NBS monthly report - 2024 June

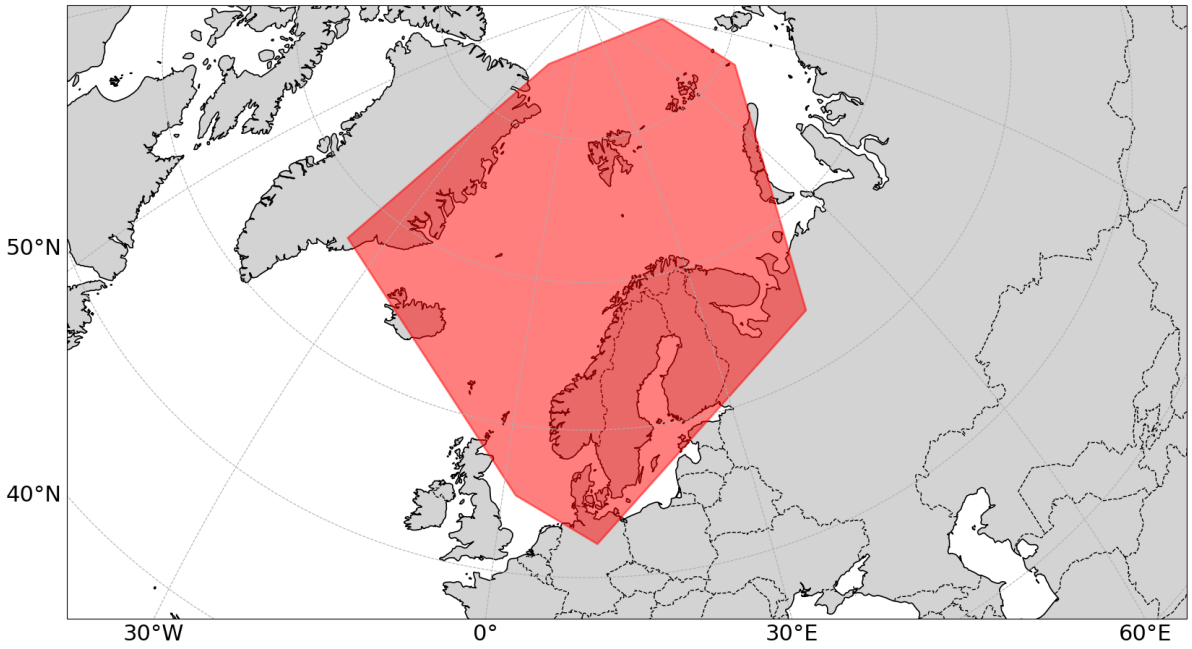
MET Norway - NBS team

Oct 17, 2024

CONTENTS

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	8211	39833	40005	33242	16088	19	37639	14.536
colhub-archive.met.no	8235	39561	39728	32650	16010	5	6003	4.294
dataspace.copernicus.eu	8305	39904	39904	31660	0			

Finally, the total amount of disk space dedicated to the NBS project, including either products in SAFE and NetCDF formats, represents 5662 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 5988 Tb; while in 12 months it is forecast to become 6866 Tb.

CHAPTER

THREE

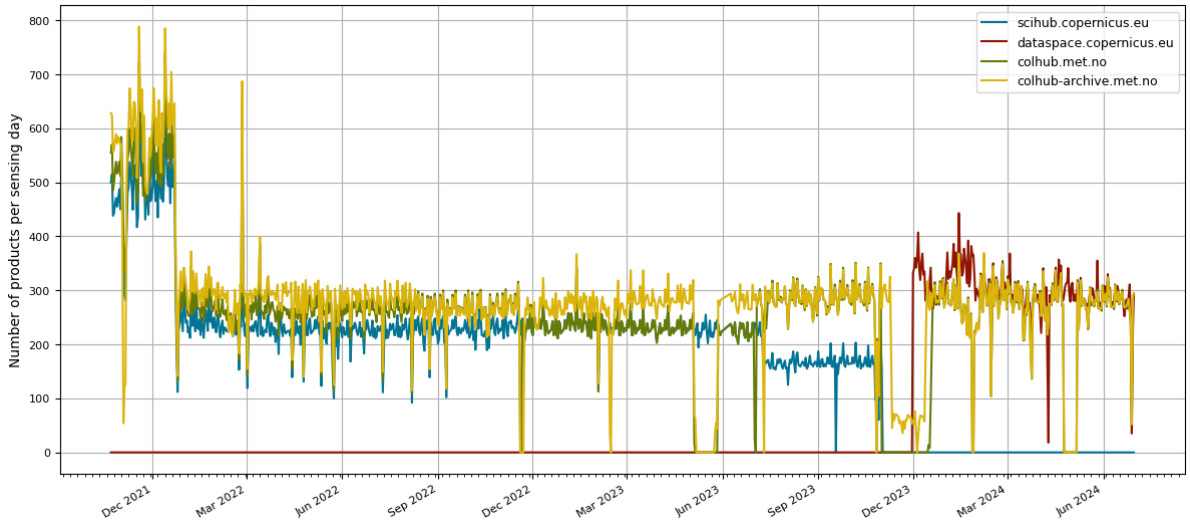
SENTINEL-1 PRODUCTS

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.

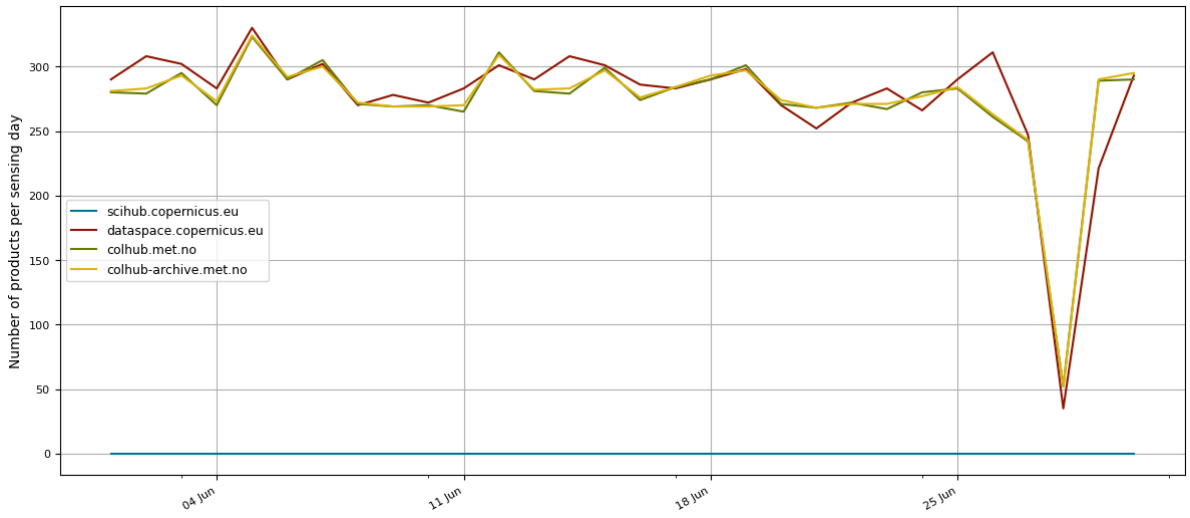
3.1 Products on portals

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
2024-06-01	280.0	290.0	281.0
2024-06-02	279.0	308.0	283.0
2024-06-03	295.0	302.0	293.0
2024-06-04	270.0	283.0	273.0
2024-06-05	323.0	330.0	324.0
2024-06-06	290.0	290.0	292.0
2024-06-07	305.0	302.0	300.0
2024-06-08	271.0	270.0	272.0
2024-06-09	269.0	278.0	269.0
2024-06-10	270.0	272.0	269.0
2024-06-11	265.0	283.0	270.0
2024-06-12	311.0	301.0	309.0
2024-06-13	281.0	290.0	282.0
2024-06-14	279.0	308.0	283.0
2024-06-15	299.0	301.0	297.0
2024-06-16	274.0	286.0	276.0
2024-06-17	284.0	283.0	284.0
2024-06-18	290.0	290.0	293.0
2024-06-19	301.0	298.0	297.0
2024-06-20	271.0	270.0	274.0
2024-06-21	268.0	252.0	268.0
2024-06-22	272.0	272.0	271.0
2024-06-23	267.0	283.0	271.0
2024-06-24	280.0	266.0	277.0
2024-06-25	283.0	290.0	284.0
2024-06-26	261.0	311.0	263.0
2024-06-27	242.0	247.0	243.0
2024-06-28	52.0	35.0	52.0
2024-06-29	289.0	221.0	290.0
2024-06-30	290.0	293.0	295.0

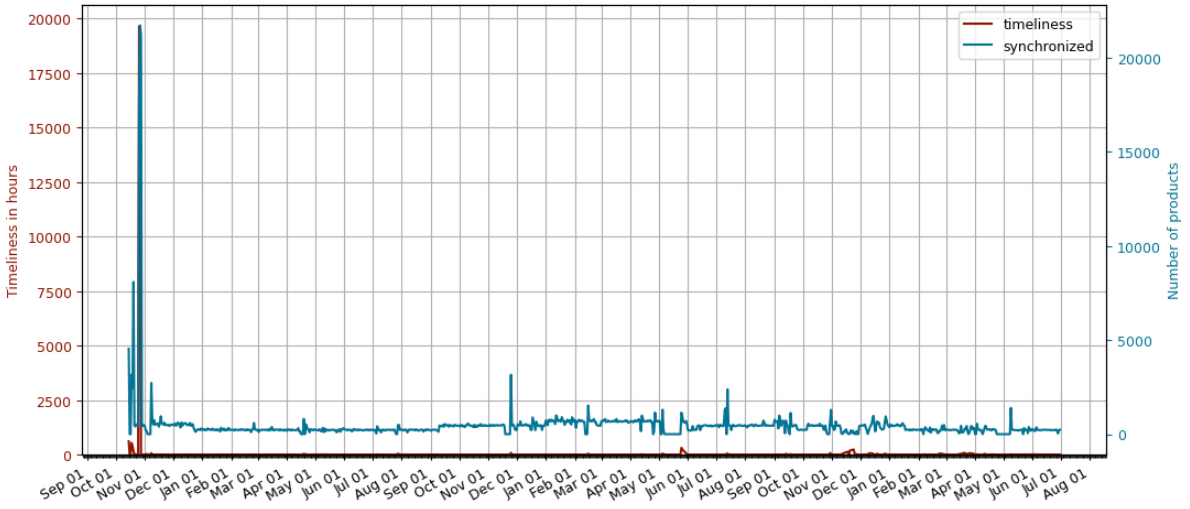
3.2 Missing products

The overall total number of Sentinel-1 products is 4337890. The number of overall Sentinel-1 missing products consists of 1504164 images. This represents that a 700% of the total was included in MET Norway DHR, while a -600% was not included.

The total number of Sentinel-1 products in June is 629253. The number of Sentinel-1 missing products during June consists of 493069 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

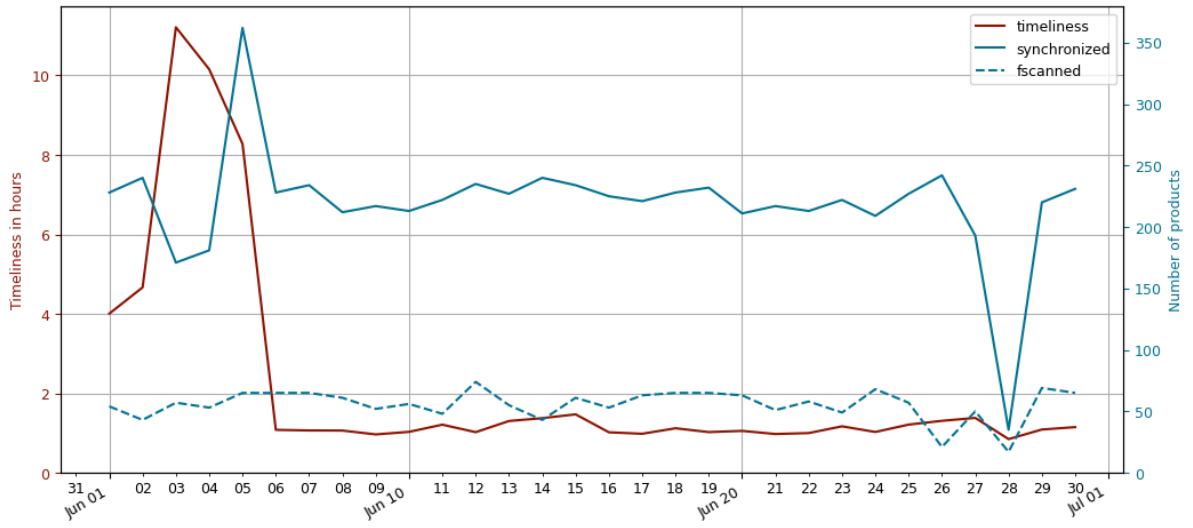
3.3 Data ingestion

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
2024-06-01	573.586575	228	4.008424
2024-06-02	602.697822	240	4.668558
2024-06-03	447.361816	171	11.208645
2024-06-04	429.345283	181	10.151888
2024-06-05	878.515892	362	8.275890
2024-06-06	542.776345	228	1.086757
2024-06-07	578.055743	234	1.071858
2024-06-08	527.455208	212	1.068970
2024-06-09	484.107762	217	0.971881
2024-06-10	544.682446	213	1.036654
2024-06-11	517.138081	222	1.217173
2024-06-12	573.884253	235	1.028596
2024-06-13	565.205567	227	1.308956
2024-06-14	602.576150	240	1.380649
2024-06-15	612.980866	234	1.476652
2024-06-16	489.736535	225	1.025320
2024-06-17	545.969514	221	0.988423
2024-06-18	543.039621	228	1.126548
2024-06-19	572.158144	232	1.030332
2024-06-20	520.014030	211	1.060886
2024-06-21	482.766502	217	0.982006
2024-06-22	544.858943	213	1.005997
2024-06-23	516.937374	222	1.175407
2024-06-24	557.047024	209	1.033422
2024-06-25	565.117175	227	1.218670
2024-06-26	601.651127	242	1.313481
2024-06-27	502.955666	193	1.387046
2024-06-28	61.040346	35	0.853984
2024-06-29	544.754584	220	1.094921
2024-06-30	568.613085	231	1.155144

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

day	size	number	timeliness
2024-06-01	69.669634	54	0.705341
2024-06-02	56.503604	43	0.818488
2024-06-03	72.197039	57	0.808863
2024-06-04	57.043563	53	0.609231
2024-06-05	73.034795	65	0.694673
2024-06-06	80.657256	65	0.775067
2024-06-07	71.049030	65	0.649412
2024-06-08	75.480167	61	0.683836
2024-06-09	54.557210	52	0.710439
2024-06-10	71.837406	56	0.706597
2024-06-11	55.499263	48	0.668717
2024-06-12	76.182993	74	0.678187
2024-06-13	71.880973	55	0.694255
2024-06-14	56.110213	43	0.817927
2024-06-15	76.652518	61	0.833738
2024-06-16	50.065663	53	0.606589
2024-06-17	68.561495	63	0.672422
2024-06-18	79.179925	65	0.784177
2024-06-19	70.291791	65	0.639039
2024-06-20	77.199855	63	0.700850
2024-06-21	52.216735	51	0.704775
2024-06-22	74.452897	58	0.800489
2024-06-23	53.184251	49	0.700881
2024-06-24	68.419176	68	0.642628
2024-06-25	75.063522	57	0.658467
2024-06-26	45.085815	21	0.771415
2024-06-27	65.461076	50	0.884325
2024-06-28	10.870341	17	0.485842
2024-06-29	75.721124	69	0.635860
2024-06-30	79.632406	65	0.781336

CHAPTER

FOUR

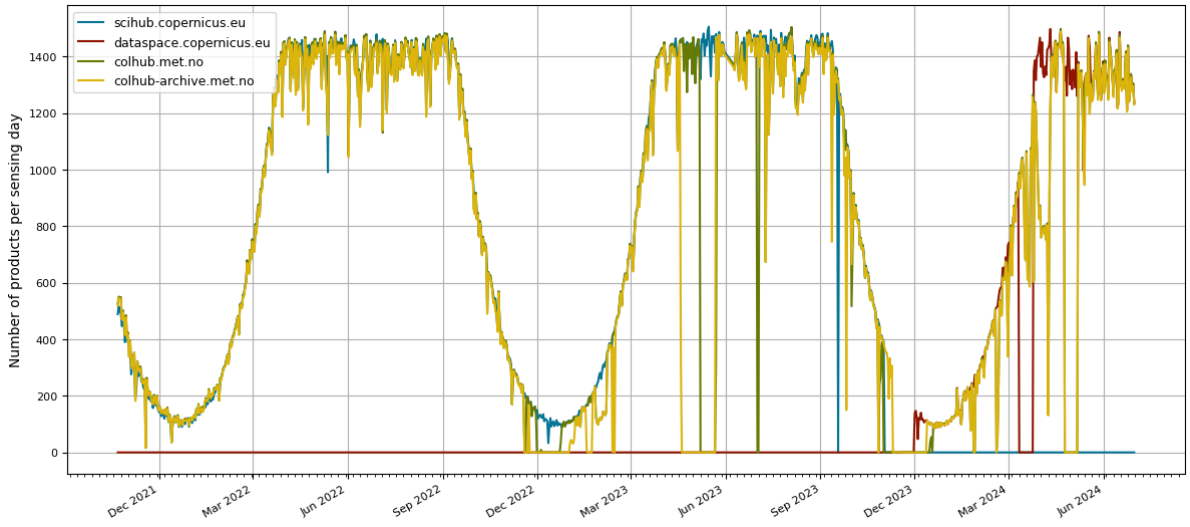
SENTINEL-2 LEVEL-1C PRODUCTS

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.

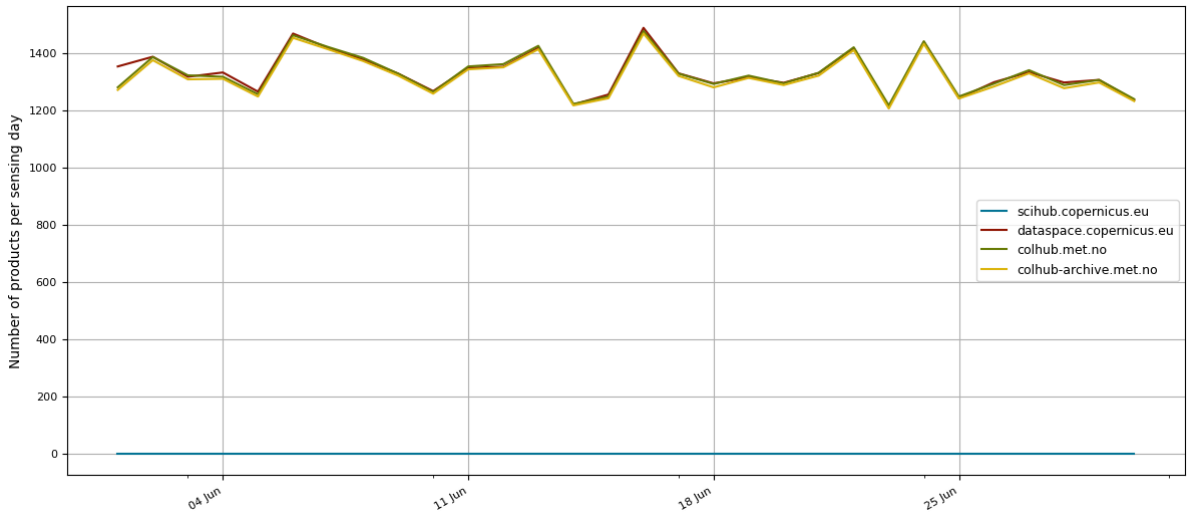
4.1 Products on portals

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
2024-06-01	1279.0	1352.0	1270.0
2024-06-02	1385.0	1386.0	1374.0
2024-06-03	1321.0	1316.0	1307.0
2024-06-04	1316.0	1331.0	1309.0
2024-06-05	1255.0	1264.0	1247.0
2024-06-06	1461.0	1467.0	1452.0
2024-06-07	1420.0	1417.0	1412.0
2024-06-08	1382.0	1376.0	1371.0
2024-06-09	1327.0	1327.0	1320.0
2024-06-10	1263.0	1266.0	1257.0
2024-06-11	1352.0	1347.0	1342.0
2024-06-12	1360.0	1351.0	1349.0
2024-06-13	1424.0	1417.0	1412.0
2024-06-14	1221.0	1219.0	1216.0
2024-06-15	1247.0	1254.0	1241.0
2024-06-16	1476.0	1487.0	1467.0
2024-06-17	1327.0	1328.0	1319.0
2024-06-18	1291.0	1293.0	1279.0
2024-06-19	1320.0	1314.0	1312.0
2024-06-20	1293.0	1295.0	1287.0
2024-06-21	1330.0	1329.0	1320.0
2024-06-22	1419.0	1416.0	1409.0
2024-06-23	1216.0	1209.0	1205.0
2024-06-24	1440.0	1438.0	1431.0
2024-06-25	1247.0	1241.0	1240.0
2024-06-26	1292.0	1297.0	1282.0
2024-06-27	1339.0	1332.0	1328.0
2024-06-28	1287.0	1296.0	1276.0
2024-06-29	1305.0	1305.0	1296.0
2024-06-30	1238.0	1234.0	1231.0

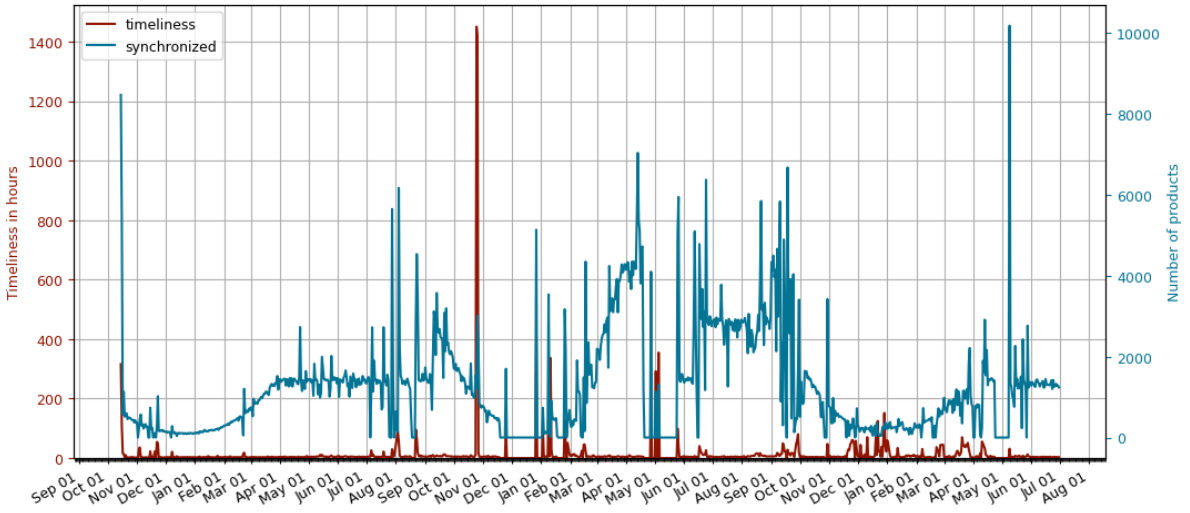
4.2 Missing products

The overall total number of Sentinel-2 Level-1C products is 4337890. The number of overall Sentinel-2 Level-1C missing products consists of 1504164 images. This represents that a 700% of the total was included in MET Norway DHR, while a -600% was not included.

The total number of Sentinel-2 Level-1C products in June is 629253. The number of Sentinel-2 Level-1C missing products during June consists of 493069 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

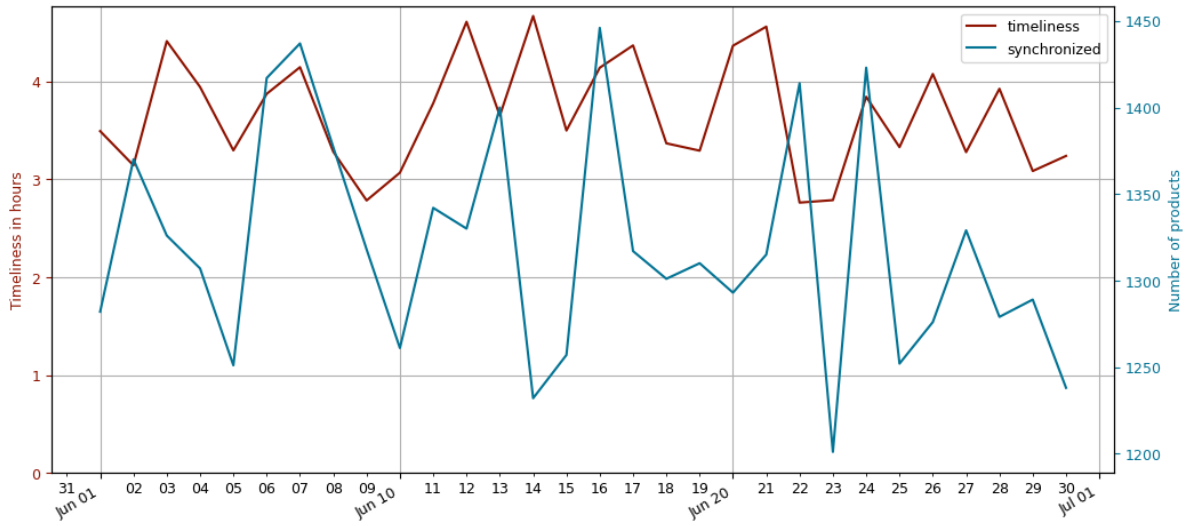
4.3 Data ingestion

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
2024-06-01	553.747496	1282	3.492392
2024-06-02	568.674638	1370	3.142504
2024-06-03	550.721056	1326	4.411189
2024-06-04	542.888455	1307	3.942748
2024-06-05	527.477135	1251	3.295593
2024-06-06	615.164443	1417	3.872849
2024-06-07	638.899162	1437	4.145169
2024-06-08	603.378025	1377	3.281738
2024-06-09	571.000241	1318	2.784092
2024-06-10	538.808035	1261	3.067850
2024-06-11	586.280206	1342	3.776335
2024-06-12	562.264872	1330	4.608875
2024-06-13	613.433905	1400	3.650066
2024-06-14	528.310345	1232	4.667951
2024-06-15	546.272540	1257	3.498300
2024-06-16	628.079729	1446	4.139749
2024-06-17	578.338833	1317	4.367522
2024-06-18	571.042784	1301	3.367578
2024-06-19	574.179022	1310	3.292580
2024-06-20	567.501092	1293	4.364312
2024-06-21	584.530328	1315	4.559234
2024-06-22	627.457971	1414	2.762213
2024-06-23	530.788140	1201	2.787432
2024-06-24	611.331923	1423	3.843111
2024-06-25	552.364147	1252	3.328838
2024-06-26	550.455843	1276	4.075766
2024-06-27	582.485452	1329	3.277750
2024-06-28	570.585791	1279	3.924810
2024-06-29	574.666335	1289	3.084740
2024-06-30	544.484380	1238	3.238979

CHAPTER

FIVE

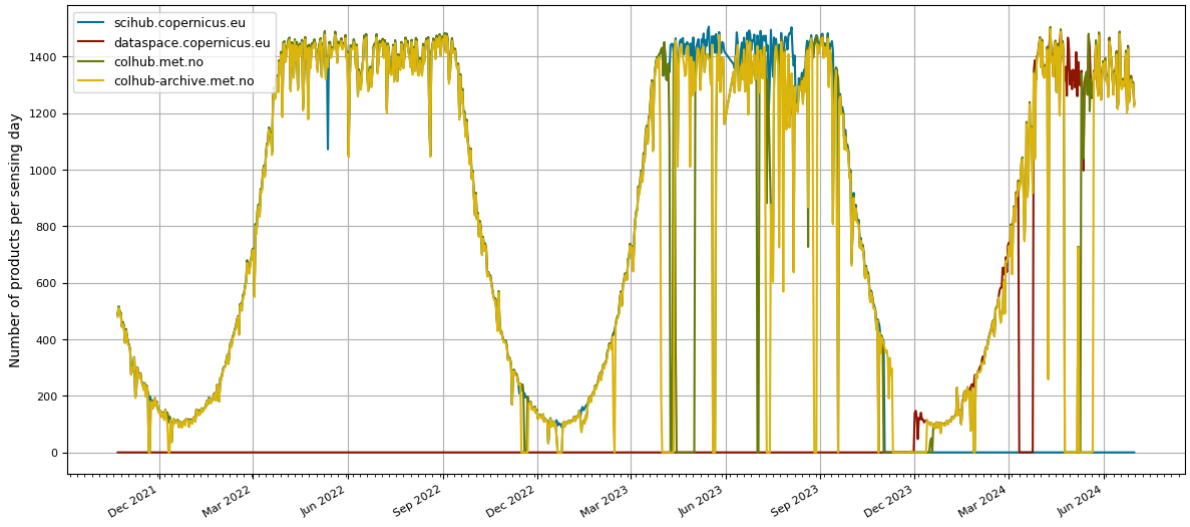
SENTINEL-2 LEVEL-2A PRODUCTS

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.

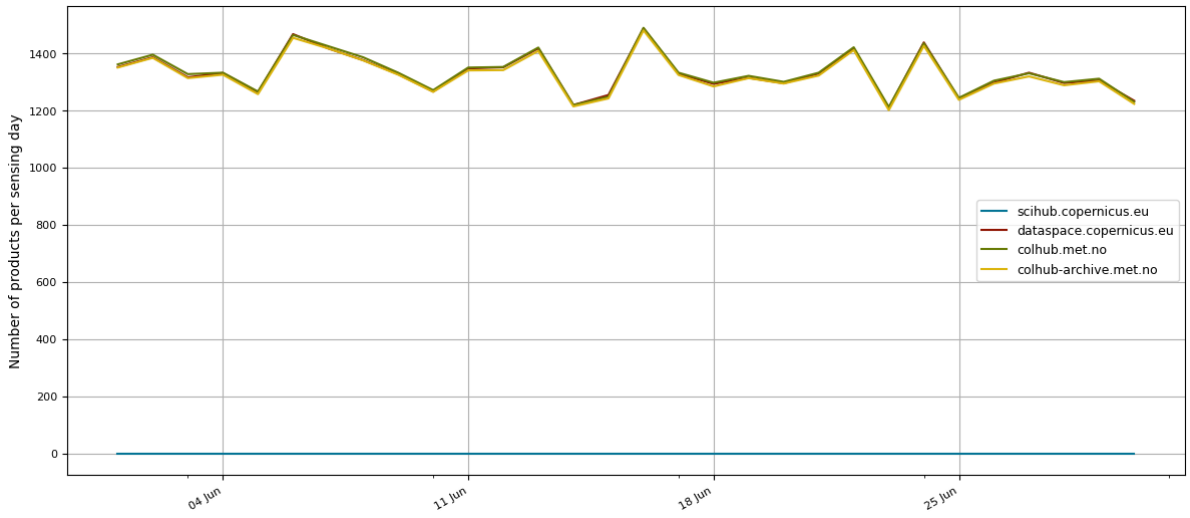
5.1 Products on portals

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
2024-06-01	1361.0	1352.0	1350.0
2024-06-02	1395.0	1386.0	1384.0
2024-06-03	1327.0	1316.0	1313.0
2024-06-04	1332.0	1331.0	1325.0
2024-06-05	1266.0	1264.0	1257.0
2024-06-06	1464.0	1467.0	1454.0
2024-06-07	1425.0	1417.0	1417.0
2024-06-08	1386.0	1376.0	1375.0
2024-06-09	1332.0	1327.0	1325.0
2024-06-10	1271.0	1266.0	1265.0
2024-06-11	1350.0	1347.0	1340.0
2024-06-12	1352.0	1351.0	1341.0
2024-06-13	1420.0	1417.0	1408.0
2024-06-14	1219.0	1219.0	1214.0
2024-06-15	1248.0	1254.0	1242.0
2024-06-16	1489.0	1487.0	1480.0
2024-06-17	1332.0	1328.0	1324.0
2024-06-18	1297.0	1293.0	1284.0
2024-06-19	1321.0	1314.0	1313.0
2024-06-20	1300.0	1295.0	1294.0
2024-06-21	1332.0	1329.0	1322.0
2024-06-22	1421.0	1416.0	1411.0
2024-06-23	1212.0	1209.0	1201.0
2024-06-24	1435.0	1438.0	1426.0
2024-06-25	1244.0	1241.0	1237.0
2024-06-26	1304.0	1297.0	1294.0
2024-06-27	1330.0	1332.0	1319.0
2024-06-28	1299.0	1296.0	1288.0
2024-06-29	1311.0	1305.0	1302.0
2024-06-30	1230.0	1234.0	1223.0

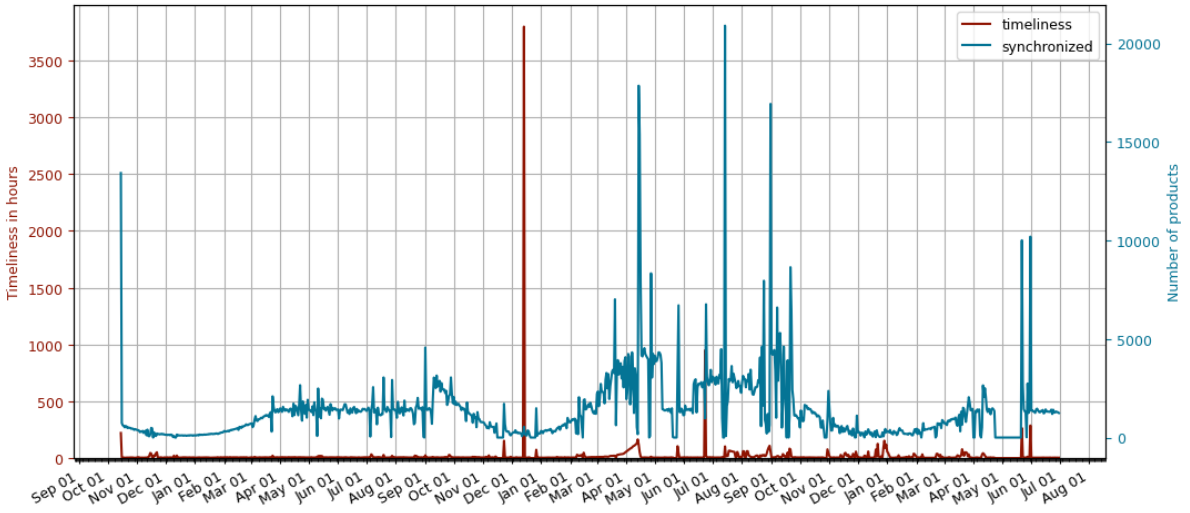
5.2 Missing products

The overall total number of Sentinel-2 Level-2A products is 4337890. The number of overall Sentinel-2 Level-2A missing products consists of 1504164 images. This represents that a 700% of the total was included in MET Norway DHR, while a -600% was not included.

The total number of Sentinel-2 level-2A products in June is 629253. The number of Sentinel-2 level-2A missing products during June consists of 493069 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

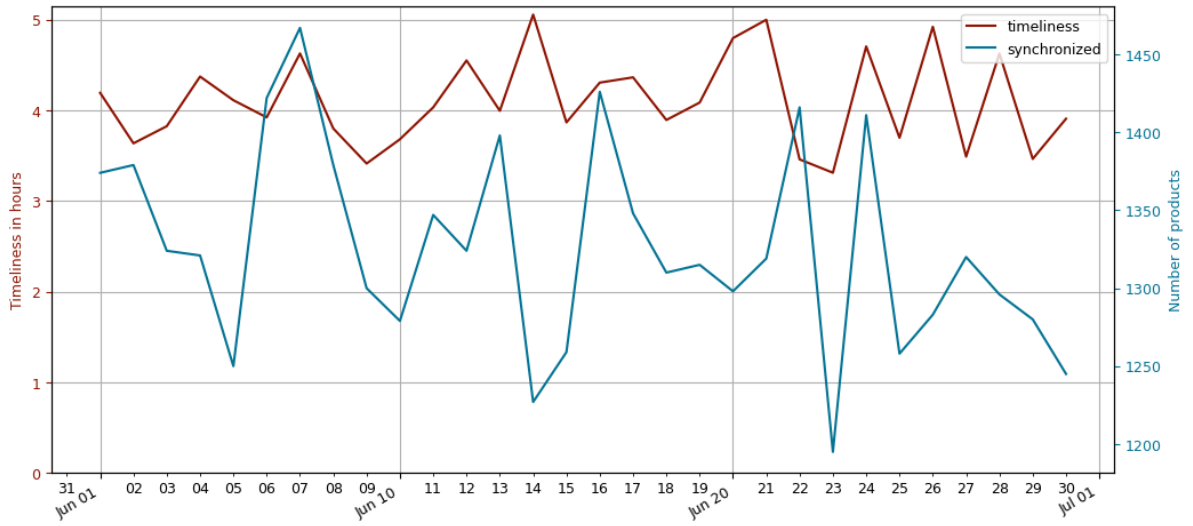
5.3 Data ingestion

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
2024-06-01	751.828423	1374	4.194378
2024-06-02	730.951375	1379	3.637182
2024-06-03	703.240031	1324	3.826123
2024-06-04	708.260957	1321	4.373770
2024-06-05	678.178996	1250	4.112707
2024-06-06	794.607382	1422	3.923551
2024-06-07	835.288848	1467	4.628696
2024-06-08	769.625144	1379	3.800741
2024-06-09	720.340181	1300	3.414381
2024-06-10	694.166485	1279	3.681799
2024-06-11	750.832721	1347	4.033959
2024-06-12	717.300195	1324	4.551399
2024-06-13	783.334471	1398	3.996254
2024-06-14	669.495833	1227	5.057447
2024-06-15	699.839532	1259	3.867628
2024-06-16	790.306340	1426	4.306647
2024-06-17	761.765863	1348	4.364976
2024-06-18	738.774123	1310	3.894654
2024-06-19	735.816630	1315	4.087011
2024-06-20	725.971415	1298	4.797683
2024-06-21	745.353117	1319	5.000396
2024-06-22	808.168950	1416	3.460147
2024-06-23	681.835591	1195	3.312844
2024-06-24	780.398893	1411	4.706095
2024-06-25	707.499509	1258	3.698696
2024-06-26	715.367344	1283	4.922823
2024-06-27	739.189200	1320	3.490652
2024-06-28	751.029146	1296	4.626856
2024-06-29	735.765350	1280	3.465305
2024-06-30	706.999365	1245	3.908629

CHAPTER

SIX

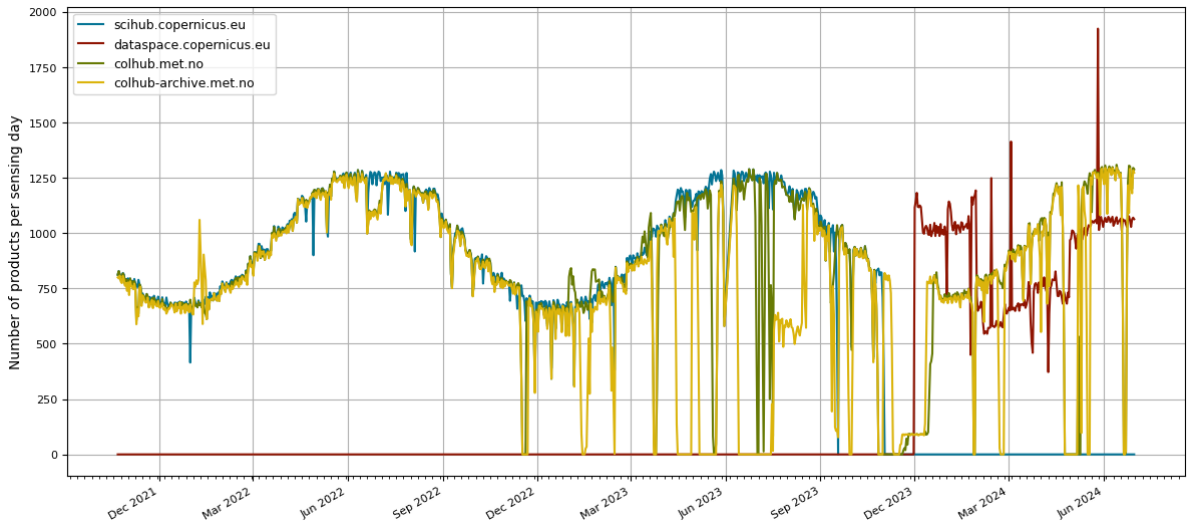
SENTINEL-3 PRODUCTS

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.

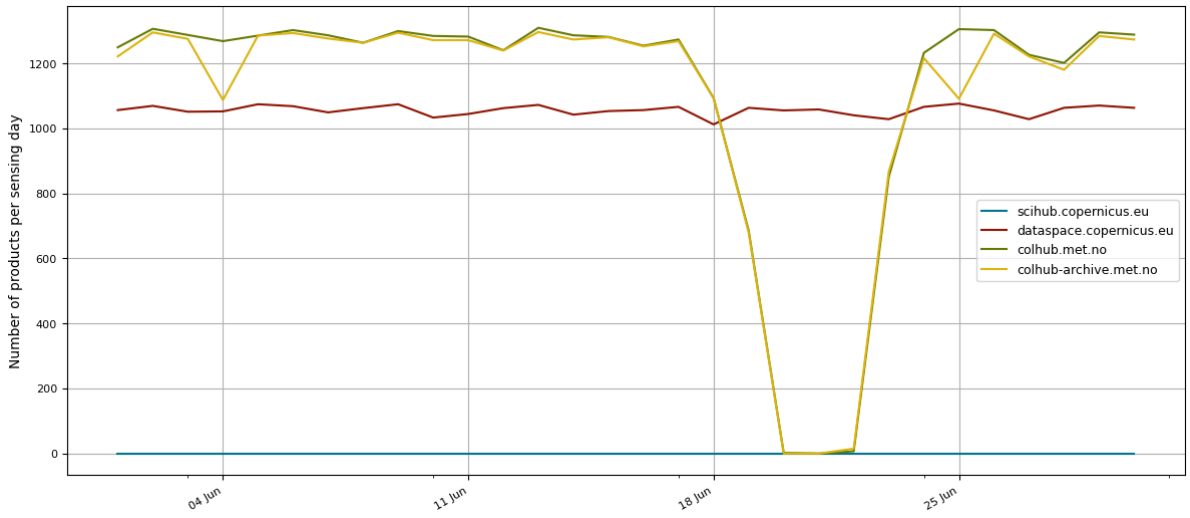
6.1 Products on portals

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
2024-06-01	1249.0	1056.0	1221.0
2024-06-02	1306.0	1069.0	1295.0
2024-06-03	1287.0	1051.0	1275.0
2024-06-04	1268.0	1052.0	1087.0
2024-06-05	1285.0	1074.0	1285.0
2024-06-06	1302.0	1068.0	1293.0
2024-06-07	1286.0	1049.0	1276.0
2024-06-08	1263.0	1062.0	1263.0
2024-06-09	1299.0	1074.0	1294.0
2024-06-10	1284.0	1033.0	1271.0
2024-06-11	1282.0	1044.0	1271.0
2024-06-12	1240.0	1062.0	1239.0
2024-06-13	1309.0	1072.0	1296.0
2024-06-14	1286.0	1042.0	1273.0
2024-06-15	1281.0	1053.0	1280.0
2024-06-16	1254.0	1056.0	1252.0
2024-06-17	1273.0	1066.0	1268.0
2024-06-18	1093.0	1012.0	1093.0
2024-06-19	686.0	1063.0	680.0
2024-06-20	2.0	1055.0	0.0
2024-06-21	0.0	1058.0	0.0
2024-06-22	7.0	1040.0	15.0
2024-06-23	851.0	1028.0	867.0
2024-06-24	1232.0	1066.0	1216.0
2024-06-25	1305.0	1076.0	1091.0
2024-06-26	1302.0	1055.0	1291.0
2024-06-27	1226.0	1028.0	1221.0
2024-06-28	1201.0	1063.0	1180.0
2024-06-29	1295.0	1070.0	1284.0
2024-06-30	1288.0	1063.0	1273.0

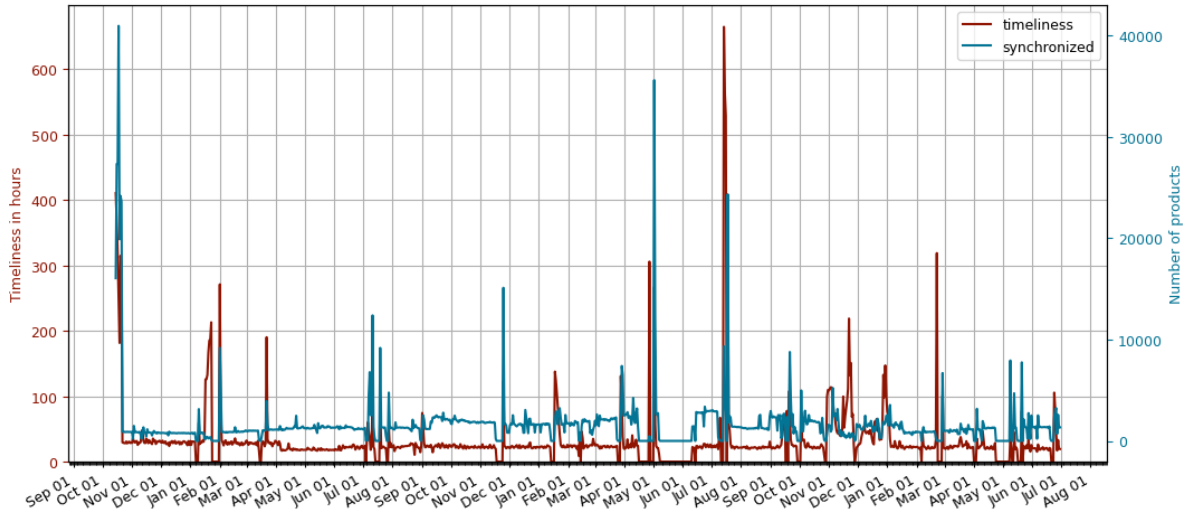
6.2 Missing products

The overall total number of Sentinel-3 products is 4337890. The number of overall Sentinel-3 missing products consists of 1504164 images. This represents that a 700% of the total was included in MET Norway DHR, while a -600% was not included.

The total number of Sentinel-3 products in June is 629253. The number of Sentinel-3 missing products during June consists of 493069 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

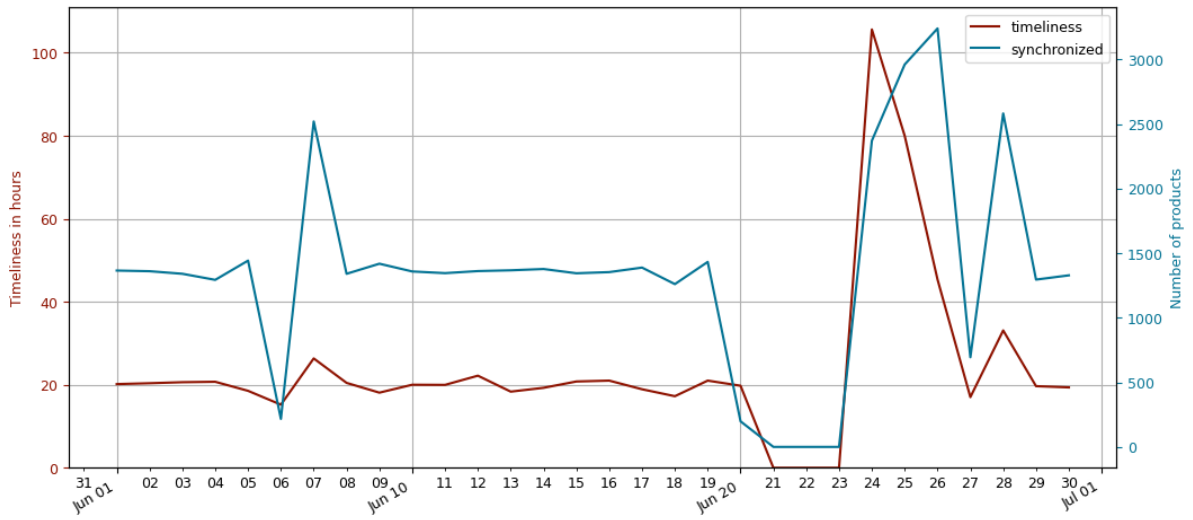
6.3 Data ingestion

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
2024-06-01	456.416364	1365	20.165028
2024-06-02	455.016207	1360	20.376011
2024-06-03	449.066853	1340	20.620741
2024-06-04	425.124316	1293	20.723931
2024-06-05	484.825448	1442	18.543762
2024-06-06	66.149006	217	15.212766
2024-06-07	850.604657	2519	26.348673
2024-06-08	458.055733	1340	20.460334
2024-06-09	475.856444	1418	18.105311
2024-06-10	462.679006	1358	20.009771
2024-06-11	454.742751	1345	19.978488
2024-06-12	466.241353	1361	22.191870
2024-06-13	460.686477	1367	18.350491
2024-06-14	468.078022	1377	19.271292
2024-06-15	454.724147	1344	20.794854
2024-06-16	459.850258	1353	21.002420
2024-06-17	467.812917	1388	18.921717
2024-06-18	438.963235	1260	17.250764
2024-06-19	481.356386	1432	21.004493
2024-06-20	67.649867	198	19.771868
2024-06-21	0.000000	0	0.000000
2024-06-22	0.000000	0	0.000000
2024-06-23	0.000000	0	0.000000
2024-06-24	832.699929	2370	105.575180
2024-06-25	967.684490	2960	79.951609
2024-06-26	1097.929462	3239	45.355165
2024-06-27	222.355496	694	17.029535
2024-06-28	897.890929	2581	33.086661
2024-06-29	445.919705	1295	19.670091
2024-06-30	440.081535	1328	19.370430

CHAPTER

SEVEN

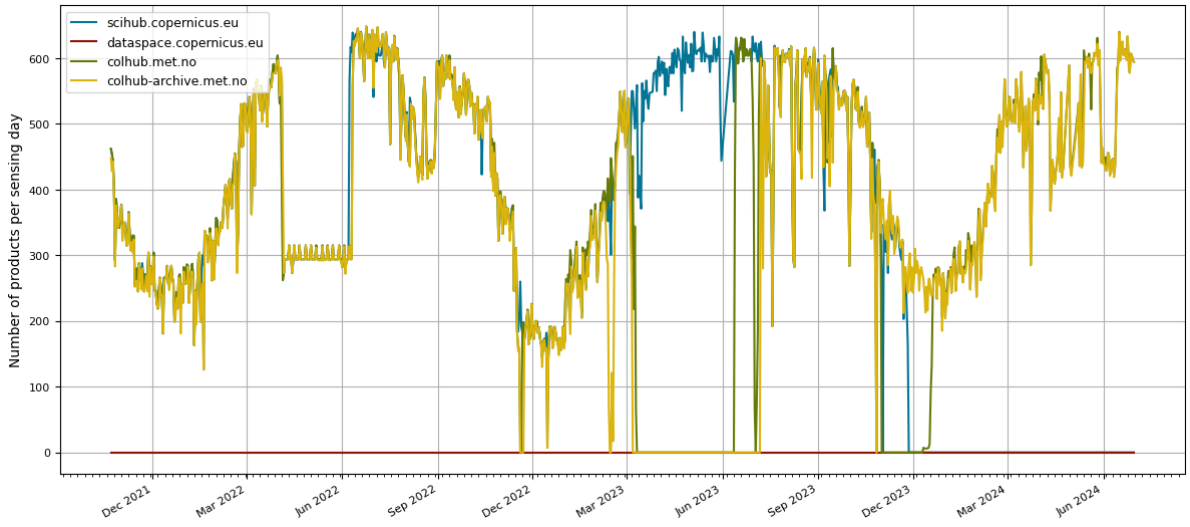
SENTINEL-5P PRODUCTS

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.

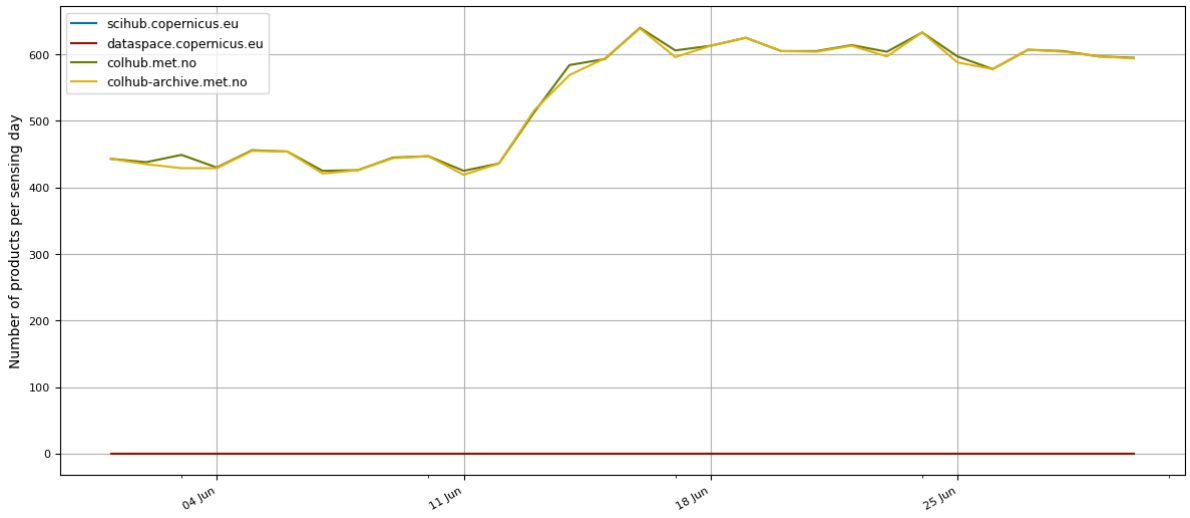
7.1 Products on portals

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
2024-06-01	443.0	0.0	443.0
2024-06-02	438.0	0.0	435.0
2024-06-03	449.0	0.0	429.0
2024-06-04	430.0	0.0	429.0
2024-06-05	456.0	0.0	455.0
2024-06-06	454.0	0.0	454.0
2024-06-07	425.0	0.0	421.0
2024-06-08	426.0	0.0	426.0
2024-06-09	445.0	0.0	444.0
2024-06-10	447.0	0.0	447.0
2024-06-11	425.0	0.0	419.0
2024-06-12	436.0	0.0	436.0
2024-06-13	513.0	0.0	516.0
2024-06-14	584.0	0.0	569.0
2024-06-15	593.0	0.0	594.0
2024-06-16	640.0	0.0	639.0
2024-06-17	606.0	0.0	596.0
2024-06-18	613.0	0.0	613.0
2024-06-19	625.0	0.0	625.0
2024-06-20	605.0	0.0	605.0
2024-06-21	605.0	0.0	604.0
2024-06-22	614.0	0.0	613.0
2024-06-23	604.0	0.0	597.0
2024-06-24	633.0	0.0	633.0
2024-06-25	597.0	0.0	588.0
2024-06-26	578.0	0.0	578.0
2024-06-27	607.0	0.0	607.0
2024-06-28	605.0	0.0	604.0
2024-06-29	597.0	0.0	597.0
2024-06-30	595.0	0.0	594.0

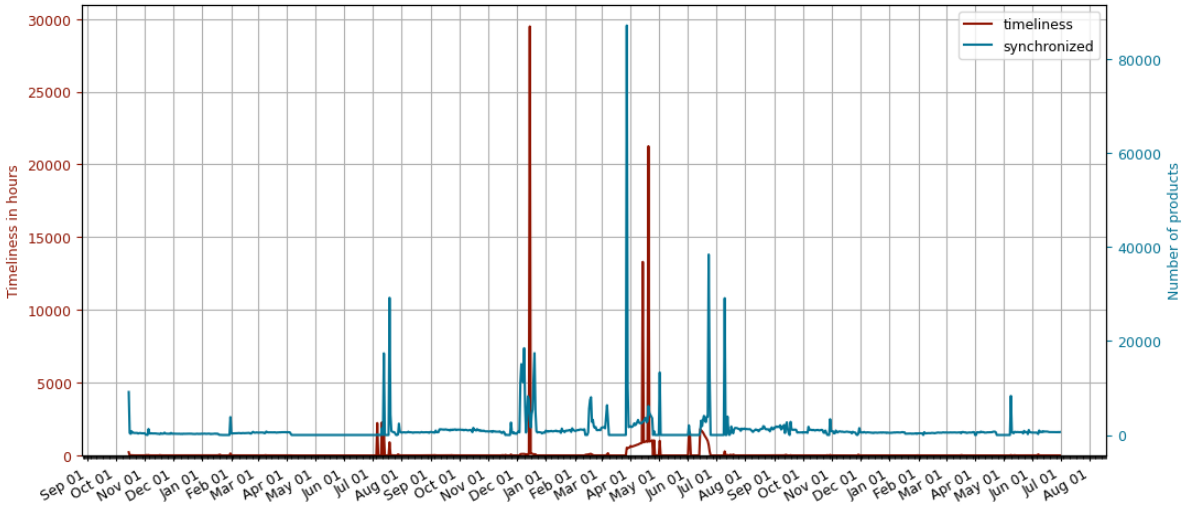
7.2 Missing products

The overall total number of Sentinel-5p products is 4337890. The number of overall Sentinel-5p missing products consists of 1504164 images. This represents that a 700% of the total was included in MET Norway DHR, while a -600% was not included.

The total number of Sentinel-5p products in June is 629253. The number of Sentinel-5p missing products during June consists of 493069 images. This represents that a 0% of the total was included in MET Norway DHR, while a 100% was not included.

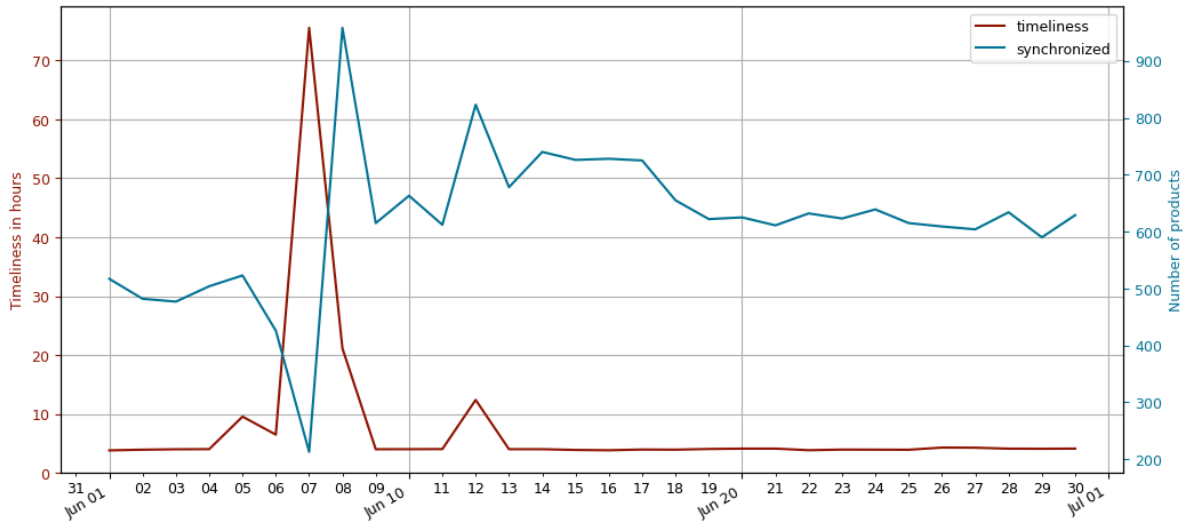
7.3 Data ingestion

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
2024-06-01	341.688066	517	3.852140
2024-06-02	337.323424	482	3.966846
2024-06-03	346.335749	477	4.035032
2024-06-04	305.836742	504	4.063078
2024-06-05	374.016056	523	9.579577
2024-06-06	391.600746	426	6.519840
2024-06-07	347.292059	213	75.535571
2024-06-08	374.071778	958	21.144358
2024-06-09	388.315185	615	4.044303
2024-06-10	417.406847	663	4.054087
2024-06-11	236.967140	612	4.071119
2024-06-12	600.220485	823	12.415015
2024-06-13	408.194557	678	4.054485
2024-06-14	438.594722	740	4.049392
2024-06-15	427.666212	726	3.924425
2024-06-16	403.646404	728	3.871681
2024-06-17	436.678748	725	3.993649
2024-06-18	394.859963	655	3.969201
2024-06-19	388.048253	622	4.088966
2024-06-20	383.178656	625	4.144667
2024-06-21	385.179444	611	4.147472
2024-06-22	383.868792	632	3.879444
2024-06-23	385.174396	623	3.985841
2024-06-24	407.295630	639	3.972076
2024-06-25	409.152278	615	3.956124
2024-06-26	384.165574	609	4.325651
2024-06-27	384.936368	604	4.304829
2024-06-28	389.282397	634	4.142177
2024-06-29	381.896223	590	4.123122
2024-06-30	408.940816	629	4.151191

CHAPTER

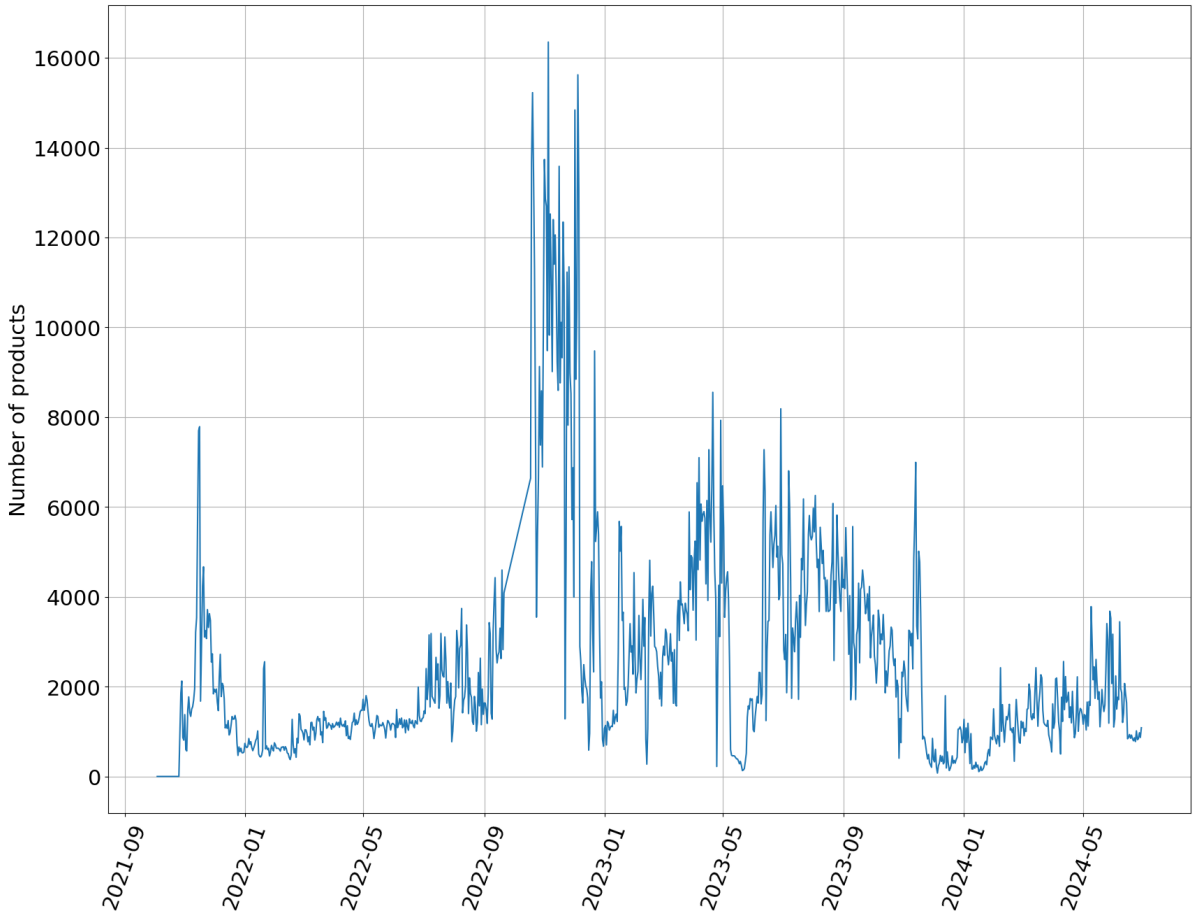
EIGHT

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.

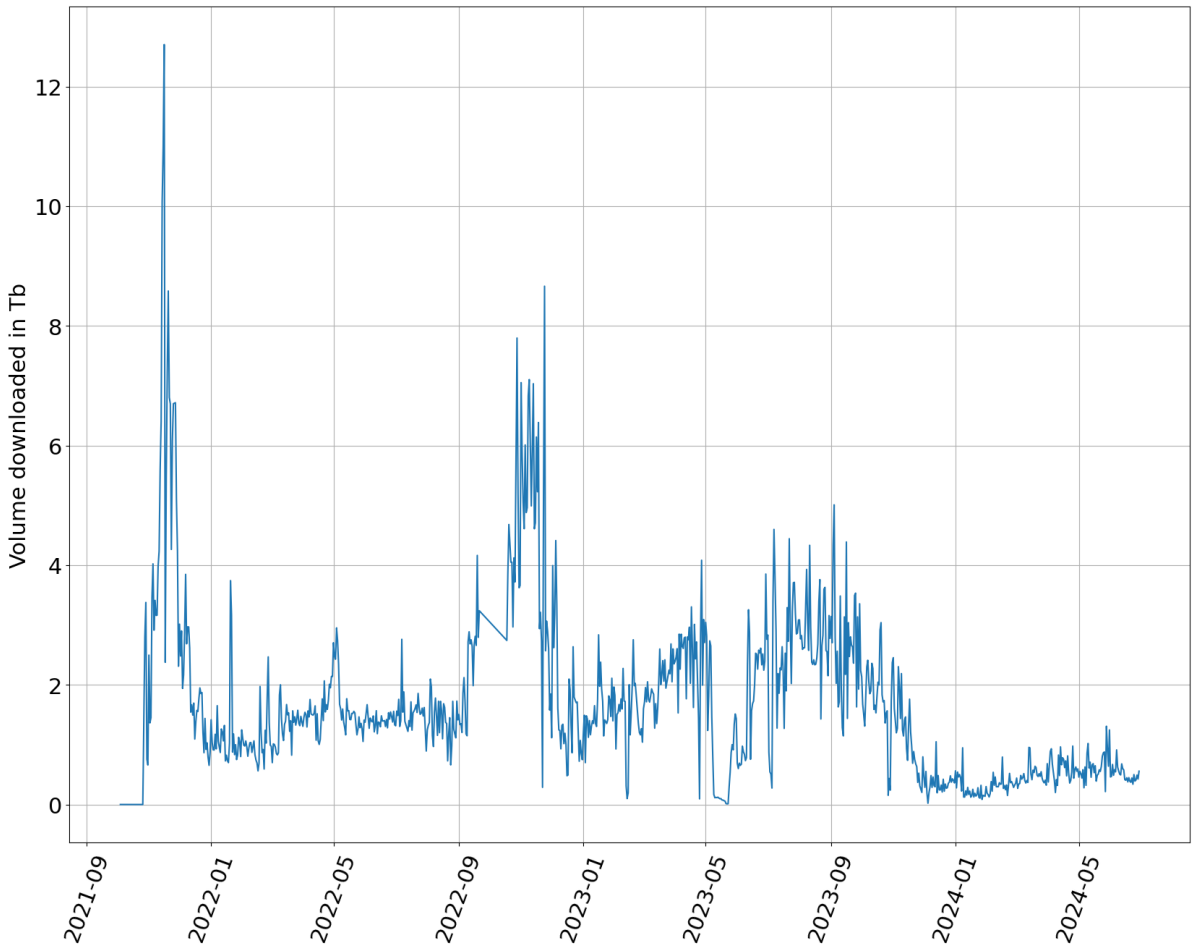
8.1 Portal: colhub.met.no

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.



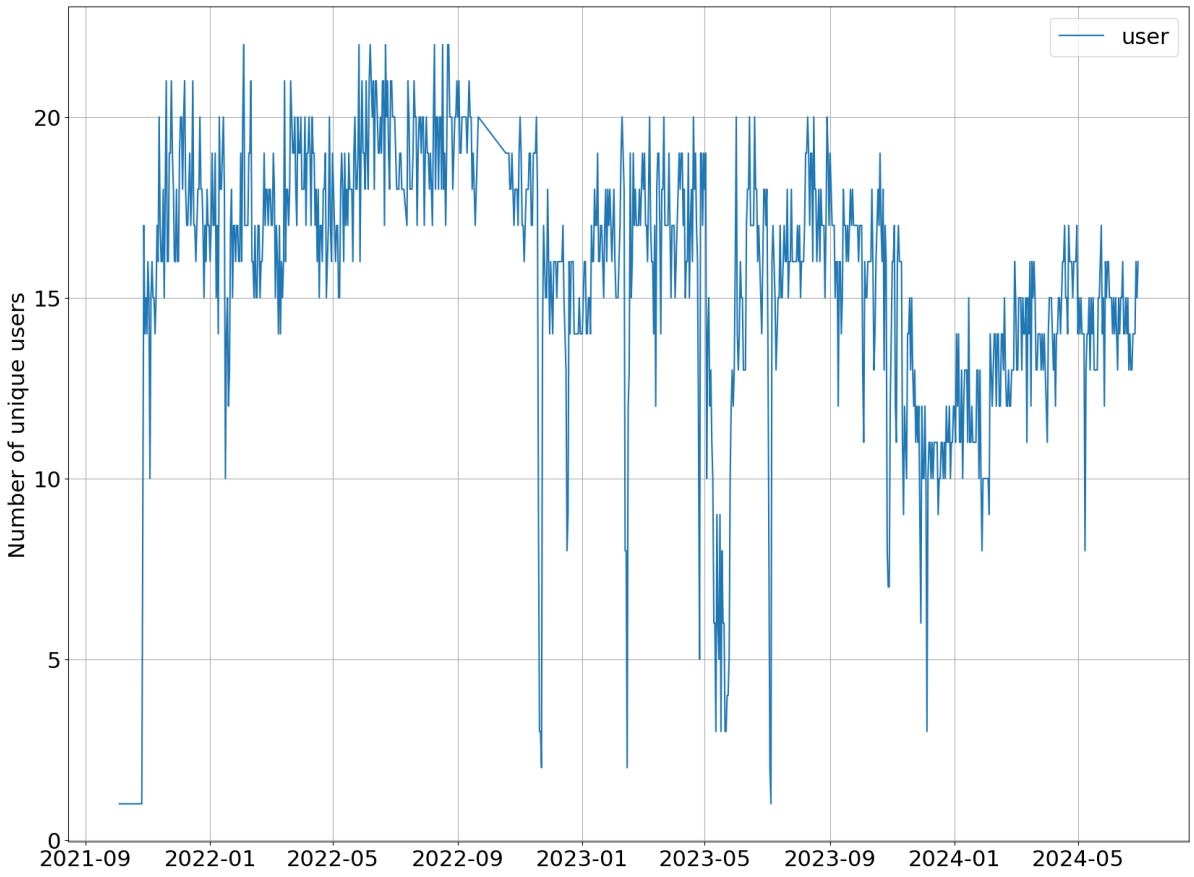
The table below is also interesting. It shows the amount of products downloaded for each the different Sentinel products. As expected, S1 and S2 are the most used Sentinels. S3 is slightly used, while S5p is not used.

```
satellite  product_type
S1         GRDH                244855
           GRDM                111352
           OCN                  97301
           RAW                 196353
           SLC                  62826
S2         MSIL1C              536811
           MSIL1C_DTERRENG       3100
           MSIL2A             1131985
S3         OLCI_L1               8411
           OLCI_L2                490
           SLSTR_L1             11819
           SLSTR_L2                12
           SRAL_L1                 23
           SRAL_L2                 84
           SYN_L2                  40
S5         NRTI_L2               8938
           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.

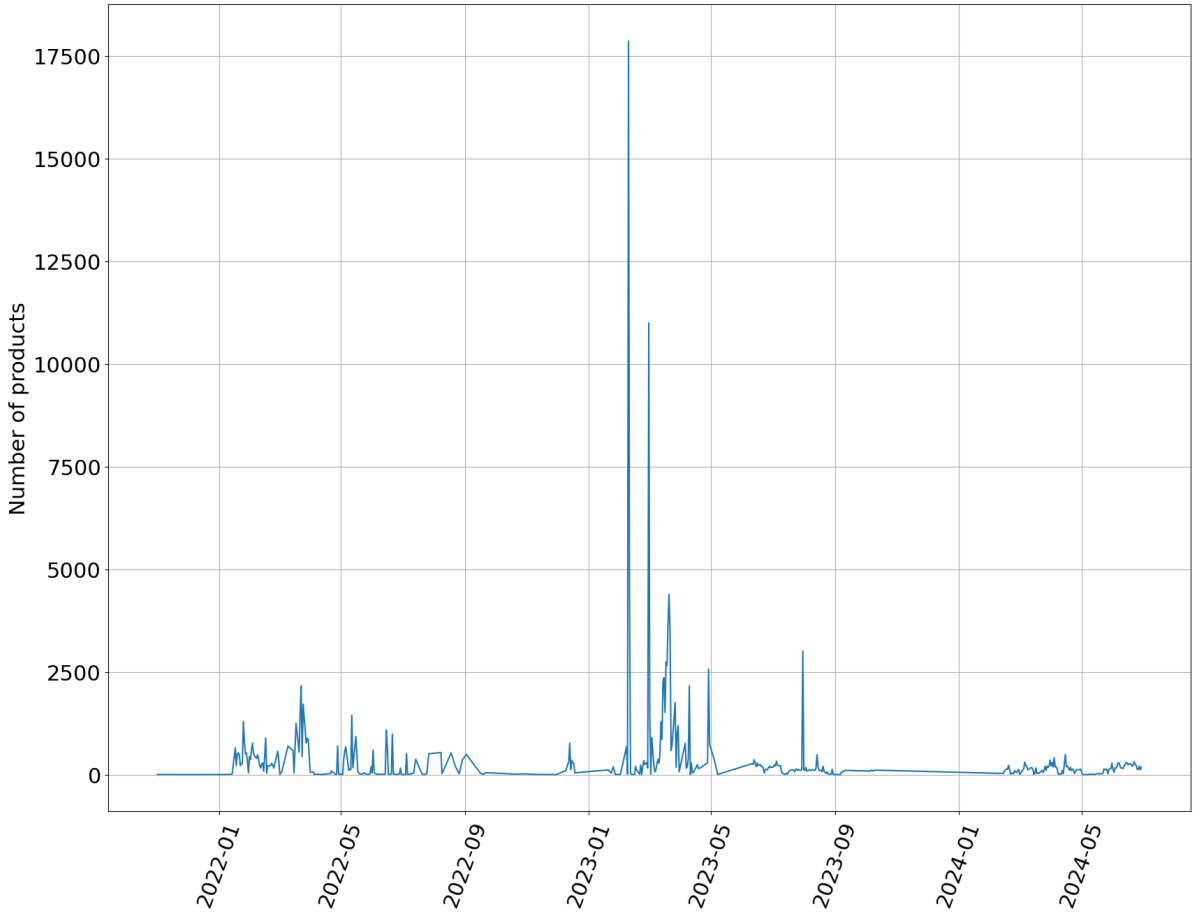
```
download_time  download_time
2021           10                7.588303
               11              158.654049
               12               57.675128
2022           1                36.406545
               2                29.798405
               3                39.869718
               4                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                 9.525797
               3                15.088652
               4                18.111391
               5                19.999434
               6                14.595280
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.



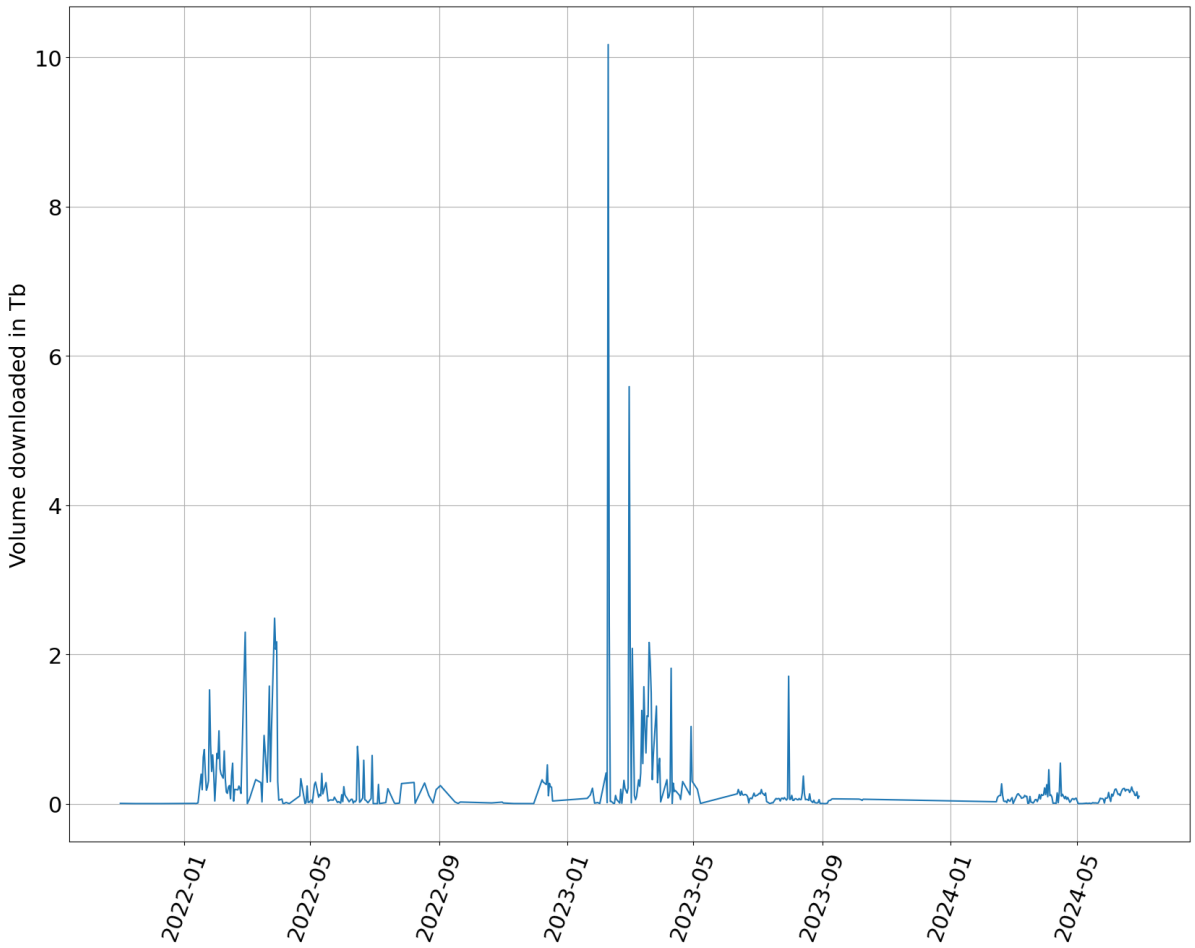
8.2 Portal: colhub-archive.met.no

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                32051
           GRDM                 9501
           OCN                     1
           RAW                   875
           SLC                  3221
S2         MSIL1C              34589
           MSIL1C_DTERRENG     16832
           MSIL2A              55600
S3         OLCI_L1                 2
           SLSTR_L1             1109
           SRAL_L1                 6
           SRAL_L2               160
S5         OFFL_L2                 2
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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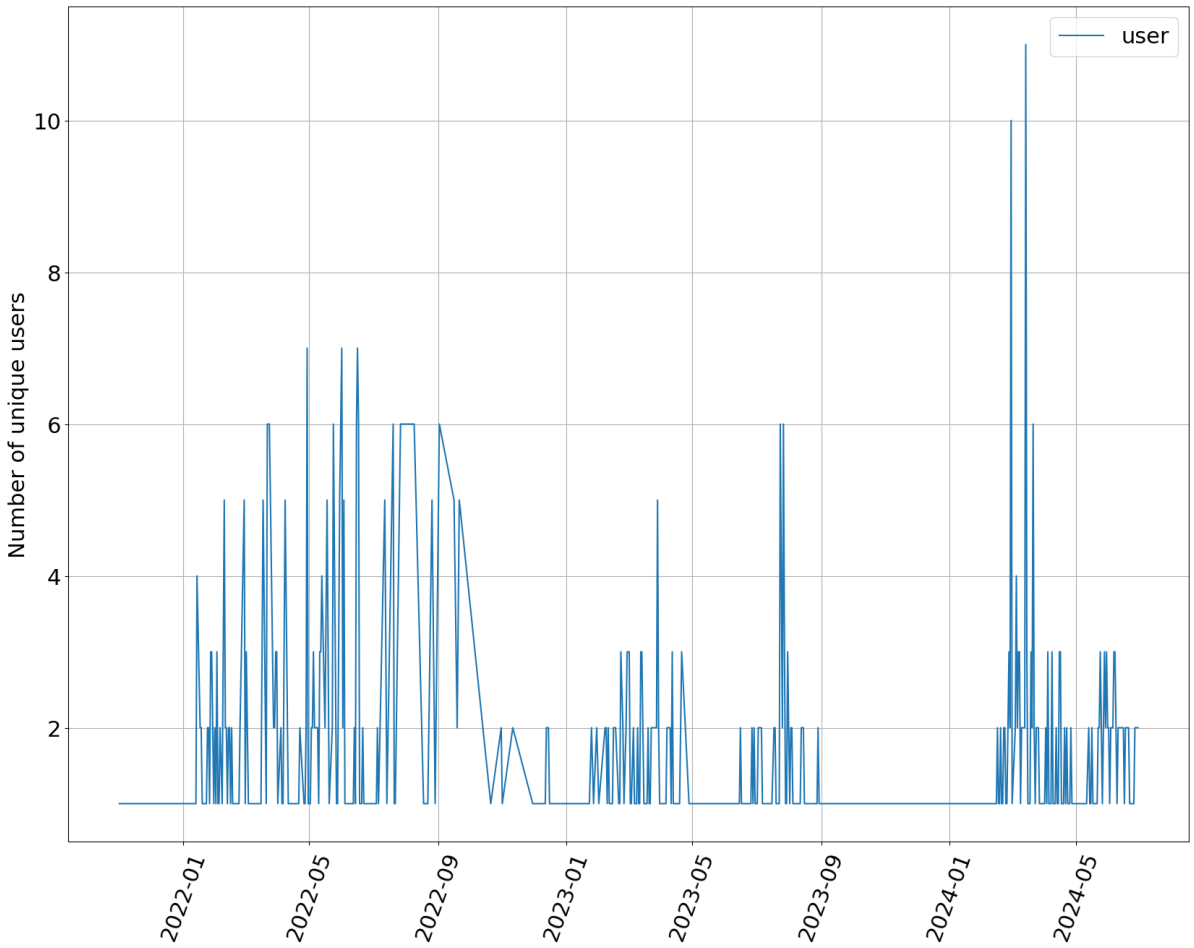
```
2022           April             0.858194
               August            0.874257
               December          2.247264
               February          9.514969
               January           7.210722
               July              0.771705
               June              3.787335
               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           April             3.181320
               February          1.177107
               June              4.294107
               March             2.230899
               May               0.761791
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
10
8
6
4
2
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05

CHAPTER

NINE

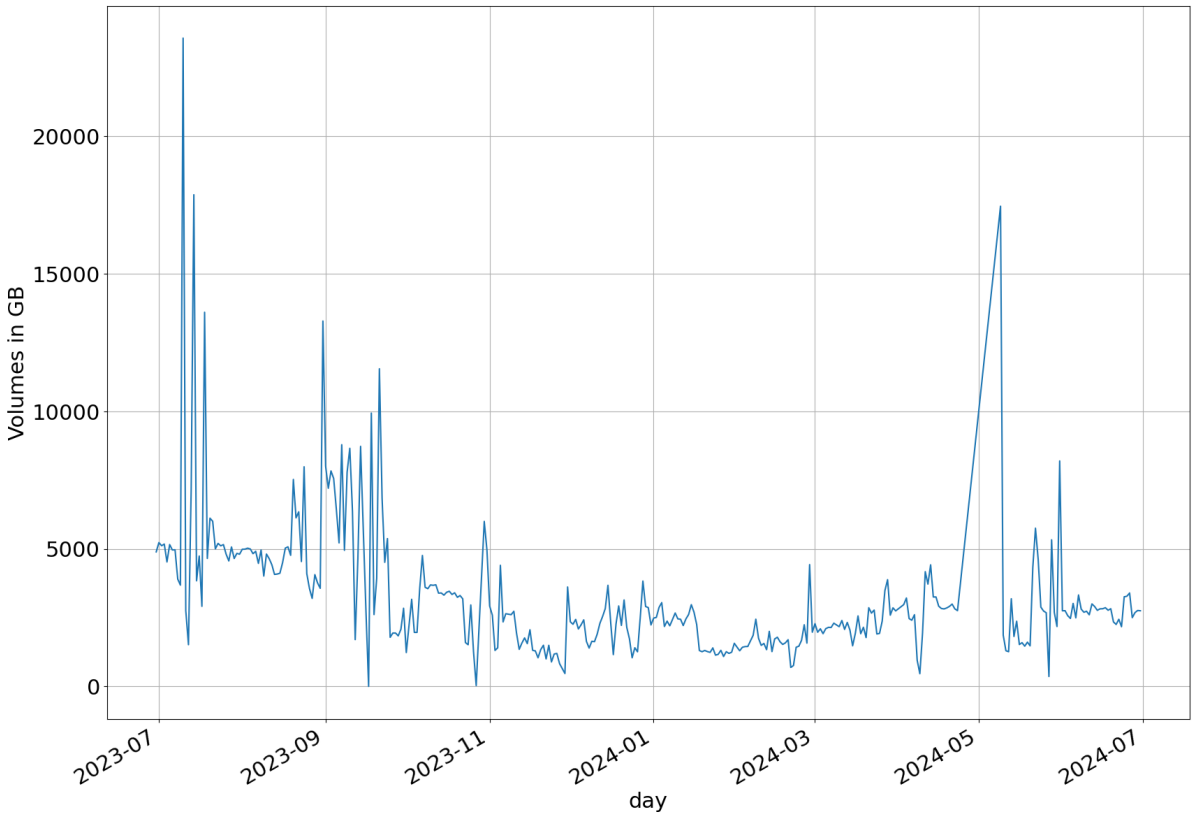
DATA VOLUMES FOR NBS

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.

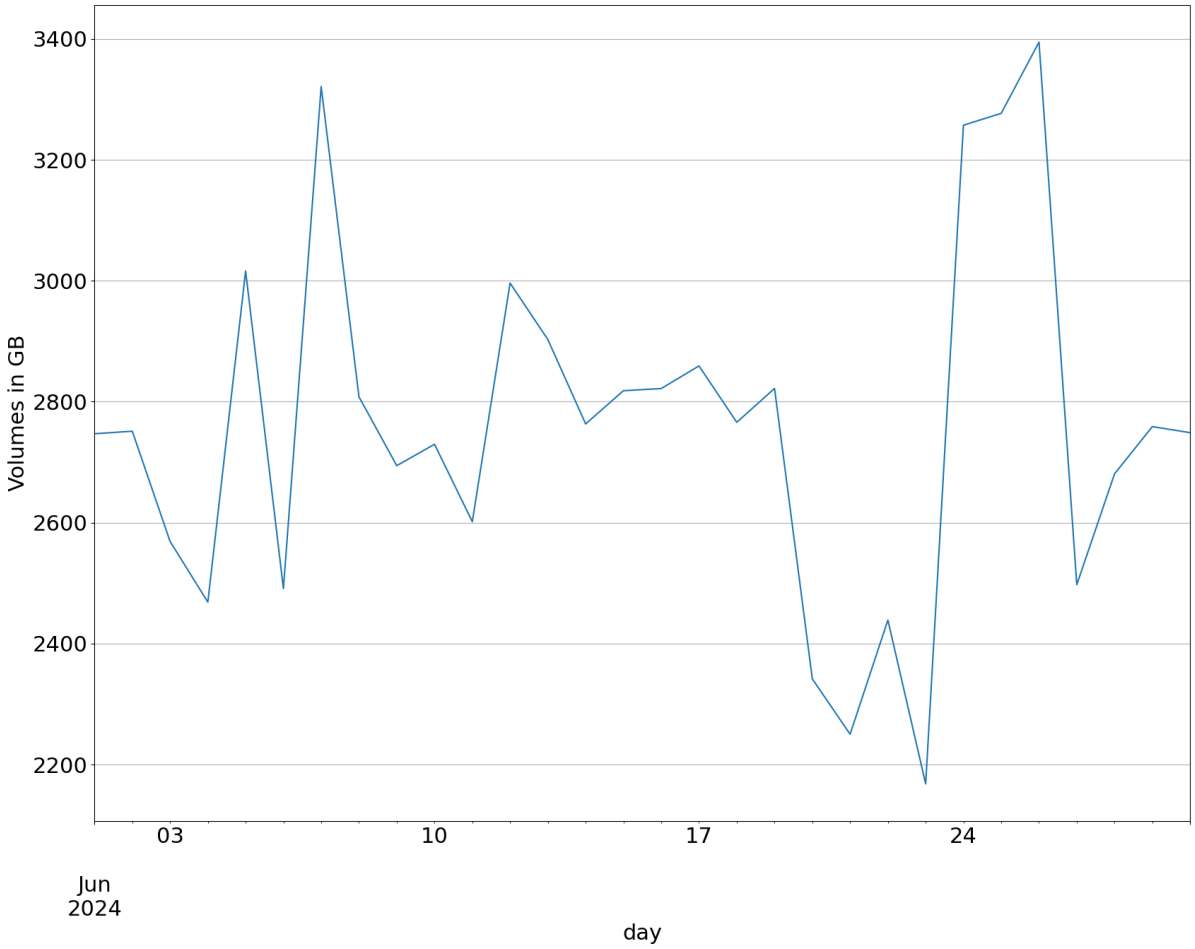
9.1 Volumes for AOI backends

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 4776 TB



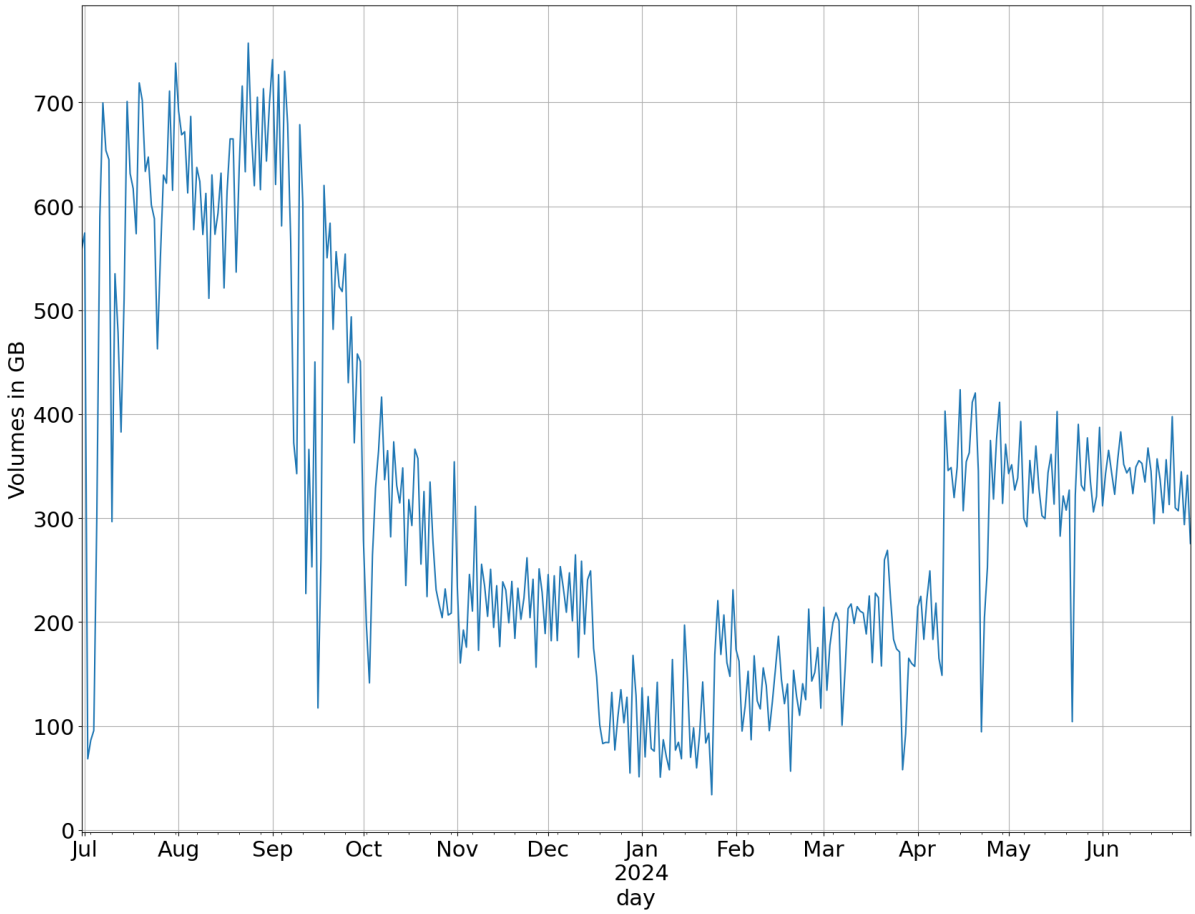
In the graphic above the volume of data per day in GB is shown for the last year. Here we can observed seasonality due to optical sensor products. The table below shows the same information for the last month.



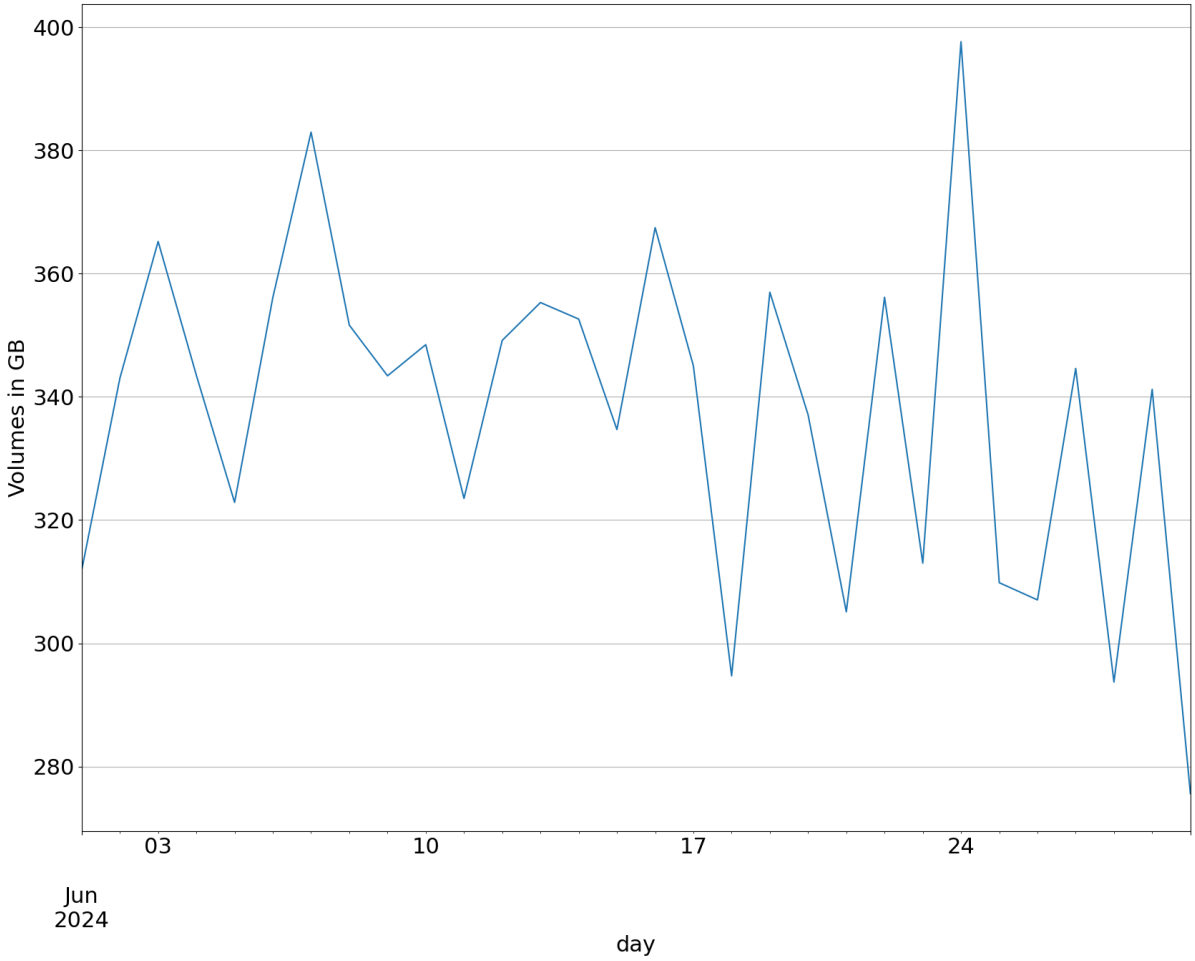
9.2 Volume for netcdf products

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

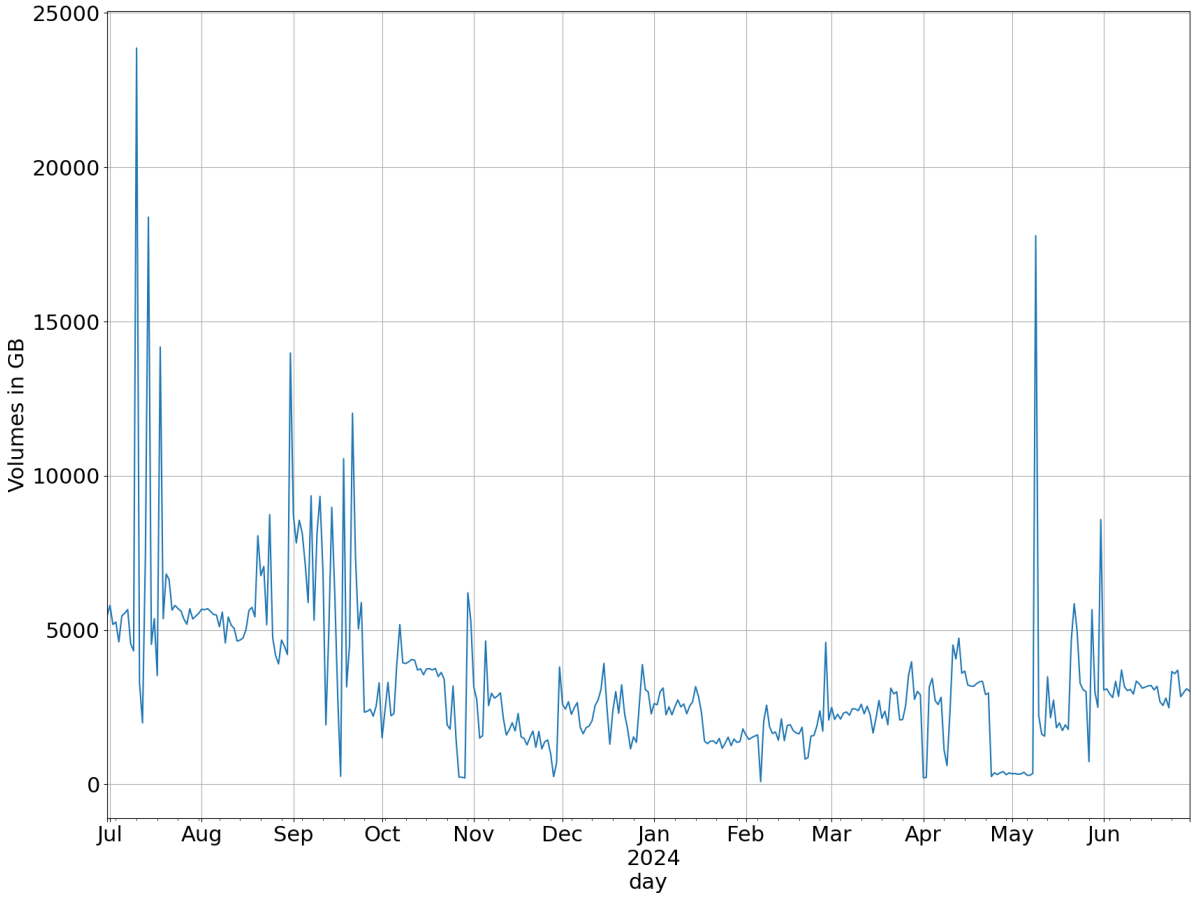


In the graphic above the volume of NetCDF-CF data per day in GB is shown for the last year. Here we can observed seasonality due to optical sensor products. The table below shows the same information for the last 30 days.



9.3 Totals

Finally, the total amount of disk space dedicated to the NBS project, including either products in SAFE and NetCDF formats, represents 5694 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
2024-06-01	GRDH	fscanner	66.199185	22.0	0.646563
2024-06-01	GRDH	synchronized	82.893847	50.0	3.900058
2024-06-01	GRDM	fscanner	3.470449	32.0	0.764118
2024-06-01	GRDM	synchronized	5.110899	13.0	4.008424
2024-06-01	OCN	synchronized	0.942571	49.0	4.280370
2024-06-01	RAW	synchronized	90.515336	64.0	3.792674
2024-06-01	SLC	synchronized	394.123921	52.0	4.380262
2024-06-02	GRDH	fscanner	53.777287	18.0	0.922276
2024-06-02	GRDH	synchronized	86.297627	53.0	4.006469
2024-06-02	GRDM	fscanner	2.726317	25.0	0.714699
2024-06-02	GRDM	synchronized	5.950297	15.0	6.522792
2024-06-02	OCN	synchronized	0.971935	48.0	4.668558
2024-06-02	RAW	synchronized	95.937826	68.0	4.643114
2024-06-02	SLC	synchronized	413.540136	56.0	4.777525
2024-06-03	GRDH	fscanner	68.396421	22.0	0.837601
2024-06-03	GRDH	synchronized	65.571965	40.0	11.208645
2024-06-03	GRDM	fscanner	3.800618	35.0	0.780124
2024-06-03	GRDM	synchronized	3.470278	9.0	10.462162
2024-06-03	OCN	synchronized	0.594791	30.0	11.226669
2024-06-03	RAW	synchronized	73.473613	52.0	10.611357
2024-06-03	SLC	synchronized	304.251169	40.0	11.510113

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2024-06-04	GRDH	fscanner	50.431329	19.0	0.602879
2024-06-04	GRDH	synchronized	62.372720	37.0	10.151888
2024-06-04	GRDM	fscanner	6.612233	34.0	0.615584
2024-06-04	GRDM	synchronized	4.978560	13.0	10.034305
2024-06-04	OCN	synchronized	0.862643	44.0	10.164601
2024-06-04	RAW	synchronized	66.438239	48.0	9.899042
2024-06-04	SLC	synchronized	294.693121	39.0	13.995240
2024-06-05	GRDH	fscanner	67.079979	25.0	0.671427
2024-06-05	GRDH	synchronized	124.234968	75.0	8.137589
2024-06-05	GRDM	fscanner	5.954816	40.0	0.717919
2024-06-05	GRDM	synchronized	10.252194	27.0	8.344327
2024-06-05	OCN	synchronized	1.572896	79.0	8.443730
2024-06-05	RAW	synchronized	140.398173	101.0	8.135840
2024-06-05	SLC	synchronized	602.057662	80.0	8.275890
2024-06-06	GRDH	fscanner	73.991341	27.0	0.785749
2024-06-06	GRDH	synchronized	78.417144	47.0	1.086757
2024-06-06	GRDM	fscanner	6.665914	38.0	0.764385
2024-06-06	GRDM	synchronized	4.980309	15.0	0.555944
2024-06-06	OCN	synchronized	0.989169	55.0	1.143683
2024-06-06	RAW	synchronized	83.798248	62.0	0.888558
2024-06-06	SLC	synchronized	374.591476	49.0	1.563994
2024-06-07	GRDH	fscanner	65.471390	25.0	0.700810
2024-06-07	GRDH	synchronized	85.317875	51.0	1.071858
2024-06-07	GRDM	fscanner	5.577640	40.0	0.598014
2024-06-07	GRDM	synchronized	5.489184	16.0	0.846325
2024-06-07	OCN	synchronized	0.927478	48.0	1.102098
2024-06-07	RAW	synchronized	92.786220	67.0	0.921052
2024-06-07	SLC	synchronized	393.534985	52.0	1.459735
2024-06-08	GRDH	fscanner	69.077537	23.0	0.710907
2024-06-08	GRDH	synchronized	73.494334	45.0	1.068970
2024-06-08	GRDM	fscanner	6.402630	38.0	0.656765
2024-06-08	GRDM	synchronized	5.328894	14.0	0.611958
2024-06-08	OCN	synchronized	0.868632	45.0	1.124231
2024-06-08	RAW	synchronized	81.297744	59.0	0.876971
2024-06-08	SLC	synchronized	366.465604	49.0	1.405339
2024-06-09	GRDH	fscanner	48.283192	18.0	0.810881
2024-06-09	GRDH	synchronized	65.585516	39.0	1.188694
2024-06-09	GRDM	fscanner	6.274018	34.0	0.609998
2024-06-09	GRDM	synchronized	8.164225	22.0	0.623366
2024-06-09	OCN	synchronized	1.134042	52.0	0.971881
2024-06-09	RAW	synchronized	80.660322	61.0	0.818643
2024-06-09	SLC	synchronized	328.563657	43.0	1.551974
2024-06-10	GRDH	fscanner	68.147857	22.0	0.620618
2024-06-10	GRDH	synchronized	78.328173	48.0	1.036654
2024-06-10	GRDM	fscanner	3.689550	34.0	0.792575
2024-06-10	GRDM	synchronized	4.240220	11.0	0.840988
2024-06-10	OCN	synchronized	0.797853	44.0	1.042870
2024-06-10	RAW	synchronized	83.684002	59.0	0.785777
2024-06-10	SLC	synchronized	377.632198	51.0	1.417712
2024-06-11	GRDH	fscanner	51.415623	19.0	0.674471
2024-06-11	GRDH	synchronized	73.949730	45.0	1.164782
2024-06-11	GRDM	fscanner	4.083640	29.0	0.662963
2024-06-11	GRDM	synchronized	6.250231	16.0	1.222295
2024-06-11	OCN	synchronized	1.071207	54.0	1.217173
2024-06-11	RAW	synchronized	82.378766	60.0	0.978508
2024-06-11	SLC	synchronized	353.488147	47.0	1.536093

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2024-06-12	GRDH	fscanner	69.202269	27.0	0.682118
2024-06-12	GRDH	synchronized	81.400290	49.0	1.028596
2024-06-12	GRDM	fscanner	6.980724	47.0	0.674257
2024-06-12	GRDM	synchronized	6.268537	17.0	0.969086
2024-06-12	OCN	synchronized	0.995803	49.0	1.064307
2024-06-12	RAW	synchronized	93.517309	68.0	0.809023
2024-06-12	SLC	synchronized	391.702313	52.0	1.468379
2024-06-13	GRDH	fscanner	68.410585	23.0	0.711671
2024-06-13	GRDH	synchronized	82.720098	50.0	1.075002
2024-06-13	GRDM	fscanner	3.470388	32.0	0.676838
2024-06-13	GRDM	synchronized	5.110615	13.0	2.191396
2024-06-13	OCN	synchronized	0.940289	49.0	1.308956
2024-06-13	RAW	synchronized	90.559411	64.0	0.927231
2024-06-13	SLC	synchronized	385.875154	51.0	1.541049
2024-06-14	GRDH	fscanner	53.380648	18.0	0.921476
2024-06-14	GRDH	synchronized	86.298507	53.0	1.141900
2024-06-14	GRDM	fscanner	2.729565	25.0	0.714377
2024-06-14	GRDM	synchronized	5.950248	15.0	2.419295
2024-06-14	OCN	synchronized	0.971265	48.0	1.380649
2024-06-14	RAW	synchronized	95.817189	68.0	0.952951
2024-06-14	SLC	synchronized	413.538941	56.0	1.564632
2024-06-15	GRDH	fscanner	72.536923	23.0	0.891621
2024-06-15	GRDH	synchronized	92.735632	56.0	1.257075
2024-06-15	GRDM	fscanner	4.115595	38.0	0.775855
2024-06-15	GRDM	synchronized	3.237002	9.0	1.596826
2024-06-15	OCN	synchronized	0.806798	48.0	1.476652
2024-06-15	RAW	synchronized	93.348252	65.0	0.940435
2024-06-15	SLC	synchronized	422.853182	56.0	1.569334
2024-06-16	GRDH	fscanner	43.352410	18.0	0.605320
2024-06-16	GRDH	synchronized	65.272593	39.0	1.025320
2024-06-16	GRDM	fscanner	6.713253	35.0	0.607857
2024-06-16	GRDM	synchronized	9.449642	24.0	0.694157
2024-06-16	OCN	synchronized	1.271436	56.0	1.073120
2024-06-16	RAW	synchronized	83.920219	63.0	0.833168
2024-06-16	SLC	synchronized	329.822644	43.0	1.518992
2024-06-17	GRDH	fscanner	62.608856	23.0	0.653923
2024-06-17	GRDH	synchronized	77.865316	47.0	0.988423
2024-06-17	GRDM	fscanner	5.952639	40.0	0.690920
2024-06-17	GRDM	synchronized	5.586424	15.0	0.605619
2024-06-17	OCN	synchronized	0.925879	47.0	1.498688
2024-06-17	RAW	synchronized	86.447148	62.0	0.837256
2024-06-17	SLC	synchronized	375.144748	50.0	1.548343
2024-06-18	GRDH	fscanner	72.512125	27.0	0.784116
2024-06-18	GRDH	synchronized	78.417125	47.0	1.126548
2024-06-18	GRDM	fscanner	6.667800	38.0	0.784239
2024-06-18	GRDM	synchronized	4.980216	15.0	0.543970
2024-06-18	OCN	synchronized	0.987395	55.0	1.164538
2024-06-18	RAW	synchronized	84.063874	62.0	0.914925
2024-06-18	SLC	synchronized	374.591011	49.0	1.604381
2024-06-19	GRDH	fscanner	64.594981	24.0	0.683730
2024-06-19	GRDH	synchronized	83.084727	50.0	1.181454
2024-06-19	GRDM	fscanner	5.696810	41.0	0.594349
2024-06-19	GRDM	synchronized	5.169176	16.0	0.825857
2024-06-19	OCN	synchronized	0.880928	47.0	1.030332
2024-06-19	RAW	synchronized	92.450171	67.0	0.862288
2024-06-19	SLC	synchronized	390.573142	52.0	1.624930

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2024-06-20	GRDH	fscanner	70.810057	25.0	0.744925
2024-06-20	GRDH	synchronized	73.315459	45.0	1.147166
2024-06-20	GRDM	fscanner	6.389798	38.0	0.656774
2024-06-20	GRDM	synchronized	5.328627	14.0	0.636107
2024-06-20	OCN	synchronized	0.865099	45.0	1.060886
2024-06-20	RAW	synchronized	81.882219	59.0	0.967447
2024-06-20	SLC	synchronized	358.622626	48.0	1.598646
2024-06-21	GRDH	fscanner	45.934300	17.0	0.799832
2024-06-21	GRDH	synchronized	65.414058	39.0	0.982006
2024-06-21	GRDM	fscanner	6.282435	34.0	0.609719
2024-06-21	GRDM	synchronized	8.163864	22.0	0.673737
2024-06-21	OCN	synchronized	1.130641	52.0	0.996532
2024-06-21	RAW	synchronized	80.795047	61.0	0.834099
2024-06-21	SLC	synchronized	327.262892	43.0	1.401981
2024-06-22	GRDH	fscanner	70.764920	24.0	0.808642
2024-06-22	GRDH	synchronized	78.328121	48.0	1.005997
2024-06-22	GRDM	fscanner	3.687977	34.0	0.792336
2024-06-22	GRDM	synchronized	4.240201	11.0	0.925734
2024-06-22	OCN	synchronized	0.795347	44.0	1.166219
2024-06-22	RAW	synchronized	83.864510	59.0	0.851994
2024-06-22	SLC	synchronized	377.630765	51.0	1.384685
2024-06-23	GRDH	fscanner	49.638634	22.0	0.739857
2024-06-23	GRDH	synchronized	73.872637	45.0	1.404079
2024-06-23	GRDM	fscanner	3.545618	27.0	0.661906
2024-06-23	GRDM	synchronized	6.247630	16.0	1.109821
2024-06-23	OCN	synchronized	1.067126	54.0	1.175407
2024-06-23	RAW	synchronized	82.821388	60.0	0.919343
2024-06-23	SLC	synchronized	352.928593	47.0	1.715118
2024-06-24	GRDH	fscanner	61.644258	23.0	0.610963
2024-06-24	GRDH	synchronized	82.857727	50.0	1.084169
2024-06-24	GRDM	fscanner	6.774918	45.0	0.674293
2024-06-24	GRDM	synchronized	2.901858	8.0	0.556656
2024-06-24	OCN	synchronized	0.705464	41.0	1.033422
2024-06-24	RAW	synchronized	85.085535	59.0	0.879684
2024-06-24	SLC	synchronized	385.496439	51.0	1.408612
2024-06-25	GRDH	fscanner	71.593454	25.0	0.667691
2024-06-25	GRDH	synchronized	82.711067	50.0	1.128004
2024-06-25	GRDM	fscanner	3.470068	32.0	0.649242
2024-06-25	GRDM	synchronized	5.110446	13.0	1.908412
2024-06-25	OCN	synchronized	0.938586	49.0	1.218670
2024-06-25	RAW	synchronized	90.513229	64.0	0.966079
2024-06-25	SLC	synchronized	385.843847	51.0	1.424775
2024-06-26	GRDH	fscanner	44.428454	15.0	0.818121
2024-06-26	GRDH	synchronized	86.208350	53.0	1.249132
2024-06-26	GRDM	fscanner	0.657361	6.0	0.724708
2024-06-26	GRDM	synchronized	5.901252	16.0	2.202934
2024-06-26	OCN	synchronized	0.956329	48.0	1.313481
2024-06-26	RAW	synchronized	95.811852	69.0	1.091549
2024-06-26	SLC	synchronized	412.773345	56.0	1.524357
2024-06-27	GRDH	fscanner	62.244562	20.0	0.930203
2024-06-27	GRDH	synchronized	74.431229	45.0	1.214540
2024-06-27	GRDM	fscanner	3.216514	30.0	0.838446
2024-06-27	GRDM	synchronized	3.469882	9.0	1.404916
2024-06-27	OCN	synchronized	0.695555	38.0	1.387046
2024-06-27	RAW	synchronized	78.115115	55.0	0.981473
2024-06-27	SLC	synchronized	346.243886	46.0	1.704094

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2024-06-28	GRDH	fscanner	8.263883	5.0	0.473611
2024-06-28	GRDH	synchronized	8.205624	5.0	0.914829
2024-06-28	GRDM	fscanner	2.606457	12.0	0.498072
2024-06-28	GRDM	synchronized	2.090207	5.0	0.707073
2024-06-28	OCN	synchronized	0.256116	10.0	0.853984
2024-06-28	RAW	synchronized	13.136656	10.0	0.690013
2024-06-28	SLC	synchronized	37.351742	5.0	1.255442
2024-06-29	GRDH	fscanner	69.722556	28.0	0.637747
2024-06-29	GRDH	synchronized	75.924762	46.0	1.094921
2024-06-29	GRDM	fscanner	5.998567	41.0	0.633973
2024-06-29	GRDM	synchronized	5.586734	15.0	0.620277
2024-06-29	OCN	synchronized	0.926769	47.0	1.225902
2024-06-29	RAW	synchronized	86.466191	62.0	0.843509
2024-06-29	SLC	synchronized	375.850128	50.0	1.420917
2024-06-30	GRDH	fscanner	72.951503	27.0	0.784527
2024-06-30	GRDH	synchronized	87.216797	49.0	1.416176
2024-06-30	GRDM	fscanner	6.680903	38.0	0.778144
2024-06-30	GRDM	synchronized	4.980419	15.0	0.656260
2024-06-30	OCN	synchronized	0.987459	55.0	1.155144
2024-06-30	RAW	synchronized	83.898872	62.0	0.947091
2024-06-30	SLC	synchronized	391.529538	50.0	1.878332
2024-06-01	MSIL1C	synchronized	553.747496	1282.0	3.492392
2024-06-02	MSIL1C	synchronized	568.674638	1370.0	3.142504
2024-06-03	MSIL1C	synchronized	550.721056	1326.0	4.411189
2024-06-04	MSIL1C	synchronized	542.888455	1307.0	3.942748
2024-06-05	MSIL1C	synchronized	527.477135	1251.0	3.295593
2024-06-06	MSIL1C	synchronized	615.164443	1417.0	3.872849
2024-06-07	MSIL1C	synchronized	638.899162	1437.0	4.145169
2024-06-08	MSIL1C	synchronized	603.378025	1377.0	3.281738
2024-06-09	MSIL1C	synchronized	571.000241	1318.0	2.784092
2024-06-10	MSIL1C	synchronized	538.808035	1261.0	3.067850
2024-06-11	MSIL1C	synchronized	586.280206	1342.0	3.776335
2024-06-12	MSIL1C	synchronized	562.264872	1330.0	4.608875
2024-06-13	MSIL1C	synchronized	613.433905	1400.0	3.650066
2024-06-14	MSIL1C	synchronized	528.310345	1232.0	4.667951
2024-06-15	MSIL1C	synchronized	546.272540	1257.0	3.498300
2024-06-16	MSIL1C	synchronized	628.079729	1446.0	4.139749
2024-06-17	MSIL1C	synchronized	578.338833	1317.0	4.367522
2024-06-18	MSIL1C	synchronized	571.042784	1301.0	3.367578
2024-06-19	MSIL1C	synchronized	574.179022	1310.0	3.292580
2024-06-20	MSIL1C	synchronized	567.501092	1293.0	4.364312
2024-06-21	MSIL1C	synchronized	584.530328	1315.0	4.559234
2024-06-22	MSIL1C	synchronized	627.457971	1414.0	2.762213
2024-06-23	MSIL1C	synchronized	530.788140	1201.0	2.787432
2024-06-24	MSIL1C	synchronized	611.331923	1423.0	3.843111
2024-06-25	MSIL1C	synchronized	552.364147	1252.0	3.328838
2024-06-26	MSIL1C	synchronized	550.455843	1276.0	4.075766
2024-06-27	MSIL1C	synchronized	582.485452	1329.0	3.277750
2024-06-28	MSIL1C	synchronized	570.585791	1279.0	3.924810
2024-06-29	MSIL1C	synchronized	574.666335	1289.0	3.084740
2024-06-30	MSIL1C	synchronized	544.484380	1238.0	3.238979
2024-06-01	MSIL2A	synchronized	751.828423	1374.0	4.194378
2024-06-02	MSIL2A	synchronized	730.951375	1379.0	3.637182
2024-06-03	MSIL2A	synchronized	703.240031	1324.0	3.826123
2024-06-04	MSIL2A	synchronized	708.260957	1321.0	4.373770
2024-06-05	MSIL2A	synchronized	678.178996	1250.0	4.112707

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2024-06-06	MSIL2A	synchronized	794.607382	1422.0	3.923551
2024-06-07	MSIL2A	synchronized	835.288848	1467.0	4.628696
2024-06-08	MSIL2A	synchronized	769.625144	1379.0	3.800741
2024-06-09	MSIL2A	synchronized	720.340181	1300.0	3.414381
2024-06-10	MSIL2A	synchronized	694.166485	1279.0	3.681799
2024-06-11	MSIL2A	synchronized	750.832721	1347.0	4.033959
2024-06-12	MSIL2A	synchronized	717.300195	1324.0	4.551399
2024-06-13	MSIL2A	synchronized	783.334471	1398.0	3.996254
2024-06-14	MSIL2A	synchronized	669.495833	1227.0	5.057447
2024-06-15	MSIL2A	synchronized	699.839532	1259.0	3.867628
2024-06-16	MSIL2A	synchronized	790.306340	1426.0	4.306647
2024-06-17	MSIL2A	synchronized	761.765863	1348.0	4.364976
2024-06-18	MSIL2A	synchronized	738.774123	1310.0	3.894654
2024-06-19	MSIL2A	synchronized	735.816630	1315.0	4.087011
2024-06-20	MSIL2A	synchronized	725.971415	1298.0	4.797683
2024-06-21	MSIL2A	synchronized	745.353117	1319.0	5.000396
2024-06-22	MSIL2A	synchronized	808.168950	1416.0	3.460147
2024-06-23	MSIL2A	synchronized	681.835591	1195.0	3.312844
2024-06-24	MSIL2A	synchronized	780.398893	1411.0	4.706095
2024-06-25	MSIL2A	synchronized	707.499509	1258.0	3.698696
2024-06-26	MSIL2A	synchronized	715.367344	1283.0	4.922823
2024-06-27	MSIL2A	synchronized	739.189200	1320.0	3.490652
2024-06-28	MSIL2A	synchronized	751.029146	1296.0	4.626856
2024-06-29	MSIL2A	synchronized	735.765350	1280.0	3.465305
2024-06-30	MSIL2A	synchronized	706.999365	1245.0	3.908629
2024-06-01	OLCI_L1	synchronized	163.882937	212.0	7.768512
2024-06-01	OLCI_L2	synchronized	21.705006	200.0	3.621654
2024-06-01	SLSTR_L1	synchronized	70.440368	169.0	5.669726
2024-06-01	SLSTR_L2	synchronized	15.975660	258.0	20.165028
2024-06-01	SRAL_L1	synchronized	132.038849	84.0	38.560182
2024-06-01	SRAL_L2	synchronized	5.298139	205.0	40.249050
2024-06-01	SYN_L2	synchronized	47.075405	237.0	21.880650
2024-06-02	OLCI_L1	synchronized	154.338152	200.0	7.621162
2024-06-02	OLCI_L2	synchronized	21.616614	201.0	4.852927
2024-06-02	SLSTR_L1	synchronized	73.036382	175.0	3.237262
2024-06-02	SLSTR_L2	synchronized	16.093540	260.0	20.376011
2024-06-02	SRAL_L1	synchronized	137.479013	82.0	39.298466
2024-06-02	SRAL_L2	synchronized	5.315892	203.0	40.526598
2024-06-02	SYN_L2	synchronized	47.136614	239.0	21.980176
2024-06-03	OLCI_L1	synchronized	151.175077	196.0	9.783043
2024-06-03	OLCI_L2	synchronized	20.173070	188.0	10.818875
2024-06-03	SLSTR_L1	synchronized	70.599588	169.0	6.458945
2024-06-03	SLSTR_L2	synchronized	15.755998	254.0	20.620741
2024-06-03	SRAL_L1	synchronized	139.241784	87.0	38.475244
2024-06-03	SRAL_L2	synchronized	5.323050	203.0	40.356785
2024-06-03	SYN_L2	synchronized	46.798285	243.0	21.504707
2024-06-04	OLCI_L1	synchronized	130.124065	171.0	4.510069
2024-06-04	OLCI_L2	synchronized	18.643903	177.0	3.295074
2024-06-04	SLSTR_L1	synchronized	71.369715	171.0	15.889858
2024-06-04	SLSTR_L2	synchronized	15.934773	257.0	20.723931
2024-06-04	SRAL_L1	synchronized	139.155638	87.0	38.511499
2024-06-04	SRAL_L2	synchronized	5.068982	197.0	39.227335
2024-06-04	SYN_L2	synchronized	44.827240	233.0	21.990128
2024-06-05	OLCI_L1	synchronized	182.767215	235.0	11.761539
2024-06-05	OLCI_L2	synchronized	25.591434	232.0	12.561440
2024-06-05	SLSTR_L1	synchronized	72.033782	173.0	6.114647

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2024-06-05	SLSTR_L2	synchronized	17.248293	277.0	18.543762
2024-06-05	SRAL_L1	synchronized	133.331487	82.0	38.530426
2024-06-05	SRAL_L2	synchronized	5.301714	202.0	40.471840
2024-06-05	SYN_L2	synchronized	48.551524	241.0	21.209271
2024-06-06	OLCI_L1	synchronized	7.844811	13.0	2.848465
2024-06-06	OLCI_L2	synchronized	1.366738	14.0	2.847590
2024-06-06	SLSTR_L1	synchronized	17.407084	42.0	15.212766
2024-06-06	SLSTR_L2	synchronized	2.364037	39.0	18.495257
2024-06-06	SRAL_L1	synchronized	25.290198	15.0	38.566769
2024-06-06	SRAL_L2	synchronized	1.086332	43.0	39.459294
2024-06-06	SYN_L2	synchronized	10.789806	51.0	9.215335
2024-06-07	OLCI_L1	synchronized	298.136288	384.0	20.311398
2024-06-07	OLCI_L2	synchronized	42.428129	390.0	20.210135
2024-06-07	SLSTR_L1	synchronized	132.960033	319.0	22.516459
2024-06-07	SLSTR_L2	synchronized	29.655092	478.0	26.348673
2024-06-07	SRAL_L1	synchronized	252.722292	157.0	45.062136
2024-06-07	SRAL_L2	synchronized	9.791984	376.0	43.489889
2024-06-07	SYN_L2	synchronized	84.910837	415.0	28.567869
2024-06-07	Unknown	deleted	0.000000	9.0	0.000000
2024-06-08	OLCI_L1	synchronized	157.465190	201.0	6.207417
2024-06-08	OLCI_L2	synchronized	21.318547	194.0	9.810847
2024-06-08	SLSTR_L1	synchronized	70.130114	168.0	15.944500
2024-06-08	SLSTR_L2	synchronized	15.555416	251.0	21.535729
2024-06-08	SRAL_L1	synchronized	136.979518	86.0	38.723351
2024-06-08	SRAL_L2	synchronized	5.084786	196.0	39.408370
2024-06-08	SYN_L2	synchronized	51.522163	244.0	20.460334
2024-06-09	OLCI_L1	synchronized	166.733811	212.0	7.534968
2024-06-09	OLCI_L2	synchronized	23.321454	214.0	5.268360
2024-06-09	SLSTR_L1	synchronized	76.916921	184.0	10.148477
2024-06-09	SLSTR_L2	synchronized	17.581767	282.0	18.105311
2024-06-09	SRAL_L1	synchronized	134.266985	84.0	38.484862
2024-06-09	SRAL_L2	synchronized	5.271395	202.0	40.415255
2024-06-09	SYN_L2	synchronized	51.764111	240.0	21.622254
2024-06-10	OLCI_L1	synchronized	158.051511	199.0	9.145840
2024-06-10	OLCI_L2	synchronized	21.471742	200.0	3.195219
2024-06-10	SLSTR_L1	synchronized	74.522391	178.0	4.904883
2024-06-10	SLSTR_L2	synchronized	15.855456	256.0	20.342093
2024-06-10	SRAL_L1	synchronized	137.893847	83.0	38.745294
2024-06-10	SRAL_L2	synchronized	5.359439	207.0	39.312338
2024-06-10	SYN_L2	synchronized	49.524619	235.0	20.009771
2024-06-11	OLCI_L1	synchronized	157.953003	204.0	9.673905
2024-06-11	OLCI_L2	synchronized	21.612598	204.0	10.122993
2024-06-11	SLSTR_L1	synchronized	66.531290	159.0	6.746440
2024-06-11	SLSTR_L2	synchronized	15.566802	250.0	19.978488
2024-06-11	SRAL_L1	synchronized	139.343809	87.0	38.683187
2024-06-11	SRAL_L2	synchronized	5.346179	204.0	40.314603
2024-06-11	SYN_L2	synchronized	48.389071	237.0	22.777951
2024-06-12	OLCI_L1	synchronized	160.336009	203.0	6.239873
2024-06-12	OLCI_L2	synchronized	21.541541	199.0	3.350453
2024-06-12	SLSTR_L1	synchronized	73.680865	176.0	15.914372
2024-06-12	SLSTR_L2	synchronized	15.820826	250.0	22.564594
2024-06-12	SRAL_L1	synchronized	139.442762	87.0	38.501451
2024-06-12	SRAL_L2	synchronized	5.221378	202.0	39.288499
2024-06-12	SYN_L2	synchronized	50.197973	244.0	22.191870
2024-06-13	OLCI_L1	synchronized	156.180531	197.0	6.088263
2024-06-13	OLCI_L2	synchronized	21.361419	198.0	4.365293

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2024-06-13	SLSTR_L1	synchronized	71.687292	171.0	4.388912
2024-06-13	SLSTR_L2	synchronized	17.334251	273.0	18.350491
2024-06-13	SRAL_L1	synchronized	137.132692	86.0	39.710645
2024-06-13	SRAL_L2	synchronized	5.252145	197.0	40.945408
2024-06-13	SYN_L2	synchronized	51.738147	245.0	22.886842
2024-06-14	OLCI_L1	synchronized	161.844967	205.0	9.441738
2024-06-14	OLCI_L2	synchronized	21.486187	199.0	3.543685
2024-06-14	SLSTR_L1	synchronized	75.916120	181.0	15.204054
2024-06-14	SLSTR_L2	synchronized	16.790659	265.0	19.271292
2024-06-14	SRAL_L1	synchronized	138.050239	85.0	38.892583
2024-06-14	SRAL_L2	synchronized	5.376701	206.0	39.637524
2024-06-14	SYN_L2	synchronized	48.613149	236.0	20.479095
2024-06-15	OLCI_L1	synchronized	156.714467	199.0	9.878118
2024-06-15	OLCI_L2	synchronized	22.155691	205.0	10.564443
2024-06-15	SLSTR_L1	synchronized	69.740263	167.0	5.010473
2024-06-15	SLSTR_L2	synchronized	15.565725	245.0	21.974041
2024-06-15	SRAL_L1	synchronized	138.824708	85.0	38.910993
2024-06-15	SRAL_L2	synchronized	5.418760	208.0	39.921239
2024-06-15	SYN_L2	synchronized	46.304533	235.0	20.794854
2024-06-16	OLCI_L1	synchronized	159.346482	200.0	6.456375
2024-06-16	OLCI_L2	synchronized	22.387860	204.0	9.288880
2024-06-16	SLSTR_L1	synchronized	69.979709	167.0	6.333371
2024-06-16	SLSTR_L2	synchronized	15.942843	252.0	21.002420
2024-06-16	SRAL_L1	synchronized	139.857193	89.0	38.530719
2024-06-16	SRAL_L2	synchronized	5.213223	203.0	39.380122
2024-06-16	SYN_L2	synchronized	47.122948	238.0	22.079920
2024-06-17	OLCI_L1	synchronized	160.883038	203.0	6.283846
2024-06-17	OLCI_L2	synchronized	21.920175	201.0	3.149409
2024-06-17	SLSTR_L1	synchronized	76.581420	183.0	5.434191
2024-06-17	SLSTR_L2	synchronized	17.864860	280.0	18.921717
2024-06-17	SRAL_L1	synchronized	136.098882	83.0	39.820144
2024-06-17	SRAL_L2	synchronized	5.273499	199.0	40.337689
2024-06-17	SYN_L2	synchronized	49.191042	239.0	21.630201
2024-06-18	OLCI_L1	synchronized	154.050516	194.0	8.739736
2024-06-18	OLCI_L2	synchronized	21.647042	196.0	5.282895
2024-06-18	SLSTR_L1	synchronized	64.369578	154.0	4.886778
2024-06-18	SLSTR_L2	synchronized	14.333223	227.0	17.250764
2024-06-18	SRAL_L1	synchronized	137.889664	84.0	39.231042
2024-06-18	SRAL_L2	synchronized	5.308709	204.0	39.482291
2024-06-18	SYN_L2	synchronized	41.364503	201.0	23.805045
2024-06-19	OLCI_L1	synchronized	162.003275	203.0	9.840716
2024-06-19	OLCI_L2	synchronized	22.490315	202.0	10.061957
2024-06-19	SLSTR_L1	synchronized	78.055277	186.0	17.612722
2024-06-19	SLSTR_L2	synchronized	18.109448	284.0	23.669639
2024-06-19	SRAL_L1	synchronized	139.283737	87.0	38.640217
2024-06-19	SRAL_L2	synchronized	5.441693	210.0	40.381656
2024-06-19	SYN_L2	synchronized	55.972642	260.0	21.004493
2024-06-20	OLCI_L1	synchronized	15.732504	21.0	3.396701
2024-06-20	OLCI_L2	synchronized	1.868937	18.0	3.018302
2024-06-20	SLSTR_L1	synchronized	11.077691	27.0	16.072898
2024-06-20	SLSTR_L2	synchronized	2.195648	35.0	19.771868
2024-06-20	SRAL_L1	synchronized	26.962930	15.0	38.526379
2024-06-20	SRAL_L2	synchronized	0.925774	37.0	38.991496
2024-06-20	SYN_L2	synchronized	8.886382	45.0	19.889272
2024-06-24	OLCI_L1	synchronized	299.550509	373.0	96.793565
2024-06-24	OLCI_L2	synchronized	39.189277	355.0	97.193262

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2024-06-24	SLSTR_L1	synchronized	125.018824	298.0	99.509086
2024-06-24	SLSTR_L2	synchronized	28.342460	446.0	105.575180
2024-06-24	SRAL_L1	synchronized	241.603033	148.0	125.296594
2024-06-24	SRAL_L2	synchronized	8.940379	335.0	125.793128
2024-06-24	SYN_L2	synchronized	90.055447	415.0	106.348416
2024-06-25	OLCI_L1	synchronized	315.227338	403.0	69.516631
2024-06-25	OLCI_L2	synchronized	47.767045	439.0	70.214916
2024-06-25	SLSTR_L1	synchronized	149.557352	358.0	72.733816
2024-06-25	SLSTR_L2	synchronized	37.337538	588.0	79.951609
2024-06-25	SRAL_L1	synchronized	297.097561	185.0	96.639297
2024-06-25	SRAL_L2	synchronized	12.017119	462.0	96.106206
2024-06-25	SYN_L2	synchronized	108.680538	525.0	80.065322
2024-06-26	OLCI_L1	synchronized	371.706000	467.0	37.792312
2024-06-26	OLCI_L2	synchronized	53.920777	482.0	37.804097
2024-06-26	SLSTR_L1	synchronized	172.653406	412.0	39.664058
2024-06-26	SLSTR_L2	synchronized	40.913938	645.0	45.355165
2024-06-26	SRAL_L1	synchronized	331.103921	198.0	65.102807
2024-06-26	SRAL_L2	synchronized	12.721676	476.0	64.909680
2024-06-26	SYN_L2	synchronized	114.909744	559.0	47.789718
2024-06-27	OLCI_L1	synchronized	76.583090	99.0	12.478738
2024-06-27	OLCI_L2	synchronized	11.292458	106.0	12.727572
2024-06-27	SLSTR_L1	synchronized	33.418937	80.0	11.955514
2024-06-27	SLSTR_L2	synchronized	7.860965	124.0	22.293004
2024-06-27	SRAL_L1	synchronized	64.586462	48.0	25.194449
2024-06-27	SRAL_L2	synchronized	2.964554	117.0	41.249596
2024-06-27	SYN_L2	synchronized	25.649030	120.0	17.029535
2024-06-28	OLCI_L1	synchronized	320.777952	402.0	21.202351
2024-06-28	OLCI_L2	synchronized	43.193717	387.0	20.897641
2024-06-28	SLSTR_L1	synchronized	133.549027	318.0	24.674732
2024-06-28	SLSTR_L2	synchronized	30.712415	483.0	34.265972
2024-06-28	SRAL_L1	synchronized	265.183819	164.0	45.971320
2024-06-28	SRAL_L2	synchronized	9.913254	380.0	44.688642
2024-06-28	SYN_L2	synchronized	94.560745	447.0	33.086661
2024-06-29	OLCI_L1	synchronized	154.474982	196.0	5.697383
2024-06-29	OLCI_L2	synchronized	22.234873	199.0	2.939705
2024-06-29	SLSTR_L1	synchronized	65.053323	155.0	3.073896
2024-06-29	SLSTR_L2	synchronized	14.283940	227.0	22.700151
2024-06-29	SRAL_L1	synchronized	134.996170	81.0	38.587442
2024-06-29	SRAL_L2	synchronized	5.389304	202.0	40.283355
2024-06-29	SYN_L2	synchronized	49.487112	235.0	19.670091
2024-06-30	OLCI_L1	synchronized	163.400526	206.0	9.790701
2024-06-30	OLCI_L2	synchronized	21.761893	196.0	5.293513
2024-06-30	SLSTR_L1	synchronized	74.114218	177.0	15.337433
2024-06-30	SLSTR_L2	synchronized	16.642524	262.0	19.370430
2024-06-30	SRAL_L1	synchronized	111.317704	75.0	37.765705
2024-06-30	SRAL_L2	synchronized	4.406656	175.0	38.614549
2024-06-30	SYN_L2	synchronized	48.438014	237.0	21.491445
2024-06-01	NRTI_L2	synchronized	13.952834	345.0	1.935999
2024-06-01	OFFL_L1B	synchronized	305.673949	112.0	3.852140
2024-06-01	OFFL_L2	synchronized	22.061283	60.0	67.331071
2024-06-02	NRTI_L2	synchronized	13.636689	327.0	1.902920
2024-06-02	OFFL_L1B	synchronized	305.542558	112.0	3.966846
2024-06-02	OFFL_L2	synchronized	18.144177	43.0	79.539158
2024-06-03	NRTI_L2	synchronized	12.279216	318.0	1.902751
2024-06-03	OFFL_L1B	synchronized	314.482132	117.0	4.035032
2024-06-03	OFFL_L2	synchronized	19.574401	42.0	96.930706

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2024-06-04	NRTI_L2	synchronized	12.099266	317.0	1.919239
2024-06-04	OFFL_L1B	synchronized	252.687841	91.0	4.063078
2024-06-04	OFFL_L2	synchronized	41.049635	96.0	115.847798
2024-06-05	NRTI_L2	synchronized	12.936103	324.0	1.985906
2024-06-05	OFFL_L1B	synchronized	327.900752	120.0	9.579577
2024-06-05	OFFL_L2	synchronized	33.179200	79.0	125.747633
2024-06-06	NRTI_L2	synchronized	9.171984	226.0	1.961003
2024-06-06	OFFL_L1B	synchronized	352.318645	128.0	6.519840
2024-06-06	OFFL_L2	synchronized	30.110117	72.0	140.552208
2024-06-07	OFFL_L1B	synchronized	305.825242	112.0	3.738337
2024-06-07	OFFL_L2	synchronized	41.466816	101.0	147.332804
2024-06-08	NRTI_L2	synchronized	29.053679	750.0	21.144358
2024-06-08	OFFL_L1B	synchronized	305.859621	112.0	3.819054
2024-06-08	OFFL_L2	synchronized	39.158477	96.0	145.528075
2024-06-09	NRTI_L2	synchronized	12.979000	323.0	1.935951
2024-06-09	OFFL_L1B	synchronized	305.803564	112.0	4.044303
2024-06-09	OFFL_L2	synchronized	69.532621	180.0	154.520285
2024-06-10	NRTI_L2	synchronized	13.383706	326.0	1.902634
2024-06-10	OFFL_L1B	synchronized	325.375537	120.0	4.054087
2024-06-10	OFFL_L2	synchronized	78.647604	217.0	146.624802
2024-06-11	NRTI_L2	synchronized	11.370547	300.0	1.957737
2024-06-11	OFFL_L1B	synchronized	129.784766	48.0	4.071119
2024-06-11	OFFL_L2	synchronized	95.811827	264.0	133.600673
2024-06-12	NRTI_L2	synchronized	13.764792	340.0	1.912887
2024-06-12	OFFL_L1B	synchronized	479.416841	176.0	12.415015
2024-06-12	OFFL_L2	synchronized	107.038852	307.0	119.575105
2024-06-13	NRTI_L2	synchronized	12.648442	308.0	1.896250
2024-06-13	OFFL_L1B	synchronized	305.967411	112.0	4.054485
2024-06-13	OFFL_L2	synchronized	89.578705	258.0	105.375120
2024-06-14	NRTI_L2	synchronized	12.408979	327.0	1.912883
2024-06-14	OFFL_L1B	synchronized	328.027291	120.0	4.049392
2024-06-14	OFFL_L2	synchronized	98.158452	293.0	90.350760
2024-06-15	NRTI_L2	synchronized	12.655176	322.0	1.937947
2024-06-15	OFFL_L1B	synchronized	306.067820	112.0	3.924425
2024-06-15	OFFL_L2	synchronized	108.943217	292.0	76.875566
2024-06-16	NRTI_L2	synchronized	13.269262	323.0	1.912887
2024-06-16	OFFL_L1B	synchronized	281.518457	104.0	3.871681
2024-06-16	OFFL_L2	synchronized	108.858686	301.0	61.592164
2024-06-17	NRTI_L2	synchronized	13.704531	341.0	1.912979
2024-06-17	OFFL_L1B	synchronized	327.960281	120.0	3.993649
2024-06-17	OFFL_L2	synchronized	95.013936	264.0	47.758687
2024-06-18	NRTI_L2	synchronized	12.879637	335.0	1.912911
2024-06-18	OFFL_L1B	synchronized	306.079904	112.0	3.969201
2024-06-18	OFFL_L2	synchronized	75.900422	208.0	39.837971
2024-06-19	NRTI_L2	synchronized	12.714306	325.0	1.929541
2024-06-19	OFFL_L1B	synchronized	308.639863	114.0	4.088966
2024-06-19	OFFL_L2	synchronized	66.694085	183.0	39.317969
2024-06-20	NRTI_L2	synchronized	13.559588	333.0	1.912883
2024-06-20	OFFL_L1B	synchronized	303.394490	110.0	4.144667
2024-06-20	OFFL_L2	synchronized	66.224579	182.0	39.351884
2024-06-21	NRTI_L2	synchronized	12.701366	315.0	1.929633
2024-06-21	OFFL_L1B	synchronized	306.024551	112.0	4.147472
2024-06-21	OFFL_L2	synchronized	66.453528	184.0	39.355951
2024-06-22	NRTI_L2	synchronized	12.428057	332.0	1.896250
2024-06-22	OFFL_L1B	synchronized	303.558605	112.0	3.879444
2024-06-22	OFFL_L2	synchronized	67.882130	188.0	39.352204

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2024-06-23	NRTI_L2	synchronized	12.923394	327.0	1.946226
2024-06-23	OFFL_L1B	synchronized	306.071058	112.0	3.985841
2024-06-23	OFFL_L2	synchronized	66.179944	184.0	39.436159
2024-06-24	NRTI_L2	synchronized	13.677068	333.0	1.896270
2024-06-24	OFFL_L1B	synchronized	325.718948	120.0	3.972076
2024-06-24	OFFL_L2	synchronized	67.899614	186.0	39.299033
2024-06-25	NRTI_L2	synchronized	12.759210	314.0	1.913106
2024-06-25	OFFL_L1B	synchronized	330.455894	120.0	3.956124
2024-06-25	OFFL_L2	synchronized	65.937175	181.0	39.386598
2024-06-26	NRTI_L2	synchronized	12.199723	316.0	1.946205
2024-06-26	OFFL_L1B	synchronized	306.042878	112.0	4.325651
2024-06-26	OFFL_L2	synchronized	65.922973	181.0	39.645722
2024-06-27	NRTI_L2	synchronized	12.468949	306.0	1.929544
2024-06-27	OFFL_L1B	synchronized	306.063067	112.0	4.304829
2024-06-27	OFFL_L2	synchronized	66.404352	186.0	39.337597
2024-06-28	NRTI_L2	synchronized	14.037159	332.0	1.929666
2024-06-28	OFFL_L1B	synchronized	306.088814	112.0	4.142177
2024-06-28	OFFL_L2	synchronized	69.156423	190.0	39.409290
2024-06-29	NRTI_L2	synchronized	12.617062	298.0	1.912967
2024-06-29	OFFL_L1B	synchronized	303.649000	112.0	4.123122
2024-06-29	OFFL_L2	synchronized	65.630161	180.0	39.184781
2024-06-30	NRTI_L2	synchronized	12.570511	322.0	1.912881
2024-06-30	OFFL_L1B	synchronized	328.190913	120.0	4.151191
2024-06-30	OFFL_L2	synchronized	68.179392	187.0	39.372984
2024-06-01	s2_l1c	NaN	268.907948	441.0	NaN
2024-06-01	s2_l2a	NaN	1.507496	4.0	NaN
2024-06-01	s1_iw	NaN	35.154308	22.0	NaN
2024-06-01	s1_ew	NaN	6.263279	3.0	NaN
2024-06-02	s1_iw	NaN	41.207150	27.0	NaN
2024-06-02	s1_ew	NaN	8.883518	3.0	NaN
2024-06-02	s2_l1c	NaN	291.126003	507.0	NaN
2024-06-02	s2_l2a	NaN	1.819084	3.0	NaN
2024-06-03	s2_l2a	NaN	6.216671	10.0	NaN
2024-06-03	s1_iw	NaN	66.728027	38.0	NaN
2024-06-03	s1_ew	NaN	6.364029	2.0	NaN
2024-06-03	s2_l1c	NaN	285.905521	490.0	NaN
2024-06-04	s2_l1c	NaN	274.256725	473.0	NaN
2024-06-04	s2_l2a	NaN	22.704861	0.0	NaN
2024-06-04	s1_iw	NaN	18.669586	15.0	NaN
2024-06-04	s1_ew	NaN	27.863140	13.0	NaN
2024-06-05	s1_iw	NaN	40.595215	34.0	NaN
2024-06-05	s1_ew	NaN	20.020847	9.0	NaN
2024-06-05	s2_l1c	NaN	255.915466	443.0	NaN
2024-06-05	s2_l2a	NaN	6.342407	12.0	NaN
2024-06-06	s1_iw	NaN	16.805904	12.0	NaN
2024-06-06	s1_ew	NaN	17.196571	10.0	NaN
2024-06-06	s2_l1c	NaN	320.584591	522.0	NaN
2024-06-06	s2_l2a	NaN	1.535221	4.0	NaN
2024-06-07	s2_l2a	NaN	1.822842	3.0	NaN
2024-06-07	s2_l1c	NaN	322.883629	536.0	NaN
2024-06-07	s1_ew	NaN	11.339066	8.0	NaN
2024-06-07	s1_iw	NaN	46.908043	38.0	NaN
2024-06-08	s1_iw	NaN	48.474842	31.0	NaN
2024-06-08	s1_ew	NaN	11.927479	6.0	NaN
2024-06-08	s2_l1c	NaN	286.939255	477.0	NaN
2024-06-08	s2_l2a	NaN	4.301796	8.0	NaN

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2024-06-09	s2_l2a	NaN	22.703514	0.0	NaN
2024-06-09	s1_iw	NaN	21.424259	17.0	NaN
2024-06-09	s1_ew	NaN	23.389000	11.0	NaN
2024-06-09	s2_l1c	NaN	275.896328	466.0	NaN
2024-06-10	s2_l2a	NaN	6.328899	8.0	NaN
2024-06-10	s2_l1c	NaN	280.359802	471.0	NaN
2024-06-10	s1_ew	NaN	12.666798	5.0	NaN
2024-06-10	s1_iw	NaN	49.112476	34.0	NaN
2024-06-11	s1_iw	NaN	13.014717	12.0	NaN
2024-06-11	s1_ew	NaN	18.804882	9.0	NaN
2024-06-11	s2_l1c	NaN	290.276356	469.0	NaN
2024-06-11	s2_l2a	NaN	1.422707	4.0	NaN
2024-06-12	s2_l1c	NaN	279.057583	495.0	NaN
2024-06-12	s2_l2a	NaN	1.717209	3.0	NaN
2024-06-12	s1_iw	NaN	47.548000	38.0	NaN
2024-06-12	s1_ew	NaN	20.837746	10.0	NaN
2024-06-13	s1_iw	NaN	37.677109	23.0	NaN
2024-06-13	s1_ew	NaN	9.410110	4.0	NaN
2024-06-13	s2_l1c	NaN	302.572636	499.0	NaN
2024-06-13	s2_l2a	NaN	5.647015	8.0	NaN
2024-06-14	s1_iw	NaN	37.220554	25.0	NaN
2024-06-14	s1_ew	NaN	8.782238	3.0	NaN
2024-06-14	s2_l1c	NaN	283.915966	480.0	NaN
2024-06-14	s2_l2a	NaN	22.704224	0.0	NaN
2024-06-15	s2_l2a	NaN	5.595997	8.0	NaN
2024-06-15	s2_l1c	NaN	257.943207	427.0	NaN
2024-06-15	s1_ew	NaN	4.694038	2.0	NaN
2024-06-15	s1_iw	NaN	66.455704	41.0	NaN
2024-06-16	s1_iw	NaN	19.030491	16.0	NaN
2024-06-16	s1_ew	NaN	24.283131	12.0	NaN
2024-06-16	s2_l1c	NaN	322.700523	529.0	NaN
2024-06-16	s2_l2a	NaN	1.444309	4.0	NaN
2024-06-17	s2_l1c	NaN	287.643539	468.0	NaN
2024-06-17	s2_l2a	NaN	1.827545	3.0	NaN
2024-06-17	s1_iw	NaN	46.760979	36.0	NaN
2024-06-17	s1_ew	NaN	8.790352	5.0	NaN
2024-06-18	s1_iw	NaN	16.837048	12.0	NaN
2024-06-18	s1_ew	NaN	17.333893	11.0	NaN
2024-06-18	s2_l1c	NaN	256.338993	437.0	NaN
2024-06-18	s2_l2a	NaN	4.215137	6.0	NaN
2024-06-19	s2_l2a	NaN	22.706512	0.0	NaN
2024-06-19	s1_iw	NaN	48.386658	39.0	NaN
2024-06-19	s1_ew	NaN	7.381763	6.0	NaN
2024-06-19	s2_l1c	NaN	278.507568	457.0	NaN
2024-06-20	s2_l1c	NaN	274.634743	467.0	NaN
2024-06-20	s2_l2a	NaN	6.795879	8.0	NaN
2024-06-20	s1_iw	NaN	43.495934	30.0	NaN
2024-06-20	s1_ew	NaN	12.167397	7.0	NaN
2024-06-21	s1_iw	NaN	16.739605	16.0	NaN
2024-06-21	s1_ew	NaN	19.799400	10.0	NaN
2024-06-21	s2_l1c	NaN	266.985619	445.0	NaN
2024-06-21	s2_l2a	NaN	1.587059	4.0	NaN
2024-06-22	s2_l1c	NaN	298.088589	509.0	NaN
2024-06-22	s2_l2a	NaN	1.361736	4.0	NaN
2024-06-22	s1_iw	NaN	44.058258	33.0	NaN
2024-06-22	s1_ew	NaN	12.659081	6.0	NaN

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2024-06-23	s1_iw	NaN	17.855591	14.0	NaN
2024-06-23	s1_ew	NaN	17.664658	9.0	NaN
2024-06-23	s2_l1c	NaN	271.573208	464.0	NaN
2024-06-23	s2_l2a	NaN	5.927685	8.0	NaN
2024-06-24	s2_l2a	NaN	22.773720	0.0	NaN
2024-06-24	s1_iw	NaN	54.360203	40.0	NaN
2024-06-24	s1_ew	NaN	10.845615	6.0	NaN
2024-06-24	s2_l1c	NaN	309.658516	517.0	NaN
2024-06-25	s2_l1c	NaN	262.522083	420.0	NaN
2024-06-25	s2_l2a	NaN	6.818718	8.0	NaN
2024-06-25	s1_iw	NaN	31.179279	22.0	NaN
2024-06-25	s1_ew	NaN	9.319271	4.0	NaN
2024-06-26	s1_iw	NaN	27.591740	8.0	NaN
2024-06-26	s1_ew	NaN	8.459206	3.0	NaN
2024-06-26	s2_l1c	NaN	269.390945	442.0	NaN
2024-06-26	s2_l2a	NaN	1.600040	4.0	NaN
2024-06-27	s1_iw	NaN	52.088158	32.0	NaN
2024-06-27	s1_ew	NaN	5.026974	2.0	NaN
2024-06-27	s2_l1c	NaN	286.590672	477.0	NaN
2024-06-27	s2_l2a	NaN	0.902771	2.0	NaN
2024-06-28	s2_l2a	NaN	5.931614	8.0	NaN
2024-06-28	s2_l1c	NaN	258.796921	452.0	NaN
2024-06-28	s1_ew	NaN	6.220688	5.0	NaN
2024-06-28	s1_iw	NaN	22.774284	0.0	NaN
2024-06-29	s1_iw	NaN	52.352833	38.0	NaN
2024-06-29	s1_ew	NaN	19.423386	9.0	NaN
2024-06-29	s2_l1c	NaN	246.669785	424.0	NaN
2024-06-29	s2_l2a	NaN	22.774597	0.0	NaN
2024-06-30	s1_iw	NaN	15.827576	13.0	NaN
2024-06-30	s1_ew	NaN	16.813709	10.0	NaN
2024-06-30	s2_l1c	NaN	236.790611	401.0	NaN
2024-06-30	s2_l2a	NaN	6.180733	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
- NBS_monthly_report_2024_03.pdf
- NBS_monthly_report_2024_04.pdf
- NBS_monthly_report_2024_05.pdf
- NBS_monthly_report_2024_06.pdf