

ANNUAL REPORT ON GEOTRACES ACTIVITIES IN JAPAN

June 1st, 2015 to April 30th, 2016

General overview

- We have completed two GEOTRACES-related cruises in the East China Sea and the northwestern Philippine Sea (KS-15-6 cruise and KH-15-3 cruise).
- We had a national GEOTRACES symposium in March 28-29, 2016, for pursuing scientific discussion on recent Japanese GEOTRACES studies (23 papers were presented). We also had a business meeting as a GEOTRACES sub-committee meeting under the national SCOR committee (Science Council of Japan) on March 29, 2016. These symposium and meeting were held at the Atmosphere and Ocean Research Institute, the University of Tokyo.
- Six papers have been published as shown below, and eleven papers were presented during the Goldschmidt Conference 2015 and the Ocean Sciences Meeting 2016 as listed below. There were more presentations in Japanese at the Annual Meetings of Geochemical Society of Japan, the Oceanographic Society of Japan, Japan Geoscience Union etc.

New publications

- Gamo, T., Okamura, K., Hatanaka, H., Hasumoto, H., Komatsu, D., Chinen, M., Mori, M., Tanaka, J., Hirota, A., Tsunogai, U., Tamaki, K. (2015): Hydrothermal plumes in the Gulf of Aden, as characterized by light transmission, Mn, Fe, CH₄ and d13C-CH₄ anomalies. *Deep-Sea Research II*, 121, 62-70.
- Ishibashi, J., Tsunogai, U., Toki, T., Ebina, N., Gamo, T., Sano, Y., Masuda, H., Chiba, H. (2015): Chemical composition of hydrothermal fluids in the central and southern Mariana Trough backarc basin. *Deep-Sea Research II*, 121, 126-136.
- Kim, T-J., Obata, H., Kondo, Y., Ogawa, H., Gamo, T. (2015): Distribution and speciation of dissolved zinc in the western North Pacific and its adjacent seas. *Marine Chemistry*, 173, 330-341.
- Kim, T-J., Obata, H., and Gamo, T. (2015): Dissolved Zn and its speciation in the northeastern Indian Ocean and the Andaman Sea. *Frontiers in Marine Science*, 2, doi: 10.3389/fmars.2015.00060.
- Lee, J-M., Boyle, E. A., Gamo T., Obata, H., Norisuye, K., and Echevoyen, Y. (2015): Impact of anthropogenic Pb and ocean circulation on the recent distribution of Pb isotopes in the Indian Ocean. *Geochimica et Cosmochimica Acta*, 170, 126-144.
- Aoyama, M., Kajino, M., Tanaka, T.Y., Sekiyama, T.T., Tsumune, D., Tsubono, T., Hamajima, Y., Inomata, Y., and Gamo, T. (2016): ¹³⁴Cs and ¹³⁷Cs in the North Pacific Ocean derived from the March 2011 TEPCO Fukushima Dai-ichi Nuclear Power Plant accident, Japan: Part Two --- Estimation of ¹³⁴Cs and ¹³⁷Cs inventories in the North Pacific Ocean. *Journal of Oceanography*, 72, 67-76.

International Meetings

- Nakayama, N., Shirai, K., Sano, Y., Gamo, T., and Obata, H. Sulfides in oxic seawater over the submarine hydrothermal area of Kikai Caldera south of Kyushu Island, Japan. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Obata, H., Miwa, K., Kondo, Y., Gamo, T., Otsuka, S., and Suzuki, T. Iodine speciation and iodine-129 distribution in the Chukchi Sea and Bering Sea. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Norisuye, K., Hori, E., Nakagawa, M., Obata, H., Kondo, Y., and Gamo, T. Vertical distribution of lead and bismuth in the Japan Trench. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Takano S., Tanimizu, M., Hirata, T., Sohrin, Y., Little, S.H., and Archer, C. Determination of isotopic ratio of nickel, copper, and zinc in seawater using an ethylenediaminetriacetic acid chelating resin. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Zheng, L., Minami, T., Takano S., and Sohrin, Y. The distribution of bioactive trace elements (Al, Mn, Fe, Co, Ni, Cu, Zn, Cd, and Pb) over the Juan de Fuca Ridge. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Nishioka, J. and Takesue, N. A role of sea ice melt water on iron supply to surface water in the Chukchi Sea, the Arctic Ocean. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Kanna, N., Nishioka, J. and Toyota, T. Iron enrichment by sea ice melting in the surface water in the Okhotsk Sea. Goldschmidt Conference, Prague (CZ), August 16-21, 2015.
- Obata, H., Kim, T., Gamo, T. and Takeda, S. Dissolved zinc and its speciation in the coastal hydrothermal area of Japan. Ocean Sciences Meeting, CT34B-0189, New Orleans (USA), February 21-26, 2016.
- de Souza, G.F., Maden, C., Wetzel, F., Obata, H., and Vance, D. Silicon stable isotope constraints on the role of the subpolar North Pacific in the marine Si cycle. Ocean Sciences Meeting, B41A-03, New Orleans (USA), February 21-26, 2016.
- Suzuki-Mashio, A., Obata, H., Tazoe, H., and Gamo, T. Distributions and geochemical cycles of platinum in estuaries and rivers of Tokyo and Otuchi areas, Japan. Ocean Sciences Meeting, CT34B-0185, New Orleans (USA), February 21-26, 2016.
- Kim, T., Obata, H., and Gamo, T. Distribution of dissolved zinc in the western and central subarctic North Pacific. Ocean Sciences Meeting, CT31A-08, New Orleans (USA), February 21-26, 2016.

Cruises

- Two GEOTRACES-related cruises in the East China Sea and the Philippine Sea were conducted to take clean seawater samples for trace element analyses. KS-15-6 cruise by *R/V Shinsei Maru* (June 25 – July 6, 2015; PI: Hajime Obata) and KH-15-3 cruise by *R/V Hakuho-Maru* (Oct. 14 – Nov. 2, 2015; PI: Jing Zhang).

Submitted by Toshitaka Gamo (gamo@aori.u-tokyo.ac.jp).