RICO: Satellite Instruments

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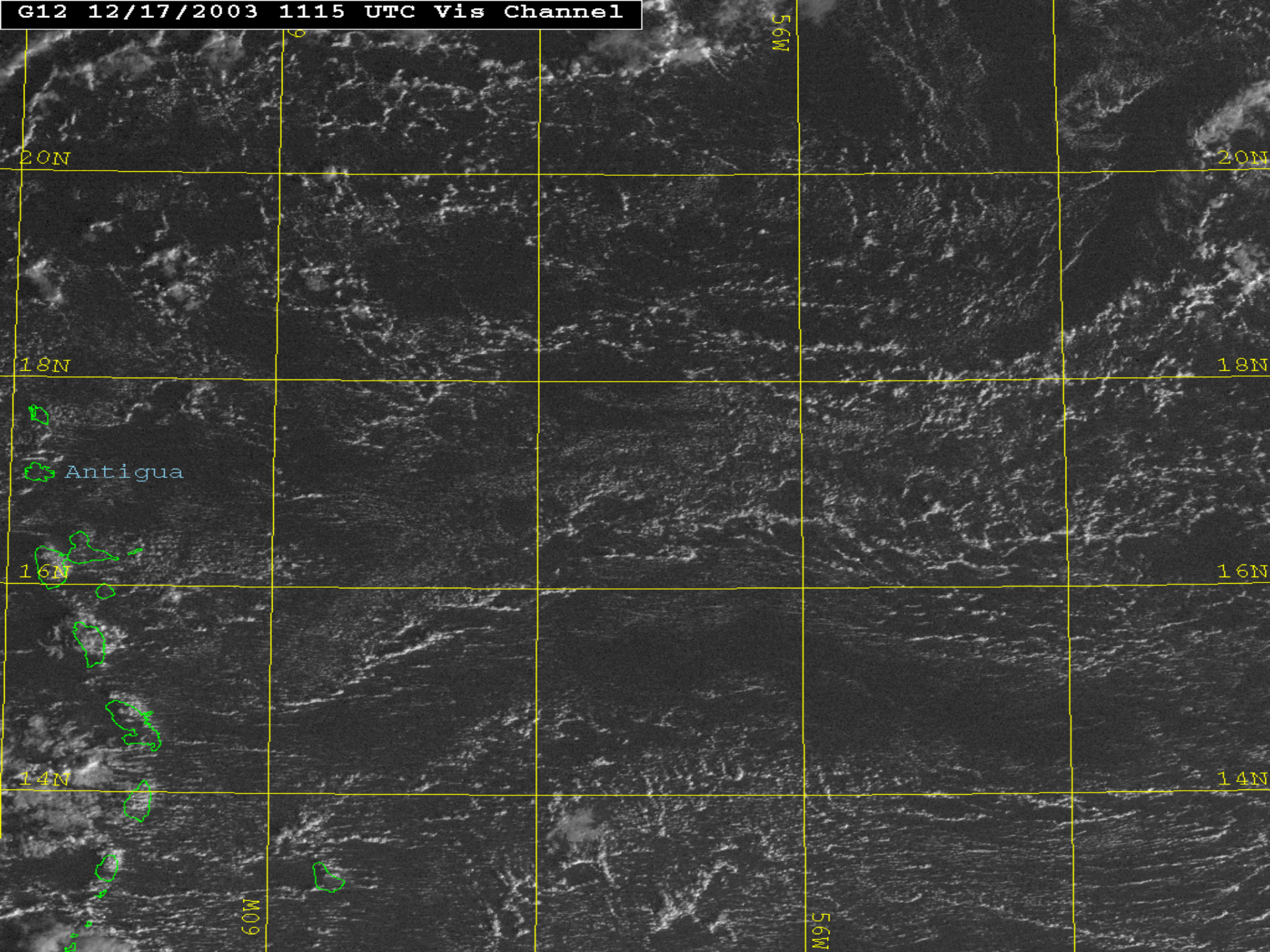
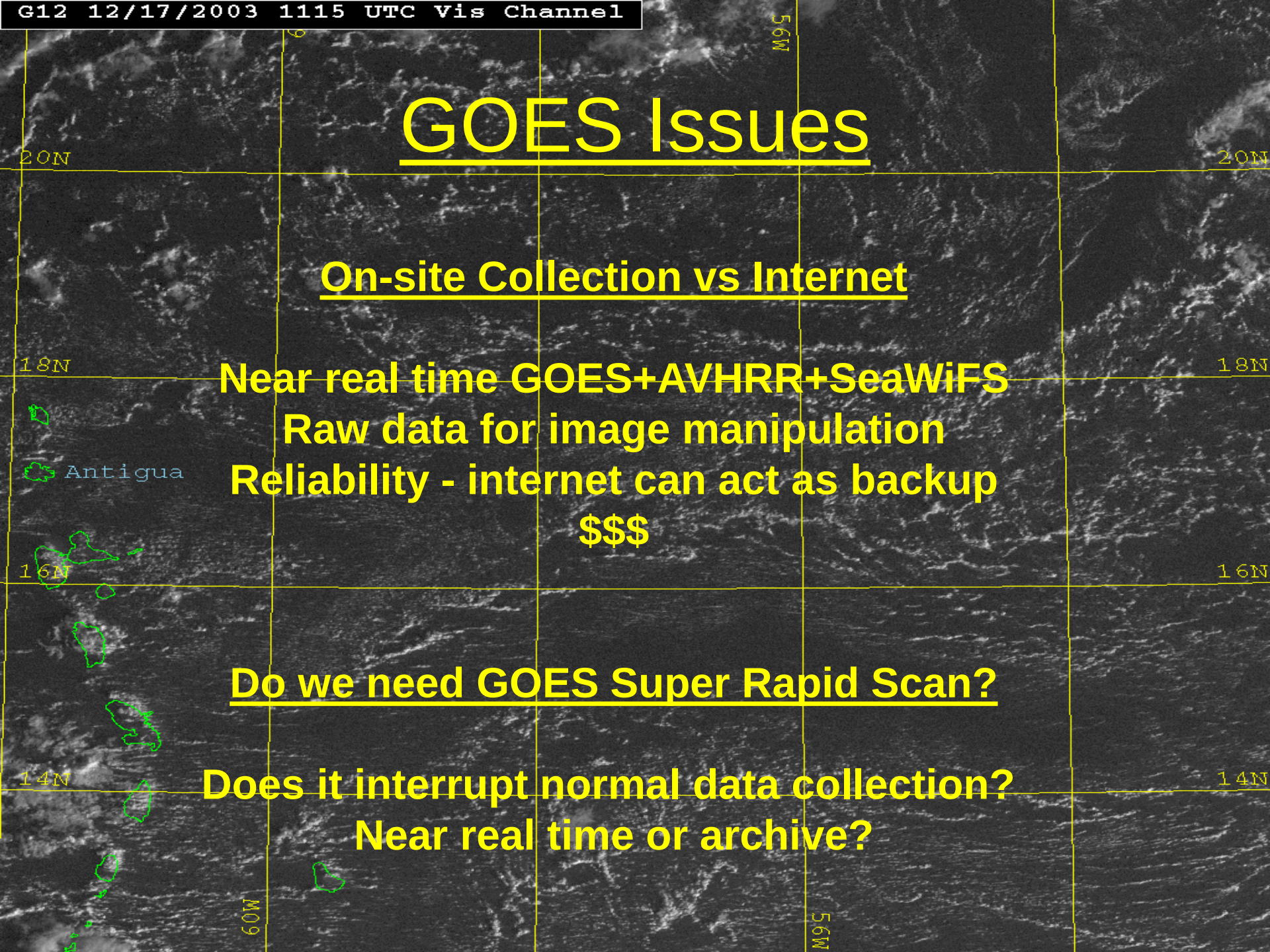
Purpose

- **Support forecasting during field campaign**
- **Support post-field-campaign science**

MISR RGB


G12 12/17/2003 1115 UTC Vis Channel
20N
18N
16N
14N
60W
56W
Antigua



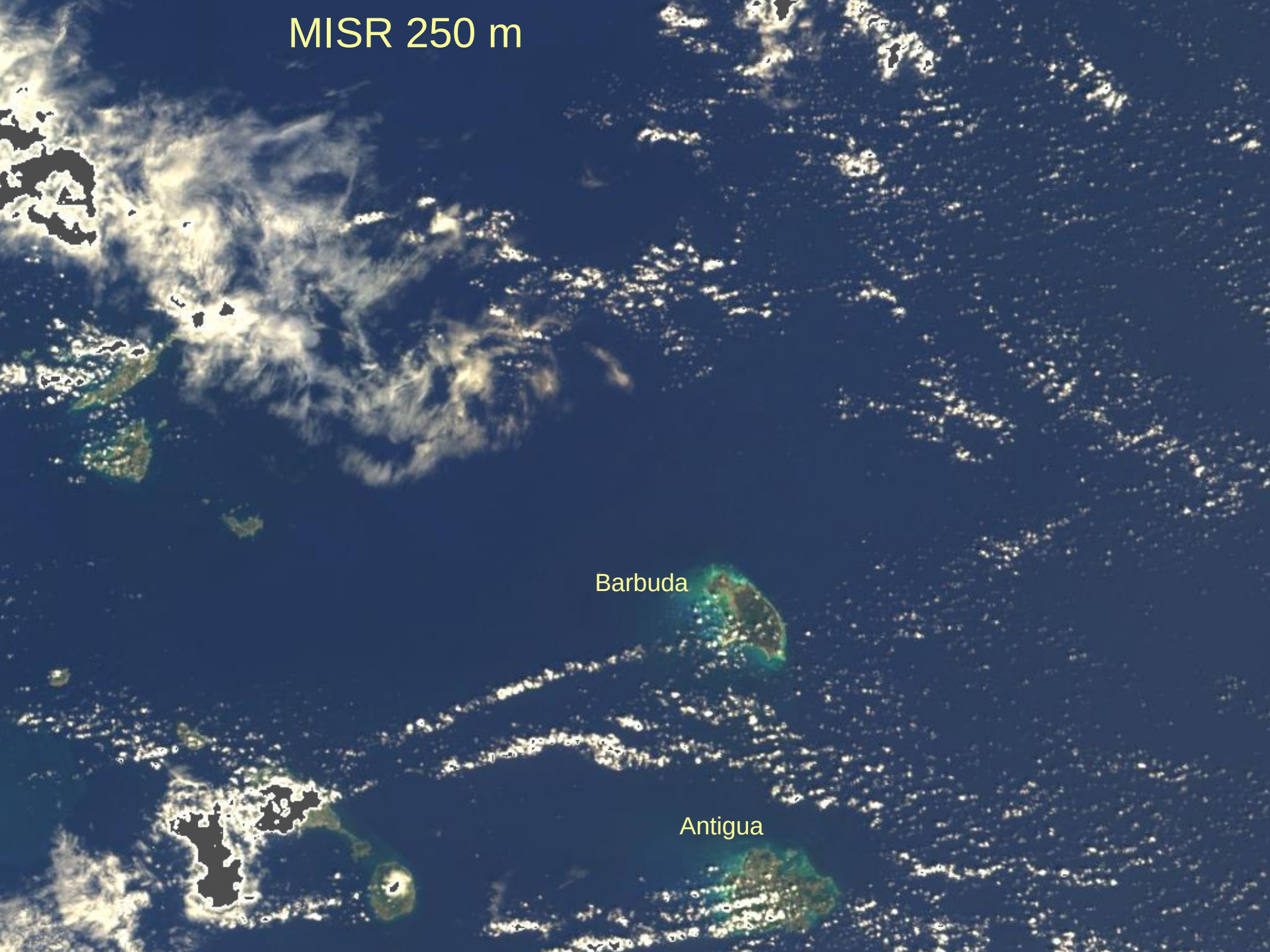
GOES Issues

On-site Collection vs Internet

Near real time GOES+AVHRR+SeaWiFS
Raw data for image manipulation
Reliability - internet can act as backup
$$$

Do we need GOES Super Rapid Scan?

Does it interrupt normal data collection?
Near real time or archive?


MISR 250 m
Barbuda
Antigua

Meteorological LEO Instruments

Instrument	Resolution	Swath
MISR	0.25 - 1.1 km	360 km
MODIS	0.25 - 1 km	2330 km
DMSP	0.56 - 2.7 km	3000 km
AVHRR 2/3	1.1 km	2400-3000 km
SeaWiFS	1.13 - 4.5 km	1500-2800 km
VIRS	2 km	720 km
PR	4.3 km / 250 m	220 km
SeaWinds	25 km	1800 km
AATSR	1 km	500 km

MISR RGB

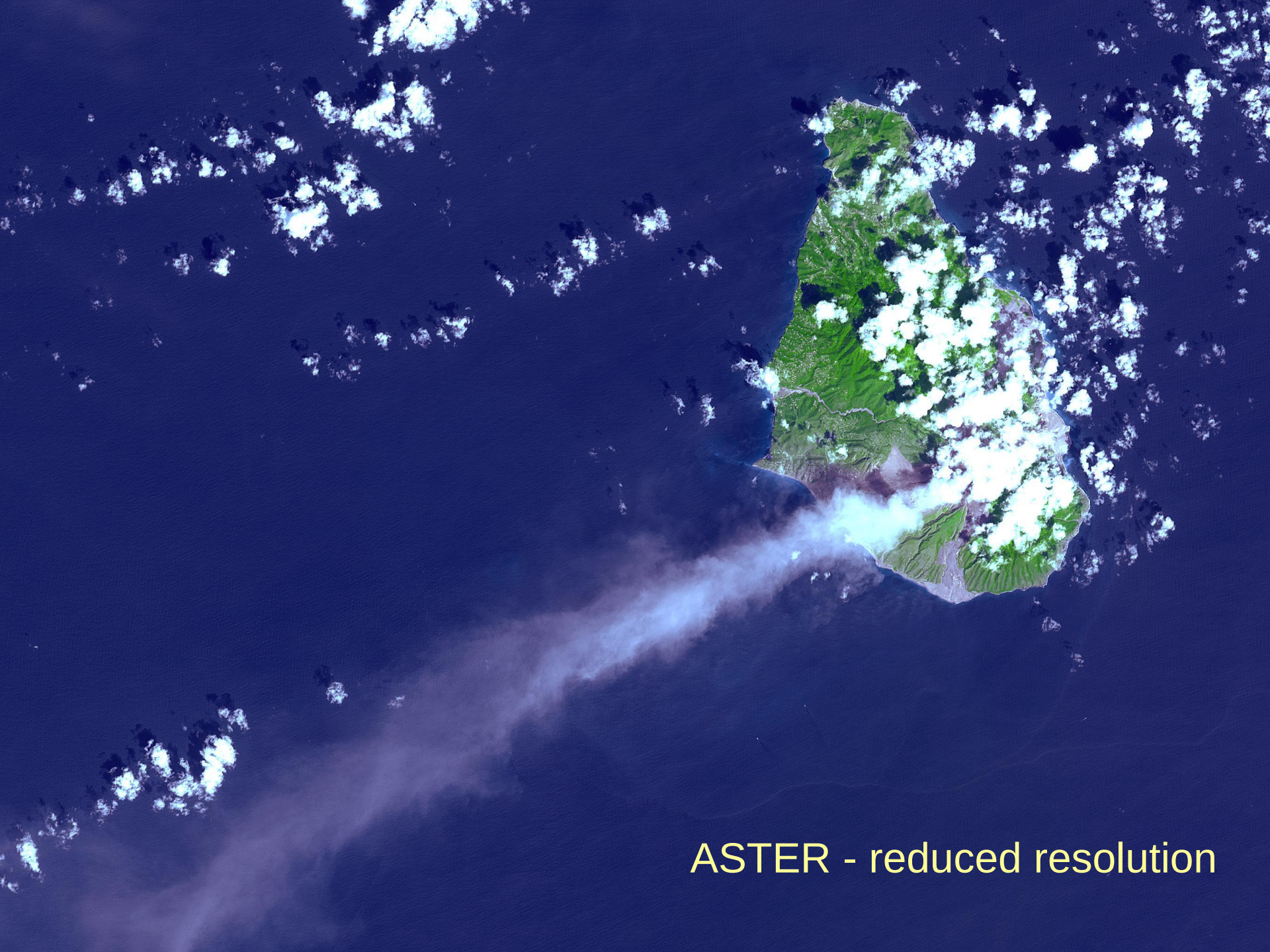
4 m resolution Ikonos-2 image

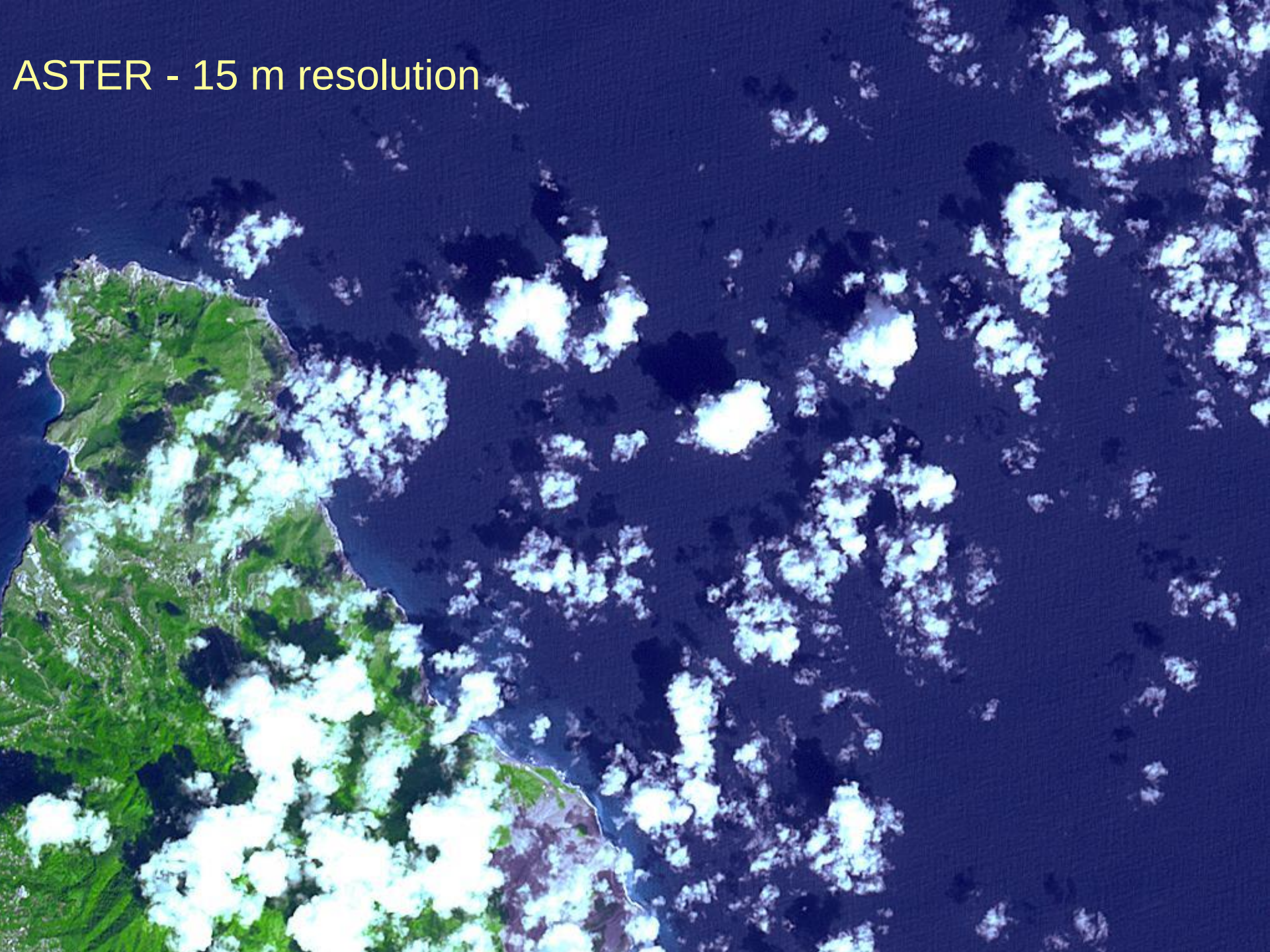
• Needed for spatial resolution impact studies
• $$$???
• Who else needs this data?
4 m resolution Ikonos-2 image

Commercial LEO Instruments

Instrument	Resolution	Swath
ASTER	15 - 90 m	60 km
ETM+	15 - 60 m	185 km
Ikonos-2	1 - 4 m	12 km
Hyperion	30 m	7.5 km
QuickBird-2	1 - 4 m	22 km
EROS-A1	0.82 - 1.8 m	12.5 km
IRS P6	23 - 188 m	740 km

MISR RGB


ASTER - reduced resolution


ASTER - 15 m resolution

Untitled - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address C:\Home\snodgrss\Desktop\RICO\main.html
Go
Links wx info Haz MINE Glen's NWS NOAA SPC SPC MAP RAP Uni C-U C wxtap usgs wxcaster iwin 120 303 Cyc NCEP COD

RICO Satellite Instrument Information

Thursday, February 19th

Choose an Instrument:

- (•) MISR
- ( ) MODIS
- ( ) VIRS
- ( ) PR
- ( ) AVHRR
- ( ) DMSP

Choose what you want:

- (•) Gereral Specs
- ( ) Data Acquisition
- ( ) Useful Links

Submit Query

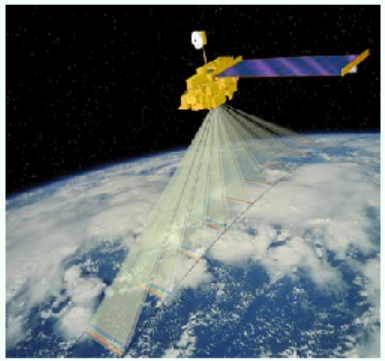
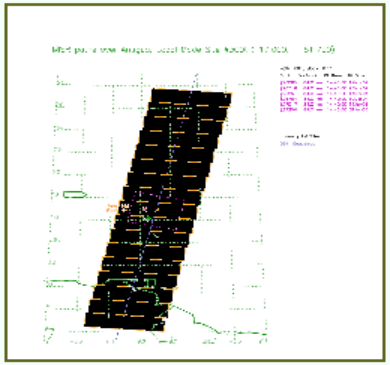
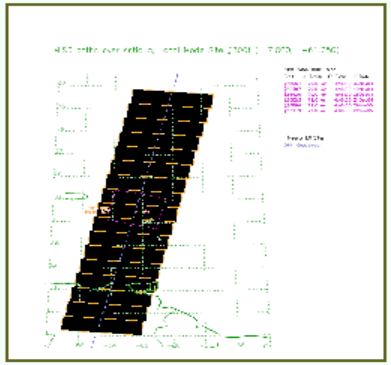
Daily OPT Calendar

Instrument: *MISR* (*M*ulti-Angle *I*maging *S*pectro*R*adiometer)
Platform: EOS AM-1 Terra
Unique Feature: 9 cameras with 4 bands each
- o 4 FORWARD [Df 70.3°, Cf 60.2°, Bf 45.7°, Af 26.2°]
- o 1 NADIR [An 0.1°]
- o 4 AFT [Aa 26.2°, Ba 45.7°, Ca 60.2°, Da 70.3°]

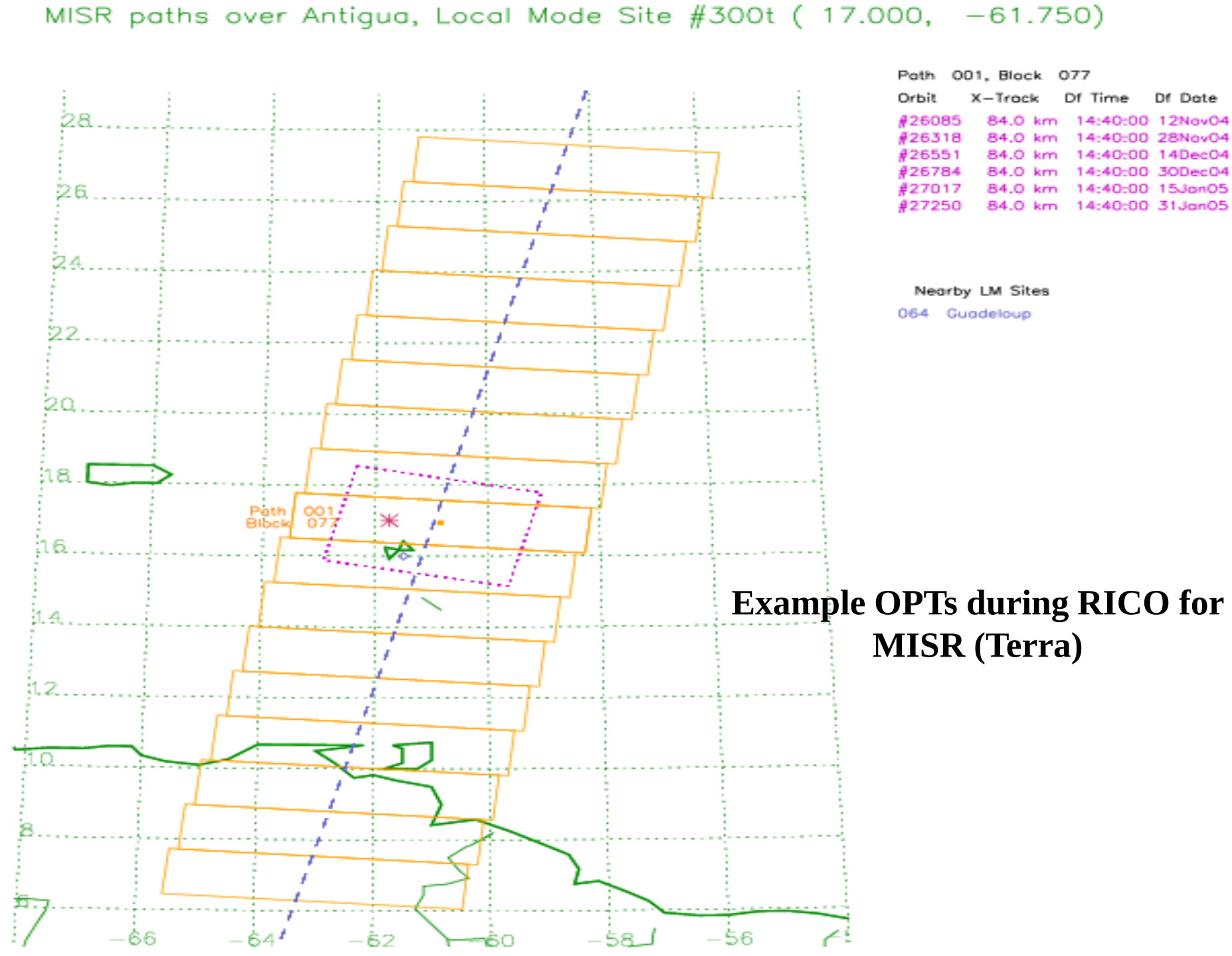
Band Centers: Blue (446nm), Green (558nm), Red (672nm), NIR (866nm)
Resolution: Two Modes****
- o Global mode acquires data for all channels at 1.1km (except Red which is at 275m and the An camera which is 250m)
- o Local mode acquires data 275m for all cameras at all angles (An still 250)

***THIS FEATURE HAS TO BE REQUESTED IN ADVANCE and is on only for a 300kmx300km grid

Altitude: 705-730km
Period: ~99 min period
Orbits(Paths): 233 repeating orbits
Type: Push-Broom Scanner
Swath Width: 360km
Tropical coverage every 9 days
Equator Crossing time in the descending nodal orbit is at 10:30AM

My Computer
Start
11:29 PM



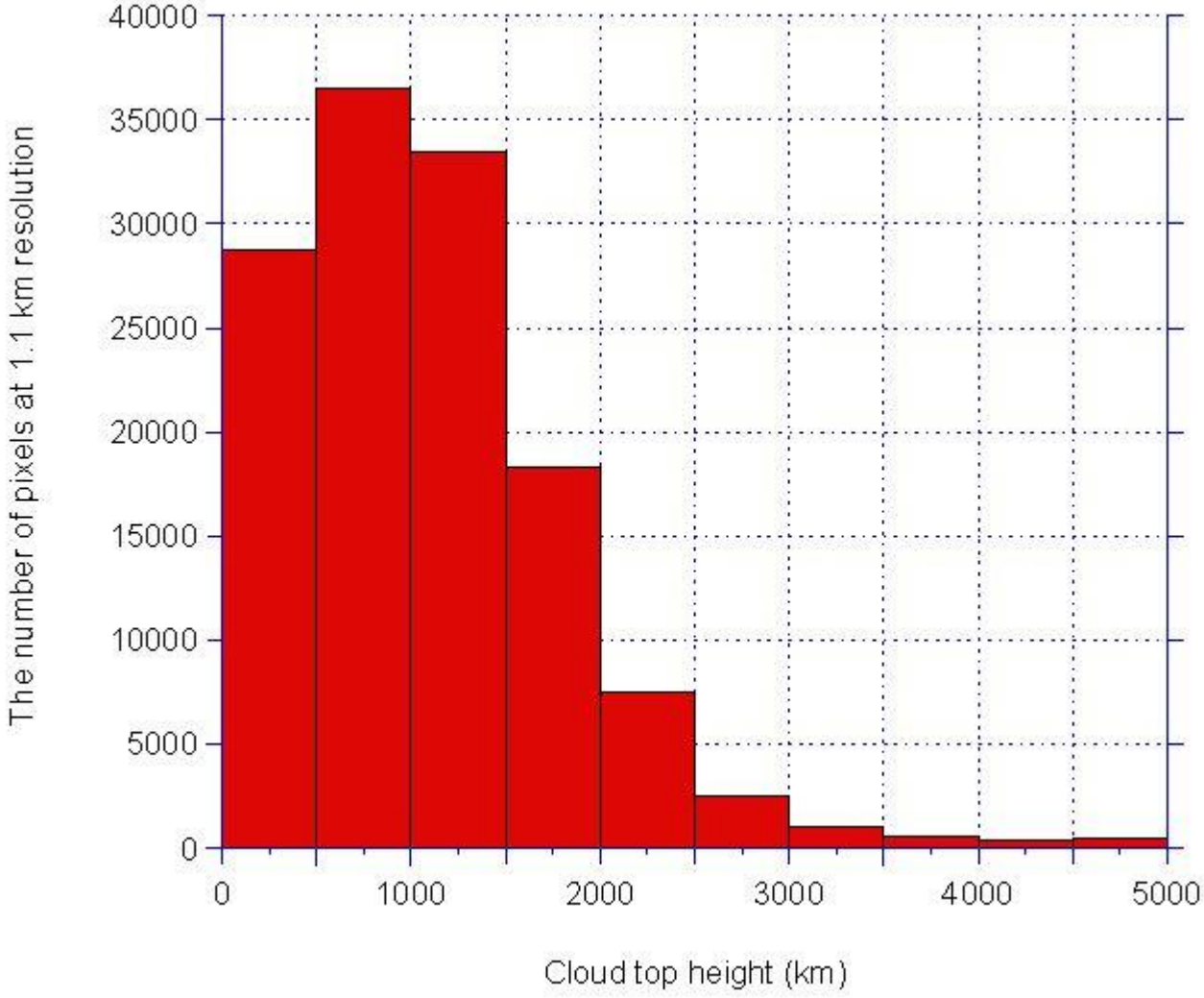
Example OPTs during RICO for MISR (Terra)

Archiving

- Will JOSS archive all satellite data, including data already stored at other data distribution centers?
- What gets archived: DN, radiances, products?
- What will be the format(s) of the data?
- Will there be freely available codes to read the format?

Formation of a RICO Satellite Working Group

MISR RGB



4 orbits of MISR data off of Puerto Rico in December 2002