



Jerrold Robaidek **Dan Forrest** Janean Hill Nancy Troxel-Hoehn **Dee Wade**



GOES-6 Dec 22, 1983 15:46 UTC Original playback from U-matic tape

(Present day)

(1997-2005)



(1978-1997)

Re-processed





Interrogation and Reconciliation of Historical GOES Imagery From the Period 1978 to 1996

The University of Wisconsin-Madison Space Science and Engineering Center (SSEC) Data Center provides real-time and archive satellite data images and products to University, NOAA, and NASA researchers and commercial interests. The SSEC Data Center has ingested, redistributed, archived, and processed satellite data for over 35 years.

From 1979 until 2004 the University of Wisconsin Space Science and Engineering Center (UW-SSEC) archived GOES satellite data for the official National Satellite Archive which now resides at the National Climatic Data Center, in Asheville, North Carolina. The original operational GOES satellite archive was recorded at UW-SSEC on Sony U-matic tapes starting in 1978 and continued until 1997.

rescue, no software existed to reconcile the redundant data and interrogate the anomalies that were found.



NO data are changed, averaged or otherwise manipulated. All data are uncovered by correcting errors made by earlier software deficiencies.

Merged from 2 re-processed Images



GOES-5 Aug 17, 1981 15:30 UTC Playback from U-matic Tape



Re-processed







Reprocessing Statistics

There are over **717,000** images archived from the operational GOES satellites during the period 1978 to 1996. All Mode-A data (over **306,470** images) have been reprocessed.

• ~2,800 Mode-A images thought to be completely lost were recovered. • ~8,100 images had corrections to at least 95% of their image lines. • ~25,500 images had framing errors corrected that affected every visible scan in an image.

Totals above represent nearly 2 full years of data!

Types of Correctable Errors Encountered in Mode-A data

• Lines deleted/added: Caused by multiple/bad sync or ground station send errors, sometimes resulted in multiple images in one index.

Bit slip: Bits inserted between sync and type blocks and/or data, probably from when U-matic was first recorded, or may have happened during playback.

• Fixed type: IR (0) or VIS (1-8) incorrect, sometimes due to bit slip or multiple/bad sync.

• Fixed line number: Line number was changed, caused by bit error. **Framing Error**: IR data block size was incorrect.

