

## Cruise Summary

### 1. Cruise Information

- Cruise ID: YK14-17
- Name of vessel: R/V Yokosuka
- Title of the cruise: Cross-ministerial Strategic Innovation Promotion Program (SIP) Next-generation Technology Development for Seafloor Resource Survey
- Chief scientist [Affiliation]: KAWAGUCCI, Shinsuke [JAMSTEC]
- Representative of the Science Party [Affiliation]: NAKAMURA, Kentaro [JAMSTEC]
- Cruise period: 31 Aug 2014 - 19 Sep 2014
- Ports of call: from Naha to Yokosuka
- Research area: Okinawa Trough

### 2. Overview of the Observation

- Overview of the observation

We conducted a systematic and exhaustive survey of seafloor hydrothermal activity occurring in Iheya-Izena Zone (IIZ), mid-Okinawa Trough, to reveal how many hydrothermal fields are present and how variable activity and fluid chemistry they show for estimating potential of Kuroko-Yoshoku. A MultiBeam Echo-Sounder (MBES) equipped with R/V Yokosuka was used to identify Acoustic Water-column Anomaly (AWA) [e.g. Tanahashi et al., 2014], likely suggesting presence of bubbles and/or particles exhausting with hydrothermal fluids. By dives of Autonomous Underwater Vehicle Urashima to areas showing AWA, seafloor geophysical properties (topography, magnetism, etc.), water column chemistry (ORP, Turbidity, etc.), and AWA to understand characteristics of hydrothermal activity there.