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 140th 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 N0.6901 (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
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 Plate and the Philippine Sea Plate - 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.
Hayasui Strait—World’s Deepest Cauldron

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

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