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The Barometer

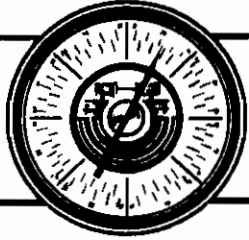
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THE BAROMETER

(After reading Professor Andrew Patterson's excellent work "Mining: a Naval Strategy" in the May issue, the writer was provoked into investigating Soviet mine warfare capabilities and strategy. Following are the fruits of his research, taken from Soviet literature, describing the state of contemporary mine warfare in the Soviet Navy. Ed.)

SOVIET MINE WARFARE

In recent years mine warfare appears to have been deemphasized in the Soviet Navy, but Moscow almost certainly still maintains a considerable capability to lay defensive mine barriers in the approaches to the Soviet coast and for offensive operations in the strategic narrows through which NATO ships and submarines must pass. Soviet naval interest in the past few years apparently has been focused on such topics as ASW, new missile systems, new types of nuclear submarines, and electronics. The relative merits of these systems rather than mine warfare are being discussed in the Soviet journals. Nor can any great Soviet innovations in mine warfare be inferred through a review of open source press accounts of recent Soviet naval exercises and ship deployments.

A recent Soviet book in last year's worldwide naval exercise "Okean," for instance, made only one mention of mine warfare and that was an account of how sappers with the attacking forces removed a defensive minefield in the amphibious landing area off the Murmansk coast.¹ A detailed review of available Soviet literature on the subject suggests that the Soviet Navy has a mine warfare capability similar to that attained by U.S. forces during the Korean

war, that there is little command interest in the subject, that Soviet ships seldom exercise in minelaying and mine-sweeping, and that most of the newer classes of Soviet surface combatants and submarines are not being equipped for mine warfare.

This is a significant departure from Soviet naval traditions. According to Soviet sources, the first combat use of mines was by the Russian Navy off Kronstadt in 1855, and there has been a glorious history of developing new types of mines, mining tactics, and sweeping techniques since then.²

Russian mining of the Baltic and Black Seas during the First World War was effective against German naval forces, but the Soviets apparently expended little effort in the development of new equipment and tactics during the next decade or so and were ill-prepared for the Nazi use of several new types of influence mines—such as the pressure mine—during World War II.³ Although there were individual acts of heroism by Soviet minemen involved in the clearing of German mines, Soviet surface ships and submarines were virtually bottled up in their ports by the German minefields in the Baltic. German mining of key inland waterways such as the Danube River also cost the Soviets many vessels, and their vital cargoes were delayed. A few Soviet submarines did manage to make their way to sea in the Baltic, but were not very effective in their operations against German shipping. One of the factors almost certainly influencing the Soviet submarines was the psychological impact of operating in waters known to be mine infested.

A Soviet account of this period states that the Germans and their allies laid 247,000 mines, many of them by aircraft, during the war, but also claims that the Nazis lost 108 ships to Soviet mines.⁴ The removal of these mines after the war was an arduous task. Clearing operations started in 1944, but it was not until 1953 that most of the major regions were essentially clear. In the process of clearing some 15,000 square miles of the Baltic, the Soviets destroyed 6,850 mines.⁵ With the lessons of World War II fresh in their memory, mine warfare was in the vogue among the officers of the Soviet high command during the 1950's.⁶

In the decade following World War II, the Soviets appeared to be taking a great interest in the development of aircraft- and submarine-laid mines as a method of protecting the Soviet coast against intruding naval forces. Most of the German technology developed during the war was available to them, and the large Soviet submarine force appeared to be particularly suitable for mining operations. With the development of submarine-launched ballistic missiles, cruise missile-equipped submarines, aircraft and surface ships, nuclear submarines, and long-range attack aircraft by the early 1960's, Soviet interest appeared to swing from defensive measures such as mine warfare to the new strategic attack systems. It was during this period that the Commander in Chief of the Soviet Navy, Admiral Gorshkov, gave his famous order sending the fleet to sea⁷ and set the goal of transforming the Soviet Navy into the world's number one maritime power.

The dearth of information makes it very difficult to assess present Soviet capabilities in mine warfare. Most of the Soviet surface combatants and attack submarines are still believed to be capable of laying mines. There is no evidence, however, that mines are carried on any of the 40-odd Soviet units

normally deployed to the Mediterranean, but Soviet ships and aircraft could effectively mine such areas as the waters south of Crete and Strait of Sicily. Defensive mining measures, using mines stored in Egypt, could be implemented on short notice. Offensive mining in areas frequented by NATO ships (Mediterranean, Sea of Japan, Norwegian Sea, Caribbean) could be accomplished by Soviet aircraft and submarines. The Soviets almost certainly would mine with great care, recognizing a very important drawback; no mine is known to exist which can distinguish friend from foe.

Mine countermeasures likewise are not receiving a great amount of attention in the Soviet Navy. Several mine-sweeping-type vessels frequently are present in the Mediterranean, but these units appear to be used primarily for patrol and escort duties. The small wooden hull *Vanya* class minesweepers appear to be equipped to function as minehunters, and acoustic countermeasures gear has been observed on the decks of several classes of Soviet ships. Again, a review of recent Soviet exercises and literature on mine countermeasures reflects little command interest in the subject.

All of the foregoing does not necessarily mean that the Soviets have fallen into the same trap they did between the two World Wars. Research and development in mine warfare almost certainly continues in the U.S.S.R. There is no reason why the Soviets, like the United States, are not working on mines similar to the Captor, which can be laid covertly by aircraft or submarines to wait in stealth for an enemy submarine. The development of such a mine would obviously be a top secret program in the U.S.S.R., but a recent slip in a Soviet publication strongly suggests that they may be developing an electrical field mine.⁸ This article, which purports to describe U.S. proximity (or influence) mines, enumerates four types: hydro-

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dynamic, aeoustic, electrical, and magnetic. Since Western navies have no electrical mines, the author almost certainly was describing a Soviet system. The fuzing system of an electrical mine consists of a series of moored electrodes which detect discreet changes in the electrical field caused by the electrolysis between the various types of metal in a ship's hull. The approach is somewhat similar to that used in a magnetic influence mine, but probably is more difficult to counter and could be used against submarines.

A final consideration is the value of the threat of mine warfare to reduce the freedom of operation of enemy naval units in the waters off the Soviet coast. If the Soviets were known to have an up-to-date mining arsenal and announced that they had mined an area such as the Norwegian Sea or eastern Mediterranean, U.S. surface combatants and submarines operating in those waters would have to tread carefully.

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FOOTNOTES

1. *Okean* (Moscow: Military Publishing House of the Ministry of Defense of the USSR, 1970), p. 129.
2. B. Nikolayev, "Mine-Torpedo Weapons," *Starshina i Serzhant*, no. 11, 1970, p. 20.
3. Von Siegfried Breyer, "Soviet Minelayers and Minesweepers," *Soldat und Technik*, March 1968, p. 116.
4. V. Nikolayev and V. Romanovskiy, *Naval Minemen* (Moscow: Military Publishing House, 1957), p. 28.
5. Nikolai A. Pitserskii, ed., *Combat Path of the Soviet Navy* (Moscow: Military Publishing House, 1966), p. 20.
6. Breyer.
7. For example, statements by Admiral of the Fleet of the Soviet Union Sergei Gorshkov, *Red Star*, 5 February 1963 and *Communist of the Armed Forces*, July 1963.
8. B. Nikolayev, Electrical influence mine shown in schematic drawing as well as discussion of fuzing operations in text, p. 20.



The mine issues no official communiques.

Adm. William V. Pratt, USN: In "Newsweek"
magazine, 5 October 1942