

Rotoehu destrat debrief

26-03-2013



Agenda

- Sampling overview
- General Lake Trend since 2011
 - Secchi depth
 - Buoy data
 - Biofish
- Instrumented week
 - Satellite
 - Dye detection by biofish
 - Hiroshi's flow meter results
 - Soda spring overview

Regular monitoring

Sites A | C | F

Depth \approx 10m

Since Mar 2012

Intense sampling in 2013 Feb-Mar

0.5m & 9 m zooplankton

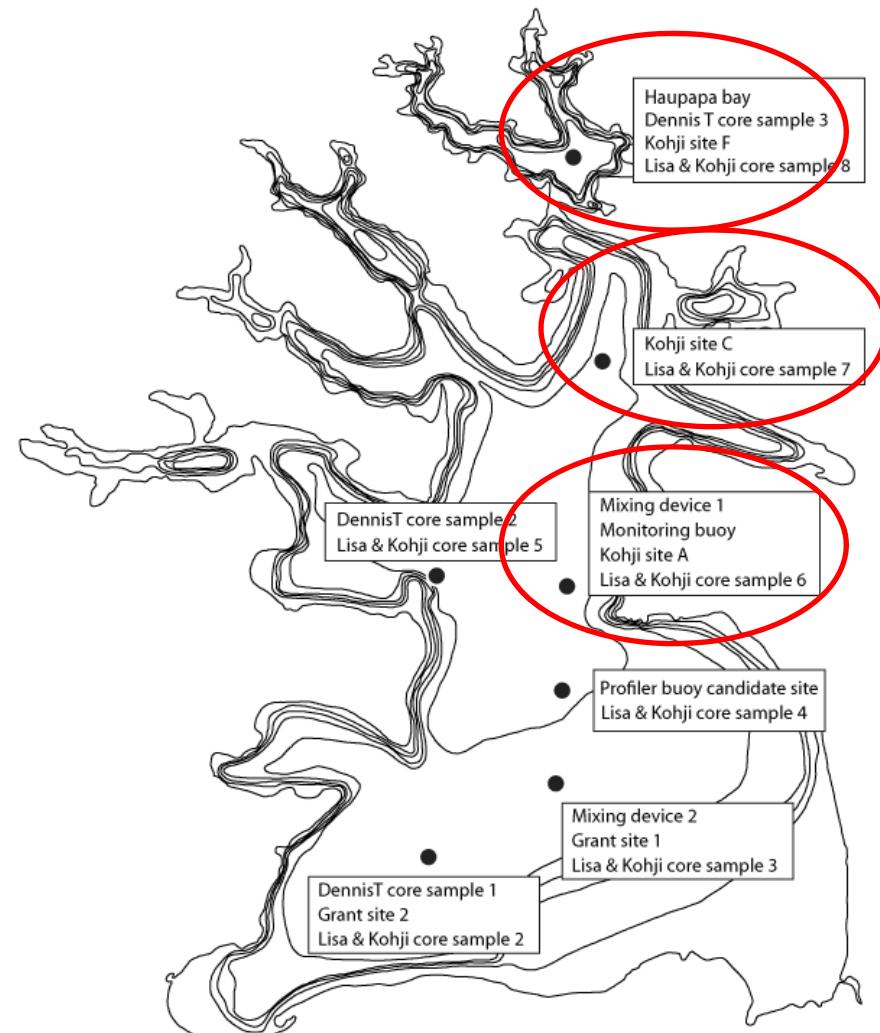
0.5m & 9 m phytoplankton

Depth integrated phytoplankton

Nutrient (dissolved/total)

CTD measurements

Secchi depth



Regular monitoring

Sites B | D | E

Depth \approx 10m

Since Feb 2012

Intense sampling in 2013 Feb-Mar

~~0.5m & 9 m zooplankton~~

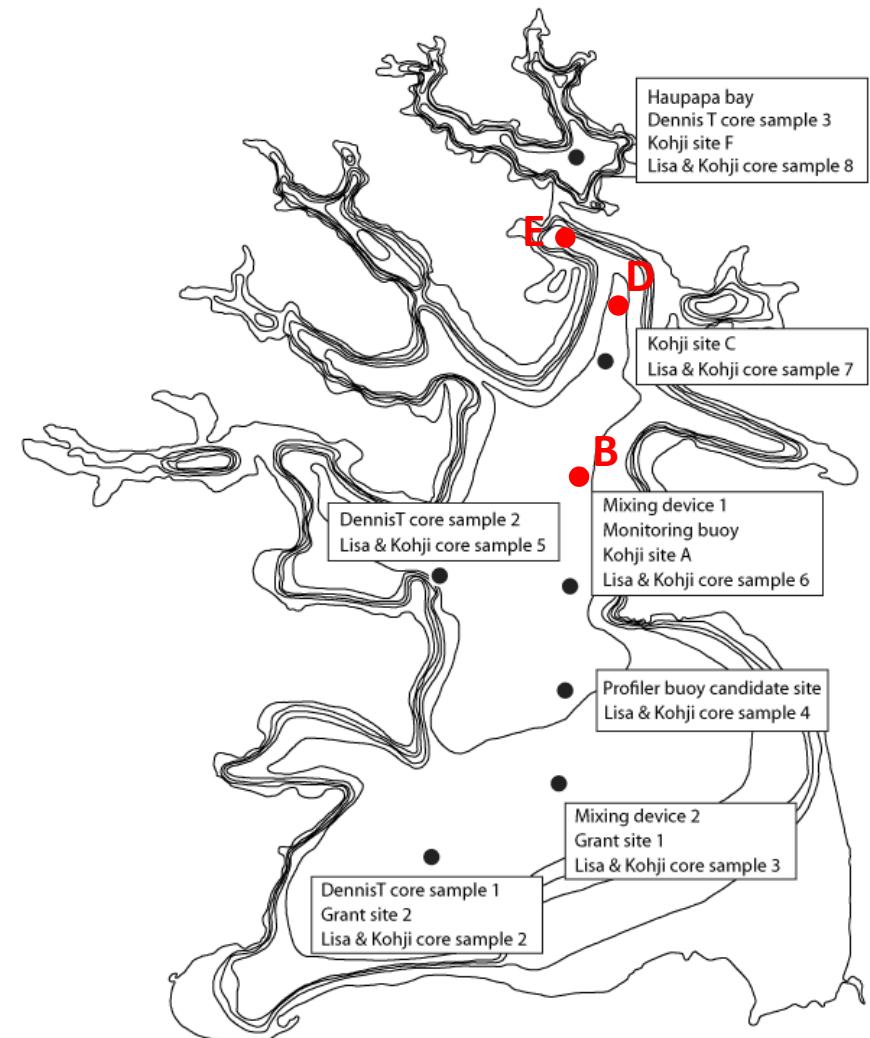
0.5m & 9 m phytoplankton

Depth integrated phytoplankton

Nutrient (dissolved/total)

CTD measurements

Secchi depth



Regular monitoring

Sites 1 | 2

Depth \approx 10m

Since Dec 2011

~~Intense sampling in 2013 Feb-Mar~~

0.5m & 9 m zooplankton

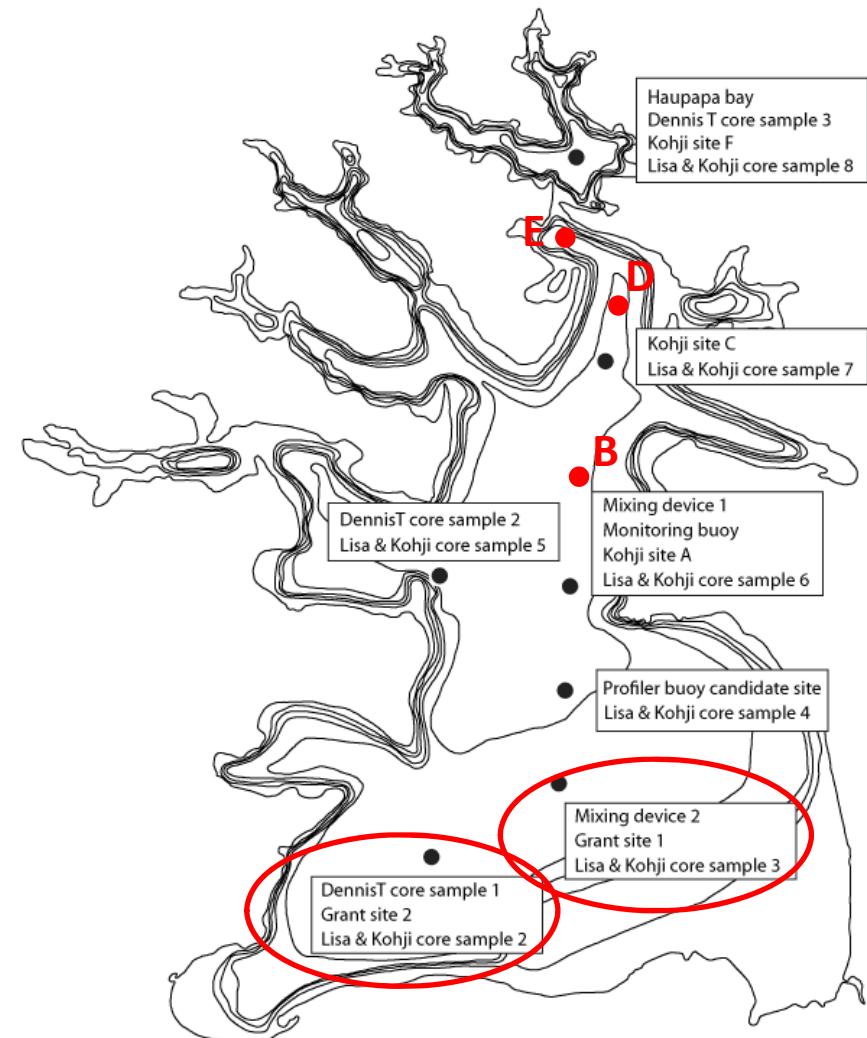
0.5m & 9 m phytoplankton

~~Depth integrated phytoplankton~~

Nutrient (dissolved/total)

CTD measurements (intense)

Secchi depth (intense)



Sediment core sampling

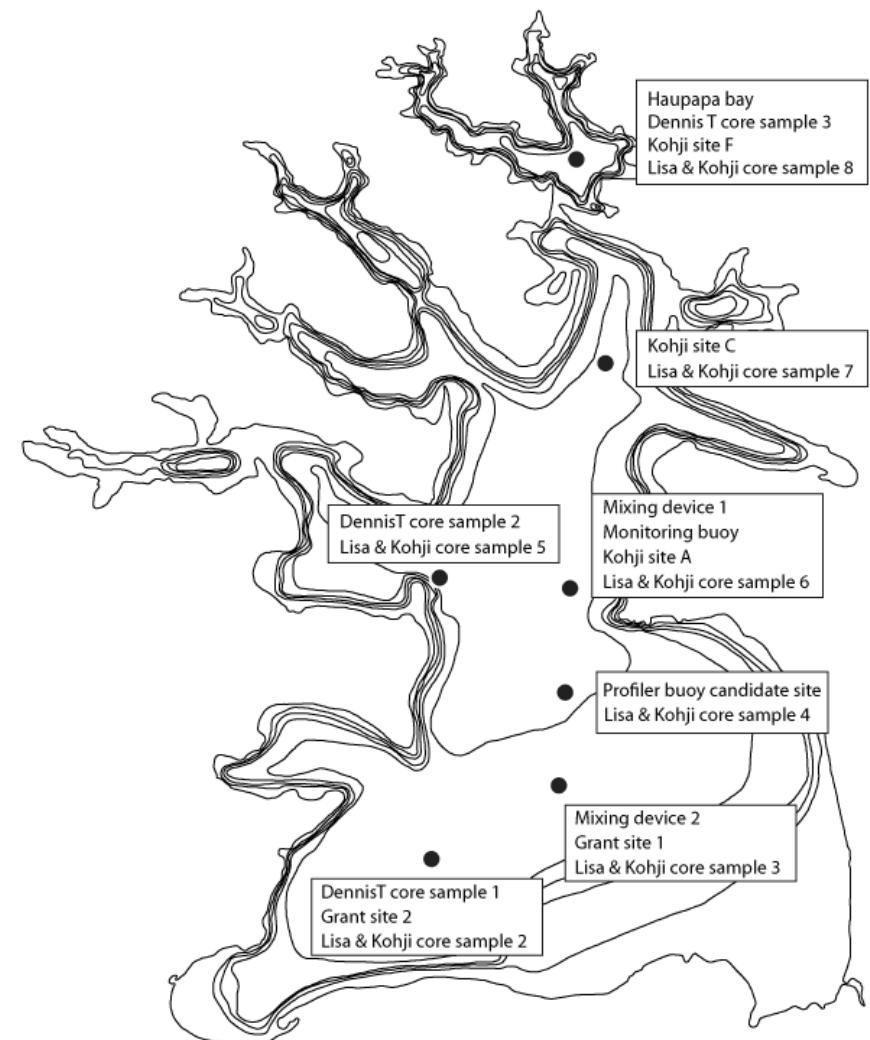
Sites 1* – 8*

Depth ≈ 10m

Jul 2011, Feb 2013

Sediment core sampling

Dennis T's sites included (1* & 5*)





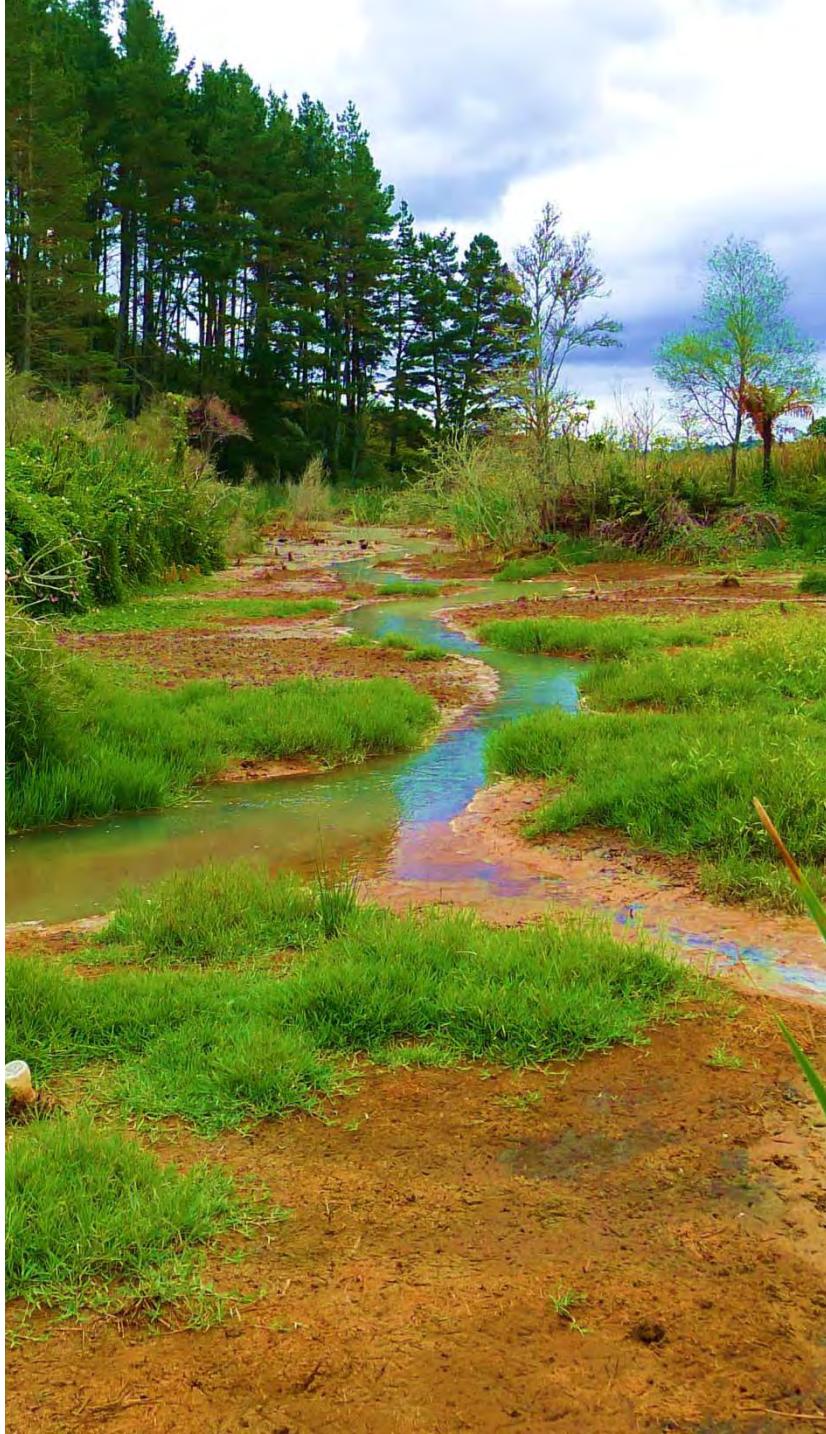
Intense monitoring

8th Feb 2013 – 21th Mar 2013

Sites A | B | C | D | E | F

2 times a week

For study of phytoplankton
dynamics vs disturbance



Instrumented week

26th Feb 2013 – 1st Mar 2013

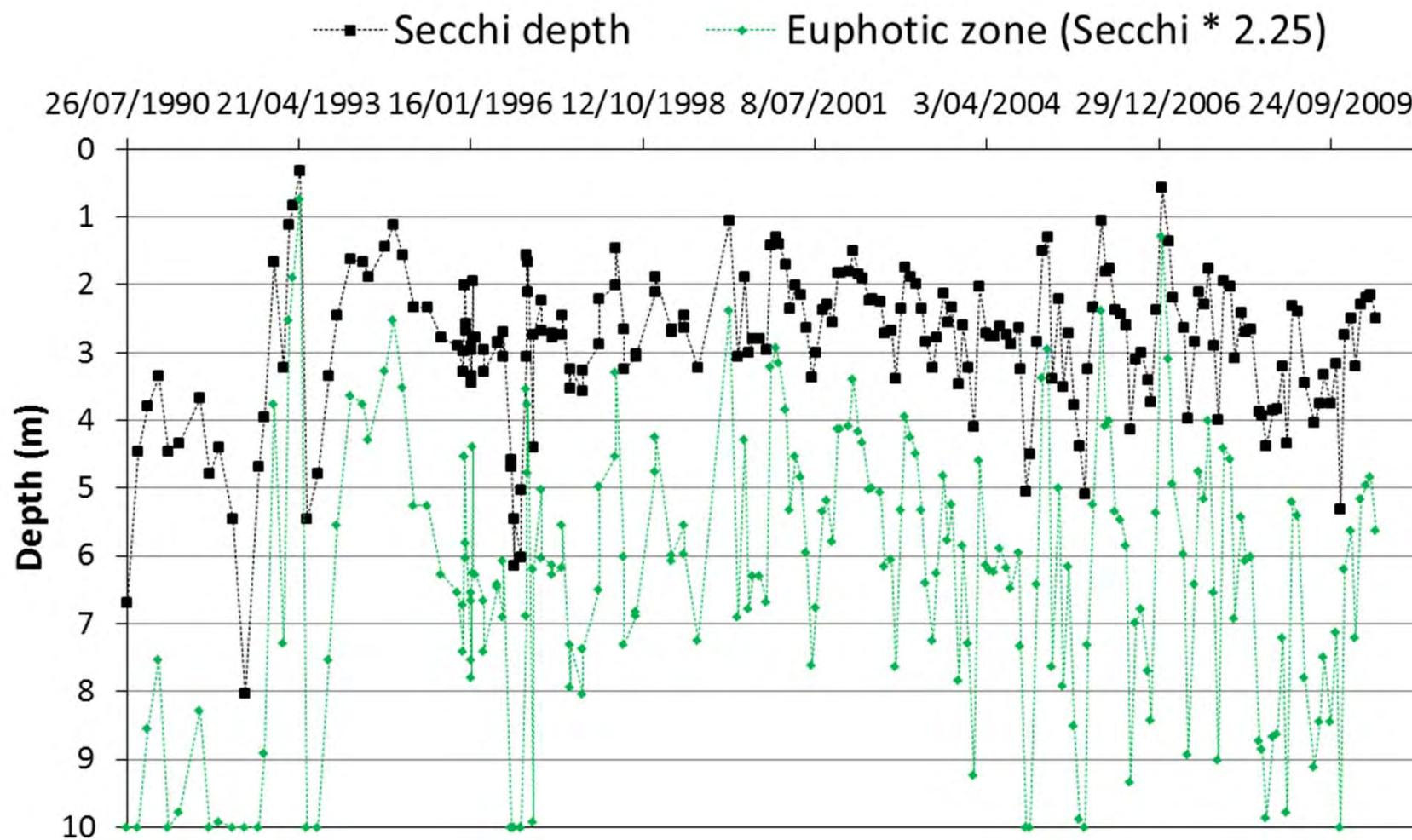
Instruments for study of
hydrodynamics

Dye release & detection | Satellite
| ADCP (until 22nd March) |
Flowmeters | NIWA ADCP boat
flow detection | Instream survey |
Everyday regular monitoring |
Monitoring buoy | Additional
buoy

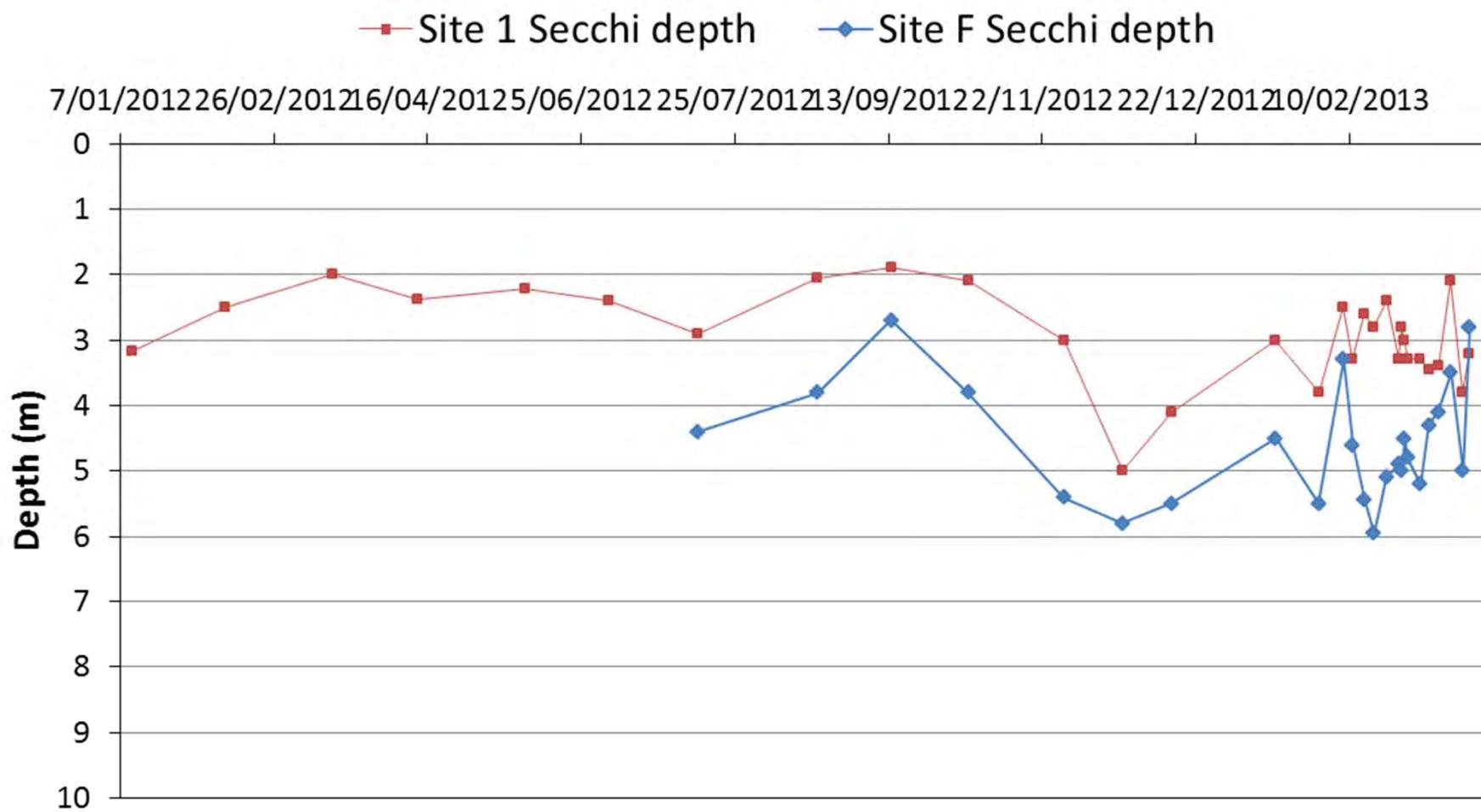
Water clarity (Secchi disc)



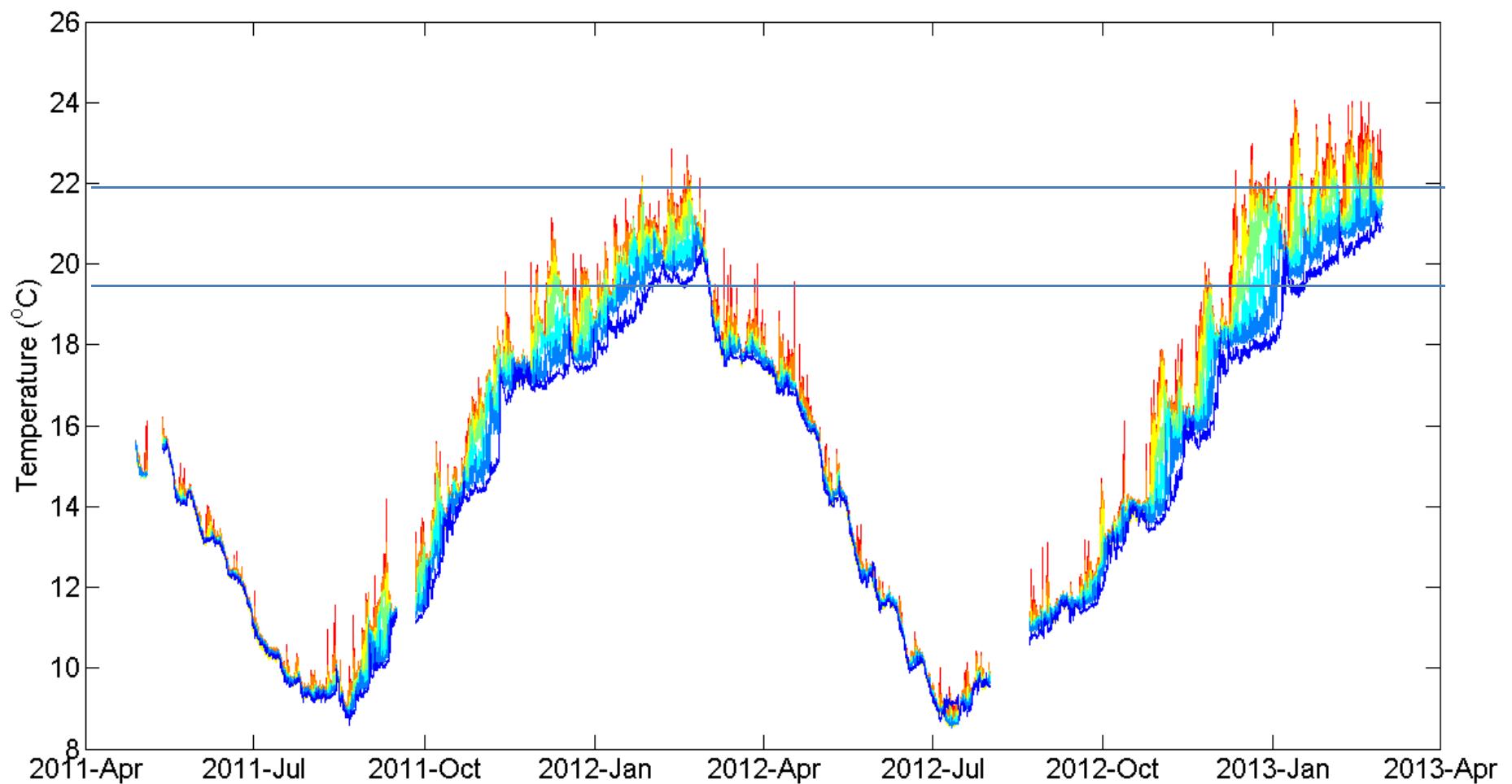
Water clarity (Secchi disc)



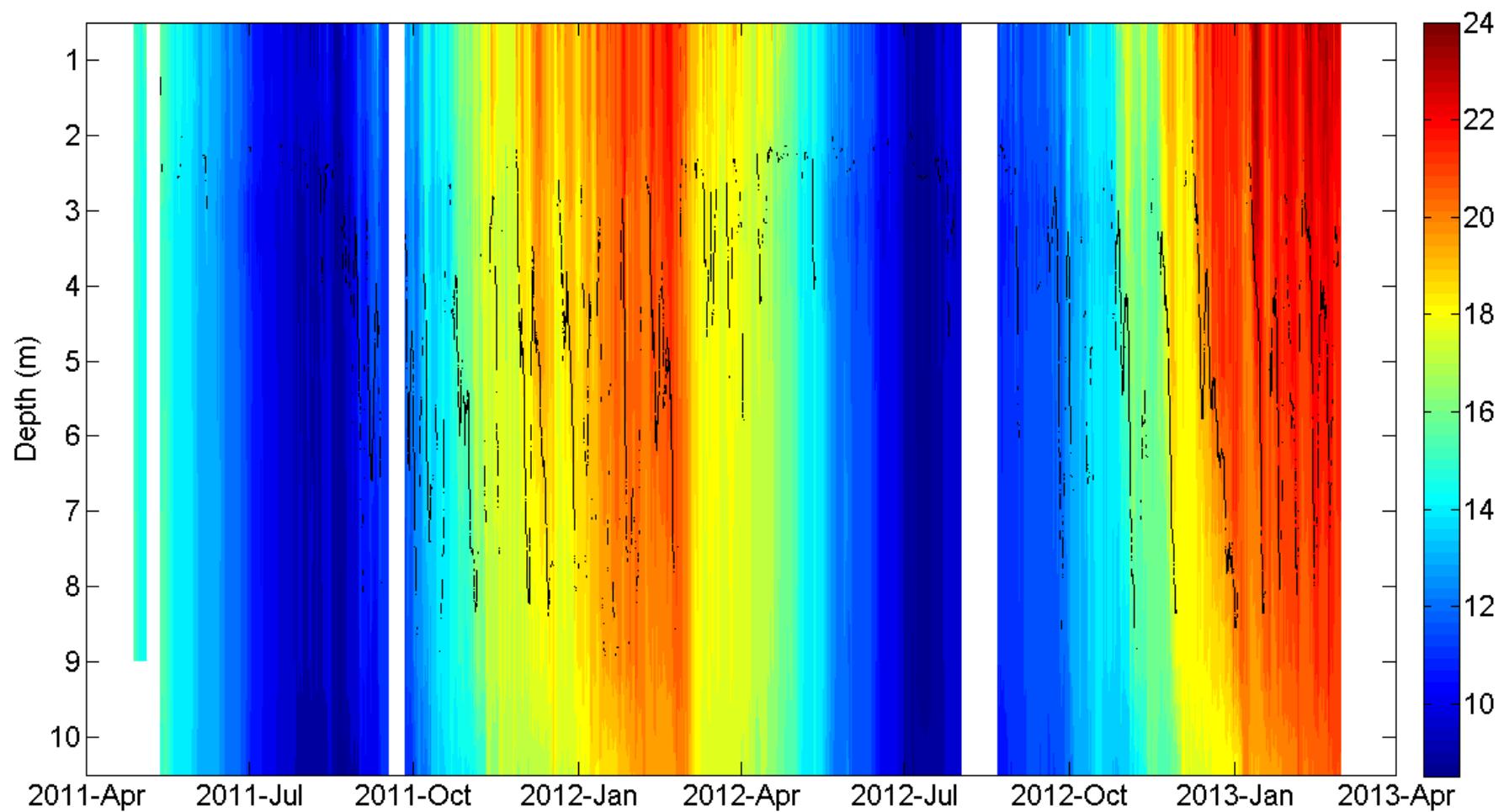
Water clarity (Secchi disc)



Temperature

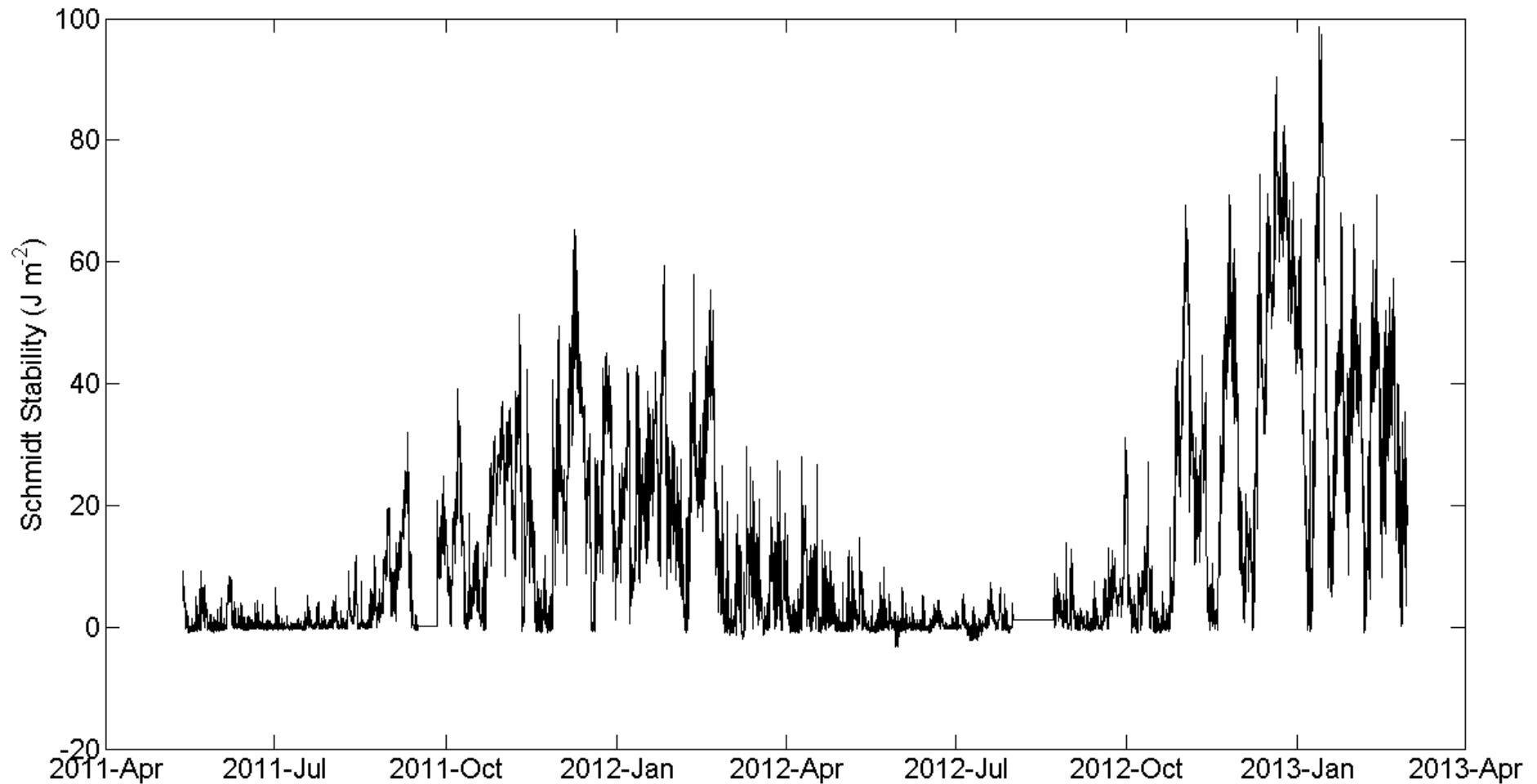


Temperature

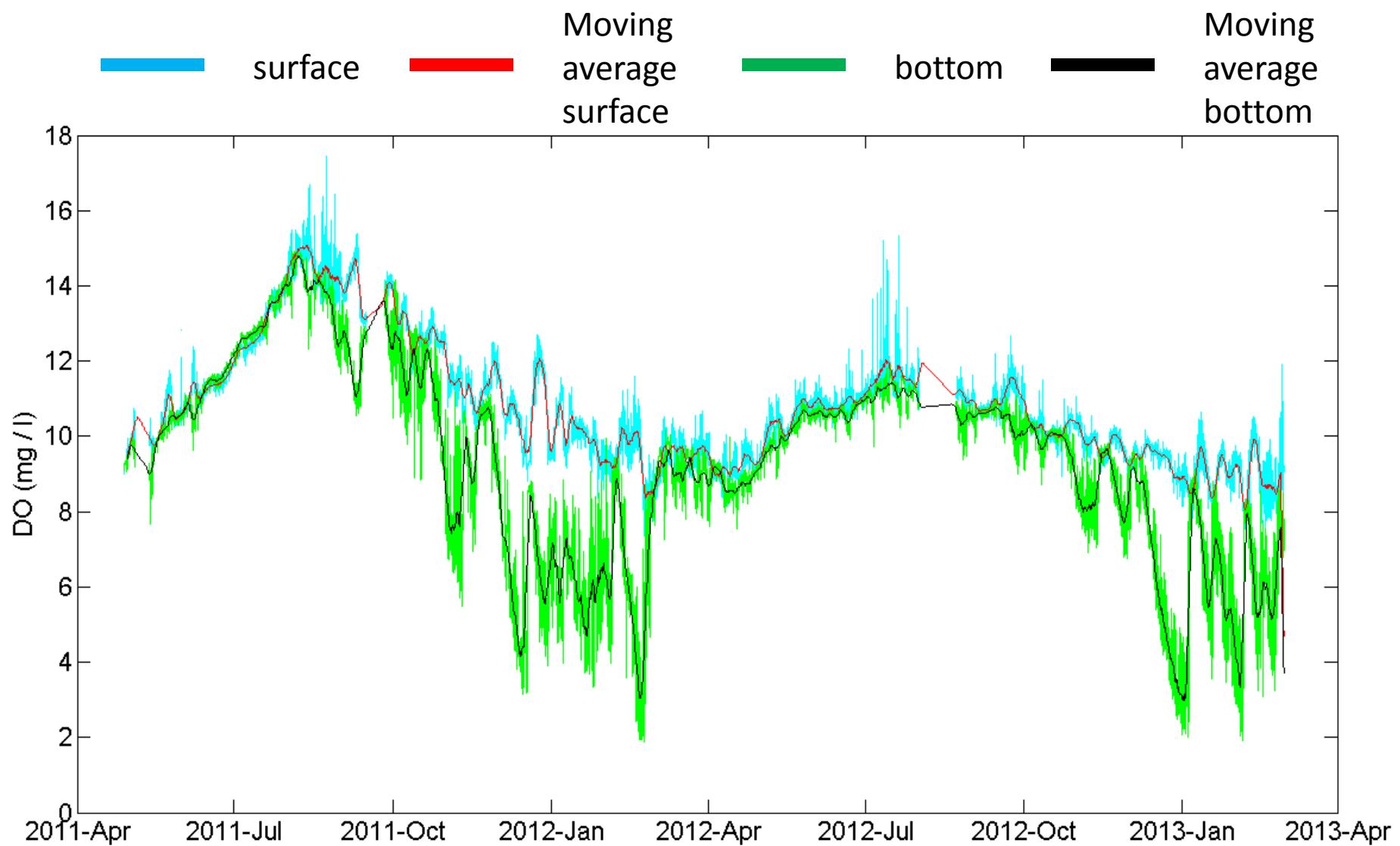


Thermal stability

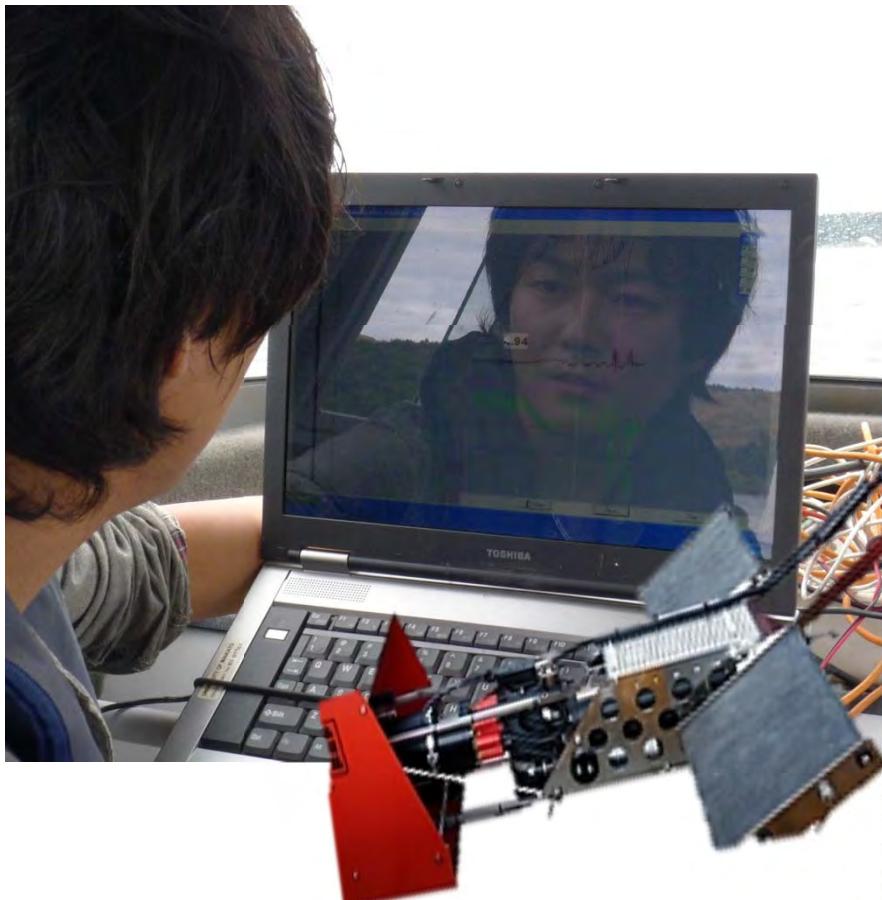
Schmidt stability.. High = water column more stable, Low = less stable



Dissolved oxygen

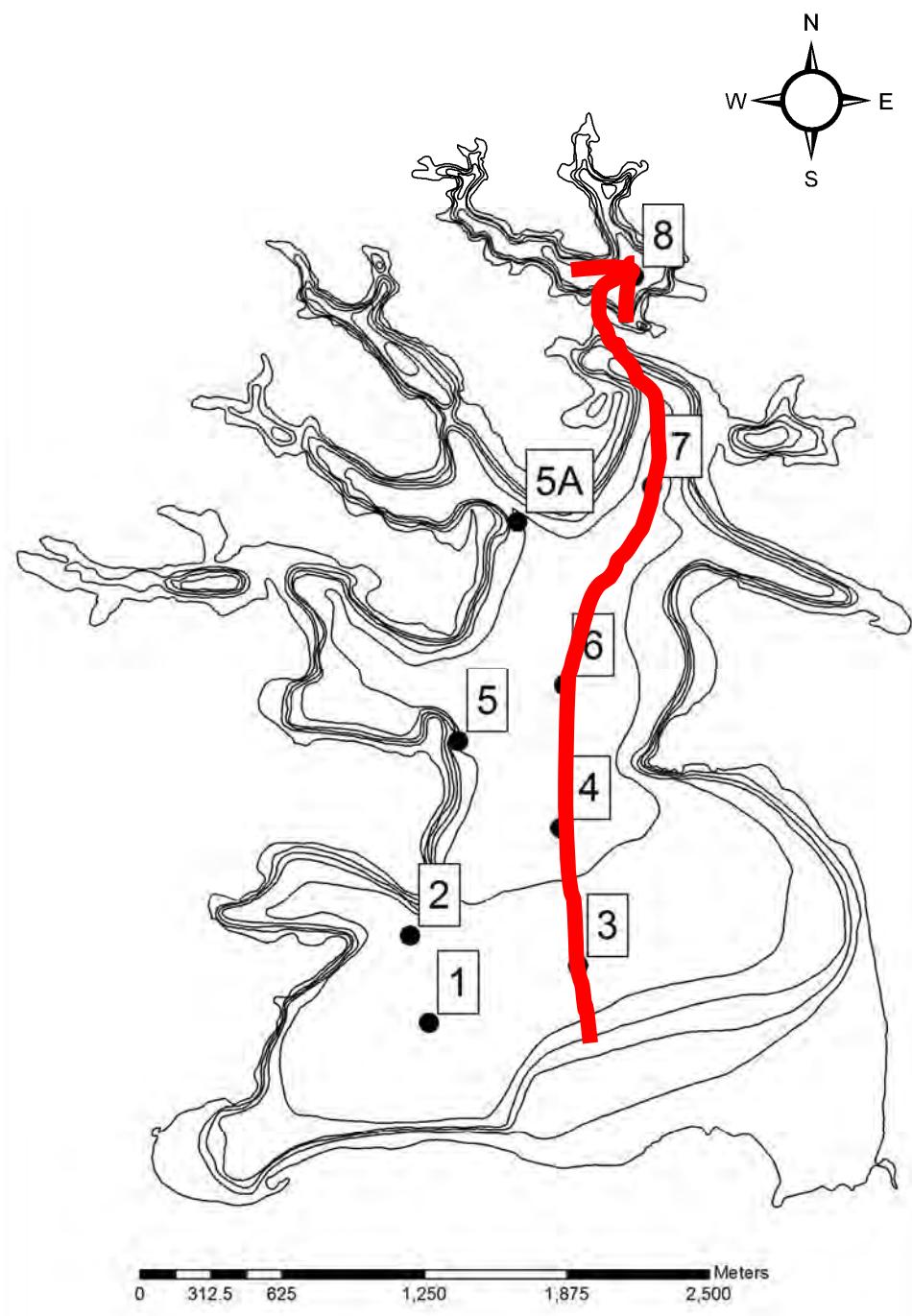
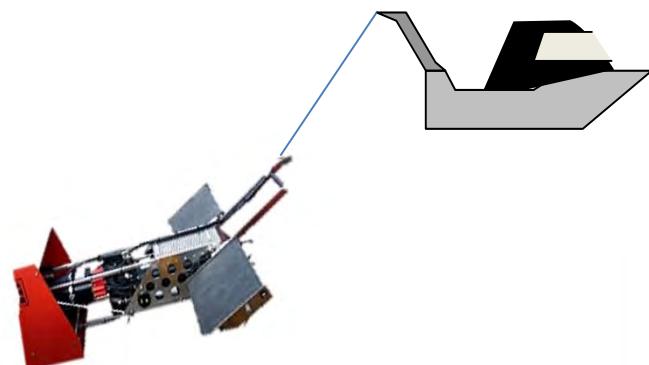


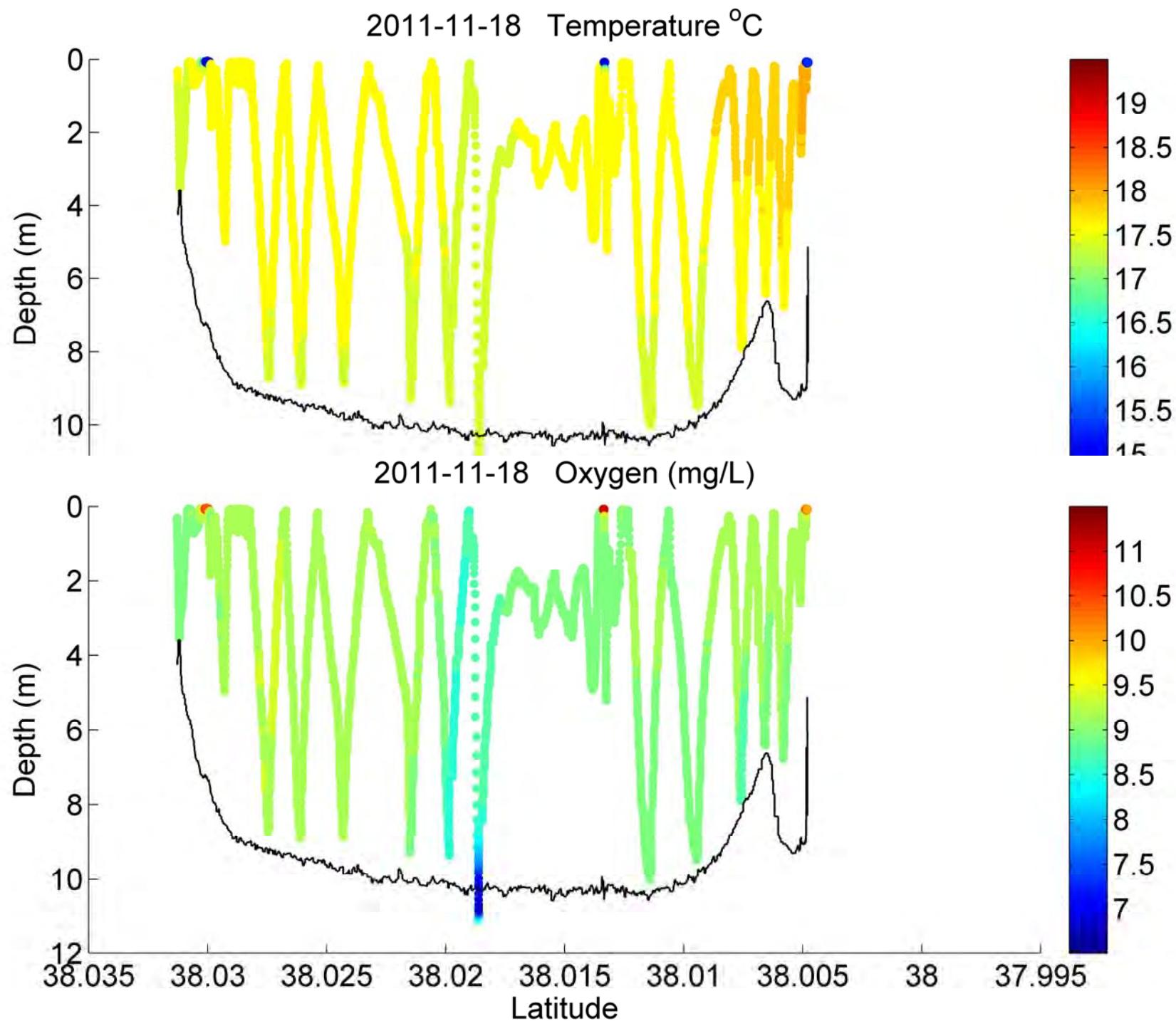
Biofish

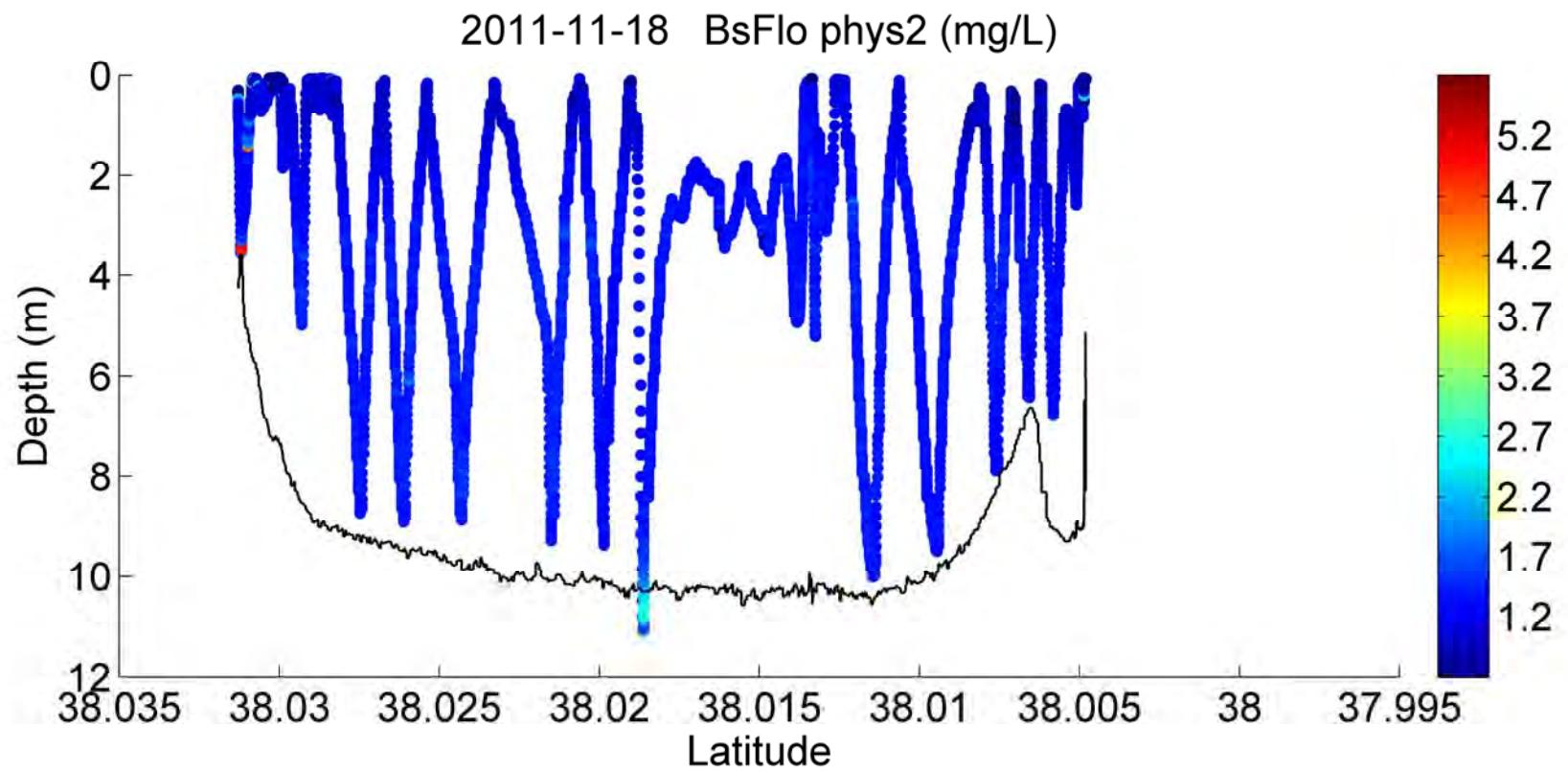


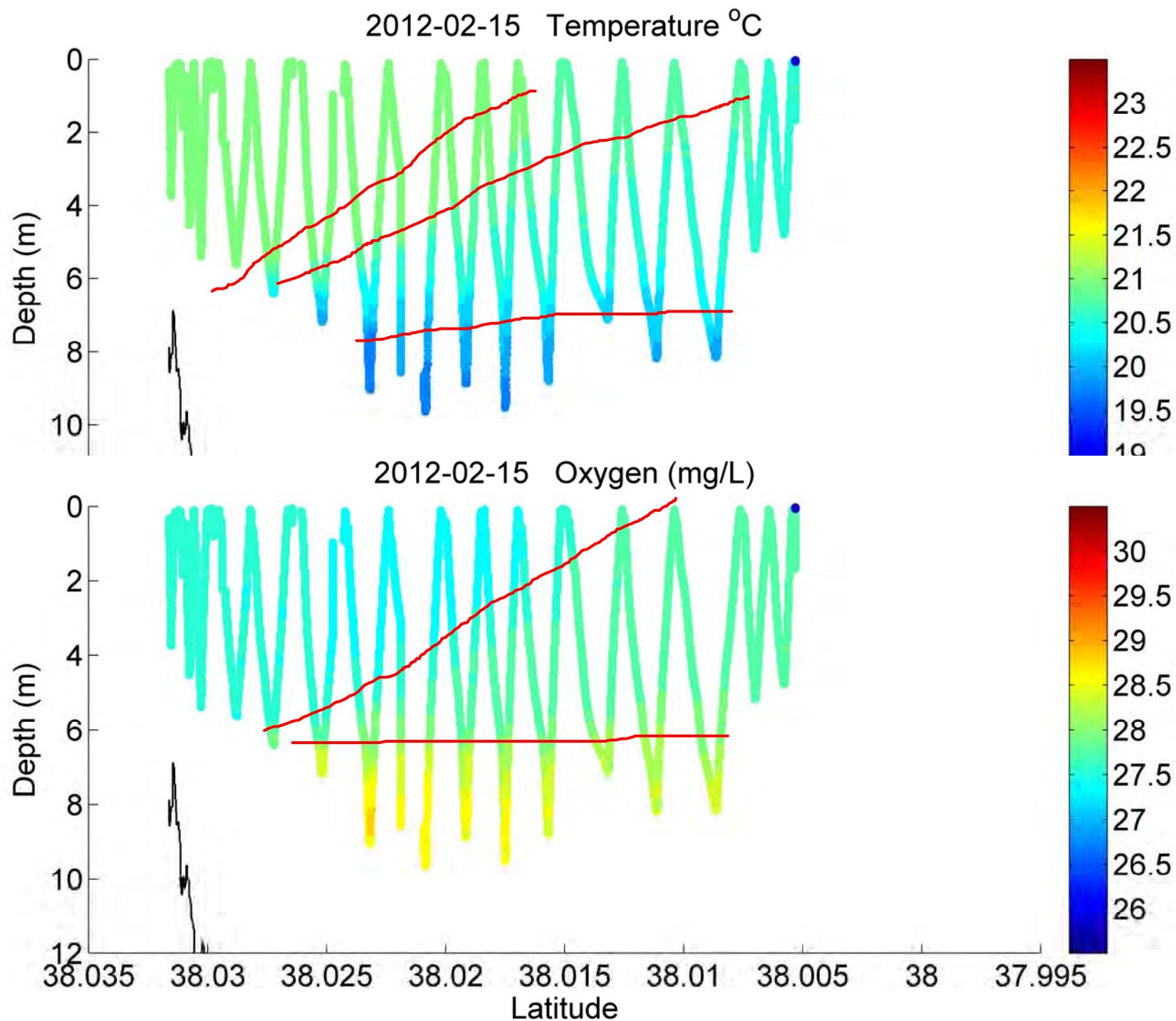
Biofish

2011-11-18	2013-01-31
2012-02-15	2013-02-08
2012-08-28	2013-02-11
2012-10-09	2013-02-22
2012-11-09	2013-02-26
2012-11-28	2013-02-27
2012-12-04	2013-02-28
2012-12-14	2013-03-01
2013-01-17	2013-03-21

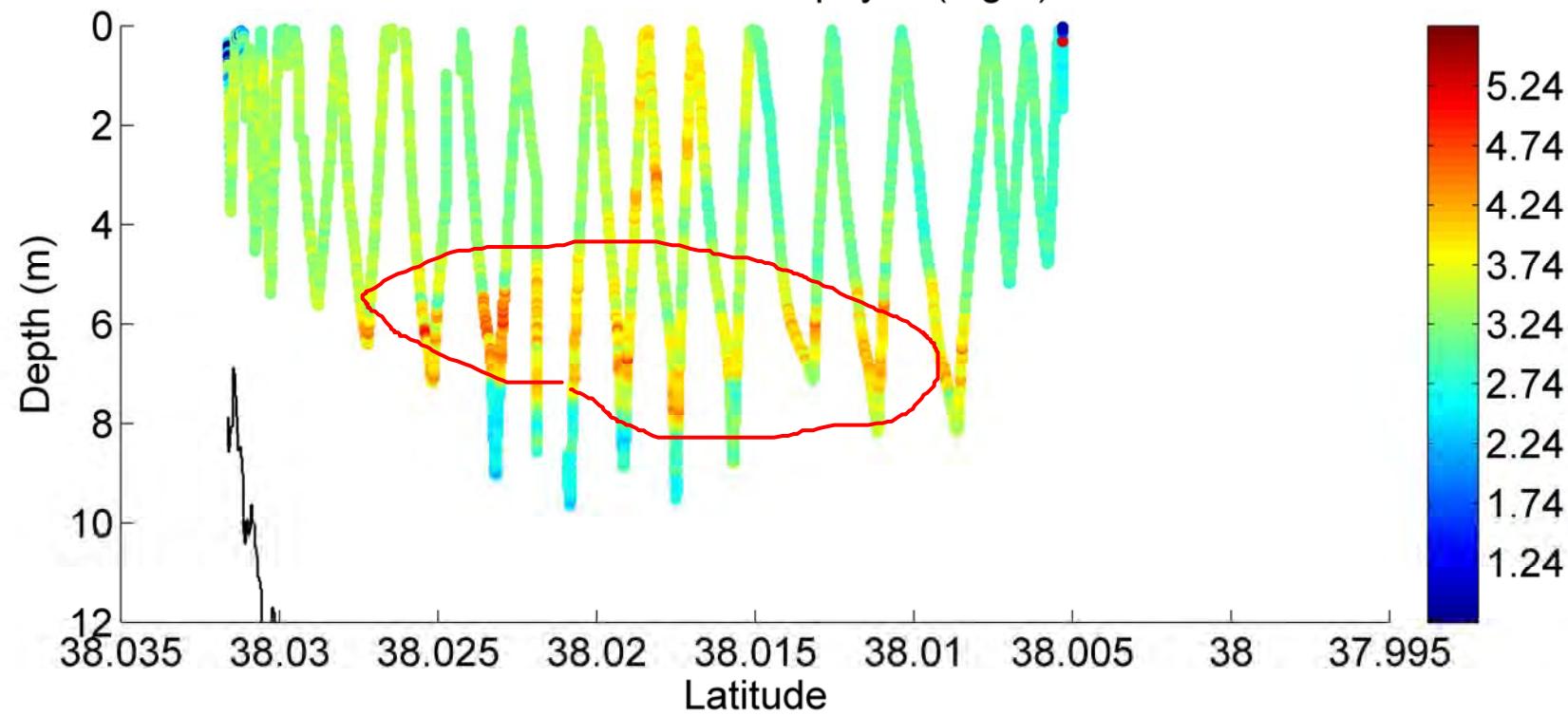


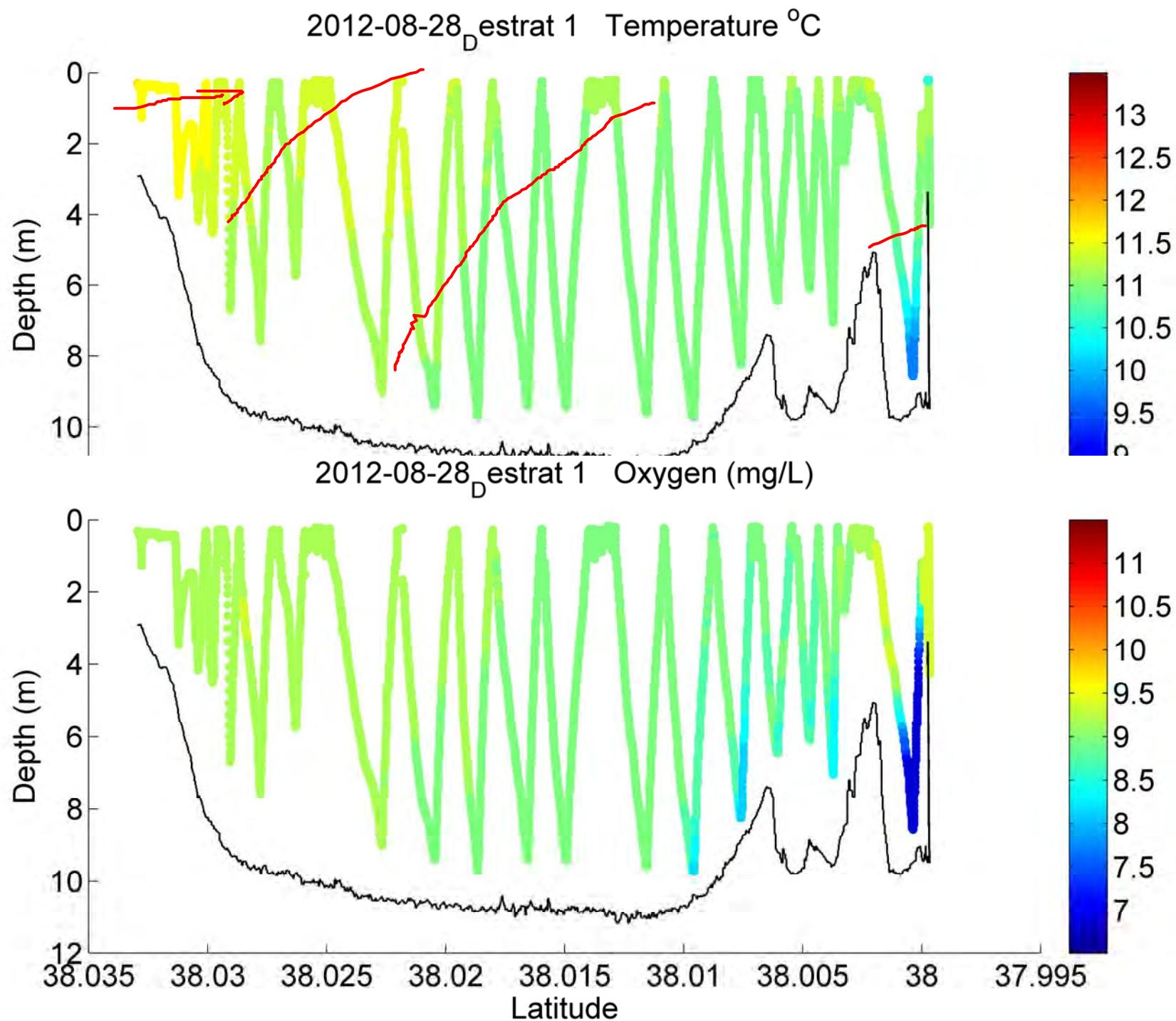




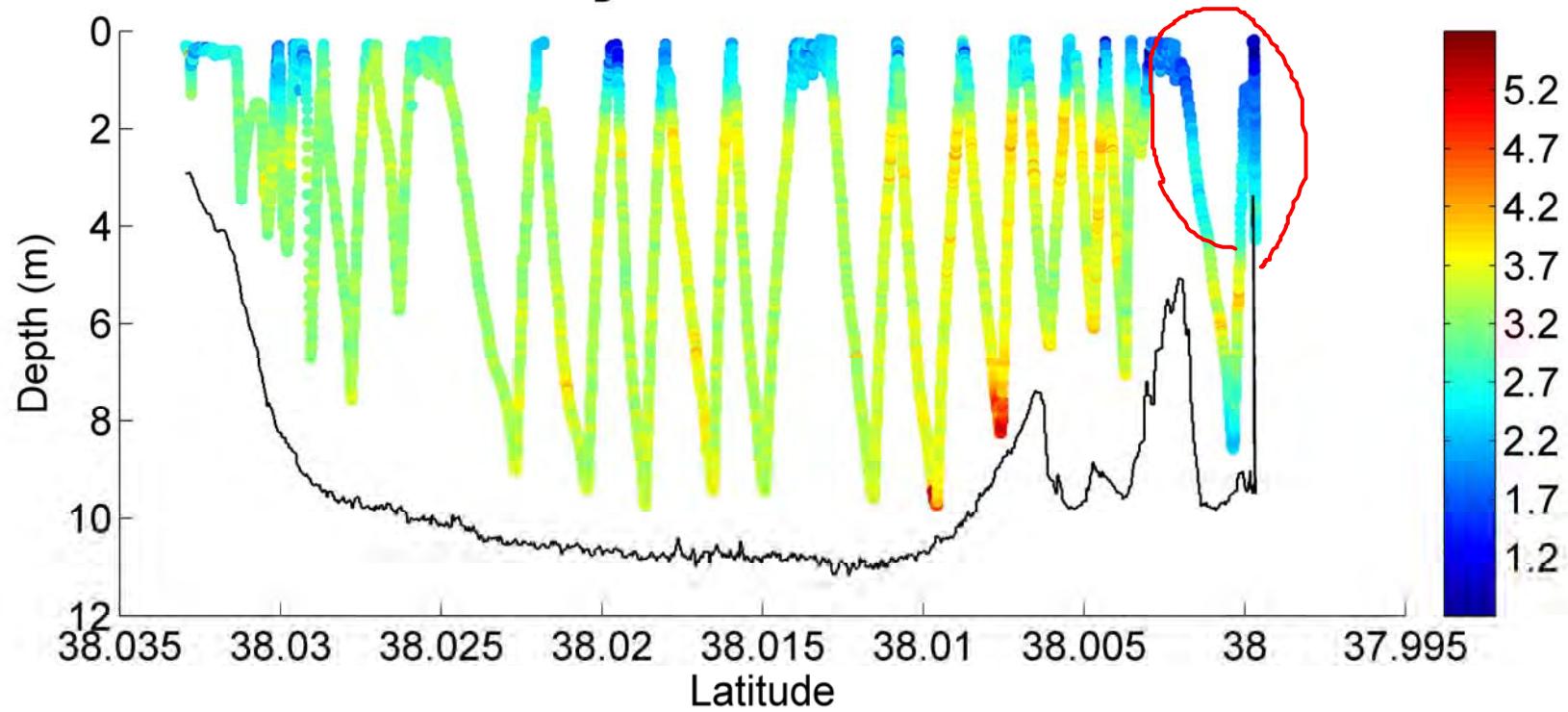


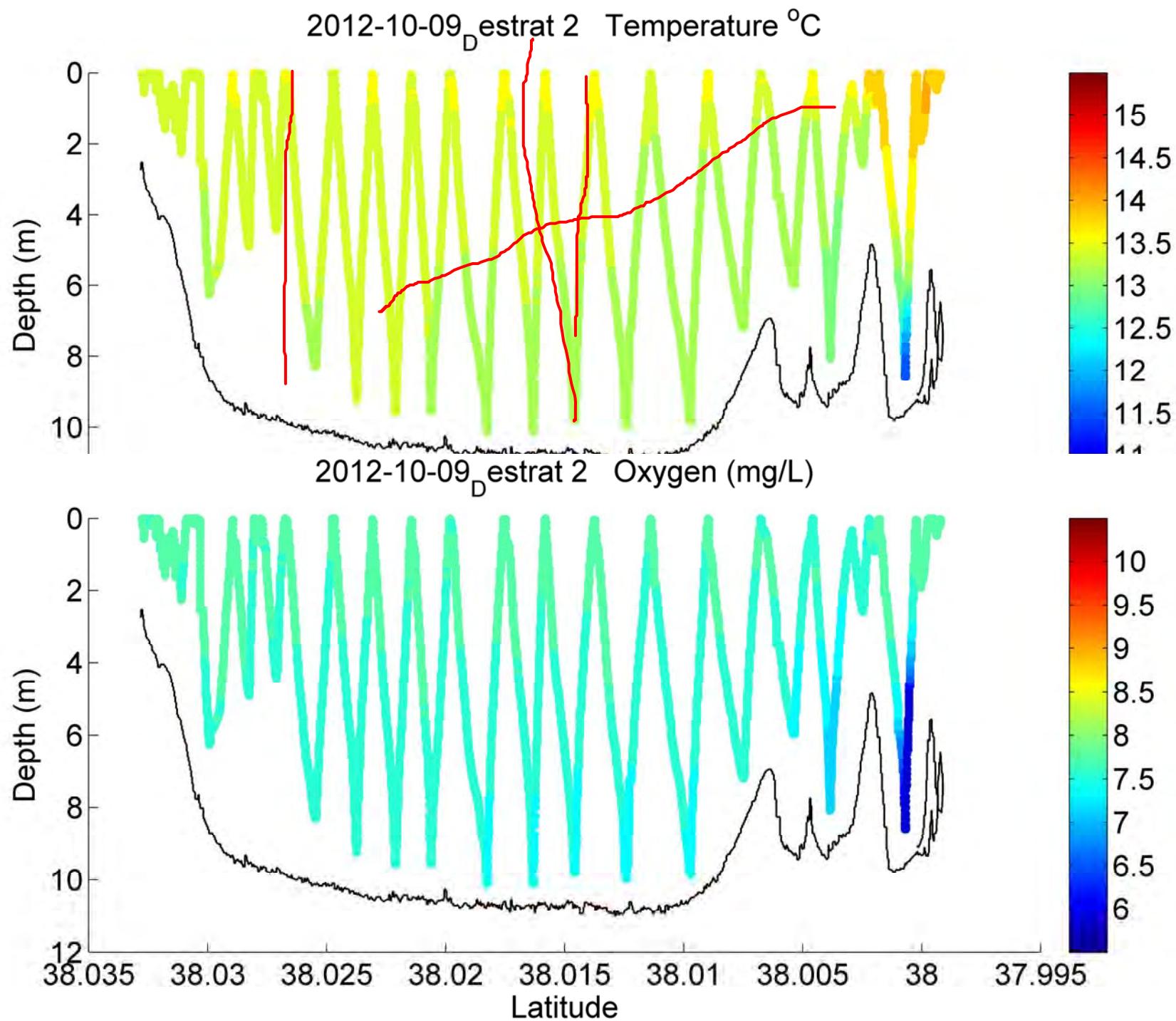
2012-02-15 BsFlo phys2 (mg/L)



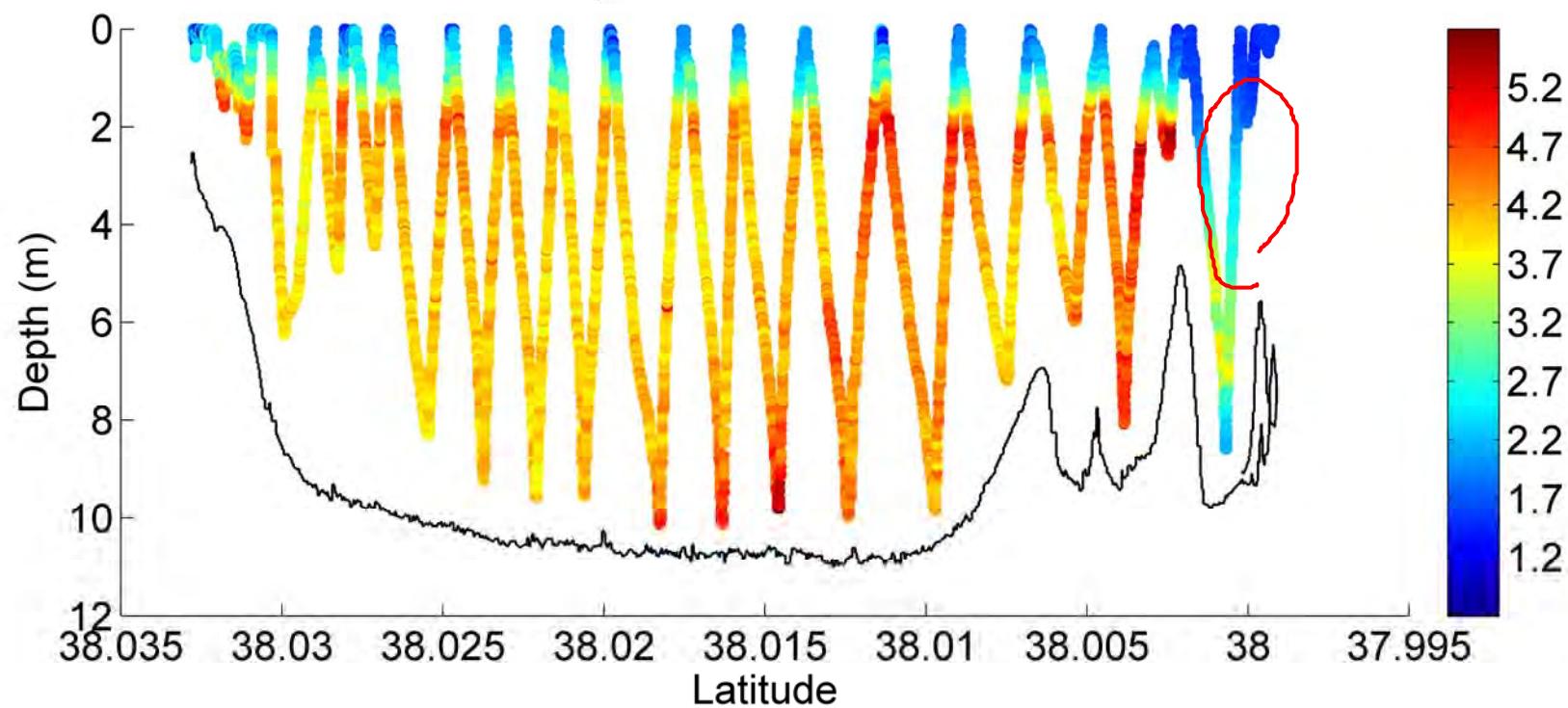


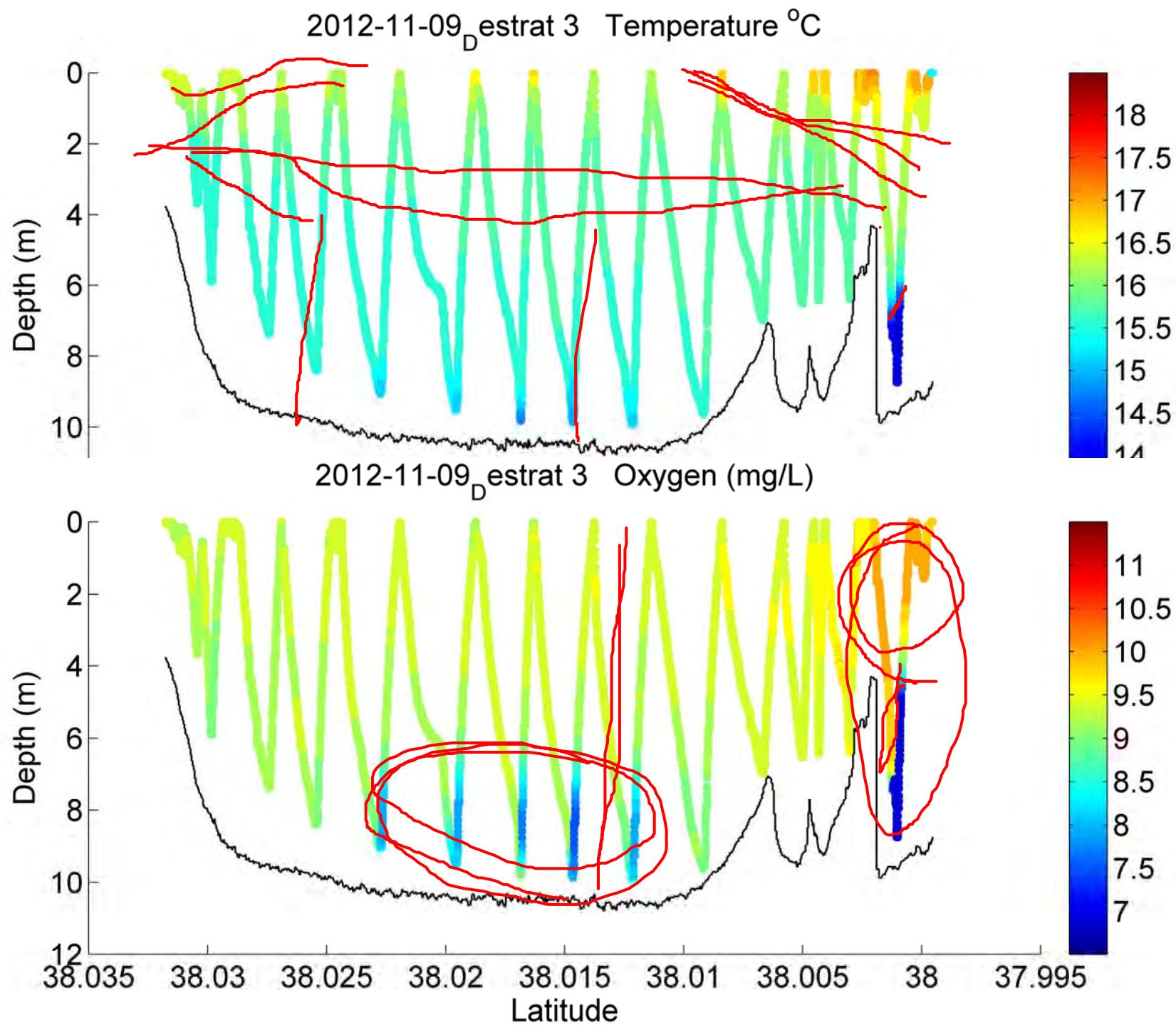
2012-08-28_D estrat 1 BsFlo phys2 (mg/L)



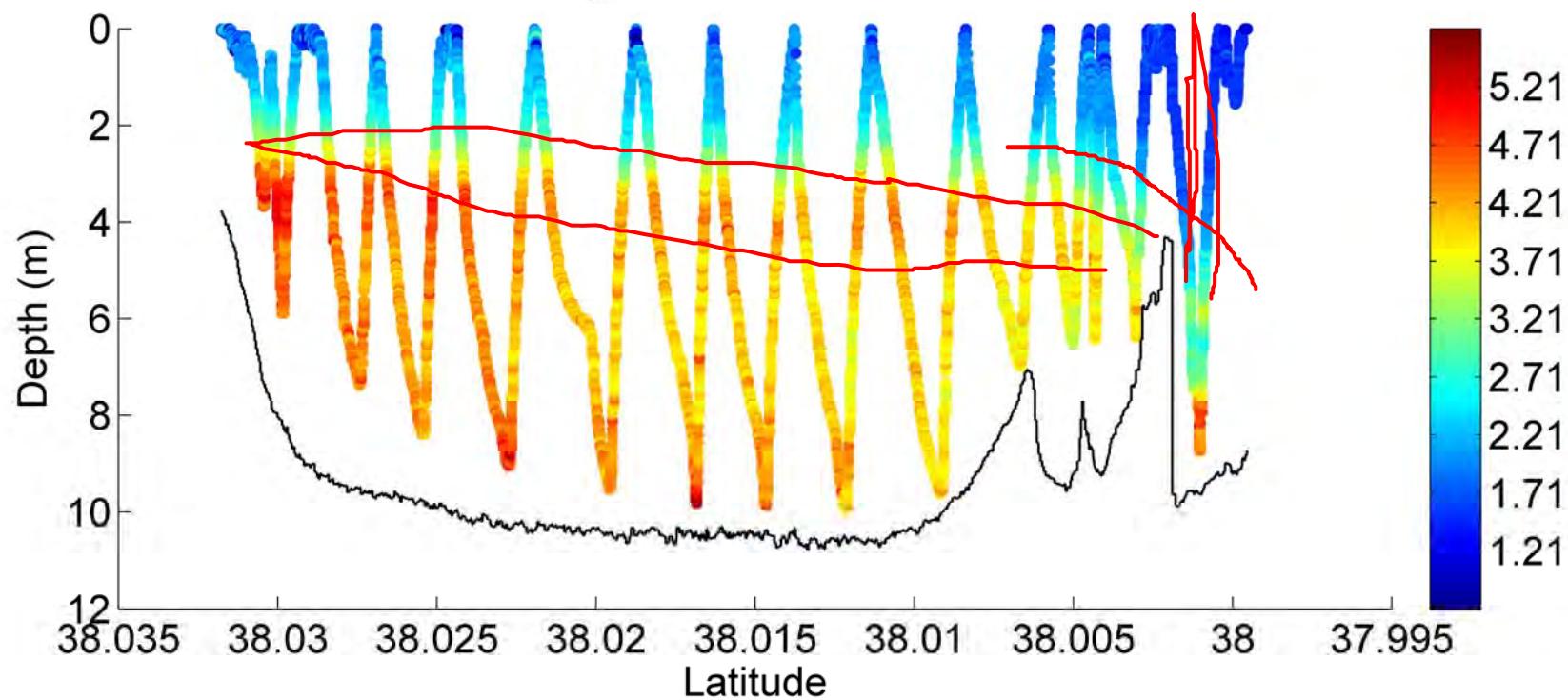


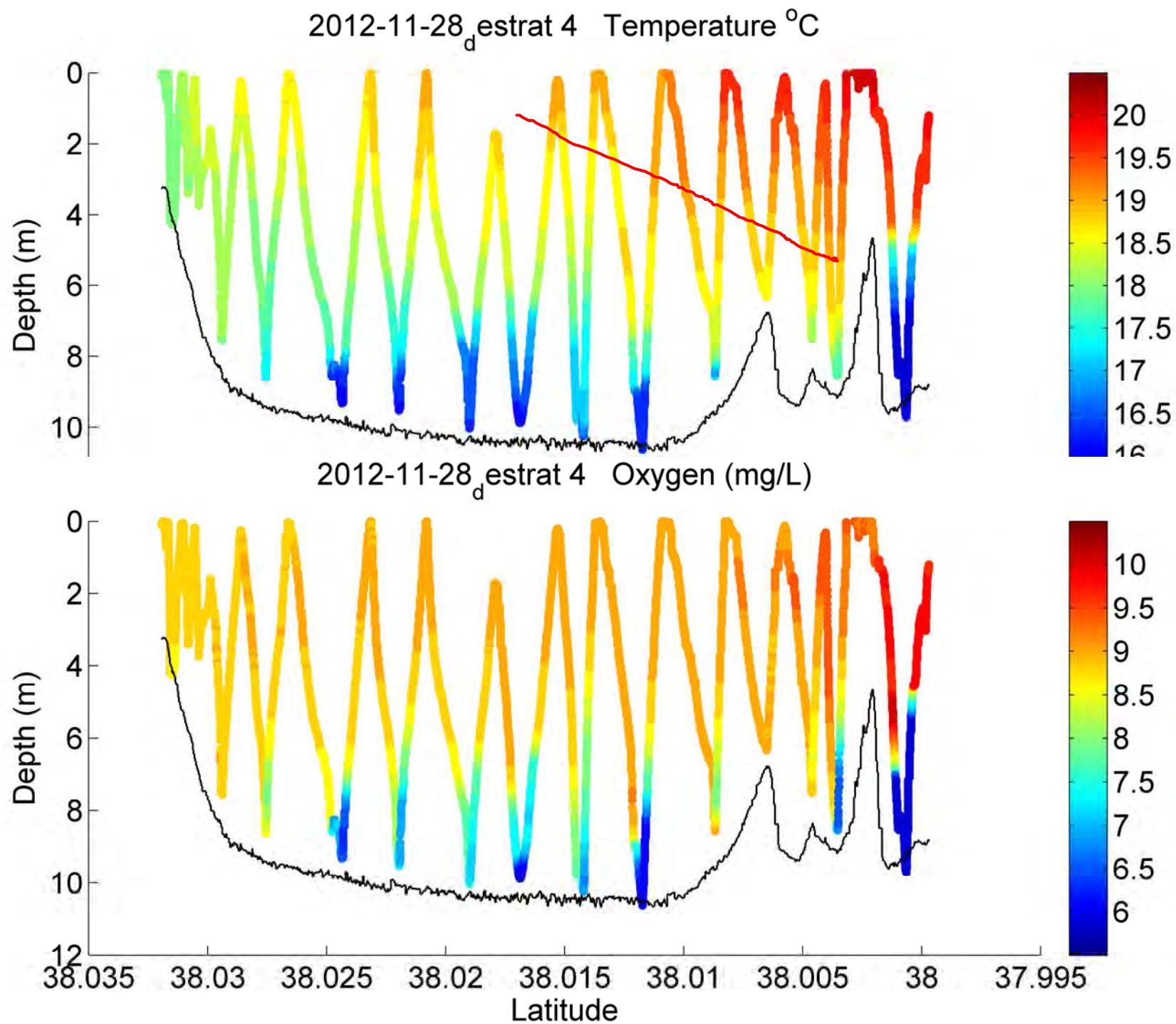
2012-10-09_D estrat 2 BsFlo phys2 (mg/L)



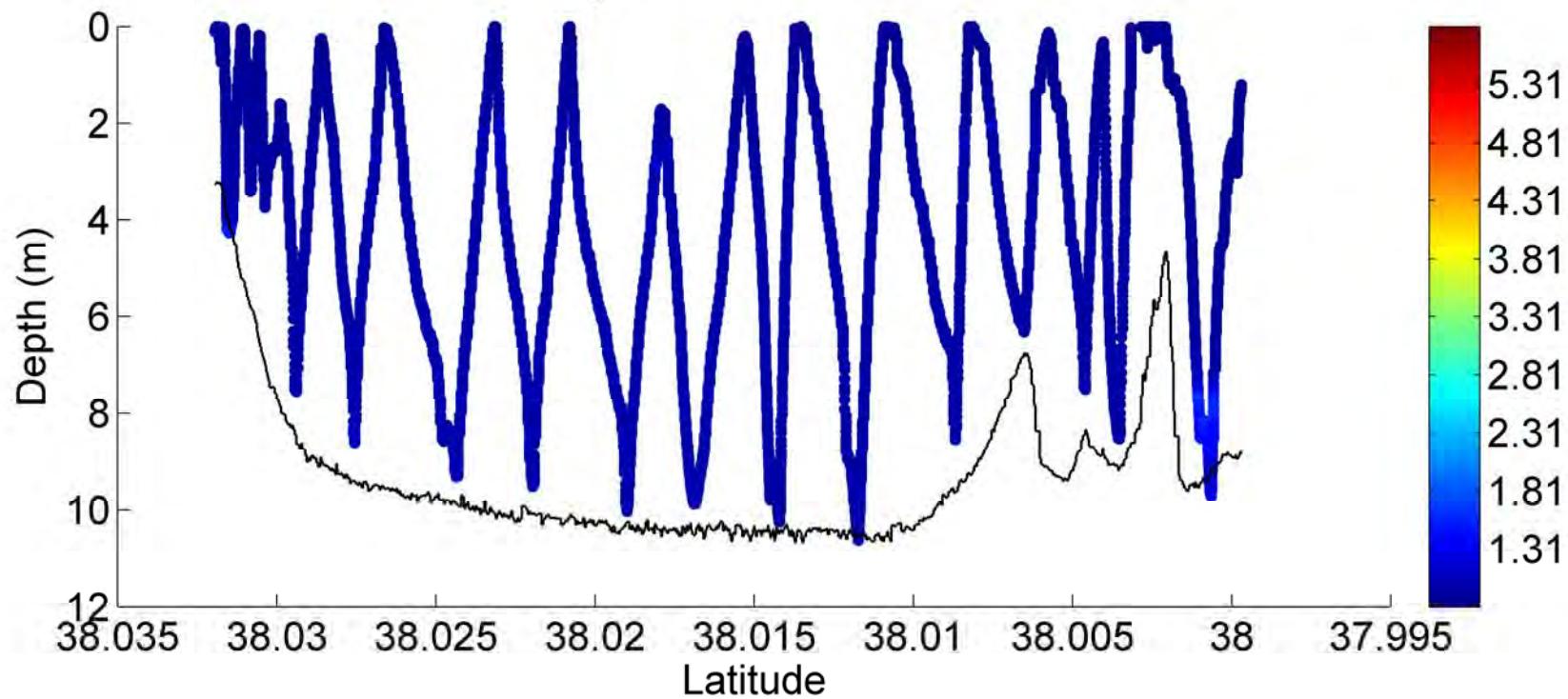


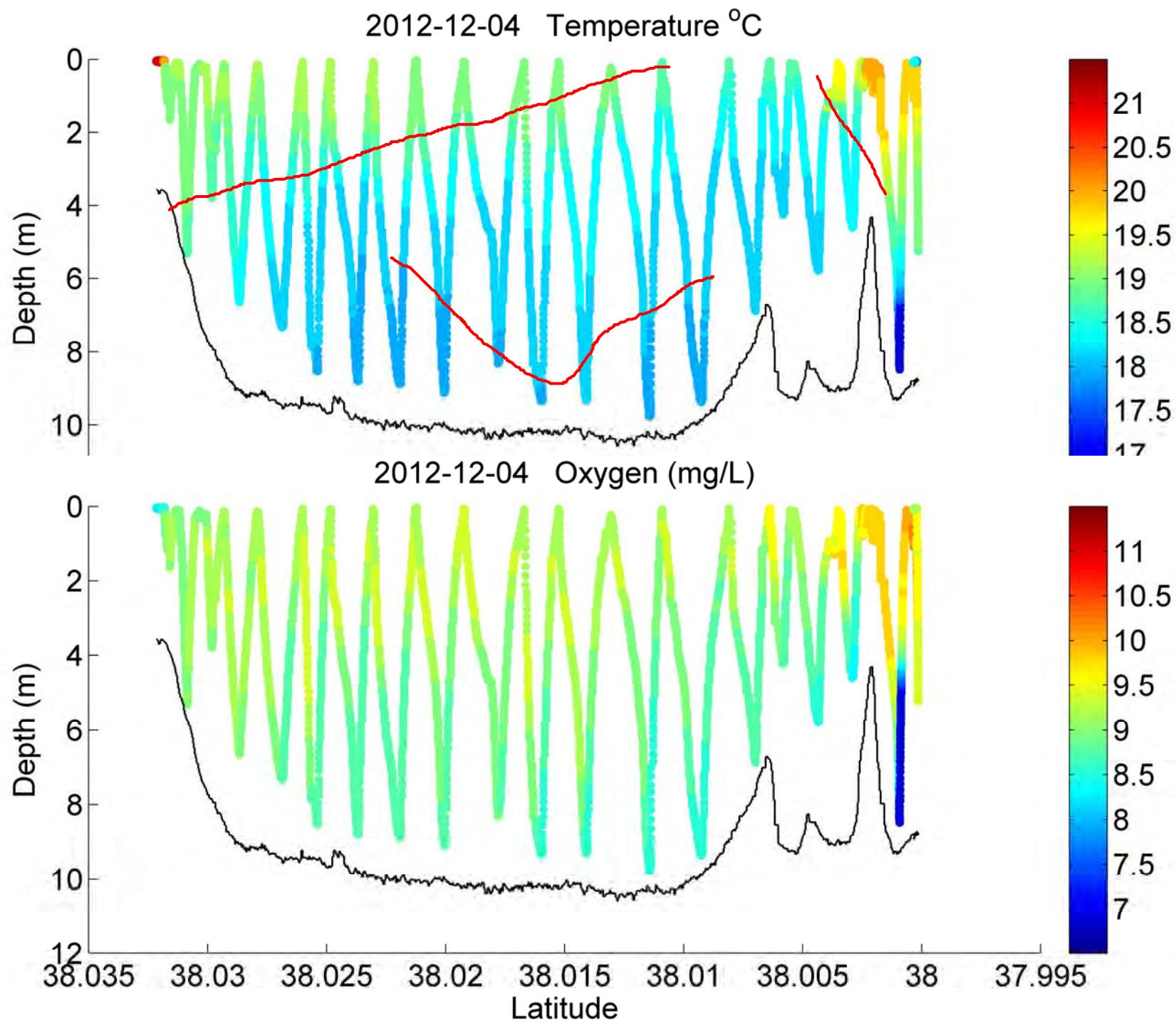
2012-11-09_D estrat 3 BsFlo phys2 (mg/L)



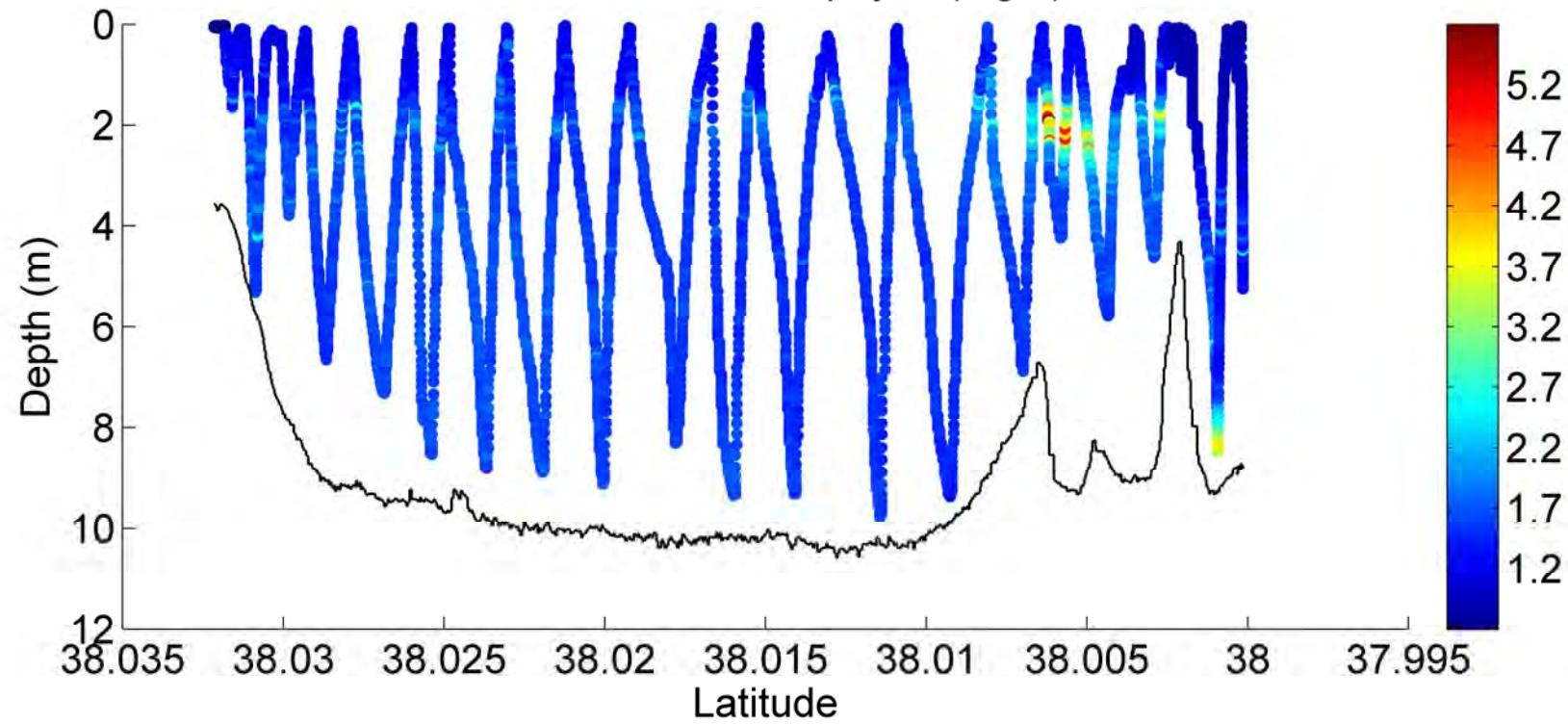


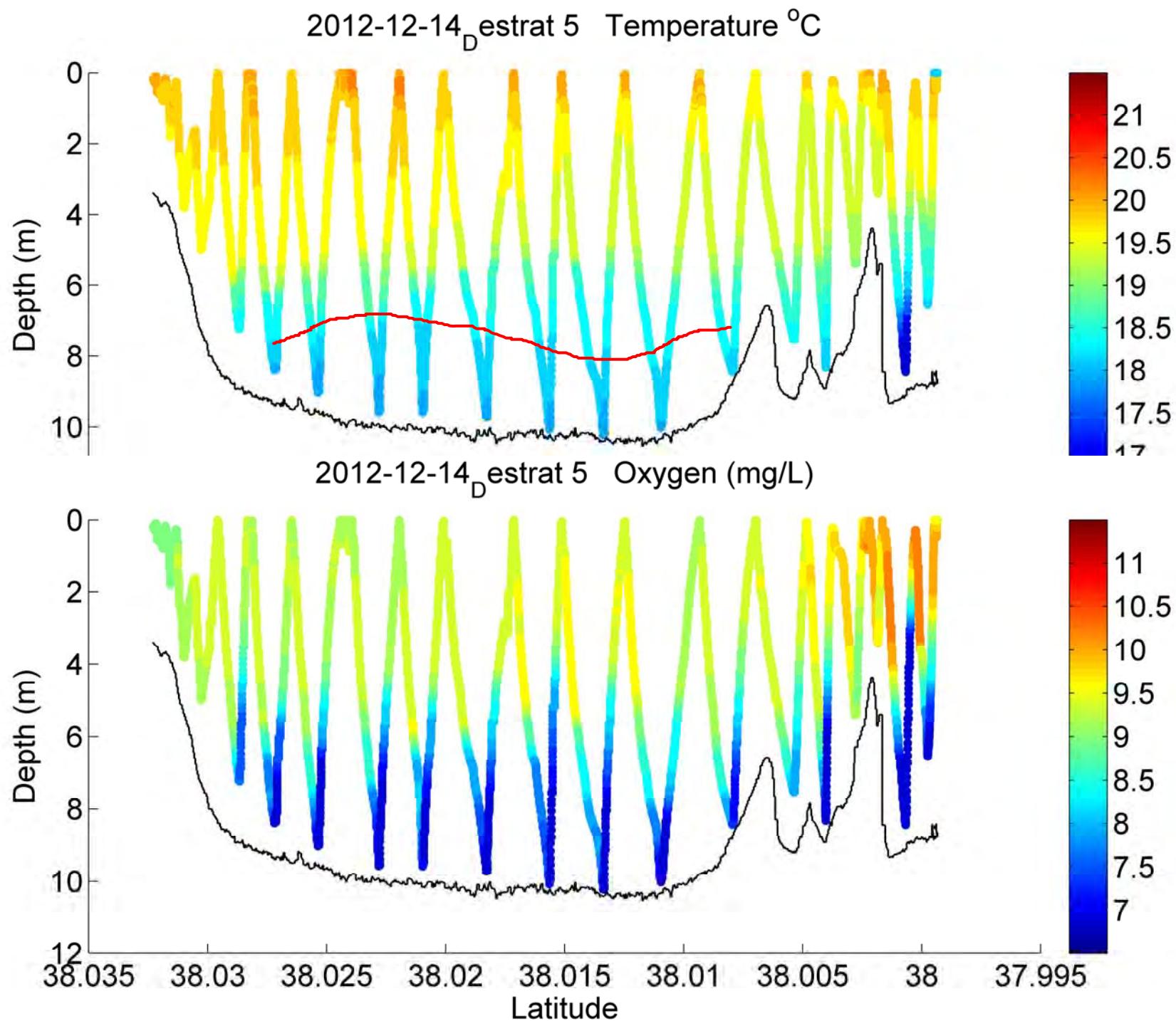
2012-11-28_d estrat 4 BsFlo phys2 (mg/L)



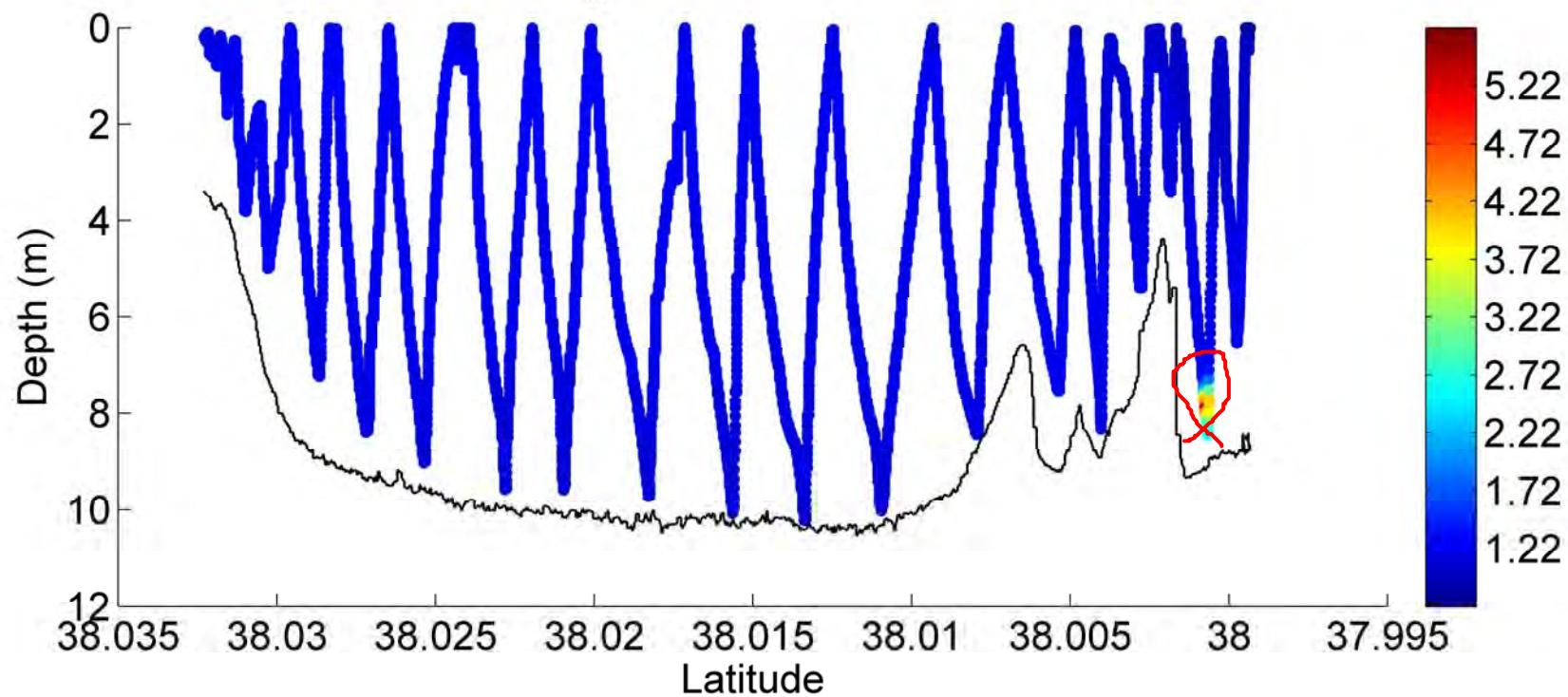


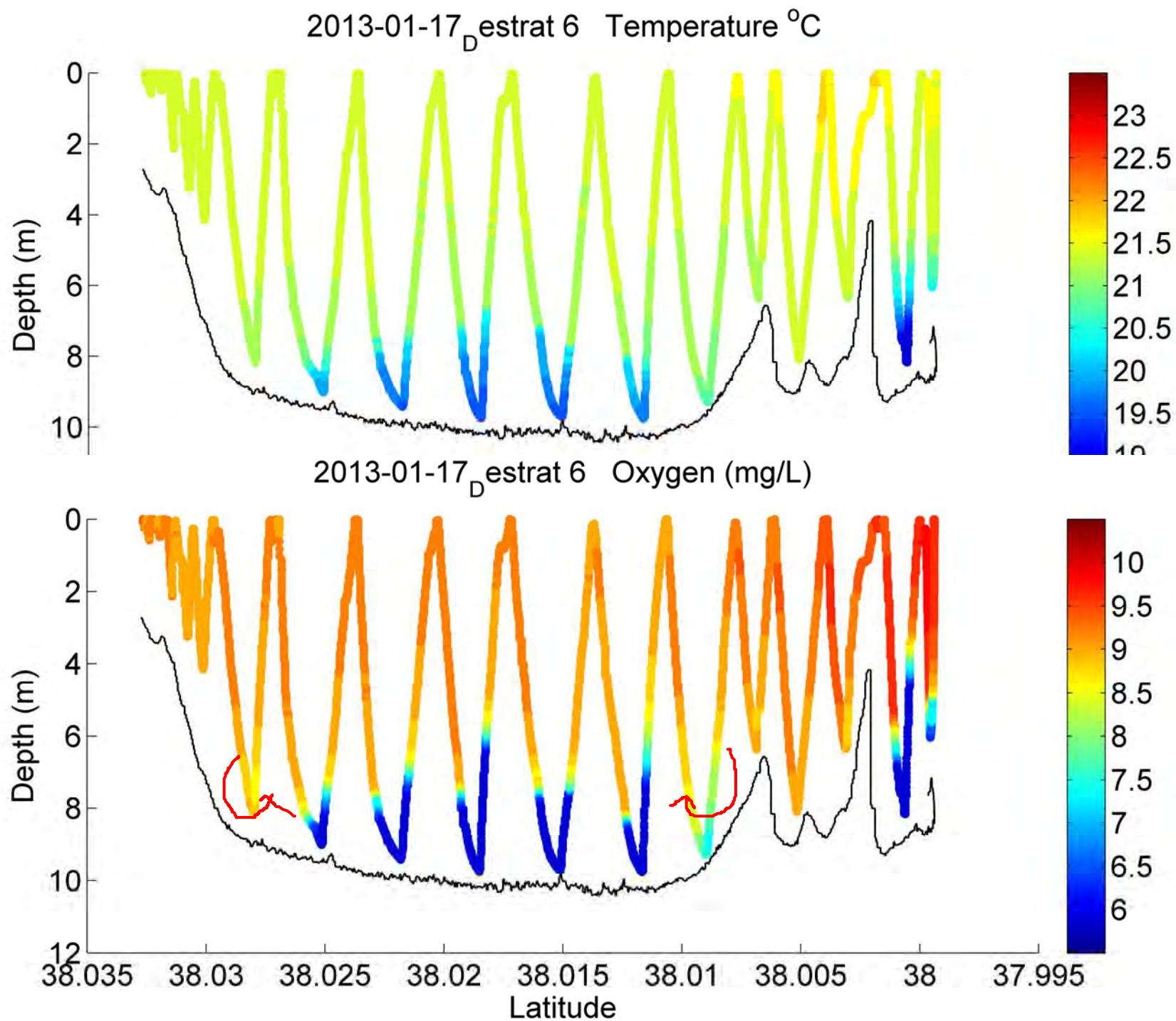
2012-12-04 BsFlo phys2 (mg/L)



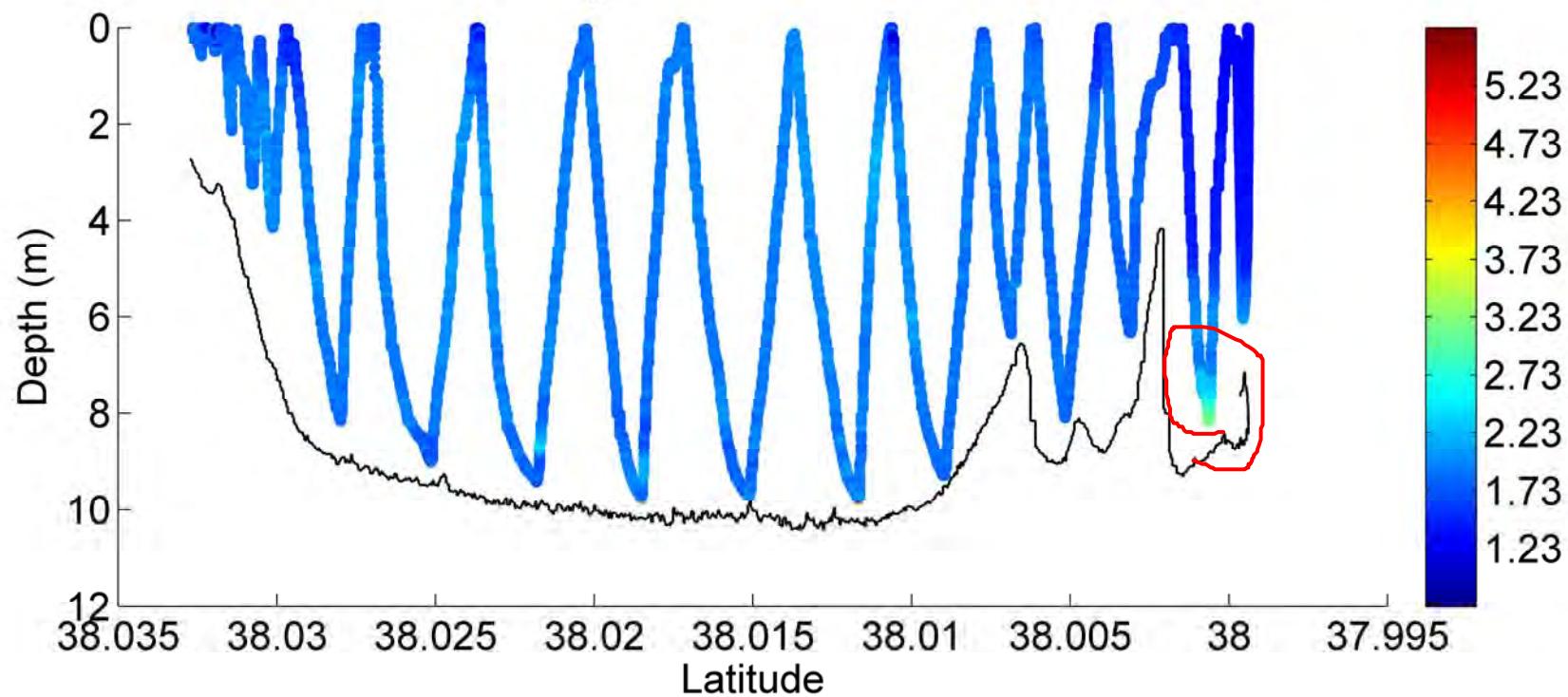


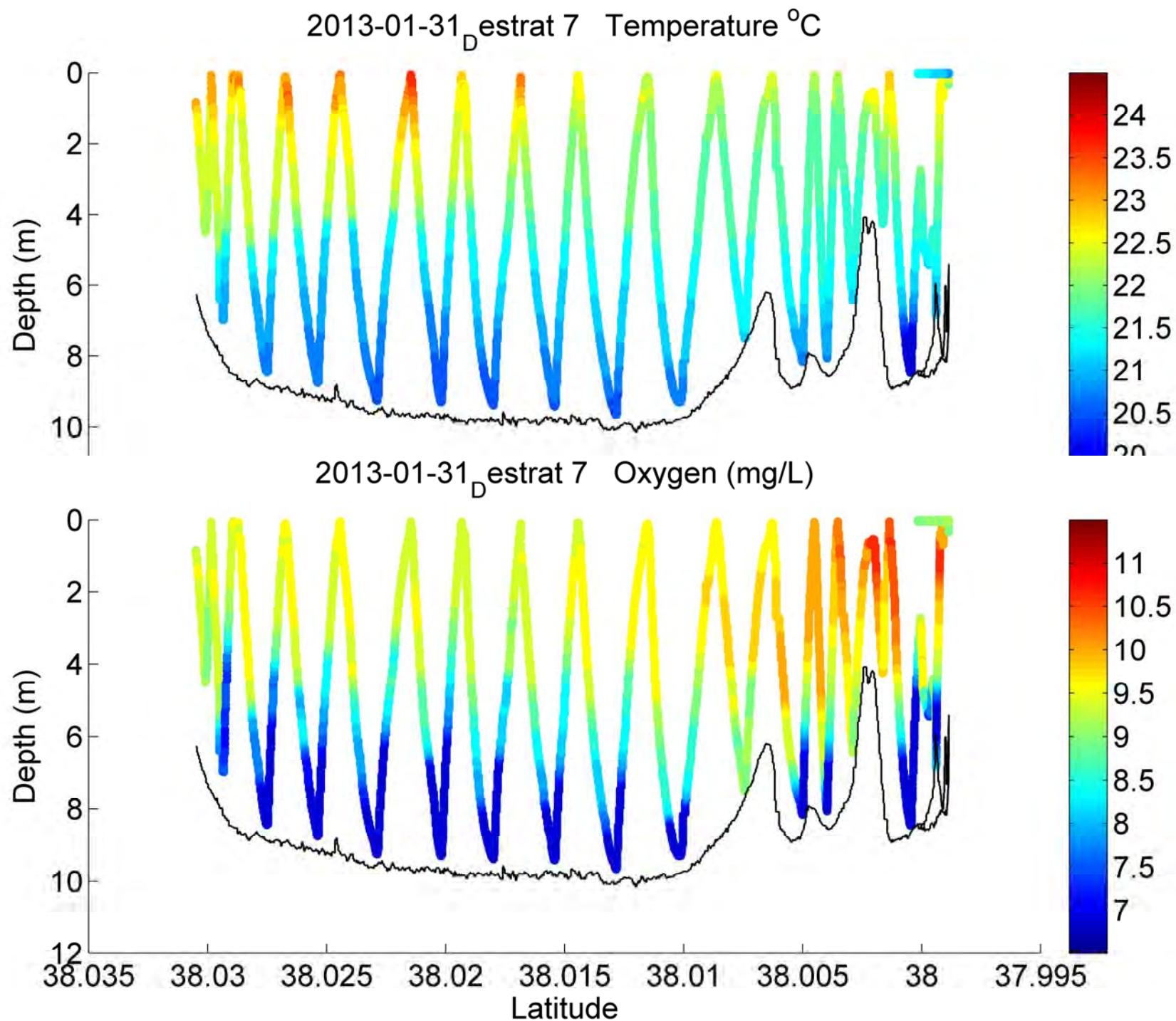
2012-12-14_D estrat 5 BsFlo phys2 (mg/L)



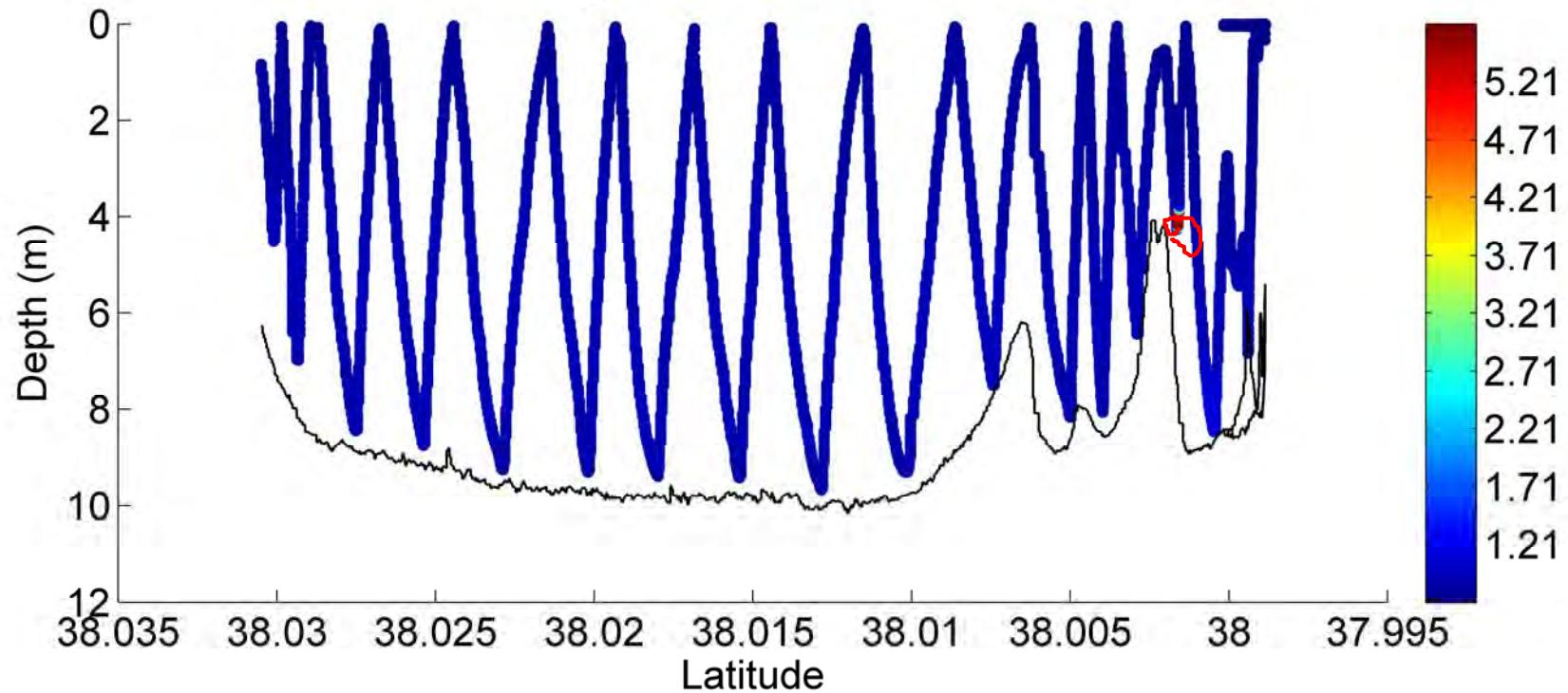


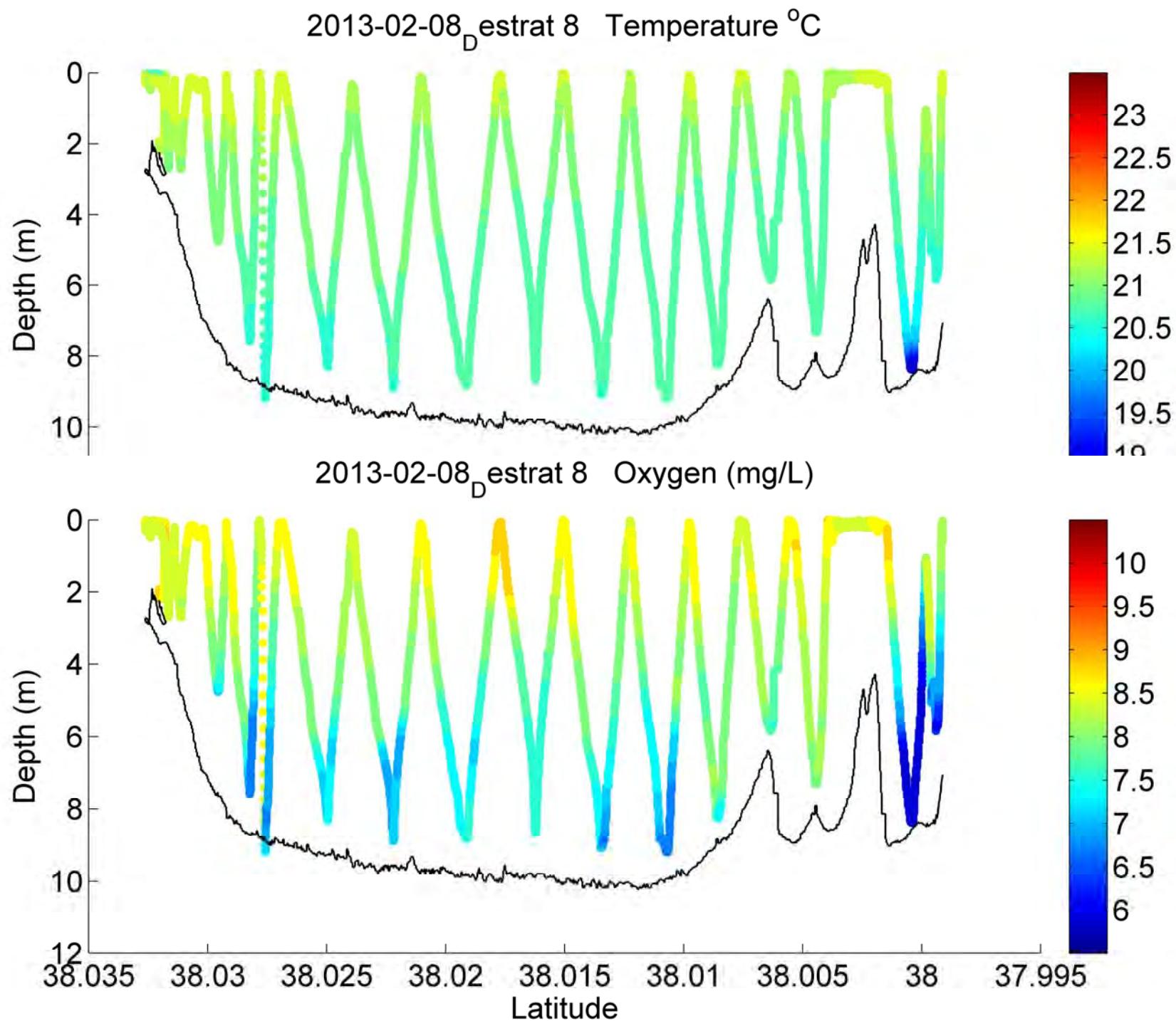
2013-01-17 D estrat 6 BsFlo phys2 (mg/L)



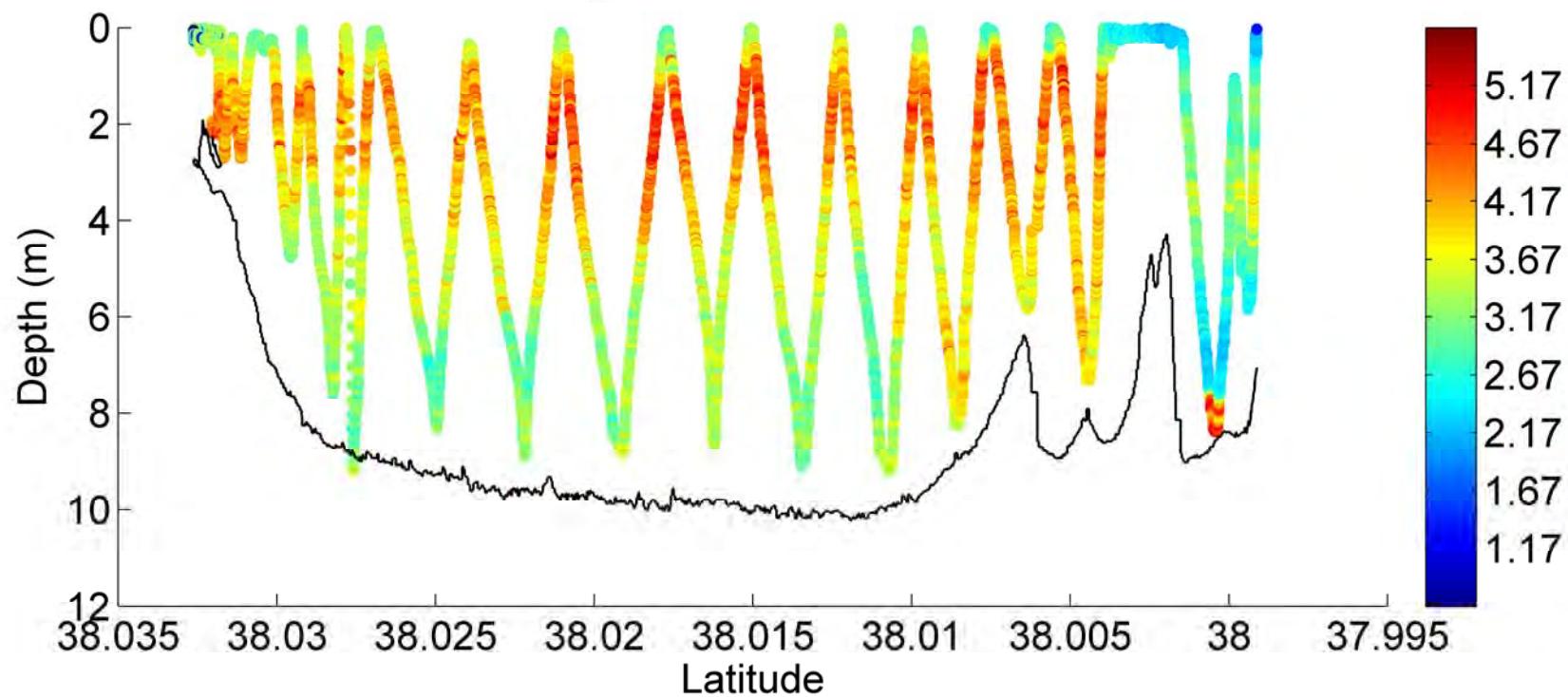


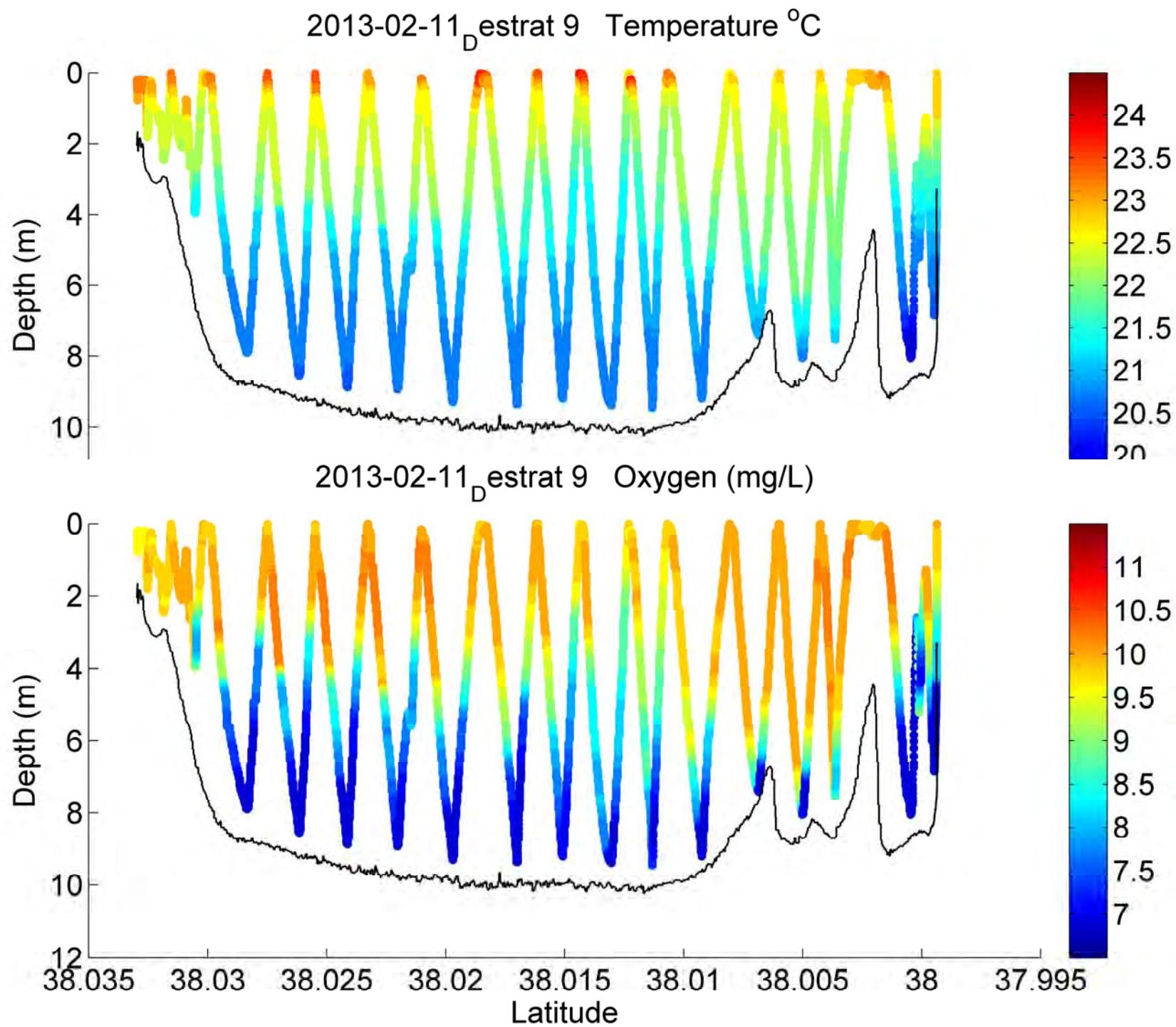
2013-01-31_D estrat 7 BsFlo phys2 (mg/L)



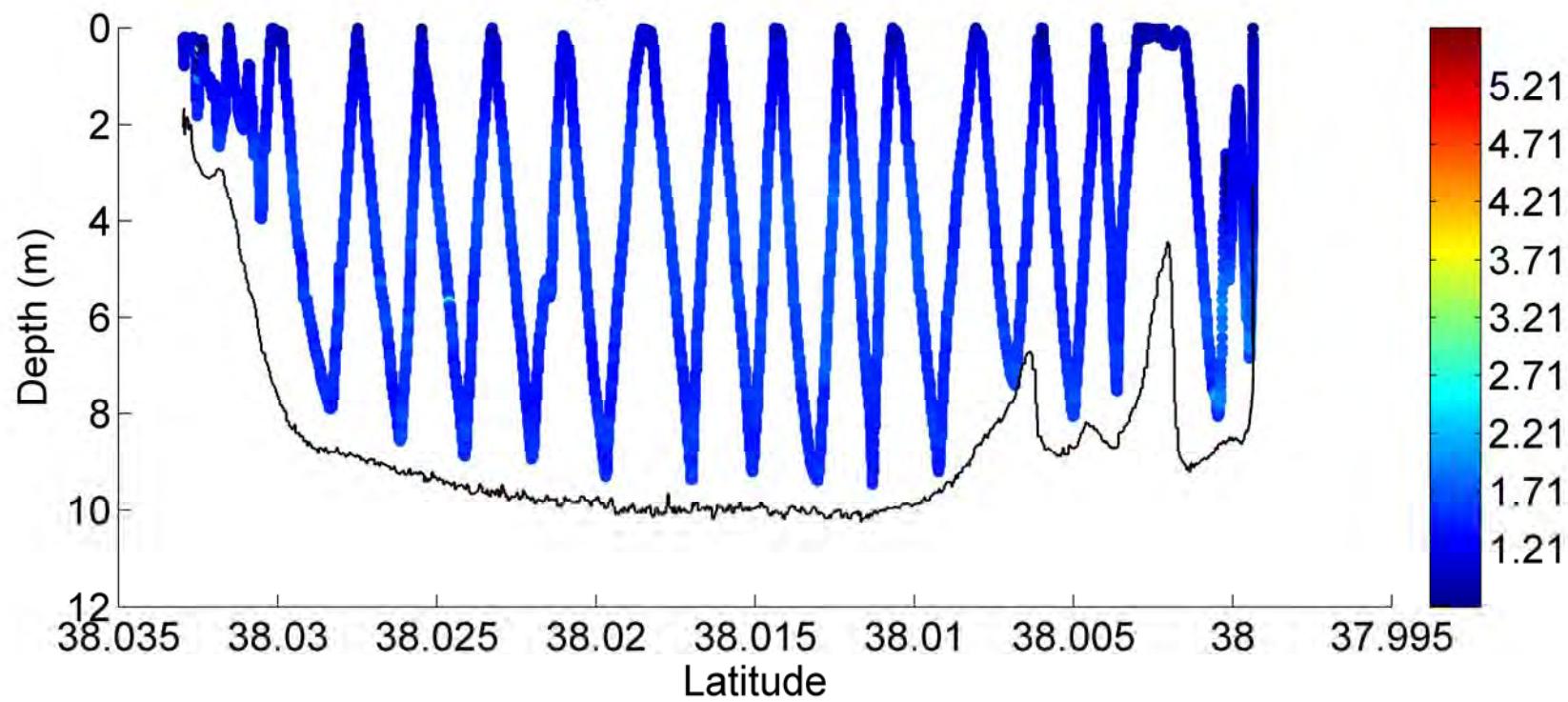


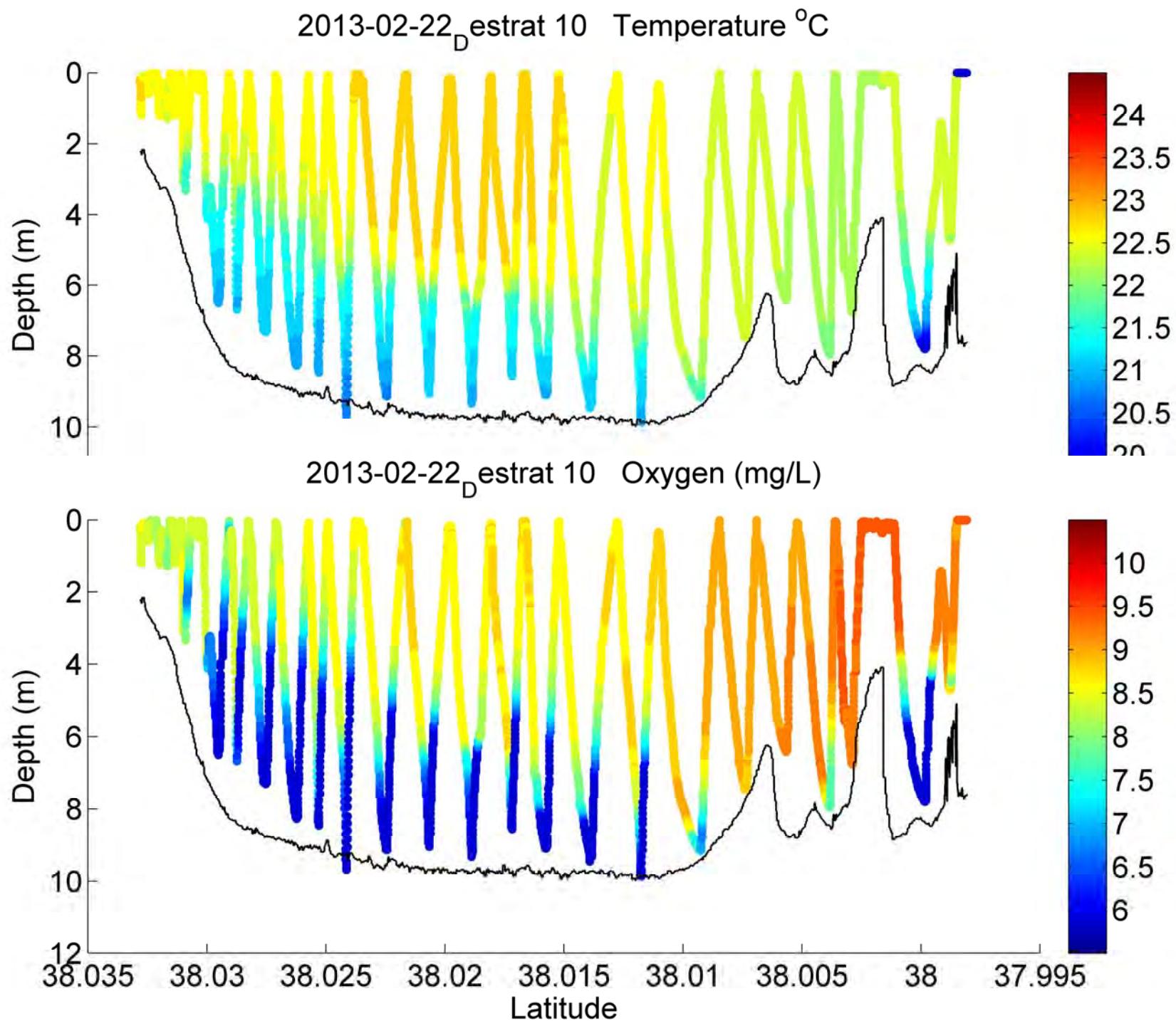
2013-02-08_D estrat 8 BsFlo phys2 (mg/L)



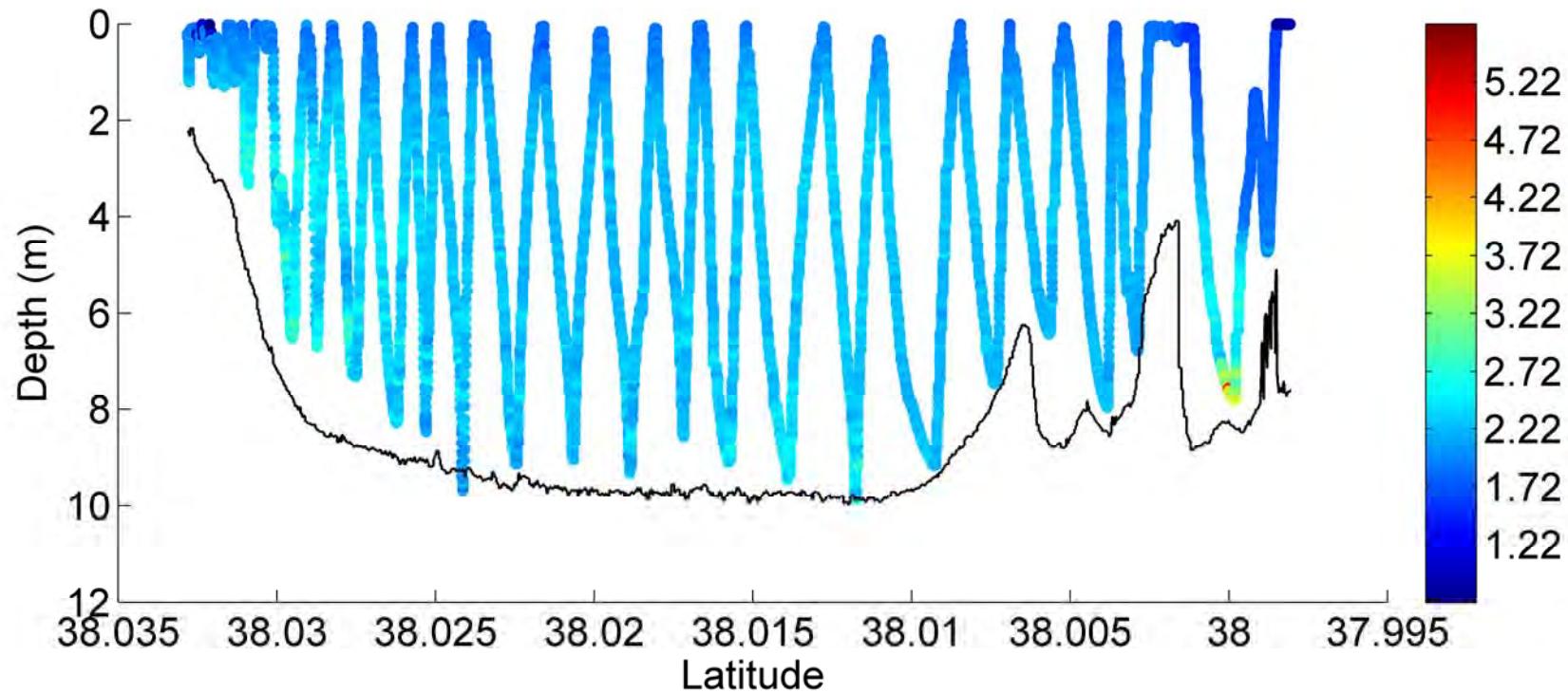


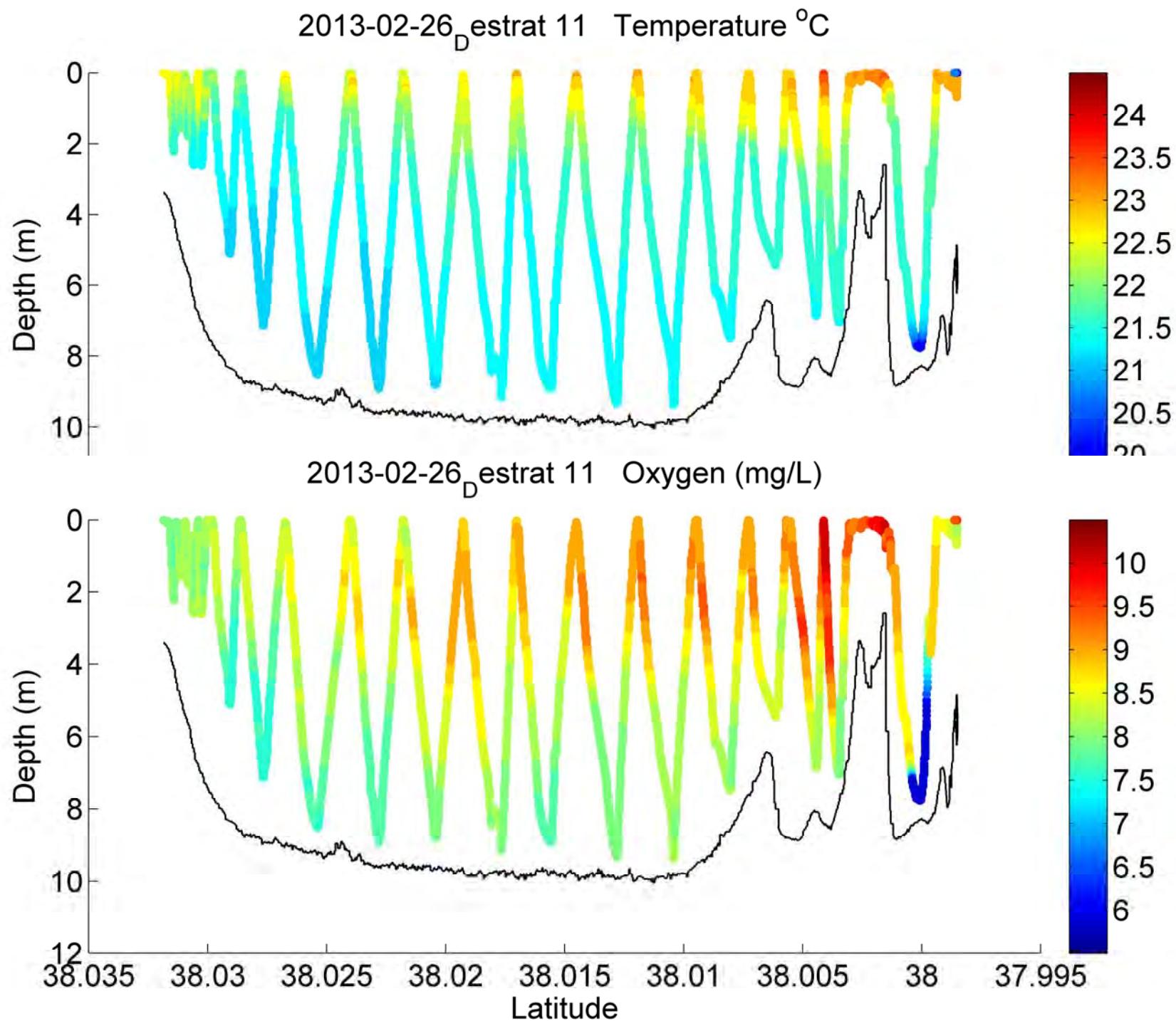
2013-02-11_D estrat 9 BsFlo phys2 (mg/L)



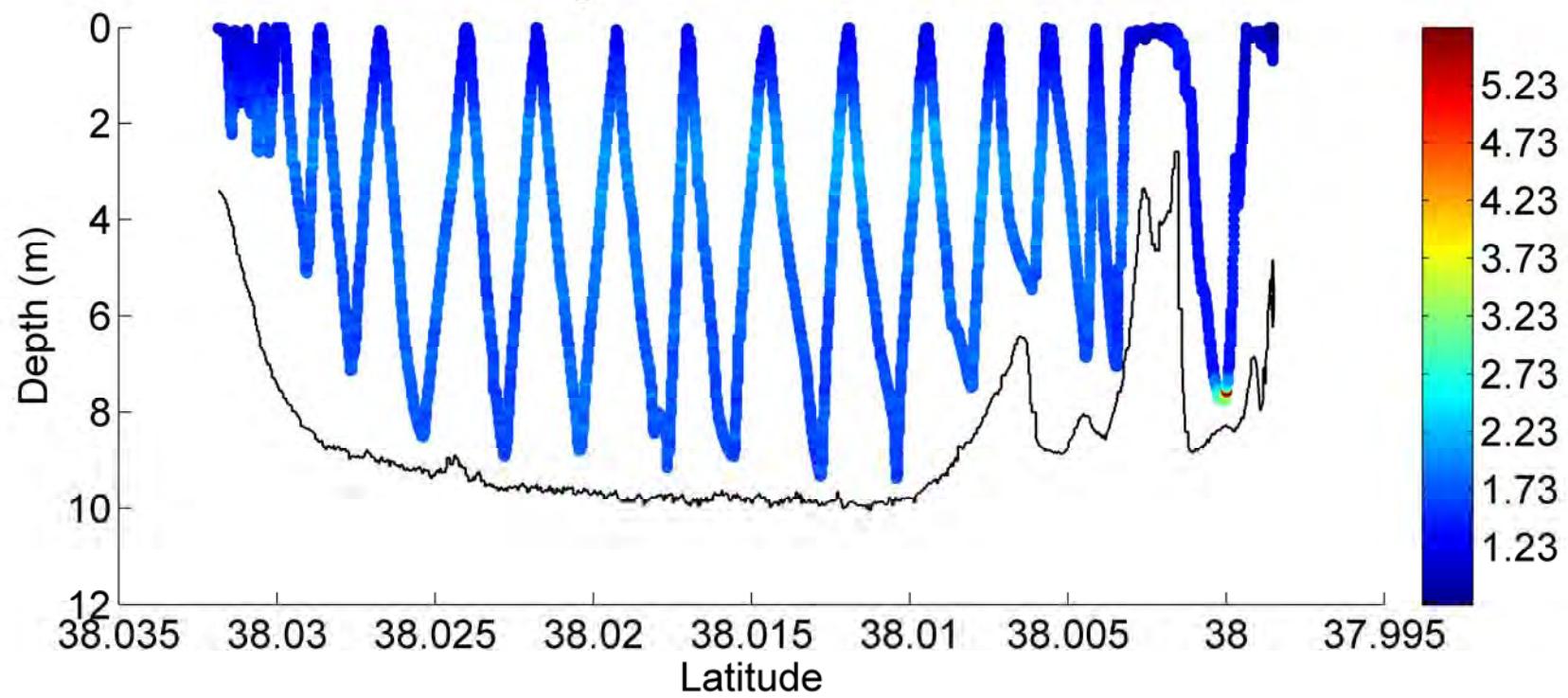


2013-02-22_D estrat 10 BsFlo phys2 (mg/L)

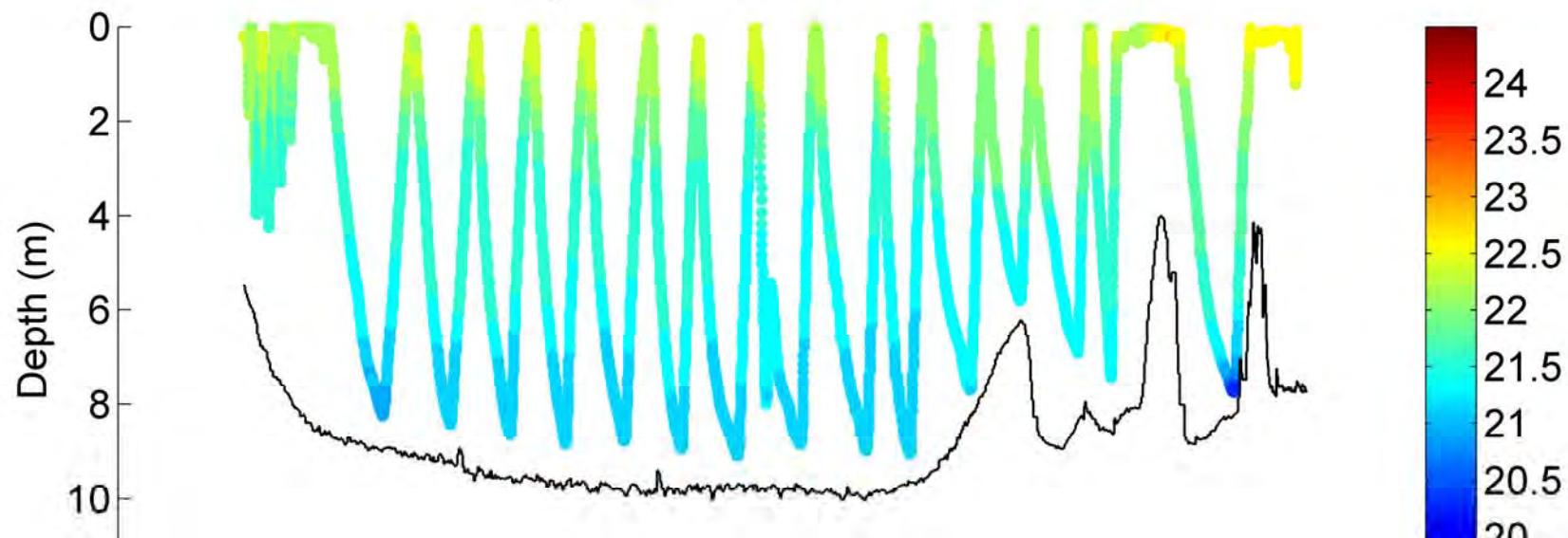




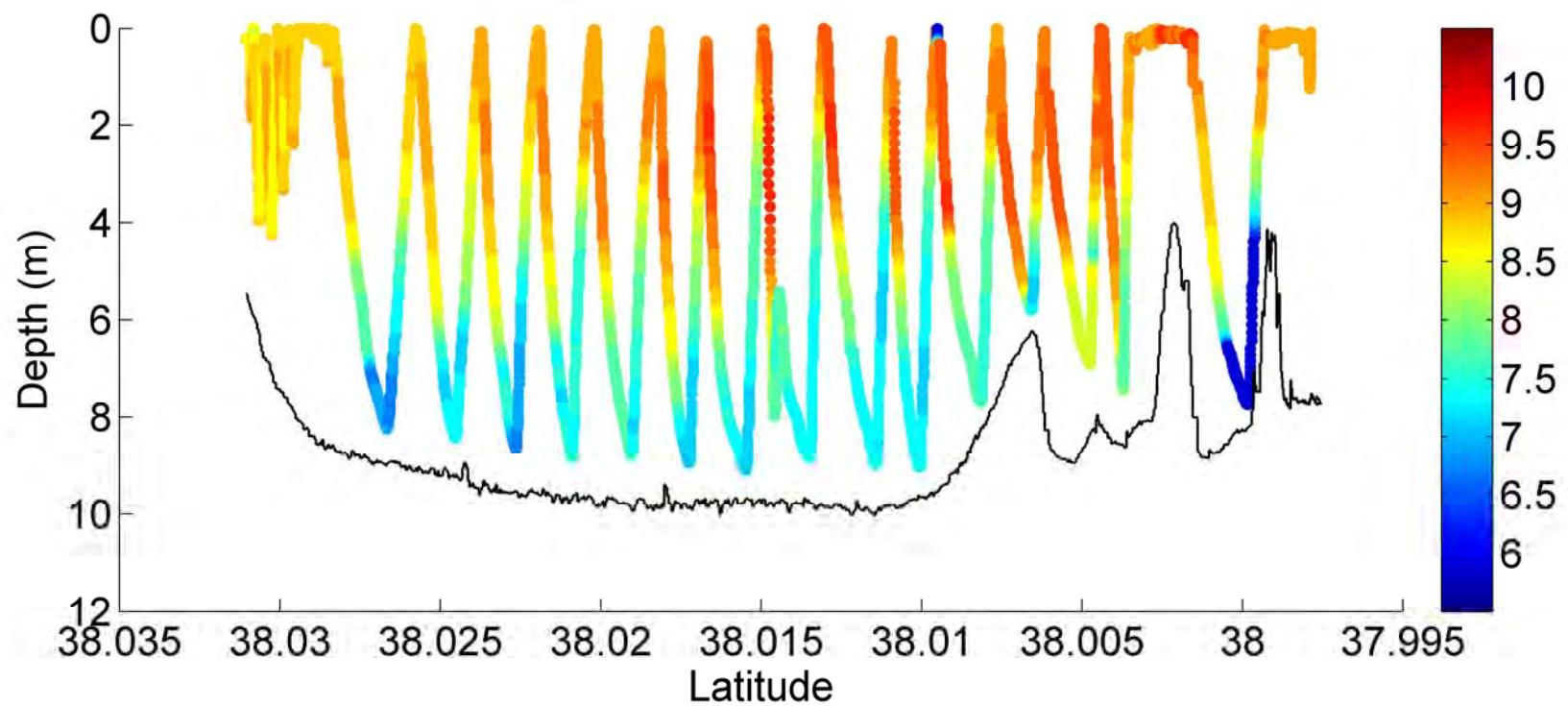
2013-02-26_D estrat 11 BsFlo phys2 (mg/L)



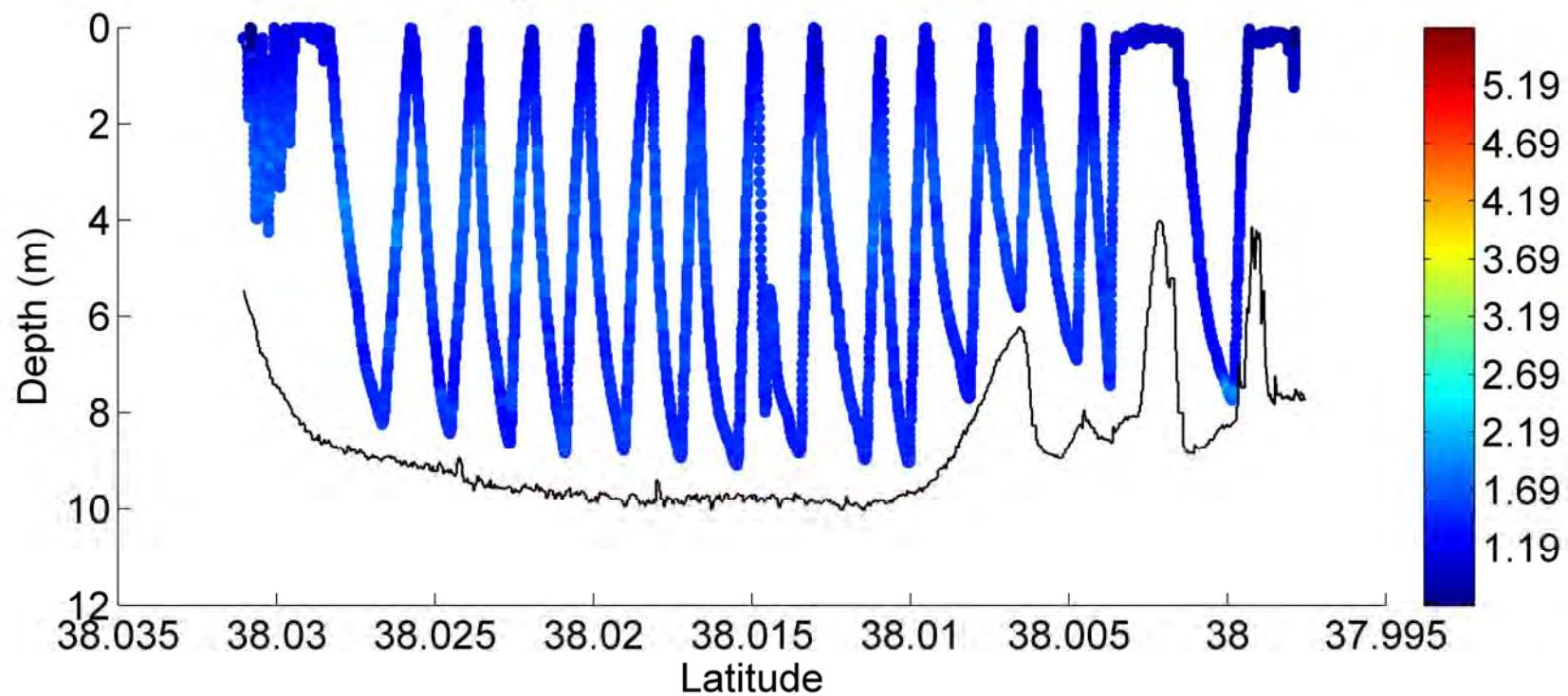
2013-02-27_D estrat 12 (1330) Temperature °C



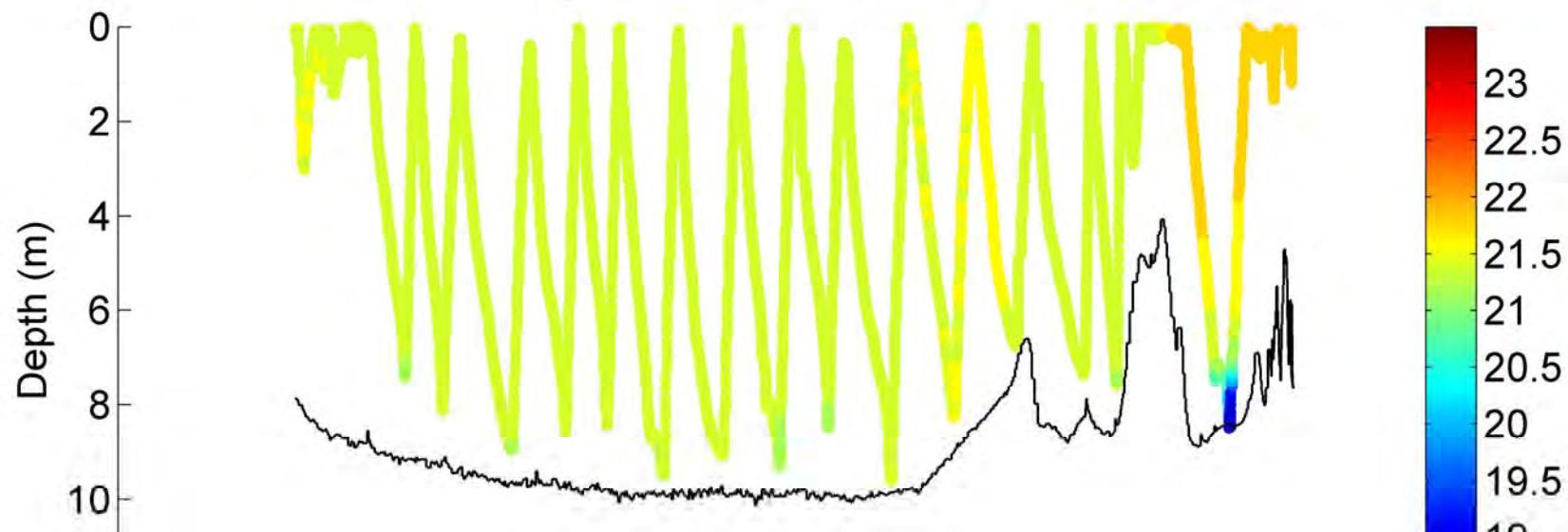
2013-02-27_D estrat 12 (1330) Oxygen (mg/L)



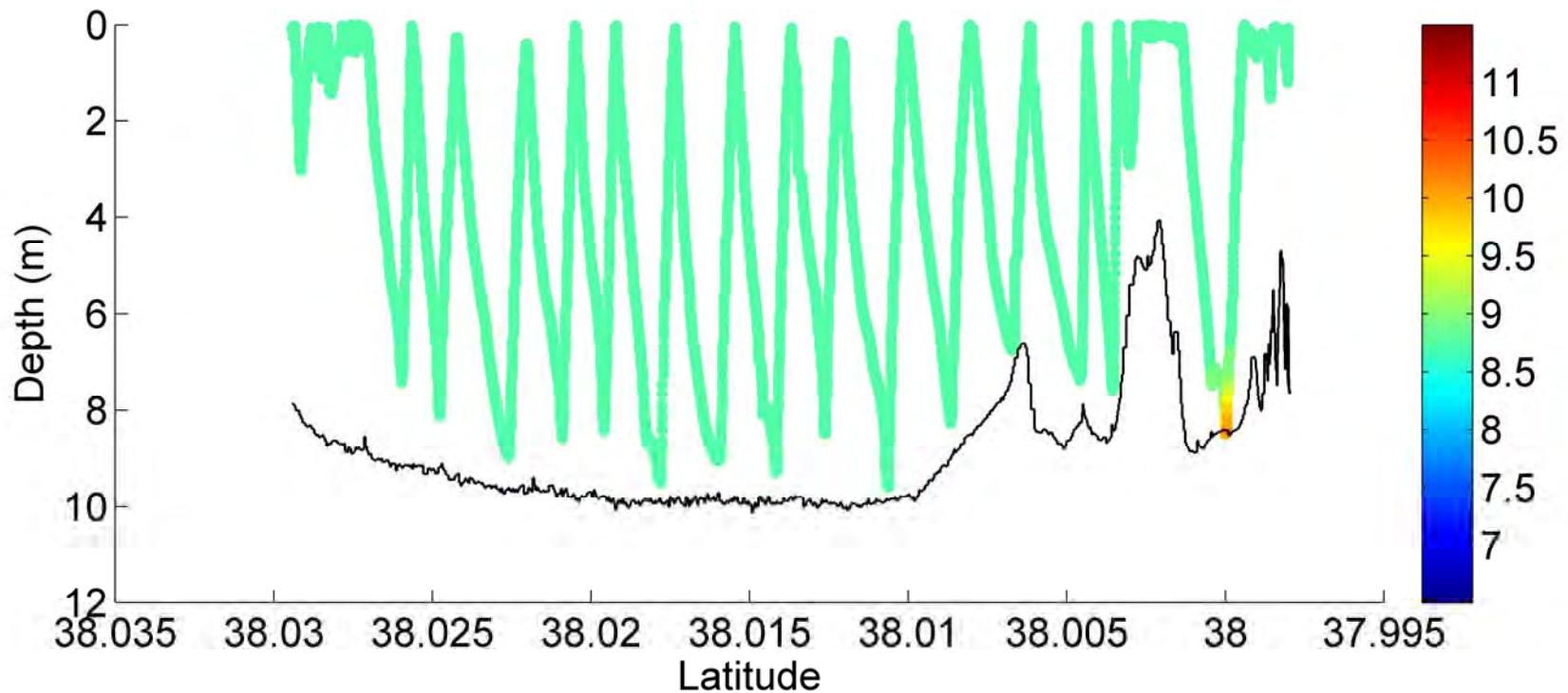
2013-02-27_D estrat 12 (1330) BsFlo phys2 (mg/L)



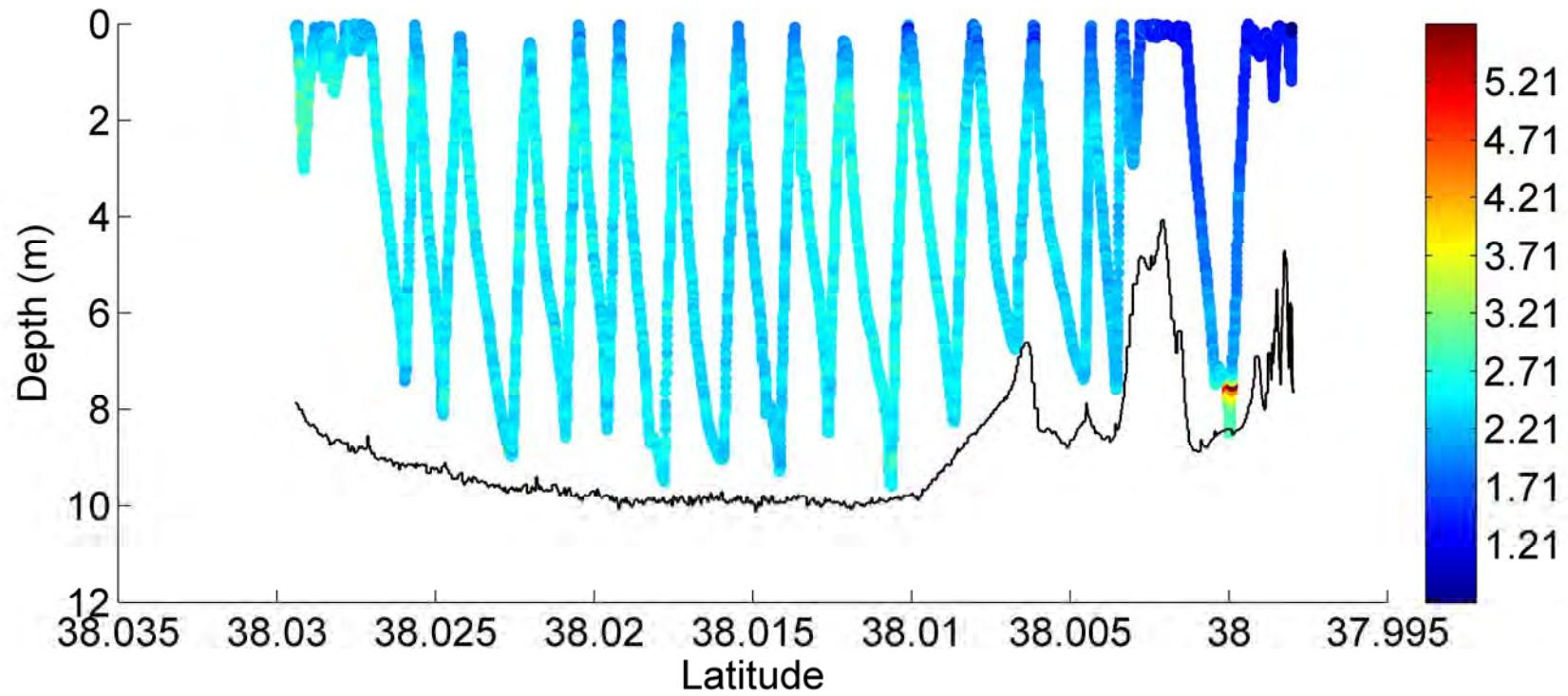
2013-02-28A_D estrat 12 (0920) Temperature °C



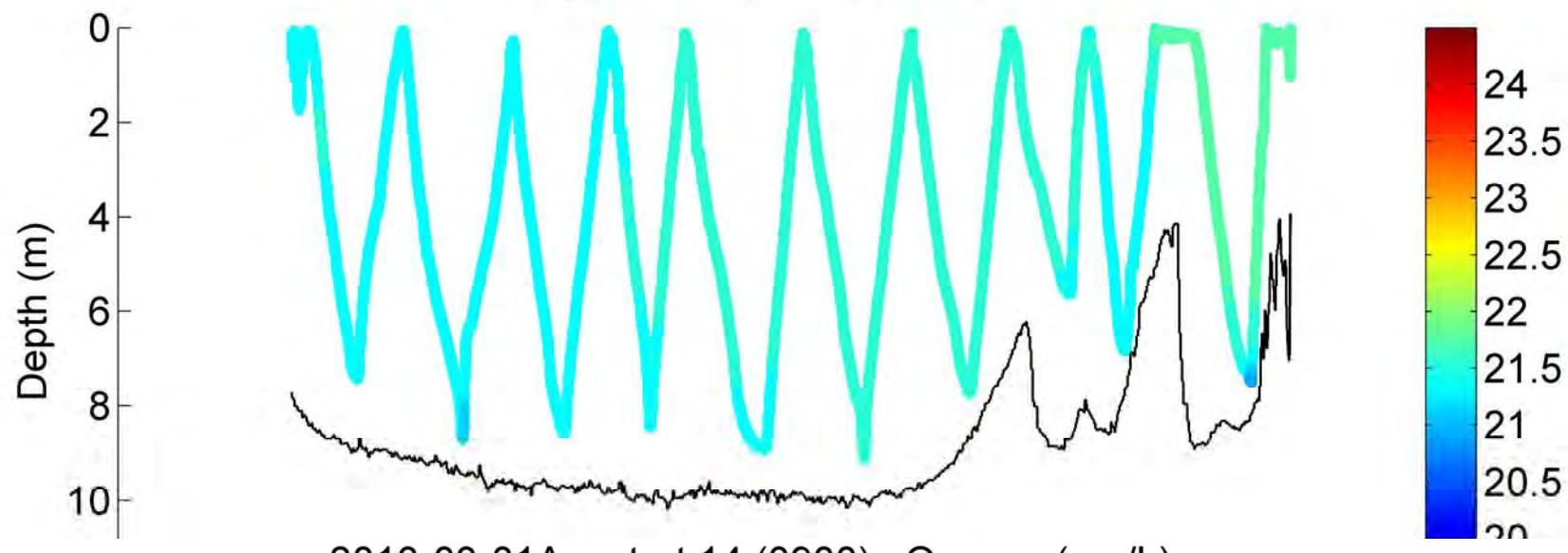
2013-02-28A_D estrat 12 (0920) Oxygen (mg/L)



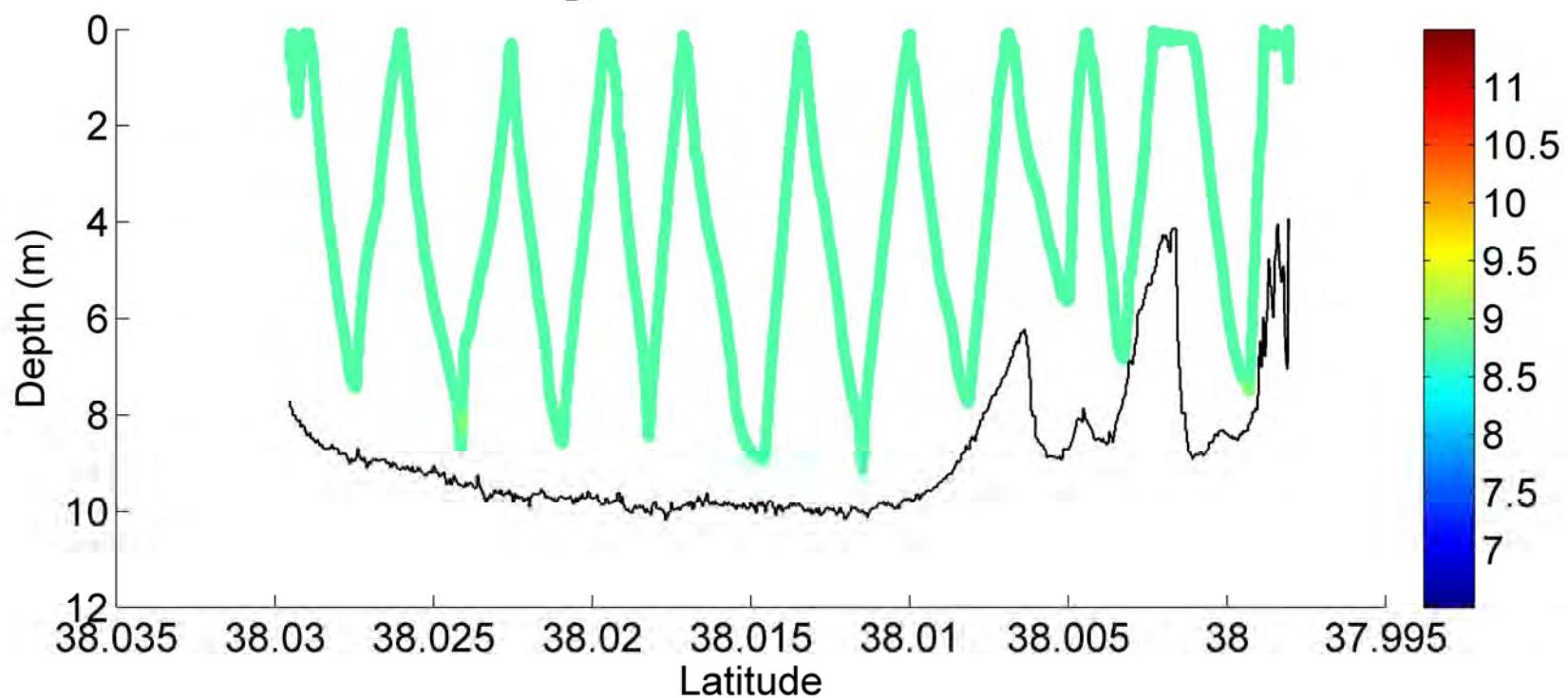
2013-02-28A_D estrat 12 (0920) BsFlo phys2 (mg/L)



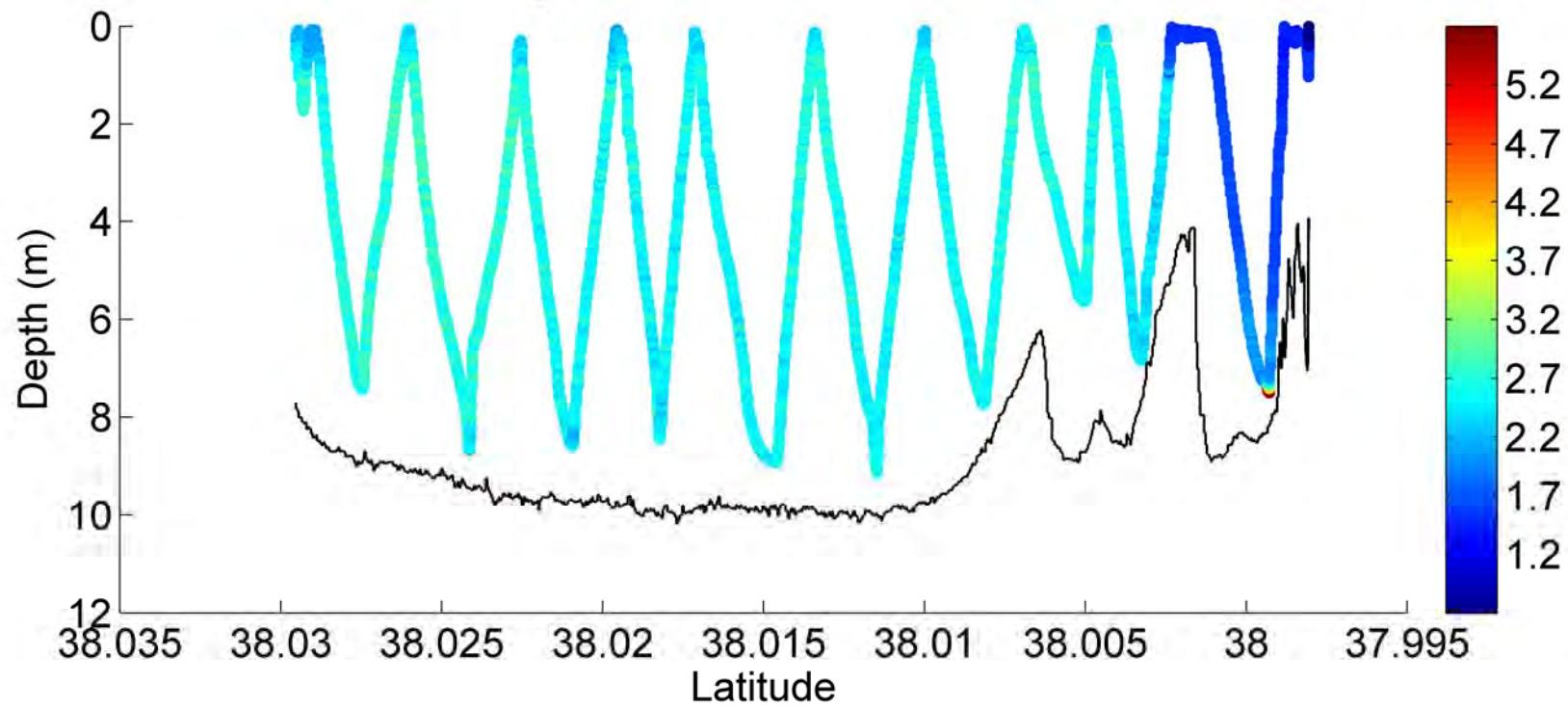
2013-03-01A_D estrat 14 (0900) Temperature °C



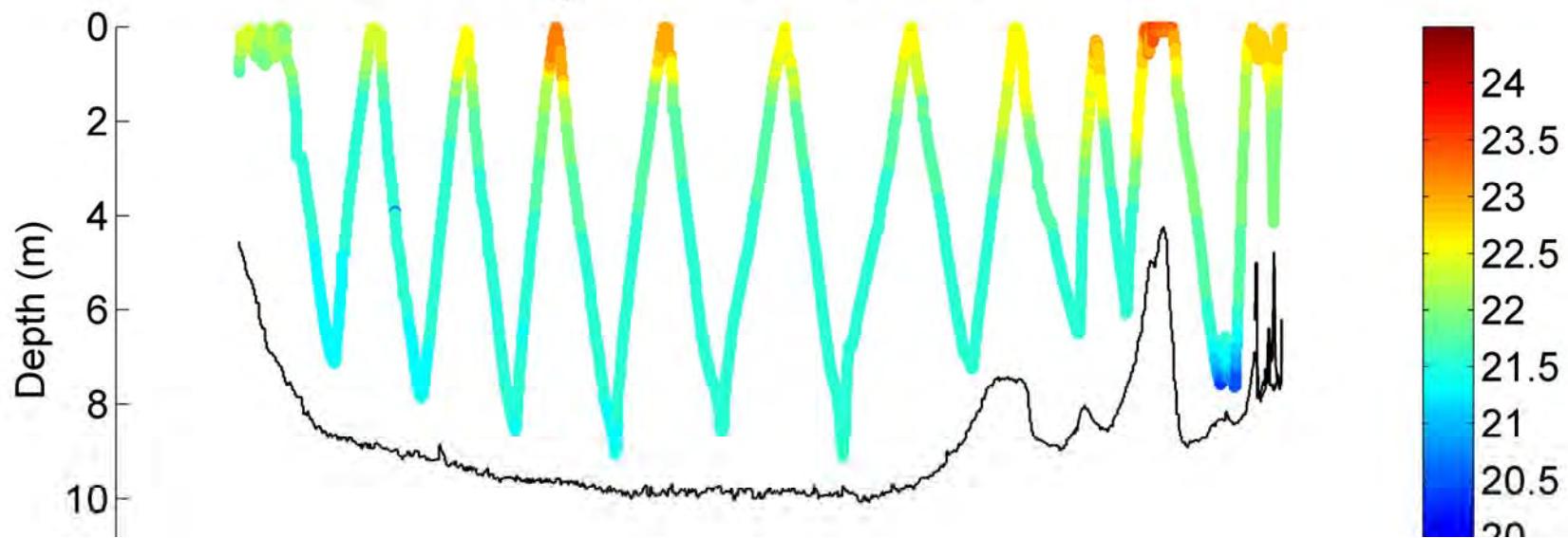
2013-03-01A_D estrat 14 (0900) Oxygen (mg/L)



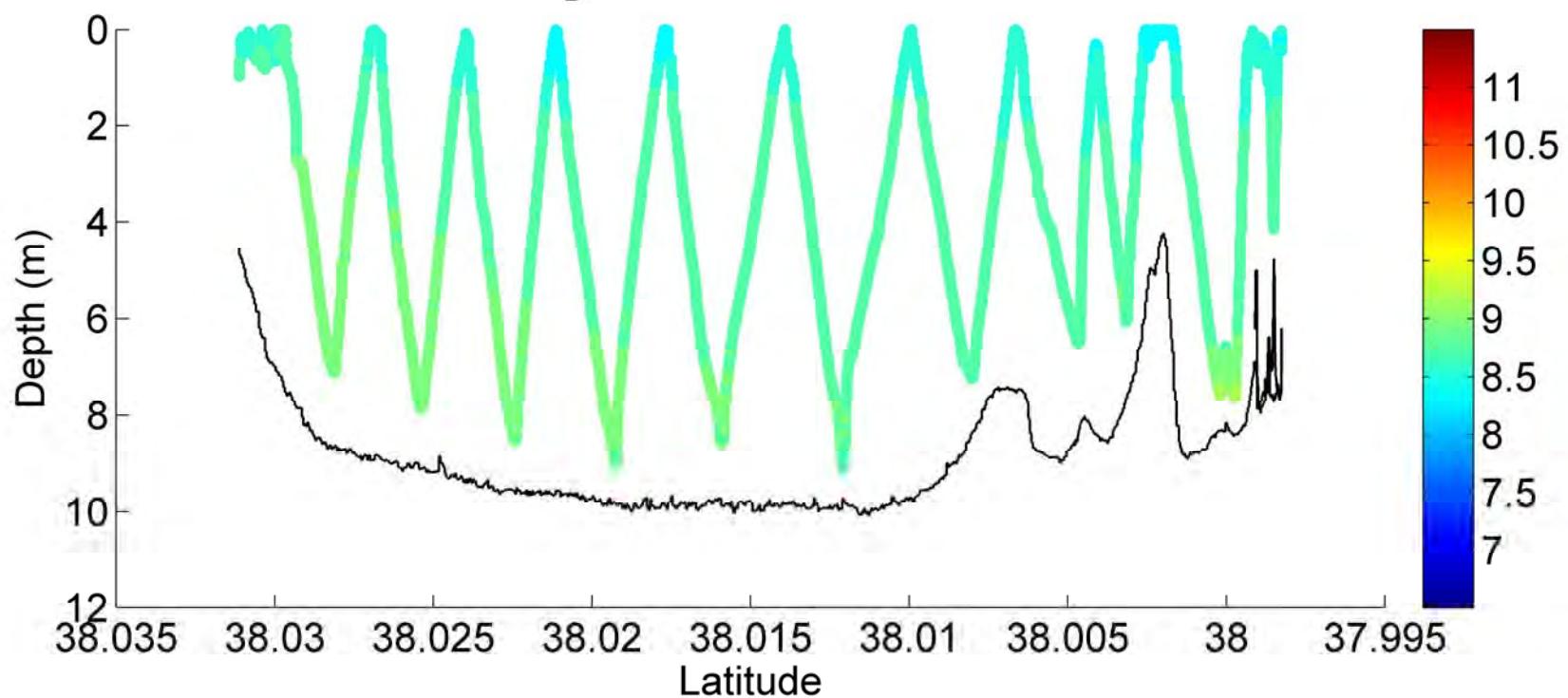
2013-03-01A_D estrat 14 (0900) BsFlo phys2 (mg/L)



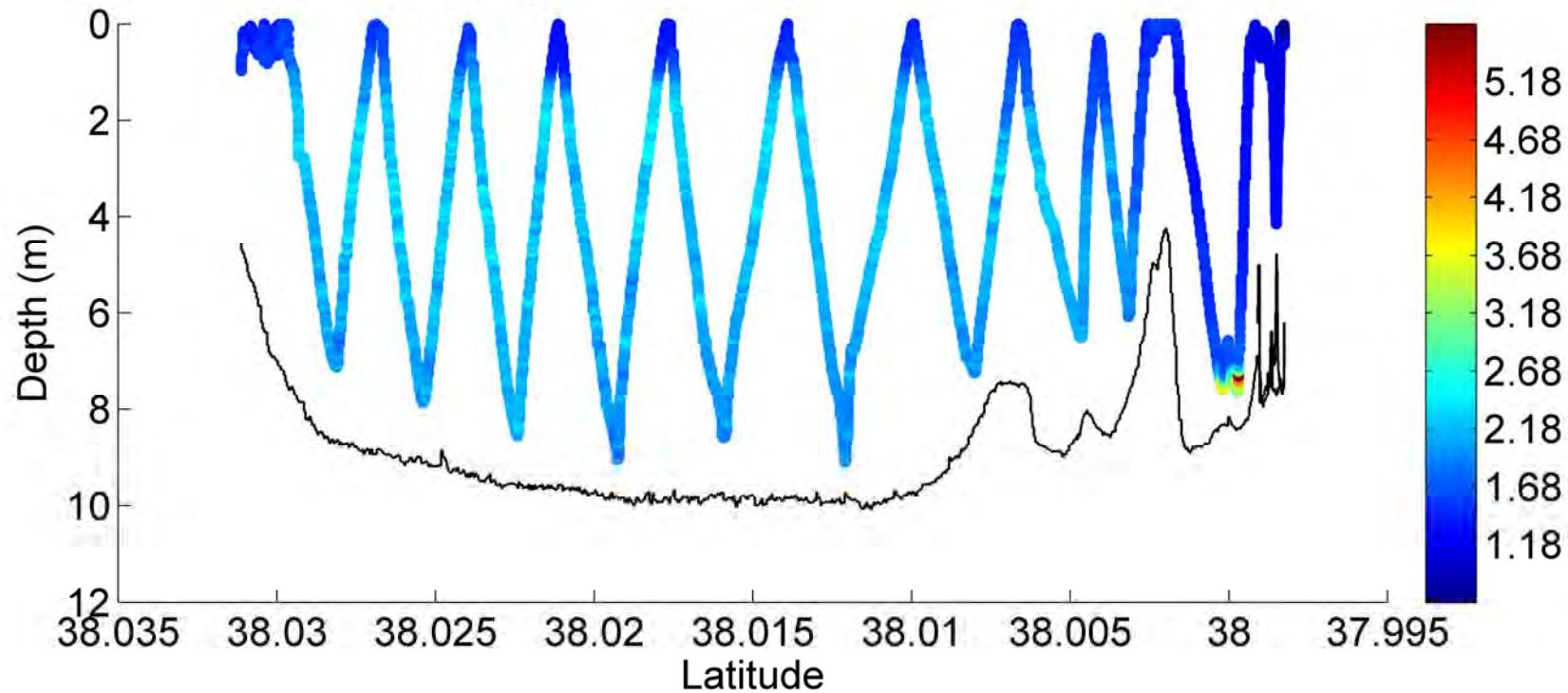
2013-03-01B_D estrat 14 (1400) Temperature °C



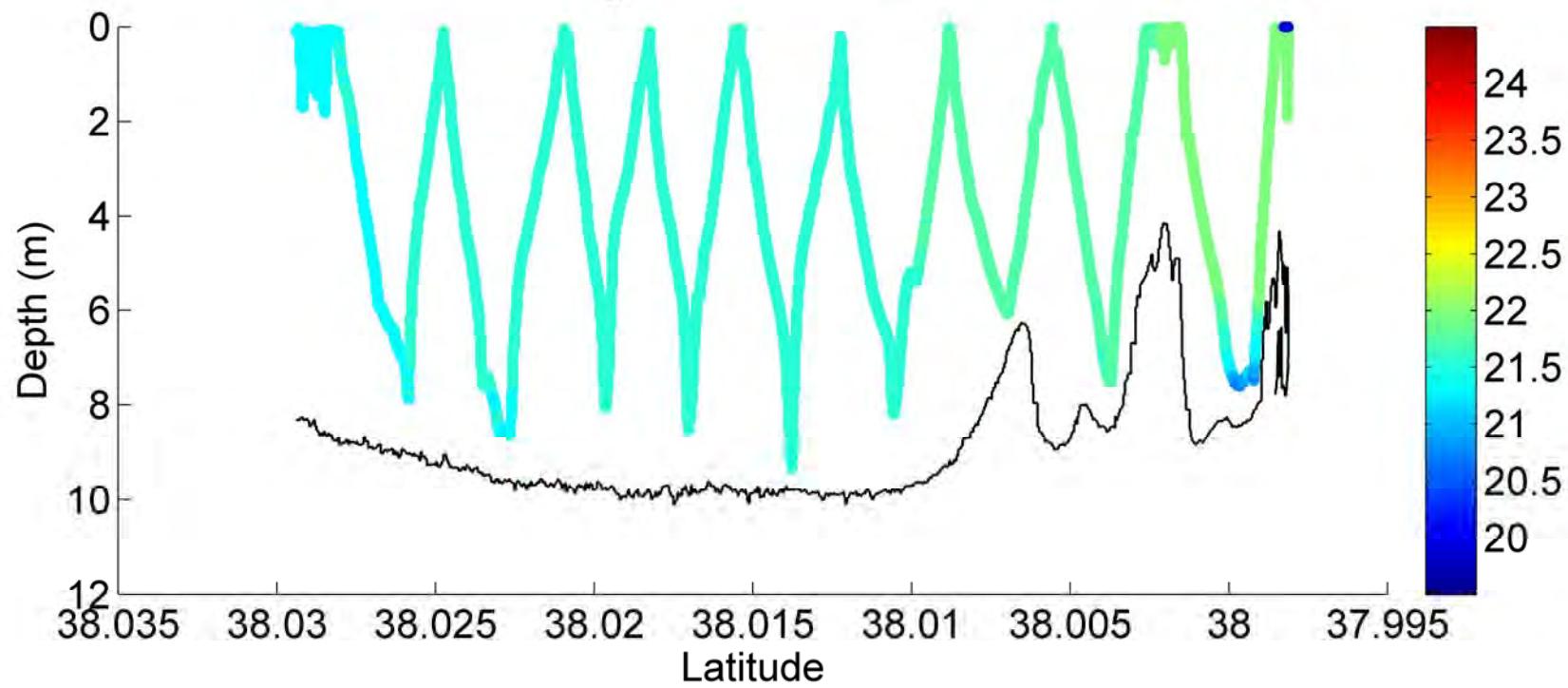
2013-03-01B_D estrat 14 (1400) Oxygen (mg/L)

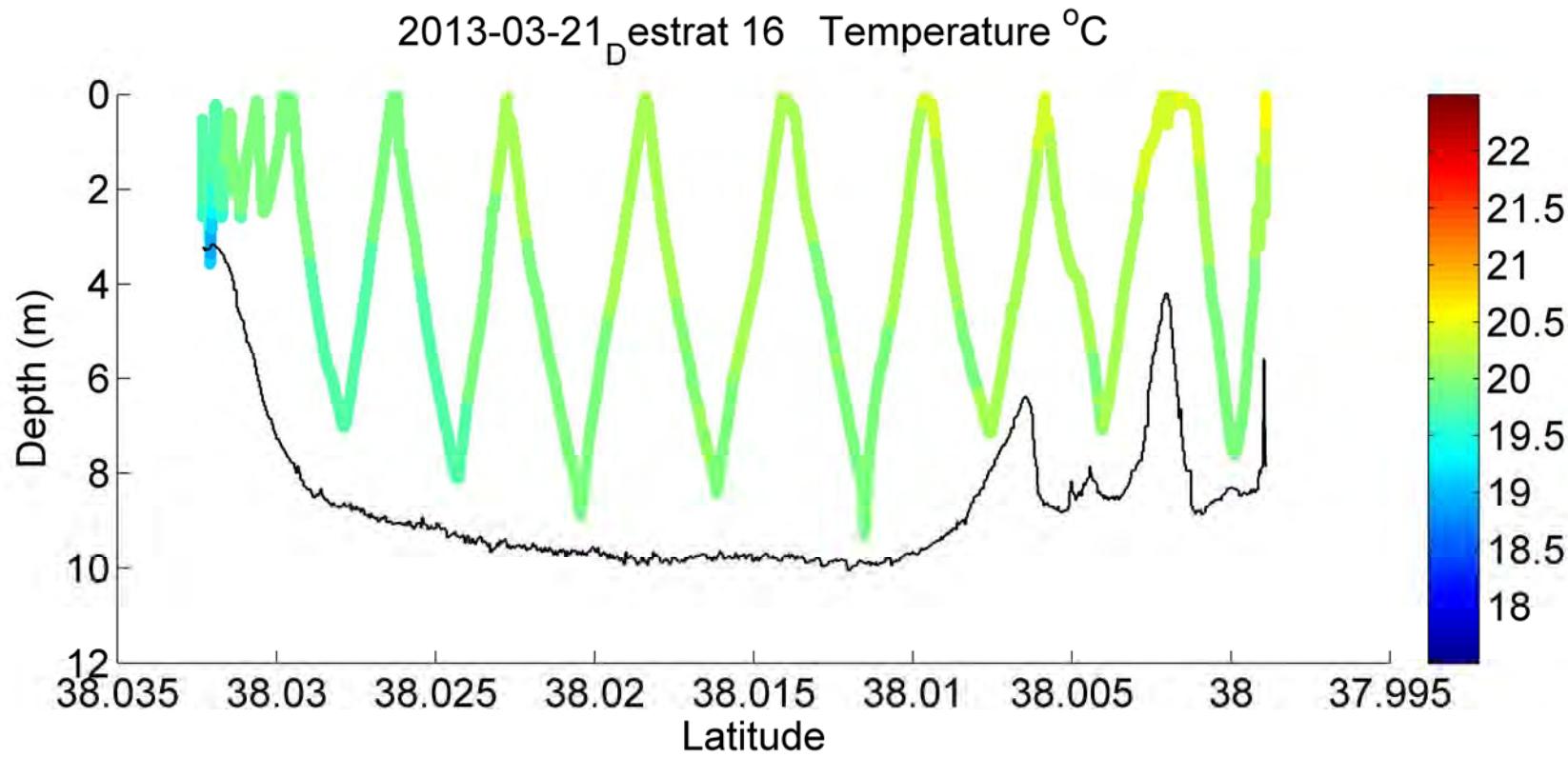


2013-03-01B_D estrat 14 (1400) BsFlo phys2 (mg/L)

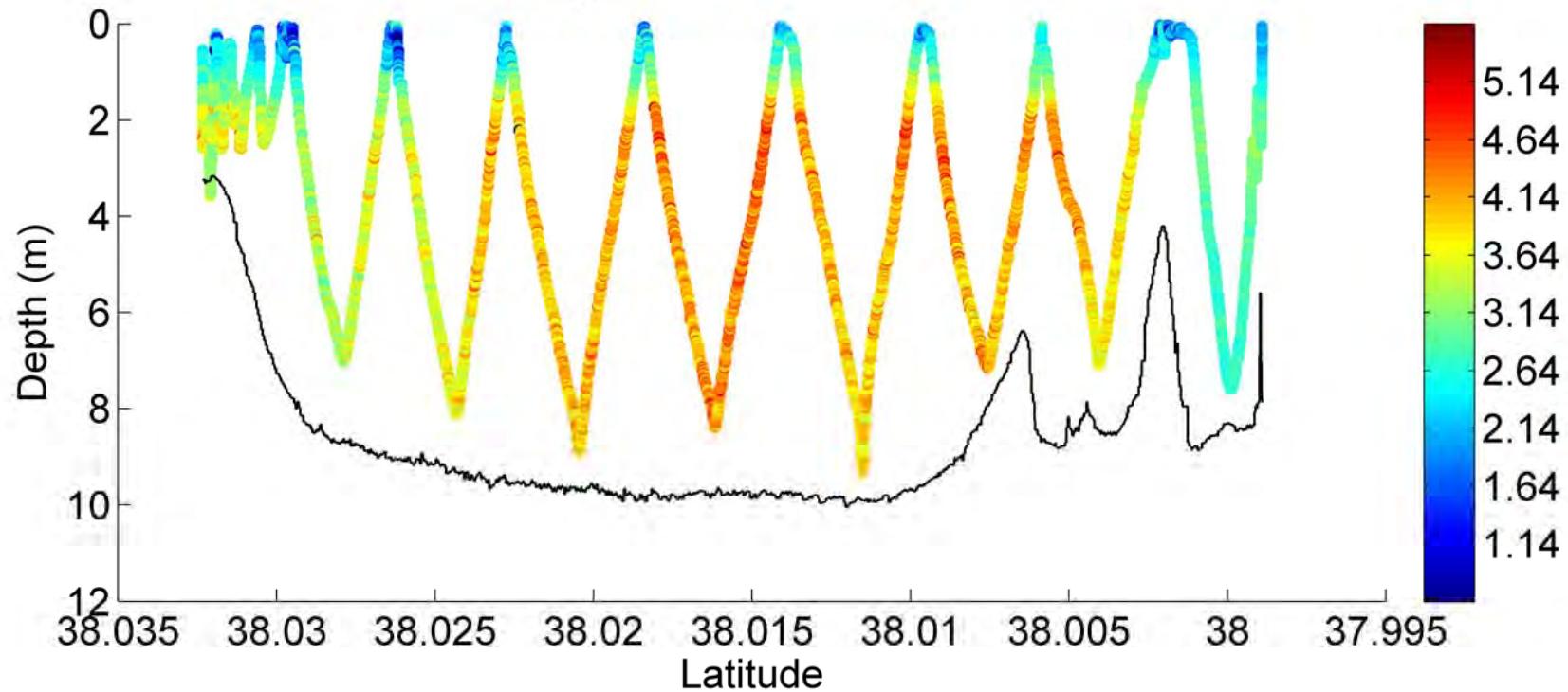


2013-03-05_D estrat 15 Temperature °C





2013-03-21_D estrat 16 BsFlo phys2 (mg/L)



Satellite

Formosat 2

Multispectral – 8m resolution

Panchromatic – 2m resolution

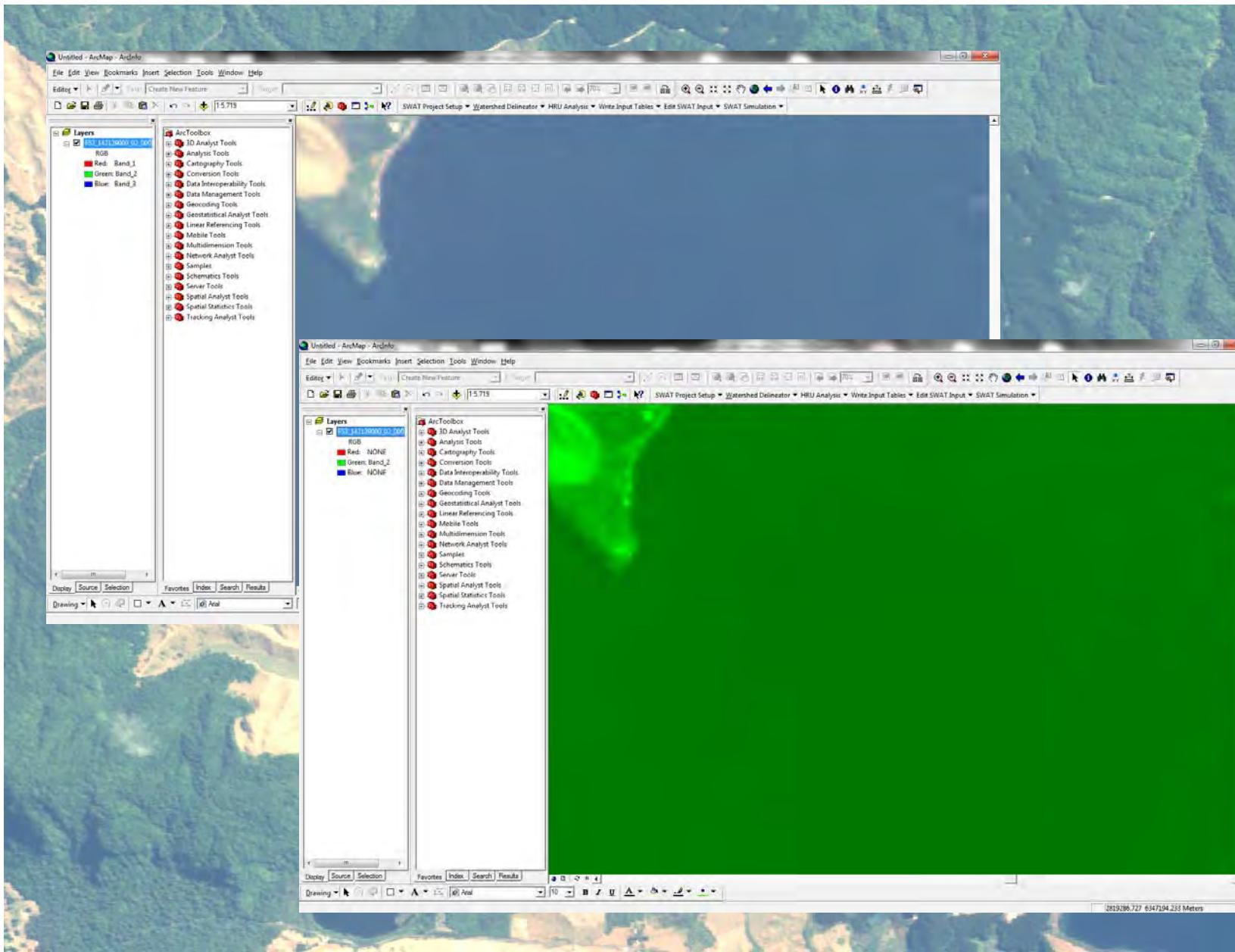
Dye release

- Satellite image
- Biofish
- Hiroshi's flow reader

FORMOSAT 2
26th March 2013



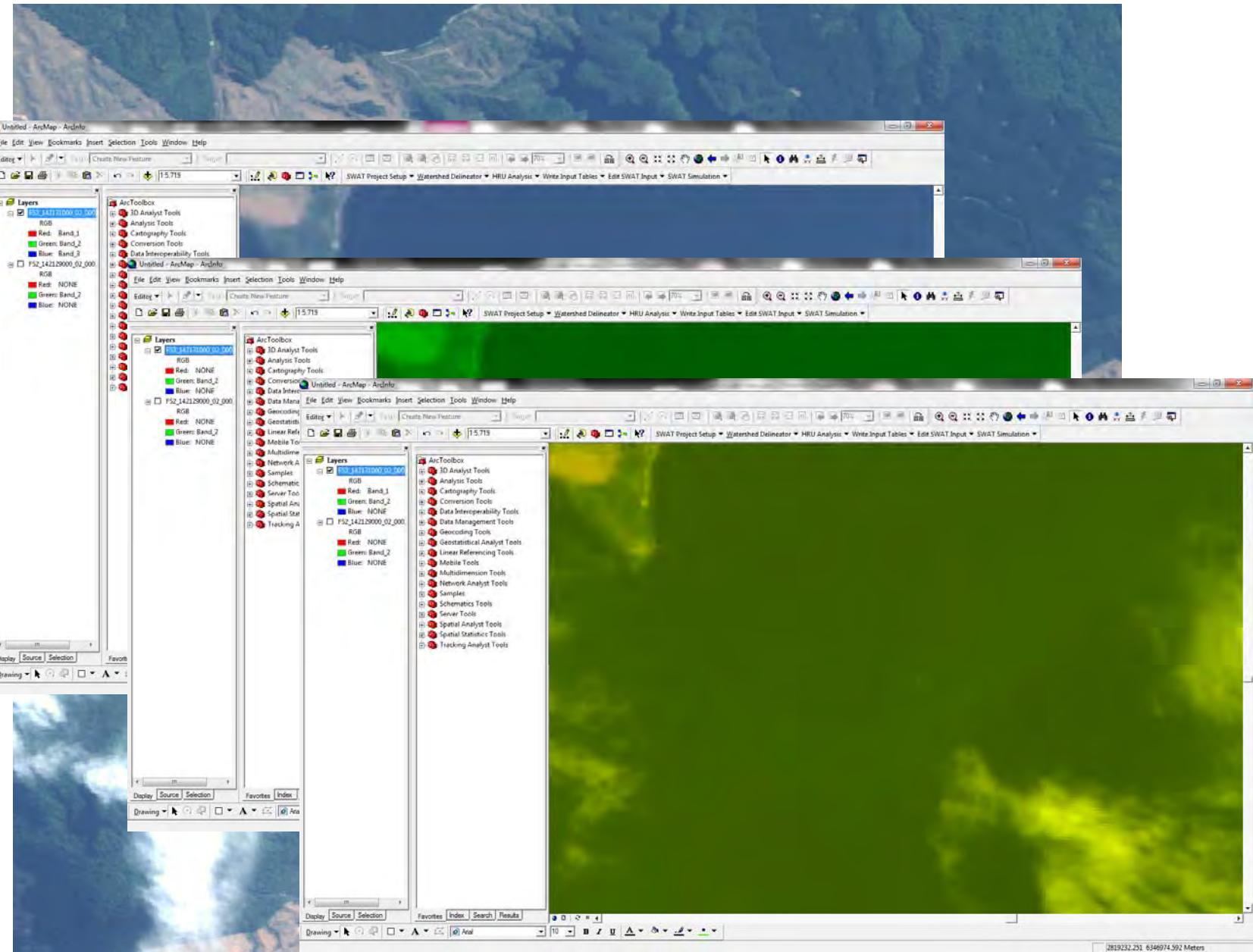
26th Multispectral (8m grid)



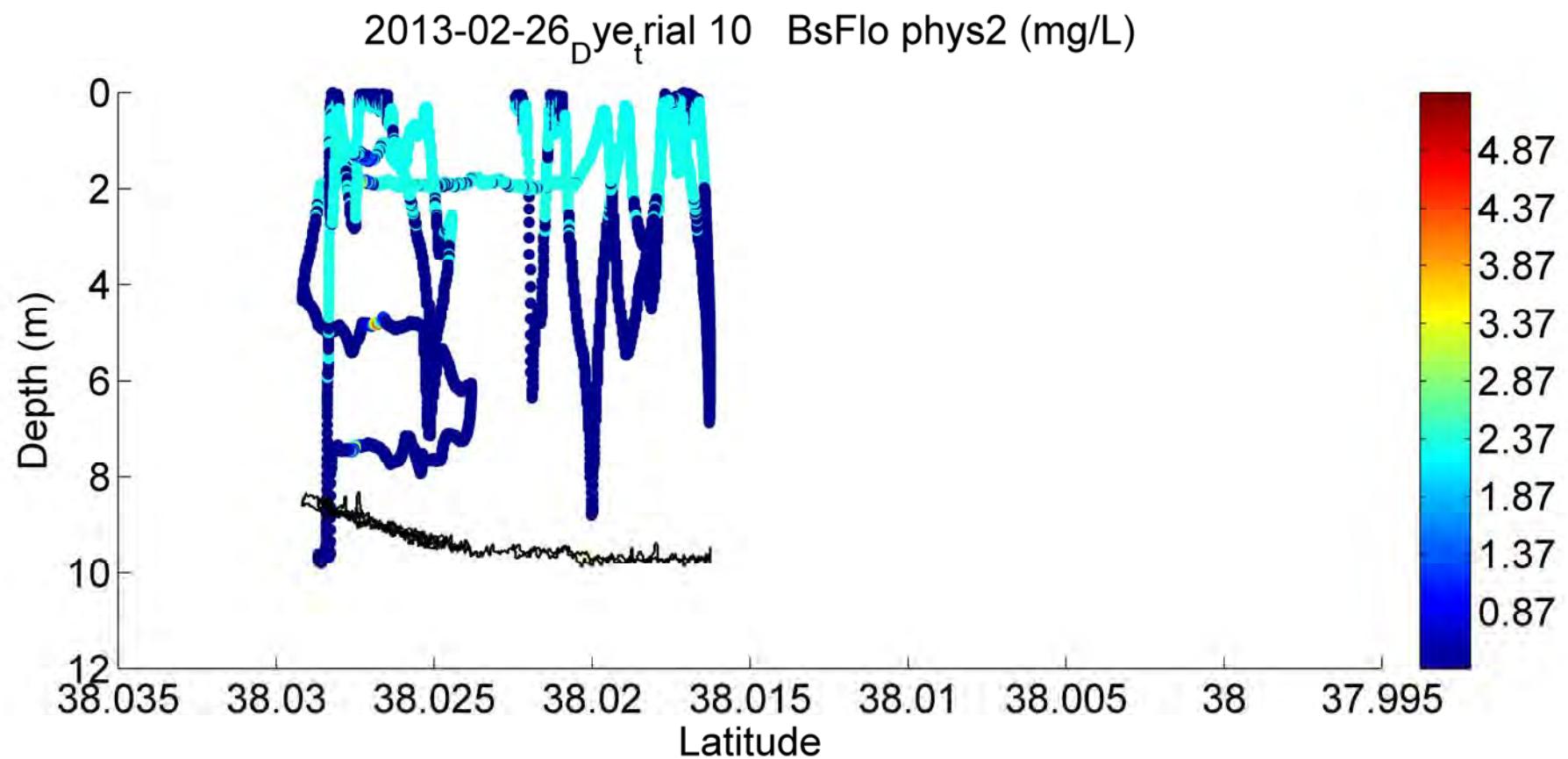
FORMOSAT 2
26th March 2013



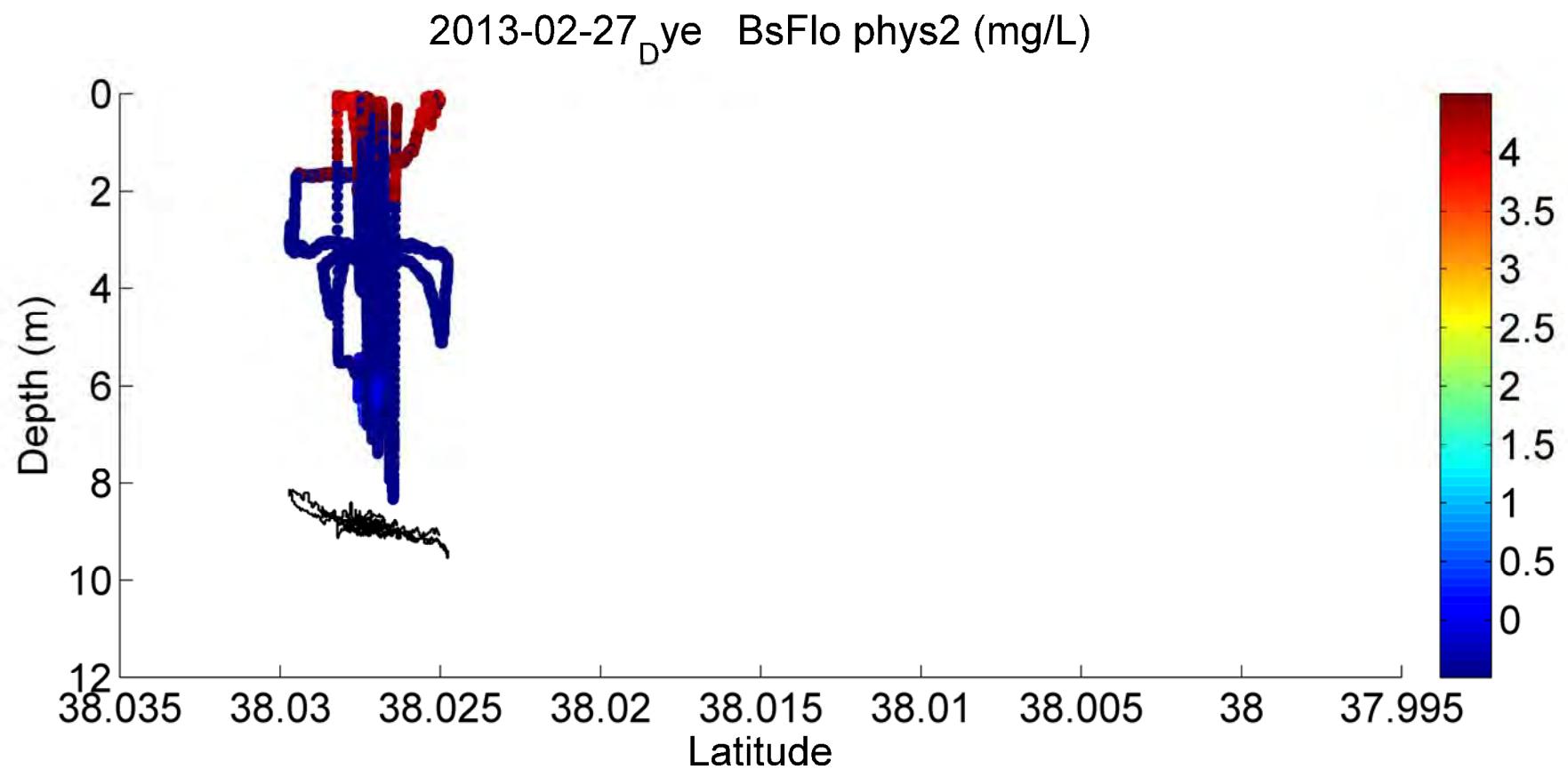
26th Multispectral (8m grid)



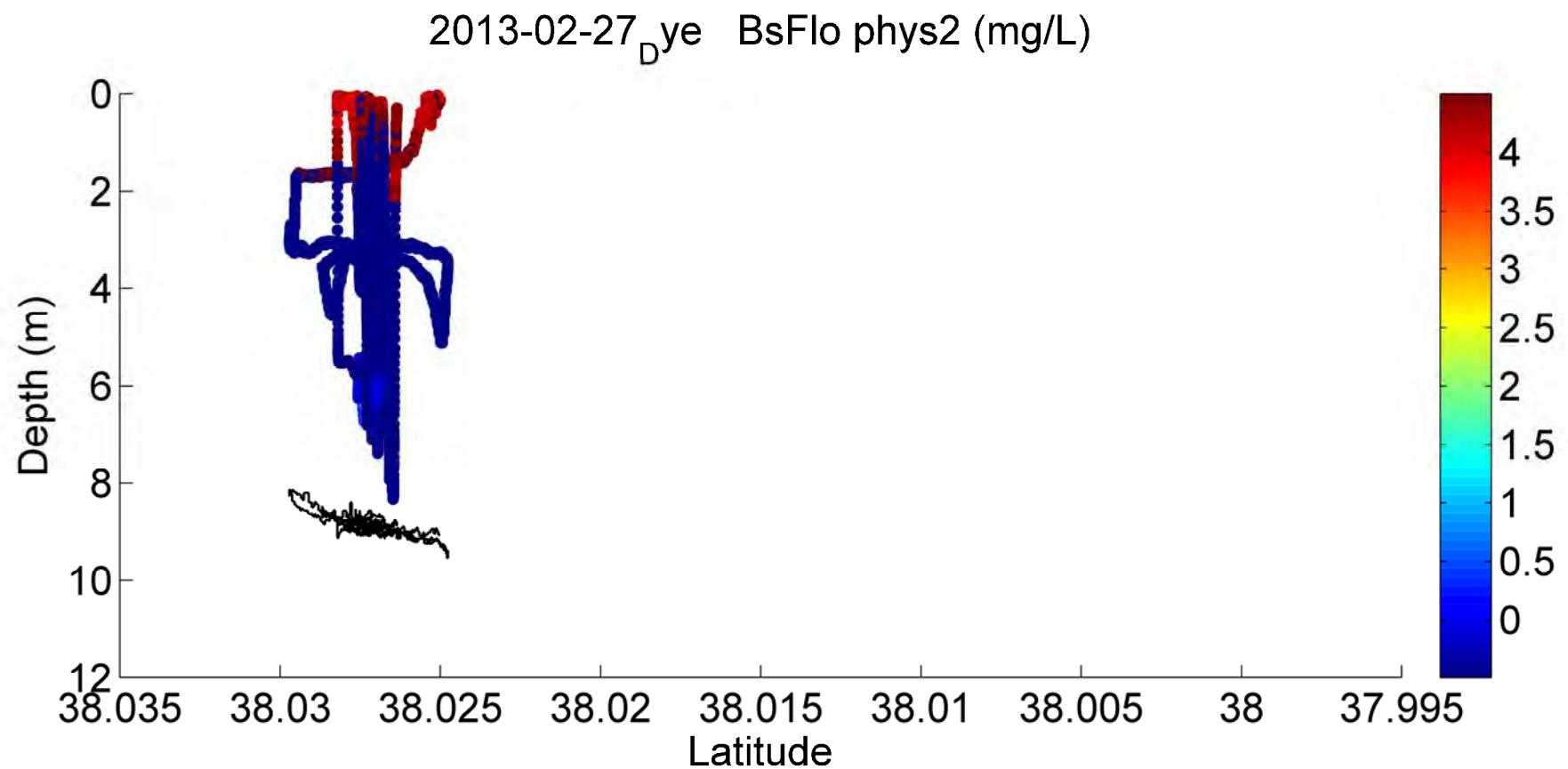
Biofish



Biofish

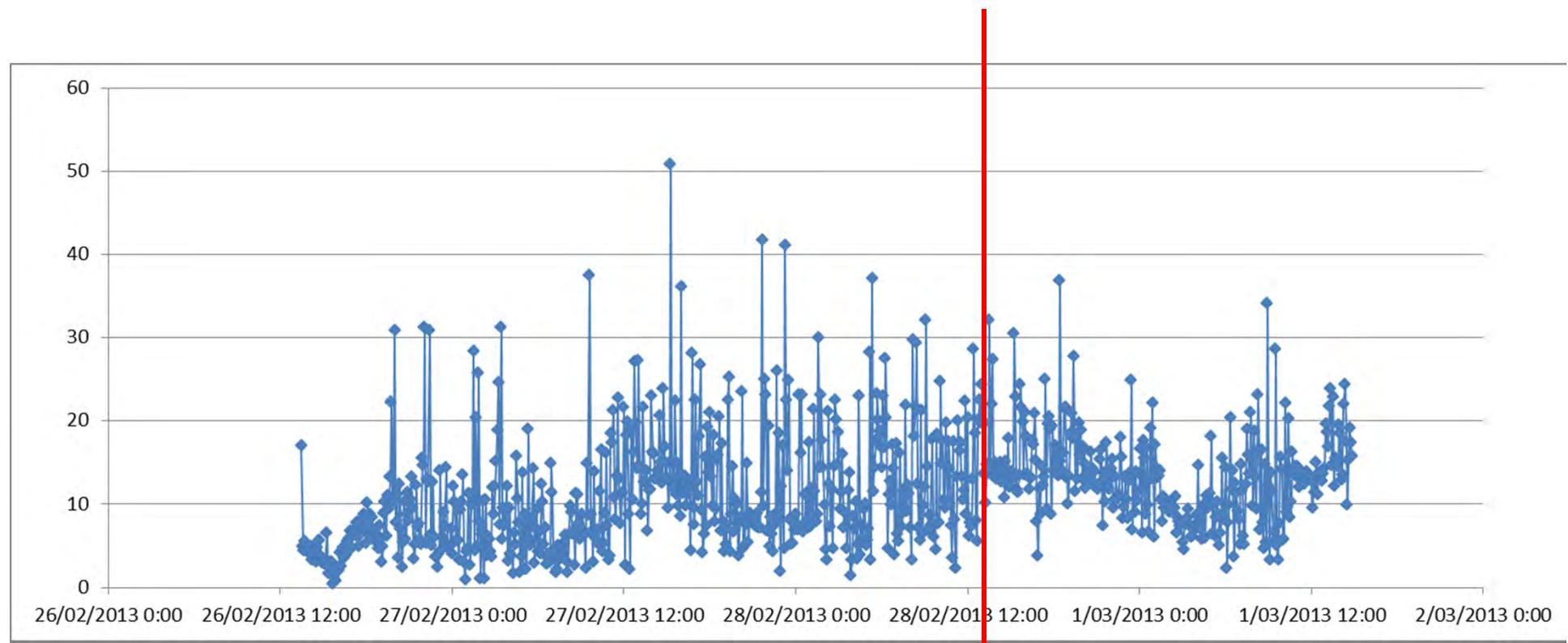


Biofish



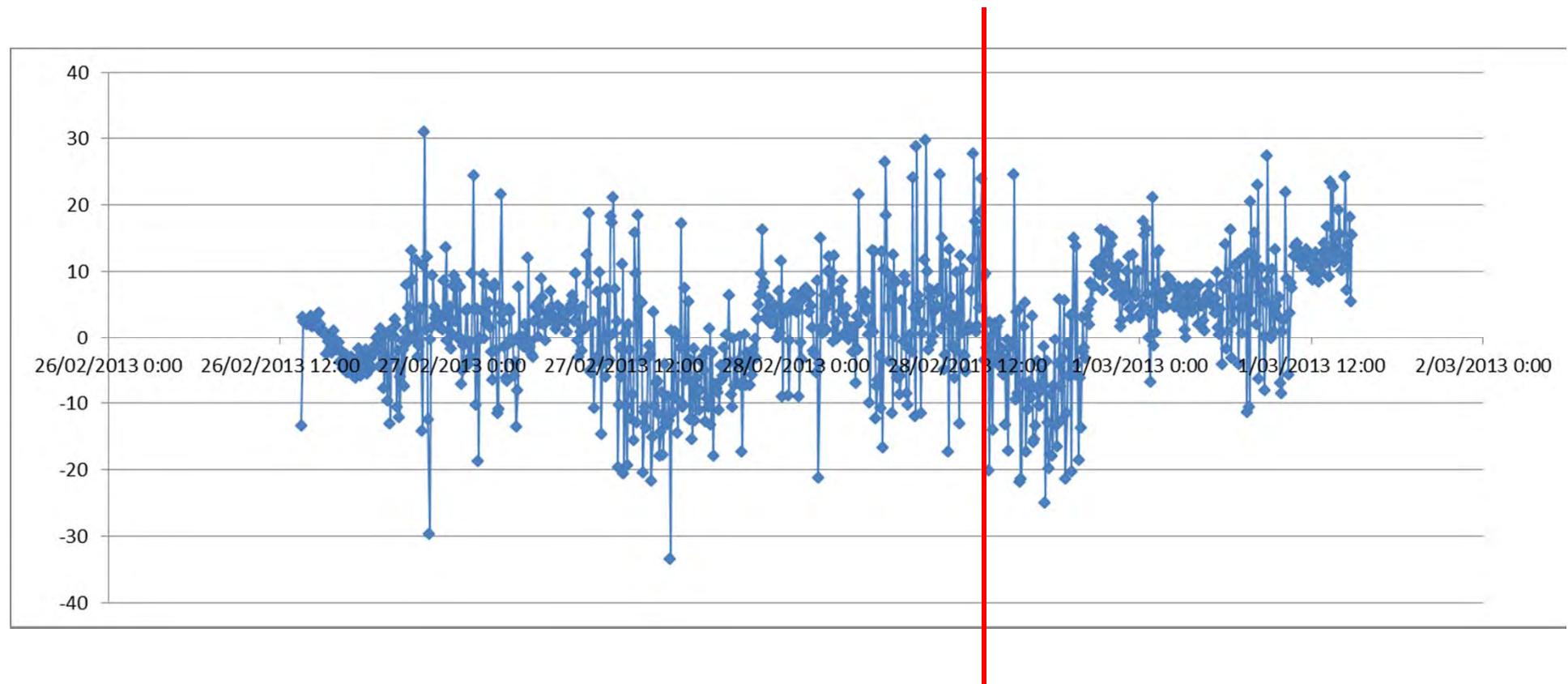
Flow meter

Flow speed



Flow meter

- N-S flow



Flow meter

- N-S flow

