

U. S. NAVAL TECHNICAL MISSION TO JAPAN
CARE OF FLEET POST OFFICE
SAN FRANCISCO, CALIFORNIA

12 January 1946

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From: Chief, Naval Technical Mission to Japan.
To : Chief of Naval Operations.

Subject: Target Report - Wartime Activities of International
Latitude Observatory, MIZUSAWA, Iwate Prefecture, Japan.

Reference: (a) "Intelligence Targets Japan" (DNI) of 4 Sept. 1945.

1. Article 3 of the report on Target X-18 of Fascicle X-1
of reference (a) is submitted herewith.
2. The investigation of the target and the target report
were accomplished by Captain Jerry H. Service, USNR, assisted by Lieut.
John Catt, RNVR.



C. G. GRIMES
Captain, USN

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X-18-3

**JAPANESE HYDROGRAPHY - ARTICLE 3
WARTIME ACTIVITIES OF
INTERNATIONAL LATITUDE OBSERVATORY
MIZUSAWA, IWATE PREFECTURE, JAPAN**

"INTELLIGENCE TARGETS JAPAN" (DNI) OF 4 SEPT. 1945

FASCICLE X-1, TARGET X-18

JANUARY 1946

U.S. NAVAL TECHNICAL MISSION TO JAPAN

SUMMARY

MISCELLANEOUS TARGETS

JAPANESE HYDROGRAPHY - ARTICLE 3 WARTIME ACTIVITIES OF INTERNATIONAL LATITUDE OBSERVATORY MIZUSAWA, IWATE PREFECTURE, JAPAN

The axis of the earth is not fixed relative to the earth itself, but executes a roughly conical motion in the earth, with a period approximately annual. This wandering of the earth's axis in the earth causes corresponding fluctuations in the positions on the earth's surface of the geographic poles and the geographic equator. In consequence, the latitudes of points on the earth's surface are not constant, but suffer annual variations which may be as much as 0.3 second in amplitude (0.6 second in range).

As a part of the program of the International Geodetic and Geophysical Union, five variation of latitude observatories have been in operation along parallel of latitude $39^{\circ} 08' N$. Two of these observatories have been in the United States, one at Gaithersburg, Maryland, and the other at Ukiah, California; one has been at Sardinia, Italy; one in Kitab, Russia; and one in Mizusawa, Japan. In addition to these, there are several observatories in the Southern Hemisphere.

During the war no information was available concerning the operations of the observatory at MIZUSAWA, Japan. A request from the Director of the U.S. Coast and Geodetic Survey - "We would like to have information as to whether this observatory has been in continuous operation, and we would like to have the records obtained during the war period forwarded to this office." - finally devolved upon the Naval Technical Mission to Japan for accomplishment.

Investigation has established the fact that the observatory in question has been, and will remain, in continuous, uninterrupted operation. The desired records have been secured and are being delivered to the Director of the U. S. Coast and Geodetic Survey.

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REFERENCES

A. Location of Target:

International Latitude Observatory, MIZUSAWA Machi, Iwate Ken, Japan.

B. Japanese Personnel who Assisted in Gathering Documents:

Dr. Hantaro NAGAOKA, Director of the Society for the Promotion of Scientific Research (Shinkokai); President, Imperial Academy.

C. Japanese Personnel Interviewed:

Officials of the International Latitude Observatory, as follows:

Tetsuro IKEDA, Acting Director.
Inakichi YOSHIDA, Chief of General Affairs and Treasurer.
Tadahiko HATTORI, Chief Astronomer.

LIST OF ENCLOSURES

- (A) Copy of letter dated 9 November 1945 from the Director, U. S. Coast and Geodetic Survey, to Lieutenant Colonel Glenn W. Moore.
- (B) Copy of letter dated 7 December 1945 from Lieutenant Colonel Glenn W. Moore to the Director, U. S. Coast and Geodetic Survey.

INTRODUCTION

Enclosure (A), a letter from the Director of the U. S. Coast and Geodetic Survey to Lieutenant Colonel Glenn W. Moore, sets forth the objective of the investigation. By Enclosure (B), Lieutenant Colonel Moore consigned the mission to the Naval Technical Mission to Japan for accomplishment.

After preliminary investigation in TOKYO, the personnel who prepared this report proceeded to MIZUSAWA in Iwate Prefecture, and on 10 January 1946 inspected the International Latitude Observatory and interviewed its officials. Results of the inspection and interviews are set forth in this report.

WEST VIRGINIA

The first of the West Virginia mountains was the Allegheny, which was the first range of the Appalachian system. It was the first range of the Appalachian system, and it was the first range of the Appalachian system.

The second of the West Virginia mountains was the Allegheny, which was the first range of the Appalachian system. It was the first range of the Appalachian system, and it was the first range of the Appalachian system.

THE REPORT

1. Activity of the Observatory During War

Interviews by representatives of the Naval Technical Mission to Japan with the officials of the Observatory brought out the fact that the International Latitude Observatory at MIZUSAWA, Iwate Prefecture, Japan, was in continuous, un-interrupted operation throughout the war and may be expected to continue so. Observations of zenith distances of star-pairs have been and are being made on every clear night.

The observatory is pleasantly situated, roomy, clean, well-maintained, apparently well-manned, and for the purpose in question, well-equipped. The visiting party was shown two zenith telescopes: one by Carl Bamberg Werke, Berlin-Friedenau, with micrometer least count about 0.39 second, one division of level approximately one second, well-housed in a separate building; one of Japanese manufacture, floating on mercury, also well-housed in a separate building.

2. Records

The original records of the measurements of zenith distances of stars are made in bound books; a new book is used each month.

Prior to the war, the practice was to forward monthly bound copies of the completed and checked observations to the Geodetic Committee, Department of Education, TOKYO, for further shipment to the Central Bureau, Naples, Italy.

The original records were so forwarded through 6 June 1940. Subsequent original records were found on file in the Observatory. Certified copies of records for the period 7 June 1940 to 5 November 1941 had also been forwarded as described above.

The original records for the period 7 June 1940 to 5 January 1946 (67 bound books) were impounded by the authors at the Observatory on 10 January 1946. However, to insure proper checking of the copies left on file in the Observatory (against the possibility of loss of the originals), the original records were loaned to the Observatory for a period of seven days for checking of the file copies. On 18 January 1946 the Acting Director of the Observatory returned the original records, together with certified copies for the period 6 January 1940 to 6 June 1940 inclusive.

The seventy-two (72) bound books of records above described, under NavTechJap Document Numbers ND 50-5999.1 to 5999.72 inclusive, have been forwarded to the Director, U.S. Coast and Geodetic Survey, Washington.

ENCLOSURE (A)

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
WASHINGTON 25

60-BJF

9 November 1945

To: Lt.Col.Glenn W. Moore, K-100032,
OCE GHQ Int. Sect.,
APO No.500,
c/o Postmaster,
San Francisco, California.

Subject: International Latitude Records.

As a part of the program of the International Geodetic and Geophysical Union, five variation of latitude observatories have been in operation along parallel of latitude $39^{\circ} 08'N$. Two of these observatories have been in this country, one at Gaithersburg, Maryland, and the other at Ukiah, California; one has been at Sardinia, Italy, one in Russia, and one in Japan.

During the period of the war no information has been available concerning the operations of the observatory at Mizusawa, Japan. We would like to have information as to whether this observatory has been in continuous operation and we would like to have the records obtained during the war period forwarded to this office. Would it be possible for you to institute the necessary proceedings to obtain as much information as possible in line with the above criteria?

Previous to the war the observatory in Japan was under the direction of Professor Kimura. The observatory should be kept in continuous operation, and if this has been done and is being done, then all records should be obtained through official channels and forwarded to this office.

/S/ L. O. Colbert
Director

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ENCLOSURE (B)

GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES, PACIFIC
OFFICE OF THE CHIEF ENGINEER
ADVANCE ECHELON

APO 500

7 December 1945

CE 003 (7 Dec. 45)I

SUBJECT: International Latitude Records.

TO : The Director, United States Coast and Geodetic
Survey, Washington, D.C.

Reference is made to your letter 60 BJF, dated 9 November 1945. You are advised that we have not had time to take up this matter. This office has been fortunate to arrange to have Commander Jerry H. Service temporarily assigned here. Commander Service was formerly with the Coast and Geodetic Survey and is well acquainted with the subject and will carry the matter to a successful conclusion.

/s/ GLENN W. MOORE
Lt. Col., AUS.