

PyCAMA report generated by tropl2-proc

tropl2-proc

2025-01-20 (01:30)

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]	0.601 ± 0.370	18916479	5.000×10^{-3}	0.600	0.700	0.0	1.000
cloud fraction [1]	0.564 ± 0.339	18916479	0.995	0.703	0.541	4.688×10^{-3}	1.000
cloud top height [m]	$(0.409 \pm 0.270) \times 10^4$	18916479	1.575×10^3	3.768×10^3	3.615×10^3	0.0	2.000×10^4
cloud optical thickness [1]	18.6 ± 35.5	18916479	9.34	9.90	8.85	1.000	250
cloud fraction crb [1]	0.564 ± 0.339	18916479	0.995	0.704	0.540	1.151×10^{-3}	1.000
cloud height crb [m]	$(0.310 \pm 0.227) \times 10^4$	18916479	975	3.231×10^3	2.685×10^3	0.0	2.000×10^4
cloud albedo crb [1]	0.605 ± 0.224	18916479	0.995	0.313	0.589	0.0	1.000
surface albedo fitted [1]	0.293 ± 0.348	18916479	2.500×10^{-2}	0.522	6.116×10^{-2}	0.0	1.000
surface albedo fitted crb [1]	0.280 ± 0.335	18916479	1.500×10^{-2}	0.518	4.964×10^{-2}	0.0	1.000
fitted root mean square [1]	$(7.662 \pm 21.297) \times 10^{-4}$	18916479	5.000×10^{-5}	9.362×10^{-4}	4.528×10^{-4}	1.075×10^{-6}	1.30
fitted root mean square crb [1]	$(6.652 \pm 24.147) \times 10^{-4}$	18916479	5.000×10^{-5}	8.761×10^{-4}	3.345×10^{-4}	7.349×10^{-7}	1.38
wavelength shift [nm]	$(8.021 \pm 7.006) \times 10^{-3}$	18916479	3.000×10^{-4}	1.015×10^{-2}	7.642×10^{-3}	-0.168	0.627
cloud fraction apriori [1]	0.573 ± 0.343	18916479	0.995	0.746	0.561	0.0	1.000
reflectance blue ocra [1]	0.589 ± 0.237	18916479	0.275	0.419	0.574	0.141	2.73
reflectance green ocra [1]	0.541 ± 0.267	18916479	0.185	0.491	0.534	8.557×10^{-2}	3.00
reflectance continuum aband [1]	0.492 ± 0.292	18916479	3.500×10^{-2}	0.504	0.497	1.090×10^{-2}	6.07

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	0.990	1.000	1.000	1.000
cloud fraction [1]	2.738×10^{-2}	7.057×10^{-2}	0.109	0.159	0.250	0.953	1.000	1.000	1.000	1.000
cloud top height [m]	320	806	1.137×10^3	1.445×10^3	1.905×10^3	5.672×10^3	6.759×10^3	7.777×10^3	9.155×10^3	1.187×10^4
cloud optical thickness [1]	1.000	2.31	3.46	4.42	5.37	15.3	23.1	34.8	63.1	250
cloud fraction crb [1]	2.705×10^{-2}	6.992×10^{-2}	0.109	0.158	0.249	0.953	1.000	1.000	1.000	1.000
cloud height crb [m]	7.47	281	576	844	1.241×10^3	4.472×10^3	5.413×10^3	6.283×10^3	7.440×10^3	9.520×10^3
cloud albedo crb [1]	0.0	0.213	0.343	0.413	0.463	0.776	0.859	0.913	0.981	1.000
surface albedo fitted [1]	0.0	7.114×10^{-3}	1.296×10^{-2}	1.803×10^{-2}	2.540×10^{-2}	0.548	0.827	0.921	0.966	1.000
surface albedo fitted crb [1]	0.0	5.803×10^{-3}	9.650×10^{-3}	1.347×10^{-2}	1.945×10^{-2}	0.538	0.809	0.869	0.905	0.949
fitted root mean square [1]	1.494×10^{-5}	2.982×10^{-5}	4.963×10^{-5}	8.010×10^{-5}	1.420×10^{-4}	1.078×10^{-3}	1.485×10^{-3}	1.865×10^{-3}	2.376×10^{-3}	3.569×10^{-3}
fitted root mean square crb [1]	8.261×10^{-6}	1.938×10^{-5}	3.342×10^{-5}	5.228×10^{-5}	9.223×10^{-5}	9.684×10^{-4}	1.372×10^{-3}	1.742×10^{-3}	2.241×10^{-3}	3.304×10^{-3}
wavelength shift [nm]	-7.758×10^{-3}	-7.798×10^{-4}	1.454×10^{-4}	1.000×10^{-3}	2.620×10^{-3}	1.277×10^{-2}	1.503×10^{-2}	1.696×10^{-2}	1.952×10^{-2}	2.529×10^{-2}
cloud fraction apriori [1]	2.958×10^{-2}	6.713×10^{-2}	0.104	0.154	0.252	0.998	1.000	1.000	1.000	1.000
reflectance blue ocra [1]	0.235	0.260	0.287	0.319	0.374	0.793	0.865	0.904	0.940	1.10
reflectance green ocra [1]	0.152	0.175	0.197	0.226	0.285	0.776	0.857	0.901	0.937	1.06
reflectance continuum aband [1]	2.830×10^{-2}	5.263×10^{-2}	8.879×10^{-2}	0.138	0.236	0.740	0.824	0.869	0.915	1.06

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

Variable	mean $\pm \sigma$	Count	IQR	Median	Minimum	Maximum	25 % percentile	75 % percentile
qa value [1]	0.541 ± 0.402	7348821	0.900	0.670	0.0	1.000	0.0	0.900
cloud fraction [1]	0.531 ± 0.342	7348821	0.694	0.484	4.688×10^{-3}	1.000	0.213	0.906
cloud top height [m]	$(0.423 \pm 0.267) \times 10^4$	7348821	3.948×10^3	3.787×10^3	0.0	2.000×10^4	2.002×10^3	5.949×10^3
cloud optical thickness [1]	27.7 ± 49.2	7348821	16.7	10.1	1.000	250	6.03	22.8
cloud fraction crb [1]	0.529 ± 0.342	7348821	0.692	0.481	8.170×10^{-3}	1.000	0.212	0.904
cloud height crb [m]	$(0.347 \pm 0.224) \times 10^4$	7348821	3.489×10^3	3.240×10^3	0.0	2.000×10^4	1.521×10^3	5.010×10^3
cloud albedo crb [1]	0.598 ± 0.216	7348821	0.274	0.585	0.0	1.000	0.467	0.741
surface albedo fitted [1]	0.214 ± 0.231	7348821	0.339	8.104×10^{-2}	0.0	1.000	2.992×10^{-2}	0.369
surface albedo fitted crb [1]	0.205 ± 0.226	7348821	0.337	6.835×10^{-2}	0.0	1.000	2.255×10^{-2}	0.359
fitted root mean square [1]	$(4.643 \pm 6.278) \times 10^{-4}$	7348821	5.016×10^{-4}	2.623×10^{-4}	1.405×10^{-6}	0.158	1.029×10^{-4}	6.045×10^{-4}
fitted root mean square crb [1]	$(3.649 \pm 5.186) \times 10^{-4}$	7348821	3.986×10^{-4}	1.571×10^{-4}	1.196×10^{-6}	4.032×10^{-2}	5.567×10^{-5}	4.543×10^{-4}
wavelength shift [nm]	$(6.384 \pm 6.546) \times 10^{-3}$	7348821	9.040×10^{-3}	5.294×10^{-3}	-5.014×10^{-2}	5.880×10^{-2}	1.455×10^{-3}	1.050×10^{-2}
cloud fraction apriori [1]	0.535 ± 0.347	7348821	0.722	0.492	0.0	1.000	0.209	0.931
reflectance blue ocra [1]	0.557 ± 0.218	7348821	0.330	0.540	0.141	2.73	0.375	0.705
reflectance green ocra [1]	0.501 ± 0.242	7348821	0.394	0.490	8.675×10^{-2}	3.00	0.283	0.677
reflectance continuum aband [1]	0.451 ± 0.271	7348821	0.410	0.441	1.090×10^{-2}	4.54	0.234	0.645

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]	0.640 ± 0.343	11567658	0.500	0.740	0.0	1.000	0.400	0.900
cloud fraction [1]	0.585 ± 0.335	11567658	0.696	0.575	5.902×10^{-3}	1.000	0.280	0.976
cloud top height [m]	$(0.400 \pm 0.271) \times 10^4$	11567658	3.637×10^3	3.521×10^3	0.0	2.000×10^4	1.840×10^3	5.477×10^3
cloud optical thickness [1]	12.8 ± 20.9	11567658	7.50	8.29	1.000	250	5.11	12.6
cloud fraction crb [1]	0.586 ± 0.335	11567658	0.697	0.576	1.151×10^{-3}	1.000	0.279	0.977
cloud height crb [m]	$(0.286 \pm 0.226) \times 10^4$	11567658	2.866×10^3	2.430×10^3	0.0	2.000×10^4	1.072×10^3	3.938×10^3
cloud albedo crb [1]	0.610 ± 0.228	11567658	0.338	0.592	0.0	1.000	0.461	0.799
surface albedo fitted [1]	0.344 ± 0.398	11567658	0.806	5.340×10^{-2}	0.0	1.000	2.287×10^{-2}	0.829
surface albedo fitted crb [1]	0.328 ± 0.381	11567658	0.793	4.338×10^{-2}	0.0	1.000	1.757×10^{-2}	0.811
fitted root mean square [1]	$(9.580 \pm 26.594) \times 10^{-4}$	11567658	1.181×10^{-3}	6.713×10^{-4}	1.075×10^{-6}	1.30	2.006×10^{-4}	1.382×10^{-3}
fitted root mean square crb [1]	$(8.560 \pm 30.447) \times 10^{-4}$	11567658	1.120×10^{-3}	5.665×10^{-4}	7.349×10^{-7}	1.38	1.548×10^{-4}	1.275×10^{-3}
wavelength shift [nm]	$(9.061 \pm 7.090) \times 10^{-3}$	11567658	9.882×10^{-3}	9.151×10^{-3}	-0.168	0.627	3.921×10^{-3}	1.380×10^{-2}
cloud fraction apriori [1]	0.597 ± 0.339	11567658	0.713	0.602	0.0	1.000	0.287	1.000
reflectance blue ocra [1]	0.610 ± 0.246	11567658	0.467	0.611	0.148	1.99	0.373	0.841
reflectance green ocra [1]	0.567 ± 0.278	11567658	0.548	0.580	8.557×10^{-2}	1.88	0.286	0.834
reflectance continuum aband [1]	0.518 ± 0.302	11567658	0.557	0.549	1.178×10^{-2}	6.07	0.237	0.794

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]	0.712 ± 0.329	11211098	0.570	0.890	0.0	1.000	0.400	0.970
cloud fraction [1]	0.592 ± 0.362	11211098	0.775	0.614	5.902×10^{-3}	1.000	0.225	1.000
cloud top height [m]	$(0.353 \pm 0.249) \times 10^4$	11211098	3.244×10^3	2.812×10^3	0.0	2.000×10^4	1.613×10^3	4.856×10^3
cloud optical thickness [1]	16.8 ± 25.7	11211098	9.50	9.88	1.000	250	6.80	16.3
cloud fraction crb [1]	0.591 ± 0.362	11211098	0.777	0.612	1.151×10^{-3}	1.000	0.223	1.000
cloud height crb [m]	$(0.281 \pm 0.225) \times 10^4$	11211098	3.029×10^3	2.172×10^3	0.0	2.000×10^4	1.039×10^3	4.068×10^3
cloud albedo crb [1]	0.542 ± 0.178	11211098	0.210	0.526	0.0	1.000	0.444	0.654
surface albedo fitted [1]	$(7.806 \pm 16.186) \times 10^{-2}$	11211098	3.034×10^{-2}	2.954×10^{-2}	0.0	1.000	1.725×10^{-2}	4.759×10^{-2}
surface albedo fitted crb [1]	$(7.309 \pm 16.387) \times 10^{-2}$	11211098	2.542×10^{-2}	2.294×10^{-2}	0.0	1.000	1.285×10^{-2}	3.827×10^{-2}
fitted root mean square [1]	$(7.042 \pm 26.744) \times 10^{-4}$	11211098	8.890×10^{-4}	3.011×10^{-4}	1.075×10^{-6}	1.30	8.952×10^{-5}	9.785×10^{-4}
fitted root mean square crb [1]	$(6.599 \pm 30.735) \times 10^{-4}$	11211098	8.661×10^{-4}	2.758×10^{-4}	7.349×10^{-7}	1.38	7.497×10^{-5}	9.411×10^{-4}
wavelength shift [nm]	$(7.660 \pm 7.517) \times 10^{-3}$	11211098	1.053×10^{-2}	6.907×10^{-3}	-0.168	0.627	2.106×10^{-3}	1.264×10^{-2}
cloud fraction apriori [1]	0.593 ± 0.367	11211098	0.784	0.619	0.0	1.000	0.216	1.000
reflectance blue ocra [1]	0.501 ± 0.197	11211098	0.307	0.462	0.168	1.96	0.334	0.642
reflectance green ocra [1]	0.439 ± 0.224	11211098	0.375	0.398	9.798×10^{-2}	1.99	0.237	0.611
reflectance continuum aband [1]	0.373 ± 0.263	11211098	0.453	0.337	1.178×10^{-2}	5.82	0.131	0.584

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]	0.463 ± 0.359	6261392	0.700	0.590	0.0	1.000	0.0	0.700
cloud fraction [1]	0.522 ± 0.291	6261392	0.471	0.492	5.815×10^{-3}	1.000	0.285	0.756
cloud top height [m]	$(0.494 \pm 0.275) \times 10^4$	6261392	3.304×10^3	4.712×10^3	0.0	2.000×10^4	3.045×10^3	6.349×10^3
cloud optical thickness [1]	17.5 ± 39.8	6261392	6.81	6.10	1.000	250	4.45	11.3
cloud fraction crb [1]	0.523 ± 0.292	6261392	0.473	0.493	8.170×10^{-3}	1.000	0.285	0.758
cloud height crb [m]	$(0.343 \pm 0.222) \times 10^4$	6261392	2.884×10^3	3.189×10^3	0.0	2.000×10^4	1.841×10^3	4.725×10^3
cloud albedo crb [1]	0.706 ± 0.250	6261392	0.339	0.773	0.0	1.000	0.561	0.900
surface albedo fitted [1]	0.655 ± 0.305	6261392	0.613	0.786	0.0	1.000	0.325	0.937
surface albedo fitted crb [1]	0.627 ± 0.285	6261392	0.560	0.778	0.0	1.000	0.320	0.880
fitted root mean square [1]	$(9.223 \pm 8.541) \times 10^{-4}$	6261392	9.415×10^{-4}	6.971×10^{-4}	1.470×10^{-6}	0.158	3.409×10^{-4}	1.282×10^{-3}
fitted root mean square crb [1]	$(7.444 \pm 7.554) \times 10^{-4}$	6261392	9.292×10^{-4}	5.127×10^{-4}	1.370×10^{-6}	0.317	1.775×10^{-4}	1.107×10^{-3}
wavelength shift [nm]	$(9.129 \pm 5.973) \times 10^{-3}$	6261392	8.792×10^{-3}	9.280×10^{-3}	-4.594×10^{-2}	6.383×10^{-2}	4.538×10^{-3}	1.333×10^{-2}
cloud fraction apriori [1]	0.544 ± 0.296	6261392	0.486	0.524	0.0	1.000	0.305	0.791
reflectance blue ocrs [1]	0.731 ± 0.229	6261392	0.324	0.814	0.144	2.42	0.575	0.899
reflectance green ocrs [1]	0.707 ± 0.253	6261392	0.362	0.804	8.557×10^{-2}	2.68	0.536	0.898
reflectance continuum aband [1]	0.686 ± 0.235	6261392	0.354	0.758	1.381×10^{-2}	6.07	0.510	0.863

3 Granule outlines

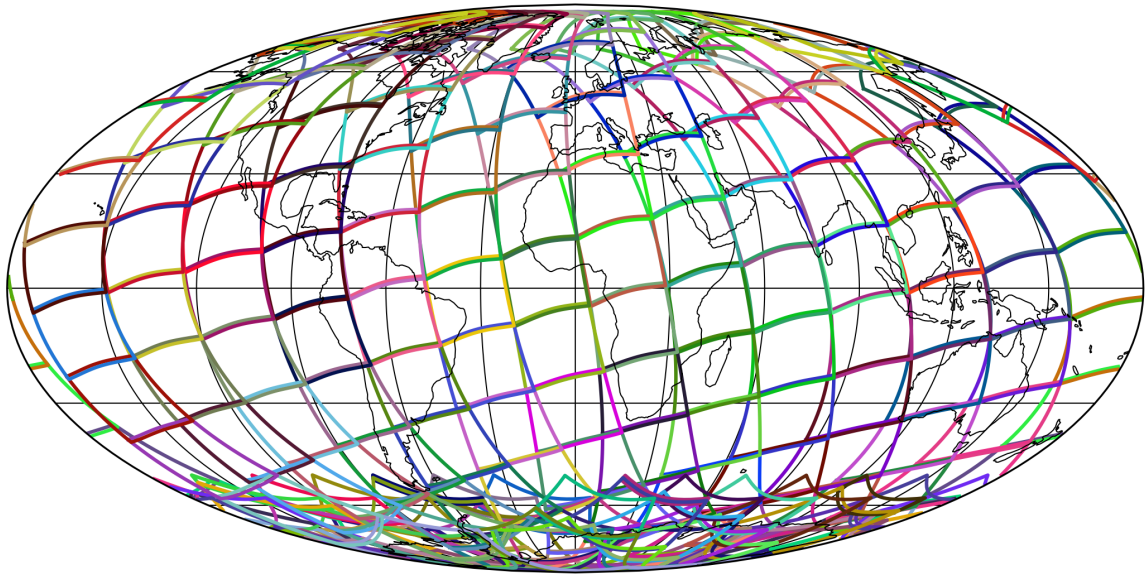


Figure 1: Outline of the granules.

4 Input data monitoring

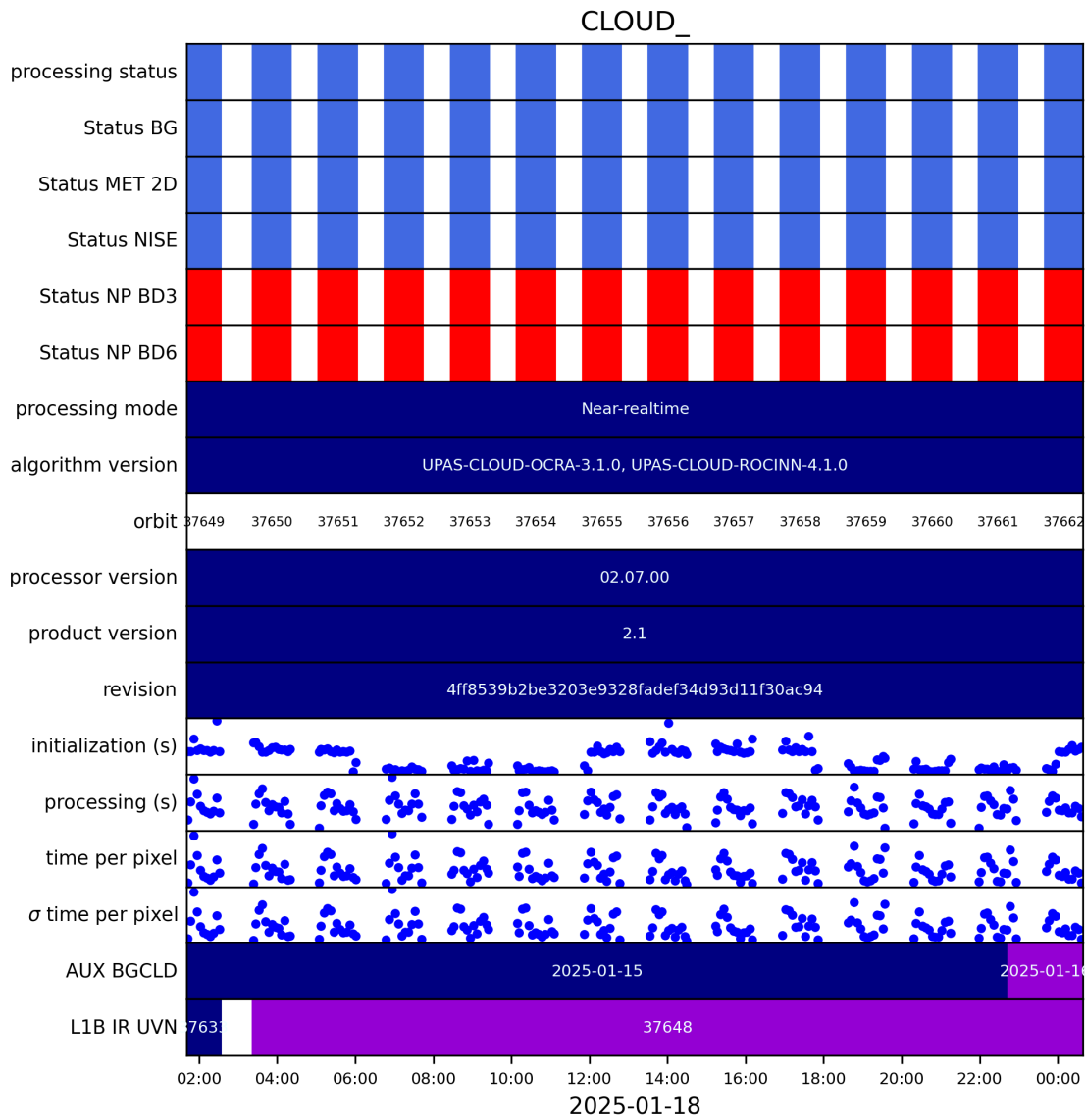


Figure 2: Input data per granule

5 Warnings and errors

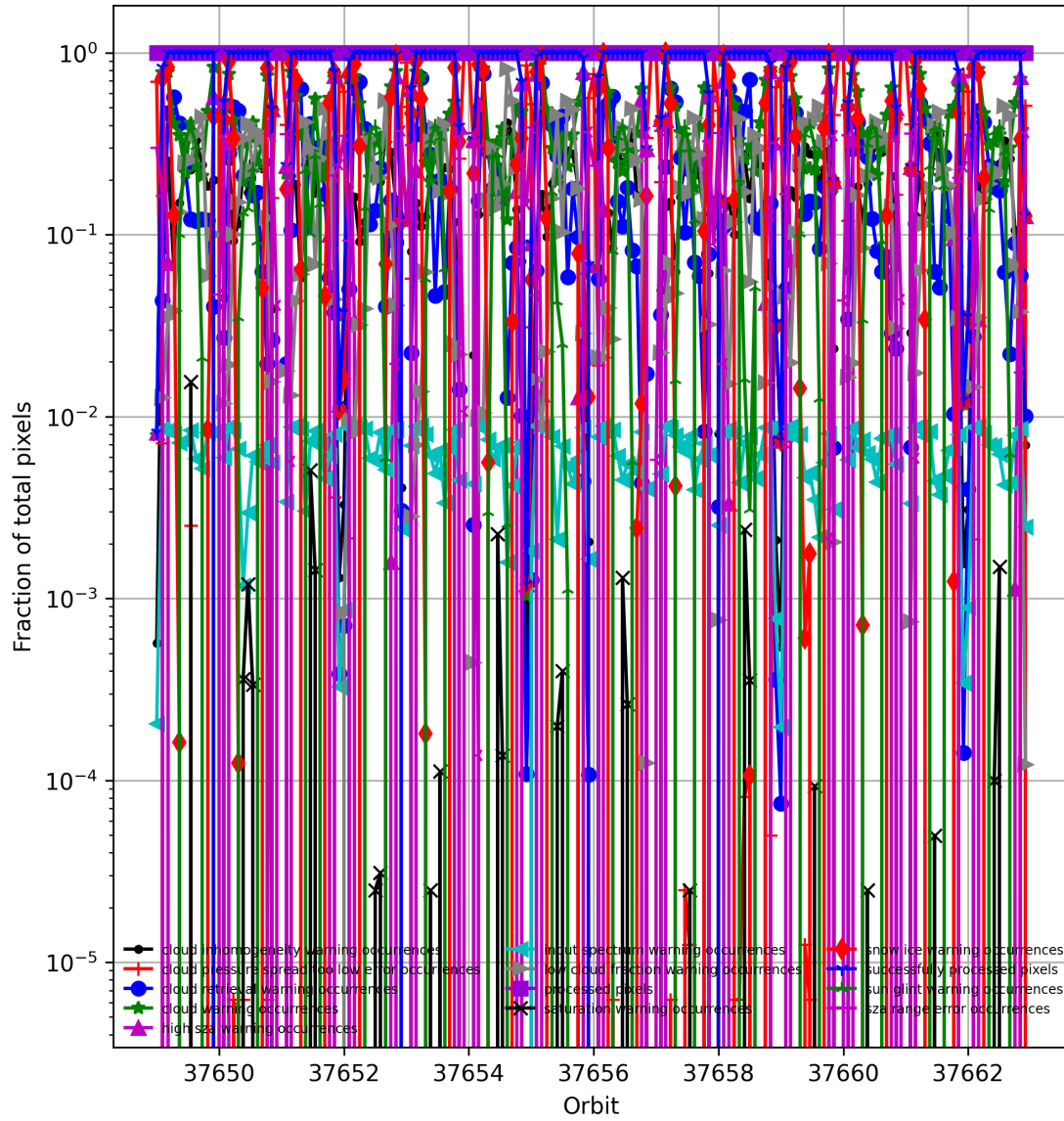


Figure 3: Fraction of pixels with specific warnings and errors during processing

6 World maps

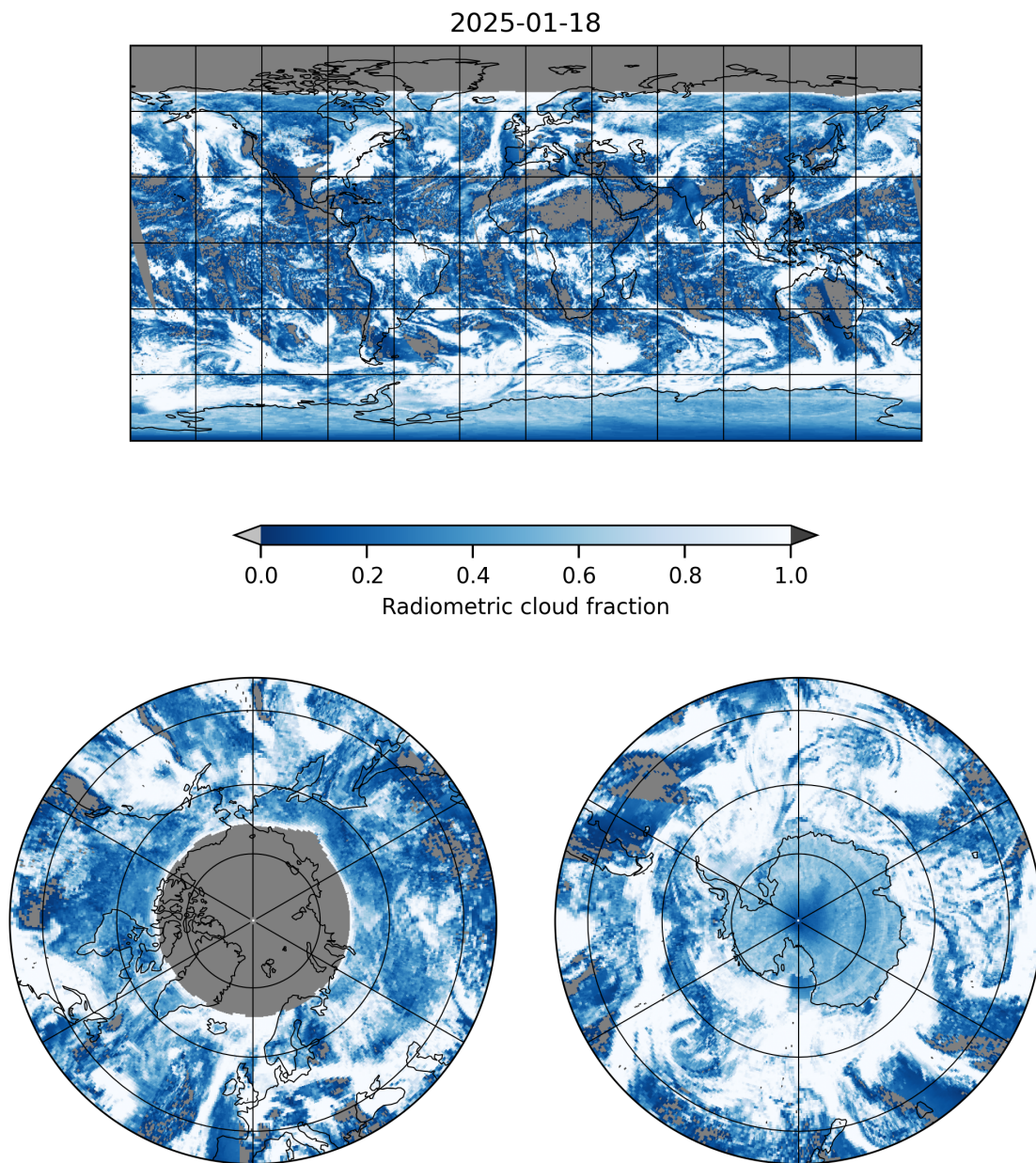


Figure 4: Map of “Radiometric cloud fraction” for 2025-01-18 to 2025-01-19

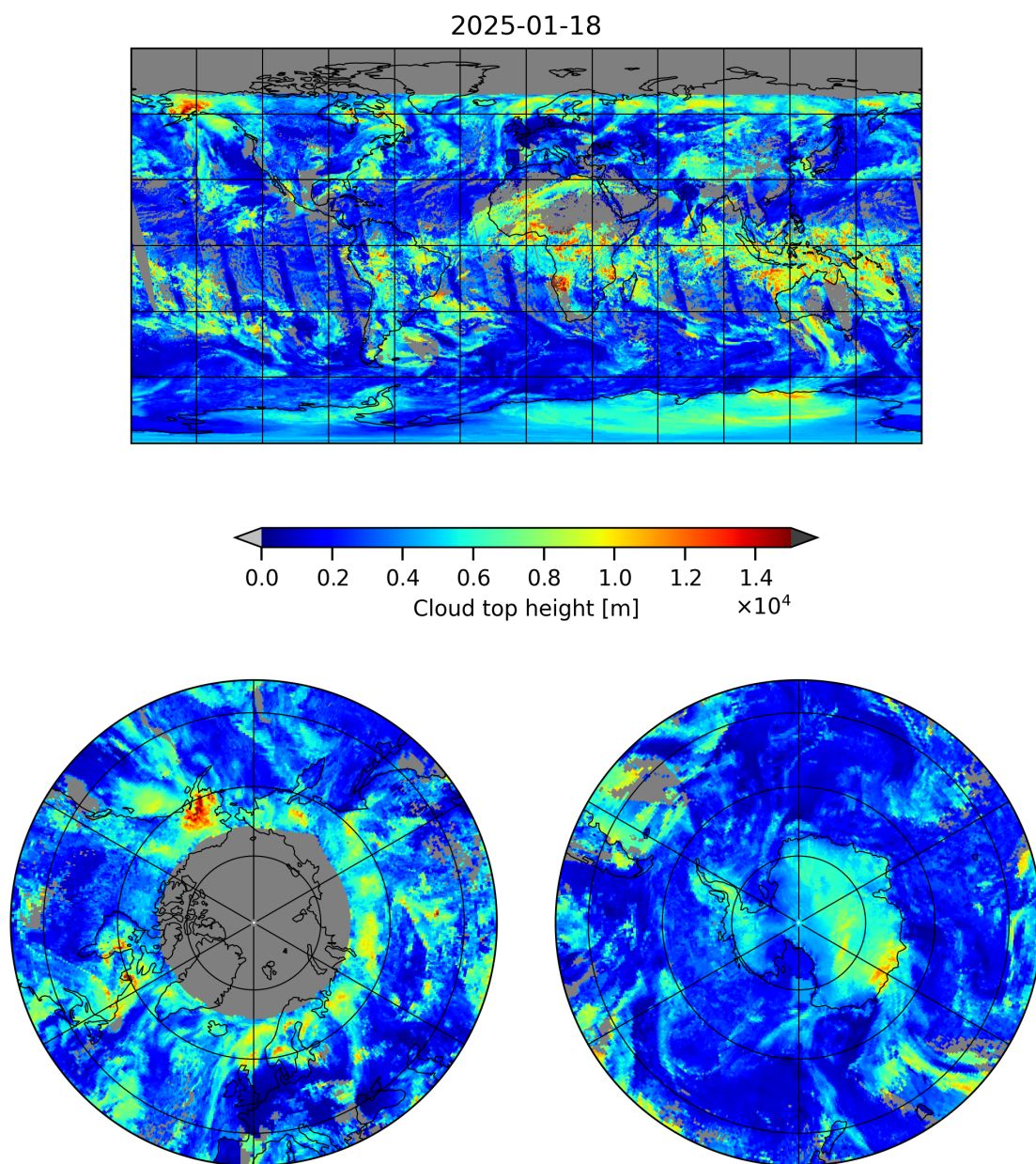


Figure 5: Map of “Cloud top height” for 2025-01-18 to 2025-01-19

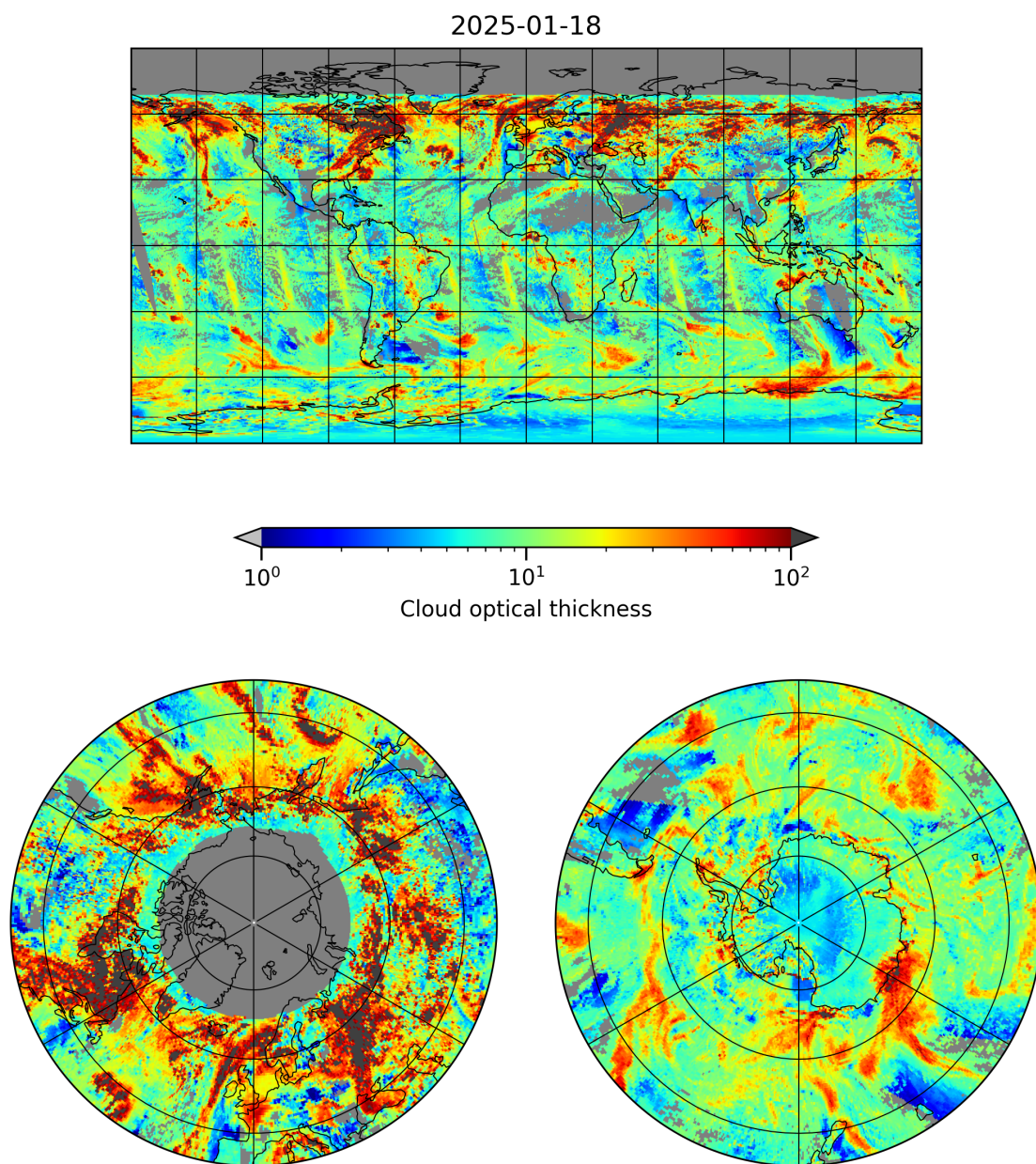


Figure 6: Map of “Cloud optical thickness” for 2025-01-18 to 2025-01-19

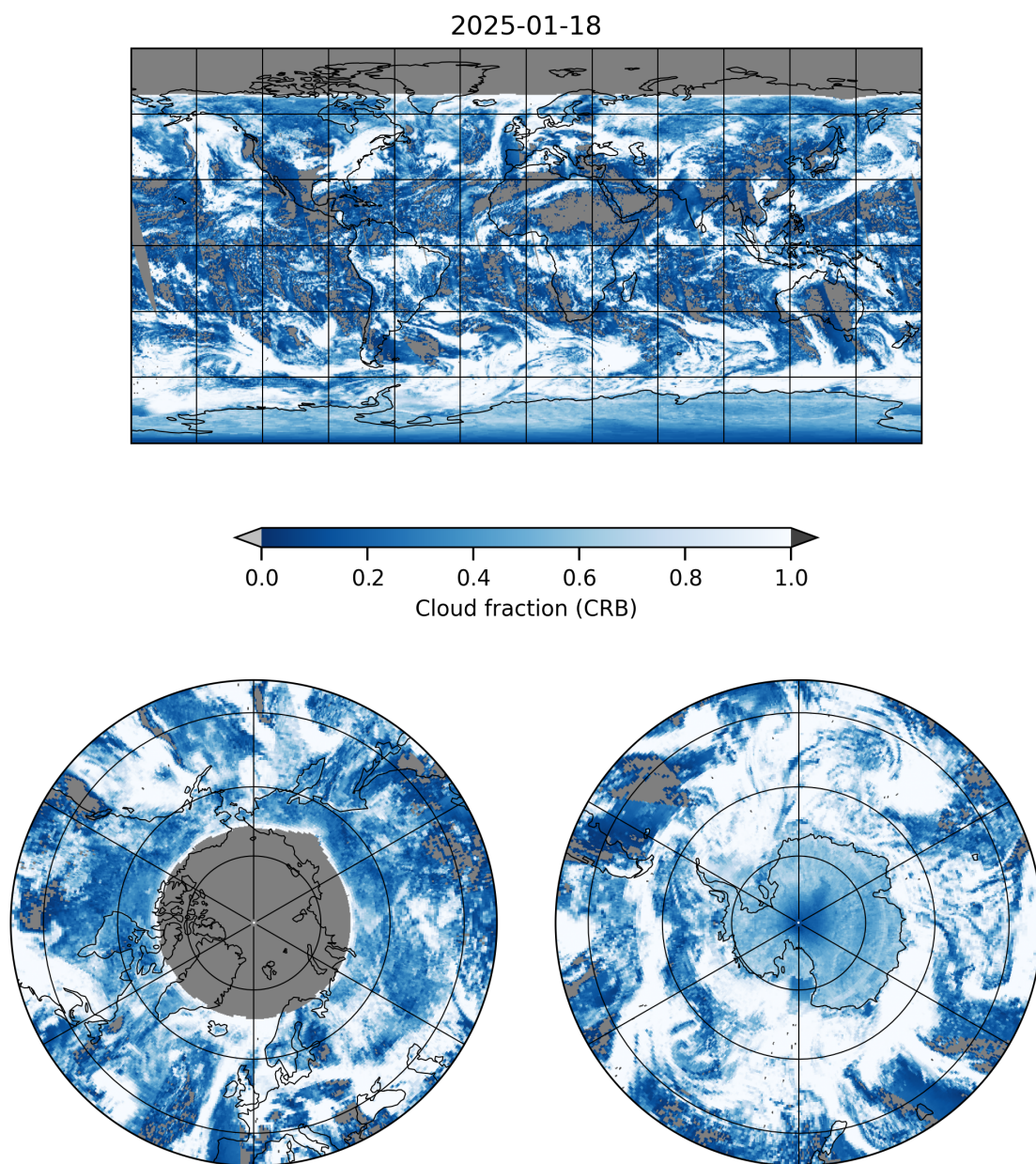


Figure 7: Map of “Cloud fraction (CRB)” for 2025-01-18 to 2025-01-19

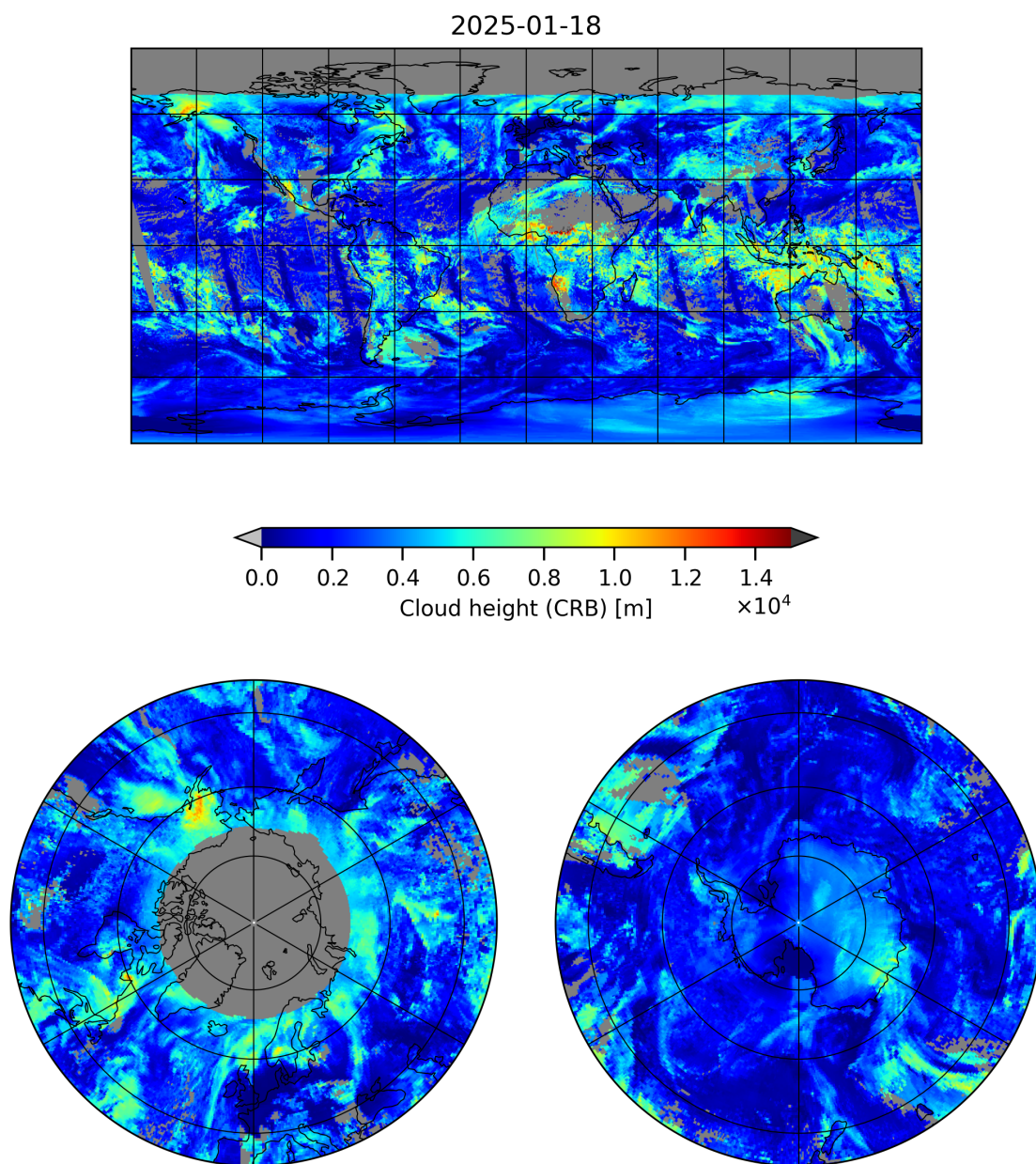


Figure 8: Map of “Cloud height (CRB)” for 2025-01-18 to 2025-01-19

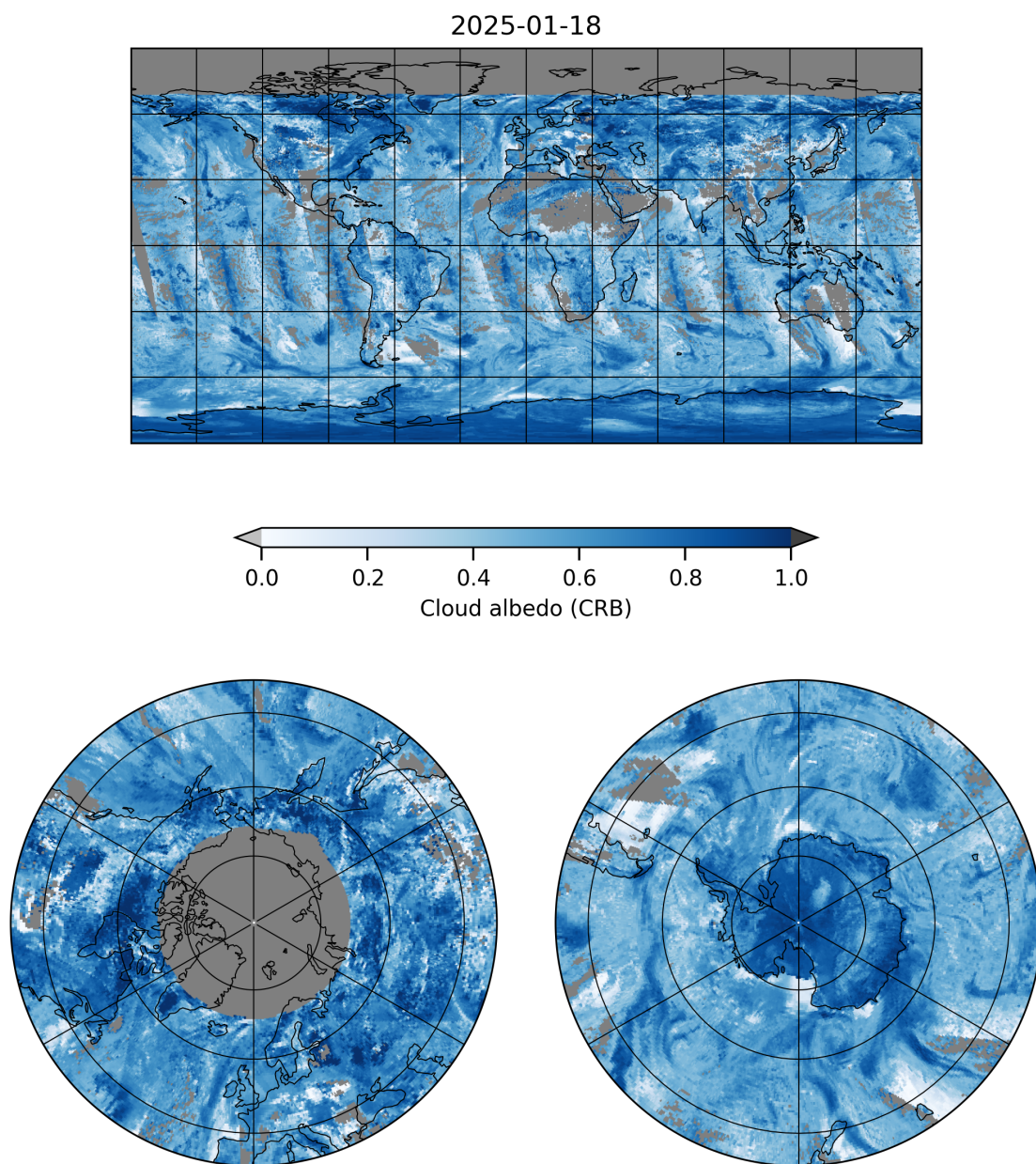


Figure 9: Map of “Cloud albedo (CRB)” for 2025-01-18 to 2025-01-19

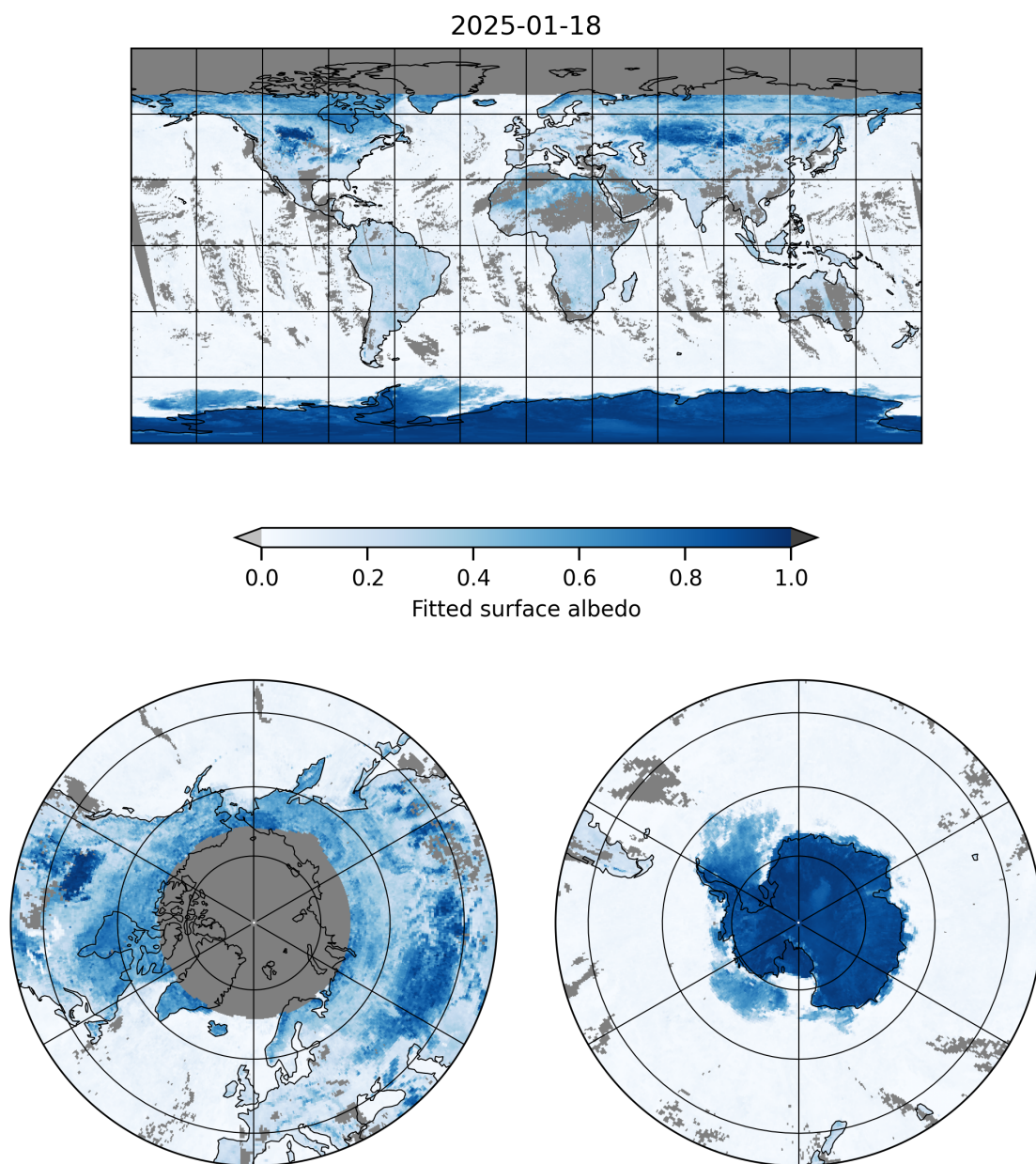


Figure 10: Map of “Fitted surface albedo” for 2025-01-18 to 2025-01-19

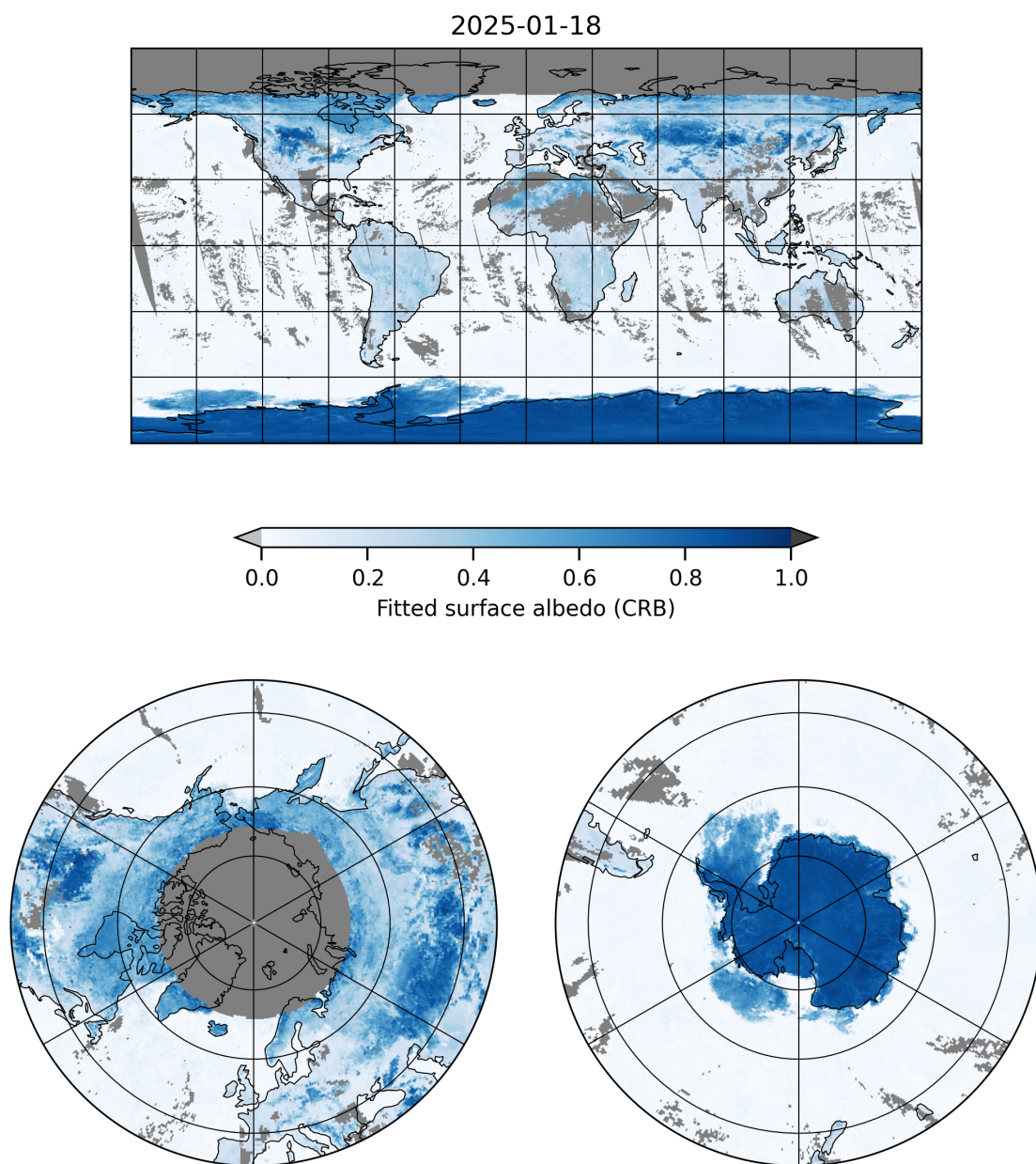


Figure 11: Map of “Fitted surface albedo (CRB)” for 2025-01-18 to 2025-01-19

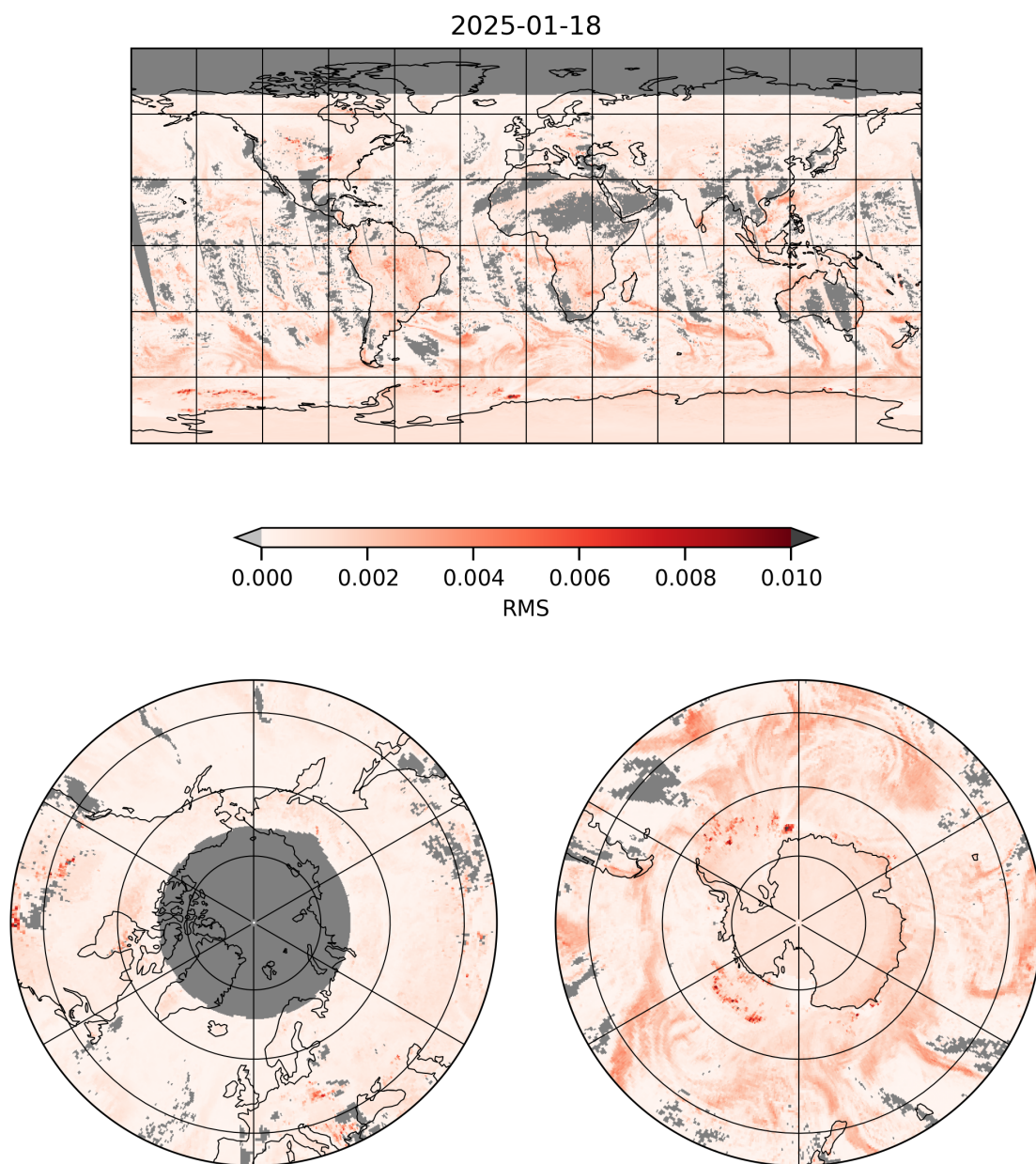


Figure 12: Map of “RMS” for 2025-01-18 to 2025-01-19

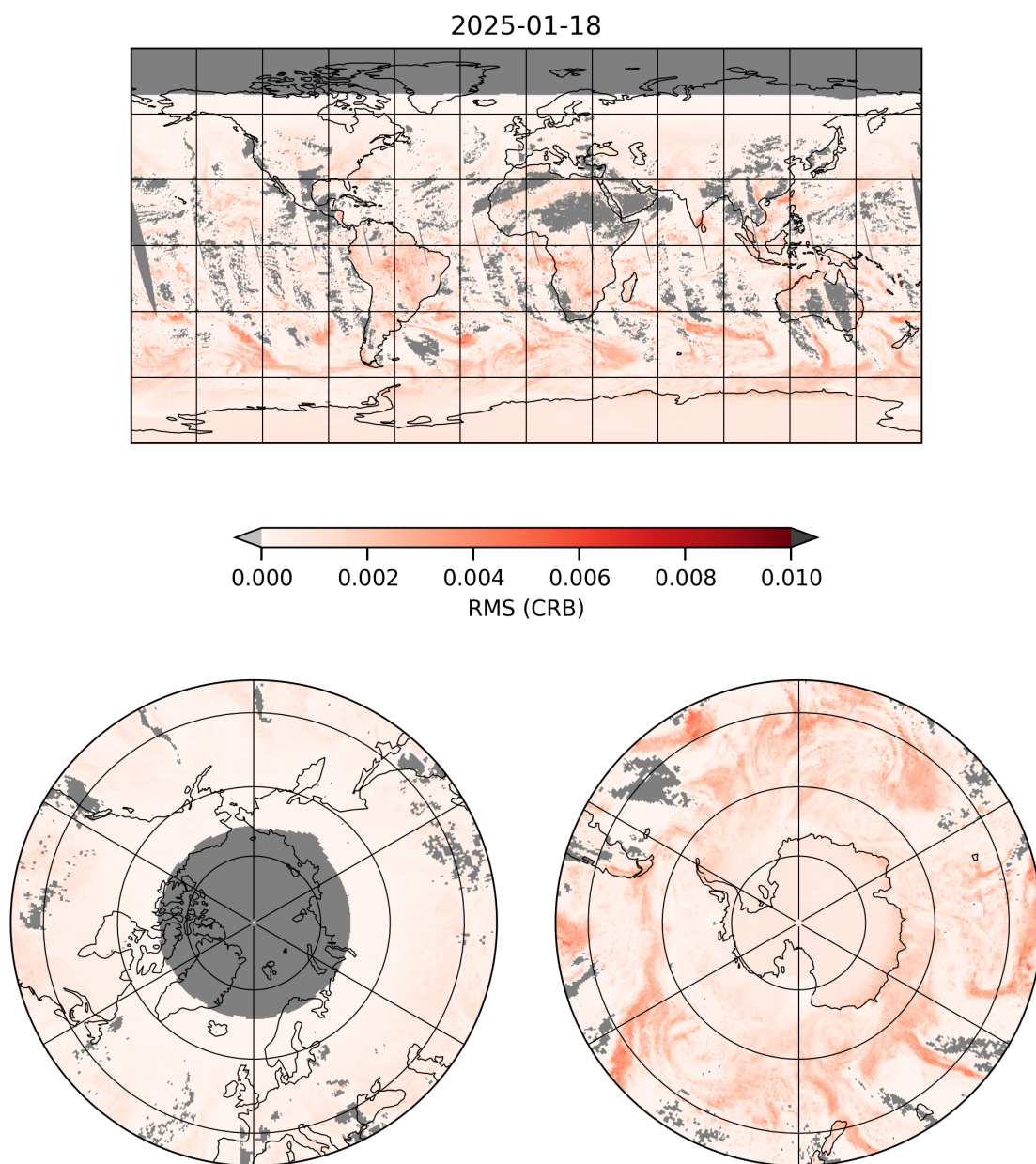


Figure 13: Map of “RMS (CRB)” for 2025-01-18 to 2025-01-19

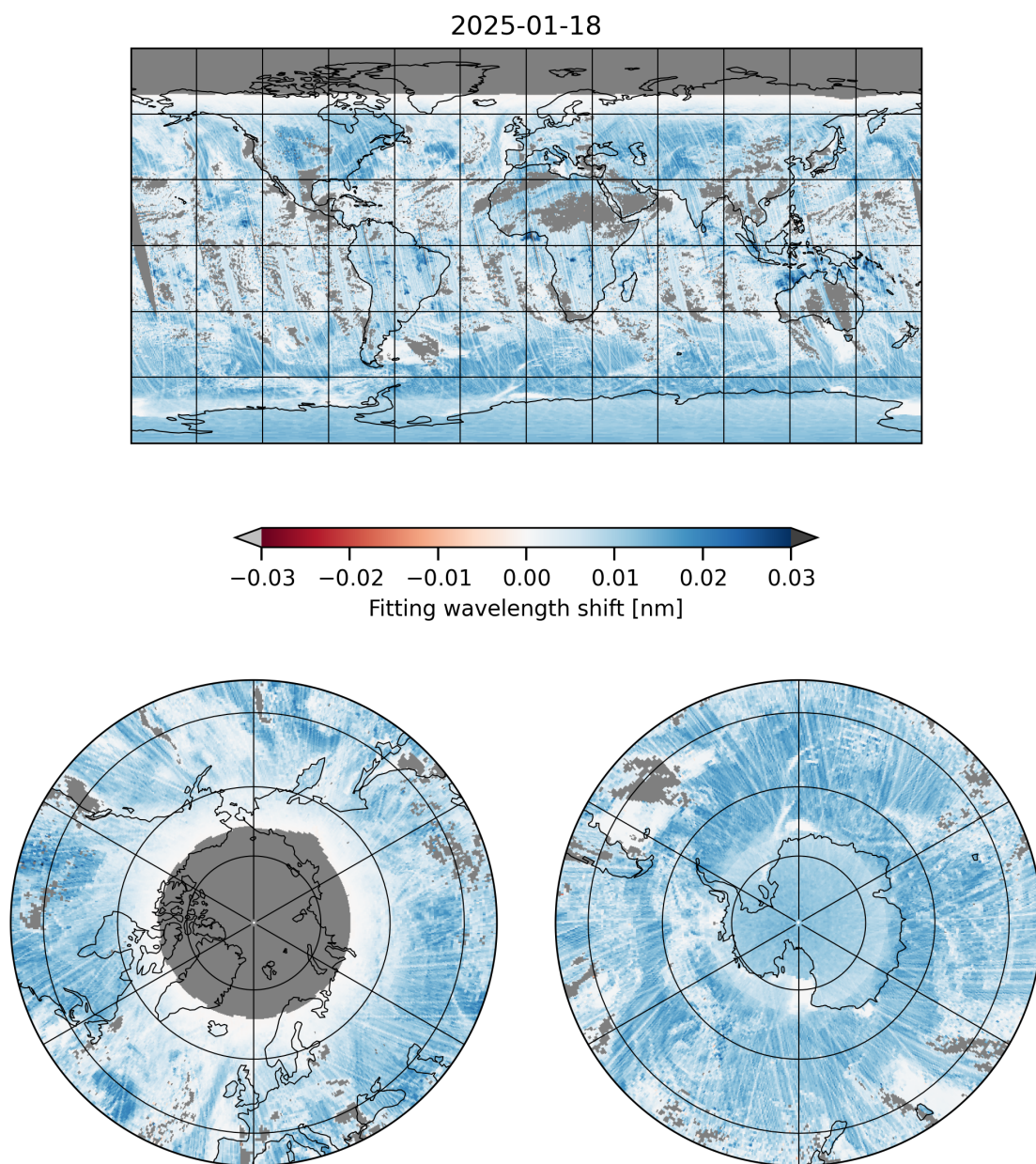


Figure 14: Map of “Fitting wavelength shift” for 2025-01-18 to 2025-01-19

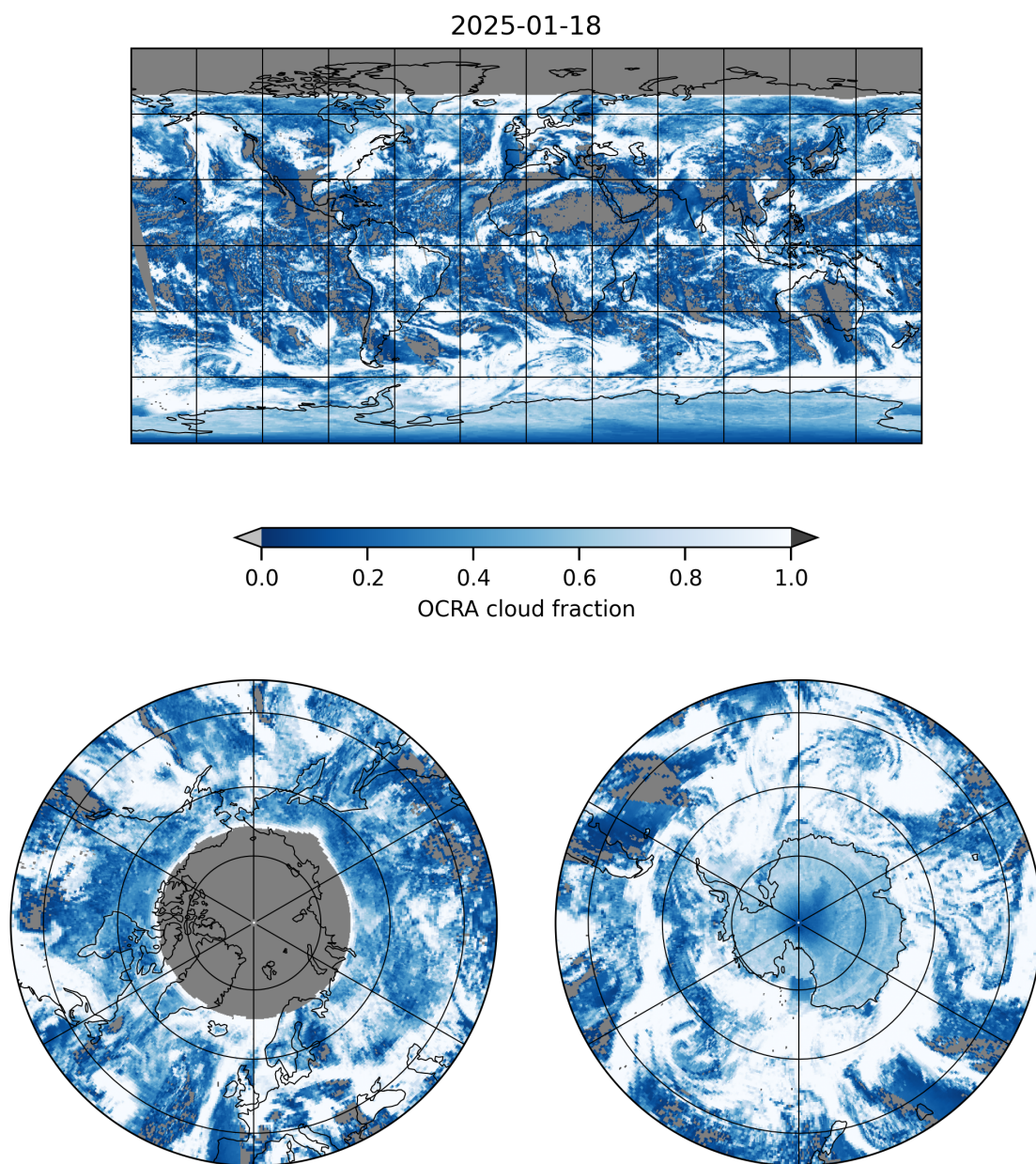


Figure 15: Map of “OCRA cloud fraction” for 2025-01-18 to 2025-01-19

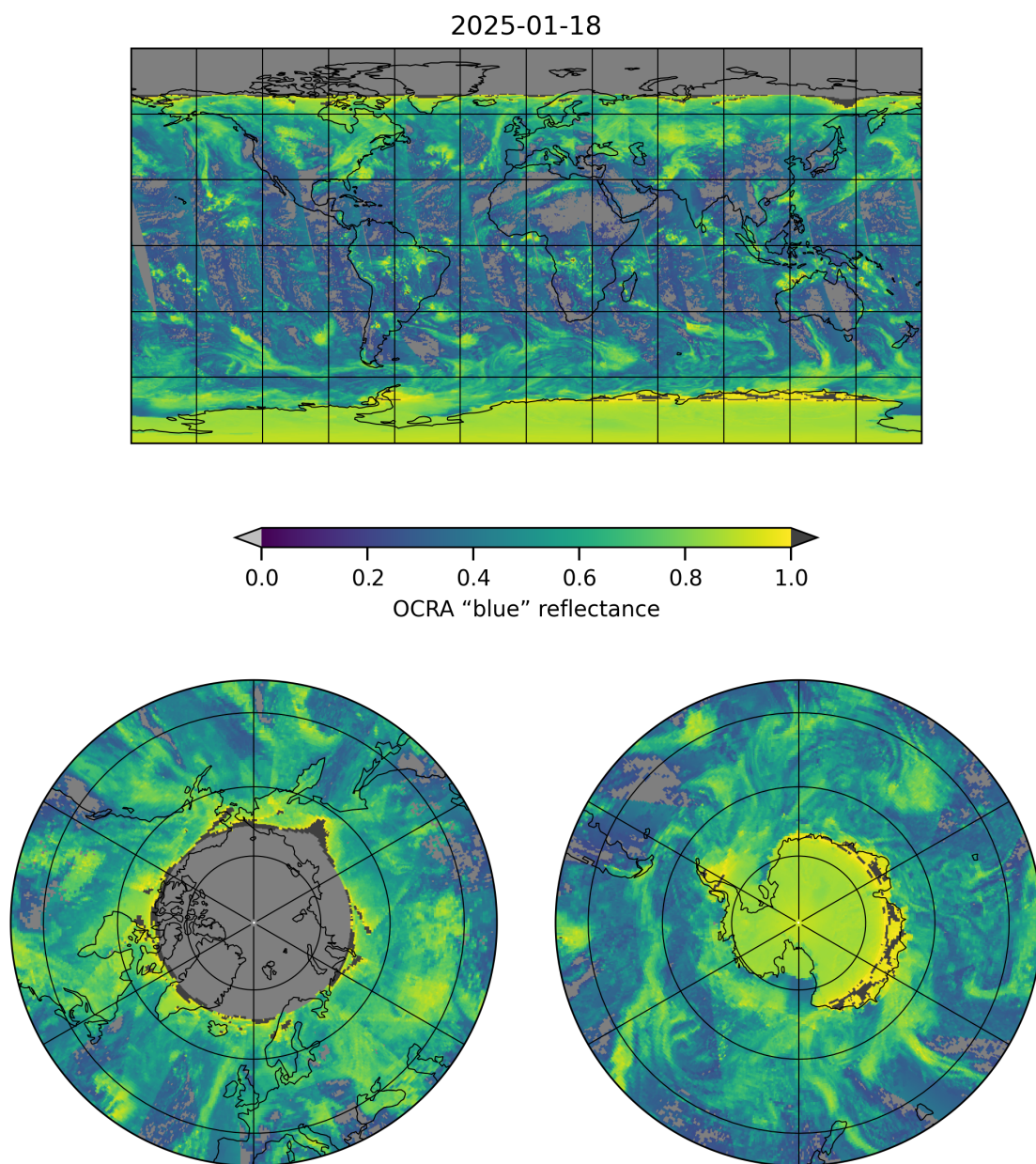


Figure 16: Map of "OCRA "blue" reflectance" for 2025-01-18 to 2025-01-19

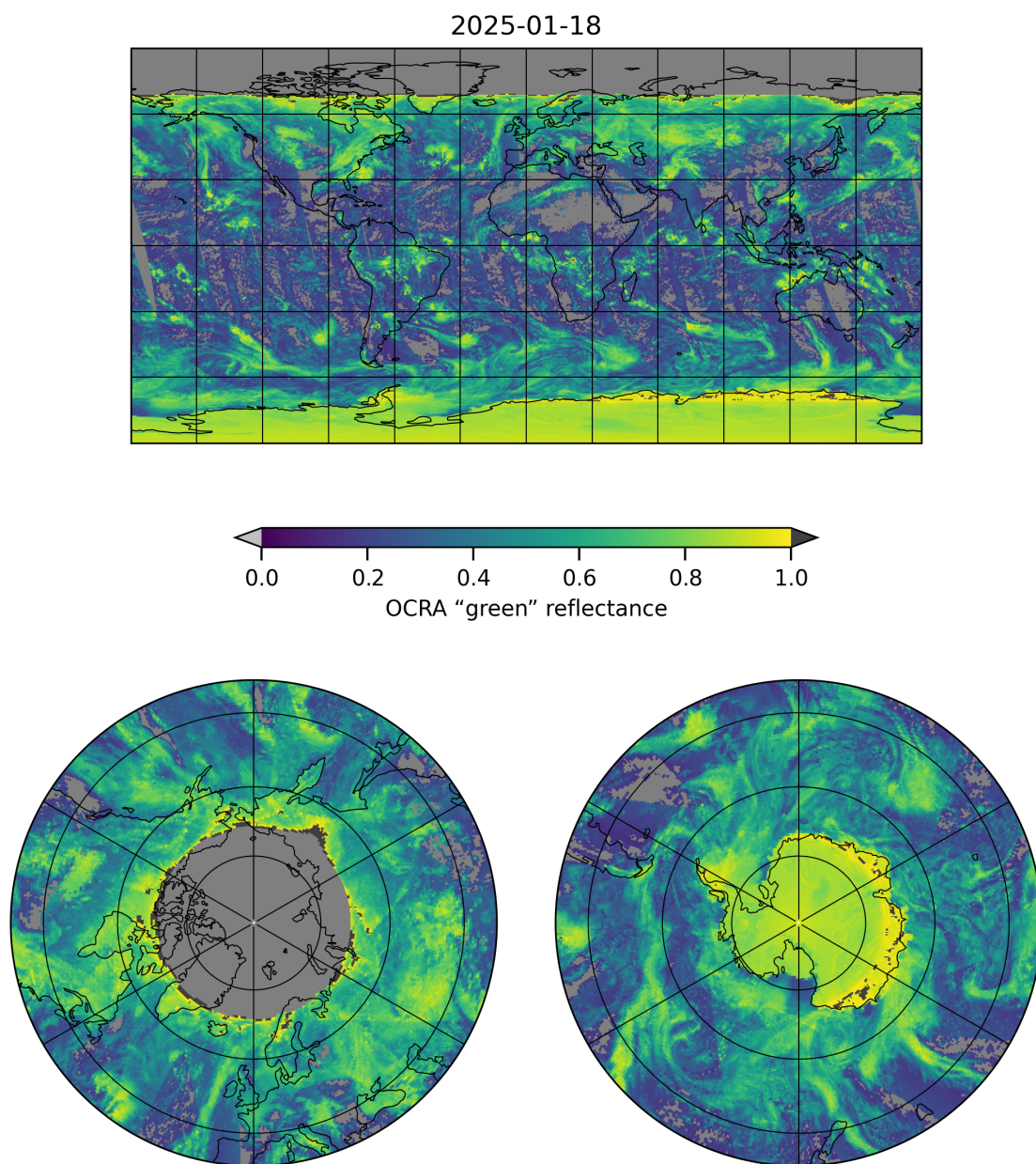


Figure 17: Map of "OCRA "green" reflectance" for 2025-01-18 to 2025-01-19

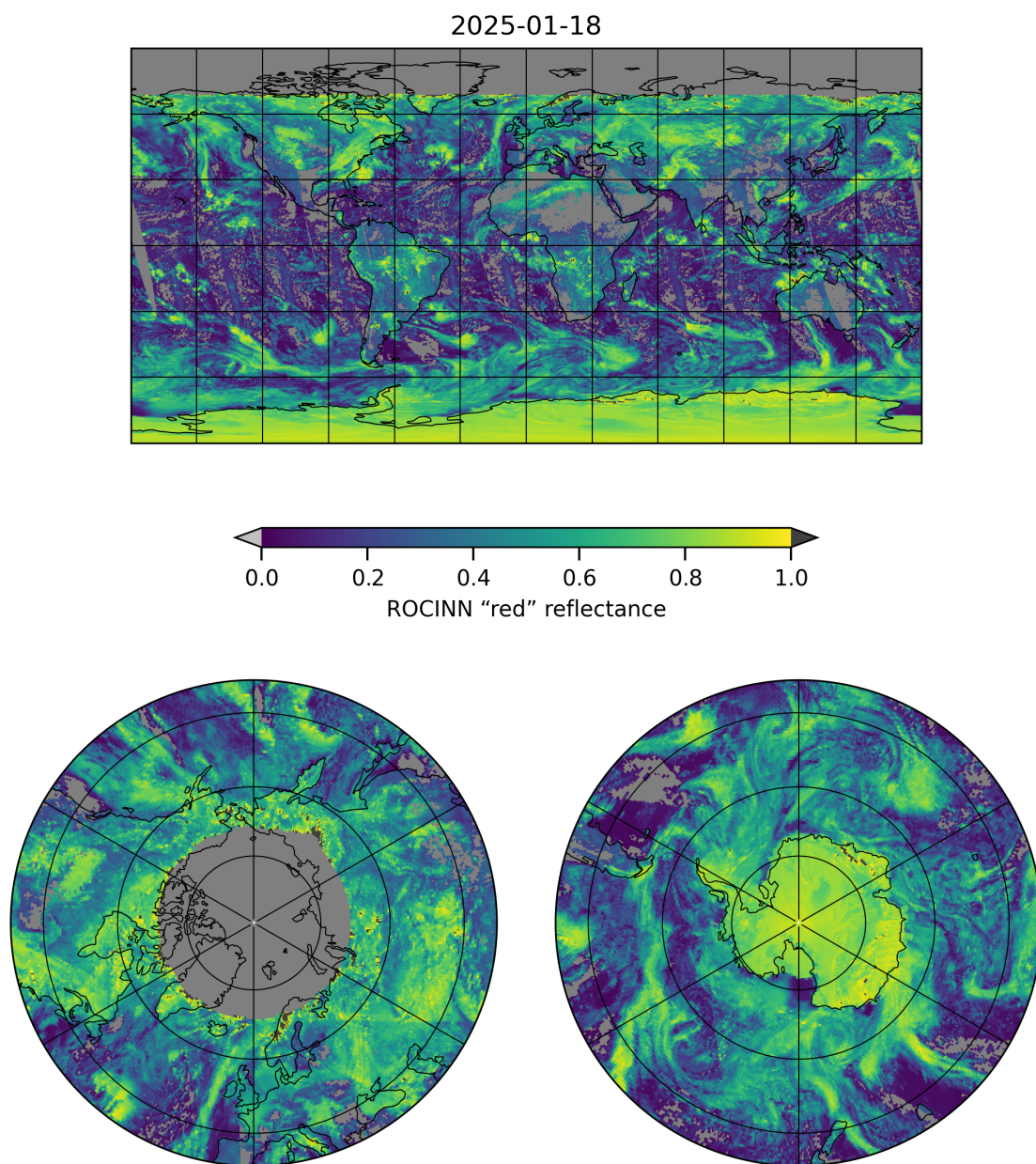


Figure 18: Map of "ROCINN "red" reflectance" for 2025-01-18 to 2025-01-19

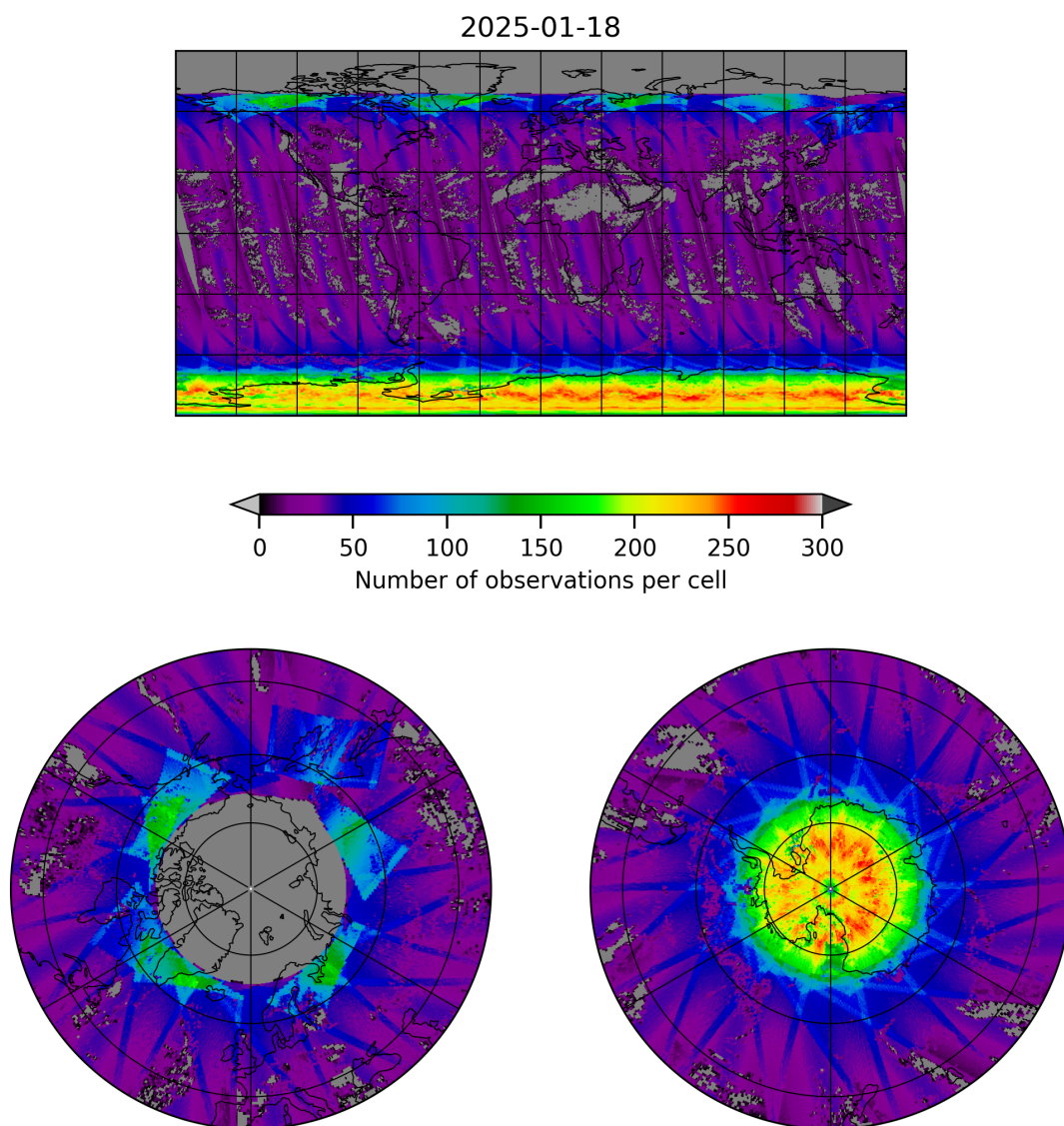


Figure 19: Map of the number of observations for 2025-01-18 to 2025-01-19

7 Zonal average

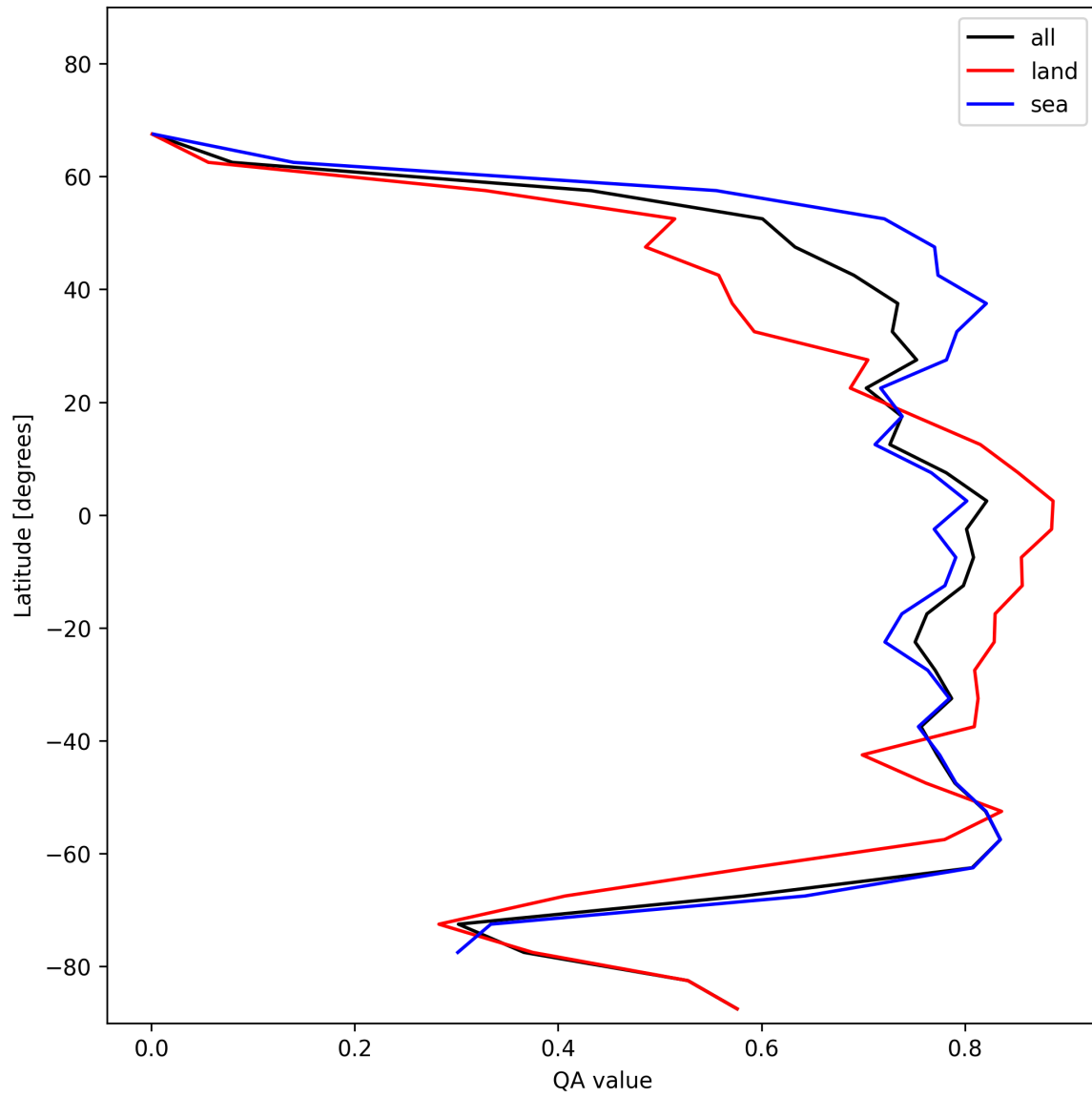


Figure 20: Zonal average of “QA value” for 2025-01-18 to 2025-01-19.

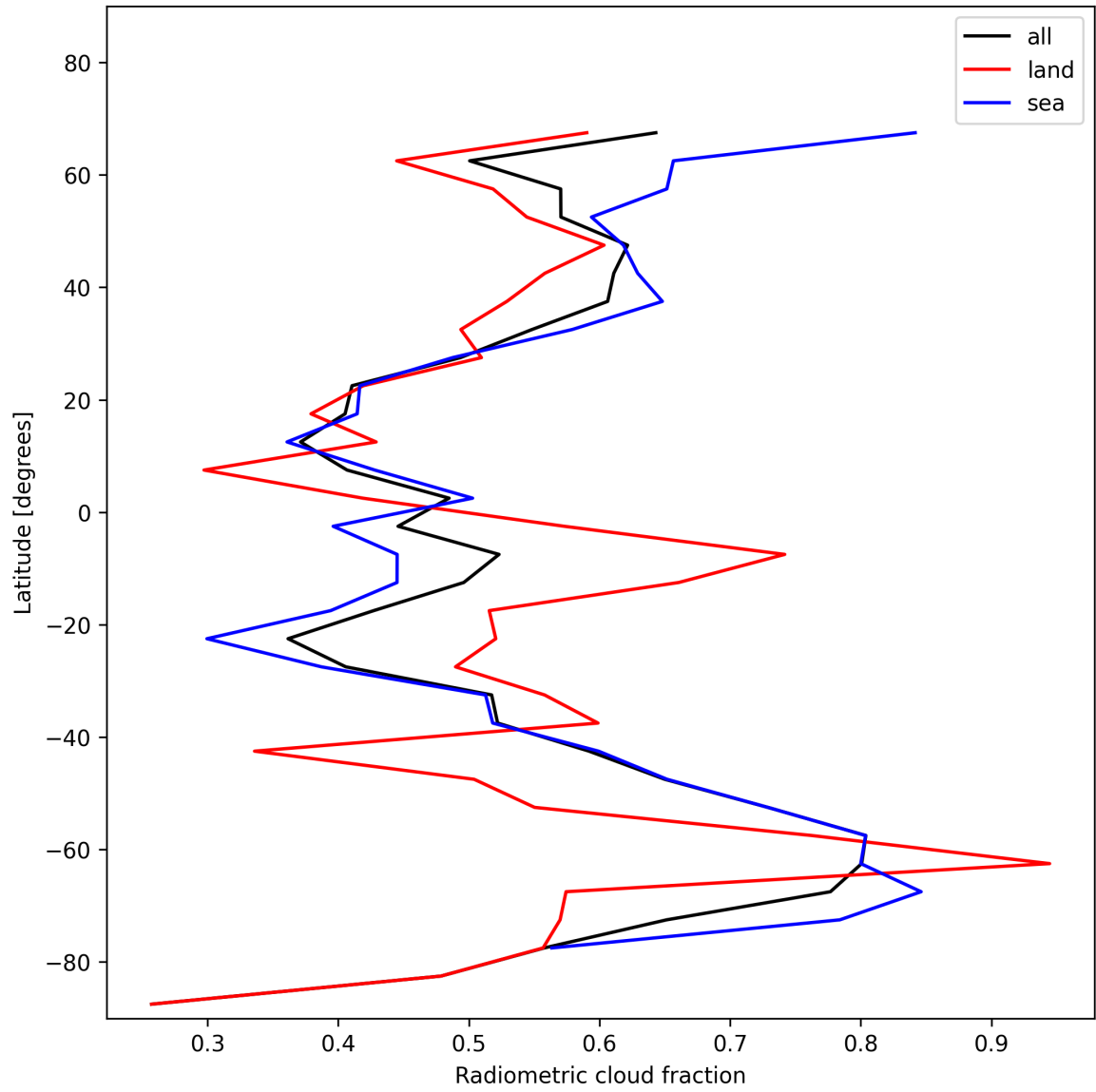


Figure 21: Zonal average of “Radiometric cloud fraction” for 2025-01-18 to 2025-01-19.

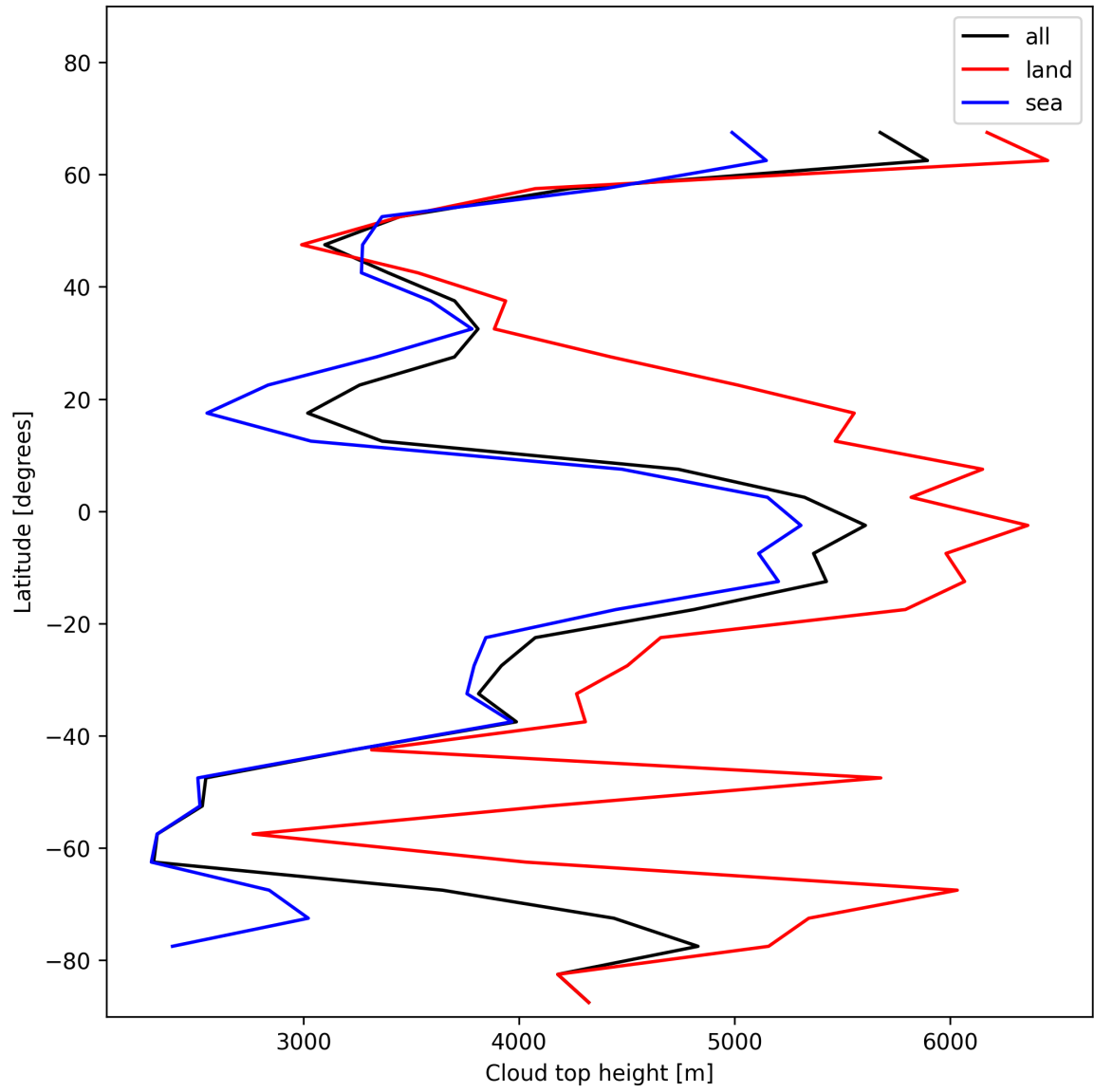


Figure 22: Zonal average of “Cloud top height” for 2025-01-18 to 2025-01-19.

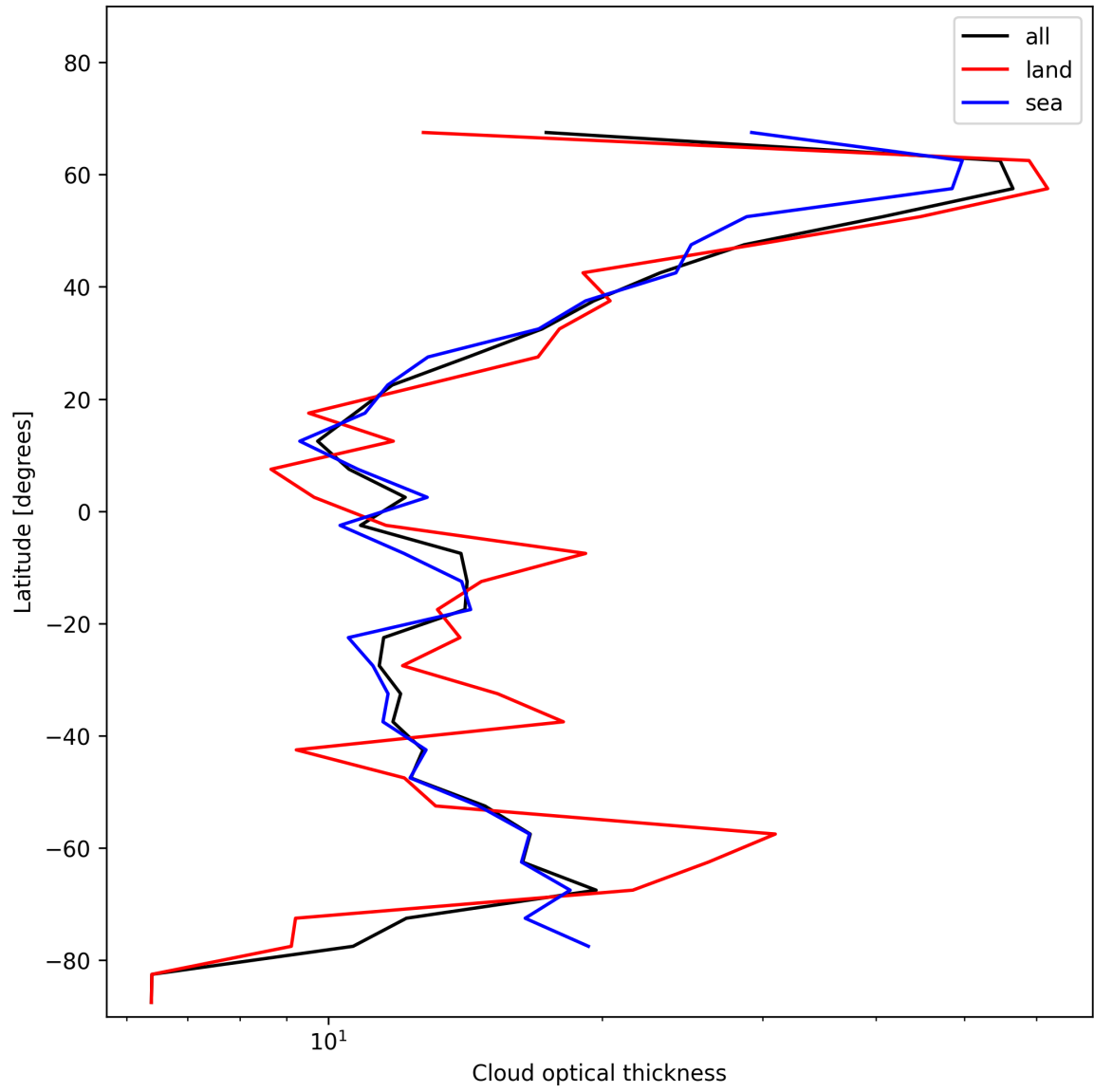


Figure 23: Zonal average of “Cloud optical thickness” for 2025-01-18 to 2025-01-19.

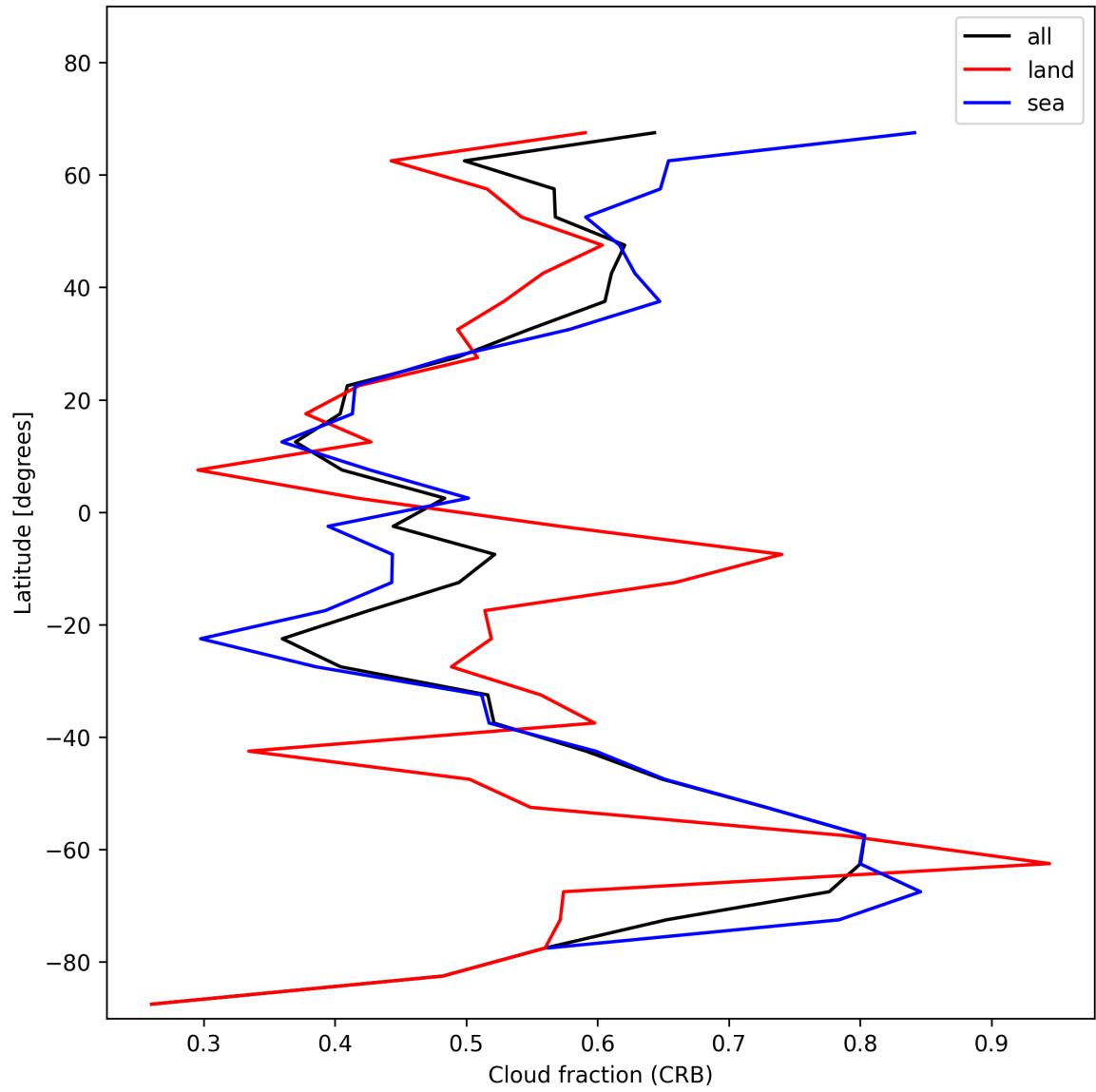


Figure 24: Zonal average of “Cloud fraction (CRB)” for 2025-01-18 to 2025-01-19.

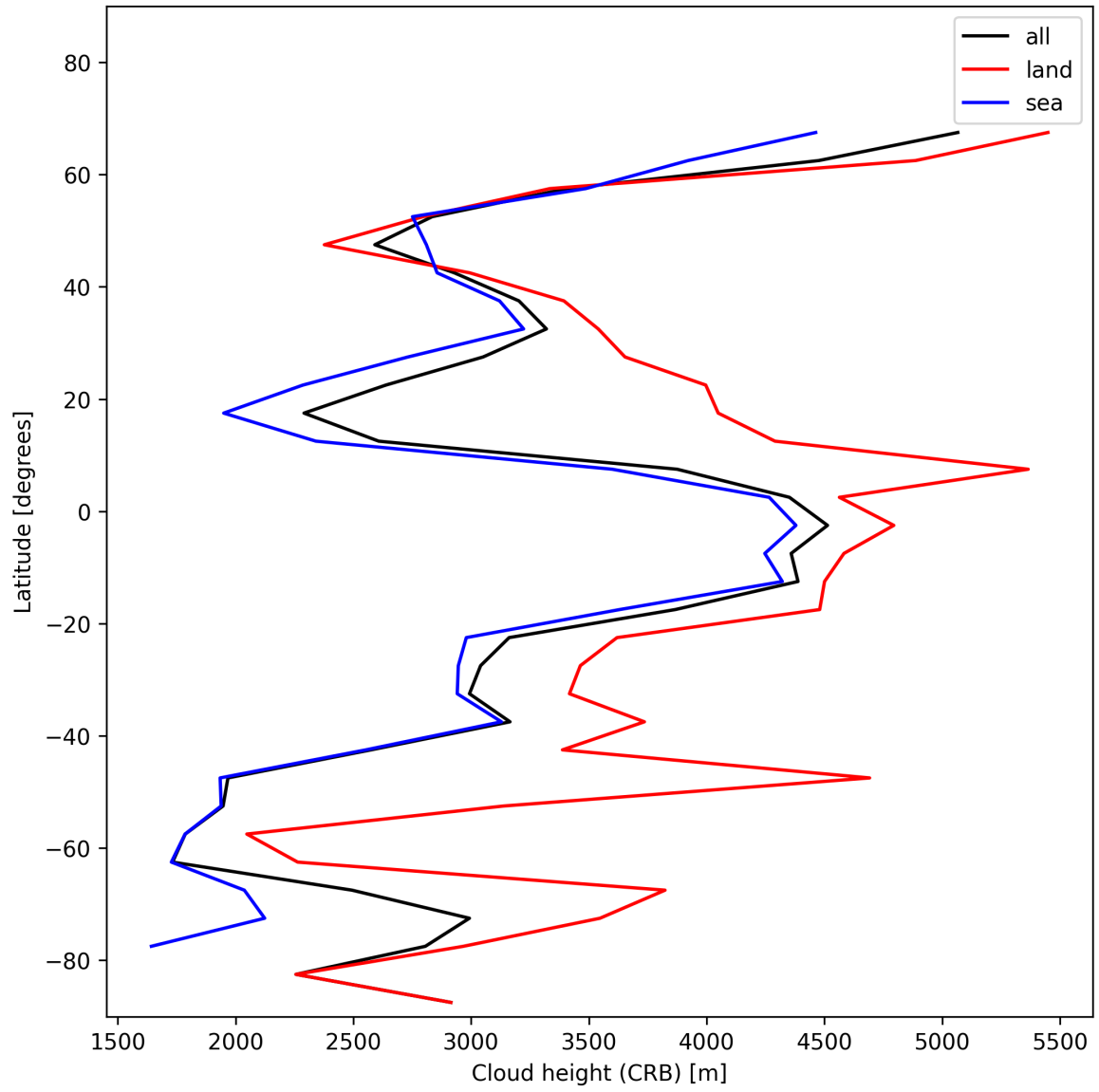


Figure 25: Zonal average of “Cloud height (CRB)” for 2025-01-18 to 2025-01-19.

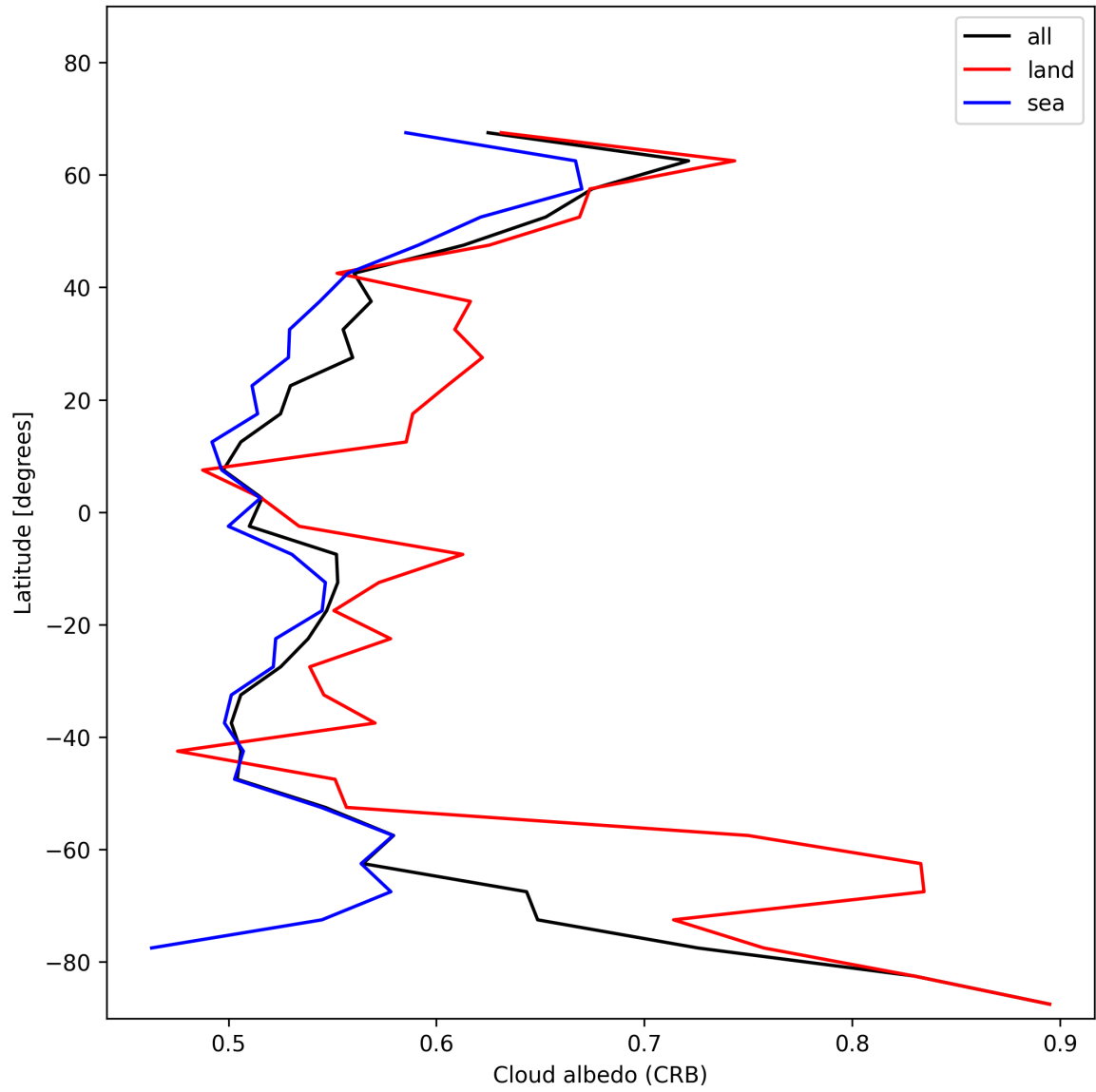


Figure 26: Zonal average of “Cloud albedo (CRB)” for 2025-01-18 to 2025-01-19.

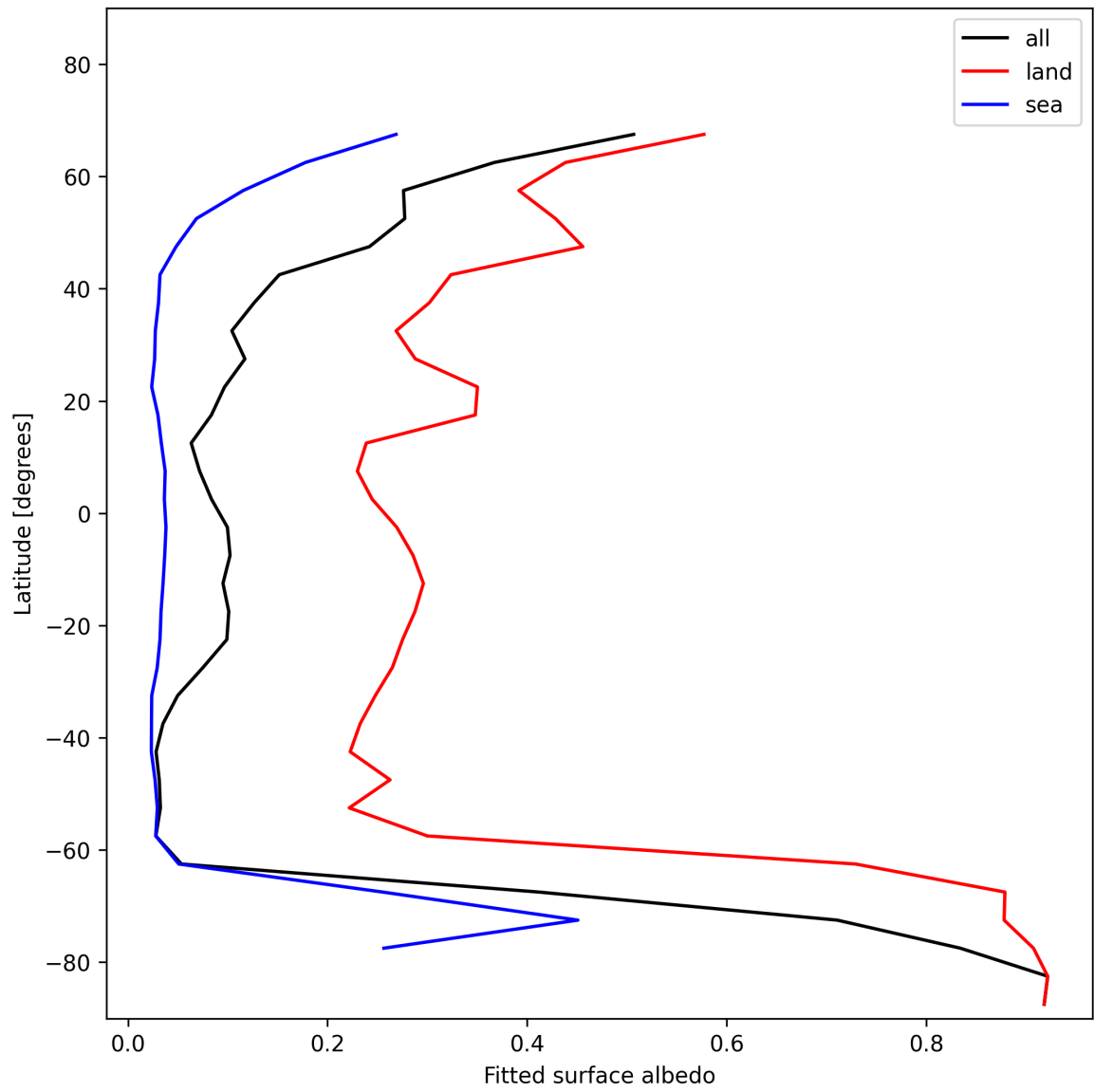


Figure 27: Zonal average of “Fitted surface albedo” for 2025-01-18 to 2025-01-19.

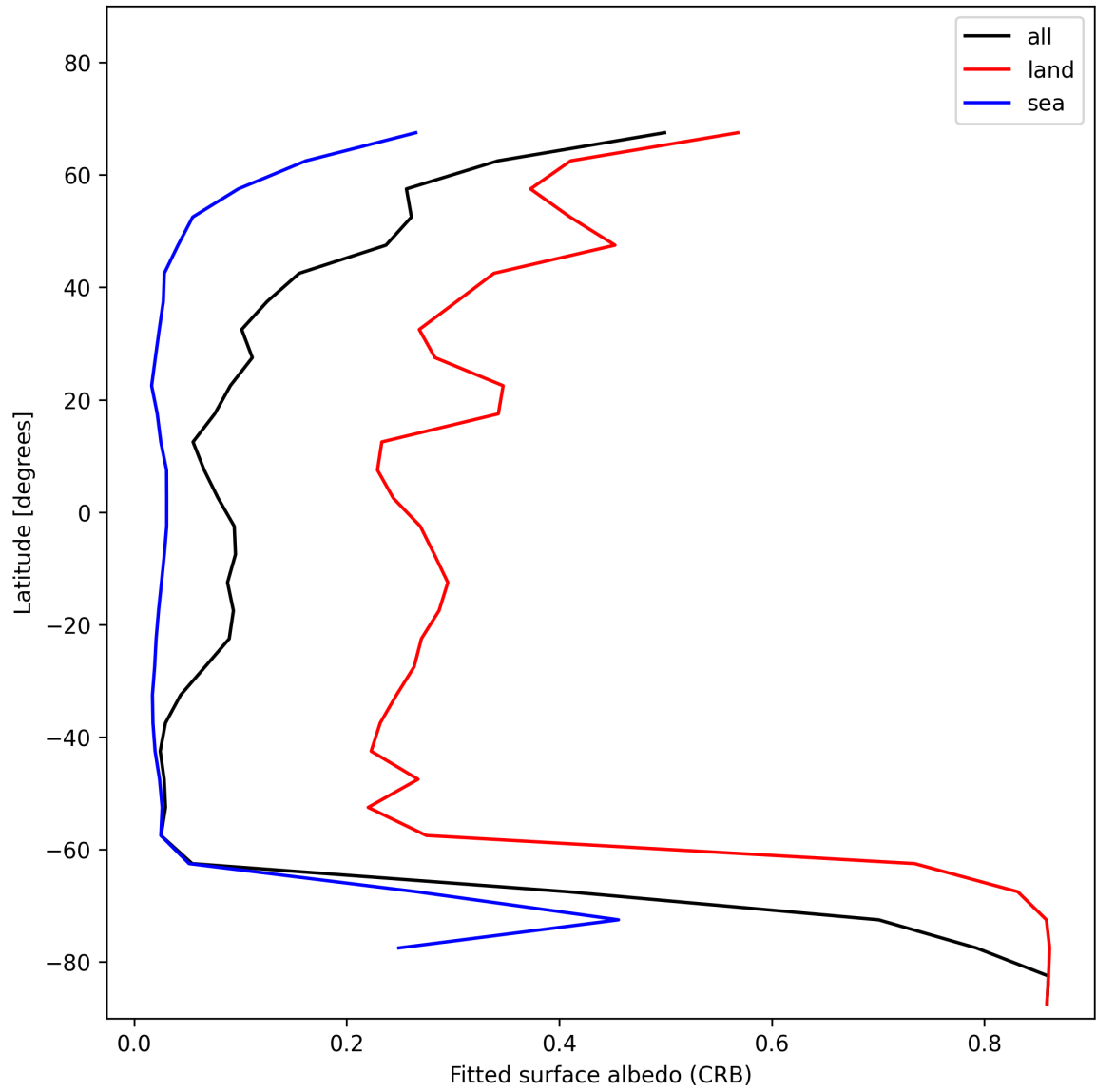


Figure 28: Zonal average of “Fitted surface albedo (CRB)” for 2025-01-18 to 2025-01-19.

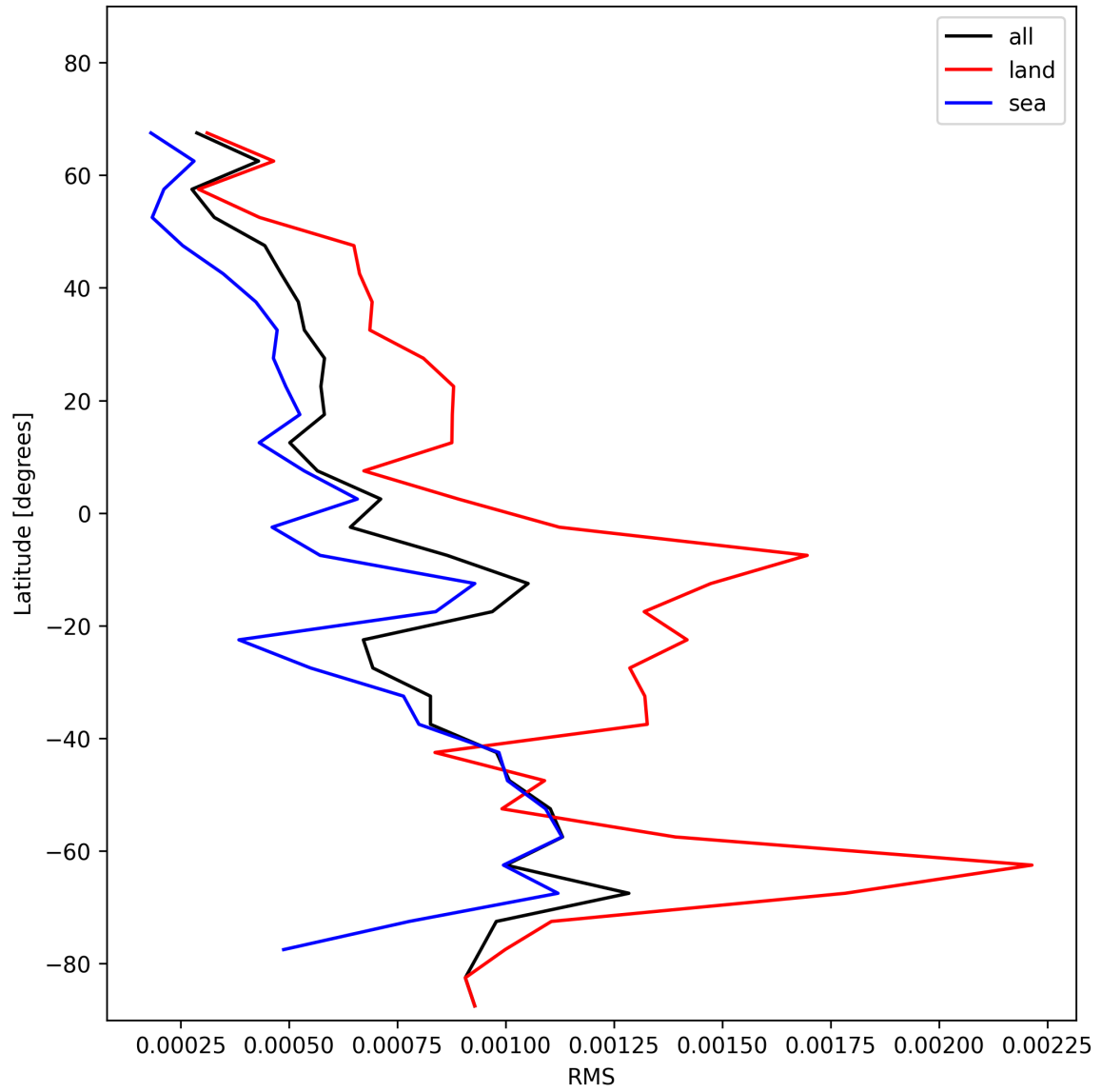


Figure 29: Zonal average of “RMS” for 2025-01-18 to 2025-01-19.

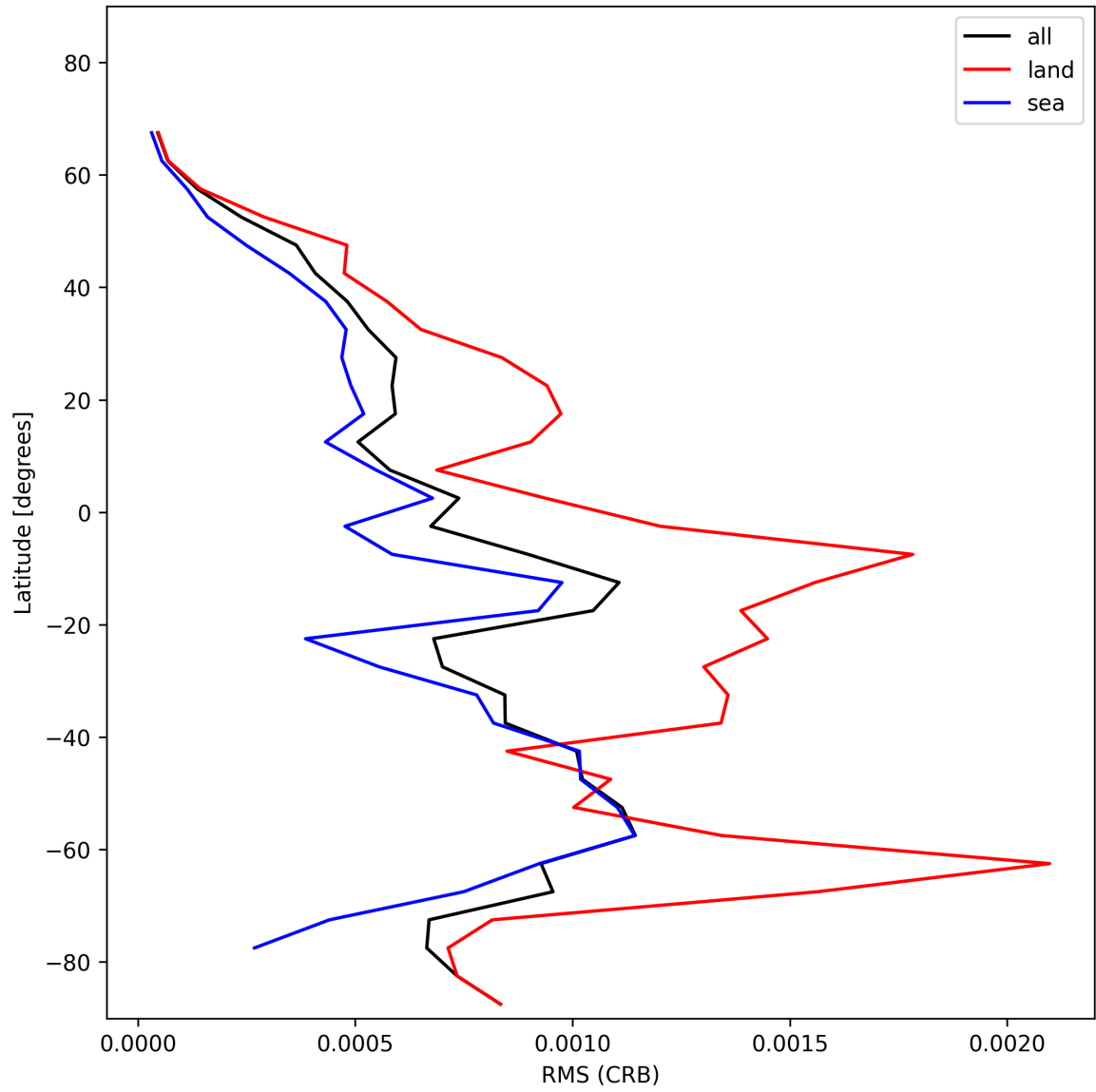


Figure 30: Zonal average of “RMS (CRB)” for 2025-01-18 to 2025-01-19.

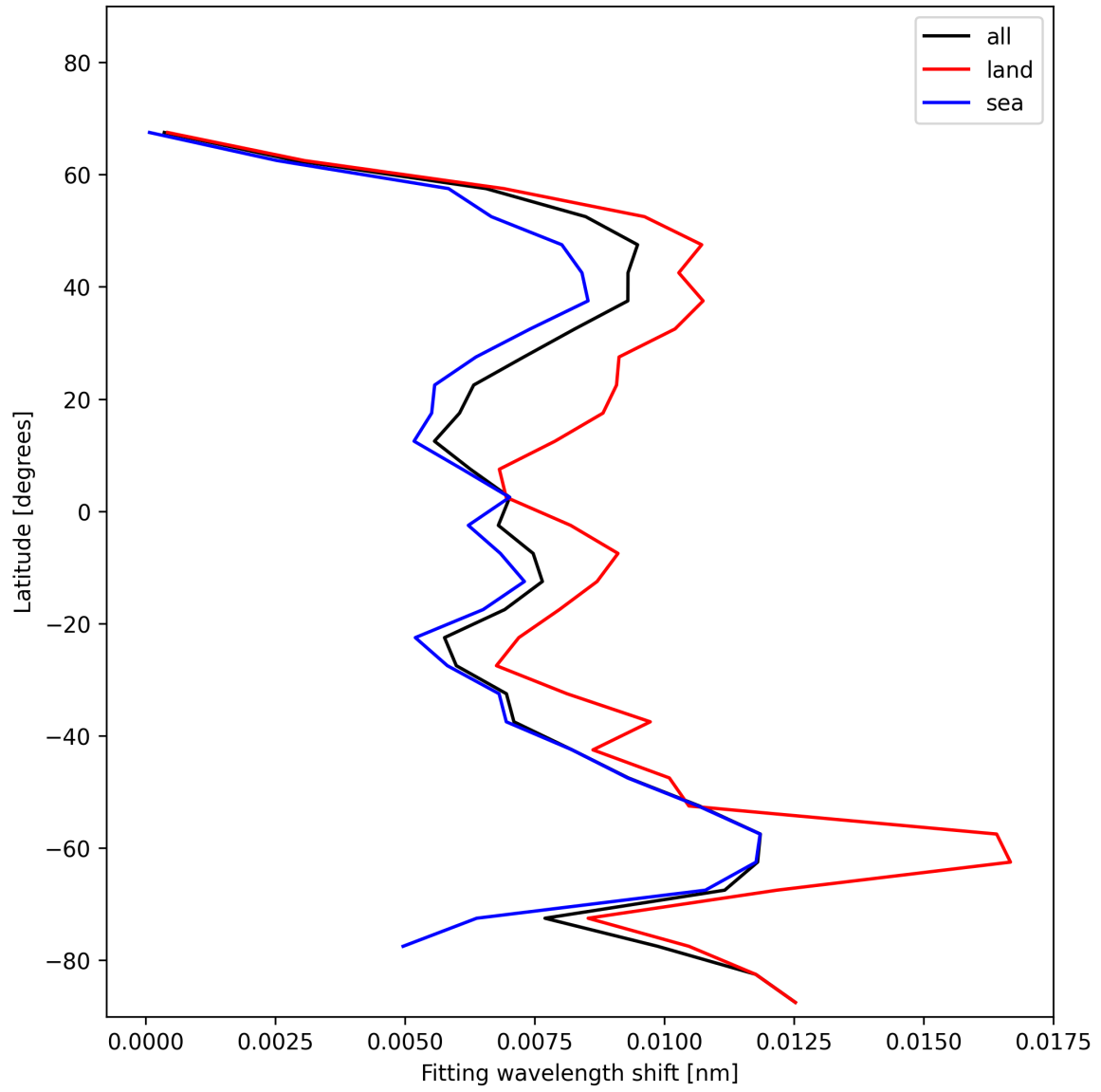


Figure 31: Zonal average of “Fitting wavelength shift” for 2025-01-18 to 2025-01-19.

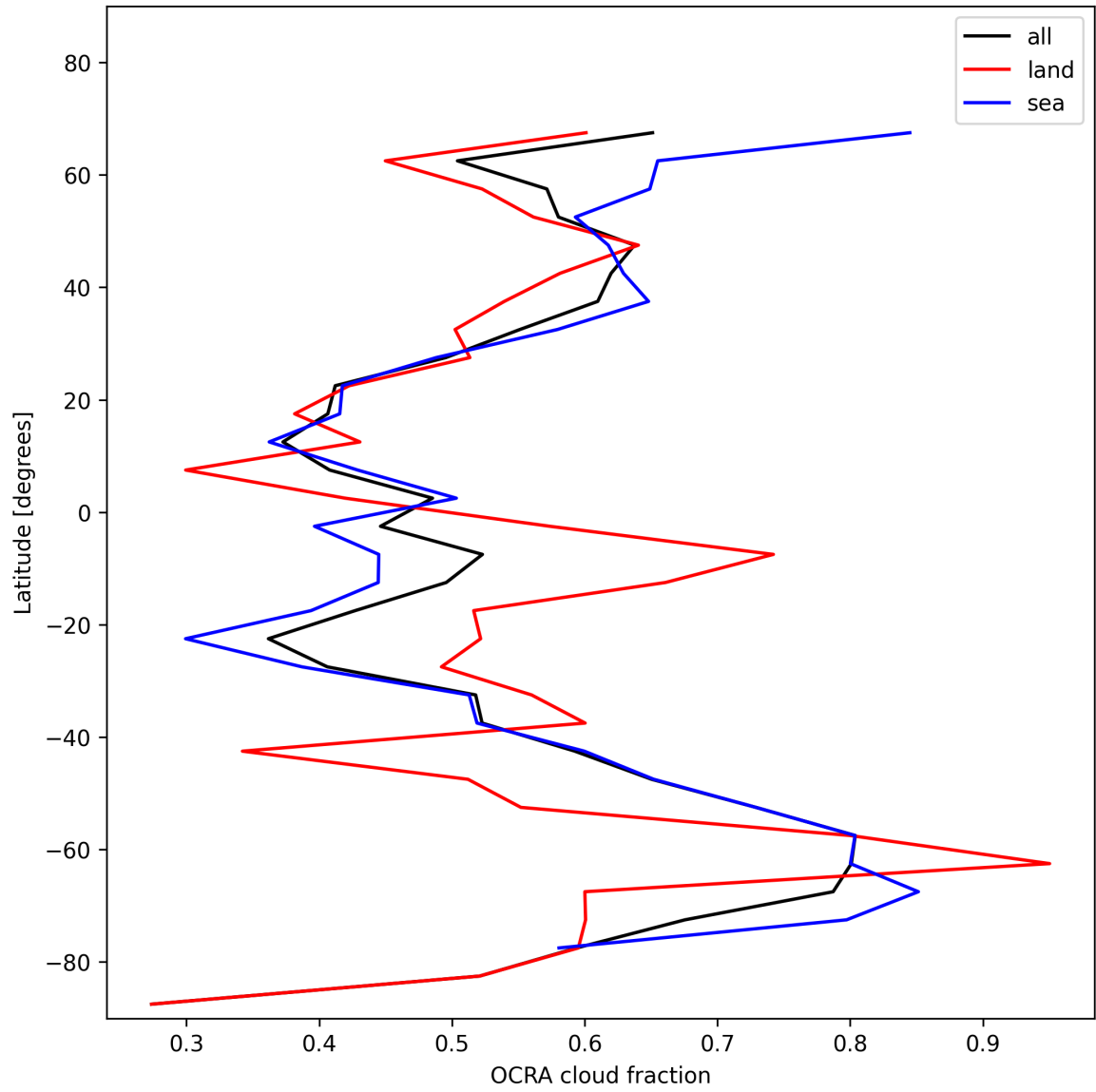


Figure 32: Zonal average of “OCRA cloud fraction” for 2025-01-18 to 2025-01-19.

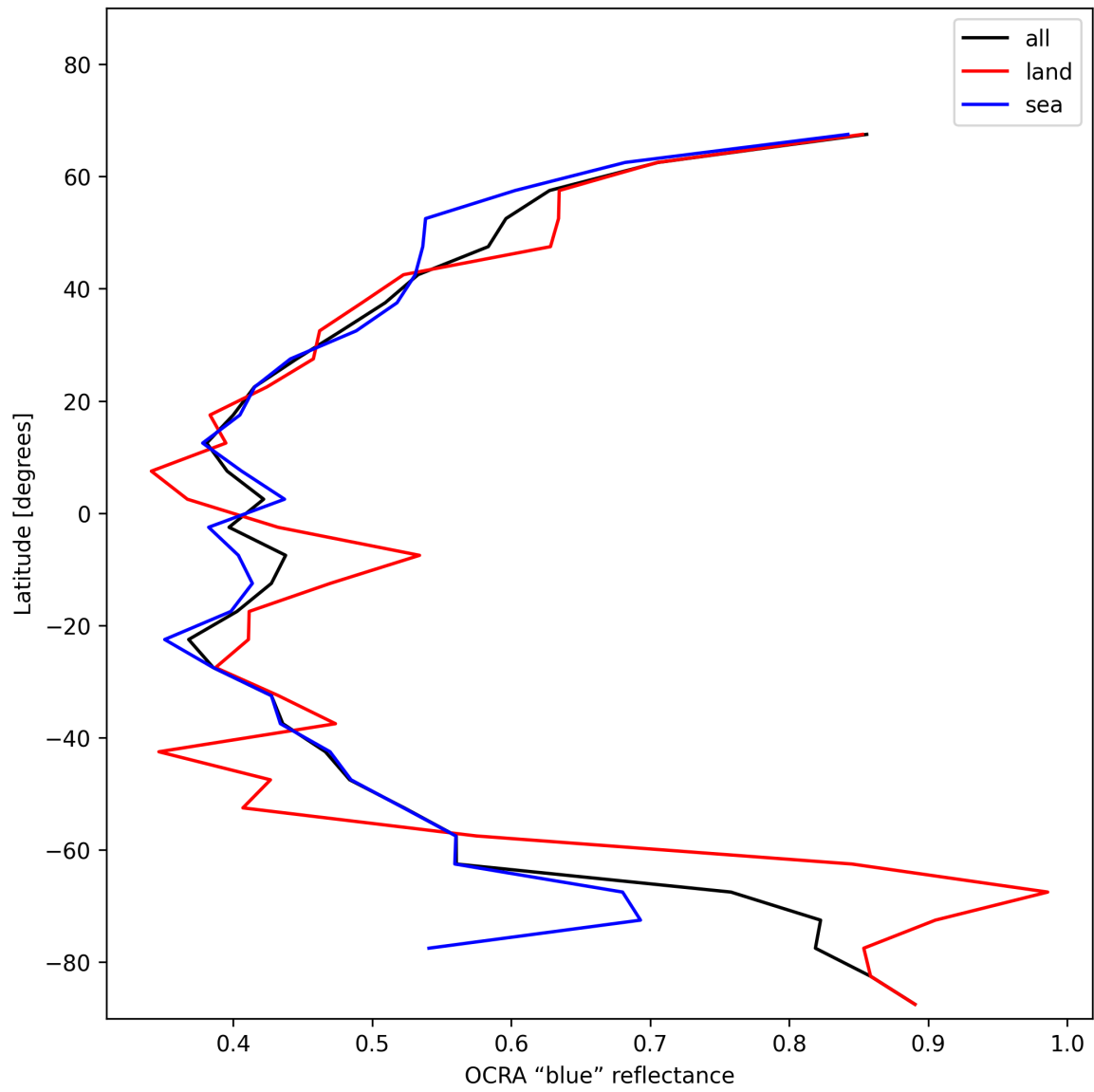


Figure 33: Zonal average of “OCRA “blue” reflectance” for 2025-01-18 to 2025-01-19.

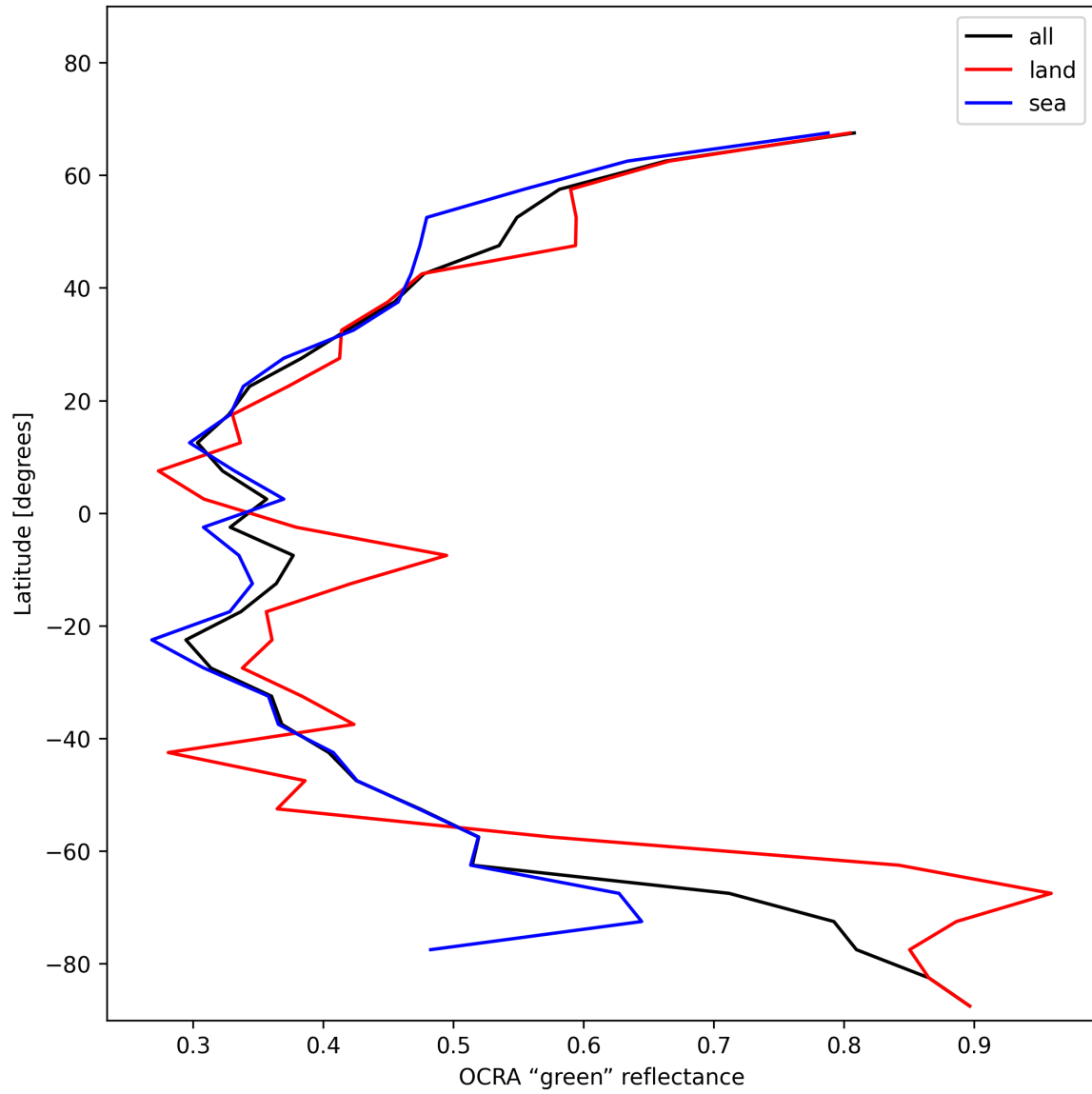


Figure 34: Zonal average of “OCRA “green” reflectance” for 2025-01-18 to 2025-01-19.

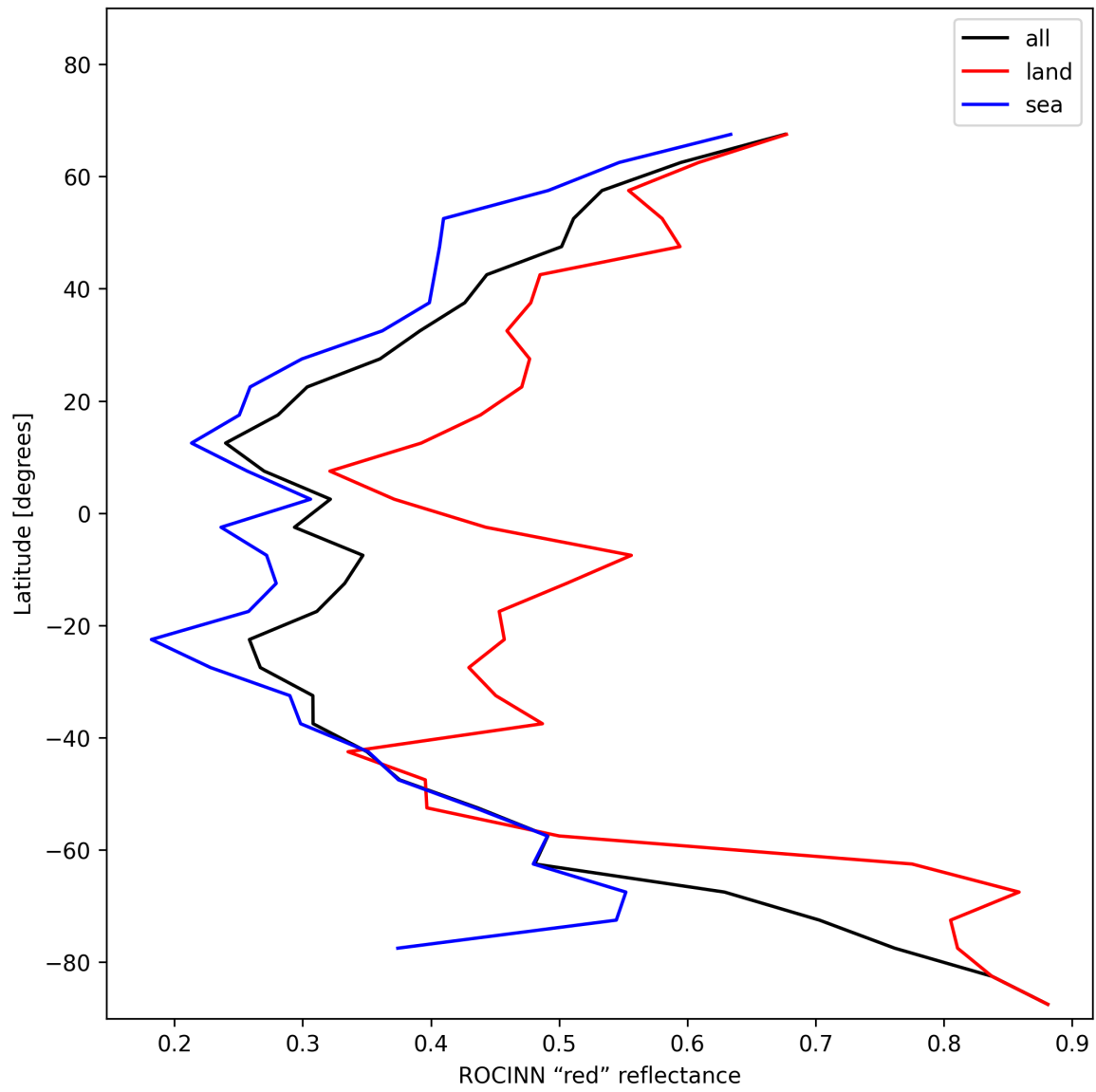


Figure 35: Zonal average of “ROCINN “red” reflectance” for 2025-01-18 to 2025-01-19.

8 Histograms

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

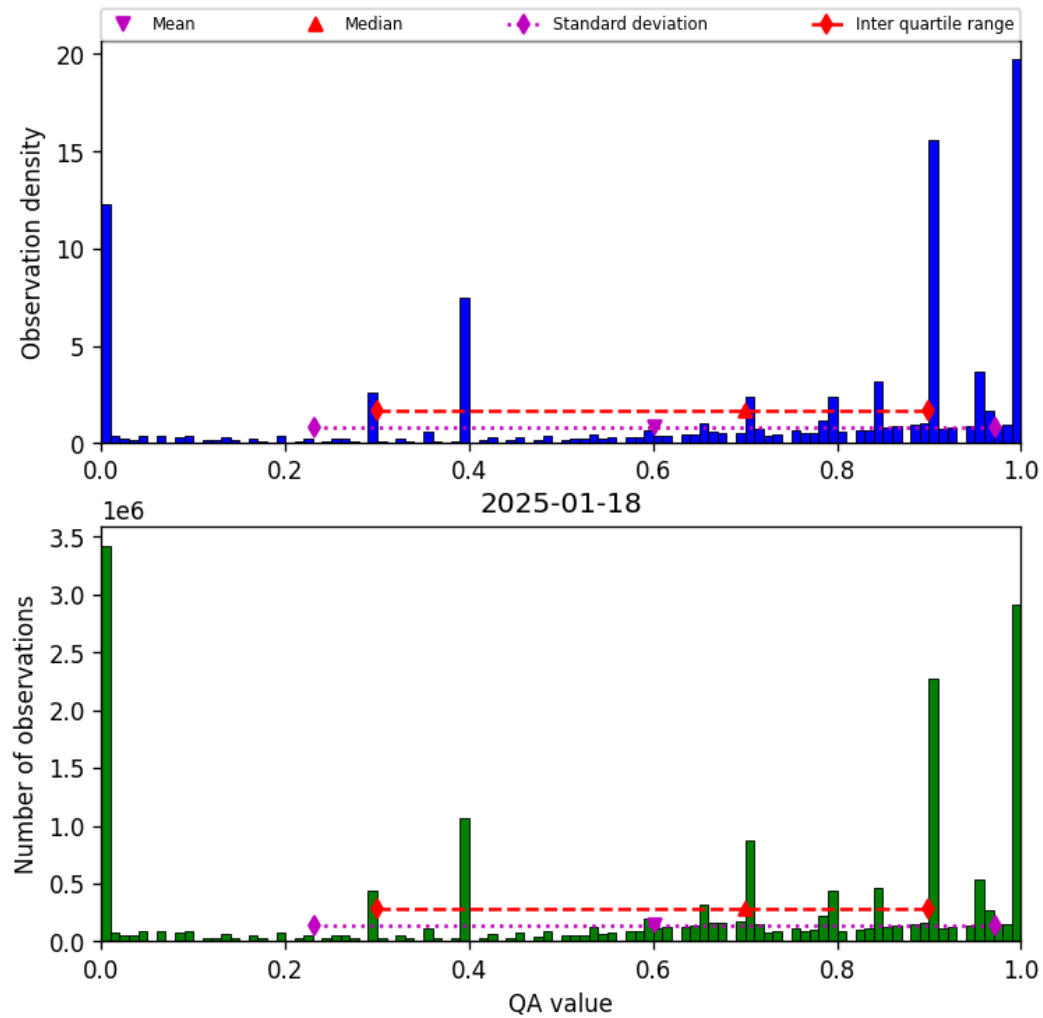


Figure 36: Histogram of “QA value” for 2025-01-18 to 2025-01-19

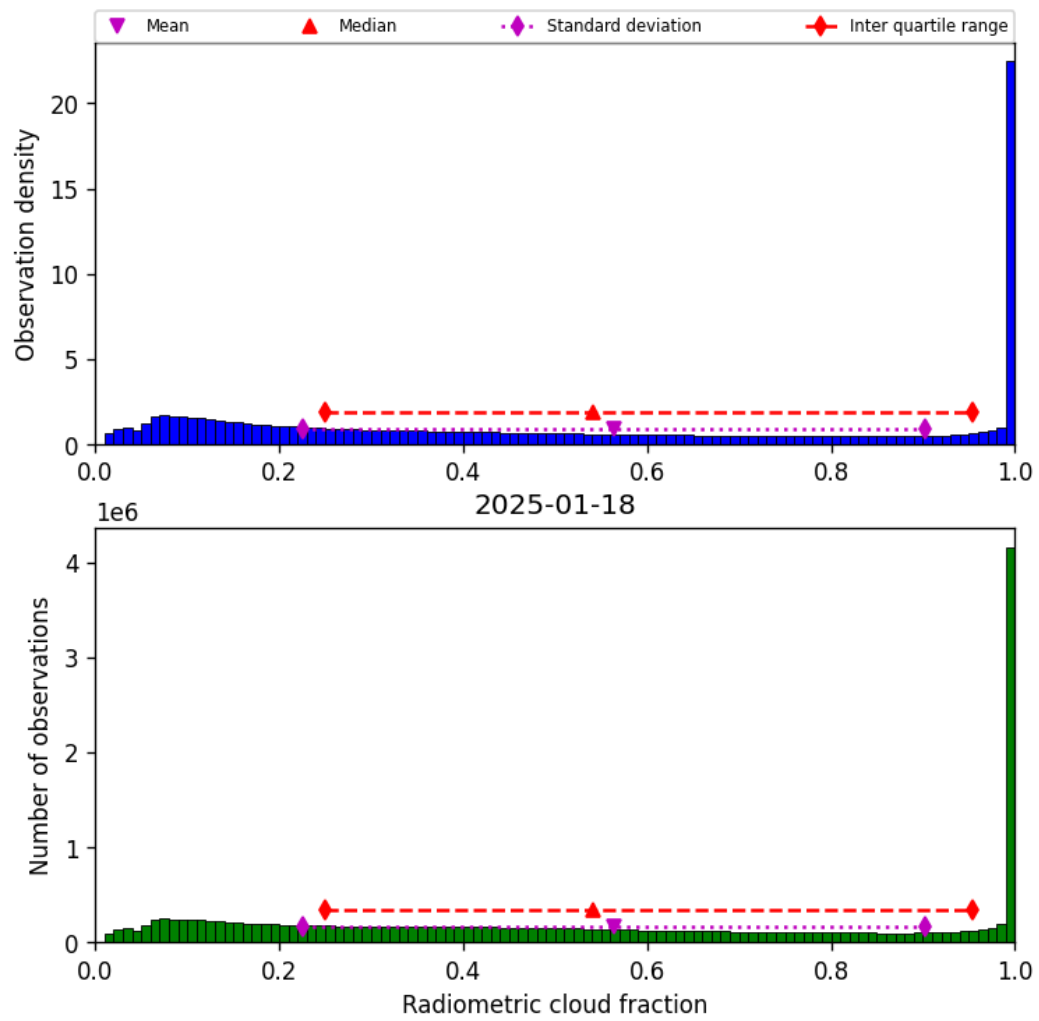


Figure 37: Histogram of “Radiometric cloud fraction” for 2025-01-18 to 2025-01-19

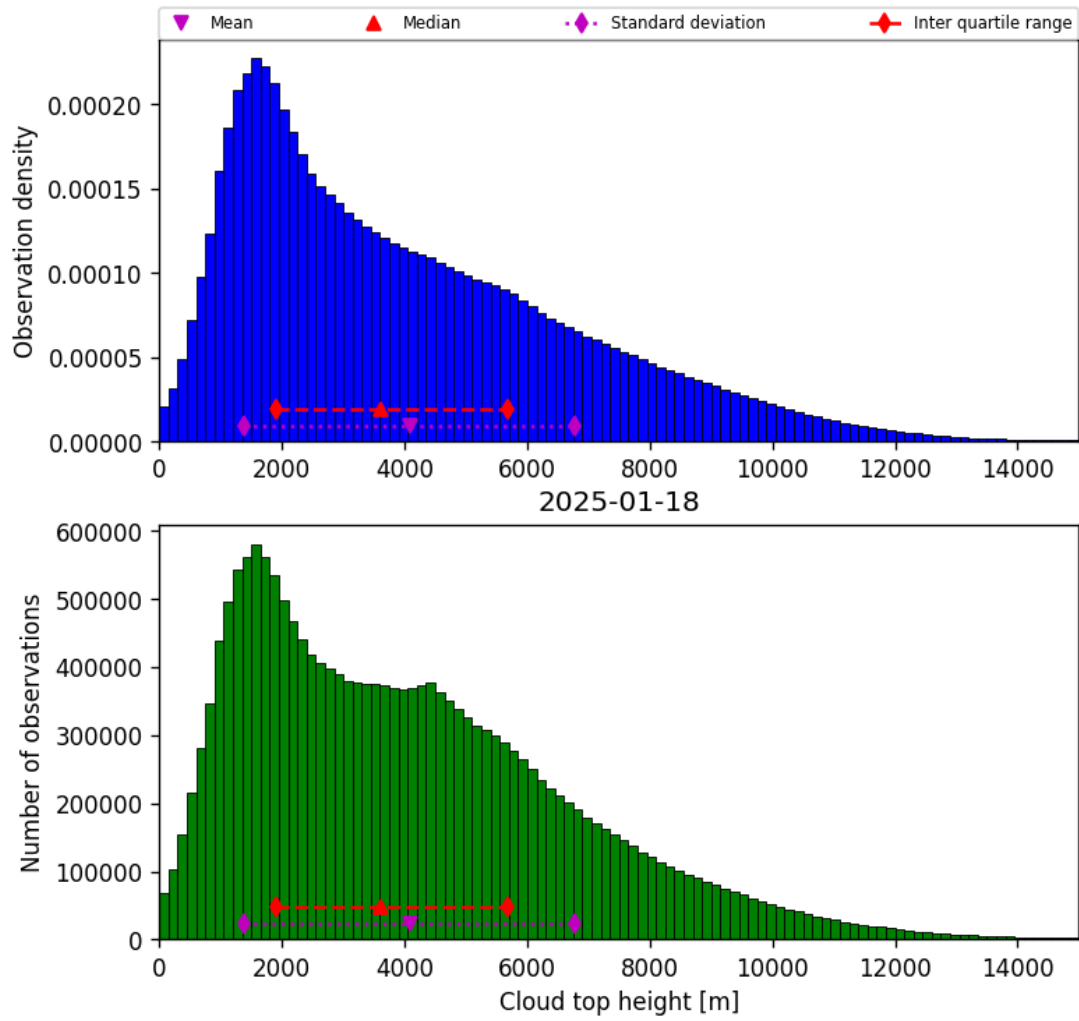


Figure 38: Histogram of “Cloud top height” for 2025-01-18 to 2025-01-19

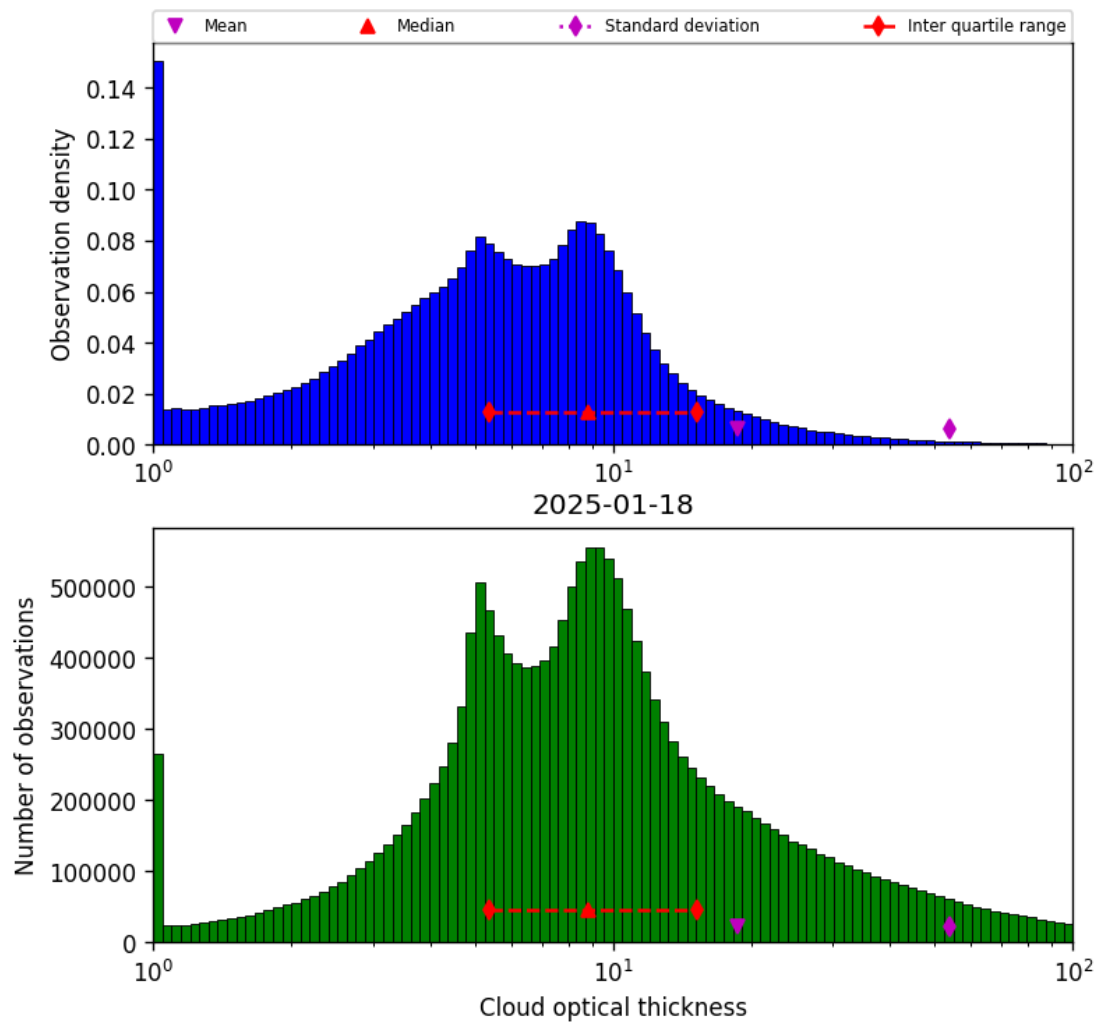


Figure 39: Histogram of “Cloud optical thickness” for 2025-01-18 to 2025-01-19

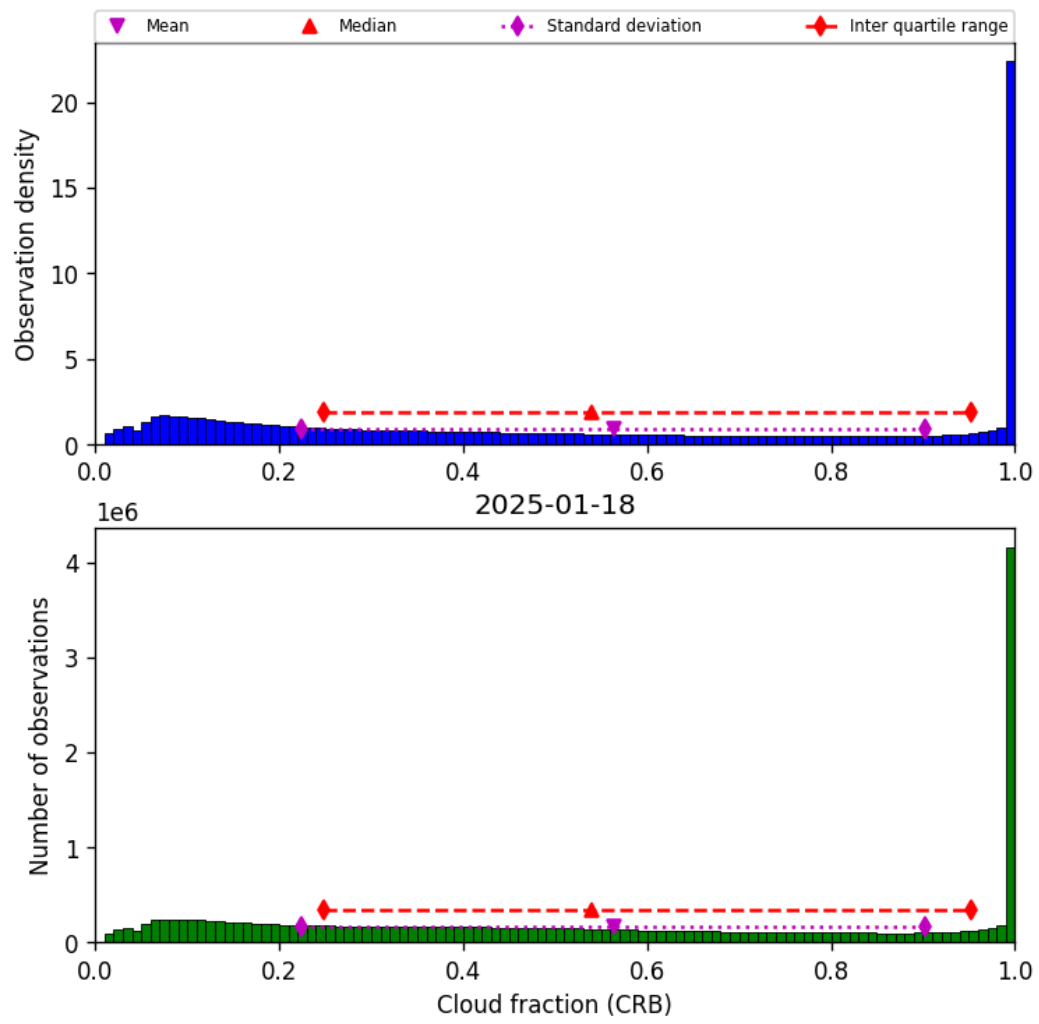


Figure 40: Histogram of “Cloud fraction (CRB)” for 2025-01-18 to 2025-01-19

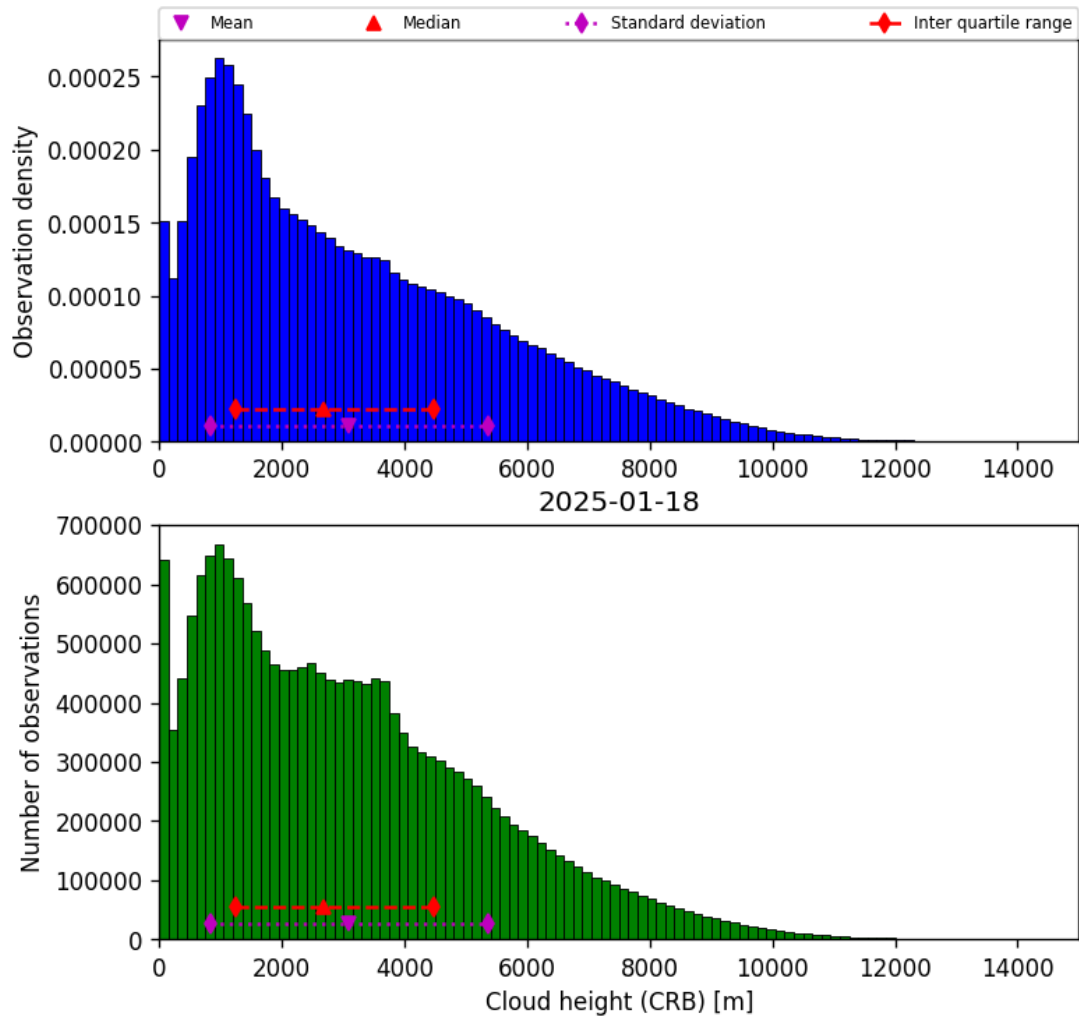


Figure 41: Histogram of “Cloud height (CRB)” for 2025-01-18 to 2025-01-19

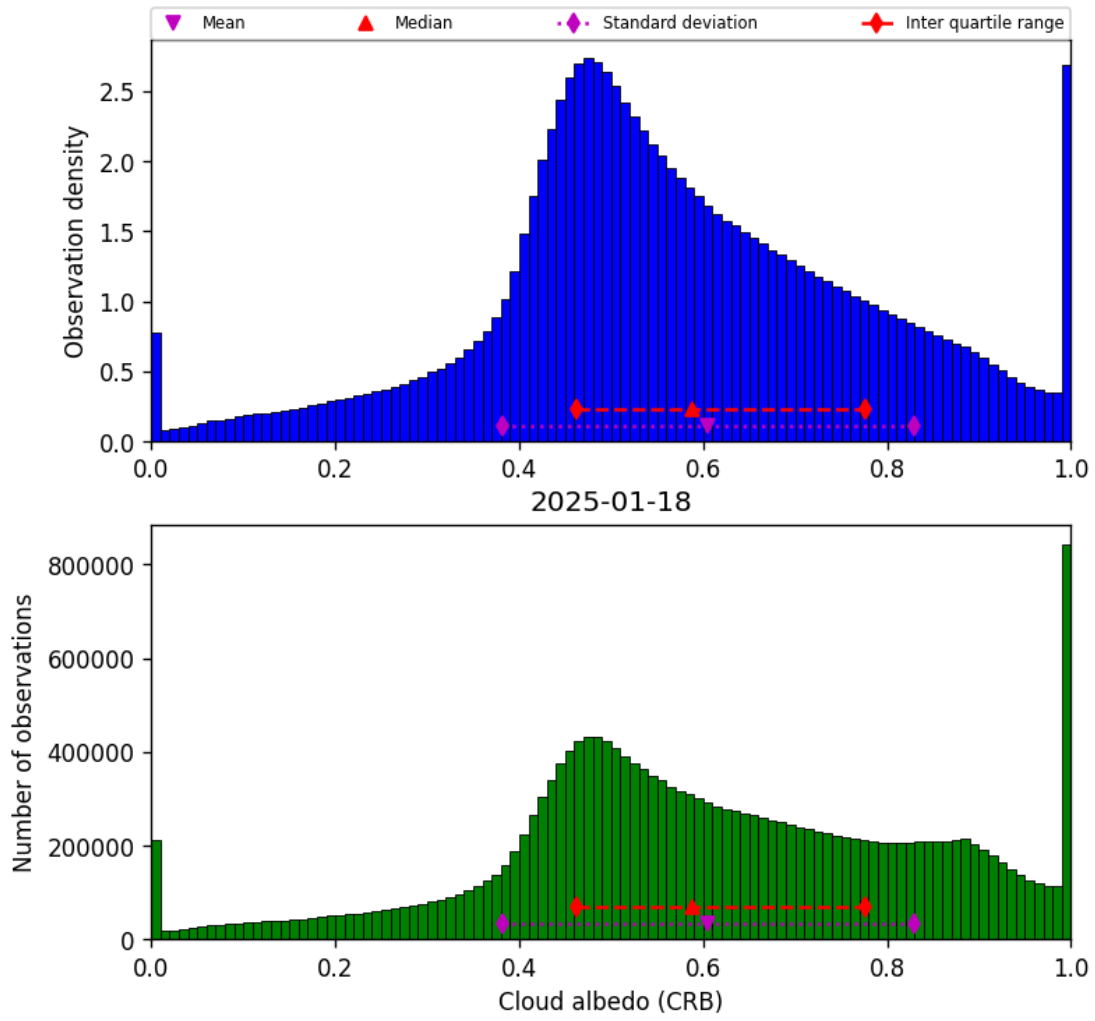


Figure 42: Histogram of “Cloud albedo (CRB)” for 2025-01-18 to 2025-01-19

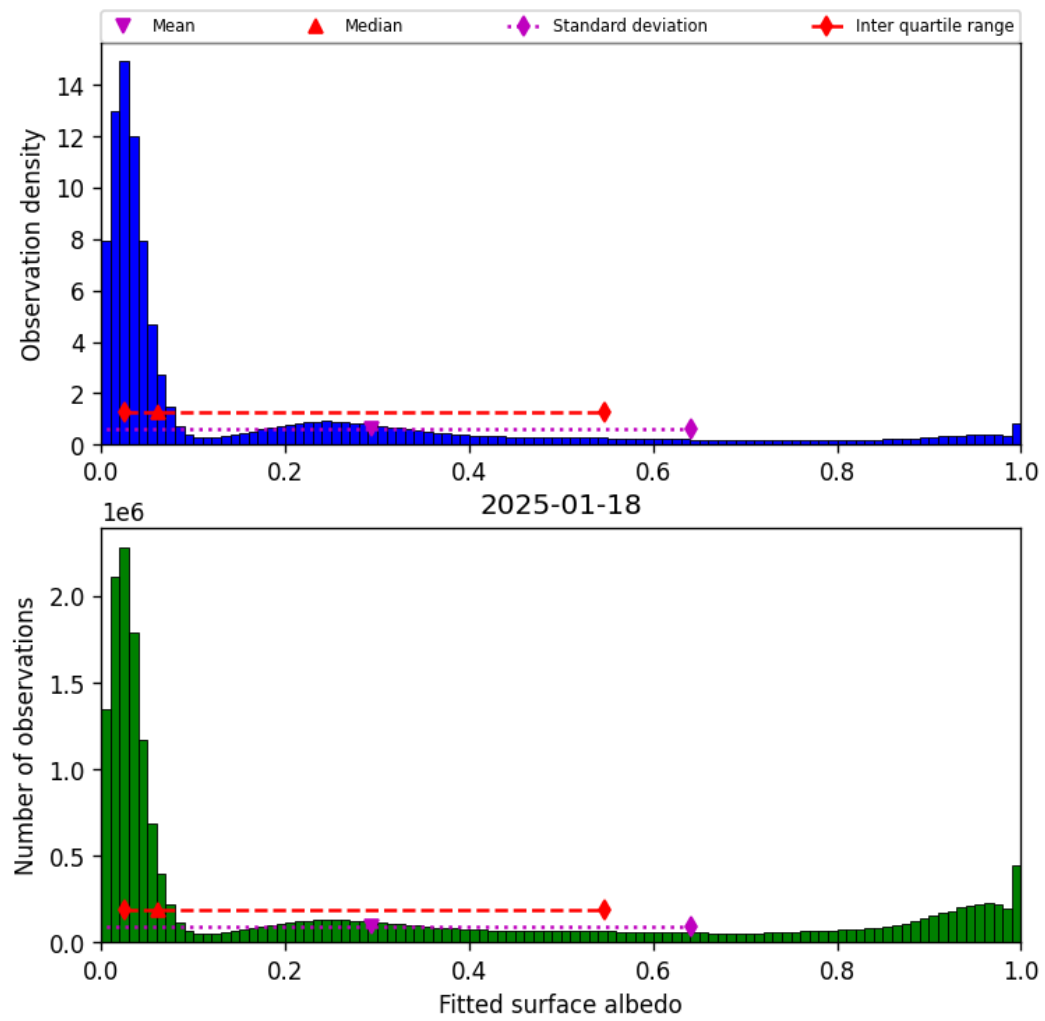


Figure 43: Histogram of “Fitted surface albedo” for 2025-01-18 to 2025-01-19

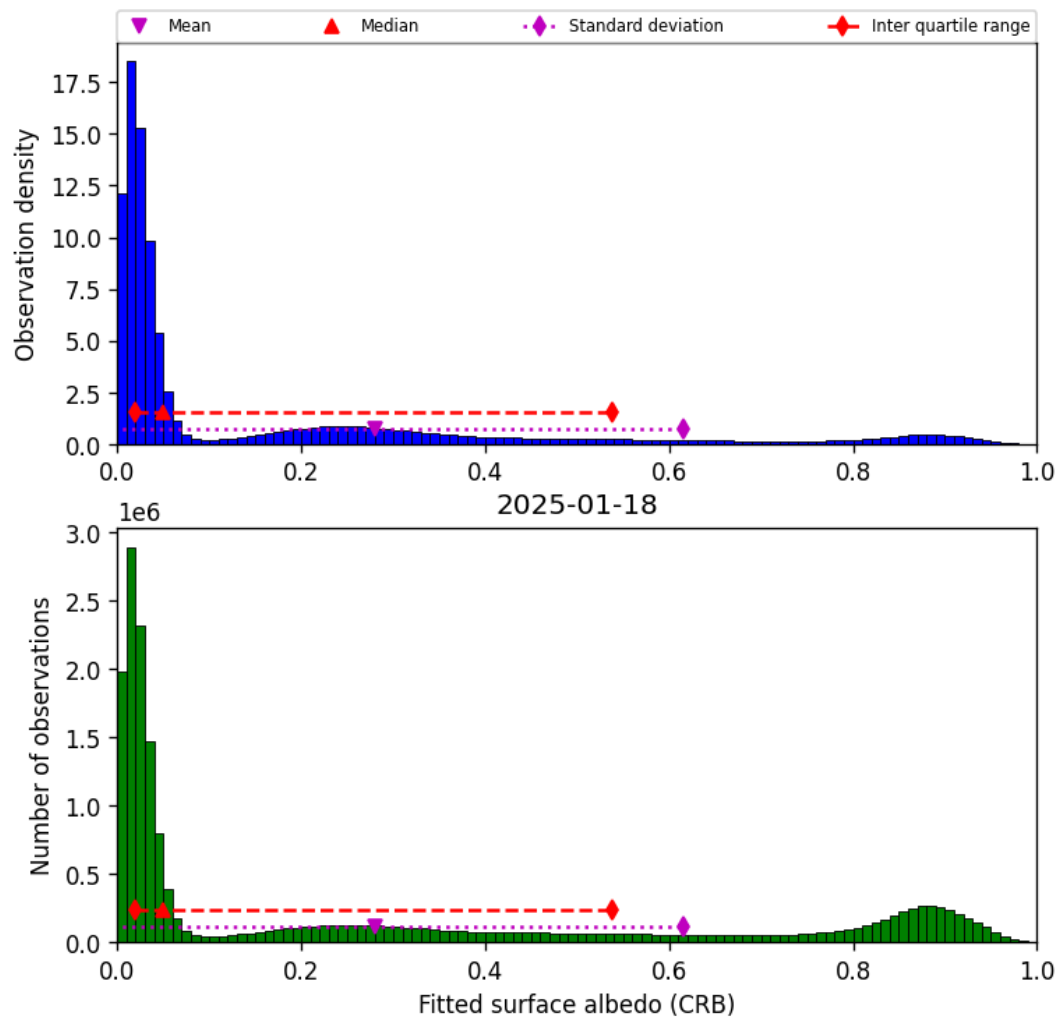


Figure 44: Histogram of “Fitted surface albedo (CRB)” for 2025-01-18 to 2025-01-19

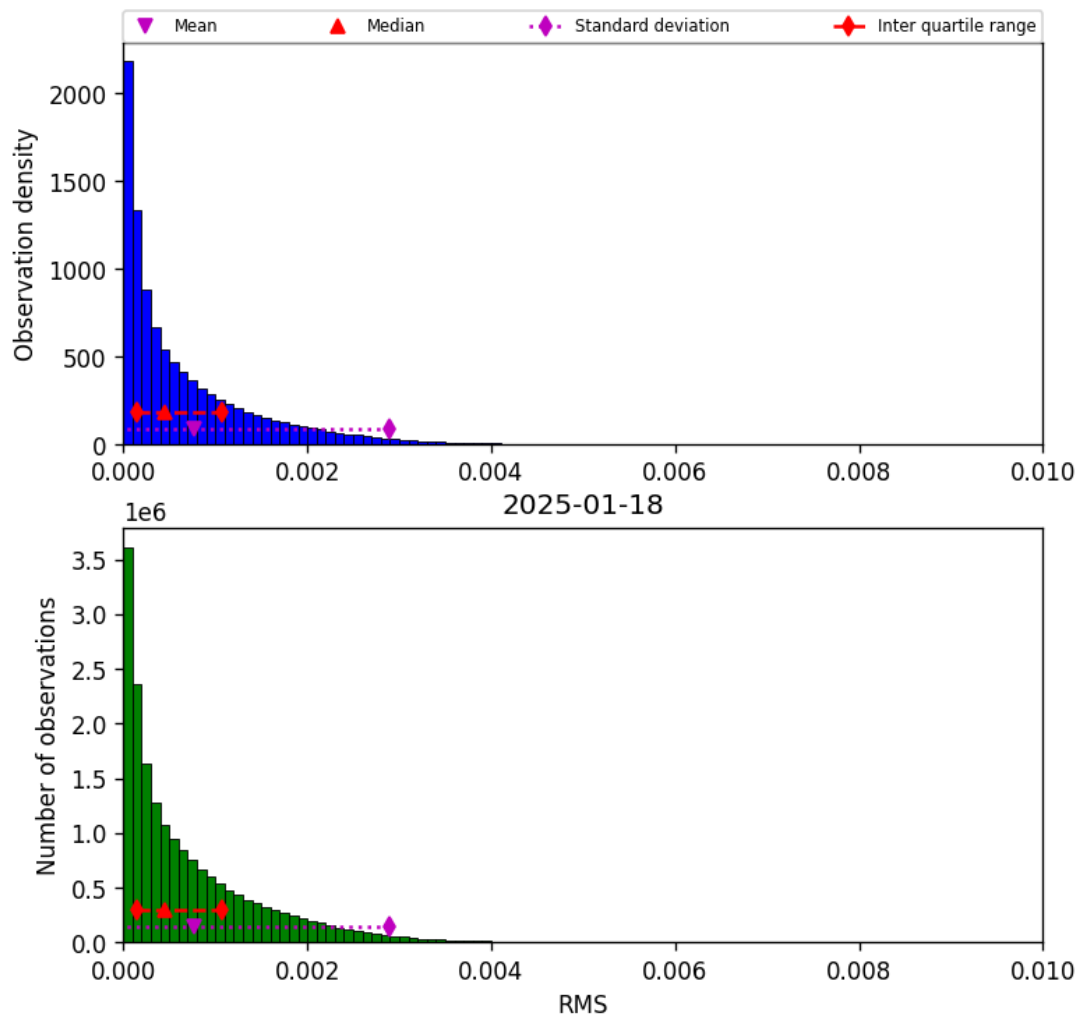


Figure 45: Histogram of “RMS” for 2025-01-18 to 2025-01-19

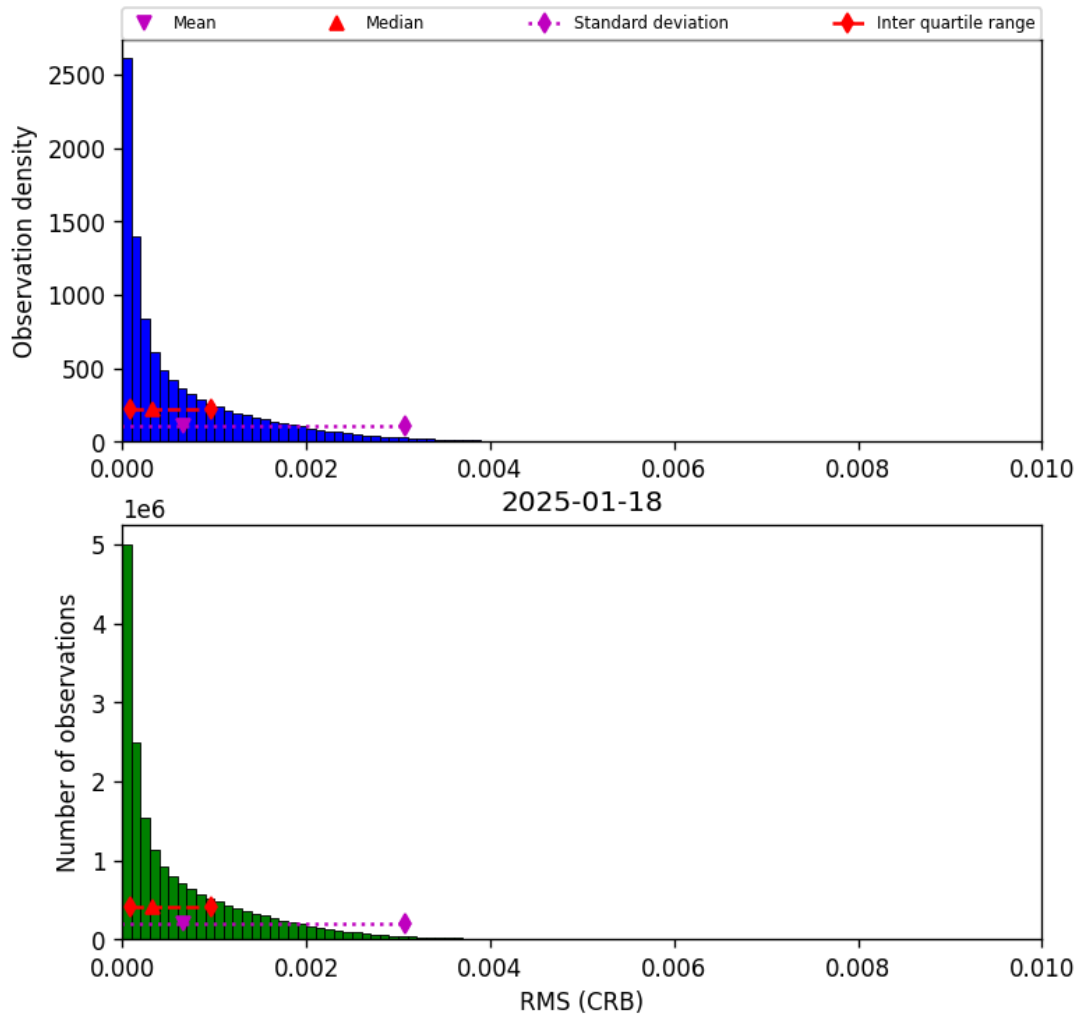


Figure 46: Histogram of "RMS (CRB)" for 2025-01-18 to 2025-01-19

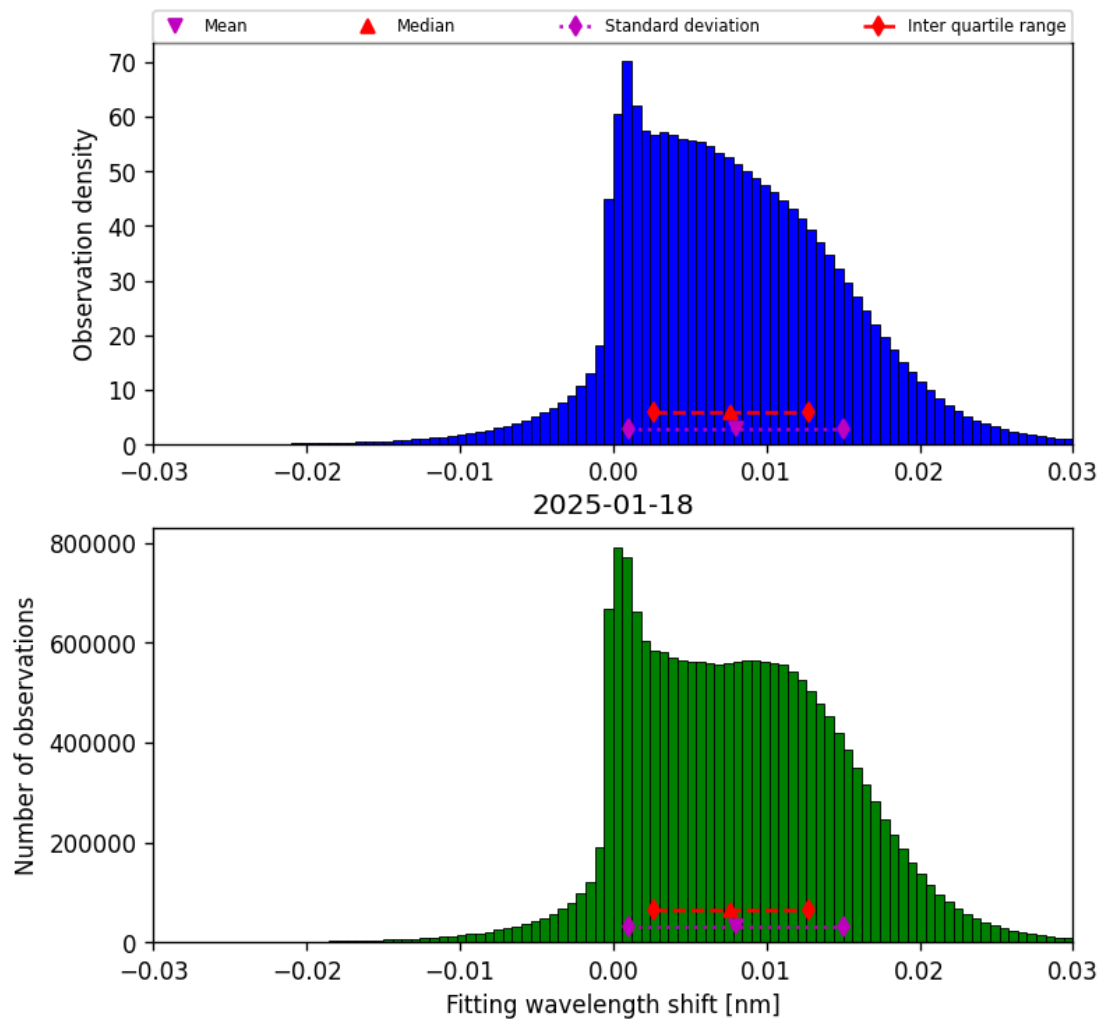


Figure 47: Histogram of “Fitting wavelength shift” for 2025-01-18 to 2025-01-19

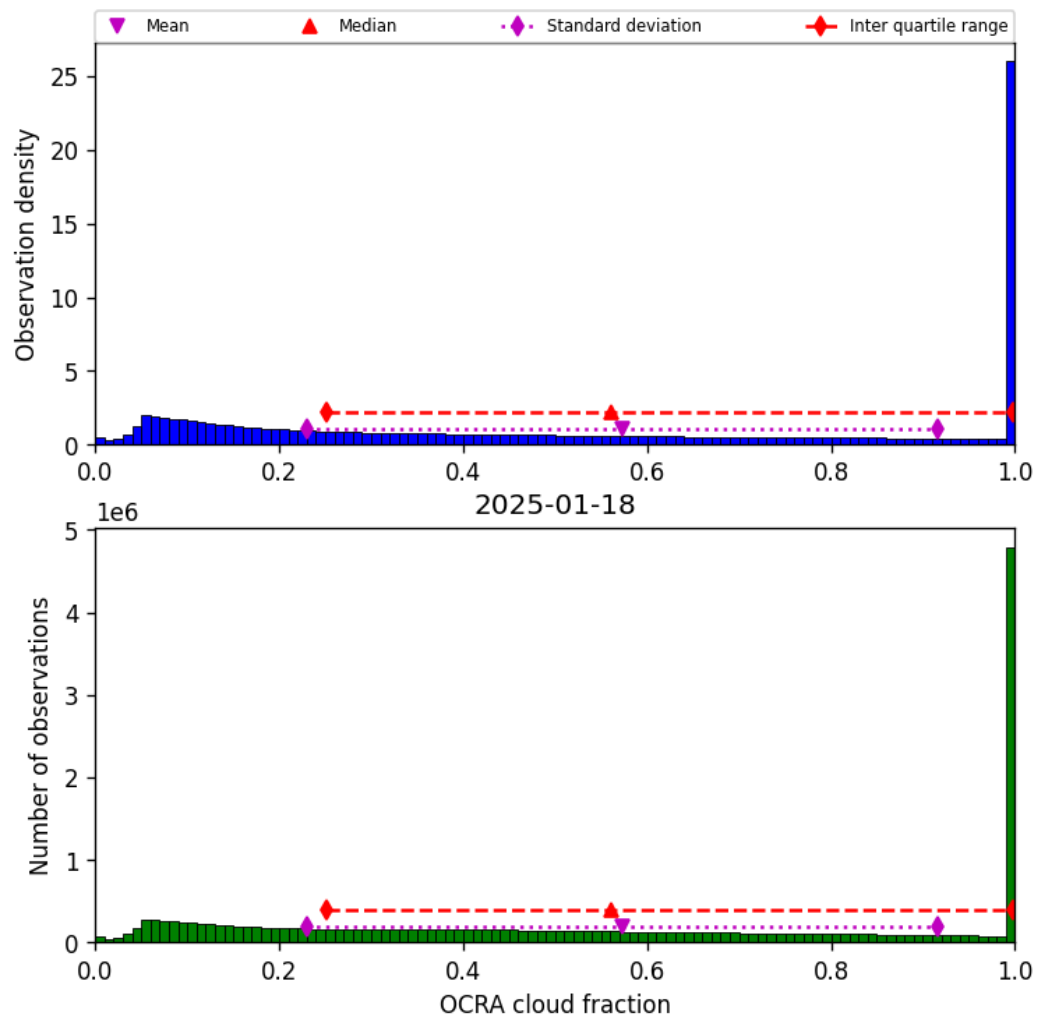


Figure 48: Histogram of “OCRA cloud fraction” for 2025-01-18 to 2025-01-19

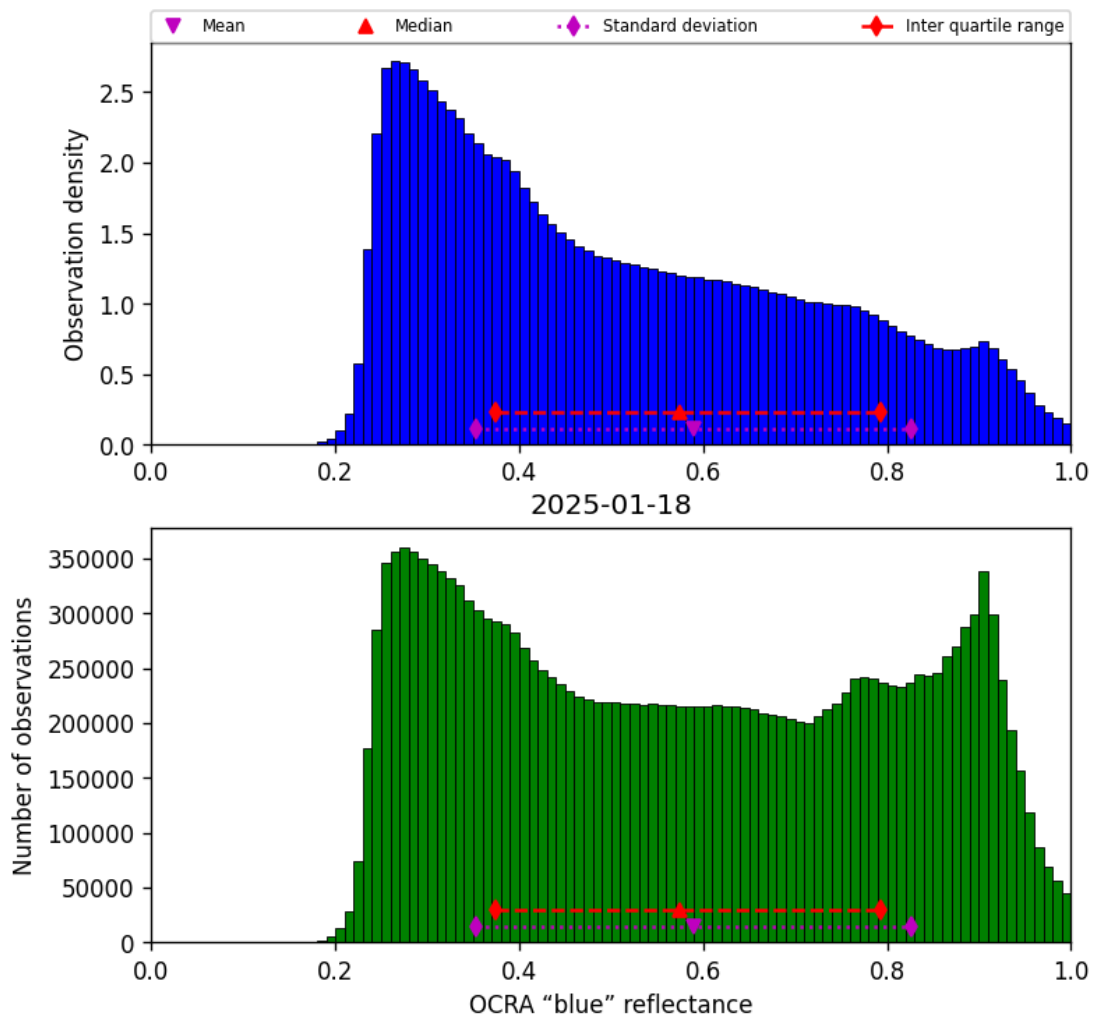


Figure 49: Histogram of "OCRA "blue" reflectance" for 2025-01-18 to 2025-01-19

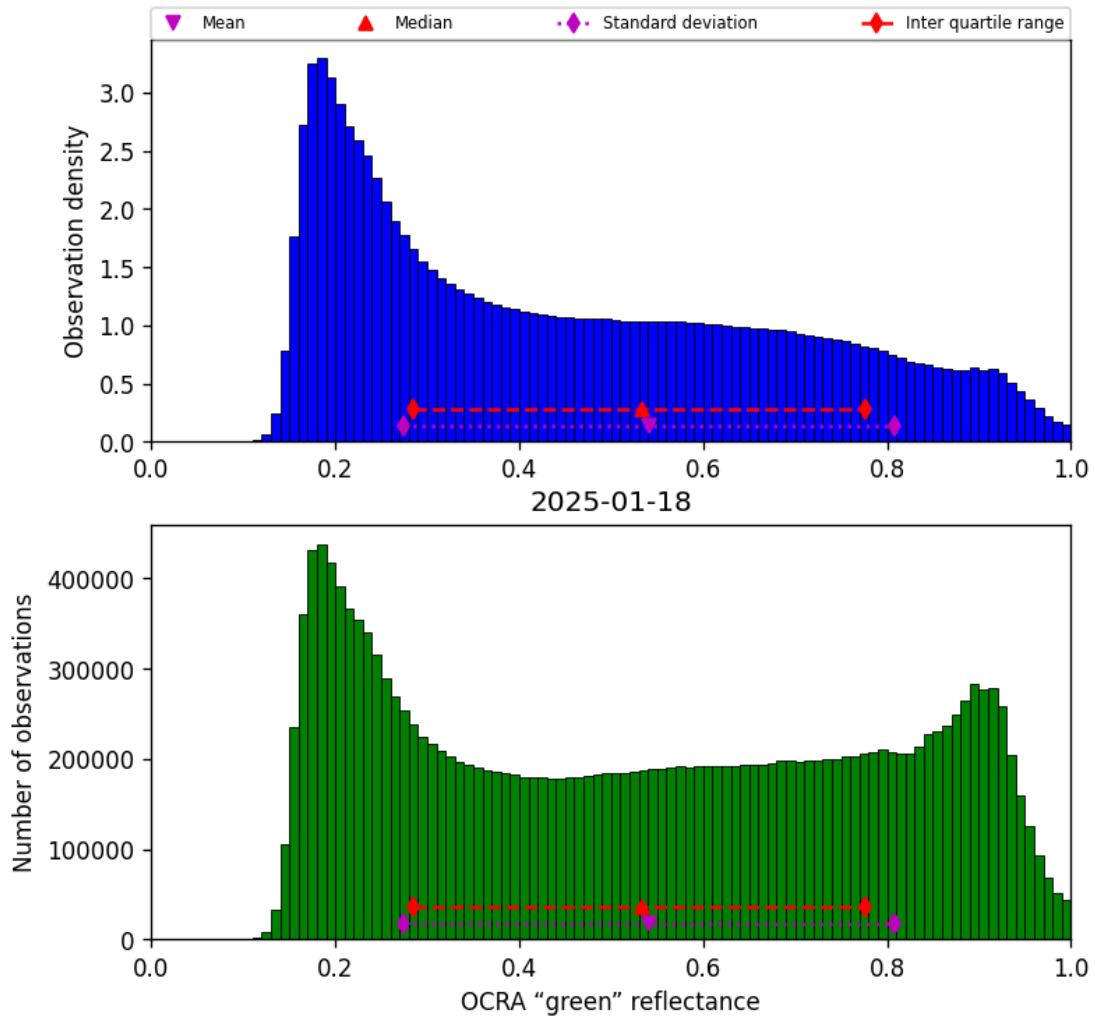


Figure 50: Histogram of “OCRA “green” reflectance” for 2025-01-18 to 2025-01-19

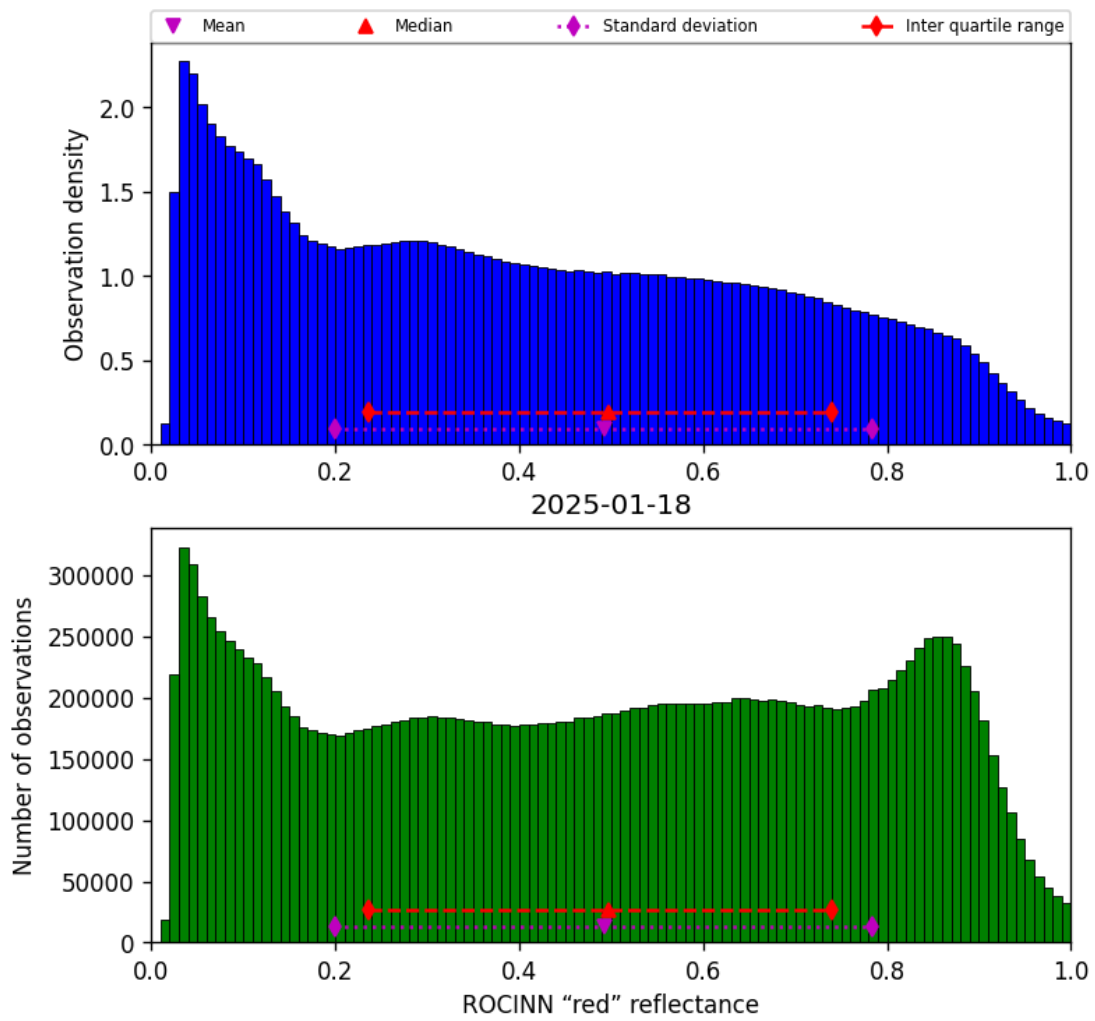


Figure 51: Histogram of “ROCINN “red” reflectance” for 2025-01-18 to 2025-01-19

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.

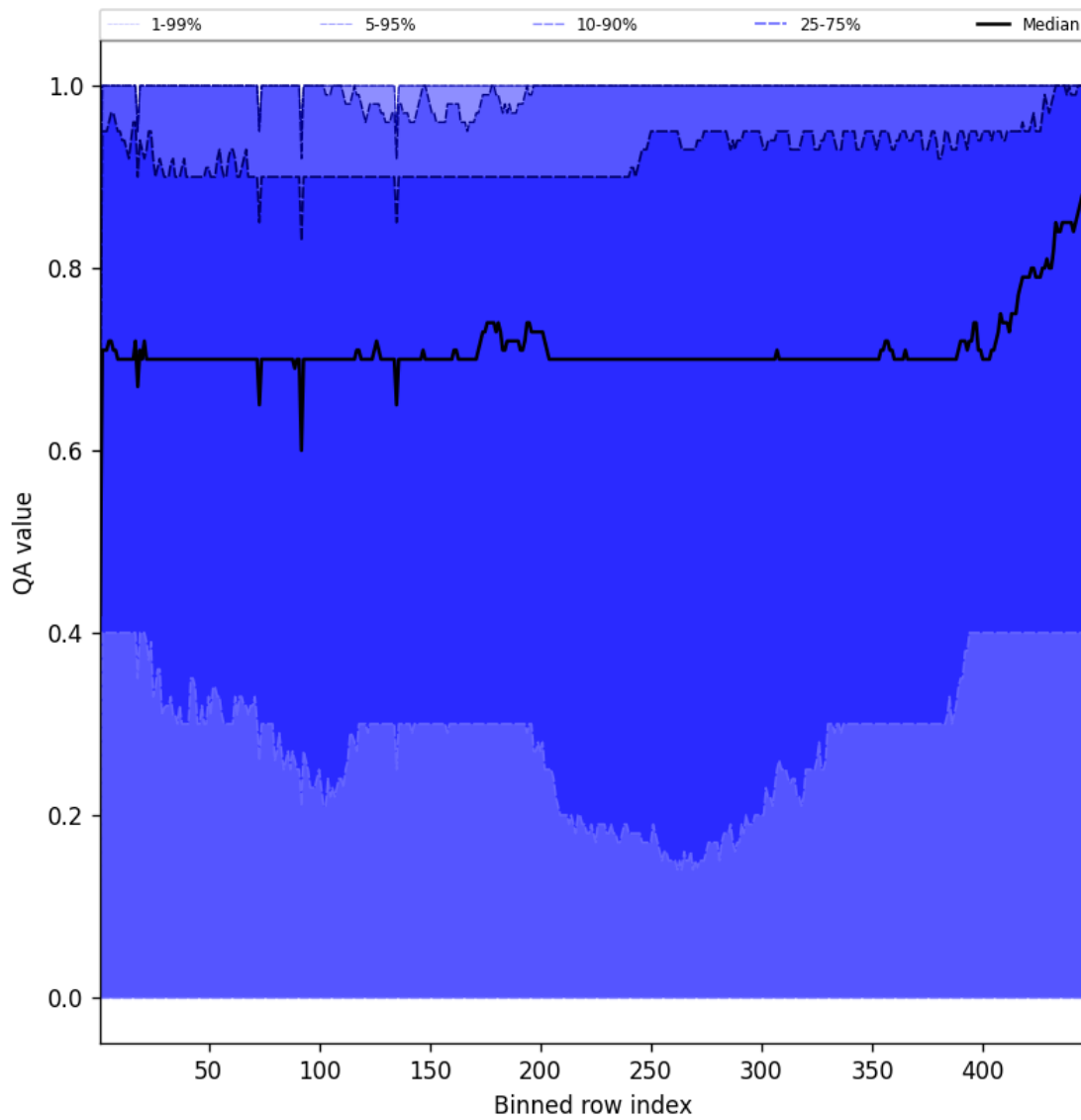


Figure 52: Along track statistics of “QA value” for 2025-01-18 to 2025-01-19

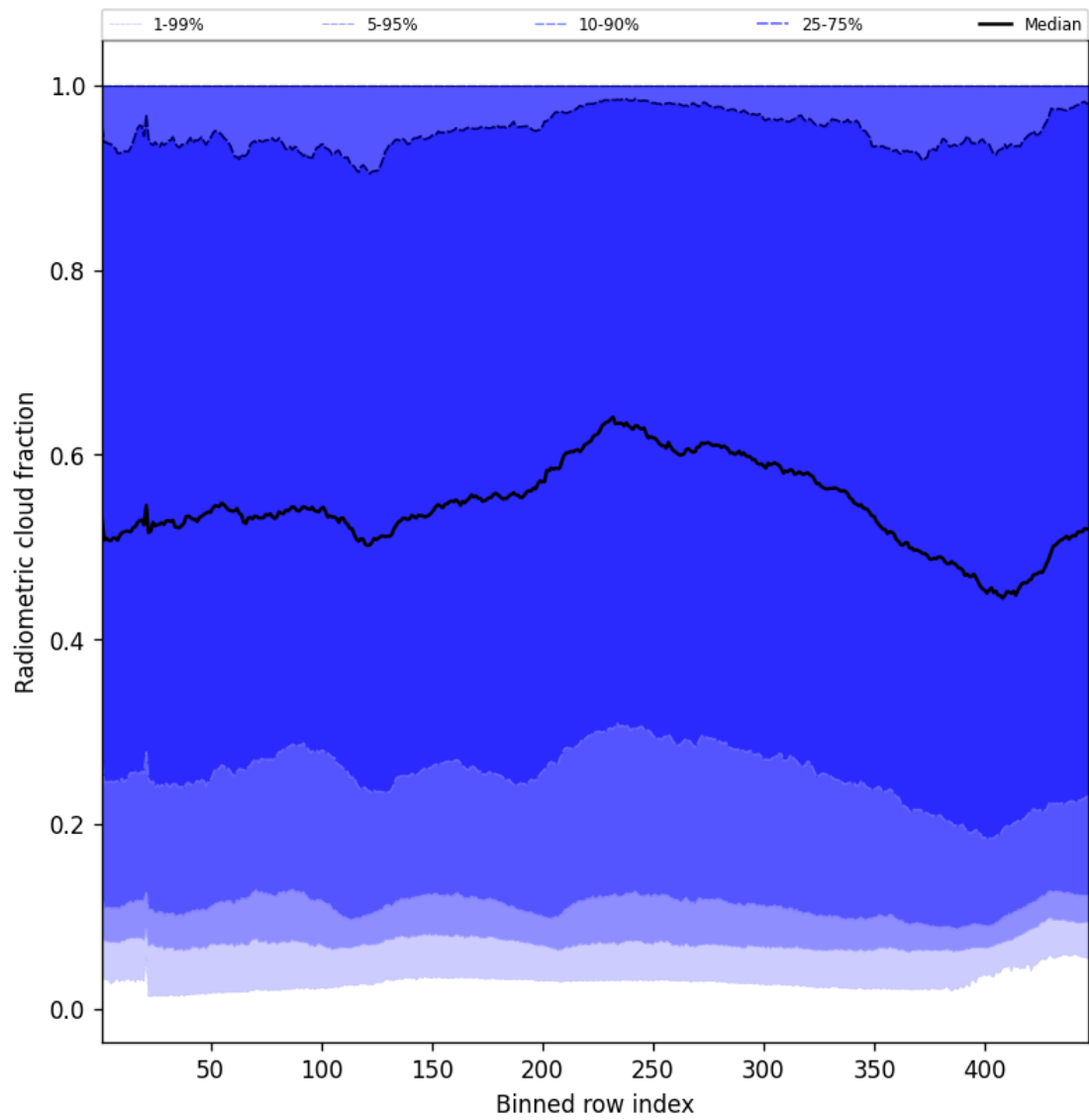


Figure 53: Along track statistics of “Radiometric cloud fraction” for 2025-01-18 to 2025-01-19

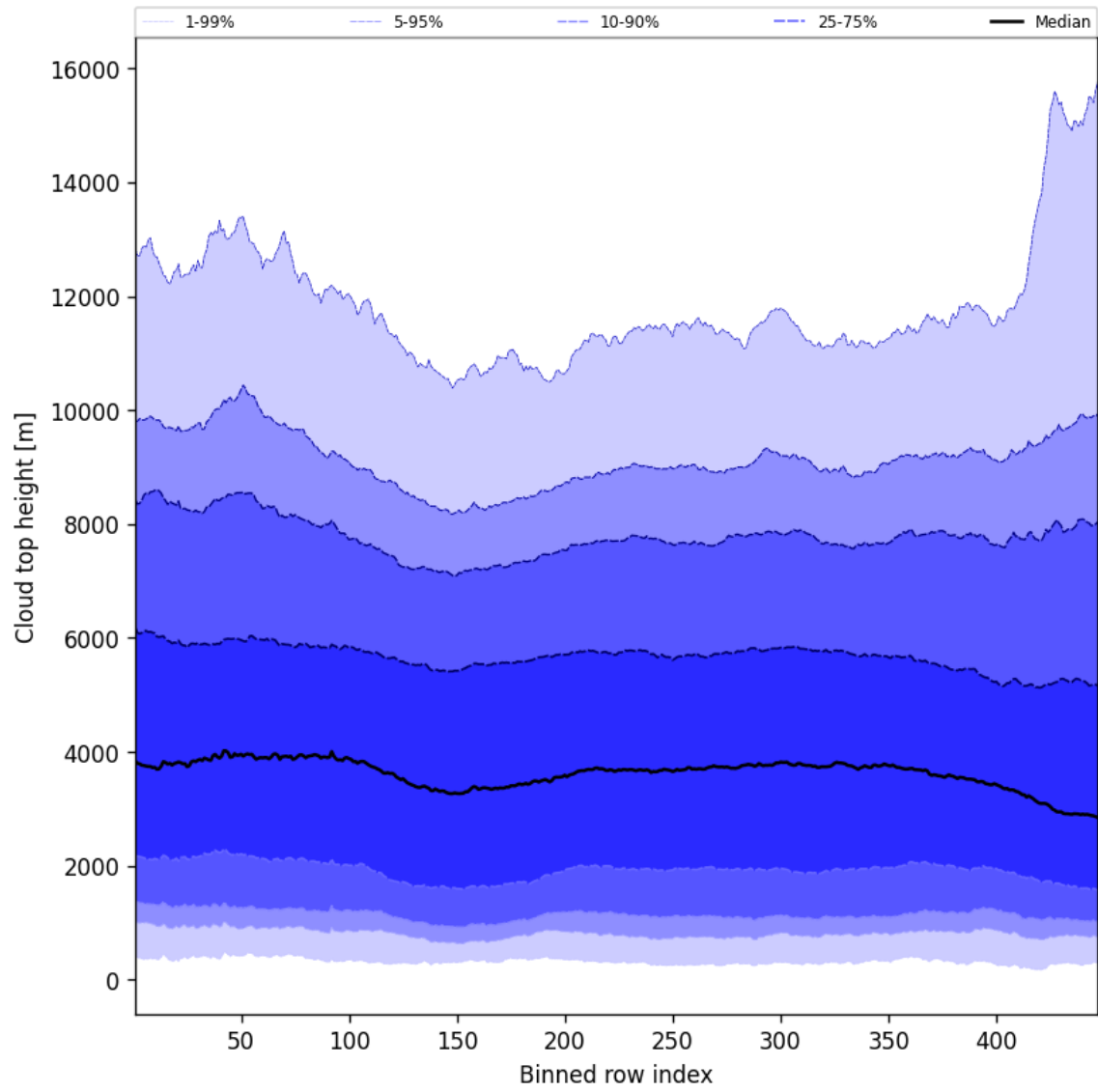


Figure 54: Along track statistics of “Cloud top height” for 2025-01-18 to 2025-01-19

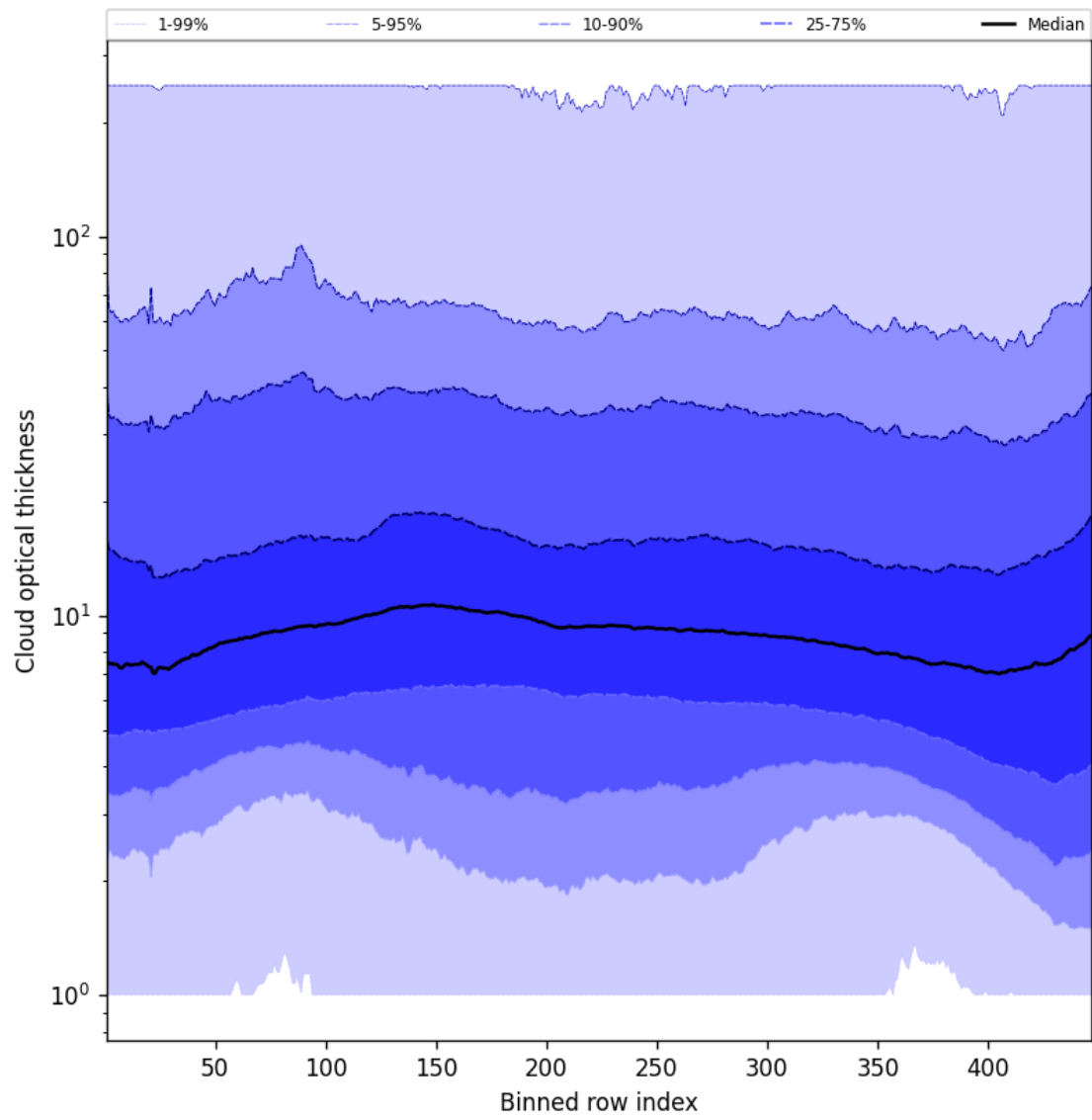


Figure 55: Along track statistics of “Cloud optical thickness” for 2025-01-18 to 2025-01-19

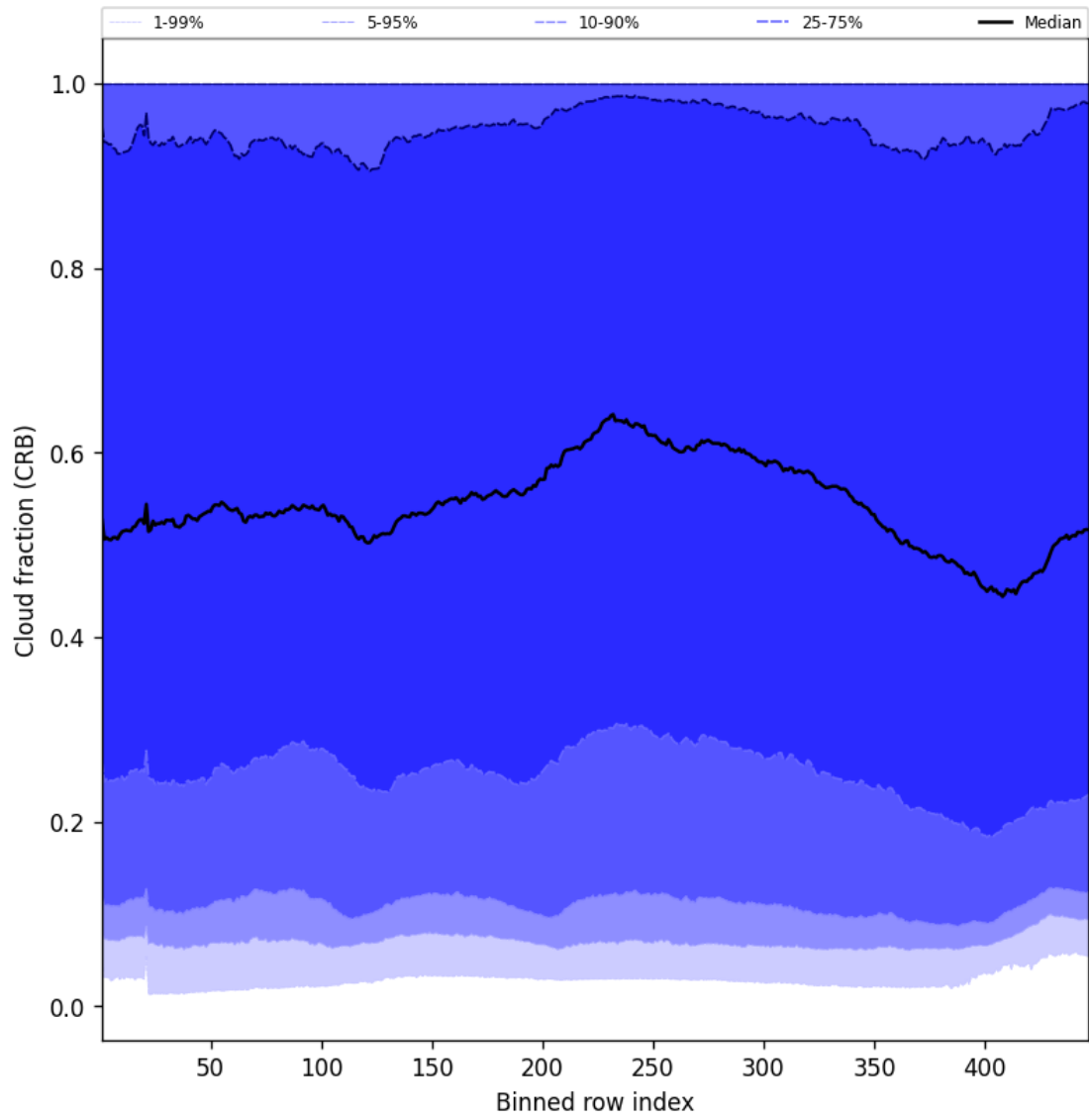


Figure 56: Along track statistics of “Cloud fraction (CRB)” for 2025-01-18 to 2025-01-19

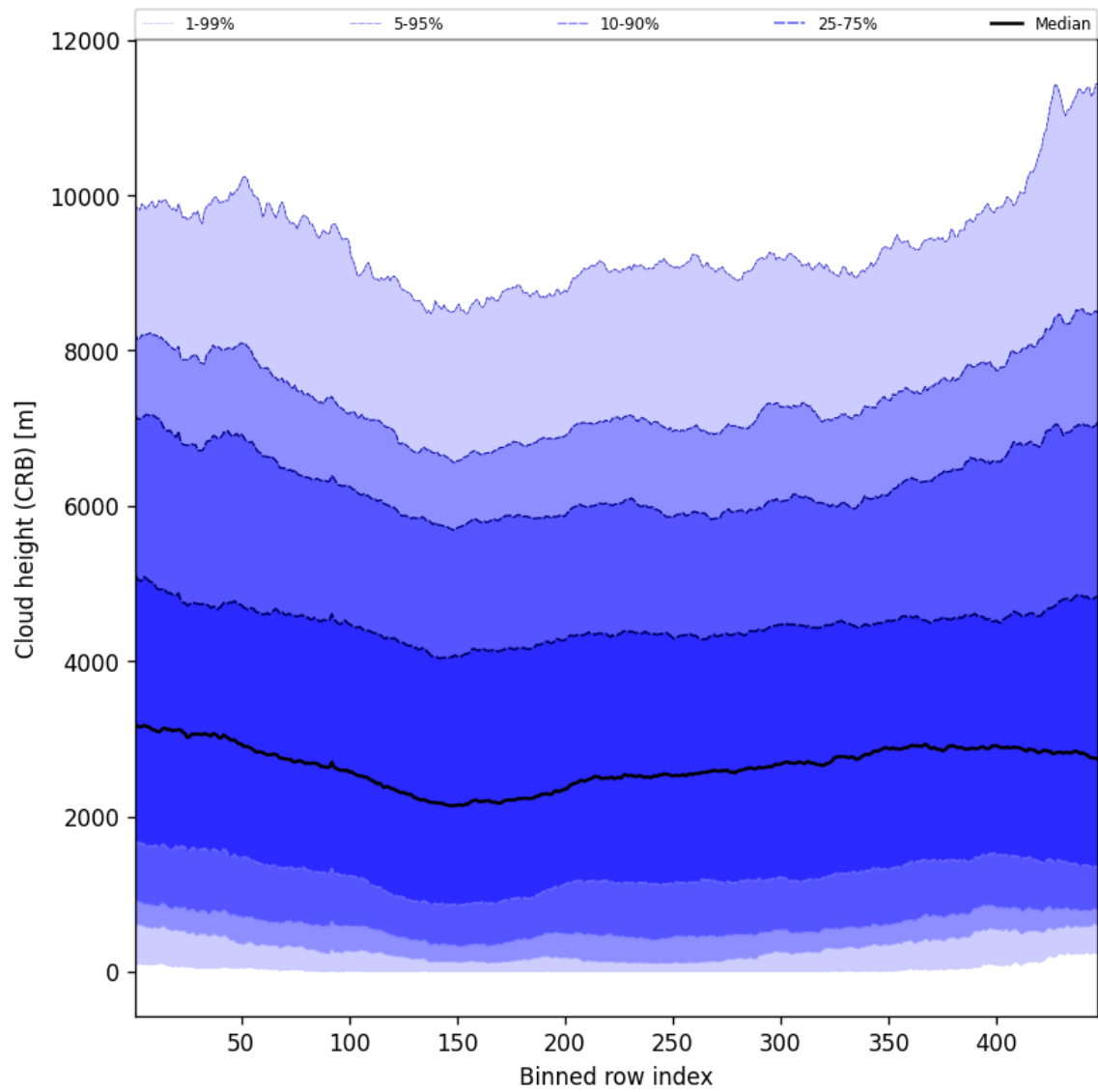


Figure 57: Along track statistics of “Cloud height (CRB)” for 2025-01-18 to 2025-01-19

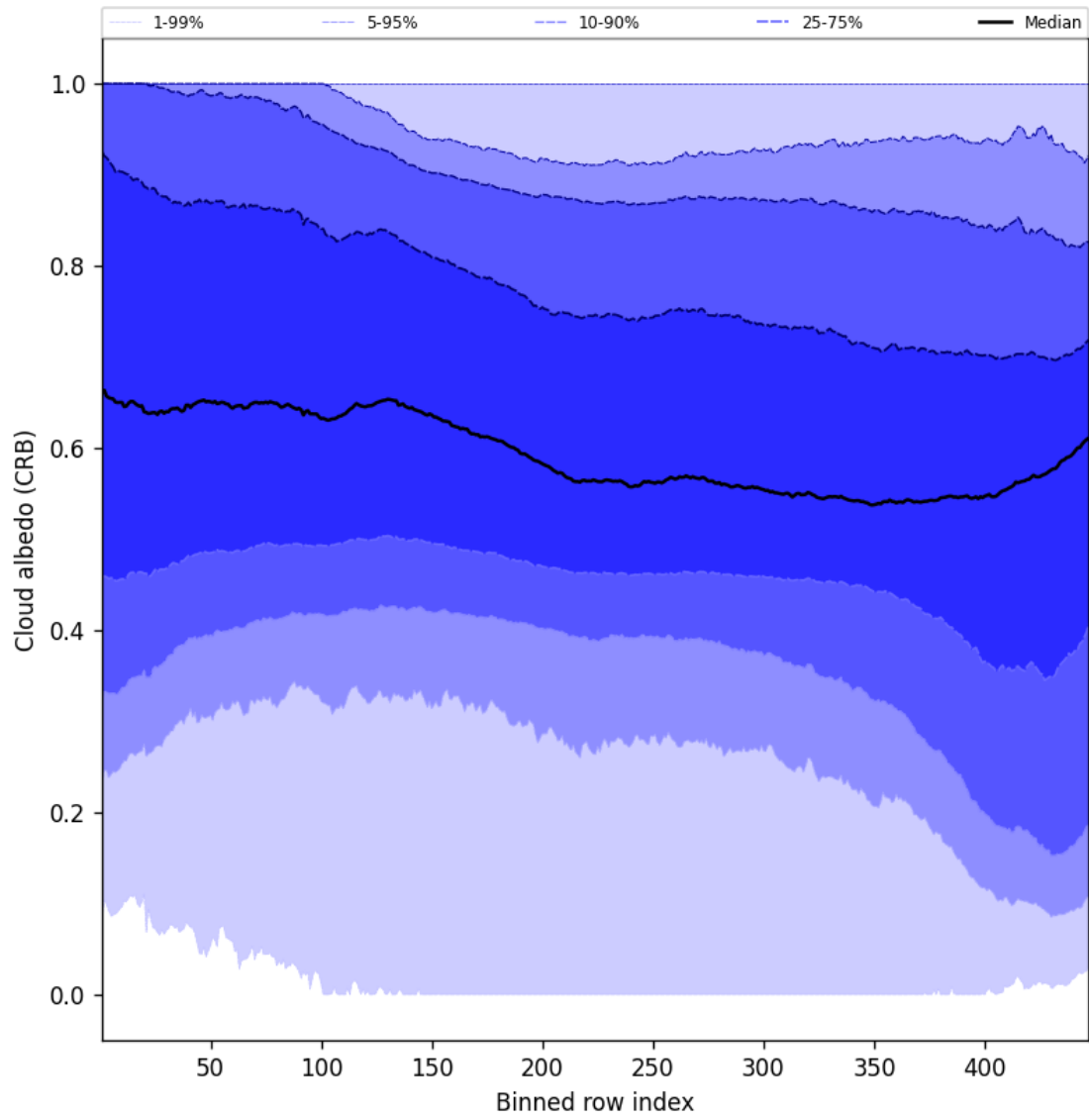


Figure 58: Along track statistics of “Cloud albedo (CRB)” for 2025-01-18 to 2025-01-19

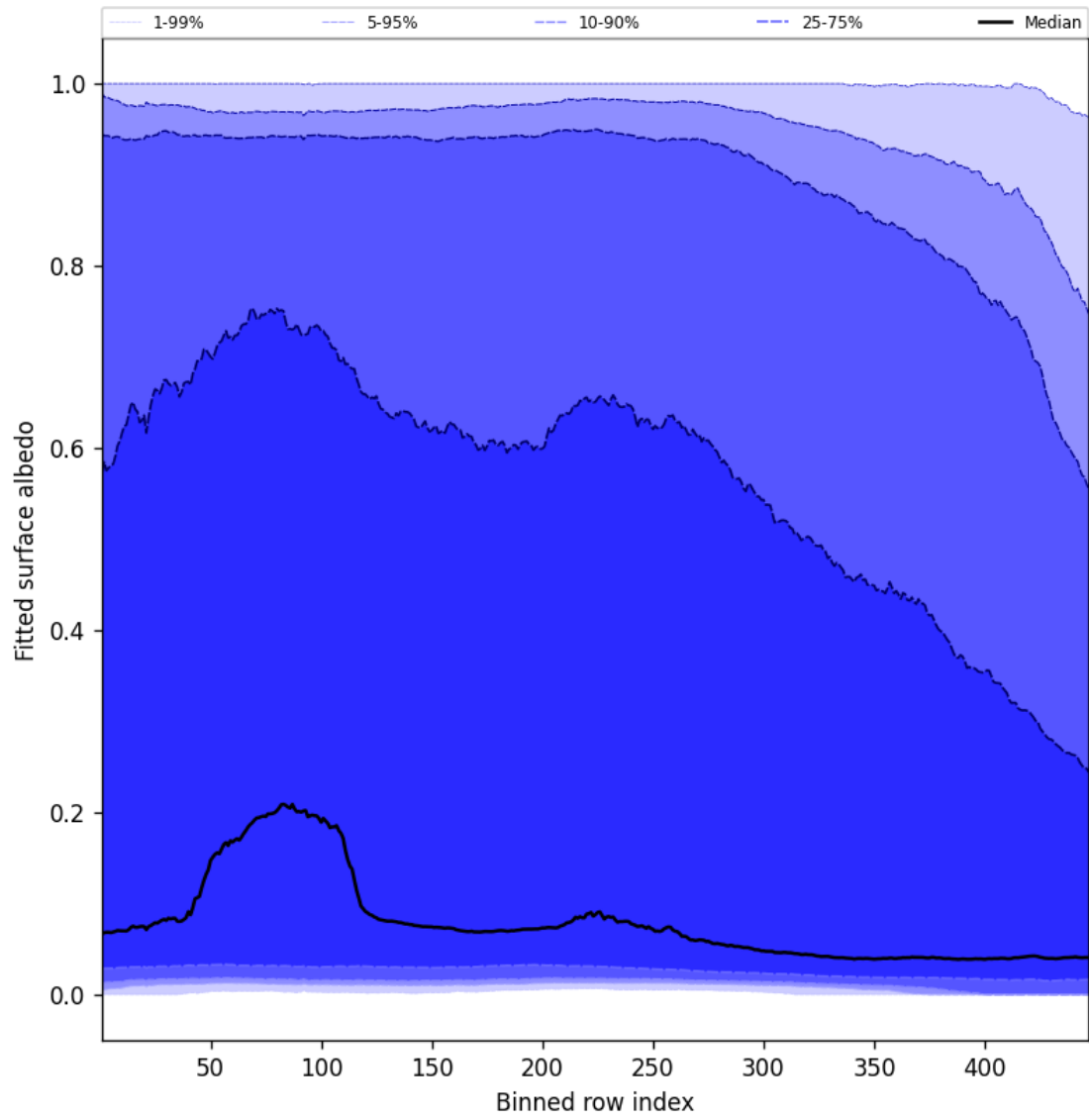


Figure 59: Along track statistics of “Fitted surface albedo” for 2025-01-18 to 2025-01-19

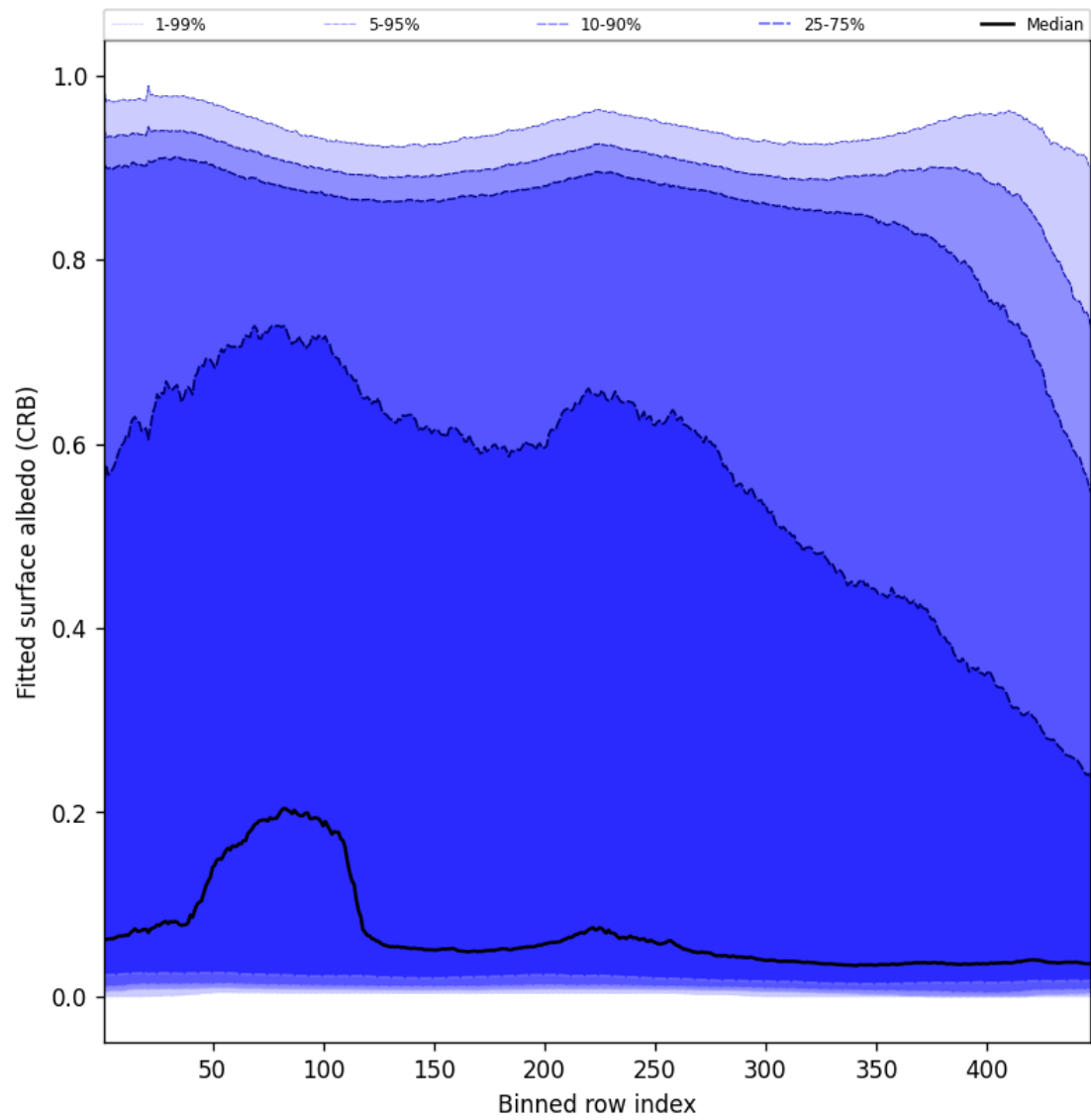


Figure 60: Along track statistics of “Fitted surface albedo (CRB)” for 2025-01-18 to 2025-01-19

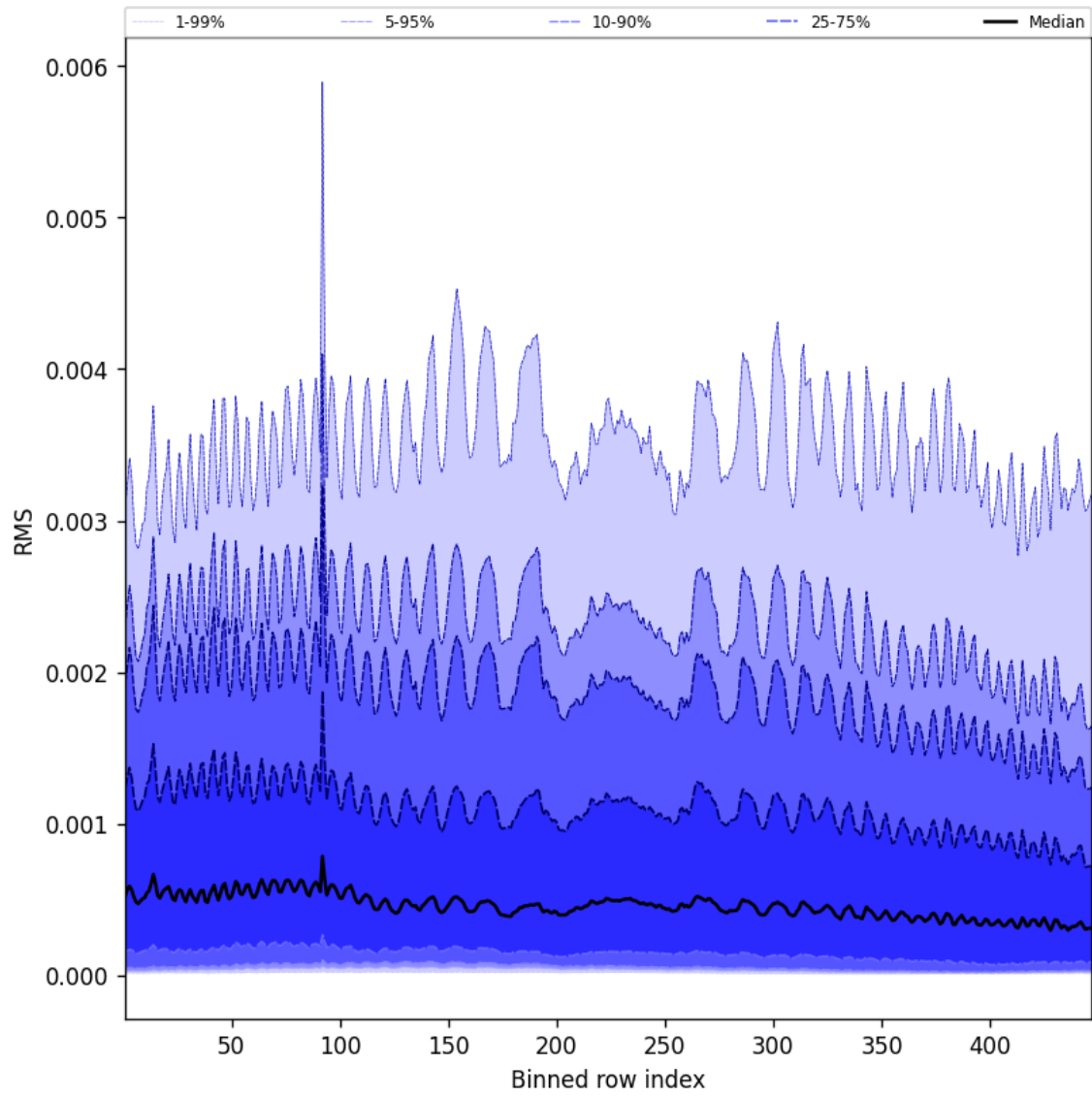


Figure 61: Along track statistics of “RMS” for 2025-01-18 to 2025-01-19

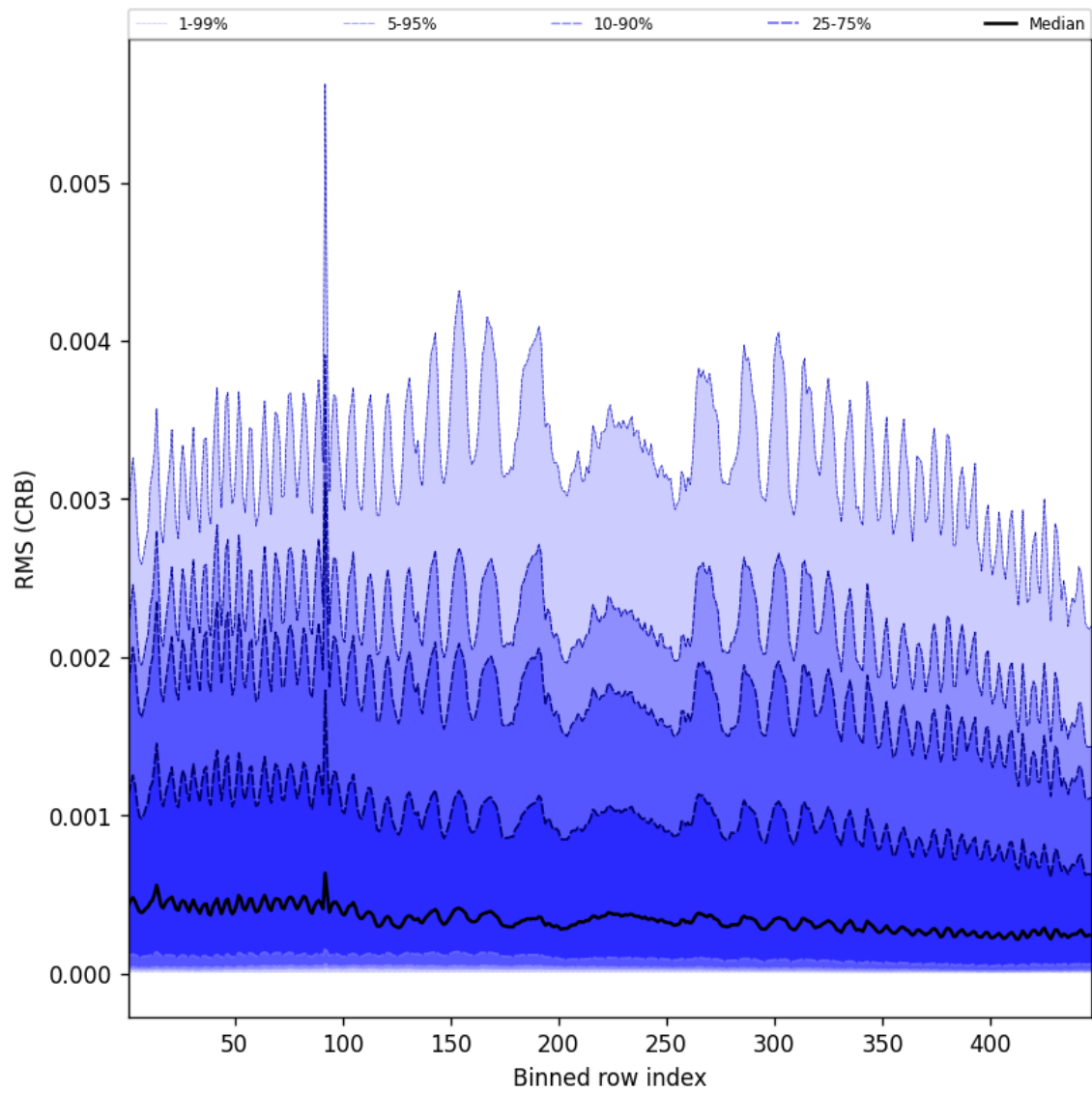


Figure 62: Along track statistics of “RMS (CRB)” for 2025-01-18 to 2025-01-19

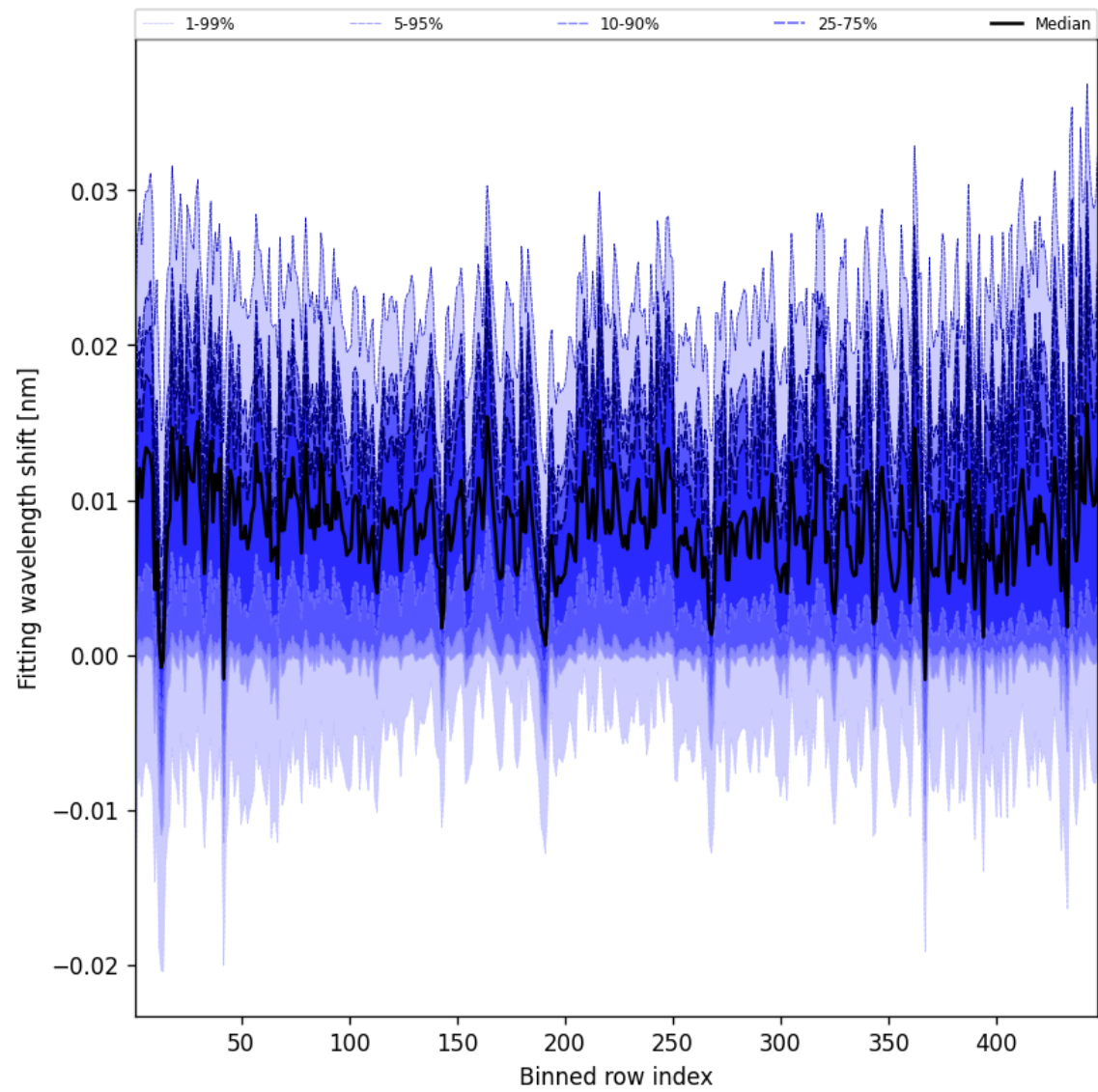


Figure 63: Along track statistics of “Fitting wavelength shift” for 2025-01-18 to 2025-01-19

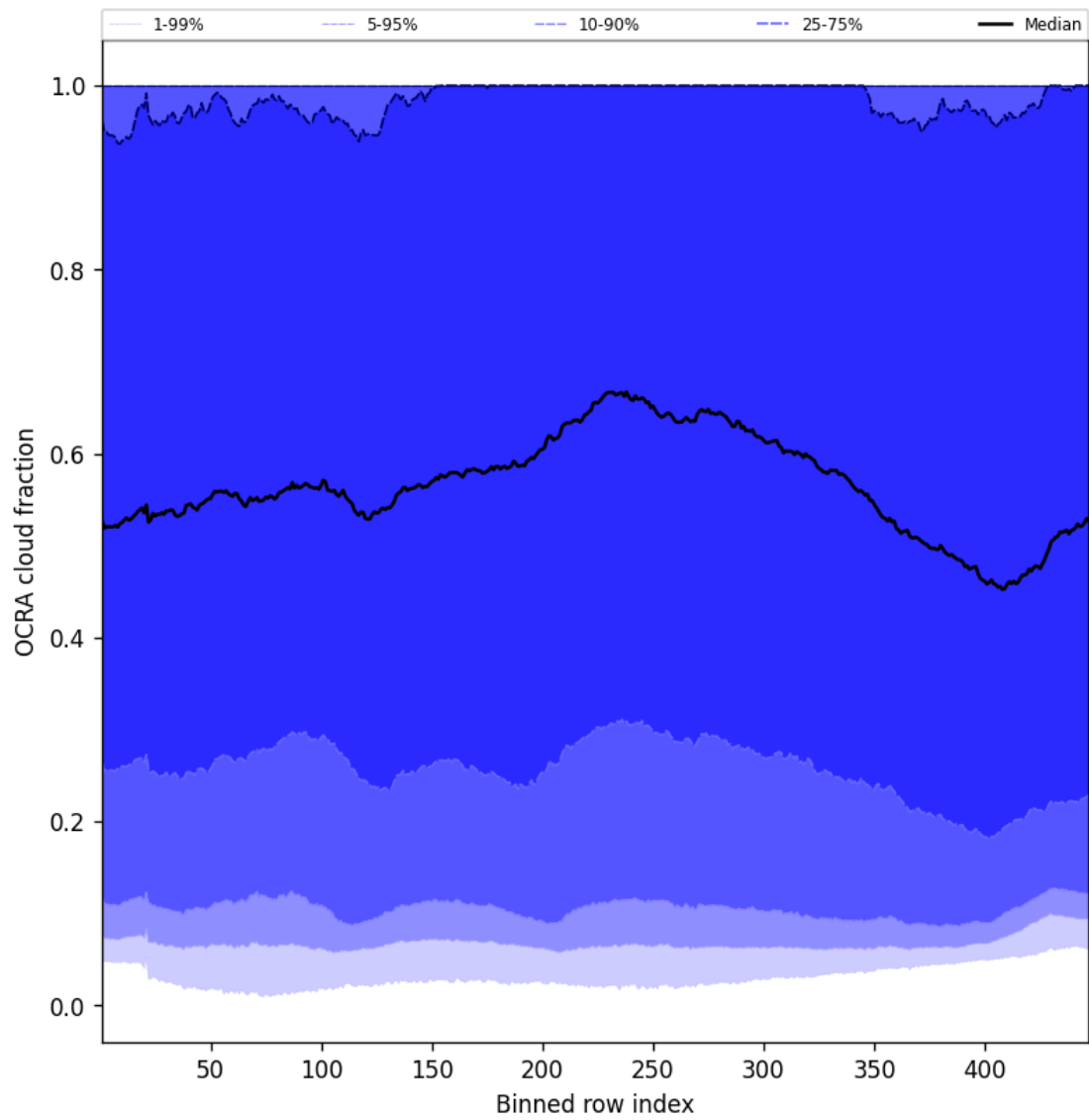


Figure 64: Along track statistics of “OCRA cloud fraction” for 2025-01-18 to 2025-01-19

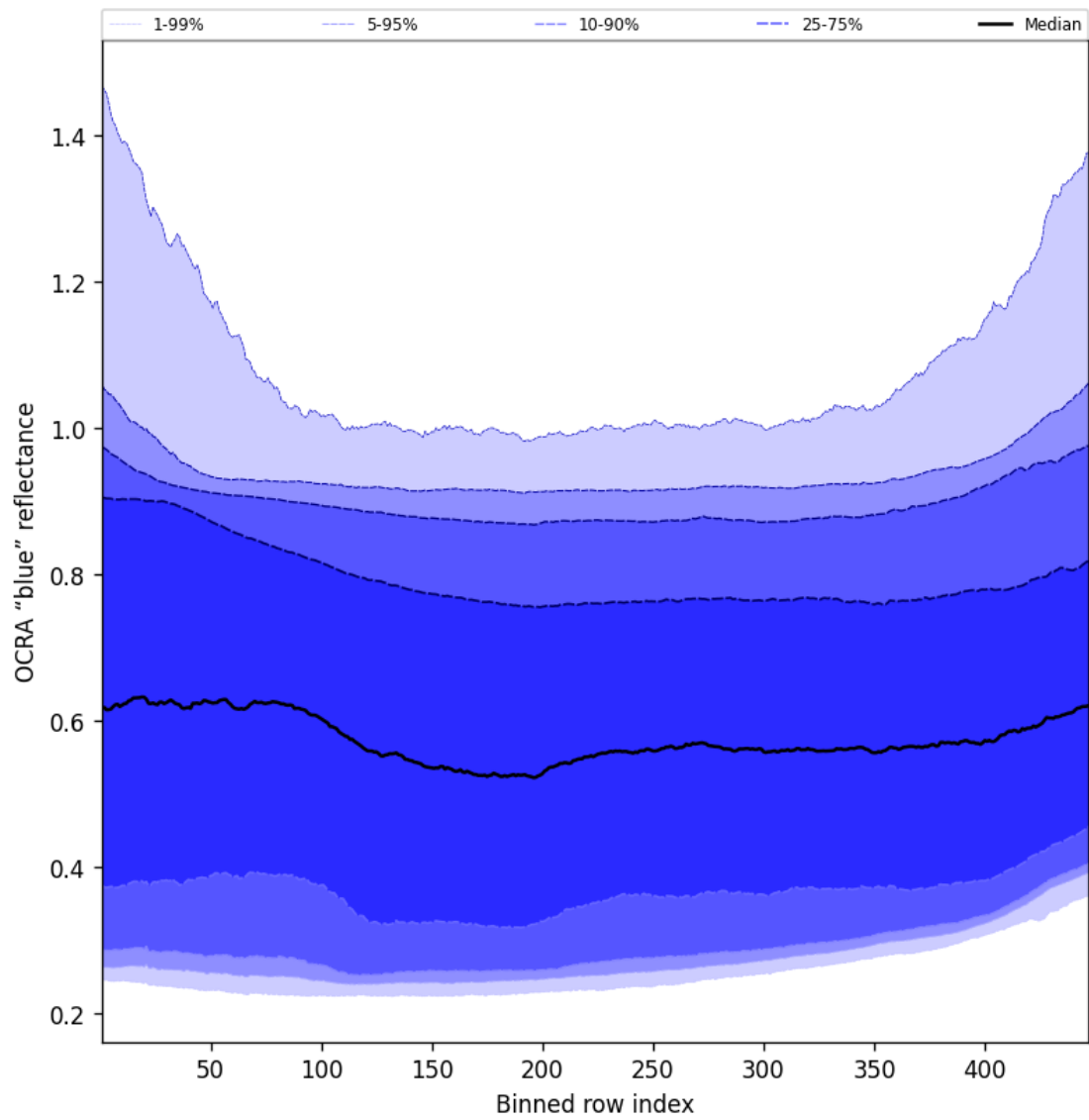


Figure 65: Along track statistics of “OCRA “blue” reflectance” for 2025-01-18 to 2025-01-19

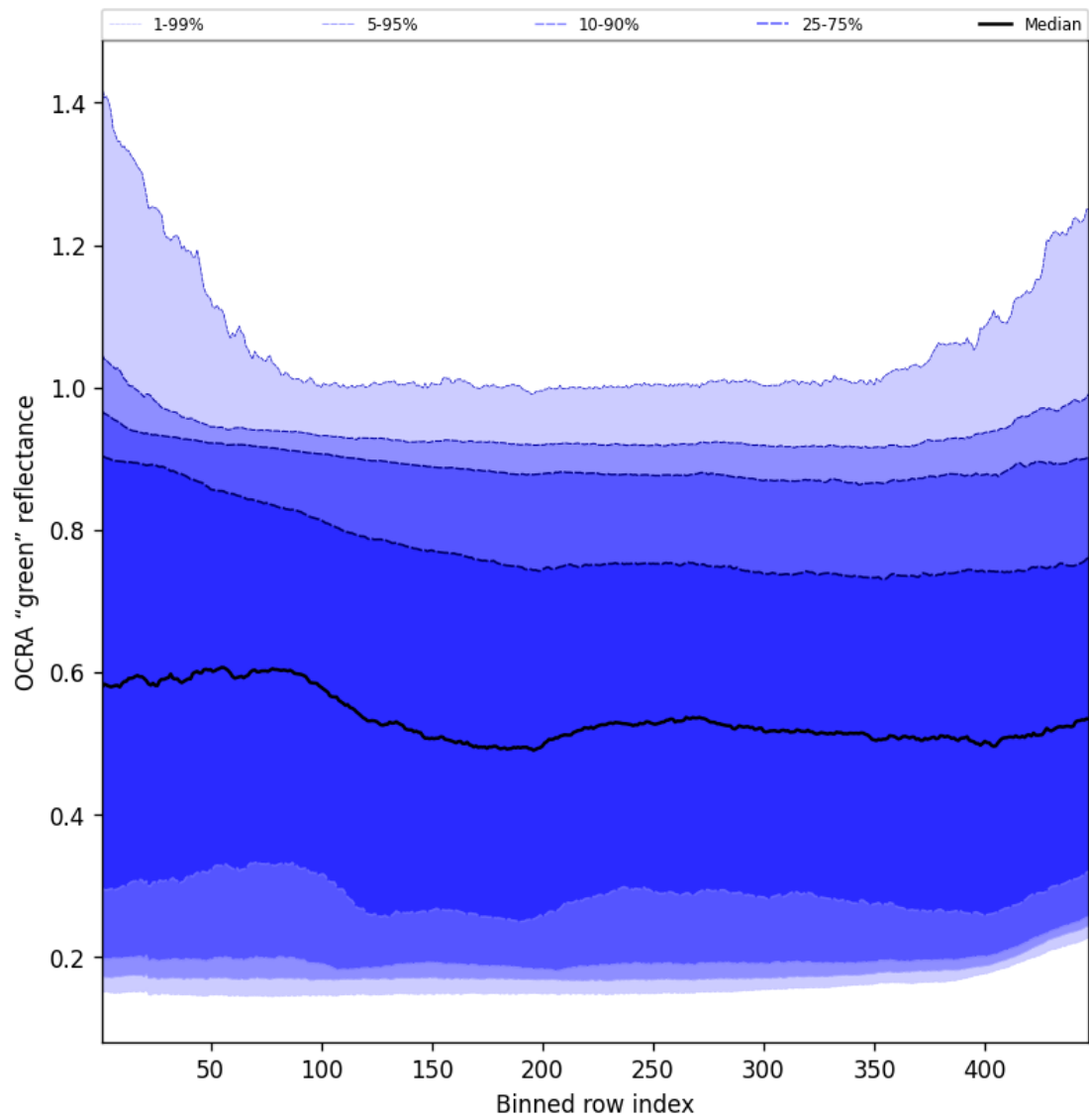


Figure 66: Along track statistics of “OCRA “green” reflectance” for 2025-01-18 to 2025-01-19

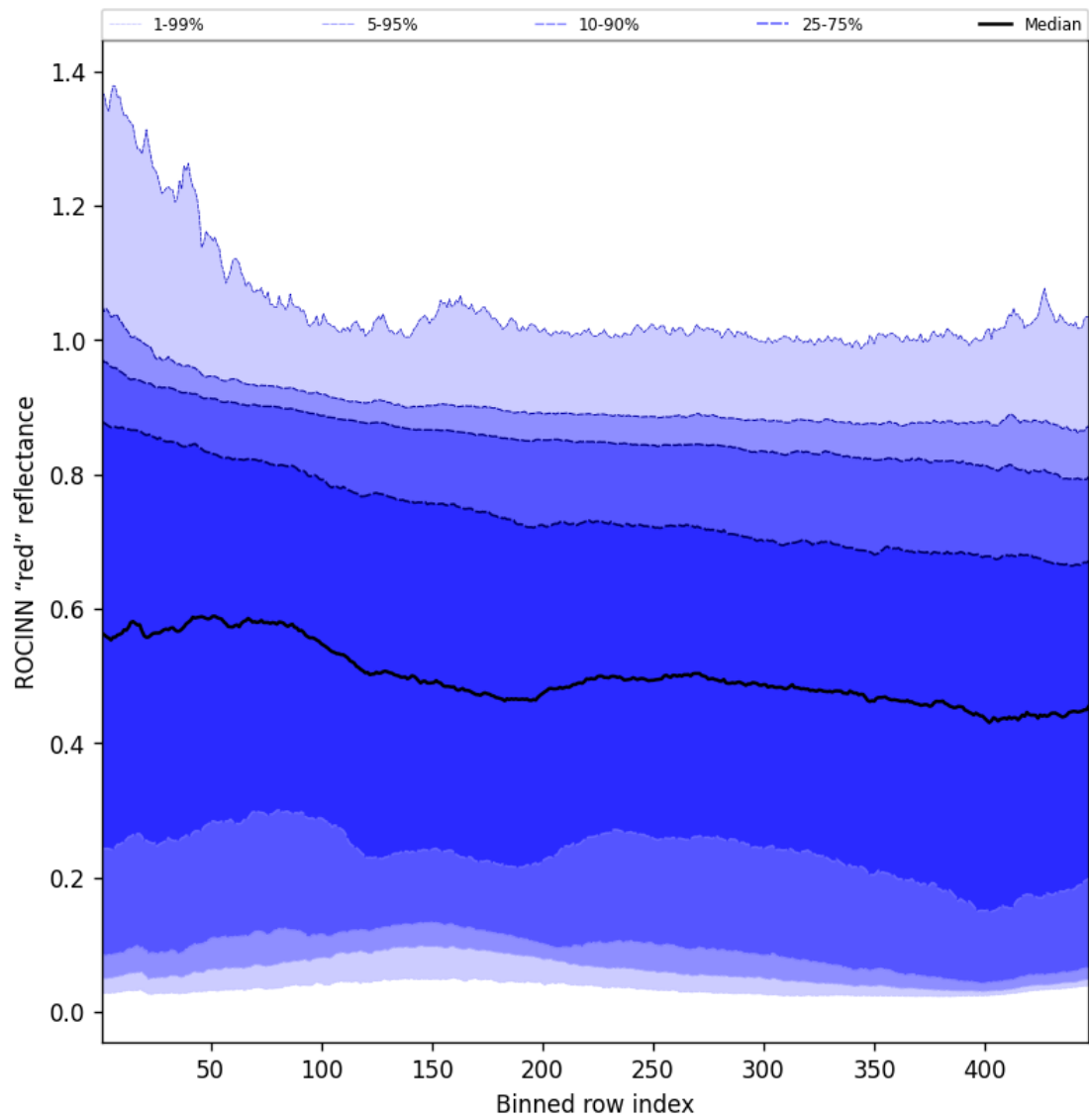


Figure 67: Along track statistics of “ROCINN “red” reflectance” for 2025-01-18 to 2025-01-19

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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