

How to Submit Data to GLIMS

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Version 0.5

2018-08-07

What is this?

This document summarizes steps needed to submit glacier data to the GLIMS (Global Land Ice Measurements from Space) database. See <http://www.glims.org/>. This document supersedes the information in the GLIMS Data Transfer Specification [1], though the file formats described in [1] are still relevant.

A Typical Data Submission

When someone submits glacier outlines to GLIMS, we need:

1. **Glacier outlines** (as closed polygons) in shapefile format. Geographic coordinate system (in lon/lat) and WGS84 datum is preferred. Rock outcrops internal to the glacier (nunataks) should be represented as “holes” in the polygons.
 - a. attributes SHOULD include:
 - i. “local” uncertainty in x and y (precision of vertex digitization)
 - ii. “global” uncertainty in x and y (geolocation accuracy of the polygons)
 - b. attributes CAN include
 - i. glacier name
 - ii. WGMS glacier classifications
 - iii. glacier length
 - iv. WGMS glacier IDs
 - v. image IDs specific to each glacier (see [1] for attribute names)
2. **Additional feature types:** optional features can be mapped and submitted. In these cases, a analyst-supplied glacier ID should be used to tie these features together with the glacier outlines. In the following, “line type” refers to the attribute in the shapefile labelled “line_type”.
 - a. Debris cover (polygons: line type “debris_cov”)
 - b. Supraglacial lakes and proglacial lakes (polygons: line type “supra_lake” or “pro_lake”)
 - c. Center lines of glaciers (poly-lines: line type “centerline”)
 - d. Transient snow lines (poly-lines: line type “snow_line”)
3. **Image ID/ scene (granule (image)) IDs** from the image provider; acquisition dates, instrument and platform name
4. Topographic map information if used instead of imagery: map projection; publication date; identification number if known; publisher
5. **Information on analysts and processing methods:** names of the analysts; approximate date of the analysis; as much detail as possible on method(s) used; percent manual editing; description of any collaboration with other GLIMS institutions (Regional Centers)

What is NOT needed:

1. GLIMS glacier IDs (we assign these at ingest time)

2. glacier areas (we calculate these at ingest time)

Extra Credit

Other glacier data we like to receive includes:

1. glacier hypsometry (area distribution with elevation). Please use the RGI hypsometry format.
2. glacier velocity vectors

More Information

For guidance on how to derive glacier outlines from imagery, see [2]. For general information about GLIMS, see <http://www.glims.org> or write NSIDC User Services at nsidc@nsidc.org.

References:

[1] GLIMS Data Transfer Specification

(http://www.glims.org/MapsAndDocs/datatransfer/data_transfer_specification.html)

[2] GLIMS Analysis Tutorial

(http://www.glims.org/MapsAndDocs/assets/GLIMS_Analysis_Tutorial_a4.pdf)