

# TUMSAT-OACIS Repository - Tokyo

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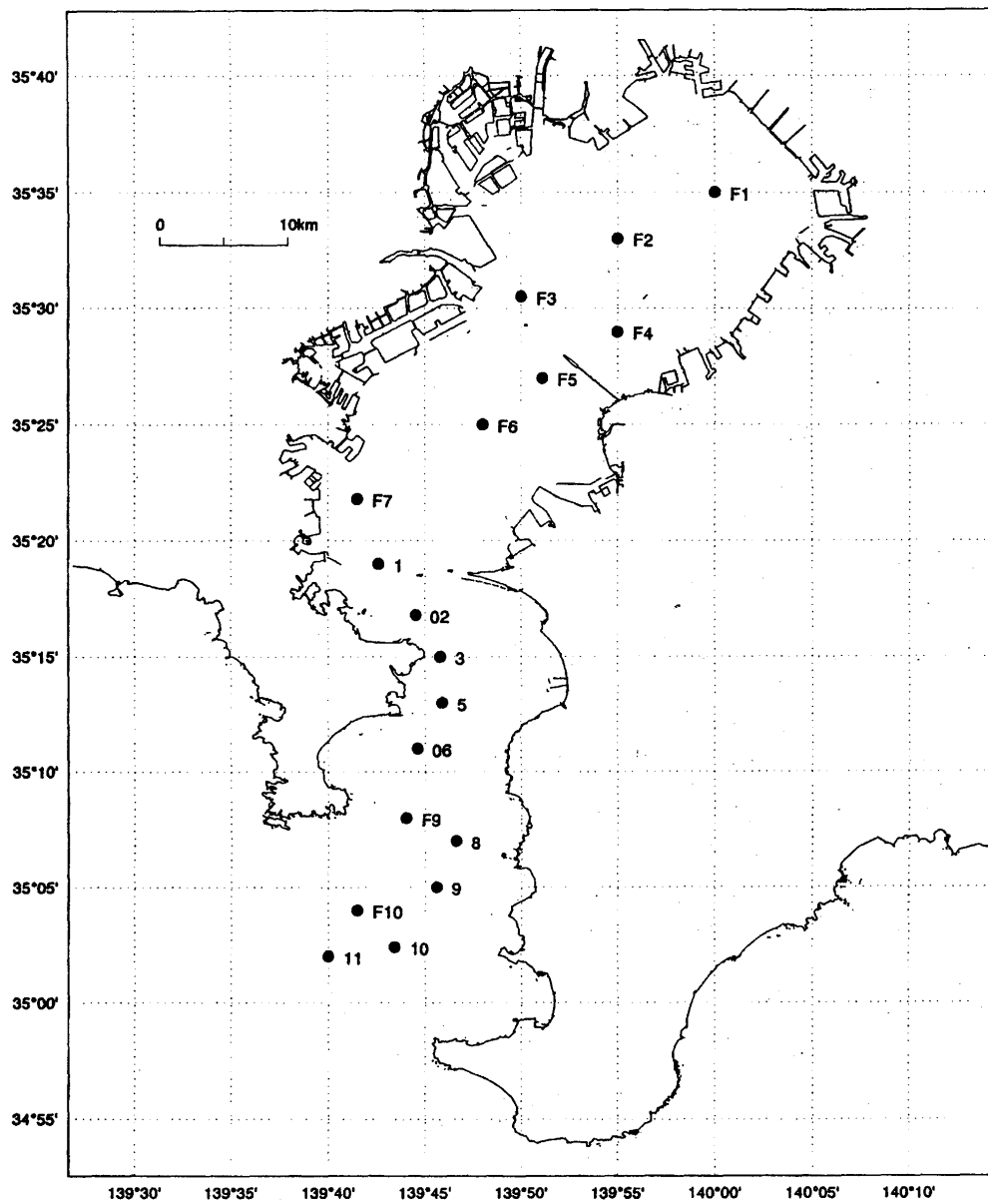
(東京海洋大学)

第三部 青鷹丸航海調査報告 平成12年度 期間  
平成12年4月～平成13年3月 海域 東京湾及び相模湾

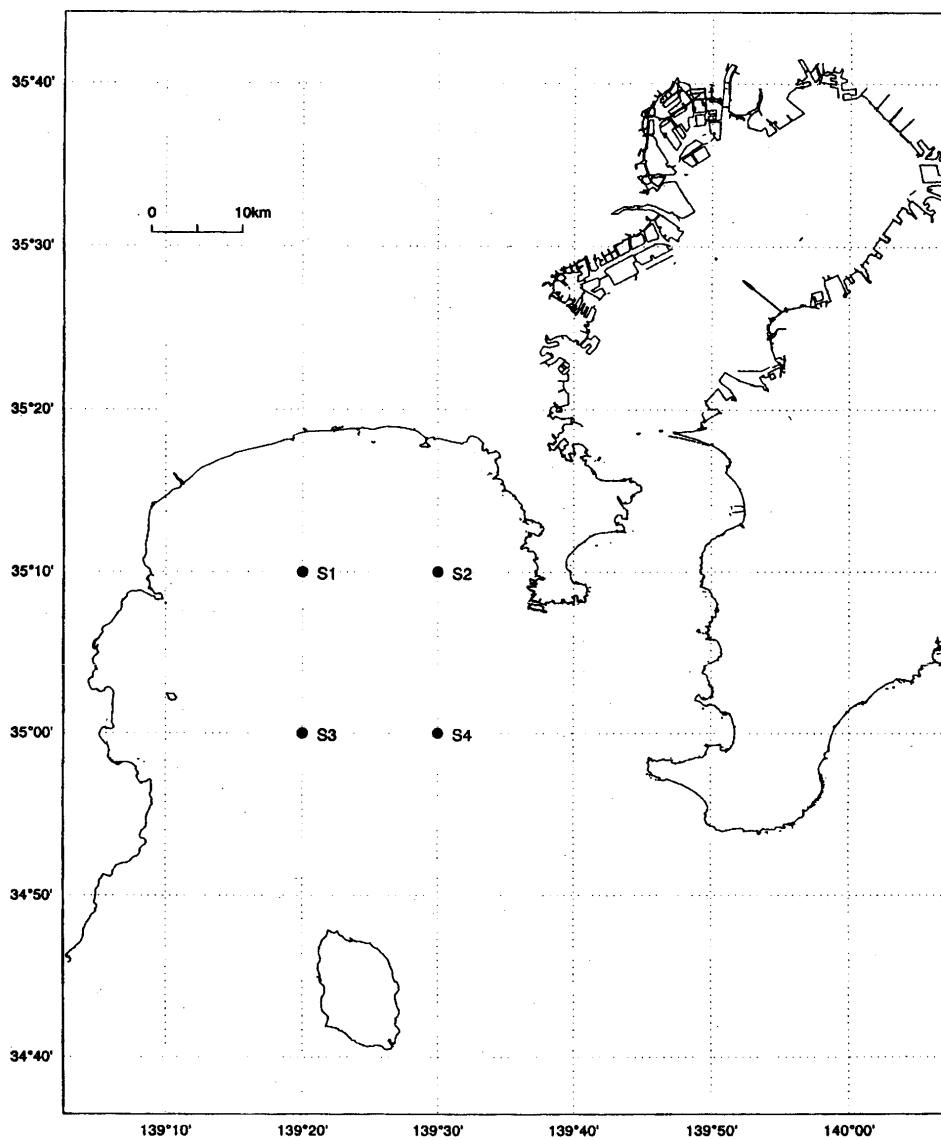
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|-------|---|
| メタデータ | 言語: jpn<br>出版者:<br>公開日: 2008-04-10<br>キーワード (Ja):<br>キーワード (En):<br>作成者:<br>メールアドレス:<br>所属:     |
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## 2. 調査資料 (Oceanographic Observation Data)

### 2.1 観測海域図 (Observation Leg Chart)



東京湾観測点



相模湾観測点

## 2.2 CTD観測表 (CTD Observations Table)

| St.No | Time(SMT)  | GMT        | Lat.<br>N | Long<br>E | A.Temp<br>℃ | W.Temp<br>℃ | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|------------|------------|-----------|-----------|-------------|-------------|------------|-----------|------------------|
| F3    | 4/24 08:30 | 4/23 23:30 | 35-30.58  | 139-50.01 | 14.5        | 14.4        | 25         | 031       | 2.2              |
| F2    | 4/24 10:00 | 4/24 01:00 | 35-32.96  | 139-55.02 | 15.2        | 15.3        | 18         | calm      |                  |
| F1    | 4/24 10:52 | 4/24 01:52 | 35-34.94  | 140-00.37 | 16.5        | 15.8        | 13         | calm      |                  |
| F4    | 4/24 11:49 | 4/24 03:21 | 35-28.92  | 139-54.98 | 16.0        | 15.2        | 20         | 251       | 2.8              |
| F5    | 4/24 12:21 | 4/24 03:21 | 35-26.57  | 139-51.81 | 16.3        | 14.9        | 25         | 233       | 3.3              |
| F6    | 4/24 13:06 | 4/24 04:06 | 35-25.05  | 139-47.98 | 16.7        | 14.7        | 28         | 195       | 5.7              |
| F7    | 4/24 14:20 | 4/24 05:20 | 35-21.75  | 139-41.50 | 16.9        | 14.8        | 43         | 170       | 5.7              |
| 01    | 4/24 14:54 | 4/24 05:54 | 35-18.93  | 139-42.51 | 16.9        | 14.5        | 47         | 180       | 7.0              |
| 02    | 4/24 15:25 | 4/24 06:25 | 35-16.76  | 139-44.20 | 17.2        | 14.7        | 42         | 185       | 6.4              |
| 03    | 4/24 16:11 | 4/24 07:11 | 35-14.96  | 139-45.81 | 16.9        | 14.2        | 35         | 228       | 7.2              |
| 05    | 4/24 16:38 | 4/24 07:38 | 35-12.92  | 139-45.90 | 16.1        | 14.6        | 80         | 239       | 8.7              |
| S4    | 4/25 09:09 | 4/25 00:09 | 34-59.98  | 139-30.13 | 13.9        | 16.6        | 1317       | calm      |                  |
| S3    | 4/25 10:49 | 4/25 01:49 | 35-00.01  | 139-21.46 | 14.8        | 15.9        | 1480       | 195       | 4.1              |
| S3    | 4/26 08:05 | 4/25 23:05 | 34-59.94  | 139-19.84 | 14.6        | 14.7        | 1506       | 024       | 5.7              |
| S1    | 4/26 09:46 | 4/26 23:46 | 35-09.98  | 139-19.99 | 14.7        | 14.9        | 1077       | 128       | 3.1              |
| S2    | 4/26 11:14 | 4/26 02:14 | 35-10.03  | 139-29.99 | 14.5        | 16.0        | 528        | calm      |                  |
| O     | 4/28 07:26 | 4/27 22:26 | 35-06.47  | 139-39.92 | 14.3        | 14.7        | 81         | calm      |                  |
| 11    | 4/28 08:10 | 4/27 23:10 | 35-01.96  | 139-39.94 | 15.0        | 15.5        | 851        | calm      |                  |
| 10    | 4/28 09:28 | 4/28 00:28 | 35-02.38  | 139-43.39 | 16.4        | 16.4        | 817        | 261       | 2.2              |
| 09    | 4/28 10:38 | 4/28 01:38 | 35-04.99  | 139-45.62 | 17.4        | 16.6        | 657        | 214       | 3.8              |
| 08    | 4/28 11:16 | 4/28 02:16 | 35-06.98  | 139-46.65 | 17.9        | 16.0        | 547        | 198       | 5.3              |
| 07    | 4/28 11:56 | 4/28 02:56 | 35-08.99  | 139-45.68 | 18.4        | 15.0        | 446        | 198       | 6.0              |
| 06    | 4/28 13:16 | 4/28 04:16 | 35-11.10  | 139-44.72 | 17.2        | 15.3        | 258        | 187       | 3.7              |
| F3    | 6/19 10:00 | 6/19 01:00 | 35-30.50  | 139-49.98 | 22.9        | 22.2        | 24         | calm      |                  |
| F2    | 6/19 11:24 | 6/19 02:24 | 35-33.04  | 139-54.91 | 24.7        | 21.9        | 17         | calm      |                  |
| F1    | 6/19 12:11 | 6/19 03:11 | 35-35.04  | 140-00.00 | 26.2        | 22.8        | 13         | 043       | 1.0              |
| F4    | 6/19 13:12 | 6/19 04:12 | 35-29.02  | 139-55.09 | 26.0        | 22.4        | 20         | calm      |                  |
| F5    | 6/19 13:42 | 6/19 04:42 | 35-26.58  | 139-51.77 | 24.8        | 21.8        | 24         | 208       | 4.4              |
| F6    | 6/19 14:24 | 6/19 05:24 | 35-25.02  | 139-48.02 | 23.9        | 22.7        | 24         | 188       | 6.0              |
| F7    | 6/19 15:45 | 6/19 06:45 | 35-21.77  | 139-41.54 | 24.4        | 21.1        | 44         | 192       | 6.0              |
| 02    | 6/20 08:28 | 6/19 21:28 | 35-16.64  | 139-44.43 | 21.7        | 21.8        | 43         | 117       | 2.6              |
| 05    | 6/20 09:12 | 6/20 00:12 | 35-12.89  | 139-45.89 | 22.5        | 20.5        | 80         | calm      |                  |
| 06    | 6/20 09:47 | 6/20 00:47 | 35-10.73  | 139-44.49 | 22.4        | 21.0        | 298        | 223       | 1.4              |

| St.No | Time(SMT)  | GMT        | Lat.<br>N | Long<br>E  | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|------------|------------|-----------|------------|--------------|--------------|------------|-----------|------------------|
| 07    | 6/20 10:15 | 6/20 01:15 | 35-08.96  | 139-45.65  | 22.5         | 21.2         | 447        | 227       | 2.6              |
| 08    | 6/20 11:13 | 6/20 02:13 | 35-06.99  | 139-46.65  | 23.1         | 21.7         | 536        | 210       | 4.0              |
| 09    | 6/20 11:51 | 6/20 02:51 | 35-05.01  | 139-45.61E | 22.1         | 22.7         | 656        | 210       | 5.1              |
| 10    | 6/20 12:36 | 6/20 03:36 | 35-02.38  | 139-43.39  | 22.3         | 22.5         | 816        | 180       | 5.5              |
| 11    | 6/20 13:39 | 6/20 04:39 | 35-01.94  | 139-39.94  | 22.8         | 21.8         | 850        | 171       | 6.4              |
| S4    | 6/22 09:06 | 6/22 00:06 | 34-59.96  | 139-30.03  | 23.3         | 21.6         | 1316       | 43        | 1.4              |
| S3    | 6/22 11:19 | 6/22 02:19 | 35-00.01  | 139-20.03  | 26.1         | 21.4         | 1497       | calm      |                  |
| S1    | 6/22 13:56 | 6/22 04:56 | 35-10.02  | 139-19.96  | 25.0         | 21.9         | 1073       | 43        | 1.4              |
| S2    | 6/22 15:11 | 6/22 06:11 | 35-09.98  | 139-30.09  | 24.1         | 21.6         | 522        | 217       | 3.0              |
| 06    | 6/22 09:53 | 6/22 00:53 | 35-02.49  | 139-45.17  | 20.7         | 20.5         | 765        | 17        | 6.6              |
| 05    | 6/22 10:17 | 6/22 01:17 | 35-01.45  | 139-45.14  | 20.4         | 20.4         | 250        | 11        | 5.3              |
| 04    | 6/22 10:34 | 6/22 01:34 | 35-00.44  | 139-45.20  | 20.5         | 20.6         | 443        | 22        | 6.0              |
| 03    | 6/22 10:53 | 6/22 01:53 | 34-59.48  | 139-45.22  | 20.6         | 20.8         | 188        | 24        | 5.6              |
| 02    | 6/22 11:09 | 6/2 02:09  | 34-59.45  | 139-46.40  | 21.0         | 20.8         | 78         | 19        | 6.2              |
| 11    | 6/22 11:23 | 6/22 02:23 | 35-00.46  | 139-46.45  | 20.7         | 20.7         | 433        | 6         | 6.3              |
| 10    | 6/22 11:46 | 6/22 02:46 | 35-01.46  | 139-46.41  | 20.5         | 20.5         | 105        | 4         | 7.0              |
| 07    | 6/25 12:00 | 6/25 03:00 | 35-02.48  | 139-46.42  | 20.5         | 20.4         | 472        | 18        | 7.4              |
| 08    | 6/25 12:25 | 6/25 03:25 | 35-02.63  | 139-47.65  | 20.5         | 20.5         | 43         | 20        | 8.4              |
| 09    | 6/25 12:41 | 6/25 03:41 | 35-01.46  | 139-47.55  | 20.8         | 20.6         | 75         | 21        | 5.2              |
| 12    | 6/25 12:56 | 6/25 03:56 | 35-00.44  | 139-47.64  | 20.8         | 20.7         | 300        | 22        | 5.2              |
| 01    | 6/25 13:12 | 6/25 04:12 | 34-59.70  | 139-47.56  | 21.2         | 20.7         | 120        | 24        | 5.0              |
| 16    | 6/25 13:27 | 6/25 04:27 | 34-59.98  | 139-48.88  | 21.5         | 21.0         | 88         | 28        | 5.9              |
| 15    | 6/25 13:41 | 6/25 04:41 | 35-00.03  | 139-50.03  | 22.0         | 21.1         | 27         | 34        | 6.0              |
| 14    | 6/25 13:50 | 6/25 04:50 | 35-00.69  | 139-49.95  | 21.8         | 21.0         | 27         | 15        | 5.3              |
| 13    | 6/25 14:00 | 6/25 05:00 | 35-01.03  | 139-48.77  | 22.3         | 21.1         | 39         | 19        | 5.2              |
| F2    | 7/7 10:07  | 7/7 01:07  | 35-32.91  | 139-54.42  | 22.5         | 24.0         | 19         | 325       | 7.4              |
| F1    | 7/7 11:12  | 7/7 02:12  | 35-34.90  | 140-00.02  | 22.7         | 23.7         | 13         | 320       | 7.0              |
| F3    | 7/9 10:00  | 7/9 01:00  | 35-30.42  | 139-49.99  | 25.7         | 22.5         | 25         | 153       | 3.0              |
| F6    | 7/9 11:00  | 7/9 02:00  | 35-24.97  | 139-48.03  | 26.9         | 23.4         | 26         | calm      |                  |
| 02    | 7/9 12:45  | 7/9 03:45  | 35-16.77  | 139-44.28  | 26.6         | 23.3         | 43         | 178       | 5.0              |
| 05    | 7/9 13:23  | 7/9 04:23  | 35-13.05  | 139-45.96  | 25.1         | 23.5         | 78         | 243       | 5.4              |
| 06    | 7/9 13:49  | 7/9 04:49  | 35-11.01  | 139-44.62  | 24.2         | 22.9         | 280        | 240       | 5.9              |
| 07    | 7/9 14:37  | 7/9 05:37  | 35-09.06  | 139-45.43  | 24.8         | 22.8         | 445        | 170       | 5.0              |
| 08    | 7/9 15:31  | 7/9 06:31  | 35-07.02  | 139-46.60  | 25.1         | 23.8         | 512        | 188       | 4.6              |

| St.No | Time(SMT)  | GMT        | Lat.<br>N | Long<br>E | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|------------|------------|-----------|-----------|--------------|--------------|------------|-----------|------------------|
| 09    | 7/9 16:12  | 7/7 07:12  | 35-05.01  | 139-45.58 | 25.5         | 24.0         | 660        | 250       | 3.3              |
| 10    | 7/9 16:55  | 7/9 07:55  | 35-02.42  | 139-43.46 | 25.8         | 23.7         | 810        | 260       | 9.6              |
| 11    | 7/10 07:58 | 7/9 22:58  | 35-02.03  | 139-40.05 | 23.7         | 23.5         | 816        | 37        | 7.5              |
| S4    | 7/10 09:17 | 7/10 00:17 | 35-00.04  | 139-29.93 | 25.3         | 22.8         | 1329       | 7         | 4.0              |
| S3    | 7/10 10:21 | 7/10 01:21 | 35-00.01  | 139-20.02 | 24.7         | 22.3         | 1502       | calm      |                  |
| S1    | 7/11 10:47 | 7/11 01:47 | 35-09.98  | 139-19.97 | 26.4         | 23.1         | 1073       | 172       | 2.8              |
| S2    | 7/11 12:06 | 7/11 03:06 | 35-10.04  | 139-30.05 | 24.6         | 25.0         | 511        | 164       | 4.5              |
| S3    | 9/7 08:09  | 9/6 23:09  | 35-00.45  | 139-19.42 | 24.3         | 26.2         | 1487       | 15        | 8.7              |
| S4    | 9/8 09:33  | 9/8 00:33  | 35-00.01  | 139-29.80 | 25.2         | 26.0         | 1329       | 84        | 2.4              |
| S3    | 9/8 10:56  | 9/8 01:56  | 34-59.98  | 139-20.00 | 24.7         | 26.8         | 1496       | 59        | 2.8              |
| S3    | 9/9 09:57  | 9/9 00:57  | 35-00.32  | 139-20.18 | 27.9         | 26.8         | 1496       | 144       | 3.0              |
| 06    | 9/10 09:50 | 9/10 00:50 | 35-02.43  | 139-45.20 | 27.5         | 26.9         | 742        | 202       | 3.7              |
| 05    | 9/10 10:16 | 9/10 01:16 | 35-01.47  | 139-45.13 | 27.7         | 26.7         | 263        | 200       | 3.8              |
| 04    | 9/10 10:35 | 9/10 01:35 | 35-00.42  | 139-45.44 | 28.2         | 26.2         | 436        | 201       | 4.0              |
| 08    | 9/10 12:27 | 9/10 03:27 | 35-02.50  | 139-47.66 | 28.6         | 26.6         | 55         | 193       | 4.2              |
| 09    | 9/10 12:42 | 9/10 03:42 | 35-01.44  | 139-47.69 | 28.3         | 26.6         | 68         | 194       | 4.4              |
| 12    | 9/10 12:56 | 9/10 03:56 | 35-00.51  | 139-47.60 | 28.2         | 26.7         | 282        | 176       | 5.5              |
| 01    | 9/10 13:12 | 9/10 04:12 | 34-59.77  | 139-47.57 | 28.0         | 26.7         | 140        | 180       | 5.3              |
| 16    | 9/10 13:26 | 9/10 04:26 | 35-00.01  | 139-48.83 | 28.6         | 26.9         | 100        | 199       | 4.7              |
| 15    | 9/10 13:37 | 9/10 04:37 | 35-00.05  | 139-50.01 | 28.7         | 26.8         | 28         | 213       | 5.2              |
| 14    | 9/10 13:47 | 9/10 04:47 | 35-00.96  | 139-50.03 | 29.0         | 26.8         | 8          | 226       | 4.5              |
| 13    | 9/10 14:00 | 9/10 05:00 | 35-00.99  | 139-48.82 | 28.7         | 26.9         | 40         | 203       | 5.0              |
| 07    | 9/10 14:21 | 9/10 05:21 | 35-02.46  | 139-46.46 | 28.8         | 26.8         | 337        | 188       | 5.0              |
| 10    | 9/10 14:38 | 9/10 05:38 | 35-01.48  | 139-46.44 | 28.0         | 26.8         | 106        | 188       | 5.3              |
| 11    | 9/10 14:52 | 9/10 05:52 | 35-00.51  | 139-46.40 | 27.9         | 26.8         | 435        | 182       | 5.4              |
| 02    | 9/10 15:08 | 9/10 06:08 | 34-59.56  | 139-46.46 | 28.0         | 26.9         | 108        | 172       | 6.0              |
| 03    | 9/10 15:22 | 9/10 06:22 | 34-59.48  | 139-45.16 | 28.1         | 26.9         | 185        | 175       | 6.2              |
| 11    | 9/11 08:49 | 9/10 23:49 | 35-01.92  | 139-40.05 | 25.0         | 26.6         | 815        | 22        | 8.8              |
| 10    | 9/11 10:26 | 9/11 01:26 | 35-02.42  | 139-43.37 | 26.3         | 26.9         | 805        | 43        | 1.4              |
| 09    | 9/11 11:12 | 9/11 02:12 | 35-05.03  | 139-45.65 | 29.3         | 26.3         | 651        | 148       | 5.6              |
| 08    | 9/11 11:45 | 9/11 02:45 | 35-07.01  | 139-46.60 | 29.0         | 26.2         | 527        | 152       | 6.4              |
| 07    | 9/11 12:29 | 9/11 03:29 | 35-08.94  | 139-45.65 | 28.4         | 26.5         | 459        | 166       | 6.6              |
| 06    | 9/11 13:29 | 9/11 04:29 | 35-11.02  | 139-44.66 | 28.6         | 26.5         | 275        | 158       | 6.0              |
| 05    | 9/11 14:27 | 9/11 05:27 | 35-12.93  | 139-45.93 | 27.9         | 26.5         | 80         | 176       | 6.8              |

| St.No | Time(SMT)  | GMT        | Lat<br>N | Long<br>E | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|------------|------------|----------|-----------|--------------|--------------|------------|-----------|------------------|
| 02    | 9/11 15:08 | 9/11 06:08 | 35-16.62 | 139-44.33 | 25.3         | 26.3         | 44         | 311       | 4.4              |
| F6    | 9/11 16:41 | 9/11 07:41 | 35-25.05 | 139-48.02 | 25.2         | 25.9         | 28         | 43        | 1.0              |
| F3    | 9/12 11:12 | 9/12 02:12 | 35-30.52 | 139-50.04 | 27.5         | 26.2         | 25         | 185       | 9.1              |
| F3    | 10/2 10:12 | 10/2 01:12 | 35-30.37 | 139-50.00 | 21.2         | 22.7         | 25         | 15        | 4.7              |
| F6    | 10/2 12:00 | 10/2 03:00 | 35-24.68 | 139-47.83 | 20.8         | 22.9         | 24         | 12        | 4.7              |
| 02    | 10/2 13:58 | 10/2 04:58 | 35-16.71 | 139-44.22 | 21.5         | 23.1         | 43         | 30        | 6.7              |
| 05    | 10/2 14:42 | 10/2 05:42 | 35-12.96 | 139-45.80 | 21.4         | 23.1         | 80         | 19        | 6.9              |
| 11    | 10/3 08:53 | 10/2 23:53 | 35-01.95 | 139-39.99 | 19.3         | 24.1         | 833        | 15        | 9.8              |
| 10    | 10/3 10:37 | 10/3 01:37 | 35-02.40 | 139-43.40 | 20.3         | 24.3         | 817        | 0         | 7.3              |
| 09    | 10/3 11:23 | 10/3 02:23 | 35-05.02 | 139-45.65 | 20.7         | 24.0         | 650        | 13        | 10.1             |
| 08    | 10/3 12:00 | 10/3 03:00 | 35-07.05 | 139-46.56 | 20.6         | 24.2         | 502        | 15        | 8.4              |
| 07    | 10/3 13:03 | 10/3 04:03 | 35-08.95 | 139-45.51 | 20.8         | 23.4         | 456        | 46        | 6.4              |
| 07    | 10/3 13:27 | 10/3 04:27 | 35-08.87 | 139-45.58 | 21.7         | 23.4         | 471        | 37        | 5.1              |
| 06    | 10/3 14:05 | 10/3 05:05 | 35-10.97 | 139-44.49 | 22.1         | 23.2         | 298        | 0         | 3.0              |
| S3    | 10/5 10:09 | 10/5 01:09 | 35-00.00 | 139-19.95 | 21.3         | 24.3         | 1509       | 25        | 10.3             |
| S4    | 10/5 12:46 | 10/5 03:46 | 34-59.94 | 139-29.97 | 22.4         | 23.5         | 1317       | 22        | 8.6              |
| 06    | 10/7 09:59 | 10/7 00:59 | 35-02.54 | 139-45.21 | 21.0         | 24.6         | 759        | 24        | 7.0              |
| 05    | 10/7 10:28 | 10/7 01:28 | 35-01.49 | 139-45.18 | 21.2         | 24.7         | 254        | 39        | 5.9              |
| 04    | 10/7 10:45 | 10/7 01:45 | 35-00.49 | 139-45.18 | 21.3         | 24.6         | 426        | 27        | 6.0              |
| 03    | 10/7 11:06 | 10/7 02:06 | 34-59.46 | 139-45.20 | 21.5         | 24.9         | 152        | 25        | 6.1              |
| 02    | 10/7 11:21 | 10/7 02:21 | 34-59.51 | 139-46.39 | 21.1         | 24.3         | 79         | 45        | 5.4              |
| 11    | 10/7 11:33 | 10/7 02:33 | 35-00.53 | 139-46.41 | 20.9         | 24.3         | 421        | 35        | 3.7              |
| 10    | 10/7 11:53 | 10/7 02:53 | 35-01.49 | 139-46.43 | 21.0         | 24.6         | 104        | 74        | 3.4              |
| 07    | 10/7 12:06 | 10/7 03:06 | 35-02.51 | 139-46.40 | 21.3         | 24.5         | 170        | 50        | 3.4              |
| 08    | 10/7 12:19 | 10/7 03:19 | 35-02.49 | 139-47.14 | 21.3         | 24.5         | 70         | 43        | 3.4              |
| 09    | 10/7 12:33 | 10/7 03:33 | 35-01.50 | 139-47.60 | 21.3         | 24.4         | 70         | 18        | 2.6              |
| 12    | 10/7 12:45 | 10/7 03:45 | 35-00.47 | 139-47.54 | 21.3         | 24.4         | 144        | 110       | 2.2              |
| 01    | 10/7 12:58 | 10/7 03:58 | 34-59.69 | 139-47.52 | 21.6         | 24.5         | 114        | 43        | 1.7              |
| 16    | 10/7 13:13 | 10/7 04:13 | 34-59.94 | 139-48.82 | 21.7         | 24.0         | 129        | 84        | 2.2              |
| 15    | 10/7 13:27 | 10/7 04:27 | 35-00.00 | 139-50.00 | 21.9         | 23.9         | 28         | 38        | 2.0              |
| 14    | 10/7 13:38 | 10/7 04:38 | 35-01.00 | 139-49.98 | 21.8         | 24.0         | 14         | 118       | 3.0              |
| 13    | 10/7 13:49 | 10/7 04:49 | 35-01.07 | 139-48.78 | 22.0         | 24.5         | 39         | 8         | 1.7              |
| F2    | 11/7 10:14 | 11/7 01:14 | 35-32.95 | 139-55.00 | 14.7         | 18.2         | 18         | 338       | 3.3              |
| F3    | 11/7 11:30 | 11/7 02:30 | 35-30.43 | 139-49.93 | 15.6         | 18.3         | 25         | calm      |                  |

| St.No | Time(SMT)   | GMT         | Lat.<br>N | Long<br>E | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|-------------|-------------|-----------|-----------|--------------|--------------|------------|-----------|------------------|
| F6    | 11/7 13:08  | 11/7 04:08  | 35-25.06  | 139-48.13 | 17.1         | 18.3         | 27         | 90        | 1.4              |
| 02    | 11/7 15:23  | 11/7 06:23  | 35-16.60  | 139-44.37 | 19.1         | 18.6         | 44         | 175       | 5.1              |
| 05    | 11/8 08:43  | 11/7 23:43  | 35-13.01  | 139-45.83 | 17.0         | 18.8         | 79         | 74        | 2.6              |
| 06    | 11/8 09:20  | 11/8 00:20  | 35-10.96  | 139-44.47 | 17.5         | 18.7         | 304        | 45        | 3.1              |
| 07    | 11/8 10:06  | 11/7 01:06  | 35-08.92  | 139-45.55 | 18.5         | 19.8         | 460        | 26        | 5.0              |
| 08    | 11/8 10:53  | 11/8 01:53  | 35-06.95  | 139-46.57 | 19.8         | 20.7         | 486        | 30        | 5.1              |
| 09    | 11/8 11:35  | 11/8 02:35  | 35-04.96  | 139-45.60 | 20.5         | 20.5         | 652        | 18        | 5.4              |
| 10    | 11/8 12:14  | 11/8 03:14  | 35-02.26  | 139-43.40 | 20.7         | 19.8         | 817        | 14        | 7.8              |
| 11    | 11/8 12:53  | 11/8 03:53  | 35-01.98  | 139-39.88 | 21.5         | 20.5         | 856        | 27        | 7.5              |
| S4    | 11/9 09:30  | 11/9 00:30  | 34-59.94  | 139-30.00 | 14.0         | 20.9         | 1317       | 24        | 9.5              |
| S3    | 11/9 11:14  | 11/9 02:14  | 34-59.97  | 139-20.03 | 14.3         | 20.7         | 1496       | 31        | 8.3              |
| 06    | 11/11 00:55 | 11/1100:55  | 35-02.50  | 139-45.14 | 17.6         | 20.6         | 754        | 15        | 5.6              |
| 05    | 11/11 10:29 | 11/11 01:29 | 35-01.45  | 139-45.17 | 17.1         | 20.6         | 221        | 21        | 6.8              |
| 04    | 11/11 10:44 | 11/11 01:44 | 35-00.50  | 139-45.18 | 17.4         | 20.6         | 407        | 10        | 6.4              |
| 03    | 11/11 11:04 | 11/11 02:04 | 34-59.57  | 139-45.15 | 17.6         | 20.5         | 202        | 18        | 8.6              |
| 02    | 11/11 11:22 | 11/11 02:22 | 34-59.51  | 139-46.34 | 17.9         | 20.5         | 98         | 14        | 10.0             |
| 11    | 11/11 11:35 | 11/11 02:35 | 35-00.44  | 139-46.35 | 18.0         | 20.6         | 420        | 12        | 11.2             |
| 10    | 11/11 12:00 | 11/11 03:00 | 35-01.45  | 139-46.42 | 17.8         | 20.6         | 104        | 16        | 14.1             |
| 07    | 11/11 12:15 | 11/11 03:15 | 35-02.44  | 139-46.41 | 17.6         | 20.6         | 351        | 18        | 13.2             |
| 08    | 11/11 12:33 | 11/11 03:33 | 35-02.45  | 139-47.58 | 17.5         | 20.4         | 63         | 29        | 12.6             |
| 09    | 11/11 12:43 | 11/11 03:43 | 35-01.46  | 139-47.49 | 17.8         | 20.4         | 75         | 28        | 10.4             |
| 12    | 11/11 12:55 | 11/11 03:55 | 35-00.47  | 139-47.56 | 18.3         | 20.4         | 203        | 23        | 8.8              |
| 01    | 11/11 13:08 | 11/11 04:08 | 34-59.78  | 139-47.53 | 17.7         | 20.4         | 165        | 56        | 8.1              |
| 16    | 11/11 13:26 | 11/11 04:26 | 35-00.00  | 139-48.77 | 17.7         | 20.5         | 143        | 45        | 7.9              |
| 15    | 11/11 13:42 | 11/11 03:42 | 35-00.01  | 139-50.02 | 18.1         | 22.7         | 28         | 37        | 8.3              |
| 14    | 11/11 12:53 | 11/11 03:53 | 35-00:96  | 139-49.98 | 18.1         | 20.5         | 16         | 29        | 7.4              |
| 13    | 11/11 14:04 | 11/11 05:04 | 35-00.98  | 139-48.74 | 18.5         | 20.3         | 42         | 42        | 5.6              |
| F2    | 12/13 10:09 | 12/13 01:09 | 35-32.94  | 139-50.04 | 8.6          | 13.5         | 18         | 25        | 1.0              |
| F3    | 12/13 10:56 | 12/13 01:56 | 35-30.41  | 139-49.85 | 10.0         | 13.7         | 25         | 29        | 2.6              |
| F6    | 12/13 12:35 | 12/13 03:35 | 35-24.97  | 139-48.05 | 11.4         | 14.4         | 26         | 43        | 1.4              |
| 02    | 12/13 14:33 | 12/13 05:33 | 35-16.72  | 139-44.31 | 11.2         | 15.2         | 44         | 334       | 2.4              |
| 05    | 12/14 08:26 | 12/13 23:26 | 35-12.93  | 139-45.72 | 8.1          | 15.6         | 80         | 19        | 6.0              |
| 06    | 12/14 09:00 | 12/14 00:00 | 35-10.96  | 139-45.68 | 8.2          | 16.0         | 286        | 25        | 7.6              |
| 07    | 12/14 09:45 | 12/14 00:45 | 35-08.95  | 139-45.55 | 8.7          | 17.6         | 457        | 12        | 7.6              |



| St.No | Time(SMT)   | GMT         | Lat.<br>N | Long<br>E | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|-------------|-------------|-----------|-----------|--------------|--------------|------------|-----------|------------------|
| 08    | 12/14 10:40 | 12/14 01:40 | 35-06.94  | 139-46.59 | 9.0          | 17.9         | 491        | 17        | 7.4              |
| 09    | 12/14 11:25 | 12/14 02:25 | 35-04.90  | 139-45.67 | 9.4          | 18.5         | 620        | 21        | 7.8              |
| 10    | 12/14 12:04 | 12/14 03:04 | 35-02.43  | 139-43.35 | 9.2          | 18.3         | 815        | 15        | 7.4              |
| 11    | 12/14 12:44 | 12/14 03:44 | 35-01.99  | 139-40.00 | 9.9          | 17.8         | 816        | 23        | 6.7              |
| S3    | 12/17 08:39 | 12/16 23:39 | 34-59.88  | 139-20.04 | 10.6         | 17.9         | 1496       | 32        | 7.2              |
| S4    | 12/17 12:11 | 12/17 03:11 | 34-59.95  | 139-30.06 | 11.0         | 18.4         | 1317       | 46        | 5.1              |
| 06    | 12/18 10:17 | 12/18 01:17 | 35-02.54  | 139-45.19 | 10.4         | 17.3         | 753        | 12        | 9.3              |
| 05    | 12/18 10:58 | 12/18 01:58 | 35-01.45  | 139-45.17 | 10.6         | 17.5         | 241        | 24        | 7.6              |
| 04    | 12/18 11:14 | 12/18 02:14 | 35-00.46  | 139-45.24 | 10.8         | 17.8         | 432        | 24        | 7.8              |
| 03    | 12/18 11:34 | 12/18 02:34 | 34-59.44  | 139-45.21 | 10.8         | 18.7         | 120        | 28        | 7.8              |
| 02    | 12/18 11:49 | 12/18 02:49 | 34-59.49  | 139-46.44 | 10.8         | 18.2         | 77         | 14        | 8.6              |
| 11    | 12/18 12:00 | 12/18 03:00 | 35-00.46  | 139-46.47 | 10.8         | 17.6         | 433        | 14        | 8.0              |
| 10    | 12/18 12:24 | 12/18 03:24 | 35-01.48  | 139-46.39 | 10.8         | 17.5         | 107        | 24        | 9.0              |
| 07    | 12/18 12:38 | 12/18 03:38 | 35-02.51  | 139-46.47 | 11.0         | 17.6         | 351        | 17        | 9.1              |
| 08    | 12/18 12:55 | 12/18 03:55 | 35-02.63  | 139-47.37 | 10.9         | 17.6         | 75         | 17        | 8.7              |
| 09    | 12/18 13:09 | 12/18 04:09 | 35-01.49  | 139-47.60 | 11.2         | 17.7         | 73         | 18        | 7.4              |
| 12    | 12/18 13:22 | 12/18 04:22 | 35-00.48  | 139-47.57 | 11.3         | 17.7         | 286        | 18        | 7.0              |
| 01    | 12/18 13:37 | 12/18 04:37 | 34-59.71  | 139-47.59 | 11.4         | 18.3         | 114        | 6         | 6.1              |
| 16    | 12/18 13:52 | 12/18 04:52 | 34-59.95  | 139-48.82 | 11.2         | 17.6         | 114        | 7         | 6.7              |
| 15    | 12/18 14:07 | 12/18 05:07 | 34-59.94  | 139-49.98 | 11.4         | 17.4         | 27         | 2         | 6.0              |
| 14    | 12/18 14:20 | 12/18 05:20 | 35-00.97  | 139-49.97 | 11.0         | 17.3         | 14         | 5         | 5.1              |
| 13    | 12/18 14:32 | 12/18 05:32 | 35-00.94  | 139-48.71 | 11.4         | 17.4         | 42         | 5         | 6.2              |
| F2    | 1/15 10:06  | 1/15 01:06  | 35-33.00  | 139-55.08 | 1.6          | 9.9          | 19         | 343       | 5.9              |
| F3    | 1/15 11:08  | 1/15 02:08  | 35-30.38  | 139-49.87 | 3.1          | 9.8          | 26         | 338       | 8.0              |
| F6    | 1/15 12:30  | 1/15 03:30  | 35-24.85  | 139-48.11 | 4.3          | 10.0         | 25         | 337       | 6.4              |
| 03    | 1/15 14:34  | 1/15 05:34  | 35-15.00  | 139-45.89 | 5.5          | 11.1         | 38         | 39        | 4.6              |
| 05    | 1/15 14:52  | 1/15 05:52  | 35-12.95  | 139-45.84 | 5.0          | 11.5         | 81         | 5         | 4.1              |
| 11    | 1/16 07:46  | 1/15 20:46  | 35-01.95  | 139-39.97 | 4.0          | 15.7         | 830        | 35        | 5.8              |
| 10    | 1/16 11:08  | 1/16 02:08  | 35-02.37  | 139-43.40 | 5.1          | 16.0         | 805        | 13        | 4.5              |
| 09    | 1/16 11:54  | 1/16 02:54  | 35-05.00  | 139-45.57 | 5.2          | 16.2         | 662        | 354       | 3.6              |
| 08    | 1/16 12:30  | 1/16 03:30  | 35-06.99  | 139-46.60 | 5.3          | 16.1         | 503        | 334       | 3.1              |
| 07    | 1/16 13:16  | 1/16 04:16  | 35-09.00  | 139-45.68 | 5.7          | 16.2         | 447        | 43        | 1.7              |
| 06    | 1/16 14:04  | 1/16 05:04  | 35-10.95  | 139-44.57 | 6.7          | 15.5         | 279        | 43        | 1.4              |
| S3    | 1/18 09:52  | 1/18 00:52  | 34-59.98  | 139-20.04 | 6.2          | 16.2         | 1495       | calm      |                  |

| St.No | Time(SMT)  | GMT        | Lat.<br>N | Long<br>E | A.Temp<br>°C | W.Temp<br>°C | Depth<br>m | Wind Dir. | Wind S' d<br>m/s |
|-------|------------|------------|-----------|-----------|--------------|--------------|------------|-----------|------------------|
| S4    | 1/19 08:42 | 1/18 23:42 | 35-00.24  | 139-30.15 | 5.1          | 16.7         | 1316       | 20        | 11.2             |
| F3    | 2/5 10:06  | 2/5 01:06  | 35-30.36  | 139-49.94 | 5.6          | 8.6          | 25         | 2         | 5.0              |
| F6    | 2/5 11:20  | 2/5 02:20  | 35-25.02  | 139-48.01 | 7.1          | 8.9          | 28         | 20        | 5.2              |
| 03    | 2/5 13:23  | 2/5 04:23  | 35-15.00  | 139-45.84 | 8.9          | 10.0         | 37         | 2         | 5.7              |
| 05    | 2/5 13:43  | 2/5 04:43  | 35-12.90  | 139-45.88 | 8.5          | 11.4         | 81         | 4         | 5.7              |
| 06    | 2/6 07:58  | 2/5 23:58  | 35-11.01  | 139-44.58 | 6.1          | 10.9         | 292        | 30        | 5.9              |
| 05    | 2/6 08:45  | 2/5 23:45  | 35-09.22  | 139-45.48 | 7.1          | 14.8         | 417        | 24        | 6.0              |
| 08    | 2/6 09:30  | 2/6 00:30  | 35-06.94  | 139-46.55 | 7.8          | 15.4         | 444        | 20        | 7.2              |
| 09    | 2/9 10:00  | 2/9 01:00  | 35-04.98  | 139-45.55 | 8.0          | 15.4         | 663        | 26        | 7.2              |
| 10    | 2/6 10:38  | 2/6 01:38  | 35-02.36  | 139-43.35 | 8.8          | 13.7         | 817        | 26        | 7.5              |
| 11    | 2/6 11:21  | 2/6 02:21  | 35-01.92  | 139-39.96 | 9.5          | 16.0         | 836        | 30        | 8.1              |
| S4    | 2/6 12:51  | 2/8 03:51  | 35-00.03  | 139-29.99 | 11.8         | 16.1         | 1317       | 45        | 5.1              |
| S3    | 2/8 11:05  | 2/8 02:05  | 34-59.99  | 139-20.01 | 10.1         | 16.1         | 1508       | 22        | 5.9              |
| F3    | 3/12 11:00 | 3/12 02:00 | 35-30.59  | 139-49.91 | 4.0          | 10.0         | 24         | 34        | 5.9              |
| F6    | 3/12 12:06 | 3/12 03:06 | 35-25.26  | 139-48.02 | 3.9          | 10.3         | 29         | 35        | 5.8              |
| 03    | 3/12 14:06 | 3/12 05:06 | 35-14.96  | 139-45.85 | 5.9          | 11.4         | 36         | 18        | 6.2              |
| 05    | 3/12 14:25 | 3/12 05:25 | 35-13.00  | 139-45.74 | 7.1          | 11.5         | 79         | 36        | 5.0              |
| 11    | 3/14 07:16 | 3/13 20:16 | 35-01.97  | 139-40.09 | 10.0         | 14.4         | 805        | 207       | 9.2              |
| S4    | 3/16 08:18 | 3/15 23:18 | 35-00.15  | 139-30.03 | 8.0          | 13.6         | 1329       | 28        | 9.7              |
| 07    | 3/16 10:40 | 3/16 01:40 | 35-08.96  | 139-45.55 | 9.4          | 12.6         | 439        | 347       | 2.8              |
| 06    | 3/16 11:37 | 3/16 02:37 | 35-10.95  | 139-44.67 | 9.4          | 12.0         | 261        | 353       | 3.6              |