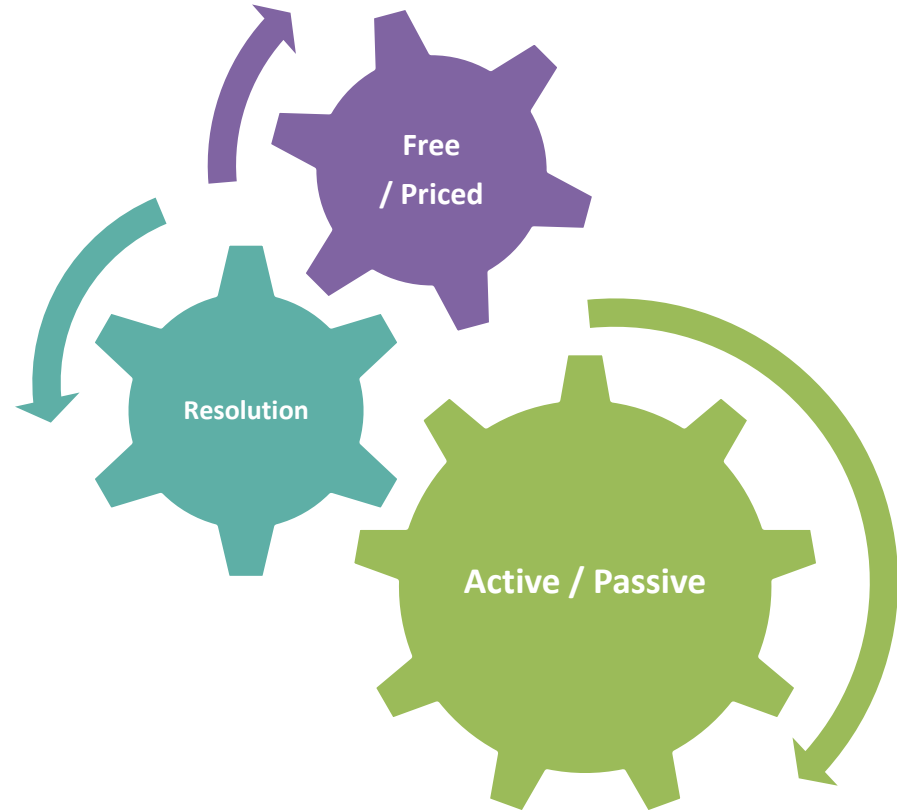
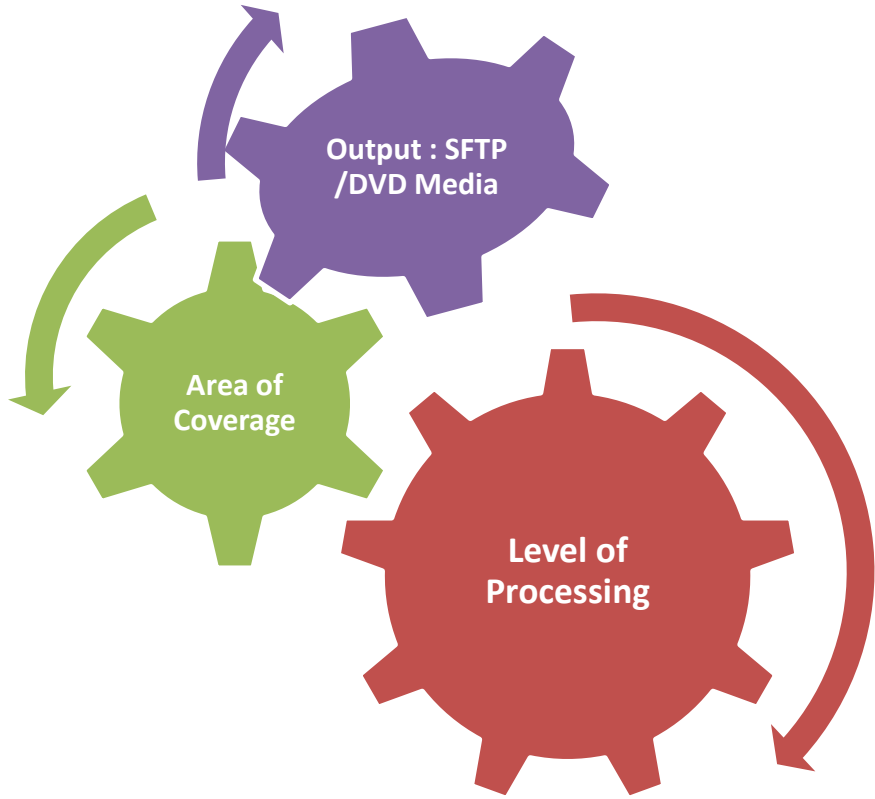


Optical Data Products

Standard and Advanced

Remote sensing Data Products



1.0 Data Processing Levels: International Convention

L0

Level-0: Unprocessed instrument or platform data

L1

Level-1A(L1A) :Reconstructed, unprocessed instrument data at full resolution, time-referenced, and annotated with ancillary information

Level-1B(L1B): Level 1A data that have been processed to sensor units.

Level-1C(L1C) data are L1B data that include new variables to describe the spectra.

L2

Level-2 : Derived geophysical variables at the same resolution and location as the Level 1 source data.

L3

Level-3: Data products are variables mapped on uniform space-time grid scales.

L4

Level-4: Data products are model output or results from analyses of lower level data, e.g., variables derived from multiple measurements.

1.1 Data Products Classification



Advanced

- ARD
- Cloud free Composites

Geophysical

- Surface Reflectance, NDVI ,NDWI
- DEM, LST, VF
- Albedo

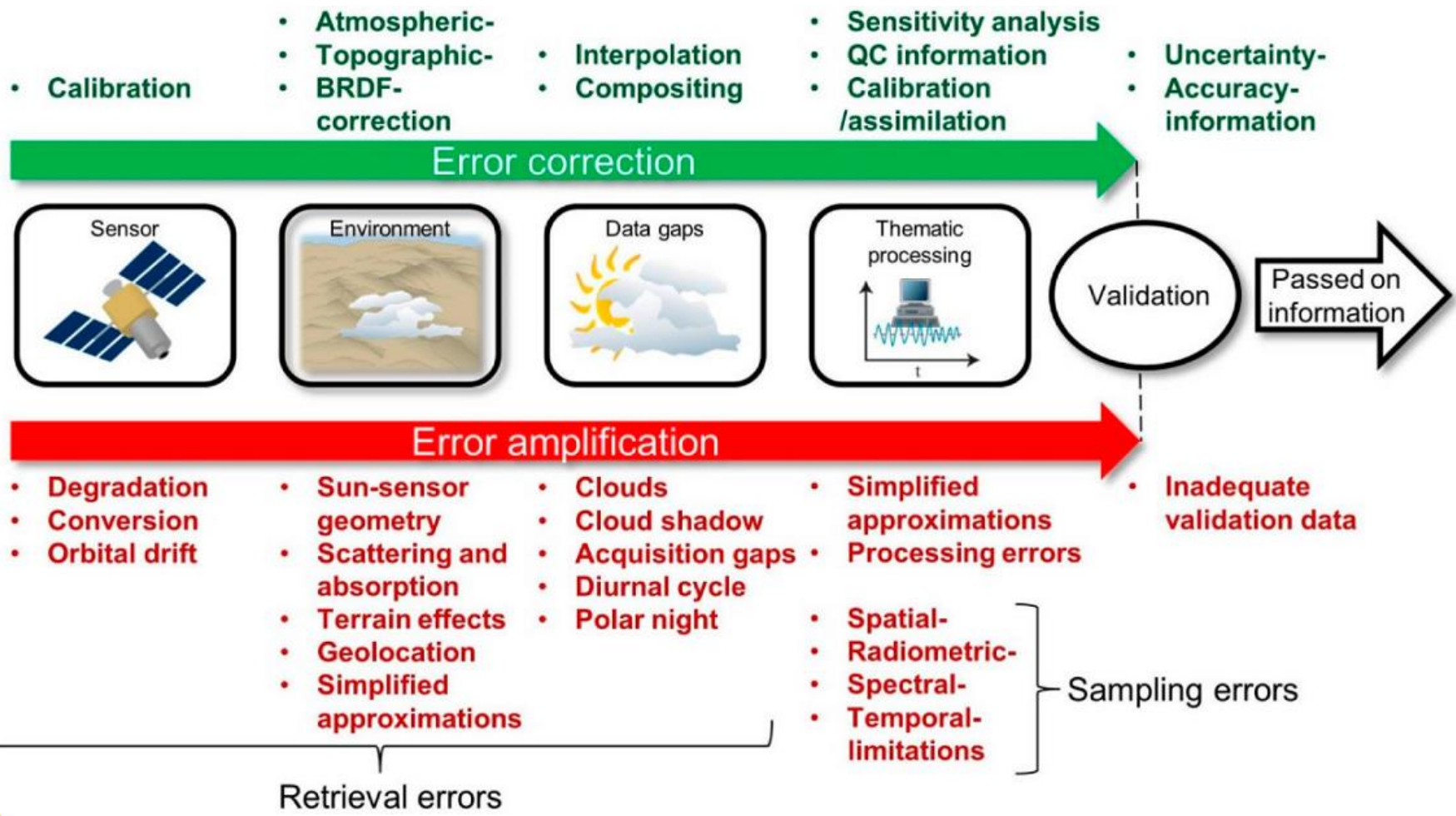
Value added

- Geocoded, Merged
- Ortho , NCC
- Mosaic

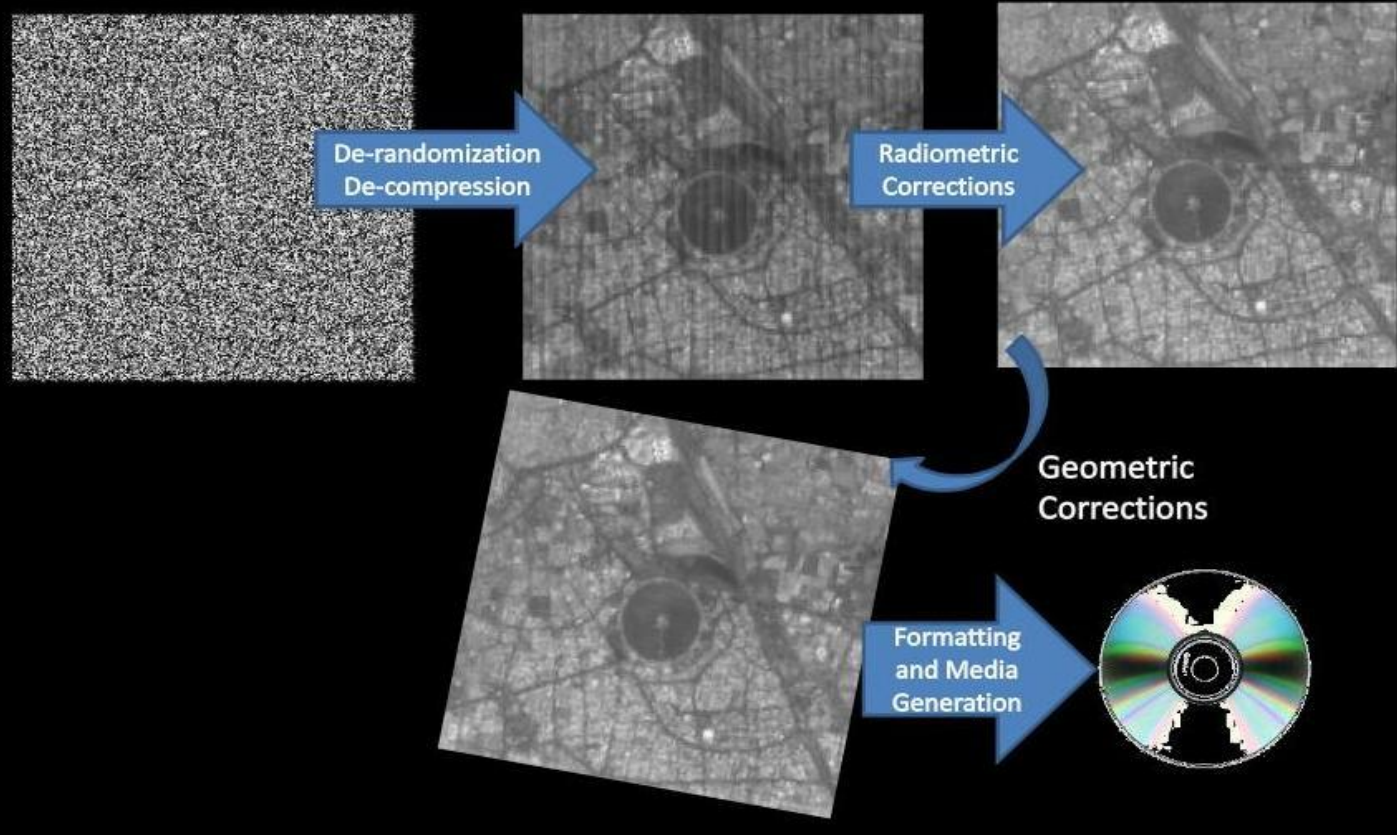
Standard

- Path/Row Based, Shift Along Track
- Quadrant, Geo referenced, Ortho-kit
- Stereo, AOI

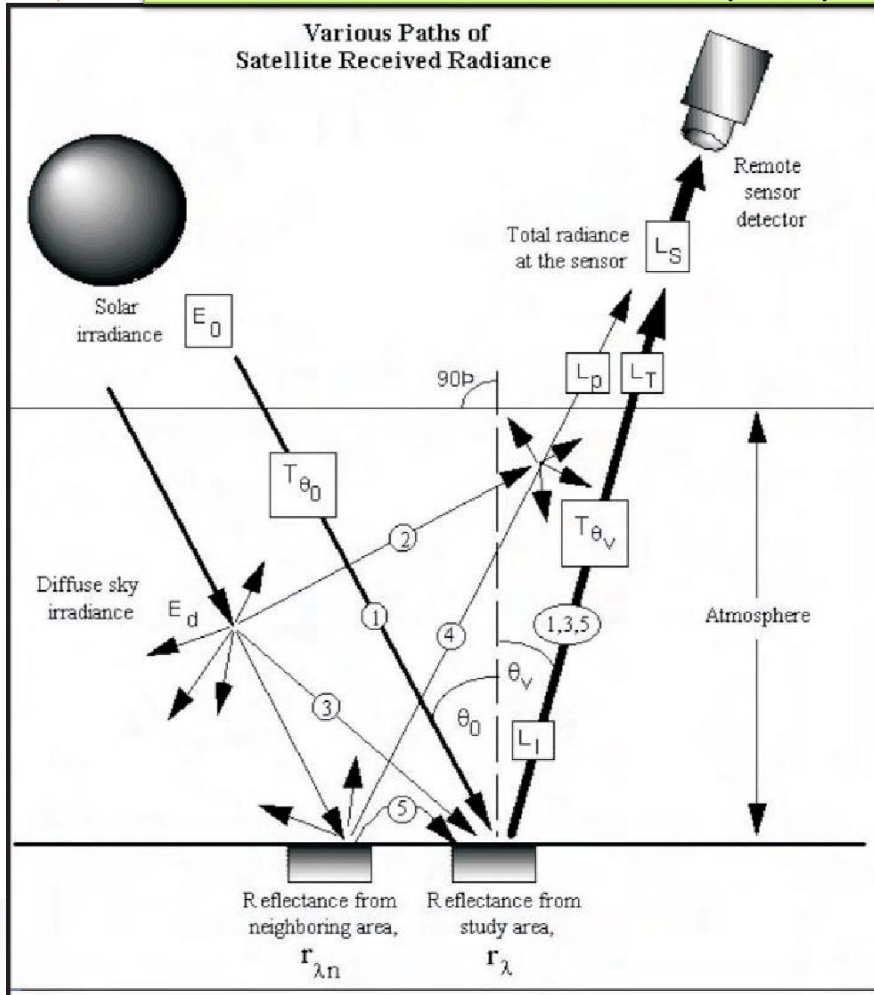
Data product generation frame work



Summary of Data Pre-Processing



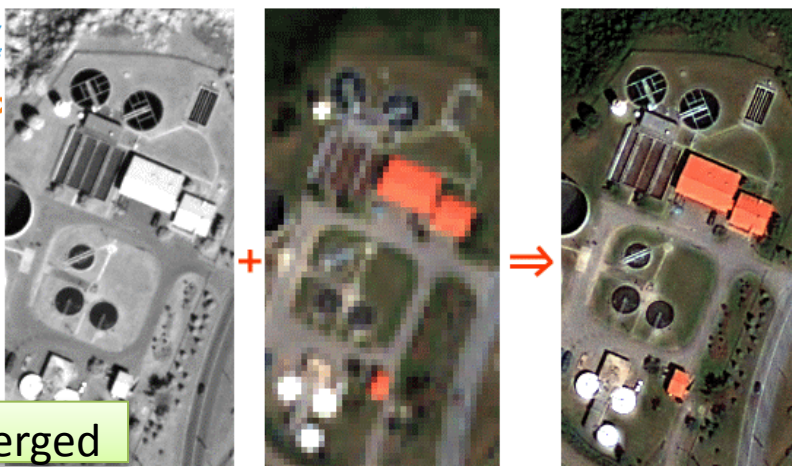
Surface Reflectance Product (BOA)



Standard / TOA product

Surface Reflectance /BOA product

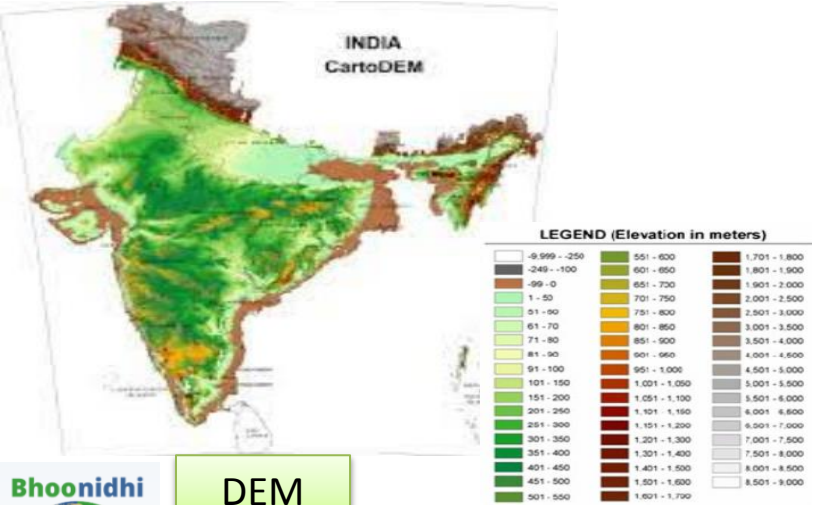




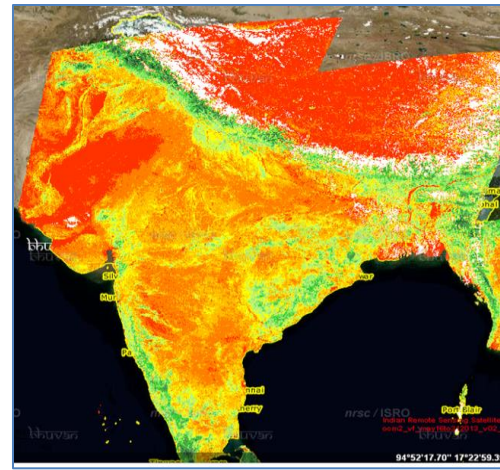
Merged



NCC



DEM



NDVI



Scene Based Product Code (9 Char unique code)

pos	Relevance	Values
1,2	Product Description	ST,FI,HK,SR
3	Projection	P,L,U,G
4	Resampling	C,N,
5,6	Enhancement	00,SR,AB,AV,ND, VF,WL..
7	Level of Processing	1,2,G,O,H
8	Format	6,7,T
9	Media	D,I

Product Formats:

- * LGSOWG - BIL, BSQ,
- * Fast format ,TIFF ,GEOTIFF
- * HDF 4 & HDF 5
- * NetCDF

Product Contents:

- * Image File
- * Meta File
- * Jpeg Snapshot

Product Accuracy:

- * Standard Med.Resol < 3 pix
- * Standard High.Resol < 20m
- * Ortho product < 1.5 pix

Products on Bhoonidhi

Resolution		Satellite	Product types	Applications
0 - 1m	Very High	C2S-PAN,C3-PAN, K3,K3A	STD,MERGED	High scale Mapping, Urban DEM –C1(10m)
1 – 5m	High	C1,C2S-MX	STD,MERGED, STEREO	
5 – 25m	Medium	L4MX,Mono,L3 SENTINEL	STD,BOA	Resources (Vegetation, Snow, Water)
25 – 100m	Low	OLI, AWIF	STD,BOA	
100-1000m	Coarse	OCM,AQUA,TERRA, JPSS,NPP,GSAT	STD	Ocean, Atmospheric, Science related



Sample Product + Metadata



ProductID= 2269163101
 OTSProductID= RA3310CT2022030606
 SatID= IRS-R2A
 Sensor= L3
 SubScene= -NA-
 GenAgency= NRSC
 Path= 092
 Row= 053
 SegmentNumber= -NA-
 SessionNumber= 1
 StripNumber= -NA-
 SceneNumber= -NA-
 DateOfPass= 31-OCT-2022
 NoOfBands= 4
 BandNumbers= 2345
 PassType= PLD
 DateOfDump= 31-OCT-2022
 DumpingOrbitNo= 030606
 ImagingOrbitNo= 030606
 BytesPerPixel= 2
 BitsPerPixel= 10
 GenerationDate= 31-OCT-2022
 ProdCode= STUC00GTD
 ProdType= GEOREF
 InputResolutionAlong= 23.50
 InputResolutionAcross= 23.50
 OutputResolutionAlong= 24.00
 OutputResolutionAcross= 24.00
 Season= OCT
 ImageFormat= GEOTIFF
 ProcessingLevel= STD
 ResampCode= CC
 NoScans= 6967
 NoPixels= 7890
 StartPixel= 0

MapProjection= UTM
 Ellipsoid= WGS_84
 Datum= WGS84
 MapOriginLat= 0.000000
 MapOriginLon= 75.000000
 ProdULLat= 26.954035
 ProdULLon= 71.511431
 ProdURLat= 26.988337
 ProdURLon= 73.417354
 ProdLRLat= 25.479310
 ProdLRLon= 73.437660
 ProdLLLat= 25.447203
 ProdLLLon= 71.556104
 ImageULLat= 26.964033
 ImageULLon= 71.941728
 ImageURLat= 26.988255
 ImageURLon= 73.417338
 ImageLRLat= 25.474165
 ImageLRLon= 73.012510
 ImageLLLat= 25.447174
 ImageLLLon= 71.556113
 ProdULMapX= 153613.443084
 ProdULMapY= 2986128.000000
 ProdURMapX= 342949.443084
 ProdURMapY= 2986128.000000
 ProdLRMapX= 342949.443084
 ProdLRMapY= 2818944.000000
 ProdLLMapX= 153613.443084
 ProdLLMapY= 2818944.000000
 SceneCenterLat= 26.220378
 SceneCenterLon= 72.480546
 StandardParallel1= -NA-
 StandardParallel2= -NA-
 FalseEasting= 500000.000000
 FalseNorthing= 0.000000
 ZoneNo= 43

Time= 31-OCT-2022 06:00:16.287313
 Roll= 0.040692
 SceneCenterPitch= -0.045841
 SceneCenterYaw= 3.447292
 SunAzimuthAtCenter= 160.551629
 SunElevationAtCenter= 47.617273
 ImageHeadingAngle= 194.608725
 IncidenceAngle= 0.065379
 SatelliteAltitude= 823.395169
 Tiltangle= 0.000000
 DEMCorrection=YES
 SourceOfOrbit= 2
 SourceOfAttitude= 1
 ImagingDirection= D
 B2Temp= 18.1800
 B3Temp= 18.6500
 B4Temp= 18.3300
 B5Temp= 23.7500
 B2_Lmin= 0.0000
 B3_Lmin= 0.0000
 B4_Lmin= 0.0000
 B5_Lmin= 0.0000
 B2_Lmax= 52.0000
 B3_Lmax= 47.0000
 B4_Lmax= 31.5000
 B5_Lmax= 7.5000
 Quality= Q
 CloudPercent= -NA-
 AcrossTrackAccuracy= 0.0
 AlongTrackAccuracy= 0.0
 Shift%= 0
 SatelliteHeadingAngle= 194.608725
 SceneStartTime= 31-OCT-2022 06:00:05.625186819
 SceneEndTime= 31-OCT-2022 06:00:26.949639717
 SenAzimuthAtCenter= 89.815498
 SenElevationAtCenter= 89.815498
 IncidenceAngleAlongTrack= 0.212457
 IncidenceAngleAcrossTrack= -0.012273
 ViewAngle = 0.057900
 ViewAngleAlongTrack= -0.057424
 ViewAngleAcrossTrack= -0.007408
 ProductSceneStartTime= 31-OCT-2022 06:00:04.723951
 ProductSceneEndTime= 31-OCT-2022 06:00:27.850676

