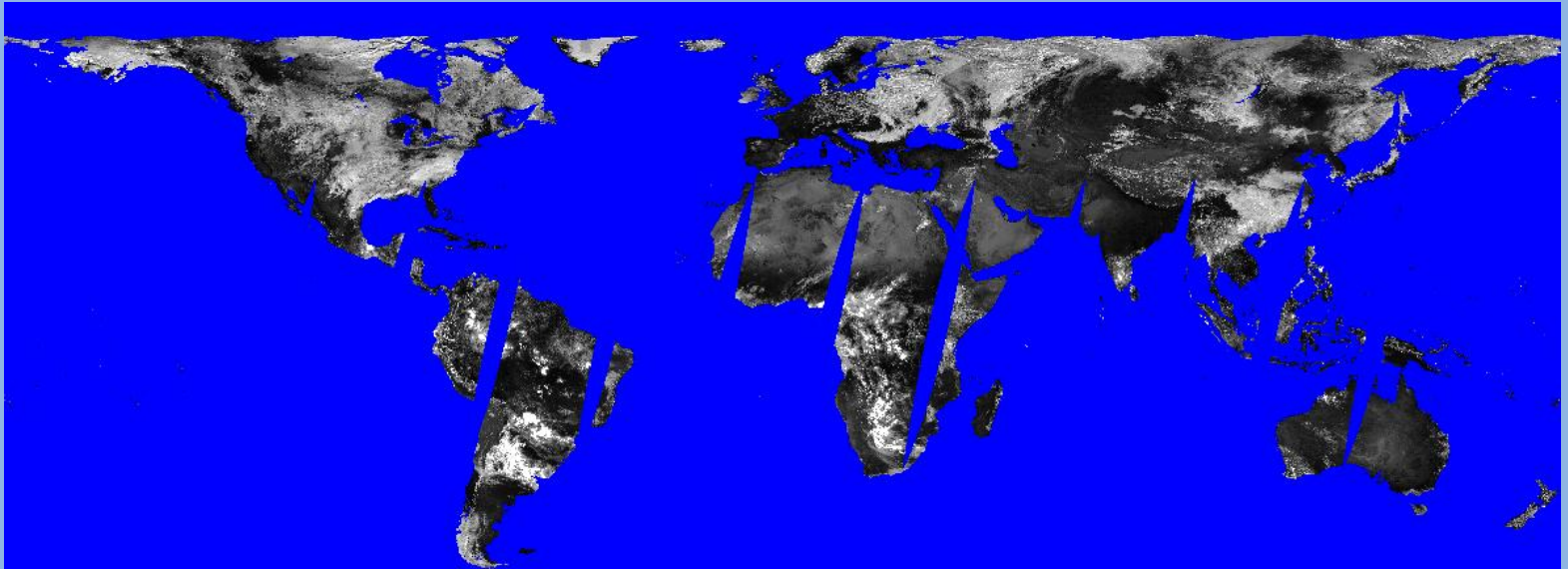


SPOT VGT



SPOT VGT – General Information

- Resolution: 1km
- Projection: Unprojected, Plate Carree
- Geodetic system: WGS 1984
- Geographic Extent
 - Latitude: 75° N to 56° S
 - Longitude: -180° W to 179.99° E
- Image dimensions: 14673 Rows, 40320 Cols
- Data Period: 1998 - 2002
- Spectral bands:
 - B0 (Blue) : 0.43 - 0.47 μm
 - B2 (Red) : 0.61 - 0.68 μm
 - B3 (NIR) : 0.78 - 0.89 μm
 - MIR (SWIR): 1.58 – 1.75 μm
- Atmospheric correc ref: CTIV_SMAC_V4.0
- Cloud cover correc ref: CTIV_CLOUD_COVER_V2.0
- Snow cover correc ref: CTIV_SNOW_ICE_COVER_V2.0
- Synthesis ref: CTIV_SYNTHESIS_V1.0

SPOT VGT – SDS

Plane		Description of plane	File
B0	B0 spectral band	Radiometry data	HDF
B2	B2 spectral band	Radiometry data	HDF
B3	B3 spectral band	Radiometry data	HDF
MIR	MIR spectral band	Radiometry data	HDF
NDV	Vegetation Global Index	NDVI indices	HDF
SM	Status Map	Data about	HDF
VZA	Viewing zenith angle grid	Satellite zenith angles	HDF
VAA	Viewing azimuth angle grid	Satellite azimuth angles	HDF
SZA	Solar zenith angle grid	Solar zenith angles	HDF
SAA	Solar azimuth angle grid	Solar azimuth angles	HDF
TG	Time grid	Each pixel is expressed with a precision of one minute referring to the beginning of the first segment of the synthesis.	
LOG	Logical volume descriptor		TXT
QL	Quick look		TIF
RIG	Copyright Descriptor		TXT

SPOT-VGT QA

Bit	Description	Code
7	BRDF model adjustment quality on B0	0 – Bad 1 – Good
6	BRDF model adjustment quality on B2	0 – Bad 1 – Good
5	BRDF model adjustment quality on B3	0 – Bad 1 – Good
4	BRDF model adjustment quality on MIR	0 – Bad 1 – Good
3	Land / Water	0 – Sea 1 – Land
2	Ice/Snow	0 – Clear 1 – Ice/Snow
1	Cloud/Shadow or clear	0 – Clear 1 – Cloud/shadow
0	Grmir: Radiometric quality for MIR	0 – Bad 1 – Good

SPOT-VGT CMG – Pre-processing

- SPOT-VGT 1km data was resampled to CMG resolution and combined into a single HDF File.
 - Utilizing a 6x6 moving window, pixels were filtered according to QA available information.
 - If at least 50% of the pixels were free of clouds, and average value was estimated for the bands B0,B2,B3,MIR TG and NDV, otherwise it was ignored. The majority approach was used for the bands SAA, SM, SZA, VAA and VZA. All the different layers, were stacked into a single HDF file.
- NDVI, EVI and EVI2 were calculated

SPOT-VGT CMG

- Daily Global Data
- Data Period: 1998 - 2002
- Resolution: CMG, 0.05 degrees (5600 meters)
- Projection: Latitude/Longitude
- Image dimensions: 3600 Rows, 7200 Cols
- Geographic Extent:
 - Latitude: 90N to 90S
 - Longitude: 180E to 180W

SPOT-VGT CMG Content

Plane		Description of plane	Type
B0	B0 spectral band	Radiometry data	16-bit unsigned int
B2	B2 spectral band	Radiometry data	16-bit unsigned int
B3	B3 spectral band	Radiometry data	16-bit unsigned int
MIR	MIR spectral band	Radiometry data	16-bit unsigned int
NDV	Vegetation Global Index	NDVI indices	8-bit unsigned int
SM	Status Map	Data about	8-bit unsigned int
VZA	Viewing zenith angle grid	Satellite zenith angles	8-bit unsigned int
VAA	Viewing azimuth angle grid	Satellite azimuth angles	8-bit unsigned int
SZA	Solar zenith angle grid	Solar zenith angles	8-bit unsigned int
SAA	Solar azimuth angle grid	Solar azimuth angles	8-bit unsigned int
TG	Time grid		8-bit unsigned int
NDVI		NDVI	16-bit integer
EVI		EVI	16-bit integer
EVI2		EVI2	16-bit integer
# Pixels		#pixels used in estimating current pixel	8-bit integer
UseFlag	Mask pixels	1=All finer resolution pixel were good	8-bit integer

1km to CMG resampling

- SPOT-VGT Images at 1km resolution were resampled by using a 6X6 moving window. If at least 50% of the pixels were free of clouds, an average window value was estimated for the bands B0, B2, B3, MIR, TG and NDV; otherwise ignored. The Majority approach was used for the bands SAA, SM, SZA, VAA and VZA. All the different layers, were stacked in a single CMG file

SPOT CMG 2

A new CMG dataset was created. A 6x6 pixels moving window was used to perform the sampling, under the following criteria:

- Use only the High quality Pixels (cloud free) and get an average
- Output Standard Deviation for Red, NIR, Blue, MIR)
- Output Majority QA (dominant class)
- Output NDVI, EVI and EVI, average from the fine resolution
- Output NDVI, EVI and EVI, calculated from the CMG resolution
- Output Number of finer 1km resolution pixels used
- Output a Flag showing if all finer resolution were good (1), or not (0)