

a concluding note, she observes that in the 11 years during which this book was in the making, the situation in Kola has gone from bad to worse. And yet, she declares, “the damage will end. The land is life and the land is the people” (p. 320). This book is a testament to her optimism and to that of her people.

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ARCTIC MISSION: 90 NORTH BY AIRSHIP AND SUBMARINE. By WILLIAM F. ALTHOFF. Annapolis, Maryland: Naval Institute Press, 2011. ISBN 978-1-61251-010-1. xviii + 264 p., maps, b&w illus., appendices, notes, selected bib., index. US\$39.95, £25.00.

Arctic Mission, which is in effect a third, revised edition of the book originally published by the Lighter-Than-Air Institute in 1999, relates in exhaustive detail and beautiful illustrations the story of two historic U.S. Navy Arctic expeditions that took place during the summer of 1958, at the height of the Cold War. One was by the world’s first nuclear-powered submarine, the USS *Nautilus* (SSN-578), and the second by a ZPG-2 non-rigid airship (blimp), 719.

Nautilus’s closely held top-secret mission was to become the very first sea-going vessel of any type to achieve the North Pole. That of the ZPG-2, 719, which was unclassified, was to be the first U.S. military airship to cross the Arctic Circle in order to test the suitability of airships for the support of polar science and the conduct of military missions in Arctic regions. The *Nautilus* mission, called Operation Sunshine, was specially authorized by the President of the United States and under the direction of the Chief of Naval Operations. The ZPG-2 airship’s mission, Polar Project, was sponsored by the Office of Naval Research. Neither was aware of the other, yet both were high-risk efforts in response to two successful Sputnik launches by the Soviet Union. *Nautilus*’s mission took place shortly after the exciting advent of the nuclear submarine. Airship ZPG-2’s mission, as it turns out, rang down the curtain on almost two centuries of development and operational use of the airship and its myriad achievements.

Arctic Mission is written in the form of a detailed report of the state of U.S. Arctic ocean-going platforms and their capabilities at the end of the 1950s. It is thus a historical snapshot of the international situation at the height of the Cold War. It goes without saying that the United States stood to gain favorable publicity worldwide if both Operation Sunshine and the Polar Project came off. By the same token, the risk of international embarrassment was great if either mission failed, or even worse, resulted in loss of life.

Arctic Mission opens with a preface that introduces the U.S. manned Ice Island T-3, adrift in the polar ice pack off northern Alaska and to the west of the Canadian Archipelago. It was to be the ultimate destination for the ZPG-2 Airship. The preface then provides a quick summary of *Nautilus*’s historic transpolar under-ice voyage from the Pacific to the Atlantic via the North Pole. It concludes with a statement of the book’s purpose: to recount “that long-ago expedition for the Office of Naval Research and, as well, pioneer under-ice penetrations by the U.S. Navy” (p. xi).

Under “Platforms,” the author presents a detailed history of manned flight using lighter-than-air balloons, blimps, and dirigibles, beginning in 1783 and culminating in the U.S. Navy’s lighter-than-air program through the first half of the 20th century, which essentially ends with the development and flight-testing of the ZPG series in the early 1950s.

The author devotes the remainder of the chapter to a brief history of the development of the nuclear-powered submarine, of which the USS *Nautilus* was to be the first of many. He additionally discusses the early history of submarine under-ice operations, beginning in 1904 with Simon Lake’s *Protector* off Rhode Island. Early Russian/Soviet Union under-ice operations are then touched on, and a more extensive discussion follows of Sir Hubert Wilkins’ first penetration of the Arctic Ocean by submarine in 1931. German U-Boat operations in Soviet Arctic waters during World War II are also briefly mentioned, as well as the U.S. submarine operations in the Arctic that immediately preceded *Nautilus*’s historic transpolar voyage. The chapter concludes with a brief discussion of the fabrication, assembly, and flight-testing of the first ZPG airship.

The chapters that follow are devoted to the preparations of each platform for its forthcoming Arctic voyage, their respective and frustrating false starts, and the successful execution of each of their final, successful voyages northward and then homeward. The information the book provides on *Nautilus* is already well known and readily available from other sources. The information on Airship ZPG-2, 719, however, is not, and the author thus provides a valuable source of information to future researchers. Of particular interest are the airship’s successful rendezvous with Ice Island T-3, in spite of heavy fog conditions, and the information on general living conditions on ice islands during the 1950s.

Arctic Mission concludes with an Epilogue that basically describes what followed with these platforms and their successors—including the principal personalities involved—upon mission completion and during the decades leading up to the republication of the book in 2011. It also includes a brief section on the effects of climate change in the Arctic. The story of the eventual termination of all U.S. Navy airship/blimp programs, perhaps before the airship had really had a chance to prove itself in polar regions, is a poignant one. One cannot help but feel that it was vastly overshadowed by the extremely successful development and capabilities of the nuclear submarine worldwide.

All this said, the author provides far more detailed information about the airship and its mission, such as how many pairs of gloves were carried, than is warranted. The book would therefore have profited from an additional edit.

In conclusion, *Arctic Mission* is recommended reading for Arctic historians, scientists, and explorers, particularly those researching what role the airship has played in the polar regions and, with ever-advancing technology, what its future capabilities and potential might be in these vast, still largely unexplored, and frequently quite hostile environments.

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