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Translation

THE MAP OF THE WORLD OCEAN

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[Text] Author Collective

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Annotation

This handbook reveals the economic, political and military significance of the World Ocean. It describes the state structure, political parties, public organizations, economy, principal ports and armed forces of coastal states. The intrigues of aggressive imperialist forces in various regions of the world are revealed.

This book is intended for a broad range of readers.

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Introduction

The present international situation is characterized by further development and deepening of the world revolutionary process. The positions of socialism continue to be fortified and widened. The victories of the movement of national liberation are opening up new horizons before countries winning their independence. The class struggle of the laborers against the yoke of the monopolies, against the orders of exploitation, is growing. The revolutionary-democratic, anti-imperialist movement is assuming ever-larger proportions.

Were we to glance from this point of view at the map of the World Ocean, with which the life of the overwhelming majority of the globe's population is associated one way or another, we would be confronted by a picture of profound social changes occurring in different countries of the ocean basin.

In Europe we have universal recognition of the sovereignty of the German Democratic Republic, the failure of fascist regimes in Portugal, Greece and Spain and a growing struggle for security and cooperation in all of Europe.

In Asia we have the victory of the Vietnamese people and formation of the Socialist Republic of Vietnam, the victory of patriots in Kampuchea, the new successes of states with a socialist orientation, the fall of the Shah's regime in Iran and serious changes in the life of peoples in other countries.

In Africa we have construction of a new society in Angola, Ethiopia and other countries and initiation of a new stage in the struggle of the peoples in the continent's south.

In Latin America we have consolidation of the international position and authority of the Republic of Cuba and reinforcement of the anti-imperialist position of a number of countries.

At the same time influential imperialist circles led by the USA oppose international detente and favor growing preparations for war and inflation of military budgets. The enemies of detente and disarmament still have many resources at their disposal. They act aggressively, in various forms and in various directions. Although imperialism's possibilities for aggressive actions have now been significantly cut down, its nature continues to be the same.

The leaders of China are direct accomplices of imperialism. To implement their great power, hegemonist plans, they are aligning themselves with the most reactionary and militant forces.

The World Ocean and the regions and countries contiguous with it represent a zone of active operations by aggressive forces. Evidence of this can be found in the very names of the imperialist military blocs and groupings as well as foreign policy stances: The North Atlantic Treaty Organization, the Asian and Pacific Council, the USA's new Pacific doctrine and others.

The program of further struggle for peace and international cooperation and for the liberty and independence of peoples, which was adopted by the 25th CPSU Congress

and which is an organic continuation and development of the Peace Program, foresees tasks aimed at improving both the international situation as a whole and the situation on individual continents and in specific regions. One of the important tasks is to eliminate the remaining focuses of war, the vestiges of the system of colonial oppression, transgressions upon the equality and independence of peoples and all centers of colonialism and racism.

The struggle to implement this program requires energetic actions, unity of all forces in the world, good will and high alertness in relation to the aggressive intrigues of the forces of reaction and militarism.

The author collective made it its objective to describe to the reader the World Ocean, its military-economic and military-political significance, the countries bathed by the oceans and seas and their armed forces; the achievements of the countries of the socialist fraternity; the intrigues of the aggressive forces of imperialism and the struggle of peoples for elimination of the threat of war and for national and social liberation.

Information on the fighting and numerical strength of the armed forces of foreign countries is based on foreign publications.

Chapter I. The World Ocean and Its Significance

The World Ocean occupies one of the most important places in the life of people. It played a great role in formation of many nations and in the creation of states. The World Ocean has a significant influence on development of economic, political, cultural and other ties between peoples and countries, on occasion being the principal binding link between them.

All of the world's largest states and dozens of other countries are located on the shores of the World Ocean. A large part of the globe's population lives here, and thousands of large and small cities, ports and settlements are located here.

The World Ocean provides people with food and work. In its water they catch fish and harvest marine animals, and extract minerals and raw materials for industry. The ocean expanses are furrowed daily by thousands of vessels sailing under the flags of almost all countries of the world. There are large deposits of petroleum and gas on the floor of the seas and oceans.

But the World Ocean is more than the sphere of trade, enterprise, cooperation and communication of peoples. In the millenia of mankind's history the expanses of the ocean have also been an arena of acute struggle between states. People and ships perished in numerous armed collisions.

In our days colonists, imperialists and the reactionary military machine have used the World Ocean many times for the purposes of aggression and in behalf of the mercenary interests of monopolist capital. Nurturing their plans of plunder and neocolonialism, highly developed imperialist countries are strengthening their armed forces, including their navies, they have created and are creating military bases on foreign territories, they are maintaining troops there, and they are trying to preserve existing aggressive military blocs and create new ones.

In keeping with their peace-loving foreign policy, the Soviet Union and other countries of the socialist fraternity are following a course toward further relaxation of international tension and toward peaceful coexistence among states with different social structures. They are exerting considerable effort to transform the World Ocean into a zone of peace, one free of the aggressive military blocs of imperialism and its bases, of nuclear missiles and of the danger of war.

As a result of consistent implementation of the Program of Peace adopted by the 24th CPSU Congress--one that was developed further at the 25th Congress as a program of further struggle for peace and international cooperation and for the liberty and independence of peoples, the USSR is making the World Ocean something that is utilized not only in behalf of mankind's progress but also for the good of all peoples of good will.

Economic Significance of the World Ocean

The ocean, with which the advent of all life on our planet is associated, has highly important significance to the life of mankind. Great and multifaceted is the influence of the ocean environment upon the economies of states. The seas and oceans contain huge reserves of various industrial raw materials and energy. This is why what the famous Soviet scientists Academician S. G. Strumilin said sounds so important today: The economy of the world ocean is the economy of the future.

But even at the present level of development of productive forces, development of the World Ocean's resources has great economic significance.

The most important and most economical communication routes between countries pass over the seas and oceans. The role of marine transport is growing today in this connection. It is the sole means of transport capable of supporting mass shipments of cargo across the oceans and seas.

Marine transport plays the decisive role in deepening and expanding international division of social labor. Marine transport is responsible for more than 80 percent of international freight turnover. Marine transport is the most economical. The cost of shipments by sea is almost twice lower than by railroad and 20 times lower than by highway. The reason for this lies in the great loading capacity of the vessels, the relative low capital investments required to organize marine routes and the lowest relative outlays of power, given the same speed of cargo movement.

Marine transport supports predominantly the foreign trade and other transport ties between states. More than any other sector of the national economy, it is associated with the international situation, and it is used in the defense of political and economic interests of states.

Marine shipping routes evolved historically as lines of communication predominantly linking industrially developed and dependent countries. Transformations that occurred on the political map of the world following World War II changed the traditional directions of marine routes. They are categorized in relation to purpose and geographic characteristics as international oceanic, international regional and coastal (between ports of the same country). Mixed "river-sea" routes are enjoying increasingly greater development.

Changes occurred in recent years in the development of international shipping. Indicators such as the speed of vessels, their dimensions and loading capacity increased, and specialization broadened. The technical resources have been significantly renewed and the possibilities of the fleet have grown due to achievements of scientific-technical progress. International shipping is developing with regard to the economic, social and political interests of almost all countries of the world, including countries not having direct access to the sea. While in 1950 the volume of international marine shipments was equal to 550 million tons, in 1976 it increased by almost seven times to 3,650,000,000 tons. Growth was especially great in relation to shipments of petroleum and petroleum products, as well as cargoes in containers.

Development of shipping is typical of almost all countries, but shipping is developing at the highest rate in socialist countries. Socialist states, primarily the CEMA countries, have the possibility for supporting and developing trade relations with all maritime countries of the world with the assistance of their own transport fleet. By 1978 the CEMA countries established marine communications with many countries of the world.

Many developing countries of Asia, Africa and Latin America are devoting considerable attention to creating and developing their own fleets (both merchant marine and fishing). The Soviet Union and other socialist countries are providing significant aid to most of them.

The marine shipping of the capitalist world, with its continuously expanding monopolist tendencies in all sectors of the economy, is dominated by the largest shipping companies and international imperialist monopolies. Development of monopolies is accompanied by increasingly higher concentration of capital.

The coordinated economy and policy of the socialist countries acts as a counterweight to monopolist capital. Growth of the maritime fleet of the USSR and other socialist countries and their active aid to developing countries have helped to put an end to unshared domination of marine trade routes by the monopolist capital of imperialist powers and their fleets.

The USSR's merchant marine is developing at an especially high rate. In terms of the total displacement of its merchant marine, which was over 20 million registered tons as of 1977, the Soviet Union had joined the club of the world's leading maritime powers. In terms of the composition of its vessels and their equipment and speed, the Soviet transport fleet is one of the most modern in the world. Large-capacity vessels--dry cargo, bulk cargo, refrigerator, container and others--make up its backbone.

The "Basic Directions of the Development of the USSR's National Economy in 1976-1980," approved by the 25th CPSU Congress, foresee further development of marine transport in order to more fully satisfy the growing demand of the national economy for foreign trade and coastal shipments, improve deliveries of cargo to the Far North and the Far East, and raise the volume and effectiveness of export transport services.

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The role of the Soviet merchant marine is often distorted in the West. The mass media of the Western countries serve up the innocent commercial operations of Soviet marine organizations at international shipping markets as an aspiration to establish "communist domination" over world marine routes. Such slanderous materials are aimed against participation of the shipping enterprises of the Soviet Union and other socialist countries in international commercial navigation.

As we know, the Soviet Union is developing its merchant marine mainly to satisfy the demands of national foreign trade and domestic coastal shipments. Participating in international shipping, Soviet marine organizations are guiding themselves mainly by the desire to achieve equitable and mutually profitable cooperation with all parties interested in this. "...our program," emphasized V. I. Lenin, "...consists of total freedom of commercial navigation."* Lenin's premise lies at the basis of the USSR's marine trade policy, which primarily serves the interests of the country's economic development and which is aimed at equitable and mutually profitable cooperation among all countries of the world in international marine shipping.

Ports at which cargo is transloaded from one form of transport to another, and where a significant part of the cargo is often processed as well, have exceptionally important significance to marine shipping. There are more than 7,000 ports in the world, of which more than 500 have a freight turnover of more than 1 million tons.

Ports on the Atlantic Ocean handle 65 percent of the total freight turnover of the world's marine transport, ports on the Pacific handle about 28 percent, and the rest is handled by ports on the Indian Ocean. The freight turnover of ports of the Arctic Ocean is still low.

Straits and regions in which maritime routes are concentrated for one reason or another play a great role in marine shipping. These regions have not only great economic but also strategic significance.

Manmade connecting waterways--canals--are an important supplement to the open sea and to natural waterways connecting sea basins. They have great economic and political significance. A number of canals play a strategic role. The most important marine canals are the Suez, Panama and Kiel.

The Suez Canal, construction of which took a little more than 10 years and was completed in 1869, has become one of the most important shipping canals of the world. Marx called it the great path to the East. The canal was dug across the low sandy Isthmus of Suez, and it does not have any locks. The total length of the canal is 173 km, to include 161 km crossing the Isthmus of Suez itself; its breadth on the surface is 120-150 meters, and its depth in the main channel is 12-13 meters. The Suez Canal connects the Atlantic Ocean (by way of the Mediterranean Sea) with the Indian Ocean (by way of the Red Sea). The canal decreases the distance for European vessels by 6,000-11,000 km. For example the distance between Odessa and Bombay is 4,198 nautical miles (7,780 km) via the channel and 11,878 nautical miles (about 22,000 km) around Africa.

*Lenin, V. I., "Poln. sobr. soch." [Complete Collected Works], Vol 45, p 241.

The Panama Canal joins the Pacific and Atlantic oceans, and it significantly decreases the distance between them (the distance between New York and San Francisco is decreased by 16,000 km). The total length of the canal is 81.6 km. An average of up to 100 million tons of cargo is shipped through the canal each year. The canal has six locks that raise and lower vessels 25.9 meters. The locks are paired, and they are intended for two-way traffic. The locks are 360 meters long, 42 meters wide and 12.2 meters deep.

The Panama Canal belongs to the USA. However, a Panamanian-American treaty on gradual transfer of this interocean canal and the zone along both of its banks to the jurisdiction of Panama went into effect on 1 October 1979. The Canal Zone has now become an inseparable part of Panamanian territory.

The Kiel Canal joins the Baltic Sea to the North Sea. It decreases the distance between Kiel and Hamburg by 425 nautical miles (787 km). Each year about 50 million tons of cargo are shipped through the canal. More than half of the freight turnover between the North and Baltic seas is handled through it. The canal is 98.7 km long, its width on the surface is 104 meters, and its depth is more than 11 meters. The canal was dug across a lowland isthmus, and except for locks, it possesses no lifting structures.

The World Ocean plays a great role today as a source of biological resources. The quantity of living matter formed in the ocean exceeds the quantity of living matter on land by many times. While plant protein dominates on land, the sea's foodstuffs provide more-valuable animal protein. This means that the ocean can be used in the future as one of the principal sources in solution of the food problem of a fast-growing population on earth.

People harvest significant quantities of biological foodstuffs from marine waters. They make up as much as 70 percent of the total volume of all resources obtained in the seas and oceans. Fast growth of world fisheries and marine hunting is making it possible to obtain animal protein from marine products faster and cheaper than in animal husbandry.

Many millions of people in the whole world are employed in fisheries, to include about 7 million persons in industrial fishing. More than 80 countries possess fishing fleets. They total about 20,000 vessels (of 100 register tons and more). The world catch of fish and marine foodstuffs was 69.8 million tons in 1974, to include 59 million tons of fish, over 4 million tons of invertebrates and more than 2 million tons of algae.

The marine fishing grounds are irregularly distributed depending on many factors: the biological resources available, the historical development of fisheries, the locations of the principal regions of consumption, the populations of individual countries and of different regions of the globe, the fishing intensity, the level of development of fishing and fish processing technology and international policy. Changes in the distribution of the world's fishing grounds have depended to a significant extent in recent years both on significant transformations in the political map of the world and on the action of the factors listed above. New independent states attempting to develop their national economies, including fisheries, have developed many new fishing grounds. Owing to fast improvement of marine fisheries technology the fishing fleets of these countries can now travel to remote fishing grounds.

Among the regions in which sea creatures are caught, the Pacific Ocean holds first place (56 percent of the catch) and the Atlantic holds second (39 percent of the catch).

Marine fisheries is developing at a high rate in the Soviet Union. In the postwar years the harvest of fish and other marine foodstuffs has been going on far from native shores. Since 1948 Soviet fishermen have been regularly catching fish in different regions of the Atlantic. Soviet fishermen are also catching fish in the Pacific and Indian Oceans, in the northern seas and on the shores of Antarctica.

Owing to the fact that the USSR possesses a highly mechanized commercial fishing fleet, the catches and the processing of fish and other marine foodstuffs are increasing. The Soviet Union has the world's largest flotilla of freezer trawlers. These are unique floating combines. They not only catch fish but also process it.

The harvest of fish and other marine foodstuffs in our country increased from 1.8 million tons in 1950 to 9.6 million tons in 1977. During the Ninth Five-Year Plan the harvest of fish and other marine foodstuffs was almost 45 million tons.*

The 25th CPSU Congress devoted much attention to further development of the World Ocean's biological resources. The "Basic Directions of the Development of the USSR National Economy in 1976-1980" pose this task: "Increase the output of commercial dietary fish products (including canned goods) by 30-32 percent. Raise effectiveness of the commercial fishing fleet's use, and increase its strength with highly productive vessels. Improve existing and create new, highly effective fishing methods and gear, equipment and instruments promoting mechanization and automation of the harvesting and industrial processing of fish and other products of the sea.

"Continue studying and developing new regions and targets of fishing in waters of the World Ocean. Develop fisheries in the coastal waters of the USSR."**

The biological resources of the World Ocean are of great value to mankind. Their sensible use is one of the most important principles of international cooperation in sea and ocean fishing. International fishing treaties (about 90) have been drawn up and are working successfully on the basis of this principle, which has been made into law by a number of international regulatory acts. Many of these treaties have been signed by the Soviet Union. Owing to compliance with a number of the treaties, we have managed to significantly improve the reserves of some valuable targets of commercial fishing (fur seals, halibut, salmon etc.), or regulate their harvesting with sufficient effectiveness.

The ocean's mineral resources are colossal; they are a potential source of raw materials. They are divided into chemical elements dissolved in water and minerals on the floor surface and in rock beneath the floor.

*See "SSSR v tsifrakh v 1977 godu" [The USSR in Figures in 1977], Moscow, 1978, pp 44-45.
**"Materialy XXV s"yezda KPSS" [Proceedings of the 25th CPSU Congress], Moscow, 1976, pp 196-197.

Ocean water is an enormous "ore bed" containing various isotopes of oxygen and hydrogen, and practically all elements of Mendeleyev's periodic system, dissolved in it to one extent or another. In particular, sea water contains a sizeable quantity of deuterium--the most promising raw material for thermonuclear energy. One cubic kilometer of sea water contains: 28 million tons of table salt, 1.3 million tons of magnesium, 31,000 tons of boron, 300 tons of bromine, 79 tons of copper, 11 tons of uranium and so on. Table salt, sodium sulfate, magnesium chloride, potassium chloride and bromine are extracted in sizeable quantities from sea water. The scientific-technical revolution is opening up prospects for significantly expanding the composition of the chemical elements extracted.

Sea water is also becoming a raw material from which to obtain fresh water. As we know, the earth's fresh water reserves are diminishing. The lakes and rivers are being polluted by the wastes of industrial enterprises. Industrial consumption of water greatly exceeds consumption of all other raw materials. Desalinization of large masses of sea water has now become a reality. The first desalinization facility in the USSR using nuclear fuel is already operating near Shevchenko on the Caspian Sea. Many of the world's countries have recently begun obtaining desalinized water from sea water. Its production is increasing by about 25 percent a year. Some countries are attempting to obtain fresh water from icebergs.

Surface deposits are represented by numerous placers (up to 20-30 meters deep) containing metallic ores as well as nonmetallic minerals. Titanium minerals--ilmenite and rutile, as well as zircon and monazite have important significance. They are encountered on practically all shelves of the world, though the richest deposits now being worked are in Australia (along up to 1,500 km of the east coast). More than 1 million tons of titanium minerals are mined annually in this area. This represents 90 percent of the world's extraction of rutile and about 75 percent of zircon. Such placers are widespread along the coasts of New Zealand, India and elsewhere. The mining of tin ore--cassiterite, magnetite and titanomagnetite--is acquiring great significance. These minerals are widespread in the Asiatic shelf belt extending from India and Sri Lanka along the coast of Thailand, Vietnam, the Philippines, China, Korea and Japan to the Chukchi Peninsula. According to American figures marine placers (excluding beach placers) provide minerals worth $50 million per year, with cassiterite making up half of this volume.

Gold, platinum, silver, chromite and diamonds have also been discovered on the seabed in a number of regions. Judging from the latest research these minerals are rather widespread on the shelves. Industrial gold deposits are being worked along the west coast of Alaska and California, and in a number of other places. Deposits of high quality diamonds have been discovered on the shelf along the southwest coast of Africa (along a distance of 1,200 km). Among minerals of the continental slope, we are finding phosphorites and valuable sediments at different depths (200-600 meters) in many regions, especially along the coasts of Africa and North America, along the east coast of Australia, and at New Zealand.

Iron-manganese concretions--unique multicomponent ores also containing nickel, cobalt and copper--are believed to be the most important form of minerals on the floor of the sea. These formations have been discovered at various depths and over enormous expanses of the Pacific, Atlantic and Indian oceans. The total reserves of such concretions are several trillion tons. They contain huge reserves

of metals. They contain 620 times more cobalt than discovered on land, 90 times more copper and 42 times more manganese. There are grounds for believing that the concretion reserves are growing.

Even greater reserves are encountered on deep-sea red clay floors, which contain aluminum, iron, copper, nickel, vanadium and cobalt. According to tentative estimates red clays contain 9,000 times more aluminum and copper than do deposits on land. It is believed that the reserves of iron-manganese concretions and red clays are being continually enlarged due to their precipitation out of ocean water.

The subsoil beneath the ocean floor has been studied even less than the surface of the floor. It is only in recent years that we have begun drilling the floor in deep-sea regions. The most valuable minerals now obtained from the subsoil of the shelf are petroleum and gas. They represent more than 90 percent of the total cost of minerals extracted in the ocean. According to expert estimates the total area of ocean subsoil containing promising petroleum deposits reaches 45 million square kilometers (15 million square kilometers more than on land), while the potential reserves of petroleum and gas, corrected for petroleum, are estimated at 1,410,000,000,000 tons. Petroleum extraction in the sea represents one-fifth of the world's total petroleum extraction. According to the predictions it will make up about half of the world's petroleum extraction by the year 2,000. Petroleum and gas are already being extracted from marine deposits in 25 countries (exploratory operations are being conducted by almost 100 states). Aggravation of the energy crisis in a number of major capitalist countries will promote activation of operations at sea connected with extraction of petroleum and gas.

As we know, the first practical steps toward industrial extraction of petroleum and gas from the seabed were made in Russia. Wells were built 20-30 meters from shore in the vicinity of Baku back in the 1820's. These wells, which were isolated from the surrounding water, produced "black gold" for several years. Awakening some of the most active scientific and scientific-technical forces of the country, the Great October Socialist Revolution was a powerful impetus to development of all of the country's productive forces, and it promoted progress in various areas of the economy. In particular efforts to study the possibilities of extracting petroleum and gas in regions contiguous with the Caspian Sea and in the sea itself were subjected to extensive study. The accumulated experience made it possible to begin large-scale extraction of petroleum and gas for the first time in international practice from marine deposits at Neftyanyye Kamni, near Baku, in 1947. Since that time millions of tons of valuable raw materials were extracted here and at other offshore deposits of petroleum and gas in the Caspain Sea. The offshore fields of Azerbaijan provide more than half of all of the petroleum extracted in the republic. Eight hundred eighty steel islands and more than 300 km of trestles have been erected here. They make it possible to service the oilfields irrespective of the weather.

The "Basic Directions of Development of the USSR National Economy in 1978-1980" pose the task of accelerating the revelation and exploration of new deposits of petroleum, natural gas and condensates mainly in the central reaches of the Ob', in the north of Tyumenskaya Oblast and in East Siberia, the Yakut ASSR, the Komi ASSR, Arkhangel'skaya Oblast, Central Asia and the Kazakh SSR (the Caspian trench).

They also pose the task of expanding geological explorations in the shelf zones of the seas and oceans, mainly for petroleum and natural gas.*

Great and encouraging are the energy resources of the ocean. We can obtain energy from the ocean by capitalizing on the force of waves, the daily variation of sea level due to the tides or the difference in the surface and internal temperatures of the water. The energy transferred to a raging sea by wind is enormous. When waves strike an obstacle, they shoot up several dozen meters. A wave 3 meters high contains energy equal to 100 kw in every meter of its crest. However, all attempts at utilizing the energy of waves have not yet gone beyond the experimental stage. If mankind ever finds ways to concentrate the scattered energy of waves, it will master a new large, inexhaustible source of energy. Nor is the problem of assimilating the energy of the tides, the power of which is estimated at 1-6 billion kw for the ocean as a whole, any less complex. While people have been aware of this power for a long time, they were not able to build the first tidal electric power plant for industrial purposes until the late 1960's (Rennes, France). An experimental facility was built in 1968 in the USSR (at Kislaya Gulf) on the Kola Peninsula). The floating building of the tidal electral power plant has an original design. Plans for large capacity tidal power plants are being developed on the basis of this experience in Canada, the USA and Great Britain.

There are plans for creating new tidal power plants in the USSR as well (Lumbovsk, Mezen', the Sea of Okhotsk and elsewhere).

Legal Regulation in the World Ocean

The World Ocean has been utilized by mankind since time immemorial. All states have an interest in the ocean, even those without direct access to it.

Today the World Ocean is becoming an increasingly more actively developed part of our planet. Trading and transport routes and lines of communication leading from one region to another cross the ocean expanses.

Reluctant to accept the changes that have occurred in the world, monopolist capital of the imperialist powers and their aggressive political and military circles would wish to dominate the World Ocean as they had before, exploiting it for their own mercenary purposes. The political, economic and military interests of different countries are colliding with each other violently as a result of the actions of imperialist forces in the World Ocean, leading to formation of centers of tension and conflict. In recent years such regions have included the eastern Mediterranean, the Near East, regions around the Red Sea and the Persian Gulf, the Bay of Bengal, waters bathing countries of Southeast Asia, the West Pacific, the North Atlantic, the Caribbean Sea and the most important oceanic straits.

The Soviet Union and other countries of the socialist fraternity and all peace-loving states are making an effort to see that the regime of the World Ocean would ensure total freedom of navigation for all peoples and states. The existing premises of international law of the sea have been codified in numerous conventions and

*See "Materialy XXV s"yezda KPSS," p 183.

treaties, particularly in conventions signed at the Geneva Conference in February 1958. Delegations from 86 countries took part in the conference proceedings. They signed the so-called Final Act consisting of four conventions: on the territorial sea and the contiguous zone, on the high seas, on fishing and conservation of the living resources of the high seas and on the continental shelf. Agreement was reached by special resolutions of the 1958 Geneva Conference on the Law of the Sea in regard to testing nuclear weapons on the high seas, control of contamination of waters by radioactive wastes, protection of fisheries and so on.

The decisions of the 1958 Geneva Conference were basically approved by most countries of the world and by subsequent conferences on the law of the sea. In particular, sessions of the Third Conference, which has been proceeding since 1974, are examining the need for drafting a new convention that might regulate a number of problems of the legal regime and use of the World Ocean that have come to light in recent years.

Defending the principles of peaceful coexistence in international relations, the Soviet Union and other countries of the socialist fraternity are exerting a great amount of effort to see that all countries would have the right to freely use the high seas and other portions of the World Ocean, as well as its resources. They decisively oppose attempts by some capitalist states to essentially divide the World Ocean up and to completely cancel the agreements that had been reached at the 1958 Geneva Conference.

Countries of the socialist fraternity and a number of other states are arguing, in particular, against attempts by some states to excessively widen their territorial waters. Certains states are trying to undo some fundamental principles of the international law of the sea such as the freedom of the high seas, the freedom of passage of all vessels through straits and archipelagos used for international shipping and the freedom of fishing, the harvesting of other marine products and scientific research in the World Ocean.

The position of the Soviet Union and the fraternal countries of socialism is supported by a number of realistically thinking politicians, representatives of the business community, scientists and various strata of the public of capitalist countries. The regime of the World Ocean must ensure the possibility of obtaining equal benefits from its development for all countries. It must promote not only economic progress but also further profound social changes in the world in keeping with the interests of the broad popular masses.

The World Ocean on the Political Map of the World

Powerful social and political forces opposed to war exist in the modern world, and they are active. They include the Soviet Union, the socialist fraternity, the international workers' democratic and national liberation movement, the neutral countries, broad circles of the international public, major democratic organizations and realistically thinking political circles of the capitalist countries.

Together with fraternal socialist countries the Soviet Union is waging an active and consistent struggle for peace and security of nations and for further relaxation of international tension. Major successes have been achieved in this noble effort. Conditions have been created permitting us not only to eliminate the danger of a new world war and other armed conflicts but also to make the entire process of international relaxation irreversible.

It was noted at the 25th CPSU Congress that "although universal peace is not at all guaranteed yet, we have all the grounds for asserting confidently that the improvements in the international climate presently occurring show that achievement of a sound peace is not a noble dream but a fully realistic task."*

However, forces which are trying to halt relaxation and fan the arms race create new forms of lethal weapons and reinforce aggressive blocs exist in the world, and they are active. The World Ocean is also an arena for the aggressive activities of imperialist forces. It has occupied a special place in the policy and military plans of major capitalist states since ancient times. Long ago, when capitalist relations were just beginning to come into being, countries such as England, France, Spain, Portugal, Holland and others longed to acquire new lands. The age of great geographic discoveries (16th-17th centuries) was used by the classes of exploitation and the war machines of these states primarily to seize colonies, enslave the peoples of entire continents and plunder captured countries.

Within a historically short period transoceanic colonial empires were created by Spain, Portugal, England, Holland, France and other European states. Colonists seized huge dominions in North and South America, the Caribbean basin, the Indian subcontinent, the Near East, Africa, Southeast Asia and other places.

"Discovery of gold and silver placers in America," wrote Karl Marx, "the uprooting, enslavement and the live burial of the indigenous population in mines, the first steps toward the conquest and plunder of the East Indies and transformation of Africa into a Negro hunting preserve--such was the sunrise of the capitalist era of production."**

The first to assume the road of colonial expansion at the end of the 15th century were Spain and Portugal, the largest sea powers at that time. Possessing a sizeable fleet, they seized Latin America and territories in the Caribbean basin, and they penetrated into North America and other regions of the world. In the 16th century Great Britain joined the struggle for world domination. Destroying the Spanish fleet--the so-called "invincible armada"--in 1588, the English seized the richest lands in the Indian Ocean basin, in Africa and North America, in the Near East and in Southeast Asia, and they created powerful strongpoints in Gibraltar, Malta, Hong Kong, Singapore, Cape Town, Jamaica and other places.

Following England, France and Holland assumed the road of creating significant colonial possessions. The French seized some regions of North America, the West Indies, Southeast Asia and a number of archipelagos in the Pacific, while the Dutch seized part of the territory of Latin America and Asia (Indonesia).

*"Material XXV s"yezda KPSS," p 17.

**Marks, K., and Engel's, F., "Soch." [Works], Vol 23, p 760.

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Somewhat later Germany and Italy, and then Japan joined the colonial land grab. In the 19th and early 20th century German militants seized a number of colonial possessions in Africa and the Pacific basin, Italian capital and military forces penetrated mainly into regions of North and East Africa, and Japanese colonists took some regions in Southeast Asia and the Far East.

A savage struggle between colonial powers (to which we can also add Belgium, Denmark and some other countries), one which broke out into war many times, was a perpetual phenomenon. Especially serious collisions occurred between England and Spain in the Caribbean basin and in South America, and between England and France in North America, Africa and elsewhere. This to a certain extent eased the struggle for independence waged by the populations of former English as well as French and Spanish colonies in North America, and it promoted arisal of a new bourgeois state in the second half of the 18th century--the United States of America.

Often declaring its slogans of freedom and democracy for all peoples, the young bourgeois republic tried to expand its territories and enslave other countries and peoples. At first it furthered its expansion on continental North America: It seized numerous Indian territories west and south of its boundaries, it fought the French and Spanish in Florida, Louisiana and California and it engaged in armed aggression against its southern neighbor--Mexico. In the first half of the 19th century the USA seized territory in Latin America, in the Pacific basin and in other regions. In a relatively short time the USA transformed into a major colonial power possessing a significant navy intended for transoceanic conquests. During the Spanish-American War of 1898 the USA seized the Philippines, Guam and Puerto Rico, and it established a protectorate over Cuba.

On the seized territories the colonists created strongpoints, built fortresses, forts and bases, and concentrated major troop and naval forces. With the support of the latter they strengthened their power and established a regime of monstrous exploitation and tyranny.

The navy provided the main support to imperialist rule in transoceanic colonies. Besides suppressing national liberation forces in captured countries together with the army, it had to support the interests of the ruling circles of its country in the colonies, and it had to engage in the shipping of strategic supplies and raw materials.

The navies of imperialist countries also took part in the unseemly enterprise of transporting Negro slaves. They were captured in various regions of Africa and then transported to North and South America to work on cotton and other plantations.

The small island of Goree--a permanent condemnation of colonialism and slavery--lies at the approaches to the port of Dakar (Senegal). Goree was discovered in the mid-15th century. European traders purchased ivory, gold and spices from the local population and from natives. But this did not seem like enough to them. And so they began trading "live goods"--slaves. Slaves were transported to Goree from different regions of Africa. From here, ships, English for the most part, delivered them to America. Just between 1783 and 1793 more than 300,000 Negroes were carried away to slavery. In all, more than 20 million persons were exported to America from the African countries. The slave trade was one of the shameful pages in the bloody history of imperialism.

The campaigns of plunder by European "civilizers," the armed interimperialist struggle for reapportionment of the world and for new colonies and markets, and monstrous exploitation of the popular masses did colossal harm to the countries of Asia, Africa and Latin America in the years of colonial domination. Discussing how the wealth and power of the "civilized powers" of Europe and America were created, Marx cites the following quotation by the English historian W. (Hauitt): "The barbarism and shameless cruelty of the so-called Christian races, committed at all points of the compass against all peoples that they managed to enslave, surpass all horrors committed in any historical era by any race, no matter how wild and disrespectful, unpitying and shameless."*

Not only the navies but also pirate ships--"free corsairs"--participated in colonial wars and other transoceanic adventures of the imperialists, whenever this was advantageous and convenient to the imperialists.

Under pressure from progressive forces of those times the ruling circles of England, France and other capitalist countries made an official stand against the slave trade, periodically sending their ships against vessels carrying slaves. But as a rule these operations were directed not against the slave traders but against marine competitors and trade rivals.

Colonial conquests, the armed struggle of major bourgeois countries for markets and spheres of influence, and the economic and political contradictions in the capitalist world were one of the main reasons why the World Ocean became an arena of collisions between international predators.

Firmly entrenching itself as the world's greatest sea power, in the 18th and early 19th century England created a vast network of strongpoints in different regions of the World Ocean. Its possessions included Gibraltar, Malta, Cyprus and Port Said in the Mediterranean, Singapore, Hong Kong, Cape Town, Trincomalee, Aden and others in the Indian and Pacific oceans, and Jamaica, Barbados, Antigua, Trinidad and Tobago in the Caribbean basin.

France possessed a number of bases in the World Ocean--on the coast of North Africa, in the Near East, in the Caribbean Sea, the Indian Ocean basin, New Caledonia and other islands of the Pacific.

The United States of America took over the Panama Canal Zone and former Spanish colonies in the Caribbean and the West Pacific. They aspired for other regions as well.

World War I, which went on mainly in Europe and on the Atlantic Ocean, significantly changed the positions of the imperialist states, including in the World Ocean.

The Great October Socialist Revolution in Russia dealt an annihilatory blow on imperialism and its colonial aspirations. As a result of the revolution one of the world's largest states with extensive sea borders on the Pacific and Arctic oceans and the Baltic, Black and Caspian seas, and deeply interested in all aspects

*Marks, K., and Engel's, F., "Soch.," Vol 23, p 761.

of the World Ocean's development, was thrust out of the world of capital to assume a new, socialist path of development.

During the war and especially after it, the maritime positions of countries such as Germany and Turkey were significantly undermined. Most former German colonies and military bases were seized by the USA, England, France and Japan.

In the period between the first and second world wars, the internal struggle within the imperialist camp assumed large proportions. Waging predatory wars, Italy and Japan significantly expanded their colonial dominions. The USA, England and France created a number of new military bases on foreign territories. This led to further aggravation of interimperialist conflicts.

During World War II the policy of Western imperialist powers was determined to a significant extent by their anti-Soviet designs. The ruling circles of the USA, England and France wanted to unleash Germany and Japan on the Soviet Union so as to destroy the socialist state and concurrently weaken their rivals. With the support of the imperialist circles of the USA, England and France, Nazi Germany and Japan made feverish preparations for war.

However, the course of history confused the map of the imperialist strategists. Countries that had incited Germany and Japan to armed aggression against the USSR ended up the sacrifices to the aggressors themselves.

On 22 June 1941 Germany treacherously attacked the USSR. The USSR's entry into the war, which was elicited by the attack of fascist Germany, culminated transformation of World War II, which began 1 September 1939 with Germany's invasion of Poland, into a just, antifascist war on the part of forces opposing the Nazi bloc. The Soviet-German front became the decisive front of all World War II.

The arena of the combat activities included not only Europe, Asia, Africa and contiguous water basins but also the most remote regions of the Atlantic, Pacific, Indian and Arctic oceans, as well as dozens of seas--from the North and Baltic seas to the Java and Philippine seas. Several million persons and an enormous quantity of warships, transport vessels, warplanes and transport aviation took part in combat at sea, in convoys carrying strategic raw materials, troops and military equipment and in assault and anti-assault landing operations during World War II.

The Soviet Navy made an enormous contribution to the victory over the enemy. Naval seamen dependably kept the maritime flanks of the Soviet Army stable, made powerful thrusts against the enemy's ships, bases and lines of communication, selflessly defended marine shipping, landed assault parties, and when necessary they even fought on land.

The naval forces of the Allies, mainly the USA and England, also made their contribution to the victory over the common enemy. To a certain extent they maintained the stability of the lines of communication in the Atlantic and the Mediterranean, and they participated in major assault landing operations in North Africa, Italy and, in the final stages of war, Normandy. The naval forces of the Allies managed to restrain the offensive operations of the Japanese armed forces, and later on, going over to the counteroffensive, they conducted a number of successful operations.

As a result of the defeat of German fascism and Japanese militarism in World War II, in which the Soviet Armed Forces played the decisive role, fundamental change occurred in the balance of power in the international arena in favor of socialism. A number of countries in Central and Southeast Europe as well as in Asia abandoned the capitalist system. In them, the dictatorship of the proletariat triumphed in the form of a people's democracy.

The victory of peace-loving forces in World War II promoted extensive development of the movement of national liberation in countries of Asia, Africa and Latin America. While the deepest crisis of the colonial system was initiated by the Great October Socialist Revolution, its disintegration began following World War II. Dozens of former colonies and dependent countries in Asia, Africa and Latin America were liberated from the colonial yoke. The struggle of national liberation proceeded on, and the colonial system of imperialism broke apart.

The world socialist system came into being as the result of fundamental changes that occurred in the world following World War II, and it is now successfully developing. At the same time the capitalist system suffered tremendous losses. Following the war, the positions of capitalism continued to weaken. Under the USA's lead, international imperialism did everything it could to unite the efforts in the struggle against world socialism and the revolutionary movement of liberation.

Fighting to establish world domination, the ruling circles of the USA openly declared that their goals could be achieved only "from a position of strength." They unleashed the "cold war," and they elevated anticommunism and anti-Sovietism to the rank of state policy.

U.S. imperialists took on the role of the "saviors" of capitalism. They attempted to hamstring West European and other countries that had been economically and politically weakened by the war, transform them into obedient tools of their own policy and place an obstacle before the path of the national liberation and revolutionary movement. As a result many capitalist countries found themselves brought into imperialist military-political blocs--NATO, ANZUS, ASPAC and others--against the will of the people.

The North Atlantic bloc (NATO) was created in 1959. It is the largest and, in military and economic respects, the strongest grouping of capitalist states. There are 15 countries in NATO--USA, England, France, FRG, Italy, Canada, Netherlands, Belgium, Denmark, Norway, Turkey, Greece, Portugal, Luxembourg and Iceland.* The total area of states in NATO is more than 22 million square kilometers, with a population of more than 550 million. The NATO countries are responsible for almost three-fourths of all industrial production of the capitalist world.

NATO's zone of operations includes vast expanses of water--the entire northern part of the Atlantic and the Barents, Norway, Baltic, North, Mediterranean and

*France left NATO's military organization in 1966, and Greece declared its departure from the bloc's military organization in 1974.

Black seas.* The fighting strength and reserves of the NATO navies total more than 2,000 ships, a third of them being submarines and large surface ships. The USA, England and France possess a large transport fleet and a high-output ship building industry. Other partners in the bloc do not have such strong navies. However, their geographic location helps NATO create a threat against the USSR and other socialist states of Europe from the oceans and seas. Preparation for war in the Atlantic is given a special role in NATO's aggressive strategic plans. "We believe," military theorists of the USA declare, "that in any war, supremacy in the Atlantic must be the main concern of the USA and our allies.... We do not wish to belittle the significance of the Pacific and Indian oceans, but we must assert that in the final analysis, even they depend on the Atlantic."

In terms of NATO's military structure, the Atlantic is singled out as an independent theater of war, commanded by the supreme commander in chief--an American admiral. His headquarters is located in Norfolk (USA).

The three main commands of individual regions of the ocean (Western, Eastern, Iberian) and their staffs, as well as the three commands of the branches of forces--the NATO strike fleet, the submarine forces and the permanent combined naval formation--are all subordinated to NATO's supreme commander in chief of the combined armed forces on the Atlantic. Commands and their staffs in individual regions of the ocean represent the subordinate NATO units on the Atlantic.

The West Atlantic is divided into two regions--Canadian and oceanic, and three island regions--Bermuda, Azors and Greenland. The so-called command of the combined antisubmarine forces of the West Atlantic operates here as well.

The East Atlantic is divided into the northern and central regions and the Faeroe and Icelandic island regions. A command was created here consisting of naval land-based aviation in the East Atlantic and the combined submarine forces of this region.

The part of the Atlantic directly contiguous with Gibraltar has been isolated as the so-called Iberian main command. It includes the command of the combined naval forces in the Gibraltar region and the combined armed forces of the island of Madeira.

The European command of the NATO combined armed forces also possesses specialized naval control organs. These include the main command for the English Channel, the command of combined naval forces in Northern and Southern Europe, the naval command of the Baltic, the command of the naval strike forces in the Southern European theater of war, the command of combined land-based aviation in the Mediterranean and a number of others.

The nature of the principal missions of NATO's combined naval forces is no secret. They mainly include performing nuclear missile strikes on the territory of

*The NATO countries are also extending their tentacles into the South Atlantic, and the Indian and Pacific oceans. They are sending squadrons of ships and expeditionary troops to these areas to support reactionary regimes in countries located in these basins.

socialist states using missile submarines and carrier-based aviation, engaging in combat operations against the navies of the Warsaw Pact countries, supporting trans-Atlantic NATO shipping, and assisting ground troops engaged in combat operations on the European continent. The composition of the fighting core of the navies of the leading NATO countries is indicative in this respect. It includes about 50 nuclear missile submarines, 70 nuclear torpedo submarines, more than 140 diesel submarines, more than 20 aircraft carriers (strike and antisubmarine), guided missile cruisers and destroyers, frigates, escort ships and more than 200 landing ships.

The organizational structure of imperialist military blocs operating in the basins of the Pacific and Indian oceans is not as distinct as that of NATO. But these blocs pursue the same goals as the North Atlantic bloc. Using these blocs, imperialists are trying to create a tense situation on the eastern and southeastern borders of the USSR, retard development of the national liberation movement, use the tremendous human resources of the developing countries in the interests of militarism and keep sizeable markets, spheres of advantageous application of capital and sources of the most valuable raw materials in imperialist hands.

The Pacific Ocean pact (ANZUS)--a military-political alliance consisting of the USA, Australia and New Zealand--was signed in 1951 and went into effect in 1952.

The Asia and Pacific Council (ASPAC) was created in 1966. Its members include Australia, New Zealand, Japan, Thailand, the Philippines and the puppet regimes of Taiwan and South Korea.

The ANZUK military-political grouping was created in 1971. It included Great Britain, Australia, New Zealand, Malaysia and Singapore.

In addition to creating the multilateral blocs listed above, imperialist states signed a number of bilateral military treaties and pacts in order to enact the policies. The USA alone has such treaties with 60 countries.

The bloc stategy of imperialism is experiencing an acute crisis today. The reasons for it lie in processes occurring both in the international arena and within the blocs themselves. The main ones are a change in the balance of power in the world arena in the favor of socialism, growth in the international authority of countries of the socialist fraternity and of their policy of peace, and the successes of socialist countries in economics, science, culture and in maintenance of the necessary defensive potential. The system of imperialist blocs is also weakening because the peoples of the world now know from whence the military danger emanates. Another reason for the crisis is that the USA's authority as the one-time universally recognized leader of the military-political alliances has been seriously undermined. Not at all long ago the members of aggressive blocs blindly followed U.S. policy. Recently we have been observing growth in a tendency toward independence in determination of foreign policy on the part of countries dependent on the USA.

Realistically thinking representatives of the ruling circles of capitalist countries recognize the hopelessness of bloc military strategy and the fallacies of the hopes for surpassing the military might of the socialist powers. Imperialist hopes for maintaining a monopoly on nuclear weapons have long gone into oblivion.

The plans of imperialists to use their navies to achieve supremacy in the World Ocean have turned out to be unfounded.

In response to the imperialist threat from the sea, within a historically short period of time the Soviet people have managed to create a powerful oceanic navy capable of effectively protecting the state interests of the USSR, remaining for long periods of time in remote regions of the marine theaters of war, successfully opposing a strong enemy navy, and repelling enemy strikes from the ocean. Created through the concern of the CPSU and by the labor and genius of the Soviet people, the USSR Navy possesses modern ships, the design of which accounts for the latest scientific-technical achievements and discoveries. The power of the Soviet Armed Forces and particularly of the Soviet Navy, both of which are standing guard over the peaceful labor of the Soviet people and the peoples of fraternal socialist countries, has a sobering effect upon politicians and military officials in capitalist countries who avoid the realities and continue to advertise plans for a new world war.

There are many concrete manifestations of the crisis being suffered by imperialism's bloc system. One of them was the 1977 break-up of the military bloc in Southeast Asia--SEATO. It was created in September 1954. The bloc contained seven countries, USA, England, France, Australia, New Zealand, Thailand, the Philippines and Pakistan. This military grouping participated actively in almost all conflicts of Southeast Asia. In 1979 the CENTO bloc fell apart following the departure of Pakistan, Iran and Turkey.

A number of significant changes have taken shape in NATO in recent years. As was noted earlier, France left the bloc's military organization in 1966, and Greece announced its departure from the military organization in 1974. Sharp disagreements also exist on NATO's northern flank. Despite pressure from the USA, Norway and Denmark refuse to place foreign troops and nuclear stockpiles on their territory. The question of U.S. and NATO bases is a topic of serious debate in the government and in broad circles of the public of Iceland. In 1975 Iceland broke diplomatic relations with its nearest neighbor and partner in NATO--England--for a number of reasons having to do with economics and international law. Their restoration in 1976 did not eliminate significant disagreements between England and Iceland.

In all NATO countries the class struggle is growing more acute, the wave of demands to reduce military budgets is rising and the way is being paved for improving economic ties with socialist countries and for reinforcing and widening the attained level of political detente.

However, the reactionary forces of imperialism continue to actively pursue a policy of maintaining military-political blocs, they are increasing allocations to the arms race, they are creating new military bases and strongpoints in different regions of the world, and they are continuing to interfere in the national liberation and democratic movement of peoples. They are presently being supported in this by the Beijing leadership, which has assumed the road of betrayal of the interests of peace and socialism.

Imperialism is intensifying the arms race--that is, material preparations for war--within the framework of its aggressive military blocs. In just the last few years the military expenditures of the NATO countries grew by more than 20 percent. Steps are being taken to widen the spheres of influence of the bloc, to spread this influence far beyond the zone initially intended by the North Atlantic Treaty. NATO is establishing contacts with Japan, and military ties with Israeli extremists and with the racist regime in the Republic of South Africa are growing stronger. Naval squadrons of the NATO countries are perpetually present in the Indian Ocean. NATO countries, especially the USA, have been making an effort in recent years to draw Spain into this bloc.

In 1976 the NATO leadership decided to create a special squadron for operations in the South Atlantic--south of the border of the bloc's former zone of operations--the Tropic of Cancer. The future plans are to create, in the image and likeness of NATO, a South Atlantic bloc which would unite, under the USA's leadership, Argentina, Brazil and the Republic of South Africa.

Now that SEATO has fallen, imperialists intend to create a "strategic island arc" from Japan to Southeast Asia and to include, besides the Pacific Ocean, the Indian Ocean in the sphere of influence of the militant blocs. The USA is attempting to restore its influence in the Near and Middle East following the overthrow of the Shah's regime in Iran and disintegration of CENTO. American imperialism is trying to create, within the framework of the so-called "Carter Doctrine," a new aggressive bloc in this region containing Israel, Egypt and some other countries.

The bloc policy of imperialism is being opposed in the Soviet Union and other countries of the socialist fraternity by organizing collective security both on a regional basis (Europe, Asia etc.) and on a worldwide scale. The concept being followed here is that the common interests of all peoples, without exception, in preventing destructive military conflicts create a common platform for sensible actions for the purposes of safeguarding the security of each state. As defined by countries of the socialist fraternity, collective security calls not for military blocs and groupings and not for opposition of one state against another, but for development and promotion of good-neighbor cooperation of all states interested in peace, irrespective of their sociopolitical structure.

Reactionary imperialist circles are exerting considerable effort to place the armed forces contingents of capitalist countries over all the world, and primarily by the borders of the Soviet Union and other countries of the socialist fraternity. Relying on their aggressive military blocs, imperialists of the USA, England and other countries have created a network of military bases on foreign territories, they are continuing to outfit forward springboards at an intense pace, and they have organized a global system of military communications, reconnaissance and support for submarines and strategic aircraft. A significant part of these bases and strongpoints are located in the sea and ocean basins, in the coastal regions of West Europe, Asia, Africa and Latin America and on islands and archipelagos.

In recent years the USA has been displaying increasingly greater recognition of the strategic conception of maximum concentration of offensive military resources primarily on islands, mainly on sparsely inhabited or completely uninhabited islands. This conception can be explained by the wish of imperialist strategists to

to conceal their aggressive activities more carefully from the eyes of the public and to shield the bases and the troops stationed at them from the growing protest of the popular masses against the imperialist policy of the USA and other capitalist countries.

As we know the USA, England and other imperialist countries have many different military facilities on foreign territory. Just the Pentagon alone, wrote the Cuban journal VERDE OLIVO in October 1978, possesses more than 300 military bases categorized as large ones according to the standards of the armed services department. Moreover up to 2,000 other military facilities are located in more than 30 countries. About 5,000 army, air force and navy enlisted men and officers are permanently deployed at these bases--two field armies, two operational fleets and several major formations of strategic aviation and submarines--carriers of nuclear missiles.

The well known American politician W. Fulbright estimated that each year the American treasury spends $25-30 billion--that is, 20-25 percent of its military budget--on the maintenance of this enormous network of bases and on the troops stationed within it.

There are especially many military bases and facilities on the territory of NATO countries in the Atlantic and Mediterranean basins. Just the USA alone possesses (in addition to bases on its own territory) more than 100 large and several hundred other military facilities in the FRG, England, Holland, Belgium, Italy, Greece, Turkey, Iceland, Greenland, the Bermuda and Bahama islands, Canada and so on. A number of U.S. military bases are located in Spain. More than 300,000 American soldiers and seamen are deployed at these bases.

The most important ones are: the nuclear missile submarine bases at Holy Loch (Scotland) and King's Bay (USA), naval bases at Bremerhaven (FRG), Naples and Maddalena (Italy), Piraeus (Greece), Izmir and Iskenderum (Turkey) and elsewhere.

The Pentagon attaches special significance to its bases in the Mediterranean Sea basin. These play an important role in supporting the USA's notorious "military presence" in South Europe and North Africa, in implementing the USA's aggressive policy course in the Near East, and in fighting against national liberation and patriotic forces in this region. Using these bases, the USA supports the extremist aspirations of Israel and supplies weapons to Israeli troops.

The USA possesses numerous military bases, primarily naval and air bases, in the western part of the Atlantic Ocean. Directly challenging the ideals of detente and improvement of international relations, the Pentagon maintains the large naval base of Guantanomo on Cuba and military facilities in the former Panama Canal Zone, on the island of Puerto Rico and in other regions of the Caribbean basin.

Military bases are given an extremely important role in the Pentagon's so-called "Arctic strategy." In its desire to ensure, for its armed forces and primarily its navy, the possibility for maintaining control of straits leading from the Arctic Ocean to the Atlantic, the USA is improving its network of military bases, early warning radar, guidance and communication posts and other military facilities in Northwest Canada and Newfoundland, Greenland and Iceland, and it is making broad use of so-called "NATO bases" in this region, including Norway and Denmark, in behalf of its interest as the "senior partner" in NATO.

England also possesses a number of important military bases in the Atlantic Ocean basin. These include the huge naval bases at Gibraltar and Famagust (Cyprus) in the Mediterranean and at Kingston in Jamaica, and a number of facilities having military significance on Trinidad and Tobago, on the islands of Barbados and Antigua, the Falkland Islands and elsewhere.

One of the most important components of the so-called "new Pacific doctrine" of the USA is a highly developed network of American military bases in the Pacific basin. The Pentagon has more than 100 air and naval bases on the territory of countries dependent on the USA in this region, not counting hundreds of other military facilities. The Pentagon maintains more than 150,000 soldiers and officers on foreign territories in the Pacific basin.

Japan is the largest region of concentration of American bases in the Far East. The USA's large air and naval bases alone total more than 20. The main base of the U.S. Seventh Fleet is Yokuska. Sizeable forces are deployed at the naval base of Sasebo, and the USA has created a number of naval and marine facilities on the island of Okinawa, which has been transformed by the Pentagon into the nuclear missile arsenal of the Far East.

The U.S. Armed Forces possess military facilities in South Korea (Mokp'o, Inch'on, Taegu and elsewhere), in the Philippines (Subic Bay, Clark Field and so on).

Implementing its "strategy of withdrawal to the islands," the USA is creating military facilities on Guam, Wake, Tinian and other Pacific islands, which are said to be "protectorates of the USA" but which are actually simply annexed to the latter. One of the largest American forward naval bases was created on Guam in Apra Bay. A flotilla of nuclear missile submarines that patrols the western part of the Pacific is based here. Anderson Air Base, at which major strategic air forces, B-52 bombers primarily, are concentrated is also located on this island. During the period of American aggression in Indochina these bombers made barbaric raids against Vietnam, Laos and Cambodia (the People's Republic of Kampuchea as of 1979).

Relying on its military blocs and aggressive alliances (ANZUS, ANZUK, ASPAC and others) as well as on so-called "bilateral treaties" imposed by the USA upon states dependent upon it, the American war machine is forcefully penetrating into Malaysia, Indonesia, Australia and New Zealand. In Australia, the USA possesses important centers of communication, long-range reconnaissance and support to strategic forces--at Pine Gap, Cockburn Sound and North West Cape. Since July 1976 a number of ports and naval bases of Australia have been open to American warships operating in the South Pacific and in the Indian Ocean.

The network of American bases in the Pacific is associated with the system of bases in the Indian Ocean. As early as in the 1950's the Pentagon created military and naval bases in a number of countries of the Indian Ocean basin. The Pentagon built an air base in Dhahran (Saudi Arabia), a naval base at the port of Manama (Bahrein), a forward naval base near Doha (Qatar), a number of reconnaissance facilities in Pakistan and so on. Simultaneously the USA managed to obtain the right from England to use some English naval facilities in this region (Melfort in Rhodesia, the Maldive Islands and so on).

But time passed, the situation in the world changed, and the people's national liberation struggle intensified, including in countries of the Indian Ocean basin. The Pentagon was compelled to make significant concessions in the face of this struggle. Military facilities were closed in Pakistan, the Maldive Islands and a number of other countries of Asia and Africa. Nevertheless American imperialists are still trying to preserve their positions in this region under the new conditions.

The USA obtained permission from England to create a new large naval base on the territory of an English colony--the island of Diego Garcia. On this island, located in the very center of the Indian Ocean, the Pentagon built a huge airfield for naval aviation and long-range airplanes, modern port facilities, a communication center, storage dumps and repair shops. The base at Diego Garcia is a direct threat to the peace and security of peoples in the Indian Ocean basin, and a brazen challenge to the peace-loving forces of most states in this region.

As before, England possesses large military facilities in the Indian Ocean basin. Despite the fact that the British Empire suffered sizeable losses as a result of the national liberation movement in the colonies, English imperialism is aspiring to preserve its "military presence" in regions "east of Suez." The English armed forces are using a number of bases in the Republic of South Africa (in particular the naval base at Simonstown), they are maintaining troops and naval forces in Singapore and Malaysia, and they are holding onto some military facilities in the Persian Gulf (Sharja, Muscat, etc.), on the Cocos Islands, the island of Masira, and in some other places.

Laying its hopes as before on military intervention, the USA continues to maintain its large and most combat ready naval formations--the Sixth and Seventh operational fleets--near the coast of the Soviet Union and other socialist countries. Moreover there are three flotillas of nuclear missile submarines operating in waters contiguous with the borders of the USSR, mainly in the North Atlantic, Mediterranean and West Pacific. According to the Western press these flotillas are intended mainly for surprise missile strikes against the principal economic and political centers of peace-loving states. American strategic B-52 bombers make flights in the direction of the borders of the Soviet Union and other peace-loving countries.

The Sixth and Seventh fleets play the most active role in implementing the military-political course of reactionary circles in the USA.

The Sixth Fleet is permanently deployed in the Mediterranean basin, taking its support from American and NATO bases in Spain, Italy, Turkey, Greece and some other countries. It interacts actively with naval and other combined forces of the North Atlantic bloc and with the fleets of other aggressive states, primarily Israel. The fleet usually consists of 20-25 warships and approximately as many auxiliary vessels, assault transporters, tankers, floating drydocks and so on. The ships are combined into seven formations (a carrier strike force consisting of one or two aircraft carriers and security ships, antisubmarine, submarine, amphibious assault and so on). The strength of the fleet is more than 30,000 men, to include a reinforced marine batallion containing 1,600-1,800 enlisted men and officers, permanently deployed aboard assault landing ships and moving together with the fleet's main forces.

The fleet's composition if variable. It grows larger quickly when the situation becomes aggravated in the Mediterranean Sea or in contiguous regions and when the Pentagon holds threatening demonstrations or conducts operations in support of antipopular regimes and reactionary forces. Such was the case, for example, in October 1973 during the Arab-Israeli conflict. The Sixth Fleet was nearly doubled: Two strike carriers, two helicopter assault carriers and other ships as well as a second marine battalion reinforced with tanks, helicopters and nuclear missiles were added to its composition from the east coast of the USA.

The Seventh Fleet is deployed in the West Pacific. According to the Pentagon's plans its "zone of responsibility" also includes the Indian Ocean basin and contiguous regions. In this connection it has a somewhat larger number of ships than the Sixth Fleet--40-50 warships, as well as more auxiliary vessels of different kinds. Usually the fleet consists of two or three strike carriers, four or five guided missile cruisers, up to 20 frigates and destroyers, five or six submarines and up to 10 assault landing ships, brought together into the same formations as in the Sixth Fleet. Its strength is about 50,000 men, to include a reinforced marine battalion deployed on assault landing ships. The 3d Marine Division, which is deployed on Okinawa, is operationally subordinated to the fleet.

Ships of the Seventh Fleet regularly make military preparations and make so-called "flag demonstrations" in the Indian Ocean. In this connection, the Western press reports, certain circles in the USA are suggesting more and more persistently to create a fifth operational fleet specifically for the Indian Ocean. They explain this by the notion that the Pentagon allegedly "needs a sea watchdog in the Indian Ocean identical to the one displaying the American flag at the shores of Southeast Asia and the Far East."

For the moment these missions are performed by, in addition to ships of the Seventh Fleet that make visits to the Indian Ocean, a special formation deployed in the Red Sea (with its main base on the Bahrein Islands)--Middle Eastern U.S. naval forces consisting of a control ship, two destroyers and a number of auxiliary vessels.

The English war machine also maintains its naval forces on foreign territory, at bases located in colonial and dependent countries. Ships of the British fleet, airplanes and marine subunits are located in the Near East and in the Mediterranean basin (Gibraltar, Cyprus, the Persian Gulf area), the Indian Ocean, the Far East and Latin America. Together with the navies and other forces of the USA, the FRG and other members of aggressive blocs, the English fleet participates regularly in various exercises and maneuvers, it develops new springboards and regions, it provides aid to antipopular regimes, and it conducts operations in colonial and dependent countries against national liberation forces. Such was the case in the years following World War II in Burma, Malaya and a number of other countries in Asia and Africa, then in Brunei, Sarawak and Guiana, in recent years in a number of regions in the Persian Gulf and Southeast Asia, and so on.

The armed forces of the imperialist powers, including their fleets, are doing more than developing remote theaters and basing areas, and more than performing maneuvers and demonstrations of force. They are actively attempting to interfere in the life and policy of other states, primarily those that do not wish to align themselves

with the plans and designs of imperialism, that prefer to pursue a truly independent policy, follow a noncapitalist path and develop ties with socialist countries. Therefore the USA, England and other capitalist countries are using their armed forces in an attempt to preserve their positions in the World Ocean. Reactionary imperialist circles have no intention of abandoning their aggressive global designs and their plans of aggression against the Soviet Union and other socialist countries.

Imperialist countries, and primarily the USA, FRG and England, are continuing to maintain armed forces with a strength clearly not in keeping with the aspiration for peace and peaceful coexistence asserted by the ruling circles and by bourgeois propaganda. The USA alone has about 2.1 million persons in regular formations, not counting almost 1 million in the so-called National Guard and in reserve formations of the army, air force and navy. There are almost half a million men in the army of the FRG, and the English armed forces total about 300,000 men. The total strength of NATO armed forces exceeds 5 million persons.

These troops possess modern armament, combat equipment and other resources of war. The best prepared formations are manned by regular personnel. In some countries (the USA, England and, in part, the FRG) the armed forces are manned completely by mercenaries, a significant number of whom have had combat experience (Vietnam, Korea, colonial wars and punitive expeditions). Personnel of all branches of the armed forces undergo intensive combat training. Privates and seamen are subjected to daily brainwashing based on the ideals of militarism, anticommunism, pseudo-patriotism, racism and colonialism.

The navy occupies an important place in the overall system of imperialism's war preparations. Supremacy at sea has always been and continues to be one of the core issues of the foreign policy and military development of large imperialist countries, primarily the USA and England. The navies of these countries are given one of the main roles in implementing an aggressive foreign policy course, supporting anti-popular, colonial and imperialist policies and fighting against national liberation forces.

The navy makes up about a third of all of the USA's armed forces. Allocations for the navy have been 33-35 percent of the total military budget in all postwar years. While expenditures have grown by an average of 3.3 percent per year for ground troops and 4.5 percent for air forces in recent years, they have increased by 6.3 percent per year for the navy.

The American navy is the largest in the capitalist world. The operating fleet consists of more than 300 warships of different classes, more than 1,900 naval aircraft and three marine divisions. There are 656 Polaris and Poseidon inter-continental ballistic missiles aboard 41 nuclear missile submarines contained within the strategic strike forces. The navy's personnel total 715,000, to include about 190,000 marines.

The ships of the navy are divided between two basic major combat formations--the Atlantic and Pacific fleets. Each of them includes both operational major formations (operational fleets, squadrons and so on) and formations of homogeneous forces (carrier, cruiser-destroyer, amphibious, submarine, auxiliary and so on), as well as marine aviation units and shore services. The Atlantic fleet includes

one marine division (the 2d) while the Pacific fleet contains two (the 1st and 3d). One air wing (containing more than 100 airplanes and helicopters) is attached to each division.

The U.S. Navy contains special "overseas commands" such as, for example, the naval command for Western Europe, the naval command for the Middle East, naval forces in Japan, South Korea and the Philippines, and so on. These overseas commands are used to implement a global aggressive policy, to prepare theaters and springboards, to conduct combat activities against national liberation forces and to implement "gunboat diplomacy."

So-called "rapid deployment forces" created in the USA for armed intervention in the Near East, Southeast Asia, Africa and Latin America are a special danger to peace.

Other imperialist countries possess sizeable naval forces as well. Most of them aspire to increase the strength of their navies (in part through their own ship building and in part through acquisition of ships, armaments and military equipment from the USA and other NATO countries), subject their personnel to intensive combat training and use their navies in colonial adventures and aggressive provocations and operations mainly together with their "main partners" in the aggressive military blocs.

The open desire of aggressive imperialist forces to oppose the international course toward detente, and to prepare and conduct dangerous acts against peace-loving forces is eliciting the serious apprehensions of all to whom peace and the security of peoples are precious, all who would wish the World Ocean to serve the purposes of raising the welfare of peoples and improving their cooperation in various areas of economics, trade, politics, progress and peace.

The World Ocean Must Be a Zone of Peace

The main factor creating an objective possibility for bridling the imperialist policy of aggression and transforming the World Ocean into a zone of peace is the peace-loving policy of countries in the socialist fraternity, lead by the Soviet Union.

The Program of Peace, which was proposed by the 24th CPSU Congress and which enjoyed its further organic continuation and development in a program for further struggle for peace and international cooperation and for the liberty and independence of peoples, adopted by the 25th CPSU Congress, is promoting alteration of the entire system of international relations in the interests of the security of peoples, their liberty and independence. It is aimed at implementing a complex of concrete measures called upon to consolidate a strong and just peace on our planet for many generations of people. The further struggle for peace, liberty and independence of peoples requires that we pursue the following specific objectives:

concentrate efforts of the peace-loving states on liquidation of remaining centers of military danger, and mainly on achieving a just and firm settlement in the Near East, and promote cessation of the arms race in this region of the world;

in compliance with the principles of peaceful coexistence, continue successive development of the relationships of long-term mutually advantageous cooperation in various areas--in politics, economics, science and culture--with the USA, France, FRG, Great Britain, Italy, Canada, Japan and other capitalist countries;

attempt to conclude a world treaty on intolerability of force in international relations;

develop a course toward full assurance of security in Europe and Asia;

completely eliminate all vestiges of the system of colonial oppression, infringements upon the equality and independence of peoples and all centers of colonialism and racism.

Together with the fraternal countries of socialism the Soviet Union is constantly fighting for implementation of this noble task, one in keeping with the interests of millions of people throughout the entire world.

The Soviet Union and other countries of the socialist fraternity are exerting a great deal of effort to develop relaxation of international tension. The USSR is for strict compliance by all countries with the principles of freedom of the high seas and freedom of navigation in the World Ocean, it is for prohibition of the use of the floor of the seas and oceans and its subsoil for military purposes, and it is against attempts by certain states to unilaterally widen their territorial waters and extend their jurisdiction to straits used for international shipping and to enormous expanses of the continental shelf.

These efforts resulted in the signing of a Soviet-American treaty on preventing incidents on the high seas and in the airspace above them in May 1972, and a treaty on cooperation in exploration of the World Ocean in June 1973. The Treaty Prohibiting Installation of Nuclear Weapons and Other Forms of Mass Destruction Weapons on the Seabed and Its Subsoil also has important significance. This treaty was signed in 1971 by representatives of the USSR, Great Britain and the USA.

Unfortunately the struggle centering on these issues is far from finished. They are now becoming increasingly more acute at times. In some capitalist countries efforts are being made to create self-powered missile systems with nuclear warheads that would be capable of "hovering at a certain depth" or "just barely touching" the bottom. The USA is working on a new underwater weapon called "CAPTOR." It is a combination of an anchored mine and an antisubmarine torpedo carrying a nuclear charge. The effective radius of the "CAPTOR" acoustic apparatus exceeds 1 km, it can be deployed at a depth of 800 meters, and its life is up to 5 years.

The Soviet Navy is a resource of peace-loving policy and friendship of peoples, a policy of foiling the aggressive desires of imperialism, restraining military adventures and decisively opposing threats to the security of peoples on the part of imperialist powers.

When the oceanic expanses became a part of the operational area of the USSR Navy, the USSR obtained new, broader possibilities for using the navy in peacetime to support its state interests.

Imperialist propaganda tries to portray the presence of Soviet ships in the World Ocean as "aggression," as "a threat to the freedom of navigation." But at the same time bourgeois ideologists say nothing about the fact that the squadrons of imperialist fleets have long been sailing in regions thousands of nautical miles away from their own bases, and that they are maintaining tension on the sea borders of the socialist and developing countries. Imperialist propaganda also says nothing about the fact that it is our country, together with other countries of the socialist fraternity, that constantly initiates proposals aimed at relaxing tension, at reducing armed forces and armaments, at reducing military activities of noncoastal states in the Mediterranean and Indian Ocean and at transforming the expanses of the World Ocean into a zone of peace. And it is not our fault that these proposals are not yet adequately understood by the capitalist world.

The true face of the malicious anti-Soviet fabrications of imperialist propaganda was unmasked in the Accountability Report of the CPSU Central Committee to the 25th CPSU Congress: "The principal motive of proponents of the arms race is to assert presence of a so-called Soviet threat. This motive is utilized whenever a higher military budget that would reduce expenditures on social needs must be railroaded through, whenever new forms of death-dealing weapons are developed, and whenever attempts are made to justify NATO's military activities. In fact, of course, there is no Soviet threat, neither from the West nor from the East. All of this is a monstrous lie--from the beginning to the end."*

Official visits by Soviet ships to the ports of foreign states serve the policy of peace and increase the international authority of the USSR. Each year Soviet seamen visit dozens of foreign countries as guests. Visits by every vessel reinforce friendship and mutual understanding between peoples.

Soviet seamen often provide assistance to the peoples of a particular country. Thus, helping the people of Egypt to surmount the aftermath of imperialist aggression, seamen of the Pacific and Black Sea fleets swept mines from the Gulf of Suez. The crews remained in the minefields for more than 6,000 hours. Having swept a distance of more than 17,00 nautical miles, they eliminated the mine threat from an area of 1,250 square miles.

Helping the young People's Republic of Bangladesh to surmount the aftermath of the Indo-Pakistani conflict of 1971, Soviet seamen did a great deal of work to clear the port of Chittagong and to sweep mines from its approaches. Soviet divers worked under water 45,000 hours, helping to raise 26 sunken vessels. Minesweeping operations were conducted over an area of more than 1,000 square miles.

Soviet naval seamen honorably represent the country of the great Lenin far from the motherland. The high culture of their behavior, their discipline, their friendly attitude toward the local public, and their respect for the latter's traditions and customs elicit deep sympathies toward Soviet people. As a result of every visit of a Soviet ship to a foreign port, the Soviet people gain many new friends.

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*"Materialy XXV s"yezda KPSS," p 22.

Soviet naval seamen consistently perform their international duty to socialist countries. Our friends hold the great support rendered to them by the Soviet Union in high esteem. Brotherhood in arms grows stronger, coordination develops and the best experience is exchanged at joint exercises and in cruises conducted by Warsaw Pact countries.

Soviet seamen have made a significant contribution to studying the pressing problems of oceanography. This is not only promoting progress in world science, man's development of the expanses of the World Ocean and solution of many problems of worldwide nature conservation, but it is also helping us to raise the effectiveness of our motherland's national economy. The labor of Soviet oceanographers is helping us to understand the laws of oceanic and atmospheric processes better, which is important to developing methods of long-range weather forecasting and to revealing theological, hydrological and other features of the seas.

About 500 new atlases and maps made by Soviet oceanographers, including naval seamen, were exhibited at the Sixth Congress of the USSR Geographical Society, held in December 1975. Jointly with vessels of the USSR Academy of Sciences' scientific research fleet, oceanographic and hydrographic vessels of the USSR Navy have participated and continue to participate in many international programs of exploration of the Caribbean and Mediterranean seas and the Atlantic, Pacific and Indian oceans.

The fight to avert further pollution of the World Ocean by liquid wastes, petroleum and radioactive and other toxic substances has tremendous significance today.

The Soviet Union has initiated a number of international agreements on protection of the seas from pollution by toxic substances. In the USSR, protection of water from pollution is treated as a nationwide task. Soviet legislation foresees strict liability for pollution of the seas by substances harmful to human health and to living organisms of the sea. An example of successive implementation of major socioeconomic programs to improve the natural environment can be found in the decree adopted in 1976 by the CPSU Central Committee and the USSR Government, "On Measures to Prevent Pollution of the Black and Azov Sea Basins." The navy has special regulations on preventing pollution of the seas by ships, vessels and shore facilities.

Experience shows us that the situation in the World Ocean continues to be complex and conflicting, as is true on the entire globe.

On one hand owing to the peaceful policy of countries of the socialist fraternity and as a result of their struggle to transform the World Ocean into a zone of peace, significant successes have been achieved.

On the other hand imperialist circles continue to inflame the situation in the World Ocean, implement a strategy of bases and blocs and pursue a policy of neocolonialism. The aggressive, antipopular course of the Beijing leadership is promoting aggravation of the situation in the World Ocean, and chiefly in countries of Asia and in the Far East. Under these conditions the main guarantee of bridling the aggressors is dependable protection of the revolutionary achievements of the people and reinforcement of the economic and defensive might of the USSR and other countries of the socialist fraternity.

Propagation of Acoustic Waves in the World Ocean

One of the most important physical features of sea water is that it blocks electromagnetic waves. At the same time ocean water is a conductor of acoustic waves. Sound propagates in sea water almost five times faster than in air; a 1 kw sound can be heard 30-40 km away, and farther in some conditions. In air, a 100 kw sound is audible at distances up to 15 km.

Propagation of hydroacoustic waves is influenced by temperature, salinity, pressure, depth of the sea and the nature of the bottom, the sea state, turbidity of the water due to suspended impurities of organic and inorganic origin, and presence of dissolved gases.

Differences in water density cause change in the speed of sound. Consequently a hydroacoustic wave propagates not in a straight line but along a complex trajectory depending on refraction. Bubbles of gas, suspended particles and plankton scatter and absorb acoustic energy. Sharp irregularities in water masses (transition layers, so-called "cold walls," and so on) create considerable interference to propagation of acoustic waves.

The causes influencing propagation of sound in water are divided into constant , which are easily accounted for, and random, which yield to analysis and accounting with difficulty. Both the former and the latter depend on the time of year and day, geographic position, depth, currents and other factors characterizing the state of the sea water column.

Among all factors influencing propagation of sound in water, the temperature of the environment has great significance. A beam of sound traveling in sea water tends toward colder (and less saline) layers. At night the colder layers are at the sea surface, and beams tend toward the latter (positive refraction). On a hot day beams descend (negative refraction).

Parameters characterizing change in speed of sound, temperature, salinity and hydrostatic pressure with depth are respectively referred to as the gradients of speed of sound, temperature, salinity and pressure.

As was noted earlier, water temperature drops quickly with depth, eliciting a sharp drop in the speed of sound. At a certain depth the speed of sound begins to grow due to an increase in hydrostatic pressure. A unique waveguide, called the underwater sound channel (USC), arises in the layer in which the speed of sound is minimum. Once in it, an acoustic wave is no longer able to emerge from it (it is reflected from its walls). Hydroacoustic energy can propagate over tremendous distances in this channel. For example according to observations a 0.25 kg bomb exploding in the Atlantic Ocean can be heard well for a distance of about 1,500 km, while one weighing 2.7 kg can be heard up to 5,750 km. A 22.5 kg bomb that was detonated at the coast of Australia was heard at the Bermuda Islands (it took the sound 3 hours 43 minutes to travel 19,200 km).

In the Atlantic Ocean, the depth of the axis of the USC increases from 600-800 meters in its northern part to 1,300-1,500 meters in the tropical region. As we approach the equator the depth of the axis of the USC decreases to 600 meters, and then it grows in the southern tropical zone to 900-1,000 meters. In the vicinity of the South Pole the depth at which the axis of the USC lies once again decreases to 100-200 meters. The same distribution of depths of the USC axis is typical of the Pacific Ocean.

The USC axis lies at about 100 meters in the polar regions of both hemispheres. In the Indian Ocean the depth at which the USC's axis lies rises from 100 meters in the south to 1,500 meters in the north.

Hydrological conditions in which the axis of the USC rises to several dozen meters--that is, in which a surface acoustic channel forms--may occur in a number of regions and in certain seasons. This channel arises when temperature is vertically distributed--that is, when there is a temperature minimum at a certain depth. In certain cases, relatively rare, a surface sound channel may also arise in response to change in sea water salinity.

Ocean Dynamics

In addition to horizontal and vertical movements of water masses, waves are typical of the dynamic state of the ocean. Waves are produced by wind, tides and earthquakes. Wind waves arise as a result of the transfer of energy from the atmosphere to water. In this connection their size depends on the time of presence and speed of the wind.

A unified nine-point wave force scale was introduced in our country in 1953. Absence of waves is given zero points, and extreme waviness is given nine points (wave height--more than 11 meters, wave length--more than 220 meters).

The zones of maximum waviness of the World Ocean were charted on the basis of numerous studies. Two such zones were discovered in the North Atlantic. One of them is on the east coast of North America. Here the waves reach a height of up to 20 meters. Another zone with waves up to 16 meters high is located west of Scotland. The center of largest waves in the Pacific is located in the northwestern and central parts of the ocean. A wave 34 meters high was observed in the central Pacific on 6 February 1956. On 30 March 1956 Soviet explorers aboard the diesel-electric ship Ob' registered a wave 26 meters high north of the Balleny Islands.

The map of zones of maximum waviness compiled by Soviet scientists has great practical significance. Using it, seamen can avoid hazardous storm regions. This is especially important to vessels or structures that cannot endure storms for one reason or another. In July 1964 Soviet seamen had to move a giant floating dry-dock from the Baltic to the Black Sea. Calculations showed that the dry dock would break up if it found itself on the crest of a large wave. Some experts suggested cutting this large structure in half and towing each part separately. But wind wave researchers gave assurances that stormy weather was improbable along the suggested route in July, and that in the most difficult section of the route, the

Biscay Bay, wave height would not exceed 4-5 meters, and length would not exceed 160 meters. Throughout the entire trip the weathermen carefully monitored the weather, so that in the case of danger the drydock could enter the nearest port. The drydock was delivered to its destination safely.

Waves gradually lose their height as they move from the region of their arisal (they lose about half their height in 2,000 km). Waves travel enormous distances. Waves originating in the southern part of the Pacific Ocean were observed 13,000 km away, on the coast of California.

In addition to surface waves, internal waves may arise within ocean water. They form at the boundary of two layers of water differing in density. The speed of such waves is usually lower than that of surface waves, but they can have a larger amplitude. Tyagun's--internal resonant oscillations of water--are sometimes observed in bays and ports.

Underwater movements of the earth's crust (earthquakes, volcanic eruptions) elicit long-period waves in the ocean--sunamis. Information on sunamis reaches back to 479 B.C. Since that time there have been about 355 sunamis, 30 of which were elicited by volcanic activity. Three hundred eight sunamis were noted in the Pacific, 25 were observed in the Atlantic and 21 were observed in the Mediterranean.

The length of a sunami can attain 200 km, and its speed can reach up to 900 km/hr. A sunami can cross an ocean, for example from Chile to Kamchatka. In the open ocean sunamis are barely noticeable, since in comparison with their length, the height of such waves is negligible. But when such waves reach shallows, and especially constrictions in the coastline, they may cause enormous havoc in the coastal area.

Currents have an important place in the dynamics of water masses having a great influence on navigation. They may be subdivided in relation to the factors or forces eliciting them, in relation to stability, depth, nature of movement and physicochemical properties. Currents are divided in terms of factors eliciting them into gradient, wind, drifting and tidal.

The pattern of water movement is almost identical in all surface currents of the World Ocean.

Navigators are interested in closed rotating systems of currents which oceanologists usually refer to as circulations. Certain parts of circulations exhibiting a clearly expressed orientation (meridional or zonal, along parallels) are commonly called branches. Masses of water rotating clockwise are called anticyclones, and those rotating anticlockwise are called cyclones.

There are large subtropical anticyclonic circulations in the Atlantic, Indian and Pacific oceans. The Northern and Southern tradewind currents are made up of low-latitude branches of these circulations. These are broad (up to 2,000 km on the meridional axis) and stable currents with a speed of 0.4-1 knots (0.7-1.8 km/hr), and they may achieve a speed of 3.6 knots (7.2 km/hr). In these oceans, approximately between the equator and the tropics, currents are oriented from east to west.

The Gulf Stream and the Japan Current are western branches of the subtropical circulations of the Northern Hemisphere. These are relatively narrow (100-500 km) and fast streams that hug the shore near their places of origin and turn out into the open ocean at moderate latitudes. Part of these streams breaks away from the common flow to form a current traveling toward the equator. The bulk of the Gulf Stream and Japan Current moves eastward, and further on these currents form the North Atlantic and North Pacific currents respectively. In turn, the latter partially feed in to the circulations of the northern latitudes (most intensively in the Atlantic), initiating unstable eastern currents: the Portugese and Canaries in the Atlantic and the California in the Pacific, which link up with the huge subtropical circulations of the Northern Hemisphere.

In the Southern Hemisphere subtropical circulations are even larger, but their western branches--the Brazil and East Australian currents--are much weaker than the Gulf Stream and Japan Current. In the Pacific the eastern branch of the circulation--the Peru Current (it is sometimes called the Humboldt Current)--is an exception: It is strongest and narrowest of the currents on the eastern shore of the ocean. The strong Igol'nyy Current (sometimes called Agulyasov's Current) forms in the western part of the Indian Ocean circulation. It opposes the weak and diffuse West Australian Current in the east.

The largest current in the World Ocean is the West Wind Current. This is a powerful and deep (2,500-3,000 km) current moving at speed of 0.5-0.7 knots (0.9-1.4 km/hr). It crosses three oceans, and it links up with the southern subtropical circulations.

Currents at moderate and high latitudes exhibit cyclonic rotation. They are clearly pronounced in the northern parts of the oceans, especially the Atlantic. The powerfulness of the North Atlantic and North Pacific currents influences the intensity of the entire circulation.

The principal circulations are located northwest of the North Atlantic Current. The latter contributes a part of its waters successively to the warm Irminger and West Spitsbergen currents. Then it enters the Arctic Ocean as the Norwegian Current. Owing to the warmth of these currents the winters on Iceland, Spitzbergen and the north coast of Scandinavia are unusually mild for these latitudes. The cold Eastern Greenland Current enters the Atlantic from the Arctic Ocean, linking together all circulations of the moderate and polar latitudes in the northern part of the ocean. The southernmost branch of the circulation--the cold Labrador Current--pentrates far southward, where it meets the Gulf Stream.

In the Pacific we observe two ring currents--in the Gulf of Alaska and the Bering Sea. The western branch of the circulation--the cold Kamchatka and Oyashio currents--descends southward, cooling the entire east coast of Asia. The North Pacific Current warms the high latitudes much less than does the North Atlantic Current. In the North Pacific the boundaries of the continents force the warm currents to turn southward.

Subpolar circulations in the Antarctic are very weak and unstable. They exist in the Ross, Bellingshausen and Waddel seas. The southern branch of this circulation--the Antarctic Coastal Current--is especially unstable, and its speed is low.

One anticyclonic circulation is observed in the Arctic Ocean, the integrity of which is disturbed by circulations in the seas and by a branch flowing from the Chukchi Sea over the North Pole to Greenland. Currents in the Arctic are weak, growing in intensity only as they reach the boundary of the Atlantic.

The equatorial and tropical zones are distinguished by especially high activity. Trade winds in the tropics are responsible for powerful tradewind currents. A band of still weather and weak winds is located between the North wind and trade wind zones. The Equatorial or Intertradewind Countercurrent is observed in the band of weak winds. Countercurrents are observed in all oceans. A countercurrent arises in the Pacific Ocean near the Philippines, and it moves directly eastward somewhat north of the equator. It crosses the entire ocean for a distance of 8,500 nautical miles (about 15,700 km) at an average speed of 1-1.5 knots (2-3 km/hr). A countercurrent originates in the Atlantic 700-1,000 nautical miles (1,300-1,850 km) from the shores of South America, from where it proceeds eastward, gradually growing in intensity as it crosses the equator. It then continues on as the Guinea Current. The latter travels southward to feed the waters of the Southern Tradewind Current.

In the Indian Ocean the system of equatorial currents, which is displaced southward from the equator, is under the intense influence of monsoon winds. In winter (December-February) in the Northern Hemisphere, when the northeastern monsoons blow, the system of equatorial currents behaves as in the other oceans. Tradewind currents and countercurrents form here. Only the Somali Current (similar to the Gulf Stream and the Japan Current) behaves unusually. It moves southward as a wide band. In summer (June-August), in the period of the southwestern monsoons, the Equatorial Countercurrent disappears, and the Somali Current races northward at high speed as a narrow stream.

Circular movement of waters also dominates in the seas. In this case movement of waters in seas of the Northern Hemisphere is cyclonic. Sea circulations are less stable than oceanic circulations, but they exist almost constantly.

Surface currents have been studied for many centuries. Interest toward them arose especially in recent times in connection with intense development of the submarine fleet. Surface currents also have great significance to fishermen. The latter are especially interested in zones in which waters of different origins come together. These are so-called frontal zones, or zones of convergence. Such zones are distinguished by high biological productivity. At river mouths, at boundaries between cold and warm currents, and wherever a current neighbors on a countercurrent, plankton--the food source of inhabitants of the oceans and seas--thrive.

Many new things have been discovered about the most powerful and best known current--the Gulf Stream. As we know, this giant system extends all the way to Spitsbergen and Novaya Zemlya (10,000 km). The latest research has established that the Brazilian "corner" of South America, which protrudes into the ocean, forces not only waters of the Northern Tradewind Current but also a significant part of the waters of the Southern Tradewind Current to enter the Caribbean Sea. From there, these currents proceed as the Guyana Current across the Lesser Antilles island chain. Under the influence of the trade winds, these currents merge and penetrate through the Yucatan strait and head westward through the southern part

of the Gulf of Mexico and then through the Florida strait into the Atlantic. The Gulf Stream carries 50-70 times more water than do all rivers of the earth. The width of the current is 75-120 km, and the depth to which water flows is 700-800 meters. The waters of this current carry a colossal quantity of heat which warms almost all of Europe, especially Western and Northern Europe. In our country the Gulf Stream influences the tremendous amount of territory west of a line extending through Odessa, Gor'kiy and the mouth of the Ob'. Owing to the Gulf Stream the climate on the north coast of Europe is significantly warmer than at the same latitudes in North America. For example evergreen plants grow in England, while the northernmost of the Lofoten Islands, which are near the Arctic Circle, enjoy the mean annual temperature of the Crimea.

At the same time it has been established that the Gulf Stream does not fully justify the name attached to it: Waters of the Gulf of Mexico take almost no part in its formation. The Gulf Stream is far from a homogeneous current. It consists of a number of intermixing streams that move at different speeds. The maximum recorded speed of the current is 2.75 meters/second. Narrow countercurrents have been discovered along both sides of the main current, but on the ocean side the current is more stable.

Soviet oceanographers discovered a number of powerful currents deep in the ocean. In 1958 an expedition aboard the research vessel "Mikhail Lomonosov" discovered another huge countercurrent in the equatorial latitudes of the Atlantic Ocean beneath the waters of the Southern Tradewind Current. Between 1959 and 1968 Soviet scientists systematically studied the new current. They collected and computer-processed about 1.5 million figures characterizing the size of this "underwater river." Treatment of the measurements made it possible to establish the speed of the current, its width, depth, the volumetric flow rate and the boundaries. Its "banks" can be discerned on both sides of the equator--at latitudes 2° to the north and south. In terms of scale and size, this current, which came to be called the Lomonosov Deep Countercurrent, may be ranked on par with the Gulf Stream.

Detailed investigation of underwater currents, particular aboard the Soviet vessel "Vityaz'", has shown that oceanic circulation in the equatorial region exhibits a complex, multilayered structure. Several currents traveling in different directions exist in the layer down to 1,000 meters: In the superficial layer they travel eastward, a layer in which the water masses move in the reverse direction is located beneath the former, and then the water moves eastward once again, and so on. The causes behind these phenomena have not yet been established.

Ocean waters know no rest in the vertical dimension either. First of all they undergo continual density-based (convective) mixing throughout the entire water column of the World Ocean. Warmth from the sun penetrates into the water, but at a depth of 100 meters the sun's energy is not more than 3 percent of the total amount of energy received by the surface of the sea. It follows from this that warming of deep layers can occur only due to mixing of water masses.

The height of the ocean surface, when considered free of the influence of wind waves and swells, and when measured relative to a conditional horizon, changes constantly under the influence of many forces (cosmic, geodynamic and geothermal influences in the earth's crust, as well as mechanical and physicochemical influences

stemming from solar radiation and the influence of the atmosphere). Tidal phenomena have the greatest significance.

The tides are periodic fluctuations in the sea level stemming from the gravitational forces of the moon and the sun. The tide-creating force of the moon is 2.17 times greater than that of the sun. This is why the position of the moon has the principal influence upon the tides. Because the mutual position of the earth, the moon and the sun changes continuously, the magnitude of the tides changes as well. When the moon and the sun are aligned together during a full moon and at a new moon, the tides attain their greatest proportions.

When the moon and the sun are at a 90° angle relative to the earth (a waxing or waning quarter moon), the magnitude of the tides is the least.

Physicogeographic conditions of different regions have a significant influence on the magnitude and nature of tides: coastal contours, the dimensions and depth of seas and oceans, presence of islands and so on.

Tides elicit currents, the speed of which may be very large depending on local conditions. Thus near the French port of Cherbourg they attain 6-9 knots, in channels through the Japanese, Philippine and Aleutian Islands the speeds of currents reach 8-10 knots, and in the Skierstd-fjord (Norway) they attain 16 knots.

The nature of the World Ocean still harbors many secrets. However, the joint efforts of scientists and seamen representing different countries are helping to uncover them and to obtain new data on the "great river streaming around the earth."

Chapter VII. Australia. Oceania. Antarctica

General Description

The Australian continent is located between the Pacific and Indian oceans. Oceania (consisting of about 10,000 islands) is also conditionally grouped with Australia. Actually, Oceania is an independent island region of the globe. A large contribution to its discovery and exploration was made in the 19th century by the Russian navigators I. F. Kruzenshtern, Yu. F. Lisyanskiy, O. Ye. Kotsebu, V. M. Golovnin and M. P. Lazarev, the Russian scholar N. N. Miklukho-Maklay and many others.

The islands of Oceania are located in the southwestern part of the Pacific Ocean. Their area is about 1.3 million square kilometers, and their population (less Australia) is about 8 million.

Oceania is divided into three parts--Melanesia, Micronesia and Polynesia. Melanesia includes New Guinea, the Solomon Islands, New Hebrides, New Caledonia, Fiji and others; Micronesia includes the Mariana, Caroline and Marshall islands and a number of other archipelagos; Polynesia includes the Hawaiian Islands, the Phoenix, Sporades (Line) and Samoan archipelagos, and others.

With the exception of Australia and Antarctica, a large part of the dry land in the Central and South Pacific consists of volcanic or coral formations. Large

continental islands (New Guinea being the largest) are found in the western part of the Pacific.

Most islands of Oceania are colonies of imperialist states. In the postwar era the USA has been pushing its rivals out of Oceania. Many islands are used by the imperialists as military strategic strongpoints, bases and springboards. Special attention is devoted to Micronesia (the Mariana, Marshall and Caroline islands), which the UN placed under the USA's protection in 1947. American colonists imposed a "treaty of cooperation" upon the inhabitants of the Mariana Islands, according to which the islands will be treated as permanently "annexed" to the USA. The designs upon the Marshall and Carolina islands are similar; the status of "free association with the USA" has been imposed upon them.

The Pacific islands have great strategic significance. In compliance with the "island strategy," which is enjoying increasingly greater development in the USA following its loss of bases in Indochina, military complexes are being created on these islands. American strategists believe that island bases, being less populated and more remote from major countries, will become a dependable springboard for the USA's war plans.

However, it is becoming increasingly more difficult to implement these plans due to the growing resistance of progressive strata of the public of the Pacific islands. The national liberation movement is growing stronger in Oceania. The political map of the region is changing under its influence as well. In recent years Western Samoa, Nauru, Tonga, Fiji, Papua-New Guinea, the Solomon Islands, Tuvalu and Kiribati have become independent.

The region of Oceania has great economic significance. Copra, phosphates, nickel ores, chromites and other strategic raw materials are exported to Western countries from Oceania.

Many islands of Oceania located at the intersections of marine and air transport routes play an important role in supporting the activities of the transport fleet and aviation.

Antarctica

Antarctica is a continent in the Southern Hemisphere occupying the central part of the South Polar region (Antarctica). The continent has an area of about 14 million square kilometers, of which about 1.5 million square kilometers are occupied by shelf glaciers that steadily creep off the Antarctic continent into the sea, and contiguous islands. Almost the entire continent is covered by a thick glacial crust. The average thickness of the ice is 1,720 meters (the maximum is more than 4.5 km). The total volume of the glacial mantle of Antarctica is about 24 million cubic kilometers (almost 90 percent of all of the planet's fresh water is locked within it). This glacial mantle descends into the ocean (small portions of the coastline consisting of bedrock are an exception), and shelf glaciers--flat ice fields (up to 700 meters thick) floating on the water and reaching the floor of the ocean in certain uplifted areas of the floor--form over a significant area. Consequently a large number of icebergs form along the shores of Antarctica. These icebergs are then carried by currents and wind, and they may reach as far north as 40° S. Lat..

The Antarctic coastline (more than 30,000 km long) is rather featureless, and it consists, for almost its entire length, of glacial cliffs up to several dozen meters high.

The Antarctic climate is the harshest on earth. The planet's cold pole is located at the center of the continent. A temperature of -88.3° was recorded at the Soviet "Vostok" station on 24 August 1960. The mean winter temperature on the coastline varies from -8 to -35°, while the summer temperature is about zero; the corresponding figures for Central Antarctica are correspondingly from -60 to -70°, and from -30 to -50°. The polar night lasts several months in the central regions.

Perpetual winds blowing from the continent are typical of the coastal area. When they merge with cyclonic air currents, hurricanes form.

Antarctica is the most isolated continent on our planet. The closest distances to it are about 1,000 km from South America, 2,650 from Australia and 3,870 km from Africa. The sixth continent is surrounded by a continuous ring of water consisting of the southern parts of three oceans--Atlantic, Indian and Pacific. Because of the significant hydrological features of these waters, there have been suggestions for isolating the waters of the oceans surrounding Antarctica as the Southern Ocean.

The honor of discovering the sixth continent belongs to Russian naval seamen, who sailed near the glacial continent for the first time in history under the leadership of F. F. Bellinsgauzen and M. P. Lazarev on 15 (27) January 1820. Despite numerous expeditions to this continent following its discovery, prior to 1957--before the start of the International Geophysical Year--knowledge on Antarctica was meager.

Beginning in the late 1950's Antarctica began to reveal its secrets more fully. The ice-locked continent has been transformed into a zone of productive cooperation among scientists representing many countries. Permanent and temporary scientific stations have been created on the glacial continent. Soviet scientists have achieved especially great successes. Since 1956 they have been continuously conducting diverse research on the bleak continent and contiguous waters. The permanent Soviet stations "Molodezhnaya," "Mirnyy," "Vostok," "Sovetskaya" and others have been created on the continent. In 20 years, Soviet caterpillar-sled trains have traveled a sum total of more than 80,000 km in the harsh conditions of Antarctica. The USA, Japan, England and others countries are displaying considerable interest in studying Antarctica.

The waters of Antarctica are rich in fish and marine mammals (whales, seals) as well as water birds. Ninety percent of the world whale catch occurs in this region. Rich deposits of minerals have been discovered in Antarctica--coal, petroleum, gold, silver, copper, zinc, platinum, iron ore and so on.

On 1 December 1959 12 states signed the Treaty on the Antarctic (USSR, USA, Australia, Argentina, Belgium, Great Britain, New Zealand, Norway, France, Chile, South African Republic and Japan). According to the treaty this region of the planet "must be used forever exclusively for peaceful purposes, and it must not become an arena or object of international disagreements." Later on, seven more countries signed the treaty (Czechoslovakia, Poland, Denmark, the Netherlands,

Romania, the GDR and Brazil). The international legal regime of Antarctica and other territories located south of 60° S. Lat. is regulated by this treaty.

Occupying the leading position in research on Antarctica, the Soviet Union has consistently favored preserving and confirming the regime established by the 1959 treaty and guaranteeing peace and peaceful cooperation among states in Antarctica for the good of all mankind.

Chapter VIII. Along the Shores of the Arctic Ocean

General Description

The Arctic Ocean is the smallest of the earth's oceans. Together with its seas, it occupies 13.1 million square kilometers (2.8 percent of the area of the World Ocean). The total area of its islands is about 4 million square kilometers.

Three areas are distinguished in the Arctic Ocean depending on physicogeographic features and geological structure: The deep water part of the Arctic Ocean delimited on the south by the margin of the continental shallows of Urasia and North America (with an area of about 5.3 million kilometers); the North European basin, including the Greenland, Norwegian, Barents and White seas, and the seas located within the limits of the continental shallows--Kara, Laptev, East Siberian, Chukchi, Beaufort and Baffin.

The shores of the Arctic Ocean are diverse in nature. While the shores of Scandinavia, Iceland and Greenland are predominantly high and cut by deep fjords, the shores of the White, Barents and Kara seas are occasionally interrupted by bays, they are low and level in parts and deltoid in some places. In the vicinity of the Laptev, East Siberian, Chukchi and Beaufort seas the shores are deltoid in some areas, and lagoons are found in others; the shore of the Canadian Arctic archipelago is for the most part low and level.

The Arctic Ocean is distinguished from other oceans by lesser depth (averaging 1,130 meters, with a maximum of 5,449 meters in the Nansen trough) and highly developed continental shallows having a maximum width of 1,300 km (in the Barents Sea).

The Arctic Basin is subdivided by a system of underwater ridges--(Gakkel'), Lomonosov and Mendeleyev (together with the Alpha underwater rise)--into a number of deep-sea basins.

The depths of seas such as the White, Barents, Kara, Laptev, East Siberian and Chukchi do not exceed 50-100 meters, only occasionally reaching up to 200 meters. These seas are essentially gulfs in the Arctic Ocean.

The cold Arctic climate of the Arctic Ocean is a product of its hydrological cycle. A large part of the Arctic Ocean is covered by a thick glacial crust, which occupies an area of more than 11 million square kilometers in March and 7 million square kilometers in September. The Norwegian Sea and an insignificant part of the Greenland and Barents seas are free of ice year-round owing to the warm Gulf Stream current. The rest of the Arctic Ocean (the Arctic basin *per se*) is covered by drifting perennial ice fields, the thickness of which attains 4.5 meters.

Scientific research has shown that each year up to 170,000 cubic kilometers of water enter the Arctic Ocean from the Atlantic Ocean (by way of the North Atlantic current--a northern branch of the Gulf Stream) and from the Pacific Ocean by way of the Bering Strait. In addition Siberian rivers discharge another 4,000-5,000 cubic kilometers of fresh water into the ocean. Inasmuch as evaporation from the Arctic basin is very low, excess cold water is carried by a powerful current to the east shores of Greenland and then southward into the Atlantic Ocean. This current is called the East Greenland Current.

This hydrologic cycle significantly hinders navigation on the Northern sea route and the Northwest Passage (a marine route between the Atlantic and Pacific oceans passing through the straits of the Canadian Arctic archipelago), where shipping is possible for only two or three summer months, in the company of icebreakers as a rule.

The animal world of the Arctic Ocean differs in terms of abundance and diversity in warm and cold waters. It is more diverse in the North European basin, where there are more than 2,000 species of animals, to includes whales and a large number of fish species--herring, cod, bass, haddock etc. The Arctic basin is dominated by the polar bear, walrus, seal, narwhal, white whale and others. Fish species are few in number (Arctic cod, navaga, sayka and, in river mouths, freshwater fish species). The seas of the North European basin and the Baffin Sea are traditional fishing and hunting grounds.

Herring, cod, halibut, bass and other fish are caught in the Barents Sea, by the shores of Iceland and in Baffin Sea. Hunting continues to be one of the principal means of survival for the indigenous maritime population of northern Greenland, Canada and Alaska.

Despite the unique hydrologic and ice cycles and the harsh natural conditions, the Arctic Ocean is acquiring increasingly greater military significance in the plans of imperialist reactionary circles.

Great is the significance of the Arctic Ocean to transport. The principal shipping countries are the USSR on the Northern route and the USA and Canada in the Northwest Passage. As a rule the shipping lanes to Greenland, Iceland, northern Scandinavia and Spitsbergen are independent of ice conditions in summer.

The airspace above the Arctic Ocean is intersected by routes from West Europe to the west coast of the USA (by way of Greenland and Canada) and Japan (by way of Alaska).

The Arctic--the Most Important Economic and Strategic Region of the Earth

The word "Arctic" is a concept with broad meaning. The Arctic is the North Polar region of the globe, to include the continental margins of Eurasia and North America (north of the zero annual isotherm) and almost all of the Arctic Ocean (except for the eastern and southern parts of the Norwegian Sea) together with all islands contained therein (besides the coastal islands of Norway) and the adjacent portions of the Atlantic and Pacific oceans. The Arctic Ocean occupies the larger part of the Arctic (about 13 million square kilometers).

The legal regime of the Arctic is based on an evolved system of Arctic sectors which have achieved recognition in international law and in the national legislation of Arctic states.

The Arctic is divided into five sectors, with their bases represented by the northern borders of the USSR, USA, Canada, Denmark and Norway, with lateral borders represented by meridians and with the apex at the North Pole.

All land and islands located within the limits of each sector are within the territory of the contiguous states. Thus the Soviet sector of the Arctic includes Murmanskaya Oblast (the northern regions), the Nenets, Yamalo-Nenets, Taimyr and Chukchi national areas, the northern regions of the Komi ASSR and Yakut ASSR, and the islands of Franz Joseph Land, Novaya Zemlya, Severnaya Zemlya, New Siberian Islands and Wrangel Island. The Soviet sector occupies almost half of the entire Arctic.

The U.S. sector includes the northern regions of Alaska, the Canadian sector includes the Canadian Arctic archipelago, the Danish sector contains Greenland, and the Norwegian sector includes the Spitsbergen archipelago, Bear Island and Jan Mayen Island.

This system of sectors evolved on the basis of a consideration of the rights and interests of the corresponding states, and recognition of their priority in exploration and discovery of different regions of the Arctic.

The Arctic has long attracted and continues to attract the attention of mankind. Some peoples aspired to the discovery of new lands and to the development of the natural wealth of the Far North, others sought the shortest route to the Pacific Ocean, and still others attempted to reveal the secrets of the glacial silence of the Central Arctic and reach the North Pole. This harsh and poorly explored region attracted many scientists, explorers, researchers and simply rugged individualists.

As long ago as in the 12th century Russian coastal inhabitants occupied themselves with marine hunting and fishing in the White and Barents seas. In the 15th Century their camps were concentrated on Spitsbergen and Novaya Zemlya, where they caught fish and hunted marine animals.

Russia rightfully occupies an important place in the history of the exploration and development of the Arctic.

In 1648 Semen Dezhnev discovered the strait between Asia and America. The Russian scholar M. V. Lomonosov made an enormous contribution to the study of the northern seas. He was firmly convinced that "Russian power would be multiplied by the annexation of Siberia and the Arctic Ocean." An expedition to the Central Arctic by V. Ya. Chichagov was outfitted on Lomonosov's initiative.

In the 19th-20th centuries the development of the Arctic was brought under the sponsorship of the state. Expeditions by famous pioneers and scientists--V. Bering, S. Chelyuskin, the Laptev brothers, F. Vrangel', F. Litke, V. Rusanov, G. Sedov and others--discovered and mapped the north coast of Asia and the Arctic islands.

The first Russian icebreaker "Yermak" was built in 1898 in response to a proposal by the talented Russian navigator Admiral S. O. Makarov. This significantly advanced the study and development of the Arctic.

The Russo-Japanese War forced the Czarist government to implement a number of measures to study and organize the Northern sea route. Subsequently, the 1911-1915 expedition aboard the icebreakers "Taymyr" and "Vaygach" commanded by B. Vil'kitskiy was the most important in terms of its scientific significance.

The famous Norwegian polar explorers F. Nansen and R. Amundsen played an outstanding role in the study of the Arctic.

Since ancient times, man has tried to penetrate to the most inaccessible part of the globe--the Central Arctic. Following many long and persistent attempts, the North Pole was reached for the first time by the American R. Peary. In 1926 the North Pole was overflown by an airplane piloted by Admiral Byrd of the USA and by the dirigible "Norway" of the Amundsen-Nobile expedition, and 2 years later by the dirigible "Italia" of the Nobile expedition.

The Great October Socialist Revolution initiated a new era in the study and development of the Arctic. For the first time Soviet Arctic research began to be conducted on the basis of statewide interests, in a regular manner, using icebreakers, aviation, radio and other technical resources.

The Northern Scientific-Industrial Expedition of the Scientific-Technical Division, Supreme Council of the National Economy was organized in March 1920. In 1925 it was reorganized as the Institute of Northern Studies, and in 1930 it became the All-Union Arctic Institute. In 1958 it was renamed the Arctic and Antarctic Scientific Research Institute (AANII). In the time of its activity the institute organized hundreds of expeditions, during which many new islands were discovered and regular research was conducted on the geophysics of the Arctic regions and on the navigation conditions of the Northern sea route.

Hero of the Soviet Union Academician O. Yu. Shmidt made a great contribution to the study and development of the Arctic. He headed a number of polar expeditions (aboard the "Sedov" in 1929-1930, aboard the "Sibiryakov" in 1932 and aboard the "Chelyuskin" in 1933-1934), and he was the leader of the air expedition to the North Pole in 1937.

The first "Severnyy polyus" drifting station was organized in the vicinity of the North Pole in 1937 under the guidance of I. D. Papanin. In 1950 the second "Severnyy polyus" drifting station was created in the Central Arctic. Since 1954, two Soviet "Severnyy polyus" drifting stations have been continually serving a year-round watch simultaneously in the Central Arctic.

The nature of the Central Arctic has been studied in the postwar era by integrated air expeditions as well as on the basis of materials obtained from earth satellites. All of this has been an assistance in the mapping of the bottom relief of the Arctic basin, the currents, ice drift and terrestrial magnetism.

Following World War II the USA and Canada became more active in Arctic research. Since 1946 these countries have been performing oceanographic studies in the eastern part of the Chukchi and Beaufort seas. A number of cruises have been made into Arctic waters bathing the shores of Canada, Greenland and the islands of Jan Mayen and Ellesmere. Since 1951 the USA has organized a number of high-latitude air expeditions and drifting stations in the Arctic basin.

The USA's attention to the Arctic regions can be explained mainly by the fact that it is aspiring to create, and is presently creating, air and naval bases in this area.

In the USA, the defense department and the primarily the navy is conducting the broadest research in the Arctic. This research is being conducted with the purpose of expanding the possibilities for operations by nuclear submarines. Evidence of this can be seen in the numerous subglacial cruises by American atomic submarines in the Central Arctic, which the Pentagon leadership believes would be an important strategic region in a future war. Following discovery of large reserves of petroleum, gas and other minerals in northern Alaska and in Canada, the USA dramatically increased its attention in the Arctic. Navigation came to be viewed in a new light in this area as well, especially following the cruise of the tanker "Manhattan" through the Northwest Passage within a single sailing season. All of this promoted creation of the corresponding scientific base and the conduct of scientific research in Arctic regions.

American ruling circles are aspiring to use the territory and natural wealth of Arctic regions belonging to other countries. For this purpose they are undertaking various foreign policy acts.

The Soviet Arctic

The territory of the Soviet Arctic covers about 9 million square kilometers, of which 6.8 million square kilometers are water. The population density is 0.1-0.2 persons per square kilometer. Indigenous nationalities live here--Yakuts, Chukchis, Nenets, Dolgans and Evenks, as well as Russians, Ukrainians and representatives of other USSR nationalities.

According to a decree of the Presidium of the USSR Central Executive Committee dated 15 April 1926 all lands and islands, both discovered and those which may be discovered in the future and located between the USSR's Arctic coast, the North Pole and 32"4'35" E. Long. and 138"49'30" W. Long., were declared USSR territory.

Prior to the Great October Socialist Revolution the Arctic regions were studied and developed economically on the initiative of individual scientific organizations, some explorers and scientists. The Czarist government was not much interested in these regions.

It was only after the Great October Socialist Revolution that regular utilization of the natural wealth of the Arctic and development of the Northern Sea route began. The North's economy began to grow swiftly, industrial regions increased in size quickly, the limits of farming advanced far northward, and the secrets of

the glacial expanses of the Arctic were uncovered. All of this produced major social changes in the life of peoples of the Far North.

The Northern sea route--a major shipping lane extending along the northern shores of the USSR through the seas of the Arctic Ocean (Barents, Kara, Laptev, East Siberian, Chukchi, Bering)--played an enormous role in the development of the Arctic. This main route links together European and Far East Soviet ports as well as the mouths of navigable Siberian rivers into a single unionwide transport system. The Northern sea route is promoting the utilization of the Arctic's natural wealth and its economic development.

The Northern sea route has long attracted the attention of Russian explorers and scientists. However, it was not until after the Great October Socialist Revolution that it transformed into a permanent shipping lane and that the northern regions of Siberia ceased to be a wild and distant land.

The Main Administration of the Northern Sea Route (Glavsevmorput') was created in 1932 to organize the Northern sea route from the White Sea to the Bering Strait, to maintain it and to ensure safe navigation.

The icebreaker "Sibiryakov" traveled the entire Northern sea route within a single sailing season for the first time in the history of its development in 1932.

The Communist Party and Soviet government attach great significance to strengthening the defense capabilities of the USSR's northern maritime borders. It was with this purpose that the Northern Military Flotilla was created in 1933; it was reorganized as the Northern Fleet in 1937.

The Great Patriotic War confirmed the correctness of this decision. The Northern Fleet dependably protected northern ports, bases and sea routes from the fascist German invaders. In battles both on land and at sea, seamen of the Northern Fleet multiplied the glorious combat traditions of Russian and Soviet naval seamen, and entered a brilliant page into the chronicle of our motherland's combat glory. In the harsh years of the war the Soviet people continued to develop the Arctic. Industrial construction developed more and more extensively, polar cities and settlements grew, and highways were laid to link up individual regions with ports and river docks.

A new rise in the North's economy and further development of the Northern sea route began in the postwar years. The Northern sea route transformed into a regularly operating shipping lane, which made it possible to utilize the natural wealth of the Far North for the further development of the country's economy and reinforcement of its defense capabilities.

The commissioning of new powerful vessels in the icebreaker class--the nuclear power-powered ships "Lenin," "Arktika" and "Sibir'," the icebreakers "Moskva," "Leningrad," "Kapitan Sorokin," and "Krasin" and other icebreakers of this class, modernization of Arctic ports, expansion of the network of polar stations and observatories, and the achievements of science all helped to create real possibilities for fulfilling the tasks, posed by the Communist Party Central Committee and the Soviet government, of transforming the Northern sea route into a major shipping lane for national economic cargoes.

Efforts associated with making the Arctic navigable in late fall and winter took shape in recent years. Lengthening the sailing season is now one of the most important tasks of polar navigation.

The dream of many generations of navigators and scientists was fulfilled by the August 1977 cruise of the nuclear-powered icebreaker "Arktika" to the North Pole, demonstrating the outstanding achievements of Soviet science and technology. Capitalizing on the cruising experience of the "Arktika," the nuclear-powered icebreaker "Sibir'" opened up the Arctic sailing season 2 months earlier than usual in 1978. It successfully escorted the transport vessel "Kapitan Myshevskiy" into the high latitudes. The caravan skirted the Arkticheskiy Cape--the extreme northern point of Komsomolets Island--and delivered its cargo to Magadan.

A number of transport problems of extreme importance to the national economy were solved--for example ones such as lengthening the sailing season in some portions of the Northern sea route and its transformation into a practically year-round operation between Murmansk and Dudinka in support of our Arctic mining and metallurgical combine in Noril'sk. The technology of transporting cargo to remote Arctic regions in winter and unloading it on shore ice (on the Yamal Peninsula and Cape Kharasavey) was developed and practically implemented.

Development of the Northern Sea route proceeded simultaneously with the study and development of mineral deposits in Arctic regions of the Soviet Union.

Discovery of the world's largest apatite deposit in Khibiny (on the Kola Peninsula) in the 1920's created the possibilities for satisfying the country's demand for phosphates, which are now being processed by the "Apatit" Combine imeni S. M. Kirov. Copper, nickel and cobalt are being produced on the Kola Peninsula in Monchegorsk by the "Severonikel'" Combine, and iron ore is being mined and concentrated in Olenegorsk and Kovdor for the Cherepovets Metallurgical Combine. Cascades of hydroelectric power plants have been created in Murmanskaya Oblast on the Niva, Tuloma, Paz, Kovda and Voron'ya rivers in order to provide electric power to the mining industry and nonferrous metallurgy of these regions. The largest thermal electric power plant is the Kirovskaya GRES. The Kol'skaya atomic electric power plant began producing industrial current in 1973. The Soviet Union's first tidal experimental electric power plant--the Kislogubskaya PES--was built in Murmanskaya Oblast.

Fishing and fish processing play a major role in the economy of Murmanskaya Oblast. Fishing industry produces more than a third of the oblast's gross industrial product. Logging industry has been developed. The exports of commercial lumber total more than 1.5 million cubic meters. There are sawmills and furniture factories.

The oblast is the location of the Kola branch of the USSR Academy of Sciences imeni S. M. Kirov (in the city of Apatity), which possesses five scientific research institutes.

The economy of Arkhangel'skaya Oblast, which is one of the leading logging regions of the USSR, is developing intensively. Arkhangel'skaya Oblast provides a third of the exported timber.

Arkhangel'skaya Oblast is a region of integrated development of logging industry, timber export, fishing industry, expanding machine building, hunting and fur trapping.

Reindeer herding (there are about 200,000 reindeer) and fishing are developed in the Nenets Autonomous Okrug, which is part of the oblast.

In the early 1930's development of large deposits of petroleum (Ukhta) and coal (Vorkuta) began in the Komi ASSR in the Pechora River basin. Large gas deposits were also discovered there, and they are presently being exploited. The Northern Pechora Railroad, stretching more than 1,200 km from Konosha to Vorkuta, was built in 1941.

The extraction of petroleum and coal and construction of the railroad in the Pechora basin were enormously helpful to our motherland in the difficult time when the troops of Nazi Germany temporarily occupied the Donets Basin.

Owing to the selfless labor of the Soviet people the Pechora has become a major industrial region.

Reconnaissance and development of nickel-iron ore reserves in the north of Krasnoyarskiy Kray created the foundation for developing a large mining and metallurgical combine in Noril'sk. Discovery of extremely rich deposits of nickel and copper in the vicinity of Talnakh (not far from Noril'sk) and creation of the "Mayak," "Komsomol'skiy," and "Oktyabr'skiy" mines in 1960 raised production of nonferrous metals--nickel, copper and cobalt--to a level almost nine times higher than in 1950.

Large deposits of coal (the Tungus coal basin) and of natural gas and petroleum on the Taimyr Peninsula were discovered in Krasnoyarskiy Kray.

Large deposits of tin, gold, tungsten, mercury and other minerals have been explored and are now undergoing development in the Yakut ASSR and on the Chukchi Peninsula.

Arctic cities and ports were built simultaneously with development of the Northern sea route and the natural wealth of the North. Major industrial centers grew up during the years of Soviet rule: Kirovsk, Vorkuta, Ukhta, Salekhard, Igarka, Noril'sk, Tiksi, Anadyr' and others.

Following are the ports and industrial centers of the Soviet Arctic:

Murmansk: The center of Murmanskaya Oblast, an ice-free port, and a railroad station. The city is located on the east shore of Kola Bay, 50 km from the outlet to the open sea. It was founded in 1916. A railroad linking Petrozavodsk to Murmansk was built concurrently with construction of the city and port. This railroad, which is 987 km long, went into operation in 1916.

Fascist aviation did considerable damage to the city during the Great Patriotic War. The enemy made about 800 air raids against the city, he dropped tens of thousands of bombs, and he destroyed 74 percent of the city's housing. Following the war Murmansk was quickly restored. It became the largest city of the Arctic.

Murmansk is a city of seamen, a city of fishermen. It is the base of the trawler, herring and transport fleets, and it is the home of the Murmansk Marine Steamship Company. Its large enterprises include the "Sudoverf'" Association and fishing, house building and wood packaging combines.

The Murmansk Fish Combine is one of the largest fish processing enterprises in the country and the biggest in North Europe. Modern production equipment is installed at the fish combine. It produces about 100,000 tons of fish products of up to 400 different kinds each year.

The country's largest polar research institute is located in the city--the Polar Scientific Research Institute of Fisheries and Oceanography imeni N. M. Knipovich (PNIIRO). It is also the home of the Higher Engineering Navigation School, a pedagogical institute and several secondary technical schools, as well as of the oblast performing arts theater and the oblast regional museum.

Arkhangel'sk: A large city and port located at the mouth of the Northern Dvina. The city was founded in 1884, and it is the largest logging and timber exporting center of the Soviet Union.

Arkhangel'sk is the home of the Solombal'skiy and Arkhangel'sk pulp-and-paper combines and several sawmilling and woodworking combines, which export three-fourths of their products.

The most important industrial sector is shipbuilding (cargo and fishing vessels) and ship repair.

Arkhangel'sk contains several higher and secondary educational institutions, a regional museum and the oblast performing arts theater. The hydrogeographic base of the Northern Sea route is located in the city.

Expeditions to study the Arctic seas have left from the wharves of Arkhangel'sk for several centuries.

Nar'yan-Mar: Center of the Nenets Autonomus Okrug, and a trading sea and river port. It is located on the right bank of the Pechora River. The city is the supply base for Arctic regions and the most important center for fish catching and processing, fur trapping and logging; it is a reindeer herding center.

Dikson: One of the most important ports on the Northern sea route. During the war it became the site of the Dikson Hydrogeographic Base, which is still playing a major role in the study of the Kara Sea and in maintaining shipping safety.

Dudinka: City and transportation center of the Taimyr (Dolgan-Nenets) Autonomus Okrug. The industrial products of Noril'sk are shipped out from here.

Noril'sk: One of the northernmost cities of the world. The city is linked by rail to the port of Dudinka (122 km). Noril'sk is undergoing construction with a consideration for the climatic conditions (permafrost, strong winds, polar nights).

The Noril'sk Mining and Metallurgical Combine imeni A. P. Zavenyagin is an enterprise of USSR nonferrous metallurgy. It is outfitted with highly productive equipment. It produces nickel, copper, cobalt and other nonferrous metals.

The city has a performing arts theater, a swimming pool, a House of Culture and an indoor skating rink.

Igarka: A port 163 km from the Arctic Circle and 673 km from the mouth of the Yenisey River. It is a Kara Sea port specializing in timber processing and export.

The city's logging combine and sawmills work with raw materials from the entire Yenisey basin. The city has a fish processing plant, the Pedagogical School of the Peoples of the North and a branch of the Krasnoyarsk Polytekhnikum.

Pevek: A young city (since 1967), and one of the most important ports in the eastern portion of the Northern sea route. It has several enterprises.

Thus owing to the concern of the Communist Party and the Soviet government dozens of new cities and hundreds of worker's settlements have appeared in the Soviet North, and public health institutions, higher and secondary special educational institutions preparing specialists for different sectors of the national economy have been created.

Growth of new population centers and the discovery and development of new mineral deposits in polar regions of the USSR attest to the great changes occurring in the country's distribution of productive forces.

In the last 10-15 years the country's northern regions provided much fuel, iron ore, nonferrous metals, bauxites and timber. Just during the Ninth Five-Year Plan petroleum extraction in these regions increased by four times, while gas extraction increased by 3.2 times. The petroleum and gas of these regions are carried to the country's industrial regions by main pipelines.

Scientific-technical progress, continual growth in labor productivity and creation of territorial-production complexes had a tremendous influence on the North's economic development.

Arctic Regions of Capitalist Countries

Following World War II the ruling circles of the USA intensified their attention toward the Arctic regions. The Arctic basin is now viewed by the American military and by the NATO leadership primarily from the point of view of military strategy. As early as in 1959 the American newspaper UNITED PRESS INTERNATIONAL wrote: "The Arctic will become an important theater of war in any future global conflict, and the North Pole will be the strategic center of the Third World War."

The Pentagon and the NATO staffs have been working on the so-called "Arctic strategy" for more than a decade. As the disposition of forces in the international arena changed and as new forms of armament and equipment developed, certain changes occurred in this strategy as well.

In the first postwar years American strategists laid high hopes on their air power and atomic weapons. They created a network of air and naval bases in Arctic regions--in Greenland, Iceland, northern Norway, Alaska and northern Canada.

The Arctic was viewed by the American military as a region offering the shortest air routes for American strategic aviation to important nuclear targets on the territory of the USSR and other socialist countries.

However, the USA's atomic monopoly soon toppled. The Soviet Union acquired atomic weapons as well. In this connection the Arctic came to be viewed by the ruling circles of the USA as a potential region of application of atomic missile submarines. By the early 1960's the possibility of subglacial navigation by atomic submarines was confirmed.

Beginning in 1958 the U.S. Navy's atomic submarines began to regularly perform subglacial cruises in the Arctic basin.

In the opinion of foreign military experts subglacial cruises by atomic submarines confirmed the possibility that the latter could sail beneath Arctic ice, and find and use openings in the ice at any time of the year to launch their missiles against enemy objectives.

These features of the Arctic basin serve as the motivation behind a complex of various military measures being implemented by the Pentagon and the NATO command to transform the Arctic into a fundamentally new marine theater with specially outfitted antisubmarine lines.

Using the Arctic territory of Norway (Spitsbergen), Denmark (Greenland), Iceland and Canada, the NATO command is continuing to outfit the Arctic basin for military operations. It is building and improving the network of air bases and airfields, Arctic air routes are being developed, radar and navigation stations are being set up, and communication centers and command posts are being built. Much attention is being devoted to reconnaissance from space.

According to an assertion in the Western military press "a new strategic situation has evolved in connection with disturbance of the balance of forces" on the northern flank of NATO. Taking cover behind anti-Soviet fabrications, executives of NATO and the USA are calling upon the bloc's countries to strengthen the armed forces of the North Atlantic bloc in the vicinity of the Norwegian, Greenland and Barents seas as quickly as possible.

Northern Norway is playing an increasingly greater role in NATO's plans. A significant number of air and naval bases have been outfitted here: Bodo, Bardufoss, Olafsvern (Ramfjordnes), Harstad, Ramsund, Tromso and others.

A network of NATO radar and electronic posts has been deployed on Norwegian territory. NATO's "Ace High" tropospheric communication line passes over all of Norway, and "LORAN-C" radio navigation stations are located on the islands of Jan Mayen and Langoy. There is a large radio communication center supporting control of atomic submarines in the North Atlantic in the vicinity of Bodo.

Further development of NATO's infrastructure is continuing in Norway. According to official data Norway received about 6 billion krone from NATO in the last few years to build military facilities.

Aggressive imperialist circles are attempting to draw Spitsbergen and Bear Island, making up Norway's Svalbard administrative region, into the orbit of military preparations.

The Spitsbergen archipelago contains more than 1,000 islands with a total area of 62,000 square kilometers. The discovery and development of the archipelago began back in the 13th century, when Russian coastal inhabitants began paying visits to the archipelago to catch fish and hunt marine animals. They were the ones to give it its first ancient Russian name--Grumant. However, it was not until the early 20th century that any steps were taken to determine the ownership of the archipelago. An international treaty establishing Norway's sovereignty over Spitsbergen was signed in Paris in 1920. The Paris treaty obligated Norway not to erect military bases and fortifications on Spitsbergen or to use its territory for military purposes.

The Soviet Union became a party to this treaty in 1935, and in 1947 the Norwegian Parliament (Storting) adopted a decision according to which the USSR enjoys the right of free settlement on Spitsbergen, mining, fishing and hunting marine animals on land and in territorial waters.

There is a Soviet consulate and three settlements in the archipelago: Barentsburg (1,200 persons), Piramida (800 persons) and Grumant (moth-balled).

The Norwegian population totals up to 1,200 in the archipelago. The largest Norwegian settlements are Longyearbyen, Ny-Alesund and Sveagruva.

Following Norway's entry in the North Atlantic bloc, the USA attempted to prepare for deployment of a network of military airfields on Spitsbergen under the guise of scientific activity. Construction of a telemetric station intended for observation of artificial earth satellites was completed near the village of Ny-Alesund. The command of the Norwegian navy regularly sends warships to Spitsbergen and lands warplanes on its territory. All of this is contradictory to the obligations Norway adopted in the Paris treaty.

Iceland occupies an important place in the military-strategic plans of the USA and NATO. An American military base and other facilities have been created and American troops have been deployed on its territory. According to information in the foreign press atomic weapons are being stored in munition dumps at the air force base near Keflavik.

The NATO command devotes its main attention to Greenland.

Having concluded a treaty of "joint defense" of Greenland with Denmark in 1951, the USA obtained the right of locating its military bases and radar facilities there. The USA built naval bases at Godthaab and Julianehaab, and around 10 air force bases and airfields, of which the main ones are Thule, Sondre Stromfjord and Nord.

The largest air force base in all of the Arctic is at Thule, which is the base of American strategic aviation. The base is outfitted with high-power radio and radar stations. There is a special port for receipt of cargo. All services are located in subglacial buildings.

The Pentagon attaches important significance to military preparations in Alaska and the Aleutian islands, which are part of the state of Alaska and are located in direct proximity to the Soviet Union.

The area of Alaska is 1.5 million square kilometers. Its population is 325,000. The indigenous population consists of Indians, Eskimos and Aleuts.

Alaska was discovered in 1741 by the Russians, and it belonged to Russia, but in 1867 it was sold by the Czarist government to the USA together with the Aleutian Islands for $72 million.

The main industrial sectors are petroleum, gas and woodworking. Construction of a petroleum pipeline extending 1,280 km from Prudhoe Bay to an all-weather port on the southern end of the Valdez Peninsula is nearing completion.

Alaska became the 49th state in 1959. The Alaskan combined U.S. Armed Forces command was created on its territory. It included land, air and naval forces.

More than 100 airfields have been built on Alaska and the Aleutian Islands, of which not less than a dozen can be used by strategic aircraft. The largest airfields are at Anchorage, Eielson, Juneau, Elmendorff, Fairbanks and elsewhere. Naval bases are located at Nome, Dutch Harbor and on the islands of Kodiak and Adak. A number of air and naval bases have been moth-balled.

Alaska and Canada are within a single air defense system subordinated to the combined air defense command of the North American continent--NORAD, headed by an American general. A significant part of Canada's military aviation and the airspace above its territory are actually controlled by the Pentagon.

A dense network of permanent and mobile radar posts is deployed in the northern part of the American Arctic coast--on the territory of Alaska, the Aleutian Islands, Canada and Greenland.

The long-range airplane and missile detection system consists of two basic elements--the "DEW" line and a special early warning antimissile system, "BIMEWS." The complex of radar stations belonging to the early warning system extends from the Aleutian Islands through Alaska, Canada, Greenland and Iceland, and terminates at the English city of Yorkshire.

The Pentagon aspires to use the Arctic region for space reconnaissance. An artificial earth satellite tracking station has been placed into operation near Fairbanks in Alaska.

In addition to outfitting and preparing Arctic regions as a possible theater of war, the USA and the NATO command are conducting research in this area to learn

about the natural conditions, air and sea (including subglacial) routes and the possibilities and details of basing ships and airplanes in Arctic conditions.

Special control centers have been created in Elmendorff (Alaska) and in Thule (Greenland) to control flights by strategic aviation into the Arctic regions of North America and European NATO countries.

Thus the American military and the NATO command view the Arctic regions as the most important theater of military operations, one which will combine the European zone of NATO and the Atlantic with the regional U.S.-Canada zone and the U.S. Armed Forces in the Pacific.

The NATO leadership is using the Arctic zone for all-out preparations of a theater of war, with a consideration for its unique features.

Conclusion

The military-political and military-economic characteristics of the World Ocean and our review of the countries in the World Ocean basin allow the conclusion that despite the great diversity of sociopolitical, economic and other features in the development of these countries, we can distinctly discern tendencies dependent upon the struggle between two opposing social systems--socialist and capitalist.

The continual growth in the strength of fraternal friendship and comprehensive cooperation, and of the economic and defensive might of the socialist states, confirmation of the national independence of developing countries, and the crisis phenomena and growth of the class struggle in capitalist countries all attest to the continuing and ever-deepening historic process of mankind's transformation from capitalism to socialism, initiated by the Great October Socialist Revolution.

In this connection the problems of utilizing the World Ocean occupy an important place in today's world policy.

The interest in development of the World Ocean can be explained by its truly inexhaustible wealth. All of this wealth may be utilized most fully in behalf of mankind only in the event that the seas, the oceans and their floor would remain within the sphere of peaceful cooperation, only if they are not transformed by the imperialists into springboards for the deployment of new forms of weapons.

As we know, reactionary imperialist militarism is attempting to concentrate a significant proportion of its nuclear potential, aimed at the Soviet Union and other countries of the socialist fraternity, on the broad expanses of the World Ocean and in the airspace above it.

The seas are broadly employed by the imperialists for armed intervention in the internal affairs of liberated states, and to exert pressure upon the champions of national and social liberation. The aggressive actions of imperialist reactionary forces are being supported by Chinese leaders. They are cooperating with imperialists on the soil of anti-Sovietism and the struggle against world socialism and the international revolutionary movement.

The Soviet Union and other countries of the socialist fraternity are persistently working to see that the World Ocean would become a zone of international cooperation, and that its enormous resources and space would be used for peaceful purposes, for the good of all mankind.

Performing their patriotic and international duty, the Soviet Armed Forces are alertly monitoring the intrigues of reactionary imperialist circles. Soldiers of the Soviet Army and Navy are doing everything they can to live up to their important task--dependably protecting the socialist fatherland, and being in a constant state of combat readiness guaranteeing an immediate repulse to any aggressor.

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