

WORLD METEOROLOGICAL ORGANIZATION

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COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

INTER-PROGRAMME EXPERT TEAM ON SATELLITE UTILIZATION AND
PRODUCTS

ITEM: 6.4

THIRD SESSION

Original: ENGLISH

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Prototype for global monitoring of satellite data availability

(Submitted by Stephen English)

Summary and Purpose of Document

This paper discusses a prototype for a global satellite data monitoring product based on data availability at a global NWP centre, as one performance indicator for assessing progress with the Satellite Data Dissemination Strategy of the WMO Space Programme.

ACTION PROPOSED

The third session is invited to note the information provided.

DISCUSSION

1. Introduction

Some discussion has taken place between ECMWF's Forecast Department (Cristina Prates and Mohamed Dahoui) and WMO Space Programme about provision of information on satellite data availability as a performance indicator for assessing progress on satellite data dissemination strategy by WMO Space Programme. However this is at an initial stage and ECMWF need more guidance on what is required.

2. Sample data

Examples of output from ECMWF's automatic data monitoring are shown in Appendix A (observation counts) and Appendix B (observation availability). At present this is being prepared for one selected day in the middle of each month. However these can be provided on a daily basis if required. The product can be adjusted to suit needs.

3. Conclusion

ECMWF is happy to support further this activity at WMO, provided the amount of effort asked for is small, but needs feedback on how closely this information would meet the requirement, and what the next steps are.

Appendices:

A. Typical 24h summary of data availability (what is received and used). The data will generally based on one day in the middle of the month. It can be done daily if needed.

Observation usage (Counts are provided in 1000s) based on 20161215 LWDA 00/12 cycles

DATA TYPE	SATELLITE/SENSOR	PARAMETER	ALL (K)	USED (K)
AMSUA	NOAA 15 AMSUA	Radiances	4429 (K)	311 (K)
AMSUA	NOAA 18 AMSUA	Radiances	8900 (K)	196 (K)
AMSUA	NOAA 19 AMSUA	Radiances	9381 (K)	409 (K)
AMSUA	METOP-A AMSUA	Radiances	6005 (K)	380 (K)
AMSUA	METOP-B AMSUA	Radiances	4536 (K)	491 (K)
ATMS	NPP ATMS	Radiances	6310 (K)	773 (K)
MHS	MHS NOAA 19 MHS	Radiances	516 (K)	125 (K)
MHS	MHS METOP-A MHS	Radiances	500 (K)	207 (K)
MHS	MHS NOAA 18 MHS	Radiances	516 (K)	214 (K)
MHS	MHS METOP-B MHS	Radiances	501 (K)	207 (K)
IASI	METOP-A IASI	Radiances	135779 (K)	3691 (K)
IASI	METOP-B IASI	Radiances	135238 (K)	3682 (K)
AIRS	AQUA AIRS	Radiances	102097 (K)	2612 (K)
CRIS	NPP CRIS	Radiances	99701 (K)	2229 (K)
AMSR2	GCOM-W1 AMSR-2	Radiances	690 (K)	207 (K)
MWHS2	FY-3C MWHS2	Radiances	1554 (K)	501 (K)
GMI	GPM GMI	Radiances	456 (K)	115 (K)
SSMIS	DMSP 17 SSMIS	Radiances	1846 (K)	337 (K)
SSMIS	DMSP 18 SSMIS	Radiances	1534 (K)	104 (K)
MWHS	FY-3B MWHS	Radiances	817 (K)	81 (K)

SATOB	METEOSAT 7	Ucomp	141 (K)	19 (K)
SATOB	METEOSAT 7	Vcomp	141 (K)	19 (K)
SATOB	METEOSAT 8	Ucomp	994 (K)	0 (K)
SATOB	METEOSAT 8	Vcomp	994 (K)	0 (K)
SATOB	NOAA 15 AVHRR IR	Ucomp	7 (K)	1 (K)
SATOB	NOAA 15 AVHRR IR	Vcomp	7 (K)	1 (K)
SATOB	NOAA 18 AVHRR IR	Ucomp	9 (K)	1 (K)
SATOB	NOAA 18 AVHRR IR	Vcomp	9 (K)	1 (K)
SATOB	NOAA 19 AVHRR IR	Ucomp	5 (K)	0 (K)
SATOB	NOAA 19 AVHRR IR	Vcomp	5 (K)	0 (K)
SATOB	TERRA MODIS	Ucomp	17 (K)	0 (K)
SATOB	TERRA MODIS	Vcomp	17 (K)	0 (K)
SATOB	AQUA MODIS	Ucomp	53 (K)	2 (K)
SATOB	AQUA MODIS	Vcomp	53 (K)	2 (K)
SATOB	FY-2E IR	Ucomp	204 (K)	0 (K)
SATOB	FY-2E IR	Vcomp	204 (K)	0 (K)
SATOB	GOES 13	Ucomp	867 (K)	20 (K)
SATOB	GOES 13	Vcomp	867 (K)	20 (K)
SATOB	METOP-A	Ucomp	164 (K)	4 (K)
SATOB	METOP-A	Vcomp	164 (K)	4 (K)
SATOB	GOES 15	Ucomp	776 (K)	23 (K)
SATOB	GOES 15	Vcomp	776 (K)	23 (K)
SATOB	METOP-B	Ucomp	165 (K)	4 (K)
SATOB	METOP-B	Vcomp	165 (K)	4 (K)
SATOB	METEOSAT 10	Ucomp	1025 (K)	57 (K)
SATOB	METEOSAT 10	Vcomp	1025 (K)	57 (K)
SATOB	COMS-1	Ucomp	419 (K)	0 (K)
SATOB	COMS-1	Vcomp	419 (K)	0 (K)
SATOB	Dual-Metop s	Ucomp	926 (K)	12 (K)
SATOB	Dual-Metop s	Vcomp	926 (K)	12 (K)
SATOB	INSAT-3D s	Ucomp	237 (K)	0 (K)
SATOB	INSAT-3D s	Vcomp	237 (K)	0 (K)
SATOB	NPP	Ucomp	92 (K)	3 (K)
SATOB	NPP	Vcomp	92 (K)	3 (K)
SATOB	Himawari 8	Ucomp	1461 (K)	127 (K)
SATOB	Himawari 8	Vcomp	1461 (K)	127 (K)
SATOB	FY-2G s	Ucomp	206 (K)	0 (K)
SATOB	FY-2G s	Vcomp	206 (K)	0 (K)
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GPSRO	METOP-A GPSRO	Bending Angle	149 (K)	99 (K)
GPSRO	GRACE A GPSRO	Bending Angle	26 (K)	22 (K)

GPSRO	COSMIC-1 GPSRO	Bending Angle	62 (K)	50 (K)
GPSRO	COSMIC-6 GPSRO	Bending Angle	70 (K)	54 (K)
GPSRO	TerraSAR-X GPSRO	Bending Angle	36 (K)	31 (K)
GPSRO	METOP-B GPSRO	Bending Angle	154 (K)	100 (K)
GPSRO	TanDEM-X GPSRO	Bending Angle	18 (K)	15 (K)

GEOS	METEOSAT 7 GEOS	Radiances	481 (K)	37 (K)
GEOS	GOES 13 GEOS	Radiances	1408 (K)	36 (K)
GEOS	GOES 15 GEOS	Radiances	1182 (K)	49 (K)
GEOS	METEOSAT 10 GEOS	Radiances	4916 (K)	132 (K)
GEOS	Himawari 8 GEOS	Radiances	8882 (K)	227 (K)

HIRS	NOAA 18 HIRS	Radiances	566 (K)	0 (K)
HIRS	NOAA 19 HIRS	Radiances	13824 (K)	0 (K)
HIRS	METOP-A HIRS	Radiances	15511 (K)	0 (K)
HIRS	METOP-B HIRS	Radiances	13646 (K)	0 (K)

SCATT	METOP-A ASCAT	10m Vcomp	1526 (K)	34 (K)
SCATT	METOP-A ASCAT	10m Ucomp	1526 (K)	34 (K)
SCATT	METOP-A ASCAT	Soil Moisture	31 (K)	0 (K)
SCATT	METOP-B ASCAT	10m Vcomp	1175 (K)	35 (K)
SCATT	METOP-B ASCAT	10m Ucomp	1175 (K)	35 (K)
SCATT	METOP-B ASCAT	Soil Moisture	28 (K)	0 (K)

RESAT	AURA MLS	Ozone	120 (K)	0 (K)
RESAT	AURA OMI	Ozone	50 (K)	39 (K)
RESAT	NOAA 19 SBUV-2	Ozone	28 (K)	19 (K)
RESAT	METOP-A GOME-2	Ozone	84 (K)	76 (K)
RESAT	METOP-B GOME-2	Ozone	121 (K)	110 (K)
RESAT	NPP OMPS	Ozone	12 (K)	0 (K)

ALTIM	JASON 2 RALT WAVE	Wave Height	4 (K)	0 (K)
ALTIM	JASON 2 RALT WAVE	Wave Speed	4 (K)	0 (K)
ALTIM	CRYOSAT 2 RALT WAVE	Wave Height	2 (K)	2 (K)
ALTIM	CRYOSAT 2 RALT WAVE	Wave Speed	2 (K)	0 (K)
ALTIM	SARAL RALT WAVE	Wave Height	4 (K)	4 (K)
ALTIM	SARAL RALT WAVE	Wave Speed	4 (K)	0 (K)

GBRAD	Ground-Based Radar	Hourly Precip	61 (K)	1 (K)

B. Summary of severe warnings that affected satellite data during the whole month

Summary of Severe warnings that affected observations used by ECMWF data assimilation systems during 201612. The automatic data checking is based on feedback information from the ECMWF data assimilation and consequently reflect the ECMWF data usage. Although most warnings are related to data problems, they may on occasion also be related to model issues.

DATE	WARNING DESCRIPTION	TYPE OF WARNING	LEVELS
2016120112	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120112	NPP ATMS radiances 10	Reduced counts	
2016120112	TerraSAR-X GPSRO Bending Angle	Reduced counts	Impact height 0km
2016120112	TerraSAR-X GPSRO Bending Angle	avg_n_fg_depar Out of range	Impact height 0km
2016120200	NOAA 15 AMSUA Radiances	AllDataMissing	All channels
2016120200	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120200	METOP-B IASI Radiances	Reduced counts	All channels
2016120212	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120300	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120312	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120312	TANDEM-X rising RO bending angles	AllDataMissing	
2016120312	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120312	MHS METOP-A MHS Radiances	Reduced counts	Channel 3
2016120400	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120400	TANDEM-X rising RO bending angles	AllDataMissing	
2016120400	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120400	MHS METOP-A MHS Radiances	Reduced counts	Channel 1
2016120400	METOP-A GOME-2 Ozone	Reduced counts	Channel 1
2016120400	METOP-A AMSU-A 3 radiances	Reduced counts	
2016120400	METOP-A GPSRO Bending Angle	Reduced counts	All channels
2016120400	METOP-A IASI Radiances	Reduced counts	All channels
2016120412	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120412	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120412	TANDEM-X rising RO bending angles	AllDataMissing	
2016120500	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120500	TANDEM-X rising RO bending angles	AllDataMissing	
2016120500	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120512	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All

2016120512	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120512	TANDEM-X rising RO bending angles	AllDataMissing	
2016120600	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120600	TANDEM-X rising RO bending angles	AllDataMissing	
2016120600	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120600	MHS METOP-A MHS Radiances	Reduced counts	Channel 1
2016120600	MHS METOP-A MHS Radiances	stdev(norm_fg_depar) Out of range	Channel 3
2016120600	MHS METOP-A MHS Radiances	stdev(norm_fg_depar) Out of range	Channel 4
2016120600	MHS METOP-A MHS Radiances	stdev(norm_fg_depar) Out of range	Channel 5
2016120612	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120612	TANDEM-X rising RO bending angles	AllDataMissing	
2016120612	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120700	NOAA 19 AVHRR IR Radiances	AllDataMissing	All channels
2016120700	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016120700	TANDEM-X rising RO bending angles	AllDataMissing	
2016120700	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120712	TANDEM-X rising RO bending angles	AllDataMissing	
2016120712	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120712	AQUA AIRS Radiances	Reduced counts	Channel 375
2016120800	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120800	AQUA AIRS Radiances	Reduced counts	Channel 375
2016120812	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120900	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120912	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016120912	NPP ATMS radiances 1	Reduced counts	
2016120912	NPP CRIS Radiances	Reduced counts	All channels
2016121000	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121012	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121100	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121112	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121112	NPP CRIS Radiances	Reduced counts	All channels
2016121200	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All

2016121212	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121300	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121312	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121400	TerraSAR-X GPSRO Bending Angle	AllDataMissing	All
2016121400	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121400	NPP CRIS Radiances	Reduced counts	All channels
2016121400	METOP-A IASI Radiances	Reduced counts	All channels
2016121412	COSMIC-1 GPSRO Bending Angle	AllDataMissing	All
2016121412	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121412	AQUA AIRS Radiances	Reduced counts	All channels
2016121500	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121512	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121512	NPP CRIS Radiances	Reduced counts	All channels
2016121600	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121600	FY-3B MWHS Radiances	stdev(fg_depar) Out of range	Channel 2
2016121600	FY-3B MWHS Radiances	avg(fg_depar) Out of range	Channel 3
2016121612	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121612	FY-3B MWHS Radiances	avg(fg_depar) Out of range	Channel 3
2016121700	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121712	GCOM-W1 AMSR-2 Radiances	AllDataMissing	All channels
2016121712	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121712	METOP-B IASI Radiances	Reduced counts	All channels
2016121712	METOP-A IASI Radiances	Reduced counts	Channel 97
2016121712	METOP-B IASI Radiances	avg(biascorr) Out of range	Channel 59
2016121712	METOP-B IASI Radiances	avg(biascorr) Out of range	Channel 178
2016121712	METOP-B IASI Radiances	avg(biascorr) Out of range	Channel 179
2016121712	METOP-B IASI Radiances	avg(biascorr) Out of range	Channel 197
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 59
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 173
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 178
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 179
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 180
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 191
2016121712	METOP-A IASI Radiances	avg(biascorr) Out of range	Channel 197
2016121800	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All

2016121800	METOP-B	IASI	Radiances	Reduced counts	All channels
2016121800	METOP-A	IASI	Radiances	Reduced counts	Channel 97
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 59
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 178
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 179
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 308
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 6458
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 6463
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 6601
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6962
2016121800	METOP-B	IASI	Radiances	avg(biascorr) Out of range	Channel 6978
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6980
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6982
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6985
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6987
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6989
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6991
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6993
2016121800	METOP-B	IASI	Radiances	avg(fg_depar) Out of range	Channel 6995
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6997
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7001
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7267
2016121800	METOP-B	IASI	Radiances	avg(fg_depar) Out of range	Channel 7269
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7389
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7424
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7426
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7428
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7885
2016121800	METOP-B	IASI	Radiances	stdev(fg_depar) Out of range	Channel 8007
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 179
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 180
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 6458
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 6463
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 6601
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6978
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 6980
2016121800	METOP-A	IASI	Radiances	avg(biascorr) Out of range	Channel 6982
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6985
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6987
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6991
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6993
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6995
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 6997
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7001
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7269
2016121800	METOP-A	IASI	Radiances	stdev(fg_depar) Out of range	Channel 7389

2016121800	METOP-A IASI Radiances	stdev(fg_depar) Out of range	Channel 7424
2016121800	METOP-A IASI Radiances	stdev(fg_depar) Out of range	Channel 7426
2016121800	METOP-A IASI Radiances	stdev(fg_depar) Out of range	Channel 7428
2016121800	METOP-A IASI Radiances	stdev(fg_depar) Out of range	Channel 7885
2016121812	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121900	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016121912	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122012	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122012	AURA OMI Ozone	Reduced counts	Channel 1
2016122012	METOP-B GOME-2 Ozone	Reduced counts	Channel 1
2016122100	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122100	AURA OMI Ozone	Reduced counts	Channel 1
2016122112	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122112	FY-3C IRAS 2 radiances	stdev(fg_depar) Out of range	
2016122200	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122300	NOAA 15 AMSUA Radiances	AllDataMissing	All channels
2016122300	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122312	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122400	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122400	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122412	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122412	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122500	COSMIC-1 GPSRO Bending Angle	AllDataMissing	All
2016122500	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122500	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122512	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122512	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122600	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122600	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122612	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All

2016122612	AQUA AIRS Radiances	Reduced counts	All channels
2016122700	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122700	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122712	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122712	DMSP 17 SSMIS Radiances	Reduced counts	All channels
2016122712	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122800	DMSP 17 SSMIS Radiances	AllDataMissing	All channels
2016122800	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122800	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122812	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122812	DMSP 17 SSMIS Radiances	Reduced counts	All channels
2016122812	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122900	COSMIC-1 GPSRO Bending Angle	AllDataMissing	All
2016122900	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016122900	AQUA AIRS Radiances	Reduced counts	Channel 375
2016122912	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016123000	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016123012	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016123100	COSMIC-6 GPSRO Bending Angle	AllDataMissing	All
2016123100	METOP-B IASI Radiances	Reduced counts	Channel 55