

# Greenland Trees 2022 field activity report

August/September 2022



*tree propagation, Narsaq Greenhouse*



*transplantation of shore trees*



*filming*



*Greenland youth planting in  
Qanassiassat*



## Contents

<b>Acknowledgements</b>	<b>4</b>
<b>About Greenland Trees</b>	<b>5</b>
<b>Greenland Trees 2021 achievements</b>	<b>6</b>
Establishing a greenhouse in Narsaq	6
Moving young, self-propagated trees away from the salt-water fjord	7
Qanassiasat maintenance	7
Repainting of the Qanassiasat forest cabin	7
Fence repair	7
Outreach and education	7
Schools	7
Narsarsuaq museum	8
<b>Persons involved in GT field activities 2021</b>	<b>9</b>
<b>Day-by-day log</b>	<b>10</b>
Mon 16 August	10
Tue 17 August	10
Wed 18 August	10
Thu 19 August	11
Fri 20 August	13
Sat 21 August	17
Sun 22 August	20
Mon 23 August	23
Tue 24 August	24
Wed 25 August	27
Thu 26 August	29
Fri 27 August	30
Sat 28 August	31
Sun 29 August	32
Mon 30 August	32

## Greenland Trees field report 2022

Tue 31 August	33
Thu 8 September	33
<b>Retrospective of 2020 achievements</b>	<b>36</b>
Self-sewn trees	36
Transplantations from 2020 a success	36
Poplar problems	37
<b>Activities to consider for 2022</b>	<b>39</b>
Procurement items for 2022 fieldwork	40

## **Acknowledgements**

Greenland Trees is privately crowd funded and kindly thanks the generosity of many individuals including: J.R. Box; L. Fong-Jones; J. and R. Beda; J. Fonteneau; J. Valentine; M. Habraken; C. Lauridsen; R. Fairbanks; V. Prignano; S. Smith; I.A. Stratibus; K. Thomas; R. Liberty; M. Brcic; G. Cumpston; C. Wilmot; K. Pluck; B. Vaucher and S. Longlands.

**In-kind support** from Hotel Narsaq has been of high value. A special thanks is to Ingimar Magnússon who greatly facilitated the Greenhouse construction. His brother Fridrik Magnússon was also of great assistance with transporting the greenhouse from the harbor to the hotel and helping with building logistics such as ordering cement.

**Logistical support** Narsaq resident and tree enthusiast Niels Sakariassen has also greatly assisted this year's fieldwork by giving us 75 trees for planting, loaning tools for the Greenhouse build and accepting 15 trees back to his backyard tree nursery.

Support for filming of Greenland Trees planting has been obtained from Earth Insight foundation (<https://earthinsight.org/>) via John Salas and Krista Salas

## About Greenland Trees

Greenland Trees is run by scientists, some already in Greenland for glaciological work.

The Greenland Trees mission is:

- to partner with Greenlandic society, emphasizing youth engagement and education,
- to restore the landscape in a heavily degraded former military base and other urbanized environments;
- to increase biodiversity;
- to support forest research;
- to drawdown atmospheric CO<sub>2</sub> into new forests and soils;
- to have a positive environmental legacy;

and to do so with full transparency, as part of the registered charitable Dasht Foundation (<https://www.dasht.nl/>).

Greenland Trees has a sister project. Tajikistan Trees (<https://tajikistantrees.org/>) reforests Tajikistan to bring harmony to a land of sharp contrasts.

## **Greenland Trees 2022 main achievements**

- **propagation** from the Greenland Trees greenhouse in Narsaq
  - a. ca. 1000 Poplar cuttings were taken [April 2022](#), propagated until August of which 125 were planted in Narsaq, south Greenland, 20 were planted in Qooquut, west Greenland and the remainder are to be planted in 2023
- **planting** was registered using GPS and field notes. The geodata appear [here](#)
- **transplantation** of 96 two-to-eight-year-old self-sewn coniferous trees away from the shoreline at Qanassiasat, to a safe location away from salt water, into the plantation.
- **Outreach and education** two primary school groups (Qassiarsuk and Narsaq school) visited the plantation with each child (aged between ca. 8 and 14) planting their own tree that had a metal marker attached to the tree. The activity was filmed and the trees were registered using GPS and notes about tree species and height on that date
- **Qanassiasat plantation maintenance**
  - a. fence perimeter was checked and found to not require maintenance
  - b. replacement of lower ¼ cabin plywood around ½ of the building, painting the new wood
  - c. repainting the cabin upper west facing apex, front door and the roofline on north side of building

## Greenland Trees field report 2022

### Communication

- a lot of video material was obtained with two professional videographers working constantly from 23 Aug to 5 Sept and individual participant video is also of utility, for example a [video](#) was posted Sep 19, 2022 that has 333 views as of 19 December, 2022
- a [video](#) summary of 2022 activities and 2023 planning was released December 2022
- we have posted updates at <https://www.facebook.com/GreenlandTrees.org>

## Trees planted

date	n. trees planted	notes	location	geodata
24 August	28	mostly larix, a few contorta and 1 engelmannii	Qanassiasat	below
25 August	11	10 larix, 1 contorta Qassiarsuq school kids	Qanassiasat	below
26 August	18	15 larix, 2 contorta and 1 engelmannii	Qanassiasat	below
27 August	26	notes from Jason needed	Qanassiasat	below
28 August	13	mostly larix, a few contorta and 1 engelmannii	Qanassiasat	<a href="#">link to data</a>
5 September	25	15 populus Narsaq school kids	Narsaq	<a href="#">link to data</a>
8 September	17	1 larix, 1 contorta, 15 populus	Qooquut	<a href="#">link to data</a>
10 October	80	poplar	Narsaq	Paul Cohen
<b>Total</b>	<b>218</b>			



## Persons involved in GT field activities August/Sept. 2022

link to [spring campaign log](#)

### *Persons participating the August/September field campaign*

name	initials	nationality	description
Jason Box	JB	US	GT co-founder, field assistant while already in Greenland for glaciological work
Maurice van Tiggelen	MVT		volunteer, PhD candidate at Utrecht University
Eva			
Niels Sakariassen	NS	GL	Narsaq resident, tree enthusiast with backyard tree nursery, works for Royal Greenland
Michael Strassburger	MS		Documentary Filmmaker based in Cologne, Germany - Research Tour South Greenland. Connected to Bergwald Projekt Switzerland.
Ulf Behrens	UB		cameraman
Jakob Jakobsen	JJ		volunteer, GEUS engineer
Maiken Revheim	MR		volunteer, Niels Bohr climate physics Masters student
Mette Hansgaard	MH		volunteer, artist
Sam Sabin	SS		volunteer, photographer

## **Day-by-day activities**

### **18 August, Thursday**

MvT arrived in Narsarsuaq from Copenhagen, began gathering cargo from RAL and Air Greenland with the assistance of Vagn Andersen of Blue Ice and Jensaraq of RAL. MvT transferred to Narsaq at 18:00.

### **19 August, Friday**

MvT in activities Narsaq

- survey of growth rate and survival rate of the plants in the Narsaq greenhouse planting trays
- weeding around the planting trays
- started transplanting into the trays together with Niels Sakkariasen and Eva from Narsaq.
- Changed the lock of the greenhouse to a code lock

### **20 August, Saturday**

MvT Narsaq greenhouse. Continued transplanting into the trays together with Niels and Eva.

### **21 August, Sunday**

MvT Narsaq greenhouse.

### **22 August, Monday**

MvT arrived Narsarsuaq

### **23 August, Tuesday**

JB arrived from Reykjavik

MS, UB, MR, MH arrived from Copenhagen

16.00 JB, MS, UB, MR, MH, MvT transferred with supplies to Qanassiasat with BlueIce Targa

### **24 August, Wednesday**

🌲🌲 Greenland Trees field report 2022 🌲🌲

*Qanassiasat; transplanting of 28 trees from shoreline into the plantation, notes and GPS coordinates taken*



*MR and MH bringing up from the shoreline the trees for transplanting with the school kids*



🌲🌲 Greenland Trees field report 2022 🌲🌲



*MR painting of cabin front door and lower black areas that had water damage to the wood.*



*Maurice painting where we had run out of black paint in 2021*

**25 August, Thursday**

Qanassiasat; 10 am arrival of 8 Qassiarsuk school kids and 4 teachers including Ellen Frederiksen.

Planting trees, one for each kid, GPS position taken with kids' names and age and tree planted for each of the teachers.



*Qassiarsuk school kids each planted their own tree*

Sermeq helicopter arrived from Narsarsuaq with Kim Neider, a manager at the Greenland farm research center at Upernaviarsuk. He was shown our activities of this and previous years and gave advice about best practices for tree planting and maintenance.

MS and UB filmed filming activities

1. kids in the forest, climbing trees, playing hide and seek.
2. tree planting activities
3. Interview with Ellen Frederiksen about climate change and Greenlandic wool; Icelandic design is appropriated from Greenlandic women's national costume



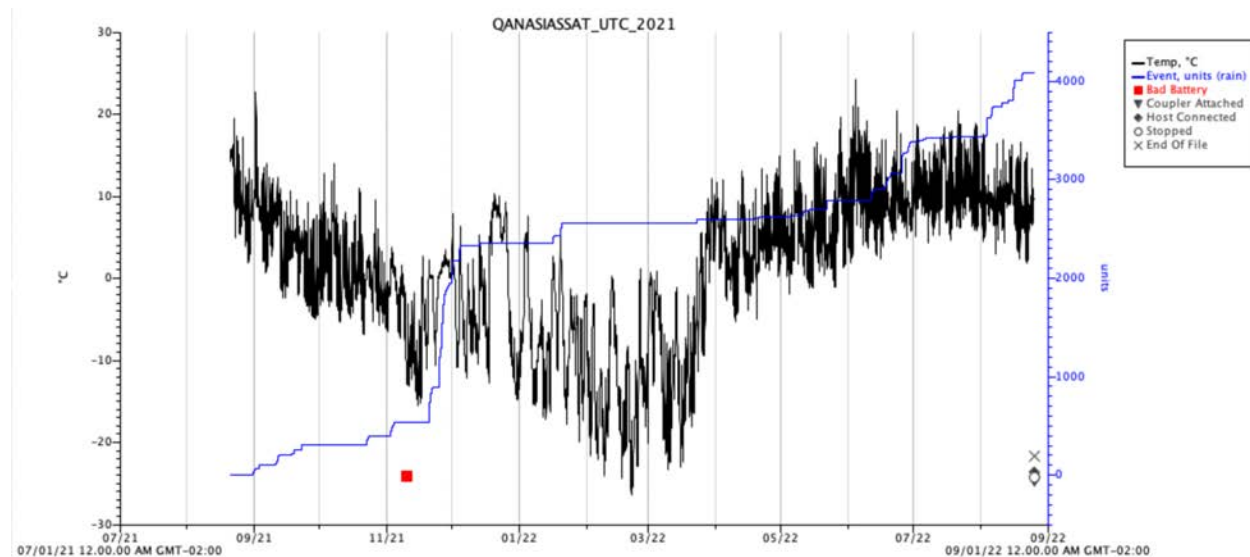
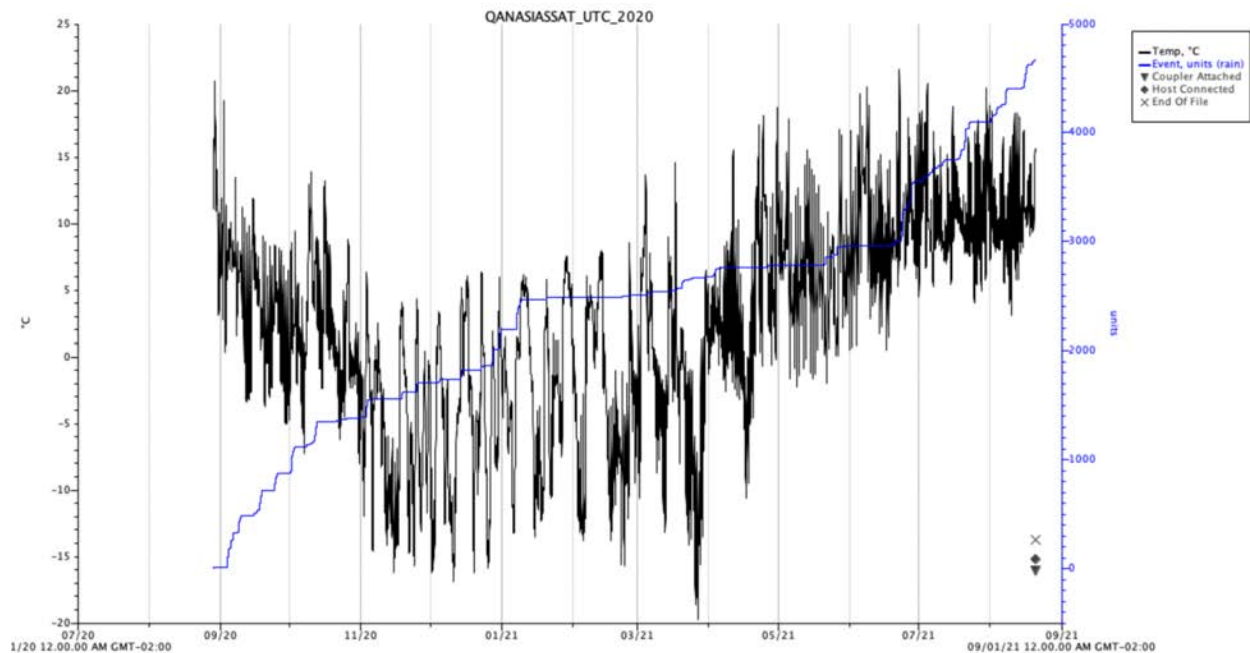
🌲🌲 Greenland Trees field report 2022 🌲🌲



*27 August, 2022 Qassiarsuk school kids, two of four teachers, Kim Neider, six Greenland Trees volunteers, one of two filmmakers at Qanassiasat*

## 🌲🌲 Greenland Trees field report 2022 🌲🌲

JB gathered data from the rain gauge, re-deployed it, and it appears to have been 817,6 mm among 4088 events x 0.2 of recorded precipitation. The two years of data we have are illustrated below.



*Qanassiasat precipitation and temperature records. The data are available from [here](#).*

18 h arrival of JJ and SS from Narsarsuaq, boat transfer by Ramon Larramendi of Tasermit.

**26 August, Friday**

Qanassiasat; light rain, continuing of planting and cabin maintenance. MvT surveyed the fence perimeter and found it standing and not in need of maintenance. Local farmers may have done some fence maintenance via Upernaviarsuk.



*We transplanted into the plantation another 18, added aluminum tags numbered Qan22 029 to Qan22 047*



## 🌲🌲 Greenland Trees field report 2022 🌲🌲



• Qanassiasat-2022 — trees planted  
2022-07-28 SENTINEL2 10 m pixels

0 25 50 m



*GIS registered transplanted trees from this campaign. Data [here](#)*

### **27 August, Saturday**

Planting with ca. 8 Narsaq school kids six ~50 to 85 cm tall trees Niels S. had brought that day and transplanting another c. 20 trees from the shoreline, documented in JB fieldbook.

🌲🌲 Greenland Trees field report 2022 🌲🌲



*Planting with ca. 8 Narsaq school kids 6 trees, Qanassiasat*





here

## 28 August, Sunday

Tasermit zodiac transit from Qanassiasat to Narsarsuaq. Photos were taken of the cabin interior.

Hotel Narsarsuaq packing for helicopter work on ice.

## 29 August, Monday

Narsarsuaq

helicopter work on ice; QAS\_L with Carsten pilot

## 30 August, Tuesday

Narsarsuaq

helicopter work on ice; QAS\_U with Pilu pilot

## 31 August, Wednesday

Narsarsuaq

helicopter work on ice; QAS\_M with Pilu pilot

## Greenland Trees field report 2022

### **1 Sept, Thursday**

Start Narsarsuaq

helicopter work on ice; Apres at Forloh 2, Q5, Q4, Q3, Q2, new QAS\_M with Pilu pilot

Camp on ice after walking 2 km from new QAS\_M

### **3 Sept, Saturday**

Narsaq

1. greenhouse transplantation of poplar that were planted in soil into planting trays that arrived 18 Aug with MvT and 2 Sep with JEB
2. greenhouse watering of seedlings (photo below)



*seedlings in the Narsaq greenhouse*

The group of 6 stayed in Igdlu guest house

#### **4 Sept, Sunday**

Narsaq

Transplantations in greenhouse

JB met Eva, who had helped a lot since spring 2022; gave her t-shirt and tree-shaped candle as small tokens of thanks.

The group of 6 stayed in Igdlu guest house

#### **5 Sept, Monday**

Narsaq



🌲🌲 Greenland Trees field report 2022 🌲🌲



screenshot of 25 Narsaq registered plantings, data available [here](#)



12 pm Planting behind Polar Magazinet with 6th graders from Narsaq school

🌲🌲 Greenland Trees field report 2022 🌲🌲



*Narsaq school 6th grader participant in planting behind Polar Magazinet*





*Narsarsuaq resident Eva, here planting as part of the 5 Sept, 2022 Narsaq school children event assisted very much in watering of Narsaq greenhouse plants*

The group departed Igdlø guest house 15.30 for 16.00 Blue Ice targa to Narsarsuaq

We bought a large white plastic bucket with ca. 12 greenhouse poplars

### **6 Sept, Tuesday**

16.00 Blue Ice targa to Narsarsuaq

### **7 Sept, Wednesday**

Narsarsuaq

Packed 2 x larch, 2 x contorta and 20 x poplar ( $\frac{3}{4}$  were balsamifera and the rest were a less robust type) into a cardboard box, bringing that as excess baggage to Nuuk as part of an



## Greenland Trees field report 2022

afternoon flight. We Met Carl Bøggild at Nuuk airport and he drove us (JB, MR, JJ) to his open boat, and we sailed to Qoqqut.

About Qoqqut, Kenneth Høegh: "The fiords east of Nuuk, the inner fiords, have a subarctic climate, indicated by the green alder (*Alnus crispa*) growing there. As compared to the inner fjords of South Greenland, i.e. Narsarsuaq, there is a shorter growing season and a colder and longer winter in which trees can nonetheless grow, and the foehn winds are less frequent and less hard as in Narsarsuaq, which makes a more tree-friendly climate. A number of species are able to grow, including white spruce from the Alaska Range (*Picea glauca*), and continental lodgepole pine from Yukon (*Pinus contorta*), and engelmann spruce (*Picea engelmannii*) from as marginal origins as possible (in terms of latitude/altitude). Poplar (*Populus balsamifera*) from Alaska can be used as well, but try to stick to more continental origins (because of the cold winters in the inner fiords east of Nuuk). One can use the Siberian larch (*Larix sibirica*/*Larix sukaczewii*), though it doesn't perform as well as in Narsarsuaq - use the northern provenances, Arkhangelsk area, if possible.

### **8 Sept, Thursday**

In Qoqqut, we planted using ca. 20 poplar sourced from the Narsaq greenhouse and one *larix sibirica* and one lodgepole pine transplanted from the hillslope behind the Narsarsuaq Hotel.

🌲🌲 Greenland Trees field report 2022 🌲🌲



planted 1 x larix, 1 x contorta and 10 x populus (¾ balsamifera and the less robust type) at Carl's summerhouse, registered positions



*Around Mads' guest houses in Qoqqut, we planted 5 x populus, each with a ring of stones*





*screenshot of 18 Qooqut registered plantings.*

## Activities to consider for 2023

1. We aim to coordinate with Upernaviarsuk (Kim Neider) for guidance.
2. We aim to obtain area allotments pre-approval
3. We plan to plant no more poplar, is not wanted according to Naalakkersuisut.
  - a. Martin Schiøtz. <[MASC@nanog.gl](mailto:MASC@nanog.gl)>
  - b. The Department of Agriculture, Self-Sufficiency, Energy and Environment would like to point out that poplar trees are NOT naturally occurring in Greenland.
  - c. Pursuant to § 33 of the County Council Act No. 29 of 18 December 2003 on nature protection (Nature Protection Act), animals, plants and microorganisms that do not occur naturally wild in Greenland may not be released or bred in the wild.
  - d. On the basis of a nature impact assessment, Naalakkersuisut can grant permission for stocking and breeding. Naalakkersuisut can set conditions for the protection of nature in connection with a permit.

## Greenland Trees field report 2022

- e. *[Danish original text: Departement for Landbrug, Selvforsyning, Energi og Miljø gør venligst opmærksom på, at poppeltræer IKKE er naturligt forekommende i Grønland.*
  - f. *I henhold til § 33 i Landstingslov nr. 29 af 18. december 2003 om naturbeskyttelse (Naturbeskyttelsesloven) må dyr, planter og mikroorganismer, der ikke forekommer naturligt vildtlevende i Grønland, ikke udsættes eller opdrættes i naturen.*
  - g. *Naalakkersuisut kan på baggrund af en naturkonsekvensvurdering give tilladelse til udsætning og opdræt. Naalakkersuisut kan i forbindelse med en tilladelse fastsætte vilkår til beskyttelse af naturen.*
- 4. revisit IKEA area planting sites (we have GPS data) in Narsarsuaq to hopefully confirm successful planting, and question whether soil conditions were OK. Poplar engel
  - 5. plant poplar along farmland in Narsaq, Quingua, work through Niels, Ellen to establish, on northern side of farm, need fencing if sheep
  - 6. repeat photography simply by identifying nice e.g. 2019 photos, print them or use a field computer, and remake those specific photos.
  - 7. Copenhagen University intern via this program <https://skovskolen.ku.dk/english/intern/>
  - 8. visiting Kussuaq in Tassermiut Fjord (60°16'N, 44°43'W) in the vicinity of Nanortalik.
  - 9. We are preparing a series of activities for the school kids in Narsaq, when it is ready we can share it with many other schools there and have GT to provide them with trees/seeds, etc. Activities like:
    - a. Research the plants around your school, in two different seasons
    - b. Growing plants under different conditions, researching, measuring
    - c. Making a herbarium of plants, different places or moments
    - d. Collect and grow seeds
    - e. Washed-up seeds, link with ocean currents and plastic in the oceans (Erik van Sebille)
    - f. Seed research, what falls/fly better
    - g. History of the Vikings

## **Greenland Trees field report 2022**

- h. More about precipitation and drought and the link with plants and climate (MSc project)
- 10. Obtain support from Utrecht University for the above points. They already have enough educational materials as they are doing for NL schools.