



Publication of the Atlas of the Seas

–The 140th Anniversary of the Hydrographic Office of Japan–

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Content of Presentation

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Outline of Atlas of the Seas

- *Published in September 12 2012 by JHA, to celebrate the 140 anniversary of the Hydrographic Office of Japan*
- *Edited by Editorial Committee, Atlas of the Seas, consisting of JHOD & JHA staffs.*
- *Intension.....to introduce easy-to-understand visually the ocean and seas surrounding Japan, mainly seafloor features by 3-D methods*
- *Style.....A4 size, 60pages booklet, not for sale*

•What is JHA? JHA:

- *was established in 1971.*
- *is a **public service corporation** established under supervision of JCG.*
- *is responsible for and engaged in:*
 - *reproduction & distribution of Japanese official paper charts & ENC*
 - *conducting training courses in hydrography & oceanography*
 - ***dissemination in hydrography & oceanography***

The History of Hydrographic Activities in Japan

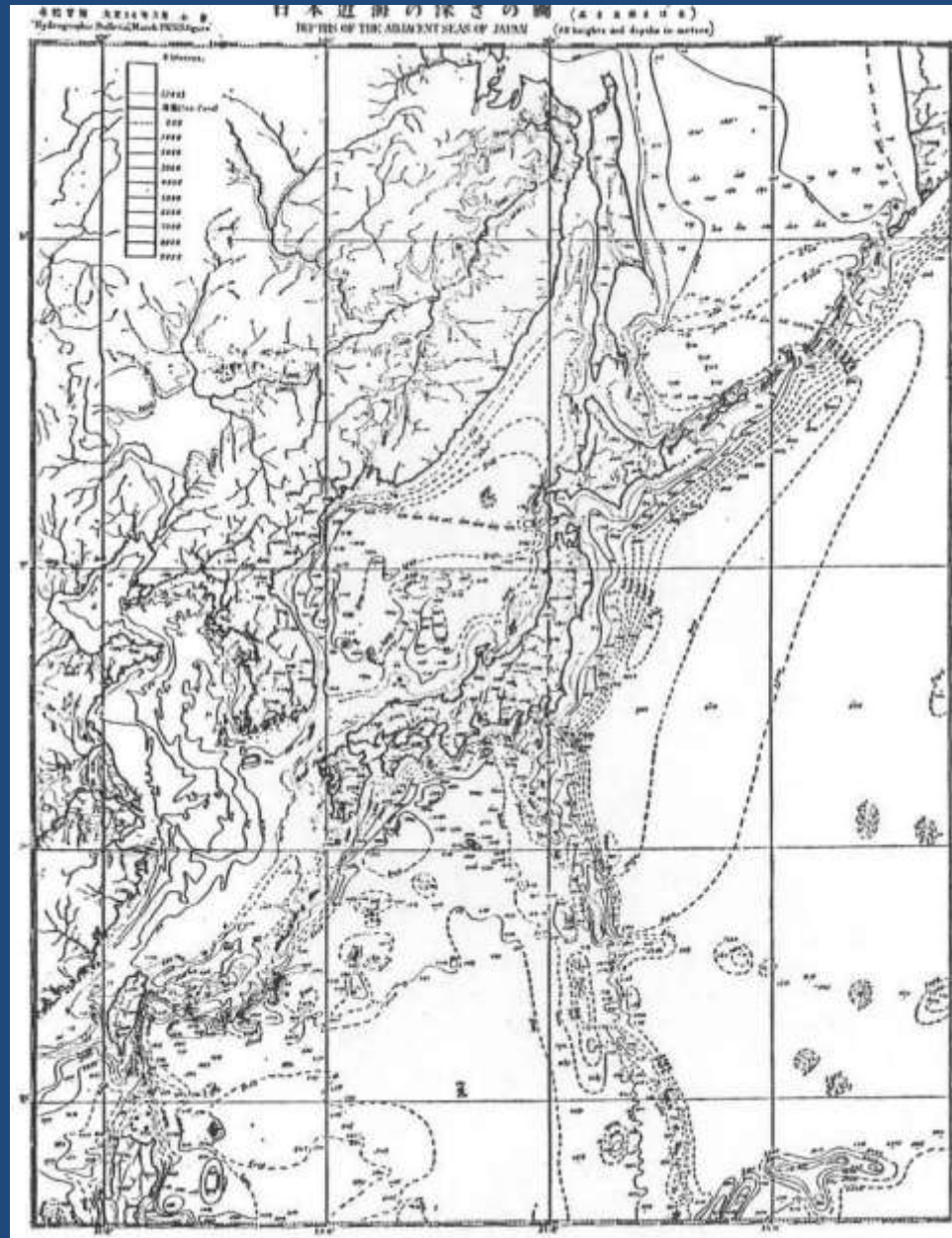
- 1871** *Hydrographic Department was established under the Navy.*
- 1872** *First Japanese nautical chart was published.*
- 1921** *IHB was established with Japan as a member.*
- 1925** *First Bathymetric survey was conducted using acoustic sonar equipment.*
- 1925** *First Bathymetric Chart- The Adjacent Seas of Japan- was published.*
- 1948** *HD was incorporated into Maritime Safety Agency, which was newly established in 1948 (later renamed Japan Coast Guard).*
- 1953** *SV Daigo Kaiyo met with a shipwreck by the Myojin-sho volcanic eruption.*
- 1971** *Relief Contour Methods (3-D image by manual) Bathymetric Charts NO.6901 (3-D image by manual) was published.*
- 1979** *GEBCO 5.06 was compiled under the scientific coordinator, Dr Yoshio Iwabuchi (JHD) and published (CHS).*
- 1984** *SV Takuyo obtained 10,924m as the world's deepest depth in the Challenger Deep of Mariana Trench . (GEBCO adopted 10,920 m instead of 11,034 by Vityaz in 1957).*
- 2002** *HD was renamed Hydrographic and Oceanographic Dept .*

First Japanese nautical chart

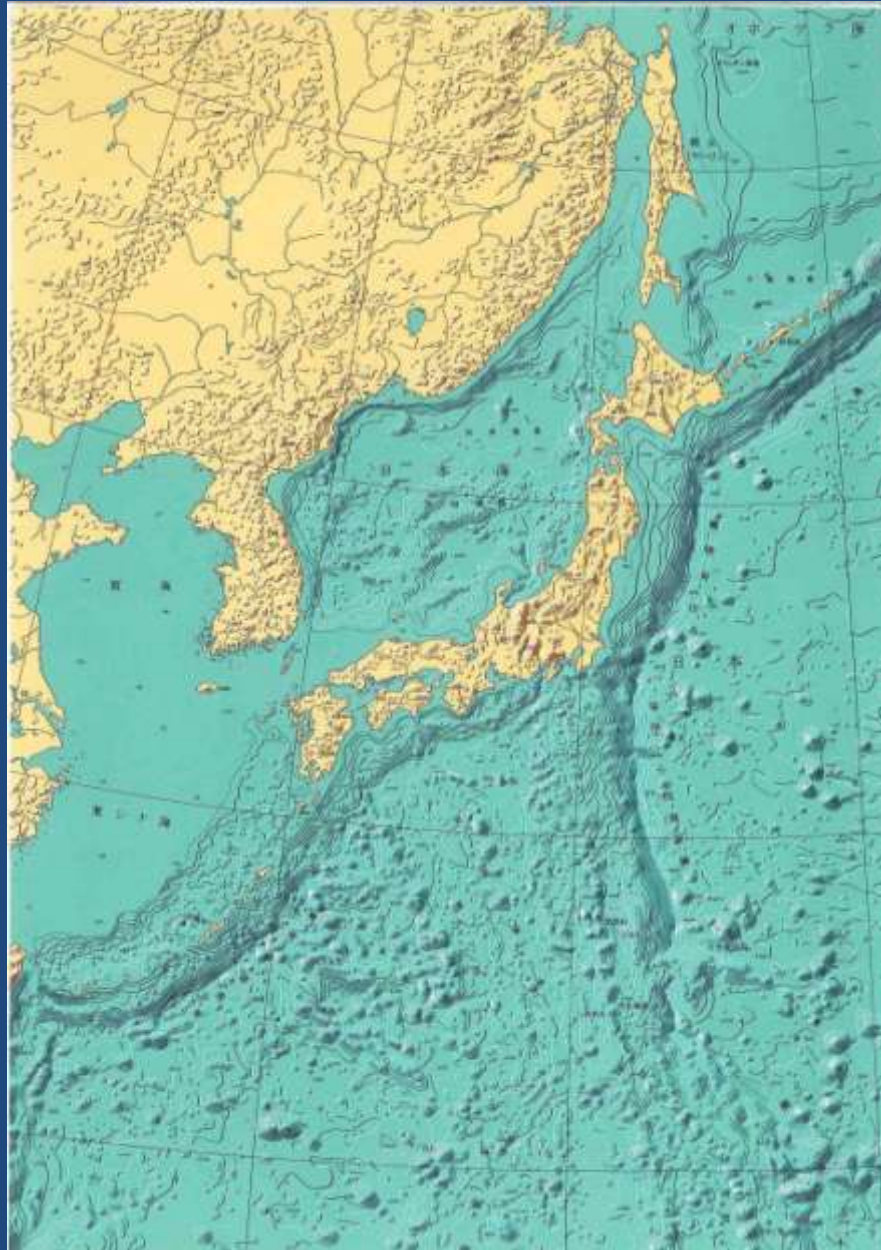
“Kamaishi Bay” was published in 1872.



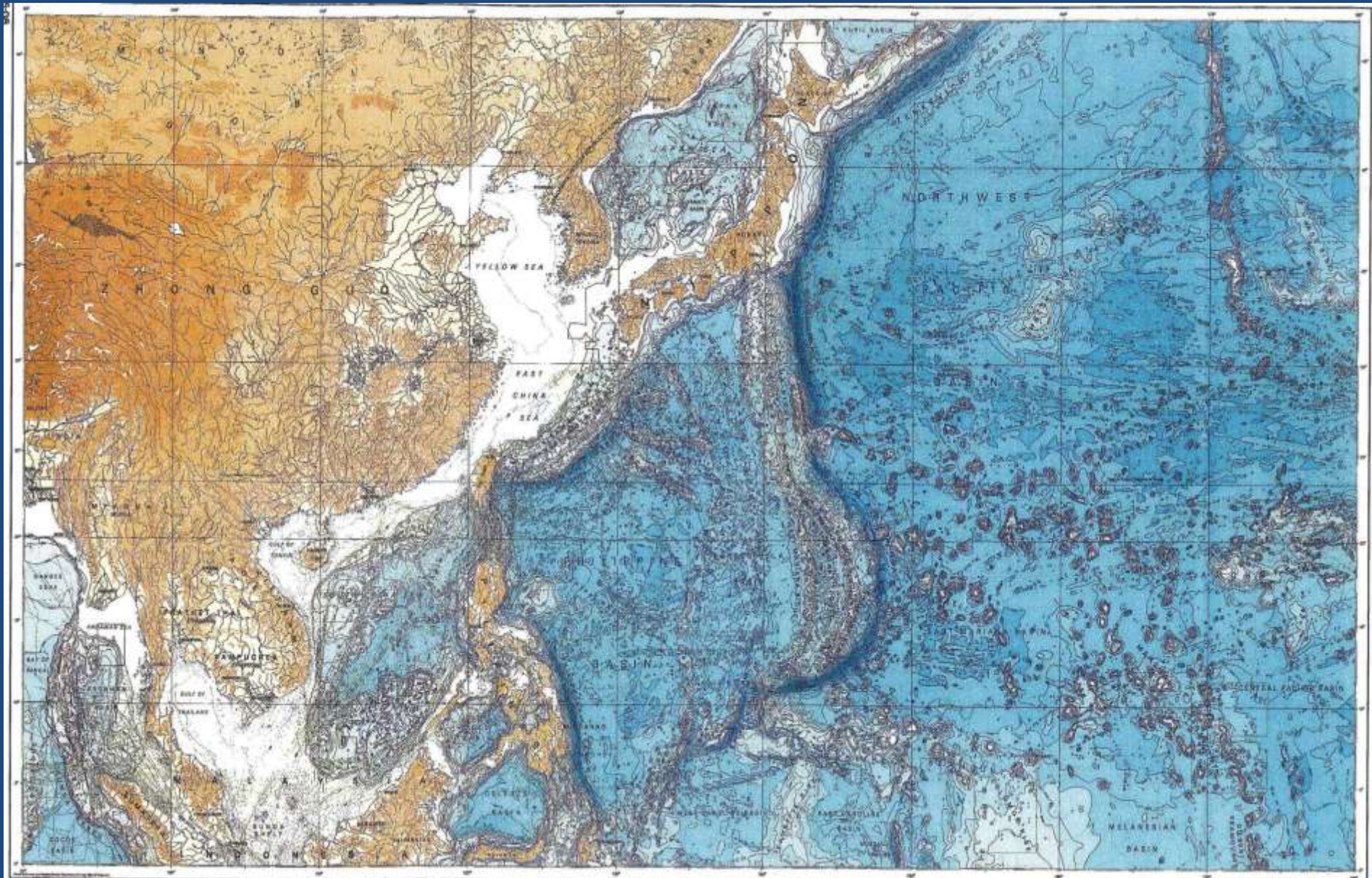
First Bathymetric Chart published in 1925.



**Relief Contour Method (3-D image by manual)
Bathymetric chart was published in 1971.**



**GEBCO 5.06 was compiled under the scientific coordinator
Dr Yoshio Iwabuchi, JHD and published by CHS in 1979.**

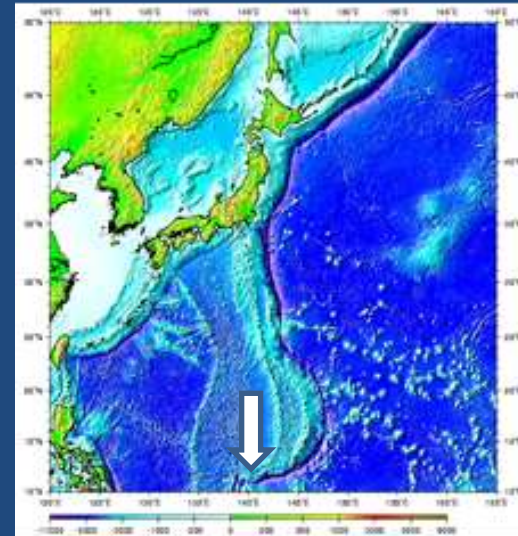


SV Takuyo obtained 10,924m in the world's deepest depth "Challenger Deep" in 1984.

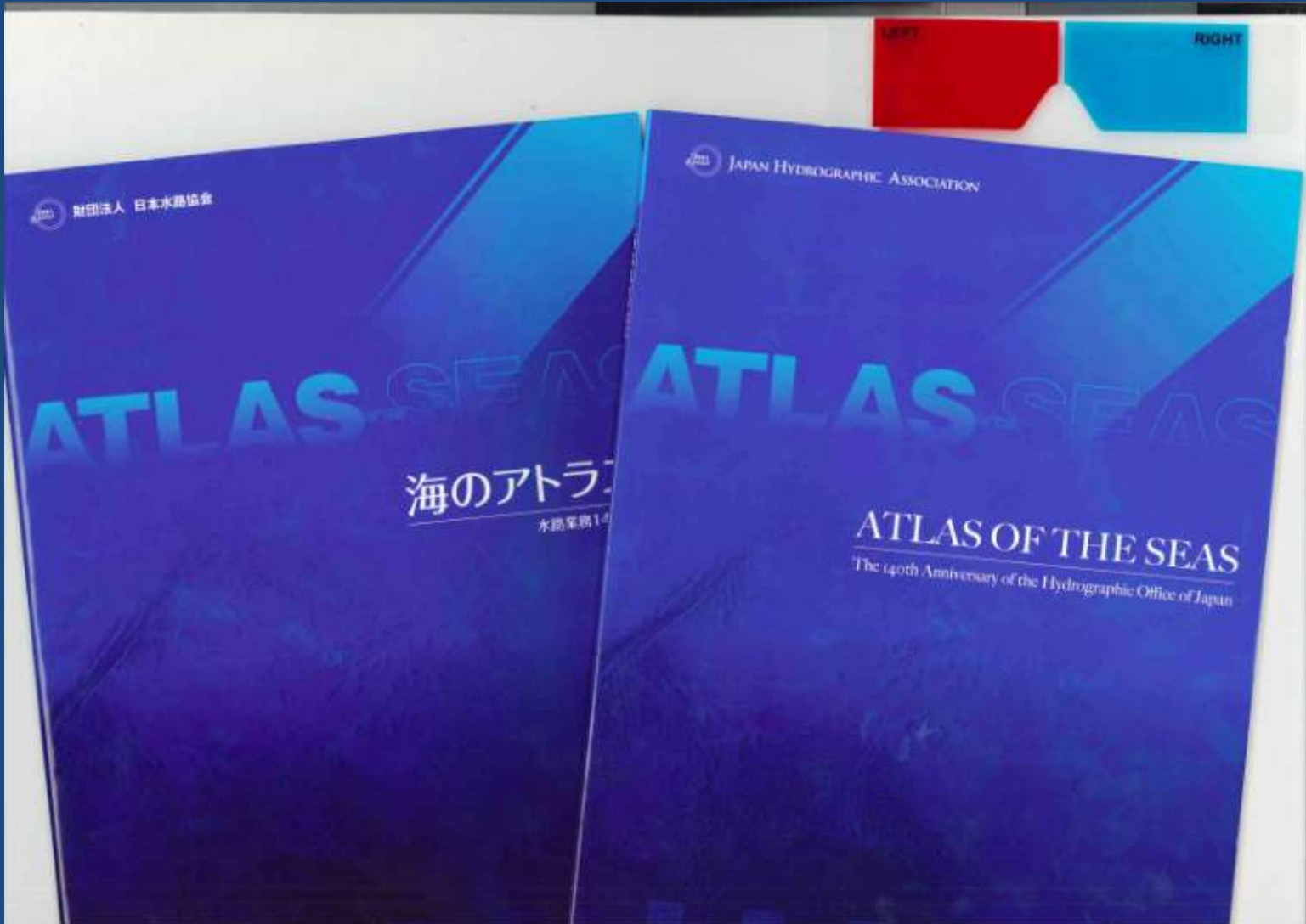
HMS Challenger VIII visited JHD in 1952



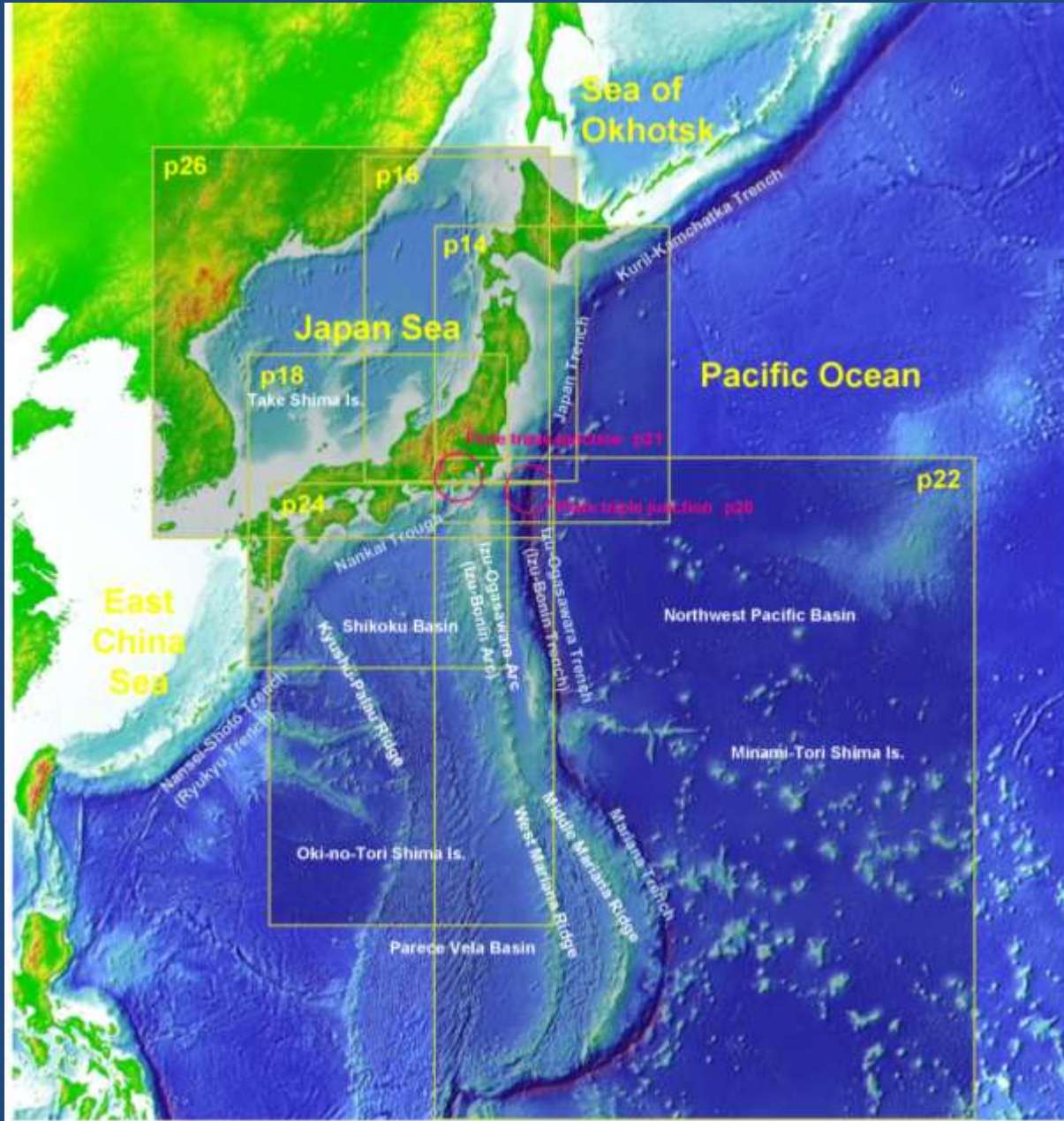
Challenger Deep and SV Takuyo



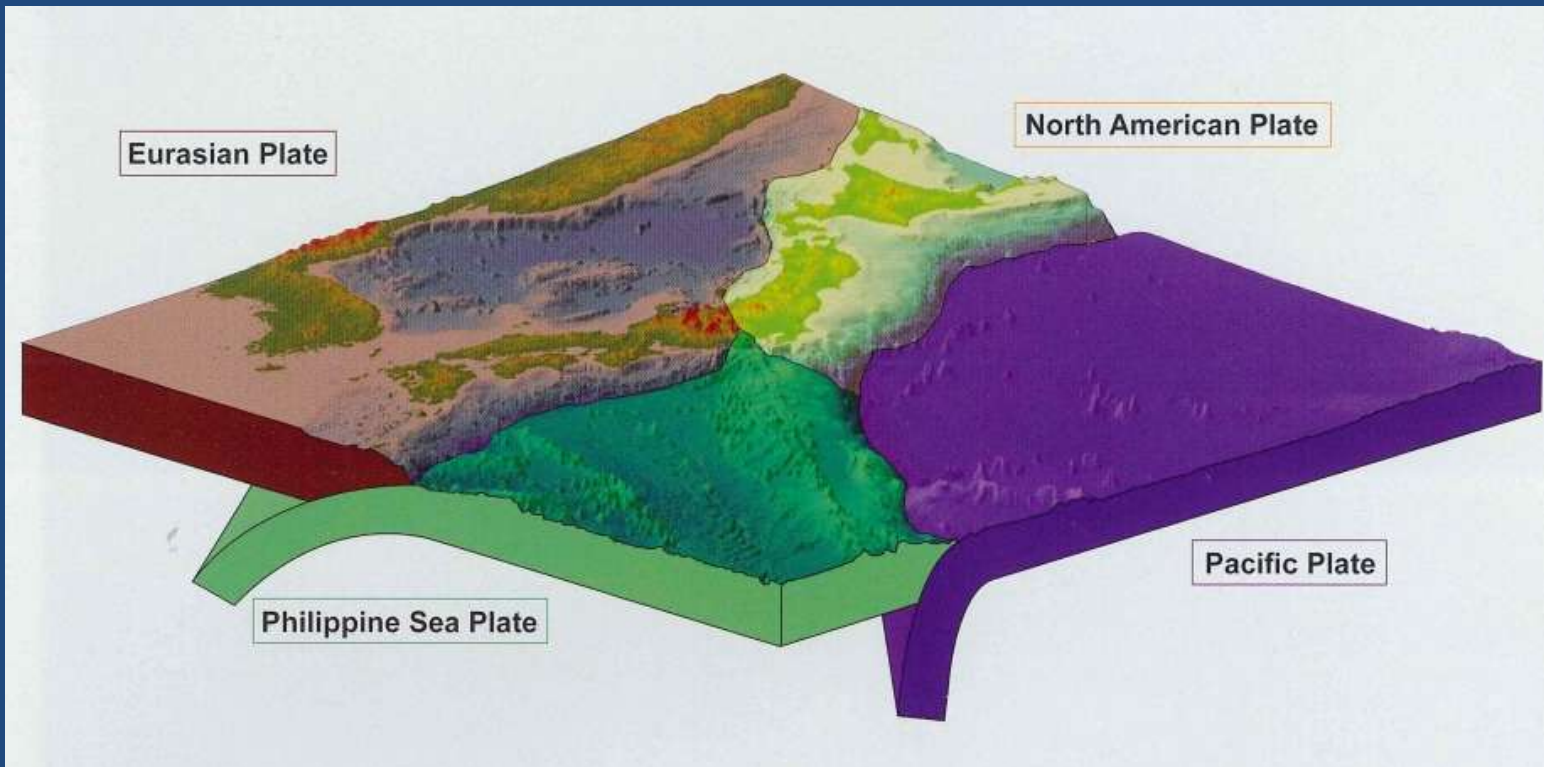
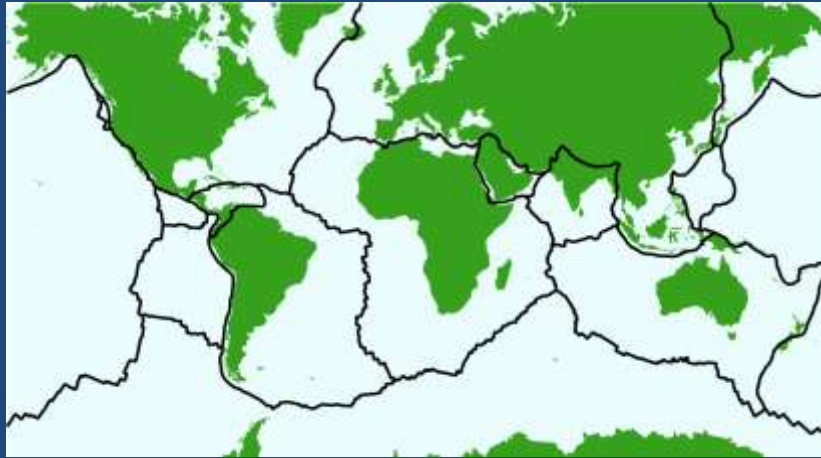
Cover of Atlas of the Seas with red and cyan glasses



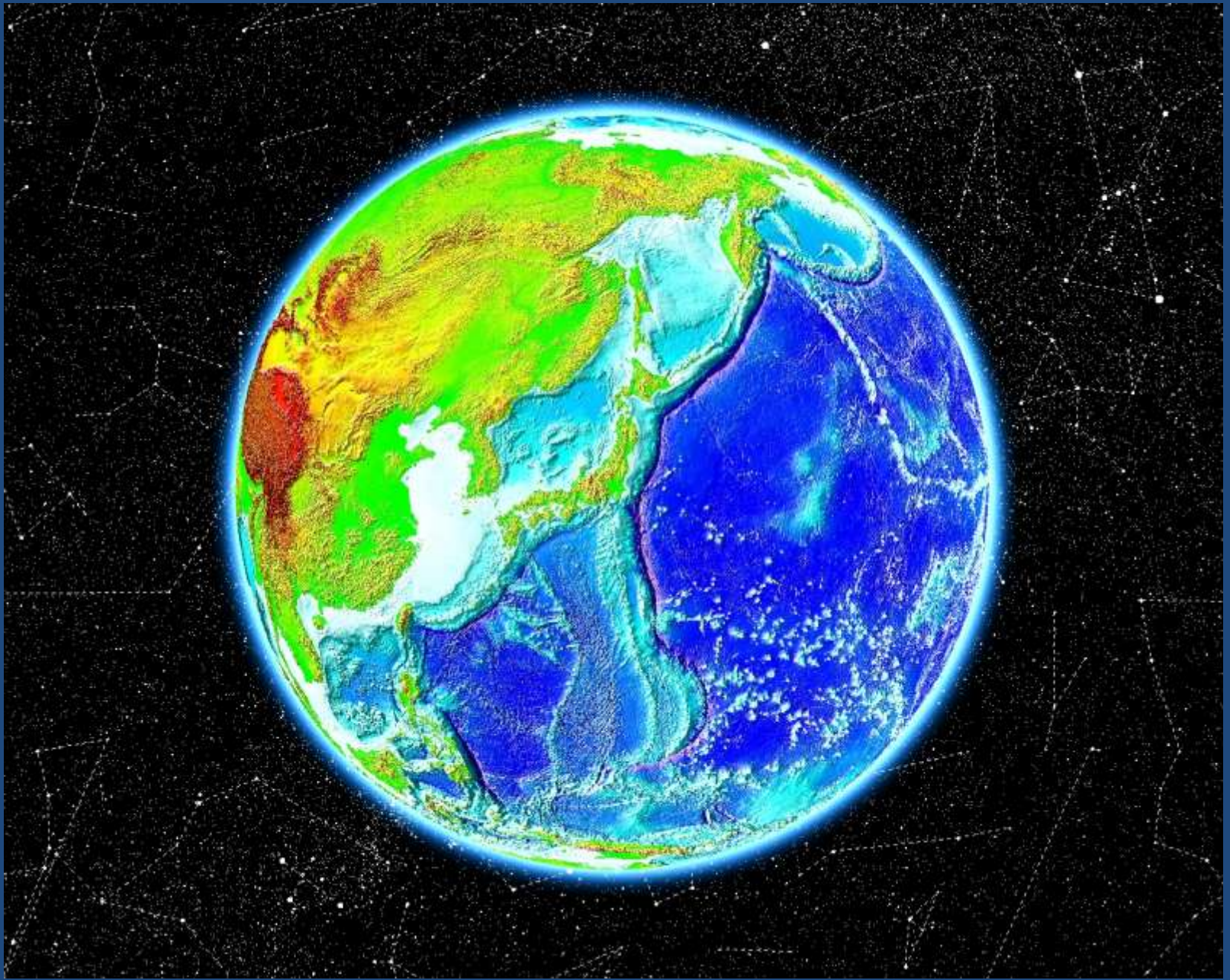
Index map of the Atlas



Tectonic plates surrounding Japan

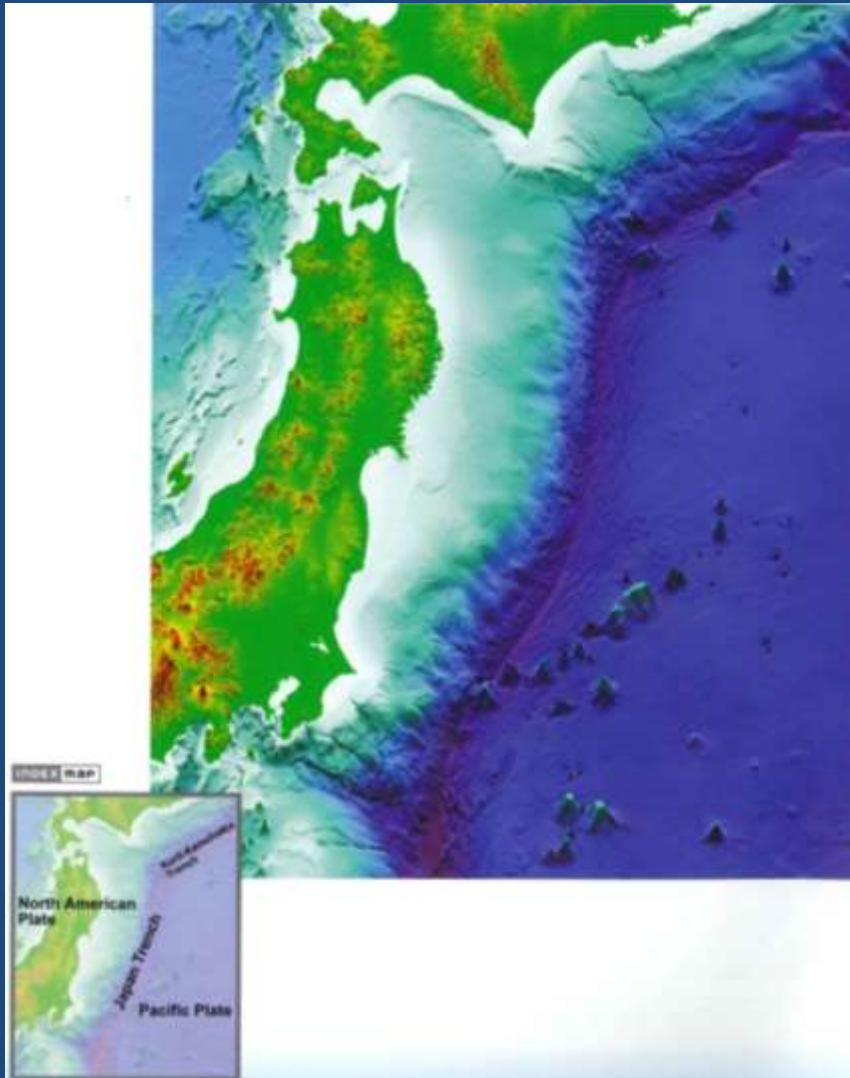


View from space above Tokyo

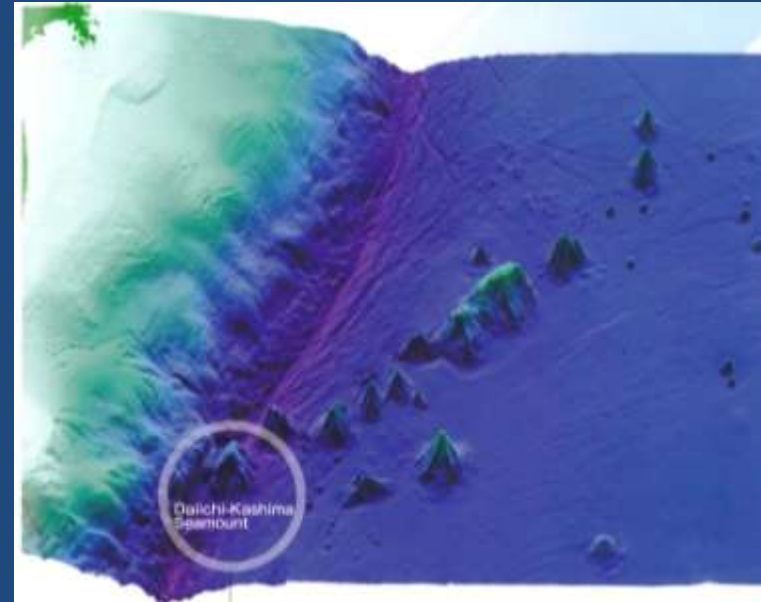


Boundary between the Pacific P. and the North American P.

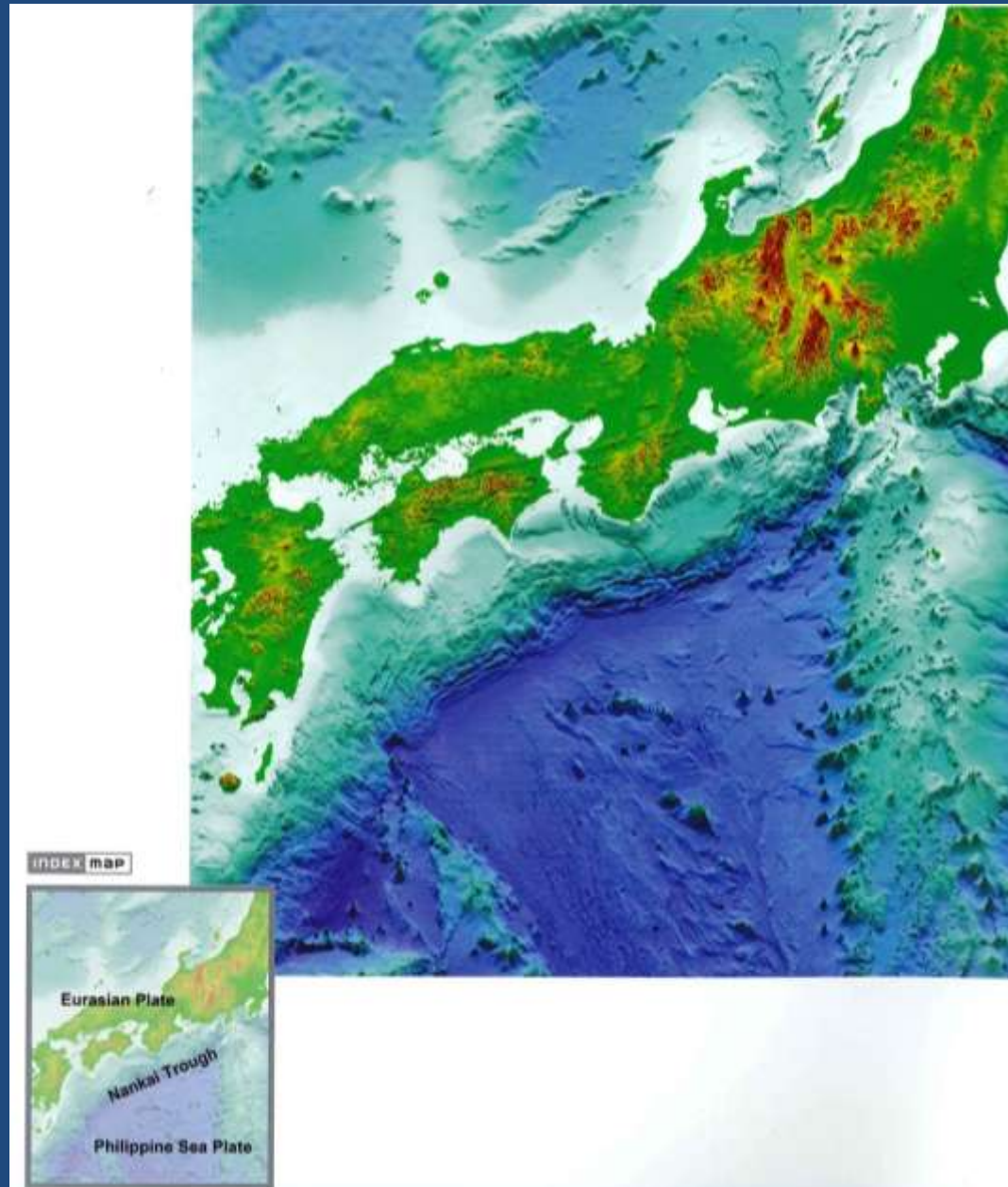
Kuril-Kamchatka Trench and Japan Trench



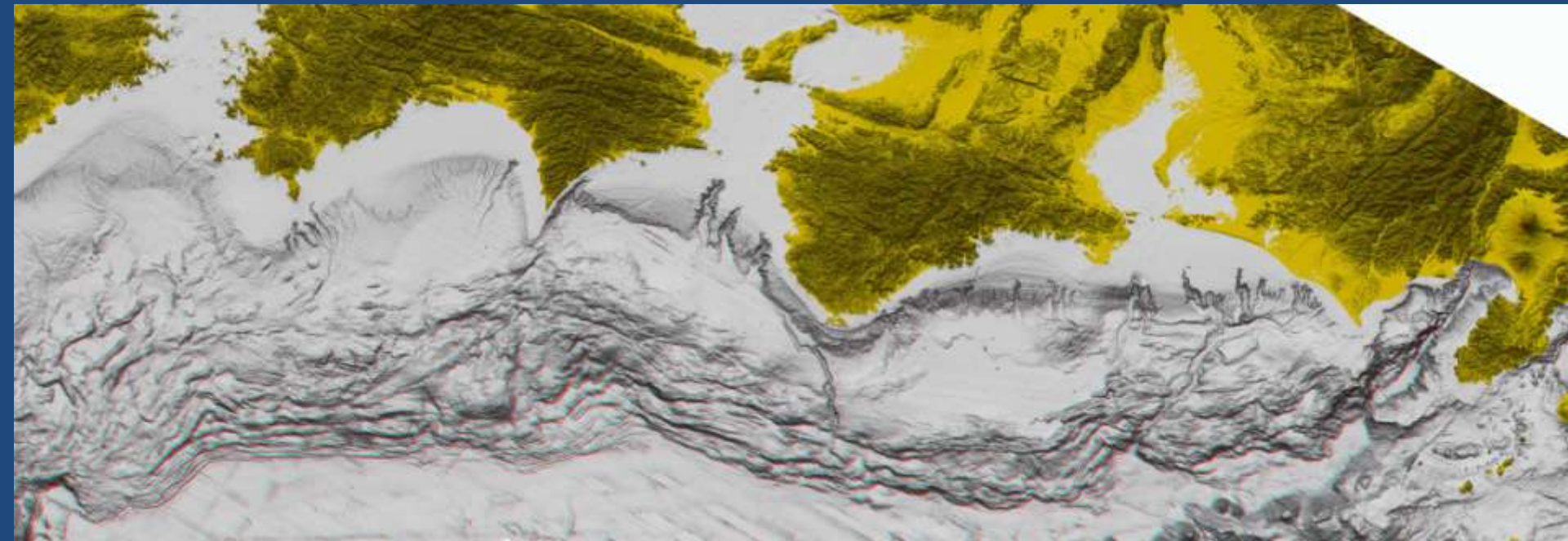
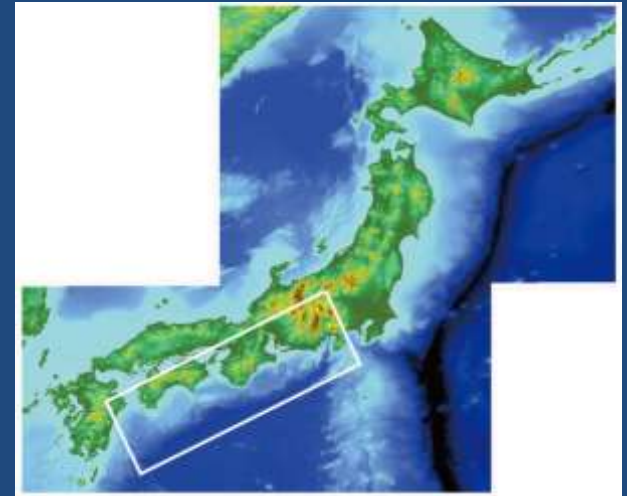
Daiichi-Kashima Seamount



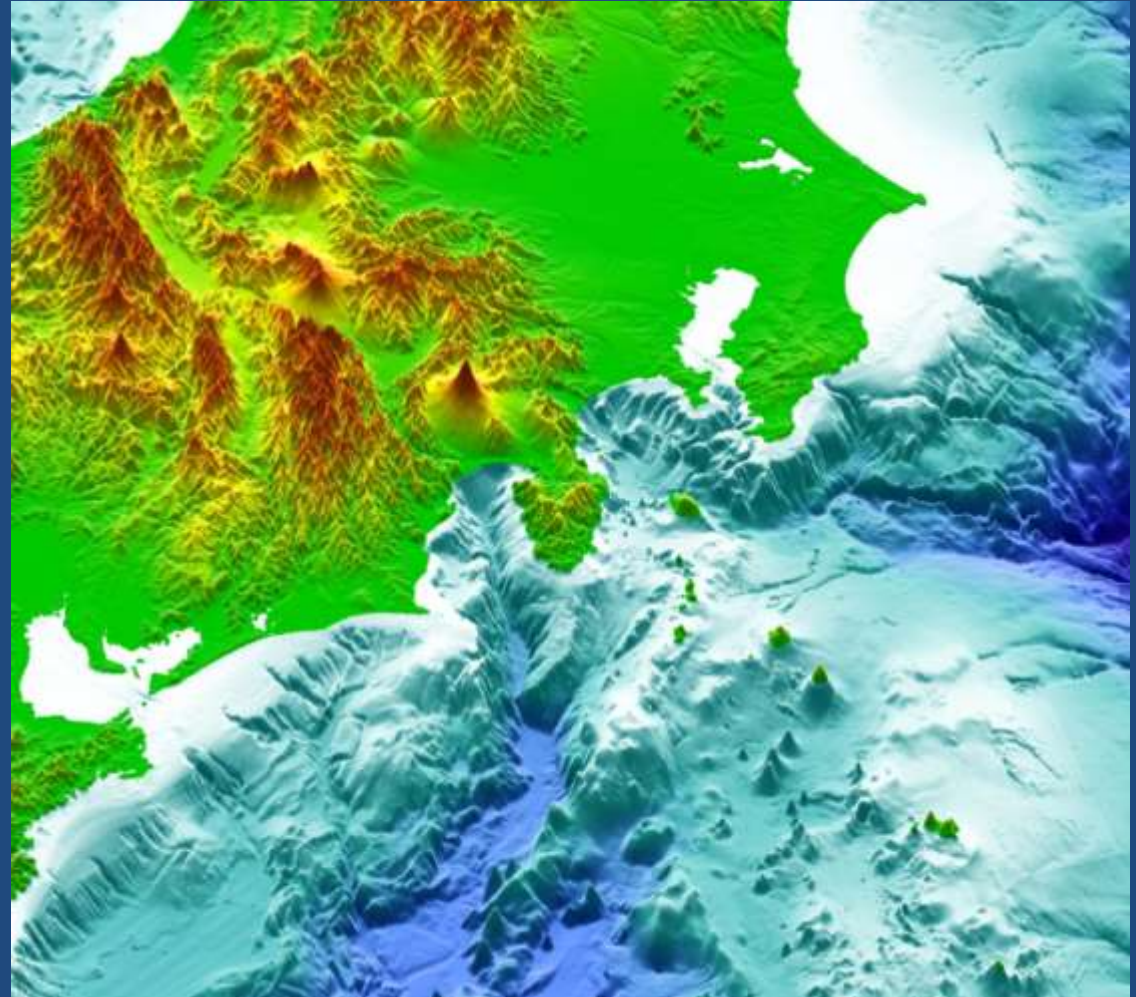
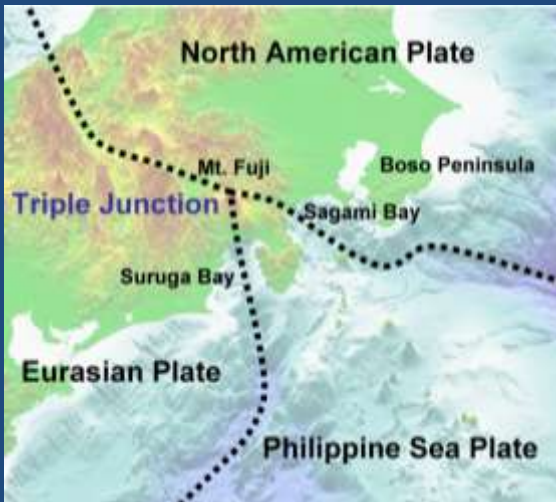
Boundary between the Eurasian P. and the Philippine Sea P. – Nankai Trough



Nankai Trough Anaglyph



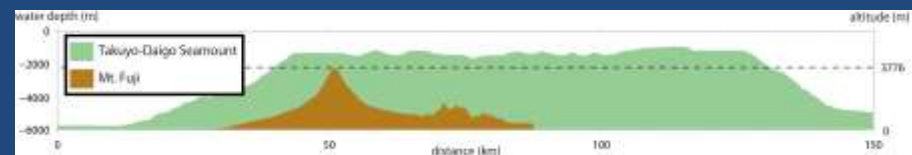
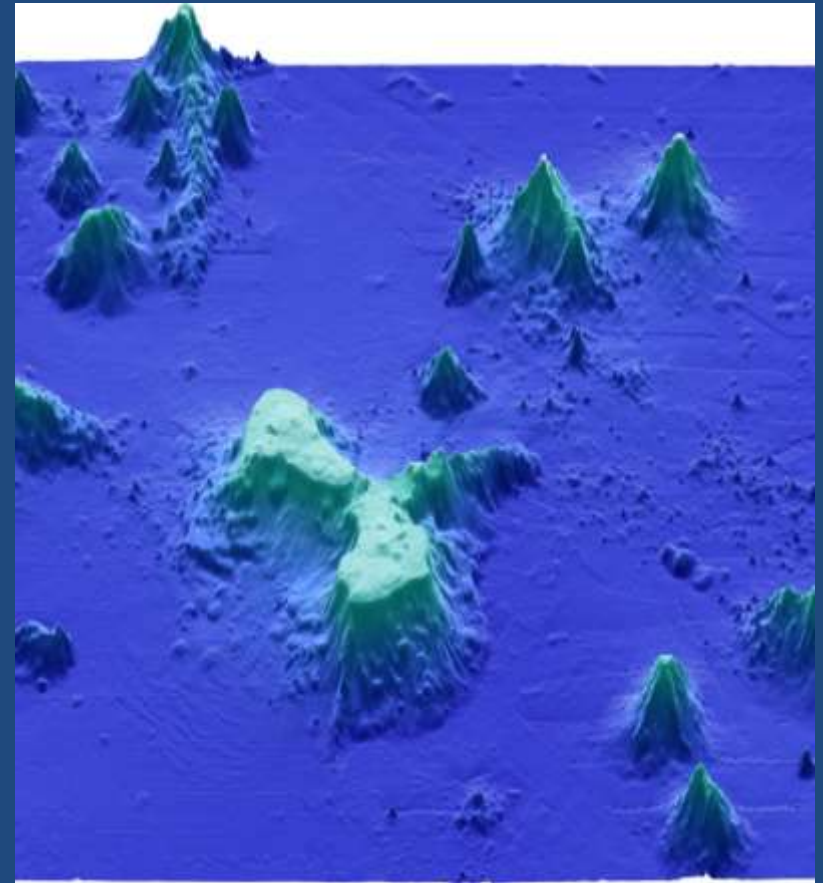
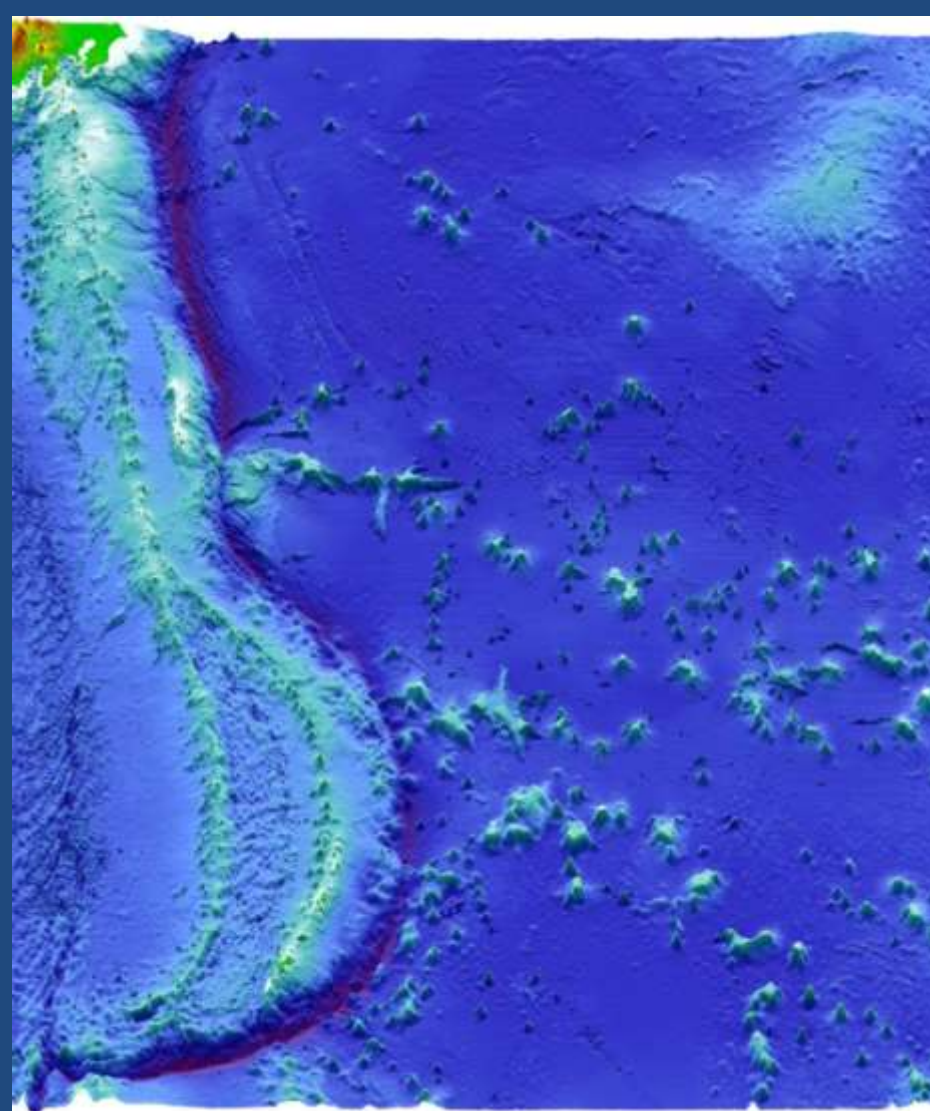
The meeting point of three plates – Suruga Bay – Mt. Fuji



The ocean floor of the Pacific Plate

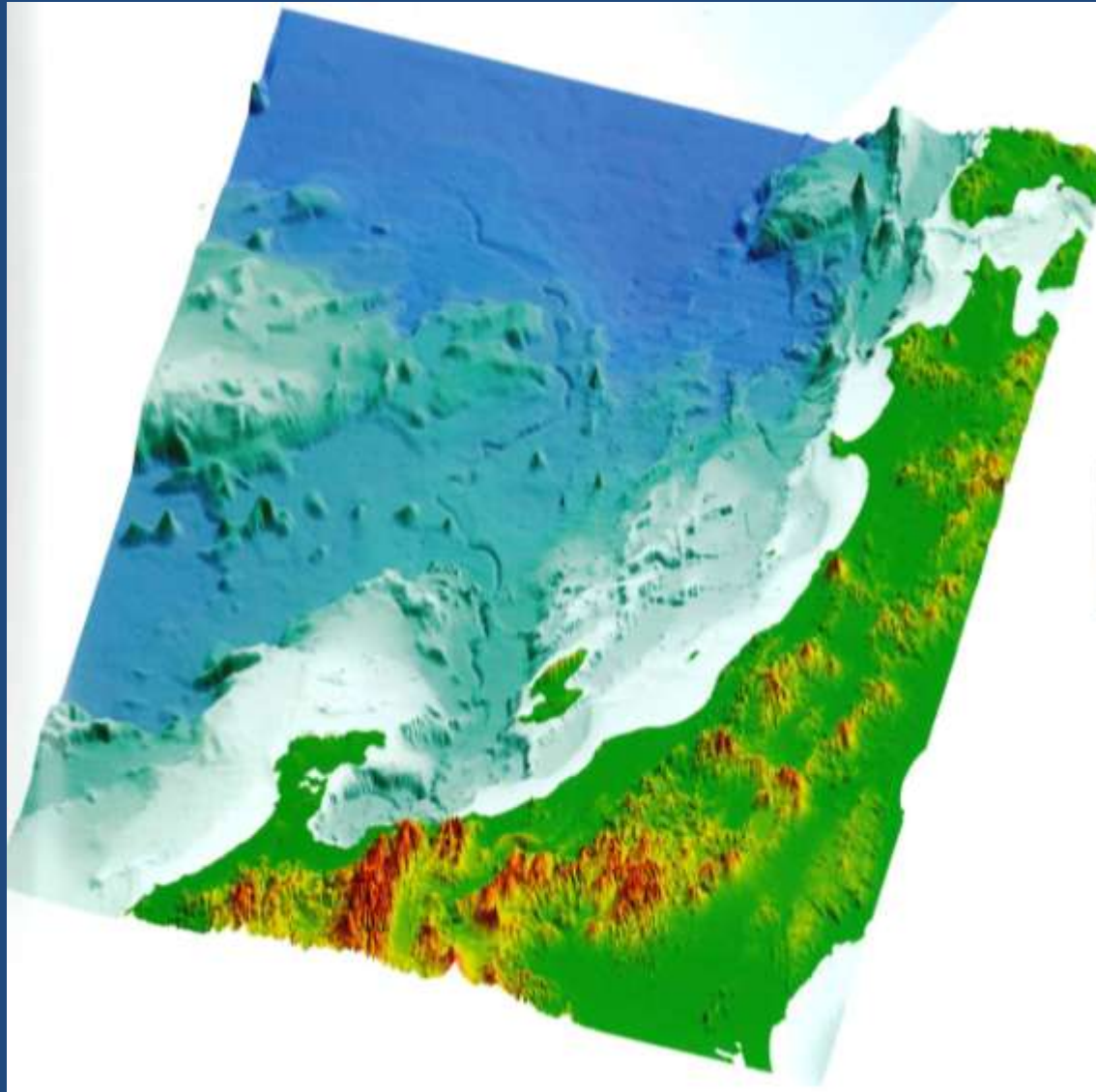
Pacific seafloor with many seamounts

Takuyo-Daigo Seamount (Guyot)



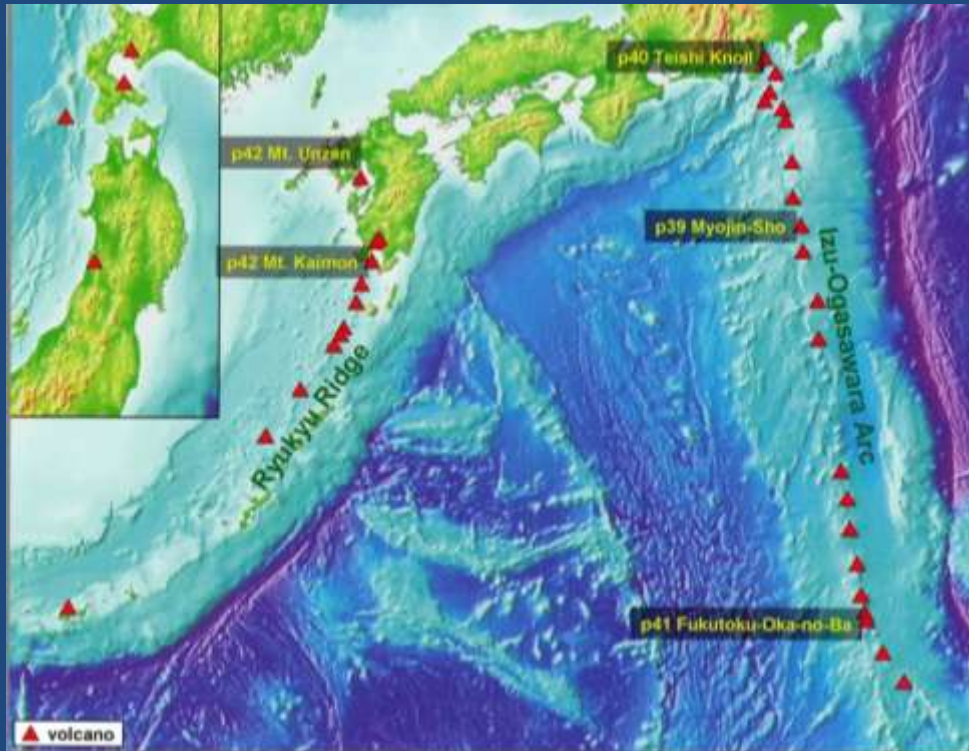
The ocean floor of the Eurasian Plate

Toyama Seachannel-meandering extends about 750km

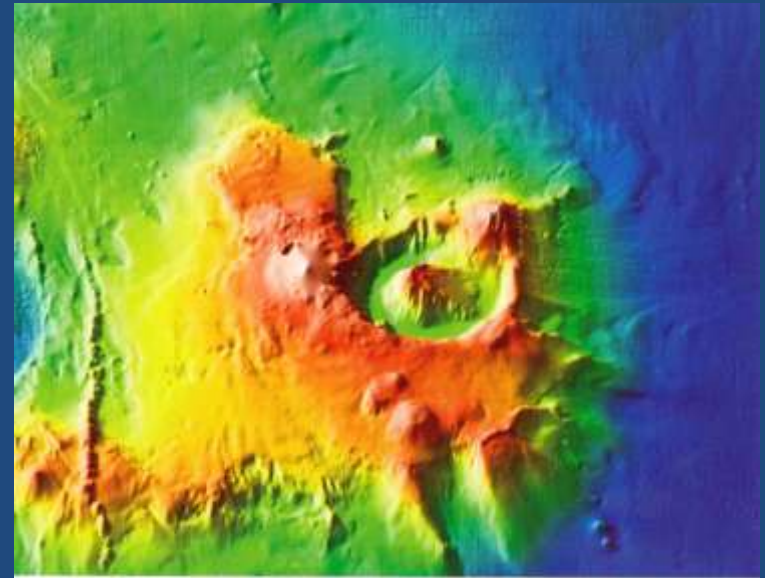


Submarine Volcanoes

Distribution of volcanic islands and submarine volcanoes



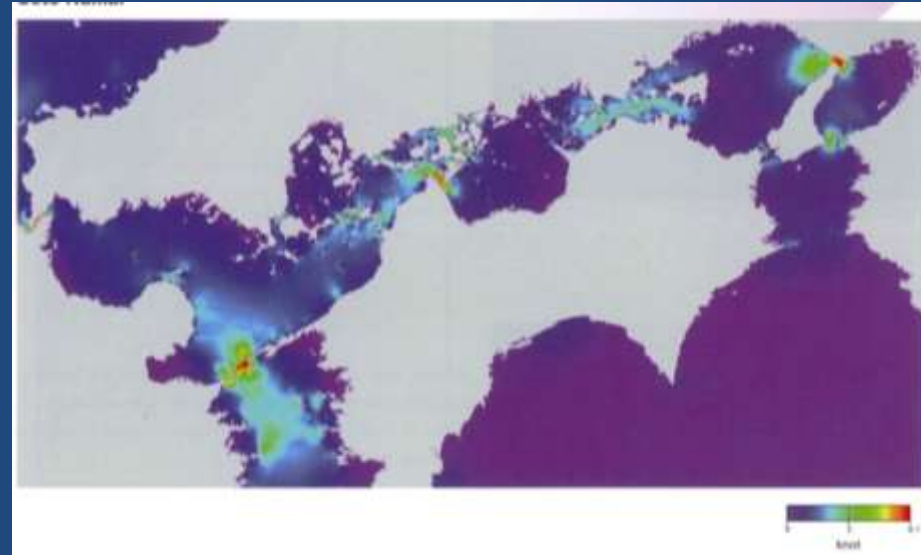
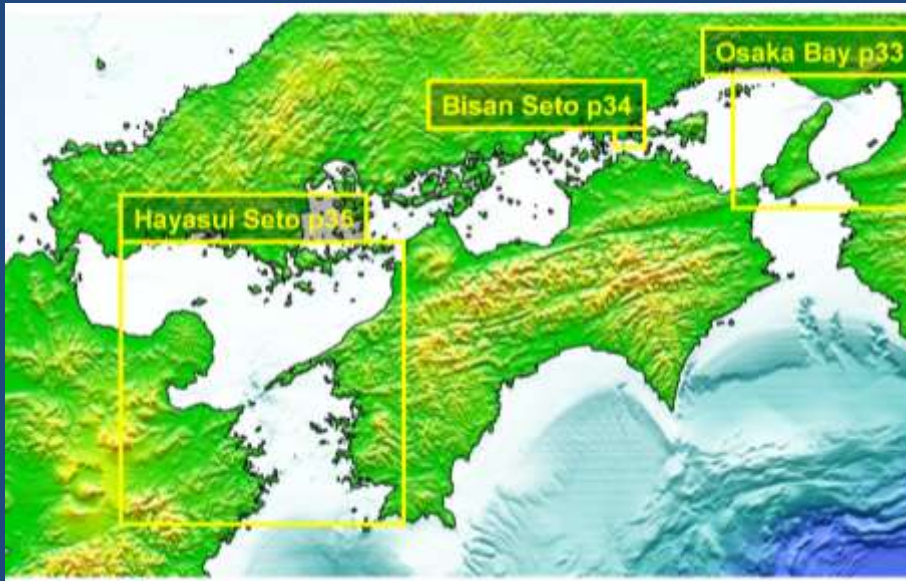
Myojin-Sho submarine caldera



Japan's Bays and the Inland Sea

Seto Naikai (Inland Sea)

Peak flow of tidal currents

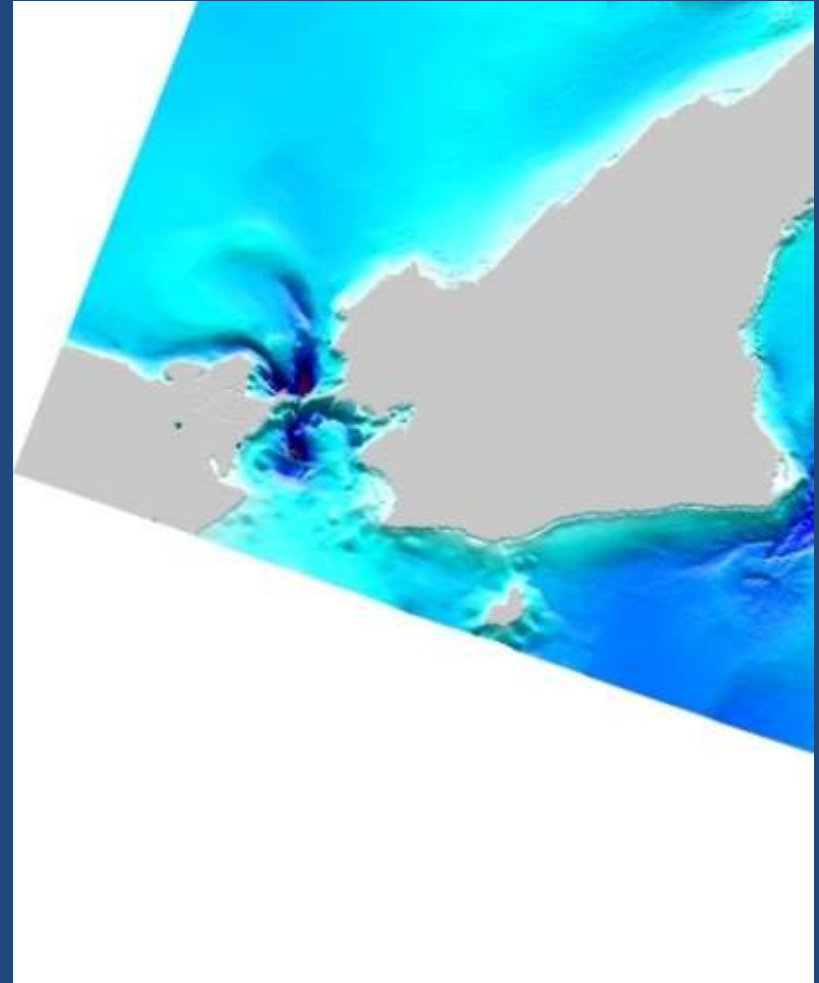


Naruto Strait

Tidal current in Naruto Strait is 10.6 knt (fastest in Japan) and generates big vortices.



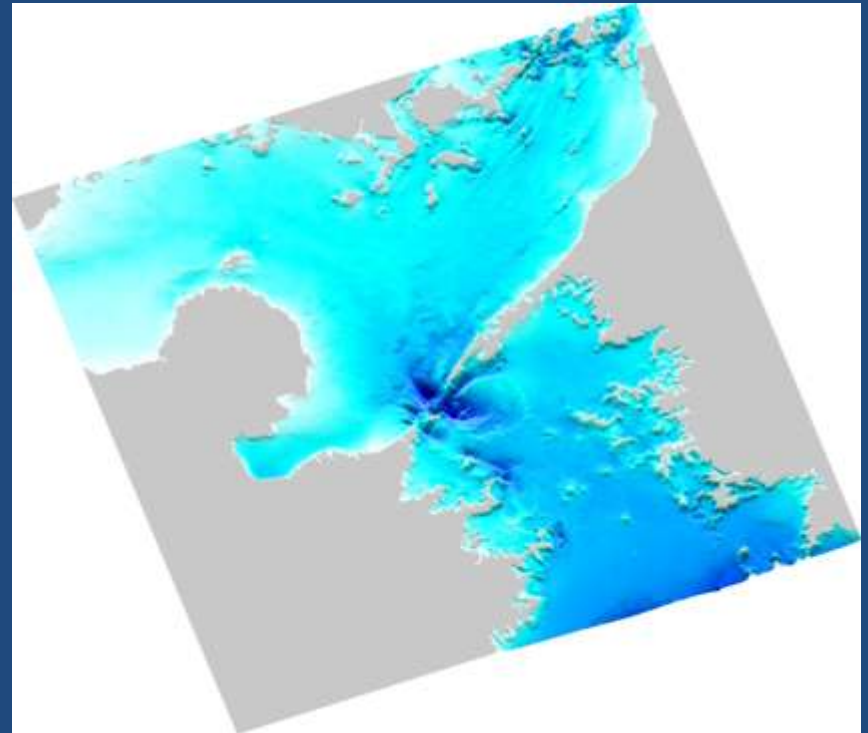
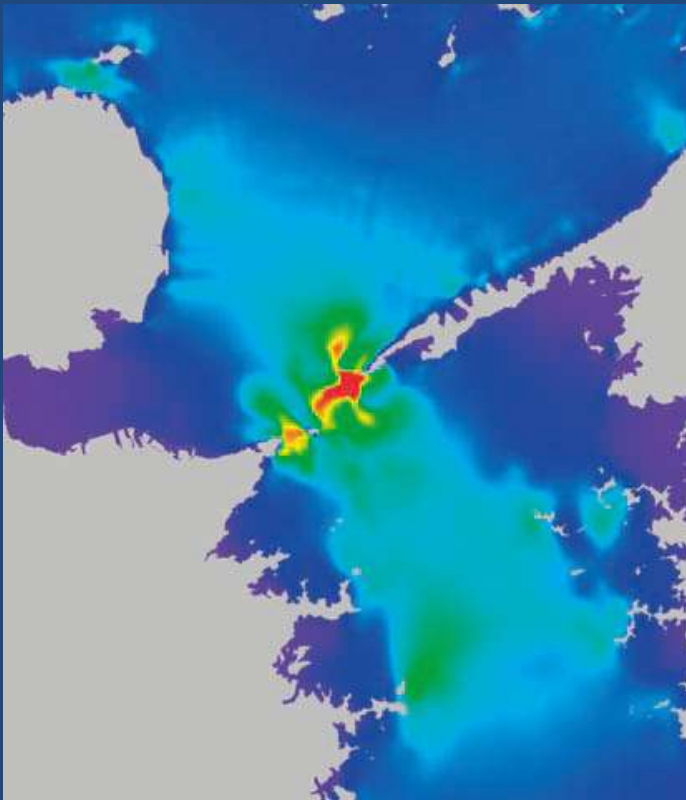
Cauldron in Naruto Strait



Hayasui Strait – World's Deepest Cauldron

Peak current velocity is more than 5 knots (about 9km/h)

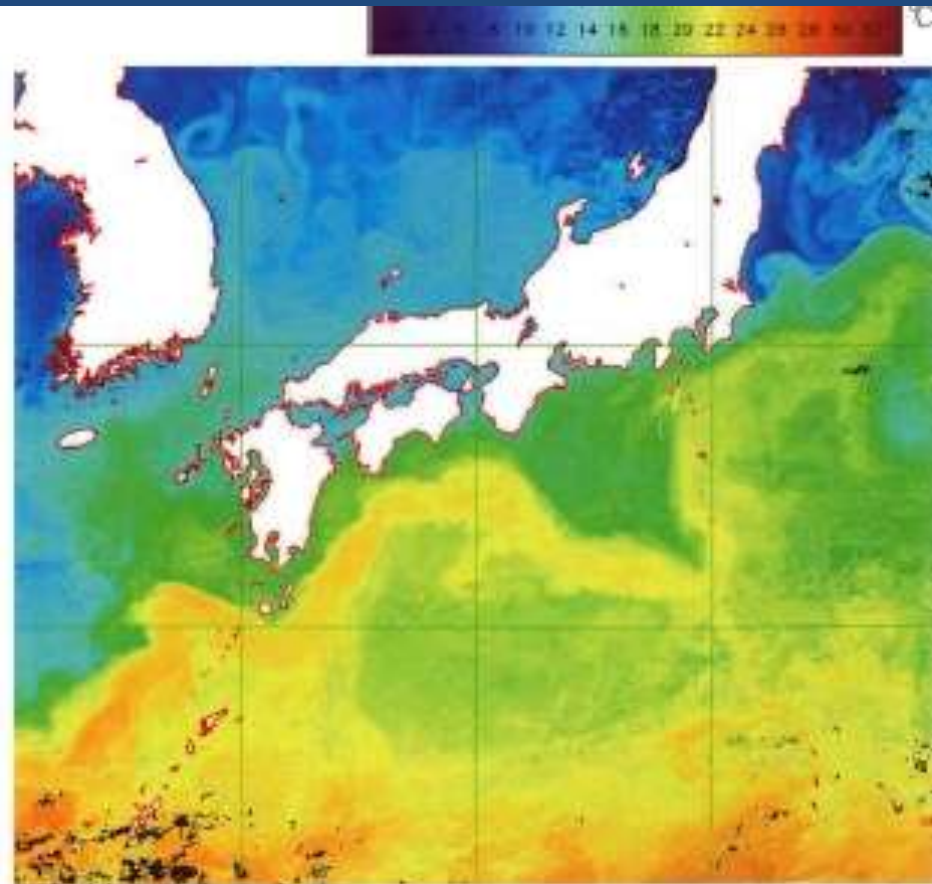
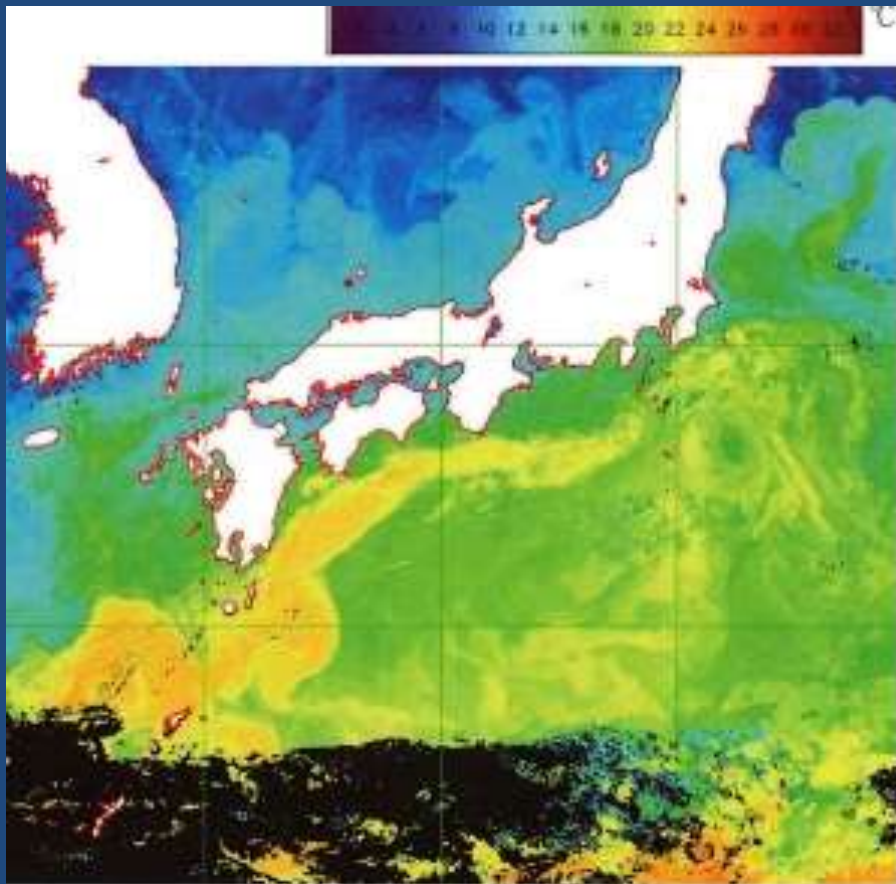
Maximum depth 460m (about 360m below surrounding seabed)



Ocean currents and sea surface temperature

Kuroshio non-large meander

Kuroshio large meander



Arigato

Thank you for your kind Attention

**Kunio YASHIMA
JHA**

2 Oct 2012