NBS monthly report - 2024 February

MET Norway - NBS team

Oct 17, 2024

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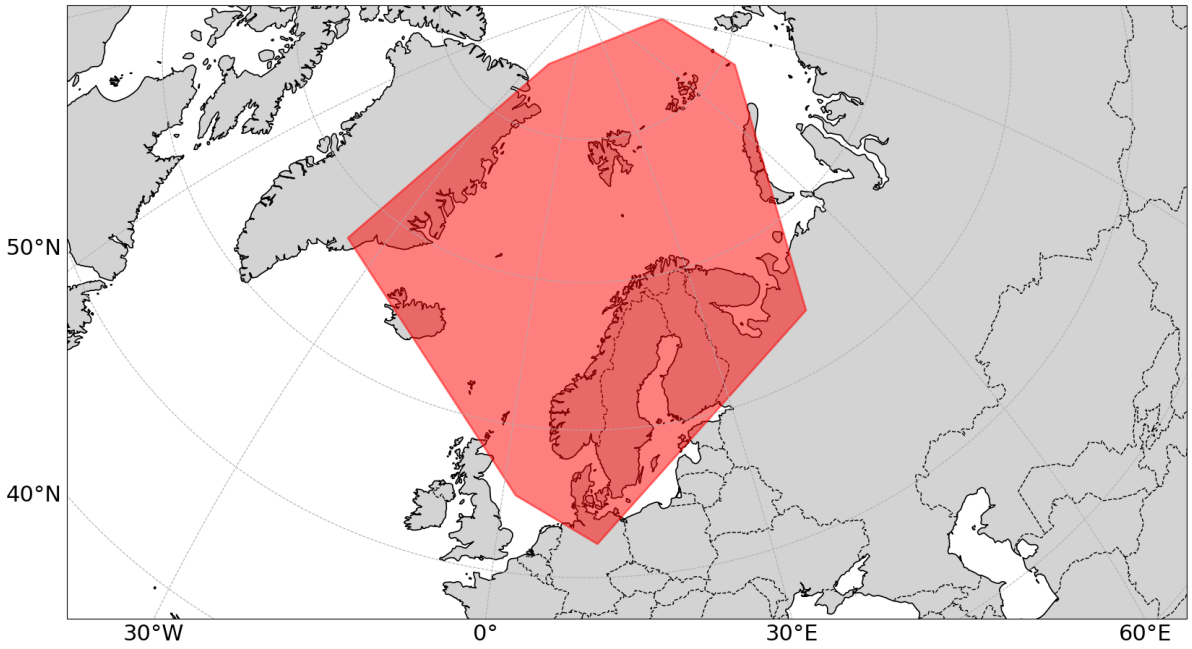
The NBS project

The European Space Agency (ESA) is in charge for the distribution of data from the Sentinel satellite constellation. In order to maintain a reliable and sustainable data hub, the creation and operation of multiples data hubs is necessary. With the purpose of keeping and maintaining a reliable and online source of data from the ESA Sentinel constellation for an Area Of Interest (AOI) covering Norway, the Norwegian Space Agency (NOSA) funded the National Bakke Segment (NBS) project. The map below is indicating the AOI in red.



Therefore, MET Norway was contracted for the operation of the NBS data. The NBS is implemented as a part of the operational infrastructure at MET Norway. As so it follows the normal procedures for planning, implementation and testing, and operations. User access to the NBS is configured according to NOSA requirements. This includes the use of ESA's DHuS software for synchronization between ESA and user accessibility.

The present report is part of MET Norway duties to inform about its performance as operator of the NBS. Monthly reports will be created monthly to regularly communicate the status of MET Norway's NBS.

The Sentinel products

The NBS project includes the management of the data received from Sentinel-1 (S1), Sentinel-2, Sentinel-3 (S3) and Sentinel-5p (S5p) satellites for the specified AOI. Each of the Sentinels has different operational modes for achieving images with different characteristics. Those images can have different processing levels. The products included in the DHR are Level-1 images for all the Sentinels except for Sentinel-2. For which Level-1 (S2L1C) and Level-2 (S2L2A) are both included in the NBS.

BackEnds and FrontEnds

As operator of NBS, the source of Sentinel data is ESA; and ESA spreads the Sentinel data through the Copernicus Data Space Ecosystem (CDSE - dataspace.copernicus.eu). CDSE is ESA's FrontEnd (FE) for Sentinel data accessibility. MET Norway uses the DHS software for synchronization and creation of other FrontEnds. During the synchronization

process a BackEnd (BE) is created. MET Norway is also running two FEs, colhub.met.no and colhub-archive.met.no. The colhub FE includes or will include all the products mentioned for Sentinel global products plus S3 marine products from Copernicus, S1 products from the Kongsberg Satellite Services (KSAT), and S2 Digital Elevation Model (DEM). The colhub-archive FE includes data from S1, S2L1C, S2L2A, S2DEM, S3, S5p products for the AOI. An important distinction between both FEs is that colhub-archive will always maintain available online all the products for the AOI.

In order to maintain an accountability on products synchronized from ESA's CDSE and available for users at the different FEs, it is necessary to understand the architecture of MET Norway's DHR.

CHAPTER

ONE

ACRONYMS

Here follows a formatted list of acronyms.

BE BackEnd

DEM Digital Elevation Model

DHuS Data Hub Software

ESA European Space Agency

FE FrontEnd

KSAT Kongsberg Satellite Services

MET Norway Meteorological Institute of Norway

CDSE Copernicus Data Space Ecosystem

S1 Sentinel-1

S2 Sentinel-2

S2L1C Sentinel-2 Level-1 C

S2L2A Sentinel-2 Level-2 A

S3 Sentinel-3

S5p Sentinel-5p

CHAPTER

TWO

QUICK SUMMARY

The table below shows a short overview of the NBS performance operation during the last 30 days. The number of products are compared against CDSE. All columns represents the number of products in each portal except the last 3 columns. Those 3 columns represents the data flow from MET Norway to users through the portals where Volumes are measured in Tb.

Portals	S1	S2L1C	S2L2A	S3	S5p	Nb of users	Nb of products	Volume
colhub.met.no	8228	11734	13177	23111	12121	20	30545	9.145
colhub-archive.met.no	8231	11617	13045	18654	11959	8	1253	1.096
dataspace.copernicus.eu	8609	13784	13784	18111	0			

Finally, the total amount of disk space dedicated to the NBS project, including either products in SAFE and NetCDF formats, represents 5343 Tb.

Due to tracking the data ingested and produced for the NBS project in the last year it is possible to forecast the upcoming need for disk space. As long as data flows follows the same pattern than last year, in 6 months the total disk space will grow until 5597 Tb; while in 12 months it is forecast to become 7005 Tb.

CHAPTER

THREE

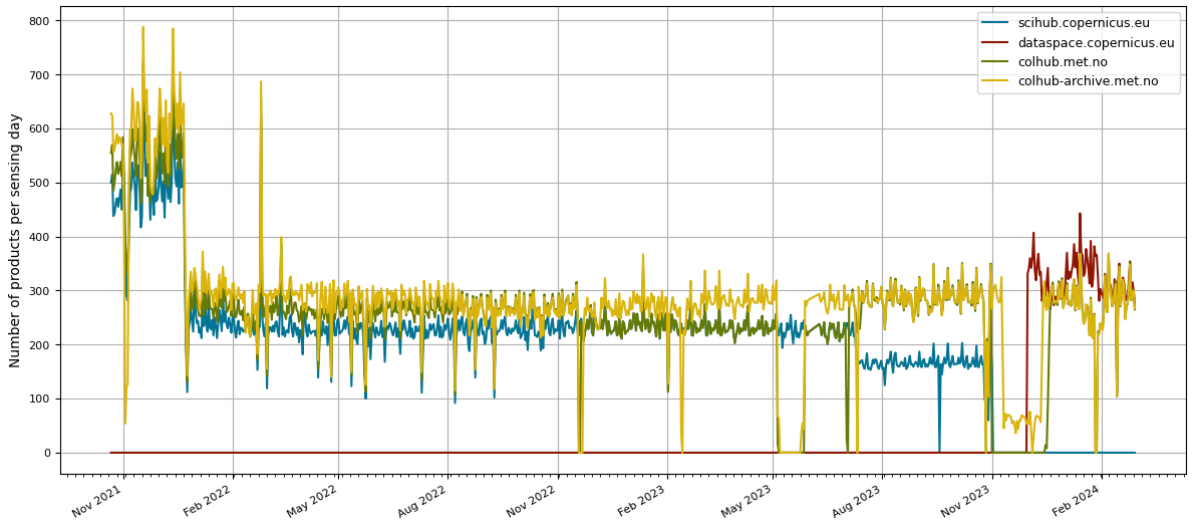
SENTINEL-1 PRODUCTS

This section shows the performance of MET Norway for Sentinel-1 products. Both, an overall status and last month status are shown below.

Note that scihub is no longer in operation but is included for historical comparisons.

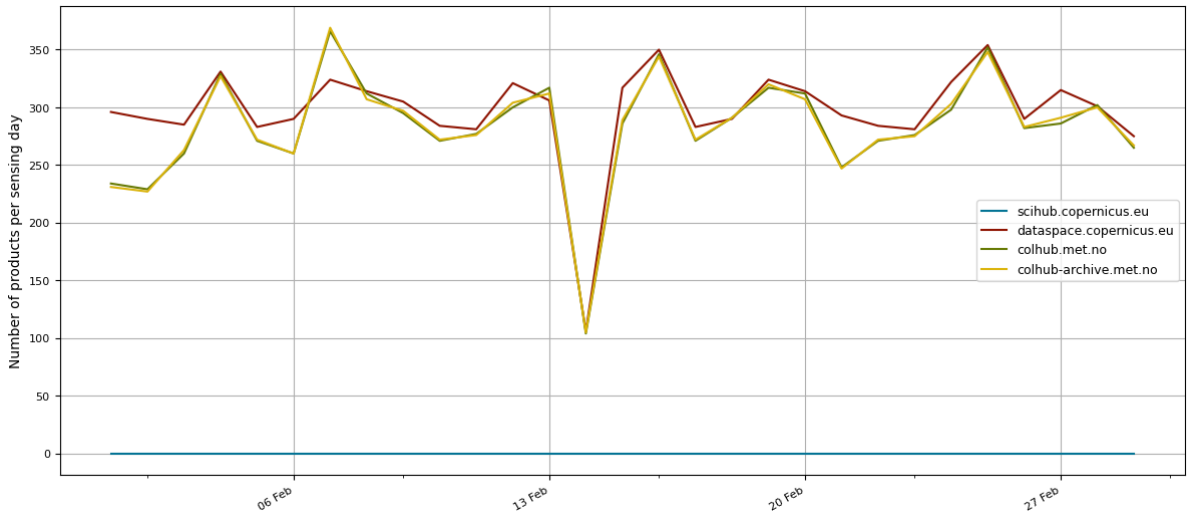
3.1 Products on portals

The following section contains an update on the Sentinel-1 products included in the different FEs and BEs.



The figure above represents the overall number of products present in the different BackEnds and FrontEnds per day for Sentinel-1.

While the figure below shows a zoom on the last month.



A table is also included for more detailed information.

sensing_date	colhub.met.no	dataspace.copernicus.eu	colhub-archive.met.no
2024-02-01	234.0	296.0	231.0
2024-02-02	229.0	290.0	227.0
2024-02-03	260.0	285.0	263.0
2024-02-04	329.0	331.0	327.0
2024-02-05	271.0	283.0	272.0
2024-02-06	260.0	290.0	260.0
2024-02-07	366.0	324.0	369.0
2024-02-08	312.0	314.0	307.0
2024-02-09	295.0	305.0	297.0
2024-02-10	271.0	284.0	272.0
2024-02-11	277.0	281.0	276.0
2024-02-12	300.0	321.0	304.0
2024-02-13	317.0	306.0	312.0
2024-02-14	104.0	106.0	105.0
2024-02-15	286.0	317.0	289.0
2024-02-16	346.0	350.0	344.0
2024-02-17	271.0	283.0	272.0
2024-02-18	291.0	290.0	291.0
2024-02-19	317.0	324.0	320.0
2024-02-20	312.0	314.0	307.0
2024-02-21	248.0	293.0	247.0
2024-02-22	271.0	284.0	272.0
2024-02-23	276.0	281.0	275.0
2024-02-24	298.0	322.0	303.0
2024-02-25	352.0	354.0	348.0
2024-02-26	282.0	290.0	283.0
2024-02-27	286.0	315.0	291.0
2024-02-28	302.0	301.0	300.0
2024-02-29	265.0	275.0	267.0

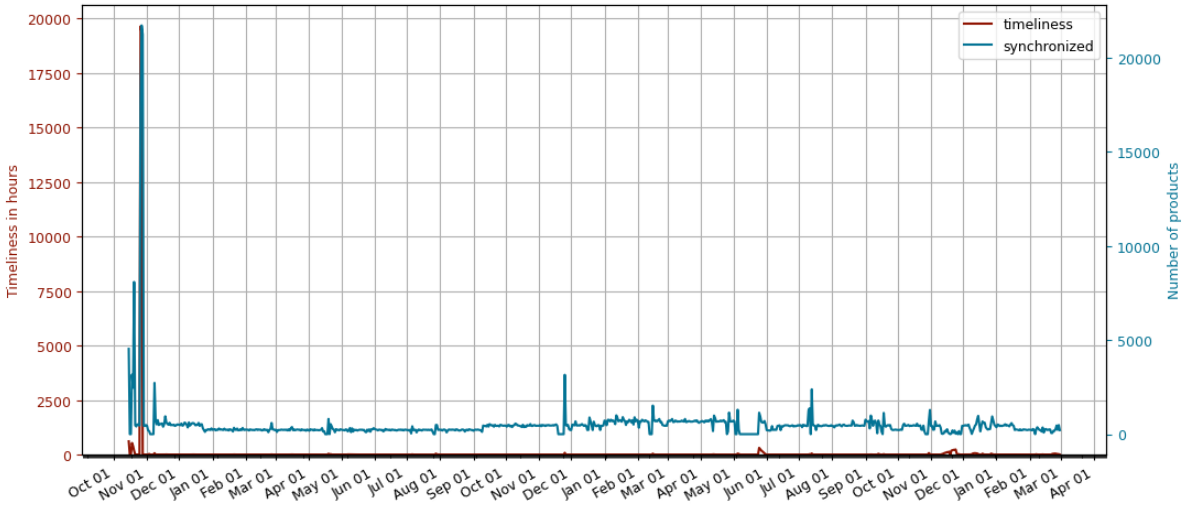
3.2 Missing products

The overall total number of Sentinel-1 products is 1931627. The number of overall Sentinel-1 missing products consists of -463042 images. This represents that a 1300% of the total was included in MET Norway DHR, while a -1200% was not included.

The total number of Sentinel-1 products in February is 500337. The number of Sentinel-1 missing products during February consists of 436831 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

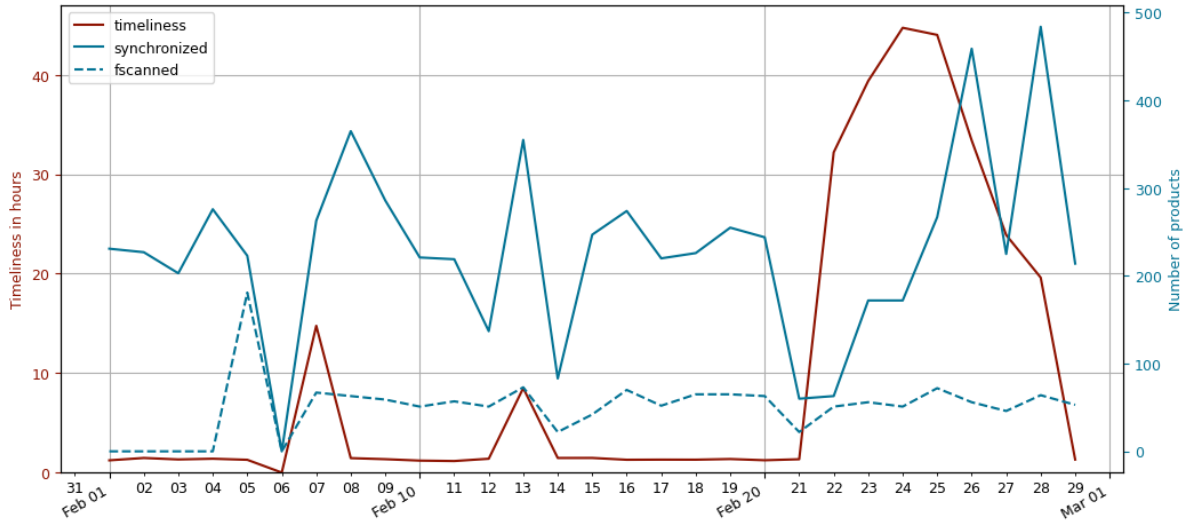
3.3 Data ingestion

In this section the time difference between sensing time and ingestion time at MET Norway is assessed. The ingestion time is the time at which a Sentinel product was downloaded to MET Norway BE and so, it is automatically available in at least one of the MET Norway FEs.



The figure above shows an overall status of the Sentinel-1 synchronization between ESA datahub and MET Norway BE. The number of products synchronized and deleted are represented by the dark and light blue lines respectively. The red line represents the timeliness.

Following previous sections, the graph below shows a zoom in the last month for the synchronization between ESA datahub and MET Norway BE.



A more detailed information is given in the table below where the last month is assessed for products synchronized from ESA.

day	size	number	timeliness
2024-02-01	580.014398	231	1.230434
2024-02-02	566.429863	227	1.468255
2024-02-03	559.359479	203	1.320186
2024-02-04	723.438385	276	1.392314
2024-02-05	501.141588	223	1.284051
2024-02-06	0.000000	0	0.000000
2024-02-07	717.975864	263	14.761342
2024-02-08	913.582779	365	1.451917
2024-02-09	748.085454	286	1.346000
2024-02-10	487.638012	221	1.203431
2024-02-11	547.996228	219	1.159422
2024-02-12	276.134050	137	1.390523
2024-02-13	907.976944	355	8.497282
2024-02-14	216.475304	83	1.466852
2024-02-15	623.067961	247	1.471276
2024-02-16	715.299857	274	1.287537
2024-02-17	493.553079	220	1.300656
2024-02-18	589.639713	226	1.295368
2024-02-19	632.716473	255	1.362120
2024-02-20	596.989758	244	1.238692
2024-02-21	155.062268	60	1.339866
2024-02-22	153.013838	63	32.210068
2024-02-23	427.682046	172	39.387214
2024-02-24	364.146568	172	44.737534
2024-02-25	696.181259	267	44.020669
2024-02-26	1120.668470	459	33.405334
2024-02-27	565.436604	225	23.891356
2024-02-28	1229.086797	484	19.614235
2024-02-29	471.965481	214	1.306830

It is also given extra information in the table below where the data are assessed for products synchronized from KSAT.

	size	number	timeliness

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```
day
2024-02-01    0.000000       0    0.000000
2024-02-02    0.000000       0    0.000000
2024-02-03    0.000000       0    0.000000
2024-02-04    0.000000       0    0.000000
2024-02-05  203.267270     181   29.647573
2024-02-06    0.000000       0    0.000000
2024-02-07   92.007281      67    6.743501
2024-02-08   70.515797      63    0.634156
2024-02-09   74.790459      59    0.690682
2024-02-10   53.067271      51    0.601083
2024-02-11   76.796374      57    0.810465
2024-02-12   60.619547      51    0.697013
2024-02-13   75.619397      73    0.700422
2024-02-14   27.408825      22    0.798270
2024-02-15   53.733575      42    0.855301
2024-02-16   89.282987      70    0.831686
2024-02-17   50.472558      52    0.603312
2024-02-18   75.683452      65    0.701857
2024-02-19   88.863568      65    0.866038
2024-02-20   68.447158      63    0.637748
2024-02-21   66.531302      22    0.700372
2024-02-22   52.044335      51    0.600842
2024-02-23   73.049230      56    0.720384
2024-02-24   63.673783      51    0.693335
2024-02-25   73.664047      72    0.705490
2024-02-26   73.324503      56    0.693120
2024-02-27   58.215100      46    0.782049
2024-02-28   80.610792      64    0.853572
2024-02-29   50.642016      53    0.603195
```

CHAPTER

FOUR

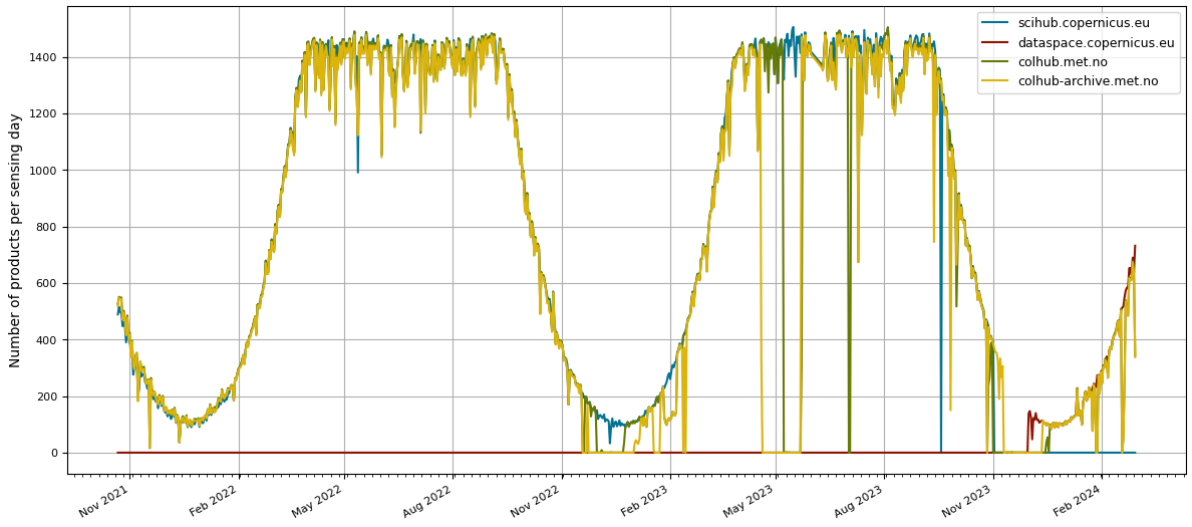
SENTINEL-2 LEVEL-1C PRODUCTS

This section shows the performance of MET Norway for Sentinel-2 Level-1C products. Both, an overall status and last month status are shown below.

Note that scihub is no longer in operation but is included for historical comparisons.

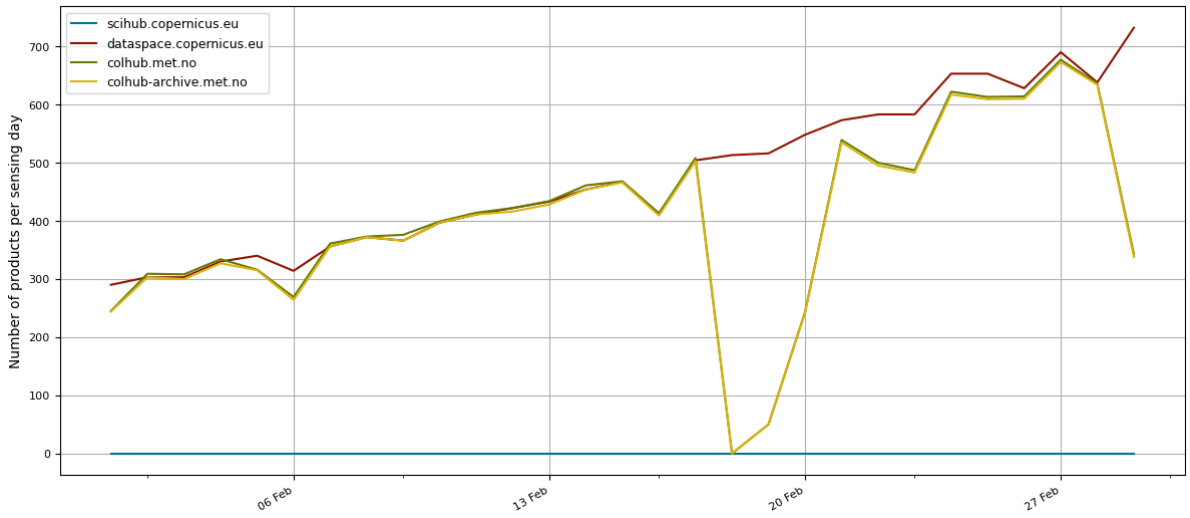
4.1 Products on portals

The following section contains an update on the Sentinel-2 Level-1C products included in the different FEs and BEs.



The figure above represents the overall number of products present in the different BackEnds and FrontEnds per day for Sentinel-2 Level-1C.

While the figure below shows a zoom on the last month.



A table is also included for more detailed information.

sensing_date	colhub.met.no	dataspace.copernicus.eu	colhub-archive.met.no
2024-02-01	245.0	290.0	244.0
2024-02-02	309.0	303.0	303.0
2024-02-03	308.0	303.0	300.0
2024-02-04	334.0	330.0	327.0
2024-02-05	316.0	340.0	315.0
2024-02-06	269.0	314.0	264.0
2024-02-07	361.0	356.0	356.0
2024-02-08	373.0	372.0	372.0
2024-02-09	376.0	366.0	366.0
2024-02-10	399.0	397.0	397.0
2024-02-11	414.0	411.0	411.0
2024-02-12	422.0	422.0	416.0
2024-02-13	434.0	433.0	428.0
2024-02-14	461.0	454.0	454.0
2024-02-15	468.0	467.0	466.0
2024-02-16	413.0	412.0	409.0
2024-02-17	508.0	504.0	503.0
2024-02-18	0.0	513.0	0.0
2024-02-19	50.0	516.0	50.0
2024-02-20	243.0	548.0	242.0
2024-02-21	539.0	573.0	535.0
2024-02-22	500.0	583.0	495.0
2024-02-23	487.0	583.0	483.0
2024-02-24	622.0	653.0	617.0
2024-02-25	613.0	653.0	609.0
2024-02-26	614.0	628.0	610.0
2024-02-27	677.0	690.0	673.0
2024-02-28	636.0	638.0	634.0
2024-02-29	343.0	732.0	338.0

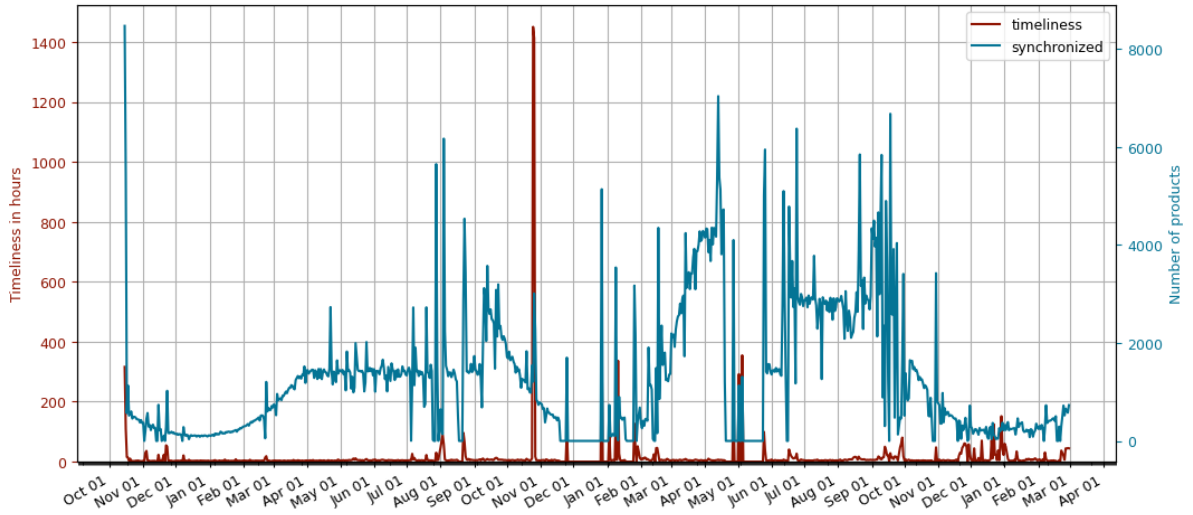
4.2 Missing products

The overall total number of Sentinel-2 Level-1C products is 1931627. The number of overall Sentinel-2 Level-1C missing products consists of -463042 images. This represents that a 1300% of the total was included in MET Norway DHR, while a -1200% was not included.

The total number of Sentinel-2 Level-1C products in February is 500337. The number of Sentinel-2 Level-1C missing products during February consists of 436831 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

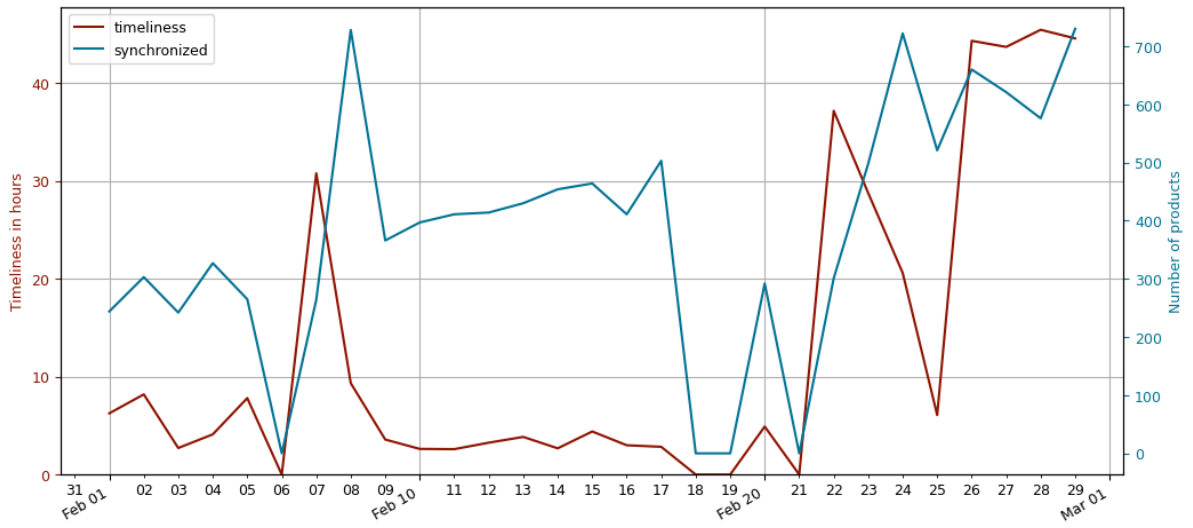
4.3 Data ingestion

In this section the time difference between sensing time and ingestion time at MET Norway is assessed. The ingestion time is the time at which a Sentinel product was downloaded to MET Norway BE and so, it is automatically available in at least one of the MET Norway FEs.



The figure above shows an overall status of the Sentinel-2 Level-1C synchronization between ESA datahub and MET Norway BE. The number of products synchronized and deleted are represented by the dark and light blue lines respectively. The red line represents the timeliness.

Following previous sections, the graph below shows a zoom in the last month for the synchronization between ESA datahub and MET Norway BE.



A more detailed information is given in the table below where the last month is assessed for products synchronized from ESA.

day	size	number	timeliness
2024-02-01	107.829805	244	6.253319
2024-02-02	134.743199	303	8.189798
2024-02-03	110.906252	242	2.712056
2024-02-04	146.341298	327	4.106852
2024-02-05	118.414061	265	7.809717
2024-02-06	0.000000	0	0.000000
2024-02-07	117.862792	264	30.767050
2024-02-08	343.763925	728	9.332121
2024-02-09	173.629334	366	3.575614
2024-02-10	182.499279	397	2.619984
2024-02-11	183.921559	411	2.595879
2024-02-12	186.986464	414	3.256067
2024-02-13	193.840661	430	3.845112
2024-02-14	206.718546	454	2.678913
2024-02-15	209.921589	464	4.400218
2024-02-16	182.605898	411	2.993046
2024-02-17	221.609680	503	2.834109
2024-02-18	0.000000	0	0.000000
2024-02-19	0.000000	0	0.000000
2024-02-20	134.722048	292	4.903643
2024-02-21	0.000000	0	0.000000
2024-02-22	128.966144	301	37.151518
2024-02-23	204.019838	498	28.747916
2024-02-24	309.028233	722	20.589572
2024-02-25	220.377621	521	6.075357
2024-02-26	289.942439	660	44.294968
2024-02-27	276.132066	621	43.673452
2024-02-28	248.694337	576	45.423308
2024-02-29	324.410330	730	44.540245

CHAPTER

FIVE

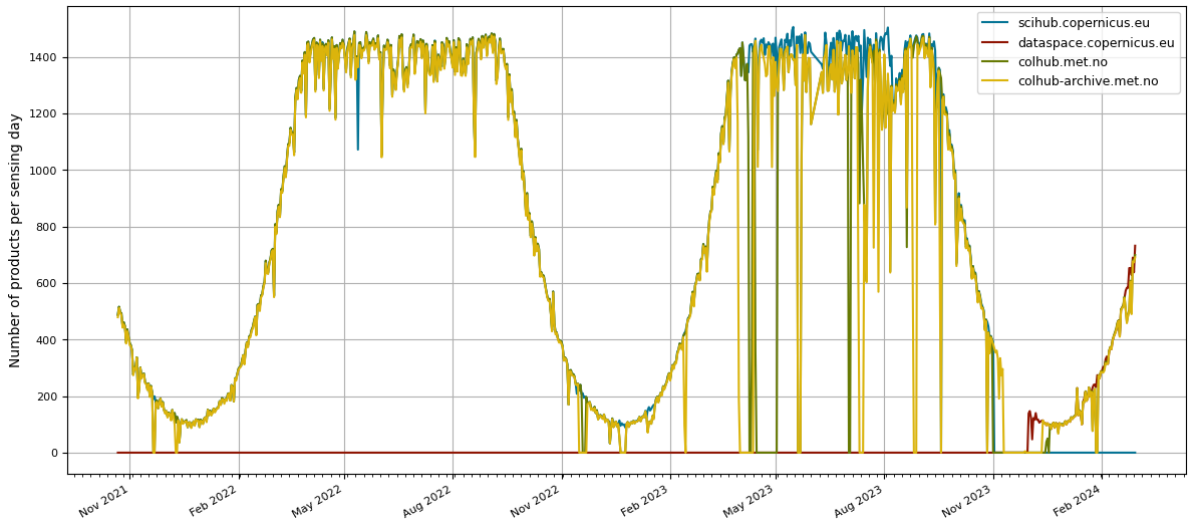
SENTINEL-2 LEVEL-2A PRODUCTS

This section shows the performance of MET Norway for Sentinel-2 Level-2A products. Both, an overall status and last month status are shown below.

Note that scihub is no longer in operation but is included for historical comparisons.

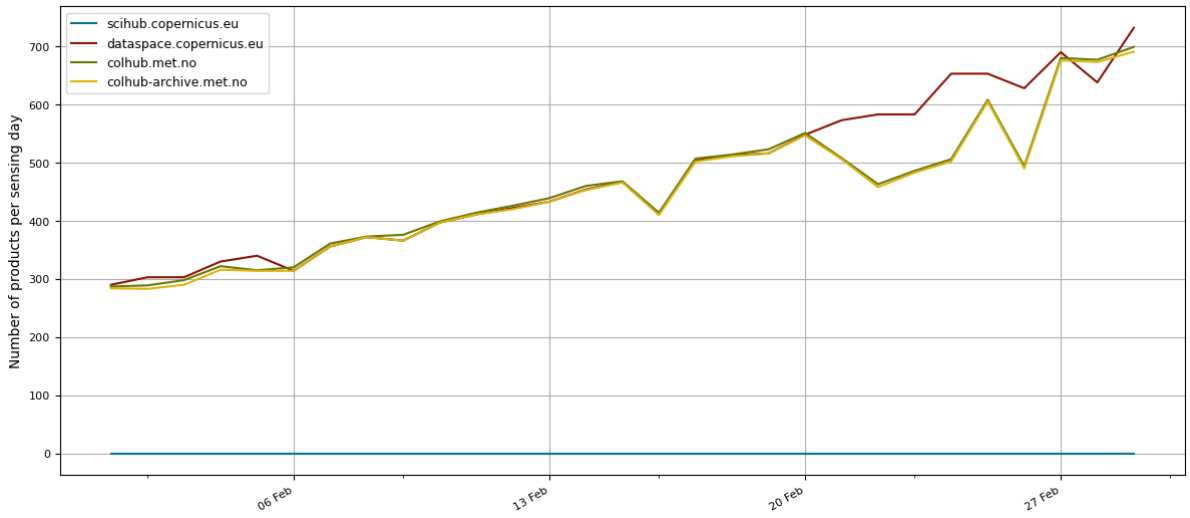
5.1 Products on portals

The following section contains an update on the Sentinel-2 Level-2A products included in the different FEs and BEs.



The figure above represents the overall number of products present in the different BackEnds and FrontEnds per day for Sentinel-2 Level-2A.

While the figure below shows a zoom on the last month.



A table is also included for more detailed information.

sensing_date	colhub.met.no	dataspace.copernicus.eu	colhub-archive.met.no
2024-02-01	287.0	290.0	284.0
2024-02-02	289.0	303.0	283.0
2024-02-03	298.0	303.0	290.0
2024-02-04	322.0	330.0	316.0
2024-02-05	315.0	340.0	314.0
2024-02-06	320.0	314.0	314.0
2024-02-07	361.0	356.0	356.0
2024-02-08	373.0	372.0	372.0
2024-02-09	376.0	366.0	366.0
2024-02-10	399.0	397.0	397.0
2024-02-11	414.0	411.0	411.0
2024-02-12	426.0	422.0	420.0
2024-02-13	439.0	433.0	433.0
2024-02-14	460.0	454.0	453.0
2024-02-15	468.0	467.0	466.0
2024-02-16	414.0	412.0	410.0
2024-02-17	507.0	504.0	502.0
2024-02-18	514.0	513.0	511.0
2024-02-19	523.0	516.0	516.0
2024-02-20	551.0	548.0	547.0
2024-02-21	508.0	573.0	506.0
2024-02-22	463.0	583.0	458.0
2024-02-23	486.0	583.0	483.0
2024-02-24	506.0	653.0	502.0
2024-02-25	608.0	653.0	605.0
2024-02-26	494.0	628.0	490.0
2024-02-27	680.0	690.0	676.0
2024-02-28	677.0	638.0	673.0
2024-02-29	699.0	732.0	691.0

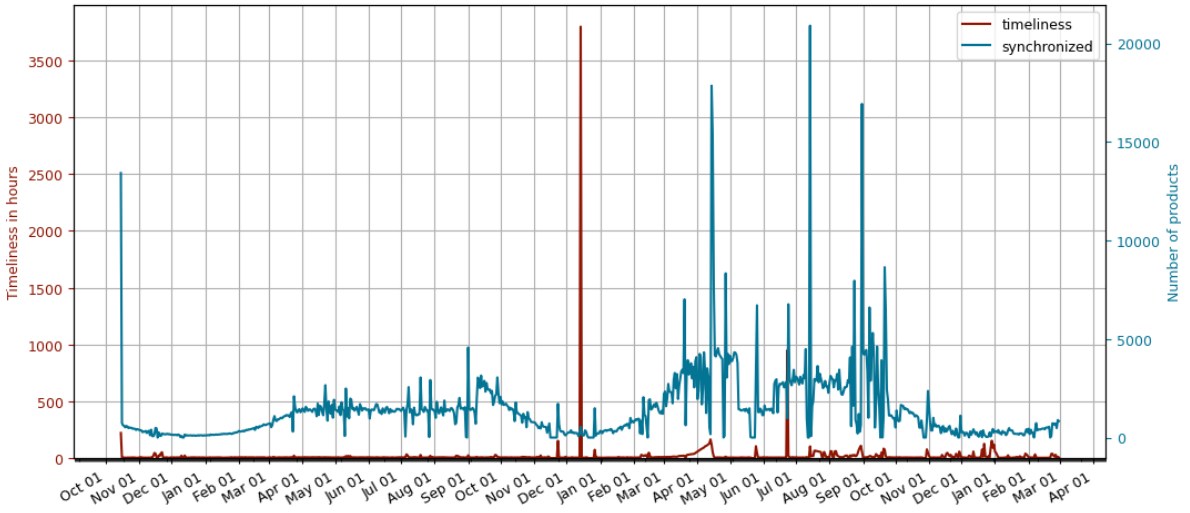
5.2 Missing products

The overall total number of Sentinel-2 Level-2A products is 1931627. The number of overall Sentinel-2 Level-2A missing products consists of -463042 images. This represents that a 1300% of the total was included in MET Norway DHR, while a -1200% was not included.

The total number of Sentinel-2 level-2A products in February is 500337. The number of Sentinel-2 level-2A missing products during February consists of 436831 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

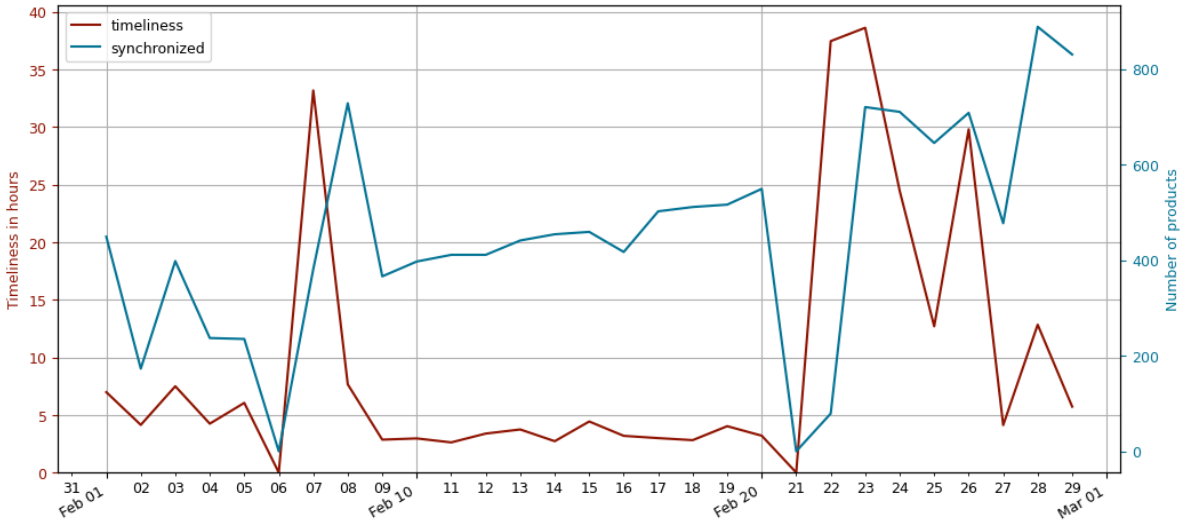
5.3 Data ingestion

In this section the time difference between sensing time and ingestion time at MET Norway is assessed. The ingestion time is the time at which a Sentinel product was downloaded to MET Norway BE and so, it is automatically available in at least one of the MET Norway FEs.



The figure above shows an overall status of the Sentinel-2 Level-2A synchronization between ESA datahub and MET Norway BE. The number of products synchronized and deleted are represented by the dark and light blue lines respectively. The red line represents the timeliness.

Following previous sections, the graph below shows a zoom in the last month for the synchronization between ESA datahub and MET Norway BE.



A more detailed information is given in the table below where the last month is assessed for products synchronized from ESA.

day	size	number	timeliness
2024-02-01	250.498257	449	6.979294
2024-02-02	88.480951	173	4.138810
2024-02-03	237.287490	398	7.490376
2024-02-04	118.315488	237	4.242605
2024-02-05	130.433910	235	6.047221
2024-02-06	0.000000	0	0.000000
2024-02-07	223.537255	381	33.159269
2024-02-08	443.185611	728	7.653697
2024-02-09	221.238548	366	2.856008
2024-02-10	232.987326	397	2.962666
2024-02-11	237.301178	411	2.618061
2024-02-12	241.013584	411	3.384226
2024-02-13	255.261906	441	3.739654
2024-02-14	261.666128	454	2.722198
2024-02-15	260.390000	459	4.431781
2024-02-16	233.752622	417	3.186472
2024-02-17	279.373702	502	2.989599
2024-02-18	306.639682	511	2.814510
2024-02-19	289.881023	516	4.024277
2024-02-20	301.582162	549	3.200636
2024-02-21	0.000000	0	0.000000
2024-02-22	39.206626	79	37.439398
2024-02-23	386.967157	720	38.598897
2024-02-24	375.054424	710	24.447978
2024-02-25	334.638034	645	12.689211
2024-02-26	384.324093	708	29.787089
2024-02-27	274.211265	477	4.117689
2024-02-28	482.421522	888	12.831296
2024-02-29	445.874041	830	5.720978

CHAPTER

SIX

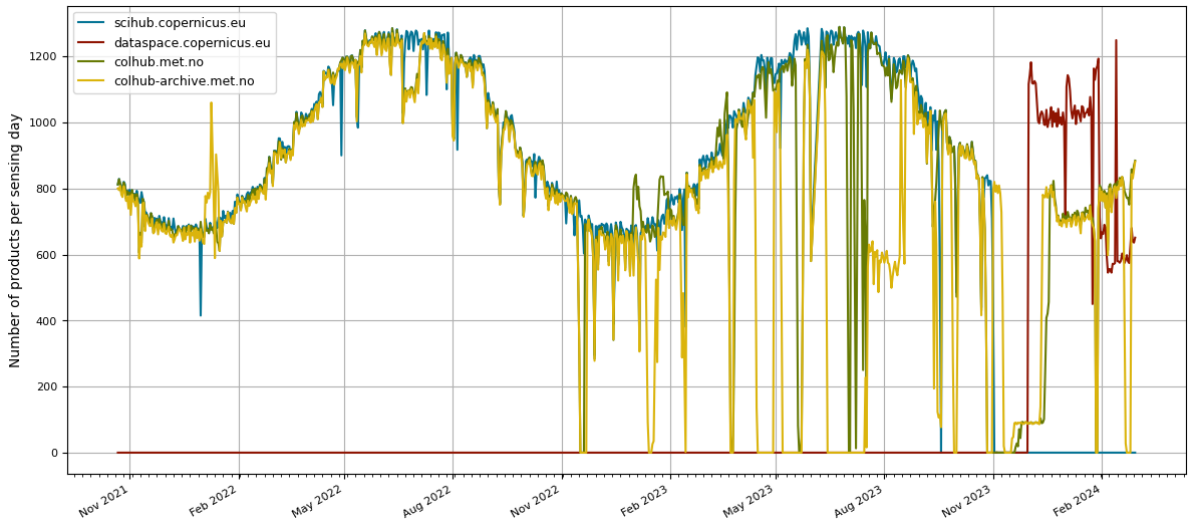
SENTINEL-3 PRODUCTS

This section shows the performance of MET Norway for Sentinel-3 products. Both, an overall status and last month status are shown below.

Note that scihub is no longer in operation but is included for historical comparisons.

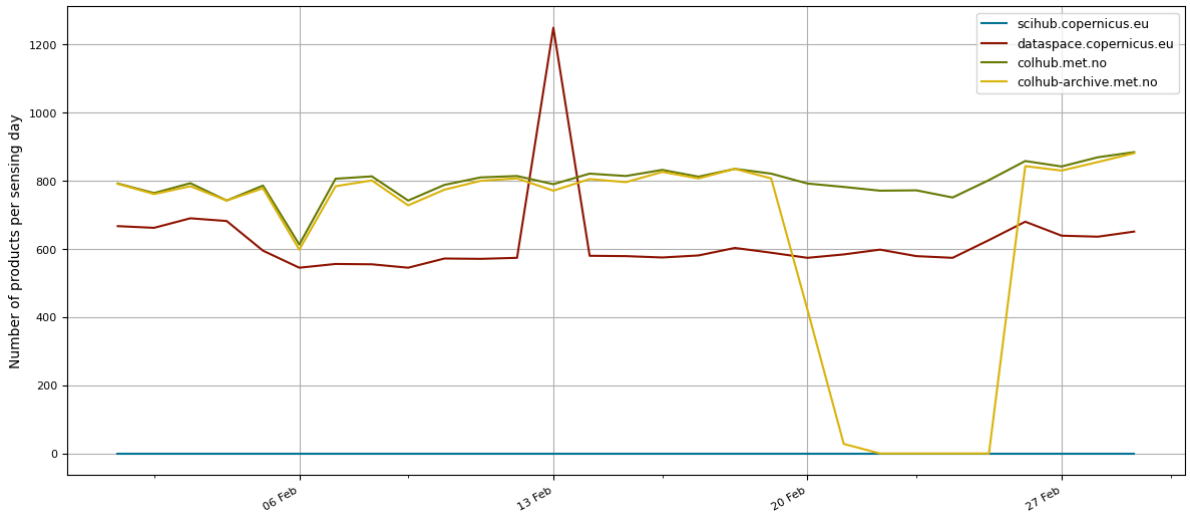
6.1 Products on portals

The following section contains an update on the Sentinel-3 products included in the different FEs and BEs.



The figure above represents the overall number of products present in the different BackEnds and FrontEnds per day for Sentinel-3.

While the figure below shows a zoom on the last month.



A table is also included for more detailed information.

sensing_date	colhub.met.no	dataspace.copernicus.eu	colhub-archive.met.no
2024-02-01	792.0	667.0	791.0
2024-02-02	764.0	662.0	761.0
2024-02-03	793.0	690.0	784.0
2024-02-04	742.0	682.0	742.0
2024-02-05	786.0	595.0	778.0
2024-02-06	613.0	545.0	598.0
2024-02-07	806.0	556.0	784.0
2024-02-08	813.0	555.0	801.0
2024-02-09	742.0	545.0	728.0
2024-02-10	788.0	572.0	774.0
2024-02-11	810.0	571.0	800.0
2024-02-12	814.0	574.0	807.0
2024-02-13	790.0	1249.0	771.0
2024-02-14	821.0	580.0	805.0
2024-02-15	814.0	579.0	796.0
2024-02-16	832.0	575.0	826.0
2024-02-17	812.0	581.0	807.0
2024-02-18	835.0	603.0	835.0
2024-02-19	821.0	589.0	807.0
2024-02-20	792.0	574.0	422.0
2024-02-21	782.0	584.0	28.0
2024-02-22	771.0	598.0	0.0
2024-02-23	772.0	579.0	0.0
2024-02-24	751.0	574.0	0.0
2024-02-25	802.0	626.0	0.0
2024-02-26	858.0	680.0	843.0
2024-02-27	842.0	639.0	830.0
2024-02-28	869.0	636.0	855.0
2024-02-29	884.0	651.0	881.0

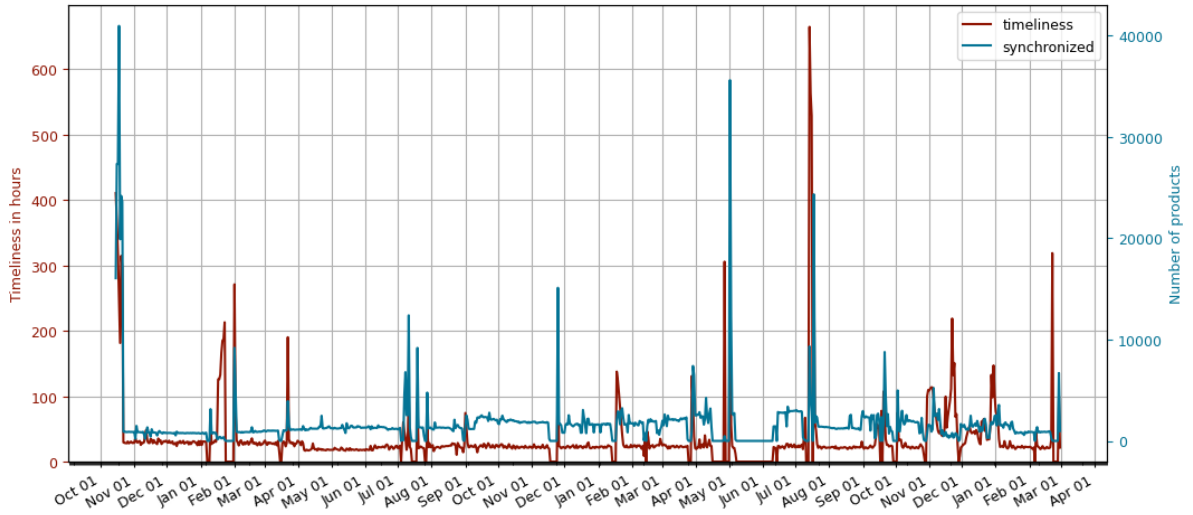
6.2 Missing products

The overall total number of Sentinel-3 products is 1931627. The number of overall Sentinel-3 missing products consists of -463042 images. This represents that a 1300% of the total was included in MET Norway DHR, while a -1200% was not included.

The total number of Sentinel-3 products in February is 500337. The number of Sentinel-3 missing products during February consists of 436831 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

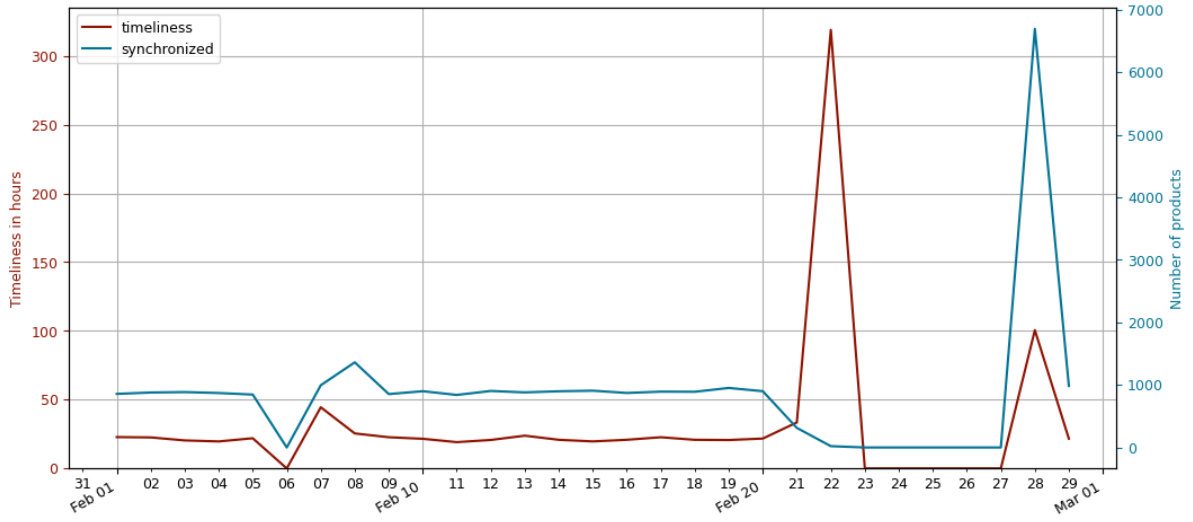
6.3 Data ingestion

In this section the time difference between sensing time and ingestion time at MET Norway is assessed. The ingestion time is the time at which a Sentinel product was downloaded to MET Norway BE and so, it is automatically available in at least one of the MET Norway FEs.



The figure above shows an overall status of the Sentinel-3 synchronization between ESA datahub and MET Norway BE. The number of products synchronized and deleted are represented by the dark and light blue lines respectively. The red line represents the timeliness.

Following previous sections, the graph below shows a zoom in the last month for the synchronization between ESA datahub and MET Norway BE.



A more detailed information is given in the table below where the last month is assessed for products synchronized from ESA.

day	size	number	timeliness
2024-02-01	260.169383	857	22.779318
2024-02-02	256.949442	879	22.532472
2024-02-03	271.361210	886	20.352107
2024-02-04	258.365433	871	19.622038
2024-02-05	262.759613	846	21.927235
2024-02-06	0.000000	0	0.000000
2024-02-07	306.367560	995	44.462306
2024-02-08	411.319245	1362	25.433495
2024-02-09	265.366219	854	22.670194
2024-02-10	267.173898	900	21.540025
2024-02-11	245.645688	840	19.101655
2024-02-12	291.025450	904	20.696294
2024-02-13	277.011356	881	23.798784
2024-02-14	278.432392	899	20.801404
2024-02-15	279.130642	908	19.638787
2024-02-16	270.634232	872	20.816818
2024-02-17	280.049822	893	22.661301
2024-02-18	275.223004	891	20.796341
2024-02-19	289.813321	952	20.649396
2024-02-20	282.243517	900	21.712314
2024-02-21	118.622880	313	33.413100
2024-02-22	8.434572	21	318.924876
2024-02-23	0.000000	0	0.000000
2024-02-24	0.000000	0	0.000000
2024-02-25	0.000000	0	0.000000
2024-02-26	0.000000	0	0.000000
2024-02-27	0.000000	0	0.000000
2024-02-28	2007.591766	6695	100.562646
2024-02-29	302.196601	984	21.598211

CHAPTER

SEVEN

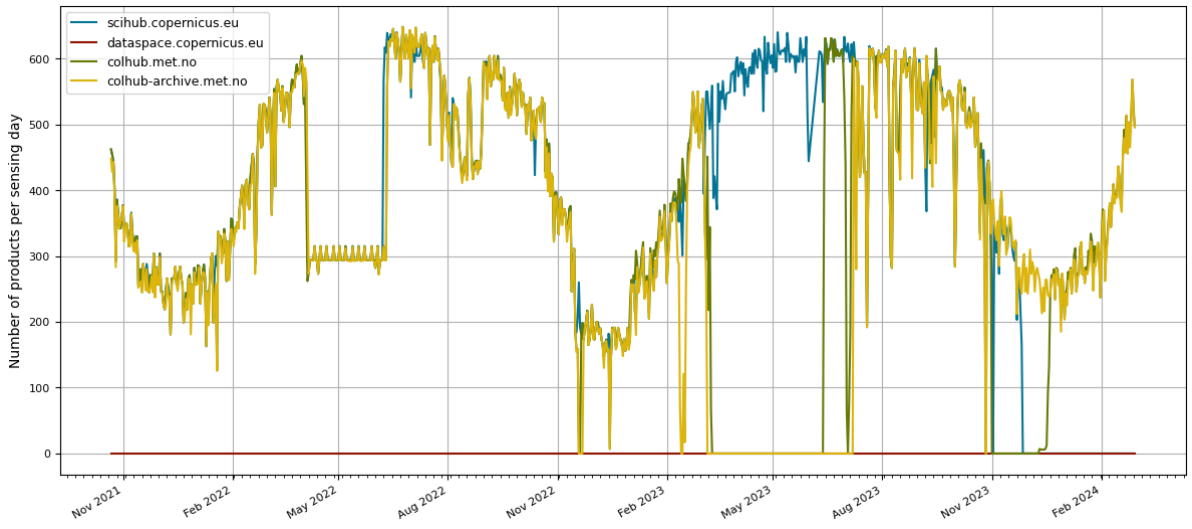
SENTINEL-5P PRODUCTS

This section shows the performance of MET Norway for Sentinel-5p products. Both, an overall status and last month status are shown below.

Note that scihub is no longer in operation but is included for historical comparisons.

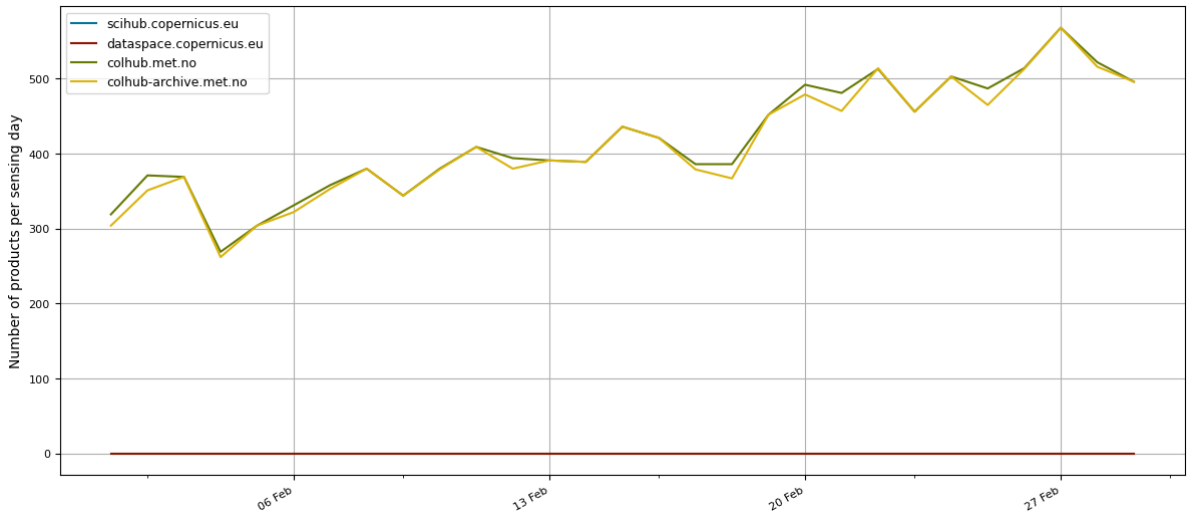
7.1 Products on portals

The following section contains an update on the Sentinel-5p products included in the different FEs and BEs.



The figure above represents the overall number of products present in the different BackEnds and FrontEnds per day for Sentinel-5p.

While the figure below shows a zoom on the last month.



A table is also included for more detailed information.

sensing_date	colhub.met.no	dataspace.copernicus.eu	colhub-archive.met.no
2024-02-01	319.0	0.0	304.0
2024-02-02	371.0	0.0	351.0
2024-02-03	369.0	0.0	369.0
2024-02-04	269.0	0.0	262.0
2024-02-05	304.0	0.0	304.0
2024-02-06	331.0	0.0	322.0
2024-02-07	358.0	0.0	353.0
2024-02-08	380.0	0.0	380.0
2024-02-09	344.0	0.0	344.0
2024-02-10	380.0	0.0	379.0
2024-02-11	409.0	0.0	409.0
2024-02-12	394.0	0.0	380.0
2024-02-13	391.0	0.0	391.0
2024-02-14	389.0	0.0	389.0
2024-02-15	436.0	0.0	436.0
2024-02-16	421.0	0.0	421.0
2024-02-17	386.0	0.0	379.0
2024-02-18	386.0	0.0	367.0
2024-02-19	452.0	0.0	452.0
2024-02-20	492.0	0.0	479.0
2024-02-21	481.0	0.0	457.0
2024-02-22	513.0	0.0	514.0
2024-02-23	456.0	0.0	456.0
2024-02-24	503.0	0.0	503.0
2024-02-25	487.0	0.0	465.0
2024-02-26	514.0	0.0	513.0
2024-02-27	568.0	0.0	568.0
2024-02-28	522.0	0.0	516.0
2024-02-29	496.0	0.0	496.0

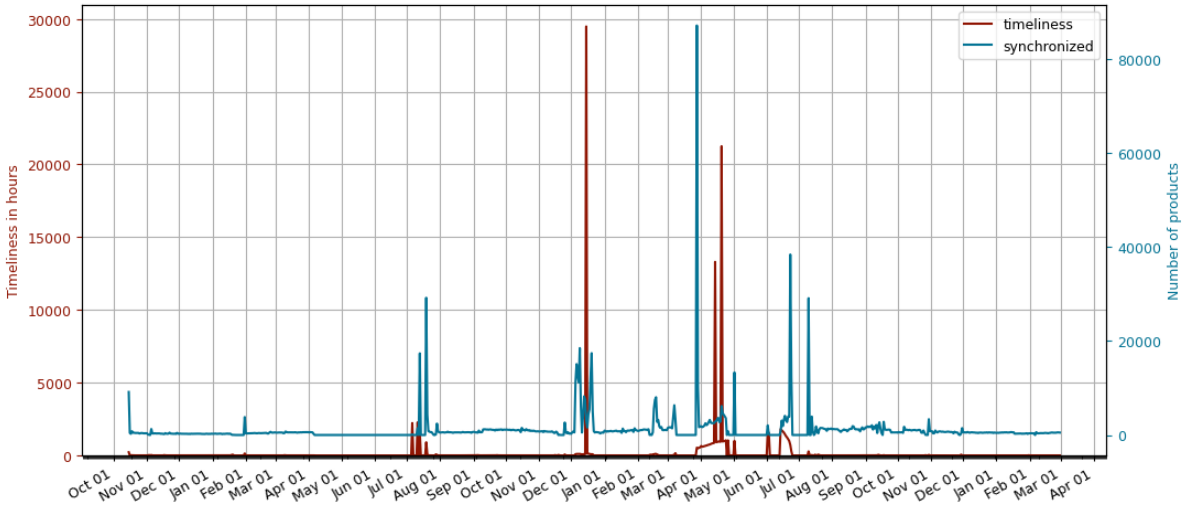
7.2 Missing products

The overall total number of Sentinel-5p products is 1931627. The number of overall Sentinel-5p missing products consists of -463042 images. This represents that a 1300% of the total was included in MET Norway DHR, while a -1200% was not included.

The total number of Sentinel-5p products in February is 500337. The number of Sentinel-5p missing products during February consists of 436831 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

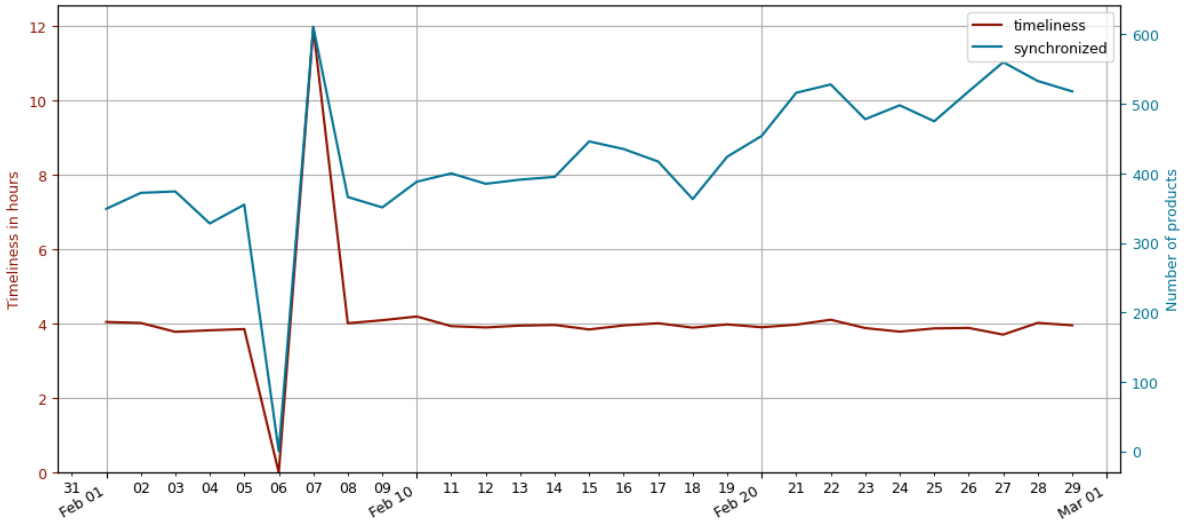
7.3 Data ingestion

In this section the time difference between sensing time and ingestion time at MET Norway is assessed. The ingestion time is the time at which a Sentinel product was downloaded to MET Norway BE and so, it is automatically available in at least one of the MET Norway FEs.



The figure above shows an overall status of the Sentinel-5p synchronization between ESA datahub and MET Norway BE. The number of products synchronized and deleted are represented by the dark and light blue lines respectively. The red line represents the timeliness.

Following previous sections, the graph below shows a zoom in the last month for the synchronization between ESA datahub and MET Norway BE.



A more detailed information is given in the table below where the last month are assessed for products synchronized from ESA.

day	size	number	timeliness
2024-02-01	227.720525	349	4.047341
2024-02-02	246.680087	372	4.020266
2024-02-03	242.237159	374	3.782828
2024-02-04	199.085743	328	3.823864
2024-02-05	232.893538	355	3.856756
2024-02-06	0.000000	0	0.000000
2024-02-07	398.351037	611	11.953652
2024-02-08	259.319020	366	4.012970
2024-02-09	265.455688	351	4.094060
2024-02-10	265.698053	388	4.193745
2024-02-11	268.503536	400	3.934424
2024-02-12	277.242075	385	3.899827
2024-02-13	289.441058	391	3.949554
2024-02-14	271.223600	395	3.966261
2024-02-15	296.772818	446	3.846787
2024-02-16	294.723583	435	3.955182
2024-02-17	295.552086	417	4.012578
2024-02-18	277.081936	363	3.894265
2024-02-19	280.846363	424	3.981462
2024-02-20	312.179373	454	3.905543
2024-02-21	347.906169	516	3.974992
2024-02-22	375.623993	528	4.107047
2024-02-23	330.520345	478	3.883701
2024-02-24	348.488836	498	3.787156
2024-02-25	348.194246	475	3.874193
2024-02-26	369.546594	518	3.886342
2024-02-27	398.627899	560	3.707793
2024-02-28	377.137645	533	4.022680
2024-02-29	372.931596	518	3.957141

CHAPTER

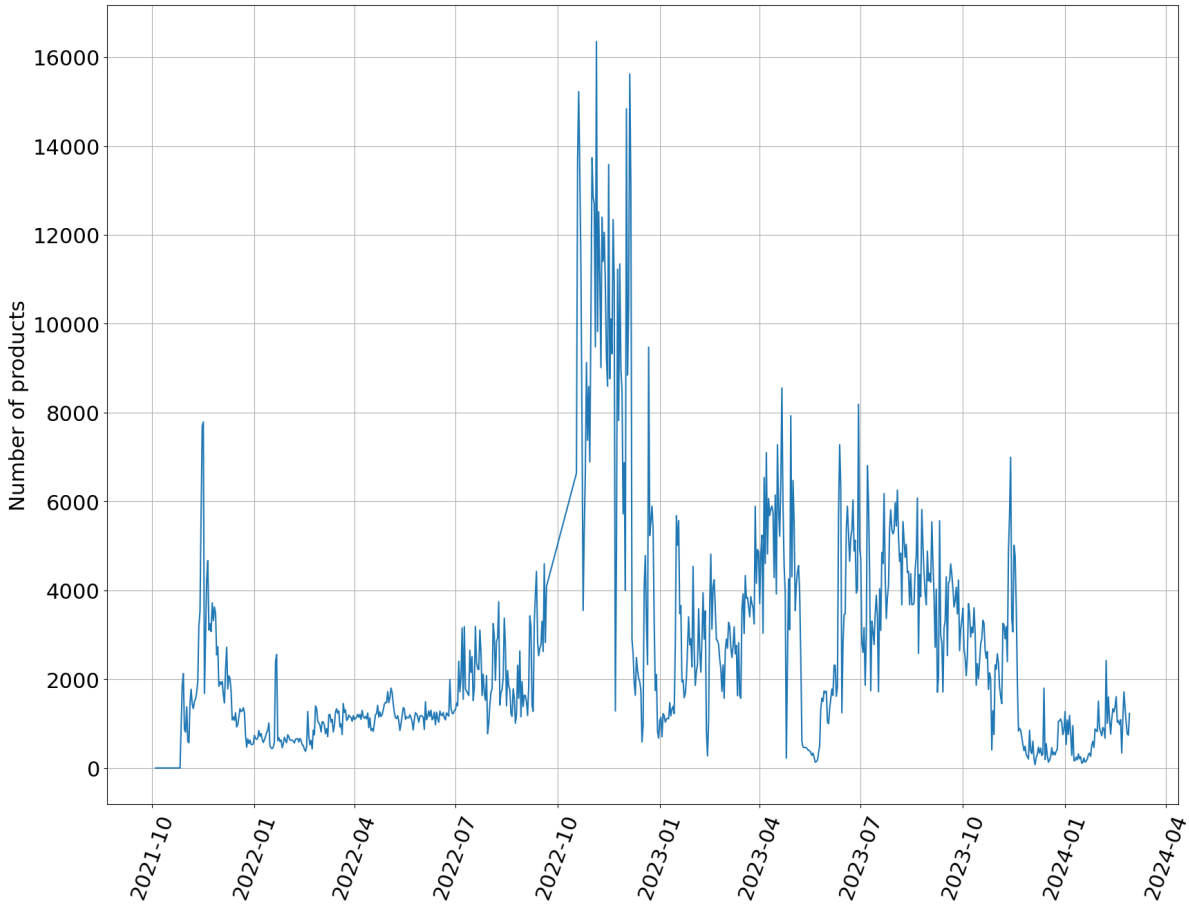
EIGHT

MONITORING DATA DOWNLOADS FROM COLHUB PORTALS

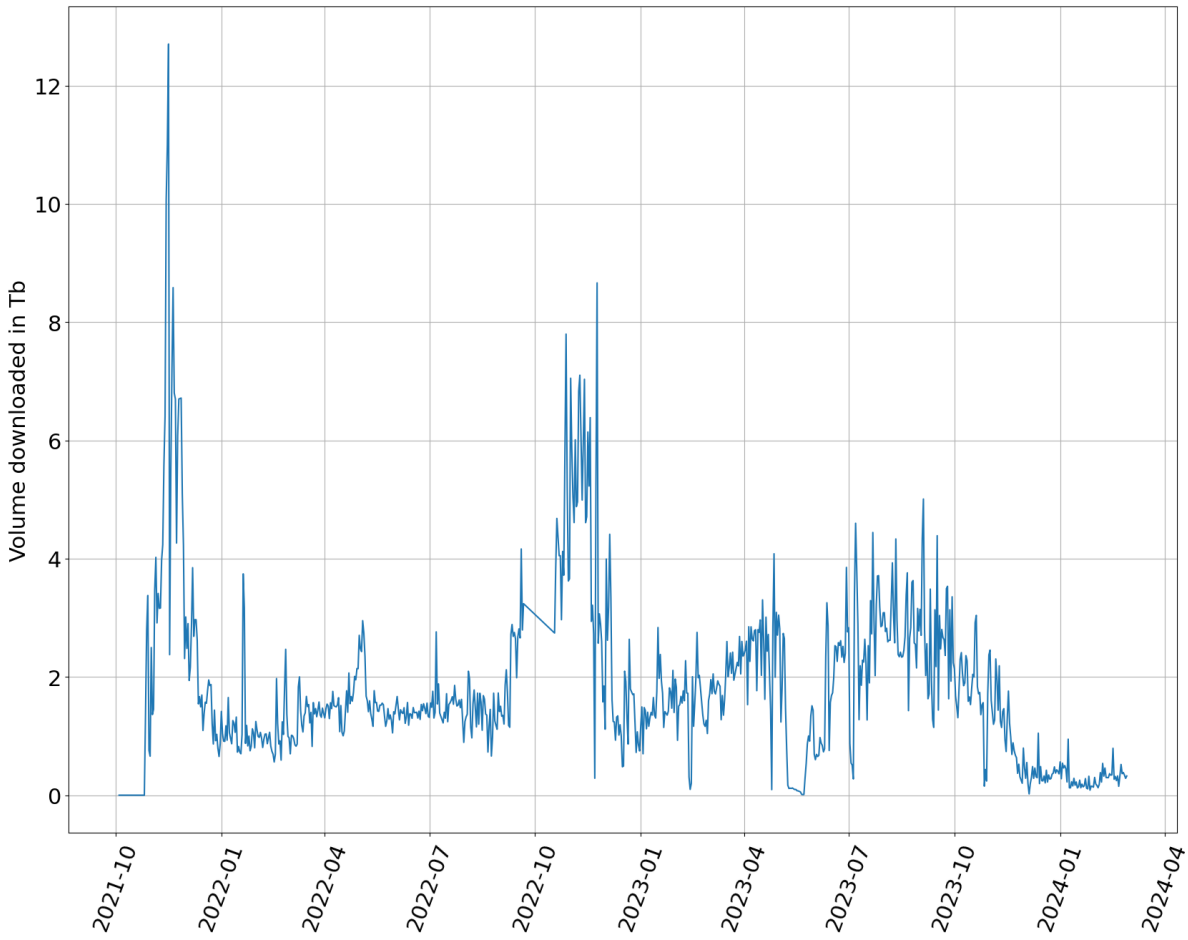
In this section the performance of the FrontEnds is analyzed, for both colhub.met.no and colhub-archive.met.no. The FEs performance is translated as user accessibility to the data which is one of the main goals for the project.

8.1 Portal: colhub.met.no

The first portal to analyze is colhub.met.no. The target of the analysis is to check the amount of data downloaded by users, but also the number of users accessing the datahub. Below the historical amount of data per day is represented.



The same data is also represented below, with a difference. This time the data is not accounted by number, but by volume. Although both graphs show similar trends, they are not exactly equal due to the variability in the ratio volume per product. For instance, the seasonality of optical products could have an impact in the total volume of products.



The table below is also interesting. It shows the amount of products downloaded for each the different Sentinel products. As expected, S1 and S2 are the most used Sentinels. S3 is slightly used, while S5p is not used.

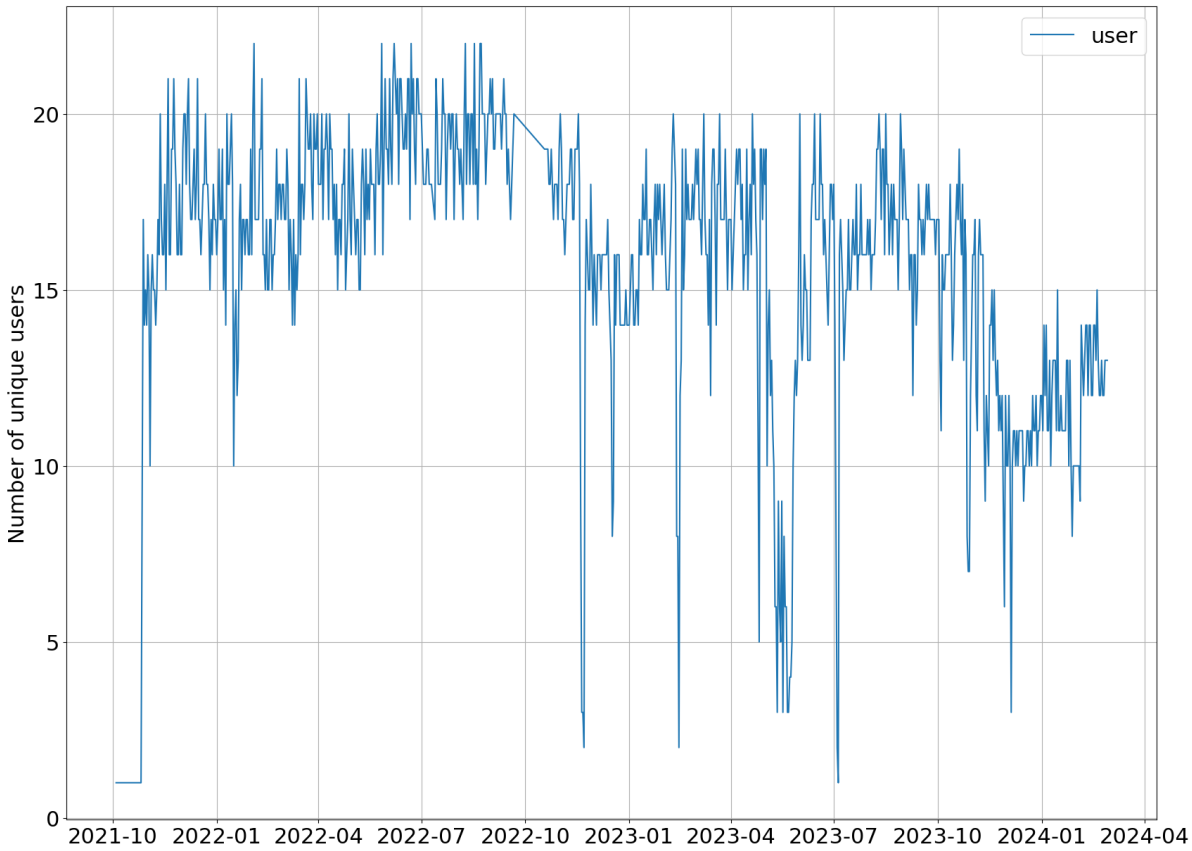
```
satellite  product_type
S1         GRDH                239838
           GRDM                104380
           OCN                  85237
           RAW                 196352
           SLC                  62792
S2         MSIL1C              473986
           MSIL1C_DTERRENG       3100
           MSIL2A             1035546
S3         OLCI_L1               7153
           OLCI_L2                490
           SLSTR_L1              6930
           SLSTR_L2                12
           SRAL_L1                 23
           SRAL_L2                 83
           SYN_L2                  39
S5         NRTI_L2               6439
           OFFL_L1B                 3
           OFFL_L2                  6
dtype: int64
```

The following table shows the total downloaded volume of data in Tb per month. Here the seasonality of some Sentinel

products can affect the final numbers.

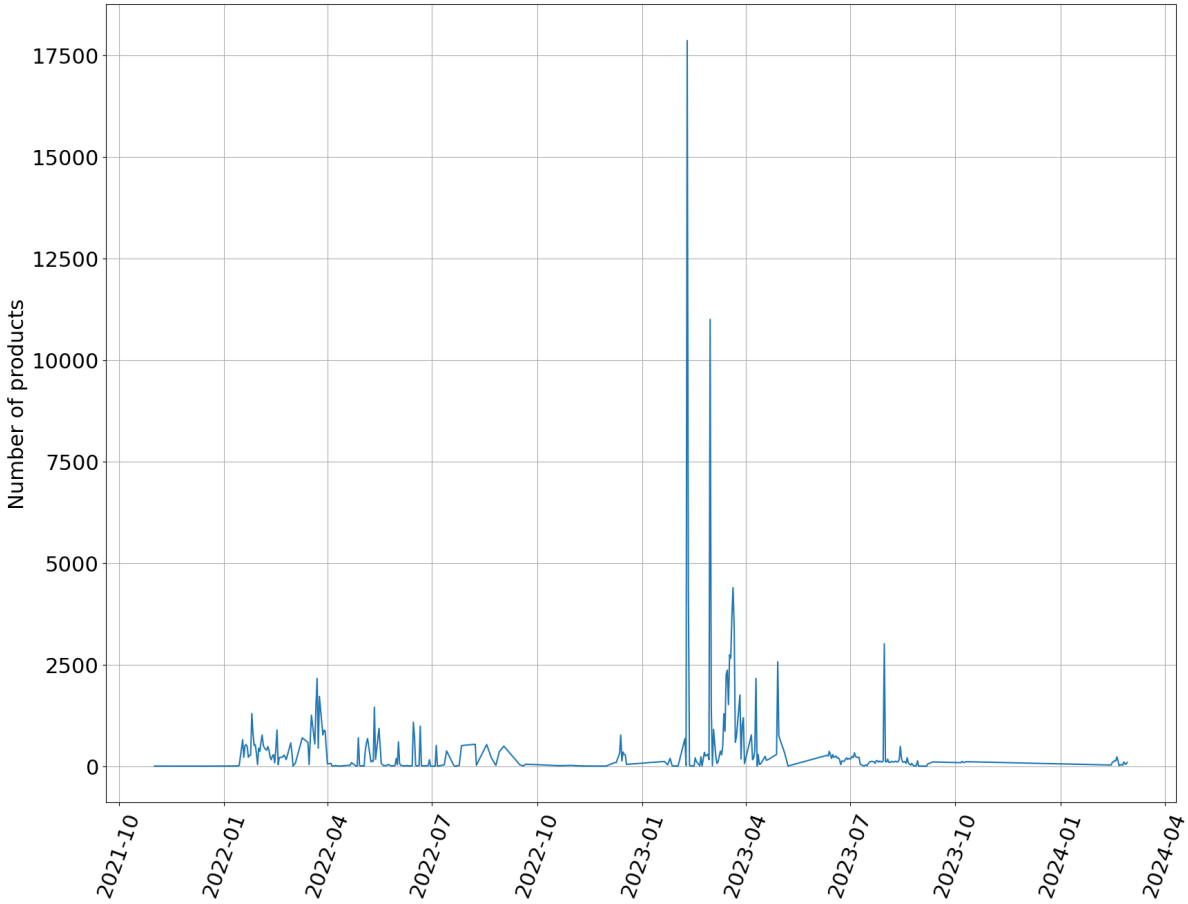
```
download_time  download_time
2021           10                7.588303
               11              158.654049
               12               57.675128
2022           1                36.406545
               2                29.798405
               3                39.869718
               4                46.768604
               5                51.219186
               6                42.277098
               7                44.565096
               8                42.852304
               9                47.447532
               10               60.491409
               11              141.031091
               12               50.957670
2023           1                48.169138
               2                41.604374
               3                61.866205
               4                74.137962
               5                25.676479
               6                54.858885
               7                78.211367
               8                88.075235
               9                80.195622
               10               54.828457
               11               33.878596
               12               10.909848
2024           1                 8.061366
               2                 9.170225
Name: size, dtype: float64
```

The number of users accessing and using the datahub is also important to be known. The plot below show the number of users per day. Some variability is represented in its numbers. Nevertheless, colhub.met.no is used by 15 to 20 users per day.



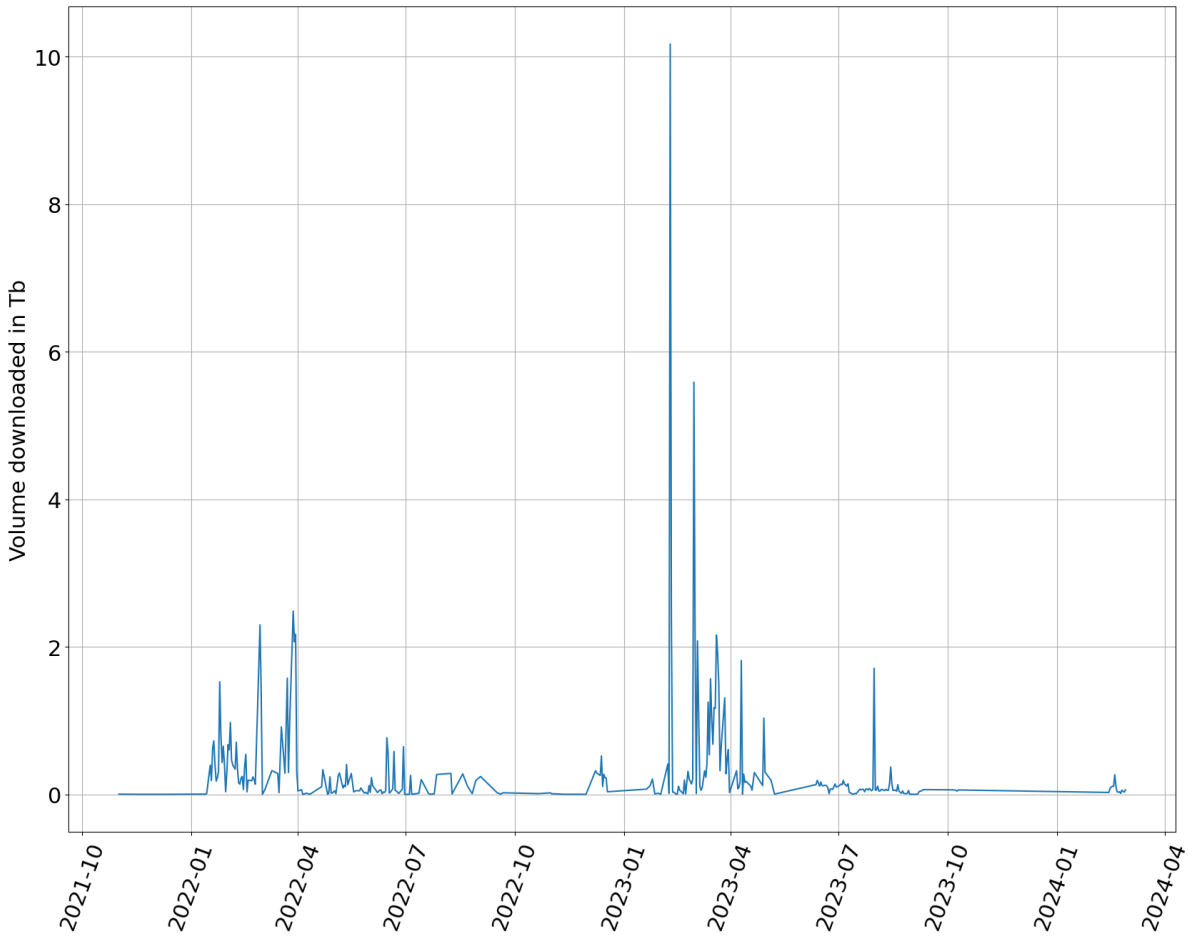
8.2 Portal: colhub-archive.met.no

Similar to colhub.met.no, here it is presented the performance of colhub-archive.met.no. First the number of products downloaded per day. As shown in the plot below, some days the number of products downloaded is null. This is a correct value which is not reflecting the performance of the FE. The archive is not as frequently accessed as colhub.met.no. Only those users looking for historical data will used this portal.



As explained and shown in the previous section, the total volume downloaded is also shown in the graphic below.

```
Index(['size', 'download_duration'], dtype='object')
```



It is still interesting to see the number of products downloaded per product type. As shown in the previous section, S1 and S2 still are the most popular Sentinels.

```
satellite  product_type
S1         GRDH                31461
           GRDM                 8066
           OCN                     1
           RAW                   131
           SLC                  3219
S2         MSIL1C              34519
           MSIL1C_DTERRENG     16832
           MSIL2A              43784
S3         OLCI_L1                 1
           SLSTR_L1                2
           SRAL_L1                 4
           SRAL_L2               158
S5         OFFL_L2                 1
dtype: int64
```

The table below shows the monthly retrieved volume of data in Tb.

```
download_time  download_time
2021           December          0.000696
               November          0.005186
```

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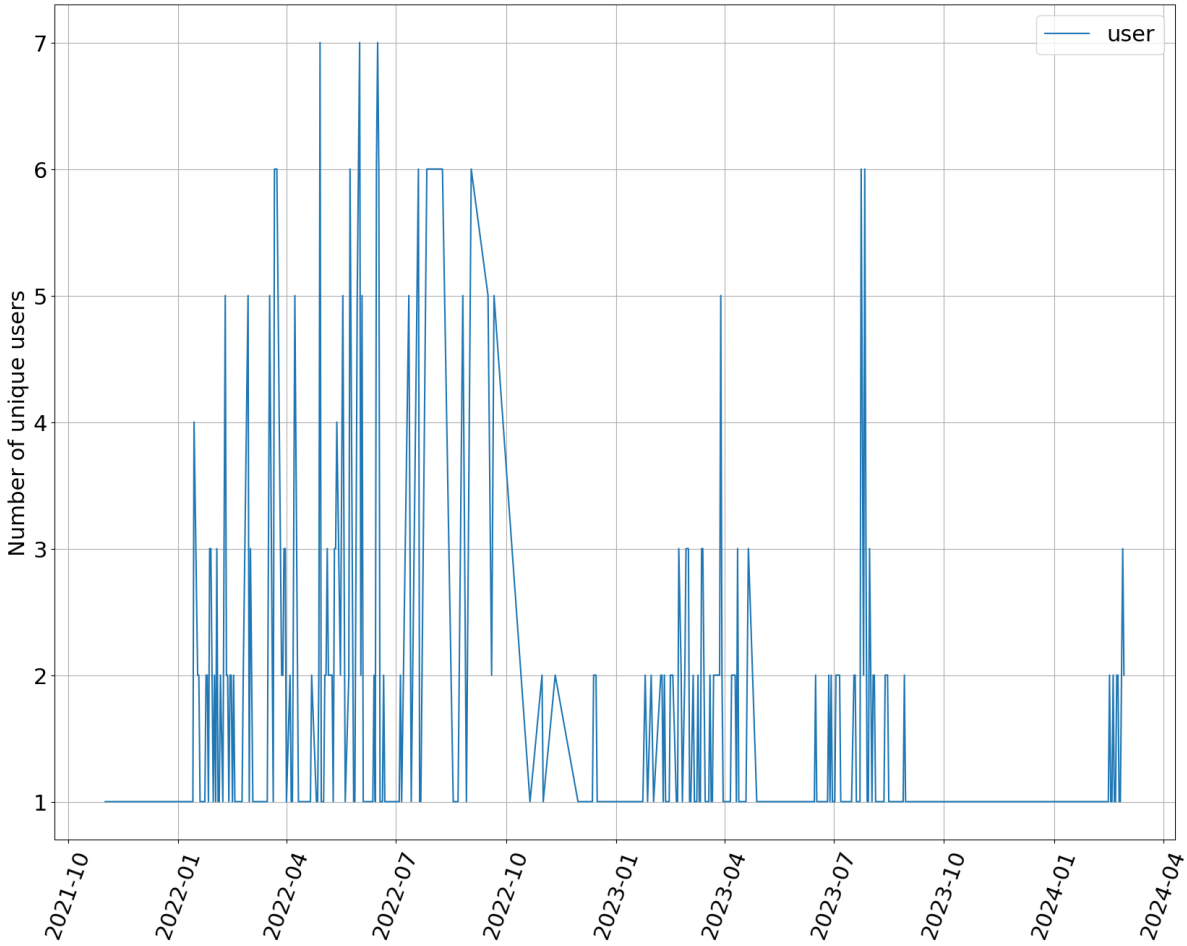
```
2022           April             0.858194
               August            0.874257
               December          2.247264
               February          9.514969
               January           7.210722
               July              0.771705
               June              3.787335
               March            13.999207
               May               2.258999
               November          0.011412
               October           0.030705
               September         0.289683
2023           April             5.010196
               August            1.931697
               February         14.316868
               January           0.417223
               July              3.804772
               June              2.082679
               March            27.805556
               May               0.196331
               October           0.276372
               September         0.220003
2024           February          1.096300
Name: size, dtype: float64
```

The last graphic show the number of users accessing and downloading data from the portal. Again, the discontinuity in numbers of users it is not a sign of the portal performance.


user
Number of unique users
1
2
3
4
5
6
7
2021-10
2022-01
2022-04
2022-07
2022-10
2023-01
2023-04
2023-07
2023-10
2024-01
2024-04

CHAPTER

NINE

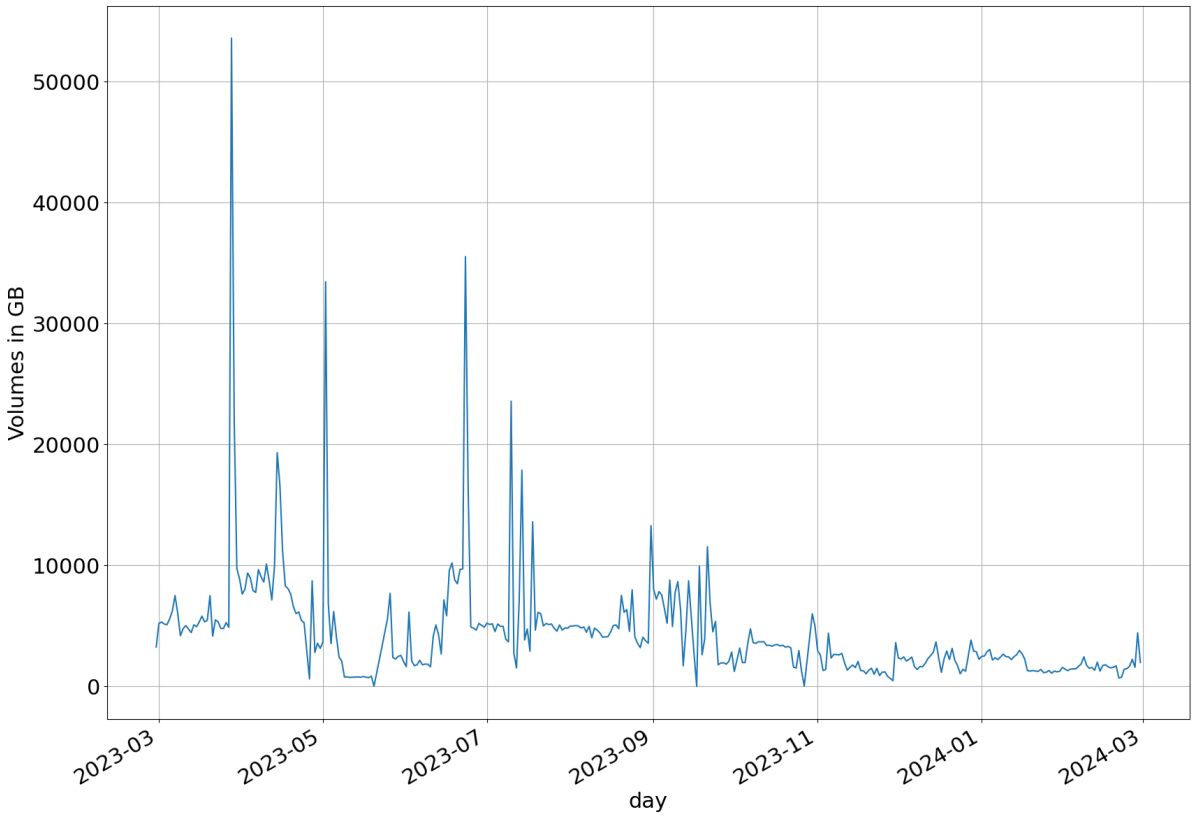
DATA VOLUMES FOR NBS

Satellite data storage requires an important amount of disk space, especially high resolution products such as the ones produced by the Sentinel constellation. This also represents an economical cost. Hence, it is very important to keep track of the total volume of data stored at MET Norway premises. In this section those numbers are shown.

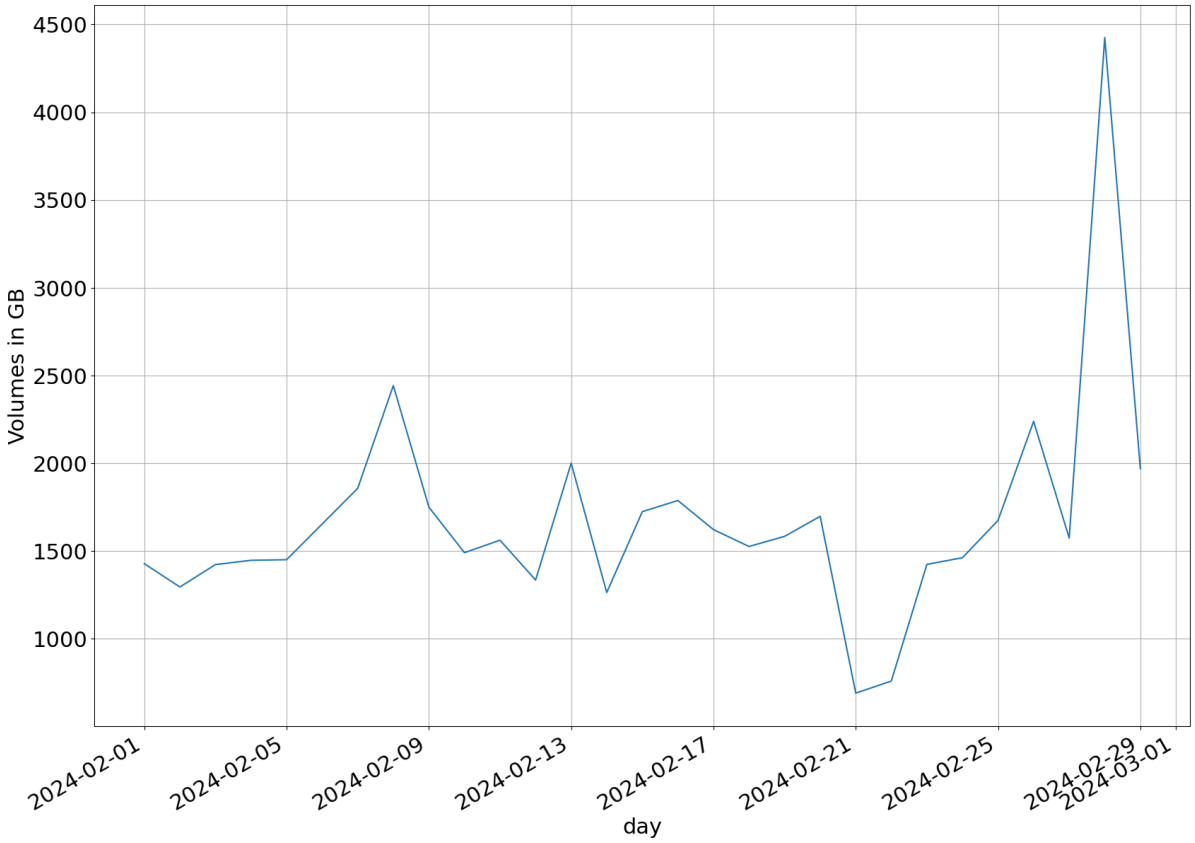
9.1 Volumes for AOI backends

Two type of products can be differentiated, products acquired from ESA datahub which keep the original format and Sentinel products transformed into NetCDF-CF. Those directly acquired from ESA are store at MET Norway BE for the AOI. Later on, they are made available to users through colhub-archive and colhub FEs.

The total amount of Sentinel products for the AOI, located in the AOI BE, represents 4491 TB



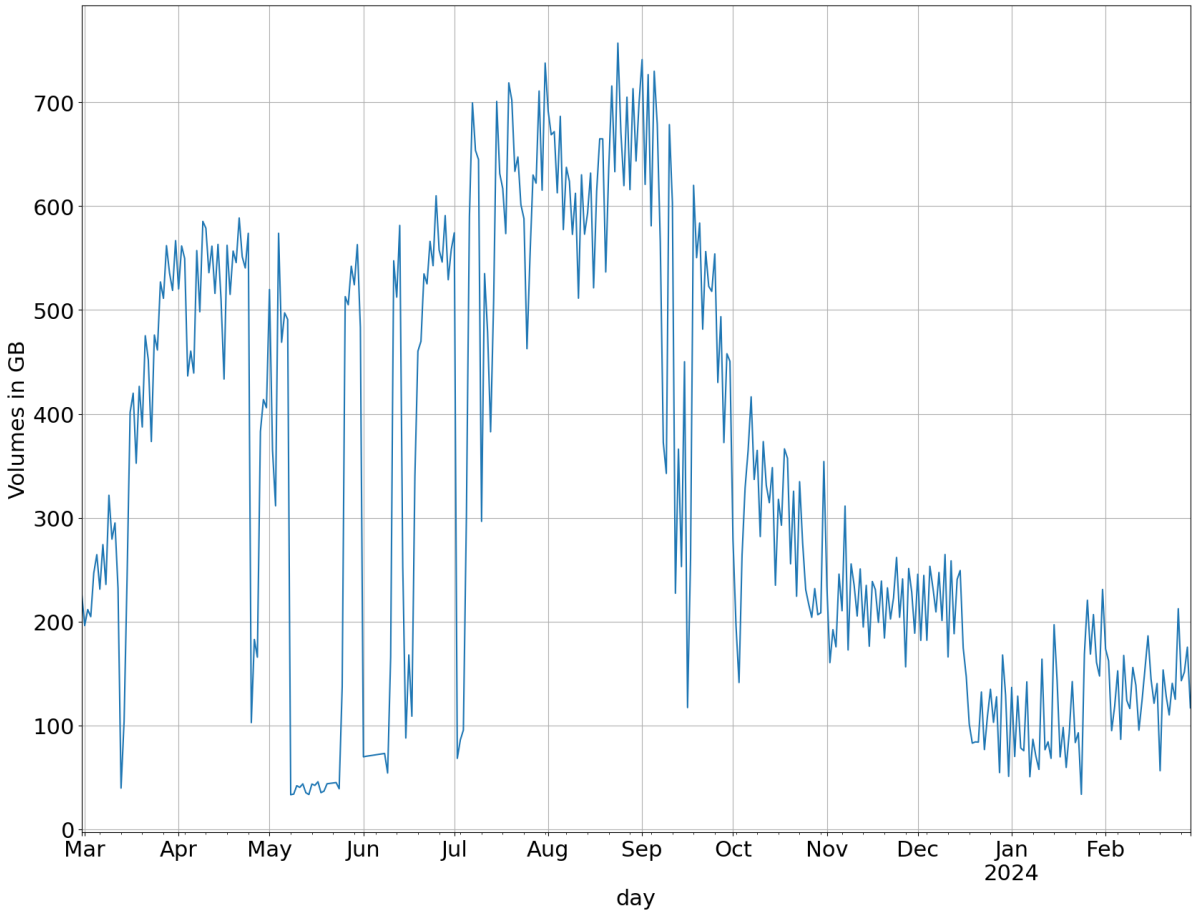
In the graphic above the volume of data per day in GB is shown for the last year. Here we can observed seasonality due to optical sensor products. The table below shows the same information for the last month.



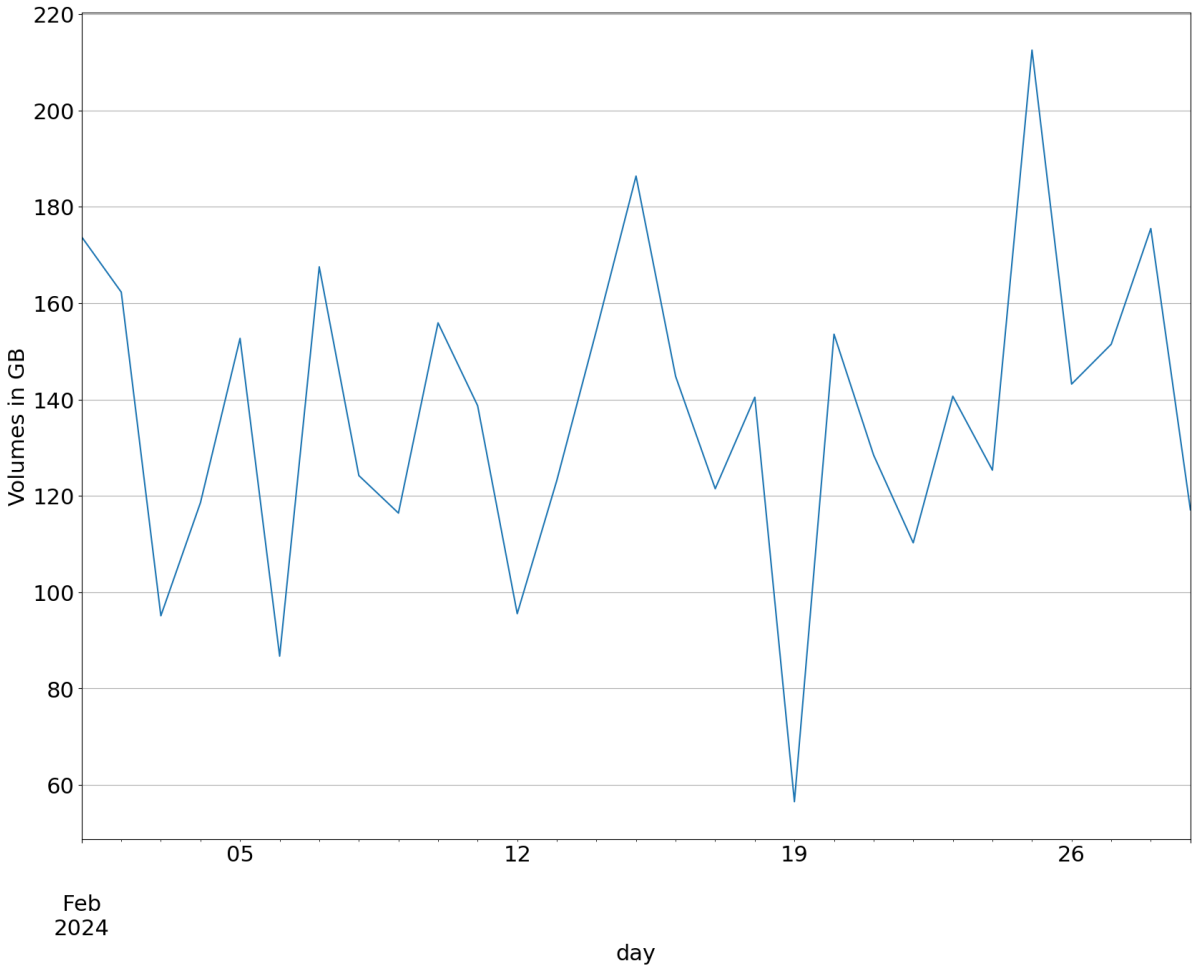
9.2 Volume for netcdf products

The products converted to NetCDF-CF are S1 and S2 products. These Sentinel datasets are served as SAFE format by ESA. This is not always convenient for users. Therefore as part of the NBS project, one of the MET Norway tasks as operator is to translate those products into NetCDF-CF.

The total amount of Sentinel-1 and Sentinel-2 products for the AOI transformed to NetCDF represents 917 TB

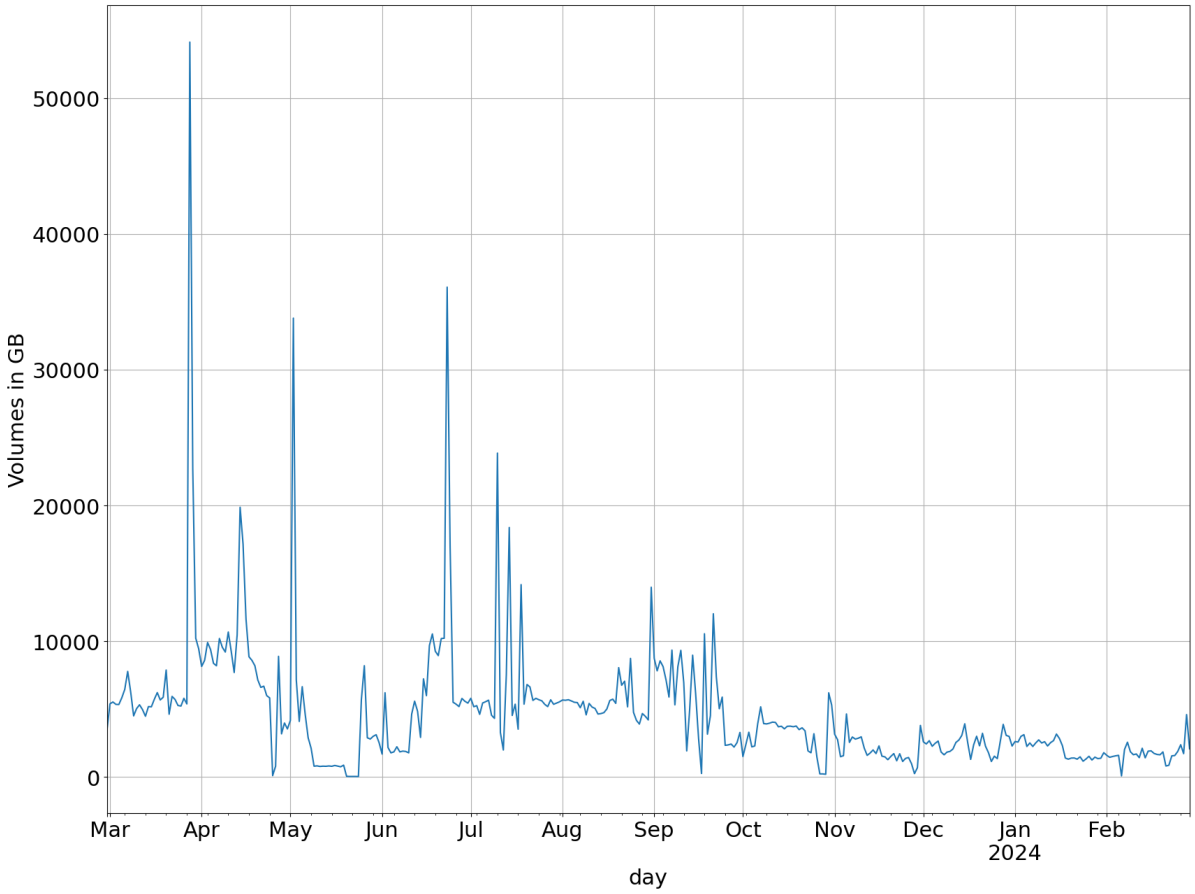


In the graphic above the volume of NetCDF-CF data per day in GB is shown for the last year. Here we can observed seasonality due to optical sensor products. The table below shows the same information for the last 30 days.



9.3 Totals

Finally, the total amount of disk space dedicated to the NBS project, including either products in SAFE and NetCDF formats, represents 5408 TB



In the graphic above the total volume of data per day in GB is shown for the last year. Here we can observed seasonality due to optical sensor products again. The table below shows the same information for the last month.

day	product_type	action	volume	number	timeliness
2024-02-01	GRDH	synchronized	82.877824	50.0	1.239212
2024-02-01	GRDM	synchronized	5.634510	15.0	0.735671
2024-02-01	OCN	synchronized	0.940437	47.0	1.230434
2024-02-01	RAW	synchronized	92.461088	66.0	0.994638
2024-02-01	SLC	synchronized	398.100539	53.0	1.626266
2024-02-02	GRDH	synchronized	82.905269	50.0	1.326327
2024-02-02	GRDM	synchronized	5.112113	13.0	1.902589
2024-02-02	OCN	synchronized	0.943515	49.0	1.468255
2024-02-02	RAW	synchronized	90.822508	64.0	1.084389
2024-02-02	SLC	synchronized	386.646458	51.0	1.623154
2024-02-03	GRDH	synchronized	81.174098	50.0	1.252083
2024-02-03	GRDM	synchronized	2.712278	7.0	2.559259
2024-02-03	OCN	synchronized	0.627975	36.0	1.320186
2024-02-03	RAW	synchronized	83.512139	57.0	0.988135
2024-02-03	SLC	synchronized	391.332989	53.0	1.562269
2024-02-04	GRDH	synchronized	105.268204	64.0	1.392314
2024-02-04	GRDM	synchronized	5.100174	13.0	1.132932
2024-02-04	OCN	synchronized	1.010917	55.0	1.496529
2024-02-04	RAW	synchronized	110.980058	77.0	1.116508
2024-02-04	SLC	synchronized	501.079033	67.0	1.708024
2024-02-05	GRDH	fscanner	187.841391	66.0	29.415771

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2024-02-05	GRDH	synchronized	68.692132	41.0	1.284051
2024-02-05	GRDM	fscanner	15.425880	115.0	29.879375
2024-02-05	GRDM	synchronized	8.626263	22.0	0.834573
2024-02-05	OCN	synchronized	1.131597	51.0	1.312873
2024-02-05	RAW	synchronized	84.653471	65.0	1.012871
2024-02-05	SLC	synchronized	338.038125	44.0	1.639385
2024-02-07	GRDH	fscanner	86.600589	32.0	5.564544
2024-02-07	GRDH	synchronized	103.771658	62.0	23.386964
2024-02-07	GRDM	fscanner	5.406692	35.0	7.922458
2024-02-07	GRDM	synchronized	4.460438	12.0	13.704792
2024-02-07	OCN	synchronized	0.892995	50.0	14.761342
2024-02-07	RAW	synchronized	105.909818	73.0	14.587388
2024-02-07	SLC	synchronized	502.940955	66.0	23.498556
2024-02-08	GRDH	fscanner	64.928223	23.0	0.677241
2024-02-08	GRDH	synchronized	134.189695	81.0	1.451917
2024-02-08	GRDM	fscanner	5.587574	40.0	0.591071
2024-02-08	GRDM	synchronized	6.947827	21.0	1.101037
2024-02-08	OCN	synchronized	1.376476	77.0	1.498727
2024-02-08	RAW	synchronized	141.065001	102.0	1.102009
2024-02-08	SLC	synchronized	630.003781	84.0	1.740891
2024-02-09	GRDH	fscanner	69.274954	23.0	0.711551
2024-02-09	GRDH	synchronized	108.223070	66.0	1.346000
2024-02-09	GRDM	fscanner	5.515505	36.0	0.669813
2024-02-09	GRDM	synchronized	5.502630	14.0	0.898532
2024-02-09	OCN	synchronized	1.072706	57.0	1.442019
2024-02-09	RAW	synchronized	114.593585	80.0	1.060118
2024-02-09	SLC	synchronized	518.693463	69.0	1.683715
2024-02-10	GRDH	fscanner	46.694791	16.0	0.595568
2024-02-10	GRDH	synchronized	65.596601	39.0	1.280698
2024-02-10	GRDM	fscanner	6.372480	35.0	0.606598
2024-02-10	GRDM	synchronized	8.967052	24.0	0.823158
2024-02-10	OCN	synchronized	1.160768	52.0	1.203431
2024-02-10	RAW	synchronized	83.234864	63.0	0.920435
2024-02-10	SLC	synchronized	328.678727	43.0	1.558437
2024-02-11	GRDH	fscanner	73.105793	23.0	0.793218
2024-02-11	GRDH	synchronized	78.165755	48.0	1.159422
2024-02-11	GRDM	fscanner	3.690580	34.0	0.827713
2024-02-11	GRDM	synchronized	5.305014	14.0	1.015248
2024-02-11	OCN	synchronized	0.852548	44.0	1.222888
2024-02-11	RAW	synchronized	86.747856	62.0	0.940428
2024-02-11	SLC	synchronized	376.925054	51.0	1.524560
2024-02-12	GRDH	fscanner	56.395110	21.0	0.728212
2024-02-12	GRDH	synchronized	46.755317	28.0	1.390523
2024-02-12	GRDM	fscanner	4.224437	30.0	0.665813
2024-02-12	GRDM	synchronized	4.666599	12.0	1.156580
2024-02-12	OCN	synchronized	0.704004	35.0	1.459334
2024-02-12	RAW	synchronized	54.424062	40.0	1.034889
2024-02-12	SLC	synchronized	169.584068	22.0	1.647104
2024-02-13	GRDH	fscanner	68.731212	27.0	0.723207
2024-02-13	GRDH	synchronized	123.148669	75.0	8.435628
2024-02-13	GRDM	fscanner	6.888185	46.0	0.677638
2024-02-13	GRDM	synchronized	8.398830	22.0	10.118823
2024-02-13	OCN	synchronized	1.471389	75.0	8.509245
2024-02-13	RAW	synchronized	134.893545	97.0	8.443899
2024-02-13	SLC	synchronized	640.064511	86.0	8.497282
2024-02-14	GRDH	fscanner	25.897485	8.0	0.700616

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2024-02-14	GRDH	synchronized	32.840204	20.0	1.140752
2024-02-14	GRDM	fscanner	1.511340	14.0	0.895925
2024-02-14	GRDM	synchronized	1.024578	3.0	2.037637
2024-02-14	OCN	synchronized	0.280204	17.0	2.085929
2024-02-14	RAW	synchronized	32.918691	23.0	0.827676
2024-02-14	SLC	synchronized	149.411628	20.0	1.466852
2024-02-15	GRDH	fscanner	51.008772	17.0	0.996213
2024-02-15	GRDH	synchronized	89.469811	55.0	1.379209
2024-02-15	GRDM	fscanner	2.724804	25.0	0.714389
2024-02-15	GRDM	synchronized	5.951288	15.0	2.459388
2024-02-15	OCN	synchronized	0.988931	49.0	1.471276
2024-02-15	RAW	synchronized	98.954751	70.0	1.231199
2024-02-15	SLC	synchronized	427.703180	58.0	1.714876
2024-02-16	GRDH	fscanner	84.740877	28.0	0.901443
2024-02-16	GRDH	synchronized	103.007092	63.0	1.287537
2024-02-16	GRDM	fscanner	4.542110	42.0	0.761929
2024-02-16	GRDM	synchronized	5.100246	13.0	1.115093
2024-02-16	OCN	synchronized	1.006113	55.0	1.363131
2024-02-16	RAW	synchronized	107.897603	76.0	1.050239
2024-02-16	SLC	synchronized	498.288803	67.0	1.658811
2024-02-17	GRDH	fscanner	43.861951	18.0	0.602626
2024-02-17	GRDH	synchronized	68.689489	41.0	1.300656
2024-02-17	GRDM	fscanner	6.610607	34.0	0.603998
2024-02-17	GRDM	synchronized	8.626160	22.0	0.733114
2024-02-17	OCN	synchronized	1.132779	51.0	1.345636
2024-02-17	RAW	synchronized	84.379463	63.0	0.987504
2024-02-17	SLC	synchronized	330.725187	43.0	1.609846
2024-02-18	GRDH	fscanner	69.716483	25.0	0.672243
2024-02-18	GRDH	synchronized	85.160362	51.0	1.295368
2024-02-18	GRDM	fscanner	5.966969	40.0	0.731472
2024-02-18	GRDM	synchronized	4.954186	13.0	1.060646
2024-02-18	OCN	synchronized	0.867961	44.0	1.340087
2024-02-18	RAW	synchronized	91.364415	64.0	1.046425
2024-02-18	SLC	synchronized	407.292789	54.0	1.694660
2024-02-19	GRDH	fscanner	83.458121	30.0	0.937663
2024-02-19	GRDH	synchronized	92.733312	56.0	1.362120
2024-02-19	GRDM	fscanner	5.405447	35.0	0.794413
2024-02-19	GRDM	synchronized	4.447575	13.0	0.750664
2024-02-19	OCN	synchronized	1.014856	59.0	1.426214
2024-02-19	RAW	synchronized	95.247939	69.0	1.117805
2024-02-19	SLC	synchronized	439.272790	58.0	1.682283
2024-02-20	GRDH	fscanner	62.870987	23.0	0.684708
2024-02-20	GRDH	synchronized	85.506929	51.0	1.310168
2024-02-20	GRDM	fscanner	5.576171	40.0	0.590788
2024-02-20	GRDM	synchronized	6.533093	19.0	1.001065
2024-02-20	OCN	synchronized	1.015631	50.0	1.238692
2024-02-20	RAW	synchronized	95.344838	70.0	1.015699
2024-02-20	SLC	synchronized	408.589268	54.0	1.630173
2024-02-21	GRDH	fscanner	66.531302	22.0	0.700372
2024-02-21	GRDH	synchronized	20.215570	12.0	1.339866
2024-02-21	GRDM	synchronized	0.816061	2.0	1.128084
2024-02-21	OCN	synchronized	0.141833	7.0	1.427084
2024-02-21	RAW	synchronized	40.110211	27.0	1.087096
2024-02-21	SLC	synchronized	93.778593	12.0	1.770463
2024-02-22	GRDH	fscanner	45.671722	16.0	0.595124
2024-02-22	GRDH	synchronized	17.060487	10.0	28.062527

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2024-02-22	GRDM	fscanner	6.372613	35.0	0.606560
2024-02-22	GRDM	synchronized	3.059214	8.0	38.731145
2024-02-22	OCN	synchronized	0.443160	20.0	32.210068
2024-02-22	RAW	synchronized	9.663877	9.0	32.674868
2024-02-22	SLC	synchronized	122.787101	16.0	30.841180
2024-02-23	GRDH	fscanner	69.361634	22.0	0.620672
2024-02-23	GRDH	synchronized	69.554022	43.0	40.233340
2024-02-23	GRDM	fscanner	3.687596	34.0	0.820095
2024-02-23	GRDM	synchronized	2.751333	7.0	39.420862
2024-02-23	OCN	synchronized	0.568844	33.0	39.387214
2024-02-23	RAW	synchronized	71.868827	50.0	39.246066
2024-02-23	SLC	synchronized	282.939021	39.0	38.815787
2024-02-24	GRDH	fscanner	59.578317	22.0	0.724106
2024-02-24	GRDH	synchronized	40.381971	24.0	44.737534
2024-02-24	GRDM	fscanner	4.095465	29.0	0.662563
2024-02-24	GRDM	synchronized	8.782003	24.0	43.609544
2024-02-24	OCN	synchronized	1.041155	43.0	44.816016
2024-02-24	RAW	synchronized	59.527957	48.0	44.359975
2024-02-24	SLC	synchronized	254.413483	33.0	45.558864
2024-02-25	GRDH	fscanner	66.777804	26.0	0.740215
2024-02-25	GRDH	synchronized	96.501786	59.0	45.628602
2024-02-25	GRDM	fscanner	6.886243	46.0	0.670766
2024-02-25	GRDM	synchronized	5.568092	14.0	42.402529
2024-02-25	OCN	synchronized	0.976985	53.0	44.020669
2024-02-25	RAW	synchronized	107.855753	76.0	43.822179
2024-02-25	SLC	synchronized	485.278642	65.0	45.029851
2024-02-26	GRDH	fscanner	69.854388	24.0	0.702512
2024-02-26	GRDH	synchronized	167.318335	102.0	33.405334
2024-02-26	GRDM	fscanner	3.470115	32.0	0.683729
2024-02-26	GRDM	synchronized	10.233735	27.0	32.209626
2024-02-26	OCN	synchronized	1.899035	100.0	33.763408
2024-02-26	RAW	synchronized	176.830049	127.0	32.540807
2024-02-26	SLC	synchronized	764.387317	103.0	33.776254
2024-02-27	GRDH	fscanner	55.267138	19.0	0.849284
2024-02-27	GRDH	synchronized	82.899084	50.0	23.891356
2024-02-27	GRDM	fscanner	2.947962	27.0	0.714814
2024-02-27	GRDM	synchronized	5.110942	13.0	23.882959
2024-02-27	OCN	synchronized	0.872820	47.0	24.017304
2024-02-27	RAW	synchronized	89.904395	64.0	23.641418
2024-02-27	SLC	synchronized	386.649364	51.0	24.138386
2024-02-28	GRDH	fscanner	76.495170	26.0	0.931209
2024-02-28	GRDH	synchronized	174.221862	106.0	17.049782
2024-02-28	GRDM	fscanner	4.115622	38.0	0.775935
2024-02-28	GRDM	synchronized	11.533085	30.0	21.485810
2024-02-28	OCN	synchronized	1.994856	98.0	20.149878
2024-02-28	RAW	synchronized	190.175895	136.0	19.614235
2024-02-28	SLC	synchronized	851.161100	114.0	16.566609
2024-02-29	GRDH	fscanner	43.903709	18.0	0.598300
2024-02-29	GRDH	synchronized	65.276582	39.0	1.322908
2024-02-29	GRDM	fscanner	6.738307	35.0	0.608089
2024-02-29	GRDM	synchronized	8.624770	22.0	0.913841
2024-02-29	OCN	synchronized	1.132180	51.0	1.306830
2024-02-29	RAW	synchronized	81.265315	61.0	1.036824
2024-02-29	SLC	synchronized	315.666634	41.0	1.673725
2024-02-01	MSIL1C	synchronized	107.829805	244.0	6.253319
2024-02-02	MSIL1C	synchronized	134.743199	303.0	8.189798

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2024-02-03	MSIL1C	synchronized	110.906252	242.0	2.712056
2024-02-04	MSIL1C	synchronized	146.341298	327.0	4.106852
2024-02-05	MSIL1C	synchronized	118.414061	265.0	7.809717
2024-02-07	MSIL1C	synchronized	117.862792	264.0	30.767050
2024-02-08	MSIL1C	synchronized	343.763925	728.0	9.332121
2024-02-09	MSIL1C	synchronized	173.629334	366.0	3.575614
2024-02-10	MSIL1C	synchronized	182.499279	397.0	2.619984
2024-02-11	MSIL1C	synchronized	183.921559	411.0	2.595879
2024-02-12	MSIL1C	synchronized	186.986464	414.0	3.256067
2024-02-13	MSIL1C	synchronized	193.840661	430.0	3.845112
2024-02-14	MSIL1C	synchronized	206.718546	454.0	2.678913
2024-02-15	MSIL1C	synchronized	209.921589	464.0	4.400218
2024-02-16	MSIL1C	synchronized	182.605898	411.0	2.993046
2024-02-17	MSIL1C	synchronized	221.609680	503.0	2.834109
2024-02-20	MSIL1C	synchronized	134.722048	292.0	4.903643
2024-02-22	MSIL1C	synchronized	128.966144	301.0	37.151518
2024-02-23	MSIL1C	synchronized	204.019838	498.0	28.747916
2024-02-24	MSIL1C	synchronized	309.028233	722.0	20.589572
2024-02-25	MSIL1C	synchronized	220.377621	521.0	6.075357
2024-02-26	MSIL1C	synchronized	289.942439	660.0	44.294968
2024-02-27	MSIL1C	synchronized	276.132066	621.0	43.673452
2024-02-28	MSIL1C	synchronized	248.694337	576.0	45.423308
2024-02-29	MSIL1C	synchronized	324.410330	730.0	44.540245
2024-02-01	MSIL2A	synchronized	250.498257	449.0	6.979294
2024-02-02	MSIL2A	synchronized	88.480951	173.0	4.138810
2024-02-03	MSIL2A	synchronized	237.287490	398.0	7.490376
2024-02-04	MSIL2A	synchronized	118.315488	237.0	4.242605
2024-02-05	MSIL2A	synchronized	130.433910	235.0	6.047221
2024-02-07	MSIL2A	synchronized	223.537255	381.0	33.159269
2024-02-07	Unknown	deleted	0.000000	4.0	0.000000
2024-02-08	MSIL2A	synchronized	443.185611	728.0	7.653697
2024-02-09	MSIL2A	synchronized	221.238548	366.0	2.856008
2024-02-10	MSIL2A	synchronized	232.987326	397.0	2.962666
2024-02-11	MSIL2A	synchronized	237.301178	411.0	2.618061
2024-02-12	MSIL2A	synchronized	241.013584	411.0	3.384226
2024-02-13	MSIL2A	synchronized	255.261906	441.0	3.739654
2024-02-14	MSIL2A	synchronized	261.666128	454.0	2.722198
2024-02-15	MSIL2A	synchronized	260.390000	459.0	4.431781
2024-02-16	MSIL2A	synchronized	233.752622	417.0	3.186472
2024-02-17	MSIL2A	synchronized	279.373702	502.0	2.989599
2024-02-18	MSIL2A	synchronized	306.639682	511.0	2.814510
2024-02-19	MSIL2A	synchronized	289.881023	516.0	4.024277
2024-02-20	MSIL2A	synchronized	301.582162	549.0	3.200636
2024-02-22	MSIL2A	synchronized	39.206626	79.0	37.439398
2024-02-23	MSIL2A	synchronized	386.967157	720.0	38.598897
2024-02-24	MSIL2A	synchronized	375.054424	710.0	24.447978
2024-02-25	MSIL2A	synchronized	334.638034	645.0	12.689211
2024-02-26	MSIL2A	synchronized	384.324093	708.0	29.787089
2024-02-27	MSIL2A	synchronized	274.211265	477.0	4.117689
2024-02-28	MSIL2A	synchronized	482.421522	888.0	12.831296
2024-02-29	MSIL2A	synchronized	445.874041	830.0	5.720978
2024-02-01	OLCI_L1	synchronized	23.101422	40.0	6.253608
2024-02-01	OLCI_L2	synchronized	3.250556	38.0	4.327480
2024-02-01	SLSTR_L1	synchronized	64.529998	169.0	17.545746
2024-02-01	SLSTR_L2	synchronized	15.282420	255.0	22.779318
2024-02-01	SRAL_L1	synchronized	142.682497	90.0	38.641618

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2024-02-01	SRAL_L2	synchronized	5.355249	208.0	40.380417
2024-02-01	SYN_L2	synchronized	5.967242	57.0	27.762653
2024-02-02	OLCI_L1	synchronized	23.837770	40.0	7.855564
2024-02-02	OLCI_L2	synchronized	4.240172	44.0	13.164290
2024-02-02	SLSTR_L1	synchronized	69.022854	181.0	6.069052
2024-02-02	SLSTR_L2	synchronized	16.112286	268.0	22.532472
2024-02-02	SRAL_L1	synchronized	131.533778	80.0	39.303495
2024-02-02	SRAL_L2	synchronized	5.179177	204.0	39.810280
2024-02-02	SYN_L2	synchronized	7.023406	62.0	31.567744
2024-02-03	OLCI_L1	synchronized	23.636390	40.0	8.680620
2024-02-03	OLCI_L2	synchronized	3.883509	42.0	8.720918
2024-02-03	SLSTR_L1	synchronized	68.004536	178.0	10.370615
2024-02-03	SLSTR_L2	synchronized	16.297548	271.0	20.352107
2024-02-03	SRAL_L1	synchronized	146.571219	90.0	38.873333
2024-02-03	SRAL_L2	synchronized	5.178386	195.0	40.386661
2024-02-03	SYN_L2	synchronized	7.789624	70.0	29.238391
2024-02-04	OLCI_L1	synchronized	26.666723	44.0	8.992901
2024-02-04	OLCI_L2	synchronized	3.687984	40.0	3.167265
2024-02-04	SLSTR_L1	synchronized	65.990689	172.0	9.622310
2024-02-04	SLSTR_L2	synchronized	15.523259	258.0	19.622038
2024-02-04	SRAL_L1	synchronized	134.125643	83.0	38.726413
2024-02-04	SRAL_L2	synchronized	5.486339	211.0	40.018905
2024-02-04	SYN_L2	synchronized	6.884796	63.0	26.779395
2024-02-05	OLCI_L1	synchronized	24.348455	43.0	11.738709
2024-02-05	OLCI_L2	synchronized	4.340983	47.0	12.394157
2024-02-05	SLSTR_L1	synchronized	60.705566	158.0	4.711248
2024-02-05	SLSTR_L2	synchronized	14.873465	248.0	21.927235
2024-02-05	SRAL_L1	synchronized	146.769419	90.0	38.670568
2024-02-05	SRAL_L2	synchronized	5.154168	199.0	40.020962
2024-02-05	SYN_L2	synchronized	6.567556	61.0	28.024667
2024-02-07	OLCI_L1	synchronized	36.490308	59.0	31.731101
2024-02-07	OLCI_L2	synchronized	5.898821	61.0	31.727997
2024-02-07	SLSTR_L1	synchronized	76.258648	198.0	32.534275
2024-02-07	SLSTR_L2	synchronized	17.530187	291.0	44.462306
2024-02-07	SRAL_L1	synchronized	156.847022	95.0	55.927310
2024-02-07	SRAL_L2	synchronized	5.964349	227.0	56.768136
2024-02-07	SYN_L2	synchronized	7.378225	64.0	53.666280
2024-02-07	Unknown	deleted	0.000000	10.0	0.000000
2024-02-08	OLCI_L1	synchronized	45.038736	70.0	13.411840
2024-02-08	OLCI_L2	synchronized	6.304920	62.0	13.726313
2024-02-08	SLSTR_L1	synchronized	103.543791	268.0	14.817152
2024-02-08	SLSTR_L2	synchronized	23.970491	399.0	25.433495
2024-02-08	SRAL_L1	synchronized	212.423308	136.0	40.884658
2024-02-08	SRAL_L2	synchronized	8.118559	322.0	42.129923
2024-02-08	SYN_L2	synchronized	11.919440	105.0	26.180714
2024-02-09	OLCI_L1	synchronized	27.638683	43.0	10.108547
2024-02-09	OLCI_L2	synchronized	4.918086	49.0	12.406373
2024-02-09	SLSTR_L1	synchronized	61.181799	159.0	17.103151
2024-02-09	SLSTR_L2	synchronized	15.324970	255.0	22.670194
2024-02-09	SRAL_L1	synchronized	143.392300	88.0	38.869559
2024-02-09	SRAL_L2	synchronized	5.191809	197.0	39.907613
2024-02-09	SYN_L2	synchronized	7.718572	63.0	27.886648
2024-02-10	OLCI_L1	synchronized	30.819977	46.0	3.115689
2024-02-10	OLCI_L2	synchronized	4.486486	44.0	3.140105
2024-02-10	SLSTR_L1	synchronized	69.057454	180.0	9.982973
2024-02-10	SLSTR_L2	synchronized	16.805139	279.0	21.540025

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2024-02-10	SRAL_L1	synchronized	131.842542	82.0	38.710712
2024-02-10	SRAL_L2	synchronized	5.251218	203.0	39.815395
2024-02-10	SYN_L2	synchronized	8.911081	66.0	28.916280
2024-02-11	OLCI_L1	synchronized	31.363910	47.0	11.430081
2024-02-11	OLCI_L2	synchronized	4.961515	49.0	11.779664
2024-02-11	SLSTR_L1	synchronized	67.086593	174.0	3.589242
2024-02-11	SLSTR_L2	synchronized	15.612808	260.0	19.101655
2024-02-11	SRAL_L1	synchronized	114.163983	71.0	39.848227
2024-02-11	SRAL_L2	synchronized	4.350855	174.0	41.560971
2024-02-11	SYN_L2	synchronized	8.106024	65.0	27.379787
2024-02-12	OLCI_L1	synchronized	32.855954	48.0	6.519335
2024-02-12	OLCI_L2	synchronized	4.760140	45.0	3.272284
2024-02-12	SLSTR_L1	synchronized	63.320729	164.0	6.565433
2024-02-12	SLSTR_L2	synchronized	15.048178	251.0	20.696294
2024-02-12	SRAL_L1	synchronized	158.725961	92.0	40.297452
2024-02-12	SRAL_L2	synchronized	6.176456	229.0	48.371647
2024-02-12	SYN_L2	synchronized	10.138030	75.0	29.479227
2024-02-13	OLCI_L1	synchronized	33.058630	48.0	8.028658
2024-02-13	OLCI_L2	synchronized	5.335299	50.0	10.792070
2024-02-13	SLSTR_L1	synchronized	64.234399	166.0	11.216211
2024-02-13	SLSTR_L2	synchronized	15.049903	250.0	23.798784
2024-02-13	SRAL_L1	synchronized	144.286331	89.0	39.804175
2024-02-13	SRAL_L2	synchronized	5.317340	204.0	40.768138
2024-02-13	SYN_L2	synchronized	9.729454	74.0	27.744180
2024-02-14	OLCI_L1	synchronized	35.389208	50.0	8.499927
2024-02-14	OLCI_L2	synchronized	5.362070	49.0	6.149032
2024-02-14	SLSTR_L1	synchronized	69.391148	180.0	6.139217
2024-02-14	SLSTR_L2	synchronized	15.829876	263.0	20.801404
2024-02-14	SRAL_L1	synchronized	137.147301	85.0	38.590285
2024-02-14	SRAL_L2	synchronized	5.247047	204.0	39.951113
2024-02-14	SYN_L2	synchronized	10.065743	68.0	28.431382
2024-02-15	OLCI_L1	synchronized	37.286724	52.0	9.655249
2024-02-15	OLCI_L2	synchronized	5.467468	50.0	8.480977
2024-02-15	SLSTR_L1	synchronized	68.534329	177.0	6.991867
2024-02-15	SLSTR_L2	synchronized	16.430307	273.0	19.638787
2024-02-15	SRAL_L1	synchronized	135.562930	81.0	39.125586
2024-02-15	SRAL_L2	synchronized	5.299140	203.0	40.379550
2024-02-15	SYN_L2	synchronized	10.549745	72.0	27.107274
2024-02-16	OLCI_L1	synchronized	36.026825	50.0	2.959258
2024-02-16	OLCI_L2	synchronized	5.323627	49.0	2.825060
2024-02-16	SLSTR_L1	synchronized	63.621989	164.0	3.117802
2024-02-16	SLSTR_L2	synchronized	14.813779	246.0	20.816818
2024-02-16	SRAL_L1	synchronized	135.155974	85.0	38.612706
2024-02-16	SRAL_L2	synchronized	5.471599	204.0	40.539004
2024-02-16	SYN_L2	synchronized	10.220438	74.0	26.837657
2024-02-17	OLCI_L1	synchronized	38.742281	53.0	10.798772
2024-02-17	OLCI_L2	synchronized	6.323663	56.0	11.961877
2024-02-17	SLSTR_L1	synchronized	65.734294	169.0	17.327630
2024-02-17	SLSTR_L2	synchronized	15.725783	261.0	22.661301
2024-02-17	SRAL_L1	synchronized	138.791922	84.0	38.706703
2024-02-17	SRAL_L2	synchronized	5.049478	198.0	39.458617
2024-02-17	SYN_L2	synchronized	9.682401	72.0	27.400811
2024-02-18	OLCI_L1	synchronized	36.282802	49.0	3.436899
2024-02-18	OLCI_L2	synchronized	5.593731	50.0	7.610195
2024-02-18	SLSTR_L1	synchronized	67.497568	174.0	16.499080
2024-02-18	SLSTR_L2	synchronized	16.261970	269.0	20.796341

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2024-02-18	SRAL_L1	synchronized	133.888252	82.0	38.818416
2024-02-18	SRAL_L2	synchronized	5.036506	192.0	40.052549
2024-02-18	SYN_L2	synchronized	10.662175	75.0	26.514312
2024-02-19	OLCI_L1	synchronized	45.644115	60.0	10.558955
2024-02-19	OLCI_L2	synchronized	6.587503	57.0	11.052967
2024-02-19	SLSTR_L1	synchronized	72.805509	187.0	9.669933
2024-02-19	SLSTR_L2	synchronized	16.465689	272.0	20.649396
2024-02-19	SRAL_L1	synchronized	131.631141	82.0	39.806577
2024-02-19	SRAL_L2	synchronized	5.542581	217.0	40.091600
2024-02-19	SYN_L2	synchronized	11.136781	77.0	26.402871
2024-02-20	OLCI_L1	synchronized	39.552422	52.0	6.576707
2024-02-20	OLCI_L2	synchronized	6.118042	54.0	7.902430
2024-02-20	SLSTR_L1	synchronized	66.218746	170.0	11.156050
2024-02-20	SLSTR_L2	synchronized	15.362132	254.0	21.712314
2024-02-20	SRAL_L1	synchronized	139.888600	88.0	38.978414
2024-02-20	SRAL_L2	synchronized	5.481748	208.0	40.424919
2024-02-20	SYN_L2	synchronized	9.621826	74.0	27.807967
2024-02-21	OLCI_L2	synchronized	0.616743	6.0	13.129681
2024-02-21	SLSTR_L1	synchronized	19.826396	52.0	25.272089
2024-02-21	SLSTR_L2	synchronized	5.171333	85.0	26.122102
2024-02-21	SRAL_L1	synchronized	85.874963	43.0	40.704098
2024-02-21	SRAL_L2	synchronized	3.184818	101.0	47.188985
2024-02-21	SYN_L2	synchronized	3.948626	26.0	41.833552
2024-02-22	SRAL_L1	synchronized	8.084761	6.0	585.739876
2024-02-22	SRAL_L2	synchronized	0.349812	15.0	52.109877
2024-02-28	OLCI_L1	synchronized	317.429224	451.0	78.659390
2024-02-28	OLCI_L2	synchronized	50.044451	479.0	77.805862
2024-02-28	SLSTR_L1	synchronized	457.438540	1170.0	98.881586
2024-02-28	SLSTR_L2	synchronized	116.798250	1932.0	102.578455
2024-02-28	SRAL_L1	synchronized	946.604617	583.0	143.049636
2024-02-28	SRAL_L2	synchronized	37.089857	1452.0	141.066143
2024-02-28	SYN_L2	synchronized	82.186827	628.0	100.562646
2024-02-28	Unknown	deleted	0.000000	21.0	0.000000
2024-02-29	OLCI_L1	synchronized	51.069859	80.0	9.177203
2024-02-29	OLCI_L2	synchronized	6.850816	75.0	5.676148
2024-02-29	SLSTR_L1	synchronized	68.606707	175.0	6.702204
2024-02-29	SLSTR_L2	synchronized	16.286412	269.0	21.598211
2024-02-29	SRAL_L1	synchronized	141.309850	85.0	38.802715
2024-02-29	SRAL_L2	synchronized	5.102973	202.0	39.704026
2024-02-29	SYN_L2	synchronized	12.969985	98.0	26.546151
2024-02-29	Unknown	deleted	0.000000	1.0	0.000000
2024-02-01	NRTI_L2	synchronized	2.949628	144.0	1.870118
2024-02-01	OFFL_L1B	synchronized	175.349166	64.0	4.047341
2024-02-01	OFFL_L2	synchronized	49.421732	141.0	73.424140
2024-02-02	NRTI_L2	synchronized	3.641830	171.0	1.886780
2024-02-02	OFFL_L1B	synchronized	197.294995	72.0	4.020266
2024-02-02	OFFL_L2	synchronized	45.743262	129.0	65.278399
2024-02-03	NRTI_L2	synchronized	4.313316	189.0	1.853503
2024-02-03	OFFL_L1B	synchronized	197.318419	72.0	3.782828
2024-02-03	OFFL_L2	synchronized	40.605424	113.0	39.847557
2024-02-04	NRTI_L2	synchronized	3.627373	153.0	1.870055
2024-02-04	OFFL_L1B	synchronized	153.406803	56.0	3.823864
2024-02-04	OFFL_L2	synchronized	42.051567	119.0	39.396629
2024-02-05	NRTI_L2	synchronized	3.166693	144.0	1.886866
2024-02-05	OFFL_L1B	synchronized	172.894200	64.0	3.856756
2024-02-05	OFFL_L2	synchronized	56.832644	147.0	51.329543

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2024-02-07	NRTI_L2	synchronized	7.642161	314.0	11.953652
2024-02-07	OFFL_L1B	synchronized	324.811940	118.0	11.737247
2024-02-07	OFFL_L2	synchronized	65.896936	179.0	55.594921
2024-02-08	NRTI_L2	synchronized	3.902059	179.0	1.853477
2024-02-08	OFFL_L1B	synchronized	216.778202	80.0	4.012970
2024-02-08	OFFL_L2	synchronized	38.638758	107.0	39.418641
2024-02-09	NRTI_L2	synchronized	2.898279	145.0	1.936855
2024-02-09	OFFL_L1B	synchronized	216.789337	80.0	4.094060
2024-02-09	OFFL_L2	synchronized	45.768072	126.0	39.250758
2024-02-10	NRTI_L2	synchronized	3.859778	179.0	1.920059
2024-02-10	OFFL_L1B	synchronized	214.276162	80.0	4.193745
2024-02-10	OFFL_L2	synchronized	47.562114	129.0	39.516985
2024-02-11	NRTI_L2	synchronized	4.391872	189.0	1.853480
2024-02-11	OFFL_L1B	synchronized	216.770171	80.0	3.934424
2024-02-11	OFFL_L2	synchronized	47.341493	131.0	39.382458
2024-02-12	NRTI_L2	synchronized	3.913189	173.0	1.870161
2024-02-12	OFFL_L1B	synchronized	227.863743	84.0	3.899827
2024-02-12	OFFL_L2	synchronized	45.465142	128.0	39.297576
2024-02-13	NRTI_L2	synchronized	3.401685	171.0	1.870171
2024-02-13	OFFL_L1B	synchronized	238.743789	88.0	3.949554
2024-02-13	OFFL_L2	synchronized	47.295583	132.0	39.534953
2024-02-14	NRTI_L2	synchronized	4.076782	180.0	1.886920
2024-02-14	OFFL_L1B	synchronized	219.294183	80.0	3.966261
2024-02-14	OFFL_L2	synchronized	47.852635	135.0	39.445753
2024-02-15	NRTI_L2	synchronized	4.884349	216.0	1.853423
2024-02-15	OFFL_L1B	synchronized	241.203670	88.0	3.846787
2024-02-15	OFFL_L2	synchronized	50.684798	142.0	39.570762
2024-02-16	NRTI_L2	synchronized	5.033962	216.0	1.886777
2024-02-16	OFFL_L1B	synchronized	241.224763	88.0	3.955182
2024-02-16	OFFL_L2	synchronized	48.464858	131.0	39.494307
2024-02-17	NRTI_L2	synchronized	3.940191	189.0	1.953459
2024-02-17	OFFL_L1B	synchronized	241.225653	88.0	4.012578
2024-02-17	OFFL_L2	synchronized	50.386242	140.0	39.418603
2024-02-18	NRTI_L2	synchronized	4.218545	198.0	1.936859
2024-02-18	OFFL_L1B	synchronized	241.250848	88.0	3.894265
2024-02-18	OFFL_L2	synchronized	31.612543	77.0	45.084008
2024-02-19	NRTI_L2	synchronized	5.402415	225.0	1.870093
2024-02-19	OFFL_L1B	synchronized	241.127604	88.0	3.981462
2024-02-19	OFFL_L2	synchronized	34.316343	111.0	59.241628
2024-02-20	NRTI_L2	synchronized	5.113331	215.0	1.870055
2024-02-20	OFFL_L1B	synchronized	247.930939	90.0	3.905543
2024-02-20	OFFL_L2	synchronized	59.135103	149.0	60.041980
2024-02-21	NRTI_L2	synchronized	4.504472	216.0	1.886727
2024-02-21	OFFL_L1B	synchronized	272.903025	98.0	3.974992
2024-02-21	OFFL_L2	synchronized	70.498672	202.0	48.081410
2024-02-22	NRTI_L2	synchronized	5.250899	234.0	2.795155
2024-02-22	OFFL_L1B	synchronized	303.031469	110.0	4.107047
2024-02-22	OFFL_L2	synchronized	67.341625	184.0	45.121098
2024-02-23	NRTI_L2	synchronized	4.973905	216.0	1.903529
2024-02-23	OFFL_L1B	synchronized	263.244617	96.0	3.883701
2024-02-23	OFFL_L2	synchronized	62.301824	166.0	39.629309
2024-02-24	NRTI_L2	synchronized	5.196509	234.0	1.886791
2024-02-24	OFFL_L1B	synchronized	285.244414	104.0	3.787156
2024-02-24	OFFL_L2	synchronized	58.047912	160.0	39.623771
2024-02-25	NRTI_L2	synchronized	4.440015	205.0	1.920141
2024-02-25	OFFL_L1B	synchronized	285.213597	104.0	3.874193

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2024-02-25      OFFL_L2  synchronized   58.540634   166.0   39.222029
2024-02-26      NRTI_L2  synchronized    5.363371   242.0    1.903490
2024-02-26     OFFL_L1B  synchronized  304.723398   112.0    3.886342
2024-02-26      OFFL_L2  synchronized   59.459826   164.0   39.432936
2024-02-27      NRTI_L2  synchronized    6.304853   259.0    1.853501
2024-02-27     OFFL_L1B  synchronized  326.678006   120.0    3.707793
2024-02-27      OFFL_L2  synchronized   65.645040   181.0   39.356368
2024-02-28      NRTI_L2  synchronized    5.322787   236.0    1.878449
2024-02-28     OFFL_L1B  synchronized  304.750602   112.0    4.022680
2024-02-28      OFFL_L2  synchronized   67.064256   185.0   39.529183
2024-02-29      NRTI_L2  synchronized    4.898085   225.0    1.920093
2024-02-29     OFFL_L1B  synchronized  302.317269   112.0    3.957141
2024-02-29      OFFL_L2  synchronized   65.716242   181.0   39.461408
2024-02-01       s2_l1c           NaN   32.781094    49.0         NaN
2024-02-01       s2_l2a           NaN    7.345757     8.0         NaN
2024-02-01        s1_iw           NaN   66.810532     0.0         NaN
2024-02-01        s1_ew           NaN   66.810532     0.0         NaN
2024-02-02        s1_iw           NaN   67.198631     0.0         NaN
2024-02-02        s1_ew           NaN   67.198631     0.0         NaN
2024-02-02       s2_l1c           NaN   26.222675    51.0         NaN
2024-02-02       s2_l2a           NaN    1.658096     4.0         NaN
2024-02-03       s2_l2a           NaN    2.008072     3.0         NaN
2024-02-03        s1_iw           NaN   44.370842    25.0         NaN
2024-02-03        s1_ew           NaN    9.235340     3.0         NaN
2024-02-03       s2_l1c           NaN   39.501122    63.0         NaN
2024-02-04        s1_ew           NaN   12.383503     5.0         NaN
2024-02-04       s2_l1c           NaN   39.676945    68.0         NaN
2024-02-04        s1_iw           NaN   61.098511    39.0         NaN
2024-02-04       s2_l2a           NaN    5.441250     9.0         NaN
2024-02-05       s2_l2a           NaN   68.308506     0.0         NaN
2024-02-05       s2_l1c           NaN   32.125381    59.0         NaN
2024-02-05        s1_ew           NaN   27.130074    13.0         NaN
2024-02-05        s1_iw           NaN   25.121475    17.0         NaN
2024-02-06        s1_iw           NaN   28.384239    18.0         NaN
2024-02-06        s1_ew           NaN   18.456894     8.0         NaN
2024-02-06       s2_l1c           NaN   33.535255    55.0         NaN
2024-02-06       s2_l2a           NaN    6.367363     8.0         NaN
2024-02-07        s1_iw           NaN   41.722599    18.0         NaN
2024-02-07        s1_ew           NaN   14.510197     8.0         NaN
2024-02-07       s2_l1c           NaN   42.771057    70.0         NaN
2024-02-07       s2_l2a           NaN   68.520256     0.0         NaN
2024-02-08       s2_l2a           NaN    1.730133     3.0         NaN
2024-02-08       s2_l1c           NaN   49.108532    79.0         NaN
2024-02-08        s1_iw           NaN   62.572289    41.0         NaN
2024-02-08        s1_ew           NaN   10.804482     6.0         NaN
2024-02-09        s1_iw           NaN   53.436119    32.0         NaN
2024-02-09        s1_ew           NaN   12.984680     6.0         NaN
2024-02-09       s2_l1c           NaN   43.578953    72.0         NaN
2024-02-09       s2_l2a           NaN    6.426373     9.0         NaN
2024-02-10       s2_l2a           NaN   68.754623     0.0         NaN
2024-02-10       s2_l1c           NaN   41.524982    68.0         NaN
2024-02-10        s1_ew           NaN   18.522923     9.0         NaN
2024-02-10        s1_iw           NaN   27.102058    18.0         NaN
2024-02-11        s1_iw           NaN   66.654903    37.0         NaN
2024-02-11        s1_ew           NaN   14.460747     5.0         NaN
2024-02-11       s2_l1c           NaN   52.303825    83.0         NaN
```

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2024-02-11	s2_l2a	NaN	5.284763	8.0	NaN
2024-02-12	s2_l1c	NaN	50.300491	94.0	NaN
2024-02-12	s2_l2a	NaN	1.169384	4.0	NaN
2024-02-12	s1_iw	NaN	26.949501	17.0	NaN
2024-02-12	s1_ew	NaN	17.134872	8.0	NaN
2024-02-13	s1_iw	NaN	46.933712	37.0	NaN
2024-02-13	s1_ew	NaN	21.469940	10.0	NaN
2024-02-13	s2_l1c	NaN	53.092014	89.0	NaN
2024-02-13	s2_l2a	NaN	1.723614	3.0	NaN
2024-02-14	s2_l2a	NaN	5.784916	8.0	NaN
2024-02-14	s1_iw	NaN	21.488426	12.0	NaN
2024-02-14	s1_ew	NaN	68.740757	0.0	NaN
2024-02-14	s2_l1c	NaN	58.335754	95.0	NaN
2024-02-15	s2_l1c	NaN	56.361828	98.0	NaN
2024-02-15	s2_l2a	NaN	68.740822	0.0	NaN
2024-02-15	s1_iw	NaN	52.055424	27.0	NaN
2024-02-15	s1_ew	NaN	9.207188	3.0	NaN
2024-02-16	s1_iw	NaN	75.716808	42.0	NaN
2024-02-16	s1_ew	NaN	10.663651	4.0	NaN
2024-02-16	s2_l1c	NaN	53.191624	89.0	NaN
2024-02-16	s2_l2a	NaN	5.219608	8.0	NaN
2024-02-17	s2_l1c	NaN	67.861973	109.0	NaN
2024-02-17	s2_l2a	NaN	1.719360	4.0	NaN
2024-02-17	s1_iw	NaN	24.857021	17.0	NaN
2024-02-17	s1_ew	NaN	27.044529	13.0	NaN
2024-02-18	s1_iw	NaN	51.796310	36.0	NaN
2024-02-18	s1_ew	NaN	18.462456	8.0	NaN
2024-02-18	s2_l1c	NaN	68.741016	0.0	NaN
2024-02-18	s2_l2a	NaN	1.471802	3.0	NaN
2024-02-19	s2_l2a	NaN	5.716854	8.0	NaN
2024-02-19	s1_iw	NaN	36.114380	17.0	NaN
2024-02-19	s1_ew	NaN	13.678101	7.0	NaN
2024-02-19	s2_l1c	NaN	1.031273	2.0	NaN
2024-02-20	s2_l1c	NaN	13.593445	25.0	NaN
2024-02-20	s2_l2a	NaN	68.739311	0.0	NaN
2024-02-20	s1_iw	NaN	60.179218	41.0	NaN
2024-02-20	s1_ew	NaN	11.040222	6.0	NaN
2024-02-21	s1_iw	NaN	54.360420	14.0	NaN
2024-02-21	s1_ew	NaN	8.500668	3.0	NaN
2024-02-21	s2_l1c	NaN	58.440250	103.0	NaN
2024-02-21	s2_l2a	NaN	7.152523	8.0	NaN
2024-02-22	s1_iw	NaN	27.868443	18.0	NaN
2024-02-22	s1_ew	NaN	21.786533	10.0	NaN
2024-02-22	s2_l1c	NaN	59.150822	108.0	NaN
2024-02-22	s2_l2a	NaN	1.454601	4.0	NaN
2024-02-23	s2_l2a	NaN	1.522831	3.0	NaN
2024-02-23	s2_l1c	NaN	57.329395	104.0	NaN
2024-02-23	s1_ew	NaN	14.424179	5.0	NaN
2024-02-23	s1_iw	NaN	67.400139	37.0	NaN
2024-02-24	s1_iw	NaN	30.699596	17.0	NaN
2024-02-24	s1_ew	NaN	14.258453	7.0	NaN
2024-02-24	s2_l1c	NaN	78.031384	123.0	NaN
2024-02-24	s2_l2a	NaN	2.350456	4.0	NaN
2024-02-25	s2_l2a	NaN	68.739693	0.0	NaN
2024-02-25	s1_iw	NaN	55.069908	40.0	NaN
2024-02-25	s1_ew	NaN	17.226875	8.0	NaN

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2024-02-25	s2_l1c	NaN	71.466400	119.0	NaN
2024-02-26	s2_l2a	NaN	7.346489	8.0	NaN
2024-02-26	s2_l1c	NaN	82.444427	128.0	NaN
2024-02-26	s1_ew	NaN	9.556801	4.0	NaN
2024-02-26	s1_iw	NaN	43.855358	24.0	NaN
2024-02-27	s1_iw	NaN	58.082058	30.0	NaN
2024-02-27	s1_ew	NaN	9.052402	3.0	NaN
2024-02-27	s2_l1c	NaN	83.131084	146.0	NaN
2024-02-27	s2_l2a	NaN	1.194908	4.0	NaN
2024-02-28	s2_l1c	NaN	85.059830	144.0	NaN
2024-02-28	s2_l2a	NaN	1.690479	3.0	NaN
2024-02-28	s1_iw	NaN	80.204121	43.0	NaN
2024-02-28	s1_ew	NaN	8.524288	4.0	NaN
2024-02-29	s1_iw	NaN	25.739460	17.0	NaN
2024-02-29	s1_ew	NaN	23.857513	12.0	NaN
2024-02-29	s2_l1c	NaN	63.249275	111.0	NaN
2024-02-29	s2_l2a	NaN	4.266727	8.0	NaN

CHAPTER

TEN

PREVIOUS REPORTS

Below is a list of previous reports. If viewing the HTML version of this report online, you can click the link to download a PDF version of a previous report

- NBS_monthly_report_2024_01.pdf
- NBS_monthly_report_2024_02.pdf