
Gap Filling Documentation

Release v0.1

Bayer

Nov 30, 2020

CONTENTS:

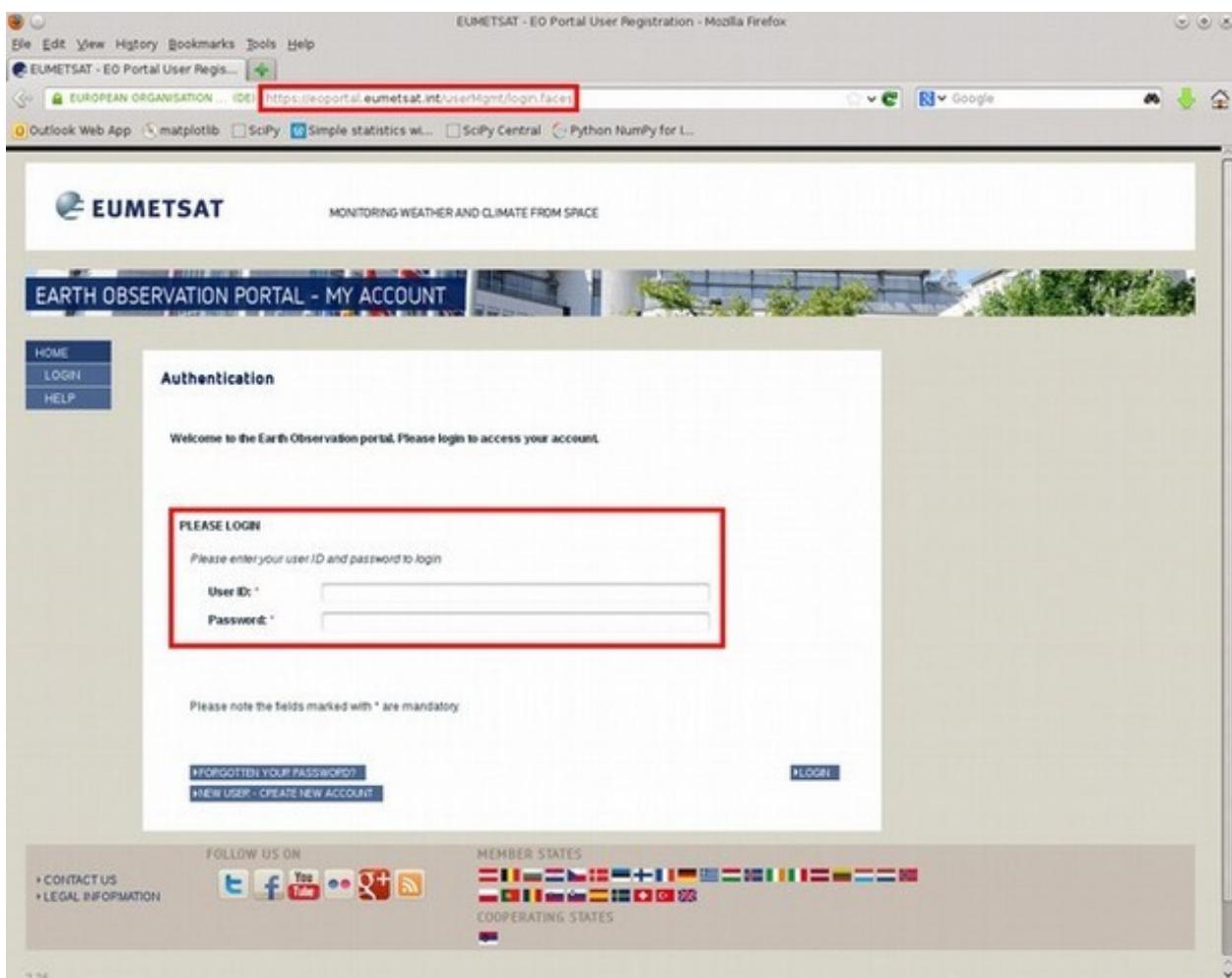
1	Ordeting Data	1
1.1	Ordering data from the EUMETSAT archive	1
2	Copy Data from HTTP	13
2.1	1. Go to Order Status select your delivered order and Open Online Delivery Page	14
2.2	2. Download file(s) from the delivery page using Right Click + “Save file under...”	14
2.3	3. Move files from your local system to the <i>talos</i> server:	14
2.4	4. Log onto server altair as user “sat_data” with:	14
2.5	5. Move the file from talos to altair:	14
2.6	6. Extract your order:	15
3	Extract Data from the Tapes	17
3.1	1. First you will have to check if the tape machine is ready.	17
3.2	2. Ask Hartwig for the key to access the server-room in building	18
3.3	3. Use room 0.03 in the ground floor of 23.5 to access room	18
3.4	4. At the tape-computer use the Next () or Previous key () to	18
3.5	5. Kindly remove the unlocked magazine and insert or exchange	19
3.6	6. Re-insert the magazine and wait for the tape-computer to read the	20
3.7	7. Turn off the light, leave the room and lock the door.	20
3.8	8. Give the key back to Hartwig.	20
3.9	9. Log into the LTO computer again	20
3.10	10. Go to the directory for tapes with:	20
3.11	11. Now the data for Step III should be under:	21
3.12	12. Unlike the http files the tape files don't need to be unpacked,	21
4	Filling gaps in TROPOS archive after delivery	23
4.1	1. Adding data to the archive	23
4.2	2. Updating the segment masks	24
4.3	3. Obtaining statistics/gap information**	24
5	Indices and tables	27

CHAPTER ONE

ORDETING DATA

1.1 Ordering data from the EUMETSAT archive

1.1.1 1. Log in to <https://eoportal.eumetsat.int> with:



```
username: hdeneke
password: S3V1R1umarf
```

1.1.2 2. Start the data centre application using Access under Data Centre.

The screenshot shows the EUMETSAT Earth Observation Portal interface. At the top left is the EUMETSAT logo with the text "EUMETSAT" and "MONITORING WEATHER AND CLIMATE FROM SPACE". Below the logo is a banner with "EARTH OBSERVATION PORTAL - MY ACCOUNT". On the left, there is a sidebar with links: "MY DATA ACCESS (HDENEKE)", "MY PROFILE", "MY DATA LICENCES", "HELP", and "LOGOUT". The main content area is titled "My Data Access" and contains six service options:

- EUMETCAST SATELLITE**: Access to near real-time data through DVB satellite with a guaranteed service level. Available data: Meteosat, Metop, Jason, Copernicus Sentinel-3 marine data and third party products. [View/Edit](#)
- COPERNICUS ONLINE DATA ACCESS**: Download service via Internet for Copernicus data. Available data: Sentinel-3 marine data. [Access](#)
- DATA CENTRE**: Ordering and delivery service for historical and long-term archive data. Available data: Meteosat, Metop, Jason and Copernicus Sentinel-3 marine data. [Access](#)
- EUMETCAST TERRESTRIAL DEMONSTRATION**: Access to near real-time data through terrestrial networks. Restricted to agencies only. Available data: Meteosat, Metop, Jason, Copernicus Sentinel-3 marine data and third party products. [Subscribe](#)
- EUMETSAT FTP DATA ACCESS**: Download service via Internet for EUMETSAT data. [Subscribe](#)
- DIRECT DISSEMINATION**: Metop Direct Readout and Meteosat Direct Dissemination services. [Subscribe](#)

At the bottom of the main content area is a bar with the text "My subscriptions to operational service news".

1.1.3 3. Select your data type from the data center product list, then go on with next step:

The screenshot shows the EUMETSAT USER SERVICES CLIENT interface. At the top, there's a navigation bar with links like 'SEARCH AND ORDER', 'ORDER STATUS', 'HELP', 'FEEDBACK', 'MY PROFILE', 'LOGOUT', 'KNOWN ISSUES', and 'DATA CENTRE INFO'. Below this is a 'SELECT PRODUCT' section. On the left, under 'Products', there's a list of various datasets, with the 'Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG' option highlighted by a red box. To the right of this list is a 'Thematic Filter' sidebar containing a long list of items such as Marine, Land, Atmosphere, Aerosol, Analysis, Cloud, Fire, Forecast, Humidity, Model, Observation, Ocean, Precipitation, Pressure, Radar Backscatter NRCS, Radiation, Soil Moisture Index, Sea Ice, Sea Surface Temperature, Snow and Ice, Temperature, Vegetation, Wave, and Wind. At the bottom of the sidebar is a 'CLEAR THEMATIC FILTER' button. To the right of the sidebar is a panel titled 'Selected Product' which displays the details for the selected item: 'Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG'. Below this is a small thumbnail image of the Earth. At the very bottom of the page, there are links for 'FOLLOW US ON' and 'MEMBER STATES'.

- For **Prime-Service (PZS)** use: “*High Rate SEVIRI Level 1.5 Image Data – MSG – 0 degree*”
- For **Rapid-Scan-Service (RSS)** use: “*Rapid Scan High Rate SEVIRI Level 1.5 Image Data – MSG*”
- For **Prime-Service over Indian Ocean** use: “*High Rate SEVIRI Level 1.5 Image Data – MSG – Indian Ocean 41.5 degrees E*”

1.1.4 4. Double-check if the required longitude in Sub Sat Longitude is correct:

The screenshot shows the EUMETSAT User Services Client interface. The main menu bar includes 'SEARCH AND ORDER', 'ORDER STATUS', 'HELP', 'FEEDBACK', 'MY PROFILE', 'LOGOUT', 'KNOWN ISSUES', and 'DATA CENTRE INFO'. The top navigation bar has links for 'SELECT PRODUCT', 'FILTER', 'DATE/TIME', 'ROI', 'FORMAT', 'DELIVERY METHOD', and 'CHECK OUT'. The left sidebar has sections for 'SELECT OPTIONS' (with 'SATELLITE' and 'All/None Satellites' checked), 'Overall Quality' (set to 'AB'), and 'Scan Type' (set to 'Rapid Scan'). The right sidebar displays the 'Selected Product' as 'Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG' with a thumbnail image of Earth. A 'Hints & Tips' box suggests narrowing the search with additional filters based on the selected product and user privileges. At the bottom, there are buttons for 'PREVIOUS STEP', 'NEXT STEP', 'FOLLOW US ON', and 'MEMBER STATES'.

- 0° for the Prime-Service (PZS)
- 9.5° for the Rapid-Scan-Service (RSS)
- 41.5° for the Indian Ocean

1.1.5 5. Select the required period of time in the Select Date / Time field. Get results with Apply (might take a while).

The screenshot shows the EUMETSAT USER SERVICES CLIENT interface. On the left, there's a sidebar with links like 'SEARCH AND ORDER', 'ORDER STATUS', 'HELP', 'FEEDBACK', 'MY PROFILE', 'LOGOUT', 'KNOWN ISSUES', and 'DATA CENTRE INFO'. The main area has a header 'SELECT PRODUCT > FILTER > DATETIME > ROI > FORMAT > DELIVERY METHOD > CHECK OUT'. Below this is a 'SELECT DATE / TIME' section with two date input fields: 'From' (2016-12-24) and 'Until' (2016-12-25). A red box highlights both these date inputs. To the right of each input is a 'UTC' dropdown and an 'APPLY' button. The 'Until' date's 'APPLY' button is also highlighted with a red box. Below this section is an 'Additional Filter' section with 'Daily Time Window' and 'Periodic' options, each with its own 'APPLY' button. The 'Periodic' section includes dropdowns for 'Every' (0 days, 0 hours, 0 minutes) and 'searching data sets for a subsequent time window of every' (1 hour, 0 minutes). To the right of the date selection is a 'Selected Product' panel showing 'Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG' with a thumbnail image of Earth. At the bottom, there are buttons for 'PREVIOUS STEP', 'NEXT STEP', 'Selected Products: 268 (~76.500 GB)', 'GO TO CHECK OUT', and 'FOLLOW US ON' (with links to social media). A 'MEMBER STATES' link is also present. A 'Hints & Tips' panel on the right provides search examples and details about periodic and daily time windows.

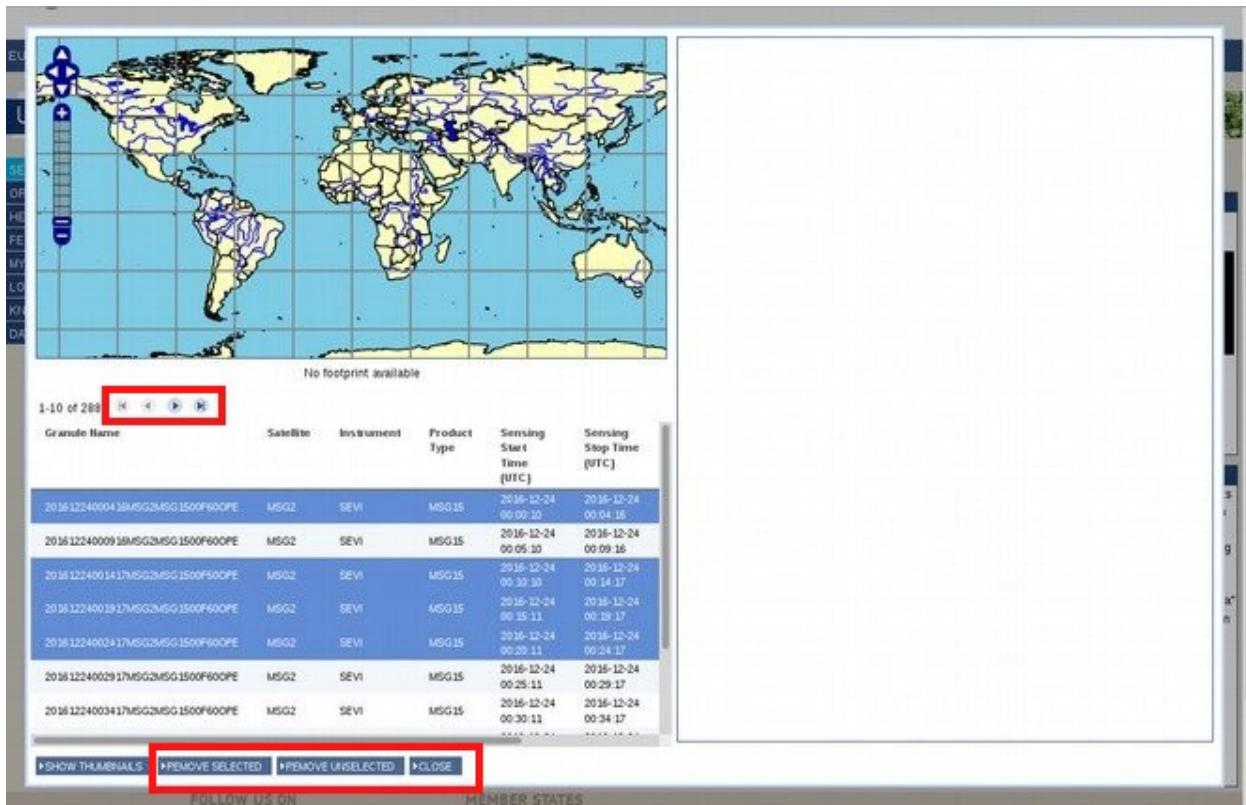
- a maximum of **three months** for Prime-Service (PZS)
- a maximum of **one month** for Rapid-Scan-Service (RSS)

1.1.6 6. Skip the selection of regions using Next Step.

The screenshot shows the EUMETSAT User Services Client interface. At the top, there's a banner with the text "EUMETSAT WEBSITE" and "USER SERVICES CLIENT". Below the banner, the navigation bar includes "SEARCH AND ORDER", "ORDER STATUS", "HELP", "FEEDBACK", "MY PROFILE", "LOGOUT", "KNOWN ISSUES", and "DATA CENTRE INFO". The main menu at the top right lists "SELECT PRODUCT > FILTER > DATETIME > ROI > FORMAT > DELIVERY METHOD > CHECK OUT". The central part of the screen is titled "PRODUCT ROI" and contains a world map with a green rectangular box indicating the Area of Interest (ROI). Below the map, there are input fields for "Upper left corner" and "Lower right corner" coordinates (Lat and Lon) and a dropdown menu for "Region". To the right of the map, a section titled "Selected Product" shows "Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG" with a thumbnail image of Earth. A "Hints & Tips" box provides information about ROI selection and region subsetting. At the bottom, there are buttons for "PREVIOUS STEP", "NEXT STEP", "Selected Products: 288 (~76.500 GB)", "GO TO CHECK OUT", and "FOLLOW US ON" (with links to social media). The status bar at the bottom right says "Number and size of selected products is an estimate".

1.1.7 7. Select product order format as “HRIT data sets in tar file”. Then click next step.

1.1.8 8. Go to Details, which on the right to next step.



Use **and** to browse through the selected period of time and use **CTRL + Left Click** to select the slots you want. If you are done with the selection use **Remove Unselected** to clear all unwanted slots from your list. Double-check if no slot is missing. Use “Close” if everything is correct.

1.1.9 9. Choose the Delivery method which is suitable for the data:

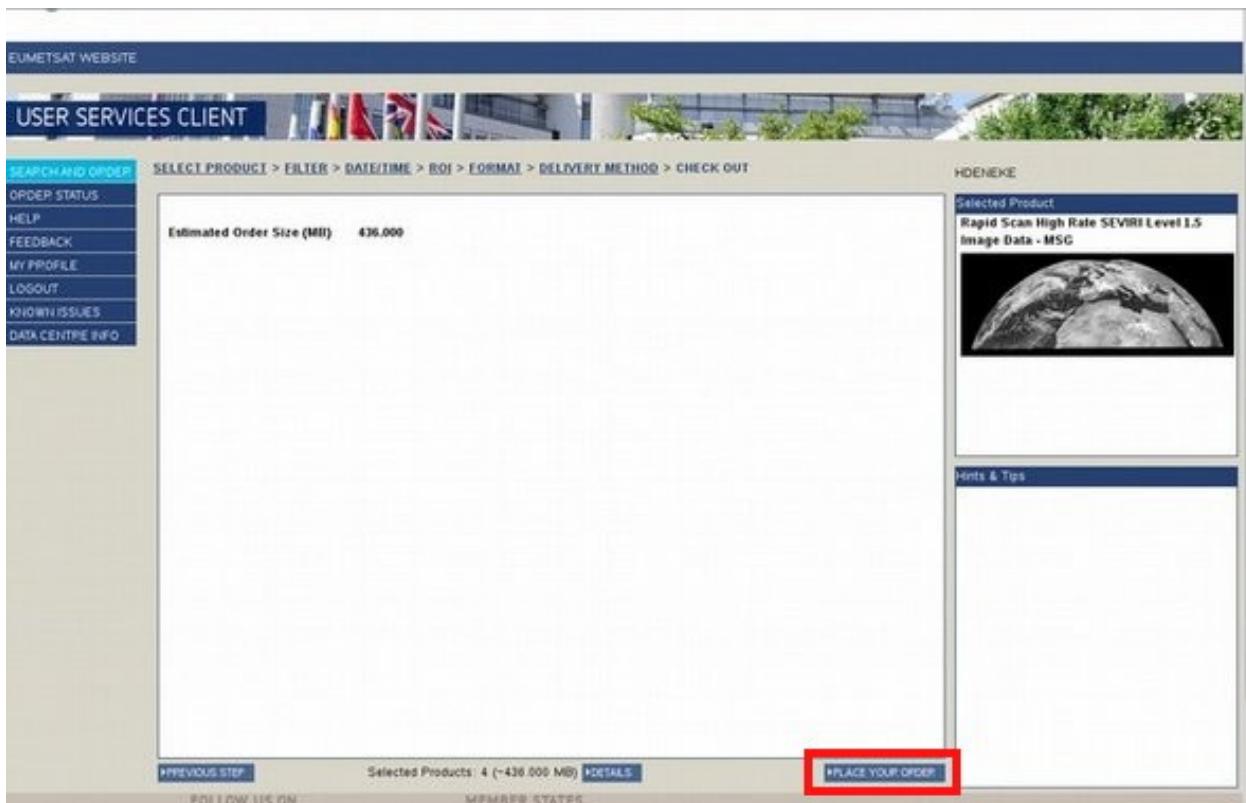
The screenshot shows the EUMETSAT User Services Client interface. The top navigation bar includes 'SEARCH AND ORDER', 'ORDER STATUS', 'HELP', 'FEEDBACK', 'MY PROFILE', 'LOGOUT', 'KNOWN ISSUES', and 'DATA CENTRE INFO'. Below this, the main menu path is 'SELECT PRODUCT > FILTER > DATETIME > ROI > FORMAT > DELIVERY METHOD > CHECK OUT'. The central panel is titled 'Delivery Method' and contains two radio buttons: 'On Media' (unchecked) and 'Online HTTP' (checked). A red box highlights this selection. Below it is a 'Delivery Options' section with a dropdown menu set to 'no compression'. To the right, a 'Selected Product' box shows 'HDNEKE' and 'Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG' with a thumbnail image of Earth. At the bottom, there are 'PREVIOUS STEP', 'NEXT STEP', 'Selected Products: 288 (~30.656 GB)', 'DETAILS', 'MEMBER STATES', and 'GO TO CHECK OUT' buttons.

→ “Online HTTP” if the order is **bigger than 80 GB**

→ “On Media” if the order is **less than 80 GB**

By delivery option **no compression** is fine because the data files are already compressed.

1.1.10 10. Go the last step, where only the overall data size is presented.



Finally send the order with “Place your order”.

1.1.11 11. Note the order number at our wiki:

http://wiki-intern.tropos.de/index.php/EUMETSAT_Data_Ordering_Diary

EUMETSAT WEBSITE

USER SERVICES CLIENT

SEARCH AND ORDER

HELP

FEEDBACK

MY PROFILE

LOGOUT

KNOWN ISSUES

DATA CENTRE INFO

ORDER STATUS (highlighted)

Order Status								
Order ID	Product Type	Media Type	Compression Method	Product Format	Lines	Size	Submission Date (UTC)	Status
1255238	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	4	436 MB	2017-12-06 10:26:00	SUBMITTED
1255232	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	38	4142 MB	2017-12-05 13:16:45	PROCESSING
1255208	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	8	259 MB	2017-12-05 13:16:17	DELIVERED
1255206	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	39	4251 MB	2017-12-05 13:06:17	PROCESSING
1255204	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	50	3485 MB	2017-12-05 12:57:24	DELIVERED
1255278	Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG	On line delivery	NONE	HPT data sets in tar file	24	529 MB	2017-12-05 12:47:35	DELIVERED

HDNEKE

Selected Product

Rapid Scan High Rate SEVIRI Level 1S Image Data - MSG

Rectified (level 1 S) Meteosat SEVIRI Rapid Scan image data. The baseline scan region is a reduced area of the top 1/3 of a nominal repeat cycle, covering a latitude range from approximately 25-degrees to 70 degrees. The service generates repeat cycles at 5-minute intervals (the same as currently used for weather radars). The dissemination of RSS data is similar to the normal dissemination, with image segments based on 464 lines and compatible with the full disk level 1S data scans. Epilogue and prologue (L1 Header and L1S Trailer) have the same structure. Calibration is as in Full Earth Scan Image rectification is to 9.5 degreesE. The scans start at 00:00, 00:05, 00:10, 00:15 ... 00:45 (5 min scan). The differences from the nominal Full Earth scan are that for channels 1 - 11,

CANCEL SELECTED ORDER **OPEN ONLINE DELIVERY PAGE** **DETAILS** **CLONE ORDER**

FOLLOW US ON **MEMBER STATES**

1.1.12 12. Click at ORDER STATUS. It shows the order number and the status of the order. Several status are possible:

- Pending (order still not submitted),
- Submitted (order is submitted),
- Cancelled (order is cancelled),
- Processing (order is en route),
- Delivered (order is delivered),
- Error (order went wrong)

CHAPTER TWO

COPY DATA FROM HTTP

EUMETSAT WEBSITE

USER SERVICES CLIENT

SEARCH AND ORDER

ORDER STATUS

HELP

FEEDBACK

MY PROFILE

LOGOUT

KNOWN ISSUES

DATA CENTRE INFO

Order ID	Product Type	Media Type	Compression Method	Product Format	Items	Size	Submission Date (UTC)	Status
1255338	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	4	436 MB	2017-12-06 10:26:00	SUBMITTED
1255212	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	38	4142 MB	2017-12-05 13:16:45	PROCESSING
1255208	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	8	259 MB	2017-12-05 13:10:17	DELIVERED
1255206	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	39	4251 MB	2017-12-05 13:06:17	PROCESSING
1255196	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	50	1446 MB	2017-12-05 12:57:24	DELIVERED
1255194	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	24	529 MB	2017-12-05 12:47:10	DELIVERED
1255178	Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG	On line delivery	NONE	HRT data sets in tar file	38	928 MB	2017-12-05 11:44:49	DELIVERED

[CANCEL SELECTED ORDER](#) [OPEN ONLINE DELIVERY PAGE](#) [DETAILS](#) [KLOCNE ORDER](#)

HØDENEKE

Selected Product

Rapid Scan High Rate SEVIRI Level 1.5 Image Data - MSG



Rectified (Level 1.5) Meteosat SEVIRI Rapid Scan image data. The baseline scan region is a reduced area of the top 1/3 of a nominal repeat cycle, covering a latitude range from approximately 15 degrees to 70 degrees. The service generates repeat cycles at 5-minute intervals (the same as currently used for weather radars). The dissemination of RSS data is similar to the normal dissemination, with image segments based on 464 lines and compatible with the full disk level 1.5 data scans. Epilogue and prologue (L1.5 Header and L1.5 Trailer) have the same structure. Calibration is as in Full Earth Scan. Image rectification is to 9.5 degreesE. The scans start at 00:00, 00:05, 00:10, 00:15 ... etc. (5 min scan). The differences from the nominal Full Earth scan are that for channels 1 - 11,

FOLLOW US ON

MEMBER STATES

2.1 1. Go to Order Status select your delivered order and Open Online Delivery Page.

The screenshot shows a web-based interface for managing online orders. At the top, it says "Online Order Download". Below that, it displays "Files for order 1255338". There is a "Shipping note" section, followed by a table with one row. The table has two columns: the file name "1255338-1of1.tar" and its details "85.9443 Mb 06-12-2017 10:49:29". At the bottom, there is a copyright notice "Copyright © 2004 EUMETSAT". A red rectangular box highlights the file name "1255338-1of1.tar".

2.2 2. Download file(s) from the delivery page using Right Click + “Save file under...”

Please check, if the downloaded file is as big as given in the delivery page and that the archive contains as many slots as intended. If not, download again.

2.3 3. Move files from your local system to the *talos* server:

```
cd Downloads  
mv 1234567-1of1.tar /vols/talos/home/group\_share/misc\_documents/sat\_archive\_  
→filling
```

2.4 4. Log onto server *altair* as user “sat_data” with:

```
ssh -X sat\_data@altair  
password: **Please ask**
```

2.5 5. Move the file from *talos* to *altair*:

```
cd /vols/altair/datasets/eumcst/incoming/umarf/http/(year)  
mv /vols/talos/home/group\_share/misc\_documents/sat\_archive\_filling/\*.tar /vols/  
→altair/datasets/eumcst/incoming/umarf/http/(year)
```

2.6 6. Extract your order:

```
tar -xvf 1234567-1of1.tar
```


EXTRACT DATA FROM THE TAPES

3.1 1. First you will have to check if the tape machine is ready.

→ Log into the LTO computer with:

```
ssh sat\_data@lto5.tropos.de  
(password: **AbS11!**)
```

→ check the status with:

```
mtx -f /dev/sg1 status
```

→ The data transfer element has to be empty.

```
[sat_data@lto5 ~]$ mtx -f /dev/sg1 status  
Storage Changer /dev/sg1:1 Drives, 8 Slots ( 0 Import/Export )  
Data Transfer Element 0:Empty  
    Storage Element 1:Full :VolumeTag=LC0070L5  
    Storage Element 2:Full :VolumeTag=LC0072L5  
    Storage Element 3:Full :VolumeTag=LC0071L5  
    Storage Element 4:Full :VolumeTag=LC0074L5  
    Storage Element 5:Full :VolumeTag=LC0073L5  
    Storage Element 6:Full :VolumeTag=LC0068L5  
    Storage Element 7:Full :VolumeTag=LC0075L5  
    Storage Element 8:Full :VolumeTag=LC0047L5
```

If this isn't the case you have to unload it with:

```
mtx -f /dev/sg1 unload
```

3.2 2. Ask Hartwig for the key to access the server-room in building 23.5.

23.5.

3.3 3. Use room 0.03 in the ground floor of 23.5 to access room

0.07. Here you will find the rack with the tape-computer and tape-drive right next to the door.

3.4 4. At the tape-computer use the Next () or Previous key () to

navigate to “Operations”. Use Enter to get to the selection of which of the two magazines (each holding up to 4 tapes) you like to open.



Either use Enter again on “Unlock Left Magazine” or “Unlock Right Magazine” and wait a brief moment.

3.5 5. Kindly remove the unlocked magazine and insert or exchange

tape(s). Always start with #1 (nearest position in the left magazine).



Note The left magazine contains: *Positions 1 to 4* (starting with #1)

and the right magazine contains: *Position 5 to 8* (starting with #5)

3.6 6. Re-insert the magazine and wait for the tape-computer to read the

tape.

3.7 7. Turn off the light, leave the room and lock the door.

3.8 8. Give the key back to Hartwig.

3.9 9. Log into the LTO computer again

```
(rempel) lto5.tropos.de - Konsole
File Edit View Bookmarks Settings Help
rempel@Kaffeemaschine:~/Wetterbesprechung/20150401> ssh rempel@lto5.tropos.de
Last login: Tue Mar 31 14:07:42 2015 from Kaffeemaschine
rmpel@lto5:~> cd /vols/talos/datasets/eumcst/incoming/umarf/tapes/
rmpel@lto5:/vols/talos/datasets/eumcst/incoming/umarf/tapes> ll
total 51864
-rwxr-xr-x 1 rempel satellit      500 Dec  4 13:37 extract_tape.sh
-rw-r--r-- 1 dencke satellit    3096 Mar 31 12:42 gaps-2013-long.pdf
-rw-r--r-- 1 dencke satellit    22419 Mar 31 12:40 gaps-2013-rss.txt
-rw-r--r-- 1 dencke satellit     7938 Mar 31 12:42 gaps-2013-short.pdf
drwxr-xr-x 2 rempel satellit   339968 Jan  6 17:24 LC0149L4
drwxr-xr-x 2 rempel satellit   327680 Jan 13 11:34 LC0173L4
drwxr-xr-x 2 rempel satellit   344064 Jan  8 16:23 LC0190L4
drwxr-xr-x 2 rempel satellit   344064 Jan  7 16:02 LC0196L4
```

3.10 10. Go to the directory for tapes with:

```
cd /vols/talos/datasets/eumcst/incoming/umarf/tapes
```

Execute the shell-script **extract_tape** for a single tape in *Positio 1*:

```
nohup extract\_tape.sh \$TAPENAME &
```

or the shell script **extract_tapes** for multiple tapes:

```
nohup extract\_tapes.sh \$TAPE1NAME \$TAPE2NAME \$TAPE3NAME &
```

For the tape names you can simply use `mtx -f /dev/sg1 status` again, it shows them after `VolumeTag=`, remember to follow the position order.

Note: nohup lets you run programs even if you log out and writes any messages into the file `nohup.out`.

3.11 11. Now the data for Step III should be under:

```
/vols/talos/datasets/eumcst/incoming/umarf/tapes/(tapename)
```

3.12 12. Unlike the http files the tape files don't need to be unpacked,

simply add them to the target folder:

```
/vols/altair/datasets/eumcst/incoming/umarf/http/(year)
```

Note: It can be useful to look into linux tape management to understand the process and solve possibly occurring errors.

A starting point is:

<https://www.cyberciti.biz/hardware/unix-linux-basic-tape-management-commands/>

FILLING GAPS IN TROPOS ARCHIVE AFTER DELIVERY

Note: the actual archive is at

```
/vols/altair/datasets/eumcst/msevi\_pzs/115.hrit/ (year)
```

and

```
/vols/altair/datasets/eumcst/msevi\_rss/115.hrit/ (year)
```

The filling process assumes that you have copied and extracted data from tape or HTTP into a unique directory under:

```
/vols/altair/datasets/eumcst/incoming/umarf/http/ (year)
```

Now the following tasks need to be completed:

1. Add data to archive
2. Update segment masks
3. Re-create gap info

For each of these steps, you need to log onto server altair (see Step 4 of II.a)

In addition, you need to set the path to include the Anaconda python environment by using the following command:

```
export PATH=/vols/talos/local/anaconda/bin:$PATH
```

Note: GNU Screen

As the steps take significant time, it is convenient to run sessions in GNU Screen, so you can log out of the computer and later resume sessions. You may look up [*http://nathan.chantrell.net/linux/an-introduction-to-screen/*](http://nathan.chantrell.net/linux/an-introduction-to-screen/) for an introduction on GNU Screen.

4.1 1. Adding data to the archive

```
fmcast\_ms15\_update.py \$DIR1 \... \$DIRN &
```

Example:

```
cd /vols/altair/datasets/eumcst/incoming/umarf/http/2016
nohup fmcast\_ms15\_update.py /vols/altair/datasets/eumcst/incoming/umarf/
http/2016/\* &
```

This command traverses each directory tree. For each tarfile containing HRITs, it checks whether a corresponding tarfile is already in the archive, and whether it is complete. If it is incomplete, the missing HRIT files are added otherwise a new tarfile is created in the archive.

Afterwards you will have to clear the directory:

```
rm \*.tar
```

4.2 2. Updating the segment masks

This doesn't have to be done every time. It is enough to do it after a significant chunk of data is added.

Issue the command to update the segment mask e.g. for the year 2013 and the Rapid-Scan-Service ('rss', for Prime-Service use 'pzs'):

```
fmcast\_ms15\_segmask.py -A -y 2013 -s \'rss\'
```

You can also specify the date interval for a month (here: Jan 2013):

```
fmcast\_ms15\_segmask.py -A -m 2013-01 -s \'rss\'
```

A specific date (here: 1st Jan 2013):

```
fmcast\_ms15\_segmask.py -A -d 2013-01-01 -s \'rss\'
```

A date period (equivalent to -m 2013-01):

```
fmcast\_ms15\_segmask.py -A -d 2013-01-01,2013-02-01 -s \'rss\'
```

Note: this step is quite time-consuming, as it obtains the list of files from each tarfile. Using nohup is recommended.

4.3 3. Obtaining statistics/gap information**

To find gaps for a year, do the following:

```
cat /vols/altair/datasets/eumcst/msevi\_rss/meta/segmasks/2013/??/\*.segmask  
|\ sort |\ \ fmcast\_ms15\_gaps.py -y 2013 > gaps-2013-rss.txt
```

This will produce output as follows:

```
2014-01-01 10:20 2014-01-02 10:45 rss 294  
  
2014-01-14 09:00 2014-02-13 09:00 rss 8641
```

To split the file in large gaps, use the following command:

```
cat gaps-2013-rss.txt |\ awk '{if($6>=10)print}' |\ less >  
gaps-2013-rss-long.txt
```

Small gaps can be viewed with:

```
cat gaps-2013-rss.txt |\ awk '{if($6<10)print}' |\ less >  
gaps-2013-rss-short.txt
```

To create PDFs to print out and put in the sat-archiving file, use:

```
enscript -p gaps-2013-pzs-long.ps gaps-2013-pzs-long.txt
```

```
ps2pdf gaps-2013-pzs-long.ps gaps-2013-pzs-long.pdf
```

Afterwards you can remove the ps-files

It's also possible to obtain summary statistics for a year:

```
cat /vols/altair/datasets/eumcst/msevi\_rss/meta/segmasks/2013/??/\*.segmask  
|\ sort |\ \ fmcast\_ms15\_stats.py -y 2013
```

This will produce output as follows:

**CHAPTER
FIVE**

INDICES AND TABLES

- genindex
- modindex
- search