EUMETSAT’S GLOBAL AND REGIONAL SERVICES FOR SOUNDER DATA

ABSTRACT
EUMETSAT is well known as the operator of geostationary and polar-orbiting meteorological satellites which carry microwave and infrared sounding instruments, such as HIRS, MHS, AMSU-A, and AMSU-B. Future EUMETSAT satellite missions will also deliver contributions in these areas. In addition to the global data services for its own satellites and NOAA satellites in the framework of the IPU, EUMETSAT also operates a set of 3rd party data services to distribute data from other satellite operations around the world in a comprehensive form to users in Europe, Asia, and America. These 3rd party data services already include sounding data from NOAA and FY-3 satellites and will be expanded upon user request and according to data availability in the future. The EUMETSAT Advanced Retransmission Services (EARS), which is started as a regional data service for incoherent data from the Atlantic and Europe, now covers a large part of the Northern Hemisphere. Where possible it has been extended to include IASI data from the two METOP satellites as well as AVHRR and CrIS data from Suomi-NPP with products generated using local processing software packages. A further extension to FY-3 sounding is planned for the coming years.

3rd PARTY DATA SERVICES
In addition to its 3rd party services EUMETSAT also provides NRT data from various foreign satellites through its 3rd party data services. These are characterised by:
- NRT data come from various organisations (CMA, CNES, ESA, SSRU, JAXA, MASA, NASA, NOAA, NSOAS, ROSHYDROMET)
- The selection and priority setting of data which EUMETSAT tries to make available is done by the STG-OPSWG.
- Data reception is done by the satellite provider or on behalf of the satellite provider.
- Data policy and data ownership remains with the providers.
- Raw processing is in most cases done by the satellite providers.
- Data are transferred to EUMETSAT in various ways (dedicated lines, RMDCN, Internet, ...)
- Depending on user demands EUMETSAT can reformate or tailor the data.
- Availability and timeliness of data is mostly determined by the data provider.

Operational 3rd party data service for LEO satellites
- Microwave Sounder L1 products from SSMI FY-3A and FY-3B (only provided to National Met. Services)
- Level 1 and 2 products derived from data of the MODIS instrument on NASA’s Terra & Aqua satellites
- SMOS reformatable BUPR products derived from sounding data of the SMOS missions (SMOS L1B and FY)
- EUMETCast = 90% of pre-operational products

Operational 3rd party data service for GEO satellites
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Planned 3rd party data service for GEO satellites
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GLOBAL S-NPP SERVICE VIA EUMETCAST
Pass thru extract BUFR bulletin re-pack BUFR | Pass thru
sieves filter to WTH BUFR standard
BUFR

C/VS BUFR with WTHR cloud data
As pass thru plus decode BUFR BUFR | Set additional channels to missing | decode BUFR BUFR envelopes and merge with co-located C/VS | re-encode C/VS BUFR BUFR | 150

GLOBAL AND REGIONAL SERVICES FOR SOUNDER DATA

UPL services for IASI, AMSU-A, MHS, and HIrons on METOP A/B and NOAA 19
EUMETSAT generates in the EPS core ground segment L1 products in BUFR format for the assimilation in NWP models and disseminates them via the EUMETCast satellite dissemination system and through the GTS.

GLOBAL AND REGIONAL SERVICES FOR SUOMI-NPP: A COMPLIMENTARY DATA SET

Pass thru extract BUFR bulletin re-pack BUFR bulletin
sieves filter to WTH BUFR standard

C/VS BUFR with WTHR cloud data
As pass thru plus decode BUFR BUFR | Set additional channels to missing | decode BUFR BUFR envelopes and merge with co-located C/VS | re-encode C/VS BUFR BUFR | 150

GLOBAL AND REGIONAL ATMS SDR

AVAILABILITY ON EUMETCAST FOR IASI REG. DATA

AVAILABILITY ON EUMETCAST FOR ATDS REG. DATA

GTS data flow concept

GLOBAL AND REGIONAL CRIS SDR

AVAILABILITY ON EUMETCAST FOR S-NPP USING AND CRIS REG. DATA

EUCLID satellite dissemination

STU/HMDC

ATMS Pass thru

GCR 150 BUFR cloud data
150 to 780 channels and add WTHR cloud data

EUCLID BUFR cloud data

GCR ATMS BUFR

GCR ATMS BUFR

SUOMI-NPP SDRs

HIRS

SAPHIR

AMSU-A

AMSU-B

MHS

HIS + HIS degraded

HIS degraded

BUFR problem

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<th>Instrument Status</th>
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<th>SAPHIR</th>
<th>AMSU-A</th>
<th>AMSU-B</th>
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Tari Availability for

EUCLID BUFR cloud data

GCR ATMS BUFR

GCR ATMS BUFR

SUOMI-NPP SDRs

HIRS

SAPHIR

AMSU-A

AMSU-B

MHS

HIS + HIS degraded

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BUFR problem

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Tari Availability for

EUCLID BUFR cloud data

GCR ATMS BUFR

GCR ATMS BUFR

SUOMI-NPP SDRs

Global

Regional

Global

Regional

Global

Regional

Global

Regional

Global

Regional

Global

Regional

Global

Regional

Global

Regional

Global

Regional