**Canadian Data Report of**
**Hydrography and Ocean Sciences 204**

**2017**

# ADCP AND CTD OBSERVATIONS FROM VANCOUVER HARBOUR, FEBRUARY/MARCH AND JUNE 2017

**by**

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Cat. No. Fs97-16/204E-PDF ISBN 978-0-660-24276-7 ISSN 1488-5433

Correct citation for this publication:

A. van der Baaren, Y. Wu, X. Wang, C. Lunn, and N. J. Dangerfield. 2017. ADCP and CTD Observations from Vancouver Harbour, February/March and June 2017. Can. Data Rep. Hydrogr. Ocean Sci. 204: vi + 227 p.

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# ABSTRACT

A. van der Baaren, Y. Wu, X. Wang, C. Lunn**,** and N. J. Dangerfield. 2017. ADCP and CTD Observations from Vancouver Harbour, February/March and June 2017. *Can. Data. Rep. Hydrogr. Ocean Sci. 204*: vi + 227 p.

This data report presents ocean current and water property data collected during February and March 2017 in Vancouver Harbour, British Columbia, Canada. The data were measured with a vessel-mounted ADCP and a hand-held Conductivity-Temperature-Depth (CTD) profiler.

# RÉSUMÉ

A. van der Baaren, Y. Wu, X. Wang, C. Lunn**,** and N. J. Dangerfield. 2017. Observations par ADCP et profileur CTP dans le port de Vancouver, en février/mars et juin 2017. *Can. Data. Rep. Hydrogr. Ocean Sci. 204*: vi + 227 p.

Résumé : Ce rapport de données présente les données sur les courants océaniques et les propriétés de l'eau recueillies en février et mars 2017 au port de Vancouver, en Colombie-Britannique, au Canada. Les données ont été mesurées à l'aide d'un ADCP amarré au navire et d'un profileur conductivité, température, profondeur (CTP) portatif.

# 1 INTRODUCTION

Burrard Inlet is a low-sided fjord located on the lower southwest coast of mainland British Columbia where the city of Vancouver is located. The sheltered waters of the inlet provide the perfect location for Vancouver Harbour, Canada's largest port. The harbour consists of an outer harbour that extends from the Strait of Georgia to the First Narrows; an inner harbour that extends from the First Narrows to the Second Narrows; and a central harbour that extends from the Second Narrows inland towards Port Moody.


Figure 1 Map of Vancouver Harbour/Burrard Inlet ("Map of Burrard Inlet", 2017, *Wikipedia, The Free Encyclopedia*)

Burrard Inlet itself is about 25 km long from west to east. Indian Arm is a steep-sided fjord near the eastern end of Burrard Inlet that extends northward opposite Burnaby. The inner and central harbours of Burrard Inlet have a shallow long sill that controls the physical oceanography within Indian Arm. The sill area is 15 m to 25 m deep and 15 km long. The entire length of the Burrard Inlet/Indian Arm system is 50 km. (Fisheries and Oceans Canada, 2009)

The Port of Vancouver is the largest port in Canada and the third largest in the Americas with 138 million metric revenue tons per year. ("Vancouver Fraser Port Authority", 2017, *Wikipedia, The Free Encyclopedia*) The high shipping volumes

means that there is the potential for accidental discharges of hydrocarbons and ballast water contaminants into the ecosystem. Work on building computer models for electronic navigation applications (delivering water levels and currents to the bridges of ships) began as part of the Government of Canada's The World Class Prevention, Preparedness and Response for Oil Spills from Ships Initiative.

A vessel-mounted Acoustic Doppler Current profiler (ADCP) collected three-dimensional water velocity data, and a Conductivity Temperature Depth (CTD) profiler measured temperature and salinity in Vancouver Harbour. The data will be used to build a physical oceanographic description of mean and seasonal conditions in the harbour and to validate and initialize computer models of the harbour's circulation. This data report describes the ocean current velocity and water property data measured in February/March and June 2017 as part of an environmental monitoring project in the region.

# 2 INSTRUMENTATION

This section describes the instruments used in the survey of the Vancouver Harbour in 2017. **Error! Reference source not found.** lists the sampling statistics for the February/March survey. The field report for the June survey is not available so there are no statistics for that month.

Table 1. February/March ADCP and CTD sampling statistics (adapted from 2017 Field Report)

| Location | Line Number | # of ADCP transects | # CTD casts |
|---|---|---|---|
| First Narrows | 1 | 4 | 1 |
| First Narrows | 2 | 4 | 6 |
| First Narrows | 4 | 1 | - |
| Vancouver Harbour | 1-3 | 3 | 22 |
| Vancouver Harbour | 6-9 | 8 | - |
| Vancouver Harbour | 3-5 | 11 | 20 |
| Vancouver Harbour | 10-13 | 1 | - |
| Second Narrows | 1, 3, 4 | 21 | 5 |
| Eddy | 2-3 | 2 | 5 |
| Vancouver Harbour | 1 | 1 | 5 |
| Vancouver Harbour | 3 | 1 | 10 |
| Vancouver Harbour | 5 | 1 | 5 |
| Vancouver Harbour | 6-13 | 6 | - |
| Eddy | 2-3 | 4 | 2 |
| First Narrows | 1-2 | 6 | 1 |
| First Narrows | 3-4 | 6 | 2 |
| **Total** | | **80** | **84** |

## 2.1 CTD

A Sontek Castaway Conductivity Temperature Depth (CTD) profiler measured temperature, salinity, and speed of sound at stations next to each ADCP transect line in February/March and June 2017. The instrument is a handheld profiler and is designed to vertically sample up to 100 m. (Sontek, 2016) Specifications for the instrument are on the company's web page (http://www.sontek.com/productsdetail.php?CastAway-CTD-11).

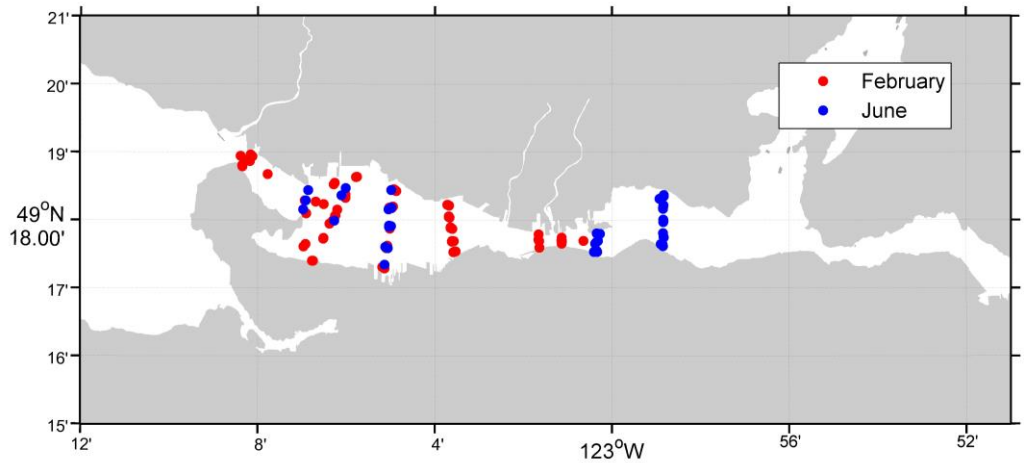


Figure 2 Map showing CTD station locations

The February/March data collection began on February 2 and ended on March 4. The June data collection began on June 20 and ended on June 23. Figure 2 shows the location of each CTD station while details of each cast are listed in Table 2 and Table 3. Each cast coincided with an ADCP sampling line. The CTD speed of sound data were used to correct ADCP measurements, and the temperature and salinity data will be used for numerical modelling.

Table 2 CTD station details for February/March

| CTD February/March | | | | |
|---|---|---|---|---|
| Cast Time (UTC) | Latitude °N | Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| 2/28/2017 0:17 | 49.316 | -123.136 | 0.15 | 16.68 |
| 2/28/2017 0:21 | 49.314 | -123.136 | 0.15 | 20.16 |
| 2/28/2017 0:24 | 49.313 | -123.139 | 0.15 | 9.74 |
| 2/28/2017 1:26 | 49.313 | -123.139 | 0.15 | 7.37 |
| 2/28/2017 1:31 | 49.315 | -123.137 | 0.15 | 20.14 |
| 2/28/2017 1:34 | 49.316 | -123.135 | 0.15 | 19.36 |
| 2/28/2017 16:31 | 49.290 | -123.113 | 0.15 | 17.88 |
| 2/28/2017 16:48 | 49.295 | -123.109 | 0.15 | 18.90 |
| 2/28/2017 16:53 | 49.300 | -123.105 | 0.15 | 55.73 |
| 2/28/2017 17:02 | 49.305 | -123.100 | 0.15 | 16.44 |
| 2/28/2017 17:10 | 49.311 | -123.096 | 0.15 | 17.00 |
| 2/28/2017 17:19 | 49.307 | -123.082 | 0.15 | 20.52 |
| 2/28/2017 17:22 | 49.303 | -123.083 | 0.15 | 26.21 |
| 2/28/2017 17:27 | 49.298 | -123.084 | 0.15 | 38.87 |
| 2/28/2017 17:32 | 49.293 | -123.085 | 0.15 | 42.45 |

| CTD February/March | | | | |
|---|---|---|---|---|
| Cast Time (UTC) | Latitude °N | Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| 2/28/2017 17:37 | 49.288 | -123.086 | 0.15 | 26.30 |
| 2/28/2017 22:22 | 49.308 | -123.082 | 0.15 | 19.23 |
| 2/28/2017 22:26 | 49.303 | -123.084 | 0.15 | 26.88 |
| 2/28/2017 22:31 | 49.298 | -123.084 | 0.15 | 35.06 |
| 2/28/2017 22:36 | 49.294 | -123.085 | 0.15 | 40.23 |
| 2/28/2017 22:41 | 49.288 | -123.086 | 0.15 | 26.30 |
| 2/28/2017 22:55 | 49.290 | -123.113 | 0.15 | 16.30 |
| 2/28/2017 23:01 | 49.296 | -123.109 | 0.15 | 16.67 |
| 2/28/2017 23:05 | 49.299 | -123.106 | 0.15 | 42.24 |
| 2/28/2017 23:10 | 49.303 | -123.103 | 0.15 | 21.83 |
| 2/28/2017 23:15 | 49.301 | -123.104 | 0.15 | 45.74 |
| 2/28/2017 23:20 | 49.306 | -123.101 | 0.15 | 24.26 |
| 2/28/2017 23:24 | 49.311 | -123.096 | 0.15 | 23.83 |
| 3/1/2017 20:09 | 49.293 | -123.027 | 0.15 | 10.39 |
| 3/1/2017 20:12 | 49.295 | -123.027 | 0.15 | 33.35 |
| 3/1/2017 20:17 | 49.297 | -123.028 | 0.15 | 10.80 |
| 3/1/2017 20:23 | 49.296 | -123.019 | 0.15 | 14.91 |
| 3/1/2017 20:25 | 49.295 | -123.019 | 0.15 | 19.92 |
| 3/1/2017 20:29 | 49.294 | -123.019 | 0.15 | 9.55 |
| 3/2/2017 0:42 | 49.295 | -123.011 | 0.15 | 29.91 |
| 3/2/2017 0:50 | 49.295 | -123.019 | 0.15 | 22.84 |
| 3/2/2017 0:59 | 49.295 | -123.028 | 0.15 | 23.57 |
| 3/2/2017 2:21 | 49.294 | -123.116 | 0.15 | 13.99 |
| 3/2/2017 2:31 | 49.304 | -123.109 | 0.15 | 24.32 |
| 3/2/2017 2:36 | 49.309 | -123.105 | 0.15 | 25.50 |
| 3/2/2017 17:50 | 49.289 | -123.086 | 0.15 | 25.41 |
| 3/2/2017 17:56 | 49.293 | -123.085 | 0.15 | 37.36 |
| 3/2/2017 18:03 | 49.298 | -123.084 | 0.15 | 39.98 |
| 3/2/2017 18:08 | 49.303 | -123.083 | 0.15 | 27.76 |
| 3/2/2017 18:12 | 49.307 | -123.081 | 0.15 | 22.67 |
| 3/2/2017 18:19 | 49.304 | -123.062 | 0.15 | 21.02 |
| 3/2/2017 18:21 | 49.301 | -123.061 | 0.15 | 18.60 |
| 3/2/2017 18:24 | 49.298 | -123.061 | 0.15 | 23.36 |
| 3/2/2017 18:28 | 49.295 | -123.060 | 0.15 | 27.11 |
| 3/2/2017 18:31 | 49.292 | -123.059 | 0.15 | 21.85 |
| 3/3/2017 0:08 | 49.307 | -123.082 | 0.15 | 20.45 |
| 3/3/2017 0:12 | 49.303 | -123.082 | 0.15 | 25.40 |
| 3/3/2017 0:15 | 49.298 | -123.084 | 0.15 | 36.60 |
| 3/3/2017 0:18 | 49.294 | -123.085 | 0.15 | 37.70 |
| 3/3/2017 0:21 | 49.289 | -123.086 | 0.15 | 29.99 |
| 3/3/2017 0:28 | 49.292 | -123.060 | 0.15 | 22.00 |
| 3/3/2017 0:30 | 49.295 | -123.060 | 0.15 | 28.39 |
| 3/3/2017 0:33 | 49.298 | -123.060 | 0.15 | 21.86 |
| 3/3/2017 0:35 | 49.301 | -123.061 | 0.15 | 18.21 |
| 3/3/2017 0:39 | 49.304 | -123.061 | 0.15 | 19.38 |
| 3/3/2017 18:00 | 49.304 | -123.062 | 0.15 | 21.31 |
| 3/3/2017 18:03 | 49.301 | -123.061 | 0.15 | 19.83 |
| 3/3/2017 18:06 | 49.298 | -123.061 | 0.15 | 24.18 |
| 3/3/2017 18:10 | 49.295 | -123.060 | 0.15 | 25.72 |
| 3/3/2017 18:13 | 49.292 | -123.059 | 0.15 | 23.56 |
| 3/3/2017 18:20 | 49.288 | -123.086 | 0.15 | 27.43 |
| 3/3/2017 18:32 | 49.294 | -123.085 | 0.15 | 40.49 |
| 3/3/2017 18:35 | 49.298 | -123.084 | 0.15 | 38.52 |
| 3/3/2017 18:39 | 49.303 | -123.083 | 0.15 | 27.53 |
| 3/3/2017 18:42 | 49.308 | -123.082 | 0.15 | 19.99 |
| 3/3/2017 18:47 | 49.311 | -123.096 | 0.15 | 25.06 |
| 3/3/2017 18:54 | 49.306 | -123.100 | 0.15 | 26.32 |
| 3/3/2017 18:58 | 49.301 | -123.104 | 0.15 | 51.87 |

| CTD February/March | | | | |
|---|---|---|---|---|
| Cast Time (UTC) | Latitude °N | Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| 3/3/2017 19:05 | 49.296 | -123.109 | 0.15 | 19.24 |
| 3/3/2017 19:12 | 49.290 | -123.113 | 0.15 | 17.25 |
| 3/3/2017 23:52 | 49.305 | -123.116 | 0.15 | 17.35 |
| 3/3/2017 23:57 | 49.311 | -123.130 | 0.15 | 17.20 |
| 3/4/2017 0:00 | 49.315 | -123.138 | 0.15 | 17.63 |
| 3/4/2017 0:02 | 49.316 | -123.140 | 0.15 | 17.80 |
| 3/4/2017 1:55 | 49.302 | -123.115 | 0.15 | 15.21 |
| 3/4/2017 1:57 | 49.305 | -123.112 | 0.15 | 20.20 |
| 3/4/2017 2:02 | 49.309 | -123.104 | 0.15 | 24.86 |
| 3/4/2017 2:09 | 49.294 | -123.115 | 0.15 | 13.85 |

Table 3 CTD station details for June

| CTD June | | | | |
|---|---|---|---|---|
| Cast Time (UTC) | Latitude °N | Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| 6/20/2017 22:47 | 49.293 | -123.084 | 0.15 | 20.79 |
| 6/20/2017 22:56 | 49.299 | -123.083 | 0.15 | 35.12 |
| 6/20/2017 23:26 | 49.303 | -123.083 | 0.15 | 27.73 |
| 6/20/2017 23:42 | 49.307 | -123.114 | 0.15 | 19.70 |
| 6/20/2017 23:46 | 49.305 | -123.115 | 0.15 | 15.79 |
| 6/20/2017 23:51 | 49.303 | -123.116 | 0.15 | 17.44 |
| 6/21/2017 16:37 | 49.293 | -123.085 | 0.15 | 38.64 |
| 6/21/2017 16:46 | 49.298 | -123.084 | 0.15 | 36.65 |
| 6/21/2017 16:52 | 49.303 | -123.084 | 0.15 | 27.22 |
| 6/21/2017 23:34 | 49.300 | -123.105 | 0.15 | 60.88 |
| 6/21/2017 23:39 | 49.306 | -123.102 | 0.15 | 26.53 |
| 6/21/2017 23:41 | 49.308 | -123.100 | 0.15 | 27.53 |
| 6/21/2017 23:47 | 49.307 | -123.083 | 0.15 | 23.82 |
| 6/21/2017 23:51 | 49.303 | -123.083 | 0.15 | 28.76 |
| 6/21/2017 23:53 | 49.299 | -123.084 | 0.15 | 38.48 |
| 6/21/2017 23:57 | NaN | NaN | 0.15 | 37.70 |
| 6/22/2017 0:00 | 49.289 | -123.086 | 0.15 | 33.75 |
| 6/22/2017 16:39 | 49.292 | -123.006 | 0.15 | 15.06 |
| 6/22/2017 16:42 | 49.295 | -123.006 | 0.15 | 43.78 |
| 6/22/2017 16:46 | 49.297 | -123.005 | 0.15 | 22.07 |
| 6/22/2017 16:51 | 49.294 | -122.982 | 0.15 | 12.98 |
| 6/22/2017 16:54 | NaN | NaN | 0.15 | 58.18 |
| 6/22/2017 16:57 | 49.300 | -122.981 | 0.15 | 47.21 |
| 6/22/2017 17:03 | 49.303 | -122.981 | 0.15 | 24.55 |
| 6/22/2017 17:06 | 49.306 | -122.981 | 0.15 | 13.90 |
| 6/22/2017 20:43 | 49.294 | -123.006 | 0.15 | 43.23 |
| 6/22/2017 20:47 | 49.297 | -123.005 | 0.15 | 27.69 |
| 6/22/2017 20:55 | 49.294 | -122.981 | 0.15 | 26.17 |
| 6/22/2017 21:00 | 49.296 | -122.981 | 0.15 | 35.31 |
| 6/22/2017 21:04 | 49.300 | -122.981 | 0.15 | 49.42 |
| 6/22/2017 21:08 | 49.303 | -122.981 | 0.15 | 24.30 |
| 6/22/2017 21:12 | 49.306 | -122.981 | 0.15 | 13.76 |
| 6/23/2017 0:45 | 49.297 | -123.006 | 0.15 | 13.97 |
| 6/23/2017 0:49 | 49.295 | -123.005 | 0.15 | 46.65 |
| 6/23/2017 0:54 | 49.292 | -123.006 | 0.15 | 17.82 |
| 6/23/2017 15:18 | 49.292 | -123.007 | 0.15 | 16.64 |
| 6/23/2017 15:23 | 49.295 | -123.006 | 0.15 | 45.26 |
| 6/23/2017 15:27 | 49.297 | -123.005 | 0.15 | 20.54 |
| 6/23/2017 15:33 | 49.294 | -122.981 | 0.15 | 19.94 |
| 6/23/2017 15:36 | 49.296 | -122.981 | 0.15 | 58.54 |
| 6/23/2017 15:41 | 49.300 | -122.981 | 0.15 | 45.76 |
| 6/23/2017 15:44 | 49.303 | -122.981 | 0.15 | 25.85 |
| 6/23/2017 15:47 | 49.306 | -122.981 | 0.15 | 18.72 |

| CTD June | | | | |
|---|---|---|---|---|
| Cast Time (UTC) | Latitude °N | Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| 6/23/2017 17:52 | 49.305 | -122.982 | 0.15 | 15.42 |
| 6/23/2017 17:55 | 49.304 | -122.981 | 0.15 | 24.45 |
| 6/23/2017 17:58 | 49.300 | -122.981 | 0.15 | 45.12 |
| 6/23/2017 18:01 | 49.297 | -122.981 | 0.15 | 59.37 |
| 6/23/2017 18:05 | 49.294 | -122.981 | 0.15 | 22.42 |
| 6/23/2017 18:14 | 49.292 | -123.006 | 0.15 | 15.25 |
| 6/23/2017 18:16 | 49.295 | -123.006 | 0.15 | 43.66 |
| 6/23/2017 18:19 | 49.297 | -123.005 | 0.15 | 29.72 |
| 6/20/2017 22:47 | 49.293 | -123.084 | 0.15 | 20.79 |
| 6/20/2017 22:56 | 49.299 | -123.083 | 0.15 | 35.12 |
| 6/20/2017 23:26 | 49.303 | -123.083 | 0.15 | 27.73 |
| 6/20/2017 23:42 | 49.307 | -123.114 | 0.15 | 19.70 |
| 6/20/2017 23:46 | 49.305 | -123.115 | 0.15 | 15.79 |
| 6/20/2017 23:51 | 49.303 | -123.116 | 0.15 | 17.44 |
| 6/21/2017 16:37 | 49.293 | -123.085 | 0.15 | 38.64 |
| 6/21/2017 16:46 | 49.298 | -123.084 | 0.15 | 36.65 |
| 6/21/2017 16:52 | 49.303 | -123.084 | 0.15 | 27.22 |
| 6/21/2017 23:34 | 49.300 | -123.105 | 0.15 | 60.88 |
| 6/21/2017 23:39 | 49.306 | -123.102 | 0.15 | 26.53 |
| 6/21/2017 23:41 | 49.308 | -123.100 | 0.15 | 27.53 |
| 6/21/2017 23:47 | 49.307 | -123.083 | 0.15 | 23.82 |
| 6/21/2017 23:51 | 49.303 | -123.083 | 0.15 | 28.76 |
| 6/21/2017 23:53 | 49.299 | -123.084 | 0.15 | 38.48 |
| 6/21/2017 23:57 | NaN | NaN | 0.15 | 37.70 |
| 6/22/2017 0:00 | 49.289 | -123.086 | 0.15 | 33.75 |
| 6/22/2017 16:39 | 49.292 | -123.006 | 0.15 | 15.06 |
| 6/22/2017 16:42 | 49.295 | -123.006 | 0.15 | 43.78 |
| 6/22/2017 16:46 | 49.297 | -123.005 | 0.15 | 22.07 |
| 6/22/2017 16:51 | 49.294 | -122.982 | 0.15 | 12.98 |
| 6/22/2017 16:54 | NaN | NaN | 0.15 | 58.18 |
| 6/22/2017 16:57 | 49.300 | -122.981 | 0.15 | 47.21 |
| 6/22/2017 17:03 | 49.303 | -122.981 | 0.15 | 24.55 |
| 6/22/2017 17:06 | 49.306 | -122.981 | 0.15 | 13.90 |
| 6/22/2017 20:43 | 49.294 | -123.006 | 0.15 | 43.23 |
| 6/22/2017 20:47 | 49.297 | -123.005 | 0.15 | 27.69 |
| 6/22/2017 20:55 | 49.294 | -122.981 | 0.15 | 26.17 |
| 6/22/2017 21:00 | 49.296 | -122.981 | 0.15 | 35.31 |
| 6/22/2017 21:04 | 49.300 | -122.981 | 0.15 | 49.42 |
| 6/22/2017 21:08 | 49.303 | -122.981 | 0.15 | 24.30 |
| 6/22/2017 21:12 | 49.306 | -122.981 | 0.15 | 13.76 |
| 6/23/2017 0:45 | 49.297 | -123.006 | 0.15 | 13.97 |
| 6/23/2017 0:49 | 49.295 | -123.005 | 0.15 | 46.65 |
| 6/23/2017 0:54 | 49.292 | -123.006 | 0.15 | 17.82 |
| 6/23/2017 15:18 | 49.292 | -123.007 | 0.15 | 16.64 |
| 6/23/2017 15:23 | 49.295 | -123.006 | 0.15 | 45.26 |
| 6/23/2017 15:27 | 49.297 | -123.005 | 0.15 | 20.54 |
| 6/23/2017 15:33 | 49.294 | -122.981 | 0.15 | 19.94 |
| 6/23/2017 15:36 | 49.296 | -122.981 | 0.15 | 58.54 |
| 6/23/2017 15:41 | 49.300 | -122.981 | 0.15 | 45.76 |
| 6/23/2017 15:44 | 49.303 | -122.981 | 0.15 | 25.85 |
| 6/23/2017 15:47 | 49.306 | -122.981 | 0.15 | 18.72 |
| 6/23/2017 17:52 | 49.305 | -122.982 | 0.15 | 15.42 |
| 6/23/2017 17:55 | 49.304 | -122.981 | 0.15 | 24.45 |
| 6/23/2017 17:58 | 49.300 | -122.981 | 0.15 | 45.12 |
| 6/23/2017 18:01 | 49.297 | -122.981 | 0.15 | 59.37 |

## 2.2 VESSEL-MOUNTED ADCP

For the Vancouver Harbour “underway” survey, an ADCP mounted on a pole on a small towed boat measured ocean currents for three days along ten transects. The mounted ADCP configuration was the Sontek RiverSurveyor M9 with Serial Number M905082. Specifications for the instrument are found on the company web page (http://www.sontek.com/productsdetail.php?RiverSurveyor-S5-and-M9-14).

ADCP data were logged along survey lines. The lines were zig-zagged where appropriate. In the two narrows, lines were run in forward and reverse directions. From 28 February to 4 March 2017, five vessel-mounted ADCP transects at First Narrows (Figure 3) and five transects in Vancouver’s Inner Harbour (Figure 4) measured currents during all stages of the tide. Five transects at Second Narrows (Figure 5), and transects across the Central Harbour (Figure 6) were run during June only.

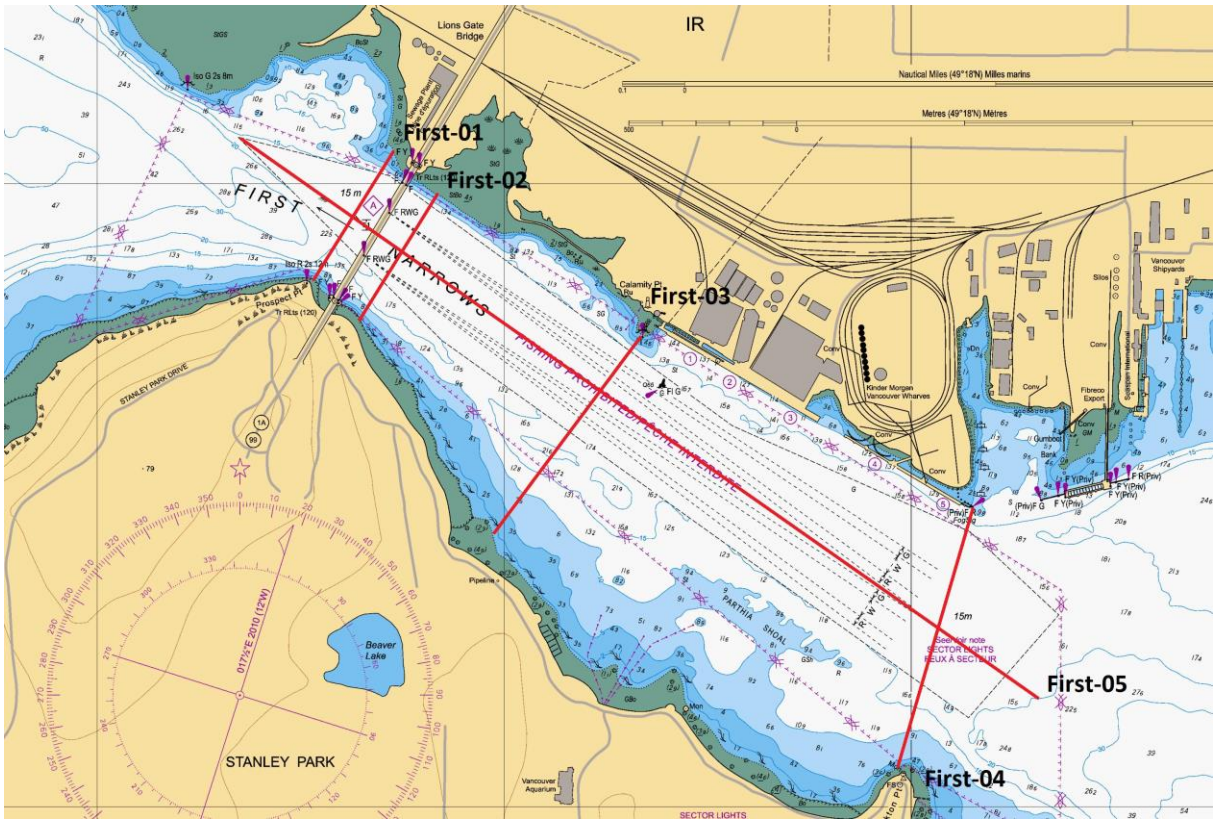


Figure 3 Map of First Narrows showing the five transects sampled by the RiverSurveyor

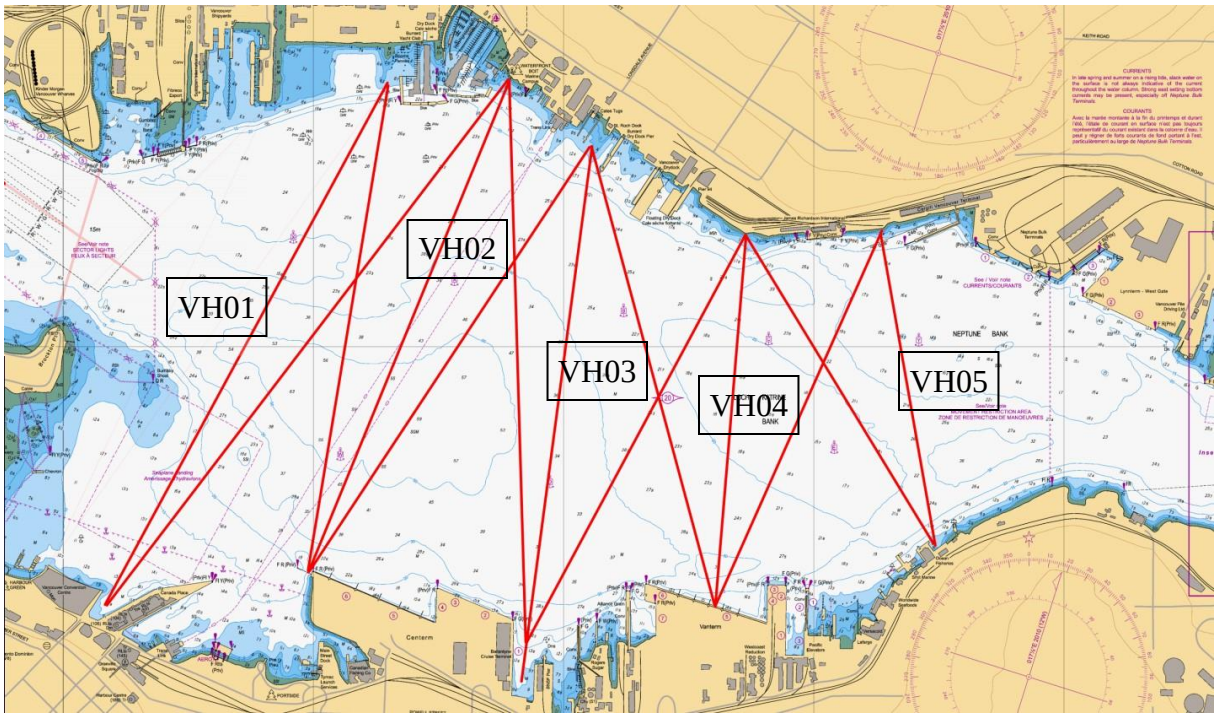


Figure 4 Vancouver Harbour ADCP survey lines in the Inner Harbour (adapted from 2017 Field Report)

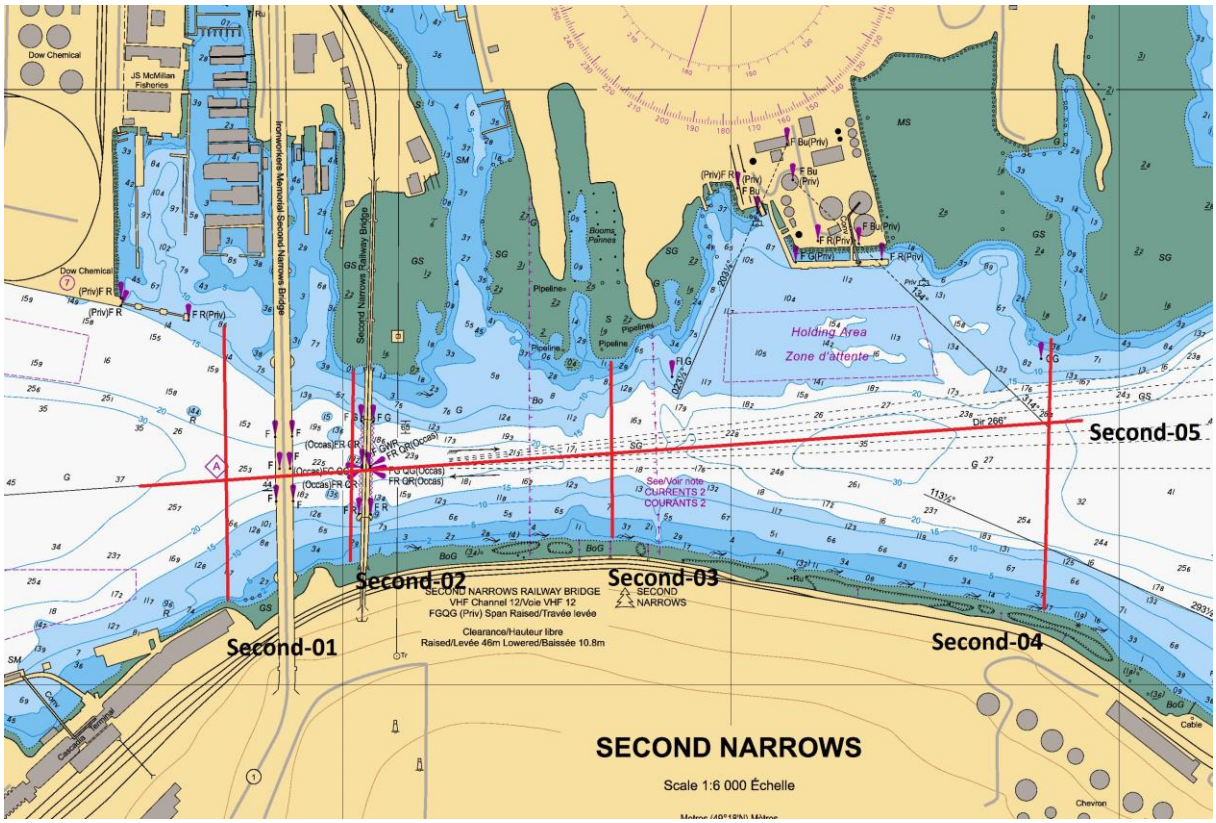


Figure 5 Map of Second Narrows showing the five transects sampled by the RiverSurveyor

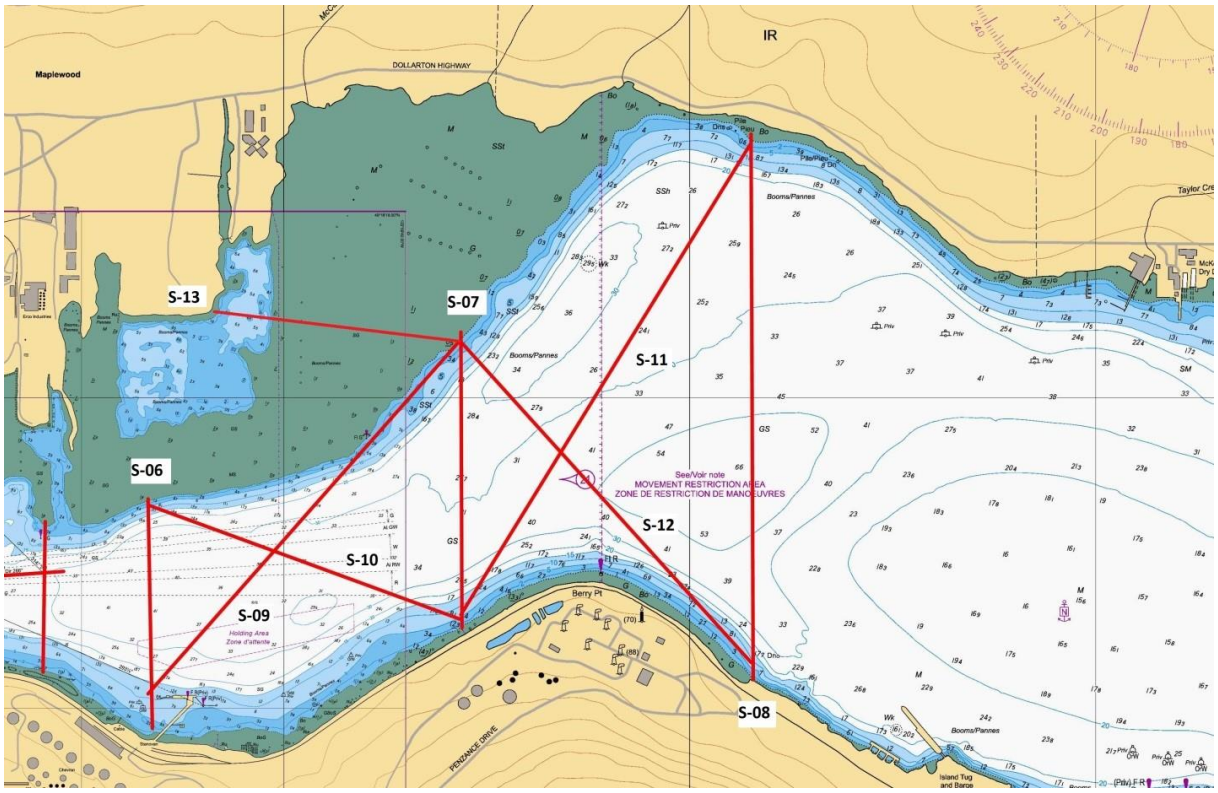


Figure 6 Transect lines east of Second Narrows (Central Harbour); the lines were not surveyed in February/March, although Line S13 was laser scanned at the 1.5m tide (adapted from 2017 Field Report)

# 3 DATA PROCESSING AND DATA

Initial data processing occurred at the Institute of Ocean Sciences. C. Lunn, of the Canadian Hydrographic Service, transferred the data to the Bedford Institute of Oceanography. X. Wang, Y. Wu, and C. Lunn performed the quality control and Y. Wu plotted the ADCP data using Matlab®.

The horizontal velocity components, *u* and *v*, point east-west and north-south with respect to magnetic north.

For the vessel-mounted ADCP data ("underway" data), the data were averaged into 20-m bins horizontally and 1-m bins vertically. The means and standard deviations (SD) for East and North directions were computed and combined. These ADCP data were initially processed at the Institute of Ocean Sciences by C. Lunn. Y. Wu used Matlab® for post-processing and creating the figures for this report.

This report presents CTD data vertical profiles in Section 3.1, and an introduction to the vessel-mounted ADCP data is in Section 3.2 while the vertical profiles of the vessel-mounted ADCP data are in Appendices 1 and 2.

## 3.1 CTD VERTICAL PROFILES AND CROSS-CHANNEL VERTICAL SECTIONS

The data from each CTD cast were plotted as vertical profiles. Cross-channel vertical sections were drawn from data where CTD stations formed a transect line across the channel.

Appendices 1 and 2 present the vertical profiles and cross-channel vertical sections of the February/March and June 2017 CTD data, respectively: temperature, salinity, and density.

## 3.2 VESSEL-MOUNTED ADCP DATA

Figures of the vessel-mounted ADCP data are too numerous to display in the main report so they are presented in Appendix 3 and Appendix 4. The start and end times of each transect and their directions are in listed in tables in the appropriate appendices.

# 4 REFERENCES


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Vancouver Fraser Port Authority. In *Wikipedia, The Free Encyclopedia*. Wikimedia Foundation Inc. Last modified May 8, 2017. Accessed June 22, 2017. https://en.wikipedia.org/wiki/Vancouver_Fraser_Port_Authority.

# 5 ACKNOWLEDGEMENTS

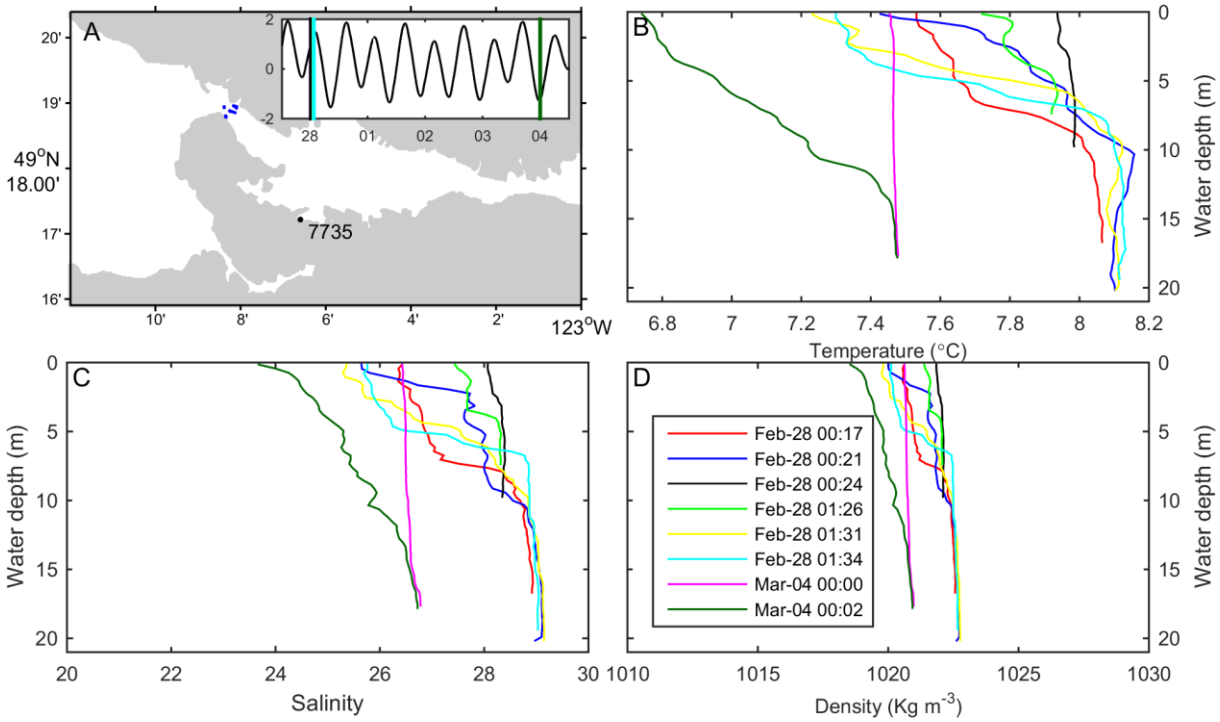
The authors gratefully acknowledge the data collection team from the Institute of Ocean Sciences. The team included Brent Bowman and Maxime Carré from the Canadian Hydrographic Service. In addition, the authors are grateful to David Spear who designed and prepared the moored instruments, and downloaded and checked the data before passing them on to us.

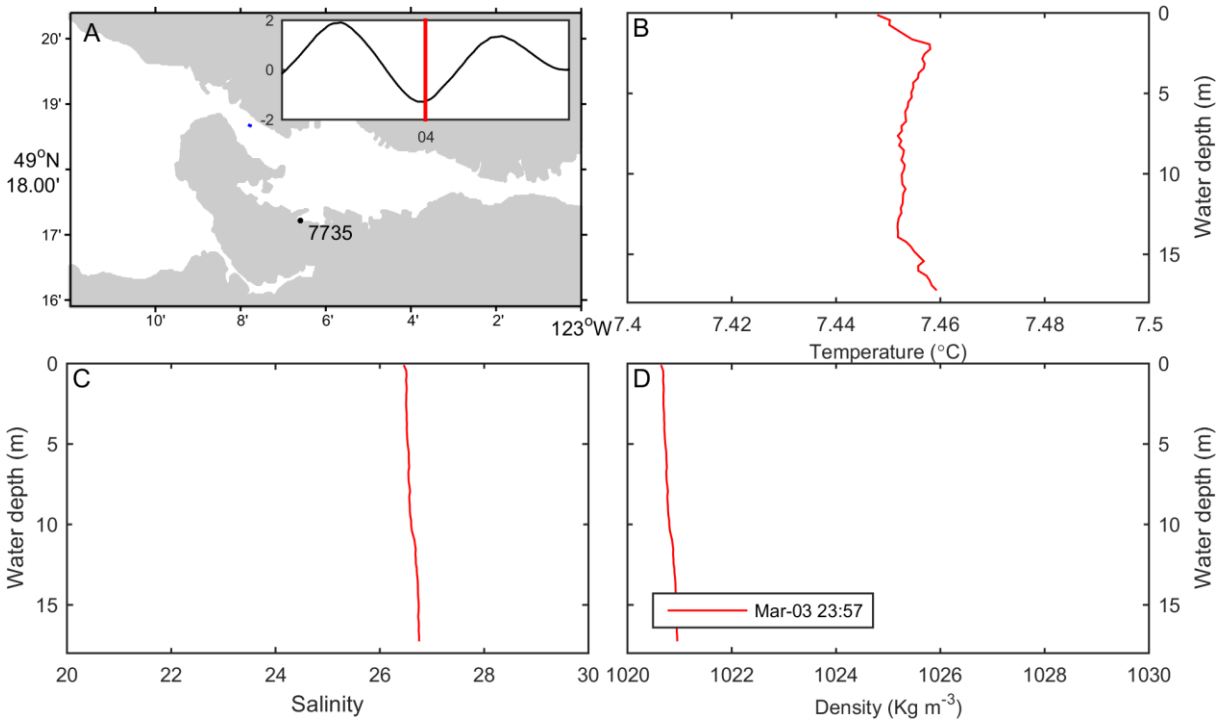
# 6 APPENDIX 1: FEBRUARY/MARCH CTD DATA

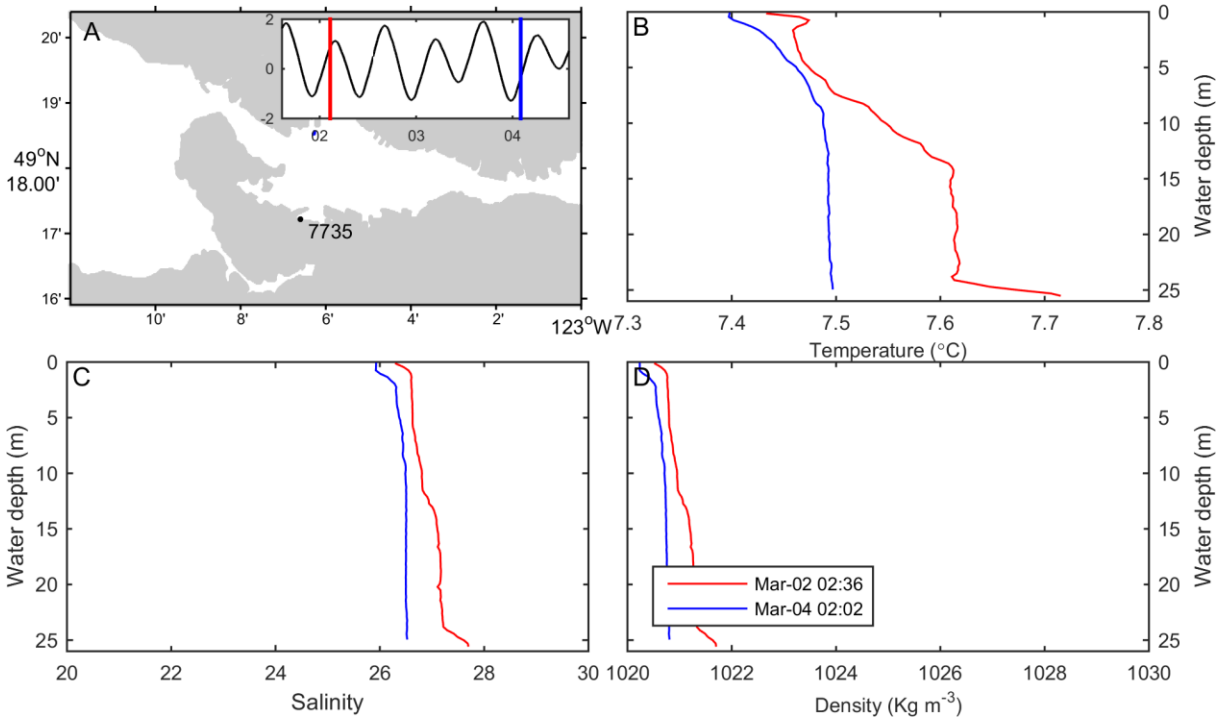
This appendix presents the CTD data measured in from February 28 to March 4, 2017.

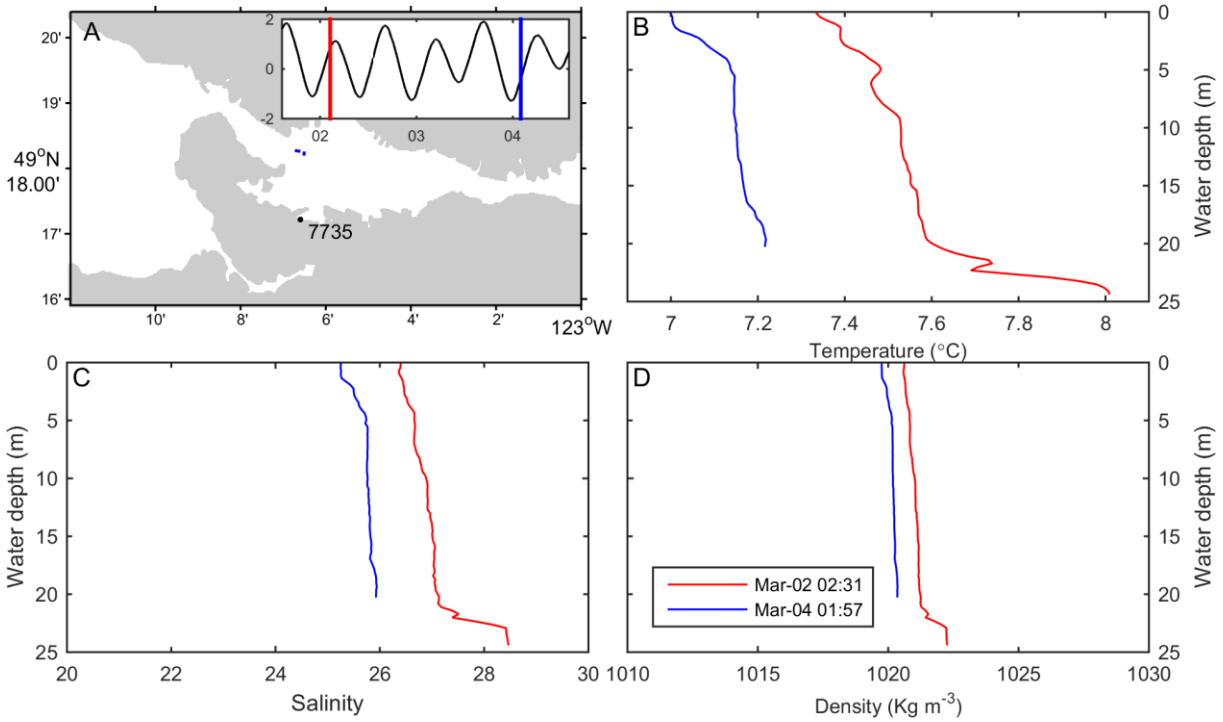
## 6.1 FEBRUARY/MARCH CTD VERTICAL PROFILES

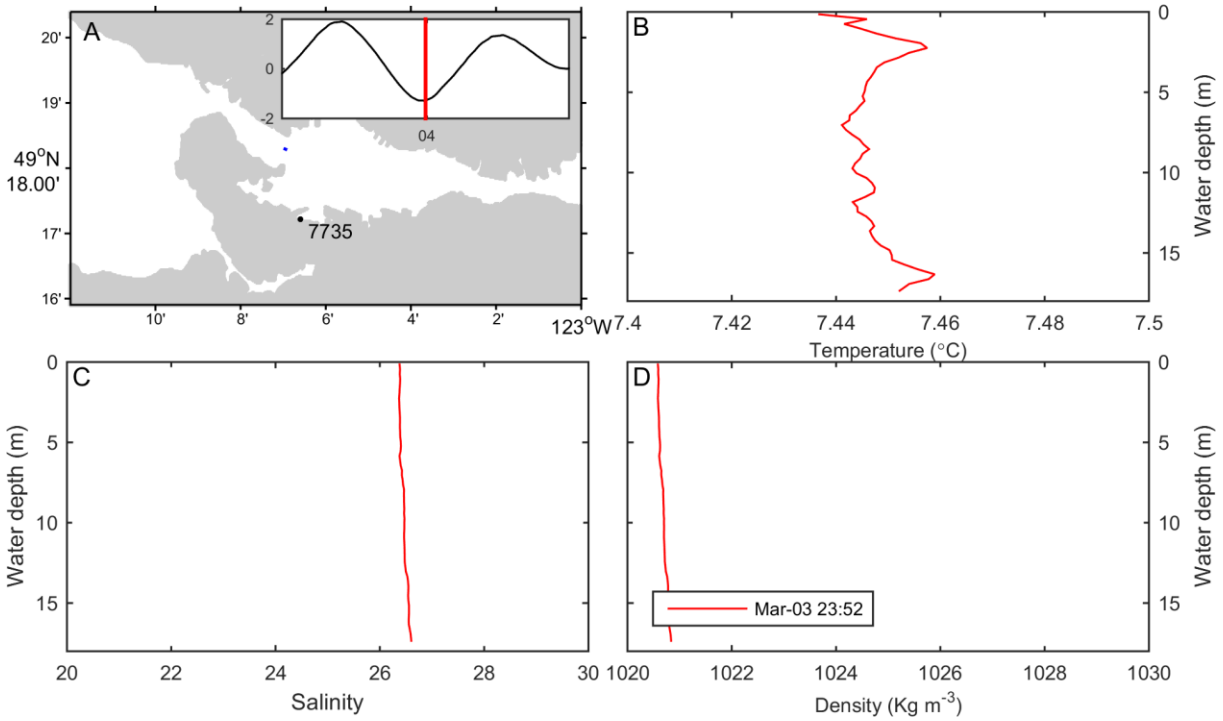
This section presents the vertical profiles of the February/March CTD data. The figures also show the time during the tidal cycle when the data were measured and the locations of the casts.

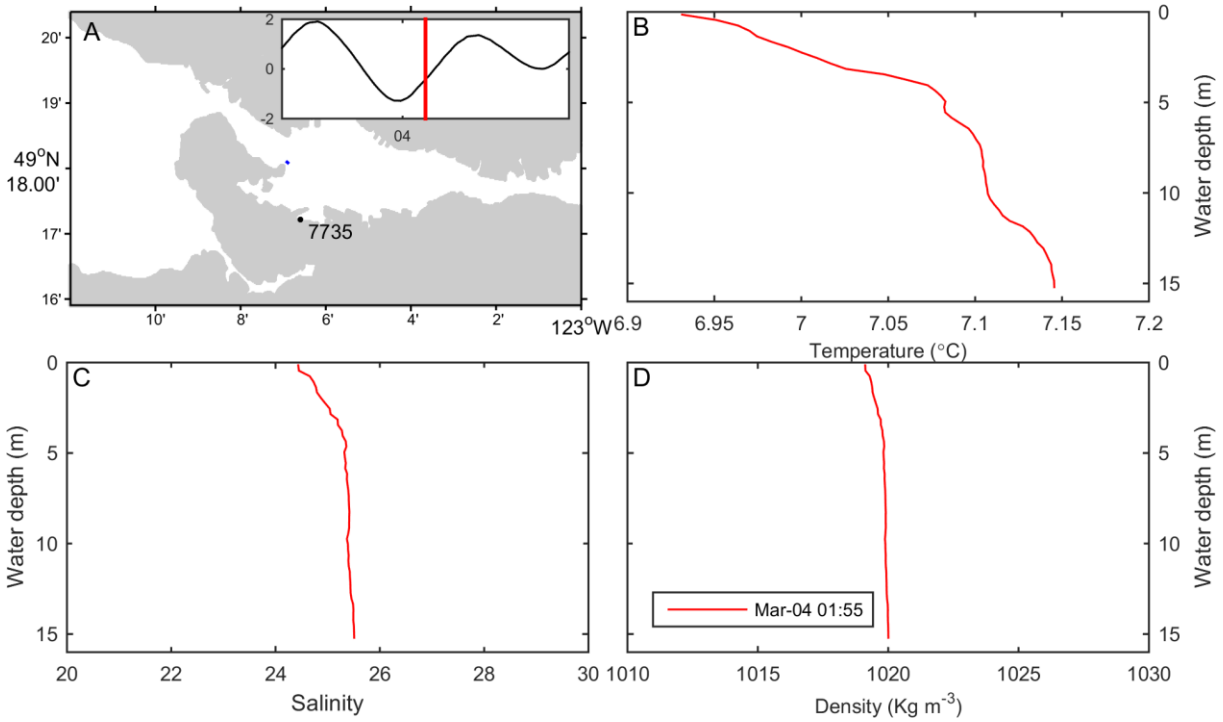


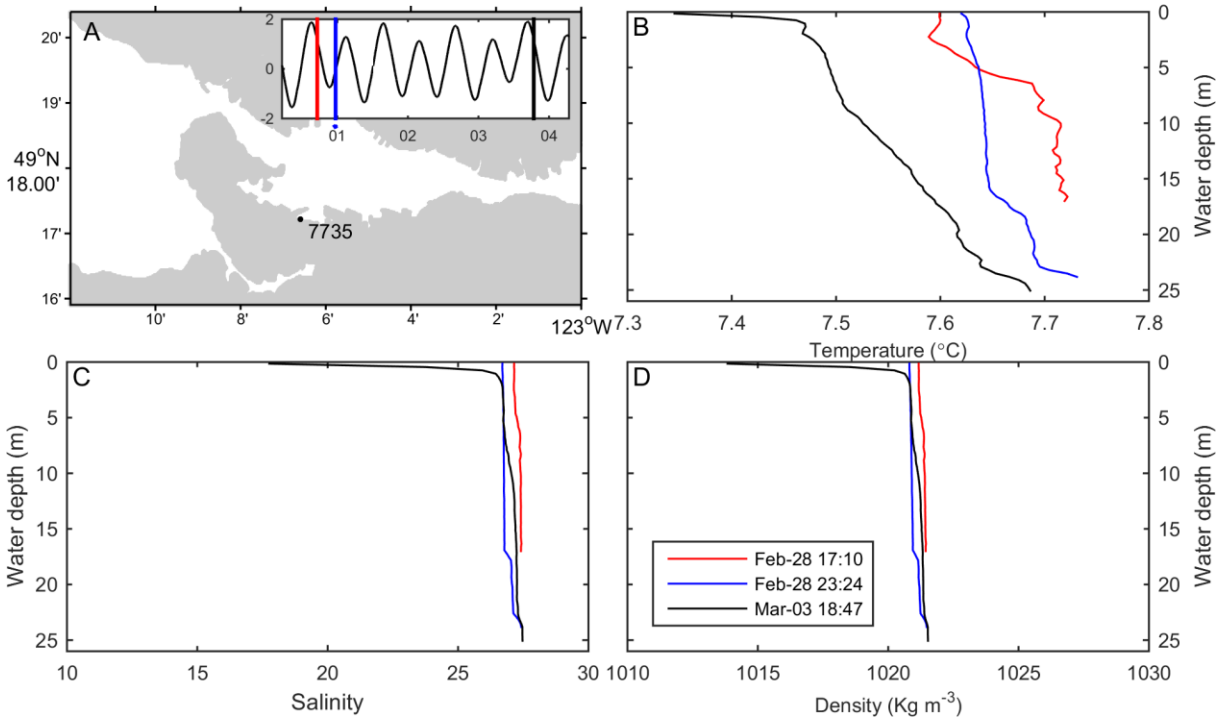

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-03 23:57

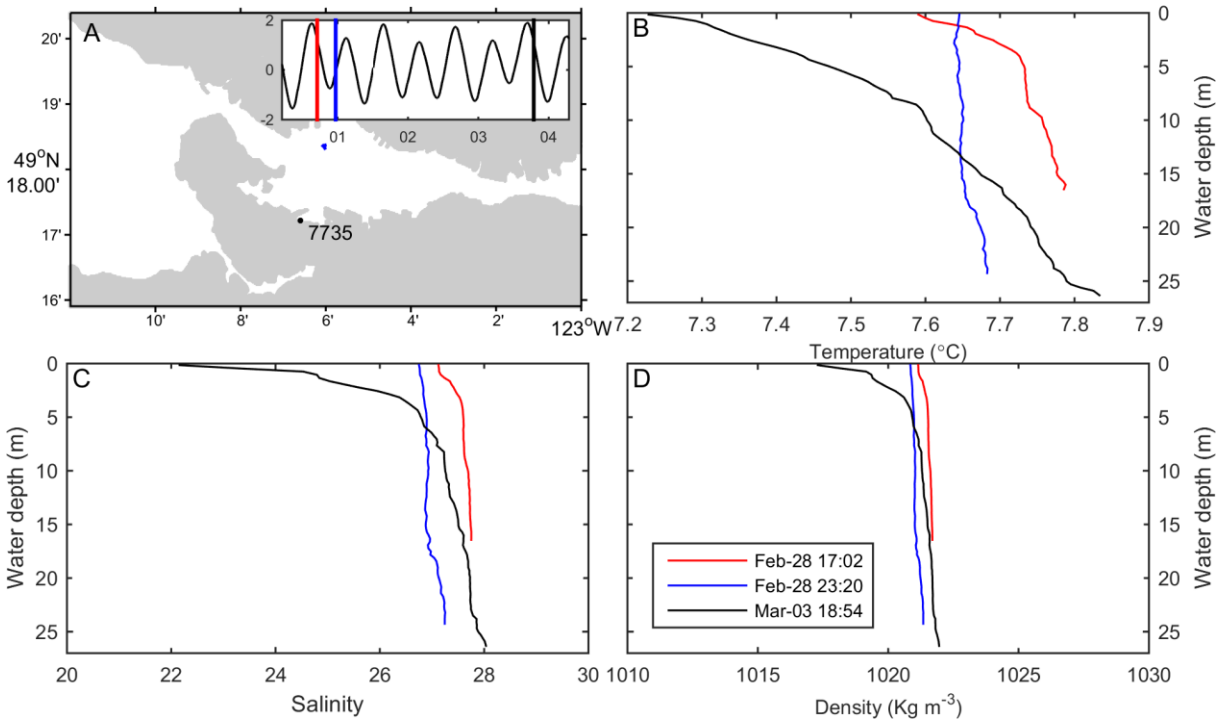

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 02:36
Mar-04 02:02

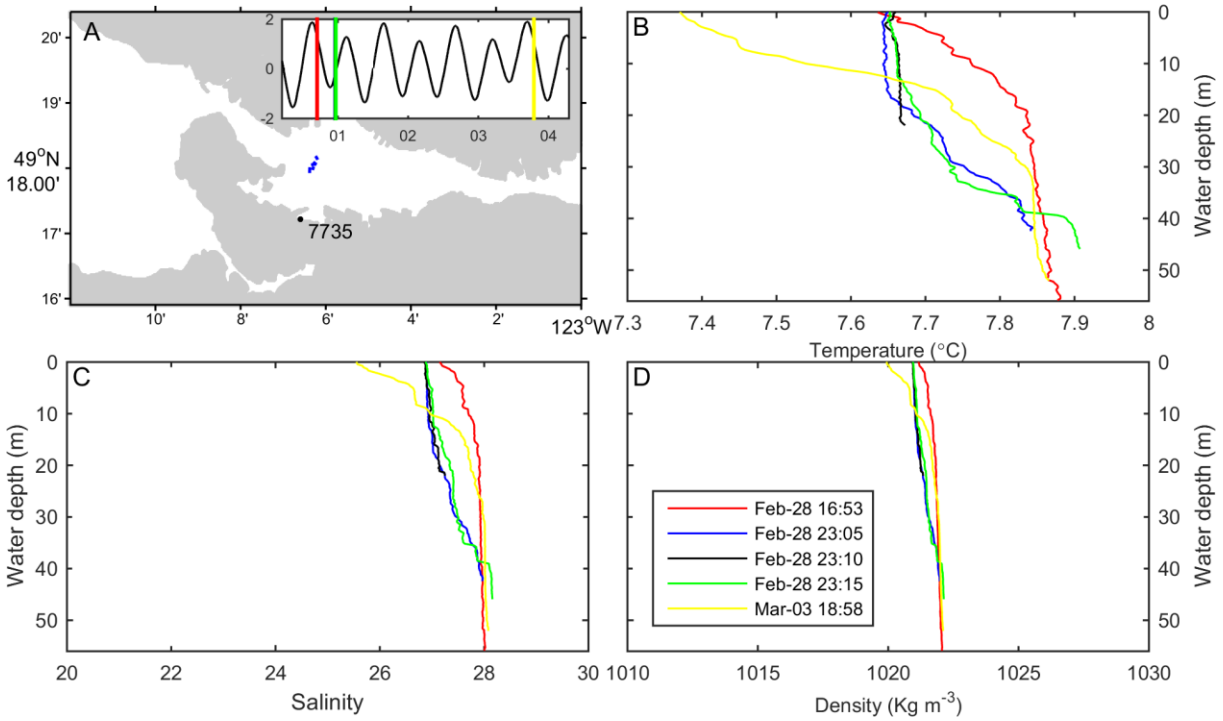

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 02:31
Mar-04 01:57

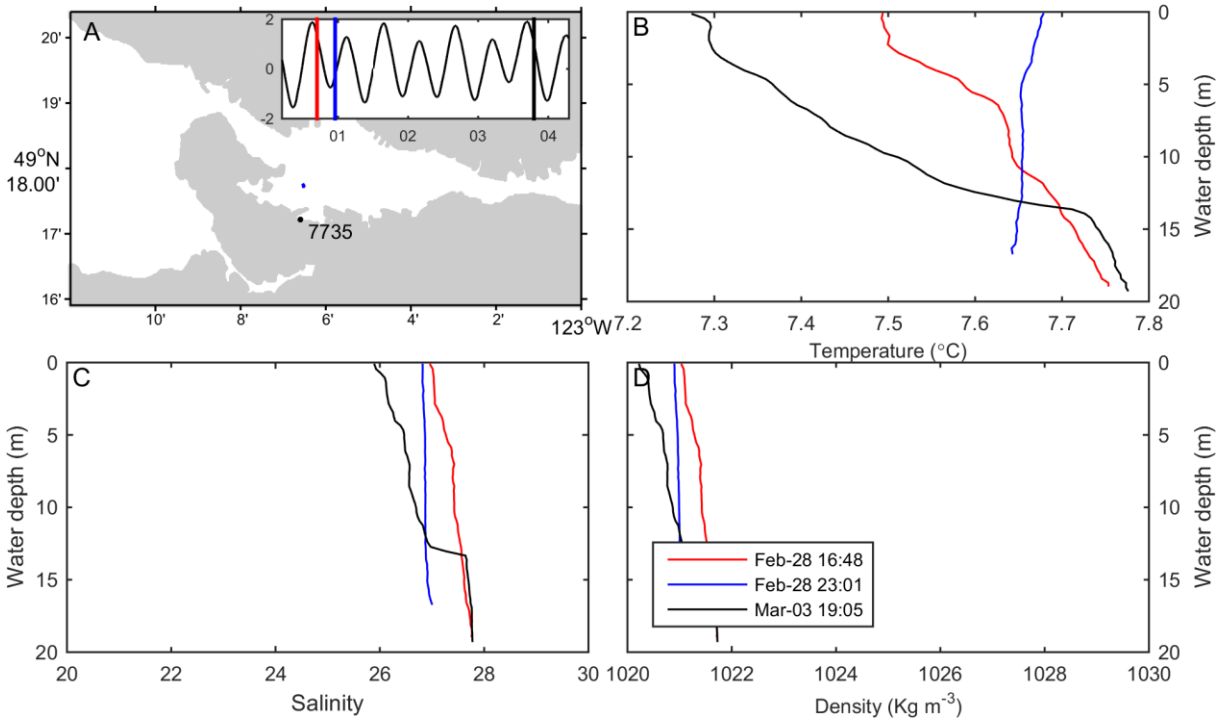

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-03 23:52

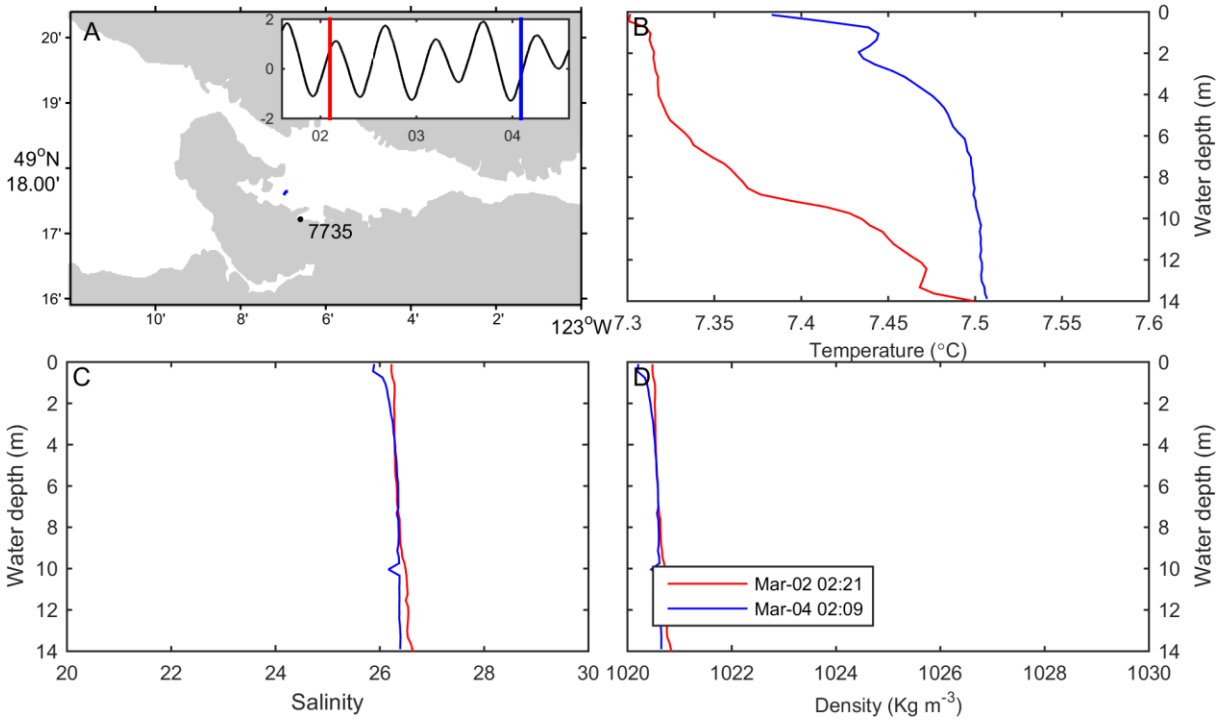

A
B
C
D
49°N
18.00'
123°W
7735
04
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-04 01:55

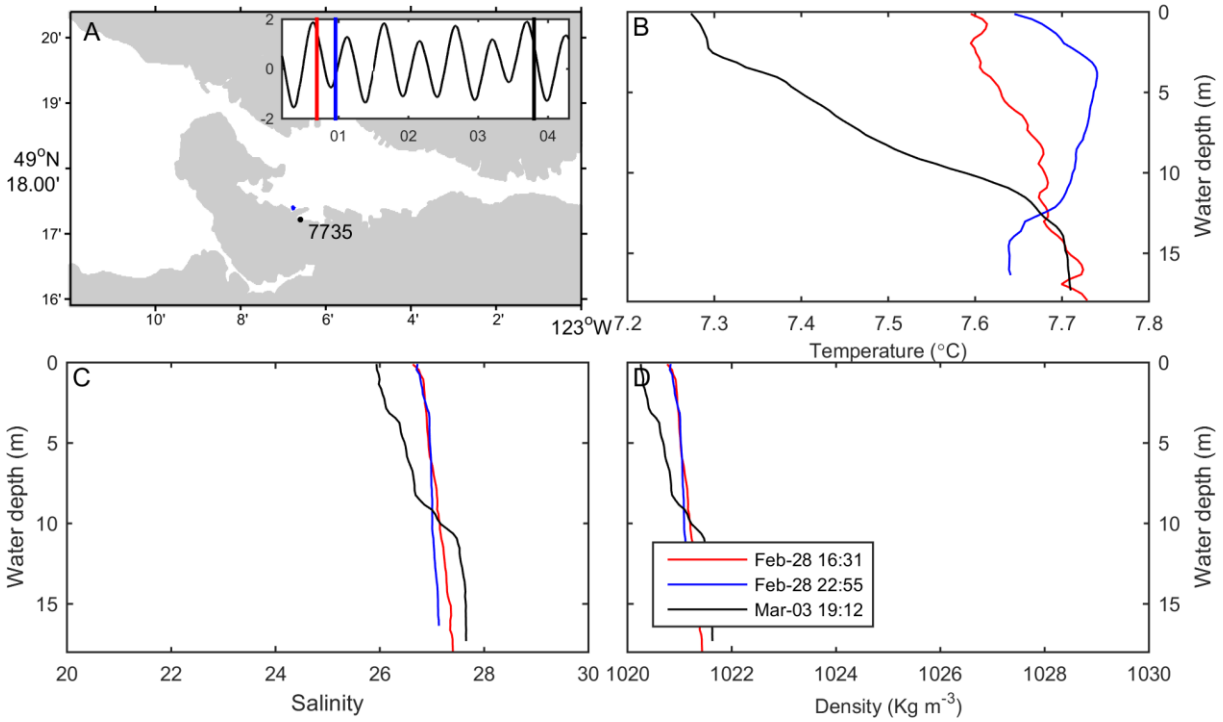

A
B
C
D
49°N
18.00'
123°W
7735
01
02
03
04
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Feb-28 17:10
Feb-28 23:24
Mar-03 18:47


A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 17:02
Feb-28 23:20
Mar-03 18:54


A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 16:53
Feb-28 23:05
Feb-28 23:10
Feb-28 23:15
Mar-03 18:58


A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Feb-28 16:48
Feb-28 23:01
Mar-03 19:05


A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
02
03
04
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 02:21
Mar-04 02:09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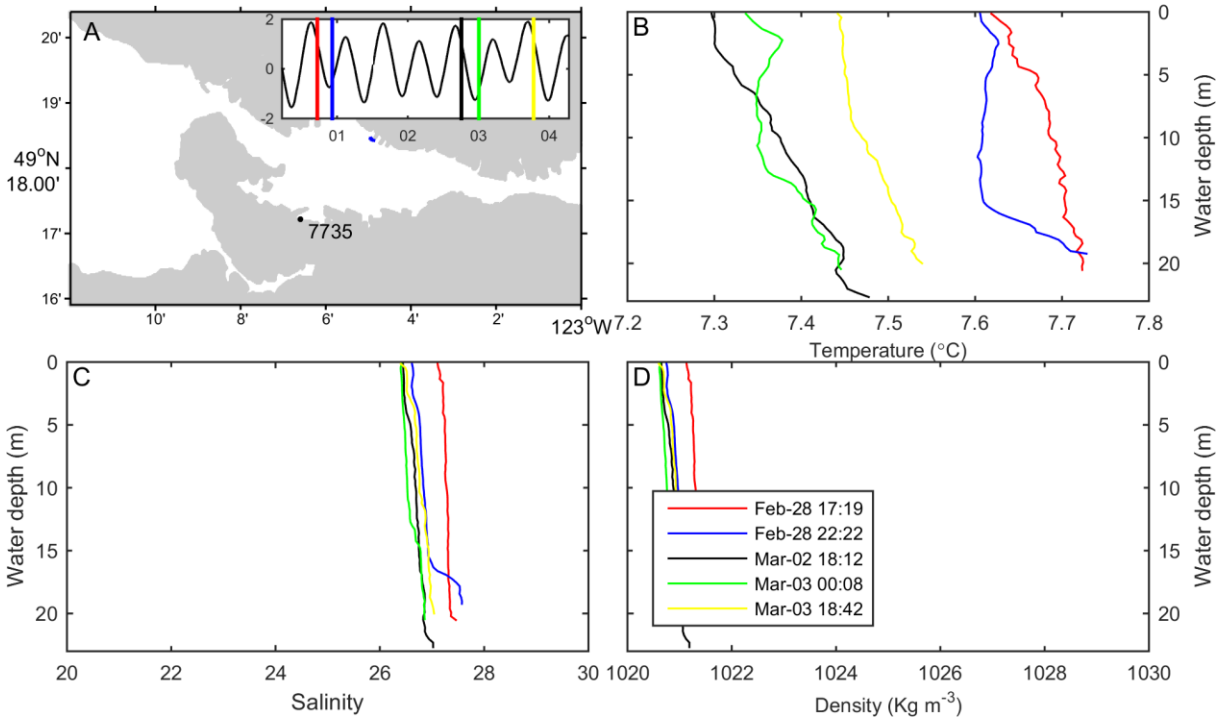
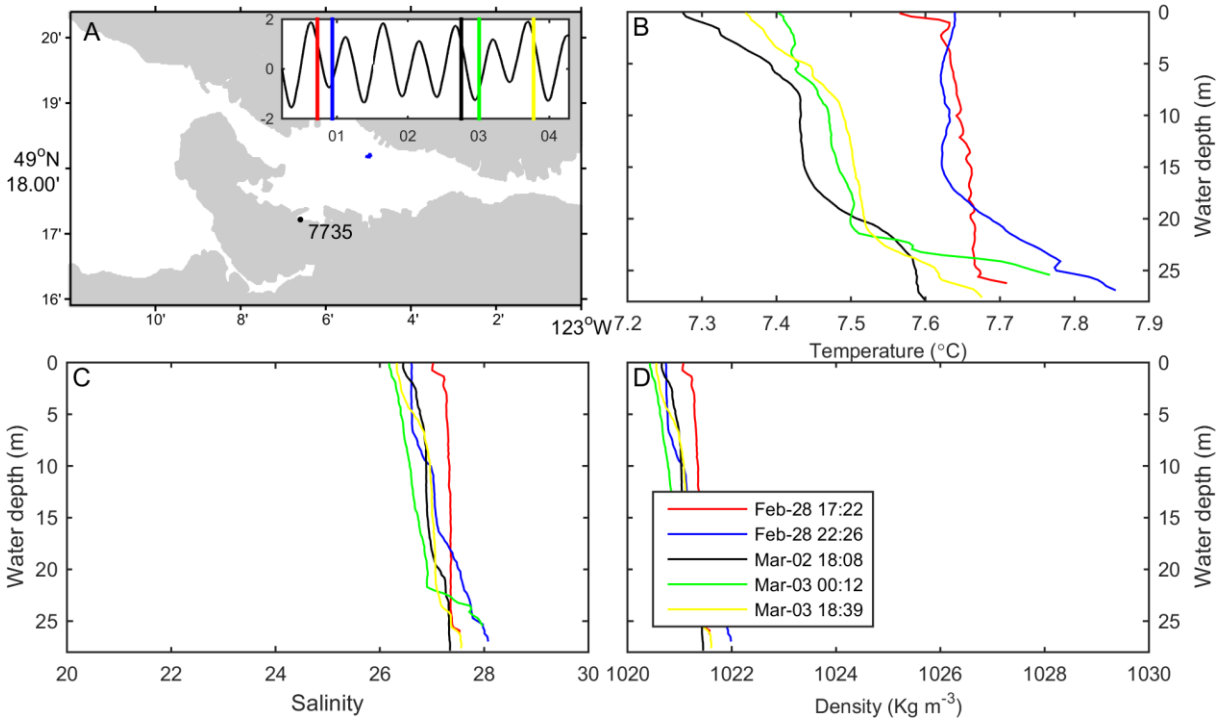
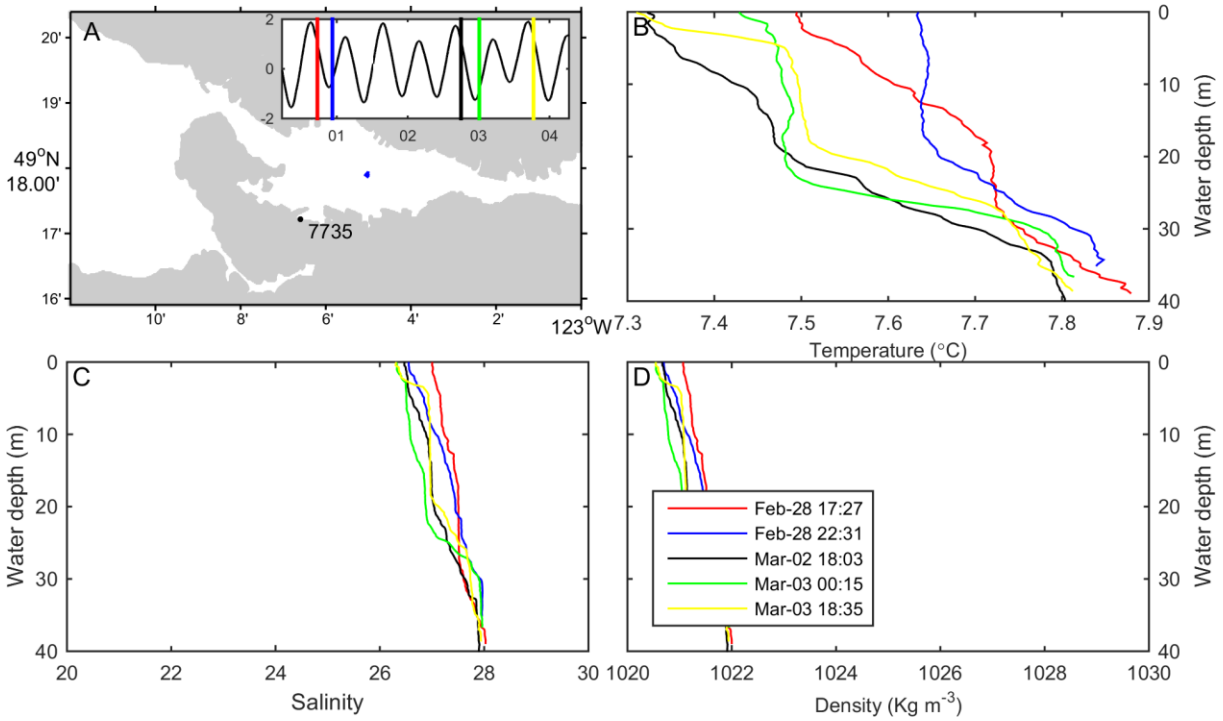
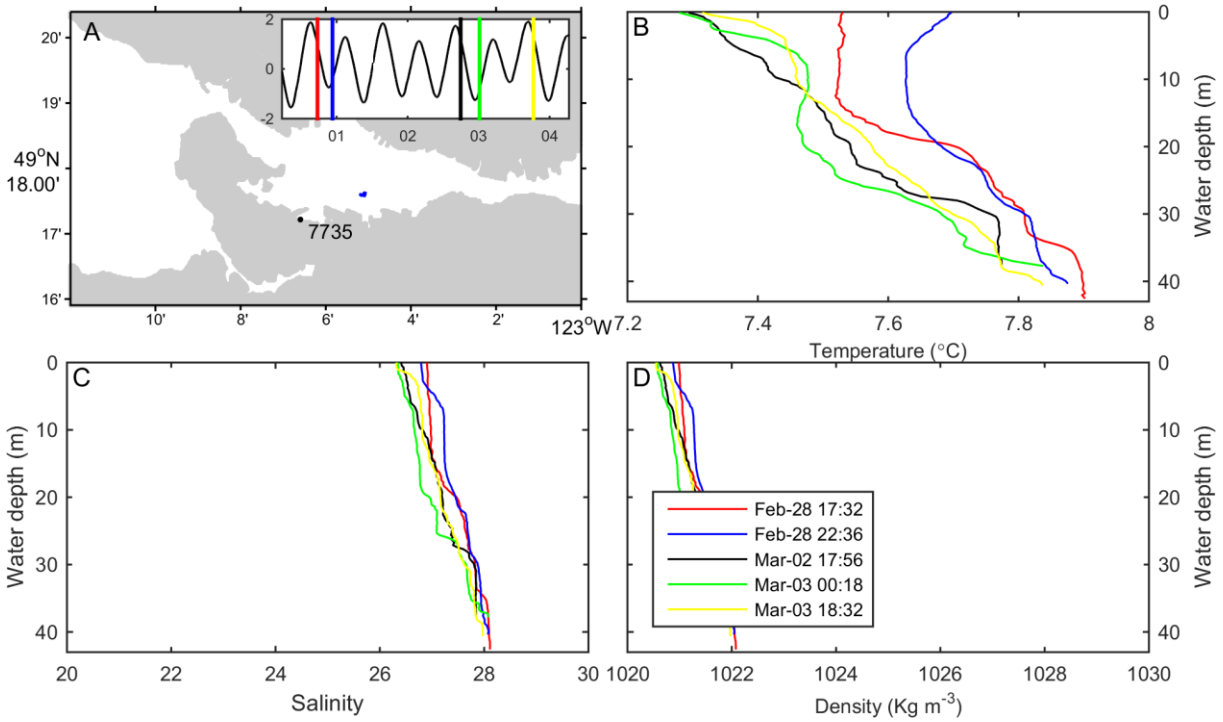
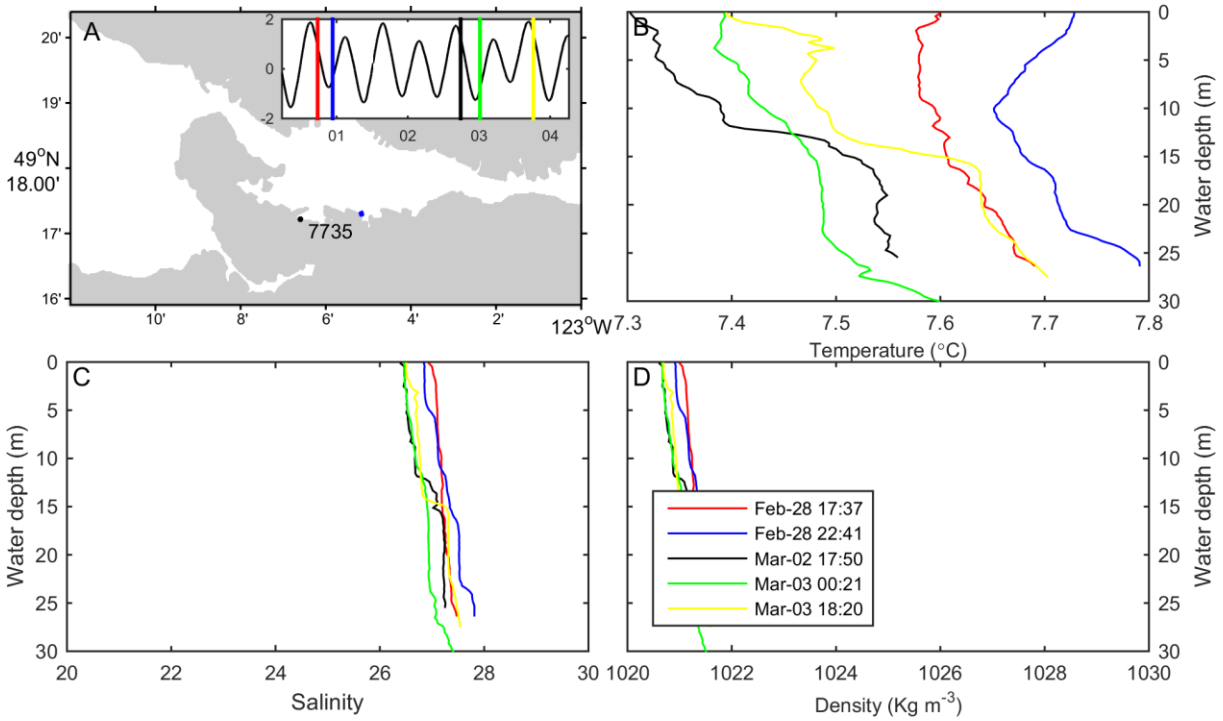
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 16:31
Feb-28 22:55
Mar-03 19:12

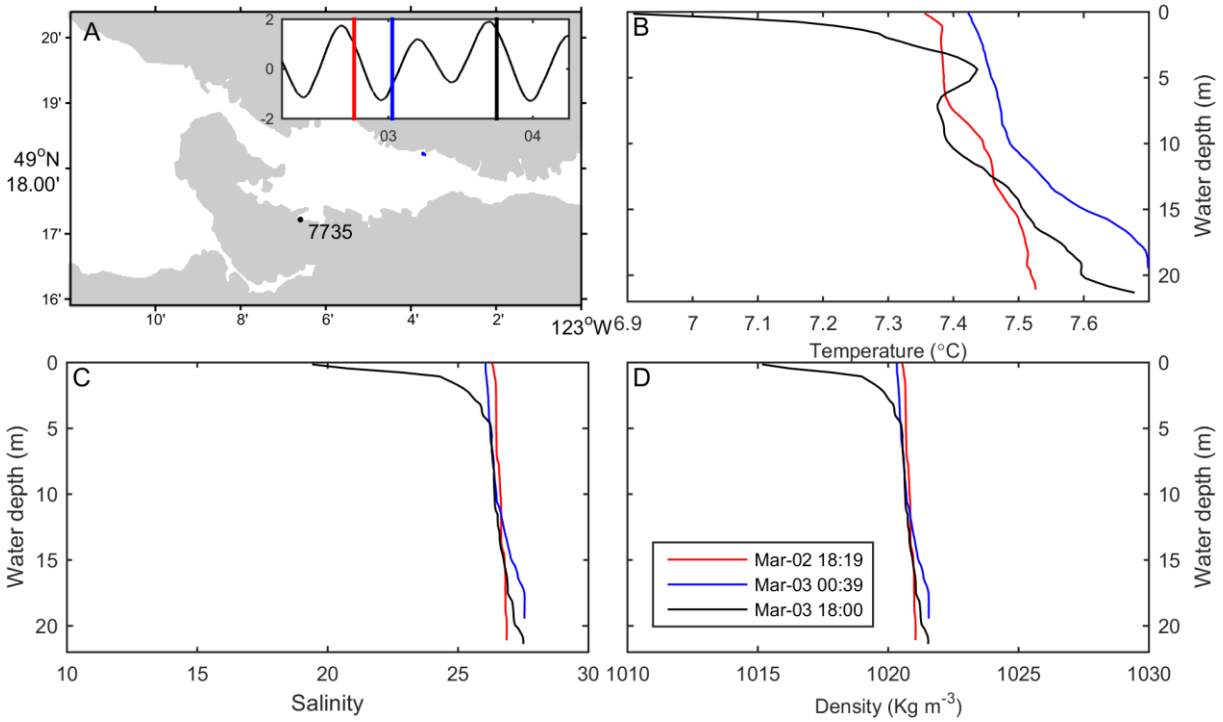

A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 17:19
Feb-28 22:22
Mar-02 18:12
Mar-03 00:08
Mar-03 18:42

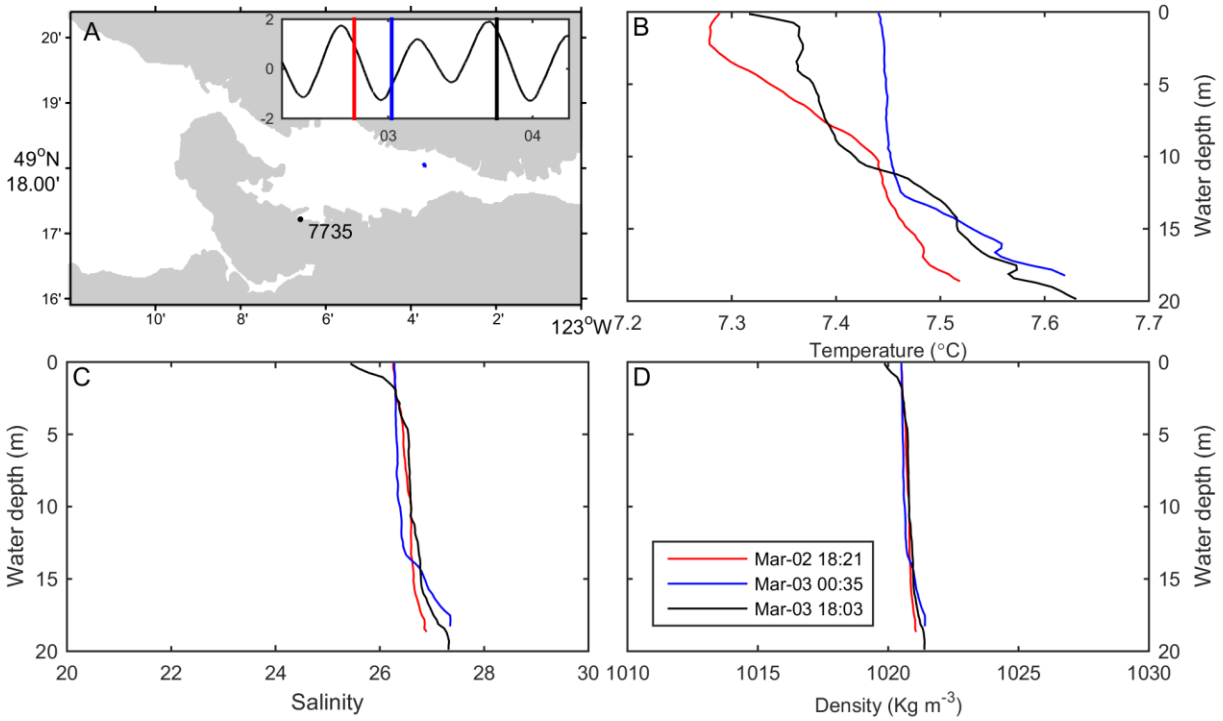

A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 17:22
Feb-28 22:26
Mar-02 18:08
Mar-03 00:12
Mar-03 18:39

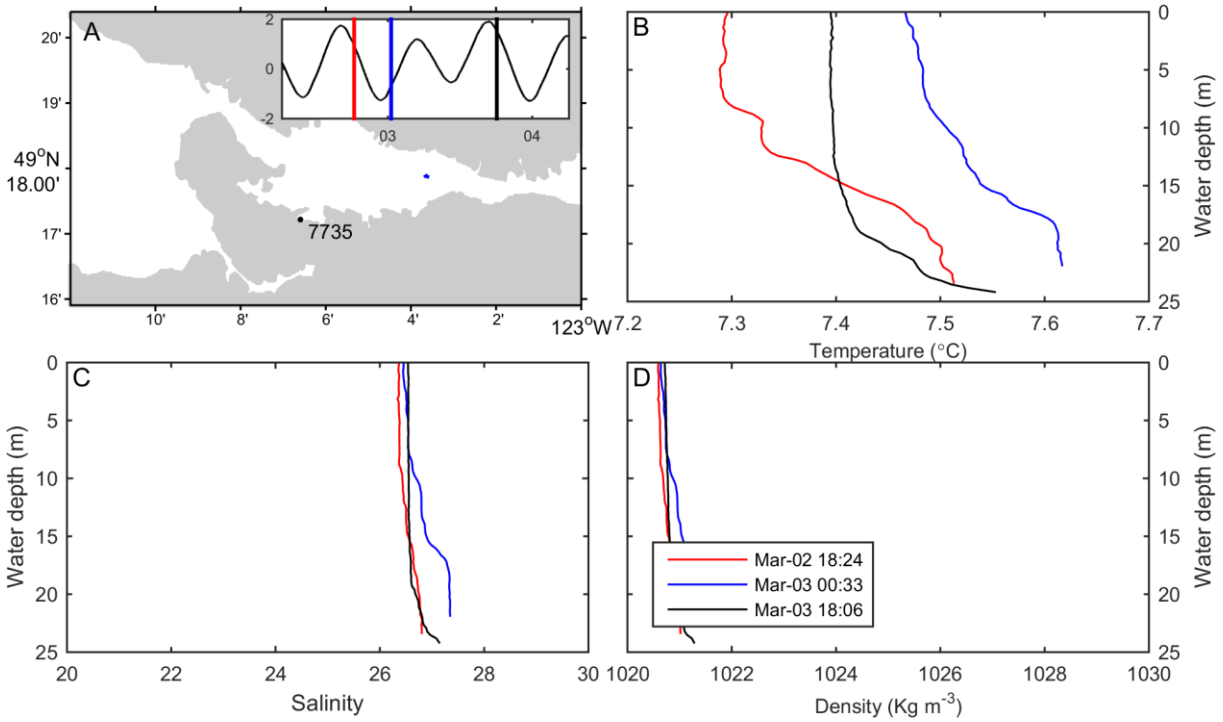

A
B
C
D
49°N
18.00'
20'
19'
17'
16'
10'
8'
6'
4'
2'
123°W
7735
01
02
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Feb-28 17:27
Feb-28 22:31
Mar-02 18:03
Mar-03 00:15
Mar-03 18:35

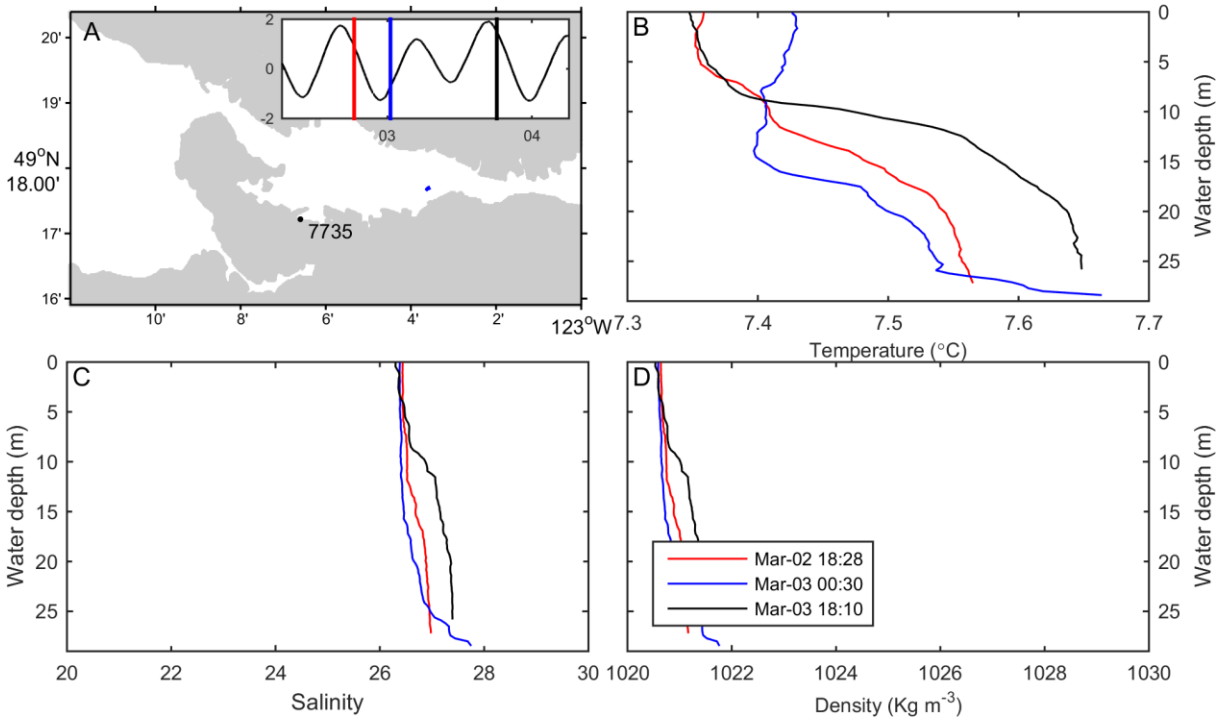

A
B
C
D
49°N
18.00'
7735
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Feb-28 17:32
Feb-28 22:36
Mar-02 17:56
Mar-03 00:18
Mar-03 18:32

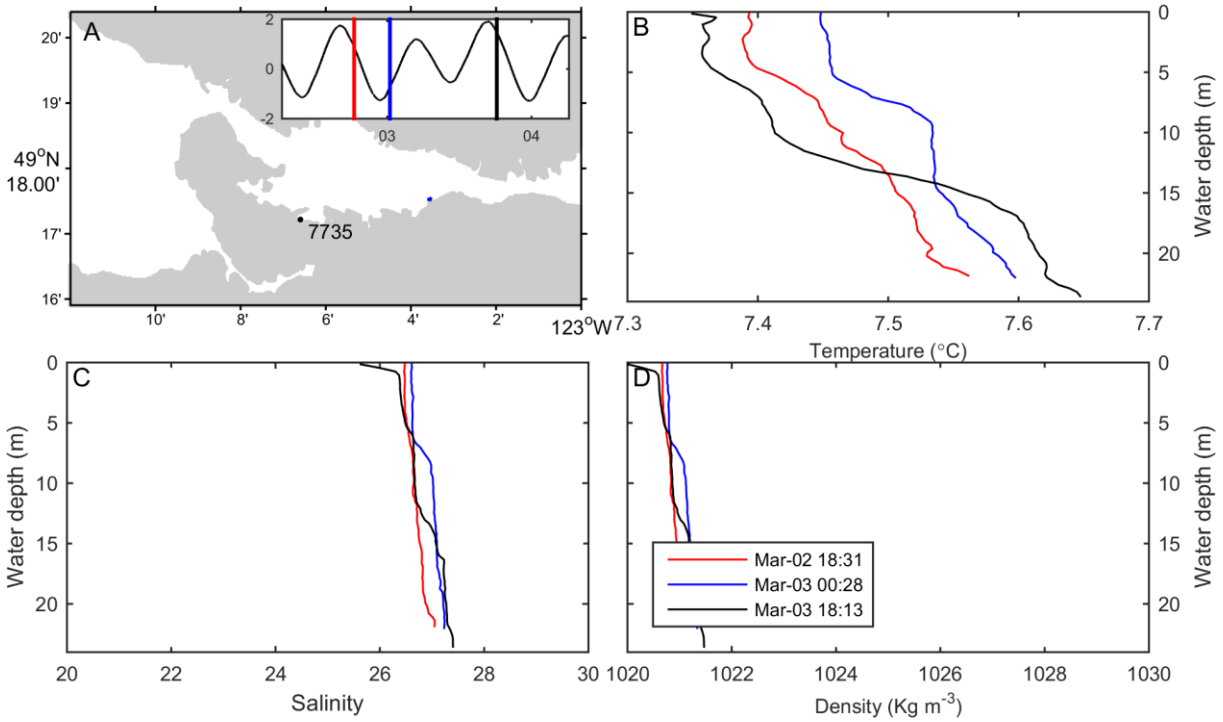

A
B
C
D
49°N
18.00'
7735
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Feb-28 17:37
Feb-28 22:41
Mar-02 17:50
Mar-03 00:21
Mar-03 18:20

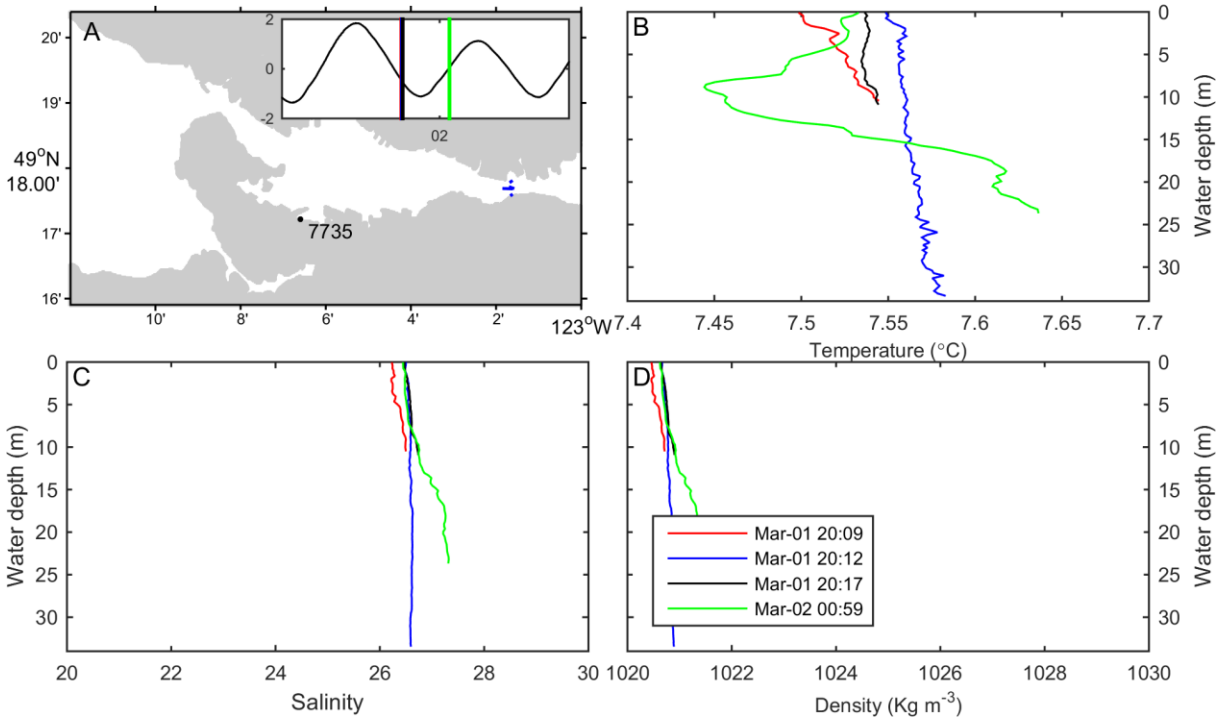

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 18:19
Mar-03 00:39
Mar-03 18:00

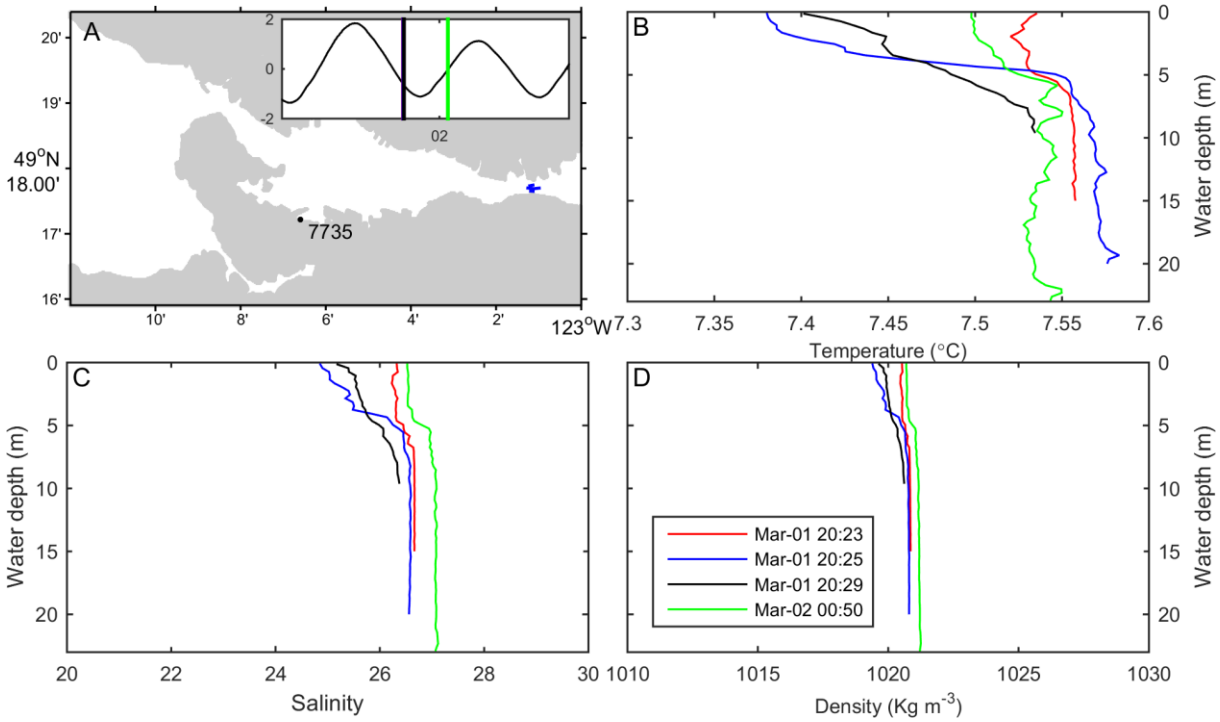

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 18:21
Mar-03 00:35
Mar-03 18:03

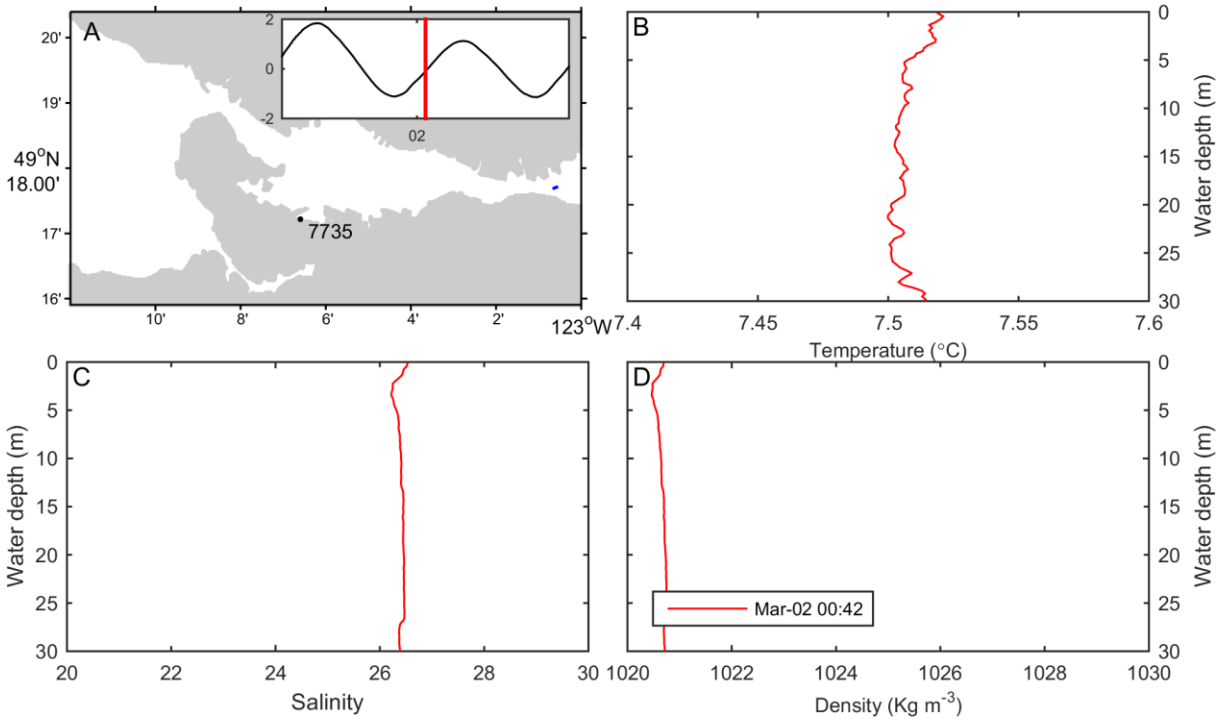

A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 18:24
Mar-03 00:33
Mar-03 18:06


A
B
C
D
7735
49°N
18.00'
123°W
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Mar-02 18:28
Mar-03 00:30
Mar-03 18:10


A
B
C
D
7735
49°N
18.00'
123°W
03
04
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Mar-02 18:31
Mar-03 00:28
Mar-03 18:13

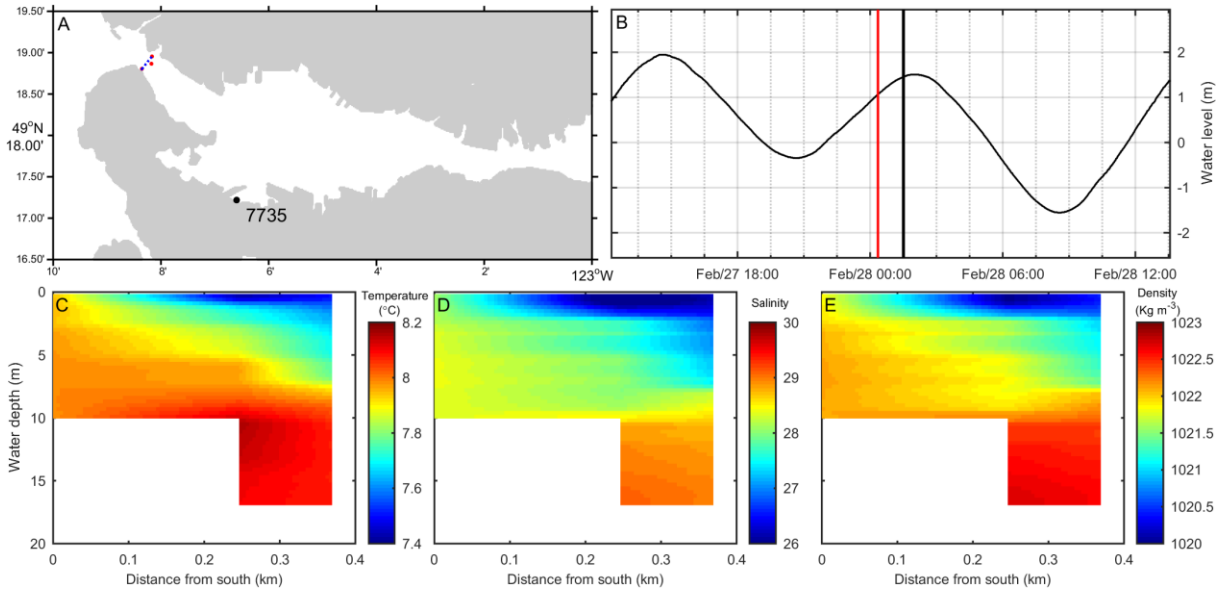

A
B
C
D
7735
49°N
18.00'
123°W
02
Temperature (°C)
Water depth (m)
Salinity
Density (Kg m-3)
Mar-01 20:09
Mar-01 20:12
Mar-01 20:17
Mar-02 00:59

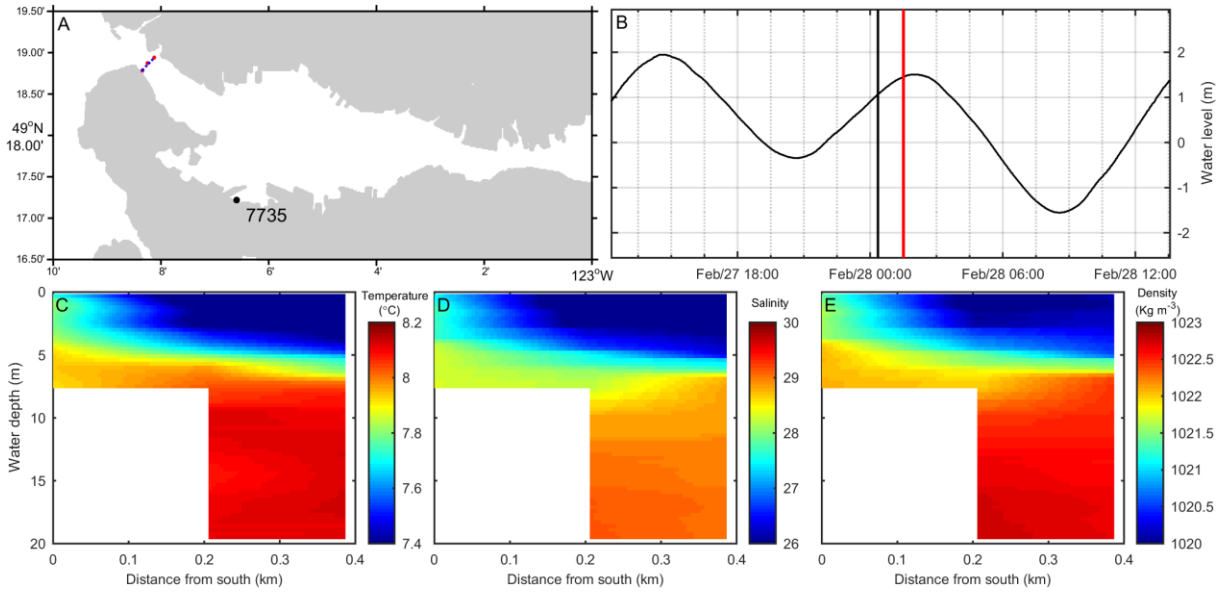


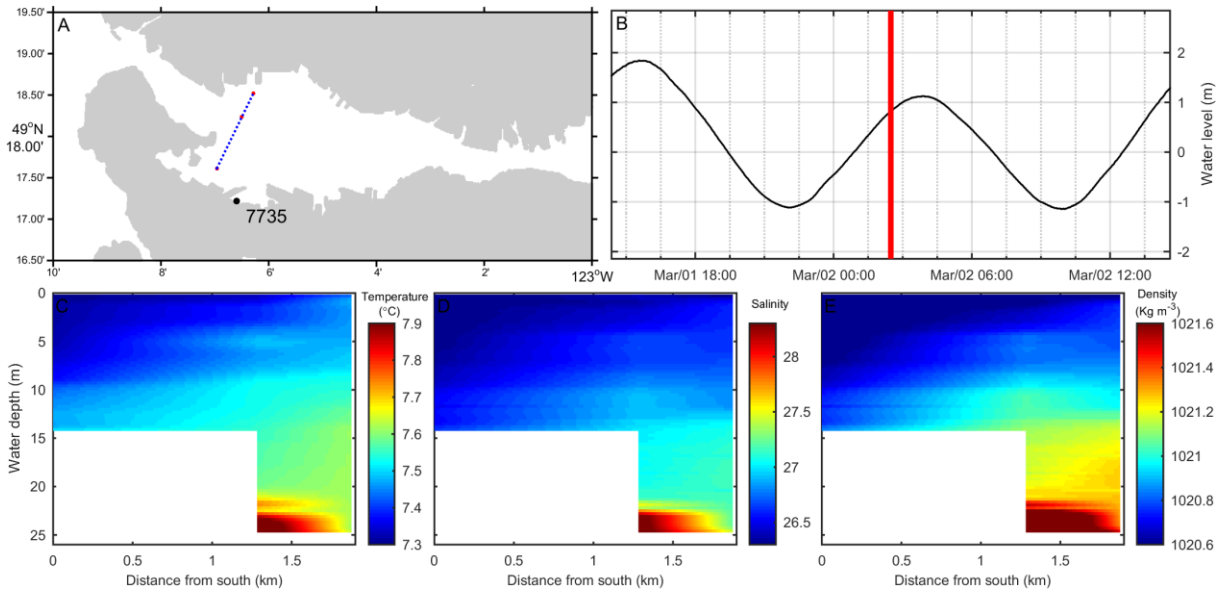



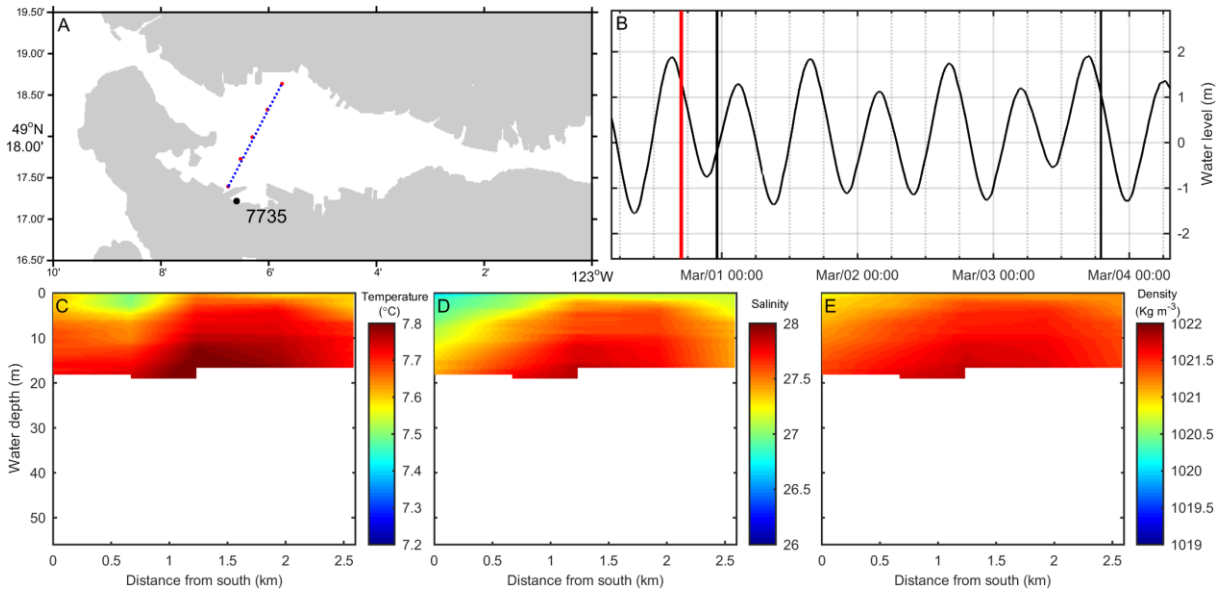

## 6.2 FEBRUARY/MARCH CTD CROSS-CHANNEL SECTIONS

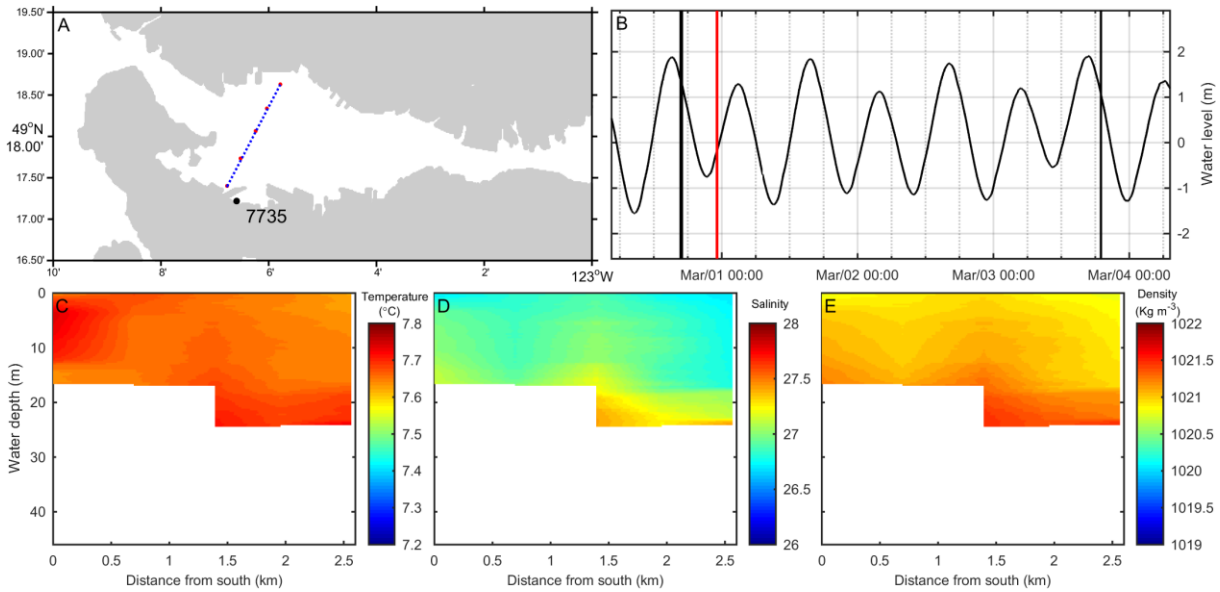
This section presents the cross-channel sections of the February/March CTD data. The figures also show the time during the tidal cycle when the data were measured and the locations of the casts.

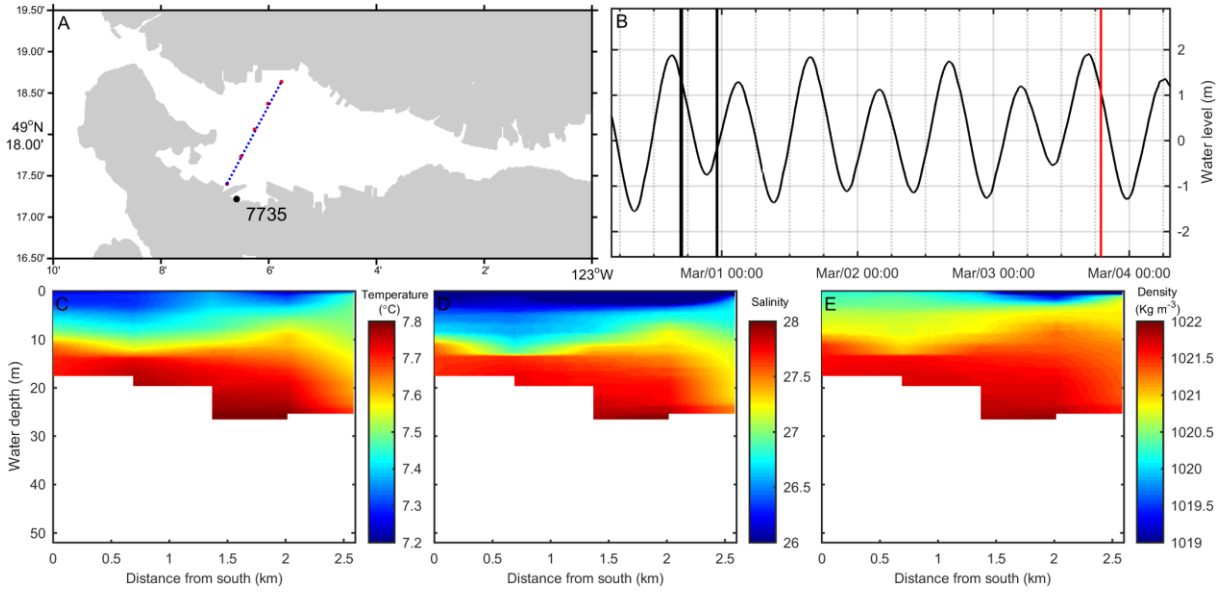

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Feb/27 18:00
Feb/28 00:00
Feb/28 06:00
Feb/28 12:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

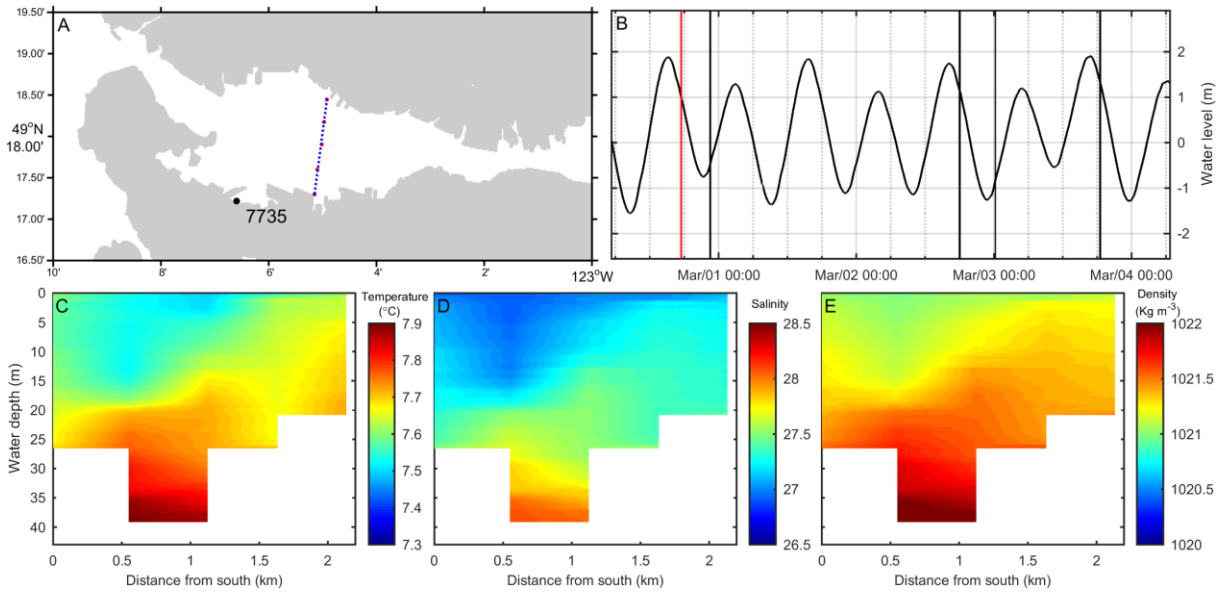

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Feb/27 18:00
Feb/28 00:00
Feb/28 06:00
Feb/28 12:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

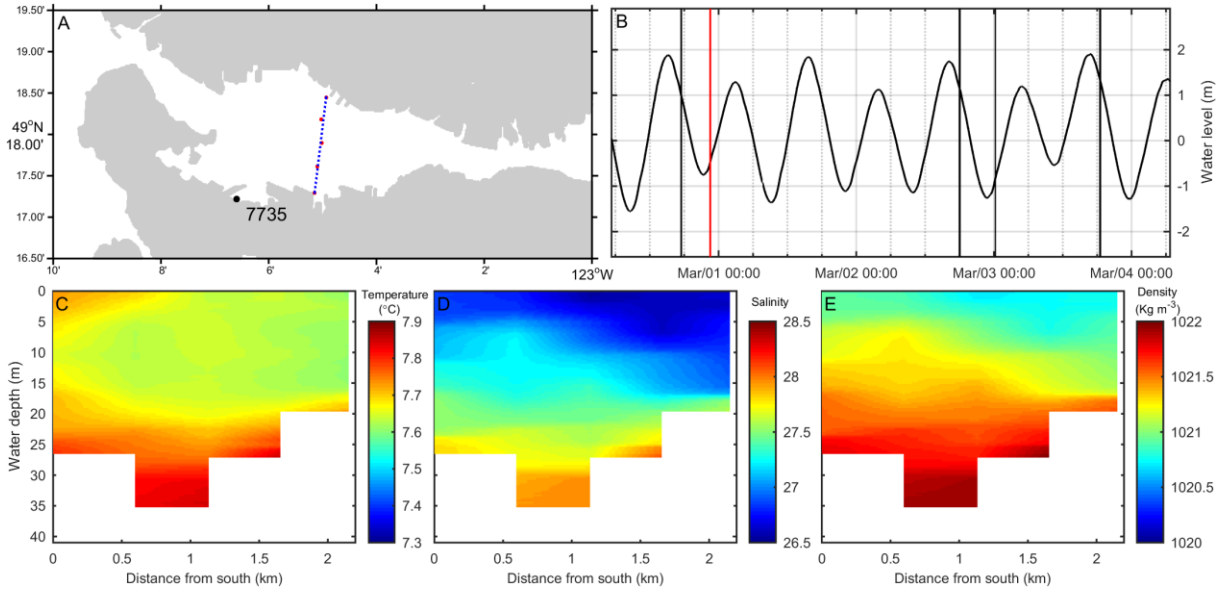

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 18:00
Mar/02 00:00
Mar/02 06:00
Mar/02 12:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

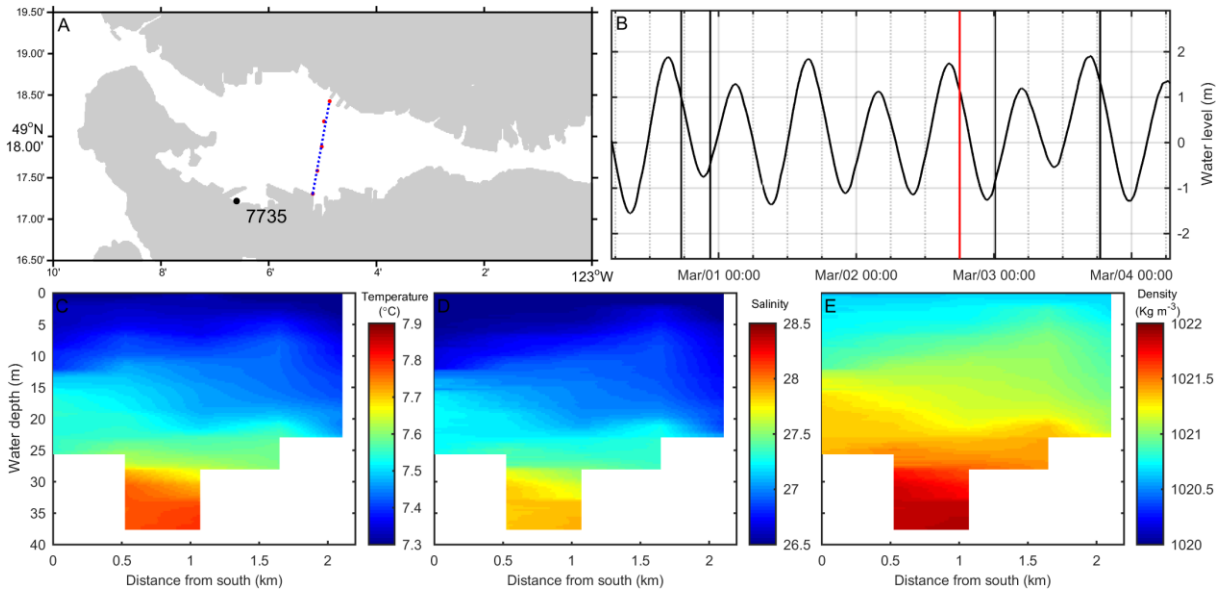

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

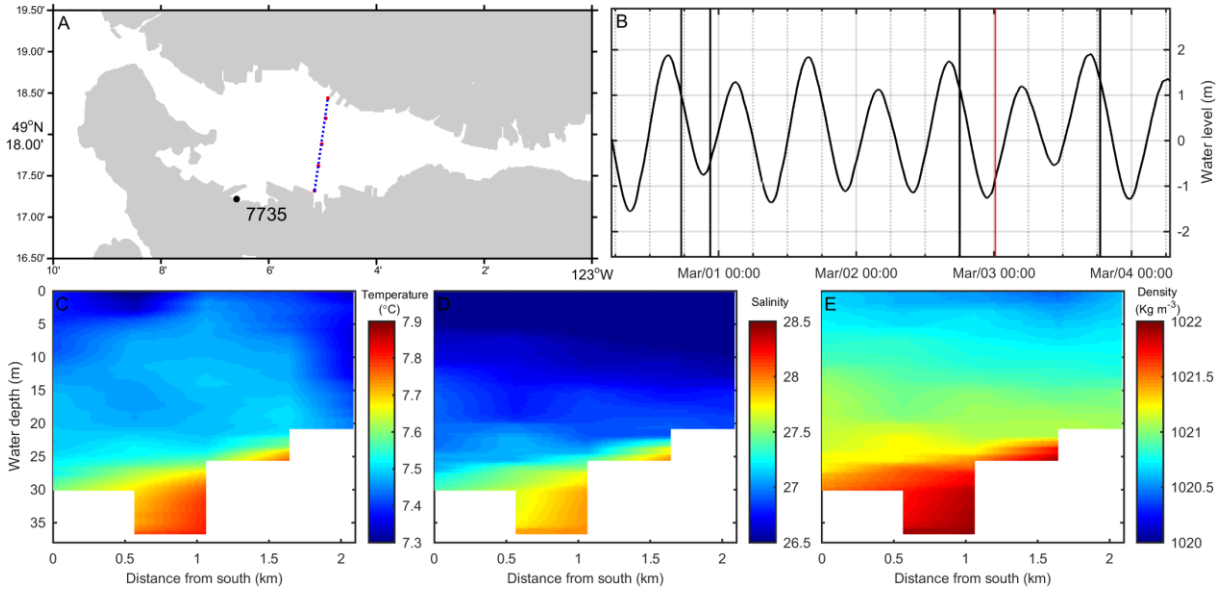

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

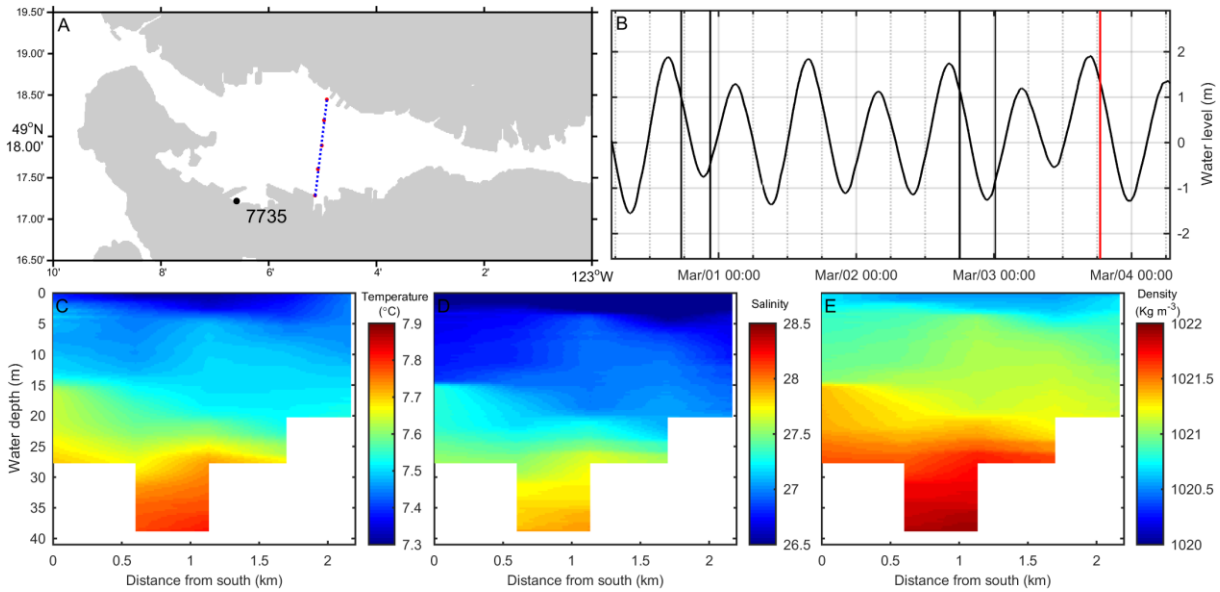

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

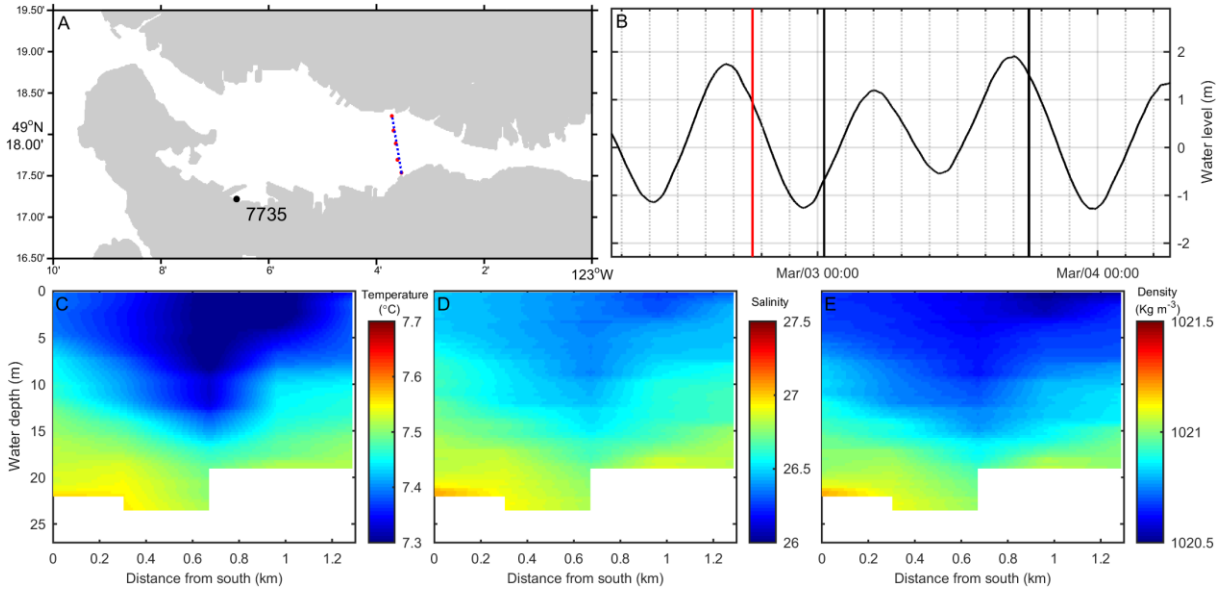

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

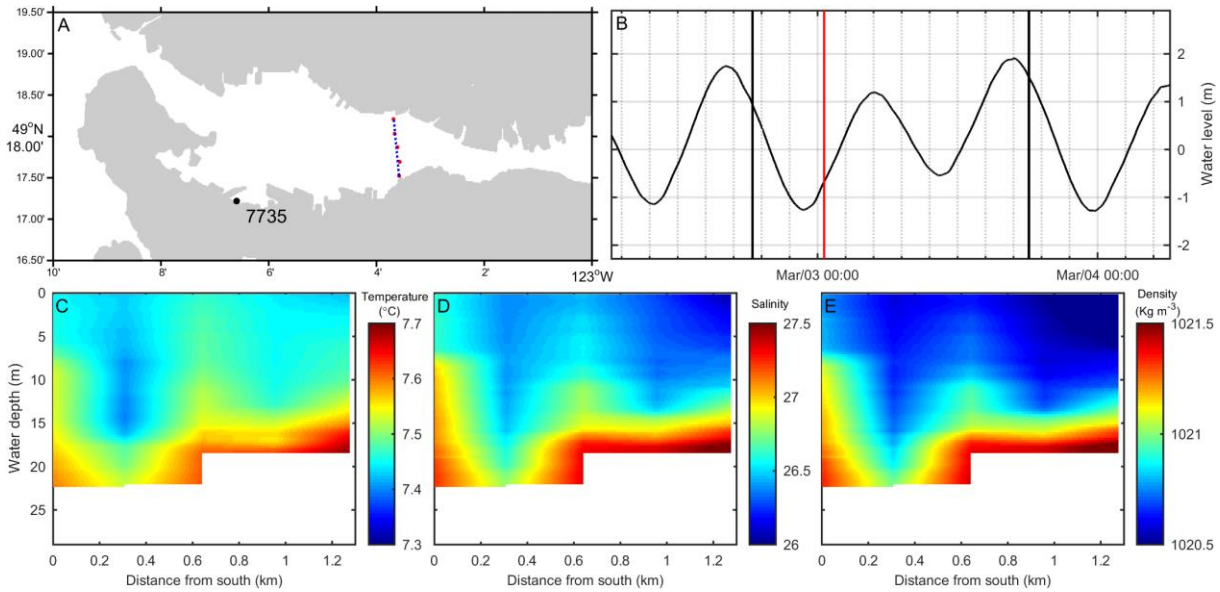

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

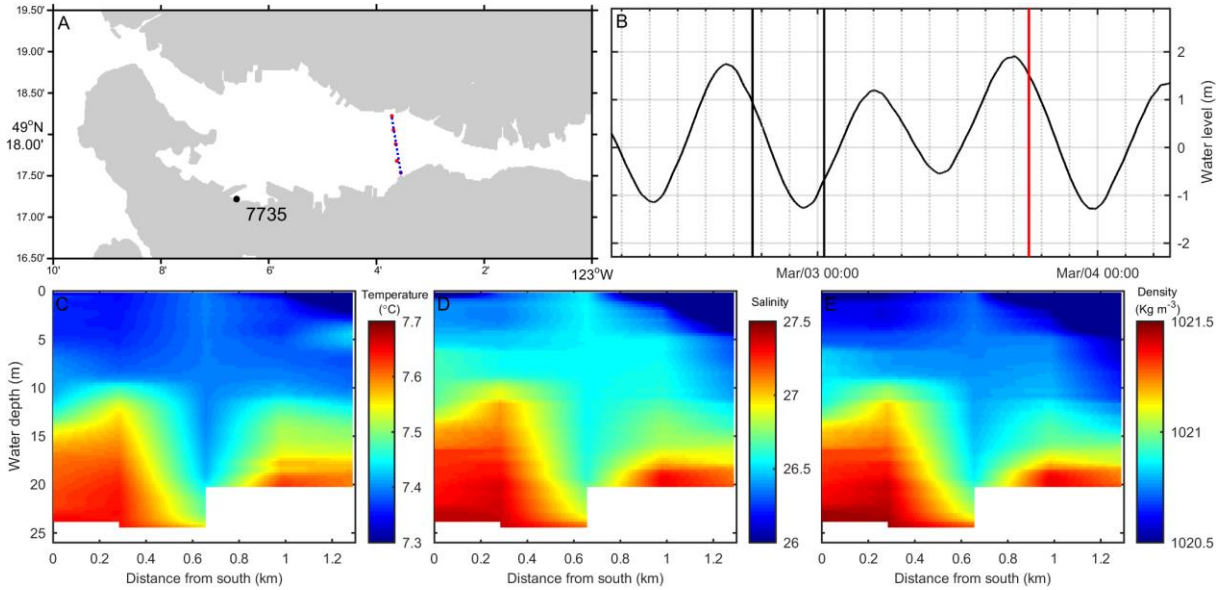

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

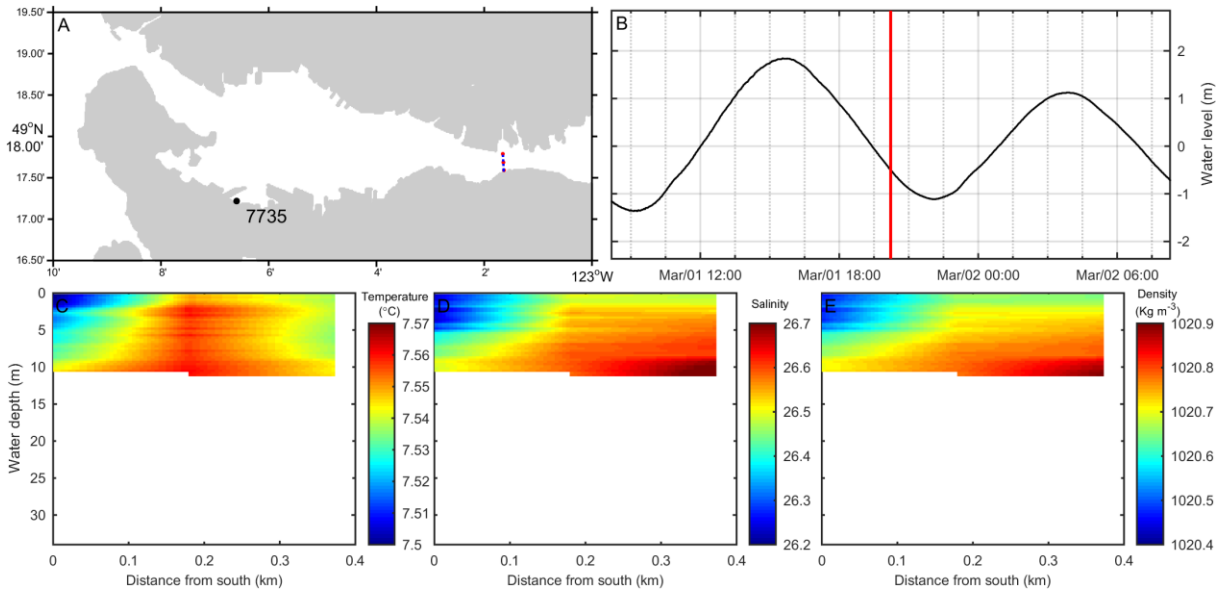

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

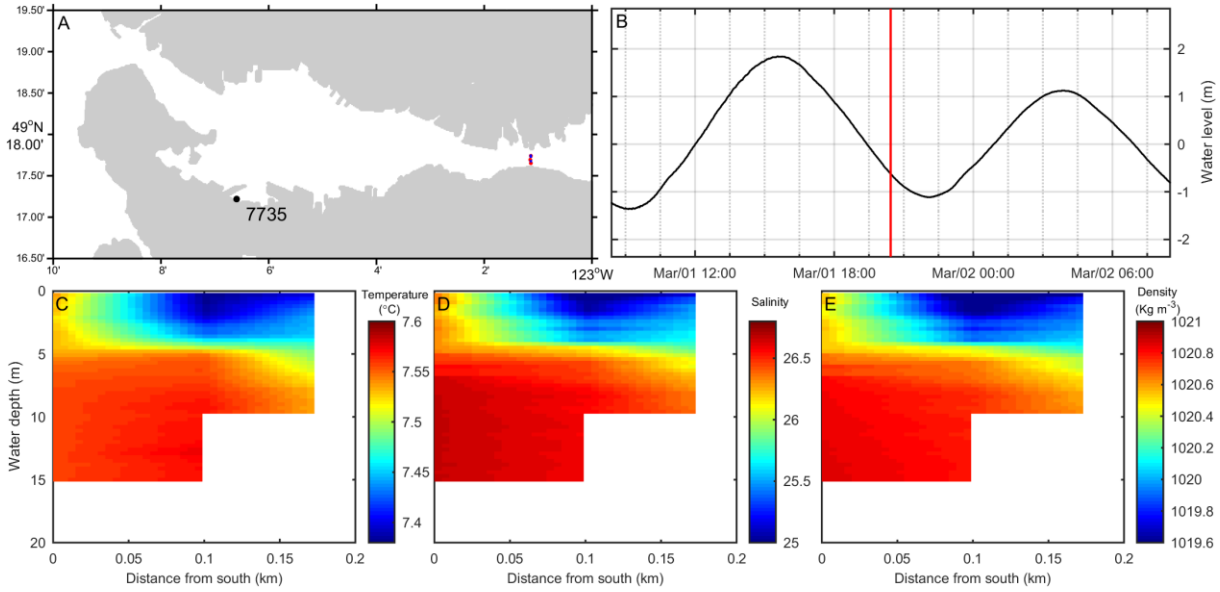

A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/01 00:00
Mar/02 00:00
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)


A
B
C
D
E
7735
49°N
18.00'
123°W
Water level (m)
Mar/03 00:00
Mar/04 00:00
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)


A
B
C
D
E
7735
49°N
18.00'
123°W
Mar/03 00:00
Mar/04 00:00
Water level (m)
Water depth (m)
Distance from south (km)
Temperature (°C)
Salinity
Density (Kg m-3)


A
B
C
D
E
7735
49°N
18.00'
123°W
Mar/03 00:00
Mar/04 00:00
Water level (m)
Water depth (m)
Distance from south (km)
Temperature (°C)
Salinity
Density (Kg m-3)



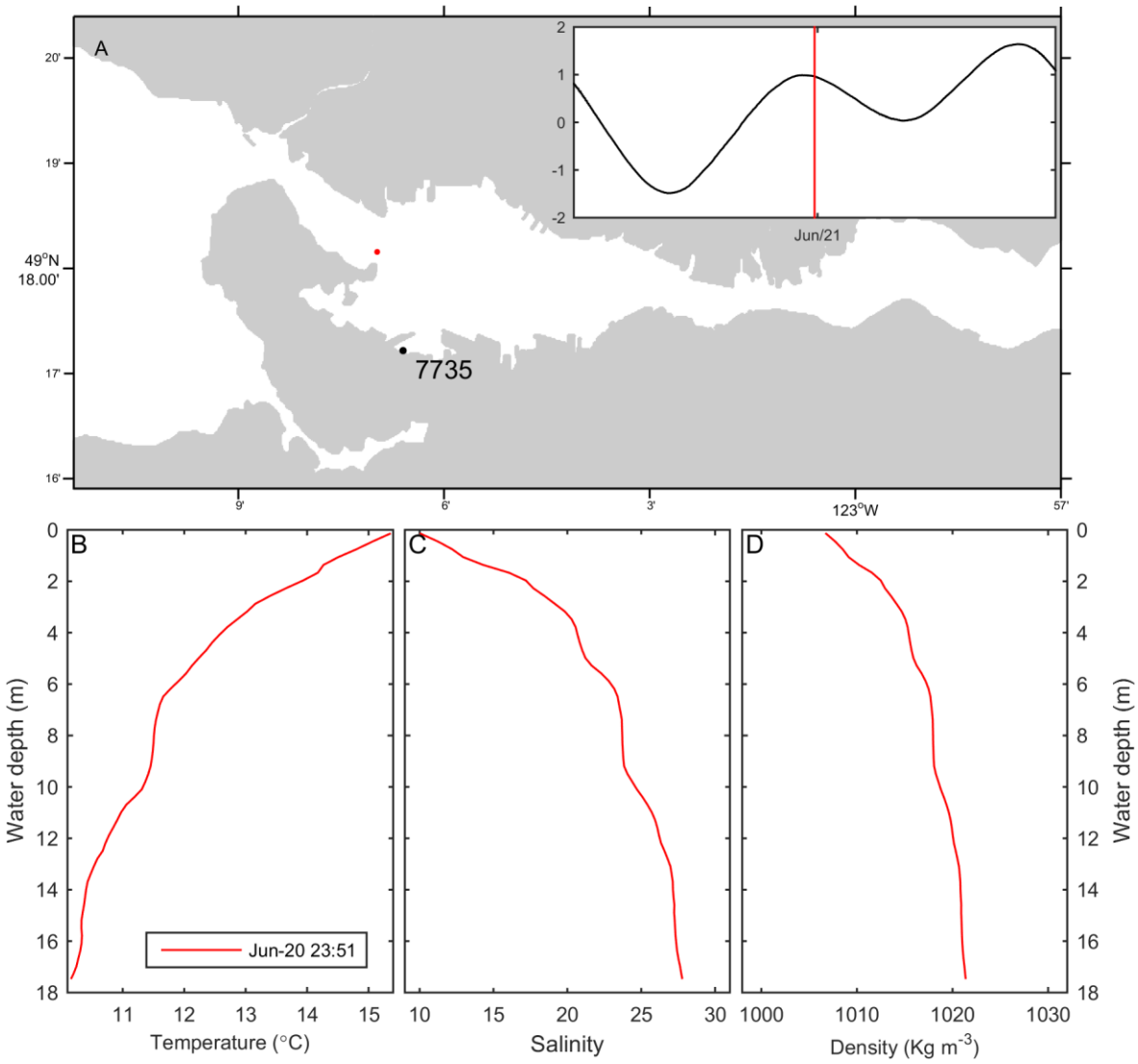



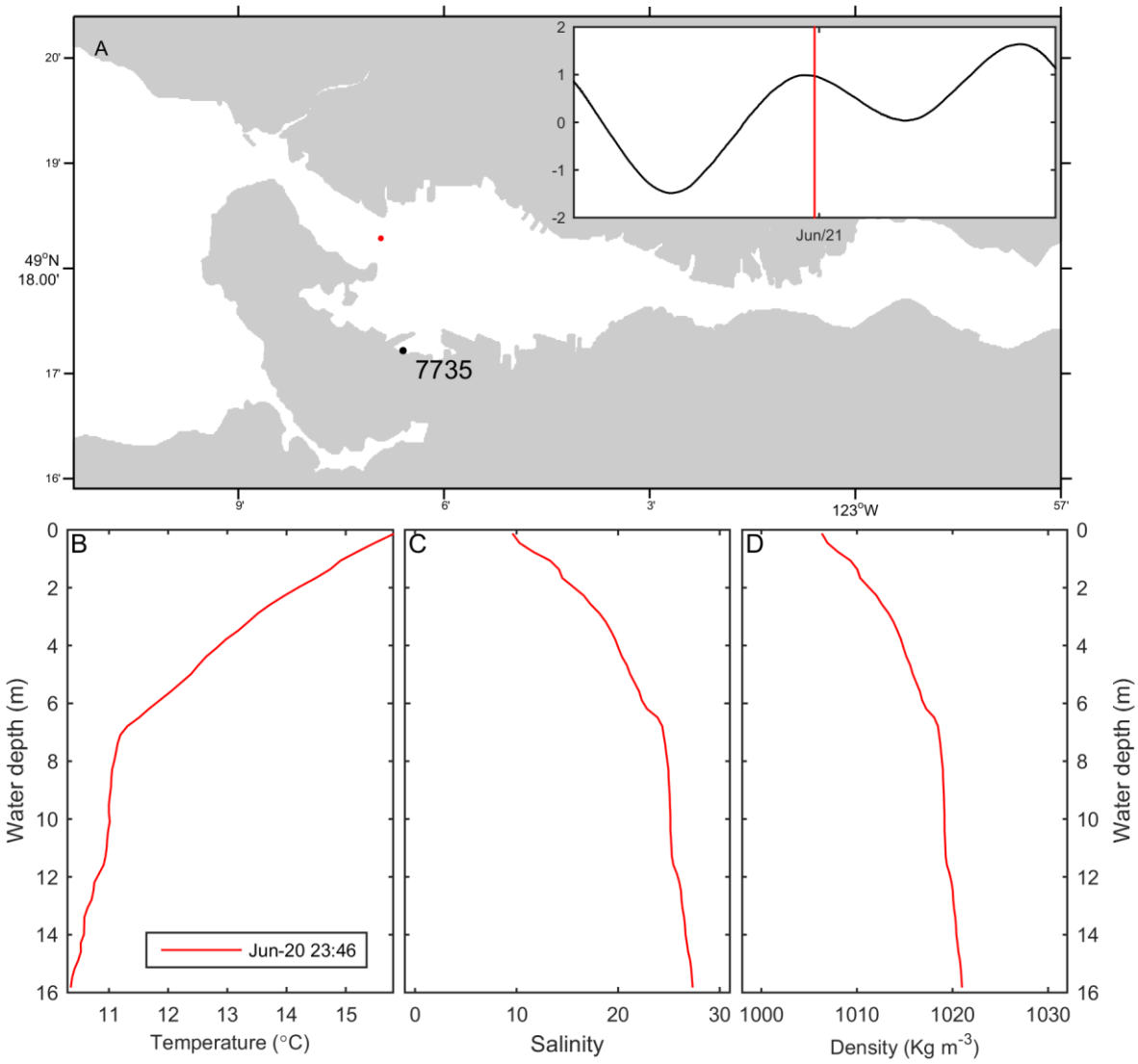

# 7 APPENDIX 2: JUNE CTD DATA

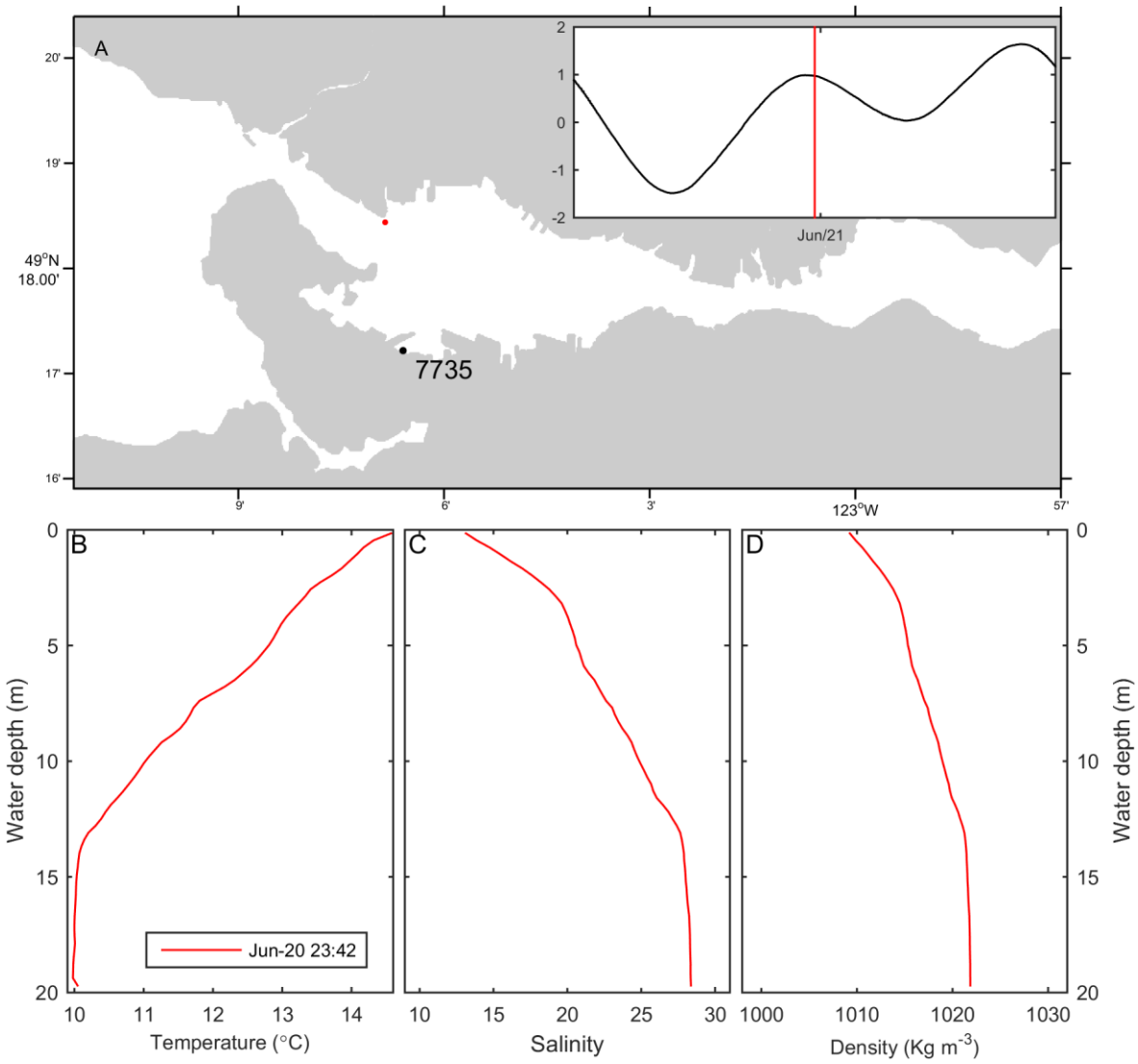
This appendix presents the CTD data measured in June 2017.

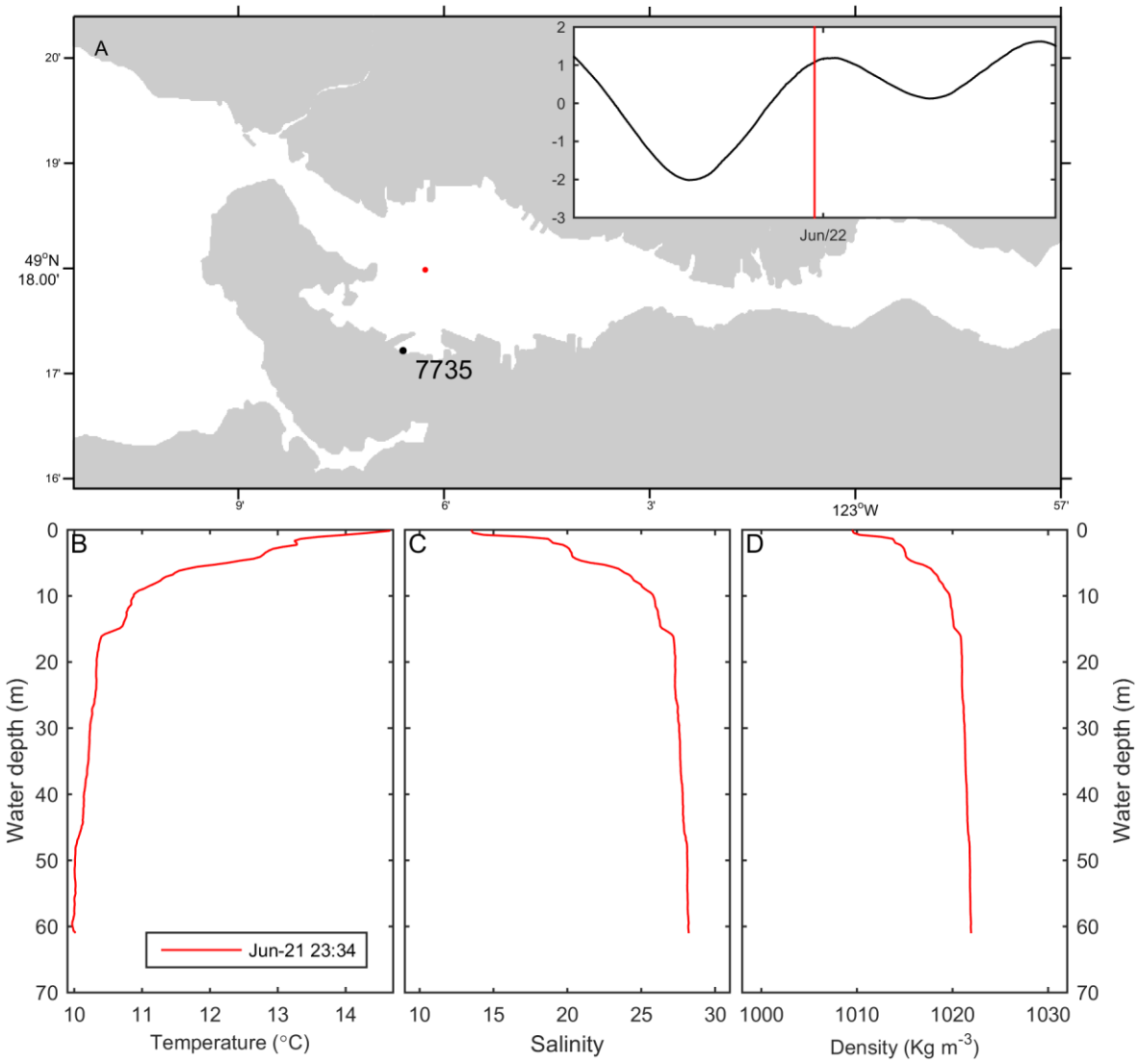
## 7.1 JUNE CTD VERTICAL PROFILES

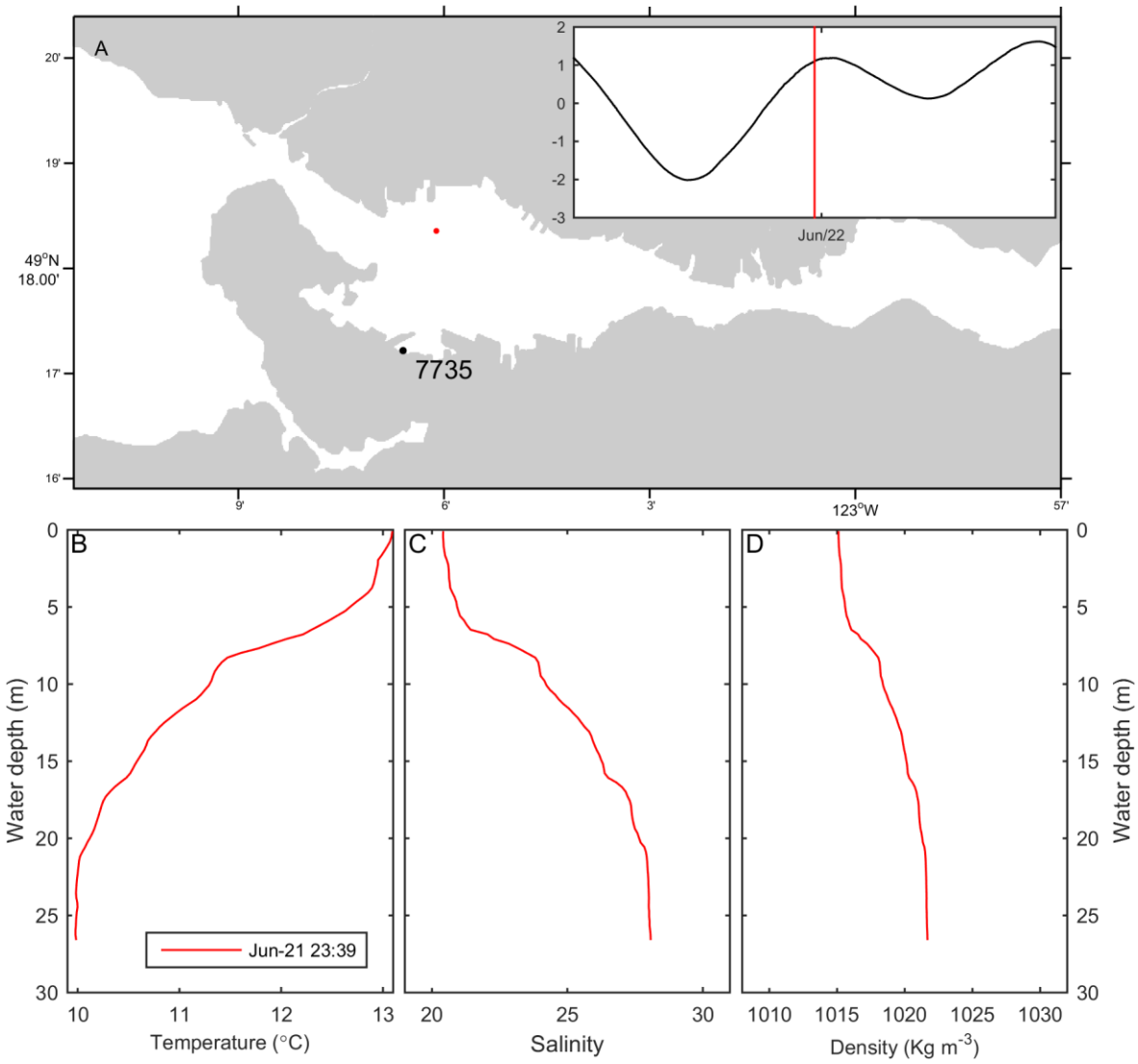
This section presents the vertical profiles of the June CTD data. The figures also show the time during the tidal cycle when the data were measured and the locations of the casts.

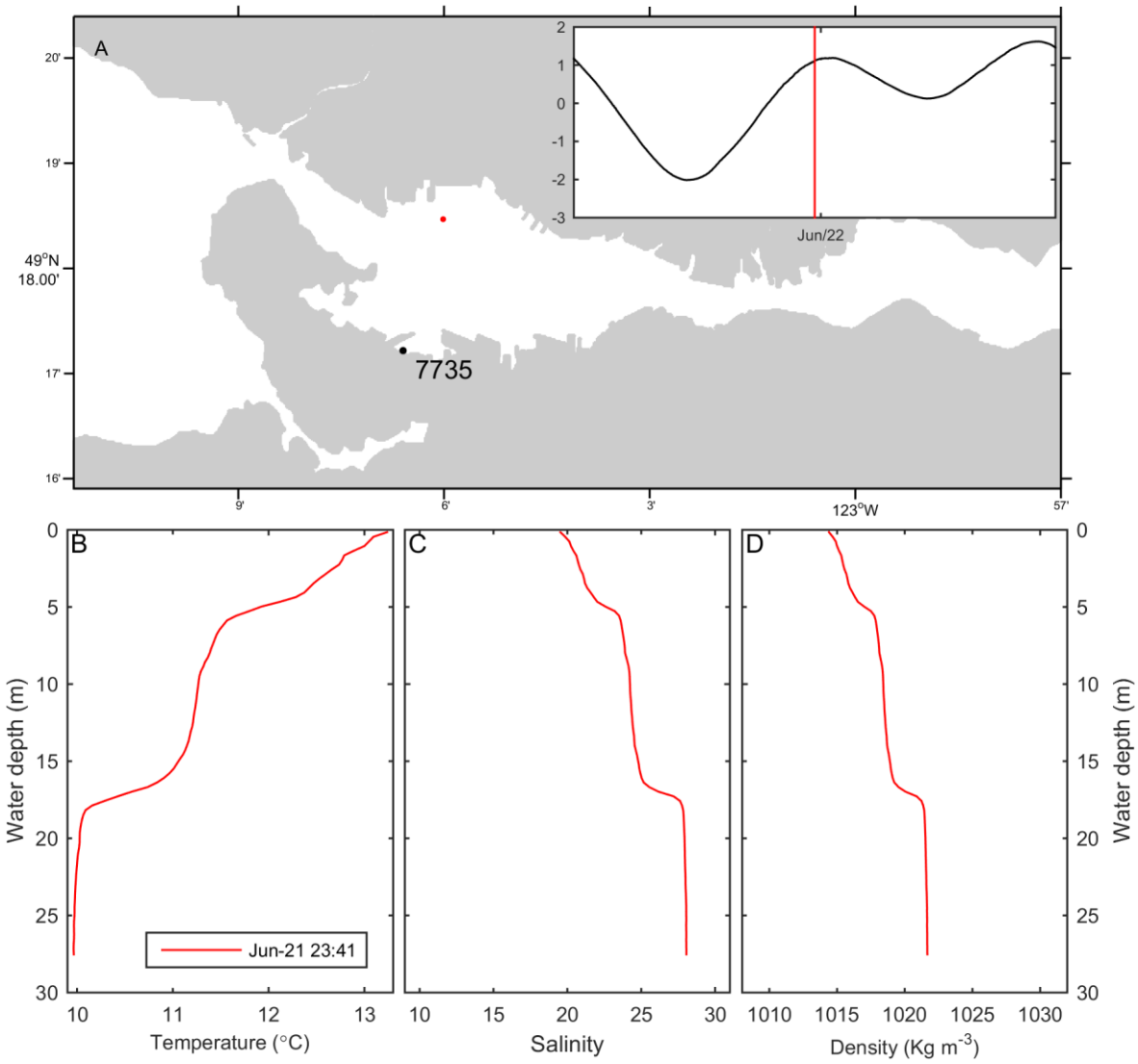

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
Jun/21
B
C
D
Water depth (m)
Jun-20 23:51
Temperature (°C)
Salinity
Density (Kg m-3)

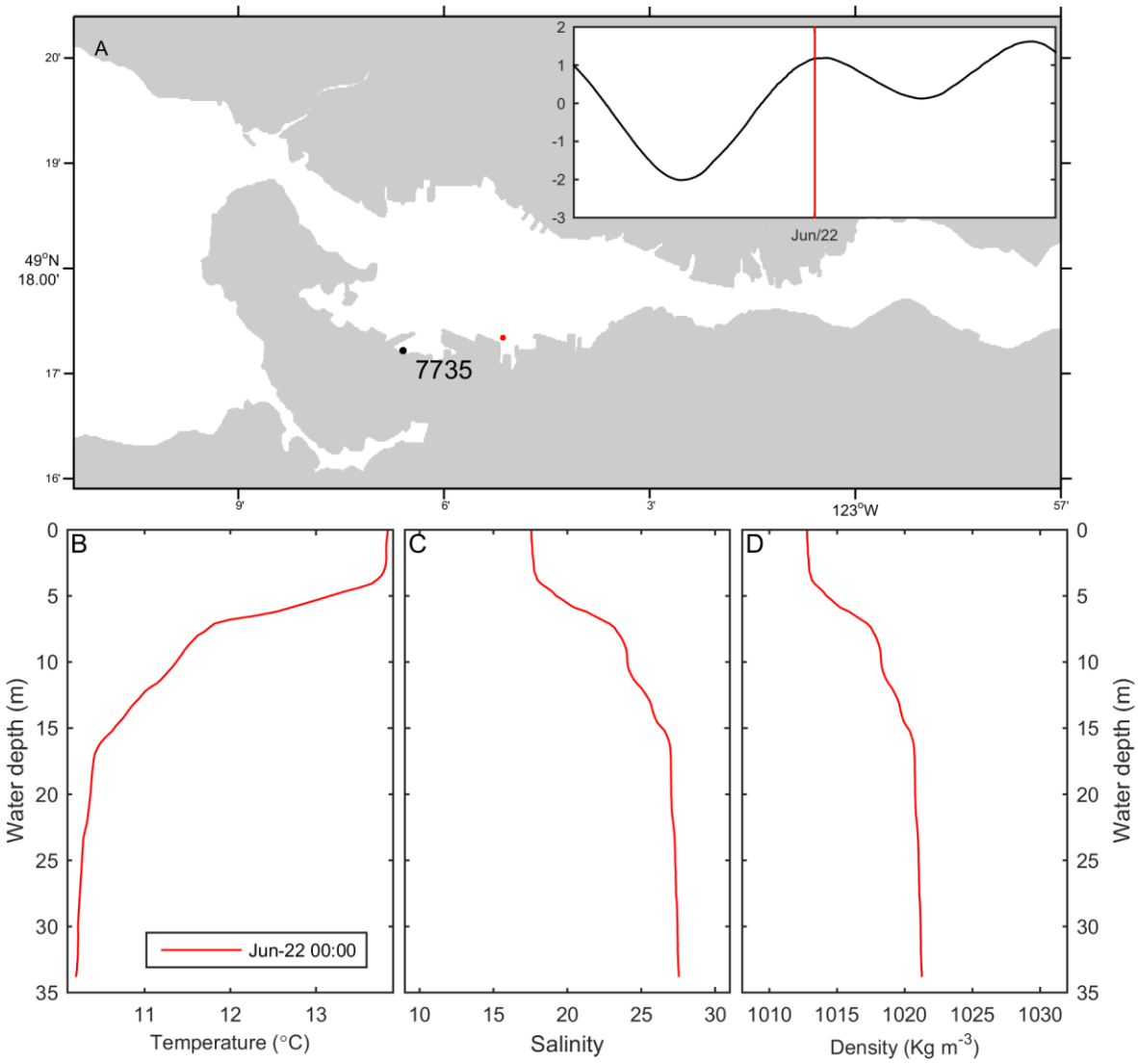

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
Jun/21
B
C
D
Water depth (m)
Jun-20 23:46
Temperature (°C)
Salinity
Density (Kg m-3)

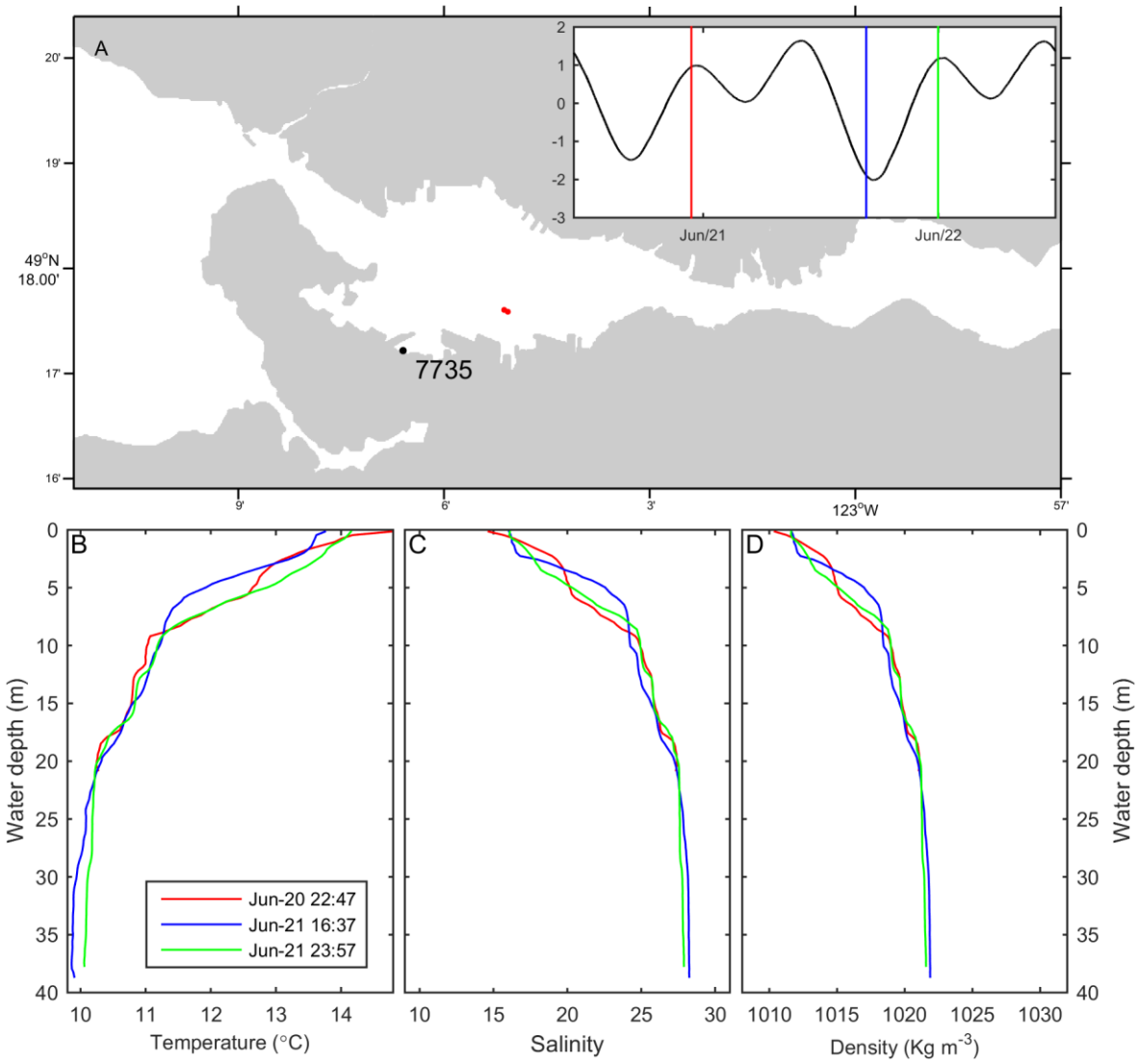

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
Jun/21
B
C
D
Water depth (m)
0
5
10
15
20
Jun-20 23:42
10
11
12
13
14
Temperature (°C)
10
15
20
25
30
Salinity
1000
1010
1020
1030
Density (Kg m-3)

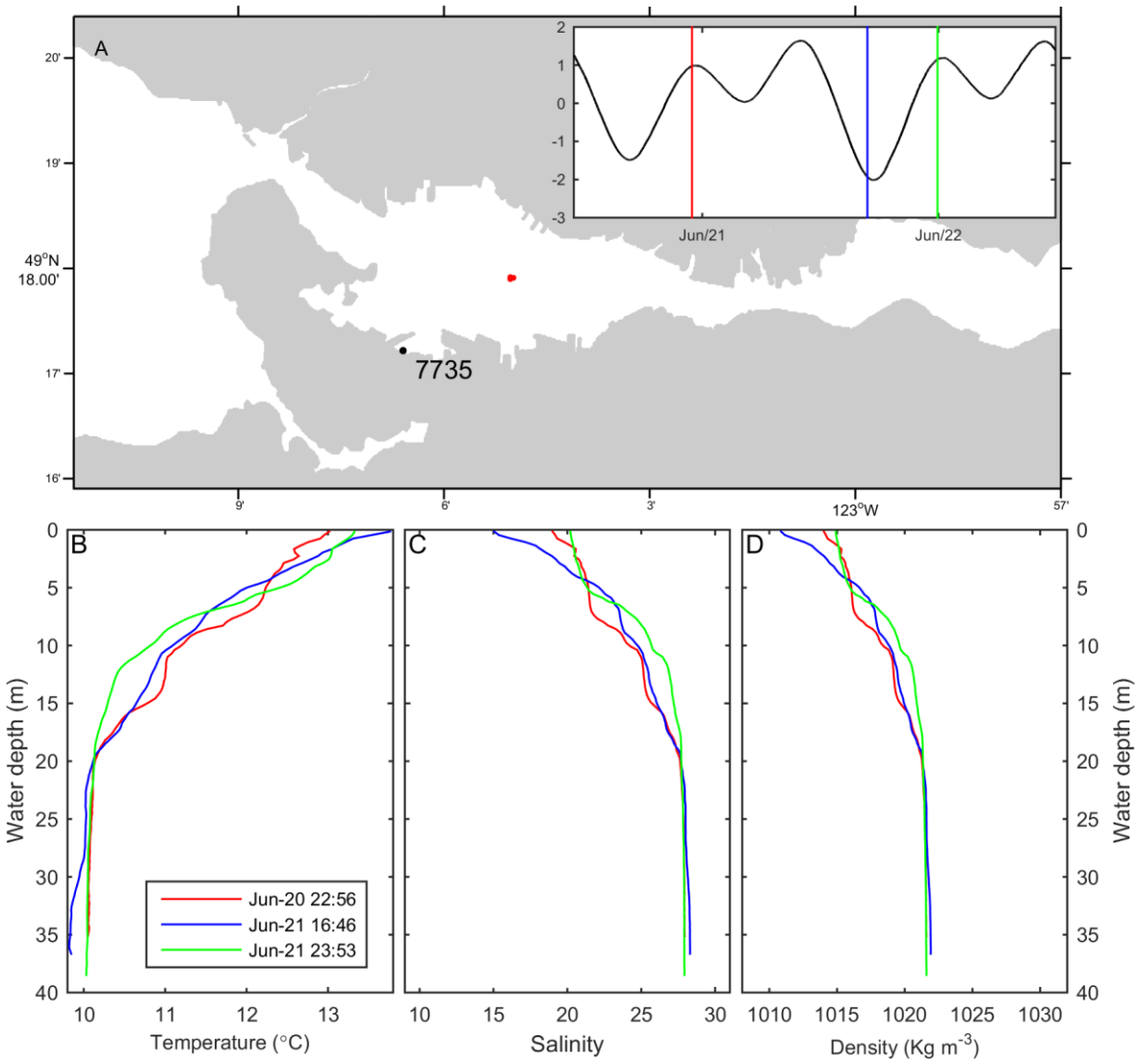

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/22
B
C
D
Water depth (m)
0
10
20
30
40
50
60
70
Jun-21 23:34
10
11
12
13
14
Temperature (°C)
10
15
20
25
30
Salinity
1000
1010
1020
1030
Density (Kg m-3)

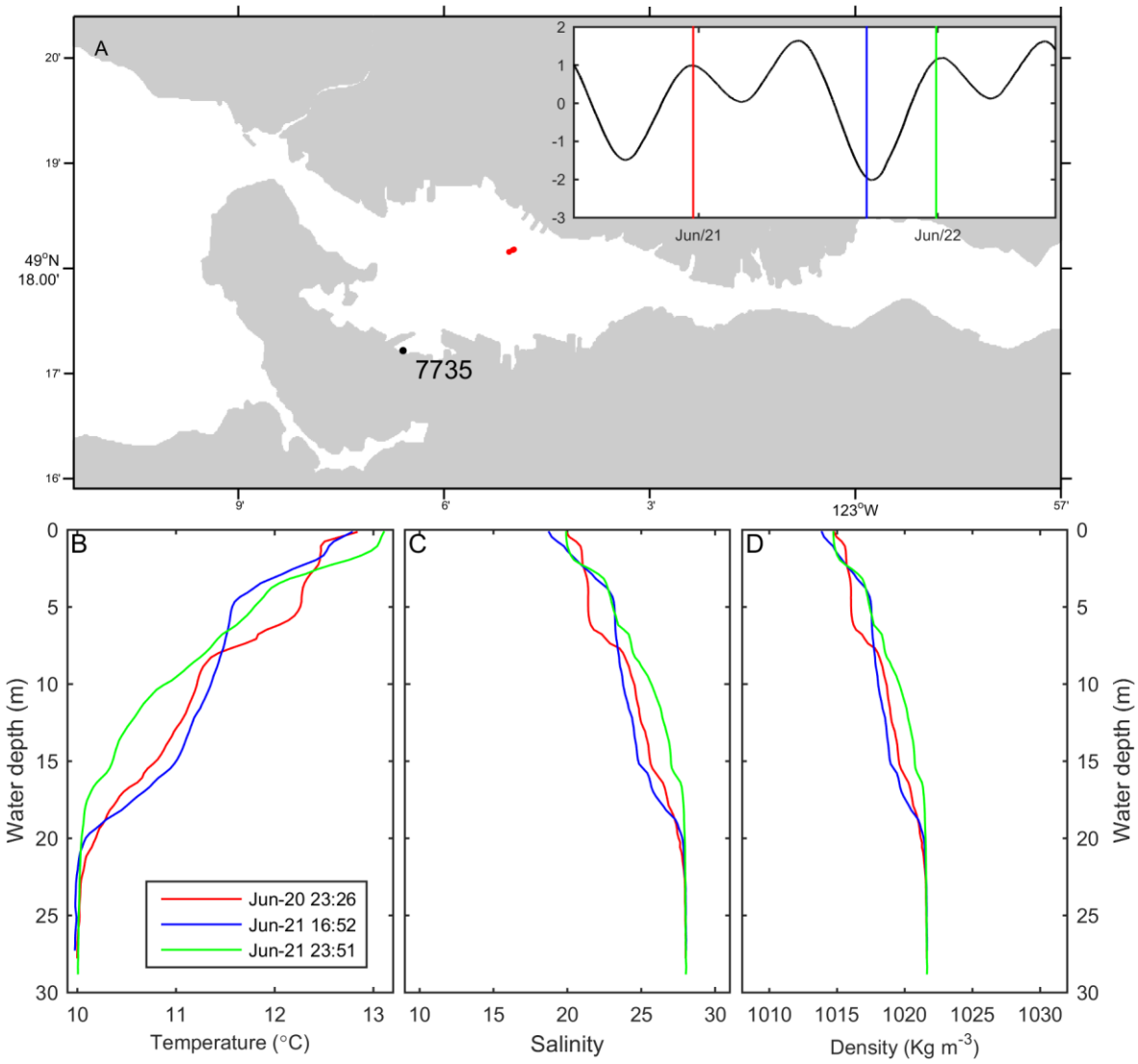

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/22
B
C
D
Water depth (m)
0
5
10
15
20
25
30
Jun-21 23:39
10
11
12
13
Temperature (°C)
20
25
30
Salinity
1010
1015
1020
1025
1030
Density (Kg m-3)

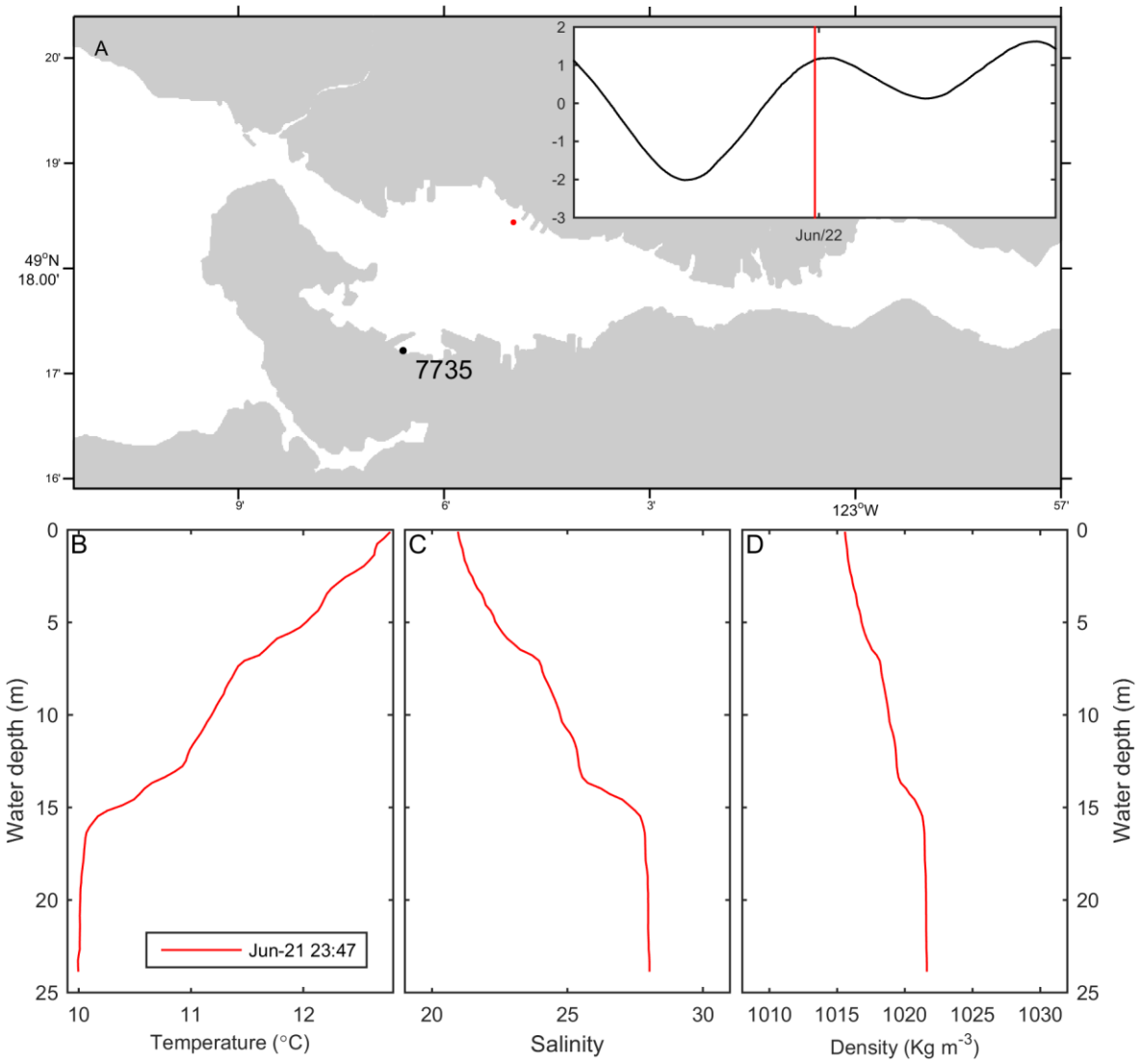

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/22
B
C
D
Water depth (m)
0
5
10
15
20
25
30
Jun-21 23:41
10
11
12
13
Temperature (°C)
10
15
20
25
30
Salinity
1010
1015
1020
1025
1030
Density (Kg m-3)

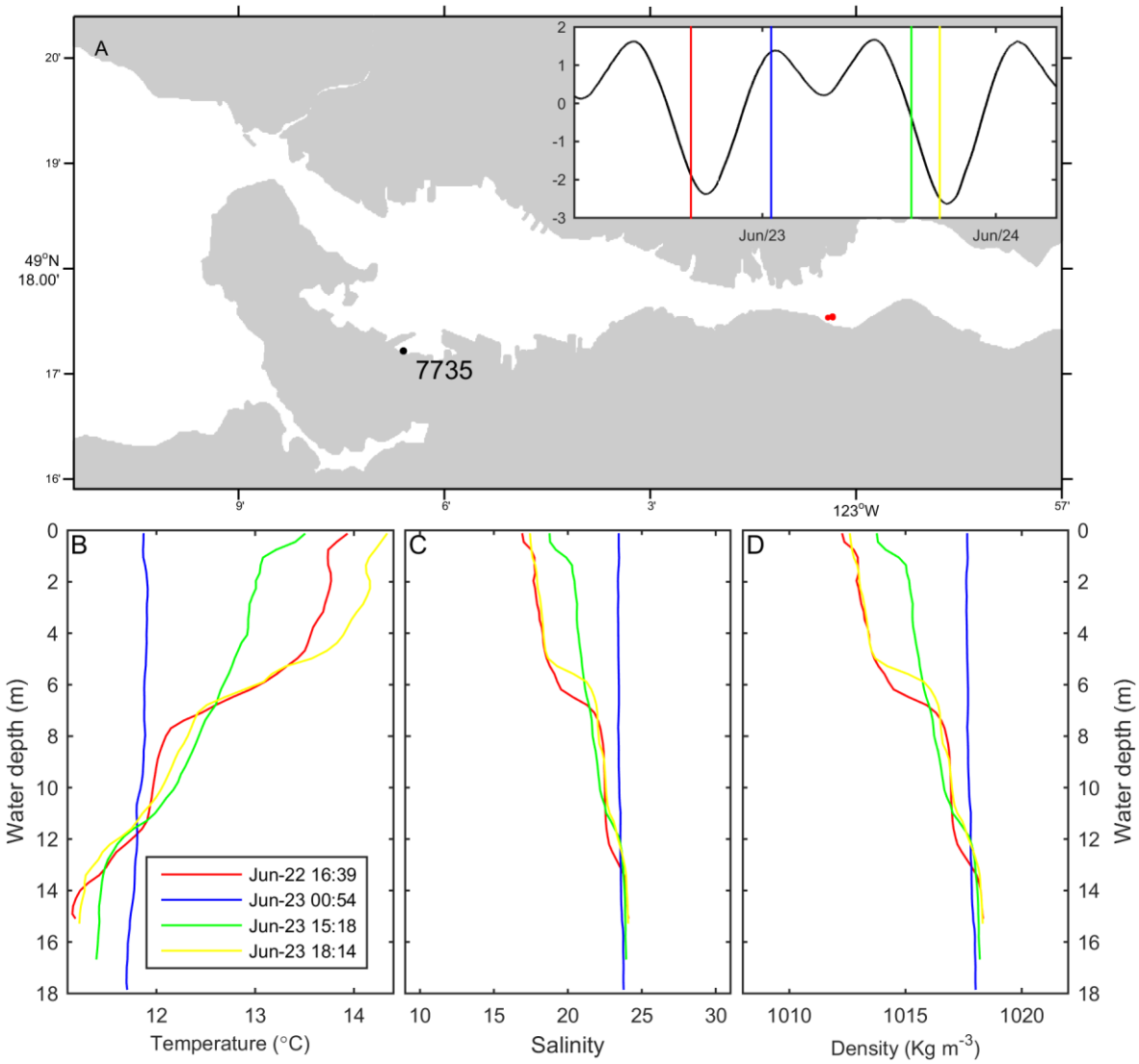

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/22
B
C
D
Water depth (m)
0
5
10
15
20
25
30
35
Jun-22 00:00
11
12
13
Temperature (°C)
10
15
20
25
30
Salinity
1010
1015
1020
1025
1030
Density (Kg m-3)

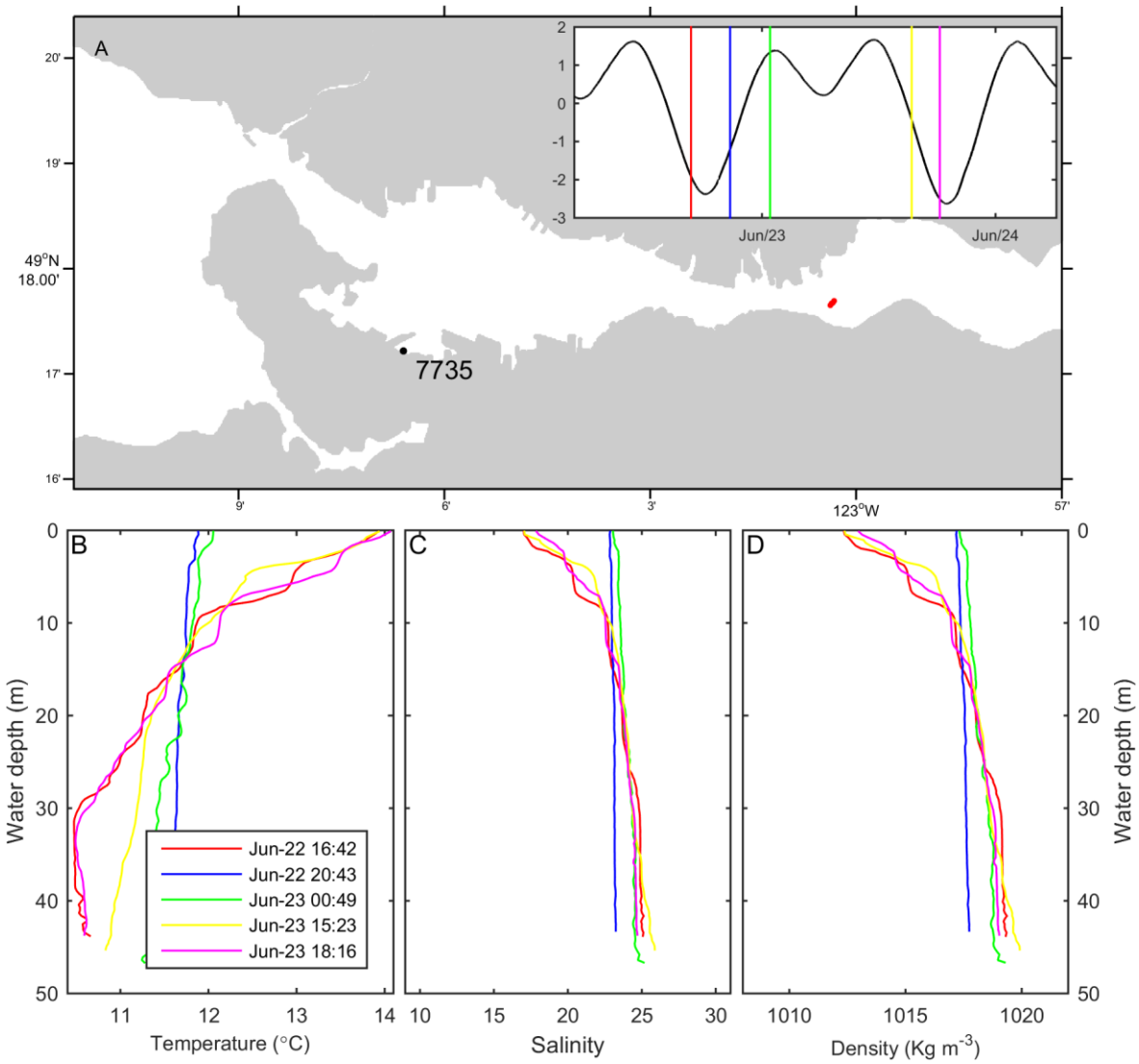

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/21
Jun/22
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-20 22:47
Jun-21 16:37
Jun-21 23:57

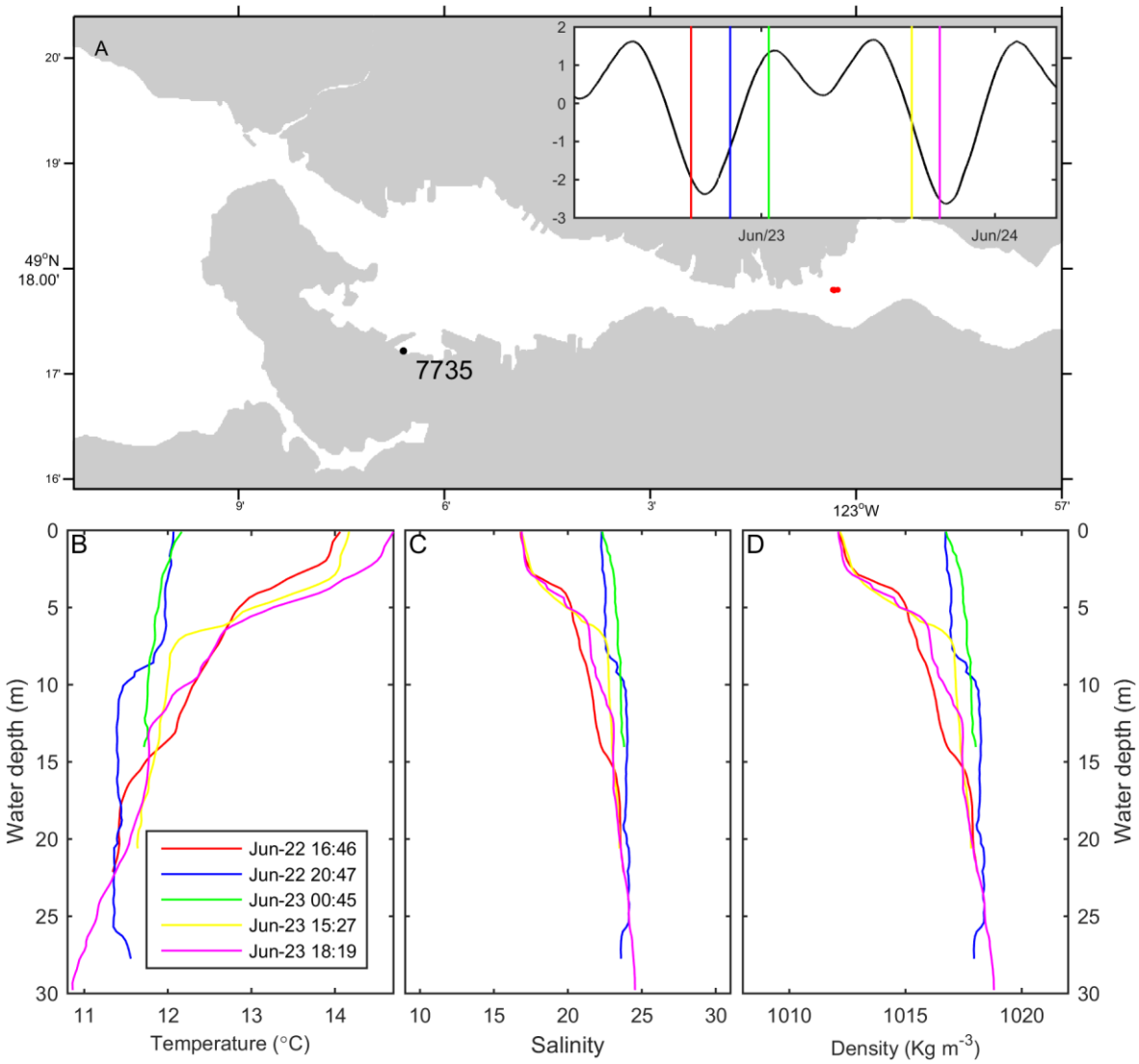

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/21
Jun/22
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-20 22:56
Jun-21 16:46
Jun-21 23:53

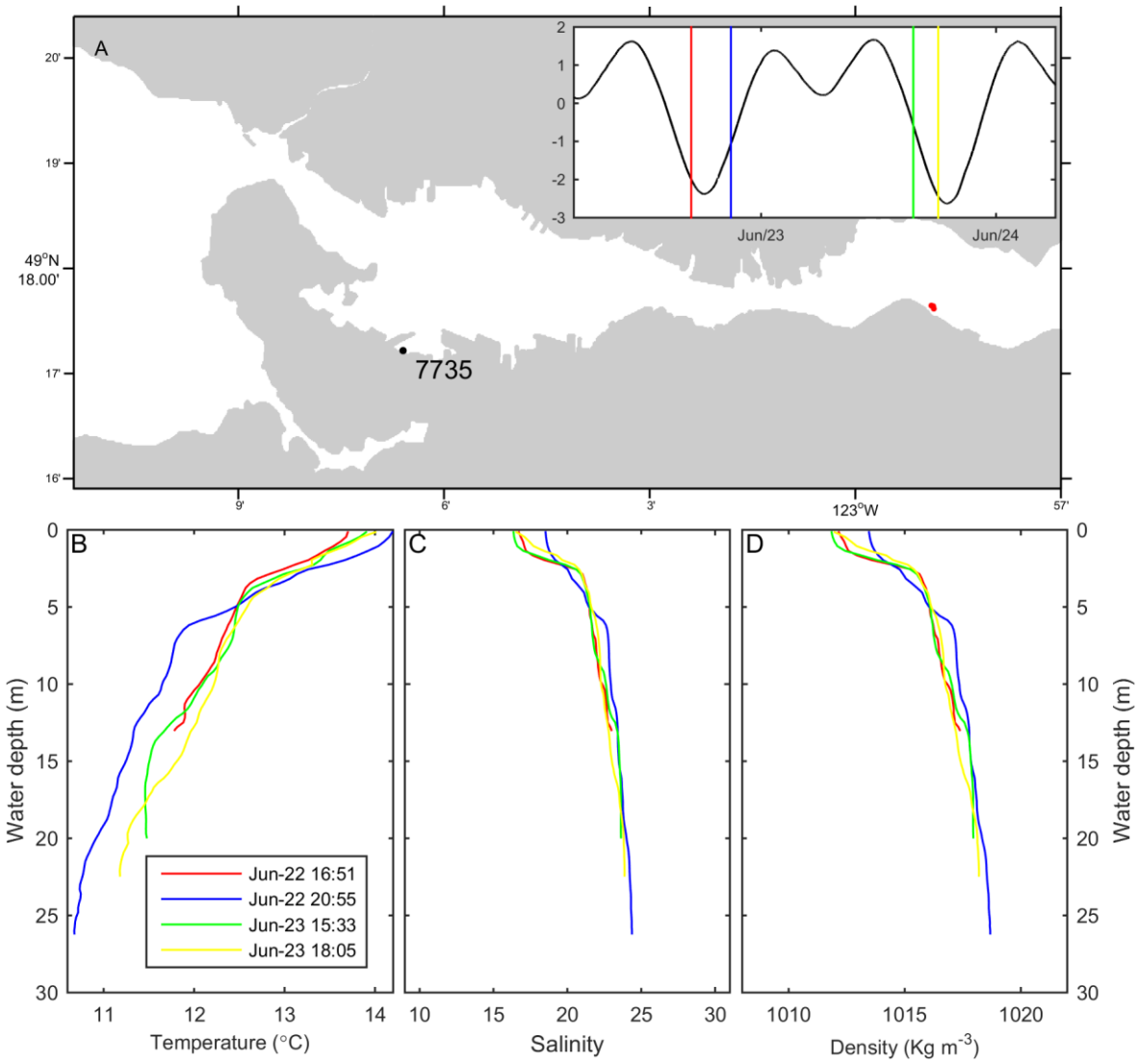

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/21
Jun/22
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-20 23:26
Jun-21 16:52
Jun-21 23:51

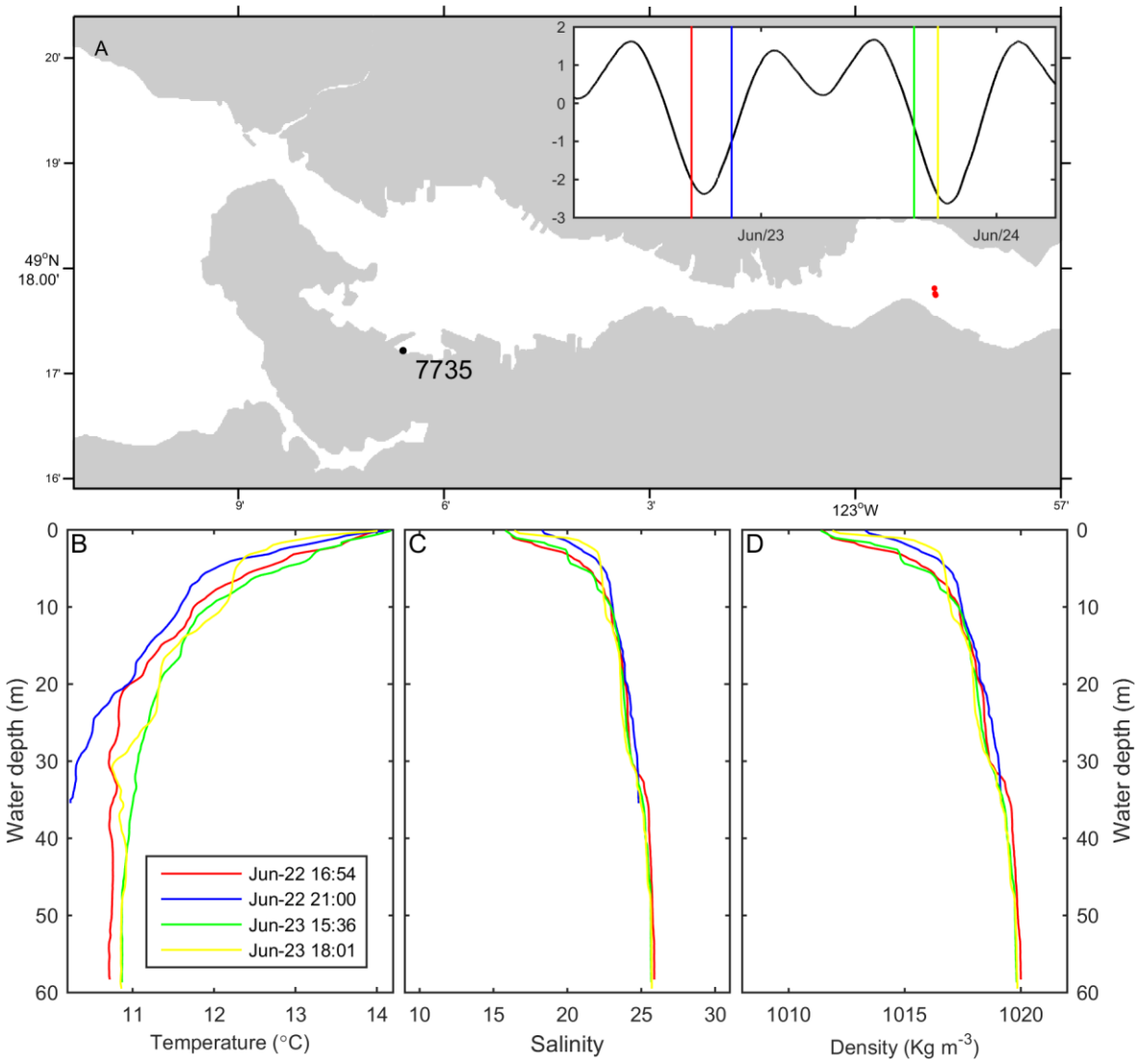

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/22
B
C
D
Water depth (m)
0
5
10
15
20
25
Jun-21 23:47
10
11
12
Temperature (°C)
20
25
30
Salinity
1010
1015
1020
1025
1030
Density (Kg m-3)

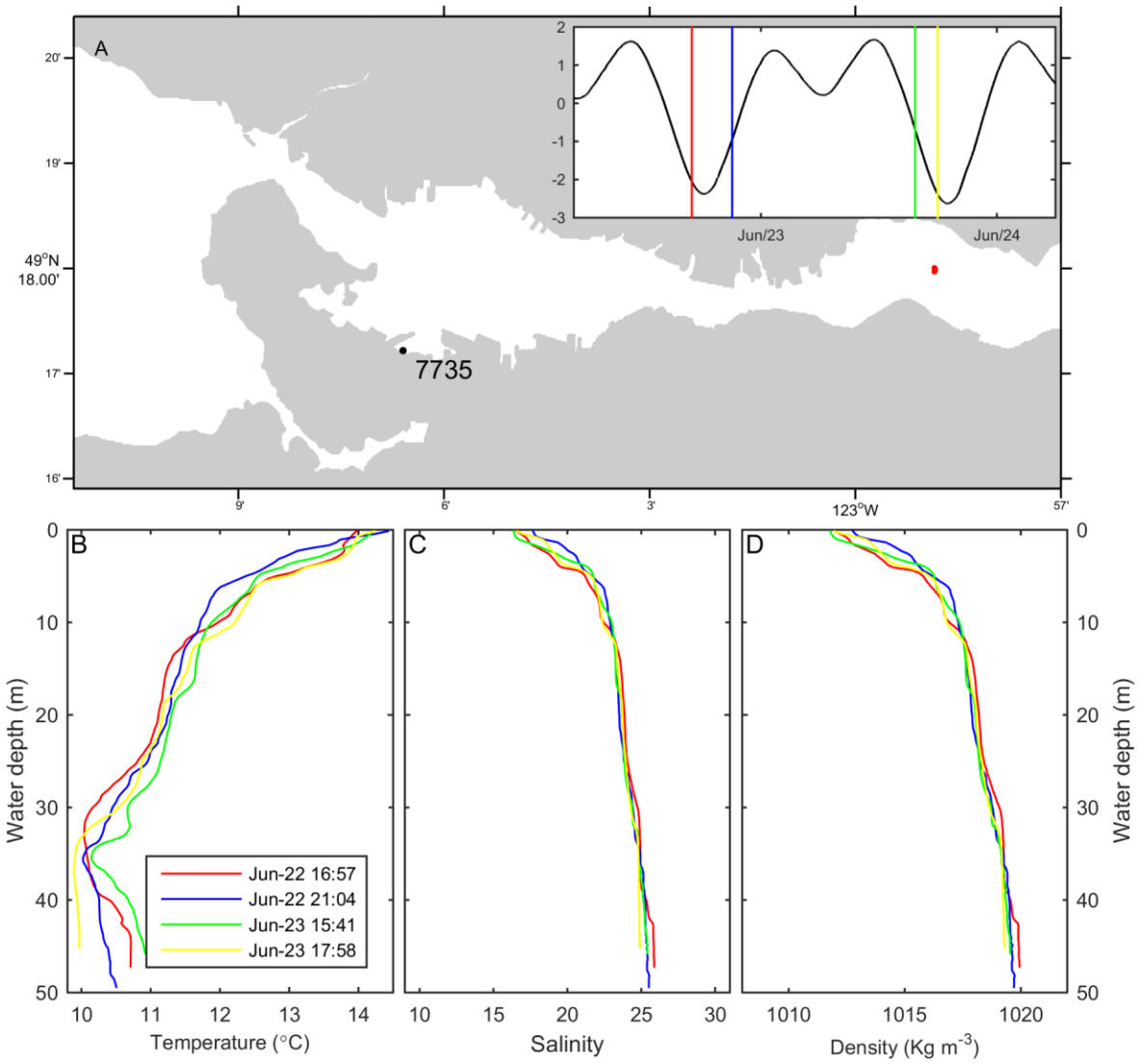

A
7735
Jun/23
Jun/24
49°N
18.00'
20'
19'
17'
16'
9'
6'
3'
57'
123°W
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 16:39
Jun-23 00:54
Jun-23 15:18
Jun-23 18:14

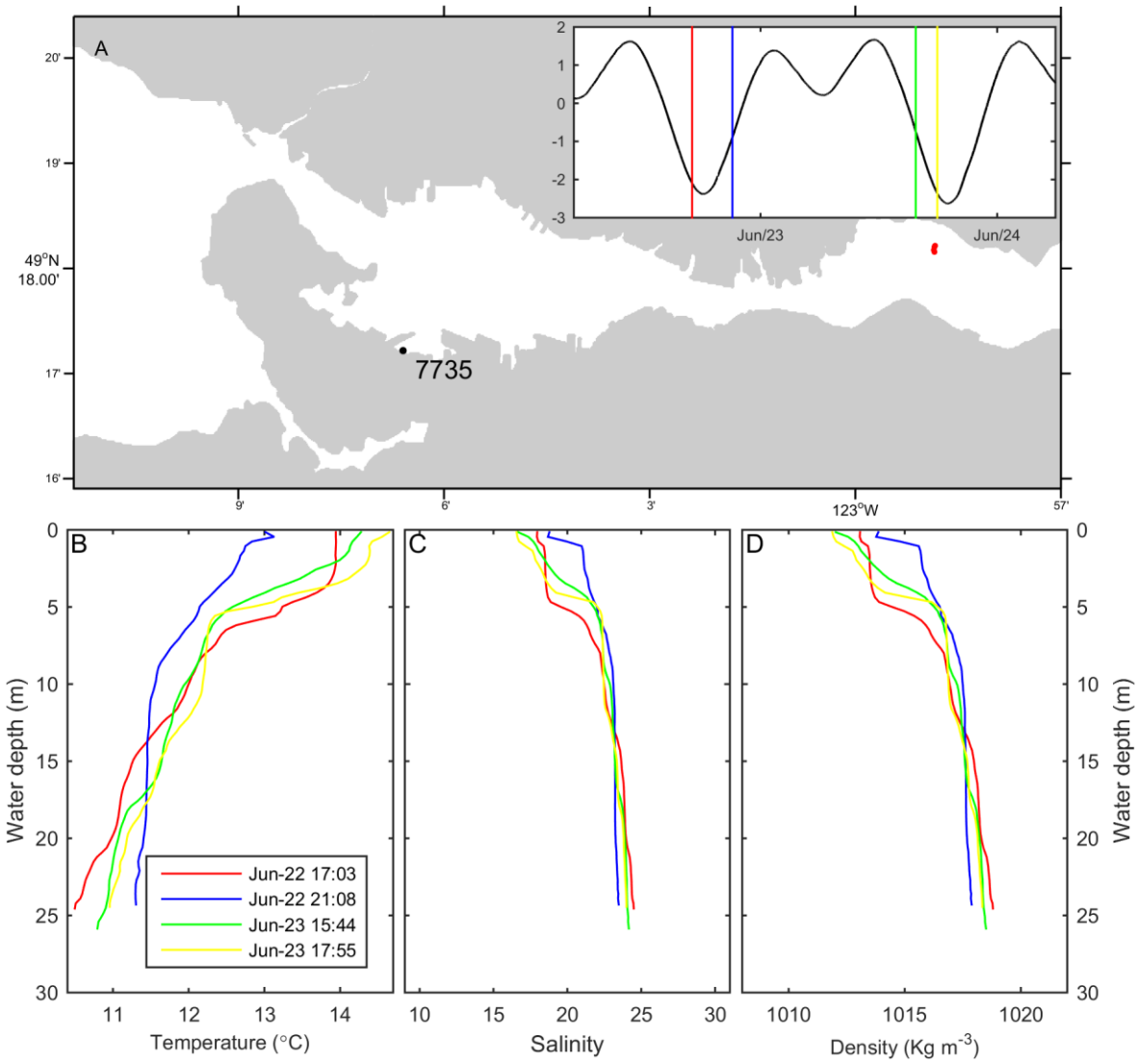

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/23
Jun/24
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 16:42
Jun-22 20:43
Jun-23 00:49
Jun-23 15:23
Jun-23 18:16

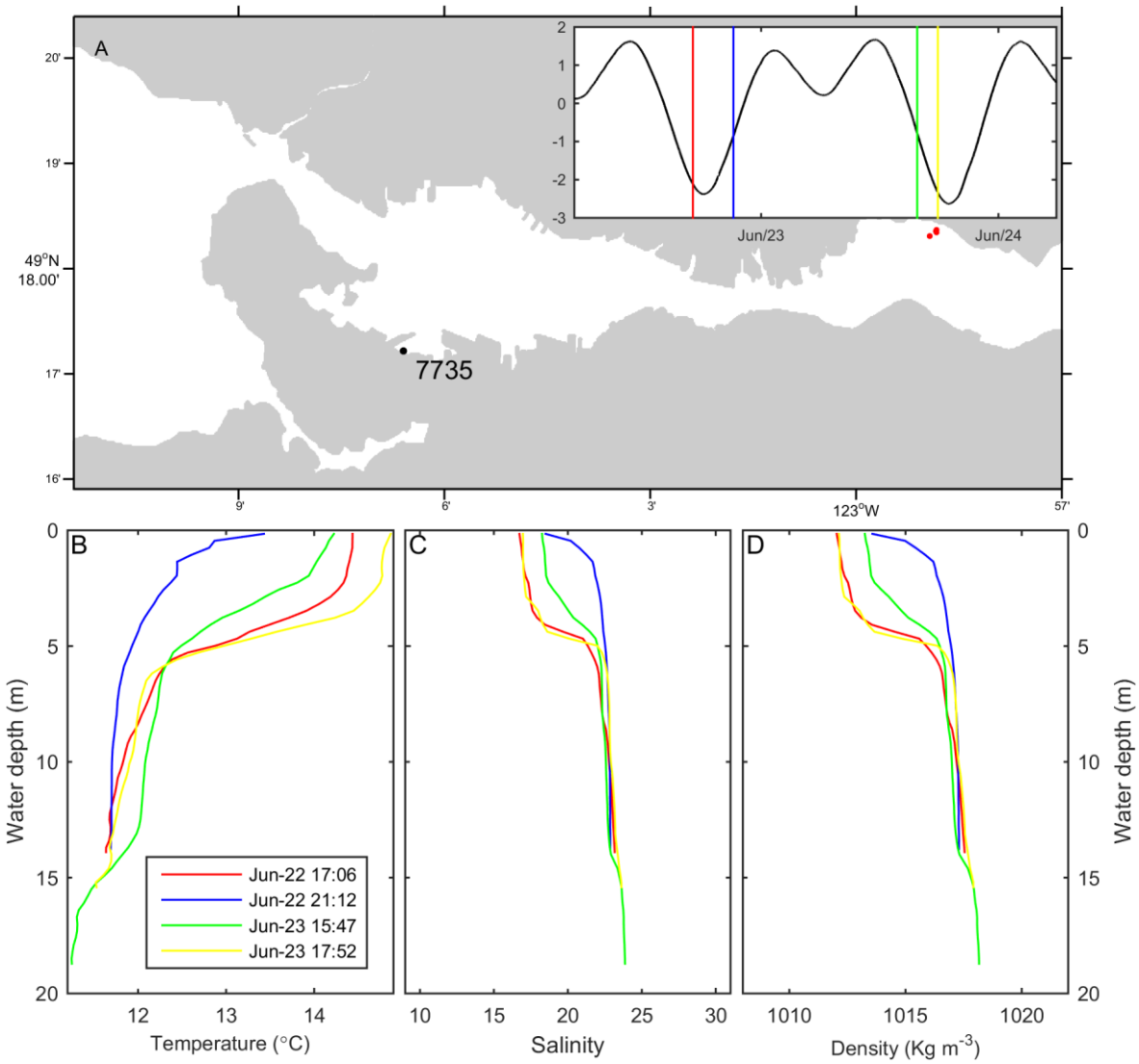

A
7735
49°N
18.00'
20'
19'
17'
16'
9'
6'
3'
57'
123°W
Jun/23
Jun/24
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 16:46
Jun-22 20:47
Jun-23 00:45
Jun-23 15:27
Jun-23 18:19


A
7735
49°N
18.00'
20'
19'
17'
16'
9'
6'
3'
57'
123°W
Jun/23
Jun/24
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 16:51
Jun-22 20:55
Jun-23 15:33
Jun-23 18:05


A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/23
Jun/24
B
C
D
Water depth (m)
0
10
20
30
40
50
60
Jun-22 16:54
Jun-22 21:00
Jun-23 15:36
Jun-23 18:01
11
12
13
14
Temperature (°C)
10
15
20
25
30
Salinity
1010
1015
1020
Density (Kg m-3)

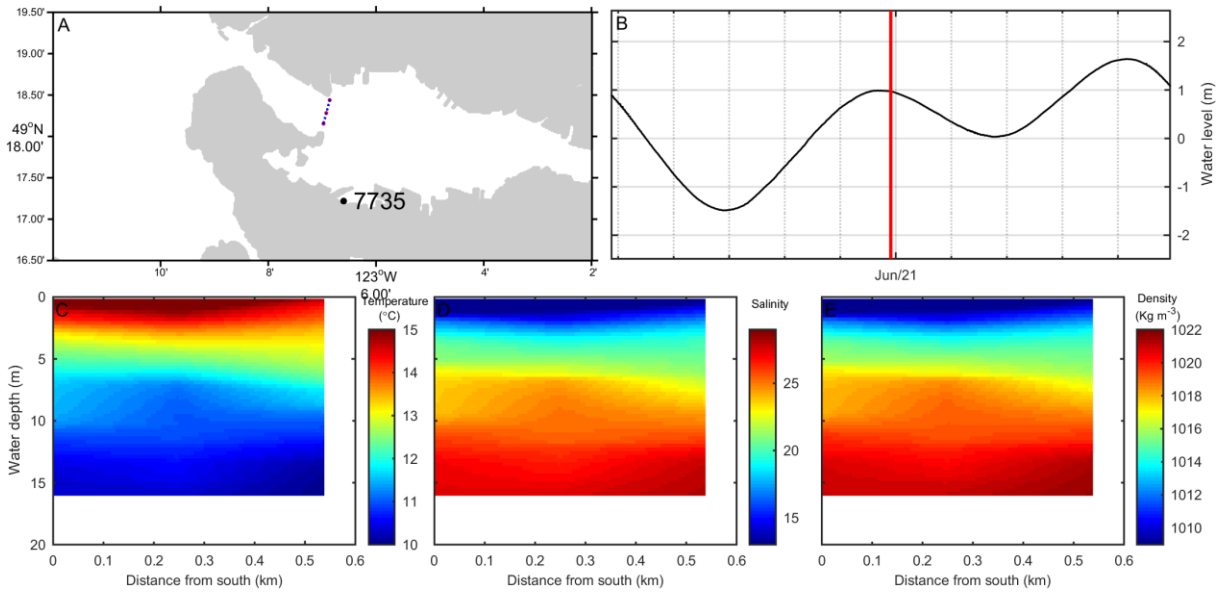

A
7735
49°N
18.00'
20'
19'
17'
16'
9'
6'
3'
57'
123°W
Jun/23
Jun/24
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 16:57
Jun-22 21:04
Jun-23 15:41
Jun-23 17:58

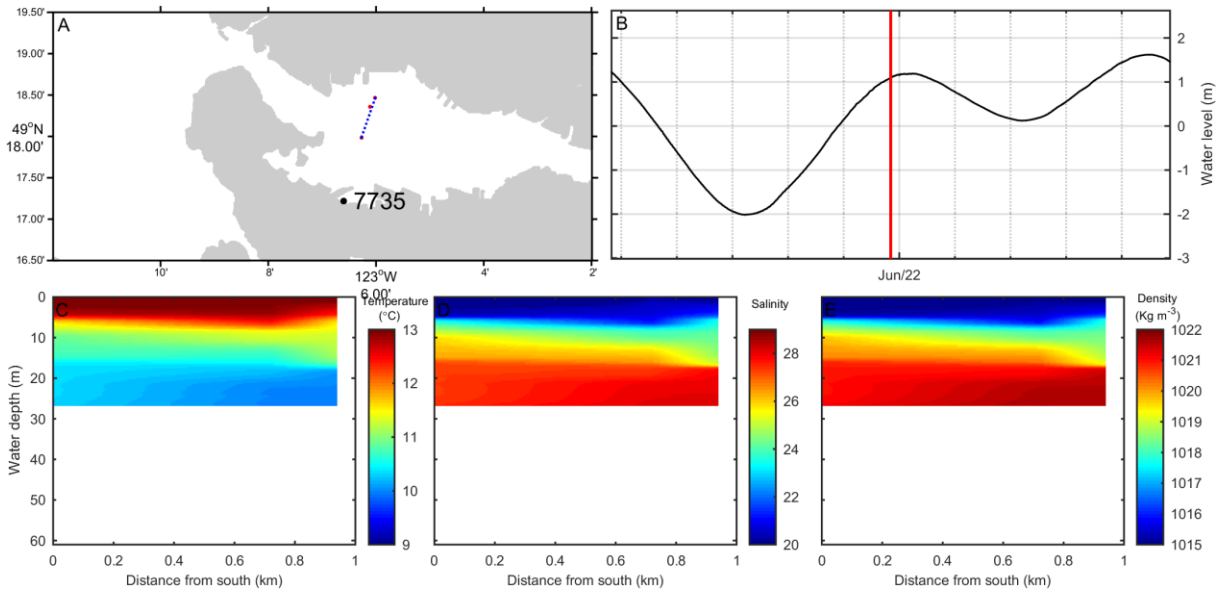

A
20'
19'
49°N
18.00'
17'
16'
9'
6'
3'
123°W
57'
7735
2
1
0
-1
-2
-3
Jun/23
Jun/24
B
C
D
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Jun-22 17:03
Jun-22 21:08
Jun-23 15:44
Jun-23 17:55

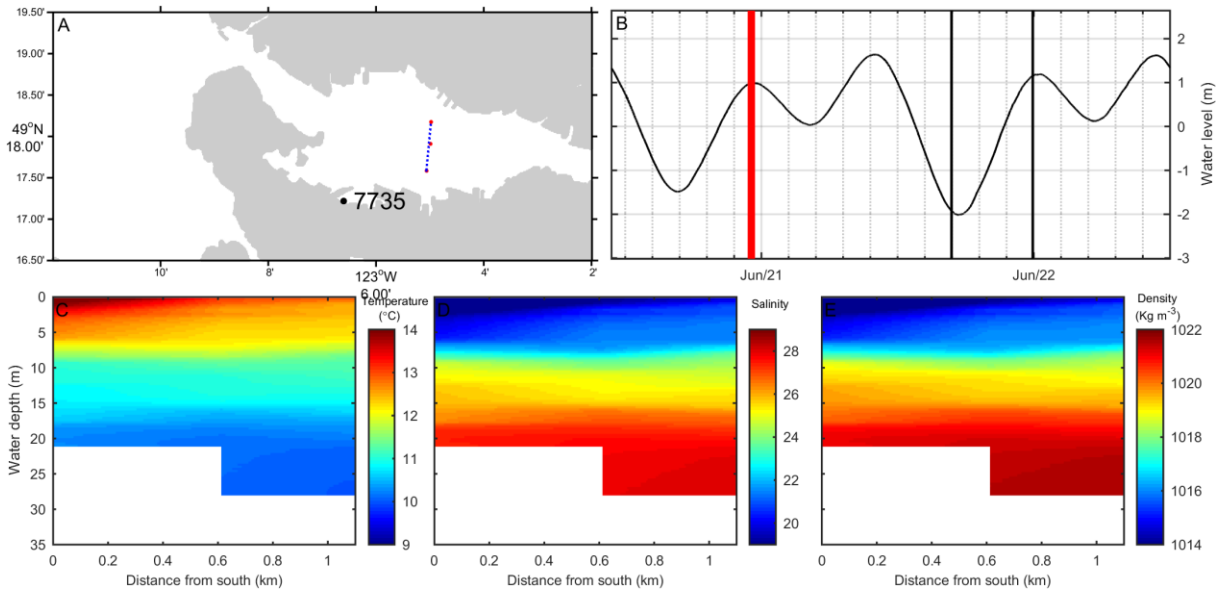


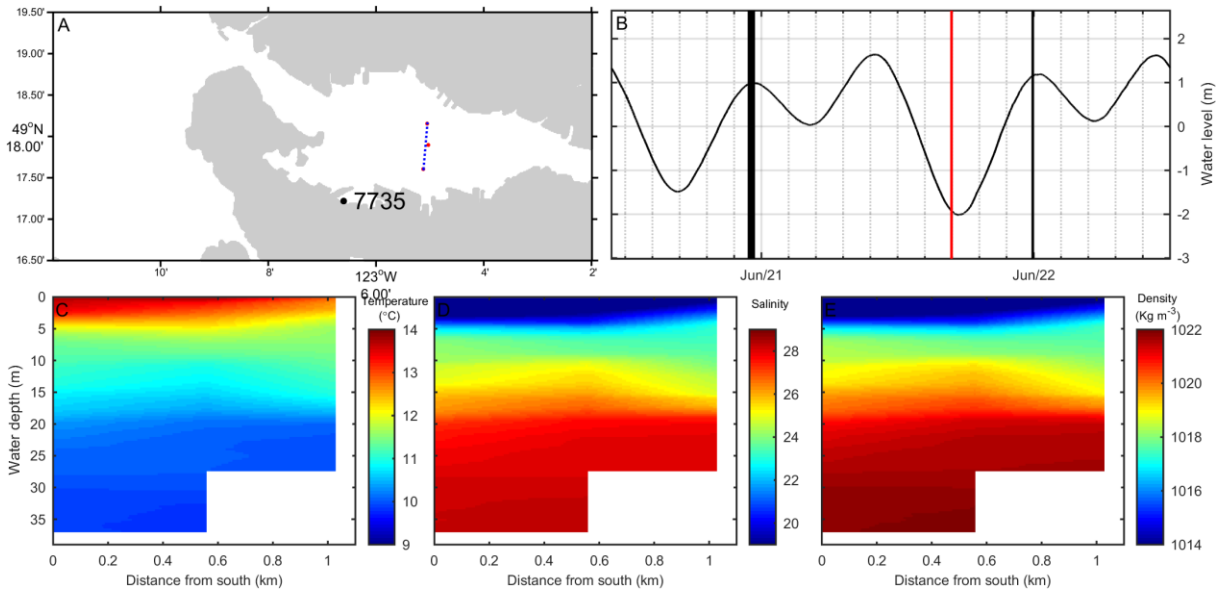

## 7.2 JUNE CTD CROSS-CHANNEL SECTIONS

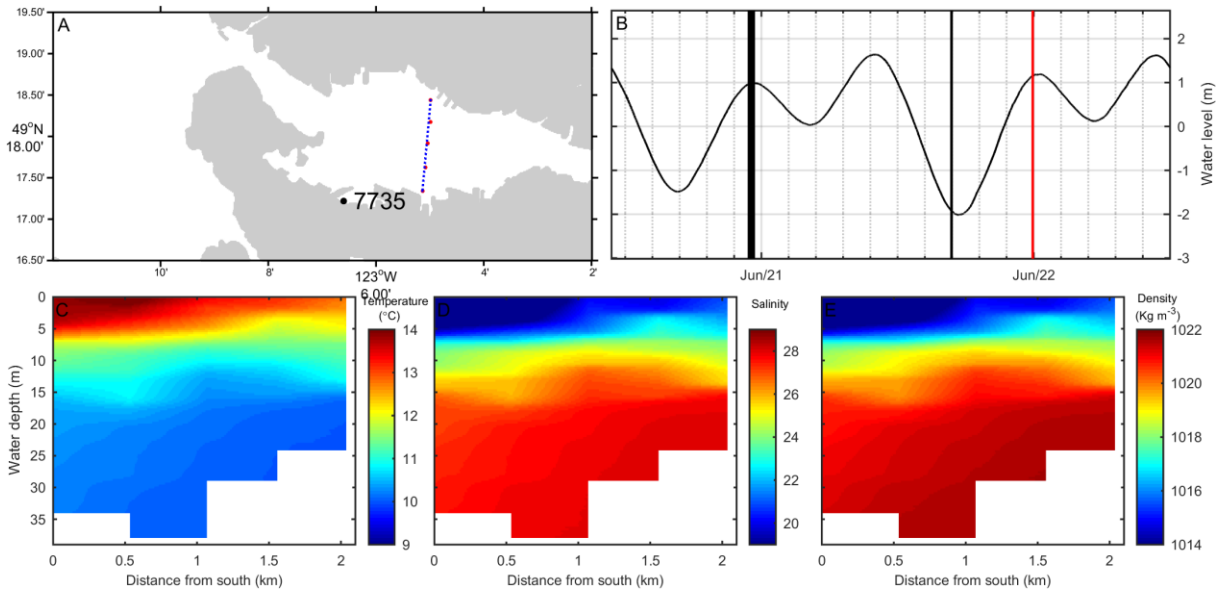
This section presents the cross-channel sections of the February/March CTD data. The figures also show the time during the tidal cycle when the data were measured (vertical lines in tidal cycle plots) and the locations of the casts.

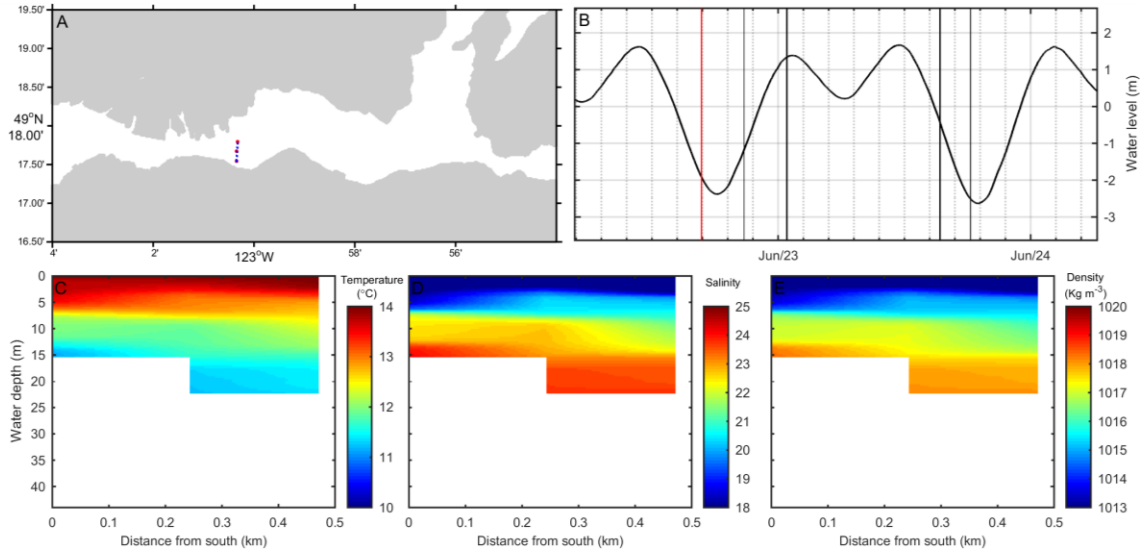

A
B
C
D
E
7735
49°N
18.00'
123°W
6.00'
Jun/21
Water level (m)
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

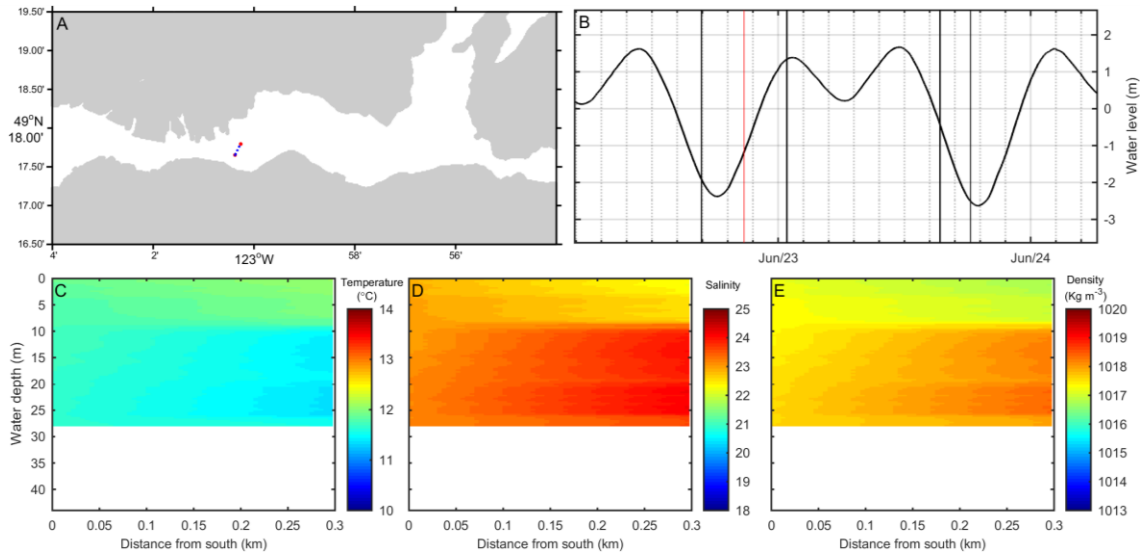

A
B
C
D
E
7735
49°N
18.00'
123°W
6.00'
Jun/22
Water level (m)
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

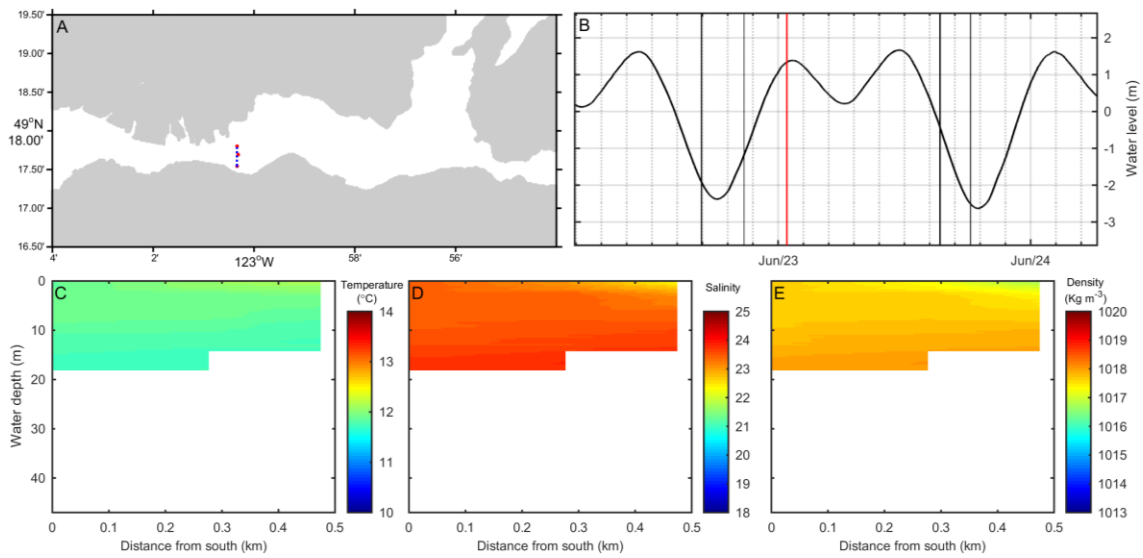

A
B
C
D
E
7735
49°N
18.00'
123°W
6.00'
Jun/21
Jun/22
Water level (m)
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

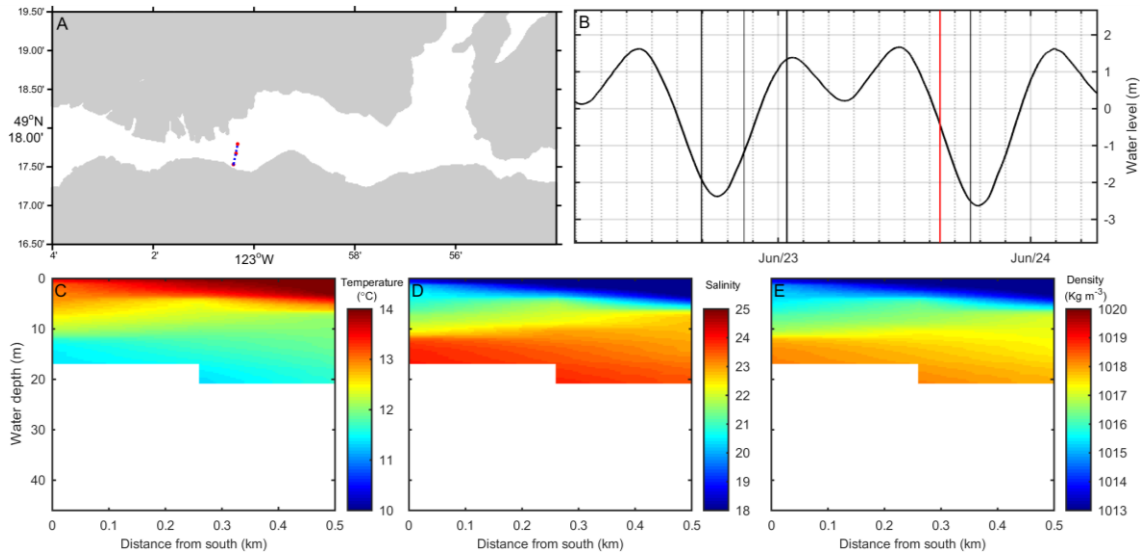

A
B
C
D
E
7735
49°N
18.00'
123°W
6.00'
Jun/21
Jun/22
Water level (m)
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

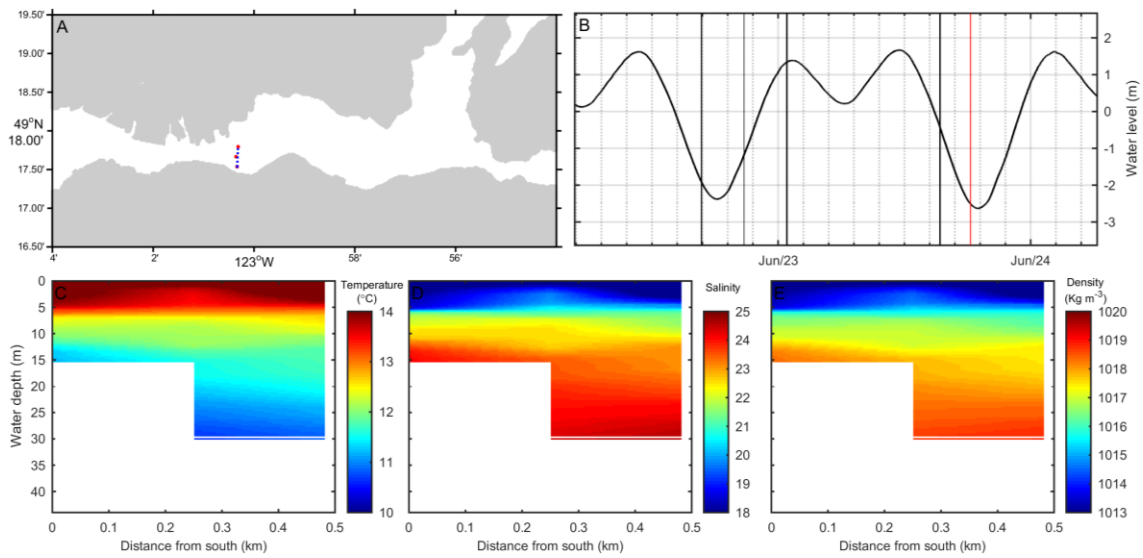

A
B
C
D
E
7735
49°N
18.00'
123°W
6.00'
Water level (m)
Jun/21
Jun/22
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

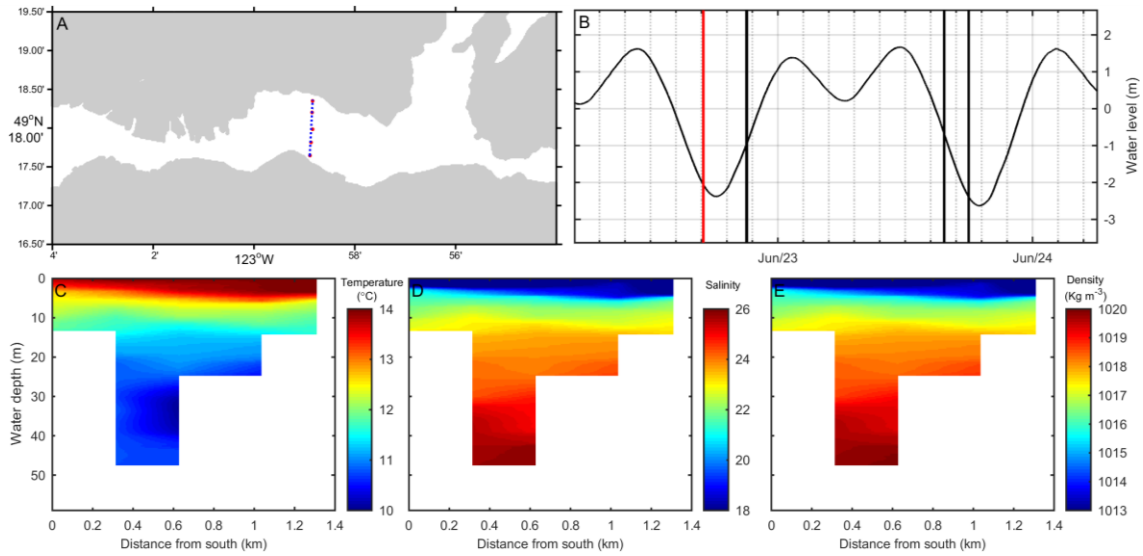

A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

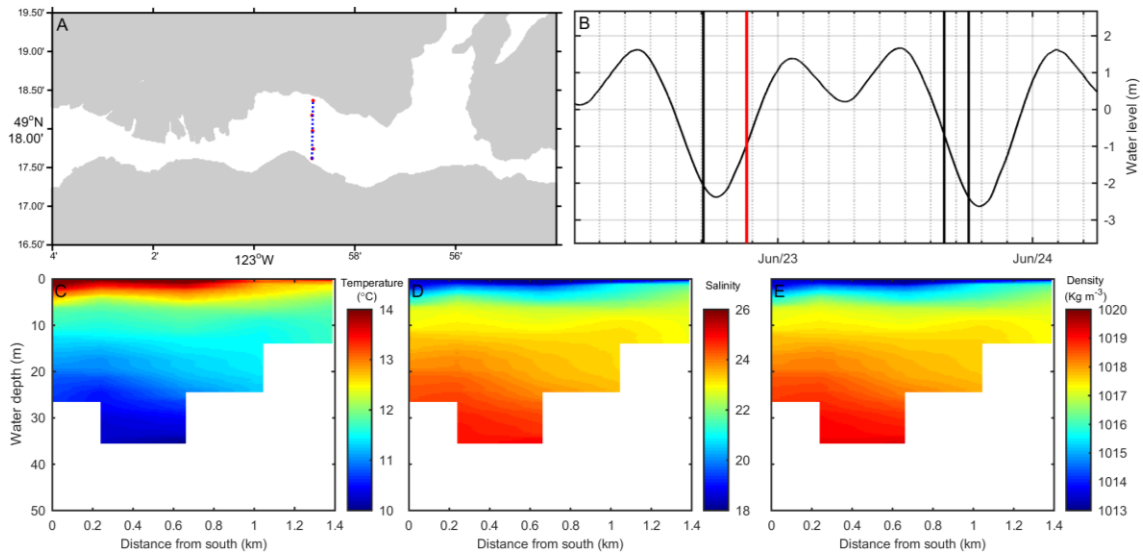

A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

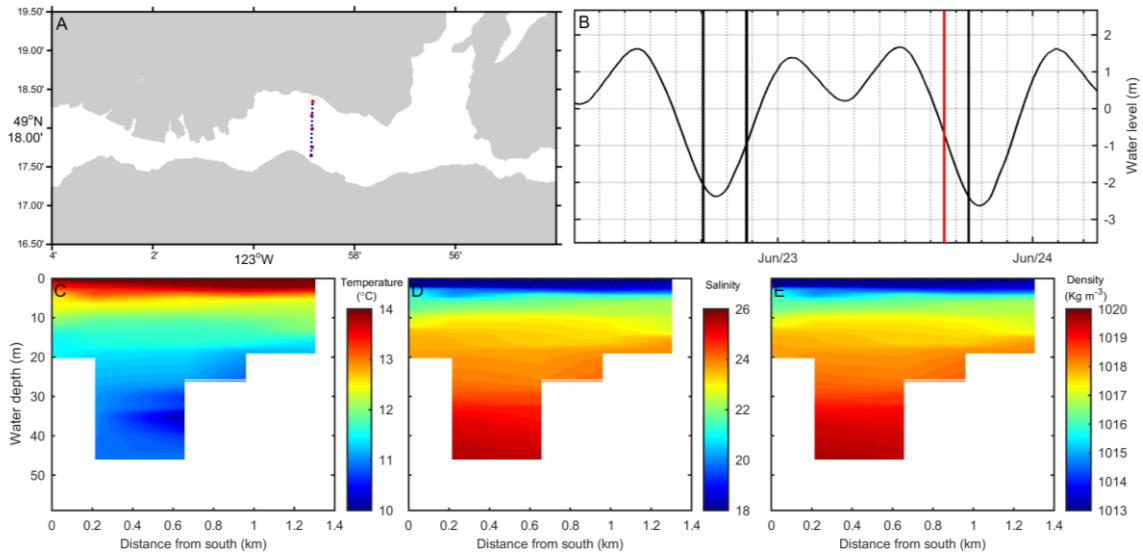

A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)

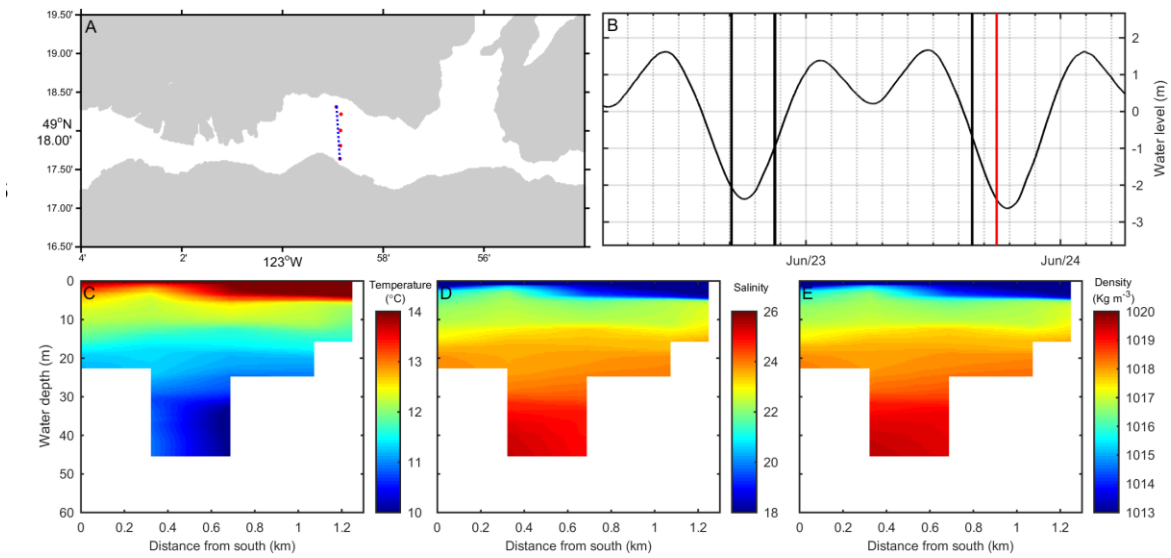

A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)


A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)


A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)


A
B
C
D
E
49°N
18.00'
123°W
Water level (m)
Jun/23
Jun/24
Water depth (m)
Temperature (°C)
Salinity
Density (Kg m-3)
Distance from south (km)




# 8 APPENDIX 3: FEBRUARY/MARCH VESSEL-MOUNTED ADCP DATA

The metadata for the vessel-mounted ADCP lines sampled at the end of February and the beginning of March are listed in this Appendix. We also present vertical sections and quiver plots of the velocities.

| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| ED_02_01 | 02-Mar-2017 01:28:33 | 02-Mar-2017 01:39:22 | 49.3012 | -123.1160 | 49.3092 | -123.1033 | 1.47 | 23.91 |

| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| ED_02_02 | 04-Mar-2017 00:54:59 | 04-Mar-2017 01:04:31 | 49.3015 | -123.1162 | 49.3098 | -123.1032 | 1.47 | 21.87 |
| ED_02_03 | 04-Mar-2017 01:39:16 | 04-Mar-2017 01:49:46 | 49.3014 | -123.1150 | 49.3092 | -123.1026 | 1.47 | 21.87 |
| ED_03_01 | 02-Mar-2017 01:39:30 | 02-Mar-2017 01:55:09 | 49.2913 | -123.1170 | 49.3096 | -123.1035 | 1.47 | 23.91 |
| ED_03_02 | 04-Mar-2017 01:04:36 | 04-Mar-2017 01:20:13 | 49.2923 | -123.1168 | 49.3100 | -123.1038 | 1.47 | 21.87 |
| ED_03_03 | 04-Mar-2017 01:20:18 | 04-Mar-2017 01:39:00 | 49.2923 | -123.1168 | 49.3099 | -123.1039 | 1.47 | 21.87 |
| FN_01_01 | 28-Feb-2017 00:43:39 | 28-Feb-2017 00:47:22 | 49.3142 | -123.1409 | 49.3173 | -123.1379 | 1.47 | 19.83 |
| FN_01_02 | 28-Feb-2017 00:47:27 | 28-Feb-2017 00:52:21 | 49.3143 | -123.1408 | 49.3174 | -123.1378 | 1.47 | 19.83 |
| FN_01_03 | 28-Feb-2017 01:06:46 | 28-Feb-2017 01:10:22 | 49.3142 | -123.1409 | 49.3172 | -123.1381 | 1.47 | 19.83 |
| FN_01_04 | 28-Feb-2017 01:10:25 | 28-Feb-2017 01:14:43 | 49.3143 | -123.1407 | 49.3172 | -123.1378 | 1.47 | 19.83 |
| FN_01_05 | 03-Mar-2017 22:59:38 | 03-Mar-2017 23:04:05 | 49.3146 | -123.1409 | 49.3171 | -123.1384 | 1.47 | 19.83 |
| FN_01_06 | 03-Mar-2017 23:04:09 | 03-Mar-2017 23:08:43 | 49.3146 | -123.1413 | 49.3173 | -123.1387 | 1.47 | 21.87 |
| FN_01_07 | 04-Mar-2017 00:12:16 | 04-Mar-2017 00:16:17 | 49.3142 | -123.1406 | 49.3171 | -123.1378 | 1.47 | 18.81 |
| FN_01_08 | 04-Mar-2017 00:16:22 | 04-Mar-2017 00:20:15 | 49.3142 | -123.1406 | 49.3170 | -123.1378 | 1.47 | 17.79 |
| FN_02_01 | 28-Feb-2017 00:55:00 | 28-Feb-2017 00:59:09 | 49.3132 | -123.1393 | 49.3162 | -123.1365 | 1.47 | 18.81 |
| FN_02_02 | 28-Feb-2017 00:59:13 | 28-Feb-2017 01:03:34 | 49.3132 | -123.1391 | 49.3163 | -123.1362 | 1.47 | 18.81 |
| FN_02_03 | 28-Feb-2017 01:16:48 | 28-Feb-2017 01:20:44 | 49.3133 | -123.1393 | 49.3162 | -123.1365 | 1.47 | 18.81 |
| FN_02_04 | 28-Feb-2017 01:20:48 | 28-Feb-2017 01:24:57 | 49.3133 | -123.1390 | 49.3163 | -123.1362 | 1.47 | 18.81 |
| FN_02_05 | 03-Mar-2017 23:11:37 | 03-Mar-2017 23:15:38 | 49.3134 | -123.1393 | 49.3164 | -123.1365 | 1.47 | 17.79 |
| FN_02_06 | 03-Mar-2017 23:15:42 | 03-Mar-2017 23:20:03 | 49.3135 | -123.1395 | 49.3164 | -123.1367 | 1.47 | 17.79 |

| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| FN_03_01 | 03-Mar-2017 23:32:53 | 03-Mar-2017 23:38:14 | 49.3083 | -123.1333 | 49.3126 | -123.1284 | 1.47 | 17.79 |
| FN_03_02 | 04-Mar-2017 00:25:51 | 04-Mar-2017 00:32:07 | 49.3084 | -123.1329 | 49.3124 | -123.1284 | 1.47 | 16.77 |
| FN_04_01 | 02-Mar-2017 01:22:07 | 02-Mar-2017 01:28:29 | 49.3012 | -123.1158 | 49.3078 | -123.1128 | 1.47 | 17.79 |
| FN_04_02 | 03-Mar-2017 22:16:07 | 03-Mar-2017 22:22:53 | 49.3017 | -123.1172 | 49.3081 | -123.1143 | 1.47 | 16.77 |
| FN_04_03 | 03-Mar-2017 22:23:01 | 03-Mar-2017 22:30:23 | 49.3017 | -123.1172 | 49.3083 | -123.1142 | 1.47 | 16.77 |
| FN_04_04 | 04-Mar-2017 00:48:08 | 04-Mar-2017 00:54:53 | 49.3015 | -123.1163 | 49.3077 | -123.1135 | 1.47 | 17.79 |
| FN_05_01 | 03-Mar-2017 22:35:42 | 03-Mar-2017 22:53:31 | 49.3032 | -123.1102 | 49.3195 | -123.1457 | 1.47 | 19.83 |
| SN_01_01 | 01-Mar-2017 18:28:35 | 01-Mar-2017 18:33:41 | 49.2931 | -123.0275 | 49.2972 | -123.0276 | 1.47 | 21.87 |
| SN_01_02 | 01-Mar-2017 18:33:44 | 01-Mar-2017 18:38:41 | 49.2930 | -123.0275 | 49.2971 | -123.0276 | 1.47 | 23.91 |
| SN_01_03 | 01-Mar-2017 19:38:01 | 01-Mar-2017 19:43:00 | 49.2931 | -123.0277 | 49.2972 | -123.0278 | 1.47 | 21.87 |
| SN_01_04 | 01-Mar-2017 19:43:47 | 01-Mar-2017 19:49:44 | 49.2932 | -123.0273 | 49.2974 | -123.0274 | 1.47 | 21.87 |
| SN_01_05 | 01-Mar-2017 23:41:10 | 01-Mar-2017 23:46:28 | 49.2933 | -123.0272 | 49.2973 | -123.0273 | 1.47 | 21.87 |
| SN_01_06 | 01-Mar-2017 23:46:39 | 01-Mar-2017 23:51:24 | 49.2932 | -123.0272 | 49.2973 | -123.0273 | 1.47 | 21.87 |
| SN_02_01 | 01-Mar-2017 18:41:37 | 01-Mar-2017 18:44:43 | 49.2937 | -123.0256 | 49.2961 | -123.0255 | 1.47 | 21.87 |
| SN_02_02 | 01-Mar-2017 18:44:46 | 01-Mar-2017 18:48:40 | 49.2936 | -123.0255 | 49.2961 | -123.0254 | 1.47 | 21.87 |
| SN_02_03 | 01-Mar-2017 19:52:36 | 01-Mar-2017 19:56:48 | 49.2937 | -123.0252 | 49.2959 | -123.0252 | 1.47 | 19.83 |
| SN_02_04 | 01-Mar-2017 19:57:03 | 01-Mar-2017 20:00:51 | 49.2937 | -123.0254 | 49.2959 | -123.0253 | 1.47 | 19.83 |
| SN_02_05 | 01-Mar-2017 23:55:34 | 01-Mar-2017 23:58:22 | 49.2938 | -123.0251 | 49.2959 | -123.0251 | 1.47 | 19.83 |
| SN_02_06 | 02-Mar-2017 00:04:33 | 02-Mar-2017 00:07:35 | 49.2939 | -123.0253 | 49.2960 | -123.0252 | 1.47 | 19.83 |

| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| SN_03_01 | 01-Mar-2017 18:57:59 | 01-Mar-2017 19:01:06 | 49.2940 | -123.0193 | 49.2960 | -123.0194 | 1.47 | 17.79 |
| SN_03_02 | 01-Mar-2017 19:01:09 | 01-Mar-2017 19:04:10 | 49.2939 | -123.0193 | 49.2959 | -123.0194 | 1.47 | 18.81 |
| SN_04_01 | 01-Mar-2017 19:14:06 | 01-Mar-2017 19:17:34 | 49.2931 | -123.0099 | 49.2963 | -123.0098 | 1.47 | 23.91 |
| SN_04_02 | 02-Mar-2017 00:15:29 | 02-Mar-2017 00:21:02 | 49.2932 | -123.0107 | 49.2961 | -123.0106 | 1.47 | 23.91 |
| SN_04_03 | 02-Mar-2017 00:21:06 | 02-Mar-2017 00:25:43 | 49.2931 | -123.0108 | 49.2963 | -123.0106 | 1.47 | 23.91 |
| SN_04_04 | 02-Mar-2017 00:25:55 | 02-Mar-2017 00:30:18 | 49.2932 | -123.0107 | 49.2963 | -123.0106 | 1.47 | 21.87 |
| SN_04_05 | 02-Mar-2017 00:30:22 | 02-Mar-2017 00:35:08 | 49.2932 | -123.0109 | 49.2962 | -123.0108 | 1.47 | 23.91 |
| SN_05_01 | 01-Mar-2017 19:24:12 | 01-Mar-2017 19:34:30 | 49.2954 | -123.0092 | 49.2944 | -123.0305 | 1.47 | 23.91 |
| VH_01_01 | 28-Feb-2017 19:27:20 | 28-Feb-2017 19:51:28 | 49.2897 | -123.1132 | 49.3112 | -123.0952 | 1.47 | 25.95 |
| VH_01_02 | 28-Feb-2017 23:36:26 | 28-Feb-2017 23:57:46 | 49.2895 | -123.1132 | 49.3110 | -123.0952 | 1.47 | 23.91 |
| VH_01_03 | 03-Mar-2017 19:21:50 | 03-Mar-2017 19:42:16 | 49.2895 | -123.1130 | 49.3113 | -123.0948 | 1.47 | 23.91 |
| VH_02_01 | 28-Feb-2017 18:40:38 | 28-Feb-2017 19:01:23 | 49.2906 | -123.1009 | 49.3114 | -123.0870 | 1.47 | 25.95 |
| VH_02_02 | 28-Feb-2017 20:11:49 | 28-Feb-2017 20:33:05 | 49.2907 | -123.1020 | 49.3115 | -123.0882 | 1.47 | 25.95 |
| VH_02_03 | 01-Mar-2017 00:25:15 | 01-Mar-2017 00:42:39 | 49.2933 | -123.1000 | 49.3114 | -123.0879 | 1.47 | 23.91 |
| VH_03_01 | 28-Feb-2017 17:58:50 | 28-Feb-2017 18:21:03 | 49.2855 | -123.0862 | 49.3087 | -123.0815 | 1.47 | 27.99 |
| VH_03_02 | 28-Feb-2017 20:54:48 | 28-Feb-2017 21:13:28 | 49.2874 | -123.0859 | 49.3086 | -123.0816 | 1.47 | 25.95 |
| VH_03_03 | 01-Mar-2017 00:58:02 | 01-Mar-2017 01:15:07 | 49.2865 | -123.0861 | 49.3086 | -123.0817 | 1.47 | 25.95 |
| VH_03_04 | 02-Mar-2017 19:40:39 | 02-Mar-2017 19:59:26 | 49.2876 | -123.0856 | 49.3086 | -123.0814 | 1.47 | 27.99 |
| VH_03_05 | 02-Mar-2017 22:02:54 | 02-Mar-2017 22:20:27 | 49.2883 | -123.0850 | 49.3084 | -123.0810 | 1.47 | 25.95 |

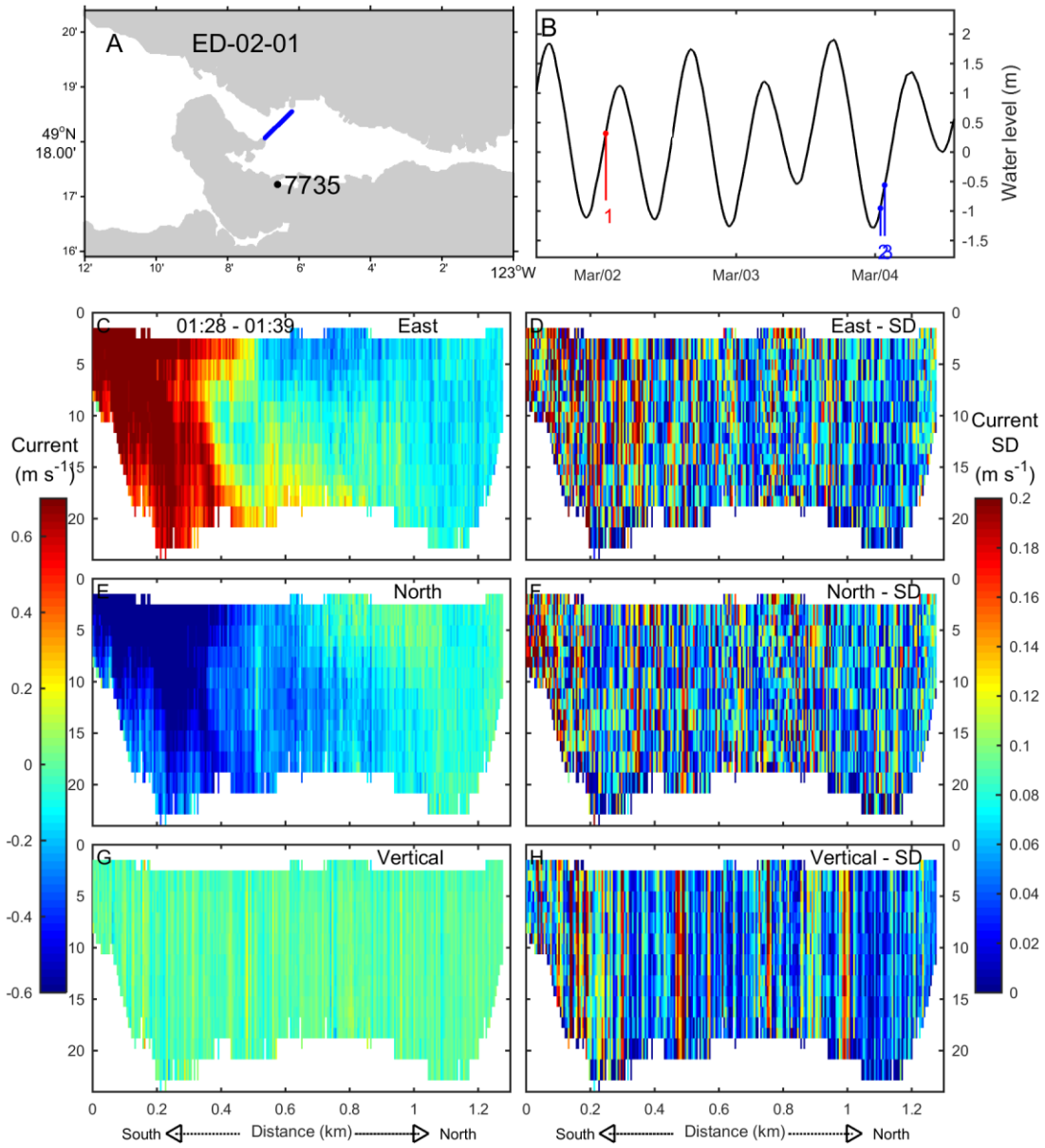
| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| VH_03_06 | 03-Mar-2017 01:48:03 | 03-Mar-2017 02:04:58 | 49.2872 | -123.0858 | 49.3082 | -123.0816 | 1.47 | 25.95 |
| VH_03_07 | 03-Mar-2017 16:40:56 | 03-Mar-2017 16:57:29 | 49.2876 | -123.0860 | 49.3084 | -123.0819 | 1.47 | 23.91 |
| VH_04_01 | 02-Mar-2017 19:07:42 | 02-Mar-2017 19:22:32 | 49.2891 | -123.0731 | 49.3043 | -123.0710 | 1.47 | 25.95 |
| VH_04_02 | 02-Mar-2017 20:18:00 | 02-Mar-2017 20:33:54 | 49.2891 | -123.0732 | 49.3046 | -123.0711 | 1.47 | 25.95 |
| VH_04_03 | 02-Mar-2017 22:39:01 | 02-Mar-2017 22:52:11 | 49.2898 | -123.0731 | 49.3045 | -123.0711 | 1.47 | 25.95 |
| VH_04_04 | 02-Mar-2017 23:32:36 | 02-Mar-2017 23:45:02 | 49.2897 | -123.0731 | 49.3046 | -123.0711 | 1.47 | 23.91 |
| VH_04_05 | 03-Mar-2017 01:21:25 | 03-Mar-2017 01:32:53 | 49.2901 | -123.0733 | 49.3045 | -123.0713 | 1.47 | 23.91 |
| VH_05_01 | 02-Mar-2017 18:40:52 | 02-Mar-2017 18:52:20 | 49.2921 | -123.0588 | 49.3047 | -123.0630 | 1.47 | 21.87 |
| VH_05_02 | 02-Mar-2017 23:07:21 | 02-Mar-2017 23:19:07 | 49.2921 | -123.0586 | 49.3047 | -123.0627 | 1.47 | 21.87 |
| VH_05_03 | 03-Mar-2017 00:55:52 | 03-Mar-2017 01:07:31 | 49.2919 | -123.0585 | 49.3048 | -123.0627 | 1.47 | 23.91 |
| VH_05_04 | 03-Mar-2017 17:40:00 | 03-Mar-2017 17:52:05 | 49.2916 | -123.0589 | 49.3047 | -123.0632 | 1.47 | 21.87 |
| VH_06_01 | 28-Feb-2017 19:01:59 | 28-Feb-2017 19:26:27 | 49.2897 | -123.1131 | 49.3115 | -123.0870 | 1.47 | 23.91 |
| VH_06_02 | 01-Mar-2017 00:03:21 | 01-Mar-2017 00:24:34 | 49.2912 | -123.1110 | 49.3111 | -123.0871 | 1.47 | 23.91 |
| VH_06_03 | 01-Mar-2017 01:35:58 | 01-Mar-2017 01:59:00 | 49.2893 | -123.1134 | 49.3113 | -123.0871 | 1.47 | 23.91 |
| VH_07_01 | 28-Feb-2017 19:52:12 | 28-Feb-2017 20:10:57 | 49.2907 | -123.1017 | 49.3114 | -123.0958 | 1.47 | 25.95 |
| VH_07_02 | 03-Mar-2017 19:42:26 | 03-Mar-2017 20:00:46 | 49.2909 | -123.1008 | 49.3113 | -123.0950 | 1.47 | 21.87 |
| VH_08_01 | 28-Feb-2017 18:21:58 | 28-Feb-2017 18:40:32 | 49.2906 | -123.1009 | 49.3088 | -123.0816 | 1.47 | 25.95 |
| VH_08_02 | 01-Mar-2017 00:43:00 | 01-Mar-2017 00:57:29 | 49.2932 | -123.1000 | 49.3091 | -123.0831 | 1.47 | 30.03 |
| VH_08_03 | 03-Mar-2017 20:01:18 | 03-Mar-2017 20:19:01 | 49.2907 | -123.1008 | 49.3086 | -123.0819 | 1.47 | 21.87 |

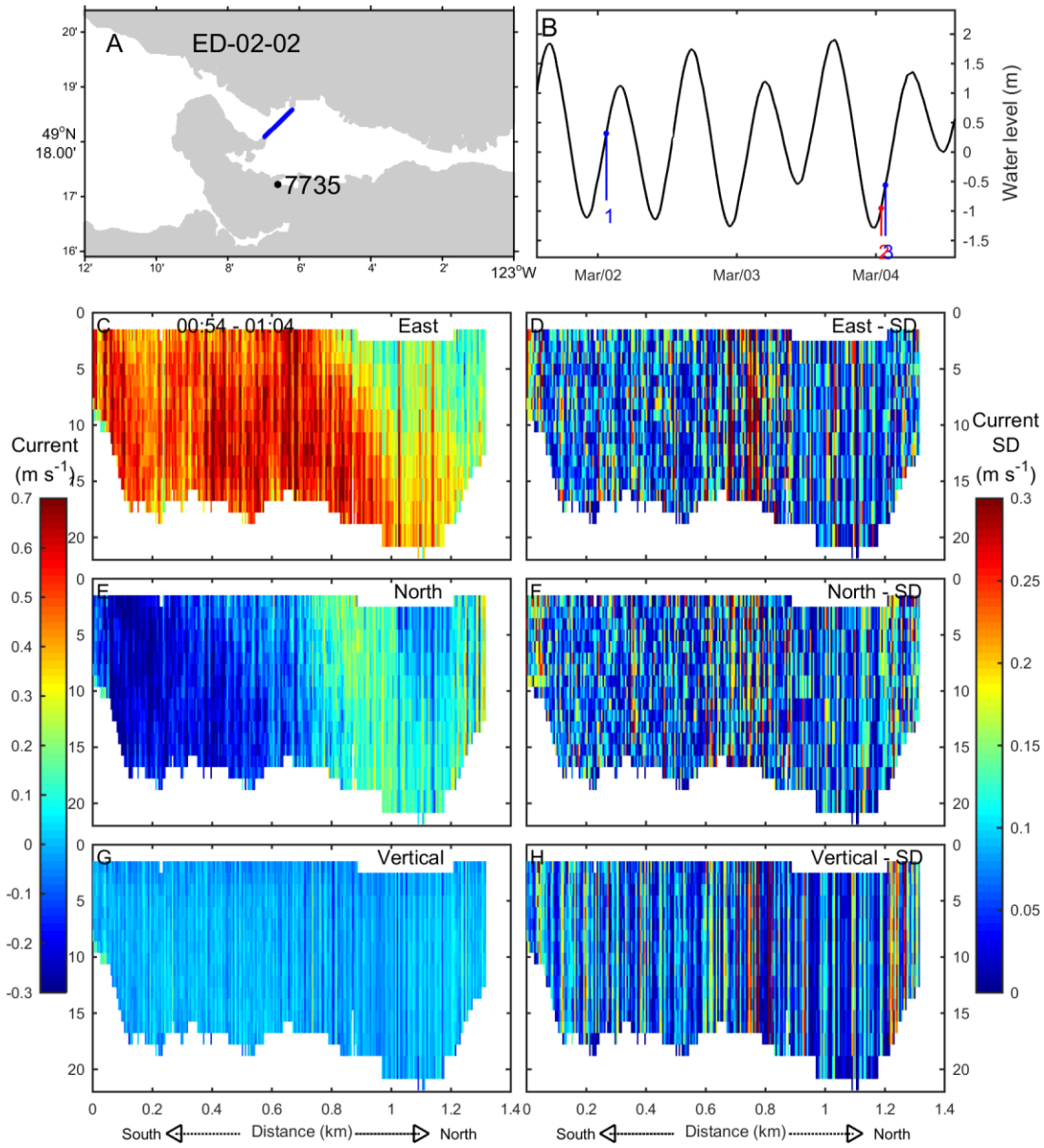
| ADCP February | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| VH_09_01 | 28-Feb-2017 20:34:31 | 28-Feb-2017 20:54:20 | 49.2874 | -123.0858 | 49.3113 | -123.0865 | 1.47 | 25.95 |
| VH_09_02 | 01-Mar-2017 01:16:08 | 01-Mar-2017 01:35:20 | 49.2871 | -123.0860 | 49.3113 | -123.0867 | 1.47 | 23.91 |
| VH_10_01 | 02-Mar-2017 19:22:41 | 02-Mar-2017 19:38:49 | 49.2895 | -123.0832 | 49.3043 | -123.0715 | 1.47 | 27.99 |
| VH_10_02 | 02-Mar-2017 22:20:31 | 02-Mar-2017 22:38:56 | 49.2872 | -123.0856 | 49.3037 | -123.0725 | 1.47 | 23.91 |
| VH_11_01 | 02-Mar-2017 19:59:33 | 02-Mar-2017 20:17:53 | 49.2891 | -123.0733 | 49.3085 | -123.0815 | 1.47 | 25.95 |
| VH_11_02 | 02-Mar-2017 23:46:07 | 03-Mar-2017 00:01:49 | 49.2896 | -123.0734 | 49.3083 | -123.0814 | 1.47 | 23.91 |
| VH_11_03 | 03-Mar-2017 01:33:00 | 03-Mar-2017 01:47:56 | 49.2900 | -123.0733 | 49.3082 | -123.0810 | 1.47 | 23.91 |
| VH_11_04 | 03-Mar-2017 16:58:02 | 03-Mar-2017 17:13:19 | 49.2900 | -123.0735 | 49.3084 | -123.0814 | 1.47 | 23.91 |
| VH_12_01 | 02-Mar-2017 18:52:24 | 02-Mar-2017 19:07:27 | 49.2890 | -123.0727 | 49.3050 | -123.0629 | 1.47 | 25.95 |
| VH_12_02 | 02-Mar-2017 22:53:20 | 02-Mar-2017 23:06:56 | 49.2896 | -123.0731 | 49.3051 | -123.0636 | 1.47 | 25.95 |
| VH_13_01 | 02-Mar-2017 20:34:03 | 02-Mar-2017 20:48:53 | 49.2922 | -123.0586 | 49.3051 | -123.0706 | 1.47 | 23.91 |
| VH_13_02 | 02-Mar-2017 23:19:50 | 02-Mar-2017 23:32:19 | 49.2920 | -123.0587 | 49.3047 | -123.0705 | 1.47 | 23.91 |
| VH_13_03 | 03-Mar-2017 01:08:33 | 03-Mar-2017 01:21:10 | 49.2919 | -123.0584 | 49.3047 | -123.0703 | 1.47 | 23.91 |
| VH_13_04 | 03-Mar-2017 17:26:16 | 03-Mar-2017 17:39:51 | 49.2917 | -123.0589 | 49.3046 | -123.0710 | 1.47 | 21.87 |

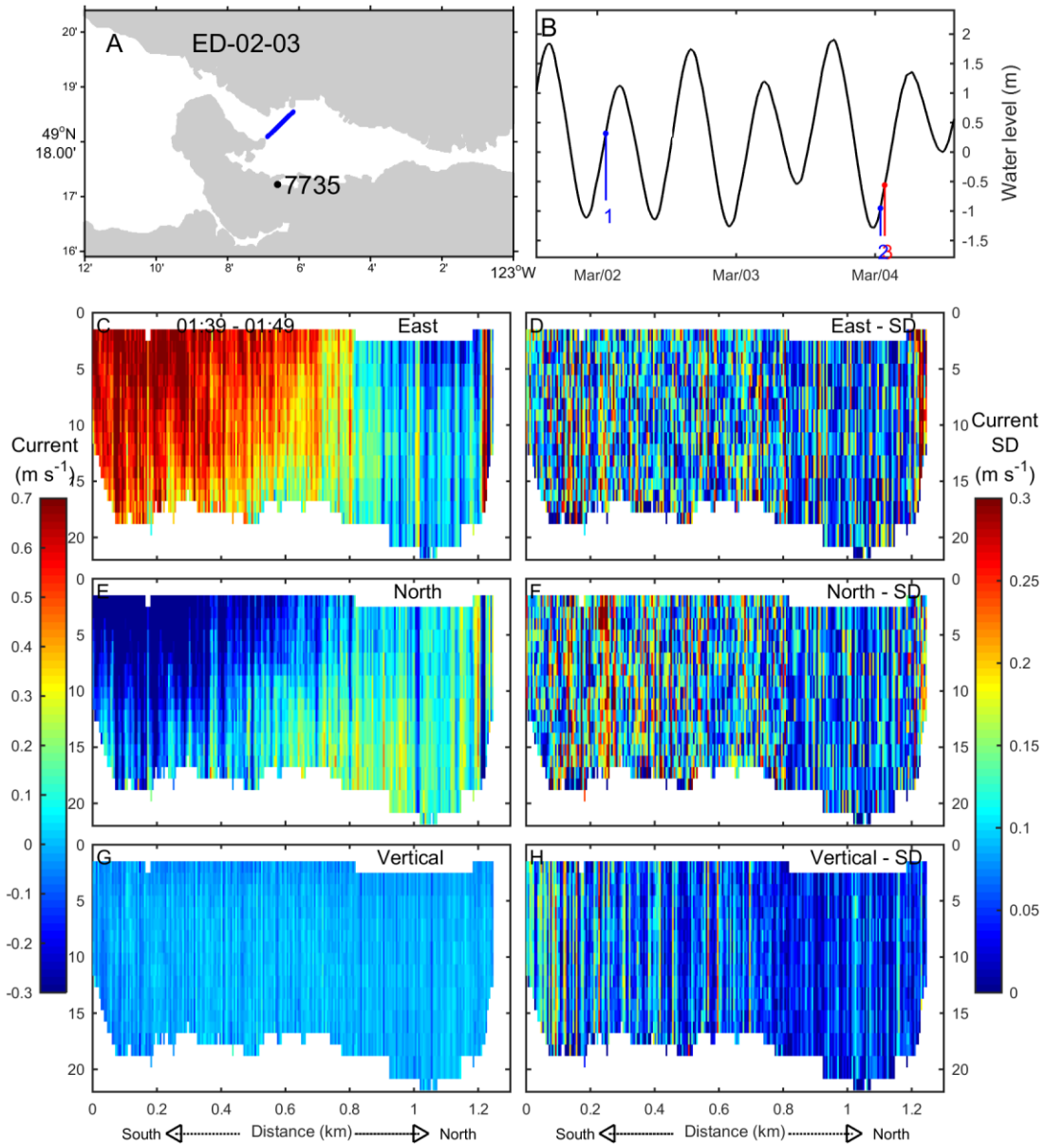
## 8.1 FEBRUARY/MARCH VELOCITY DATA VERTICAL SECTIONS

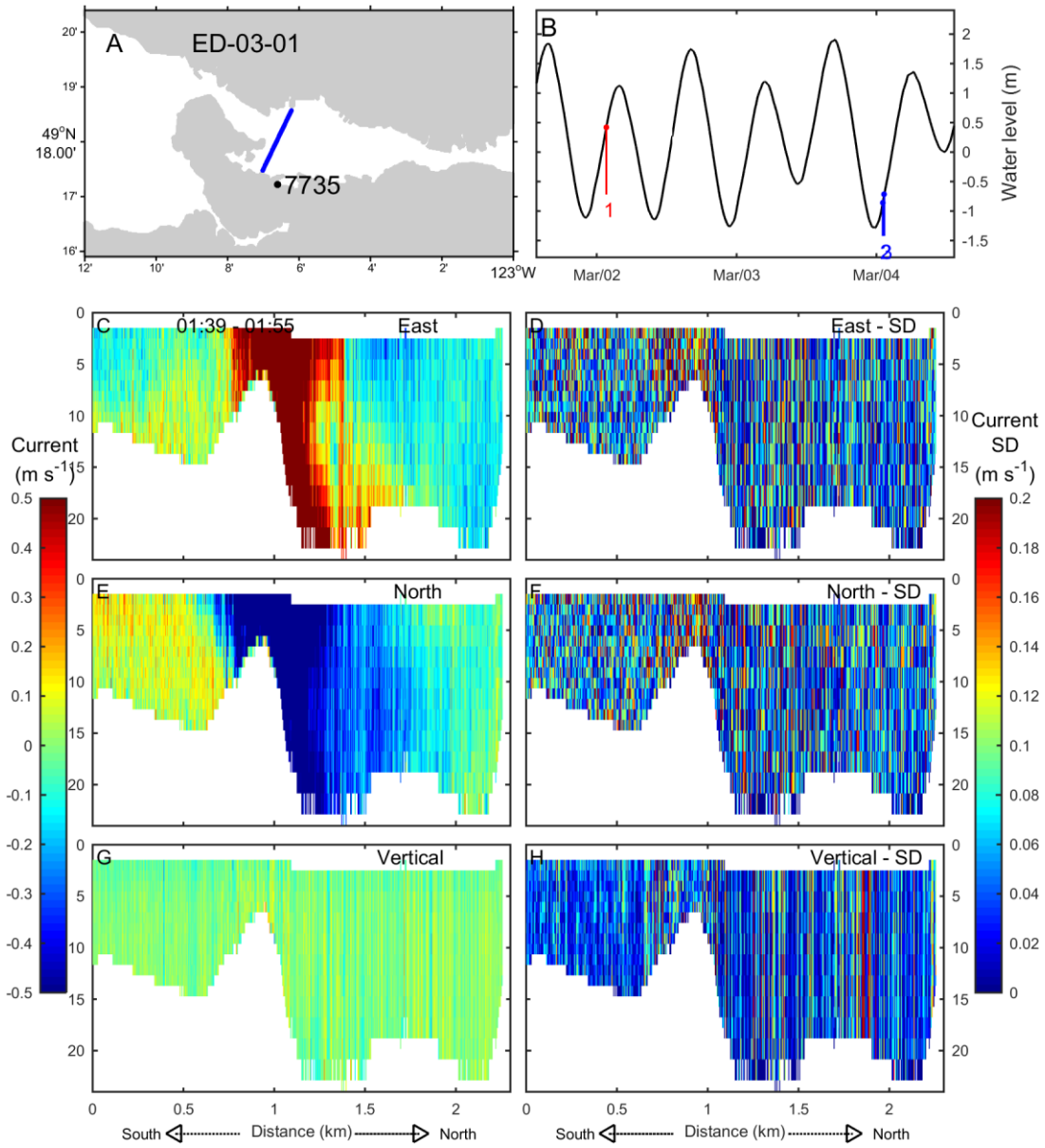
The following figures show the February/March vertical sections of the east and north (*u* and *v*) horizontal velocity components and the vertical component for the A (left column) and B (right column) lines. The top row of each figure shows the position of the transect (A) and the time during the tidal cycle that the transect was sampled (B). The second row presents the east components (C and D), the third row presents the north components (E and F), and the bottom row presents the vertical components

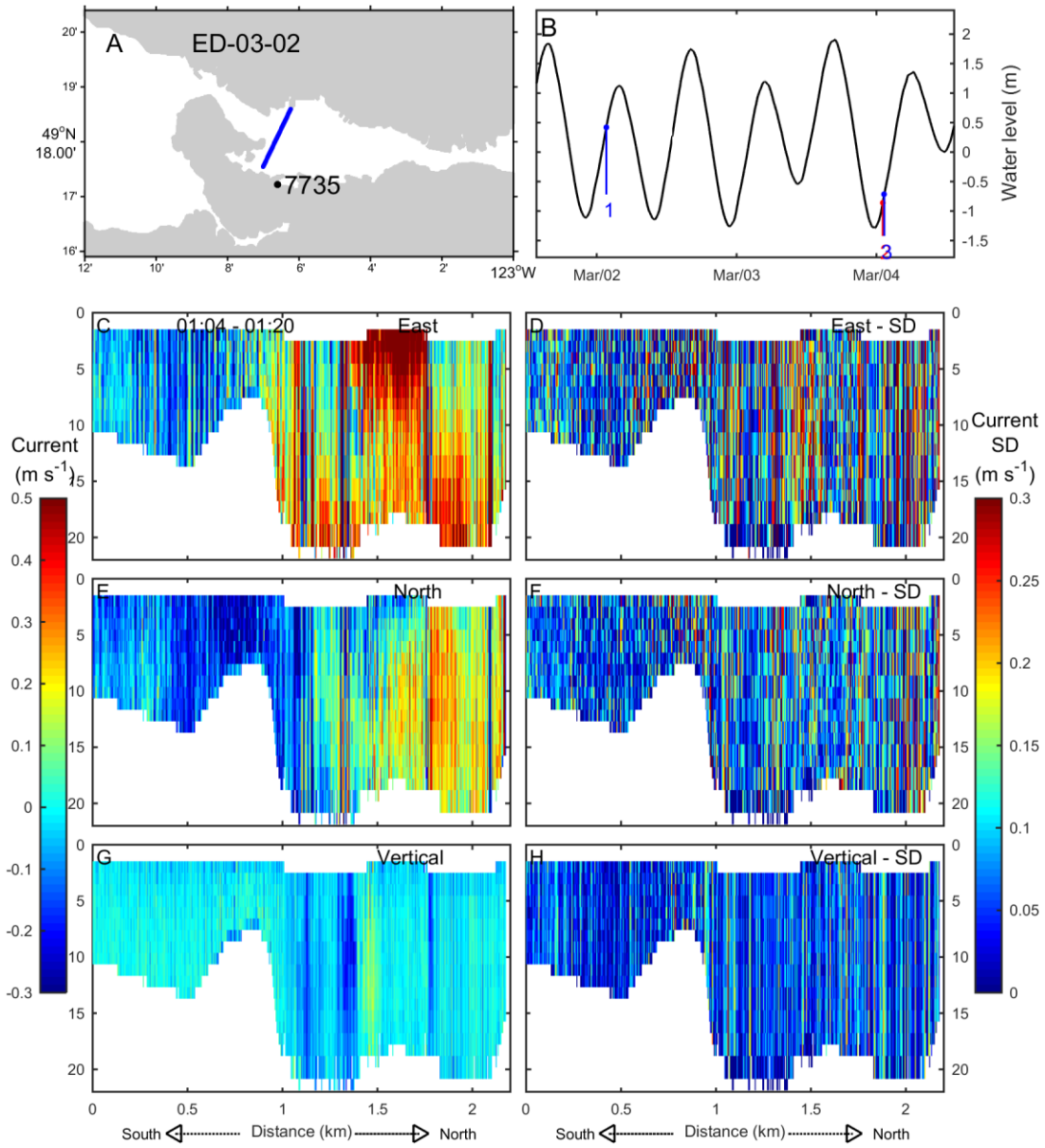
(G and H). For the velocity components, the mean measured speeds and standard deviations (SD) are shown. The units are in $ms^{-1}$.

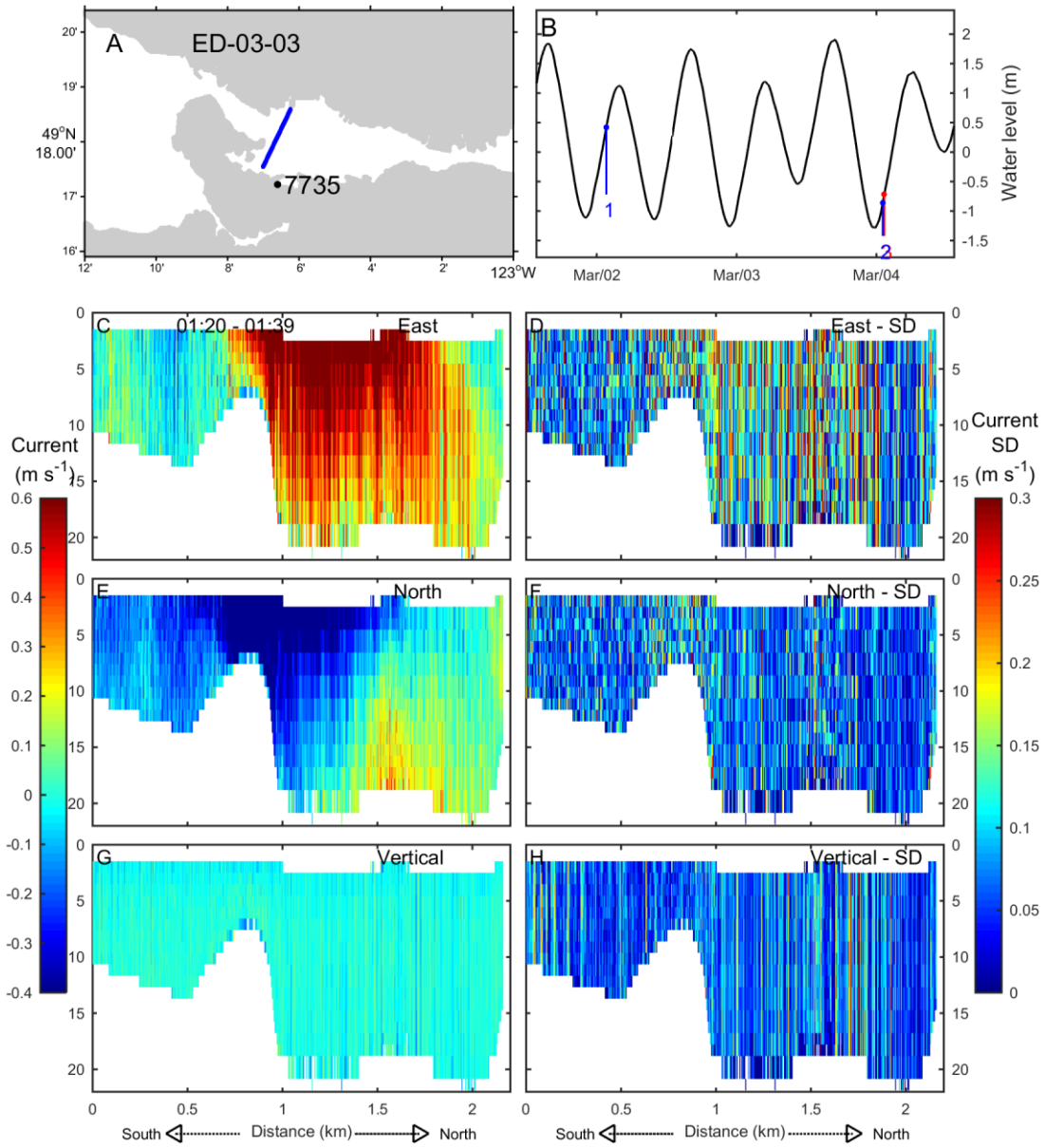

A
ED-02-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
01:28 - 01:39
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

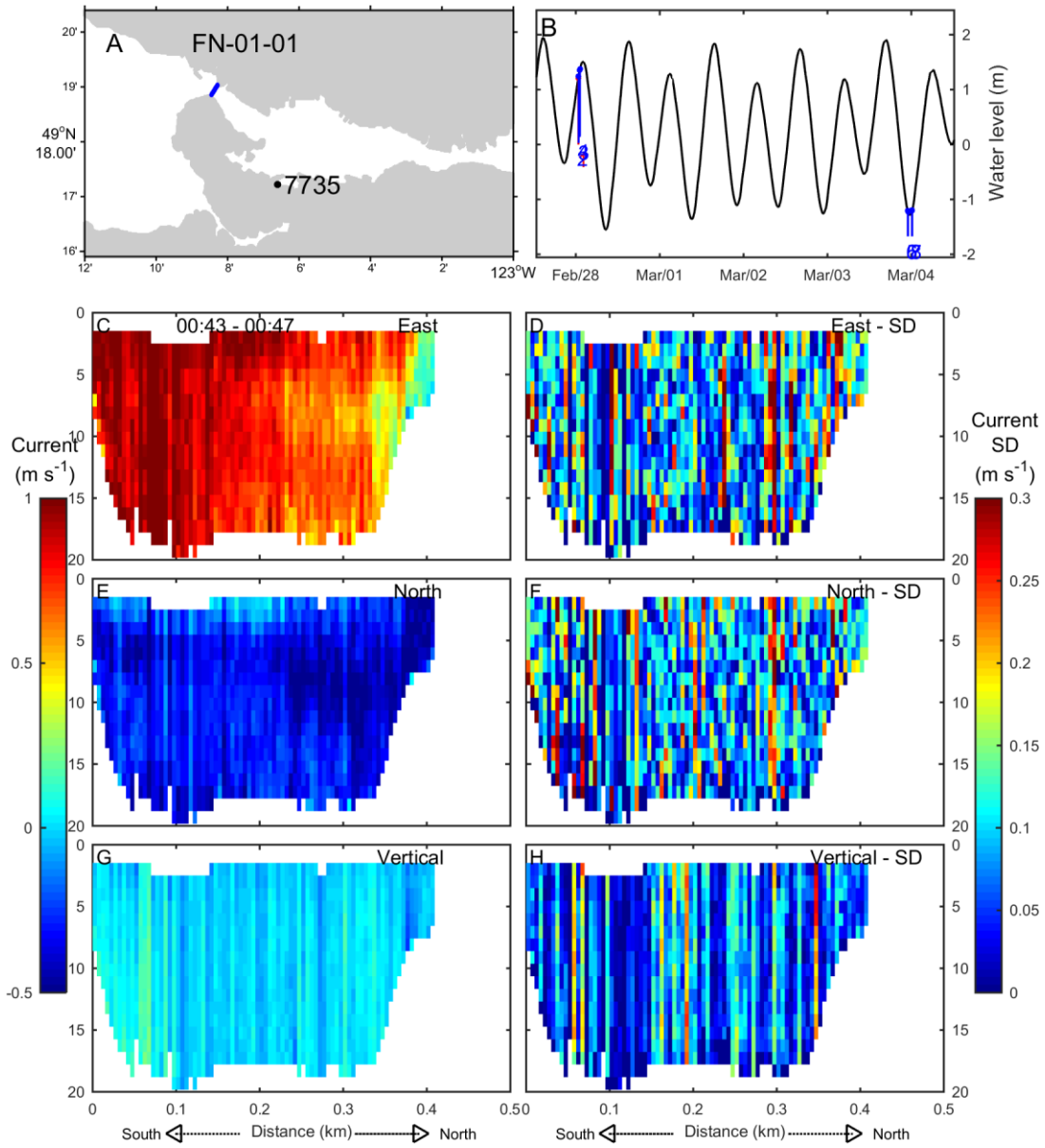

A
ED-02-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
00:54 - 01:04
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

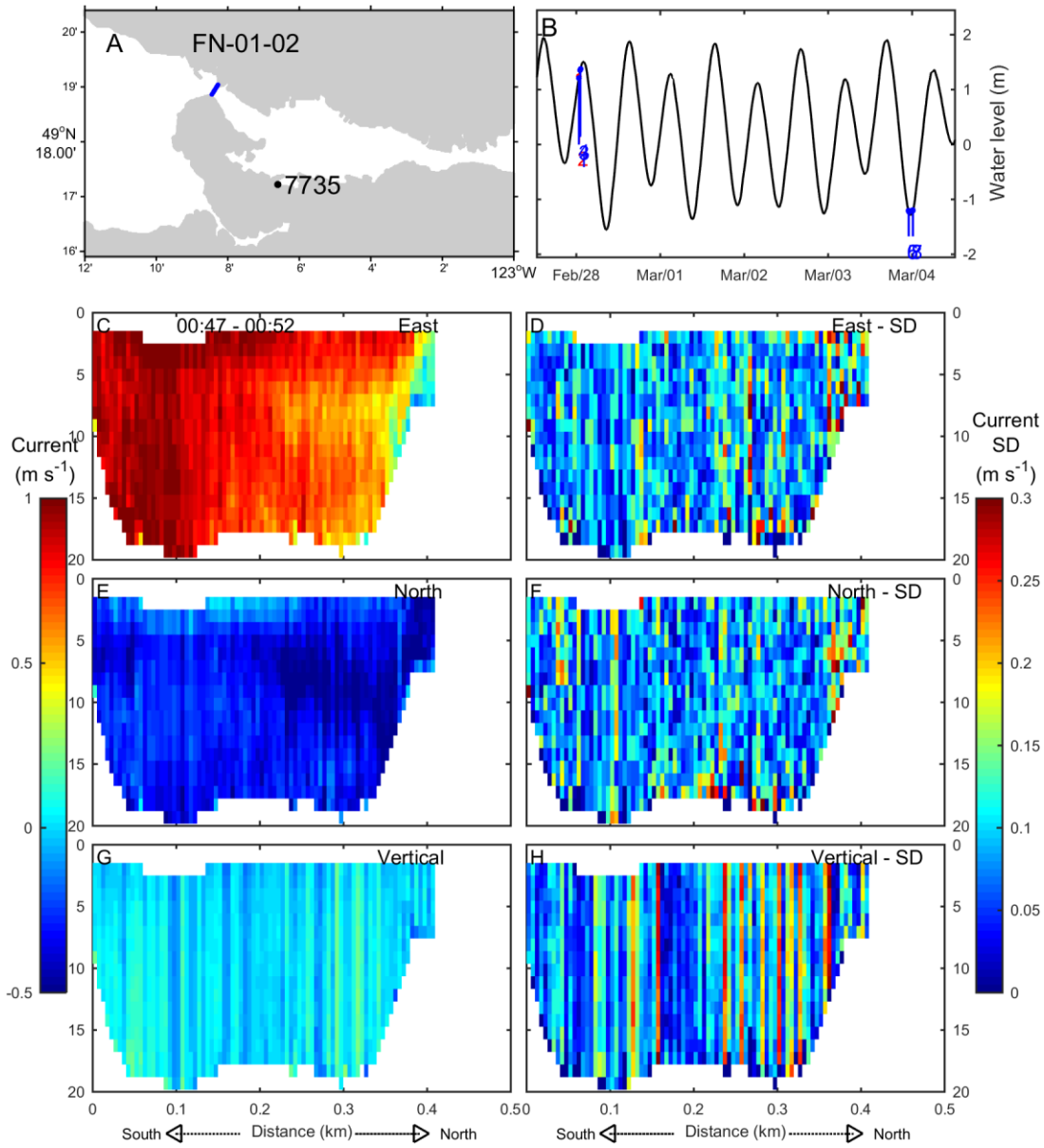

A
ED-02-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
01:39 - 01:49
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

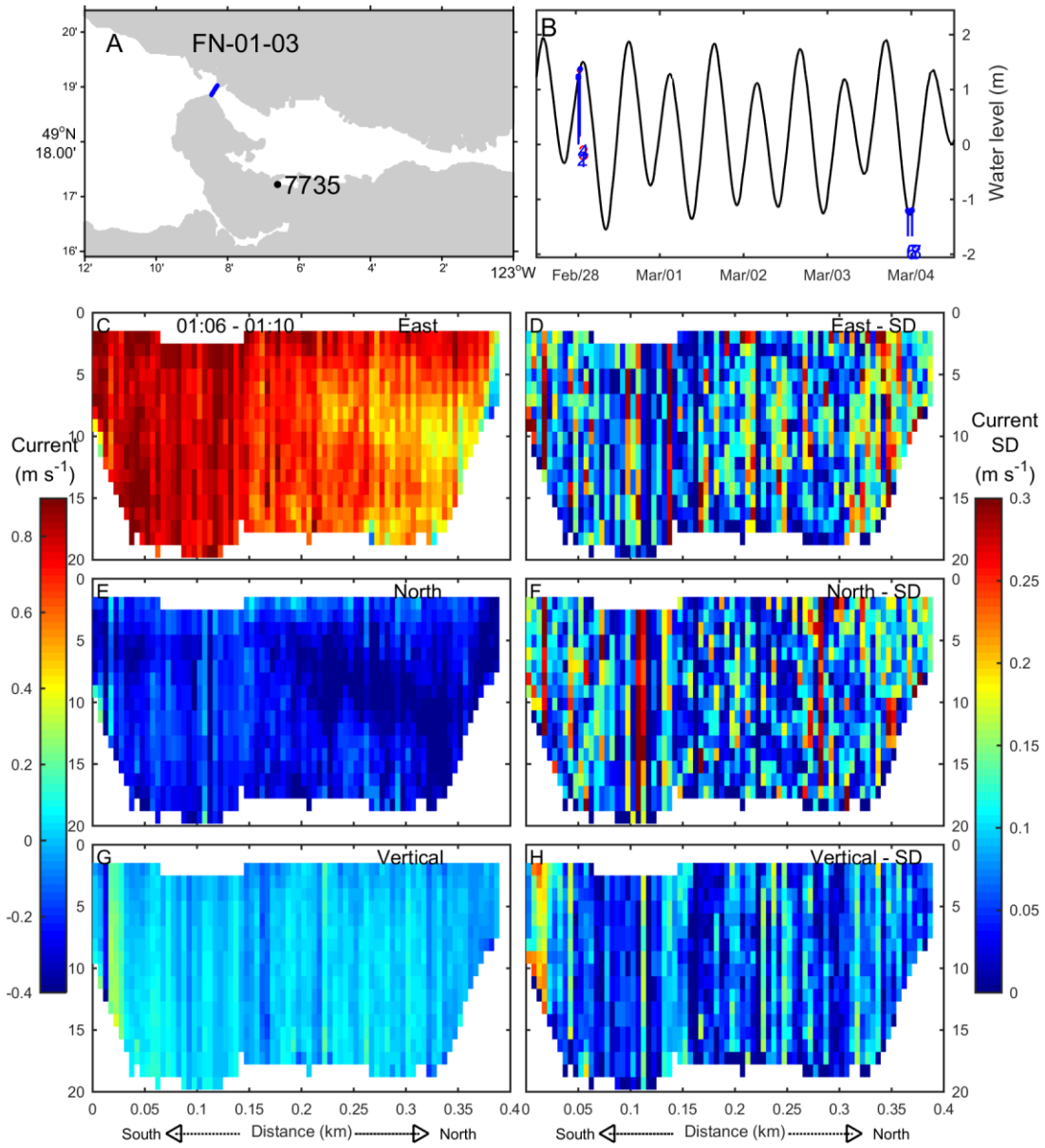

A
ED-03-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
01:39 - 01:55
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

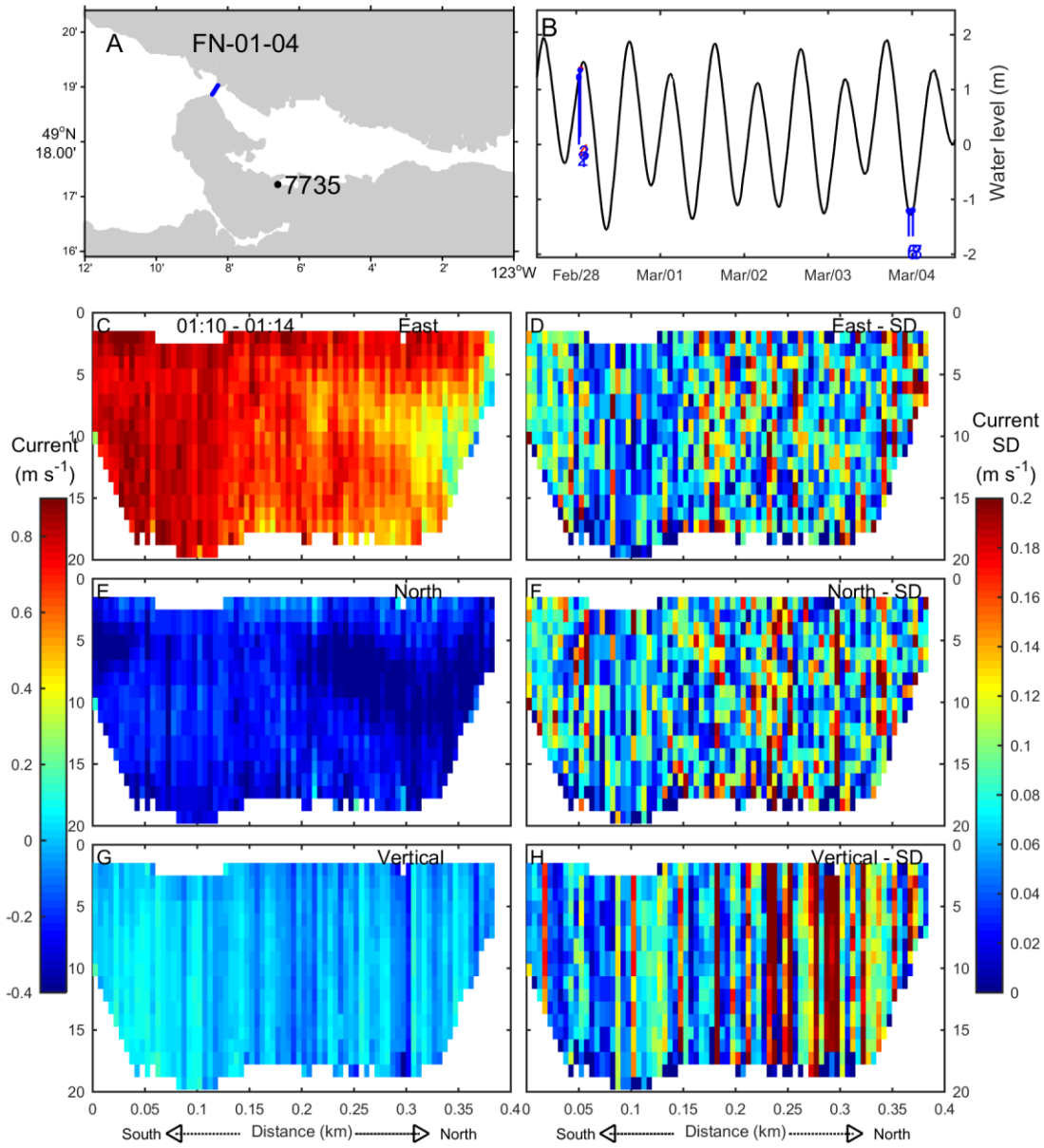

A
ED-03-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
01:04 - 01:20
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

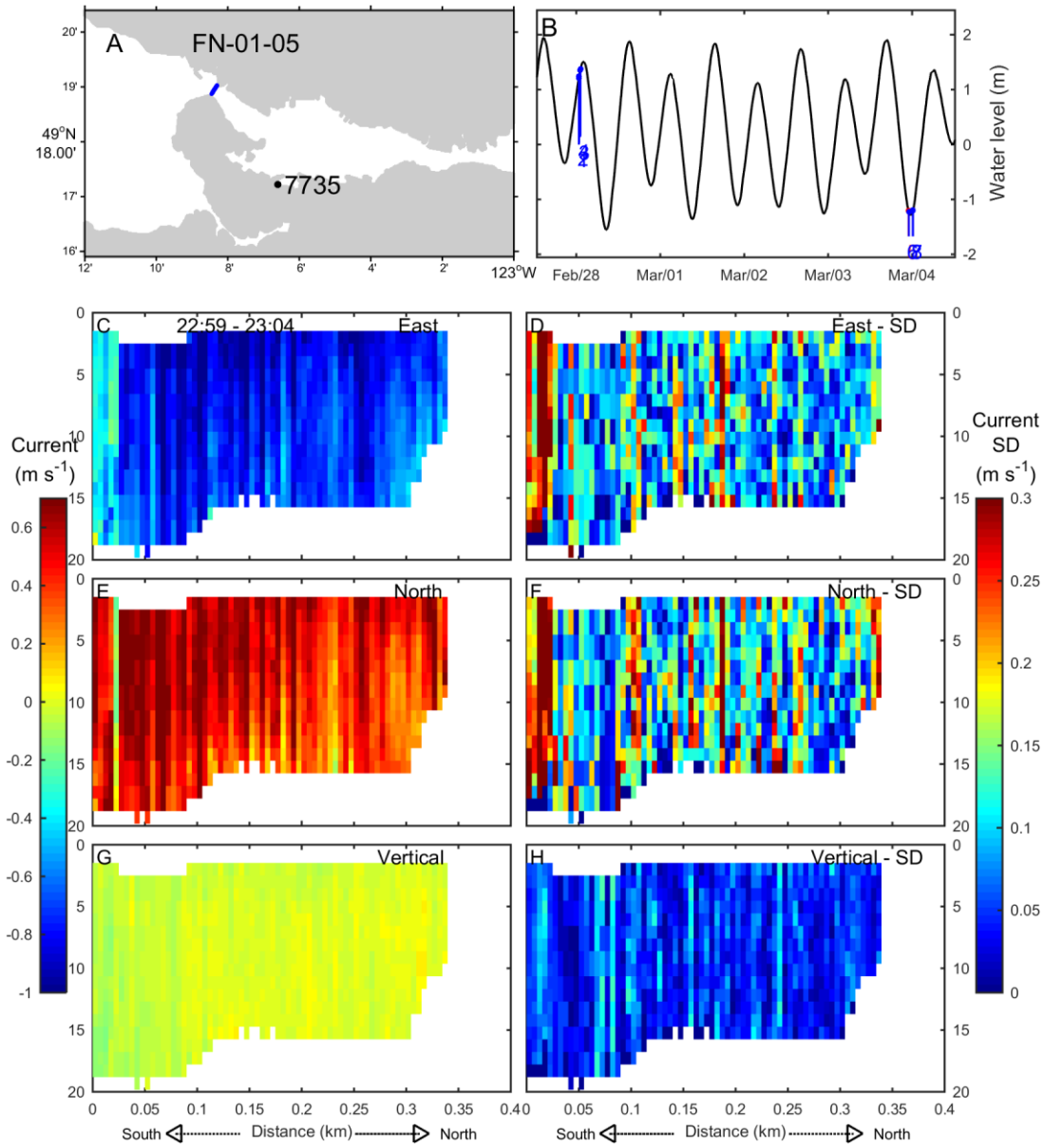

A
ED-03-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
01:20 - 01:39
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

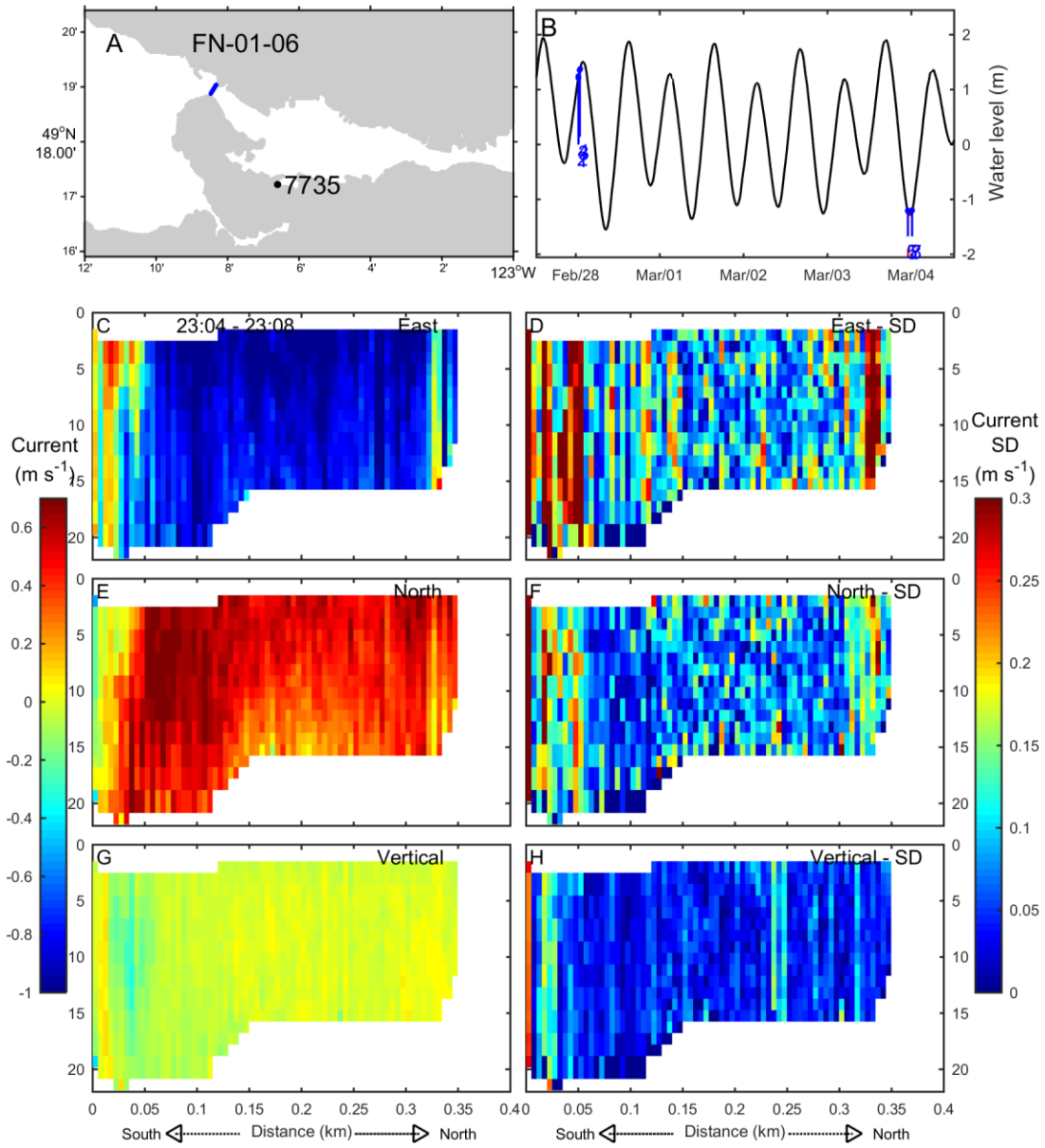

A
FN-01-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:43 - 00:47
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

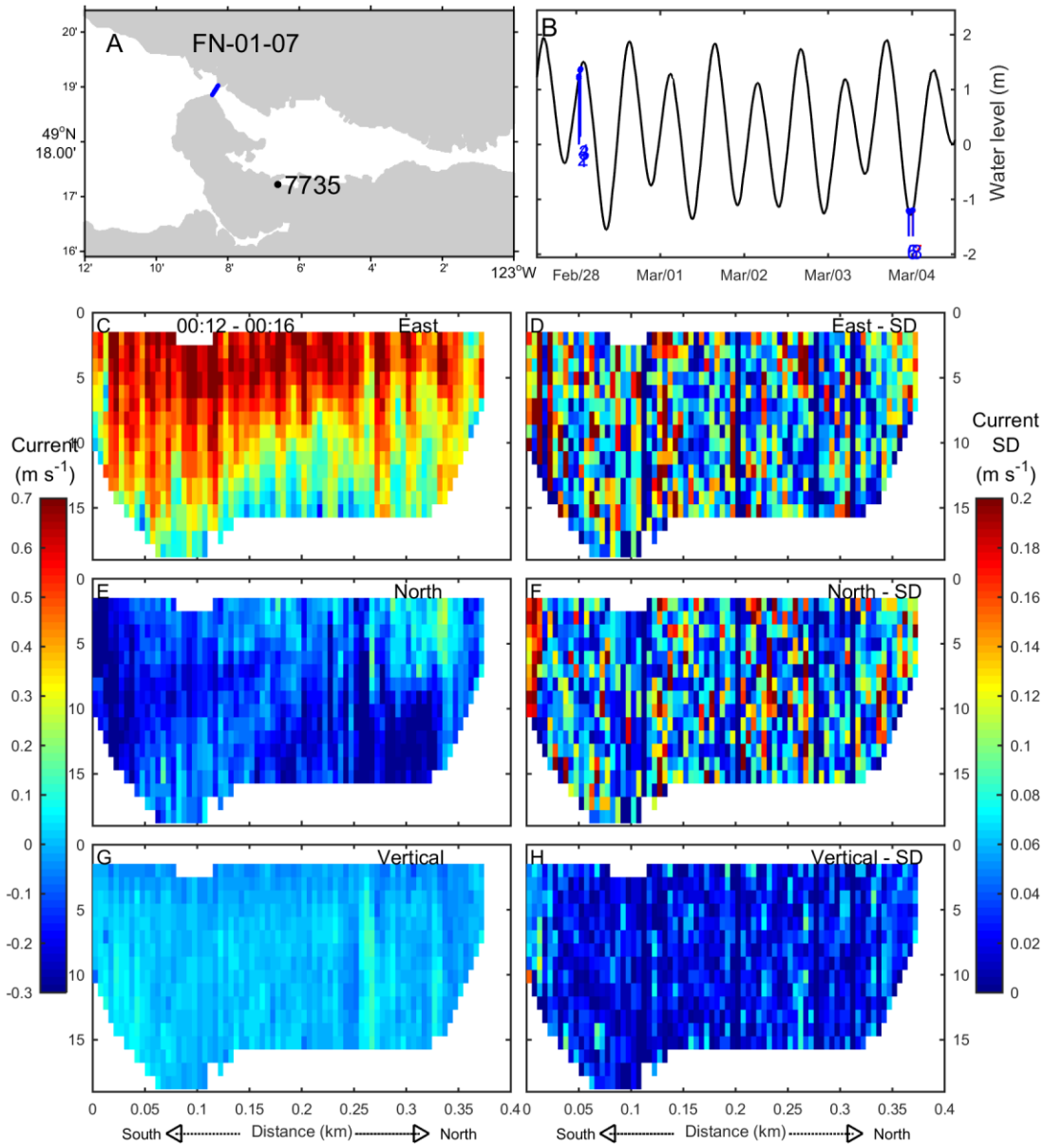

A
FN-01-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:47 - 00:52
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

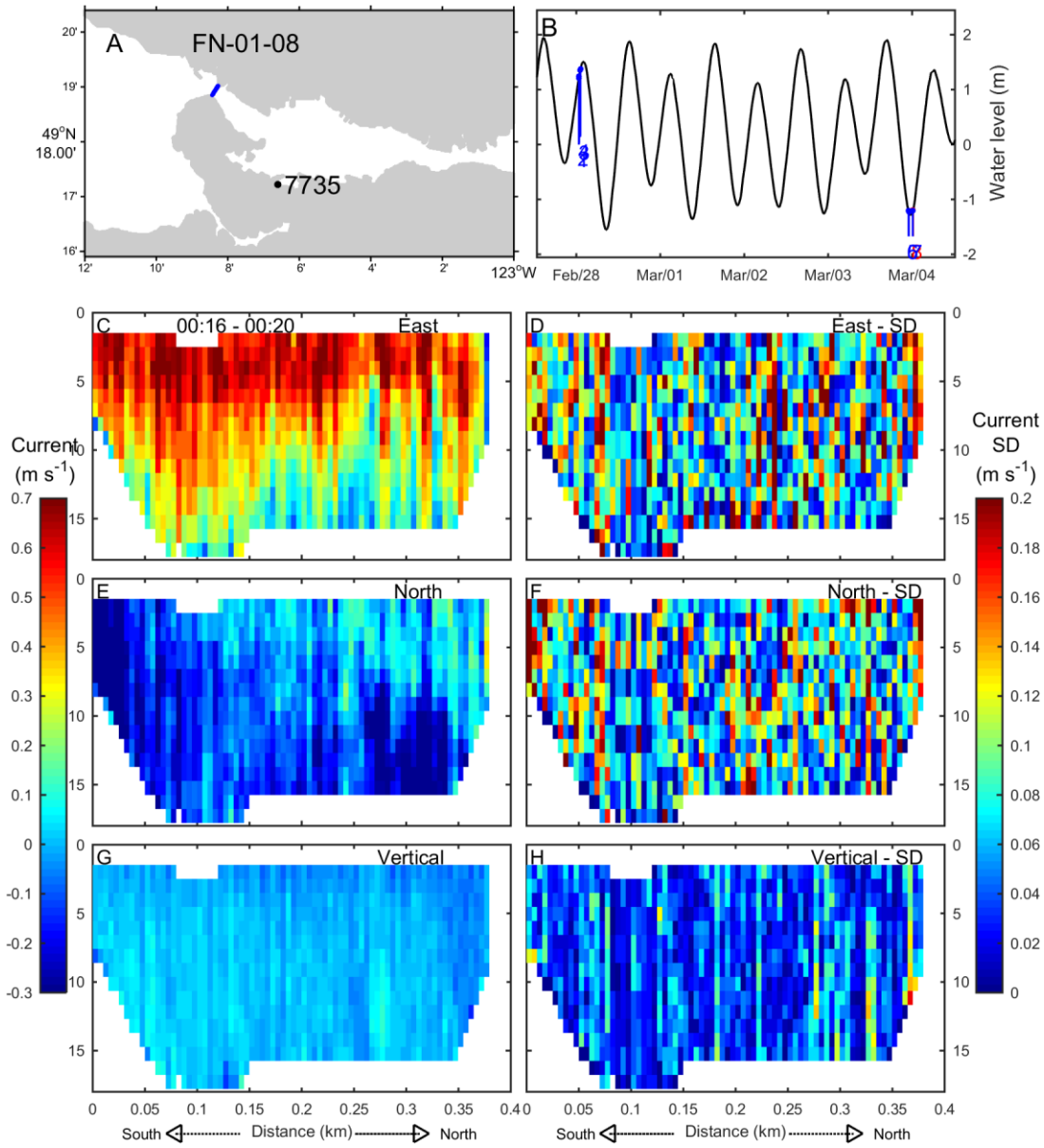

A
FN-01-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
01:06 - 01:10
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

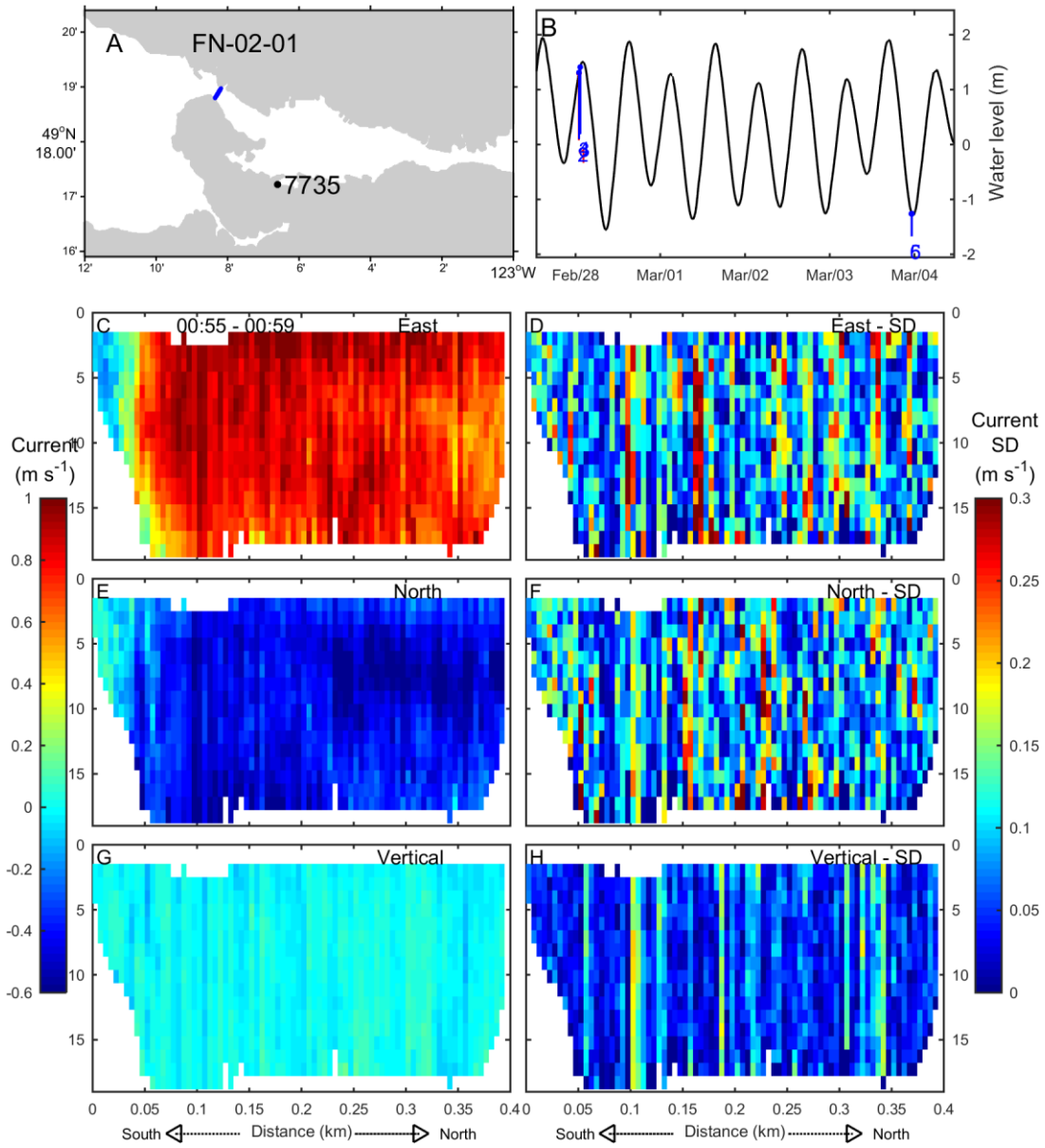

A
FN-01-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
01:10 - 01:14
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

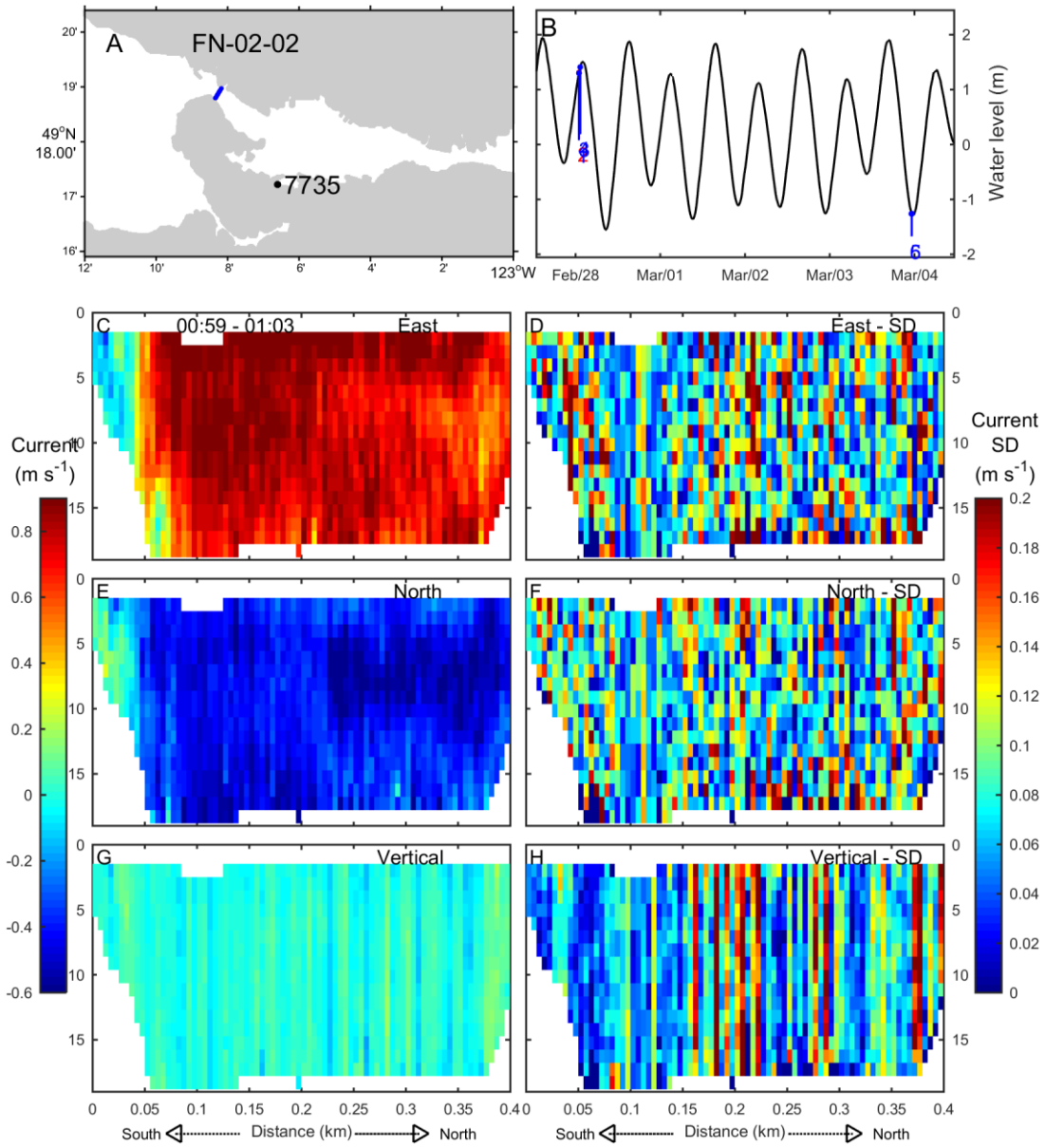

A
FN-01-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
22:59 - 23:04
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

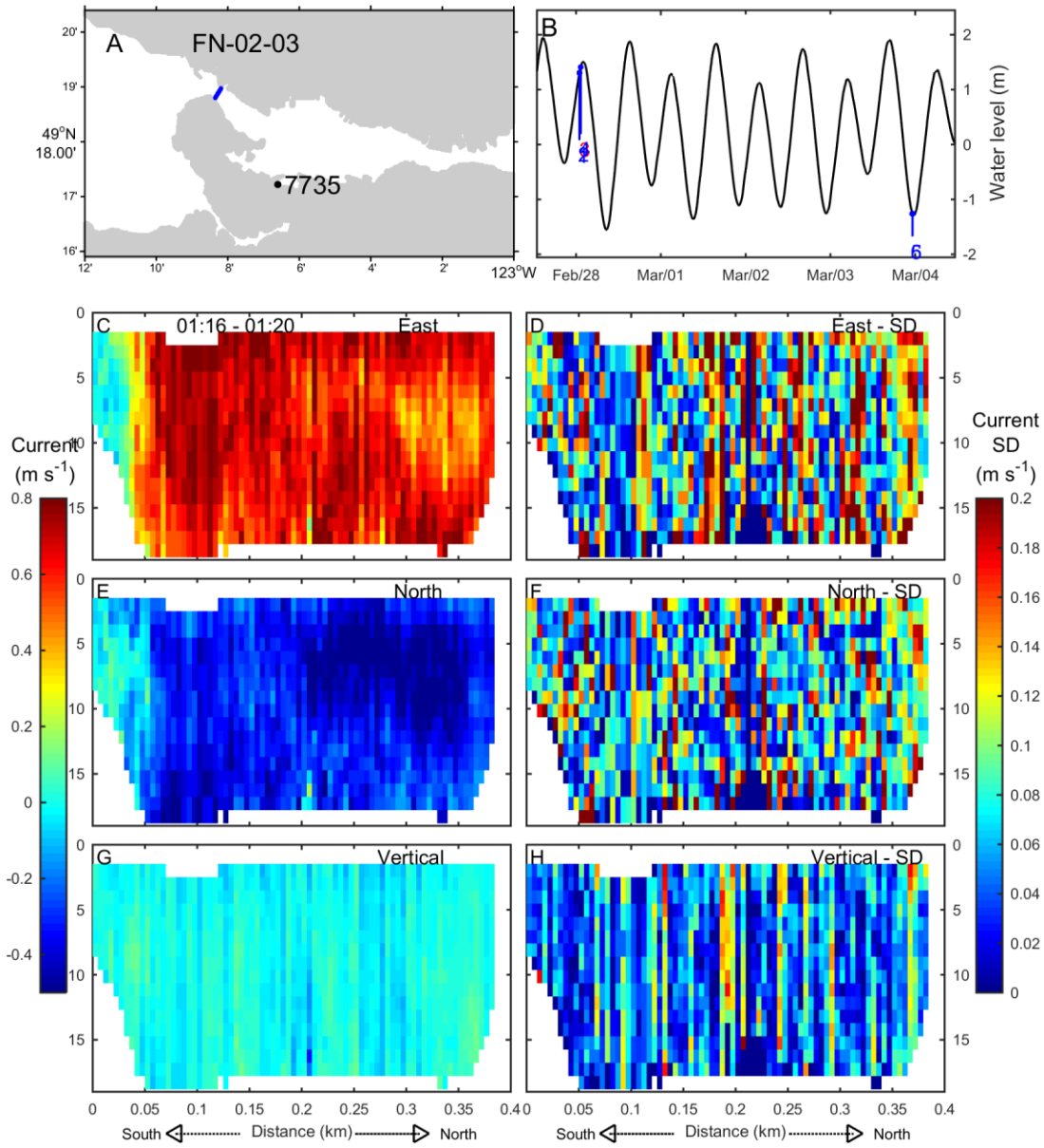

A
FN-01-06
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
23:04 - 23:08
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

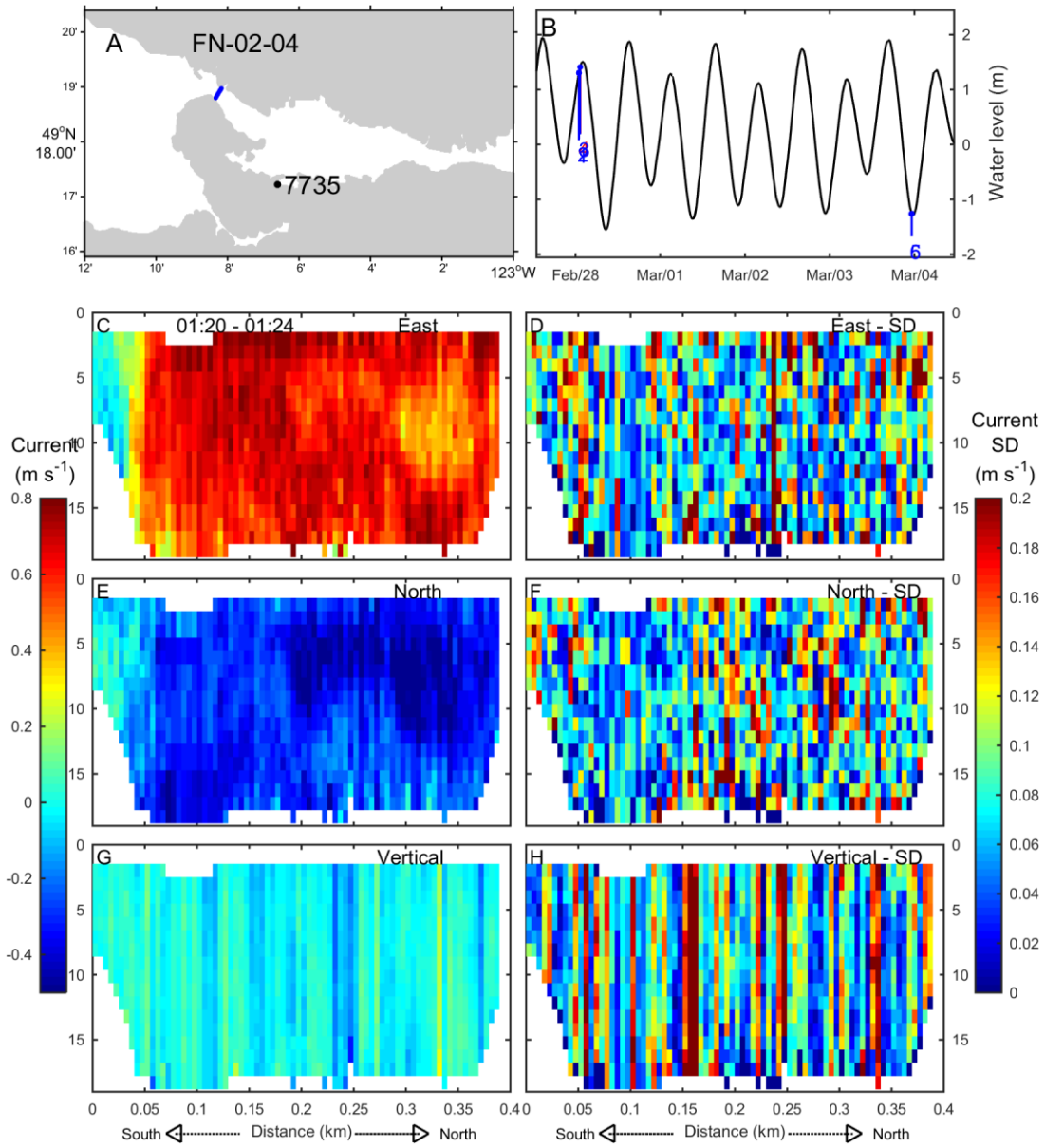

A
FN-01-07
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:12 - 00:16
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

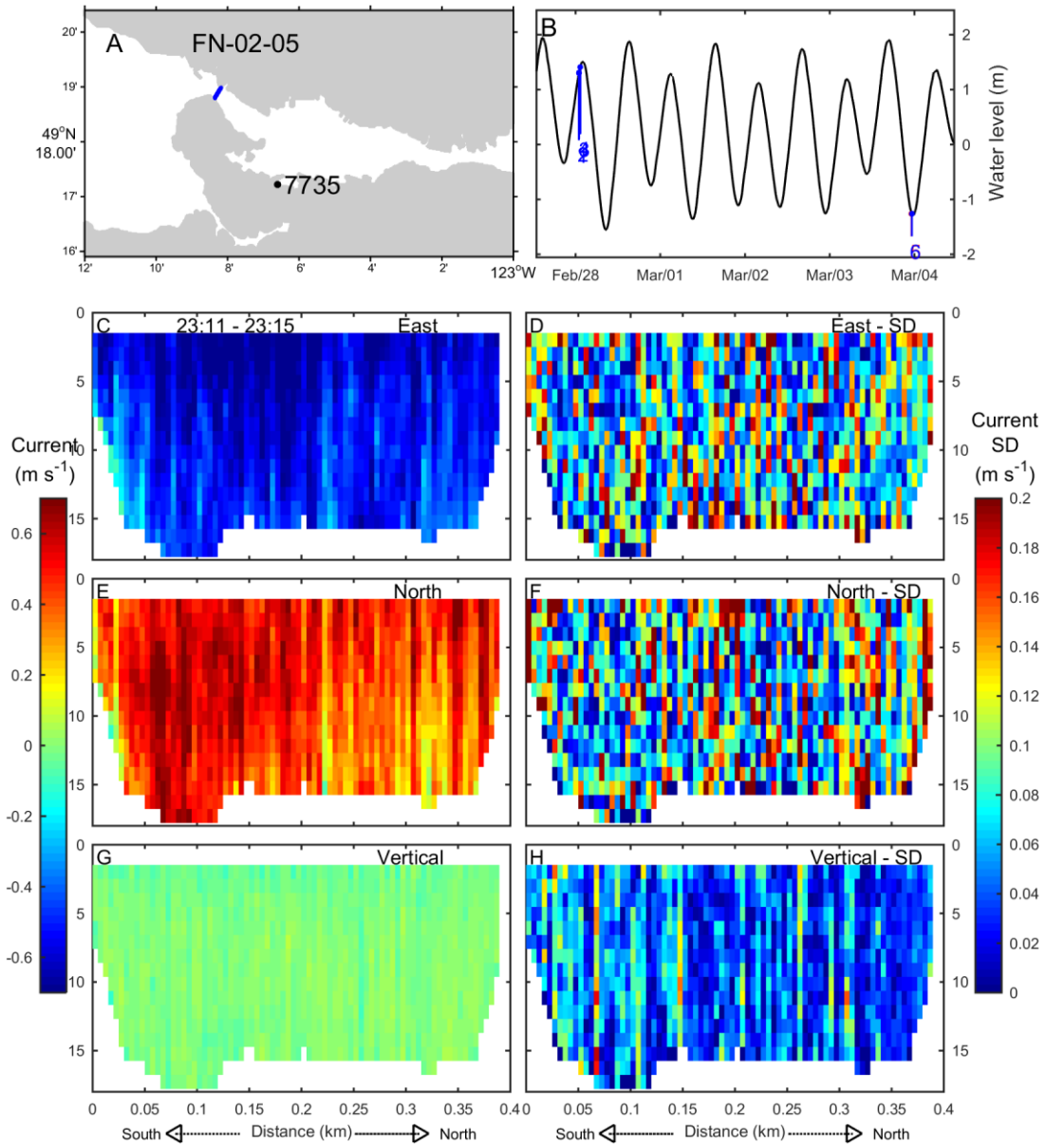

A
FN-01-08
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:16 - 00:20
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

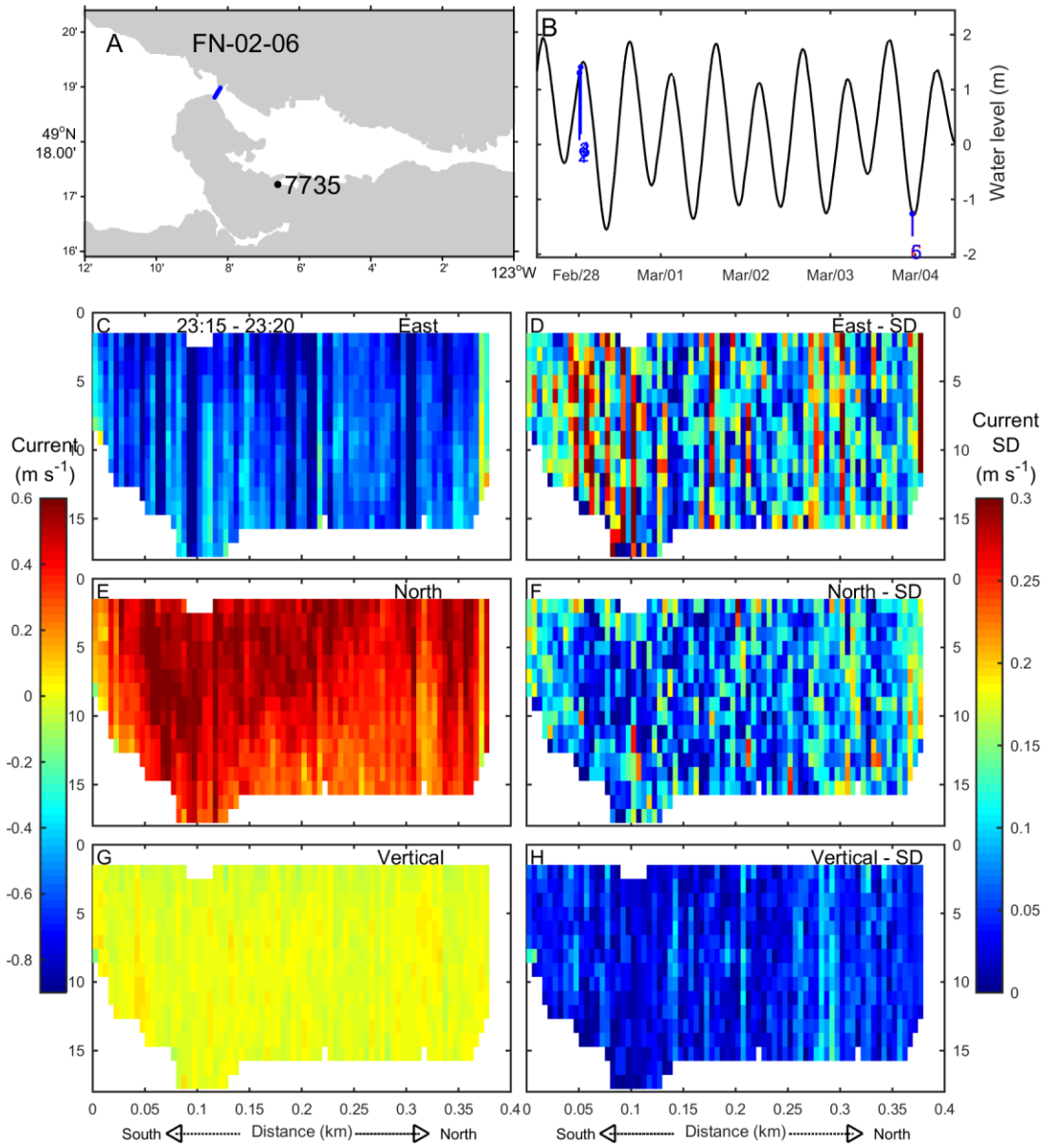

A
FN-02-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:55 - 00:59
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

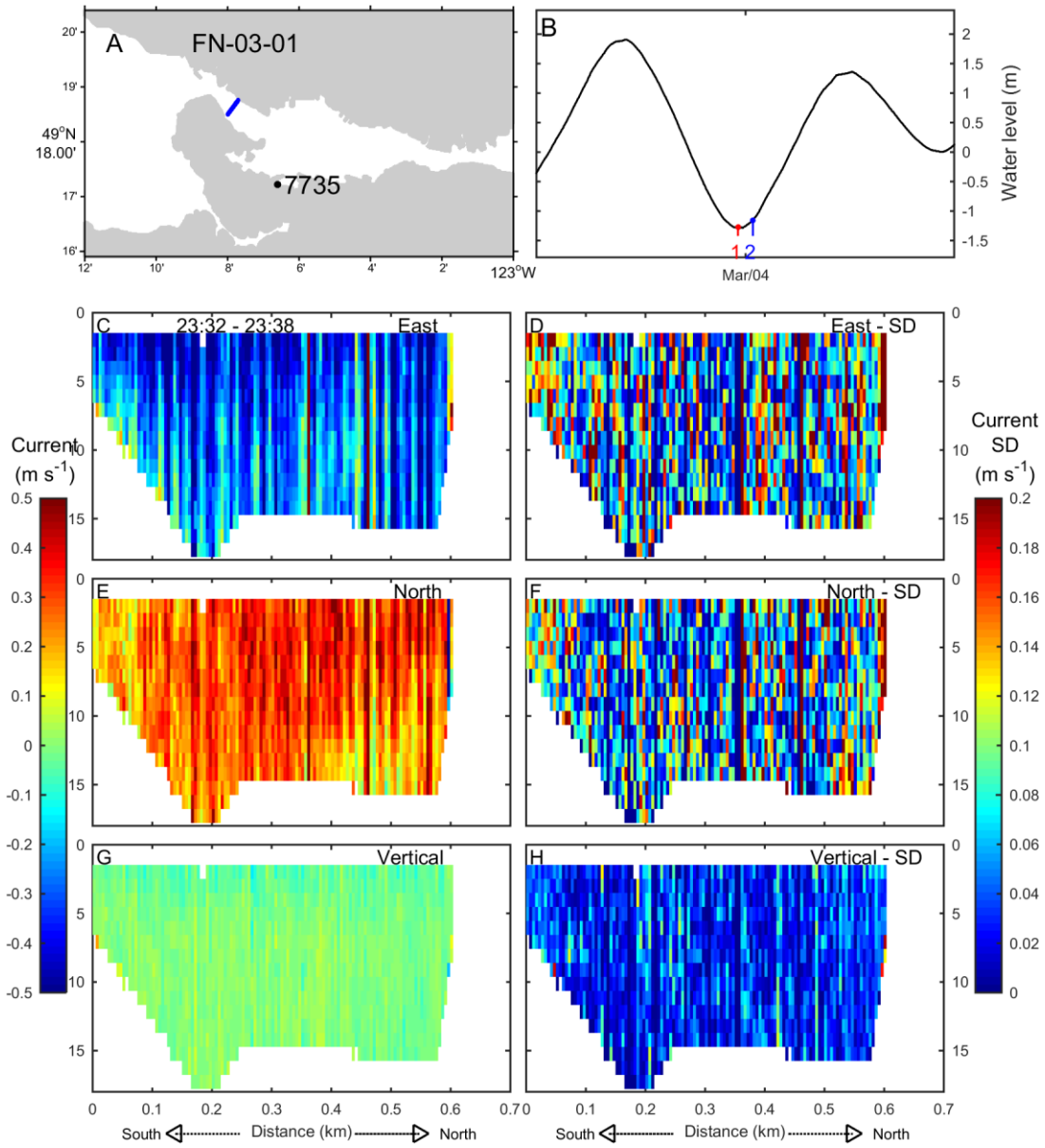

A
FN-02-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
00:59 - 01:03
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

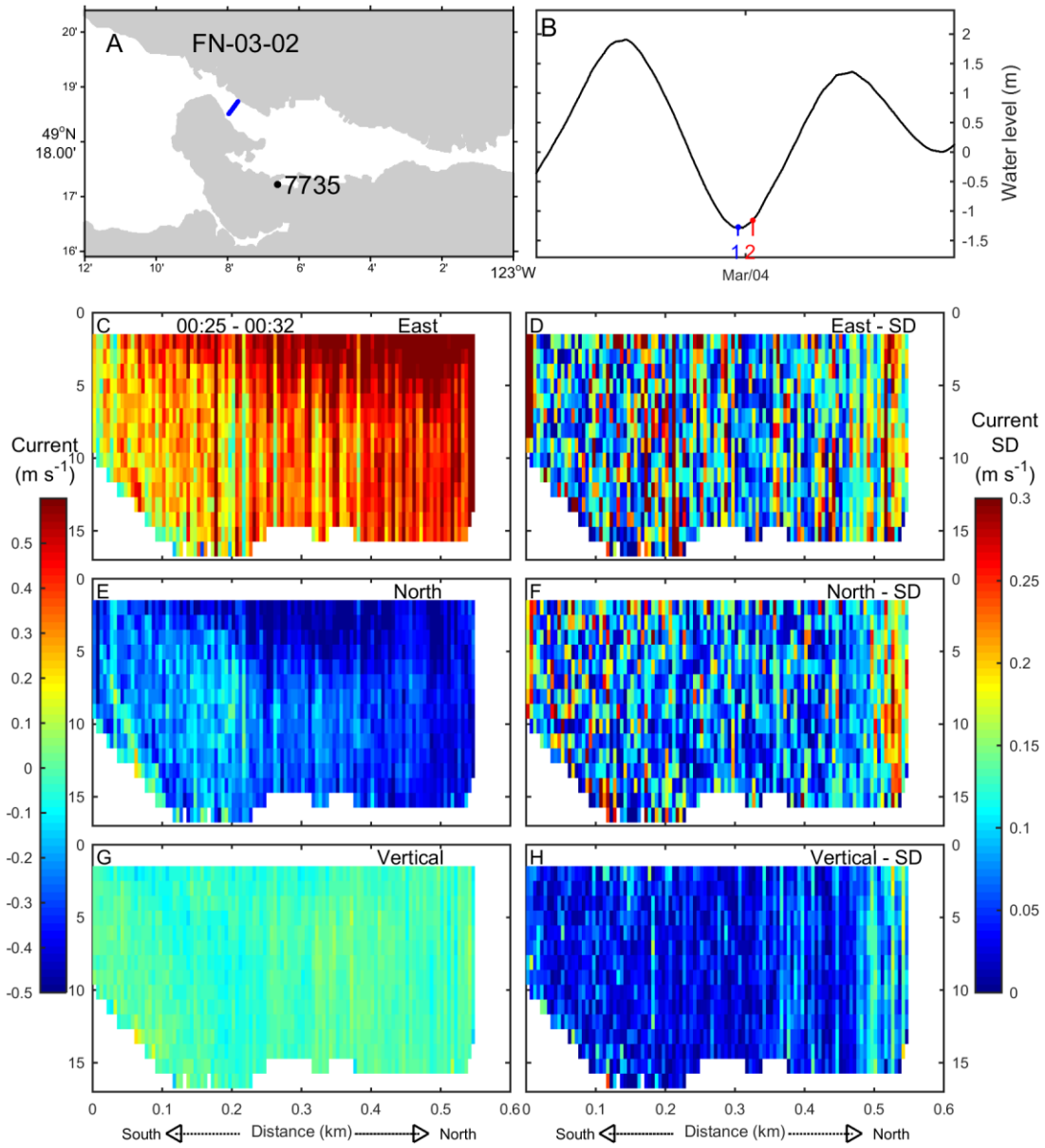

A
FN-02-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
01:16 - 01:20
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

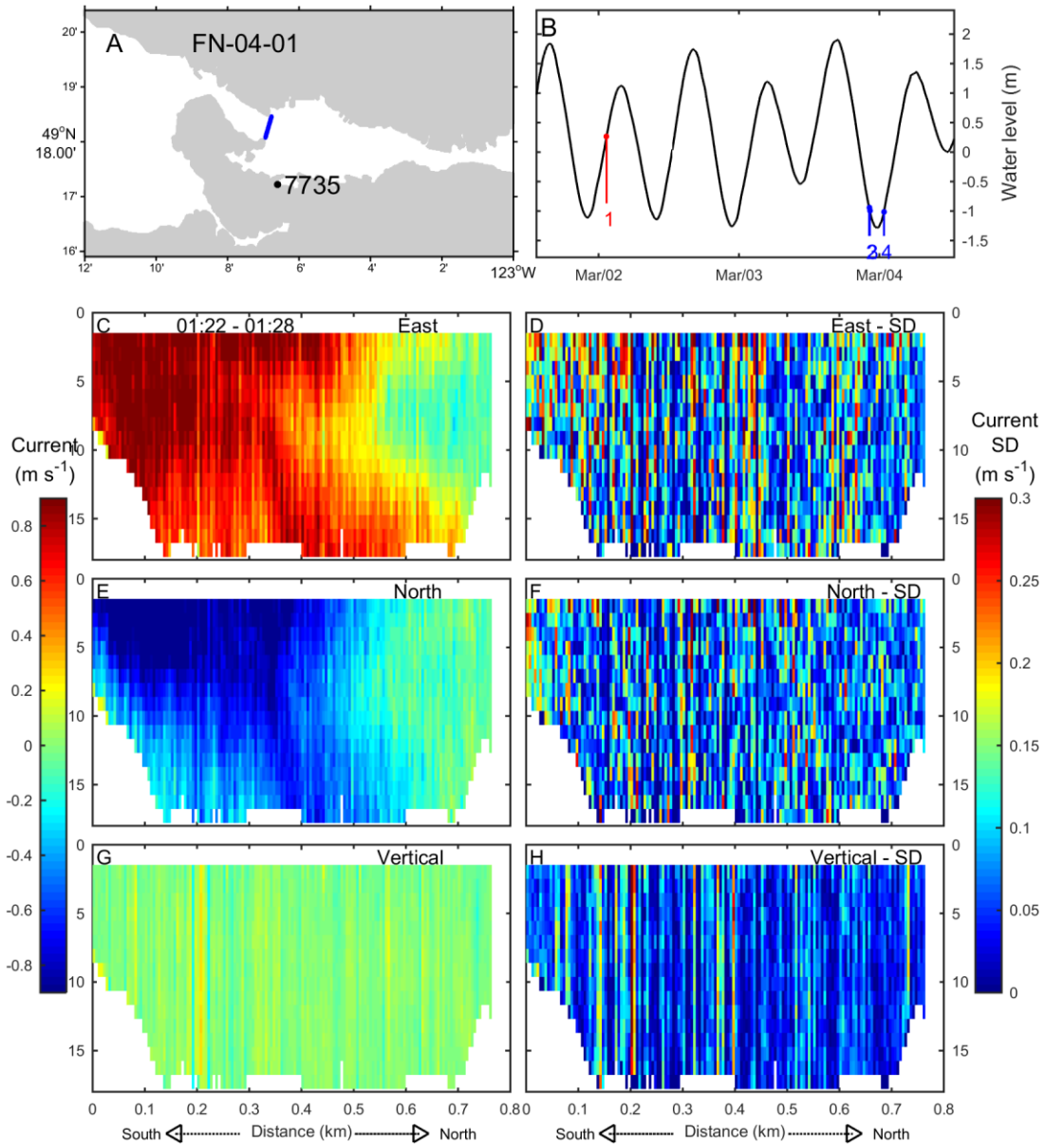

A
FN-02-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
01:20 - 01:24
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

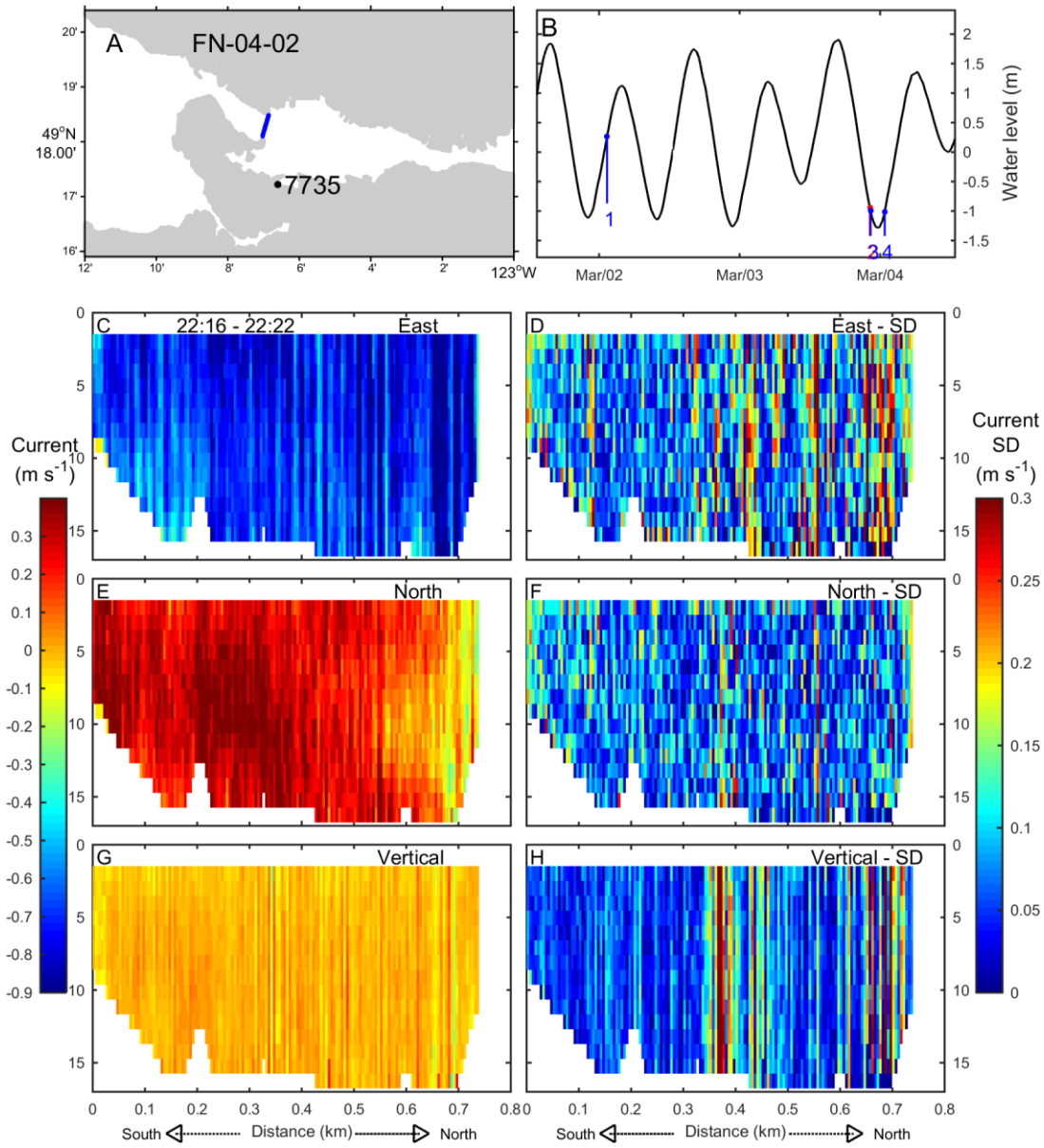

A
FN-02-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
23:11 - 23:15
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

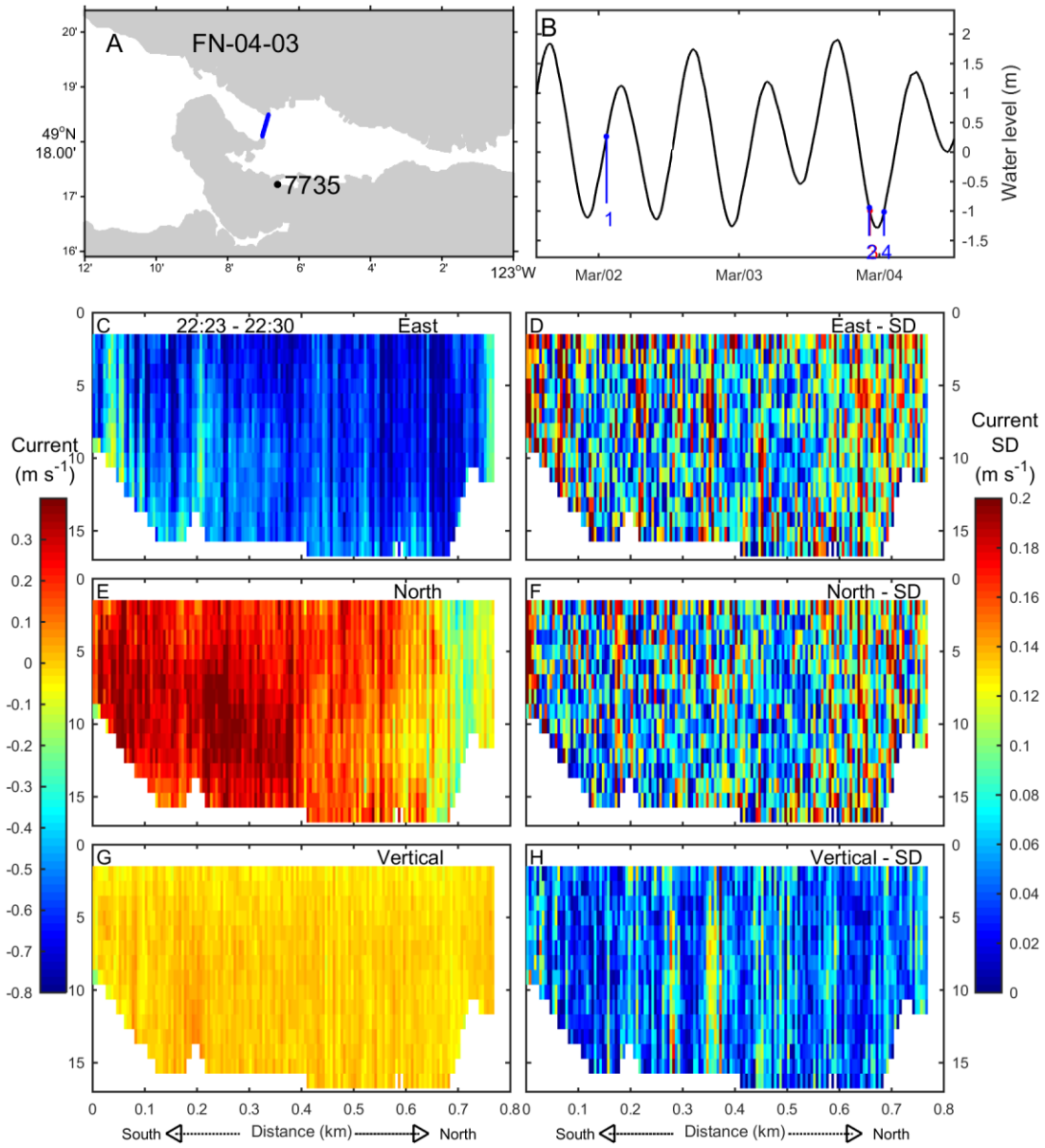

A
FN-02-06
•7735
49°N
18.00'
123°W
B
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
C
23:15 - 23:20
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

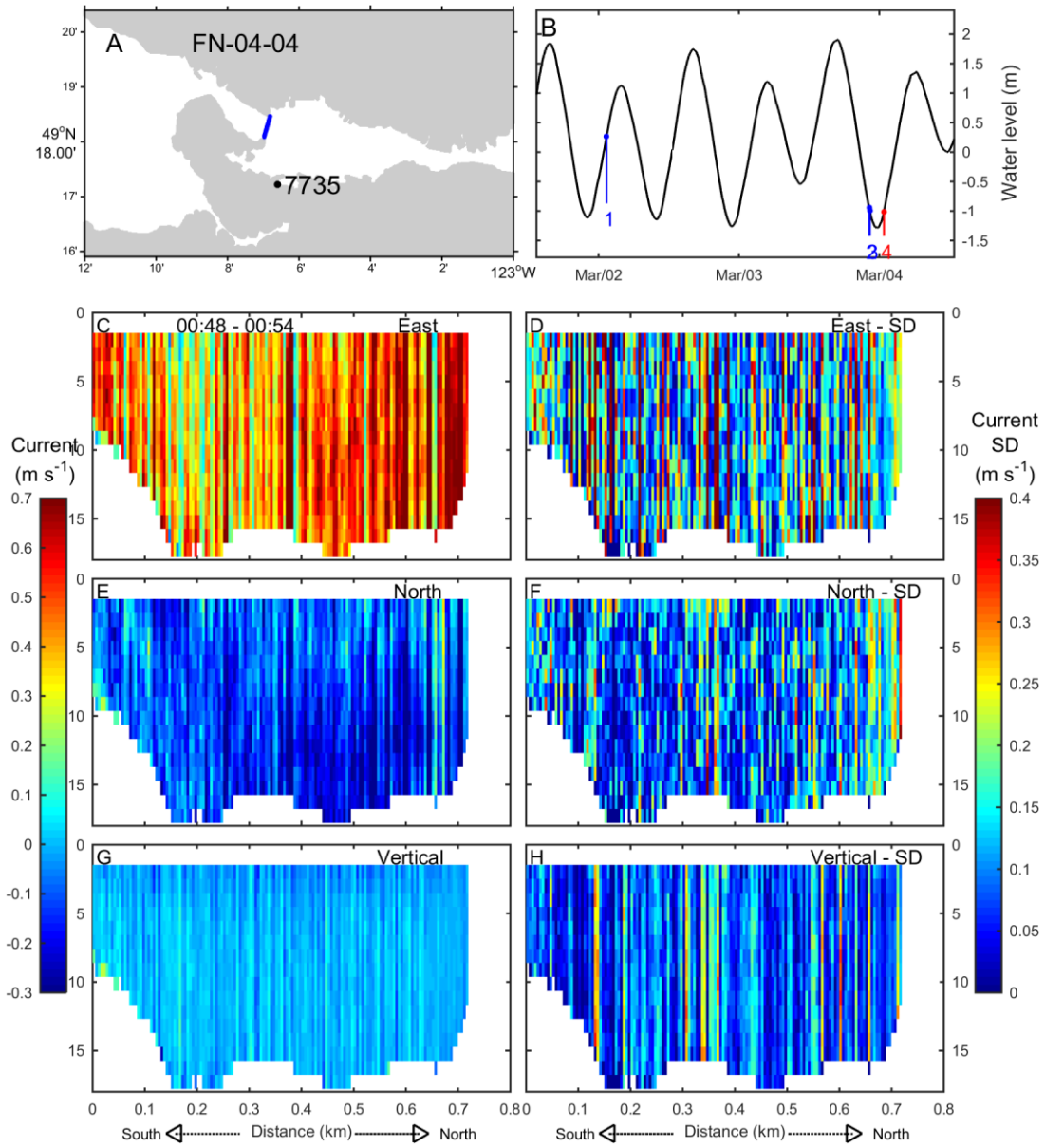

A
FN-03-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/04
C
23:32 - 23:38
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

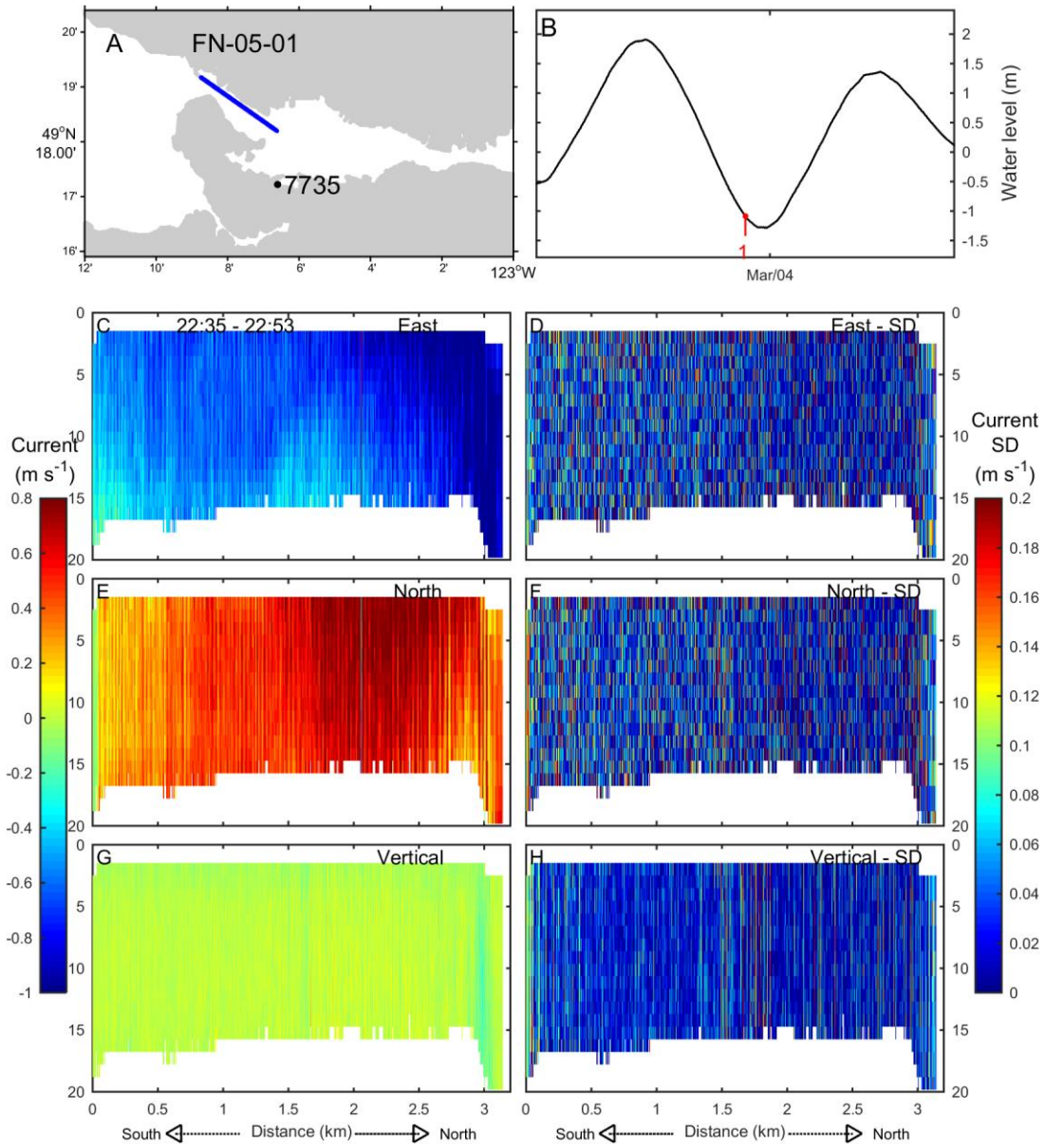

A
FN-03-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/04
C
00:25 - 00:32
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

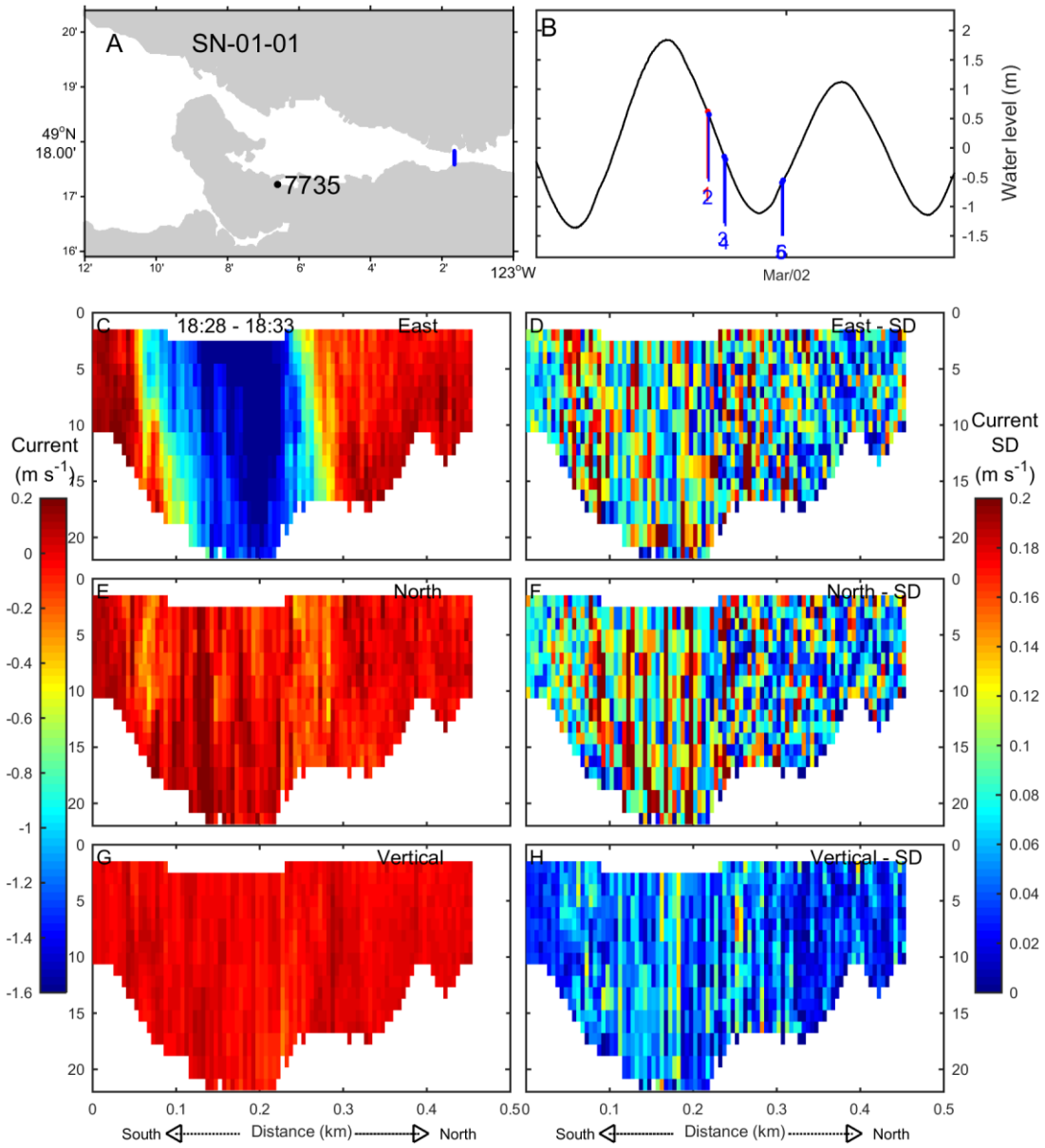

A
FN-04-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
1
2
3
4
C
01:22 - 01:28
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

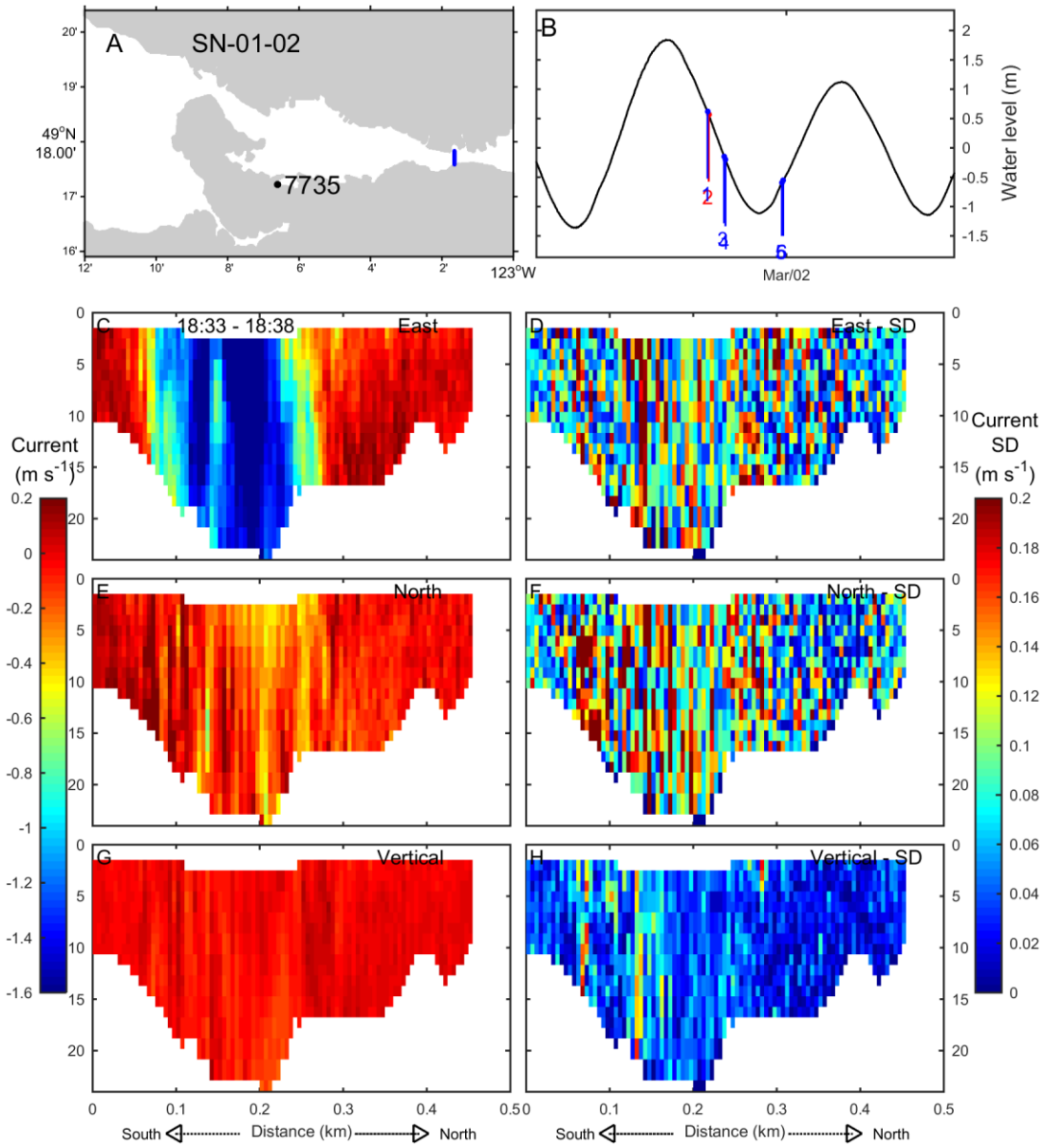

A
FN-04-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
1
3,4
C
22:16 - 22:22
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

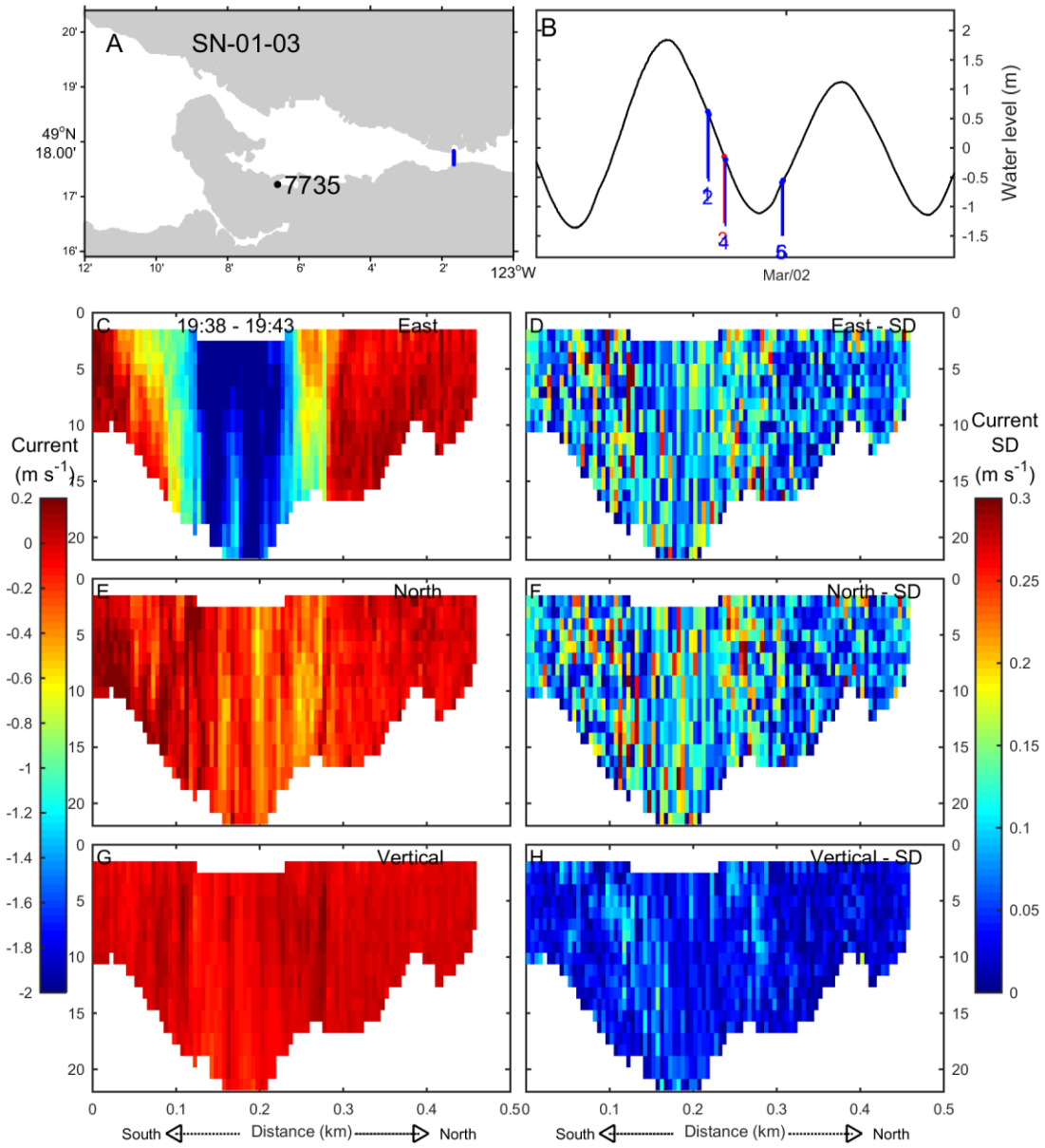

A
FN-04-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
22:23 - 22:30
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

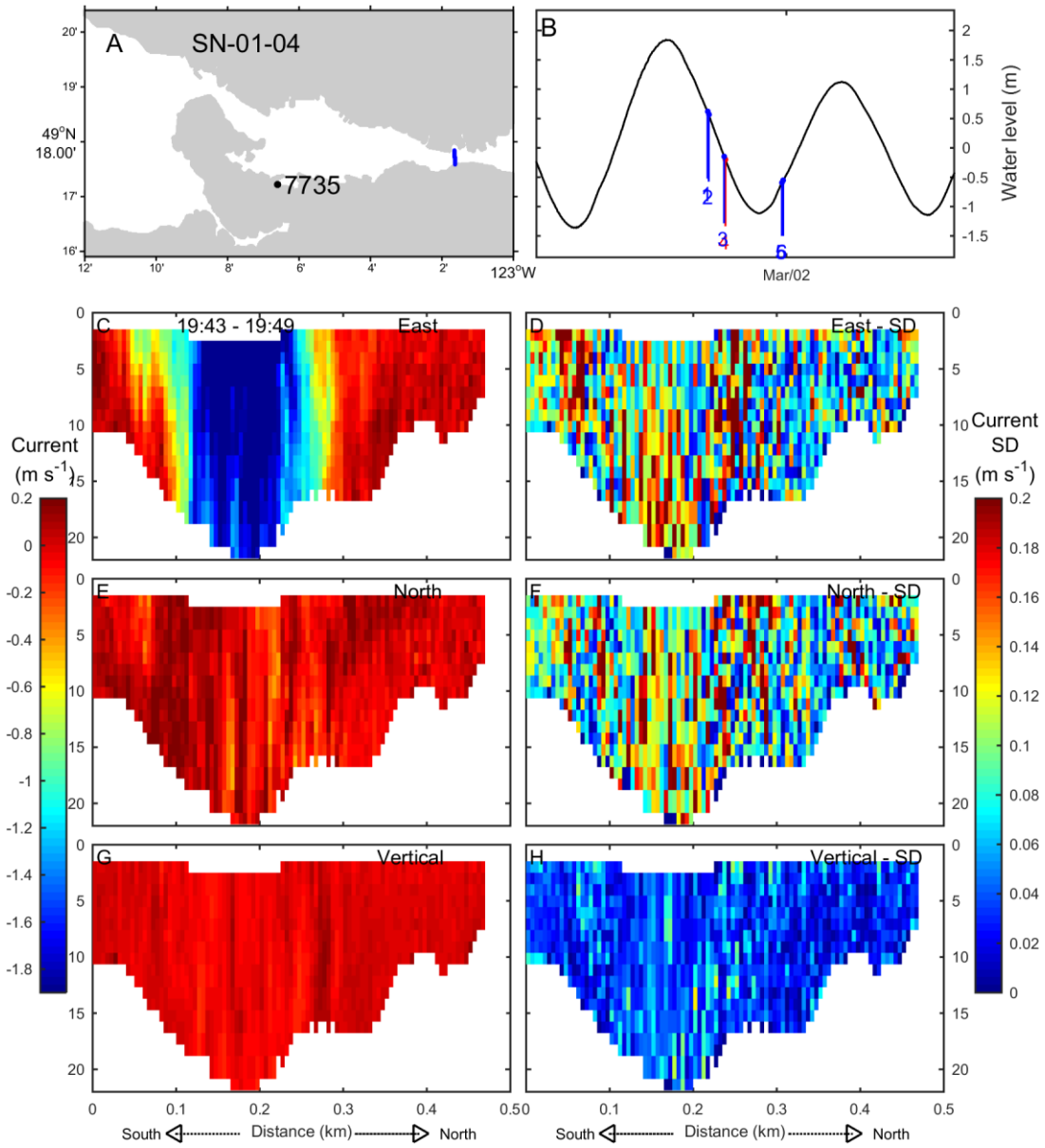

A
FN-04-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
Mar/03
Mar/04
C
00:48 - 00:54
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

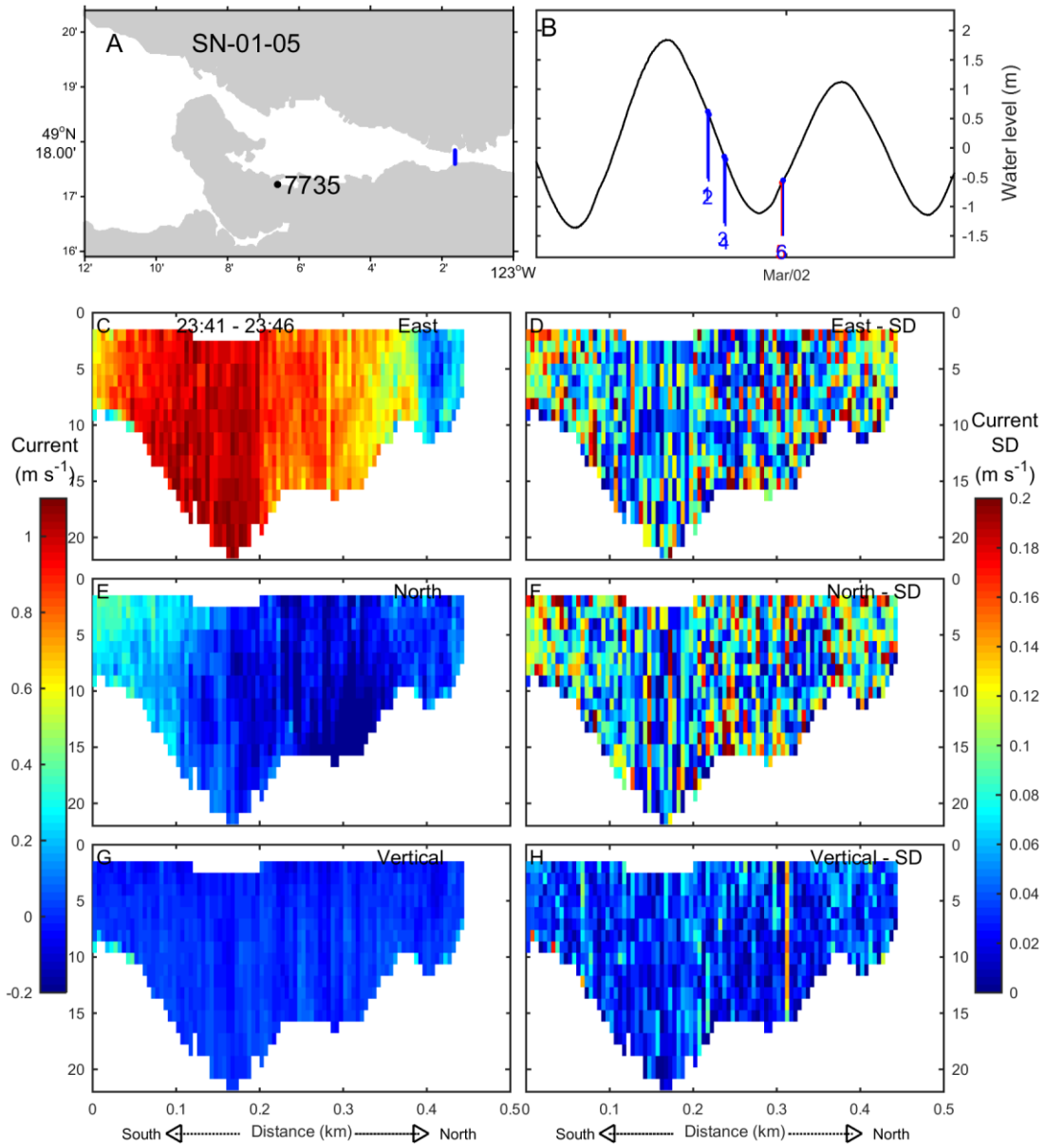

A
FN-05-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/04
C
22:35 - 22:53
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

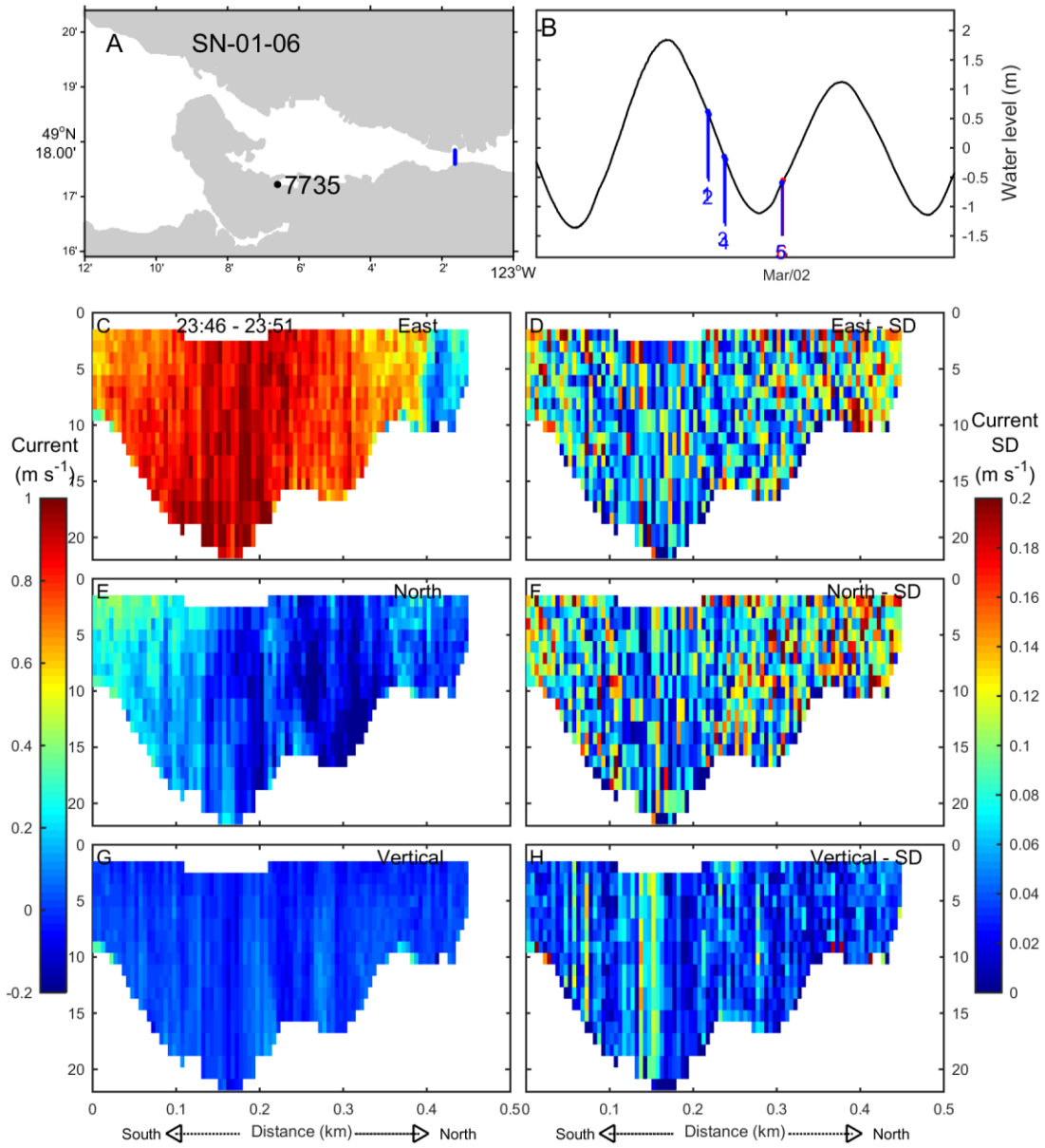

A
SN-01-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
18:28 - 18:33
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

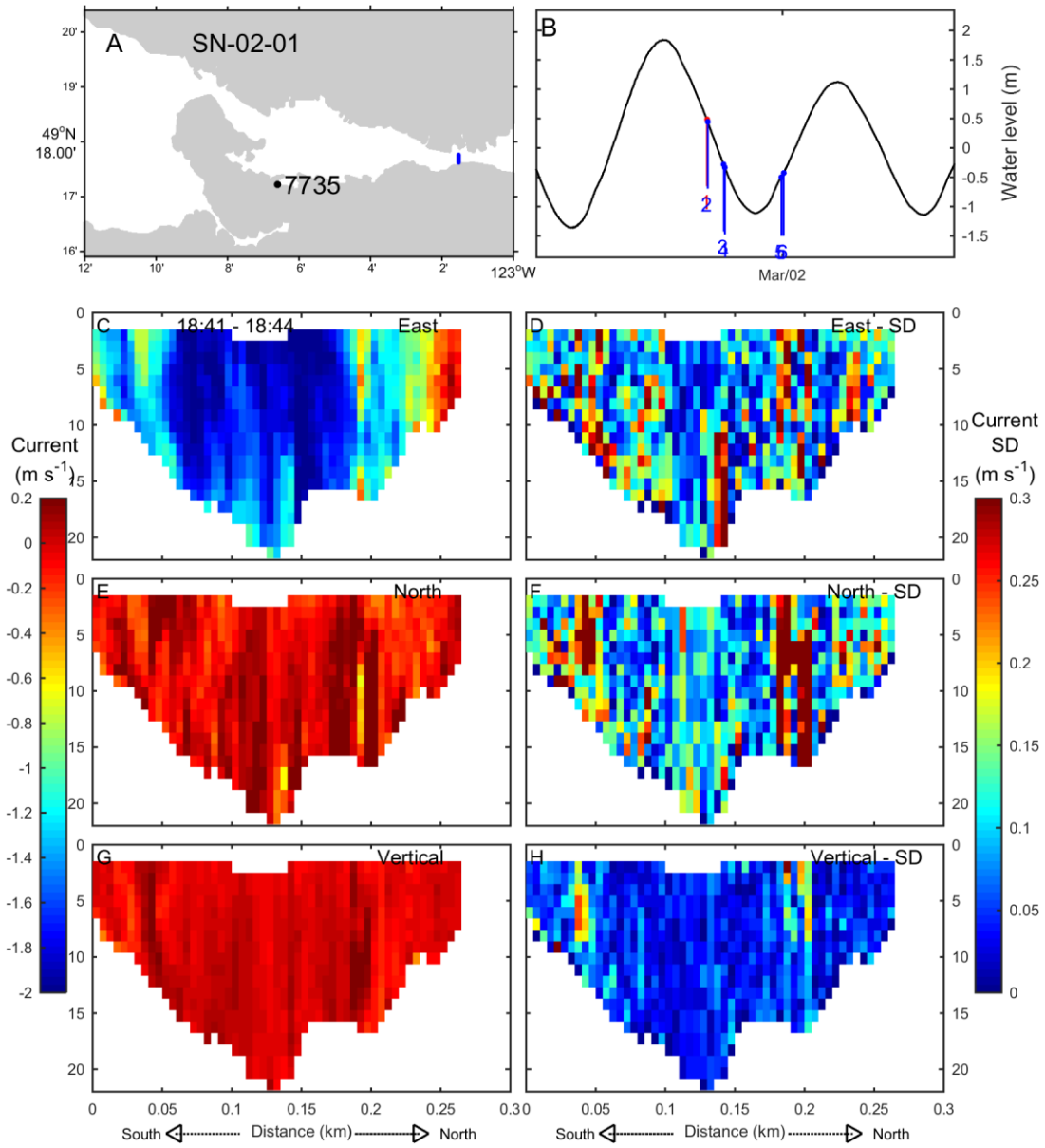

A
SN-01-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
18:33 - 18:38
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

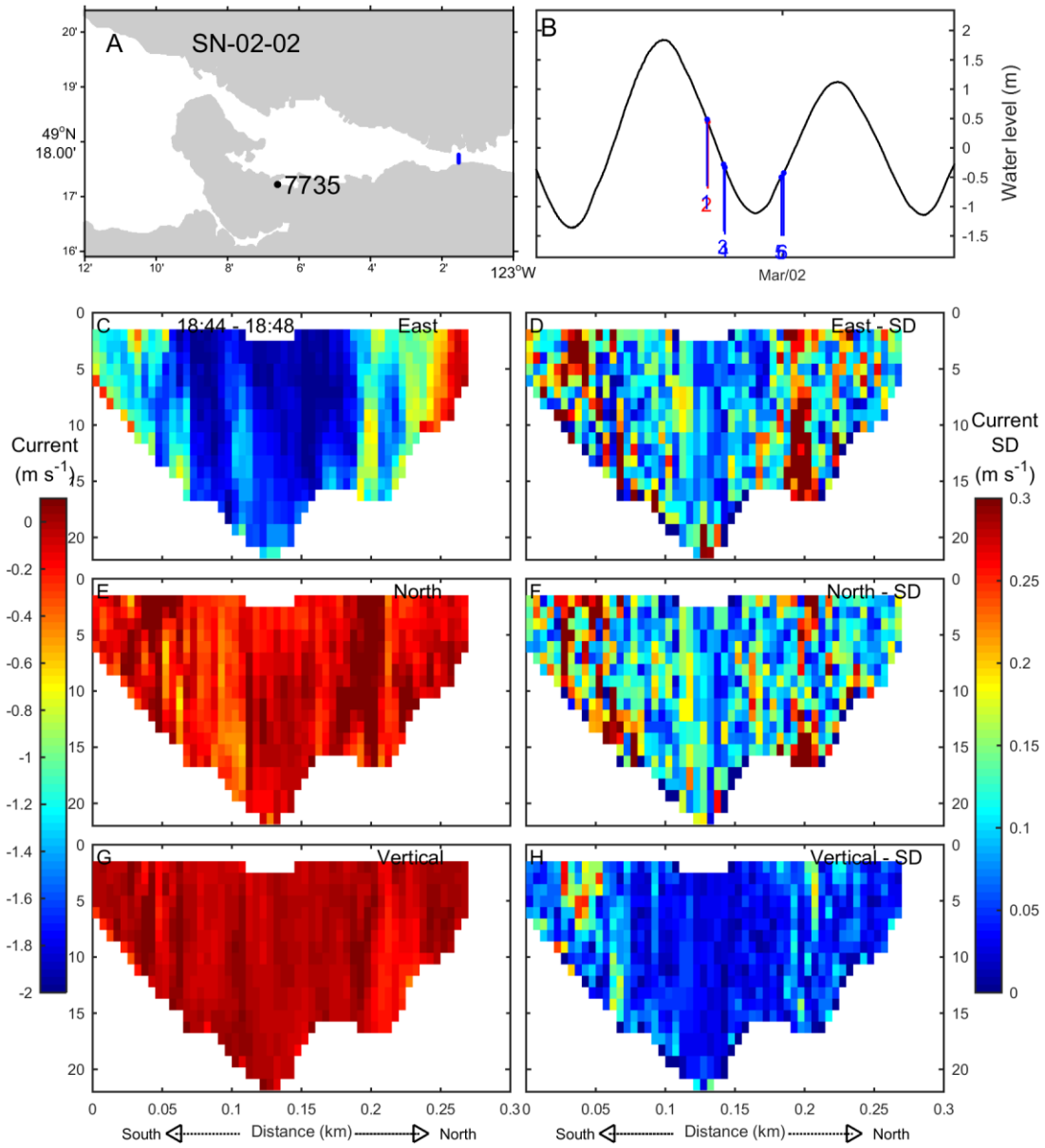

A
SN-01-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:38 - 19:43
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

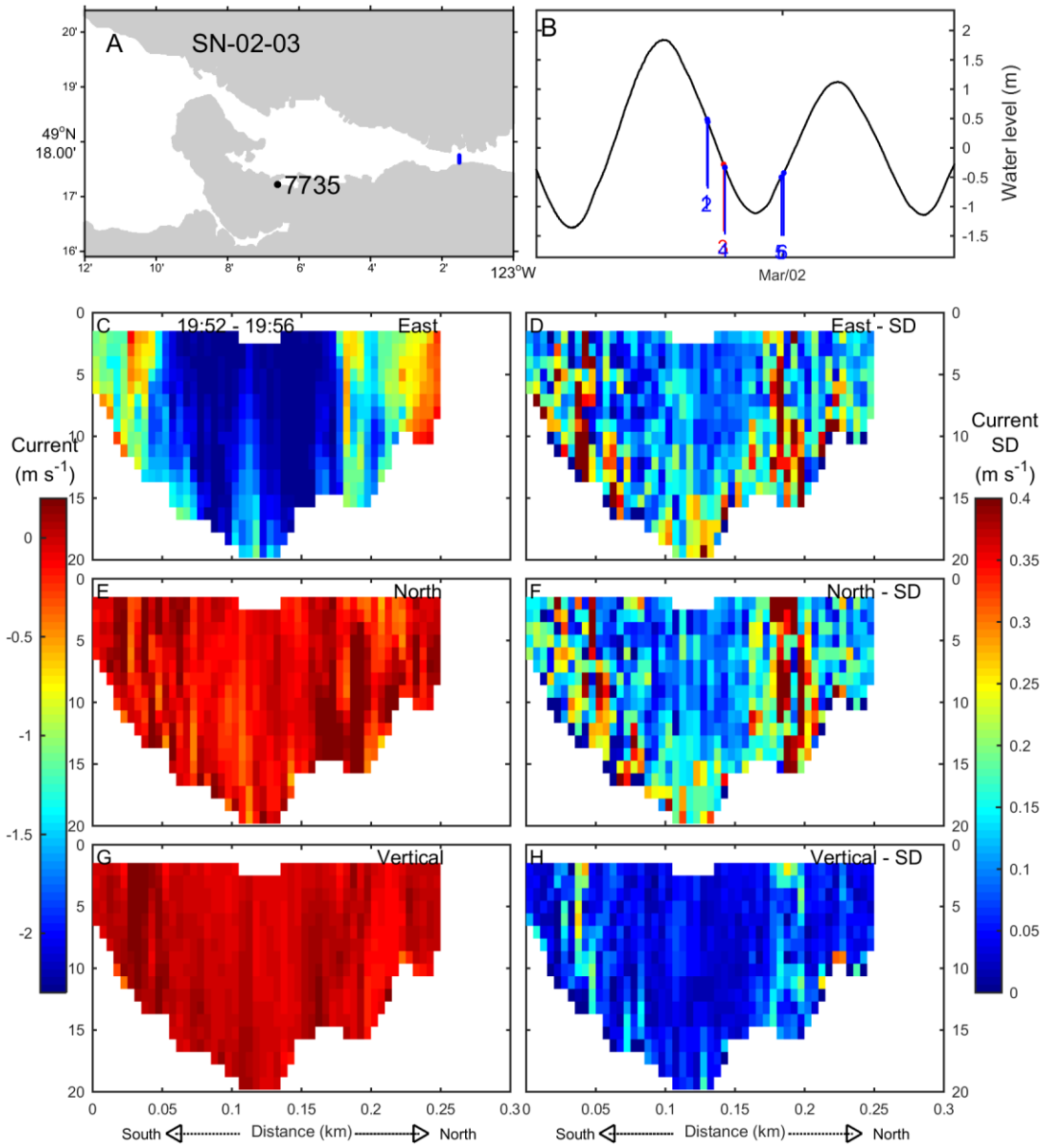

A
SN-01-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:43 - 19:49
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

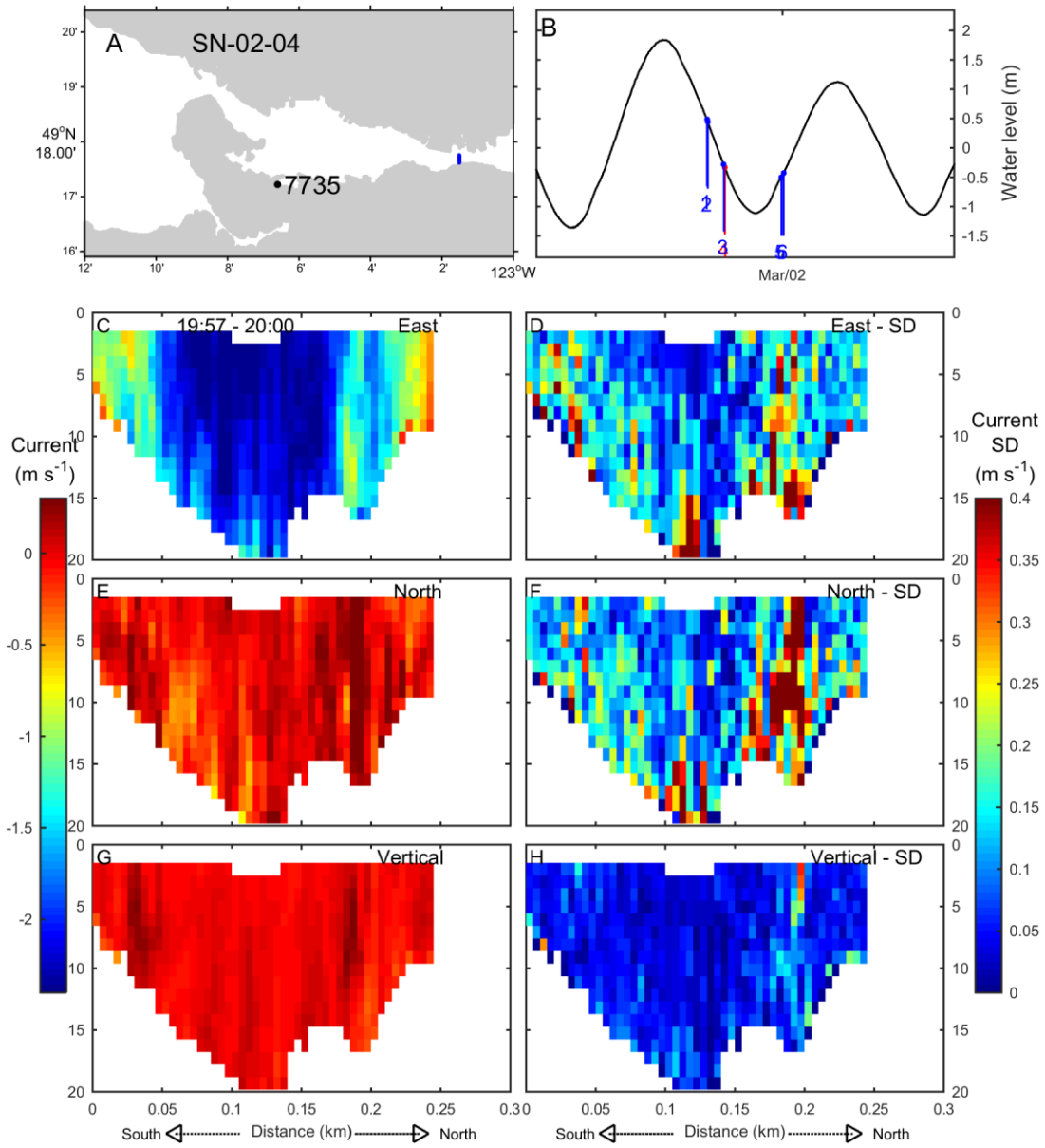

A
SN-01-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
23:41 - 23:46
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

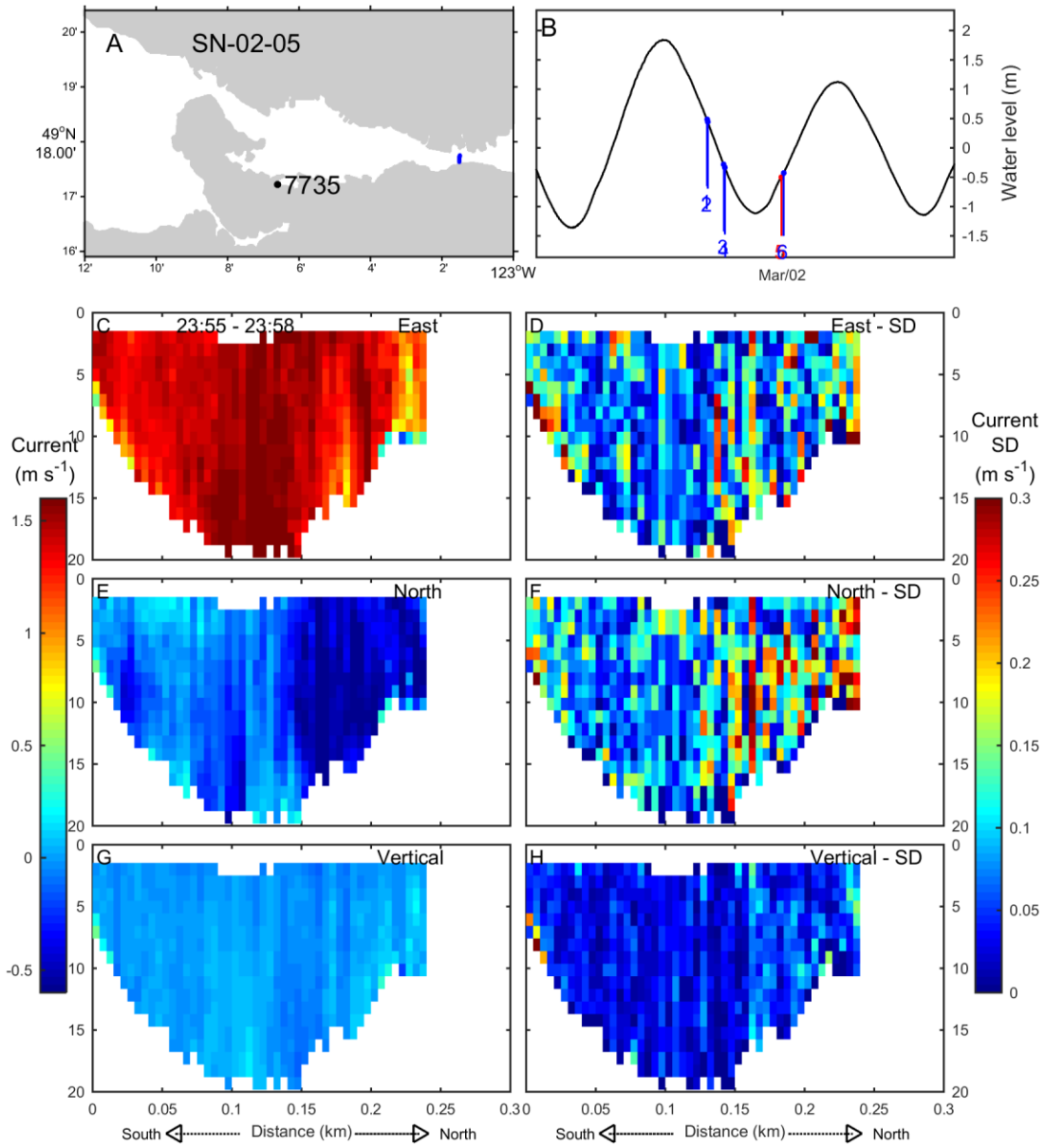

A
SN-01-06
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
23:46 - 23:51
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

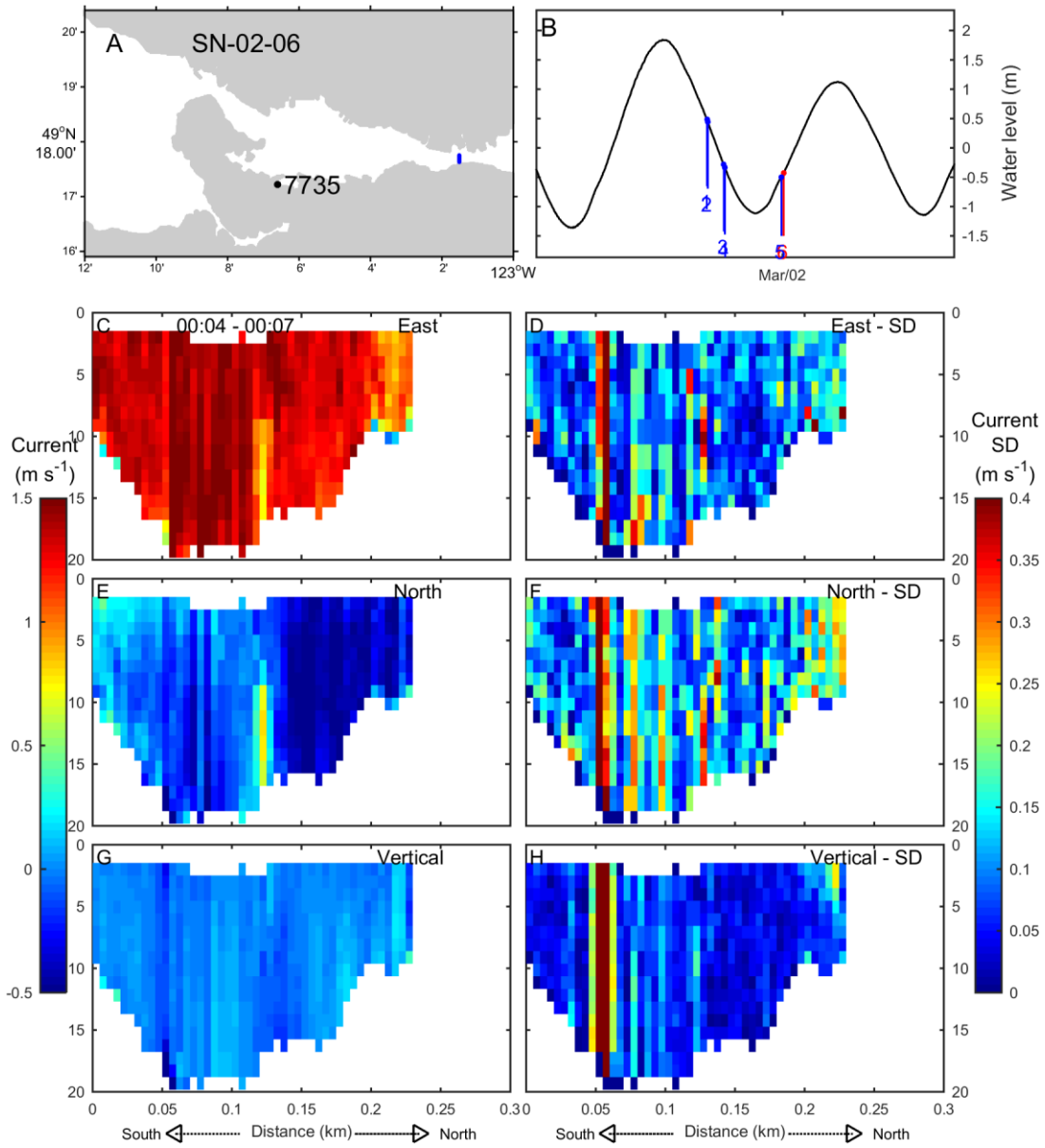

A
SN-02-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
18:41 - 18:44
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

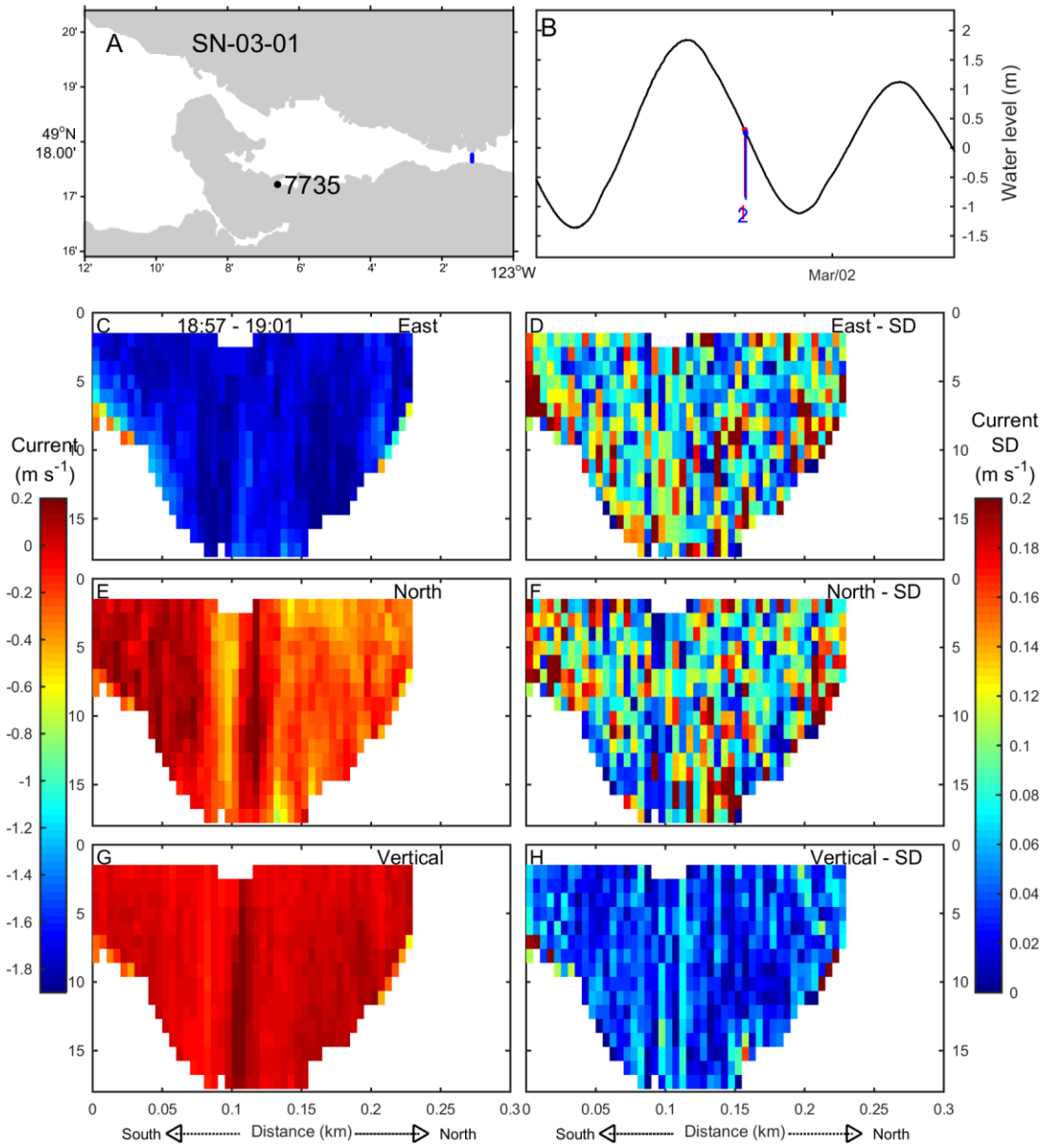

A
SN-02-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
18:44 - 18:48
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

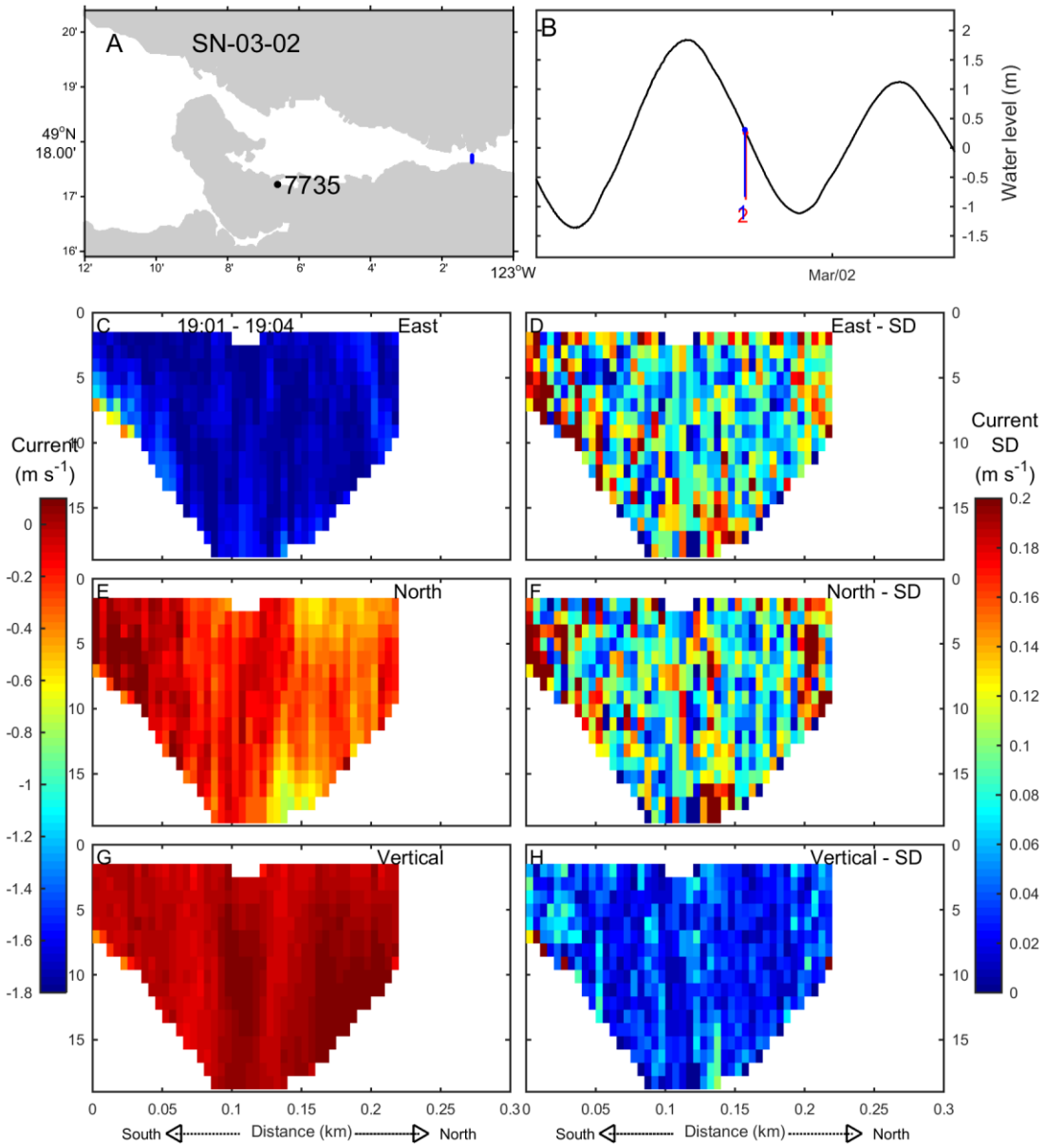

A
SN-02-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:52 - 19:56
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

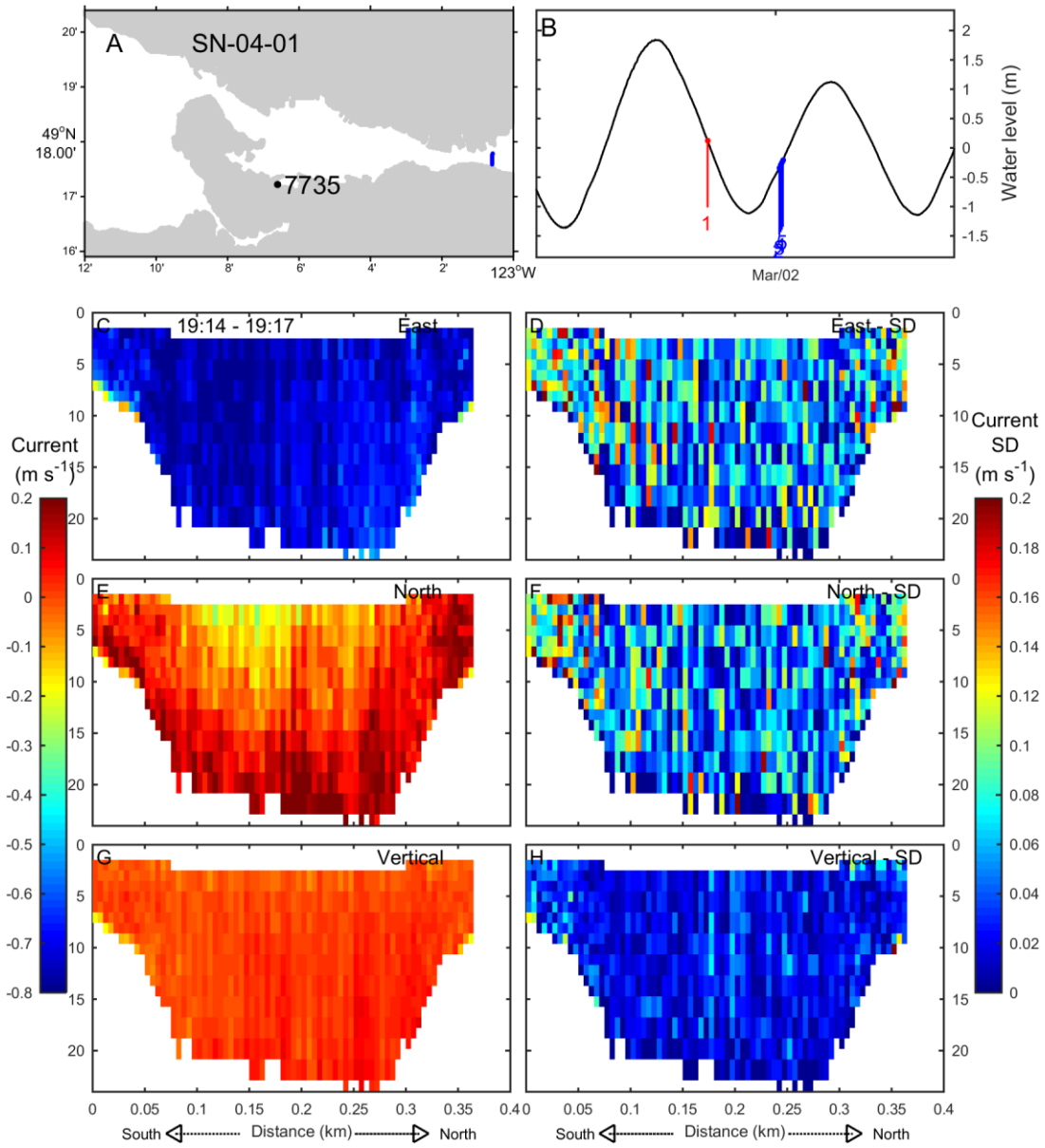

A
SN-02-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:57 - 20:00
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

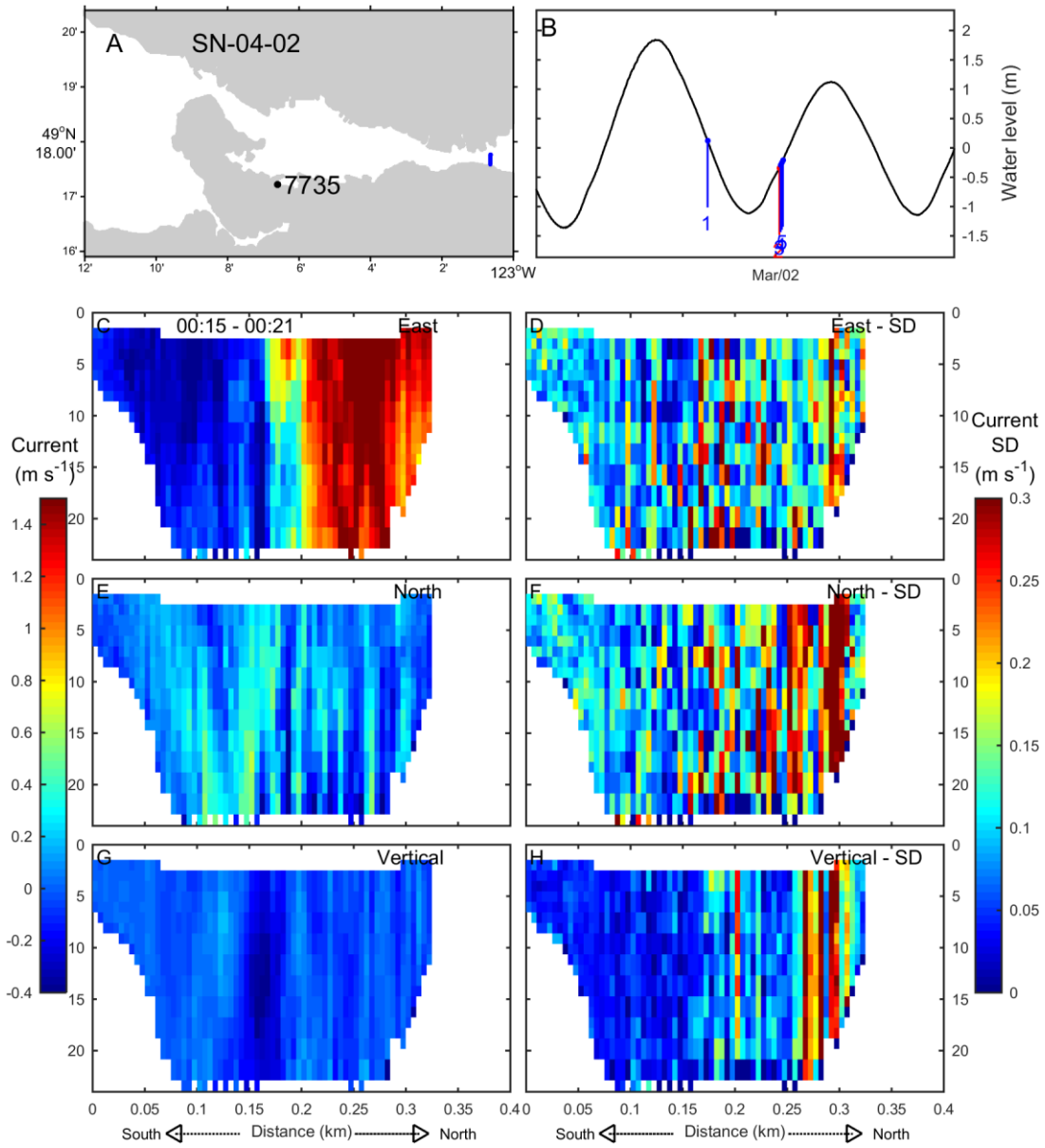

A
SN-02-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
23:55 - 23:58
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

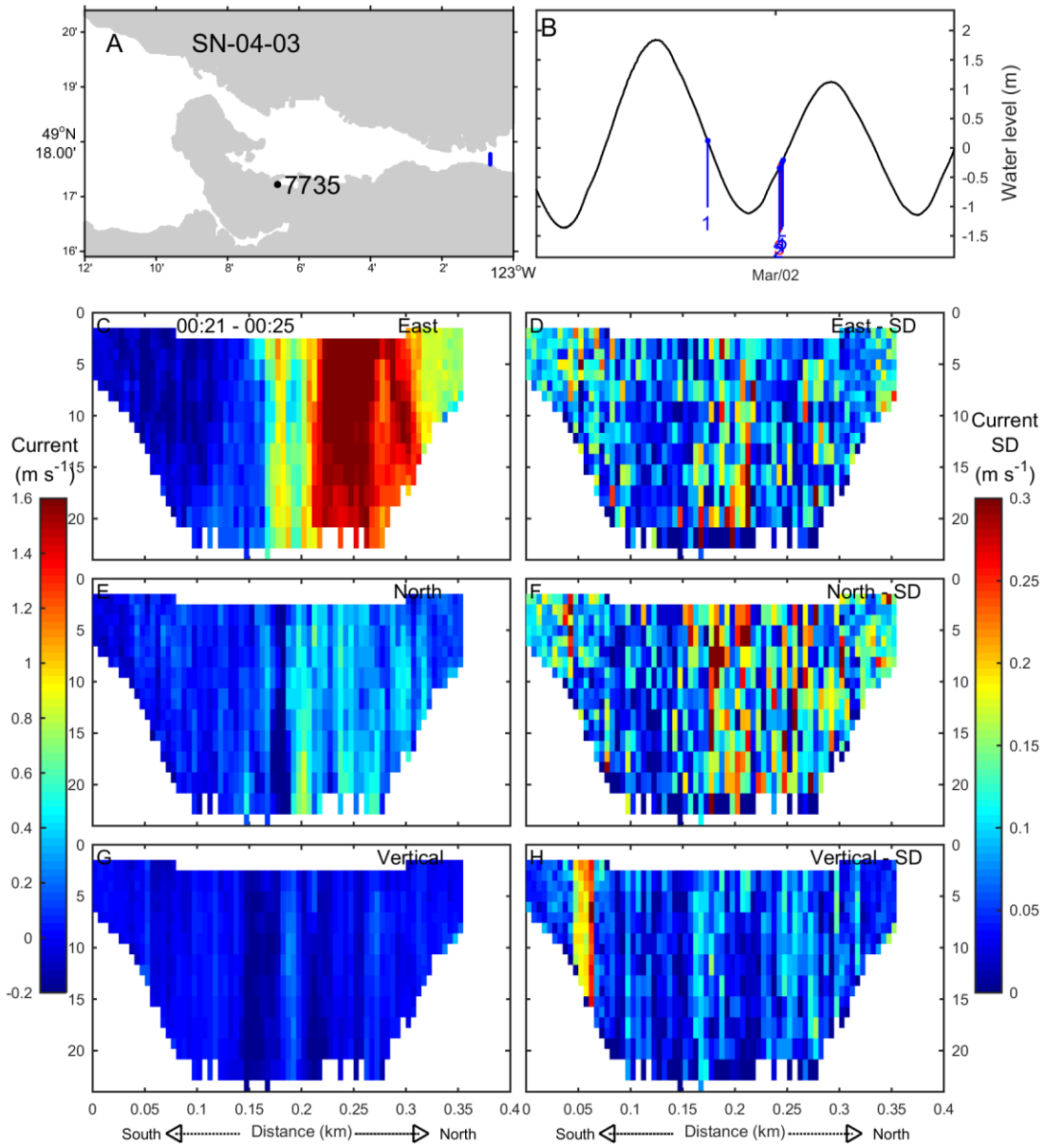

A
SN-02-06
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
00:04 - 00:07
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

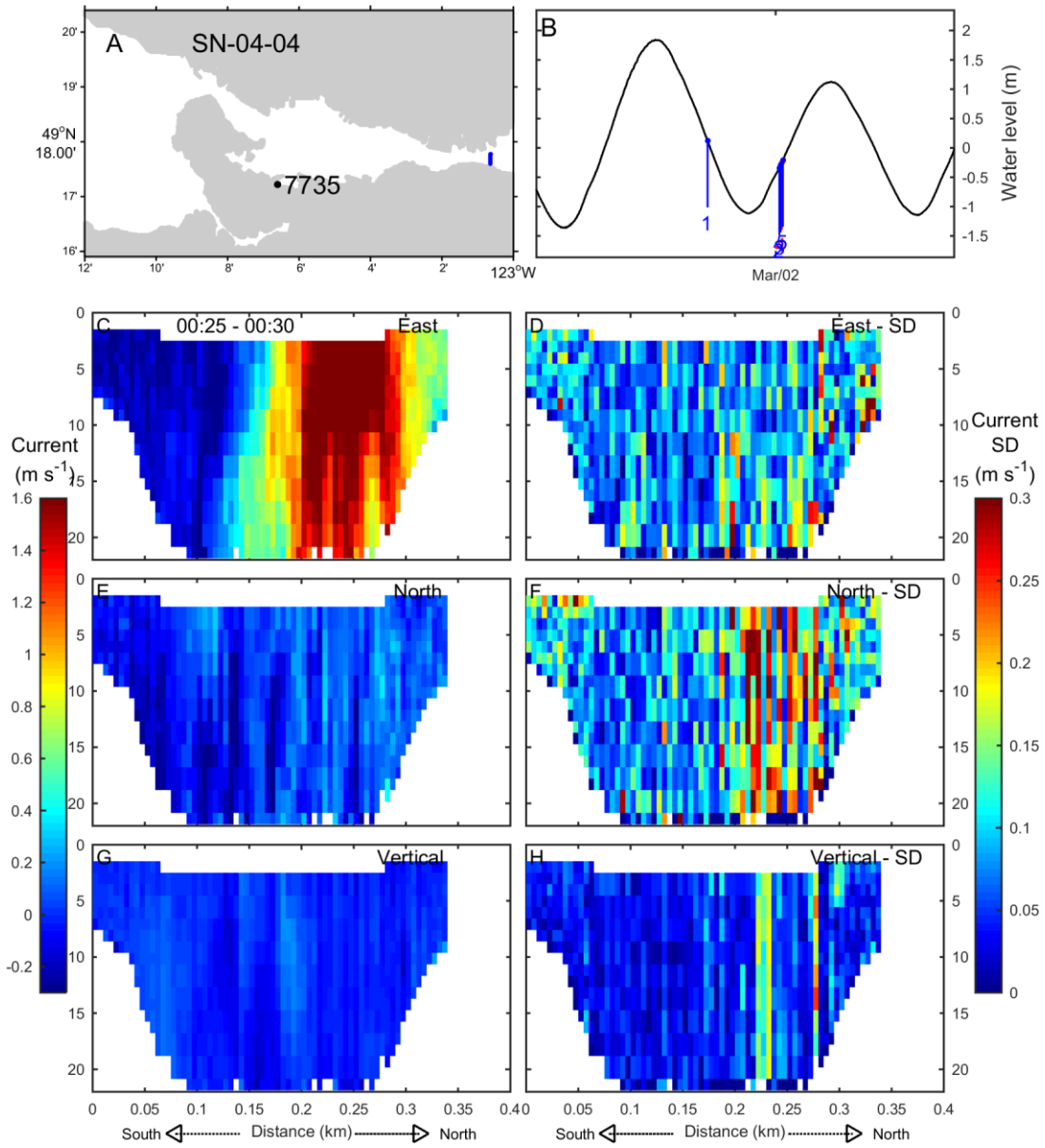

A
SN-03-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
18:57 - 19:01
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

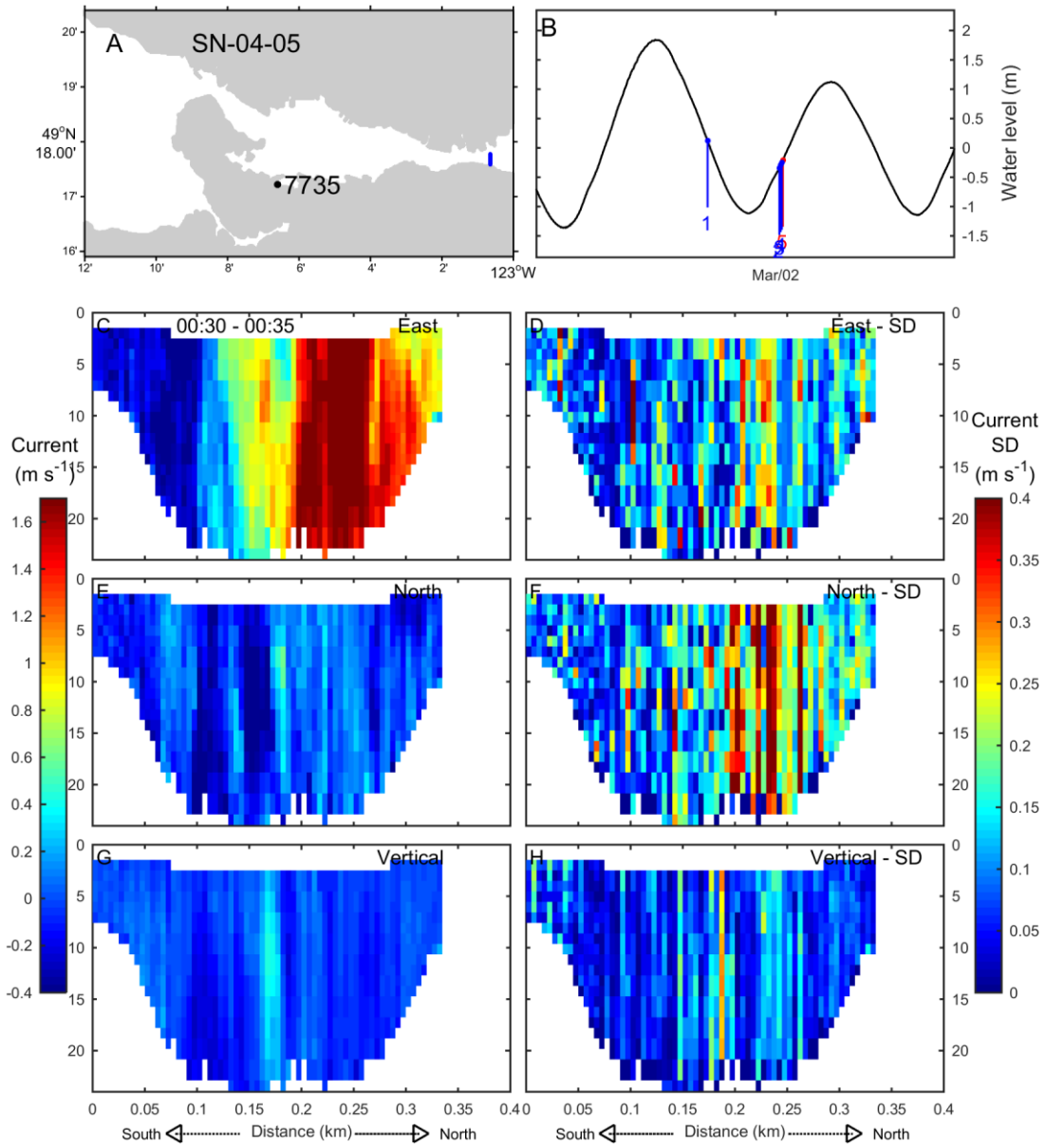

A
SN-03-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:01 - 19:04
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

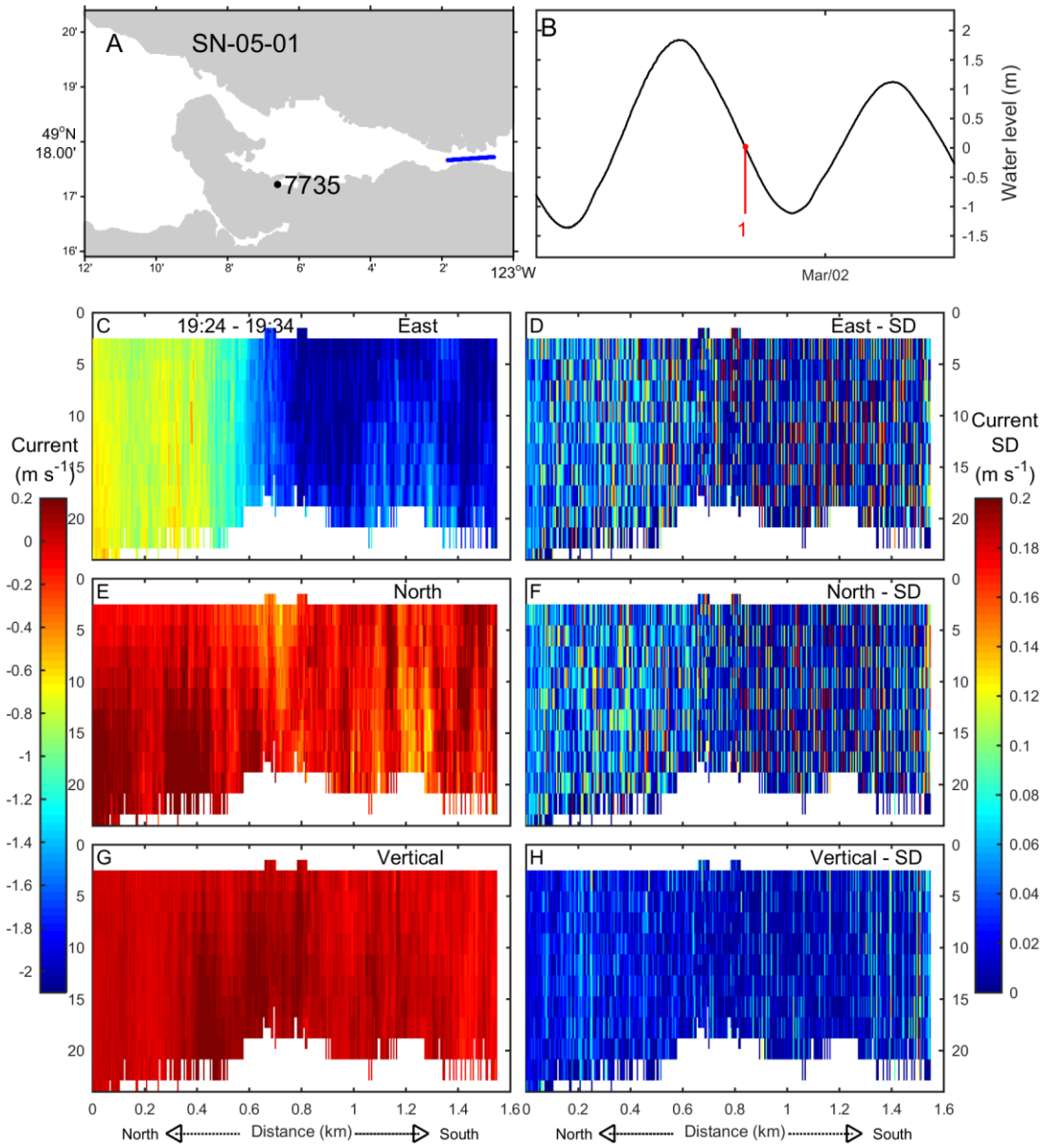

A
SN-04-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:14 - 19:17
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

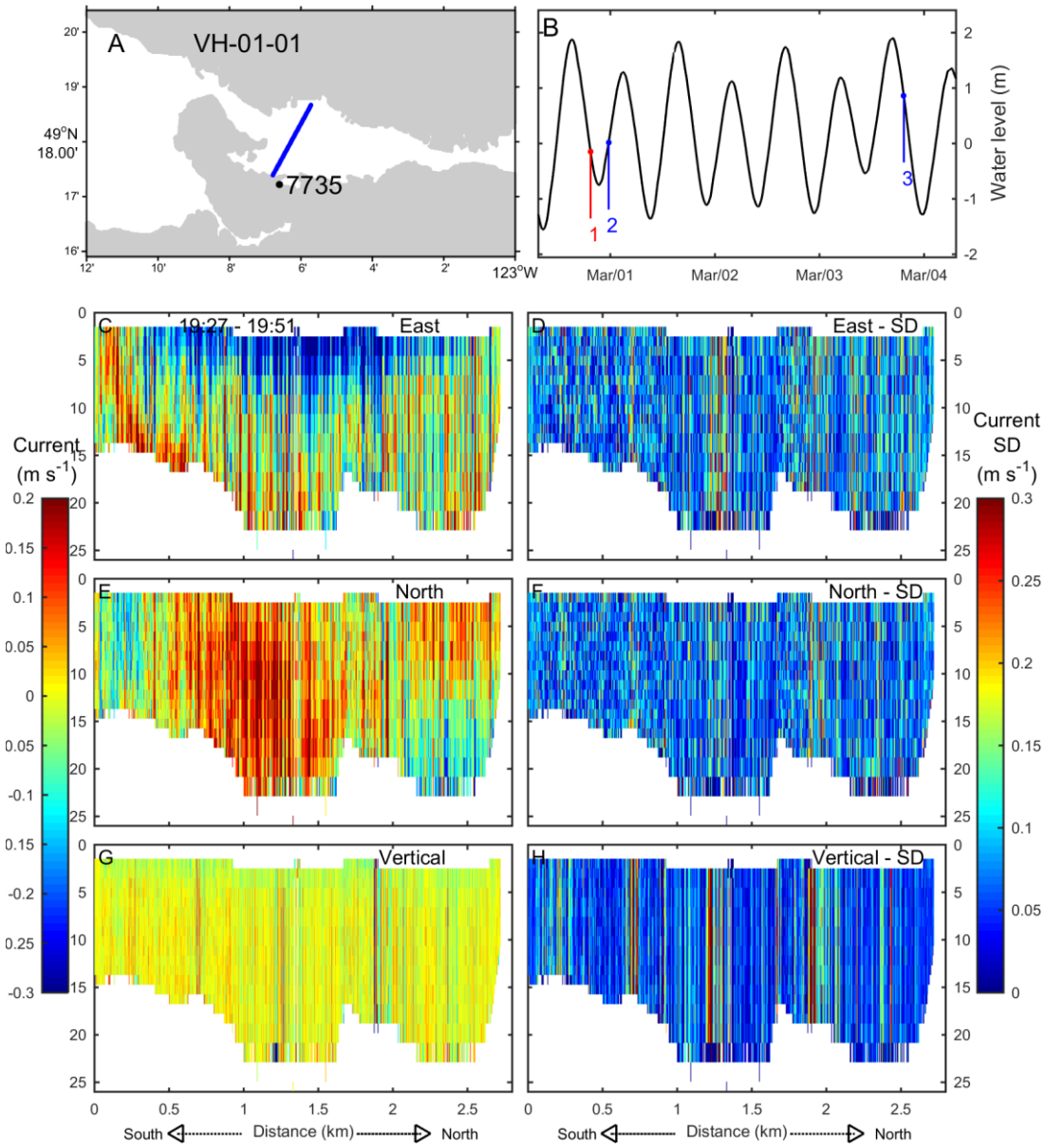

A
SN-04-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
00:15 - 00:21
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

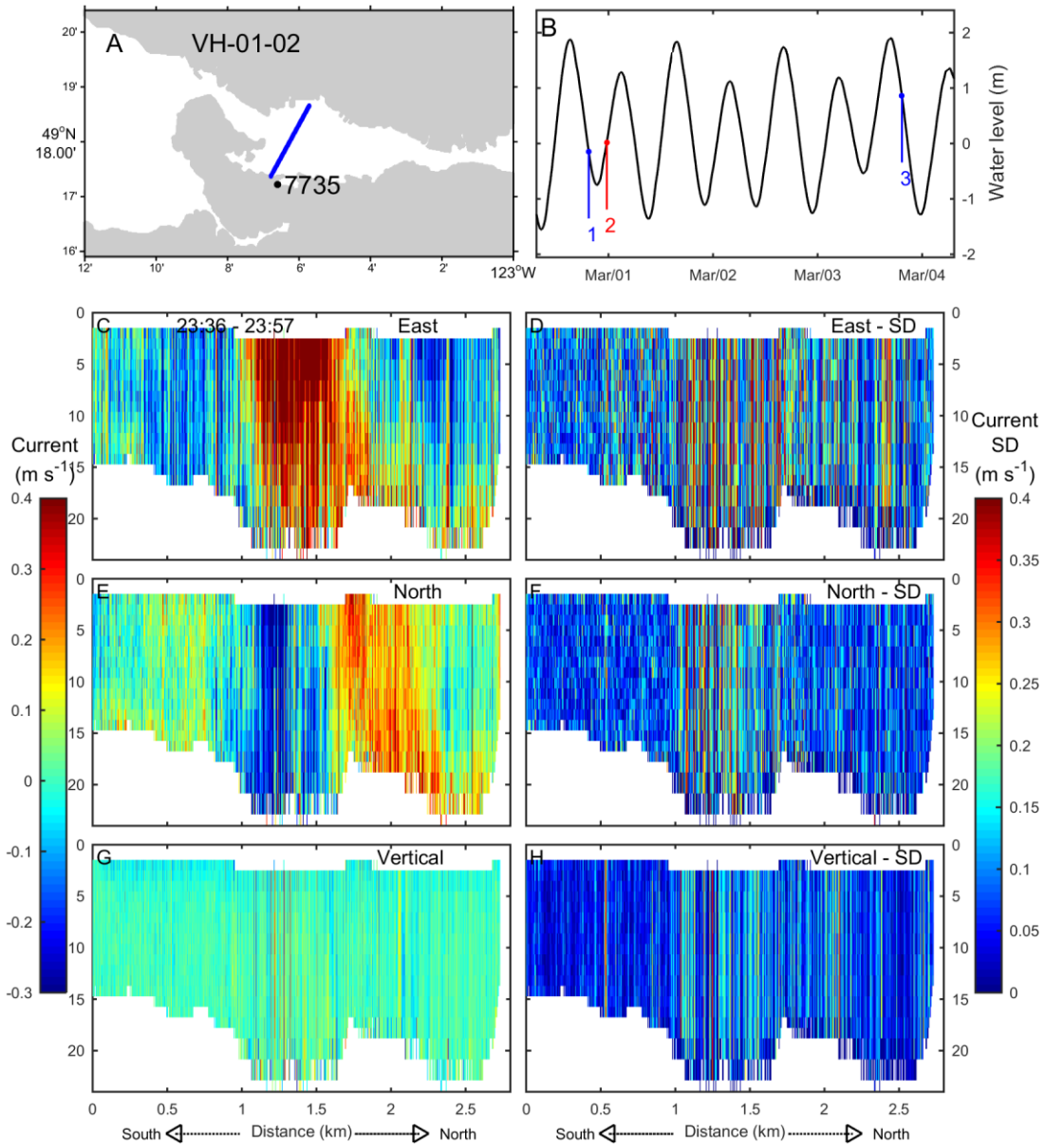

A
SN-04-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
00:21 - 00:25
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

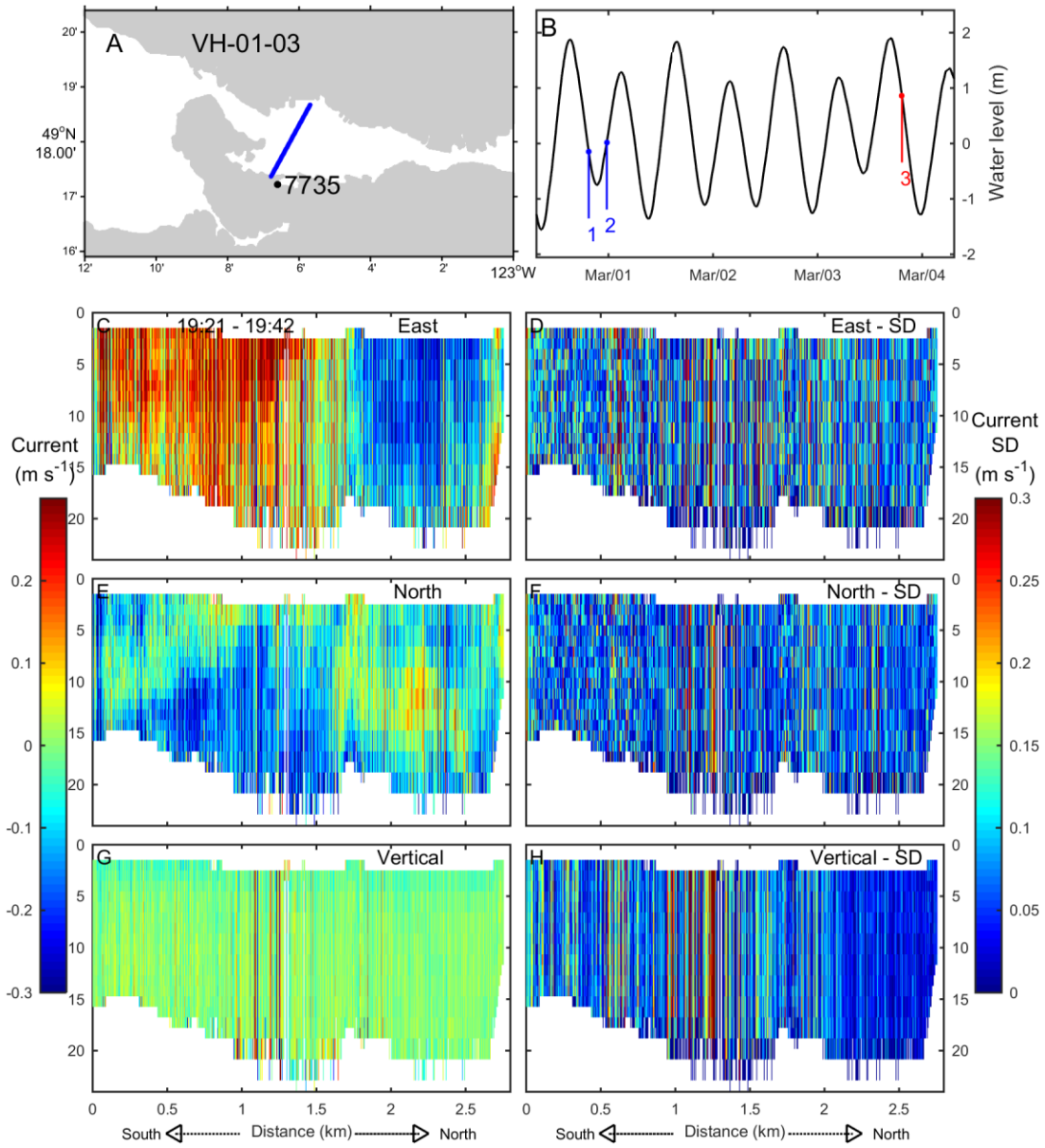

A
SN-04-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
00:25 - 00:30
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

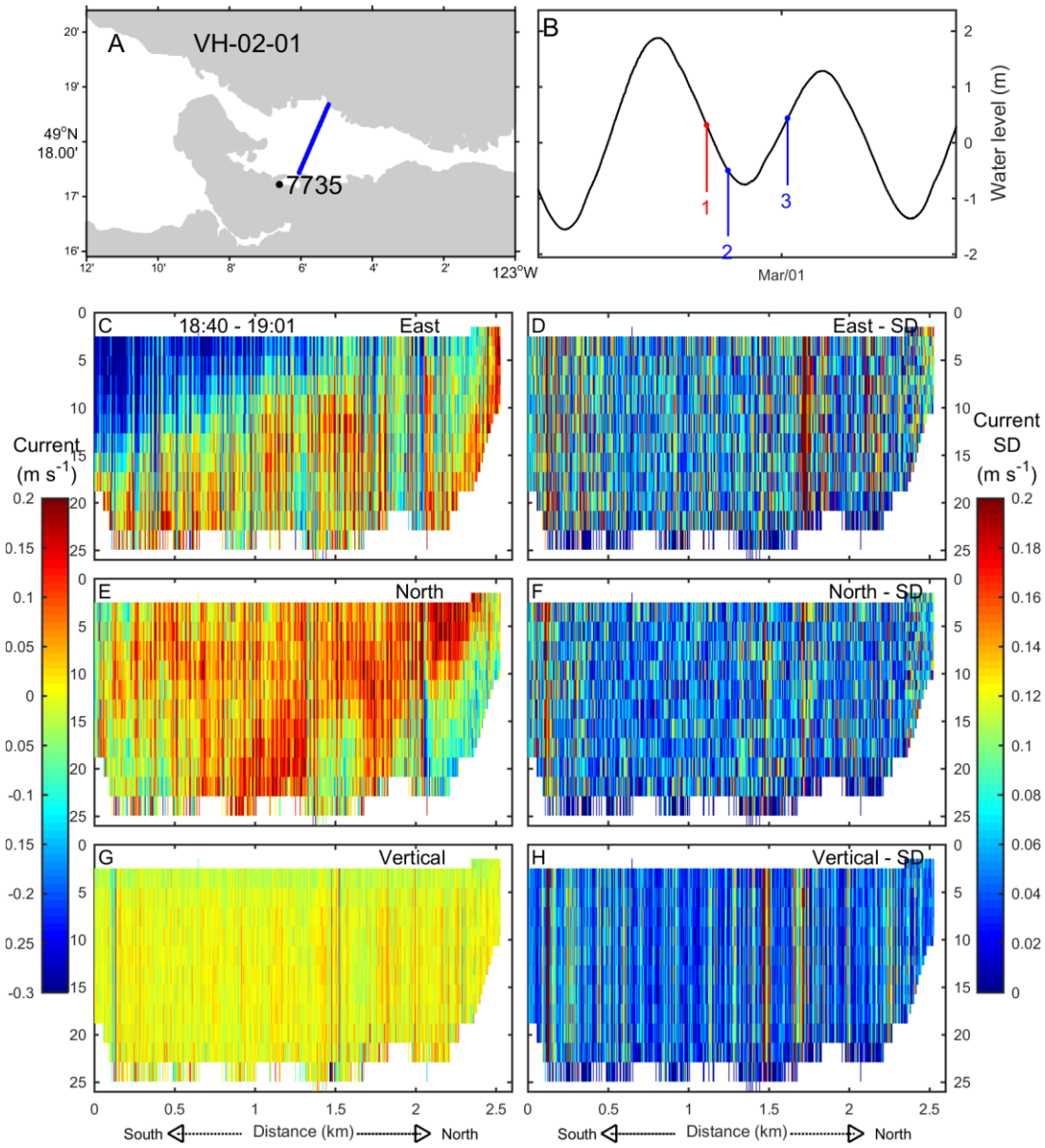

A
SN-04-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
00:30 - 00:35
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

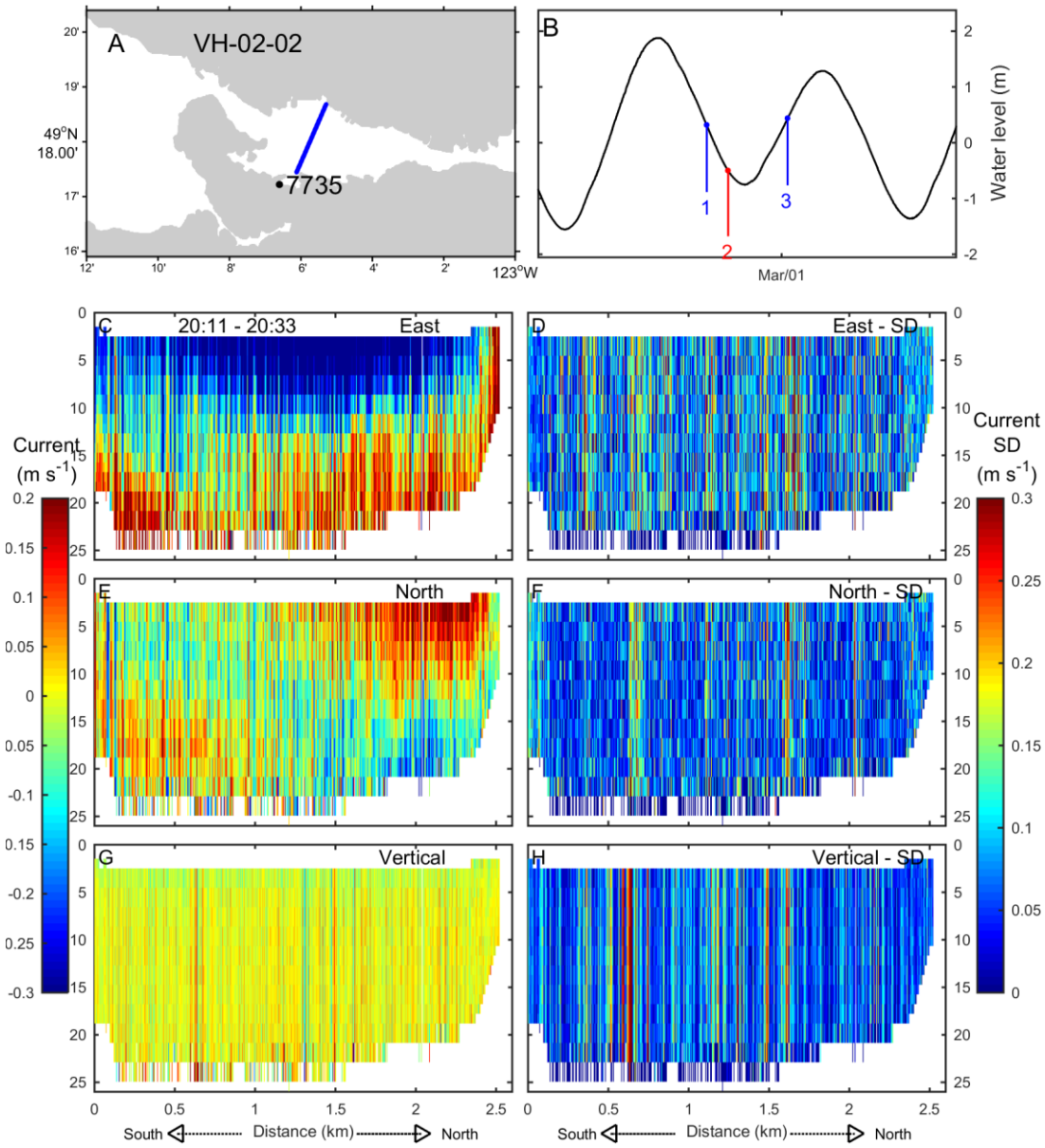

A
SN-05-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/02
C
19:24 - 19:34
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
North
Distance (km)
South

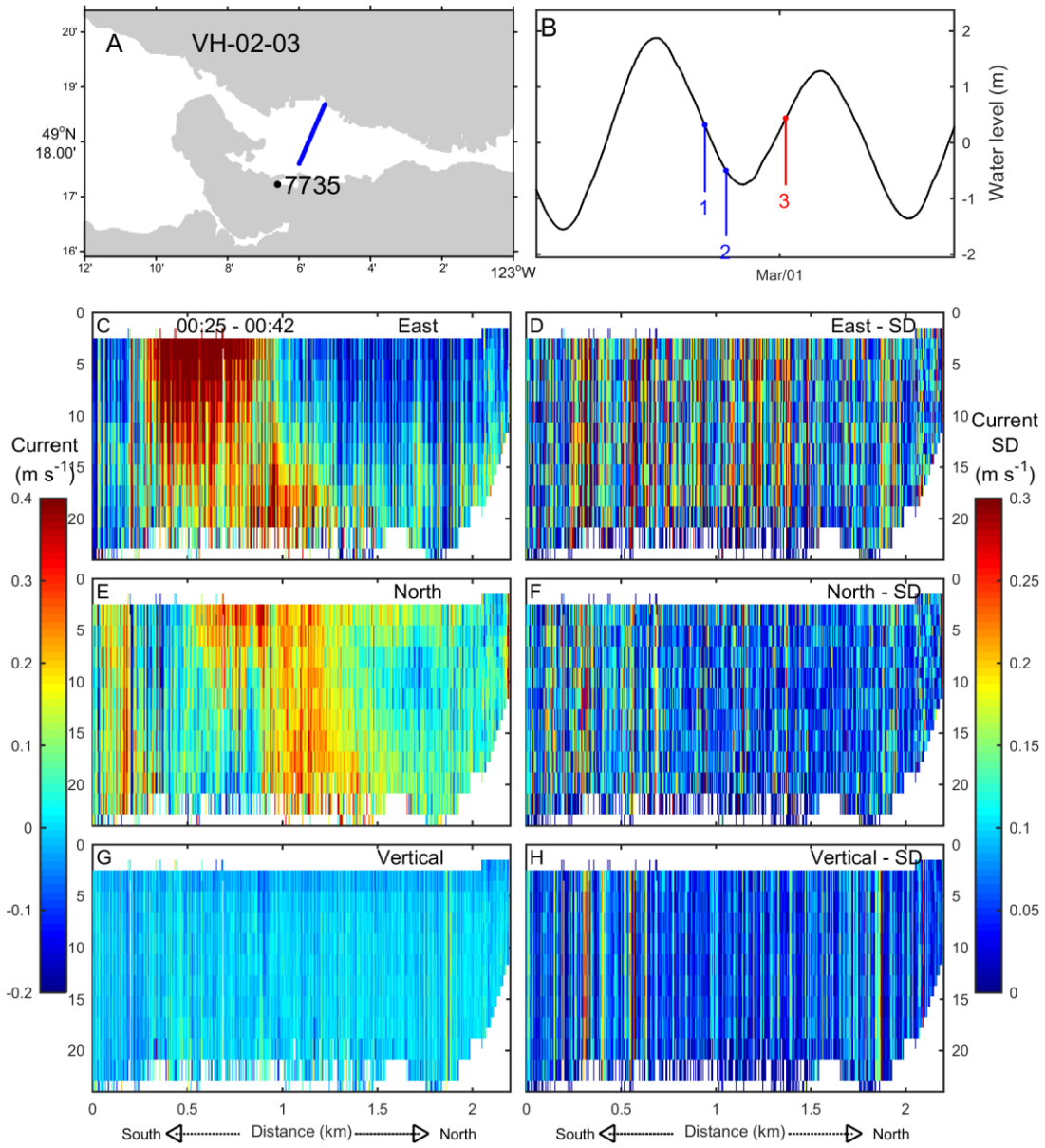

A
VH-01-01
7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
19:27 - 19:51
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

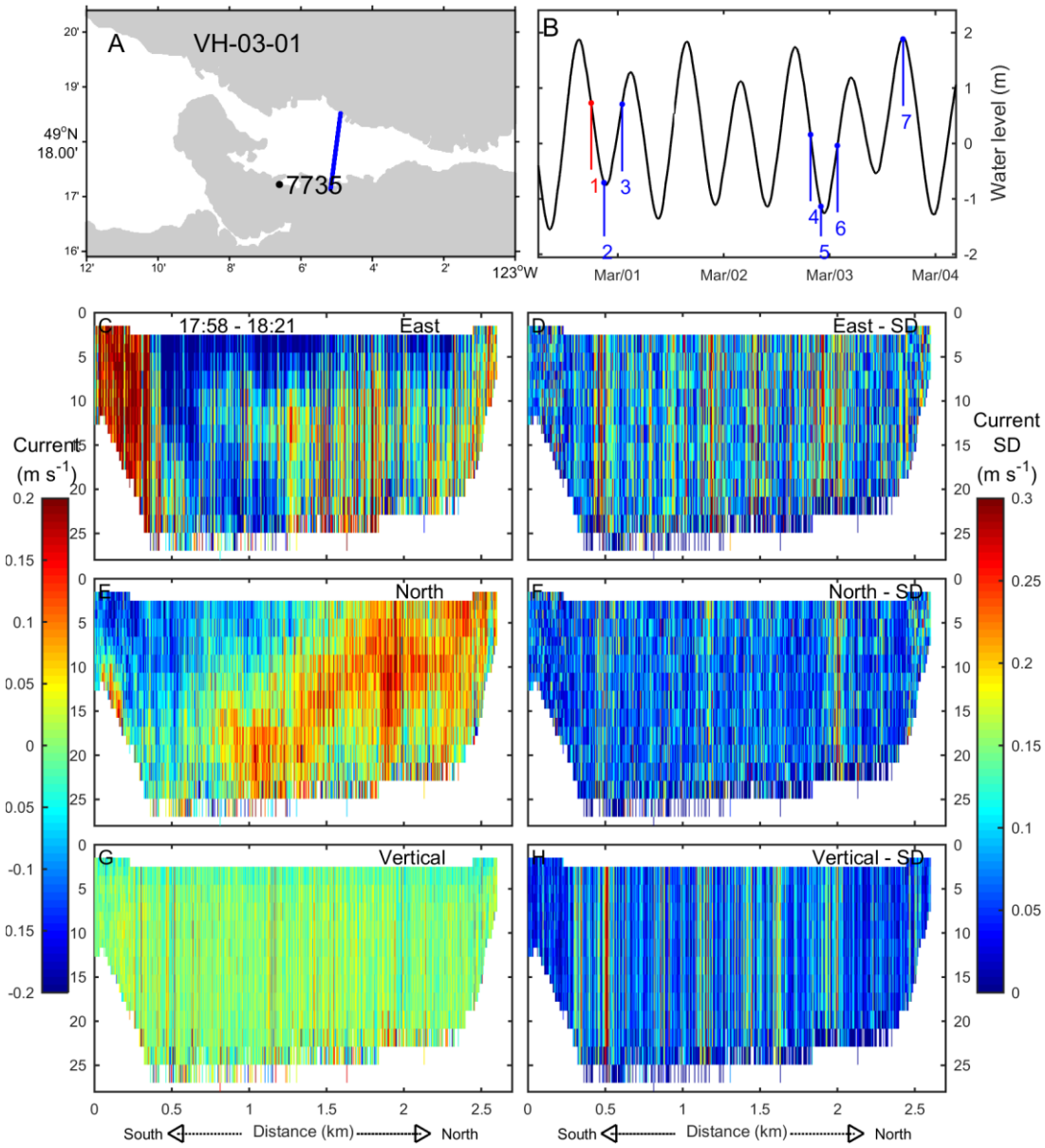

A
VH-01-02
7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 23:36 - 23:57 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
Distance (km)
South
North

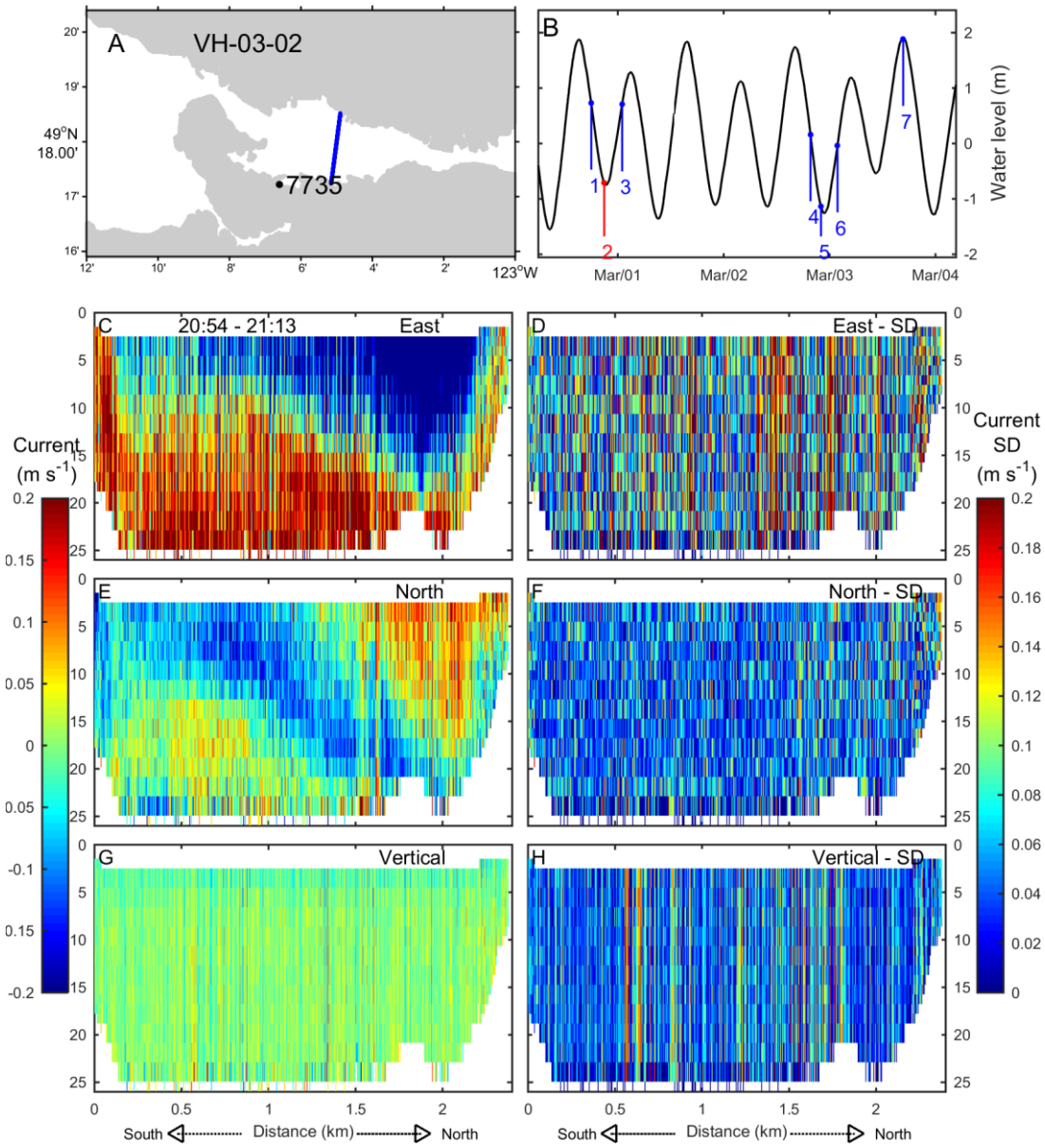

A
VH-01-03
7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 19:21 - 19:42 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

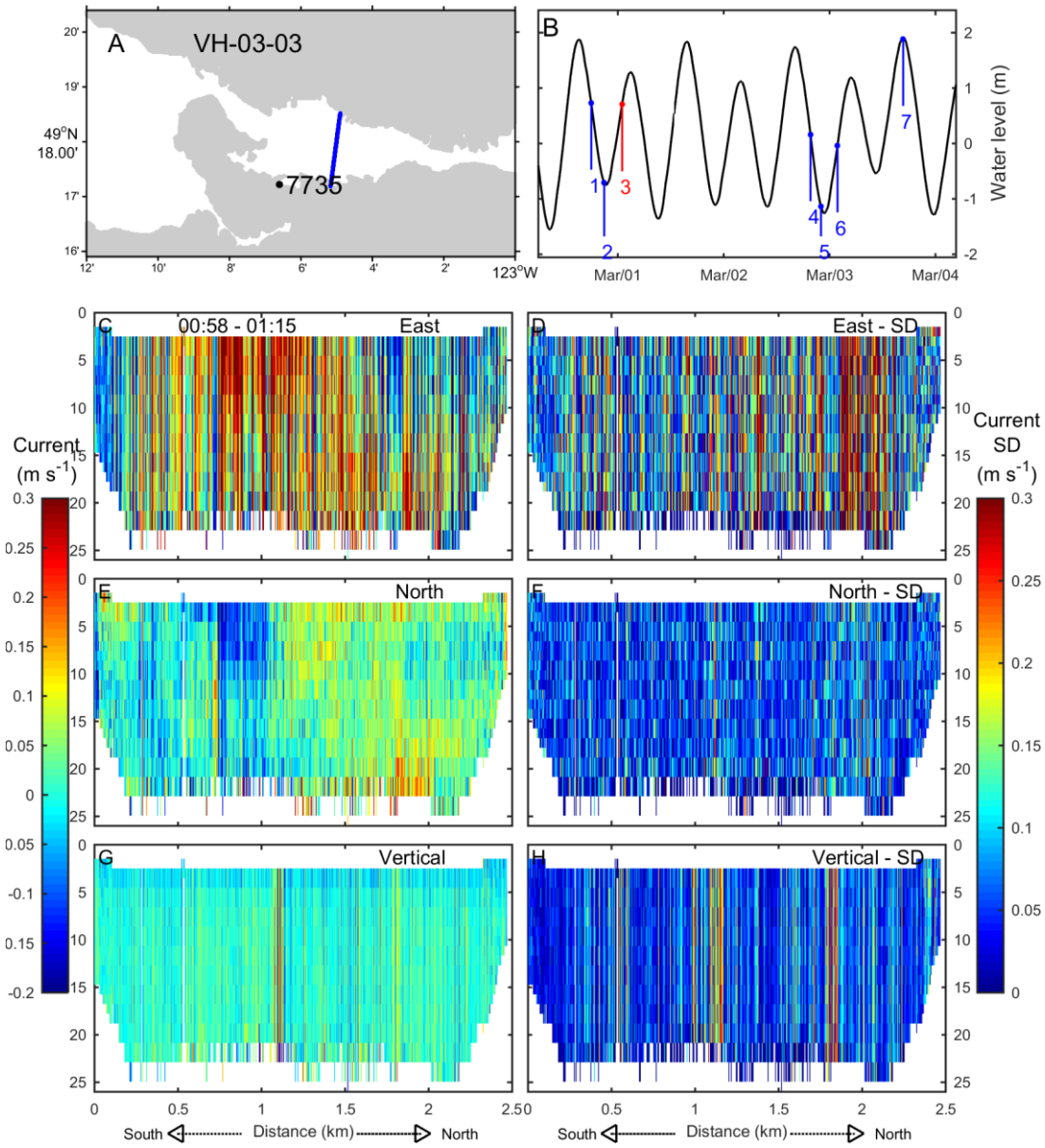

A
VH-02-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
1
2
3
C
18:40 - 19:01
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

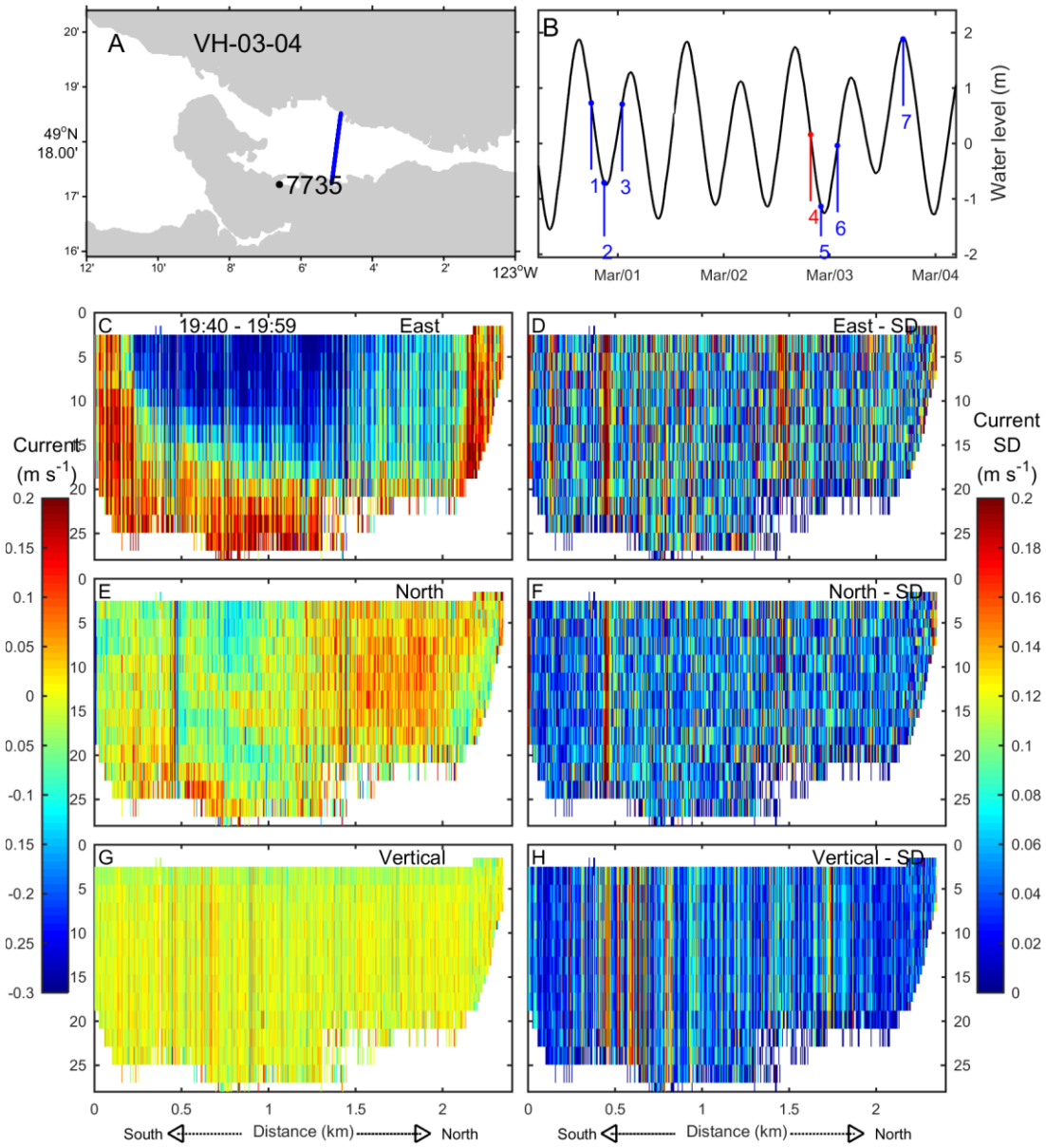

A
VH-02-02
49°N
18.00'
•7735
123°W
B
Water level (m)
Mar/01
1
2
3
C
20:11 - 20:33
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

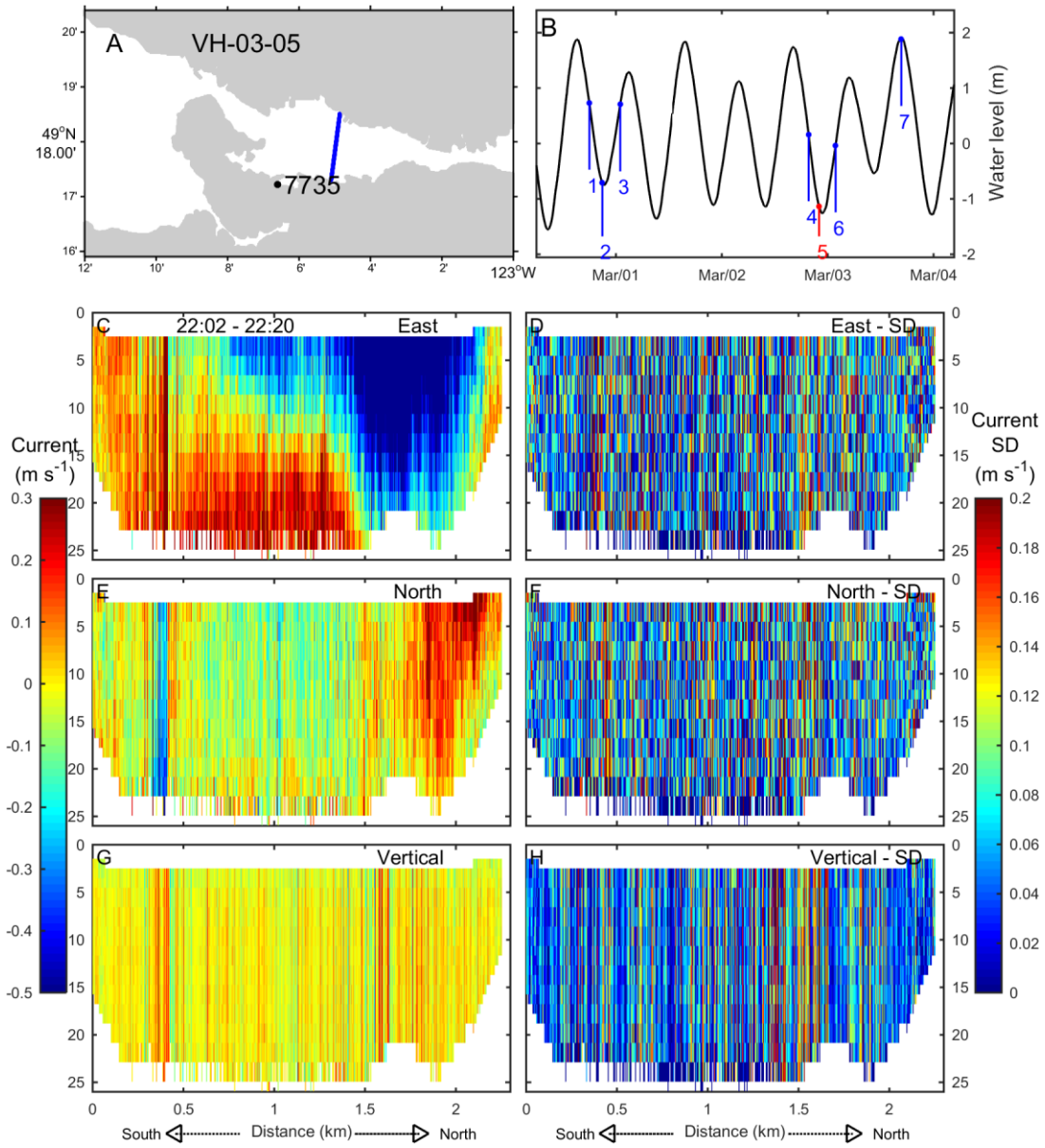

A
VH-02-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
1
2
3
C
00:25 - 00:42
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

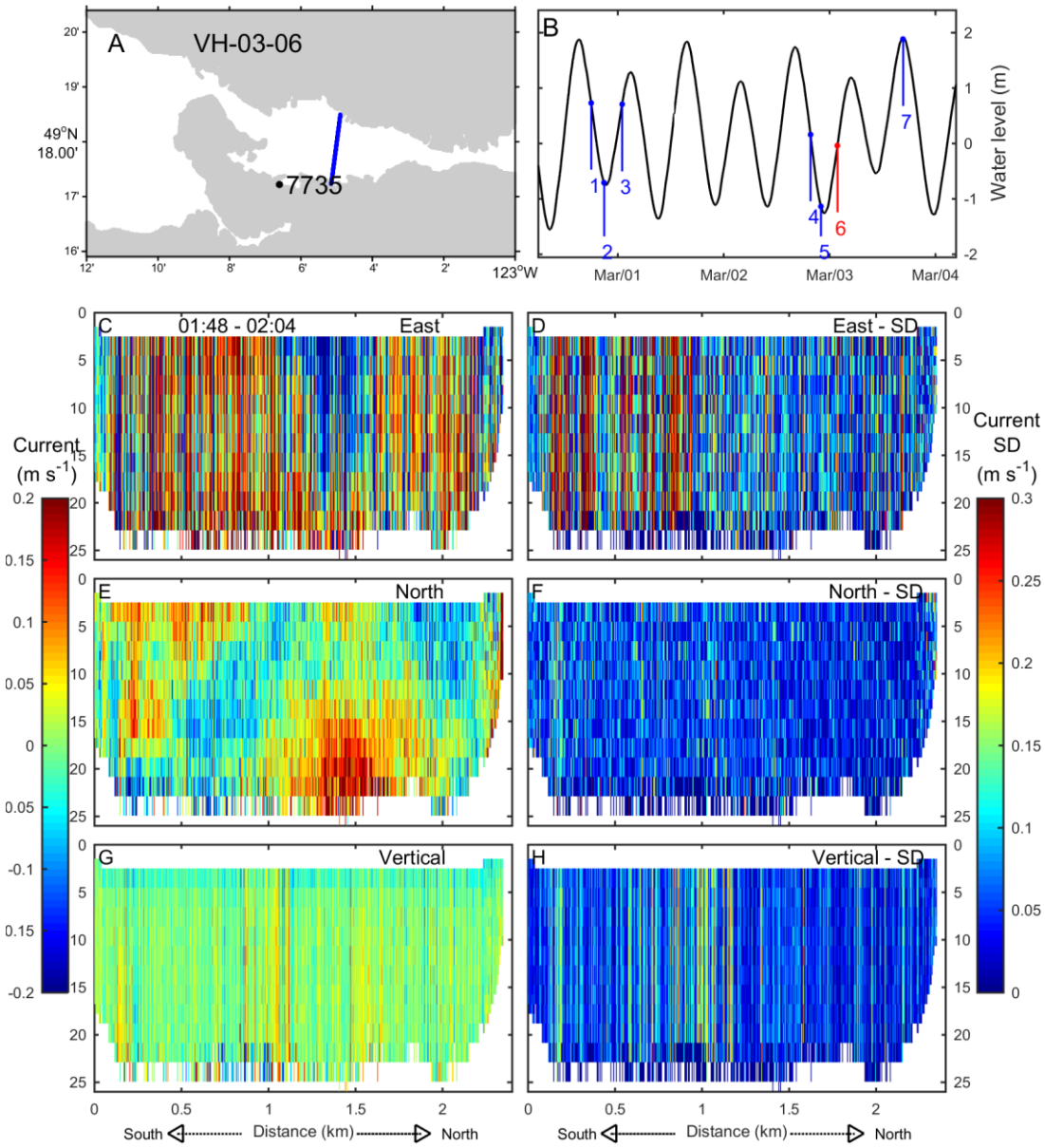

A
VH-03-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
17:58 - 18:21
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

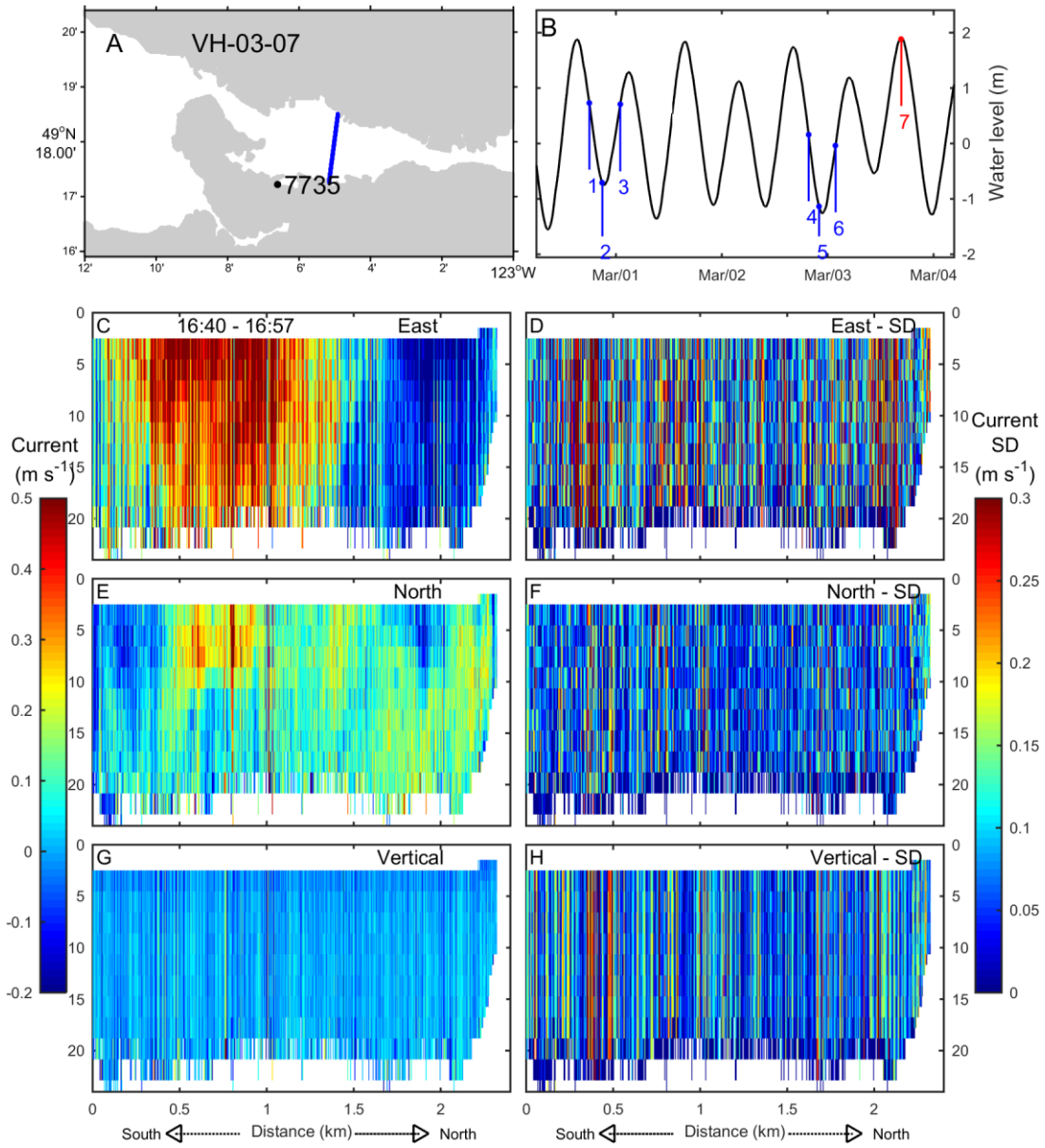

A
VH-03-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
20:54 - 21:13
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

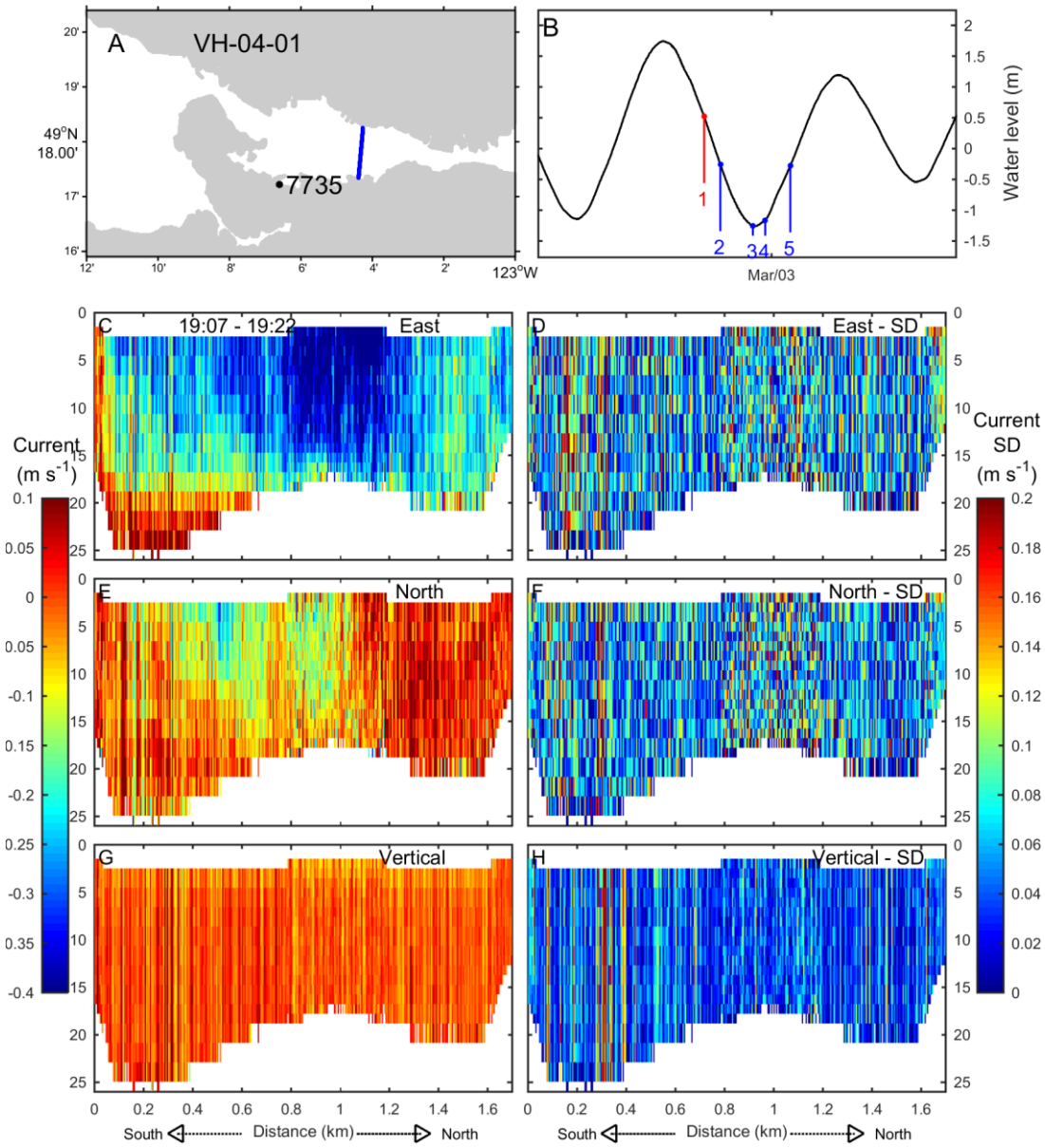

A
VH-03-03
49°N
18.00'
•7735
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
00:58 - 01:15
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

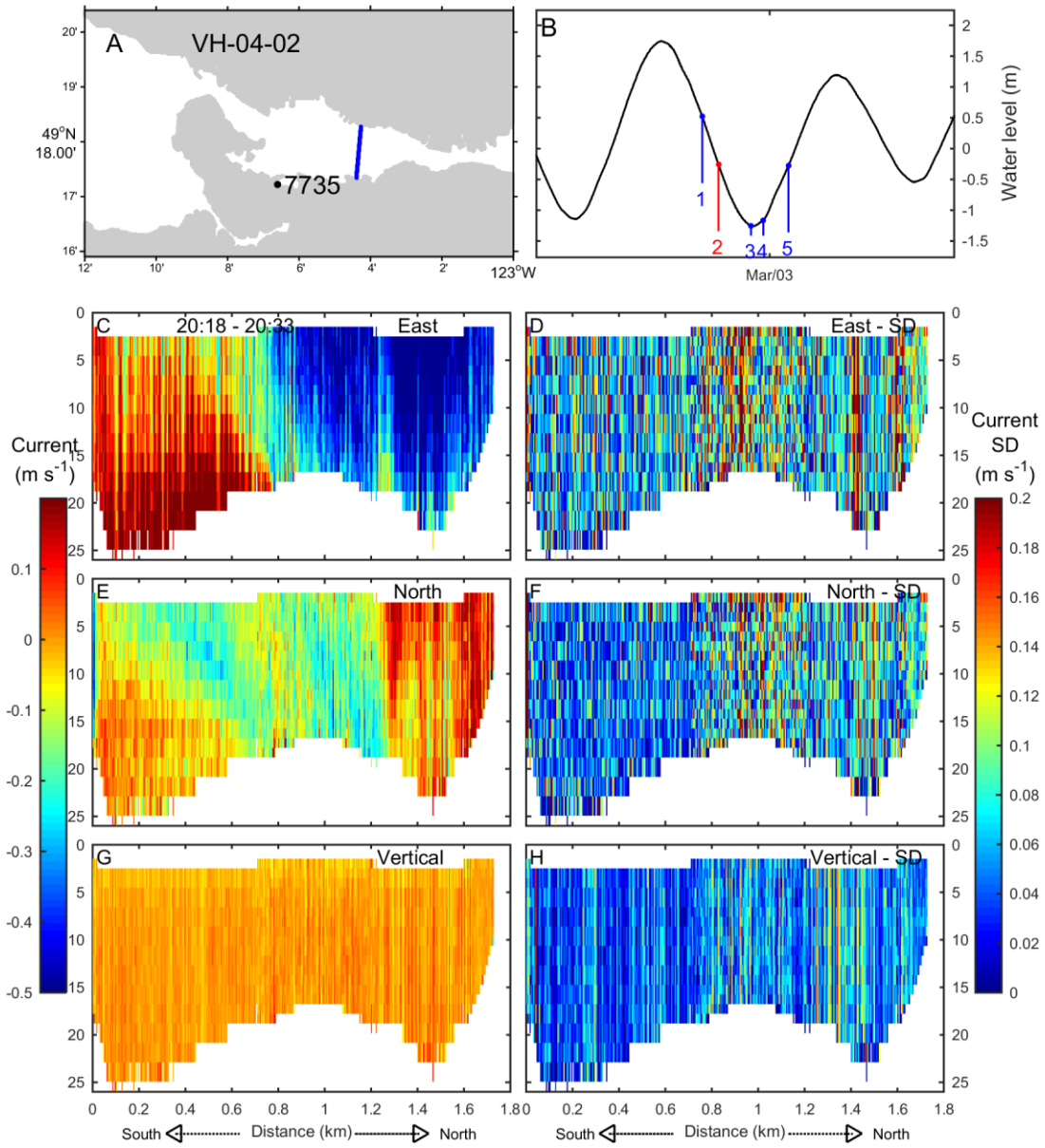

A
VH-03-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
19:40 - 19:59
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

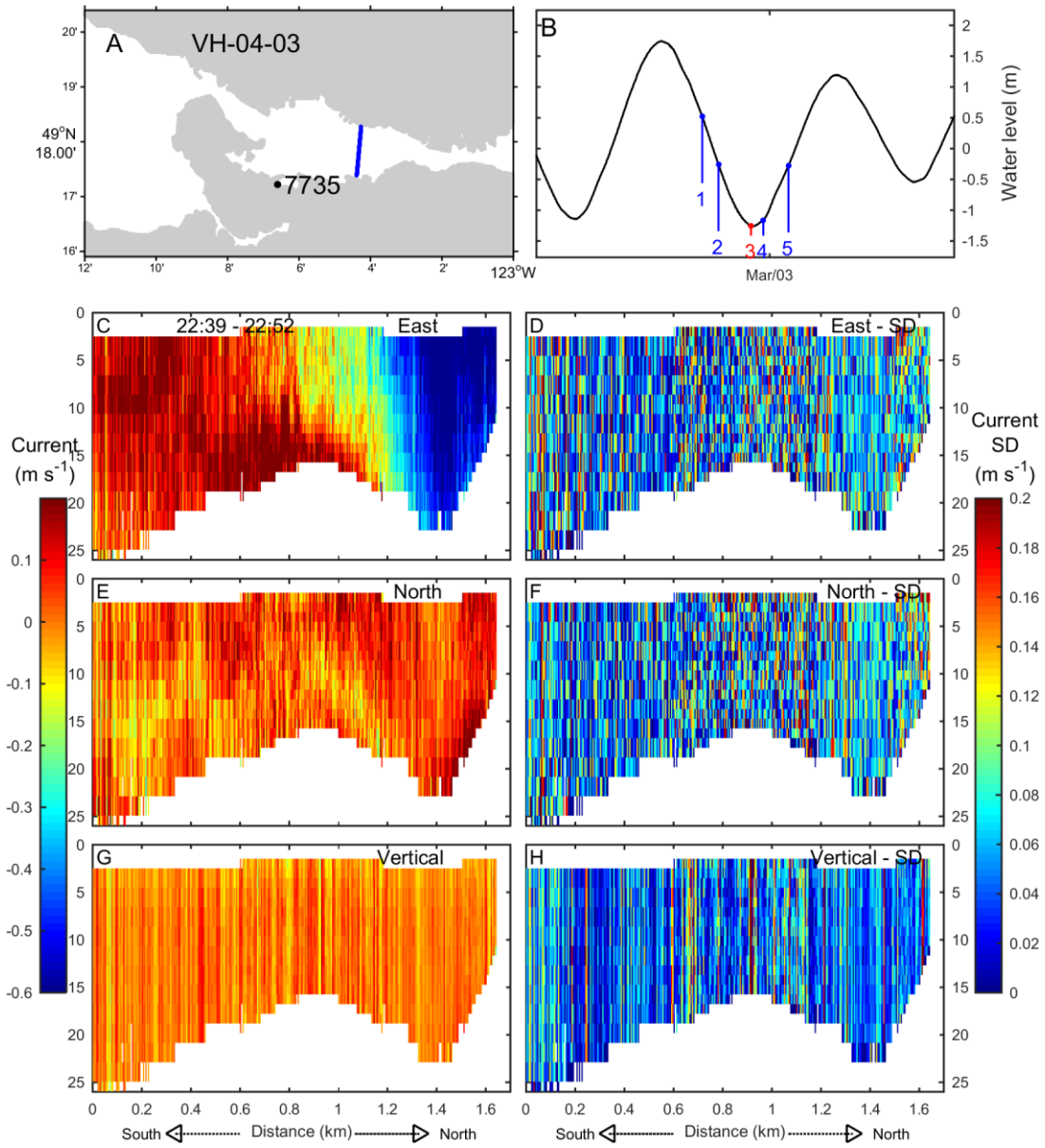

A
VH-03-05
•7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 22:02 - 22:20 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

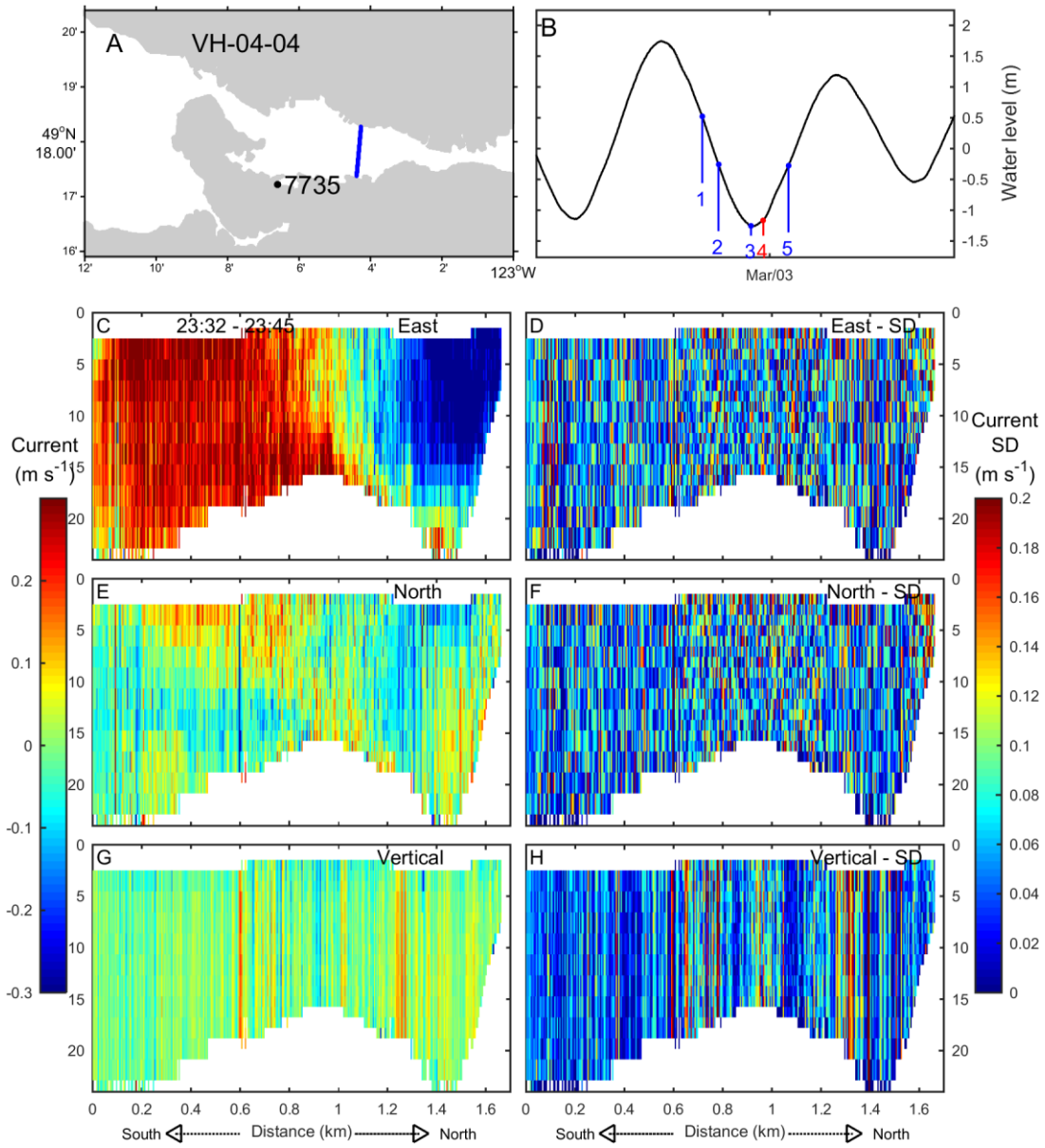

A
VH-03-06
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
01:48 - 02:04
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

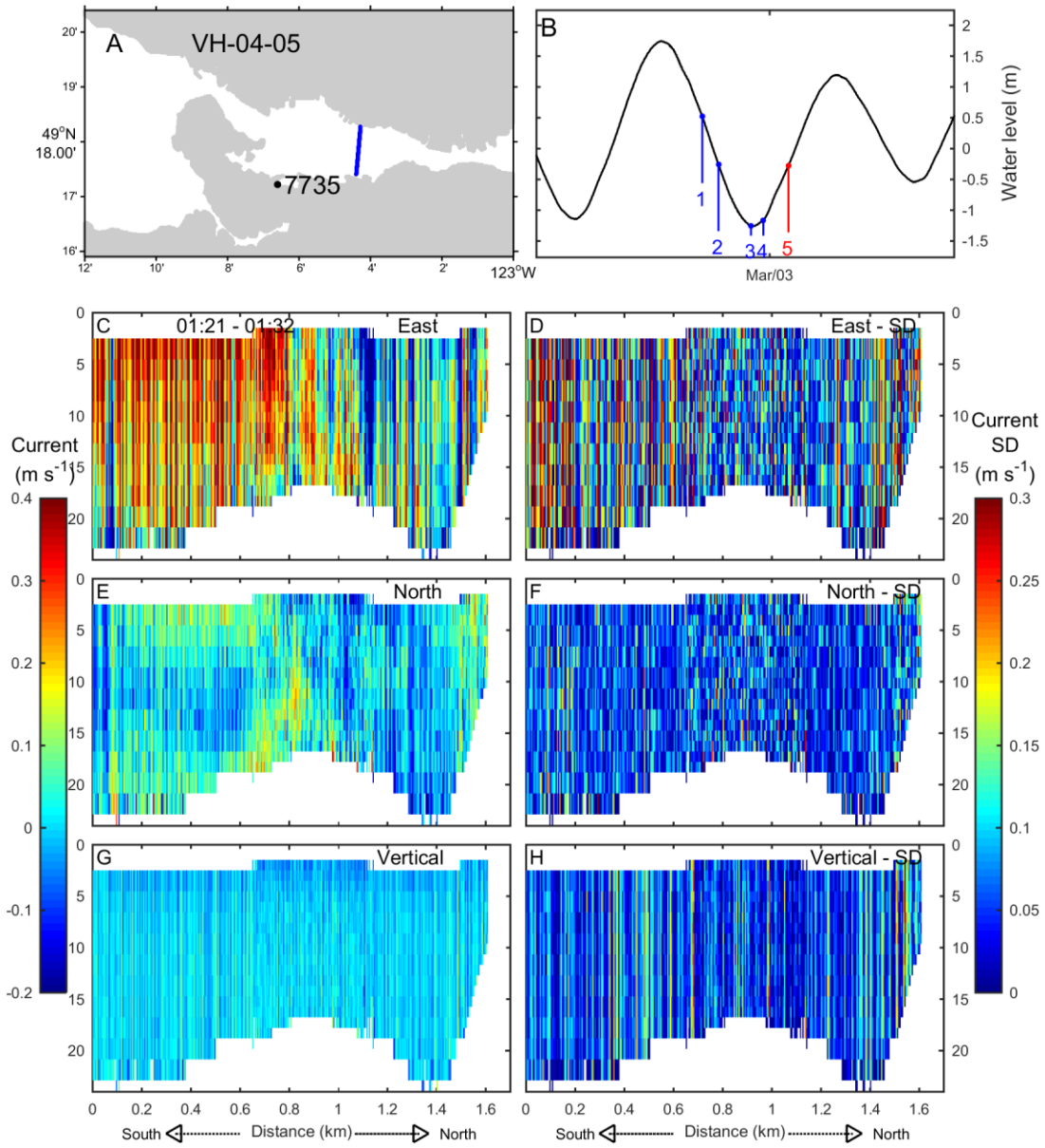

A
VH-03-07
•7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 16:40 - 16:57 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

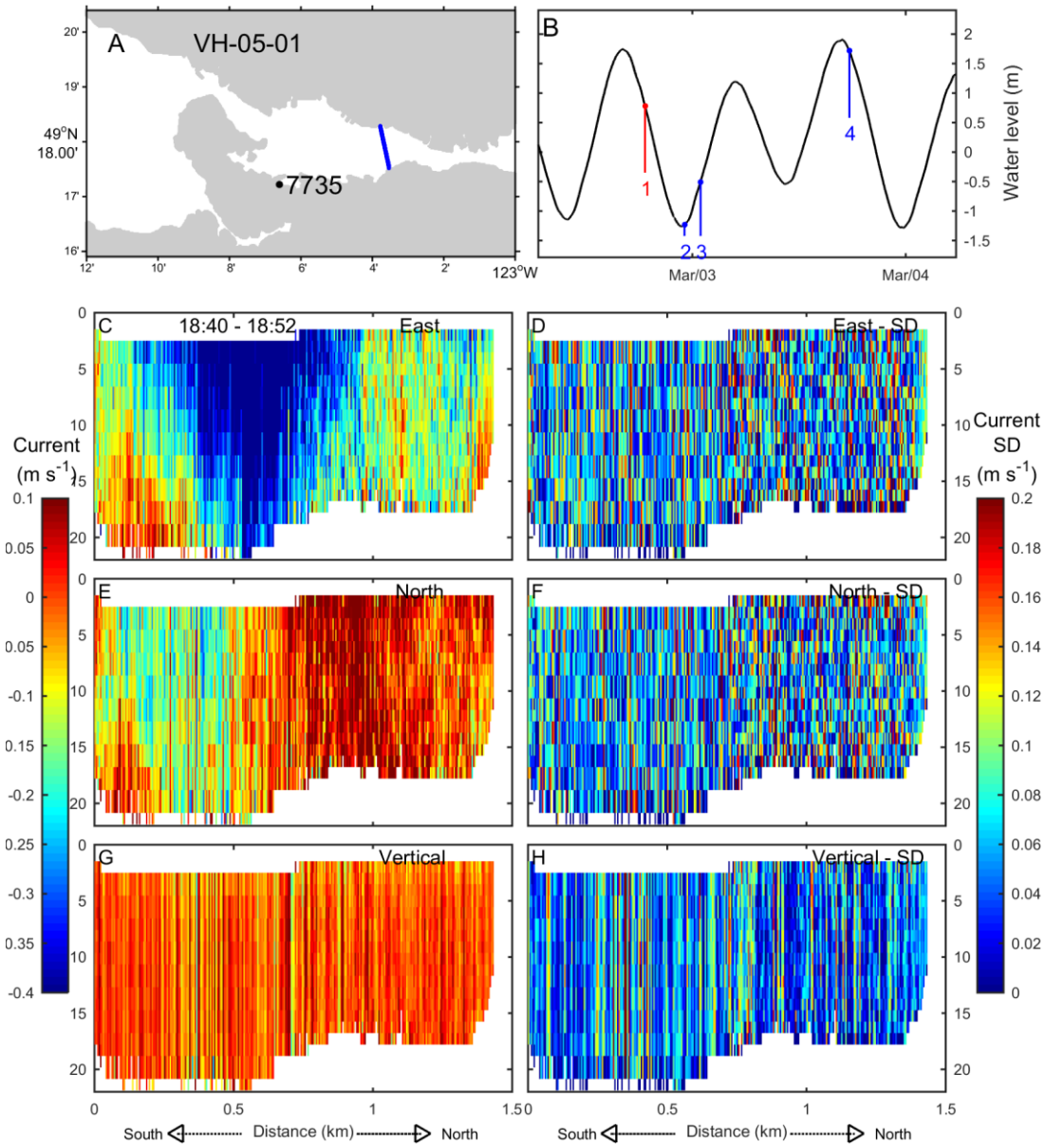

A
VH-04-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
19:07 - 19:22
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

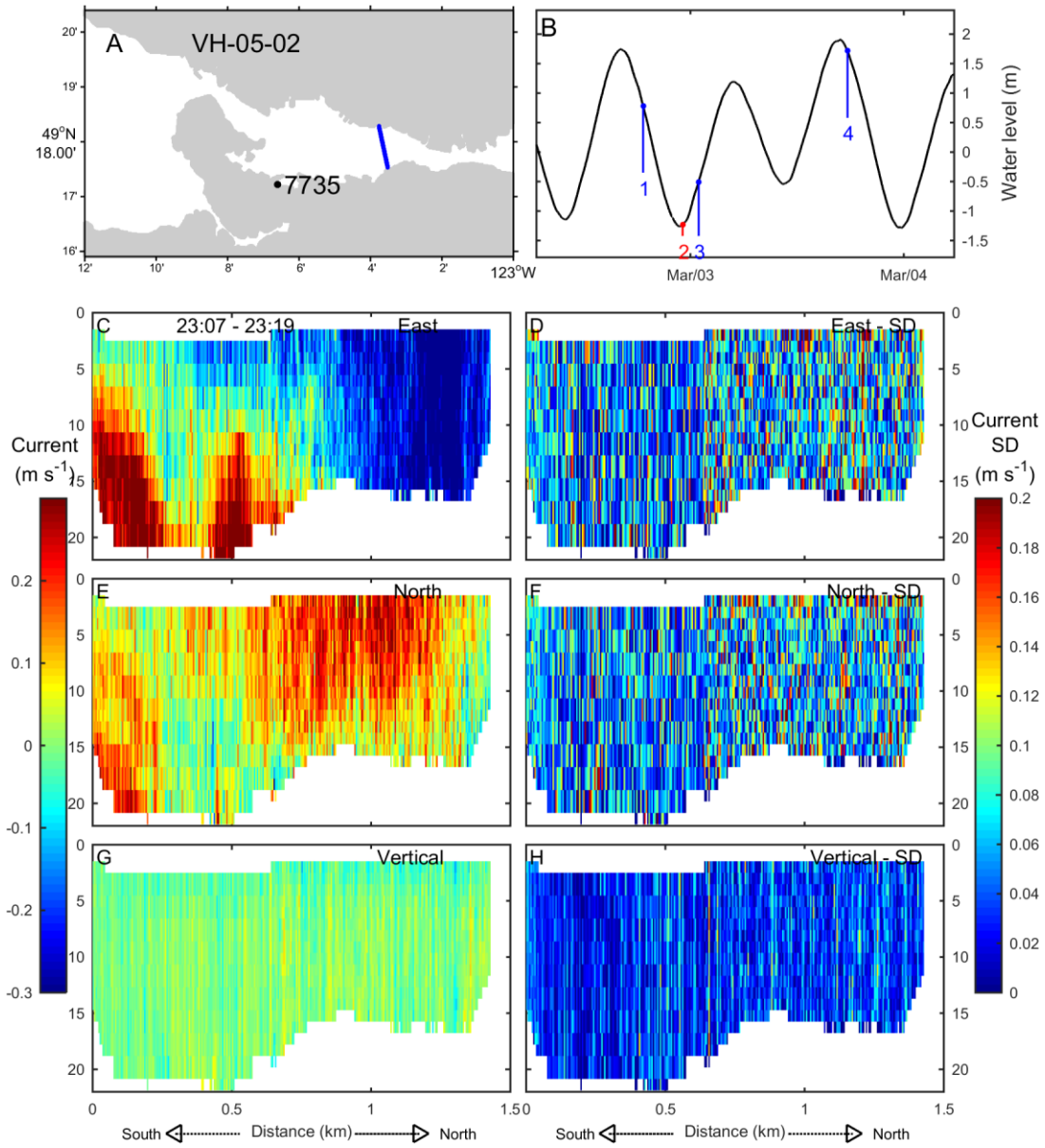

A
VH-04-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
20:18 - 20:33
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

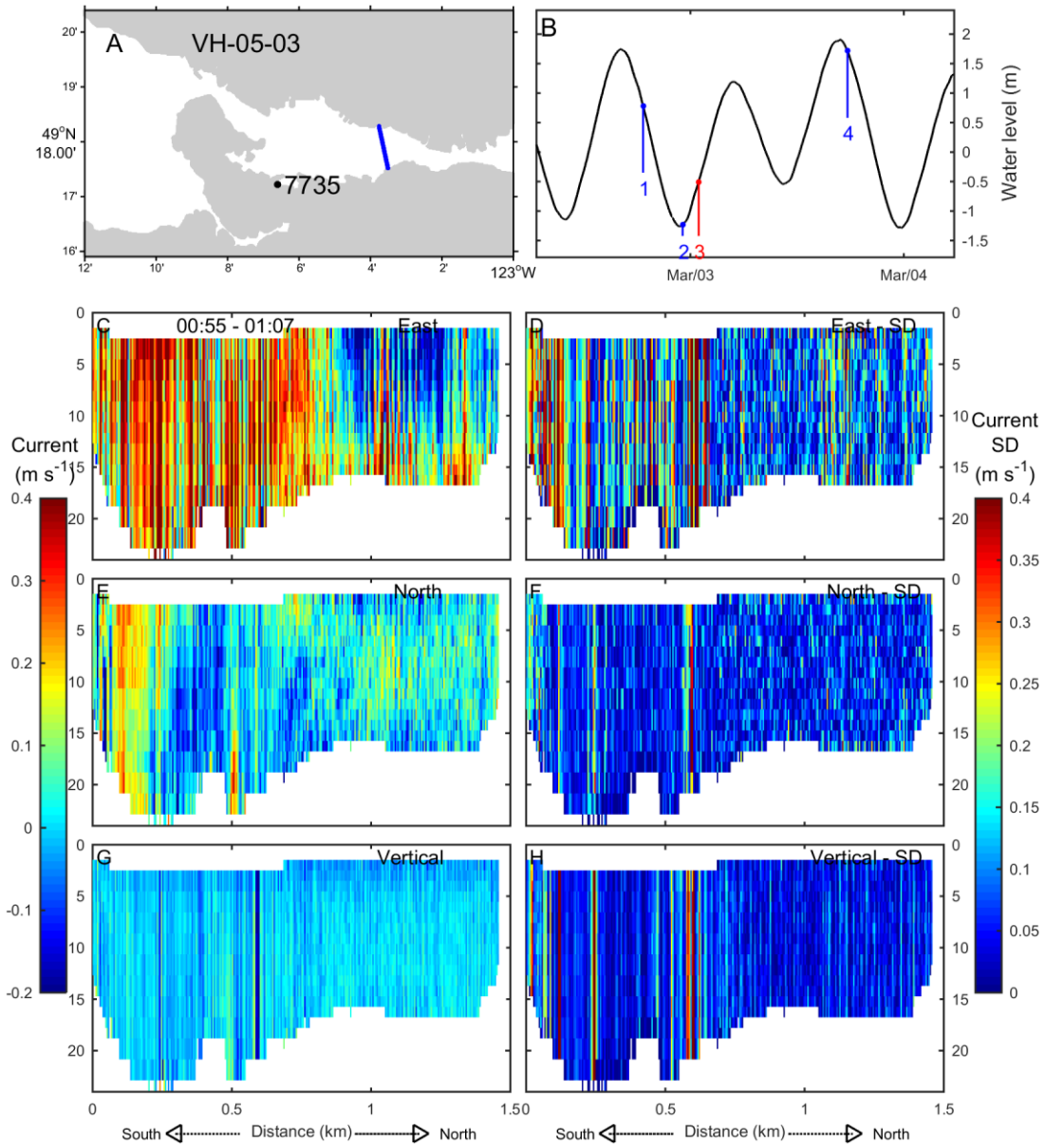

A
VH-04-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
22:39 - 22:52
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

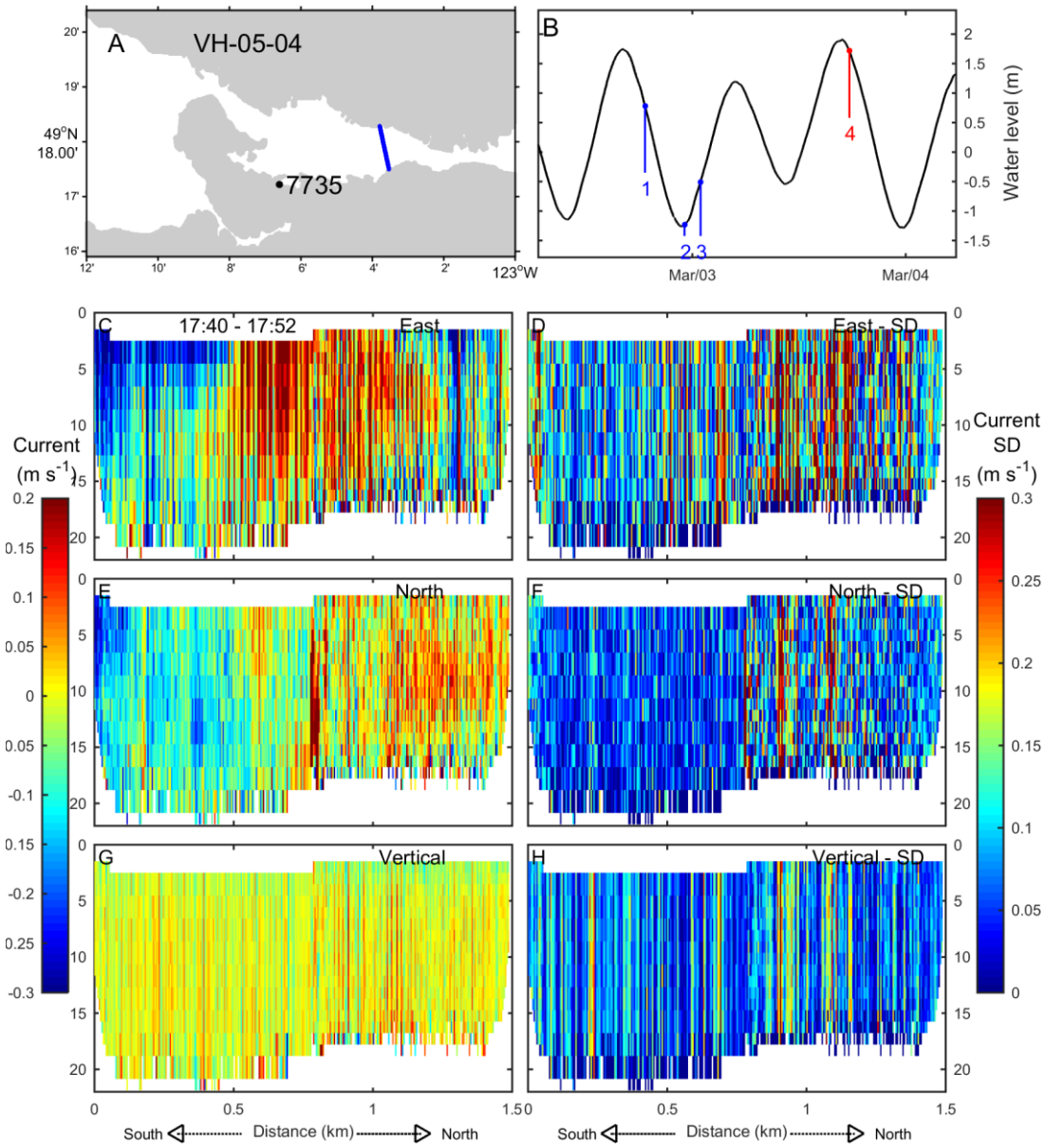

A
VH-04-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
23:32 - 23:45
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

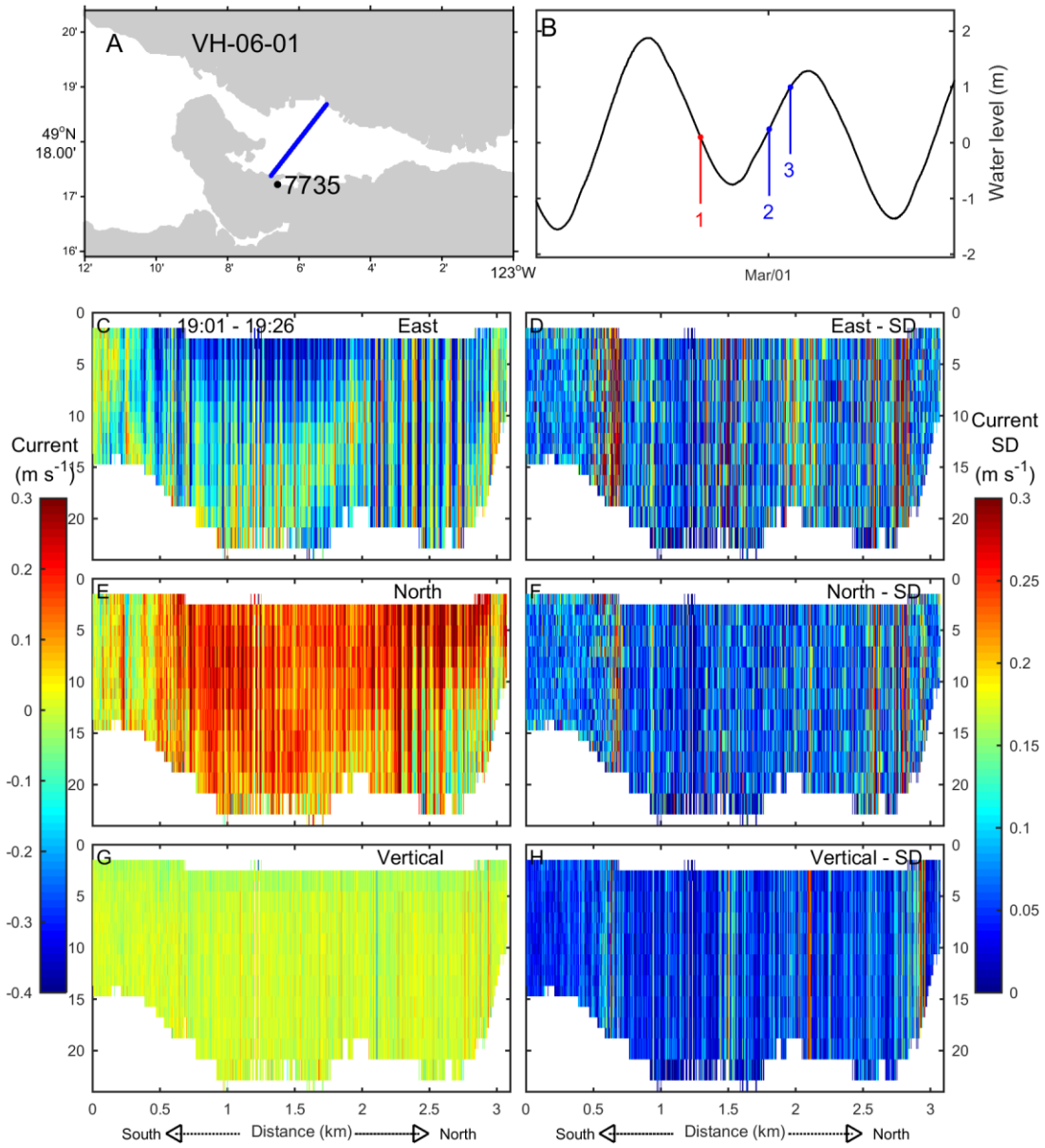

A
VH-04-05
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
1
2
3
4
5
C
01:21 - 01:32
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

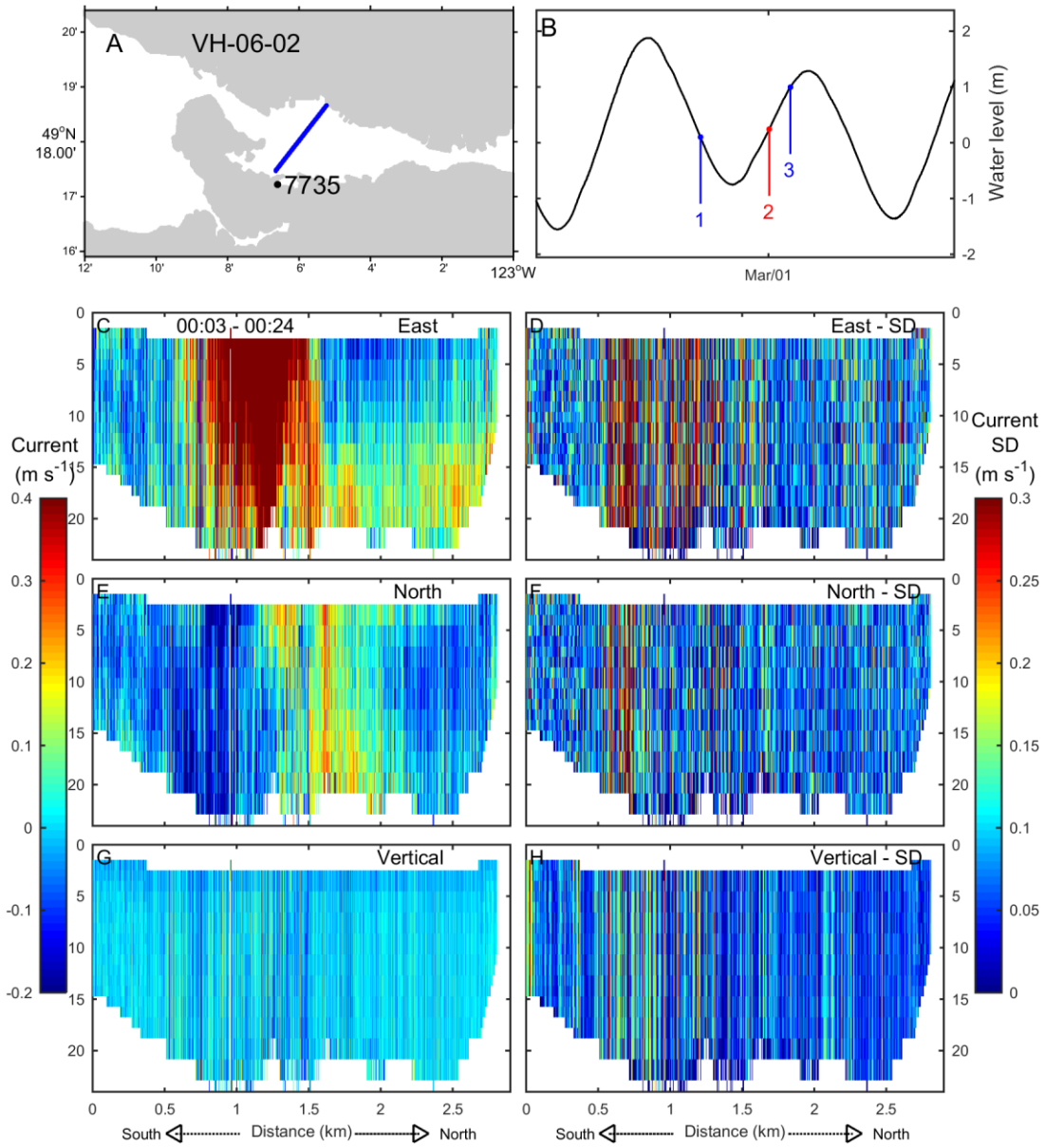

A
VH-05-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
1
2,3
4
C
18:40 - 18:52
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

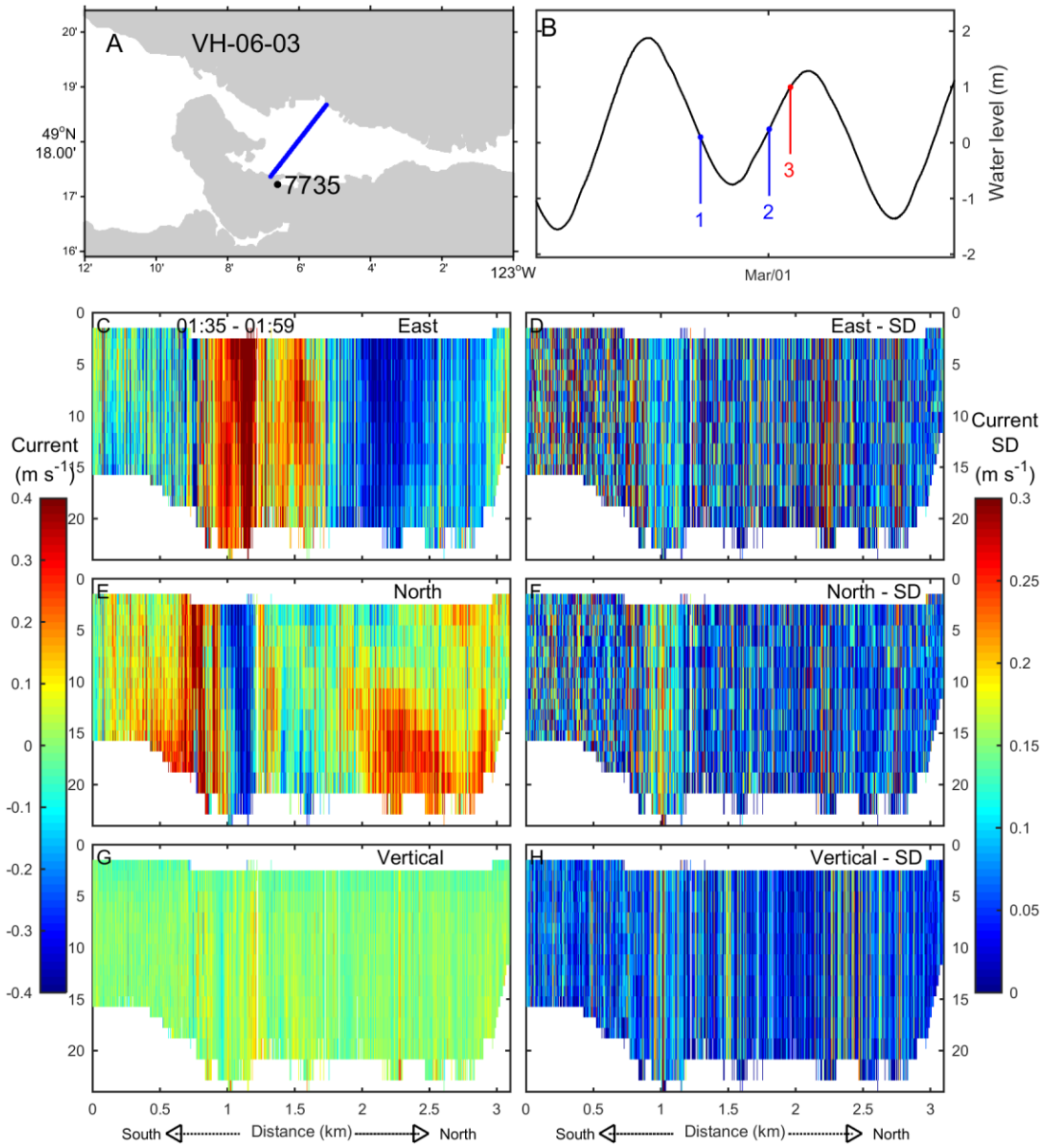

A
VH-05-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
23:07 - 23:19
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

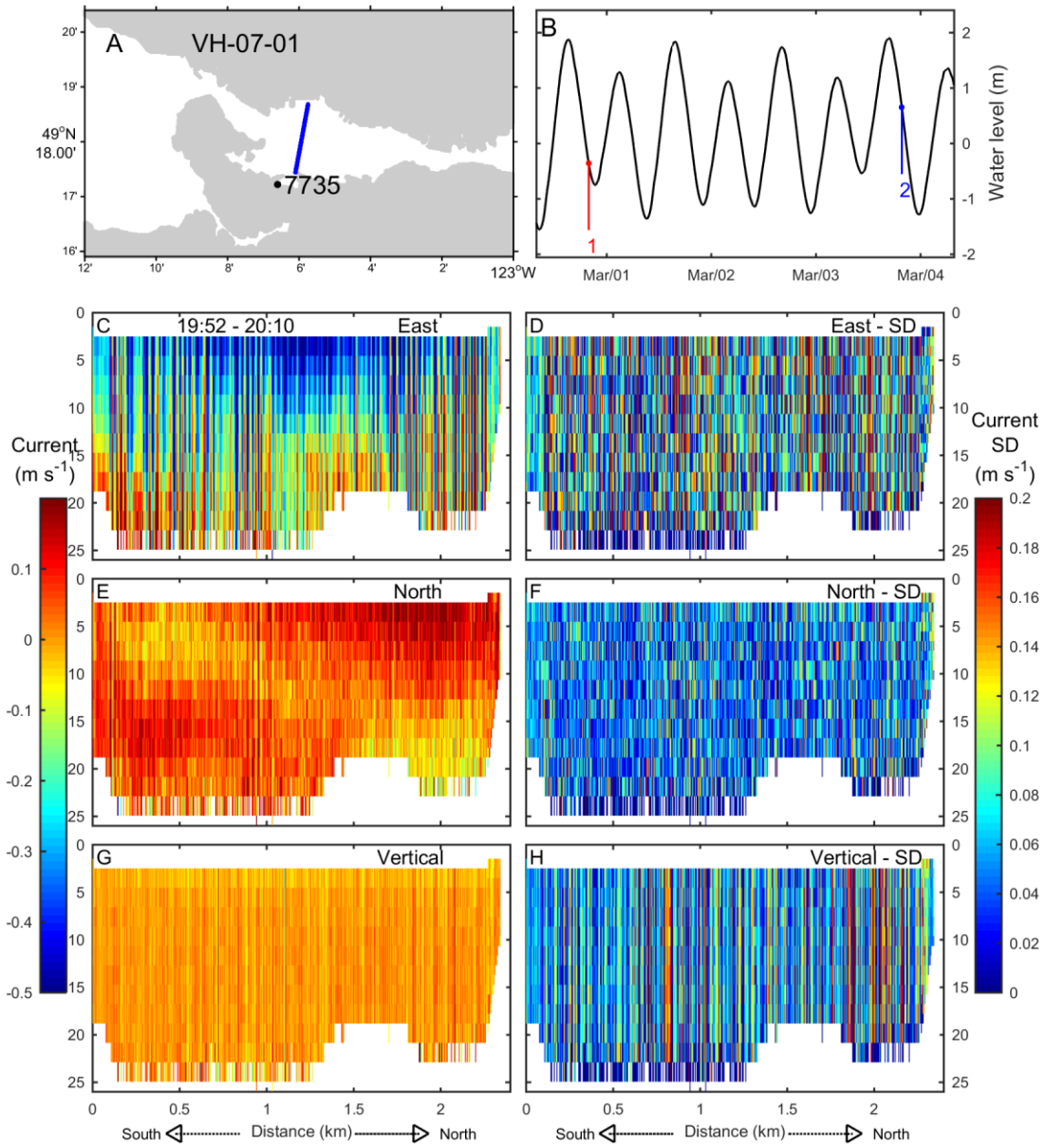

A
VH-05-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
00:55 - 01:07
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

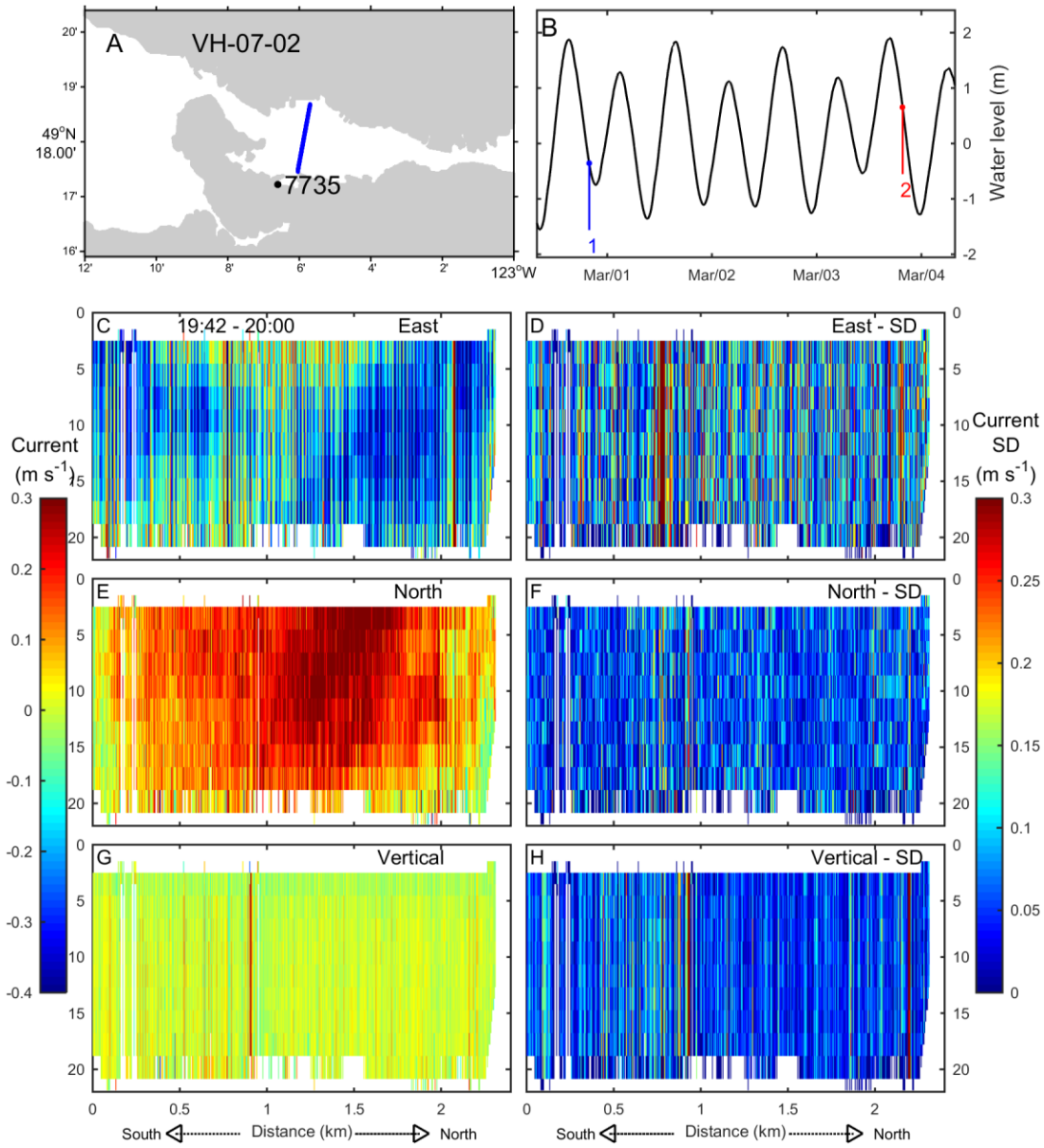

A
VH-05-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
1
2,3
4
C
17:40 - 17:52
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

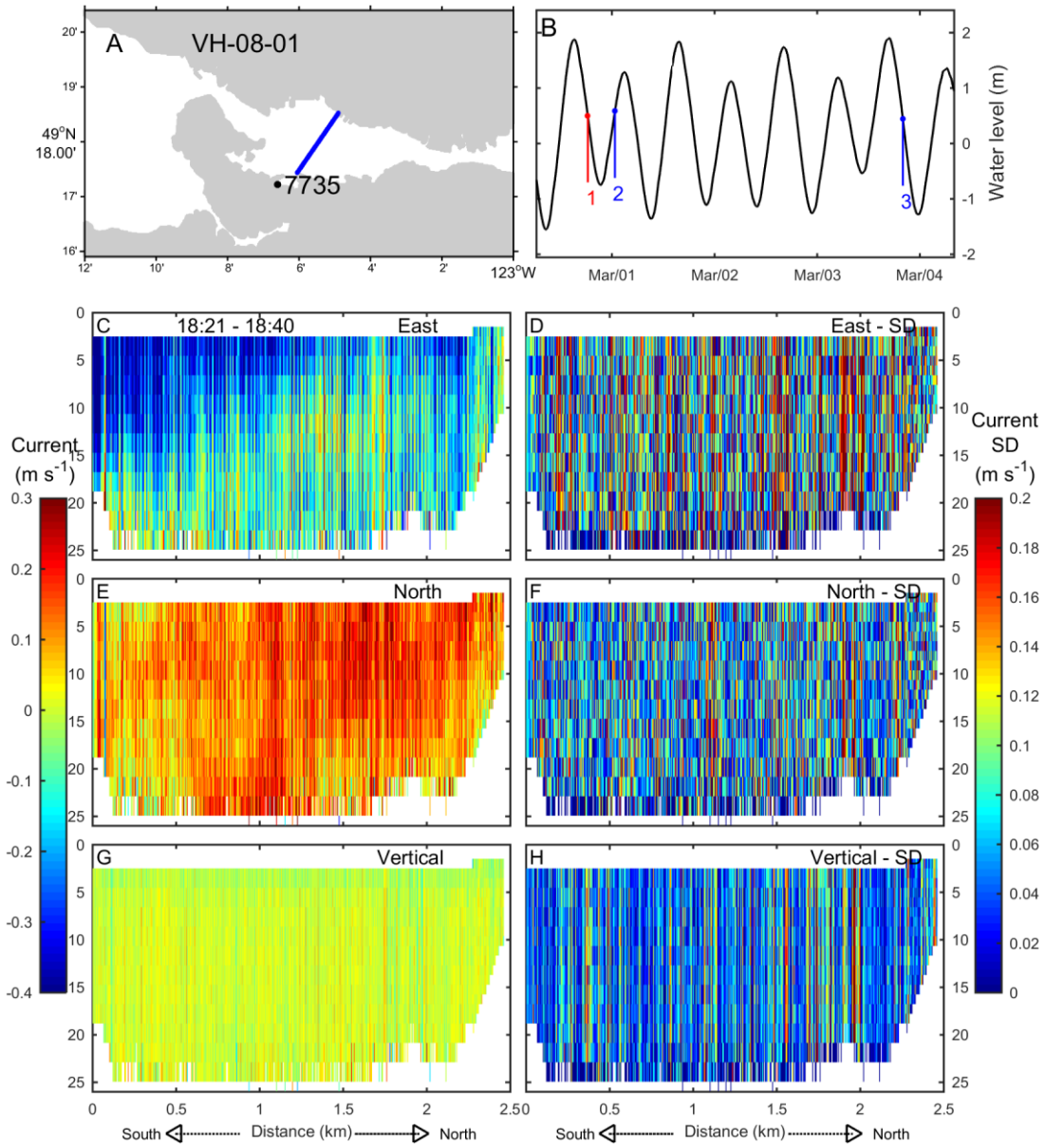

A
VH-06-01
7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
1
2
3
C
19:01 - 19:26
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

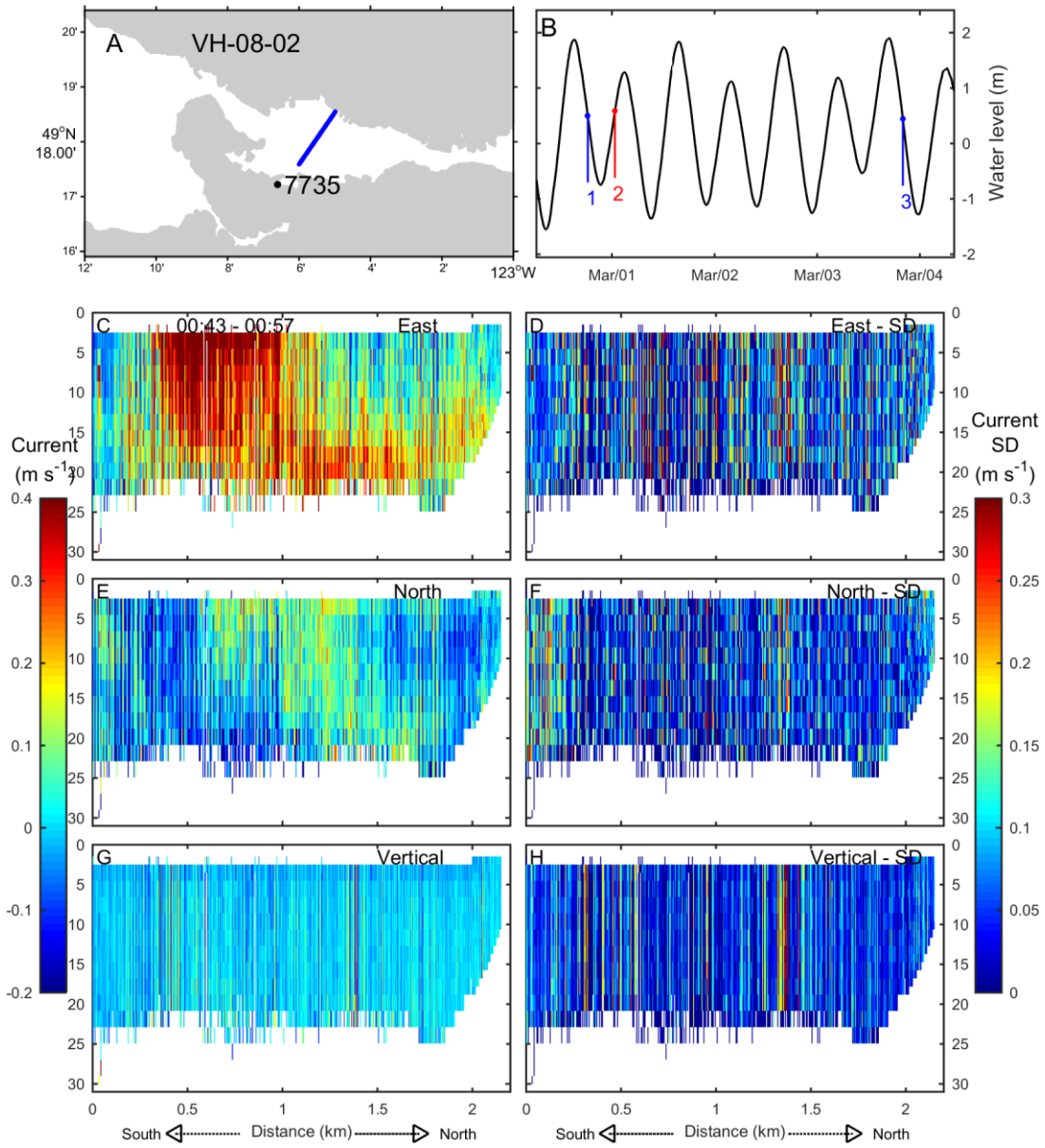

A
VH-06-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
1
2
3
C
00:03 - 00:24
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

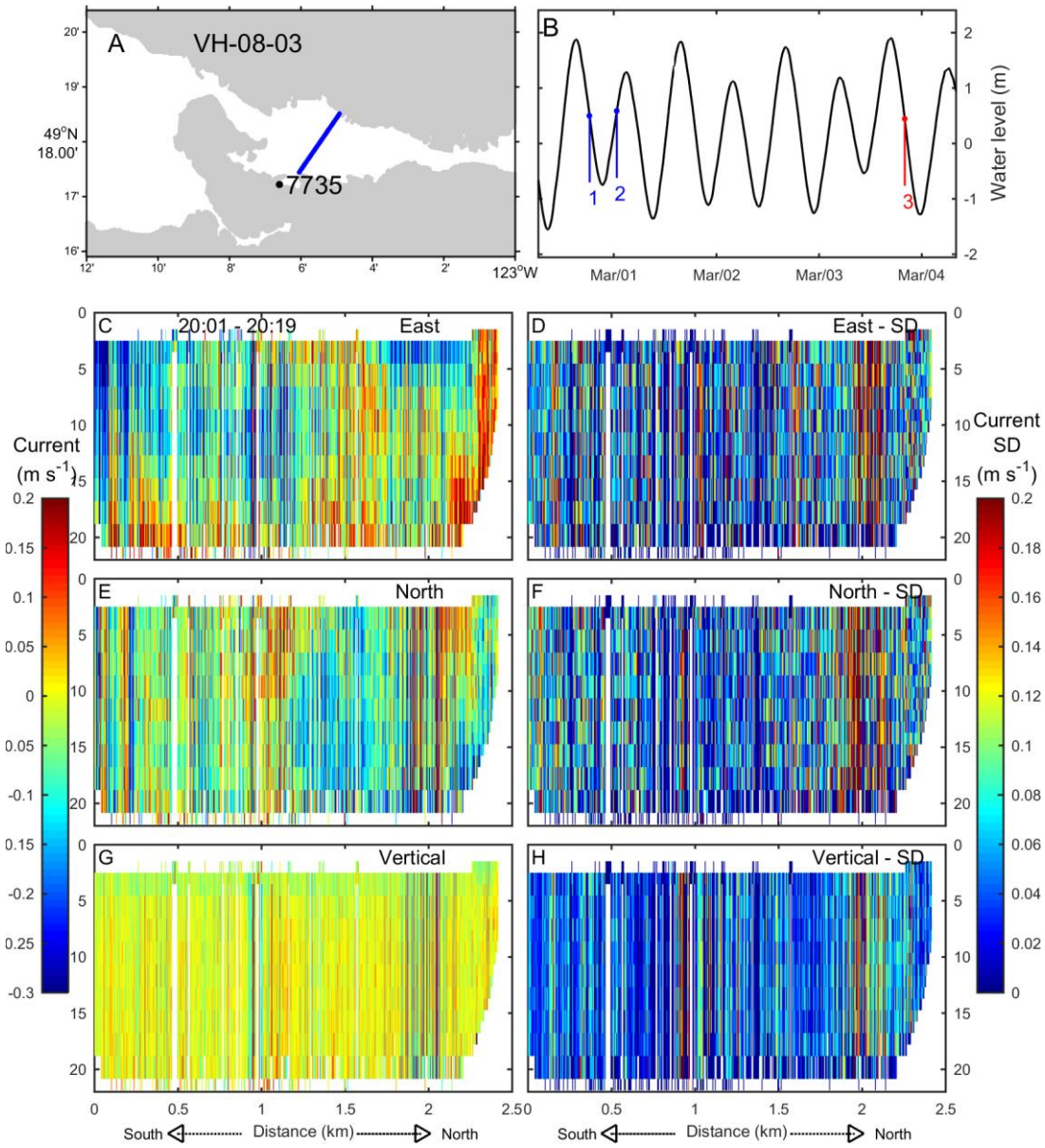

A
VH-06-03
7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
1
2
3
C
01:35 - 01:59
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

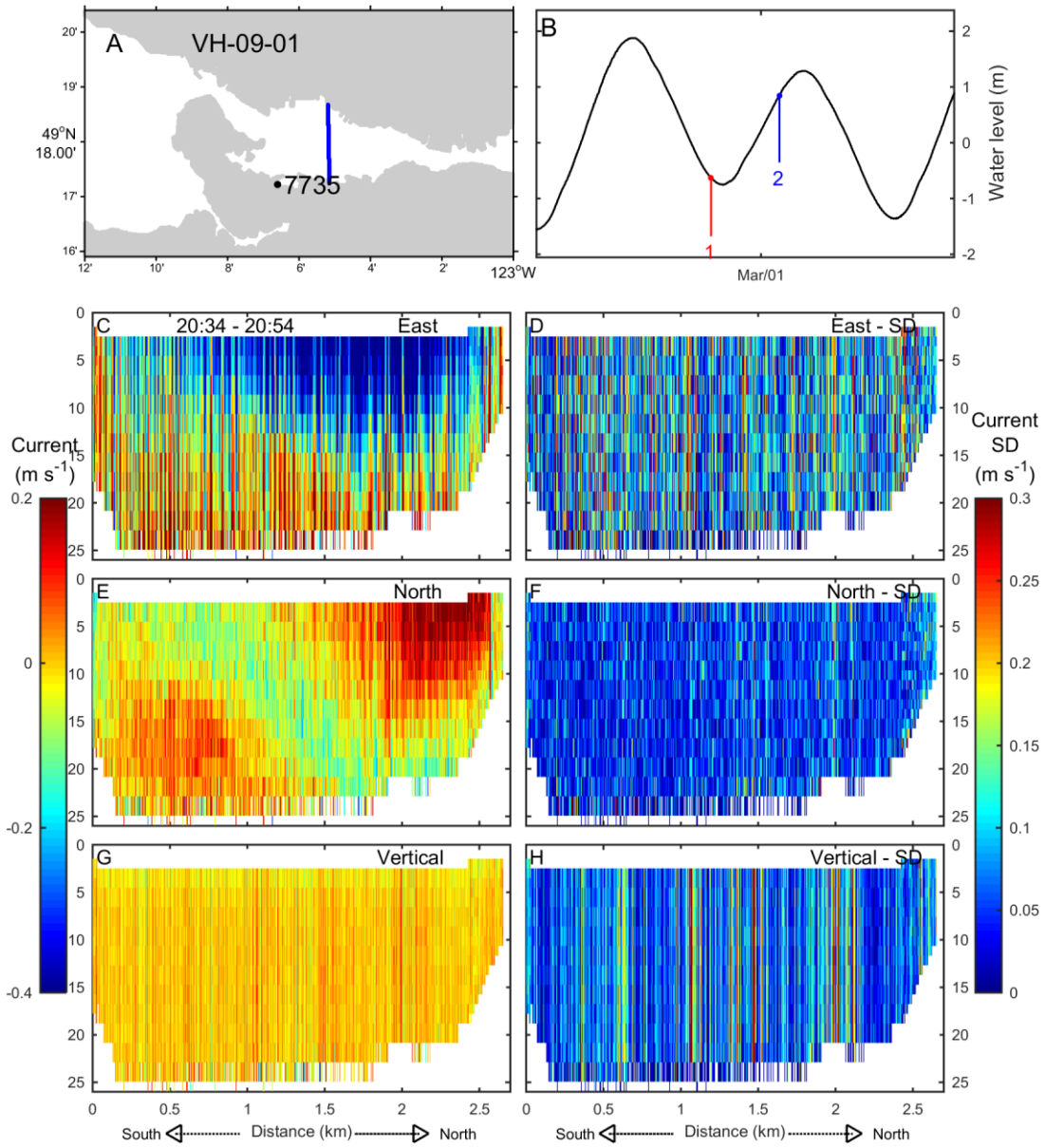

A
VH-07-01
7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 19:52 - 20:10 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

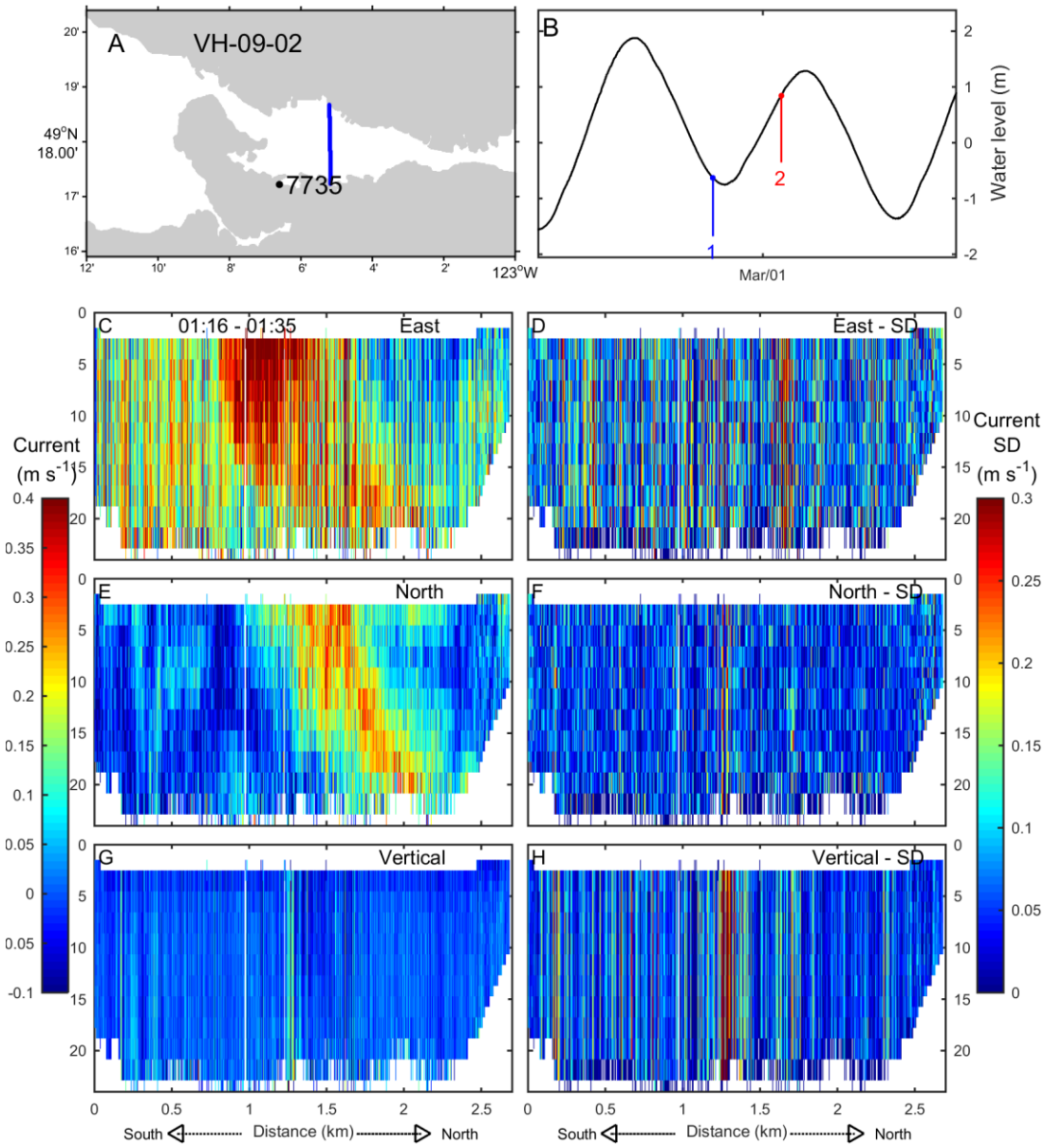

A
VH-07-02
•7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 19:42 - 20:00 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

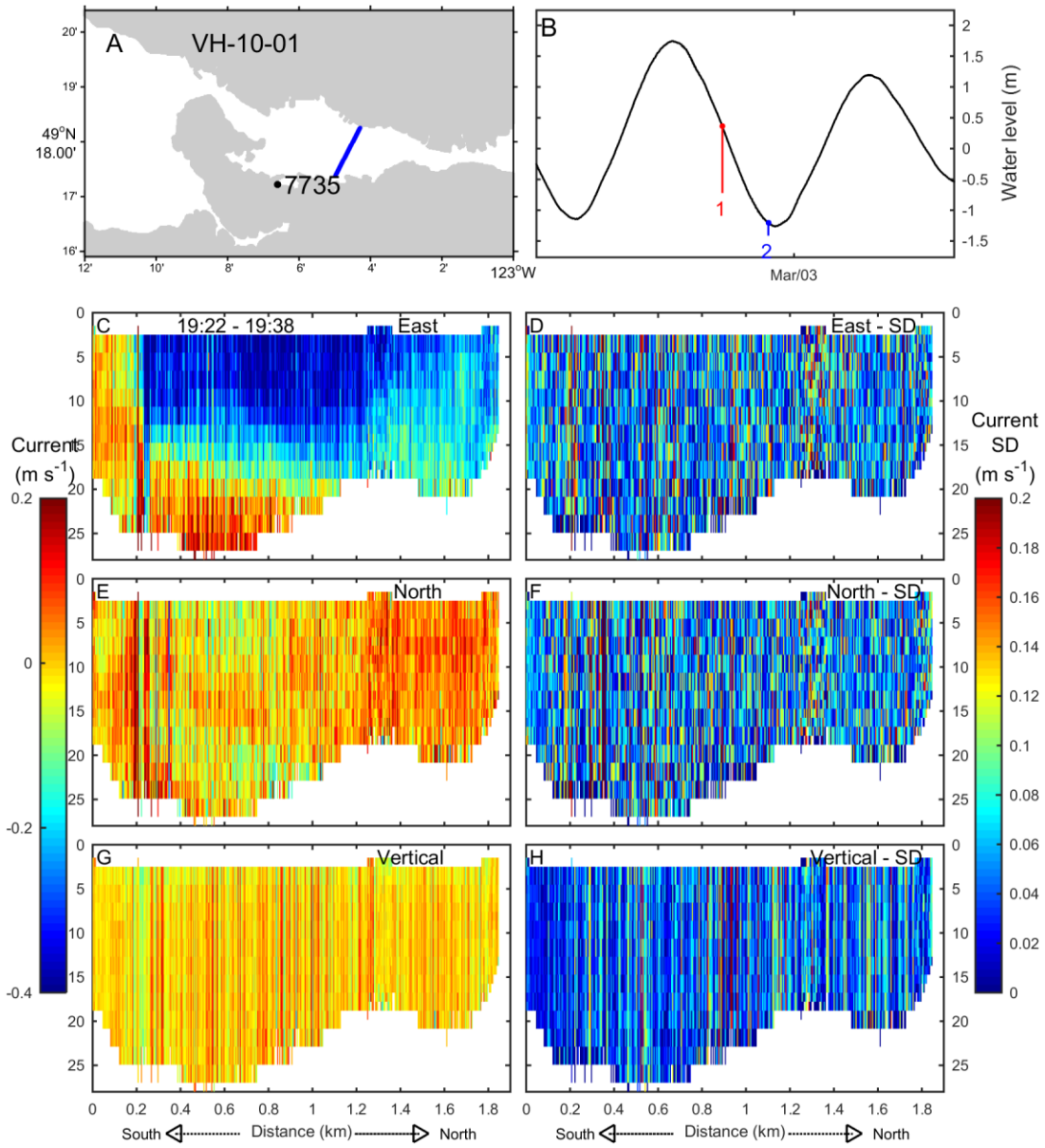

A
VH-08-01
7735
49°N 18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C 18:21 - 18:40 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

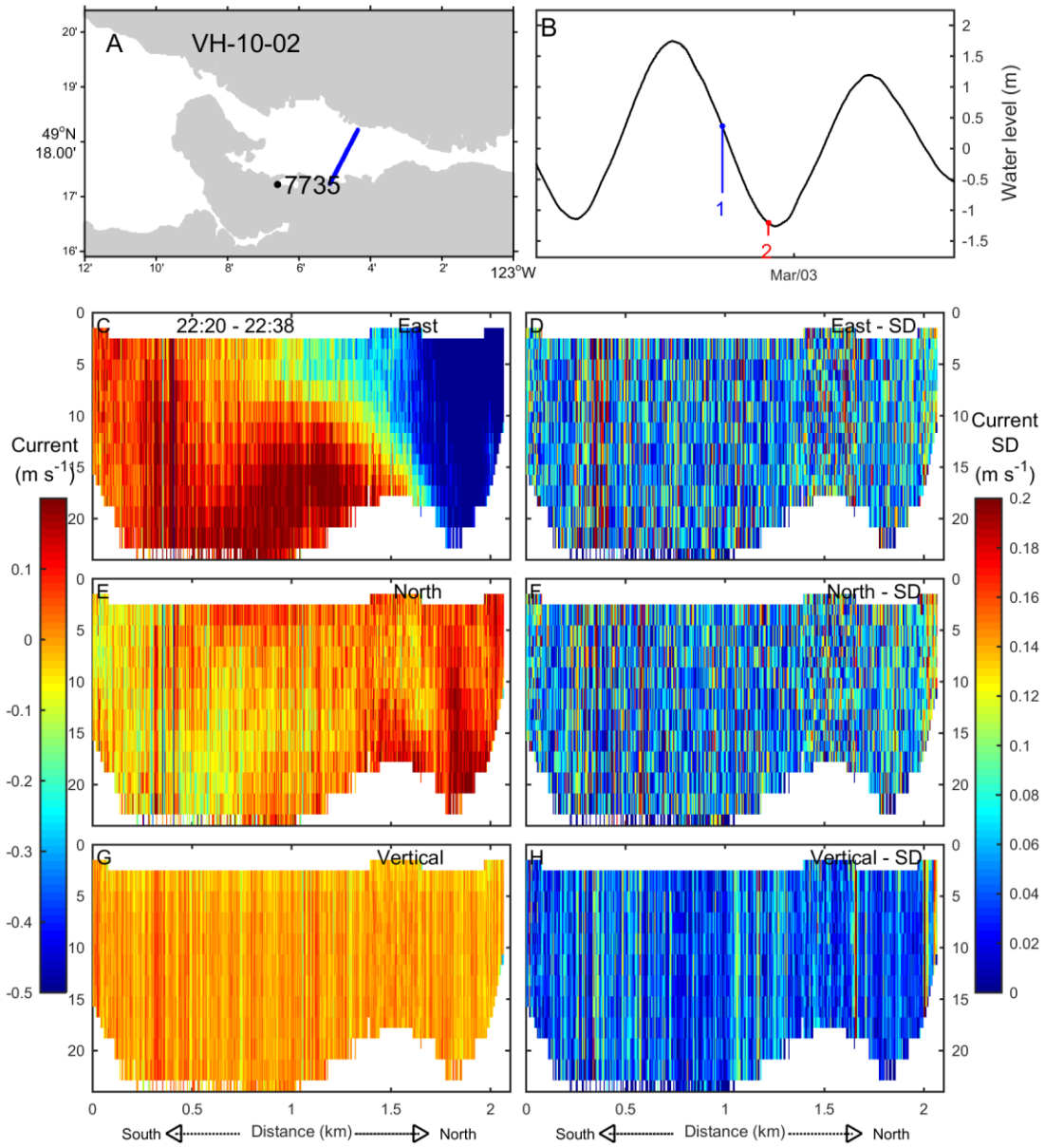

A
VH-08-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
00:43 - 00:57
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

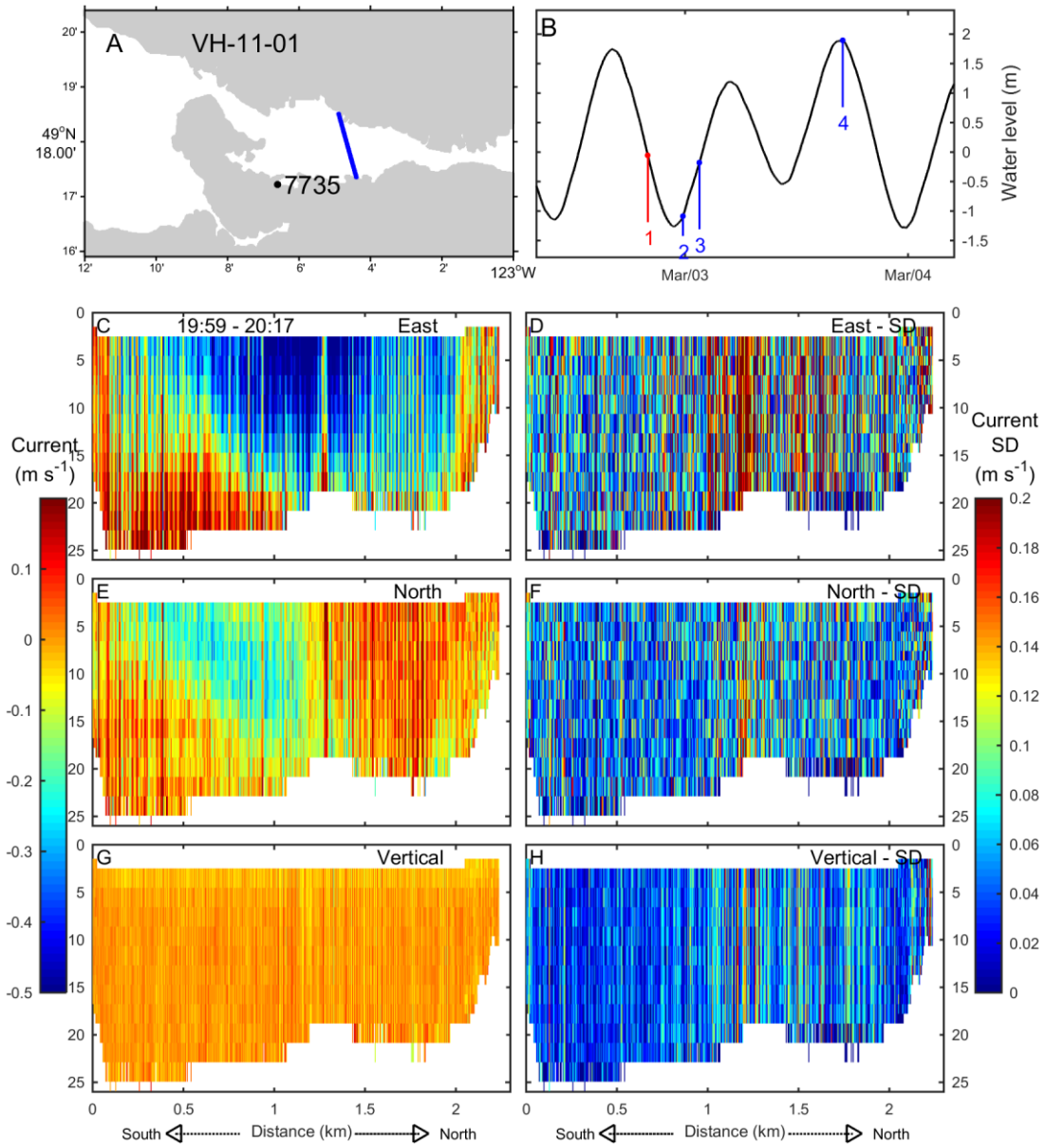

A
VH-08-03
49°N
18.00'
•7735
123°W
B
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
C
20:01 - 20:19
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

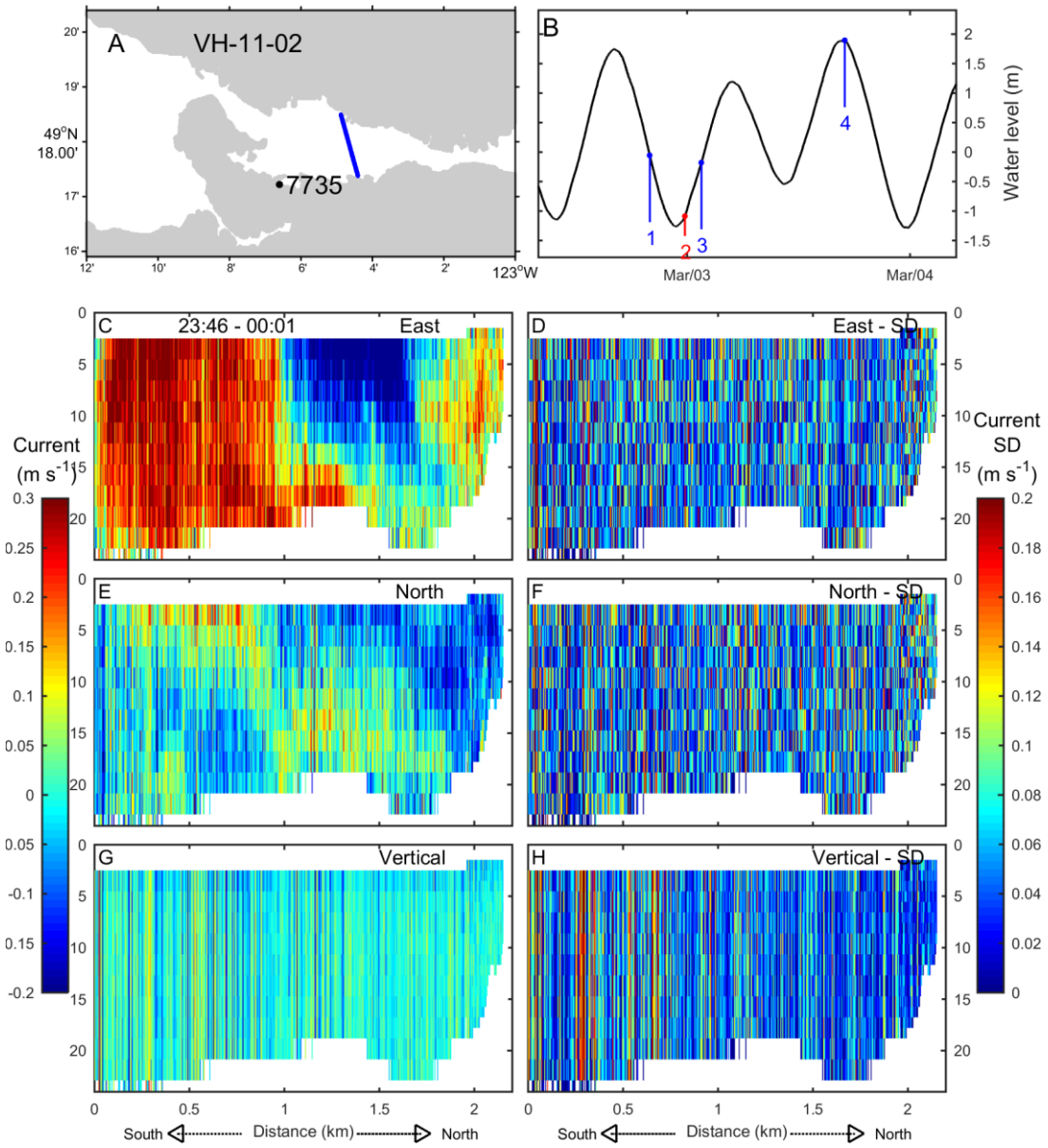

A
VH-09-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/01
1
2
C
20:34 - 20:54
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

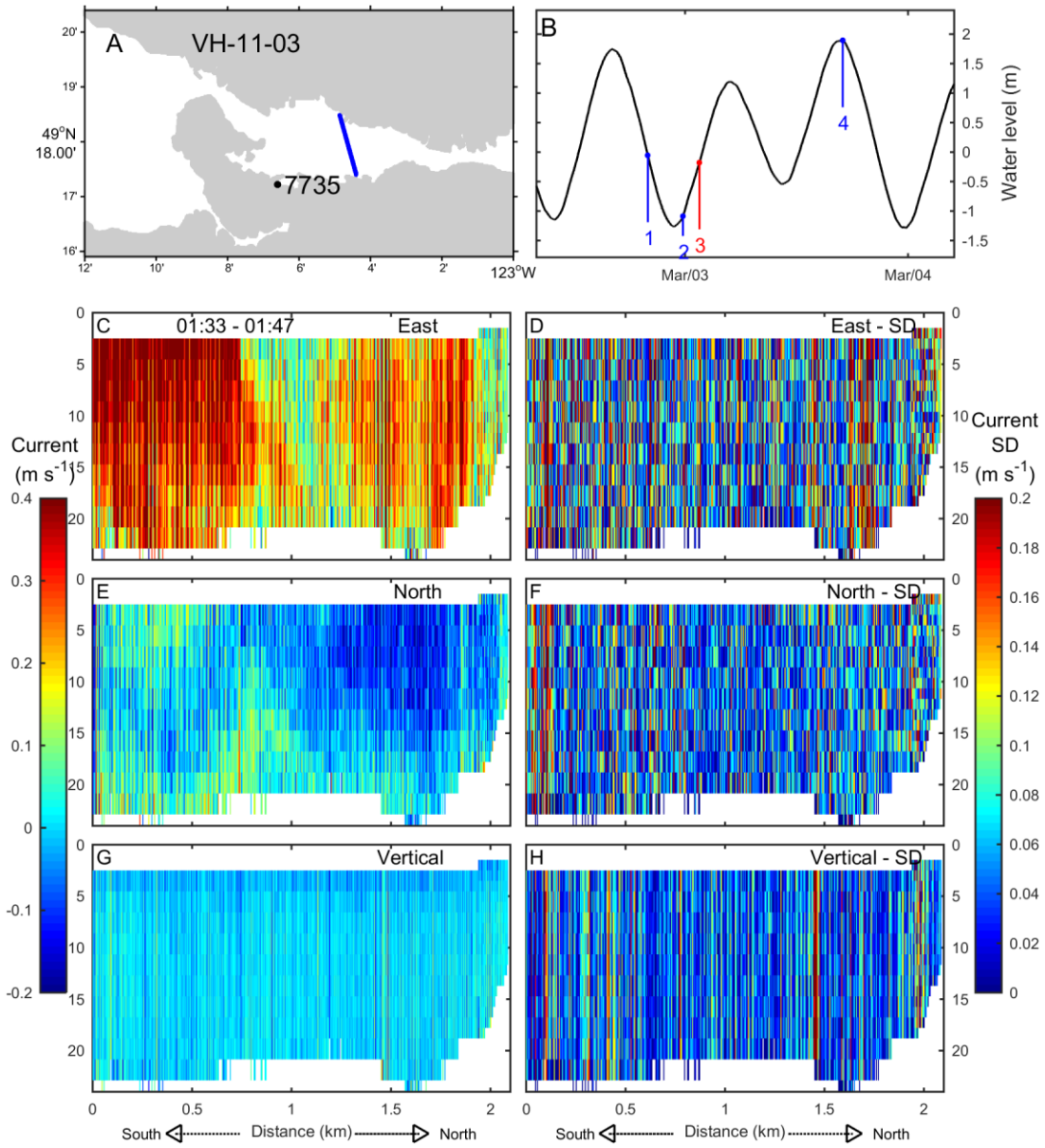

A
VH-09-02
49°N
18.00'
•7735
123°W
B
Water level (m)
Mar/01
1
2
C
01:16 - 01:35
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

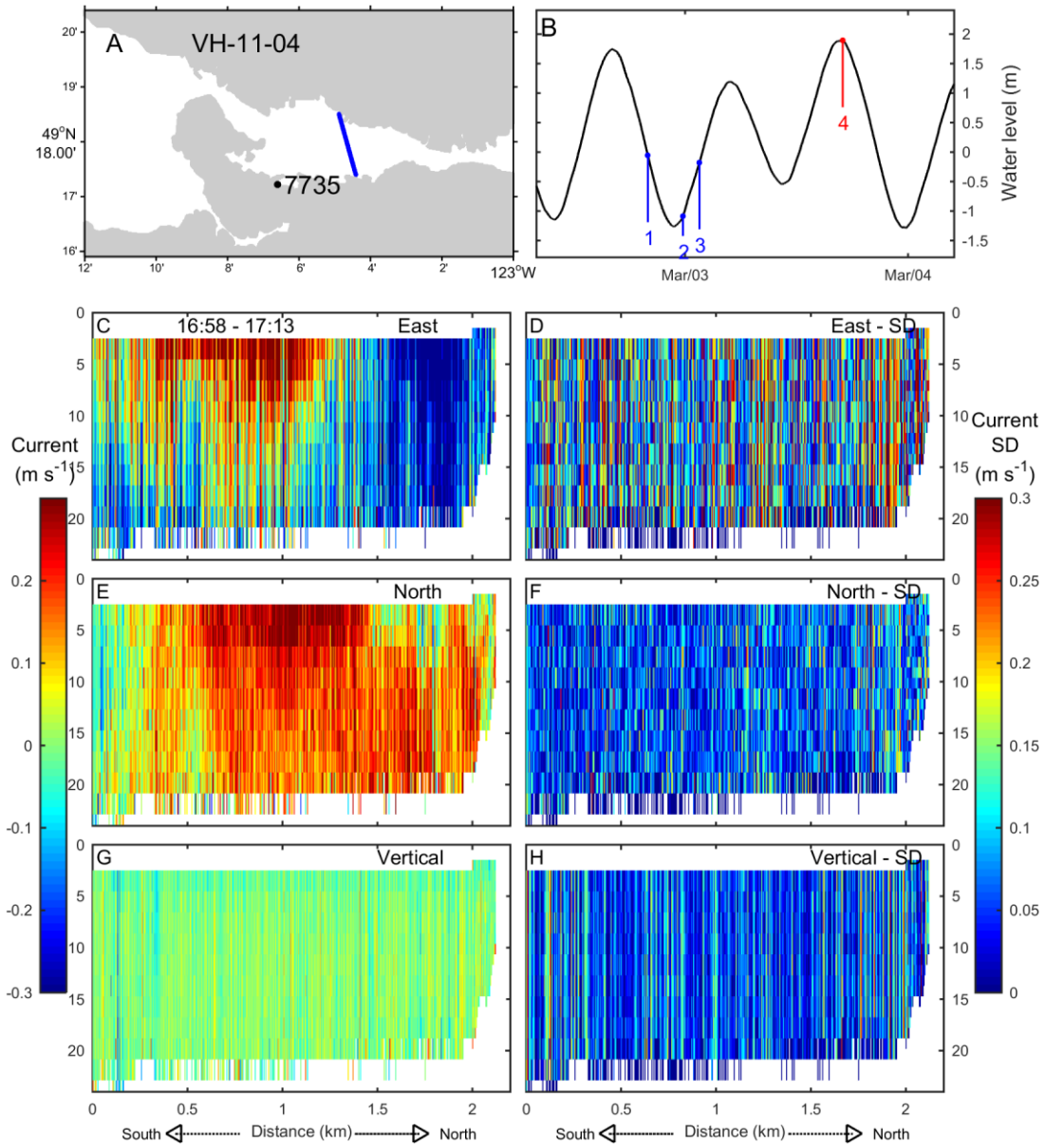

A
VH-10-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
1
2
C
19:22 - 19:38
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

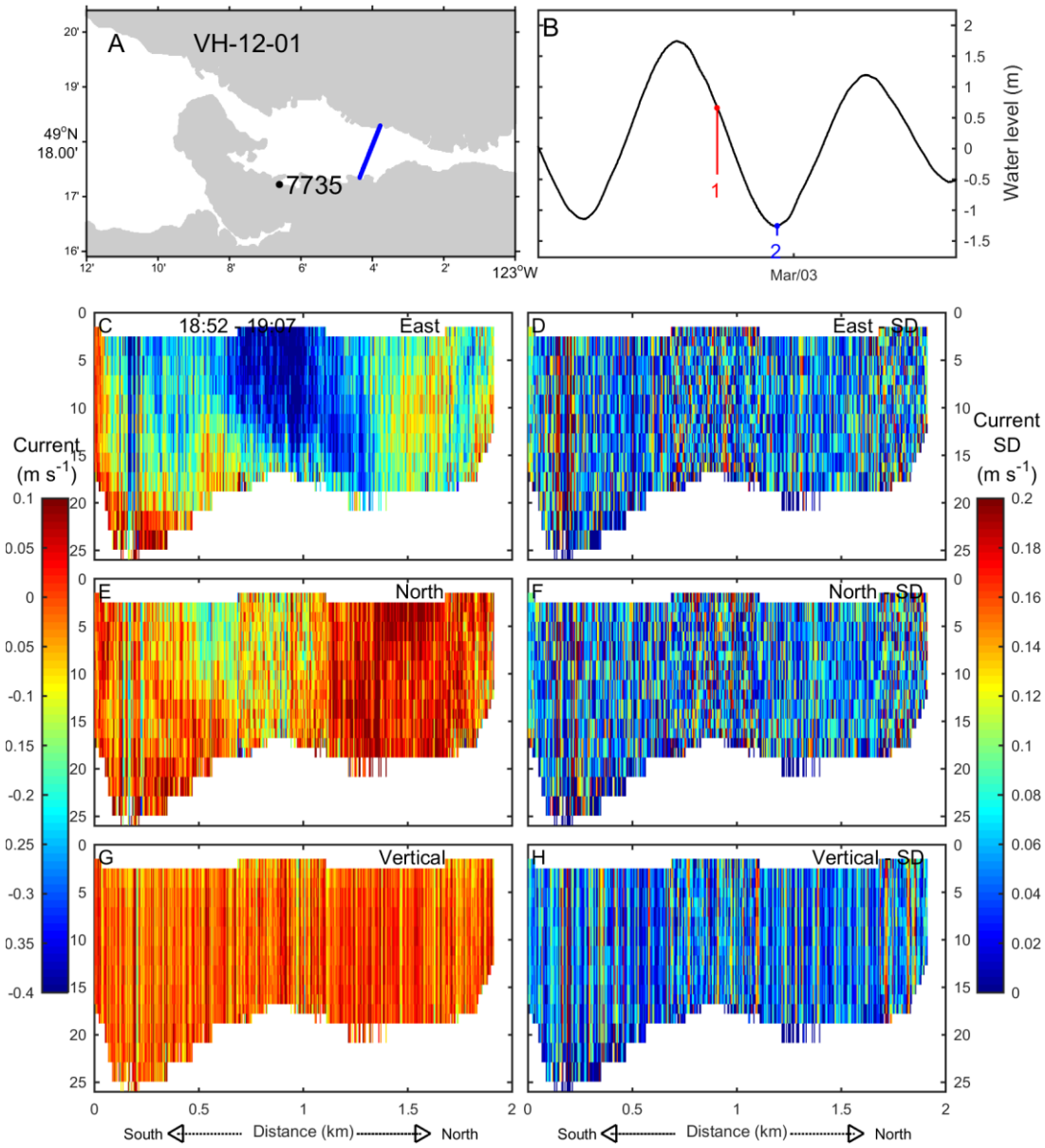

A
VH-10-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
22:20 - 22:38
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

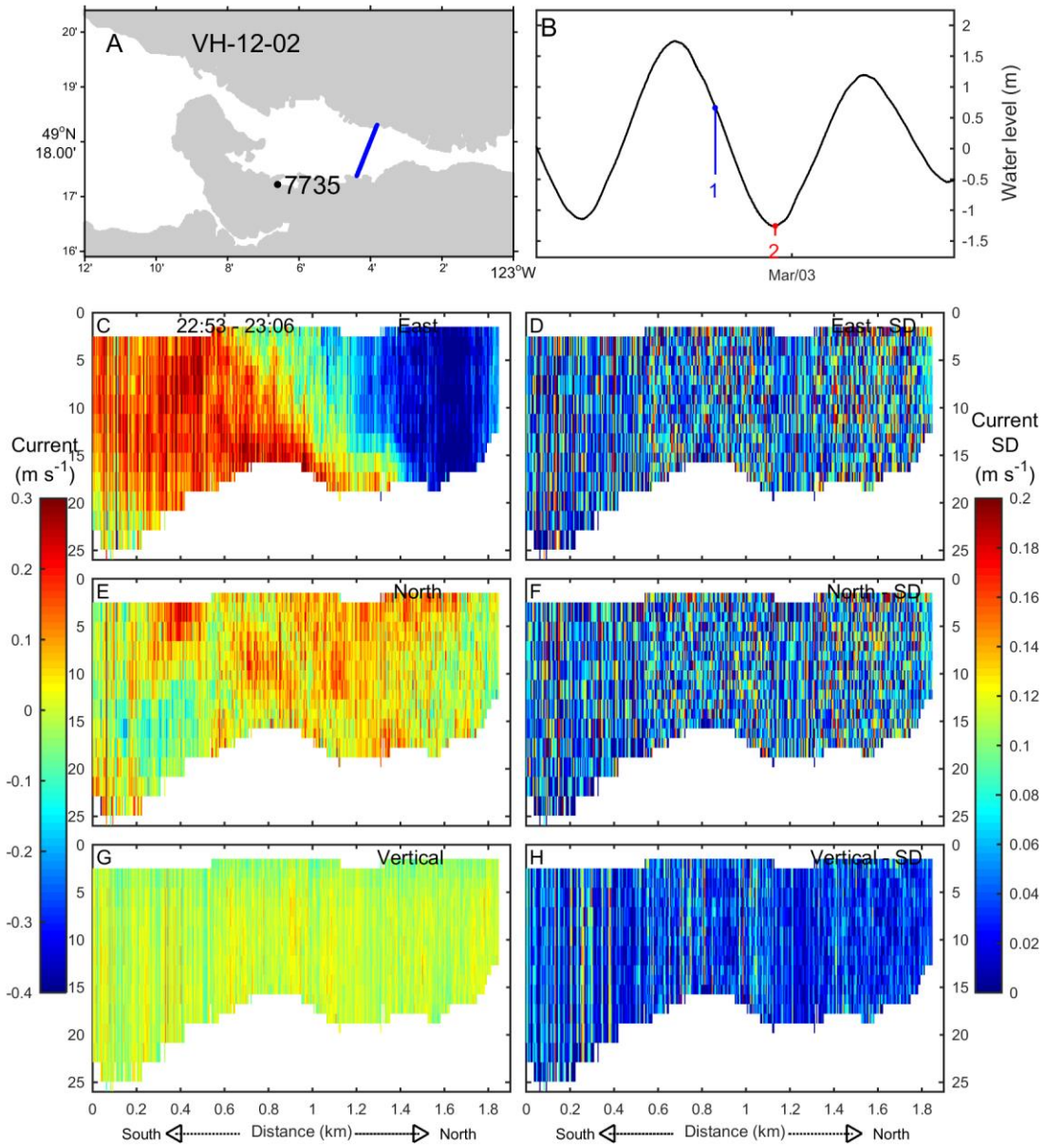

A
VH-11-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
19:59 - 20:17
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

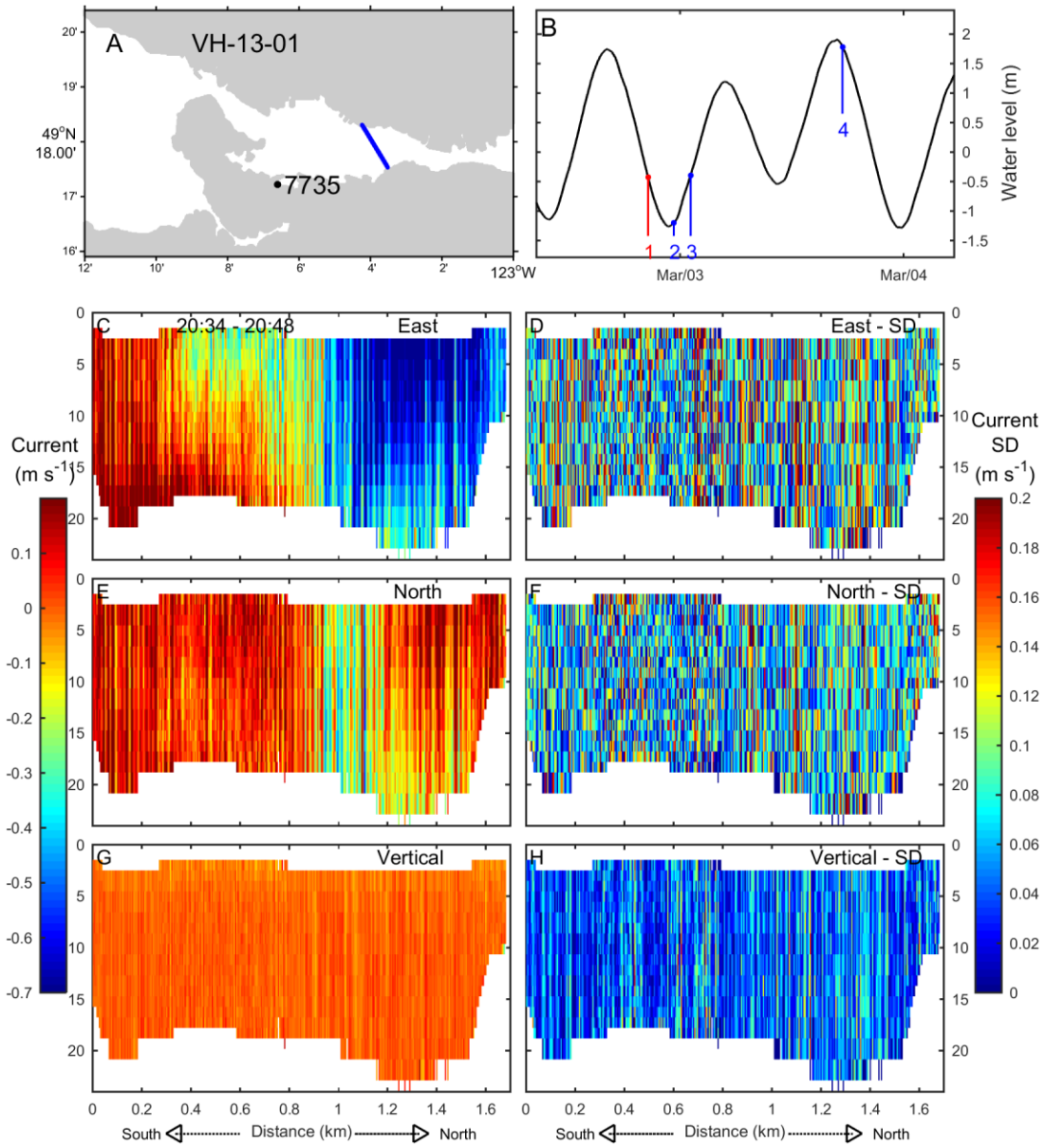

A
VH-11-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
23:46 - 00:01
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

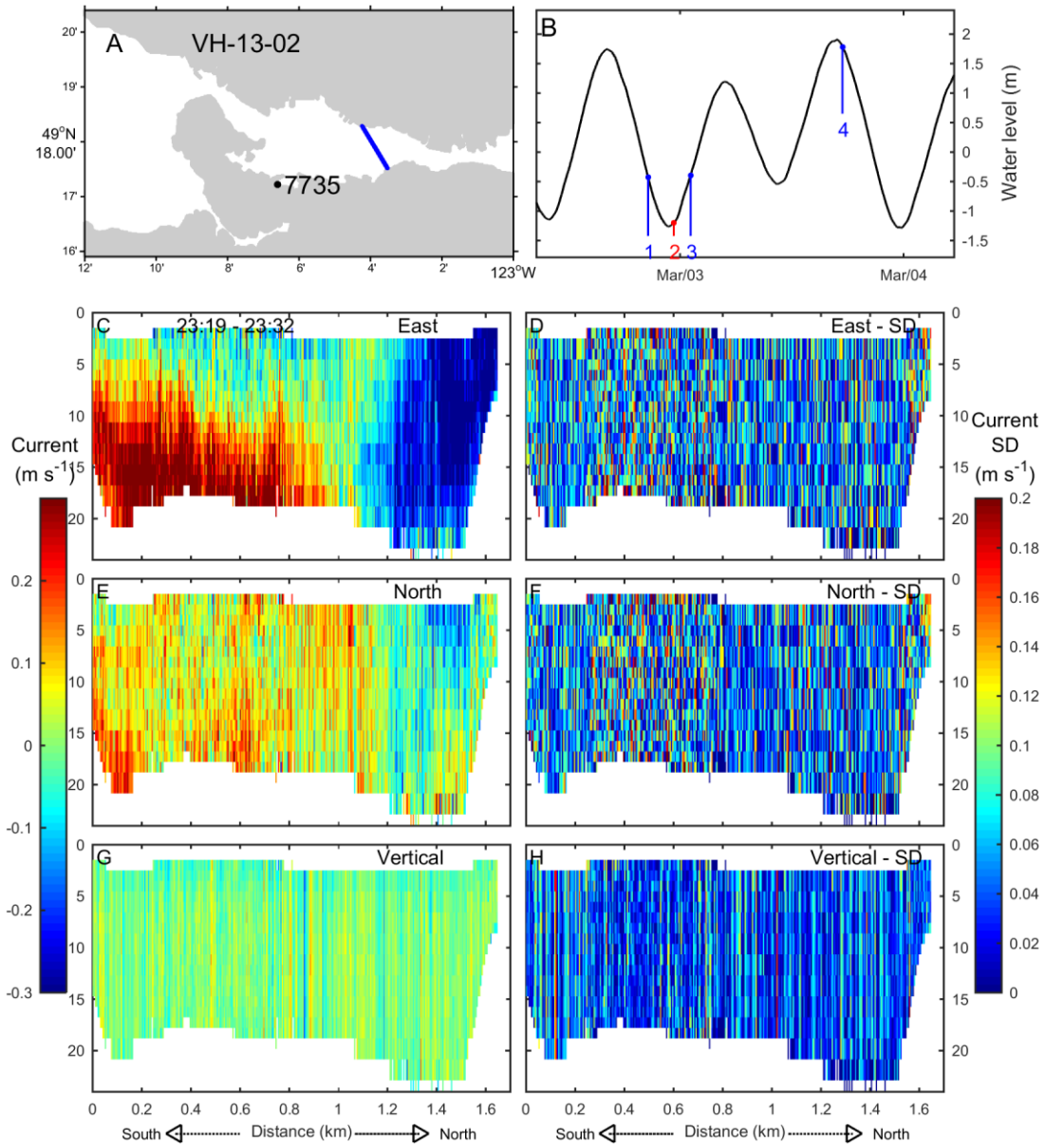

A
VH-11-03
•7735
49°N 18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C 01:33 - 01:47 East
D East - SD
E North
F North - SD
G Vertical
H Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

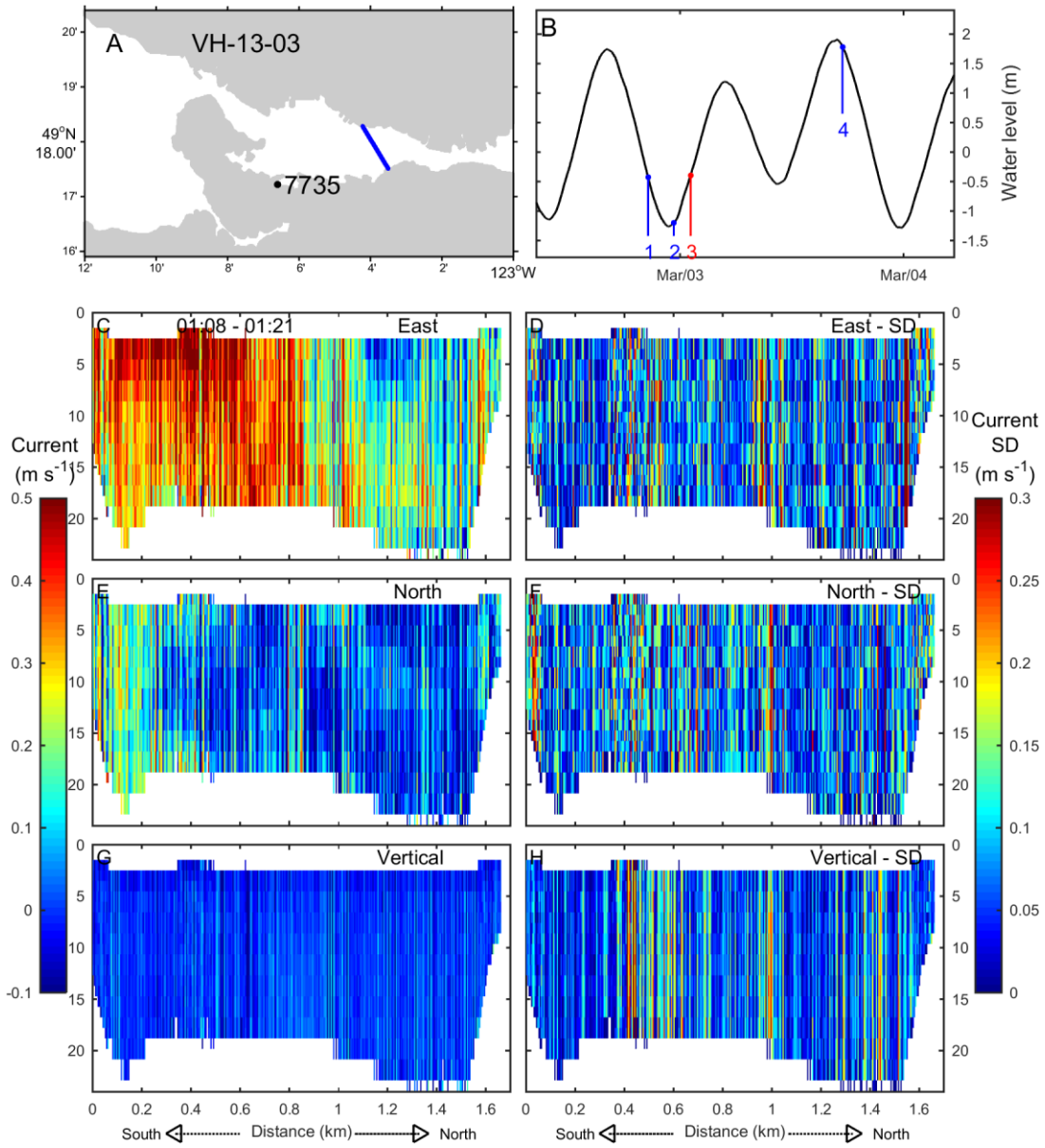

A
VH-11-04
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
16:58 - 17:13
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

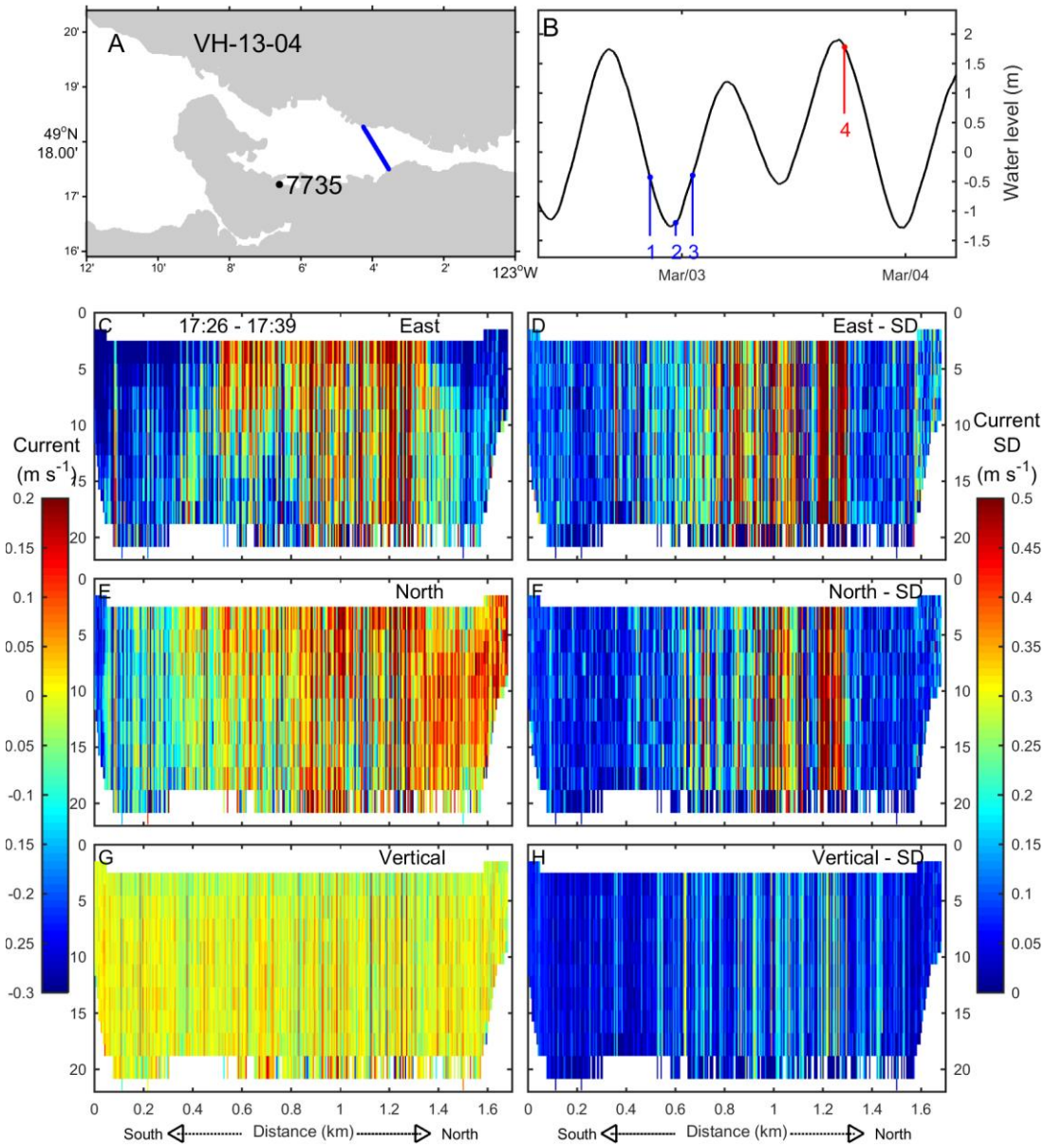

A
VH-12-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
18:52 - 19:07
East
D
East_SD
E
North
F
North_SD
G
Vertical
H
Vertical_SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North


A
VH-12-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
C
22:53 - 23:06
East
D
East_SD
E
North
F
North_SD
G
Vertical
H
Vertical_SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North


A
VH-13-01
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
1
2
3
4
C
20:34 - 20:48
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

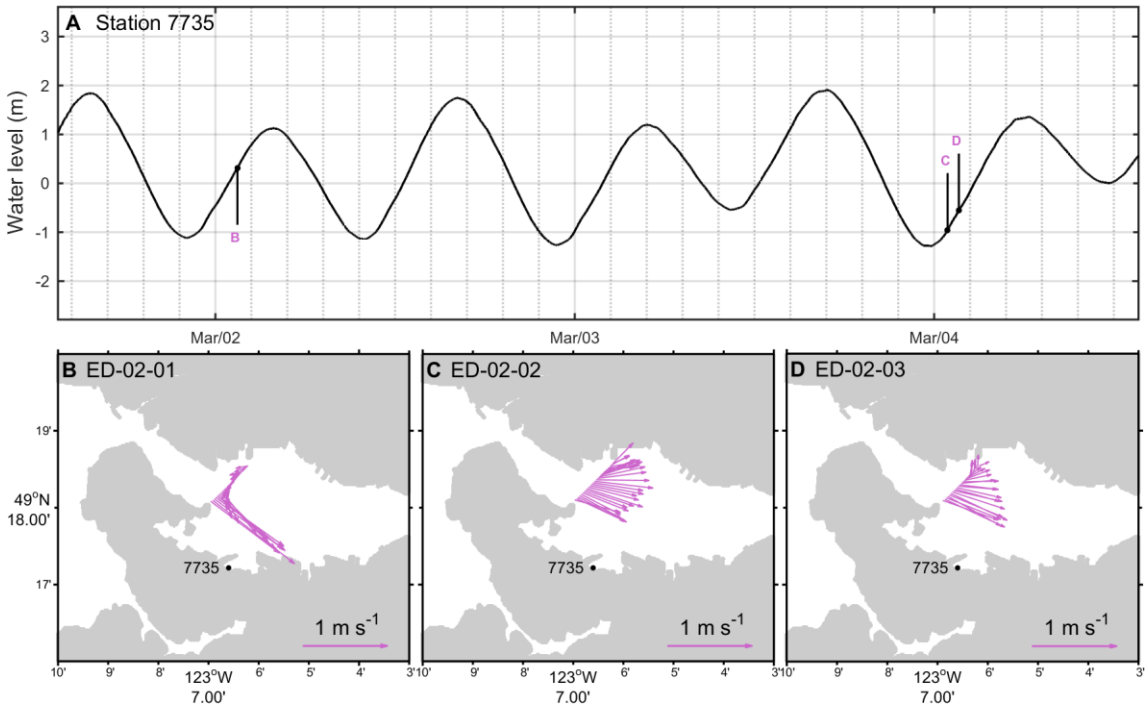

A
VH-13-02
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
23:19 - 23:32
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

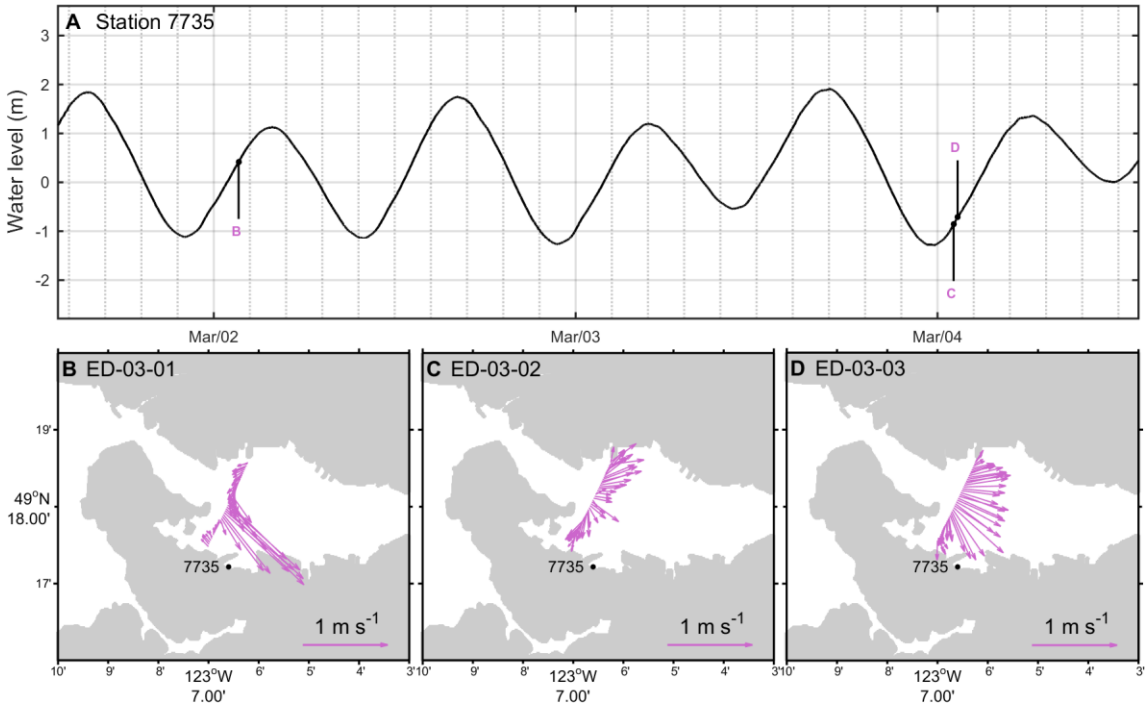

A
VH-13-03
•7735
49°N
18.00'
123°W
B
Water level (m)
Mar/03
Mar/04
C
01:08 - 01:21
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

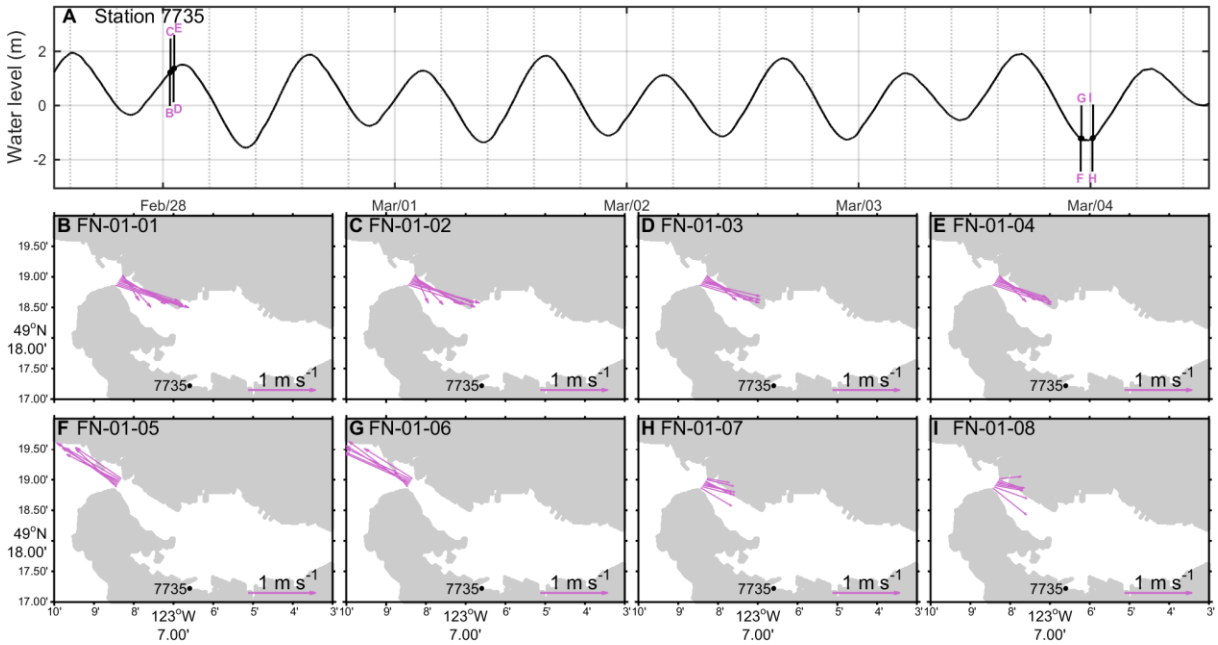


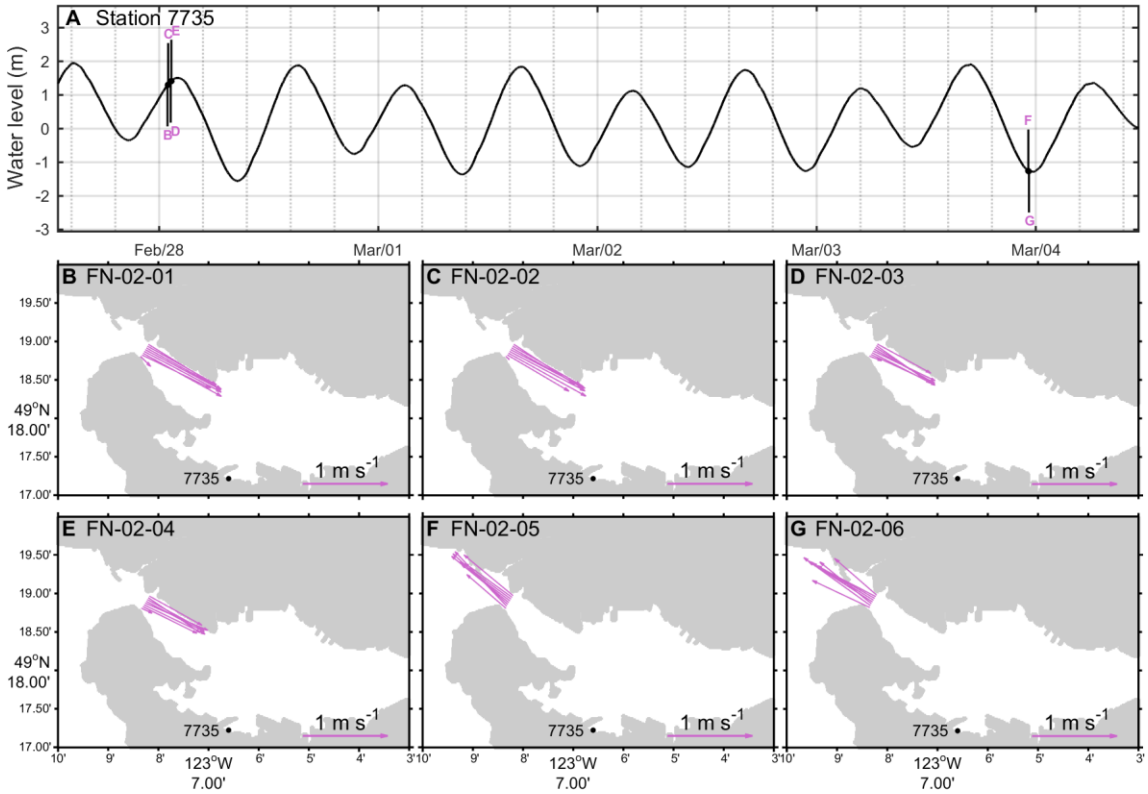

## 8.2 FEBRUARY/MARCH VELOCITY DATA QUIVER PLOTS

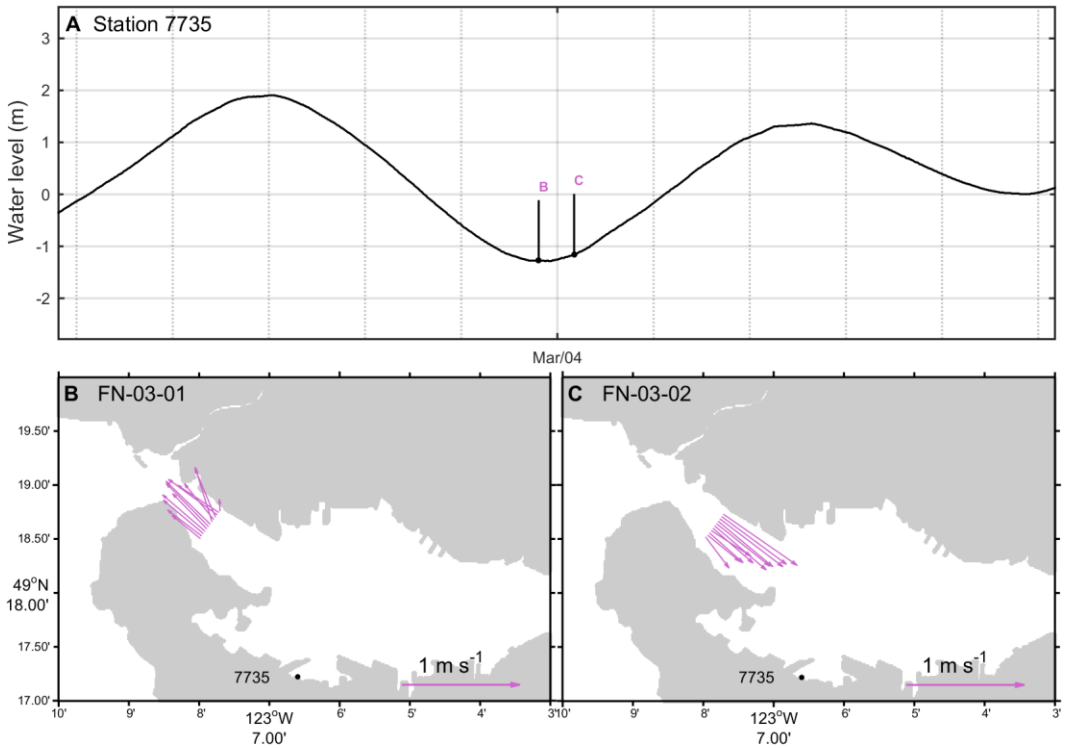
The following figures contain quiver plots (subplots B and above) for different sampling days at a single location. The plots show surface velocity for alongshore transects measured in February/March 2017. The figures show the tidal cycle (subplot A) with the time of sampling depicted on the tidal cycle plot with the letter of the corresponding quiver plot. For the velocity components, the mean measured speeds and standard deviations (SD) are shown. The units are in $ms^{-1}$.

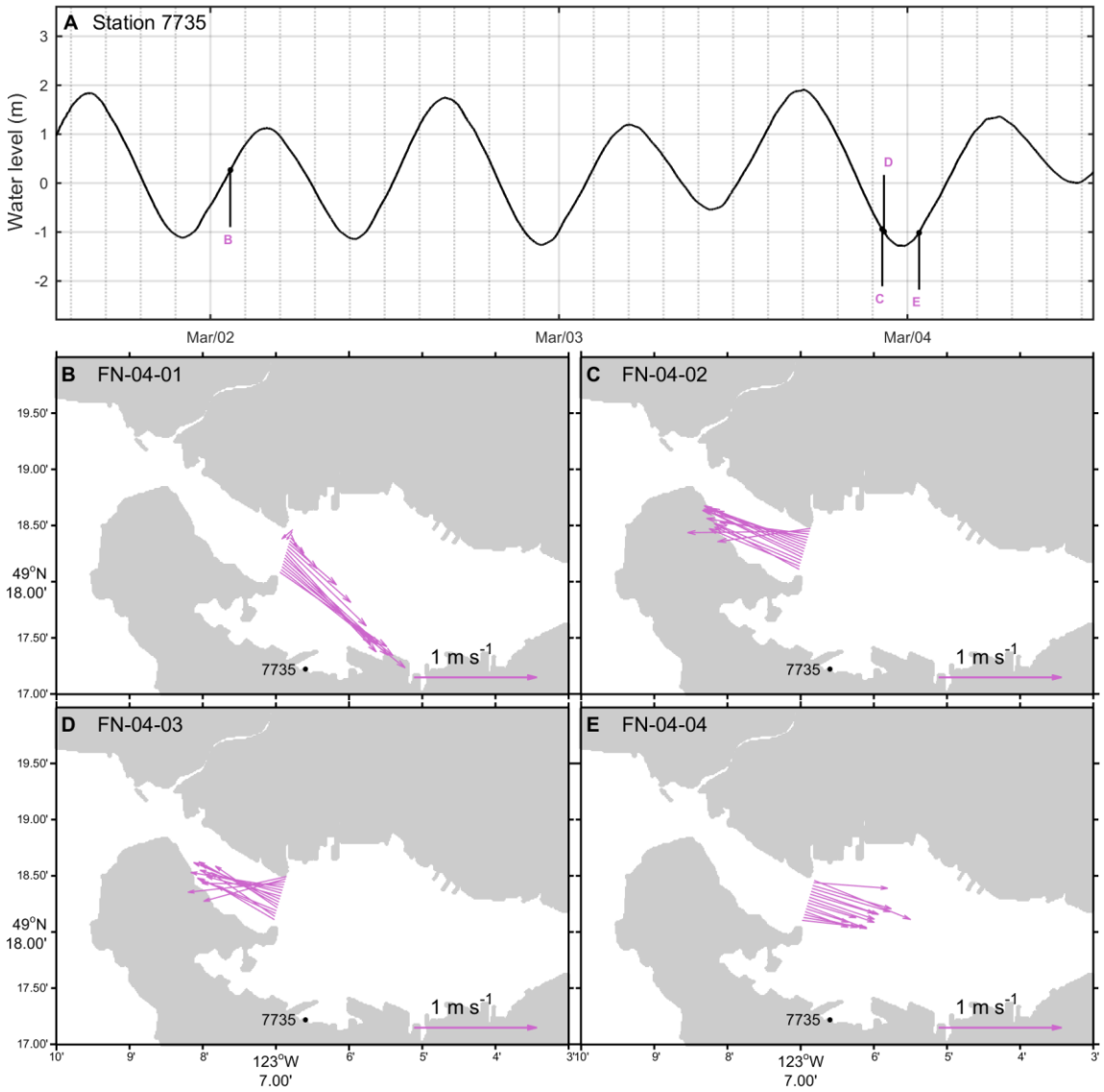

A Station 7735
Water level (m)
Mar/02
Mar/03
Mar/04
B ED-02-01
C ED-02-02
D ED-02-03
49°N 18.00'
7735
1 m s-1
123°W 7.00'

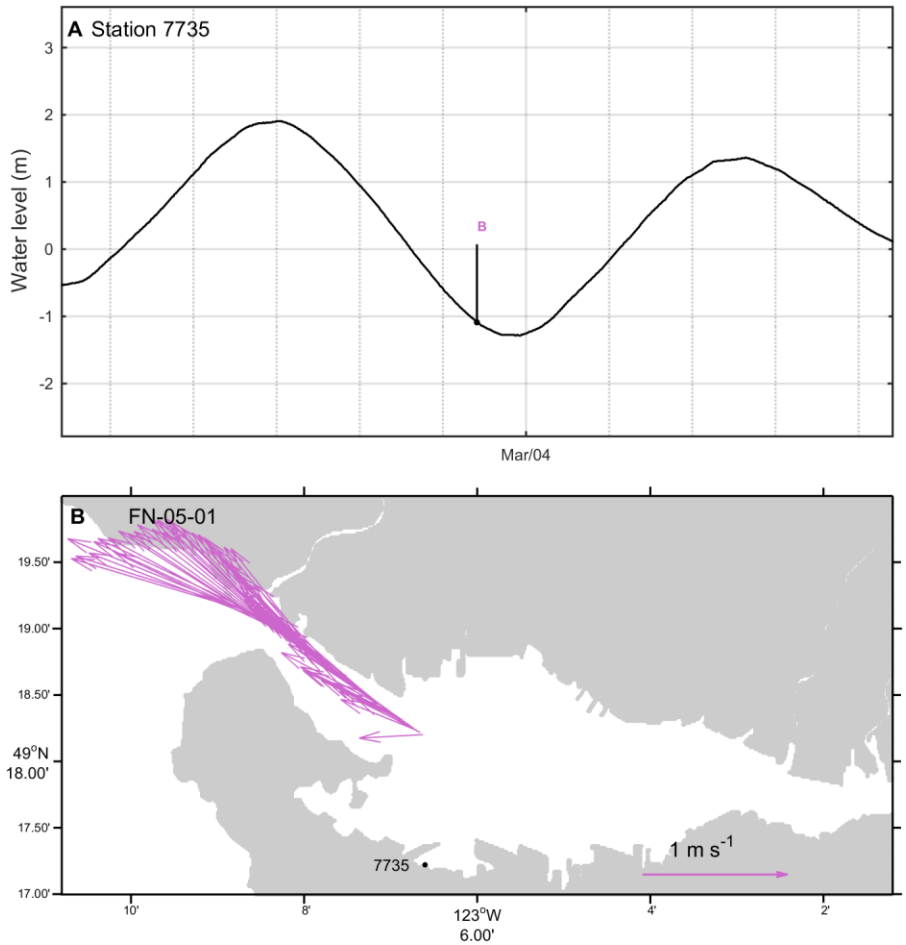

A Station 7735
Water level (m)
Mar/02
Mar/03
Mar/04
B ED-03-01
C ED-03-02
D ED-03-03
49°N 18.00'
7735
1 m s-1
123°W 7.00'

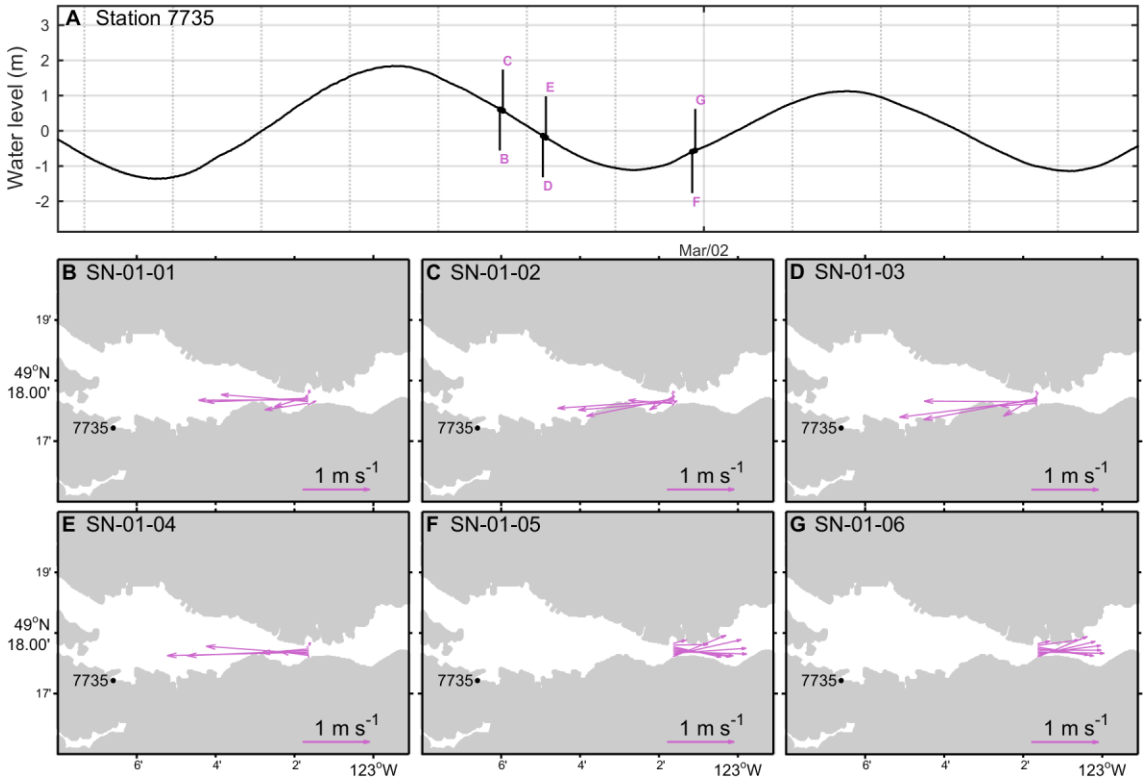

A Station 7735
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
B FN-01-01
C FN-01-02
D FN-01-03
E FN-01-04
F FN-01-05
G FN-01-06
H FN-01-07
I FN-01-08
7735
1 m s-1
49°N
18.00'
123°W
7.00'

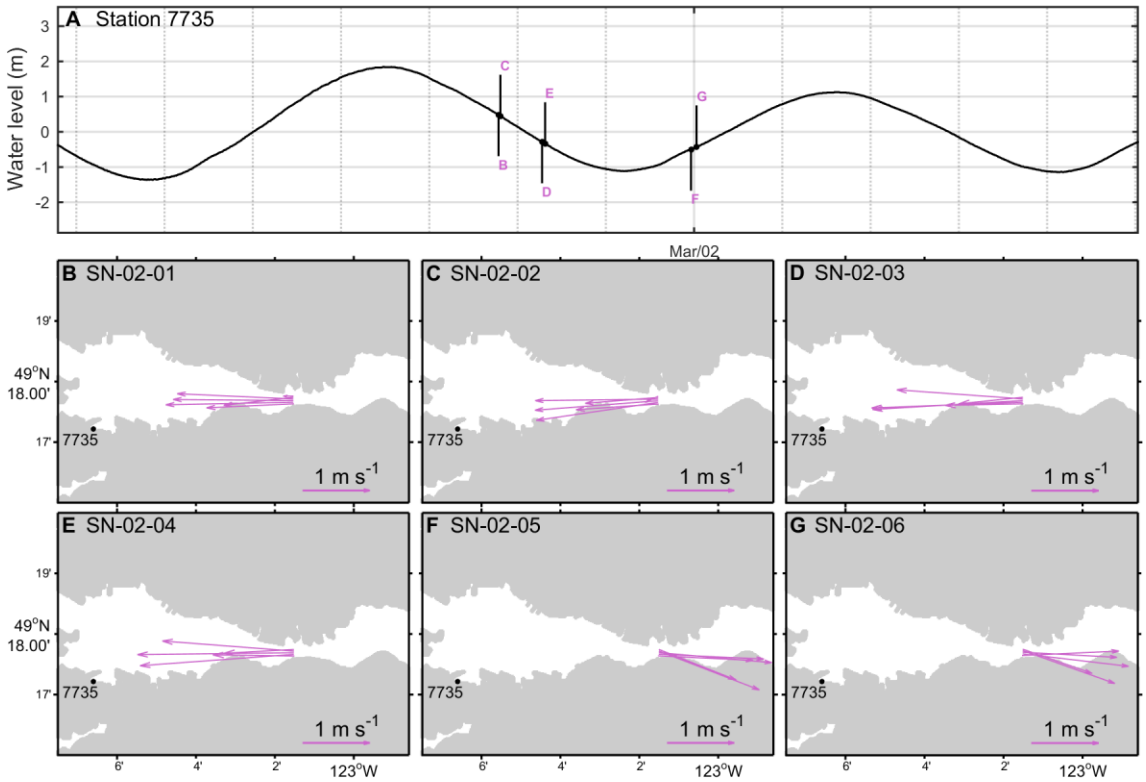

A Station 7735
Water level (m)
Feb/28
Mar/01
Mar/02
Mar/03
Mar/04
B FN-02-01
C FN-02-02
D FN-02-03
E FN-02-04
F FN-02-05
G FN-02-06
7735
1 m s-1
49°N
18.00'
123°W
7.00'

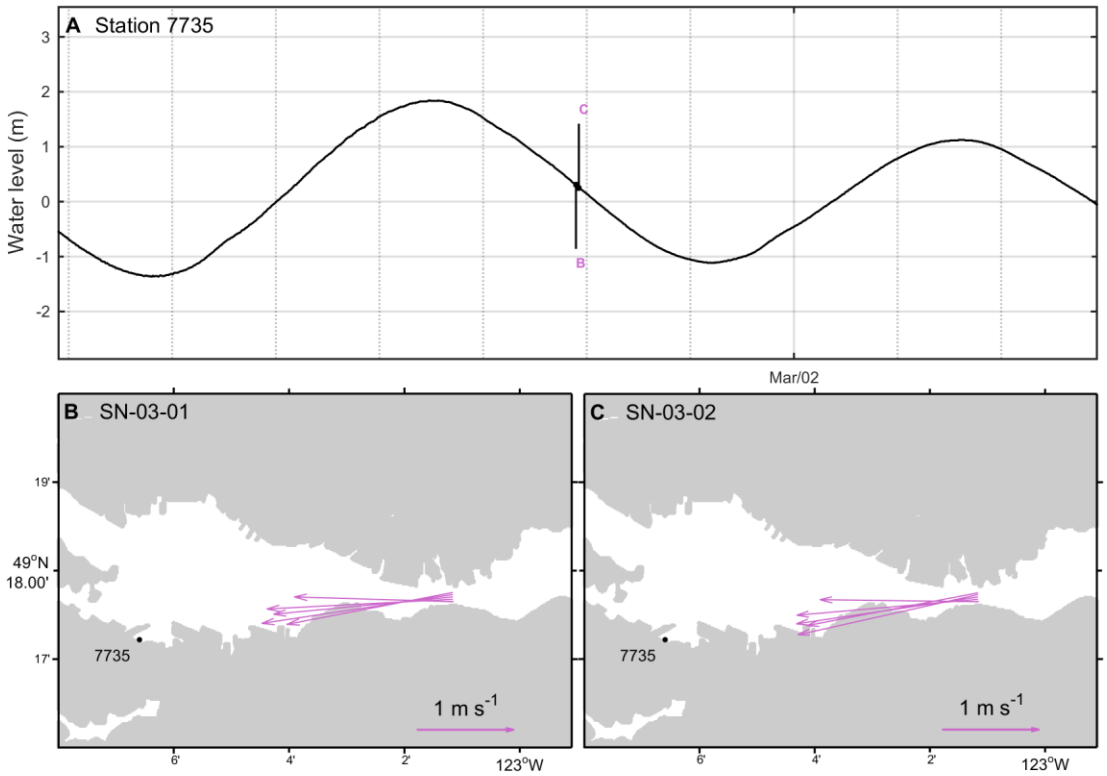

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
Mar/04
B FN-03-01
C FN-03-02
19.50'
19.00'
18.50'
49°N
18.00'
17.50'
17.00'
10'
9'
8'
123°W
7.00'
6'
5'
4'
3'
7735
1 m s-1

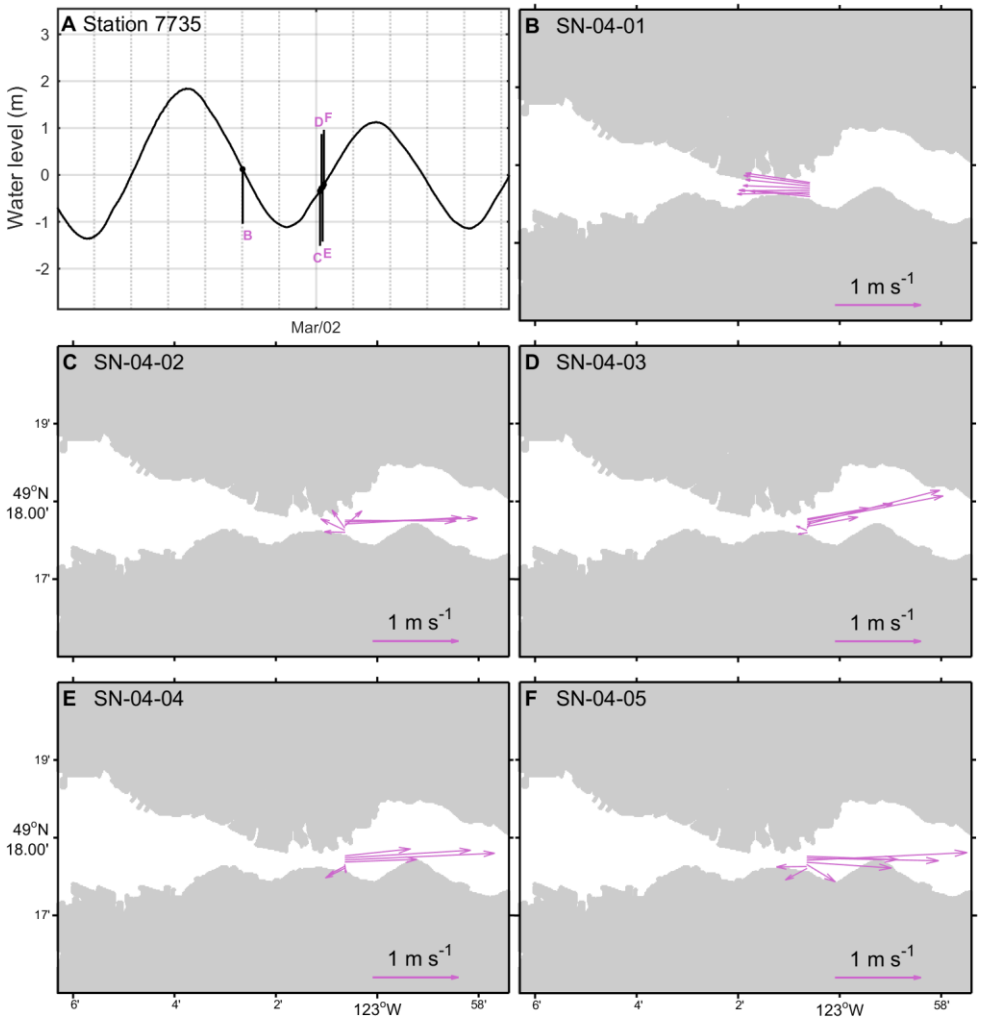

A Station 7735
Water level (m)
Mar/02
Mar/03
Mar/04
B
C
D
E
B FN-04-01
C FN-04-02
D FN-04-03
E FN-04-04
7735
1 m s-1
49°N
18.00'
123°W
7.00'

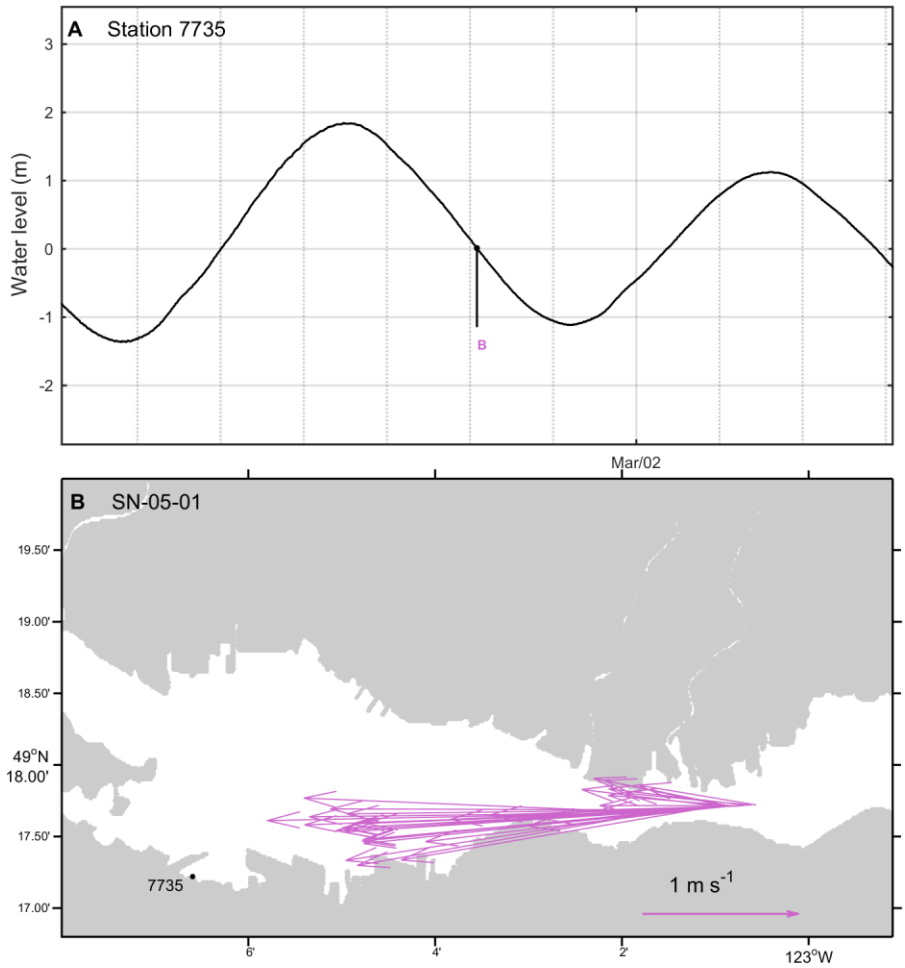

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
Mar/04
B FN-05-01
19.50'
19.00'
18.50'
49°N
18.00'
17.50'
17.00'
7735
1 m s-1
10'
8'
123°W
6.00'
4'
2'

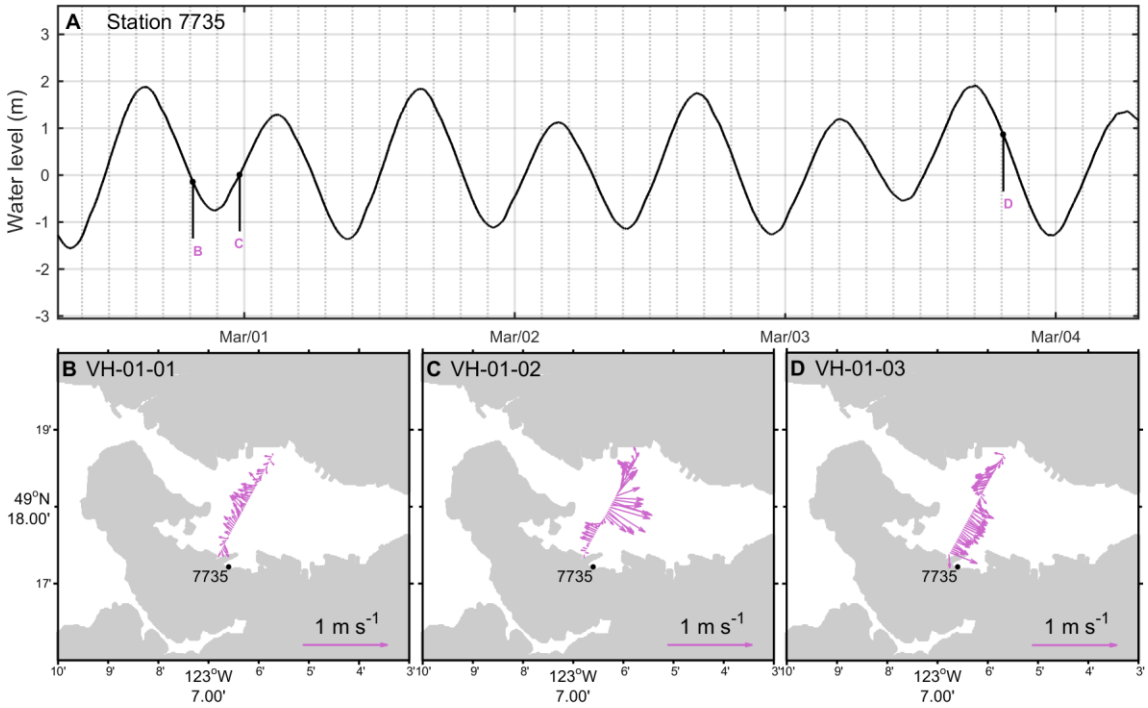

A Station 7735
Water level (m)
3
2
1
0
-1
-2
C
E
G
B
D
F
Mar/02
B SN-01-01
C SN-01-02
D SN-01-03
E SN-01-04
F SN-01-05
G SN-01-06
19'
49°N
18.00'
17'
7735
1 m s-1
6'
4'
2'
123°W

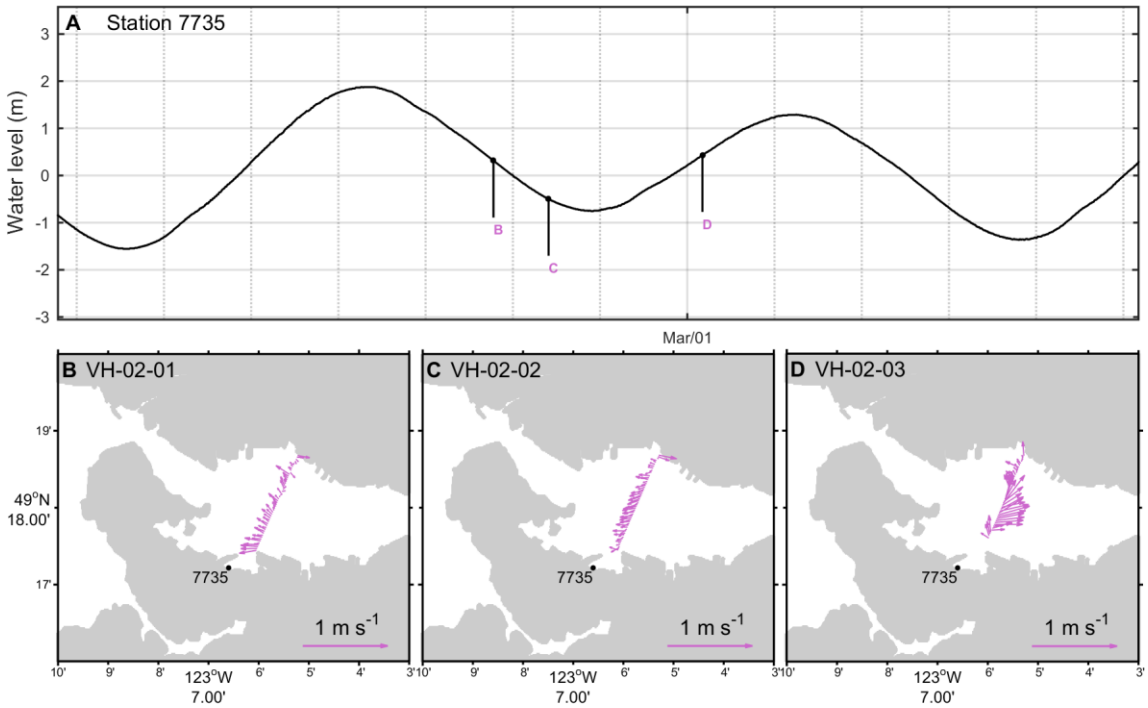

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
D
E
F
G
Mar/02
B SN-02-01
C SN-02-02
D SN-02-03
E SN-02-04
F SN-02-05
G SN-02-06
19'
49°N
18.00'
17'
7735
1 m s-1
6'
4'
2'
123°W

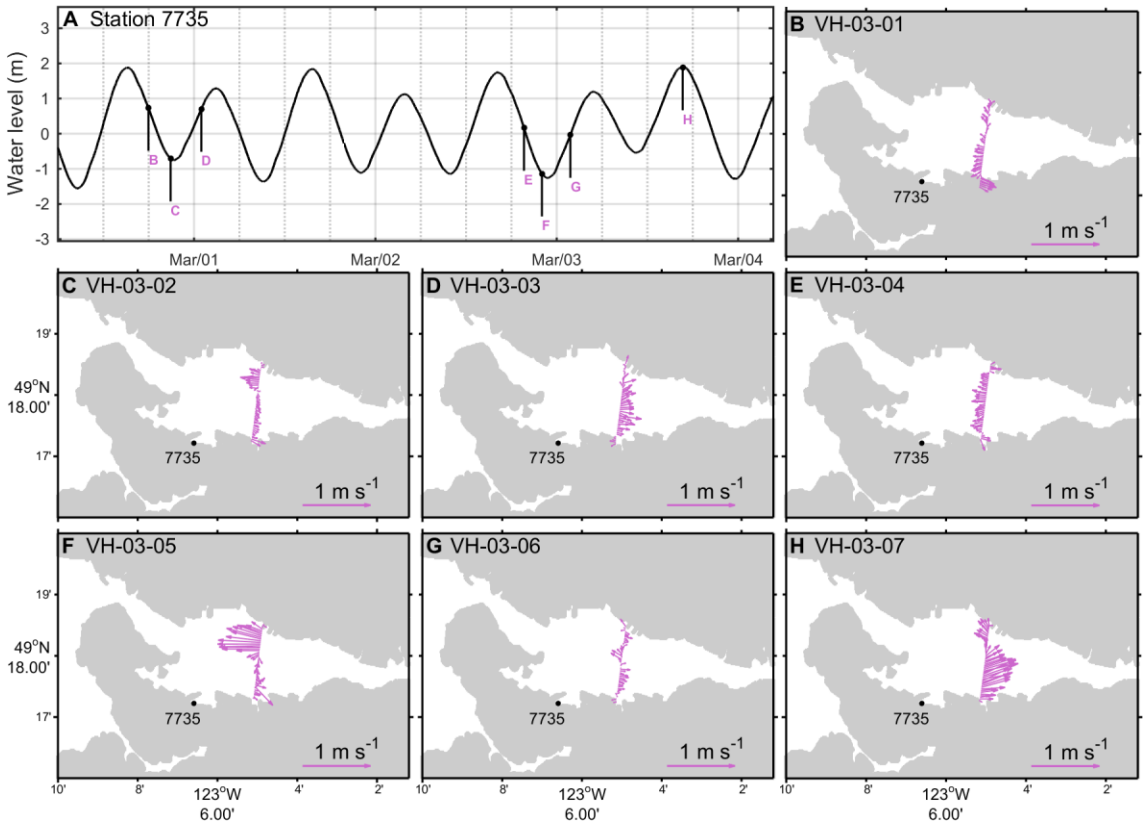

A Station 7735
Water level (m)
3
2
1
0
-1
-2
C
B
Mar/02
B SN-03-01
C SN-03-02
19'
49°N
18.00'
17'
7735
1 m s-1
6'
4'
2'
123°W

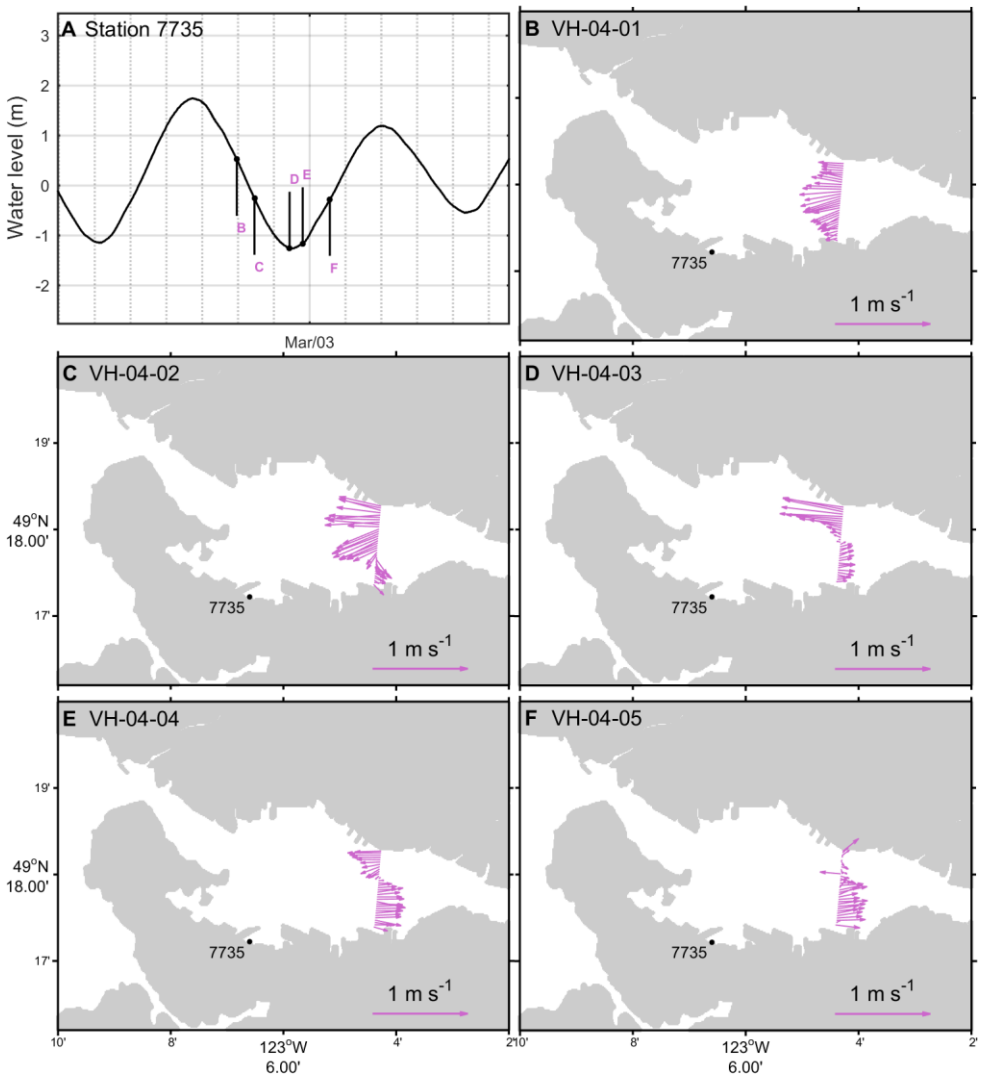

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C E
D F
Mar/02
B SN-04-01
1 m s-1
C SN-04-02
D SN-04-03
E SN-04-04
F SN-04-05
19'
49°N
18.00'
17'
6'
4'
2'
123°W
58'

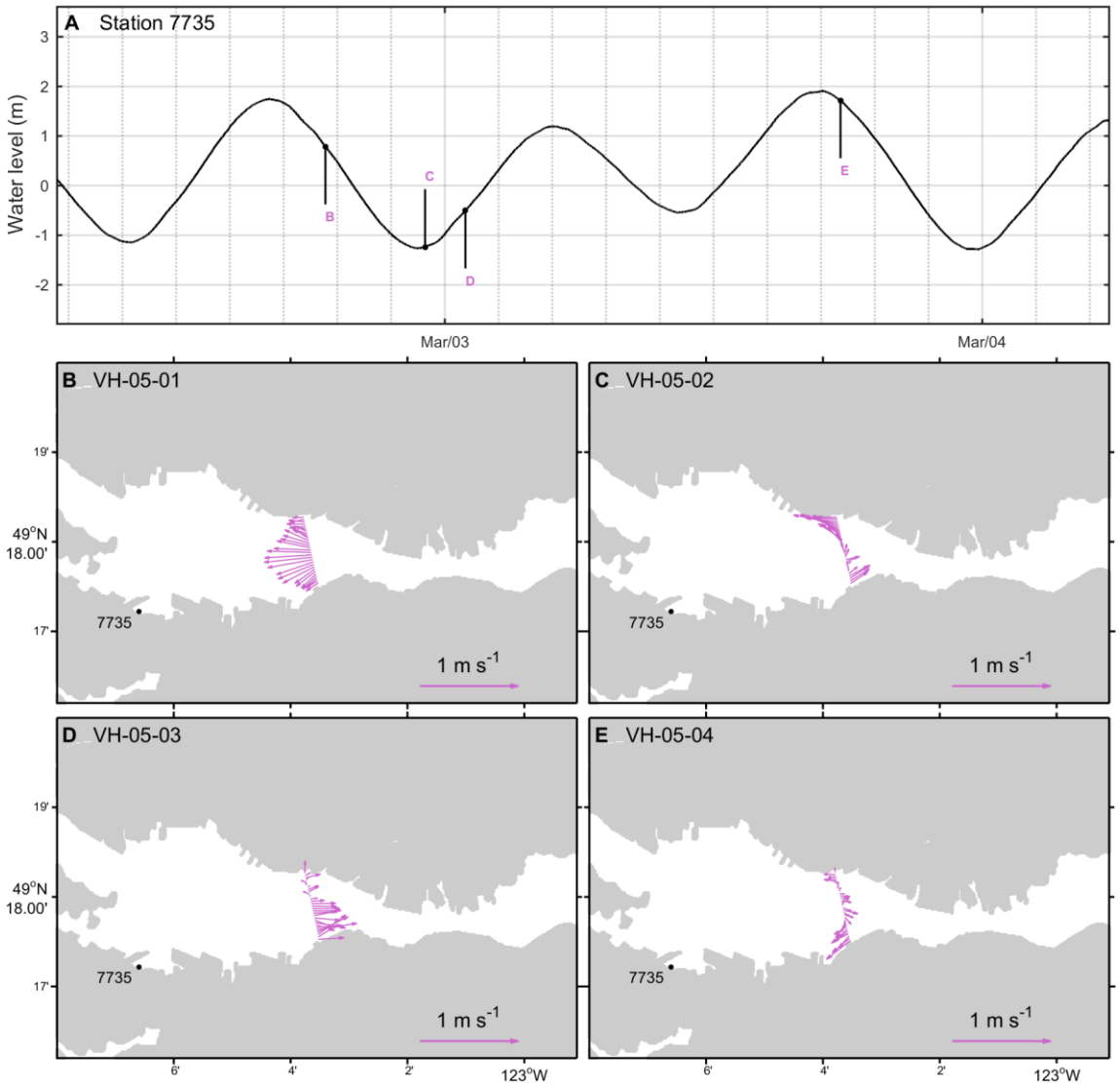

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
Mar/02
B SN-05-01
19.50'
19.00'
18.50'
49°N
18.00'
17.50'
17.00'
7735
1 m s-1
6'
4'
2'
123°W

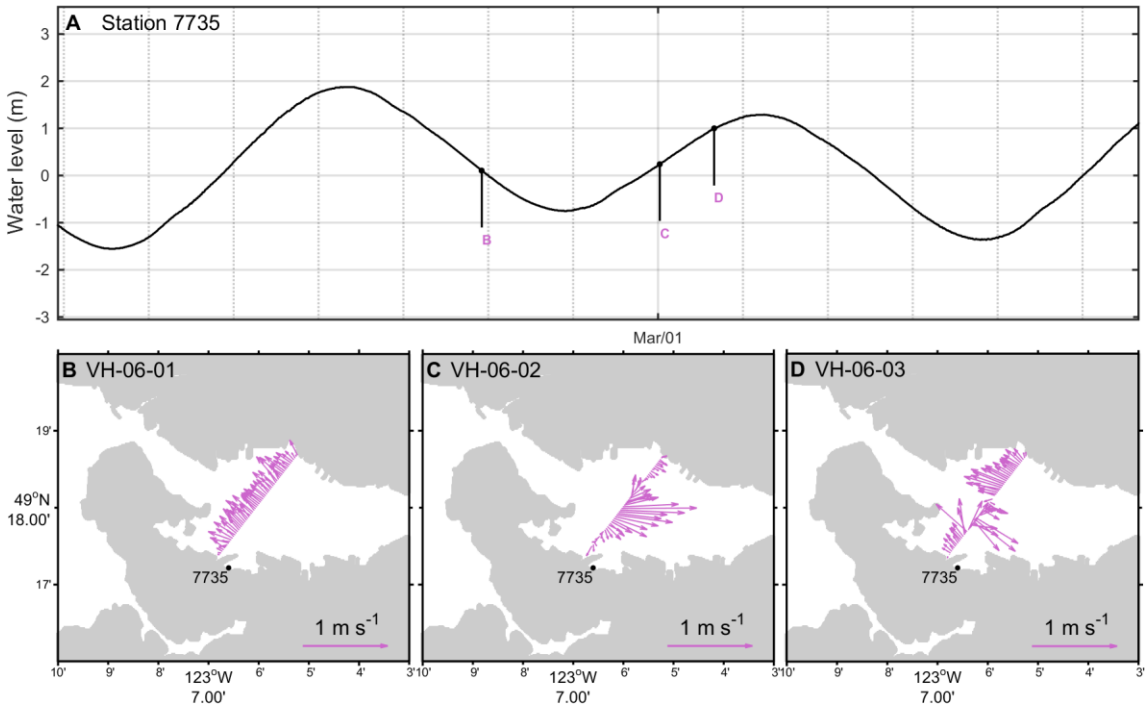

A Station 7735
Water level (m)
3
2
1
0
-1
-2
-3
B
C
D
Mar/01
Mar/02
Mar/03
Mar/04
B VH-01-01
C VH-01-02
D VH-01-03
19'
49°N
18.00'
17'
7735
1 m s-1
10'
9'
8'
123°W
7.00'
6'
5'
4'
3'

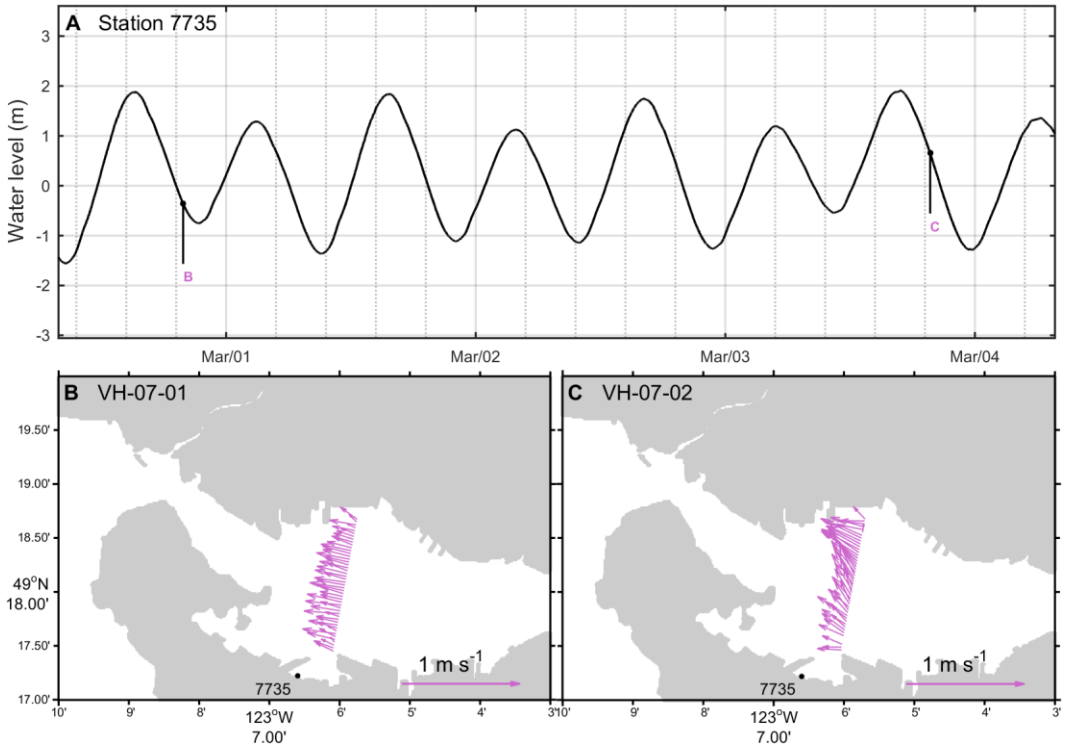

A Station 7735
Water level (m)
3
2
1
0
-1
-2
-3
B
C
D
Mar/01
B VH-02-01
C VH-02-02
D VH-02-03
19'
49°N
18.00'
17'
7735
1 m s-1
10'
9'
8'
123°W
7.00'
6'
5'
4'
3'

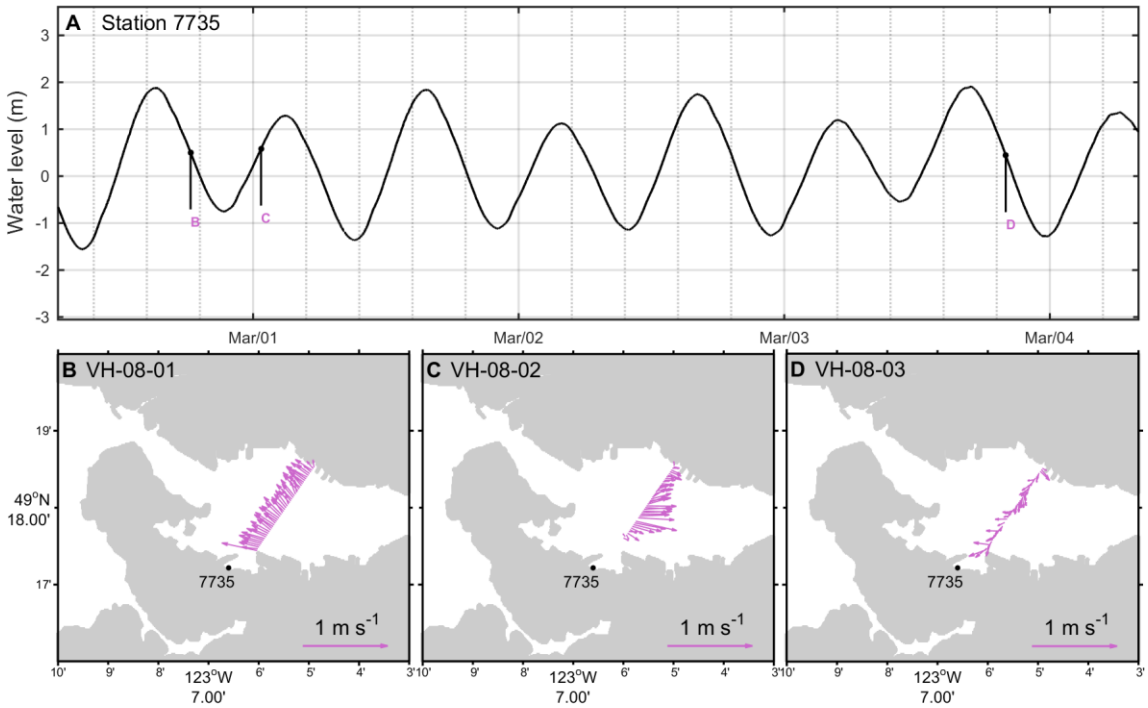

A Station 7735
Water level (m)
3
2
1
0
-1
-2
-3
B
C
D
E
F
G
H
Mar/01
Mar/02
Mar/03
Mar/04
B VH-03-01
C VH-03-02
D VH-03-03
E VH-03-04
F VH-03-05
G VH-03-06
H VH-03-07
7735
1 m s-1
19'
49°N
18.00'
17'
10'
8'
123°W
6.00'
4'
2'

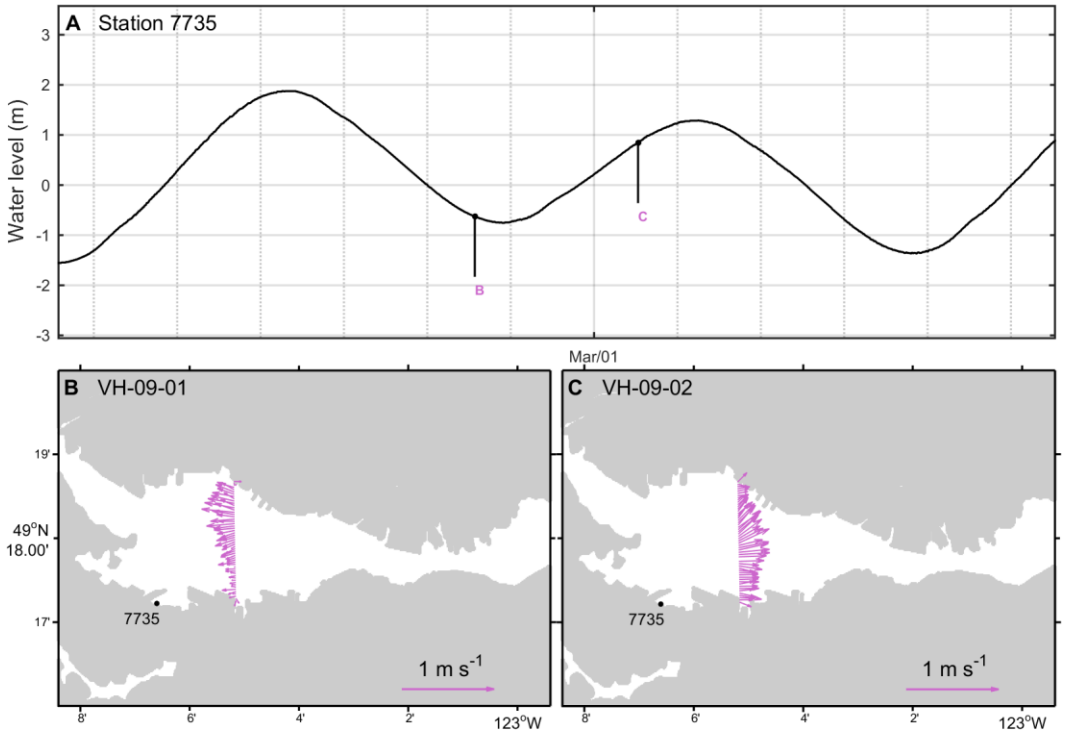

A Station 7735
Water level (m)
Mar/03
B
C
D
E
F
B VH-04-01
C VH-04-02
D VH-04-03
E VH-04-04
F VH-04-05
7735
1 m s-1
49°N
18.00'
19'
17'
123°W
6.00'
10'
8'
4'
2'

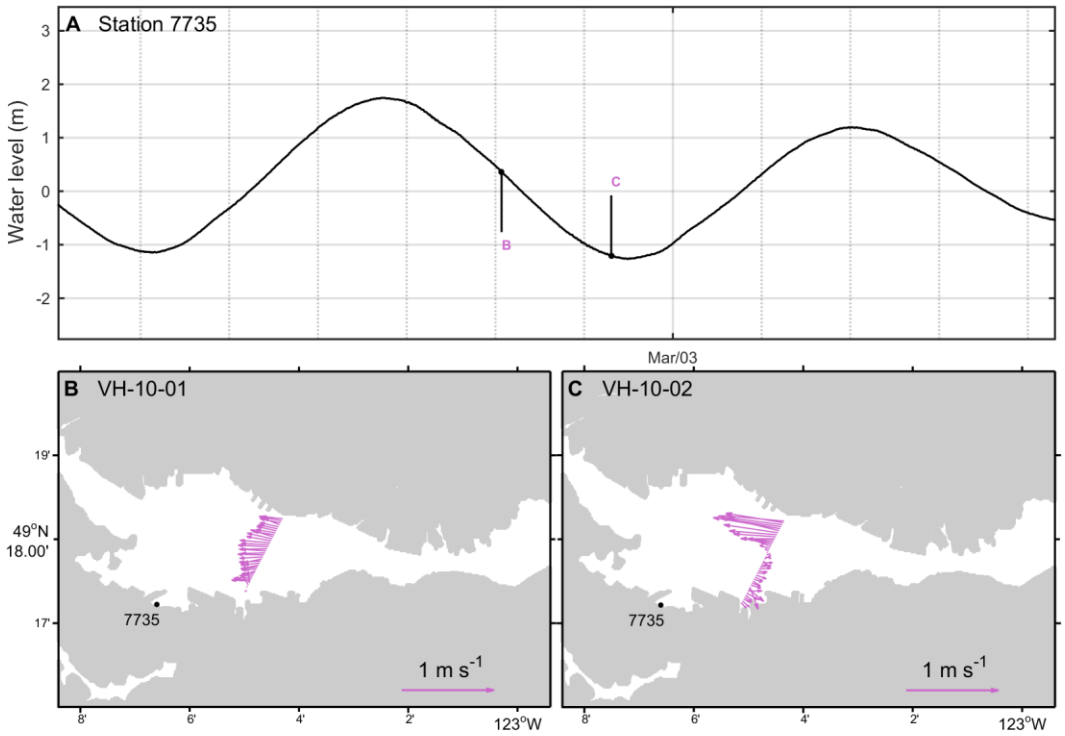

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
D
E
Mar/03
Mar/04
B VH-05-01
C VH-05-02
D VH-05-03
E VH-05-04
19'
49°N
18.00'
17'
7735
1 m s-1
6'
4'
2'
123°W

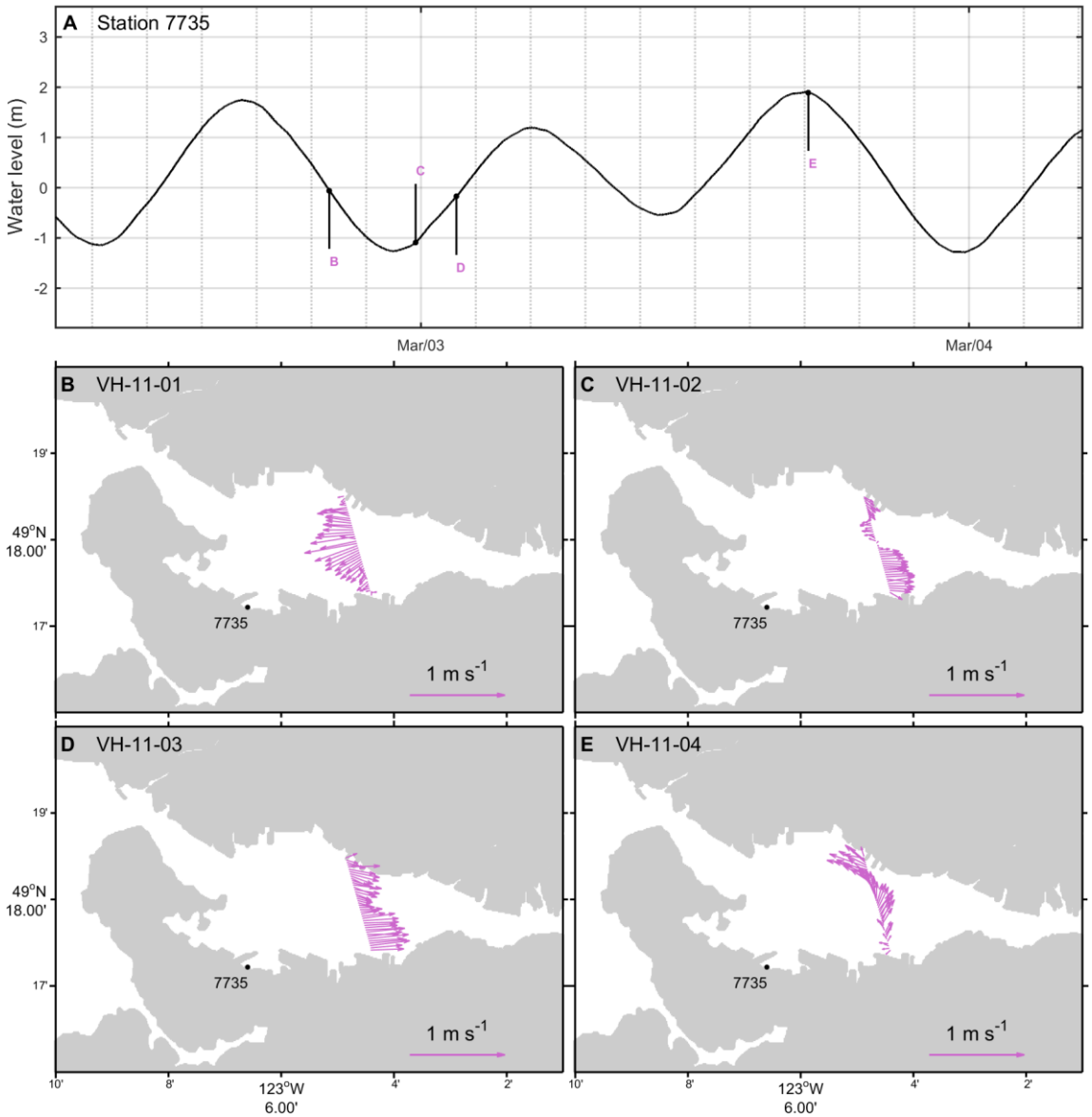

A Station 7735
Water level (m)
Mar/01
B
C
D
B VH-06-01
C VH-06-02
D VH-06-03
49°N
18.00'
7735
1 m s-1
123°W
7.00'

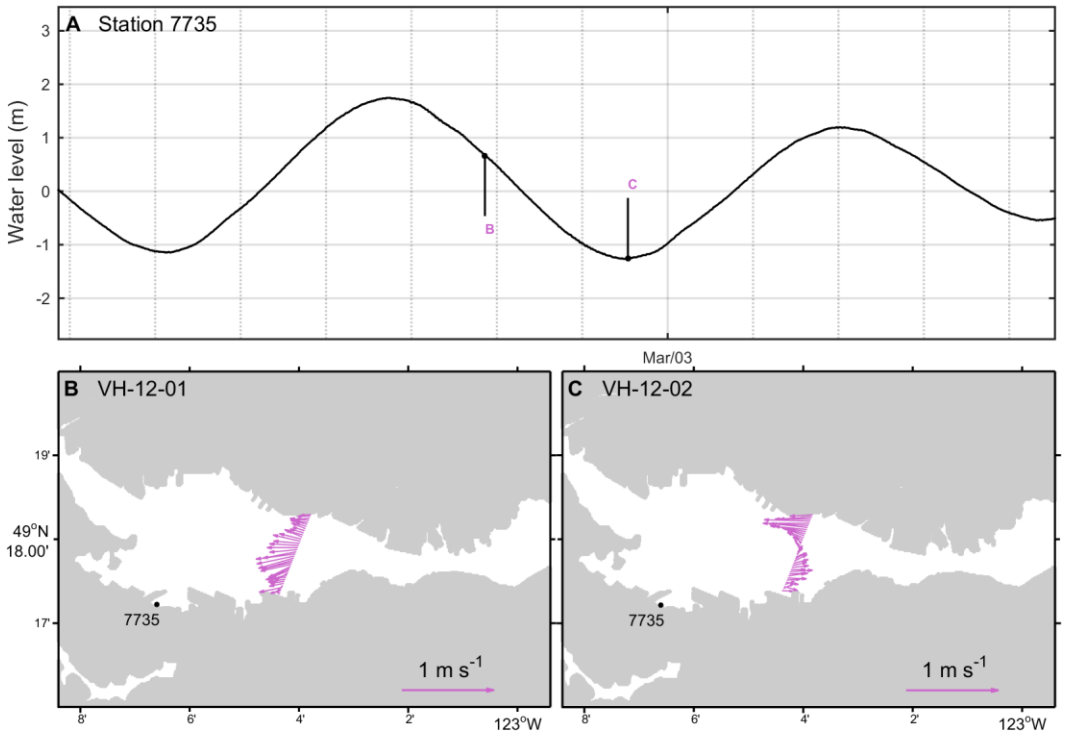

A Station 7735
Water level (m)
Mar/01
Mar/02
Mar/03
Mar/04
B
C
B VH-07-01
C VH-07-02
49°N
18.00'
7735
1 m s-1
123°W
7.00'

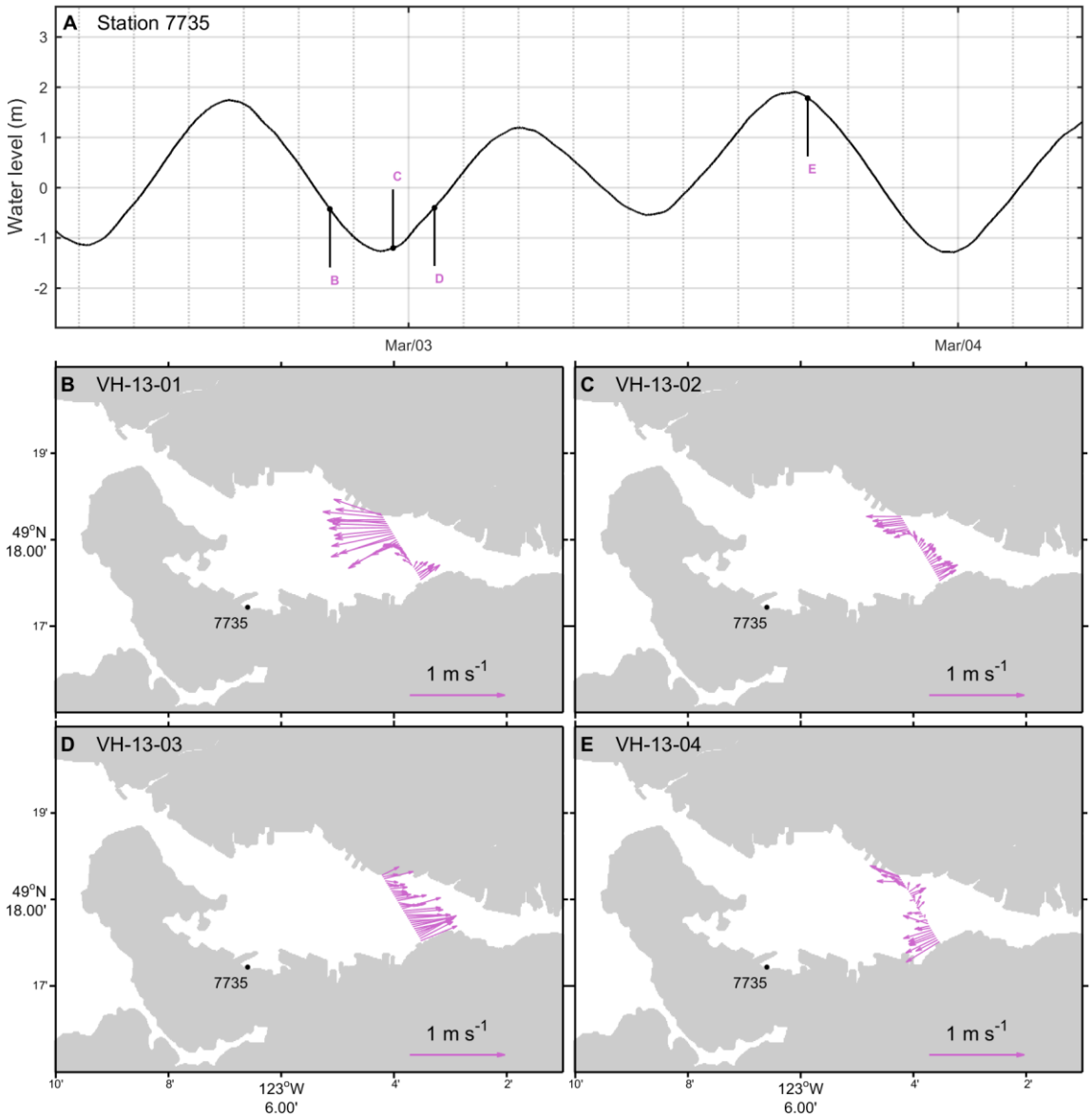

A Station 7735
Water level (m)
B
C
D
Mar/01
Mar/02
Mar/03
Mar/04
B VH-08-01
C VH-08-02
D VH-08-03
49°N
18.00'
19'
17'
7735
1 m s-1
123°W
7.00'


A Station 7735
Water level (m)
B
C
Mar/01
B VH-09-01
C VH-09-02
49°N
18.00'
19'
17'
7735
1 m s-1
123°W


A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
Mar/03
B VH-10-01
C VH-10-02
19'
49°N
18.00'
17'
7735
1 m s-1
8'
6'
4'
2'
123°W


A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
D
E
Mar/03
Mar/04
B VH-11-01
C VH-11-02
D VH-11-03
E VH-11-04
19'
49°N
18.00'
17'
7735
1 m s-1
10'
8'
123°W
6.00'
4'
2'


A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
C
Mar/03
B VH-12-01
C VH-12-02
19'
49°N
18.00'
17'
7735
1 m s-1
8'
6'
4'
2'
123°W




# 9 APPENDIX 4: JUNE VESSEL-MOUNTED ADCP DATA

The metadata for the vessel-mounted ADCP lines sampled in June are listed in this Appendix. We also present vertical sections and quiver plots of the velocities.

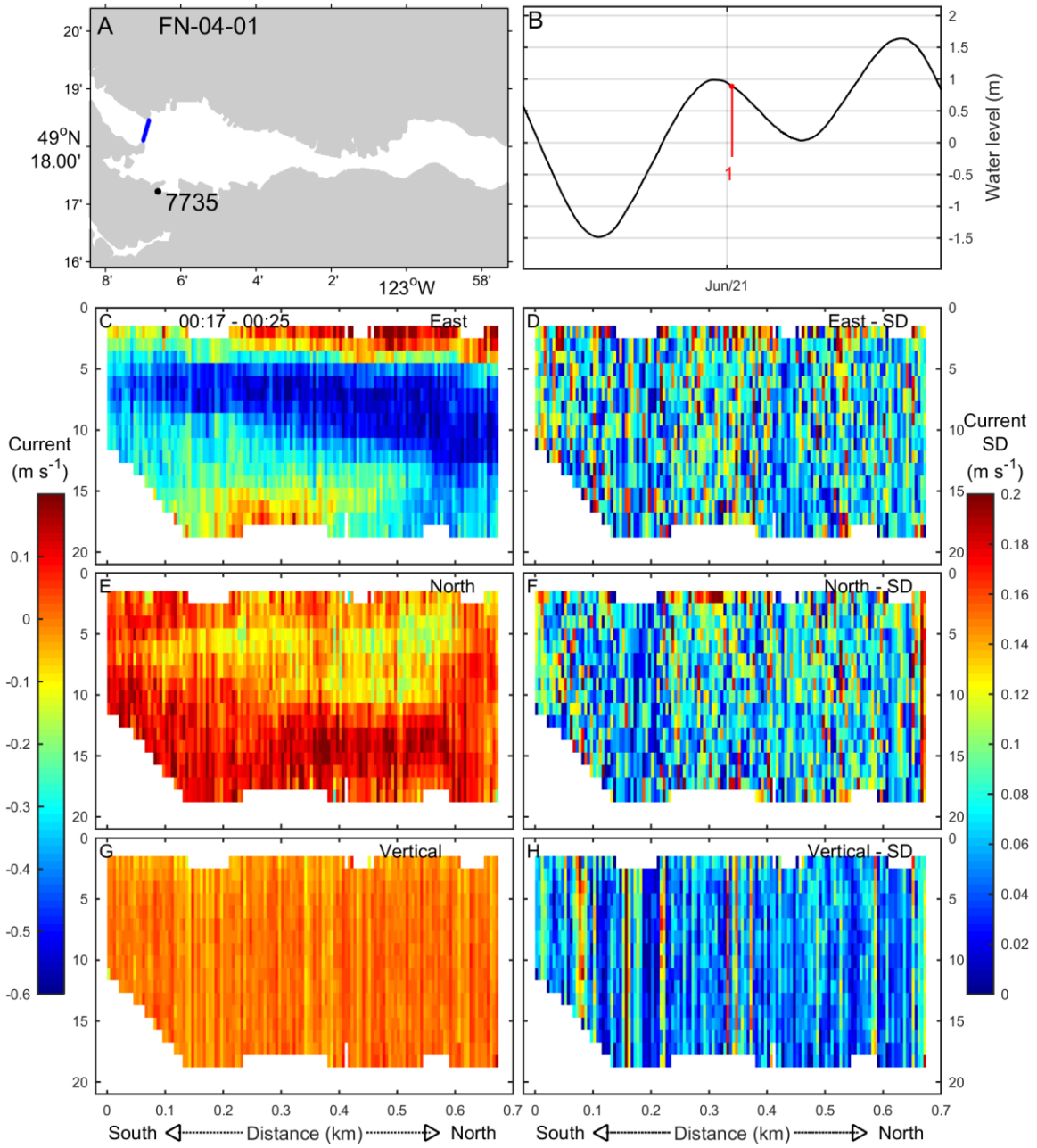
| ADCP June | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| FN_04_01 | 21-Jun-2017 00:17:04 | 21-Jun-2017 00:25:09 | 49.3018 | -123.1166 | 49.3076 | -123.1140 | 1.47 | 18.81 |
| SN_06_01 | 22-Jun-2017 18:15:12 | 22-Jun-2017 18:20:09 | 49.2923 | -123.0057 | 49.2970 | -123.0051 | 1.47 | 32.07 |

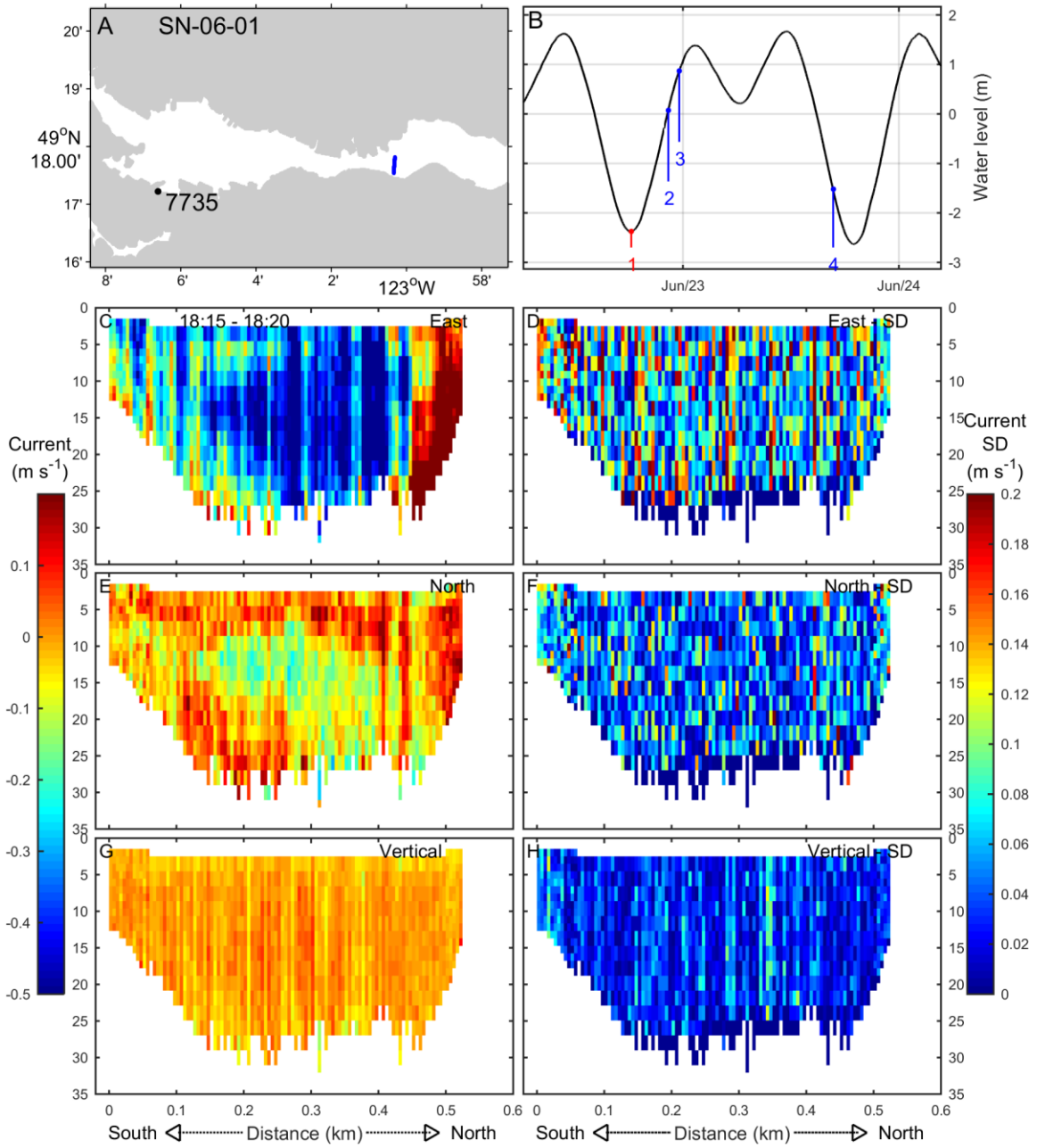
| ADCP June | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| SN_06_02 | 22-Jun-2017 22:22:06 | 22-Jun-2017 22:28:48 | 49.2921 | -123.0064 | 49.2971 | -123.0059 | 1.47 | 34.11 |
| SN_06_03 | 22-Jun-2017 23:34:53 | 22-Jun-2017 23:42:03 | 49.2922 | -123.0061 | 49.2971 | -123.0056 | 1.47 | 34.11 |
| SN_06_04 | 23-Jun-2017 16:41:51 | 23-Jun-2017 16:45:59 | 49.2925 | -123.0057 | 49.2969 | -123.0052 | 1.47 | 30.03 |
| SN_07_01 | 22-Jun-2017 17:54:09 | 22-Jun-2017 18:03:45 | 49.2947 | -122.9918 | 49.3013 | -122.9924 | 1.47 | 30.03 |
| SN_07_02 | 22-Jun-2017 18:35:03 | 22-Jun-2017 18:41:26 | 49.2947 | -122.9917 | 49.3015 | -122.9924 | 1.47 | 30.03 |
| SN_07_03 | 22-Jun-2017 21:50:35 | 22-Jun-2017 21:56:51 | 49.2953 | -122.9901 | 49.3011 | -122.9906 | 1.47 | 32.07 |
| SN_07_04 | 22-Jun-2017 21:59:26 | 22-Jun-2017 22:06:06 | 49.2943 | -122.9923 | 49.3011 | -122.9930 | 1.47 | 32.07 |
| SN_07_05 | 22-Jun-2017 23:12:52 | 22-Jun-2017 23:18:55 | 49.2946 | -122.9918 | 49.3012 | -122.9924 | 1.47 | 32.07 |
| SN_07_06 | 23-Jun-2017 16:27:21 | 23-Jun-2017 16:33:45 | 49.2945 | -122.9923 | 49.3011 | -122.9929 | 1.47 | 30.03 |
| SN_07_07 | 23-Jun-2017 16:57:57 | 23-Jun-2017 17:05:09 | 49.2944 | -122.9923 | 49.3011 | -122.9929 | 1.47 | 30.03 |
| SN_08_01 | 22-Jun-2017 17:25:18 | 22-Jun-2017 17:37:47 | 49.2931 | -122.9809 | 49.3065 | -122.9808 | 1.47 | 36.15 |
| SN_08_02 | 22-Jun-2017 21:26:34 | 22-Jun-2017 21:38:34 | 49.2929 | -122.9809 | 49.3065 | -122.9808 | 1.47 | 30.03 |
| SN_08_03 | 22-Jun-2017 22:48:15 | 22-Jun-2017 22:59:40 | 49.2928 | -122.9809 | 49.3066 | -122.9808 | 1.47 | 42.27 |
| SN_08_04 | 23-Jun-2017 16:04:03 | 23-Jun-2017 16:16:58 | 49.2929 | -122.9810 | 49.3066 | -122.9808 | 1.47 | 32.07 |
| SN_08_05 | 23-Jun-2017 17:22:59 | 23-Jun-2017 17:34:51 | 49.2930 | -122.9810 | 49.3065 | -122.9808 | 1.47 | 42.27 |
| SN_09_01 | 22-Jun-2017 18:21:51 | 22-Jun-2017 18:34:00 | 49.2921 | -123.0064 | 49.3017 | -122.9923 | 1.47 | 30.03 |
| SN_09_02 | 22-Jun-2017 22:06:55 | 22-Jun-2017 22:21:21 | 49.2922 | -123.0061 | 49.3012 | -122.9929 | 1.47 | 32.07 |
| SN_09_03 | 22-Jun-2017 23:42:17 | 22-Jun-2017 23:52:16 | 49.2922 | -123.0062 | 49.3011 | -122.9930 | 1.47 | 32.07 |
| SN_09_04 | 23-Jun-2017 16:46:15 | 23-Jun-2017 16:57:47 | 49.2924 | -123.0057 | 49.3012 | -122.9928 | 1.47 | 30.03 |

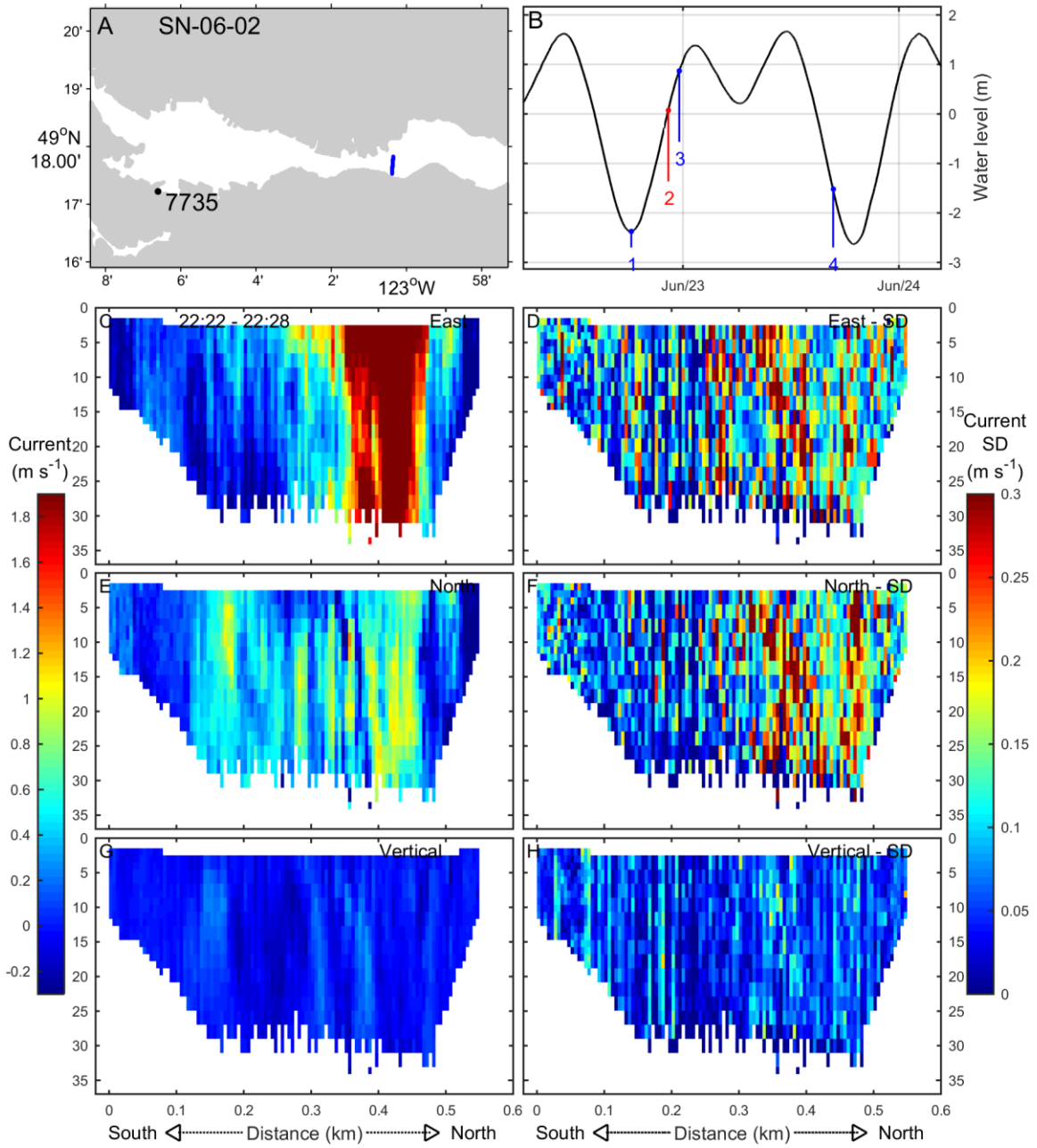
| ADCP June | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Line # | Start Time (UTC) | Start Time (UTC) | Start Latitude °N | Start Longitude °W | End Latitude °N | End Longitude °W | Minimum Depth (m) | Maximum Depth (m) |
| SN_10_01 | 22-Jun-2017 18:06:05 | 22-Jun-2017 18:14:20 | 49.2947 | -122.9920 | 49.2972 | -123.0053 | 1.47 | 30.03 |
| SN_10_02 | 22-Jun-2017 22:28:57 | 22-Jun-2017 22:35:39 | 49.2940 | -122.9930 | 49.2964 | -123.0059 | 1.47 | 30.03 |
| SN_10_03 | 22-Jun-2017 23:19:03 | 22-Jun-2017 23:34:45 | 49.2945 | -122.9918 | 49.2971 | -123.0056 | 1.47 | 32.07 |
| SN_10_04 | 23-Jun-2017 16:33:57 | 23-Jun-2017 16:41:37 | 49.2945 | -122.9923 | 49.2970 | -123.0058 | 1.47 | 30.03 |
| SN_11_01 | 22-Jun-2017 18:42:53 | 22-Jun-2017 18:54:23 | 49.2948 | -122.9919 | 49.3065 | -122.9808 | 1.47 | 30.03 |
| SN_11_02 | 22-Jun-2017 22:35:49 | 22-Jun-2017 22:47:52 | 49.2940 | -122.9929 | 49.3067 | -122.9809 | 1.47 | 36.15 |
| SN_11_03 | 23-Jun-2017 17:12:16 | 23-Jun-2017 17:22:38 | 49.2971 | -122.9906 | 49.3069 | -122.9813 | 1.47 | 32.07 |
| SN_12_01 | 22-Jun-2017 17:40:06 | 22-Jun-2017 17:53:47 | 49.2928 | -122.9804 | 49.3013 | -122.9924 | 1.47 | 42.27 |
| SN_12_02 | 22-Jun-2017 21:39:46 | 22-Jun-2017 21:49:41 | 49.2929 | -122.9808 | 49.3013 | -122.9926 | 1.47 | 34.11 |
| SN_12_03 | 22-Jun-2017 23:01:31 | 22-Jun-2017 23:12:13 | 49.2928 | -122.9809 | 49.3013 | -122.9927 | 1.47 | 38.19 |
| SN_12_04 | 23-Jun-2017 16:17:40 | 23-Jun-2017 16:27:04 | 49.2930 | -122.9811 | 49.3011 | -122.9925 | 1.47 | 30.03 |
| SN_12_05 | 23-Jun-2017 17:35:23 | 23-Jun-2017 17:44:02 | 49.2931 | -122.9810 | 49.3012 | -122.9925 | 1.47 | 32.07 |
| SN_13_01 | 23-Jun-2017 00:06:10 | 23-Jun-2017 00:22:25 | 49.3012 | -122.9925 | 49.3023 | -123.0026 | 1.47 | 8.61 |
| SN_13_02 | 23-Jun-2017 00:23:14 | 23-Jun-2017 00:34:32 | 49.3013 | -122.9927 | 49.3024 | -123.0027 | 1.47 | 8.61 |
| VH_01_01 | 21-Jun-2017 18:31:47 | 21-Jun-2017 18:43:19 | 49.2906 | -123.1133 | 49.2998 | -123.1055 | 1.47 | 25.95 |
| VH_01_02 | 21-Jun-2017 18:49:18 | 21-Jun-2017 19:01:58 | 49.2993 | -123.1053 | 49.3120 | -123.0946 | 1.47 | 25.95 |
| VH_01_03 | 22-Jun-2017 01:11:53 | 22-Jun-2017 01:33:47 | 49.2900 | -123.1131 | 49.3119 | -123.0948 | 1.47 | 27.99 |
| VH_03_01 | 21-Jun-2017 17:11:08 | 21-Jun-2017 17:30:22 | 49.2853 | -123.0854 | 49.3084 | -123.0808 | 1.47 | 27.99 |

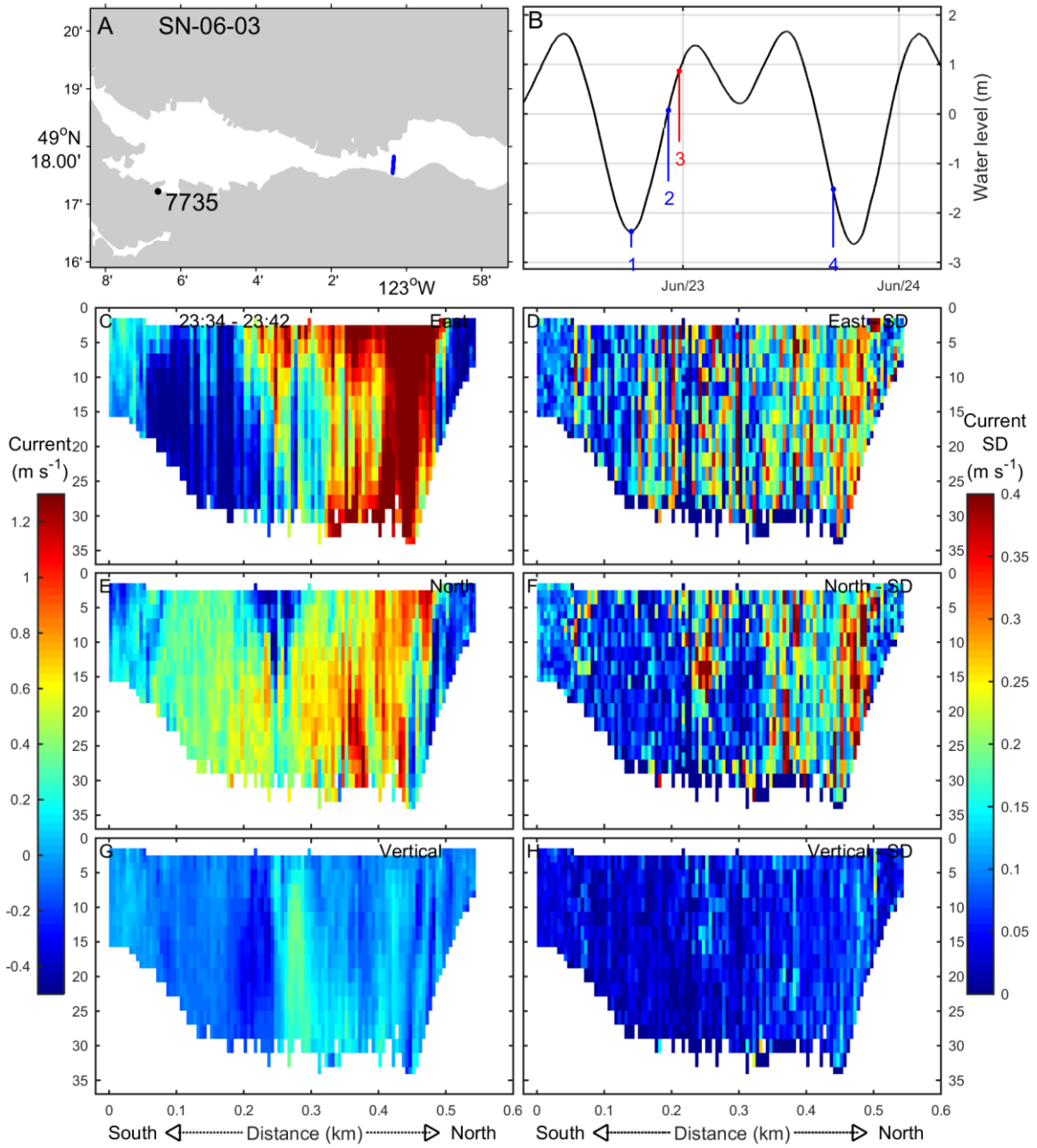
## 9.1 JUNE VELOCITY DATA VERTICAL SECTIONS

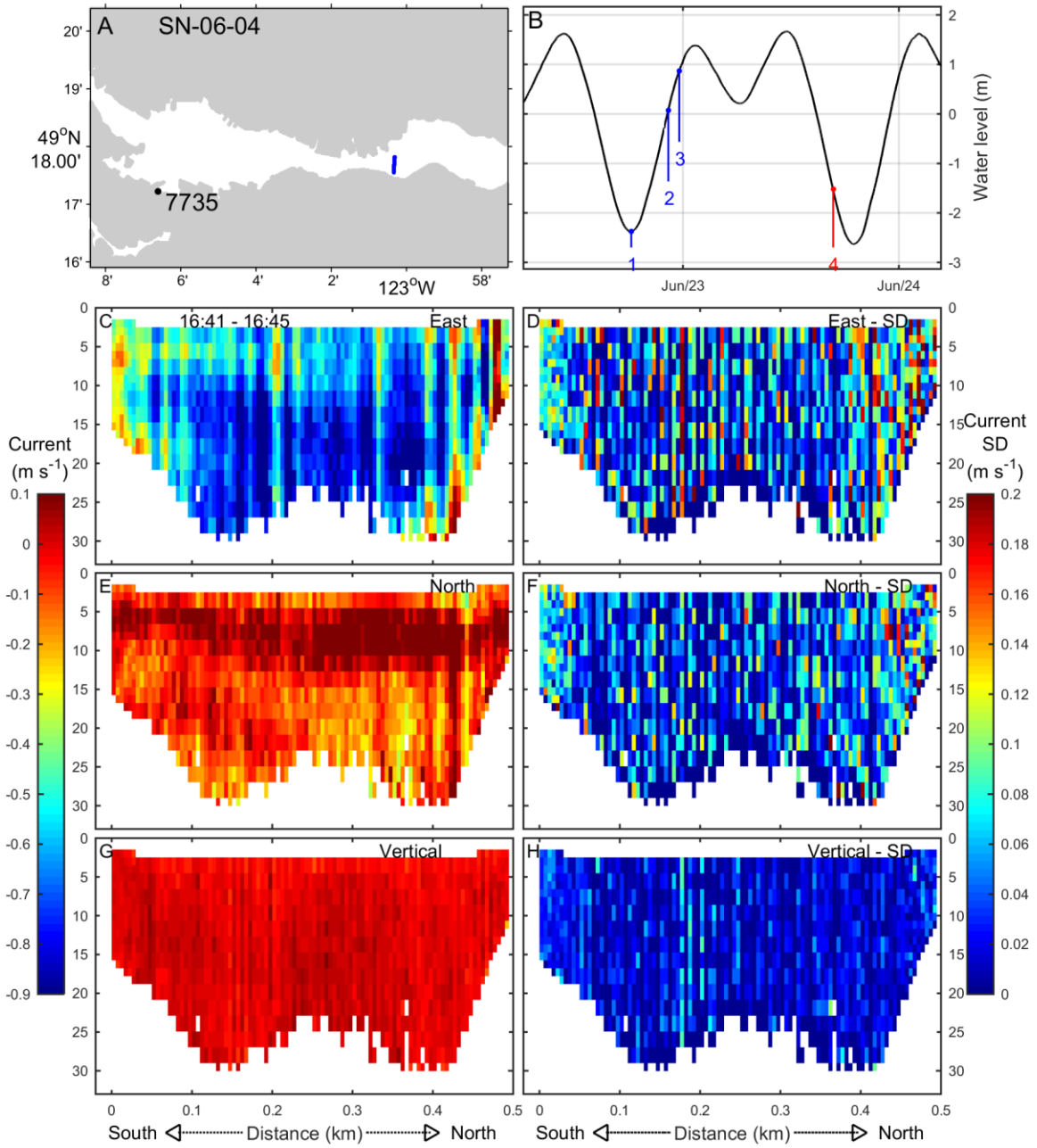
The following figures show June vertical sections of the east and north (*u* and *v*) horizontal velocity components and the vertical component for the A (left column) and B (right column) lines. The top row of each figure shows the position of the transect (A) and the time during the tidal cycle that the transect was sampled (B). The second row presents the east components (C and D), the third row presents the north components (E and F), and the bottom row presents the vertical components (G and H). The units are in $ms^{-1}$.

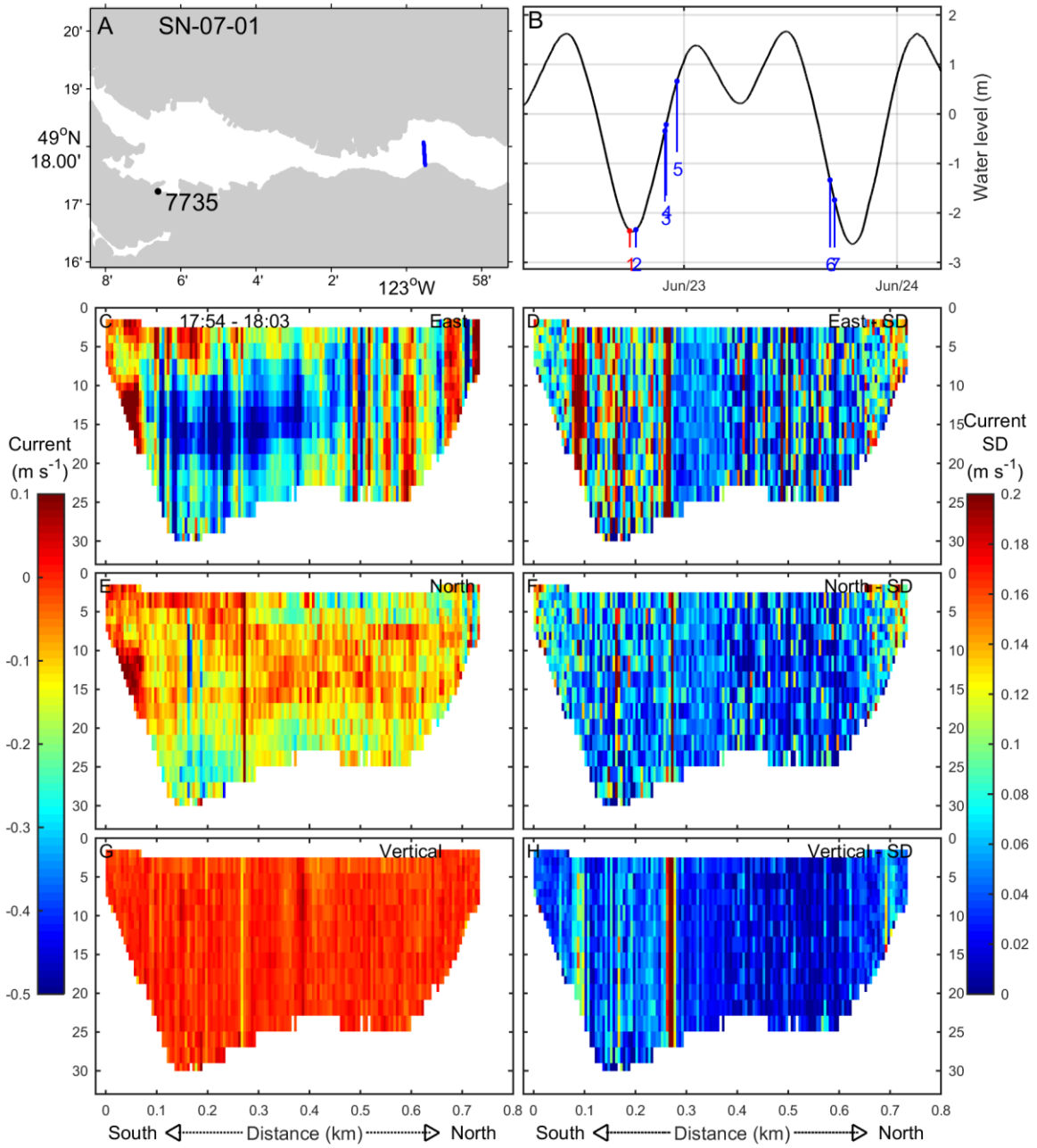

A
FN-04-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/21
C
00:17 - 00:25
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

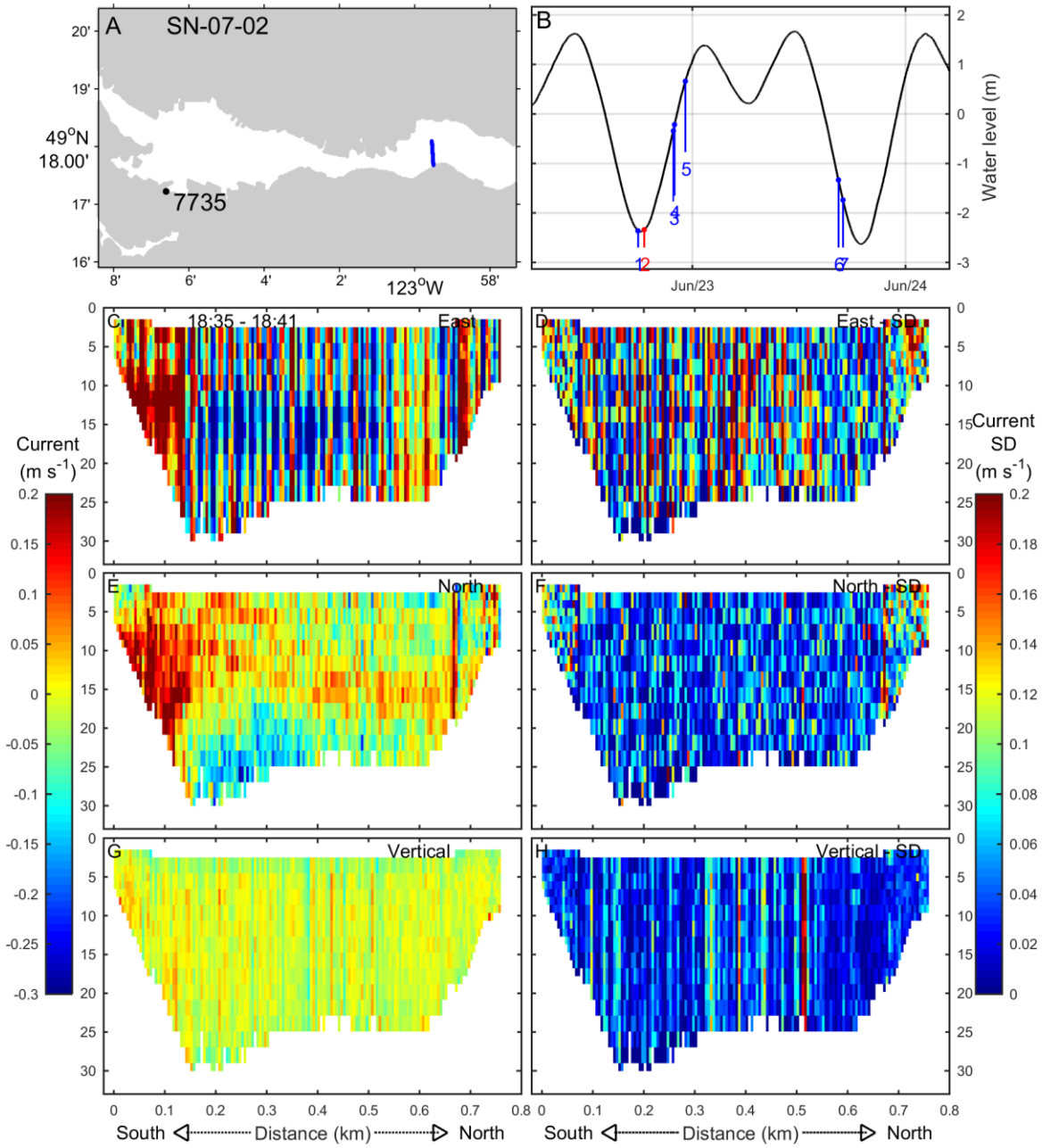

A
SN-06-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
18:15 - 18:20
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

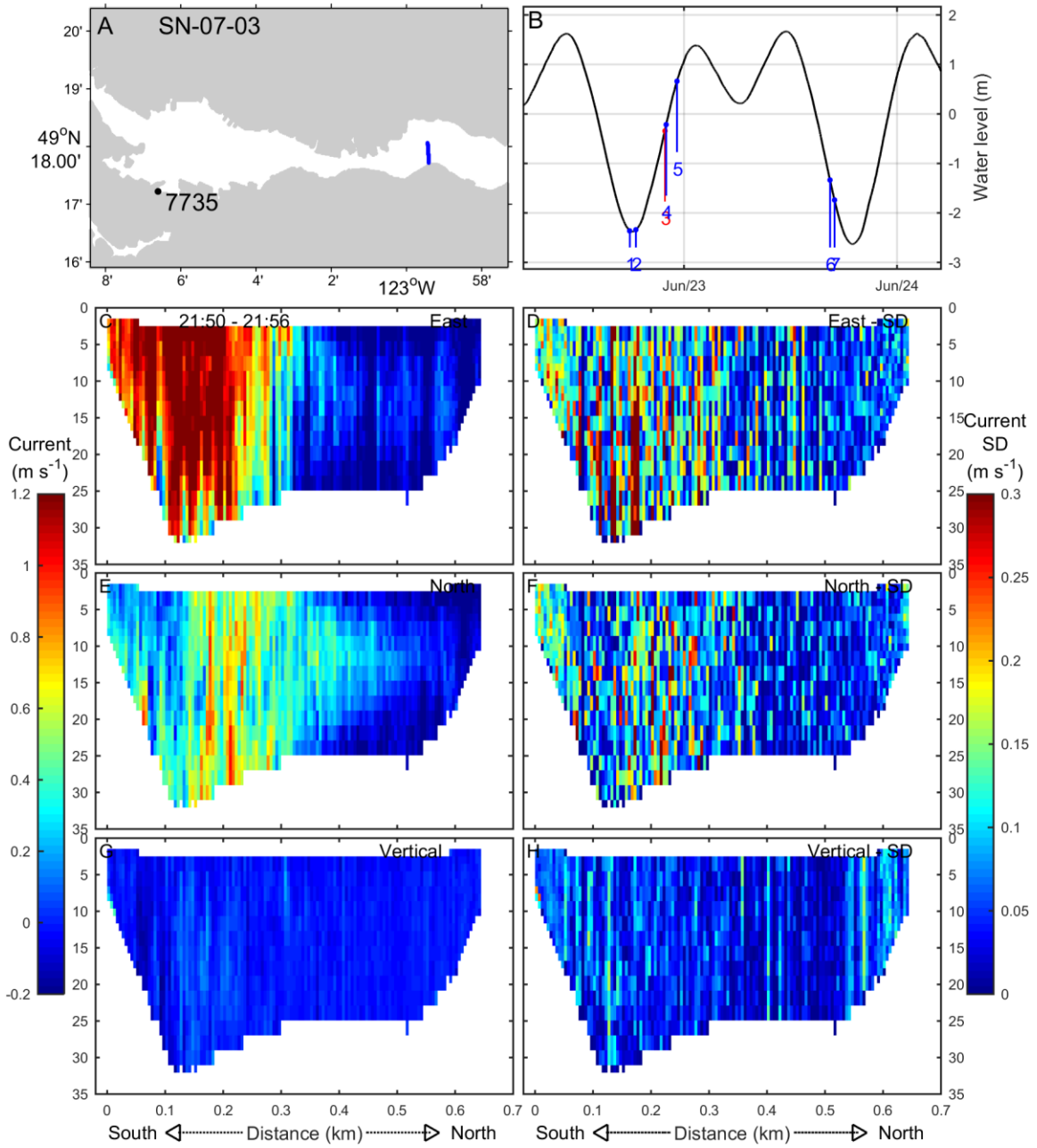

A
SN-06-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
22:22 - 22:28
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

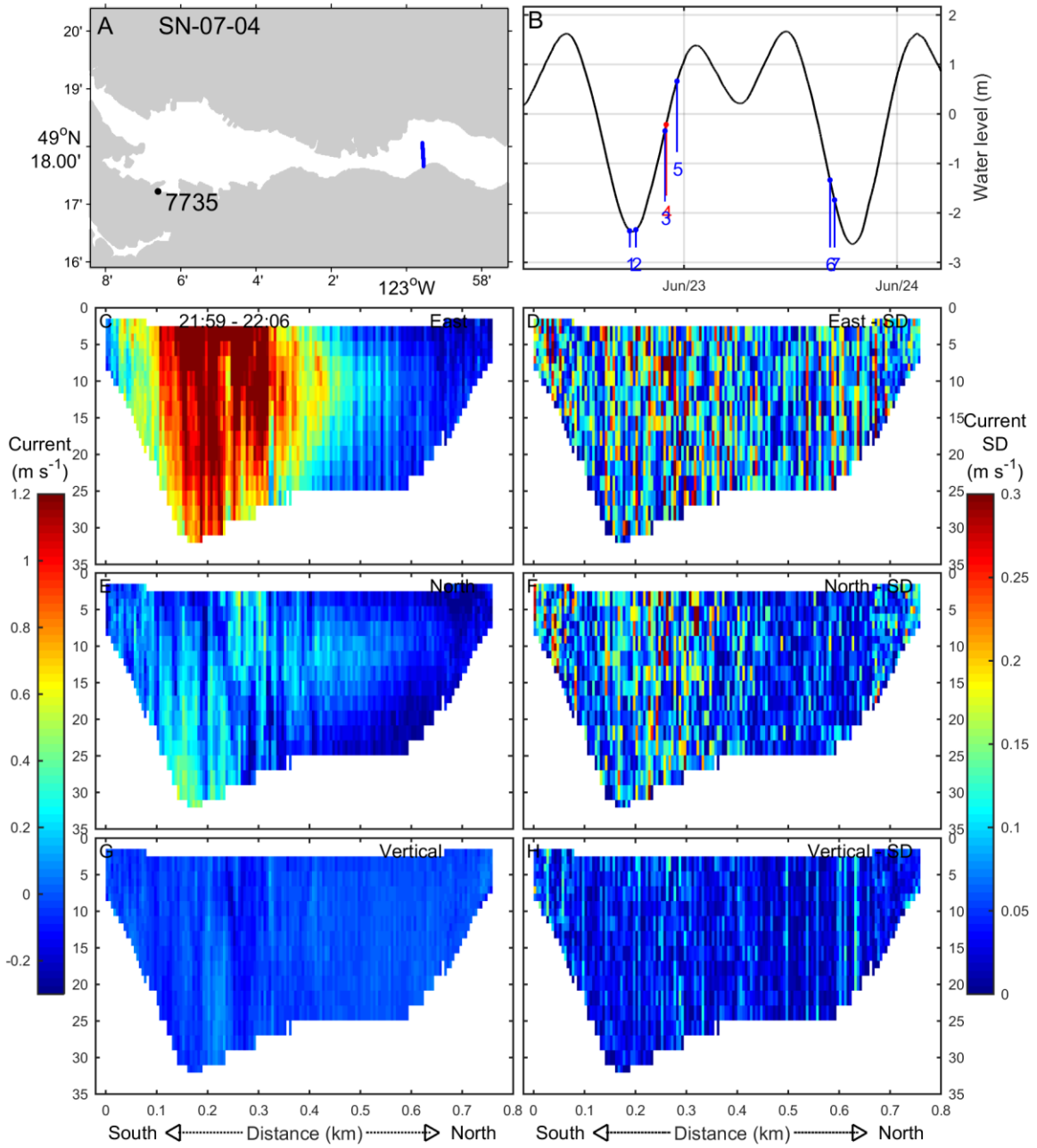

A
SN-06-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
23:34 - 23:42
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

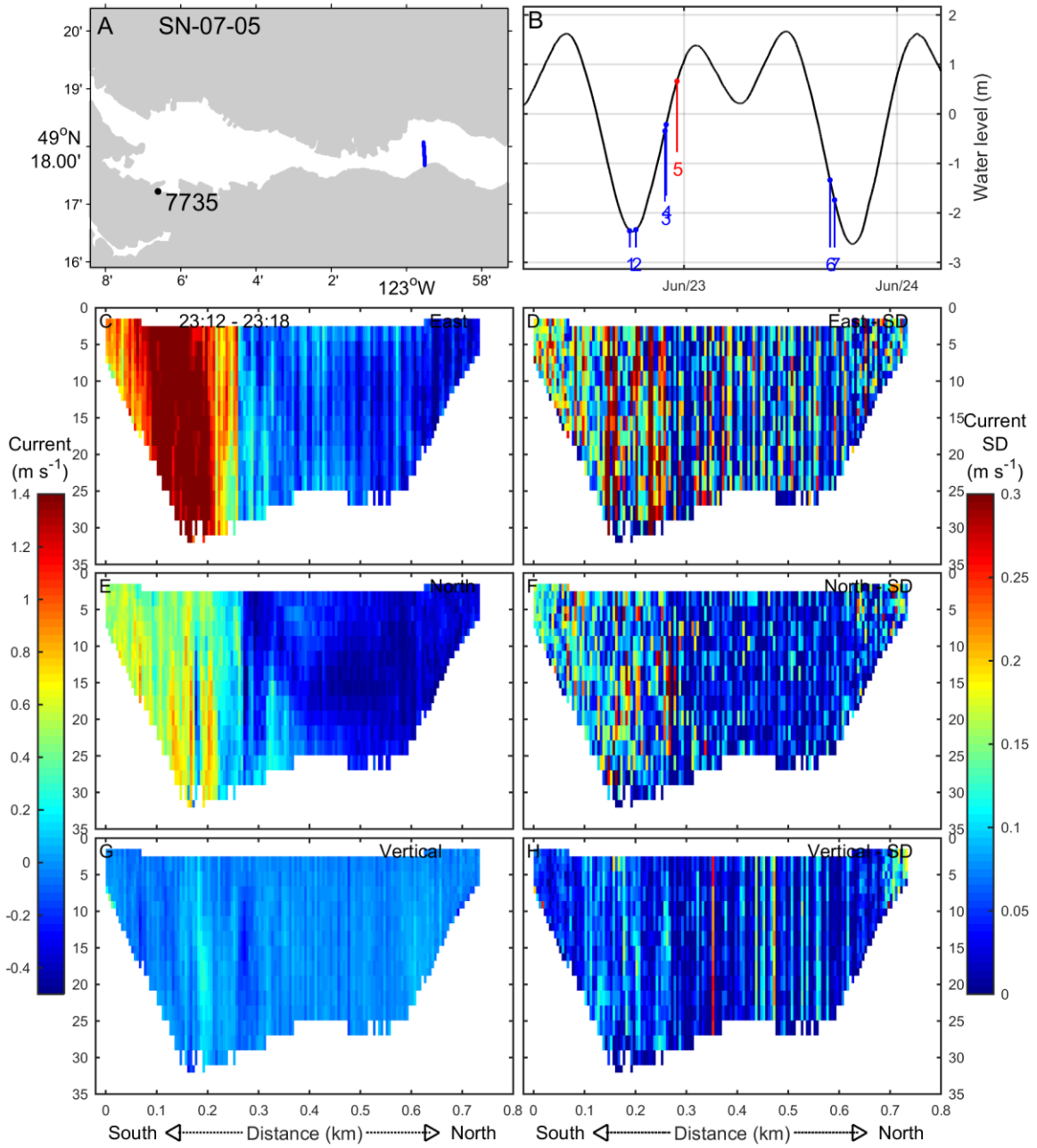

A
SN-06-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:41 - 16:45
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

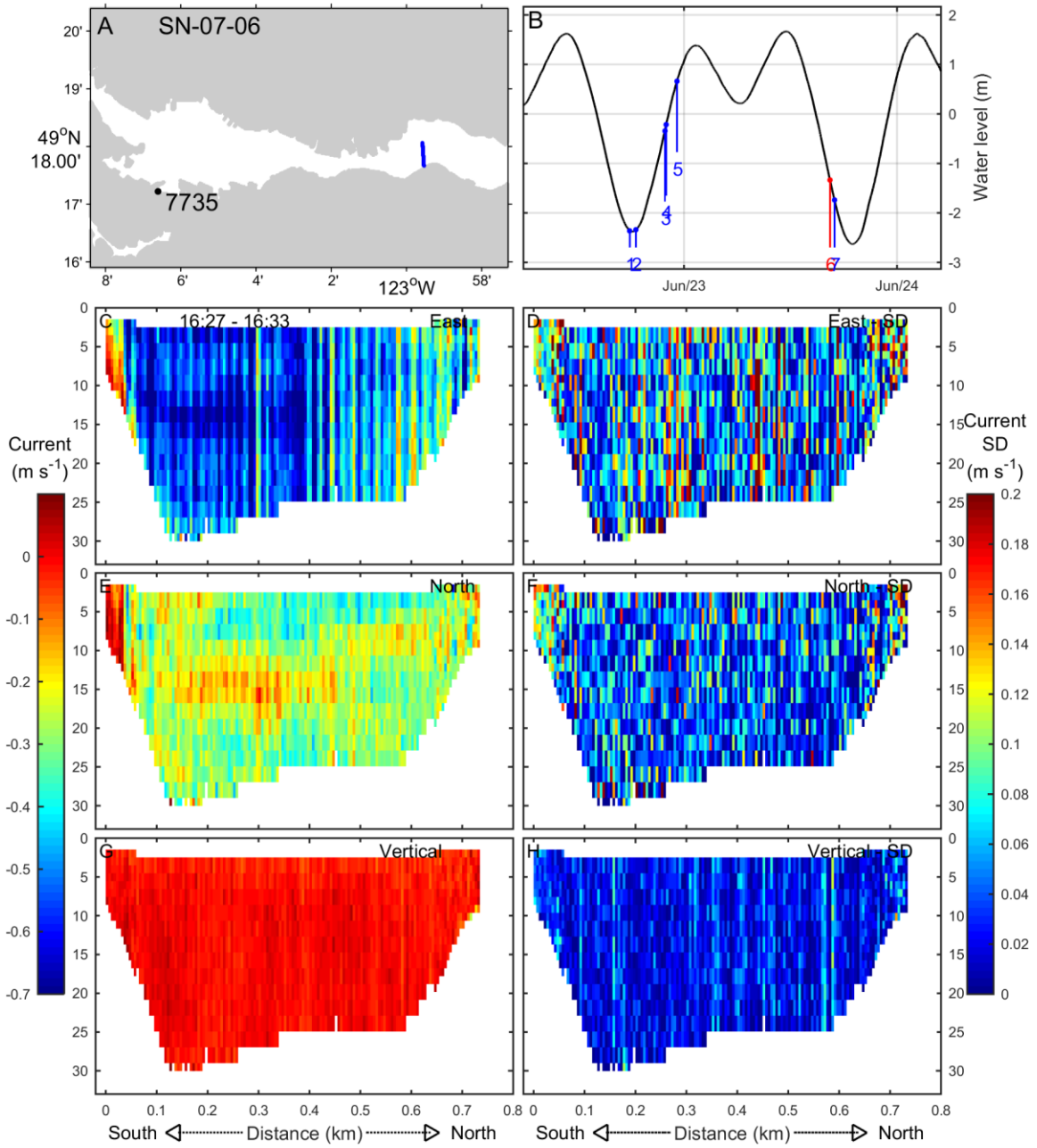

A
SN-07-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:54 - 18:03
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

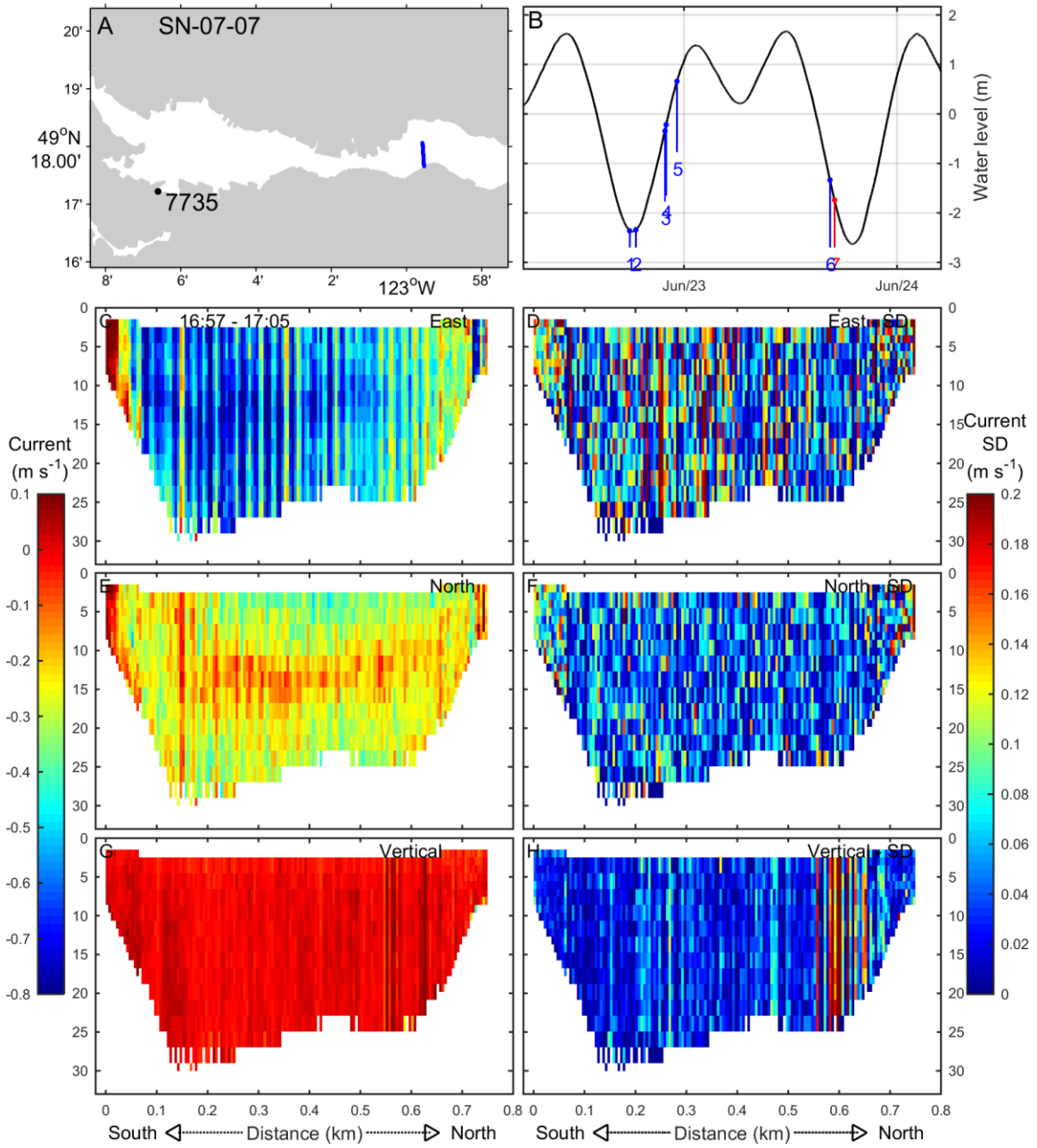

A
SN-07-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
18:35 - 18:41
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

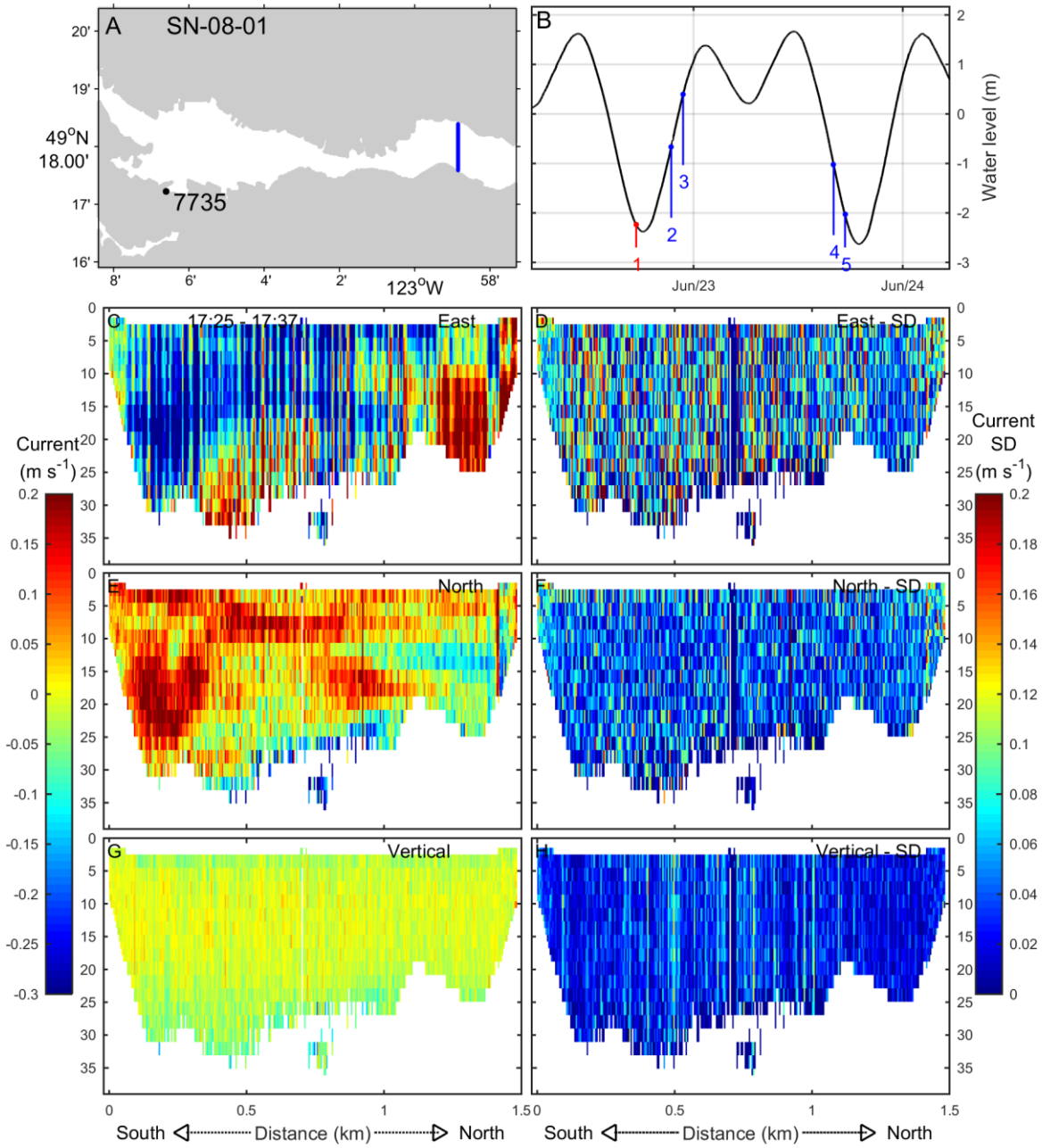

A
SN-07-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
21:50 - 21:56
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

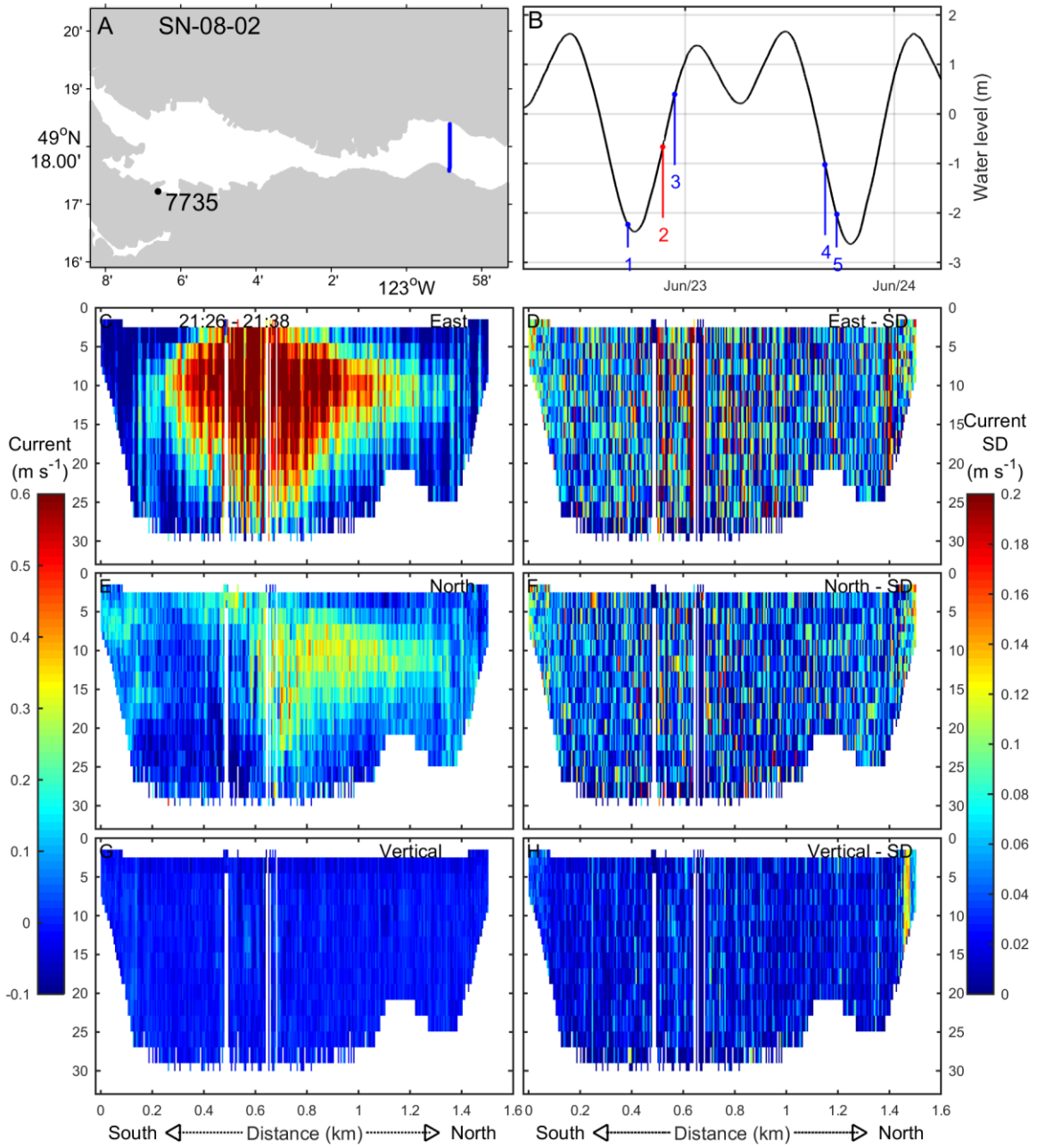

A
SN-07-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
21:59 - 22:06
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

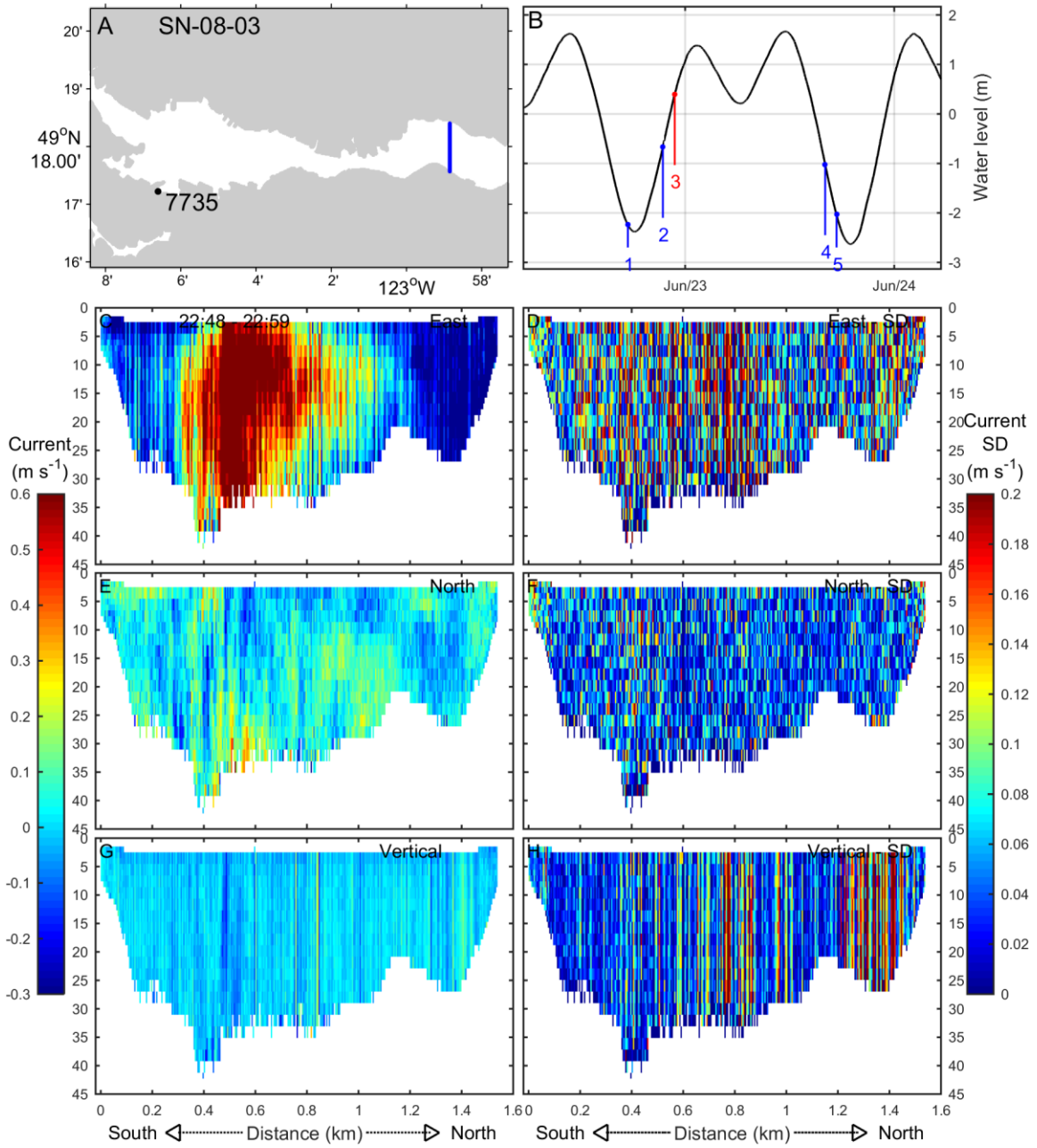

A
SN-07-05
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
23:12 - 23:18
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

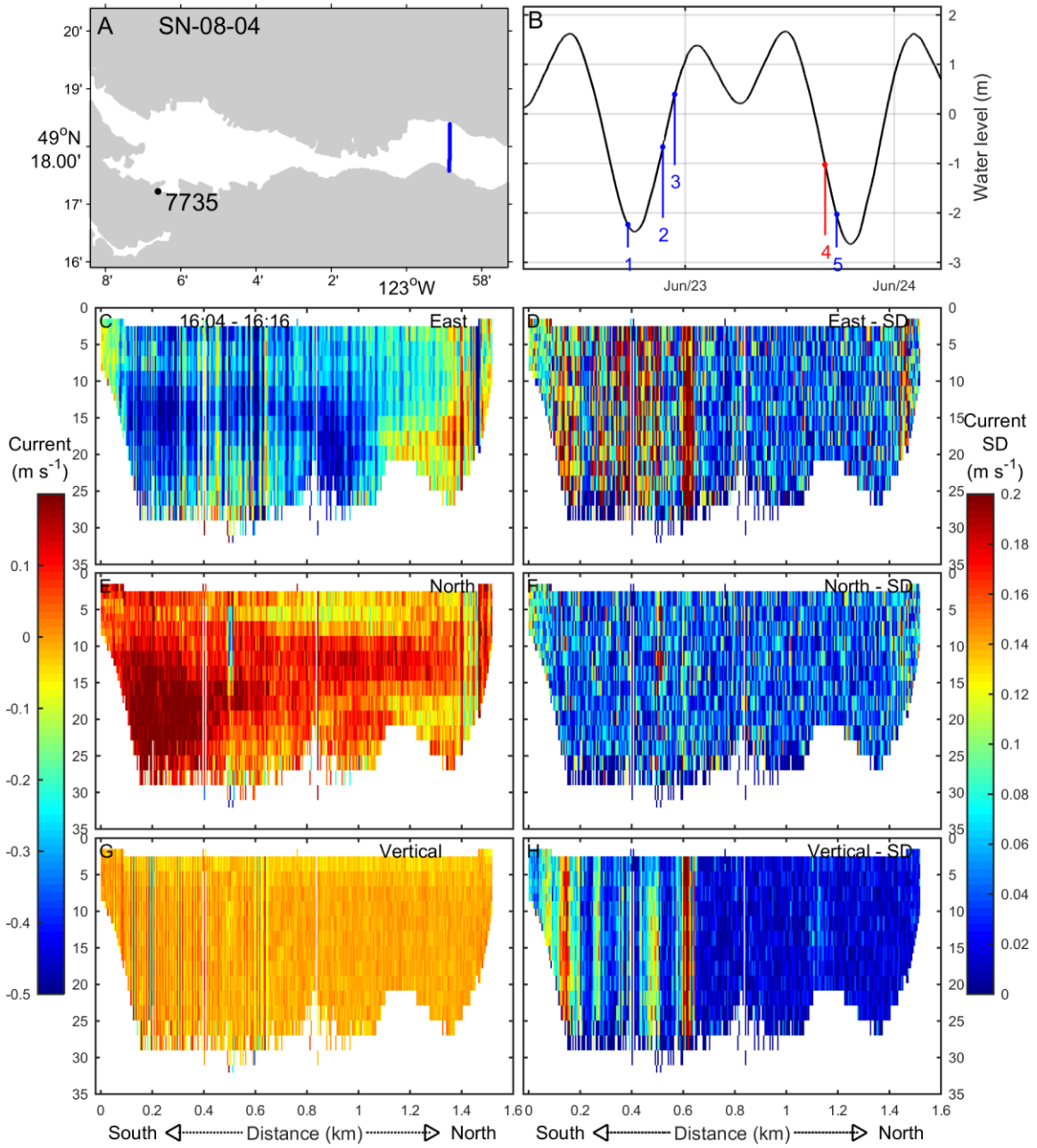

A
SN-07-06
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:27 - 16:33
East
D
East SD
E
North
F
North SD
G
Vertical
H
Vertical SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

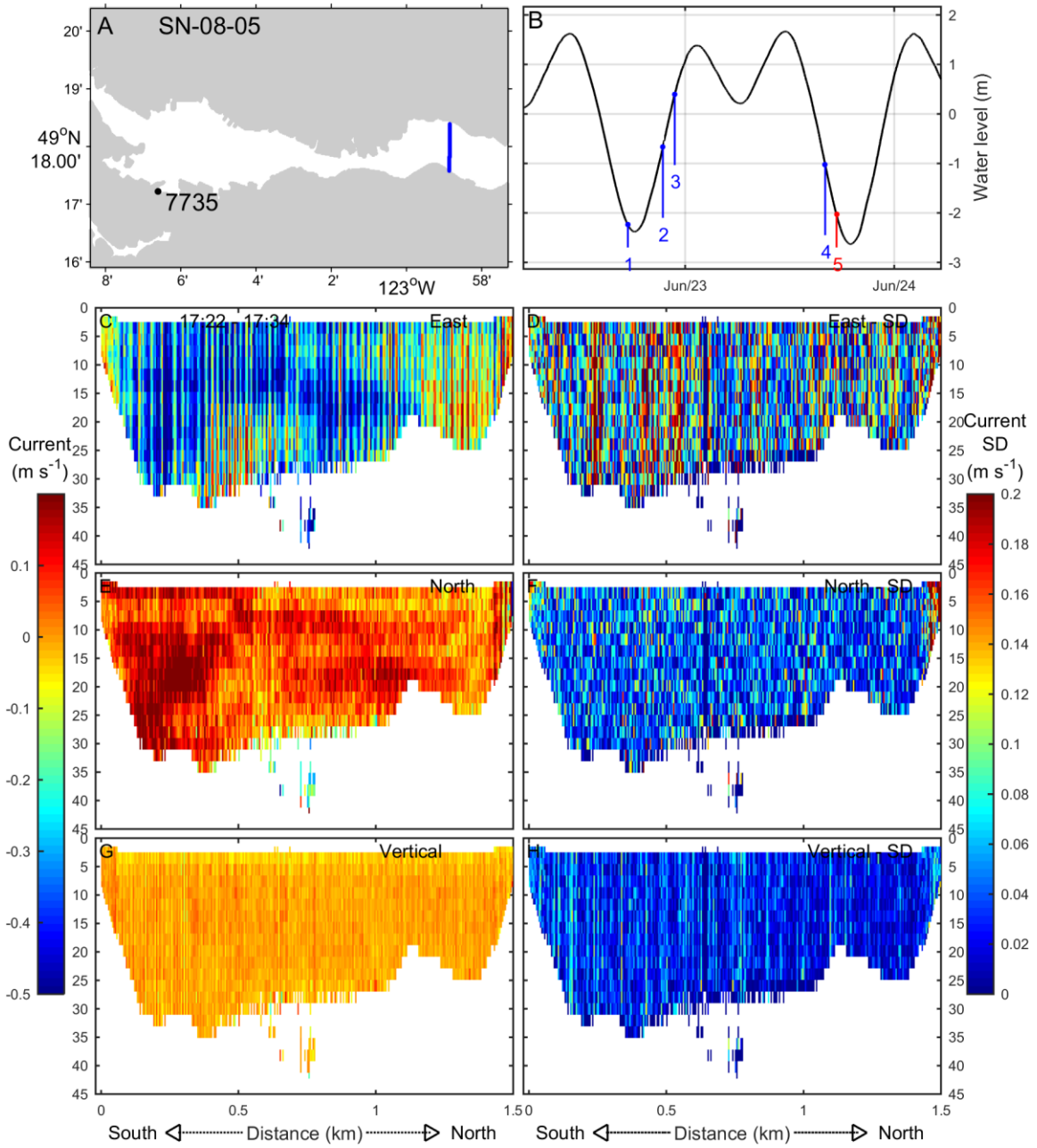

A
SN-07-07
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:57 - 17:05
East
D
East SD
E
North
F
North SD
G
Vertical
H
Vertical SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

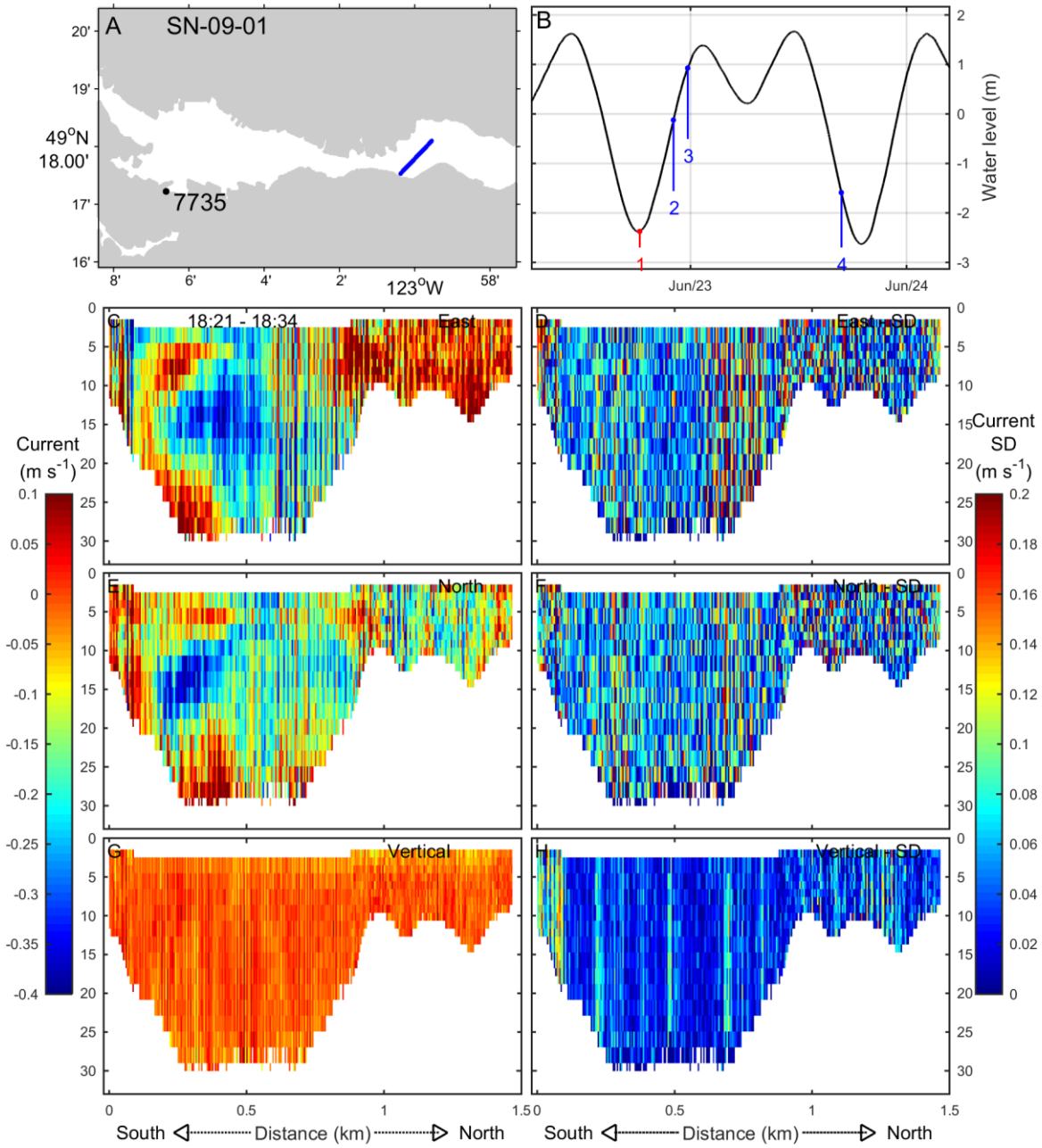

A
SN-08-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:25 - 17:37
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

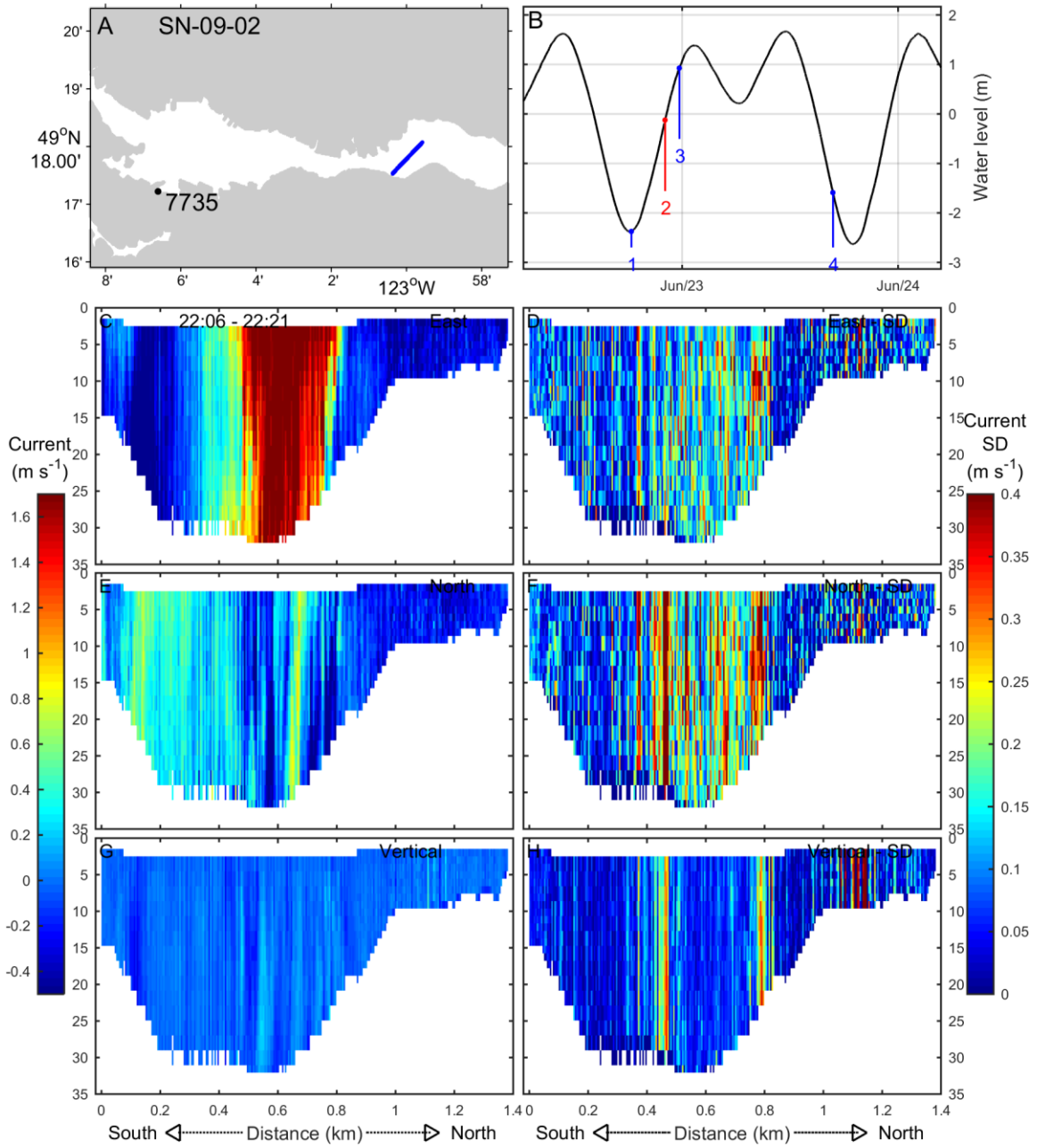

A
SN-08-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
21:26 - 21:38
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

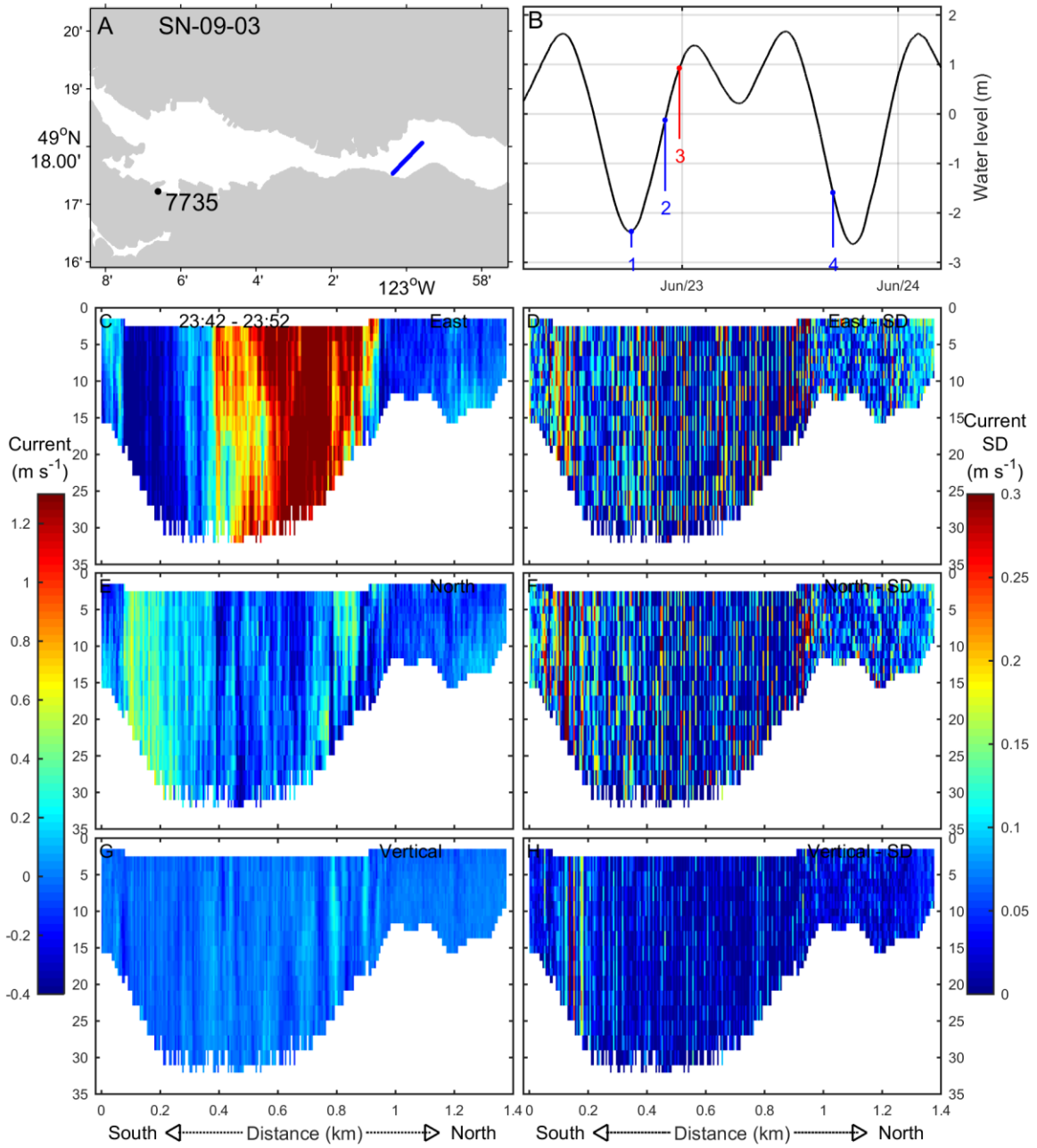

A
SN-08-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
22:48 - 22:59
East
D
East SD
E
North
F
North SD
G
Vertical
H
Vertical SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

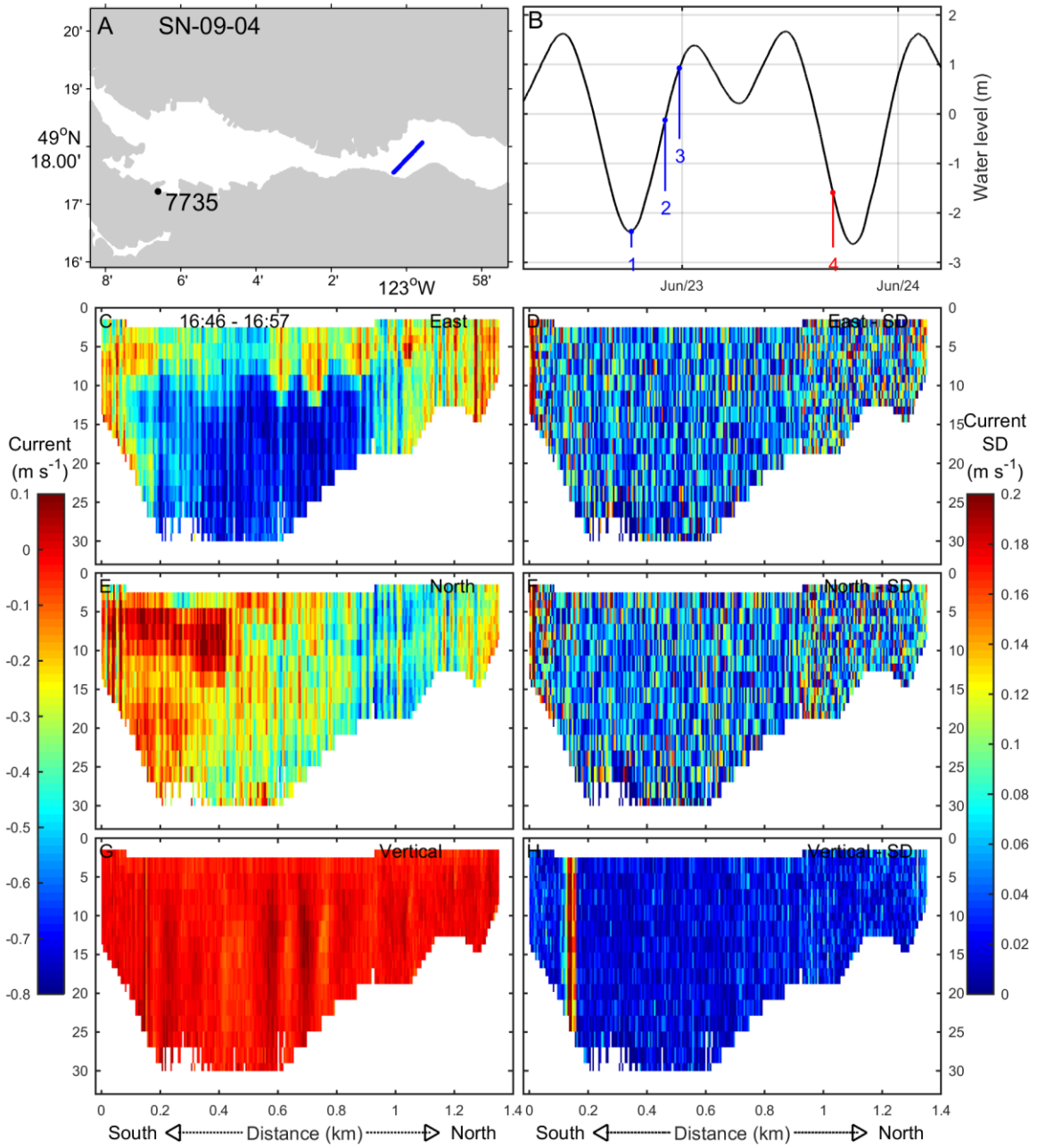

A
SN-08-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:04 - 16:16
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

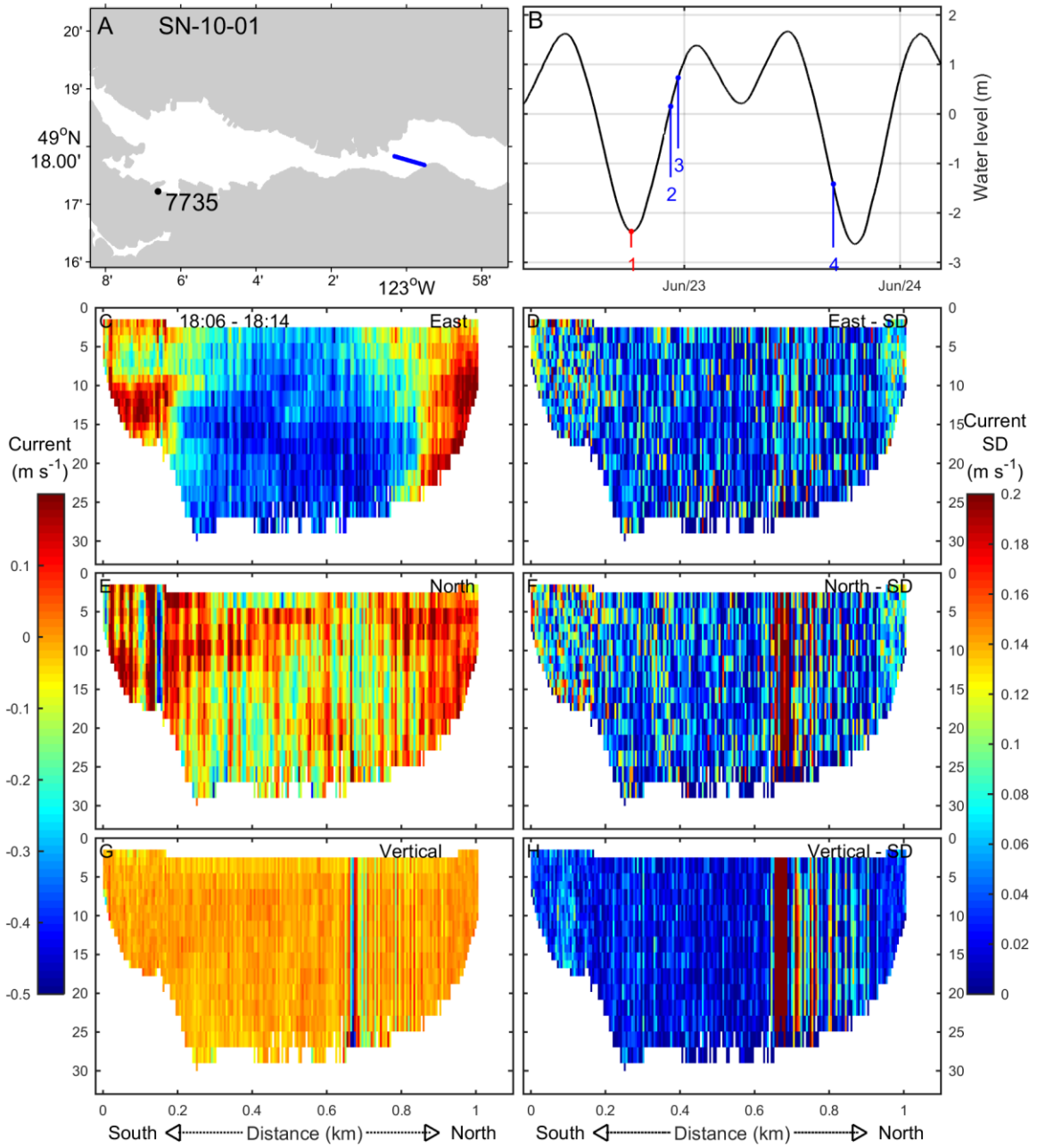

A
SN-08-05
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:22 - 17:34
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

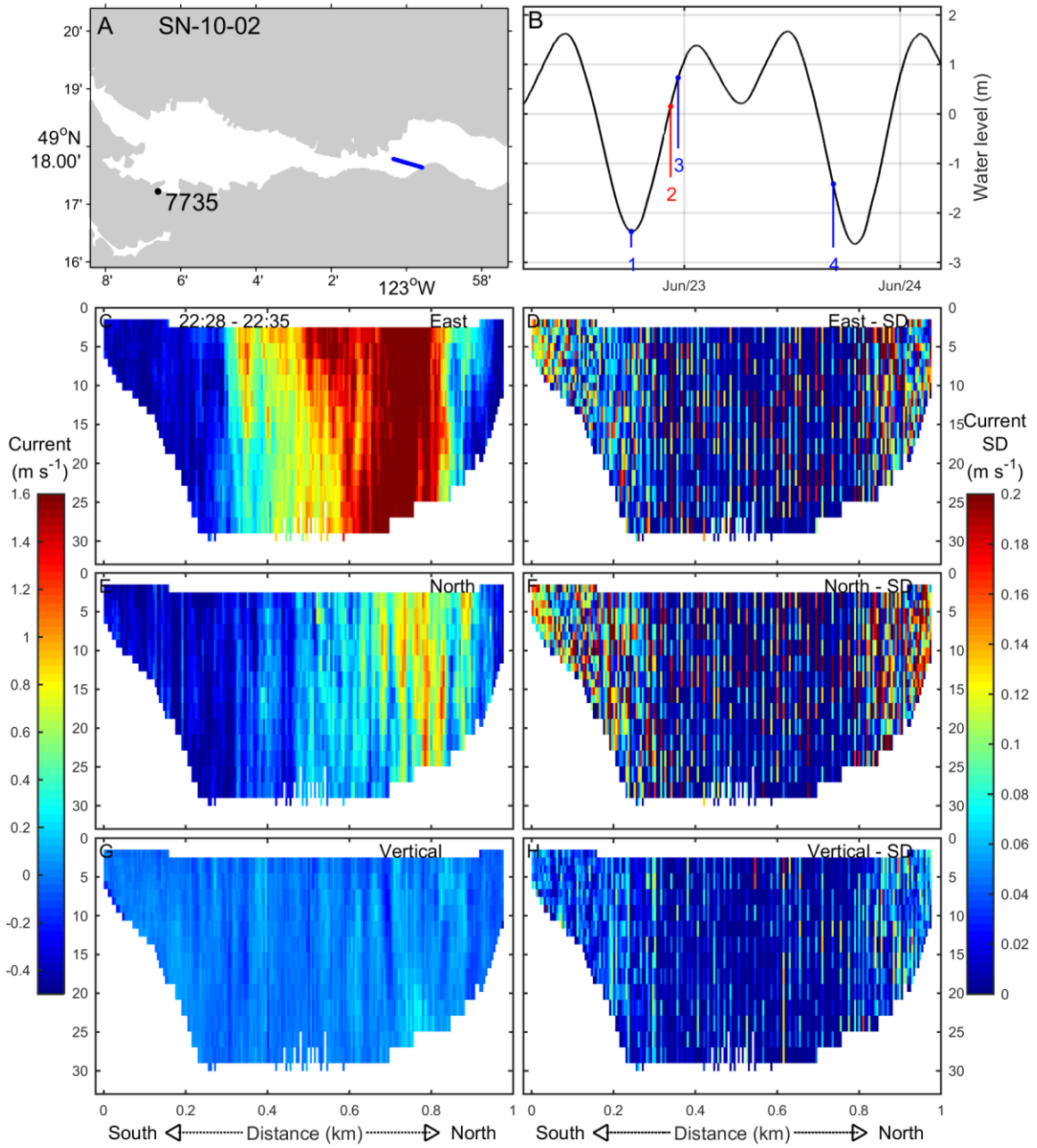

A
SN-09-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
18:21 - 18:34
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

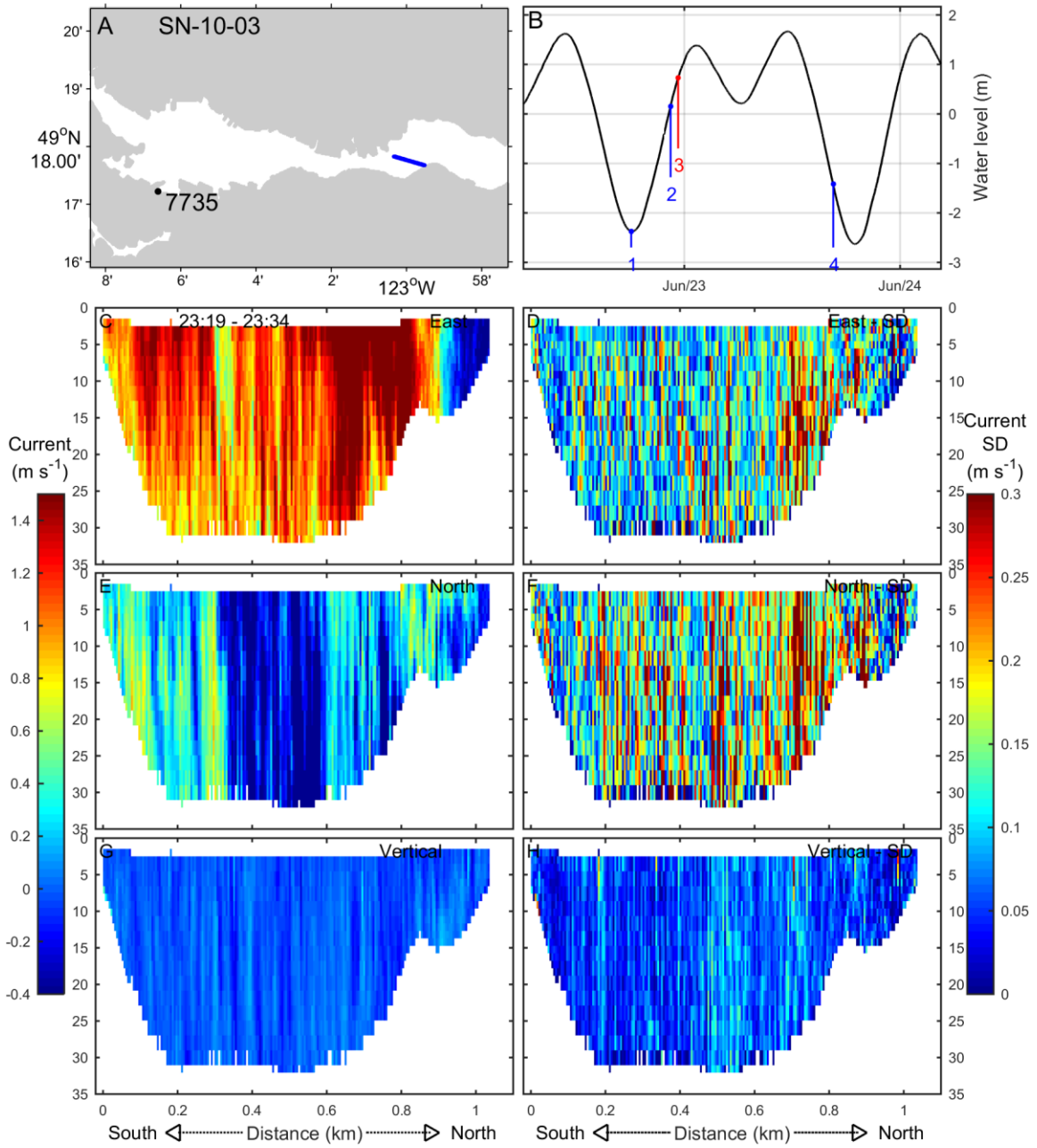

A
SN-09-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
22:06 - 22:21
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

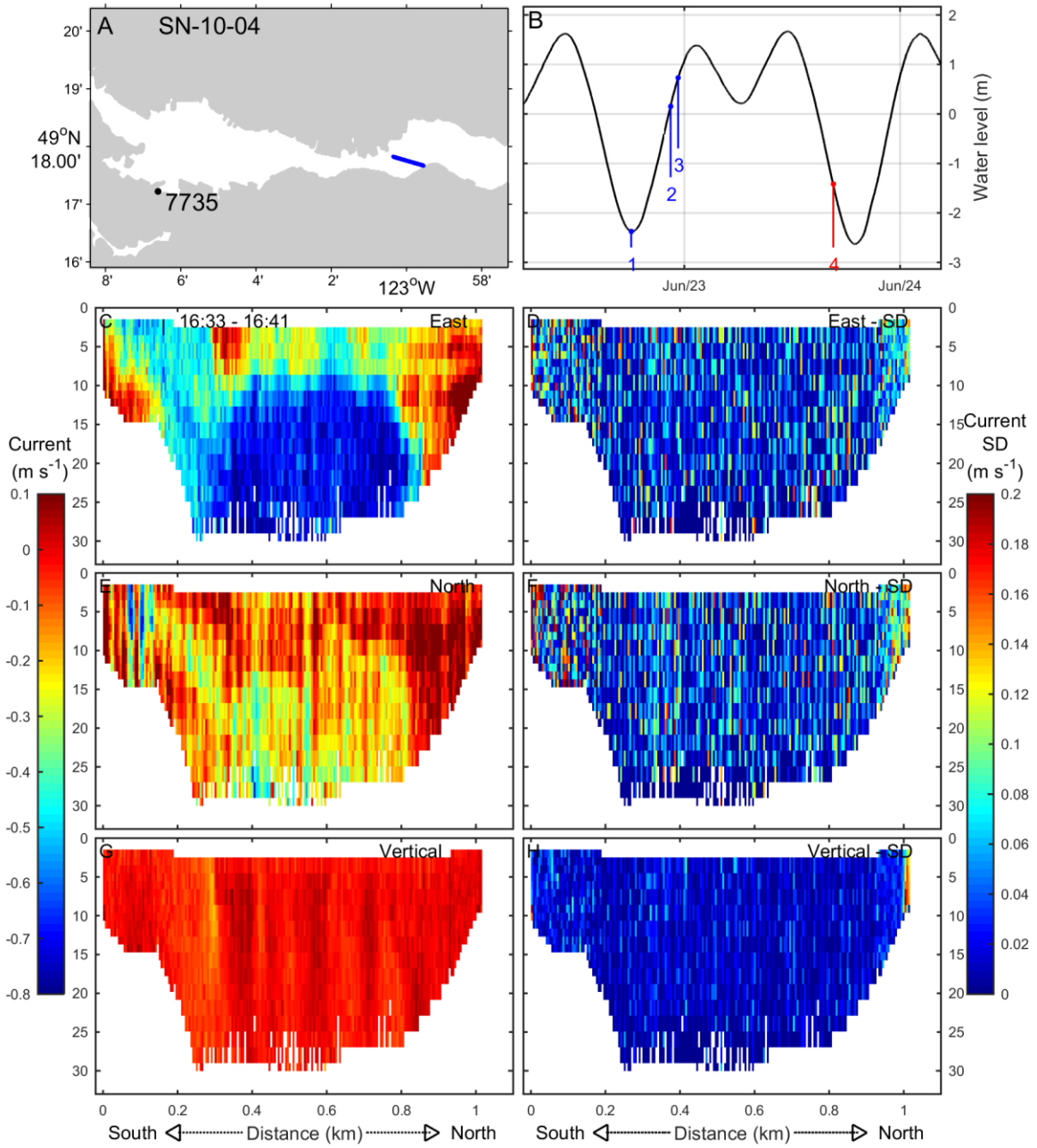

A
SN-09-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
23:42 - 23:52
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

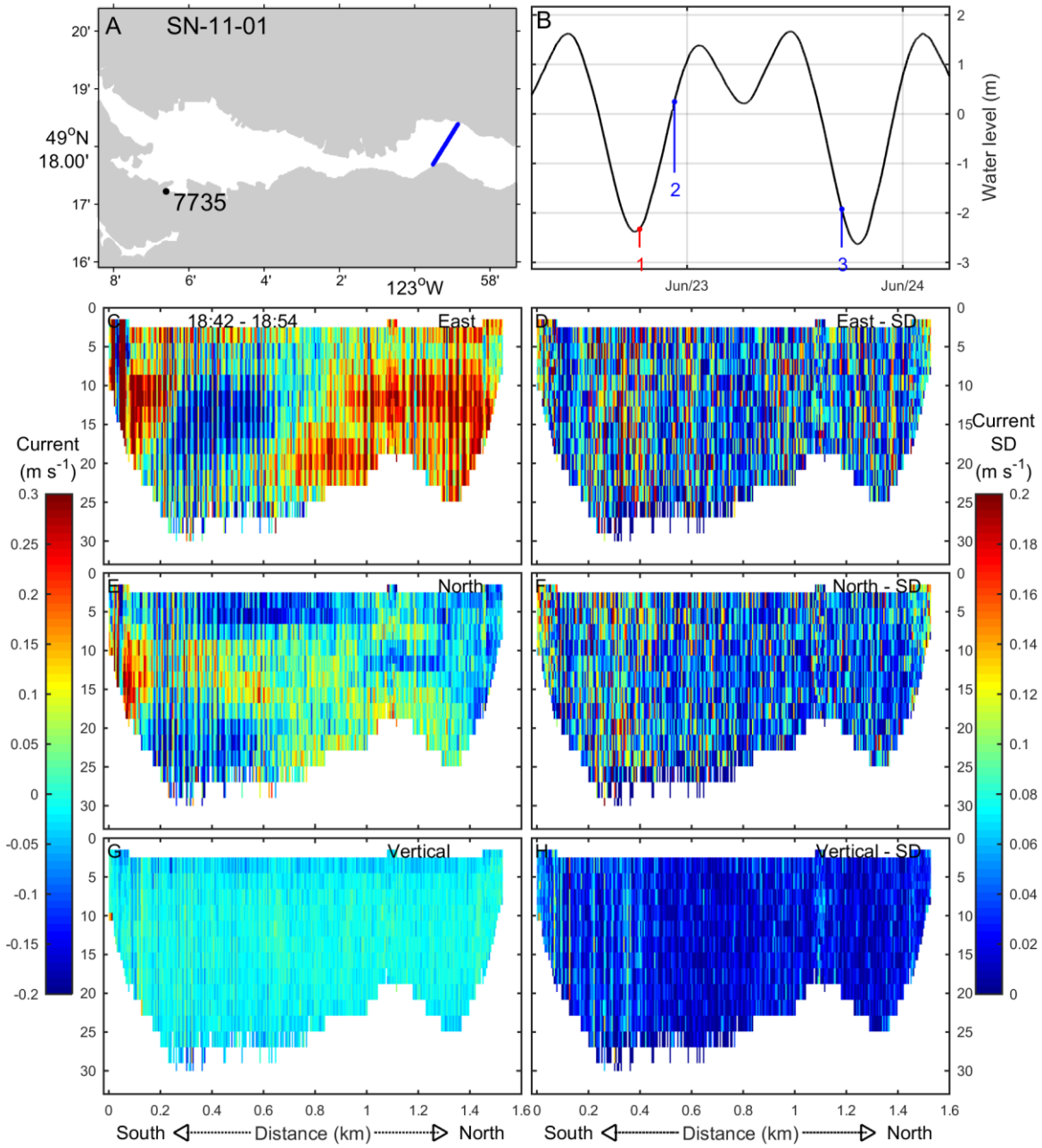

A
SN-09-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:46 - 16:57
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

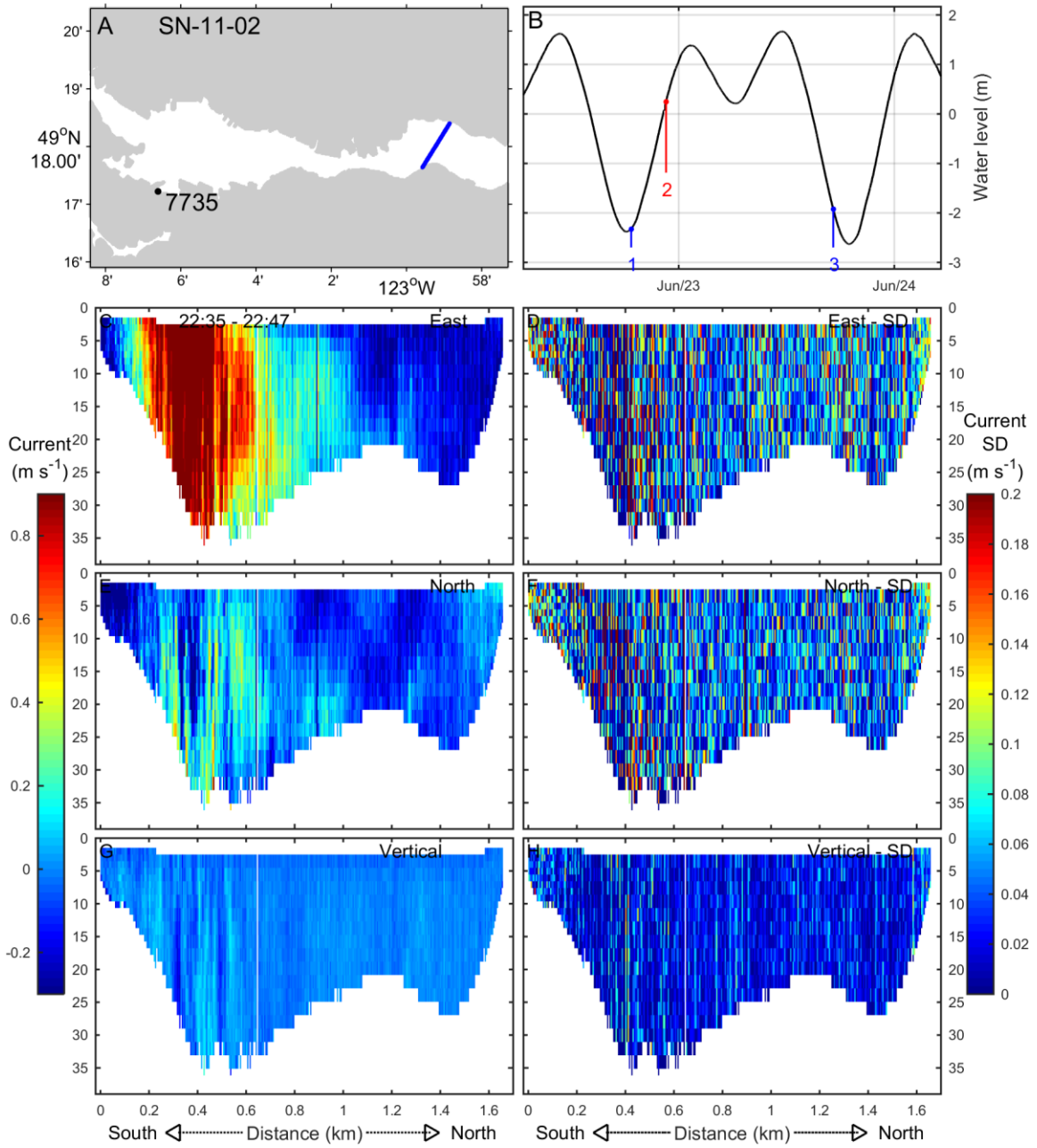

A
SN-10-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
18:06 - 18:14
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

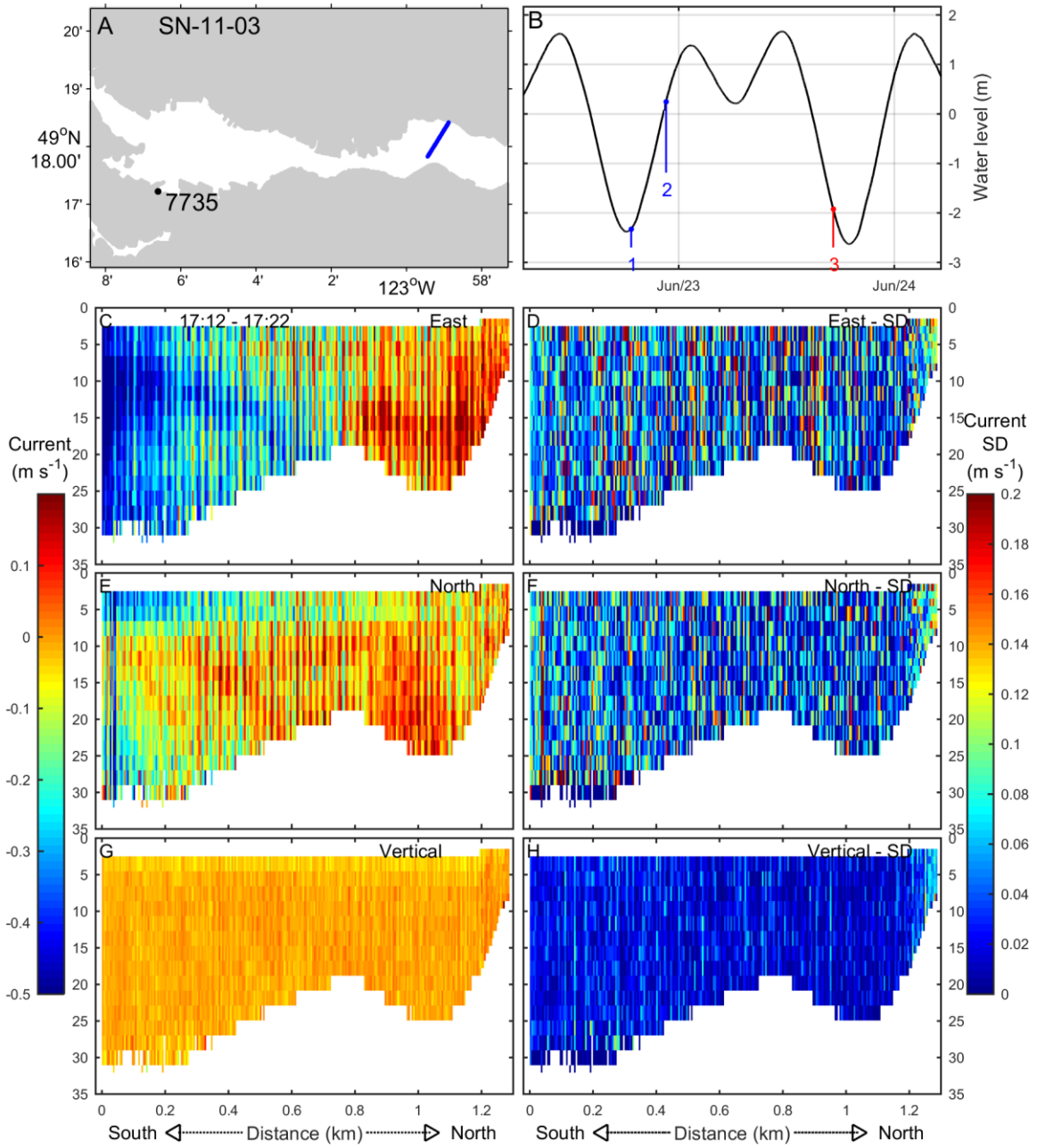

A
SN-10-02
7735
49°N
18.00'
123°W
B
Water level (m)
Jun/23
Jun/24
C
22:28 - 22:35
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

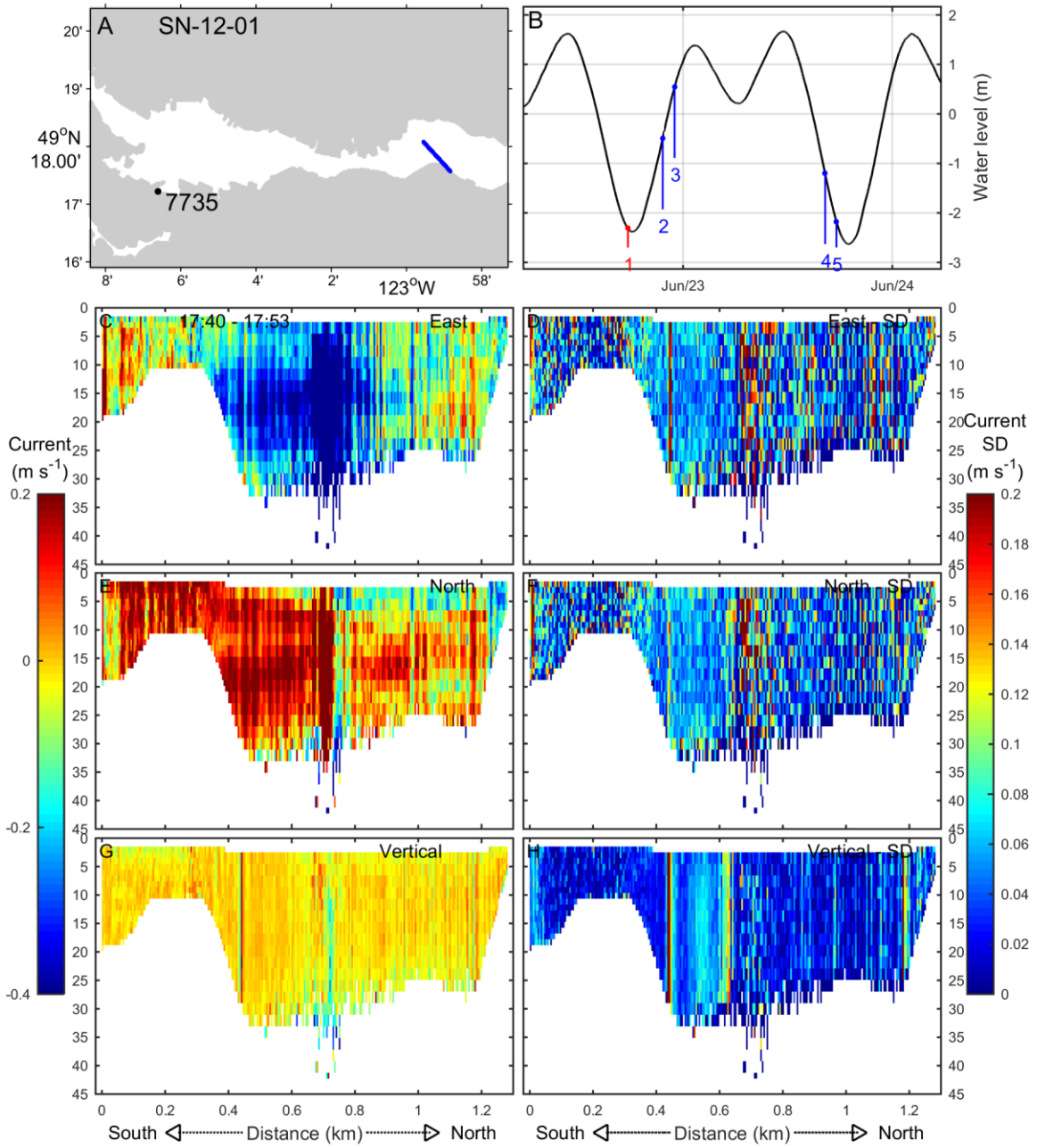

A
SN-10-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
23:19 - 23:34
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

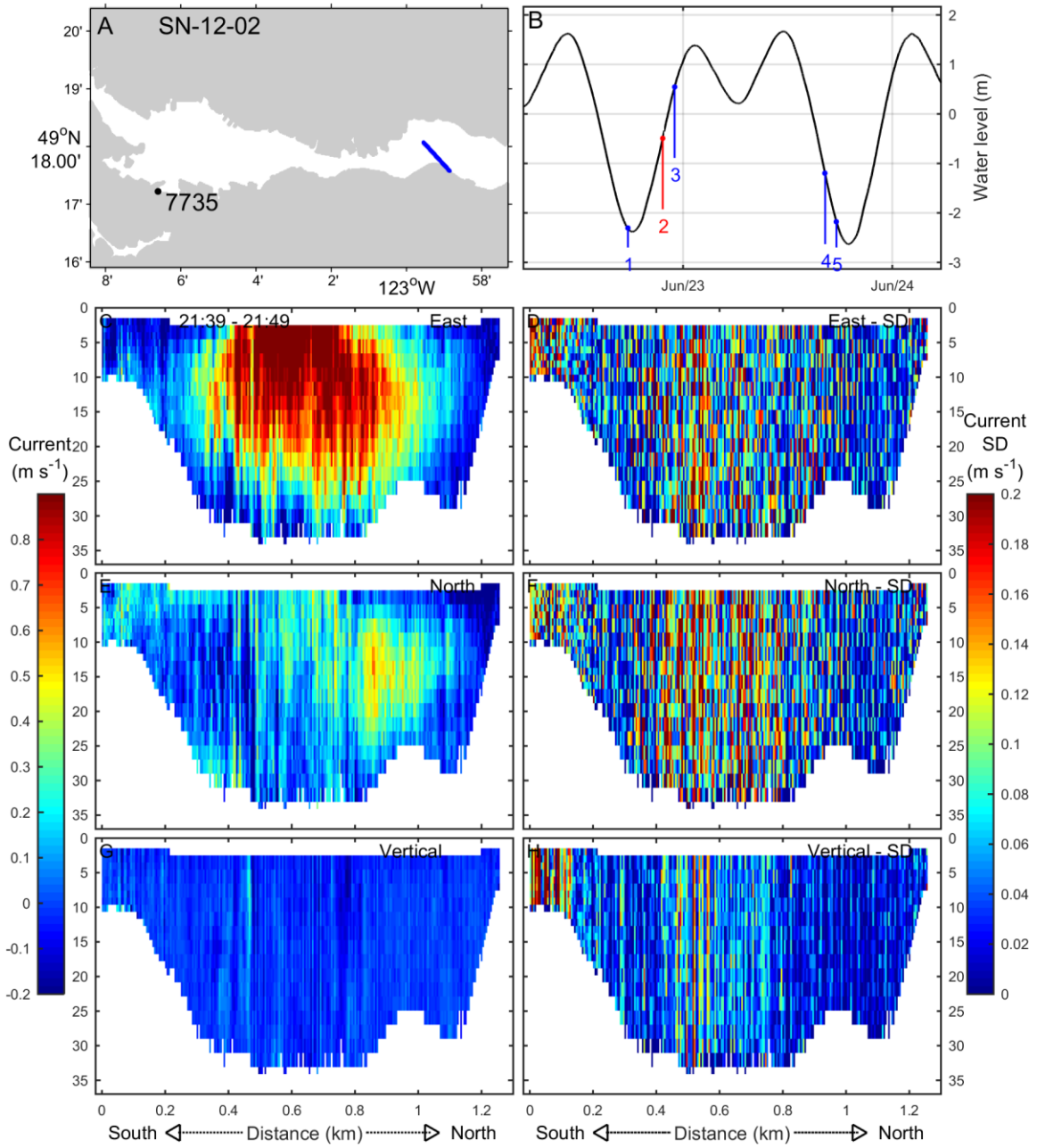

A
SN-10-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:33 - 16:41
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

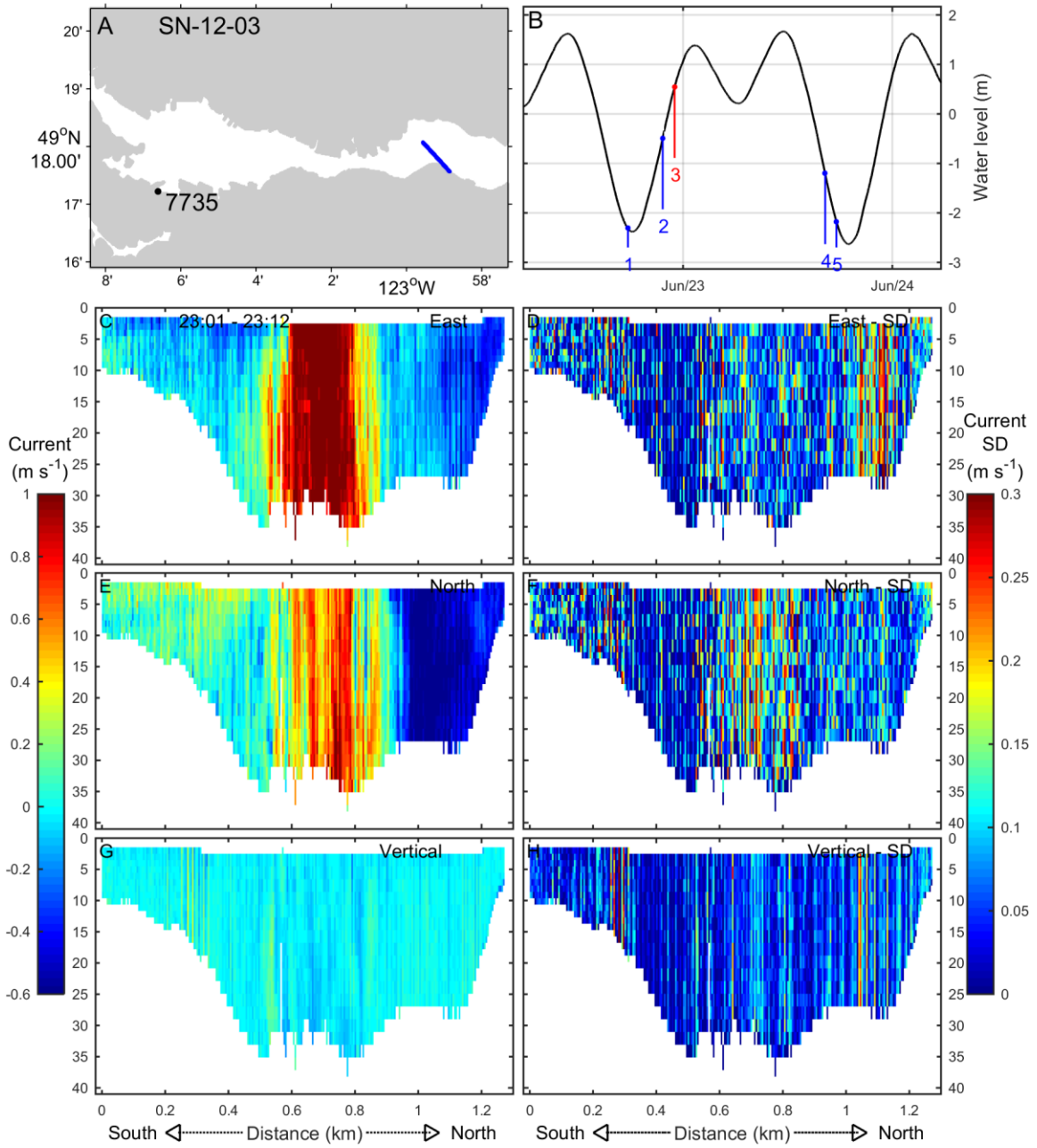

A
SN-11-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
18:42 - 18:54
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

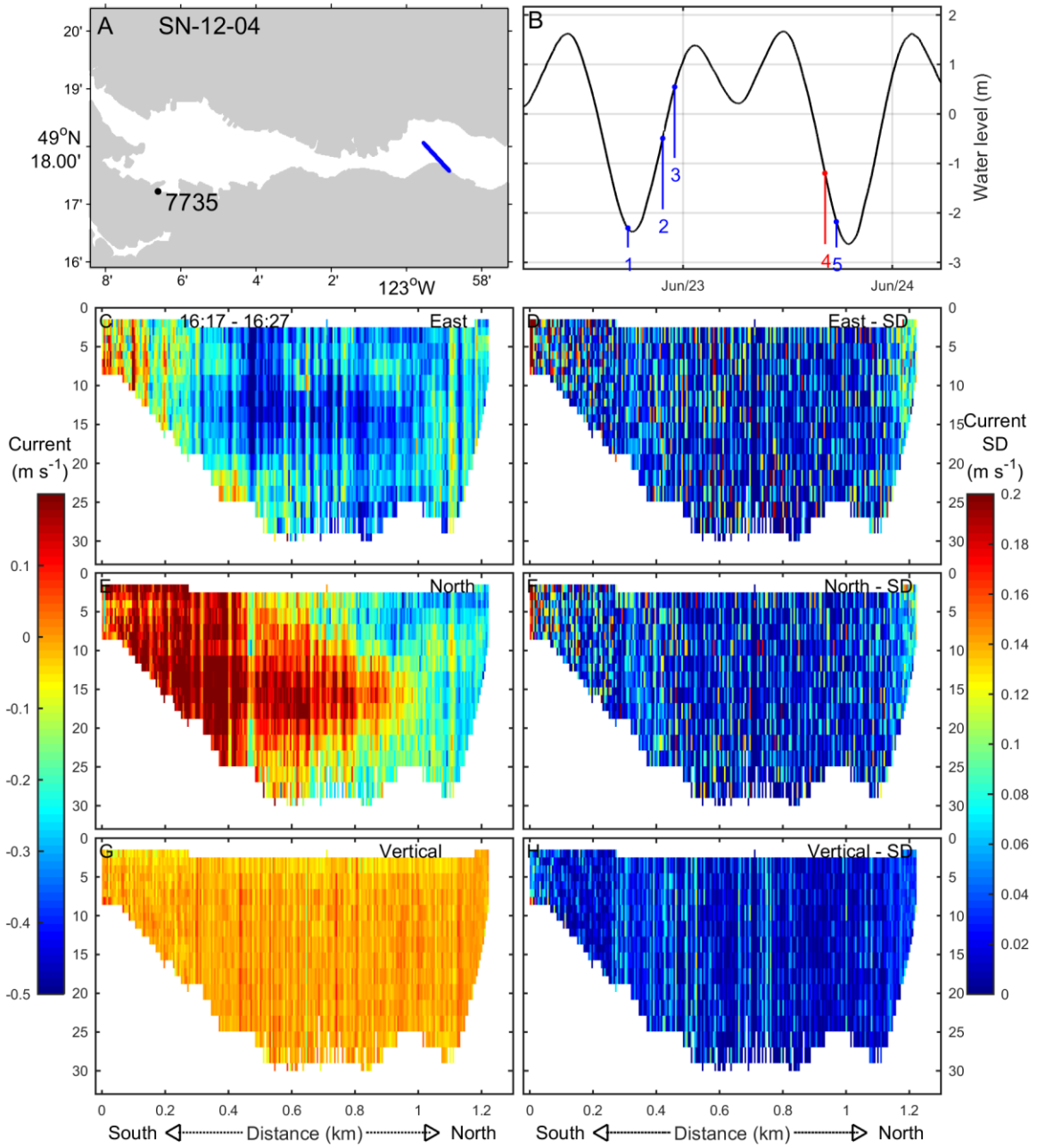

A
SN-11-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
22:35 - 22:47
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

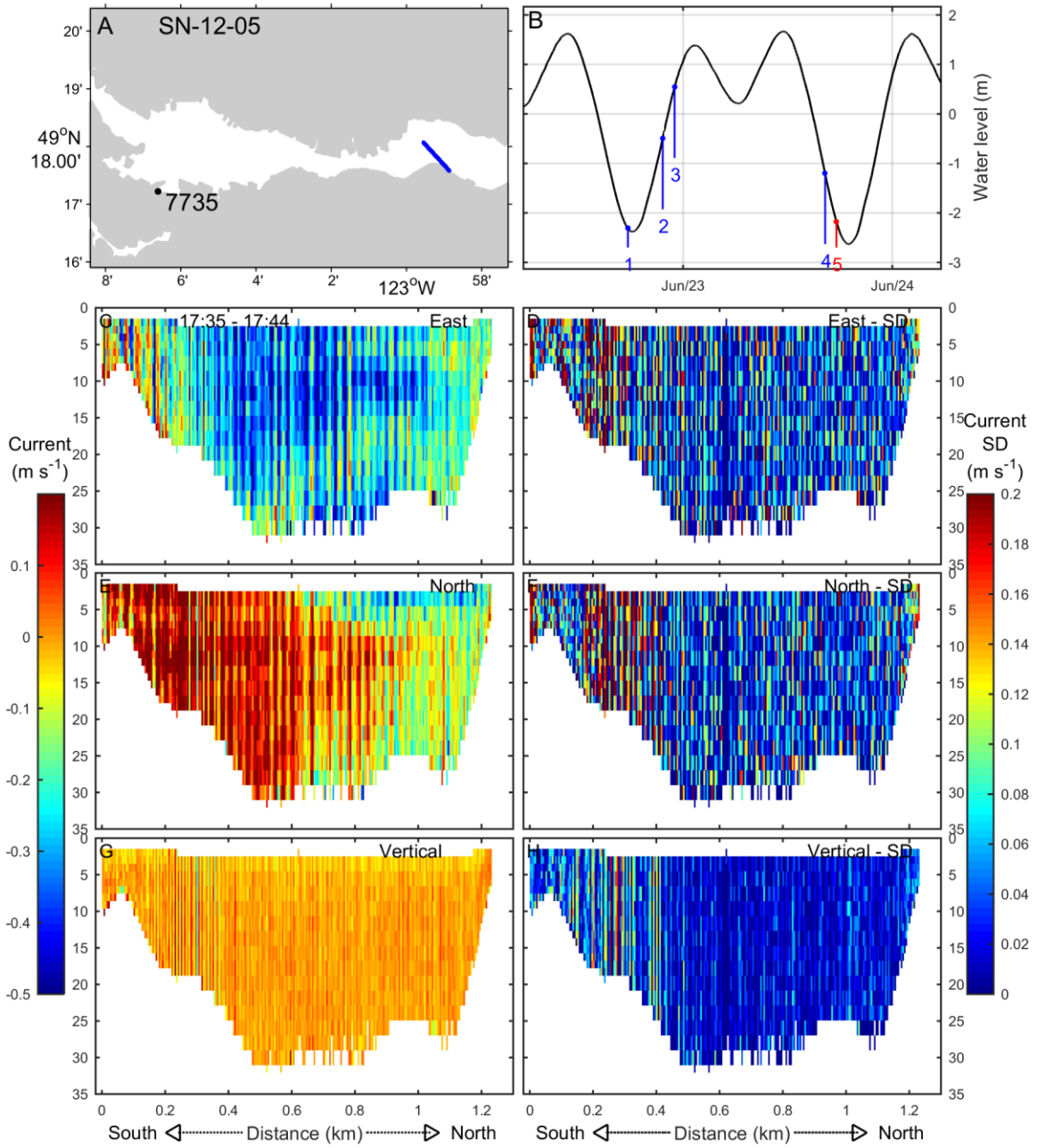

A
SN-11-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:12 - 17:22
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

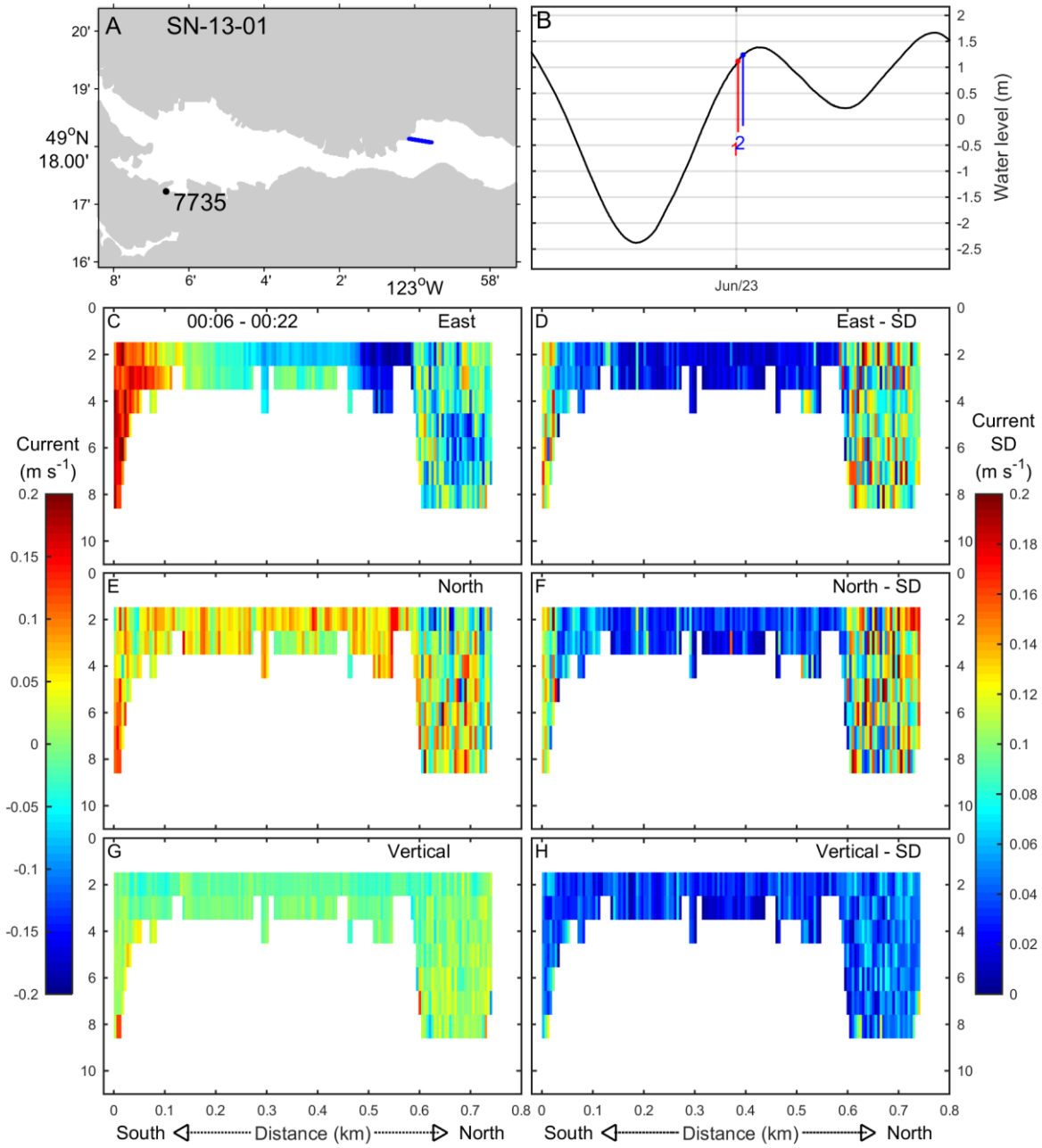

A
SN-12-01
7735
49°N
18.00'
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:40 - 17:53
East
D
East_SD
E
North
F
North_SD
G
Vertical
H
Vertical_SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

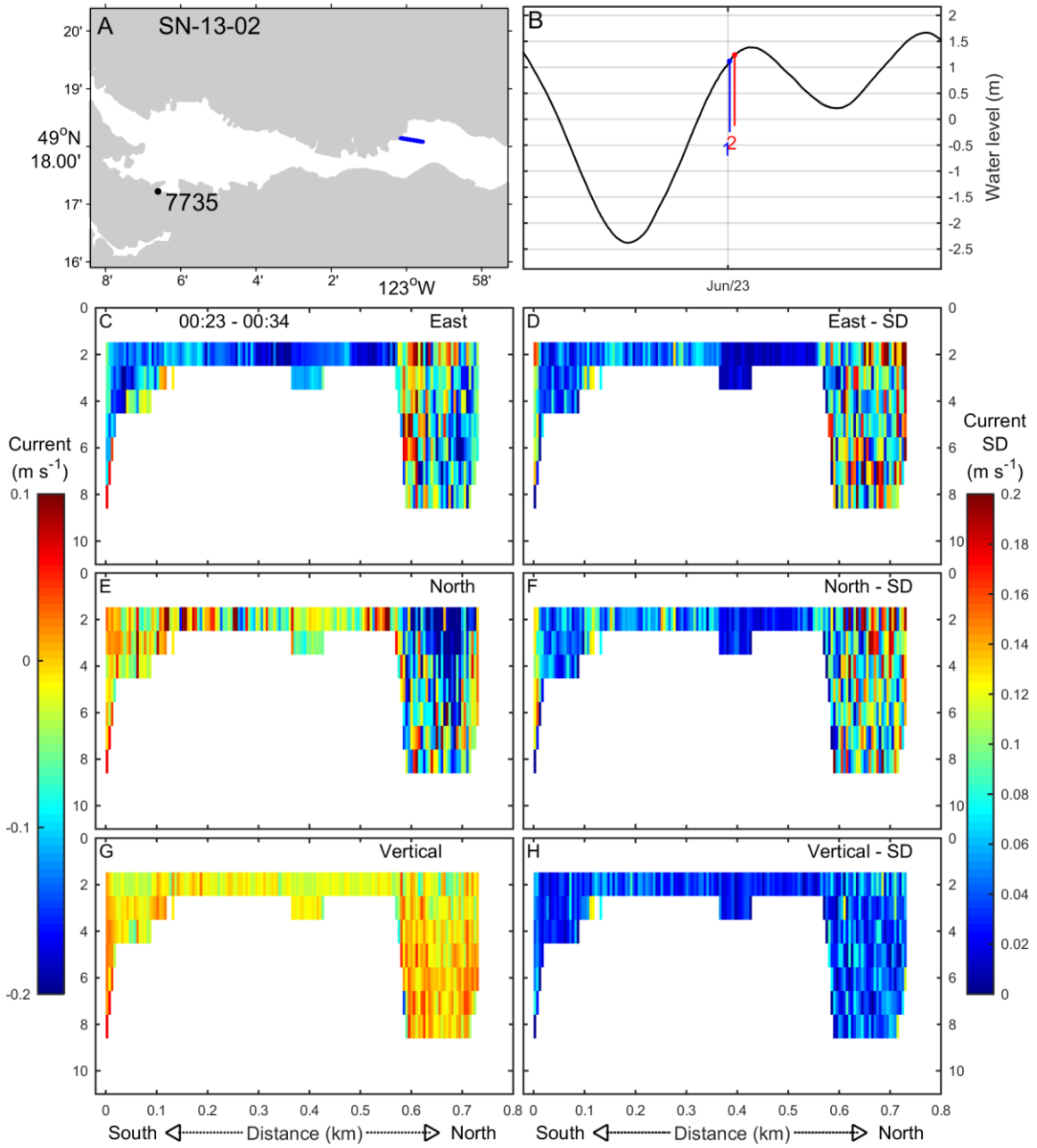

A
SN-12-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
21:39 - 21:49
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

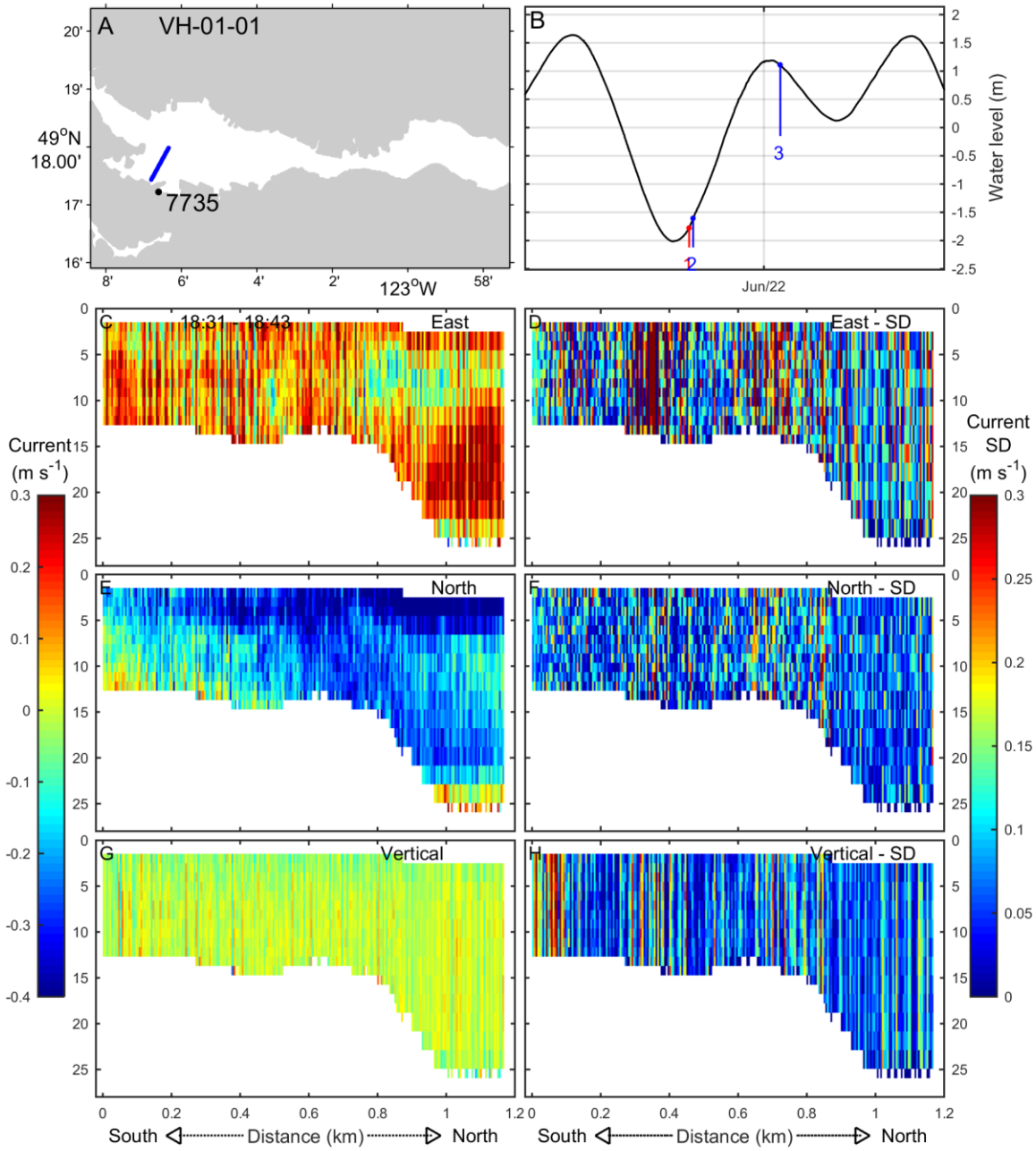

A
SN-12-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
23:01 - 23:12
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

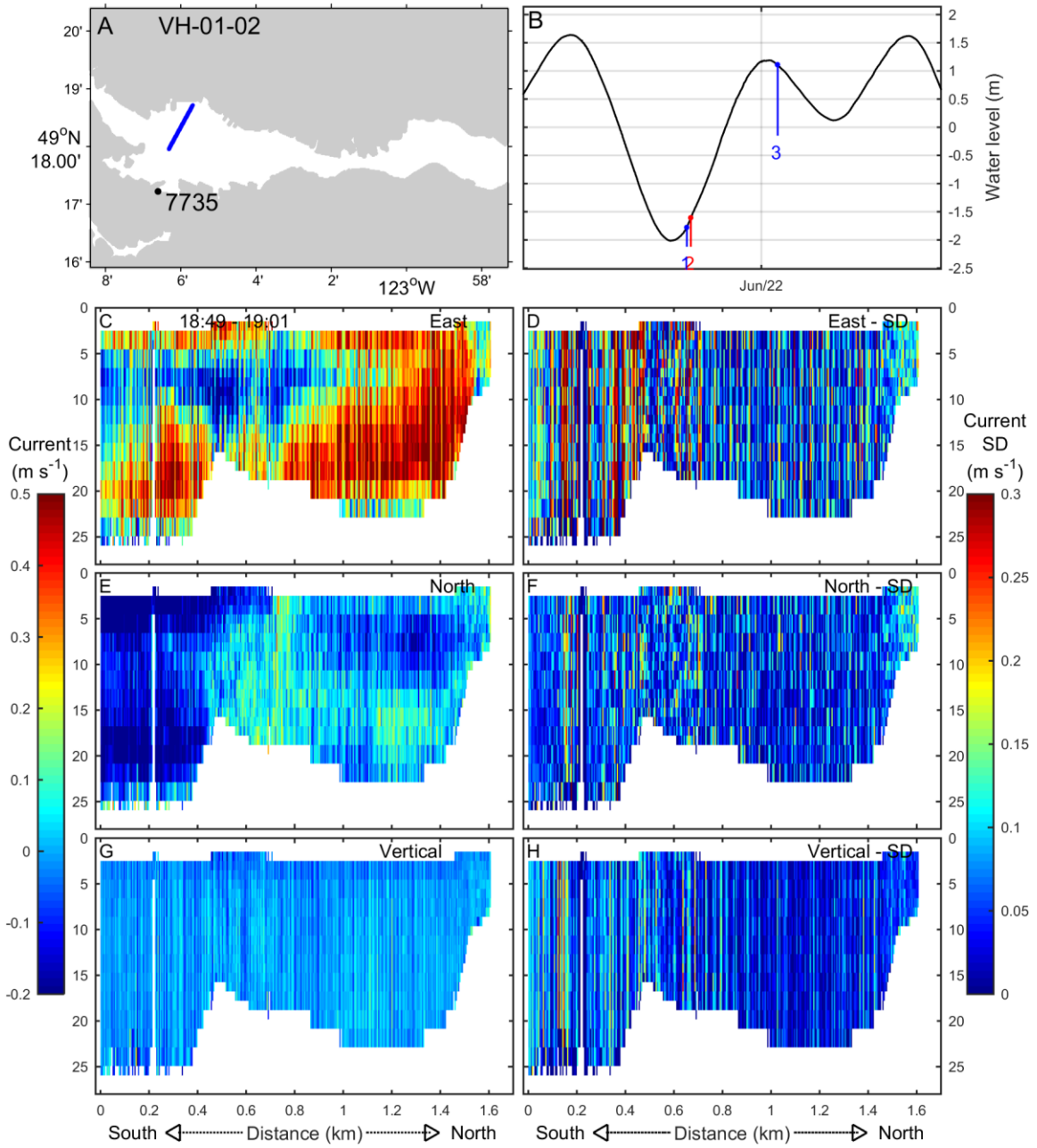

A
SN-12-04
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
16:17 - 16:27
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

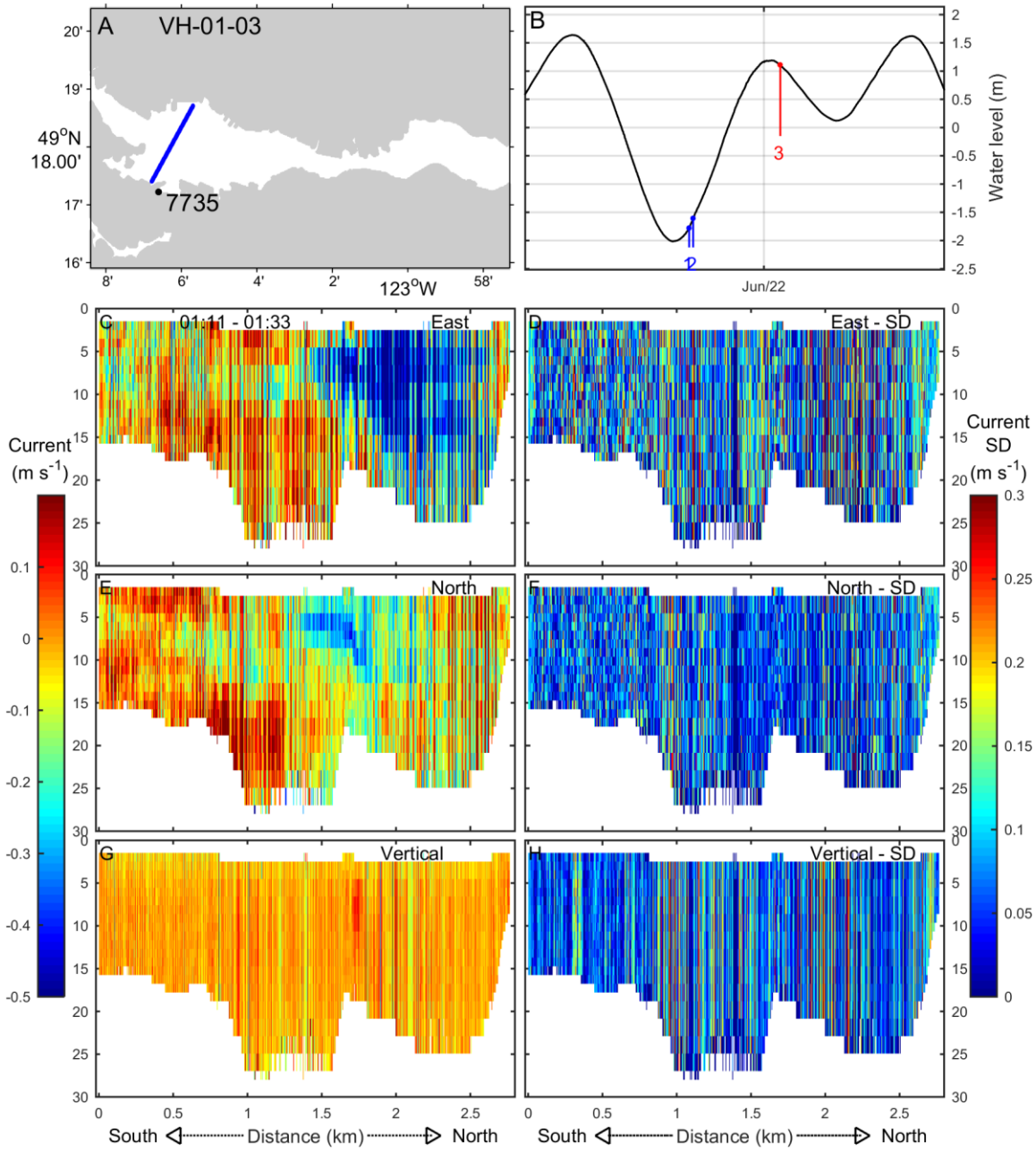

A
SN-12-05
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
Jun/24
C
17:35 - 17:44
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North

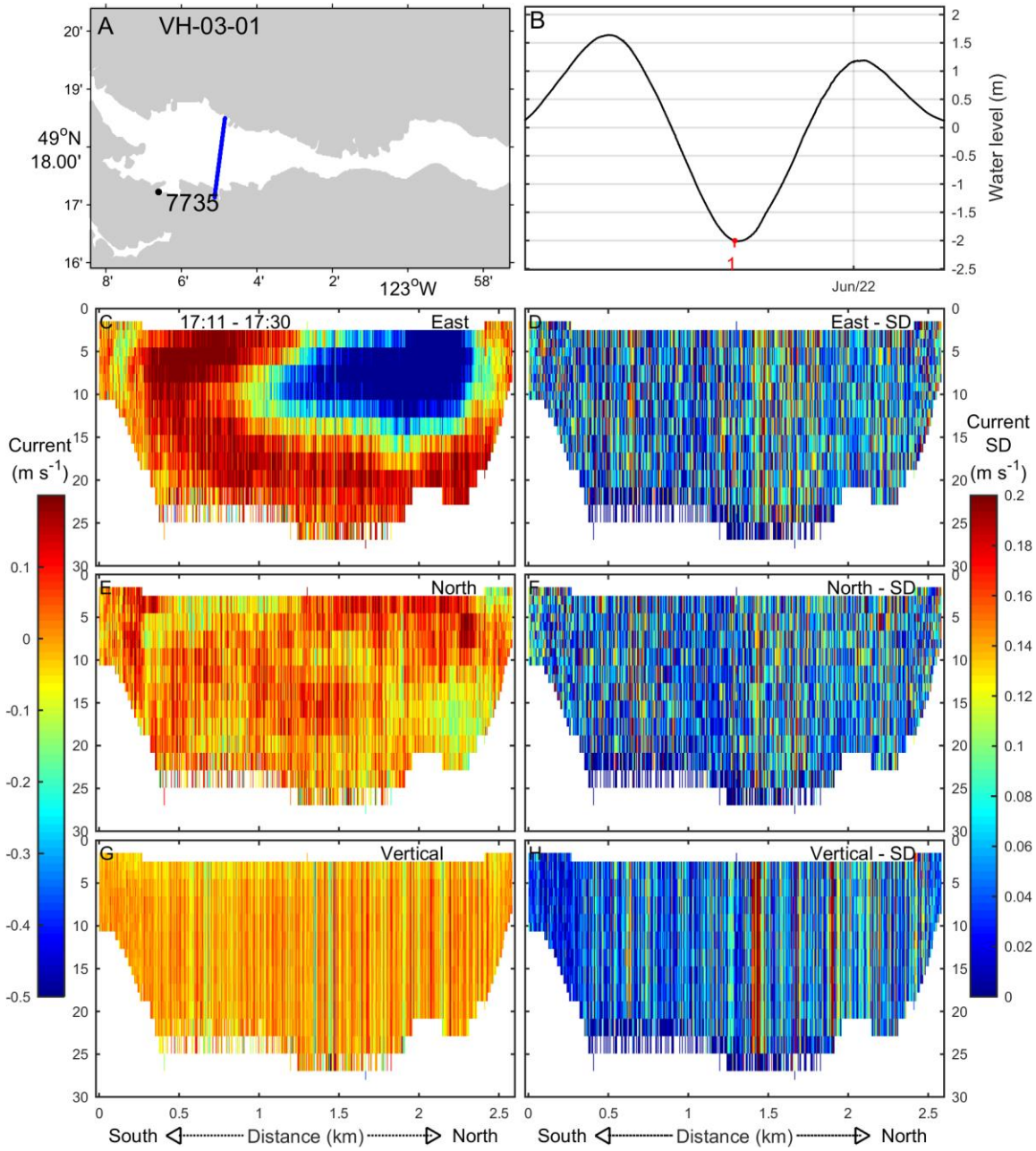

A
SN-13-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
C
00:06 - 00:22
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current (m s-1)
Current SD (m s-1)
South
Distance (km)
North


A
SN-13-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/23
C
00:23 - 00:34
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North


A
VH-01-01
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/22
C
18:31 - 18:43
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

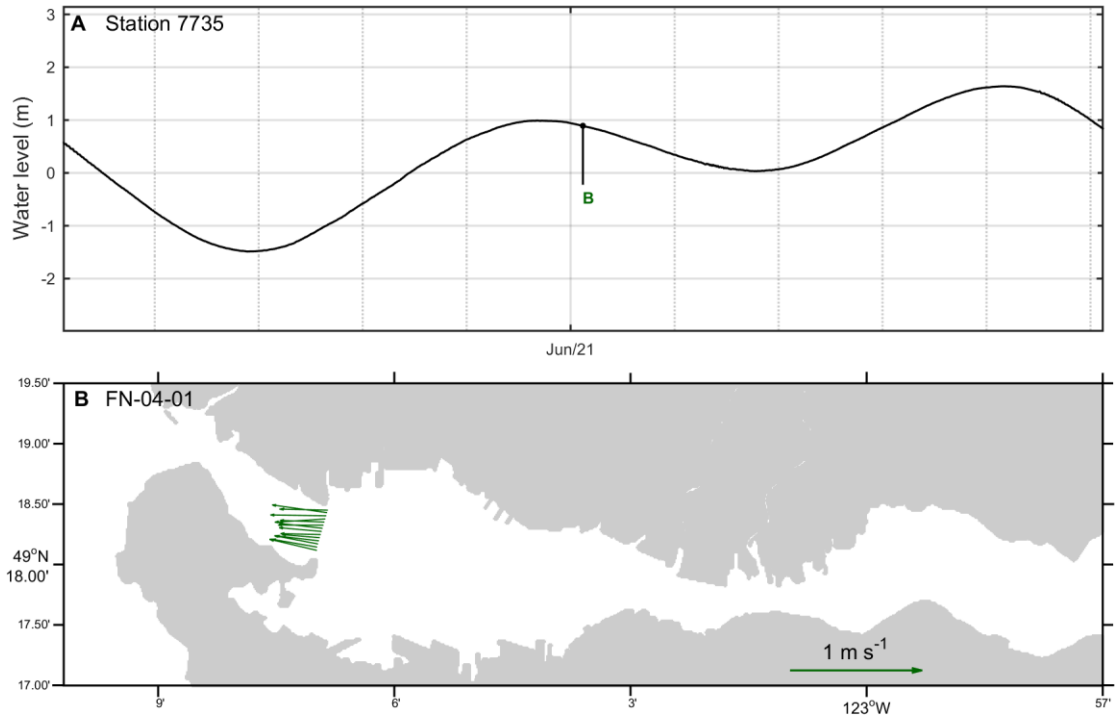

A
VH-01-02
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/22
C
18:49 - 19:01
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

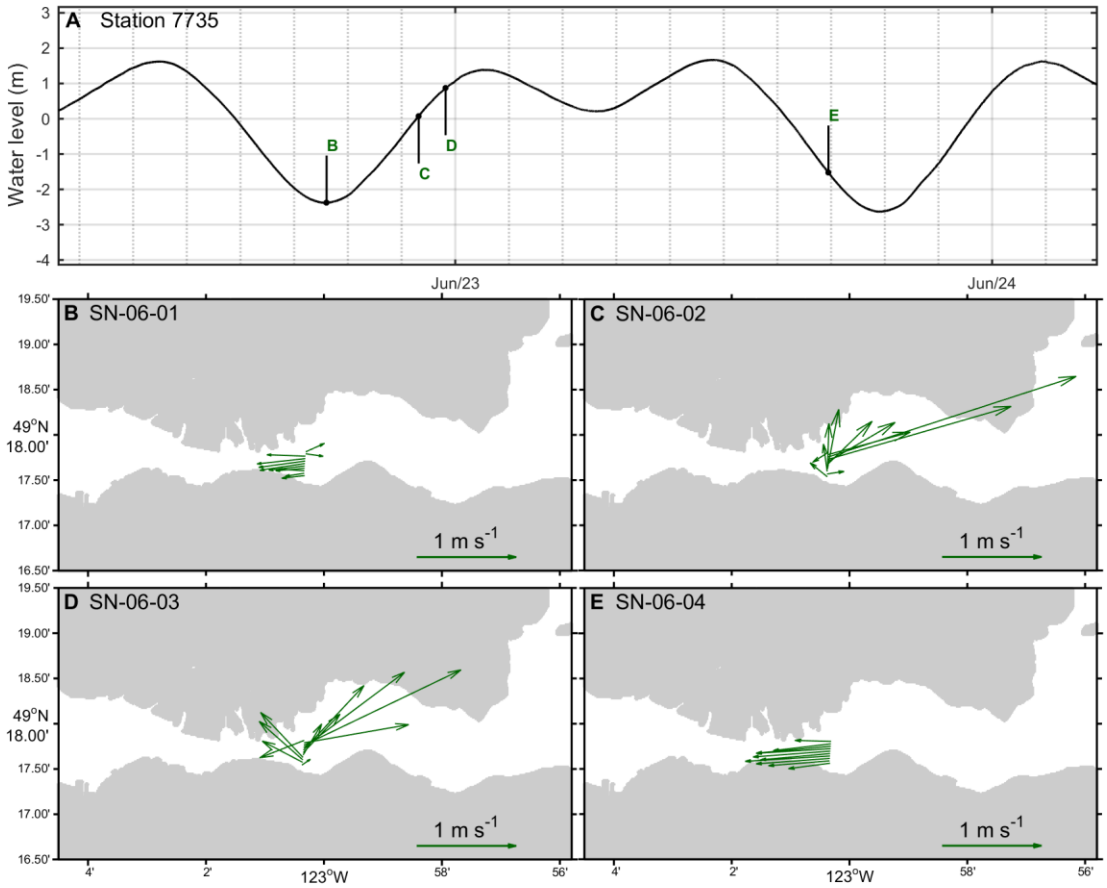

A
VH-01-03
49°N
18.00'
7735
123°W
B
Water level (m)
Jun/22
C
01:11 - 01:33
East
D
East - SD
E
North
F
North - SD
G
Vertical
H
Vertical - SD
Current
(m s-1)
Current
SD
(m s-1)
South
Distance (km)
North

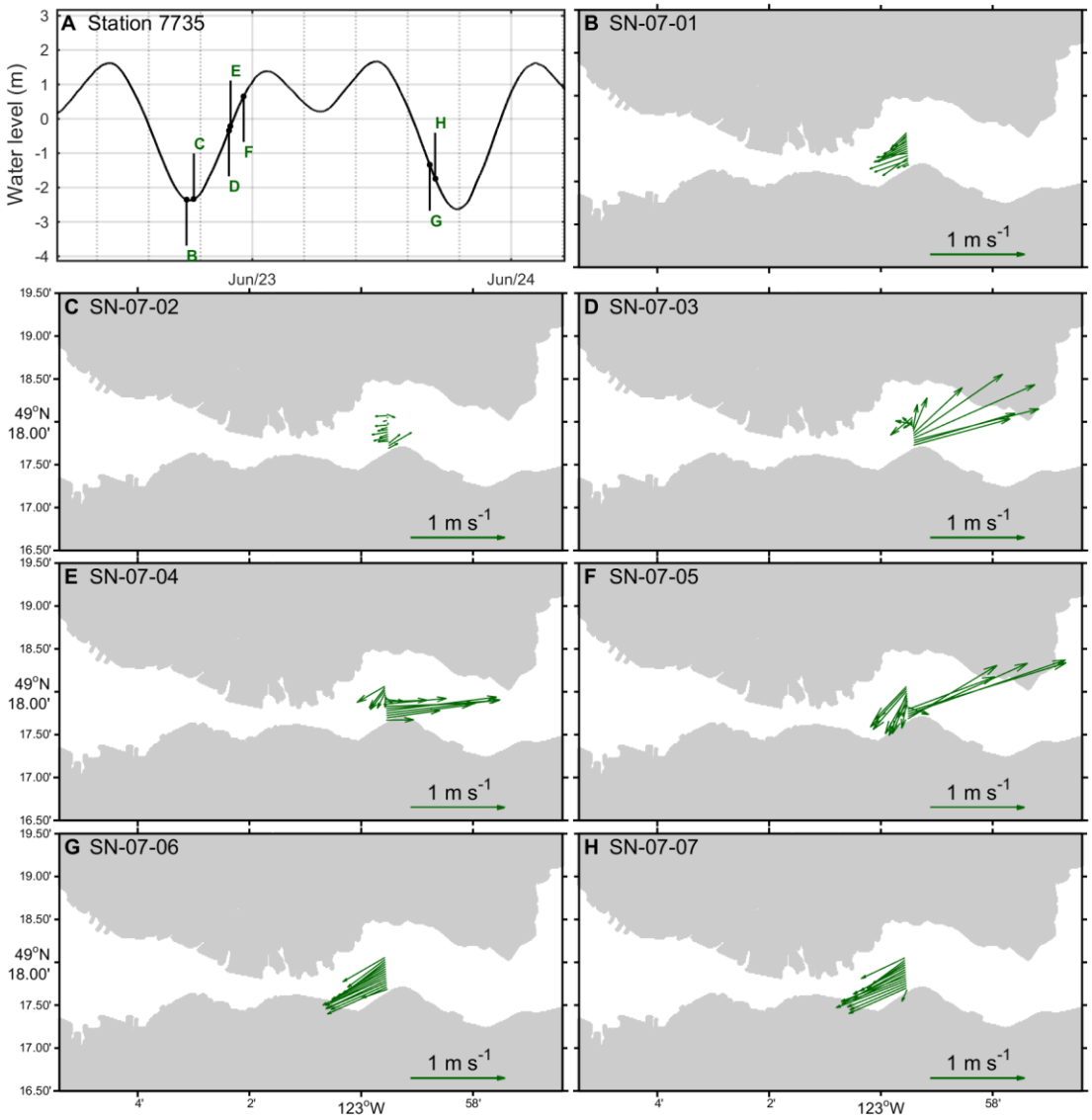


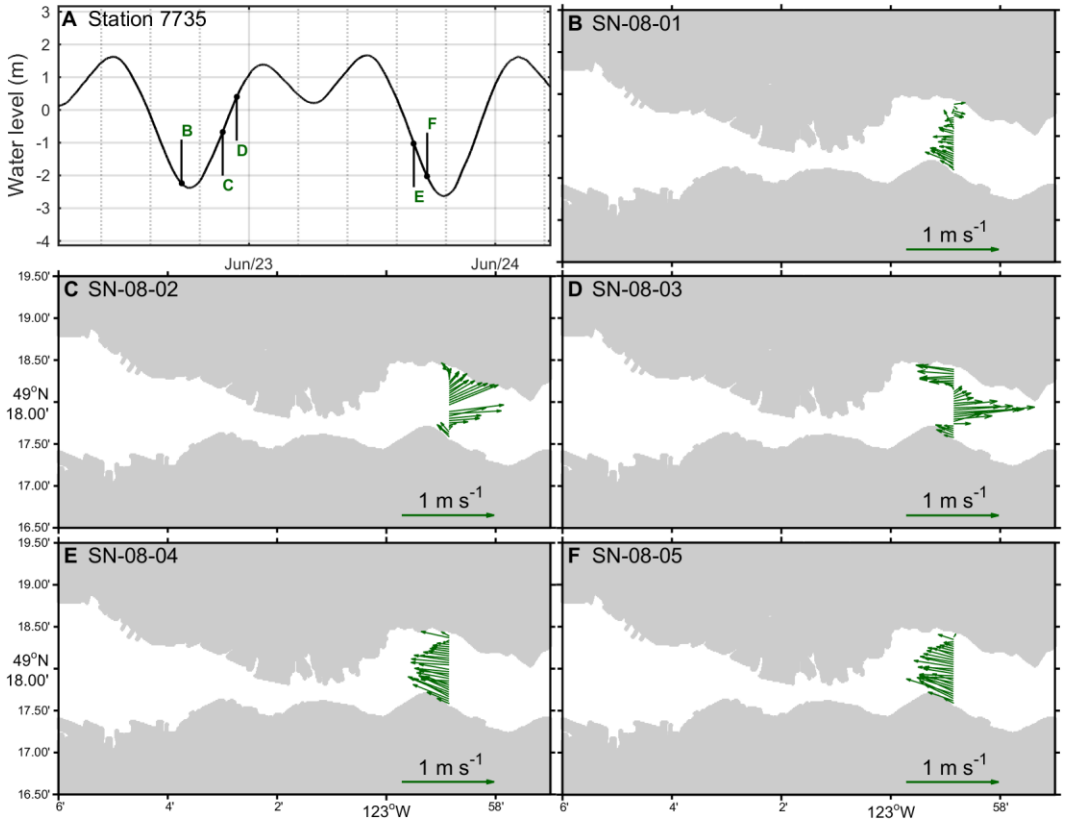

## 9.2 JUNE VELOCITY DATA QUIVER PLOTS

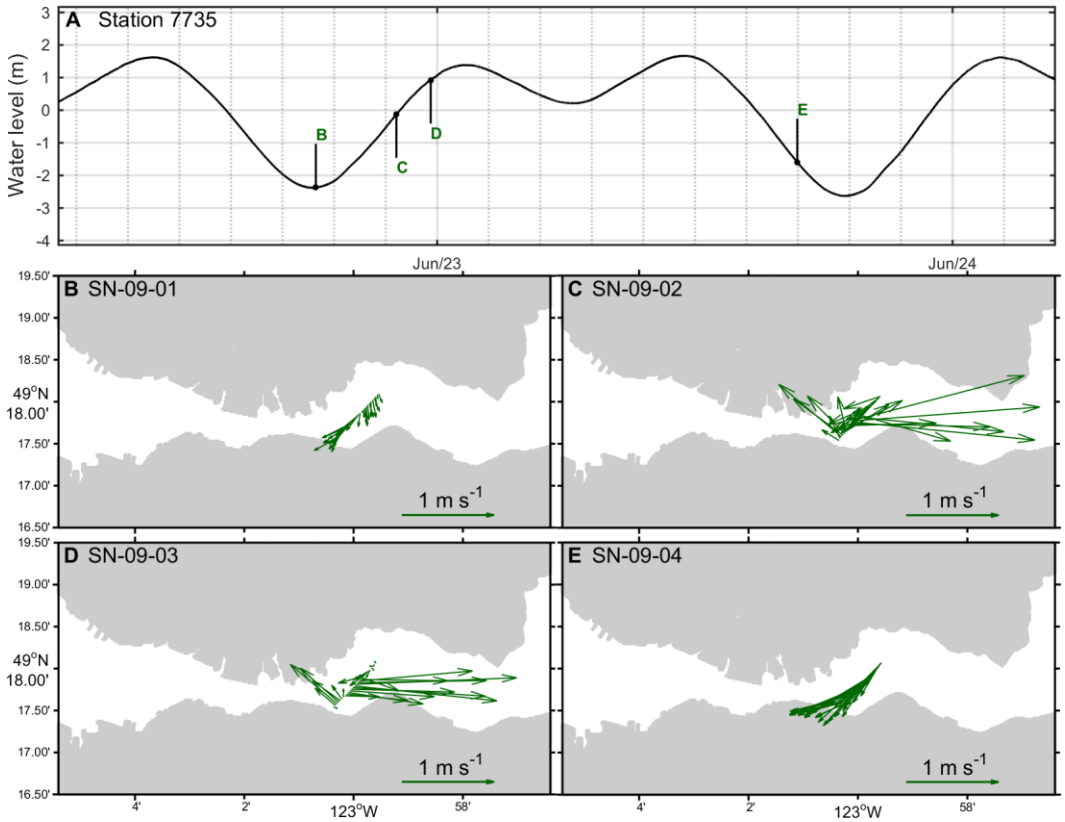
The following figures contain quiver plots (subplots B and above) for different sampling days at a single location. The plots show surface velocity for alongshore transects measured in June 2017. The figures show the tidal cycle (subplot A) with the time of sampling depicted on the tidal cycle plot with the letter of the corresponding quiver plot. The units are in $ms^{-1}$.

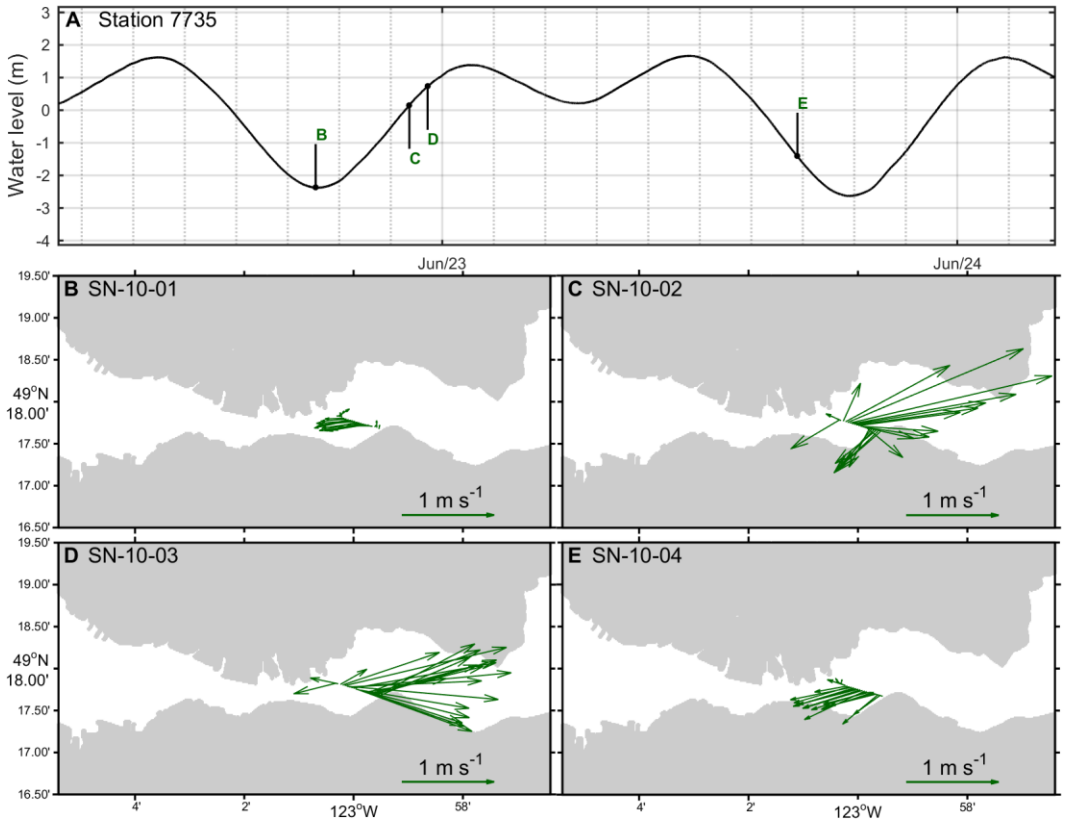

A Station 7735
Water level (m)
3
2
1
0
-1
-2
B
Jun/21
B FN-04-01
19.50'
19.00'
18.50'
49°N
18.00'
17.50'
17.00'
9'
6'
3'
123°W
57'
1 m s-1

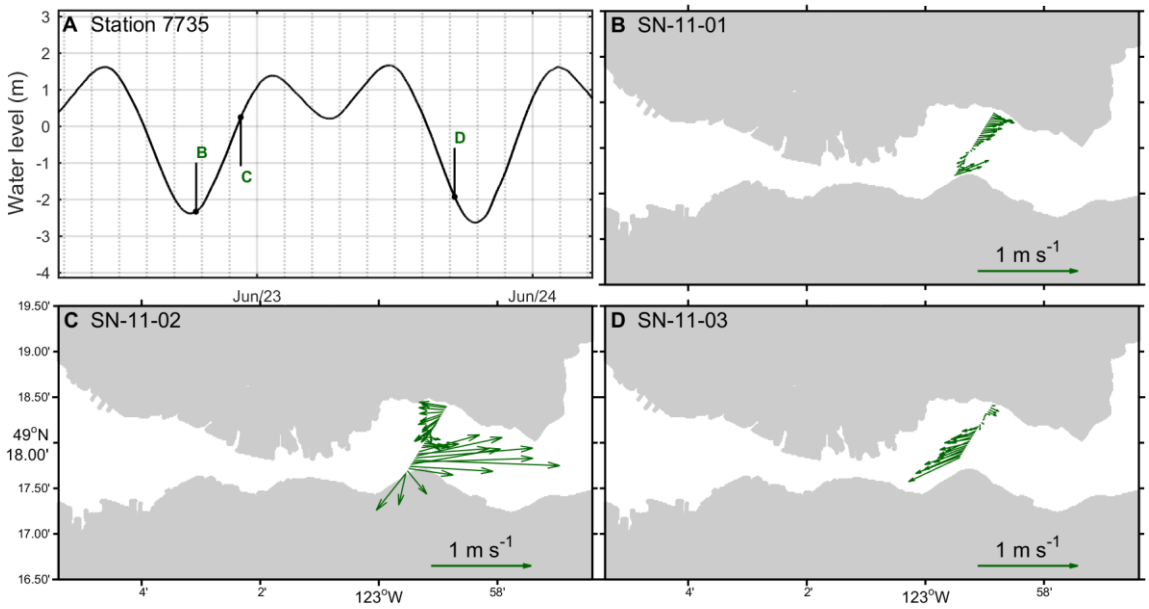

A Station 7735
Water level (m)
B
C
D
E
Jun/23
Jun/24
B SN-06-01
C SN-06-02
D SN-06-03
E SN-06-04
1 m s-1
49°N
18.00'
123°W

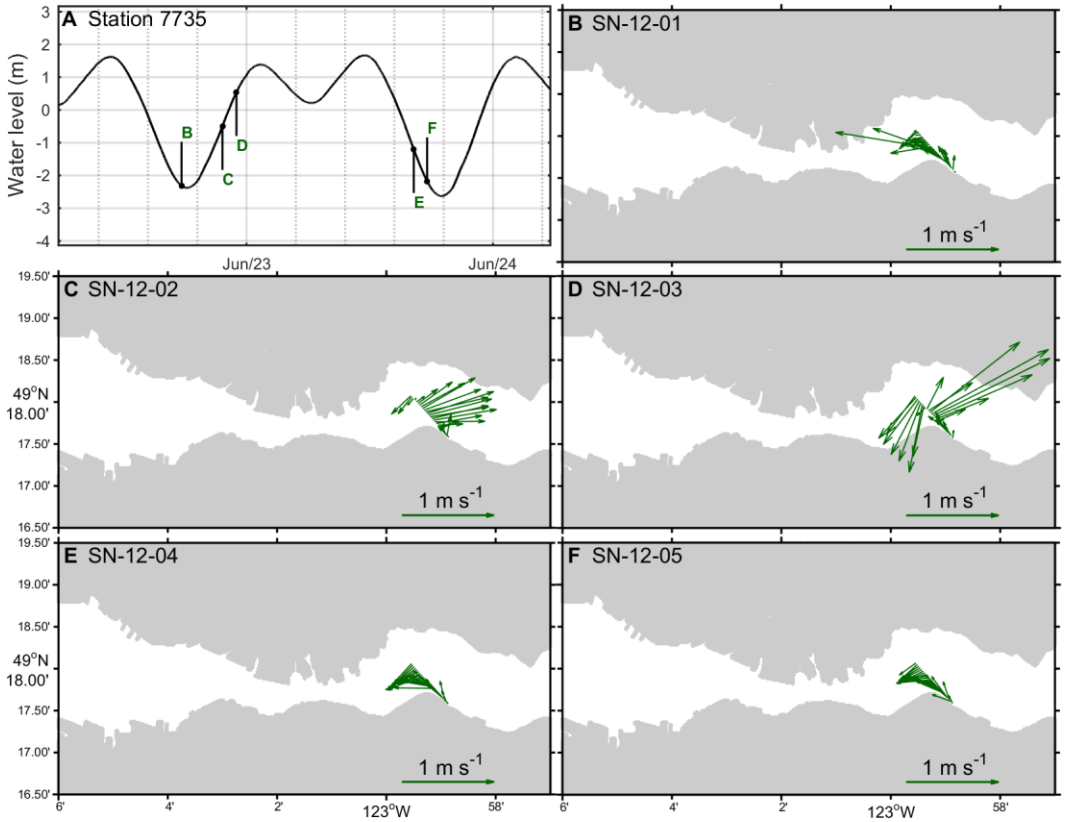

A Station 7735
Water level (m)
Jun/23
Jun/24
B SN-07-01
C SN-07-02
D SN-07-03
E SN-07-04
F SN-07-05
G SN-07-06
H SN-07-07
1 m s-1
49°N
18.00'
123°W

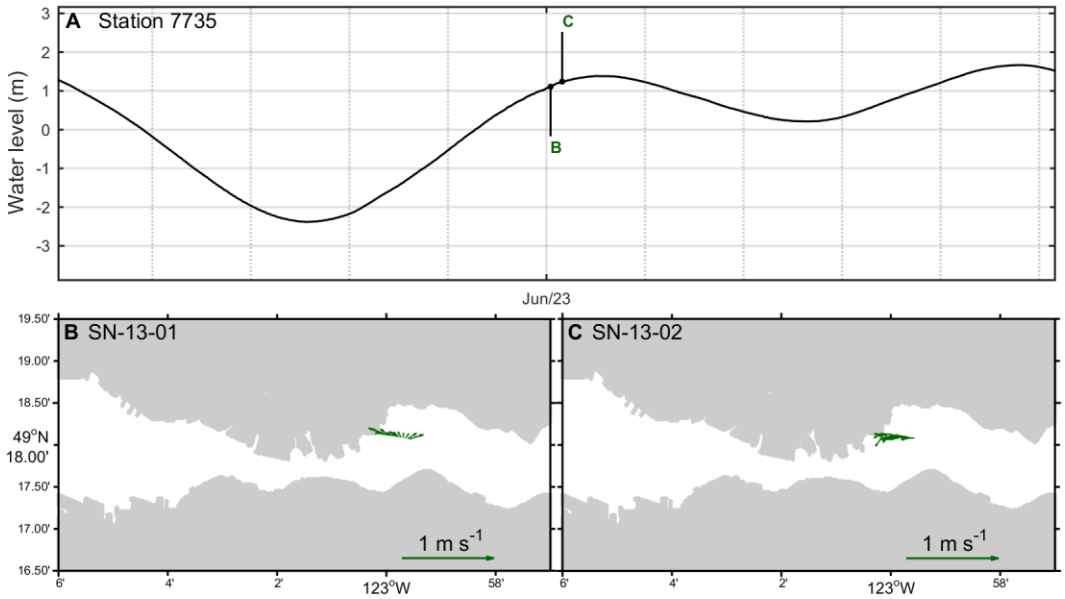

A Station 7735
Water level (m)
Jun/23
Jun/24
B SN-08-01
C SN-08-02
D SN-08-03
E SN-08-04
F SN-08-05
1 m s-1
49°N
18.00'
123°W

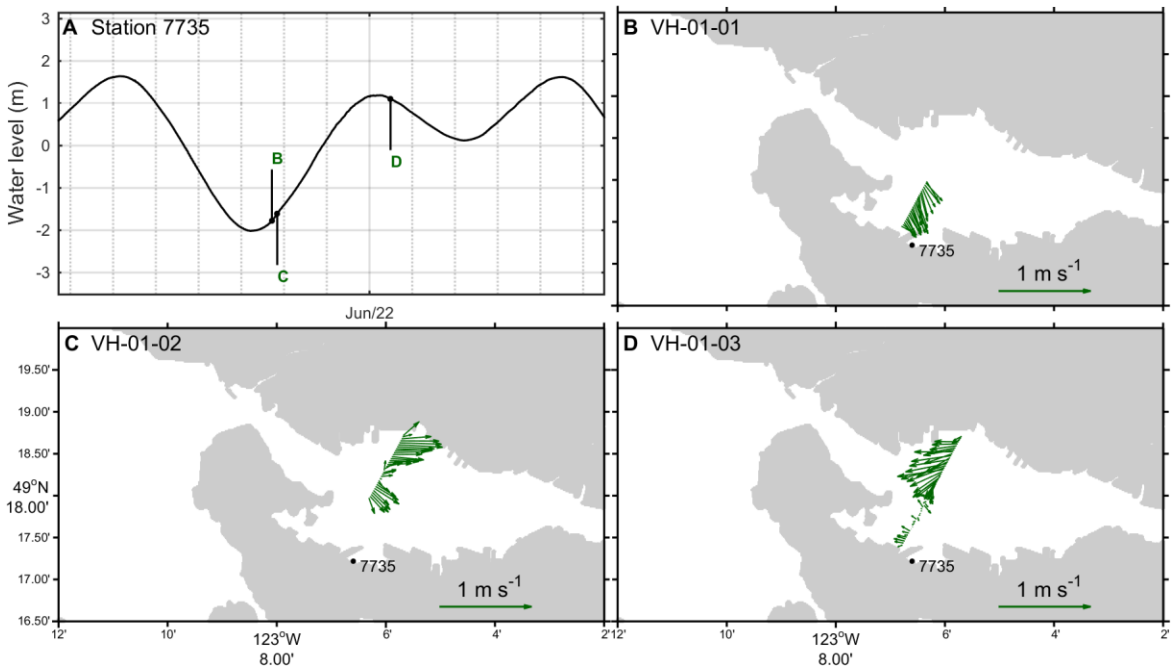

A Station 7735
Water level (m)
Jun/23
Jun/24
B SN-09-01
C SN-09-02
D SN-09-03
E SN-09-04
1 m s-1
49°N
18.00'
123°W

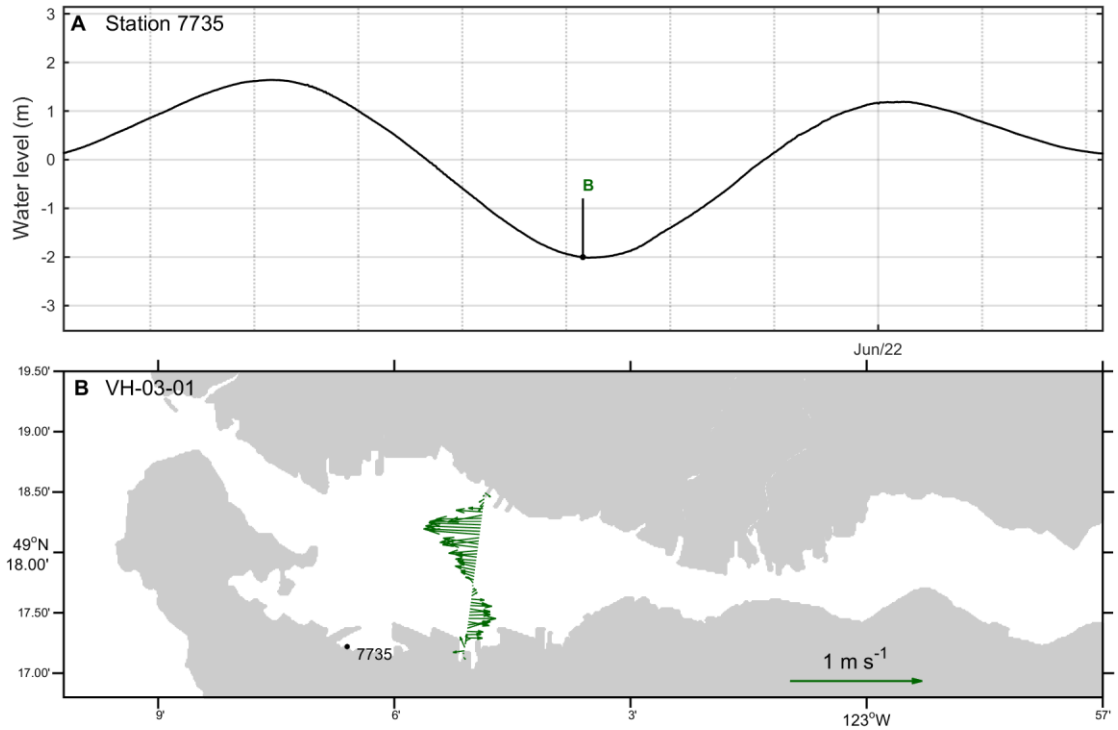

A Station 7735
Water level (m)
B
C
D
E
Jun/23
Jun/24
B SN-10-01
C SN-10-02
D SN-10-03
E SN-10-04
49°N
18.00'
1 m s-1
123°W


A Station 7735
Water level (m)
B
C
D
Jun/23
Jun/24
B SN-11-01
C SN-11-02
D SN-11-03
49°N
18.00'
1 m s-1
123°W


A Station 7735
Water level (m)
B
C
D
E
F
Jun/23
Jun/24
B SN-12-01
C SN-12-02
D SN-12-03
E SN-12-04
F SN-12-05
1 m s-1
49°N
18.00'
123°W


A Station 7735
Water level (m)
B
C
Jun/23
B SN-13-01
C SN-13-02
1 m s-1
49°N
18.00'
123°W


A Station 7735
Water level (m)
B
C
D
Jun/22
B VH-01-01
7735
1 m s-1
C VH-01-02
D VH-01-03
49°N
18.00'
123°W
8.00'


A Station 7735
Water level (m)
B
Jun/22
B VH-03-01
49°N
18.00'
7735
1 m s-1
123°W