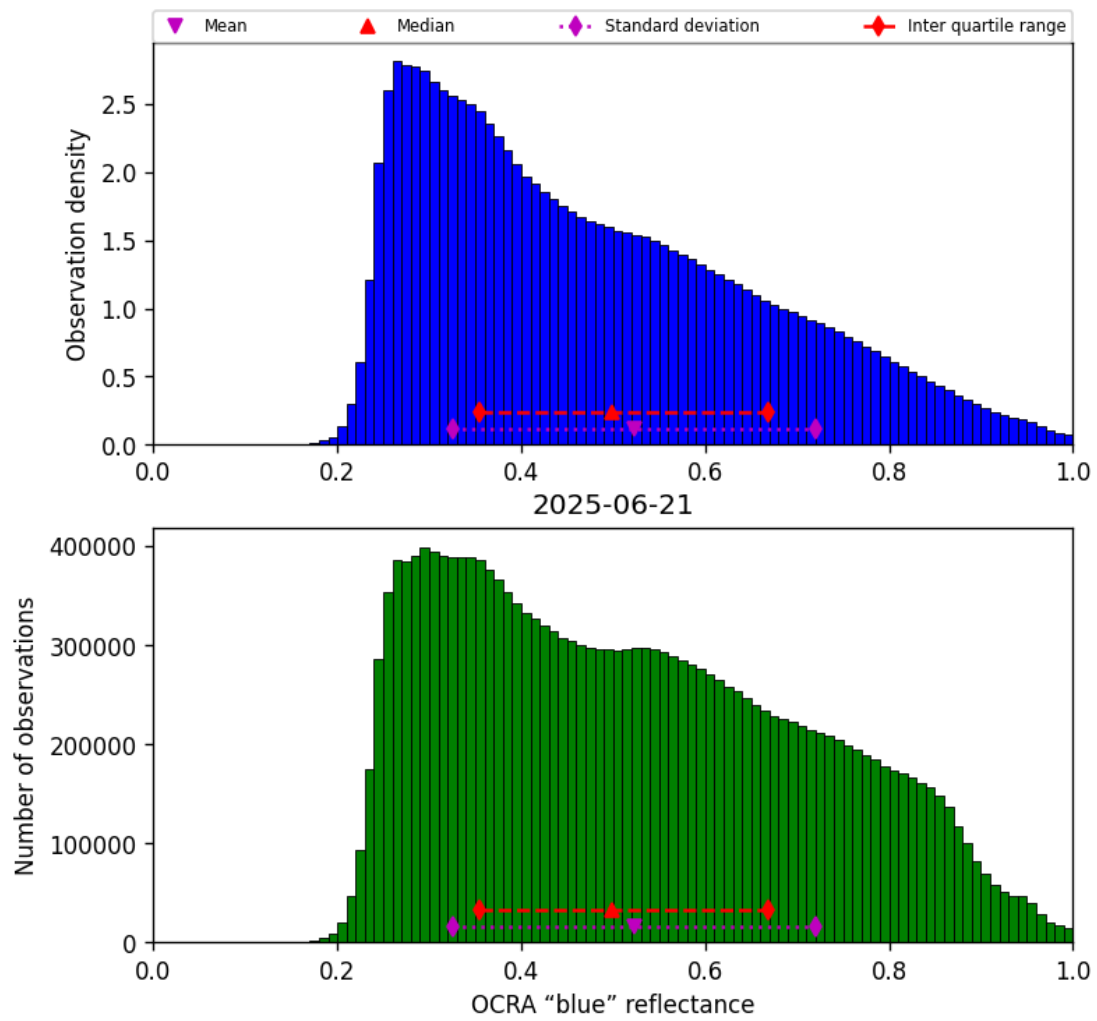


Figure 49: Histogram of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22

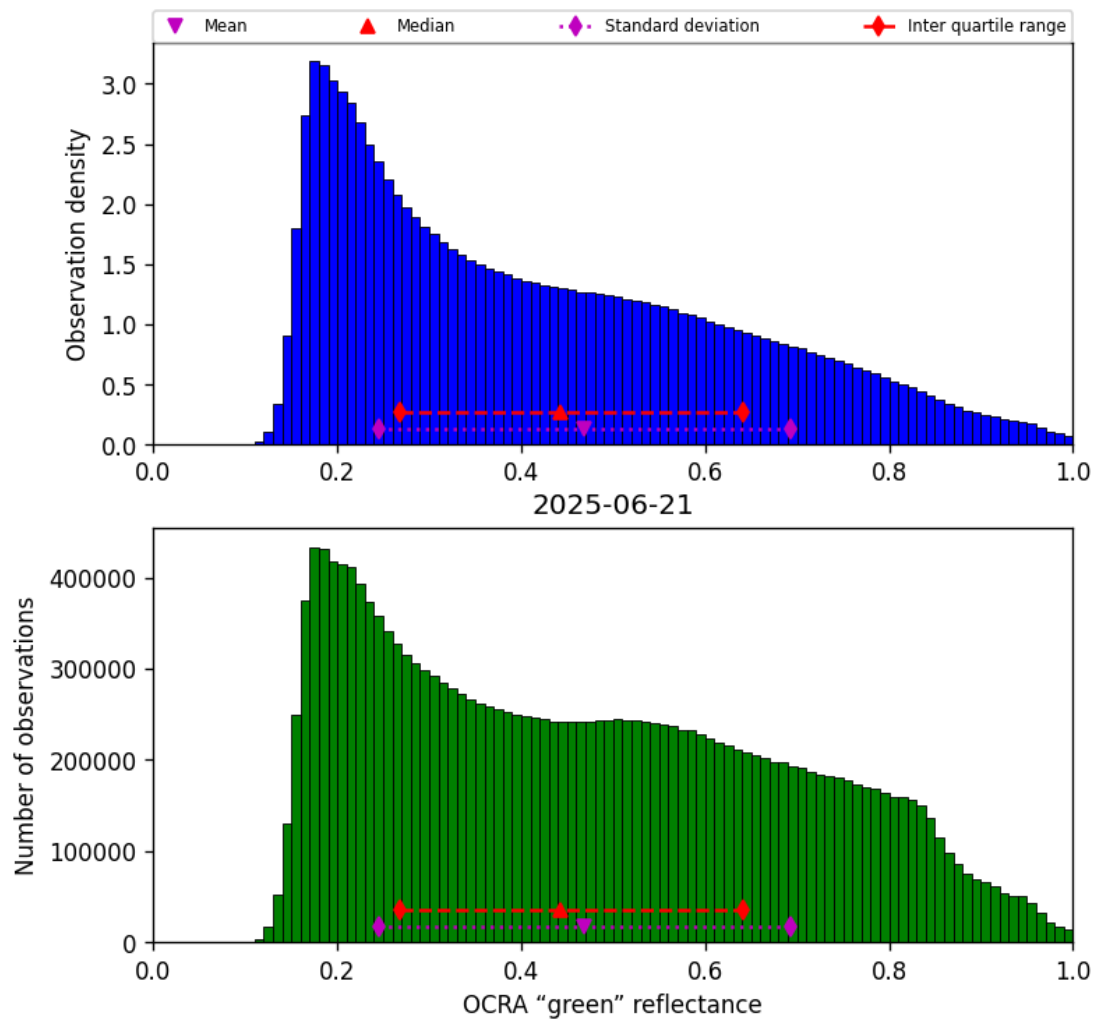


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22

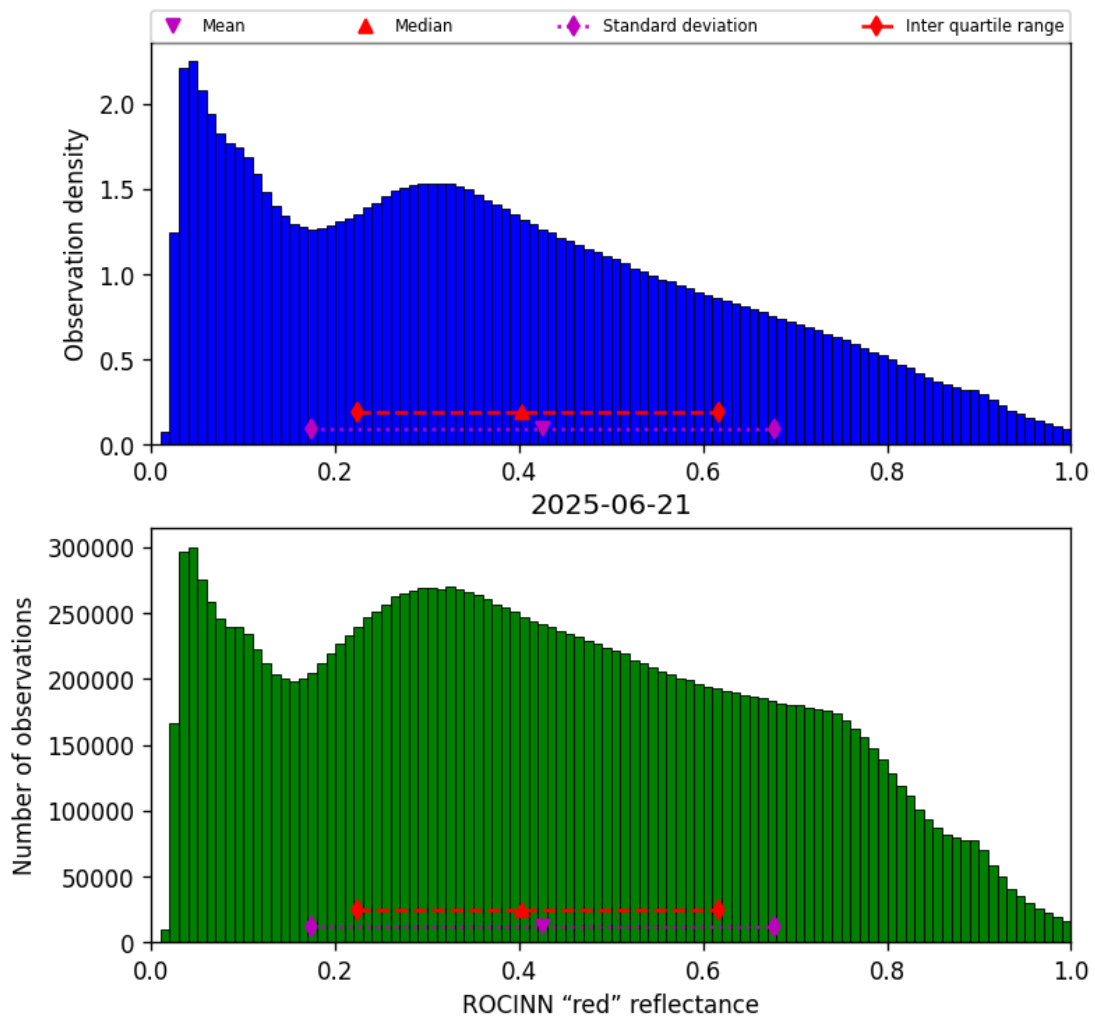


Figure 51: Histogram of "ROCINN "red" reflectance" for 2025-06-21 to 2025-06-22

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.

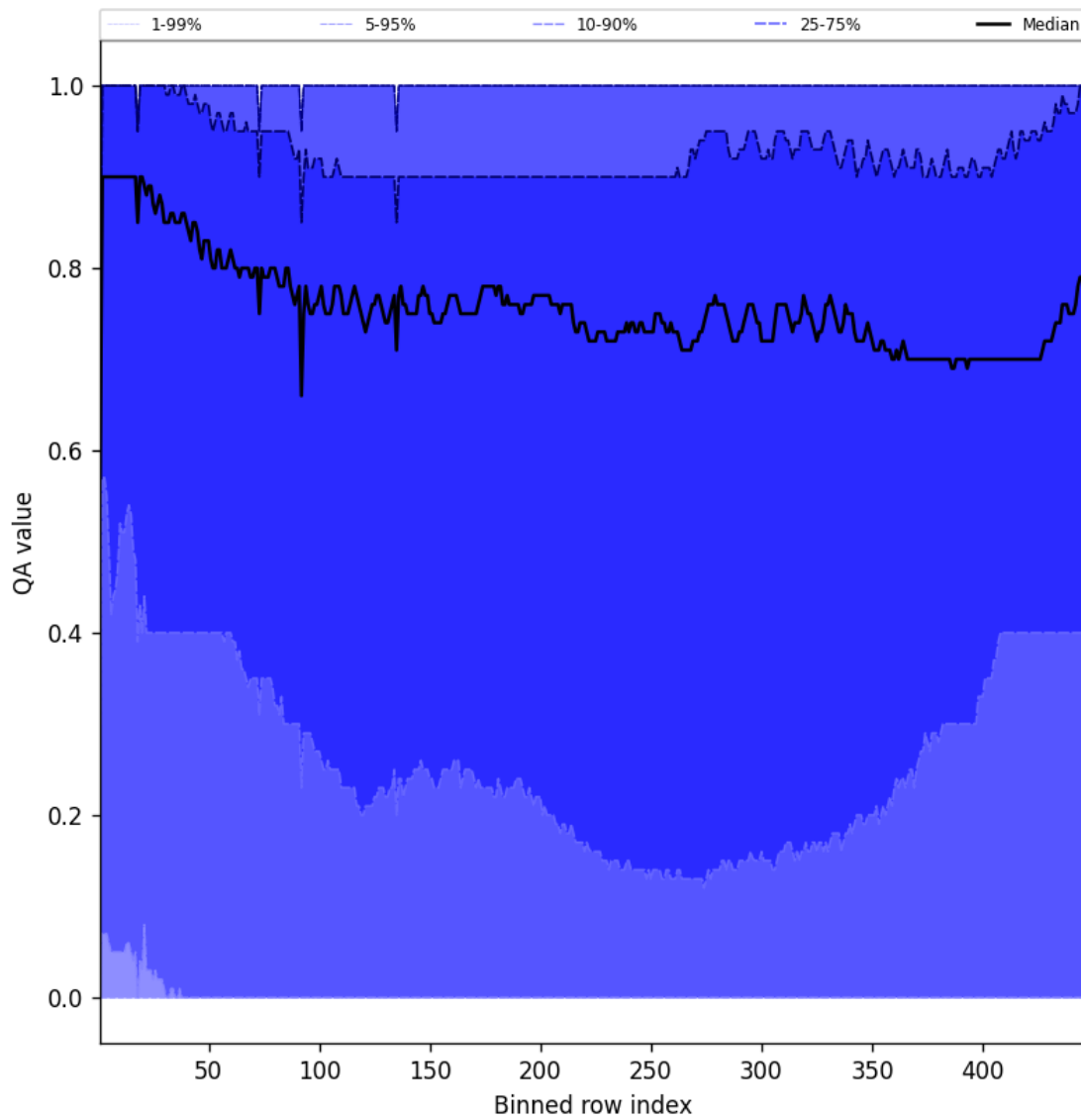


Figure 52: Along track statistics of “QA value” for 2025-06-21 to 2025-06-22

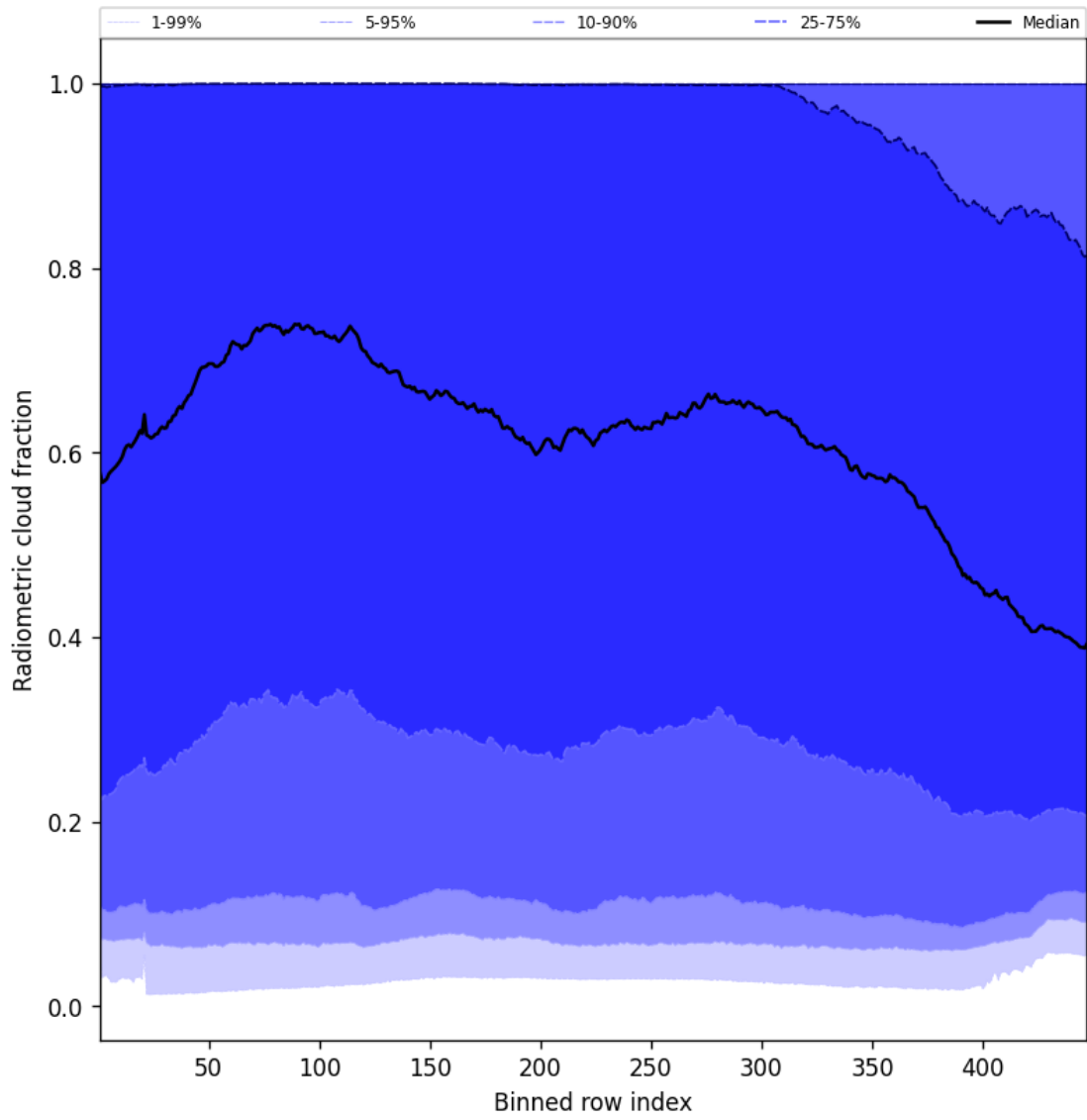


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22

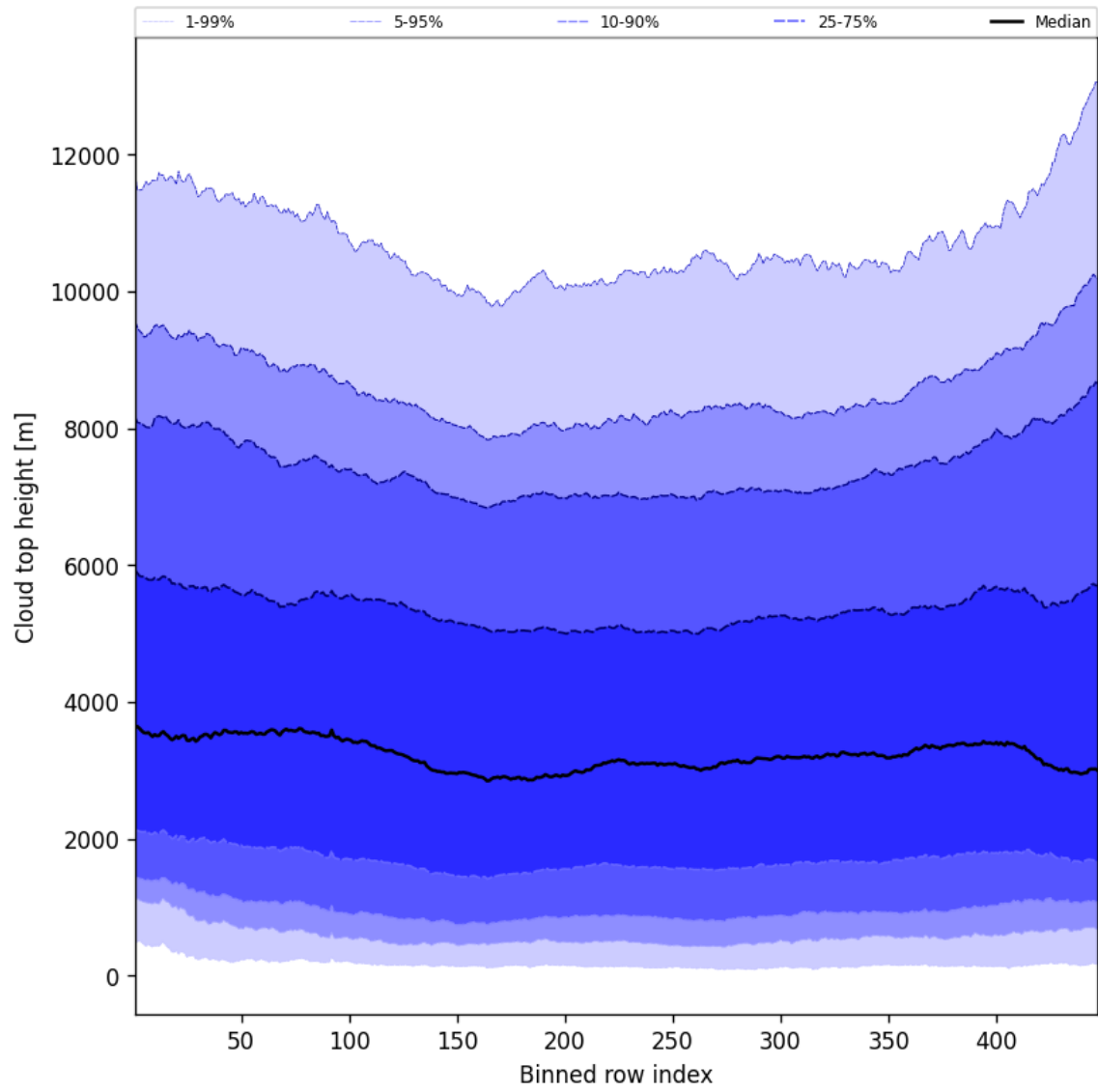


Figure 54: Along track statistics of “Cloud top height” for 2025-06-21 to 2025-06-22

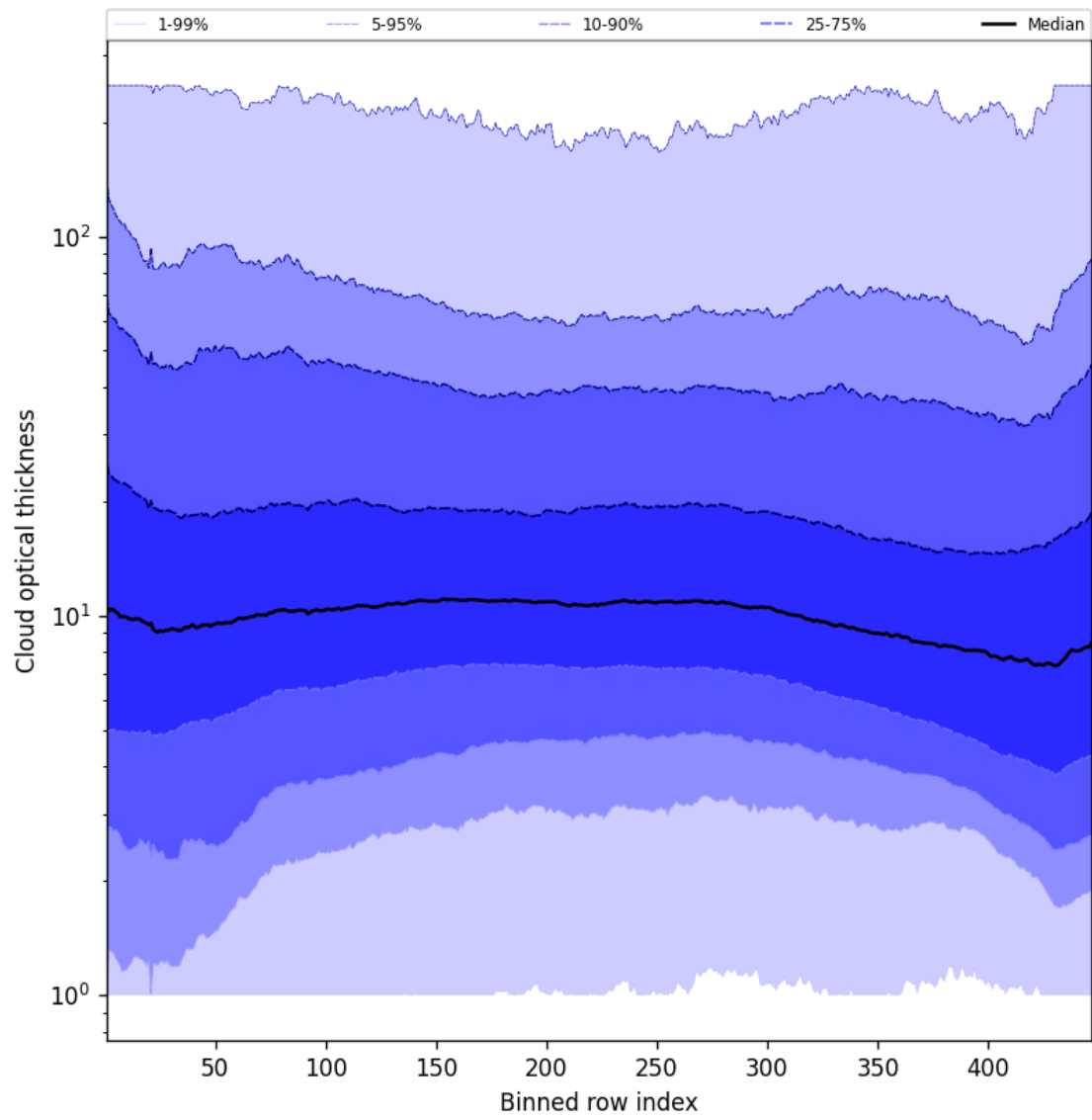


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-06-21 to 2025-06-22

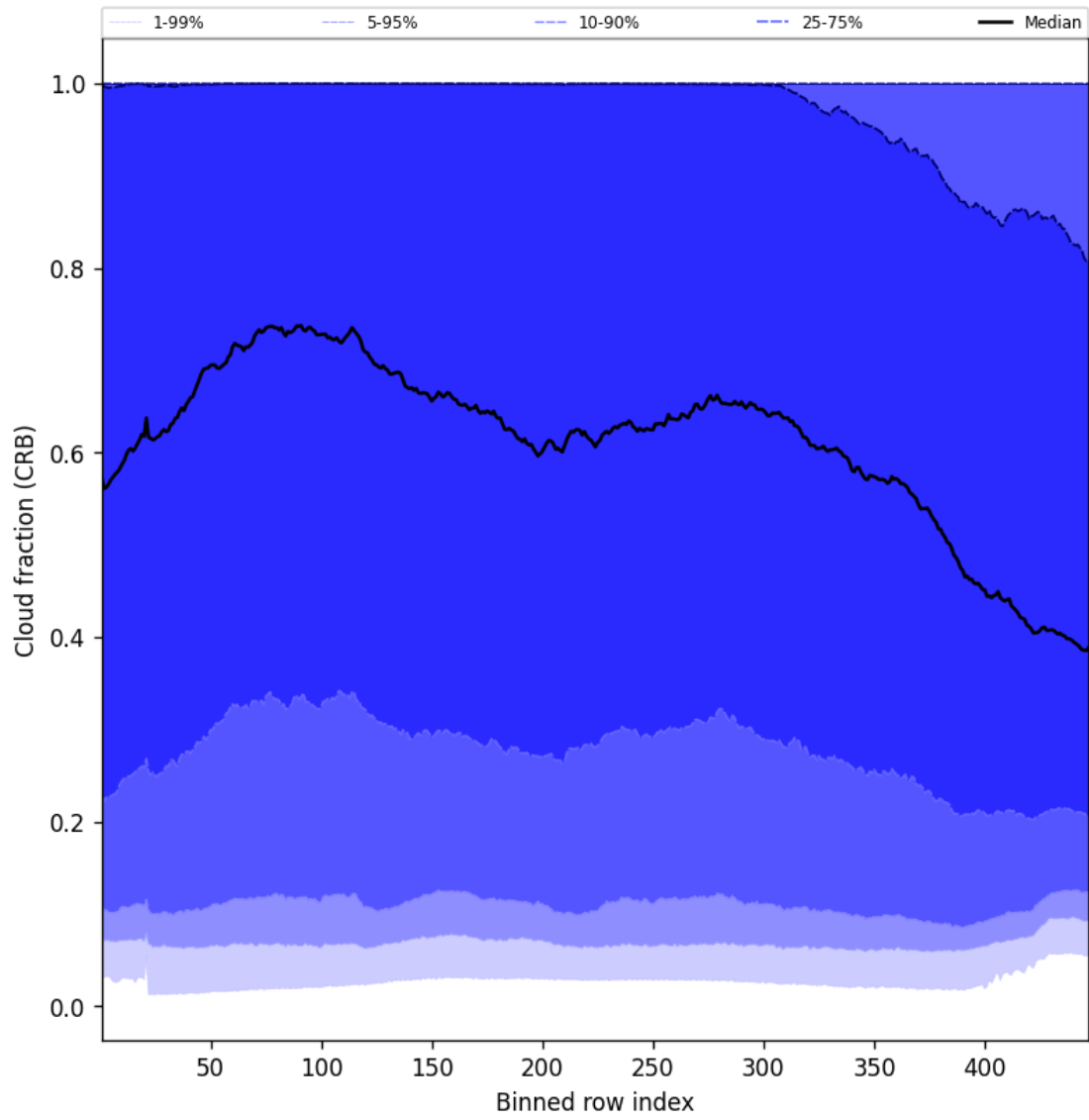


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22

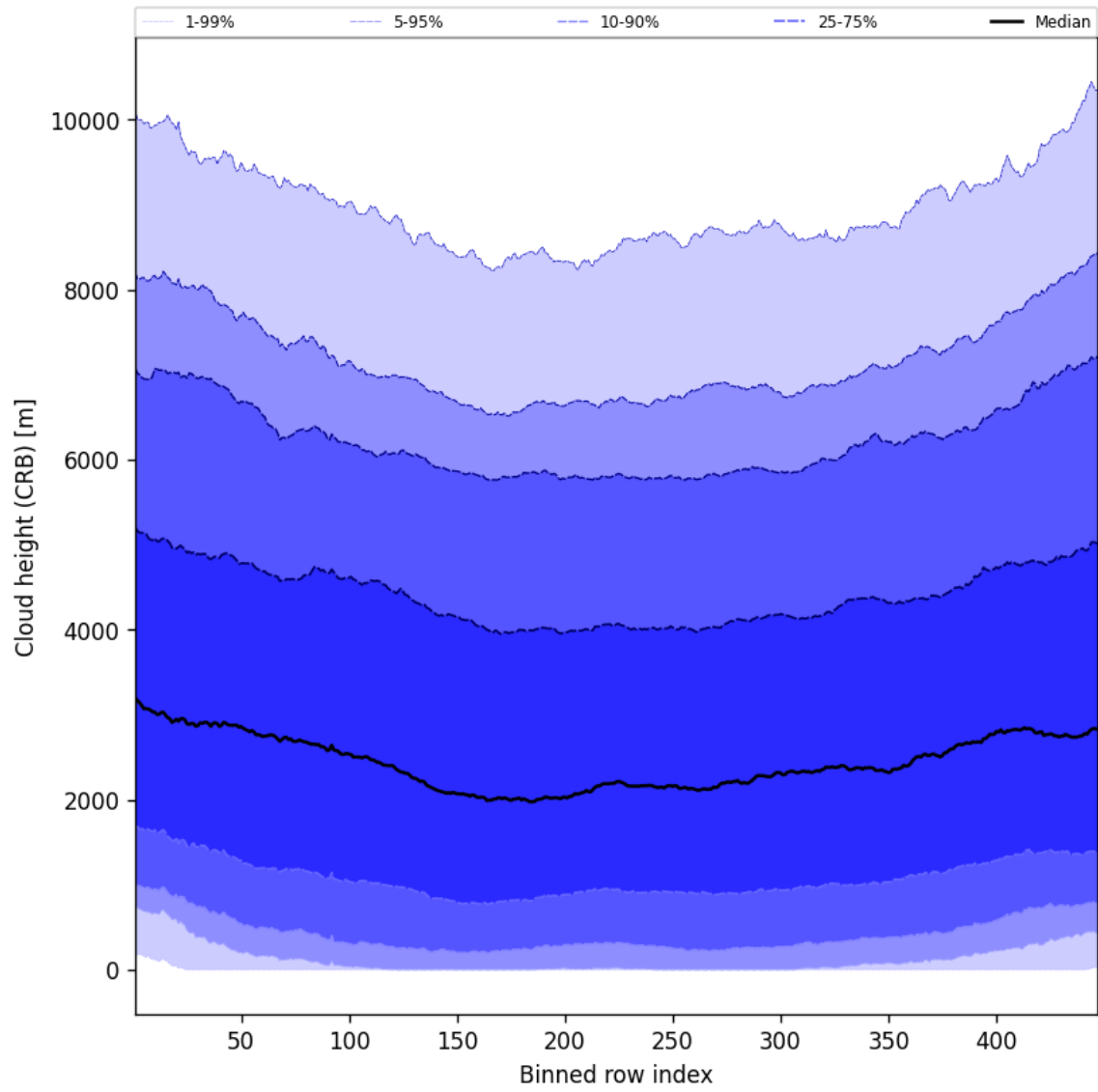


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22

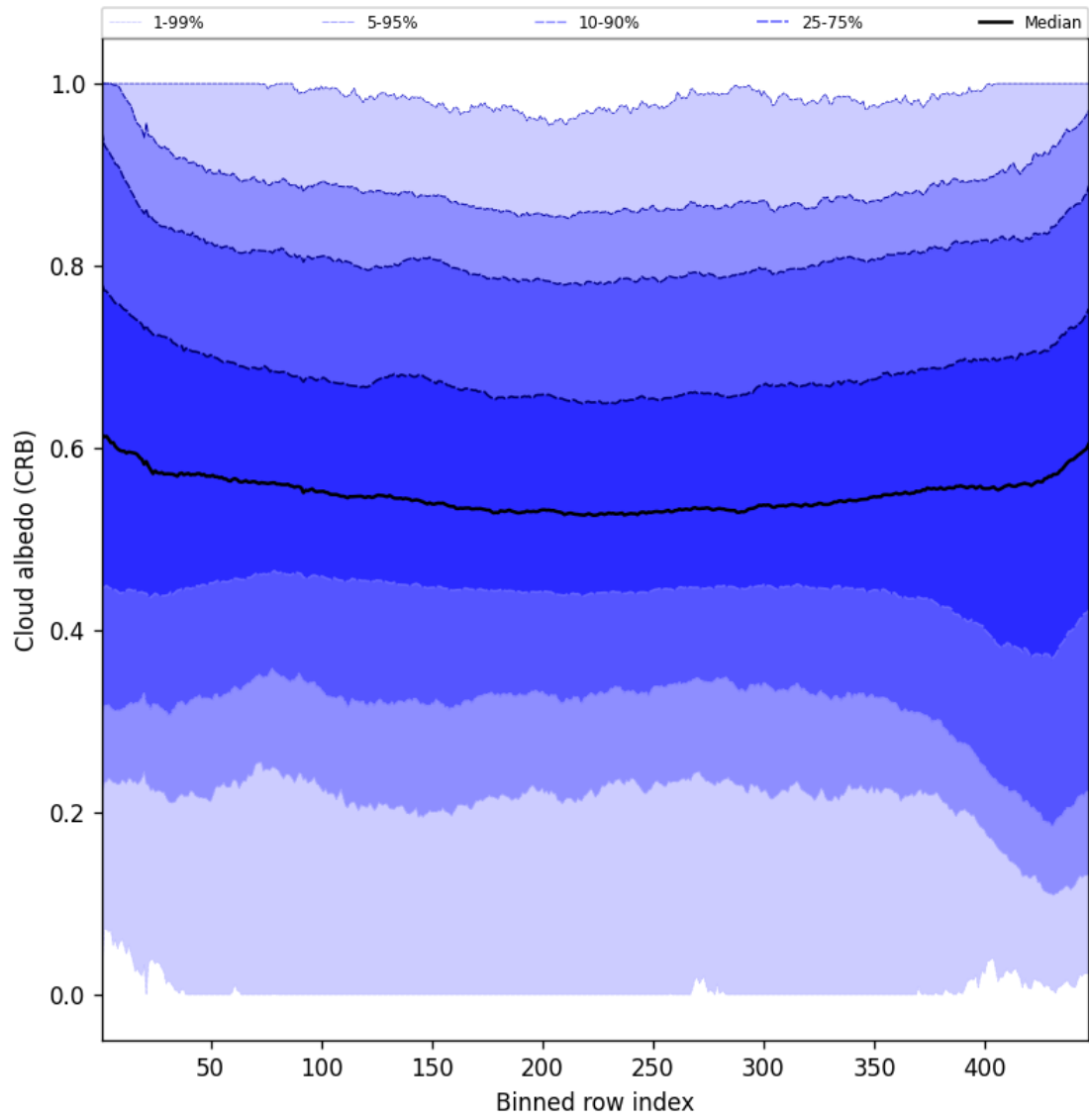


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22

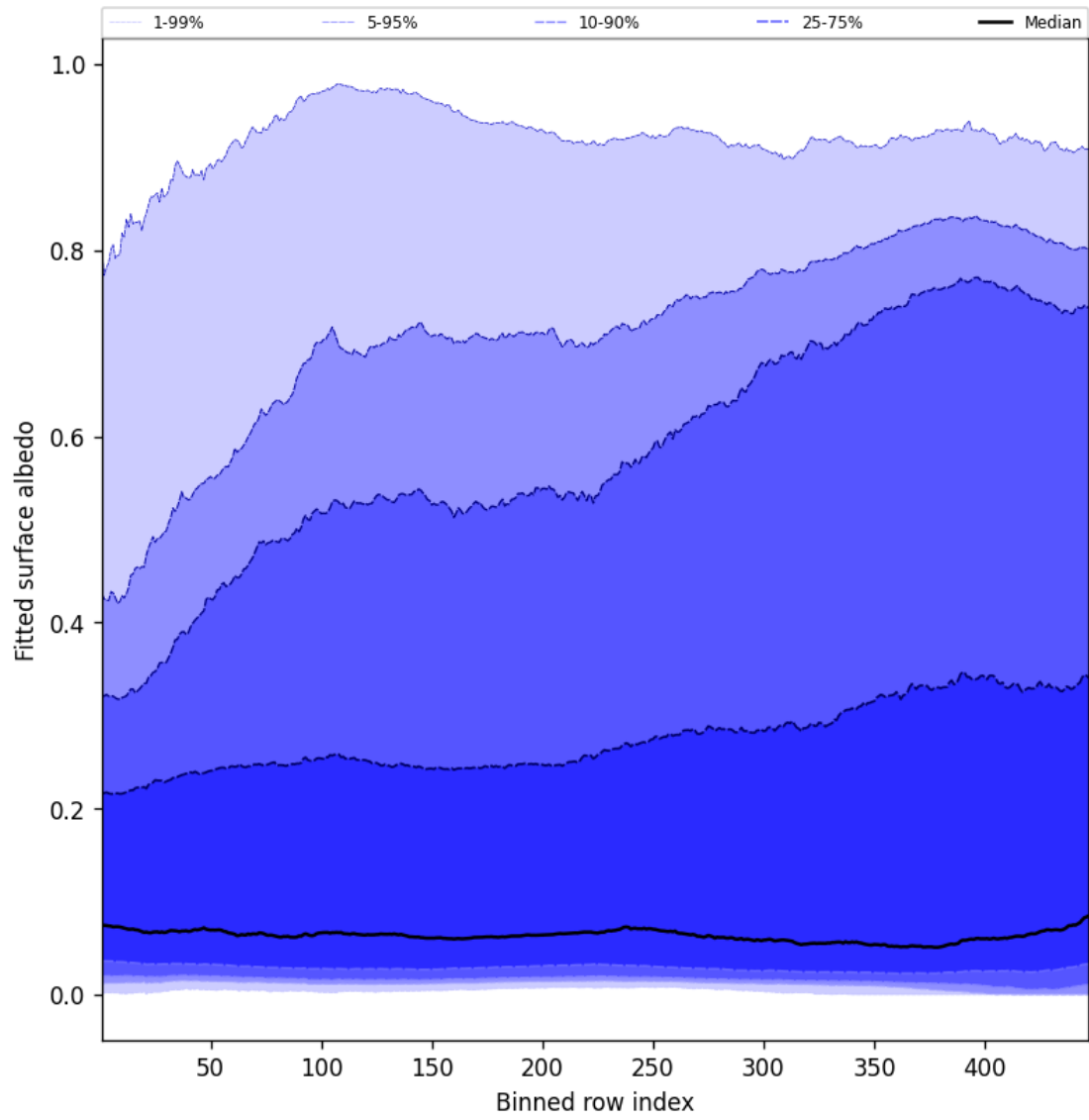


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-06-21 to 2025-06-22

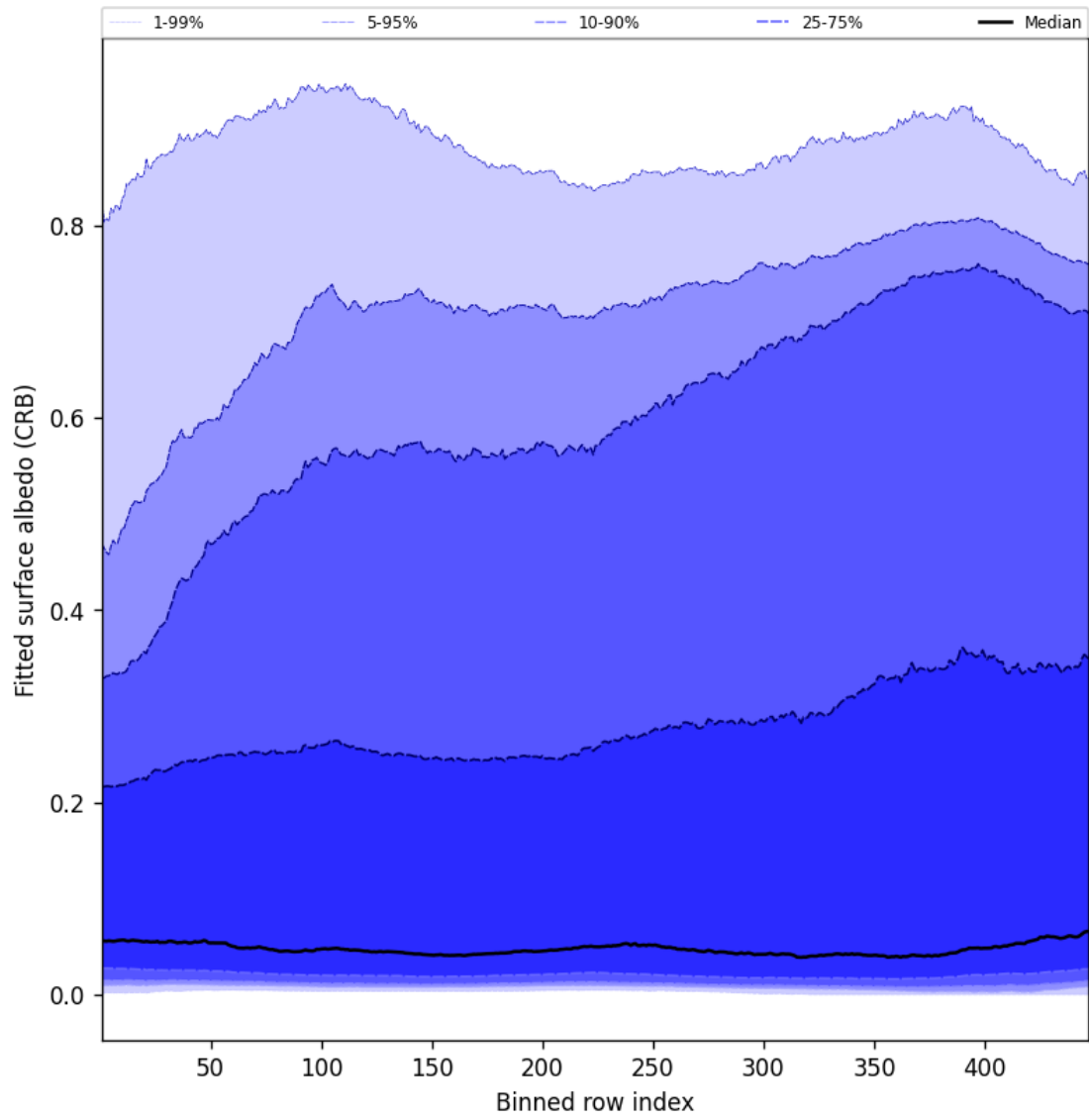


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22

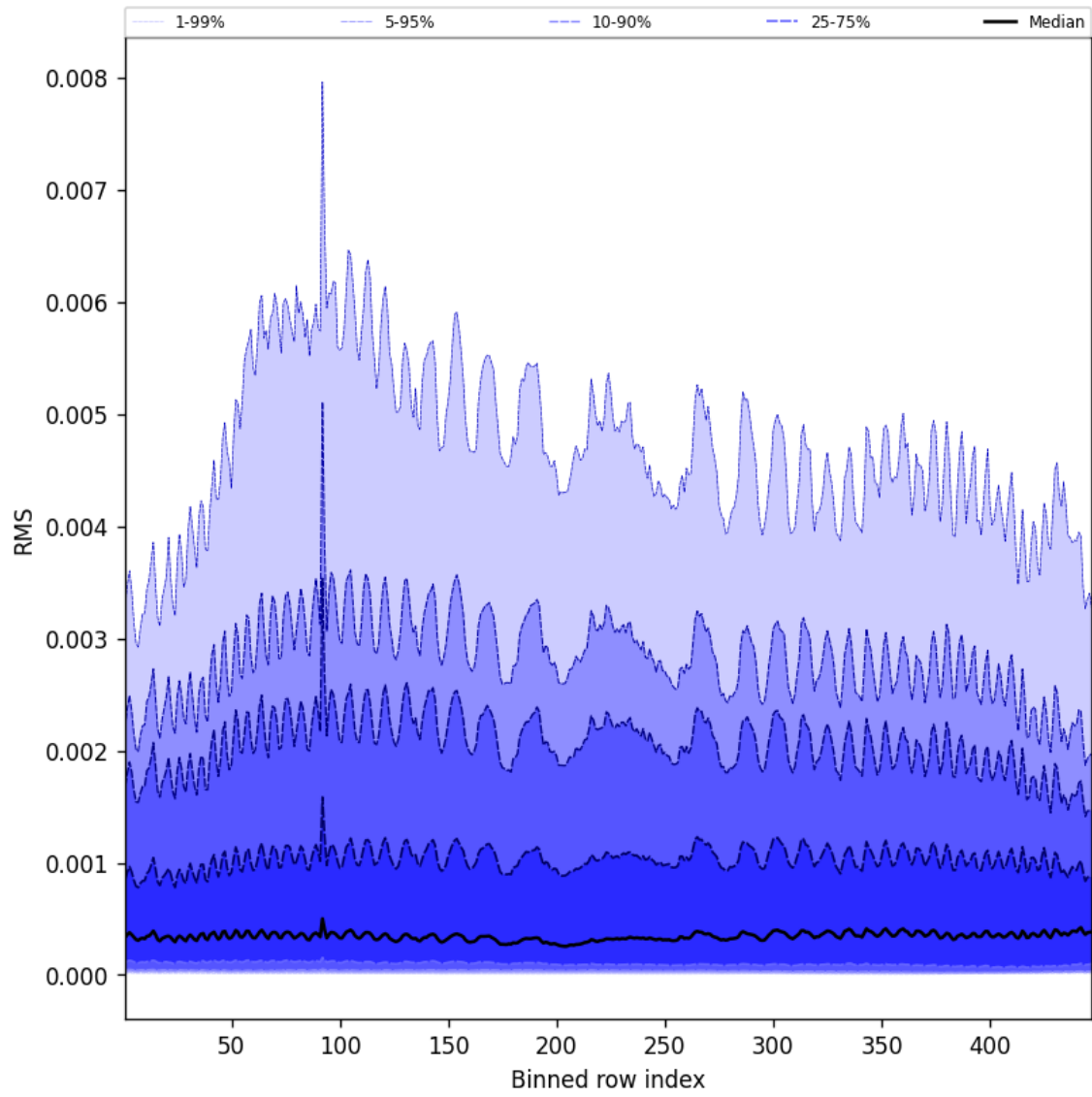


Figure 61: Along track statistics of “RMS” for 2025-06-21 to 2025-06-22

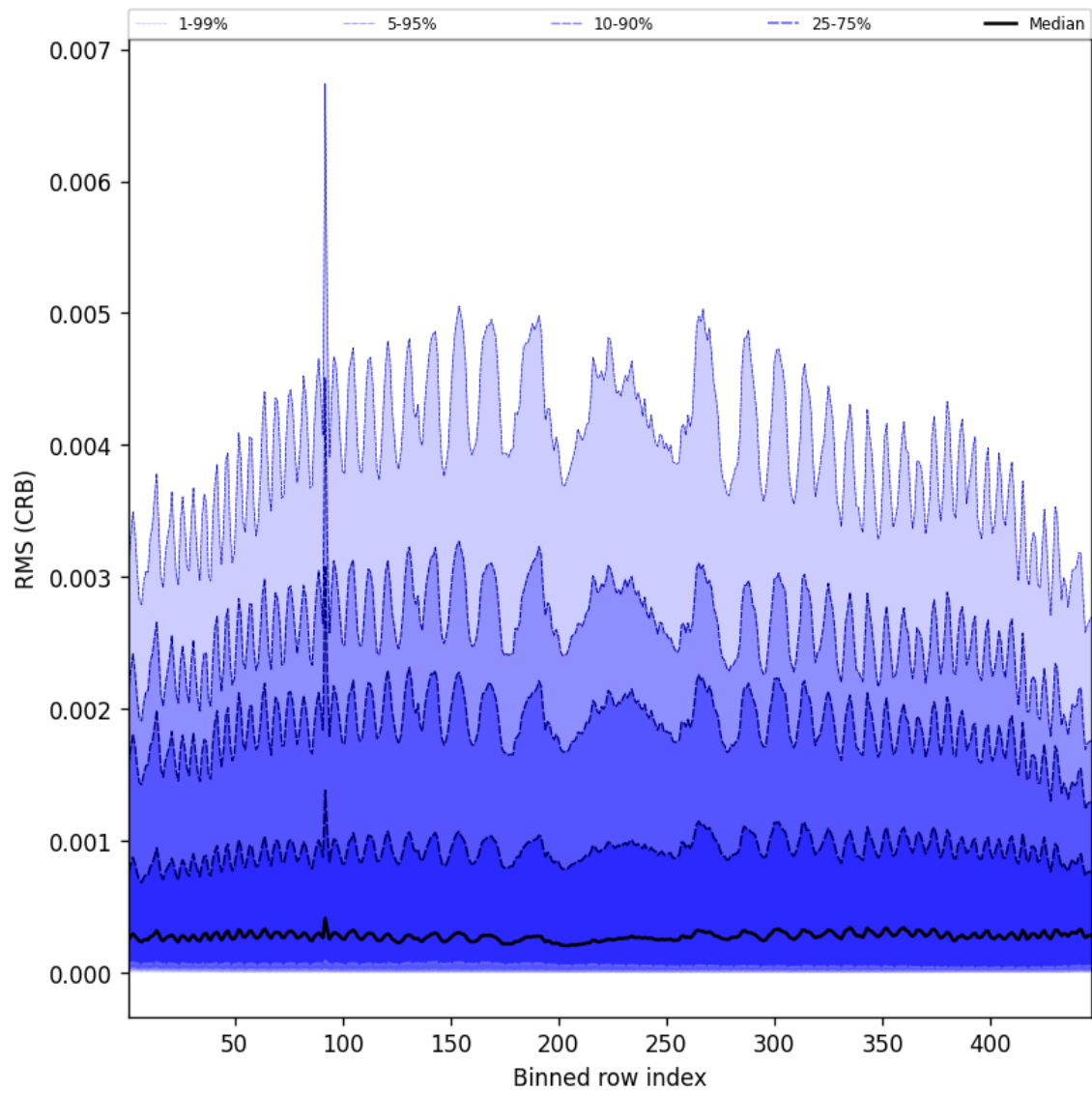


Figure 62: Along track statistics of “RMS (CRB)” for 2025-06-21 to 2025-06-22

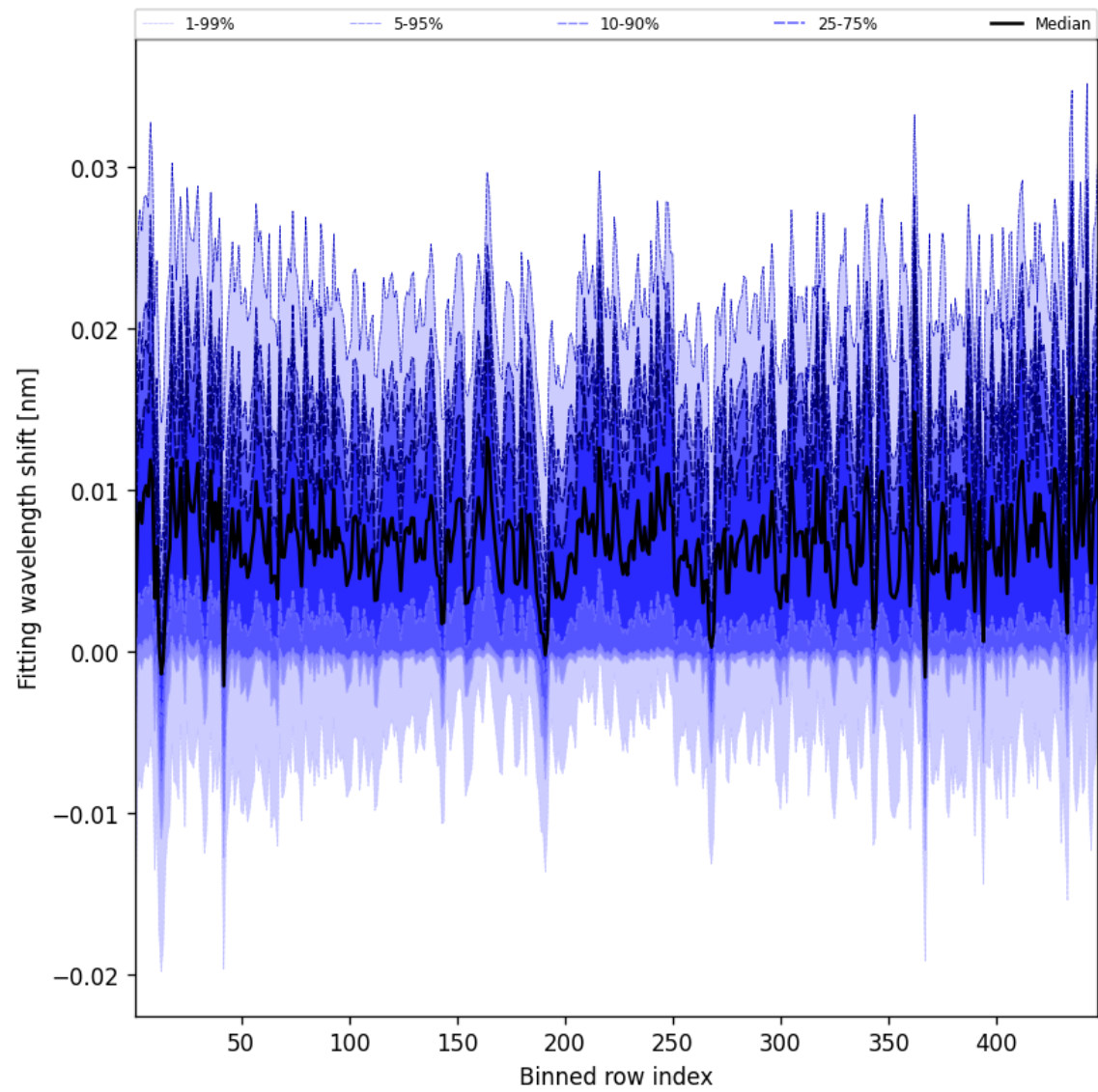


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22

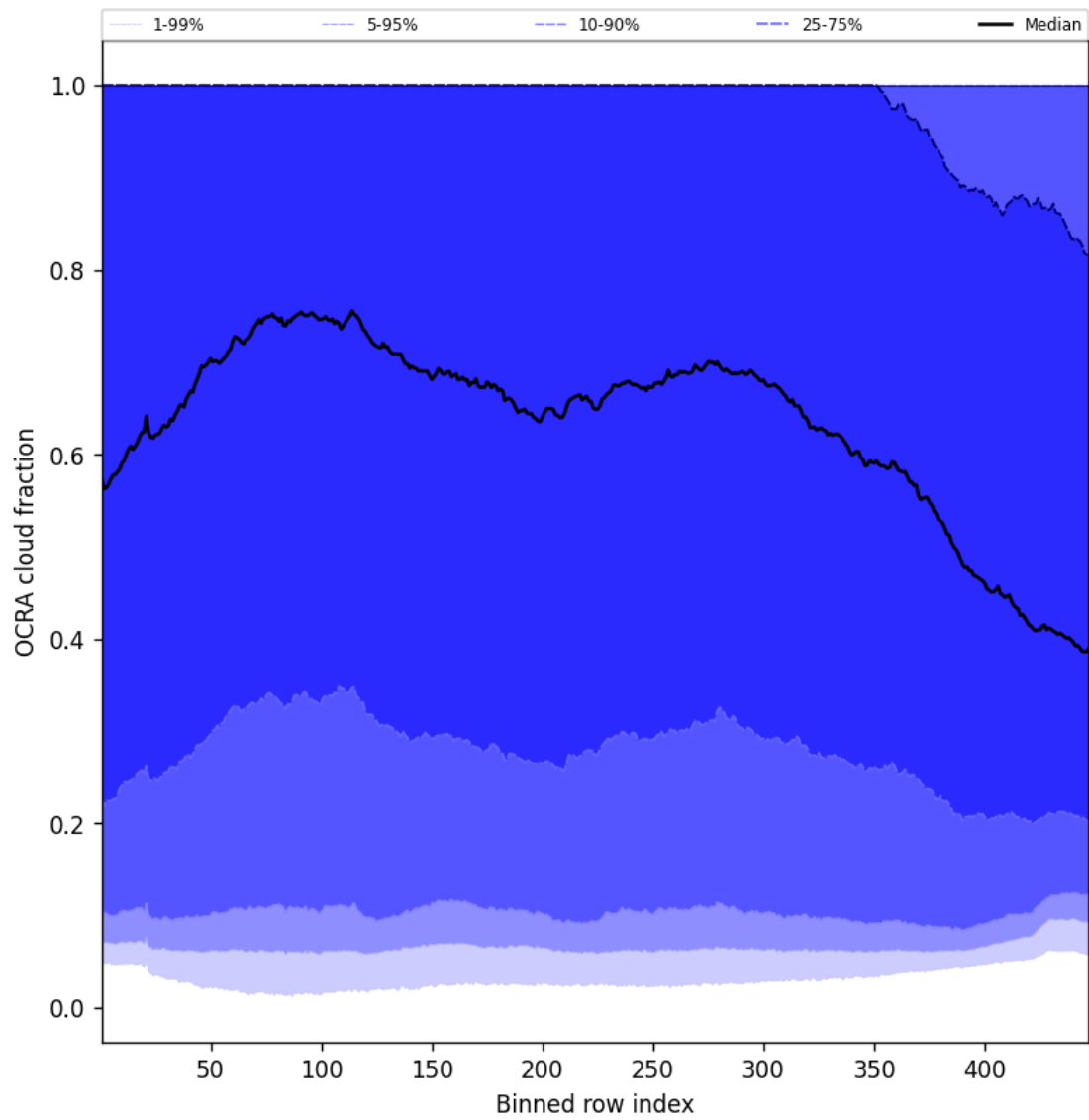


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22

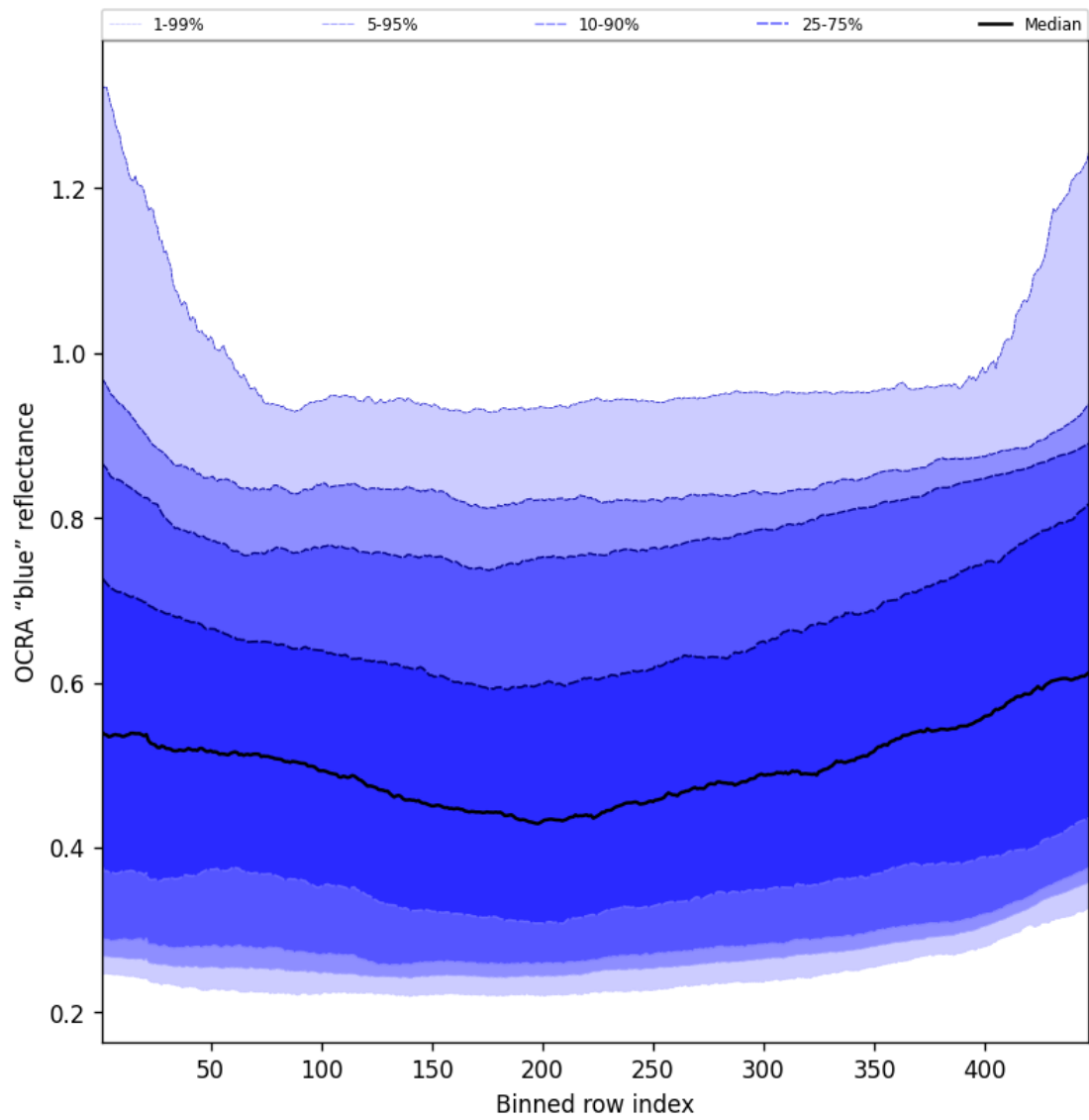


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22

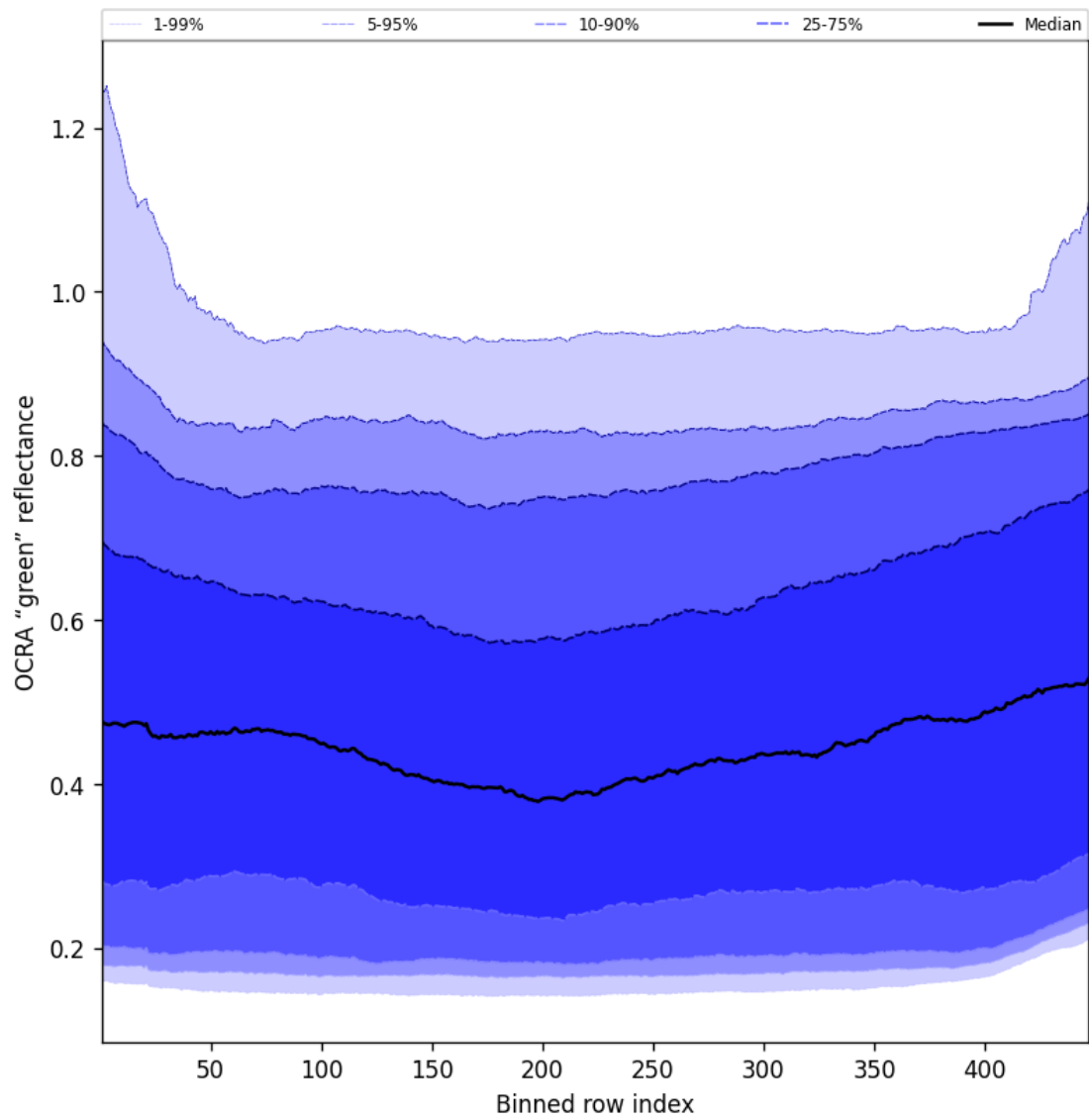


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22

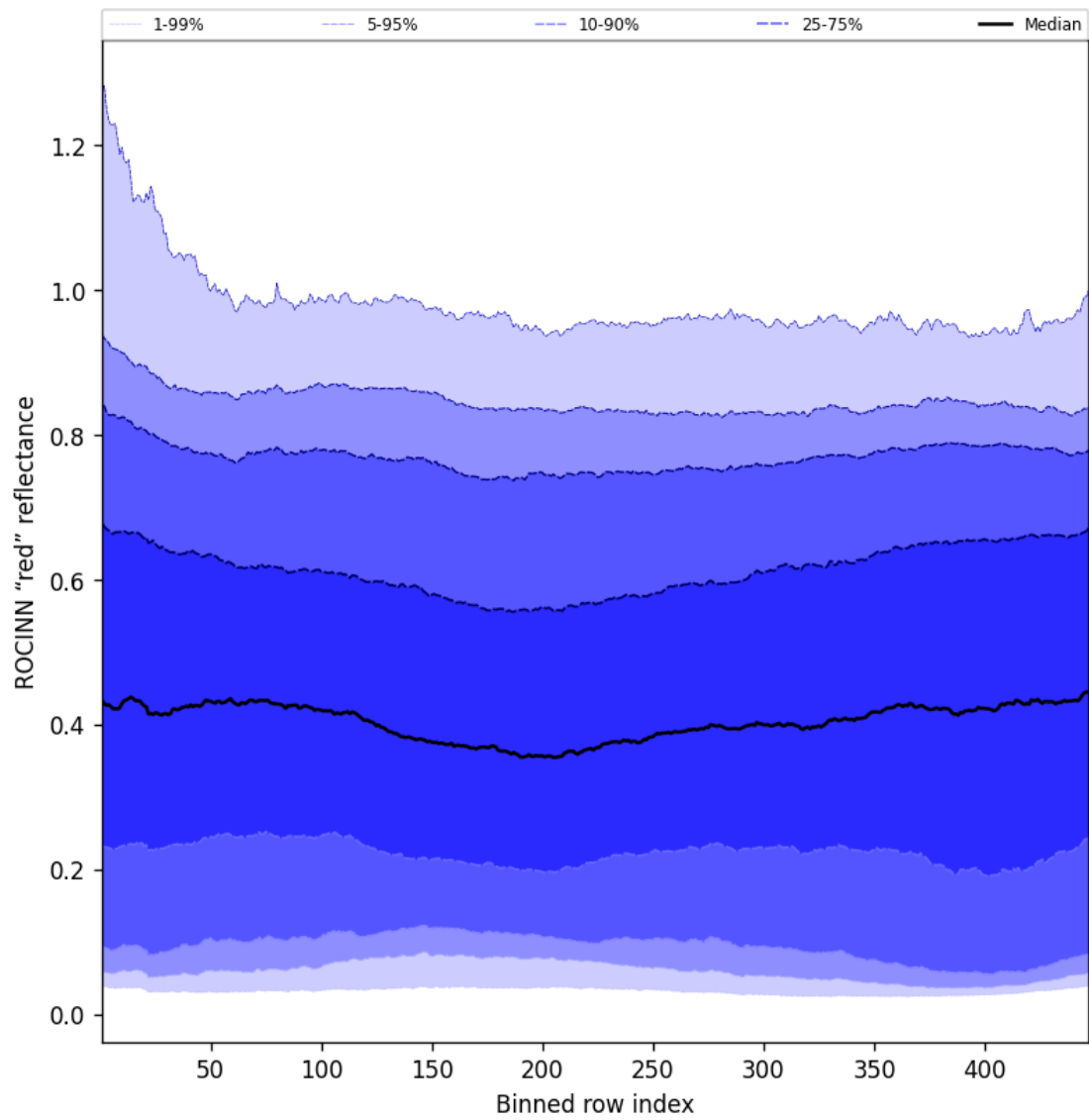


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22

10 Coincidence density

To investigate the relation between parameters scatter density plots are produced. These include some ‘hidden’ parameters, latitude and the solar- and viewing geometries, in addition to all configured parameters. All combinations of pairs of parameters are included *once*, in one direction alone.

Contents

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

List of Figures

1	Outline of the granules.	8
2	Input data per granule	9
3	Fraction of pixels with specific warnings and errors during processing	10
4	Map of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22	11
5	Map of “Cloud top height” for 2025-06-21 to 2025-06-22	12
6	Map of “Cloud optical thickness” for 2025-06-21 to 2025-06-22	13
7	Map of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22	14
8	Map of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22	15
9	Map of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22	16
10	Map of “Fitted surface albedo” for 2025-06-21 to 2025-06-22	17
11	Map of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22	18
12	Map of “RMS” for 2025-06-21 to 2025-06-22	19
13	Map of “RMS (CRB)” for 2025-06-21 to 2025-06-22	20
14	Map of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22	21
15	Map of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22	22
16	Map of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22	23
17	Map of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22	24
18	Map of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22	25
19	Map of the number of observations for 2025-06-21 to 2025-06-22	26
20	Zonal average of “QA value” for 2025-06-21 to 2025-06-22.	27
21	Zonal average of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22.	28
22	Zonal average of “Cloud top height” for 2025-06-21 to 2025-06-22.	29
23	Zonal average of “Cloud optical thickness” for 2025-06-21 to 2025-06-22.	30
24	Zonal average of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22.	31
25	Zonal average of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22.	32
26	Zonal average of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22.	33
27	Zonal average of “Fitted surface albedo” for 2025-06-21 to 2025-06-22.	34
28	Zonal average of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22.	35
29	Zonal average of “RMS” for 2025-06-21 to 2025-06-22.	36

30	Zonal average of “RMS (CRB)” for 2025-06-21 to 2025-06-22.	37
31	Zonal average of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22.	38
32	Zonal average of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22.	39
33	Zonal average of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22.	40
34	Zonal average of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22.	41
35	Zonal average of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22.	42
36	Histogram of “QA value” for 2025-06-21 to 2025-06-22	43
37	Histogram of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22	44
38	Histogram of “Cloud top height” for 2025-06-21 to 2025-06-22	45
39	Histogram of “Cloud optical thickness” for 2025-06-21 to 2025-06-22	46
40	Histogram of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22	47
41	Histogram of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22	48
42	Histogram of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22	49
43	Histogram of “Fitted surface albedo” for 2025-06-21 to 2025-06-22	50
44	Histogram of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22	51
45	Histogram of “RMS” for 2025-06-21 to 2025-06-22	52
46	Histogram of “RMS (CRB)” for 2025-06-21 to 2025-06-22	53
47	Histogram of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22	54
48	Histogram of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22	55
49	Histogram of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22	56
50	Histogram of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22	57
51	Histogram of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22	58
52	Along track statistics of “QA value” for 2025-06-21 to 2025-06-22	59
53	Along track statistics of “Radiometric cloud fraction” for 2025-06-21 to 2025-06-22	60
54	Along track statistics of “Cloud top height” for 2025-06-21 to 2025-06-22	61
55	Along track statistics of “Cloud optical thickness” for 2025-06-21 to 2025-06-22	62
56	Along track statistics of “Cloud fraction (CRB)” for 2025-06-21 to 2025-06-22	63
57	Along track statistics of “Cloud height (CRB)” for 2025-06-21 to 2025-06-22	64
58	Along track statistics of “Cloud albedo (CRB)” for 2025-06-21 to 2025-06-22	65
59	Along track statistics of “Fitted surface albedo” for 2025-06-21 to 2025-06-22	66
60	Along track statistics of “Fitted surface albedo (CRB)” for 2025-06-21 to 2025-06-22	67
61	Along track statistics of “RMS” for 2025-06-21 to 2025-06-22	68
62	Along track statistics of “RMS (CRB)” for 2025-06-21 to 2025-06-22	69
63	Along track statistics of “Fitting wavelength shift” for 2025-06-21 to 2025-06-22	70
64	Along track statistics of “OCRA cloud fraction” for 2025-06-21 to 2025-06-22	71
65	Along track statistics of “OCRA “blue” reflectance” for 2025-06-21 to 2025-06-22	72
66	Along track statistics of “OCRA “green” reflectance” for 2025-06-21 to 2025-06-22	73
67	Along track statistics of “ROCINN “red” reflectance” for 2025-06-21 to 2025-06-22	74

List of Tables

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

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