INTRODUCTION

- A former faculty member of U of T’s Botany dept. from 1975 to 2009, Prof. Robert L. Jefferies (Fig. 1) primarily studied the interactions between snow geese and plants in the Arctic.1,6
  - i.e., Churchill, Manitoba; La Péruse Bay, Manitoba; etc
- On top of being a successful professor, he received the 2007 Nobel Peace Prize for his contribution on the 4th Intergovernmental Panel on Climate Change (IPCC) Assessment Report (Fig. 2).1,7
- Other notable achievements include cofounding the Hudson Bay Project, editing Ecocience, editing the Journal of Applied Ecology, and securing a multimillion-dollar grant for the Churchill Northern Studies Centre.1
- From 1978 to 2009, Prof. Jefferies accumulated a collection of his and his graduate students’ field and lab notebooks. These notebooks contain valuable long-term Arctic data on vegetation, weather, geese, and so on.
- With the rise in science transparency and publicly available datasets, long-term Arctic data remain scarce.8,9

Objective: To preserve Prof. Jefferies’ extensive field and lab notebook collection for data mining purposes and future public use.

METHODS

- Images were housed on a 5 TB external hard drive and uploaded to a secondary cloud storage to prevent data loss.1

Metadata Development

- I recorded the following metadata tags in an Excel file: notebook, year, calendar dates, book type, book dimensions (l by w), # of TIFFs, # of blank pages, guttered TIFFs, does the book contain data? (yes/no), data type, specimens, additional documents, sensitive information, and comments.

Of the 85 books scanned, 74.1% (63) were small field books and 25.9% (22) were large lab notebooks. The completed collection took 69.8 GB of storage and 4633 TIFFs, with an average of 5.19 MB/TIFF (field books) and 28.5 MB/TIFF (lab books). Some major data type themes that emerged were the following: transect data, weather observations (Fig. 3), and goose dropping counts. Interestingly, pressed plant specimens were discovered within 7.06% (6) of the notebooks (Fig. 4). However, many of the specimens did not have accompanying information. Squashed mosquitoes or flies were also scattered throughout some books (Fig. 5).

RESULTS

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REFERENCES