

SAFARI 2000 MAS Flight 00176

The SAFARI 2000 MAS contains 146 GB of data. Individual HDF files may exceed the size of a CD, and are best written to DVD. You may use this automated interface to order data from selected tracks (flight segments). If you require large portions of this data, we recommend that you contact us by email or phone and make special arrangements.

Flight #00-176

RBG Images

[Click Image](#)

Track #03



Summary Information

Date: **September 14, 2000**

ER-2 Flight Number: **00-176**

Location: **South Africa, Botswana, Namibia and Angolan coast**

Principal Investigator: **Dr. Michael King (NASA GSFC)**

Flight Scientist: **Steve Platnick (NASA GSFC)**

Additional Sensors: **AirMISR, CLS, LAS, MAS, MOPITT-A, S-HIS, SSFR** (see [Instrument Status](#) below)

Flight Track Map



[Click to enlarge](#)

Processing Information

Level-1B Data processed by: **Ames Research Center**

Level-1B Data Version: **#01**

Level-1B Configuration: ([sample file](#))

Calibration Type: **final**

Calibration Version: **1.0**

Level-1B Browse Imagery

Straight Line Flight Tracks: **21 processed**

Scanlines Processed: **0**

[Solar Azimuth and Zenith Angles](#)

Browse Images

Click on the Flight Track number to see track images.
Click on the Check Box to list HDF files prior to adding to shopping cart.
Lat/Lon ranges are for the BEG-END scanline nadir pixels.

List	Flight Track	Time_Span (GMT)	Heading (Deg)	Lat_Range (Deg_S)	Lon_Range (Deg_E)	Length (Scanlines)	Altitude m (msl)
	01	08:28-08:55	287	23.48-22.63	27.77-24.62	9999	18845
	02	08:55-09:00	289	22.63-22.47	24.62-24.04	1803	19511
	03	09:00-09:27	282	22.47-22.10	24.02-20.69	9999	19607
	04	09:27-09:54	281	22.10-21.61	20.69-17.40	9999	19771
	05	09:54-10:20	282	21.61-21.02	17.40-14.15	9999	19873
	06	10:20-10:23	283	21.02-20.94	14.15-13.77	1167	19876
	07	10:24-10:51	313	20.90-19.15	13.71-10.98	9999	19869
	08	10:51-11:00	307	19.15-18.54	10.98-10.03	3493	19877
	09	11:01-11:05	292	18.52-18.35	10.00-9.44	1806	19869
	10	11:07-11:34	13	18.24-15.23	9.35-9.85	9999	19775
	11	11:34-11:40	13	15.22-14.51	9.85-9.97	2368	19867
	12	11:44-12:11	185	14.44-17.33	9.62-9.16	9999	19797
	13	12:11-12:16	188	17.33-17.91	9.16-9.06	1941	19845
	14	12:17-12:25	114	18.03-18.35	9.14-9.97	2964	19848
	15	12:25-12:52	105	18.36-18.94	9.99-12.95	9999	19880

16	12:52-13:11	101	18.94-19.33	12.95-15.08	7227	19864
17	13:12-13:30	94	19.33-19.33	15.10-17.17	6843	19842
18	13:30-13:57	107	19.34-20.33	17.21-20.09	9999	19887
19	13:57-14:24	109	20.33-21.27	20.09-22.99	9999	19848
20	14:24-14:50	108	21.27-22.16	22.99-25.93	9999	19791
21	14:50-15:08	110	22.16-22.75	25.93-27.86	6446	19669
All images in sequence						

ER-2 Flight Log

Author: [Steve Platnick](#)

Mission Scientist: [Dr. Michael King](#)

ER-2 Pilot: [Jan Nystrom](#)

Takeoff: [14Sep2000 0000 UTC](#)

Landing: [14Sep2000 0000 UTC](#)

Duration: [07:36:00](#)

Objective:

(1) Overfly marine stratocumulus off the Namibian and Angolan coast, and coordinated with the UK C-130, (2) Overfly the Okaukuejo Camp at Etosha National Park (ENP), (3) Overfly the Brandenberg crater and other geology on the northern Namibian coast, (4) Overfly the Serowe SAV E site in Botswana.

The UK C-130 (based in Windhoek, Namibia) flew northward to intercept marine stratocumulus along the Angolan/Namibian border during the time of the Terra overpass, followed by some cloud sampling coordinated with the ER-2; broken multilayer clouds were reported by the C-130. The University of Washington CV-580 (based in Walvis Bay, Namibia) made clear sky aerosol and chemistry measurements off Walvis Bay.

The ER-2 tracks parallel to Terra overflew clear sky to the south and marine stratocumulus to the north. The Terra overpass (1012 UTC) occurred about one hour before the arrival of the ER-2 (1117 UTC) and about 350 km farther west.

Key Flight Legs:

No comments (See flight objectives)

Highlights: Coastal stratus along southern Angolan coast with UK C-130 in situ cloud sampling, Okaukuejo camp in ENP.

Surface sites and features overflown during this mission:

- Brandenberg, Namibia (21°66'S, 14°34'E).
- Okaukuejo Camp, Etosha National Park, Namibia (19°15'S, 15°55'E).
- Serowe SAVE site, Botswana (22°23.5'S, 26°43.1'E).

Pilot Report:

N/A

Meteorology:

Thursday's forecast (Steve Medcalf, SAWB): A cold front moved to the central areas of South Africa and southeastwards out to sea off the southern Kwazulu Natal coast. Very cold air is in circulation to the rear of the front with some snow being reported from areas on the high ground. Ahead of the front, a dry offshore northwesterly flow persists. Coastal lows are visible along the Namibian coast and in Maputo area. Aloft, a steep upper trough continues its development west of the country. Cloudy, cold and rainy will occur to the rear of the front with some light snowfalls on the mountain ranges of the southern, southeastern and eastern Cape. Isolated thundershowers are possible over the western area and over the highveld regions of Mpumalanga and Gauteng, ahead of the approaching front. Fine and hot in the north, foggy along



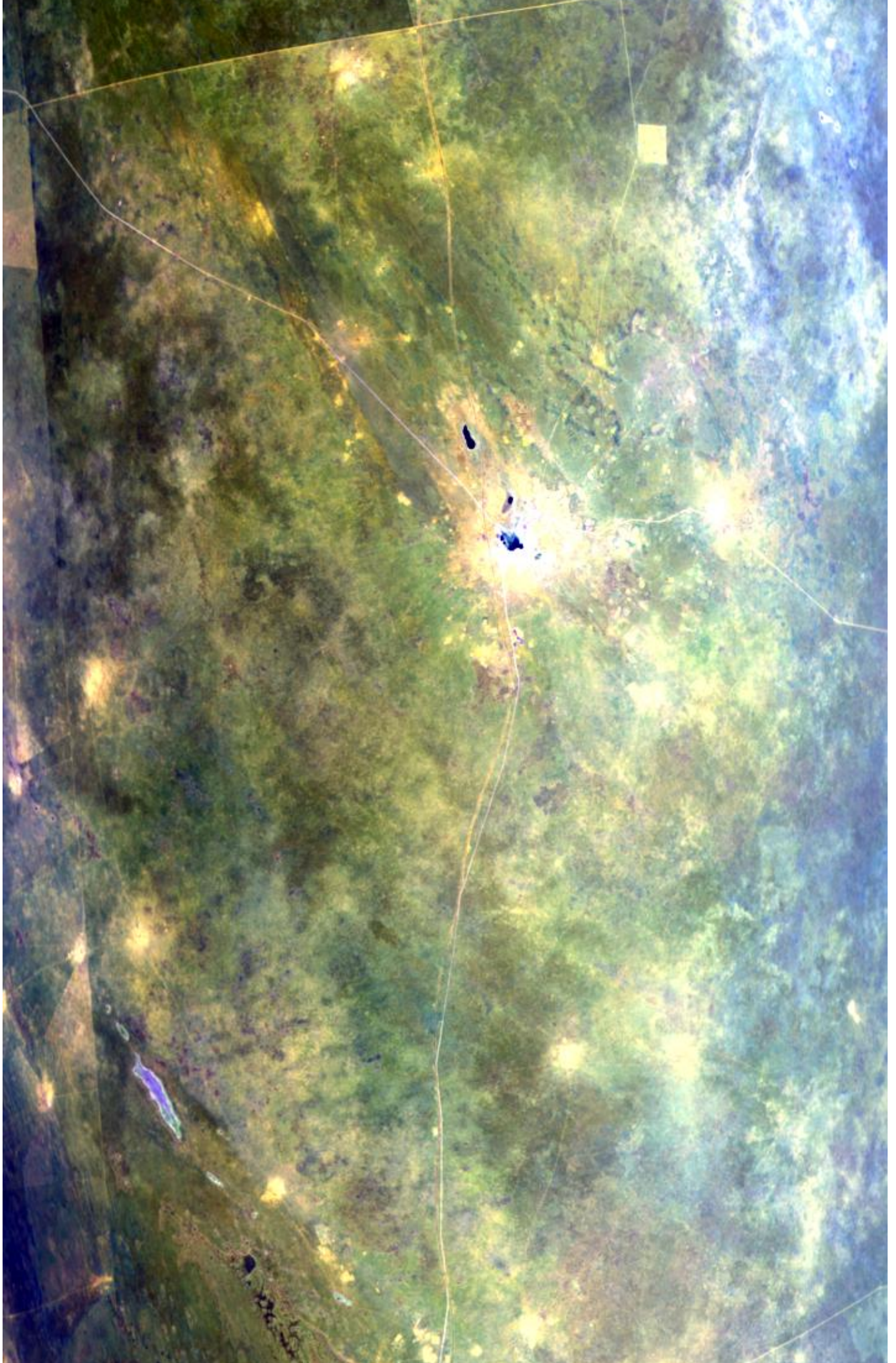
R:2.15 microns
G:1.64 microns
B:0.55 microns

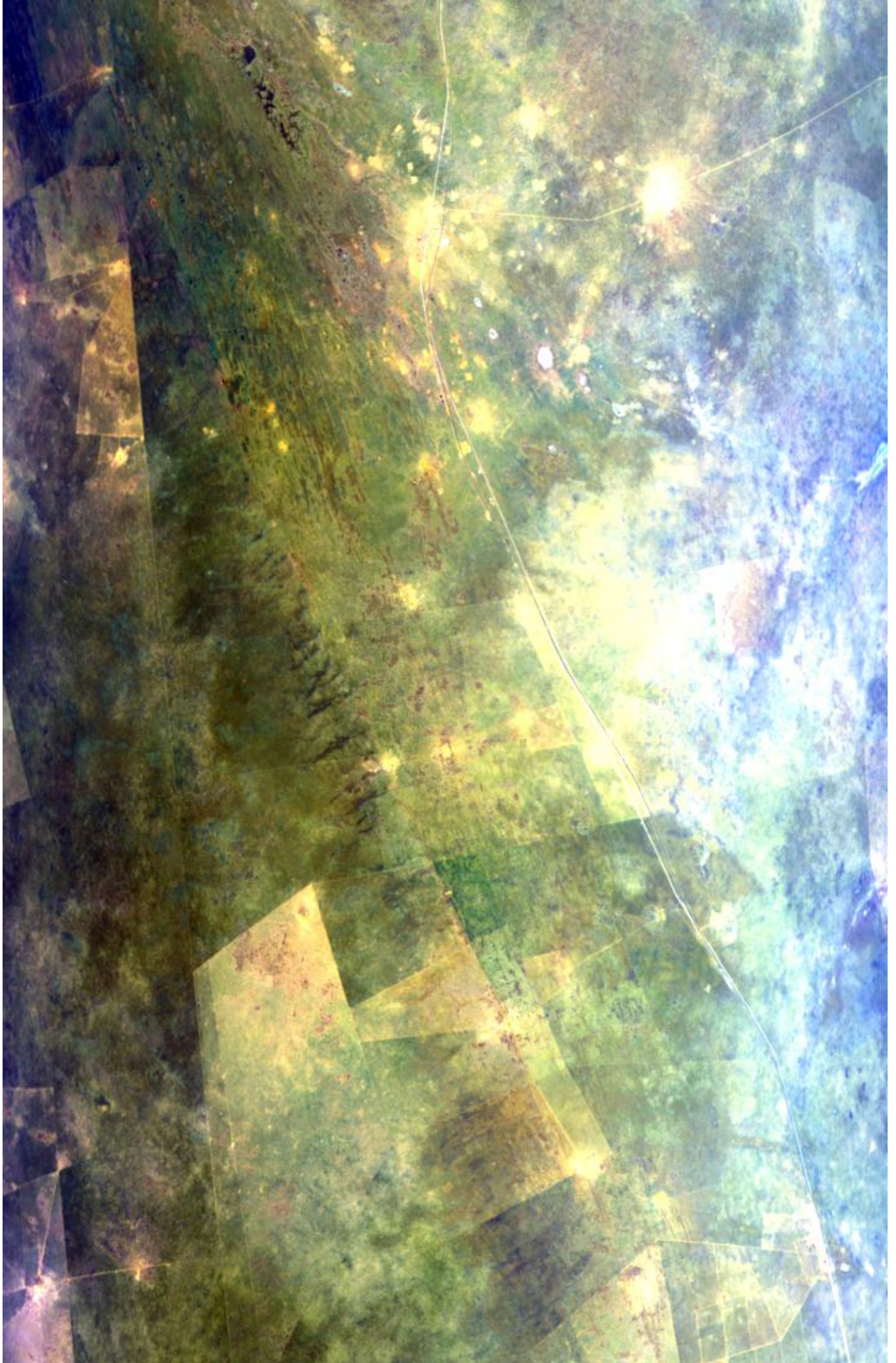
the northern Namibian coast.

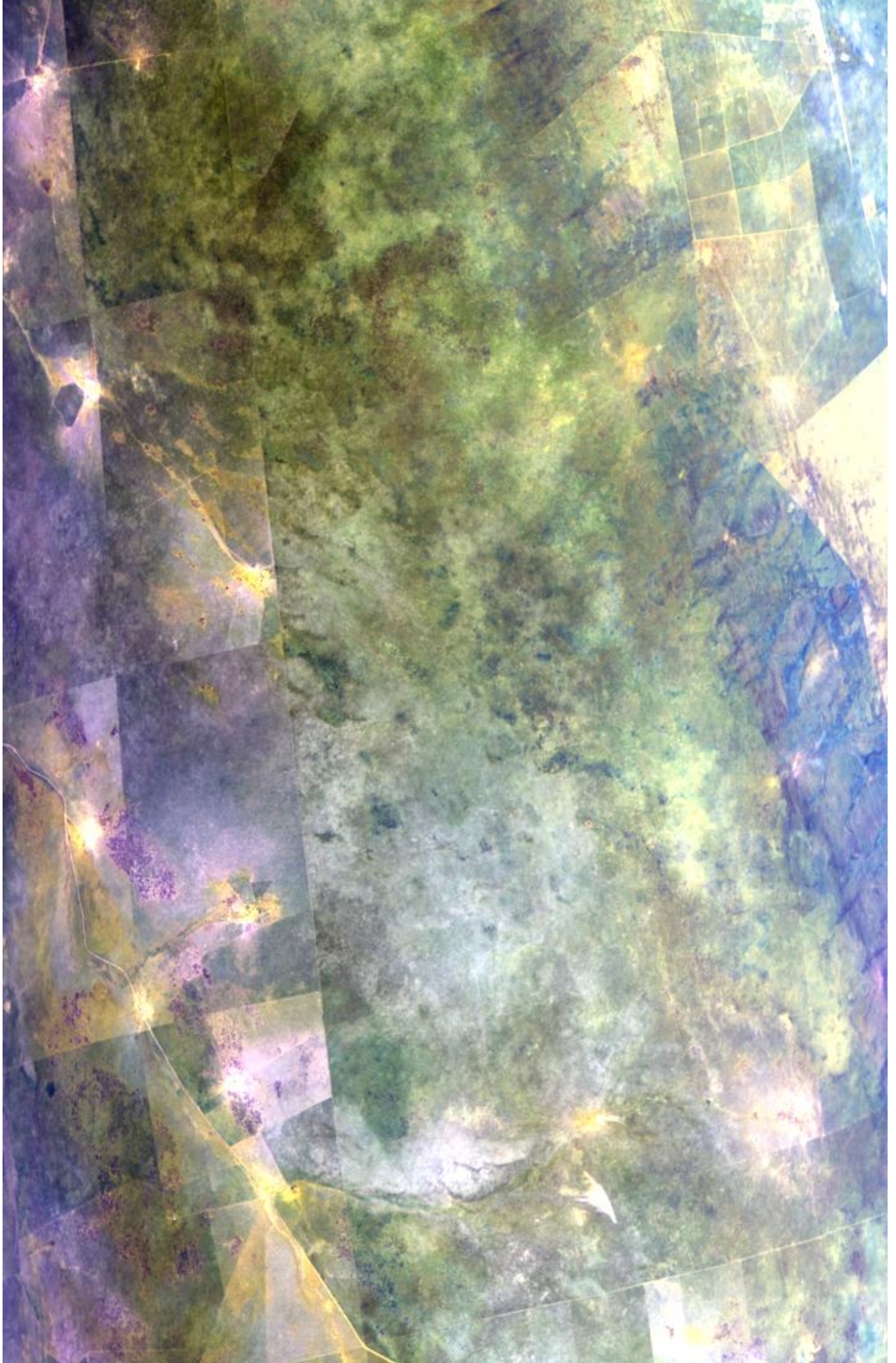
Instrument Status:

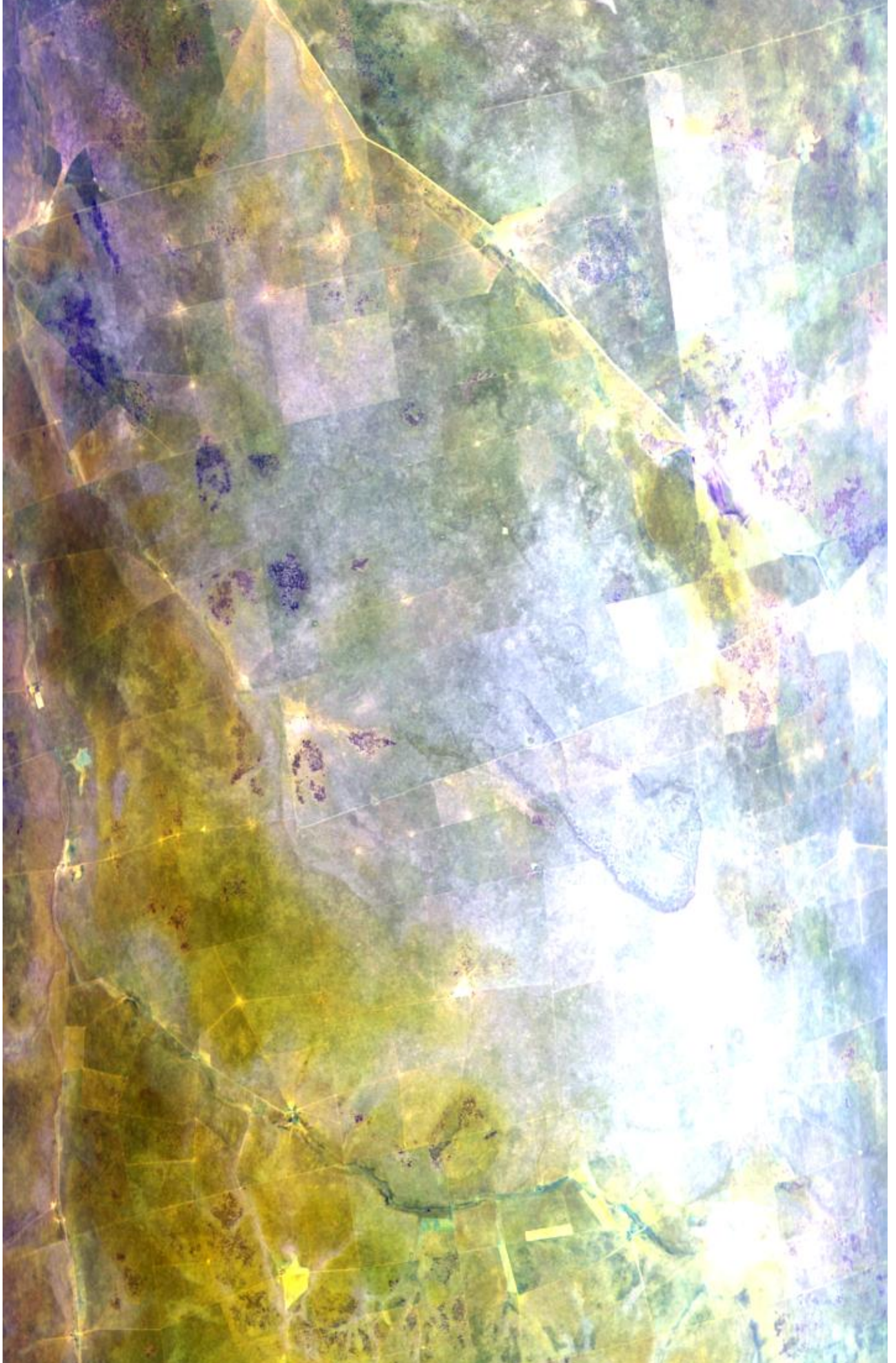
- AirMISR (Airborne Multi-angle Imaging Spectroradiometer): worked well
- CLS (Cloud Lidar System): Lidar worked properly, but navigation data not recorded
- LAS (Leonardo Airborne Simulator): operational
- MAS (MODIS Airborne Simulator): worked well
- MOPITT-A (MOPITT Airborne Simulator): Worked well
- S-HIS (High-resolution Interferometer Sounder): operated in scanning mode
- SSFR (Solar Spectral Flux Radiometer): Worked well
- RC-10 (Tracking Camera): Worked well



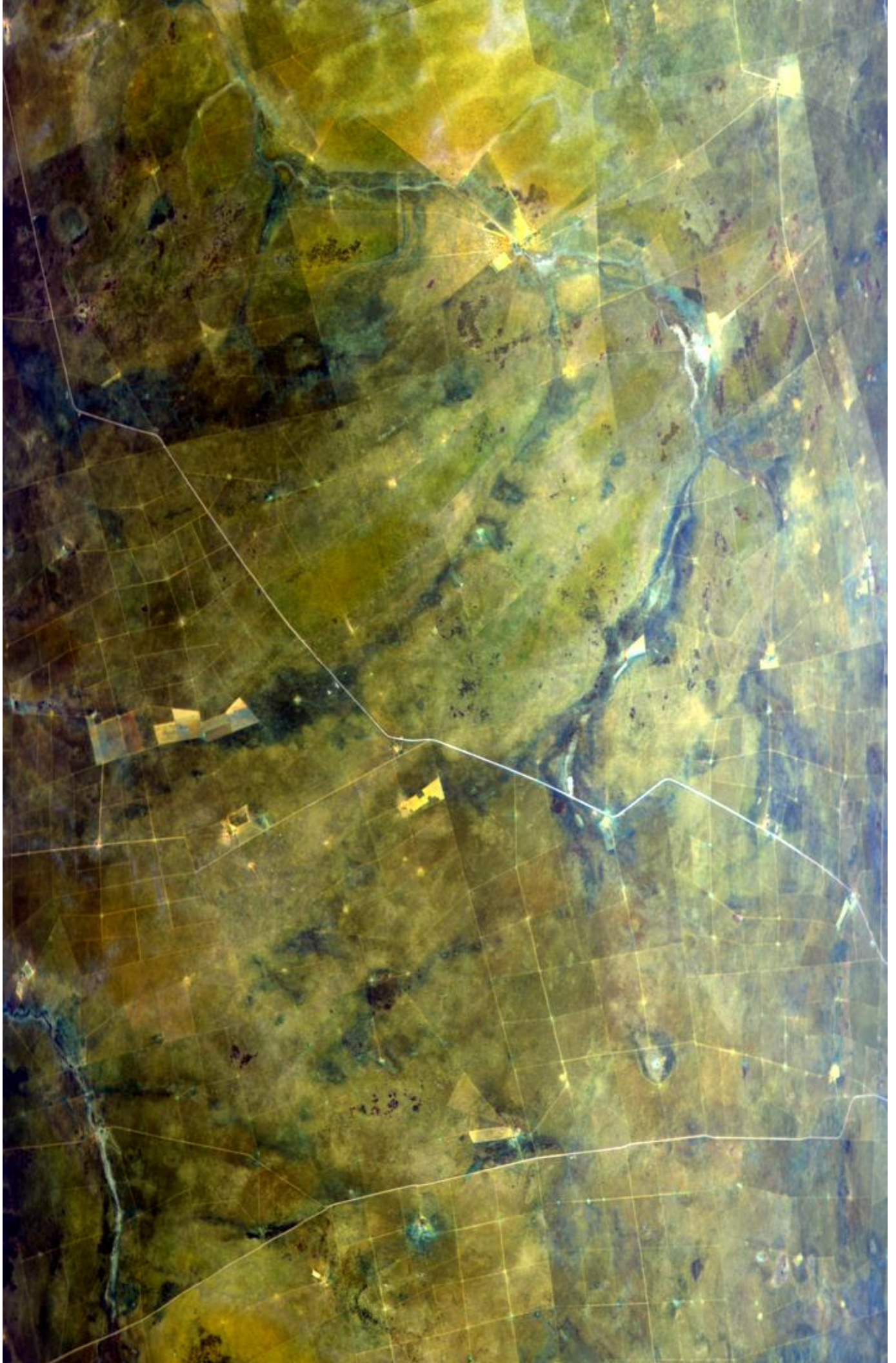


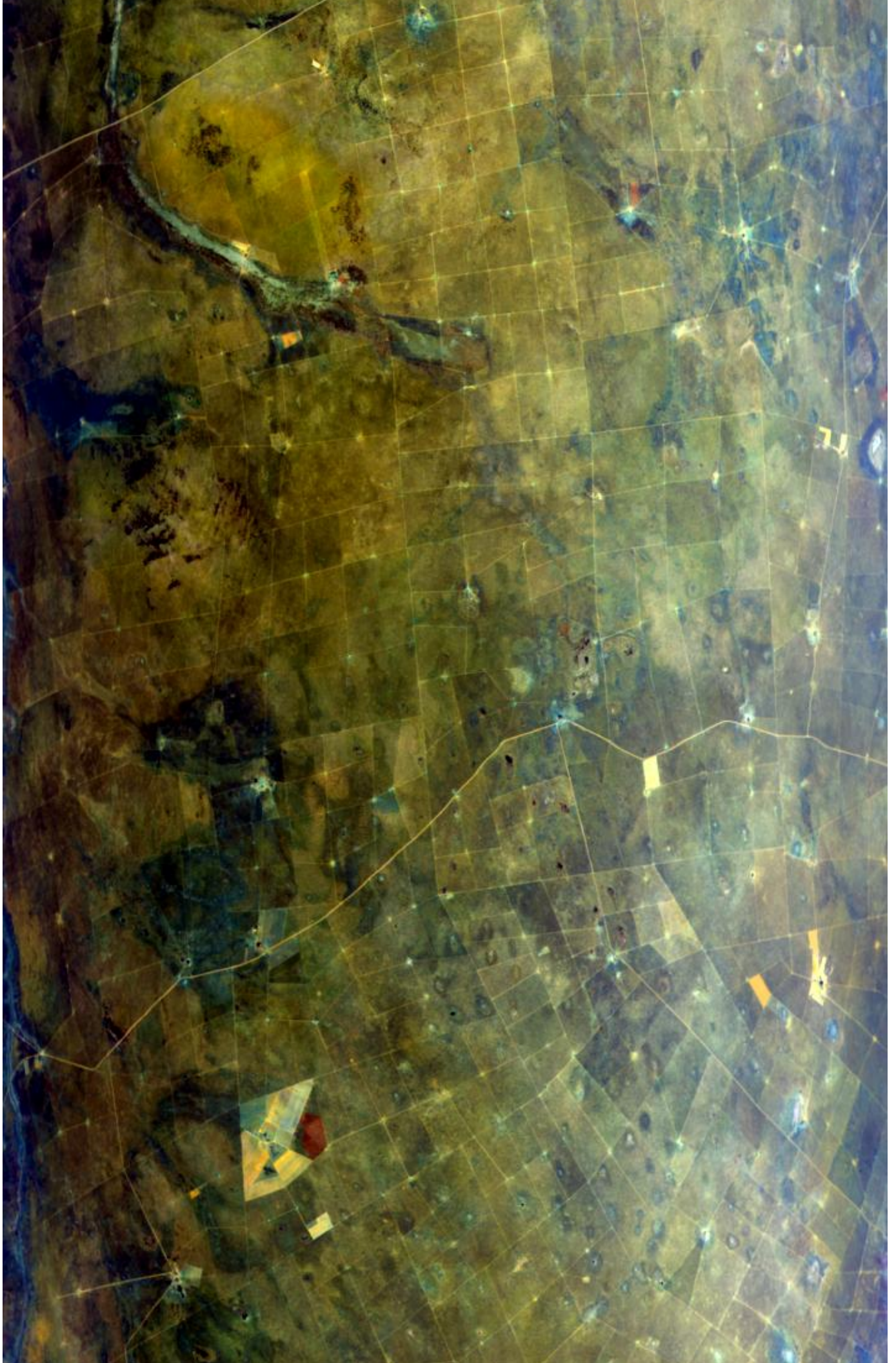




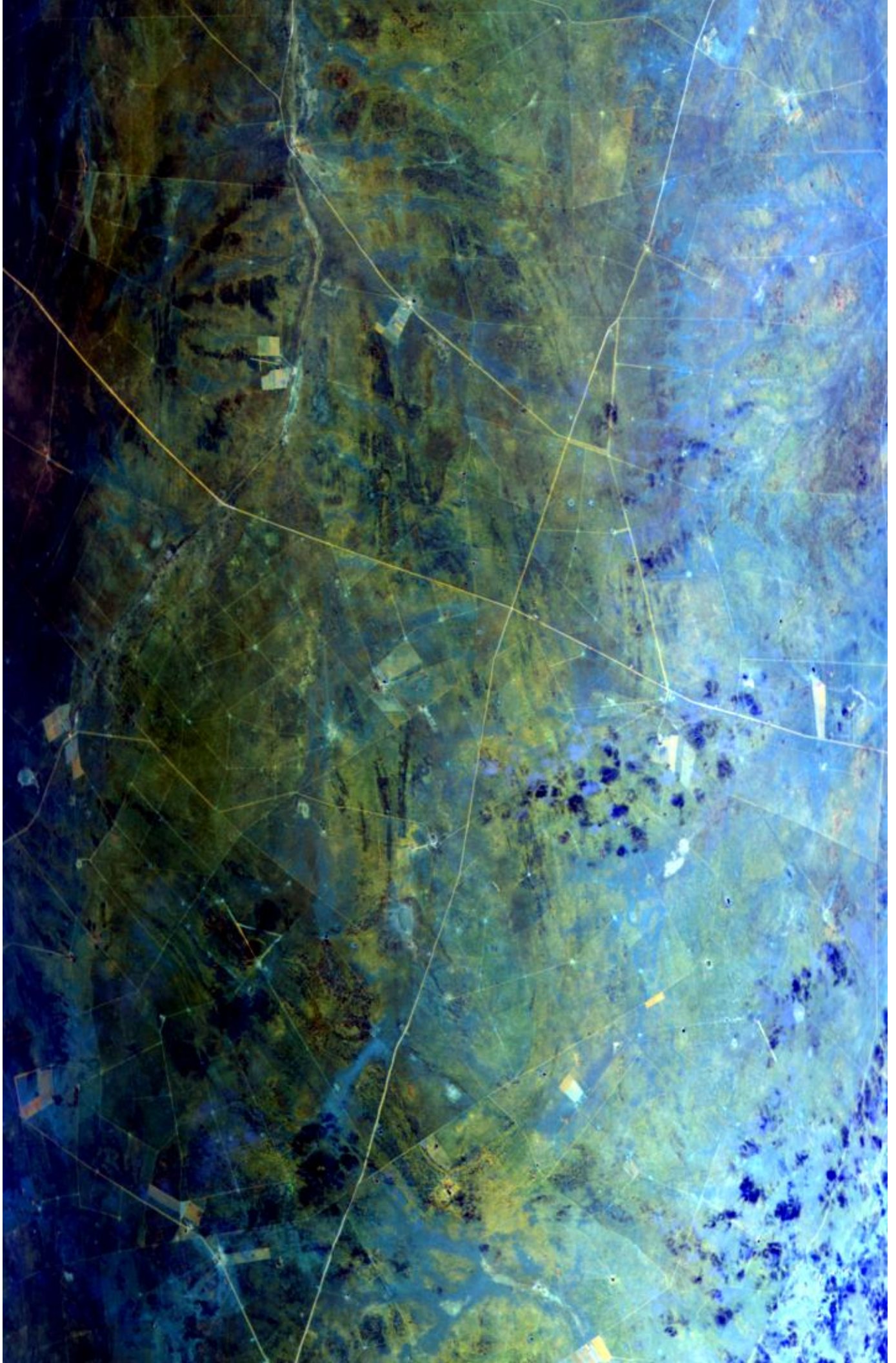


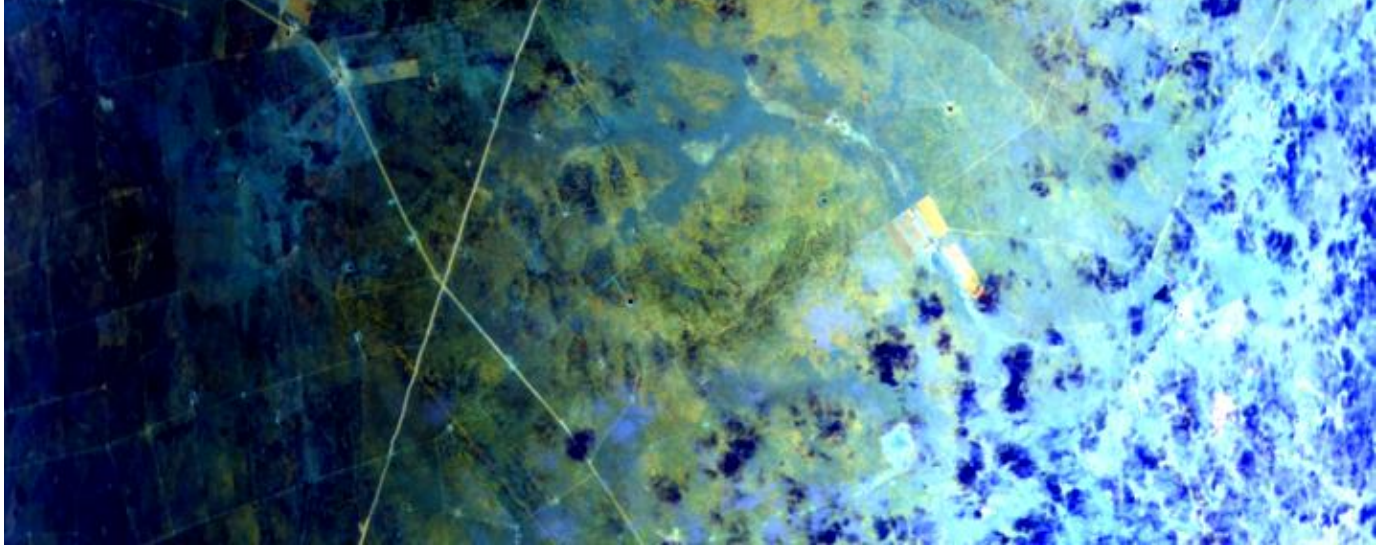


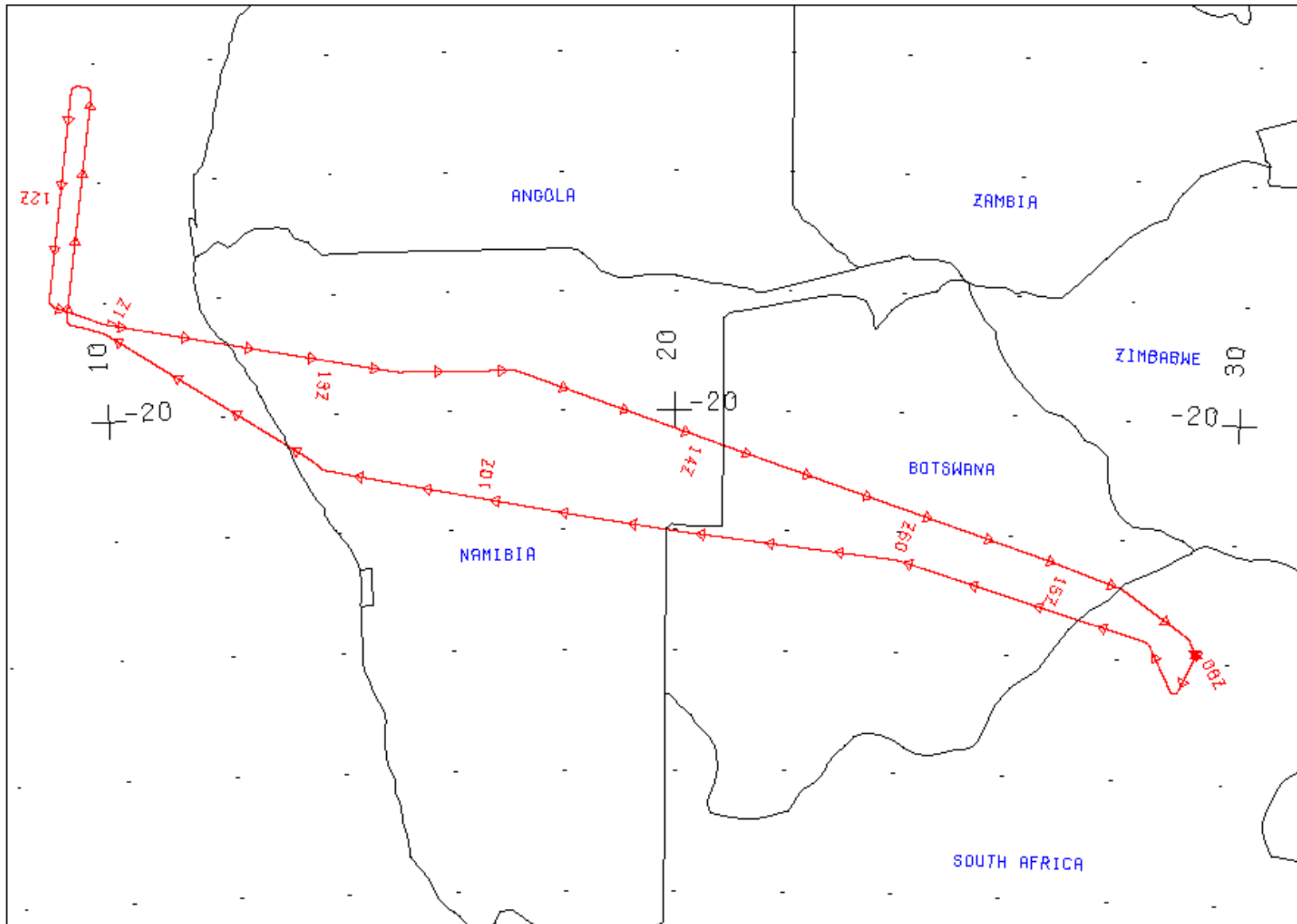












FLIGHT 00-176

14 SEPTEMBER 2000

A/C 809

SAFARI

FLIGHT 00-176

14 SEPTEMBER 2000

A/C 809

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50 MAS Configuration for 00-176 14 Sep 2000 Namibia and Botswana

01	01	16	0	0.040038	0.0000	0.452	0.472	0.493	0.100	1981.92
02	02	16	0	0.042687	0.0000	0.534	0.554	0.577	0.100	1857.88
03	03	16	0	0.028693	0.0000	0.635	0.658	0.689	0.100	1549.55
04	04	16	0	0.033494	0.0000	0.687	0.708	0.731	0.100	1386.41
05	05	16	0	0.025444	0.0000	0.729	0.750	0.773	0.100	1260.07
06	06	16	0	0.026141	0.0000	0.810	0.830	0.855	0.100	1053.65
07	07	16	0	0.026020	0.0000	0.853	0.874	0.895	0.100	962.82
08	08	16	0	0.020930	0.0000	0.893	0.912	0.934	0.100	869.28
09	09	16	0	0.022679	0.0000	0.933	0.954	0.974	0.100	784.92
10	10	16	0	0.003590	0.0000	1.586	1.612	1.640	0.100	244.16
11	11	16	0	0.006679	0.0000	1.642	1.668	1.695	0.010	227.32
12	12	16	0	0.003153	0.0000	1.698	1.722	1.749	0.010	201.29
13	13	16	0	0.003118	0.0000	1.751	1.776	1.801	0.010	176.56
14	14	16	0	0.003206	0.0000	1.805	1.830	1.855	0.010	156.28
15	15	16	0	0.003062	0.0000	1.855	1.880	1.906	0.010	139.66
16	16	16	0	0.002904	0.0000	1.906	1.932	1.956	0.100	131.21
17	17	16	0	0.002634	0.0000	1.956	1.982	2.006	0.010	122.76
18	18	16	0	0.002572	0.0000	2.006	2.032	2.057	0.010	109.78
19	19	16	0	0.002480	0.0000	2.058	2.082	2.107	0.010	98.67
20	20	16	0	0.002517	0.0000	2.107	2.132	2.157	0.010	86.28
21	21	16	0	0.005286	0.0000	2.156	2.180	2.205	0.010	76.85
22	22	16	0	0.002868	0.0000	2.205	2.230	2.255	0.010	73.57
23	23	16	0	0.002936	0.0000	2.255	2.280	2.305	0.010	68.38
24	24	16	0	0.002742	0.0000	2.306	2.330	2.354	0.010	58.53
25	25	16	0	0.002671	0.0000	2.355	2.380	2.404	0.010	57.88
26	26	16	1	0.956000	0.0000	3.105	3.180	3.261	0.001	20.15
27	27	16	1	0.960000	0.0000	3.250	3.325	3.401	0.001	17.66
28	28	16	1	0.961000	0.0000	3.405	3.475	3.559	0.001	15.05
29	29	16	1	0.949000	0.0000	3.556	3.640	3.718	0.001	13.06
30	30	16	1	0.945000	0.0000	3.702	3.770	3.847	0.001	11.39
31	31	16	1	0.942000	0.0000	3.857	3.940	4.023	0.001	9.98
32	32	16	1	0.940000	0.0000	4.014	4.095	4.183	0.001	8.69
33	33	16	1	0.939000	0.0000	4.138	4.210	4.291	0.001	7.73
34	34	16	1	0.938000	0.0000	4.288	4.360	4.441	0.001	6.71
35	35	16	1	0.935000	0.0000	4.471	4.550	4.632	0.001	5.63
36	36	16	1	0.934000	0.0000	4.622	4.700	4.784	0.001	4.87
37	37	16	1	0.933000	0.0000	4.773	4.860	4.937	0.001	4.28

38	38	16	1	0.932000	0.0000	4.917	4.990	5.084	0.001	3.80
39	39	16	1	0.931000	0.0000	5.055	5.165	5.235	0.001	3.39
40	40	16	1	0.930000	0.0000	5.215	5.315	5.371	0.001	3.03
41	41	16	1	0.932000	0.0000	5.342	5.380	5.421	0.001	2.80
42	42	16	1	0.966000	0.0000	8.330	8.564	8.759	0.010	0.45
43	43	16	1	0.963000	0.0000	9.436	9.665	9.928	0.010	0.28
44	44	16	1	0.960000	0.0000	10.218	10.474	10.711	0.010	0.20
45	45	16	1	0.957000	0.0000	10.694	10.943	11.209	0.010	0.17
46	46	16	1	0.947000	0.0000	11.684	11.953	12.208	0.010	0.12
47	47	16	1	0.943000	0.0000	12.583	12.803	13.035	0.010	0.09
48	48	16	1	0.948000	0.0000	12.939	13.193	13.446	0.010	0.08
49	49	16	1	0.939000	0.0000	13.425	13.712	14.035	0.010	0.07
50	50	16	1	0.944000	0.0000	13.953	14.193	14.403	0.010	0.06

| | | | | | | | | | |
 | | | | | | | | | | =(!)
 | | | | | | | | | =-Scale Factor
 | | | | | | | =- Right 50% spectral response
 | | | | | | | =-Peak 100% spectral response (microns)
 | | | | | | =-Left 50% spectral response (microns)
 | | | | | =-Calibration intercept (only used for visible bands)
 | | | | | =-----Calibration slope (only used for visible bands 1-25)
 | | | | Blackbody emmissivity (only used for IR bands 26-50)
 | | | =-----0 => visible band, 1 => thermal infrared band"
 | | =-----Number of bits in this channel (8 or 10)
 | =-----Spectral band assigned to this channel
 =----- Channel number
 (!) Sensor weighted solar spectral irradiance (Watts/meter²/micron)
 at mean Earth-Sun distance

NOTE: Factor in column 10 is used to scale radiances in
 calibrated data by the following method:
 $value_stored = int(radiance / factor)$ for each channel

Title	MODIS Airborne Simulator (MAS) Level-1B Data
Sensor_ID_Code	M5 105 MAS50
ExperimentName	SAFARI 2000
AircraftPlatform	NASA ER-2 (809)
NavFormatCode	Format (A-1)

LocationCode	Inertial (INU)
AltitudeCode	Inertial (INU)
CalibrationVersion	Version 1.0 Calibration
CalibrationName	SAFARI_Jul19-Oct19
SRF_Dataset	/rarray/calibrat/mas/srf/Oct_00/
SRF_FTP	ftp://asapdata/mas/srf/Oct_00/
NavDataSource	ER2 navigation recorder
NavDataPath	/nav/2000/er2/00-176
TbackBand	45, 47, 31, 273.0
GranuleVersion	1.0.0
MetadataVersion	1.0.0

 Conversion from counts to radiance in VIS and NIR channels is
 $rad = (count - (cbb_avg)) * slope$

"where,"

rad = radiance
 cbb_avg = cold black body counts (running average)
 slope = from column 7 in above table
 count = count value

IR Emissivity Correction (for MAS-50)

From Chris Moeller (UWisc)

This is done in 2 steps:

1. Get the (TBACK Band) scan head count and convert it to a brightness temperature
2. Use the scan head temperature and the cold and warm black body counts/temperatures for computing the corrected slope and intercept for all IR bands.

(note: set to 1.0 for channels 1-25)

MAS BB Emissivity Coefficients
 Hemispherical Reflectance (JPL) 11/00
 convolved with MAS SRF (ARC) 10/00
 Red spot Paint

Values in form Wavelength, Emissivity

For Bands 26 thru 50:

0.95600, 0.96000, 0.96100, 0.94900, 0.94500,
0.94200, 0.94000, 0.93900, 0.93800, 0.93500,
0.93400, 0.93300, 0.93200, 0.93100, 0.93000,
0.93200, 0.96600, 0.96300, 0.96000, 0.95700,
0.94700, 0.94300, 0.94800, 0.93900, 0.94400,

Config.asc creation date = 13-June-2001

Config.asc creation date = 13-June-2001

MODIS AIRBORNE SIMULATOR (MAS) FLIGHT LINE
 INFORMATION FOR 14 Sep 2000
 NASA FLIGHT NUMBER 00-176

START OF FLIGHT LINE					END OF FLIGHT				
LINE	FLIGHT DATA								
LINE	TIME	LAT	LON	SOLAR	TIME	LAT	LON	SOLAR	TIME
	SCAN	HEAD	ALT	ZEN	AZIM	ZEN	AZIM	ZEN	AZIM
	HH:MM:SS	DEG	DEG	M (GPS)	HH:MM:SS	DEG	DEG	M (GPS)	HH:MM:SS
	LINES	DEG	DEG	M (GPS)	LINES	DEG	DEG	M (GPS)	LINES
1	08:28:43	-23.481	27.771	35.4	44.2	08:55:29	-22.634	24.616	32.6
40.1	9999	287.2	18845						
2	08:55:29	-22.634	24.616	32.6	40.1	09:00:18	-22.473	24.043	32.1
39.3	1803	288.9	19511						
3	09:00:30	-22.467	24.019	32.1	39.3	09:27:16	-22.104	20.688	29.9
34.2	9999	281.8	19607						
4	09:27:16	-22.104	20.688	29.9	34.2	09:54:02	-21.614	17.403	27.8
28.5	9999	280.8	19771						
5	09:54:03	-21.614	17.403	27.8	28.5	10:20:49	-21.018	14.152	25.9
22.0	9999	282.2	19873						
6	10:20:49	-21.018	14.152	25.9	22.0	10:23:56	-20.941	13.775	25.7
21.2	1167	282.8	19876						
7	10:24:35	-20.903	13.707	25.6	21.0	10:51:22	-19.148	10.975	22.8
12.9	9999	312.7	19869						
8	10:51:22	-19.148	10.975	22.8	12.9	11:00:43	-18.540	10.034	22.0
9.6	3493	307.3	19877						
9	11:01:02	-18.522	10.001	22.0	9.5	11:05:52	-18.351	9.437	21.7
7.8	1806	292.2	19869						
10	11:07:14	-18.236	9.349	21.6	7.2	11:34:00	-15.225	9.852	18.9
345.8	9999	12.7	19775						
11	11:34:00	-15.224	9.852	18.9	345.8	11:40:21	-14.512	9.969	18.7
340.2	2368	13.0	19867						
12	11:44:20	-14.441	9.625	18.9	338.2	12:11:06	-17.334	9.158	24.2

326.4	9999	184.6	19797						
13	12:11:06	-17.335	9.158	24.2	326.4	12:16:18	-17.906	9.065	25.4
324.7	1941	188.3	19845						
14	12:17:43	-18.031	9.142	25.7	324.0	12:25:39	-18.351	9.974	27.6
319.4	2964	114.2	19848						
15	12:25:47	-18.356	9.988	27.6	319.3	12:52:33	-18.942	12.953	34.8
306.6	9999	105.2	19880						
16	12:52:33	-18.942	12.954	34.8	306.6	13:11:53	-19.328	15.084	40.5
300.0	7227	101.2	19864						
17	13:12:02	-19.330	15.100	40.5	300.0	13:30:20	-19.333	17.166	46.1
294.7	6843	93.5	19842						
18	13:30:42	-19.338	17.207	46.2	294.6	13:57:28	-20.332	20.094	54.9
289.3	9999	106.6	19887						
19	13:57:28	-20.332	20.095	54.9	289.3	14:24:14	-21.268	22.993	63.8
284.9	9999	108.6	19848						
20	14:24:14	-21.268	22.993	63.8	284.9	14:50:59	-22.160	25.926	72.7
280.8	9999	108.3	19791						
21	14:50:59	-22.160	25.927	72.7	280.8	15:08:14	-22.753	27.858	78.5
278.4	6446	109.5	19669						

NUMBER OF FILES FOR THIS FLIGHT = 21
 TOTAL NUMBER OF SCAN LINES = 146047
 DATE THESE FILES WERE PROCESSED = 20-Dec-2002
 DATE THIS LIST WAS CREATED = Mon Dec 23

12:37:22 PST 2002

GRANULE VERSION = 2

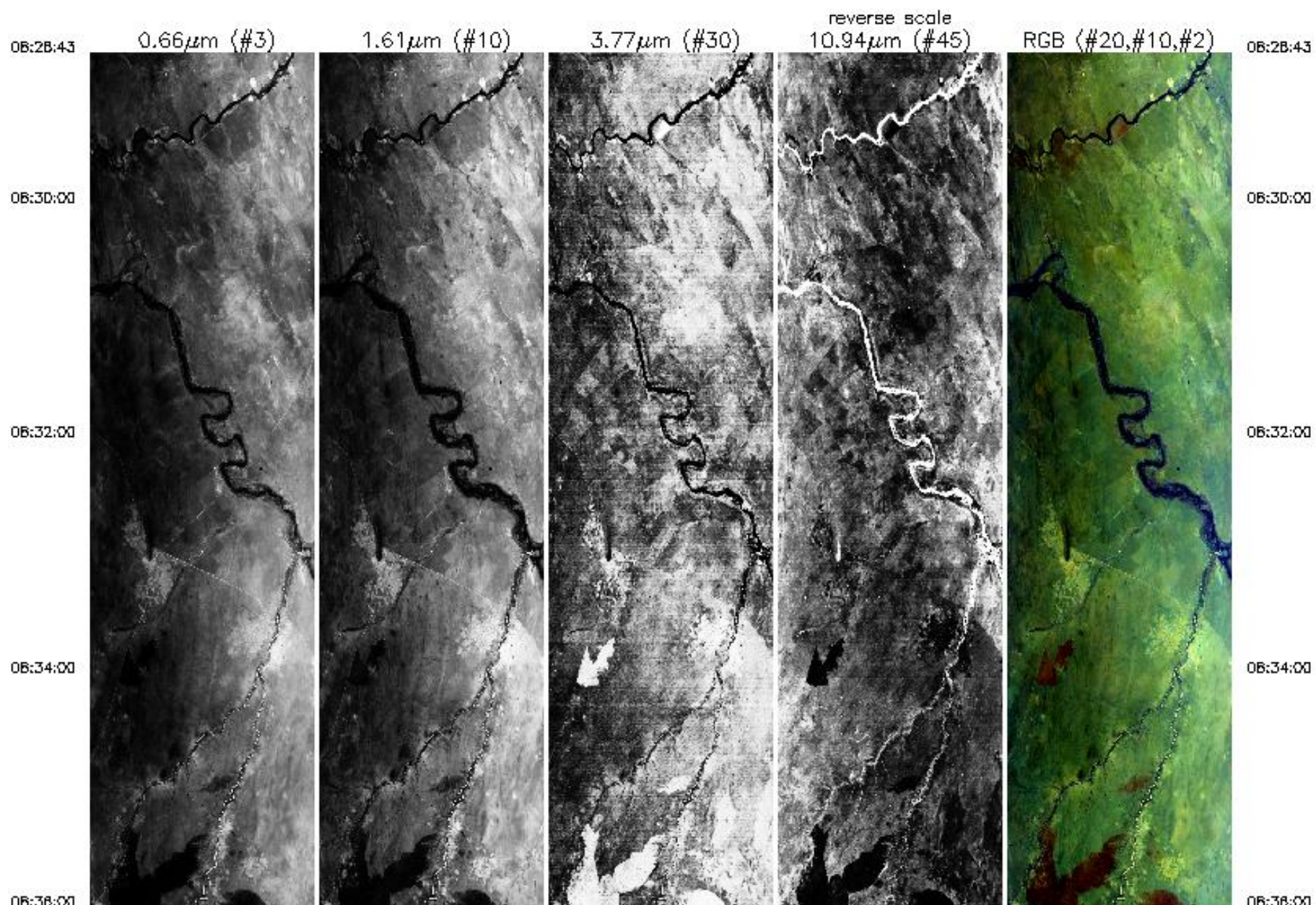
GLOBAL ATTRIBUTES

Attribute Name	Description
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CreationDate	20-Dec-2002 14:40:26
AircraftPlatform	NASA ER-2 (809)
NavFormatCode	Format (A-1)

LocationCode	Inertial (INU)
AltitudeCode	Inertial (INU)
NavDataSource	ER2 navigation recorder
NavDataPath	/nav/2000/er2/00-176
CalibrationName	SAFARI_Jul19-Oct19
Reference	NCSA HDF Reference Manual, Version 4.1r4, 2000
title	MODIS Airborne Simulator (MAS) Level-1B Data
ExperimentName	SAFARI 2000
FlightNumber	00-176
FlightDate	14 Sep 2000
SiteLineRun	void
GeographicArea	Botswana
SRF_FTP	ftp://asapdata/mas/srf/Oct_00/
SRF_dataset	/rarray/calibrat/mas/srf/Oct_00/
FlightLineNumber	1
TotalFlightLines	21
DataUsersGuideSource	http://ltpwww.gsfc.nasa.gov/MAS/
SoftwareVersion	Level-1b Version 10.1.4 UR
CalibrationVersion	Version 1.0 Calibration
data_set	MAS SAFARI 2000
day_night_flag	D
granule_version	2
metadata_version	1.0.0
data_quality	Good
Other_Aircraft_Sensors	AirMISR, CLS, MOPPIT-A, Leonardo, RC-10
Principal_Investigator	King
Navigational_Precision	Single
lat_UL	-23.33592
lon_UL	27.81401
lat_UR	-23.62427
lon_UR	27.72610
lat_LL	-22.48091
lon_LL	24.66985
lat_LR	-22.78473
lon_LR	24.55777
begin_date	20000914 082843
end_date	20000914 085529
RunTime	950,970 ms, or 95 ms/scanline
CompletionDate	20-Dec-2002 15:02:49

producer_granule_id
MASL1B_00176_01_20000914_0828_0855_V02.hdf

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #1



06:36:00



06:36:00



06:40:00



06:42:00



06:44:00



06:36:00

06:36:00

06:40:00

06:42:00

06:44:00

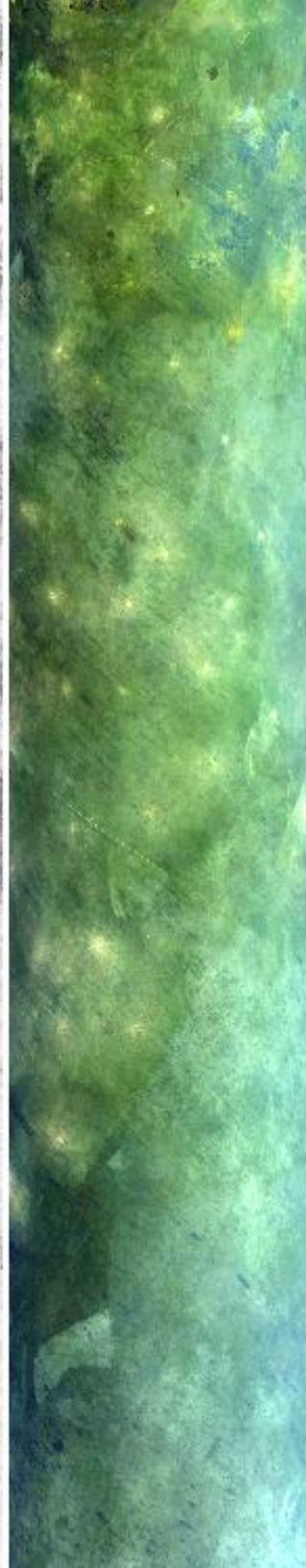
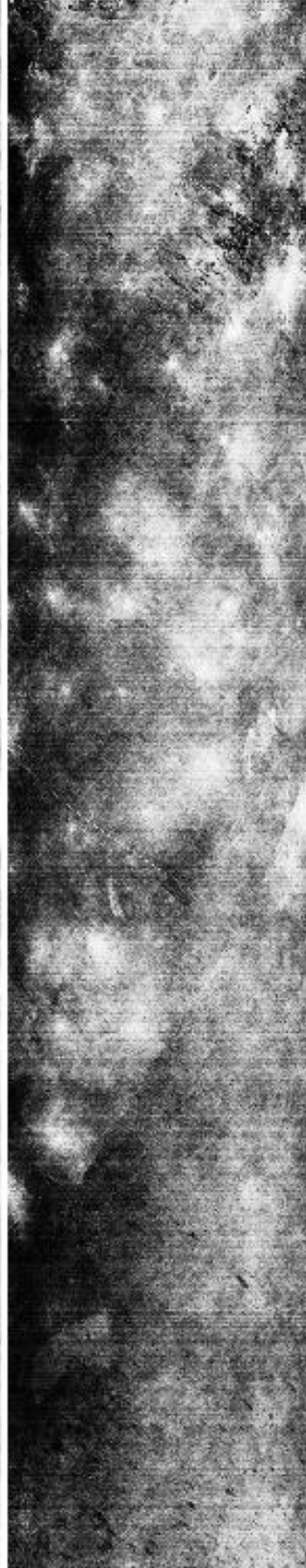
06:44:00

06:46:00

06:48:00

06:50:00

06:52:00



06:44:00

06:46:00

06:48:00

06:50:00

06:52:00

06:52:00

06:54:00

06:55:29



06:52:00

06:54:00

06:55:29

0.66µm (#3)

1.61µm (#10)

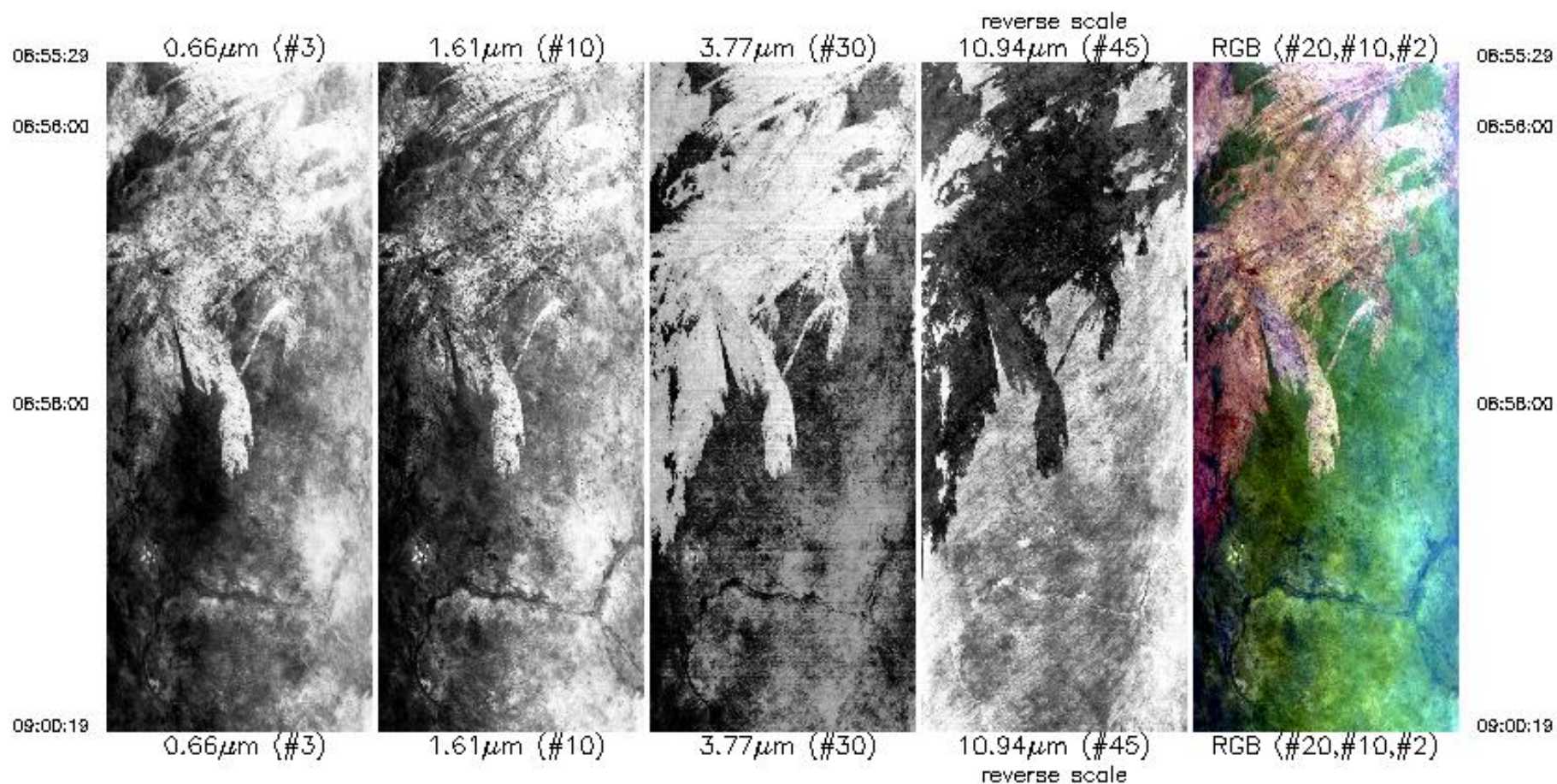
3.77µm (#30)

10.94µm (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -23.3° , 27.8°
 Lower Right Lat, Lon = -22.8° , 24.6°
 Aircraft Heading = 285.6°
 Solar Zenith = 35.3°
 GPS Altitude = 19079. m (MSL)

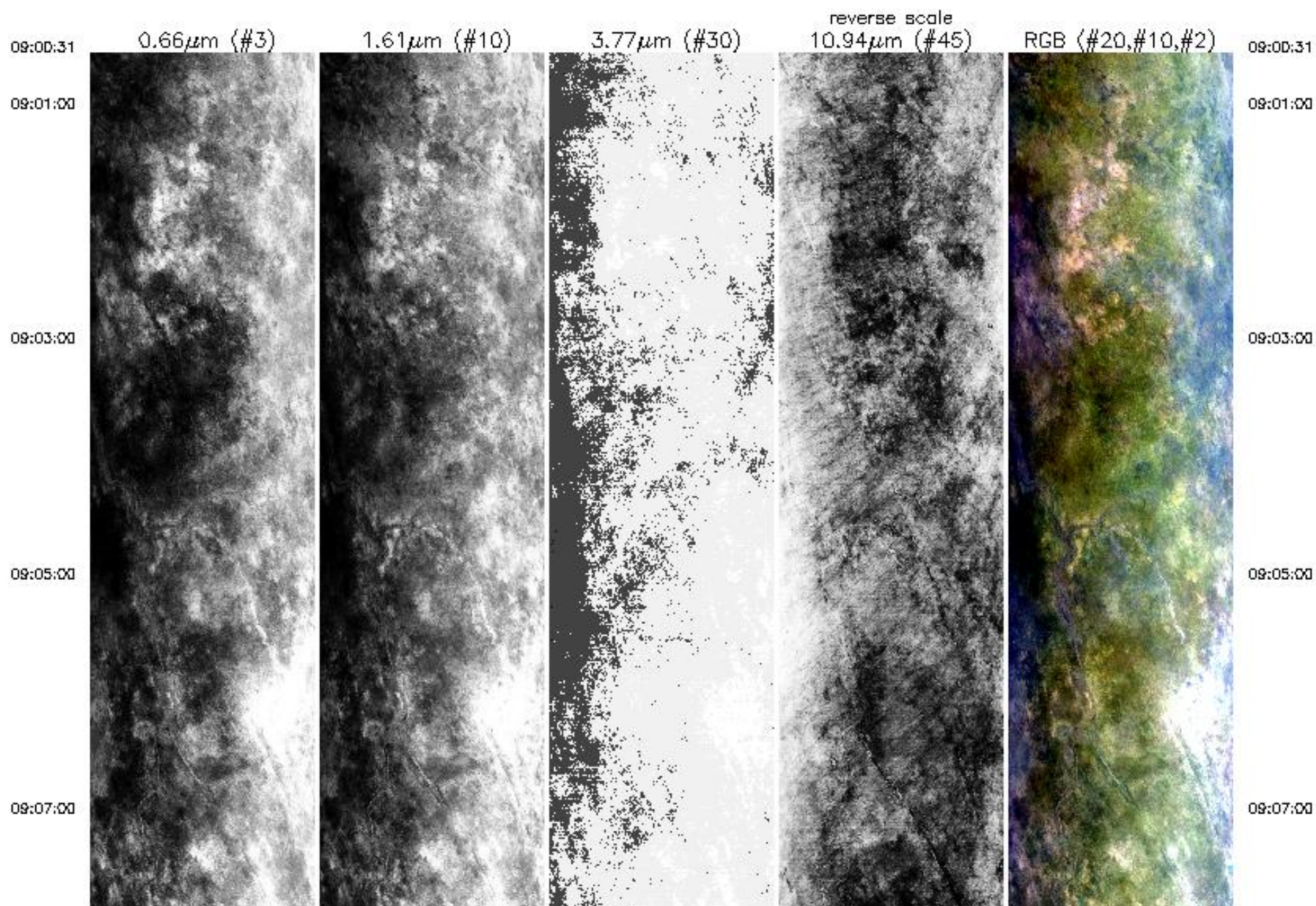
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 Botswana
 Flight #00-176 Track #2



Upper Left Lat, Lon = -22.5°, 24.7°
 Lower Right Lat, Lon = -22.6°, 24.0°
 Aircraft Heading = 288.8°
 Solar Zenith = 32.4°
 GPS Altitude = 19513. m (MSL)

Upper Left Lat, Lon = -22.6°, 24.0°
Lower Right Lat, Lon = -22.6°, 24.0°
Aircraft Heading = 288.8°
Solar Zenith = 32.4°
GPS Altitude = 19513. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #3



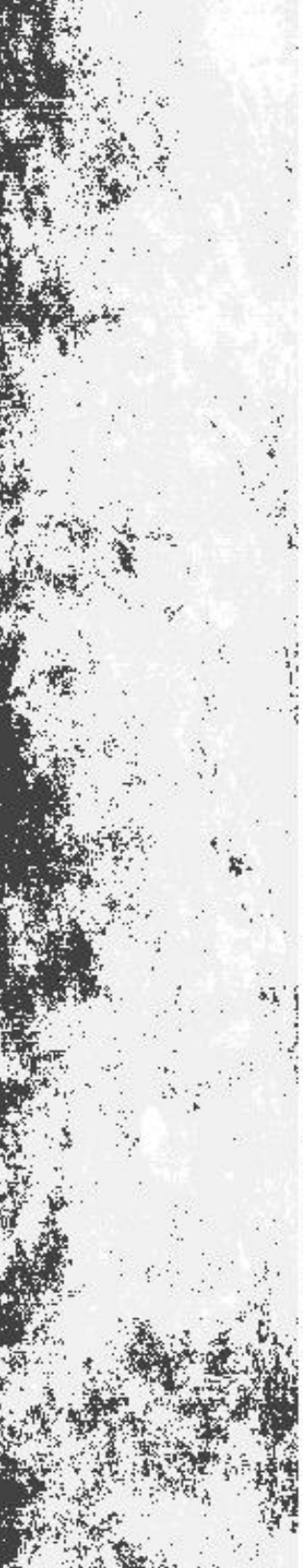
09:07:00



09:08:00



09:11:00



09:13:00



09:15:00



09:07:00

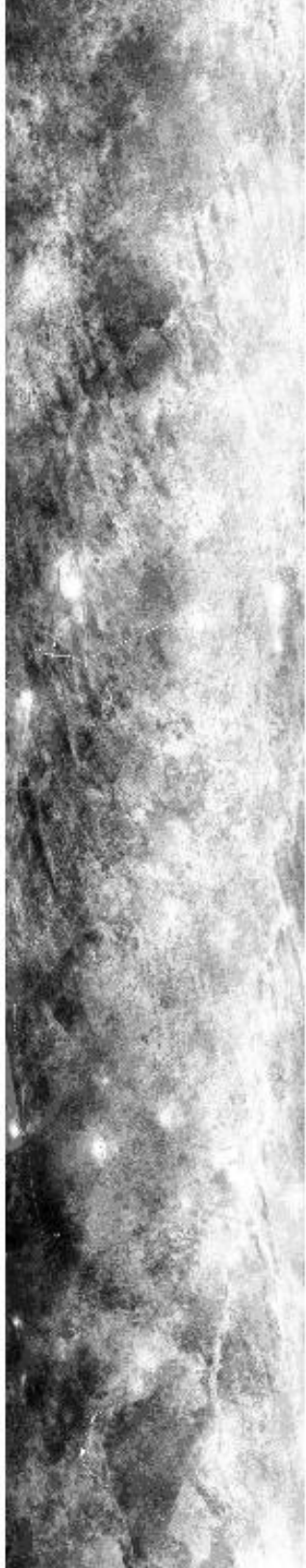
09:08:00

09:11:00

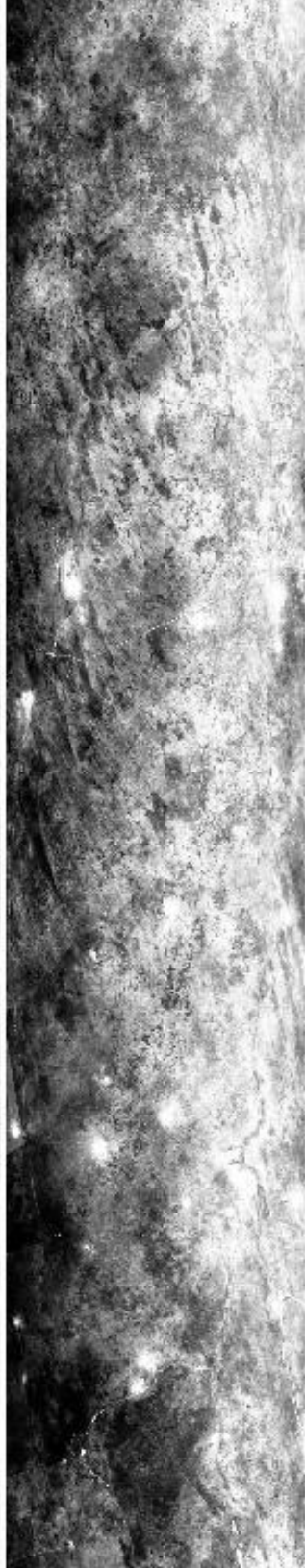
09:13:00

09:15:00

09:15:00



09:17:00



09:19:00



09:21:00



09:23:00



09:15:00

09:17:00

09:19:00

09:21:00

09:23:00

09:23:00

09:25:00

09:27:17



0.66 μm (#3)



1.61 μm (#10)



3.77 μm (#30)



10.94 μm (#45)
reverse scale



RGB (#20,#10,#2)

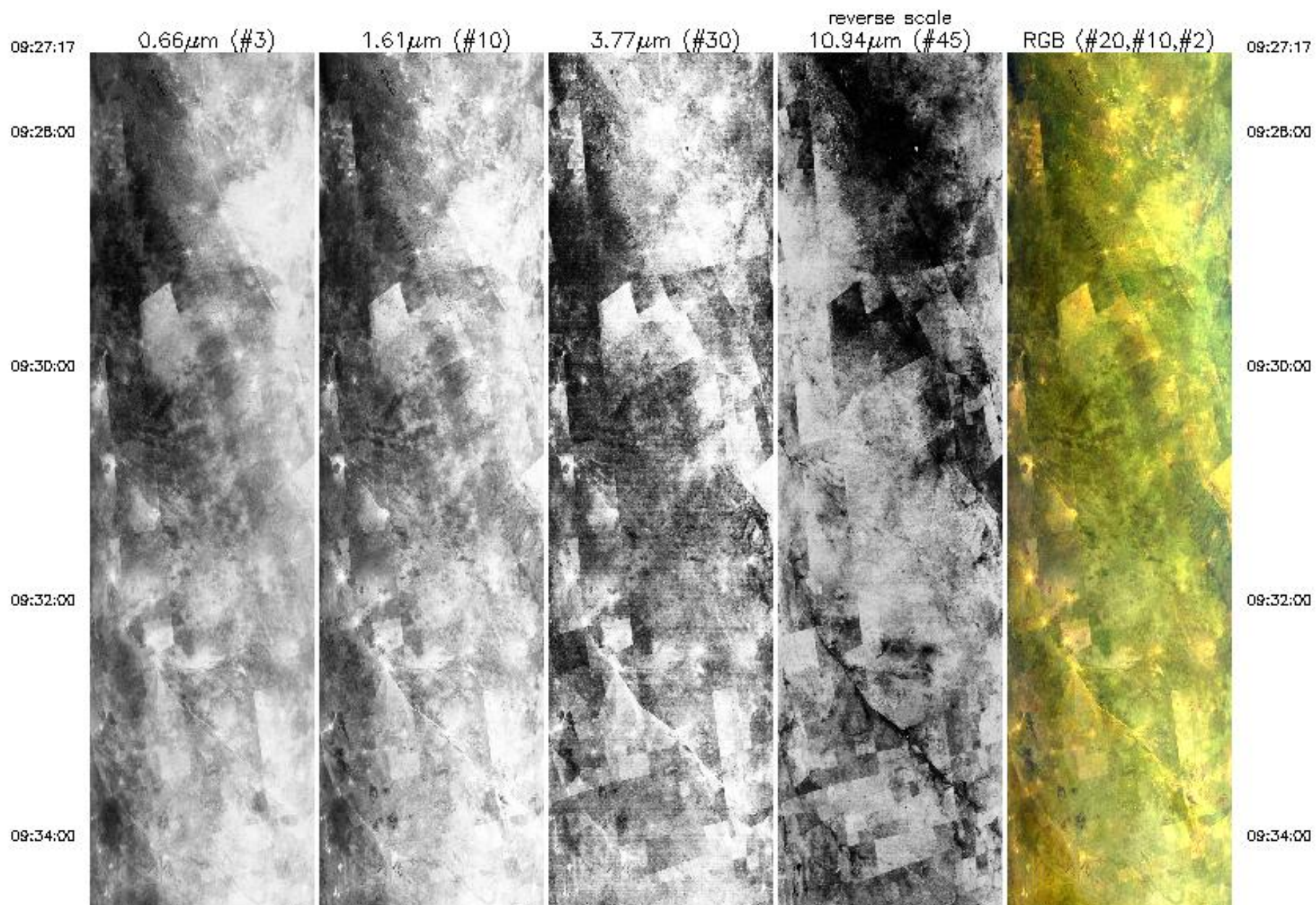
09:23:00

09:25:00

09:27:17

Upper Left Lat, Lon = -22.3° , 24.1°
 Lower Right Lat, Lon = -22.3° , 20.7°
 Aircraft Heading = 283.5°
 Solar Zenith = 31.9°
 GPS Altitude = 19628. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana, Namibia
Flight #00-176 Track #4



09:34:00

09:36:00

09:38:00

09:40:00

09:42:00



09:34:00

09:36:00

09:38:00

09:40:00

09:42:00

09:42:00

09:44:00

09:46:00

09:48:00

09:50:00



09:42:00

09:44:00

09:46:00

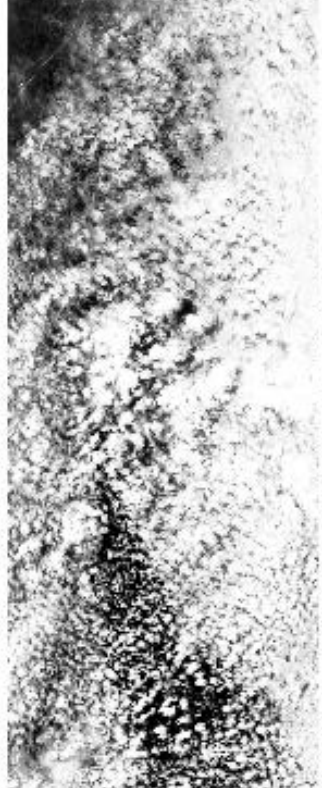
09:48:00

09:50:00

09:50:00

09:52:00

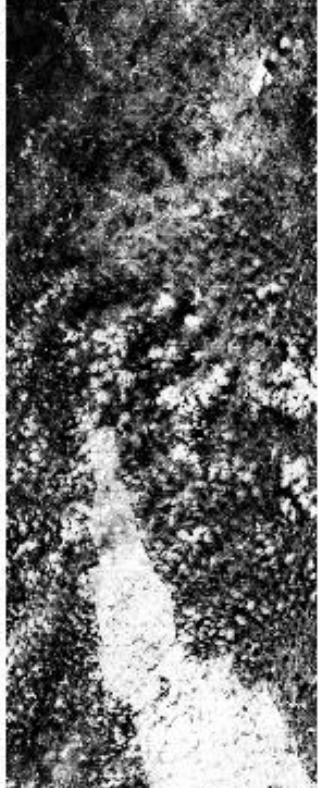
09:54:03



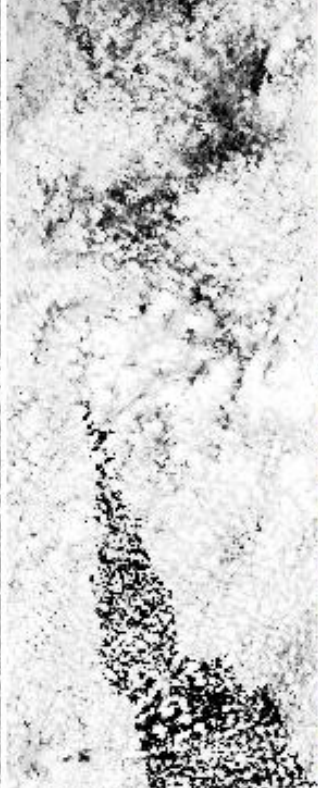
0.66 μm (#3)



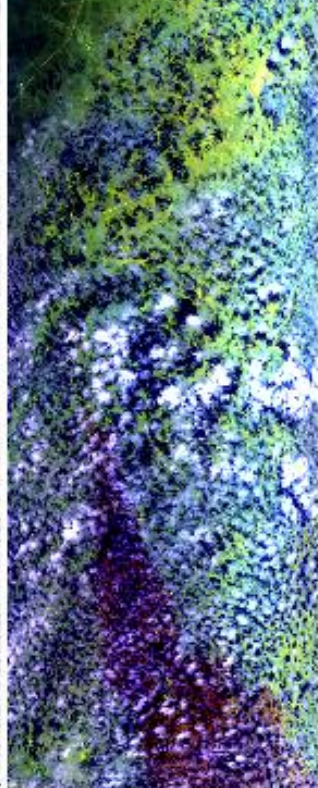
1.61 μm (#10)



3.77 μm (#30)



10.94 μm (#45)
reverse scale



RGB (#20,#10,#2)

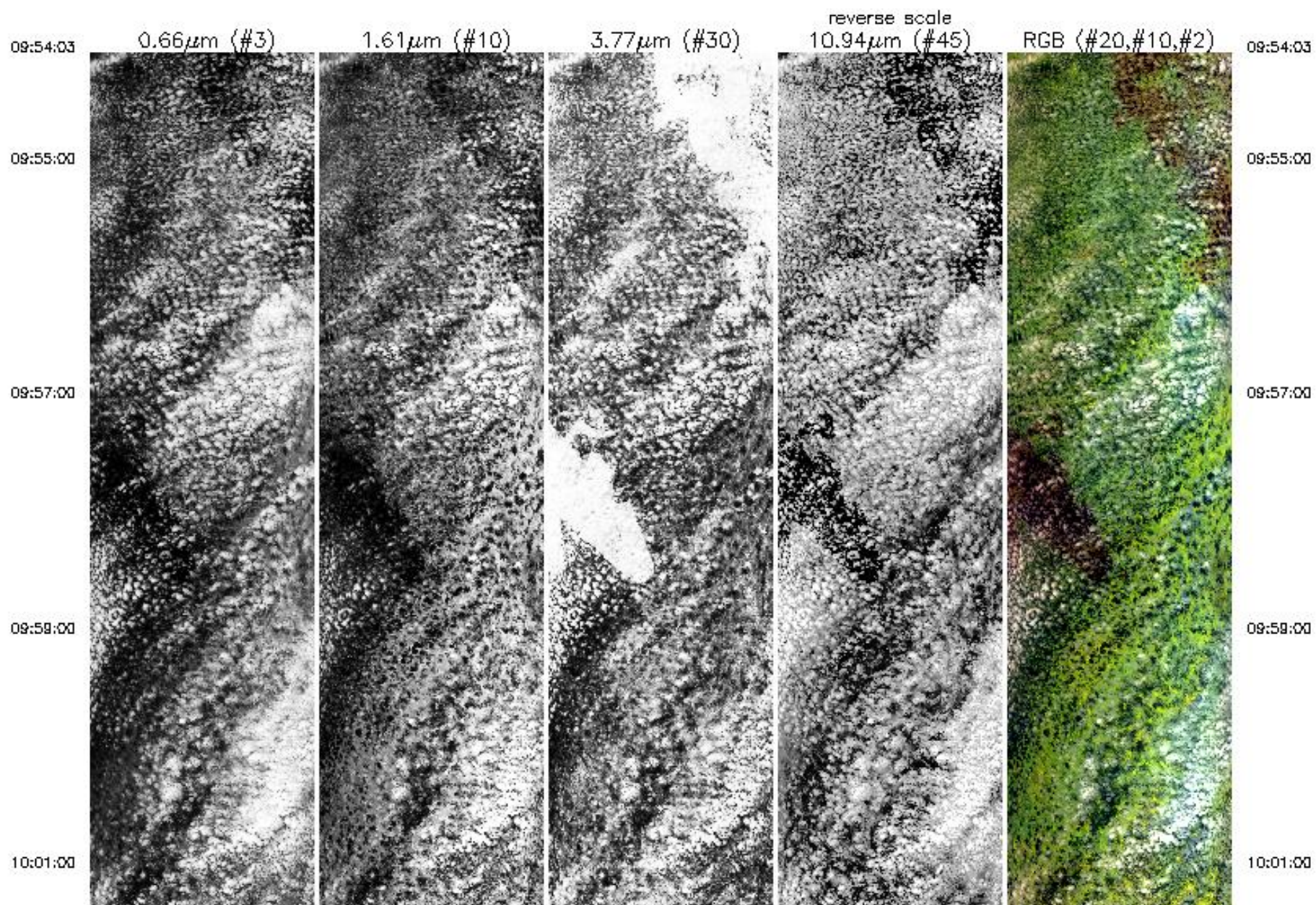
09:50:00

09:52:00

09:54:03

Upper Left Lat, Lon = -21.9° , 20.7°
Lower Right Lat, Lon = -21.8° , 17.4°
Aircraft Heading = 280.1°
Solar Zenith = 29.7°
GPS Altitude = 19762. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #5



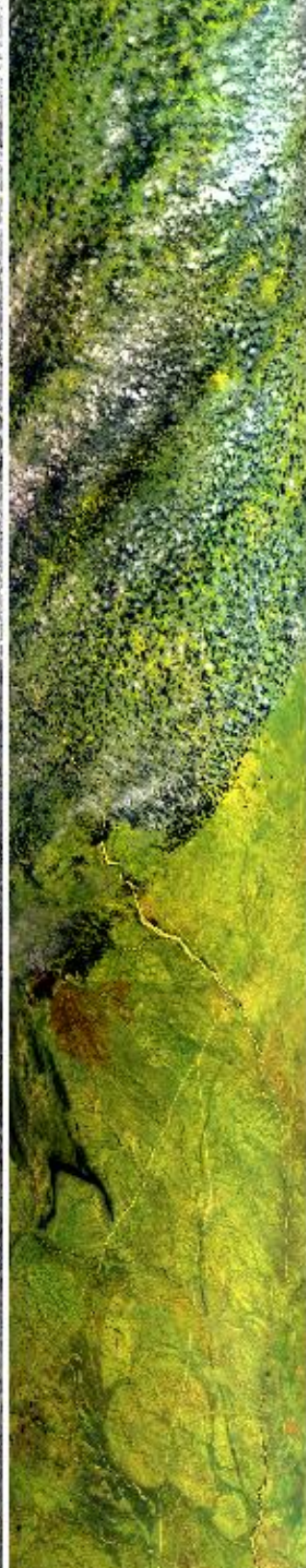
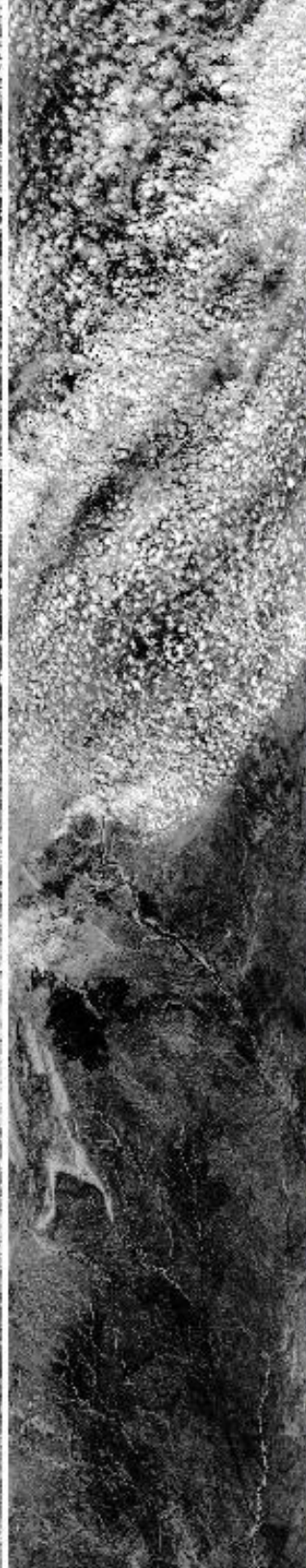
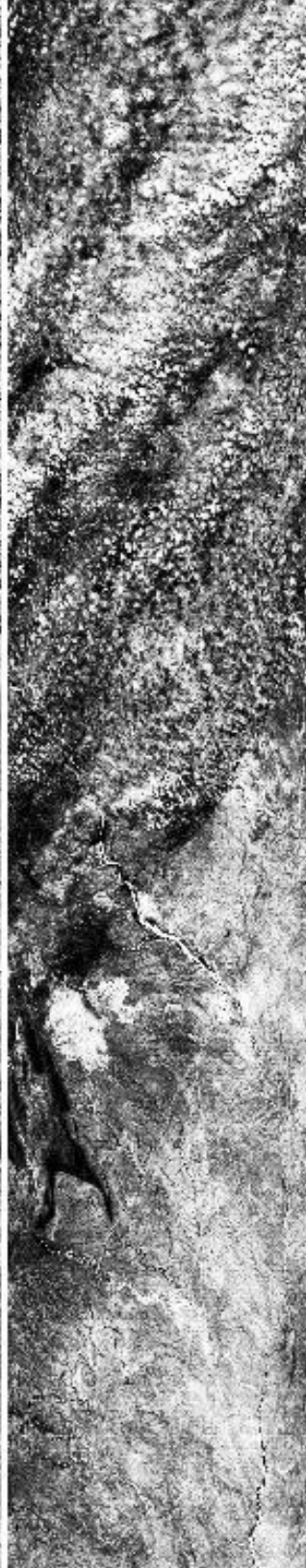
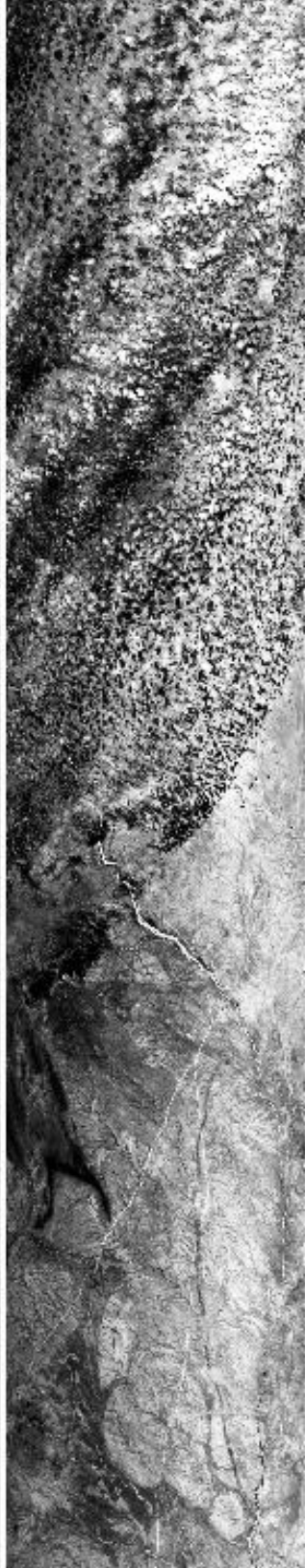
10:01:00

10:03:00

10:05:00

10:07:00

10:09:00



10:01:00

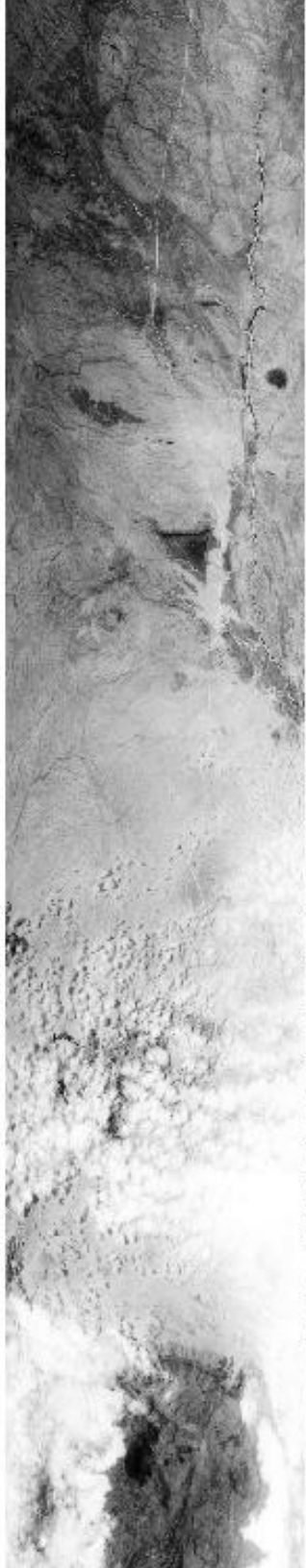
10:03:00

10:05:00

10:07:00

10:09:00

10:08:00



10:11:00



10:13:00



10:15:00



10:17:00



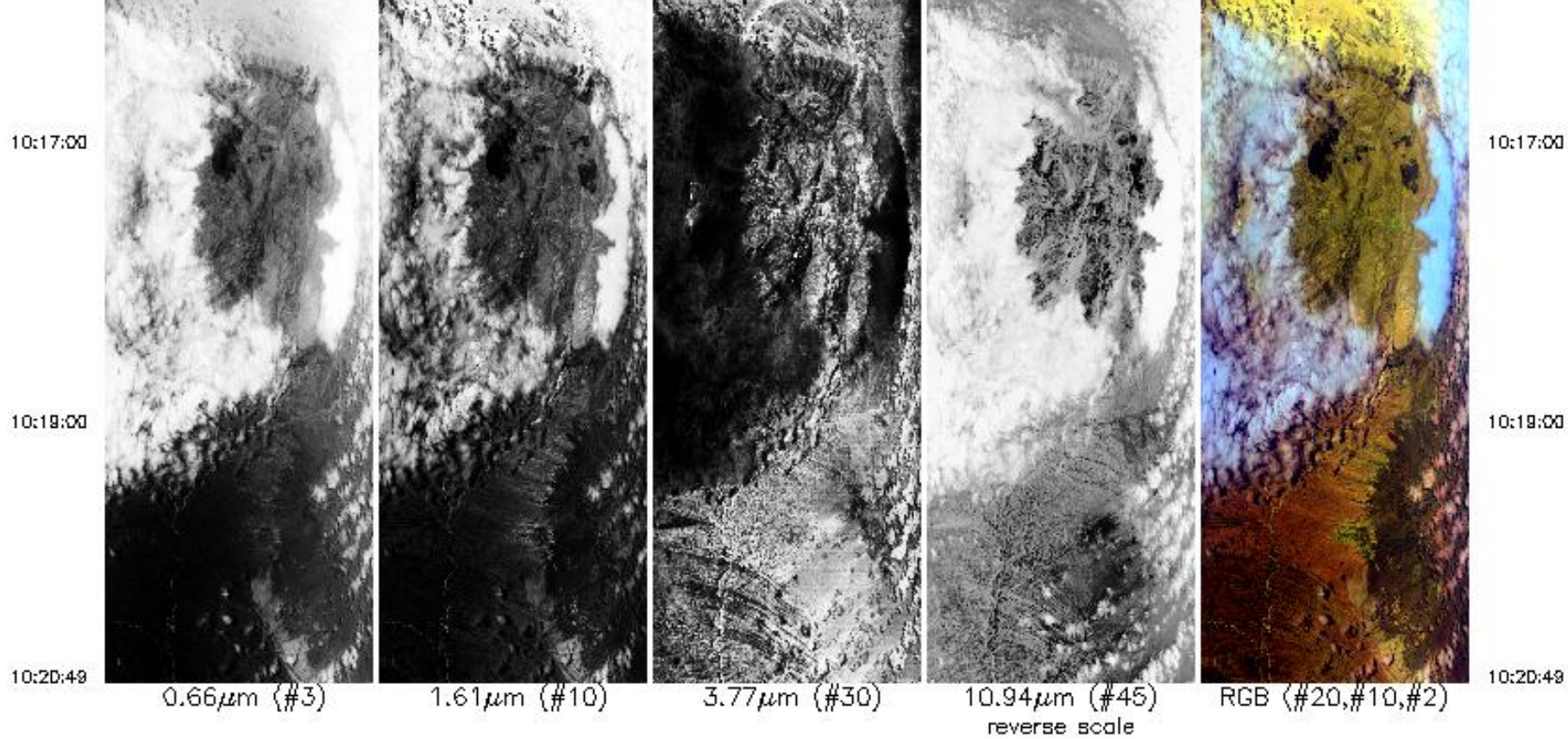
10:08:00

10:11:00

10:13:00

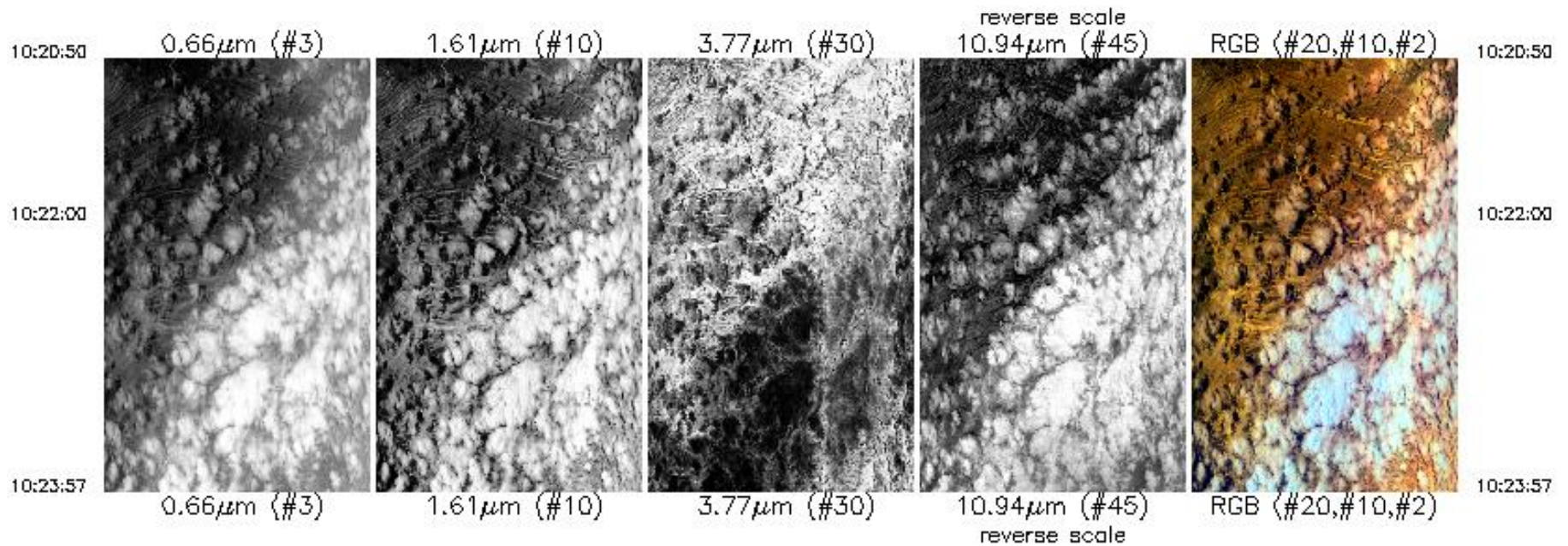
10:15:00

10:17:00



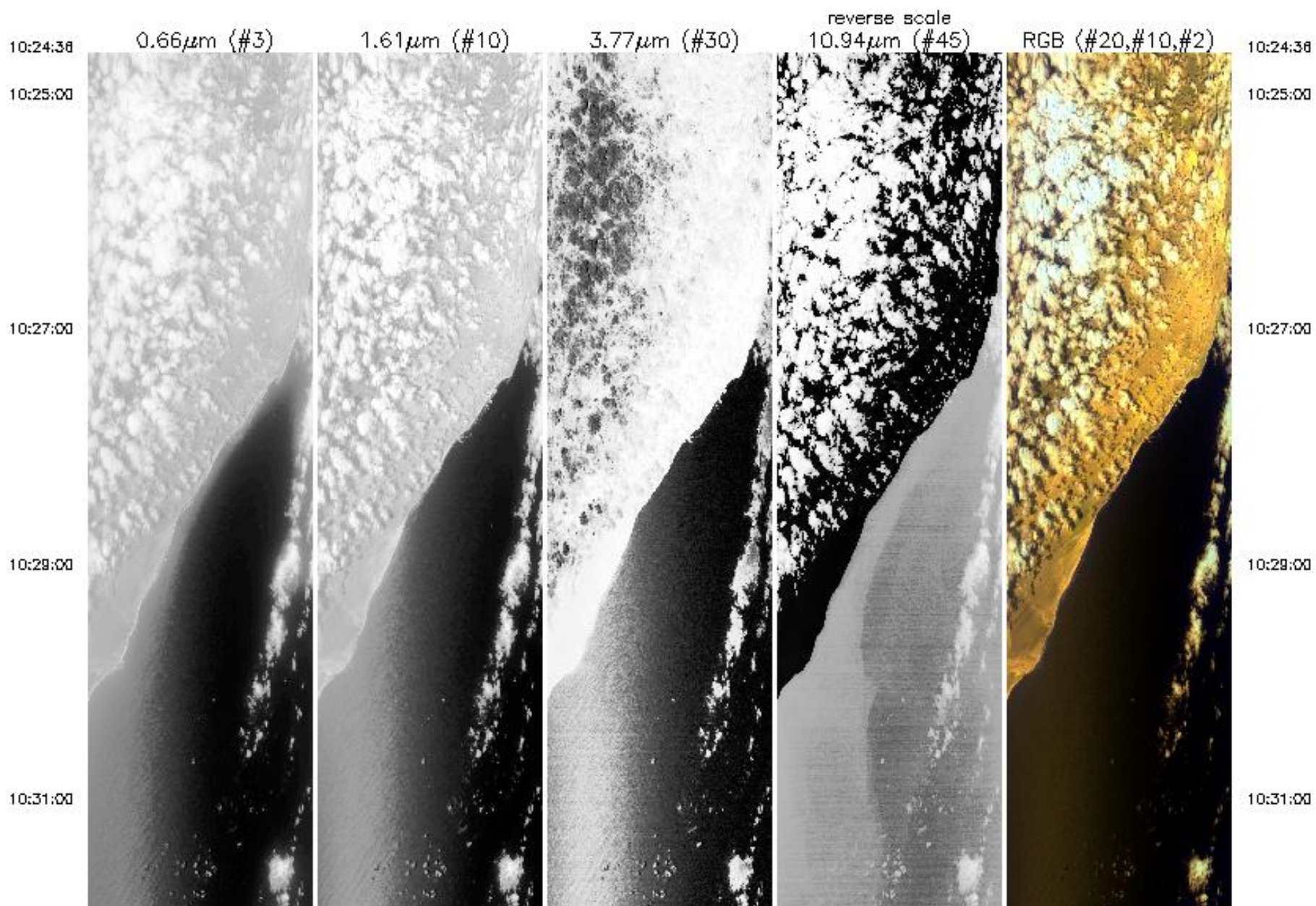
Upper Left Lat, Lon = -21.5° , 17.4°
 Lower Right Lat, Lon = -21.2° , 14.1°
 Aircraft Heading = 281.5°
 Solar Zenith = 27.7°
 GPS Altitude = 19895. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 Namibia
 Flight #00-176 Track #6

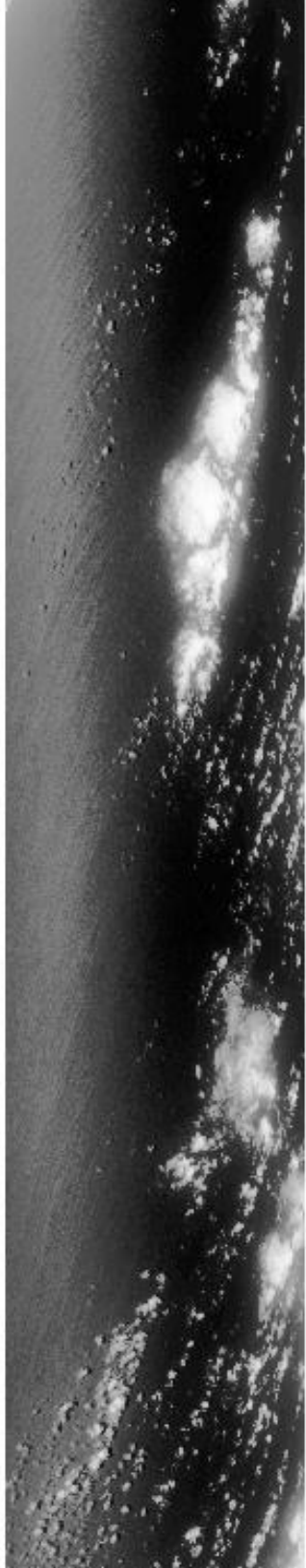


Upper Left Lat, Lon = -20.9° , 14.2°
 Lower Right Lat, Lon = -21.1° , 13.7°
 Aircraft Heading = 282.8°
 Solar Zenith = 25.7°
 GPS Altitude = 19884. m (MSL)

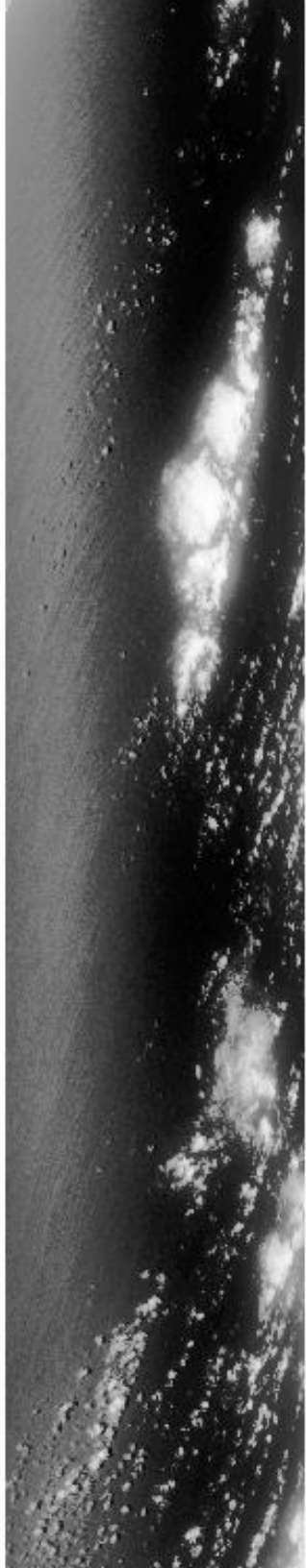
MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #7



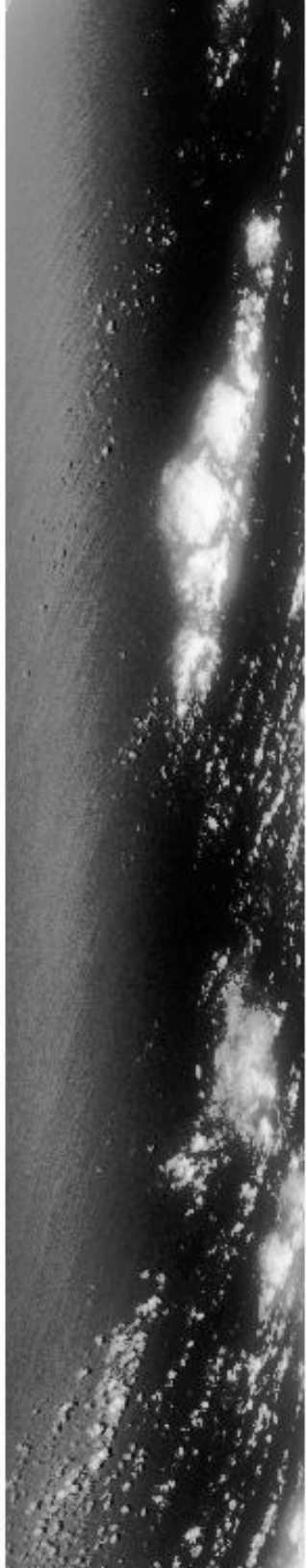
10:31:00



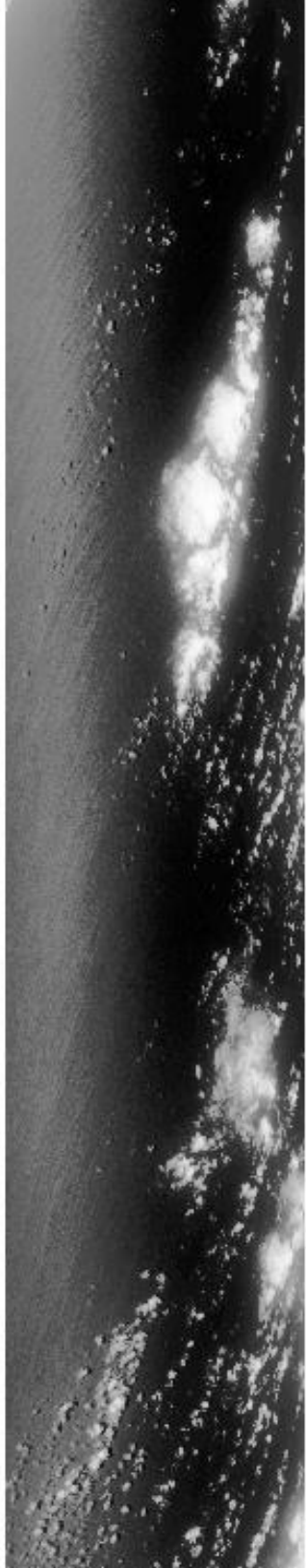
10:33:00



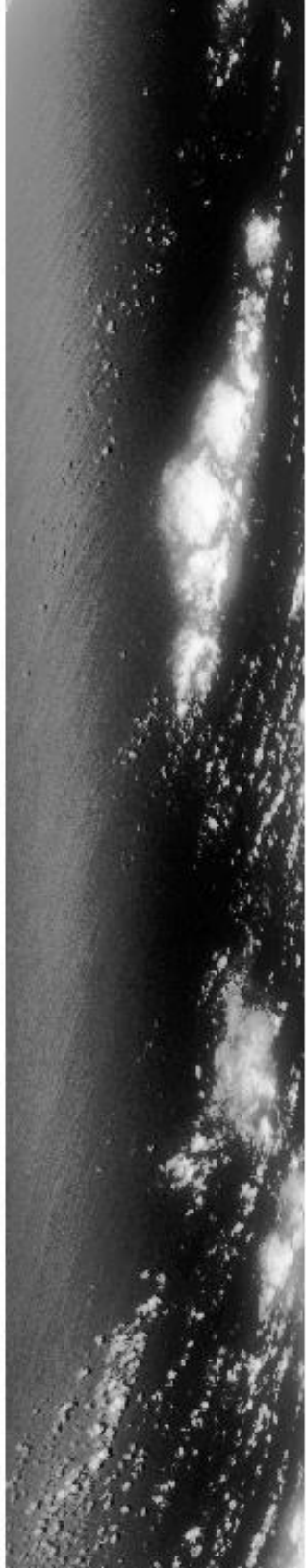
10:35:00



10:37:00



10:38:00



10:31:00



10:33:00



10:35:00



10:37:00



10:38:00



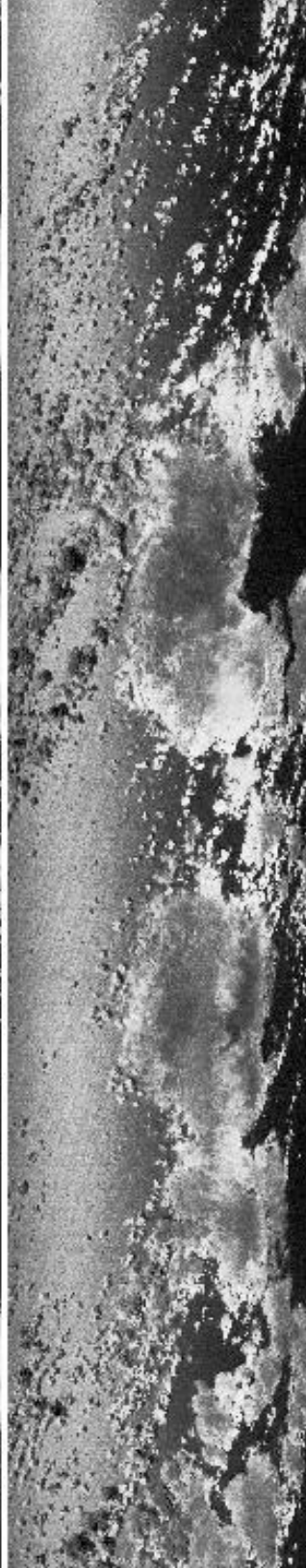
10:39:00



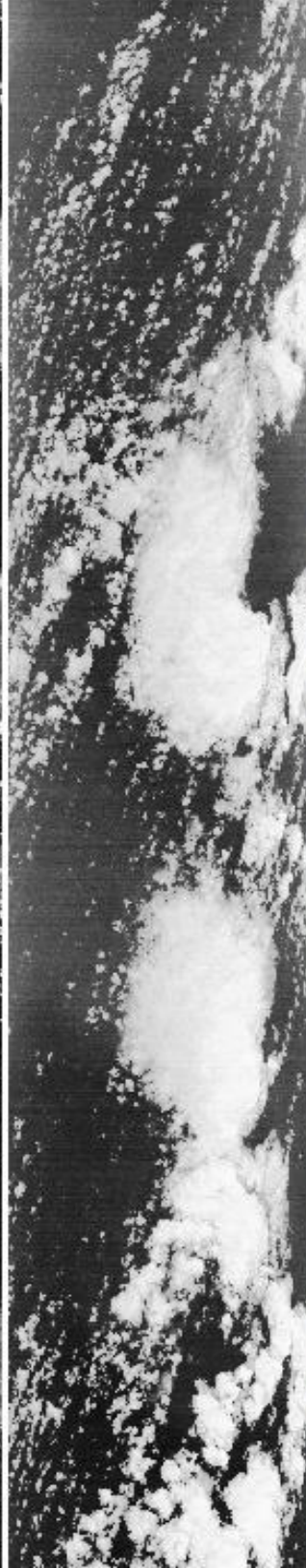
10:41:00



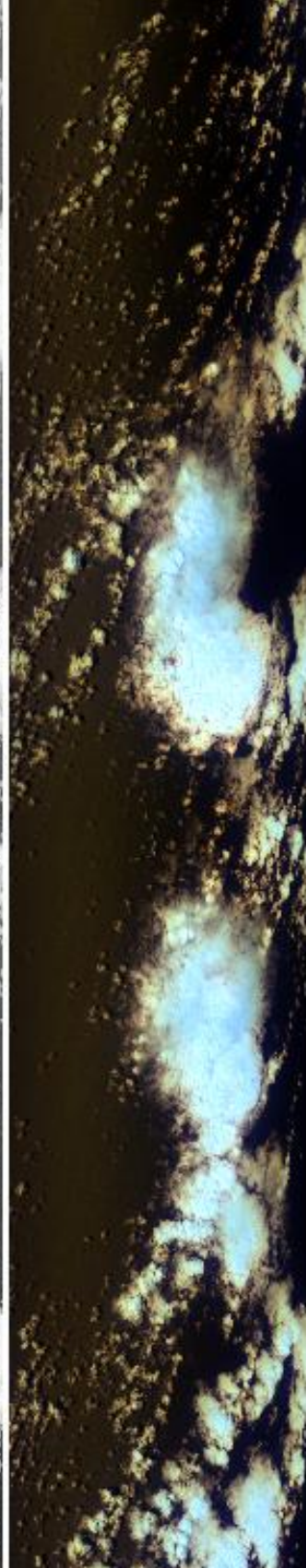
10:43:00



10:45:00



10:47:00



10:39:00

10:41:00

10:43:00

10:45:00

10:47:00

10:47:00

10:48:00

10:51:00

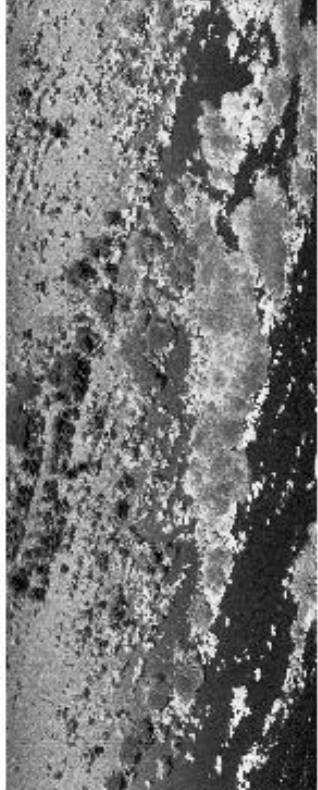
10:51:22



0.66 μ m (#3)



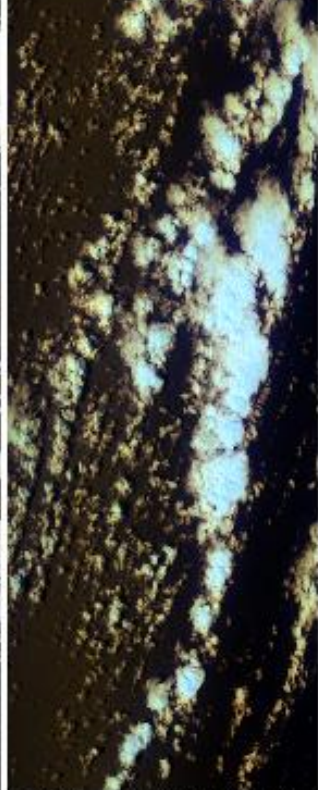
1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20,#10,#2)

10:47:00

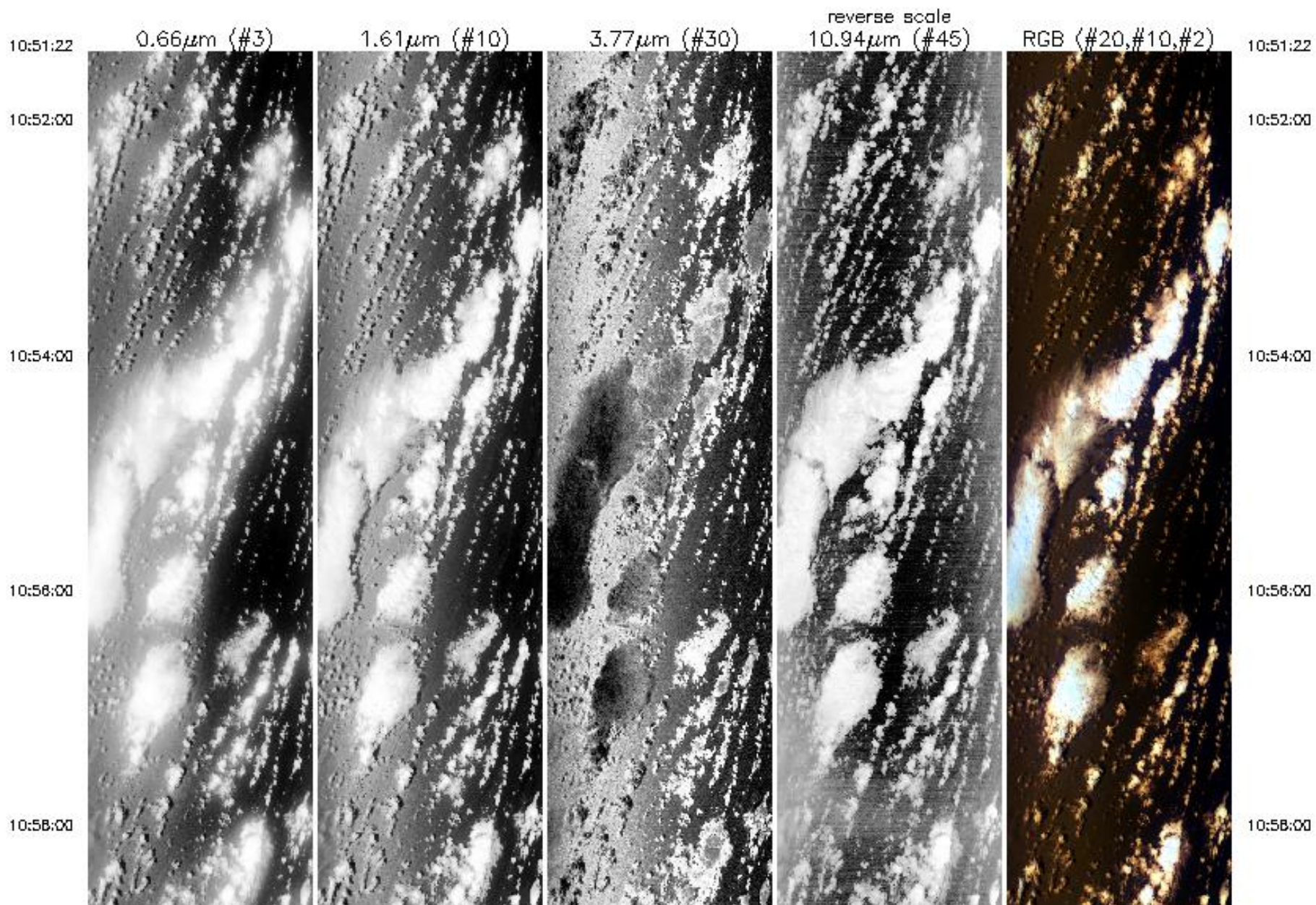
10:48:00

10:51:00

10:51:22

Upper Left Lat, Lon = -20.8° , 13.8°
Lower Right Lat, Lon = -19.3° , 10.9°
Aircraft Heading = 318.4°
Solar Zenith = 25.5°
GPS Altitude = 19831. m (MSL)

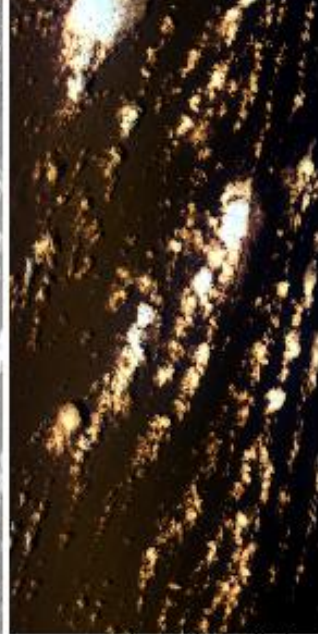
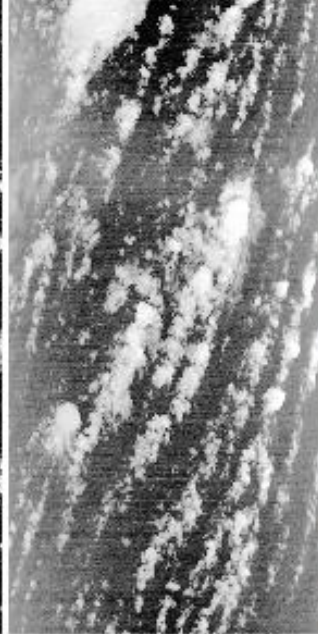
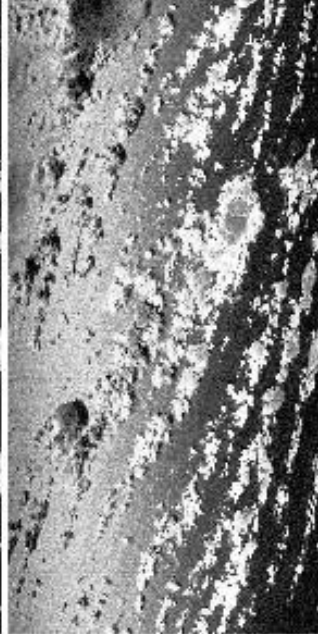
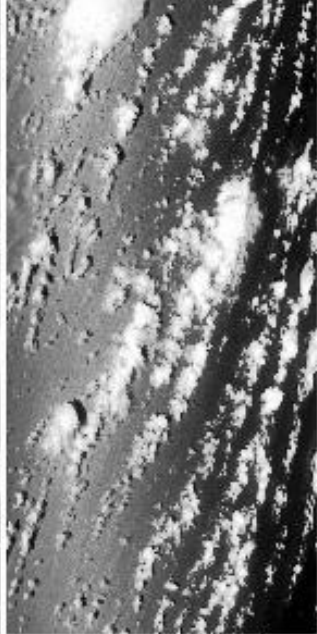
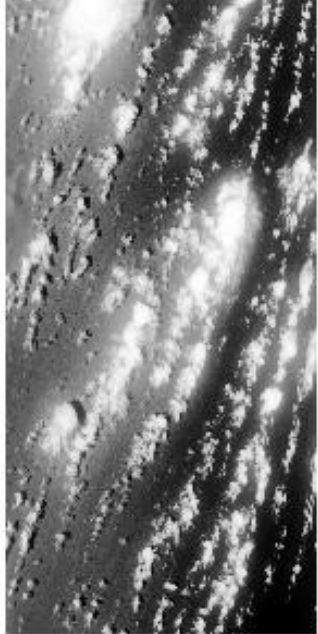
MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #8



10:58:00

11:00:00

11:00:43



10:58:00

11:00:00

11:00:43

0.66 μ m (#3)

1.61 μ m (#10)

3.77 μ m (#30)

10.94 μ m (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -19.0° , 11.1°

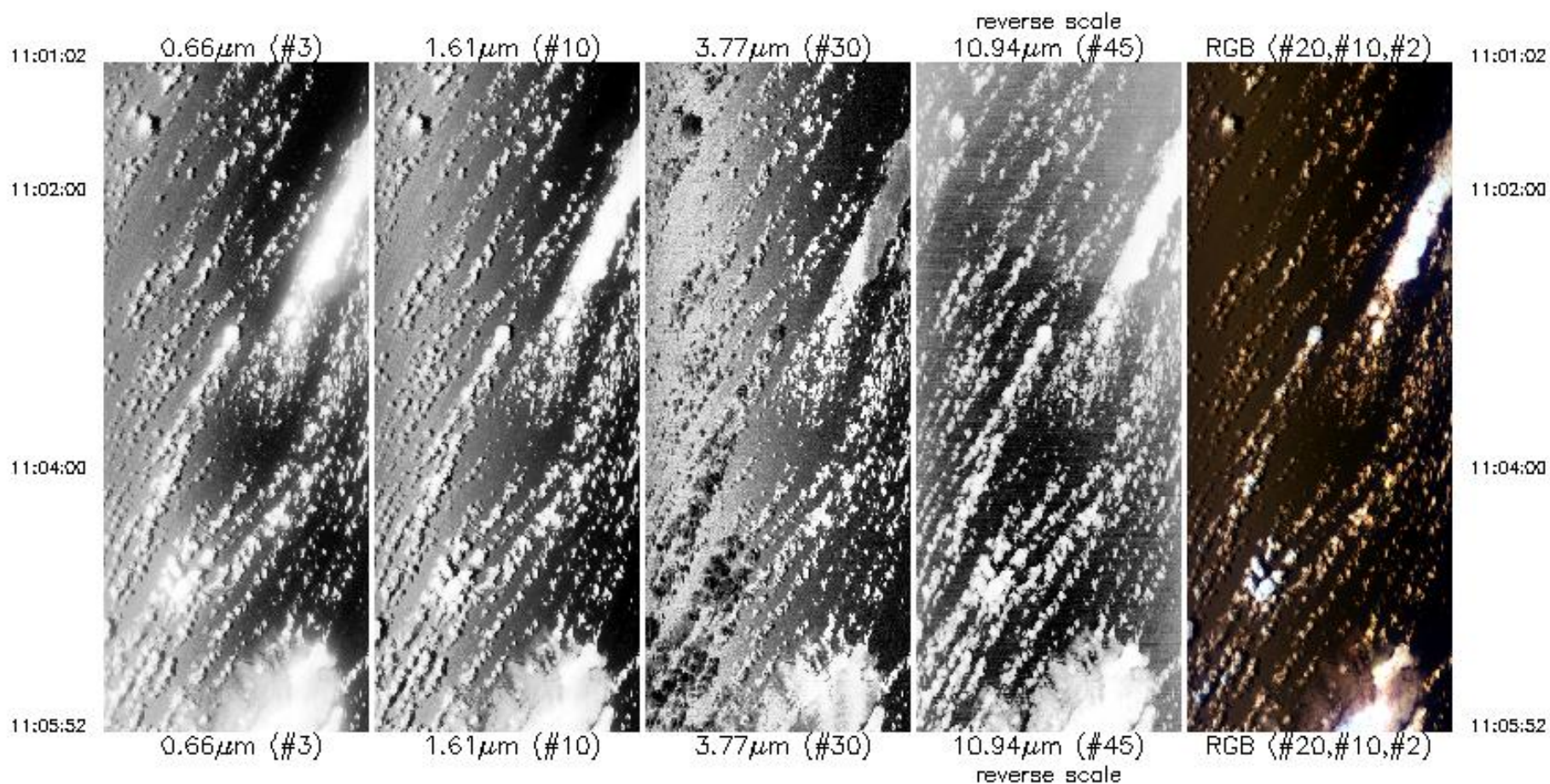
Lower Right Lat, Lon = -18.7° , 9.9°

Aircraft Heading = 307.0°

Solar Zenith = 22.7°

GPS Altitude = 19894. m (MSL)

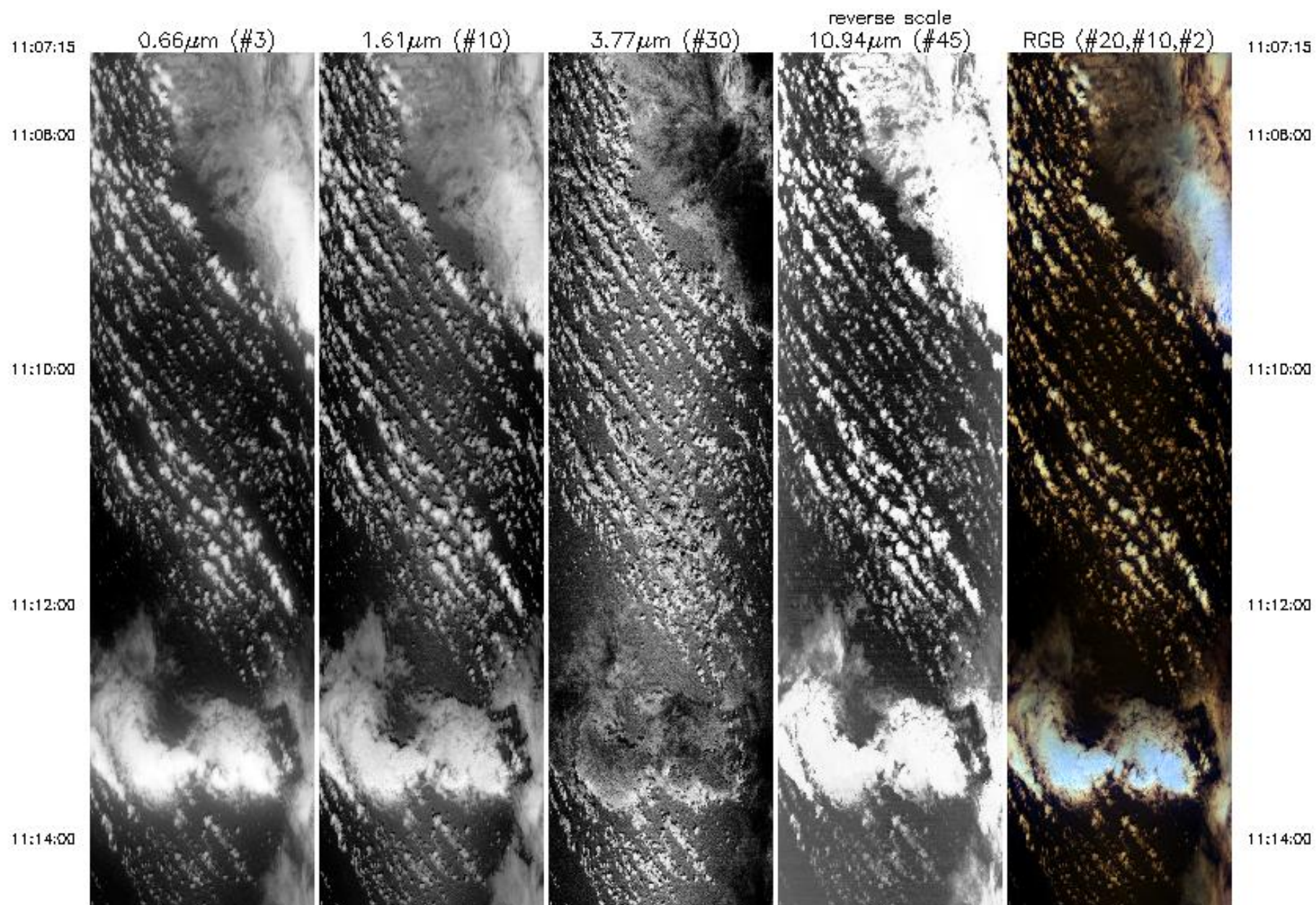
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #9



Upper Left Lat, Lon = -18.4° , 10.1°
 Lower Right Lat, Lon = -18.5° , 9.4°
 Aircraft Heading = 296.8°
 Solar Zenith = 21.8°
 GPS Altitude = 19867. m (MSL)

Upper Left Lat, Lon = -18.4, 10.1
Lower Right Lat, Lon = -18.5, 9.4
Aircraft Heading = 296.8°
Solar Zenith = 21.8°
GPS Altitude = 19867. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #10



11:14:00



11:16:00



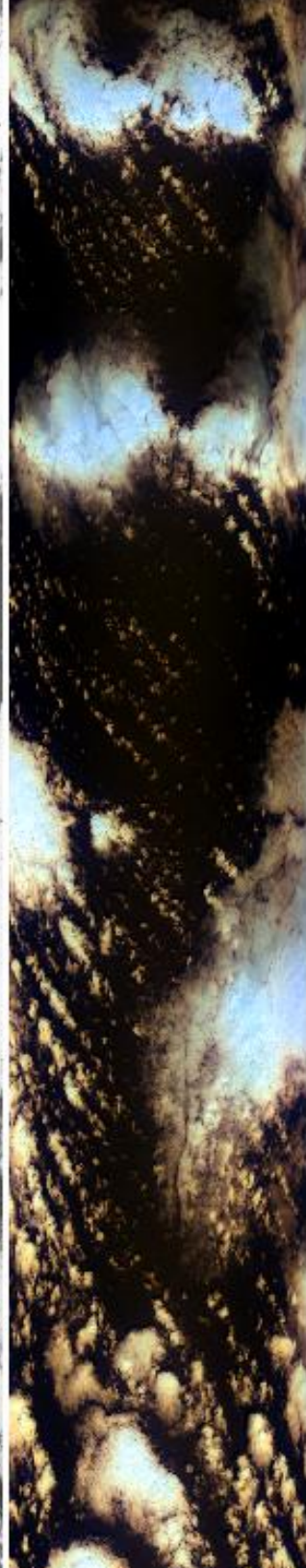
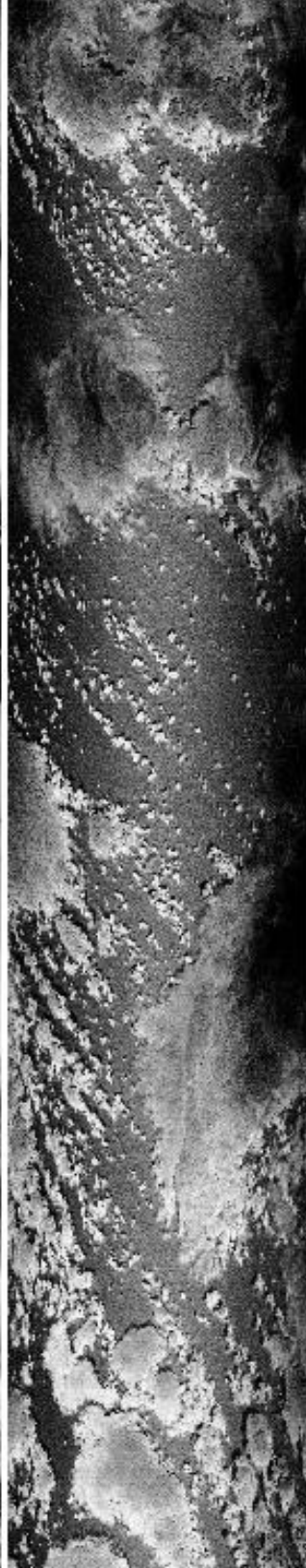
11:18:00



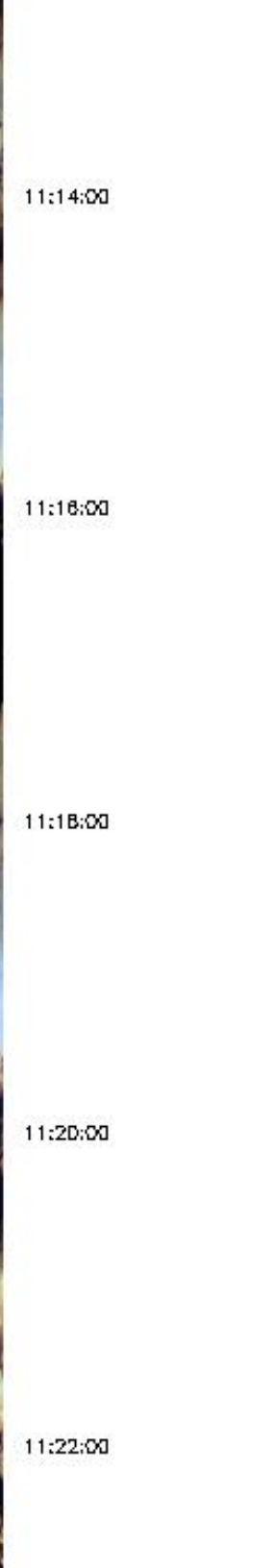
11:20:00



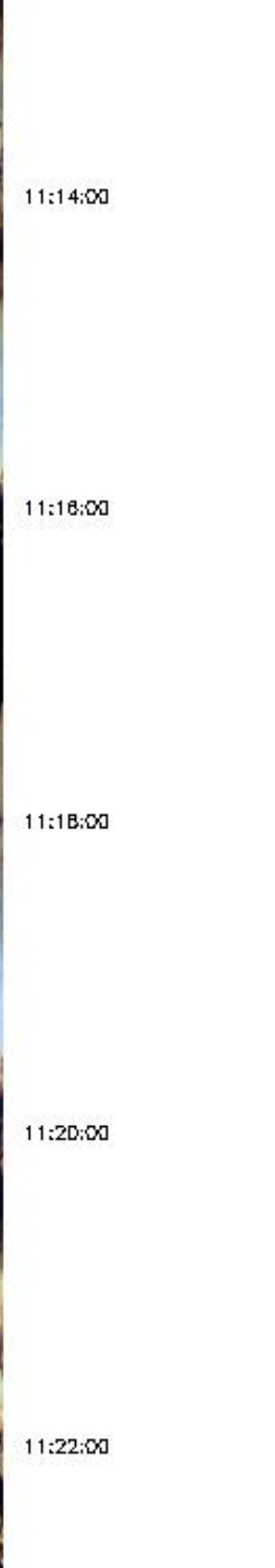
11:22:00



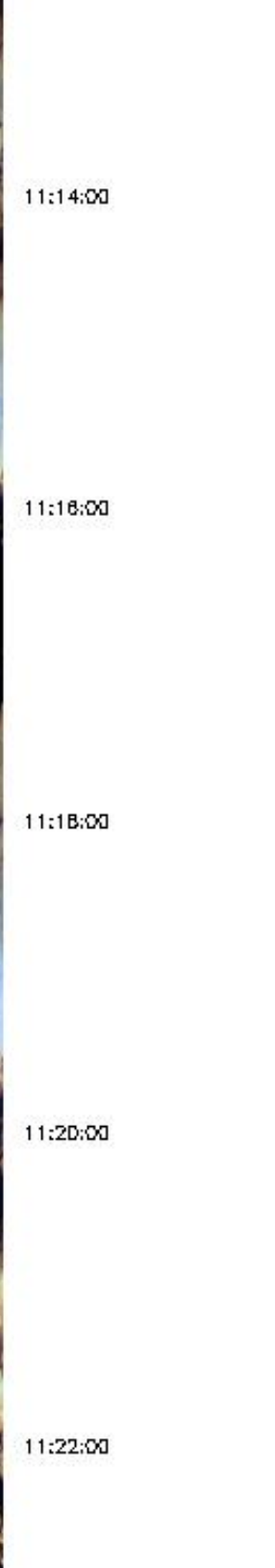
11:14:00



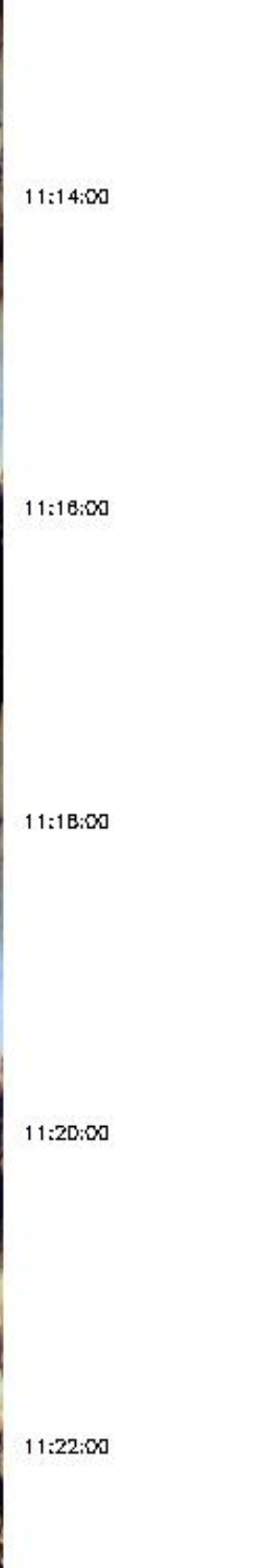
11:16:00



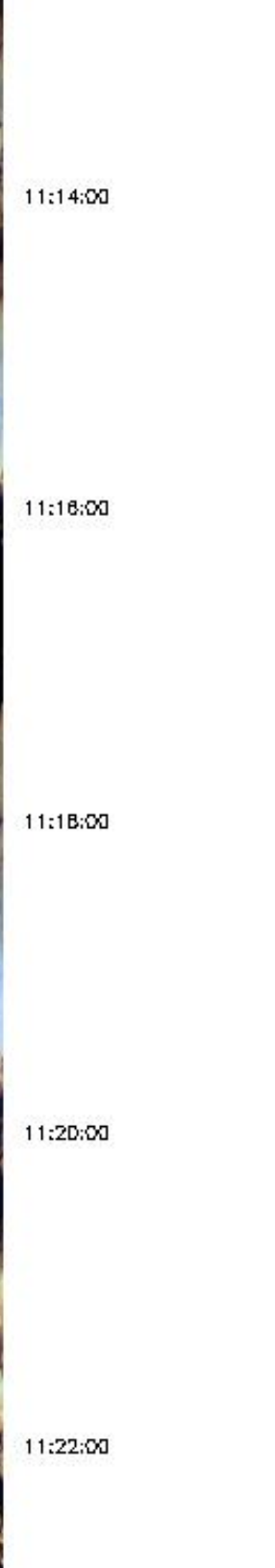
11:18:00



11:20:00



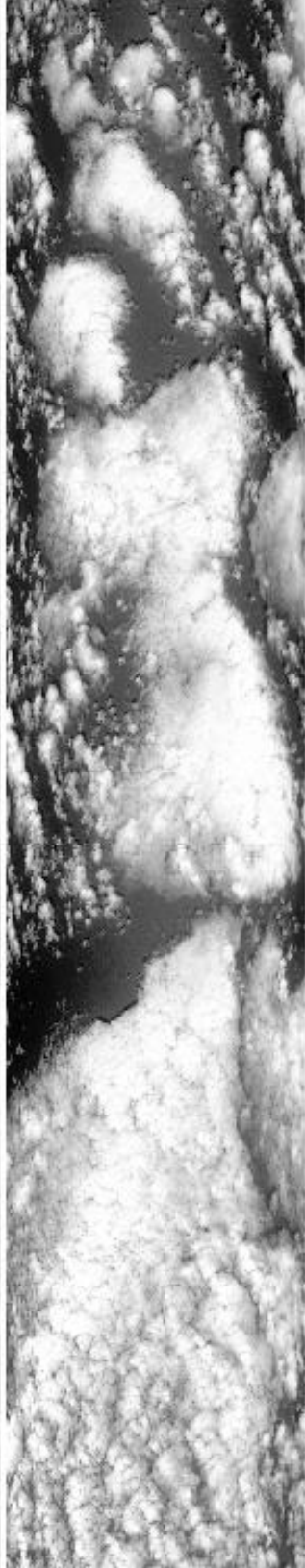
11:22:00



11:22:00



11:24:00



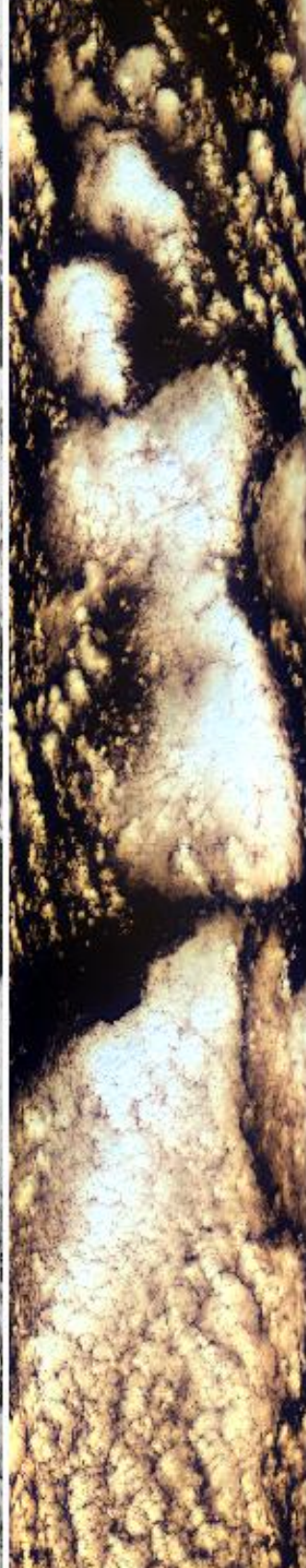
11:26:00



11:26:00



11:30:00



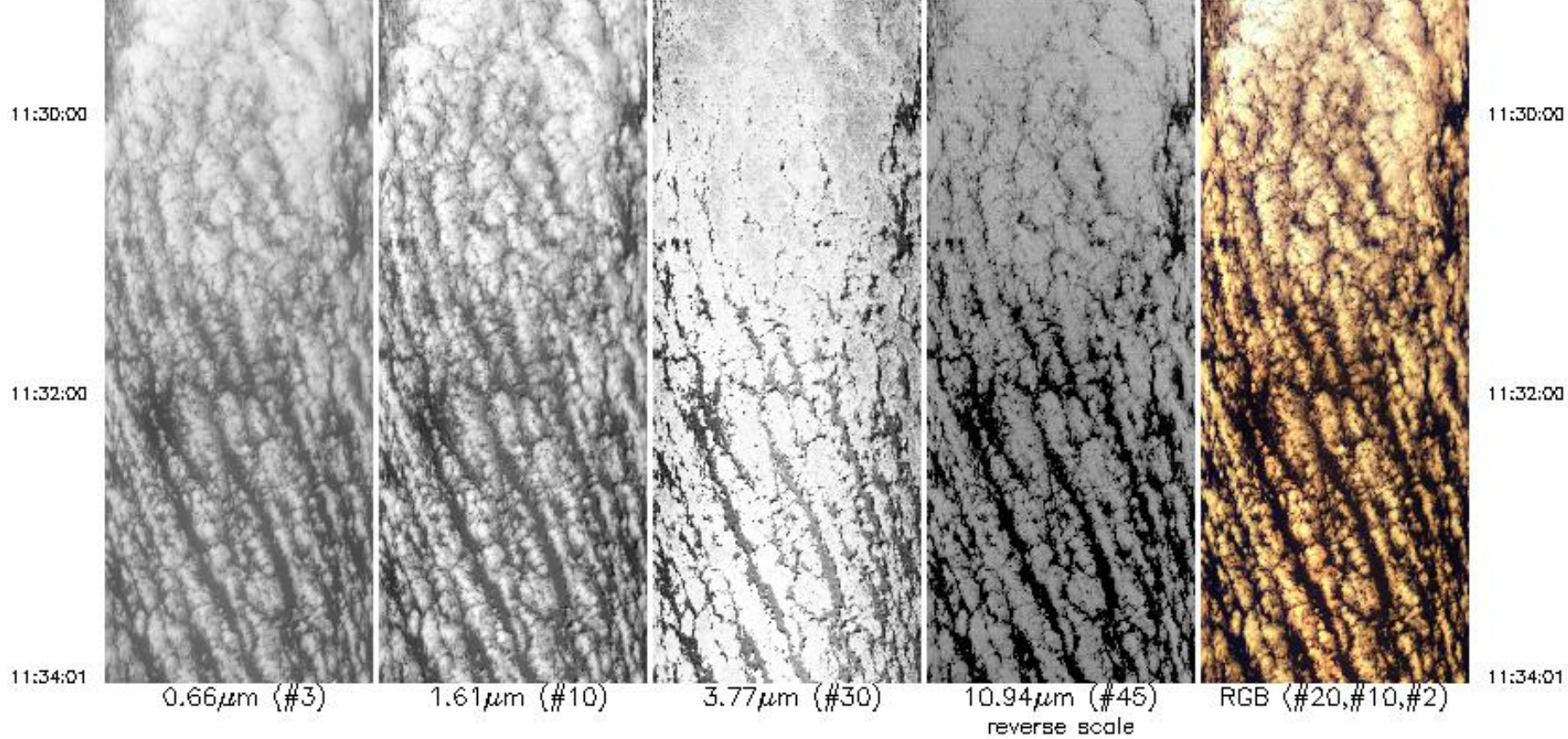
11:22:00

11:24:00

11:26:00

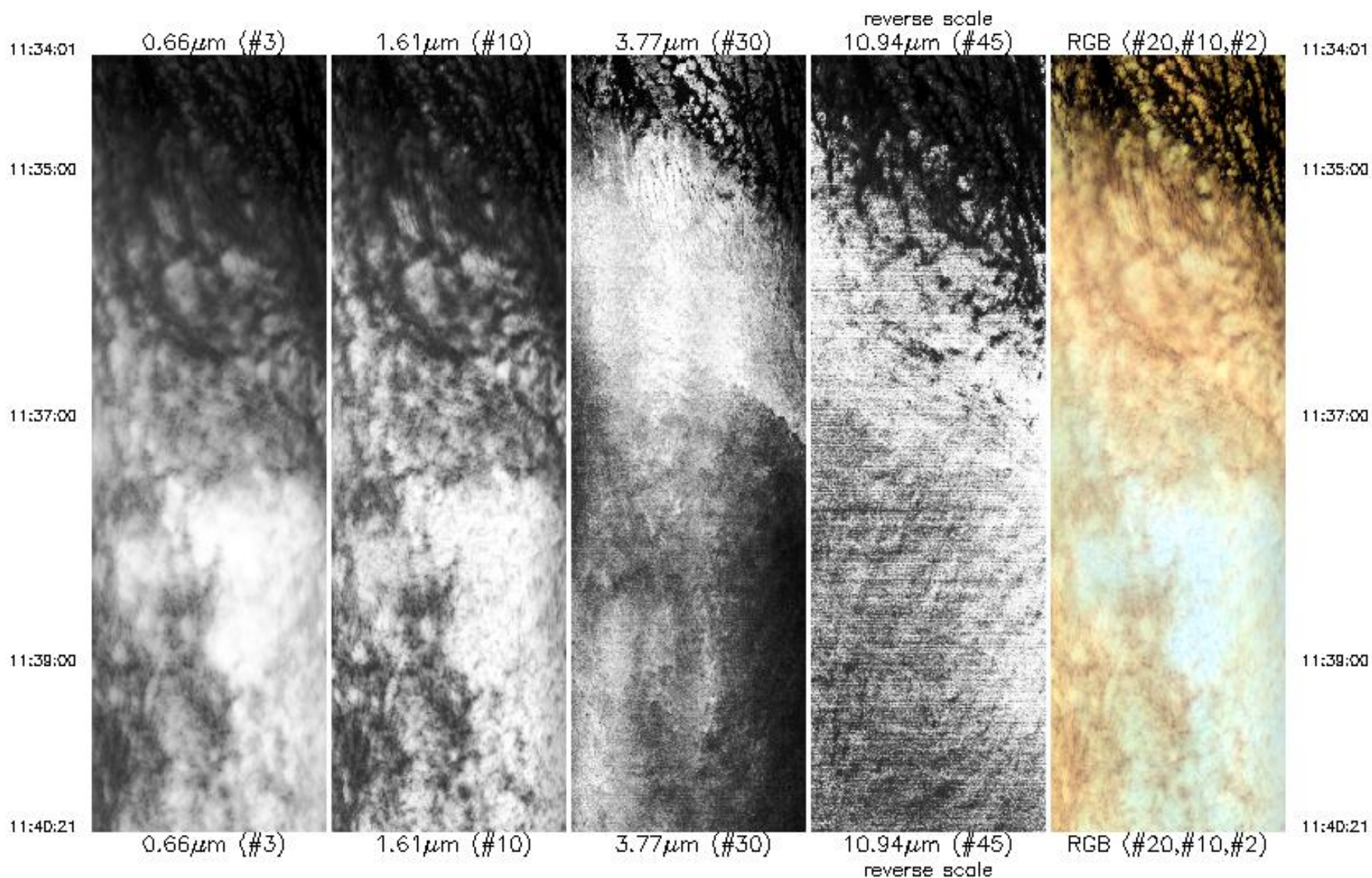
11:26:00

11:30:00



Upper Left Lat, Lon = -18.3° , 9.5°
 Lower Right Lat, Lon = -15.2° , 9.7°
 Aircraft Heading = 12.4°
 Solar Zenith = 21.6°
 GPS Altitude = 19861. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #11



Upper Left Lat, Lon = -15.3°, 10.0°

Lower Right Lat, Lon = -14.5°, 9.8°

11:40:21



0.66 μm (#3)



1.61 μm (#10)



3.77 μm (#30)



10.94 μm (#45)
reverse scale

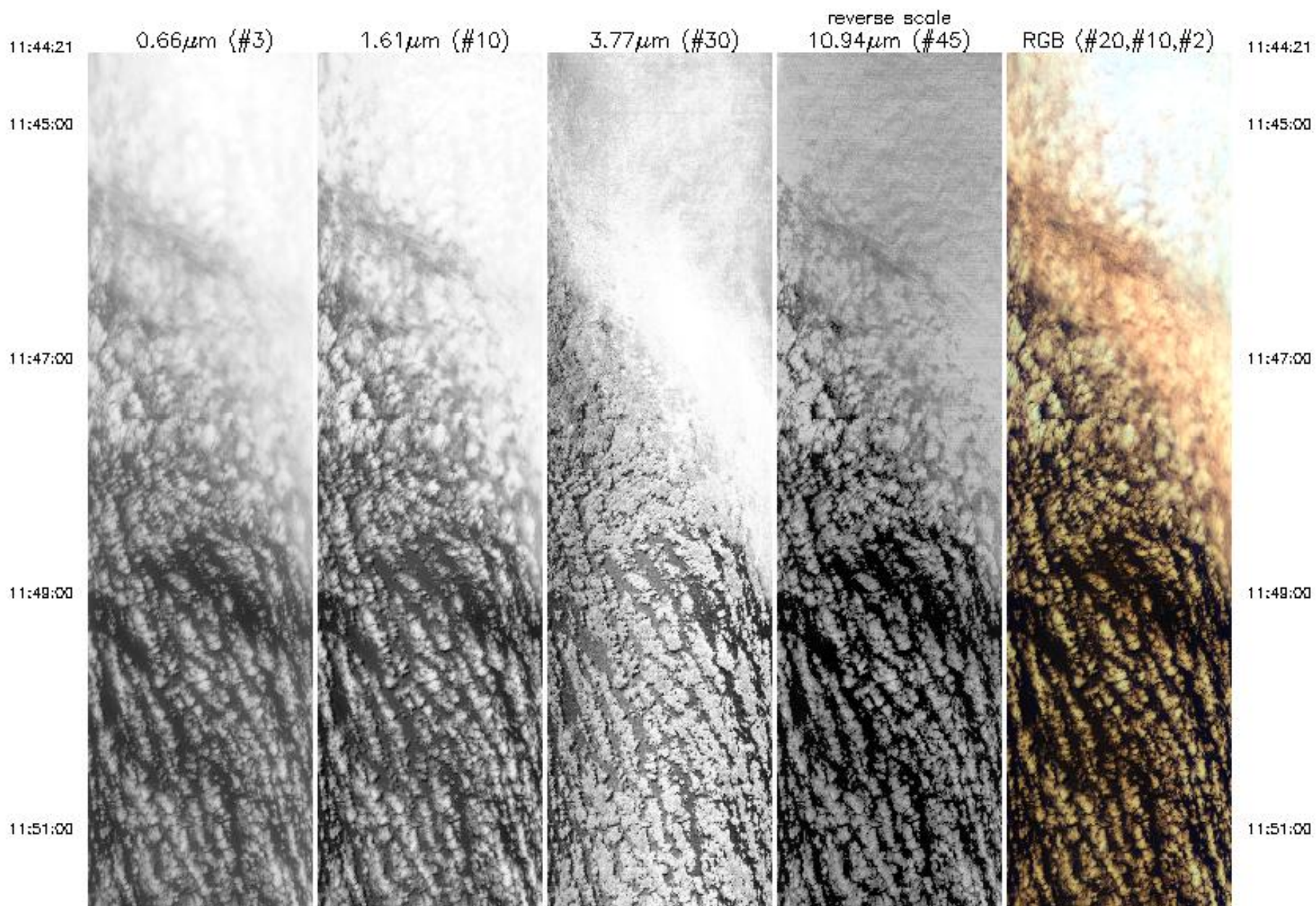


RGB (#20,#10,#2)

11:40:21

Upper Left Lat, Lon = -15.3° , 10.0°
Lower Right Lat, Lon = -14.5° , 9.8°
Aircraft Heading = 13.0°
Solar Zenith = 19.0°
GPS Altitude = 19843. m (MSL)

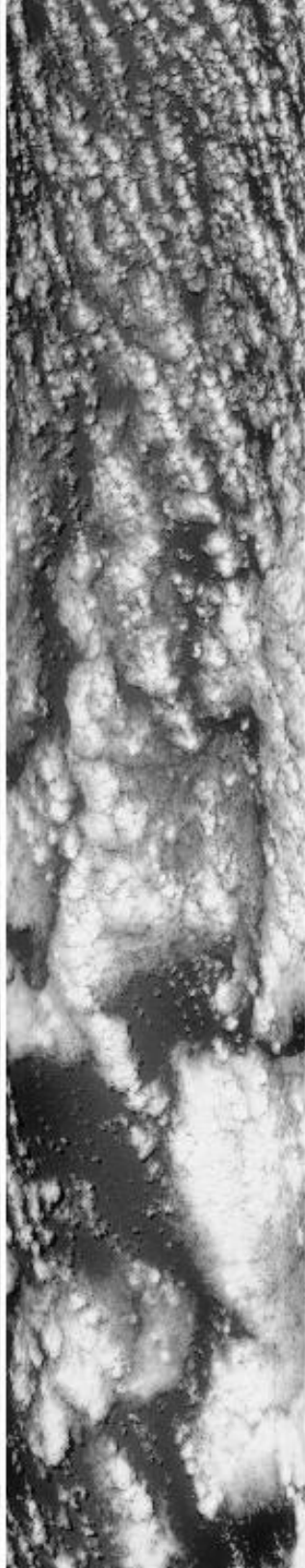
MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #12



11:51:00



11:53:00



11:55:00



11:57:00



11:59:00



11:51:00

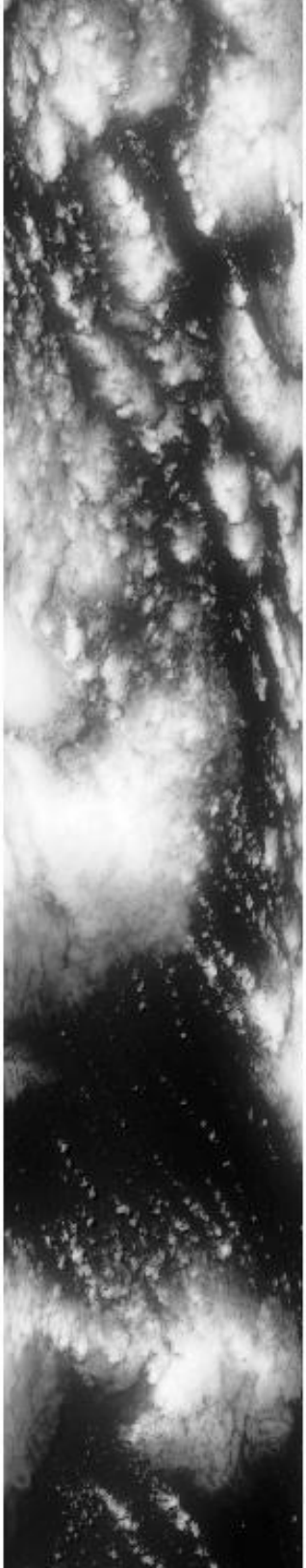
11:53:00

11:55:00

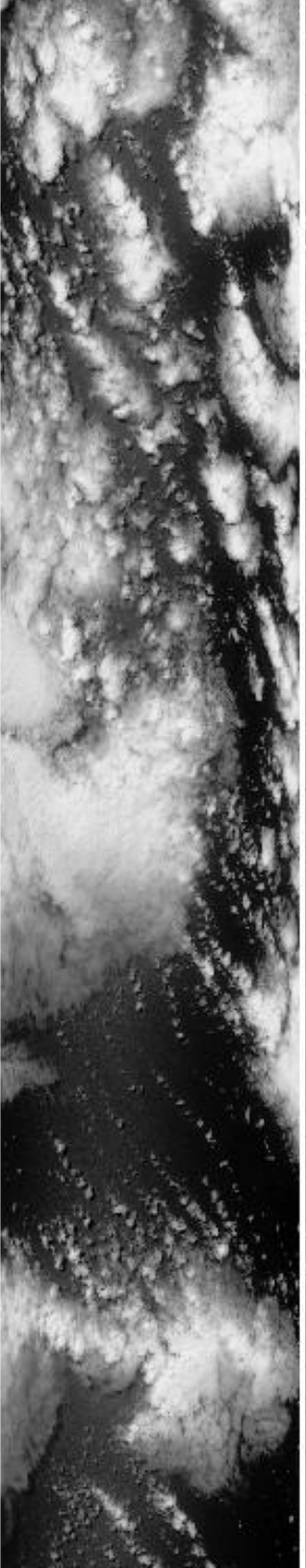
11:57:00

11:59:00

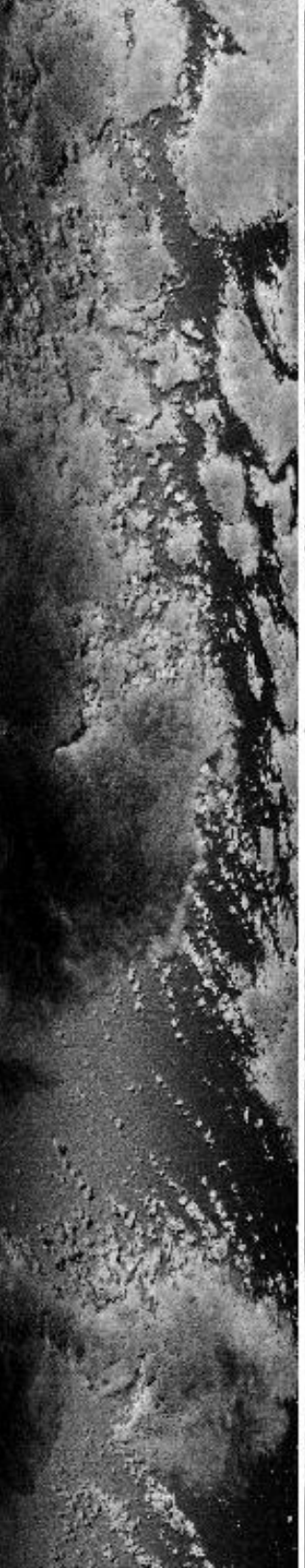
11:58:00



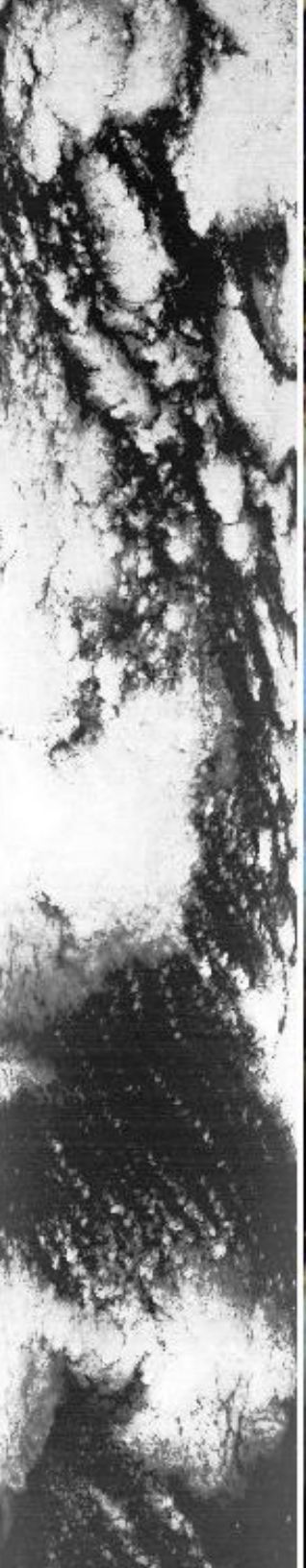
12:01:00



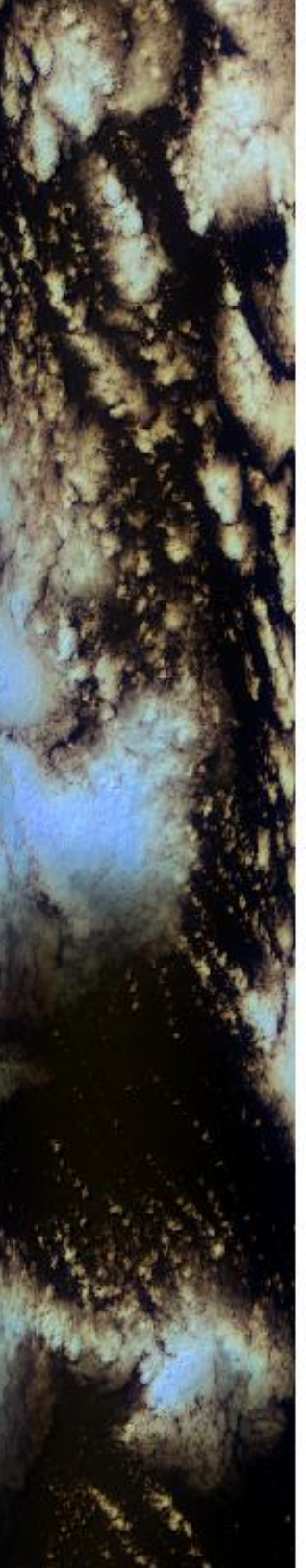
12:03:00



12:05:00



12:07:00



11:58:00

12:01:00

12:03:00

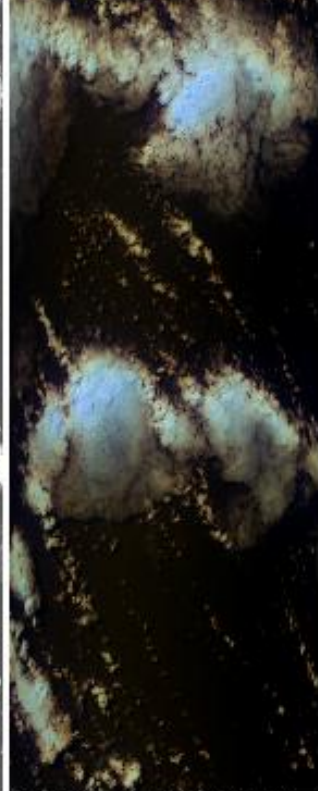
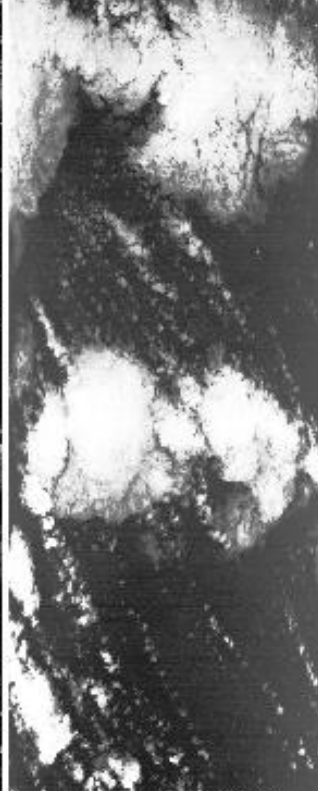
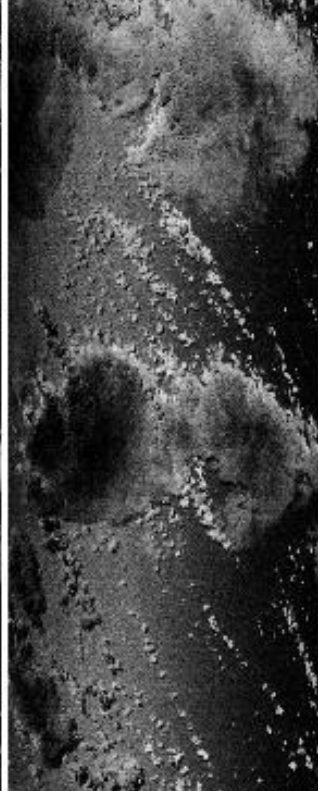
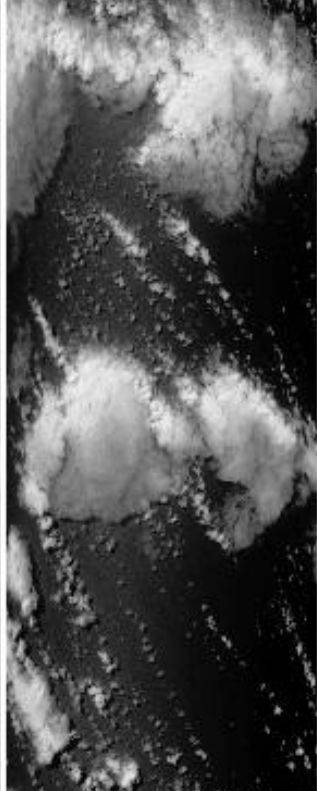
12:05:00

12:07:00

12:07:00

12:08:00

12:11:07



12:07:00

12:08:00

12:11:07

0.66 μ m (#3)

1.61 μ m (#10)

3.77 μ m (#30)

10.94 μ m (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -14.4°, 9.5°

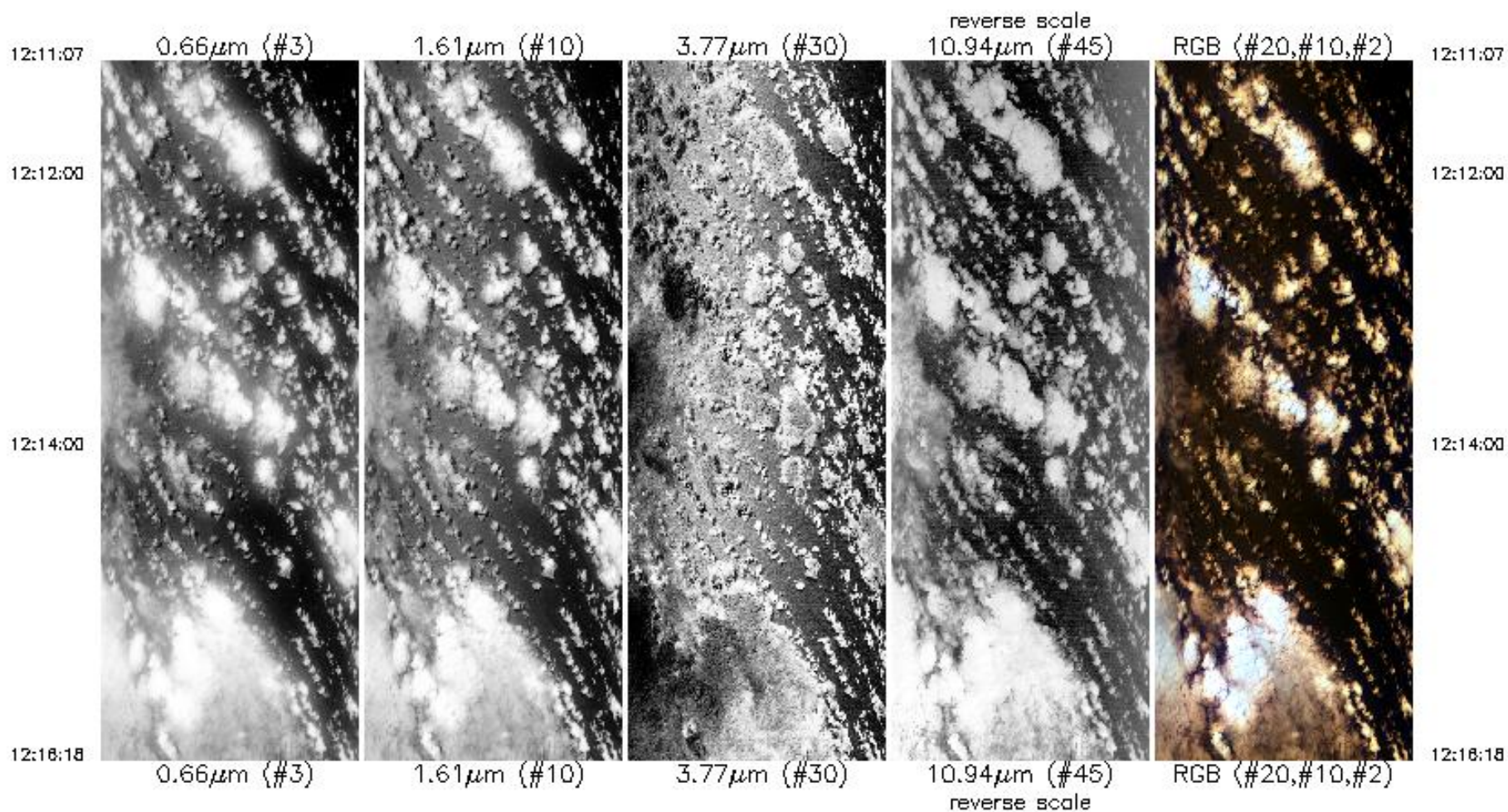
Lower Right Lat, Lon = -17.4°, 9.3°

Aircraft Heading = 180.8°

Solar Zenith = 18.8°

GPS Altitude = 19840. m (MSL)

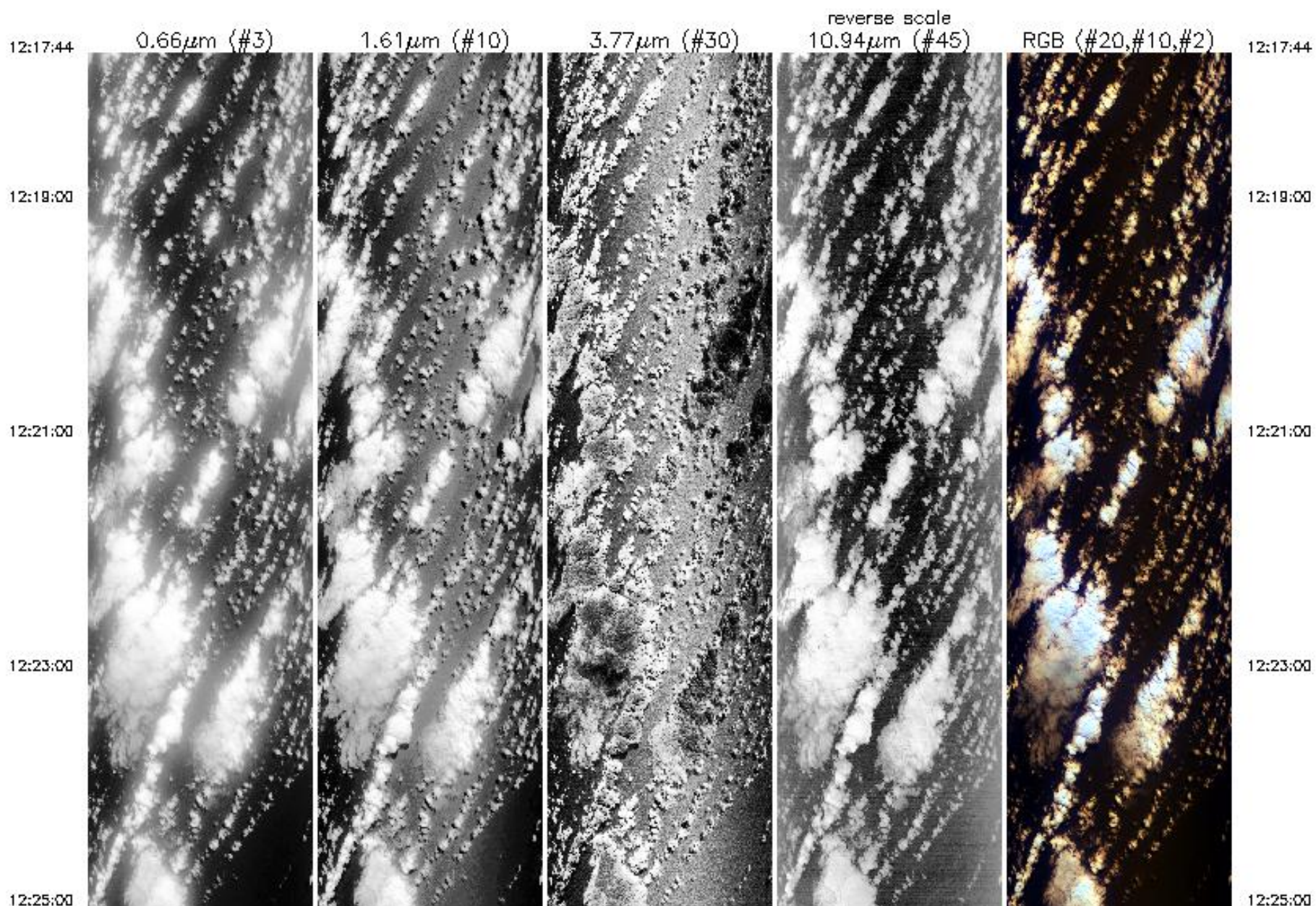
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #13



Upper Left Lat, Lon = -17.3° , 9.0°
 Lower Right Lat, Lon = -17.9° , 9.2°
 Aircraft Heading = 188.4°
 Solar Zenith = 24.1°
 GPS Altitude = 19828. m (MSL)

Upper Left Lat, Lon = -17.3° , 9.0°
Lower Right Lat, Lon = -17.9° , 9.2°
Aircraft Heading = 188.4°
Solar Zenith = 24.1°
GPS Altitude = 19828. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #14



12:25:00



0.66 μ m (#3)



1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20,#10,#2)

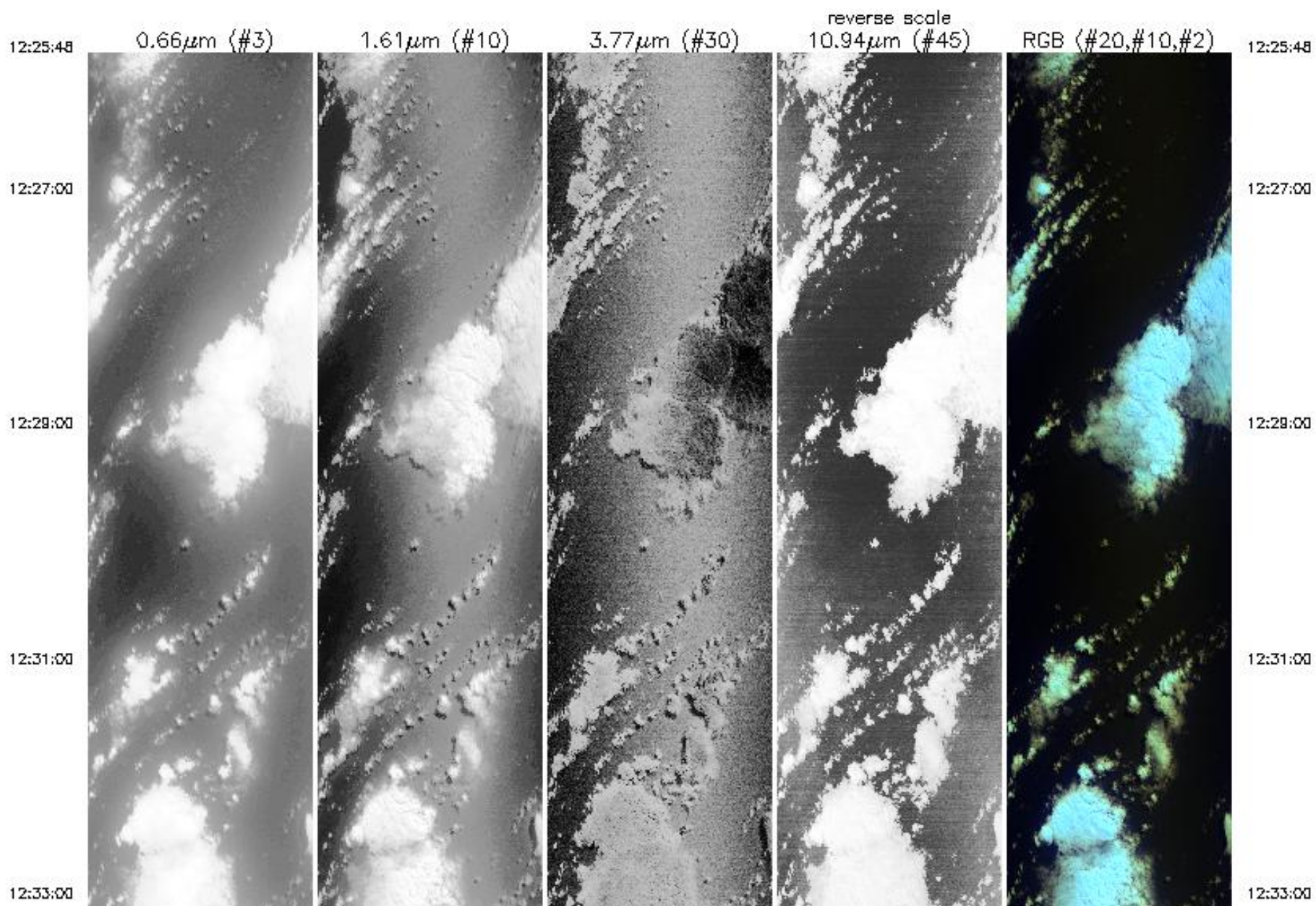
12:25:00

12:25:40

12:25:40

Upper Left Lat, Lon = -18.2° , 9.1°
Lower Right Lat, Lon = -18.2° , 10.0°
Aircraft Heading = 116.6°
Solar Zenith = 25.8°
GPS Altitude = 19848. m (MSL)

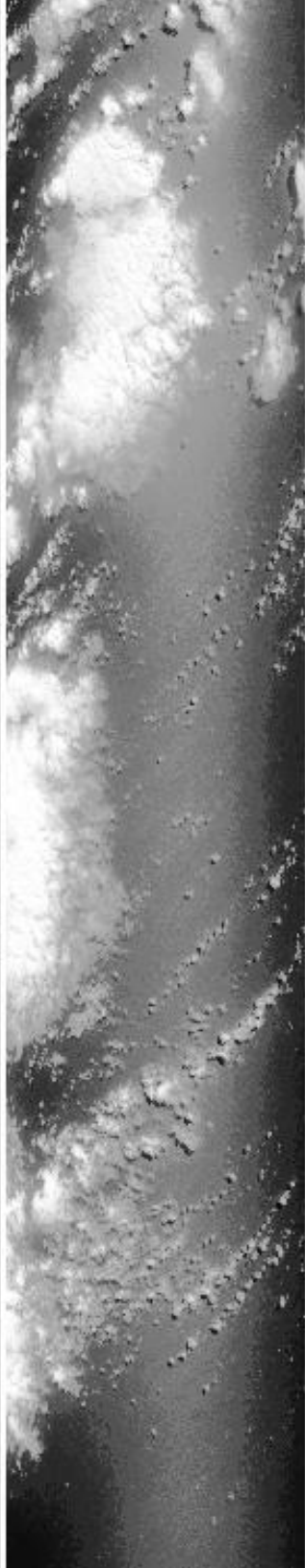
MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #15



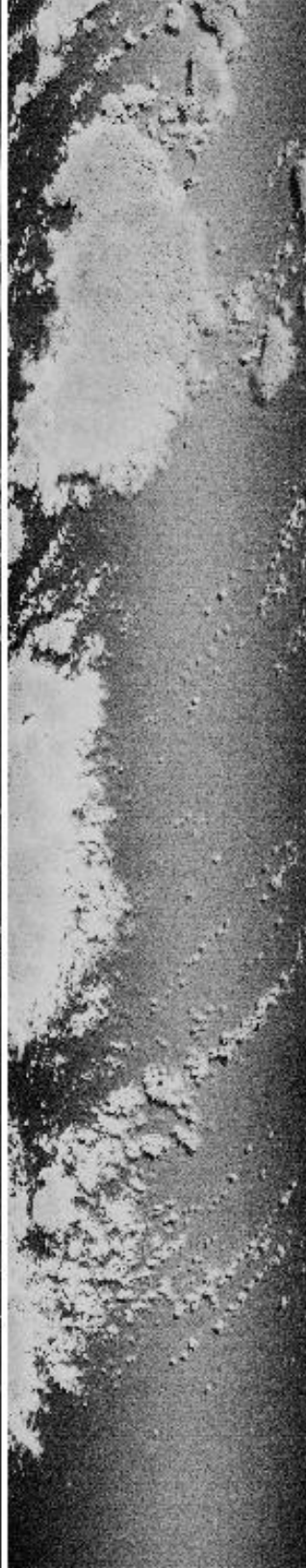
12:33:00



12:35:00



12:37:00



12:38:00



12:41:00



12:33:00

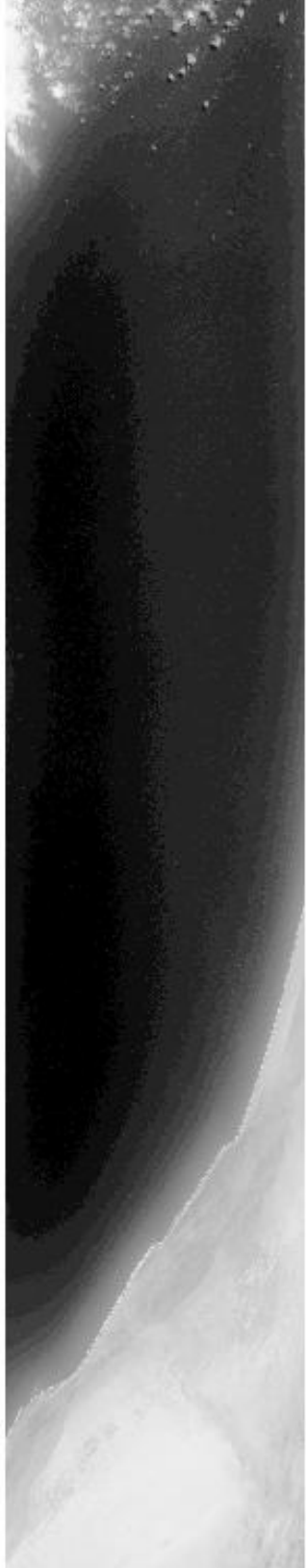
12:35:00

12:37:00

12:38:00

12:41:00

12:41:00



12:43:00



12:45:00



12:47:00



12:49:00



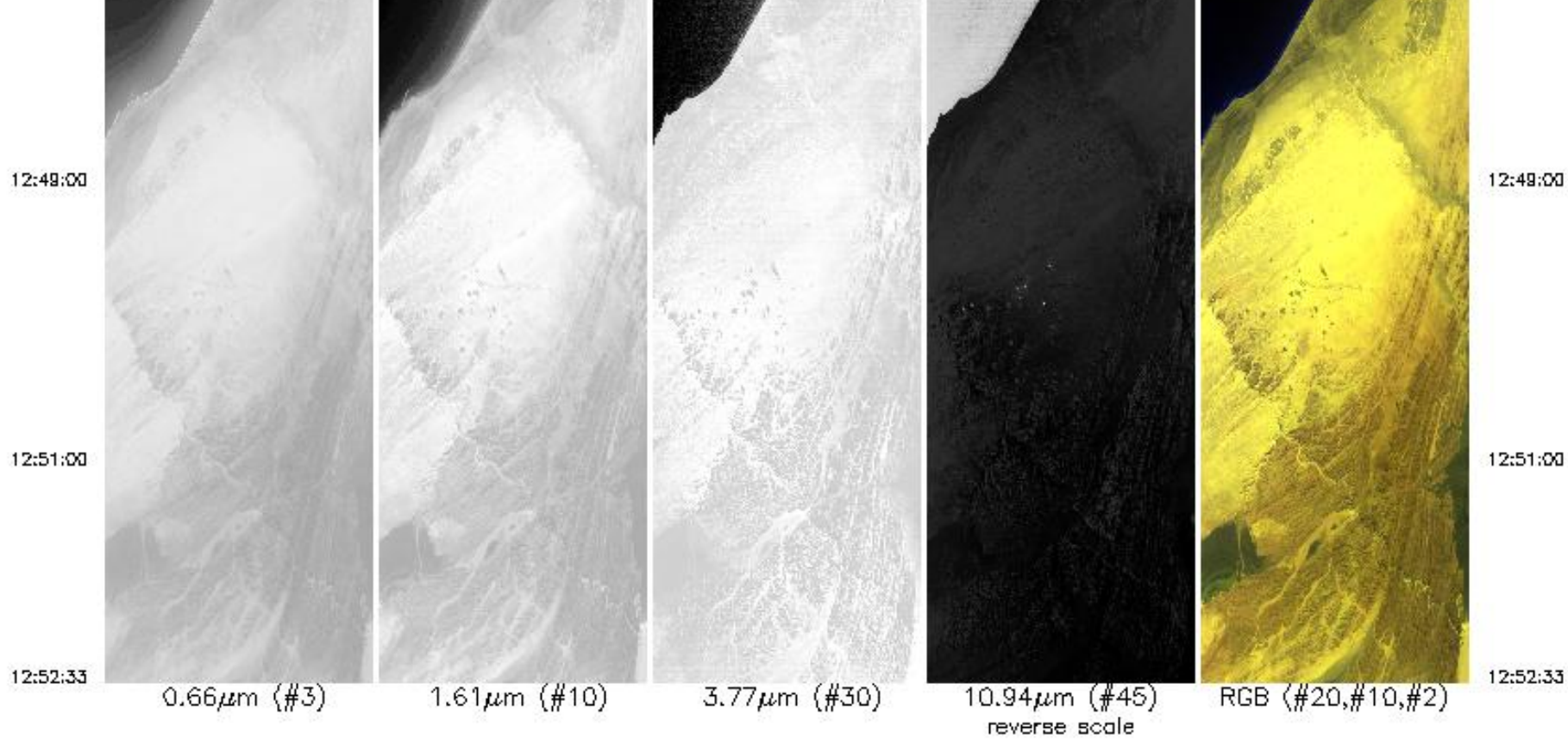
12:41:00

12:43:00

12:45:00

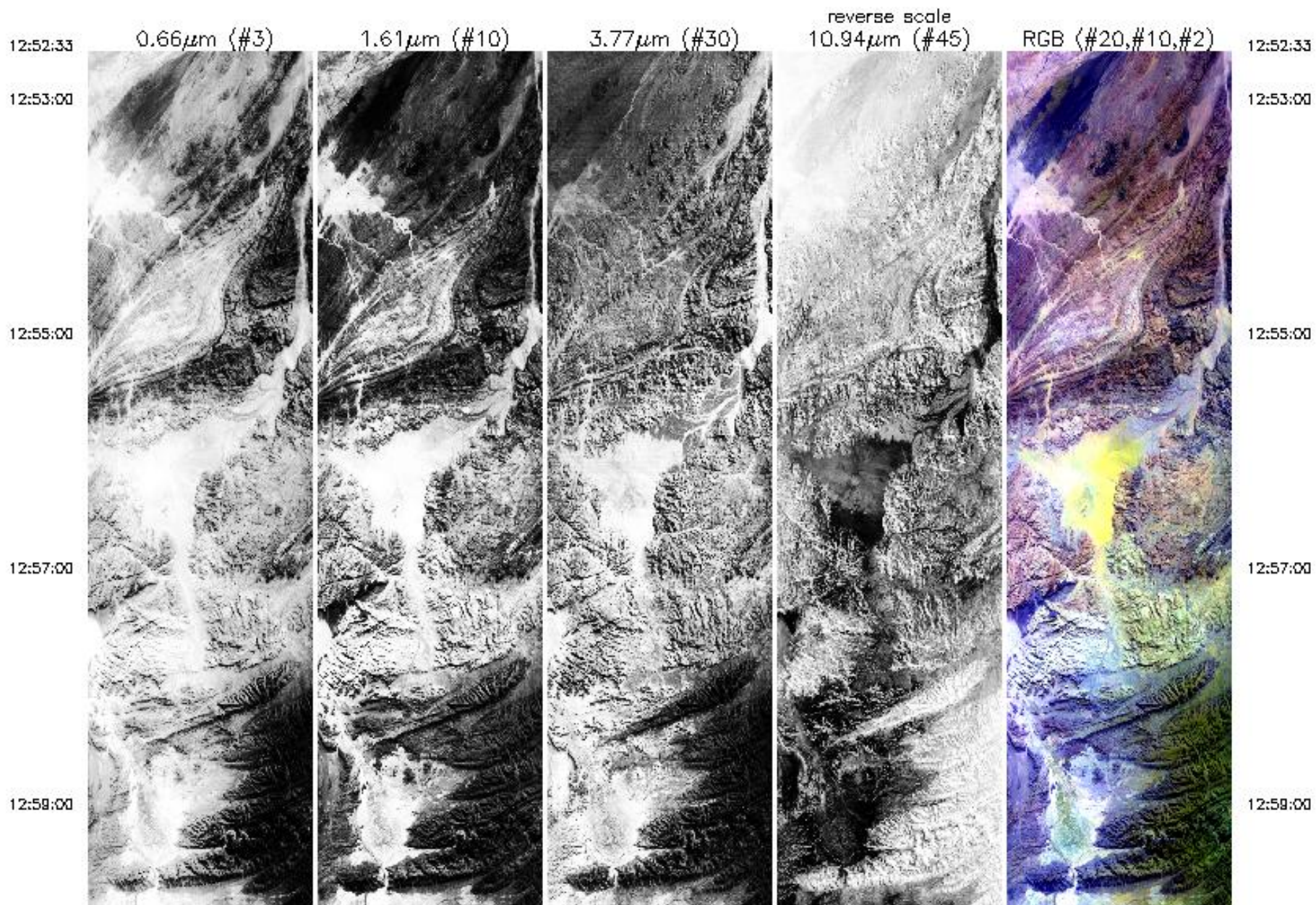
12:47:00

12:49:00



Upper Left Lat, Lon = -18.5° , 9.9°
 Lower Right Lat, Lon = -18.8° , 13.0°
 Aircraft Heading = 108.5°
 Solar Zenith = 27.7°
 GPS Altitude = 19900. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #16



12:58:00



13:01:00



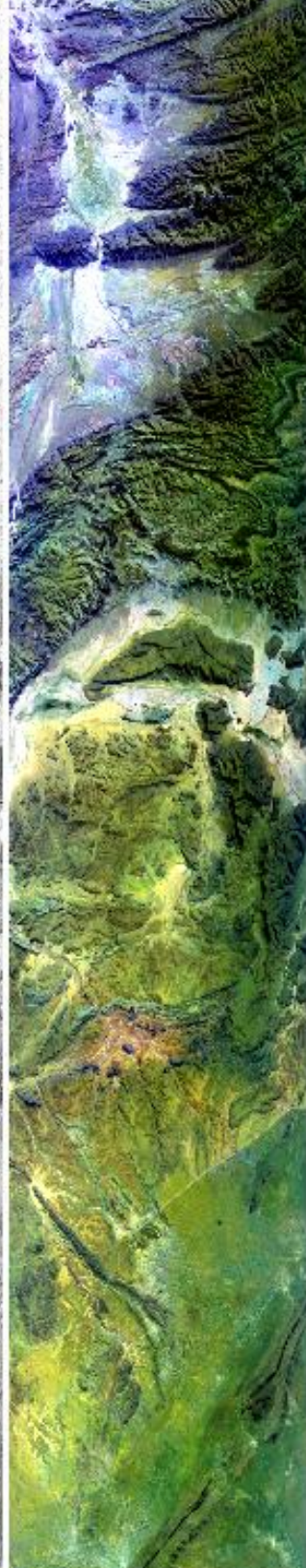
13:03:00



13:05:00



13:07:00



12:58:00

13:01:00

13:03:00

13:05:00

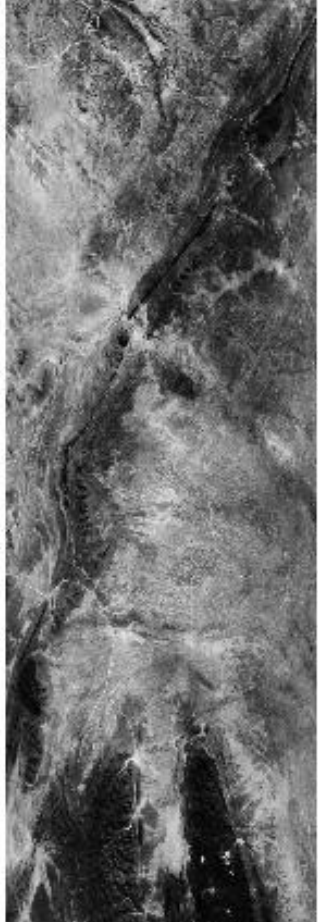
13:07:00

13:07:00

13:08:00

13:11:00

13:11:54



13:07:00

13:08:00

13:11:00

13:11:54

0.66 μm (#3)

1.61 μm (#10)

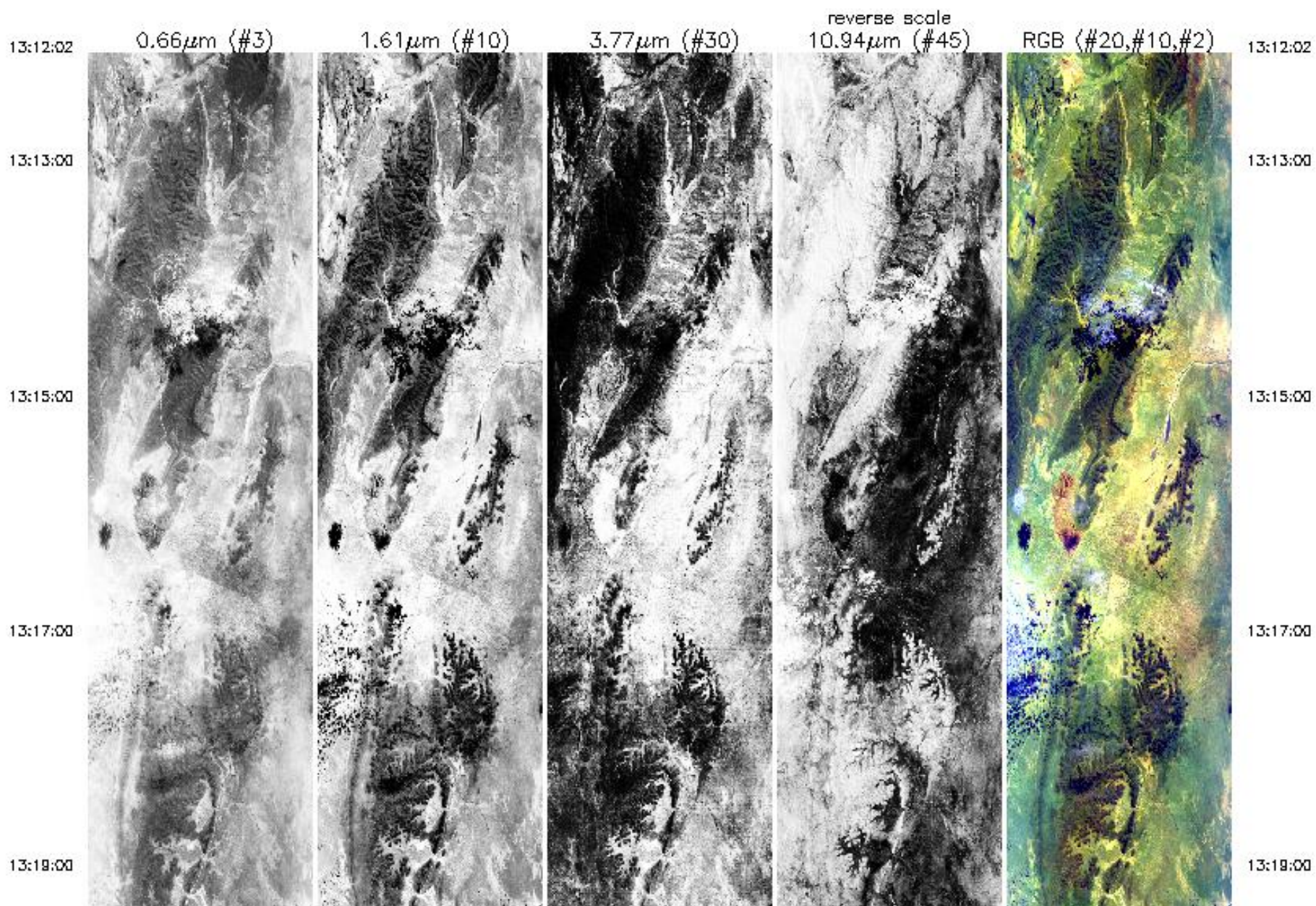
3.77 μm (#30)

10.94 μm (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -19.1° , 12.9°
 Lower Right Lat, Lon = -19.2° , 15.1°
 Aircraft Heading = 101.8°
 Solar Zenith = 34.8°
 GPS Altitude = 19882. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #17



13:19:00



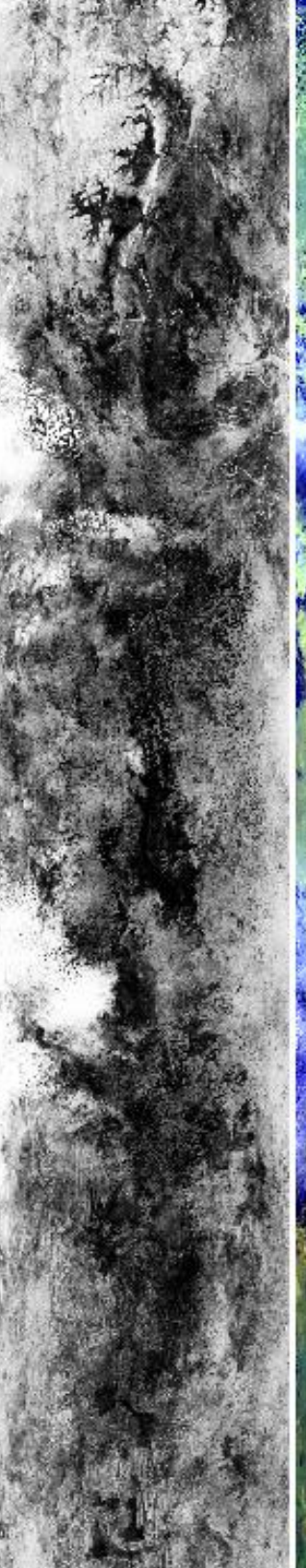
13:21:00



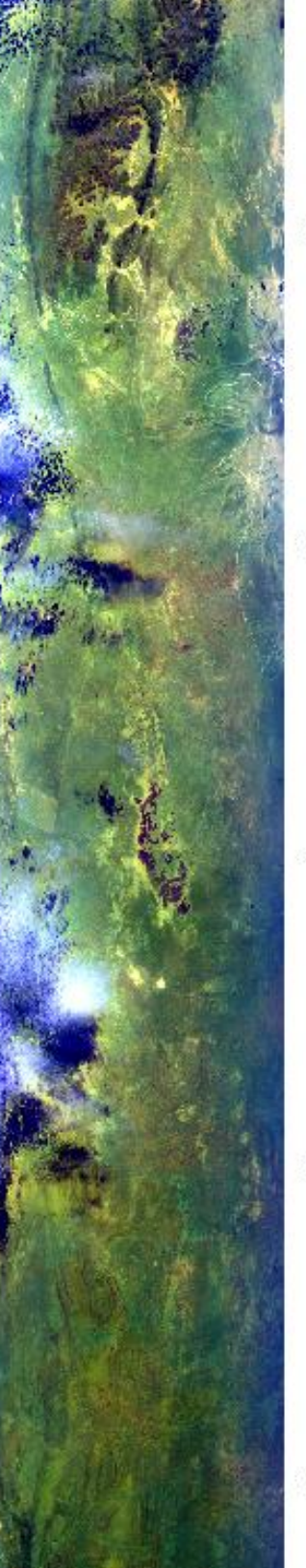
13:23:00



13:25:00



13:27:00



13:19:00

13:21:00

13:23:00

13:25:00

13:27:00

13:27:00

13:29:00

13:30:21



0.66 μ m (#3)



1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20,#10,#2)

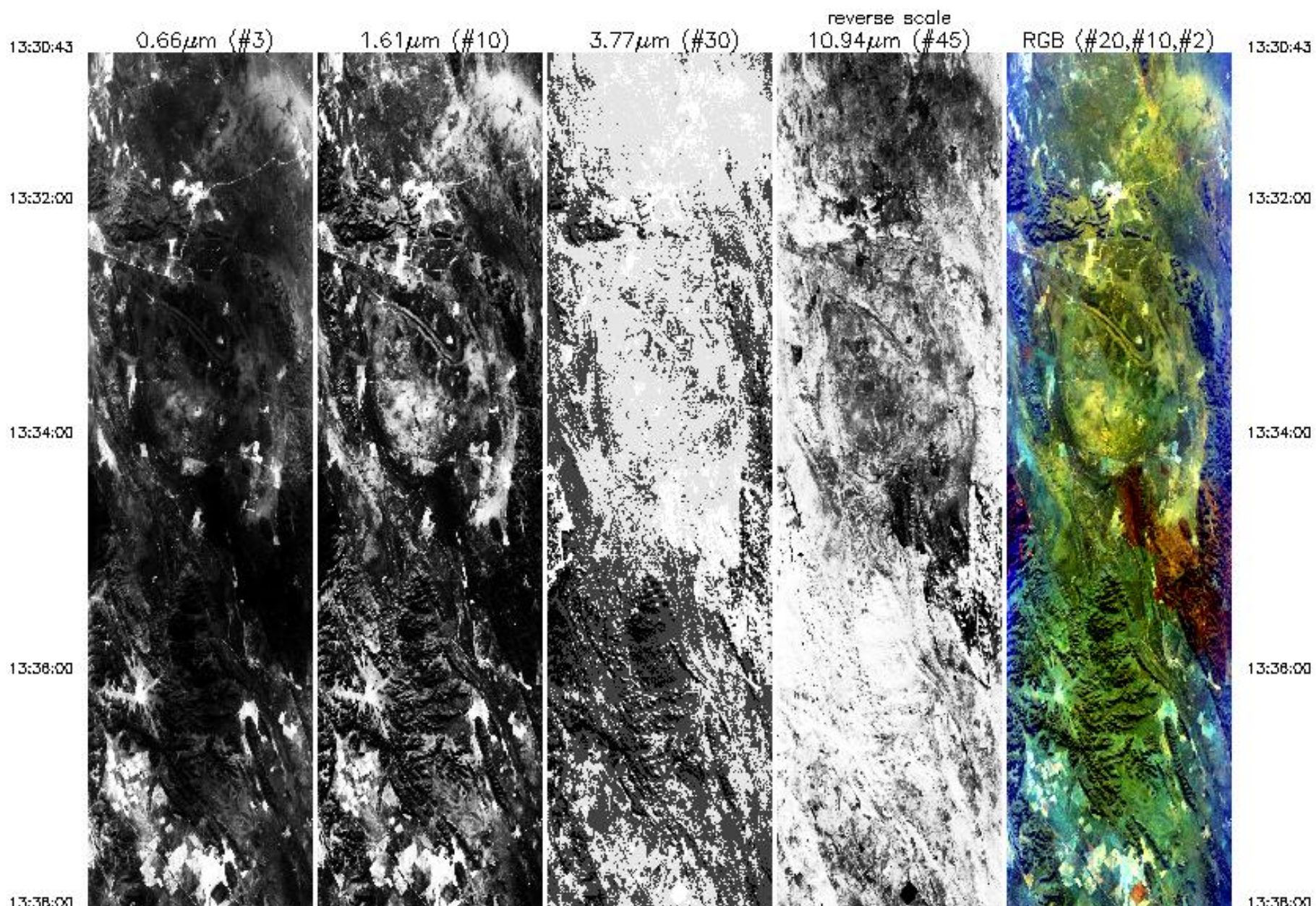
13:27:00

13:29:00

13:30:21

Upper Left Lat, Lon = -19.5° , 15.1°
 Lower Right Lat, Lon = -19.2° , 17.2°
 Aircraft Heading = 97.0°
 Solar Zenith = 40.6°
 GPS Altitude = 19817. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #18



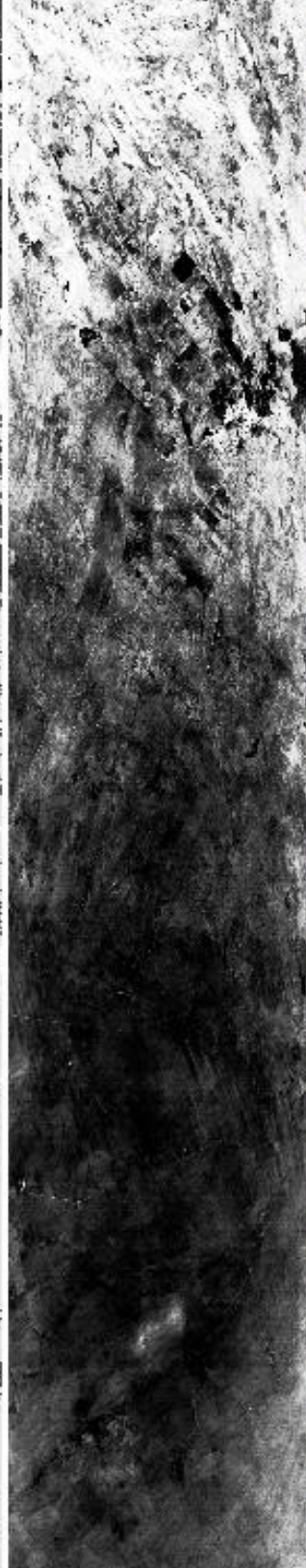
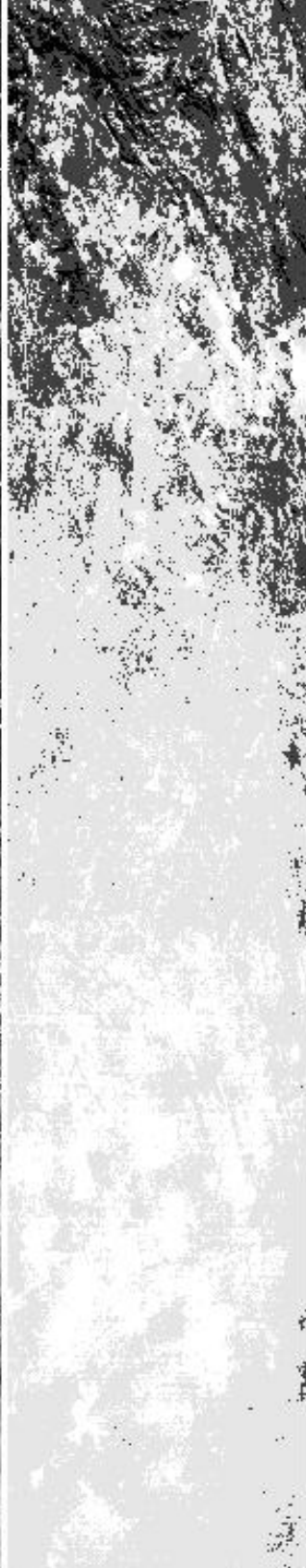
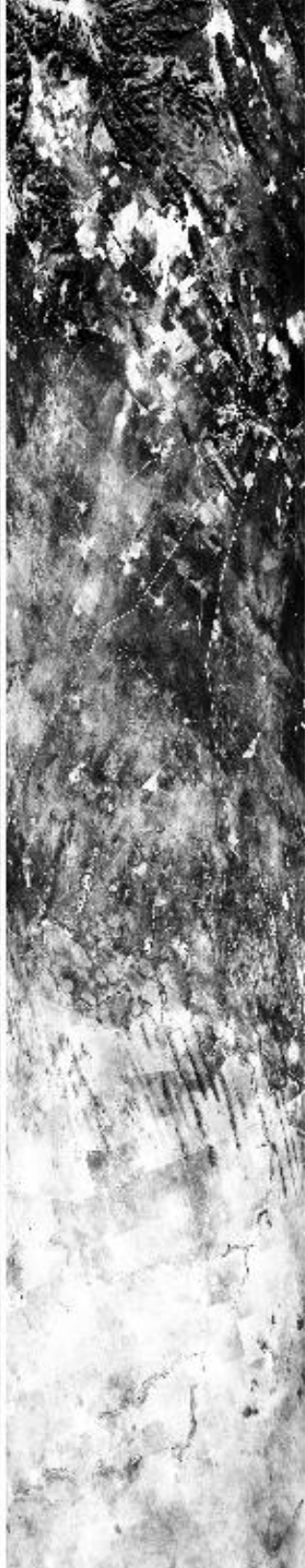
13:38:00

13:40:00

13:42:00

13:44:00

13:46:00



13:38:00

13:40:00

13:42:00

13:44:00

13:46:00

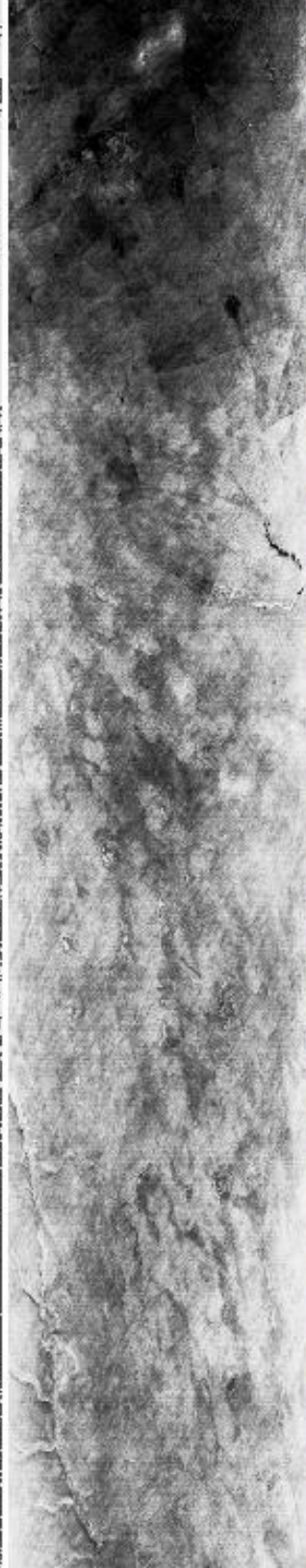
13:46:00

13:46:00

13:50:00

13:52:00

13:54:00



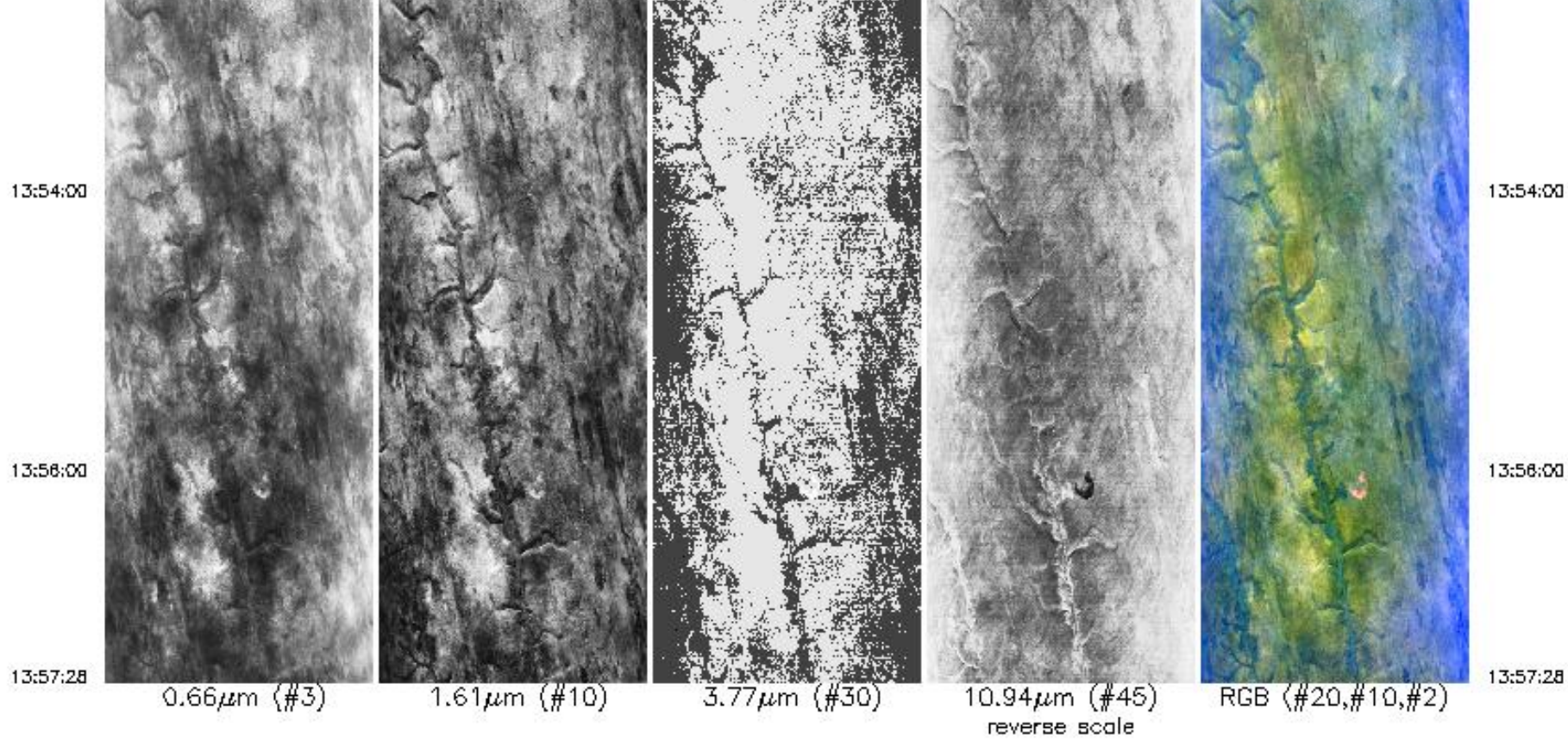
13:46:00

13:46:00

13:50:00

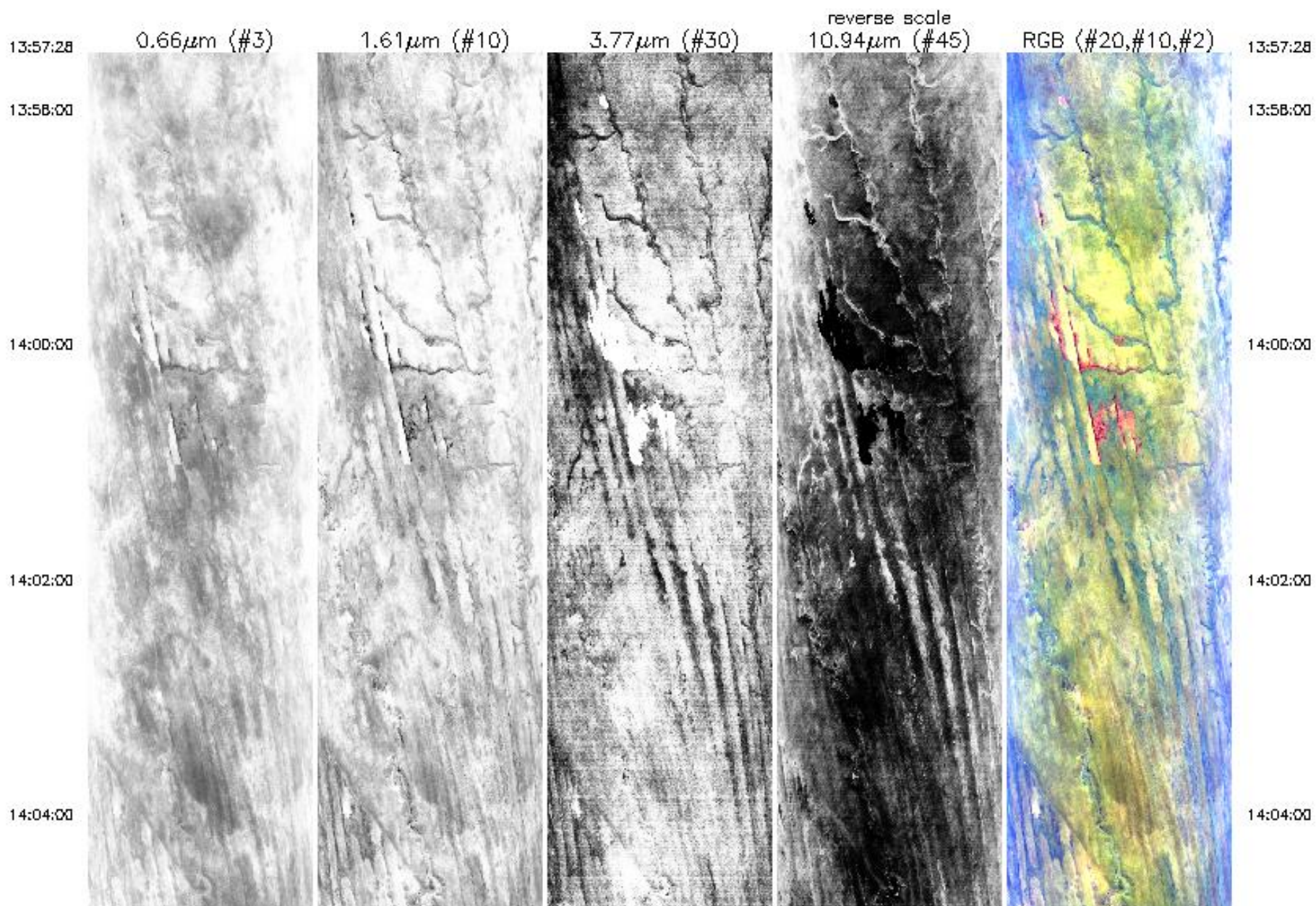
13:52:00

13:54:00



Upper Left Lat, Lon = -19.5° , 17.2°
 Lower Right Lat, Lon = -20.2° , 20.1°
 Aircraft Heading = 104.6°
 Solar Zenith = 46.2°
 GPS Altitude = 19868. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana, Namibia
Flight #00-176 Track #19



14:04:00



14:06:00



14:08:00



14:10:00



14:12:00



14:04:00

14:06:00

14:08:00

14:10:00

14:12:00

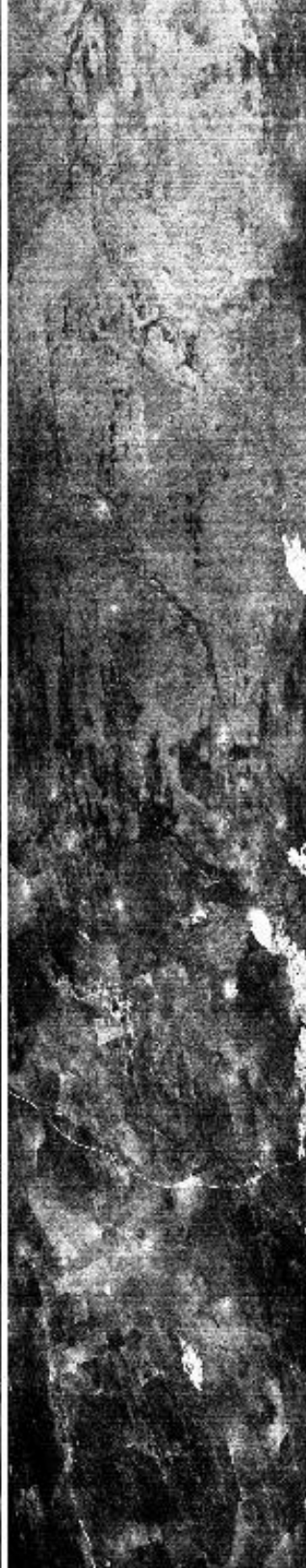
14:12:00



14:14:00



14:16:00



14:18:00



14:20:00



14:12:00

14:14:00

14:16:00

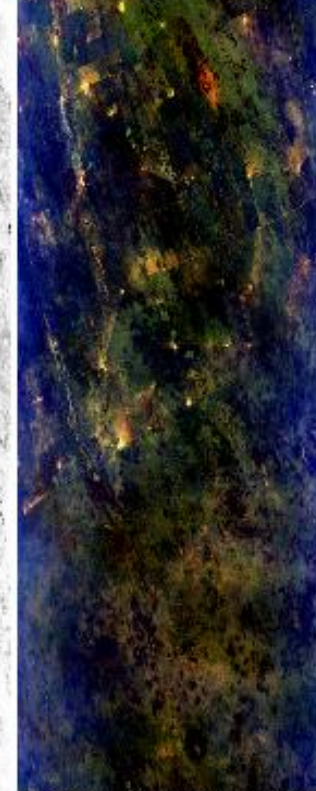
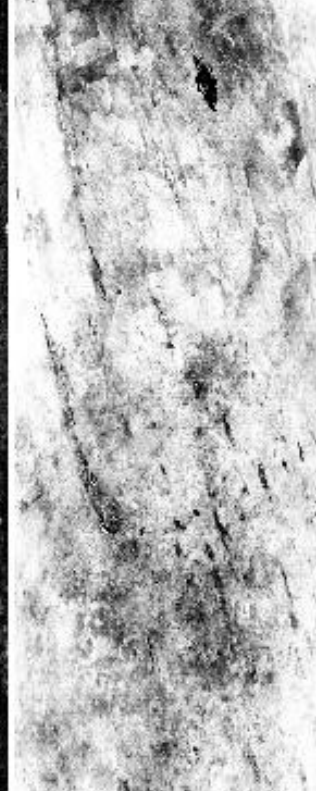
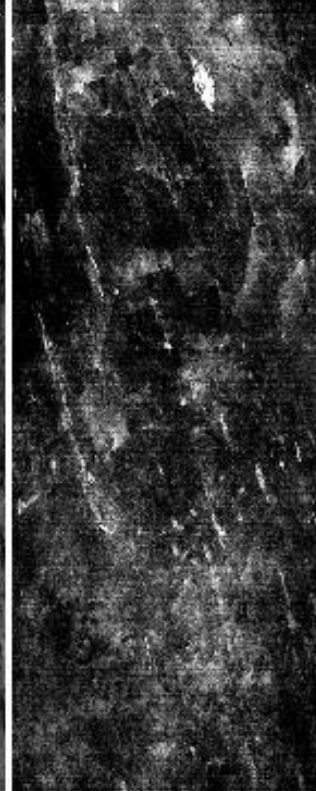
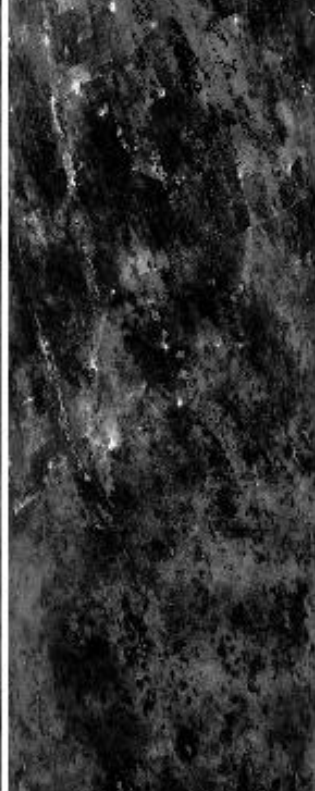
14:18:00

14:20:00

14:20:00

14:22:00

14:24:14



14:20:00

14:22:00

14:24:14

0.66 μm (#3)

1.61 μm (#10)

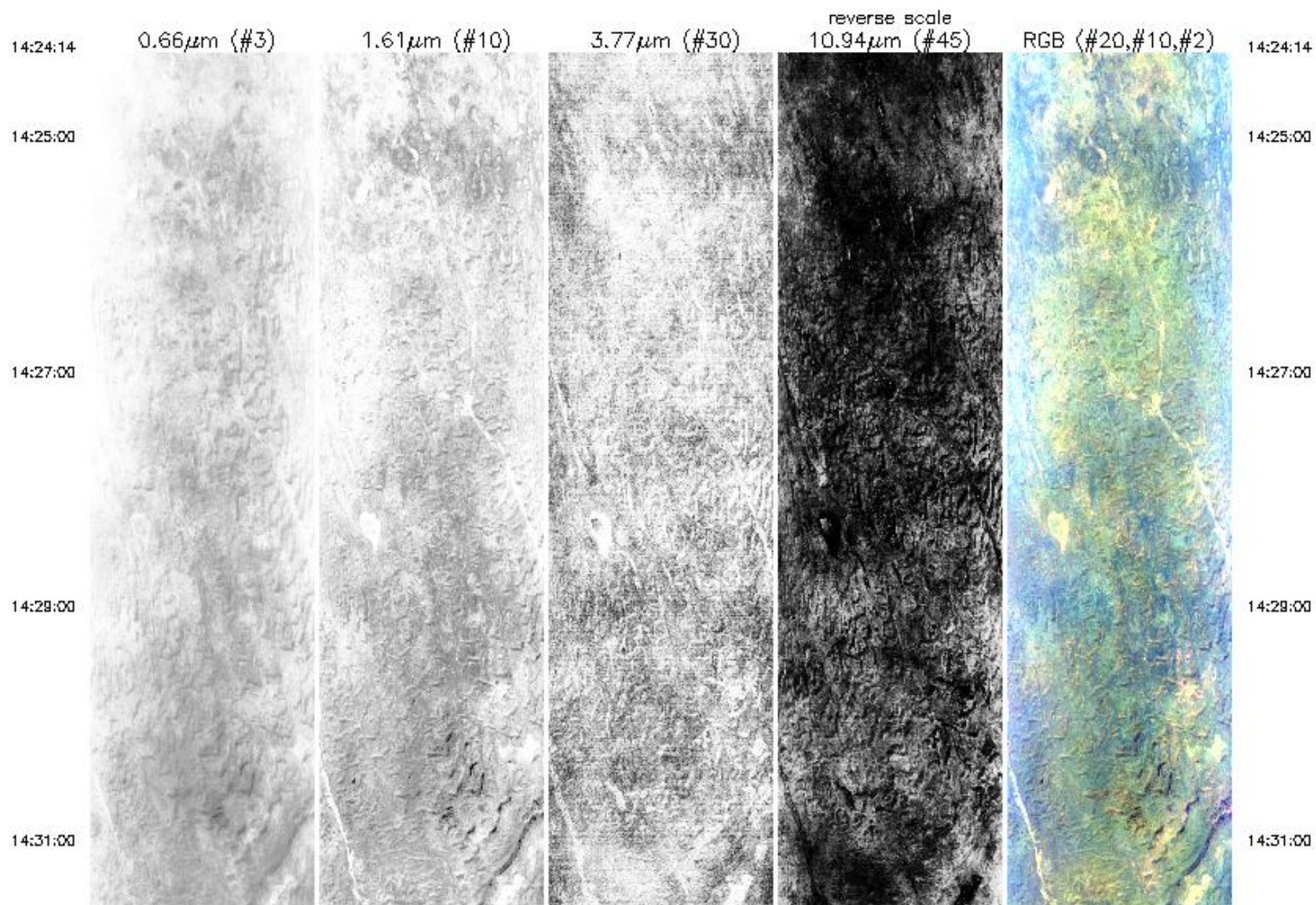
3.77 μm (#30)

10.94 μm (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -20.5° , 20.0°
Lower Right Lat, Lon = -21.1° , 23.0°
Aircraft Heading = 108.6°
Solar Zenith = 54.9°
GPS Altitude = 19824. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #20



14:31:00



14:33:00



14:35:00



14:37:00



14:38:00



14:31:00

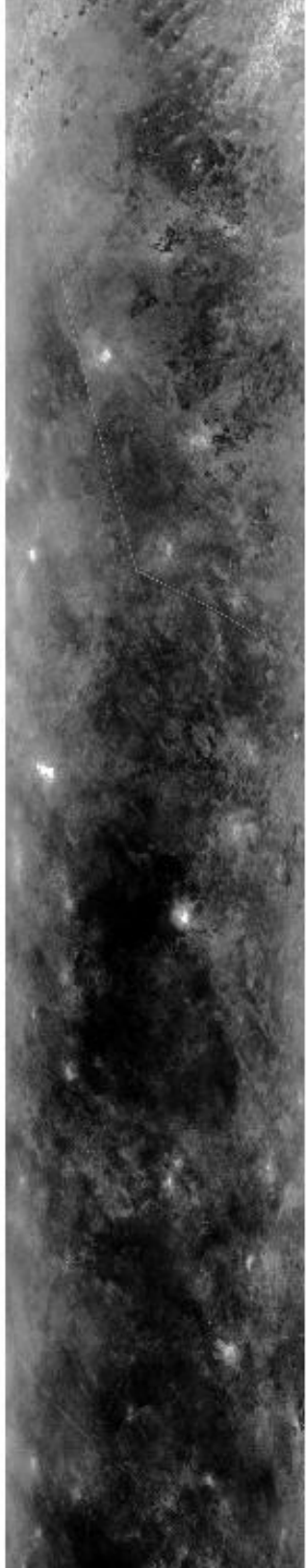
14:33:00

14:35:00

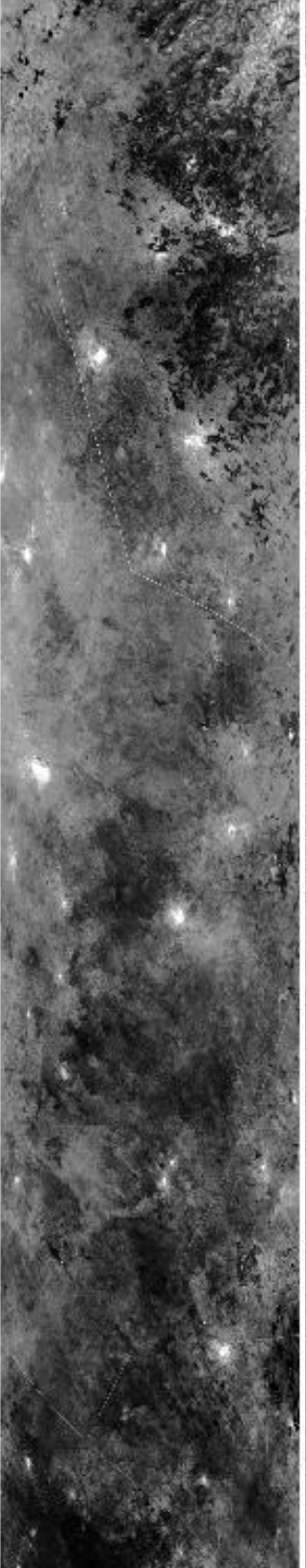
14:37:00

14:38:00

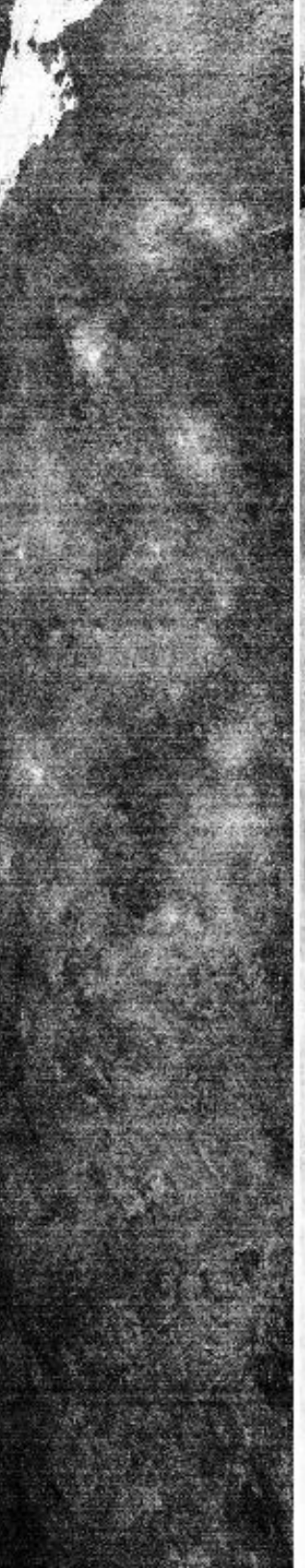
14:39:00



14:41:00



14:43:00



14:45:00



14:47:00



14:39:00

14:41:00

14:43:00

14:45:00

14:47:00

14:47:00

14:48:00

14:51:00



0.66 μ m (#3)



1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20, #10, #2)

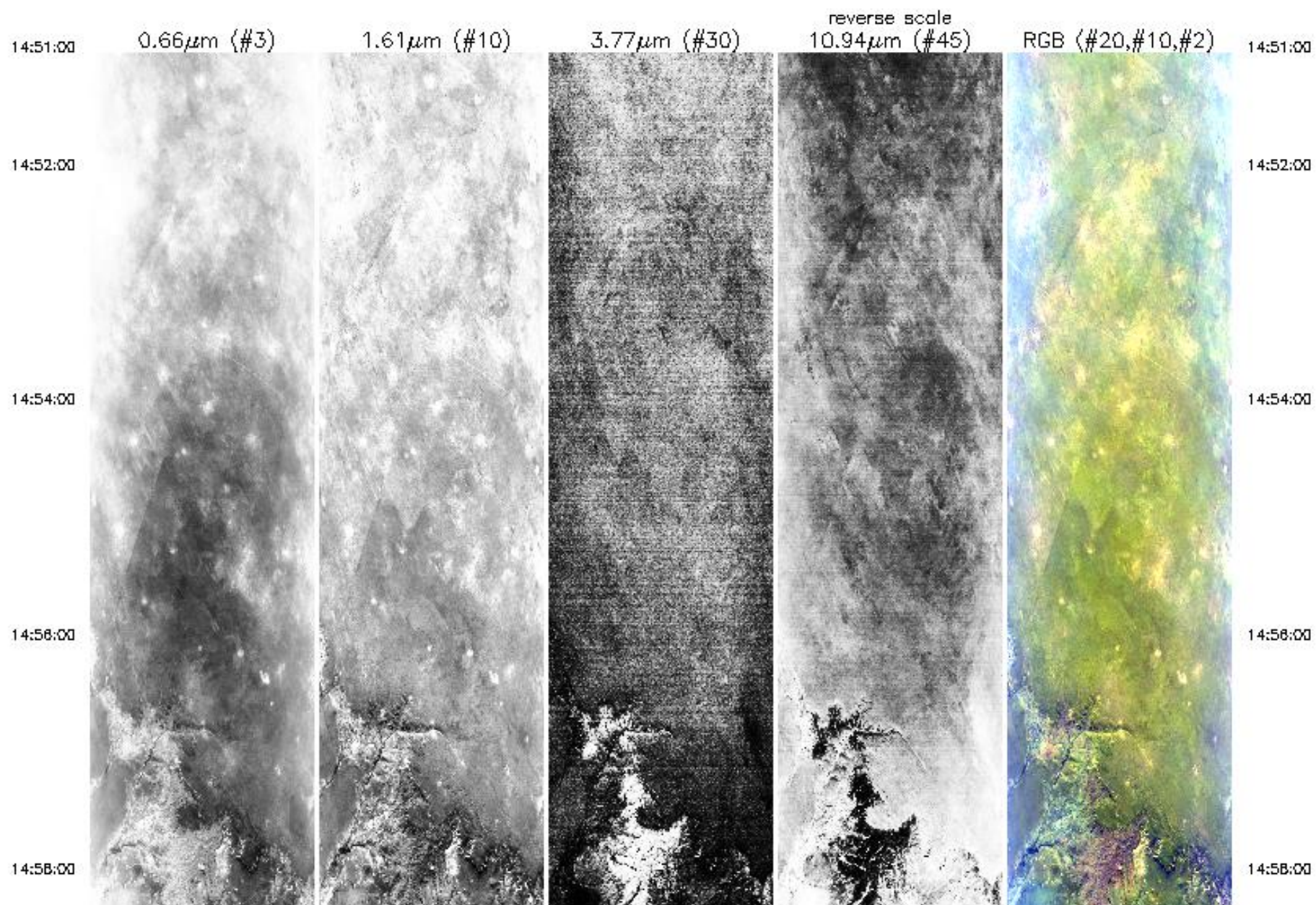
14:47:00

14:48:00

14:51:00

Upper Left Lat, Lon = -21.4° , 22.9°
Lower Right Lat, Lon = -22.0° , 26.0°
Aircraft Heading = 108.6°
Solar Zenith = 63.8°
GPS Altitude = 19748. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #21



14:58:00



15:00:00



15:02:00



15:04:00



15:06:00



14:58:00

15:00:00

15:02:00

15:04:00

15:06:00

15:08:00



0.66 μm (#3)



1.61 μm (#10)



3.77 μm (#30)



10.94 μm (#45)
reverse scale



RGB (#20,#10,#2)

15:08:00

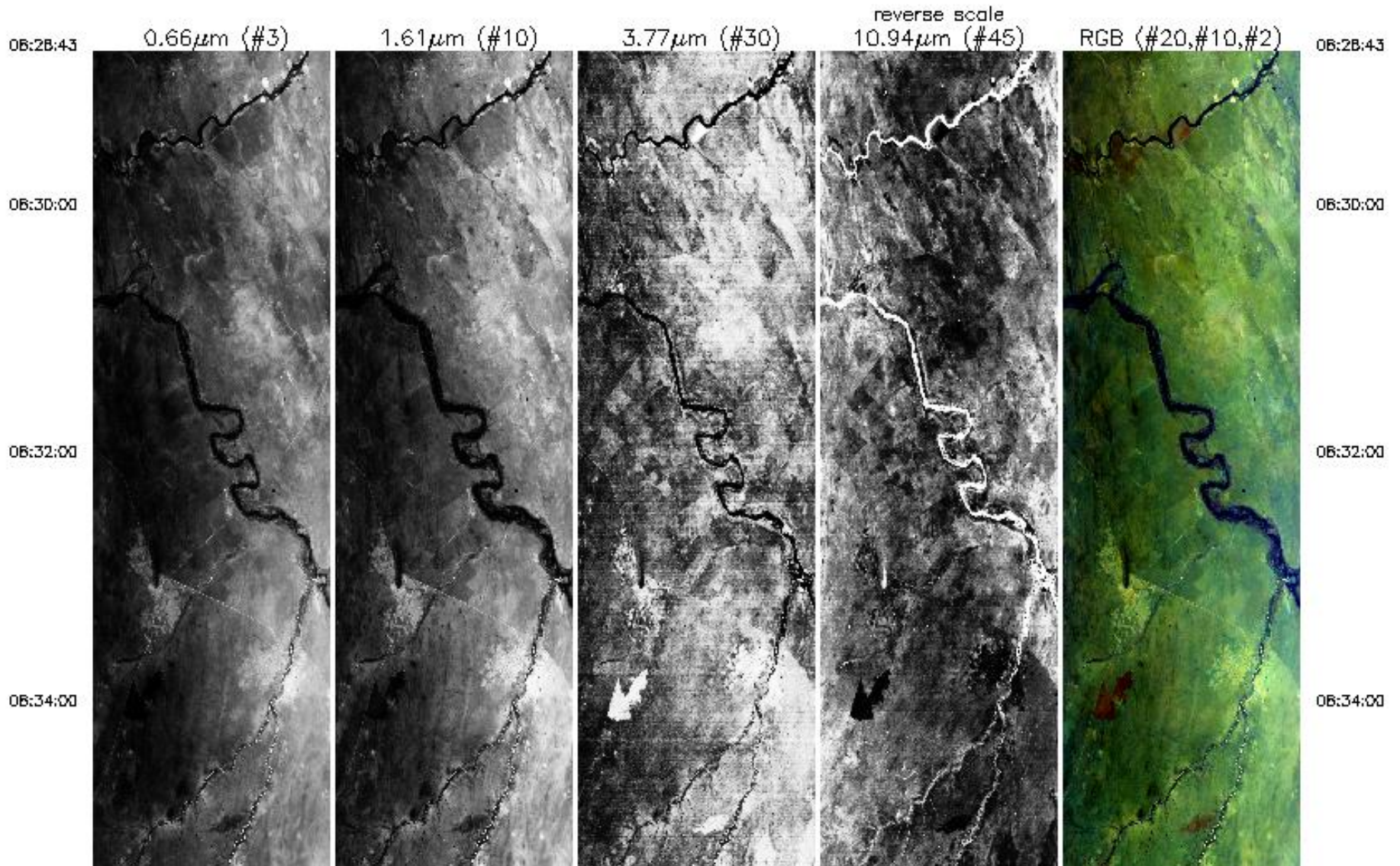
15:08:15

15:08:15

Upper Left Lat, Lon = -22.3° , 25.9°
Lower Right Lat, Lon = -22.6° , 27.9°
Aircraft Heading = 108.0°
Solar Zenith = 72.7°
GPS Altitude = 19855. m (MSL)

Flight #00-176 Browse Imagery

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #1



06:34:00



06:36:00



06:36:00



06:40:00



06:42:00



06:34:00

06:36:00

06:36:00

06:40:00

06:42:00

06:42:00



06:44:00



06:46:00



06:48:00



06:50:00



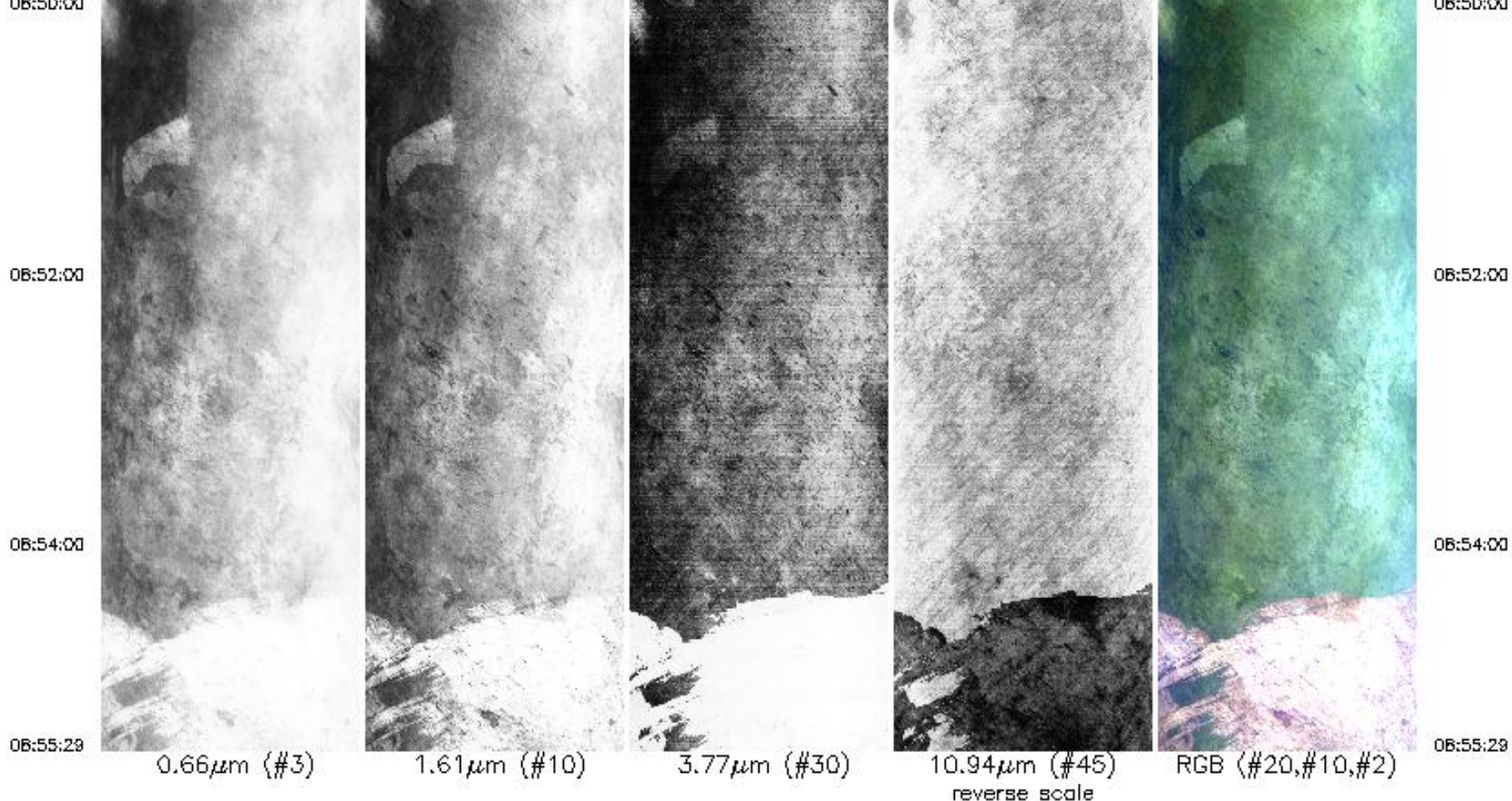
06:42:00

06:44:00

06:46:00

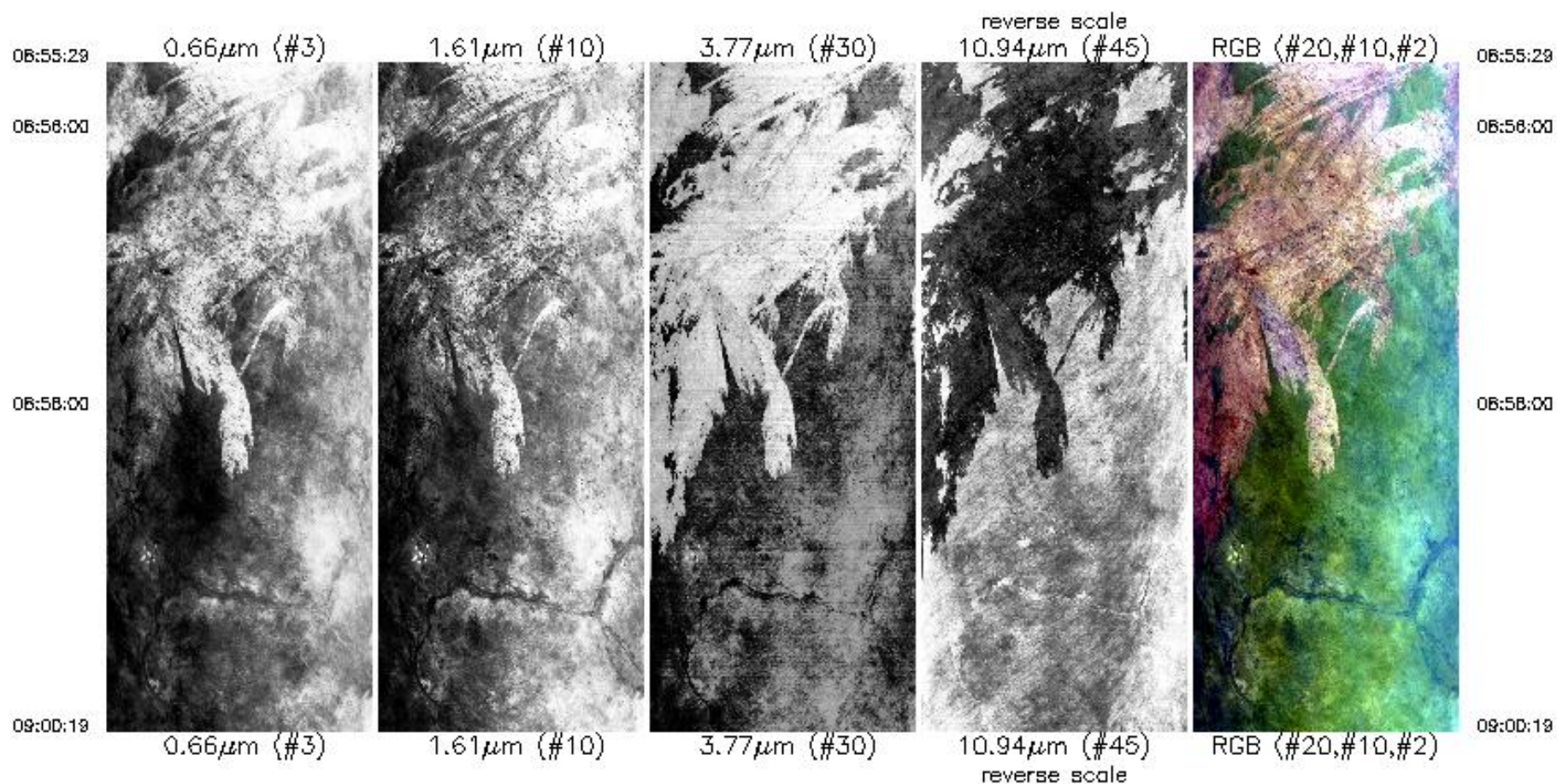
06:48:00

06:50:00



Upper Left Lat, Lon = -23.3° , 27.8°
 Lower Right Lat, Lon = -22.8° , 24.6°
 Aircraft Heading = 285.6°
 Solar Zenith = 35.3°
 GPS Altitude = 19079. m (MSL)

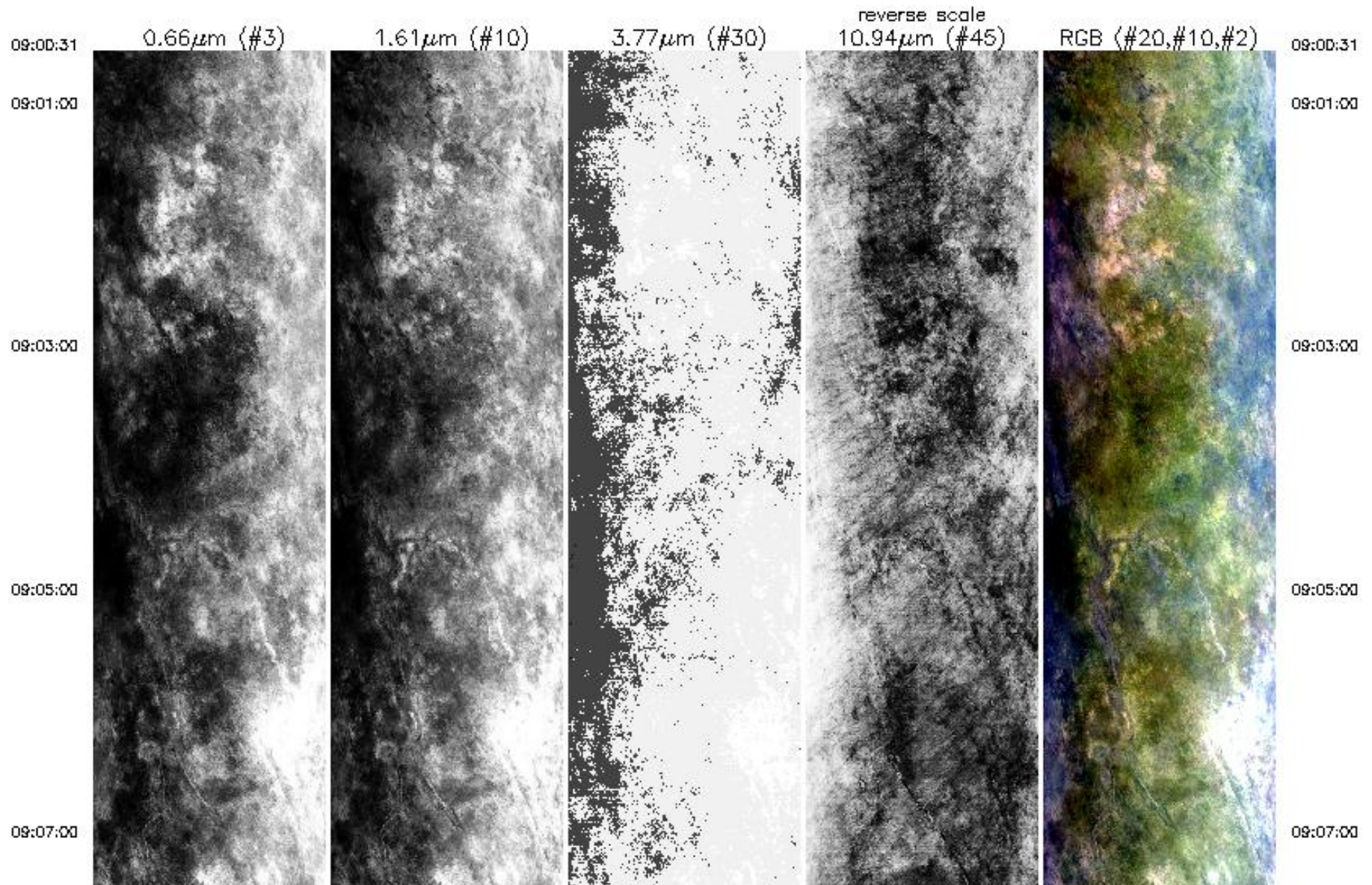
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 Botswana
 Flight #00-176 Track #2



Upper Left Lat, Lon = -22.5°, 24.7°
 Lower Right Lat, Lon = -22.6°, 24.0°
 Aircraft Heading = 288.8°
 Solar Zenith = 32.4°
 GPS Altitude = 19513. m (MSL)

Upper Left Lat, Lon = 22.0°, 24.7°
Lower Right Lat, Lon = -22.6°, 24.0°
Aircraft Heading = 288.8°
Solar Zenith = 32.4°
GPS Altitude = 19513. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
Botswana
Flight #00-176 Track #3



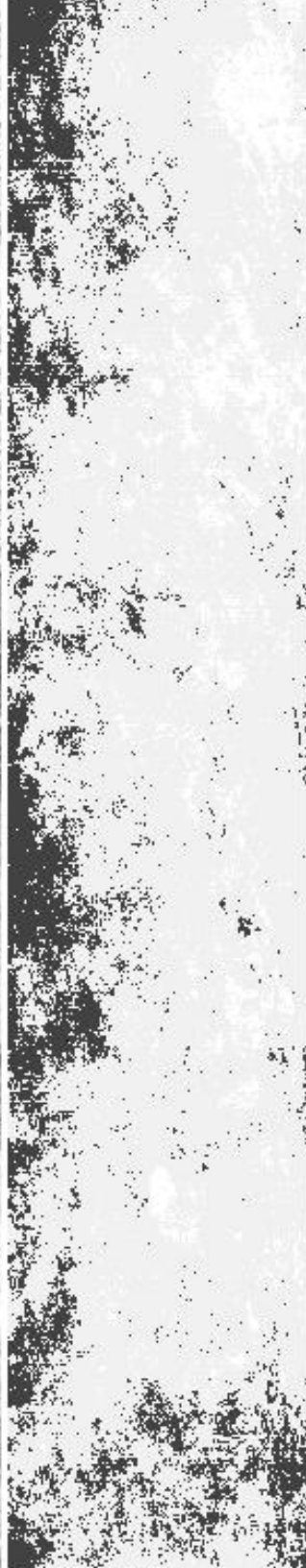
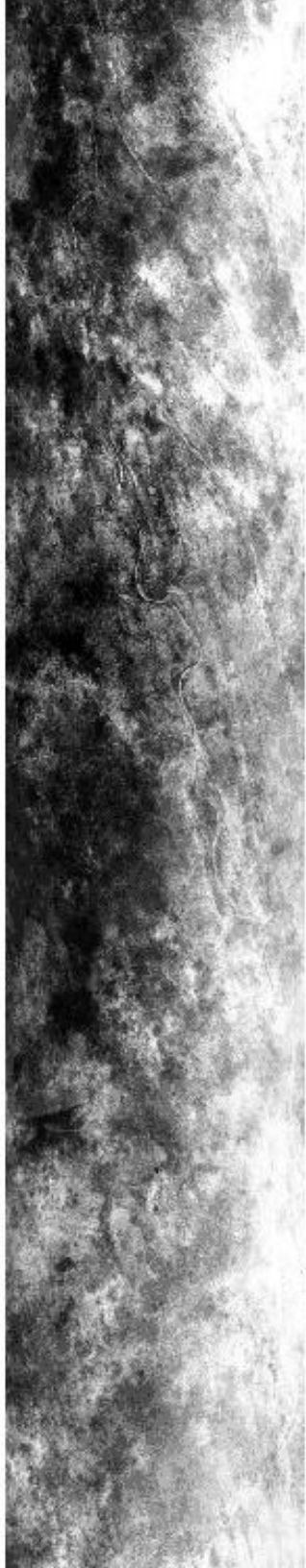
09:07:00

09:09:00

09:11:00

09:13:00

09:15:00



09:07:00

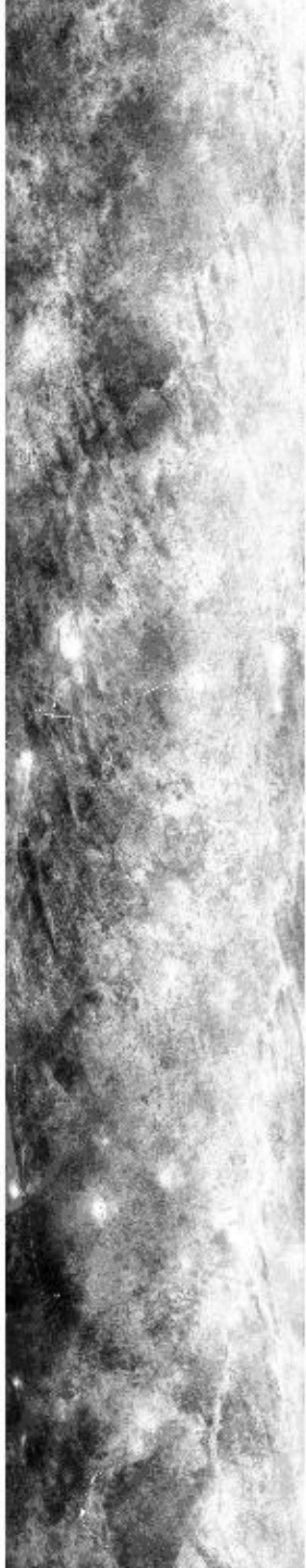
09:09:00

09:11:00

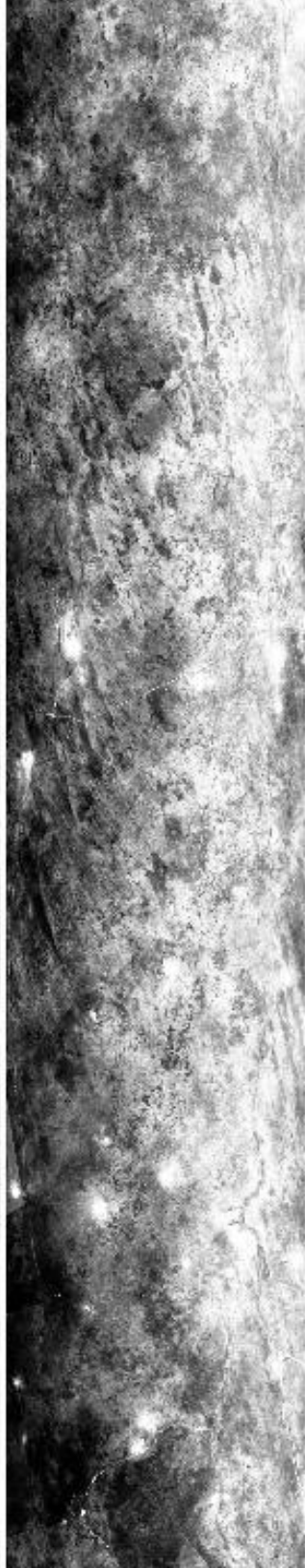
09:13:00

09:15:00

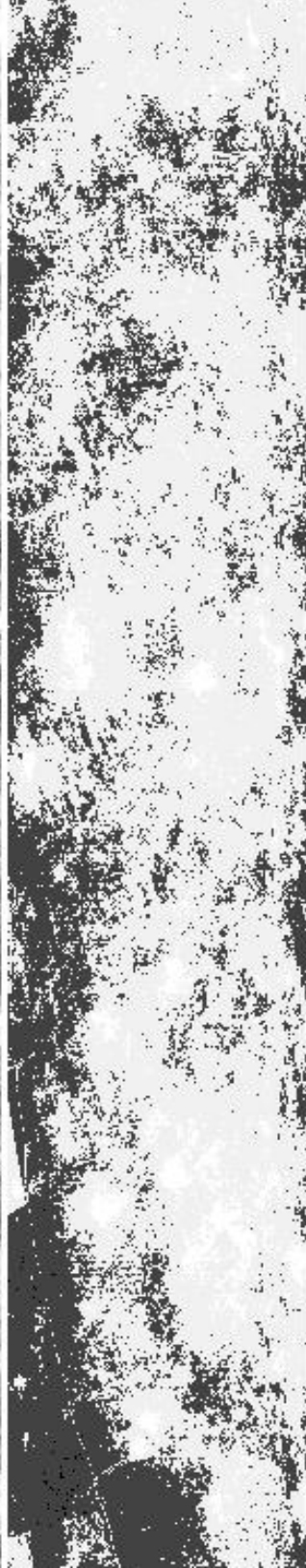
09:15:00



09:17:00



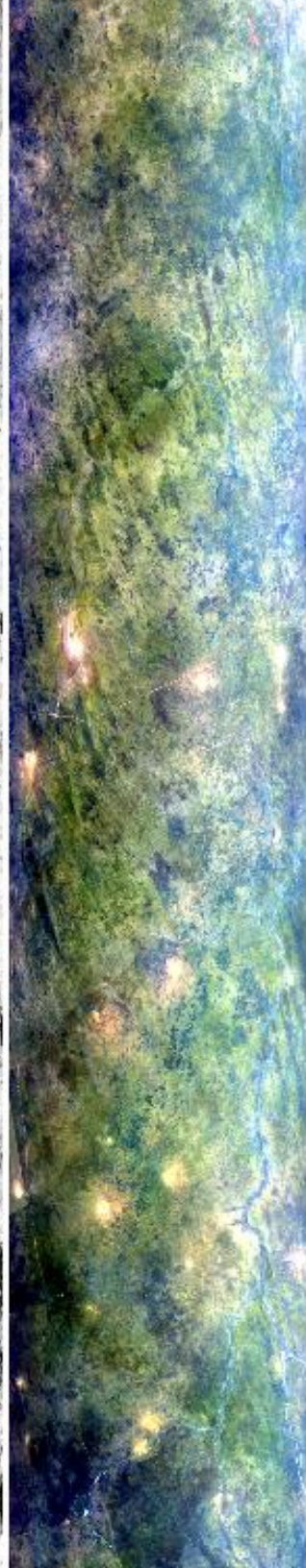
09:18:00



09:21:00



09:23:00



09:15:00

09:17:00

09:18:00

09:21:00

09:23:00

09:23:00

09:25:00

09:27:17



09:23:00

09:25:00

09:27:17

0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

10.94µm (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -22.3°, 24.1°
Lower Right Lat, Lon = -22.3°, 20.7°
Aircraft Heading = 283.5°
Solar Zenith = 31.9°
GPS Altitude = 19628. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
Botswana, Namibia
Flight #00-176 Track #4

09:27:17

09:28:00



09:27:17

09:28:00

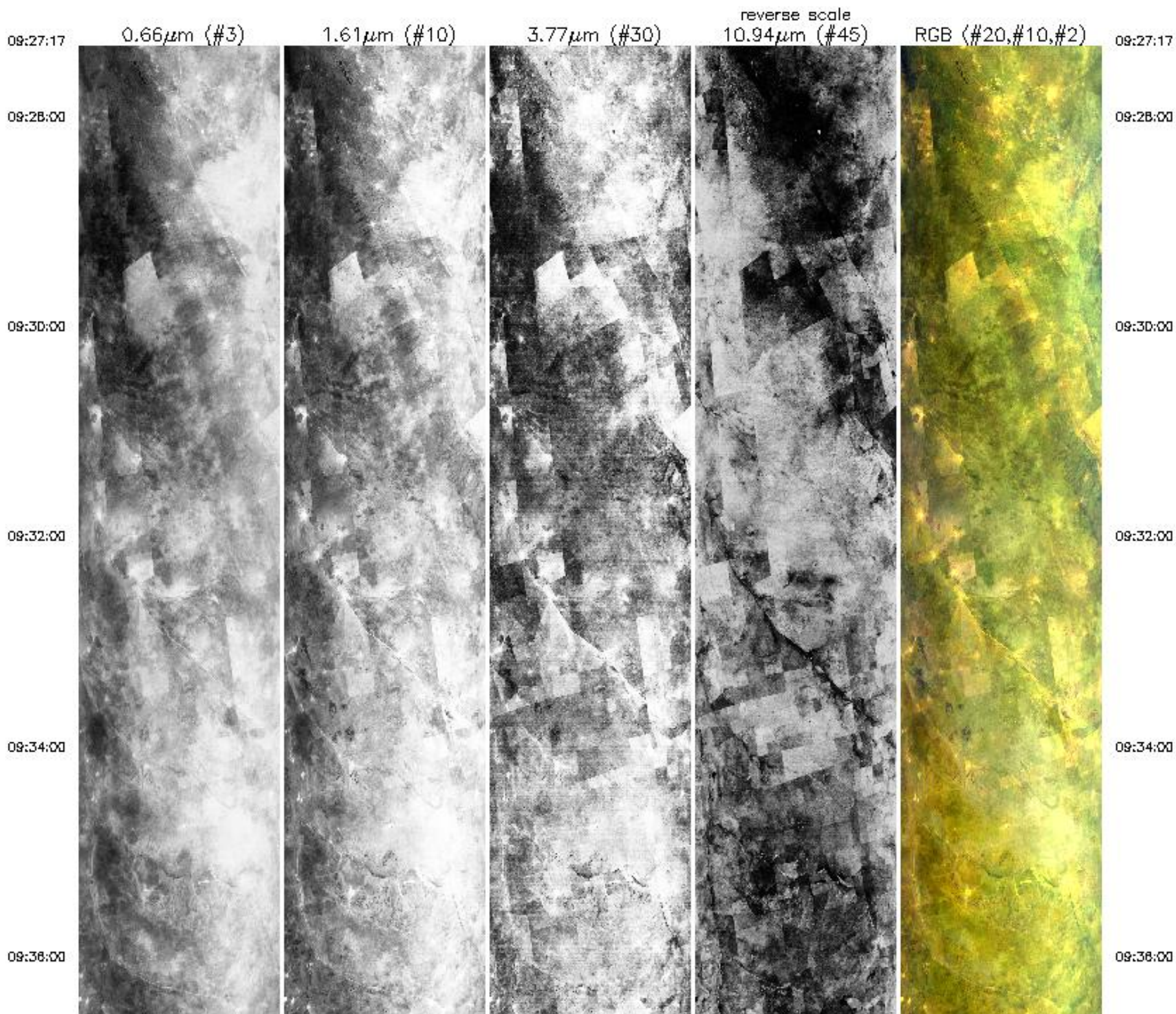
0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

reverse scale
10.94µm (#45)

RGB (#20,#10,#2)



09:36:00

09:36:00

09:40:00

09:42:00

09:44:00



09:36:00

09:36:00

09:40:00

09:42:00

09:44:00

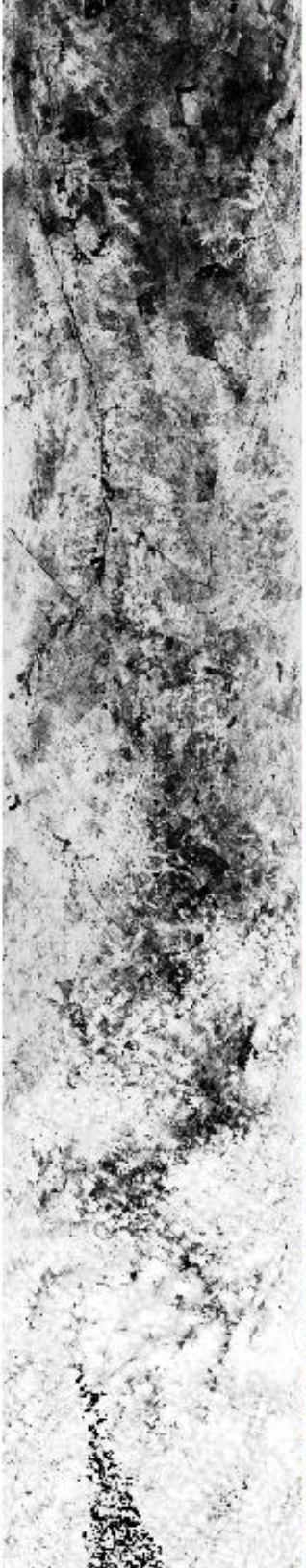
09:44:00

09:46:00

09:48:00

09:50:00

09:52:00



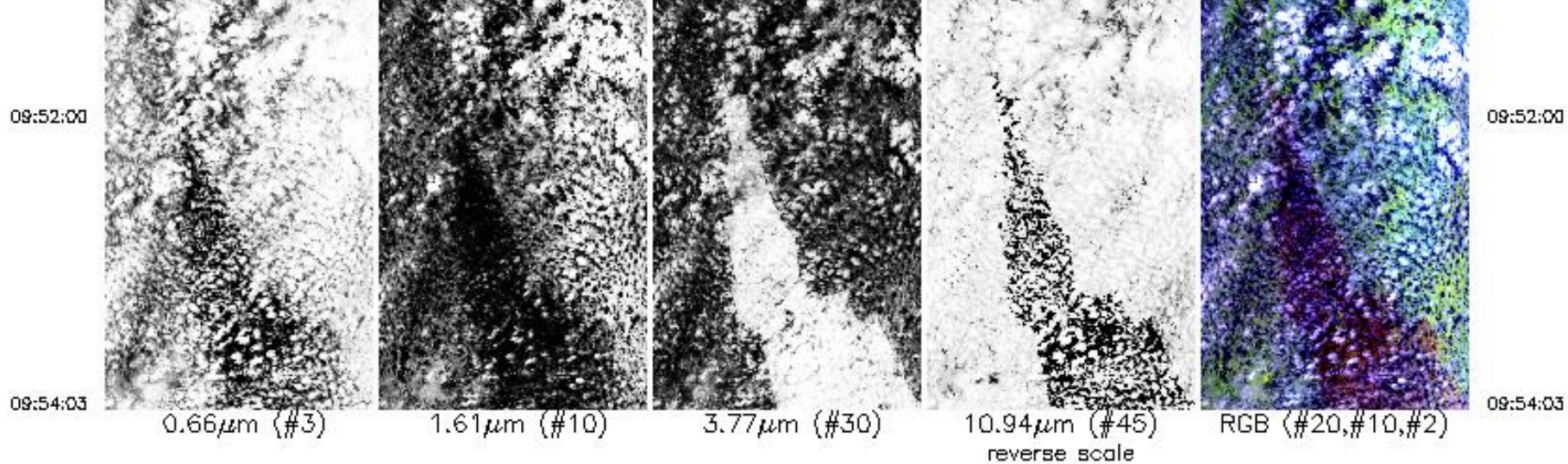
09:44:00

09:46:00

09:48:00

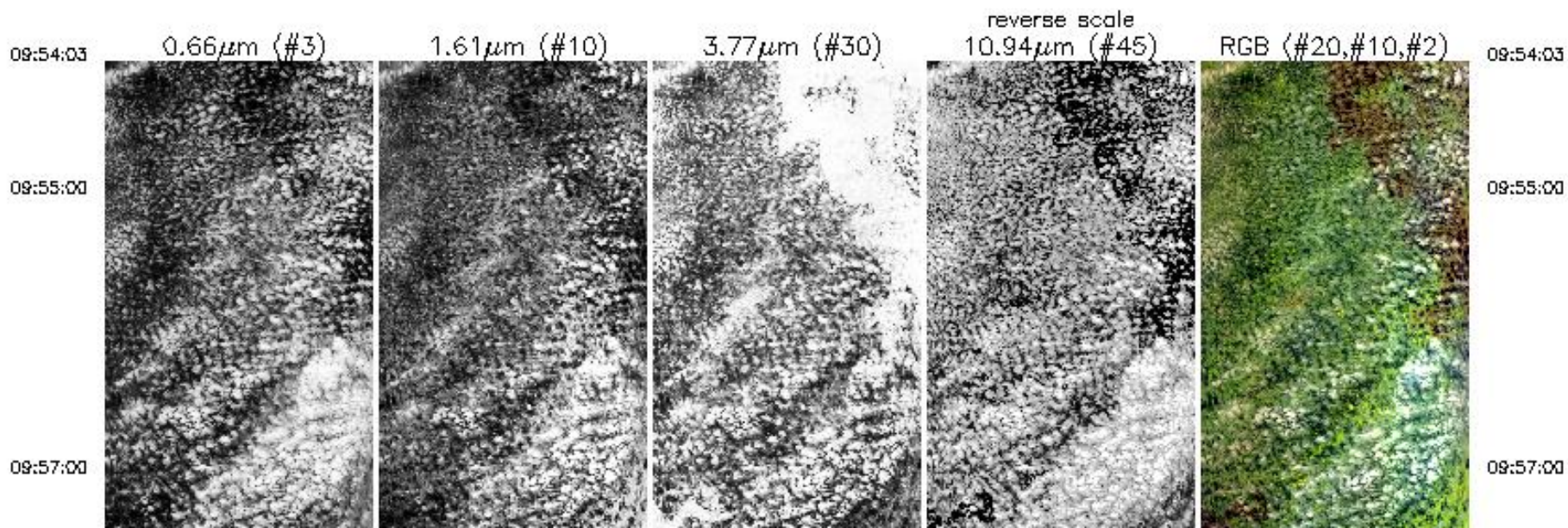
09:50:00

09:52:00



Upper Left Lat, Lon = -21.9°, 20.7°
 Lower Right Lat, Lon = -21.8°, 17.4°
 Aircraft Heading = 280.1°
 Solar Zenith = 29.7°
 GPS Altitude = 19762. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign - 14 Sep 2000
 Namibia
 Flight #00-176 Track #5



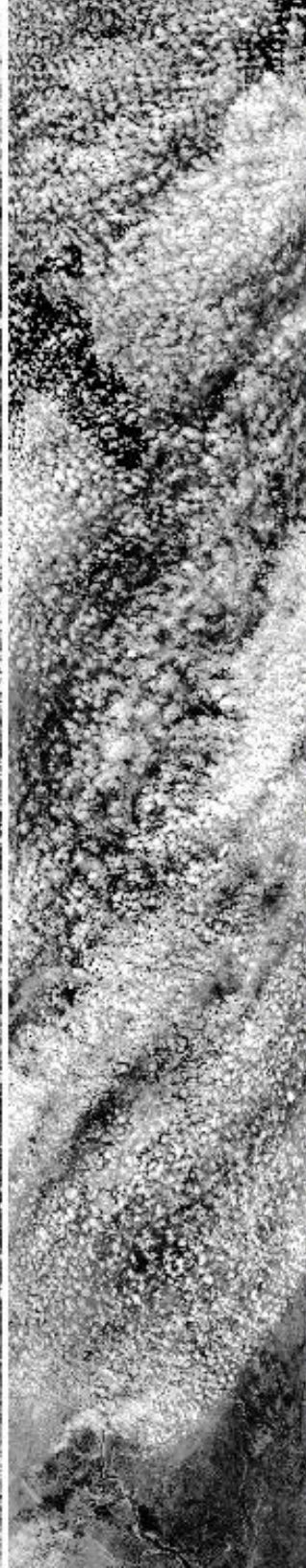
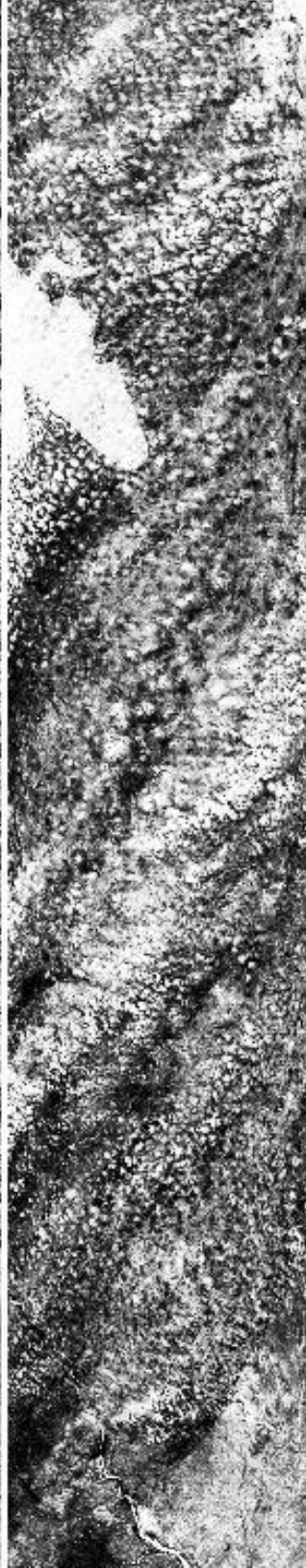
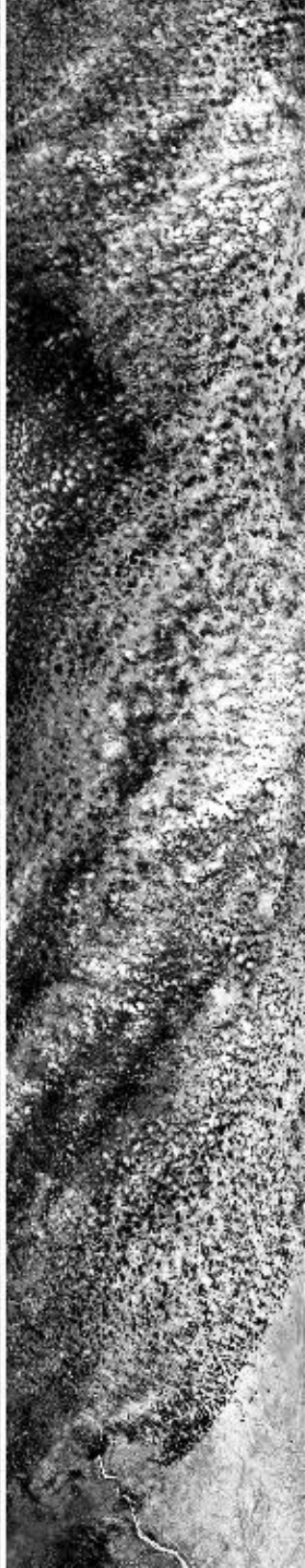
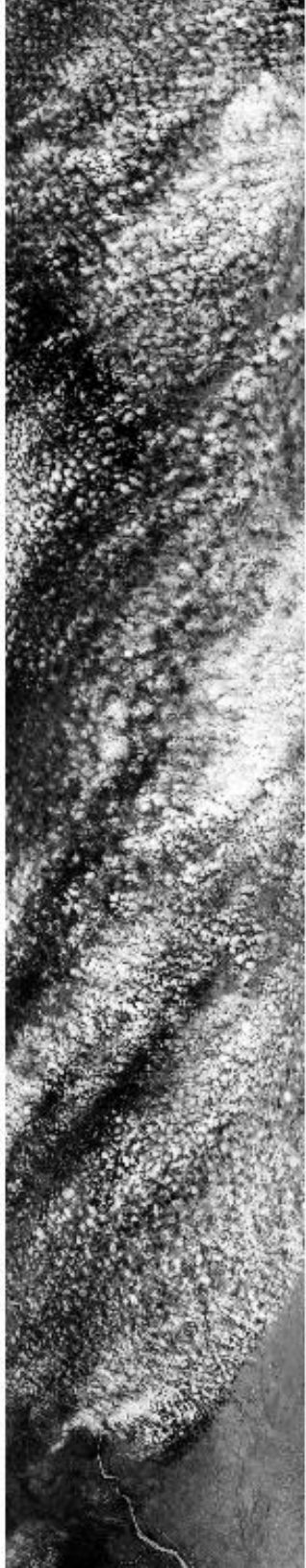
09:57:00

09:58:00

10:01:00

10:03:00

10:05:00



09:57:00

09:58:00

10:01:00

10:03:00

10:05:00

10:05:00



10:07:00



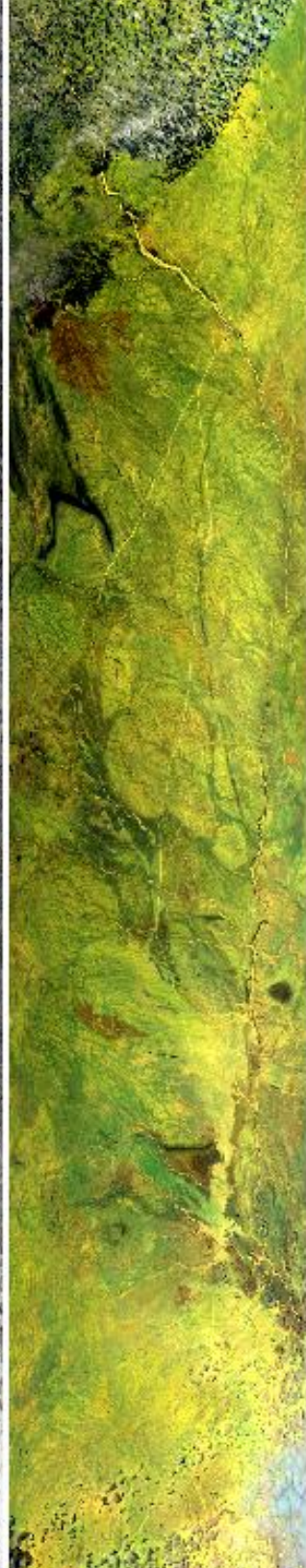
10:09:00



10:11:00



10:13:00



10:05:00

10:07:00

10:09:00

10:11:00

10:13:00

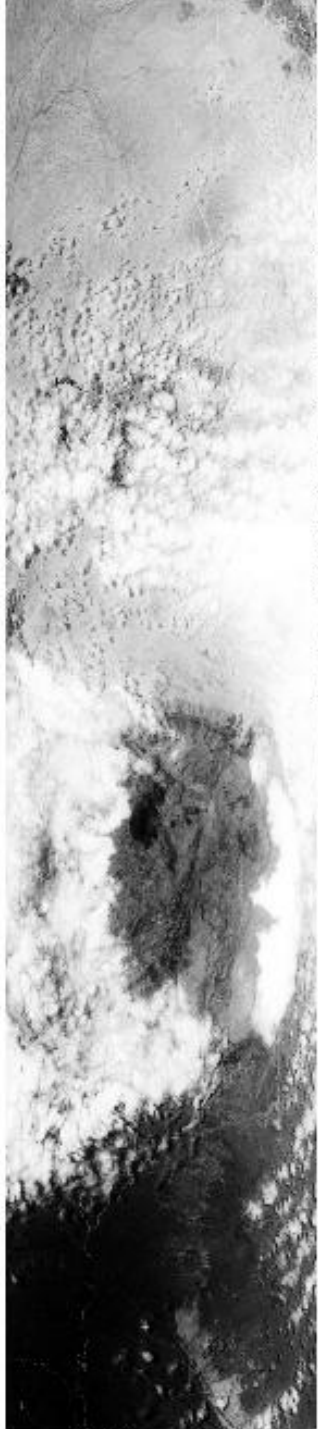
10:13:00

10:15:00

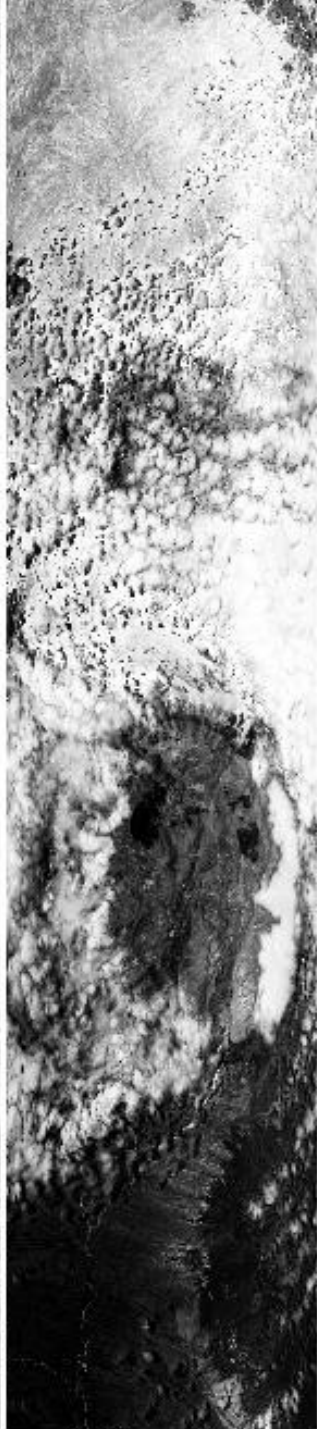
10:17:00

10:19:00

10:20:49



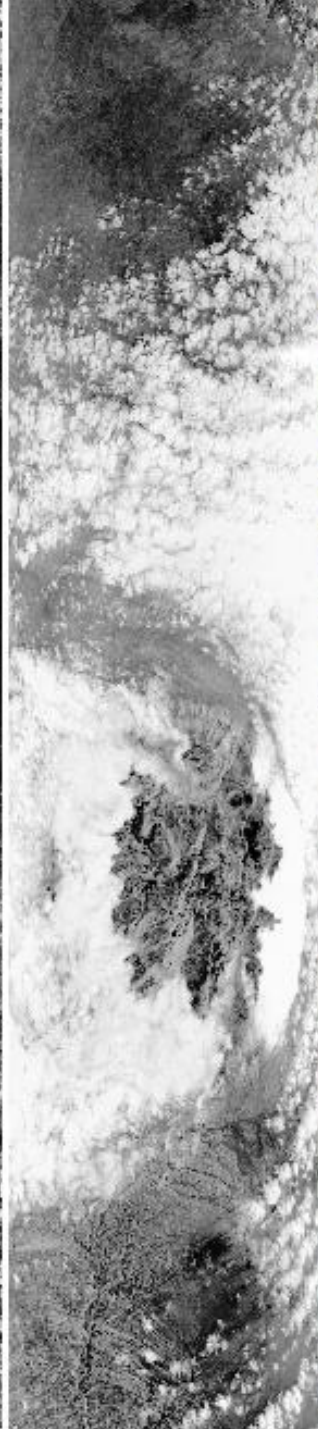
0.66 μ m (#3)



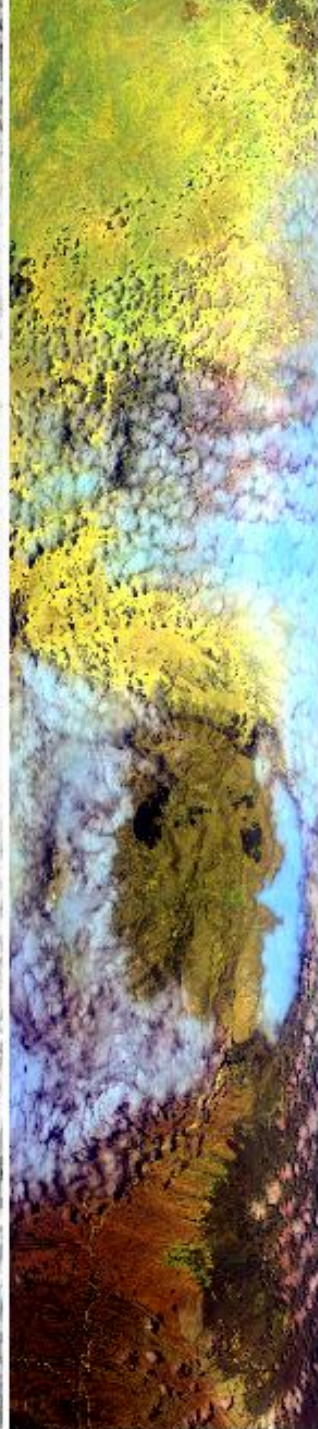
1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20,#10,#2)

10:13:00

10:15:00

10:17:00

10:19:00

10:20:49

Upper Left Lat, Lon = -21.5°, 17.4°

Lower Right Lat, Lon = -21.2°, 14.1°

Aircraft Heading = 281.5°

10:20:48



0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

10.94µm (#45)

RGB (#20, #10, #2)

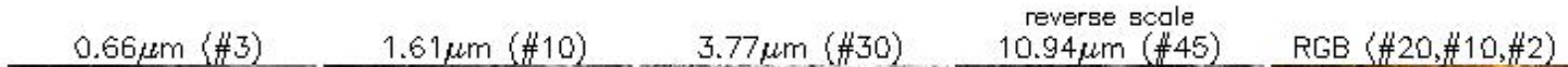
reverse scale

10:20:48

Upper Left Lat, Lon = -21.5°, 17.4°
 Lower Right Lat, Lon = -21.2°, 14.1°
 Aircraft Heading = 281.5°
 Solar Zenith = 27.7°
 GPS Altitude = 19895. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign - 14 Sep 2000
 Namibia
 Flight #00-176 Track #6

10:20:50



0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

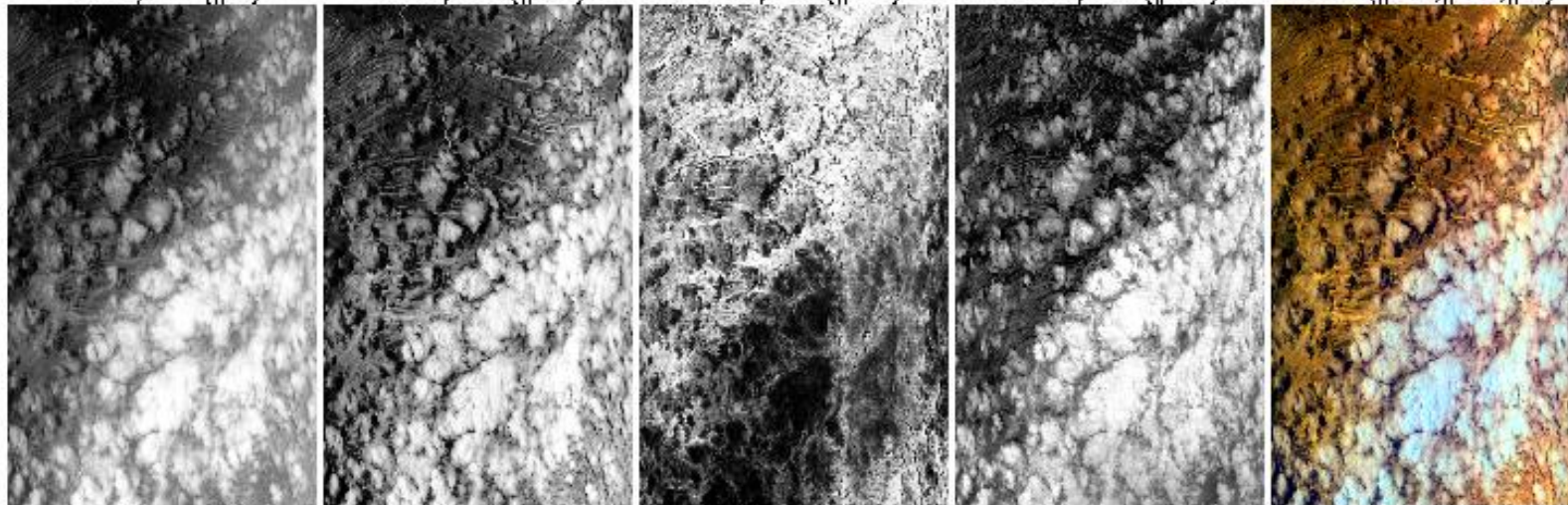
10.94µm (#45)

RGB (#20, #10, #2)

reverse scale

10:20:50

10:22:00



0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

10.94µm (#45)

RGB (#20, #10, #2)

reverse scale

10:22:00

10:23:57

Upper Left Lat, Lon = -20.9°, 14.2°
 Lower Right Lat, Lon = -21.1°, 13.7°
 Aircraft Heading = 282.8°
 Solar Zenith = 25.7°
 GPS Altitude = 19884. m (MSL)

10:23:57

Lower Right Lat, Lon = -21.1°, 13.7°

Aircraft Heading = 282.8°

Solar Zenith = 25.7°

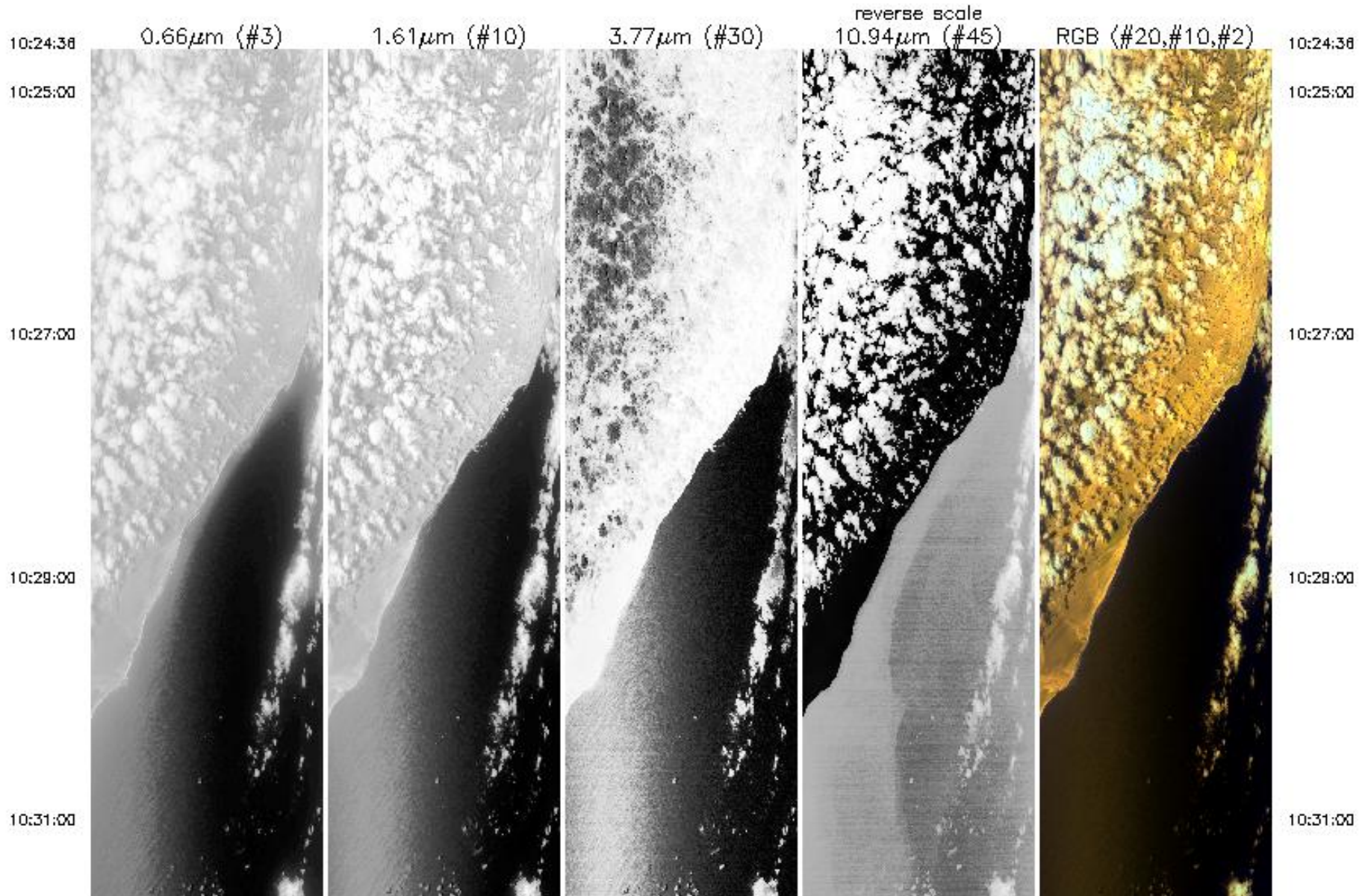
GPS Altitude = 19884. m (MSL)

MODIS Airborne Simulator Browse Imagery

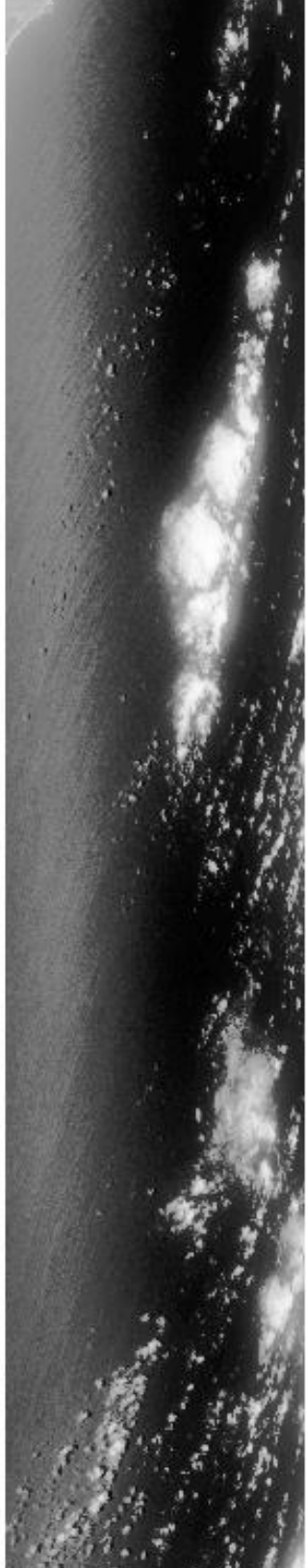
SAFARI 2000 Campaign - 14 Sep 2000

S. Atlantic

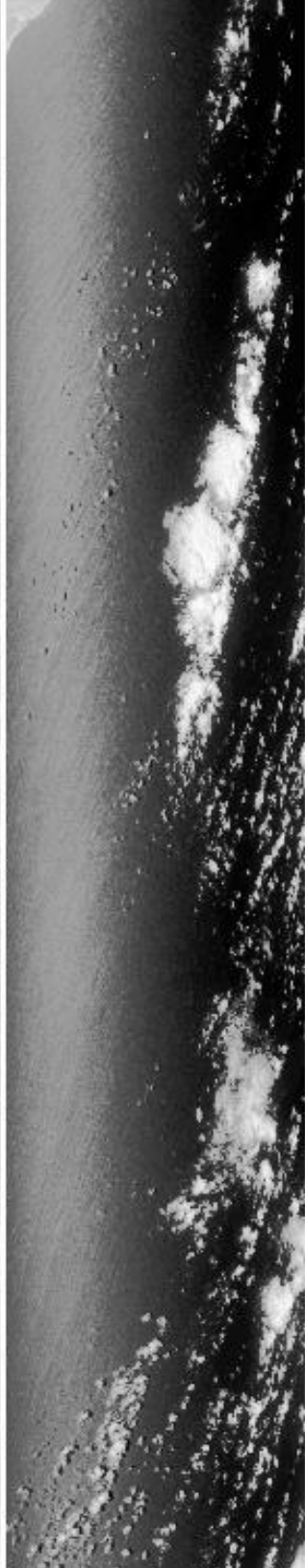
Flight #00-176 Track #7



10:31:00



10:33:00



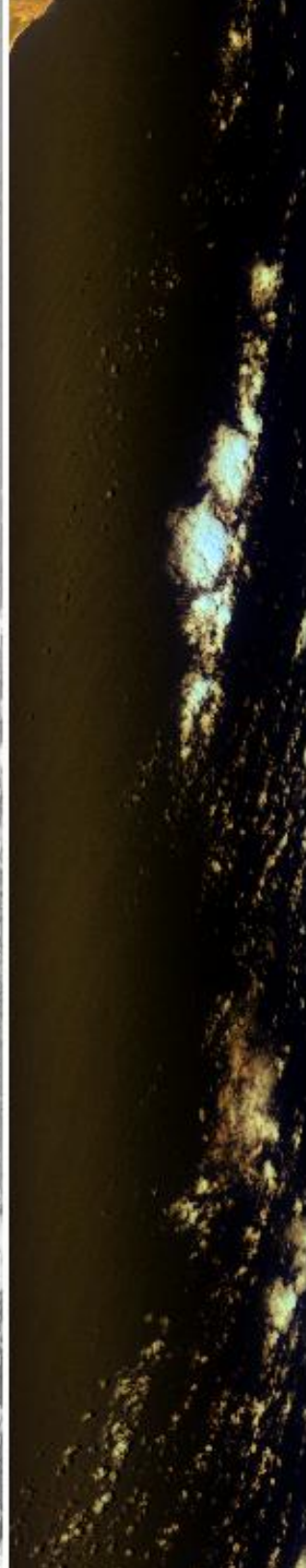
10:35:00



10:37:00



10:38:00



10:31:00

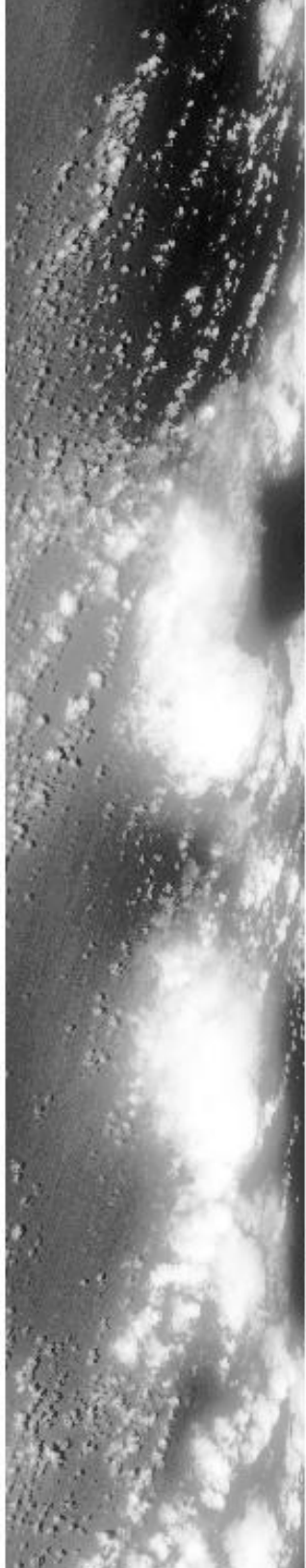
10:33:00

10:35:00

10:37:00

10:38:00

10:39:00



10:41:00



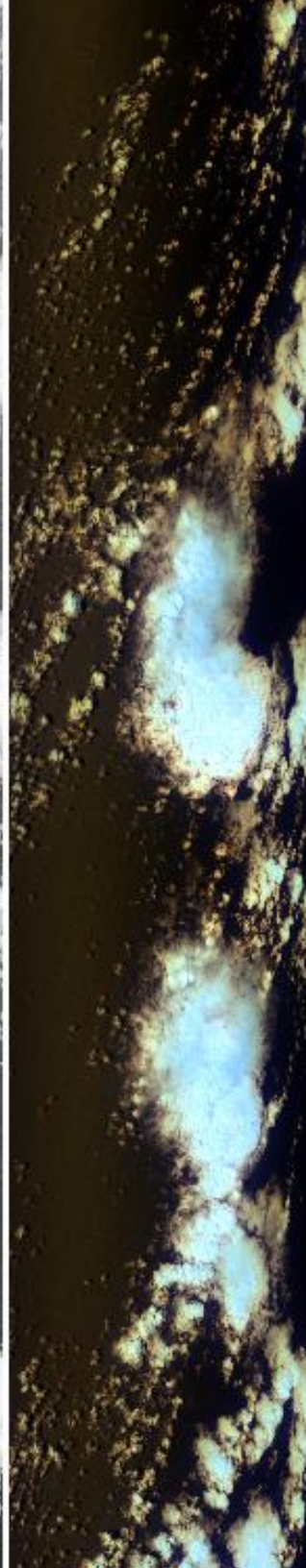
10:43:00



10:45:00



10:47:00



10:39:00

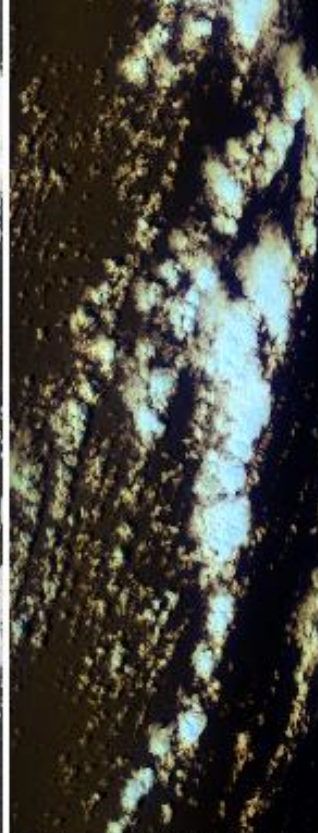
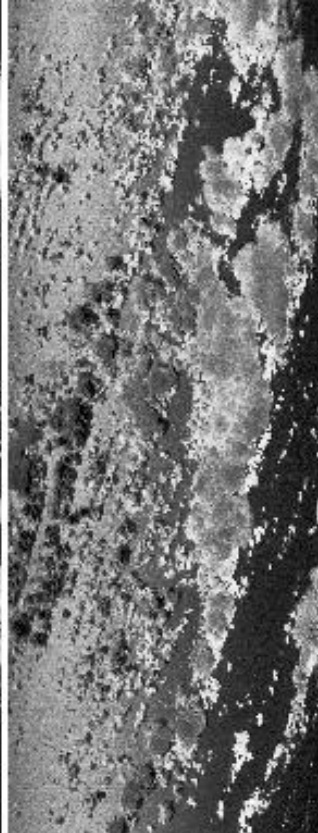
10:41:00

10:43:00

10:45:00

10:47:00

10:47:00



10:47:00

10:48:00

10:48:00

10:51:00

10:51:00

10:51:22

10:51:22

0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

10.94µm (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -20.8°, 13.8°

Lower Right Lat, Lon = -19.3°, 10.9°

Aircraft Heading = 318.4°

Solar Zenith = 25.5°

GPS Altitude = 19831. m (MSL)

MODIS Airborne Simulator Browse Imagery

SAFARI 2000 Campaign - 14 Sep 2000

S. Atlantic

Flight #00-176 Track #8

10:51:22

0.66µm (#3)

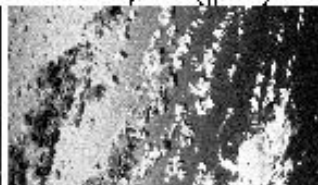
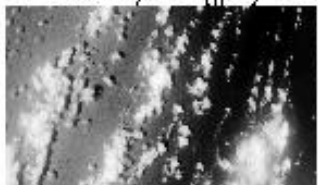
1.61µm (#10)

3.77µm (#30)

reverse scale
10.94µm (#45)

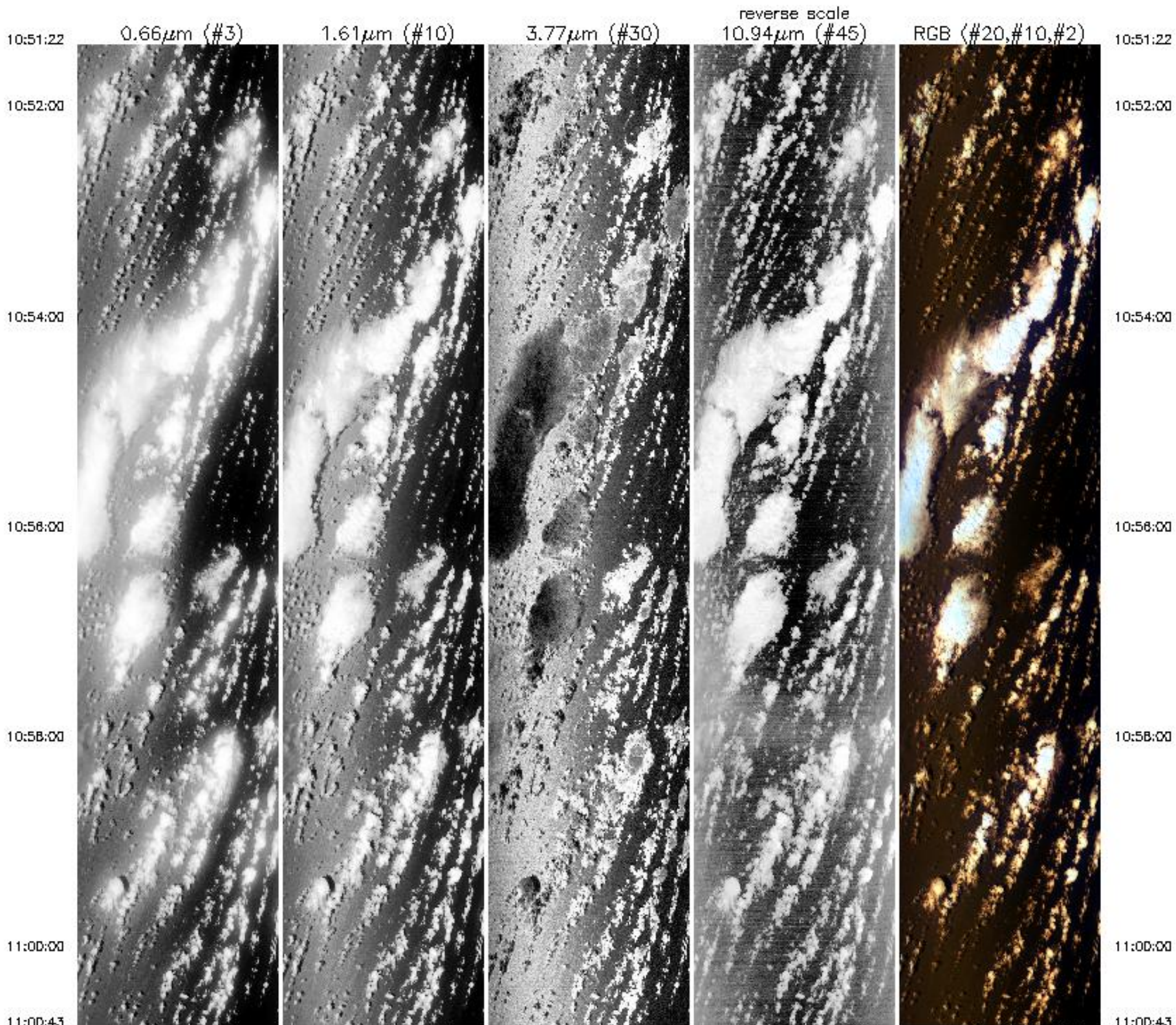
RGB (#20,#10,#2)

10:51:22

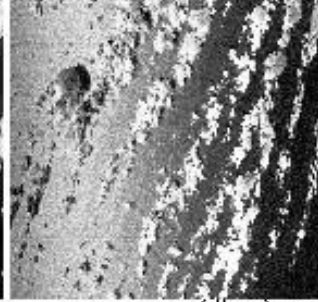
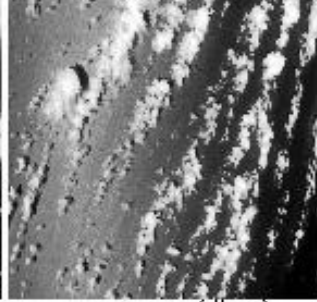
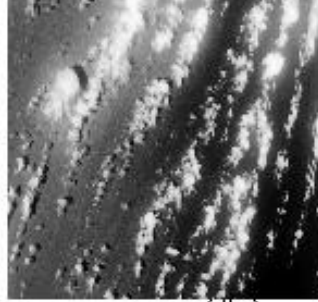


10:52:00

10:52:00



11:00:00



11:00:00

11:00:43

0.66 μ m (#3)

1.61 μ m (#10)

3.77 μ m (#30)

10.94 μ m (#45)
reverse scale

RGB (#20, #10, #2)

11:00:43

Upper Left Lat, Lon = -19.0° , 11.1°

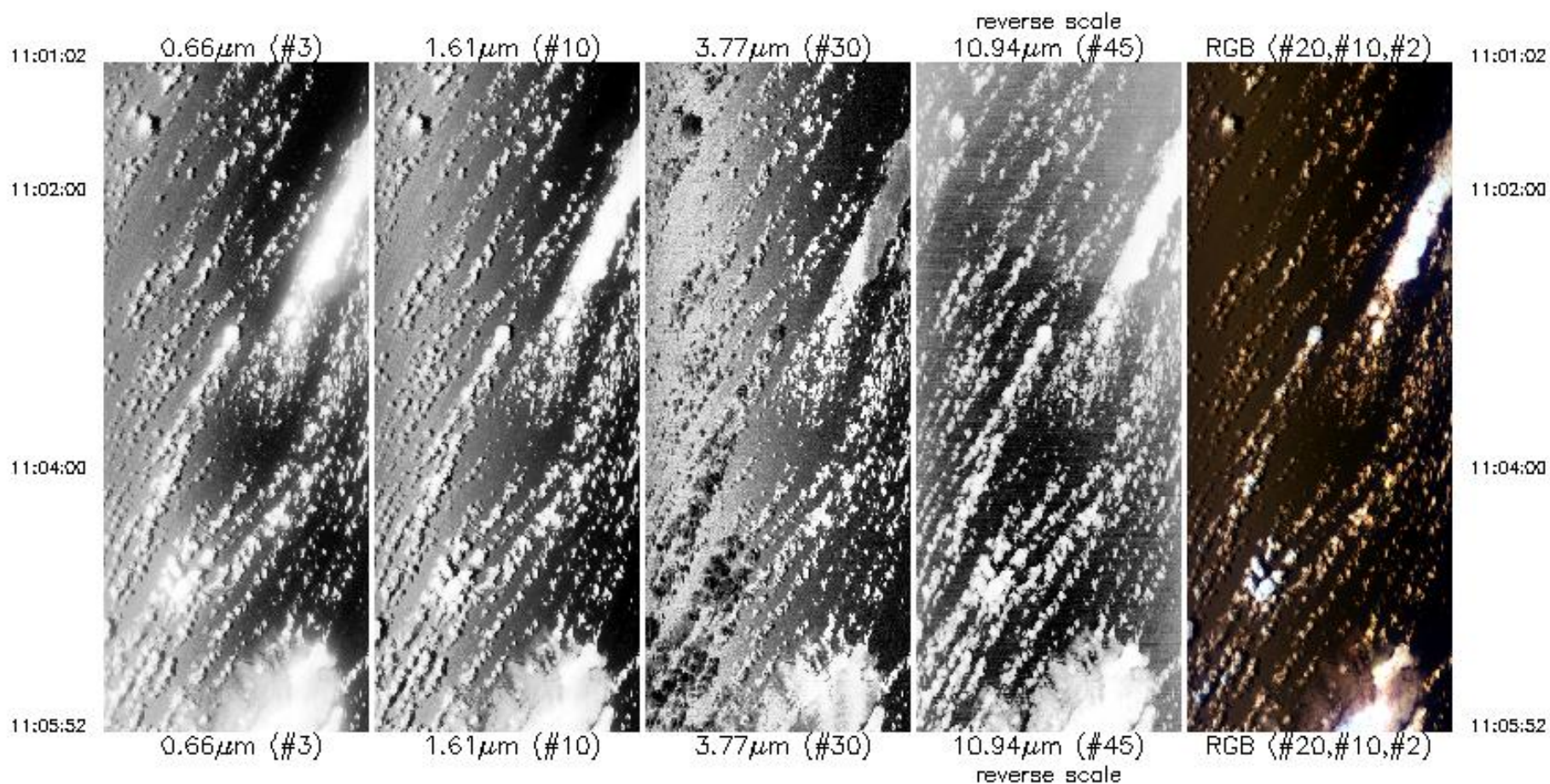
Lower Right Lat, Lon = -18.7° , 9.9°

Aircraft Heading = 307.0°

Solar Zenith = 22.7°

GPS Altitude = 19894. m (MSL)

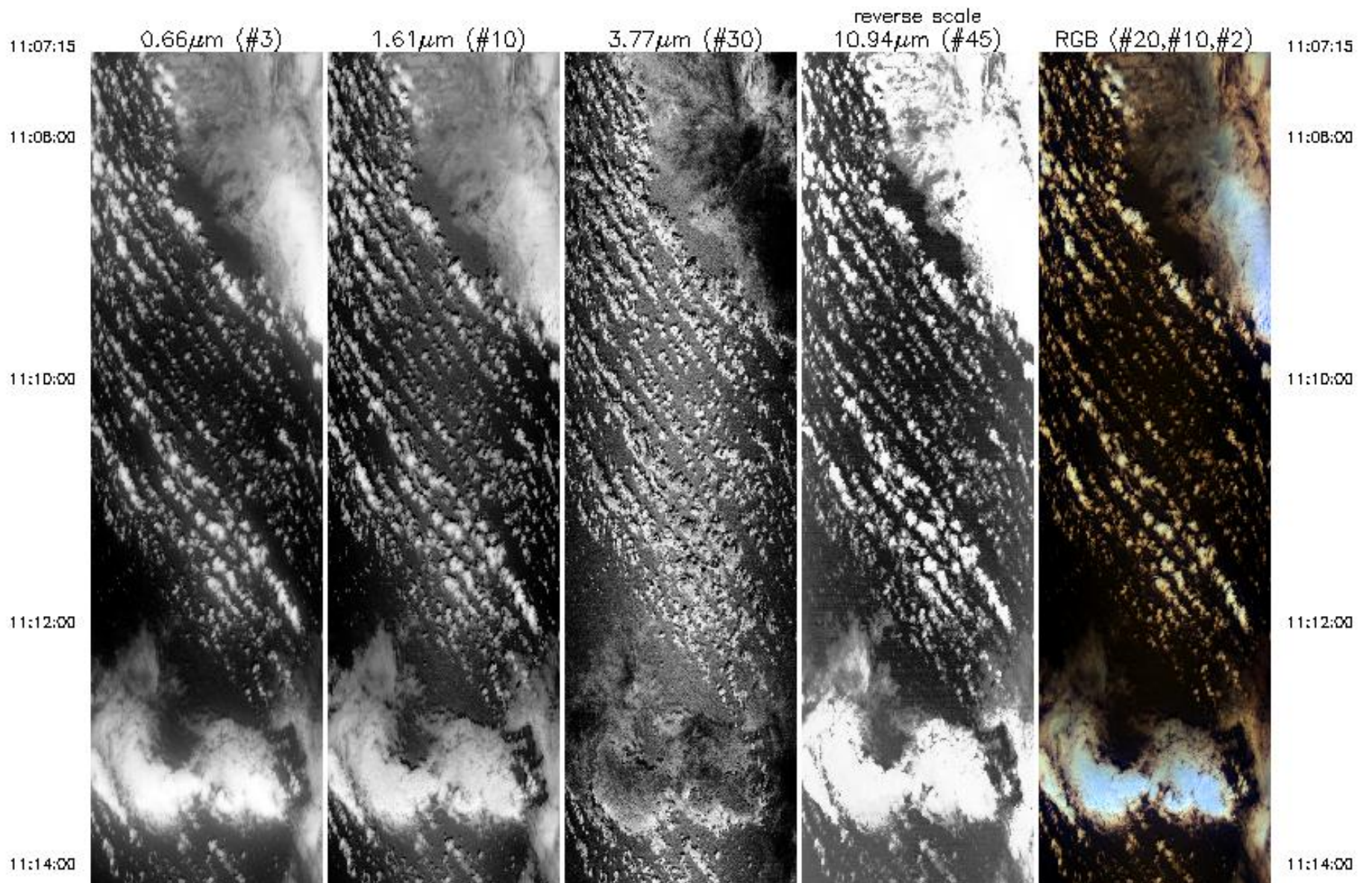
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #9



Upper Left Lat, Lon = -18.4° , 10.1°
 Lower Right Lat, Lon = -18.5° , 9.4°
 Aircraft Heading = 296.8°
 Solar Zenith = 21.8°
 GPS Altitude = 19867. m (MSL)

Upper Left Lat, Lon = -10.4°, 10.1°
Lower Right Lat, Lon = -18.5°, 9.4°
Aircraft Heading = 296.8°
Solar Zenith = 21.8°
GPS Altitude = 19867. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
S. Atlantic
Flight #00-176 Track #10



11:14:00



11:16:00



11:18:00



11:20:00



11:22:00



11:14:00

11:16:00

11:18:00

11:20:00

11:22:00

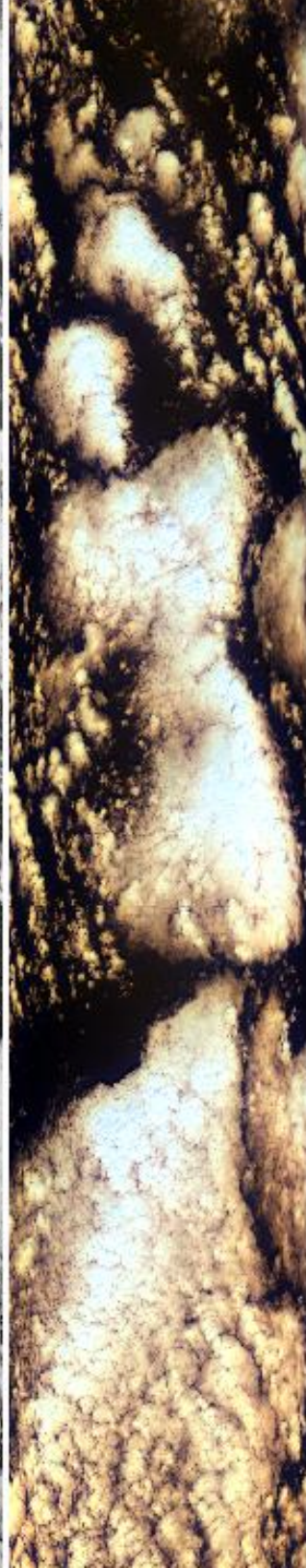
11:22:00

11:24:00

11:26:00

11:28:00

11:30:00



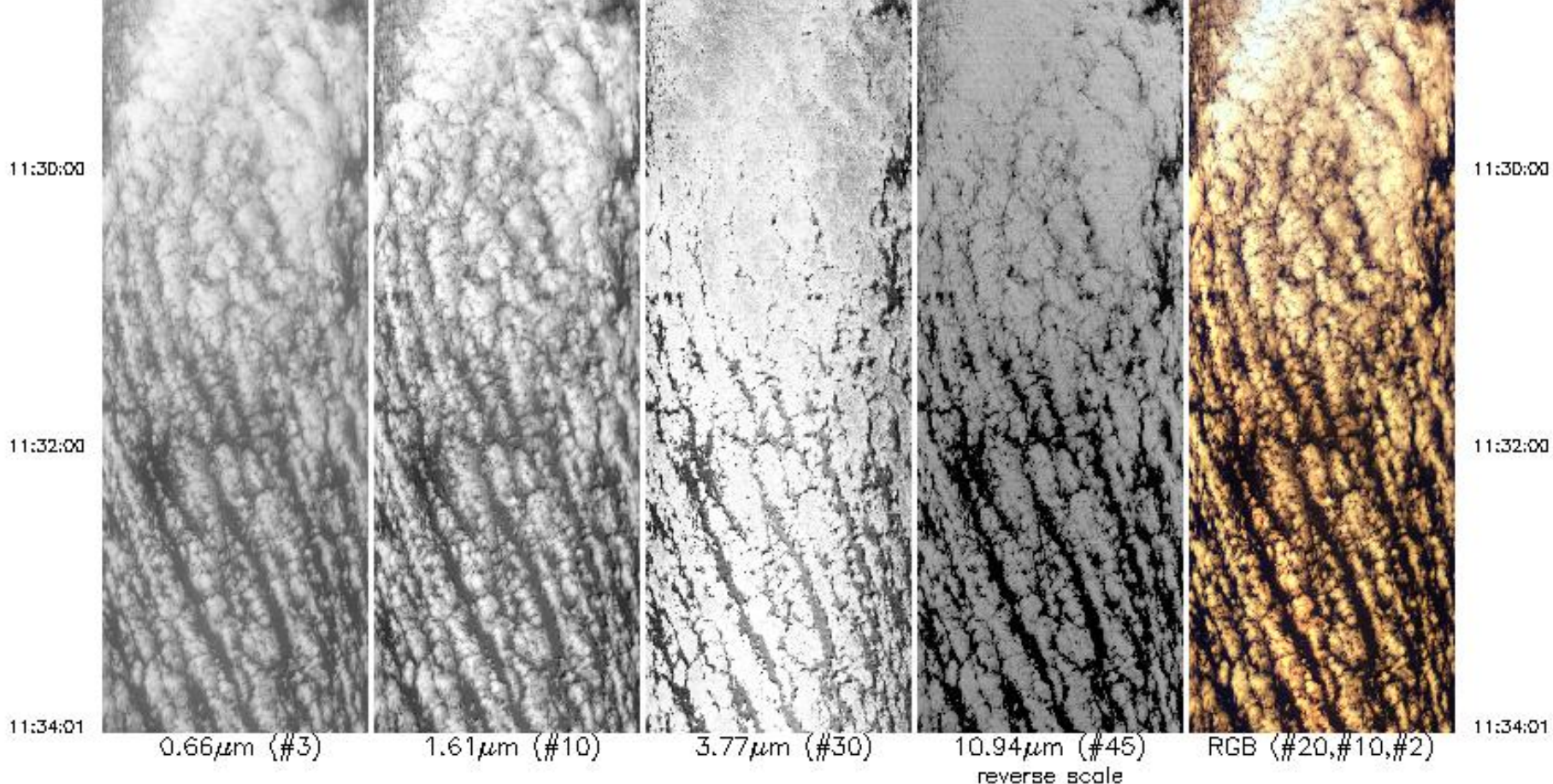
11:22:00

11:24:00

11:26:00

11:28:00

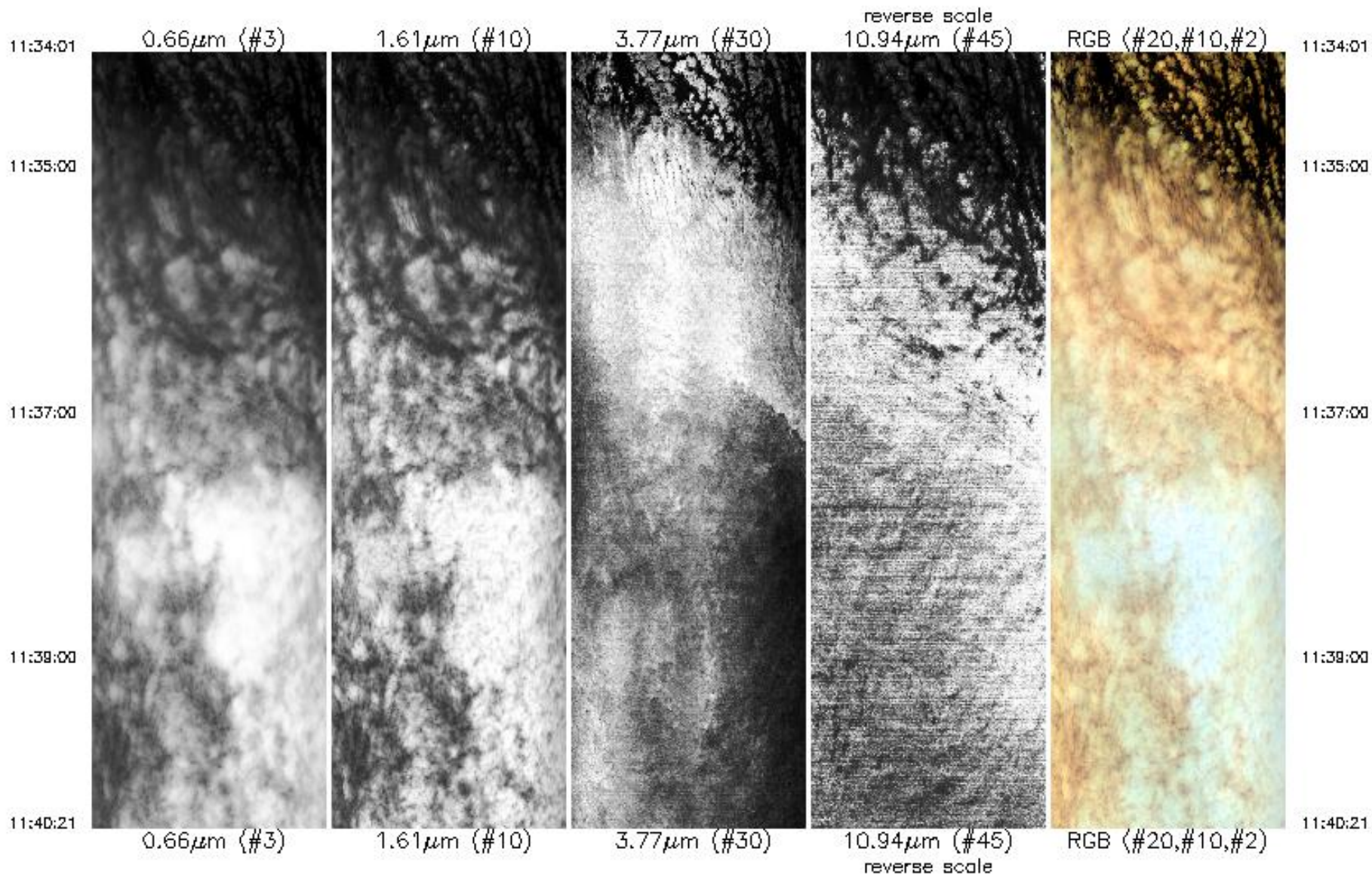
11:30:00



Upper Left Lat, Lon = -18.3° , 9.5°
 Lower Right Lat, Lon = -15.2° , 9.7°
 Aircraft Heading = 12.4°
 Solar Zenith = 21.6°
 GPS Altitude = 19861. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #11

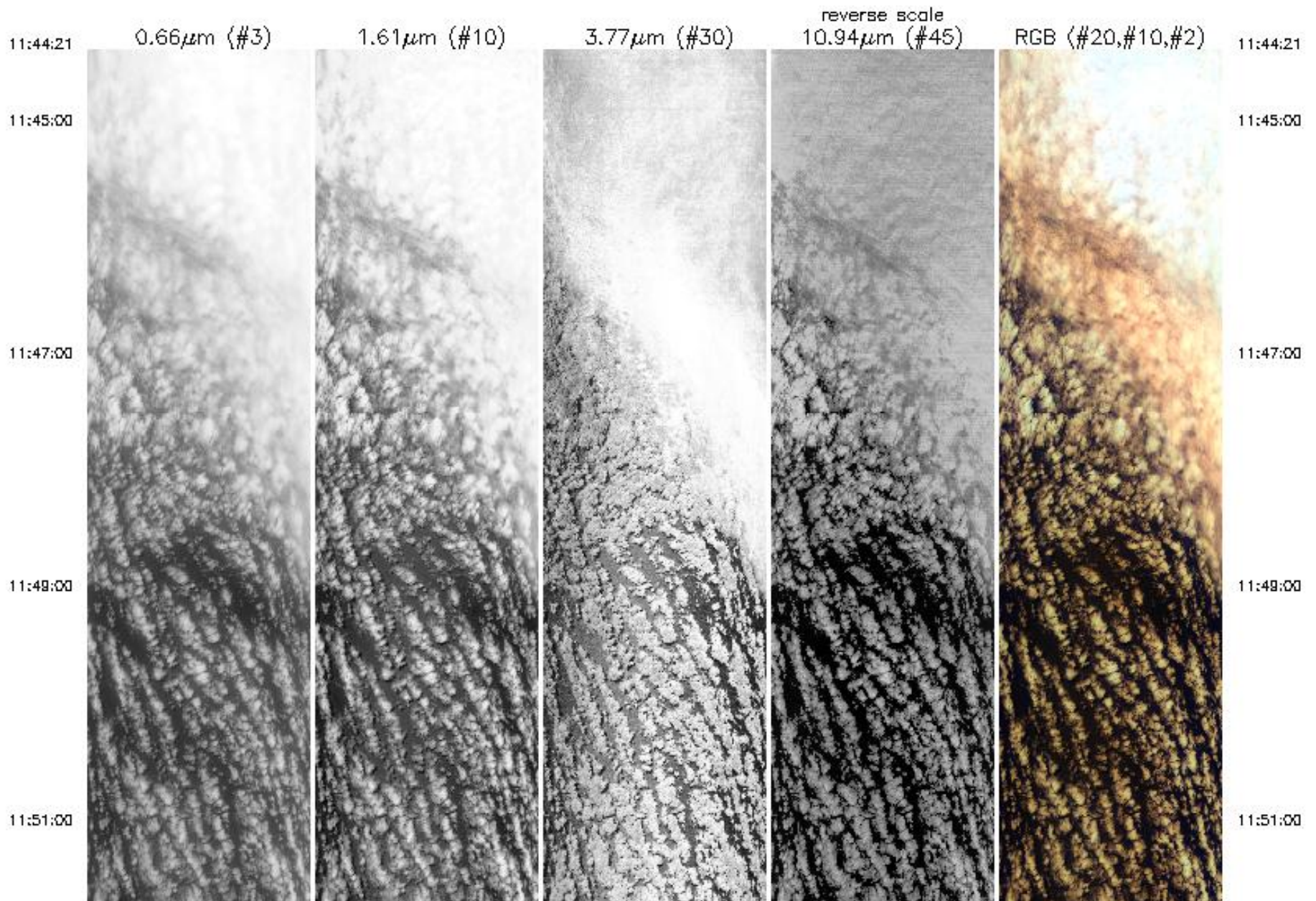




Upper Left Lat, Lon = -15.3° , 10.0°
 Lower Right Lat, Lon = -14.5° , 9.8°
 Aircraft Heading = 13.0°
 Solar Zenith = 19.0°
 GPS Altitude = 19843. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign - 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #12

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #12



11:51:00



11:53:00



11:55:00



11:57:00



11:58:00



11:51:00

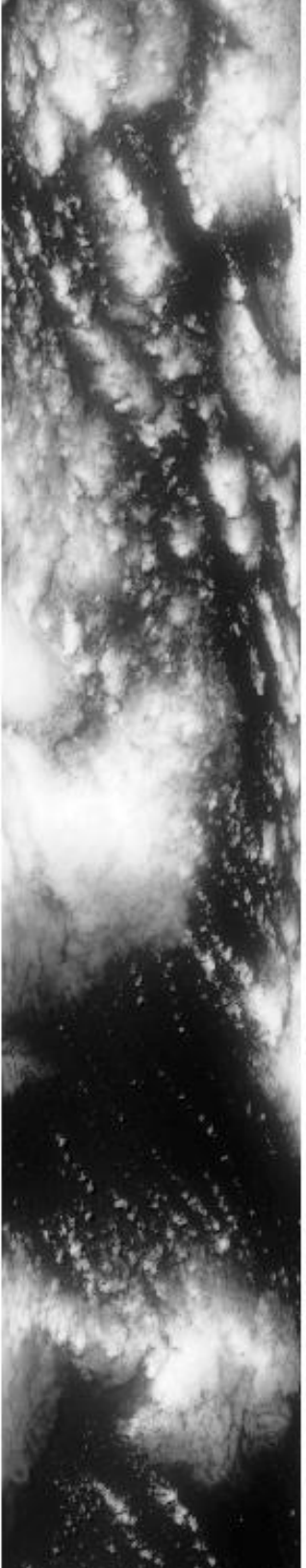
11:53:00

11:55:00

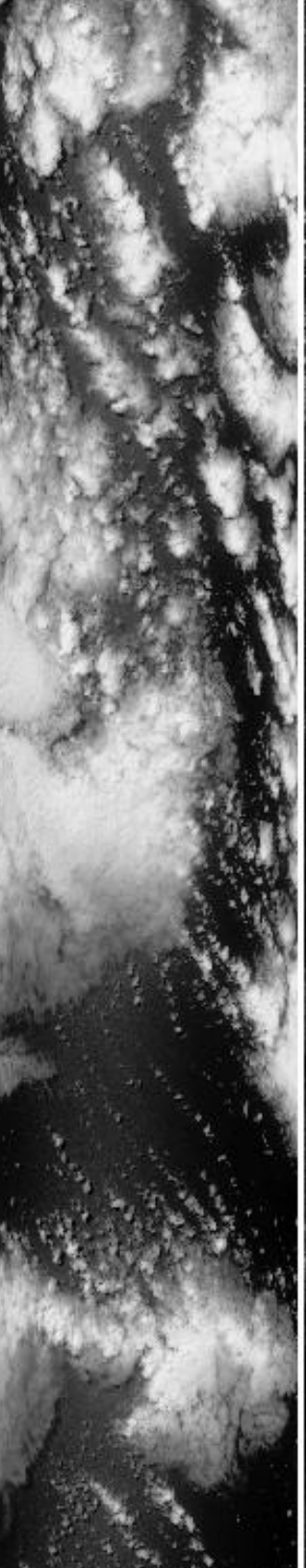
11:57:00

11:58:00

11:58:00



12:01:00



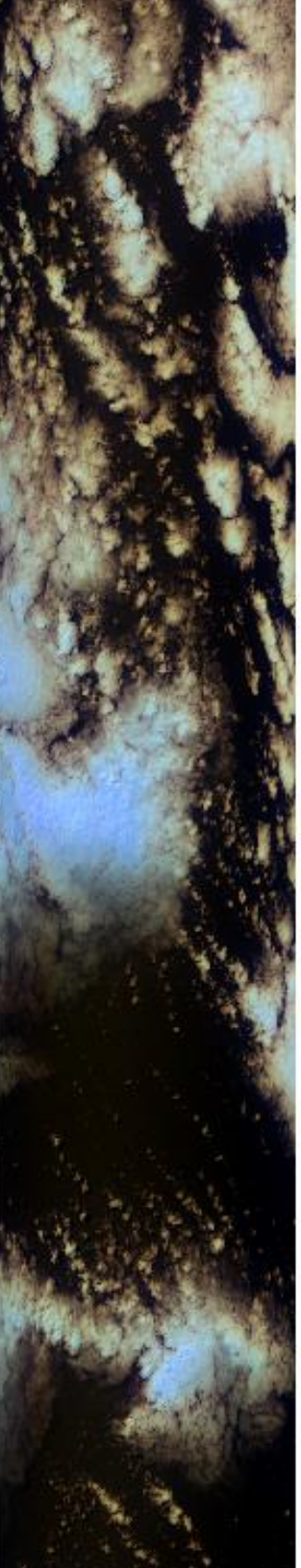
12:03:00



12:05:00



12:07:00



11:58:00

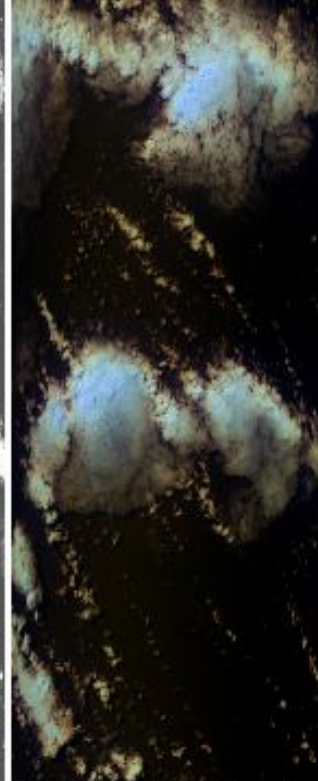
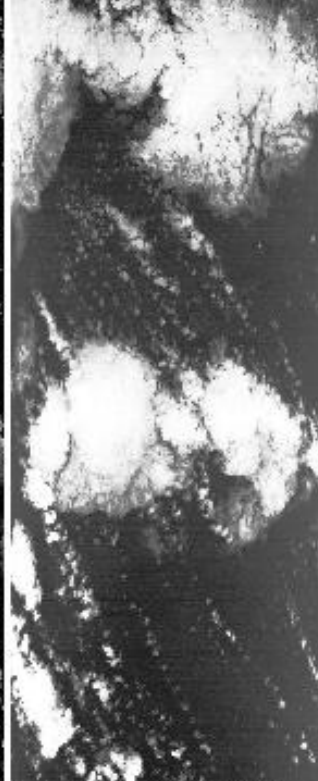
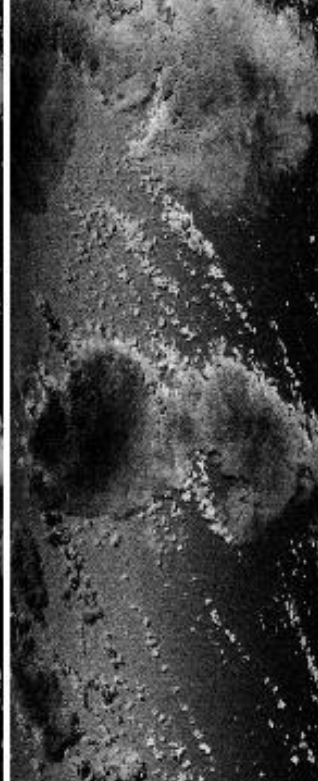
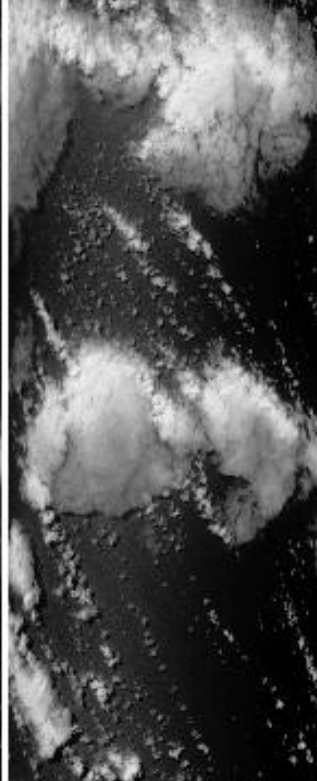
12:01:00

12:03:00

12:05:00

12:07:00

12:07:00



12:07:00

12:08:00

12:08:00

12:11:07

12:11:07

0.66 μ m (#3)

1.61 μ m (#10)

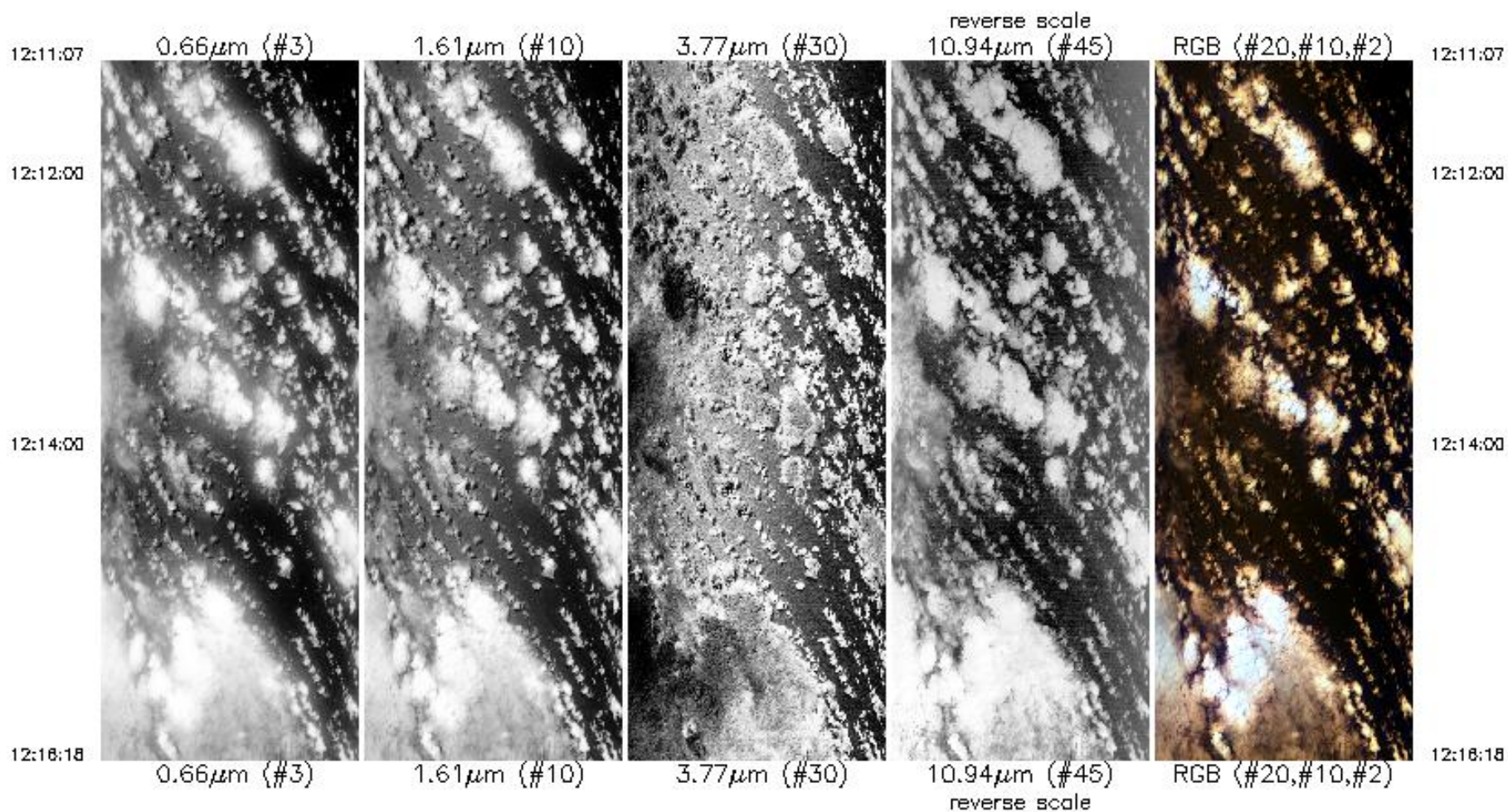
3.77 μ m (#30)

10.94 μ m (#45)
reverse scale

RGB (#20,#10,#2)

Upper Left Lat, Lon = -14.4°, 9.5°
 Lower Right Lat, Lon = -17.4°, 9.3°
 Aircraft Heading = 180.8°
 Solar Zenith = 18.8°
 GPS Altitude = 19840. m (MSL)

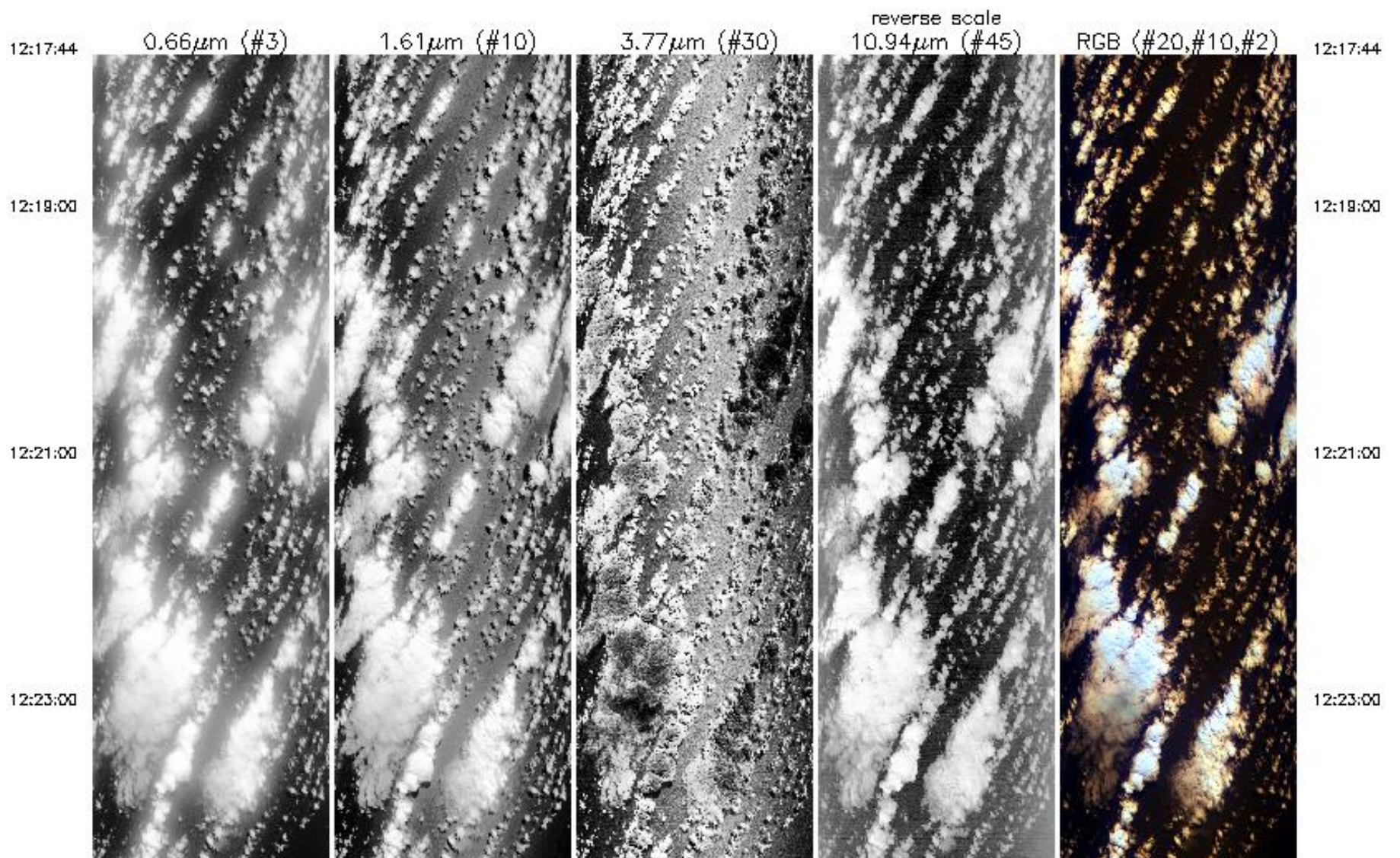
MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign – 14 Sep 2000
 S. Atlantic
 Flight #00-176 Track #13



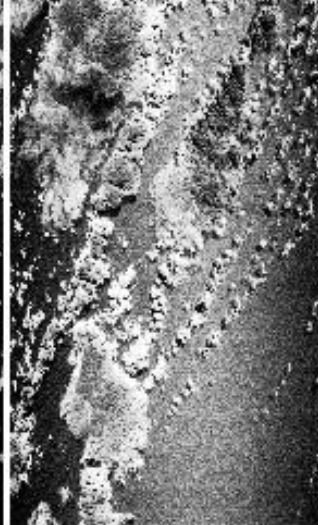
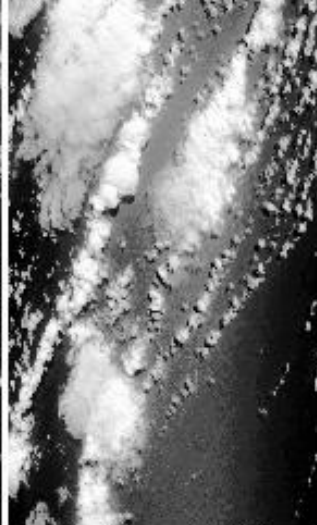
Upper Left Lat, Lon = -17.3° , 9.0°
 Lower Right Lat, Lon = -17.9° , 9.2°
 Aircraft Heading = 188.4°
 Solar Zenith = 24.1°
 GPS Altitude = 19828. m (MSL)

Upper Left Lat, Lon = -17.3° , 9.0°
Lower Right Lat, Lon = -17.9° , 9.2°
Aircraft Heading = 188.4°
Solar Zenith = 24.1°
GPS Altitude = 19828. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
S. Atlantic
Flight #00-176 Track #14



12:23:00



12:23:00

12:25:00

0.66µm (#3)

1.61µm (#10)

3.77µm (#30)

10.94µm (#45)
reverse scale

RGB (#20,#10,#2)

12:25:00

12:25:40

12:25:40

Upper Left Lat, Lon = -18.2°, 9.1°
Lower Right Lat, Lon = -18.2°, 10.0°
Aircraft Heading = 116.6°
Solar Zenith = 25.8°
GPS Altitude = 19848. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
Namibia
Flight #00-176 Track #15

12:25:48

0.66µm (#3)

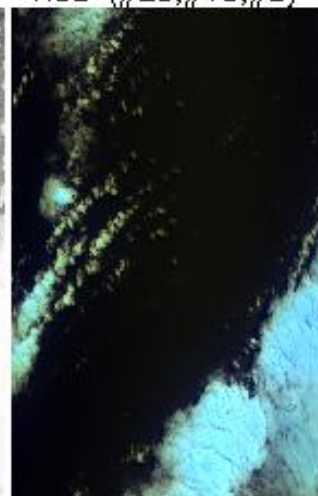
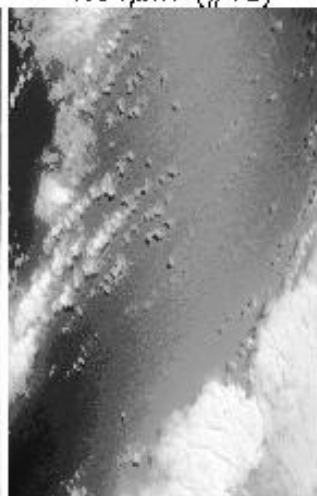
1.61µm (#10)

3.77µm (#30)

reverse scale
10.94µm (#45)

RGB (#20,#10,#2)

12:25:48



12:27:00

12:27:00

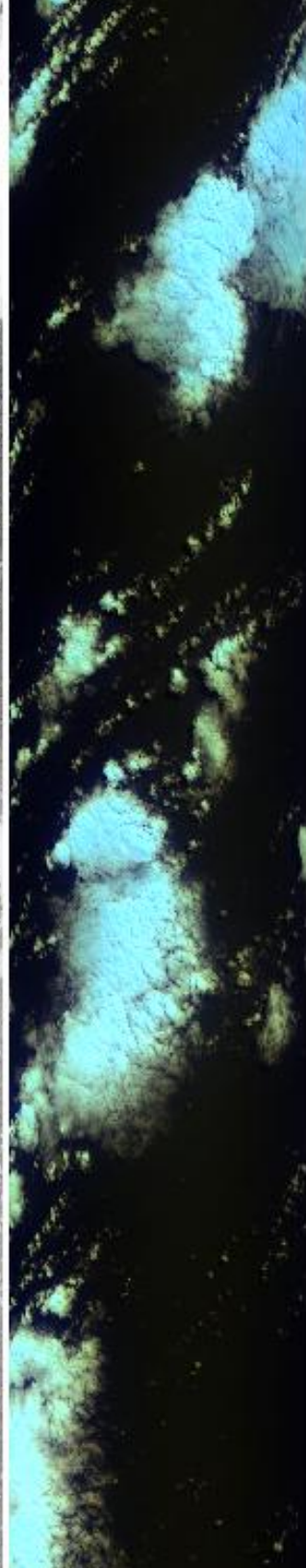
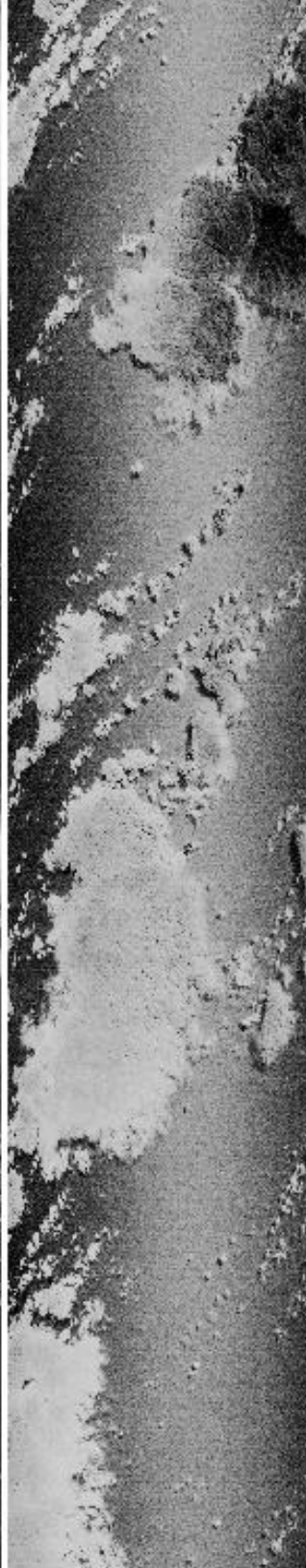
12:29:00

12:31:00

12:33:00

12:35:00

12:37:00



12:29:00

12:31:00

12:33:00

12:35:00

12:37:00

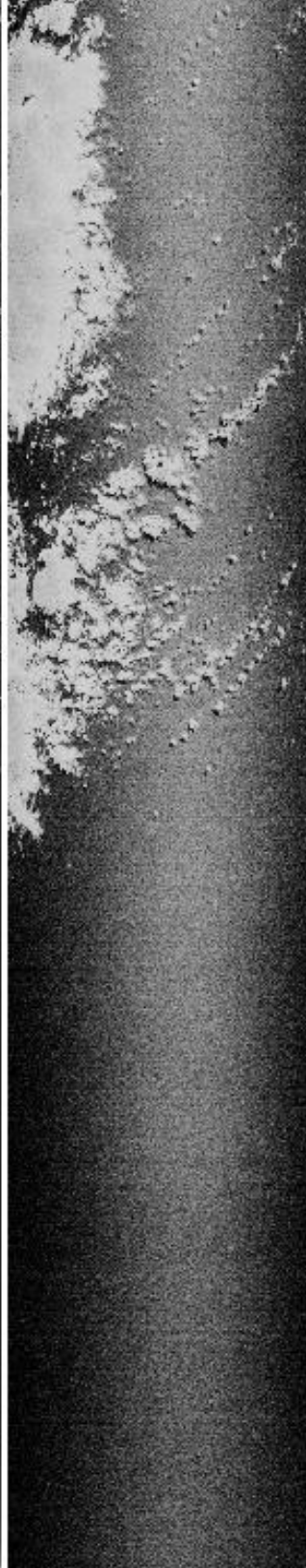
12:37:00



12:39:00



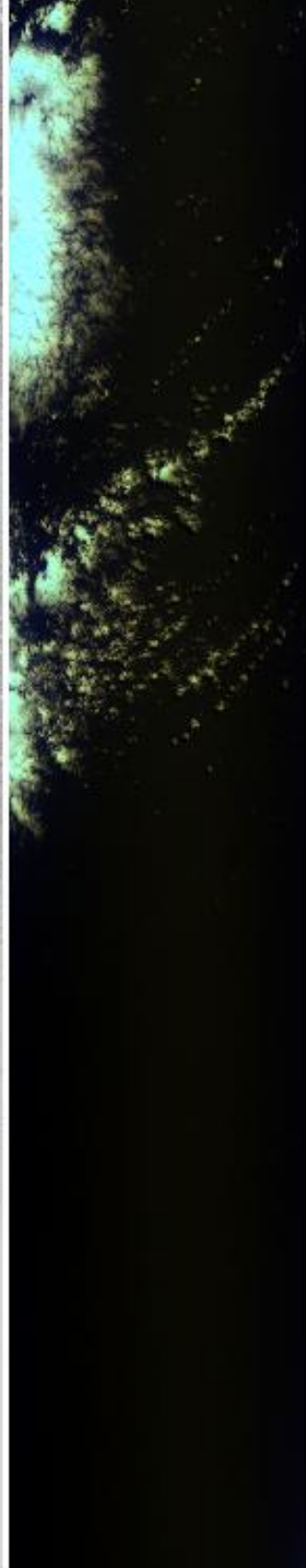
12:41:00



12:43:00



12:45:00



12:37:00

12:39:00

12:41:00

12:43:00

12:45:00

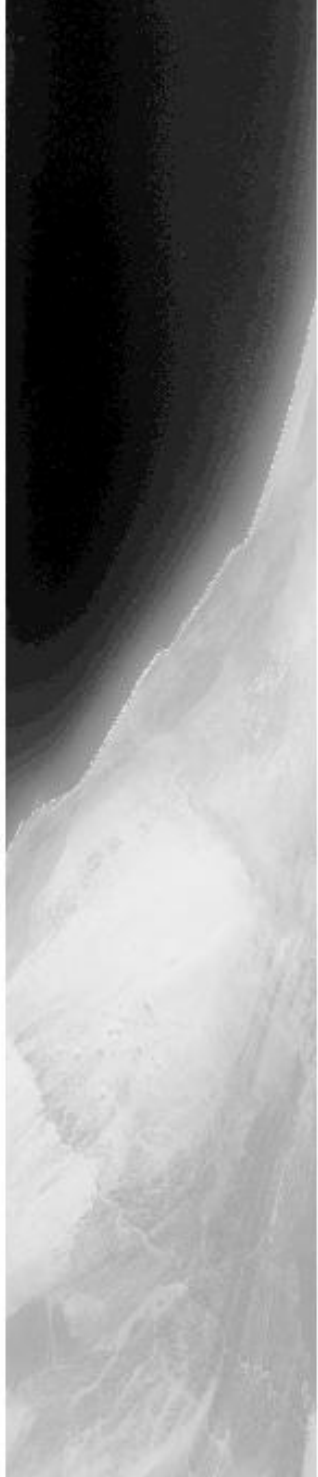
12:45:00

12:47:00

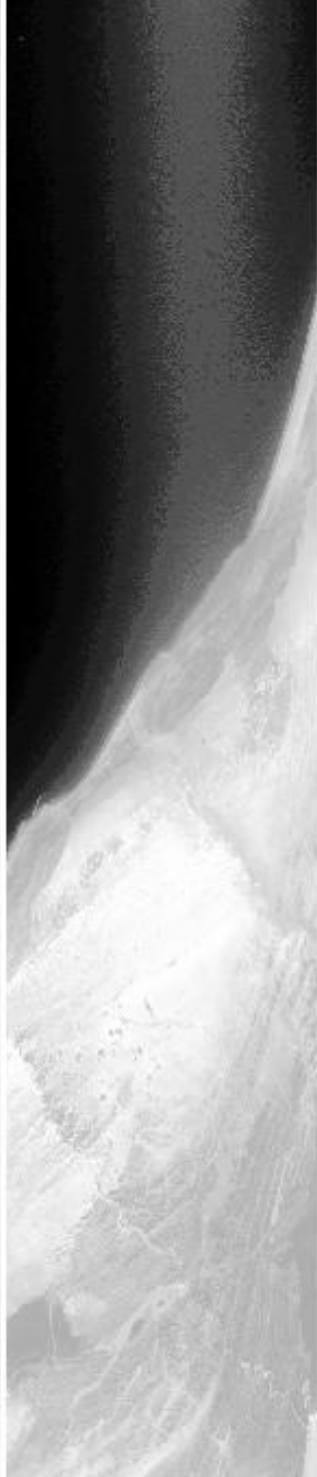
12:48:00

12:51:00

12:52:33



0.66μm (#3)



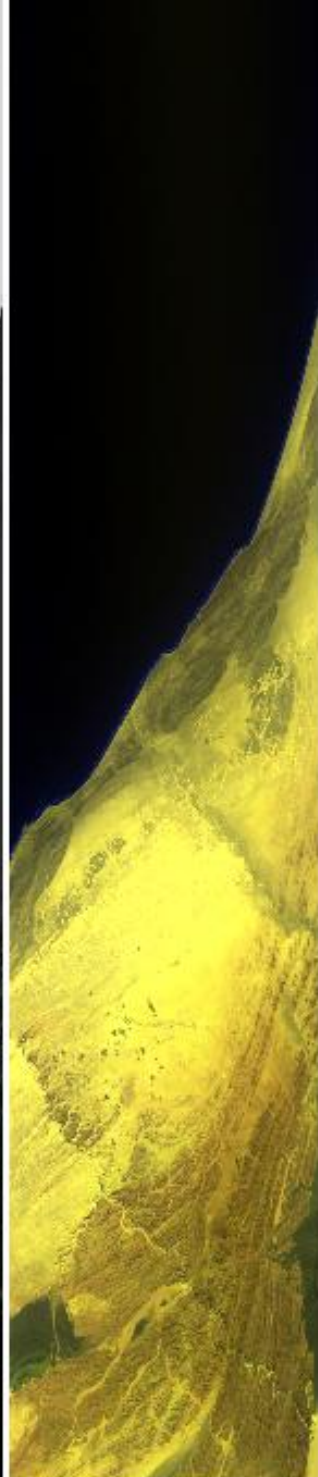
1.61μm (#10)



3.77μm (#30)



10.94μm (#45)
reverse scale



RGB (#20,#10,#2)

12:45:00

12:47:00

12:48:00

12:51:00

12:52:33

Upper Left Lat, Lon = -18.5°, 9.9°

Lower Right Lat, Lon = -18.8°, 13.0°

12:52:33



0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



10.94µm (#45)
reverse scale



RGB (#20,#10,#2)

12:52:33

Upper Left Lat, Lon = -18.5°, 9.9°
Lower Right Lat, Lon = -18.8°, 13.0°
Aircraft Heading = 108.5°
Solar Zenith = 27.7°
GPS Altitude = 19900. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
Namibia
Flight #00-176 Track #16

12:52:33

0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



reverse scale
10.94µm (#45)



RGB (#20,#10,#2)



12:52:33

12:53:00

12:53:00

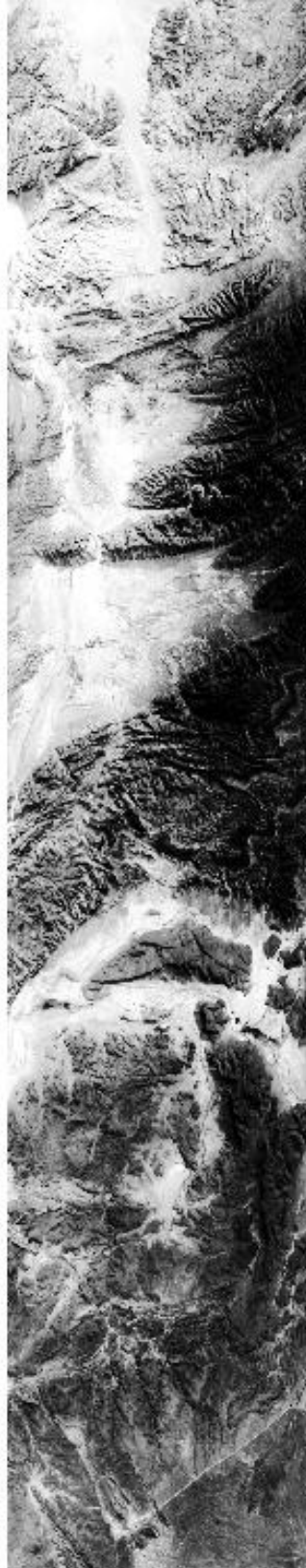
12:55:00

12:55:00

12:57:00

12:57:00

12:57:00



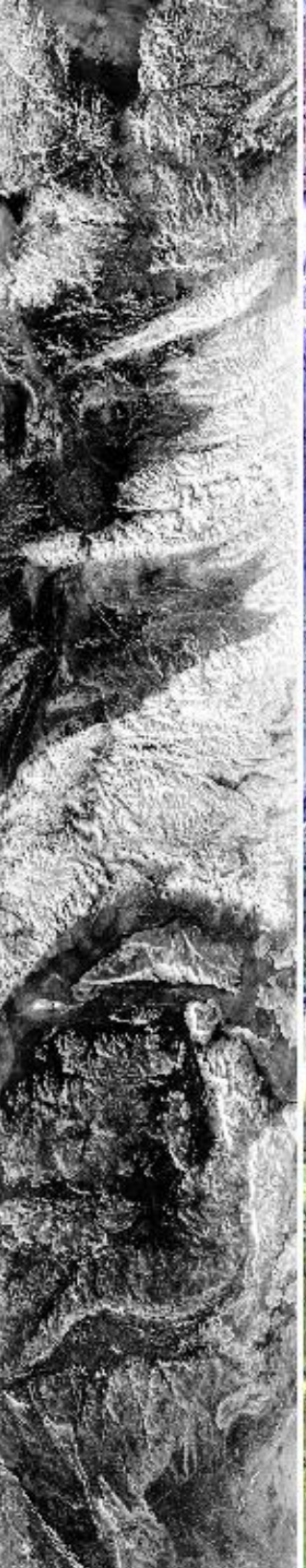
12:58:00



13:01:00



13:03:00



13:05:00



12:57:00

12:58:00

13:01:00

13:03:00

13:05:00

13:05:00

13:07:00

13:08:00

13:11:00

13:11:54



0.66 μm (#3)



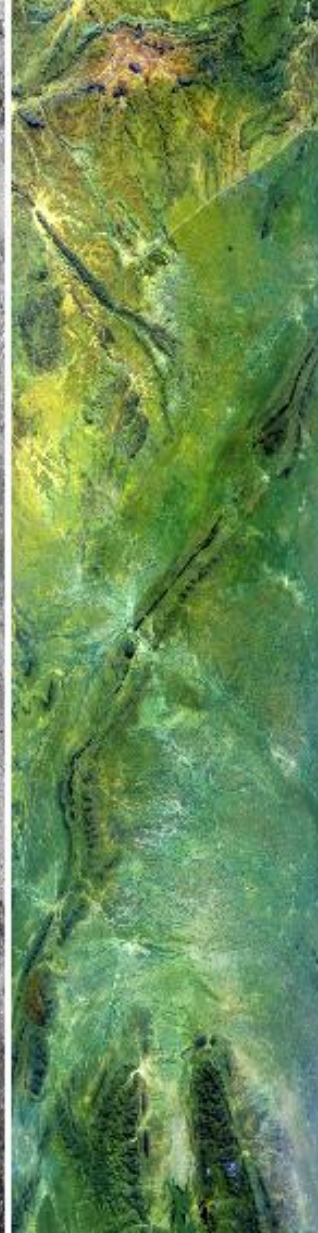
1.61 μm (#10)



3.77 μm (#30)



10.94 μm (#45)
reverse scale



RGB (#20,#10,#2)

13:05:00

13:07:00

13:08:00

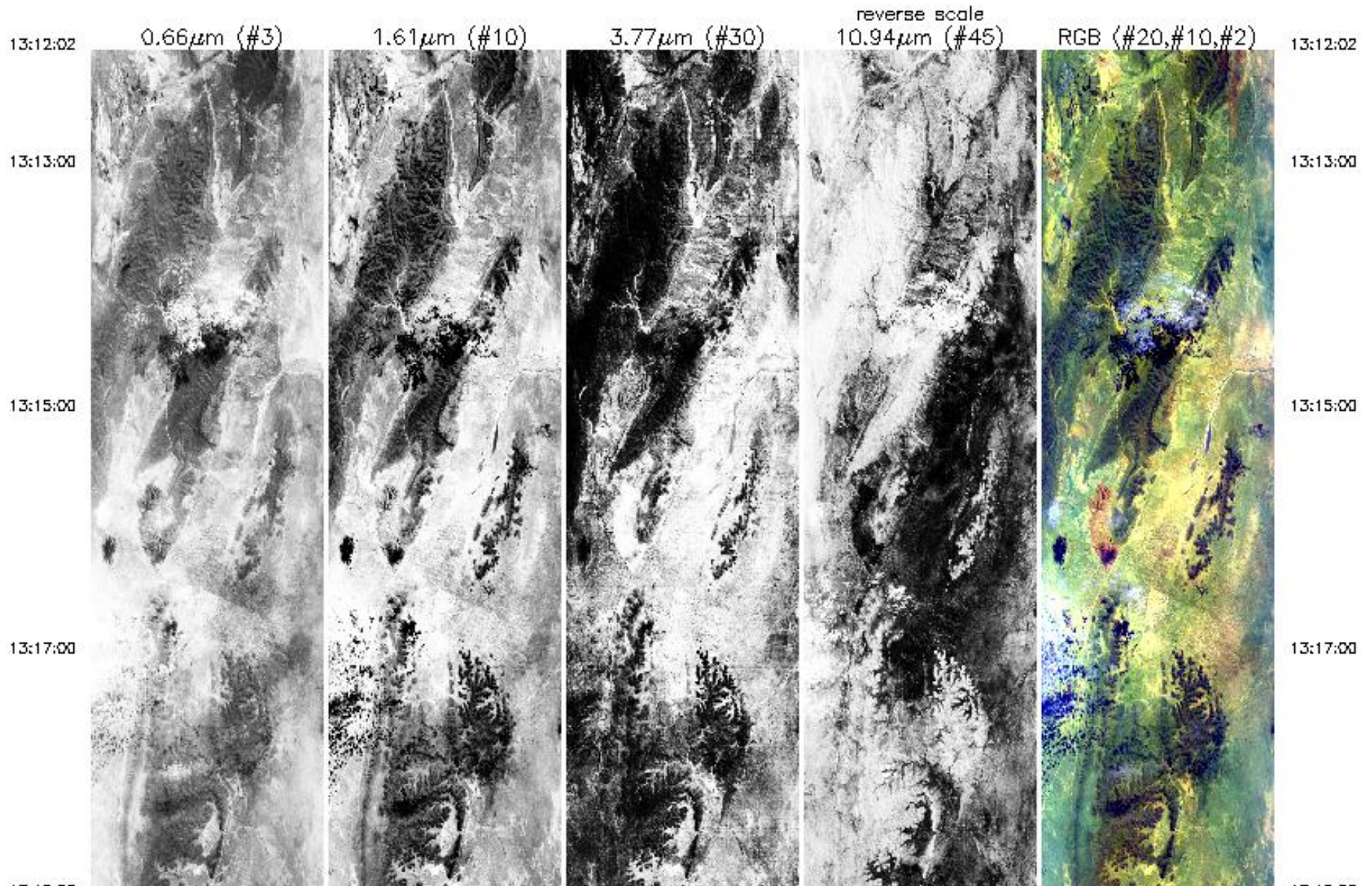
13:11:00

13:11:54

Upper Left Lat, Lon = -19.1° , 12.9°
Lower Right Lat, Lon = -19.2° , 15.1°
Aircraft Heading = 101.8°
Solar Zenith = 34.8°
GPS Altitude = 19882. m (MSL)

Upper Left Lat, Lon = -19.1° , 12.9°
Lower Right Lat, Lon = -19.2° , 15.1°
Aircraft Heading = 101.8°
Solar Zenith = 34.8°
GPS Altitude = 19882. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Namibia
Flight #00-176 Track #17



13:19:00



13:21:00



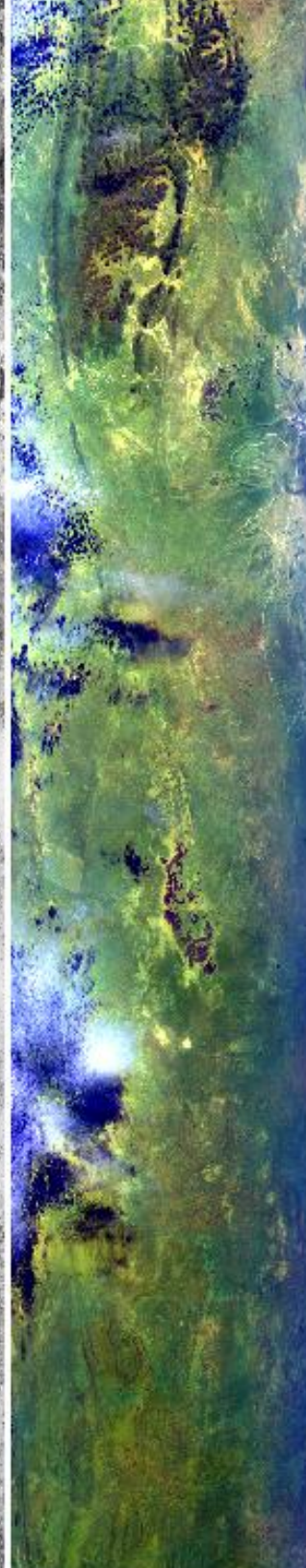
13:23:00



13:25:00



13:27:00



13:19:00

13:21:00

13:23:00

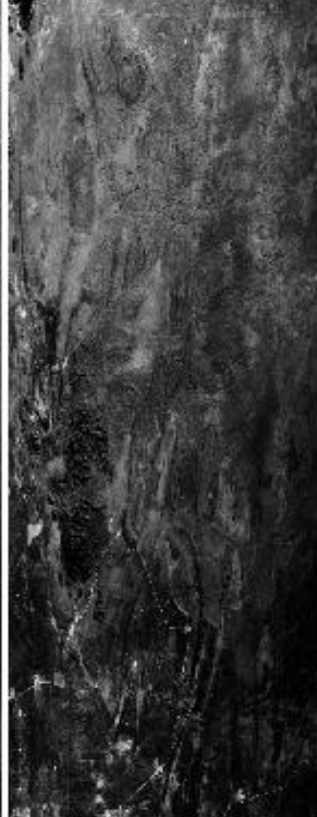
13:25:00

13:27:00

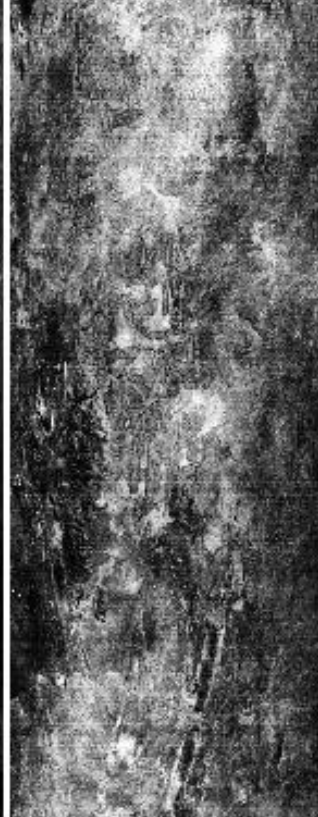
13:27:00



0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



10.94µm (#45)
reverse scale



RGB (#20,#10,#2)

13:27:00

13:29:00

13:29:00

13:30:21

13:30:21

Upper Left Lat, Lon = -19.5°, 15.1°

Lower Right Lat, Lon = -19.2°, 17.2°

Aircraft Heading = 97.0°

Solar Zenith = 40.6°

GPS Altitude = 19817. m (MSL)

MODIS Airborne Simulator Browse Imagery

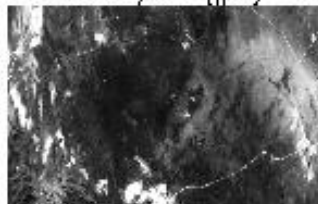
SAFARI 2000 Campaign - 14 Sep 2000

Namibia

Flight #00-176 Track #18

13:30:43

0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



reverse scale
10.94µm (#45)



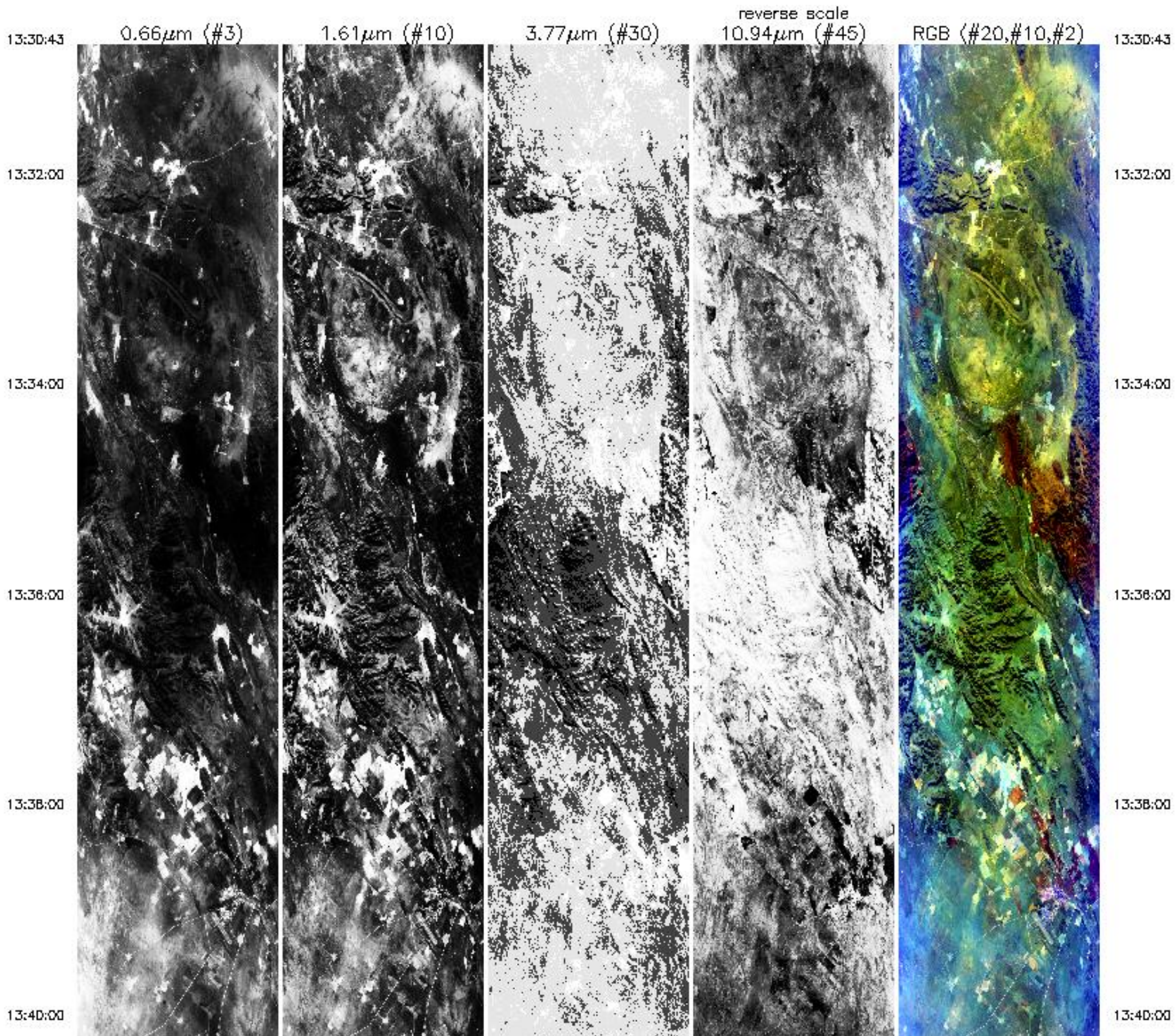
RGB (#20,#10,#2)



13:30:43

13:30:00

13:30:00



13:40:00

13:42:00

13:44:00

13:46:00

13:46:00



13:40:00

13:42:00

13:44:00

13:46:00

13:46:00

13:48:00



13:50:00



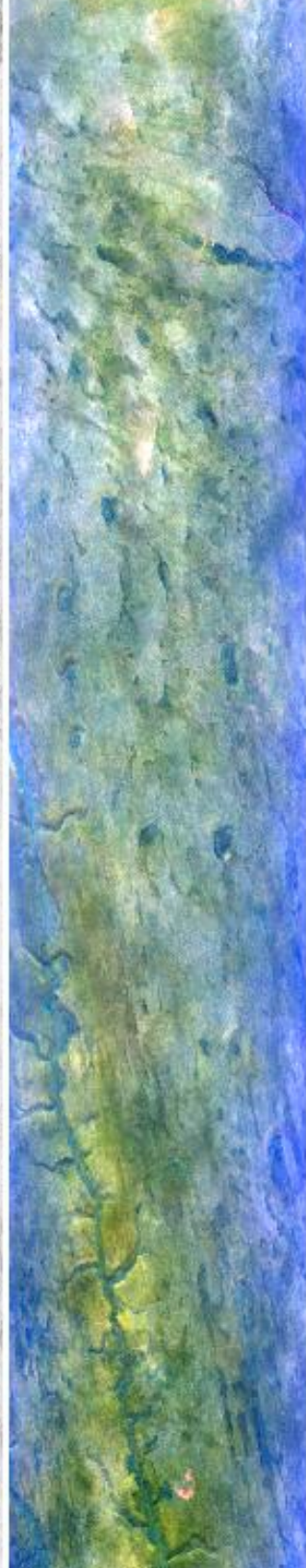
13:52:00



13:54:00



13:56:00



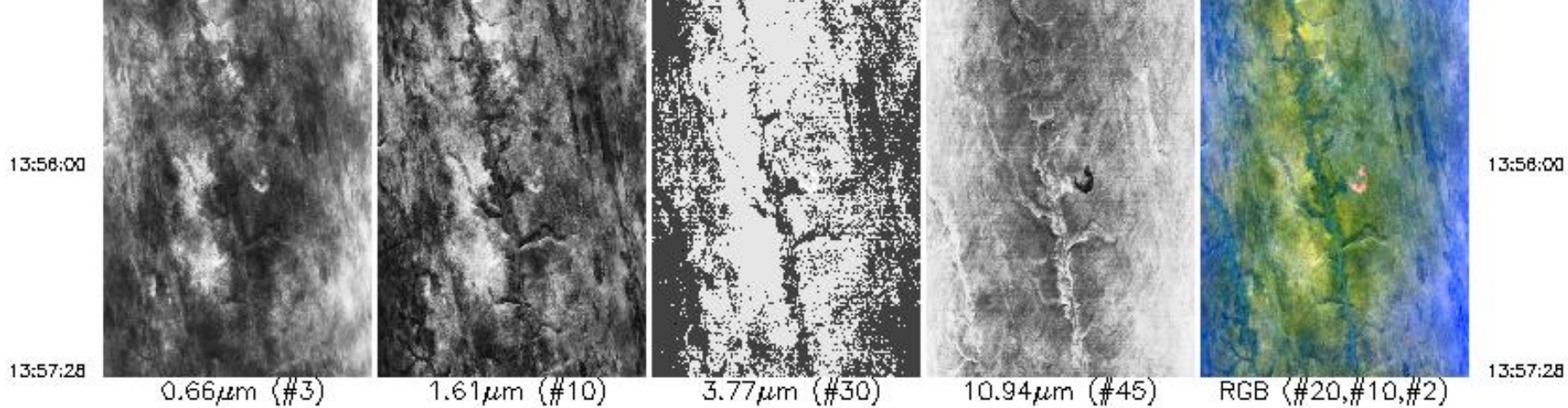
13:48:00

13:50:00

13:52:00

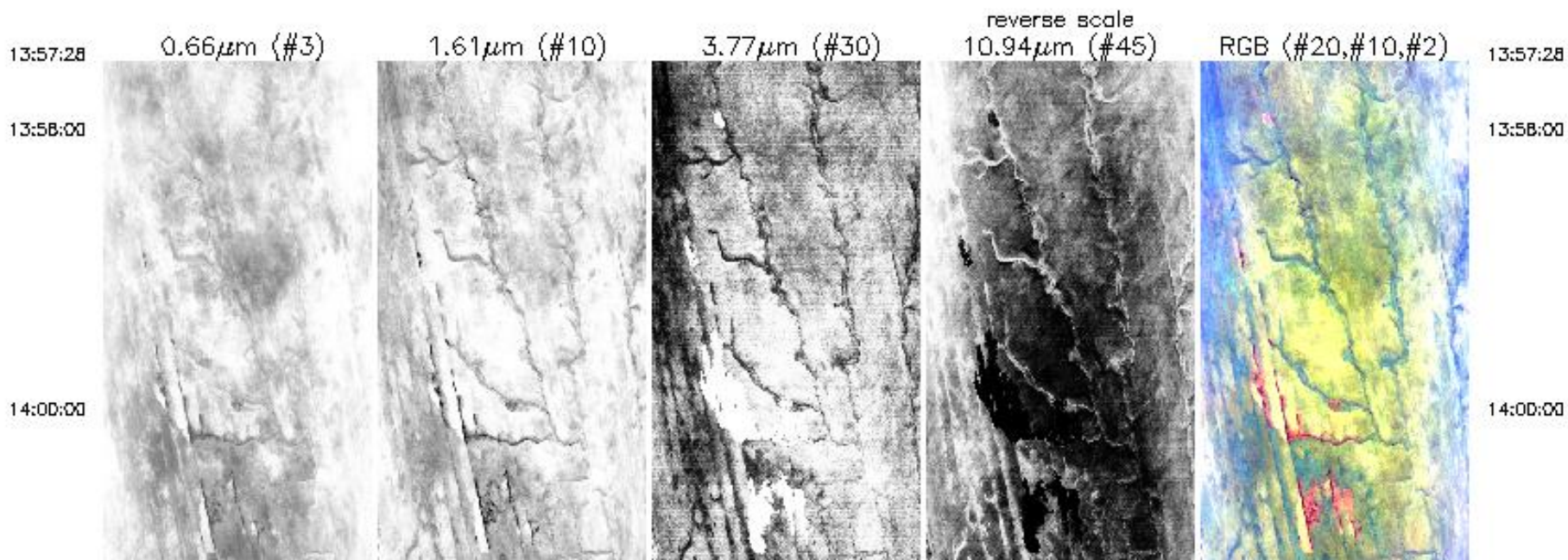
13:54:00

13:56:00



Upper Left Lat, Lon = -19.5°, 17.2°
 Lower Right Lat, Lon = -20.2°, 20.1°
 Aircraft Heading = 104.6°
 Solar Zenith = 46.2°
 GPS Altitude = 19868. m (MSL)

MODIS Airborne Simulator Browse Imagery
 SAFARI 2000 Campaign - 14 Sep 2000
 Botswana, Namibia
 Flight #00-176 Track #19



14:00:00



14:02:00



14:04:00



14:06:00



14:08:00



14:00:00

14:02:00

14:04:00

14:06:00

14:08:00

14:08:00



14:10:00



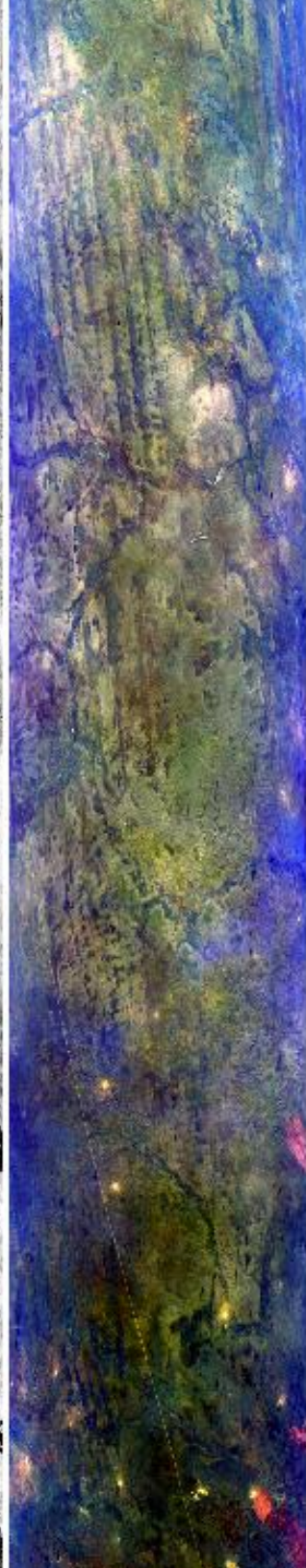
14:12:00



14:14:00



14:16:00



14:08:00

14:10:00

14:12:00

14:14:00

14:16:00

14:16:00

14:18:00

14:20:00

14:22:00

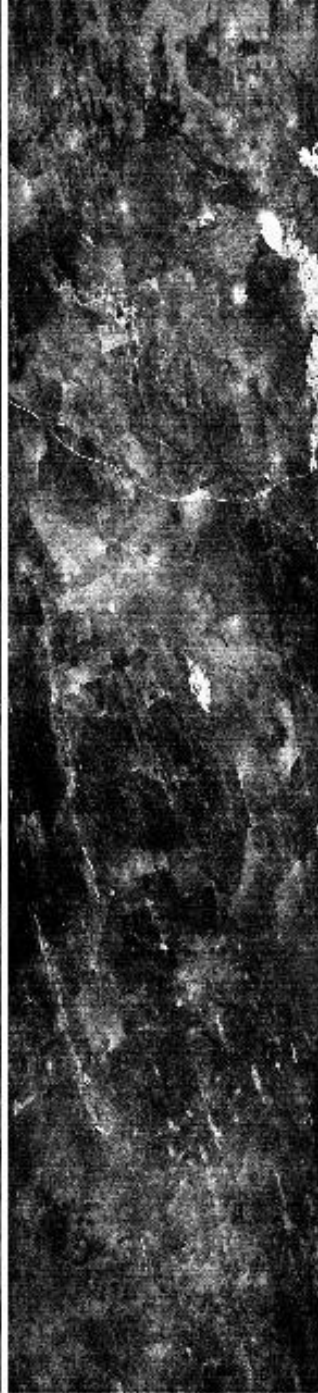
14:24:14



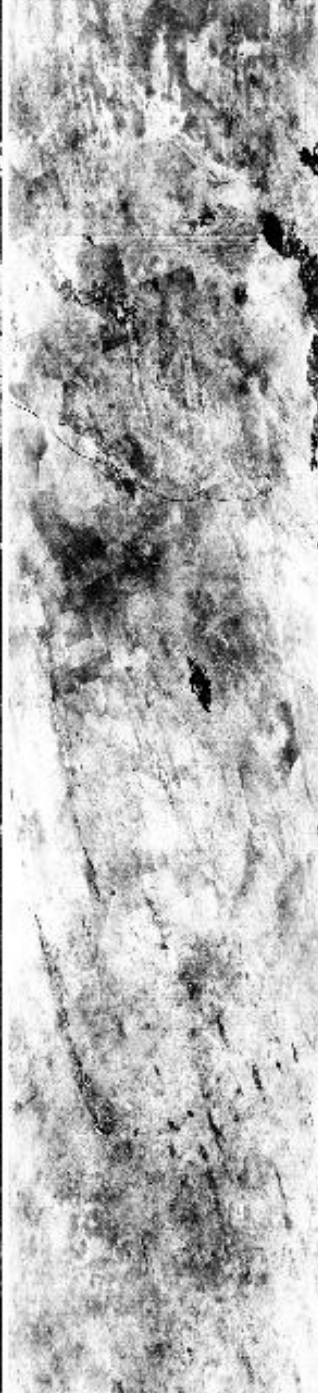
0.66 μ m (#3)



1.61 μ m (#10)



3.77 μ m (#30)



10.94 μ m (#45)
reverse scale



RGB (#20,#10,#2)

14:16:00

14:18:00

14:20:00

14:22:00

14:24:14

Upper Left Lat, Lon = -20.5° , 20.0°
 Lower Right Lat, Lon = -21.1° , 23.0°
 Aircraft Heading = 108.6°
 Solar Zenith = 54.9°

14:24:14



0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



10.94µm (#45)
reverse scale



RGB (#20,#10,#2)

14:24:14

Upper Left Lat, Lon = -20.5°, 20.0°

Lower Right Lat, Lon = -21.1°, 23.0°

Aircraft Heading = 108.6°

Solar Zenith = 54.9°

GPS Altitude = 19824. m (MSL)

MODIS Airborne Simulator Browse Imagery

SAFARI 2000 Campaign - 14 Sep 2000

Botswana

Flight #00-176 Track #20

14:24:14

0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



reverse scale
10.94µm (#45)



RGB (#20,#10,#2)



14:24:14

14:25:00

14:25:00

14:27:00

14:27:00

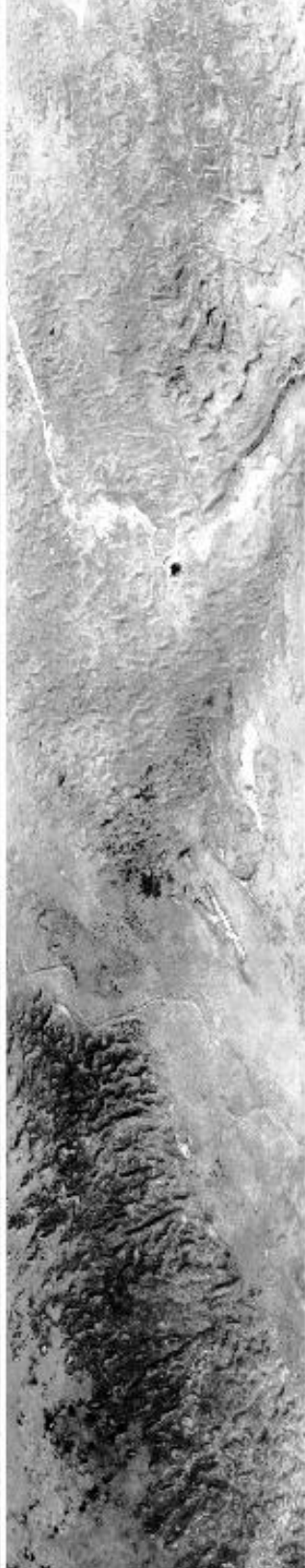
14:29:00

14:29:00

14:29:00



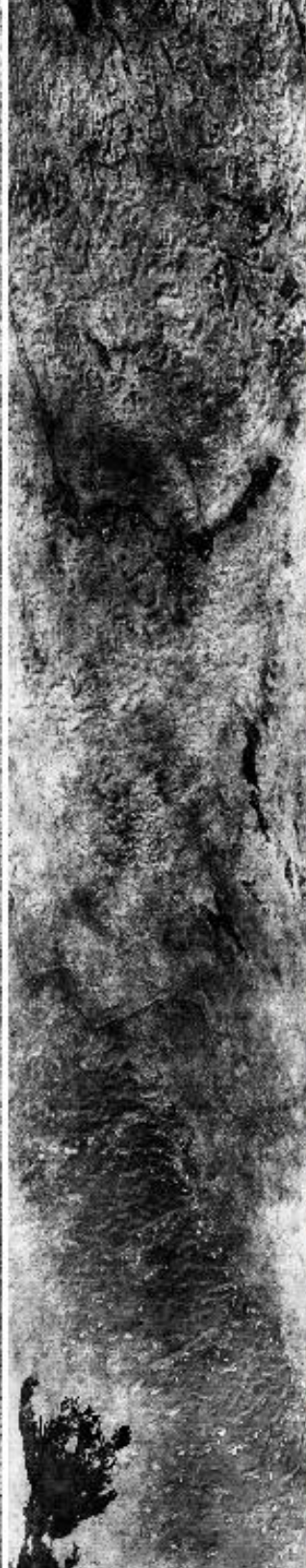
14:31:00



14:33:00



14:35:00



14:37:00



14:29:00

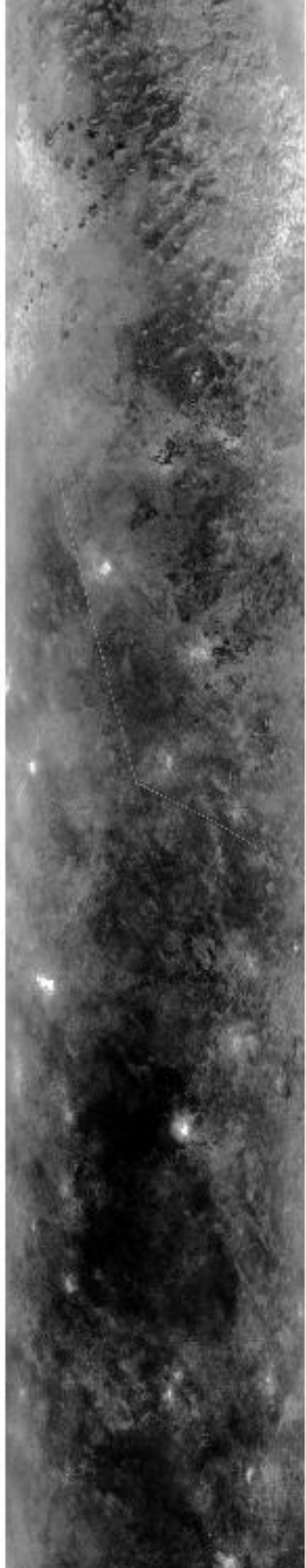
14:31:00

14:33:00

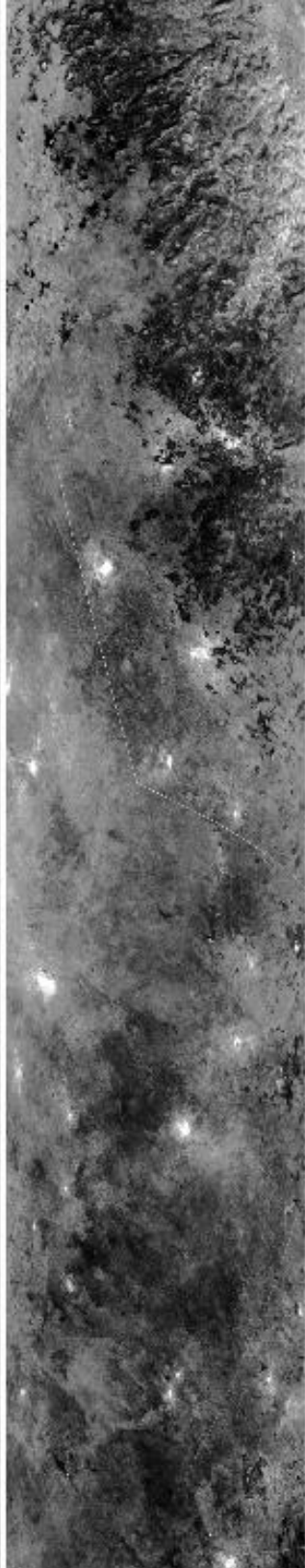
14:35:00

14:37:00

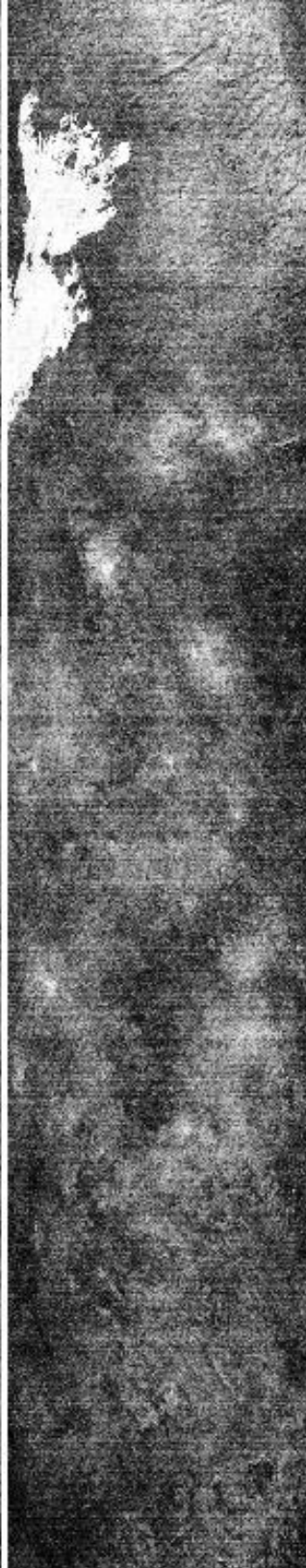
14:37:00



14:39:00



14:41:00



14:43:00



14:45:00



14:37:00

14:39:00

14:41:00

14:43:00

14:45:00

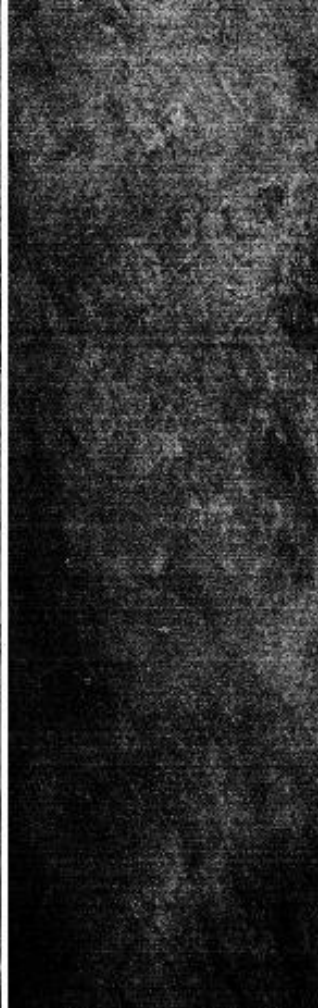
14:45:00



0.66µm (#3)



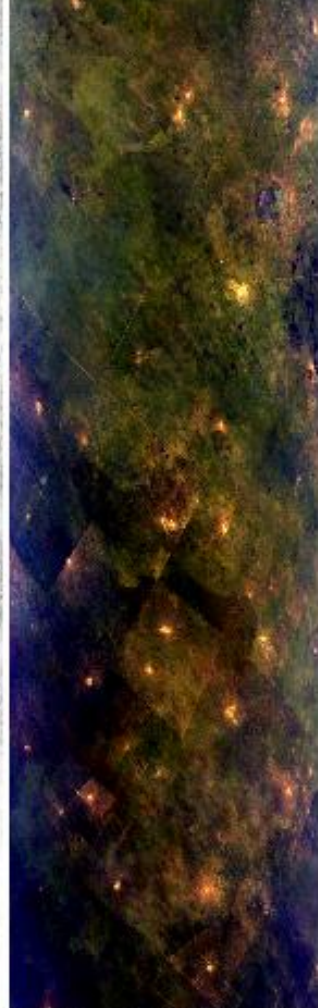
1.61µm (#10)



3.77µm (#30)



10.94µm (#45)
reverse scale



RGB (#20,#10,#2)

14:45:00

14:47:00

14:47:00

14:48:00

14:48:00

14:51:00

14:51:00

Upper Left Lat, Lon = -21.4°, 22.9°
Lower Right Lat, Lon = -22.0°, 26.0°
Aircraft Heading = 108.6°
Solar Zenith = 63.8°
GPS Altitude = 19748. m (MSL)

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign - 14 Sep 2000
Botswana
Flight #00-176 Track #21

14:51:00

0.66µm (#3)

1.61µm (#10)

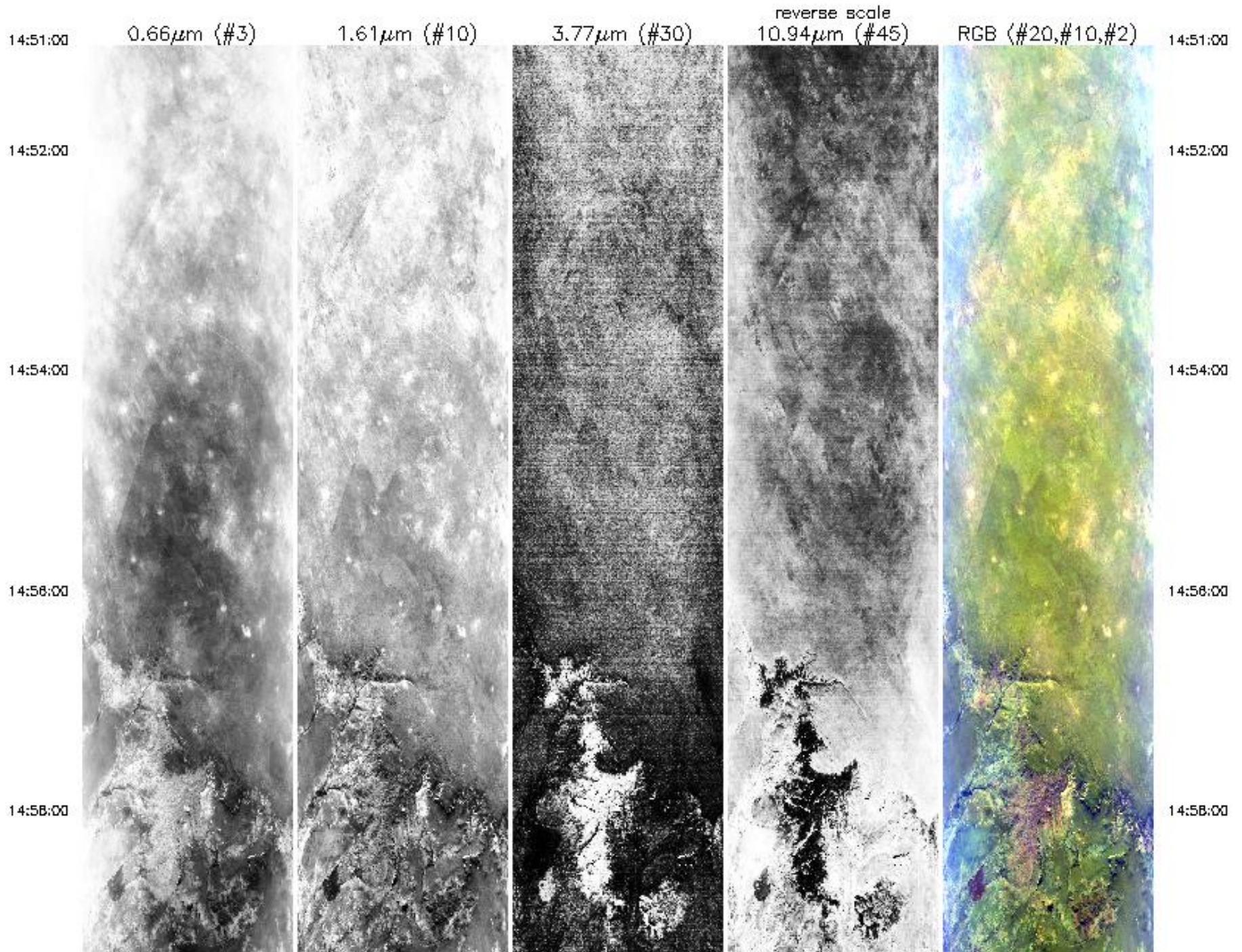
3.77µm (#30)

reverse scale
10.94µm (#45)

RGB (#20,#10,#2)

14:51:00

MODIS Airborne Simulator Browse Imagery
SAFARI 2000 Campaign – 14 Sep 2000
Botswana
Flight #00-176 Track #21



14:58:00



15:00:00



15:02:00



15:04:00



15:06:00



14:58:00

15:00:00

15:02:00

15:04:00

15:06:00

15:08:00



0.66µm (#3)



1.61µm (#10)



3.77µm (#30)



10.94µm (#45)
reverse scale



RGB (#20,#10,#2)

15:08:00

15:08:15

15:08:15

Upper Left Lat, Lon = -22.3° , 25.9°
Lower Right Lat, Lon = -22.6° , 27.9°
Aircraft Heading = 108.0°
Solar Zenith = 72.7°
GPS Altitude = 19855. m (MSL)