

# The Drift of *Lenin's* Convoy in the Laptev Sea, 1937 - 1938

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**ABSTRACT.** As a result of various miscalculations 25 ships underwent an enforced wintering at various points in the Soviet Arctic in the winter of 1937-1938. Among the vessels involved was a convoy of six ships led by the icebreaker *Lenin*, which spent the winter drifting in the Laptev Sea. Several of the ships were severely damaged by ice pressure, and one ship was crushed and sank. Early in 1938 all superfluous personnel were flown south to Tiksi in an emergency airlift operation. The author presents the first detailed English-language account of this wintering.

**RÉSUMÉ.** A la suite d'erreurs de calcul variées, 25 bateaux subissaient un hivernage forcé en différents points de l'Arctique Soviétique, lors de l'hiver 1937-1938. Parmi ces vaisseaux, un convoi de six bateaux était guidé par le brise-glace *Lenine* qui passait l'hiver à dériver en mer de Laptev. Plusieurs de ces bateaux subissaient des dégâts sévères dus à la pression de la glace et un des bateaux se brisait et coulait. Au début de 1938, tout le personnel en surnombre était évacué par avion vers le sud à Tiksi grâce à une opération aérienne de secours urgent. L'auteur présente ici le première compte rendu détaillé en langue Anglaise de cet hivernage.

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## INTRODUCTION

Only a few months after *Sibiryakov's* limited success in her attempt at a one-season passage of the Northern Sea Route, so eloquently embodied in her final emergence from the ice of the Chukchi Sea under improvised sails (Vize, 1946; Barr, 1978), on December 17, 1932 *Sovnarkom* (the Soviet of Peoples' Commissars) took the momentous step of forming the Chief Administration of the Northern Sea Route (*Glavnoye Upravleniye Severnogo Morskogo Puti*), more commonly known as *Glavsevmorput'* (Armstrong, 1959; Belov, 1969). Its primary task was to establish safe, reliable navigation from the White Sea to Bering Strait, but in a series of subsequent decrees over the next few years it also acquired a remarkable array of ancillary functions, and along with them, remarkably wide powers. In effect *Glavsevmorput'* was given almost complete control of the entire vast area of Siberia north of 62° (the latitude of Yakutsk) not only in terms of transport and economic development, but also education, health services and cultural development.

Even with these extensive powers, however, the new organization's first attempt at demonstrating that it was capable of tackling its primary task was a disastrous failure. In her attempt at making a one-season passage of the Northern Sea Route in the summer of 1933 the steamer *Chelyuskin* became beset in the ice of the Chukchi Sea, and after drifting helplessly for several

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months, was ultimately crushed and sank on February 13, 1934 (Belov, 1969; Shmidt *et al.*, 1935). However, the new organization's reputation was definitely redeemed the following year when the icebreaker *Fedor Litke* reached Murmansk on September 20, 1934, having succeeded where *Chelyuskin* had so utterly failed (Vize, 1946).

Otto Yul'yevich Shmidt, head of *Glavsevmorput'* from its inception, was not slow to build on this first success. In the summer of 1935 *Fedor Litke* escorted the first two laden freighters, *Vantsetti* and *Iskra*, through the Sea Route from west to east; sailing from Leningrad on July 8, they reached Vladivostok on October 8 (Gakkel', 1936; Belov, 1969). Meanwhile two other steamers, *Anadyr'* and *Stalingrad*, made the through-passage in the opposite direction, sailing from Vladivostok on July 23 and 25 and reaching Leningrad on October 16. Moreover, one steamer, *Rabochiy*, almost made a double passage of the Sea Route by completing a round trip from Arkhangel'sk to the mouth of the Kolyma and back (Belov, 1969).

The following season (1936) saw a spectacular increase in activity along the Northern Sea Route; a total of 160 ships travelled parts of the route (the bulk of them from the west to the mouth of the Yenisey and back), while 16 vessels made the through-passage, 14 from west to east, and 2 from east to west, the latter being *Vantsetti* and *Iskra* homeward bound to Leningrad (Belov, 1969). The ships heading east included the first Soviet warships to utilize the Northern Sea Route, the destroyers *Voykov* and *Stalin*, escorted once again by *Fedor Litke* (Burkhanov, 1959; Zinger, 1948; Belov, 1969).

The plans for the 1937 season were equally ambitious, but by then the run of luck had ended. Due to a combination of abnormally severe ice conditions and some very unfortunate decisions as to routing of convoys and deployment of icebreakers towards the end of the season, 25 ships were obliged to winter on an emergency basis at various points in the Soviet Arctic (Belov, 1969; Stepanov, 1941). Perhaps the most critical aspect, however, was that of *Glavsevmorput'*'s fleet of icebreakers; only one, the veteran *Yermak* was not forced to winter in the Arctic.

The icebreaking steamer *Rusanov* was obliged to winter at Tikhaya Bukhta in Zemlya Frantsa Iosifa, along with two freighters. Six Spanish timber ships wintered in a sheltered bay near Dikson. The icebreaker *Fedor Litke*, along with four freighters and a tug, spent the winter just off the south coast of Ostrov Bol'shevik near the eastern end of Proliv Vil'kitskogo, while the icebreaker *Krasin* was frozen into the fast ice of Bukhta Kozhevnikova in Khatangskiy Zaliv.

All of the ships so far mentioned were in relatively secure winter quarters, frozen firmly into immobile fast ice. The situation with regard to the other two groups of ships was entirely different. The three icebreaking steamers, *Sadko*, *Malygin* and *Sedov*, began their wintering just to the northwest of Novosibirskiye Ostrova, i.e. in the northeastern part of the Laptev Sea; and finally the icebreaker *Lenin*, with a convoy of five steamers, began her wintering at 74° 28'N; 111° 27'E, just off Ostrov Begicheva in the narrow entrance to Khatangskiy Zaliv. Both of these latter convoys spent the winter

drifting with the ice, exposed to the very real dangers of ice movement and ridging. Strangely, while the drift of *Sadko*, *Malygin* and *Sedov*, and particularly that of the latter ship, has been widely publicized (e.g. Badigin, 1950; Buynitskiy, 1945; Armstrong, 1958), the drift of *Lenin* and her convoy elsewhere in the Laptev Sea is relatively little known.

*Lenin's* convoy had sailed from Dikson, eastward bound, on August 23, 1937. Apart from the icebreaker herself, commanded by Kapitan Fedor Ivanovich Drigo, it consisted of the freighters *Il'men'*, *Tovarishch Stalin*, *Rabochiy* and *Volodarskiy*; and the naval hydrographic ship *Kamchadal* (Ruzov, 1957; Storozhev, 1940a). The latter vessel, commanded by Kapitan A. M. Vershinskiy, was one of three newly built survey vessels (the others being *Okean* and *Okhotsk*) which were being transferred through the Sea Route for hydrographic work in the Pacific (Belov, 1969).

The convoy escort *Lenin* (originally *Aleksandr Nevskiy*) had been built on the Tyne for the Tsarist government during World War I (Armstrong, 1952; Zalesskiy, 1972). At 7950 hp she was the third most powerful of the Soviet icebreaker fleet, after *Yermak* and *Krasin*. She was 85.6 m long, with a beam of 19.5 m, a draft of 6.24 m, and a displacement of 5600 tonnes; her top speed was 16 knots. Altogether she represented a formidable escort and the officers and men of the ships of the convoy must have found her presence very reassuring.

The writers responsible for the two most detailed accounts of the convoy's wintering were both travelling as passengers on board the steamer *Il'men'*. Both were bound for Mys Medvezh'iy on the south coast of Ostrov Kotel'nyy in Novosibirskiye Ostrova, where they were to establish and man a new weather station, designed specifically to cover Proliv Sannikova. These were the station leader, L. V. Ruzov, and the head of a hydrological group who were to work from the station, N. M. Storozhev.

#### *Eastward bound*

Under the command of Kapitan Nikolayev, *Il'men'* had sailed from Arkhangel'sk on August 8 with some 200 passengers on board, including women and children (Ruzov, 1957; Storozhev, 1940a). Apart from the personnel for various weather stations these included workers for the port at Tiksi. If one discounts some excitement when a drunken cook jumped overboard in the Kara Sea, *Il'men''s* voyage to Dikson had been quite uneventful; she had reached that port on August 14 without encountering a single ice floe.

The remainder of the voyage would be very different. The first ice was encountered on the day that the convoy sailed from Dikson. Thereafter ice conditions became steadily worse, until off Ostrov Russkiy in the Arkhipelag Nordenshel'da on August 30 the convoy was brought to a complete halt in heavy ice (Ruzov, 1957; Storozhev, 1940a; Gakkel', 1938); not until September 12 were the ships able to get under way again, eastward bound towards Proliv Vil'kitskogo. But by September 15 the convoy was again beset, near Zaliv Dika, and had begun drifting with the ice north and east towards the strait.

During this period the first tragic death to befall *Rabochiy* had occurred: on the 13th her first mate, Pavel Dzhonorovich Kroche, had died of a cerebral haemorrhage. He was buried at sea on the morning of September 15 at 76° 43.6'N; 98° 40'E to the strains of the funeral march played by *Lenin's* band (Gakkel', 1938). The very next day there was almost another death on board *Tovarishch Stalin*. The ship was being subjected to extreme pressures in the ice, with plating and frames undergoing enormous stress, when a rivet sheared in the engine room and flew out with explosive force, narrowly missing her chief engineer (Ruzov, 1957).

To the north of Ostrova Firnleya the ships of the convoy were caught in a rapid and persistent easterly drift setting through Proliv Vil'kitskogo into the Laptev Sea, reaching the amazing speed of 3 knots on occasion. Thus on the night of September 24 they were inexorably and helplessly carried eastwards past the lights of the station on Mys Chelyuskina. The only exception was the steamer *Volodarskiy*, which by some vagary of the ice drift had become separated from the other ships and had become jammed against the edge of the fast ice in Bukhta Oskara, just west of Mys Chelyuskina (Storozhev, 1940a). There she remained until early October, exposed to even worse ice pressures than the remainder of the convoy; 116 of her frames were damaged and she began leaking severely. Finally, on October 3 the icebreaker *Yermak* came to her rescue, broke her loose, and escorted her west to open water (Gakkel', 1938). Thus, purely by chance, *Volodarskiy* was the only one of the ships in *Lenin's* convoy which did not winter in the Arctic.

There was no respite for the other ships, however; east of Mys Chelyuskina, near Ostrova Petra, in a terrifying display of force the ice pressures snapped *Il'men's* rudder post, rendering her unsteerable, even if she had not been jammed solidly in the ice (Ruzov, 1957). On October 1 the ice began to slacken and *Lenin* was able to get under way again. She took *Il'men'* in tow, then broke loose the battered, leaking *Tovarishch Stalin* near Ostrov Andreyka (Gakkel', 1938). The latter vessel had lost a propeller blade and was taking water at an alarming rate through a massive crack in her plates on the starboard side. In an attempt to stem the flow, the ship was trimmed until she was listing markedly to port, exposing the crack above the water line, where it was then stopped with a wooden patch.

At this point the battered convoy was joined by the steamer *Dikson*, which was actually westward bound but which clearly had no chance of reaching Proliv Vil'kitskogo on her own (Ruzov, 1957; Gakkel', 1938). Escorted by *Malygin* she had sailed from *Dikson*, eastward bound, on August 1, had passed Mys Chelyuskina escorted by *Yermak* a few days later, and having discharged her cargo at Nordvik, was now attempting, without much hope of success, to fight her way back west again. She was empty and Kapitan Drigo took advantage of her arrival to transship 432 tonnes of freight to her from *Tovarishch Stalin* to ease the strain on the latter's damaged hull (Gakkel', 1938).

Ice conditions again began to deteriorate and with coal supplies running low and *Lenin's* manoeuvrability greatly compromised by her having *Il'men'* in

tow, the situation was becoming critical. The icebreaker *Krasin*, commanded by Kapitan M. P. Belousov, which had been searching the Beaufort Sea for the missing pilot Levanevskiy, and which was then lying at Chaunskaya Guba, was ordered to go to *Lenin's* assistance. Filling his bunkers to capacity Belousov took his ship to sea from Chaunskaya Guba on October 5, and headed west at top speed. Despite heavy ice in the Laptev Sea *Krasin* reached *Lenin's* convoy, now lying off Bukhta Pronchishchevoy, on October 20 (Storozhev, 1940a; Ruzov, 1957; Gakkel', 1938).

But reaching the convoy was only half the battle, and it was a total impossibility for Belousov to win the rest of the battle; due to the heavy ice she had encountered, *Krasin* had consumed so much coal that she did not have enough left to reach Bering Strait, or even Dikson. A meeting of the officers of both icebreakers and the captains of all the freighters was convened on board *Krasin* that same day (October 20) and it was reluctantly agreed that the only feasible option was to attempt to reach a secure wintering site at Bukhta Kozhevnikova in Khatangskiy Zaliv; there were outcrops of coal there, and it was hoped that the men could mine enough coal to ensure the convoy's mobility in the spring. Digging into his meagre reserves Kapitan Belousov transferred some coal to the ships which were in the direst need, and next morning the convoy again got under way, southward bound.

*Krasin* led the way, while *Lenin* again took *Il'men'* in tow. On the first day the ships covered 32 km; the next day 72. Then Belousov decided to change his tactics: he split the convoy into two groups, escorting each group of ships south alternately in relays of 16 km (Ruzov, 1957).

On October 28 the high, rocky mass of Ostrov Preobrazheniya hove into view; with the island still abeam a startling radio message was received from *Glavsevmorput'* headquarters in Moscow: Kapitan Belousov was ordered to abandon *Lenin's* convoy and to proceed instead to the assistance of *Sedov*, *Malygin* and *Sadko*, jammed and drifting, to the northwest of Ostrov Kotel'nyy. The authorities in Moscow were clearly totally out of touch with reality, in that the message ended with the comment that *Lenin* and her crippled convoy were "permitted to proceed to Bukhta Kozhevnikova". The order was subsequently countermanded.

On November 1, with the convoy abeam of Ostrov Bol'shoy Begichev, *Krasin* pushed ahead on a reconnaissance but was able to advance only 13 km in 10 hours. When she returned to the convoy a meeting was called on board *Lenin*, attended by all captains and chief engineers. It was decided that all excess personnel, totalling some 250 people including the sick, women and children, would transfer to *Krasin*, leaving 224 men on board the six ships of the convoy. They would then winter where they lay, i.e. in the narrow neck of Khatangskiy Zaliv off Ostrov Bol'shoy Begichev, at 74° 28'N; 111° 27'E, while *Krasin* retreated to the greater security of Bukhta Kozhevnikova.

After the meeting *Tovarishch Stalin's* captain, Kapitan Panfilov, returned to his ship immediately, but other participants, including *Tovarishch Stalin's* chief engineer, and the captains and chief engineers of both *Rabochiy* and *Kamchadal* lingered on board *Lenin*. Due to the onset of severe ice movements, which

made travel across the ice hazardous, their visit lasted much longer than they had contemplated (Ruzov, 1957).

Implementation of the decisions reached at the meeting began immediately. To feed the extra passengers during the winter, *Krasin* took a quantity of provisions from *Rabochiy*; then on the night of November 4 she pulled alongside *Il'men'* and took off 500 tonnes of cargo, in part to lighten the freighter. Meanwhile temporary bunks were being erected in *Krasin's* empty holds and even her bunkers. Next day, with all the superfluous personnel on board, *Krasin* departed, to the sound of farewell whistle blasts (Ruzov, 1957).

### *Wintering*

On board the six ships of the convoy engineers and firemen began "moth-balling" the engines and machinery for the winter. Since coal reserves were extremely limited, the boilers were kept fired and the steam heating operational only on board *Lenin*; the crews of the other ships had to be content with stoves (Storozhev, 1940a). Although little was known about the winter ice regime of the Laptev Sea it was known that final freeze-up of Khatangskiy Zaliv was still several weeks away, and it was hoped that in the interim the ships would remain approximately stationary, to become safely embedded in the fast ice for the winter. But this was not to be; under the impact of a southwesterly gale on the night of November 16 the ice, and the ships with it, were carried out of the mouth of Khatangskiy Zaliv into the wider expanses of the Laptev Sea (Storozhev, 1940a). The convoy was thus committed to wintering adrift in the pack.

Most of the ships of the convoy maintained approximately the same positions relative to each other. With her bow snubbed hard against *Lenin's* stern, *Il'men'* had little choice but to stay with the icebreaker. *Dikson* was jammed in the ice only about 1.5 km away; on the initiative of her captain, Anisim Zinov'yevich Filatov, she was linked to the icebreaker by telephone, and *Lenin's* generator even supplied her with power, except when ice movements occasionally cut the line (Ruzov, 1957). *Rabochiy* and *Kamchadal* lay close together about 10 km away, usually to the southwest. In contrast to all these, *Tovarishch Stalin* tended to go her own way. Due to the vagaries of the ice drift she lingered for a long time near the northern tip of Ostrov Bol'shoy Begichev, alternately being frozen into the fast ice and breaking away again. Thus she fell well behind the other steamers, which drifted more steadily northeastwards. As a result by late January *Tovarishch Stalin* lay about 240 km southwest of *Lenin*, but by March this distance had closed to about 70 km (Ruzov, 1957; Storozhev, 1940a).

At a very early stage in the wintering, indeed even prior to the start of the drift, it was realized that the situation could be turned to some advantage by establishing a full programme of scientific observations. Thus on November 4 fourteen of the scientific personnel bound originally for various polar stations transferred from *Il'men'* to establish a drifting scientific station under the leadership of L. V. Ruzov (Ruzov, 1957; Storozhev, 1940a). They included two hydrologists, a hydro-technician, a geodesist, a zoologist, a

meteorologist, a hydrographer, an actinometrist, a laboratory technician, a radio technician, an engineer, and even two dog drivers.

According to Ruzov, the reception they were given by Kapitan Drigo and *Lenin's* doctor was somewhat cool and the quarters assigned to them were less than satisfactory. Eight of them were housed in a "cabin" only 8 m<sup>2</sup> in area, while the rest bunked with *Lenin's* stokers. First priority, in terms of available manpower, was given to so-called "emergency work", i.e. transshipment of provisions and fuel from *Il'men'* to *Lenin*. The scientists were not exempted from this work, and hence it was November 14 before scientific observations could begin.

On that date meteorologists P. A. Oliv and B. S. Mikhaylov began their hourly observations which would continue all winter, while the hydrologists inaugurated a programme of ice observations, the observations being made from *Lenin's* bridge. Observations on ice drift began on November 18 (Storozhev, 1940a), with hourly readings on speed and direction of drift. The results, spanning the entire period of the drift, were later analysed in detail by Storozhev (1940b). Initially the measurements were made through an ice-hole sheltered by a canvas tent, some 150 m from the starboard side of the icebreaker. This arrangement was found to be unsatisfactory, however, since the hole froze over rapidly as temperatures dropped.

Hence it was decided to build a more substantial hydrologic "pavilion": a plywood hut, 4 m by 2.5 m and 2.2 m high, floored with wood and entirely covered with canvas; it stood 250 m from the icebreaker's starboard side. Two holes in the floor gave access to the sea, and the hut was equipped with tables, chairs and bunks, heated with a coal-burning stove and lit by kerosene lamps (Ruzov, 1957; Storozhev, 1940a). The hydrological observations were transferred to this hut on November 24 and thereafter hourly observations were carried out round the clock; drift velocity and direction were determined by means of a 16-kg weight lowered to the seabed on a wire cable. It should be noted that the Laptev Sea is extremely shallow (averaging about 45 m in the area of the convoy's drift), hence this simple procedure gave quite reliable results. A total of over 50 seabed cores, about 30 cm in length, were taken for subsequent analysis, with a spacing of 9-11 km.

To break the monotony of the hydrologists' cold, lonely vigil, they occasionally had visitors. Storozhev (1940a) has reported that on February 6, 1938, he had just finished a set of drift measurements and was sitting working up the results, when the water level in one of the ice-holes began to oscillate violently, and the head of a walrus appeared, to his considerable consternation. As he grabbed for a rifle the walrus dived, drenching the interior of the hut. Next day two of the other scientists, Yu. M. Bartashevich and A. I. Morozov, were taking temperature and current measurements, when something appeared to become tangled in their cable. Then a walrus again surfaced several times, alternating between the two holes. The scientists retaliated, first with an axe, then with rifle shots, but the walrus got away. The end result was that the interior of the hut was again drenched and also liberally spattered with blood, while most of the furniture was overturned in

the *melée*. Seals were also quite frequent visitors to the ice-holes, to the point of becoming a nuisance, and had to be driven away.

During their period of observation, Storozhev and his group made 2020 observations on ice drift, 1224 on currents, 408 measurements of temperature and salinity at various depths, 500 soundings, 100 measurements of ice thickness, and 137 observations on ice pressure and slackening. Their work was co-ordinated with the meteorologists' observations and with the determinations of position made by *Lenin's* navigation officers. The navigators determined 385 astronomical fixes on the ship's position.

As noted earlier, the captains and engineers of *Kamchadal*, *Rabochiy* and *Tovarishch Stalin* had been involuntary guests on board *Lenin* since early November when they had come on board for a meeting, but had been unable to return due to the sudden onset of severe ice movements. But when on November 24 G. L. Rutilevskiy and dog driver F. A. Nikolayev made a sledge trip to Ostrov Preobrazheniya less than 20 km away, an attempt which was only foiled by open water close to shore, the captive officers realized the possibilities of returning to their ships by the same means of transport. Hence on November 28 Rutilevskiy and Nikolayev set off with their dogteams, escorting Kapitan Vershinskiy and his four sailors who had also been stranded with him on board *Lenin*, back to *Kamchadal*. The trip was entirely successful. Encouraged by this, two of the other officers on board *Lenin*, M. Strelkov and D.N. Sergiyevskiy, both from *Rabochiy*, also set off by dogteam for their own ships on December 10; although they broke through the ice on the first attempt and had to return, Rutilevskiy delivered them safely to their ships the following day (Ruzov, 1957; Storozhev, 1940a). Since *Tovarishch Stalin* was drifting independently a considerable distance from the rest of the convoy, her chief engineer was unable to return to his ship until April 2, during the airlift of excess personnel from the convoy.

As always during an arctic wintering, particularly an enforced one with large numbers of surplus personnel on board the ships, the problem of keeping the men occupied was an acute one. It was solved in part by a regular schedule of classes on board the various ships, and especially on board *Lenin*. The men on board the icebreaker (and the adjacent *Il'men'*) had the decided advantage of an excellent library, because comprehensive libraries had been included in the inventories of the polar stations which *Il'men'* and *Lenin* were to have established. They also had the services of a wide range of scientists readily available for instruction. Classes focussed on mathematics, English language, the history of the Party, etc. The scientists also presented general-interest lectures on their own fields to the ships' personnel. Movies were shown on board *Lenin* and *Kamchadal*, and there were amateur variety evenings from time to time. Chess, billiards and dominoes were all very popular.

In an attempt to maintain the men's physical health, various outdoor activities were encouraged. These included games of soccer on the ice (Storozhev, 1940a). But the outdoor activity which seems to have aroused most interest was fox trapping. The various trapping "artels" were allocated



specific areas for their traplines. Some of them, and particularly the "artel" consisting of G. L. Rutilevskiy and Oliv, were extremely successful. A total of 60 foxes was caught during the winter. Occasionally both bait and trapped foxes were lost to polar bears, but no polar bears were shot.

On December 17 a large herd of walrus was discovered in a polynya near the icebreaker. There was a full moon and hence Rutilevskiy, Nikolayev and Storozhev decided to try some hunting (Ruzov, 1957; Storozhev, 1940a). Despite the terrifyingly aggressive behaviour of the massed walrus they managed to shoot and recover five animals over a period of two days. They made an extremely welcome contribution to the menu.

*Sinking of Rabochiy*

Inevitably all of the ships, with the possible exception of *Lenin*, ran a real risk of being severely damaged or even crushed by ice pressures, particularly since several of them had been badly weakened in their earlier drift through Proliv Vil'kitskogo. Thus, as early as November 5 *Rabochiy* was subjected to a severe nip which badly dented her hull, breaking numerous frames, loosening rivets, and leaving her with a serious leak (Storozhev, 1940a). As a precautionary measure both she and *Kamchadal* were partially unloaded and their cargoes stacked on the ice. The rationale behind this was that with the draft of the ships reduced the ice would more readily slide beneath their hulls rather than crushing them. During January 1938 Kapitan Panfilov of *Tovarishch Stalin* reported extreme ice pressures around his ship; drifting on her own some 240 km southwest of the other ships, and at that time some 100 km from the nearest land, Ostrov Preobrazheniya, she was the most

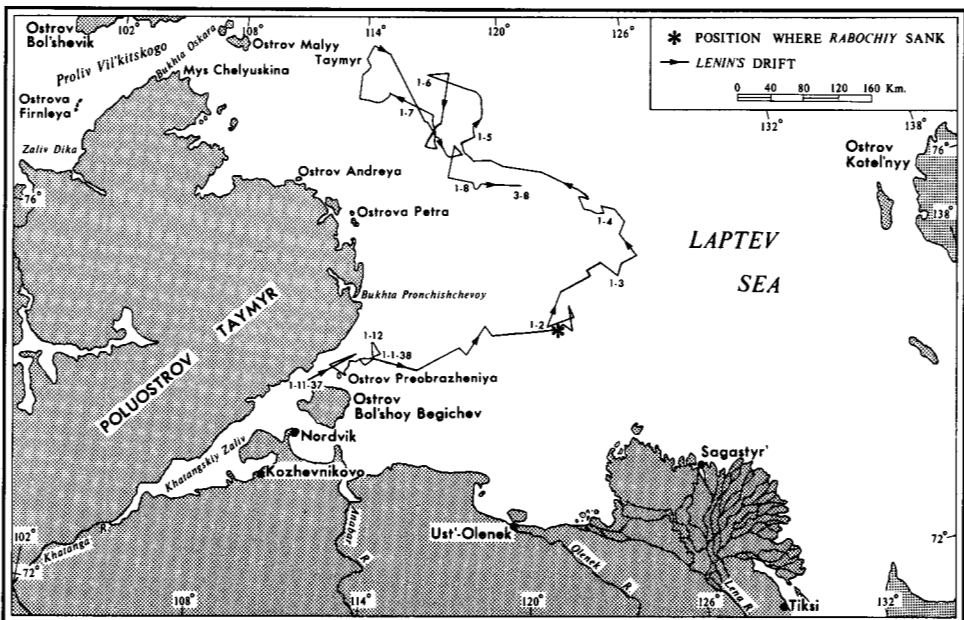


FIG. 1. Laptev Sea, showing drift of *Lenin's* convoy with dates.

vulnerable of all to ice attack. As a precaution a depot of emergency supplies was established on the ice near the ship.

Even *Il'men'*, lashed to *Lenin's* stern, was not spared the dangers of ice pressure. On the evening of January 4, the towing cables by which she was made fast snapped like so many guitar strings. *Il'men'* travelled slowly down the icebreaker's port side, carried along by an advancing pressure ridge (Storozhev, 1940a). All the equipment was hurriedly rescued from the hydrological hut, and it was almost a week before it was felt that ice conditions were stable enough for observations to resume.

On January 20 violent ice movements began around *Rabochiy* and *Kamchadal*, resulting in a major dent in *Rabochiy's* port side. The movements continued throughout the next few days, then at 1.00 A.M. on the 23rd a massive ridge some 4 m high overwhelmed the ship's port side. Huge blocks of ice tumbled over the rail while beneath the waterline the hull was sliced open from the engine room bulkhead aft to the stern. Large amounts of ice were forced inside the hull through this gaping hole (Ruzov, 1957; Storozhev, 1940a).

The crews of *Rabochiy* and *Kamchadal* began working feverishly to unload as much of *Rabochiy's* cargo as possible onto the ice. The freight which was unloaded included 150 cases of matches, and by a quirk of fate an advancing ice ridge produced sufficient friction to ignite them, resulting in a spectacular blaze. The flames could be easily seen from *Lenin* over 20 km away. As his ship slowly settled by the stern, Kapitan Sergejevskiy stepped onto the ice at 7.30 A.M. The ice then began to slacken, and the stern slowly sank beneath the water. At 9.00 A.M. the stern touched bottom while the bow, still supported by the ice, pointed skywards. Then, with the ice slackening further, the bow went under. All that was left were the stacks of salvaged cargo, totalling some 200 tonnes.

*Rabochiy's* crew of 25 took refuge on board *Kamchadal*, lying only some 400 m away. Then it was decided to transport part of the salvaged cargo to *Lenin*. Zoologist G. L. Rutilevskiy played a major role in this very demanding operation. A trail was laid out and marked between *Kamchadal* and *Lenin* and a tent set up at the halfway point. Dog teams and manhailed sledges were used to move the cargo, with a total of 95 men from the crews of *Kamchadal*, *Rabochiy*, *Lenin*, *Il'men'* and *Dikson* being involved. Apart from the sledge teams other men were kept employed in maintaining and relocating the trail where it had been interrupted by pressure ridges or leads. The work of marking the trail began on January 25, while movement of freight began on the 28th and continued until March 5 despite temperatures as low as  $-40^{\circ}$  C. By the end of the operation 50 tonnes of assorted goods, mainly canned goods, cigarettes, and clothing, had been salvaged and stowed in *Lenin's* holds (Ruzov, 1957; Storozhev, 1940a).

#### *Airlift*

The drifting ships were still moving steadily farther northeastwards; thus by March 1 *Lenin's* position was  $75^{\circ} 47'N$ ;  $123^{\circ} 31'E$ . In view of this, and

particularly in view of the loss of *Rabochiy*, it was decided, just as in the better known case of *Sadko*, *Sedov* and *Malygin*, to evacuate all surplus personnel by air. The sun had appeared above the horizon again on February 9, and thus there was now sufficient daylight for the work of preparing airstrips on the ice. The main one was located near the steamer *Dikson*, while the crew of *Tovarishch Stalin* built another near their ship. Explosives were used to blast away pressure ridges and hummocks, and at the cost of a vast amount of back-breaking labour, two functional airstrips were produced. But when the arrival of the planes was delayed, ice movements resulted in the formation of cracks and the growth of new ridges across the strips. These had to be repeatedly levelled and the hollows filled in (Ruzov, 1957).

The first attempt at an evacuation flight was made by Sergey Aleksandrovich Asyamov, flying from Ust'-Olenek in a light P-6 aircraft on February 16 (Shtepenko, 1953). At this point the drifting convoy was 350 km away; *Lenin's* radio was transmitting at full power, but the plane was not equipped with a radio direction finder and despite the best effort of Asyamov and his navigator they were unable to locate the ships on this first attempt. Indeed they barely managed to get back to Ust'-Olenek on the last drops of fuel. Asyamov then flew east to Tiksi where two other P-6 aircraft, piloted by Shpakov and Dmitriyev, had arrived; like Asyamov's machine, they normally operated on the Lena route, carrying mail and a few passengers. Asyamov managed to locate and instal a radio direction finder and on March 8 the three planes took off, flying in a wedge formation. The distance to the drifting ships was now about 500 km, but this time they located them with relative ease and landed safely on the airstrip near *Dikson* (Shtepenko, 1953; Ruzov, 1957; Storozhev, 1940a). On this first trip 22 people were evacuated including all the women who had remained with the convoy—a fitting gesture on International Women's Day.

Having safely delivered their passengers to Tiksi, the planes returned to the convoy the following day. Among those to be evacuated that day were Ruzov and the various other scientists who had been manning the scientific drifting station, to the considerable disgust of all concerned. Early in February Kapitan Drigo relayed an order from the authorities in Moscow that the scientific programme should be discontinued and that the scientists involved should be evacuated along with all the other surplus personnel. Despite very strong protests as to the inadvisability of abandoning such a valuable scientific programme, Kapitan Drigo remained adamant. But as a minor concession he permitted Storozhev to transfer to *Kamchadal* and to continue the scientific programme in an abbreviated form from there (Storozhev, 1940a). Kapitan Vershinskiy was extremely sympathetic, not only arguing on Storozhev's behalf with Kapitan Drigo, but even assigning all three of his lieutenants and two seamen to assist with the observations. Transfer of operations to *Kamchadal* was far from easy; she was still some 20 km from *Lenin* and ice movements in early March had resulted in a large number of new leads and polynyas. Nonetheless on March 12 Storozhev and Nikolayev, with two dog teams, managed to ferry about half the necessary equipment to *Kamchadal*,

although barely frozen leads and large polynyas occasioned extensive detours. The remainder of the equipment was transferred to *Kamchadal* in another sledge trip on the 16th, and having built a plywood hydrological pavilion, on the 18th Storozhev was able triumphantly to resume his interrupted hourly observations on ice drift (Ruzov, 1957; Storozhev, 1940a).

But his satisfaction was shortlived; on the 20th a radio message was received from the "polyarniki on Ulitsa Razina" as Ruzov scathingly calls the headquarters staff of *Glavsevmorput'* in Moscow, insisting categorically that all scientists be airlifted south. As yet another small concession, however, Storozhev was able to hand over all his equipment to Kapitan Vershinskiy and his lieutenants, whom he quickly instructed in the use of all the equipment. They thus were able to continue the scientific programme until the end of the drift (Storozhev, 1940a; Ruzov, 1957). Since there was no suitable site for building an airstrip near *Kamchadal*, Storozhev, along with 15 of the ship's crew who were also scheduled to be evacuated, once again hiked across the ice to *Lenin*.

As already mentioned the remainder of Storozhev's scientific group, led by Ruzov, had been evacuated by Asyamov's group of planes on March 9 and 10. In total, in three successful trips to the convoy Asyamov and his colleagues airlifted 70 people from the drifting ships to Tiksi, where they were accommodated temporarily on barges. Thereafter, however, a spell of bad weather interrupted the airlift operation.

By this time (mid-March) *Lenin's* convoy had drifted to a position more than 600 km from Tiksi, and this meant that the P-6 aircraft were approaching dangerously close to the limits of their range (Shtepenko, 1953). But help was on the way. Veteran arctic pilot A. D. Alekseyev, who had been among the pilots who had landed at the North Pole to establish Papanin's *Severnnyy Polyus I* drifting station the previous May, flew in from Moscow with three of the big orange-coloured planes which had taken part in that operation. They were ANT-6's, large four-engined machines designed by A. N. Tupelov and specially adapted for arctic operations. Also among the reinforcements to arrive at Tiksi were three relatively heavy twin-engined planes piloted by Grigoriy Yefimovich Kupchin, V. N. Zadkov and Ye. N. Nikolayev. All these aircraft, including Asyamov's three P-6 machines, were operated by *Glavsevmorput'*'s own Upravleniye Vozdushnoy Sluzhby (Air Service Administration).

Alekseyev's three aircraft were assigned to evacuating superfluous personnel from *Sadko*, *Sedov* and *Malygin*, drifting in the northern part of the Laptev sea; Kupchin's machines were assigned to the airlift from *Lenin's* convoy begun by the P-6's; while the P-6's were to ferry the evacuated personnel south from Tiksi to Yakutsk.

During the latter part of March bad weather prevented Kupchin's planes from flying out to the convoy; unfortunately, too, this bad weather was accompanied by intense ice movements which completely destroyed the airstrip near *Dikson*, so that a new strip had to be frantically cleared (Storozhev, 1940a). By April 2, however, the weather had cleared and all the

planes at Tiksi were able to take off; Kupchin and his companions located the drifting convoy without too much difficulty and at 11.00 A.M. the three planes touched down safely on the new strip. A tent had been set up near the strip and here one of the ships' cooks supplied the aircraft crews and the outgoing personnel with breakfast. Shtepenko, Kupchin's radio operator and navigator was particularly impressed by the order and organization which prevailed.

After only a brief stop Zadkov took off again to fly to *Tovarishch Stalin*; the latter's chief engineer grasped this opportunity to return to his ship after an absence of 4½ months (Storozhev, 1940a). Landing safely on *Tovarishch Stalin*'s airstrip some 20 minutes later, Zadkov loaded as many of her outgoing personnel as possible, including several sick men, and taking off, set a course directly back to Tiksi. At 1.00 P.M. Nikolayev and Kupchin took off from *Lenin*'s airstrip; the latter in his zeal had taken on two passengers more than had been scheduled, and barely cleared the pressure ridge at the end of the strip. Moments later he received a wireless message from *Lenin*: "Superb take-off. Come back tomorrow for the splinters from your skis. The crew is picking them up from the ice hummocks right now" (Shtepenko, 1953, p. 129).

Next day the planes were back again; this time Storozhev and zoologist Rutilevskiy were among the passengers. As the planes headed back south to Tiksi the weather deteriorated abruptly and all three planes had to make emergency landings on lakes or rivers in various parts of the Lena delta. No planes were damaged and there were no injuries, although passengers and crews were obliged to spend one night, or in some cases two nights in the open, huddled around driftwood fires, before the weather cleared sufficiently for them to take off and fly to Tiksi. Asyamov, returning to Tiksi from a flight to Yakutsk, landed safely on Tiksi airstrip, but got lost while taxiing to the airport buildings and had to spend the night in his aircraft (Shtepenko, 1953).

After a period of foul weather Kupchin managed to take advantage of a brief fine period to fly out to the convoy again. While his plane was in the air Kapitan Drigo reported that cracks had developed in the airstrip; rather than turn back Kupchin decided to try to evacuate the last 10 men scheduled to be airlifted from *Tovarishch Stalin*. Her airstrip, too, was starting to crack up, but he managed to land safely. He and his crew were so disturbed by the appearance of the ship, which was listing heavily and still had a large hole in her side, that Kupchin attempted to persuade Kapitan Panfilov that his ship should be evacuated completely; the captain refused pointblank. With the airstrip practically disintegrating around his machine, Kupchin made a successful take-off.

It was now mid-April but a prolonged succession of blizzards kept the planes grounded at Tiksi. The ships meanwhile were drifting steadily northwestwards, beyond flying range from Tiksi. In response to this situation an intermediate base was established at the old settlement of Sagastyr' on the northern edge of the delta (Shtepenko, 1953). After Kupchin's planes had moved there, ten days of blizzards kept them pinned down. Finally, late in April a break in the weather allowed them to fly north on their last trip; one

flight by all three planes should see the operation completed. Two new airstrips had been constructed near *Lenin*, but while the planes were in the air, one of them broke up due to ice movements. A safe landing was made on the alternate strip, but here too pressure ridges and pinnacles began to heave upwards while the planes sat on the ice, waiting for their passengers. The men were quickly bundled aboard, the pilots lost no time in taking off and headed south to Sagastyr' and Tiksi; the airlift operation was complete.

### *The Final Months*

Until March 6, 1938 *Lenin's* drift had displayed a strong easterly component, on that date reaching 125°E (Belov, 1969), but then there was a marked change. From then on the ships drifted rapidly northwest. This movement culminated in their reaching their highest latitude, 78°N, at 113° 51'E, i.e. not far to the east of Ostrov Malyy Taymyr in mid-June. Thereafter the drift direction again changed drastically, and throughout July the ships were drifting southeast.

The task of freeing *Lenin* and her convoy from the ice had been assigned to *Krasin*, wintering near Kozhevnikovo. Although the latter ship had not run the risks of a wintering adrift it had still not been an easy winter for her passengers and crew. It had been planned to bunker the icebreaker from the local coal seams and to this end an ice-road 78 km long was built from the coal mine to where *Krasin* lay beset in the fast ice. Only 25 of the icebreaker's crew remained on board; the remainder of her personnel moved ashore into barracks which they shared with workers from *Nordvikstroy*. They spent most of the winter underground, mining coal, or else in maintaining the ice road via

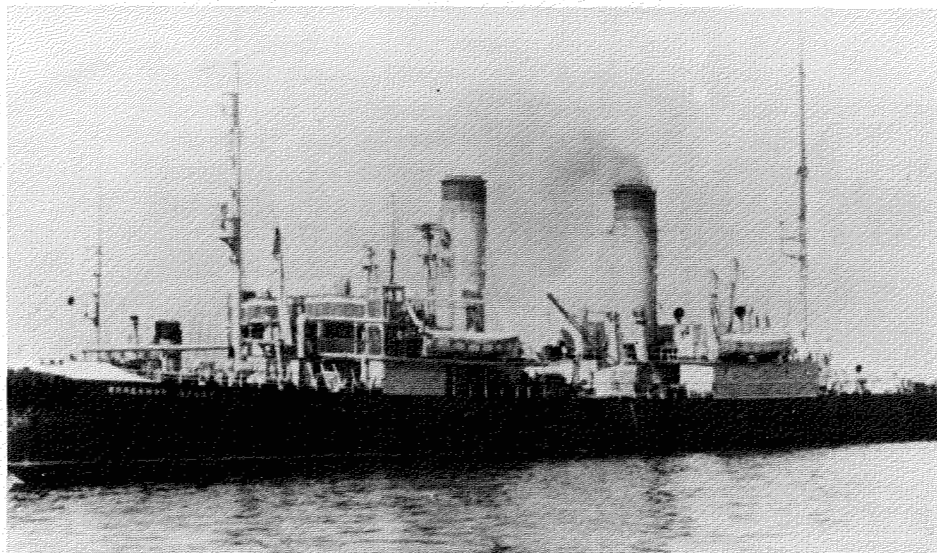


FIG. 2. The icebreaker *Lenin*, after being renamed *Vladimir Il'ich* when the nuclear-powered icebreaker *Lenin*, came into service in 1960. Photo courtesy Mr. Boris Lemachko and Mr. Edward Wilson.

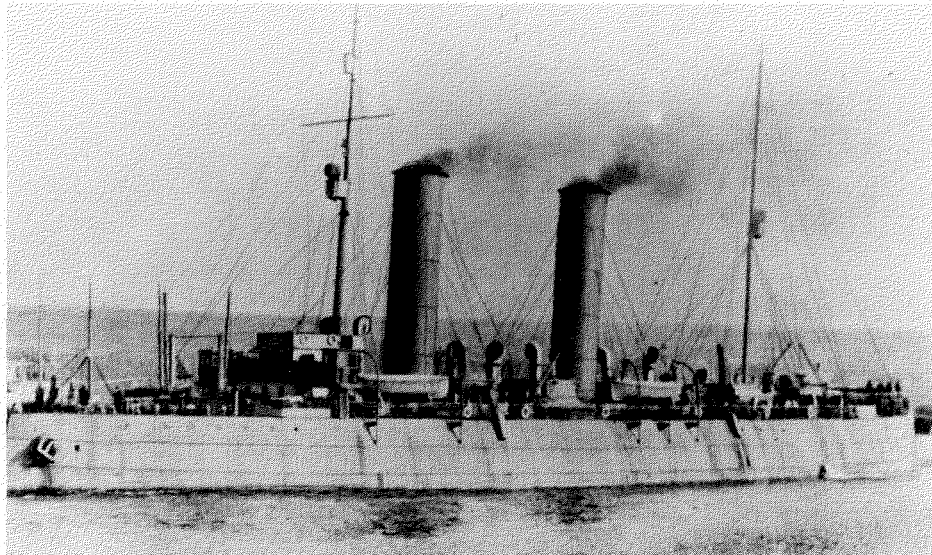


FIG. 3. The icebreaker *Krasin* (originally *Svyatogor*) leaving the Tyne after her launch in 1916. Photo courtesy Armstrong Whitworth & Co. and Mr. Edward Wilson.

which tractors hauled the coal to the icebreaker. By June 21 when the ice road became impassable, *Krasin's* bunkers were full; 2862 tonnes of coal had been mined and hauled out to the ship (Belov, 1969).

Work now began on getting the ship ready for sea. By judicious use of dynamite *Krasin* had been freed from the ice by May 16, but it was not until July 12, 1938, with breakup of the ice in Khatangskiy Zaliv that Kapitan Belousov took his ship to sea (Stepanov, 1941). Having called at Tiksi to load even more coal for bunkering the drifting ships, he set a course northwest across the Laptev Sea (Belov, 1969). *Krasin* reached and liberated *Tovarishch Stalin* on August 3, and *Kamchadal*, *Lenin*, *Il'men'* and *Dikson* on August 4 and 5. Coal, provisions and extra men were transferred to each of the ships in turn, and on August 7 the two icebreakers led the rest of the ships out to the edge of the ice. All six vessels reached Tiksi safely on the 11th.

#### *Assessment*

Many mistakes had been made in the disposition of freighters and icebreakers in the closing weeks of the 1937 navigation season. Probably potentially the most dangerous was the decision to leave *Lenin* and her convoy to winter in the entrance of Khatangskiy Zaliv. The risks involved were considerably greater than those faced by the other group of ships which wintered adrift, namely *Sadko*, *Sedov* and *Malygin*. These were all specially designed ice-strengthened freighters, indeed icebreakers in all but name. By contrast all the ships in *Lenin's* convoy were conventional thin-skinned freighters. It is surprising that only one ship was crushed.

One can feel only admiration for the efforts of the Soviet seamen, scientists and pilots to remedy the situation provoked by the blunders of the "polyarniki on Ulitsa Razina". The salvage operation aimed at saving the stores from the sunken *Rabochiy*; the building and repeated rebuilding of the airstrips on the ice; the superb air evacuation carried out by Asyamov, Kupchin and their colleagues; even the coaling of the icebreaker *Krasin* during the wintering, represented magnificently stubborn achievements.

In terms of scientific results the drift of *Lenin's* convoy was far from being a total loss. Through the diligent efforts of Ruzov, Storozhev, Rutilevskiy and other scientists, major pioneer contributions were made in terms of the basic hydrography, hydrology, meteorology and zoology of the Laptev Sea. Of particular value was the coincidence in time of the drift of this convoy, that of *Sadko's* farther north in the Laptev Sea, and that of Papanin's drifting station *Severnny Polyus I* in the Greenland Sea during the same winter, thus providing a more complete overview of meteorological and ice drift patterns. The reduction in intensity of the scientific programme from April onwards with the insistence of the authorities of *Glavsevmorput'* that all the scientists be evacuated during the airlift is regrettable. However, to make a fair assessment of that decision, one would need to be aware of the entire range of circumstances affecting it.

On a different level, the drift of *Lenin's* convoy and the loss of *Rabochiy*, along with the difficulties posed by the enforced wintering of all the other ships, specifically the total disruption of plans for the 1938 season due to the need to rescue all the icebound ships before operations could begin, resulted in a drastic curtailment of the powers of *Glavsevmorput'* and a wholesale purging of its ranks — on the assumption that such a large-scale disaster could only have been the result of deliberate sabotage. Somehow O. Yu. Shmidt managed to retain his position as head of the organization but many others, at all levels, went to the wall. Among the senior personnel E. F. Krastin, Deputy Head of *Glavsevmorput'* and Head of the Administration of Marine and River Transport, S. A. Bergavinov, Head of Political Administration, and P. V. Orlovskiy, Head of the Hydrographic Administration (Armstrong, 1952) were all branded enemies of the people and dismissed. The veteran arctic geologist R. L. Samoylovich, Director of the Arkticheskiy Institut was tried on a similar charge and acquitted, but his health was seriously impaired and he died soon afterwards (Simmons, 1965).

Measures designed to ensure that this sort of disaster could not recur were spelled out in a resolution of *Sovnarkom* of August 29, 1938 which specified that *Glavsevmorput'* should concentrate on its primary function, that of arctic sea transport. In terms of its sphere of control, the organization's territory was limited simply to the coastal areas of the arctic mainland and to the islands. On the assumption that much of the previous inefficiency, culminating in the 1937 debacle, had been due to its unwieldy organizational structure, *Glavsevmorput'* was stripped of practically every function not related directly to operation of the Northern Sea Route (Armstrong, 1952; Belov, 1969). Thus, for example, its commercial trading operations were transferred



to *Narkomtorg* (Peoples' Commissariat for Trade), *Tsentrosoyuz*, (Central Co-operative Organization) and *Dal'stroy* (Chief Administration for Construction in the Far North); farms and stockraising to the RSFSR *Narkomzem* (Peoples' Commissariat for Agriculture); its fishing operations and its fish canneries at Anadyr' and Ust'-Yeniseysk to *Narkompushcheprom* (Peoples' Commissariat for Food Industries); its fur-trapping stations and its massive fur-marketing operation to *Tsentrosoyuz* and *Dal'stroy*; the Kara Sea convoy operations (with the exception of the provision of icebreakers and pilots) to *Narkomvneshtorg*; river transport on the Ob', Taz, Pur and Yenisey to *Narkomvod* (Peoples' Commissariat for Water Transport); its Ob' and Yenisey air services and radio stations, with the exception of those along the Northern Sea Route, to Glavnoye Upravleniye Gosudarstvennogo Vozdushnogo Flota (Chief Administration of the State Air Line); and weather stations (again with the exception of those along the Northern Sea Route) to Glavnoye Upravleniye Gidrometeorologicheskoy Sluzhby (Chief Administration of the Hydrometeorological Service (Belov, 1969). Responsibility for education and cultural activities north of 62° was handed over to the appropriate commissariats of the political units concerned.

To emphasize the new focus of this streamlined *Glavsevmorput'* one of the resolutions passed at the Eighteenth Party Congress in March 1939 concerned the objective of "turning the Northern Sea Route into a normally operating waterway, providing regular communication with the Far East by the end of the third five-year plan" (Belov, 1969:103; Armstrong, 1952:59). However, it should be noted that even now, while the USSR has indeed achieved the capability of moving ships right through the Northern Sea Route safely in any navigation season, movement of tonnage to and from the mouths of the great Siberian rivers (i.e. along only sections of the Sea Route) is of vastly greater volume and importance than that of ships making the through-passage.

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