

## WALTER I. WITTMANN (1918-1992)



Walter I. Wittmann, an arctic oceanographer and expert on sea ice, died at age 73 on 19 March 1992, while on vacation in Lewes, Delaware. During a career that spanned nearly five decades, he was a prominent figure in many of the early efforts to describe, understand, and predict the behavior of arctic sea ice and icebergs. He resided in the Washington, D.C., area, where he had been the director of the Polar Oceanography Division

at the Naval Oceanographic Office (NAVOCEANO) prior to his retirement from the federal government in 1974.

A native of Clinton, Massachusetts, Mr. Wittmann was a graduate of Brown University. He served as a meteorologist with the U.S. Army Air Corps in Panama and elsewhere during World War II. After operating a family fabric store in Boston for several years, he joined the Naval Oceanographic Office in 1952. As a project scientist, he played a key role in developing a curriculum on the characteristics, behavior, and environmental interactions of sea ice. He established the first methodologies used in the United States for the observation and prediction of icebergs and sea ice. He spent time in Halifax, Nova Scotia, assisting the Canadians in organizing their own ice observing and forecasting capability, which evolved into the Canadian Ice Centre now located in Ottawa.

Walter Wittmann served as head of U.S. Naval Oceanographic Office's Sea Ice Branch and later as the initial director of the Polar Oceanography Division from 1962 through 1974. (The Polar Oceanography Division later grew to become the U.S. Naval Polar Oceanography Center in Suitland, Maryland.) In these capacities he managed a unique group of scientists conducting applied research in sea ice forecasting, effect of sea ice on submarine under-ice operations, effects of ice and related parameters on acoustical and weapons systems and on surface effects vehicles (SEV). During this period he established and maintained leadership of the only U.S. Navy arctic-dedicated remote sensing effort of that time, Project BIRDSEYE. The project even today provides Atlantic Ocean mariners with the location and distribution density of icebergs as they approach and enter the shipping lanes. Much of the existing data on sea ice in the western Arctic prior to the satellite era can be traced to this project. He developed a research program that addressed both sea ice and iceberg density forecasting and the effects of sea ice on under-ice acoustics, submarine operations, and surface vehicles. He was also a key figure in the early sea ice applications of remote sensing, which evolved into the cornerstone of today's sea ice monitoring programs in the United States.

Highlights of his work at NAVOCEANO include: in 1968 he was an advisor to the U.S. Air Force Strategic Air Command Disaster Control Team at Thule Air Base in Greenland following the crash near there of a B-52 bomber carrying four nuclear weapons; in 1969 he was the senior scientist on the nuclear submarine USS *Pargo*'s cruise to the Arctic and the North Pole; in 1969 he also served as the senior sea ice specialist

and advisor prior to and during the Humble Oil Company's revolutionary cruise by the SS *Manhattan* through the Northwest Passage — a cruise intended to demonstrate the feasibility of a suitably modified oil tanker to get crude oil from Alaska's North Slope to the U.S. east coast market; in 1970 he played a significant role in the establishment and planning of AIDJEX (Arctic Ice Dynamics Joint Experiment), sponsored jointly by the Office of Naval Research and the U.S. National Science Foundation; in 1971 he served as technical director and senior scientist aboard the submarine USS *Trepang*'s under-ice exploration in the East Greenland Sea. In all, Mr. Wittmann participated in six early pioneering under-ice operations by nuclear submarines. Honors he received during this period included the Superior Civilian Service Award from the Secretary of the Navy.

Mr. Wittmann was personally retained in 1975 by the World Meteorological Organization (WMO) to evaluate recent developments in the remote sensing of sea ice, effects of these developments on the definition and measurement of sea ice parameters relevant to the requirements of operational and sea ice climatological users, and lastly, the future direction of international collaboration on sea ice matters. He was a member of the WMO's International Working Group on Sea Ice. In the latter capacity, he helped to develop the coding procedures (SIGRID) that are still used today in mapping the distribution of sea ice.

During the period 1974-78, Mr. Wittmann was affiliated with the Arctic Institute of North America. He formulated methodologies for sea ice prediction and outlined and implemented feasibility studies concerning the effects of ice and environment on the conduct of various types of oil and gas exploration and activity in ice-covered environments.

He also served for a number of years as a staff scientist with the U.S. Navy's Arctic Submarine Laboratory. During the 1980s, he worked for Sea Ice Consultants, Inc., and Integrated Systems Analysts as a sea ice consultant.

The list of Mr. Wittmann's scientific writings and other professional contributions is a long one, but he leaves a legacy that is much broader than his own record indicates. While at NAVOCEANO he trained many of the current generation of arctic scientists in the study of a region that most never suspected would become their career focus. Bill Hibler, Peter Wadhams, Jack Sabol, Fred McLaren, Patrick Welch, John Walsh, and George Newton, among others, were introduced to the Arctic and guided professionally by Mr. Wittmann at early and pivotal stages of their careers. He managed to combine personal concern with technical understanding in a way that made lasting impressions on those who worked under him and with him.

Mr. Wittmann was an avid reader and traveler, and he was a storehouse of anecdotal information on the Arctic as well as other parts of the world. He is survived by his wife, Jacqueline, and two daughters and a sister.

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