

## GDAC Pre-Cruise Metadata form Platform

*Return to GDAC, BODC, Joseph Proudman Building, 6 Brownlow Street, Liverpool, L3 5DA*

*E-mail: ezm@bodc.ac.uk*

<b>Cruise Name:</b> <i>[any identifier (acronyms)]</i>	KH-09-5 cruise leg-1, 2, and 3	
<b>Platform Name and type:</b> <i>[vessel, mooring, satellite, towed vehicle]</i>	Research Vessel Hakuho Maru (3,991 tonnage)	
<b>Project:</b> <i>[associated project or program name related to funding]</i> The initiation of Trace Element Oceanography in the Indian Ocean and the Antarctic Sea		
<b>Lead Nation:</b> JAPAN		
<b>Chief scientist (Lead scientist / Principal Investigator) contact details</b>		
<b>Name:</b> Toshitaka Gamo	<b>Email:</b> gamo@ori.u-tokyo.ac.jp <b>Phone:</b> +81-3-5351-6451	
<b>Mailing Address:</b> Ocean Research Institute, the University of Tokyo 1-15-1 Minamidai, Nakano-ku, Tokyo 161-8639 (JAPAN)		
<b>Co-Chief scientist contact details:</b> <i>[GEOTRACES point of contact if different from Chief scientist]</i>		
<b>Name:</b>	<b>Email:</b> <b>Phone:</b>	
<b>Mailing Address:</b>		
<b>Preliminary Cruise Details</b>		
<b>Start Port and Country:</b> Tokyo, Japan	<b>Start date:</b> November 6, 2009	
<b>End Port and Country:</b> Cape Town, South Africa	<b>End Date:</b> January 10, 2010	
<b>Location:</b> <i>[general description of study area; map if possible]</i> Indian Ocean, Antarctic Sea (a planned cruise track is shown in the attached map)		
<b>Cruise Overview:</b> <i>[proposal abstract]</i> The KH-09-5 Cruise leg-1, -2, and -3 of R/V <i>Hakuho Maru</i> is planned to pursue Trace Element Oceanography in Japan as part of the international project SCOR-GEOTRACES (study of the marine biogeochemical cycles of trace elements and isotopes). The cruise aims at precise and detailed measurements of trace elements and isotopes in the Indian Ocean including the atmosphere and bottom sediment, in order to identify processes and fluxes that control the distribution of trace elements in water columns, and to elucidate their important linkage with the global climatic change. We will collect seawater, air, plankton and sediment samples for the measurement of trace elements including the GEOTRACES key parameters, dissolved gases, stable- and radio-isotopes at ~20 locations chiefly along meridional lines (~65°E and ~30°E) in the western Indian Ocean and the Antarctic Sea.		
<b>Intercalibration plans:</b> <i>[Plans to ensure intercalibration of results to GEOTRACES requirements e.g. use of SaFe standards, collaborative sampling]</i> For small- volume elements (Fe, Al, Zn, Mn, Cd, Cu, Co, Pb), analysts will use the SaFe standards to verify their own methods. For large-volume elements ( <sup>230</sup> Th, <sup>231</sup> Pa and Nd isotopes), analysts will reveal vertical profiles of these elements at the baseline station in Arabian Sea (15 N, 65 E), recommended in the GEOTRACES Intercalibration Planning Document. A subset of samples collected at the baseline station will be distributed to GEOTRACES collaborators for analyses and verification of accuracy. The Japanese clean sampling system will be compared with Niskin-X sampling using the Kevlar wire at the baseline station in the Arabian Sea.		

## GDAC Pre-Cruise Metadata form Platform

Return to GDAC, BODC, Joseph Proudman Building, 6 Brownlow Street, Liverpool, L3 5DA

E-mail: ezm@bodc.ac.uk

<b>Anticipated list of parameters to be submitted to GDAC:</b> <i>Key parameters listed; please list any other parameters measured and the PI contact</i>	
<b>Trace elements:</b>  <input type="checkbox"/> Fe <input type="checkbox"/> Al <input type="checkbox"/> Zn <input type="checkbox"/> Mn <input type="checkbox"/> Cd <input type="checkbox"/> Cu <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other	<b>Contact for each element (PI); [name and email]</b>  Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp)
<b>Radioactive isotopes:</b>  <input type="checkbox"/> <sup>230</sup> Th <input type="checkbox"/> <sup>234</sup> Th <input type="checkbox"/> <sup>231</sup> Pa <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other	Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp)  Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp)
<b>Stable isotopes:</b>  <input type="checkbox"/> d <sup>15</sup> N <input type="checkbox"/> d <sup>13</sup> C <input type="checkbox"/> d <sup>18</sup> O <input type="checkbox"/> d <sup>30</sup> Si <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other	Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp)
<b>Radiogenic isotopes:</b>  <input type="checkbox"/> Nd isotopes <input type="checkbox"/> Pb isotopes <input type="checkbox"/> Other <input type="checkbox"/> Other <input type="checkbox"/> Other	Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp) Tentatively T. Gamo (gamo@ori.u-tokyo.ac.jp)
<b>Other parameters:</b>  <div style="height: 100px;"></div>	

## GDAC Pre-Cruise Metadata form Platform

Return to GDAC, BODC, Joseph Proudman Building, 6 Brownlow Street, Liverpool, L3 5DA

E-mail: [ezm@bodc.ac.uk](mailto:ezm@bodc.ac.uk)

**List CTD hydrographic parameters** [*Rosette and TM Rosette; sensors including make; salinity, temperature, oxygen, PAR, nutrients etc*]

Carousel Multi-bottle sampler (SBE-32)

**Sea-Bird's 911 plus CTD (salinity, temperature, oxygen, fluorescence, transmissivity)**

**Particles/Aerosols:**

**Will be sampled.**

**Underway data:** [*Metadata, navigation hull mounted sensors including make and model*]

*No plan.*

**Is there a national data centre: (name and contact)** [*If not GDAC should be used*]

*JODC (Japan Oceanographic Data Center; <http://www.jodc.go.jp/index.html>) will serve as the national data center for GEOTRACES in Japan. The contact person is Mr. Norio BABA ([nbaba.jodc@mbn.nifty.com](mailto:nbaba.jodc@mbn.nifty.com)).*

**Other relevant information:**