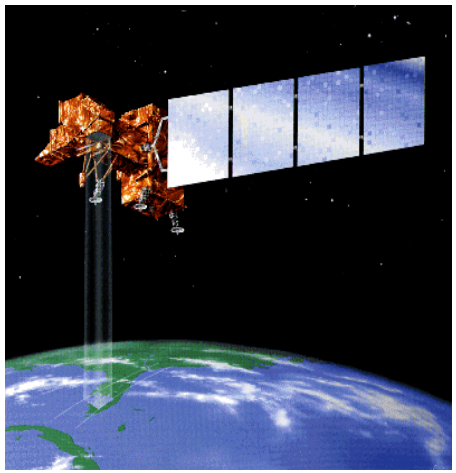
Data Ingest
ETM+, ASTER, MODIS

February 3, 2003

Richard McKinney
LP DAAC Operations Manager
605.594.6505
mckinney@usgs.gov

Landsat 7 Enhanced (ETM+) Instrument Characteristics

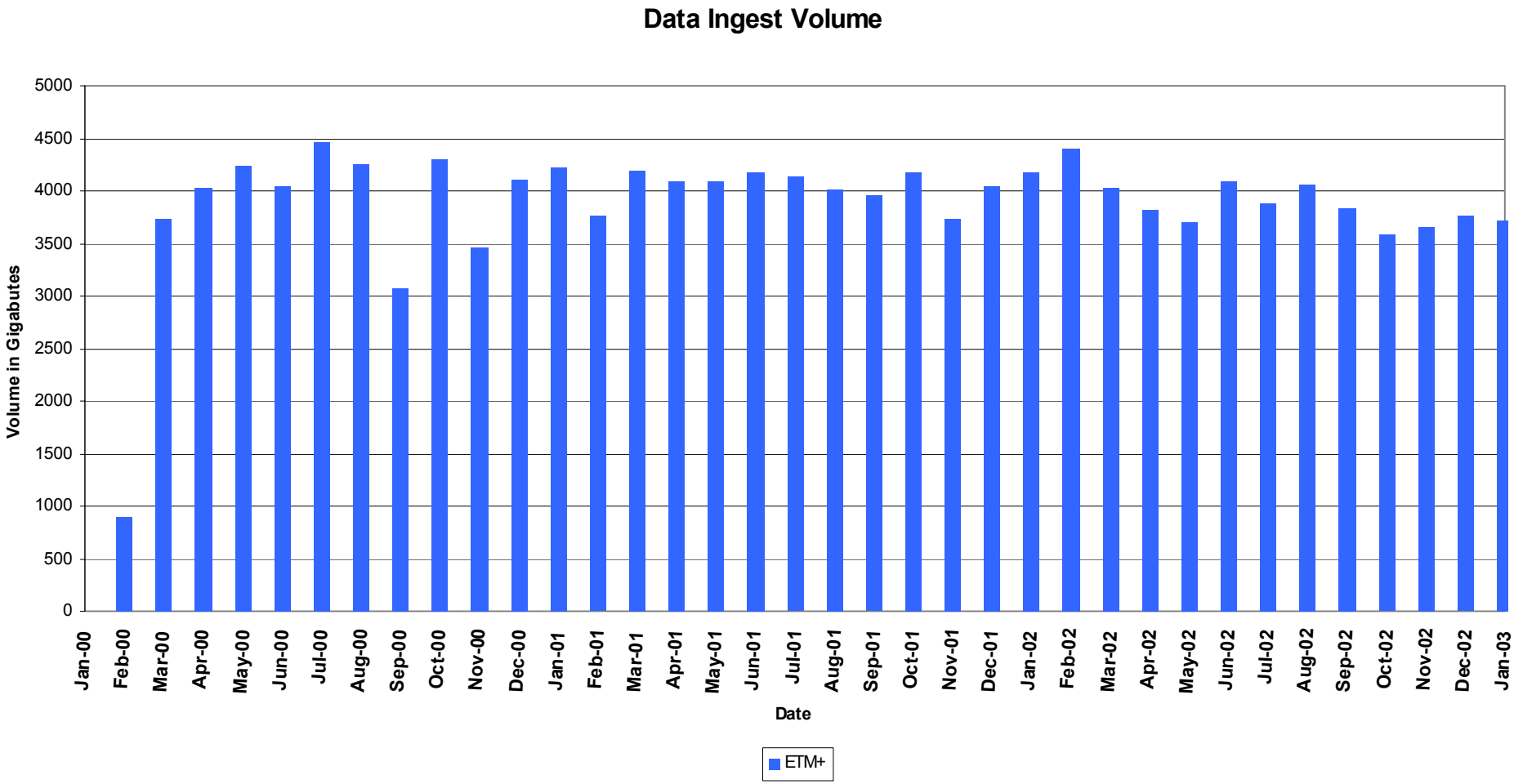


- **Launched: April 15, 1999**
- **Data released to public beginning June 28, 1999**
- **ICO period April 25, 1999 – August 22, 1999**
- **250 L0R scenes captured and archived at EDC per day**
- **110 L0R or 110 L1 systematically corrected scenes processed and distributed per day**

ETM+ Annual Ingest Volume

Year	Granules	Volume
Calendar Year 2000	33,255	40.588 terabytes
Calendar Year 2001	46,836	48.587 terabytes
Calendar Year 2002	47,197	46.984 terabytes
Calendar Year 2003	4,342	3.716 terabytes

ETM+ Ingest Volume

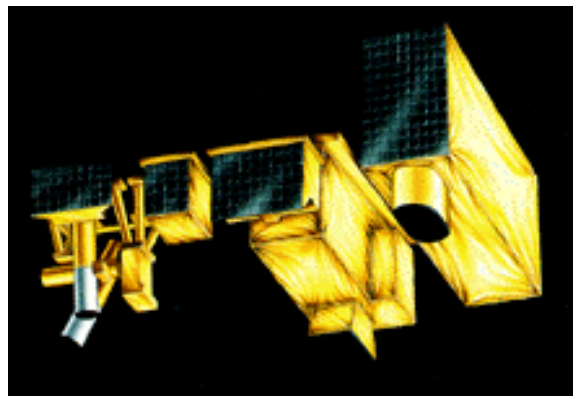


Terra (EOS AM-1)

- **Launched December 18, 1999**
- **705 km sun-synchronous orbit**
- **10:30 a.m. equatorial crossing**
- **EOS AM-1 carries 5 major sensors**
  - Advanced Spaceborne Thermal Emission and Reflection Radiometer **(ASTER)**
  - Moderate Resolution Imaging Spectroradiometer **(MODIS)**
  - Clouds and Earth Radiant Energy System (CERES)
  - Multi-angle Imaging Spectroradiometer (MISR)
  - Measurements of Pollution in the Troposphere (MOPITT)

ASTER Instrument Characteristics

- **Provided by Japan and designed especially for geologic applications**
- **Instrument consists of 3 subsystems**
  - VNIR 3 bands between 0.52μ and 0.86μ **15 m** IFOV
  - SWIR 6 bands between 1.60μ and 2.43μ **30 m** IFOV
  - TIR 5 bands between 8.12μ and 11.65μ **90 m** IFOV
- **Duplicate aft-looking Band 3 provides down-track stereo data**
- **60 km x 60 km swath**



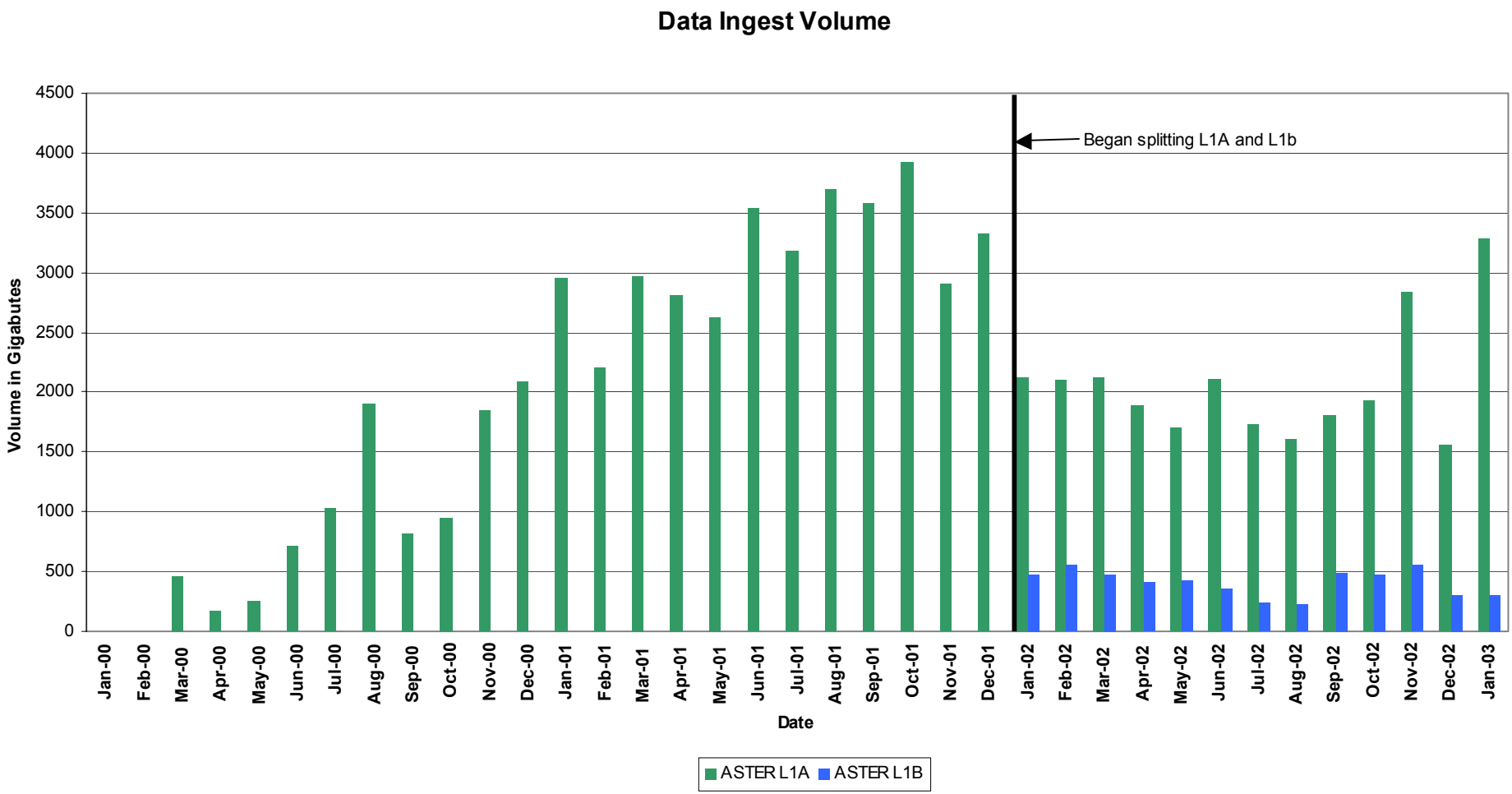
ASTER Data Policy Highlights

- **Acquisition strategy designed to obtain 1-time "cloud-free" coverage of the globe**
- **Scenes acquired in response to user-submitted data acquisition requests (DARs) and a global mapping plan**
- **Policy provides for DAR submission by general user community**
- **Up to 777 L1a and 310 L1b scenes/day will be received and archived by the LP DAAC**
- **Higher-level products will be produced in response to user *data processing requests* on a non-priority basis, except for DEMs**
- **User access to data and products is via EOS Data Gateway**

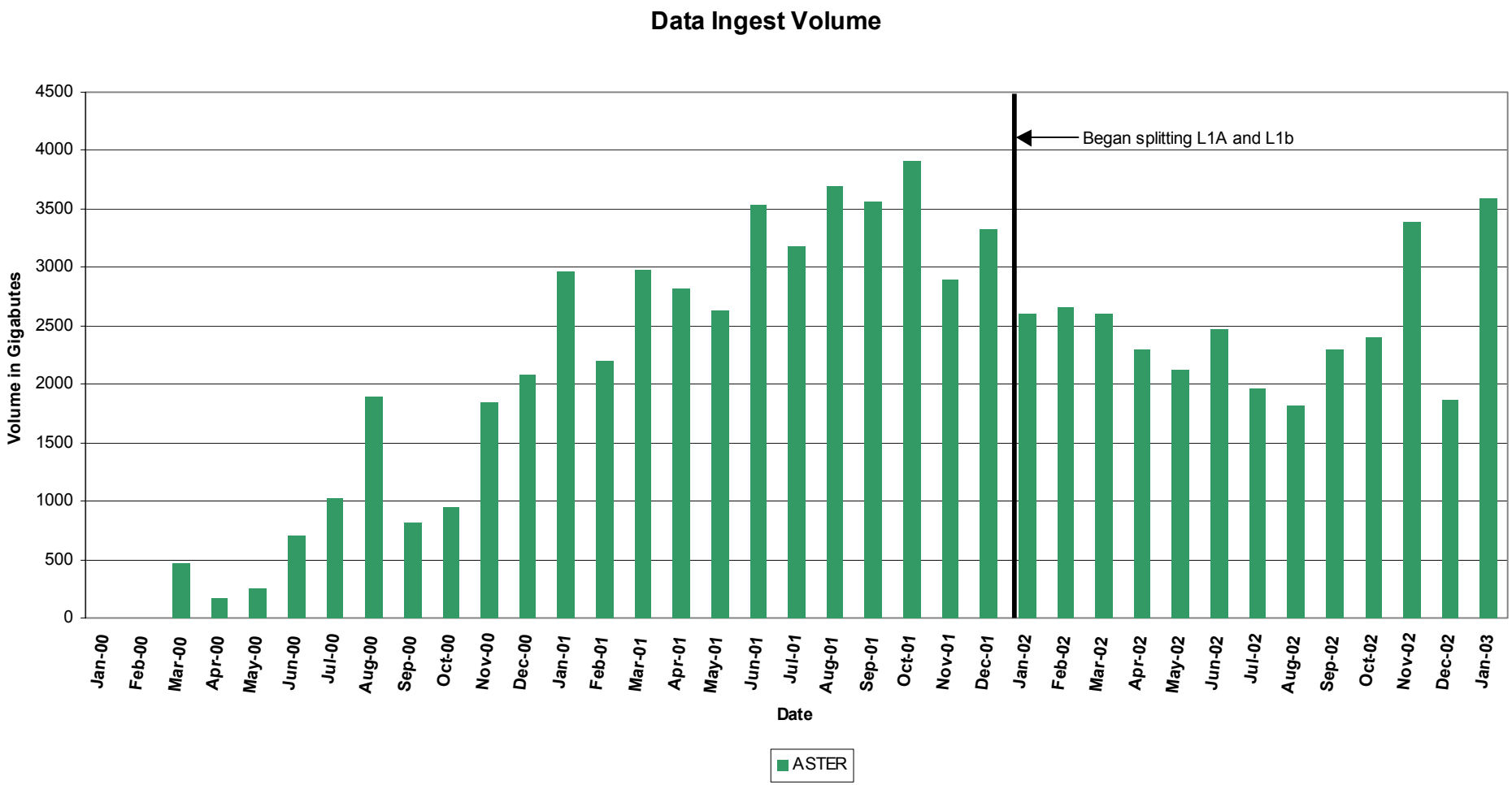
ASTER Annual Ingest Volume

Year	Granules	Volume
Calendar Year 2000	105,528	10.223 terabytes
Calendar Year 2001	514,753	41.302 terabytes
Calendar Year 2002	518,225	36,551 terabytes
Calendar Year 2003	58,935	4.856 terabytes

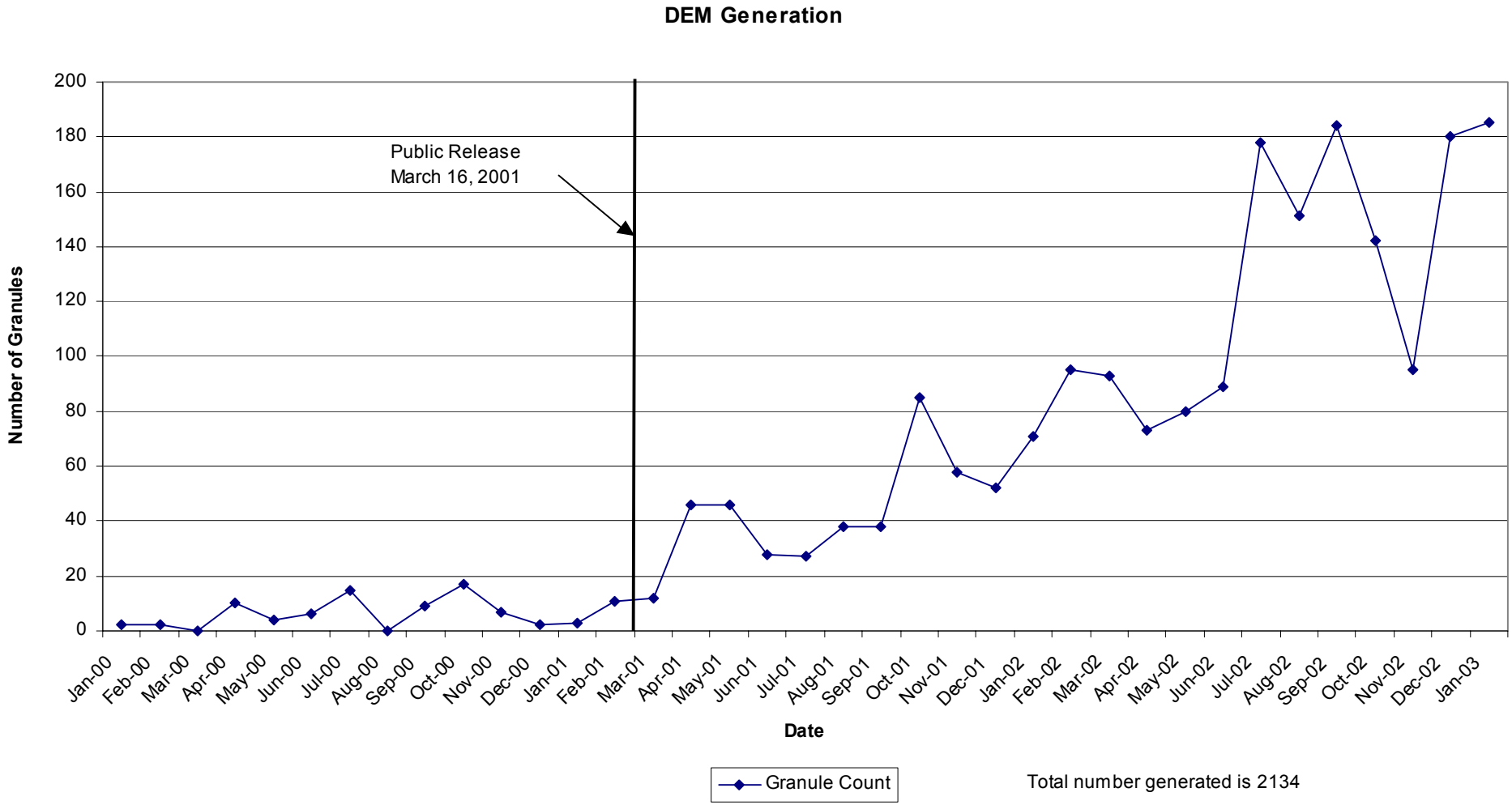
ASTER Ingest Volume



ASTER Ingest Volume

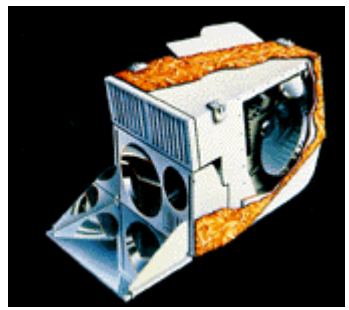


ASTER DEM Generation



MODIS Instrument Characteristics

- **Designed to provide global observations of the Earth's land, oceans, and atmosphere**
- **Aquires data at 3 different spatial resolutions**
  - **2 bands** between **.620µ and .876µ** at **250 m** IFOV
  - **5 bands** between **.459µ and 2.155µ** at **500 m** IFOV
  - **29 bands** between **.405µ and 14.385µ** at **1 km** IFOV
- **36 total spectral bands**
- **2330 km data swath**



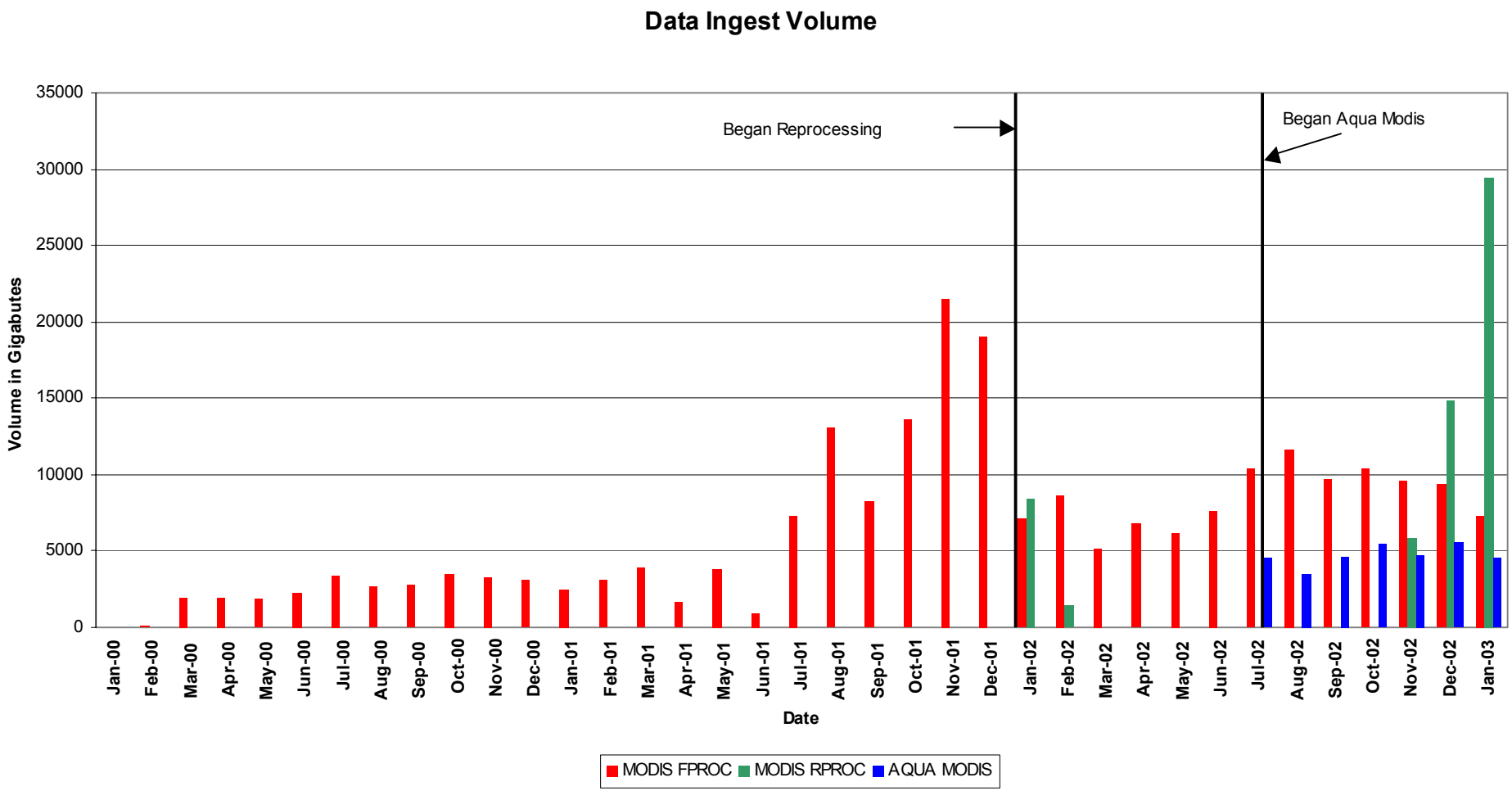
MODIS Data Policy Highlights

- Acquisition strategy designed for daily global coverage
- Eventually, many higher-level products will be produced daily for global land surfaces
- Higher-level *land* products are generated by the MODIS Science Team, but distributed to users by the LP DAAC
- User access to MODIS products is via the EOS Data Gateway

MODIS Annual Ingest Volume

Year	Granules	Volume
Calendar Year 2000	536,297	26.824 terabytes
Calendar Year 2001	1,390,266	98.530 terabytes
Calendar Year 2002	2,585,192	161,547 terabytes
Calendar Year 2003	578,372	41.454 terabytes

MODIS Ingest Volume



MODIS Ingest Volume