

沿岸定線観測結果 (2014-3月)

三重県水産研究所

| | |
|-------|---------------|
| 調査海域 | 熊野灘 |
| 調査年月日 | 2014年3月11-12日 |
| 調査船 | あさま (79トン) |
| 調査員 | 久野 正博 |

調査結果

調査時の表面水温は 15.7~19.9℃、50m では 14.5~19.7℃、100m では 13.3~18.4℃、200m では 11.1~16.1℃の範囲にあった。表面では平年より 1~2℃高め、50m では平年並~2℃程度高め、100m では沿岸域で平年並~やや低めの他は平年より 1~2℃高め、200m では平年より 1℃程度低めであった。

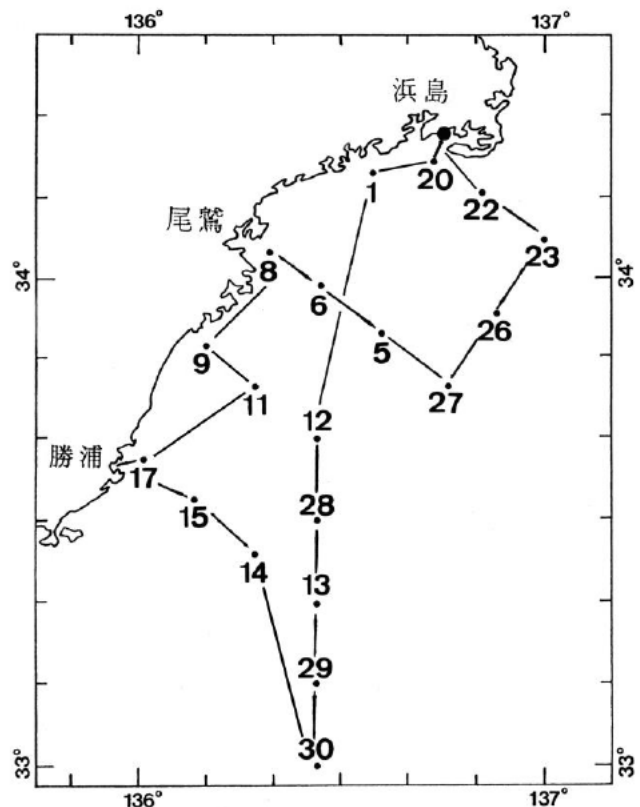
表面の塩分は 34.35~34.75、20m の塩分は 34.55~34.74 の範囲にあり、共にほぼ平年並であった。

観測時の黒潮北縁は 33° 00' N 付近にあり、東へ 5 ノット前後の非常に強い流れが観測された。黒潮の表層水温は 19℃台であった。

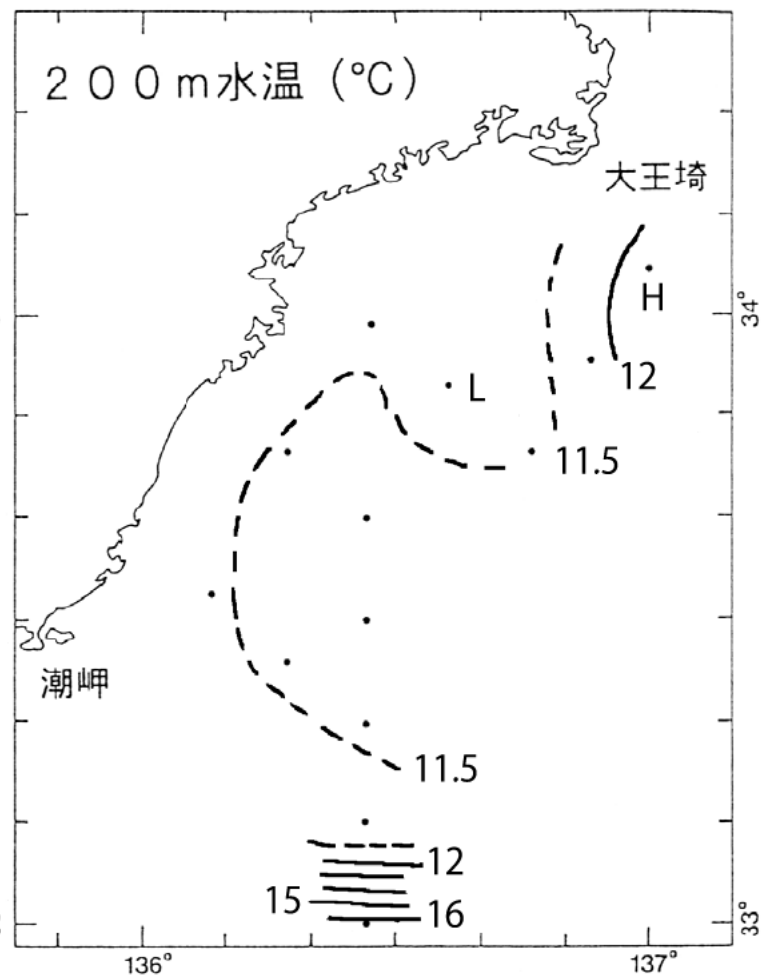
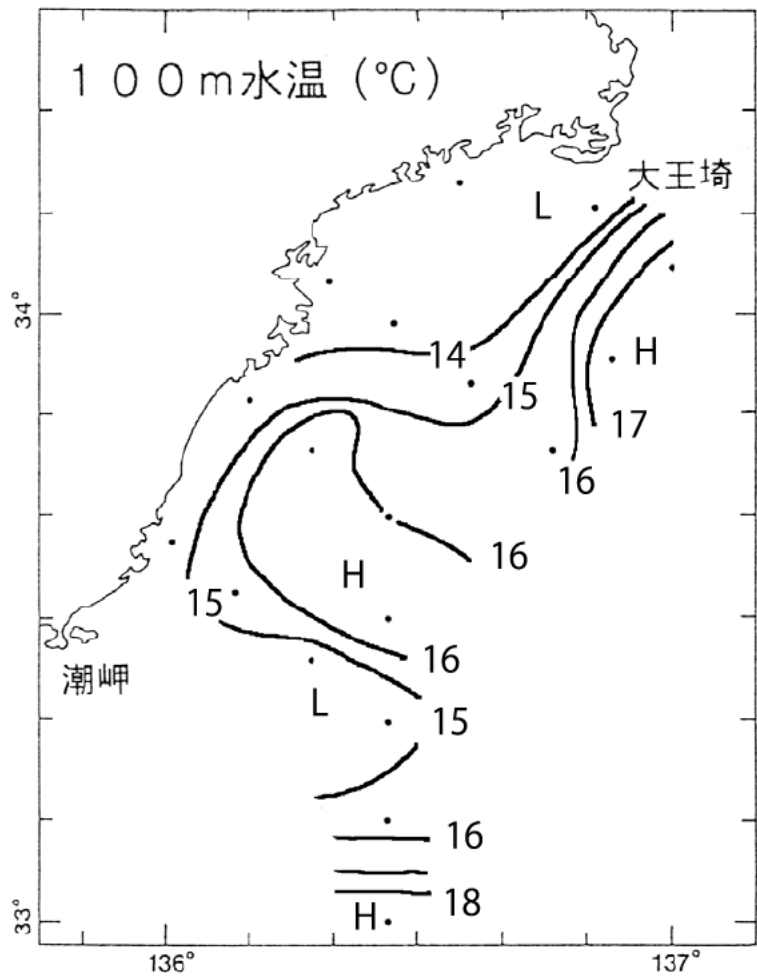
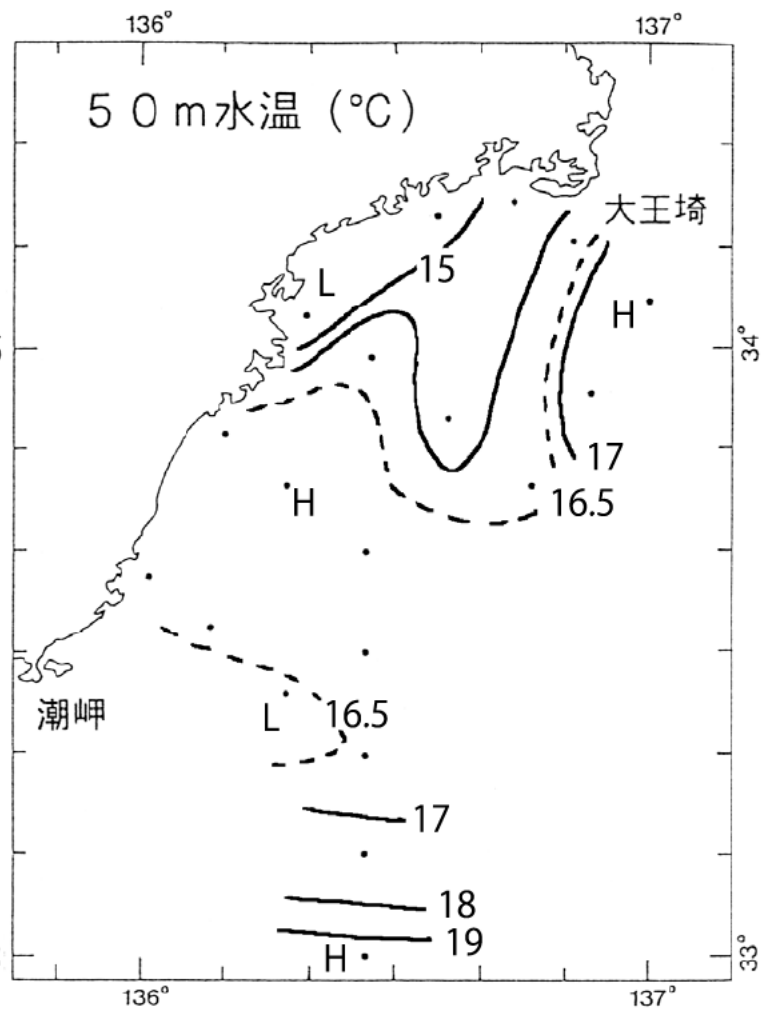
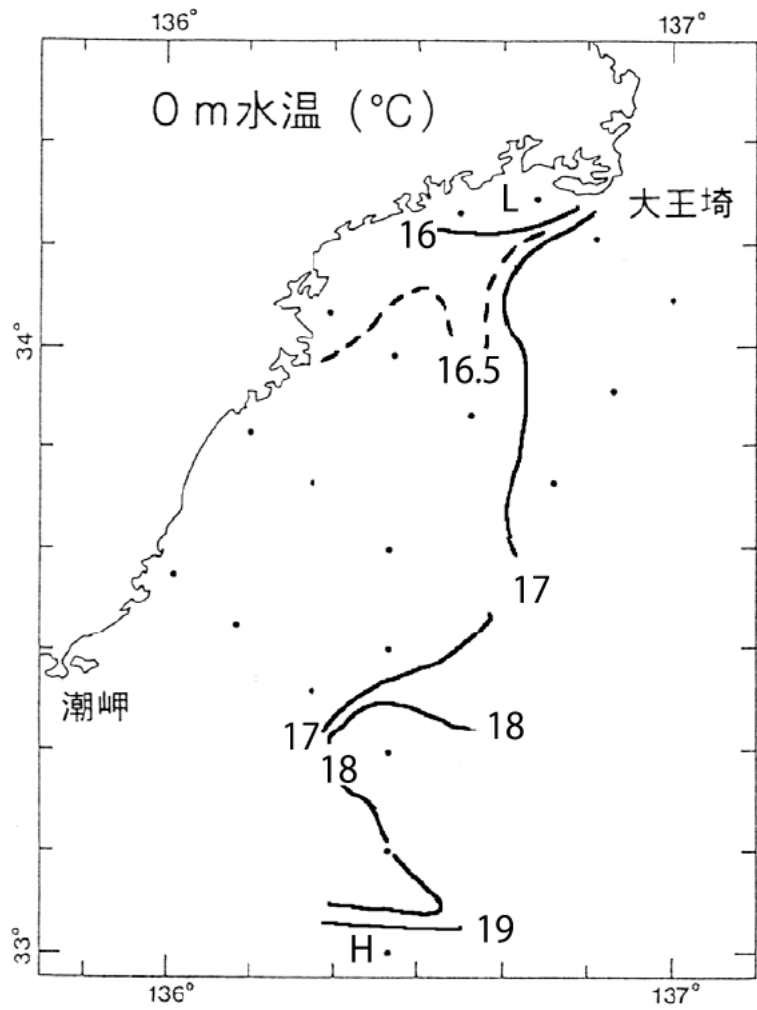
=====使用観測機器=====

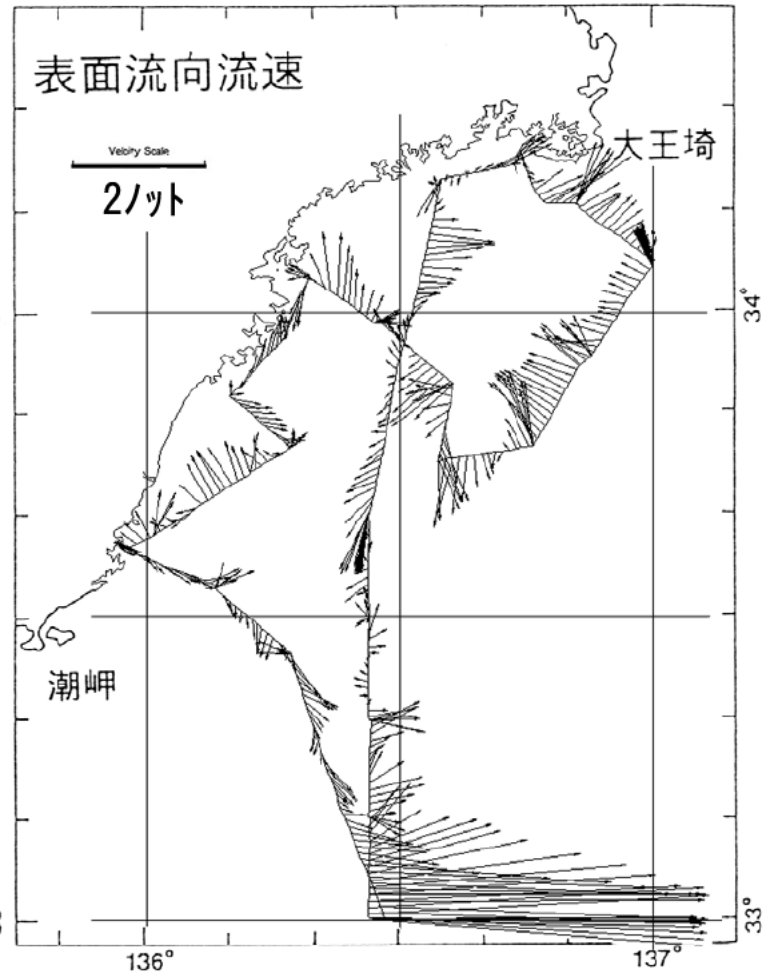
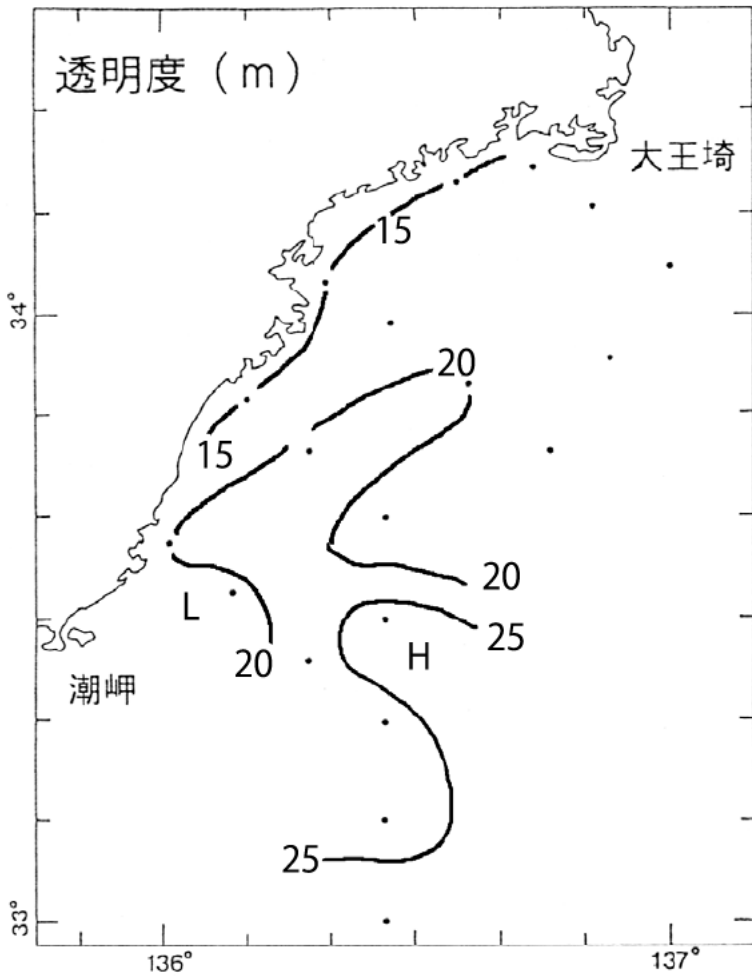
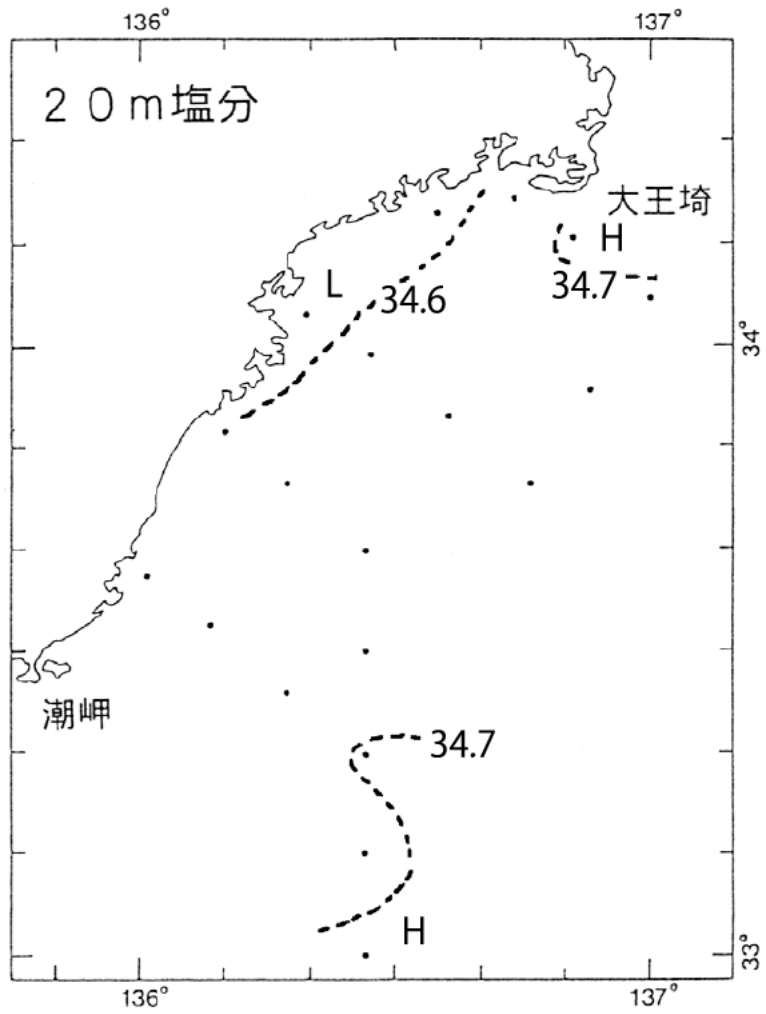
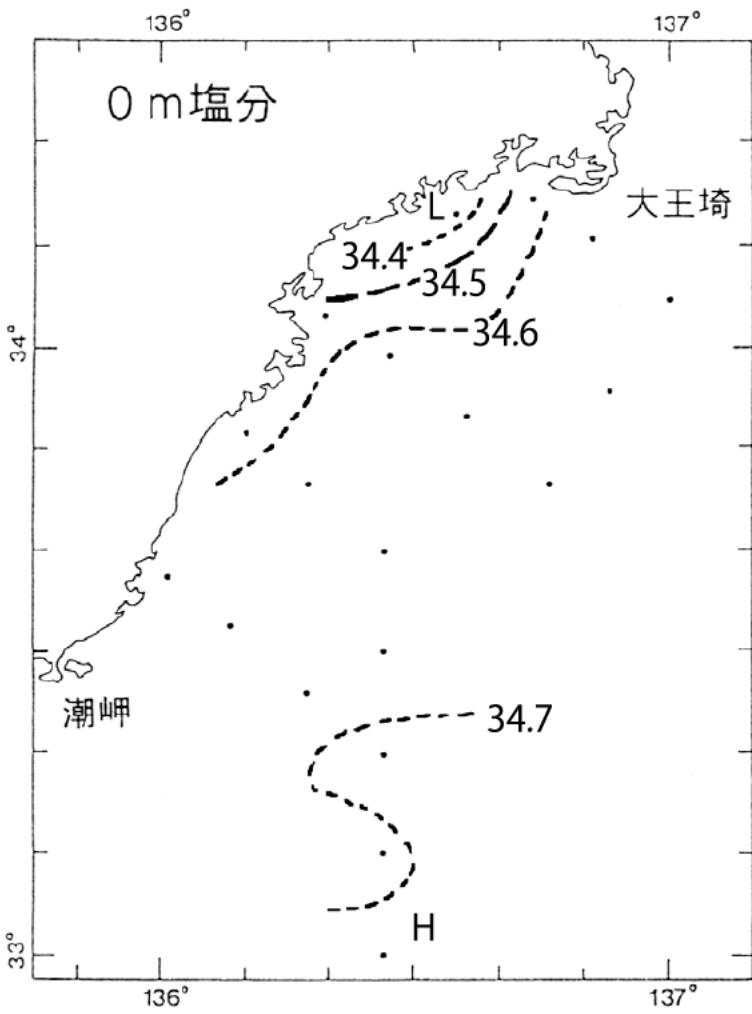
- ・ 水温、塩分、D0、クロロフィル
CTD : SeaBird 社製 SBE-9plus
SBE43 D0 sensor
Seapoint Chlorophyll Fluorometer
- ・ 流向流速計
ADCP : RD 社製 300kHz

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沿岸定線図





沿岸定線観測結果 (平成26年3月分)

調査員:久野 正博・松尾 剛平

| 測点 | | 1 | 5 | 6 | 8 | 9 | 11 | 12 | | | | | | | | |
|------------|-----------|------------|------------|------------|------------|------------|------------|------------|-------|--------|-------|--------|-------|--------|-------|--------|
| 年 月 日 | | 14/03/11 | 14/03/12 | 14/03/12 | 14/03/12 | 14/03/12 | 14/03/12 | 14/03/11 | | | | | | | | |
| 時 刻 | | 08:57 | 12:07 | 11:12 | 10:44 | 09:59 | 09:25 | 10:39 | | | | | | | | |
| | | -09:02 | -12:17 | -11:38 | -10:48 | -10:02 | -09:34 | -11:20 | | | | | | | | |
| 緯 度 (N) | | 34° 13.26 | 33° 52.89 | 33° 58.98 | 34° 03.63 | 33° 51.70 | 33° 46.63 | 33° 40.20 | | | | | | | | |
| 経 度 (E) | | 136° 34.97 | 136° 36.27 | 136° 26.85 | 136° 19.23 | 136° 09.79 | 136° 16.98 | 136° 26.32 | | | | | | | | |
| 水深 | | 98m | 1976m | 632m | 114m | 94m | 1487m | 2067m | | | | | | | | |
| 透明度 | | 4 | 3 | 3 | 4 | 4 | 3 | 4 | | | | | | | | |
| 傾角 / 透明度 | | 29 / 15.0 | 41 / 20.0 | 63 / 16.0 | 0 / 15.0 | 16 / 15.0 | 20 / 20.0 | 0 / 15.0 | | | | | | | | |
| 風 ね | | NW 2 | SW 3 | SW 3 | NNE 2 | W 2 | W 3 | SW 3 | | | | | | | | |
| うね | | SSW 1 | SW 1 | SW 1 | S 1 | W 1 | W 1 | SW 1 | | | | | | | | |
| 気 温 | | 7.4°C | 16.1°C | 15.5°C | 15.7°C | 16.1°C | 14.3°C | 8.0°C | | | | | | | | |
| 天 気 | | BC | B | B | B | B | B | B | | | | | | | | |
| 雲 形 ・ 雲 量 | | CU 2 | CU 2 | CU 1 | CU 1 | CU 1 | CU 1 | CU 1 | | | | | | | | |
| 風 向 (風 力) | | NW(3) | SW(3) | SW(4) | NNE(2) | W(3) | W(3) | SE(1) | | | | | | | | |
| 気 圧 (hPa) | | 1027.7 | 1022.0 | 1022.2 | 1022.7 | 1023.5 | 1024.4 | 1028.2 | | | | | | | | |
| 流 向 (度) | 流 速 (Kt) | 10m | 235 | 0.5 | 267 | 0.7 | 37 | 0.6 | 272 | 0.2 | 65 | 0.5 | 8 | 0.3 | 192 | 0.7 |
| | | 20m | 233 | 0.5 | 267 | 0.6 | 19 | 0.3 | 240 | 0.3 | 64 | 0.4 | 7 | 0.4 | 192 | 0.7 |
| | | 30m | 247 | 0.7 | 251 | 0.6 | 2 | 0.2 | 239 | 0.3 | 68 | 0.5 | 352 | 0.4 | 201 | 0.8 |
| | | 40m | 250 | 0.6 | 255 | 0.9 | 9 | 0.2 | 226 | 0.4 | 75 | 0.6 | 325 | 1.6 | 196 | 0.7 |
| | | 50m | 263 | 0.6 | 250 | 0.8 | 14 | 0.2 | 287 | 0.2 | 109 | 2.3 | 3 | 0.3 | 193 | 0.9 |
| 水 温 (°C) | 塩 分 (PSU) | 0m | 15.95 | 34.348 | 16.65 | 34.677 | 16.71 | 34.651 | 16.32 | 34.559 | 16.61 | 34.576 | 16.70 | 34.656 | 16.73 | 34.657 |
| | | 10m | 15.92 | 34.588 | 16.53 | 34.677 | 16.68 | 34.651 | 16.07 | 34.538 | 16.61 | 34.579 | 16.69 | 34.655 | 16.68 | 34.654 |
| | | 20m | 15.80 | 34.581 | 16.40 | 34.672 | 16.67 | 34.650 | 16.01 | 34.550 | 16.66 | 34.601 | 16.69 | 34.656 | 16.66 | 34.654 |
| | | 30m | 15.54 | 34.566 | 16.12 | 34.651 | 16.67 | 34.651 | 15.86 | 34.567 | 16.73 | 34.649 | 16.69 | 34.656 | 16.65 | 34.654 |
| | | 50m | 14.59 | 34.517 | 15.85 | 34.630 | 16.40 | 34.634 | 14.53 | 34.519 | 16.62 | 34.657 | 16.69 | 34.656 | 16.65 | 34.654 |
| | | 75m | 14.04 | 34.499 | 15.78 | 34.628 | 14.59 | 34.508 | 13.75 | 34.492 | 13.39 | 34.462 | 16.69 | 34.657 | 16.53 | 34.647 |
| | | 100m | | | 14.76 | 34.518 | 13.87 | 34.506 | 13.37 | 34.483 | | | 16.26 | 34.598 | 16.00 | 34.624 |
| | | 125m | | | 13.42 | 34.468 | 13.36 | 34.488 | | | | | 14.90 | 34.533 | 14.58 | 34.520 |
| | | 150m | | | 12.60 | 34.434 | 12.97 | 34.467 | | | | | 13.75 | 34.478 | 13.57 | 34.471 |
| | | 175m | | | 11.80 | 34.398 | 12.39 | 34.440 | | | | | 12.57 | 34.431 | 12.40 | 34.417 |
| | | 200m | | | 11.07 | 34.370 | 11.40 | 34.386 | | | | | 11.51 | 34.389 | 11.75 | 34.398 |
| | | 250m | | | 9.93 | 34.327 | 10.32 | 34.340 | | | | | 9.86 | 34.319 | 10.55 | 34.354 |
| | | 300m | | | 8.70 | 34.285 | 8.54 | 34.273 | | | | | 8.52 | 34.227 | 9.26 | 34.316 |
| | | 400m | | | | | 7.08 | 34.240 | | | | | | | 7.07 | 34.238 |
| 500m | | | | | 5.76 | 34.241 | | | | | | | 5.88 | 34.240 | | |
| 600m | | | | | 5.12 | 34.267 | | | | | | | 4.97 | 34.270 | | |
| 700m | | | | | | | | | | | | | 4.25 | 34.315 | | |
| 800m | | | | | | | | | | | | | 3.91 | 34.355 | | |
| 900m | | | | | | | | | | | | | 3.60 | 34.389 | | |
| 1000m | | | | | | | | | | | | | 3.27 | 34.425 | | |
| D O (mg/l) | クロロフィル | 0m | 7.340 | 0.25 | 7.430 | 0.20 | 7.280 | 0.21 | 7.470 | 0.28 | 7.450 | 0.27 | 7.260 | 0.18 | 7.260 | 0.18 |
| | | 10m | 7.230 | 0.59 | 7.400 | 0.27 | 7.270 | 0.32 | 7.540 | 0.74 | 7.420 | 0.50 | 7.260 | 0.26 | 7.250 | 0.26 |
| | | 20m | 6.920 | 0.65 | 7.410 | 0.40 | 7.260 | 0.48 | 7.430 | 1.10 | 7.320 | 0.69 | 7.230 | 0.37 | 7.260 | 0.43 |
| | | 30m | 6.580 | 0.42 | 7.360 | 0.70 | 7.240 | 0.68 | 6.910 | 0.69 | 7.290 | 0.70 | 7.240 | 0.40 | 7.230 | 0.59 |
| | | 50m | 6.150 | 0.12 | 7.240 | 0.50 | 6.850 | 0.37 | 6.160 | 0.16 | 7.110 | 0.64 | 7.230 | 0.43 | 7.290 | 0.76 |
| | | 75m | 6.480 | 0.12 | 7.270 | 0.56 | 6.120 | 0.08 | 6.170 | 0.06 | 6.350 | 0.06 | 7.260 | 0.62 | 7.290 | 0.62 |
| | | 100m | | | 6.400 | 0.23 | 6.700 | 0.09 | 6.300 | 0.05 | | | 7.030 | 0.24 | 7.260 | 0.52 |
| | | 125m | | | 5.720 | 0.04 | 6.840 | 0.07 | | | | | 6.160 | 0.10 | 6.250 | 0.13 |
| | | 150m | | | 5.010 | 0.03 | 6.910 | 0.07 | | | | | 5.860 | 0.05 | 5.560 | 0.04 |
| | | 175m | | | 4.800 | 0.03 | 6.580 | 0.05 | | | | | 5.020 | 0.02 | 5.010 | 0.02 |
| | | 200m | | | 4.650 | 0.02 | 5.210 | 0.04 | | | | | 4.760 | 0.03 | 4.800 | 0.03 |
| | | 250m | | | 4.360 | 0.03 | 4.660 | 0.04 | | | | | 4.380 | 0.02 | 4.510 | 0.02 |
| | | 300m | | | 4.030 | 0.03 | 4.040 | 0.03 | | | | | 4.210 | 0.02 | 4.120 | 0.02 |
| | | 400m | | | | | 3.500 | 0.03 | | | | | | | 3.520 | 0.02 |
| 500m | | | | | 2.920 | 0.03 | | | | | | | 2.970 | 0.03 | | |
| 600m | | | | | 2.560 | 0.03 | | | | | | | 2.490 | 0.03 | | |
| 700m | | | | | | | | | | | | | 2.140 | 0.03 | | |
| 800m | | | | | | | | | | | | | 2.010 | 0.03 | | |
| 900m | | | | | | | | | | | | | 1.980 | 0.03 | | |
| 1000m | | | | | | | | | | | | | 1.980 | 0.03 | | |

注)緯度、経度は世界測地系による。

沿岸定線観測結果 (平成26年3月分)

調査員:久野 正博・松尾 剛平

| 測点 | | 13 | | 14 | | 15 | | 17 | | 20 | | 22 | | 23 | | |
|-------|---------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|--------|
| 年 | 月 | 14/03/11 | | 14/03/11 | | 14/03/11 | | 14/03/12 | | 14/03/11 | | 14/03/12 | | 14/03/12 | | |
| 時 | 刻 | 12:29 | | 15:32 | | 16:12 | | 08:30 | | 08:30 | | 15:50 | | 14:32 | | |
| | | -12:39 | | -15:42 | | -16:24 | | -08:36 | | -08:35 | | -15:56 | | -15:20 | | |
| 緯 | 度 (N) | 33° 19.79 | | 33° 26.20 | | 33° 32.69 | | 33° 37.83 | | 34° 14.77 | | 34° 10.72 | | 34° 04.46 | | |
| 経 | 度 (E) | 136° 26.31 | | 136° 17.07 | | 136° 08.01 | | 136° 00.54 | | 136° 43.43 | | 136° 50.83 | | 136° 59.75 | | |
| 水 | 深 | 2020m | | 1942m | | 1450m | | 103m | | 58m | | 129m | | 1378m | | |
| 色 | 度 | 3 | | 3 | | 3 | | 3 | | 4 | | 4 | | 3 | | |
| 傾 | 角 / 透 | 23 / 24.0 | | 41 / 21.0 | | 23 / 15.0 | | 21 / 20.0 | | 38 / 18.0 | | 31 / 18.0 | | 34 / 17.0 | | |
| 風 | 浪 | SW 3 | | SW 3 | | SW 4 | | N 2 | | NNW 2 | | SW 3 | | SW 3 | | |
| う | ね | SW 1 | | SW 1 | | SW 2 | | NNE 1 | | SSW 1 | | SW 1 | | SW 1 | | |
| 気 | 温 | 8.5°C | | 12.2°C | | 12.1°C | | 13.4°C | | 5.9°C | | 17.1°C | | 20.2°C | | |
| 天 | 気 | B | | B | | B | | B | | BC | | B | | BC | | |
| 雲 | 形・雲 | CU 1 | | CU 1 | | CU 1 | | CU 1 | | CU 2 | | CU 1 | | CU 5 | | |
| 風 | 向 (風 | SW(2) | | SW(3) | | SW(5) | | N(2) | | NW(3) | | E(1) | | ENE(1) | | |
| 気 | 圧 (hPa) | 1027.7 | | 1025.7 | | 1024.3 | | 1024.7 | | 1027.8 | | 1019.1 | | 1020.0 | | |
| 流 | 速 | 10m | 74 | 0.6 | 306 | 0.3 | 36 | 0.5 | 34 | 0.4 | 73 | 0.3 | 31 | 0.9 | 341 | 0.5 |
| | | 20m | 86 | 0.3 | 306 | 0.3 | 15 | 0.4 | 23 | 0.6 | 57 | 0.2 | 34 | 0.9 | 340 | 0.5 |
| | | 30m | 114 | 0.1 | 284 | 0.2 | 14 | 0.3 | 28 | 0.5 | 95 | 0.2 | 46 | 0.5 | 347 | 0.4 |
| | | 40m | 200 | 0.1 | 252 | 0.2 | 54 | 0.3 | 21 | 0.6 | 119 | 0.1 | 48 | 0.5 | 345 | 0.4 |
| | | 50m | 194 | 0.1 | 295 | 0.1 | 352 | 0.1 | 20 | 0.6 | 204 | 0.2 | 51 | 0.4 | 351 | 0.3 |
| 水 | 温 | 0m | 18.17 | 34.719 | 16.60 | 34.651 | 16.66 | 34.657 | 16.76 | 34.650 | 15.72 | 34.596 | 17.78 | 34.662 | 17.92 | 34.688 |
| | | 10m | 17.97 | 34.721 | 16.58 | 34.651 | 16.63 | 34.653 | 16.76 | 34.651 | 15.67 | 34.611 | 17.73 | 34.699 | 17.56 | 34.675 |
| | | 20m | 17.49 | 34.701 | 16.50 | 34.647 | 16.57 | 34.651 | 16.75 | 34.650 | 15.68 | 34.610 | 17.54 | 34.700 | 17.53 | 34.675 |
| | | 30m | 16.98 | 34.673 | 16.47 | 34.645 | 16.57 | 34.652 | 16.75 | 34.651 | 15.66 | 34.614 | 16.98 | 34.681 | 17.50 | 34.676 |
| | | 50m | 16.54 | 34.622 | 16.43 | 34.644 | 16.53 | 34.650 | 16.61 | 34.641 | 15.50 | 34.613 | 16.30 | 34.650 | 17.41 | 34.676 |
| | | 75m | 16.03 | 34.556 | 16.32 | 34.632 | 16.44 | 34.647 | 15.95 | 34.581 | | | 16.06 | 34.643 | 17.37 | 34.675 |
| | | 100m | 14.71 | 34.470 | 14.52 | 34.513 | 15.79 | 34.574 | 14.13 | 34.510 | | | 13.31 | 34.483 | 17.09 | 34.650 |
| | | 125m | 13.89 | 34.471 | 13.94 | 34.488 | 14.06 | 34.491 | | | | | | | 15.69 | 34.549 |
| | | 150m | 13.15 | 34.467 | 13.43 | 34.467 | 13.28 | 34.459 | | | | | | | 14.22 | 34.497 |
| | | 175m | 12.65 | 34.445 | 12.62 | 34.433 | 12.36 | 34.420 | | | | | | | 13.35 | 34.471 |
| | | 200m | 11.91 | 34.404 | 11.78 | 34.393 | 11.46 | 34.390 | | | | | | | 12.14 | 34.412 |
| | | 250m | 10.30 | 34.337 | 10.32 | 34.346 | 10.39 | 34.352 | | | | | | | 10.14 | 34.327 |
| | | 300m | 8.86 | 34.278 | 8.92 | 34.298 | 8.81 | 34.291 | | | | | | | 8.86 | 34.311 |
| | | 400m | | | | | | | | | | | | | 6.74 | 34.231 |
| | | 500m | | | | | | | | | | | | | 5.61 | 34.230 |
| 600m | | | | | | | | | | | | | 4.94 | 34.267 | | |
| 700m | | | | | | | | | | | | | 4.33 | 34.313 | | |
| 800m | | | | | | | | | | | | | 3.94 | 34.354 | | |
| 900m | | | | | | | | | | | | | 3.53 | 34.395 | | |
| 1000m | | | | | | | | | | | | | 3.28 | 34.423 | | |
| D | O | 0m | 6.770 | 0.17 | 7.370 | 0.27 | 7.360 | 0.47 | 7.260 | 0.30 | 7.150 | 0.30 | 7.420 | 0.38 | 7.170 | 0.27 |
| | | 10m | 6.830 | 0.23 | 7.340 | 0.45 | 7.280 | 0.78 | 7.270 | 0.48 | 7.390 | 0.57 | 7.550 | 1.41 | 7.200 | 0.55 |
| | | 20m | 7.080 | 0.59 | 7.310 | 0.66 | 7.260 | 0.88 | 7.250 | 0.80 | 7.320 | 0.81 | 7.380 | 1.52 | 7.170 | 0.68 |
| | | 30m | 7.120 | 0.71 | 7.300 | 0.95 | 7.260 | 0.81 | 7.240 | 0.63 | 7.360 | 0.88 | 7.410 | 1.14 | 7.170 | 0.80 |
| | | 50m | 7.240 | 0.70 | 7.260 | 0.76 | 7.330 | 0.81 | 6.730 | 0.44 | 7.390 | 0.90 | 7.340 | 0.87 | 7.130 | 0.62 |
| | | 75m | 7.220 | 0.57 | 7.210 | 0.55 | 7.230 | 0.78 | 6.520 | 0.33 | | | 7.280 | 0.45 | 7.120 | 0.49 |
| | | 100m | 6.950 | 0.19 | 5.510 | 0.03 | 6.180 | 0.22 | 6.310 | 0.11 | | | 6.470 | 0.08 | 6.840 | 0.29 |
| | | 125m | 5.910 | 0.05 | 5.460 | 0.02 | 5.520 | 0.03 | | | | | | | 5.940 | 0.05 |
| | | 150m | 6.070 | 0.05 | 5.330 | 0.02 | 5.160 | 0.02 | | | | | | | 6.110 | 0.05 |
| | | 175m | 6.090 | 0.05 | 5.420 | 0.02 | 5.040 | 0.02 | | | | | | | 6.440 | 0.04 |
| | | 200m | 4.890 | 0.03 | 4.940 | 0.02 | 4.690 | 0.02 | | | | | | | 4.870 | 0.03 |
| | | 250m | 4.510 | 0.02 | 4.440 | 0.02 | 4.440 | 0.03 | | | | | | | 4.470 | 0.02 |
| | | 300m | 4.130 | 0.03 | 4.080 | 0.02 | 4.050 | 0.02 | | | | | | | 4.010 | 0.03 |
| | | 400m | | | | | | | | | | | | | 3.420 | 0.03 |
| | | 500m | | | | | | | | | | | | | 2.870 | 0.04 |
| 600m | | | | | | | | | | | | | 2.470 | 0.04 | | |
| 700m | | | | | | | | | | | | | 2.150 | 0.04 | | |
| 800m | | | | | | | | | | | | | 2.040 | 0.03 | | |
| 900m | | | | | | | | | | | | | 1.980 | 0.03 | | |
| 1000m | | | | | | | | | | | | | 1.990 | 0.03 | | |

注)緯度、経度は世界測地系による。

沿岸定線観測結果 (平成26年3月分)

調査員:久野 正博・松尾 剛平

| 測点 | | | 26 | | 27 | | 28 | | 29 | | 30 | |
|-----|--------|-------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
| 年 | 月 | 日 | 14/03/12 | | 14/03/12 | | 14/03/11 | | 14/03/11 | | 14/03/11 | |
| 時 | 刻 | | 13:52 | | 13:08 | | 11:49 | | 13:08 | | 13:49 | |
| | | | -14:02 | | -13:19 | | -11:59 | | -13:18 | | -14:09 | |
| 緯度 | (N) | | 33° 55.62 | | 33° 46.79 | | 33° 30.06 | | 33° 10.19 | | 33° 00.24 | |
| 経度 | (E) | | 136° 52.80 | | 136° 45.65 | | 136° 26.29 | | 136° 26.25 | | 136° 26.21 | |
| 水深 | | | 1040m | | 1872m | | 2067m | | 2256m | | | |
| 水色 | | | 3 | | 3 | | 3 | | 3 | | 3 | |
| 傾角 | ／ | 透明度 | 28 / 15.0 | | 48 / 17.0 | | 20 / 26.0 | | 40 / 22.0 | | 38 / 25.0 | |
| 風浪 | | | SW 3 | | SW 3 | | SW 3 | | SW 3 | | W 3 | |
| うねり | | | SW 1 | | SW 1 | | SW 1 | | SW 1 | | NE 1 | |
| 気温 | | 温 | 18.4°C | | 17.3°C | | 8.9°C | | 8.7°C | | 9.2°C | |
| 天気 | | 気 | B | | BC | | B | | B | | B | |
| 雲形 | ・ | 雲量 | CU 2 | | CU 4 | | CU 1 | | CU 1 | | CU 1 | |
| 風向 | (風力) | | SW(4) | | SW(4) | | SW(2) | | SW(2) | | W(1) | |
| 気圧 | (hPa) | | 1020.3 | | 1021.1 | | 1027.8 | | 1027.4 | | 1026.9 | |
| 流向 | 流速 | 10m | 314 | 0.6 | 334 | 0.9 | 219 | 0.3 | 81 | 0.5 | 90 | 4.8 |
| | | 20m | 293 | 0.6 | 340 | 0.8 | 227 | 0.3 | 97 | 0.4 | 88 | 4.6 |
| | | 30m | 300 | 0.6 | 3 | 0.5 | 234 | 0.2 | 89 | 0.5 | 89 | 4.6 |
| | | 40m | 306 | 0.6 | 333 | 0.4 | 226 | 0.3 | 77 | 0.7 | 88 | 4.5 |
| | | 50m | 301 | 0.7 | 307 | 0.3 | 237 | 0.1 | 81 | 0.6 | 90 | 4.6 |
| 水温 | 塩分 | 0m | 17.41 | 34.660 | 17.51 | 34.688 | 16.66 | 34.651 | 18.00 | 34.695 | 19.85 | 34.754 |
| | | 10m | 17.36 | 34.660 | 17.48 | 34.689 | 16.58 | 34.647 | 17.87 | 34.686 | 19.72 | 34.744 |
| | | 20m | 17.33 | 34.658 | 17.36 | 34.690 | 16.57 | 34.648 | 17.80 | 34.679 | 19.68 | 34.741 |
| | | 30m | 17.32 | 34.657 | 17.04 | 34.688 | 16.57 | 34.651 | 17.65 | 34.662 | 19.65 | 34.738 |
| | | 50m | 17.32 | 34.657 | 16.15 | 34.657 | 16.59 | 34.655 | 17.19 | 34.630 | 19.59 | 34.735 |
| | | 75m | 17.32 | 34.659 | 15.88 | 34.636 | 16.58 | 34.657 | 16.29 | 34.582 | 19.01 | 34.702 |
| | | 100m | 17.26 | 34.653 | 15.63 | 34.616 | 16.33 | 34.618 | 15.80 | 34.563 | 18.40 | 34.694 |
| | | 125m | 15.97 | 34.593 | 13.96 | 34.474 | 14.73 | 34.521 | 14.57 | 34.506 | 17.79 | 34.680 |
| | | 150m | 13.68 | 34.484 | 13.21 | 34.468 | 13.47 | 34.479 | 13.65 | 34.493 | 17.52 | 34.663 |
| | | 175m | 13.31 | 34.469 | 12.15 | 34.417 | 12.11 | 34.408 | 11.99 | 34.404 | 17.08 | 34.623 |
| | | 200m | 11.85 | 34.404 | 11.41 | 34.388 | 11.67 | 34.389 | 11.29 | 34.378 | 16.14 | 34.568 |
| | | 250m | 10.26 | 34.343 | 9.86 | 34.319 | 10.24 | 34.336 | 9.89 | 34.319 | 13.12 | 34.455 |
| | | 300m | 9.14 | 34.311 | 8.92 | 34.306 | 9.14 | 34.313 | 8.74 | 34.276 | 10.50 | 34.351 |
| | | 400m | | | | | | | | | | |
| | | 500m | | | | | | | | | | |
| | | 600m | | | | | | | | | | |
| | | 700m | | | | | | | | | | |
| | | 800m | | | | | | | | | | |
| | | 900m | | | | | | | | | | |
| | | 1000m | | | | | | | | | | |
| D O | クロロフィル | 0m | 7.170 | 0.22 | 7.330 | 0.20 | 7.230 | 0.02 | 7.060 | 0.23 | 6.950 | 0.15 |
| | | 10m | 7.160 | 0.30 | 7.300 | 0.53 | 7.200 | 0.22 | 7.020 | 0.24 | 6.930 | 0.29 |
| | | 20m | 7.160 | 0.52 | 7.330 | 0.79 | 7.200 | 0.30 | 7.020 | 0.63 | 6.880 | 0.47 |
| | | 30m | 7.130 | 0.58 | 7.280 | 0.83 | 7.200 | 0.43 | 6.790 | 0.48 | 6.890 | 0.54 |
| | | 50m | 7.100 | 0.55 | 7.300 | 0.59 | 7.200 | 0.56 | 6.370 | 0.25 | 6.770 | 0.54 |
| | | 75m | 7.100 | 0.53 | 7.320 | 0.65 | 7.250 | 0.57 | 6.330 | 0.17 | 6.800 | 0.48 |
| | | 100m | 7.030 | 0.43 | 7.290 | 0.46 | 7.070 | 0.50 | 6.080 | 0.14 | 6.860 | 0.50 |
| | | 125m | 5.890 | 0.06 | 5.970 | 0.06 | 5.810 | 0.05 | 5.720 | 0.07 | 7.000 | 0.51 |
| | | 150m | 5.560 | 0.03 | 5.690 | 0.04 | 5.390 | 0.04 | 5.230 | 0.03 | 7.020 | 0.50 |
| | | 175m | 5.460 | 0.03 | 4.880 | 0.02 | 5.040 | 0.03 | 4.950 | 0.02 | 6.990 | 0.31 |
| | | 200m | 4.770 | 0.02 | 4.700 | 0.02 | 4.860 | 0.02 | 4.750 | 0.02 | 6.330 | 0.19 |
| | | 250m | 4.450 | 0.02 | 4.420 | 0.02 | 4.470 | 0.02 | 4.390 | 0.02 | 5.320 | 0.03 |
| | | 300m | 4.100 | 0.02 | 4.040 | 0.02 | 4.110 | 0.03 | 4.100 | 0.02 | 4.460 | 0.02 |
| | | 400m | | | | | | | | | | |
| | | 500m | | | | | | | | | | |
| | | 600m | | | | | | | | | | |
| | | 700m | | | | | | | | | | |
| | | 800m | | | | | | | | | | |
| | | 900m | | | | | | | | | | |
| | | 1000m | | | | | | | | | | |

注)緯度、経度は世界測地系による。