# ATL19 Product Data Dictionary

**Date Generated**: 2022-08-08T12:47:39

The ATL19 product contains Sea Surface Height (SSH) of the mid latitudes, northern and southern polar regions based on 1 month of data coverage (for ATL23 - based on 3 months of data coverage).

<table>
<thead>
<tr>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dot hist_bincenters</strong></td>
<td><strong>DIMENSION</strong> 1</td>
</tr>
<tr>
<td>Grid dimension for dot_hist_grid</td>
<td></td>
</tr>
<tr>
<td><strong>delta_time_beg</strong></td>
<td><strong>DOUBLE</strong></td>
</tr>
<tr>
<td>Beginning elapsed GPS seconds</td>
<td></td>
</tr>
<tr>
<td><strong>delta_time_end</strong></td>
<td><strong>DOUBLE</strong></td>
</tr>
<tr>
<td>Ending elapsed GPS seconds</td>
<td></td>
</tr>
<tr>
<td><strong>ds_hist_bincenters</strong></td>
<td><strong>DOUBLE</strong></td>
</tr>
<tr>
<td>Grid dimension for dot_hist_grid</td>
<td></td>
</tr>
<tr>
<td><strong>ds_surf_type</strong></td>
<td><strong>INTEGER</strong></td>
</tr>
<tr>
<td>Surface Type Dimension</td>
<td></td>
</tr>
<tr>
<td><strong>axis</strong></td>
<td><strong>ATTRIBUTES</strong></td>
</tr>
<tr>
<td>Grid dimension for dot_hist_grid</td>
<td></td>
</tr>
<tr>
<td><strong>atlas_sdp_gps_epoch</strong></td>
<td><strong>DOUBLE</strong></td>
</tr>
<tr>
<td>ATLAS Epoch Offset</td>
<td></td>
</tr>
</tbody>
</table>

**Conventions**: CF-1.6

**Citation**: [CF-1.6](http://dx.doi.org/10.5067/ATLAS/ATL19.001)

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**Acknowledgments**: Thomas A Neumann (thomas.neumann@nasa.gov), Thorsten Markus (thorsten.markus@nasa.gov), Suneel Bhardwaj (suneel.bhardwaj@nasa.gov) David W Hancock III (data processing), William Williams (data validation), and the rest of the Operation Team.

**Contact**

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- Data Producer: David W Hancock III (data processing)
- Data Producer: William Williams (data validation)
- Data Producer: ATLAS Project Team

**History**

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**Metadata**

- **Title**: ATL19 Product Data Dictionary
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**Source**

- **Source**: Operations

**Granule Type**

- **Granule Type**: ATL19

**Granule**

- **Granule Type**: L3B

**Granule Time**

- **Granule Time**: 2022-08-08T12:47:39

**Granule Dimensions**

- **Granule Dimensions**: 90 x 90

**Granule Size**

- **Granule Size**: 750 MB

**Granule Storage**

- **Granule Storage**: HDF5

**Granule Compression**

- **Granule Compression**: None

**Granule Description**

- **Granule Description**: Contains information ancillary to the data product. This may include product characteristics, instrument characteristics and/or processing constants.

**Granule Attributes**

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**Granule Keywords**

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**Granule Keywords Vocabulary**

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### ATL19 Product Data Dictionary

**control CONTIGUOUS**
- **STRING(1)** Control File None 1 PGE-specific control file used to generate this granule. To re-use, replace breaks (BR) with linefeeds. (Source: [Operations])

**data_end_utc COMPACT**
- **STRING(1)** End UTC Time of Granule (CCSDS-A, Actual) None 1 UTC in (CCSDS-A format) of the last data point within the granule. (Source: [Derived])

**data_start_utc COMPACT**
- **STRING(1)** Start UTC Time of Granule (CCSDS-A, Actual) None 1 UTC in (CCSDS-A format) of the first data point within the granule. (Source: [Derived])

**end_cycle COMPACT**
- **INTEGER(1)** Ending Cycle None 1 The ending cycle number associated with the data contained within this granule. The cycle number is the counter of the number of orbit increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**end_delta_time COMPACT**
- **DOUBLE(1)** ATLAS End Time (Actual) time seconds since 2018-01-01 1 Number of GPS seconds since the ATLAS SDP epoch at the last data point in the file. The ATLAS Standard Data Unit: atlas_sdp_gps_epoch as the number of GPS seconds between the GPS epoch (1980-01-06T00:00:00Z) contained within atlas_sdp_gps_epoch to delta time parameters, the time in gps_seconds relative to the GPS s (Source: Derived)

**end_geoseg COMPACT**
- **INTEGER(1)** Ending Geolocation Segment None 1 The ending geolocation segment number associated with the data contained within this granule. ICESat2 granule geo (the geolocation process, a geolocation segment is created approximately every 20m from the start of the orbit to 1 beams and provide a common segment length for the L2 and higher products. The geolocation segment indices c Earth. The geolocation segment indices on ATL01 and ATL02 are only approximate because beams have not bee (Source: Derived)

**end_granule_end_utc COMPACT**
- **DOUBLE(1)** Ending GPS SOW of Granule (Actual) None seconds 1 GPS seconds-of-week of the last data point in the granule. (Source: Derived)

**end_granule_start_utc COMPACT**
- **STRING(1)** Start UTC Time of Granule (CCSDS-A, Requested) None 1 Requested start time (in UTC CCSDS-A) of this granule. (Source: Derived)

**end_granule_version COMPACT**
- **INTEGER(1)** Ending Granule Version None 1 Statistics time interval for along-track QA data. (Source: Derived)

**end_orbit COMPACT**
- **INTEGER(1)** Ending Orbit Number None 1 The ending orbit number associated with the data contained within this granule. The orbit number increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**end_region COMPACT**
- **INTEGER(1)** Ending Region None 1 The ending product-specific region number associated with the data contained within this granule. ICESat-2 data within a specific region are the same for ATL01 and ATL02. ATL03 regions differ slightly because of different geol (Source: Derived)

**end_rgt COMPACT**
- **INTEGER(1)** Ending Reference Groundtrack None 1 The ending reference groundtrack (RGt) number associated with the data contained within this granule. There ar reference groundtrack increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**granule_end_utc COMPACT**
- **STRING(1)** End UTC Time of Granule (CCSDS-A, Requested) None 1 Requested end time (in UTC CCSDS-A) of this granule. (Source: Derived)

**granule_start_utc COMPACT**
- **STRING(1)** Start UTC Time of Granule (CCSDS-A, Requested) None 1 Requested start time (in UTC CCSDS-A) of this granule. (Source: Derived)

**granule_start_utc COMPACT**
- **DOUBLE(1)** QA Along-Track Interval None seconds 1 Statistics time interval for along-track QA data. (Source: Derived)

**granule_start_utc COMPACT**
- **DOUBLE(1)** Start UTC Time of Granule (CCSDS-A, Requested) None 1 Requested start time (in UTC CCSDS-A) of this granule. (Source: Derived)

**granule_version COMPACT**
- **INTEGER(1)** Granule Version None 1 Statistics time interval for along-track QA data. (Source: Derived)

**start_cycle COMPACT**
- **INTEGER(1)** Starting Cycle None 1 The starting cycle number associated with the data contained within this granule. The cycle number is the counter of the number of orbit increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**start_delta_time COMPACT**
- **DOUBLE(1)** ATLAS Start Time (Actual) time seconds since 2018-01-01 1 Number of GPS seconds since the ATLAS SDP epoch at the first data point in the file. The ATLAS Standard Data Unit: atlas_sdp_gps_epoch as the number of GPS seconds between the GPS epoch (1980-01-06T00:00:00Z) contained within atlas_sdp_gps_epoch to delta time parameters, the time in gps_seconds relative to the GPS s (Source: Derived)

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- **INTEGER(1)** Starting Geolocation Segment None 1 The starting geolocation segment number associated with the data contained within this granule. ICESat2 granule geo (the geolocation process, a geolocation segment is created approximately every 20m from the start of the orbit to 1 beams and provide a common segment length for the L2 and higher products. The geolocation segment indices c Earth. The geolocation segment indices on ATL01 and ATL02 are only approximate because beams have not bee (Source: Derived)

**start_granule_end_utc COMPACT**
- **DOUBLE(1)** Start GPS SOW of Granule (Actual) None seconds 1 GPS seconds-of-week of the first data point in the granule. (Source: Derived)

**start_granule_start_utc COMPACT**
- **INTEGER(1)** Starting Granule Version None 1 Statistics time interval for along-track QA data. (Source: Derived)

**start_granule_version COMPACT**
- **INTEGER(1)** Starting Granule Version None 1 Statistics time interval for along-track QA data. (Source: Derived)

**start_orbit COMPACT**
- **INTEGER(1)** Starting Orbit Number None 1 The starting orbit number associated with the data contained within this granule. The orbit number increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**start_region COMPACT**
- **INTEGER(1)** Starting Region None 1 The starting product-specific region number associated with the data contained within this granule. ICESat-2 data within a specific region are the same for ATL01 and ATL02. ATL03 regions differ slightly because of different geol (Source: Derived)

**start_rgt COMPACT**
- **INTEGER(1)** Starting Reference Groundtrack None 1 The starting reference groundtrack (RGt) number associated with the data contained within this granule. There ar reference groundtrack increments each time the spacecraft completes a full orbit of the Earth and resets to 1 (Source: Derived)

**version COMPACT**
- **STRING(1)** Version None 1 Version number of this granule within the release. It is a sequential number corresponding to the number of times (Source: Derived)

<table>
<thead>
<tr>
<th>Group: ancestral_data/ocean</th>
<th>Contains general ancillary parameters.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Label</th>
<th>Datatype(Dims)</th>
<th>Fldname</th>
<th>units</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lat</td>
<td>COMPACT</td>
<td>integer</td>
<td></td>
<td>Use cell and surrounding 8 cells None 1 Process data within the grid cell and the surrounding 8 grid cells. True (default), Orfalse (Source: [Ocean ATBD])</td>
</tr>
</tbody>
</table>
**midlat_max_dfwcntr_uncrtn**

**Type:** DOUBLE

**Units:** meters

**Description:** Set midlat_dot_dfwcntr and midlat_ssb_avgcntr invalid if midlat_dot_dfwcntr_uncrtn is greater than this. (Source: Ocean ATBD)

**min_n_ocsegs**

**Type:** INTEGER

**Value:** 1

**Description:** Min ocean segments for processing None

**min_n_ocsegs4cntn**

**Type:** INTEGER

**Value:** 1

**Description:** Min ocean segments for calculating center values None

**min_n_orbits**

**Type:** INTEGER

**Value:** 1

**Description:** Process data for center values if it contains data from a number of orbits greater than or equal to this. (Source: Ocean ATBD)

**n_polar_max_avgcntr_uncrtn**

**Type:** DOUBLE

**Units:** None

**Description:** Set npolar_dot_dfwcntr and npolar_ssb_avgcntr invalid if npolar_dot_dfwcntr_uncrtn is greater than this. (Source: Ocean ATBD)

**n_polar_max_dfwcntr_uncrtn**

**Type:** DOUBLE

**Units:** None

**Description:** Set npolar_dot_dfwcntr and npolar_ssb_dfwcntr invalid if npolar_dot_dfwcntr_uncrtn is greater than this. (Source: Ocean ATBD)

**ocscan_time1**

**Type:** DOUBLE

**Units:** seconds

**Description:** Ocean scan time None

**podppd_edit**

**Type:** INTEGER

**Value:** 1

**Description:** Control to filter use of ATL12 ocean segments based on ATL12 podppd_flag seg values. 0 - use podppd = 0 and use only podppd = 0; 2 - use both podppd = 0 and 4 (Source: Control File Override); (Meanings: [0 1 2]) (Source: Operations)

**spolar_max_dfwcntr_uncrtn**

**Type:** DOUBLE

**Units:** None

**Description:** Set spolar_dot_dfwcntr and spolar_ssb_avgcntr invalid if spolar_dot_dfwcntr_uncrtn is greater than this. (Source: Ocean ATBD)

**spolar_max_avgcntr_uncrtn**

**Type:** DOUBLE

**Units:** None

**Description:** Set spolar_dot_avgcntr and spolar_ssb_avgcntr invalid if spolar_dot_avgcntr_uncrtn is greater than this. (Source: Ocean ATBD)

**use_all_beams**

**Type:** INTEGER

**Value:** 1

**Description:** 0 - Use only strong beams; 1 - use all beams. (Source: Control File Override); (Meanings: [0 1]) (Values: ["use_3_strong_beams",'use_all_6_beams'])

**Group: midlat_latitude**

This group contains the mid_latitude grids.

**Label**

**Layout**

**Datatype(ORMs)**

**Fillvalue**

**Units**

**Description**

**a_avg**

**Type:** DOUBLE

**Units:** degree/second

**Description:** Planar fit a coefficient None

**grid_mapping**

**Type:** crs

**Description:** None

**b_avg**

**Type:** DOUBLE

**Units:** degree/second

**Description:** Planar fit b coefficient None

**grid_mapping**

**Type:** crs

**Description:** None

**c_avg**

**Type:** DOUBLE

**Units:** degree/second

**Description:** Planar fit c coefficient None

**grid_mapping**

**Type:** crs

**Description:** None

**crs**

**Type:** INTEGER

**Value:** 1

**Description:** Coordinate Reference System None

**grid_mapping_name**

**Type:** crs

**Description:** None

**inverse_flattening**

**Type:** 6378137.0

**Description:** None

**longitude_of_prime_meridian**

**Type:** 0.0

**Description:** None

**proj4text**

**Type:** +proj=longlat +datum=WGS84 +no_defs

**semi_major_axis**

**Type:** 6378137.0

**Description:** None

**srid**

**Type:** urn:ogc:def:crs:EPSG::4326

**Description:** None

**delta_time_beg**

**Type:** DOUBLE

**Units:** seconds

**Description:** Beginning elapsed GPS seconds for the month of midlat_latitude data (Source: Ocean ATBD)

**delta_time_end**

**Type:** DOUBLE

**Units:** seconds

**Description:** Ending elapsed GPS seconds for the month of midlat_latitude data (Source: Ocean ATBD)

**depth_avg_albm**

**Type:** FLOAT

**Units:** meters

**Description:** Mean ocean depth None

**grid_mapping**

**Type:** crs

**Description:** None

**depth_dfw_albm**

**Type:** FLOAT

**Units:** meters

**Description:** Degrees of freedom (DOF) weighted mean ocean depth for each grid cell. (Source: Ocean ATBD)

**grid_mapping**

**Type:** crs

**Description:** None

**dot_albm**

**Type:** DOUBLE

**Units:** counts

**Description:** Total degrees of freedom None

**grid_mapping**

**Type:** crs

**Description:** None

**dot_avg_albm**

**Type:** DOUBLE

**Units:** meters

**Description:** All beam average of ocean segment ocean depth for each grid cell. (Source: Ocean ATBD)

**grid_mapping**

**Type:** crs

**Description:** None

**dot_avg_uncrtn_albm**

**Type:** DOUBLE

**Units:** None

**Description:** Uncertainty of mean DOT (Source: Ocean ATBD)
grid_mapping
(Attribute) crs:

dot_avcntr
DOUBLE(:,:) INVALID_R8B
Mean DOT at cell center
None
meters
Simple all-beam average of ATL12 ocean segments dynamic ocean topography interpolated to center of grid cell
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_avcntr_unctr
DOUBLE(:,:) INVALID_R8B
Uncertainty of mean DOT center
None
meters
All beam uncertainty of ocean segment dynamic ocean topography (DOT) interpolated to center of grid cell.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_dfw
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean DOT
None
meters
All beam DOF-weighted average of ATL12 ocean segments DOT within each grid cell.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_dfw_unctr
DOUBLE(:,:) INVALID_R8B
Uncertainty of DOF-weighted DOT
None
meters
All beam uncertainty of DOF-weighted average of ocean segment DOT
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_hi
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean DOT at cell center
None
meters
Degree of freedom weighted all-beam average dynamic ocean topography interpolated to center of grid cell base
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_siga
DOUBLE(:,:) INVALID_R8B
Mean DOT sigma
None
meters
All beam simple average of ocean segment standard deviation of dynamic ocean topography (DOT)
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

dot_siga_dfw
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean DOT sigma
None
meters
All beam DOF-weighted average of ocean segment standard deviation of DOT
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

gcell
DOUBLE(:,:) INVALID_R8B
Mean geoid height
None
meters
All beam average of ocean segment mean tide system geoid height.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

gcell_dfw
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean geoid height
None
meters
All beam DOF-weighted average of ocean segment mean tide system geoid height.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

glabel
DOUBLE(:,:) INVALID_R8B
Grid cell center latitude
None
degrees_north
Defined center latitude for each grid cell.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

glabel_lon
DOUBLE(:,:) INVALID_R8B
Grid cell center longitude
None
degrees_east
Defined center longitude for each grid cell.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

icce_conc
FLOAT(:)
Mean ice concentration
None
1
All beam average of ice concentration.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

landmask
INTEGER(:)
Ocean landmask
None
1
Ocean landmask: 0=land, 1=oceano.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

lat_avg
DOUBLE(:,:) INVALID_R8B
Mean latitude
None
degrees_north
All beam average of ocean segment latitude.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

lat_dfw
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean latitudes
None
degrees_north
All beam DOF-weighted average of ocean segment latitude.

grid_mapping
(Attribute) crs:

latitude
DOUBLE(:)
Grid cell center latitudes
degree
Grid cell center latitudes (dimension scale)
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

length_dfw
FLOAT(:)
DOF-weighted mean ocean segment length
None
meters
All beam DOF-weighted average of ocean segment lengths.

grid_mapping
(Attribute) crs:

length_sum
FLOAT(:)
Sum of ocean segment lengths
None
meters
All beam sum of ocean segment lengths.

grid_mapping
(Attribute) crs:

lon_avg
DOUBLE(:,:) INVALID_R8B
Mean longitude
None
degrees_east
All beam average of ocean segment longitude.

grid_mapping
(Attribute) crs:

lon_dfw
DOUBLE(:,:) INVALID_R8B
DOF-weighted mean grid longitude
None
degrees_east
All beam DOF-weighted average of ocean segment longitude.

grid_mapping
(Attribute) crs:

longitude
DOUBLE(:)
Grid cell center longitude
degrees_east
Grid cell center longitudes (dimension scale)
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

n_ph_srf
INTEGER(:)
Number of surface photons
None
counts
All beam sum of ocean segment number of surface reflected photons.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

n_ph_tot
INTEGER(:)
Number of total photons
None
counts
All beam sum of ocean segment total number of photons.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

n_segments
INTEGER(:)
Number of ocean segments
None
counts
All beam number of ocean segments.
(Source: Ocean ATBD)

grid_mapping
(Attribute) crs:

n_segments
INTEGER(:)
Number of ocean segments
None
counts
All beam number of ocean segments.
(Source: Ocean ATBD)
grid_mapping (Attribute) crs

podppd_flag_pront_ablm CHUNKED FLOAT(:,:) INVALID_R8B Percent segments used with podppd_flag=0 for each grid cell. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

r_noise_ablm CHUNKED DOUBLE(:,:) INVALID_R8B Rate of noise photons per meter None 1/meter All beam rate of noise photons per meter. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

r_rsrc_ablm CHUNKED DOUBLE(:,:) INVALID_R8B Rate of surface photons per meter None 1/meter All beam rate of surface photons per meter. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

sea_ice_flag CHUNKED INTEGER(:) INVALID_I4B Sea ice flag None counts TBD (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssb_avg_ablm CHUNKED DOUBLE(:,:) INVALID_R8B Mean sea state bias at cell center None meters All beam average of ocean segment sea state bias (SSB). (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssb_avgcntr CHUNKED DOUBLE(:,:) INVALID_R8B Sea state bias at cell center None meters All beam estimate of sea state bias at center of each grid cell for dot_avgcntr. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssb_dftw_ablm CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted mean sea state bias at cell center None meters All beam DOF-weighted average of ocean segment sea state bias. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssb_dftwcntr CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted sea state bias at cell center None meters All beam estimate of sea state bias at center of grid cell for dot_dftwcntr. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

surf_pront_avg_ablm CHUNKED FLOAT(:,:) INVALID_R8B Mean surface type at cell center None 1 All beam average of the percentage of each surface type. Map order: land, ocean, sea ice, ice sheet, inland water (Source: Ocean ATBD)

grid_mapping (Attribute) crs

surf_pront_dftw_ablm CHUNKED FLOAT(:,:) INVALID_R8B DOF-weighted mean surface type at cell center None 1 All beam DOF-weighted average of the percentage of each surface type. Map order: land, ocean, sea ice, ice she (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssw_avg_ablm CHUNKED DOUBLE(:,:) INVALID_R8B Mean significant waveheight at cell center None meters All beam mean of the ocean segment significant wave heights. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

ssw_dftw_ablm CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted mean significant wave height at cell center None meters All beam DOF-weighted average of ocean segment significant wave height. (Source: Ocean ATBD)

grid_mapping (Attribute) crs

Group: mid_latitude/beam_x This group contains data for beams 1, 3, and 5 (strong beams), and beams 2, 4, and 6 (weak beams).

Label (Layers) Datatype(Dims) Filevalue (Units) long_name standard_name units description

depth_avg CHUNKED FLOAT(:,:) INVALID_R8B Mean ocean depth None meters Average of ocean segment ocean depth for each grid cell. (Source: Ocean ATBD)

depth_dftw CHUNKED FLOAT(:,:) INVALID_R8B Degrees of freedom (DOF) weighted mean ocean depth None meters Degrees of freedom (DOF) weighted average of ocean segment ocean depth. (Source: Ocean ATBD)

dof CHUNKED DOUBLE(:,:) INVALID_R8B Total degrees of freedom None meters Beam total of ocean segment degrees of freedom (Source: Ocean ATBD)

dot_avg CHUNKED DOUBLE(:,:) INVALID_R8B Average of ATL12 ocean segments dynamic ocean topography (DOT) within each grid cell for one beam. (Source: Ocean ATBD)

dot_avg_uncntr CHUNKED DOUBLE(:,:) INVALID_R8B Uncertainty of mean DOT None meters Uncertainty of mean ocean segment DOT (Source: Ocean ATBD)

dot_dftw CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted mean DOT None meters DOF-weighted average of ATL12 ocean segments DOT within each grid cell for one beam. (Source: Ocean ATBD)

dot_dftw_uncntr CHUNKED DOUBLE(:,:) INVALID_R8B Uncertainty of DOF-weighted DOT None meters Uncertainty of DOF-weighted average of ocean segment DOT (Source: Ocean ATBD)

dot_kurt_avg CHUNKED DOUBLE(:,:) INVALID_R8B Mean DOT kurtosis None 1 Average of ocean segment excess kurtosis of the dynamic ocean topography (DOT) (Source: Ocean ATBD)

dot_kurt_dftw CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted mean DOT kurtosis None 1 Kurtosis of the dynamic ocean topography (DOT) as a degree-of-freedom weighted average of kurtosis of DOT (Source: Ocean ATBD)

dot_sigma_avg CHUNKED DOUBLE(:,:) INVALID_R8B Mean DOT sigma None meters Simple average of ocean segment standard deviation of dynamic ocean topography (DOT) (Source: Ocean ATBD)

dot_sigma_dftw CHUNKED DOUBLE(:,:) INVALID_R8B DOF-weighted mean DOT sigma None meters DOF-weighted average of ocean segment standard deviation of DOT (Source: Ocean ATBD)

grid_mapping (Attribute) crs

https://icesat-2-scf.gsfc.nasa.gov/sites/default/files/asas/asasv60/atl19_template.html
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
</table>
| lat_avg | DOUBLE(:,:)
Mean latitudes
degrees_north
Average of ocean segment latitude
(Source: Ocean ATBD) |
| lon_avg | DOUBLE(:,:)
Mean longitudes
degrees_east
Average of ocean segment longitude.
(Source: Ocean ATBD) |
| surf_prcnt_avg | DOUBLE(:,:)
DOF-weighted mean surface type.
None
Average of the percentage of each surface type. Map order: land, ocean, sea ice, ice sheet, inland water
(Source: Ocean ATBD) |
| dot_skew_avg | DOUBLE(:,:)
DOF-weighted average of the percentage of each surface type. Map order: land, ocean, sea ice, ice sheet, inland water
None
Average of ocean segment skewness of the dynamic ocean topography (DOT)
(Source: Ocean ATBD) |
| dot_skew_dfw | DOUBLE(:,:)
DOF-weighted mean DOT skewness
None
Skewness of the dynamic ocean topography (DOT) as a degree-of-freedom weighted average of skewness of DO
(Source: Ocean ATBD) |

**Group:** /orbit_info

**data_rate**

Varies. Data are only provided when one of the stored values (besides time) changes.

**Label**

<table>
<thead>
<tr>
<th>Datatype</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>long_name</td>
<td>Datalong_name</td>
</tr>
<tr>
<td>standard_name</td>
<td>Units</td>
</tr>
</tbody>
</table>

**Fillvalue**

<table>
<thead>
<tr>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
</table>
| m | Rate of surface photons per meter
| m | Rate of noise photons per meter
| counts | Number of surface photons
| counts | Number of total photons
| counts | Number of ocean segments
| percent | Percent of ATL12 segments used that had podppd_flag_seg=0 for each grid cell.
| percent | Percent of ATL12 segments used that had podppd_flag_seg=0 for each grid cell.
### ATL19 Product Data Dictionary

**crossing_time** (CHUNKED) Ascending Node Crossing Time
- **Dimensions:** seconds since 2018-01-01
- **Description:** The time in seconds since the ATLAS SDP GPS Epoch, at which the ascending node crosses the equator. The A
- **Units:** None
- **Source:** POD/PPD

**cycle_number** (CHUNKED) Cycle Number
- **Dimensions:** None
- **Values:** A count of the number of exact repeats of this reference orbit.
- **Source:** Operations

**lat** (CHUNKED) Ascending Node Longitude
- **Dimensions:** degrees_east
- **Description:** Longitudes at the ascending node crossing.
- **Units:** None
- **Source:** POD/PPD

**orbit_number** (CHUNKED) Orbit Number
- **Dimensions:** None
- **Values:** Unique identifying number for each planned ICESat-2 orbit.
- **Source:** Operations

**rgf** (CHUNKED) Reference Ground track
- **Dimensions:** None
- **Values:** The reference ground track (RGT) is the track on the earth at which a specified unit vector within the observatory
- **Source:** Operations

**sc_orient_time** (CHUNKED) Time of Last Spacecraft Orientation Change
- **Dimensions:** seconds since 2018-01-01
- **Values:** The time of the last spacecraft orientation change between backward, backward and transitional flight modes.
- **Units:** None
- **Source:** POD/PPD

**delta_time_beg** (COMPACT) Beginning elapsed GPS seconds
- **Dimensions:** None
- **Values:** Beginning elapsed GPS seconds for the month of data.
- **Units:** seconds
- **Source:** Operations

**delta_time_end** (COMPACT) Ending elapsed GPS seconds
- **Dimensions:** None
- **Values:** Ending elapsed GPS seconds for the month of data.
- **Units:** seconds
- **Source:** Operations

**depth_avg_albm** (CHUNKED) Mean Ocean Depth
- **Dimensions:** meters
- **Values:** All beam average of ocean segment depth.
- **Units:** None
- **Source:** Operations

**grid_mapping** (Attribute)
- **Value:** grid_mapping

**a_avg** (CHUNKED) Planar fit a coefficient
- **Dimensions:** Planar fit a coefficient
- **Values:** The a coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**b_avg** (CHUNKED) Planar fit b coefficient
- **Dimensions:** Planar fit b coefficient
- **Values:** The b coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**c_avg** (CHUNKED) Planar fit c coefficient
- **Dimensions:** Planar fit c coefficient
- **Values:** The c coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters
- **Source:** Ocean ATBD

**a_dfw** (CHUNKED) Degrees of freedom planar fit a coefficient
- **Dimensions:** Degrees of freedom planar fit a coefficient
- **Values:** The a coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**b_dfw** (CHUNKED) Degrees of freedom planar fit b coefficient
- **Dimensions:** Degrees of freedom planar fit b coefficient
- **Values:** The b coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**c_dfw** (CHUNKED) Degrees of freedom planar fit c coefficient
- **Dimensions:** Degrees of freedom planar fit c coefficient
- **Values:** The c coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters
- **Source:** Ocean ATBD

**north_polar** (GROUP)
- **Label:** /x_polar
  - **Contains:** polar grids, and will be instantiated as north_polar and south_polar.

**south_polar** (GROUP)
- **Label:** /x_polar
  - **Contains:** polar grids, and will be instantiated as north_polar and south_polar.

**cycle_number** (CHUNKED) Cycle Number
- **Dimensions:** None
- **Values:** A count of the number of exact repeats of this reference orbit.
- **Source:** Operations

**lat** (CHUNKED) Ascending Node Longitude
- **Dimensions:** degrees_east
- **Description:** Longitudes at the ascending node crossing.
- **Units:** None
- **Source:** POD/PPD

**orbit_number** (CHUNKED) Orbit Number
- **Dimensions:** None
- **Values:** Unique identifying number for each planned ICESat-2 orbit.
- **Source:** Operations

**rgf** (CHUNKED) Reference Ground track
- **Dimensions:** None
- **Values:** The reference ground track (RGT) is the track on the earth at which a specified unit vector within the observatory
- **Source:** Operations

**sc_orient_time** (CHUNKED) Time of Last Spacecraft Orientation Change
- **Dimensions:** seconds since 2018-01-01
- **Values:** The time of the last spacecraft orientation change between backward, backward and transitional flight modes.
- **Units:** None
- **Source:** POD/PPD

**delta_time_beg** (COMPACT) Beginning elapsed GPS seconds
- **Dimensions:** None
- **Values:** Beginning elapsed GPS seconds for the month of data.
- **Units:** seconds
- **Source:** Operations

**delta_time_end** (COMPACT) Ending elapsed GPS seconds
- **Dimensions:** None
- **Values:** Ending elapsed GPS seconds for the month of data.
- **Units:** seconds
- **Source:** Operations

**depth_avg_albm** (CHUNKED) Mean Ocean Depth
- **Dimensions:** meters
- **Values:** All beam average of ocean segment depth.
- **Units:** None
- **Source:** Operations

**grid_mapping** (Attribute)
- **Value:** grid_mapping

**a_avg** (CHUNKED) Planar fit a coefficient
- **Dimensions:** Planar fit a coefficient
- **Values:** The a coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**b_avg** (CHUNKED) Planar fit b coefficient
- **Dimensions:** Planar fit b coefficient
- **Values:** The b coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**c_avg** (CHUNKED) Planar fit c coefficient
- **Dimensions:** Planar fit c coefficient
- **Values:** The c coefficient of the planar fit used to compute dot_avgcntr_albm.
- **Units:** meters
- **Source:** Ocean ATBD

**a_dfw** (CHUNKED) Degrees of freedom planar fit a coefficient
- **Dimensions:** Degrees of freedom planar fit a coefficient
- **Values:** The a coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**b_dfw** (CHUNKED) Degrees of freedom planar fit b coefficient
- **Dimensions:** Degrees of freedom planar fit b coefficient
- **Values:** The b coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters/meter
- **Source:** Ocean ATBD

**c_dfw** (CHUNKED) Degrees of freedom planar fit c coefficient
- **Dimensions:** Degrees of freedom planar fit c coefficient
- **Values:** The c coefficient of the planar fit used to compute dot_dfwcntr_albm.
- **Units:** meters
- **Source:** Ocean ATBD

**north_polar** (GROUP)
- **Label:** /x_polar
  - **Contains:** polar grids, and will be instantiated as north_polar and south_polar.

**south_polar** (GROUP)
- **Label:** /x_polar
  - **Contains:** polar grids, and will be instantiated as north_polar and south_polar.
grid_mapping [Attribute] crs

dot_avg_unctr_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Uncertainty of mean DOT
  None
  All beam uncertainty of mean ocean segment DOT
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_avgctr CHUNKED DOUBLE(:,:), INVALID_R8B
  Mean DOT at cell center
  None
  Simple all-beam average of ATL12 ocean segments dynamic ocean topography interpolated to center of grid cell
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_avgctr_unctr_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Uncertainty of mean DOT center
  None
  All beam uncertainty of ocean segment dynamic ocean topography (DOT) interpolated to center of grid cell.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_dfw_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  DOF-weighted mean DOT
  None
  All beam DOF-weighted all beam average of ATL12 ocean segments DOT within each grid cell.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_dfw_unctr_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  DOF-weighted mean DOT at cell center
  None
  Degree of freedom weighted all-beam average dynamic ocean topography interpolated to center of grid cell base
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_hist_albm CHUNKED FLOAT(:,:), INVALID_R4B
  Aggregate PDF of photon heights
  None
  All beam aggregate probability density function of all surface photon DOT for all the ocean segments in the grid cell
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_sigma_avg_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Mean DOT sigma
  None
  All beam simple average of ocean segment standard deviation of dynamic ocean topography (DOT).
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dot_sigma_dfw_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  DOF-weighted mean DOT sigma
  None
  All beam DOF-weighted average of ocean segment standard deviation of DOT
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

dotx_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Grid cell center latitude
  None
  Defined center latitude for each grid cell.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

doty_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Grid cell center longitude
  None
  Defined center longitude for each grid cell.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

gridcntr_lat CHUNKED DOUBLE(:,:), INVALID_R8B
  Grid cell center latitude
  None
  Defined center latitude for each grid cell.
  (Source: Ocean ATBD)

gridcntr_lon CHUNKED DOUBLE(:,:), INVALID_R8B
  Grid cell center longitude
  None
  Defined center longitude for each grid cell.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

ice_conc_albm CHUNKED FLOAT(:)
  Mean ice concentration
  1
  All beam average of ice concentration.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

landmask CHUNKED INTEGER(:)
  Ocean landmask
  1
  Ocean landmask, 0=land, 1=oceean.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

lat_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Mean latitude
  None
  All beam average of ocean segment latitudes.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

lat_dfw_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  DOF weighted mean latitude
  None
  All beam DOF-weighted average of ocean segment latitude.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

length_dfw_albm CHUNKED FLOAT(:,:), INVALID_R4B
  DOF-weighted mean ocean segment length
  None
  All beam DOF-weighted average of ocean segment lengths.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

length_sum_albm CHUNKED FLOAT(:,:), INVALID_R4B
  Sum of ocean segment lengths
  None
  All beam sum of ocean segment lengths.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

lon_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  Mean longitude
  None
  All beam average of ocean segment longitude.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

lon_dfw_albm CHUNKED DOUBLE(:,:), INVALID_R8B
  DOF weighted mean longitude
  None
  All beam DOF-weighted average of ocean segment longitude.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

n_ph_srfc_albm CHUNKED INTEGER(:)
  Number of surface photons
  None
  All beam sum of ocean segment number of surface reflected photons.
  (Source: Ocean ATBD)

grid_mapping [Attribute] crs

n_ph_ttl_albm CHUNKED INTEGER(:)
  Number of total photons
  None
  All beam sum of ocean segment total number of photons.
  (Source: Ocean ATBD)
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Datatype(Dims)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>x_avg_albm</td>
<td>DOUBLE(:,:)</td>
<td>Mean x at cell center</td>
</tr>
<tr>
<td>y_avg_albm</td>
<td>DOUBLE(:,:)</td>
<td>Mean y at cell center</td>
</tr>
<tr>
<td>x_dfw_albm</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted mean x at cell center</td>
</tr>
<tr>
<td>y_dfw_albm</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted mean y at cell center</td>
</tr>
<tr>
<td>surf_prnt_dfw_albm</td>
<td>FLOAT(:,:)</td>
<td>Mean surface type</td>
</tr>
<tr>
<td>ssb_avg_albm</td>
<td>DOUBLE(:,:)</td>
<td>Mean sea state bias</td>
</tr>
<tr>
<td>ssb_avgcntr</td>
<td>DOUBLE(:,:)</td>
<td>Mean sea state bias at cell center</td>
</tr>
<tr>
<td>ssh_dfw_albm</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted mean surface at cell center</td>
</tr>
<tr>
<td>ssh_dfwcntr</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted sea state bias at cell center</td>
</tr>
<tr>
<td>n_segs_albm</td>
<td>INTEGER(:,:)</td>
<td>Number of ocean segments</td>
</tr>
<tr>
<td>podpdp_flag_prnt_albm</td>
<td>FLOAT(:,:)</td>
<td>Percent segments used</td>
</tr>
<tr>
<td>r_noise_albm</td>
<td>DOUBLE(:,:)</td>
<td>Rate of noise photons per meter</td>
</tr>
<tr>
<td>r_sfc_albm</td>
<td>DOUBLE(:,:)</td>
<td>Rate of surface photons per meter</td>
</tr>
<tr>
<td>sea_ice_flag</td>
<td>INTEGER(:,:)</td>
<td>Sea ice flag</td>
</tr>
<tr>
<td>sub_avg_albm</td>
<td>DOUBLE(:,:)</td>
<td>Mean sea state bias</td>
</tr>
<tr>
<td>sub_avgcntr</td>
<td>DOUBLE(:,:)</td>
<td>Mean sea state bias at cell center</td>
</tr>
<tr>
<td>dot_avg</td>
<td>FLOAT(:,:)</td>
<td>DOF-weighted mean ocean depth</td>
</tr>
<tr>
<td>dot_avgcntr</td>
<td>FLOAT(:,:)</td>
<td>DOF-weighted mean ocean depth at cell center</td>
</tr>
<tr>
<td>dot_dfw</td>
<td>FLOAT(:,:)</td>
<td>DOF-weighted mean significant wave height</td>
</tr>
<tr>
<td>dot_dfwcntr</td>
<td>FLOAT(:,:)</td>
<td>DOF-weighted mean significant wave height at cell center</td>
</tr>
<tr>
<td>dot_avg_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of mean ocean depth</td>
</tr>
<tr>
<td>dot_dfw_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of DOF-weighted mean ocean depth</td>
</tr>
<tr>
<td>dot_dfw_unctr</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of DOF-weighted mean ocean depth at cell center</td>
</tr>
</tbody>
</table>

**Group: /x_polar/beam_x**

This group contains data for beams 1, 3, and 5 (strong beams), and beams 2, 4, and 6 (weak beams).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Datatype(Dims)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dof</td>
<td>DOUBLE(:,:)</td>
<td>Total DOF</td>
</tr>
<tr>
<td>dot</td>
<td>DOUBLE(:,:)</td>
<td>Mean DOT</td>
</tr>
<tr>
<td>dot_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of mean DOT</td>
</tr>
<tr>
<td>dot_fdr</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted mean DOT</td>
</tr>
<tr>
<td>dot_fdr_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of DOF-weighted mean DOT</td>
</tr>
</tbody>
</table>

**Group: /x_polar/beam**

This group contains data for beams 1, 2, 3, 4, 5, and 6 (all beams).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Datatype(Dims)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dof</td>
<td>DOUBLE(:,:)</td>
<td>Total DOF</td>
</tr>
<tr>
<td>dot</td>
<td>DOUBLE(:,:)</td>
<td>Mean DOT</td>
</tr>
<tr>
<td>dot_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of mean DOT</td>
</tr>
<tr>
<td>dot_fdr</td>
<td>DOUBLE(:,:)</td>
<td>DOF-weighted mean DOT</td>
</tr>
<tr>
<td>dot_fdr_uncrt</td>
<td>DOUBLE(:,:)</td>
<td>Uncertainty of DOF-weighted mean DOT</td>
</tr>
<tr>
<td>Attribute</td>
<td>Type</td>
<td>Dimensions</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_kurt_avg</td>
<td>DOUBLE(:,:)</td>
<td>CHUNKED</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_dfw</td>
<td>DOUBLE(:,:)</td>
<td>CHUNKED</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_sigma_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_dfw_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_skew_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>dot_dfw_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>geoid_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>geoid_dfw</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>ice_conc</td>
<td>FLOAT(1:)</td>
<td></td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>lat_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>lat_dfw</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>length_dfw</td>
<td>FLOAT(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>length_sum</td>
<td>FLOAT(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
<td>crs</td>
<td></td>
</tr>
<tr>
<td>lon_avg</td>
<td>DOUBLE(:,:)</td>
<td>INVALID_RBB</td>
</tr>
<tr>
<td>grid_mapping</td>
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</tr>
<tr>
<td>lon_dfw</td>
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