



SSM/I and GMS SUBSET

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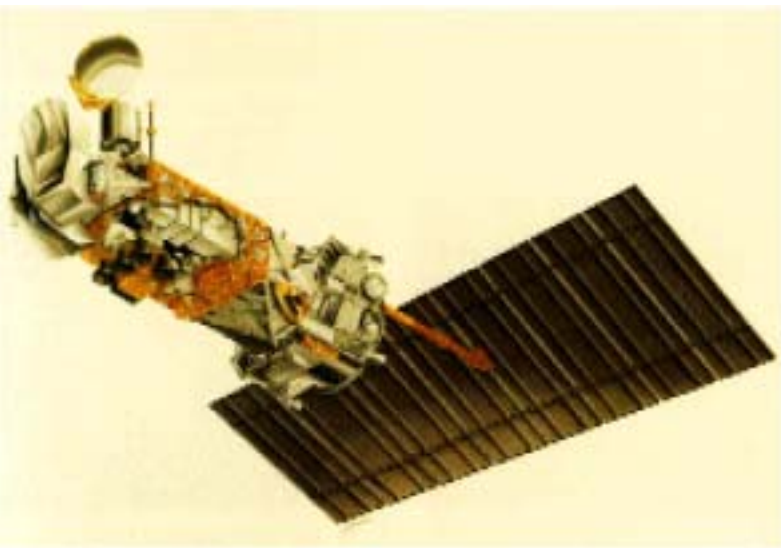
CEOP International Coordination Office

October 9, 2002

Univ. of Tokyo



SSM/I Instruments Spec.



<i>Frequency</i>	<i>Appr. Footprint Size</i>	
	<i>Along-track</i>	<i>Along-scan</i>
19 GHz (H,V)	69 km	43 km
22 GHz (V)	60	40
37 GHz (H,V)	37	28
85 GHz (H,V)	15	13

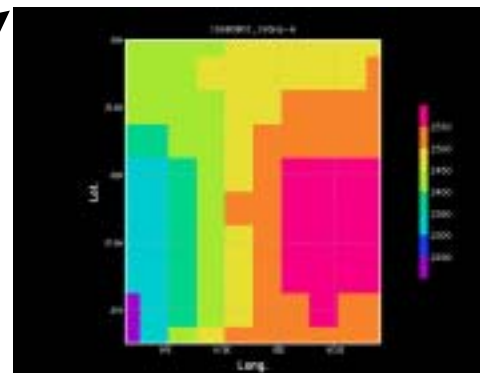
Outline of Subset

Original Data

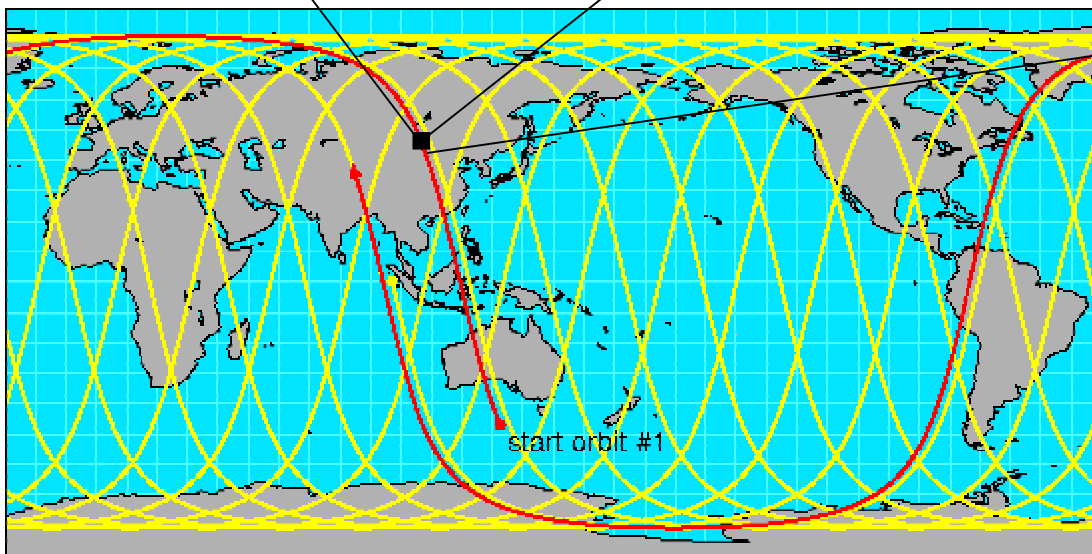
NASA/MSFC/GHRC

<http://www.ghrc.msfc.nasa.gov/ghrc.html>

Subset data



CEOP Reference sites



*Cutout and Girdded
at 2.5 × 2.5 deg. map*



Subset processing

- Subset File Name

SSMI_yyyymmdd_00000_rrr_fff

Where,

SSMI	: Satellite Number
yyymmdd	: Year, Month, Day
00000	: Orbit Number
rrr	: Reference site code
fff	: High , Low ch

Low-Ch : 19GH-V, 19GHz-H, 22GHz-V, 37GHz-V, 37GHz-H

High-Ch : 85GHz-V, 85GHz-H

- Subset Data Period

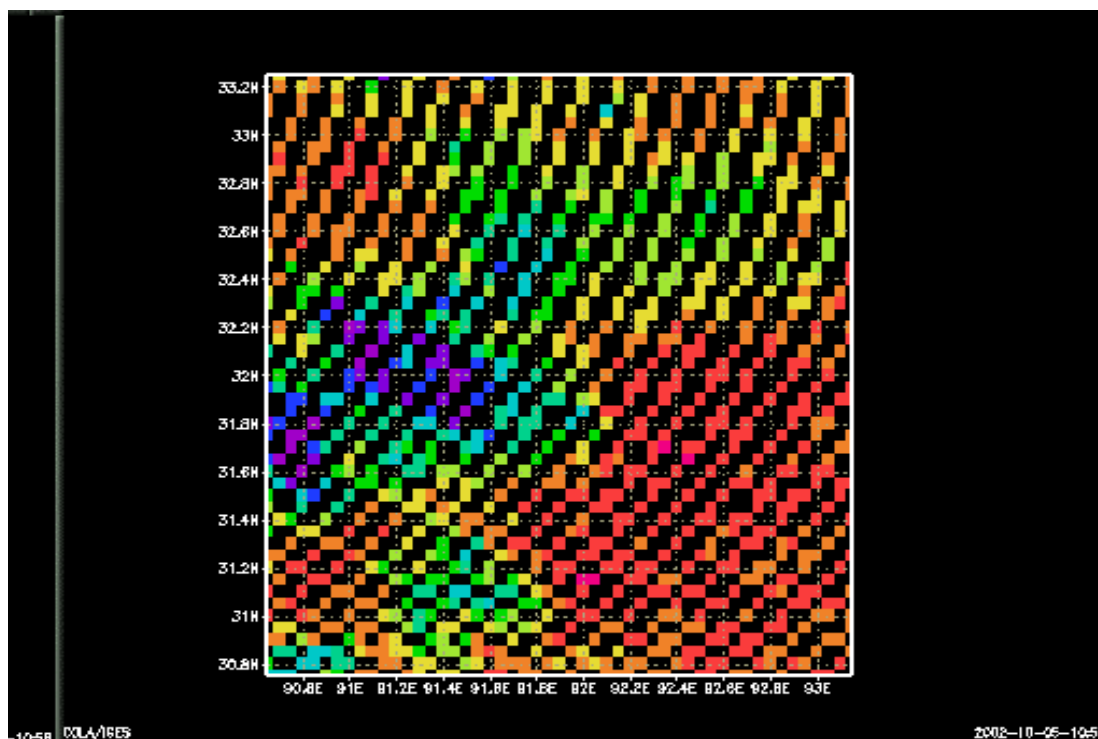
From July to September , 1998 (Finished)

From July to September , 2001 (Working now)

Subset processing

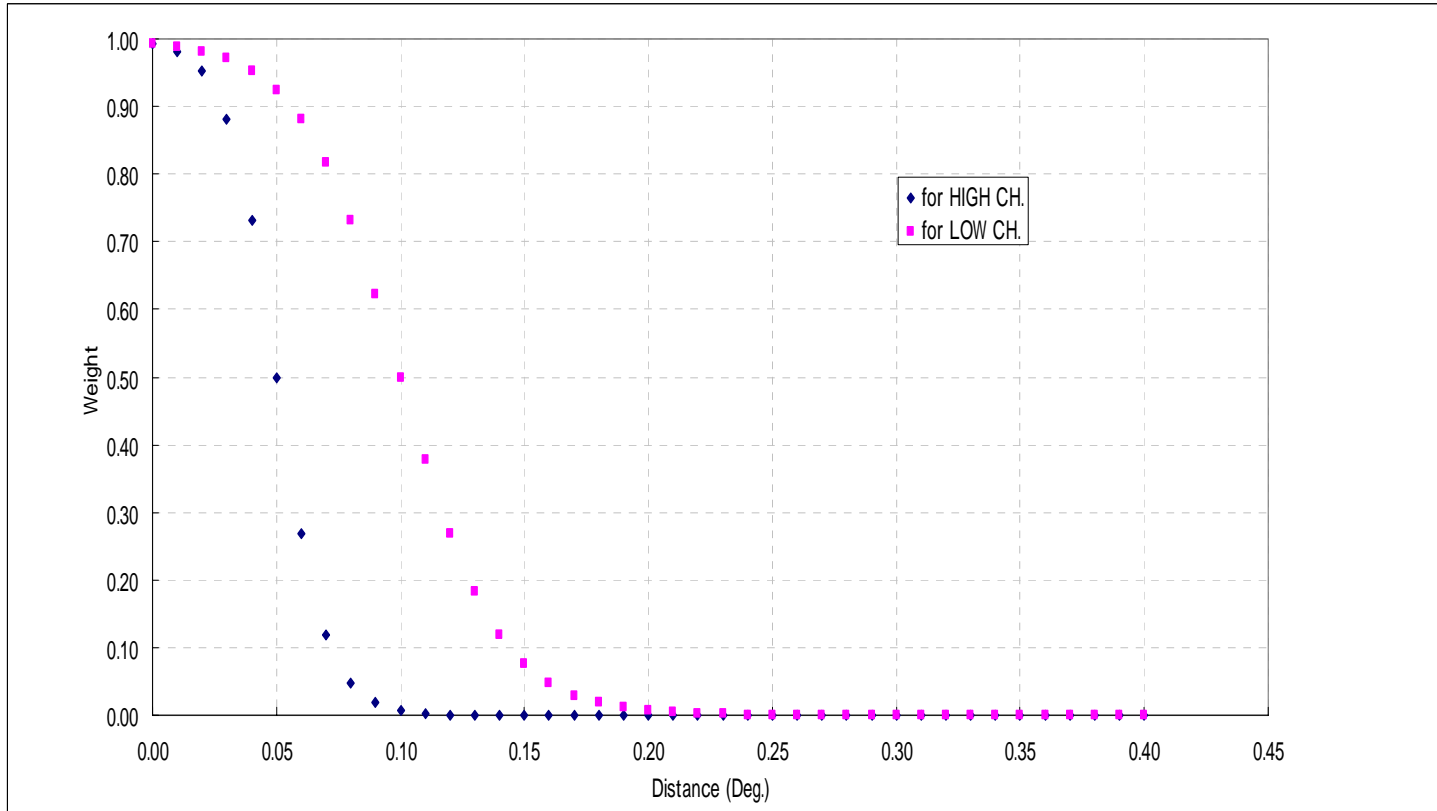
- Necessity of interpolation

Simple gridding process causes subset-data with non-filled grid boxes shown below. Interpolation needed.



Subset processing

- Interpolation method





Subset processing

- Subset Data Format

	Products	Image size	Grid Size (deg.)	Num. Of Band	Data Type	Scale Factor
Low	Tb	10 x 10	0.250	5	2-byte Int.	x 0.1
High	Tb	20 x 20	0.125	2	2-byte Int.	x 0.1

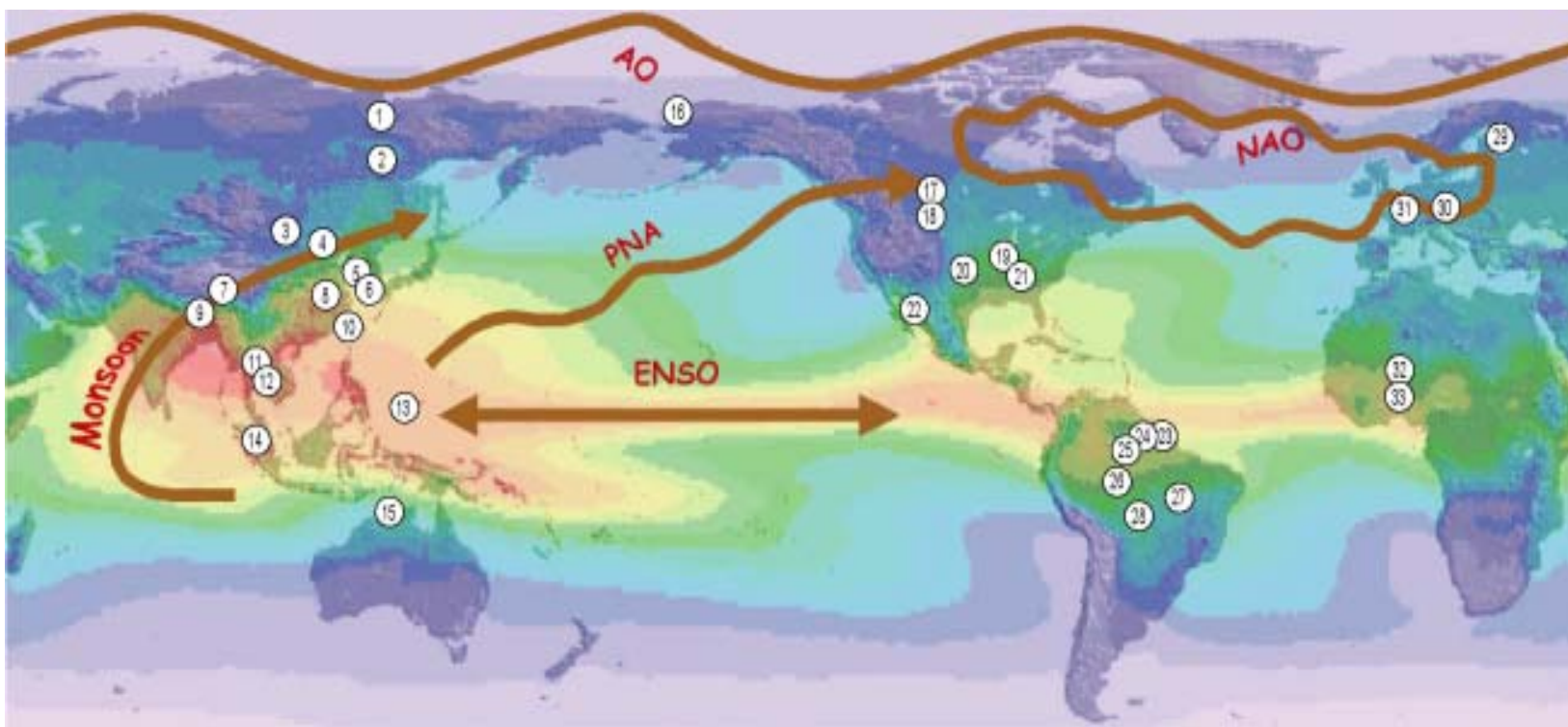
Low-Ch : 19GH-V, 19GH-H, 22GH-V, 37GH-V, 37GH-H

High-Ch : 85GH-V, 85GH-H

 Subsetting 2.5×2.5 degree area centered at reference site.

Subset processing

- Subset Reference Site (All the CEOP Ref. Site)

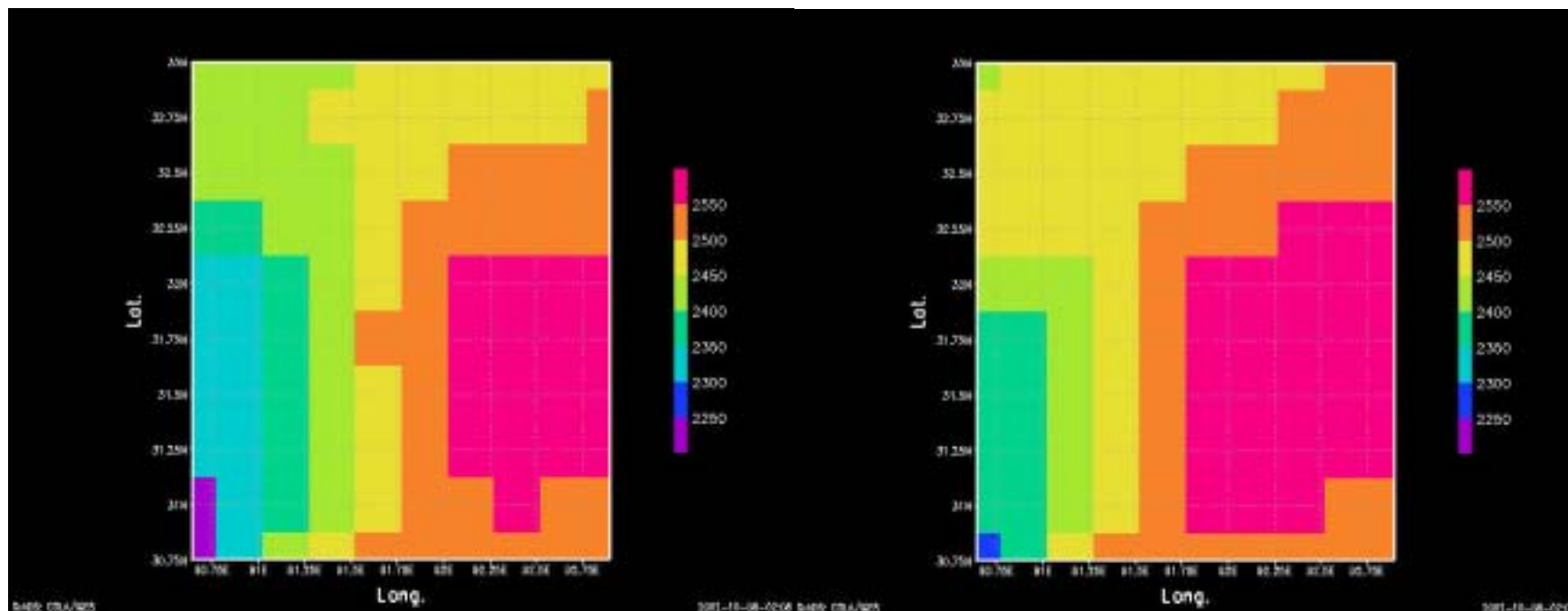


- Total Data Volume: About 63MB

Results: SSM/I Subset

19GHz-H

37GHz-H

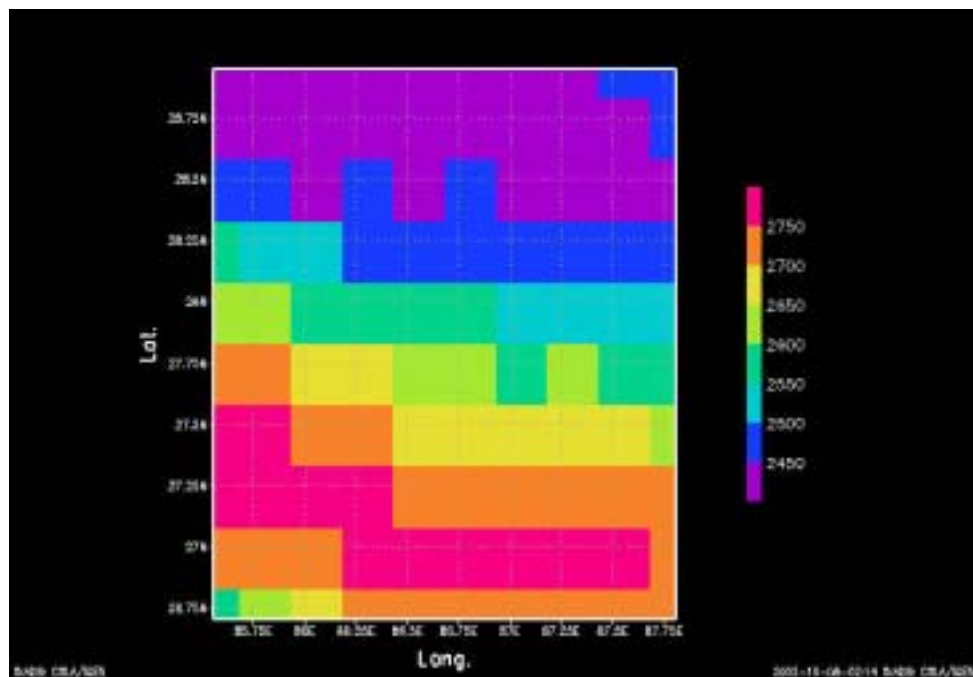


Observation date:1998/08/01

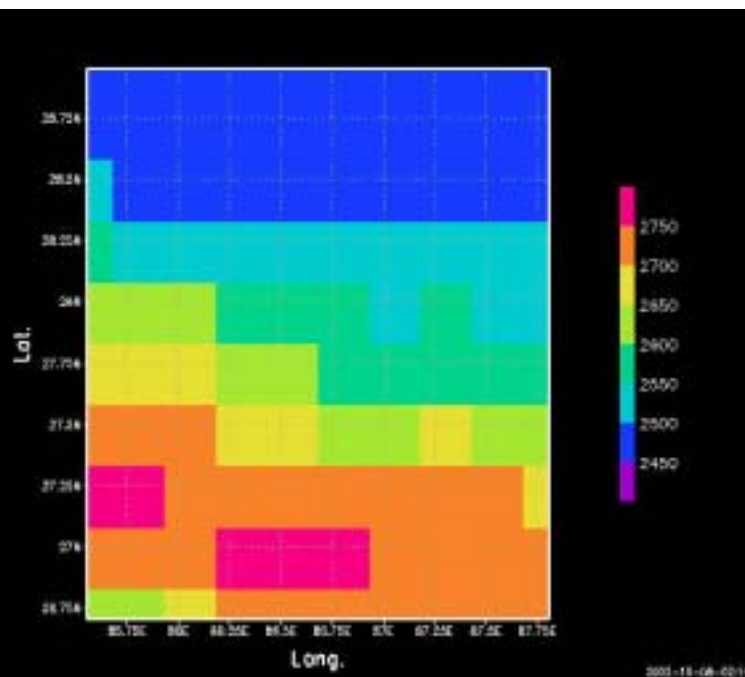
Ref. Site : Tibet

Results: SSM/I Subset

19GHz-H



37GHz-H



Observation date:1998/08/01

Ref. Site : Himalayas



Contents

- **GMS S-VISSR Instruments Spec.**
- **Outline of Subset**
- **Subset Processing**
- **Subset Processing Results**



GMS Instruments & Spec.



GMS-5

Launch date

1995 March 18

Orbit

Geostationary orbit, 140deg. E. longitude

Sensof

IR1

IR2

IR3

VIS



Outline of Subset

Original Data

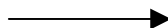
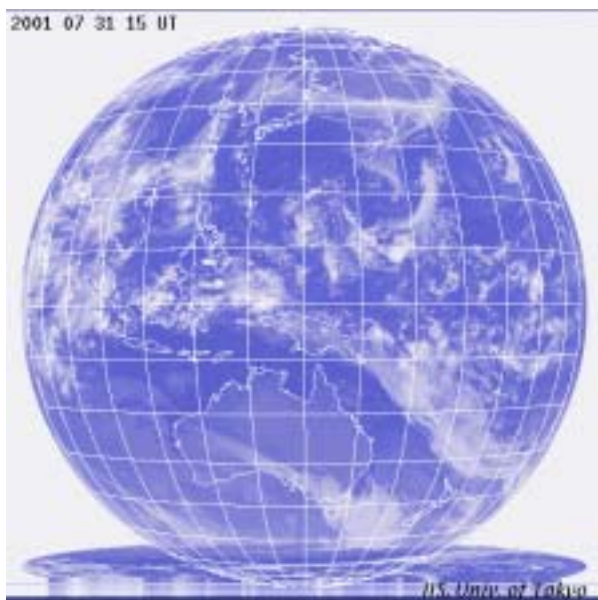
Archived by : IIS / Univ. of Tokyo

Offered by : Kochi Univ.

<http://www.tkl.iis.u-tokyo.ac.jp/SIAIIS/>

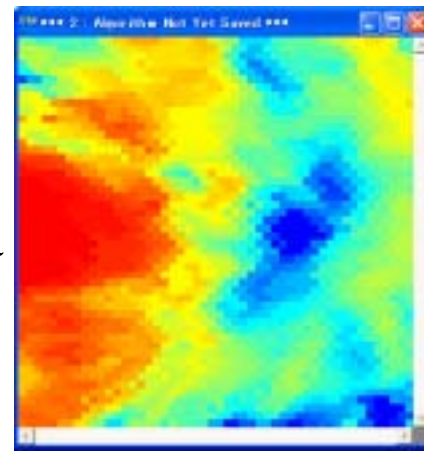
<http://weather.is.kochi-u.ac.jp/sat/GAME/>

GMS Archived data

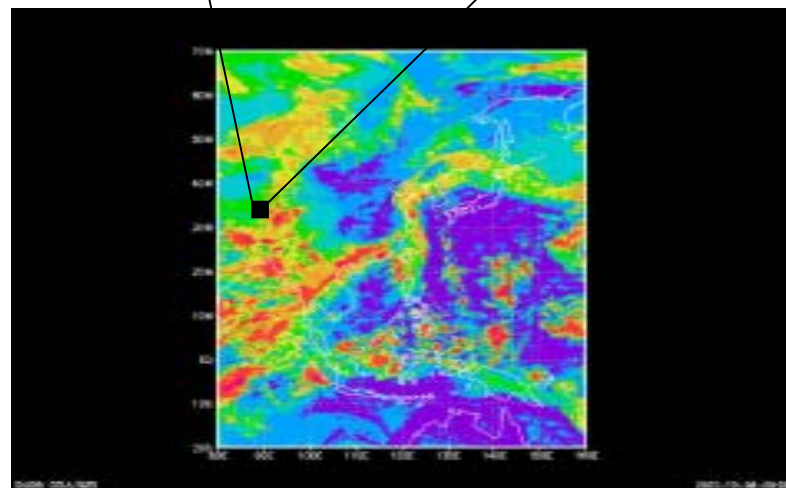


Subsetting 2.5×2.5 degree area centered at CEOP reference site.

Subset data



GAME Area





Subset processing

- Subset Data File Name

GMS5YYMMDDHHXXX_fmt.gz

Where,

GMS5	: Satellite Number
YYMMDDHH	: Year, Month, Day, Hour (in UTC)
XXX	: channel (IR1, IR2, IR3, VIS)
Fmt	: Reference site name
gz	: compressed with gzip

- Subset Data Period (Phase 1a)

From July to September , 2001



Subset processing

- Subset Data Format

Channel	Value	Image size	Grid Size (deg.)	Num. Of Band	Data Type	Scale Factor
IR1	Temp.	50 x 50	0.05	1	8-bit Int.	Calibration Table
IR2	Temp.	50 x 50	0.05	1	8-bit Int.	Calibration Table
IR3	Temp.	50 x 50	0.05	1	8-bit Int.	Calibration Table
VIS	Albedo	50 x 50	0.05	1	8-bit Int.	Calibration Table
Calibration Table				1	Text	



Subset processing

- Subset Reference Site

No.	Refernce Site Name	ext.	Lat.	Long.
2	Eastern_Siberian_Taiga	es2	62.000	129.000
3	Mongolian	mon	46.209	106.715
4	Inner_Mongolia	imo	45.000	123.000
5	Korean_Peninsula	kpe	37.440	127.900
6	Korean_Haenam	kha	37.567	126.967
7	Tibet	tib	32.000	91.899
8	Yangtze_river	yan	32.000	116.000
9	Himalayas	him	27.959	86.813
10	Northern_South_China_Sea_Southern	nsc	24.967	121.181
11	Chao-Phraya_river	cpr	17.156	99.866
12	North-East_Thailand	net	14.466	102.379
13	Western_Pacific_Ocean	wpo	7.050	134.207
14	Equatorial_Island	eis	-0.200	100.317
15	Tropical_Western_Pacific	twp	-2.060	147.430

- Total Data Volume: About 350 MB



Results: S-VISSR Subset

IR-1



IR-2



IR-3



VIS



Observation date:2001/08/01 00:00 (UTC)

Ref. Site : Tibet