Data Processing Levels

The sea-ice thickness processing chain generates higher level data products (such as maps) from measurements along the ground track of the satellite. Sea-ice thickness information is therefore available at different data levels that differ in the extent and resolution of the corresponding dataset.

[Single Orbit] [Daily Trajectory Summary] [Space-Time Grid]

Single Orbit

Data Level	Level-2 Intermediate (L2i)
Data Period	Individual (for each orbit segment)
Summary	Geophysical variables and error flags at full resolution of the altimeter (typically 300 meter).
Parameters	All fields are per single altimeter data point • time-orbit (time, longitude, latitude) • geophysical parameters and their uncertainties • flag (surface_type, radar mode)

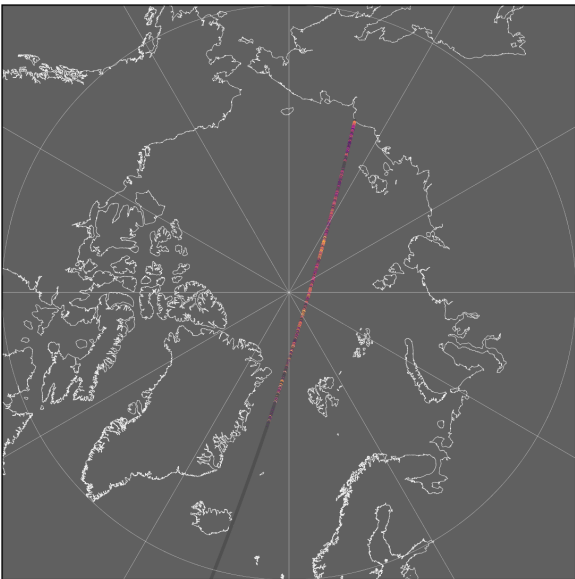ⓘ l2i data products are not publically available due to their data volume but can be made available upon request

Figure: *Example of sea-ice thickness along a single orbit at along-track resolution*

Daily Trajectory Summary

| Data Level	Level-2 Post-Processed (L2P)
Data Period	Daily (between 00:00:00 and 23:59:59.999 UTC)
Summary	Collection of daily along-track geophysical parameters and their uncertainties at full resolution of the altimeter (typically 300 meter). Product only includes data points with valid freeboard measurements, though the point spacing of the data is potentially irregular.
Parameters	All fields are per single altimeter data point • time-orbit (time, longitude, latitude) • geophysical parameters and their uncertainties • flag (radar mode)
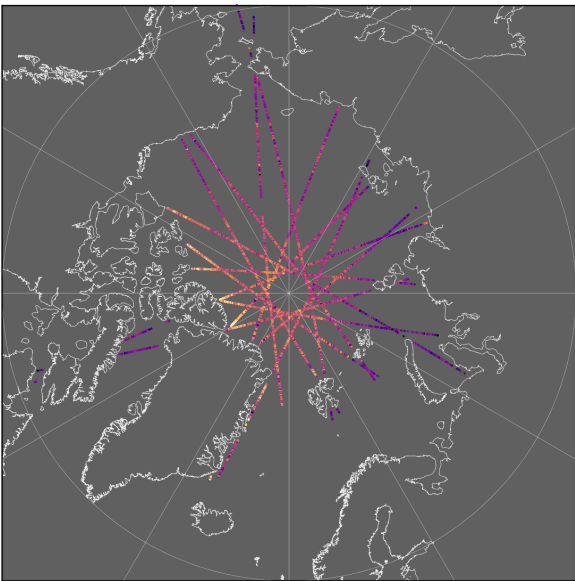
Figure: *Example of daily sea-ice thickness point measurements at along-track resolution*

Space-Time Grid

| Data Level	Level-3 Colocated (L3C)
Data Period	Weekly (Monday 00:00:00 and Sunday 23:59:59.999 UTC) Monthly (between 00:00:00 first day and 23:59:59.999 UTC last day of the month) Custom (between 00:00:00 first day and 23:59:59.999 UTC last day)
Summary	Gridded geophysical parameters, their uncertainties, retrieval area statistics and flags on a space-time grid
Parameters	Add variables are given per grid cell, except time bound and reference time • geolocation (longitude/latitude, projection coordinates) • geophysical parameters and their uncertainties • grid cell statistics (number of points, surface type detection fractions, ...) • flags (retrieval status & quality flag) • land mask and region code
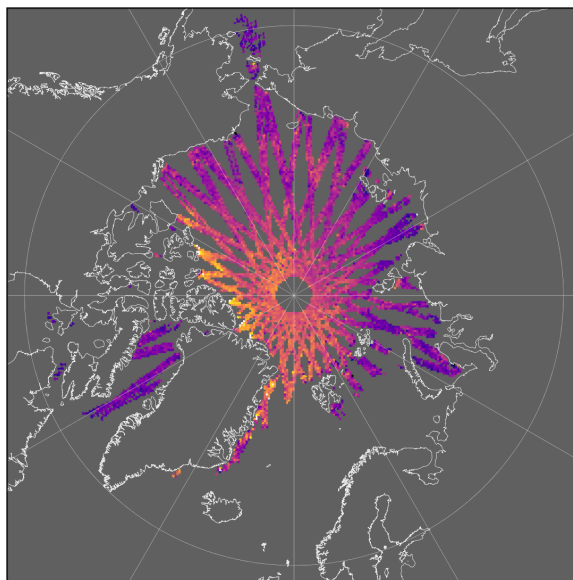
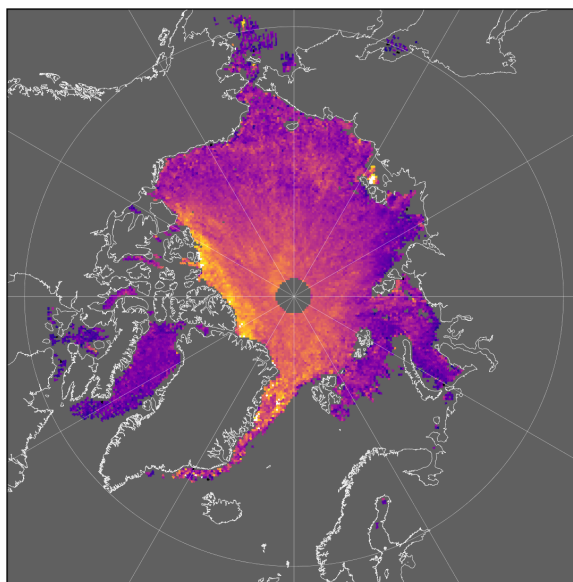Figure: *Example of weekly gridded sea-ice thickness product*

Figure: *Example of monthly gridded sea-ice thickness product*