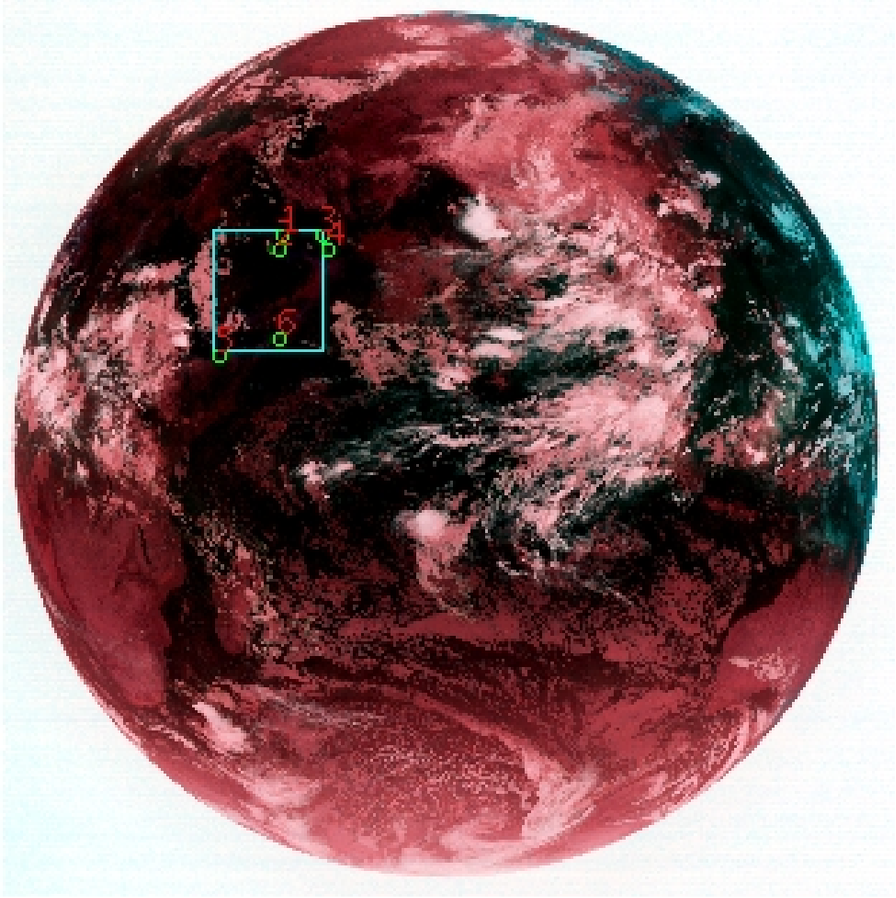
# DQE Report: Location Accuracy of INSAT-3DR-IMG STANDARD (FULL DISK) Product 3RIMG_29JUL2018_2144

| | | | | | |
|---|---|---|---|---|---|
| **Satellite** | INSAT-3DR | **No Of Bands** | 6 | **Product Type** | STANDARD |
| **Sensor** | IMG | **LvlOfProcess** | L1B | **Selected Band** | 2-TIR1 |
| **DOP/Time** | 29-07-18/21:44 | **Station ID** | BES | **Field View(deg)** | 17.99 |
| **Res(Y,X) [Km]** | (4.0,4.0) | **Res(Y,X) [uRad]** | (112.0,112.0) | | |

(81.113N,-7.122W) (81.113N,155.028E)




(-81.119S,-7.122W) (-81.119S,155.028E)

GCP Distribution overview for 3RIMG29JUL20182144L1BDQE

**Image Width:** 2805 **Image Height:** 2816 **No Of GCPs:** 6

**GCP Coverage(%)** 13.50 **(N-S)** 12.21 **(E-W)**

**Location Error(E)**

Legend —0Km < E <= 50Km —50Km < E <= 100Km —E >100Km

## Location Error (In IR Pixels)

| | Mean | Direction | Stddev | RMS |
|---|---|---|---|---|
| Along | 8.037 | N | 1.168 | 8.122 |
| Across | -29.261 | W | 2.329 | 29.354 |

## Radial Error (in IR Pixels)

| | |
|---|---|
| **Mean** | 30.363 |
| **Min** | 25.329 |
| **Max** | 32.668 |
| **CE90** | 31.989 |

## Scale (Km)

| | Pixel Size | Stddev | %variation |
|---|---|---|---|
| Average | 4.497 | 0.331 | 12.424 |
| Along | 4.539 | 0.040 | 13.465 |
| Across | 4.675 | 0.058 | 16.877 |

## Internal Distortion (in IR Pixels)

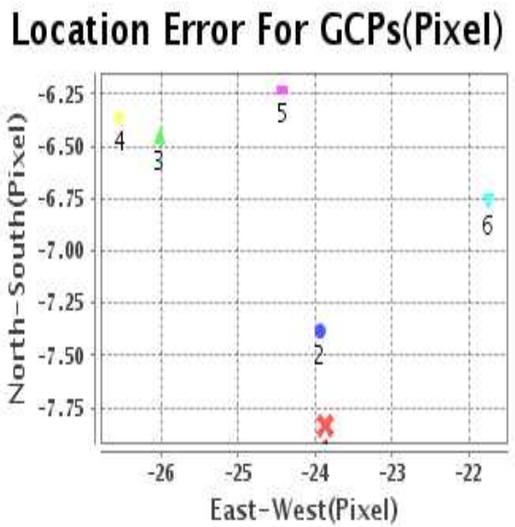
| | PeakToPeak | Mean | Stddev | RMS |
|---|---|---|---|---|
| Along | 1.603 | 0.458 | 0.61 | 0.763 |
| Across | 4.789 | 0.006 | 1.72 | 1.716 |

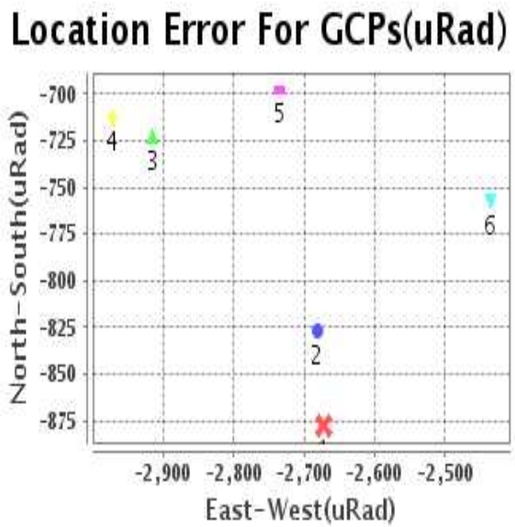
## Attitude Residuals (Deg)

| Pitch | Roll | Yaw |
|---|---|---|
| -0.19303 | -0.06319 | 0.19399 |

## Reference Used

| Sensor | Resolution | Projection |
|---|---|---|
| ETM | 500.00 | GGP |



# Detailed Product Information

## Ancillary Info

| | | | |
|---|---|---|---|
| Satellite | INSAT-3DR | Generation Date | 30-07-18 |
| Sensor | IMG | DQE Date | 31-07-2018 |
| PassType | NONE | Aquisition Date | 29-07-18 |
| Imaging Mode | FULL_FRAME | Aquisition Time(GMT) | 21:44 |
| Sat Altitude(m) | 3.6E7 | Nominal Altitude(Km) | 3.6E7 |
| Station | BES | Predicted Altitude(Km) | -999.99 |
| Sat Location(deg) | -999.99 E | Nominal Center Lat(deg) | 0.0 |
| Format | hdf5-1.8.8 | Nominal Center Lon(deg) | 74.0 |
| LvlOfProcessing | STANDARD | Predicted Center Lat(deg) | -999.99 |
| DP JobId | 3RIMG_29JUL20 | Predicted Center Lon(deg) | -999.99 |
| ProductCode | NONE | | |
| Field View(deg) | 17.99 | | |

## Projection Parameters

| | |
|---|---|
| Projection | None |
| Ellipsoid | WGS_84 |
| Datum | WGS_84 |
| Zone | NotAvail |
| Semi_Major_Axis(Km) | 6378.14 |
| Semi_Minor_Axis(Km) | 6356.75 |
| Standard_Parallel1(deg) | -999.99 |
| Standard_Parallel2(deg) | -999.99 |
| Projection_Origin_Lon(deg) | -999.99 |
| Projection_Origin_Lat(deg) | -999.99 |
| Projection_False_Easting(Km) | -999.99 |
| Projection_False_Northing(Km) | -999.99 |

## Scene Center Desc

| | |
|---|---|
| Centre Lat(deg) | -0.0030 |
| Center Lon(deg) | 73.953 |
| Centre Roll(deg) | -999.0 |
| Centre Pitch(deg) | -999.0 |
| Center Yaw(deg) | -999.0 |
| SunElevation(deg) | -999.99 |
| SunAzimuth(deg) | -999.99 |
| SatElevation(deg) | -999.99 |
| SatAzimuth(deg) | -999.99 |

## Scene Corner Desc

| | |
|---|---|
| NW_Lat(deg) | 81.113 |
| NW_Lon(deg) | -7.122 |
| SW_Lat(deg) | -81.119 |
| SW_Lon(deg) | -7.122 |
| NE_Lat(deg) | 81.113 |
| NE_Lon(deg) | 155.028 |
| SE_Lat(deg) | -81.119 |
| SE_Lon(deg) | 155.028 |

## Band Wise Details

| | Res_AL(Km) | Res_AX(Km) | Image Height | Image Width |
|---|---|---|---|---|
| MIR | 4.0 | 4.0 | 2816 | 2805 |
| SWIR | 1.0 | 1.0 | 11264 | 11220 |
| TIR1 | 4.0 | 4.0 | 2816 | 2805 |
| TIR2 | 4.0 | 4.0 | 2816 | 2805 |
| VIS | 1.0 | 1.0 | 11264 | 11220 |
| WV | 8.0 | 8.0 | 1408 | 1402 |

## GDQE Computation Base

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Projection | MER | Wildpoint Rejection Threshold | 2.60 -sigma | SemiMajorAxis(m) | 6378137.00 | Mode Of Computation | grid |
| Ellipsoid | WGS_84 | | | SemiMinorAxis(m) | 6356752.31 | Used Reference Type | REFINSREF |
| Datum | WGS_84 | Unit | pixels | Standardparallel1(deg) | 17.0 | | |
| Zone | Not Applicable | | | Standardparallel2(deg) | 17.0 | | |

* -999.99 : Not Applicable/Not Available

# References

**JobId :** **3RIMG29JUL20182144L1BDQE**

(-999.99 - Not Available/Not Computed)

| Ref.No | Source | File Name | Resolution ( m ) | Projection |
|---|---|---|---|---|
| 1 | ETM | world_Band1.img | 500.0 | GGP |

# Location Accuracy

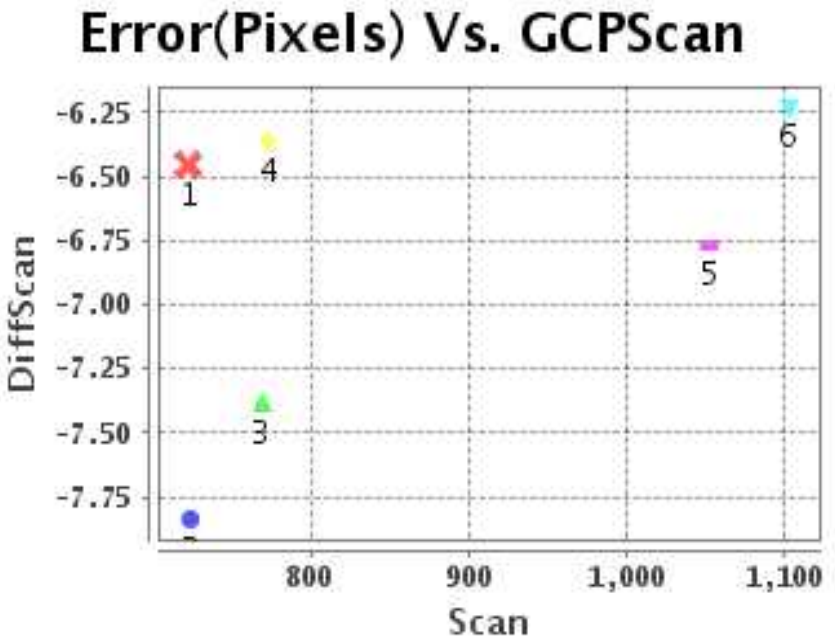
## GCP Distribution Statistics

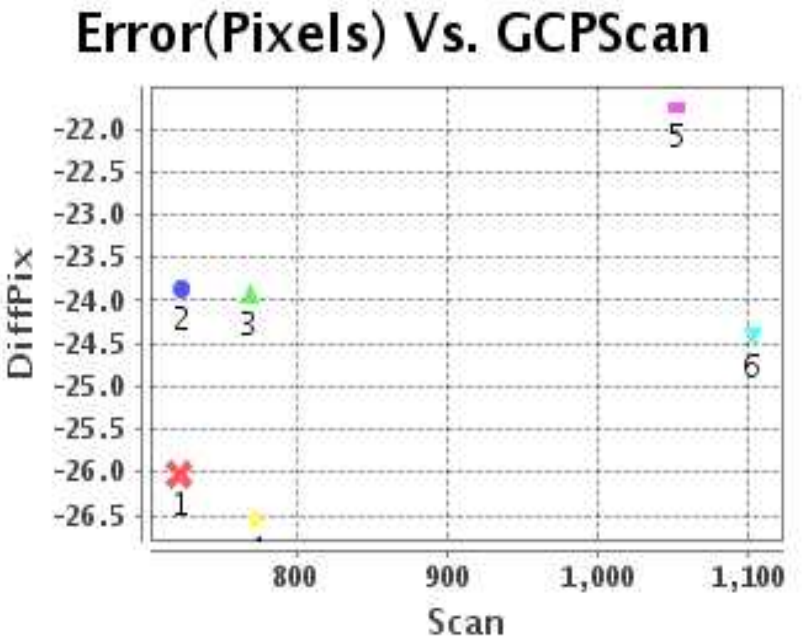
**Image Width (pixels) :** 2805 **Image Height (pixels) :** 2816 **No of GCPs :** 6

| | Mean | StdDev | Min | Max | Coverage(in %) |
|---|---|---|---|---|---|
| **GCP Scan** | 857.0 | 157.7 | 722.2 | 1102.50 | 13.50 (N-S) |
| **GCP Pix** | 877.8 | 112.2 | 674.0 | 1016.50 | 12.21 (E-W) |

## Identified Control Point details : ( Differences are Reference - Product )

| No | Scan | Pix | DiffScan (line) | DiffPix (pixel) | DifLat (Km) | Dir | DifLon (Km) | Dir | Status |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 723.8 | 865.0 | -7.8 | -23.87 | 39.482 | N | 124.567 | W | Accepted |
| 2 | 768.8 | 860.8 | -7.4 | -23.94 | 35.001 | N | 117.120 | W | Accepted |
| 3 | 722.2 | 995.5 | -6.5 | -26.02 | 33.863 | N | 123.392 | W | Accepted |
| 4 | 772.5 | 1016.5 | -6.4 | -26.54 | 30.532 | N | 121.207 | W | Accepted |
| 5 | 1102.5 | 674.0 | -6.2 | -24.42 | 24.688 | N | 118.998 | W | Accepted |
| 6 | 1052.0 | 855.2 | -6.8 | -21.75 | 29.332 | N | 96.977 | W | Accepted |



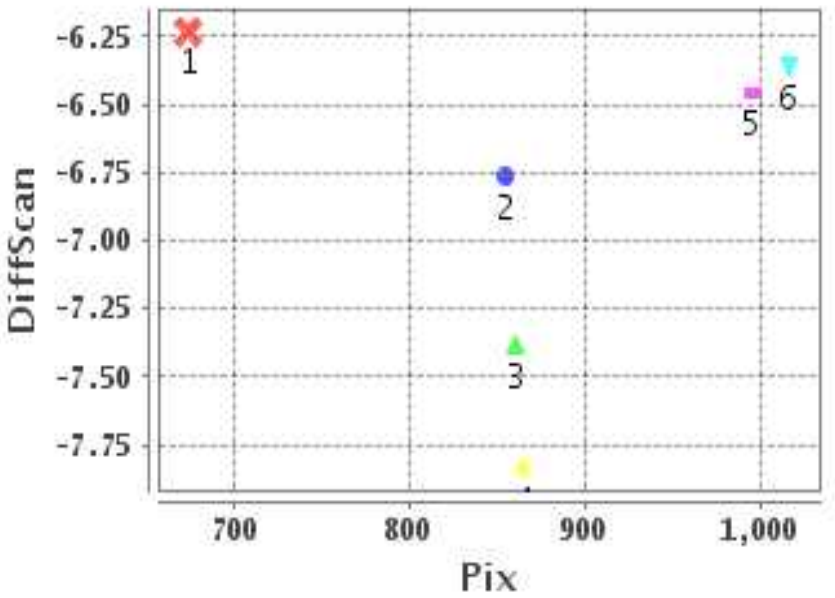



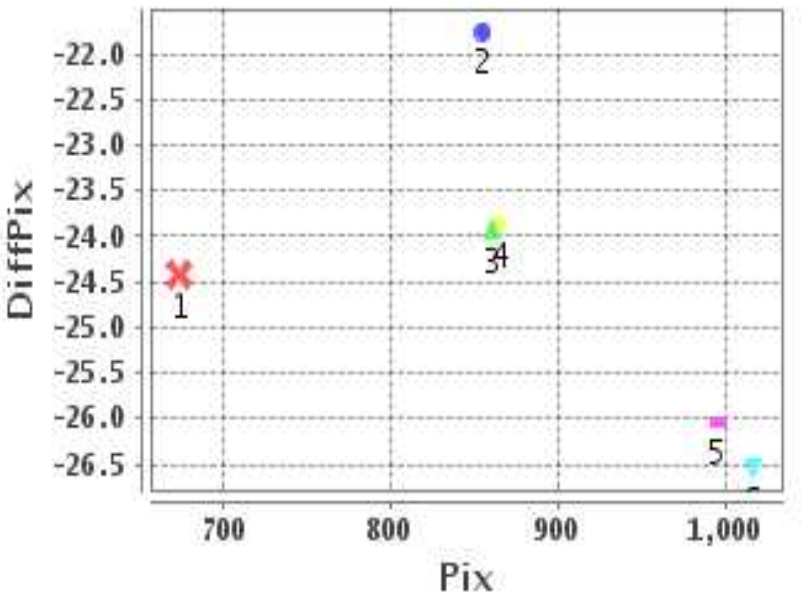

**Number Of Points**

| | |
|---|---|
| North | 6 |
| South | 0 |
| East | 0 |
| West | 6 |

**Radial Error ( Km**

| | |
|---|---|
| Mean | 30.363 |
| Min | 25.329 |
| Max | 32.668 |
| CE90 | 31.989 |




**Location Accuracy**

| | Mean | StdDev | RMS | Dir | * MinRMS | * MaxRMS |
|---|---|---|---|---|---|---|
| Along( Km ) | 8.037 | 1.168 | 8.122 | N | 7.725 | 8.458 |
| Across ( Km ) | -29.261 | 2.329 | 29.354 | W | 28.982 | 30.272 |

# Block-Wise Geo location Error Statistics

## Location Accuracy,Scale,ID

**Scan Range-0-937; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 2 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 37.24 | N | |
| **Across(Mean,Dir)** | -120.84 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 5.03 | 25.77 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -0.45 | 0.00 | |
| **Across(Mean,Stddev)** | -0.07 | 0.00 | |

**Scan Range-0-937; Pix Range-934-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 2 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 32.195 | N | |
| **Across(Mean,Dir)** | -122.30 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 5.17 | 29.31 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -0.10 | 0.00 | |
| **Across(Mean,Stddev)** | 0.52 | 0.00 | |

**Scan Range-0-937; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-937-1876; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | 2 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | 27.01 | N | |
| **Across(Mean,Dir)** | -107.98 | W | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | 4.46 | 11.62 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -0.53 | 0.00 | |
| **Across(Mean,Stddev)** | -2.67 | 0.00 | |

**Scan Range-937-1876; Pix Range-934-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-937-1876; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-0-934**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-937-1869**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

**Scan Range-1876-2816; Pix Range-1869-2805**

| | | | |
|---|---|---|---|
| **Number of GCPs** | -999 | | |
| **Location Error(Km)** | | | |
| **Along(Mean,Dir)** | -999.99 | NotAvail | |
| **Across(Mean,Dir)** | -999.99 | NotAvail | |
| **Scale(Km)** | | | |
| **Average Scale (Mean,%Variation)** | -999.99 | -999.9 | |
| **Internal Distortion(Pixel)** | | | |
| **Along(Mean,Stddev)** | -999.99 | -999.99 | |
| **Across(Mean,Stddev)** | -999.99 | -999.99 | |

*-999 : no gcp available

* -999.99 : values are not computed