



# HOKKAIDO UNIVERSITY

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| Title            | 5 "OSHORO MARU" CRUISE 270 TO WEST OF HOKKAIDO IN JUNE 2014                       |
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**THE "OSHOROMARU" CRUISE 270  
TO WEST OF HOKKAIDO**

**IN JUNE 2014**

1. Cruise Itinerary

Cruise 270

|                                                                   |      |    |      |
|-------------------------------------------------------------------|------|----|------|
| Departure from Hakodate and start hydrographic research (OS14091) | June | 10 | 2014 |
| Finish hydrographic research (OS14094)                            |      | 14 |      |
| Return to Hakodate                                                |      | 15 |      |
| Total coverage 804.6 miles                                        |      |    |      |

2. Vessel Personnel

|          |                     |              |                |
|----------|---------------------|--------------|----------------|
| Crew:    |                     |              |                |
| Captain: | Associate Professor | Shogo Takagi | And 28 persons |

|                  |                                         |                                                                             |               |
|------------------|-----------------------------------------|-----------------------------------------------------------------------------|---------------|
| Research Staff:  | Professor                               | (Laboratory of Bioresources chemistry, Hokkaido University)                 | Ryuichi Sakai |
|                  | Specially Appointed Associate Professor | (Laboratory of Bioresources chemistry, Hokkaido University)                 | Masaki Fujita |
|                  | Researcher Fellow                       | (Marine Life Monitoring Grope, Field Science Center for Northern Biosphere) | Yuichi Tsuda  |
|                  | Technical Staff:                        |                                                                             | 5 persons     |
|                  | Graduate Students:                      |                                                                             | 11 persons    |
|                  | Undergraduate Students:                 |                                                                             | 14 persons    |
| Total 33 persons |                                         |                                                                             |               |

3. Items of Research

Hydrographic observations: (Observation of Temperature, Salinity, and Computed Dynamic Depth Anomaly)

Hydrographic work on deck and the data processing were made by the Science officer, the deck officers, crews, research staff and cadets of the “Oshoro maru”. Temperature and salinity were measured by CTD (Seabird SBE-9Plus) and XCTD.

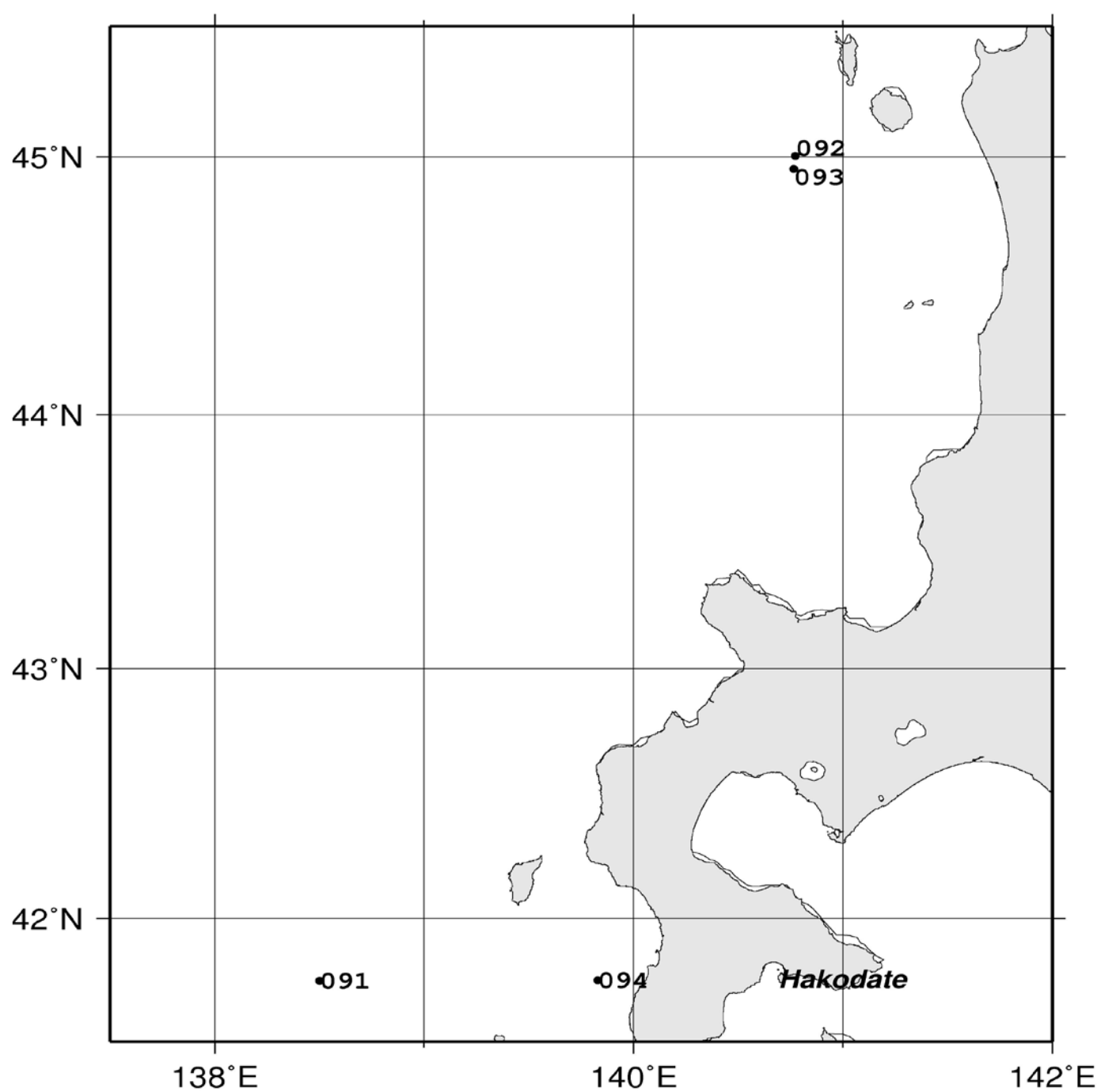


Fig.-10 Oceanographic stations

Table 1. List of Oceanographic station

| Station | Lat.       | Long.       | Date<br>(GMT) | Hour<br>(GMT) | T.Z | Depth | Col. | Tr. | SST  | Wr. | Gear    |
|---------|------------|-------------|---------------|---------------|-----|-------|------|-----|------|-----|---------|
| OS14091 | 41 44.87 N | 138 30.17 E | 6/10          | 14:17         | 9   | 3700  | -    | -   | 16.0 | bc  | 9p-0769 |
| OS14092 | 45 00.21 N | 140 46.50 E | 6/12          | 8:21          | 9   | 171   | -    | -   | 13.6 | o   | XCTD-2  |
| OS14093 | 44 57.25 N | 140 45.91 E | 6/12          | 8:44          | 9   | 183   | -    | -   | 13.6 | o   | XCTD-1  |
| OS14094 | 41 44.98 N | 139 49.76 E | 6/14          | 13:36         | 9   | 1415  | -    | -   | 17.5 | bc  | 9p-0769 |

T.Z.: Time Difference between G.M.T and S.M.T.

Col.: Water color in Forel-Ule scale

Tr.: Transparency in meters with Secchi disc

SST: Surface temperature

Wr.: Weather in WMO Code 4501

Table 2. Oceanographic data

| Station OS14091      |        |        |        |
|----------------------|--------|--------|--------|
| Latitude 41-44.87N   |        |        |        |
| Longitude 138-30.17E |        |        |        |
| Depth(m) 3700        |        |        |        |
| Press.               | Temp.  | Sal.   | SIG-T  |
| 5                    | 15.298 | 33.980 | 25.121 |
| 10                   | 14.756 | 33.981 | 25.239 |
| 20                   | 9.864  | 33.962 | 26.164 |
| 30                   | 8.763  | 34.005 | 26.376 |
| 40                   | 7.532  | 34.055 | 26.600 |
| 50                   | 6.643  | 34.051 | 26.720 |
| 75                   | 4.736  | 34.014 | 26.923 |
| 100                  | 3.468  | 34.013 | 27.053 |
| 125                  | 2.590  | 34.015 | 27.135 |
| 150                  | 1.935  | 34.014 | 27.187 |
| 175                  | 1.474  | 34.015 | 27.222 |
| 200                  | 1.280  | 34.014 | 27.234 |
| 250                  | 1.046  | 34.022 | 27.256 |
| 300                  | 0.942  | 34.039 | 27.276 |
| 400                  | 0.800  | 34.048 | 27.293 |
| 500                  | 0.709  | 34.056 | 27.304 |
| 600                  | 0.618  | 34.060 | 27.313 |
| 700                  | 0.524  | 34.060 | 27.319 |

| Station OS14092      |        |        |       |
|----------------------|--------|--------|-------|
| Latitude 45-00.21N   |        |        |       |
| Longitude 140-46.50E |        |        |       |
| Depth(m) 171         |        |        |       |
| Depth                | Temp.  | Sal.   | SIG-T |
| 5                    | 12.735 | 33.793 | -     |
| 10                   | 12.729 | 33.800 | -     |
| 20                   | 11.722 | 33.792 | -     |
| 30                   | 9.924  | 33.916 | -     |
| 40                   | 8.025  | 33.870 | -     |
| 50                   | 6.892  | 33.929 | -     |
| 75                   | 5.247  | 33.941 | -     |
| 100                  | 4.099  | 34.003 | -     |
| 125                  | 3.639  | 34.012 | -     |
| 150                  | 3.097  | 34.015 | -     |

| Station OS14093      |        |        |       |
|----------------------|--------|--------|-------|
| Latitude 44-57.25N   |        |        |       |
| Longitude 140-45.91E |        |        |       |
| Depth(m) 183         |        |        |       |
| Depth                | Temp.  | Sal.   | SIG-T |
| 5                    | 12.722 | 33.787 | -     |
| 10                   | 12.722 | 33.801 | -     |
| 20                   | 12.703 | 33.812 | -     |
| 30                   | 10.517 | 33.940 | -     |
| 40                   | 9.384  | 33.952 | -     |
| 50                   | 7.734  | 33.951 | -     |
| 75                   | 5.703  | 33.954 | -     |
| 100                  | 4.116  | 34.009 | -     |
| 125                  | 3.737  | 34.011 | -     |
| 150                  | 3.105  | 34.033 | -     |
| 175                  | 2.792  | 34.044 | -     |

| Station OS14094      |        |        |        |
|----------------------|--------|--------|--------|
| Latitude 41-44.98N   |        |        |        |
| Longitude 139-49.76E |        |        |        |
| Depth(m) 1415        |        |        |        |
| Press.               | Temp.  | Sal.   | SIG-T  |
| 5                    | 17.264 | 33.945 | 24.642 |
| 10                   | 17.274 | 33.946 | 24.640 |
| 20                   | 16.062 | 34.203 | 25.121 |
| 30                   | 13.977 | 34.254 | 25.615 |
| 40                   | 12.148 | 34.118 | 25.876 |
| 50                   | 10.925 | 34.248 | 26.204 |
| 75                   | 9.154  | 34.142 | 26.421 |
| 100                  | 7.892  | 34.106 | 26.587 |
| 125                  | 6.164  | 34.052 | 26.783 |
| 150                  | 5.301  | 34.036 | 26.876 |
| 175                  | 3.886  | 34.009 | 27.009 |
| 200                  | 2.629  | 34.019 | 27.135 |
| 250                  | 1.667  | 34.025 | 27.216 |
| 300                  | 1.254  | 34.031 | 27.249 |
| 400                  | 0.916  | 34.043 | 27.282 |
| 500                  | 0.751  | 34.052 | 27.299 |
| 600                  | 0.627  | 34.057 | 27.310 |
| 700                  | 0.537  | 34.058 | 27.316 |