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Hutchins, Gordon
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STRATEGIC AREA

of

ALASKA, ALEUTIAN ISLANDS, and JAPAN

Presented in connection

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Presentation by
Comdr. G. Hutchins, USN
28 July 1937.

STRATEGIC AREA

of

ALASKA, ALEUTIAN ISLANDS, and JAPAN

The object of this talk is to give you a purely factual background on the Strategic Area of the NORTHERN PACIFIC, including ALASKA, the ALEUTIANS, and the JAPANESE MAIN ISLANDS.

More detailed information may be obtained from the Strategic Area Pamphlet on the JAPANESE ISLANDS and their spheres of control on the ASIATIC MAINLAND, which will be found on your desk when you return to your rooms, and from the ALASKA and ALEUTIAN ISLAND Air Pilot published by the Hydrographic Office, which may be drawn from the Archives. The current issue of THE NAVAL INSTITUTE also has several interesting articles and some excellent photographs of the ALASKA-ALEUTIAN ISLAND Area which should dispel some of the mental hazards regarding weather, hydrography, and topography of this part of the world.

SLIDES 1 & 2: NORTH PACIFIC STRATEGIC AREA

This slide shows the general area under consideration. I will leave it on for a few minutes in order to fix in your minds the relative position of the geographic locations under discussion.

Of course it is only recently that the territory of ALASKA and the ALEUTIAN ISLANDS has been examined, in so far as the military aspects are concerned, with any degree of thoroughness. Previously, it was more or less an unknown area noted chiefly for its mining, fishing, hunting, and unusual climate.

But when we realize that, geographically, the ALEUTIAN ISLANDS provide the nearest approach of any of our permanent possessions to the ASIATIC MAINLAND, its strategic importance begins to take on weight.

The great circle course between SEATTLE and YOKOHAMA passes through UNIMAK STRAIT and runs about 50 miles North of the center of the chain. The distance over this route is 4,250 miles, - 200 miles less than the great circle from SAN FRANCISCO to YOKOHAMA, and over 1,000 miles less than the route via PEARL HARBOR. Similarly, the 6,220 great circle route from SAN FRANCISCO to MANILA passes only 300 miles South of the ALEUTIANS, and is over 600 miles shorter than the route via PEARL HARBOR.

Unfortunately, in studying the influence of geography on offensive operations from the ALEUTIANS either toward ASIA or toward AMERICA, we find that this advantage of distance is somewhat overcome, at least for the present, by the existing weather conditions and physical characteristics of the terrain.

Undoubtedly, this ALASKAN-ALEUTIAN ISLAND Area, and particularly the ALEUTIANS, has some of the worst weather in the world. Most of the observations recorded were made during what was considered the best months of the year -- June to September -- but they were bad enough. One member of the 1935 Expedition had this to say of the ALEUTIAN AREA:- "During the war I served 1 year and 5 months in the IRISH CHANNEL and NORTH SEA, and in that time I did not experience one-half the

weather that I have in the 3½ months in the vicinity of ADAK".

Most of these conditions arise from the fact that the ALEUTIANS are the breeding grounds for what aerologists call the "Aleutian Low", a condition of extremely low barometer and the source of origin for storms in the NORTH PACIFIC. The climate is, in general, temperate and exceedingly moist. Temperatures range from 70° to slightly below zero in the ALEUTIANS and along the ALASKAN COAST, and from 90° to 50° below zero in the interior. Gales occur at all seasons, but increase in frequency and severity during the Fall and Winter months.

According to the Aircraft Pilot, the number of days throughout the year that fog will permit of aircraft operations varies from about 100 to 150 in the ALEUTIANS and along the ALASKAN COAST, to about 300 in the interior. This condition, however, is not so bad as it may at first appear, because the peculiarities of the weather are such that aircraft operations may usually be conducted from some other point not far from the base which is fog-bound. Thus, if we had bases scattered along at the chain at the more suitable points, operations from at least one of them should be possible most of the time. More improved equipment should permit aircraft to depart from a fog-bound base with another in the clear to serve as a point of return.

It will also be noted that the fog is more prevalent on the south side of the islands, and the peculiar thing about it is that it has been known to persist regardless of the fact

that a 30-knot wind is blowing.

No mention of the weather in this area is complete without a reference to "williwaws" or "draw winds". These local squalls are extremely gusty winds caused by the great irregularities in the topography and contour of the land. They not only blow with 50% to 100% greater force than the prevailing strength of the wind, but frequently blow from an entirely different direction. Such conditions make essential the use of ground tackle heavier than that ordinarily carried by most vessels.

In case we do have to conduct war operations in this area at some future date, some consolation may be had in the fact that there are many officers who were present in the recent survey expeditions who believe that the hazards of navigation have been consistently exaggerated and that they are largely the result of the psychological effect of operating in a new area without charts and adequate aids to navigation. They believe that if reliable charts now prepared are issued; if a few radio beacons are erected; if a few aids to navigation such as buoys, lights and beacons and direction finder stations are installed; and if every vessel is provided with a gyro compass, fathometer and radio compass, then navigation in the ALEUTIANS should present no fearful difficulties.

Undoubtedly there is a great deal of truth in these statements, because we know that, even with the meager facilities as they now have, Japanese merchantmen habitually

use the route north of the Chain of Islands, following the Great Circle Course.

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(3) ALASKA and ALEUTIANS

Before going into the detailed physical characteristics of ALASKA and the ALEUTIAN ISLANDS it might be of interest to consider briefly the communication and transportation facilities available, chiefly in ALASKA Proper - only 1 radio station in the ALEUTIANS; 1 - PRIBILOFFE.

The present communications consist of 105 private and commercial radio stations; 32 Army radio stations; 2 Naval Radio Stations; and 3 radio compass stations. There are but four railroads, all unimportant except the Government-owned railroad running from SEWARD to FAIRBANKS in the interior. The YUKON with its tributaries also forms an important transportation artery. Telegraph lines parallel the YUKON and the railroads, and one line runs through BRITISH COLUMBIA to SEATTLE.

When we consider that the area of ALASKA is about 1/5th the total area of the UNITED STATES and that the temperature in the northern and central part sometimes gets as cold as 50° below zero in winter, it is easy to visualize the difficulties of transportation. There are but a few miles of highway, and only the larger towns along the coast can be reached by railway, so that before the recent use of aircraft in ALASKA most of the travel to the outposts had to

be made by dog teams.

In addition to the difficulties of travel in winter, there are about 30 days each spring and fall, called the slush season, when aircraft is the only possible means of transportation overland.

In order to visualize the importance of air transportation in this territory, it is only necessary to consider that the trip from FAIRBANKS to NOME - a trail distance of over 700 miles - requires 30 to 40 days by dog team, while the air route is only 550 miles and requires about 5 hours.

ALASKA now has over 100 airports, the more important ones of which are shown on the slide. 90% of the people who travel over 200 miles in this country use aircraft, the planes landing on the ice in winter and on the water during the summer.

The strategic importance of the canneries in this area is also worthy of note. There is at least one canning factory in nearly every inlet along the Alaskan Coast from KETCHIKAN to NOME. They are all manned from May to September. During this period each operates a radio set on schedule with their fishing fleets. These fishing fleets cruise in assigned areas between the various inlets, so that the entire area from KETCHIKAN to NOME is covered by fishing vessels in direct communication with the network of over 100 shore radio stations.

The second difficulty to be overcome by forces operating in this area is the physical characteristics.

A more complete picture of the physical characteristics can be obtained from some recent slides showing the more important locations.

Beginning at the southern end of ALASKA, about the only ports of any economic importance which might possibly be used for minor military operations are KETCHIKAN, SITKA, SKAGWAY, JUNEAU, CORDOVA and SEWARD, all towns which reached their greatest popularity as centers of communication during the days of the gold rush.

(4) Seaplane Anchorage, KETCHIKAN. (3) Same as above

The town of KETCHIKAN, with a population of about 5,000 - one of the largest towns in ALASKA - is situated on an island, and derives its chief importance due to the fact that it is the center of the commercial and fishing industry in this part of ALASKA. While it has no harbor, some protection may be had for several large vessels anchored in the Strait. The road noted is about 12 miles long, with blind ends. The seaplane anchorage is shown in the foreground behind the spars.

(5) SITKA, Seaplane Anchorage (3) Same as above

SITKA was once the capital and most important city in ALASKA, but now has a population of only about 1,000. The

harbor at best is merely an open roadstead, but has the military advantage that it is right off the open sea. The anchorage, not shown on the slide, has room for about 100 vessels in depth of water from 9 to 32 fathoms. The narrow 600-yard channel with a 90 degree bend (shown on the slide) affords a fairly well protected anchorage for about four large vessels.

(6) JUNEAU

(3) Same as before

JUNEAU is of interest only because it is the present capital of ALASKA. To reach this port, vessels must pass from sea through about 150 miles of narrow and crooked passages in the Strait. Like KETCHIKAN, there is no harbor but merely an anchorage in the Strait. It is said that Winter winds are so strong that men are blown from their feet in the streets of this town.

(7) SKAGWAY

(3) Same as before

SKAGWAY, at the head of the inland water way, is the terminus of the railway, providing the shortest route from the YUKON gold fields to deep water. It was important in the old days chiefly for that reason. The only anchorage is close to the town, on account of the steep pitch to the bottom. SKAGWAY, being over 100 miles from open water, is of practically no military value. The long piers shown in the foreground are necessary, due to the 30-foot rise and

fall of tide and to get 26' depth at head of dock. This picture was apparently taken at low water.

(8) YAKUTAT

(3) Same as before

In the 300 mile stretch of coastline between SKAGWAY and CORDOVA the only possible harbor of any military value is YAKUTAT BAY. This bay affords good anchorage for several vessels, although the depth of water is quite irregular. There is good shelter, and negligible currents. One small tender, two destroyers, and 12 patrol planes used this harbor in 1934 and 1935. The beach is good and has a gradual slope for hauling out planes. The protected area of the harbor is large enough to provide take-off and landing room. The railroad noticed in the lower right-hand corner is only 10 miles long. It connects the fishing trap area with the cannery.

(9) CORDOVA

(3) Same as before

CORDOVA is the terminus of the COPPER RIVER and Northwestern railway. The town itself is on an inlet off PRINCE WILLIAM SOUND. There is a small harbor moderately well protected for anchoring a limited number of vessels and sea-planes. One of the two naval radio stations in this northern area is located at CORDOVA, the other at DUTCH HARBOR. Again, note the unusually long piers.

(10) CORDOVA, LAKE EYAK

(3) Same as before

This slide shows the commercial seaplane landing ramp at LAKE EYAK - only 3 miles from CORDOVA. This is a large fresh-water lake and is suitable for an unlimited number of seaplanes during the summer months only.

(11) SEWARD

(3) Same as before

SEWARD, at the head of RESURRECTION BAY, is the terminus of the Government-owned Alaskan Railroad. There are three wharves. One, shown in the foreground, has a frontage of 600 feet, with a depth of 42 feet alongside. There is also an oil dock which has a depth of 32 feet alongside, and an available supply of about 15,000 barrels of oil. With strong southwest winds, vessels cannot lie alongside, and the anchorages in RESURRECTION BAY are few and indifferent on account of the great depths and the fact that the bay is subject to williwaws. Vessel at dock looks like HENDERSON.

(12) Airview of SEWARD

(3) Same as before

The slide shows the same area of SEWARD, except that it is taken from the air. Note the landing field just to the left of the railroad.

(13) KODIAK AREA

(3) Same as before

Just off the eastern end of the ALASKAN PENINSULA is KODIAK ISLAND. There is anchorage room for a large number

of destroyers and other light draft vessels in ST. PAUL HARBOR, but it is a difficult place from which to make a quick exit in case of local storms. Capital ships may anchor in CHINIAC BAY, but the local inhabitant recommend keeping steam up in the entire area. It is recorded that in the BUSKIN RIVER, just to the left of ST. PAUL HARBOR, there is afforded the second best trout fishing in the world.

(13) Same as before.

(14) Town of KODIAK

The harbor just off the town of KODIAK is now suitable to base about 30 seaplanes and has been previously used as such by the Aircraft Base Force.

(13) Same as before

(15) Cannery

The largest salmon canning factory in the world is on KARLUK RIVER, on the western side of KODIAK ISLAND. Over 3,000,000 salmon have been canned in a single season in this factory.

(16) DOLGOI ISLAND

(17) ALASKA PENINSULA

The western end of the Alaskan Peninsula is what is known as the DOLGOI-GOLD BAY Area. DOLGOI HARBOR on the southwest side of DOLGOI ISLAND has anchorage room for 10, 600-yard berths and 24, 300-yard berths.

(18) Harbor entrance.

(17) Same as before

DOLGOI ISLAND is divided into two mountain passes by the harbor and the lowland at its head. There is a deep water channel between the two islands shown at the entrance. Protection is said to be good except from northerly winds, and reports indicate that the harbor is quite free from williwaws.

(19) Plane Anchorage, DOLGOI

(17) Same as before

Not only does DOLGOI provide an excellent seaplane anchorage but it is believed that it is the safest and most commodious harbor for a large group of vessels in this part of ALASKA, and within 50 miles of this location are other anchorages suitably protected and easily defendable, so that the general area around DOLGOI and GOLD BAY might accommodate the entire fleet.

(20) UNALASKA AREA

(17) Same as before

Leaving the mainland of the ALASKAN PENINSULA and the islands immediately adjacent thereto, we reach the UNALASKA ISLAND area. For naval purposes this is the most likely position for detailed investigation, and it might become the most important, strategically, for the following reasons: the UNALASKA BAY area, at present more nearly than any other area in the ALEUTIANS, fulfills the requirements of a fleet operating base. It has the advantage of being closer to the mainland than any other potential harbor to the west-

ward. It could more easily be fortified and made secure. It is close to the trade routes and is already in possession of limited commercial facilities which might easily be expanded.

(20) Same as before

(21) DUTCH HARBOR AREA

The anchorage area in UNALASKA BAY comprises the harbors of ILIULIUK BAY, DUTCH HARBOR and CAPTAINS BAY. All have water deep enough to accommodate vessels of any draft, but still not too deep to be of any concern. Another advantage of these three bays, facing indifferent directions and all relatively close to each other, is that they provide shelter from practically all winds, and all are open to navigation throughout the year. The entire Scouting Fleet actually occupied UNALASKA Anchorage in 1935. Entrance could be mined - or net placed across.

(20) Same as above

(22) Air view of
DUTCH HARBOR AREA

This slide shows an air view of this UNALASKA BAY area. Note the protection afforded vessels in DUTCH HARBOR. This is said to be the only harbor in the ALEUTIANS where it might be safe for vessels at anchor to disable main machinery. Good holding ground, subject to williwaws. There is a pier, built in 1930, which has a face of about 300 feet. In back of the pier there are over 100 acres of land which could be

leveled and used for the development of base facilities. About two miles southwest of this pier there is a potential landing field. Require much work and large expenditure of funds.

At ILIULIUK - a short distance from DUTCH HARBOR - there is also a pier which was built in 1931, but the one at DUTCH HARBOR is more frequently used on account of its accessibility. ILIULIUK is the Headquarters of the Coast Guard Bering Sea Patrol. The town, with a population of about 300, has limited facilities. There is, however, a commercial oil stowage of about 40,000 barrels.

At the head of CAPTAINS BAY, not shown on the slide, there is also a level area which could be developed. Close by this location is a site for a 2,000 H.P. water power plant which has not yet been developed.

(20) Same as above

(23) Seaplane Anchorage,
ILIULIUK

This slide shows the potential landing field and best seaplane anchorage about two miles southwest of DUTCH HARBOR and across from ILIULIUK.

(20) Same as above

(24) Radio Station
DUTCH HARBOR

This slide shows the radio station and another view of the seaplane anchorage at DUTCH HARBOR.

(20) Same as above

(25) ANDERSON BAY

There are numerous other bays around UNALASKA ISLAND which might be used for military purposes. One of the best of these locations is at MAKUSHIN BAY. One arm of this bay - ANDERSON BAY - has ample room for a large force of any draft. It is protected by 1800-foot peaks, which are usually cloud-capped, affording natural protection from aircraft. The holding ground is good in water varying from 15 to 90 fathoms. The entrance could be easily mined.

(20) Same as above

(26) PEDO COVE

Many other small bays and coves off MAKUSHIN BAY offer fair sites for seaplane and small craft anchorage. The best of these is at PEDO COVE, where a tender and at least a squadron of patrol planes could find shelter.

(20) Same as above

(27) CANNERY BAY

(28) PORTAGE BAY

CANNERY BAY is typical of the numerous arms of MAKUSHIN BAY. PORTAGE BAY is another one. The main objection to these locations is their exposure to the northern winds.

About a miles from the head of PORTAGE BAY starts the trail to DUTCH HARBOR. The trip takes about 8 hours.

(20) Same as before

(29) CHERNOFSKI ANCHORAGE

About 25 miles to the southwest of MAKUSHIN BAY is the

HARBOR OF CHERNOFSKI. In addition to being a good anchorage with above the average holding ground, the surrounding area is a ranching region. Since the western part of UNALASKA ISLAND is rolling instead of mountainous, there are numerous sites for landing fields. There are also many suitable beaches for hauling out seaplanes.

Among the other bays on UNALASKA ISLAND the only ones worth mentioning are KULILIAK BAY, good only for small craft, and USOF BAY, which has good anchorage in 20 fathoms, sand bottom, and capable of sheltering a limited number of vessels of any size in certain winds. THREE ISLANDS BAY affords good protection to small craft in any kind of weather in water from 8 to 15 fathoms deep.

(20) Same as before

(30) NIKOLSKI BAY

To the westward of UNALASKA, on UMNIAK ISLAND, is NIKOLSKI BAY. This is the only possible location on this island which could be used as a seaplane base where there is also a good anchorage for a tender of any size. UMNIAK ISLAND is also low and rolling and, as will be noted on the slide, several places are marked potential landing fields. Perhaps the best one of these is the one near KETTLE CAPE. It should be remembered, however, that when referring to a possible landing field site in this ALEUTIAN Area, these fields are in no way suitable for use at the present time.

(20) Same as before

(31) SARANA BAY

To the eastward of UNALASKA ISLAND is AKUTAN ISLAND (AC-TAN). SARANA BAY in the western part of this island is reported to be an excellent harbor, sheltered from the north winds. It is also close enough to DUTCH HARBOR to be available when weather conditions render that harbor untenable. AKUTAN HARBOR, at the other end of the island, is reported excellent, with anchorage space for 10 or more large ships in 25 to 30 fathoms of water, and a 250-foot fishing wharf at the head of the harbor.

(32) ATKA & ADAK ISLANDS

(33) ISDS of the FOUR MTS.

Passing to the westward of UNALASKA by the ISLANDS OF THE FOUR MOUNTAINS, which are of no particular military importance, we come to ATKA ISLAND.

ATKA was once the favorite winter post for the Russians, in the days when the trip across the chain and back could not be completed in one season. It now supports a population of about 60 to 100 Aleuts. It should be remembered that today the total population west of the ISLAND OF UNALASKA is less than 200 men, women and children.

(32) Same as above

(34) NAZAN BAY

NAZAN BAY is the best anchorage in ATKA ISLAND. It has good holding ground, but is exposed to the north and

has no direct outlet to the PACIFIC. This harbor could easily hold a division of capital ships and a squadron of destroyers. The trading post at NAZAN VILLAGE has a population of about 75 to 100.

The Japanese apparently consider NAZAN BAY of primary importance because their vessels frequent this harbor as much, if not more than any other location in the ALEUTIANS.

(32) Same as above

(35) Japanese Navigation Sheet

In 1935, a Navigation Notebook, obviously the work of a Japanese Midshipman or Merchant Marine Cadet, was found on the beach at ATTU. Although the book had been torn in half, an Ensign from the Naval Survey Expedition pieced the torn pieces together, made a thorough study of the Japanese methods of navigation, and plotted the positions, shown on the slide, of the Practice Cruise made in 1933 and 1934. Note that NAZAN BAY was visited each year. Apparently, the Japanese consider the ALEUTIAN ISLANDS of sufficient importance to send the Midshipmen on a cruise there every year.

(32) Same as above

(36) ADAK AREA

To the west of ATKA ISLAND is ADAK. The slide shows the general area of this island. On the far side of the island is KULUK BAY. This bay ranks next in importance to

UNALASKA as an anchorage for a large force. The 20-mile opening to the north (just to the left of GREAT SITKIN) makes this harbor unsafe as a seaplane anchorage. Small indentation southwest part of KULUK can be used for planes.

(32) Same as above

(37) KULUK BAY

This shows KULUK BAY as seen from the shore close by.

(32) Same as above

(38) BAY OF ISLANDS

To the westward of KULUK BAY is the BAY OF ISLANDS. The 1933 Navy Survey Expedition found this to be an excellent seaplane operating base with its fine sandy beach. The BAY OF ISLANDS itself was exhaustively investigated in 1933 by the Navy Survey Expedition to try to find a site for a fleet base, but its areas were found unsuitable, for large vessels, owing to the dangers of approach and the great depths of water and the violent williwaws, poor holding ground. Suitable for small vessels moored to large buoys.

(32) Same as above

(39) ANDREW LAGOON

A rather unusual formation is ANDREW LAGOON. Not in BAY OF ISLANDS but on northeast side of ADAK. It would make an excellent seaplane base in summer, and, in addition, there is a potential site for a landing field at the eastern side of the lagoon. The main objection is that it is 15 miles

by water and 3 miles overland to the nearest good anchorage in KULUK BAY.

(40) KANAGA BAY

(3) ALASKA & ALEUTIAN ISDS.

To the westward of ADAK, and just across ADAK STRAIT, is the ISLAND OF KANAGA. KANAGA BAY provides good shelter without obstruction and good anchorage for seaplanes and vessels drawing less than 15 feet of water. Subject to williwaws and only fair holding ground. There is a small dock and several warehouses here belonging to the Kanaga Ranching Company.

(41) CONSTANTINE HARBOR

(3) Same as above

About 100 miles further to the westward along the chain of islands, the next good anchorage is found in CONSTANTINE HARBOR on AMCHITKA ISLAND.

Room is available here for about 5, 600-yard berths in from 7 to 25 fathoms of water, with good holding ground in soft mud. The surrounding hills are low, with the consequent less likelihood of williwaws in this area.

(42) KISKA HARBOR

(3) Same as above

The next harbor of any military importance is KISKA. Ever since the Russo-Japanese War, KISKA has been officially classed as a closed port, in spite of the fact that the

place is uninhabited; so, naturally, there is no one there to enforce compliance with port regulations.

The harbor is about 4 miles long and 3-1/2 miles in width. Fair anchorage is afforded in 5 to 17 fathoms of water with a hard sandy bottom. There are three active volcanoes nearby which afford an excellent land-mark.

(43) SOUTHWEST BEACH, KISKA

(3) Same as above

There are two good sandy beaches in KISKA HARBOR. The one shown on this slide also has a good encampment site in back of the beach, although the surface is composed of tundra grass, stones and boulders. There has been found in this site the remains of an old Aleut village, the Aleuts themselves having been killed off by the Russians many years ago.

(44) Planes on KISKA BEACH

(3) Same as above

This shows the other good sandy beach in KISKA HARBOR. Note the remains of the old Navy Coal Pier that was constructed in 1903. During the recent survey, the OGLALA, having difficulty from fresh water, dammed up a mountain stream and ran a pipe line out along this pier, filling barrels in a motor boat to makeup the shortage of fresh water.

(45) LANDING FIELD, KISKA

(3) Same as above

This slide shows a proposed landing field site selected by the Aerological Officer of the 1935 Survey Expedition. This is supposed to be the best site in the ALEUTIAN ISLANDS for the location of a landing field, not only from its strategic location but also on account of the local meteorological conditions and the natural excellent approach.

In this connection it would be well to bear in mind that when referring to potential landing fields in this general area, development work before the fields could actually be of any military value would normally require stripping off about three feet of surface, blasting, grading with tractors, complete drainage system to carry off the water from the melting snow on the surrounding slopes, runways, shops, hangers, quarters, etc. The only material available locally for such construction is sand, gravel, and fresh water. So it is not difficult to realize the enormous problem of transportation of material and equipment before a landing field could be placed in operating order.

(46) ATTU ISLAND, CHICHAGOF HARBOR

(3) Same as above

There are no other harbors worth mentioning to the westward of KISKA until we reach ATTU, the westernmost island of the group. CHICHAGOF HARBOR on ATTU ISLAND is small, but has the advantage of position of being closest to the Asiatic Mainland and only 526 miles from PETROPAVLOVSK. Or, if

necessary, a flight could be made in two jumps to PETRO-PAVLOVSK of less than 300 miles each via the KOMANDORSKI ISLANDS.

The anchorage space is only sufficient for about one division of destroyers, but the anchorage ground, which is formed by the alluvial deposits of the mountain streams, is excellent. Unfortunately, on account of the small size of this harbor, it is only available for seaplanes when the weather is calm enough for them to land outside and taxi inside to the mooring. There is a small village at the head of the harbor normally inhabited by about 50 Aleuts.

(47) MASSACRE BAY

(3) Same as before

This slide, showing the eastern end of ATFU ISLAND, is typical of the physical characteristics of the islands in the western part of the ALEUTIANS. CHICHAGOF HARBOR is shown in the background.

(20) UNALASKA AREA

(3) Same as before

This completes the picture of the general physical characteristics of ALASKA and the ALEUTIAN ISLANDS except for the passes leading from the North Pacific into the BERING SEA.

UNIMAK PASS is the one most commonly used. It is about 60 miles northeast of UNALASKA and is well suited for the passage of a large force in almost any kind of weather. Has navigational lights and radio beacon.

AKUTAN PASS, immediately north of UNALASKA, is only

2-1/2 miles wide, but it is navigable without great difficulty in clear weather. Also a pass between UNAMAK PASS and UNALGA PASS which was used by the U.S.S. ARGONNE in 1933.

UNMAK PASS, at the south end of UNALASKA, although unmarked, is also about 2-1/2 miles wide and is easily navigable in clear weather.

The pass between UNMAK and the ISLAND OF FOUR MOUNTAINS is wide and suitable for passage of a considerable force.

Other passes to the westward are wide and clear, and in general unobstructed.

There are many passes in the ALEUTIANS which can be used by large vessels. ADAK STRAIT and others to eastern of ADAK

(48) KURILE ISLANDS

(3) Same as before

Now before taking into consideration the influence of these geographical positions in the ALEUTIANS on naval warfare due to their relative position, it might be well first to fix in mind the general picture of the strategic area surrounding the JAPANESE EMPIRE and the physical characteristics of the more important places in that area capable of supporting military operations.

Leaving ATTU ISLAND, the westernmost island of the ALEUTIANS, and passing to the southward of the KOMANDORSKI ISLANDS and KAMCHATKA, we come to the KURILE ISLANDS. These

islands form the eastern boundary of the SEA OF OKHOTSK and extend in a southwesterly direction for about 630 miles from KAMCHATKA to HOKAIDO or YEZO.

With the exception of PARAMUSHIRU, the large islands of the KURILES are located in the southern half of the chain, and these are the only ones that are inhabited. The total population of the entire group is not more than 5,000, although this number is augmented by several hundreds during the fishing season.

Although there are some sandy beaches and numerous other places where landing is possible on the KURILES, the mountains, as a general rule, extend to the coast, and the entire group is practically devoid of level tracts or harbors. In fact, no anchorage in these islands can be considered safe, as there are strong currents and frequent storms which turn an apparently protected spot into a lee shore. However, recent information states that the Japanese are making large expenditures in harbor improvements in the vicinity of KURILE STRAIT.

Most of the islands have large lakes which offer certain possibilities for air, but these lakes are filled with ice a considerable part of the time.

But despite the natural obstacles, the islands form an outpost for the Empire and would prove a dangerous barrier to a hostile fleet.

This fact was brought home during the Army Round-the-World Flight in 1924, when we obtained first-hand information of the possible military value of this chain of islands. These planes took off from ATTU, landing at BERING ISLAND for one day, then proceeded along KAMCHATKA Coast and made their next landing at KATAOKA BAY in the STRAITS OF PARAMUSHIRU. After two days stop they again took off, proceeded along the KURILES to HITOKAPPU BAY on the east coast of YETOROFU ISLAND. Owing to the exposure of this bay to the prevailing southeast gales, mooring buoys for the planes were planted on a lake about one mile north of the bay, which at the time was free from ice. The next temporary base for the flight was set up at KUSHIRO on the south coast of YEZO, but due to strong winds the Flight Commander proceeded on to MINATO, on the northeast coast of HONSHU, where he stopped to fuel before proceeding on to the Naval Air Station at KASUMIGAURA, near TOKYO.

The Lindbergh Flight in August, 1931, took them from PETROPAVLOVSK along the KURILES, where there were forced down on account of fog at BURUTAN BAY on the north shore of SHIMUSHIRO ISLAND. In the second attempt to reach NEMURO, the fog was so thick that they had to return to make a forced landing in a bay on KUNASHIRI ISLAND. The next day the fog lifted sufficiently for them to continue on to NEMURO on the

northeast coast of YEZO.

It is not believed necessary to go into any more details regarding the physical characteristics and possible military value of this chain of islands, except to note that from the flights which have been described above there are many natural difficulties to be overcome, both for offensive and defensive operations in this northern area.

(5) JAPANESE MAIN ISLANDS

For the purpose of coast defense and for Naval administration, the coast of the Japanese Empire is divided into three Naval Districts, as follows:

First Naval District includes the KURILES, KARAFUTO, HOKKAIDO, the east coast of HONSHU as far west as OSAKA and the islands along the GUAM-BONIN Line, and the MANDATED ISLANDS. The headquarters of this naval district are at YOKOSUKA.

Second Naval District includes the north and east coast of KYUSHU south of SHIMONOSEKI STRAIT, the coast of HONSHU north of SHIMONOSEKI STRAIT, and all the coasts and waters of SHIKOKU, and the INLAND SEA and its approaches. The headquarters of this district are at KURE.

Third Naval District includes the west and south coast of KYUSHU to the limits of the Second Naval District, the seas and coast of KOREA and adjacent islands including the IKI and GOTO islands and the OKI and TSUSHIMA group. It also takes in the islands between KYUSHU and FORMOSA known as the NANSEI-FORMOSA Line and the PESCADORES. The headquarters of this Naval District are at SASEBO. The sea and coast area around the leased province of KWANTUNG, sometimes termed the KWANTUNG Naval District, is also included in the Third Naval District.

The Naval Stations are divided into two classes, - primary naval stations and secondary naval stations. The headquarters of the three naval districts which guard the eastern frontier of the Japanese Empire against any overseas movement from the east or south, i.e., YOKOSUKA, KURE and SASEBO are the primary naval stations, and they are fleet bases in every sense of the word.

Each has its own defenses - submarines, aircraft, mining detachments and land fortifications, and each is located in a position such as to take full advantage of the natural defensive features offered by the surrounding terrain.

The various activities in these Naval Districts are shown on the accompanying slides:

(50) Same as above

(51) SAKHALIN

Japanese oil concession in Russian SAKHALIN. OHA on
URKT BAY.

(50) Same

(52) YEZO

PATIENCE BAY and ANIWA BAY.

LA PEROUSE STRAIT, current strong, ice free, well defended.

OTARU, ice free, coal port.

MURORAN HARBOR, gun factory, up to 12".

HAKODATE, fleet anchorage, fortified, ice winter,
fog summer.

NEMURO, minor naval air station.

(50) Same

(53) TSUGARU STRAIT

TSUGARU STRAIT, fortified, strong current, fog summer.

GULF OF MUTSU, fleet anchorage, target practice.

OMINATO, light force base, air station.

Ferry crosses Strait from HAKODATE, connects with
railroad.

NORTHERN HONSHU, few landing fields, no facilities,
harbors, open bights, Army division at SENDAI.

(54) FLEET BASE

(55) TOKYO GULF

YOKOSUKA Naval Base.

YOKOSUKA Air Station.

KASHMIGURA Naval Air Station, north of Tokyo.

TATEYAMA Naval Air Station.

TATEYAMA Fleet anchorage.

(54) Same

(56) SOUTHERN HONSHU

Second Naval District.

STRAITS OF SHIMONOSEKI, 7-knot current, strong fortifications.

BUNGO CHANNEL, main fleet exit, narrow, easily defended.

KII CHANNEL, fortified.

SAYEKI BAY, light force anchorage, fortified, naval air station.

KURESAKI, Naval Proving Grounds.

YAWATA Steel Works.

(54) Same

(57) KURE

KURE Naval Base.

HIRO Naval Air Base.

TOKUYAMA Fuel Station.

TOKUYAMA BAY.

MITAJIRI Fleet anchorage.

UJIMA port of embarkation.

(54) Same

(58) CONFIDENTIAL JAPAN

BAY OF WAKASA, many sheltered harbors.

MAIZURU, secondary naval base, fortified, covers communications west.

TSURUGA, leading port, excellent harbor.

KUNDA Naval Air Station.

NIIGATA, small harbor, extensive improvement, double-track rail now.

To understand the importance of TSURUGA and NIIGATA, one must realize that VLADIVOSTOK was, until 1935, the nearest port for communication to NORTHERN MANCHURIA from the south, as well as the terminus of the Trans-Siberian Railway. Now, however, to handle the vastly increased traffic with MANCHUKUO, as well as to shorten the route and by-pass the Russian port, the new ports of RASHIN, YOKI and SEISHIN have been opened. This development is connected with the greatly expanded Manchurian Railway system, and JAPAN expects to complete these improvements by 1947, when RASHIN will be heavily fortified.

Strategically and economically, these railways open up vast new territory, and with TSURUGA and NIIGATA give to JAPAN a line of communication by which she can reach NORTHERN MANCHURIA a day quicker than was previously possible, and raw materials can be delivered to the industrial centers of the Empire by a direct route.

It will also be noted that shipping routes extending between the west coast of HONSHU and Northern KOREA will be much easier to protect against enemy commerce raiders and submarine and air attacks than the old route from the east coast of HONSHU, through the INLAND SEA, SHIMONOSEKI STRAITS, and up the YELLOW SEA to DARIEN. In addition to the above, it is believed that the development of these ports and the envelopment of VLADIVOSTOK by Japanese railways will make this Russian port almost superfluous, commercially.

(59) SASEBO AREA

(58) Same

SASEBO Naval Base.

SASEBO Naval Air Station.

OMURA Naval Air Station.

KANOYA Naval Air Station.

NAGASAKI.

TSUSHIMA STRAIT, fortified.

IKI ISLAND.

TSUSHIMA ISLAND.

CHINKAI, naval air base, secondary naval base, mine base, fortified.

(60) The NANSEI-FORMOSA Line

(58) Same

The positions along this line includes the territory and waters of FORMOSA (TAIWAN), including the PESCADORES and the islands between FORMOSA and KYUSHU, known as the NANSEI or LOOCHOO ISLANDS. This island chain begins at a point about 30 miles south of KYUSHU and extends in a south-westerly direction for some 600 miles to the SAKISHIMA group, 73 miles off the east coast of FORMOSA.

The islands are generally mountainous, and at least three of them have active volcanoes. There are numerous coral crags and dangerous shoals, the position of some of which is uncertain, and others whose extent and nature are constantly changing. All are to be approached with care.

Although there are many sheltered anchorages available for small units of light forces and air craft along this chain, the only groups that offer possibilities for fleet bases are AMAMI, OKINAWA and SAKISHIMA.

AMAMI OSHIMA, located at the northern end of the line and occupying a strategic position close to the southern trade routes, has many large and deep bays capable of providing shelter for vessels of any draft. OSHIMA STRAIT is a large and commodious anchorage, open at both ends, and easily defended. Fortifications were begun in 1920 and completed just before the conclusion of the Washington Conference. OSHIMA BAY has been used frequently as a Fleet anchorage and as a destroyer and submarine base of operations.

The OKINAWA Group is the most productive and densely populated group in the chain, and possesses many excellent harbors. Of these, MATTHEWS and BARROW BAYS are large and commodious, and well protected from all but northeast winds. Each could be used as a Fleet anchorage. In the SAKISHIMA's the only anchorage adequate for large ships are open roadsteads, only tenable in good weather. This group is subject to sudden and severe storms.

FORMOSA, at the southern extremity of this line, was ceded to JAPAN by CHINA as a result of the War of 1895. The main island, with an area about equal to KYUSHU, is

very mountainous, one peak being the highest in the Empire as it tops FUJI by 600 feet. Practically all the natural camphor of the world is produced in FORMOSA.

(60) Same

(61) KEELUNG

Keelung has the reputation of being the wettest city in the world. The Japanese have concentrated on making it the chief port of FORMOSA. Improvements are underway to provide 8,000 feet of quay space, with 30-foot depth alongside. The most modern facilities for unloading have been provided, and as many as 15 merchant vessels were recently noted during one day loading or unloading in this port. It is known that KEELUNG is strongly fortified.

There are four commercial landing fields and two Army Air Stations on the island.

(60) Same

(62) TAKAO

TAKAO, the principal port of SOUTHERN FORMOSA, is being improved to give a large quay and anchorage space, with a 30-foot depth, protected by a breakwater. It is admirably adapted to defense.

At the extreme southern end of the island is NANWAN or SOUTH BAY. It is JAPAN's nearest approach to the PHILIPPINES, being a matter of only 90 miles to the BATAN ISLANDS. About 12 large ships could find shelter here during the northeast monsoons, and it is a possible sea-plane base.

(60) Same

(63) HOKO ISLANDS

The strong point in the NANSEI-FORMOSA line lies in the PESCADORES (called the HOKO ISLANDS by the Japanese), commanding, as they do, the sea routes from the South into the EASTERN SEAS, and possessing the best harbor south of the Main Islands. The FORMOSA CHANNEL at this point is only 110 miles wide.

The harbor of HAKO (or MAKUNG) is secure, with good holding ground for deep-draft vessels, and is easy of access. It is capable of being strongly defended, and will permit the anchorage of about 12 capital ships and many smaller ones.

The Naval Station in the harbor of BAKO forms an advance base for the Japanese 750 miles from NAGASAKI and about 600 miles from MANILA. Facilities consist of a distilling plant, drydock for destroyers, a large floating crane, barracks, hospitals, wireless, etc.

The Imperial plans for expansion of trade and influence through SOUTH CHINA, INDO CHINA, SIAM, the DUTCH EAST INDIES, and contiguous territory have greatly emphasized the importance of this line at BAKO.

SLIDES 1 & 2: STRATEGIC CHARTS OF PACIFIC

In summing up the importance of the NANSEI-FORMOSA line, it might be added that it was not entirely due to JAPAN'S expansion to the south policy that first brought this line into strategic importance. JAPAN'S early pursuit of a policy of self defense in ASIA first put her in poses-

sion of this line, and as long as she maintains the line along this Archipelago intact, securely anchored as it is at each end and by adequate naval bases and possessing, at its center, harbors admirably adapted to control the intervening seas, JAPAN can be reasonably assured of keeping the EASTERN SEA clear of enemy ships, and thus provide safety to her vital lines of commerce to the westward.

The distance from possible fleet operating bases in the ALEUTIAN ISLANDS to the SOUTH CHINA SEA is practically the same as from PEARL HARBOR, but PEARL HARBOR as a point of departure has the tremendous advantage of already being a secure outlying fleet base, which cannot be said of any position in the ALEUTIANS at present.

Furthermore, although the Northern route to the PHILIPPINE ISLANDS might seem at first glance to have the advantage of not being flanked by the MARSHALLS and EASTERN CAROLINES, on the other hand the close approach of the Great Circle Course from UNALASKA to the strongly fortified Islands of JAPAN, as well as to the GUAM-BONIN-PELEW defense area, might offer an enemy even greater possibilities in the use of attrition.

JAPAN is also making large expenditures on a harbor in the NORTHERN KURILS. Many reports have been received which would indicate that the Japanese have taken extravagant pre-

cautions to make this northern flank - up along the KURILS - strong and secure, and it is frequently tested against landing force operations and air raids during the fleet maneuvers. Undoubtedly the great advance being made in the trans-Pacific airways have had some influence on the strengthening of these positions.

Because the industrial centers of JAPAN are composed mainly of flimsy, highly inflammable cities, the Japanese are naturally fearful of air raids, and it is probably for this reason that we hear such statements as, "KISKA is the spearhead pointing at the heart of the Japanese Empire". While this statement may seem a bit fantastic, in the light of our present knowledge, it does point the way for the full realization of the possibilities offered by the ALEUTIANS.

Along the BONIN-MARIANA-PELEW defense area, known as the first line of defense, to see the influence that geography might have on naval warfare, just follow the circle from TOKYO to DAVAO. Note the position of the locations in Japanese possession capable of supporting military operations - PORT LLOYD with its excellent harbor, commodious, deep, strongly fortified, and strategically well located, SAIPAN, PELEWS, and at the end of the line DAVAO under Japanese influence. See the relative simplicity not only

of watching the whole line, but also of reducing an enemy with light forces and aircraft based on these positions.

Due to the relative position of these outlying islands to the Japanese Main Islands, it would seem that Japan occupies a defensive position in the WESTERN PACIFIC that would be most difficult to dispute. From the three primary fleet bases near the INLAND SEA, closely linked by land, sea and air, and consequently easily supplied over most efficient lines of communication with the industrial output of the nation, the entire Japanese Fleet could be securely based behind strong fortifications nearly impregnable against attack, while at the same time they could quickly concentrate for offense.

Note also the security of a Japanese naval force in the strategic area between the first line of defense and the second line of defense known as the NANSEI-FORMOSA line. Note, too, that the NANSEI-FORMOSA line backs up the GUAM-BONIN line at no greater distance than 1,000 miles.

Thus, in reality, the mainland of JAPAN, and in particular the area surrounding the INLAND SEA and its approaches may be considered one great fortress with a series of outlying defensive positions capable of supporting military operations that reach from her northernmost outpost in the KURILES to her strongly defended base in the PESCADORES.

So far, we have merely considered the advantages and disadvantages offered military forces in this strategic area, due to the relative position of the ALEUTIANS to the UNITED STATES and to possible enemies in the WESTERN PACIFIC. The real advantage of position of this Chain of Islands only begins to take form when it is considered in relation to the position it occupies to other countries which might also become involved in a war in the WESTERN PACIFIC. The introduction of allies on either side changes the situation materially.

If RUSSIA were operating with the UNITED STATES, control of the ALEUTIANS would be indispensable in order to keep open a chain of communications over the Northern route between these two countries. In and when RUSSIA completes the development of her Eastern Frontier as an independent economic and military unit, the importance of this chain will undoubtedly be greatly enhanced.

(1) Same

(66) AVACHA BAY

In this connection it might be of interest to note that the harbor of PETROPAVLOVSK is only 687 miles from KISKA and 1272 miles from DUTCH HARBOR. Although the harbor itself is small and ice-bound during the winter, AVACHA BAY, of which PETROPAVLOVSK HARBOR is a part, is an excellent harbor and might be kept ice-free nearly throughout the year.

SLIDES 1 & 2: STRATEGIC AREA OF PACIFIC

In further consideration of possible allies which might be drawn into a struggle in the WESTERN PACIFIC, it is evident from a glance at the chart that CANADA on our Northern border, and particularly the Province of British Columbia, occupies much the same position, and is therefore subject to the same threat as the West Coast of the UNITED STATES from ASIATIC POWERS.

In this connection it will be remembered that in 1931, it was openly asserted in the Canadian Parliament that if ENGLAND should renew the Anglo-Japanese Alliance, CANADA retained the right to refuse to consent to the renewal. The discussion even went so far as to talk of the possibilities of a war between the UNITED STATES and JAPAN in which, regardless of the stand GREAT BRITAIN took, CANADA would probably side with the UNITED STATES. While this is merely an unofficial opinion, and not necessarily the decision which will be rendered by the Canadian Government, it is nevertheless an indication of the way the wind might blow across our Northern border.

In so far as the defense of the ALASKA-ALEUTIAN ISLAND Area is concerned, one outstanding advantage of having CANADA as an ally would be to avoid the 765 mile stretch by aircraft which would otherwise have to be made between SEATTLE and SITKA, in order to avoid violation of neutrality.

That the Navy realizes the future of ALASKA and the ALEUTIAN ISLANDS is indicated by the thoroughness of the Survey Expeditions, frequent visits of large units of the Fleet to familiarize the personnel with the physical characteristics, and the serious consideration now being given by the Navy Department to a plan to make ALASKA and the ALEUTIANS a separate Naval District; or else the assignment of a high-ranking Naval Officer under the Commandant of the 13th Naval District for the administration of that territory from Headquarters at JUNEAU.

8 That the Army also has in mind its General Function, in so far as this particular strategic area is concerned, that is, to defend the Continental UNITED STATES including the possible future permanent naval bases, is also seen by the fact that they are already proceeding rapidly with a project to set up in ALASKA a strong network of air bases. A site near FAIRBANKS (in the interior) capable of handling, within 24 hours, the entire General Headquarters Force of 1,000 planes has been selected and is now being developed.

This, of course, may be interpreted as a measure of defense only, but as such it will also most certainly tend to render any prospective naval bases in this strategic area just that much more secure.