

Beaufort Gyre Exploration Project: Submarines Under Ice (1950s-1960s)

In 1930, Sir Hubert Wilkins acquired the submarine O-12 from the US Navy. He outfitted her and renamed her *Nautilus*, and prepared an undersea expedition to the North Pole. The leader of the scientific staff was Harald U. Sverdrup, who was to make measurements from a specially rigged diving compartment. The submarine headed north into the pack ice north of Spitsbergen in August 1931, but when the diving plane became damaged, the submarine could no longer cruise very far under the ice, and was relegated to making oceanographic observations outside of the ice pack. However, the *Nautilus* did make several short runs under ice, indicating that submarines could feasibly operate in and under the ice pack.

Fifteen years after Wilkin's expedition, in 1946, the Navy organized an expedition of the Kane Basin, codenamed Operation Nanook. A specially outfitted submarine, the *Atule*, was to carry out submarine operations under the ice in Baffin Bay and to the north. The next year, with better ice sounding technology, submarine operations were also conducted under the ice in Bering Strait. In 1952, the *Redfish* joined the icebreaker *Burton Island* and reached McClure Strait, and the following year, with the *Northwind*, retraced the route part of the way. Up to this point, the submarines operating in the Arctic were mostly traveling among the ice floes, rather than below the ice pack.

The world's first nuclear submarine was also called the *Nautilus*, and was built in 1952. On its third try, it attained the North Pole (but did not surface) in summer 1958, while crossing the Arctic from the Bering to Fram Strait in 96 hours. The same year, the nuclear powered submarine *Skate* visited drifting ice station Alpha, and six months later became the first vessel to surface at the Pole. The Soviets arrived in 1962 on the *Leninski Komsomolets*, and the British made the crossing on the *Dreadnought* in 1971.

References:

On the web: [Arctic Submarine Laboratory](#)

Calvert, J., [Surface at the Pole: The Extraordinary Voyages of the USS Skate](#), Naval Institute Press, 220 pp., 1996.

Williams, M.D., [Submarines Under Ice: The U.S. Navy's Polar Operations](#), Naval Institute Press, 223 pp., 1998.

Last updated: October 20, 2015

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Sir Hubert Wilkins (center) (1931).
(Arctic Submarine Laboratory)



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USS SKATE (SSN 578), CDR James F. Calvert, first thru ice surfacing at the North Pole (Dr. W.K. Lyon and Richard Boyle).
(Image courtesy US Navy Arctic Submarine Laboratory)