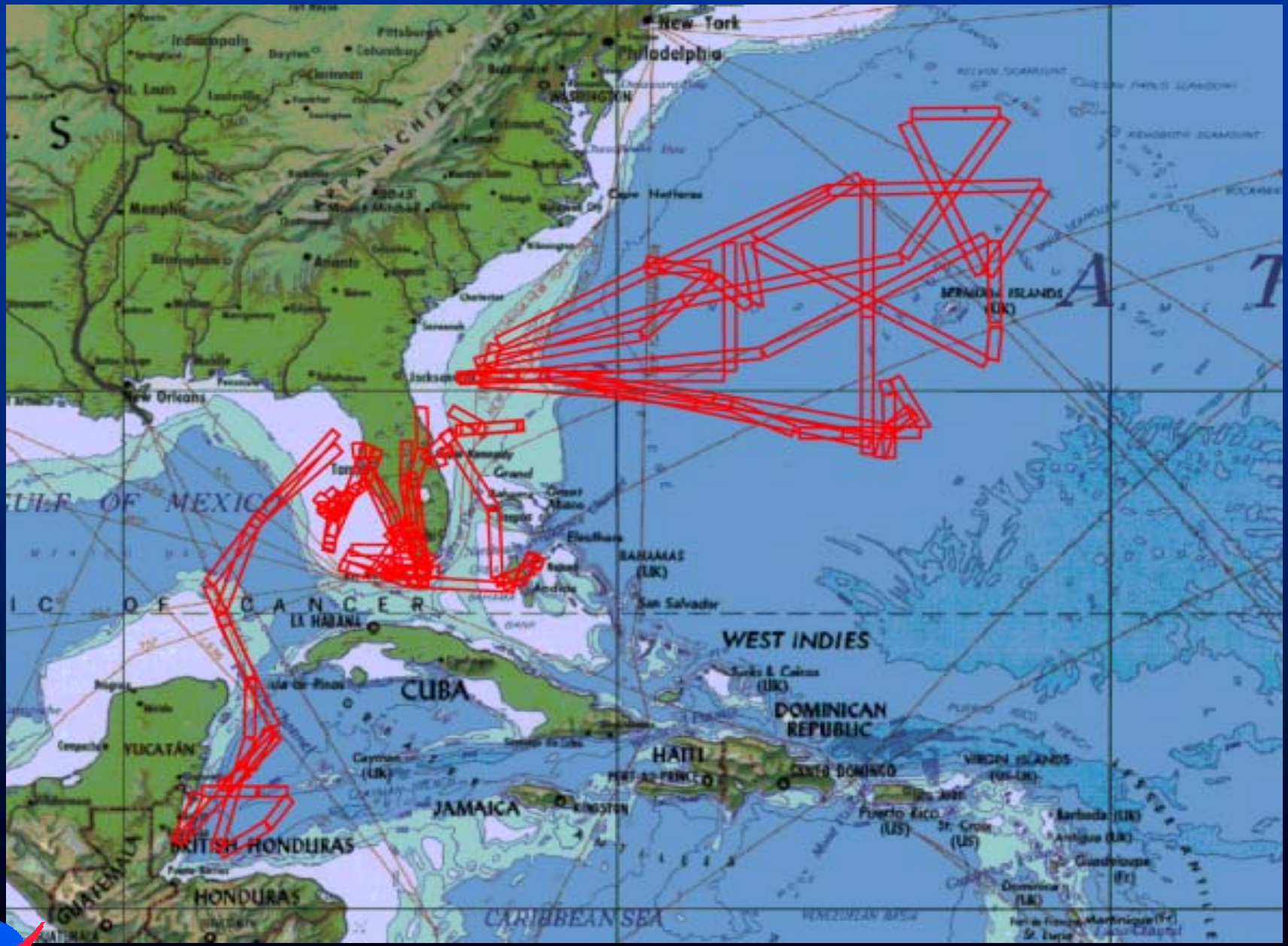
CAMEX-4

MODIS Airborne Simulator

Spectrometer	Spectral Range µm	Number of Bands	Nominal Bandwidth µm
1	0.445 - 0.967	9	0.040
2	1.620 - 2.420	16	0.050
3	3.040 - 5.440	16	0.150
4	8.340 - 14.430	9	0.500

IFOV: 2.5mrad
Swath Width: 19.9nm (36km)
Total Scan Angle: 85.92 degrees
Ground Resolution: 50 meters

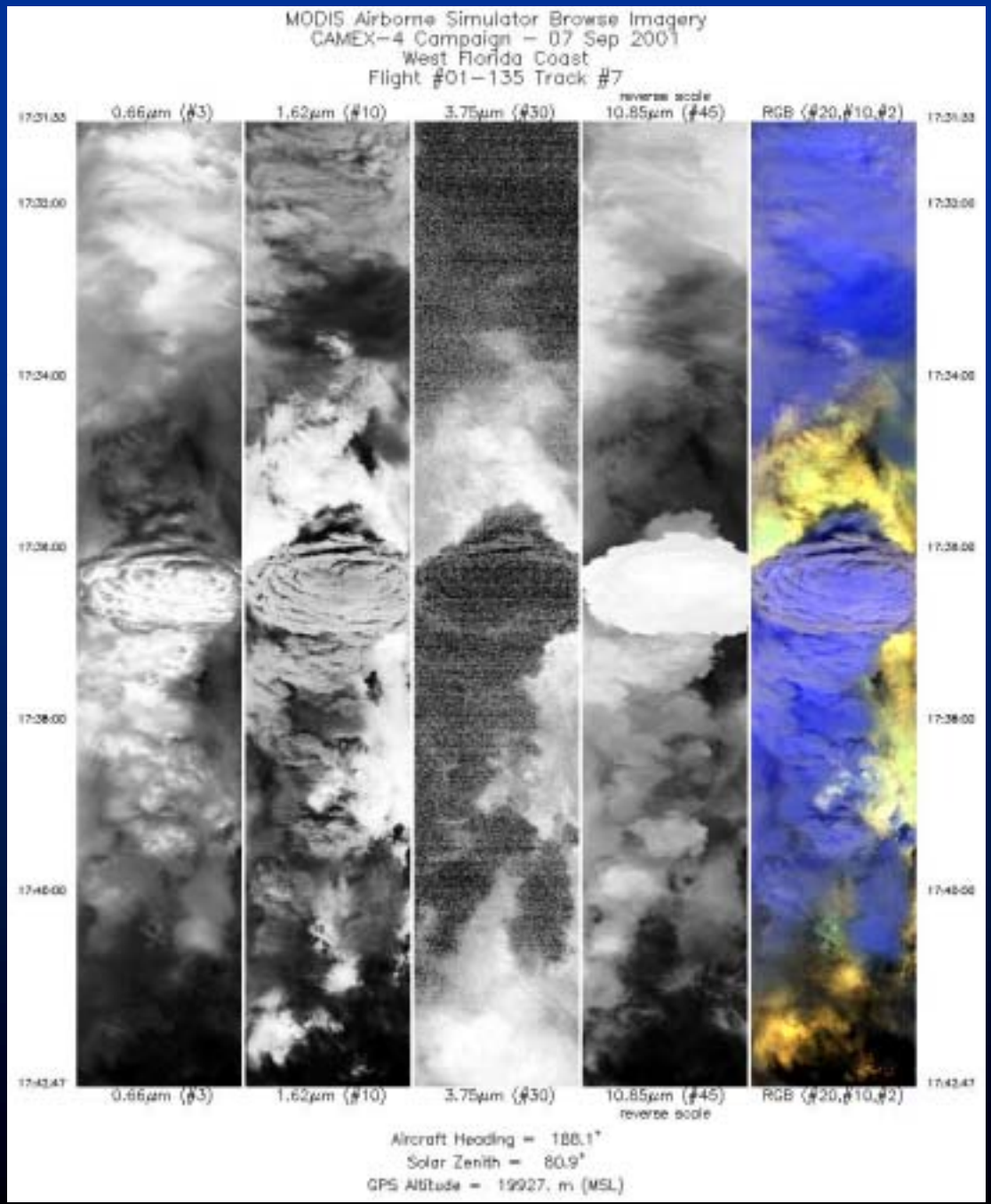


NASA

CAMEX 4, MAS Coverage

CAMEX – 4 MAS50 DATA

Flight	Coverage	Files	Size (GB)
01-131	Southern Florida	17	5.85
01-132	Tropical Storm Chantal	22	12.12
01-133	Florida Coast	8	2.42
01-135	Florida Gulf Coast	18	4.44
01-136	Florida Gulf Coast	14	4.23
01-137	Hurricane Erin	17	12.34
01-138	Tropical Storm Gabrielle	12	6.87
01-139	Florida Keys Convection	18	4.81
01-140	Tropical Storm Humberto	16	8.62
01-141	Hurricane Humberto	21	13.93
01-142	Hurricane Humberto	18	10.63
11 Experiment Flights		75 Files	86.3 GB
2 Transit Flights		22 Files	16.3 GB


MODIS Airborne Simulator Browse Imagery
CAMEX-4 Campaign - 07 Sep 2001
West Florida Coast
Flight #01-135 Track #7
0.66μm (#3)
1.62μm (#10)
3.75μm (#30)
reverse scale
10.85μm (#45)
RGB (#20,#10,#2)
17:31:55
17:32:00
17:34:00
17:36:00
17:38:00
17:40:00
17:42:47
0.66μm (#3)
1.62μm (#10)
3.75μm (#30)
10.85μm (#45)
reverse scale
RGB (#20,#10,#2)
Aircraft Heading = 188.1°
Solar Zenith = 80.9°
GPS Altitude = 19927. m (MSL)

MAS Data HDF Format

The Hierarchical Data Format (HDF) has been selected by the EOSDIS Project as the format of choice for standard product distribution. HDF consists of a directory structure and a collection of data objects or Scientific Data Sets (SDS).

- MAS HDF image data is stored as integer but unpacked to real (floating point) data in radiance units
- MAS HDF currently consists of 37 Global attributes and 44 scientific data sets
  - 15 SDS's for calibration information
  - 12 SDS's for navigation information
  - 27 SDS's for engineering information
- Software is available to directly import MAS HDF
- Unpacking code available to strip image data out of HDF format

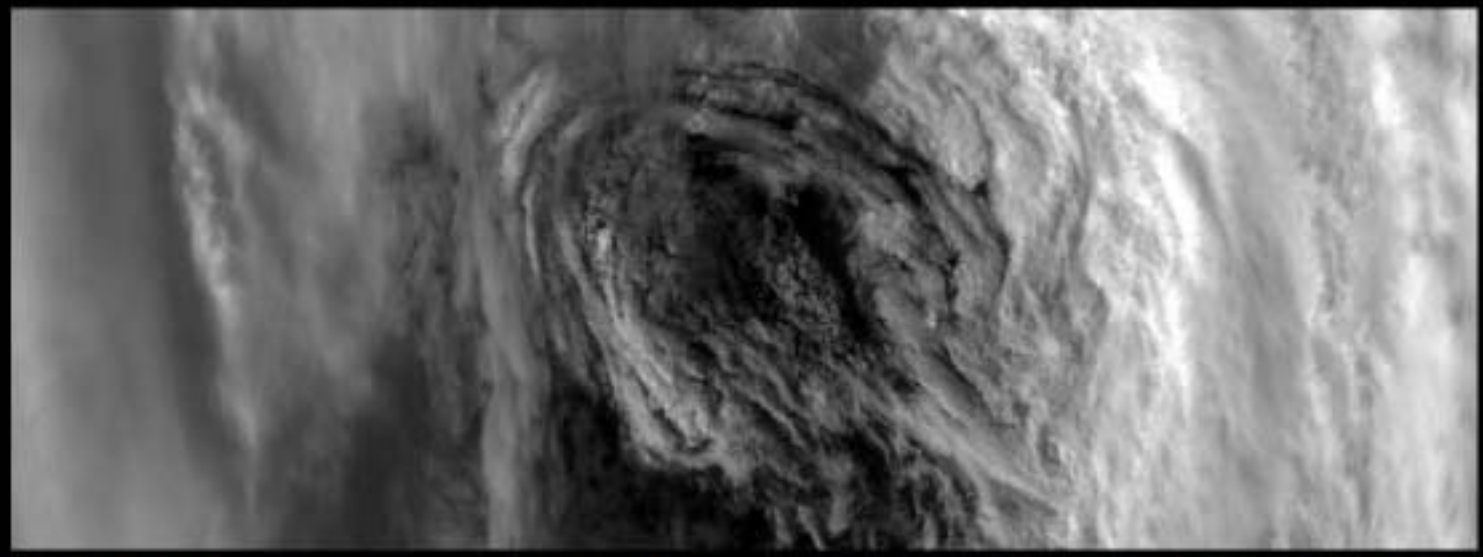
Resources for MAS and HDF Information

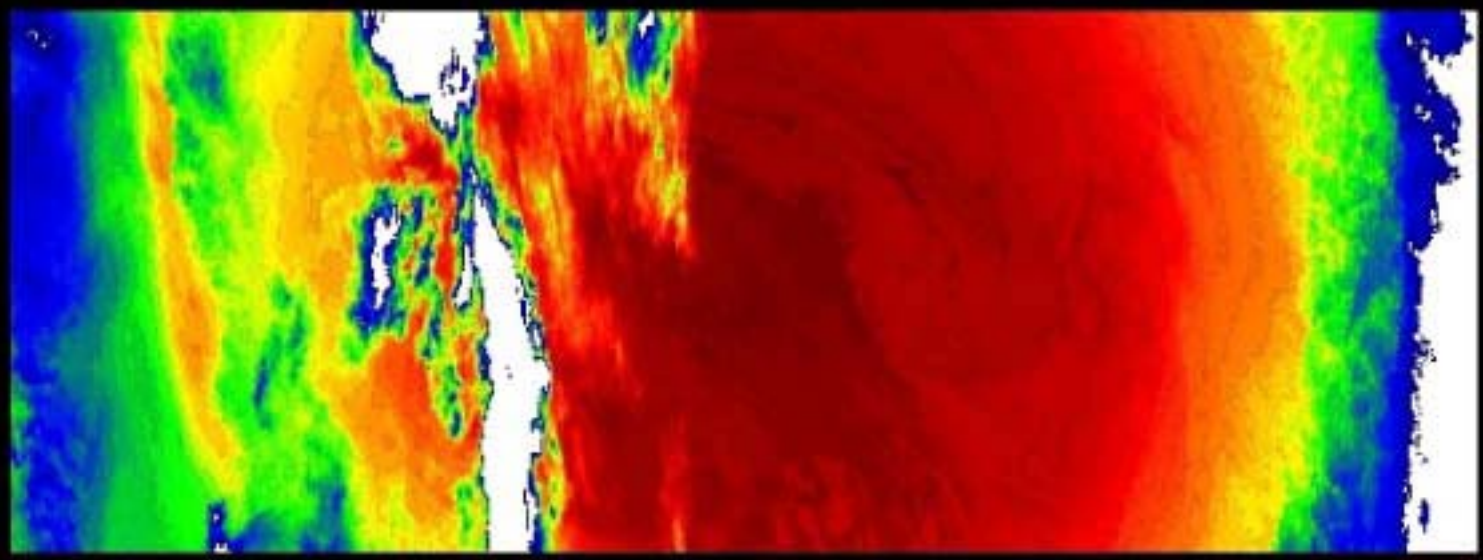
- MAS web page
  - http://ltpwww.gsfc.nasa.gov/MODIS/MAS/
- CAMEX-4 web page
- Langley DAAC
- Airborne Sensor Facility web page
  - http://asapdata.arc.nasa.gov
- HDF information
  - http//eosweb.larc.nasa.gov/HBDOCS/hdf.html
  - http//daac.gsfc.nasa.gov/REFERENCE_DOCS/HDF/gdaac_hdf.html

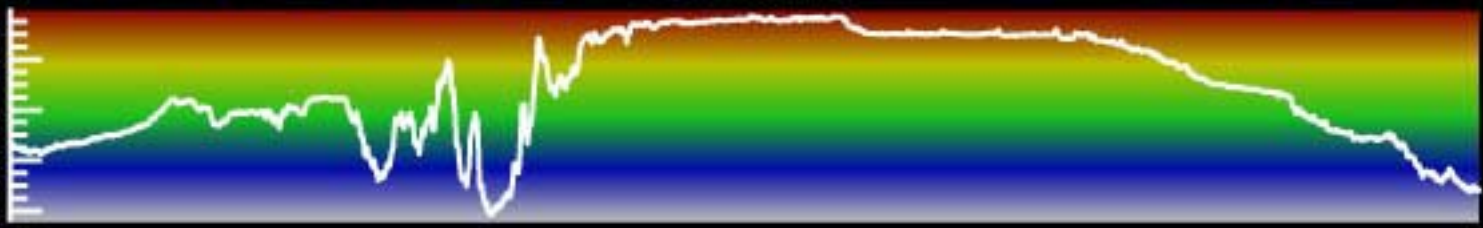
MAS Nadir Profile

Record	ScanLine	-2001253-	INU_Lat	INU_Lon	Roll	Rad_05	Rad_12	Tmp_30	Tmp_45
000001	00006028	11.286805	+30.23438	-81.67648	-0.110	102.01	10.929	336.52	310.52
000002	00006048	11.287694	+30.23438	-81.67648	-0.110	102.08	10.893	335.38	310.99
000003	00006068	11.288584	+30.23438	-81.67648	-0.110	102.13	10.896	336.30	310.43
000004	00006088	11.289500	+30.23438	-81.67648	-0.110	102.32	10.932	335.10	310.77
000005	00006108	11.290389	+30.23438	-81.67648	-0.110	102.25	10.935	335.44	310.56
000006	00006128	11.291278	+30.23438	-81.67648	-0.110	102.42	10.941	337.32	310.91
000007	00006148	11.292167	+30.23438	-81.67648	-0.110	102.57	10.959	337.28	310.89
000008	00006168	11.293056	+30.23438	-81.67648	-0.110	102.47	11.005	335.96	310.77
000009	00006188	11.293944	+30.23438	-81.67648	-0.110	102.67	11.005	337.84	310.66
000010	00006208	11.294861	+30.23438	-81.67648	-0.110	102.84	11.008	336.29	310.71
000011	00006228	11.295750	+30.23438	-81.67648	-0.110	102.91	11.035	336.44	310.50
000012	00006248	11.296638	+30.23438	-81.67648	-0.110	103.06	11.035	338.50	310.60
000013	00006268	11.297527	+30.23438	-81.67648	-0.110	103.08	11.011	339.20	310.74
000014	00006288	11.298417	+30.23438	-81.67648	-0.110	103.18	10.956	334.10	310.33
000015	00006308	11.299334	+30.23438	-81.67648	-0.110	103.45	11.041	336.52	310.65

Hurricane Erin







NASA

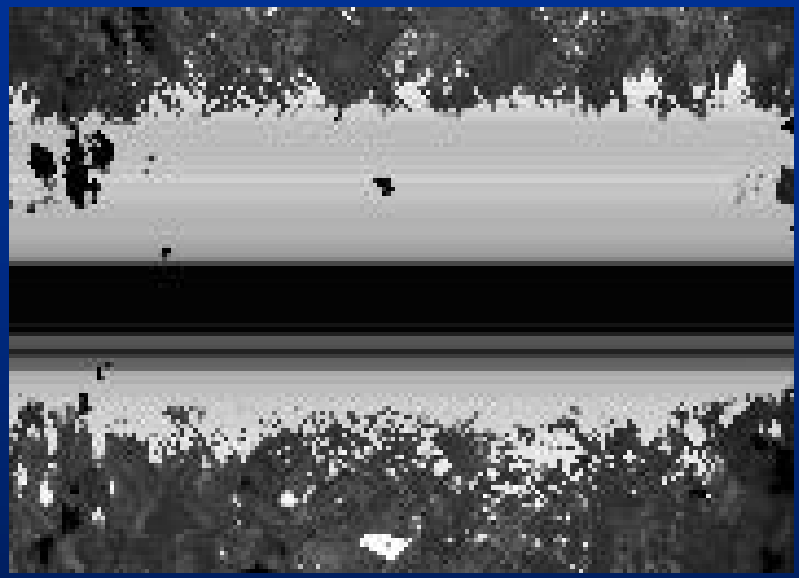
Andros Island, Flight 01-131, 18 August 2001

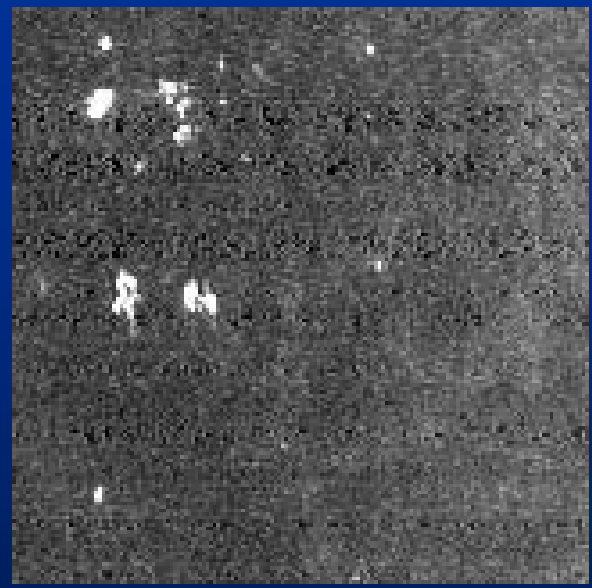
Keywest Florida, Flight 01-131, 18 August 2001

MAS Performance/Noise

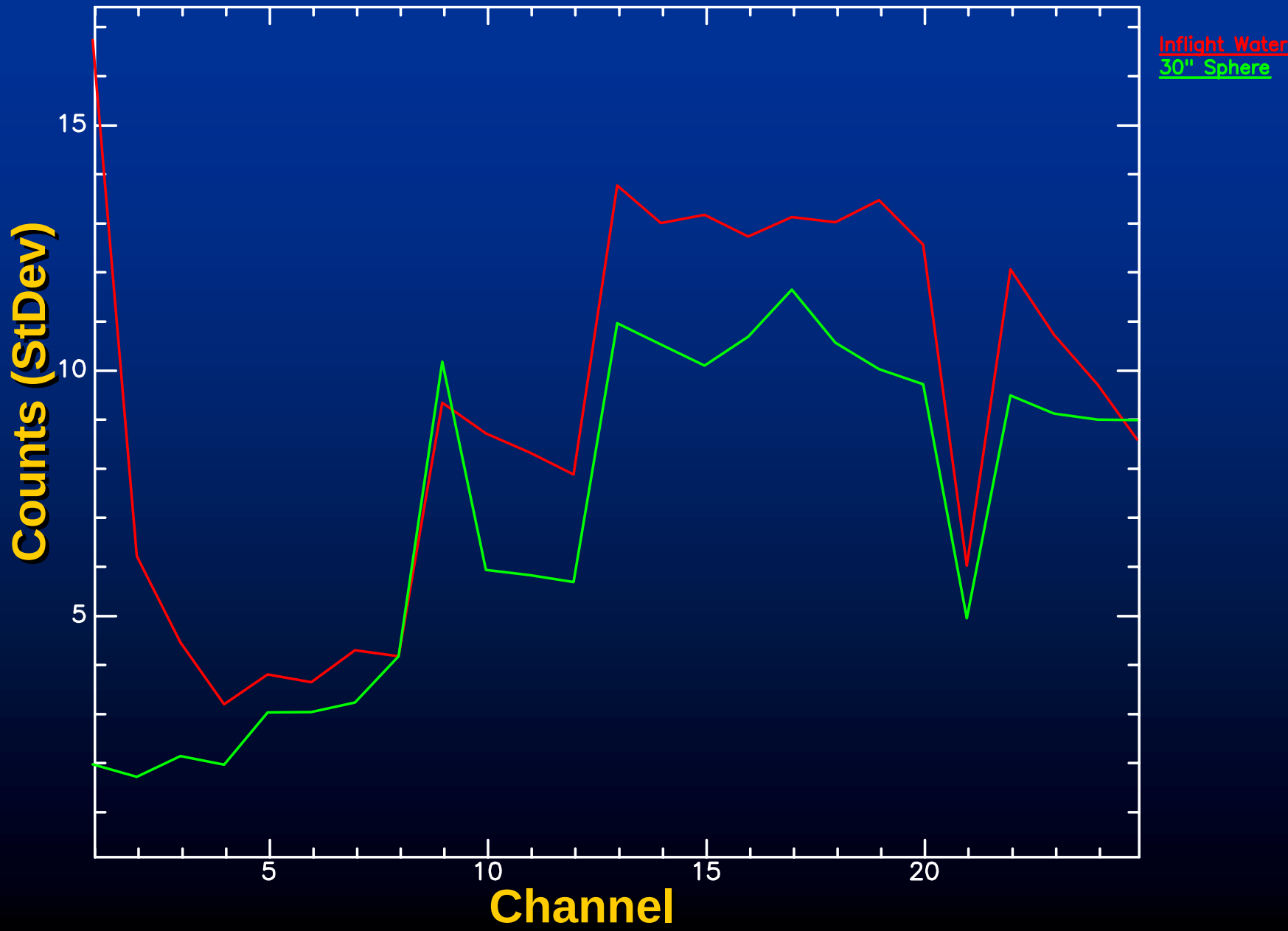
- Striping Ports 2 and 3
- Coherent noise Ports 3 and 4
- Port 4 voltage transients
- Channel 41 (5.395um) dead

MAS Noise

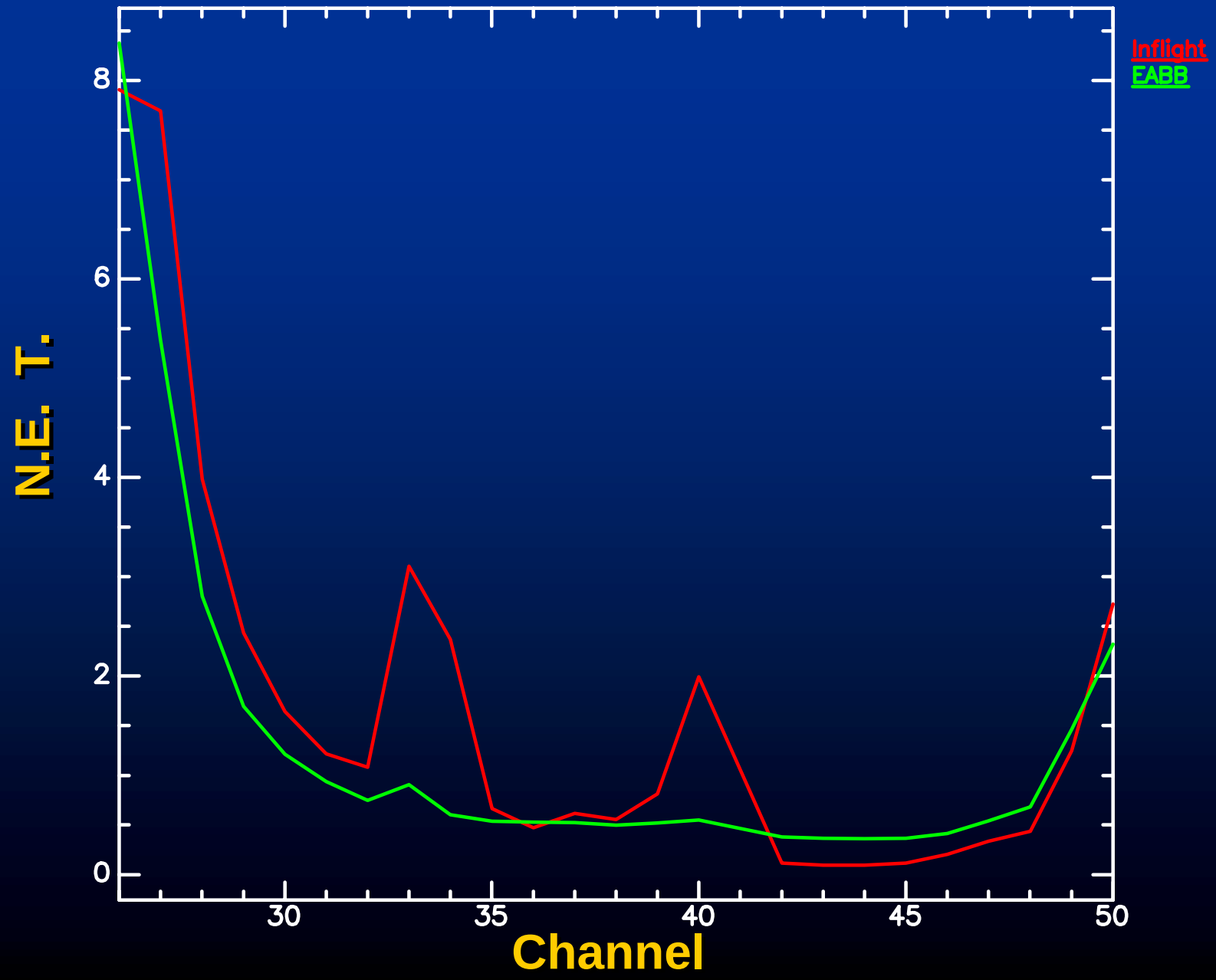




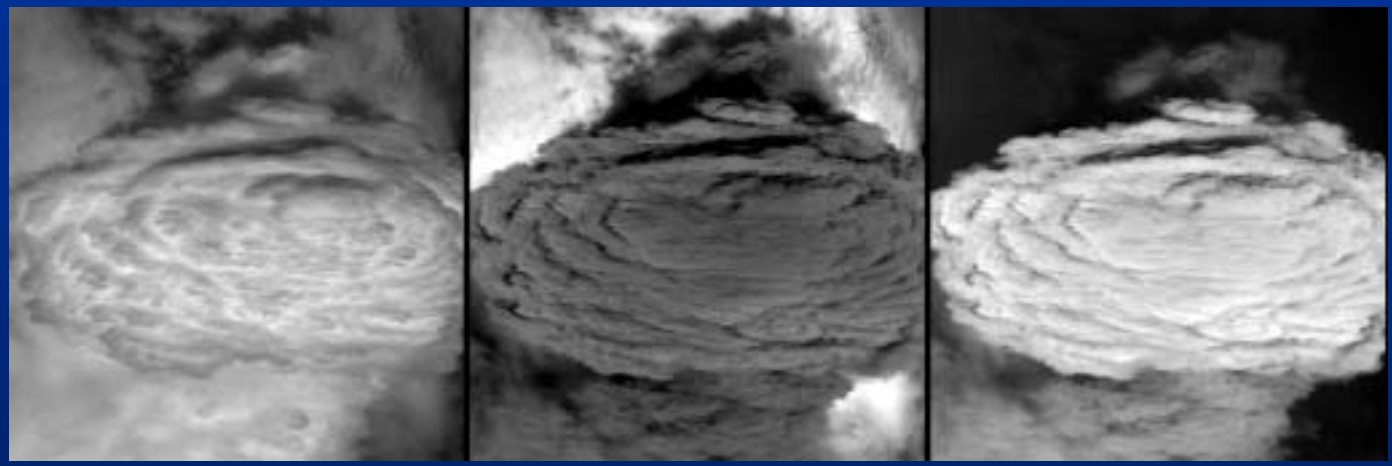
CAMEX-4 Noise Ports 1 and 2



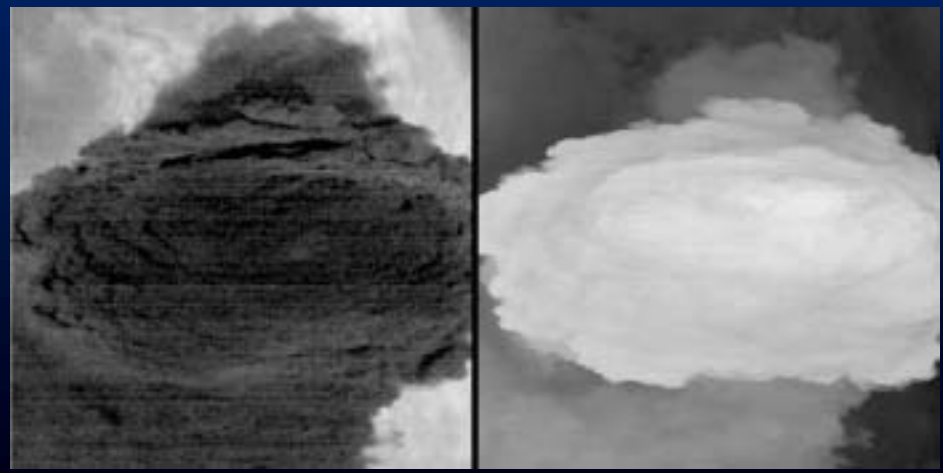
CAMEX-4 Noise Ports 3 and 4



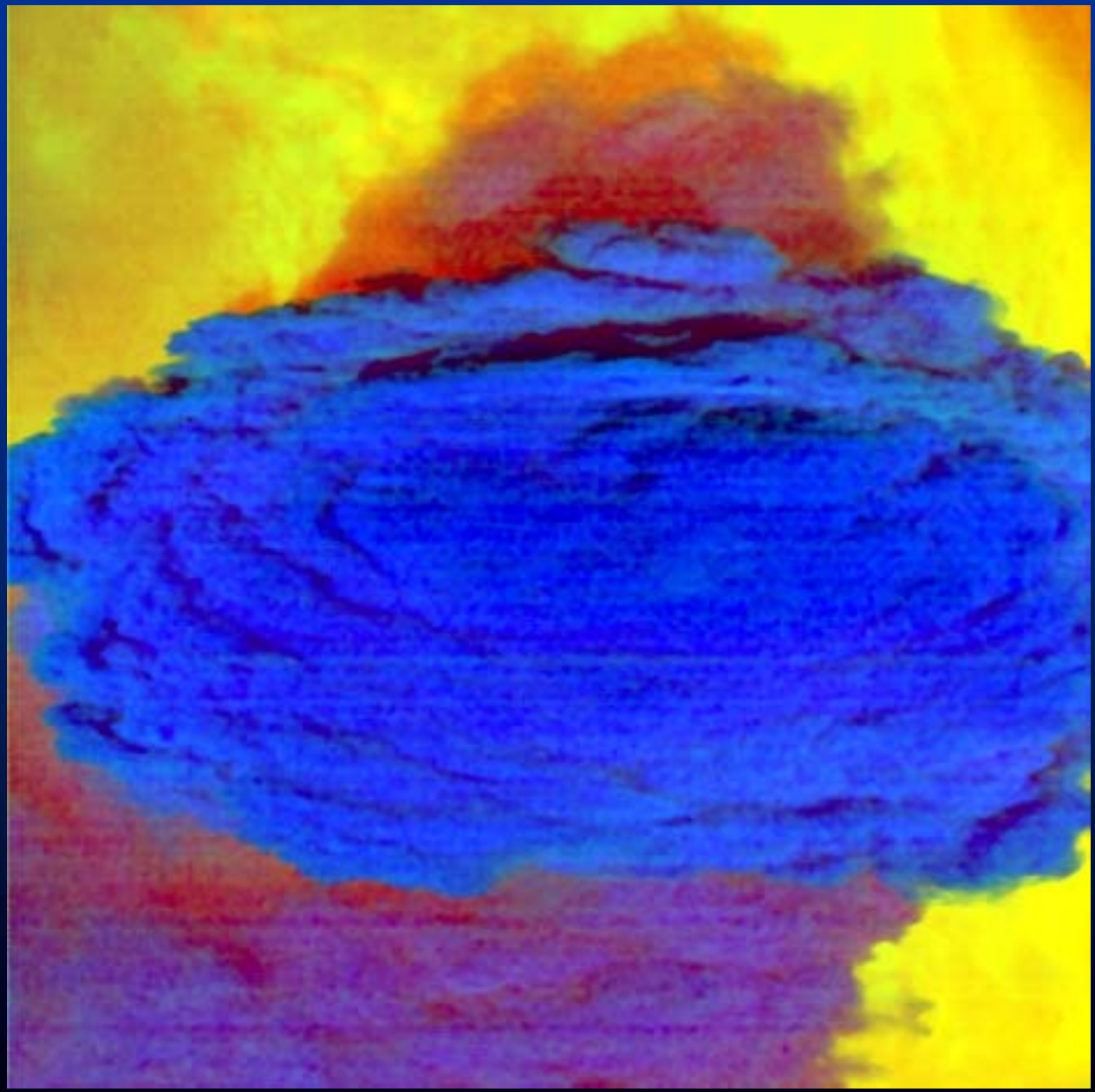
MAS Flight 01-135



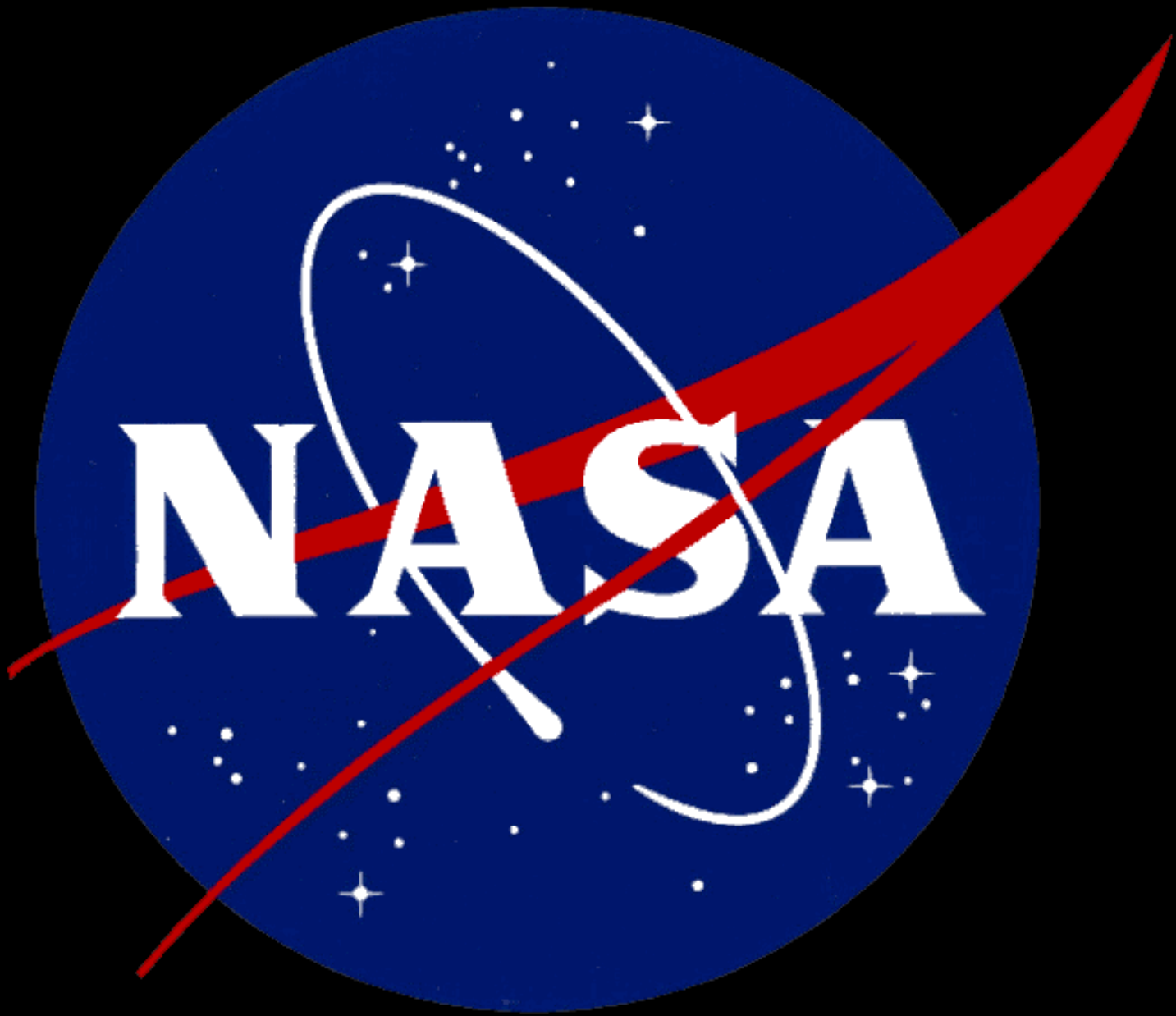
0.65 μm 1.62 μm 1.88 μm



3.75 μm 10.85 μm



10.85 μm 3.75 μm 1.88 μm


NASA