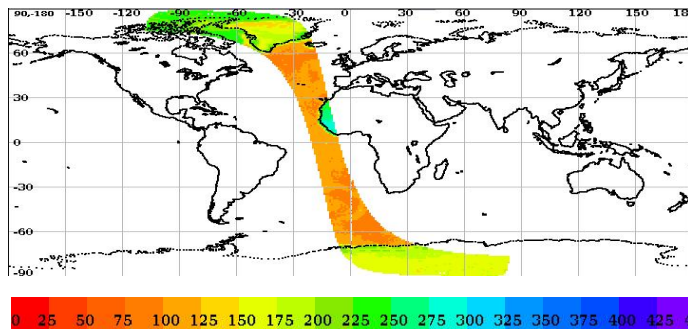


# Scatsat-1 Scatterometer Level-2A Data Quality Evaluation Report

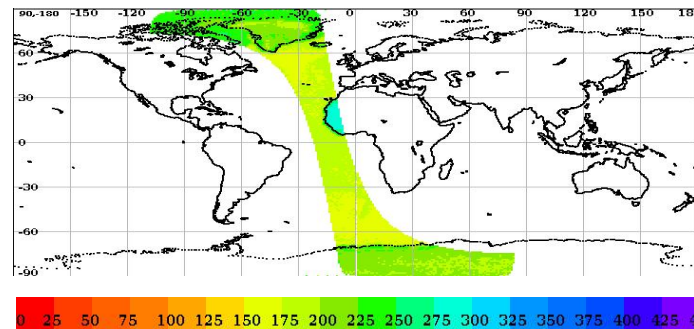
| Satellite      | Sensor          | Start Orbit       | End Orbit       |
|----------------|-----------------|-------------------|-----------------|
| SCATSAT-1      | Scatterometer   | 13523             | 13524           |
| WV Cells Along | WV Cells Across | EquatorCrossDate  | Production Date |
| 811            | 72              | 16-04-2019        | 17-04-2019      |
| Direction      | WVC Size(km)    | Processor Version |                 |
| SN             | 25              | v1.1.3            |                 |

## Brightness Temperature

Inner Beam (HH)

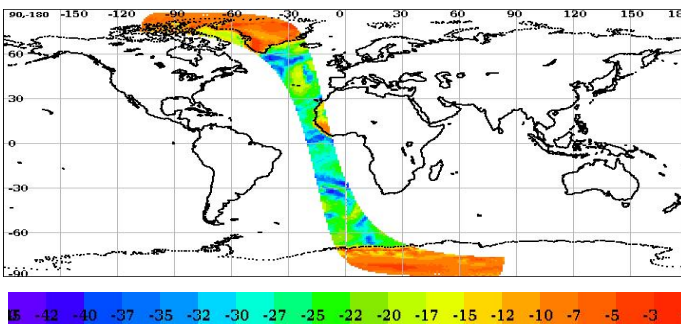


Outer Beam (VV)

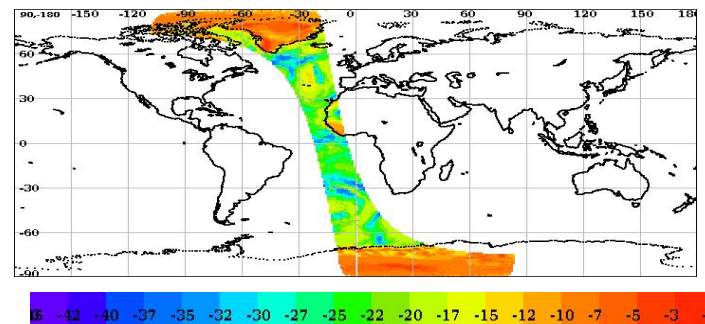


## Sigma0(dB)

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 |
|-------------|------------|------------|-------|------|---------|------------|------------|-------------|------------|--------|--------|---------|--------|
| GreenLand_2 | 77.50      | -41.50     | Inner | ASC  | Aft     | -7.76      | -4.61      | -6.33       | 0.92       | 137.73 | 177.94 | 154.08  | 12.41  |
| GreenLand_2 | 77.50      | -41.50     | Outer | ASC  | Aft     | -8.22      | -3.86      | -5.78       | 1.16       | 188.90 | 231.89 | 211.63  | 15.90  |
| GreenLand_2 | 77.50      | -41.50     | Inner | ASC  | Fore    | -7.03      | -4.07      | -5.53       | 0.84       | 113.49 | 162.82 | 142.01  | 12.02  |
| GreenLand_2 | 77.50      | -41.50     | Outer | ASC  | Fore    | -7.95      | -3.46      | -5.12       | 1.18       | 181.17 | 204.25 | 194.84  | 7.38   |
| GreenLand_3 | 71.55      | -42.45     | Inner | ASC  | Aft     | -12.75     | -10.43     | -11.74      | 0.60       | 158.66 | 218.02 | 186.28  | 15.99  |
| GreenLand_3 | 71.55      | -42.45     | Outer | ASC  | Aft     | -13.79     | -9.14      | -12.38      | 0.97       | 210.75 | 261.98 | 230.63  | 14.61  |
| GreenLand_3 | 71.55      | -42.45     | Inner | ASC  | Fore    | -14.39     | -10.30     | -11.90      | 0.90       | 154.15 | 206.93 | 190.91  | 11.87  |
| GreenLand_3 | 71.55      | -42.45     | Outer | ASC  | Fore    | -14.76     | -10.48     | -12.33      | 1.01       | 207.24 | 251.93 | 225.10  | 13.81  |
| GreenLand_1 | 74.69      | -42.50     | Inner | ASC  | Aft     | -12.48     | -8.95      | -10.24      | 0.99       | 155.61 | 191.50 | 175.08  | 11.39  |
| GreenLand_1 | 74.69      | -42.50     | Outer | ASC  | Aft     | -11.96     | -6.59      | -9.84       | 1.09       | 189.04 | 247.70 | 219.34  | 18.28  |
| GreenLand_1 | 74.69      | -42.50     | Inner | ASC  | Fore    | -11.25     | -7.37      | -9.34       | 0.90       | 134.95 | 199.64 | 161.15  | 16.12  |
| GreenLand_1 | 74.69      | -42.50     | Outer | ASC  | Fore    | -10.73     | -7.57      | -9.10       | 0.88       | 196.09 | 261.25 | 217.40  | 17.66  |

## 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            | 23.40   | 5.67         | 0.00    | 68.58   | 6.56         | 0.00            | 149.18  | 1.66         | 0.00    | 52.92   | 2.17         |

| 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    | 40.09   | 1.30         | 0.00     | 42.90   | 1.52         | 0.00     | 34.04   | 0.03         | 0.00      | 22.77   | 0.03         |
|                                                                            | <b>Outer (VV)</b> | 0.00    | 38.95   | 1.39         | 0.00     | 40.31   | 1.95         | 0.00     | 34.26   | 0.21         | 0.00      | 28.89   | 0.35         |
| <b>Sigma0(dB)</b>                                                          | <b>Inner (HH)</b> | 0.00    | 41.16   | 1.29         | 0.00     | 43.24   | 1.42         | 0.00     | 32.62   | 0.03         | 0.00      | 20.78   | 0.02         |
|                                                                            | <b>Outer (VV)</b> | 0.00    | 36.32   | 1.32         | 0.00     | 38.97   | 1.64         | 0.00     | 31.70   | 0.19         | 0.00      | 31.23   | 0.33         |

| 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 |     |     |     |            |          |                  |             |

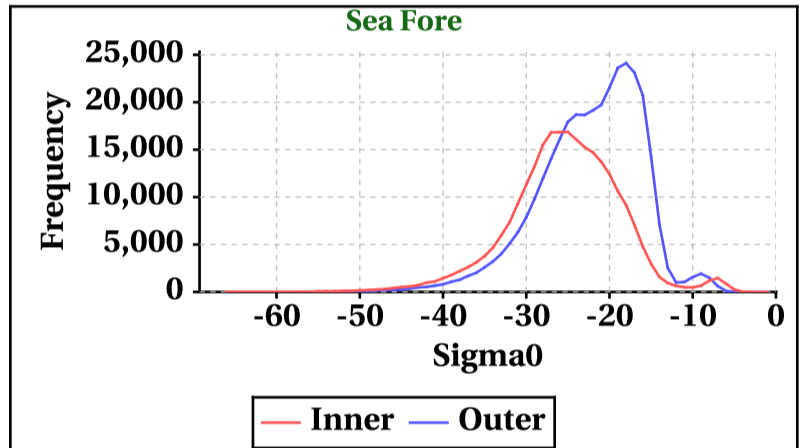
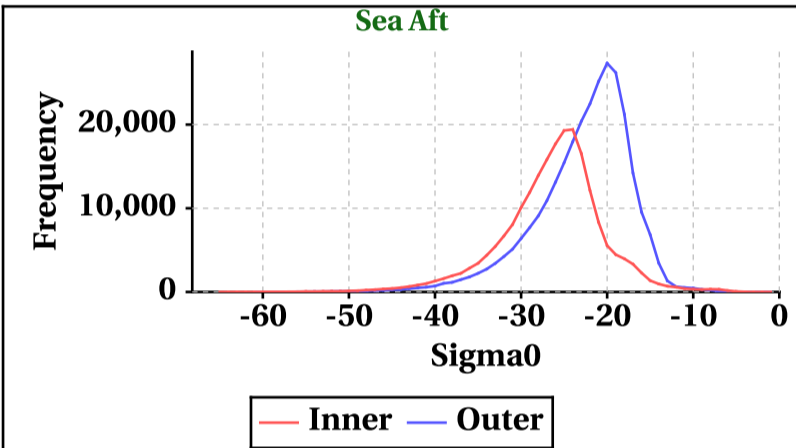
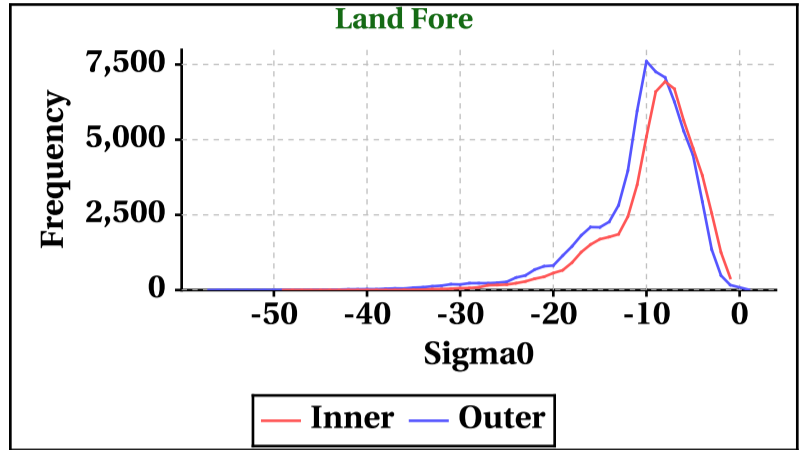
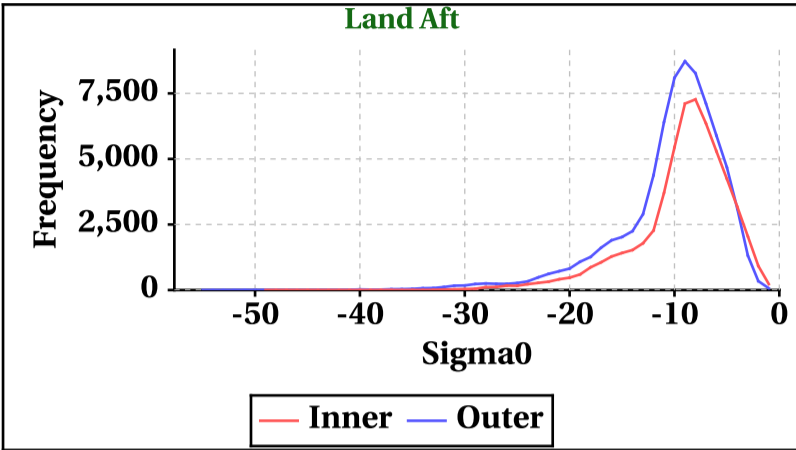
\* Note: Deviations within a Cell for a category is observed and flagged if out of range specifications

# Dynamic Range (Data Histograms)

## Sigma0(db)

| Inner Beam (HH) |          |           |         |          |
|-----------------|----------|-----------|---------|----------|
|                 | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min             | -49      | -49       | -65     | -66      |
| Max             | -1       | -1        | -1      | -1       |

| Outer Beam (VV) |          |           |         |          |
|-----------------|----------|-----------|---------|----------|
|                 | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min             | -55      | -57       | -61     | -61      |
| 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            | 333      | 338       | 289     | 292      |

| Outer Beam(VV) |          |           |         |          |
|----------------|----------|-----------|---------|----------|
|                | Land Aft | Land Fore | Sea Aft | Sea Fore |
| Min            | 1        | 1         | 1       | 1        |
| Max            | 353      | 347       | 301     | 300      |

