Topic:
New Level 1B Format Implemented

Date/Time(UTC) Message Issued:
28 April 2005, 1440 UTC

Satellite(s) Involved:
NOAA-15, -16, & -17

Instrument(s) Involved:
All instruments

Product(s) Involved/Affected:
All Products

Date/Time(UTC) of Initial Implementation:
28 April 2005, Time 1340 UTC

Details/Specifics of Change:

We have completed our switch over to the new format. Users will see initial data arriving slowly as we verify that all changes are functioning as expected.

********** Original Message **********
The implementation of the new level 1B format for KLM satellites has slipped from April 27 to April 28 at 1340 UTC. There are no additional change. This will allow product areas to complete their final testing.
Last data in the old format:
NSS.HRPT.NM.D05118.S0934.E0944.B1477676.GC
NSS.GHRR.NM.D05118.S0744.E0932.B1477576.GC
NSS.LHRR.NM.D05118.S0826.E0830.B1477575.GC
NSS.LHRR.NM.D05118.S0818.E0829.B1477575.GC

NSS.HRPT.NL.D05118.S1202.E1214.B2370505.GC
NSS.HRPT.NL.D05118.S1208.E1222.B2370505.MO
NSS.GHRR.NL.D05118.S1014.E1200.B2370405.GC
NSS.LHRR.NL.D05118.S1141.E1152.B2370505.GC

NSS.HRPT.NK.D05118.S1204.E1219.B3616868.WI
NSS.GHRR.NK.D05118.S1019.E1204.B3616768.WI

Δ'd 40-50 files and put up on web 5/4 & 5/05

The first data in the new format will be:
NSS.HRPT.NM.D05118.S1457.E1511.B1477979.WI
NSS.GHRR.NM.D05118.S0926.E1121.B1477677.WI
NSS.LHRR.NM.D05118.S1316.E1327.B1477878.WI

NSS.HRPT.NL.D05118.S1342.E1356.B2370606.GC
NSS.GHRR.NL.D05118.S1154.E1341.B2370506.GC
NSS.LHRR.NL.D05118.S1325.E1337.B2370606.GC

NSS.HRPT.NK.D05118.S1701.E1714.B3617171.GC
NSS.GHRR.NK.D05118.S1158.E1353.B3616869.GC
Please contact us, if you have any problems or concerns

Contact Person(s) Name/Email/Phone Number for Questions:
Emily Harrod emily.harrod@noaa.gov 301-452-5247 ext 117
Cathy Nichols cathy.nichols@noaa.gov 301-452-5244 ext 128

Web site(s) that contain other relevant information (where applicable):
http://www.osdpd.noaa.gov/PSB/PPP/PPP.html - History of level 1B notices
http://www.ssd.noaa.gov/PS/SATS/messages.html - All user notices
http://www.oso.noaa.gov/poesstatus/ - SOCC polar satellites status
http://www.oso.noaa.gov/daily-news/index.asp

<http://www.oso.noaa.gov/daily-news/index.htm> - SOCC morning reports

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*
* Emily D. Harrod
* NOAA/NESDIS/OSDPD/IPD
* Computer Operations Branch
* Pre-Product Processing Group
* E/SP11, Federal Building #4, room 0318
* 5200 Auth Road
* Suitland, Maryland  20746-4304
* USA
* voice 301-457-5247 ext 117
* fax   301-457-5199
* email Emily.Harrod@noaa.gov
*
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Topic:
Implementation of Level 1B Format Changes

Date/Time(UTC) Message Issued:
7 April 2005, 2315 UTC

Satellite(s) Involved:
NOAA-15, 16, 17

Instrument(s) Involved:
All instruments

Product(s) Involved/Affected:
All Products

Date/Time(UTC) of Initial Implementation:
12 April 2005, 1230 UTC

Details/Specifics of Change:

On April 12, 2005 starting at 1230 UTC, NOAA NESDIS will implement the new level 1B formats for NOAA-15, 16, and 17. This change will impact all instruments. Listed below are the last passes that should be processed with the old format and the first passes to be processed with the new format. We do not expect an extended delay of data but it is possible that NOAA-16 passes may be held up while we implement the changes. We will resume processing as soon as possible with the new format.

Last passes with old format (received before 1230 UTC):
NSS.HRPT.NK.D05102.S1143.E1158.B3594040.WI
NSS.GHRR.NK.D05102.S0958.E1143.B3593940.WI

NSS.HRPT.NL.D05102.S1145.E1156.B2347979.GC
NSS.HRPT.NL.D05102.S1151.E1205.B2347979.MO
NSS.GHRR.NL.D05102.S1009.E1143.B2347879.GC
NSS.LHRR.NL.D05102.S1115.E1127.B2347879.GC*
NSS.LHRR.NL.D05102.S1123.E1135.B2347979.GC

NSS.HRPT.NM.D05102.S0858.E0910.B1454848.GC
NSS.GHRR.NM.D05102.S0709.E0856.B1454748.GC
NSS.LHRR.NM.D05102.S0751.E0756.B1454747.GC

* Due to scheduling, this pass will not be received until after the switch to the new format. However, in order to be consistent with the rest of the data recorded from that orbit, it will be processed in the old format.

First passes with new format (received after 1230 UTC):
NSS.HRPT.NK.D05102.S1820.E1833.B3594444.GC
NSS.GHRR.NK.D05102.S1137.E1332.B3594041.WI

NSS.HRPT.NL.D05102.S1325.E1339.B2348080.GC
NSS.GHRR.NL.D05102.S1137.E1324.B2347980.GC
NSS.LHRR.NL.D05102.S1249.E1301.B2347980.GC

NSS.HRPT.NM.D05102.S1424.E1435.B1455151.WI
NSS.GHRR.NM.D05102.S0851.E1046.B1454849.WI
NSS.LHRR.NM.D05102.S1052.E1104.B1454949.WI

NOTE: As normal, passes may not be processed in sequential order due to scheduling issues or blind orbits.

Contact Person(s) Name/Email/Phone Number for Questions:

Cathy Nichols cathy.nichols@noaa.gov 301-457-5245 ext 128
Emily Harrod emily.harrod@noaa.gov 301-452-5247 ext 117

Web site(s) that contain other relevant information (where applicable):
http://www.osdpd.noaa.gov/PSB/PPP/PPP.html - History of level 1B notices
http://www.ssd.noaa.gov/PS/SATS/messages.html - All user notices
http://www.oso.noaa.gov/poesstatus/ - SOCC polar satellites status
http://www.oso.noaa.gov/daily-news/index.htm - SOCC morning reports

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*****************************************
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* Emily D. Harrod
* NOAA/NESDIS/OSDPD/IPD
* Computer Operations Branch
* Pre-Product Processing Group
* E/SP11, Federal Building #4, room 0318
* 5200 Auth Road
* Suitland, Maryland  20746-4304
* USA
* voice 301-457-5247 ext 117
* fax   301-457-5199
* email Emily.Harrod@noaa.gov
*
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Table 8.2-1 Level 1b Data Set Names
Table 8.3.1.2-1 Format of ARS Header Record
Table 8.3.1.3.1-1 LAC/HRPT Data Characteristics
Table 8.3.1.3.2.1-1 Format of LAC/HRPT Data Set Header Record (version 2, pre-XXXX 2005)
Table 8.3.1.3.2.2-1 Format of LAC/HRPT Data Set Header Record (version 3, post-XXXX 2005, all spacecraft)
Table 8.3.1.3.3.1-1 Format of packed LAC/HRPT Data Sets (version 2, pre-XXXX 2005)
Table 8.3.1.3.3.1-2 LAC/HRPT 8-bit Extract Structure
Table 8.3.1.3.3.1-3 LAC/HRPT 16-bit Extract Structure
Table 8.3.1.3.3.2-1 Format of LAC/HRPT Data Record for NOAA-N (Version 3, post-XXXX 2005, all spacecraft)
Table 8.3.1.4.1-1 GAC Data Characteristics
Table 8.3.1.4.2.1-1 Format of GAC Data Set Header Record for NOAA KLM (version 2, pre-XXXX 2005)
Table 8.3.1.4.3.1-1 Format of packed GAC Data Record for NOAA KLM (version 2, pre-XXXX 2005)
Table 8.3.1.4.3.1-2 GAC 8-bit Extract Structure
Table 8.3.1.4.3.1-3 GAC 16-bit Extract Structure
Table 8.3.1.4.3.2-1 Format of GAC data record for NOAA-N (version 3, post-XXXX 2005, all spacecraft)
Table 8.3.1.5.1.1-1 HIRS/3 Data Characteristics
Table 8.3.1.5.2.1-1 Format of HIRS/3 Data Set Header Record (Flown on NOAA KLM, version 2, pre-XXXX 2005)
Table 8.3.1.5.2.2-1 HIRS/4 Data Set Header Record Format (version 3, post-XXXX 2005, all spacecraft)
Table 8.3.1.5.3.1-1 Format of HIRS/3 Data Record (version 2, pre-XXXX 2005)
Table 8.3.1.5.3.2-1 Format of HIRS/4 Data Format (version 3, post-XXXX 2005, all satellites)
Table 8.3.1.6.1-1 AMSU-A Data Characteristics
Table 8.3.1.6.2.1-1 Format of AMSU-A Data Set Header Record (version 2, pre-XXXX 2005).
Table 8.3.1.6.2.2-1 Format of AMSU-A Data Set Header Record (version 3, post-XXXX 2005, all satellites).
Table 8.3.1.6.3.1-1 Format of AMSU-A Data Record (version 2, pre-XXXX 2005).
Table 8.3.1.6.3.2-1 Format of AMSU-A Data Record (version 3, post-XXXX 2005, all spacecraft)
Table 8.3.1.7.1-1 AMSU-B Data Characteristics
Table 8.3.1.7.2.1-1 Format of AMSU-B Data Set Header Record for NOAA KLM (Version 2, pre-XXXX 2005)
Table 8.3.1.7.2.2-1 Format of AMSU-B Data Set Header Record for NOAA-N (Version 3, post-XXXX 2005, all satellites)
Table 8.3.1.7.3.1-1 Format of AMSU-B Data Record NOAA KLM (version 2, pre-XXXX 2005)
Table 8.3.1.7.3.2-1 Format of AMSU-B Data Record for NOAA-N (version 3, post-XXXX 2005, all satellites)
Table 8.3.1.8.2-1 Format of SEM-2 Data Set Header Record
Table 8.3.1.8.3-1 Format of SEM-2 Data Record

Table 9.1-1 Format of the SST Header File
Table 9.1.1.1-1 Format of the Directory Record for Any SST Field Accumulation File
Table 9.1.1.2-1 Format of the Field Documentation Record
Table 9.1.1.3-1 Format of the Parameters in the Grid Intersection
Table 9.1.1.3-2 Format of the Latitudinal Row Identifier
Table 9.1.2-1 Format of the Block Directory Record
Table 9.1.2-2 Format of Observation Data Record
Table 9.1.2-3 Format of the Eight Day SST Observation Unit
Table 9.1.2-4 SST Observation Types
Table 9.1.2-5 SST Observation Source Codes

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Section 9.0

9.0 NESDIS Operational Products

The following products are generated from the NOAA KLM Level 1b data and are further described in this section:

- Section 9.1 Sea Surface Temperature (SST) Products
- Section 9.2 Mapped GAC Products
- Section 9.3 Radiation Budget Products
- Section 9.4 Sounding Products
- Section 9.5 CoastWatch Products
- Section 9.6 Snow and Ice Products
- Section 9.7 Ozone (SBUV/2) Products
- Section 9.8 Aerosol/Optical Thickness Products
- Section 9.9 Satellite Active Archive (SAA) Comprehensive Large Array-data Stewardship System (CLASS)

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c8 | 58319-2

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January 26, 2005

Section 8.3.1.7 and all subsections Update all AMSU-B sections with changes for new NOAA-N (version 3) Level 1b format. This new format will be implemented for all POES spacecraft in January or February 2005 (TBD).

January 27, 2005

Section 8.3.1.9 and all subsections Update all MHS sections with changes for new NOAA-N (version 3) Level 1b format. This new format will be implemented for all POES spacecraft in January or February 2005 (TBD).

February 9, 2005

Section 8.3.1.8 and all subsections Update all SEM sections (with comments from NOAA's SEC incorporated).

March 1, 2005

Section 1 2 Update NOAA-N launch date.

Appendix D.4 Update with new launch date and spacecraft ID numbers for NOAA-N.

March 8, 2005

Section 4-1 Corrected Table 4.1.3.1-1 (HRPT Minor Frame Format for NOAA KLM), Word 7, bit 10 and Spare words 624-750.

March 14, 2005

Section 4.1.3-1 Corrected previous (erroneous) change to Table 4.1.3.1-1 (HRPT Minor Frame Format for NOAA KLM), Word 7, bit 10. Spare words 624-750 were correct.

Section 4.1.3-2 Corrected Table 4.1.3.2-1 (HRPT Minor Frame Format for NOAA-N,-N'), Word 7, bit 10. Word 7 bit 10 should be 0 = Ch 3B and 1 = Ch 3A for both NOAA KLM and NOAA-N,-N' HRPT.

April 6, 2005

Section 8.3.1.5.3.1-1 Corrected Table 8.3.1.5.3.1-1 (HIRS/3 Data Record (Version 2, pre-XXXX 2005), bytes 3953-3596 should describe Header for Element 52; and bytes 4293-4332 should describe the Internal Cold Target, Temperature Sensors.

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Section 8.3

8.3 Data Distribution Formats

This section describes the digital data formats which NOAA/NESDIS uses to distribute data from the NOAA Level 1b database.

8.3.1 NOAA Level 1b (Native) Format and Selective Extracts

This section describes the NOAA Level 1b digital data format. This includes the data formats archived by NOAA/NESDIS and distributed to near-realtime users, and the formats produced by NESDIS archive retrieval systems for customers of retrospective data (data older than 24 hours).

NOAA has announced the intent to use the new NOAA Level 1b format (version 3) for data processed from the NOAA-15, 16 and 17 instruments beginning in early 2005 (date TBD). Version 2 formats (v2) were used on all NOAA KLM (NOAA-15, 16 and 17) data until January or February 2005 (TBD). After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft. There is no plan at this time to reprocess archived data into the new format.

- Section 8.3.1.1 Data Set Structure
- Section 8.3.1.2 Archive Retrieval System (ARS) Header Record
- Section 8.3.1.3 LAC and HRPT Data Sets
- Section 8.3.1.4 GAC Data Sets
- Section 8.3.1.5 HIRS/3 and HIRS/4 Data Sets
- Section 8.3.1.6 AMSU-A Data Sets
- Section 8.3.1.7 AMSU-B Data Sets
- Section 8.3.1.8 SEM-2 Data Sets
- Section 8.3.1.9 MHS Data Sets

Amended March 29, 2004

Amended January 4, 2005

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Section 8.3.1.3

8.3.1.3 LAC and HRPT Data Sets

This section describes the characteristics and format of Local Area Coverage (LAC) and High Resolution Picture Transmission (HRPT) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for *all* operational POES spacecraft.** There is no plan at this time to reprocess archived data into the new format.

- Section 8.3.1.3.1 Data Characteristics
- Section 8.3.1.3.2 Header Records
  Section 8.3.1.3.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.3.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)
- Section 8.3.1.3.3 Data Records
  Section 8.3.1.3.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.3.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

Amended March 29, 2004

Amended January 4, 2005

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Section 8.3.1.3.2

8.3.1.3.2 Header Records

The Data Set Header Record contains quality, navigation, calibration, and conversion coefficient information which applies to the LAC/HRPT data records which follow. This section describes the header records for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.**

- Section 8.3.1.3.2.1 NOAA KLM Header Records (version 2, pre-XXXX 2005)
- Section 8.3.1.3.2.2 NOAA-N Header Records (version 3, post-XXXX 2005, all spacecraft)

Amended March 29, 2004

Amended January 4, 2005

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Section 8.3.1.3.2.1

8.3.1.3.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)

The content of the LAC/HRPT Data Set Header Record for NOAA KLM (version 2, pre-XXXX 2005) is documented in Table 8.3.1.3.2.1-1. See Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.3.2.1-1. Format of LAC/HRPT Data Set Header Record (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
GENERAL INFORMATION								
Data Set Creation Site ID CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number: 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		

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Section 8.3.1.3.2.2

8.3.1.3.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

The format specifications for the AVHRR Level 1b header record for the NOAA-N satellite is given in this section. Please note that as part of the updates to the Level 1b formats for NOAA-N is the inclusion of additional, or secondary, header records. They will contain ancillary data set names and any metadata needed for reprocessing. Currently, the content and format of any secondary header records is to be determined. Applications that will access Level 1b data sets should use the "Count of Header Records in this Data Set" field, located in the first, or primary, header record, to calculate the position of the first data record and skip the secondary header records.

Except for the zero-fill padding, the primary header record specification is identical no matter the type of AVHRR data (LAC, GAC or HRPT). Table 8.3.1.3.2.2-1 gives the format for the AVHRR Level 1b primary header record for NOAA-N (version 3, post-XXXX 2005, all spacecraft).

Table 8.3.1.3.2.2-1. Format of LAC/HRPT Data Set Header Record (version 3, post-XXXX 2005, all spacecraft).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
FILE IDENTIFICATION								
Data Set Creation Site ID CMS=Centre de Meteorologie Spatiale/France DSS=Dundee Satellite Receiving Station/UK NSS=National Environmental Satellite, Data and Information Service/USA UKM=United Kingdom Meteorological Office/UK	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number:								

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Section 8.3.1.3.3

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Previous Section, *Next Section*

8.3.1.3.3 Data Records

This section describes the format of Local Area Coverage (LAC) and High Resolution Picture Transmission (HRPT) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for *all* operational POES spacecraft.**

- Section 8.3.1.3.3.1 NOAA KLM Format (Version 2, pre-XXXX 2005)
- Section 8.3.1.3.3.2 NOAA-N Format (Version 3, post-XXXX 2005, all spacecraft)

Amended March 29, 2004

Amended January 4, 2005

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Section 8.3.1.3.3.1

8.3.1.3.3.1 NOAA KLM Formats (Version 2, pre-XXXX 2005)

The Data Records for LAC and HRPT data sets are archived in packed format to reduce storage requirements. Three 10-bit sensor samples are stored in a 32-bit word using the Band Interleaved by Pixel (BIP) method. The format for packed data sets is documented in Table 8.3.1.3.3.1-1. However, this format is inconvenient for data processing.

Table 8.3.1.3.3.1-1. Format of packed LAC/HRPT Data Sets (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (4 digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: 0 = northbound data; 1 = southbound data bit 14: 1 = scan time corrected for clock drift bits 13-2: <zero fill> bits 1-0: channel 3 select (0 = 3b; 1 = 3a; 2 = transition)	13	14	u	2	1	0		

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Section 8.3.1.3.3.2

8.3.1.3.3.2 NOAA-N Format (Version 3, post-XXXX 2005, all spacecraft)

Table 8.3.1.3.3.2-1 gives the format for the LAC/HRPT Level 1b data record for NOAA-N (Version 3, post-XXXX 2005, all spacecraft). Eight and 16-bit extracts of the LAC/HRPT Level 1b data will be supported by CLASS for NOAA-N, but are still to be determined at the time of this writing.

Table 8.3.1.3.3.2-1. Format of LAC/HRPT Data Record for NOAA-N (Version 3, post-XXXX 2005, all spacecraft).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1; range: 0 - 65,535)	1	2	u	2	1	0		
Scan Line Year (4 digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: satellite direction (0=northbound; 1=southbound) bit 14: clock drift correction (0=not corrected; 1=scan time corrected for clock drift) bits 13-2: <zero fill> bits 1-0: channel 3 select (0=3B: 1=3A: 2=transition)	13	14	u	2	1	0		

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Section 8.3.1.4

8.3.1.4 GAC Data Sets

This section describes the characteristics and formats of Global Area Coverage (GAC) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for *all* operational POES spacecraft.** There is no plan at this time to reprocess archived data into the new format.

- Section 8.3.1.4.1 Data Characteristics
- Section 8.3.1.4.2 Header Records
  Section 8.3.1.4.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.4.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)
- Section 8.3.1.4.3 Data Records
  Section 8.3.1.4.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.4.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.4.2

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8.3.1.4.2 Header Records

The Data Set Header Record contains quality, navigation, calibration, and conversion coefficient information which applies to the GAC data records which follow. This section describes the header records for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.**

- Section 8.3.1.4.2.1 NOAA KLM Header Records (version 2, pre-XXXX 2005)
- Section 8.3.1.4.2.2 NOAA -N Header Records (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.4.2.1

8.3.1.4.2.1 NOAA KLM Header Records (version 2, pre-XXXX 2005)

The GAC Data Set Header Record format for NOAA KLM (version 2, pre-XXXX 2005) is documented in Table 8.3.1.4.2.1-1. See Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.4.2.1-1. Format of GAC Data Set Header Record for NOAA KLM (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
GENERAL INFORMATION								
Data Set Creation Site ID CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK)	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number: 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (4 digit year)	7	8	u	2	1	0	year	

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Section 8.3.1.4.2.2

8.3.1.4.2.2 NOAA-N Header Records (version 3, post-XXXX 2005, all spacecraft)

With the exception of the zero-fill padding, the format specifications for the GAC Level 1b primary header record for NOAA-N is the same as the LAC/HRPT header record (Table 8.3.1.3.2.2-1). Please note that as part of the updates to the Level 1b formats for NOAA-N and -N' is the inclusion of additional, or secondary, header records. They will contain ancillary data set names and any metadata needed for reprocessing. Currently, the content and format of any secondary header records is to be determined. Applications that will access Level 1b data sets should use the "Count of Header Records in this Data Set" field, located in the first, or primary, header record, to calculate the position of the first data record and skip the secondary header records.

Amended April 5, 2004

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Section 8.3.1.4.3

8.3.1.4.3 Data Records

This section describes the Level 1b GAC data records for both the NOAA KLM and NOAA-N satellites. The Data Records for GAC data sets are archived in packed format to reduce storage requirements. Three 10-bit sensor samples are stored in a 32-bit word using the Band Interleaved by Pixel (BIP) method.

- Section 8.3.1.4.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
- Section 8.3.1.4.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.4.3.1

8.3.1.4.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)

The format for packed GAC data sets for NOAA KLM (version 2, pre-XXXX 2005) is documented in Table 8.3.1.4.3.1-1. However, this format is inconvenient for data processing.

Table 8.3.1.4.3.1-1. Format of packed GAC Data Record for NOAA KLM (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (4 digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: 0 = northbound data; 1 = southbound data bit 14: 1 = scan time corrected for clock drift bits 13-2: <zero fill> bits 1-0: channel 3 select (0 = 3b; 1 = 3a; 2 = transition)	13	14	u	2	1	0		

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Section 8.3.1.4.3.2

8.3.1.4.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

The format for packed GAC Level 1b data sets for NOAA-N (version 3, post-XXXX 2005, all spacecraft) is documented in Table 8.3.1.4.3.2-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.4.3.2-1. Format of GAC data record for NOAA-N (version 3, post-XXXX 2005, all spacecraft).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1; range: 0 - 65,535)	1	2	u	2	1	0		
Scan Line Year (four digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: satellite direction (0=northbound; 1=southbound) bit 14: clock drift correction (0=not corrected; 1=scan time corrected for clock drift) bits 13-2: <zero fill>	13	14	u	2	1	0		

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Section 8.3.1.5

8.3.1.5 HIRS Data Sets

This section describes the characteristics and formats of the High Resolution Infrared Radiation Sounder (both HIRS/3 and HIRS/4) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until January or February 2005 (TBD). After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft. There is no plan at this time to reprocess archived data into the new format.

- Section 8.3.1.5.1 Data Characteristics
  Section 8.3.1.5.1.1 HIRS/3 (Flown on NOAA KLM)
  Section 8.3.1.5.1.2 HIRS/4 (Flown on NOAA -N,-N')
- Section 8.3.1.5.2 Header Records
  Section 8.3.1.5.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.5.2.2 NOAA-N Format (Version 3, post-XXXX 2005, all satellites)
- Section 8.3.1.5.3 Data Records
  Section 8.3.1.5.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.5.3.2 NOAA-N Format (Version 3, post-XXXX 2005, all satellites)

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8.3.1.5.2 Header Records

This section describes the header record formats for both HIRS/3 and HIRS/4 instruments for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until January or February 2005 (TBD). After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.

- Section 8.3.1.5.2.1 HIRS/3 (Flown on NOAA KLM, version 2, pre-XXXX 2005)
- Section 8.3.1.5.2.2 HIRS/4 (Flown on NOAA -N,-N', version 3, post XXXX-2005, all satellites)

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Section 8.3.1.5.2.1

8.3.1.5.2.1 HIRS/3 (Flown on NOAA KLM, version 2, pre-XXXX 2005)

The HIRS/3 Data Set Header Record format HIRS/3 (Flown on NOAA KLM, version 2, pre-XXXX 2005) is documented in Table 8.3.1.5.2.1-1.

Table 8.3.1.5.2.1-1. Format of HIRS/3 Data Set Header Record HIRS/3 (Flown on NOAA KLM, version 2, pre-XXXX 2005) .

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
FILE IDENTIFICATION								
Data Set Creation Site ID CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14 2=NOAA-15, -16, -17 (pre-XXXX 2005) 3=all satellites post-XXXX 2005	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (4 digit year)	7	8	u	2	1	0	year	

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Section 8.3.1.5.2.2

8.3.1.5.2.2 HIRS/4 (Flown on NOAA-N,-N', version 3, post-XXXX 2005, all spacecraft)

This section describes the HIRS/4 Data Set Header Record format (version 3, post-XXXX 2005, all spacecraft) and is documented in Table 8.3.1.5.2.2-1.

Table 8.3.1.5.2.2-1. HIRS/4 Data Set Header Record Format (version 3, post-XXXX 2005, all spacecraft).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
FILE IDENTIFICATION								
Data Set Creation Site ID CMS=Centre de Meteorologie Spatiale/France DSS=Dundee Satellite Receiving Station/UK NSS=National Environmental Satellite, Data and Information Service/USA UKM=United Kingdom Meteorological Office/UK	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14 2=NOAA-15, -16, -17 (pre-XXXX 2005) 3=all satellites post-XXXX 2005	5	6	u	2	1	0		
Level 1b Format Version Year (4 digit year)	7	8	u	2	1	0	year	

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Section 8.3.1.5.3

8.3.1.5.3 Data Records

- Section 8.3.1.5.3.1 HIRS/3 (Flown on NOAA KLM, version 2, pre-XXXX 2005)
- Section 8.3.1.5.3.2 HIRS/4 (Flown on NOAA-N, version 3, post-XXXX 2005, all satellites)

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Section 8.3.1.5.3.1

8.3.1.5.3.1 NOAA KLM (version 2, pre-XXXX 2005)

The HIRS/3 Data Record format (version 2, pre-XXXX 2005) is documented in Table 8.3.1.5.3.1-1.

Table 8.3.1.5.3.1-1. Format of HIRS/3 Data Record (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	DataType	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (4 digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: 0 = northbound data; 1 = southbound data bit 14: 1 = scan time corrected for clock drift bits 13-0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		

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Section 8.3.1.5.3.2

8.3.1.5.3.2 NOAA-N (version 3, post-XXXX 2005, all satellites)

The HIRS/4 Level 1b Data Format (version 3, post-XXXX 2005, all satellites) is described in Table 8.3.1.5.3.2-1.

Table 8.3.1.5.3.2-1. Format of HIRS/4 Data Format (version 3, post-XXXX 2005, all satellites).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
SCAN LINE INFORMATION								
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (4 digit year)	3	4	u	2	1	0	year	
Scan Line Day of Year (3 digit day)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: satellite direction (0=northbound; 1=southbound) bit 14: clock drift correction (0=not corrected; 1=scan time corrected for clock drift) bits 13-0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		

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Section 8.3.1.6

8.3.1.6 AMSU-A Data Sets

This section describes the characteristics and format of Advanced Microwave Sounding Unit-A (AMSU-A) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until January or February 2005 (TBD). After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.

- Section 8.3.1.6.1 Data Characteristics
- Section 8.3.1.6.2 Header Records
  Section 8.3.1.6.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.6.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)
- Section 8.3.1.6.3 Data Records
  Section 8.3.1.6.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.6.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.6.2

8.3.1.6.2 Header Records

The Data Set Header Record contains quality, navigation, calibration and conversion coefficient information which applies to the AMSU-A data records which follow. This section describes the header records for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.**

- Section 8.3.1.6.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
- Section 8.3.1.6.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.6.2.1

8.3.1.6.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)

The AMSU-A Data Set Header Record format (version 2, pre-XXXX 2005) is documented in Table 8.3.1.6.2.1-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.6.2.1-1. Format of AMSU-A Data Set Header Record (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Data Set Creation Site ID (CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK)	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (four digits, e.g., 1999)	7	8	u	2	1	0		
NOAA Level 1b Format Version Day of Year (e.g., 365)	9	10	u	2	1	0		
<Reserved for Logical Record Length> For Creation Site use only. Logical Record Length of NOAA Level 1b data set prior to processing.	11	12	u	2	1	0	octets	
<Reserved for Block Size> For Creation Site use only. Block Size of NOAA Level 1b data set prior to processing.	13	14	u	2	1	0	octets	
Count of Header Records in this Data Set	15	16	u	2	1	0		

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Section 8.3.1.6.2.2

8.3.1.6.2.2 NOAA-N Format (version 3, post-XXXX 2005, all satellites)

The AMSU-A Data Set Header Record format (version 3, post-XXXX 2005, all satellites) is documented in Table 8.3.1.6.2.2-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.6.2.2-1. Format of AMSU-A Data Set Header Record (version 3, post-XXXX 2005, all satellites).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Data Set Creation Site ID (CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK)	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (four digits, e.g., 1999)	7	8	u	2	1	0		
NOAA Level 1b Format Version Day of Year (e.g., 365)	9	10	u	2	1	0		
<Reserved for Logical Record Length> For Creation Site use only. Logical Record Length of NOAA Level 1b data set prior to processing.	11	12	u	2	1	0	octets	
<Reserved for Block Size> For Creation Site use only. Block Size of NOAA Level 1b data set prior to processing.	13	14	u	2	1	0	octets	
Count of Header Records in this Data Set	15	16	u	2	1	0		

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Section 8.3.1.6.3

8.3.1.6.3 Data Records

This section describes the data records for AMSU-A for both the NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX-2005 (TBD). **After this date, the version 3 format (v3) , also known as the NOAA-N format, will be implemented for all operational POES spacecraft.**

- Section 8.3.1.6.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
- Section 8.3.1.6.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.6.3.1

8.3.1.6.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)

The AMSU-A Data Record format is documented in Table 8.3.1.6.3.1-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.6.3.1-1. Format of AMSU-A Data Record (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (e.g., 1999)	3	4	u	2	1	0	year	
Scan Line Day of Year (e.g., 365)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: 0 = northbound data; 1 = southbound data bit 14: 1 = scan time corrected for clock drift bits 13-0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		
<Zero Fill>	17	24	i	4	2	0		
QUALITY INDICATORS								
Quality Indicator Bit Field If a bit is on (=1) then the statement is true. bit 31: do not use scan for product generation bit 30: time sequence error detected within this scan (see below) bit 29: data gap precedes this scan bit 28: insufficient data for calibration (see below) bit 27: earth location data not available (see below)	25	28	u	4	1	0		

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Section 8.3.1.6.3.2

8.3.1.6.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

The AMSU-A Data Record format is documented in Table 8.3.1.6.3.2-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.6.3.2-1. Format of AMSU-A Data Record (version 3, post-XXXX 2005, all spacecraft).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (four digits, e.g., 2000)	3	4	u	2	1	0	year	
Scan Line Day of Year (e.g., 365)	5	6	u	2	1	0	day	
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: Satellite direction (0 = northbound data; 1 = southbound data) bit 14: Clock drift correction (0 = not corrected; 1 = scan time corrected for clock drift) bits 13-0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		
<Zero Fill>	17	24	i	4	2	0		
QUALITY INDICATORS								
Quality Indicator Bit Field *(If a bit is on (=1) then the statement is true.)* bit 31: do not use scan for product generation bit 30: time sequence error detected within this scan (see below) bit 29: data gap precedes this scan bit 28: insufficient data for calibration (see below) bit 27: earth location data not available (see below) bit 26: first good time following a clock update (nominally 0)	25	28	u	4	1	0		

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Section 8.3.1.7

8.3.1.7 AMSU-B Data Sets

This section describes the characteristics and format of Advanced Microwave Sounding Unit-A (AMSU-B) data sets for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until January or February 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.** Note: even though there is no AMSU-B instrument on NOAA-N, it's Level 1 format is being updated for consistency with the other instruments' formats, which are also being updated at this time.

- Section 8.3.1.7.1 Data Characteristics
- Section 8.3.1.7.2 Header Records
  Section 8.3.1.7.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.7.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)
- Section 8.3.1.7.3 Data Records
  Section 8.3.1.7.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
  Section 8.3.1.7.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

Amended January 26, 2005

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Section 8.3.1.7.2

8.3.1.7.2 Header Records

The Data Set Header Record contains quality, navigation, calibration and conversion coefficient information which applies to the AMSU-B data records which follow. This section describes the header records for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.** Even though there is no AMSU-B instrument on NOAA-N, it's Level 1b format is being updated for consistency with the other instruments' formats, which are also being updated at this time.

- Section 8.3.1.7.2.1 NOAA KLM Format (version 2, pre-XXXX 2005)
- Section 8.3.1.7.2.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

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Section 8.3.1.7.2.1

8.3.1.7.2.1 NOAA KLM (Version 2, pre-XXXX 2005)

The AMSU-B Data Set Header Record format for NOAA KLM (Version 2, pre-XXXX 2005) is documented in Table 8.3.1.7.2.1-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.7.2.1-1. Format of AMSU-B Data Set Header Record for NOAA KLM (Version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Data Set Creation Site ID (CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK)	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (e.g., 1999)	7	8	u	2	1	0		
NOAA Level 1b Format Version Day of Year (e.g., 365)	9	10	u	2	1	0		
<Reserved for Logical Record Length> For Creation Site use only. Logical Record Length of NOAA Level 1b data set prior to processing.	11	12	u	2	1	0	octets	
<Reserved for Block Size> For Creation Site use only. Block Size of NOAA Level 1b data set prior to processing.	13	14	u	2	1	0	octets	
Count of Header Records in this Data Set	15	16	u	2	1	0		

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Section 8.3.1.7.2.2

8.3.1.7.2.2 NOAA-N (Version 3, post-XXXX 2005, all satellites)

The AMSU-B Data Set Header Record format for NOAA-N (Version 3, post-XXXX 2005, all satellites) is documented in Table 8.3.1.7.2.2-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.7.2.2-1. Format of AMSU-B Data Set Header Record for NOAA-N (Version 3, post-XXXX 2005, all satellites).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Data Set Creation Site ID (CMS = Centre de Meteorologie Spatiale/France; DSS = Dundee Satellite Receiving Station/UK; NSS = National Environmental Satellite, Data and Information Service/USA; UKM = United Kingdom Meteorological Office/UK)	1	3	c	3	1	0		
<ASCII blank = x20>	4	4	c	1	1	0		
NOAA Level 1b Format Version Number 1=TIROS-N, NOAA-6 through NOAA-14; 2=NOAA-15, -16, -17 (pre-XXXX 2005); 3=all satellites post-XXXX 2005.	5	6	u	2	1	0		
NOAA Level 1b Format Version Year (e.g., 1999)	7	8	u	2	1	0		
NOAA Level 1b Format Version Day of Year (e.g., 365)	9	10	u	2	1	0		
<Reserved for Logical Record Length> For Creation Site use only. Logical Record Length of NOAA Level 1b data set prior to processing.	11	12	u	2	1	0	octets	
<Reserved for Block Size> For Creation Site use only. Block Size of NOAA Level 1b data set prior to processing.	13	14	u	2	1	0	octets	
Count of Header Records in this Data Set	15	16	u	2	1	0		

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Section 8.3.1.7.3

8.3.1.7.3 Data Records

This section describes the data records for both NOAA KLM (version 2) and NOAA-N (version 3) satellites. Version 2 formats (v2) were used on all NOAA KLM data until XXXX 2005 (TBD). **After this date, the version 3 format (v3), also known as the NOAA-N format, will be implemented for all operational POES spacecraft.** Note: even though there is no AMSU-B instrument on NOAA-N, it's Level 1b format is being updated for consistency with the other instruments' formats, which are also being updated at this time.

- Section 8.3.1.7.3.1 NOAA KLM Format (version 2, pre-XXXX 2005)
- Section 8.3.1.7.3.2 NOAA-N Format (version 3, post-XXXX 2005, all spacecraft)

Amended February 11, 2000

Amended January 26, 2005

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Section 8.3.1.7.3.1

8.3.1.7.3.1 NOAA KLM (version 2, pre-XXXX 2005)

The AMSU-B Data Records format for NOAA KLM (version 2, pre-XXXX 2005) is documented in Table 8.3.1.7.3.1-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.7.3.1-1. Format of AMSU-B Data Record NOAA KLM (version 2, pre-XXXX 2005).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (e.g., 1999)	3	4	u	2	1	0		
Scan Line Day of Year (e.g., 365)	5	6	u	2	1	0		
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: 0 = northbound data; 1 = southbound data bit 14: 1 = scan time corrected for clock drift bits 13 - 0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		
<Zero Fill>	17	24	i	4	1	0		
QUALITY INDICATORS								
Quality Indicator Bit Field If a bit is on (=1) then the statement is true. bit 31: do not use scan for product generation bit 30: time sequence error detected within this scan (see below) bit 29: data gap precedes this scan bit 28: no calibration (see below)	25	28	u	4	1	0		1,2

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Section 8.3.1.7.3.2

8.3.1.7.3.2 NOAA-N (version 3, post-XXXX 2005, all satellites)

The AMSU-B Data Records format for NOAA-N (version 3, post-XXXX 2005, all satellites) is documented in Table 8.3.1.7.3.2-1. See the legend in Section 8.3.1.1 for further explanation of the headings on this table.

Table 8.3.1.7.3.2-1. Format of AMSU-B Data Record for NOAA-N (version 3, post-XXXX 2005, all satellites).

Field Name	Start Octet	End Octet	Data Type	Word Size	Number of Words	Scale Factor	Units	Notes
Scan Line Number (cumulative, starting with 1)	1	2	u	2	1	0		
Scan Line Year (e.g., 1999)	3	4	u	2	1	0		
Scan Line Day of Year (e.g., 365)	5	6	u	2	1	0		
Satellite Clock Drift Delta	7	8	i	2	1	0	milliseconds	
Scan Line UTC Time of Day	9	12	u	4	1	0	milliseconds	
Scan Line Bit Field bit 15: satellite direction (0 = northbound data; 1 = southbound data) bit 14: clock drift correction (0 = not corrected; 1 = scan time corrected) bits 13 - 0: <zero fill>	13	14	u	2	1	0		
Major Frame Count (cumulative, starting with 1)	15	16	u	2	1	0		
<Zero Fill>	17	24	i	4	2	0		
QUALITY INDICATORS								
Quality Indicator Bit Field (If a bit is on (=1) then the statement is true.) bit 31: do not use scan for product generation bit 30: time sequence error detected within this scan (see below) bit 29: data gap precedes this scan bit 28: insufficient data for calibration (see below) bit 27: earth location data not available (see below)	25	28	u	4	1	0		

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Section 8.3.1.9.3

8.3.1.9.3 Data Records (version 3, post-xxxx 2005, all satellites)

The MHS instrument and its associated interface unit (MIU) on the NOAA satellites, can operate in a variety of different modes and output several different packets, or formats, of data. This section describes the different packets that the MHS instrument outputs.

- Section 8.3.1.9.3.1 Science Packet
- Section 8.3.1.9.3.2 Extended Test Data Packet
- Section 8.3.1.9.3.3 Extended Memory Data Packet
- Section 8.3.1.9.3.4 Unknown Packet

Amended March 29, 2004

Amended January 27, 2005

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