

## The Wegener Diaries: Scientific Expeditions into the Eternal Ice

Christian Kehrt

The virtual exhibition sheds light on Alfred Wegener's expeditions to Greenland between 1906 and 1931. Its main focus is on the diaries Wegener wrote during his explorations, which offer unique insights into the manifold challenges man and material faced in Greenland's extreme environments. You may choose to read the diaries in their original state, or browse the expeditions individually and read transcribed and translated excerpts by clicking on the tabs below.

This is a compiled PDF of version 1 of the virtual exhibition, published in 2013 by Christian Kehrt. The exhibition was updated in May 2020 to make it responsive and archivable, with only minor changes to the presentation. You can find version 2.0 here. (http://www.environmentandsociety.org/exhibitions)



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## About the author:

Christian Kehrt works in the fields of environmental history, military history, and the history of science and technology. He studied history and philosophy in Tübingen and Stony Brook, NY. His PhD "Moderne Krieger. Die Technikerfahrungen deutscher Militärpiloten, 1910–1945" deals with flying experiences of military pilots in the age of the two world wars. It was completed as part of the postgraduate research program "Technology and Society" at the Technical University Darmstadt and received the Werner-Hahlweg-Prize for military history, the Georg-Agricola Prize and the prize for young scholars of the German Society for Aeronautics and Astronautics. As a postdoc he worked at the Deutsches Museum in Munich on a project on the origins of nanotechnology. In 2009/10 he was a Carson Fellow at the Rachel Center for Environment and Society. Currently he is pursuing a habilitation project on polar exploration in the period of the Cold War at the Helmut Schmidt University in Hamburg where he holds a position as a research associate.



## **Exhibition Overview**

Alfred Wegener (1880–1930) became internationally known for his heavily disputed theory of continental drift, which he formulated as early as 1912. Yet his exploration of Greenland, and his related work in glaciology and aerology, also make up a considerable part of his multifarious scientific career as a meteorologist and geophysicist. Wegener's work focused on gaining detailed knowledge about the origins of the Greenland's weather and climate conditions and the dynamics of its ice sheet. His expedition diaries, which are at the core of this online exhibition, are a crucial document for anyone interested in the history of polar expeditions. His dense and well-preserved diaries provide a detailed look at polar exploration in the first half of the twentieth century, illustrating the challenges of everyday life as well as the continuities and changes in exploration methods over the course of three decades.

Wegener's original handwritten diaries from 1906–1930 can be found at the Archives of the Deutsches Museum. This virtual exhibition presents the complete digitized diaries, as well as representative excerpts that have been transcribed and translated into English. Wegener's diaries are remarkably precise, and are written in easily legible handwriting. They encompass the Danish *Danmark Expedition* (1906–1908), the *Danish North Greenland Expedition* (1912–1913), and the Wegener-led *German Greenland Expedition* (1930–1931). The reader can choose individual expeditions and follow the course of events by reading from day to day. Each expedition is introduced by a commentary. Furthermore, the reader will find information on Wegener, a film document with commentary of the 1930–1931 expedition, and links for further reading and research.

The virtual exhibition "Scientific Expeditions Into the Eternal Ice" is a collaboration of the Rachel Carson Center for Environment and Society and the Deutsches Museum. Researched, transcribed and authored by historian Christian Kehrt, the exhibition is based on original archival material from the Deutsches Museum and images from the Deutsches Archiv für Polarforschung of the Alfred-Wegener-Institut Bremerhaven. Christian Kehrt wrote the main commentaries; Dorit Müller contributed the commentary to the film. The transcripts were proofread by Frieder Groninger, translated by Claudia Whiteus and Kerry Jago, and edited by Brenda Black. The digitization of the original archival material was carried out in consultation with Wilhelm Füßl, Matthias Röschner, and Ludwig Schletzbaum. The exhibition was coordinated by Felix Mauch with assistance from Andreas Grieger and the Environment & Society Portal team and its partners.

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## **Biography of Alfred Wegener**

Alfred Wegener (1880–1930) became internationally known for his heavily disputed theory of continental drift, which he formulated as early as 1912. Yet his exploration of Greenland, as well as his related work in glaciology and aerology, also makes up a considerable part of his multifarious scientific career as a meteorologist and geophysicist.



Portrait of Alfred Wegener (1880–1930) © Deutsches Museum, Archiv (BN\_0414)

Wegener lived in a period of tremendous political and scientific upheaval and transformation. Born in Berlin, he grew up in the German Empire at a time that saw the advent of new technologies such as the airship, electricity and the automobile. At that time Max Planck and Albert Einstein were calling the fundamentals of modern physics into question. In addition, geophysics, meteorology and glaciology were changing into modern, globally oriented disciplines.

While his father was a theologian and classics teacher, Alfred and his older brother Kurt (1878–1964) were more inclined towards the natural sciences. Wegener studied mathematics and astronomy in Berlin and Heidelberg, but soon was drawn to geophysics and meteorology. Alfred, like his brother, enjoyed hiking, mountain climbing, and sailing. After the completion of his PhD in astronomy he went together with his brother Kurt to the aeronautical observatory, the "Königlich Preußisches Aeronautische Observatorium Lindenberg" close to Berlin. Together they participated in ballooning and conducted meteorological observations in the new discipline of aerology. Together they set a world record for the longest time spent aloft in a balloon, remaining in the air for 52 hours from 5 to 7 April 1906. The experiences with kites and balloons as a meteorologist in the new field of aerology at Lindenberg gave him the unexpected opportunity to participate in the Danish *Danmark Expedition* to Greenland from 1906–1908.

Wegener's publications in the field of geophysics are remarkable because they are often based on intuitive insights and careful observations and encompass very different fields—the origins of continents and oceans, paleoclimatology, aerology, meteorology and atmospheric sciences, origins of craters on the moon, aurora and wind phenomena in the polar regions, or the origins of tornados and turbulence phenomena, and similar matters. His close relationship with the climatologist Wladimir Köppen (1846–1940), whom he met at the kite station in Hamburg Großborstel in 1906 and would become his father-in-law, was very important for his further life and career. They discussed Wegener's ideas intensively. In 1911 Wegener formulated his ideas about the origins of oceans and continents for the first time. Also in this case it was an intuitive insight and immediate observation that made him think about the origins of continental movements. A letter from Wegener to Köppen, preserved at the Deutsches Museum, documents his ideas:



Portrait of Alfred Wegener (1880–1930), German meteorologist and important contributor to the theory of continental drift. © Deutsches Museum, Archiv (BN\_30985)

Marburg, 6.12.1911. Dear Father, I must answer your lengthy letter straightaway. I do believe that you consider my ancient continent to be far more fantastic than it really is and you do not yet see that it's merely a matter of interpreting the observation material. Even if I only arrived at the idea due to the correspondence between the coastlines, the documentation will naturally have to be based on material from geological observation.

— Letter of Alfred Wegener to his father-in-law, Wladimir Köppen, Marburg, Dec. 6, 1911, DMA, HS 1968-596, 17.

Marburg, 6.12.1911. Lieber Vater, auf Deinen ausführlichen Brief muß ich Dir gleich antworten. Ich glaube doch, Du hältst meinen Urkontinent für phantastischer als er ist und siehst noch nicht, daß es sich lediglich um Deutung des Beobachtungsmaterials handelt. Wenn ich auch nur durch die übereinstimmenden Küstenlinien darauf gekommen bin, so muß die Beweisführung natürlich von dem Beobachtungsmaterial der Geologie ausgehen.

— Brief von Alfred Wegener an seinen Schwiegervater Wladimir Köppen, Marburg, 06.12.1911, DMA, HS 1968-596, 17.

On 6 January 1912, Wegener gave a courageous presentation at the annual meeting of the geological society

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(*Geologische Vereinigung*) at the Senckenberg Museum in Frankfurt. This talk then was published as an article in the renowned journal *Petermanns Geographische Mitteilungen* [Alfred Wegener: *Die Entstehung der Kontinente*. In: *Petermanns Mitteilungen* 1912, pp. 185–95, 253–56, and 305–09]. In 1915 these ideas were then published as a book, *Über den Ursprung der Kontinente und Ozeane* (On the Origins of the Continents and Oceans), which was revised several times. However, during his lifetime Wegener did not receive recognition for his ideas. Only later, in the context of the systematic exploration of the sea floor in the 1950s, did observations of the phenomenon of sea floor spreading prove his insights.

In his Greenland diaries the theory of continental drift is only mentioned once in a rather ironic self-reflection about the difficult circumstances of polar exploration:

We certainly won't make it out of here today. And who knows how things will turn out tomorrow. One would think that this forced rest would encourage my mind to ponder, solve scientific questions, and to concentrate on things that I know I think about constantly when I am back home. But only once in a while do I find myself coming up with some unimpressive beginnings of ideas. All these problems, that of the volcanos, the cyclones, the blue strips in the ice, the daily fluctuation of the barometer, the rotation in the solar system, etc. are always with me; they are always sitting, so to speak, right in front of me, yet my imagination does not make it through, and instead chooses other paths. It persistently returns to two things, back and forth, and both are of a shamefully material nature: How will Else and I arrange things, and what kind of food will we cook? Note that the first question comes up primarily after our meals, the second before. I lack sufficient courage, otherwise I could write 2 disquisitions on these topics, in comparison with which the "Origin of Continents and Oceans" would look like an essay by a sixth-grader.

— Danish North Greenland Expedition, 19 May 1913, DMA NL 001/010, 55–57.

In 1913 he married Else Köppen (the daughter of his mentor Wladimir Köppen), with whom he had three children. During World War I Wegener worked as a meteorologist. In addition to these duties he found time to write his famous book on continental drift. After World War I the ambitious and by then well-known Wegener was still having trouble finding a professorship. At that time he held a position at the *Hamburger Seewarte* observatory, succeeding his father-in-law Wladimir Köppen as leader of the meteorological branch. In 1924 he accepted an offer from the University of Graz (Austria), where he spent fruitful years as an academic teacher and researcher.

In the early 1920s academic life was still disrupted by the consequences of World War I. It took several years until the newly founded *Notgemeinschaft der Deutschen Wissenschaft* could support prestigious expeditions in remote areas to explore the oceans (*Meteorexpedition* 1925–1927), the Pamir mountains expedition (1928), or Wegener's Greenland expeditions in 1929 and 1930–1931, which ended with the tragic death of Wegener and his companion, the Greenlander Rasmus Villumsen (1910–1930).

All in all Wegener participated in four polar expeditions: the Danmark Expedition (1906–1908), the

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glaciological *Danish North Greenland Expedition* with Johann Peter Koch (1912), the preexpedition (1929), documented neither in the Deutsches Museum archives nor in this virtual exhibition, and the *German Greenland Expedition* (1930–1931). He is well known as an expert of Greenland and for his close relations with the Inuit populations of Denmark and Greenland. Wegener was an experienced polar explorer and many of his scientific goals can be traced to the early expeditions where he was already starting to pursue glaciological and meteorological questions. Although his final expedition faced many difficulties and ended with his tragic death, it pursued an ambitious scientific program that served as a reference for subsequent international expeditions.

Today the German research institute for polar science and marine science is named the Alfred-Wegener-Institut für Polar- und Meeresforschung.

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- http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition3
- http://www.awi.de/de/



## Original footage: Alfred Wegener's German Greenland Expedition, 1930–1931 (1936)

Alfred Wegener's German Greenland Expedition, 1930-31 (Part 1–3), silent, 35 mm, Production: Berlin: Reichsanstalt für Film und Bild in Wissenschaft und Unterricht, 1936, distributed by Degeto, 28 min., Bundesarchiv-Filmarchiv Berlin

Please follow this external link to the original film footage.

Original film: Alfred Wegener's German Greenland Expedition, 1930–31 (Part 1–3), silent, 35 mm, Production: Berlin: Reichsanstalt für Film und Bild in Wissenschaft und Unterricht, 1936, distributed by Degeto, 28 min., Bundesarchiv-Filmarchiv Berlin. Film Embedded from ZDFmediathek on 22 January 2020. https://www.zdf.de/dokumentation/terra-x/originalfilme-von-der-expedition-102.html.

#### Commentary by Dorit Müller

The German Reichsanstalt für Film und Bild in Wissenschaft und Unterricht [Reich Institute for Film and Pictures in Science and Education] released this version of original footage from Alfred Wegener's Greenland expedition (1930–1931) in 1936. The educational film follows the chronological course of the expedition, the first one to explore the Greenland ice sheet, to study arctic weather and air conditions, and to gain information about numerous geological structures as evidence of Wegener's continental drift theory.

The film footage shows the polar explorers' passage to Greenland, their arrival at the starting point for the ascent of the glacier leading to the inland ice 1,000 m above sea level (Part 1). This is followed by images showing the dangerous ascent of the explorers, carrying tons of equipment, and pictures of initial test rides on motor sleds and with dog sleds on the ice sheet (Part 2). Finally, the film documents the construction of Eismitte, a mid-ice research station, and various measurements carried out in the Arctic: weather observation, ice examination, measuring ice thickness, collecting snow samples from great depth, explosions, and the launching of a weather balloon (Part 3).

Particularly valuable and moving are the final shots of expedition leader Wegener, who died in 1930 on the sled ride from Eismitte to the coast together with his companion, Rasmus Villumsen. The film depicts the search for Wegener as well as the discovery and burial of his corpse in the ice, after his body had finally been found six months later in spring of 1931. At the end of the film, Wegener's tragic death is glorified and fully aligned with the heroic rhetoric of the late 1930s, quoting one of the most famous lines in the Norse *Poetic Edda*: "Possession dies, kindred die, you yourself die like them; one thing I know, which will live forever: the dead man's glorious deeds."

The filmmakers used a 35mm spring-driven Kinamo movie camera, invented in 1923 by Emanuel Goldberg. Compared to the hand-cranked cinematograph cameras of the time, the compact Kinamo, weighing only one and a half kilograms, allowed flexible, hand-held filming; making it possible to film under extreme weather conditions. Several film versions were made from the footage, both silent and with sound, for broad audiences and for educational purposes.

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## Alfred Wegener's Greenland Diaries

#### Alfred Wegener's scientific work in Greenland

Alfred Wegener embarked on four Greenland expeditions between 1906 and 1931, a time when the conquest of the North and South Pole began to enjoy enormous international public attention. Within this so-called "heroic phase" of polar exploration, Wegener embodied a new type of polar explorer in that he was mainly interested in basic geoscientific and meteorological questions and that he introduced new scientific methods and instruments in the field of polar science. Aside from investigating unresolved geographic and cartographic questions with the intention of filling the last blank spots on Greenland's map, Wegener's work focused on gaining detailed knowledge about the origins of the Greenland's weather and climate conditions, the dynamics of its ice sheet, and the atmosphere above the Greenland ice sheet.



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The exploration of Greenland during this period was also marked by the prospect of future transatlantic flights between North America and Europe. For meteorological phenomena such as the low pressure zone in the North Atlantic and Johannes Georgi's discovery of the jet stream over Iceland in 1926–1927 made it clear that Greenland had a significant influence on the development of weather patterns. Some of Wegener's approaches, especially the exploration of the climatic and glaciological conditions as well as the use of seismological methodology to analyze the ice sheet, were continued after 1945.



Alfred Wegener (to the right) and Gustav Thostrup (1877–1955), second officer of the *Danmark*. Public Domain: Friis, Achton. *Im Grönlandeis mit Mylius-Erichsen: Die Danmark-Expedition 1906–1908*. Leipzig: Otto Spamer, 1910: 351.



The last picture of Alfred Wegener. Alfred Wegener and his Greenlandic attendant Rasmus Willumsen shortly before the departure from "Eismitte" on Wegener's 50th birthday on November 1, 1930. © Johannes Georgi. Courtesy of Alfred-Wegener-Institut für Polar- und Meeresforschung (AWI)

Characteristic for this type of exploration was the enormous physical and psychological exertion that extreme weather conditions demanded. As a result, modern polar explorers like Wegener fell back on the traditional knowledge of the Inuit—including traveling by dog sled, wearing traditional Inuit clothes, building igloos, and hunting—in order to survive, work, and explore on the Greenland ice sheet over a longer period of time. Especially the crossing of Greenland and the establishment of a permanent research station in central parts of the Greenland ice sheet were difficult challenges at a time when new modes of motorized transport and flight began to be introduced in polar research.

## Why keep a diary?

It is strange what unimportant things one includes in a diary here. But it is significant. If I report everything that I've done on a given day, it is a sort of justification. It is a triumph that I have been successful in occupying myself on a practical level. At the same time, I don't believe that my diary is particularly enjoyable to read. For me, this expedition is surely very valuable. While before, I did have a certain type of energy, which here, for the purpose of comparison, I must call "moral energy." Here, I am learning practical energy, the energy of activity. All these things that seem so unimportant, for example washing ourselves daily, overcoming an obstacle, irrelevant of what exactly it is—all these small things that make up daily life are things from which you can learn what "practical energy" is.

- Danmark Expedition, 15 September 1906, DMA NL 001/005, 130.

It is hard for me to find anything to do here in the tent. Books and instruments are all packed into boxes, and I cannot access them. The only reading material I have is Koch's diary, which he kindly gave to me for this purpose. For a vagabond like me, there is no lack of small tasks, but when one has nothing else to do for the entire day, there is a time when the tent has been swept, petroleum has been poured onto the oven, a new light has been put up, all pipes have been filled and are hanging from the ceiling of the tent; when the horses have been fed and the hay for their next meal has been weighed; when one has read Koch's diary: then, when one has nothing to do, one sits down and writes such a verbose, such a boring diary that no one will really want to read it.

— Danish North Greenland Expedition, 20 September 1912, DMA NL 001/009, 17.

Wegener's expedition diaries encompass the Danish *Danmark Expedition* (1906–1908), in which he participated at the age of 26 as an expert for aerology, the *Danish North Greenland Expedition* together with Johann Peter Koch (1912–1913), which aimed to explore the Greenland ice sheet, and the Wegener-led *German Greenland Expedition* (1930–1931).

Today, these diaries allow us to reconstruct the course of an expedition from within. They provide insight into:



Alfred Wegener during his second expedition to Greenland. Public Domain: Koch, Johann Peter. *Durch die weiße Wüste: Die dänische Forschungsreise quer durch Grönland 1912/13.* Berlin: Springer, 1919: 125.

- Scientific questions: Methods, observations, measurements, the use of scientific instruments such as kites, balloons, and scientific photography.
- Everyday life on the expedition: progression of events, difficulties, successes.
- **Polar technology**: survival skills, strategies, mastering everyday challenges, the cold, nutrition, hunting, transport and logistics, dog sleds, ponies, and propeller sleds.
- A subjective dimension of experience: plans for the future, progression of the expedition, moods, sensitivities, conflicts with other expedition participants.
- A subjective perception of nature: aesthetic experiences and the limits of physical and mental capacities brought about by the cold, ice, snow, and the long polar nights.

Writing diaries was an integral part of polar expeditions and Wegener was an obsessive diarist. For him, keeping a diary during his polar expeditions fulfilled several functions. A diary, for one thing, kept track of the course of the expeditions and served as a basis for further scientific and popular publications and narrations. It helped him organize and reflect upon daily experiences, and was a place where he could document natural phenomena and observations. For scientists and explorers, writing diaries provided a vital, existential function in relation to their experience in extreme (and often potentially deadly) environmental conditions. It allowed the explorer to maintain a sense of self and acted as a welcome distraction in a threatening and hostile environment. Wegener's diaries additionally provide a backdrop for and a supplement to his scientific publications. Aside from lists of transported goods, measurements, and tables of instrumental observations, Wegener added small sketches of landscapes and descriptions of natural phenomena.



Expedition leader Johann Peter Koch, writing in his diary. Public Domain. Koch, Johann Peter. Durch die weiße Wüste: Die dänische Forschungsreise quer durch Grönland 1912/13. Berlin: Springer 1919: 62.

Furthermore, he documented everyday challenges and obstacles of obtaining scientific measurements, necessary improvisations, problems with other expedition participants, his own psychological and physical condition—all things that are not included in his scientific publications. Particularly noticeable is the uncertainty that Wegener felt regarding his role as a scientist as part of a thirty-man Danish expedition 1906–1908. Many times, Wegener references future plans for a South Polar expedition—a surprising find, given the common identification of Wegener as a Greenland researcher.

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At the margins of inland ice sheets at Queen Louise Land. Public Domain: Friis, Achton. *Im Grönlandeis mit Mylius-Erichsen: Die Danmark-Expedition 1906–190*8. Leipzig: Otto Spamer, 1910: 570.



Ice wall in Greenland.

Public Domain: Koch, Johann Peter. Durch die weiße Wüste: Die dänische Forschungsreise quer durch Grönland 1912/13. Berlin: Springer, 1919: 210.

Due to the fact that Wegener lived in many places throughout his life, his estate is dispersed throughout many different places, including Berlin, Merseburg, Rheinsberg, Neurupin, Kopenhagen, Marburg, Graz, Vienna, Munich, and Bremerhaven. However, the majority of his original diaries, which form the basis of this online edition, are held by the Deutsches Museum in Munich. Munich's diary collection encompasses fourteen volumes with a total of 2,200 small pages, twenty-two by eighteen centimeters, in oilcloth binding. There are indications in the diaries that some pages were ripped out. Overall, the diaries are written in easily legible handwriting that is partially in pencil, partially in ink; those originally in pencil were sometimes retroactively retraced in ink,

probably in order to improve the legibility of the prose. At various points, there are red markings in the margin, and some sentences are crossed out in ink, making them entirely illegible.

At the same time, the various stages of diary writing indicate the use of the diary in some of Wegener's later publications, or the edition of his diaries by his wife, Else Wegener. However, her edition was purposely shortened and the word choice was often changed. Johannes Georgi heavily criticized her in a lengthy article in the journal *Polarforschung*, not least based on the tense relationship between him and Wegener's family, who had blamed him, in part, for Wegener's death.



Propeller sleds and expedition members at the grave of Alfred Wegener. Public Domain: Georgi, Johannes. *Im Eis vergraben: Erlebnisse auf Station "Eismitte" der letzten Grönlandexpedition Alfred Wegeners*, 5th ed. Munich: Müller, 1938: 226.

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- http://www.environmentandsociety.org/exhibitions/wegener-diaries/original-document
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- http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition2
- http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition3
- http://caliban.mpiz-koeln.mpg.de/wegener/



## The Danmark Expedition, 1906–1908



The expedition vessel Danmark

The "Danmark" vessel and former accomodation of the Danmark-Expedition destroyed by ice. Public Domain: Friis, Achton. *Im Grönlandeis mit Mylius-Erichsen: Die Danmark-Expedition 1906–19*08. Leipzig: Otto Spamer, 1910: 265.

The goal of the Danish *Danmark Expedition* led by Ludvig Mylius-Erichsen (1872–1907) was to map a thenunknown section of the coast of northeast Greenland. The expedition suffered from the death of its leader Mylius-Erichsen, who, along with the Greenlander Jörgen Brönlund (1877–1907) and the cartographer Niels Peter Hög-Hagen (1877–1907), never returned from their final sled journey.

The diaries provide an insight into Wegener's day-to-day scientific work, the setting up and reading of the instruments, minor repairs, and particularly his aerological work with kites and weather balloons, which were being used for the first time in polar research.

This first polar expedition also served as an important learning experience for Wegener and provides insight into the social challenges with which he was confronted as a novice. He reflects both on his own position and on the strengths and weaknesses of other team members more than he does on subsequent expeditions. Wegener, who was inexperienced and still learning Danish, had yet to earn recognition as a scientist, and therefore hoped to gather important technical and logistical experiences for future expeditions. In order to do this, it was necessary to travel to the icy north and prove his ability to lead dog sleds across long distances.

Questions and goals of a future South Polar expedition continuously preoccupied Alfred Wegener during his first expedition to Greenland from 1906 to 1908. The passage "Ideen über die Ziele der Südpolarforschung" (Ideas about the Aims of South Polar Research) can be found in the final pages of his diary, which were written between 9 May 1908 and 6 August 1908. This conceptual sketch offers both a summary and a scientific reflection on the climatologic implications of ice sheets. At this point, apparently, he envisioned the exploration of Antarctica as the main goal for his future career.

Kehrt, Christian. "The Wegener Diaries." Environment & Society Portal, *Virtual Exhibitions* 2013, no. 2. Chapter: The Danmark Expedition 1906–1908



Overview map of Greenland with travel routes, designed by Fritz Loewe in 1933. Public Domain: Georgi, Johannes. I*m Eis vergraben: Erlebnisse auf Station "Eismitte" der letzten Grönlandexpedition Alfred Wegeners.* Leipzig: Brockhaus, 1933: Attachement.

# View selected pages from Wegener's diaries [Deutsches Museum Archiv, NL 001] and their transcripts.

Source: Alfred Wegener, Tagebücher, June 1906-August 1908. Deutsches Museum Archiv, NL 001/005.

**Note:** The original virtual exhibition featured an interactive diary plugin that allowed the visitor to browse scans of the handwritten diary pages on the one side and read a transcript and translation (from German to English) on the opposite site. Click here for a PDF of the transcript and translation of selected diary pages.

[Das Tagebuch beginnt am 24. Juni 1906] unt to gop the co as los and seen allerting of [111] 5. Sept. [1906] Heute habe ich 2 Pfähle eingegraben, den einen für den Regenmesser, den anderen hauptsächlich für das Taschenanemometer [Windmesser]. Den Regenmesser habe ich schon angeschraubt. Gestern ist ja der erste Schnee gefallen, und wer weiß, ob das Instru-[The diary begins 24 June 1906] for la Americante a [111] 5 Sept. [1906] Today I erected two posts, one for the rain gauge, the other mainly for the pocket anemometer [wind gauge]. I have already attached the rain gauge. Yesterday saw the first snowfall, and who knows whether the instruundermance like it ingegrade 5. Sept hente habe un 2 Marle gegraber, den ainen fin son Regenmener der ander hangt sarklich für das Tuskenanernen meter Der Regenmenen habe ob when augentmantet. Genter with und wer weiß ob das Thatra

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#### **Related links:**

\* http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition1

Source URL: http://www.environmentandsociety.org/node/3939 PDF created on: 18 June 2020 20:23:17



## The Danish North Greenland Expedition, 1912–1913



Walk over ice cap. Unknown photographer, 1912–1913. Public Domain: Originally published in Johann Peter Koch, *Durch die weiße Wüste: Die dänische Forschungsreise quer durch Grönland 1912/13* (Berlin: Springer, 1919: 216).

The "Danish expedition to Queen Louise Land and straight through Greenland's ice sheet" was led by Johann Peter Koch (1870–1928), with whom Alfred Wegener had already worked during the Mylius-Erichsen expedition in 1906–1908. Other participants included the Icelander Vigfus Sigurdsson (1875–1950), who was in charge of the transport ponies, and the Dane Lars Larsen (1886–1978). The goal of this expedition was to survey the as-yet unexplored ice sheet, concentrating particularly on answering a set of glaciological and meteorological questions. This would require overwintering on the edge of the ice sheet and eventually crossing the entirety of the ice sheet from east to west. The starting point was Danmark Harbor, which had also served as the base for the Mylius-Erichsen expedition.

The trip was extremely difficult, and only with great effort were they able to reach their destination, Pröven, where they arrived entirely exhausted. Koch's travel diary, which Wegener translated, was released in 1919 under the title "Durch die weiße Wüste" [Through the White Desert].

## View selected pages from Wegener's diaries [Deutsches Museum Archiv, NL 001] and their transcripts. For the complete original click here.

Source: Alfred Wegener, Tagebücher, June 1912–July 1913. Deutsches Museum Archiv, NL 001/008.

**Note**: The original virtual exhibition featured an interactive diary plugin that allowed the visitor to browse scans of the handwritten diary pages on the one side and read a transcript and translation (from German to English) on the opposite site. Click here for a PDF of the transcript and translation of selected diary pages.

Alfred L. Wegener . Tagebuch I & 1912 1. Juni: Gestern abent fuhren vir [020] 7. Juni [1912]. Gestern abend fuhren wir von Akureyri ab. Vigfus kam 1 1/2 Stunden zu spät, dann aber im Galopp zu Pferde. Der Sysselmann war ihm begegnet und hatte ihn wegen der Tour über den Vatna-Jökul ausgefragt. Kochs Gelder haben gerade thureyriab. Viefus Kam 1/2 gereicht, es ist nichts übrig geblieben. Der Aufenthalt und die Reise auf Island waren erheblich teurer, als Hunde yu spat, dann aber im Galoy gerechnet worden war. - Nun sind wir mit der Please. Der Lysselmann war ihm "Goothaab" in See, ohne Lundager. Er war auf der Islandreise den Anstrengungen nicht mehr recht ignet undhatte ihn wegen der Tour gewachsen und wünschte daher selbst ber den Vatna Fokul ausgebragt. zurückzutreten. Es ist noch unsicher, ob wir einen North's Gelden haben gerade gereich Matrosen als 4. Mann mitnehmen. Wir haben auch einen isländischen Hund für 10 Kr. gekauft. Er heißt ist nichts übrig geblieben. Der Aufent halt und die Reise auf Island wa Gloë. Vigfus ist seekrank im Bett, ven erheblich teurer, als gerechnet [020] 7 June [1912]. Last night we departed from Akureyri. Vigfus came 1 1/2 hour late, but when he Worden war, - Nun sind wir mit der arrived, he was galloping on horseback. He had met oothaab in See, ohne dundager. Sysselmann, who had asked him about the tour across Vatna-Jökul. Koch's funding had just barely Er war auf der Tslandsreise den been enough; there is nothing left. The journey to Anstrengungen nicht mehr recht ge Iceland and our stay there have been considerably wachsen und wünschte daher selbst more expensive than expected. Now, we are on the Gothaab on the ocean, without Lundager. During the aburuckantreten. Es ist noch unsicher Iceland trip he wasn't really able to cope with the strenuous demands anymore, and decided to leave ob wir einen Matrosen als 4. Mann the expedition of his own accord. It is still uncertain mitnehmen. Wir haben auch einen as to whether we will take on a sailor as a 4th man. slandischen Hund für 10 Kr. gekan We also bought an Icelandic dog for 10 kroner. His name is Gloë. Vigfus is in bed heifst Gloe. for ligh seekrank in Bett

Scanned diary: Used by permission of the Archives of the Deutsches Museum Diary translation: 2013 Rachel Carson Center for Environment and Society

**Related links:** 

• http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition2



## The German Greenland Expedition, 1930–1931

Alfred Wegener designated the expedition's most important goal as the establishment of three stations across the ice sheet from west to east at 71° N. The purpose was to measure climate conditions and meteorological and glaciological data over the course of an entire year, thereby enabling a survey on the dynamics of ice sheets, snow increase—or loss—and weather conditions for the first time ever. Wegener applied seismological methods to examine the thickness of the ice sheet and the geological structure of the earth surface underneath the ice. With the help of small explosions on the ice and the registration of the sound waves that travel through the ice, it was possible to measure the structure of the Greenland ice sheet for the first time. This seismological method was developed at the physics institute of the University of Göttingen by the geophysicist Emil Wiechert. It was used to investigate basic geological questions about the structure of the earth and was also successfully applied in the field of geological prospecting.



View of the Eastern Station in spring 1930. Unknown photographer. Public Domain: Courtesy of Alfred-Wegener-Institut für Polar- und Meeresforschung (AWI). Signatur NL 4 F Nr. 18.

An essential precondition for Wegener's ambitious scientific program was the construction of an overwintering station in the center of the ice sheet, some four hundred kilometers from either coast. Thus logistical questions including the transport of materials, instruments, and supplies—were of utmost importance. The expedition was, however, delayed for several weeks due to the fact that the sea ice had not melted, and the general difficulties of transporting materials across the ice sheet. Furthermore, it was not only very difficult to load the propeller sleds onto the ice, it was also a challenge using this untested new technology for the transport of equipment across the ice.

The detailed diary entries from August and September 1930 provide an impression of the drama and the difficulties that confronted Wegener. Propeller sleds occupied a key position, for they were the object of great expectations. On the one hand, Wegener was full of enthusiasm about the new possibility of transporting large loads across wide stretches without stopping. On the other, the failure of the propeller sleds seemed to reflect the failure of the mission in general. Due to the lack of logistical support Johannes Georgi (1888–1972), Fritz Loewe (1895–1974) and Ernst Sorge (1899–1946) passed the winter in difficult conditions in the station *Eismitte*. They dug a cave in the ground and pursued a restricted scientific program in their improvised ice cavern. Fritz Loewe's frost-bitten toes had to be amputated with a pocket knife, and the team was forced to economize their food and petroleum consumption. Nevertheless their measurements, such as Ernst Sorge's measurement of the density and

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temperature of several annual layers of firn, were still valuable.



Propeller sled *Schneespatz*. Photograph by Franz Kebl, 1930. © 1930 Franz Kebl. Courtesy of the Alfred-Wegener-Institut für Polar- und Meeresforschung (AWI). Signatur: NL 4 F Nr. 73. Used by permission.



Christmas Eve in "Eismitte": Johannes Georgi and Fritz Loewe. Photograph by Ernst Sorge, n.d. Public Domain: Signatur: NL 4 F Nr. 84. In Johannes Georgi, *Im Eis vergraben: Erlebnisse auf Station "Eismitte" der letzten Grönlandexpedition Alfred Wegeners*, 5th ed. (Munich: Müller, 1938, 149).



Ernst Sorge and Johannes Georgi, around 1930. Photograph by Fritz Loewe. © 1930 Fritz Loewe. Courtesy of the Alfred-Wegener-Institut für Polar- und Meeresforschung (AWI). Signatur: NL 4 F Nr. 6.

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Johannes Georgi (1888–1972) studied meteorology under Alfred Wegener in Marburg in 1915, and later worked for the Hamburger Seewarte just as Wegener did. Some of Wegener's family members accused Georgi of causing the expedition leaders' tragic death by sending an alarming letter that supposedly made Alfred Wegener decide to make the fatal journey to support the central firn station.

Fritz Loewe (1895–1974) emigrated from Germany during the Nazi regime. He first went to the Scott Polar Institute in Cambridge and later founded the first meteorological institute in Australia. After the Second World War he participated in several polar expeditions and maintained contact with German and international polar scientists. His papers are held at the University of Melbourne and the Deutsches Archiv für Polar und Meeresforschung.

Ernst Sorge (1899–1946) participated in the Wegner expedition as glaciologist. He measured the thickness of Greenland's ice cap as 2600 m; this was later revised. Like Fritz Loewe he served as a scientific advisor for the film

SOS Iceberg by Arnold Fanck. In the Second World War he taught German soldiers survival techniques in ice and snow.

### View selected pages from Wegener's diaries [Deutsches Museum Archiv, NL 001] and their transcripts.

Source: Alfred Wegener, Tagebücher, April 1930-September 1930. Deutsches Museum Archiv, NL 001/014.

**Note**: The original virtual exhibition featured an interactive diary plugin that allowed the visitor to browse scans of the handwritten diary pages on the one side and read a transcript and translation (from German to English) on the opposite site. Click here for a PDF of the transcript and translation of selected diary pages.

- hindred . 1 Harm und der nach Schestrody vie anderen vien auf. Massen Jaste ward [006] Montag 21.Juli. nachmittags. Auf der Krabbe [Expeditionsschiff] auf der Fahrt Kamarujuk-Umanak nach Grance. Unser Joste melanger and Flaggernhunde gestern Mittag gingen Dan Möller und ich auf den Gletscher. Es regnete etwas. Ich nahm alle Grönländer mit nach Grünau hinauf, und ließ sie pletonen Burns unterwegs noch im Zelt und später noch Kojenbretter für Scheideck etwas höher tragen. Dann Kaffee in Housters i Grünau. Schif, Kraus und Kelbl gingen mit den Grönländern zu den Propellerschlitten, die heute Chi tie Venue host wieder ein Stück höher hinauf kamen. Dan Möller vorletzt, Roh 61,5 Vince host V. und ich gingen die Moräne hinauf, begleitet von den Isländern, um die Ausführbarkeit eines Moränen-Stature Deput TI Roh TI regt 74. [006] Monday, 21 July, Afternoon [1930] Yesterday around noon, on the Kamarujuk-Umanak trip on the Station Depot 10/2p darde Ros Krabbe [expedition boat], Dan Möller and I ventured 24.0 on heran Lito m heran to the station with onto the glacier. It was raining a little bit. I took all the Greenlanders with me up to Grünau, and on the way, I left them in the tent; later I had them carry wood planks for the berth at Scheideck a bit higher up. Then coffee in Grünau. Schif, Kraus, and Kebl went with the Greenlanders to the propeller sledges, strands, Juil Joh wahn alle which were again brought up a bit higher today. Dan Möller and I went up the moraine accompanied by mark Grinnan hinten for hips the Icelanders, in order to test the feasibility graliation on

Scanned diary: Used by permission of the Archives of the Deutsches Museum Diary translation: (C) EY-NG-SR 2013 Rachel Carson Center for Environment and Society

#### **Related links:**

• http://www.environmentandsociety.org/exhibitions/wegener-diaries/expedition3

## The Wegener Diaries: Original Document

Alfred Wegener's handwritten diaries cover his three main Greenland expeditions between 1906 and 1931. The original document can be found at the Archives of the Deutsches Museum. For this virtual exhibition, the diaries have been completely digitized and are available for the first time as a comprehensive collection of PDFs. You may choose to read chronologically starting with June 1906, or go directly to specific dates of interest by clicking on the list below.

The documents displayed in this section are in German, without comment or translation. To view selected pages from Wegener's diaries that have been transcribed and translated into English, please visit Expedition 1, Expedition 2, or Expedition 3.

## **Expedition 1**

- June August 1906
- September 1906
- October November 1906
- December 1906
- January February 1907
- March 1907
- April 1907
- May 1907
- May 1907
- June July 1907
- August September 1907
- October November 1907
- December 1907
- January February 1908
- April May 1908
- May August 1908
- Instrumentjournal



Overview map of Greenland with travel routes, designed by Fritz Loewe in 1933. Public Domain: Georgi, Johannes. *Im Eis* vergraben: Erlebnisse auf Station "Eismitte" der letzten Griinlandexpedition Alfred Wegeners. Leipzig: Brockhaus, 1933: Attachement.

### **Expedition 2**

- July 1912
- August 1912
- September 1912
- September 1912
- October December 1912
- January April 1913
- April May 1913
- Jun 1913
- July 1913
- Beobachtungsjournal

## **Expedition 3**

- April May 1930
- June July 1930
- July August 1930
- September 1930

This chapter features selected scans from the original Wegener Diaries, organised by month. These documents are available as PDFs as part of the virtual exhibition "The Wegener Diaries: Scientific Expeditions Into the Eternal Ice" on the Environment & Society Portal, http://www.environmentandsociety.org/exhibitions/wegener-diaries.



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