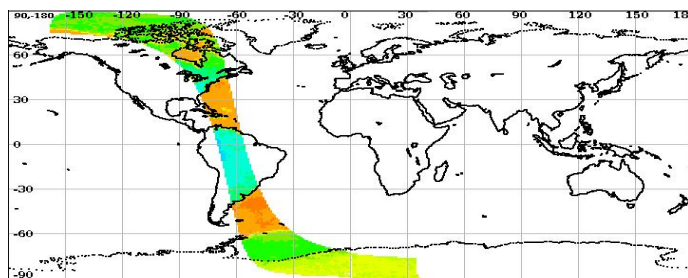


# Scatsat-1 Scatterometer Level-2A Data Quality Evaluation Report

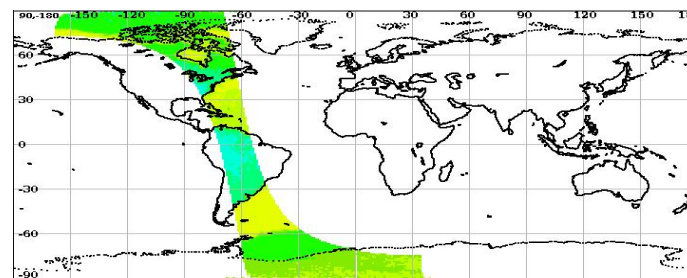
| Satellite      | Sensor          | Start Orbit       | End Orbit       |
|----------------|-----------------|-------------------|-----------------|
| SCATSAT-1      | Scatterometer   | 15874             | 15875           |
| WV Cells Along | WV Cells Across | EquatorCrossDate  | Production Date |
| 813            | 72              | 26-09-2019        | 27-09-2019      |
| Direction      | WVC Size(km)    | Processor Version |                 |
| SN             | 25              | v1.1.3            |                 |

## Brightness Temperature

Inner Beam (HH)

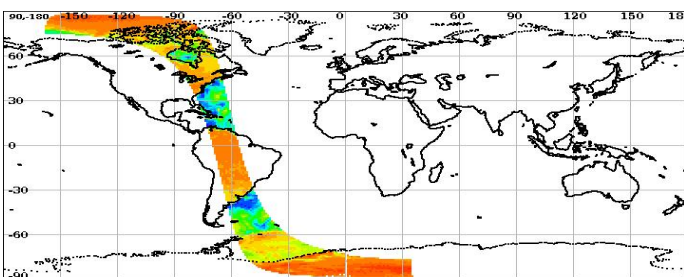


Outer Beam (VV)

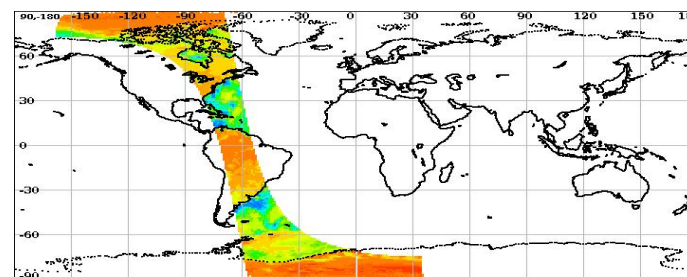


## Sigma0(dB)

Inner Beam (HH)



Outer Beam (VV)



## Invariant Site Sigma-0 Statistics for Ascending/Descending, Fore/Aft in HH/VV beams

| Site Name | Center Lat | Center Lon | Beam  | Node | ScanDir | Sigma0 Min | Sigma0 Max | Sigma0 Mean | Sigma0 Std | BT Min | BT Max | BT Mean | BT Std |
|-----------|------------|------------|-------|------|---------|------------|------------|-------------|------------|--------|--------|---------|--------|
| Amazon_3  | -6.00      | -61.00     | Inner | ASC  | Aft     | -10.79     | -6.03      | -8.53       | 0.81       | 250.88 | 334.78 | 290.28  | 18.32  |
| Amazon_3  | -6.00      | -61.00     | Outer | ASC  | Aft     | -12.30     | -8.21      | -9.73       | 0.72       | 238.19 | 306.94 | 278.29  | 15.95  |
| Amazon_3  | -6.00      | -61.00     | Inner | ASC  | Fore    | -10.91     | -5.74      | -8.42       | 1.02       | 256.91 | 338.79 | 293.13  | 17.19  |
| Amazon_3  | -6.00      | -61.00     | Outer | ASC  | Fore    | -11.97     | -7.36      | -9.46       | 0.82       | 243.60 | 318.20 | 274.39  | 16.02  |
| Amazon_2  | -3.00      | -61.00     | Inner | ASC  | Aft     | -13.02     | -5.59      | -8.85       | 1.51       | 230.64 | 327.41 | 271.03  | 21.86  |
| Amazon_2  | -3.00      | -61.00     | Outer | ASC  | Aft     | -13.90     | -7.41      | -10.09      | 1.27       | 231.81 | 305.16 | 265.86  | 15.78  |
| Amazon_2  | -3.00      | -61.00     | Inner | ASC  | Fore    | -17.01     | -6.21      | -9.19       | 1.76       | 216.03 | 315.08 | 263.80  | 20.95  |
| Amazon_2  | -3.00      | -61.00     | Outer | ASC  | Fore    | -14.60     | -6.80      | -10.06      | 1.58       | 228.04 | 301.83 | 261.62  | 17.67  |
| Amazon_1  | 0.00       | -67.00     | Inner | ASC  | Aft     | -12.85     | -5.56      | -7.70       | 1.17       | 264.67 | 336.53 | 300.81  | 17.46  |
| Amazon_1  | 0.00       | -67.00     | Outer | ASC  | Aft     | -11.23     | -6.12      | -8.51       | 0.95       | 246.32 | 308.79 | 283.50  | 15.13  |
| Amazon_1  | 0.00       | -67.00     | Inner | ASC  | Fore    | -11.11     | -5.51      | -7.76       | 1.01       | 270.15 | 335.70 | 297.23  | 15.38  |
| Amazon_1  | 0.00       | -67.00     | Outer | ASC  | Fore    | -10.68     | -5.89      | -8.49       | 0.90       | 225.06 | 323.80 | 283.51  | 21.38  |

## Level-2A Cell-wise Deviations\*

| Static Parameter Statistics (variations over the cell grid) for the Inner and Outer Beam |                 |         |              |         |         |              |                 |         |              |         |         |              |
|--|-----------------|---------|--------------|---------|---------|--------------|-----------------|---------|--------------|---------|---------|--------------|
| Parameter  | Inner Beam (HH) |         |              |         |         |              | Outer Beam (VV) |         |              |         |         |              |
|  | Aft             |         |              | Fore    |         |              | Aft             |         |              | Fore    |         |              |
|  | Min Rng         | Max Rng | Bad Occ. (%) | Min Rng | Max Rng | Bad Occ. (%) | Min Rng         | Max Rng | Bad Occ. (%) | Min Rng | Max Rng | Bad Occ. (%) |
| <b>Kpa</b>   | 0.00            | 0.07    | 0.00         | 0.00    | 0.07    | 0.00         | 0.00            | 0.07    | 0.00         | 0.00    | 0.07    | 0.00         |
| <b>Kpb</b>   | 0.00            | 0.09    | 0.00         | 0.00    | 0.09    | 0.00         | 0.00            | 0.09    | 0.00         | 0.00    | 0.09    | 0.00         |
| <b>Kpc</b>   | 0.00            | 0.00    | 0.00         | 0.00    | 0.00    | 0.00         | 0.00            | 0.00    | 0.00         | 0.00    | 0.00    | 0.00         |
| <b>Inc. Angle(deg)</b>   | 0.00            | 0.00    | 0.00         | 0.00    | 0.00    | 0.00         | 0.00            | 0.00    | 0.00         | 0.00    | 0.00    | 0.00         |
| <b>Delta Azi.Angle(deg)</b>  | 0.00            | 22.10   | 5.98         | 0.00    | 25.98   | 7.63         | 0.00            | 136.76  | 2.91         | 0.00    | 235.31  | 4.20         |

| Category wise Dynamic Parameter Statistics (Variations over the Cell grid) |                   |         |         |              |          |         |              |          |         |              |           |         |              |
|--|-------------------|---------|---------|--------------|----------|---------|--------------|----------|---------|--------------|-----------|---------|--------------|
| Parameter  | Beam              | Sea Aft |         |              | Sea Fore |         |              | Land Aft |         |              | Land Fore |         |              |
|  |                   | Min Rng | Max Rng | Bad Occ. (%) | Min Rng  | Max Rng | Bad Occ. (%) | Min Rng  | Max Rng | Bad Occ. (%) | Min Rng   | Max Rng | Bad Occ. (%) |
| <b>SNR(dB)</b>   | <b>Inner (HH)</b> | 0.00    | 43.09   | 2.09         | 0.00     | 47.74   | 2.38         | 0.00     | 38.79   | 0.12         | 0.00      | 42.64   | 0.13         |
|  | <b>Outer (VV)</b> | 0.00    | 40.76   | 1.84         | 0.00     | 39.75   | 2.44         | 0.00     | 30.17   | 0.07         | 0.00      | 35.10   | 0.11         |
| <b>Sigma0(dB)</b>  | <b>Inner (HH)</b> | 0.00    | 43.09   | 2.07         | 0.00     | 50.41   | 2.18         | 0.00     | 39.39   | 0.11         | 0.00      | 43.33   | 0.11         |
|  | <b>Outer (VV)</b> | 0.00    | 41.70   | 1.83         | 0.00     | 38.90   | 2.24         | 0.00     | 27.21   | 0.06         | 0.00      | 31.22   | 0.08         |

| Parameter Specifications with in a cell   |     |     |     |            |          |                  |             |
|---|-----|-----|-----|------------|----------|------------------|-------------|
| Parameter   | Kpa | Kpb | Kpc | Inci (deg) | SNR (dB) | Delta Azi. (deg) | Sigma0 (dB) |
| Range   | 1.0 | 1.0 | 1.0 | 3.0        | 20.0     | 10.0             | 20.0        |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: green; margin-right: 5px;"></span> Normal <span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; margin-right: 5px; margin-left: 20px;"></span> Deviation <span style="display: inline-block; width: 15px; height: 15px; background-color: orange; margin-right: 5px; margin-left: 20px;"></span> Alarming <span style="display: inline-block; width: 15px; height: 15px; background-color: red; margin-right: 5px; margin-left: 20px;"></span> High |     |     |     |            |          |                  |             |

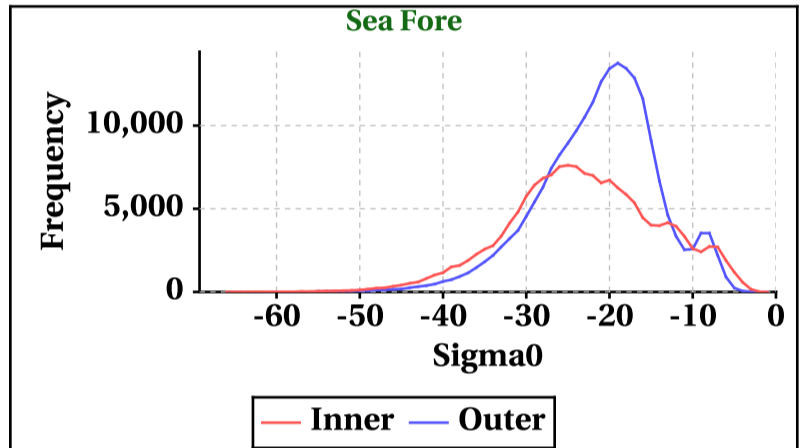
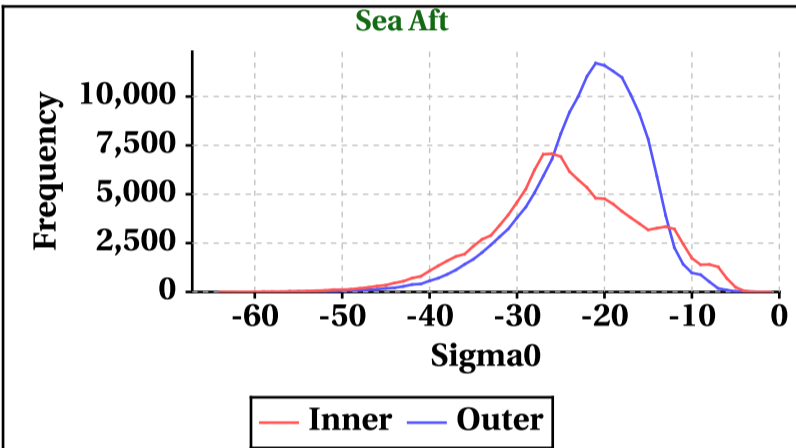
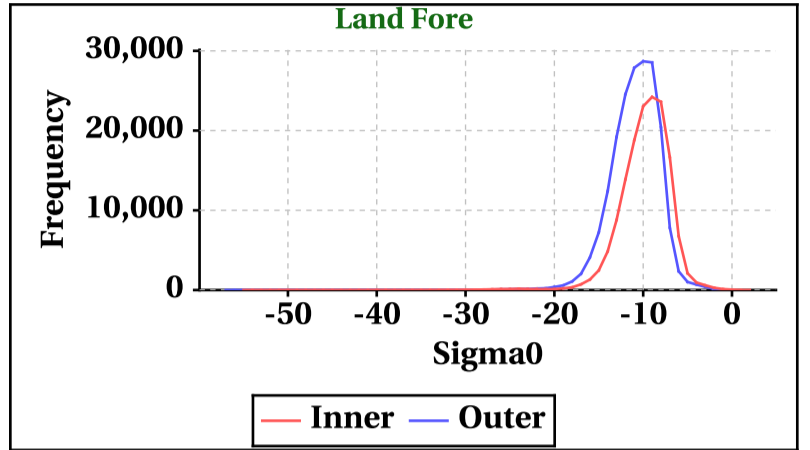
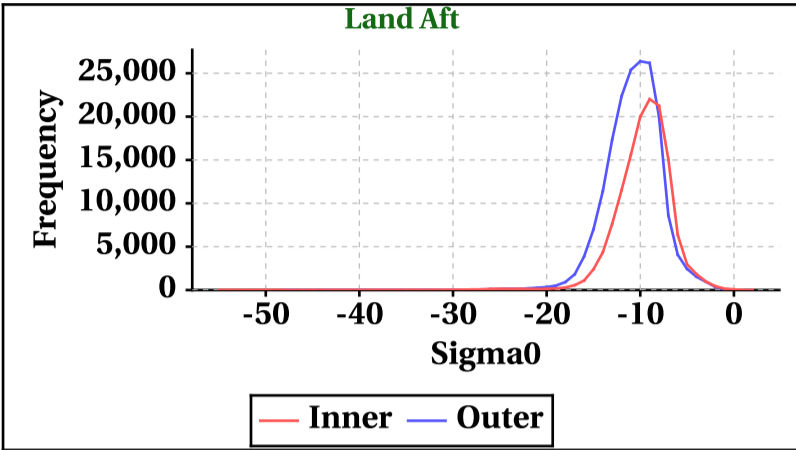
\* Note: Deviations within a Cell for a category is observed and flagged if out of range specifications

# Dynamic Range (Data Histograms)

## Sigma0(db)

| Inner Beam (HH) |          |           |         |          |
|-----------------|----------|-----------|---------|----------|
|                 | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min             | -55      | -55       | -64     | -66      |
| Max             | 2        | 2         | -1      | -1       |

| Outer Beam (VV) |          |           |         |          |
|-----------------|----------|-----------|---------|----------|
|                 | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min             | -48      | -57       | -59     | -60      |
| Max             | -1       | -1        | -1      | -1       |



## Brightness Temperature(K)

| Inner Beam(HH) |          |           |         |          |
|----------------|----------|-----------|---------|----------|
|                | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min            | 1        | 1         | 1       | 1        |
| Max            | 371      | 358       | 304     | 297      |

| Outer Beam(VV) |          |           |         |          |
|----------------|----------|-----------|---------|----------|
|                | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min            | 1        | 1         | 1       | 1        |
| Max            | 359      | 358       | 308     | 299      |

