

Brief communication: An empirical relation between center frequency and measured thickness for radar sounding of temperate glaciers

Joseph A. MacGregor¹, Michael Studinger¹, Emily Arnold^{2,3}, Carlton J. Leuschen³, Fernando Rodríguez-Morales³

¹Cryospheric Sciences Laboratory (Code 615), NASA Goddard Space Flight Center, Greenbelt, Maryland, 20771, United States of America

²Aerospace Engineering Dept., The University of Kansas, Lawrence, Kansas, 66045, United States of America

³Center for Remote Sensing of Ice Sheets, The University of Kansas, Lawrence, Kansas, 66045, United States of America

Correspondence to: Joseph A. MacGregor (joseph.a.macgregor@nasa.gov)

Readme for supplementary data file T_supplement.csv

The data in T_supplement.csv is stored using the American Standard Code for Information Interchange (US-ASCII) and organized as a matrix of rows and comma-separated columns:

	A	B	C	D
1	GlaThiDa_ID	SURVEY_FREQUENCY	SURVEY_METHOD	MAXIMUM_THICKNESS
2	1	NaN	GPRt	220
3	2	NaN	GPRt	175
4	3	NaN	GPRt	250
5	4	NaN	DRlh	195
6	5	NaN		NaN
7	6		5 GPRt	111
8	7		5 GPRt	38
9	8	NaN		NaN
10	9		5 GPRt	NaN

The four columns are:

GlaThiDa_ID: Glacier identifier from the Glacier Thickness Database (GlaThiDa) version 3.1.0 (Welty et al., 2020). This column is identical with the GlaThiDa_ID column from the GlaThiDa compilation.

SURVEY_FREQUENCY: The center frequency of the deployed radar sounder in MHz for the survey that was used for the glacier. For a description of how the frequency was determined see Section 2 of the paper.

SURVEY_METHOD: Survey method from the Glacier Thickness Database (GlaThiDa) version 3.1.0 (Welty et al., 2020).

We have adjusted GlaThiDa's survey method field to further distinguish airborne radar-sounding surveys between helicopter (GPRh) and fixed-wing surveys (GPRa).

MAXIMUM_THICKNESS: Maximum ice thickness in meters. See Section 2 of the paper for a detailed description how this data was compiled.

References

Welty, E., Zemp, M., Navarro, F., Huss, M., Fürst, J. J., Gärtner-Roer, I., Landmann, J., Machguth, H., Naegeli, K., Andreassen, L. M., Farinotti, D., Li, H., and GlaThiDa Contributors: Worldwide version-controlled database of glacier thickness observations, Earth System Science Data, 12, 3039–3055, doi:10.5194/essd-12-3039-2020, 2020.