AIRS Version 6 Update

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Discussion Topics

- V6 Product Development Status
  - Level 1B
  - Level 2
  - Level 3

- V6 Production Plans

- A Perspective on AIRS Data Users
• Version 6 development began on 2007-07-11 w/ V5.1.0.0
  • More than 70 builds, 4 since last Science Team
  • Several test cycles
  • Current V6 development version is V6.0.7.0

Announcing the
V6 Level 2 Production Version!
• **Current Status**
  - Level 1B* - no changes planned
  - Level 1C - still a work in progress

  * Gain table uploaded to AIRS Instrument on January 21. Will necessitate delivery of new L1B Channel Properties to GES DISC and reprocessing of L1B since then.

  - Level 2 - completed ...

    Delivered to GES DISC...

    Final integration testing at GES DISC...

    Public release soon (January 2013)

• The remainder of V6 is still “Work in Progress”
  - Level 3 - nearly complete, delivery before end of year
  - Calibration Subset - early 2013 (format change)
  - Climate Subset - will be part of Calibration Subset
  - CO2 - under development, completion early 2013
Level 2 Development Status

• Changes Since Spring 2012 Science Team:
  • Final Re-leveling updates (layers-to-levels)
  • Minor improvements to methane and CO retrievals
  • Upgrades to convection parameters and cloud retrieval
  • Final QC

• Extensive testing completed and documented

• Documentation:
  • L2 User Guide (in progress)
  • L2 Test Report (completed)
  • File Specification Document
AIRS - V6 Level 2 Features

• **All planned key goals for V6 Level 2 PGE have been met:**
  • Improved QC and yield (supports climate studies, forecast models)
  • Better support for current/future AMSU channel degradation
  • Reduction of trends over time for many products
  • Improved retrieval quality near surface
  • Added new cloud properties retrieval
  • Added “level quantities” for many products

• **Other improvements / changes**
  • Linux upgrade - coordinated OPS environments at JPL and GSFC
  • Ozone, methane and surface retrieval
Level 2 Processing - V6 Production Plans

- Reprocessing: Two complete AIRS collections*:
  1. AIRS+AMSU (the “New” AIRS Classic - some spice removed)
  2. IR-Only (AIRS - hold the microwave)
     - AIRS+AMSU to be reprocessed first, before IR-Only

- AIRS+AMSU+HSB - also reprocessed with V6 changes (through early February 2003)

- Forward Processing - AIRS+AMSU and IR-Only
  - Processing will begin soon
  - Will be released with “Public Release”

- NRT products will be derived from AIRS+AMSU

* Specific release details will be described in follow-up presentation by Thomas Hearty, GES DISC.
Who Orders AIRS Data?

- GES DISC maintains statistics on data accesses and orders.
- Specific users cannot be culled out or identified.
- The records is not fully revealing of who orders our data.
- But, we can learn something about who our customers are.

- The following charts describe AIRS orders at GES DISC from 2002 - 2011.
AIRS Files Ordered at GES DISC
(Millions of Files Ordered)

- AIRBRAD - L1B AIRS radiances
- AIRX2SUP - L2 support w/o hsb
- AIRX2RET - L2 std product w/o hsb
- AIRX3STD - L3 daily w/o hsb
- AIRI2CCF - L2 Cld-Clr rad. - w/o hsb
- AIRBOSCI - L0 IR/Vis/NIR Science
- AIRVBRAD - L1B Vis/NIR radiances
- AIRIBQAP - AIRS IR QA
- AIRABRAD - L1B AMSU radiances
- AIRS2SUP - L2 support - IR-Only
- AIRX3STM - L3 monthly w/o hsb
- AIRS2CCF - L2 support IR-Only
- AIRXBCAL (calsubset)
- AIRX2STC - L2 CO2 w/o hsb
- SUBXBRAD
- AIRX2MTL - L2 fxd-site MU w/o hsb
- AIRS2RET - L2 std IR-Only
- AIRBOCAL - L0 IR/Vis/NIR Calibration Pkt
- AIRX3ST8 - L3 8-day w/o hsb
- AIRS3STD - L3 daily IR-Only
- AIRH2SUP - L2 support
- AIRX2SPC - L2 CO2 support w/o hsb
- AIRX2MAT - L2 radiosonde MU w/o hsb
- AIRV8QAP - L1B Vis/NIR QA Product
Volume of Data Ordered

AIRS Data Product Distribution at GES DISC (Data Volume)*

* Megabytes of AIRS data product files (excluding metadata files) distributed by GESDISC.
Looking Beyond Radiance Files

AIRS Data Product Distribution at GES DISC (Data Volume)*

* Megabytes of AIRS data product files (excluding metadata files) distributed by GESDISC.
AIRS Data Product Distribution at GES DISC
(File Counts)*

* Counts of AIRS data product files (excluding metadata files) distributed by GESDISC. Counts per file type have been scaled to fit a nominal daily 240-granule files per day scalar for comparative purposes. 2012 data are annualized.
Who are AIRS Users

- AIRS users order AIRS L1B files more than any other

- Beginning in 2008
  - The amount of data being ordered increased substantially
  - The number of unique AIRS customers also increased

- The use of AIRS Level 3 products is also increasing, both by:
  - Direct file orders
  - Via Giovanni

- Perhaps AIRS Level 3 products are increasingly being looked at for climate-related studies?