EUMETSAT GSICS Developments Status October 2008

Author : Peter Miu
Tim Hewison

GSICS Data Working Group 2 Actions

Eumetsat Actions:

- **WG 2 / 01 - Development of a GSICS data management server.**
- **WG 2 / 02 - Using the generic data flow definition; specify the set of data formats needed to support GSICS.**
- **WG 2 / 03 - Creation of the first set of source data sets.**

Related Actions:

- **WG 2 / 04 - Investigate the registration of the official GSICS domain name www.gsics.int.**

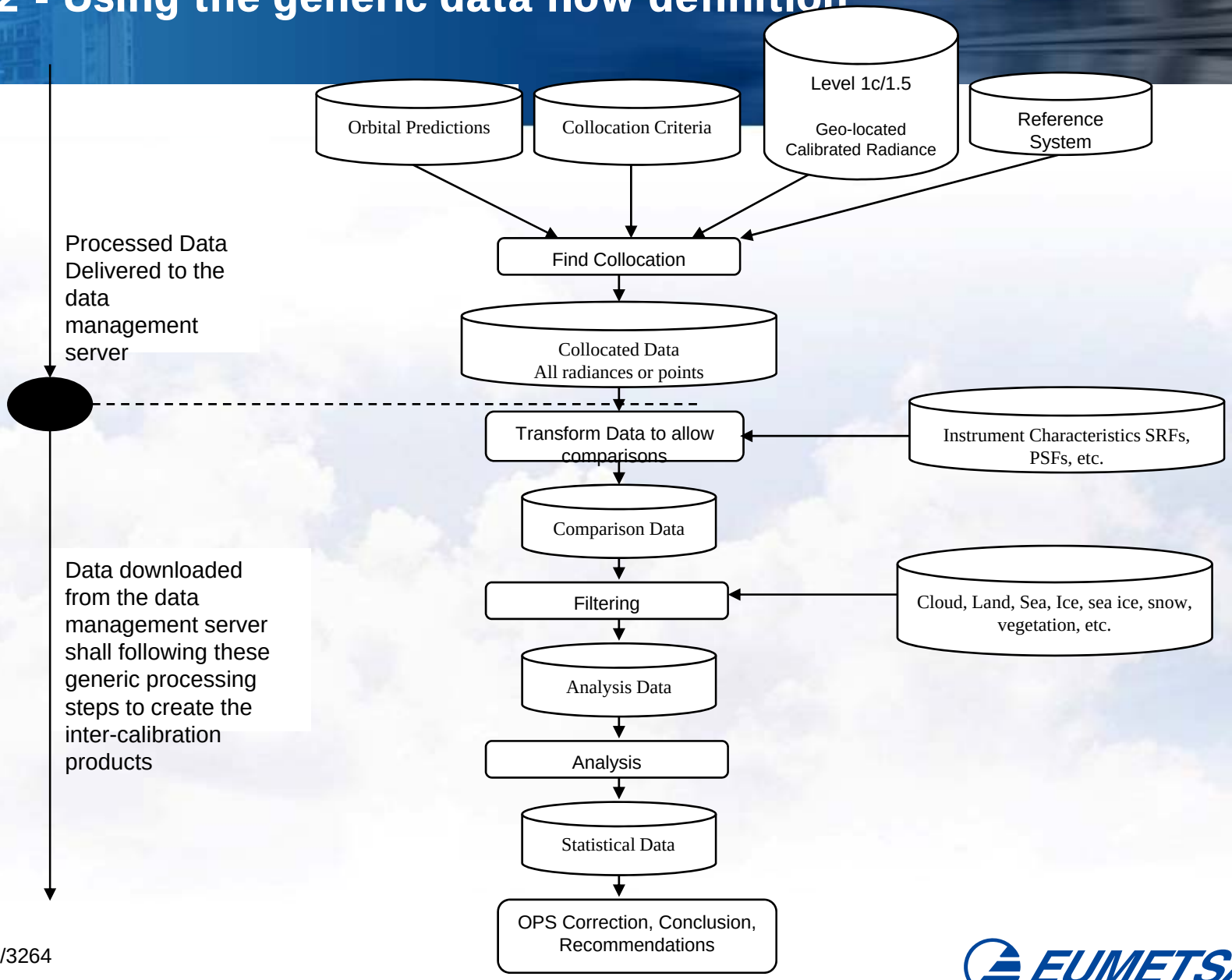
WG 2 / 01 - Development of a GSICS data management server

Planned Activities:

- Functional Requirements, Completed.
- Data Server Design, Completed.
- Implementation and Pre-operational Testing, Oct-Dec 08.
- Operations, End Dec 2008.

Overall Status : On track.

WG 2 / 02 - Using the generic data flow definition



WG 2 / 03 - Creation of the first set of source data sets.

The following EUMETSAT source data sets have been created. Proposed WMO File Naming for each data set is also presented here.

- **MTP MVIRI Native Radiance NetCDF Data Set.**
  - **Proposed Filename Format:**
    - **W_xx-EUMETSAT-Darmstadt,VIS+IR+IMAGERY,*MFGsat+product*_C_EUMS_*yyyyMMddhhmmss*.bin**
  - **Example :**
    - **W_xx-EUMETSAT-Darmstadt,VIS+IR+IMAGERY,MET7+MTP15_C_EUMS_20080801210000.bin**

- **MSG Seviri Native Radiance NetCDF Data Set.**
  - **Proposed Filename Format:**
    - **W_xx-EUMETSAT-Darmstadt,VIS+IR+IMAGERY,*MSGsat*+MSG15_C_EUMG_*yyyyMMddhhmmss*.bin**
  - **Example :**
    - **W_xx-EUMETSAT-Darmstadt,VIS+IR+IMAGERY,MSG2+MSG15_C_EUMG_20071231214523.bin**

- **EPS IASI 1C Spectrum NetCDF Data Set.**
  - **Proposed Filename Format:**
    - **W_xx-EUMETSAT-Darmstadt,HYPERSPECT+SOUNDING,*EPSsat*+IASI1C_C_EUMP_*yyyyMMddhhmmss_orbitNumber*_eps_o_l1.bin**
  - **Example :**
    - **W_xx-EUMETSAT-Darmstadt,HYPERSPECT+SOUNDING,METOPA+IASI1C_C_EUMP_20080228293041_00101_eps_o_l1.bin**

EUMETSAT source data sets shall be available from the EUMETSAT Archive:
http://archive.eumetsat.int.

Creation of Inter-Calibration Products from EUMETSAT source data sets

From the source data sets, EUMETSAT GRWG Scientists have created the following Products:

- **MSG Seviri compared against EPS IASI 1C Inter-Calibration NetCDF Product.**
  - **Proposed Filename Format:**
    - **W_xx-EUMETSAT-Darmstadt,CALIBRATION+SATELLITE,METOPA+MSG_C_EUMG_*yyyyMMddhhmmss*_EUMP_*orbitNumber*_eps_o_l1.bin**
  - **Example :**
    - **W_xx-EUMETSAT-Darmstadt,CALIBRATION+SATELLITE.METOPA+MSG_C_EUMG_20080731213000_EUMP_01001_eps_o_l1.bin**
- **MSG Seviri compared against EPS IASI 1C Co-Location NetCDF Product.**
  - **Proposed Filename Format:**
    - **W_xx-EUMETSAT-Darmstadt,ANCILLARY+SATELLITE,METOPA+MSG_C_EUMG_*yyyyMMddhhmmss_EUMP_orbitNumber*_eps_o_l1.bin**
  - **Example :**
    - **W_xx-EUMETSAT-Darmstadt, ANCILLARY+SATELLITE,METOPA+MSG_C_EUMG_20080731213000_EUMP_01001_eps_o_l1.bin**

All source data sets and products are generated using Java and IDL. The products are in NetCDF version 3 format as there are currently no NetCDF version 4 APIs for these languages.

New APIs are scheduled to be available in 2009 (TBC). The formats will then be upgraded.
No compatibility problems are foreseen with this activity.

WG 2 / 04 - Investigate the registration of the official GSICS domain name www.gsics.int.

Eumetsat provided support to this action and the following domain name is proposed to all partners to hold the official GSICS Web Portal:

http://gsics.wmo.int

All partner's GSICS related web pages can be discovered and accessed through this portal.

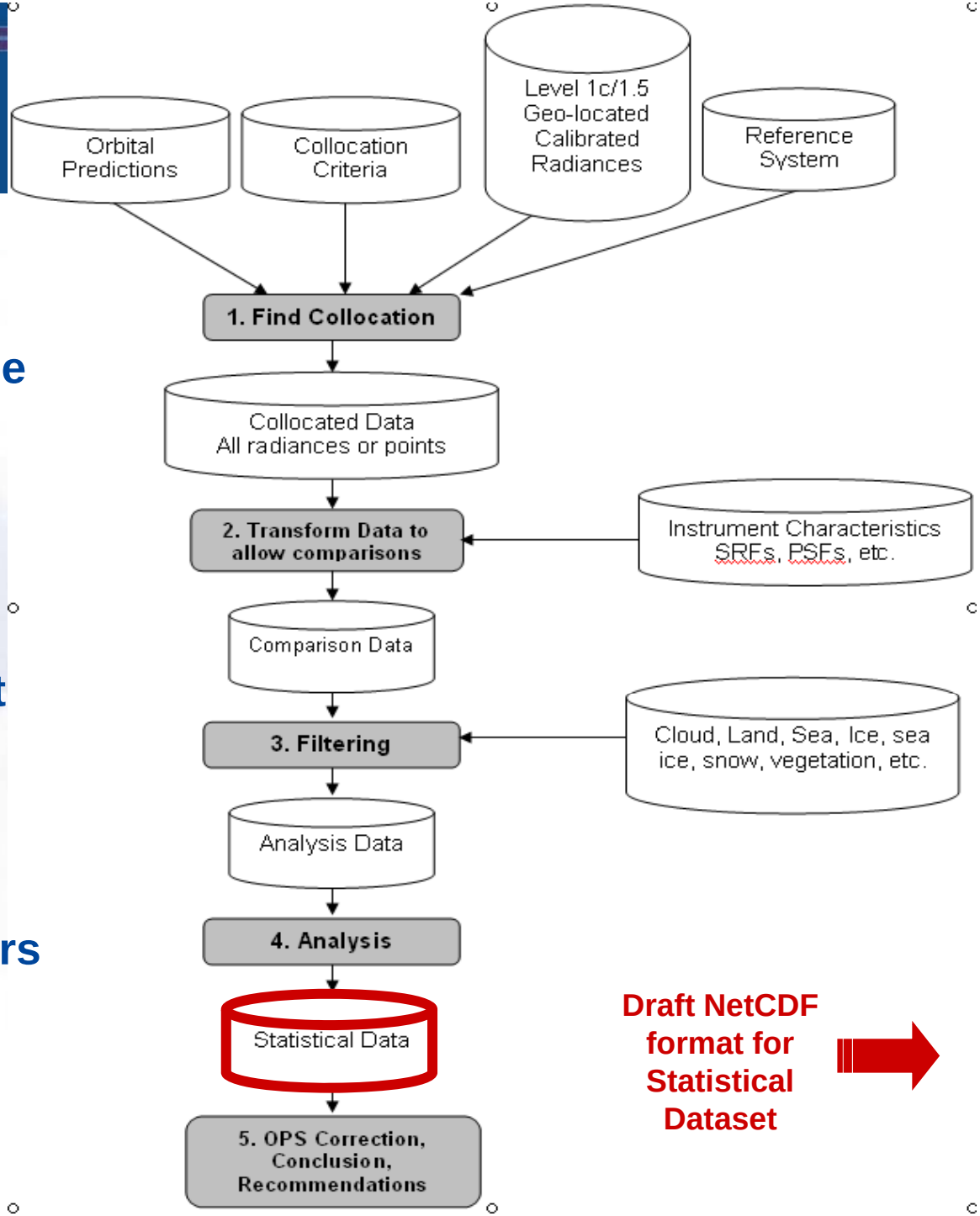
If all partners agree on this domain name, the following can be initiated:

- **Locate a web server and its administers.**
- **Request the WMO to configure its DNS to point to this server.**
- **Create the GSICS generic pages for the Portal.**

Inter-Calibration Products

Data Processing Chain

1. Collocation
   - Finding observations coincident in space and time
2. Transformation
   - To allow direct comparison
   - Spatial averaging
   - Spectral averaging
3. Filtering
   - Selecting scenes of interest
   - Reducing noise & rejecting outliers
4. Analysis
   - Comparing observations
   - Calculating biases and errors
5. Developing corrections



Draft NetCDF format for Statistical Dataset

EUM/EUM/OPS/REP/08/3264
Issue 1
1st October, 2008

Draft NetCDF format for Statistical Dataset – Global Attributes

Name	Value
Conventions	CF-1.0
Metadata_Conventions	Unidata Dataset Discovery v1.0
Title	Inter-Calibration Results
Summary	Inter-Calibration Results as regression coefficients and biases for reference scenes
Keywords	GSICS inter-calibration
Creator_name	EUMETSAT Archive
Creator_url	www.eumetsat.int
Creator_email	archive@eumetsat.int
Institution	EUMETSAT
History	EUMETSAT CopyRight 2008

Name	Value
References	Unidata NetCDF, Climate Format Conventions, EUMETSAT IASI 1C Native Format Guide
FormatAuthor	TIM HEWISON - PETER MIU
FormatVersion	1.0 Alpha
Comment	DRAFT VERSION
Instrument	msg2
Reference	iasi
CriteriaVersion	0.3
CollocationVersion	0.3
ConvolutionVersion	0.1
SRFVersion	1.95
AnalysisVersion	0.2
PlotVersion	0.2

Draft NetCDF format for Statistical Dataset – Global Attributes cont.

Name	Value
InstrumentDataFile	/geo/user/tim/iasi/MSG2-SEVI-MSG15-0100-NA-20081003214241.047000000Z-1147395.nc
ReferenceDataFile	/geo/user/tim/iasi/IASI_xxx_1C_M02_20081003201759Z_20081003215655Z_N_O_20081003220255Z.nc
CollocationDataFile	msg2-iasi_20081003_2142.dat
OutputPath	results/msg2/2008/10/
DateTime	200810032142

Draft NetCDF format for Statistical Dataset – Variables

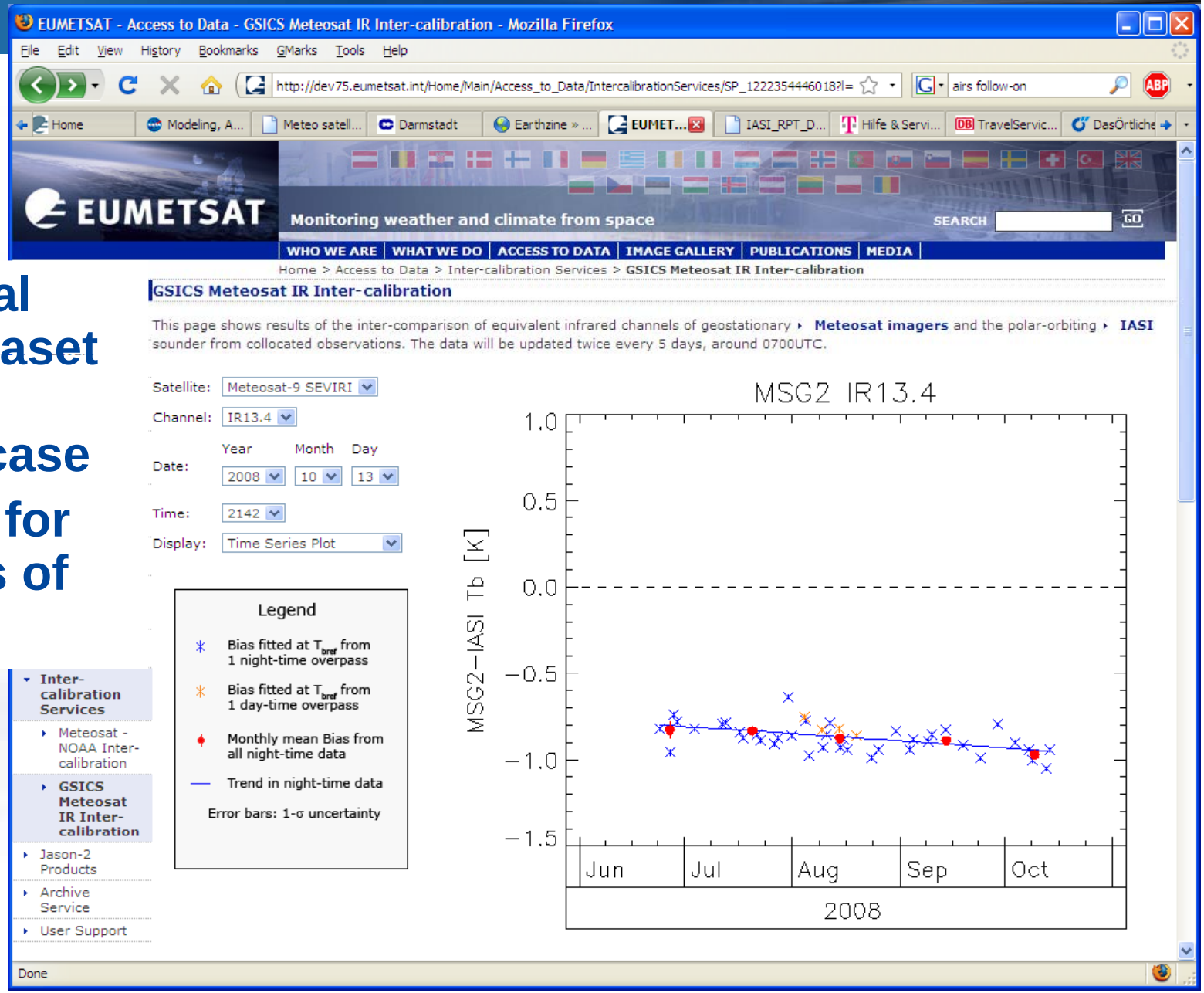
Name	Description	Dimensions
Wavelength	(micron)	[NumberOfChannels]
Offset	(mW m^{-2} $sr^{-1}(cm^{-1})^{-1}$)	[NumberOfChannels]
Slope	( )	[NumberOfChannels]
OffsetUncertainty	(mW m^{-2} $sr^{-1}(cm^{-1})^{-1}$)	[NumberOfChannels]
SlopeUncertainty	( )	[NumberOfChannels]
CoeffCovar	(mW m^{-2} $sr^{-1}(cm^{-1})^{-1}$)	[NumberOfChannels]
Tbref	(K)	[NumberOfChannels]
Tbbias	(K)	[NumberOfChannels]
TbBiasUncertainty	(K)	[NumberOfChannels]

n.b. One file for each LEO overpass

Can concatenate sets of these to produce time series of results:

Compiling time-series of biases

- One statistical results dataset for each overpass case
- Concatenate for time series of biases



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End of Presentation

Thank you for your attention, questions ?