Table of Contents

The NOAA KLM User's Guide is a comprehensive document describing the orbital and spacecraft characteristics, instruments, data formats, miscellaneous but pertinent information of the NOAA-K,L,M,N,N' satellites, as well as, the Metop series satellites as it pertains to the NOAA instruments.

- Cover Page:
- Disclaimer: A disclaimer from the editor of the NOAA KLM User's Guide.
- Acknowledgments: A letter of thanks for all those who helped out.
- Acronyms and Abbreviations: A listing of acronyms and abbreviations used in the NOAA
 KLM User's Guide.
- List of Figures: A listing of all figures in the NOAA KLM User's Guide.
- List of Tables: A listing of all tables in the NOAA KLM User's Guide.
- NOAA-N, -N' Supplement: A Listing of links with specific changes for the NOAA-N and –N' spacecraft.
- Amendments: A listing of revisions made to the NOAA KLM User's Guide.

Section 1:

- Section 1.0: Introduction to the NOAA KLM System
- Section 1.1: The NOAA KLM Concept
- Section 1.2: NOAA KLM Spacecraft Characteristics

Section 2:

- Section 2.0: NOAA Polar Satellite Navigation and Earth Location
- Section 2.1: Navigating the Polar Satellites
- Section 2.2: Earth Locating the Polar Satellite Data
- Section 2.3: Navigation and Earth Location Processing Within NOAA

i

• Section 2.4: Interpolating the Level 1b Earth Location Data

Section 3:

• Section 3.0: Description of the NOAA KLM Sensor Package

- Section 3.1: Advanced Very High Resolution Radiometer/3 (AVHRR/3)
- Section 3.2: High Resolution Infrared Radiation Sounder (HIRS)
- Section 3.3: Advanced Microwave Sounding Unit-A (AMSU-A)
- Section 3.4: Advanced Microware Sounding Unit B (AMSU-B)
- Section 3.5: Space Environment Monitor (SEM-2)
- Section 3.6: Data Collection System/2 (DCS/2)
- Section 3.7: Search and Rescue Satellite (SARSAT) Instrument
- Section 3.8: Solar Backscatter Ultraviolet Spectral Radiometer (SBUV/2)
- Section 3.9: Microwave Humidity Sounder (MHS) [For NOAA-N and –N' only]

Section 4:

- Section 4.0: Real-Time Data Systems for Local Users
- Section 4.1: HRPT System
- Section 4.2: APT System
- Section 4.3: Direct Sounder Broadcast (DSB)
- Section 4.4: Data Collection and Location System

Section 5:

- Section 5.0: Tracking Procedures for Directional Antennas used to Acquire Data From Real-Time Transmissions System Sensors
- Section 5.1: TBUS Bulletin
- Section 5.2: Alternate Sources and Forms of Satellite Prediction Position Information

Section 6:

- Section 6.0: Ingest and Pre-processing
- Section 6.1: Ingest
- Section 6.2: Pre-processing
- Section 6.3: Calibration
- Section 6.4: Monitoring and Quality Assurance

Section 7:

• **Section 7.0:** Calibration of NOAA KLM Instruments

- Section 7.1: AVHRR
- **Section 7.2:** HIRS/3
- Section 7.3: AMSU-A and AMSU-B
- Section 7.4: SBUV/2
- **Section 7.5:** SEM-2.
- **Section 7.6:** MHS [For NOAA-N and -P only]

Section 8:

- Section 8.0: Level 1b Database
- Section 8.1: Data Representation and Storage
- Section 8.2: Level 1b Data Set Names
- **Section 8.3:** Data Distribution Formats

Section 9:

- **Section 9.0:** NESDIS Operational Products
- 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 (ATOVS and AMSU-B)
- Section 9.5: NOAA 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: Comprehensive Large Array-data Stewardship System (CLASS)

Appendices:

- Appendix A: APT Predict (TBUS) Bulletin
- Appendix B: Using Brouwer-Mean Elements from the TBUS Bulletin
- **Appendix C:** Polar Stereographic Earth Location Routines
- **Appendix D:** Miscellaneous Parameters for the Polar Orbiter Satellites
- **Appendix E:** Index of Internet Resources

- Appendix F: Ordering Retrospective Data
- Appendix G: Data Changes and Problem Record
- Appendix H: Orbit Injection
- **Appendix I:** Formulation of a Generic Algorithm for Earth locating data from NOAA Polar Orbiter Satellites
- Appendix J: Instrument Scan Properties

- **Appendix K:** Conversion of Blackbody Temperatures to AVHRR Radiances
- **Appendix L:** References
- **Appendix M:** Implementation of AMSU-B Correction Algorithm
- Appendix N: Software for Converting IBM Floating Point Numbers to IEEE Numbers
- Appendix O: Procedure for Scheduling AVHRR LAC Data
- **Appendix P:** Fundamental Constants