

## Outline of Operation of the First Wintering Party, 1957-1958.

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### Organization

The Japanese Antarctic Research Expedition, 1956-1957, left the first wintering party composed of the following members at the Syowa Base on the northeast coast of East Ongul Island, 69°00'22''S. and 39°35'24''E. from February 15 th, 1957 to February 11 th, 1958.

NISHIBORI, Eizaburo. (53)	Wintering leader
NAKANO, Seiki. (52)	Surgeon
FUJII, Tsuneo. (44)	News reporter
TATSUMI, Tatsuo. (40)	Geologist
OTSUKA, Masao. (35)	Mechanical engineer
KIKUCHI, Toru. (35)	Geologist and dog-driver
SUNADA, Masanori. (31)	Cook
MURAKOSHI, Nozomi. (30)	Meteorologist
SAKUMA, Toshio. (29)	Radio operator and engineer
SAEKI, Tomio. (27)	Logistic supporter
KITAMURA, Taiichi. (25)	Geophysist and dog-driver

### Duties

Duties assigned to the party were mainly as follows.

- a) Completion of establishment of the base.
- b) Field tests of all the materials and reporting of the results to the home head office.
- c) Execution of some scientific research such as surface meteorological observation, visual observation of aurora, measurement of intensity of cosmic-rays, and geomorphological, geological and glaciological surveys, et al.
- d) Research on the natural environment in and around the Syowa Base area.

### Operation

The whole term of our wintering over a year is divided into the following four periods according to the chief activities during each period.

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- a) Period of establishment of the base.  
February 16 th—May 11 th, 1957
- b) Period of winter confinement.  
May 12 th—August 4 th, 1957
- c) Period of research travels.  
August 5 th—December 10 th, 1957
- d) Period of preparation of alternation.  
December 11 th, 1957—February 11th, 1958

Although about 150 tons of supplies had been transported to the base, over one hundred tons had been left near the iceberg enclosed in fast ice about 15 km directly distant westward from our base when M. S. "Soya" started on her return voyage to Tokyo on February 15 th, 1957. Also the base had not yet been equipped well at the time. Then the work to be done at first by the wintering members was the transportation of the materials and the establishment of the base. For about three months we built three tunnels connecting four main huts, workshop, garage, preheating room for fuels, dog huts and out-door lavatory, although all of which were only provisional, except for the mess hut, the radio hut, the living hut (panel system, each about 50 square meters), and the power hut (pipe system with covering sheets, about 65 square meters), which had been originally planned.

The power sources of the base were composed of two 20 KVA electric generators with diesel engines and one 3 KVA of the same type. One of the 20 KVA generators was alternatively set to work about 16 hours a day. That of 3 KVA was prepared for emergency use. Heating of the huts depended on 40,000 BTU hot air furnaces using light oil which were installed in each hut. Exchange of communications with Japan and foreign stations in Antarctica was done by wireless apparatus of 2 KW or 0.4 KW.

During the next period of about three months including mid-winter from May 31 st to July 13 th, we spent the time doing indoor work such as examination of the results of field tests on the materials, reporting the results to the home head office, and also many preparations for research travels in the forthcoming summer season.

From early August to the middle of December we had concentrated our efforts upon the research travels in and around the Syowa Base area. We had made many journeys by means of snow-cars, dog-sledges, or man-hauling. Total traveling distances by snow-car parties reached about 1200 km and that of dog-sledge parties about 1600 km. The farthest points reached were about 42°30'E. along the Prince Olav Coast (Hinode-misaki, 68°08'.6 S., 42°37'.2 E.) northeastward from the base and Mount Botnnuten (70°23'.0 S., 37°55'.1 E.) in the Prince Harald Coast southwestward. We had made not only geomorphological, geological and glaciological surveys but also meteorological and biological studies in these travels.

The districts and periods of our research travels were as follows.

a) The Ongul Islands and the adjacent area including the continental ice slope eastward of the Islands.

March, 1957—February, 1958

b) The Langhovde, Skarvsnes and Skallen districts.

May, August and October—November, 1957

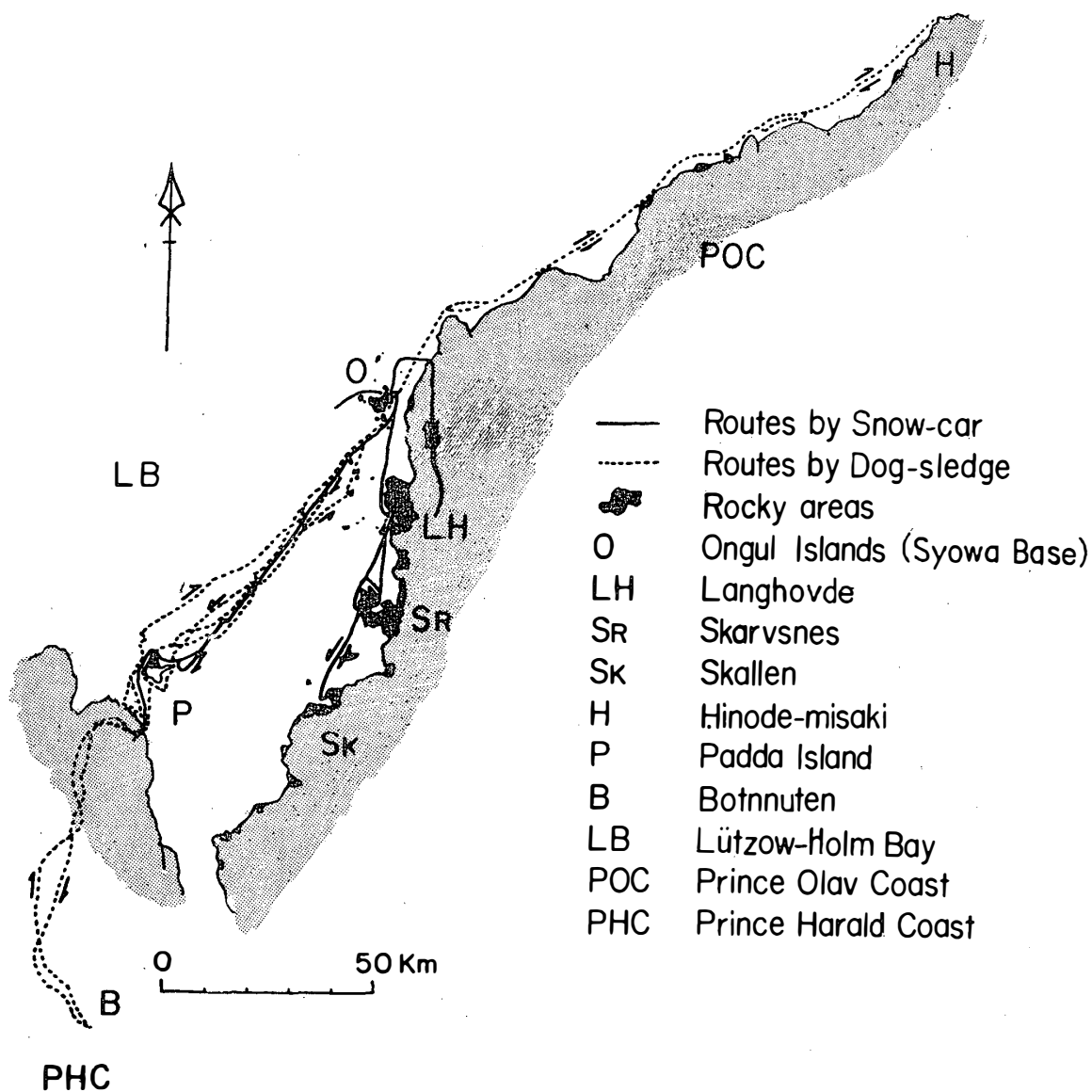
c) Western part of the Prince Olav Coast.

November—December, 1957

d) The Padda Island and Mount Botnnuten.

August—November, 1957

Travels on the sea ice became somewhat difficult, for paddles, cracks or shore leads began to occur with the beginning of summer, and M. S. Soya started from



第1次越冬隊踏査図 (1/1,000,000)

Route map of the first wintering team, the Japanese Antarctic Research Expedition.

Cape Town for Antarctica in early December. Then we must make some surveys on the sea ice of the Lützow-Holm Bay against the entry of the ship, and also begin preparations for alternation to the next wintering party headed by Mr. M. MURAYAMA from early December.

Through every period surface meteorological observation and measurement of intensity of cosmic-rays with Neyer type electrometer were continued at the Syowa Base, and visual observation of aurora was carried out from February to October. Besides, surveys on the sea ice, microscopical observations of snow crystals, collection of cosmic dust and biological samples, and measurement of radioactivities of falling and drifting snows et al. were also made on occasions.

## 第 1 次 越 冬 隊 行 動 概 要

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### 要 旨

第 1 次越冬隊は、(1) 昭和基地の完成 (2) 各種資材の現地試験およびその結果の内地への連絡 (3) 地上気象観測、オーロラ目視観測、宇宙線強度測定、地形地質氷河調査など最少限度の観測実施 (4) 昭和基地周縁地域の自然環境の調査研究などを目的として、1957 年 2 月 15 日から 1958 年 2 月 11 日までの間昭和基地に残つた。

まる 1 ケ年にわたる越冬期間は、その間に行われた主な行動内容に従つて、次の 4 期に分たれる。

- a) 基地建設期—1957 年 2 月 15 日から 5 月 11 日まで
- b) 冬籠り期—1957 年 5 月 12 日から 8 月 4 日まで
- c) 調査旅行期—1957 年 8 月 5 日から 12 月 10 日まで
- d) 交代準備期—1957 年 12 月 11 日から 1958 年 2 月 11 日まで

基地建設期には、宗谷仮泊地点附近に残された物資の運搬と基地の完成作業とが行われた。本屋棟、無線棟、居住棟、発電棟の計画された 4 棟の

ほかに、いずれも仮設ではあるが、各棟を結ぶ 3 本の通路、工作室、ガレージ、燃料予熱室、犬小屋、便所などが設けられた。

冬籠り期には専ら室内作業が続けられ、各種資材の使用結果の整理検討と内地への連絡、および来るべき調査旅行の諸準備が行われた。

調査旅行期には全ての努力が各地への旅行のために集められ、東北方向にはプリンス・オラフ海岸のほぼ東径  $42^{\circ}30'$  まで、西南方向にはプリンス・ハラルド海岸のボツンヌーテン山 (東径  $37^{\circ}55.1'$ , 南緯  $70^{\circ}23.0'$ ) までの範囲が調べられた。

交代準備期には、宗谷のリュッツォホルム湾侵入のための海氷調査、オングル島周辺地区の地質および生物調査と共に、第 2 次越冬隊への交代のための準備作業が行われた。

これらの全期間を通じて、基地においては地上気象観測、宇宙線強度測定および内地並びに外国基地との無線連絡が毎日行われ、また 2 月から 10 月にかけてはオーロラ目視観測が続けられた。なお、海氷調査、積雪の顕微鏡観察、宇宙塵標本採集、積雪の放射能測定、生物標本採集なども随時必要に応じて行われた。