

第二部 神鷹丸航海調査報告 令和元年度 (2019年度)) 【SY-19-12】航海報告

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| 雑誌名 | 航海調査報告 |
| 巻 | 29 |
| ページ | 19-25 |
| 発行年 | 2021-03-01 |
| URL | http://id.nii.ac.jp/1342/00002021/ |

4. 【SY-19-12】航海報告 (SY-19-12 Cruise Report)

4.1 航海の概要及び航海日程 (Cruise Summary and Cruise Itineraries)

この航海は、海洋科学部 4 年次生のうち専攻科進学予定者を対象とした乗船漁業実習Ⅳ【SY-19-12】として実習生 18 名が乗船し、令和元年 12 月 20 日から 12 月 24 日まで訓練航海、令和 2 年 1 月 29 日から令和 2 年 3 月 13 日までの日程で長期航海実習を実施した。

この実習航海は、本学海洋科学部 4 年次生が専攻科へ進学する前の総まとめの航海 (2891.3 マイル) であり、基本的な航海学 (天文航法)、運用学を習得することを主目的とした航海である。東京出港後、奄美大島東方海上にてマグロ操業を行い、沖縄に寄港、豊後水道から瀬戸内海に入り、紀伊水道、本州南岸を東京向け東航する航海を実施した。航海途中には、広島港、古仁屋港、那覇港、小部湾 (小豆島)、名古屋港へ寄港した。

漁業実習として奄美大島東方海上にて延縄操業実習を行い、漁具の構成、操業方法を学ぶとともに、漁獲物の分類及び処理法を習得した。操業後には操船訓練を実施し、落水者救助を想定した操船を経験した。那覇港では海技試験を受験した。

Table 4.1 実施表 (Cruise Itineraries)

| Port | Distance (miles) | Arrival Date | Departure Date |
|------------------------|------------------|---------------|----------------|
| Keihin (Tokyo) | | - | Jan, 29, 2020 |
| | 411.5 | | |
| Uchinomi Bay | | Jan, 31, 2020 | Feb, 2, 2020 |
| | 90.6 | | |
| Kamiguroshima Off | | Feb, 2, 2020 | Feb, 3, 2020 |
| | 40.4 | | |
| Hiroshima Ujina Off | | Feb, 3, 2020 | Feb, 4, 2020 |
| | 2.1 | | |
| Hiroshima Ujina | | Feb, 4, 2020 | Feb, 8, 2020 |
| | 89.2 | | |
| Tokuyama Off | | Feb, 8, 2020 | Feb, 8, 2020 |
| | 554.7 | | |
| Koniya Bay | | Feb, 11, 2020 | Feb, 12, 2020 |
| | 0.4 | | |
| Koniya | | Feb, 12, 2020 | Feb, 13, 2020 |
| | 208.4 | | |
| Naha Off | | Feb, 14, 2020 | Feb, 15, 2020 |
| | 5.2 | | |
| Naha | | Feb, 15, 2020 | Feb, 21, 2020 |
| | 869.4 | | |
| Fishing Ground | | Feb, 24, 2020 | Mar, 2, 2020 |
| | 353.7 | | |
| Ise Wan Bay | | Mar, 5, 2020 | Mar, 6, 2020 |
| | 26.5 | | |
| Nagoya Off | | Mar, 6, 2020 | Mar, 7, 2020 |
| | 9.1 | | |
| Nagoya | | Mar, 7, 2020 | Mar, 11, 2020 |
| | 221.0 | | |
| Urayasu Off | | Mar, 12, 2020 | Mar, 13, 2020 |
| | 9.1 | | |
| Keihin (Tokyo) | | Mar, 13, 2020 | - |
| | | | |
| Total Distance | 2891.3 | | |

4.2 研究員・学生人数(The Number of Scientists and Cadets on Board)

教員

東京海洋大学 4名

乗船学生

東京海洋大学 6名

乗船実習学生

東京海洋大学 18名

4.3 航跡図 (Track Chart)

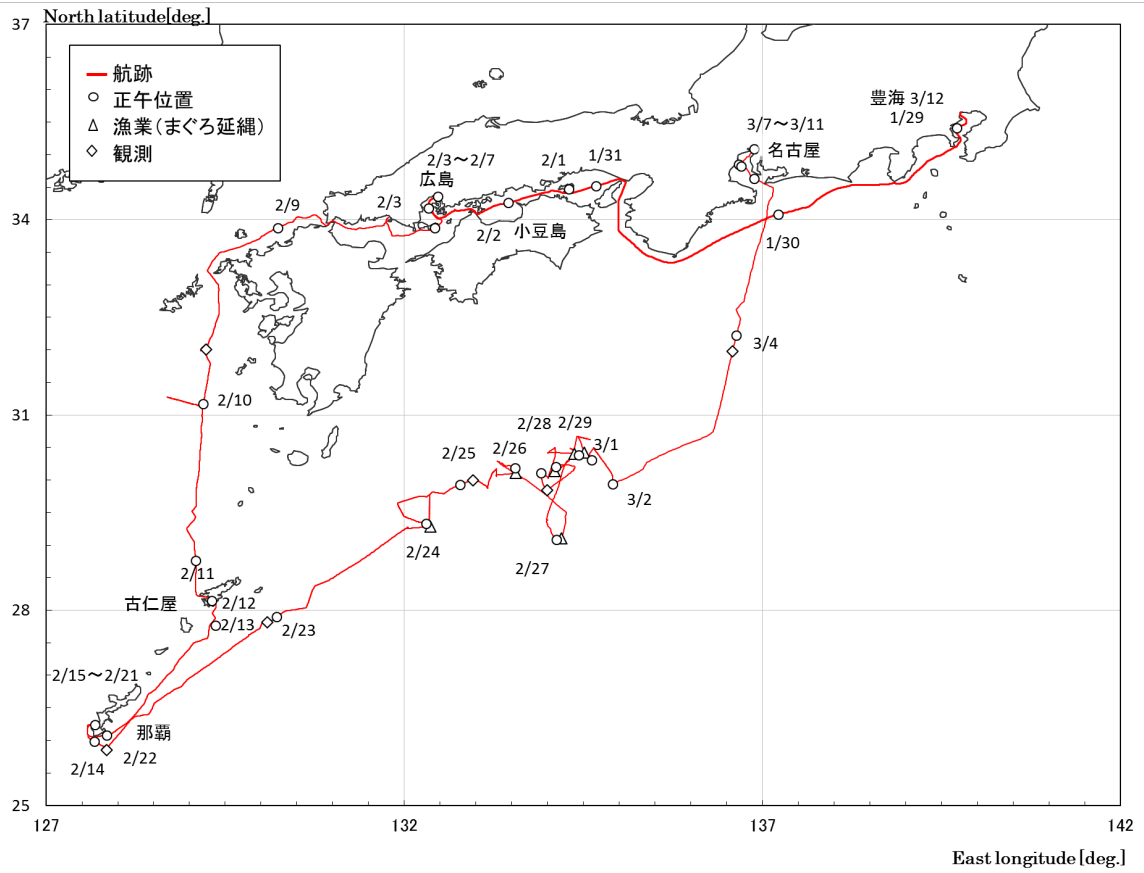


Fig. 4.3 航跡図 (Track Chart)

4.4 航海撮要日誌 (Abstract Log)

Table 4.2 航海撮要日誌 (Abstract Log)

| 月日 DATE | 正午位置Position | | 碇泊場所 LOCATION | 航海時間 Hour-Min | 航走距離 Run Miles | 平均速力 Ave.Sp'd | 碇泊時間 Hour-Min | 漂泊時間 Hour-Min | 天候 W'th | 風WIND | | 更正気圧 hpa | 温度℃ | |
|------------|--------------|-------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------|-------|----|-------------|------|------|
| | 緯度 Lat | 経度 Long | | | | | | | | 風向 | 風力 | | 大気 | 海水 |
| 12/20 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 3 | 1015.5 | 14.1 | 16.8 |
| 12/21 | 35-24.962N | 139-43.931E | | 02-02 | 18.4 | 9.049 | 21-58 | 00-00 | o | NE/N | 3 | 1023.3 | 9.8 | 15.0 |
| 12/22 | 35-10.915N | 139-24.045E | | 08-14 | 61.1 | 7.421 | 15-46 | 00-00 | o | N | 5 | 1018.8 | 10.1 | 19.2 |
| 12/23 | 35-01.722N | 139-45.346E | | 09-27 | 62.7 | 6.635 | 14-33 | 00-00 | bc | NNW | 4 | 1014.7 | 9.7 | 19.6 |
| 12/24 | 35-34.243N | 139-46.403E | | 04-50 | 34.7 | 7.179 | 19-10 | 00-00 | bc | NE/N | 5 | 1020.8 | 11.4 | 14.6 |
| 12/25 | 35-39.177N | 139-46.024E | Tsukishima F4 | 02-40 | 18.5 | 6.938 | 21-20 | 00-00 | o | NE | 1 | 1025.8 | 7.9 | 16.1 |
| 12/26 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNE | 1 | 1013.0 | 10.9 | 16.0 |
| 12/27 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | N | 4 | 1000.0 | 14.0 | 16.1 |
| 12/28 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | NNW | 3 | 1022.1 | 9.6 | 15.9 |
| 12/29 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 1 | 1028.8 | 9.8 | 15.6 |
| 12/30 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | N | 3 | 1024.1 | 7.2 | 15.3 |
| 12/31 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 2 | 1005.3 | 14.9 | 15.1 |
| 1/1 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N | 2 | 1021.6 | 7.4 | 14.6 |
| 1/2 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N/W | 3 | 1021.5 | 9.4 | 14.7 |
| 1/3 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N/W | 2 | 1014.9 | 10.4 | 14.5 |
| 1/4 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N | 3 | 1013.4 | 10.3 | 14.4 |
| 1/5 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N/W | 3 | 1020.6 | 8.9 | 14.5 |
| 1/6 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | NNW | 3 | 1024.5 | 10.1 | 14.3 |
| 1/7 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNE | 2 | 1025.5 | 7.8 | 14.3 |
| 1/8 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNE | 2 | 1025.0 | 8.1 | 14.3 |
| 1/9 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 3 | 1009.9 | 14.1 | 14.4 |
| 1/10 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N/E | 2 | 1015.3 | 11.5 | 14.5 |
| 1/11 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | NE | 1 | 1014.9 | 8.2 | 14.4 |
| 1/12 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNE | 1 | 1011.0 | 9.7 | 14.5 |
| 1/13 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | S | 1 | 1010.3 | 12.4 | 14.7 |
| 1/14 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N/E | 1 | 1020.1 | 10.9 | 14.7 |
| 1/15 | 35-38.932N | 139-46.629E | Harumi Hj | 00-21 | 0.9 | 2.571 | 23-39 | 00-00 | o | NE/N | 1 | 1014.5 | 7.7 | 14.5 |
| 1/16 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-25 | 0.6 | 1.440 | 23-35 | 00-00 | bc | NNE | 2 | 1021.4 | 8.9 | 14.3 |
| 1/17 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | NE/N | 2 | 1018.5 | 9.2 | 14.0 |
| 1/18 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | NNE | 3 | 1013.2 | 2.2 | 14.0 |
| 1/19 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | NE | 2 | 1015.7 | 8.5 | 13.9 |
| 1/20 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 1 | 1012.6 | 11.9 | 13.8 |
| 1/21 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | N | 4 | 1019.8 | 10.6 | 13.8 |
| 1/22 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNW | 2 | 1028.8 | 5.6 | 13.9 |
| 1/23 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | Calm | | 1020.5 | 7.2 | 13.7 |
| 1/24 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | N | 2 | 1021.9 | 12.2 | 13.6 |
| 1/25 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | NW/N | 1 | 1027.9 | 9.5 | 13.6 |
| 1/26 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | S | 2 | 1026.9 | 5.4 | 13.4 |
| 1/27 | 35-38.931N | 139-46.077E | Harumi HI | 00-38 | 0.9 | 1.421 | 23-22 | 00-00 | o | NE/N | 2 | 1030.5 | 6.7 | 13.4 |
| 1/28 | 35-39.177N | 139-46.024E | Tsukishima F4 | 00-26 | 1.2 | 2.769 | 23-34 | 00-00 | r | N | 4 | 1018.1 | 5.1 | 13.1 |
| 1/29 | 35-24.472N | 139-42.963E | | 02-06 | 19.0 | 9.048 | 21-54 | 00-00 | b | SW/S | 4 | 1000.4 | 14.6 | 12.3 |
| 1/30 | 34-05.128N | 137-13.343E | | 24-00 | 163.1 | 6.796 | 00-00 | 00-00 | b | NW | 5 | 1004.4 | 12.3 | 19.9 |
| 1/31 | 34-31.124N | 134-40.658E | | 24-00 | 202.6 | 8.442 | 00-00 | 00-00 | bc | NW | 6 | 1014.1 | 6.5 | 12.1 |

| 月日 DATE | 正午位置Position | | 碇泊場所 LOCATION | 航海時間 Hour-Min | 航走距離 Run Miles | 平均速力 Ave.Sp'd | 碇泊時間 Hour-Min | 漂泊時間 Hour-Min | 天候 W'th | 風WIND | | 更正気圧 hpa | | 温度℃ | |
|------------|--------------|-------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------|-------|----|-------------|------|------|--|
| | 緯度 Lat | 経度 Long | | | | | | | | 風向 | 風力 | 大気 | 海水 | | |
| 2/3 | 34-10.818N | 132-20.504E | Hiroshima Off | 07-26 | 69.6 | 9.363 | 16-34 | 00-00 | bc | NE/N | 2 | 1022.8 | 9.2 | 13.2 | |
| 2/4 | 34-21.221N | 132-28.326E | Ujina Gaibo Wh'f | 02-14 | 16.8 | 7.522 | 21-46 | 00-00 | bc | SW | 1 | 1025.0 | 9.8 | 14.0 | |
| 2/5 | 34-21.221N | 132-28.326E | Ujina Gaibo Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | NW/N | 2 | 1022.3 | 9.5 | 13.7 | |
| 2/6 | 34-21.221N | 132-28.326E | Ujina Gaibo Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | NNE | 1 | 1029.8 | 5.7 | 13.5 | |
| 2/7 | 34-21.221N | 132-28.326E | Ujina Gaibo Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | SSW | 2 | 1028.1 | 6.7 | 13.1 | |
| 2/8 | 33-52.279N | 132-25.277E | | 04-10 | 39.7 | 9.528 | 19-50 | 00-00 | bc | N/W | 4 | 1020.6 | 9.5 | 13.6 | |
| 2/9 | 33-52.674N | 130-13.909E | | 19-59 | 145.2 | 7.266 | 04-01 | 00-00 | o | SE/E | 2 | 1024.2 | 7.7 | 15.2 | |
| 2/10 | 31-10.055N | 129-11.596E | | 24-00 | 207.6 | 8.650 | 00-00 | 00-00 | o | NW | 5 | 1024.8 | 13.9 | 18.6 | |
| 2/11 | 28-45.738N | 129-05.361E | | 24-00 | 206.5 | 8.604 | 00-00 | 00-00 | o | E/S | 3 | 1028.3 | 17.5 | 21.4 | |
| 2/12 | 28-08.617N | 129-18.854E | Chujoko Wh'f | 05-06 | 45.3 | 8.882 | 18-54 | 00-00 | bc | S/E | 4 | 1023.2 | 21.5 | 21.2 | |
| 2/13 | 27-46.111N | 129-16.871E | | 03-09 | 28.1 | 8.921 | 20-51 | 00-00 | bc | S/W | 5 | 1020.5 | 22.1 | 21.3 | |
| 2/14 | 25-59.120N | 127-40.151E | | 20-24 | 159.2 | 7.804 | 00-00 | 03-36 | bc | SE/S | 4 | 1020.2 | 24.2 | 22.6 | |
| 2/15 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 03-26 | 26.3 | 7.660 | 20-34 | 00-00 | bc | S/E | 5 | 1018.8 | 25.8 | 22.6 | |
| 2/16 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | N/W | 4 | 1017.4 | 22.6 | 18.3 | |
| 2/17 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNW | 4 | 1023.0 | 14.4 | 21.8 | |
| 2/18 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | N | 4 | 1027.4 | 13.9 | 20.9 | |
| 2/19 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | o | NNE | 3 | 1026.7 | 18.2 | 20.6 | |
| 2/20 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | E | 2 | 1027.9 | 20.9 | 21.0 | |
| 2/21 | 26-14.304N | 127-40.760E | Shinko No.1 wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | E | 3 | 1029.7 | 21.3 | 21.3 | |
| 2/22 | 26-05.023N | 127-50.757E | | 03-09 | 29.8 | 9.460 | 20-51 | 00-00 | bc | SE/S | 2 | 1028.4 | 21.5 | 21.9 | |
| 2/23 | 27-53.761N | 130-12.991E | | 24-00 | 173.7 | 7.238 | 00-00 | 00-00 | o | N | 5 | 1029.3 | 18.3 | 21.0 | |
| 2/24 | 29-19.980N | 132-18.302E | | 20-58 | 152.9 | 7.293 | 00-00 | 03-02 | b | NNW | 1 | 1027.1 | 19.3 | 21.3 | |
| 2/25 | 29-55.567N | 132-36.851E | | 14-44 | 66.6 | 4.520 | 00-00 | 09-16 | o | SSW | 4 | 1021.5 | 20.4 | 20.7 | |
| 2/26 | 30-11.257N | 133-32.640E | | 08-32 | 51.5 | 6.035 | 00-00 | 15-28 | bc | W/N | 5 | 1015.4 | 20.4 | 20.3 | |
| 2/27 | 29-05.119N | 134-07.597E | | 21-14 | 112.9 | 5.317 | 00-00 | 02-46 | bc | N/E | 5 | 1020.7 | 18.7 | 20.6 | |
| 2/28 | 30-12.100N | 134-06.864E | | 21-13 | 96.8 | 4.562 | 00-00 | 02-47 | bc | NE | 3 | 1024.8 | 14.5 | 19.8 | |
| 2/29 | 30-06.753N | 133-54.592E | | 12-13 | 41.8 | 3.422 | 00-00 | 11-47 | r | S/W | 7 | 1015.9 | 18.3 | 19.9 | |
| 3/1 | 30-23.000N | 134-26.043E | | 21-35 | 68.1 | 3.155 | 00-00 | 02-25 | o | E/N | 4 | 1014.4 | 18.6 | 19.9 | |
| 3/2 | 30-18.623N | 134-36.706E | | 14-11 | 58.0 | 4.089 | 00-00 | 09-49 | bc | N | 4 | 1014.5 | 20.1 | 20.2 | |
| 3/3 | 29-56.381N | 134-54.443E | | 04-37 | 17.3 | 3.747 | 00-00 | 19-23 | bc | NE/E | 3 | 1022.4 | 18.7 | 20.3 | |
| 3/4 | 32-13.666N | 136-38.286E | | 24-00 | 179.9 | 7.496 | 00-00 | 00-00 | o | SSE | 4 | 1019.1 | 16.8 | 17.4 | |
| 3/5 | 34-50.839N | 136-40.338E | Yokkaichi Off | 22-20 | 173.8 | 7.782 | 01-40 | 00-00 | bc | NW | 6 | 1014.4 | 6.5 | 10.9 | |
| 3/6 | 34-49.166N | 136-47.420E | Nagoya Off | 03-45 | 10.7 | 2.853 | 20-15 | 00-00 | b | NW/N | 5 | 1020.9 | 9.6 | 11.0 | |
| 3/7 | 35-05.331N | 136-52.891E | Garden Wh'f | 05-32 | 24.9 | 4.500 | 18-28 | 00-00 | b | SW | 1 | 1022.6 | 12.1 | 14.8 | |
| 3/8 | 35-05.331N | 136-52.891E | Garden Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | N | 2 | 1015.9 | 8.4 | 14.2 | |
| 3/9 | 35-05.331N | 136-52.891E | Garden Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | SW | 1 | 1016.5 | 17.4 | 14.6 | |
| 3/10 | 35-05.331N | 136-52.891E | Garden Wh'f | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | SE | 3 | 1001.9 | 15.7 | 15.2 | |
| 3/11 | 34-38.061N | 136-53.192E | | 03-08 | 30.9 | 9.862 | 20-52 | 00-00 | bc | NNW | 4 | 1007.9 | 13.7 | 12.2 | |
| 3/12 | 35-33.665N | 139-52.532E | Urayasu Off | 22-30 | 190.1 | 8.449 | 01-30 | 00-00 | bc | N | 3 | 1021.4 | 12.9 | 13.2 | |
| 3/13 | 35-33.665N | 139-52.532E | Urayasu Off | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | SSW | 3 | 1015.6 | 13.1 | 13.7 | |
| 3/14 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | r | NNE | 3 | 1009.1 | 5.4 | 14.4 | |
| 3/15 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | SE | 2 | 1005.8 | 10.3 | 14.2 | |
| 3/16 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | N | 3 | 1002.7 | 12.5 | 14.3 | |
| 3/17 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | SSE | 2 | 1017.9 | 8.4 | 14.0 | |
| 3/18 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | b | SE | 2 | 1013.3 | 15.6 | 14.2 | |
| 3/19 | 35-39.070N | 139-45.970E | Tsukishima F5 | 00-00 | 0.0 | 0.000 | 24-00 | 00-00 | bc | SE/E | 2 | 1010.7 | 16.9 | 14.4 | |

| | | | | | |
|------|--------|--------|-------|---------|-------|
| 航海累計 | 428-31 | 2965.9 | 6.921 | 1542-57 | 68-32 |
|------|--------|--------|-------|---------|-------|

4.5 観測項目 (Observation Item)

Table 4.3 那覇一名古屋 (Naha-Nagoya)

| Lat. | | | Long. | | | Observation Item | | |
|------|---------|---|-------|---------|---|------------------|-----|------|
| | | | | | | CTD | XBT | 透明度板 |
| 25 | 51.3000 | N | 127 | 50.6500 | E | ○ | | |
| 27 | 48.8415 | N | 130 | 5.0712 | E | ○ | | |
| 29 | 17.1760 | N | 132 | 21.7130 | E | ○ | | |
| 29 | 59.8600 | N | 132 | 57.4850 | E | | ○ | |
| 30 | 6.4310 | N | 133 | 33.2360 | E | ○ | | |
| 29 | 6.0750 | N | 134 | 11.8310 | E | ○ | | |
| 29 | 6.0720 | N | 134 | 11.8150 | E | | | ○ |
| 30 | 8.1750 | N | 134 | 6.1340 | E | ○ | | |
| 29 | 50.4630 | N | 133 | 59.6520 | E | ○ | | |
| 30 | 24.4240 | N | 134 | 22.6530 | E | ○ | | |
| 30 | 25.6630 | N | 134 | 30.8550 | E | ○ | | |
| 31 | 58.7320 | N | 136 | 34.9950 | E | ○ | | |