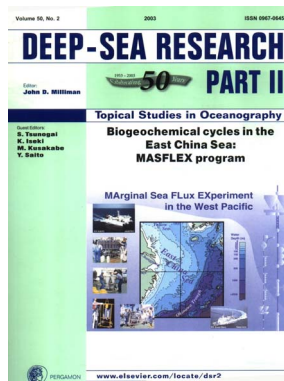


Deep Sea Research II, 50(2), 2003

**Biogeochemical Cycle in the East China Sea: MASFLEX program**

Shizuo Tsunogai, Kazuo Iseki, Yoshiki Saito, Masashi Kusakabe



As a part of Japanese Joint Global Ocean Flux Study (JGOFS) of IGBP/SCOR, marginal sea flux experiments in the West Pacific (MASFLEX) were performed in the East China Sea. This project was also a part of Japan–China Joint Program on material flux in the East China Sea (MAFLECS) and the first land–ocean interactions in the coastal zone (LOICZ) study within IGBP. The project began in April 1992 and continued for 5 years under the support of Science and Technology Agency of Japan (STA). Its main goal was to clarify a role of marginal and coastal seas in the biogeochemical cycles of carbon, nitrogen and other substances relating to global change. A multi-disciplinary approach made it possible to elucidate the highly complex nature of biogeochemical cycle of materials in the marginal sea.

The MASFLEX project was divided into two phases, phase I (April 1992–March 1995) and phase II (April 1995–March 1997). During the first phase, we chiefly occupied stations along an observation line, PN line, from the China coast to the Kuroshio region in the central part of the East China Sea. Three cruises were conducted on board *R.V. Kaiyo* (15 Feb.–10 Mar. 1993; 26 Sept.–3 Nov. 1993; 20 July–30 Aug. 1994). Additional cruises were carried out on other vessels (22 Feb.–5 Mar. 1994, *R.V. Natsushima*; 3–21 June 1994, *R.V. Tansei*; 26 Sept.–12 Oct. 1994, *R.V. Bosei-Maru*). The second phase was concentrated in the continental shelf and slope zones to evaluate the material exchange between the shelf region and the open sea during two cruises on board *R.V. Kaiyo* (21 Oct.–25 Nov. 1995; 22 Aug.–30 Sept. 1996).

Shizuo Tsunogai, Kazuo Iseki, Masashi Kusakabe and Yoshiki Saito -- Biogeochemical cycles in the East China Sea: MASFLEX program -- 321-326

K. Abe, Y. Ishihi and Y. Watanabe -- Dissolved copper in the Yellow Sea and the East China Sea—Cu as a tracer of the Changjiang discharge -- 327-337

Yong-Liang Yang, Masashi Kusakabe and John R. Southon --  $^{10}\text{Be}$  profiles in the East China Sea and the Okinawa Trough -- 339-351

Hiroshi Ogawa, Toshihiro Usui and Isao Koike -- Distribution of dissolved organic carbon in the East China Sea -- 353-366

Ken Furuya, Masato Hayashi, Yasushi Yabushita and Akira Ishikawa -- Phytoplankton dynamics in the East China Sea in spring and summer as revealed by HPLC-derived pigment signatures -- 367-387

Kyung-Hoon Shin, Takeo Hama and Nobuhiko Handa -- Effect of nutrient conditions on the composition of photosynthetic products in the East China Sea and surrounding waters -- 389-401

Jota Kanda, Takayuki Itoh, Daisuke Ishikawa and Yasunori Watanabe -- Environmental control of nitrate uptake in the East China Sea -- 403-422

Takashi Ota and Akira Taniguchi -- Standing crop of planktonic ciliates in the East China Sea and their potential grazing impact and contribution to nutrient regeneration -- 423-442

Akira Hoshika, Terumi Tanimoto, Yasufumi Mishima, Kazuo Iseki and Kazumaro Okamura -- Variation of turbidity and particle transport in the bottom layer of the East China Sea -- 443-455

Kazuo Iseki, Kazumaro Okamura and Yoko Kiyomoto -- Seasonality and composition of downward particulate fluxes at the continental shelf and Okinawa Trough in the East China Sea -  
- 457-473

Hajime Katayama and Yoshio Watanabe -- The Huanghe and Changjiang contribution to seasonal variability in terrigenous particulate load to the Okinawa Trough -- 475-485

Masatoshi Yamada and Tatsuo Aono --  $^{210}\text{Pb}$  and  $^{234}\text{Th}$  in settling particles collected by time-series sediment traps in the Okinawa Trough -- 487-501

Yuichiro Tanaka -- Coccolith fluxes and species assemblages at the shelf edge and in the Okinawa Trough of the East China Sea -- 503-511

Kazumasa Oguri, Eiji Matsumoto, Masatoshi Yamada, Yoshiki Saito and Kazuo Iseki -- Sediment accumulation rates and budgets of depositing particles of the East China Sea -- 513-528