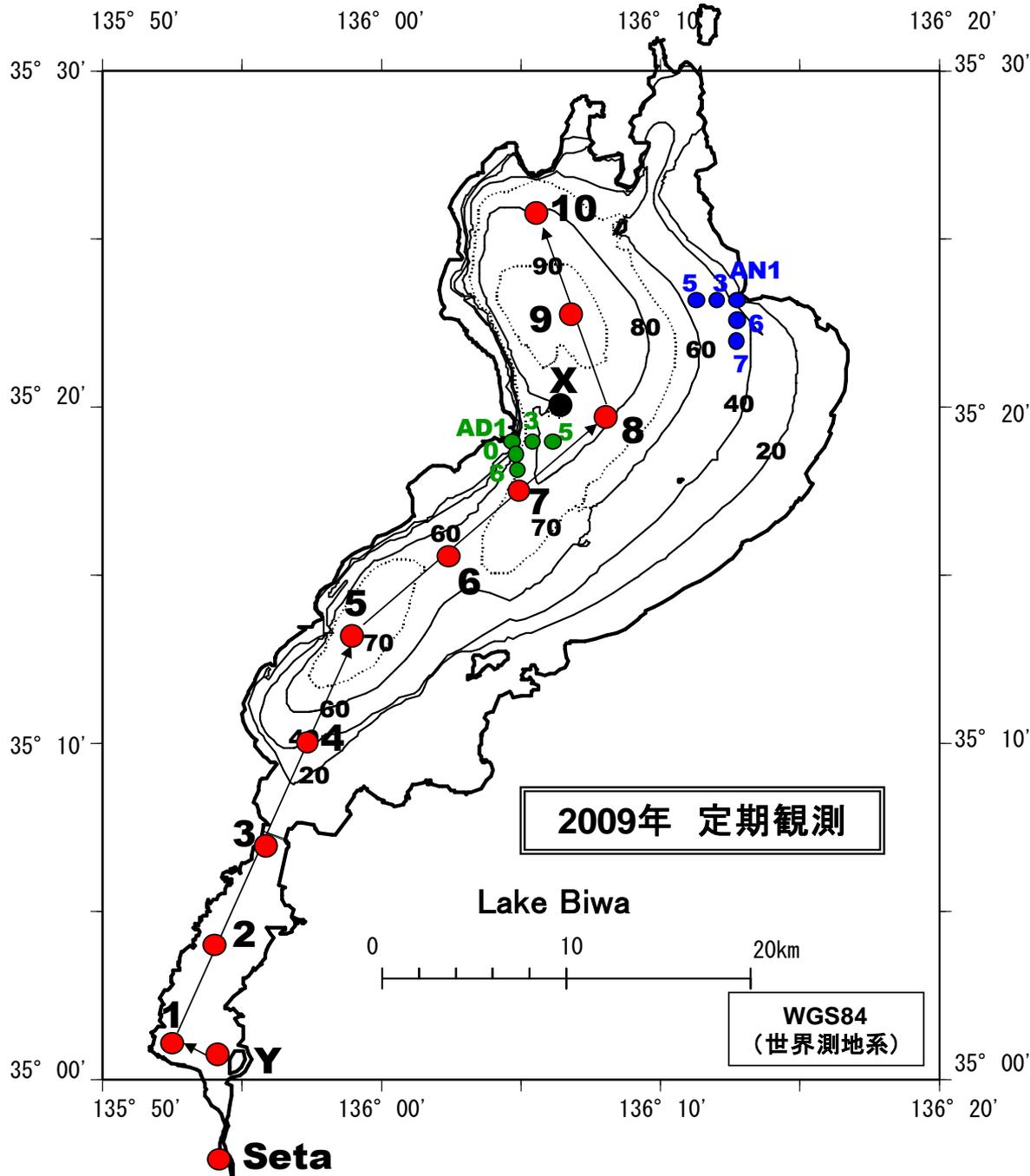


# びわ湖の水温と溶存酸素濃度 の変動特性(3)

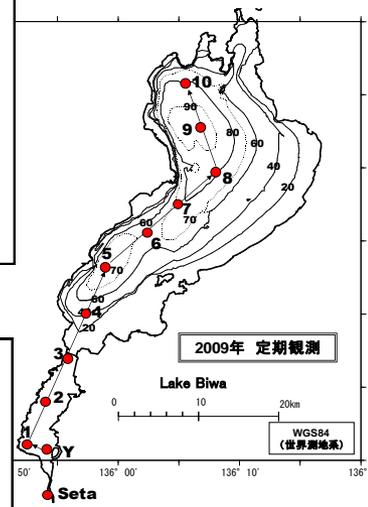
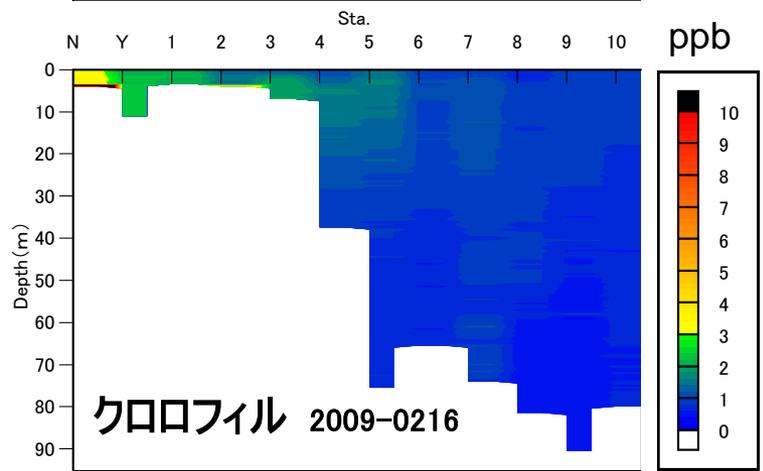
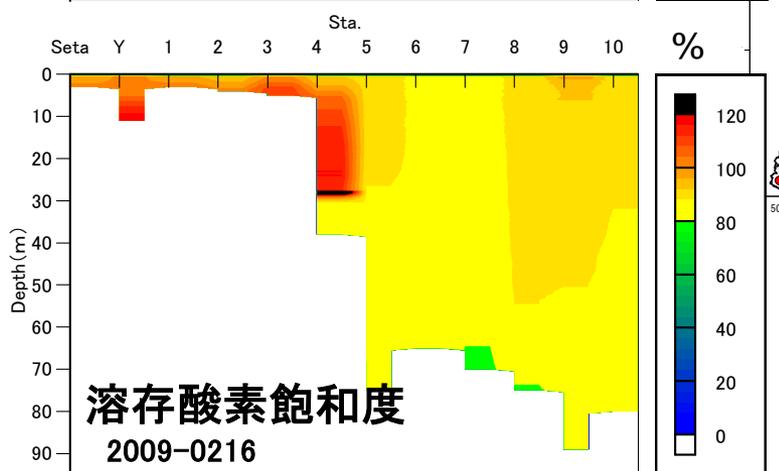
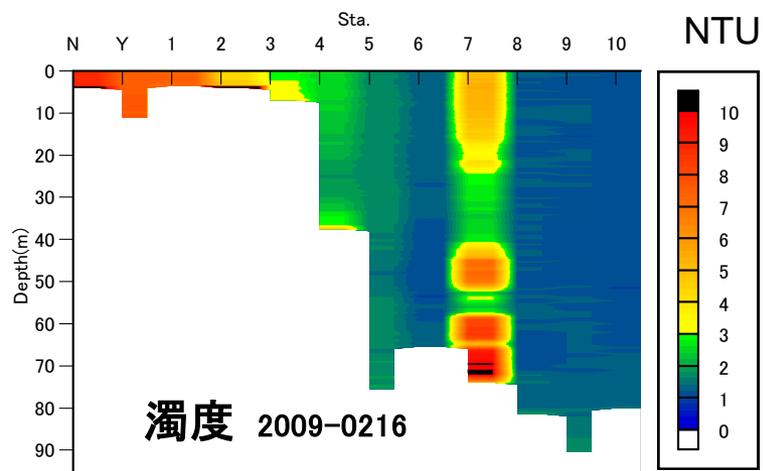
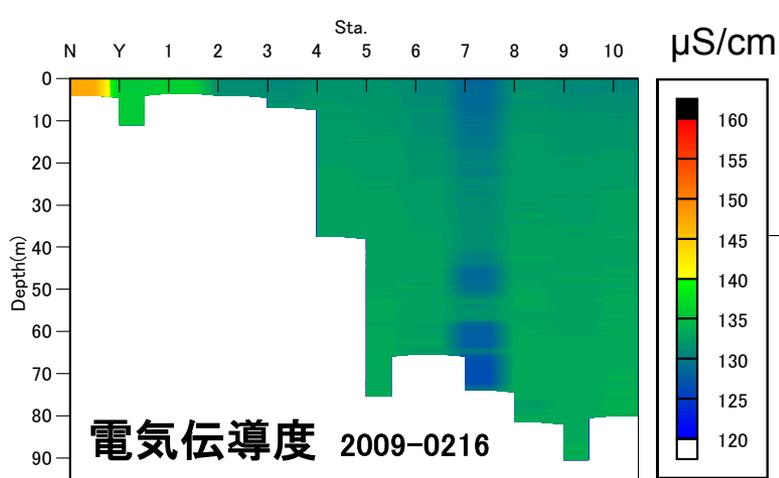
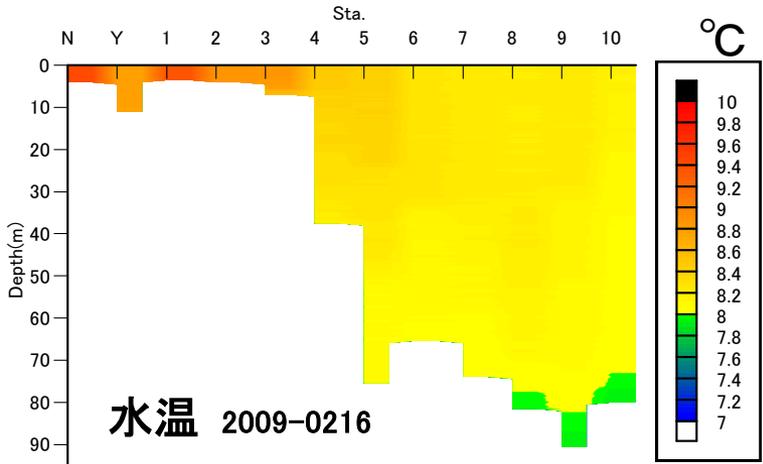
\*遠藤修一・奥野光久・田尾一樹(滋賀大・教育),  
奥村康昭(大阪電通大・工),  
藤井智康(奈良教大・教育)



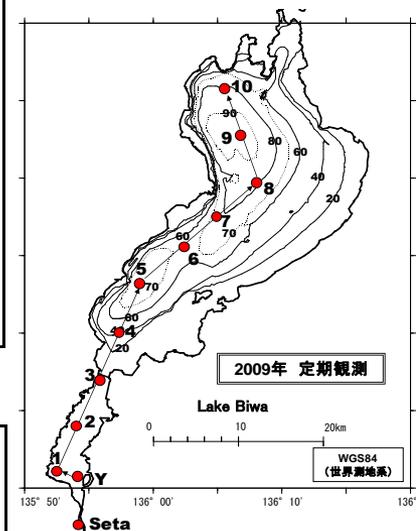
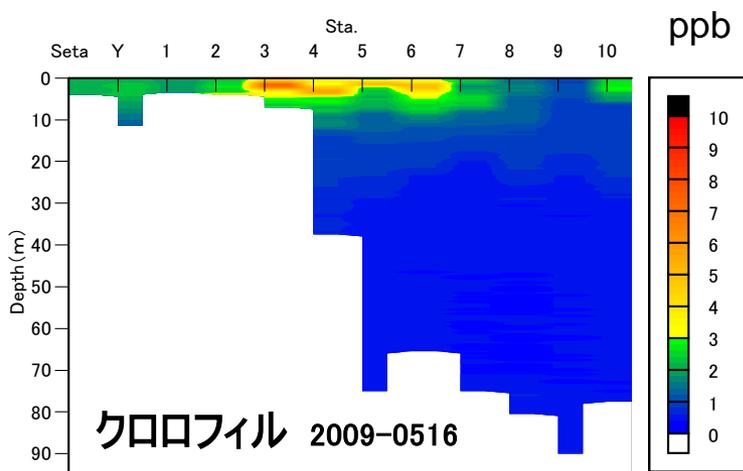
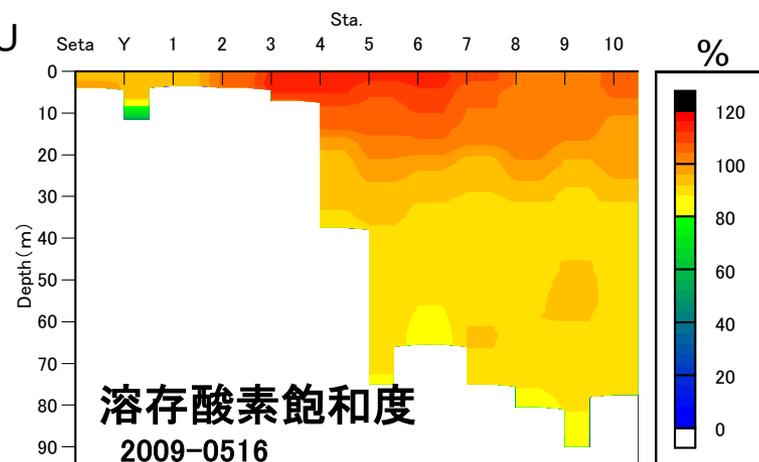
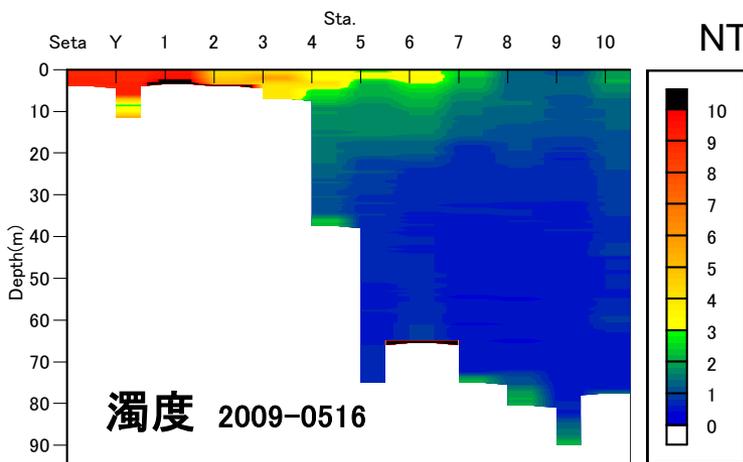
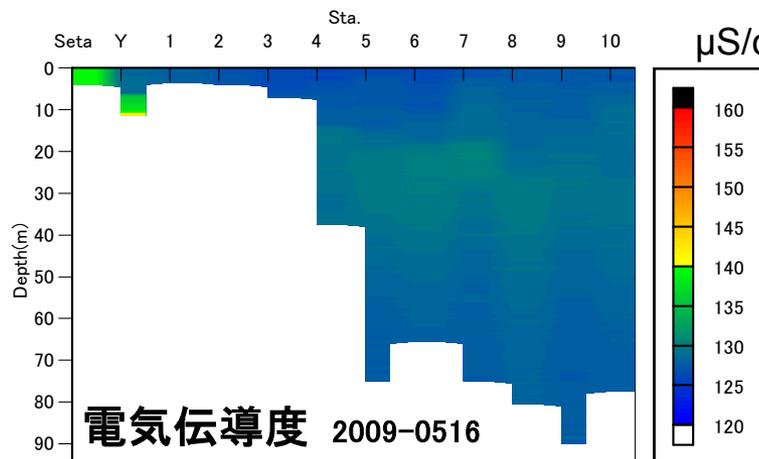
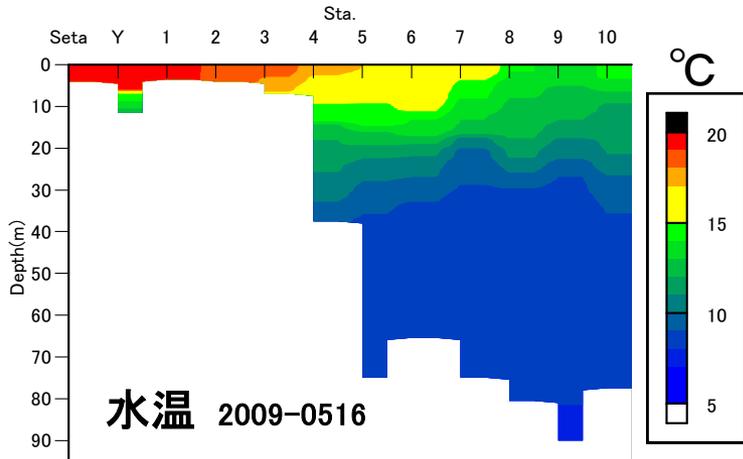


- ◆ 定期観測 (毎月1回)
- ・水温, 濁度, 電気伝導度
  - ・クロロフィル, 溶存酸素
  - ・透明度, pH
  - ・風向風速, 気圧, 気温

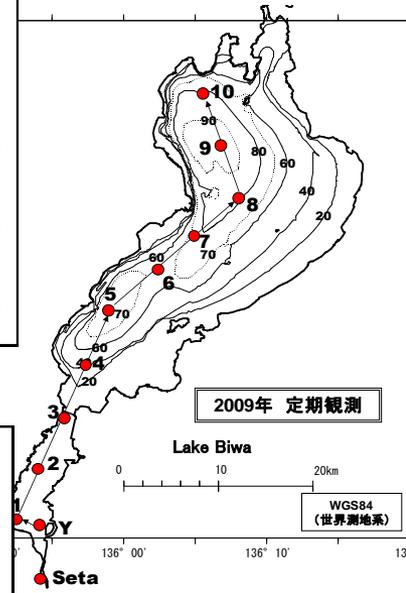
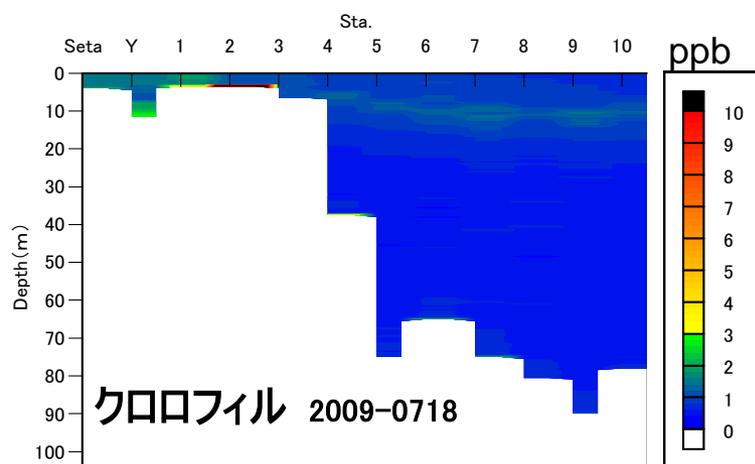
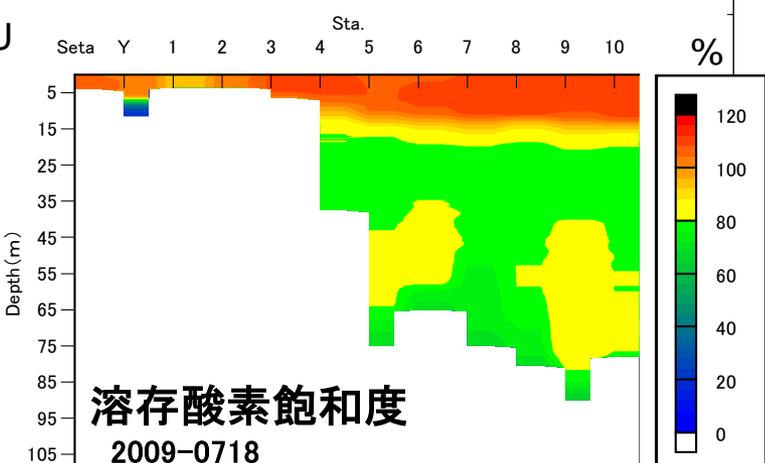
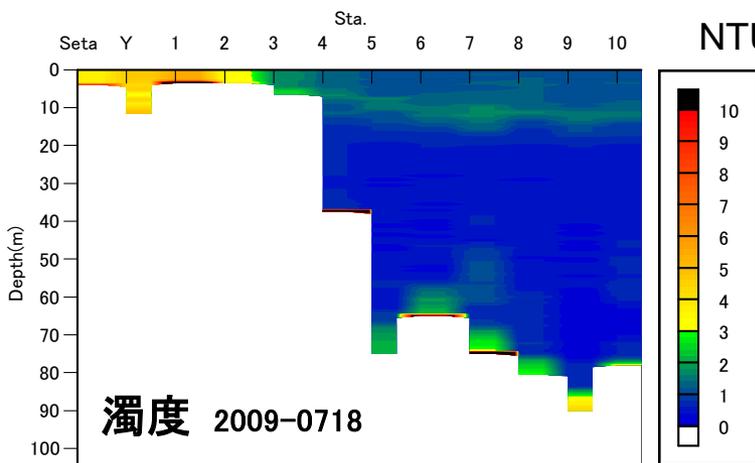
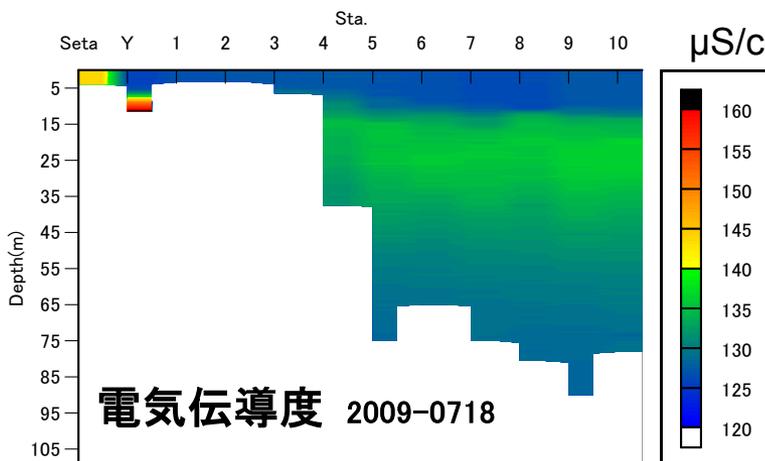
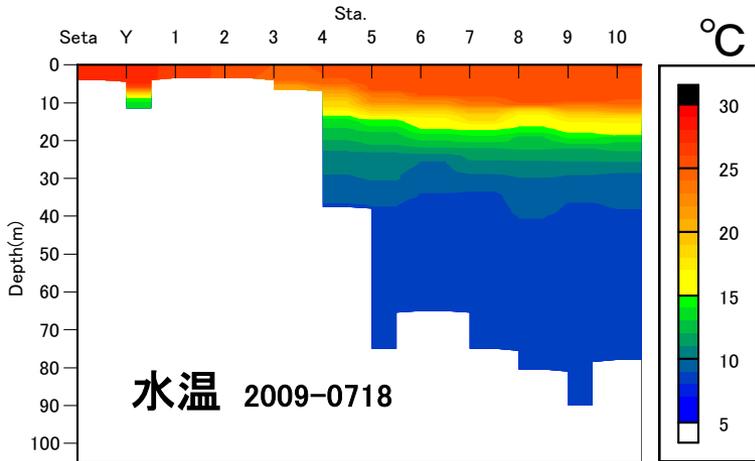




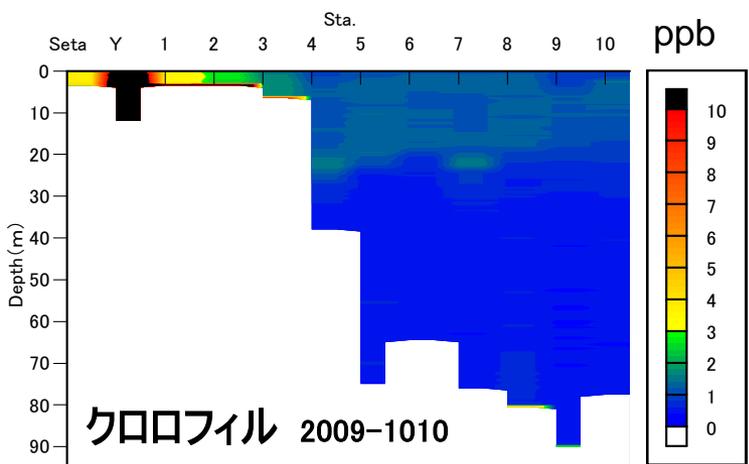
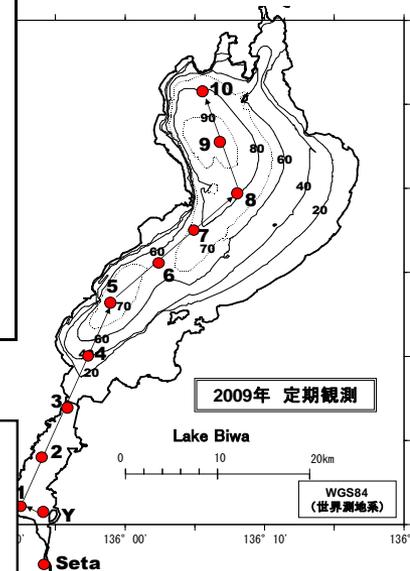
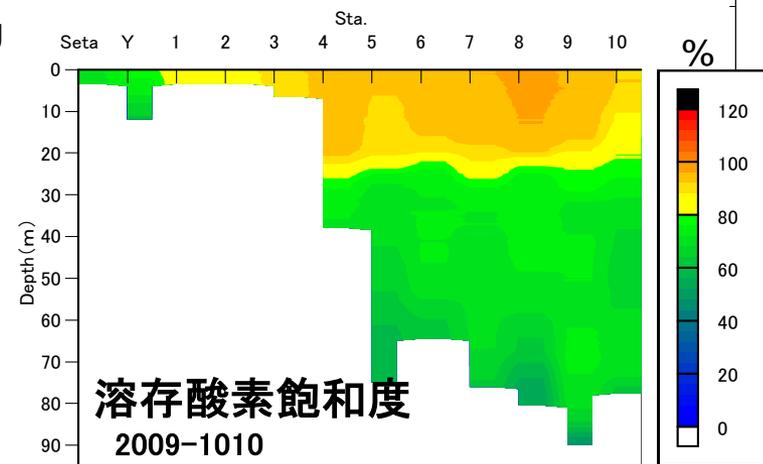
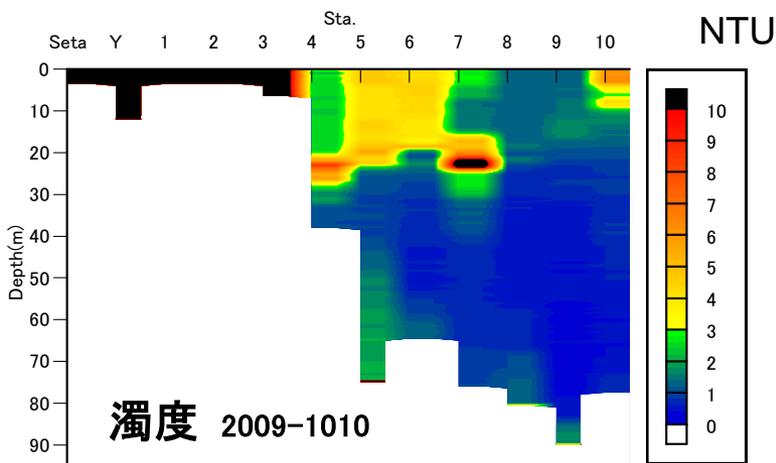
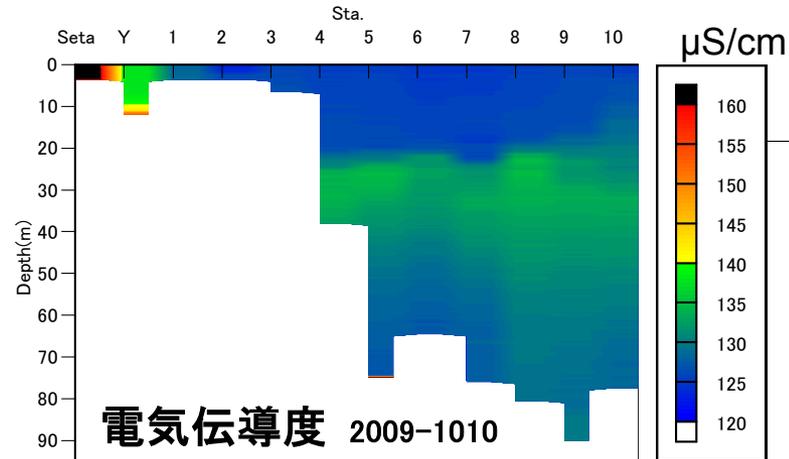
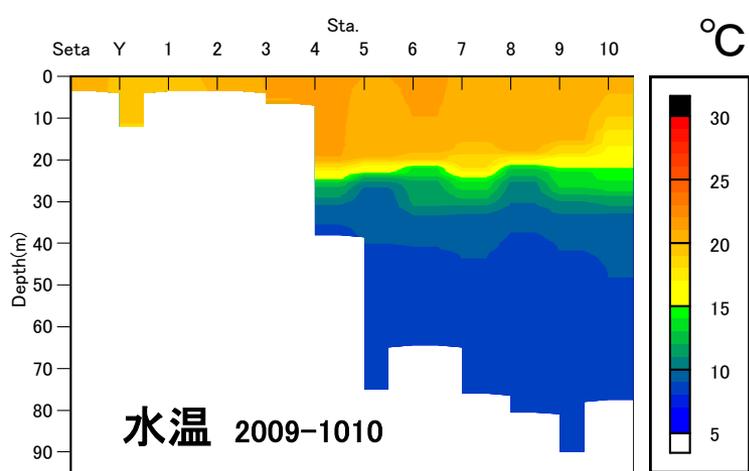
2009年2月16日



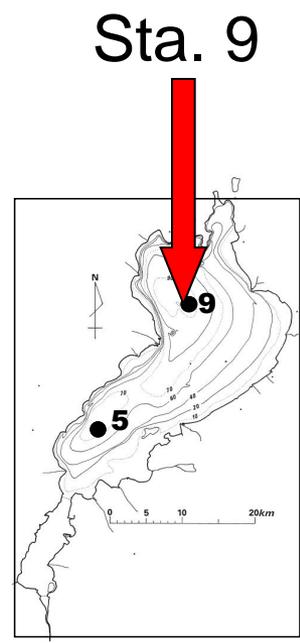
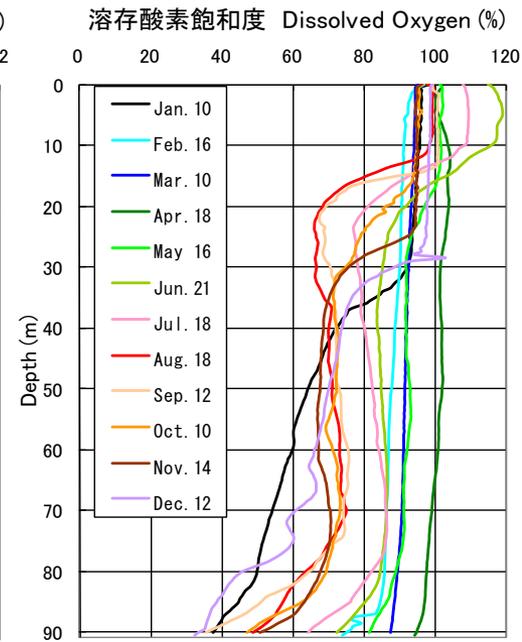
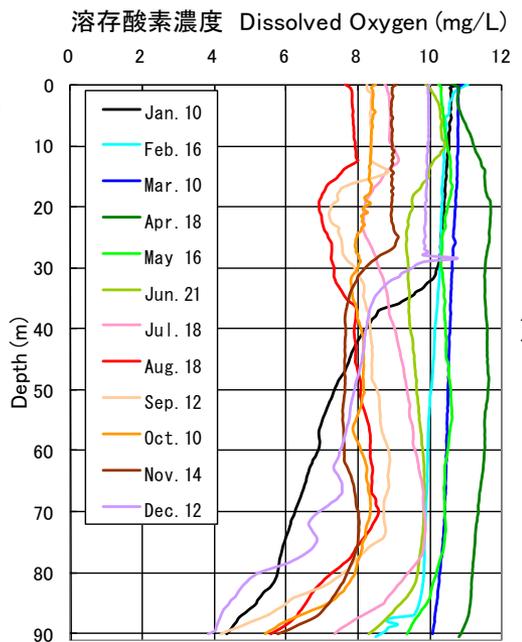
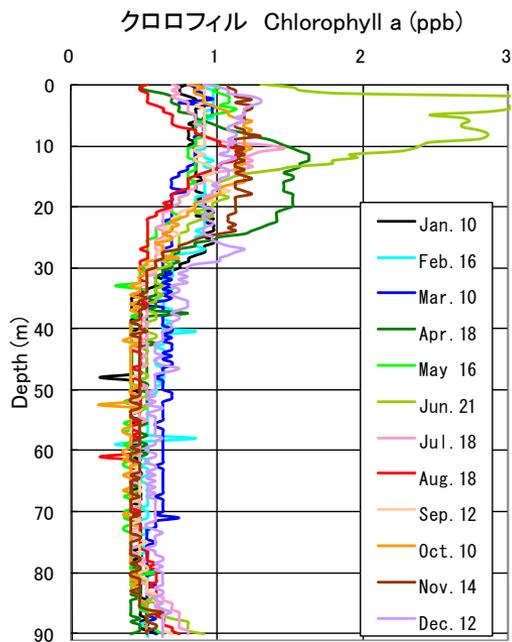
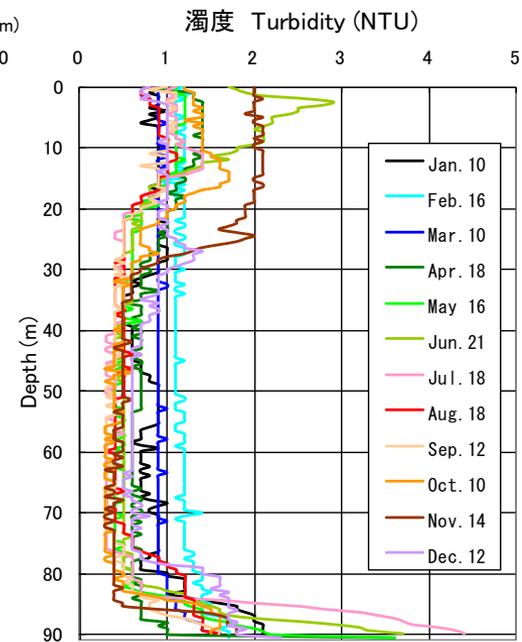
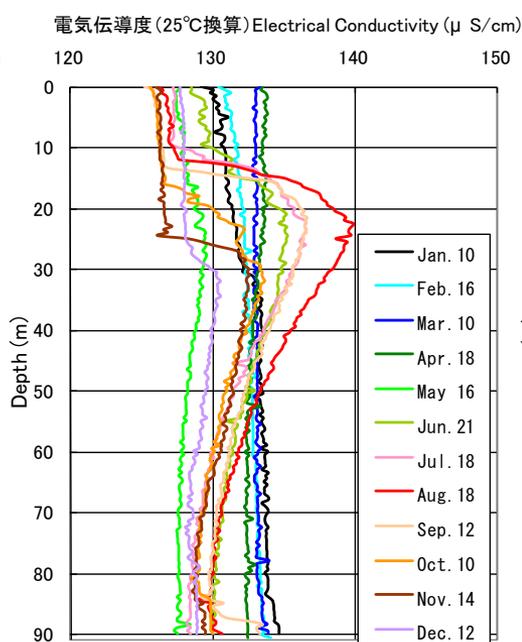
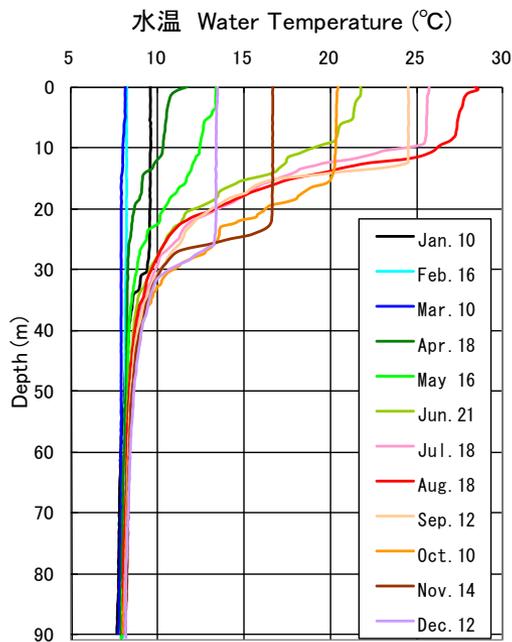
2009年5月16日



2009年7月18日



2009年10月10日

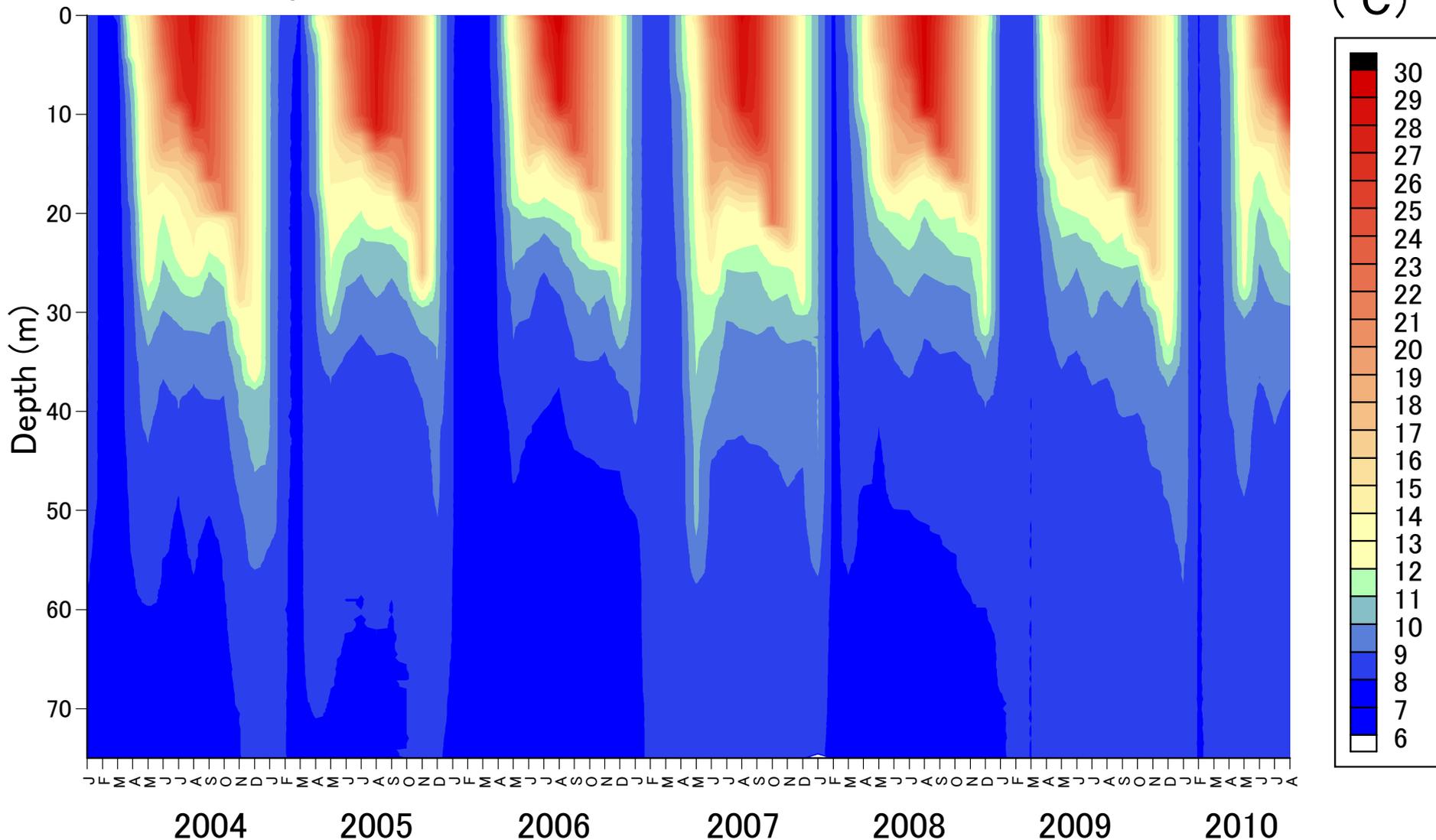


2009年のびわ湖Sta.9(新旭沖)の水質鉛直分布(滋賀大学教育学部による)



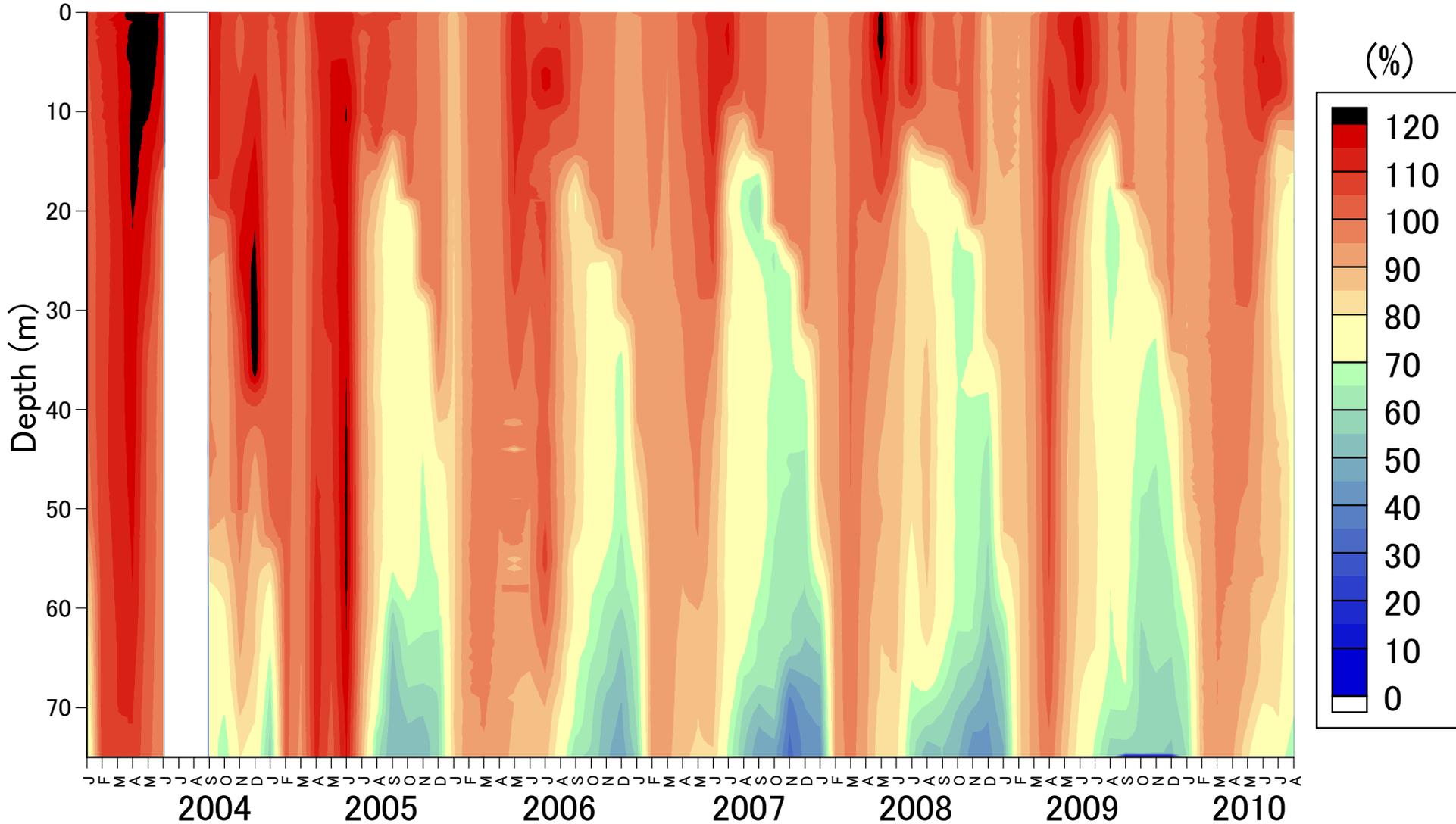
# Sta. 7 (近江舞子沖)

## Water Temperature

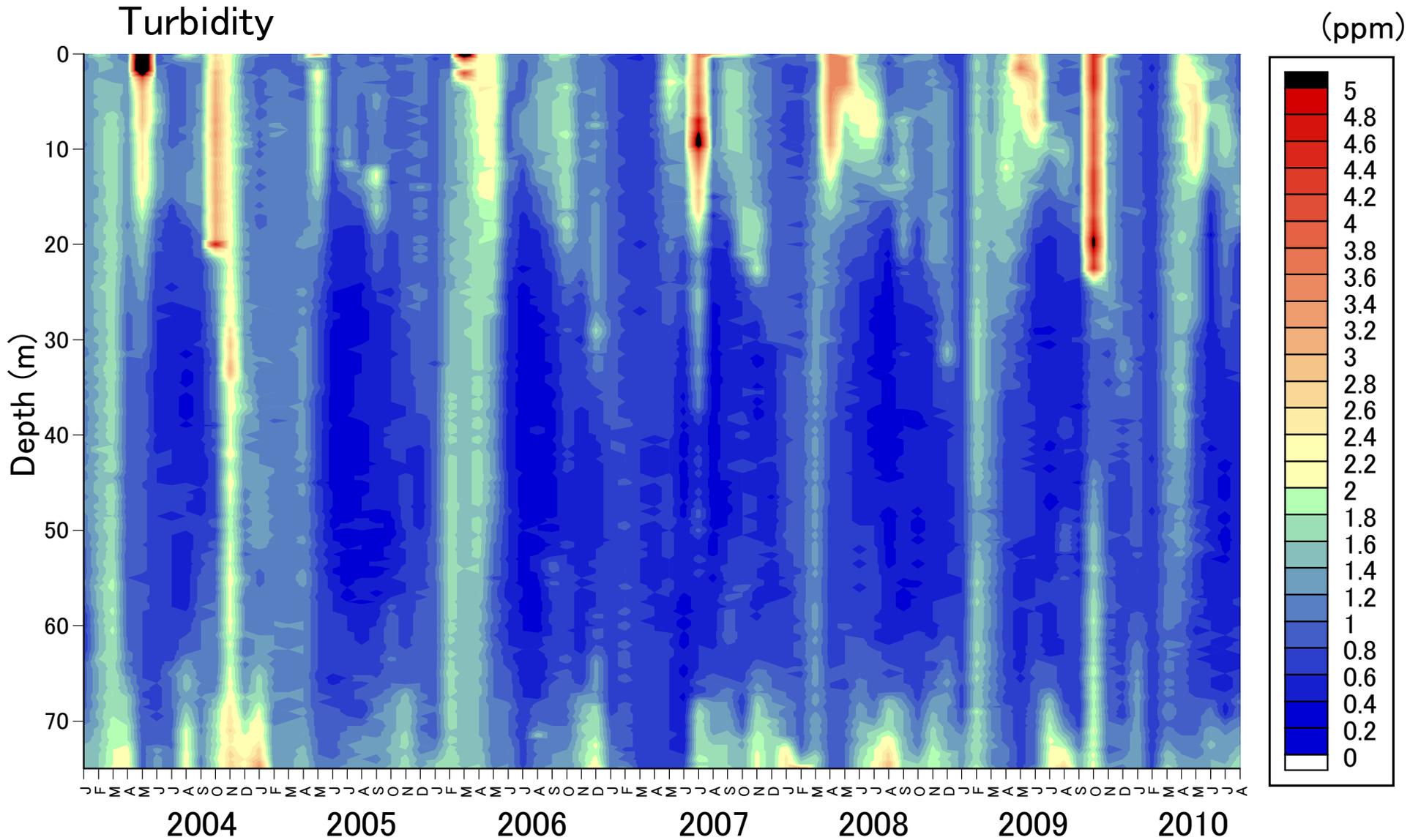


# Sta. 7 (近江舞子沖)

## Dissolved Oxygen



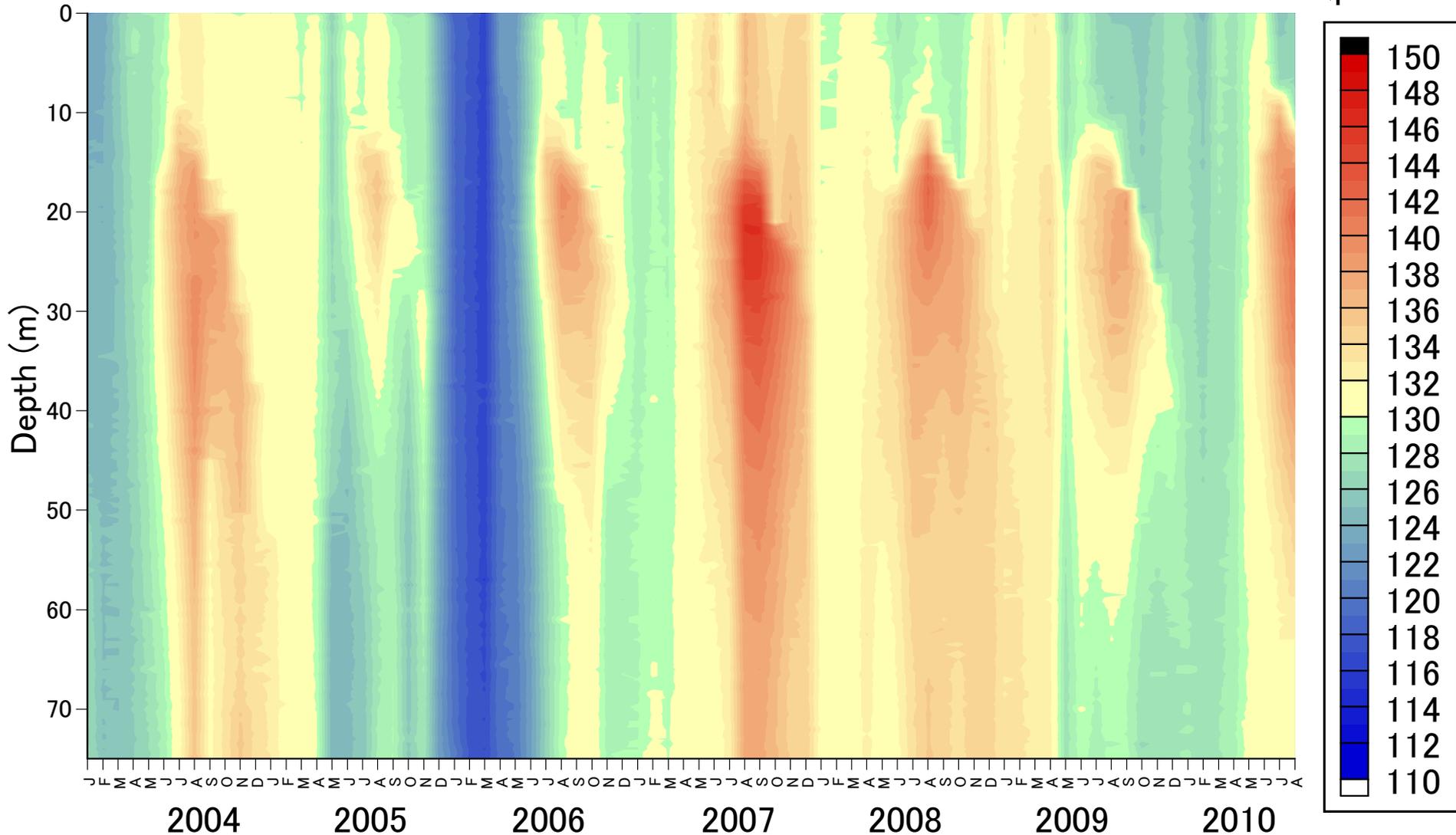
# Sta. 7 (近江舞子沖)



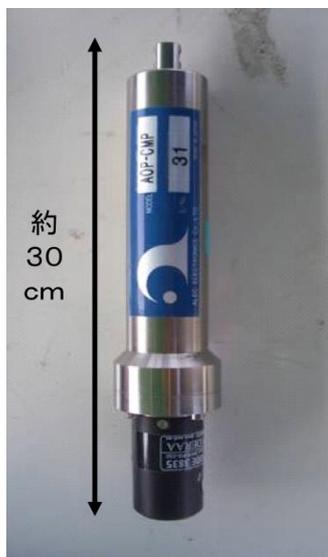
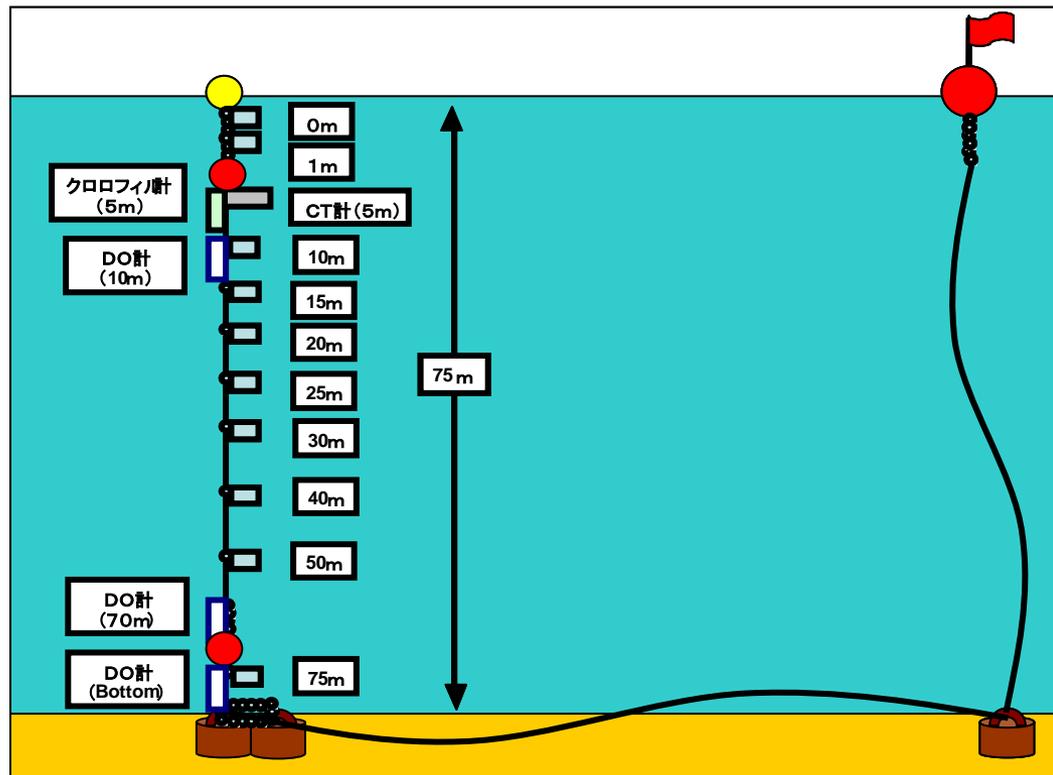
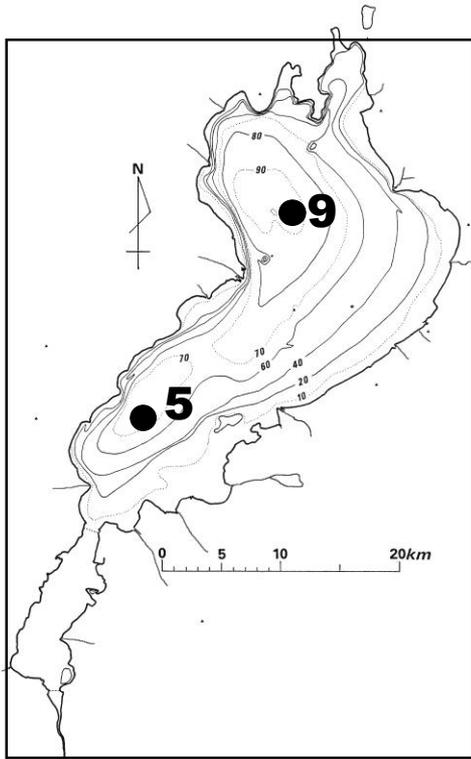
# Sta. 7 (近江舞子沖)

## Electrical Conductivity

( $\mu$  S/cm)



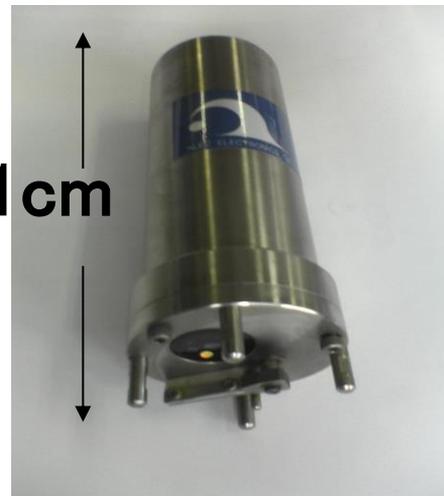




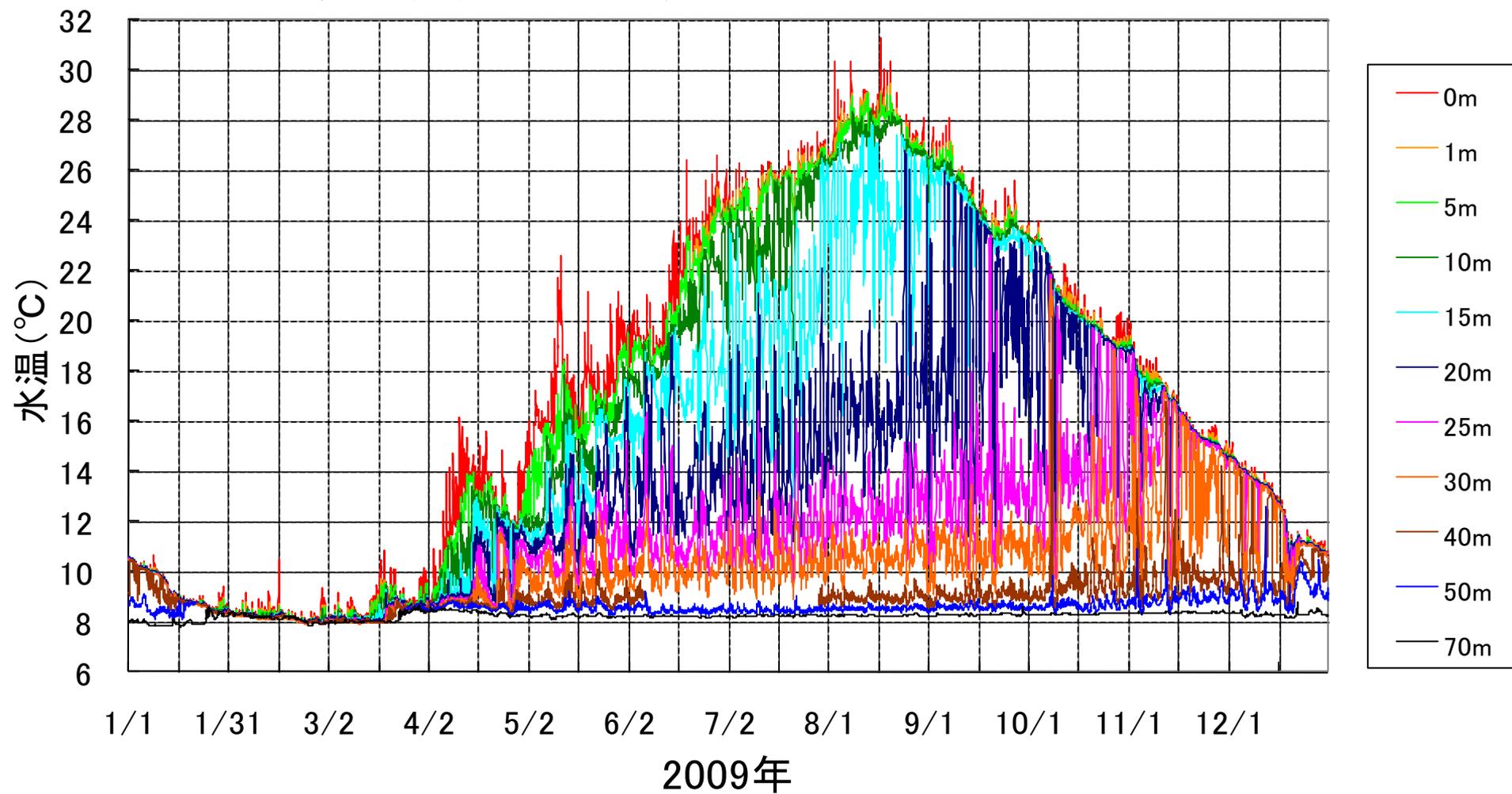
11.4cm

左から溶存酸素計,  
自記水温計,  
クロロフィル計, CT計

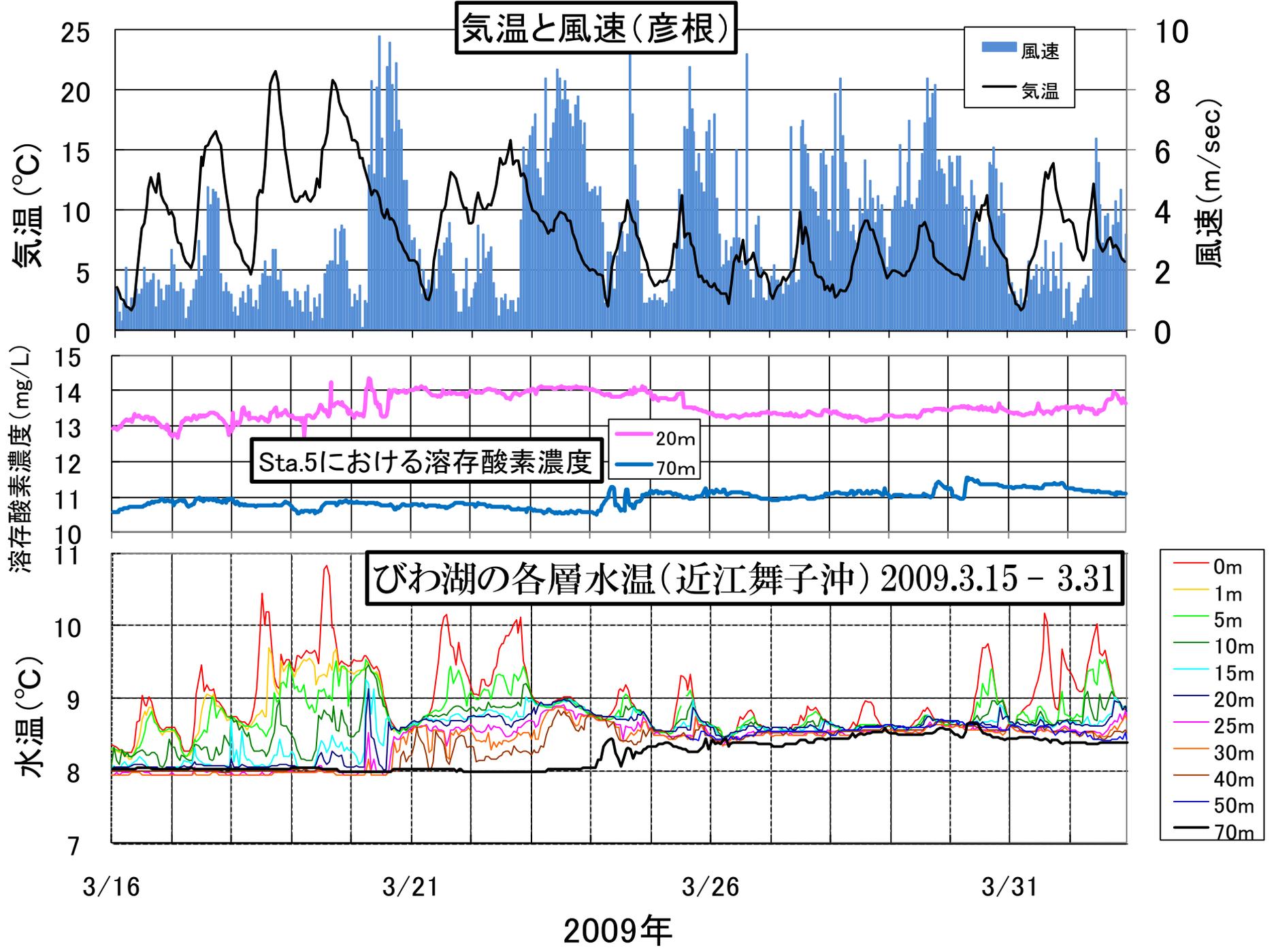
21cm



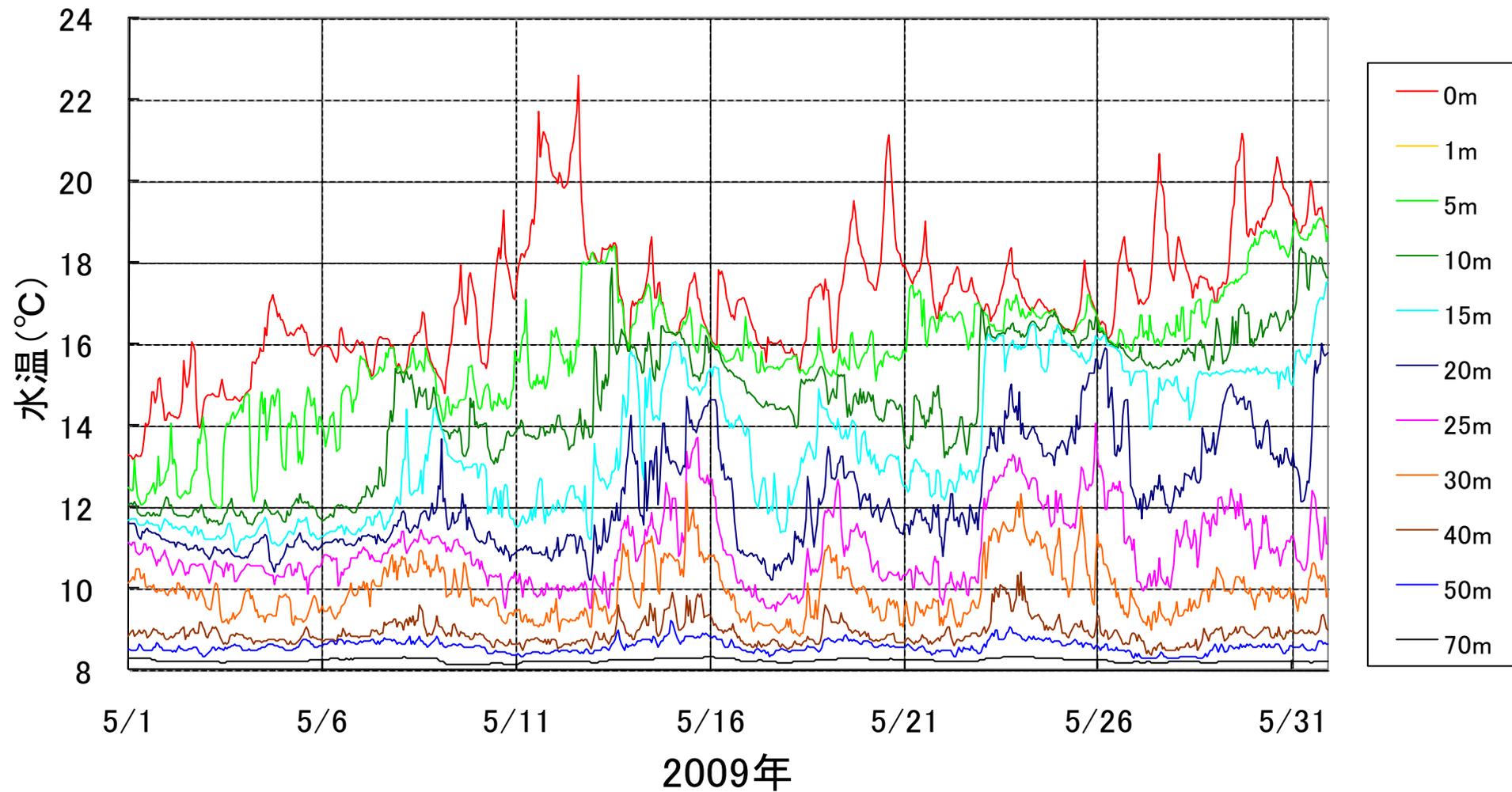
びわ湖の各層水温(近江舞子沖) 2009.1.1 - 12.31



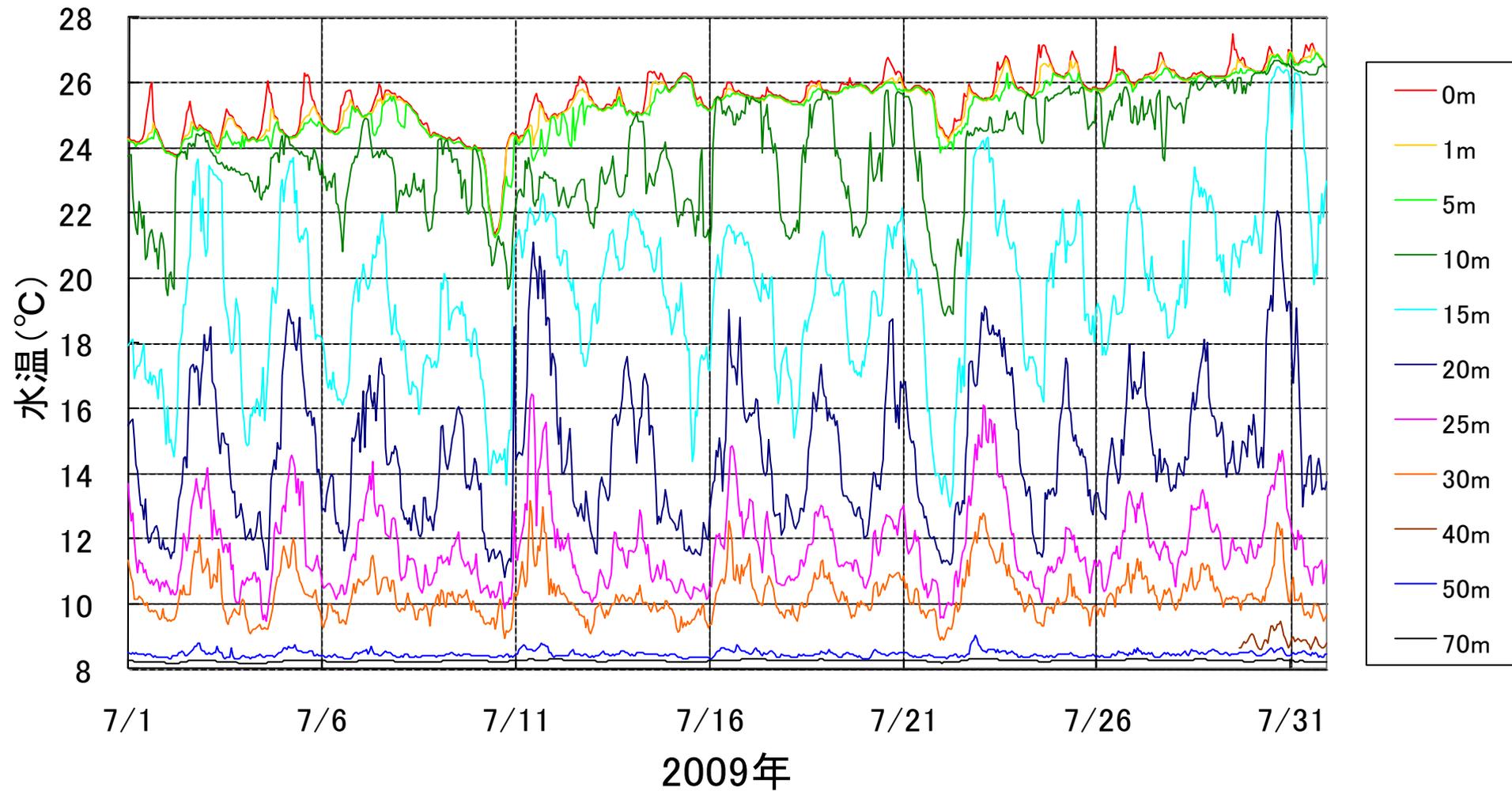




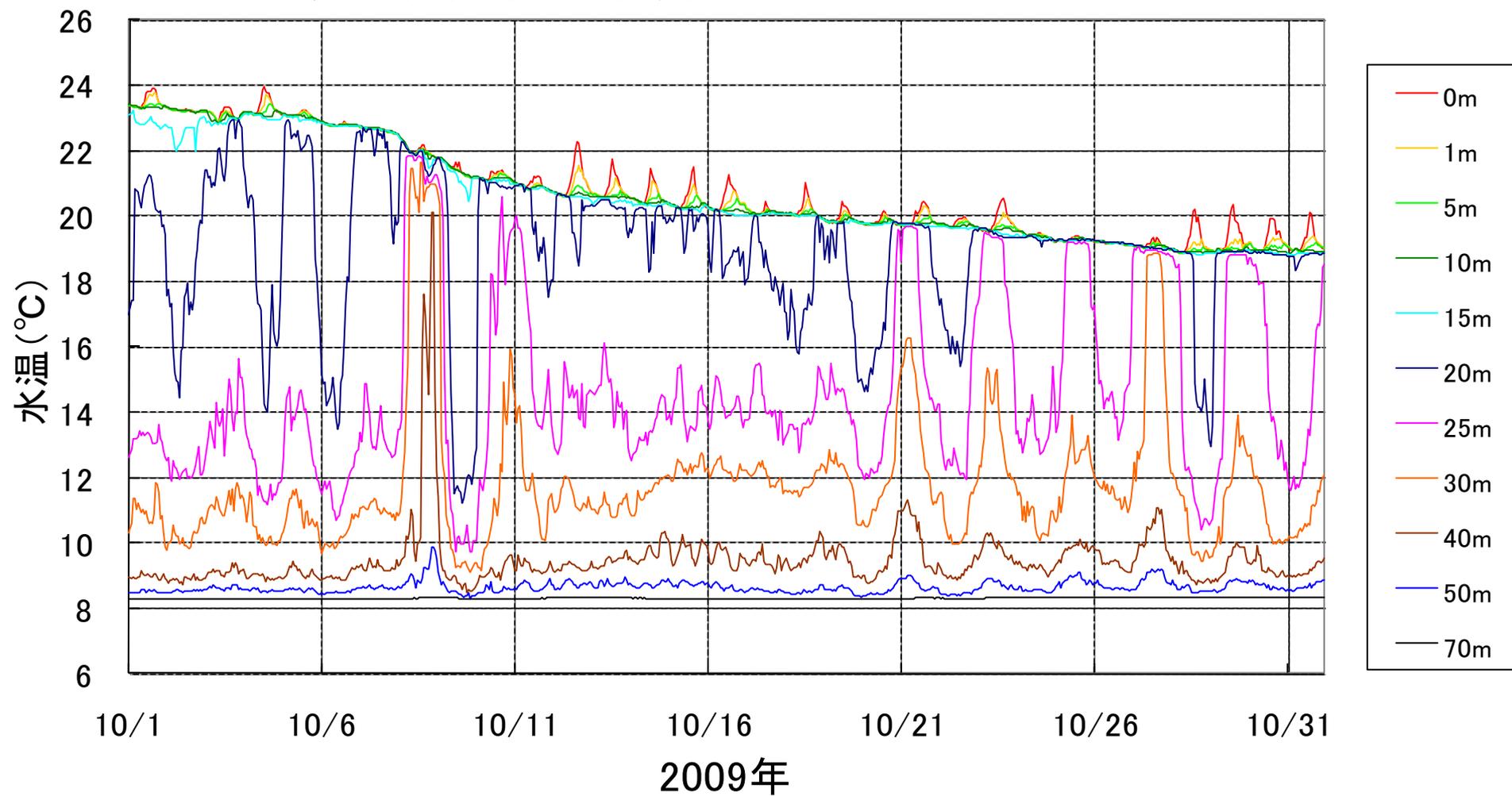
びわ湖の各層水温(近江舞子沖) 2009.5.1 - 5.31

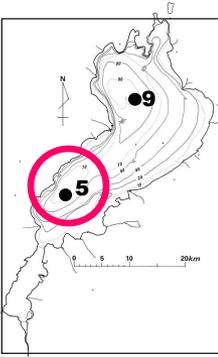


びわ湖の各層水温(近江舞子沖) 2009.7.1 - 7.31

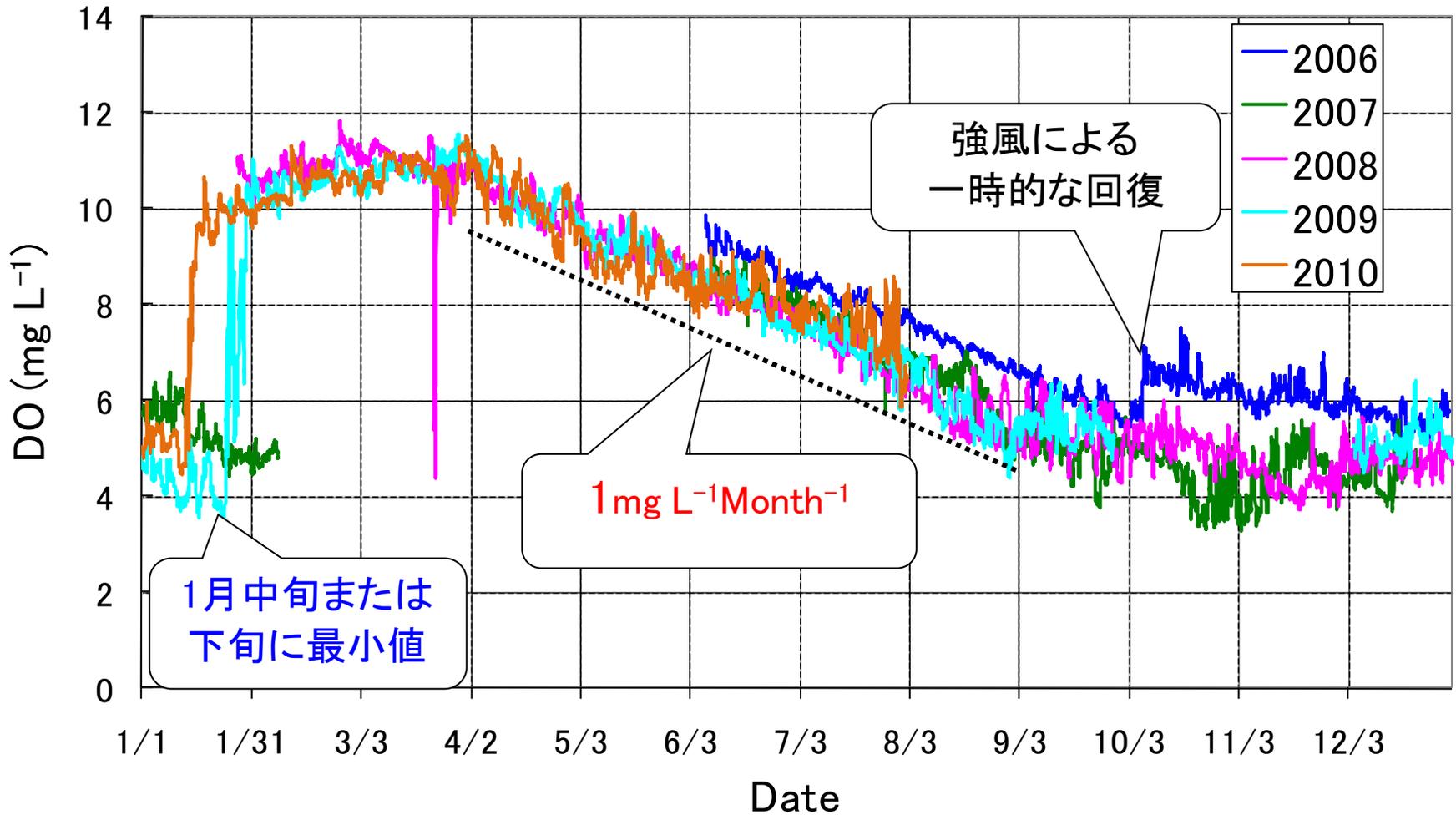


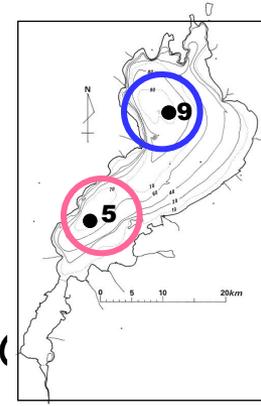
びわ湖の各層水温(近江舞子沖) 2009.10.1 - 10.31



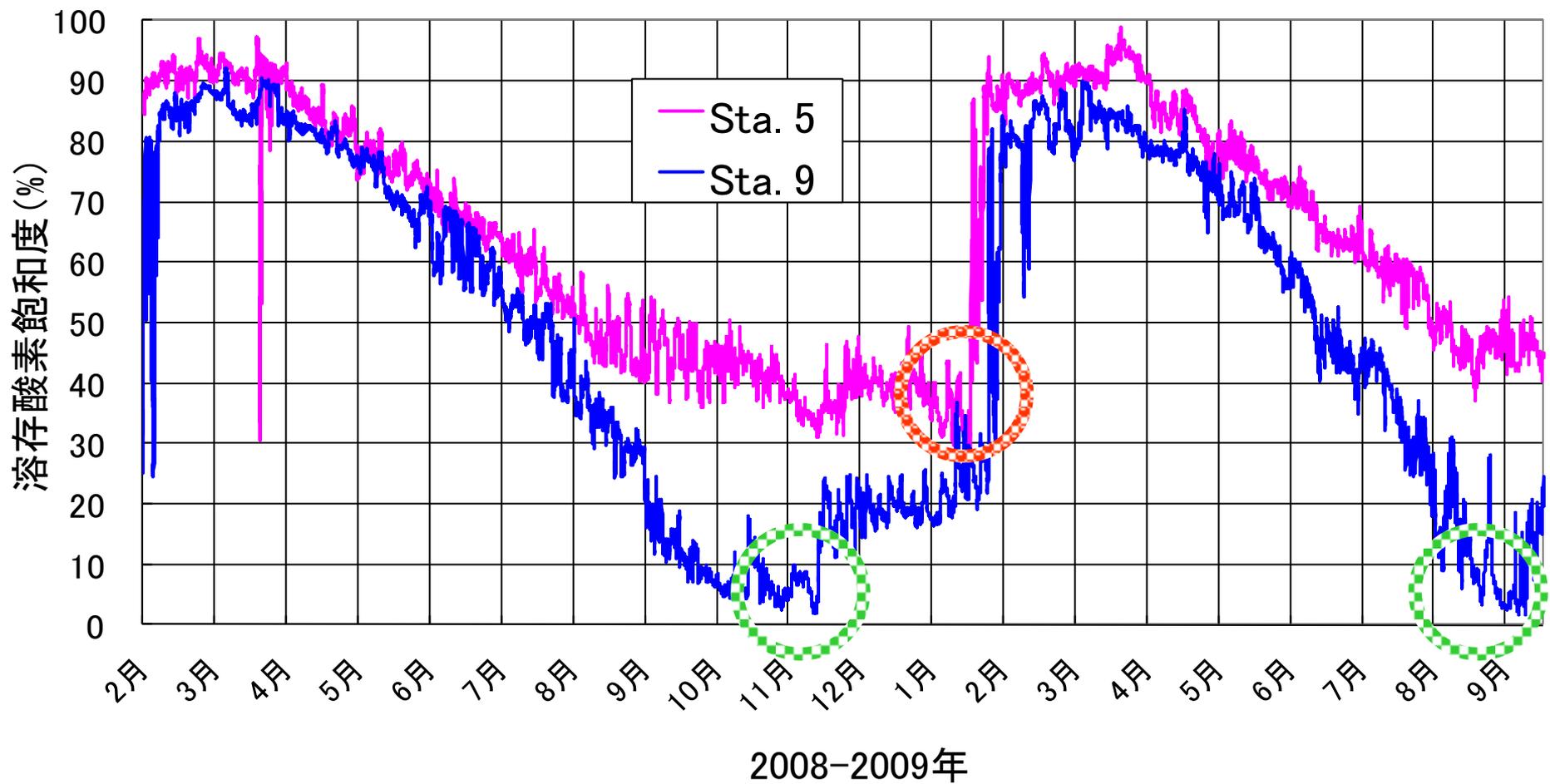


Sta.5 (近江舞子沖, 水深70m) の底層における溶存酸素濃度の変動



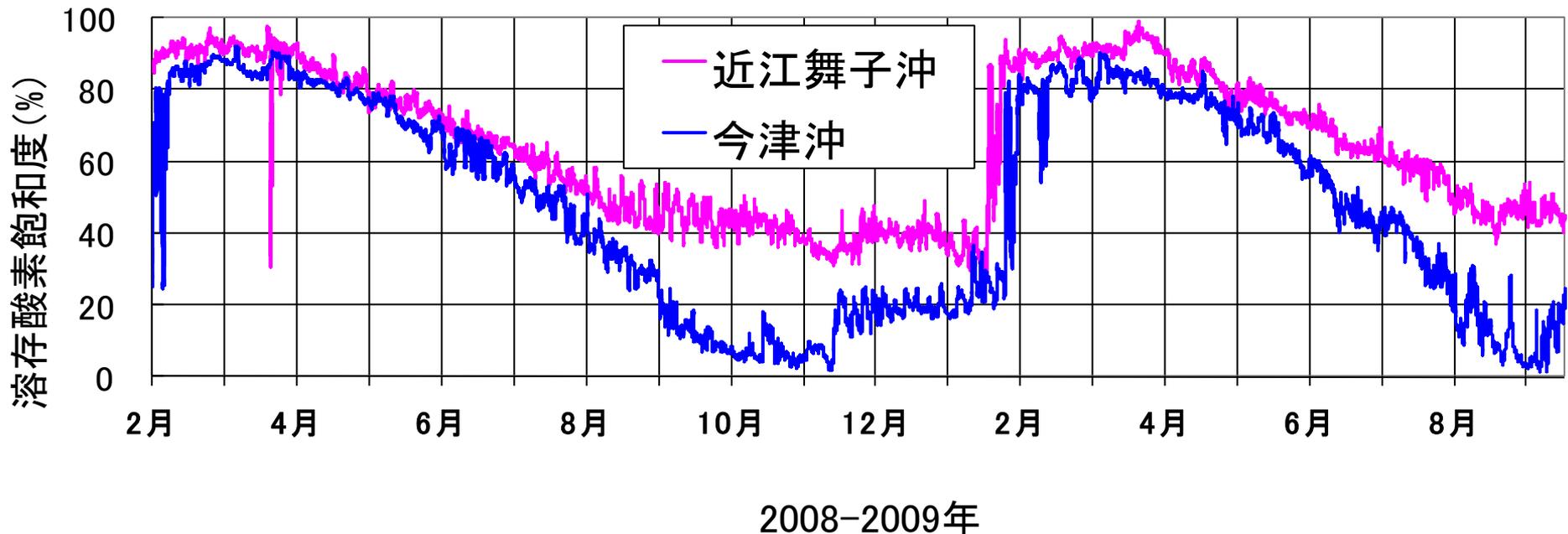


Sta7(近江舞子沖;水深70m)とSta9(今津沖;水深90m)の  
底層における溶存酸素濃度(飽和度)の変動



# 素朴な疑問

- **近江舞子沖** (水深70m)でのDOの最低値が4mg/Lであるのに、なぜ**今津沖** (水深90m)では無酸素に近い状況になるのか？
- 年間のDOの最低値は、**近江舞子沖**では全層循環の直前(1月下旬)であるのに対して、**今津沖**では9~11月であるのはなぜか？



## 今津沖では・・・

### ・高島浄化センターと東北部浄化センターの合計

流出量: 120,000m<sup>3</sup>/日 → 約4千万トン/年

T-N: 2.6 mg L<sup>-1</sup> (びわ湖北湖0.26 mg L<sup>-1</sup>)

T-P: 0.04 mg L<sup>-1</sup> (びわ湖北湖0.007 mg L<sup>-1</sup>)

COD: 4.9 mg L<sup>-1</sup> (びわ湖北湖2.8 mg L<sup>-1</sup>)

(滋賀県下水道公社による)

### ・カワウの糞(5万羽; 2008年9月)

糞量は採食量の約38% → 乾燥重量30~50g/羽/日

T-N: 約0.5 ton/day

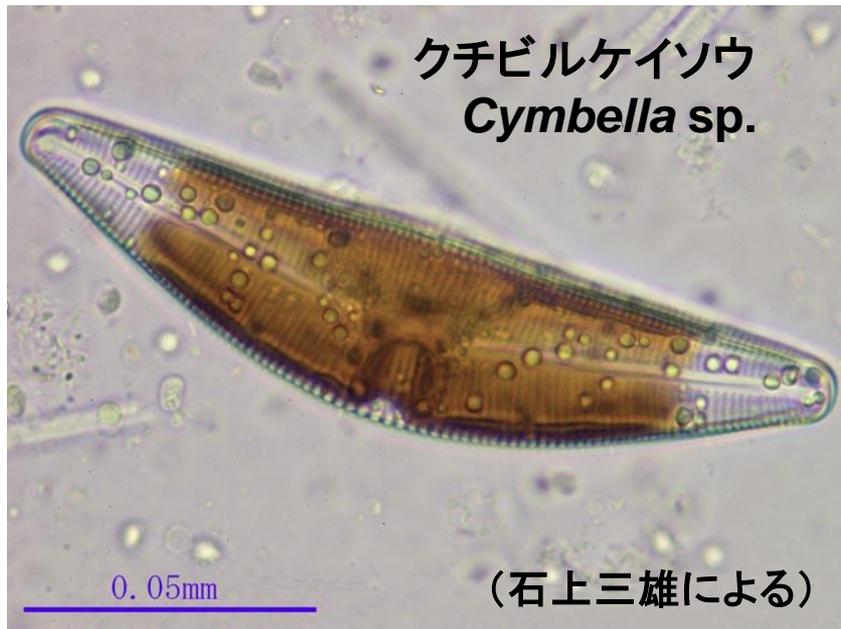
T-P: 約0.3 ton/day (N/P比は1~2)

(亀田2001ほかによる)

栄養塩は、もともと湖にあったかもしれないが、有機物としてのカワウの糞が今津沖の水域に集中的に供給されることが、湖底の低酸素化の一因ではないだろうか？



クチビルケイソウ  
*Cymbella* sp.



(石上三雄による)

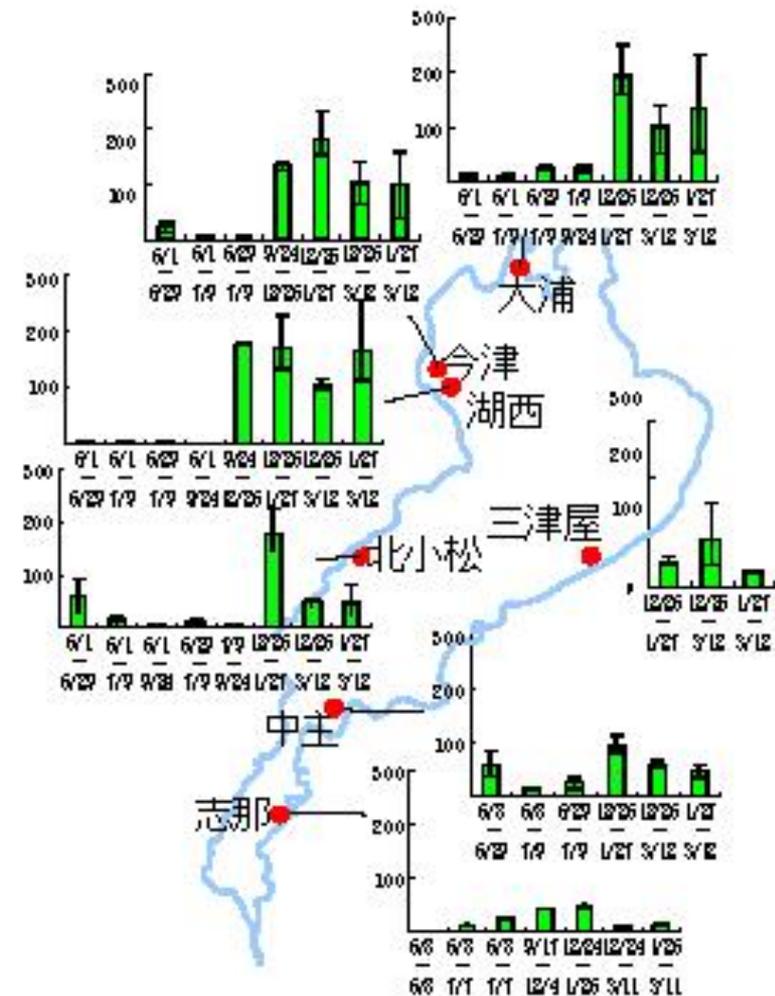


図2 水深 0.5m に設置したエリ網地  
への藻類付着量の変化 H21~H22

単位：クロロフィルa  $\mu\text{g}/\text{g}$  網地/日  
項目軸は設置期間を表示

(滋賀県水産試験場による)