INTERNATIONAL HYDROGRAPHIC ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

IHO/IOC Form No. 1

UNDERSEA FEATURE NAME PROPOSAL

(See NOTE overleaf)

Ocean or Sea Northwest Pacific Ocean Name proposed Tayama Guyot

Coordinates : **A** - of midpoint or summit : Lat. 23º37'N , Long. 157º18'N

_____ kilometres in _____ direction from _____

and/or **B** - extremities (if linear feature) :

Lat. _____ } to { Lat. _____
Long. _____ } to { Long. _____

Description (kind of feature) : Guyot

Identifying or categorizing characteristics (shape, dimensions, total relief, least depth, steepness, etc.):

The guyot is one of the constituents of the "Marcus-Wake Seamount Group" in the Northwest Pacific Ocean. It has a flat-topped summit at a water depth of about 1400-1500 m and rises about 4000 m above a surrounding abyssal plain. Its basal area is about 90×100 km^2.

Associated features :

Chart reference :

Shown with name on chart No. Japanese Chart W1009 (to be issued on June, 2008)

Shown but not named on chart No. Japanese Chart W48

Not shown but within area covered by chart No. _____

Reason for choice of name (if a person, state how associated with the feature to be named) :

Dr. Risaburo Tayama was one of the pioneers on submarine topographical and geological researches in Japan. He had worked on bathymetric and geological surveys in Japan and the Western Pacific Ocean for more than 20 years. He devoted 12 years to studies of coral reef islands in the Western Pacific Ocean. His detailed descriptions of geomorphology and geology of coral reefs contributed to an understanding of how coral reefs develop. He also compiled bathymetric and geomorphological maps of a large region (130°-174°E and 4°S-30°N), which already depicts this guyot as a seafloor high. The guyot is a drowned coral reef and is linked with his lifework study. See more details for the attached CV.

Discovery facts :

Date Nov. 1998 – May 1999 by (individuals or ship) The Japanese survey vessel "Takuyo"

By means of (equipment) : Multibeam Echo Sounder SeaBeam 210

Navigation used : GPS

Estimated positional accuracy in nautical miles : 0.054 miles (100 m)

Description of survey (track spacing, line crossing, grid network, etc.) : Swath bathymetric data were acquired with W-E trending survey lines spacing 10 miles and lines spacing 2.5 miles in the summit region. Supplemental data were also acquired in 2006 and 2007, using multibeam echo sounder SeaBeam 2112 aboard survey vessels "Takuyo" and "Shoyo".

Nature and repository of other survey activities (dredge samples, cores, magnetics, gravity, photographs, etc.) : Hydrographic and Oceanographic Department of Japan has dredged samples and geomagnetic and gravity data

Supporting material : enclose, if possible, a sketch map of the survey area, profiles of the features, etc., with reference to prior publication, if any : bathymetric map (Fig.2) and map of survey lines (Fig.3)

Submitted by : Hydrographic and Oceanographic Department of Japan

Date : 18 April 2008

Address : 5-3-1 Tsukiji, Chuo-ku, Tokyo 104-0045

Concurred in by (if applicable) : _____

Address : _____

National Authority (if any) : Japanese Committee on Undersea Feature Names

Address : 5-3-1 Tsukiji, Chuo-ku, Tokyo 104-0045, Japan

NOTE : This form should be forwarded, when completed :

a) **If the undersea feature is located in territorial waters** :-
to your "National Authority for Approval of Undersea Feature Names" or, if this does not exist or is not known, either to the International Hydrographic Bureau or to the Intergovernmental Oceanographic Commission (see addresses below);

b) **If the undersea feature is located in international waters** :-
to the International Hydrographic Bureau or to the Intergovernmental Oceanographic Commission, at the following addresses :

International Hydrographic Bureau
4, quai Antoine 1er
B.P. 445
MC 98011 MONACO CEDEX
Principality of MONACO
Fax: +377 93 10 81 40
E-mail: info@ihb.mc

Intergovernmental Oceanographic Commission
UNESCO
Place de Fontenoy
75700 PARIS
FRANCE
Fax: +33 1 45 68 58 12
E-mail : info@unesco.org

Personal history of the late Dr. Risaburo Tayama

Given name: Risaburo
Family name: Tayama

1897 Born in Miyagi, Japan
1952 lost in distress of submarine volcanic eruption

Education:
1927 B.S. in geology, Tohoku Imperial University

Professional carrier:
1933 Lecturer, Tohoku Imperial University
1937 Associate Professor, Tohoku Imperial University and Engineer, Tropical Industry Institute (-1944)
1947 Associate Professor, Tohoku University
1948 (concurrently) Director of the Ocean Survey Division, Hydrographic Department of Japan
1949 Professor, School of Science, Tohoku University

1952 Hydrographic Department of Japan
1977 Director of the Ocean Survey Division, HDJ
1982 Professor, Chiba University

Remarks:
Dr. Risaburo Tayama was one of pioneer scientists on submarine topographical and geological researches in Japan. He had been worked for Tohoku University, Tropical Industry Institute in Palau, and Hydrographic Department of Japan. He had been engaged in bathymetric and geological surveys in Japan and the Pacific Ocean for about 20 years until he was lost in volcanic eruption during survey of an active submarine volcano in 1952. His admirable works are geomorphological and geological studies of coral reef islands in the Western Pacific Ocean, based on detailed descriptions through surveys for 12 years under difficult circumstances (Tayama, 1952). Even now his exquisite descriptions and theory are still worthy of a world-wide admiration. He identified and proposed "table reefs", a new type of coral reefs in those days. He also discussed history and tectonics, relating types of coral reefs and their geographical distribution. On the origin of coral reefs, he proposed the idea that subsidence of seafloor plays the main role (Darwin's theory) but also at shorter timescales glaciation intermittently contributes to morphological development of coral reefs (Daly's theory). His idea is basically consistent with the present understanding of the origin of coral reefs.

Selected publications:

Tayama R. (1935), Table reefs, a particular type of coral reef. *Proc. lmp. Acad. Tokyo*, 11, 268-270.

Tayama R. (1935), Distribution of coral reefs in the South Sea. *Proc. Imp. Acad. Tokyo*, 11, 326-328.

Tayama R. (1936), Geomorphology, geology and coral reefs of North Mariana Group, *Ibid*., 23, 1-88.

Tayama R. (1939), Terraces of the South Sea lslands under the Japanese Mandate. *Proc. Imp. Acad. Tokyo*, 15, 139-141.

Tayama R. (1939), Correlation of formations in South Sea Islands, *Jour.Geol.Soc*., 46, 345-348.

Tayama R. (1942), Geomorphological and geological observation of Vogelkop Peninsula, New Guinea, *Inst. Geol. Paleo. Tohoku Imp. Univ. Contr., Jap. Lang*., 37, 1-84.

Tayama R. (1952), Coral Reefs in the South Seas, *Bull. Hydrograph. Office, Maritime Safety Agency, Tokyo, Japan*, 11, pp 292.

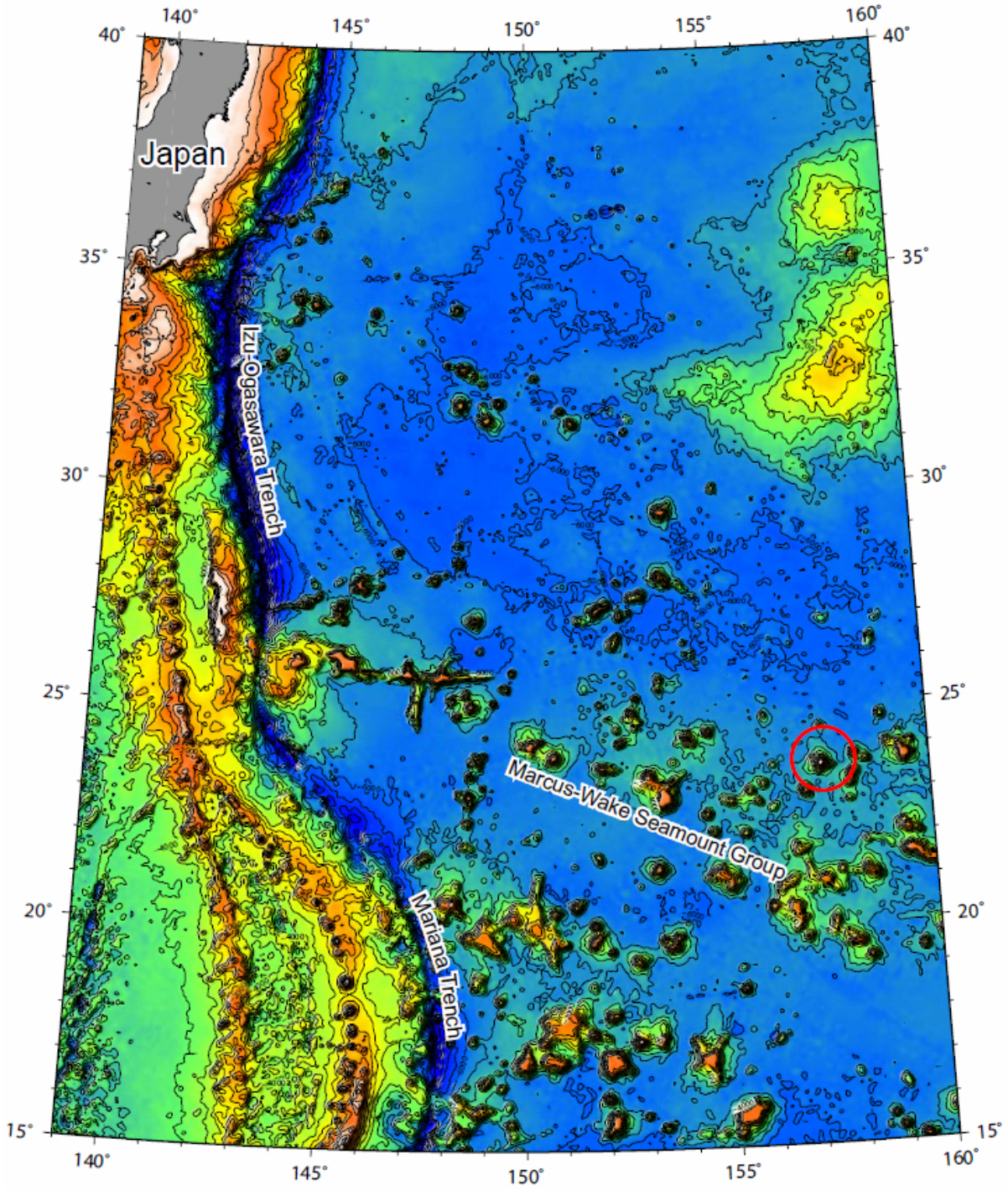

Fig. 1. Index map for Tayama Guyot, using the bathymetry data of ETOPO-2. The red circle indicates Tayama Guyot.

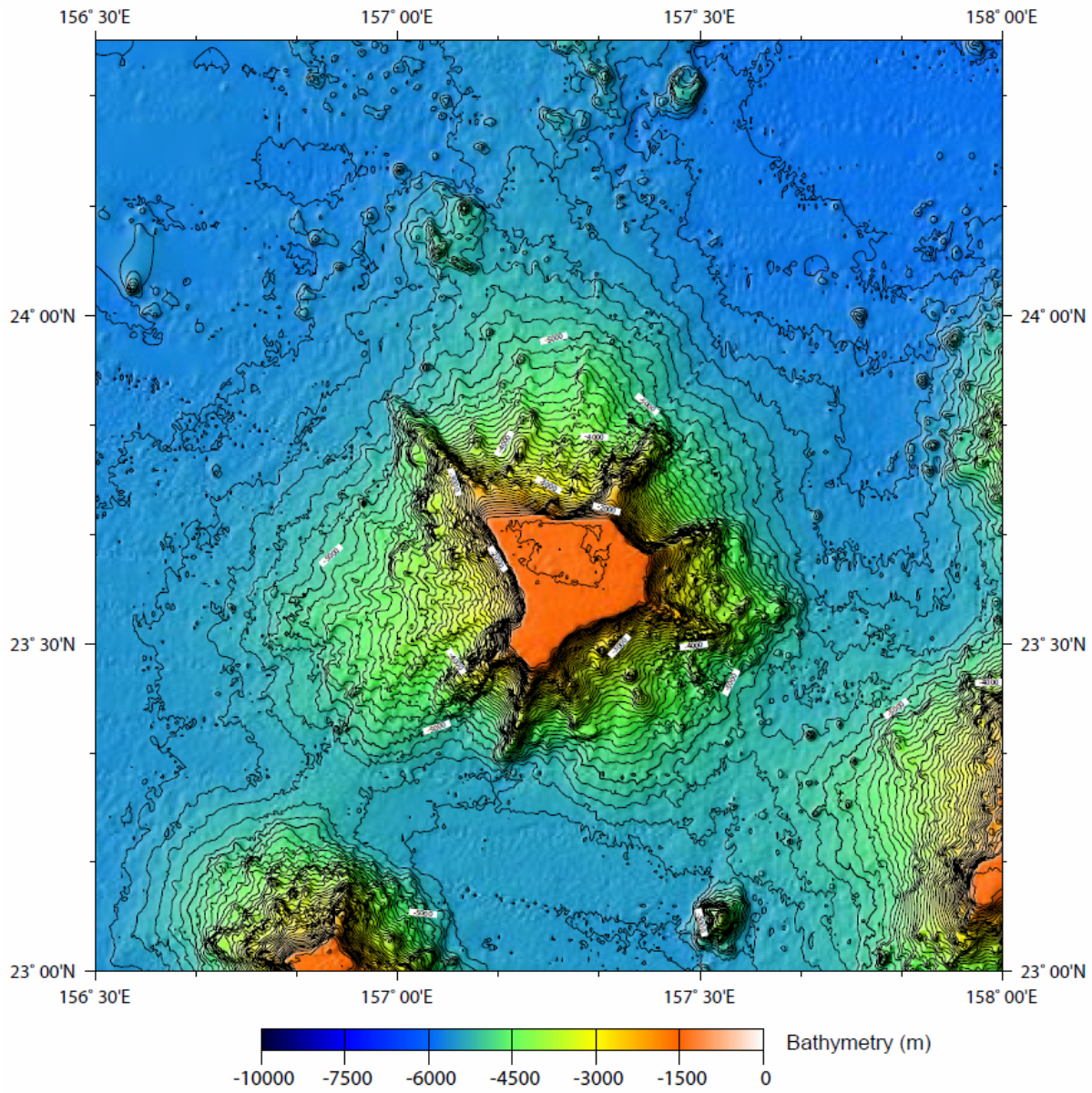

Fig. 2. Bathymetry of Tayama Guyot. Contours in 100 m.

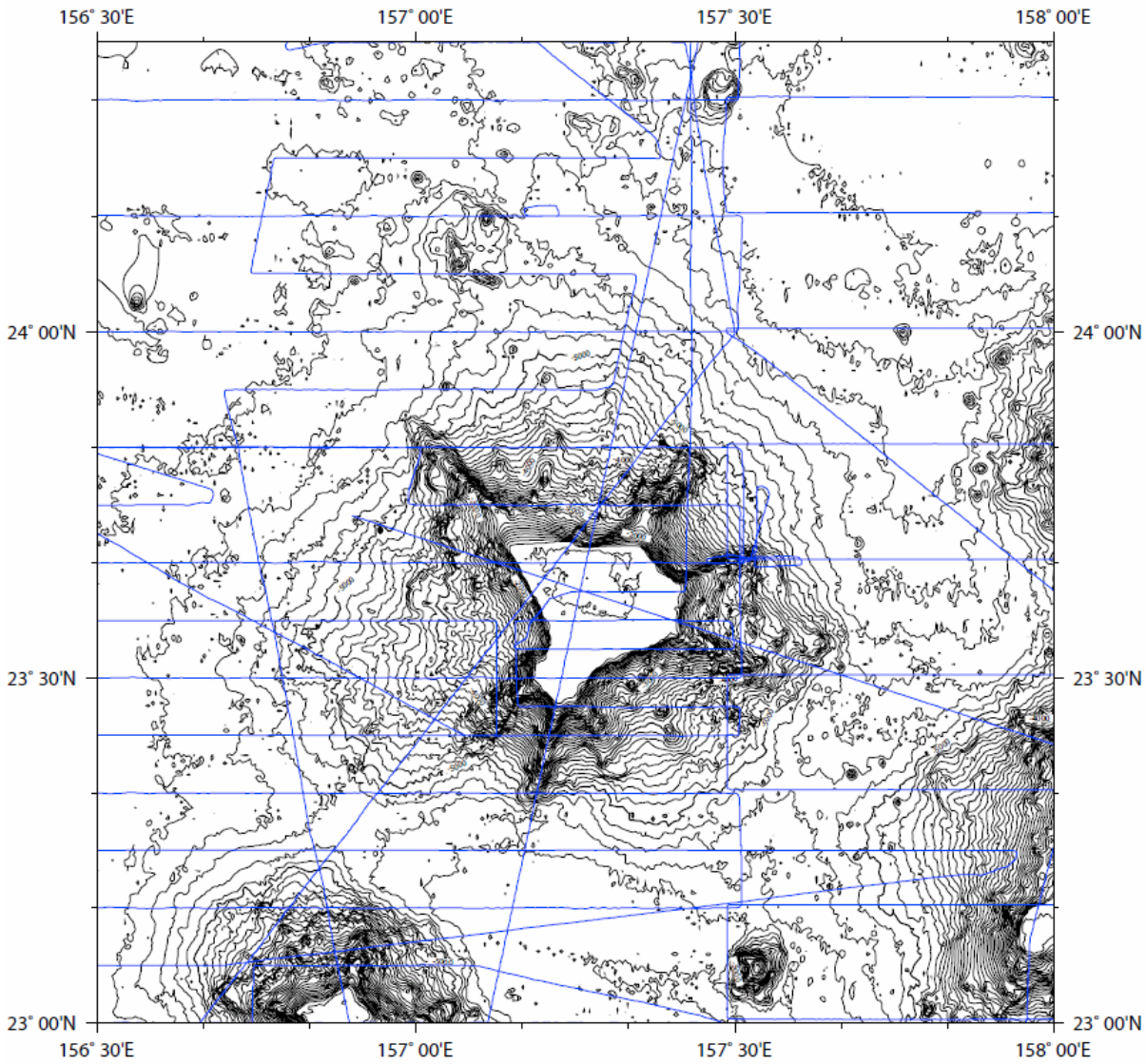

Fig. 3. Bathymetry of Tayama Guyot, showing the track lines. Contours in 100 m.