The editors explain in footnotes to the country subsection headings that the manuscripts were written in the late 1970s and early 1980s. Because of a delay in publication, later references have been added, some of the individual manuscripts have been updated, and in one instance (Nepal) a specific supplement (by Y. Ageta) has been added. This does not amount to a significant detraction because the prime purpose is to use the early (mainly LANDSAT) images to provide a glacier benchmark, or "snapshot" (1972–81) that will facilitate study of glacier change with both earlier and more recent records. Comparisons with the more recent material, of course, will cover the period up to the present, a matter of considerable importance now that climate warming and its impacts have been generally accepted as fact, and will provide a vital benchmark against which the scale of progressive changes into the future can be determined. This renders the entire effort of the U.S. Geological Survey highly salutary.

In addition to the actual inventory, the volume contains very interesting treatments of special topics. These include a detailed analysis of the glacier disaster on 20 September 2002 in northern Osetiya (Caucasus), discussions of surging glaciers in the Pamir and of mountain geomorphology in northern Pakistan, and a summary of the dangers of glacial lake outbreaks (jökulhlaup) in Nepal and Bhutan.

A final subsection by L. DeWayne Cecil and co-workers (p. 335–349) provides a paleoenvironmental record preserved in middle latitude, high-mountain glaciers. It is an overview of the USGS experience in Central Asia and the United States. The information collected so far "includes the documentation of fall-out from nuclear-weapons testing …quantification of pre-industrialization levels of mercury …evidence for rapid climate change, and identification of microbial communities entrained in the ice" (p. 335).

Some of the basic data from analysis of the satellite imagery is worthy of inclusion in this review as it indicates the persistent inadequacy of information on Asian glaciers, which became especially apparent following the unfortunate misstatement in the 2007 IPCC report indicating that Himalayan glaciers will disappear by 2035 and the destructive debate arising out of the Copenhagen conference of December 2009.

Country	No. of glaciers	Glacierized area (km²)
Former USSR	28 881	78 938
China	no data	59 425
Afghanistan	no data	about 2700
Pakistan	no data	about 15 000
India	no data	about 8500
Nepal	no data	5324
Bhutan	no data	1317

More complete glacier numbers and total areas have since become available for much of the region; some of the determinations actually predate the manuscript updates and supplements (e.g., Mool et al., 2001). Similarly, important advances have been made in the assessment of the number, rate of expansion, and potential for catastrophic outburst of supraglacial and moraine-dammed lakes (Vuichard and Zimmermann, 1987; Reynolds, 1999; Richardson and Reynolds, 2000; Mool et al., 2001).

The publication should have great value for earth and atmospheric scientists and students at large, as well as for development agencies and environmentalists, both national and international. It should also prove interesting to the concerned general public.

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CANADA'S FORGOTTEN ARCTIC HERO: GEORGE RICE AND THE LADY FRANKLIN BAY EXPEDITION 1881-1884. By JIM LOTZ. Wreck Cove, Cape Breton, Nova Scotia: Breton Books, 2009. ISBN 978-1-895415-94-0. Available from Breton Books at www.capebretonbooks.com. viii + 182 p., maps, b&w illus., bib. Softbound. Cdn$18.95.

Of the 22 men led by Lieutenant Adolphus W. Greely, U.S. Signal Corps, who wintered at Fort Conger in northeastern Ellesmere Island in 1881–83, manning one of the two American stations that represented the American contribution to the First International Polar Year, only 19 were citizens of the United States. Of the remaining three, two were Greenlanders, Frederick Christensen and Jens Edward, and one was a Canadian, George Rice. None of these three men was among the six who ultimately survived the expedition.

George Rice was born on 29 June 1855 and grew up in Baddeck, Cape Breton Island. His father, Joseph, was a pharmacist, and thus became involved in photography, using the dry-plate process. Hence it was no surprise that two of his sons became photographers, and George was hired to be the official photographer of the Greely expedition, having enlisted as a Sergeant in the U.S. Army for the purpose.

The story of the expedition is tragic. It headed north in the summer of 1881 on board the Newfoundland sealing steamer *Proteus* and, encountering relatively favorable ice conditions, reached Lady Franklin Bay where HMS *Discovery* of the Nares expedition had wintered in 1875–76. A substantial base hut, named Fort Conger, was built, and *Proteus* returned south. Over the next two years, the expedition members carried out the obligatory meteorological and terrestrial magnetism observations of the First International Polar Year. They also achieved quite an impressive amount of exploration in the summers of 1882 and 1883. In August 1883, an expected relief ship did not appear. Despite still having substantial amounts of provisions, but following his instructions to the letter, Greely ordered the station abandoned, and the party started south through Nares Strait by boat, expecting to find provisions left for them by the relief vessel at Littleton Ø or at Cape Sabine on Pim Island. In fact the relief ship, *Proteus*, had been crushed and sunk in the southern part of Kane Basin, without having left any significant amount of provisions. The expedition members were thus forced to hunker down for the winter in a primitive hut at Cape Sabine, where they slowly starved to death.

Rice had played a pivotal role in the expedition. He carried out his duties as photographer tenaciously, often in dreadful weather conditions, and most of the engravings in Greely's (1886) account of the expedition are based on Rice's photos. But Rice also participated in the expedition's scientific work; thus, he took meteorological observations on the monthly term days, when the scientific staff members were stretched with the demands of the magnetism programme; he also maintained a tide gauge and measured water temperatures. While hauling ice for water supply with a dog sledge, he became a competent dog driver, and he shot at least one of the muskoxen that contributed to the party's menu. His talents as a violin player undoubtedly helped to maintain morale, and he was quite popular with the men, most of whom were long-serving members of the U.S. Army.

Greely clearly trusted Rice and selected him to take part in two important sledge trips. The aim of one of these, led by Dr. Octave Pavy, was to try to surpass the record high latitude set by Commander Albert Markham of the Nares Expedition (83°20′26″ N) in the spring of 1876. Pavy, Rice, and party set off in March 1882, traveling north along the coast and then west to Cape Joseph Henry, from where they planned to head straight north. Despite foul weather and chaotic ice, they reached Cape Joseph Henry, only to find themselves on a floe that had broken away from the fast ice and was drifting northward across a large polynya. When the floe fortunately collided with the fast ice, it was Rice who led the way in a mad scramble across heaving, churning ice to safety. In April 1883, Greely selected Rice to lead a party on the important mission of retrieving a 6 m boat left by the Nares expedition at Thank God Harbour, on the coast of Greenland. The party consisted of 12 men and a dog sledge. They crossed safely to the Greenland coast and returned with the boat, which later proved invaluable in the southward retreat in August.

Unfortunately, Rice's diary ends with the entry for 2 August 1883, a week before the party abandoned Fort Conger. Thus, in his account of Rice's role in the expedition, Lotz has relied on the various published sources to cover the retreat and the disastrous winter at Cape Sabine. As the only member of the party with any experience of small boats (from his childhood on Cape Breton), Rice played a critical role in the retreat. Having abandoned the boats in the southern part of Kane Basin, the party then drifted south with the ice through Smith Sound and finally stepped ashore at Eskimo Point, just north of Baird Inlet. From there, Rice and Jens Edward volunteered to walk north to Cape Sabine to deposit the expedition's records and to see if any provisions had been left there. They returned to report that almost nothing had been left, but since that was where any relief vessel would hope to find them, Greely decided to move the entire party to Cape Sabine. Later, in early November, leading a party of three men, Rice headed back south to a point south of Cape Isabella, where the Nares expedition had left a cache of canned beef. On the return trip, one of the men, Elison, froze his hands and feet badly. Abandoning the meat and leaving Elison huddled between two companions in a sleeping bag at Eskimo Point, Rice started back north to raise the alarm. Elison survived until a relief ship finally arrived, but he died shortly thereafter, following amputation of his fingers and feet.

In February 1884, along with Jens Edward, Rice tried to cross to Littleton Ø on the Greenland side of Smith Sound in the hope that provisions might have been left there. But open water foiled this plan, and they were forced to return to Cape Sabine a week later. Finally, on 6 April, Rice and Julius Frederick started south, hoping to retrieve the meat they had abandoned at Eskimo Point in November. Reaching that point but unable to find the meat, they concluded that it had drifted out to sea with the ice. Dismayed and exhausted, Rice collapsed and soon died.

Lotz has compiled a competent, readable account of Rice's involvement, and the non-specialist will find it quite entertaining. But for the serious historian, it falls a little short in several respects. For example, Lotz mentions in his acknowledgements that Rice's diary is held in the Special Collections at Dartmouth College in Hanover, New Hampshire, but he provides no citation to facilitate finding the document. Moreover, Lotz has selectively quoted sections of the diary and has paraphrased the intervening events; one finds oneself wondering about the content of the omitted sections. On pages 16–17 and page 56, he quotes Lieutenant Kislingbury, and on pages 17–18, Dr. Pavy—presumably from their diaries, but without indicating where these diaries may be found.

In such a strongly geographical account, detailed maps are essential, but Lotz includes only three maps. The only one that appears to have been drafted specifically for the book covers the entire route of the expedition from Newfoundland to northern Ellesmere Island—inevitably on quite a small scale. The second map is reproduced from Greely's account (1886) of the immediate area around Fort Conger. However, there are no adequate maps of the routes followed on the various exploring expeditions (of which Pavy and Rice's was only one), which makes it difficult to follow the sequence of events. The third map of Cape Sabine and area is labeled as "Lt. Brainard's map." One would assume that this is the map in the endpapers of Brainard's (1929) book, *The Outpost of the Lost*. But in fact, it is that map as refined (with additional routes and dates) by Guttridge in his excellent book *Ghosts of Cape Sabine* (Guttridge, 2000). This latter contribution should also have been acknowledged.

Despite these shortcomings, in this very readable account Lotz has made a useful contribution in highlighting the previously little-emphasized, but very important, role of this Cape Bretoner in an important Arctic expedition.

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PLANET ARCTIC: LIFE AT THE TOP OF THE WORLD. By WAYNE LYNCH. Richmond Hill, Ontario: Firefly Books Ltd., 2010. ISBN 978-155407-632-1. 239 p., large format colour photographs, further reading, index. Hardbound. Cdn$40.00.

Anyone who has read magazines or books about the Arctic is probably familiar with Wayne Lynch, as his superb photographs appear regularly in a variety of publications on the North. However, Lynch is also an accomplished author who has penned numerous adult and children's books on natural history. *Planet Arctic: Life at the Top of the World* is his recent natural history offering, published by Firefly Books. This is a large-format coffee-table book containing approximately 150 photographs with accompanying text. As an amateur photographer who also enjoys capturing life of the Arctic, I state without reservation that the photos in the book range from great to spectacular, making even my best photographs seem quite ordinary!

If you did not see the cover of the book, the title might be a bit misleading. The book is not a memoir of years spent living in the Arctic, nor is it about people there. The *life* in the title refers to wildlife, and most of the photos and examples of Lynch's enviable travels come from sojourns to the North American Arctic, Greenland or Svalbard. The book is divided into six chapters, roughly grouped along major ecological or functional groups. Each chapter is preceded by a two-page introductory essay, which typically includes several personal anecdotes about Lynch's adventures, as well some scientific background on certain animals and their ecology. The first chapter focuses on caribou, muskoxen, and brown bears; the second, on plants; the third, on terrestrial birds; the fourth, on key predators and their prey; the fifth, on marine mammals; and finally, the sixth on aquatic birds. As a seabird biologist, I am compelled to add that he saved the best for last.

The goal of this book is to take you on a written and photographic journey around parts of the Arctic to share in the admiration of the landscape and the wildlife that it supports. The author hopes that "… *Planet Arctic* will help you to appreciate the logic and purpose in the lives of its inhabitants" (p. 13). I must admit that I found this line a bit odd. As a scientist, I am trained to view Arctic wildlife simply as being there, without logic or purpose per se (i.e., Arctic animals are the product of evolution, adapted to an unforgiving environment, but nonetheless full of mystery and majesty). Despite his odd phraseology, I found that Lynch clearly and passionately articulated the relationship between the Arctic environment and its wildlife repeatedly through the book.

The writing is very readable, targeted at the environmentally aware segment of the public. In the introduction to each chapter, Lynch does an excellent job of describing ecological concepts in a non-technical fashion, such as the diving physiology of marine mammals, or the arms race of adaptation and counter-adaptation between predators and prey. Moreover, his captions for each photograph usually add a bit of science and a personal recollection which markedly enhance our appreciation of the image. Although Lynch does rely on some dated references, he is clearly up to speed on much of the newer science on Arctic wildlife. The reproduction quality of the photographs is good, and the length of text accompanying each photograph is refreshingly generous and thorough, not simply a quick descriptor as is often found in this type of book.

All of the six chapters contain enviable photography, but I was most mesmerized by the chapters *Arctic Miniatures* (plants) as well as *The Hunters and the Hunted* (predator-prey). Perhaps this reflects the bias I perceive with so many other Arctic books, which focus on large, charismatic mammals. *Planet Arctic* does follow this bias a little, with 18 pages on polar bears (*Ursus maritimus*), about 10 more sides than are given to walrus (*Odobenus rosmarus*), muskoxen (*Ovibos moschatus*), or snowy owls (*Bubo*