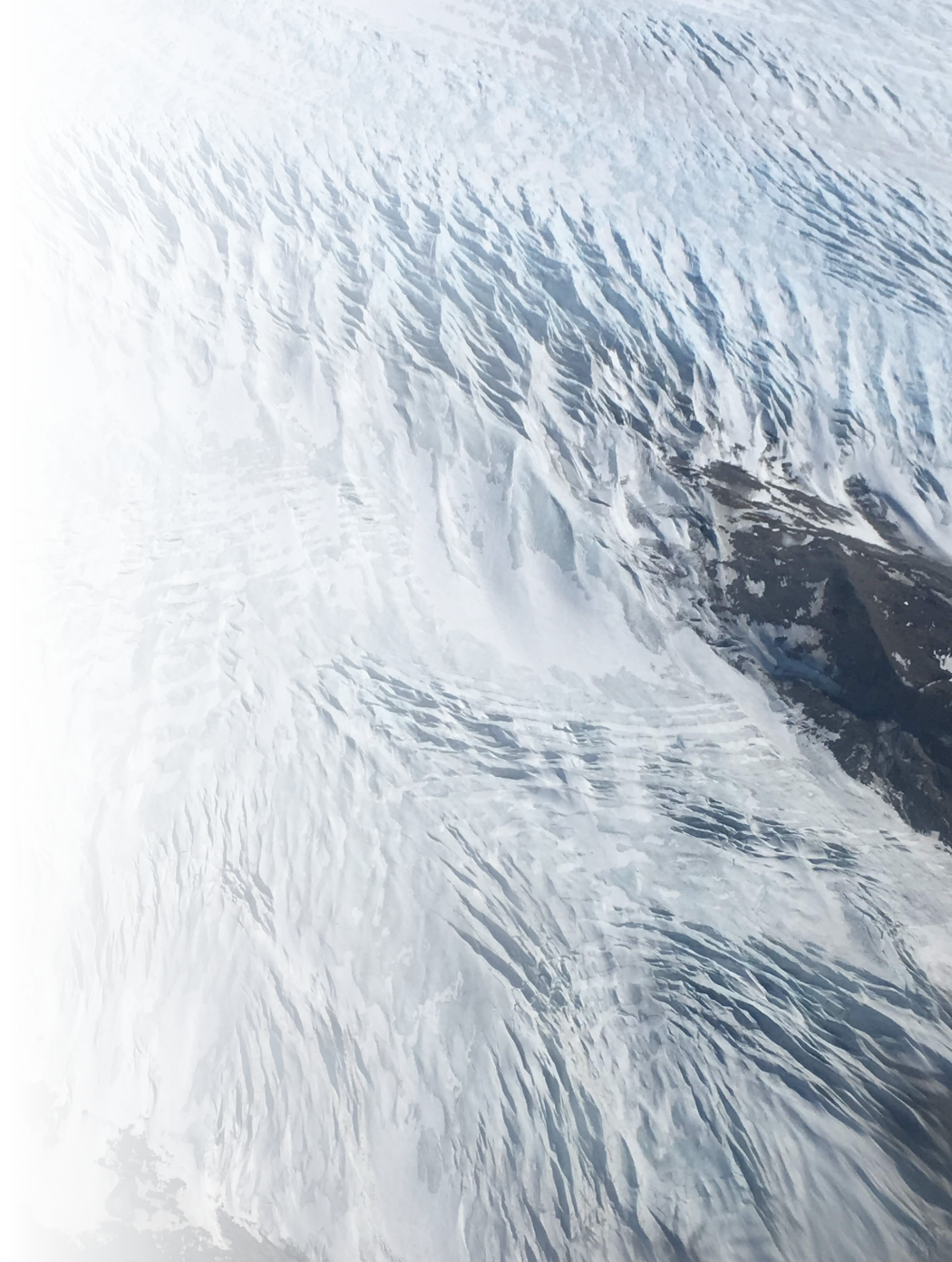


SUMMEDup EarthCube Tutorial

An introduction to a tool for investigating the SUMup dataset of snow and firn density measurements

Megan Thompson-Munson (she/her)
28 January 2022



Outline of Tutorial

1. Introduction
2. Overview of SUMup dataset
3. Overview of SUMMEDup tool
4. Demonstration of SUMMEDup
 - Binder
 - Google Colab
 - Jupyter Notebook

About Me

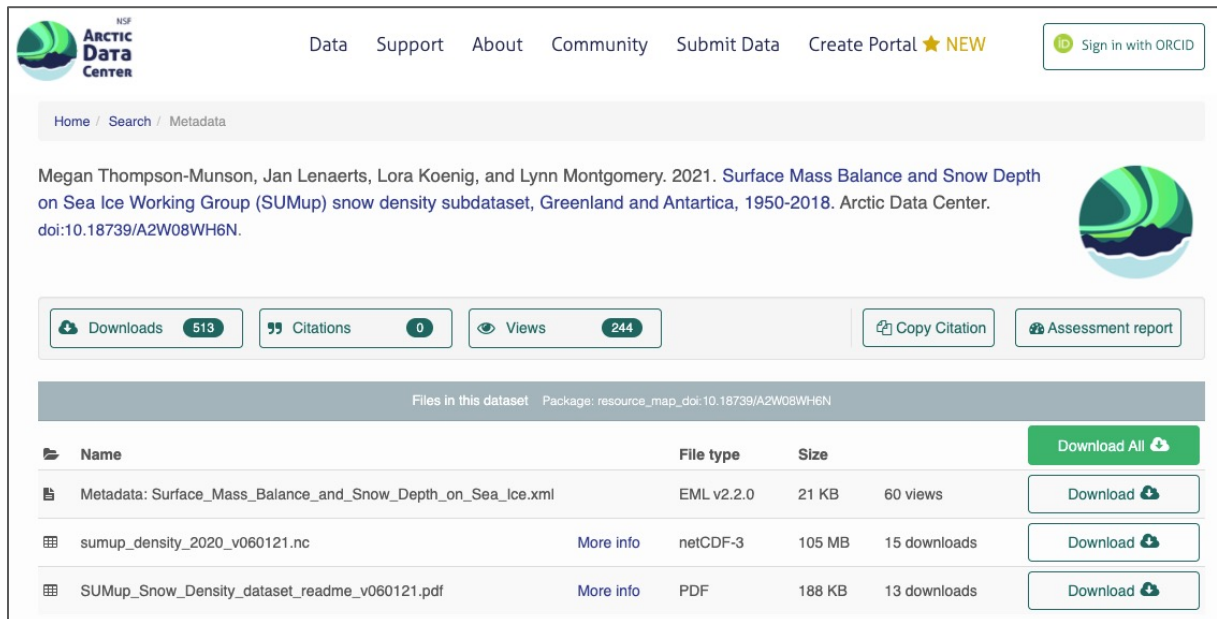
- BS in Geology and Environmental Science (2017)
 - University of Massachusetts Amherst
- MS in Geology (2020)
 - University of Wyoming
- PhD student in Atmospheric and Oceanic Sciences
 - University of Colorado Boulder

- Research: interactions between atmospheric properties and ice sheet surface processes
- Current manager of SUMup dataset
- 2 field seasons in Greenland extracting firn cores



SUMup Dataset

- Surface Mass Balance and Snow Depth on Sea Ice Working Group
 - Snow and firn density on ice sheets
 - Accumulation rates on ice sheets
 - 10-m borehole temperatures
 - Snow depth on sea ice



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Megan Thompson-Munson, Jan Lenaerts, Lora Koenig, and Lynn Montgomery. 2021. Surface Mass Balance and Snow Depth on Sea Ice Working Group (SUMup) snow density subdataset, Greenland and Antarctica, 1950-2018. Arctic Data Center. doi:10.18739/A2W08WH6N.

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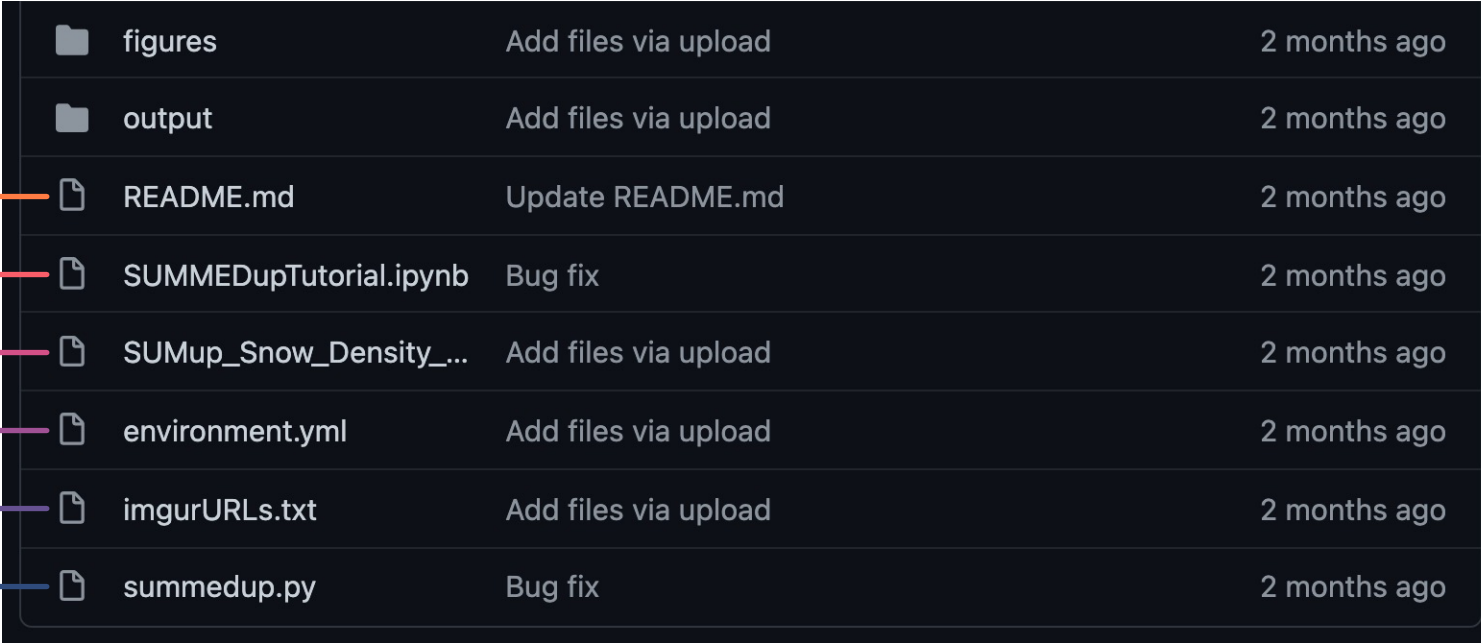
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SUMup_Snow_Density_dataset_readme_v060121.pdf	More info PDF	188 KB 13 downloads	Download



SUMMEDup

- Python tool that downloads, processes, and displays density data from SUMup
- Available on GitHub with instructions for use in Binder, Google Colab, or as a regular Jupyter Notebook

github.com/MeganTM/SUMMEDup



Instructions for using SUMMEDup	figures	Add files via upload	2 months ago
Jupyter notebook that shows how to use SUMMED up	output	Add files via upload	2 months ago
Information about the SUMup density subdataset	README.md	Update README.md	2 months ago
Python dependencies (for use on Binder)	SUMMEDupTutorial.ipynb	Bug fix	2 months ago
List of URLs pointing to plotted density profiles housed on imgur	SUMup_Snow_Density_...	Add files via upload	2 months ago
Python package with the bulk of the code	environment.yml	Add files via upload	2 months ago
	imgurURLs.txt	Add files via upload	2 months ago
	summedup.py	Bug fix	2 months ago

SUMMEDup

- Excellent for **researchers** who use (or plan to use) SUMup snow and firn density measurements
- Simple enough to use as a **teaching tool** in undergraduate or graduate courses

- SUMMEDup is ever-evolving—expect new versions with new SUMup releases!
- I encourage you to reach out with:
 - **Questions**
 - **Ideas for new features**
 - **If you'd like to contribute data to the SUMup dataset**
 - **If you find any bugs in the code!**



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