Comparative Research Between NOAA and FENG YUN Satellite Images for Determining the Capabilities of Land Covers Studies with aid of SAC-C (Argentina) and Landsat 5 TM (USA) Images. Study Area: Salado River Source.

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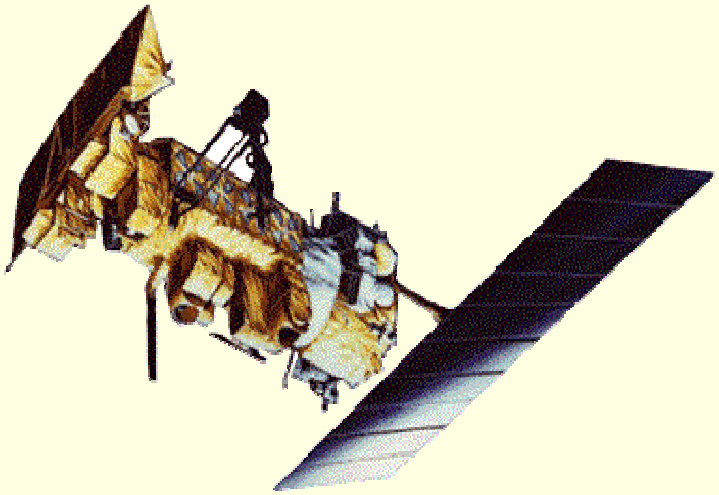
Facultad de Ciencias Exactas, Ingeniería y Agrimensura

Centro de Sensores Remotos
Universidad Nacional de Rosario

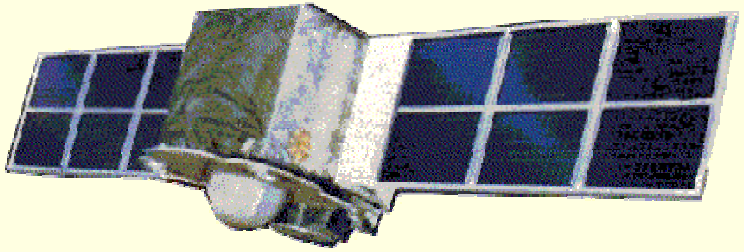
Satellite Platform



NOAA Series

North Oceanic and Atmospheric Administration
US Department of Commerce
USA.

1.1 Km Pixel Resolution



FENG YUN Series
(Wind and Cloud)

China Meteorological Administration
Peoples Republic of China.

1.1 Km Pixel Resolution

Dish and Antenna Pedestal Station

Plato parabólico de 1,20 m de diámetro	
Bit error rate	1:106 (desde 3.5° elevación)
Azimuth range	0° a 359.9° (mínimo)
Elevation range	0° a 180.0° (mínimo)
Azimuth rate	12.0°/segundos (+/-10%)
Elevation rate	4.5°/segundos (+/-10%)
Mechanical tolerance	< +/-0.2° azimuth y elevación
Tracking accuracy	< +/-0.5°
Survival temperature	-20°C to +60°C
Survival wind speed	145km/h (operacional 85km/h)

Especificaciones de feed, LNA y downconverter	
Feed:	
Beamwidth	3dB at 80°, 10dB at 150°
Gain	+4.5dB
Polarisation	Right-hand circular
Filter/LNA:	
Insertion loss	0.4dB (máximo)
Filter bandwidth	200MHz (máximo)
Noise figure	0.8dB (máximo)
Gain	+35dB (mínimo)
LNA bandwidth	100MHz (mínimo)
Bandpass filter:	
Insertion loss	1.5dB (máximo)
Bandwidth	1690MHz a 1710MHz
Downconverter:	
RF-IF gain	40dB (nominal)
Input range	1690MHz a 1710MHz
IF output	125MHz a 145MHz

Computer and Decoding System Station

Image download possibilities

Wed, Nov 03, 2004

Satellite	AOS	LOS	Mins	Way	Lat	Long	Azim	Elev	EQX	TEQX
NOAA16	01:14:42	01:21:48	7.1	S-E	29.1S	31.8W	89.3	3.7	168.1E	00:15:21
NOAA17	01:17:48	01:26:30	8.7	N-W	54.7S	75.9W	201.5	3.5	67.0W	23:52:15
NOAA16	02:51:12	03:04:54	13.7	S-E	9.9S	52.4W	20.1	4.4	142.6E	01:57:23
NOAA16	04:34:36	04:43:42	9.1	S-W	14.7S	79.1W	312.9	3.8	117.1E	03:39:25
NOAA12	05:01:54	05:15:12	13.3	S-E	10.8S	50.4W	25.5	3.9	144.7E	04:08:23
NOAA15	05:33:12	05:43:06	9.9	S-E	21.6S	37.1W	67.6	4.3	160.5E	04:36:34
FY-1C	06:00:54	06:14:24	13.5	S-E	11.6S	46.7W	34.2	3.8	148.6E	05:06:40
NOAA12	06:43:36	06:53:36	10.0	S-W	13.1S	76.2W	320.6	3.5	119.4E	05:49:28
NOAA15	07:10:54	07:24:06	13.2	S-W	9.4S	59.6W	2.7	4.4	135.2E	06:17:43
FY-1C	07:42:48	07:54:24	11.6	S-W	11.1S	72.1W	331.4	4.5	123.1E	06:48:43
FY-1D	07:54:06	08:07:12	13.1	S-E	12.7S	45.8W	37.6	4.2	149.9E	06:59:25
NOAA17	09:16:54	09:24:12	7.3	S-E	28.1S	32.8W	86.3	3.7	166.5E	08:18:18
FY-1D	09:35:36	09:47:36	12.0	S-W	10.4S	70.8W	335.1	4.1	124.3E	08:41:39
NOAA17	10:52:54	11:06:18	13.4	S-E	10.0S	53.7W	17.2	4.3	141.2E	09:59:31
NOAA17	12:36:00	12:44:00	8.0	S-W	16.5S	80.5W	307.4	3.7	115.9E	11:40:43
NOAA16	15:17:48	15:31:18	13.5	N-E	54.7S	44.6W	157.5	4.0	35.9W	13:51:35
NOAA16	16:59:24	17:10:30	11.1	N-W	56.2S	69.2W	191.7	4.5	61.4W	15:33:36
NOAA12	17:22:00	17:34:24	12.4	N-E	52.6S	42.2W	151.6	4.2	32.2W	15:55:57
FY-1C	18:28:00	18:40:30	12.5	N-E	52.5S	40.3W	149.5	4.1	30.0W	17:01:03
NOAA12	19:01:54	19:13:42	11.8	N-W	56.7S	65.3W	186.3	3.9	57.5W	17:37:02
NOAA15	19:31:00	19:44:18	13.3	N-E	55.5S	50.6W	165.8	4.3	41.8W	18:05:45
FY-1C	20:08:42	20:21:12	12.5	N-W	57.2S	63.3W	183.5	4.3	55.5W	18:43:07
FY-1D	20:22:00	20:34:48	12.8	N-E	52.7S	39.2W	148.7	3.7	29.0W	18:55:06
NOAA15	21:12:36	21:21:00	8.4	N-W	54.1S	76.6W	203.3	3.8	67.1W	19:46:54
FY-1D	22:02:42	22:15:54	13.2	N-W	58.1S	61.7W	181.3	3.6	54.6W	20:37:21
NOAA17	23:13:48	23:26:42	12.9	N-E	53.9S	45.3W	157.2	4.4	35.9W	21:47:59

Image download possibilities (1)

Satellite: Satellite from which the pass will be received

AOS: Time of acquisition of signal (start of image capture)

LOS: Time of loss of signal (end of image capture)

Mins: Duration of the pass, in minutes

Way: Direction in which the satellite will pass the station

- **N:** The satellite travelling Northbound (ascending node)
- **S:** The satellite travelling Southbound (descending node)
- **E:** The satellite pass to the East of the ground station
- **W:** The satellite pass to the West of the ground station
- **O:** The satellite pass directly over the ground station

Lat: Latitude of the satellite at AOS

Long: Longitude of the satellite at AOS

Azim: Azimuth of the satellite from the ground station at AOS

Elev: Elevation of the satellite from the ground station at AOS

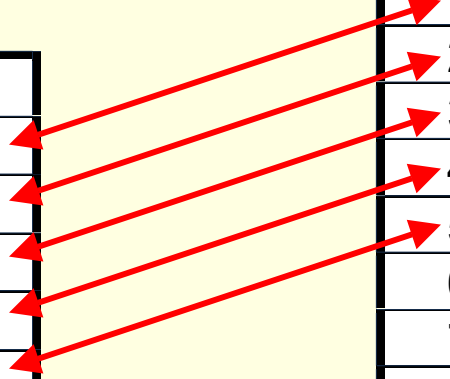
EQX: Longitude at which the satellite crosses the equator (0° latitude)

TEQX: Time at which the satellite crosses the equator

Comparative NOAA - FENG YUN Similar Image Band (1)

NOAA 12-14-15-16

	Band	Range (µm)
Red	1	0,58 - 0,68
Nir	2	0,72 - 1,10
Mir	3	3,55 - 3,97
Tir	4	10,30 - 11,30
Tir	5	11,50 - 12,50



FENG YUN 1C/1D

Band	Range (µm)	
1	0,58 - 0,68	
2	0,84 - 0,89	
3	3,55 - 3,93	
4	10,30 - 11,30	
5	11,50 - 12,50	
6	1,58 - 1,64	**Mir**
7	0,43 - 0,48	**Blue**
8	0,48 - 0,53	**Blue-Green**
9	0,53 - 0,58	**Green**
10	0,90 - 0,965	**Nir**

Comparative NOAA - FENG YUN Similar Image Band (2)

NOAA 17

	Band	Range (μm)
Red	1	0,58 - 0,68
Nir	2	0,72 - 1,10
Mir	3	1,57 - 1,67
Tir	4	10,30 - 11,30
Tir	5	11,50 - 12,50

FENG YUN 1C/1D

Band	Range (μm)	
1	0,58 - 0,68	
2	0,84 - 0,89	
3	3,55 - 3,93	**Mir**
4	10,30 - 11,30	
5	11,50 - 12,50	
6	1,58 - 1,64	
7	0,43 - 0,48	**Blue**
8	0,48 - 0,53	**Blue-Green**
9	0,53 - 0,58	**Green**
10	0,90 - 0,965	**Nir**

Comparative NOAA - FENG YUN Similar Image Band (3)

NOAA 12-14-15-16

	Band	Range (µm)
Red	1	0,58 - 0,68
Nir	2	0,72 - 1,10
Mir	3	3,55 - 3,97
Tir	4	10,30 - 11,30
Tir	5	11,50 - 12,50

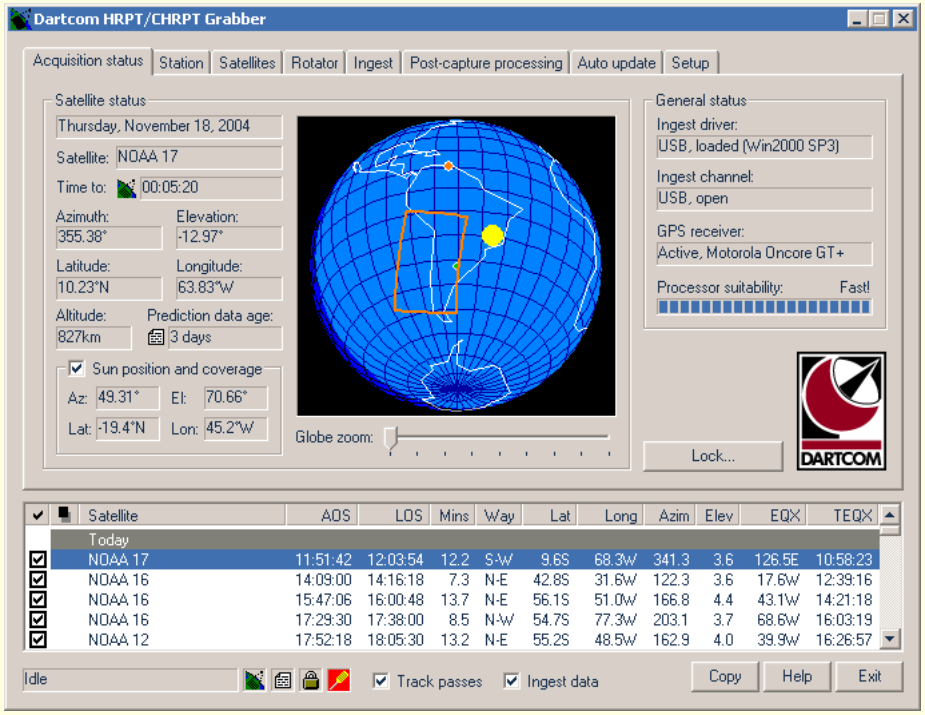
NOAA 17

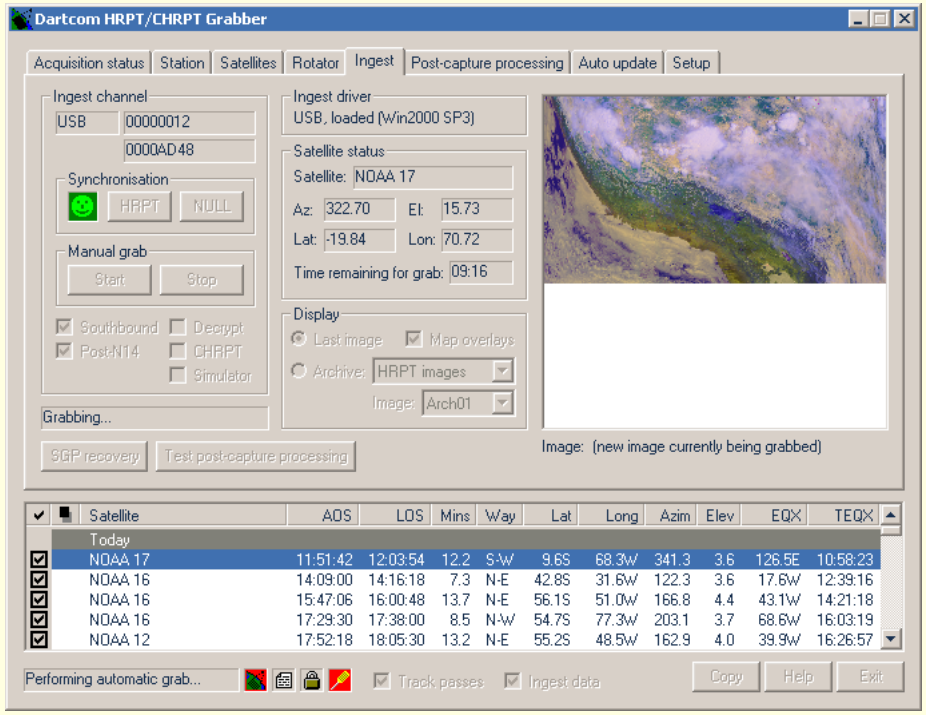
	Band	Range (µm)
Red	1	0,58 - 0,68
Nir	2	0,72 - 1,10
Mir	3	1,57 - 1,67
Tir	4	10,30 - 11,30
Tir	5	11,50 - 12,50

FENG YUN 1C/1D

Band	Range (µm)	
1	0,58 - 0,68	
2	0,84 - 0,89	
3	3,55 - 3,93	
4	10,30 - 11,30	
5	11,50 - 12,50	
6	1,58 - 1,64	
7	0,43 - 0,48	Blue
8	0,48 - 0,53	Blue-Green
9	0,53 - 0,58	Green
10	0,90 - 0,965	Nir

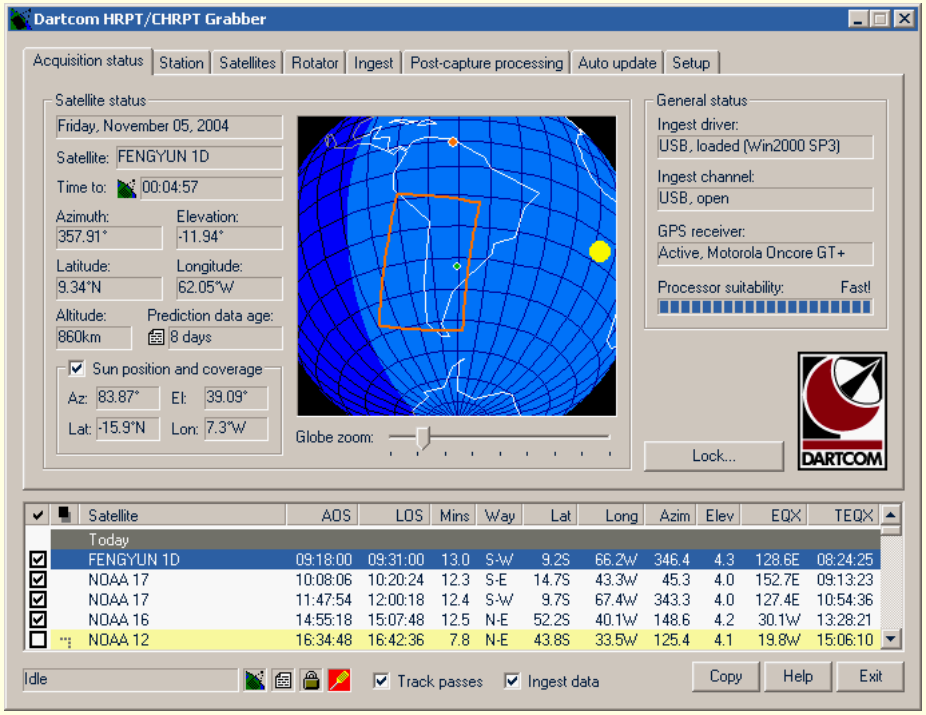
NOAA Image File Size

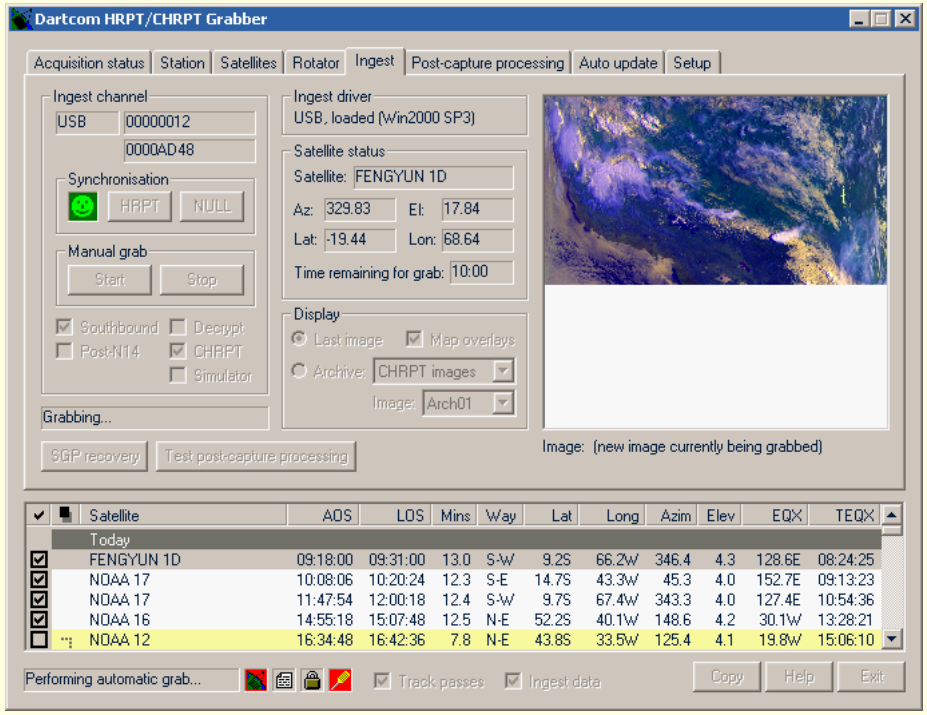




NOAA17 image → 5 bands, 12.2 minutes, 4410 lines, 2048 pixels per line → 93.83 Megabytes, 7.69 Megabytes per minute

FENG YUN Image File Size





FY 1D image →

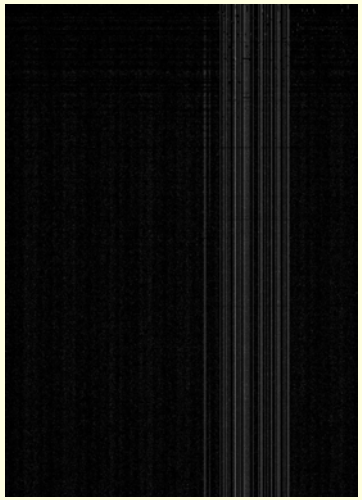
10 bands
13.0 minutes
4710 lines
2048 pixels per line

→

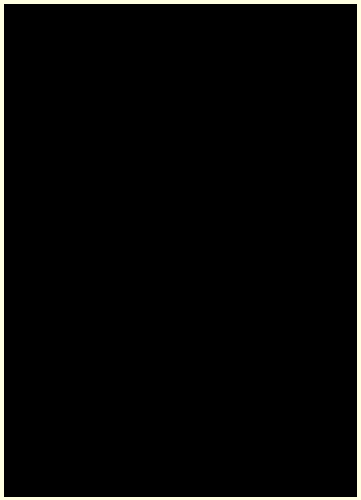
199.6 Megabytes
15.35 Megabytes per minute

FENG YUN 1C Image Errors

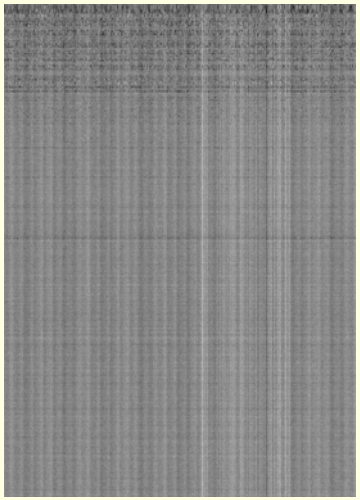
1 - 0.58 - 0.68 µm



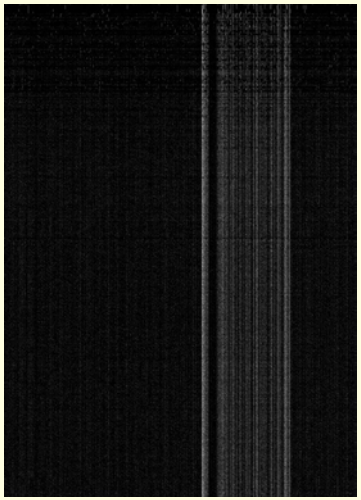
2 - 0.84 - 0.89 µm



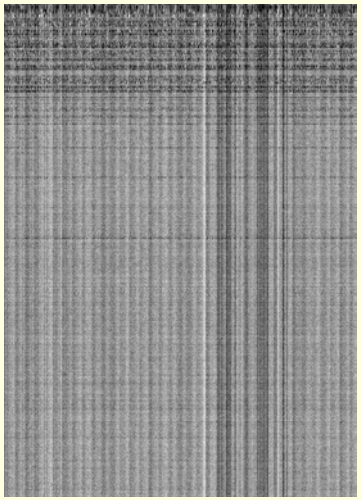
3 - 3.55 - 3.93 µm



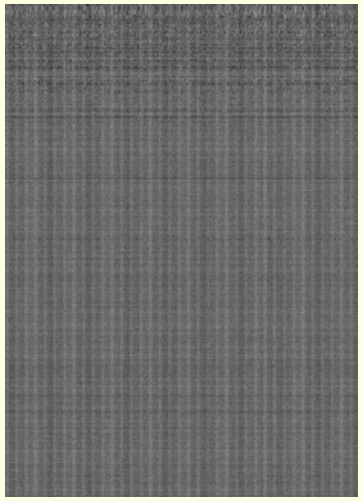
4 - 10.30 - 11.30 µm



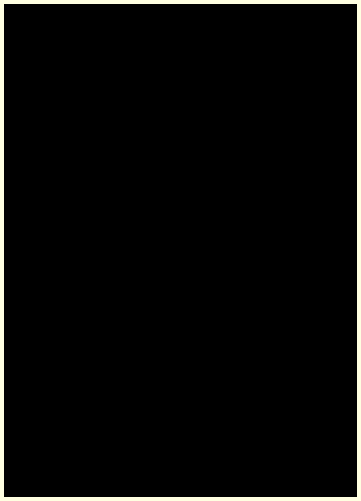
5 - 11.50 - 12.50 µm



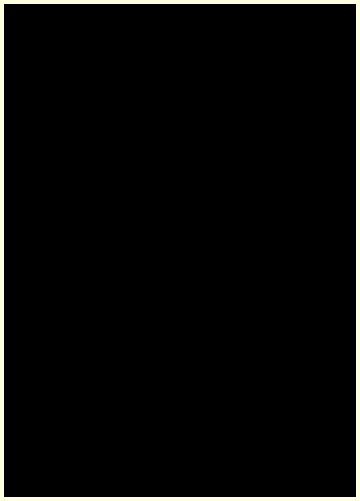
6 - 1.58 - 1.64 µm



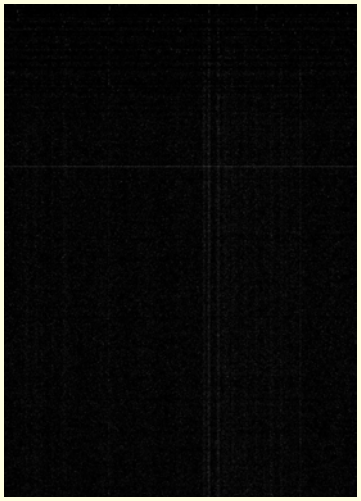
7 - 0.43 - 0.48 µm



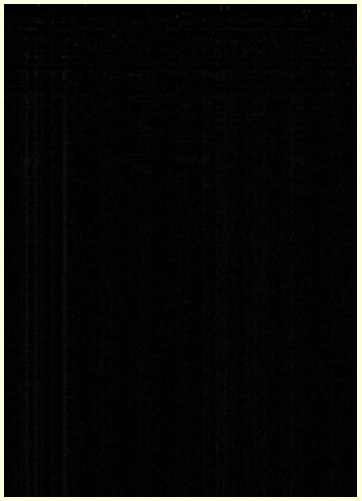
8 - 0.48 - 0.53 µm



9 - 0.53 - 0.58 µm

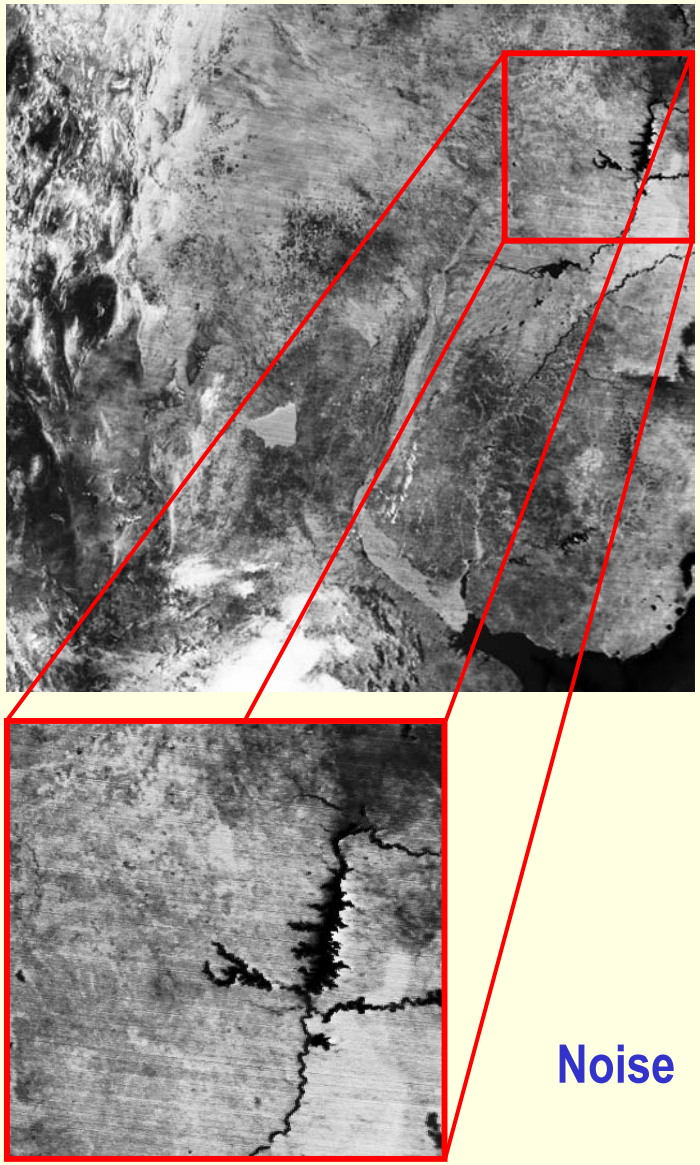


10 - 0.90 - 0.965 µm



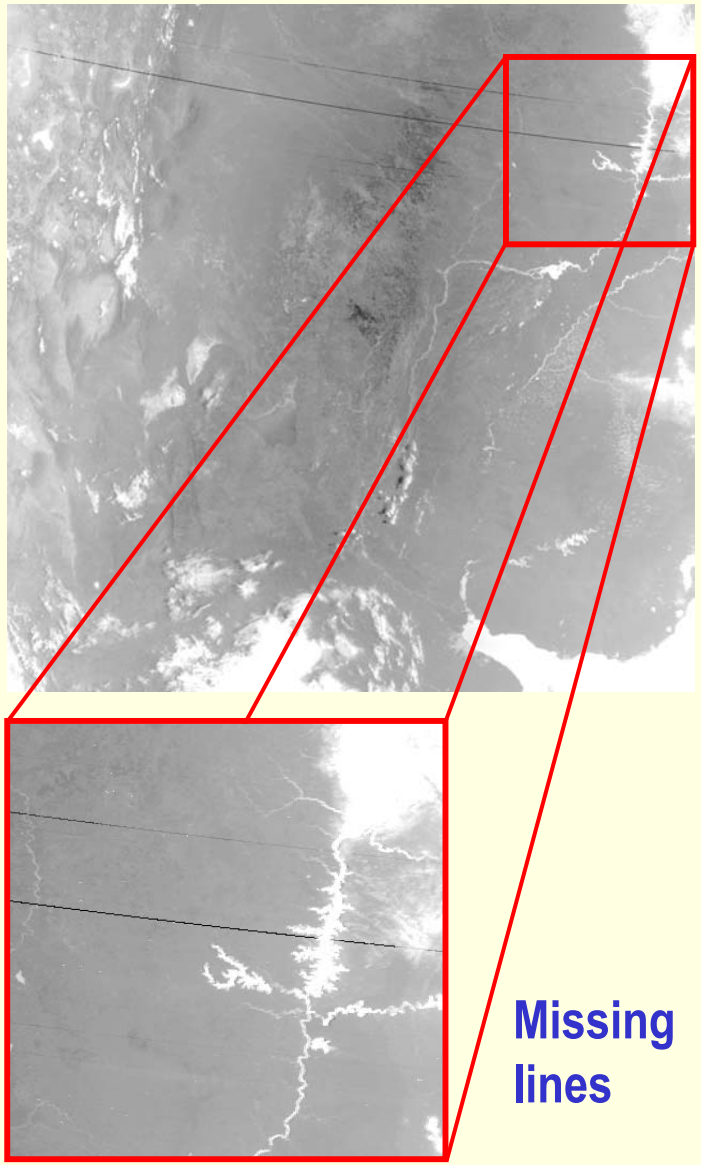
FENG YUN 1D Image Problems

Band 3 3.55 - 3.93 µm



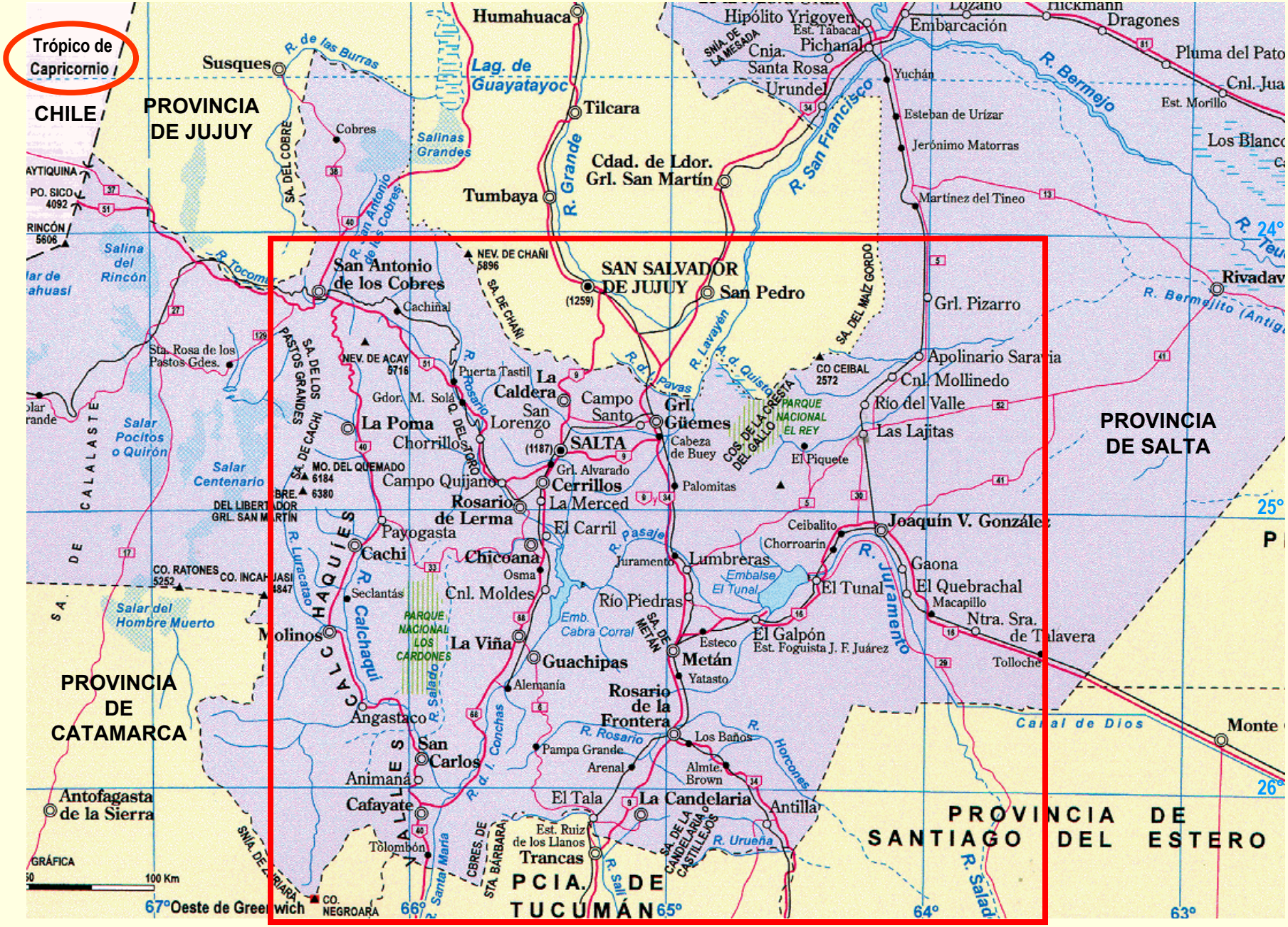
Noise

Band 7 0.43 - 0.48 µm



Missing lines

Study Area



Trópico de Capricornio
CHILE
PROVINCIA DE JUJUY
PROVINCIA DE SALTA
PROVINCIA DE CATAMARCA
PROVINCIA DE SANTIAGO DEL ESTERO
PCIA. DE TUCUMÁN
Humahuaca
Susques
Lag. de Guayatayoc
Tilcara
Tumbaya
Cdad. de Ldor. Grl. San Martín
Hipólito Yrigoyen
Embarcación
Dragones
Pichanal
Urundel
Yuchán
Esteban de Urízar
Jerónimo Matorras
Martínez del Tineo
Los Blancos
Pluma del Pato
Cnl. Juan
Est. Morillo
R. Bermejo
R. San Francisco
R. Grande
Cobres
Salinas Grandes
Salina del Rincón
Salar Pocitos o Quirón
Salar Centenario
Salar del Hombre Muerto
San Antonio de los Cobres
Cachiñal
NEV. DE CHAÑI 5896
SAN SALVADOR DE JUJUY
San Pedro
Grl. Pizarro
Apolinario Saravia
Cnl. Mollinedo
Río del Valle
Las Lajitas
Rivadavia
Sta. Rosa de los Pastos Gdes.
NEV. DE ACAY 5716
Puerta Tastil
La Caldera
Campo Santo
Grl. Güemes
Cabeza de Buey
Palomitas
El Piquete
La Poma
Chorrillos
San Lorenzo
SALTA
Grl. Alvarado
Cerrillos
La Merced
Campo Quijano
Rosario de Lerma
El Carril
Payogasta
Cachi
Chicoana
Osma
Cnl. Moldes
Seclantás
Molinos
La Viña
Guachipas
Alemania
Angastaco
San Carlos
Animaná
Cafayate
Tolombón
Antofagasta de la Sierra
Juramento
Lumbreras
Embalse El Tunal
Río Piedras
Esteco
Metán
Yatasto
El Galpón
Est. Foguista J. F. Juárez
El Tunal
Ceibalito
Chorroarín
Joaquín V. González
Gaona
El Quebrachal
Macapillo
Ntra. Sra. de Talavera
Tolloche
Rosario de la Frontera
Los Baños
Pampa Grande
Arenal
Almte. Brown
El Tala
La Candelaria
Antilla
Est. Ruiz de los Llanos
Trancas
Canal de Dios
Monte
Emb. Cabra Corral
PARQUE NACIONAL LOS CARDONES
PARQUE NACIONAL EL REY
CALCHAQUÍES
VALLES
R. Calchaquí
R. Rosario
R. Juramento
R. Horcones
R. Urueña
R. Salado
R. Pasaje
R. Lavayén
R. d. Pavas
R. d. Quisto
R. Tocomar
R. Luracatao
R. Salado
R. Santa María
R. Salí
SA. DE CALALASTE
SA. DE LOS PASTOS GRANDES
SA. DE CACHI
SA. DE CHAÑI
SA. DEL MAÍZ GORDO
SA. DE METÁN
SA. DE LA CANDELARIA o CASTILLEJOS
CO CEIBAL 2572
CO. RATONES 5252
CO. INCAHUASI 4847
CO. NEGROARA
CBRES. DE STA. BÁRBARA
SNÍA. DE ZURIARA
SNÍA. DE LA MESADA
PO. SICO 4092
RINCÓN 5606
MO. DEL QUEMADO 6184
BRE. 6380
DEL LIBERTADOR GRL. SAN MARTÍN
GRÁFICA
100 Km
67° Oeste de Greenwich
66°
65°
64°
63°
24°
25°
26°

Study Area

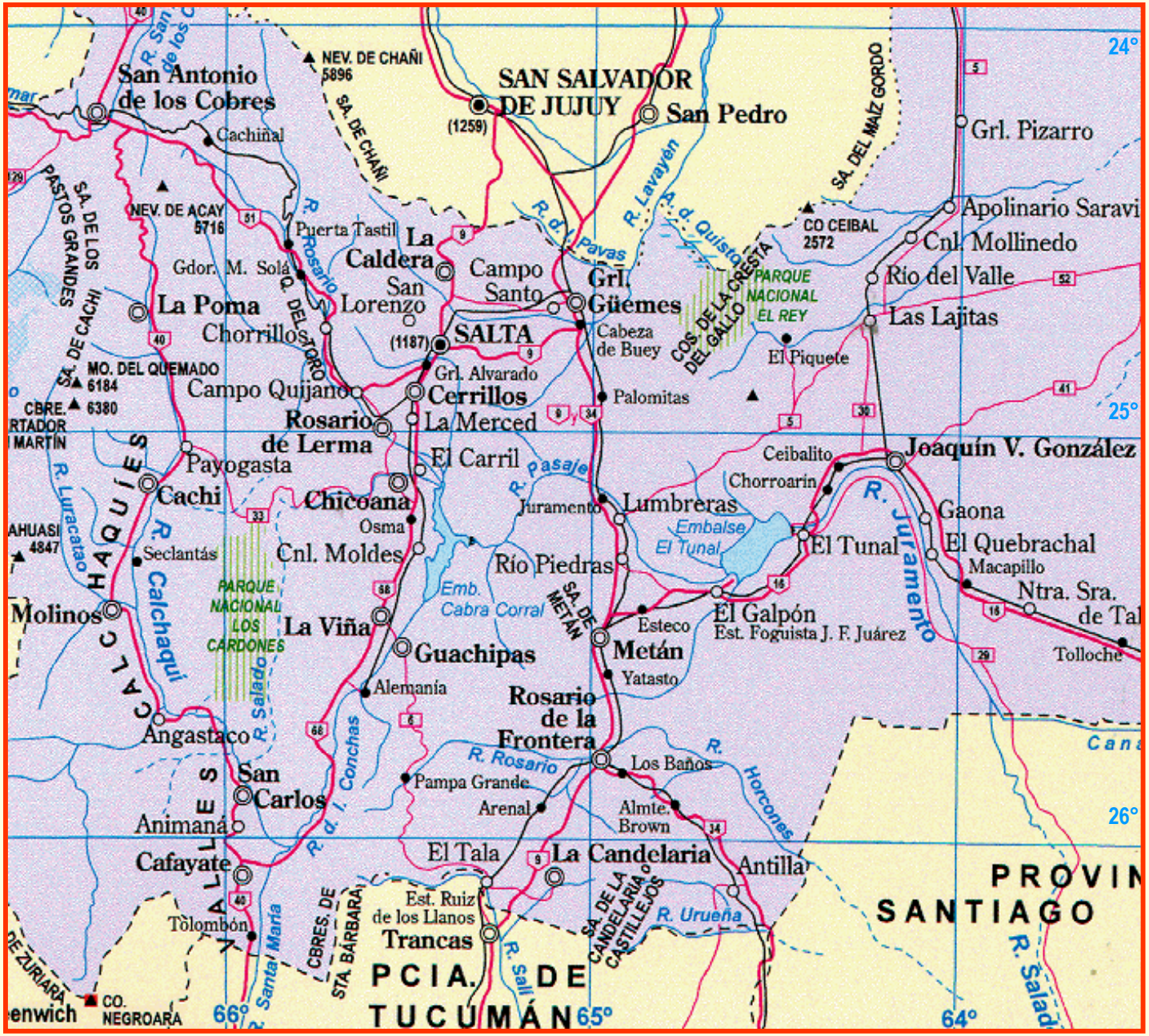
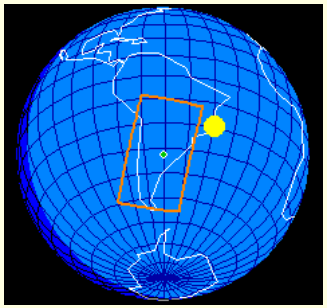
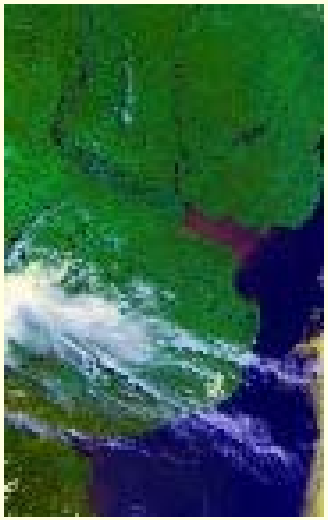
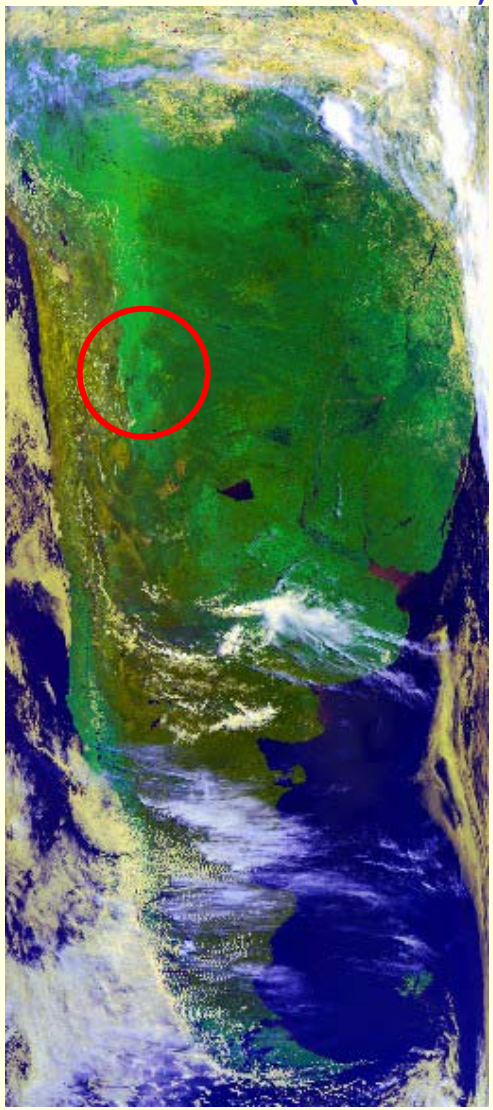

San Antonio de los Cobres
NEV. DE CHAÑI 5896
SAN SALVADOR DE JUJUY
(1259)
San Pedro
Grl. Pizarro
Cachiñal
SA. DE CHAÑI
SA. DEL MAÍZ GORDO
24°
NEV. DE ACAY 5716
Puerta Tastil
La Caldera
Campo Santo
Grl. Güemes
R. Lavayén
R. d. l. Pavas
R. d. Quisto
CO CEIBAL 2572
Apolinario Saravi
Cnl. Mollinedo
Río del Valle
Las Lajitas
PARQUE NACIONAL EL REY
COS. DE LA CRESTA DEL GALLO
El Piquete
Gdor. M. Solá
R. Rosario
Q. DEL TORO
La Poma
Chorrillos
San Lorenzo
(1187)
SALTA
Cabeza de Buey
SA. DE LOS PASTOS GRANDES
SA. DE CACHI
MO. DEL QUEMADO 6184
CBRE. 6380
Campo Quijano
Grl. Alvarado
Cerrillos
Palomitas
Rosario de Lerma
La Merced
25°
Payogasta
El Carril
Ceibalito
Joaquín V. González
Cachi
Chicoana
Chorroarin
R. Pasaje
Juramento
Lumbreras
R. Luracatao
Osma
Embalse El Tunal
Gaona
El Tunal
El Quebrachal
Seclantás
Cnl. Moldes
Río Piedras
Macapillo
R. Calchaquí
PARQUE NACIONAL LOS CARDONES
Emb. Cabra Corral
SA. DE METÁN
Ntra. Sra. de Tal
Molinos
La Viña
El Galpón
Est. Foguista J. F. Juárez
Esteco
Metán
Guachipas
Yatasto
Tolloche
Alemania
Rosario de la Frontera
Angastaco
R. Salado
R. d. l. Conchas
R. Rosario
Los Baños
R. Horcones
San Carlos
Pampa Grande
Arenal
Almte. Brown
26°
Animaná
El Tala
La Candelaria
Antilla
Cafayate
Est. Ruiz de los Llanos
Trancas
SA. DE LA CANDELARIA
CASTILLEJOS
R. Urueña
PROVIN
SANTIAGO
Tolombón
CBRES. DE STA. BÁRBARA
R. Santa María
R. Salí
PCIA. DE TUCUMÁN
CO. NEGROARA
66°
65°
64°

Image Quicklooks

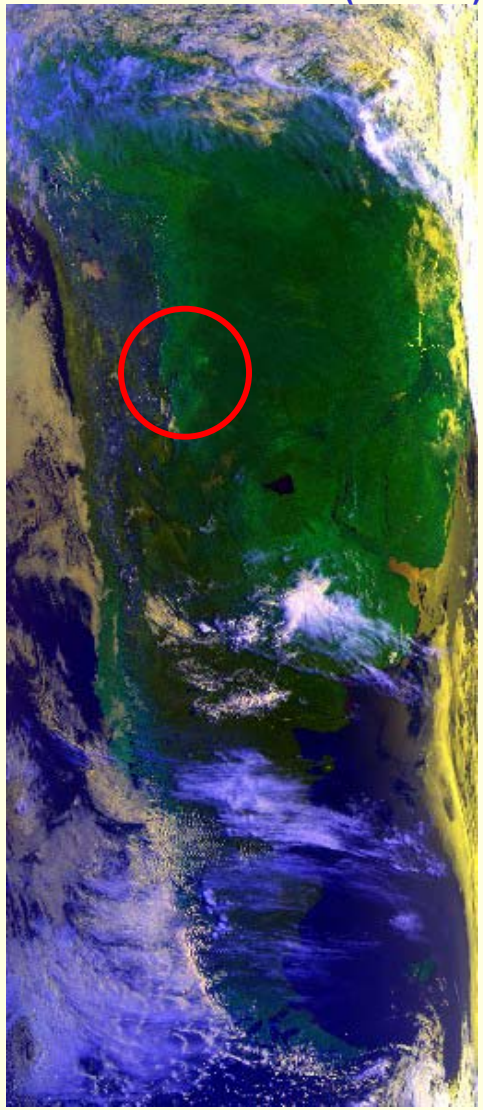
NOAA 17
26/01/2004 11:03:13 (GMT -3)

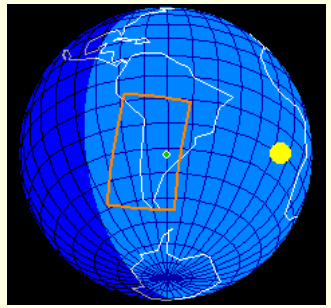


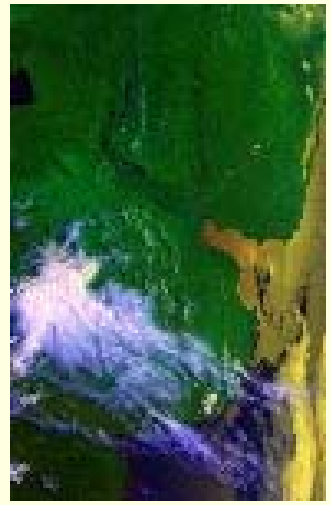




FENG YUN 1D
26/01/2004 09:11:02 (GMT -3)



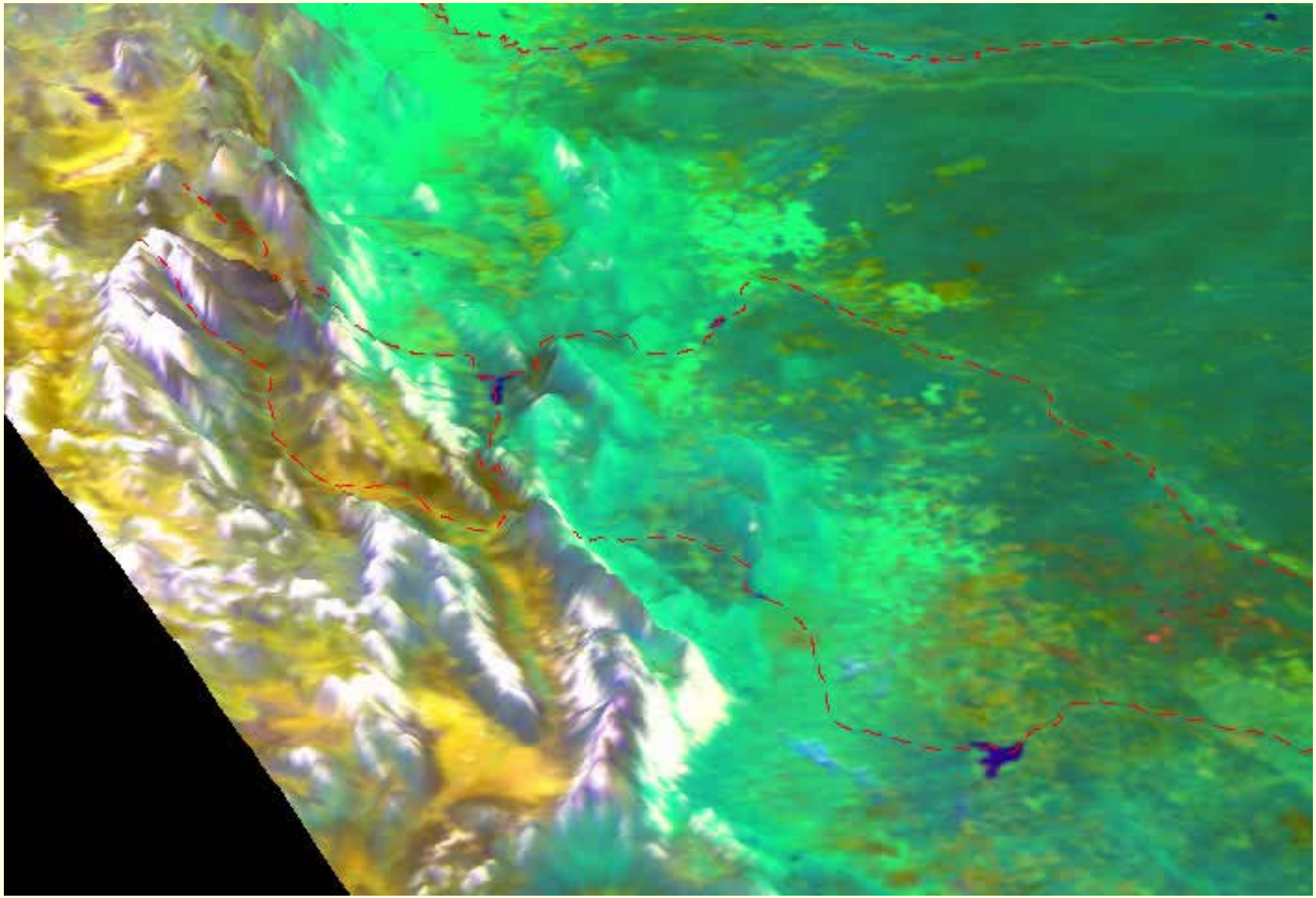




Lateral Look - Incident Solar Angle

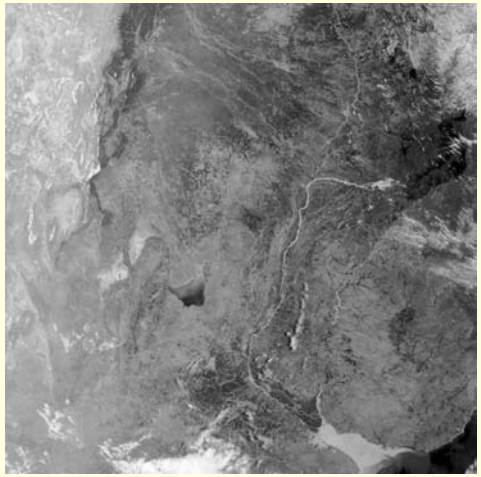
Fly over the Study Area

Produced with a Digital Elevation Model (DEM) and a NOAA 17 image from 26/01/2004 11:03:13 (GMT -3)



NOAA 17 26/01/2004 Image Bands

1 - 0.58 - 0.68 µm



Red

2 - 0.72 - 1.10 µm

Near InfraRed

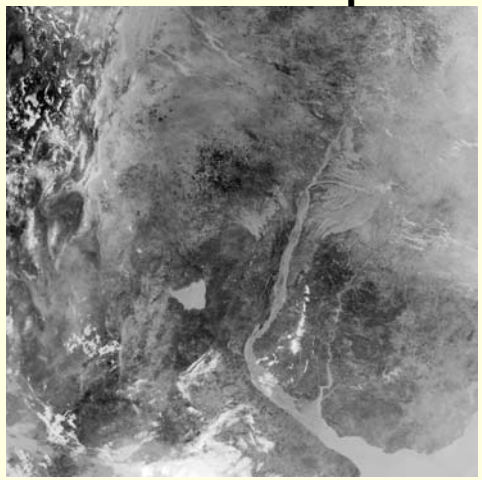
3 - 1.57 - 1.67 µm

Medium InfraRed

4 - 10.30 - 11.30 µm

Thermal InfraRed

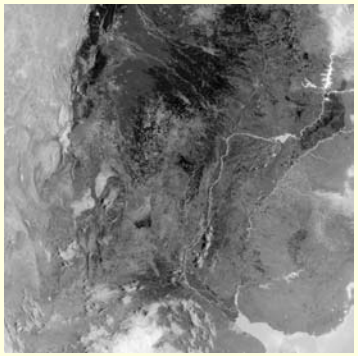
5 - 11.50 - 12.50 µm



Thermal InfraRed

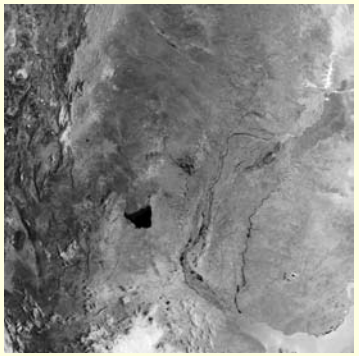
FENG YUN 1D 26/01/2004 Image Bands

1 - 0.58 - 0.68 µm



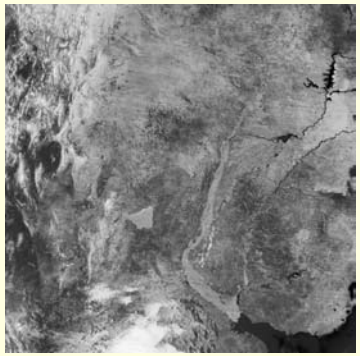
Red

2 - 0.84 - 0.89 µm



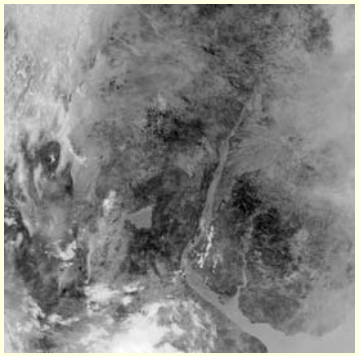
Near InfraRed

3 - 3.55 - 3.93 µm



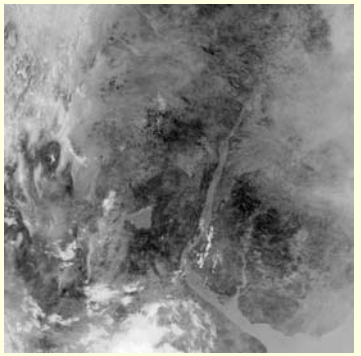
Medium InfraRed

4 - 10.30 - 11.30 µm



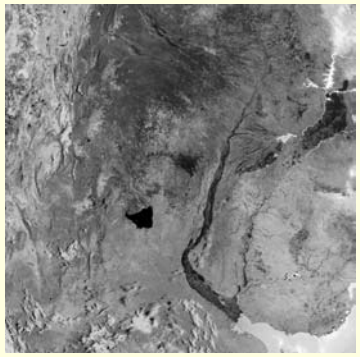
Thermal InfraRed

5 - 11.50 - 12.50 µm



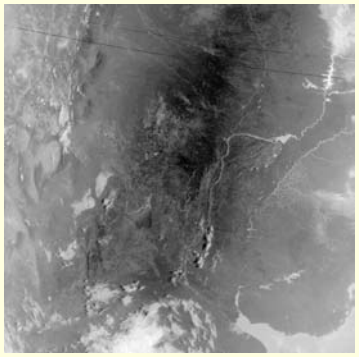
Thermal InfraRed

6 - 1.58 - 1.64 µm



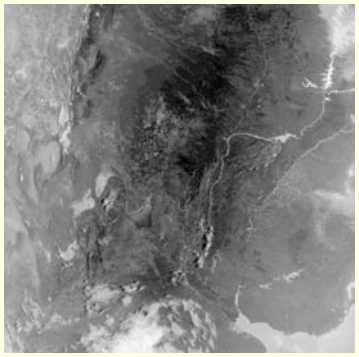
Medium InfraRed

7 - 0.43 - 0.48 µm



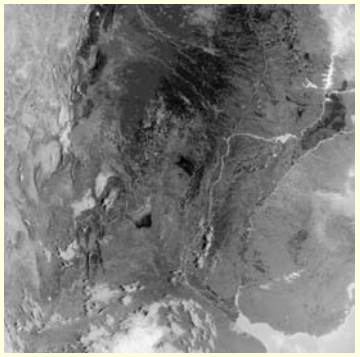
Red

8 - 0.48 - 0.53 µm



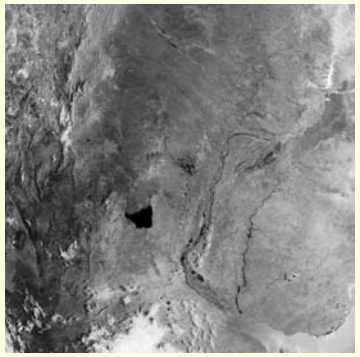
Blue - Green

9 - 0.53 - 0.58 µm



Green

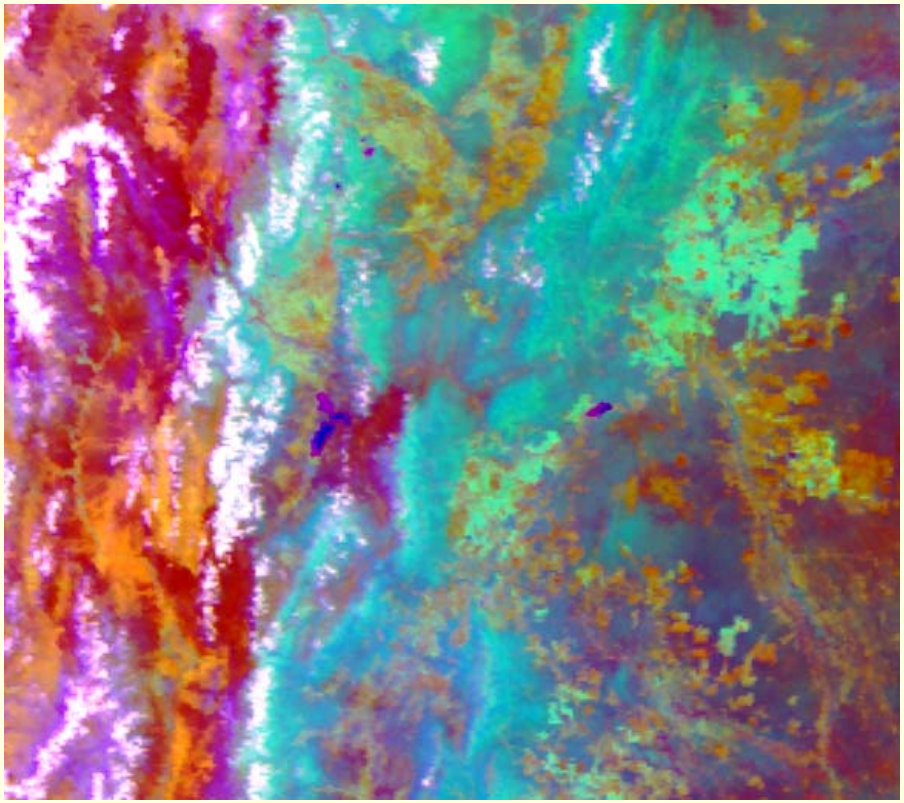
10 - 0.90 - 0.965 µm



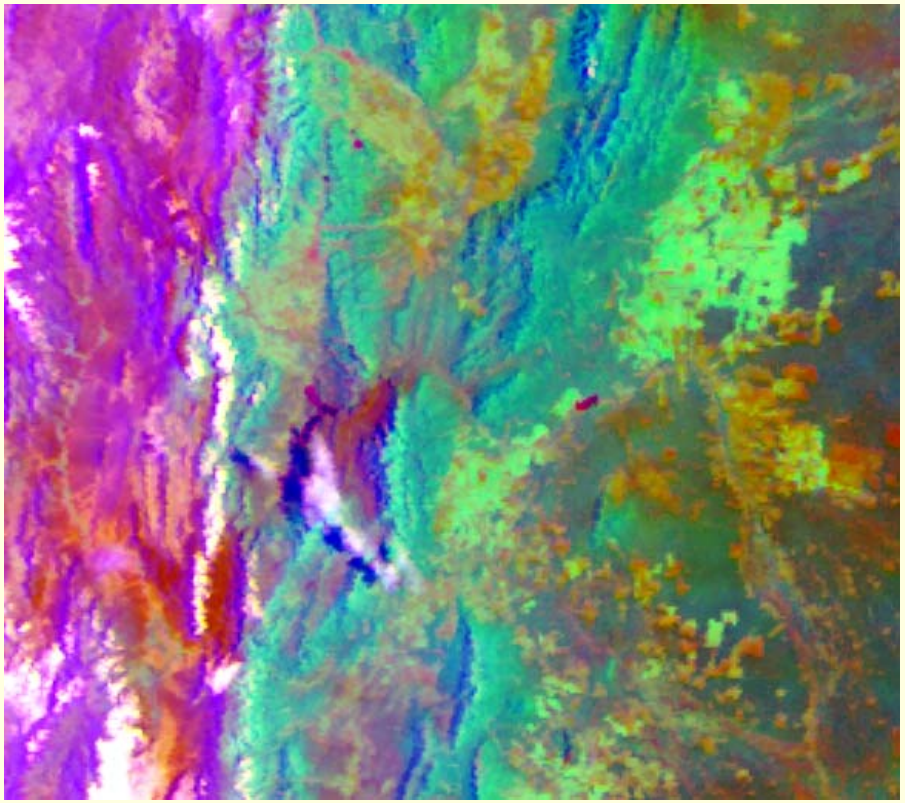
Near InfraRed

Comparative Image Analysis NOAA 17 - FENG YUN 1D

Gaussian Enhance Standard Deviation 2.20

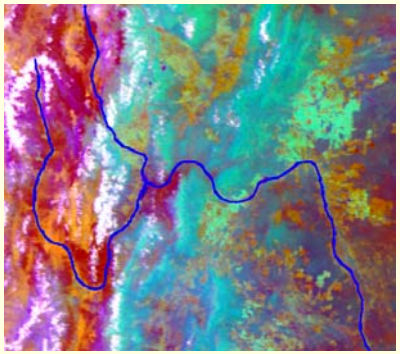


NOAA17 26/01/2004 11:03:13 (GMT -3) RGB 124

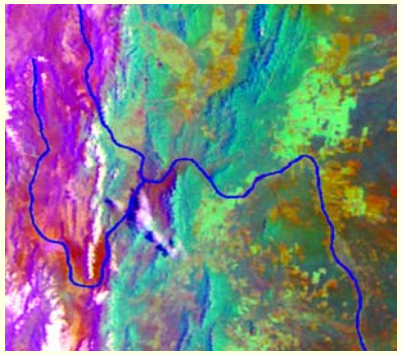


FY1D 26/01/2004 09:11:02 (GMT -3) RGB124

R: 0.58 - 0.68 µm (Red)
G: 0.72 - 1.10 µm (Nir)
B: 10.30 - 11.30 µm (Tir)

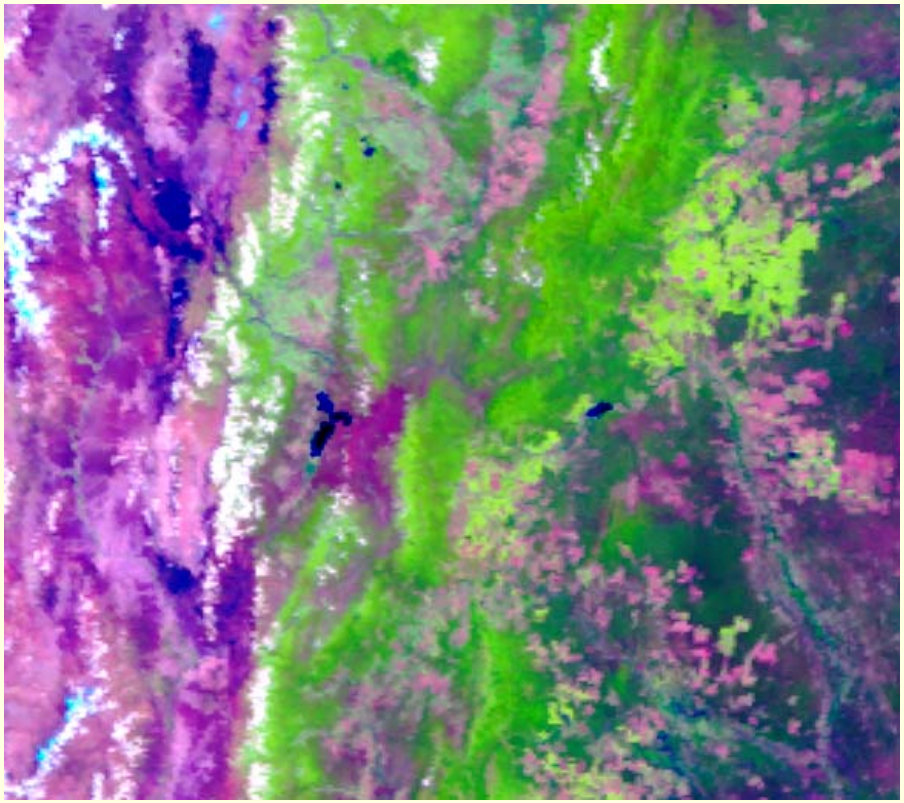


R: 0.58 - 0.68 µm (Red)
G: 0.84 - 0.89 µm (Nir)
B: 10.30 - 11.30 µm (Tir)

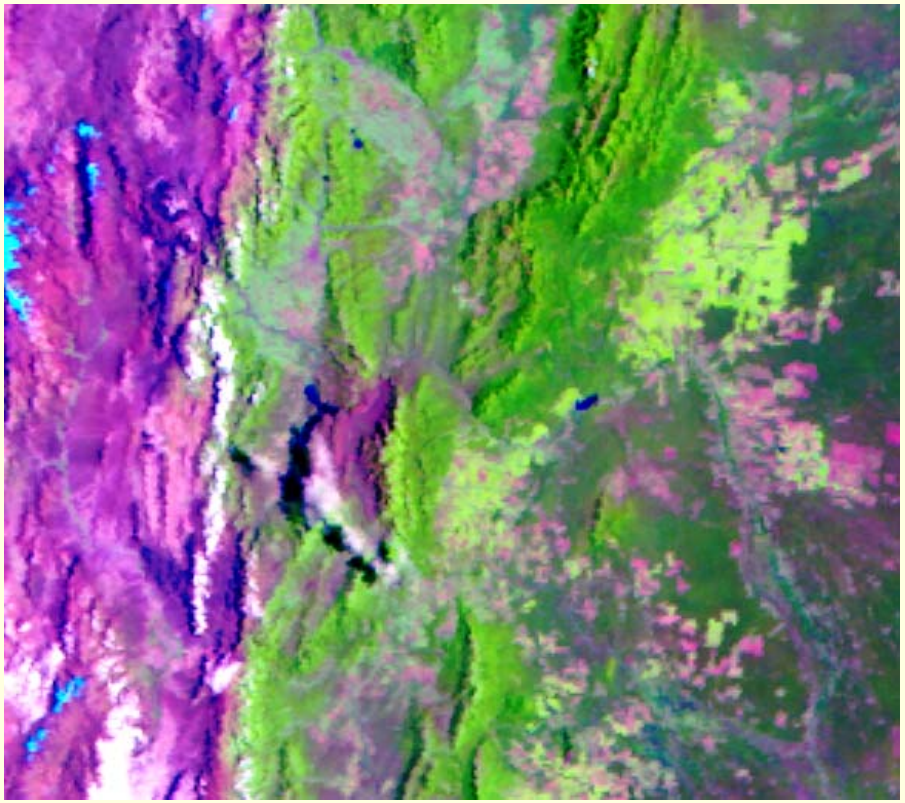


Comparative Image Analysis NOAA 17 - FENG YUN 1D

Gaussian Enhance Standard Deviation 2.20

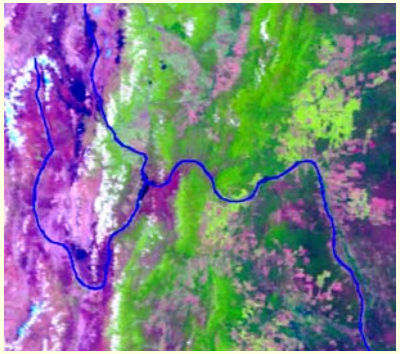


NOAA17 26/01/2004 11:03:13 (GMT -3) RGB 3a 2 1

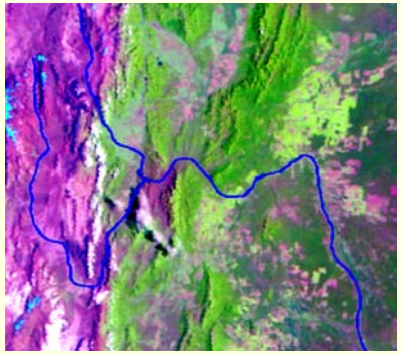


FY1D 26/01/2004 09:11:02 (GMT -3) RGB 6 2 1

R: 1.57 - 1.67 µm (Mir)
G: 0.72 - 1.10 µm (Nir)
B: 0.58 - 0.68 µm (Red)

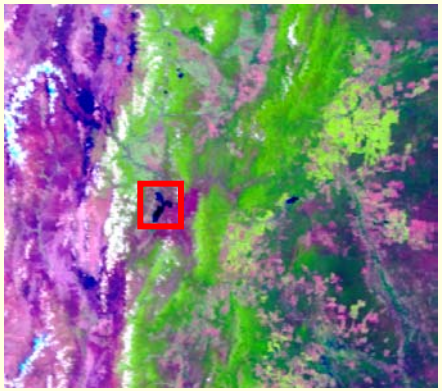


R: 1.58 - 1.68 µm (Mir)
G: 0.84 - 0.89 µm (Nir)
B: 0.58 - 0.68 µm (Red)



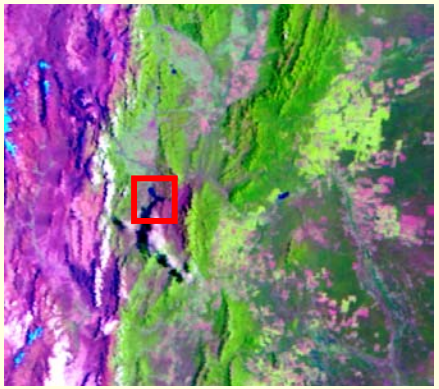
Comparative Image Analysis NOAA 17 - FEN YUNG 1D

Digital Number Matrix subset comparison of water pixels - Gaussian Enhance StDv 2.20



NOAA17 26/01/2004
11:03:13 (GMT -3)
RGB 3a 2 1

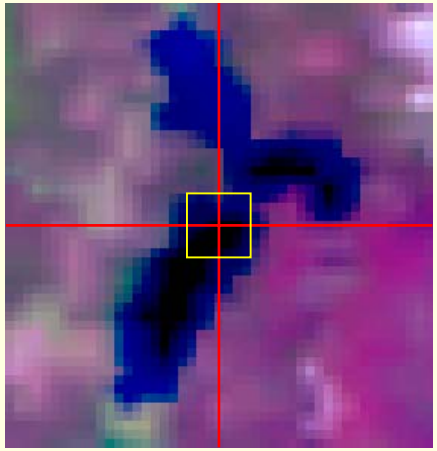
R: 1.57 - 1.67 µm (Mir)
G: 0.72 - 1.10 µm (Nir)
B: 0.58 - 0.68 µm (Red)



FY1D 26/01/2004
09:11:02 (GMT -3)
RGB 6 2 1

R: 1.58 - 1.68 µm (Mir)
G: 0.84 - 0.89 µm (Nir)
B: 0.58 - 0.68 µm (Red)

Matrix subset 7x7 pixels DN Value



Pixel Lat -25° 16' 58.21"
Lon -65° 26' 58.44"

Subset Zoom X6
Cabra Corral Dam
Water

Band 3a

468	423	469	515	495	475	462
412	322	413	505	474	443	481
389	322	327	333	320	308	408
366	322	241	161	167	174	335
306	219	175	130	177	225	365
246	117	108	100	188	276	396
194	145	207	269	313	357	438

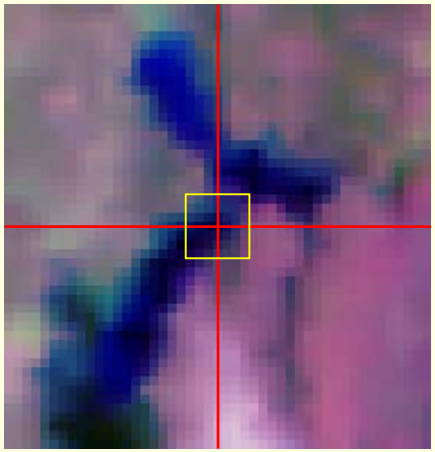
Band 2

260	240	260	281	250	219	215
215	179	213	248	225	202	232
206	179	177	175	164	154	203
198	179	141	103	104	106	175
170	130	109	89	107	125	191
142	82	78	75	110	145	206
118	95	119	144	161	179	228

Band 1

162	159	162	165	165	166	168
155	145	155	166	165	165	170
151	145	144	143	142	142	154
148	145	132	120	120	120	138
136	127	120	114	120	126	144
125	110	109	108	120	133	150
120	115	123	131	137	143	158

Matrix subset 7x7 pixels DN Value



Pixel Lat -25° 16' 58.21"
Lon -65° 26' 58.44"

Subset Zoom X6
Cabra Corral Dam
Water

Band 6

120	111	98	85	92	99	94
106	91	81	71	83	95	112
77	68	63	59	77	95	116
48	45	46	47	71	95	121
51	55	62	69	86	103	126
55	66	79	92	102	112	131
69	83	94	106	110	115	134

Band 2

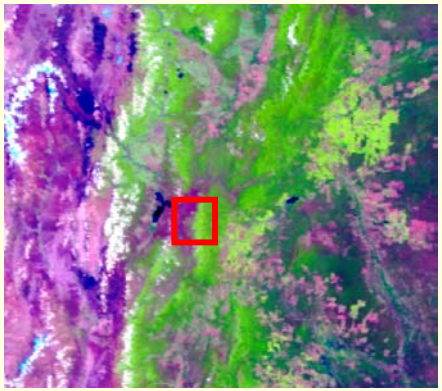
105	99	83	68	65	62	55
99	93	82	71	70	69	67
78	70	61	53	61	69	75
57	48	41	35	52	69	82
46	44	46	48	61	74	84
35	40	51	62	70	79	87
43	51	62	73	77	81	88

Band 1

50	51	50	49	48	48	46
50	50	49	48	48	48	48
47	46	44	43	45	48	49
44	42	40	39	43	48	50
41	41	41	41	43	48	48
39	40	41	43	44	45	47
41	43	44	45	45	45	48

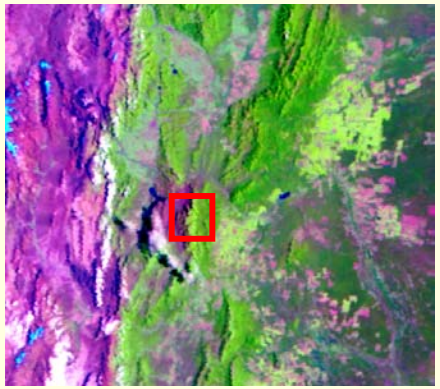
Comparative Image Analysis NOAA 17 - FENG YUN 1D

Digital Number Matrix subset comparison of vegetation pixels - Gaussian Enhance StDv 2.20



NOAA17 26/01/2004
11:03:13 (GMT -3)
RGB 3a 2 1

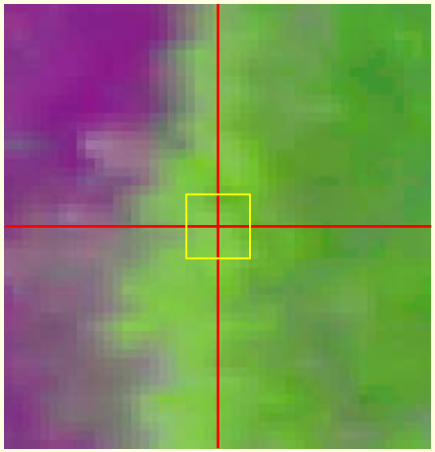
R: 1.57 - 1.67 µm (Mir)
G: 0.72 - 1.10 µm (Nir)
B: 0.58 - 0.68 µm (Red)



FY1D 26/01/2004
09:11:02 (GMT -3)
RGB 6 2 1

R: 1.58 - 1.68 µm (Mir)
G: 0.84 - 0.89 µm (Nir)
B: 0.58 - 0.68 µm (Red)

Matrix subset 7x7 pixels DN Value



Pixel Lat -25° 22' 29.00"
Lon -65° 10' 57.81"

Subset Zoom X6

Vegetation

Band 3a

535	533	530	527	526	525	527
536	536	534	533	530	528	528
538	540	539	539	535	532	529
540	541	541	541	536	532	529
543	543	543	543	537	532	529
541	541	541	541	538	536	532
539	539	539	540	540	540	535

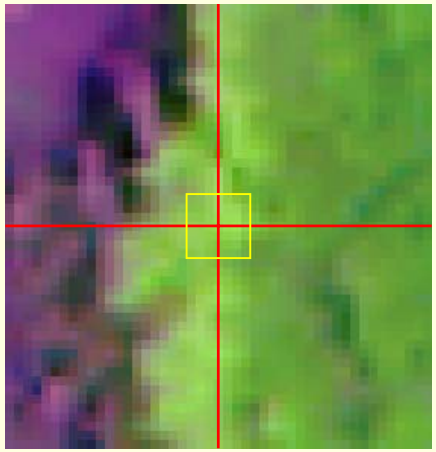
Band 2

508	506	496	487	489	491	495
512	513	507	501	500	499	497
516	520	517	515	511	507	500
503	515	516	517	512	507	497
490	510	514	519	513	507	494
503	515	519	523	518	514	503
516	521	524	527	524	521	511

Band 1

139	138	134	130	128	127	128
140	140	137	135	132	129	129
142	143	141	140	136	132	130
148	145	143	141	136	132	130
154	148	145	143	137	132	130
146	142	140	138	136	135	132
138	137	135	133	135	138	135

Matrix subset 7x7 pixels DN Value



Pixel Lat -25° 22' 29.00"
Lon -65° 10' 57.81"

Subset Zoom X6

Vegetation

Band 6

148	148	159	170	157	145	134
144	142	156	170	165	161	143
154	149	157	166	165	164	147
164	156	159	163	165	167	150
160	156	153	150	151	153	140
156	156	147	138	138	139	130
146	151	145	138	135	131	126

Band 2

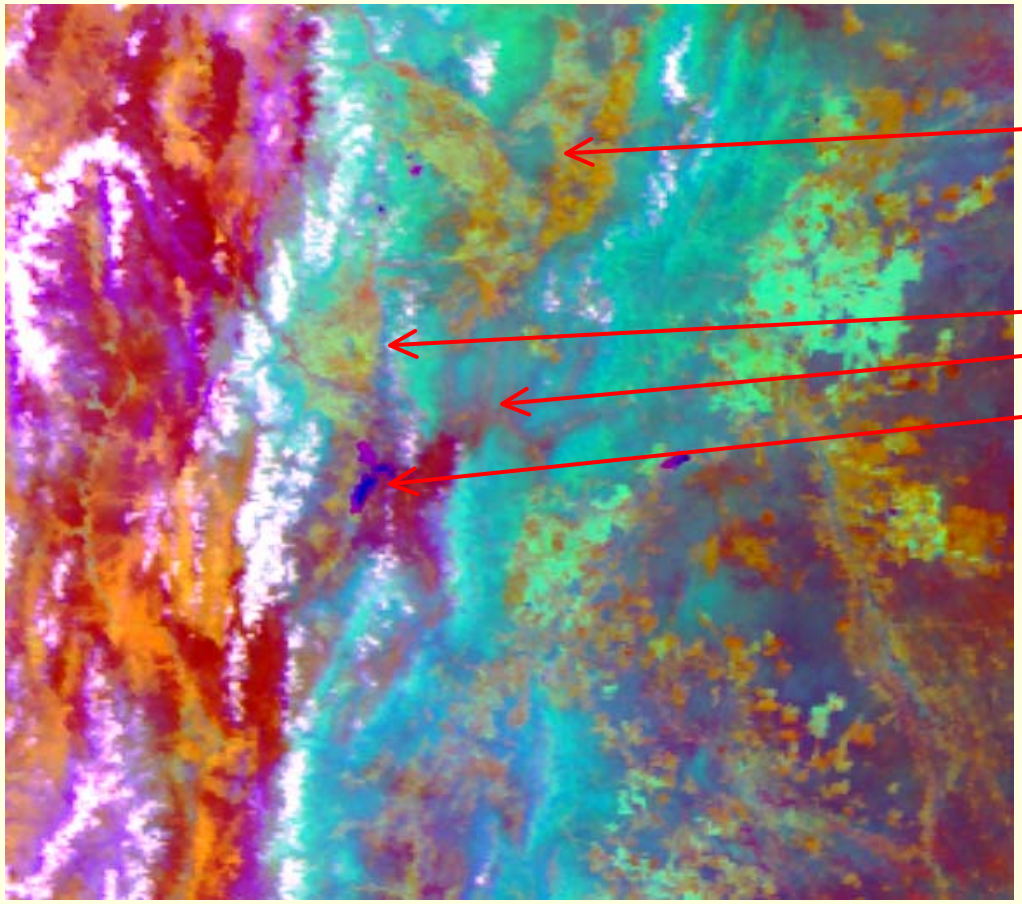
166	173	190	207	194	181	171
176	180	193	207	204	202	183
184	187	197	207	210	213	193
193	194	201	208	216	225	203
191	194	194	195	200	205	184
189	194	188	182	184	186	165
182	187	181	175	173	172	158

Band 1

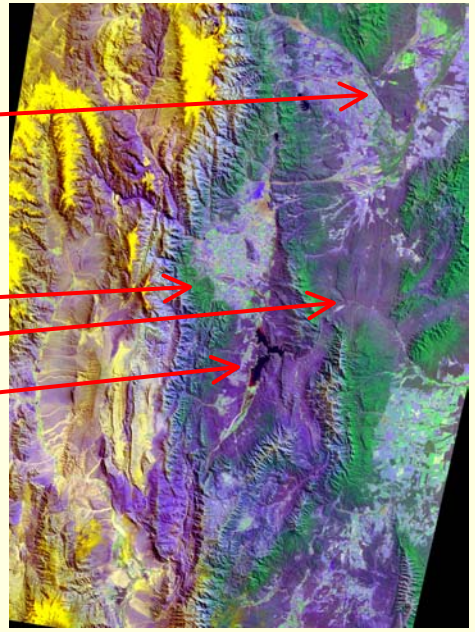
43	43	44	45	42	40	40
42	42	43	45	44	43	41
43	42	43	44	43	43	42
43	43	43	43	43	44	43
43	43	42	42	42	43	41
43	43	42	41	41	42	40
42	43	42	41	41	42	41

Comparative Image Analysis NOAA 17 - Landsat 5 TM

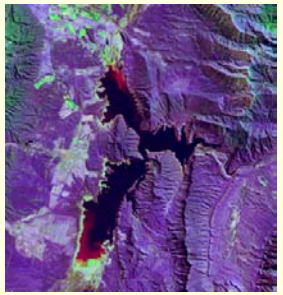
Spectral and Spatial with Gaussian Standard Deviation 2.20 Enhance



NOAA17 26/01/2004 11:03:13 (GMT -3) RGB 124



Landsat 5 TM 27/08/2004 RGB 346



1.1 Km Pixel Resolution

R: 0.58 - 0.68 µm (Red)

G: 0.72 - 1.10 µm (Near InfraRed)

B: 10.30 - 11.30 µm (Thermal InfraRed)

30m Pixel Resolution

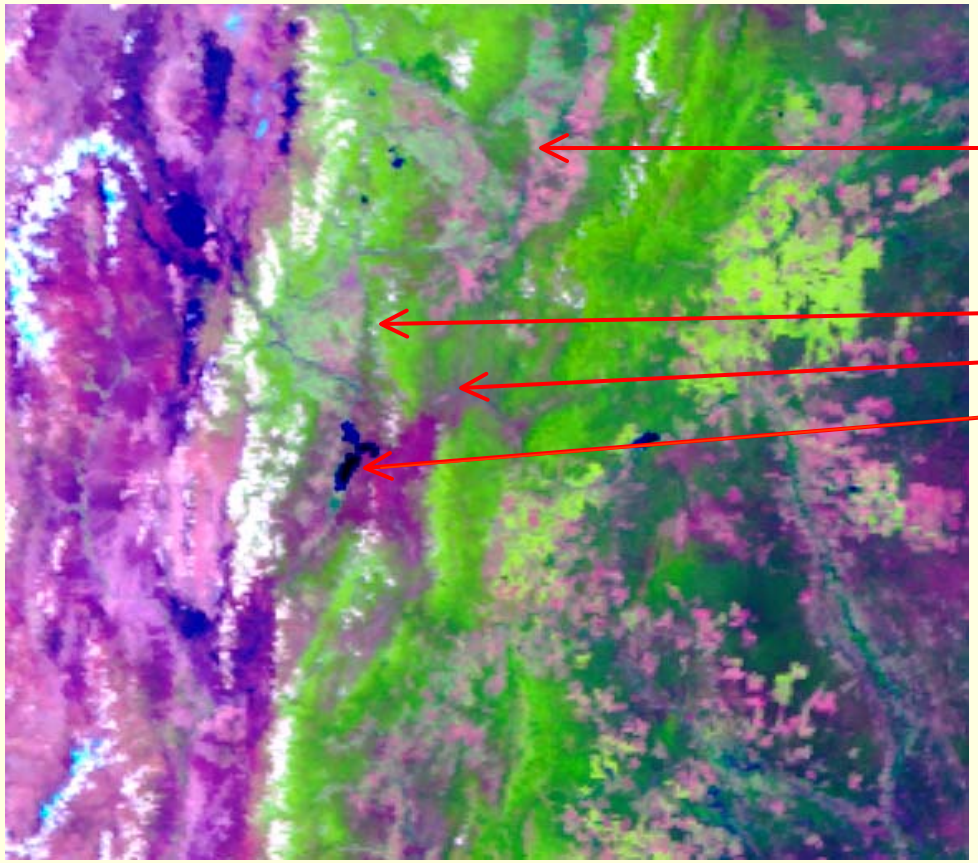
R: 0.63 - 0.69 µm (Red)

G: 0.76 - 0.90 µm (Near InfraRed)

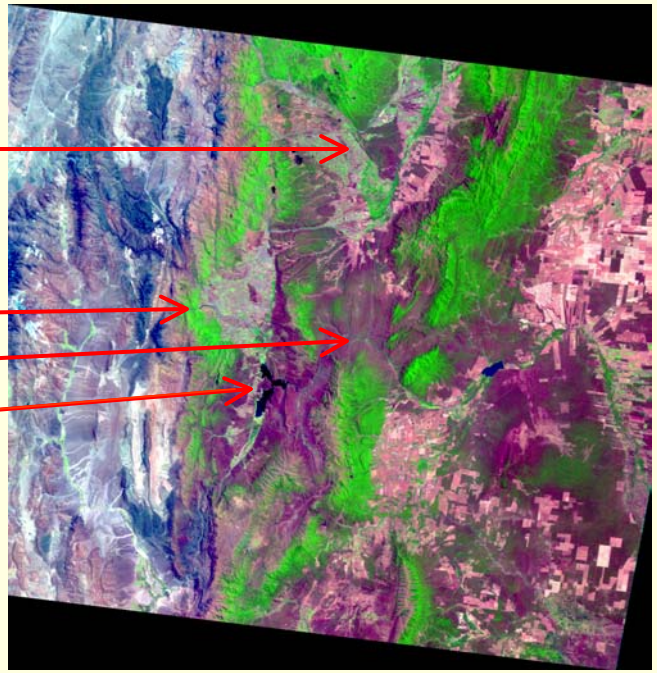
B: 10.40 - 12.50 µm (Thermal InfraRed)

Comparative Image Analysis NOAA 17 - SAC-C

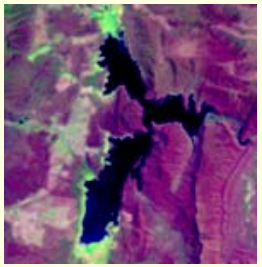
Spectral and Spatial with Gaussian Standard Deviation 2.20 Enhance



NOAA17 26/01/2004 11:03:13 (GMT -3) RGB 3a21



SAC-C 22/10/2004 RGB 543



1.1 Km Pixel Resolution

R: 1.57 - 1.67 µm (Medium InfraRed)

G: 0.72 - 1.10 µm (Near InfraRed)

B: 0.58 - 0.68 µm (Red)

175m Pixel Resolution

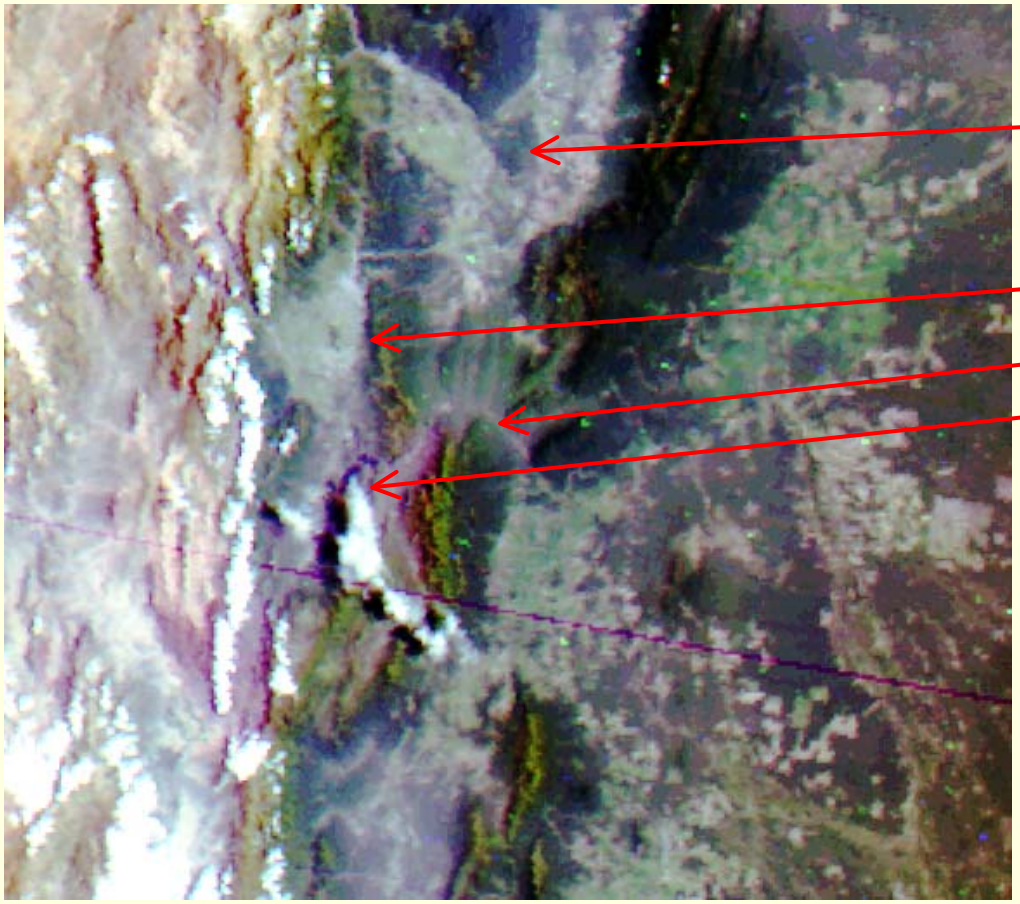
R: 1.550 - 1.700 µm (Medium InfraRed)

G: 0.795 - 0.835 µm (Near InfraRed)

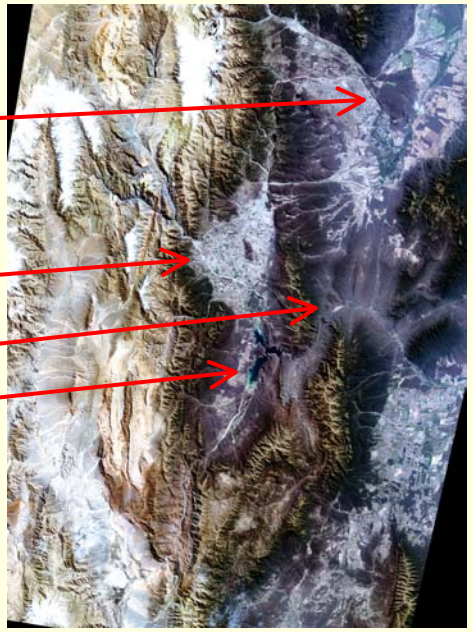
B: 0.630 - 0.690 µm (Red)

Comparative Image Analysis FENG YUN 1D - Landsat 5 TM

Spectral and Spatial with Gaussian Standard Deviation 2.20 Enhance



FY1D 26/01/2004 09:11:02 (GMT -3) RGB 197



Landsat 5 TM 27/08/2004 RGB 321

1.1 Km Pixel Resolution

R: 0.58 - 0.68 µm (Red)

G: 0.53 - 0.58 µm (Green)

B: 0.43 - 0.48 µm (Blue)

30m Pixel Resolution

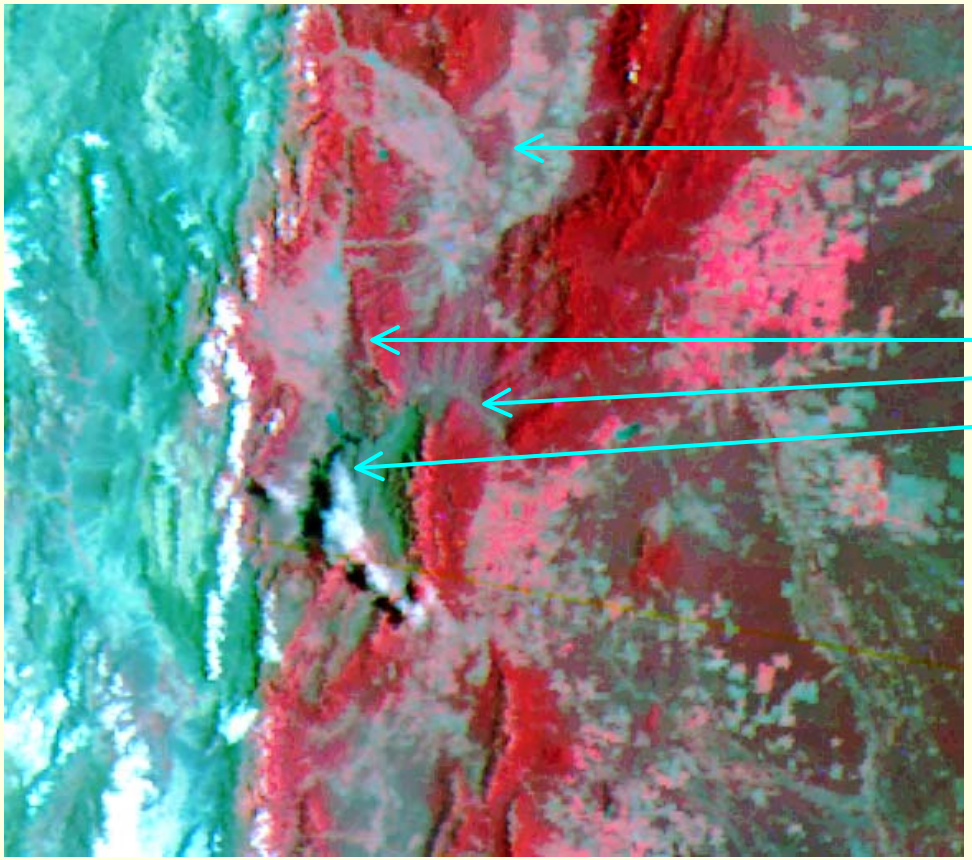
R: 0.63 - 0.69 µm (Red)

G: 0.52 - 0.60 µm (Green)

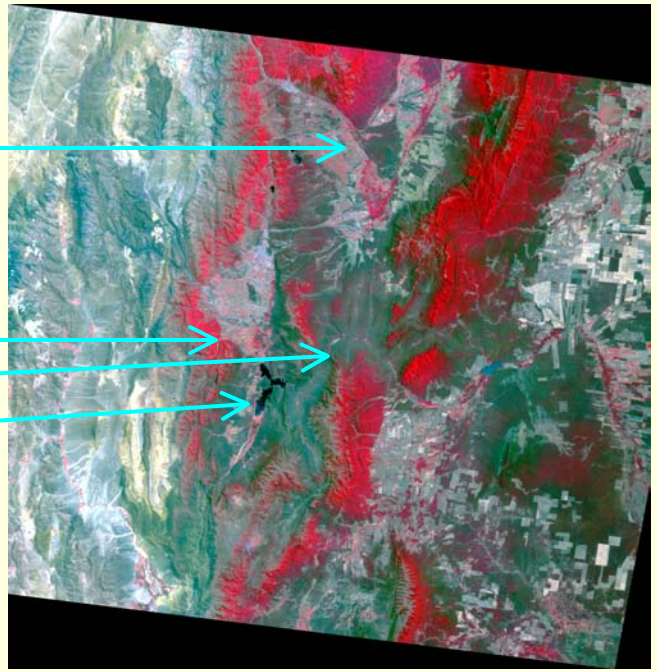
B: 0.45 - 0.52 µm (Blue)

Comparative Image Analysis FENG YUN 1D - SAC-C

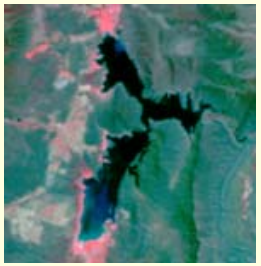
Spectral and Spatial with Gaussian Standard Deviation 2.20 Enhance



FY1D 26/01/2004 09:11:02 (GMT -3) RGB 219



SAC-C 22/10/2004 RGB 432



1.1 Km Pixel Resolution

R: 0.84 - 0.89 µm (Near InfraRed)

G: 0.58 - 0.68 µm (Red)

B: 0.53 - 0.58 µm (Green)

175m Pixel Resolution

R: 0.795 - 0.835 µm (Near InfraRed)

G: 0.630 - 0.690 µm (Red)

B: 0.540 - 0.560 µm (Green)

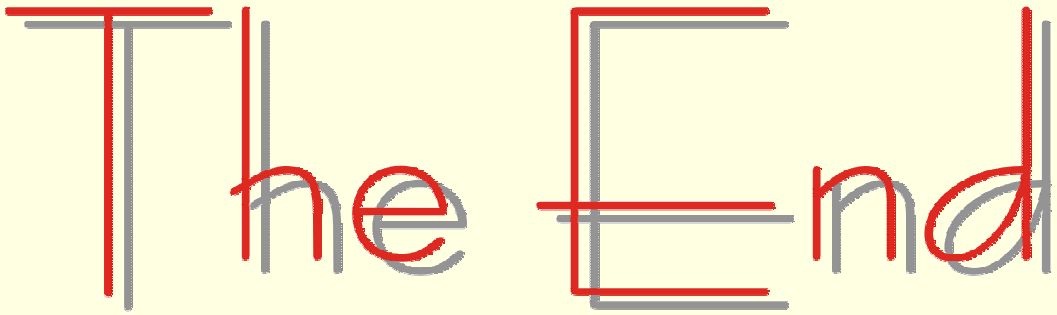
Conclusions

1 - Both NOAA and FENG YUN images complement each other because of the excellent radiometric quality of the NOAA data and the more spectral information of the FENG YUN ten bands.

2 - Using data from both satellites in the similar bands but in different hours and tracking, a better relief information from the land surface is obtained.

3 - Downloading NOAA and FENG YUN images improve the temporal resolution (22 daily images day and night) giving more data to researchers and users.

4 - The possibility of mixing bands from NOAA and FENG YUN images improve the detection of land cover types in larger areas because of the possibilities from the use of the four band in the visible from FEN YUN.


The End