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# Soviet Naval Strategy and Programs Through the 1990s

National Intelligence Estimate

CIA HISTORICAL REVIEW PROGRAM  
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NIE 11-15-82/D

SOVIET NAVAL STRATEGY AND  
PROGRAMS THROUGH THE 1990s

Information available as of 19 October 1982 was  
used in the preparation of this Estimate.

Note: Leonid Brezhnev died on 10 November 1982, as this Estimate was going to press. We have not altered the text to take account of his death because our judgments call for a post-Brezhnev period of maneuvering at various levels in the political and military hierarchy. We believe that sharp changes in defense efforts would be possible only after power is consolidated.

THIS ESTIMATE IS ISSUED BY THE DIRECTOR OF CENTRAL INTELLIGENCE.

THE NATIONAL FOREIGN INTELLIGENCE BOARD CONCURS, EXCEPT AS NOTED IN THE TEXT.

*The following intelligence organizations participated in the preparation of the Estimate:*

The Central Intelligence Agency, the Defense Intelligence Agency, the National Security Agency, and the intelligence organization of the Department of State.

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PREFACE

During the eight years since publication of NIE 11-15-74, the last estimate devoted to the Soviet Navy's strategy and programs, there have been many notable developments in that force, particularly concerning new weapon systems. The Soviets have, for example:

- Deployed long-range, submarine-launched ballistic missiles (SLBMs) with multiple independently targetable reentry vehicles (MIRVs).
- Deployed their first sea-based, fixed-wing tactical aircraft and probably decided to construct their first aircraft carrier capable of handling high-performance aircraft.
- Achieved significant developments in the application of nuclear propulsion to warships.
- Continued the modernization of their fleet through the deployment of a new class of ballistic missile submarine, four new classes of general purpose submarines, and four new classes of principal surface combatants.
- Begun testing a long-range land attack cruise missile capable of being launched from a variety of submarine, surface, and air platforms.

The substantial allocation of resources for such programs indicates a continued, and probably growing, recognition by Soviet leaders of the value of naval forces in the attainment of wartime and peacetime goals. These programs also raise questions about the future use of such forces and whether their development indicates basic changes in Soviet naval doctrine and strategy.<sup>1</sup>

Many aspects of Soviet naval developments have already been addressed in publications by individual departments and agencies,

<sup>1</sup> The terms "naval strategy" and "naval doctrine" are used in this Estimate in the general sense of principles by which forces are guided in their actions. In Soviet usage, "military doctrine" and "military strategy" have very specific meanings. Neither term is applied to an individual service. Military doctrine comprises the views of the leadership of the Soviet state on the nature of future war and the tasks of the state and the armed forces in preparing for and conducting such a war. Military doctrine is a starting point for military strategy, which directs the armed forces as a whole in a complex system of interdependent large-scale strategic operations. Individual services execute strategic missions but always do so under the overall unified military strategy. The Soviet Navy's missions are firmly defined by this overall military strategy and cannot be properly understood outside that context.

particularly technical studies and short-term assessments. The subject is also treated as portions of recent estimates (11-14, 11-10, and 11-3/8) and in memorandums (on readiness and on sea lines of communication). In contrast to those studies the major focus of this Estimate is on the overall significance of current and projected programs for Soviet naval strategy in the late 1980s and the decade of the 1990s, including some of the major options open to the Soviets for performing critical naval tasks. (Nonnaval responses to the maritime threat facing the USSR, such as air defense against sea-launched land attack missiles, are treated only peripherally in this Estimate.) The groundwork for this assessment is laid by outlining the Navy's current status—its major tasks and the forces that would seek to accomplish them. In addition to providing a basis for examining future developments, an understanding of current forces is especially important for naval estimates because of the long time needed to develop naval systems and the long service life of ships and aircraft. Most of the submarine and major surface combatant classes and many of the aircraft that will be in the Soviet Navy of 1995 are already in service today.

The Soviets recognize that their Navy is facing severe challenges to the performance of its missions as a result of improvements in Western naval forces, particularly quieter submarines, longer range SLBMs, greater numbers of sea-launched cruise missiles, and improving defensive systems. To meet these challenges the Soviets support a variety of research and development efforts. Many of these programs have been identified, and we can make some evaluation of their capabilities based on knowledge of past Soviet programs and current technological state of the art. By extrapolating from such information, the general nature of future Soviet naval weapons and sensors can be discussed. Such extrapolations may prove wrong, however, because assessments of evolutionary technical progress may be upset by "breakthroughs" that cannot be predicted on the basis of an understanding of the current state of the art. This is particularly important in those aspects of the Soviet research effort, such as nonacoustic antisubmarine warfare and space-based ocean reconnaissance/targeting, that involve innovative solutions to naval problems. This Estimate considers some of the potential consequences of such breakthroughs in key areas and speculates on how the Soviets might attempt to exploit such successes.

Finally, the development of the Soviet Navy will occur within the broad context of changes in the Soviet system and the international environment. Although a detailed treatment of such subjects is beyond



the scope of this Estimate, some of the possible relationships between such factors as the post-Brezhnev succession, economic problems, arms control negotiations, and an increased emphasis on influencing developments in the Third World have been sketched out, especially as they might affect force procurement.

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## KEY JUDGMENTS

Over the past decade, the role of the Navy within the USSR's national strategy has continued to evolve, supported by additional operational experience and an ambitious naval construction program. This program, emphasizing larger ships with increased endurance and technologically advanced weapon and electronic systems, has enhanced the Navy's capability for sustained conventional combat and distant area deployments.

Within the Soviets' overall wartime strategy, however, the primary initial tasks of the Navy remain:

- To deploy and provide protection for ballistic missile submarines in preparation for and conduct of strategic and theater nuclear strikes.
- To defend the USSR and its allies from strikes by enemy ballistic missile submarines and aircraft carriers.

Accomplishment of these tasks would entail attempts to control all or portions of the Kara, Barents, and northern Norwegian and Greenland Seas, the Seas of Japan and Okhotsk, and the Northwest Pacific Basin, and to conduct sea denial operations beyond those areas to about 2,000 kilometers from Soviet territory. We believe that virtually all of the Northern and Pacific Fleets' available major surface combatants and combat aircraft and some three-quarters of their available attack submarines would be initially committed to operations in these waters. Other initial naval wartime tasks are: support of ground force operations in the land theaters of military operations (including countering naval support to enemy operations in peripheral areas such as Norway), and some interdiction of Western sea lines of communication.

We believe this wartime strategy will remain essentially unchanged over the next 15 to 20 years. Strategic strike—including protection of nuclear-powered ballistic missile submarines (SSBNs)—and strategic defense against enemy SSBNs, aircraft carriers, and other major platforms capable of striking Soviet territory will continue to be the Soviet Navy's primary initial wartime tasks. We expect these requirements—particularly the need to counter Western units armed with the new Tomahawk land attack cruise missile—will drive the Soviets to expand the area in which their Navy would initially deploy

the bulk of its Northern and Pacific Fleet forces for sea control/sea denial operations—possibly out to 3,000 kilometers from Soviet territory.

A principal portion of the strategic defense task—the destruction of enemy SSBNs before they can launch their missiles (SLBMs)—will pose increasing difficulties for the Soviets. The deployment of hard-target-capable US SLBMs, improved British and French SSBNs, and the first Chinese SSBNs probably will increase the importance of this task. The Soviet Navy's ability to detect and track US SSBNs in the open ocean, however, probably will decline, at least over the next 10 years. This is primarily because we believe that the increased patrol areas of SSBNs carrying Trident SLBMs will more than offset the increased coverage that could be provided by improved Soviet antisubmarine warfare (ASW) platforms. We therefore expect that Soviet naval anti-SSBN operations will continue to be modest, with a relatively few attack submarines stationed in choke points or in the approaches to Western or Chinese submarine bases.

We believe that Soviet procurement of naval weapons platforms and systems over the period of this Estimate will be driven primarily by requirements stemming from the strategic offensive and defensive tasks outlined above:

- The size of the modern ballistic missile submarine force will probably remain roughly constant at about 60 units throughout the 1990s. In the absence of new arms control restrictions, the number of SLBM warheads is likely to increase.
- The Soviets will develop long-range nuclear-armed land attack cruise missiles capable of being launched from a variety of naval platforms. In the absence of arms control restrictions, we believe they will be deployed primarily on newer nuclear-powered attack submarines for use in theater strike roles and possibly for strikes against some targets in the continental United States.
- The first unit of a new class of nuclear-powered aircraft carrier probably will become operational by about 1990.
- The number of principal surface combatants probably will decline somewhat, but the trend toward larger average size, greater weapon loads, and more sophisticated weapon and electronic systems will continue.

- The overall number of general purpose submarines will decline, but the number of nuclear-powered units probably will grow substantially.
- The Navy's overall amphibious lift capability will increase gradually. We expect an increase in the size of the naval infantry from some 14,000 to about 18,000 to 20,000 men.
- One or more new classes of underway replenishment ships will be introduced, but construction of such ships probably will continue to receive a relatively low priority.
- The number of fixed-wing naval aircraft probably will increase somewhat, with the major change being the first at-sea deployment of high-performance, conventional takeoff and landing (CTOL) aircraft. The continued production of Backfire bombers and the introduction of a follow-on in the 1990s will be an essential element in the Soviets' attempts to expand their sea control/denial efforts against Western surface forces in vital areas such as the Norwegian, North, and Mediterranean Seas and the Northwest Pacific Basin. Naval Aviation bombers will also remain a principal feature of Soviet antisurface capabilities in other areas such as the Arabian Sea.
- Major technical improvements in Soviet fleet air defense are likely. New surface-to-air missiles, guns, and laser weapons will probably be introduced. Fighter aircraft operating from the projected new aircraft carriers will add a new dimension to the Navy's air defense resources.
- Expansion of both sea control and sea denial operations will be supported by gradual improvements in Soviet capability to surveil Western surface units and provide targeting assistance for antiship missiles. Much of the improvement probably will involve space-based systems.

In addition to its wartime tasks the Soviet Navy will continue to play important peacetime roles, ranging from routine show-the-flag port visits to support for distant-area client states during crisis situations and limited wars. Given the likelihood of continued instability in the Third World, the use of such naval diplomacy and power projection techniques probably will increase during the 1980s and 1990s.

The most notable change in the Soviet Navy during the period of this Estimate probably will be the introduction of its first aircraft carriers equipped to handle high-performance CTOL aircraft. We

believe that the primary mission of such carriers will be to help expand Northern and Pacific Fleet sea control operations during a general war. The carriers will also give the Soviet Navy for the first time an ability to project power ashore effectively in distant areas in a limited war. Together with other force improvements, they will provide the Soviets the option of using naval force in a number of Third World situations against all but the most well-armed regional powers. We believe that major Soviet Navy task force participation in Third World conflicts would, however, be restricted to limited war situations in which the Soviets judged the risk of escalation to war with the United States or NATO to be small.

Our best estimate on the future of the Soviet Navy reflects our judgment that the trends we have observed in ship construction, naval doctrine, and strategy over the past 20 years will continue. Among the variables that could dictate a different course for the Soviet Navy of the 1990s are:

- A major ASW breakthrough that gives the Soviets the capability to detect and track enemy submarines in the open ocean. Although unlikely throughout the period of this Estimate, such a breakthrough would substantially increase the Navy's ability to perform the critically important strategic defensive task of destroying enemy ballistic missile and land attack cruise missile submarines before they launched their missiles. It would probably lead to major changes in the way the Soviets would deploy their general purpose naval forces before and during general war.
- Arms control negotiations, which could play an important part in determining the role within Soviet strategy and the force composition of the Soviet Navy in the 1990s. For example, severe restrictions on sea-launched cruise missile characteristics and/or deployment would alleviate a serious maritime threat to the USSR and eliminate much of the pressure to conduct sea denial operations at greater distances from Soviet territory.
- Severe economic problems, which could lead to a reduction of Soviet defense spending in the 1990s. Such a reduction would be likely to result in cuts in the Navy's budget, perhaps falling heaviest on major surface ship programs such as the expected new aircraft carrier, projected nuclear-powered cruisers, and large amphibious and replenishment ships. The net result of such cuts would be a navy with less capability than the one projected in our best estimate to control waters beyond the range

of land-based tactical aircraft and to project power in distant areas. Programs considered essential to the Navy's primary strategic offensive and defensive tasks—such as ballistic missile submarines, attack and cruise missile submarines, land-based strike aircraft, and ASW-oriented surface combatants—probably would suffer few, if any, cuts.

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**Soviet Naval Commander**



One change in the Soviet Navy during the period of this Estimate will be the departure of Sergey Gorsbkov, an admiral since 1941, who became commander of the Soviet Navy in 1956.

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## DISCUSSION

### I. CURRENT NAVAL STRATEGY AND PROGRAMS

#### A. Introduction

1. By the mid-1970s, when this Estimate was last produced, the Soviet Navy had evolved from a force primarily oriented to close-in defense of maritime frontiers to one designed to undertake a wide variety of naval tasks, ranging from strategic nuclear strikes to worldwide peacetime naval diplomacy. Since then, Soviet naval employment within an overall national strategy has continued to evolve, supported by an ambitious naval construction program and additional operational experience. This chapter describes our understanding of Soviet programs and current naval strategy, particularly how Soviet forces would be employed initially during a general war.

#### B. Force Composition, Organization, and Readiness

2. The primary forces of the Soviet Navy consist of 85 ballistic missile and 278 general purpose submarines, 284 large surface combatants, and some 1,200 naval combat aircraft. They are organized into four fleets—the Northern, Baltic, Black Sea, and Pacific Fleets (see figure 1). The Soviet Navy maintains two standing deployed forces, the Mediterranean and Indian Ocean Squadrons, which draw their forces primarily from the Northern and Black Sea Fleets and the Pacific Fleet, respectively.

3. Control of the armed forces of Warsaw Pact countries in wartime would be transferred to a Soviet Supreme High Command (VGK), with the Soviet General Staff as its executive agent. To give this centralized command structure some flexibility, the Soviets have divided areas of anticipated military action into geographical entities called theaters of military operations (TVDs), including probably four ocean TVDs (see figure 2). High commands established in these TVDs probably would directly control those forces within their respective areas, except for those

forces, including nuclear-powered ballistic missile submarines (SSBNs), remaining under the control of the VGK:

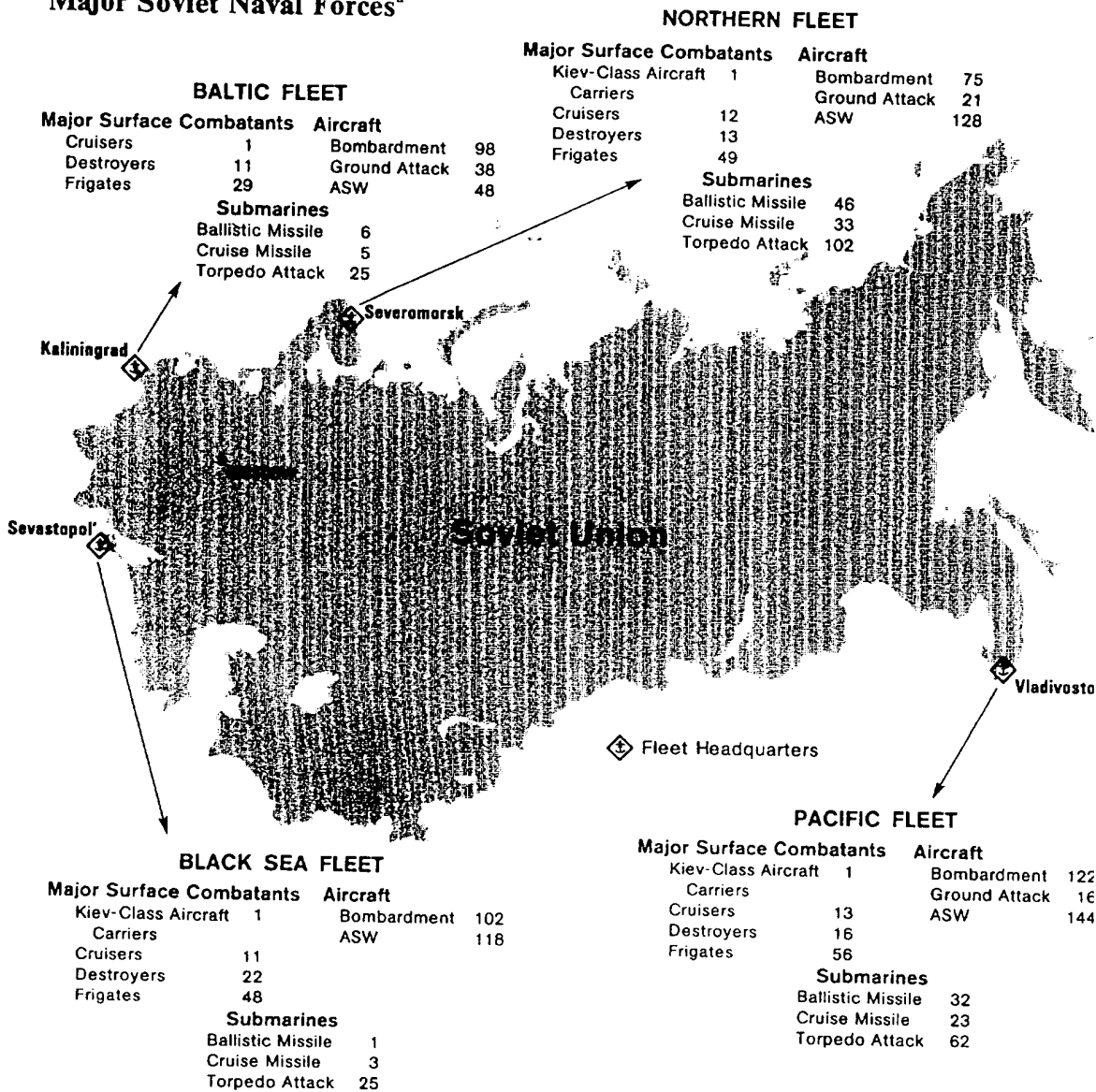
— We believe the Northern Fleet commander controls all general purpose military operations in the Arctic and Atlantic TVDs. Some units, such as those involved in amphibious operations, probably would be subordinate to the command of the Northwestern TVD, emphasizing operations against Norway. We believe that, for efficient command and control, a high command would be created for this TVD. We also believe that the bulk of the Northern Fleet's forces would operate within the Arctic Ocean TVD—this TVD would probably encompass all sea areas north of the Greenland-Iceland-United Kingdom (G-I-UK) gap. Strategic forces, including SSBNs and aircraft on strategic missions, operating in these ocean TVDs would be under the direct control of the VGK.

— The subordination of Pacific Fleet forces and the responsibility of the fleet commander probably are similar to those of the Northern Fleet. We believe that the Pacific Fleet Commander would control all general purpose military operations in the Pacific Ocean TVD. Some units, such as those planned for operations against China and the Japanese islands, probably would be controlled by the high command of the Far East TVD. The Indian Ocean Squadron would be subordinate to the Pacific Fleet—possibly in a separate Indian Ocean TVD—unless a high command were formed in the Southern TVD, in which case the squadron would be responsive to the high command. As in the Northern Fleet, forces performing strategic missions in the Pacific Ocean TVD would be under the direct control of the VGK.

— The Baltic Fleet, as part of a combined fleet with the Polish and East German Navies, would be subordinate to the high command of the Western



**Figure 1**  
**Major Soviet Naval Forces<sup>a</sup>**

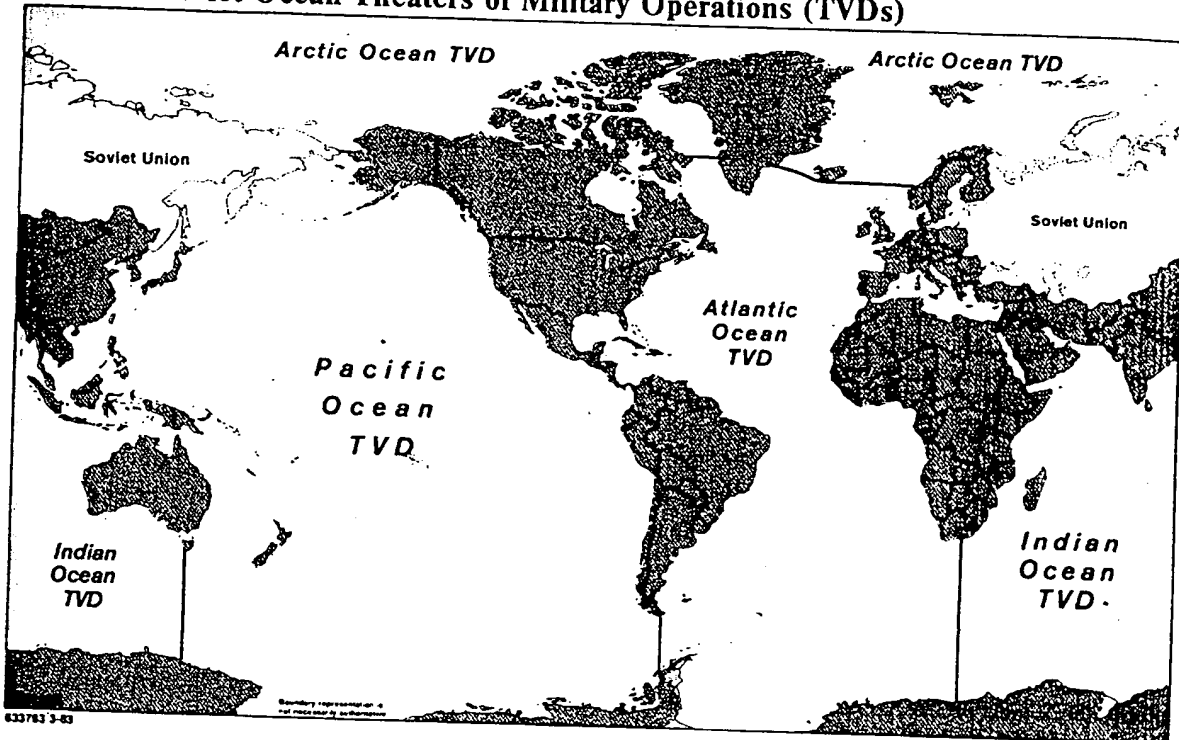


<sup>a</sup> Information as of 1 July 1982. These figures do not include units in reserve. Among the other units in the Soviet Navy are some 160 patrol combatants, 85 amphibious warfare ships, 145 mine warfare ships, 80 underway replenishment ships, and 250 other combat aircraft (reconnaissance,

refueling, etc.). Black Sea Fleet figures include the units of the Caspian Sea Flotilla. Naval infantry consists of a division in the Pacific Fleet and one brigade in each of the three western fleets.

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**Figure 2**  
**Probable Soviet Ocean Theaters of Military Operations (TVDs)**



TVD. This theater would encompass primarily operations against West Germany, Denmark, the Benelux countries, and France, and NATO forces in the Baltic and North Seas.

— The Black Sea Fleet, as part of a combined fleet with the Bulgarian and Romanian Navies—as well as the forces of the Mediterranean Squadron—would be subordinate to the high command of the Southwestern TVD, encompassing primarily operations against Turkey, Greece, and Italy, and NATO forces in the Mediterranean. (S NF WN)

4. *Readiness Philosophy.* Although Soviet naval presence has expanded globally in the past two decades, only a relatively small portion of the Soviet Navy is still regularly deployed away from home waters. This is largely due to the Soviet approach to readiness, which differs markedly from that of Western navies. Generally speaking, the Soviet readiness philosophy stresses readiness to deploy for combat on relatively short notice rather than routine deployment of large forces. To achieve a maximum force generation capa-

bility in times of crisis, the Soviet Navy emphasizes maintenance and in-port/in-area training rather than extended at-sea operations. Even Soviet naval units deployed out-of-area spend much of their time at anchor or in port. To the Soviet mind, it apparently is more important to be ready to go to sea than to be at sea. Under this system, operational experience and some degree of crew proficiency are sacrificed to achieve high material availability. As a result of this readiness philosophy the Soviets probably would have more than half of their submarines and major surface combatants available for combat within a few days and some 70 percent within two weeks. We estimate that, given several days' warning, Soviet Naval Aviation would have more than 90 percent of its aircraft available, although this percentage could be sustained for only a short time. (S NF)

C. Key Aspects of Naval Doctrine

5. *Soviet View of General War.* The Soviets' military writings indicate that they believe a war with

the West would be decisive, be global in scope, and probably escalate to a nuclear conflict. They probably expect that such a war would begin in Central Europe following a period of rising international tensions and would spread to the Far East, as China enters to take advantage of Soviet involvement in Europe. In the Soviet view, the conflict would probably evolve through four stages:

- A conventional phase in which a NATO offensive is checked by the Warsaw Pact.
- A period of limited theater nuclear war in which the Pact detects NATO preparations to use nuclear weapons and preempts.
- A decisive phase with large-scale use of nuclear weapons, both intercontinentally and within theater.
- A concluding phase in which residual nuclear and conventional forces come into play.

There have been recent indications that the Soviets expect a more protracted conventional war phase than was anticipated in the 1960s and early 1970s.

6. Regardless of the length of the conventional phase, the Soviets probably doubt that a war with the West would be decided at the conventional level. Therefore, initial conventional operations would be conducted with an eye toward escalation. During the initial phase of operations the Soviets probably would attempt to destroy with conventional munitions as much as possible of the enemy's theater- and sea-based nuclear weapons and supporting facilities. We do not believe the Soviets consider that the destruction of potential strategic assets, such as SSBNs, during the conventional phase would by itself trigger an escalation to the use of nuclear weapons.

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8. *Soviet Wartime Tasks.* Our examination of Soviet naval writings, exercises, and construction trends allows us to estimate the Soviet Navy's initial wartime tasks with a good deal of confidence. It also permits an understanding of the Soviets' relative priorities in fighting a war with the West. Since the 1960s, naval exercises and writings have consistently emphasized specific offensive and defensive tasks to be performed concurrently during the first stages of a war with NATO. These tasks are:

- To deploy and provide "combat stability" (that is, protection and support) for ballistic missile submarines in preparation for and conduct of strategic and theater nuclear strikes.
- To defend the USSR and its allies from enemy sea-based strike forces.
- To support ground force operations in the land theaters of military operations, including protecting Pact sea lines of communication (SLOC) and preventing naval support to enemy operations in peripheral areas such as Norway.
- To conduct some interdiction of enemy sea lines of communication.

9. The pattern of implementation of these tasks undoubtedly would vary from fleet to fleet. The Northern and Pacific Fleets would initially be concerned with deploying and protecting their SSBNs. The Baltic and Black Sea Fleets, on the other hand, would initially concentrate on supporting operations in the land theaters. Combating enemy strike groups, especially carrier battle groups, approaching the USSR would also be a major initial concern of all four fleets.

10. The Soviets realize that a conflict may not unfold as they expect. In this case, they would be prepared to reexamine their initial force allocations to these tasks. However, readiness to conduct strategic strikes, including the protection of their SSBN force, and to attack enemy sea-based nuclear forces would be likely to remain their major concerns, regardless of scenario. The following paragraphs examine their Navy's principal tasks in the context of the standard scenario, as evidenced by their writings and military exercises.

D. Strategic Strike

11. The Soviets regard strategic strike against enemy land targets as the primary naval mission. This priority stems from the Soviet belief that a war with the West would probably escalate to the unlimited use of nuclear weapons and from the capability of submarine-launched ballistic missiles (SLBMs) to strike strategically important targets. According to Fleet Admiral of the Soviet Union Gorshkov, SLBMs give navies, for the first time in history, the capability to directly affect "the course and even the outcome" of a war. The Soviet Navy's 62 modern SSBNs, over half of which are D-class units capable of striking the continental United States while remaining in home waters, carry a total of 920 SLBMs.

12. The day-to-day disposition of Soviet SSBNs is governed by the wartime requirement to generate maximum force levels on short notice. The Soviet Navy seeks to maintain 75 percent of its SSBNs in an operational status, with the remaining 25 percent in long-term repair [

Every operational SSBN could probably be deployed with three weeks' preparation time. To maintain this high state of readiness, a relatively small portion of the modern SSBN force—typically about 25 percent or 14 units—is kept deployed at sea. However, additional D- and Y-class units are probably kept in a high state of readiness in or near home port in order to be ready to fire their missiles on short notice.

13. We believe most SLBMs would be targeted against administrative centers, communications facilities, and industrial and soft military targets, largely because they do not now have the combination of accuracy and yield to destroy hardened military targets. Some SSBNs, particularly the forward-deployed Y's, probably would participate in initial strikes against the continental United States. Many SSBNs, however, probably would be withheld for subsequent strikes or as a residual strategic force. It is feasible that by using the three Amga-class missile support ships the Soviets could reload some SSBNs that had participated in the initial strikes. SLBMs are ideally suited for follow-on strikes, since they are more likely to survive initial nuclear operations than ICBMs in fixed

silos, and will remain less vulnerable to subsequent strikes.

14. *Protection and Support for SSBNs.* The Soviets have long been concerned with the vulnerability of their submarines to ASW forces. Soviet authors frequently cite the experience of the two World Wars to reject the notion that submarines can ensure their own survival through concealed operations. Rather, since at least the 1960s, they have discussed the need to use general purpose forces, including large surface combatants, to protect and support or provide "combat stability" to ballistic missile submarines. Such writings strongly imply that providing combat stability to SSBNs is an integral part of the strategic strike mission and the most important initial wartime task of a significant number of Northern and Pacific Fleet general purpose forces.

15. We believe that the Soviets plan to support and protect their SSBNs through an echeloned defense in depth. This defense would likely begin while the SSBNs are still in port and continue as they are dispersed and enter assigned operating areas. Surface combatants, mine warfare ships, and ASW aircraft

probably would be used to sanitize SSBN transit routes. General purpose submarines probably would escort transiting SSBNs and, along with aircraft, establish barrier patrols in the approaches to SSBN operating areas. Surface combatant task groups also would probably operate in the vicinity of such areas to assist in combating enemy SSNs and ASW aircraft.

16. Protection of SSBN operating areas entails attempts to control all or large portions of the Kara, Barents, and northern Norwegian and Greenland Seas as well as the Seas of Japan and Okhotsk and the area off the Kamchatka Peninsula. It also involves sea denial operations beyond these areas to about 2,000 kilometers from Soviet territory. Some facets of the echeloned defense, such as the operation of attack submarines in proximity to SSBNs and protection of the waters near the ice edge, would serve only one main purpose—the protection of SSBNs—because the only Western units likely to be in such areas would be those attempting to attack the SSBNs. Most of the units involved in the echeloned defense, however, would also contribute to other important tasks, particularly the defense of Soviet territory from attacks by Western forces and the prevention of naval support to Allied operations in peripheral areas such as Norway and Korea. Attack submarines, aircraft, and any surface combatants operating near the G-I-UK gap, for example, would seek to destroy any Western submarines or major surface combatants detected, thereby protecting both the SSBNs and the Soviet homeland. Forces operating in these waters, therefore, would be accomplishing several important tasks at the same time.

17. We believe that virtually all major surface combatants and combat aircraft available in the Northern and Pacific Fleets and some three-quarters of their attack submarines would be initially committed to conducting "sea control" and "sea denial" operations in these waters (see figures 3 and 4 and accompanying text inset), leaving relatively few units available for operations in areas such as the North Atlantic and Central Pacific. Given the likelihood that many SSBNs will be withheld from initial strikes, the requirement to protect SSBNs could tie down substantial assets for an extended period. The Soviets probably would be reluctant to release substantial forces from this task until most missiles had been launched, they

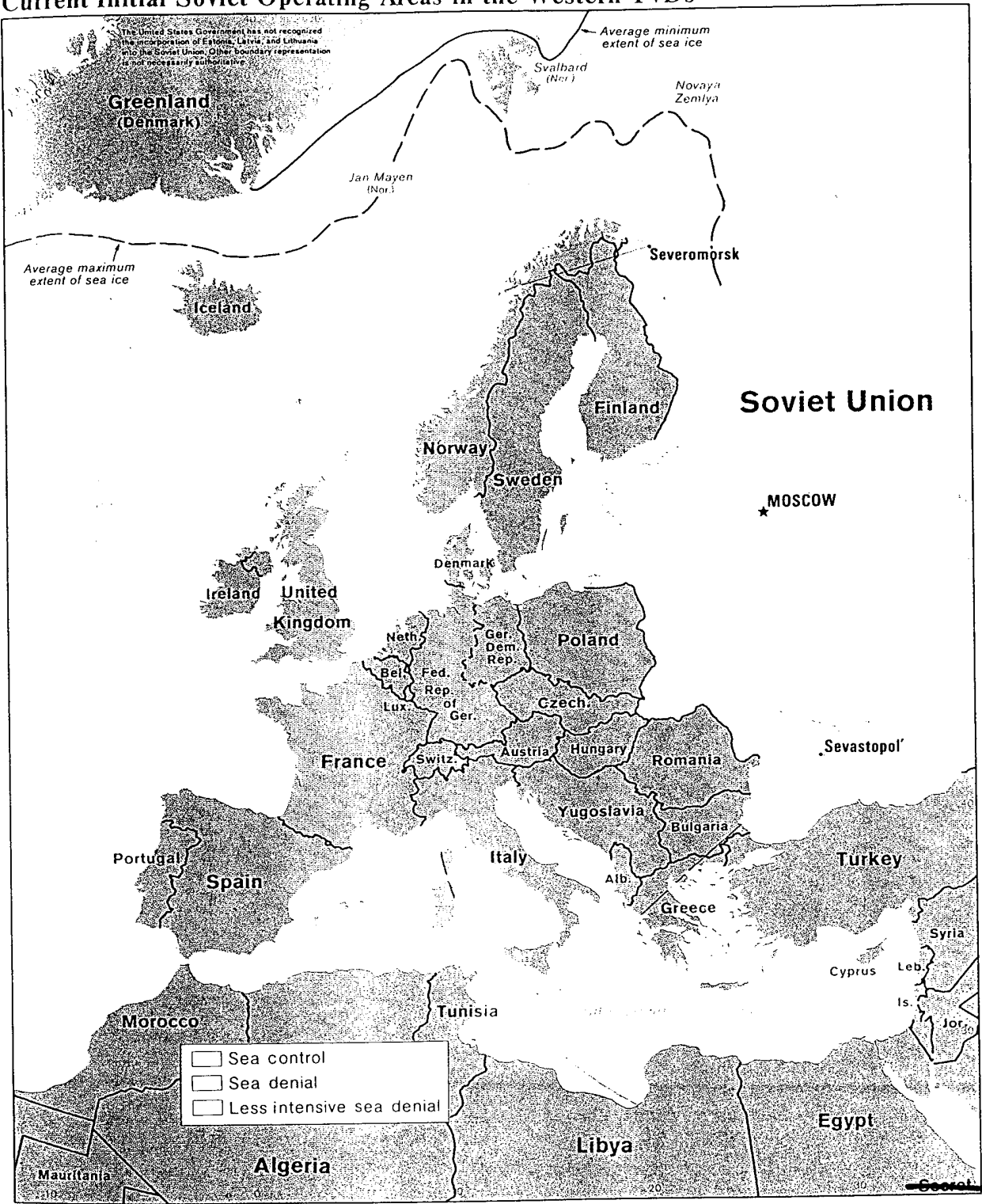
perceived that the threat had significantly lessened, or the course of the conflict dictated increased emphasis on other tasks.

18. There are indications which suggest that during wartime a fleet's assets not assigned to deployed squadrons or "independent" operations relatively far from the Soviet Union would operate as "mixed force" groups. We do not fully understand how the operations of the general purpose forces, normally under fleet control, will be meshed with those of the SSBNs, a VGK asset. The fleet commander probably would be responsible for coordinating the operations of the separate groups. The Soviets probably intend that this structure would result in simplified transition to a wartime posture, improved responsiveness to rapidly developing situations, and increased flexibility in resource allocations, particularly in the support and protection of SSBNs.

#### E. Strategic Defense

19. *Anti-SSBN.* The Soviet Navy's most critical defensive task is the destruction of enemy SSBNs before they can launch their missiles. The Soviets probably recognize, however, that there is a wide gap between the importance of this task and the capability of their current forces to carry it out. Soviet writings acknowledge the enormous firepower present in even a single Western SSBN, and we believe they recognize the desirability of attacking such units during the conventional phase of hostilities. They also probably recognize, however, that they do not now have the capability to detect US SSBNs operating in open ocean areas or to maintain contact or trail if a chance detection occurs. The deployment of the US Trident missile system, whose greater range opens up even larger ocean areas that must be searched, further complicates the Soviets' task. The Soviet Navy, realizing the magnitude of the problem and its shortcomings, probably will concentrate its anti-SSBN efforts on choke points and the approaches to enemy SSBN bases, rather than attempting to search larger ocean areas. On occasion, surface combatants, attack submarines, intelligence collectors (AGIs), and aircraft have conducted joint ASW operations off the Rockall Bank, west of the US and British SSBN bases near Holy Loch, Scotland, during major exercises. We have also seen joint AGI-SSN operations off SSBN bases in the United

**Figure 3**  
**Current Initial Soviet Operating Areas in the Western TVDs**

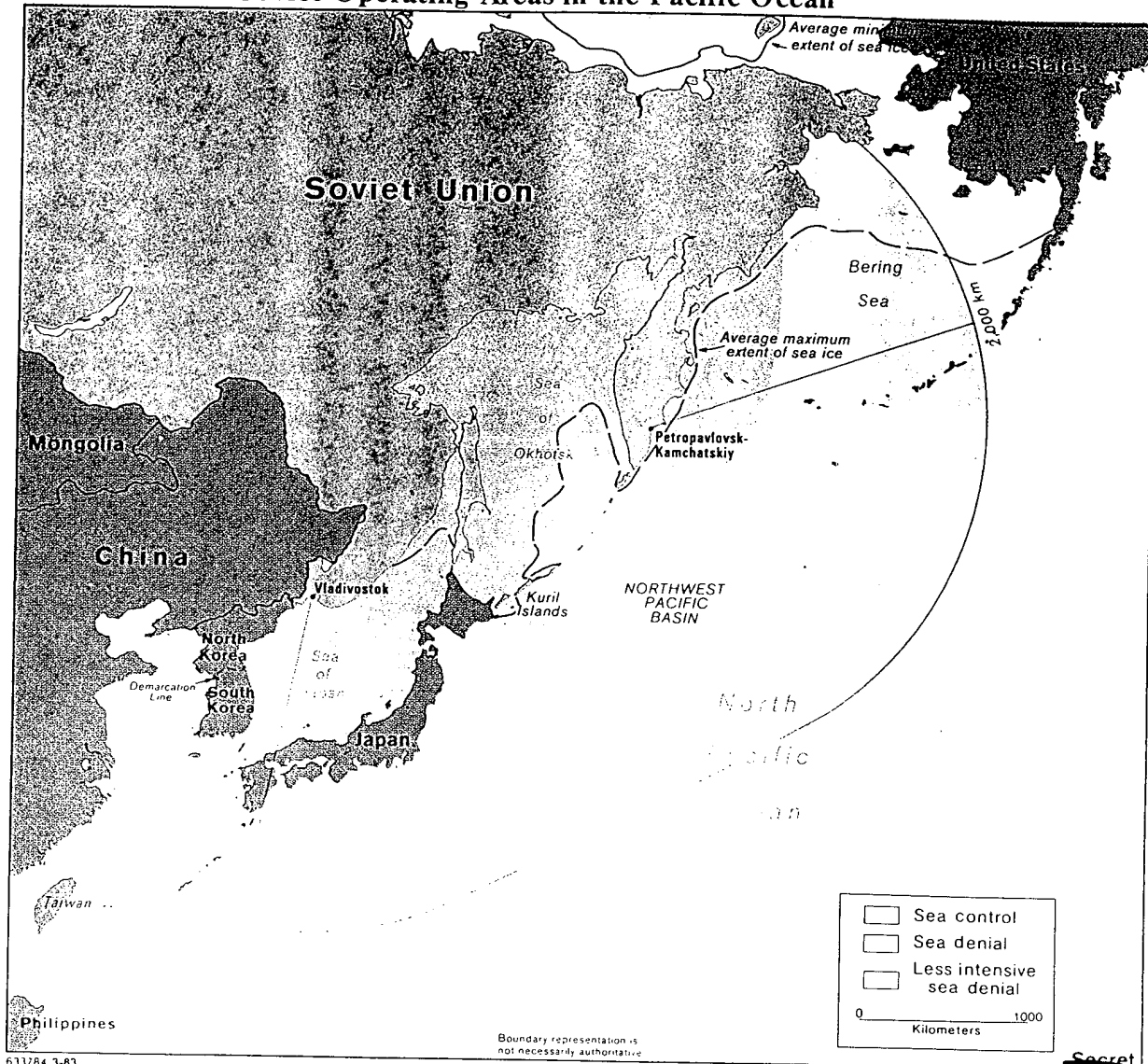


The outer edge of the initial Northern and Black Sea Fleet sea denial areas generally conforms to the 2,000-kilometer naval defense thresholds. These initial sea denial areas undoubtedly would expand or contract to take into account geographic features in each fleet area, such as the G-I-UK (Greenland-Iceland-United Kingdom) gap and the Strait of Sicily. Initial sea denial operations by the Baltic Fleet probably would be limited to the North Sea and Baltic approaches. (S)

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United Kingdom) gap and the Strait of Sicily. Initial sea denial operations by the Baltic Fleet probably would be limited to the North Sea and Baltic approaches. (S)

**Figure 4**  
**Current Initial Soviet Operating Areas in the Pacific Ocean**



States. We therefore believe that the Soviets would station intelligence collection ships, nuclear attack submarines, and possibly even surface combatants off Western bases in the period preceding hostilities and attempt to detect and trail SSBNs leaving port. Once hostilities commenced, they would attack any submarine they held in contact. Some of their best ASW submarines probably would be used in this effort,

although the number would be small relative to the number committed to protect Soviet SSBNs. (s)

20. *AnticARRIER.* The Soviets continue to have great respect for the aircraft carrier's importance in US naval strategy. They regard the aircraft carriers not only as the backbone of American general purpose naval forces, but also an important nuclear reserve

## Sea Control and Sea Denial Operations

The terms "sea control" and "sea denial" are subject to a variety of interpretations. Generally a state is considered to have "sea control" in an area if it is able to sustain surface combatant and merchant ship operations there with relative security. It is considered to exercise "sea denial" if it prevents such use of the area by its opponent.

The terms "sea control" and "sea denial" are used in this Estimate to indicate the type of naval effort the Soviets probably expect to conduct in various maritime areas at the beginning of a NATO-Warsaw Pact war. Areas labeled "sea control" are those in which the Soviets probably intend to operate surface forces, as well as submarines and naval aircraft, for an indefinite period. Areas labeled "sea denial" are those in which the Soviets probably expect the major share of the combat to be conducted by submarines and land-based strike aircraft. Surface ship operations in these waters will be either nonexistent or of a short duration at the initiation of hostilities. The term "less intensive sea denial" is used to indicate a lower level of effort, primarily by submarines.

The delineation of these areas is heavily influenced by the impact of geography on Soviet naval operations. The Baltic and Black Sea Fleets are separated from open ocean areas by narrow straits that would be under Western control at the beginning of hostilities. Northern Fleet units would have to transit the G-I-UK gap if they wished to reach the North Atlantic. Most of the Pacific Fleet units are in a similar situation, with only Petropavlovsk having direct access to the open Pacific.

*The Northern Fleet.* A major consideration in Northern Fleet operations is NATO control of the passages between Greenland, Iceland, the Faroes, and the United Kingdom. Soviet wartime operations in the region of these waters would be likely to involve primarily submarines, which would attack NATO forces attempting to enter the Norwegian Sea through these passages. Operations in this area would contribute to several tasks, including protecting Soviet SSBNs and territory and countering Western naval support to NATO forces in Norway. This area probably would also be a focus for antiship operations by Backfire bombers, which are much better suited than the older Badgers to deal with the likely air defense environment in this area. Also Backfire and other bomber attacks can be expected on ASW, early warning, and air defense facilities in the gap area. Operations within the sea control area are likely to involve surface ships, submarines, and strike aircraft. Farther north the Soviets probably intend to use geographic features such as the ice edge and Soviet islands such as Novaya Zemlya to facilitate the operation of their forces,

particularly their SSBNs and supporting general purpose forces.

*The Baltic Fleet.* Operations of the Baltic Fleet in wartime would be heavily influenced by Western control of the narrow Danish straits and by the proximity of the Baltic to major ground and air operations in Central Europe. It is likely that the major effort of the Fleet and the East German and Polish Navies would be directed at controlling the Baltic through the use of surface units, submarines, and a variety of aircraft, including naval fighter-bombers. The Pact would also attempt to deny NATO the use of the North Sea as an operating area for aircraft carriers and a transit area for amphibious groups and logistic units. The principal weapon in such operations probably would be medium bombers, although they would have to overfly NATO territory to reach their targets. Because of its narrow straits and shallow waters, the Baltic is a particularly good area for the employment of mines.

*The Black Sea Fleet.* The Soviets and their Romanian and Bulgarian allies would employ surface, submarine, and air assets in sea control operations within the Black Sea. Sea denial operations by the Soviets in the eastern Mediterranean could involve prehostilities reinforcement of their Mediterranean Squadron. Unless the Pact actually controlled the Turkish straits, however, Soviet attempts to continue sea denial operations in the eastern Mediterranean would be hampered by the difficulty of reinforcing the Mediterranean Squadron with additional surface ships and submarines once hostilities had begun. Air operations in the Mediterranean would also be constrained by the need for aircraft based on Pact territory to penetrate Western air defenses. Although significant numbers of Soviet surface units would be involved in initial operations in the Mediterranean, the Soviets probably do not expect these would survive more than a few days. The brunt of the subsequent sea denial effort would be carried by submarines and aircraft.

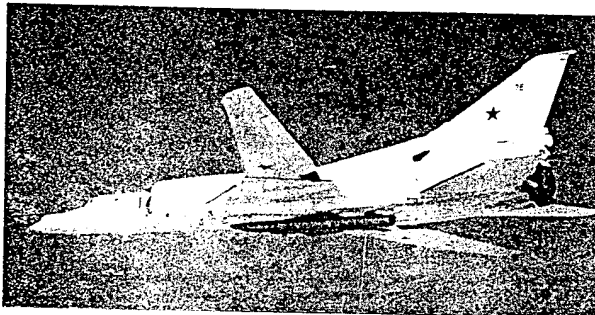
*The Pacific Fleet.* Soviet control of the Sea of Japan and the Sea of Okhotsk would depend on sealing off several narrow waterways, ranging from the Korea Strait in the south to the Kuril Strait at the tip of the Kamchatka Peninsula. Sea control operations would also be conducted east of the Kamchatka Peninsula to protect the approaches to Petropavlovsk, the only major Soviet naval base with direct access to the open ocean. Sea denial operations would also be conducted in the Yellow Sea and the northwestern Pacific. The outer edge of the sea denial area is less easily defined than in other fleet areas because such efforts cannot be focused on narrow waterways through which Western units must pass.



force that could play a significant role in determining the outcome of the final phases of hostilities. Writings and exercise activity indicate that the Soviets expect US carrier battle groups to undertake vigorous offensive actions in the maritime approaches to the USSR. They believe that carrier battle groups would attempt to use the Norwegian, the North, and the eastern Mediterranean Seas and the northwestern Pacific Ocean to attack Warsaw Pact territory, deployed naval forces including SSBNs and their supporting forces, and Pact ground force operations. Destruction of aircraft carriers, then, is a critical element of several important Soviet naval tasks. (s)

21. Cruise missile submarines and strike aircraft carrying air-to-surface missiles (ASMs) are the Soviets' primary anticarrier weapons. In addition to more than 300 naval Backfire (see inset and figure 5) and Badger strike aircraft, some elements of the Soviet Air Forces (SAF) and Air Armies of the VCK (AAVGK) are also assigned maritime strike tasks (see figure 6). AAVGK Bear B/C aircraft have been involved in simulated strike missions against naval targets during recent Northern and Pacific Fleet exercises. One Bear squadron has been modified to carry the AS-4 ASM—the same missile carried by the Backfire. We believe that all of the 65 to 70 AAVGK Bear B/Cs will be modified for this capability by the mid-1980s. SAF Badgers and Blinders have also been involved in antiship exercises. (S NF WN)

Figure 5  
TU-22M Backfire Bomber  
With AS-4 Antiship Missile



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### The Backfire

The introduction of the Backfire bomber in 1974 into the Navy significantly improved Soviet strike capability against NATO surface forces. Because of the modern, higher speed air-to-surface missile it carries, its variable flight profiles, its maneuverability, and its high-speed capabilities and electronic countermeasures (ECM) equipment, the Backfire has a greater probability of penetrating or avoiding NATO naval air defenses and attacking targets in the open ocean than does the Badger. (S NF)

Some 90 aircraft are in service with Soviet Naval Aviation (SNA), and additional aircraft are being introduced at the rate of about 15 per year. SNA Backfires are currently organized into four complete regiments (two in the Baltic Fleet, one in the Black Sea, and one in the Pacific). A fifth regiment is being formed in the Pacific Fleet. For wartime operations the Soviets probably would deploy aircraft from their peacetime locations to those areas from which they could best operate against Western surface units, especially US carrier battle groups. The Soviets often deploy Backfires from one fleet area to another for exercises; in particular, Baltic Fleet aircraft annually deploy to Northern Fleet bases. (S NF WN)

Although the Backfire is capable of carrying a variety of ordnance—including bombs and mines—its principal antiship weapon is the AS-4 missile. The AS-4 can be armed with either a conventional or nuclear warhead, has a speed of Mach 3 plus, and has a maximum range of some 400 kilometers. In wartime each SNA Backfire probably would carry one or two of these missiles. To concentrate their firepower, the Soviets probably would attack carrier battle groups with at least one regiment (20 aircraft) and preferably two. Although Backfire operations over ocean areas have been rare, the aircraft has participated in some antiship exercises against Soviet units. In September 1982 the first use of the Backfire in a simulated strike against a US carrier battle group occurred when Pacific Fleet units operated against two US carriers east of the Kuril Islands. (s)

The Soviets undoubtedly view the Backfire as a vital part of their strategic defense forces to keep Western carrier battle groups from striking important targets within the Soviet landmass. The Backfire will continue to be an essential feature of Soviet antisurface capabilities in areas such as the Norwegian, Mediterranean, and Arabian Seas and the Northwest Pacific Ocean. (s)

Figure 6 Selected Soviet ASM-Carrying Strike Aircraft

	Deployment	Fuselage Length (meters)	Maximum Speed at Optimum Altitude (knots)	Normal Payload	Maximum Unrefueled Radius (nm)*	Maximum Radius With Prestrike Refueling (nm) <sup>a, b</sup>
TU-22M Backfire	CIA Assessment	39	1,050	1 AS-4 or 2 AS-4s or bombs or mines <sup>c</sup>	1,825-2,150 with bombs <sup>d</sup> 1,750-2,075 with 1 AS-4 <sup>d</sup> 1,400-1,650 with 2 AS-4s <sup>d</sup>	2,825-3,200 with bombs <sup>d</sup> 2,700-3,100 with 1 AS-4 <sup>d</sup> 2,500-2,800 with 2 AS-4s <sup>d</sup>
	Naval Aviation and VGK Air Armies					
TU-16 Badger	DIA/Army/Air Force Assessment	39	1,150	1 AS-4 or 2 AS-4s or bombs or mines <sup>c</sup>	2,900 with bombs <sup>e</sup> 2,800 with 1 AS-4 <sup>e</sup> 2,550 with 2 AS-4s <sup>e</sup>	4,000 with bombs <sup>e</sup> 3,850 with 1 AS-4 <sup>e</sup> 3,650 with 2 AS-4s <sup>e</sup>
	C	Naval Aviation	37	535	1 AS-2	1,540
	C (Modified)	Naval Aviation	37	510	2 AS-6s <sup>f</sup>	1,170
TU-95 Bear	G	Naval Aviation and VGK Air Armies	35	510	2 AS-5s or 2 AS-6s or bombs or mines	1,780
	B/C	VGK Air Armies	43.9	500	1 AS-3 or 2 AS-4s	3,950
TU-22 Blinder	B	VGK Air Armies	39	790	1 AS-4	1,370
						2,460

<sup>a</sup> These radii are achievable only under optimum conditions and they would be unrealistic in most wartime situations. They allow for only a minimum fuel reserve, and they do not allow for such variables as loitering, high-speed flight, indirect routing, low-altitude flight, or combat maneuvering. Allowances for such variables reduce combat radius, usually substantially. Realistic maximum radii for theater missions under wartime conditions probably would be some 30- to 50-percent lower.

<sup>b</sup> Assumes that aircraft are refueled by a Bison tanker at the optimum point for maximum distance.

<sup>c</sup> Backfires technically could carry three AS-4s. With three missiles, however, Backfire performance—including range—would be substantially degraded, and we do not consider such a payload likely in wartime.

<sup>d</sup> The longer radius values in the assessment of the Backfire by the Central Intelligence Agency are based on an assumed aerodynamic design which is optimized for subsonic performance, while the shorter radius values are based on an assumed compromised design. CIA has considered both designs because they represent reasonable upper and lower bounds of the Backfire's subsonic cruise efficiency.

<sup>e</sup> Probably more than 80 percent of the Badger C's have been modified to carry two AS-6s. The Badger C (Modified), however, retains the capability to carry a single AS-2, and it may carry AS-5s in place of the AS-6s.

22. In wartime, these forces would attack carrier battle groups crossing fleet defensive thresholds, generally some 2,000 kilometers from Soviet territory. Antiship-missile-equipped surface combatants would also be used in areas where they are in proximity to US carrier battle groups at the outset of hostilities or as carrier battle groups approach Soviet sea control areas. Soviet doctrine emphasizes preemptive or "first salvo" strikes against carriers before they can launch air-strikes. The Soviets would attempt to use tactical surprise and coordinated multiple missile strikes on different threat axes to overwhelm battle group defenses.

F. Support for Land Theaters of Military Operations (TVDs)

23. Although the Soviet Navy has acquired increasingly important strategic offensive and defensive tasks, support for combined-arms operations in the continental TVDs remains a major responsibility of the Baltic and Black Sea Fleets and a secondary responsibility of the Northern and Pacific Fleets. In wartime, the Baltic and Black Sea Fleets would join with navies of other Warsaw Pact nations to form the Combined Baltic and Combined Black Sea Fleets, respectively. The broad objectives of these combined fleets would be to gain control of the Baltic and Black Seas and to help secure access to the North and Mediterranean Seas. In the Baltic, initial naval operations would focus on destruction of NATO submarines, missile-armed patrol combatants, and naval aviation forces. Western carrier battle groups would become primary targets as they moved into the North Sea. Amphibious landings in support of ground and airborne attacks on West Germany and Denmark also are likely. In the Black Sea, initial naval operations would focus on supporting the movement of ground forces along the western littoral and assisting in seizing the Turkish straits. Romanian and Bulgarian naval forces would be primarily responsible for patrol duties along their own coasts. The Soviet Black Sea Fleet would assist Mediterranean Squadron operations against Western carrier battle groups and amphibious forces. The Northern Fleet would also conduct amphibious operations in support of ground forces operations against northern Norway. The wartime role of the Pacific Fleet's amphibious forces is less well understood. These forces could be used for the seizure of key straits such as La

Perouse or could be retained to defend Soviet coastal regions.

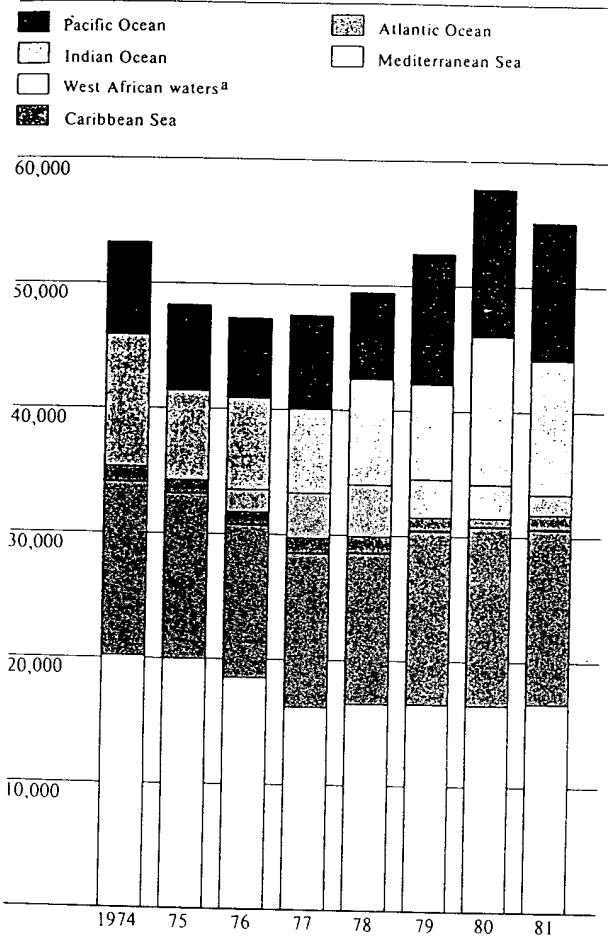
G. Interdiction of Sea Lines of Communication (SLOC)

24. The Soviets view SLOC interdiction as a less urgent task than providing combat stability for their SSBNs and defeating the West's nuclear-capable naval strike forces. They believe that Warsaw Pact forces would defeat the main grouping of NATO forces in Central Europe or the war would escalate to theater nuclear conflict before NATO's seaborne reinforcement and resupply of Europe or US forces in the Far East became a critical factor. Only a few forces—primarily diesel submarines—would therefore be allocated to open-ocean SLOC interdiction from the outset of hostilities. The Soviets probably plan to use such units for attacks on shipping primarily to disperse and tie down NATO naval forces, and to reduce the efficiency of NATO military shipping. Some mining against European ports, primarily by aircraft, also is likely. Such actions probably would be intended to complicate NATO naval operations and facilitate performance of the Pact's more critical initial tasks. The Soviets could increase their emphasis on SLOC interdiction before or during a war with the United States and its allies in response to their perception of a changing strategic situation. One circumstance that would motivate the Soviets to widen their emphasis on SLOC interdiction would be the lengthening of a war into a protracted conventional conflict. Another circumstance might be a conflict that began after a prolonged period of mobilization during which NATO began the reinforcement and resupply of Europe by sea. In such a case, the Soviets might see interdiction as an urgent task at the beginning of hostilities, but an increased interdiction effort would be at the expense of SSBN protection and the defense of the Soviet homeland.

H. Naval Diplomacy in Peacetime and Limited War

25. In addition to its wartime tasks, the Soviet Navy is assigned the important peacetime role of serving as an instrument of state policy or, in more traditional terms, conducting naval diplomacy. Today, Soviet naval forces maintain a continuous presence in the Mediterranean Sea, the Indian Ocean, the Atlantic off West Africa, and the South China Sea. They also

**Figure 7**  
**Soviet Ship-Days in Distant Waters,**  
**by Region, 1974-81**

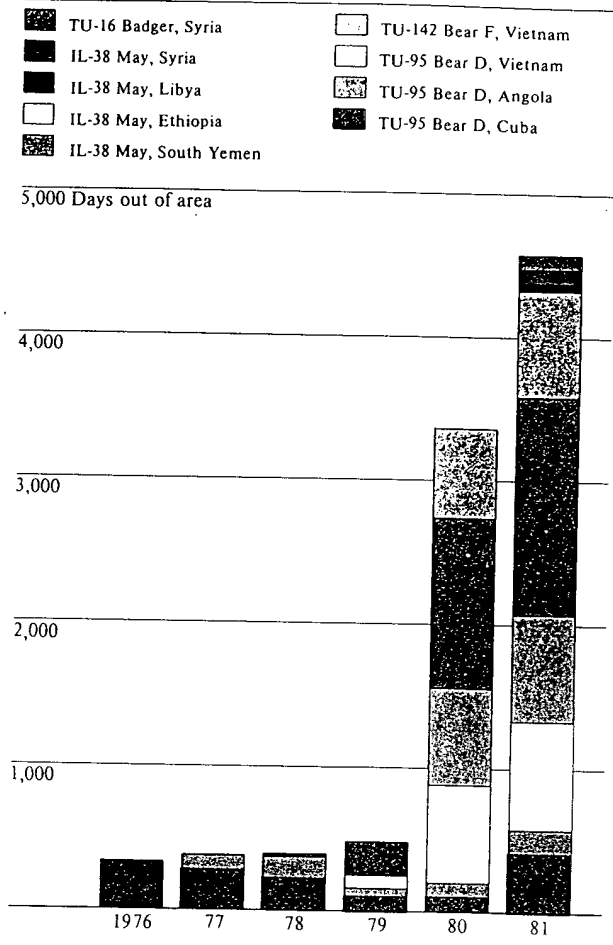


<sup>a</sup> West African ship-days are not available for 1974-75 and are included in Atlantic Ocean data.

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conduct deployments to the Caribbean (see figure 7). Although the level of presence has fluctuated within and between geographic areas (growing in the Indian Ocean and Pacific and declining in the Mediterranean), the overall level of Soviet surface ship and submarine presence in distant areas has remained relatively stable since 1974. Operations by Soviet naval aircraft have increased considerably since 1979 (see figure 8). The out-of-area operations of the Navy

**Figure 8**  
**Overseas Deployment of Soviet Naval Aviation,**  
**1976-81**



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continue to reflect the Soviets' interest in strengthening their position in the Third World (especially in areas of potential Western vulnerability), balancing Western presence, and countering potential strategic threats. Although strategic military concerns remain prominent in Soviet distant operations, particularly in the Mediterranean, the Navy is performing increasingly important tasks related to the projection of Soviet power and influence in the Third World. (s)

26. In addition to routine show-the-flag deployments and port visits, Soviet naval forces have demonstrated support for friendly nations and sought to inhibit the use of hostile naval forces against Soviet allies. During recent Third World crises the Soviets have augmented their naval presence in the areas of conflict: the Angolan civil war in 1975; the Ethiopian-Somali conflict in 1977-78, the Sino-Vietnamese conflict in 1979; and the Iranian hostage crisis in 1979-80. Such use of Soviet naval forces is likely to continue in future distant-area crises. We do not believe, however, that the Soviets would deploy major naval forces in response to a Third World crisis in an area other than the Mediterranean and possibly the Indian Ocean, if they judged the crisis involved a high risk of escalation to general war with the West. The Soviets would probably fear that, if war broke out, such forces would be out of position to perform the initial wartime tasks of protecting SSBNs and the sea approaches to the USSR.

27. *Power Projection.* Although Soviet amphibious forces were developed to conduct assault landings on the maritime flanks of the USSR in support of ground theater operations, they could undertake assault operations against limited opposition in many areas of the Third World. The amphibious exercises conducted on Socotra Island in May 1980 and in cooperation with the Syrians in July 1981 demonstrate an interest in and a modest capability for distant-area projection. The Soviet Navy has never conducted large-scale amphibious landings away from the periphery of the USSR. Exercise ZAPAD-81 in the Baltic, however, included a large-scale amphibious exercise that for the first time used ships drawn from all four Soviet fleets. Units involved included the aircraft carrier Kiev, the helicopter carrier Leningrad, and the amphibious assault ship Ivan Rogov. We believe one of the purposes of this unusual gathering of forces was to test planning concepts for amphibious operations in distant areas. It is still doubtful that a Soviet amphibious task force could carry out a successful landing abroad against substantial opposition, in large part because of the lack of adequate tactical air support, either land- or sea-based.

#### I. Trends in Naval Programs

28. The Navy's share of the growing Soviet defense budget has remained basically unchanged in recent

years—about 20 percent. Much of this share has been devoted to ship construction programs, including a variety of surface platforms ranging from small patrol craft to large cruisers. The lion's share of the construction budget, however, continues to be devoted to submarines (see figures 9-11).

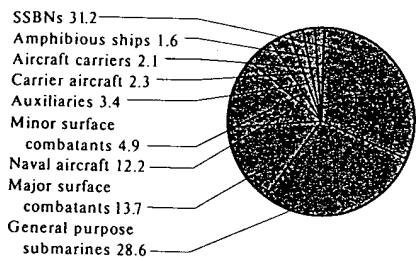
29. The most notable trend over the decade has been an evolution toward what Admiral Gorshkov calls a "balanced fleet"—that is, a navy capable of fighting at both the nuclear and conventional level as well as protecting state interests in peacetime. As late as the mid-1970s, the Soviet Navy could be described as a fleet with capabilities maximized for a short, intense war that rapidly escalates to the use of nuclear weapons. The small weapons loads and limited endurance of most surface combatants severely limited the Soviet Navy's ability for sustained combat. In the 1970s, however, new classes of generally larger, more sophisticated ships incorporating greater endurance, larger weapon loads, and extensive communication and electronic warfare systems began to enter service, resulting in enhanced capabilities for sustained conventional combat and distant-area deployments.

30. *SSBNs.* Beginning in the mid-1960s and continuing through the late 1970s, the Soviets allocated considerable resources to the construction of SSBNs. During this period, the construction rate of Y- and D-class SSBNs averaged about five per year and accounted for more than half of Soviet nuclear submarine construction. Although construction rates have tapered off and SSBN force levels have stabilized to accommodate the level agreed to in the SALT I Protocol of 62 units and 950 launch tubes, the SSBN force still receives significant emphasis, as evidenced by the continued construction of the D-III and the new Typhoon-class (see figure 12).

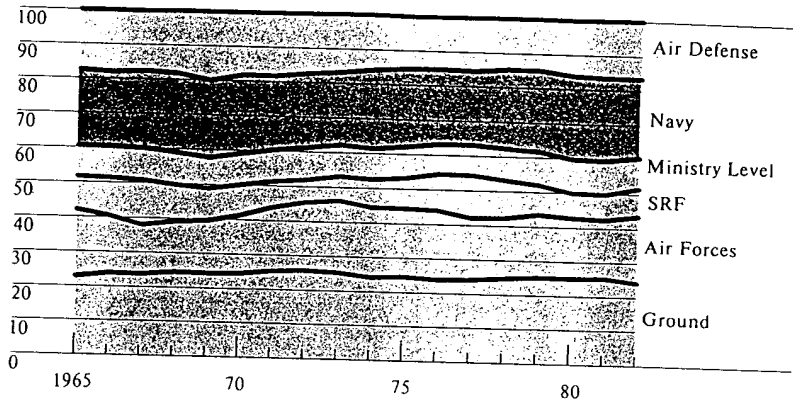
31. The D-class series (the D-III being the latest modification) is basically an extension of Y-class SSBN technology. Fourteen D-IIIs have entered the fleet, and an additional two to three are expected. The Typhoon, on the other hand, is the USSR's first entirely new SSBN design since the Y-class was introduced in 1966. It is probably somewhat quieter than earlier SSBNs and incorporates features that indicate an intention to conduct underice operations, including surfaced launches from within the ice pack. The Typhoon is designed to carry 20 SS-NX-20 SLBMs. The SS-NX-20 is a three-stage, solid-propellant missile with

**Figure 9**  
**Soviet Naval Spending**

Percent  
Allocation of Naval Procurement,  
by Platform, 1974-82



Shares of Soviet Defense Costs, by Service, 1965-82



<sup>a</sup> These graphics are based on estimated Soviet defense costs in rubles prepared by the Econometric Analysis Division of CIA's Office of Soviet Analysis, using the methodology customarily employed in calculating the costs of Soviet defense activities.

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multiple independently targetable reentry vehicles (MIRVs) and a stellar-aided inertial guidance system that will probably give it improved accuracy over other Soviet SLBMs. The first Typhoon is on sea trials and probably will achieve initial operational capability (IOC) when its missile finishes its test program, probably in 1983, but certainly by 1984. The second Typhoon was launched in September 1982, and another two or three units are under construction. As many as 12 units could be operational by the early 1990s. (s NF WN)





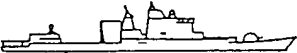

32. To maintain the number of launch tubes permitted under the terms of the SALT Interim Agreement, as new SSBNs have begun sea trials, the Soviets have dismantled nine Y-I-class SSBNs by removing the entire missile compartment. One unit has been reconfigured by the insertion of a new midsection, and another is undergoing probable conversion/modification. There is insufficient evidence at this time to indicate the purpose of this conversion/modification or the plans for the other Y's. Reconfiguration of some as SSNs is one option; conversion as sea-launched cruise missile (SLCM) carriers is another. Additional

Y's will be dismantled if the Soviets decide to continue adherence to the SALT I accords. (s NF WN)

33. **Attack Submarines.** The Soviets are currently producing two classes of SSNs, the V-III and the A-class. The V-III, an extensive modification of the earlier V-I/II design, first became operational in 1979. It may become the first Soviet submarine class with a towed passive sonar array, greatly increasing its passive detection range over that of existing hull-mounted sonar arrays. V-III construction may continue through 1984 for a total of as many as 18 units. (s NF WN)

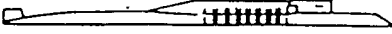

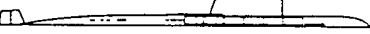


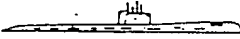

34. The A-class SSN is the world's fastest submarine and probably the deepest diving (with an estimated operating depth of 640 meters). The first unit was launched in early 1969 in Leningrad but was subsequently dismantled because of initial technical difficulties. By mid-1982, six units had become operational in the Soviet Northern Fleet. In addition to the use of titanium alloy for A-class pressure hulls, an improved reactor and improved propulsion system have been installed. The energy required to drive the A at a speed of 42 to 43 knots suggests a machinery power

Figure 10  
Major Soviet Surface Combatants in Production \*

	Major Armament	Propulsion	Full-Load Displacement (metric tons)	Year Operational	Units in Operation
<b>Kiev Class</b> Aircraft carrier 	26-30 ASW helicopters and VSTOL fighters SS-N-12 antiship cruise missile SA-N-3, SA-N-4 SAMs SUW-N-1 ASW rocket (Unit 4 extensively modified: new SAMs, radar)	Steam	37,000	1976	3
<b>Kirov Class</b> Guided-missile cruiser 	SS-N-14 ASW missile SA-N-6 SAM SS-N-19 antiship cruise missile 4 helicopters (Unit 2 extensively modified)	Combined nuclear and steam	About 28,000	1980	1
<b>Sovremenny Class</b> Guided-missile destroyer 	SA-NX-7 SAM 130-mm guns SS-NX-22 antiship missile 1 helicopter	Steam	About 8,000	1981	2
<b>Udaloy Class</b> Guided-missile destroyer 	SS-N-14 Possible SAM 2 ASW helicopters	Gas turbine	About 8,000	1981	2
<b>BLK-COM-1</b> Guided-missile cruiser 	SS-N-12 SA-N-4 SA-N-6 130-mm guns	Gas turbine	About 12,500	1982	1
<b>Krivak Class</b> Guided-missile frigate 	SA-N-4 SS-N-14	Gas turbine	3,900	1970	32

\* Major surface combatants of more than 3,000 metric tons displacement.

**Figure 11**  
**Soviet Submarines in Production**

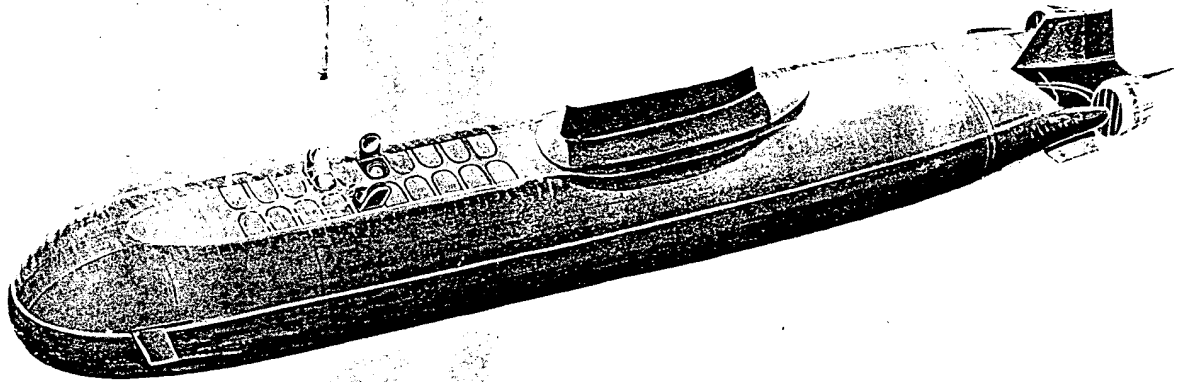
	Armament	Propulsion	Submerged Displacement (metric tons)	Year Operational	Units in Operation
D-III Class SSBN	16 SS-N-18s	Nuclear	13,250	1978	14
					
Typhoon Class SSBN	20 SS-NX-20s	Nuclear	27,000-29,000	1983 or 1984	0*
					
O Class SSGN	Torpedoes SS-N-19 antiship cruise missile	Nuclear	12,000-14,000	1981	1
					
V-III Class SSN	Torpedoes Probable SS-NX-16 ASW missile Possible SS-NX-21 SLCM	Nuclear	6,250	1979	13
					
A Class SSN	Torpedoes ASW missile	Nuclear	3,680	1978	6
					
New Class of SSN No drawing available	Torpedoes Probable ASW missile Possible SS-NX-21 SLCM	Nuclear	Est. 7,000	1984	0
Tango Class SS	Torpedoes Probable ASW missile <sup>b</sup>	Diesel	3,900	1973	17
					
K Class SS	Torpedoes	Diesel	3,000	1981	2
					

\* Typhoon unit 1 has joined the fleet, but its missile probably will not be operational until 1983, certainly by 1984.

<sup>b</sup> The Deputy Director for Intelligence, Central Intelligence Agency, believes the Tango SS is not equipped with ASW missiles. These submarines have been operational since 1973, and in these nine years there has been no evidence to suggest that Tango submarines are equipped with such missiles. These submarines have been observed in ASW exercises and weapon firings on numerous occasions, and they have never used ASW missiles.



**Figure 12**  
**Typhoon SSBN Firing SS-NX-20 SLBM**



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density on the order of twice that of earlier Soviet SSN designs. A-class production is continuing at two shipyards, and a total of 10 or 11 units is expected. (s NF WN)

35. A submarine under construction at the United Admiralty Shipyard in Leningrad is estimated to be the lead unit of a new SSN class that could reach IOC in 1984. This new submarine probably represents a production follow-on to the present V-class SSN series; it is likely to have a steel hull and a submerged displacement greater than that of the V-III. (s WN)

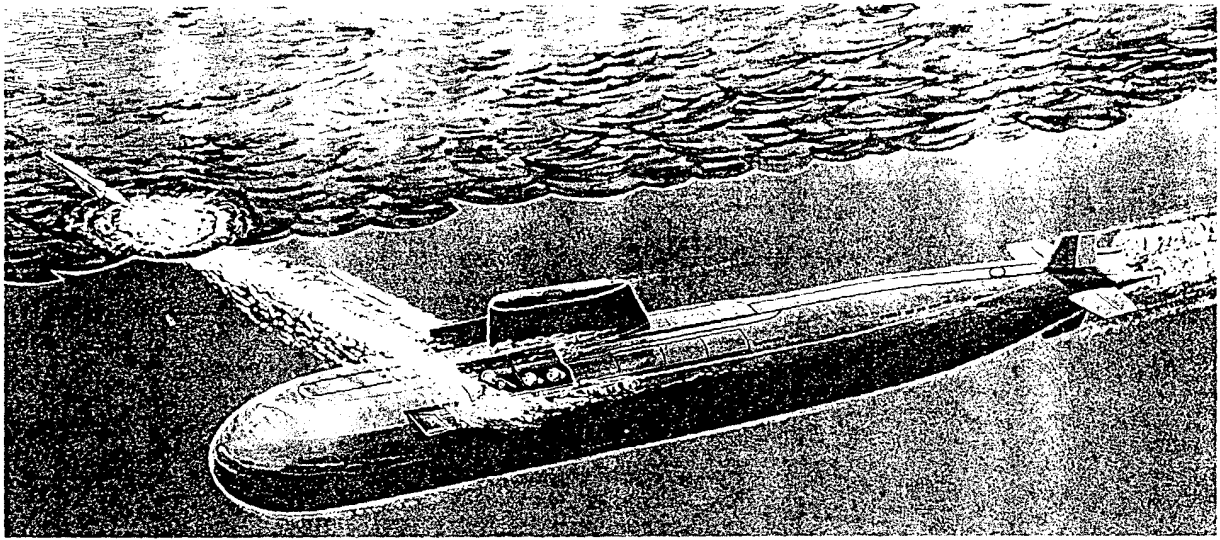
36. Series production of the Tango SS and introduction of the new K-class SS are indicative of the Soviets' intention to retain diesel-powered submarines while phasing out the W- and Z-classes of the 1950s. The Tango (18 produced to date) is the largest new-construction class of Soviet diesel-electric-powered attack submarine and is a production follow-on to the F-class SS. Tango has approximately 70 percent more pressure hull volume than the F-class, permitting increased submerged endurance and improved sensors and weapons. The first K-class was launched in 1980

and became operational in 1981. At 3,000 tons' submerged displacement, the K is 20 percent larger than the F, but considerably smaller than the Tango. We estimate the K-class SS will fill Soviet requirements for a medium-range diesel submarine replacing the W- and R-classes and may also be produced for export. (s NF WN)

37. SSGNs. In April 1980 the Soviets launched a new nuclear-powered cruise missile submarine (SSGN), the O-class (see figure 13), that is twice as large as any of their previous SSGNs. It has 24 missile launchers (three times the number carried by the E-II or C-class) for the SS-N-19, a new antiship supersonic cruise missile with a range of about 270 to 300 nautical miles (500 to 550 kilometers). The O-class is quieter than earlier Soviet SSN/SSGNs. A total of 10 units is expected to be completed by the mid-1990s. (s)

38. *Principal Surface Combatants.* The Soviets currently have active building programs for at least seven classes of major surface combatants. The fourth and probably last unit of the Kiev-class aircraft carrier is in the final stage of construction. It differs signifi-

Figure 13  
O-Class SSGN Launching SS-N-19s



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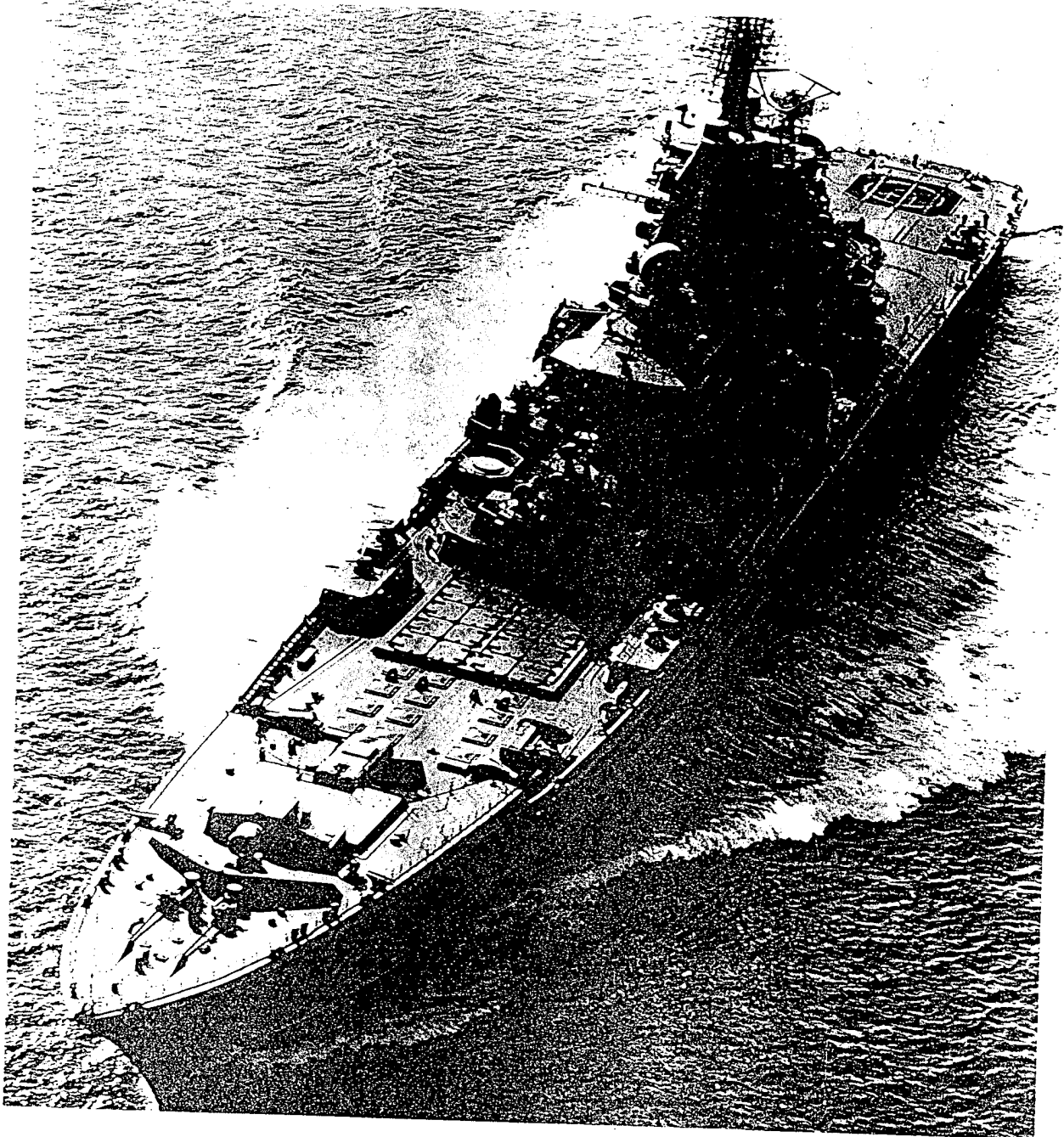
cantly from earlier units of the class in the improved armament and early warning radar suits to be installed. The second and probably last unit of the Kirov-class guided-missile cruiser is also fitting out. Unlike the first unit, it is equipped with an as-yet-unidentified vertically launched weapon system, probably a surface-to-air missile (SAM). Three units of the BLK-COM-1 guided-missile cruiser are under construction. Like the Kirov and Kiev classes, the BLK-COM-1 ships are multipurpose platforms armed with a mix of antisubmarine, antiship, and air defense weapons. Two classes of guided-missile destroyer, the Sovremennyy and the Udaloy, are also in series production. The Sovremennyy is best suited for antisurface warfare. It is equipped with the SS-NX-22, a high-performance antiship cruise missile nearing the end of its test program, the SA-NX-7 SAM system, and a new 130-mm gun possibly capable of firing guided munitions (see photograph on figure 14). The Udaloy is best suited for antisubmarine warfare using its SS-N-14 missiles and two Helix helicopters. Production of BLK-COM-1, Sovremennyy, and Udaloy ships will probably continue through the decade. Construction of the

Krivak-class guided-missile frigate and the Grisha-class light frigate is drawing to a close. (S NF WN)

39. *Amphibious Forces.* Amphibious forces in the Soviet Navy have a lower priority than the submarine, air, and surface combatant programs. Nevertheless, the Soviets continue to make gradual improvements in these forces. Construction of the Ivan Rogov class, the Soviets' largest amphibious ship, proceeded at a very slow pace and probably ended after the recently launched second unit. The Ivan Rogov has several unique features, however, that may indicate the direction of future improvements in Soviet amphibious capabilities. These include the ability to carry helicopters and air cushion vehicle landing craft. The Soviets have an active program for the development and production of air cushion vehicles. Construction of Ropucha-class amphibious ships for Soviet use has resumed in Poland. In addition, the two KASP B wing-in-ground vehicles being developed in the Caspian Sea are probably naval subordinated. While such units could have a wide range of maritime applications because of their high speed and load capabilities, use

Figure 14  
Major Soviet Surface Combatants

Kirov CGN

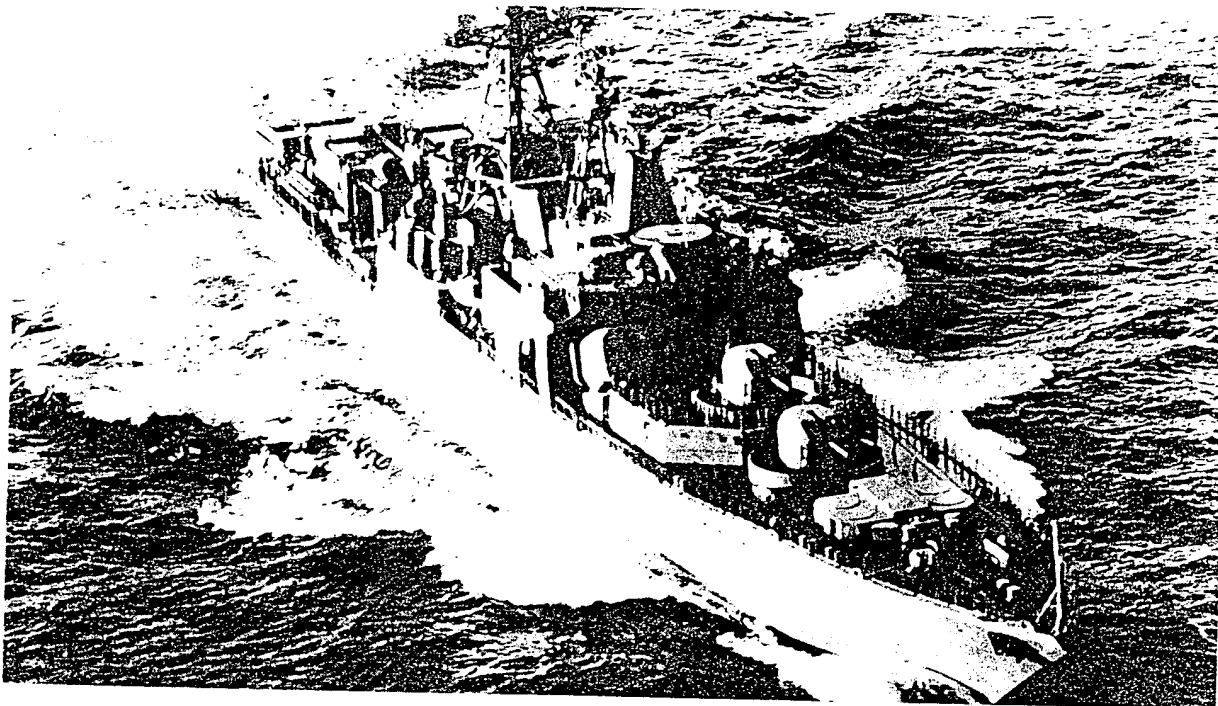


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Figure 14 (continued)  
Major Soviet Surface Combatants

Udaloy DDG

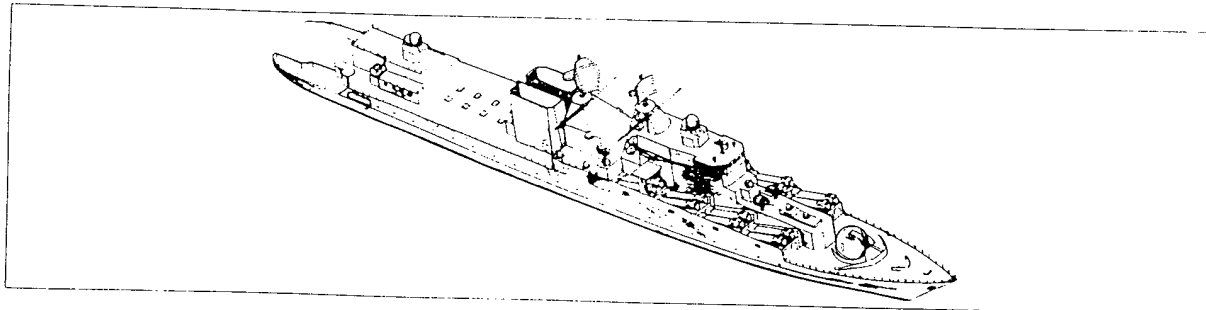


Sovremenny DDG



130-mm gun on Sovremenny

BLK-COM-1 CG

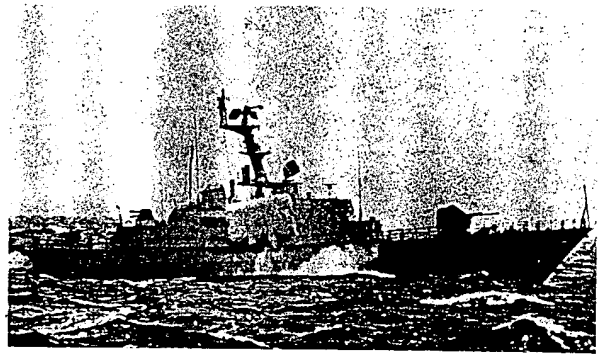


in amphibious warfare is among the more likely intended missions. A development in recent years has been the use of commercial roll-on/roll-off (Ro-Ro) cargo ships during amphibious exercises. There has also been a reorganization in the Soviet Naval Infantry (SNI), primarily to improve firepower, which has resulted in a moderate increase in personnel strength and the upgrading of the three western fleets' SNI regiments into brigades. The Soviet Navy does not have enough amphibious ships to lift all of the SNI. If, however, amphibious ships were combined with merchant Ro-Ros and barge carriers, all of the naval infantry and nearly three motorized rifle divisions could theoretically be carried. Some ground force units routinely train either for amphibious assault landings or, more usually, as followup forces. (S NF WN)

40. *Replenishment Ships.* Construction of logistic support ships is sporadic and also has a lower priority than that of surface combatants and submarines. The most important unit built in recent years is the Berezina, a 40,000-ton multipurpose replenishment ship, completed in 1977. No further units of this class have been built, nor are any other underway replenishment ships known to be under construction. The number of logistic support ships capable of transferring strategic and tactical missiles to combatants remains small. The generally low priority accorded replenishment ships probably is linked with several aspects of Soviet naval practice and doctrine, including a heavy reliance on merchant tankers to support naval operations, the intention to operate many naval units relatively close to Soviet territory, and a belief that the war is unlikely to be so prolonged that replenishment at sea would affect its outcome. The Soviets probably also prefer to improve the sustainability of their naval combatants by changes in the units themselves rather than by emphasizing the construction of auxiliary vessels. Thus new-construction surface combatants such as the Kirov and BLK-COM-1 include features such as nuclear power (Kirov) and larger missile loads. (S NF WN)

41. *Small Combatants and Mine Warfare Units.* The Soviets continue to regard small surface combatants and mine warfare units as important elements of their Navy. These units are particularly useful in the confined waters of the Baltic and Black Seas, but they

Figure 15  
Tarantul Patrol Combatant



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are also assigned important roles in the echeloned defense of Soviet territory and SSBN operating areas in the Northern and Pacific Fleet areas. Small surface combatants now in series production include the Nanchuka, Matka, and Tarantul (see figure 15) guided-missile patrol combatants, equipped primarily for antiship operations, and the Pauk and Muravey boats, whose major role is ASW. Mine warfare units in production include the Natya- and Sonya-class minesweepers, and the Soviets are also continuing to develop a helicopter mine countermeasures capability. A large number of naval units are also capable of minelaying. (S NF WN)

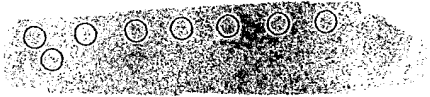
42. *Naval Aviation.* The most significant recent development was the beginning in 1977 of construction of a catapult and arresting gear test facility at the Saki naval airbase in the Crimea. This project probably will be completed in 1983, with the first aircraft launches occurring in mid-1984. It is a major indicator of Soviet intentions to construct an aircraft carrier capable of operating conventional takeoff and landing (CTOL) high-performance aircraft (see figure 16). Construction of such a ship may soon begin at Nikolaev on the Black Sea. Another facility at Saki, begun in 1979, has recently been identified as an aircraft ski jump. A ski jump, such as that on the British carrier Hermes, is used to increase the payload and/or combat radius of vertical/short takeoff and landing (VSTOL) aircraft. The ski jump facility may be related

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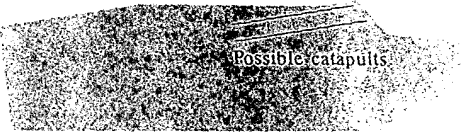
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Comparison of Selected US and Soviet Carrier Flight Deck Configurations

Kiev  
(no catapults)  
273 m



Elaboration of  
Saki outline  
285 m



USS Oriskany  
274 m



USS Nimitz  
332.9 m



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**Figure 17**  
**Selected Soviet Shipborne Aircraft**

**Helix helicopter**



**Forger fighter-bomber**



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to the development of an improved VSTOL aircraft, primarily for use on Kiev-class aircraft carriers. (S NF WN)

43. The Soviets are also continuing the gradual introduction of Backfire medium bombers and Bear F long-range ASW aircraft into their land-based naval aviation. Forger fighter-bombers are being built for service on Kiev-class ships, and deployment of a new shipborne helicopter, the Helix, has begun (see figure 17). Although most of the Helix helicopters probably will be used for ASW, some will be configured to provide targeting data for antiship missiles, and others will be amphibious assault and transport versions. (S WN)

J. Command, Control, and Communications

44. The Soviet Navy, subject to the same centralization of authority that characterizes most Soviet mili-

tary operations, depends on a smoothly functioning command, control, and communications system. The Soviets nonetheless recognize the potential weakness in such a highly centralized system. Consequently Soviet naval commanders of general purpose forces at the fleet and group levels probably enjoy some greater latitude in tactical command and control to accomplish their warfare tasks. Naval forces are integrated into a theater concept, but the control of strategic elements of the Navy remains centralized. Soviet doctrine stresses the need for reliable, flexible, redundant, and survivable control of naval forces. Thus, the Soviet Navy's command, control, and communications structure includes features such as the hardening of command posts and communications facilities and the use of mobile command posts and communications units. Recent efforts to further improve this structure have included:

- The continued construction of bunkered command posts at echelons ranging from the Main Naval Staff to flotillas.
- The availability of large numbers of communications vans at the national and fleet levels to augment communications and support field-deployed command posts.
- Equipping major naval ships with communications capabilities that provide for flexible sea-borne command and control.
- The modification of submarines for communications relay. Three former G-class ballistic missile submarines (SSBs) and one former H-class SSBN have been modified for such use. Further, we believe that the Soviets are interested in development of submarine command posts.
- The development of probable airborne naval command posts. The first such platform, a modified IL-22 Coot, was identified in 1978.
- Testing of a modified TU-142 Bear F as an airborne maritime communications relay platform.
- Development and use of new and sophisticated communications which offer increased efficiency, reliability, and security.
- Increased use of automation to improve the efficiency of command and control. (S NF WN)

45. One major problem area in the command, control, and communications system is the lack of continuous communications with deployed submarines, especially SSBNs. To deal with this problem, the Soviets are probably developing an ELF system that will act as an ideal alerting system enabling Soviet submarines to remain at safer patrol depths during a crisis.

46. *Automated Battle Management.* Soviet doctrine stresses the commander's responsibility to achieve the maximum possible combat effectiveness from his limited resources. Soviet naval commanders at all echelons are expected to achieve this by the detailed management of forces in battle. For this battle management, the Soviet Navy seems to be relying increasingly on computer-aided mathematical combat models as decision aids. Such models were probably first used at the Moscow level during the OKEAN-70 exercise. By 1978 they were in use at lower echelon, shore-based command posts, and their cautious introduction into operational use at sea was probably beginning. Potentially they offer significant improvement in the quality and timeliness of naval command and control, although there are numerous practical problems in their implementation. The future availability of small, high-speed, large-memory computers and of sophisticated computer communications networks is likely to alleviate some of these problems.

#### K. Soviet Ocean Surveillance

47. The Soviet ocean surveillance system (SOSS) is designed to provide information on the location, identity, and movements of foreign naval forces, especially those posing a threat to the Soviet homeland or forces. The most important elements in the system are land-based SIGINT stations, space-based ELINT and radar satellites, AGIs, and reconnaissance aircraft. Ships of the merchant and fishing fleets can also be tasked to conduct surveillance. Among the recent improvements in the system have been:

- The addition of land-based SIGINT stations in Vietnam and South Yemen.
- The construction of the Soviet Navy's largest and most capable AGI, the Balzam. Two units of this class are in service, and a third is being built.

- An increase in the number of naval units capable of receiving targeting data directly from satellites.
- Growing access to and use of foreign facilities—in Cuba, Angola, Ethiopia, South Yemen, Vietnam, and Libya—for Soviet naval air reconnaissance operations.

Such improvements have reinforced the major strength of the SOSS, its ability to detect and identify surface ships, especially aircraft carriers, operating in or approaching waters from which they could strike the Soviet Union. Its value against surface ships can still be reduced by Western cover and deception techniques such as emission control (EMCON) against SIGINT collection. Radar satellites are also limited by weather and by the difficulty of identifying contacts. The major weakness of the SOSS, however, remains its lack of any significant capability to detect deployed submarines, especially in open-ocean areas such as the central Atlantic and Pacific.

#### L. Radio-Electronic Combat

48. The operations of Soviet naval forces and the design of their electronic equipment are deeply influenced by the Soviet concept of radio-electronic combat (REC). This concept emphasizes the importance of both denying the enemy the use of his electronic systems and of protecting Soviet systems from disruption. The REC concept applies equally to sensors and to command, control, and communications systems. This concept has broader application than the Western notion of electronic warfare (EW) and includes widespread, integrated use of:

- Attacks on enemy electronic emitters.
- EMCON.
- Surprise.
- Multisensor integration.
- Redundancy of command, control, and communications.
- Active electronic countermeasures (jamming).
- Passive electronic countermeasures (chaff).
- Deception, to include decoys.

The prime focus of this concept is to ensure that Soviet forces can operate more effectively than their oppo-



nents in a common EW environment. Ideally this would be accomplished by ensuring the reliability of Soviet command, control, and communications systems exposed to hostile EW through jam proofing and redundancy of the Soviets' own equipment, together with offensive EW and covert tactics to degrade enemy electronic systems. Although the Soviets have encountered problems with both REC equipment and training, they regard REC as a fundamental principle of modern electronically dependent warfare and vital to the success of naval operations.

## II. FACTORS BEARING ON THE FUTURE OF THE SOVIET NAVY

### A. Political and Economic Changes

49. As Soviet leaders formulate their naval plans for the period of the late 1980s and 1990s, they face major political and economic uncertainties. They view the fluid international situation as requiring a strong naval posture, both to protect established Soviet interests and to exploit situations in which the use of naval forces can increase Soviet influence. Soviet perceptions of Western and Chinese naval improvements and of opportunities for the use of naval forces in the Third World are likely to be among the arguments for continued qualitative improvement in Soviet maritime power. On the other hand, problems in the Soviet economy probably will increase the opportunity costs associated with defense. To maintain even a modest rate of economic growth the Soviets must allocate more resources to capital investment and improve labor productivity. The competing demands for economic resources could be reflected in domestic political tension, particularly during a period of leadership transition.

50. *International Environment.* The Soviets view the international arena as a shifting combination of threats and opportunities likely to last indefinitely. They will continue to be concerned about the prospect that the United States will augment its defense efforts, including major improvements in both strategic and general purpose naval forces. They probably do not anticipate any substantial improvement in relations with China and believe that instability is likely to persist in border areas such as Iran and Poland. They probably will continue to view the Third World as fertile ground for the expansion of Soviet influence and will align themselves selectively with states and

insurgent movements in that area. On the whole, the Soviets' expectations regarding international developments probably will support their traditional belief in the value of military power as a cornerstone of foreign policy. Such expectations probably will favor the continued development of Soviet naval power, for both its nuclear and conventional wartime value and for its peacetime role in promoting the image of the Soviet Union as a global power and projecting power and influence in distant areas.

51. *Economic Environment.* Soviet leaders in the late 1980s and 1990s will probably be operating in an environment characterized by severe economic resource constraints. Poor agricultural performance, a slower increase in labor productivity, a low rate of GNP growth, labor shortages, and shortfalls in energy production will require tougher choices among defense, investment, and consumption. If defense spending continues to grow at its historical rate (4 percent annually since 1965), the defense share of GNP could increase from about 14 percent to approach 20 percent by 1990. Such growth would drastically reduce the extent to which additional resources could be allocated to investment and consumption and would also erode future increments to GNP. Such increments have been important in the past in easing political tensions that arise from the competition for resources. While there is insufficient evidence as yet to predict a change in the current rate of growth in defense spending, economic pressures could result in a slower rate of growth. While less likely, a zero growth rate or even a net reduction is possible. In any case, within the amount allocated to defense, any competition among the services for resource allocation would be likely to increase.

52. The Soviet Navy's case for justifying its share of resource allocation is likely to include arguments based primarily on its evolving role in a NATO-Warsaw Pact war—the need to counter a growing Western naval threat to Pact territory and forces and to improve the Soviet Navy's capability to strike the United States and its allies. Naval programs will also be supported in terms of their contribution to the USSR's capability to defend and expand Soviet influence in the Third World during peacetime and limited war situations, but any programs that cannot be solidly defended as essential to the NATO-Pact scenario are likely to be more susceptible to pruning.

53. *Domestic Political Environment.* It is unlikely that Leonid Brezhnev will be in office during the period of greatest interest to this Estimate. His departure probably will result in a struggle for power that could be reflected in defense policies. It is not possible to predict the nature and timing of changes in military policy that might result from changes in national leadership, particularly because Brezhnev's immediate successor is likely to be himself succeeded by a new generation of leaders in the late 1980s to early 1990s. Information is sparse concerning the attitude toward defense of leading contenders in the succession. Insofar as such information exists it suggests that they would continue to place a strong emphasis on military spending. We have no specific information on the attitude of leading contenders concerning naval issues. During any succession period variations in policy could occur. It would, however, be difficult to change basic priorities until a new leader could consolidate power. During the jockeying for power the defense effort probably would not be significantly redirected. Few aspirants for leadership would risk antagonizing the military or placing themselves in a position to be accused of selling defense short. Once power is consolidated, however, severe economic pressures could contribute to sharp changes in the direction of the Soviet defense effort such as those that took place under Khrushchev.

54. During the same period of transition in the Soviet political hierarchy there will also be changes in the leadership of the Soviet Navy. Whoever succeeds Admiral Gorshkov is unlikely to acquire immediately the high degree of authority that stems from Gorshkov's continuity as commander of the Soviet Navy since 1956. The views of a new leader, moreover, are likely to have been affected by a different operational background. Although any officer succeeding Gorshkov probably will have had experience as a fleet commander and will thereby have become familiar with all types of naval platforms and operations, it is possible that he will favor some shifts in emphasis in Soviet naval programs and policies. It is unlikely, however, that the personalities or individual backgrounds of a new Soviet naval leadership would cause major near-term changes in the strategy and programs underlying the Navy's role in Soviet military strategy.

B. Key Issues Facing Soviet Naval Planners  
(1982-2000)

55. *Protection and Use of the SSBN Force.* The ability to conduct strategic strike operations will continue to be the single most important mission of the Soviet Navy throughout the period of this Estimate. Although sea-launched cruise missiles will expand the number of potential naval strategic platforms, the bulk of the Soviet Navy's strategic capabilities will remain in the SSBN force. We expect this force to be further modernized and upgraded through the continued production of Typhoon-class units and the introduction of a new class in the 1990s. By the late 1990s, Typhoon and follow-on SSBNs will have largely replaced the Y-class force, resulting in:

- A substantial increase in the number of sea-based strategic warheads because the Y-class SSBN typically carries only 16 warheads while one Typhoon carries 20 SS-NX-20 missiles, which could have as many as 280 warheads by the late 1980s.
- A less vulnerable SSBN force because almost all units could strike targets in the continental United States from within the Arctic icecap and/or from home waters.

56. The size of the SSBN force in the 1990s will be governed largely by the status of East-West arms limitation agreements and developments in strategic offensive and defensive technology. If the SALT I limit of 950 modern submarine launch tubes remains in effect, the number of SSBNs would decline somewhat in the 1990s because Y-class units would have to be retired on a more than one-for-one basis to compensate for the greater number of tubes carried by new classes of SSBNs. In the absence of arms limitation restrictions, we believe the Soviets would increase the size of the SSBN force along with increases in the rest of their strategic arsenal. Moreover, the Soviets may increase the proportion of the overall strategic arsenal assigned to SSBNs if:

- Improvements in the accuracy of Western ICBM/SLBMs lead the Soviets to judge that their SLBMs are increasingly more survivable than ICBMs.
- Soviet SLBMs obtain a hard-target kill capability.

57. On the other hand, the Soviets probably would reduce the number of SLBM launchers if arms control negotiations resulted in a treaty requiring substantial cuts in the overall strategic arsenal. SLBM reductions probably would be proportionate to cuts in the ICBM force, but could be more severe if:

- The Soviets perceive that the West has achieved an ASW breakthrough that increases the vulnerability of Soviet SSBNs.
- Soviet SLBMs do not achieve sufficient hard-target kill capability.
- The survivability of the land-based element of Soviet strategic forces is enhanced through the introduction of mobile ICBMs and/or ABM protection.

58. We believe that the Soviets will continue to regard their SSBN force as vulnerable to enemy ASW forces through the 1990s. In this time frame, the SSBN force will consist primarily of older D- and Y-class units—in the 1990s, Y and D units will compose over three-quarters of the force; in 2000, D-class units will still constitute well over half of the force. The perceived requirement to protect and support these SSBNs is unlikely to change. Typhoon and follow-on SSBNs will be quieter than Y's and D's and thus less vulnerable to acoustic detection. Nevertheless, it is unlikely that the Soviets will regard them as capable of ensuring their own survivability. The Soviets probably foresee no slackening in Western interest in ASW and expect that the positive effects of their quieting programs will be at least partially negated by improvements in Western ASW capabilities. Moreover, the Soviets' concept of SSBN protection is based on their apparent judgment that all submarines are inherently vulnerable to ASW prosecution, particularly as they exit and enter port, if they are not protected by friendly forces. The Soviets, therefore, do not regard SSBN vulnerability as a short-term problem that will disappear as new, quieter classes are introduced. The requirement to protect and support SSBNs will thus remain an integral part of the strategic strike mission and the most important initial wartime task of a large portion of Northern and Pacific Fleet general purpose forces through the remainder of the century.

59. We expect that Typhoon and follow-on SSBNs would be deployed in wartime in much the same fashion as D-class SSBNs—primarily in "havens" close

to Soviet territory. Other measures to decrease the vulnerability of Soviet SSBNs probably would include:

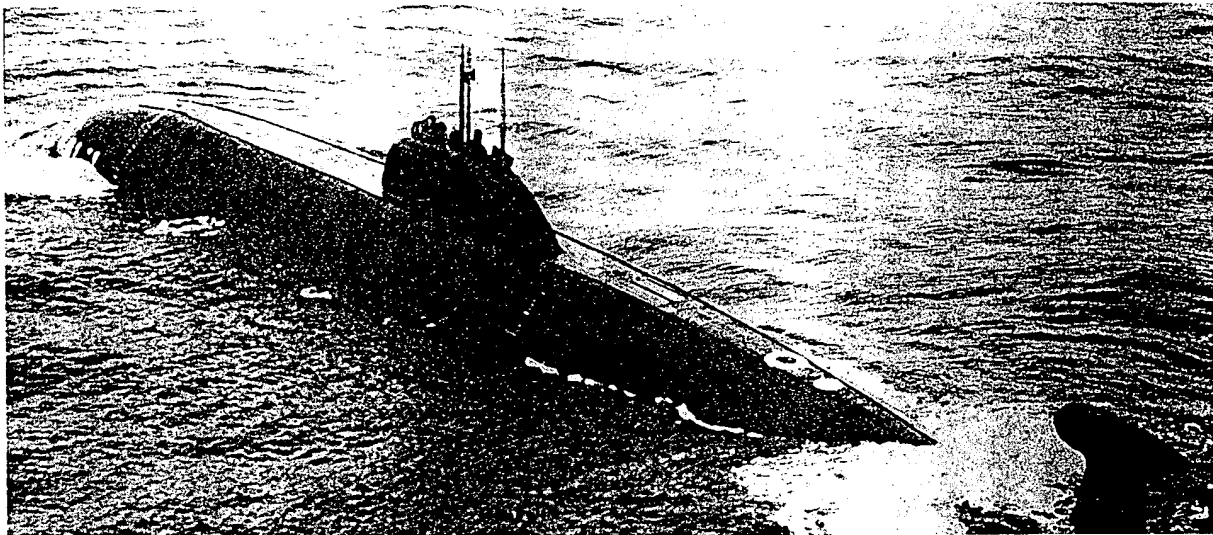
- More extensive use of patrols under the icecap.
- Introduction of an ELF communications system (perhaps in 1983), making it possible for units to receive communications while remaining at patrol depth or under ice.

60. Although such a move is unlikely, the Soviets might choose to deploy a few Typhoons to open-ocean areas in more southerly latitudes. The Soviets might use such open-ocean deployments to complicate the US defensive problem by requiring ASW forces to conduct open-ocean search in vast areas where SOSUS coverage is limited. This could increase the survivability of SSBNs in havens by dispersing enemy ASW forces. Notwithstanding this potential benefit, the disadvantages of deploying SSBNs to distant areas would make this an unlikely option for wartime deployment. In particular, the transit through potentially enemy-controlled waters argues against SSBN deployments to southern latitudes.

61. We do not believe that likely changes in Soviet SLBM capabilities or in the Soviet perception of NATO's ASW capability will lead to significant changes in the way Soviet SLBMs would be employed in wartime. A substantial number of SLBMs probably would still be withheld from the initial strategic nuclear exchange for subsequent strikes and as a residual force. One consequence of such a withholding policy is a need to sustain SSBN protection operations during the nuclear as well as the conventional phase of the war. The greater endurance features that we believe the Soviets will continue to build into their general purpose units will be useful in this task. Such improved endurance is likely to stem from factors integral to the combat units themselves—such as nuclear power for surface ships, larger magazine capability, and improved damage control—rather than from a major increase in the size of the naval auxiliary force.

62. The Soviets will probably continue to allocate SLBMs for initial strike operations against the United States for targets such as soft command, control, and communications facilities and bomber bases. SS-N-8 and SS-N-18 SLBMs launched from D-class units and possibly SLCMs from forward-deployed attack submarines would assume more of the Soviet Navy's initial strike role as Y-class SSBNs are retired or converted.

Figure 18  
V-III-Class SSN



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The Soviet Navy's ability to participate in counter-force strikes would be enhanced considerably if the accuracy of SLBMs could be improved to the point where they would be effective against hardened targets such as ICBM silos. All agencies agree that the Soviets place a high priority on achieving improved accuracy for the SLBMs planned for testing in the middle and late 1980s. There are different interpretations as to whether and when the Soviets would opt to deploy SLBMs with a hard-target capability. One view holds that this capability probably will be achieved in the late 1980s.<sup>1</sup> Another view holds that such a capability could not be achieved before the early 1990s and that it would require major efforts which the Soviets may not be willing to undertake because of costs in system reliability and the number of deliverable RVs.<sup>2</sup> All agencies believe that, despite the increased utility for initial nuclear strikes that a hard-

<sup>1</sup> The holders of this view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy. (U)

<sup>2</sup> The holders of this view are the Deputy Director for Intelligence, Central Intelligence Agency, and the Director, Bureau of Intelligence and Research, Department of State. (U)

target capability could provide, many such SLBMs, if deployed, would probably still be withheld from the initial exchanges for use in subsequent strikes or as a residual force. (S NF WN)

63. *Soviet Naval Land Attack Cruise Missile.* The Soviet Navy is developing a sea-launched, land attack cruise missile similar to the US Tomahawk. This missile, designated the SS-NX-21, is expected to become operational by 1983 or 1984. It is estimated to be compatible with the torpedo tubes of all Soviet submarines and possibly for employment on a variety of surface combatants. We believe it is designed to carry a nuclear warhead, probably has a terrain contour matching position update system (TERCOM), and is probably capable of 2,700 km at subsonic speeds.<sup>3</sup> (S NF)

64. We believe that the primary application of the SS-NX-21 will be as a submarine-launched weapon for nuclear strikes against theater targets, but it might be

<sup>3</sup> Other land attack cruise missiles under development may be for naval use. Evidence available as this Estimate went to press suggests that the reconfigured Y-class submarine launched in October 1982 may be intended as a test platform or as the lead unit in a class of submarines retrofitted to employ SLCMs. (S NF WN)

used during a first strike against targets in the continental United States, such as command, control, and communications facilities and naval and bomber bases, despite its range and speed limitations. We believe the Soviets will choose to concentrate nuclear-armed SS-NX-21s in a few of their newest SSNs. The best candidate for such a role is the projected new class of SSN, which we believe will be quieter and larger than current Soviet SSNs and have the command, control, and communications and fire control capabilities necessary for employing SLCMs. V-IIIs (see figure 18) would also be suitable. Another possible candidate would be those few dismantled Y-class SSBNs, which presumably will retain their sophisticated ship's inertial navigation system and require the least modification of existing classes to carry SLCMs. If the Soviets opt for a dedicated SLCM submarine, they may initiate periodic peacetime SLCM patrols off the US east and west coasts. Patrols by SLCM submarines could eventually replace Y-class SSBN patrols in the western Atlantic and eastern Pacific. In Soviet eyes, such SLCM patrols could offer the dividend of forcing the United States to invest in an expanded early warning/air defense system to counter the new threat.

65. Concentration of the missiles on a few units, however, would place them in the same category as the early SSBNs—platforms that were high-value targets for Western ASW and which, because of their missile range, had to operate relatively close to Western territory. The Soviets therefore could deploy the SS-NX-21 as part of the weapons load of a large number of submarines. Assuming that the missile is compatible with the standard Soviet 53-cm torpedo tubes, the SS-NX-21 could be employed in modified SSNs/SSGNs such as the V-I-, V-II-, A-, and O-classes or even possibly in diesel-electric units. We believe this use of a larger number of submarines would be less likely because these submarines are required for important ASW and antisurface warfare (ASUW) tasks, and some of them—particularly the diesel-electric units—may not have sufficient command, control, and communications capabilities or space for necessary additional fire control and navigation systems.

66. We do not know whether the Soviets are developing a version of the SS-NX-21 with a nonnuclear warhead.

SLCMs armed with nonnuclear warheads would be useful against theater targets (such as US SOSUS facilities) and for concentrated attacks on Iceland, the United Kingdom, Spain, the Philippines, Guam, and other important targets that would be difficult to reach and costly to attack with Soviet land-based aircraft. Non-nuclear-armed SLCMs could be employed on current attack submarines with fire control system modification. Such deployment, however, would involve some trade-offs for general purpose submarines, reducing their capability to perform their traditional antiship and antisubmarine tasks because:

- Each SS-NX-21 carried will reduce the number of torpedoes carried by one or two.
- In some instances the operating areas required for land attack cruise missile launches would differ considerably from those required for optimum ASW and antiship operations.

The Soviets probably recognize that proliferation of SLCMs could also represent a significant impediment to future arms control agreements since it would be virtually impossible to verify which submarines were strategic arms carriers.

67. The Soviets may also be considering placing SS-NX-21s on some of their principal surface combatants.

Surface-launched SS-NX-21s probably would be limited to strikes against theater targets, although occasional peacetime deployments of SLCM-armed surface combatants off the US coasts (for example, to Cuba) might be viewed by the Soviets as having significant political value.

68. The successful development and deployment of the SS-NX-21 is undoubtedly an item of high interest to the Soviet national leadership as well as the naval command. If, as we expect, it is to be deployed primarily as a nuclear weapon aboard dedicated sub-

marines, the Soviet Navy's strike capability, particularly against theater targets, will be enhanced considerably with minimal impact on its other missions and capabilities. By giving the Soviet Navy yet another nuclear-capable land attack system, the SS-NX-21 could increase the stature and utility of the Navy within the Soviet military/political establishment and conceivably result in the provision of additional assets to protect the SS-NX-21-carrying units. At the same time, the SS-NX-21 is a weapon system with significant potential political value to the Soviet leadership in future arms limitation negotiations. In fact, it is conceivable that the Soviet SLCM has been developed partly as a bargaining chip for US nuclear land attack cruise missiles. If it is deployed, the SS-NX-21 would add a new dimension to Soviet Navy capabilities and would complicate the defensive tasks of Western forces.

69. *Strategic ASW Against Ballistic and Land Attack Cruise Missile Submarines.* The Soviets recognize that their strategic ASW task will become not only more important but increasingly difficult during the 1980s and 1990s. During this period they almost certainly expect:

- Longer range SLBMs to enter service in the US, French, and British Navies. The US/UK Trident II D-5 (6,000-nm range), for example, will greatly increase the ocean areas from which such missiles can strike Soviet territory (see figure 19).
- Western SLBMs such as the US Trident II D-5 to achieve sufficient accuracy for use against hard targets.
- Western general purpose submarines to be armed with long-range, nuclear land attack cruise missiles such as the US Tomahawk.
- Western programs to improve SSBN survivability through noise reduction, more reliable communications, and better sensors.
- China's first SSBNs to enter service.

70. We expect that the Soviets will seek to improve the ASW capability of their submarines, surface ships, and aircraft in several ways, especially:

- Improved sonar systems, most notably the deployment of towed passive arrays, low-frequency sonobuoy systems, and associated signal processing equipment.

- Increased emphasis on quieting of attack submarines.
- Development of nonacoustic sensors.

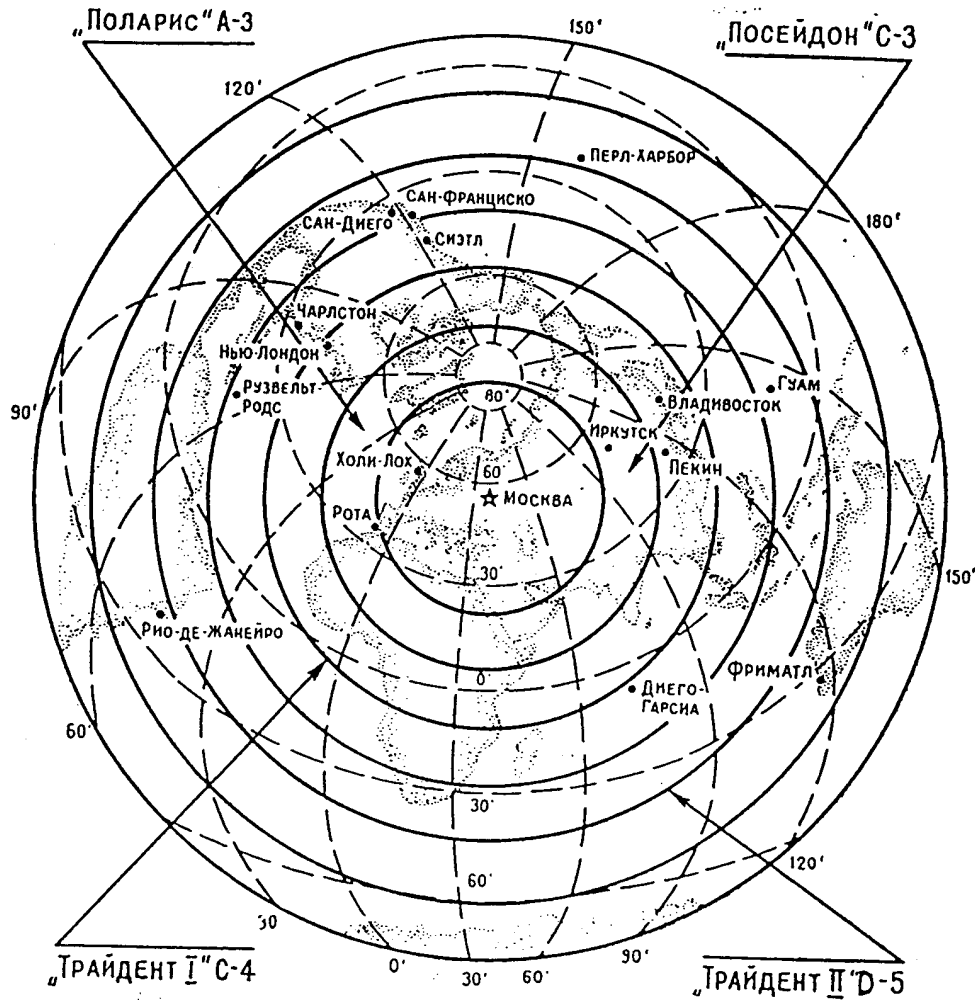
Such efforts probably will significantly improve Soviet capability to conduct ASW in relatively small areas. They could, therefore, be vitally important for the protection of Soviet SSBN havens against intrusion by Western SSNs. Such improvements also could enhance the capability of Soviet SSNs to detect Western SSBNs as they exit their bases or pass through choke points. We do not believe, however, that such efforts will substantially improve the Soviet capability to counter Western SSBNs effectively because none of them are likely to solve the Soviet Navy's major problem—the inability to detect SSBNs in open-ocean areas.

71. We believe the Soviets will continue to seek such a detection capability through the development of sensors whose range or search rate can cover broad ocean areas. Approaches which the Soviets may explore in developing such a capability include:

- A system of fixed passive sonar arrays installed in Western SSBN operating areas, comparable to the US SOSUS system. A major problem in creating such a system probably would be the large number of arrays needed to have a reasonable chance of detecting SSBNs, which will be even quieter in the 1990s. Another problem would be the probable requirement for several shore facilities in Third World countries to serve as initial processing points for the data. The Soviets' use of fixed sensors has thus far been limited to equipment installed near their own territory. We have no evidence that they are planning a worldwide system, which would take several years to install.
- Aircraft or a space-based system relying on nonacoustic sensors. To be effective such a system would have to be able to cover broad ocean areas rapidly and to relay detection data both to shore facilities and ASW platforms. The development of such a system would be a logical evolution of current Soviet use of satellites in monitoring the activity of Western surface units. It would, however, require a breakthrough in nonacoustic sensor development that cannot be predicted. The Soviets are continuing their research into the use of nonacoustic sensors, despite a long history of

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**Figure 19**  
**Soviet Navy's View of Potential Search Areas for Its ASW Operations**



This map from the Soviet Navy's professional journal indicates an awareness of the challenge to Soviet ASW caused by the introduction of Western SLBMs with longer ranges. (Polaris.

upper left, Poseidon, upper right, Trident C-4, lower left, Trident C-5 lower right.)

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apparent failure. Our limited knowledge of their program's precise nature [ ] makes it impossible to predict with confidence their chances of success.

- The development of towed passive acoustic arrays with increased performance due to array and signal-processing improvements. Such arrays could be developed by the 1990s. If deployed in large numbers, such as on hundreds of research ships and intelligence collectors, these arrays could theoretically provide initial detection of older Western SSBNs. The arrays, however, probably would not be effective against the quieter Ohio-class SSBNs, and their capability against even the older Western SSBNs while patrolling would be very limited. In addition, tactical and technical countermeasures could further reduce the vulnerability of older units.

72. We do not believe the Soviets will be able to solve the initial detection problem during the period of this Estimate. For this reason, we expect that the Soviet Navy will continue to focus its anti-SSBN efforts on attempting to detect and attack Western SSBNs as they exit their bases or pass through choke points. If, however, through some technological breakthrough the Soviets were able to detect Western SSBNs in the open ocean, they would then have a new problem of how to attack them. Such attacks might be conducted by the traditional technique of deploying surface, submarine, and/or air units to the datum. This approach would require that the Soviets deploy larger numbers of general purpose naval units at greater distances from Soviet territory than is currently anticipated. In addition to attack submarines, these operations might involve surface combatants, including carrier battle groups. ASW aircraft operating from Third World airfields could cover at least some SSBN operating areas, if access rights were granted and the host country were willing to risk becoming a belligerent. Unless there were a substantial increase in the size of the Soviet Navy or the detection breakthrough enabled the Soviets to provide SSBNs protection with fewer general purpose units, such a change in naval wartime deployments would require sacrificing some of the capability to protect the SSBN havens.

73. The Soviet Navy's strategic ASW problem will be further complicated by the United States' plan to arm its newest classes of attack submarines—potential-

ly over 70 units—with the land attack version of the Tomahawk SLCM. Although there are plans for a conventional variant, the Soviets are undoubtedly most concerned with the strategic implications of nuclear-tipped SLCMs. The employment of such SLCMs will complicate the Soviet ASW problem in two ways:

- The number of US strategic-missile-firing submarines will triple.
- The range of the nuclear Tomahawk will allow SLCM-armed submarines to strike Soviet territory from areas where it will be difficult for the Soviets to concentrate ASW forces.

74. Much of the defensive requirement against Tomahawk-armed submarines would coincide with and overlap other ASW efforts against Western units within Soviet sea control/sea denial areas. To reach targets deep within the USSR from the Norwegian Sea or Northwest Pacific, for example, Tomahawk-armed submarines would have to approach Soviet territory. In doing so they would pass through at least some of the echeloned ASW defenses the Soviets would establish to protect their SSBNs. Some targets near the Soviet coast, on the other hand, could be reached by SLCMs fired from the outer edges of the Northern and Pacific Fleets' defensive thresholds. SLCM-armed submarines operating in these areas would be able to avoid the bulk of the Soviet ASW defenses in the Norwegian Sea and Pacific Ocean.

75. One option available to the Soviets to counter this threat could be to extend the area of sea denial operations, possibly out to about 3,000 kilometers. The Soviets probably believe that a capability to conduct more extended sea denial will largely depend on their ability to contest the air superiority and ASW capability afforded NATO by carrier and land-based aircraft in areas such as the G-I-UK gap. They probably also believe that their ability to contest such airspace will necessitate operations by future surface combatant task groups, including CTOL aircraft carriers, at greater range from Soviet territory than currently planned. Any extension of the area for sea denial operations therefore will probably be accompanied by a corresponding extension of initial sea control areas—possibly as far as 2,000 kilometers. This would be more feasible for the Northern Fleet than for the Pacific Fleet. Given improved air cover from carrier-based



aircraft in the 1990s and/or from captured airfields in Norway, the Northern Fleet could shift the focus of its ASW efforts away from the SSBN havens in Arctic waters southward to the G-I-UK gap. Control of the gap would both significantly increase Soviet capabilities to contest Western use of the Norwegian Sea as an SLCM launch area and help protect Northern Fleet SSBNs from enemy ASW forces. Access to the Northwest Pacific Basin, on the other hand, is not restricted by any choke points that would facilitate a more forward-oriented ASW strategy. The Soviets, however, probably do not believe that the threat from SLCMs would be as great in the Pacific as in the Norwegian Sea. They probably expect that the majority of US SLCM-armed submarines would be deployed in European waters from which the more numerous military and economic targets located in the western USSR could be engaged.

76. The Soviets believe submarine-launched cruise missiles can also reach targets in the western USSR when fired from the central Mediterranean and North Seas, areas where the Soviets plan sea denial operations against carrier battle groups but probably only limited ASW efforts (see figure 20). Countering SLCM submarines in these areas could pose some tough choices for the Soviets. Any additional submarines deployed to these areas would lessen force allocations for other missions such as SSBN protection, prosecution of Western SSBNs, and interdiction of Western sea lines of communication. If the Soviets do opt for increased ASW efforts in the North and Mediterranean Seas, they probably would allocate more diesel submarines for barrier patrols in the northern entrance to the North Sea and in Mediterranean choke points such as the Straits of Gibraltar and Sicily.

77. The Soviets could ultimately decide that the required allocation of resources and the opportunity costs involved in countering SLCM-armed submarines in their patrol areas were too costly. Given their limited ASW detection capabilities, moreover, the Soviets probably would be pessimistic about their ability to counter SLCM-armed submarines in areas such as the central Mediterranean and the North Sea, even if substantial forces were deployed there. An alternate strategy might limit efforts specifically aimed at the cruise missile submarine to deploying a few attack submarines in the approaches to Western attack submarine bases—efforts similar to the Soviets' anti-SSBN tactics. Major emphasis would then be

placed on countering the missiles themselves through a combination of improved land-based air defense systems.

78. *Antisurface Warfare (ASUW)*. Although the Soviets view Western submarines as the major naval threat to their territory and SSBN havens, their perception of the threat from Western surface forces and the importance they attach to ASUW are likely to increase during the next two decades. Carrier battle groups will continue to be perceived as major threats to Soviet and Warsaw Pact territory, SSBN havens, and operations in the land TVDs. Concern with carrier battle groups will remain high because of:

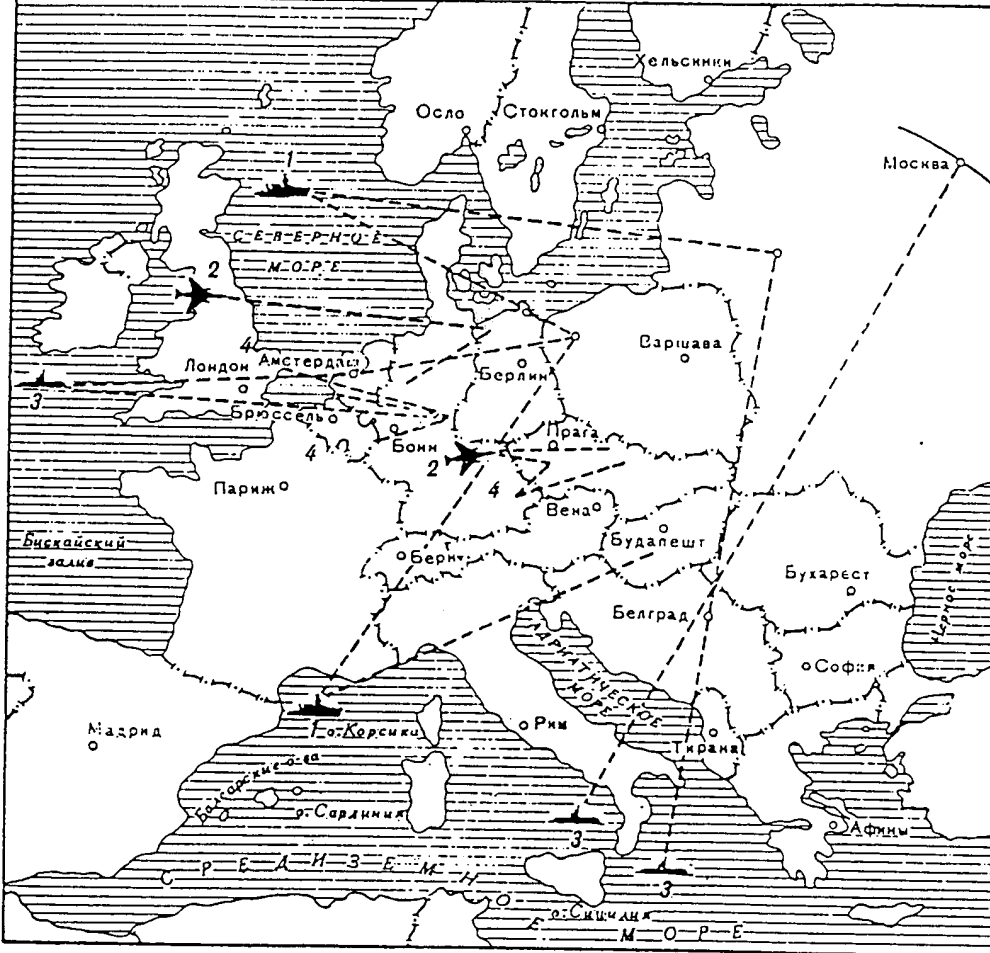
- Soviet expectations that the number of carriers in NATO will at least remain constant and probably increase as the result of US plans to expand to a 15-battle-group navy, the reemergence of sea-based, fixed-wing aviation in the Royal Navy, and French and Spanish plans for new carrier construction.
- Expected improvements in the offensive capability of carriers by equipping their aircraft with cruise missiles such as Tomahawk.
- Improvements in the ability of carrier battle groups to defend themselves against attack through such programs as the AEGIS air defense system.

79. Further, the Soviets will no longer be able to concentrate on aircraft carriers as the only Western surface units posing a significant threat to their territory. The Soviets are fully aware of US plans to equip battleships, cruisers, and destroyers with the land attack version of the Tomahawk missile. They realize that this would result in a substantial increase in the number of Western surface combatants capable of striking the USSR with nuclear weapons. This would greatly complicate their strategic defensive task because any surface combatant would have to be considered a potential nuclear threat.

80. To meet this threat the Soviet Navy will continue efforts to improve its ASUW capabilities. Of particular importance will be:

- Construction of general purpose submarines equipped with advanced antiship torpedoes and cruise missiles. Construction of the O-class SSGN, with its 24 SS-N-19 missiles, is likely to continue

Figure 20  
Soviet View of Tomahawk



We believe this illustration, although published in an unclassified Soviet naval journal, accurately reflects Soviet concern regarding potential use and employment areas for the Tomahawk. Soviet caption: "This is how NATO strategists propose using Tomahawk:

from surface ships (1), aircraft (2), submarines (3), and ground launchers (4).

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Morskoy Sbornik (Naval Digest)  
No. 5, 1980  
"Attention: Tomahawk!"  
Capt. First Rank B. Rodionov

into the 1990s, as will that of torpedo-equipped SSNs and SSs. The tactical distinction between cruise-missile-equipped submarines (SSGN, SSG) and torpedo attack units (SSN, SS) would become less clear if the Soviets introduced antiship cruise missiles that can be fired from torpedo tubes.

- Construction of surface combatants equipped with antiship missiles. The number of major surface combatants armed with such missiles is likely to increase substantially as a result of current construction programs (Kirov, Kiev, BLK-COM-1, Sovremennyy) and their projected follow-ons. There is evidence, moreover, that the SS-N-14 ASW cruise missile may have a secondary antiship capability.
- Continued production of Backfire bombers for Soviet Naval Aviation and a probable new bomber in the late 1980s to early 1990s to replace the Badgers and Blinders, as well as a possible increase in the number of SNA missile regiments. In addition, aircraft introduced in the 1990s may incorporate Stealth technology to make them less susceptible to detection.
- Deployment of more capable sea-based fighter-bombers, both VSTOL aircraft operating from Kiev-class ships and CTOL aircraft operating from a new class of carrier.

The introduction of these new platforms will greatly increase the number of missiles available for attack and will coincide with other efforts to improve ASUW capability. In particular:

- Improvements are likely in antiship missiles, especially in target discrimination capability, survivability, and reaction times. The SS-NX-22, for example, is much faster (Mach 2+) and can approach the target at lower altitudes [ ] than such currently operational missiles as the SS-N-2 and SS-N-9. We believe the SS-NX-22 will be operational on Sovremennyy- and Tarantul-class units in 1983.
- The capability of the radar ocean reconnaissance satellite (RORSAT) to detect ships and distinguish target size probably will be enhanced.
- Evolutionary improvements are likely in the electronic-intelligence ocean reconnaissance satellite (EORSAT) directed toward increased longevity, enhanced probability of detection, and

continuous targeting capability through higher orbits, better sensors, and a wider field of view. We expect the Soviets will continue to convert older submarines and equip new surface and submarine units with the capability to use real time EORSAT (and RORSAT) data to support antiship cruise missile systems.

- The development of a synthetic aperture radar oceanographic satellite to provide improved all-weather, worldwide naval surveillance is possible during the latter period of this Estimate.
- Some new AAVGK bombers, possibly including a version of the Blackjack, could be configured for a maritime strike role. With an estimated radius of some 3,200 to 4,000 nautical miles, the Blackjack could attack Western surface targets in the central Atlantic from Soviet territory.

81. The execution of the ASUW task probably will continue to be primarily concentrated in areas such as the Norwegian and North Seas, the eastern Mediterranean, and the northwestern Pacific—the principal areas from which carrier aircraft and sea-based cruise missiles could be launched against Soviet territory. Coordination of Soviet submarine and surface ship operations with those of land-based medium bombers is improved by concentrating ASUW in these areas. Soviet ASUW doctrine is likely to continue its emphasis on "first salvo" attacks—tracking Western surface units during the prewar period of tensions and attacking the most important of them with maximum force at the outset of hostilities. The Soviets undoubtedly recognize that this goal will become more difficult to achieve as the number of important targets grows through the introduction of nuclear Tomahawk and increases in the number of NATO surface battle groups and improved missile defensive systems such as AEGIS. The proliferation of high-value targets is likely to contribute to a greater emphasis on ASUW operations of extended duration (days and weeks rather than minutes and hours). Indications of such emphasis are already visible in exercises and in weapons-loading features of new units.

82. Although most ASUW operations will be concentrated relatively close to Soviet territory, the Soviets probably will seek by the mid-1980s to extend the outer edge of the Northern and Pacific Fleet sea denial area somewhat beyond the current threshold of roughly 2,000 kilometers to counter the long range of

Western SLCMs. Some attacks at much greater distances from Soviet territory are possible. Among the options they might find attractive for such operations are the deployment of missile-equipped aircraft to bases outside the USSR—if the host country were willing to risk becoming a belligerent—and equipping SNA with long-range bombers such as the Blackjack A now under development. A less likely possibility is the use of ballistic missiles against surface ships at sea. [

] Although the Soviets probably do not consider the ASUW problem to be as difficult as ASW, they apparently expect it to remain a major and growing challenge through the 1990s.

83. *Antiair Warfare at Sea.* The Soviets recognize that the ability of their surface ships to conduct ASW and ASUW operations and project power beyond the range of land-based air cover is heavily dependent on their capability to defend themselves against air attack. The successful use of sea-skimming antiship missiles in the Falklands crisis probably has increased the already evident Soviet concern over the proliferation of these weapons in Western navies. The Soviets also realize that Western use of radar-cross-section reduction techniques will further complicate defense efforts against cruise missiles. In the past, the Soviets' air defense efforts concentrated primarily on point defense and self-protection weapons. Recent Gatling and dual-purpose gun systems, the new SA-NX-7 SAM, and the probable Udalay SAM system continue this philosophy.

84. The SA-N-6 SAM being deployed on cruisers of the Kirov and BLK-COM-1 classes, however, is a long-range system that could provide the Soviets their first genuine area air defense capability against aircraft. There is disagreement within the US Intelligence Community on the capability of the SA-N-6 to engage low-altitude, low-radar-cross-section antiship cruise missiles. Some<sup>3</sup> believe the SA-N-6 has such a capability. Others<sup>4</sup> believe that the SA-N-6 may encounter

<sup>3</sup> The holders of this view are the Director, Defense Intelligence Agency, and the Director of Naval Intelligence, Department of the Navy.

<sup>4</sup> The holders of this view are the Deputy Director for Intelligence, Central Intelligence Agency, and the Director, Bureau of Intelligence and Research, Department of State.

severe guidance and fuzing problems when used against cruise missiles, such as the Harpoon, which have a small radar cross section [

] We expect that the SA-N-6 or follow-on area air defense weapons will be deployed on all future cruisers.

85. The Soviets also probably will improve their defensive systems' signal processing capability and will continue to improve radar performance. Other likely developments in naval air defense will include improvements in handling multiple targets, better low-altitude fuzing and target detection in a sea clutter environment, and additional electronic countermeasures (ECM) and electronic counter-countermeasures (ECCM).

86. In addition to continued work in gun and missile technology, the Soviets are exploring the potential value of laser air defense weapons. It is likely that the Soviet Navy now has an R&D facility test area for high-energy lasers to explore shipborne air defense applications. It is possible that a prototype laser weapon, perhaps a low-energy system designed to counter electro-optical systems, will be installed on some new ship classes in the mid-to-late 1980s. We also believe a naval high-energy laser weapon may be operational by 1990. If laser weapons prove practical in a naval environment, we expect them to be deployed on many Soviet principal surface combatants by the year 2000, particularly for close-in and low-level defense against cruise missiles.

87. Soviet fleet air defense capability will be further enhanced by the introduction of high-performance fighter aircraft on the projected new class of aircraft carrier (see next paragraph). The overall effectiveness of the Soviets' efforts to protect their surface fleet, however, will depend on their ability to integrate the operations of carrier- and land-based aircraft with shipborne SAM, gun, and laser systems. We believe the Soviets are working on a system to coordinate their air defense assets through the use of airborne warning and control system (AWACS) and possibly carrier-based airborne early warning (AEW) aircraft in conjunction with shipborne air warfare control centers to provide a communications/navigation/identification net (CNI). This will allow exchange of command and control and reliable IFF data (a system to differentiate between

friendly and hostile units) and provide a common navigation base line for participants in a more integrated and effective air warfare system. During the period of this Estimate, however, we believe Soviet efforts will evolve slowly, primarily because of lack of experience in the complex management of fleet air defense operations involving both aircraft and ships.

88. *Air Power at Sea.* The most notable change in the Soviet Navy in the next 10 to 20 years probably will be the introduction of its first Western-style aircraft carriers—that is, ships equipped with catapults and arresting gear and thereby capable of handling CTOL high-performance aircraft. We expect that the first of these ships, probably a 60,000-ton unit with nuclear propulsion, will become operational by about 1990 and that three or four could be in service by the end of the century. Each ship probably could carry an air group of some 60 aircraft.

89. Although aircraft carriers will enhance Soviet capabilities to project power and influence in distant areas, we believe their primary mission will be to help expand the area of Northern and Pacific Fleet wartime sea control operations. During a general war, Soviet aircraft carrier operations probably will focus initially on providing air defense for surface groups supporting Soviet SSBNs and defending the sea approaches to the USSR in the Norwegian Sea and Northwest Pacific Basin. The air cover provided by carrier-based fighter aircraft probably will allow the Soviets to operate surface units at greater distances from Pact territory than currently envisioned. Other tasks of Soviet carrier aircraft could include:

- Conducting ASW with embarked helicopters.
- Attacking Western surface units.
- Escorting land-based reconnaissance, strike, and ASW aircraft during part of their operations.
- Attacking Western land bases and facilities.
- Attacking Western aerial resupply efforts.

In conducting such operations, Soviet carriers will operate with other surface units and possibly submarines and land-based aircraft. Their lack of experience in such complex operations, however, suggests that it will be at least the mid-1990s before a reasonable standard of operational proficiency can be attained.

90. Although the construction of a new class of aircraft carrier is apparently the policy of the present Soviet political and naval leadership, it is the type of program which could suffer from changes in such leadership and from economic problems. The enormous costs involved, not only for the ships themselves but for the air group, supporting vessels, and shore-based infrastructure, could make the program vulnerable to cancellation or delay if the Politburo seeks to reduce the burden of defense expenditures.

91. Regardless of Soviet decisions concerning CTOL aircraft carriers, the Soviet Navy probably will introduce improvements in its VSTOL aircraft units aboard the four Kiev-class ships. Such improvements are likely to involve a replacement for the Forger that has greater endurance, speed, payload, and air defense capability.

92. *Protection of State Interests in Peacetime and Limited War.* Although the primary emphasis in Soviet naval developments will continue to be on improving capabilities in a war with NATO, Soviet writings, construction programs, and exercises indicate a growing recognition of the value of naval forces in situations short of general war. Programs currently identified or projected by the US Intelligence Community will result by the mid-to-late 1990s in substantial improvements in the Soviet Navy's capability to project power and influence in distant areas.

93. The most important improvement will stem from the construction of aircraft carriers capable of handling high-performance aircraft. The lack of adequate air support has been the major operational weakness of Soviet naval forces in distant areas. A force of two carriers with a total of some 120 aircraft would eliminate much of this weakness. Although much smaller than the US carrier force, it would provide the basis for establishing air superiority in many Third World situations in which the West did not become involved. Soviet writings concerning the use of carriers emphasize their value in show-the-flag and limited-war situations.

94. Projected improvements in Soviet amphibious forces will also contribute to an improved capability to project power in distant areas. We expect continued gradual construction of naval amphibious ships, including additional LPDs, as well as smaller units. The

Soviets also will continue exploring the use of advanced cargo ships such as roll-on/roll-off and ocean-going barge carrier (LASH) ships in amphibious landings. The Soviet naval infantry (now at a strength of about 14,000) will grow, perhaps to some 18,000 to 20,000 men. Additional amphibious assault forces will be available from ground forces units trained in such operations.

95. We do not believe that these estimated improvements will be sufficient to enable the Soviets to conduct amphibious operations in distant areas during a war with NATO. Such wartime operations will continue to emphasize areas on the Soviet periphery. Nor will such improvements make it practical to conduct landings in situations in which Western forces would be in opposition. These improvements, however, will provide Soviet leaders with a much-improved capability to overcome the opposition that could be offered by most Third World countries, especially those that were intrinsically weak or beset by internal divisions. Such improvements could also be used to support client states involved in military operations against other states or internal opponents. We believe that certain aspects of the recent exercise ZAPAD-81 suggest an interest in testing planning concepts for amphibious operations in the Third World.

96. The amount of time spent by Soviet general purpose units outside home waters is likely to increase only slightly in the 1980s and 1990s. Constraints on a major increase in regular out-of-area deployments probably will continue to include:

- The need to retain most naval forces close to Soviet home waters and in a readiness condition for rapid deployment to major wartime operating areas such as the Norwegian Sea.
- The fuel, maintenance, and personnel costs of out-of-area deployments, even at the low levels of activity typical of Soviet units.
- A possible recognition by the Soviets that the usefulness of deployed naval forces is not necessarily a direct correlation of size, but also involves capability and the value of any naval presence as a signal of Soviet interest in an area.

Changes in out-of-area deployments are likely to be most significant in terms of the capabilities of the units involved (new aircraft carriers, Ivan Rogovs, Kirovs,

and so forth) and the areas in which they will operate. The areas in which the Soviets maintain a permanent naval presence (Mediterranean, Indian Ocean, South China Sea, West Africa) are likely to undergo further gradual expansion in response to political imperatives, primarily a desire to support the maintenance of established "socialist" regimes and the creation of new ones. Among the most likely candidate areas for such permanent naval presence are the Caribbean and the Philippine Sea. To support such operations, the Soviets will continue their attempts to achieve increased access to foreign facilities.

97. In addition to supporting peacetime naval operations, the Soviets probably would seek to use facilities in Third World countries in both a war against NATO and other lesser conflicts. The most likely role of such facilities in wartime would be as positions from which Western force movements can be monitored during the period of tension before the outbreak of war. We therefore expect to see continued efforts to obtain the use of airfields to support reconnaissance flights, as well as the establishment of SIGINT, communications, and possibly submarine-tracking facilities. The Soviets probably will continue to regard the use, especially the sustained use, of facilities in Third World countries in wartime as questionable because of their vulnerability and the possible unwillingness of host governments to risk becoming belligerents. The advantages to the Soviet Navy, however, of using such facilities are potentially substantial, particularly in operations against SSBNs and carrier battle groups. We think it likely, therefore, that efforts will be made to develop relations with Third World countries that will make wartime use of facilities, especially by aircraft, a more realistic possibility.

### III. PROSPECTS FOR THE SOVIET NAVY

98. We believe that an examination of the current role of the Navy in Soviet military strategy, naval R&D, and construction programs and the key issues facing Soviet planners enables us to make a judgment as to the most likely course of development for the Navy over the remainder of this century. We recognize, however, that an estimate covering such a long period of political, economic, and technological changes must be viewed with caution. An examination of some less likely but still feasible courses of development is therefore included as well. These alternative

courses of development are not meant to be exhaustive but rather to indicate some of the types of variables that could change our baseline estimate.

#### A. Baseline Estimate

99. We believe that the wartime strategy of the Soviet Navy will remain essentially unchanged over the next 15 to 20 years in terms of major tasks and the composition of forces to carry out those tasks. The requirement to counter advances in Western naval offensive capabilities, however, probably will cause the Soviets gradually to expand the areas in which their forces would be deployed for sea-control/sea denial operations. They will introduce new weapon platforms and systems into the Navy and will seek an improved capability to use those weapons. We believe, however, that these changes will occur within the framework of the Soviets' present strategy because they probably will continue to view it as offering the best chance of accomplishing their vital wartime tasks.

100. The single most important mission of the Navy will continue to be strategic strike, primarily using SLBMs and possibly SLCMs. The importance of sea-based nuclear strike assets within the USSR's overall military strategy could grow because:

- The percentage of Soviet strategic nuclear warheads assigned to SSBNs will increase as Typhoons with MIRVed SLBMs enter service.
- New Soviet SLBMs could be sufficiently accurate to be used effectively against hardened targets.
- Soviet silo-based strategic systems may become more vulnerable.

The combination of increased SLBM accuracy and fixed ICBM vulnerability could provide powerful incentives for the Soviet Union to move an even larger portion of its strategic strike capability to sea. Although such a shift probably would be resisted by other elements within the Soviet armed forces, especially the Strategic Rocket Forces, it will continue to be advocated by the Soviet naval leadership and has a reasonable chance of gaining political endorsement.

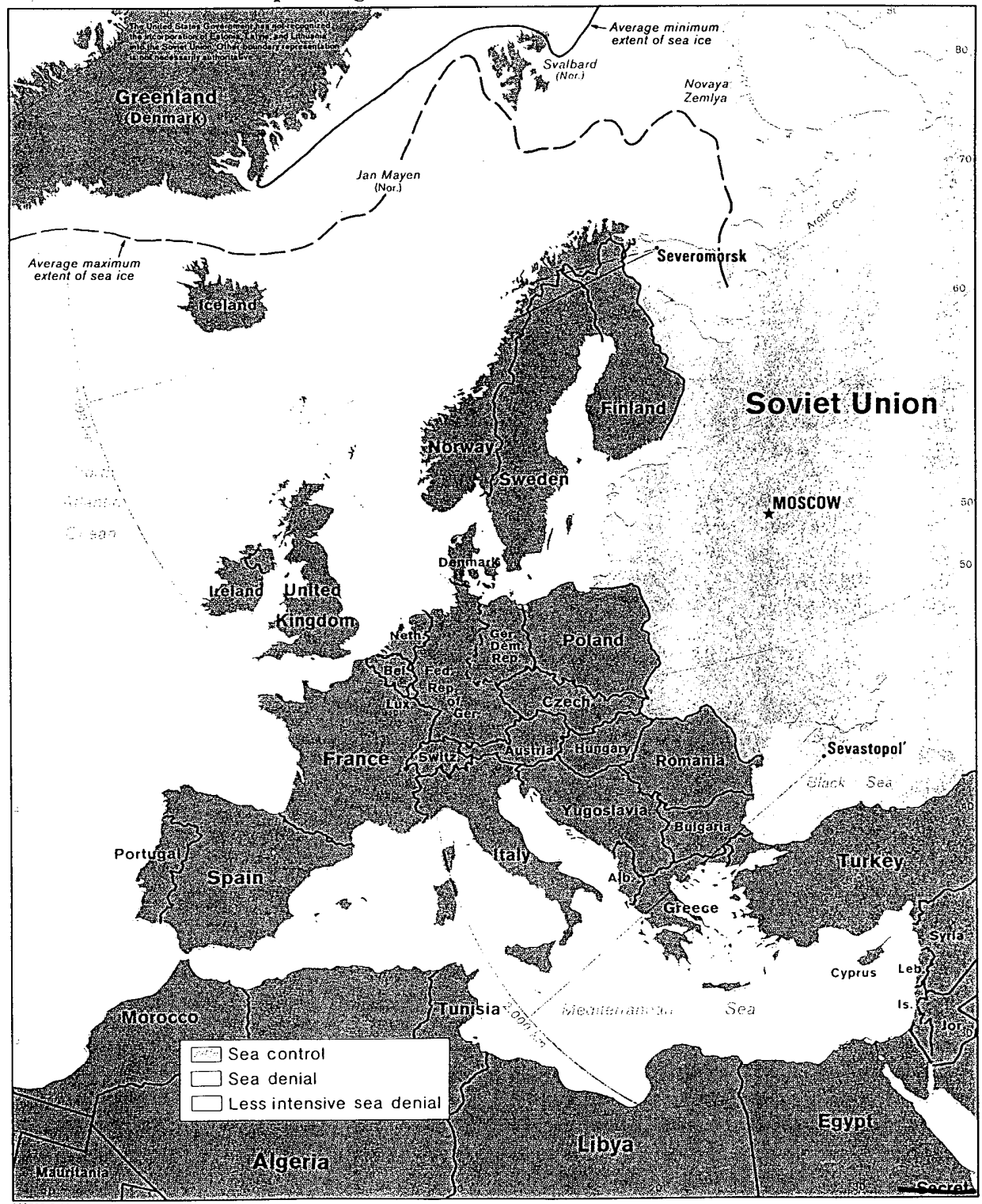
101. We nonetheless believe the Soviets will continue to regard their SSBNs as vulnerable to enemy ASW forces throughout the period of this Estimate. Protection and support for Soviet SSBNs, therefore, is likely to remain the most important consideration in the initial wartime deployment of a large portion of general purpose naval forces of the Northern and Pacific Fleets. Pacific Fleet forces would be concentrated in the Northwest Pacific Basin, the Sea of Japan, and the Sea of Okhotsk area. The Northern Fleet would deploy the bulk of its forces to the Barents, Greenland, and northern Norwegian Seas, although the outer edge of what we describe as the Northern Fleet sea control area probably will expand gradually to include the southern Norwegian Sea, primarily to facilitate an extension of sea denial operations beyond the G-I-UK gap. This would be intended principally to counter Western SLCM-armed ships and submarines, but would also support other operations in the Atlantic (see figure 21). Pacific Fleet sea control operations would also expand somewhat (see figure 22). The major mission of Soviet CTOL aircraft carriers will probably be to assist in expanding these areas. Concentrating forces there will continue to appeal to the Soviets because it will enhance integration of their submarine and surface units with the land-based air support which, even after the introduction of a few aircraft carriers, will continue to constitute the bulk of the forces of SNA.

102. The Soviets probably will continue to view Western SSNs as the primary threat to their SSBN force and will conclude that the best chance of detecting such SSNs lies in waiting for them to enter relatively confined areas where the Soviets will have a concentration of forces and where their short-range sensors can be used to best advantage. Expected improvements in Soviet ASW platforms, tactics, and fixed-sensor technology, such as Cluster Lance, and increased use of underice patrols probably will improve—perhaps substantially—the Soviet Navy's ability to protect its SSBNs. We doubt, however, that the Soviets will view such improvements as sufficient to allow a lessened initial commitment of forces for SSBN protection.

103. Northern and Pacific Fleet operations for the protection of SSBNs will coincide with those for a portion of a second important task, strategic defense. Such operations, together with some of those of the

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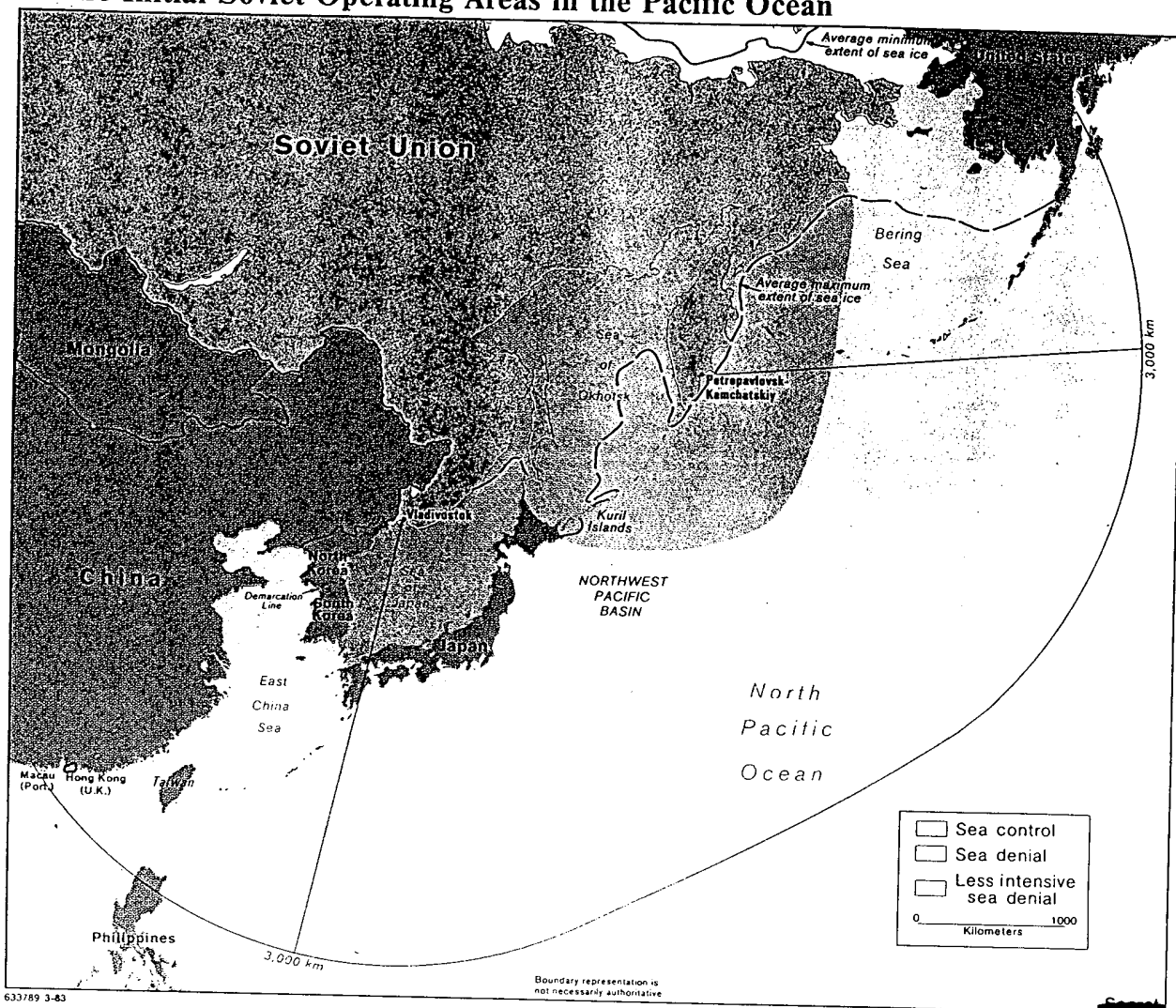
**Figure 21**  
**Future Initial Soviet Operating Areas in the Western TVDs**



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**Figure 22**  
**Future Initial Soviet Operating Areas in the Pacific Ocean**



Black Sea and Baltic Fleets, will seek to destroy Western aircraft carriers and strategic cruise missile platforms as they cross Soviet defense thresholds, now generally some 2,000 kilometers from Soviet territory. We expect such operations to be of growing importance to the Soviets because of their expectations concerning the proliferation of Western strategic cruise missiles. To counter Western cruise missiles launched from surface ships and submarines and the added range these missiles afford carrier-based strike aircraft, the Soviets probably will seek to extend the

outer edge of the sea denial areas of the Northern and Pacific Fleets to approximately 3,000 kilometers. (s)

104. Another portion of the strategic defense task—the destruction of enemy SSBNs before they can launch their missiles—will pose an increasing dilemma for the Soviets. The deployment of hard-target-capable US SLBMs, improved British and French SSBNs, and the first Chinese SSBNs probably will increase the importance of achieving such destruction. The Soviet Navy's ability to detect and track US SSBNs in the open ocean, however, probably will decline, at least

over the next 10 years. This assessment is based on our belief that:

- The increased patrol areas of SSBNs carrying Trident SLBMs will more than offset the increased coverage that could be provided by improved Soviet conventional ASW platforms.
- The Soviets probably will be unable to deploy a broad-ocean acoustic or nonacoustic sensor.
- Soviet SSNs will not be sufficiently quiet—at least throughout the next decade—to engage in covert trail, and Soviet ASW aircraft will not be deployed in sufficient numbers or have adequate range to maintain contact in US SSBN patrol areas.
- Overt trail will continue to be technically feasible—particularly in choke points and relatively confined areas—but the Soviets will not have sufficient platforms to threaten the US SSBN force. A decision to use a substantial number of SSNs in this manner, moreover, would divert them from other missions such as protecting Soviet SSBNs.

We therefore expect that Soviet naval anti-SSBN operations will continue to be modest, with only a relatively few attack submarines stationed in choke points or in the approaches to Western or Chinese submarine bases.

105. We believe that Soviet procurement of naval weapon platforms and systems over the period of this Estimate will be driven primarily by requirements stemming from the strategic offensive and defensive tasks outlined above. The importance of these tasks should provide a solid basis for the Navy to continue receiving at least the same share of the defense budget that it has received since the 1960s. Such an allocation of resources means that the Soviet Navy will continue to receive new platforms, including new classes of large surface combatants, attack submarines, and aircraft. The production rate will not completely offset the retirement of older units. The accelerating cost per ton of new combatants would make ship-for-ship replacement prohibitively expensive. Indeed, considering manpower/maintenance constraints, this may not be feasible. The force in the year 2000 will therefore be somewhat smaller than that of today. Newer units, however, will generally be larger than

those being replaced and will be equipped with more sophisticated weapon systems:

- The size of the modern ballistic missile submarine force will probably remain roughly constant at about 60 units throughout the 1990s. The size of the overall force (now 85 units) will decline by approximately 30 percent as older units (G-class SSBs and H-class and older Y-class SSBNs) are converted or retired. The new units will be larger and will carry more missile tubes than most or all of those units retired. In the absence of an arms control or reduction treaty, the number of SLBM launch tubes as well as the number of warheads carried by the SSBN force is likely to increase.
- The first unit of the new class of 60,000-ton nuclear-powered aircraft carriers probably will become operational by about 1990. A total of three or four is expected by the year 2000.
- The number of principal surface combatants probably will decline somewhat—to about 260 units. New construction programs are likely to include two or three new classes of nuclear-powered guided-missile cruisers (CGNs); two new classes of guided-missile destroyers (DDGs); and three or four new classes of frigates. As a result of these programs the trend toward larger average unit size, greater weapons loads, and more sophisticated air defense and antisurface weapons, sensors, and electronic warfare systems will continue, thereby improving the Soviet Navy's capability for sustained operations.
- The overall number of general purpose submarines probably will decline to about 260 units, but the number of nuclear-powered units probably will grow substantially. New classes will include follow-ons to the C-class and possibly to the O-class SSGN and A-class SSN, as well as the V-class SSN follow-on we expect to reach IOC in 1984. These units should continue the trend toward quieter platforms with improved sensors and increased command and control capability. Construction of improved diesel submarines with greater submerged endurance will also continue.
- The Soviet Navy's overall amphibious assault lift capability will increase gradually. A follow-on to the Ivan Rogov-class assault ship (LPD) and two new classes of tank landing ships (LSTs) are likely

to be introduced. Construction of smaller units, including air cushion vehicles (ACVs), will also continue. Emphasis on amphibious utility in merchant ship construction—especially for Ro-Ro and similar ships—will remain unchanged. Soviet interest in the use of helicopters in amphibious assault may lead to construction of a helicopter assault ship (LPH or LHA) in the 1990s. We expect an increase in the size of the naval infantry from about 14,000 to about 18,000 to 20,000 men.

- The Soviet Navy's underway replenishment capabilities should be enhanced by the introduction of one or more new classes of multipurpose replenishment ships. Construction of such ships, however, is likely to continue receiving a lower priority than the construction of the ships they are intended to support.
- The number of fixed-wing naval aircraft probably will increase somewhat, with the major changes being the first deployment to sea of high-performance CTOL aircraft as part of the air group on the first aircraft carriers and the introduction to SNA of the Blackjack A bomber or, more likely, a Backfire follow-on. SNA will be an essential element in the Soviets' attempts to expand their sea control/denial efforts against Western surface forces in vital areas such as the Norwegian, North, and Mediterranean Seas and the Northwest Pacific Basin. SNA bombers will also remain a principal feature of Soviet antisurface capabilities in other areas such as the Arabian Sea.

This projected Soviet naval construction program was subjected to econometric analysis, which determined that it would be consistent with current Soviet budgetary trends in ship and aircraft construction.

106. We believe that major technical improvements in Soviet fleet air defense are likely during the period of this Estimate. New SAMs, guns, and laser weapons will probably be introduced and radio-electronic combat measures will continue to receive a high priority. Fighter aircraft operating from the projected CTOL carriers of the Northern and Pacific Fleets, probably in cooperation with AWACS and possibly AEW aircraft, will add a new dimension to the Navy's air defense resources. We cannot confidently assess the

net effect of these changes on the ability of Soviet surface forces to defend themselves against air attack during a war with NATO. Such an assessment is highly dependent on tactical variables. The performance characteristics of key systems, such as the SA-N-6, are not yet fully understood. Changes in the Soviet Navy's air defense systems will be occurring simultaneously with those in Western antiship capability, including the introduction of large numbers of cruise missiles. Despite these uncertainties, the major Soviet commitment to the construction of large surface combatants persuades us that the naval leadership probably judges the overall result of changes in air defense capability as sufficient to support the wartime deployment of surface units farther from Soviet territory in a gradual expansion of their intended sea control areas.

107. Expansion of both sea control and sea denial operations would be supported by gradual improvements in Soviet capability to surveil Western surface units and provide targeting assistance for antiship missile attacks. Improved over-the-horizon targeting would allow individual Soviet units to make better use of the range of their missiles, thereby covering a broader ocean area. Much of the improvement we expect in surveillance and targeting will involve satellite systems. We believe that the Soviets will introduce by the early 1990s an improved EORSAT with the capability to detect and identify additional types of radars. By the late 1990s, further improvements in the EORSAT are likely to result in near-continuous targeting capability by use of higher orbits, better sensors, and expanded fields of view. A new RORSAT probably will also be introduced with improvements in probability of detection and a wider field of view. It is also possible the Soviets will produce a synthetic aperture radar satellite for improved all-weather surveillance. We expect that the improved EORSAT and RORSAT may be used in cooperation with a new satellite data relay system to provide real-time battle management information to command authorities ashore. In addition, during the period of this Estimate, advances in maritime surveillance from manned space vehicles can be expected. The use of satellites, however, cannot be considered exclusively in the context of Soviet naval operations. Such use will continue to provide one of the many linkages between naval operations and overall Soviet military strategy. The Navy's ability to use satellite systems in wartime would depend on such nonnaval factors as the extent

to which antisatellite warfare would be conducted at the outset of war and the ability of satellites to survive Western attack. Recognizing the danger of being dependent on any single system, the Soviet Navy will continue to integrate surveillance and targeting support from satellites with that from traditional platforms such as manned aircraft and possibly from new systems such as reconnaissance drones.

108. The Soviets probably recognize that future operations in areas such as the southern Norwegian Sea will place greater demands on the Navy's command, control, and communications system because of factors such as larger operating areas, more emphasis on the integration of diverse platforms, and the need to counter a greater number of high-value targets. We expect the Soviets to respond to this challenge by improving their capabilities in technical areas such as satellite communications, very-low-frequency communications support to submarines, and low-probability-of-intercept systems, and by striving for greater automated data system compatibility. Another major trend will include increased automation to support battle management at all levels of the command structure. We believe that the major emphasis in the command, control, and communications system will continue to be on highly centralized control of wartime operations, but there are indications of an intention by the fleet staffs to delegate a larger portion of their battle management responsibilities to the flotilla- and squadron-level commands.

109. In addition to its primary wartime tasks, the Soviet Navy also will continue to be responsible for supporting ground forces in the land TVDs and for interdicting sea lines of communication. Antiship and ASW operations by the Baltic Fleet in the North Sea and the Black Sea Fleet in the Mediterranean probably will receive increased emphasis to counter the growing capability of Western naval forces to strike targets in the land TVDs from increased ranges. The relatively low priority of open-ocean SLOC interdiction in Soviet naval strategy probably will not change radically unless the Soviets foresee a protracted conventional war with NATO or are responding to major changes in NATO's force structure or strategy for the reinforcement and resupply of Europe. Despite increased capabilities for power projection in distant areas, Soviet amphibious forces will continue to be structured primarily for landings close to Warsaw Pact territory during a war with NATO.

110. Soviet naval out-of-area operations in peacetime will continue to focus on maintaining permanent presence in areas such as the Mediterranean, the Arabian Sea, the South China Sea, and off the west coast of Africa. We expect the Soviets will attempt to expand their level of naval activity in areas such as the Caribbean Sea, the Philippine Sea, and the southwest Indian Ocean islands. They also are likely to step up efforts to acquire access to foreign naval support facilities. The new ships entering service undoubtedly will be used in the traditional techniques of Soviet naval diplomacy ranging from routine show-the-flag port visits to demonstrations of support for client states during crisis situations and limited wars. Given the likelihood of continued instability in the Third World, the use of such naval diplomacy and power projection techniques probably will increase during the 1980s and 1990s.

111. We believe, however, that the most significant change in the Soviet Navy during the period of this Estimate will be the achievement for the first time of an ability to project power ashore effectively in distant areas in a limited war environment—that is, one that does not involve a confrontation between the USSR and NATO. Although we believe that Soviet naval programs are motivated primarily by requirements for a general war with the West, new platforms and weapon systems will help to close some of the current gaps in Soviet capability to conduct such distant area operations. In particular, the ability to form a task force around two or three CTOL aircraft carriers will give the Soviet Navy its first significant capability to provide tactical air support for ground force operations and amphibious landings by Soviet or client forces in distant areas. The new medium-caliber gun and air defense systems on new classes of surface ships and the probable acquisition of additional large amphibious ships and a seaborne assault helicopter (perhaps Helix B) will also improve the Soviet Navy's capability to conduct opposed landings.

112. These enhanced capabilities will give the Soviets the option to use naval force in a number of Third World situations against all but the most well-armed regional powers. Because the Soviets probably will have, at most, four CTOL carriers by the year 2000, they would have to draw heavily on the assets of more than one fleet—as they did during the large amphibious portion of exercise ZAPAD-81—to assemble a

force sufficient to conduct an opposed distant-area landing. The assembly of such a force at a great distance from the USSR would seriously undermine the Soviet Navy's ability to perform its priority strategic offensive and defensive missions in the event of escalation to general war. We believe, therefore, that major Soviet naval task force participation in Third World conflicts will be restricted to limited war situations in which the Soviets judged the risk of escalation to a war with the United States or NATO to be small.

113. Perhaps the most compelling argument against a more ambitious power projection strategy during the period of this Estimate is our judgment that programs directly supporting the Navy's strategic offensive and defensive missions—nuclear-powered ballistic missile, cruise missile, and attack submarines, land-based strike aircraft, and ASW-oriented surface combatants—will continue to receive top priority in the allocation of the Soviet Navy's budget. Other factors which cast doubt on a significantly increased power projection commitment in the near term include the following:

- The naval infantry's growth has been modest. Since its reestablishment in 1963 it has grown to a current strength of about 14,000.
- The pace of LPD construction has been slow.
- Only one Berezina AOR has been built and no other large replenishment units are known to be under construction.

114. The likelihood of an ambitious naval power projection strategy during the period of this Estimate is further reduced by the practical difficulties involved in rapidly constructing a large number of CTOL aircraft carriers, the most important instruments of such a mission. We estimate that the Soviets will construct such carriers at the same Nikolayev shipyard on the Black Sea at which Kiev-class aircraft carriers are built. This facility has been specially configured at great expense (including the installation of the USSR's largest overhead gantry cranes) for the construction of such large warships. We estimate that this yard, if operating at a normal construction pace, will be able to produce one large CTOL aircraft carrier every four years, with the first unit being delivered about 1990. It is possible for the Soviets to construct carriers at a faster rate, by using additional, less suitable shipyards or by placing construction at Nikolayev on a crash

basis. Such practices would, however, be inconsistent with past Soviet practice when constructing new types of large combatants. (The construction of the first unit of the Kirov-class CGN, for example, began in 1973 but was not completed until 1980.) We believe that the Soviets recognize the complexity of building and operating CTOL carriers and are likely to develop this capability at a slow-but-sure pace. For these reasons, we reject the concept of a Soviet Navy in which power projection by major naval task forces plays a dominant role.

#### B. Alternate Courses of Development

115. Our best estimate on the future of the Soviet Navy reflects our judgment that the trends we have observed in ship construction, naval doctrine, and strategy over the past 20 years will continue. The following paragraphs discuss three variables that could precipitate major changes in the Soviet Navy of the 1990s: a major Soviet ASW breakthrough, a strategic arms reduction treaty, and a severe economic crisis that forces a cut in military spending.

116. *An ASW Breakthrough.* The development that would result in the most profound change in Soviet wartime strategy from that outlined above would be an ASW breakthrough that gives the Soviets the capability to detect and track enemy submarines in the open ocean—a breakthrough derived from one of the many research efforts they are conducting on acoustic and nonacoustic sensors. Although unlikely throughout the period of this Estimate, such a breakthrough would substantially increase the Soviet Navy's ability to perform the critically important strategic defensive tasks of destroying enemy ballistic missile and land attack cruise missile submarines before they launched their missiles. It would also increase the Soviets' ability to protect their SSBNs, because enemy attack submarines could be identified and attacked long before they closed Soviet SSBN havens.

117. We believe an ASW breakthrough would lead to major changes in the way the Soviets would deploy their general purpose forces, particularly attack submarines, before and during a general war. During the prehostilities phase, the Soviets probably would opt to deploy substantial numbers of SSNs to suspected enemy SSBN operating areas, in choke points, and in likely transit lanes near enemy submarine bases. These nuclear-powered attack submarines would attempt to

gain contact and maintain trail on detected Western submarines. As a consequence, fewer submarines would be available for SSBN protection, unless the Soviet SSN order of battle were increased. Surface and air units probably would also be deployed farther forward. Planning for these operations probably would lead to a greater effort to acquire foreign facilities, particularly to support ASW aircraft.

118. The development of a reasonable capability to detect and trail Western SSBNs in the open ocean would provide the Soviet Navy with a powerful argument for increased budgetary allocations. The Navy could argue persuasively that it could not effectively counter enemy strategic submarines and ensure the survivability of its own SSBNs without a substantial increase in forces, especially in SSN production rates. Given this choice, the Soviet leadership could grant the Navy increased funds for a greater SSN construction effort, perhaps twice as many units per year as the five to six we currently expect.

119. If there were an initial detection breakthrough, we cannot rule out the possibility that the Soviets would explore techniques for destroying submarines, especially SSBNs, by means other than the traditional reliance on general purpose naval platforms. There have, for example, been vague references in Soviet writings to the possible use of land-based ballistic missiles against submarines in the open ocean. Exploring such a technique would be consistent with past Soviet interest in innovative solutions to naval problems.

It would also be consistent with Soviet doctrinal emphasis on a multiservice approach to the accomplishment of war-time tasks. The Soviets are probably aware of the myriad technical problems likely to be encountered in any such use of land-based ballistic missiles including:

- The need to develop a remote sensor that could precisely locate SSBNs patrolling in the open ocean and constantly update that position.
- The need to develop a system that could rapidly update the trajectory of a ballistic missile in flight to compensate for target movement.
- The need to solve fuzing problems associated with a warhead surviving water impact from high altitude.

We are skeptical that such problems could be overcome, at least during the period of this Estimate, and believe the Soviets would be unlikely to pursue seriously such a course unless they had high confidence that the initial detection problem would soon be solved. This example is mentioned, however, to illustrate that a breakthrough in ASW detection could lead to radical changes, not only in the Navy, but in overall Soviet military strategy.

120. *Strategic Arms Control.* Arms control negotiations, such as the ongoing strategic arms reduction talks (START), could play an important part in determining the role within Soviet strategy and the force composition of the Soviet Navy in the 1990s. For example, severe restrictions on SLCM characteristics/deployment, or a ban, would alleviate a serious maritime threat to the USSR and eliminate much of the pressure to conduct sea denial operations at greater distances from Soviet territory. Provisions governing strategic ballistic missile force levels could have a significant impact upon general purpose force programs because a substantial portion of those forces will remain dedicated to protecting Soviet SSBNs. A START provision simply limiting or freezing SSBN/SLBM levels probably would have little impact upon Soviet general purpose programs, although SSGN/SSN construction could increase slightly as facilities dedicated to SSBNs shifted to general purpose programs. Plans to protect Soviet SSBNs probably would not be affected by such a freeze/reduction. On the other hand, a START provision calling for a sharp reduction in land-based ballistic missile systems, which would be likely to encourage both the United States and the Soviet Union to move a greater percentage of their strategic arsenals to sea, could provide strong justification for increased production of ASW-capable general purpose forces to protect the increased number of Soviet SSBNs. If a treaty encouraging a "move to sea" were signed, we would expect increases in the production of SSNs, Bear F or follow-on ASW aircraft, and ASW-oriented surface ships such as the Udaloy. Although a US move to sea could also justify an increased Soviet anti-SSBN effort, we do not believe the Soviets would allocate increased forces against Western SSBNs unless they had first achieved a significant ASW breakthrough allowing them to detect and trail enemy submarines in the open ocean.

121. *Severe Economic Stringencies.* The Soviets' ability to sustain the ambitious naval program we

project in our baseline estimate may ultimately depend upon the health of the Soviet economy and the willingness of future leaders to continue the Brezhnev policy of favoring guns over butter. We have no evidence of a Khrushchevian inclination within the next generation of Soviet leaders to bolster the economy by cutting military spending. Indeed, we believe such a cut would be unlikely, at least through the 1980s. It nonetheless is conceivable that the post-Brezhnev elite would be more willing to curb military spending, especially if agricultural performance and the economic growth rate continue to falter through the 1980s and/or arms control agreements allow significant economies.

122. With the possible exception of the Strategic Rocket Forces, budgetary cuts driven primarily by economic stringencies probably would fall on all branches of the Soviet armed forces. Within the Navy, programs considered fundamental to its primary strategic offensive and defensive tasks, such as SSBNs, attack and cruise missile submarines, and land-based strike aircraft, probably would suffer few, if any, cuts. Rather, some cutbacks or slowdowns in programs relating more to distant-area power projection and sea control capabilities—such as large surface combatants, amphibious ships, and naval auxiliaries—could be expected. It is conceivable, however, that through a combination of factors budget cuts could fall more heavily on the Soviet Navy, resulting in substantial cuts in surface ship programs. These factors include:

- A new political leadership that lacks Brezhnev's apparent commitment to building a large balanced navy and/or is less inclined to use naval forces as instruments of foreign policy to project Soviet power and influence in distant areas.
- A new chief of the Soviet Navy who lacks Admiral Gorshkov's influence within the political and military hierarchies and/or does not fully share his vision of a blue-water navy in which large surface combatants play a prominent role. Gorshkov's successor, for example, could be a submariner and could be more inclined to push for the construction of additional attack submarines.
- Technical advances in antiship weaponry and targeting convince the Soviets that large surface ships are too costly and vulnerable, and that

ASW and ASUW tasks assigned to large surface combatants can be done more effectively by smaller combatants, submarines, and land-based aircraft.

123. It is doubtful that the interim collective leadership we expect to follow Brezhnev will be inclined to make major policy departures such as cutting defense spending. A decision to make significant reductions in military spending probably would be impossible until the next generation of Soviet leaders is firmly in place and one man has emerged as first among equals. Since this process is likely to take several years, a decision to cut naval programs could not be made until the late 1980s. By that time most of the major surface combatant programs currently under way—the BLK-COM-1 cruisers and the Udaloy and Sovremennyy guided-missile destroyers—should be nearing completion. Any reductions then probably would come in Soviet programs we project for the late 1980s and 1990s. Programs that probably would be deleted or sharply reduced in order to comply with a significant cut in naval spending include:

- The 60,000-ton nuclear-powered aircraft carriers. The first unit of this class, and possibly the second, may be too near completion to be affected by a budgetary decision made in the late 1980s. The projected third and fourth units, however, probably would be deleted, and any plans for a follow-on class canceled.
- New class(es) of nuclear-powered cruisers.
- New classes of large amphibious ships (LPDs and LPHs) and underway replenishment ships.

In addition, the Soviets may opt for early retirement of some older destroyers and frigates and construct fewer units than originally programmed of new classes to follow the Sovremennyy and Udaloy DDGs. Programs clearly identified with coastal ASW and SSBN protection, such as the projected follow-on classes for the Krivak and Grisha frigates, probably would be least affected by a sharp budgetary cutback.

124. The net result of cuts in surface ship programs such as those outlined above would be a navy with much less capability than the one projected in our baseline estimate to control waters beyond the range of land-based tactical aircraft and to project power in distant areas. By the mid-1990s, such cuts could

reduce the overall size of the surface navy by as much as 20 percent, lessening Soviet capabilities to sustain current peacetime deployment levels in areas such as the Mediterranean, the Indian Ocean, and off West Africa. The Soviets probably would attempt to compensate for any reduction in naval capabilities to perform key strategic defensive tasks by relying even more on advances in antiship

missiles that could be launched from aircraft, submarines, and land and receive targeting information from satellites. In addition, they might stress nonnaval solutions to maritime threats, such as land-based antiballistic missile and air defense systems—to counter SLBMs and SLCMs, respectively—and an increased maritime role for the Soviet Air Force.



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