

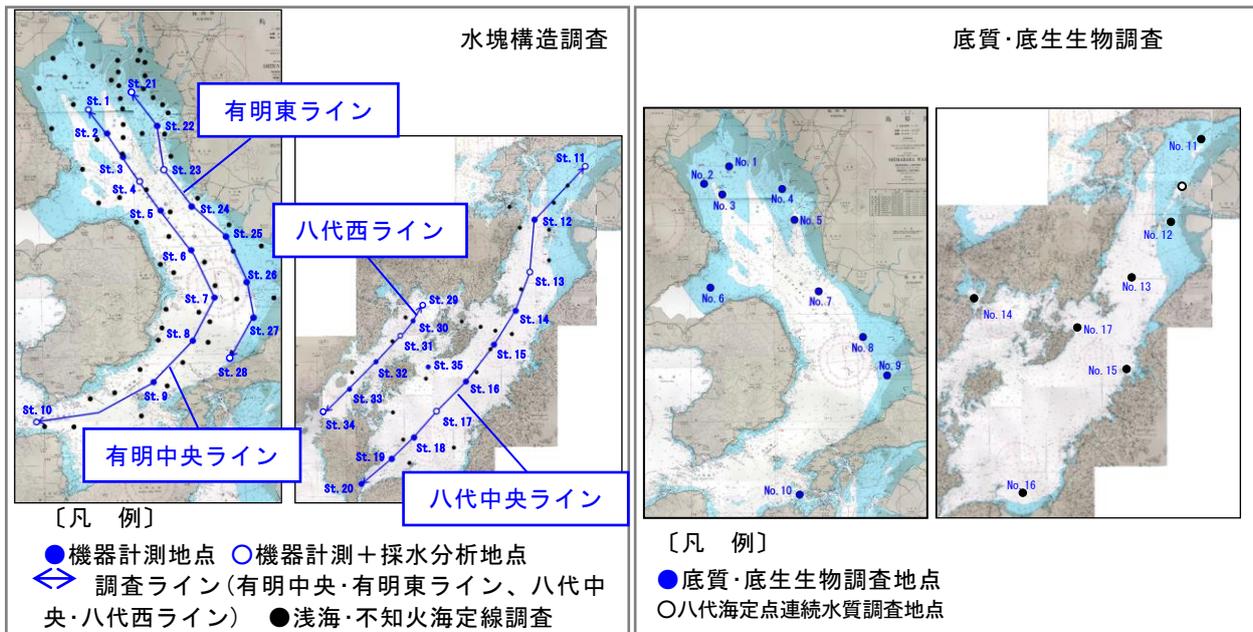
# 令和元年度 定期環境調査結果の概要

## 1. 調査概要

令和元年度に実施した定期環境調査の概要を表1に、調査地点を図1に示す。

表1 令和元年度定期環境調査の概要

調査名	各調査の目的・概要	調査内容	時期
全 体	有明海・八代海における再生技術の実施に向けて、環境特性を把握すること及び環境の長期的な変動を整理することを目的とする。		
水塊構造調査	水温・塩分等の水質の鉛直断面特性から水塊構造の季節変化、経年変化を把握する。また、貧酸素水塊や赤潮の発生と水塊構造の関係を把握する。	<機器計測>多項目水質計 <採水分析>12点各3層で実施(動植物プランクトンは9地点のみで実施。また、動物プランクトンは1箇所につき1回の鉛直曳き) ※調査項目の詳細は、2.2.1水塊構造調査(p.8)に記載	原則として月2回(大潮期、小潮期) ※調査日は、3.2(p.30)の(1)に記載
底質・底生生物調査	底質・底生生物の分布及び経年変化を把握するために更なるデータを蓄積する。また、得られたデータから底質の変化と底生生物の増減との関係について把握する。	<機器計測>多項目水質計 <底質>底質分析 <底生生物>マクロベントス ※調査項目の詳細は、2.2.2底質・底生生物調査(p.11)に記載	年1回(春季) ※調査日は、3.2(p.30)の(2)に記載
水質調査 八代海 連続調査	水質の時間的変動を把握し、貧酸素水塊の発生の有無等について把握する。	<機器計測> 超音波式多層流速計、 多項目水質計 ※調査項目の詳細は、2.2.3八代海 定点連続水質調査(p.11)に記載	年1回(秋季)



※各調査の調査地点位置は、2.2 調査概要の図 2.1(p.9)～図 2.3(p.13)を参照

図1 定期環境調査の調査地点

## 2. 主な調査結果

### 【水塊構造調査結果】

- 本年度は、7月の調査日前にまとまった降雨が観測され、筑後川では7/21に1,712m<sup>3</sup>/s、球磨川では7/18に2,144 m<sup>3</sup>/sの流量が観測された。また、8月26-29日には九州北部を中心とした記録的な大雨が観測され、筑後川では8/28に3,210m<sup>3</sup>/sの流量が観測された(p.18参照)。
- 有明海、八代海ともに、7月後半から8月の調査では、湾奥から湾央の広い範囲で上層が高水温、低塩分となる成層構造が確認され、これらの傾向は過年度と同様であった。
- 有明海のクロロフィル a は、7~8月において、湾奥から湾央の表層付近にやや高い値が確認された。八代海においても同時期に八代中央ラインの湾奥を中心として高い値が認められた。これらの地点においては酸素飽和度も高い傾向にあった。両海域ともにプランクトン調査では珪藻類スケルトネマ属やタラシオシーラ属の優占が確認できた。
- 溶存酸素量(DO)については、8月大潮期調査(8/1、2)の有明海中央ラインの湾奥(St.1-2)や八代海中央ラインの湾奥(St.11)下層において、3mg/Lを下回る貧酸素の状態が認められた。また、同時期に有明海東ラインの湾奥(St.21-23)の下層においても4.0mg/Lを下回る低い値が認められた。なお、国立研究開発法人水産研究・教育機構 水産技術研究所有明海八代海グループが実施している底層溶存酸素濃度の観測でも、有明海奥部西側において7月下旬から8月上旬に貧酸素状態が確認された。なお、8月末の九州北部の大雨後において、水塊構造調査は実施していないものの、同観測結果においては、湾奥を中心に貧酸素状態が確認された。
- 有明海、八代海ともに、夏季を中心に水温の上昇、河川流量の増加等により成層度が高くなり、下層のDOの低下が認められた。これらの傾向は概ね過年度と同様であった。

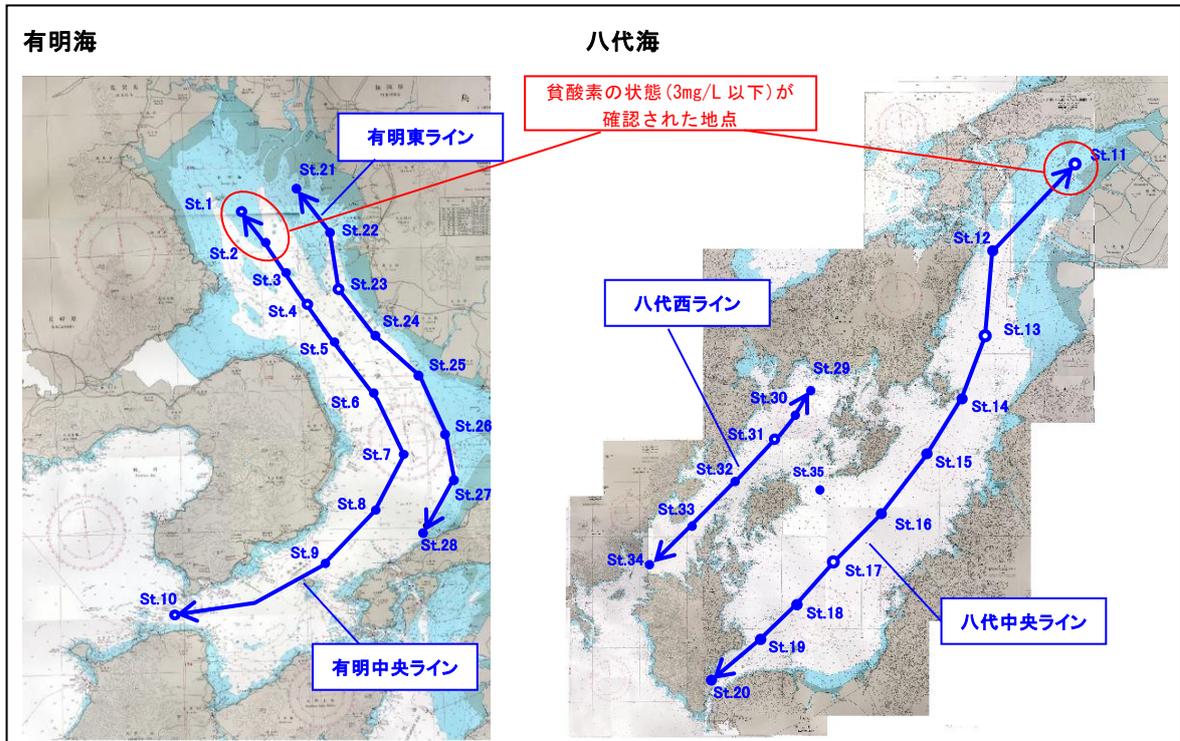
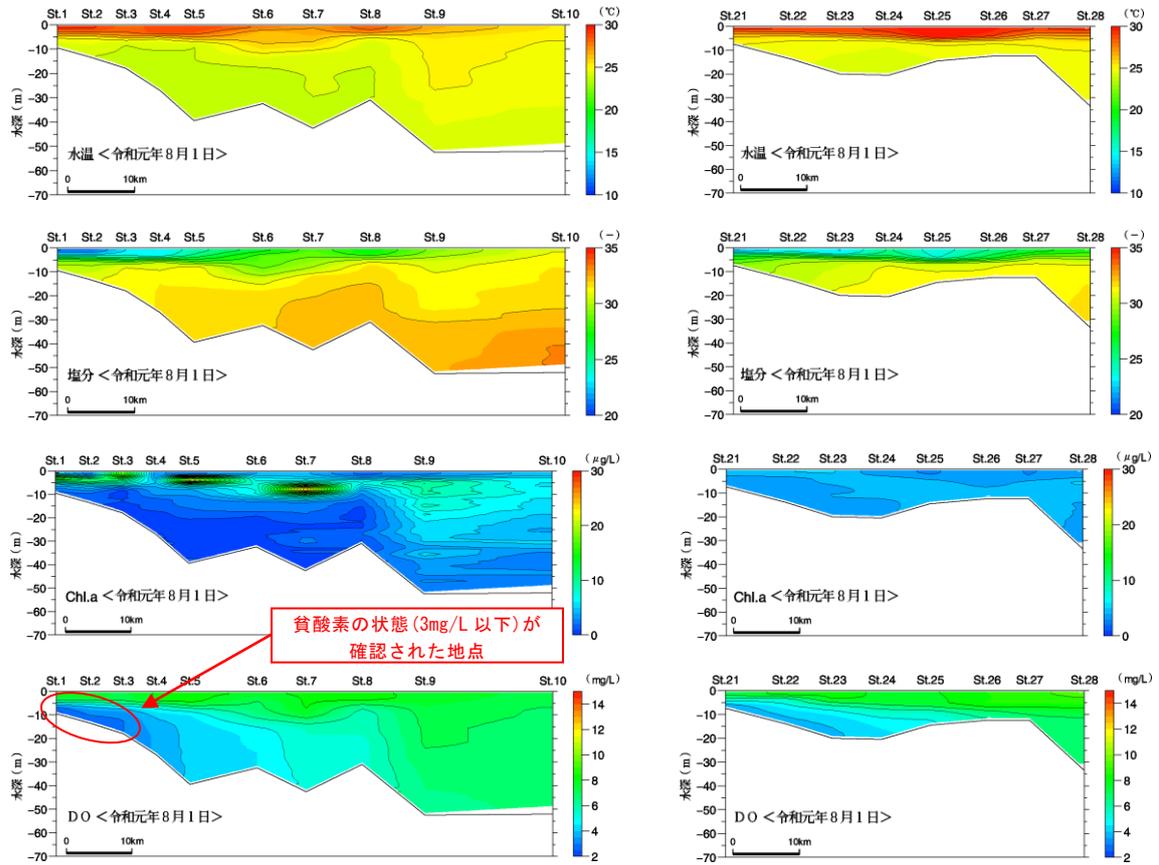


図2 下層において貧酸素の状態(3mg/L以下)が観測された地点(8月1日、2日)

《有明海》 左図：有明中央ライン、右図：有明東ライン



《八代海》 左図：八代西ライン、右図：八代中央ライン

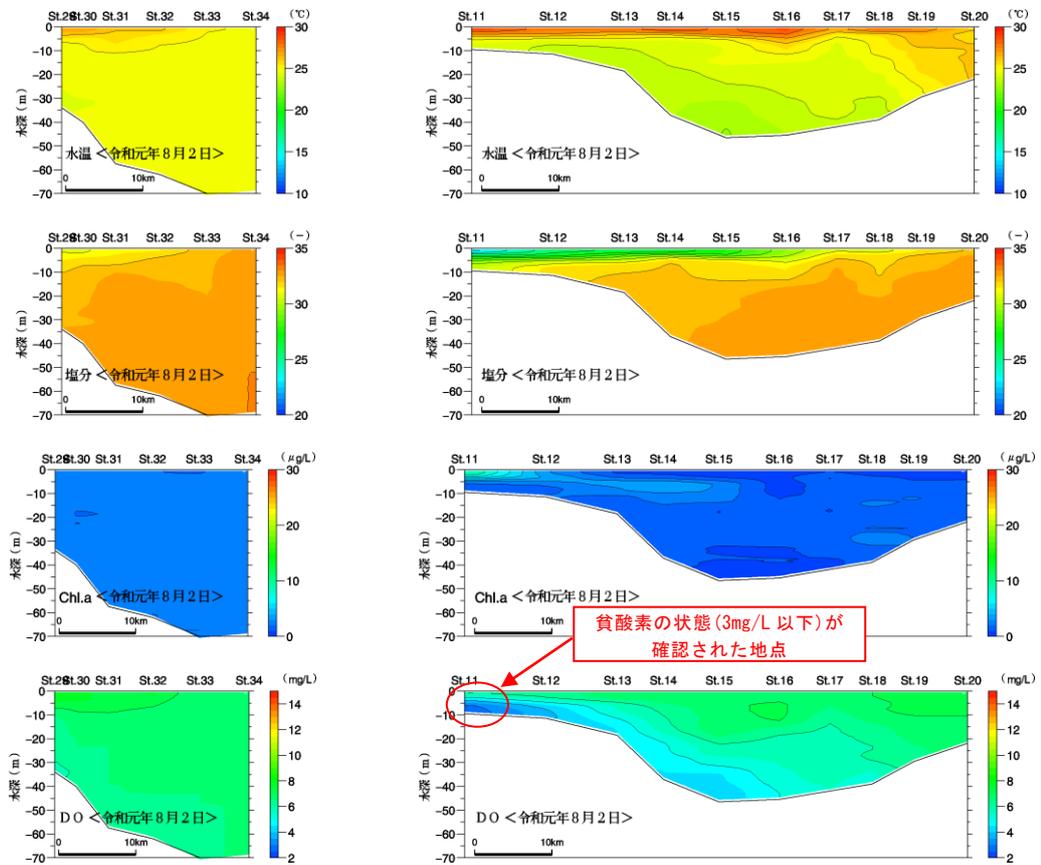
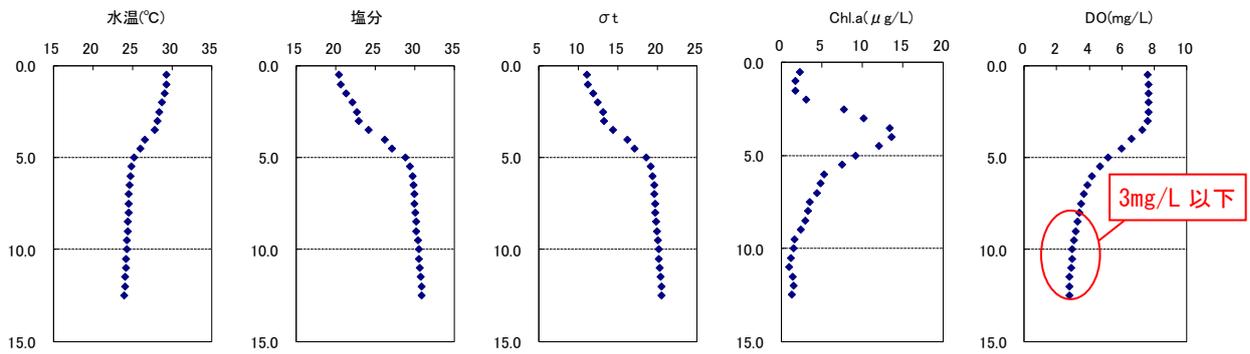


図3 8月大潮期の水塊構造 (8月1日、2日)

St. 2



St. 11

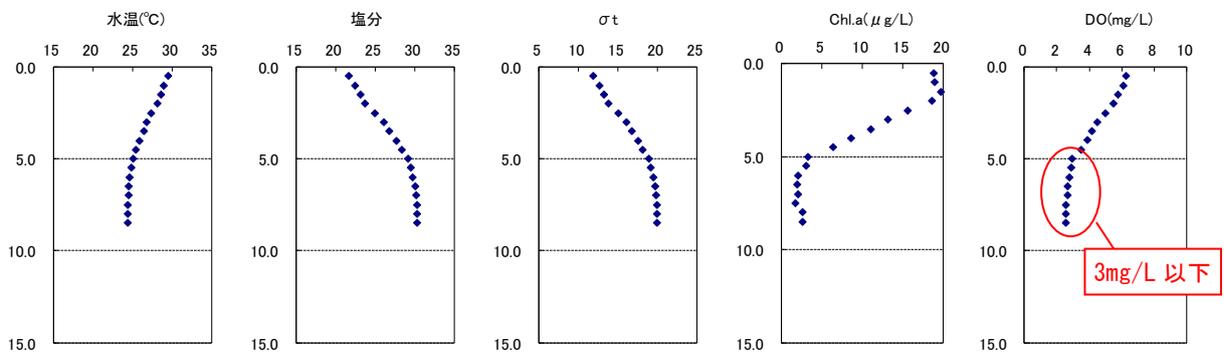


図4 主な地点における8月大潮期の水塊構造（令和元年8月1・2日）

- 植物プランクトンは、両海域ともに、おおよそ湾奥部で細胞数が多い傾向がみられた。分類群別には珪藻類が優占したものの、有明海では6月、八代海では7月及び8月にクリプト藻網が増加する地点もみられた。主な優占種は、有明海では7~10月、1~2月に珪藻網のスケレトネマ属が多く、11月には珪藻網キートケロス デビリスも多く見られた。八代海では、5~10月は概ね珪藻網のスケレトネマ属、タラシオシーラ属、ニッチア属が多く、このうち7~8月はクリプト藻網も多かった。
- 動物プランクトンは、有明海での種類数は湾奥で少なく、湾口部で多い傾向にあり、個体数は概ね湾奥部で多く、湾口部で少ない傾向であった。八代海では、個体数、種類数ともに顕著な分布の傾向はみられなかった。分類群別には甲殻類の占める割合が多かったが、季節別、地点別には甲殻類以外の種が優占することもあった。主な出現種としては、有明海では甲殻綱のオイトナ属のコペポダイト期幼生、マイクロセテラ ノルベジカやカイアシ下綱のノープリウス期幼生などであった。また、八代海では甲殻綱のオイトナ属やカイアシ下綱のノープリウス期幼生が多くみられ、また、八代海西側では原生動物門のスチコロンケ ザンクレア等も比較的多く確認された。
- 植物プランクトン(細胞数)、動物プランクトン(個体数)ともに過年度と同様に春季~夏季を中心に多くなる傾向にあった。それらを代表して夏季(8月小潮期)の分布を以下に示す。

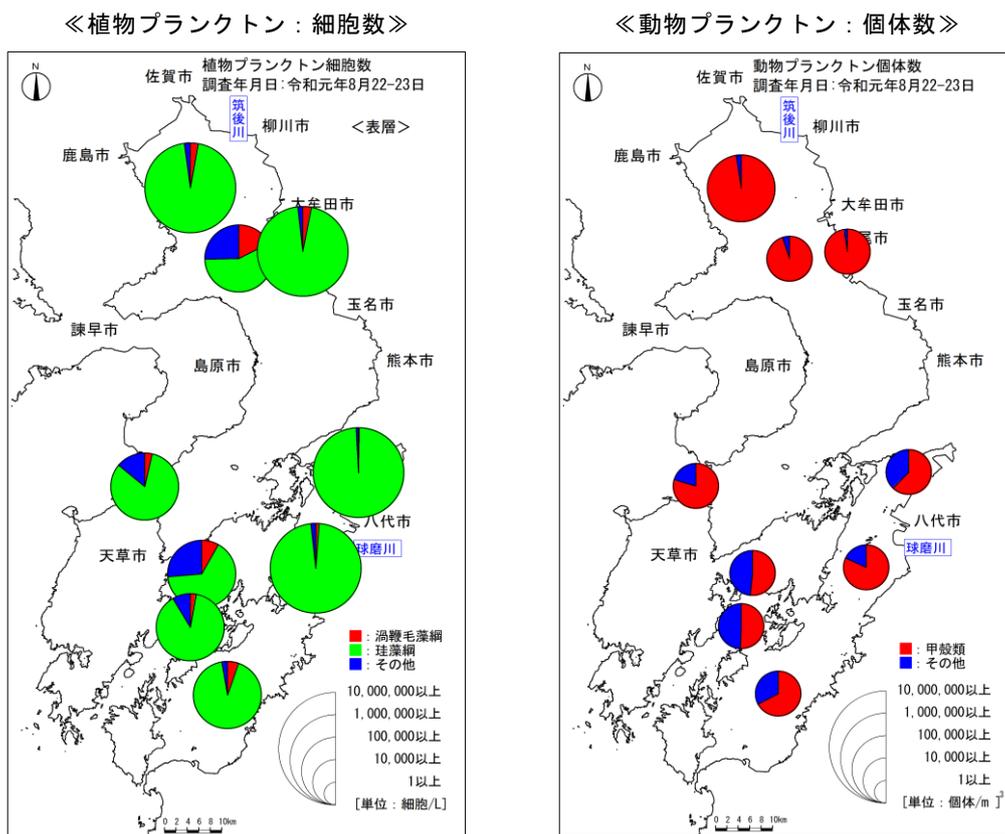


図5 植物・動物プランクトンの分布状況(令和元年8月22-23日)

※調査時の気象状況の詳細は、3.1 調査時の気象・海象(p.17~)に記載。

※水塊構造調査結果の詳細は、3.3.3 水塊構造(p.35~)、3.3.4 植物・動物プランクトン(p.67~)に記載。

## 【底質・底生生物調査結果】

- 有明海の底質は、湾奥部から諫早湾にかけてシルト・粘土分の占める割合が高く、熊本地先では砂分の割合が増加し、No.7で砂分の割合が最も高い。一方、八代海では、金剛干潟地先に位置するNo.12、湾口寄りのNo.16で砂分の割合がやや高いものの、湾奥から湾央までシルト・粘土分の割合が高い。
- 両海域とも、シルト・粘土分の割合の高い湾奥部を中心にCOD等の有機物も高い傾向にあった。なお、有明海湾奥部のNo.4では近年、シルト・粘土分の割合が大きく変動しており、今年度は前年度と同様にシルト分の割合の高い状態が続いた。
- 底質の経年変化をみると、有明海では、No.4でシルト・粘土分の割合の増加に伴い、有機物、硫化物、T-N及びT-Pの値が増加した。また、No.9において平成28-29年度にかけてシルト・粘土分の割合が増加し、硫化物等の値も増加傾向が認められたものの、平成30年度以降は概ね低下傾向にある。なお、その他の地点、項目については、いずれも近年の変化は概ね過去の変動幅の中にあり、顕著な変化傾向は認められない。一方、八代海では、No.15で平成27年度以降、魚類養殖等の影響によりT-Pが高い値を示すことが多いものの、今年度は他の地点と同程度であった。
- 底生生物は、有明海で411種、八代海で152種の出現が確認され、両海域で合計447種の出現が確認できた。平均個体数としては、有明海が11,291個体/m<sup>2</sup>、八代海が1,041個体/m<sup>2</sup>で、分類群別には、有明海では節足動物門、八代海では環形動物門の出現が優占した。なお、出現個体数が最も多かったのは、有明海では節足動物門のモノコロフィウム属、八代海では軟体動物門のシズクガイで、それぞれ全出現個体数の25%、17%を占めた。また、有明海では、No.4において種類数及び個体数の減少がみられた。

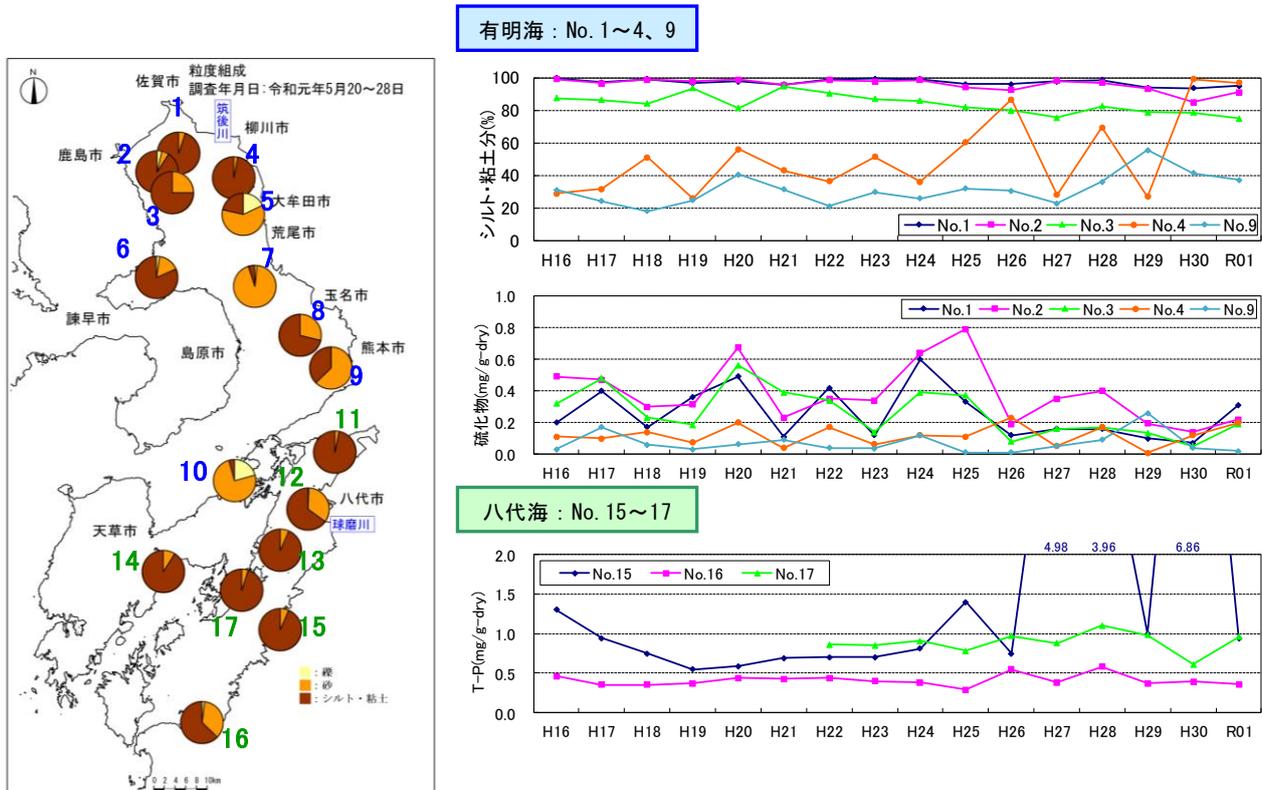


図6 底質・底生生物調査結果

(左図：粒度組成、右図：有明海・八代海の湾奥部におけるシルト・粘土分、COD、T-Pの経年変化)

※左図中の数字は地点番号を示す。

※底質・底生生物調査結果の詳細は、3.4.1底質(p.77~)、3.4.2底生生物(p.88~)に記載。

## 【八代海定点連続水質調査結果】

- 水質鉛直データの時系列の変化をみると、水温な変化はみられなかった。塩分は干潮付近の 11:00~12:00 を中心に低くなる傾向がみられた。
- 溶存酸素量は、鉛直的、時間的に概ね一定であり、下層における貧酸素等の状況は認められなかった。
- 酸素飽和度は午後に表層で高くなる傾向にあり、同時にクロロフィル a も高くなることから、植物プランクトンによるものと考えられる。

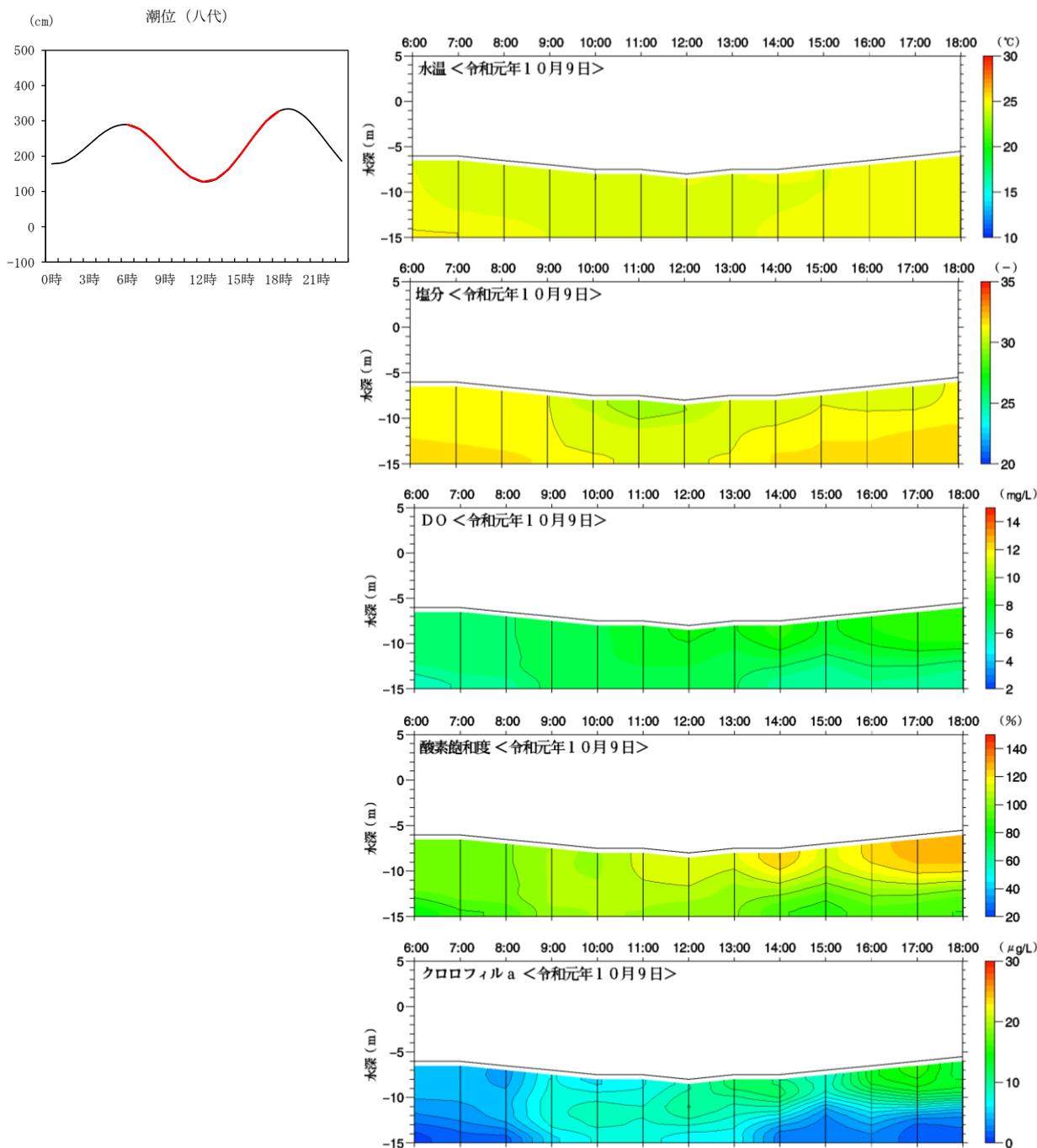


図7 八代海定点連続水質調査結果

※八代海定点連続水質調査結果の詳細は、3.5 八代海定点連続水質調査結果(p.97~)に記載。

# 資 料 編

## 一水塊構造調査結果一

1 資料編の構成 .....	資-1
2 水質鉛直断面分布 .....	資-2
2.1 有明中央・有明東 .....	資-2
2.2 八代中央・八代西 .....	資-44
3 プランクトンの水平分布 .....	資-100
3.1 植物プランクトン .....	資-100
3.2 動物プランクトン .....	資-108



## 1 資料編の構成

資料編では、平成 31 年 4 月～令和 2 年 3 月の水塊構造調査結果における水質鉛直断面分布、プランクトンの水平分布について、本編に掲載している 6～8 月調査も含めて時系列で示した。

資料の構成は以下の通りである。

### ○水質鉛直断面分布

- ・項目は、水温、塩分、クロロフィル a、濁度、DO、酸素飽和度、pH の 7 項目について示した。

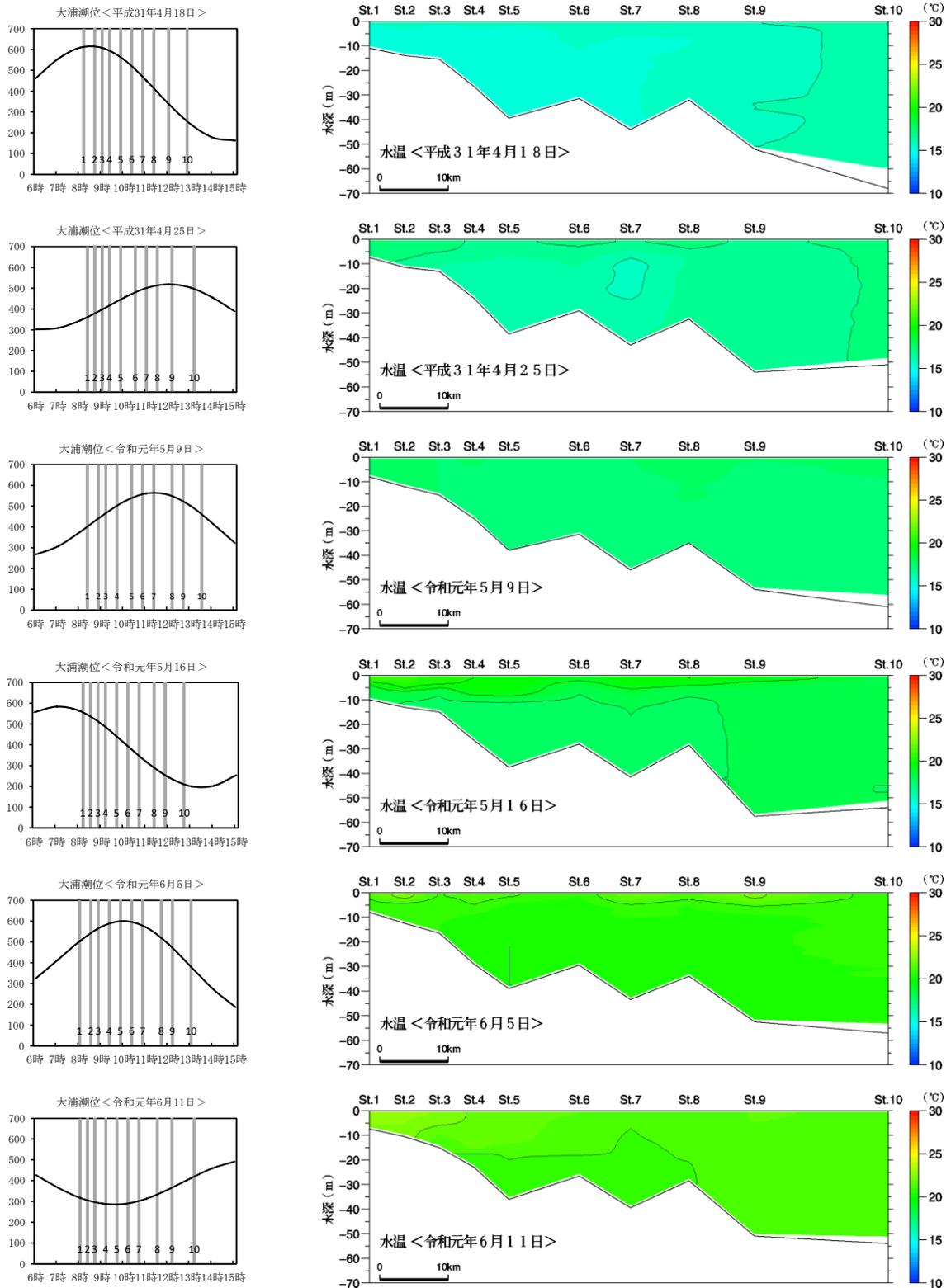
### ○プランクトンの水平分布

- ・植物プランクトンは、表層における分類群別種類数、分類群別細胞数の水平分布を示した。
- ・動物プランクトンは、分類群別種類数、分類群別個体数の水平分布を示した。

## 2 水質鉛直断面分布

### 2.1 有明中央・有明東

#### (1) 水温

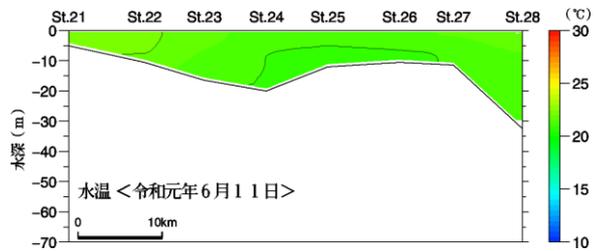
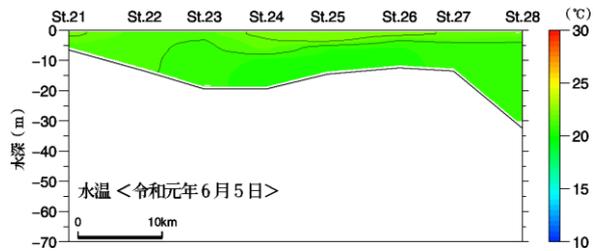
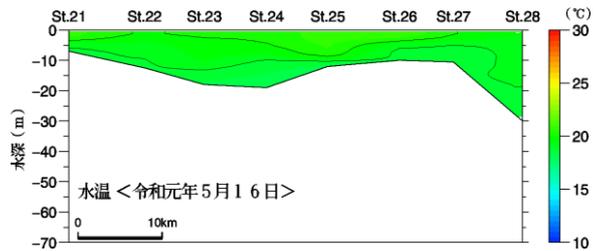
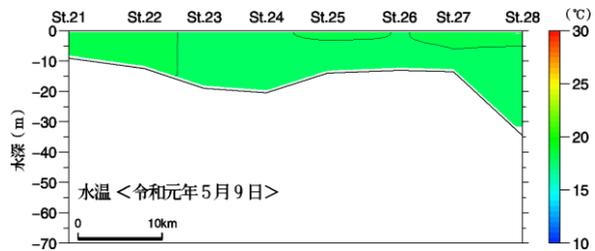
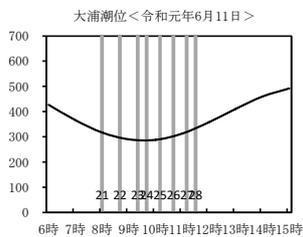
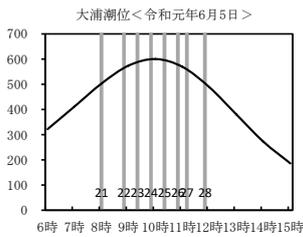
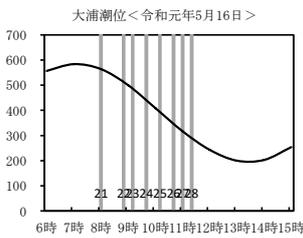
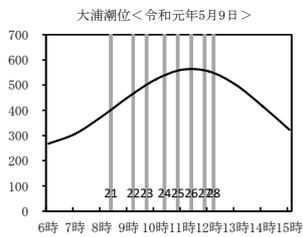


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(1) 水塊構造調査結果(有明中央・水温、平成31年4月～令和元年6月)

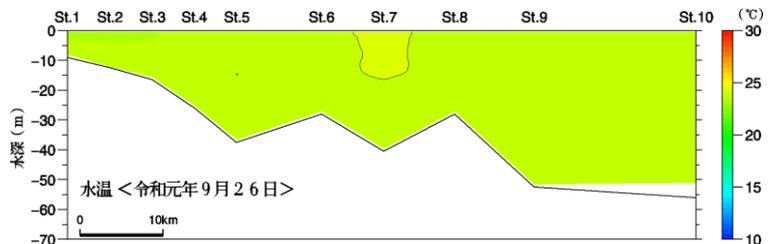
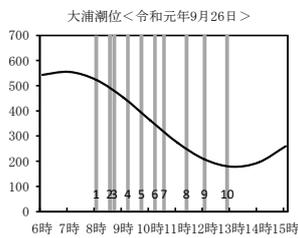
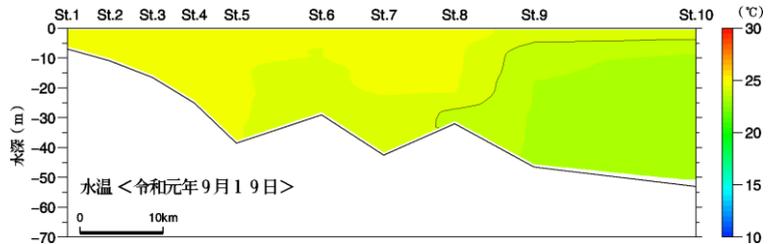
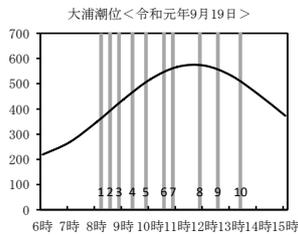
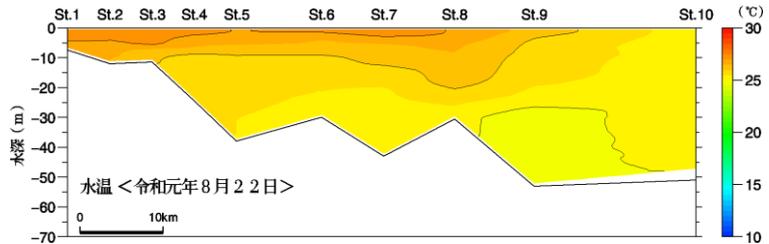
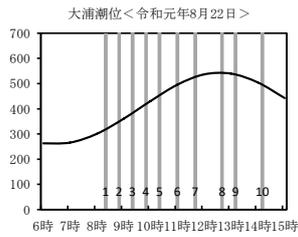
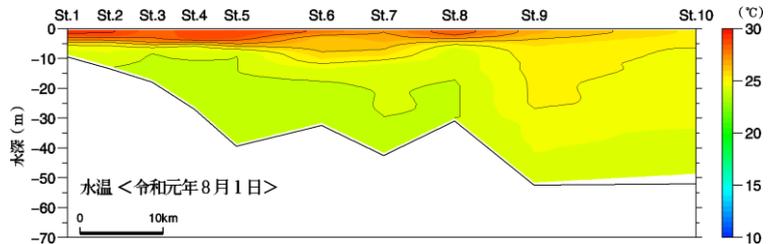
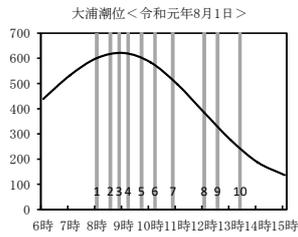
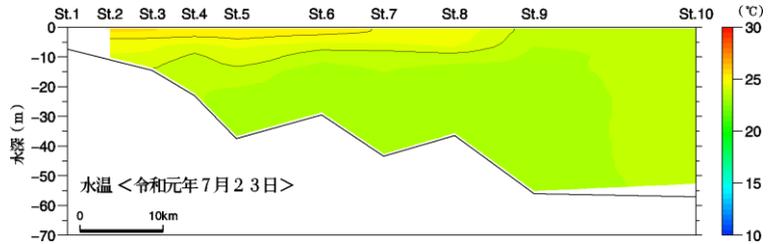
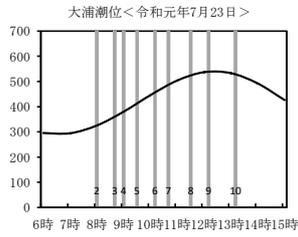
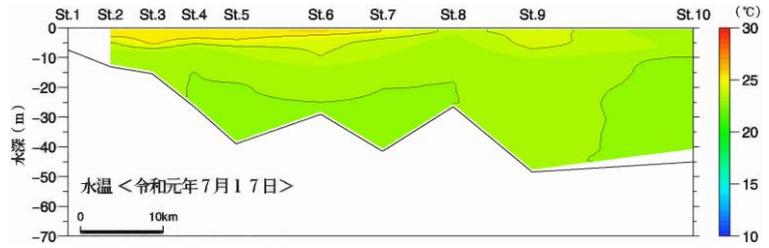
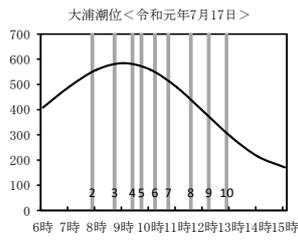


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(2) 水塊構造調査結果(有明東・水温、令和元年5~6月)

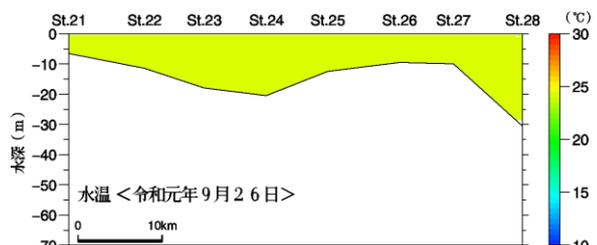
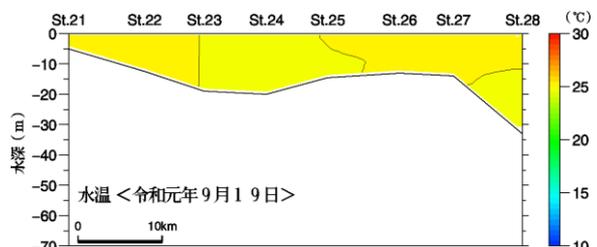
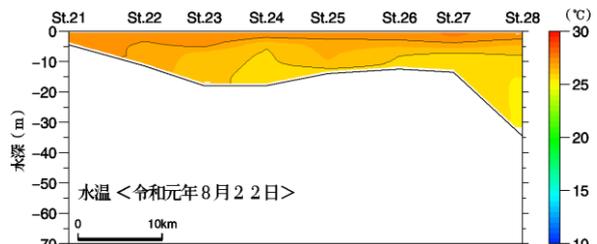
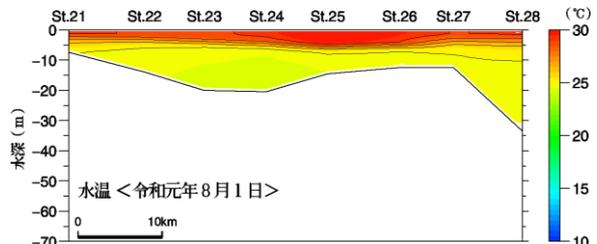
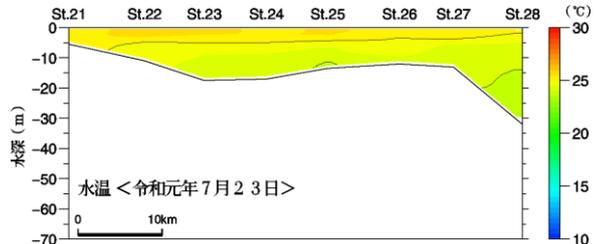
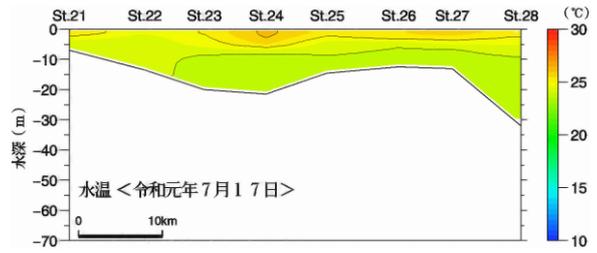
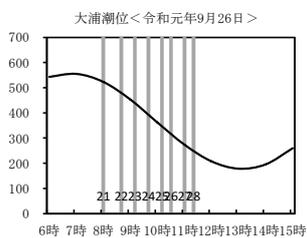
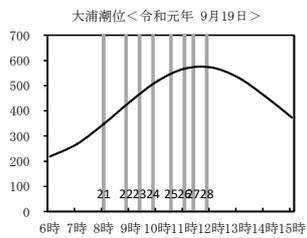
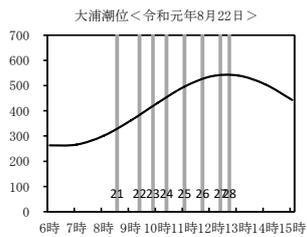
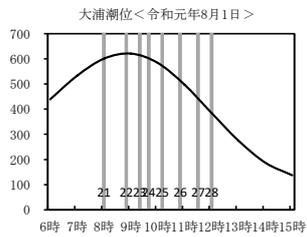
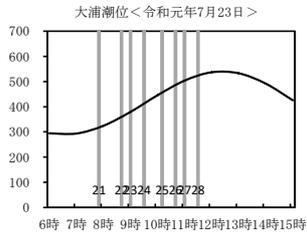
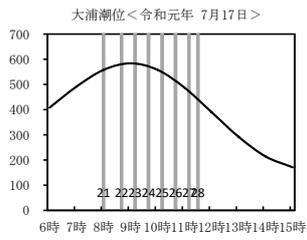


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(3) 水塊構造調査結果(有明中央・水温、令和元年7~9月)

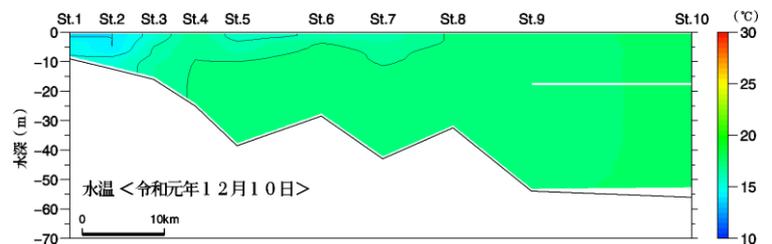
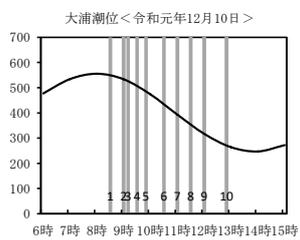
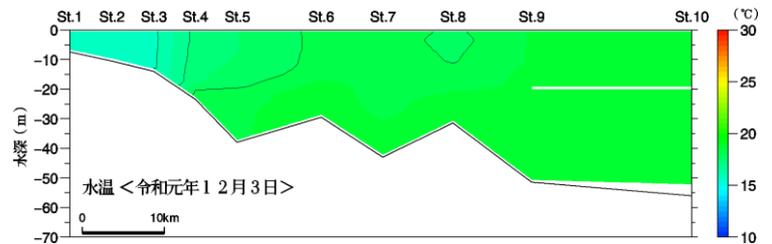
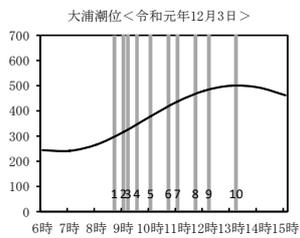
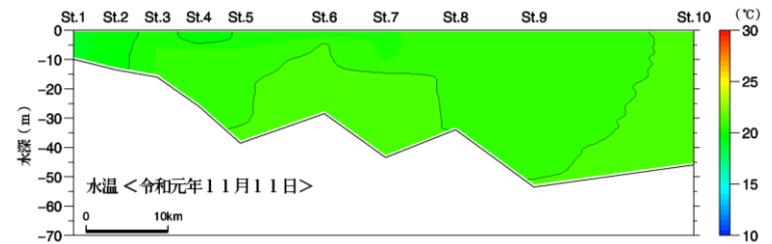
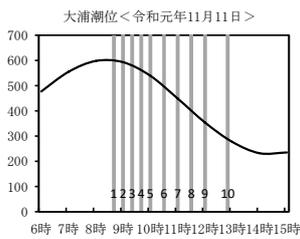
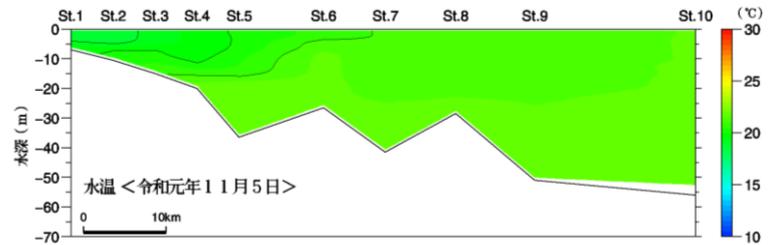
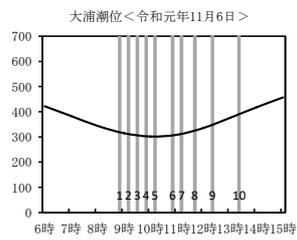
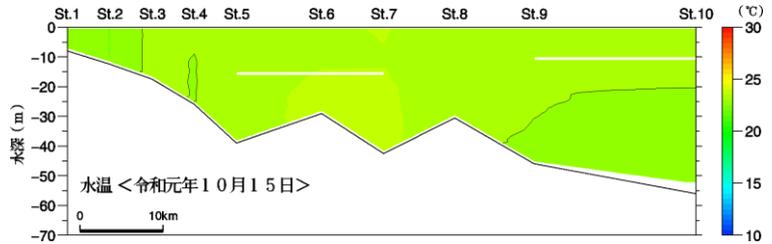
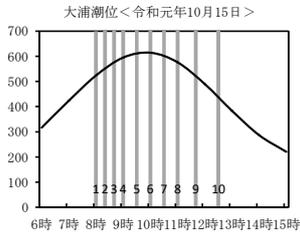
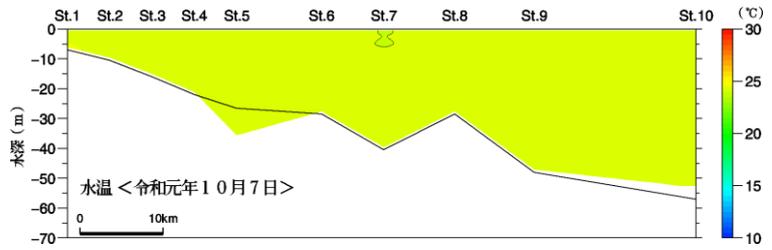
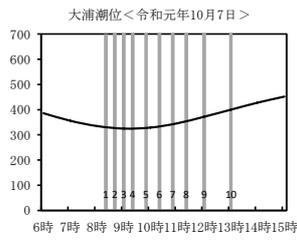


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(4) 水塊構造調査結果(有明東・水温、令和元年7~9月)

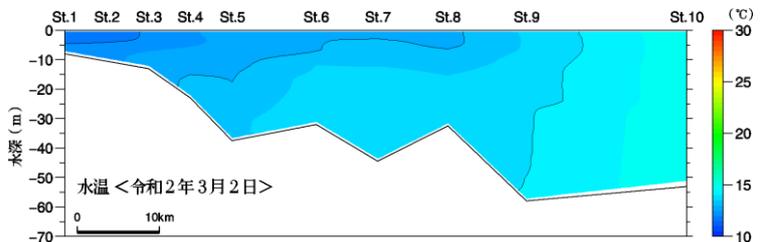
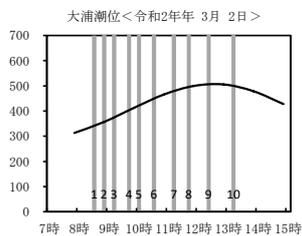
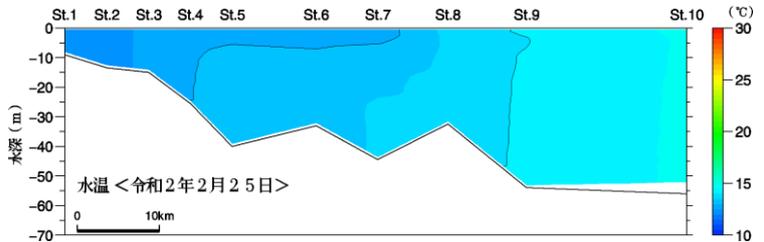
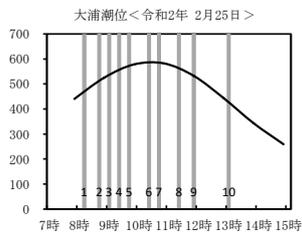
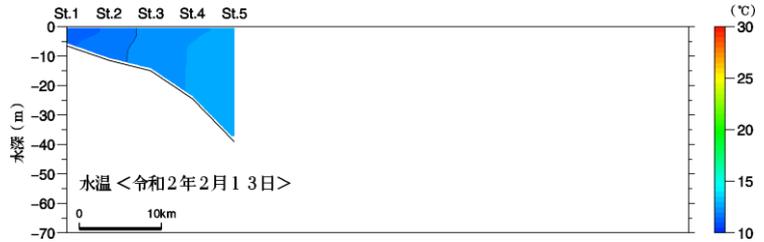
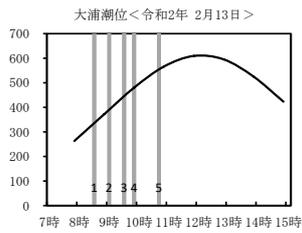
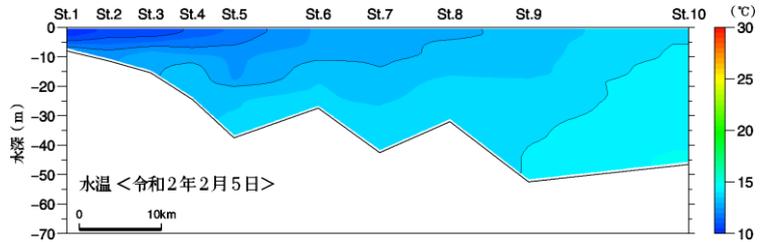
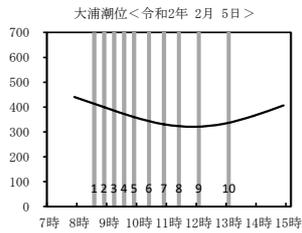
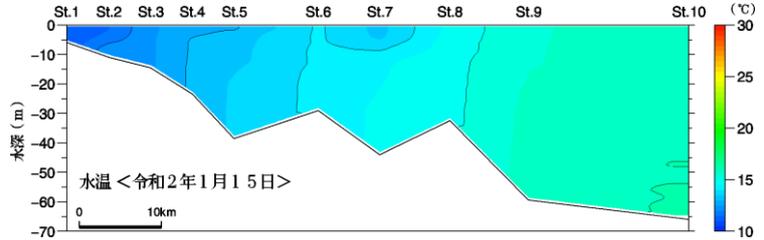
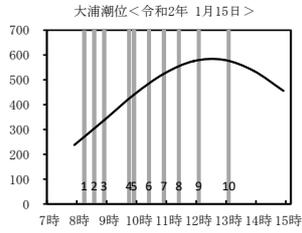
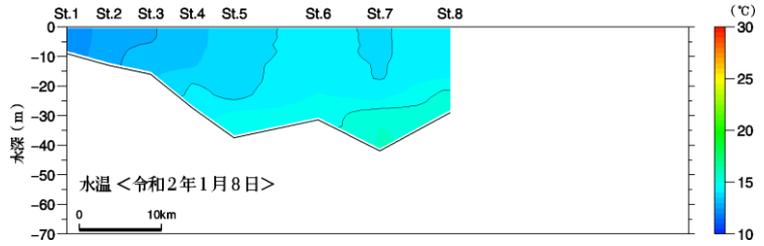
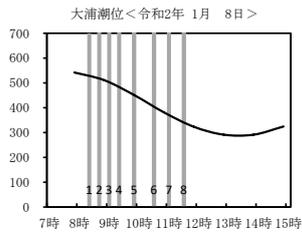


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(5) 水塊構造調査結果(有明中央・水温、令和元年10~12月)



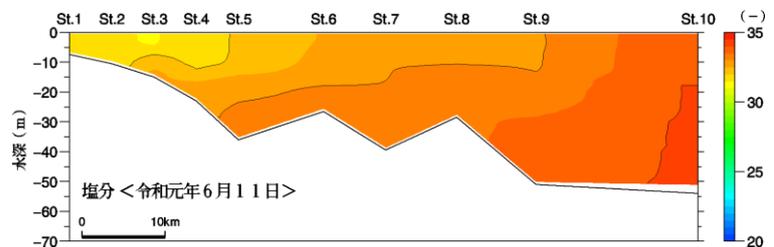
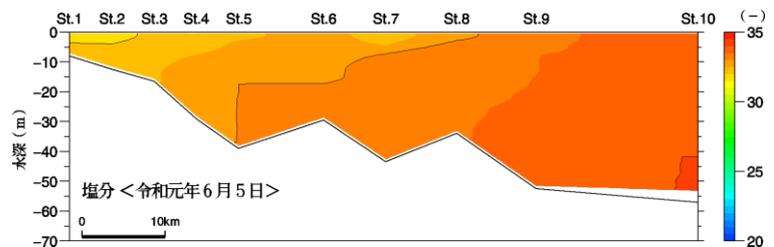
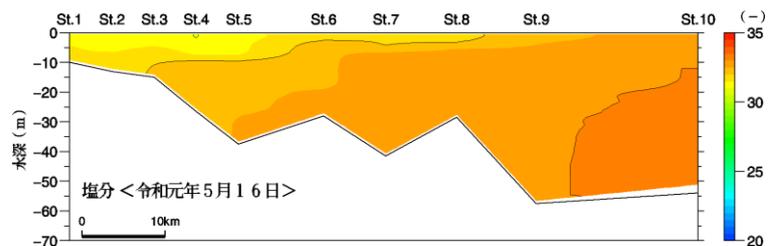
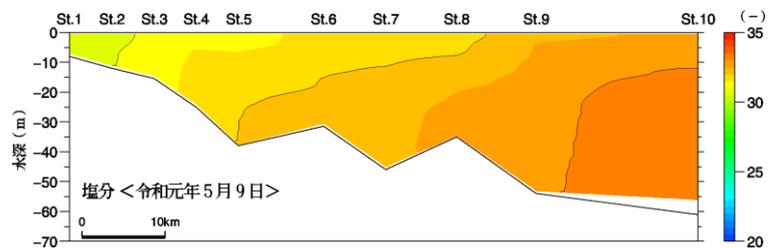
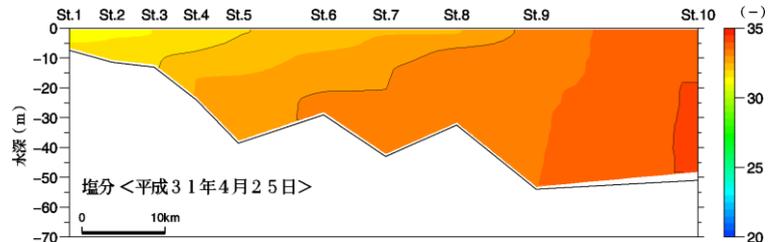
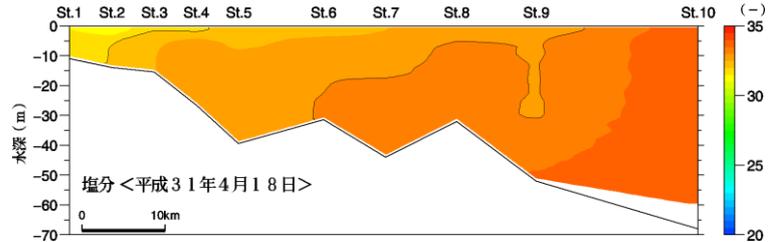
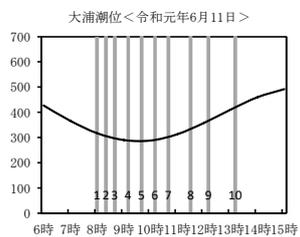
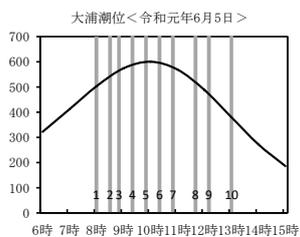
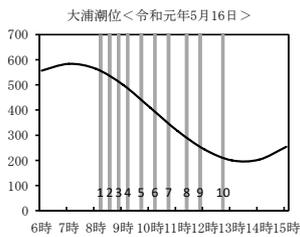
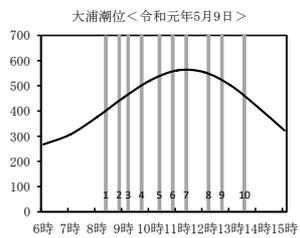
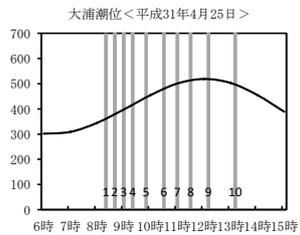
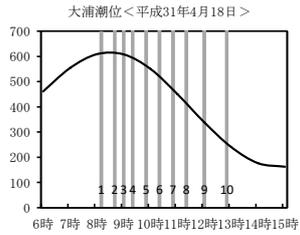
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-1(6) 水塊構造調査結果(有明中央・水温、令和2年1~3月)

## (2) 塩分

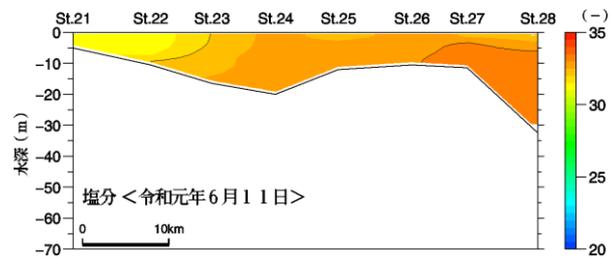
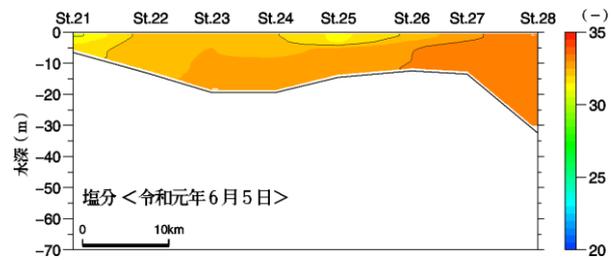
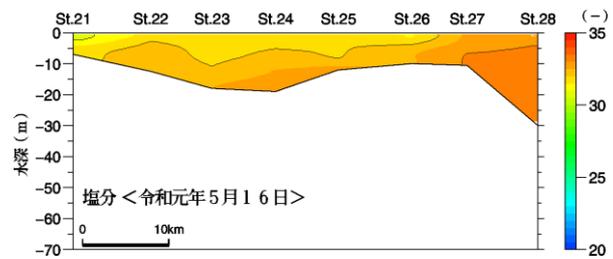
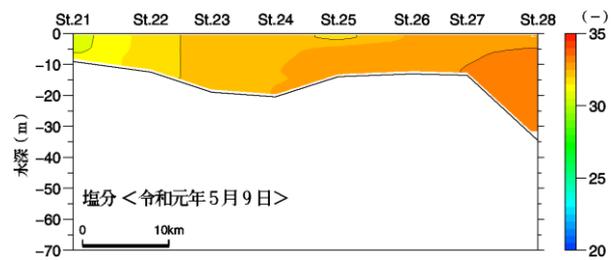
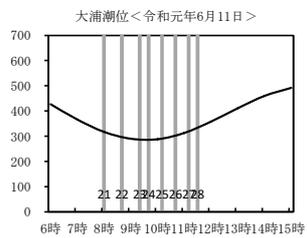
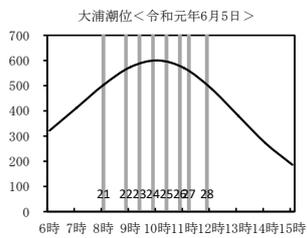
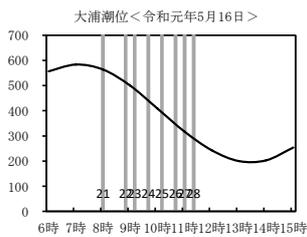
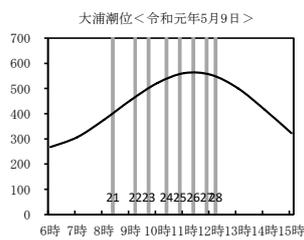


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(1) 水塊構造調査結果(有明中央・塩分、平成31年4月～令和元年6月)

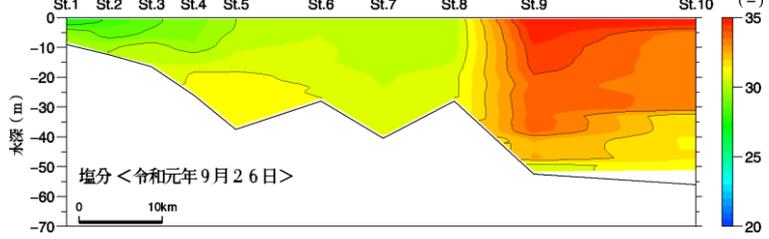
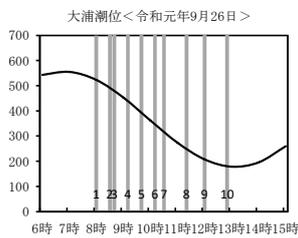
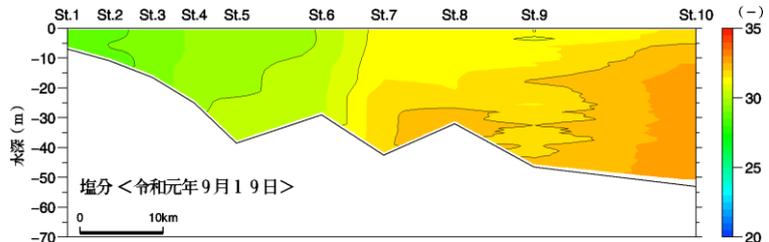
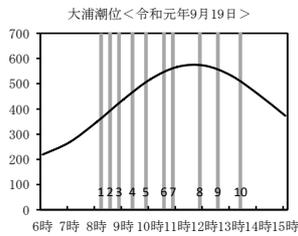
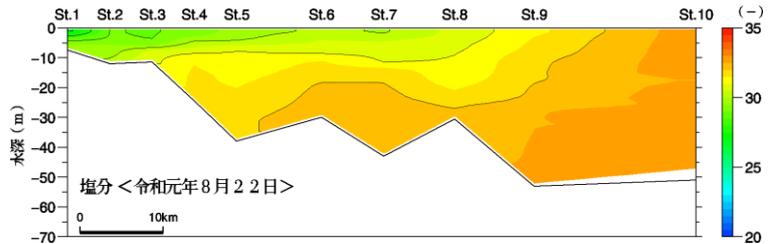
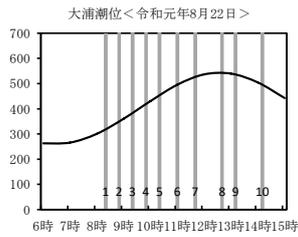
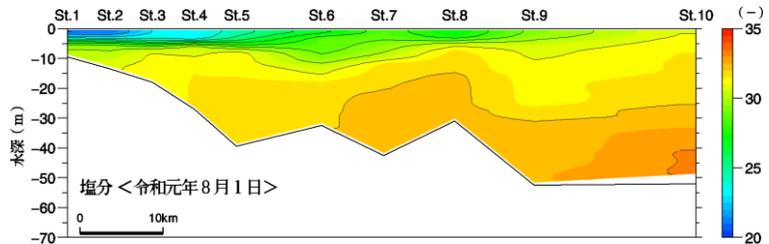
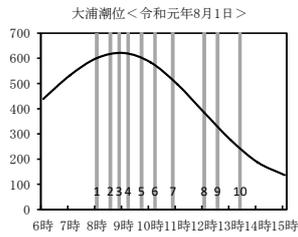
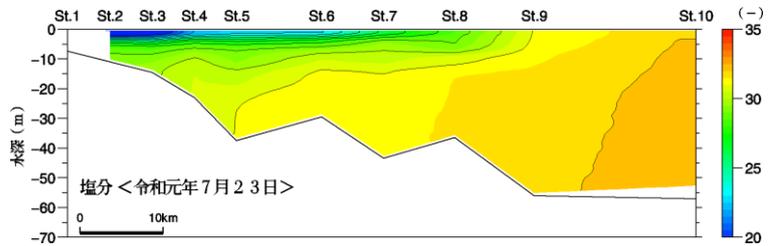
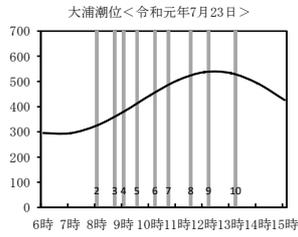
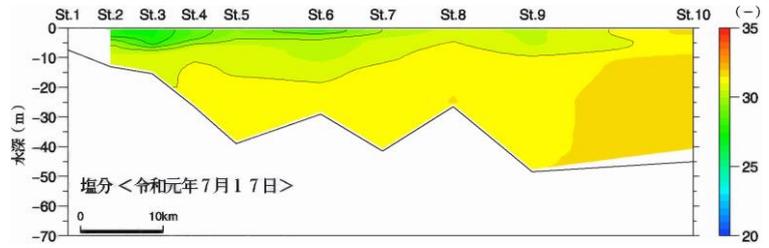
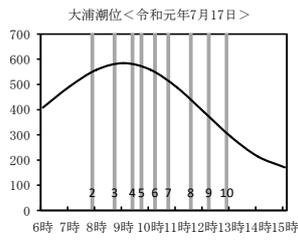


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(2) 水塊構造調査結果(有明東・塩分、令和元年5~6月)

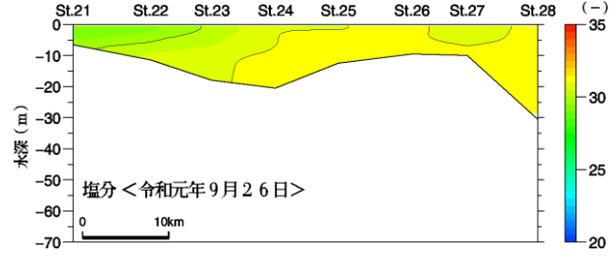
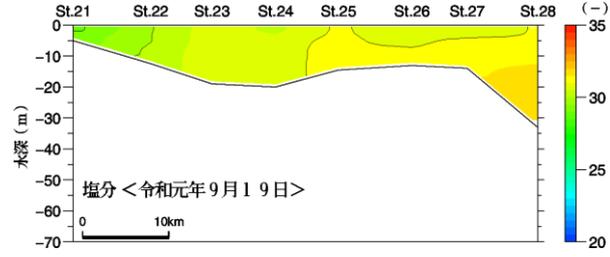
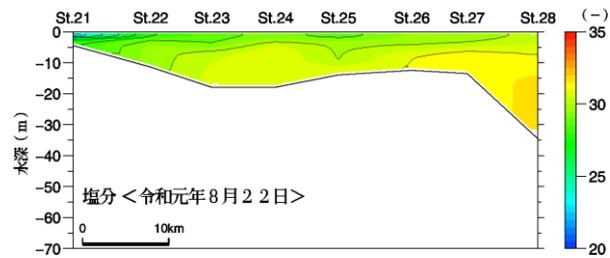
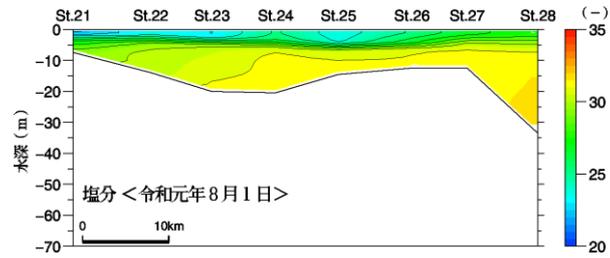
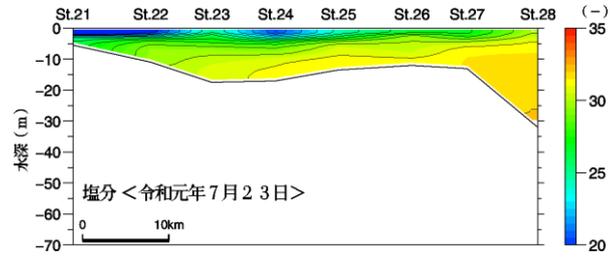
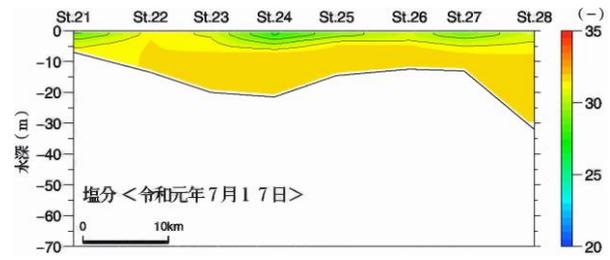
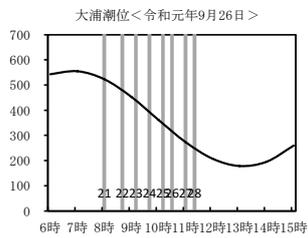
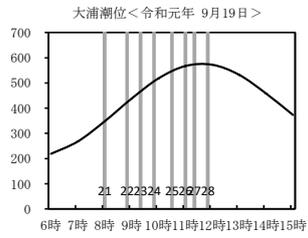
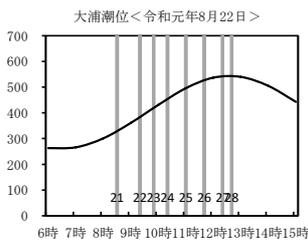
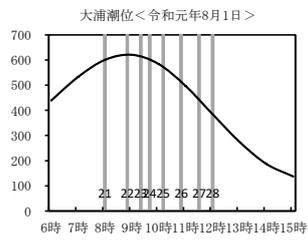
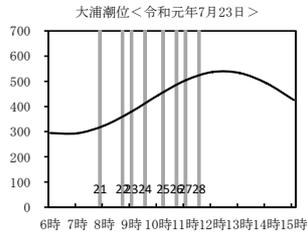
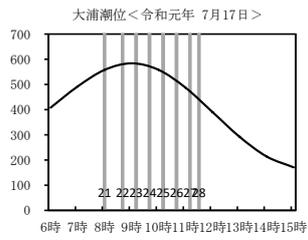


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(3) 水塊構造調査結果(有明中央・塩分、令和元年7~9月)

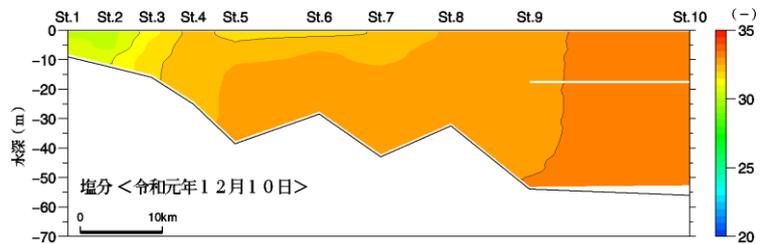
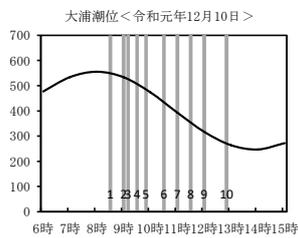
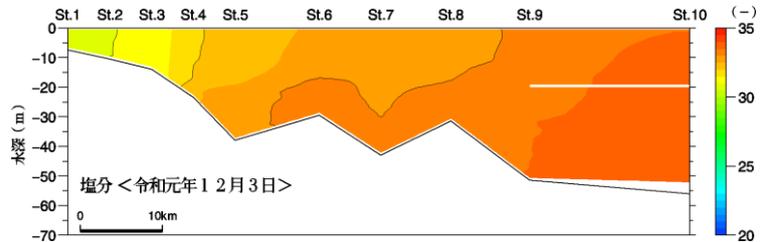
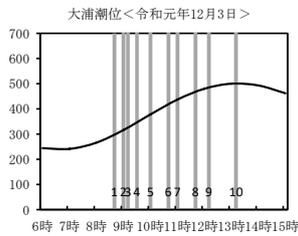
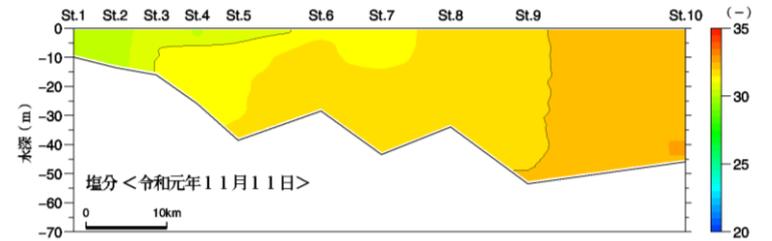
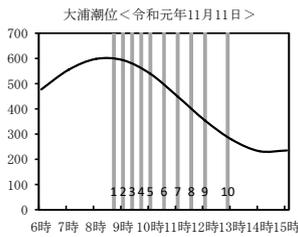
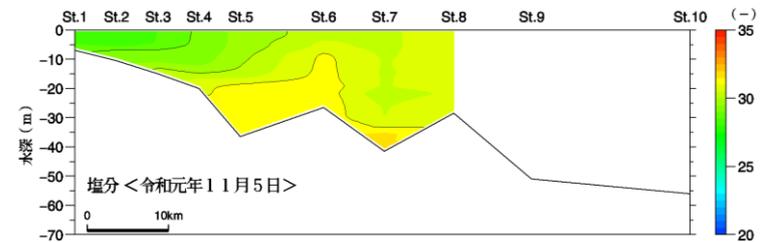
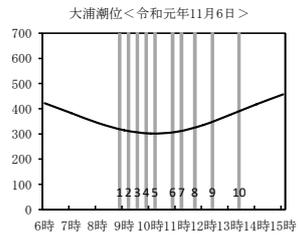
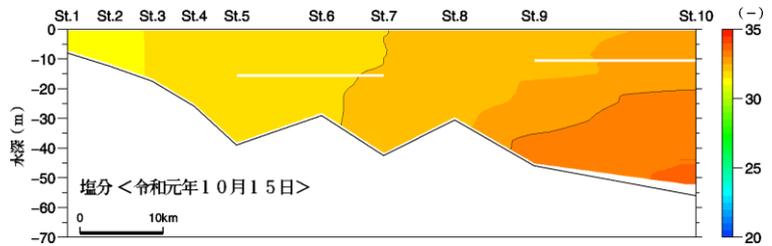
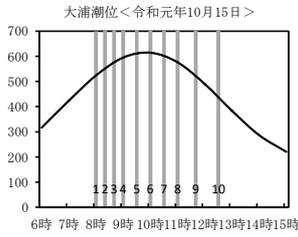
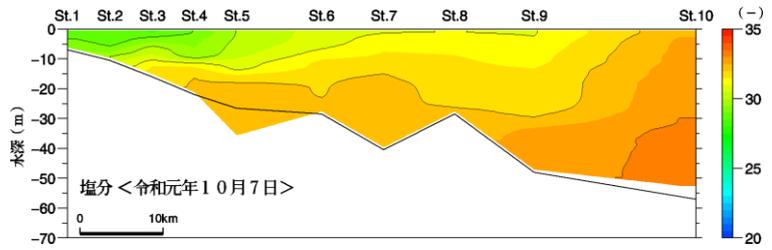
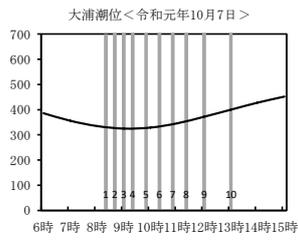


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(4) 水塊構造調査結果(有明東・塩分、令和元年7~9月)

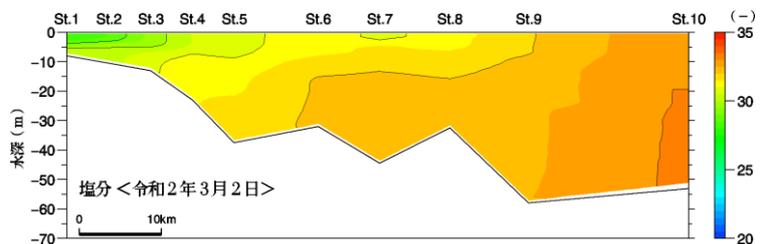
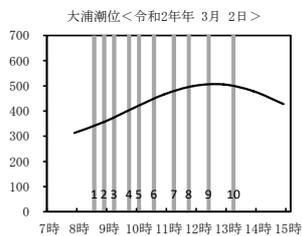
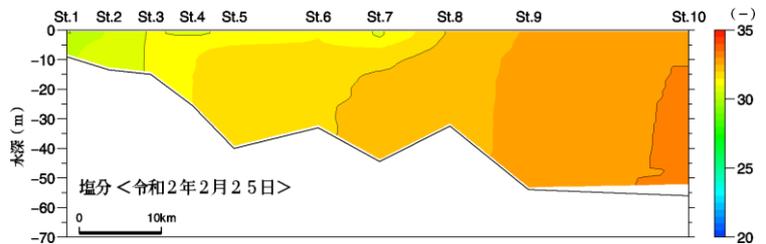
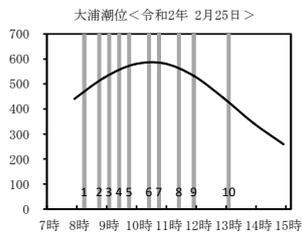
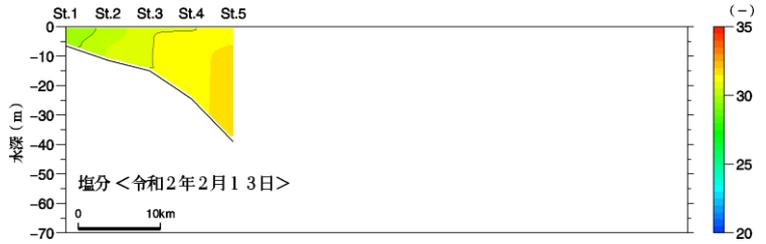
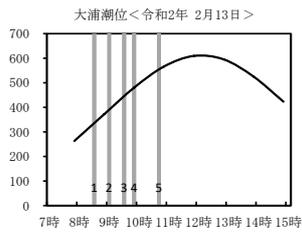
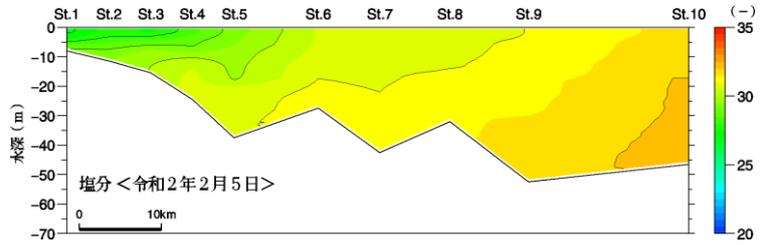
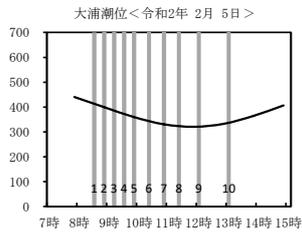
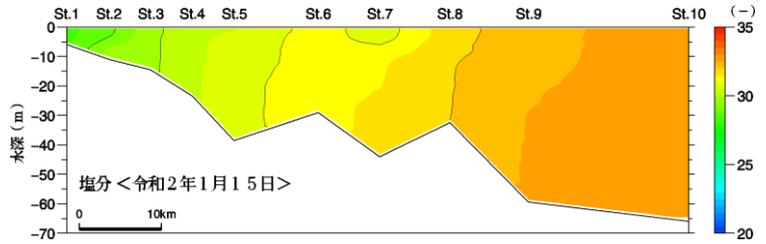
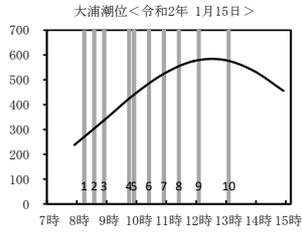
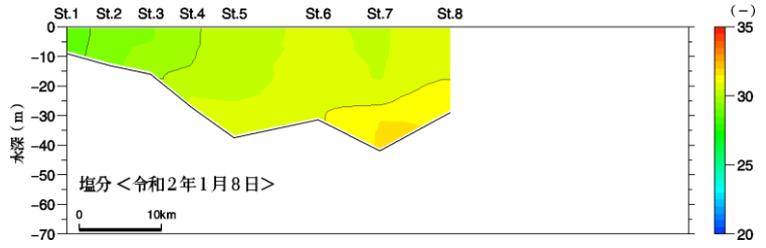
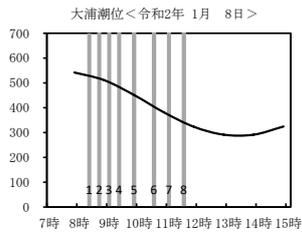


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(5) 水塊構造調査結果(有明中央・塩分、令和元年10~12月)



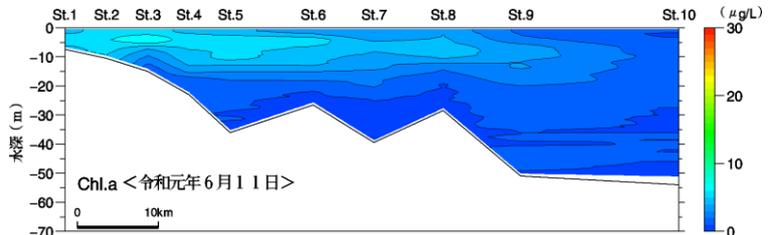
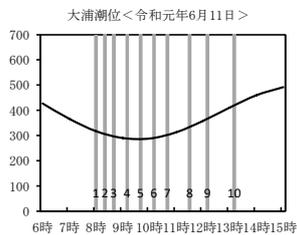
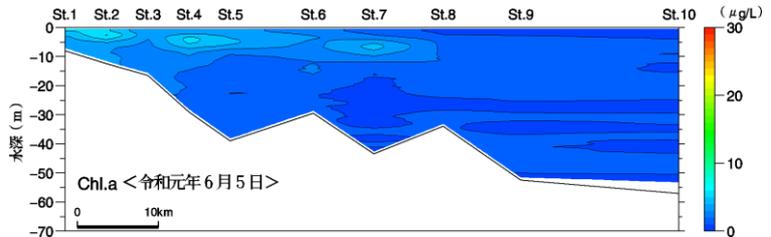
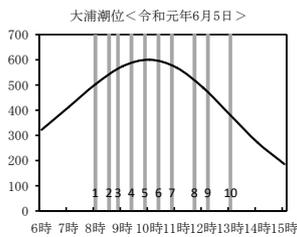
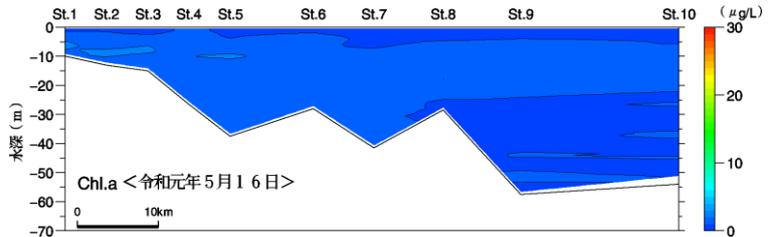
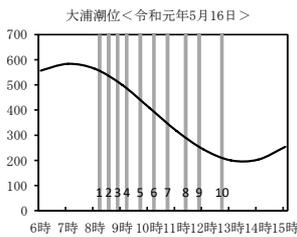
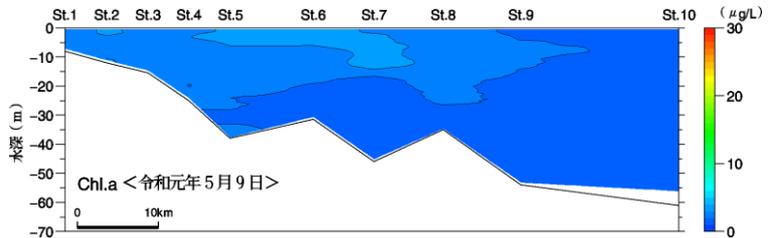
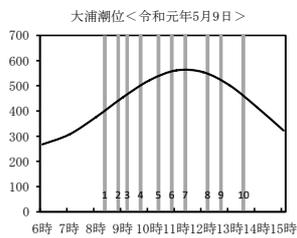
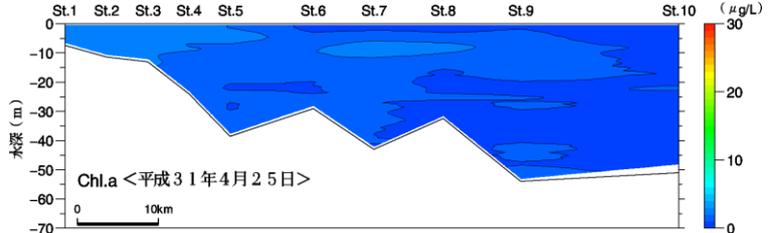
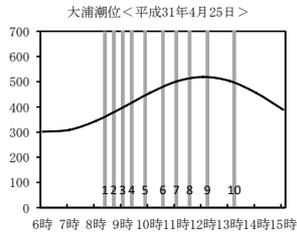
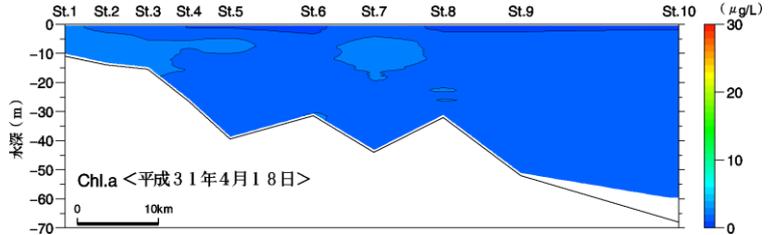
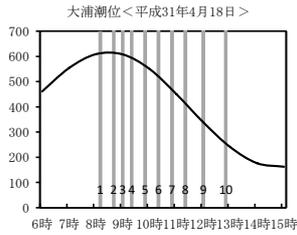
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-2(6) 水塊構造調査結果(有明中央・塩分、令和2年1~3月)

### (3) クロロフィルa

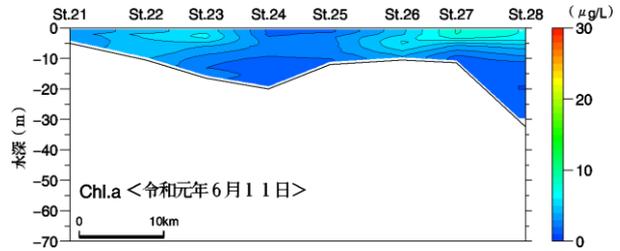
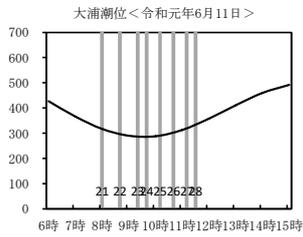
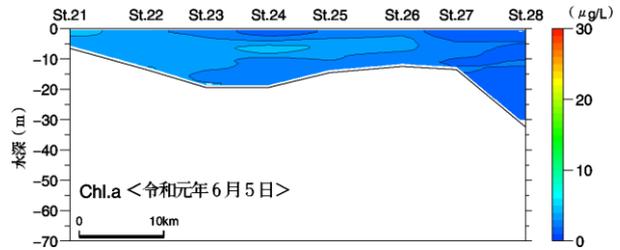
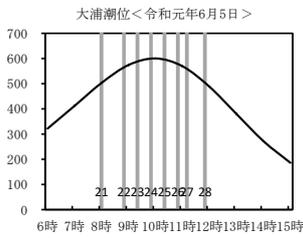
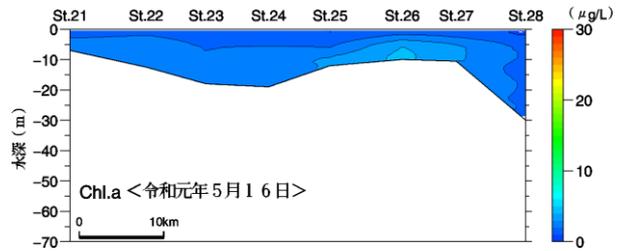
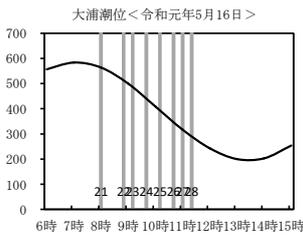
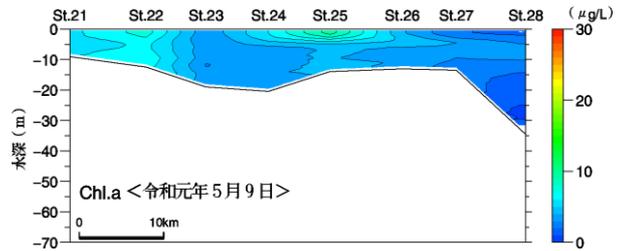
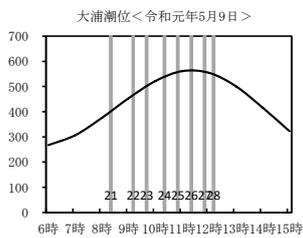


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-3(1) 水塊構造調査結果(有明中央・クロロフィルa、平成31年4月~令和元年6月)

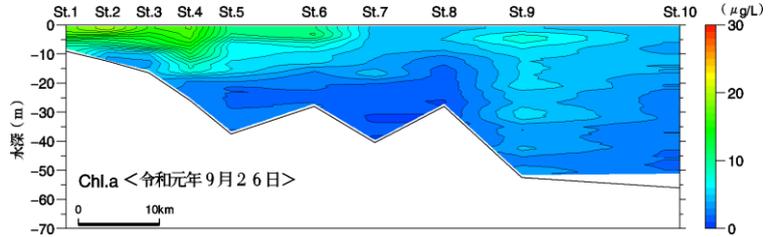
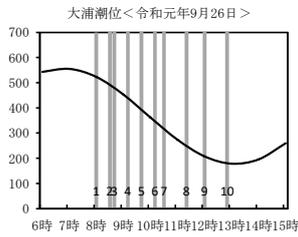
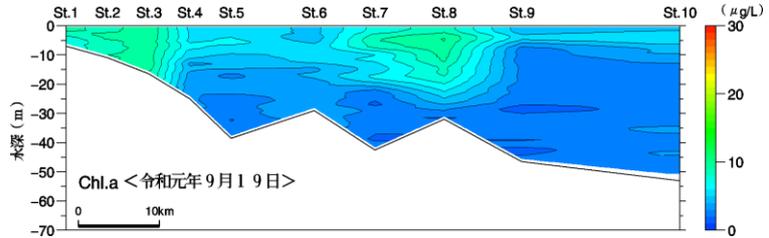
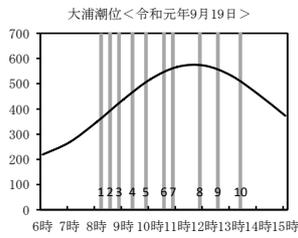
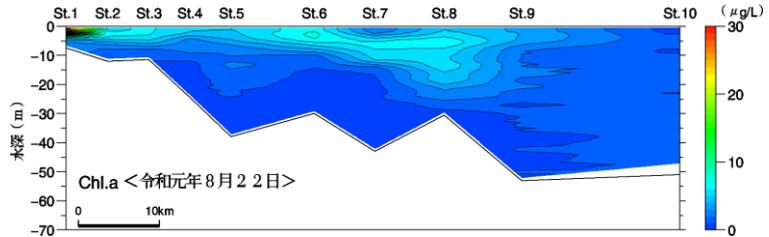
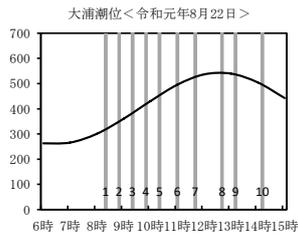
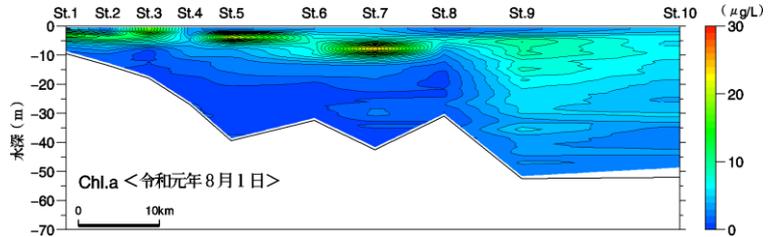
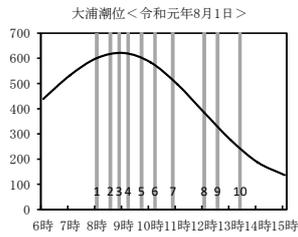
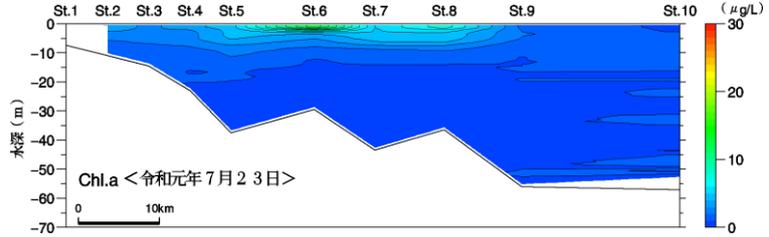
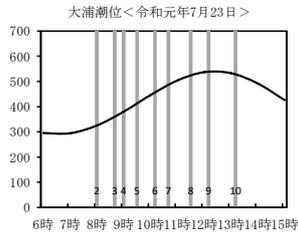
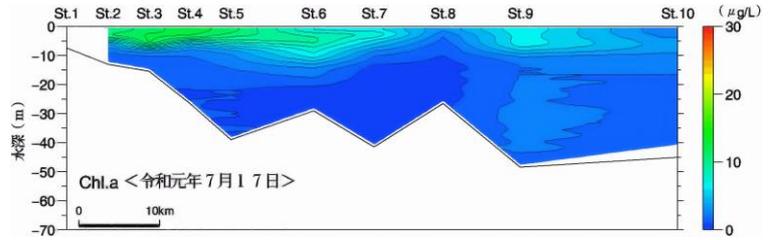
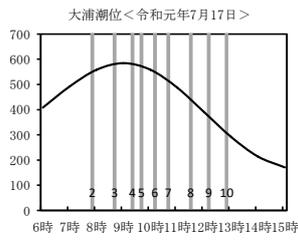


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-3(2) 水塊構造調査結果(有明東・クロロフィル a、令和元年5~6月)

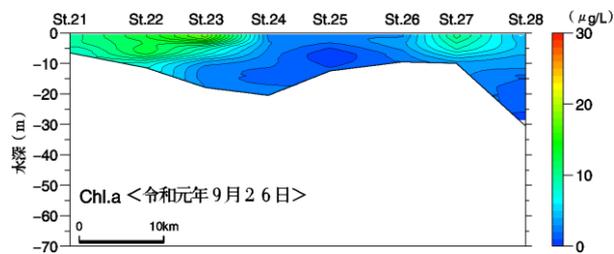
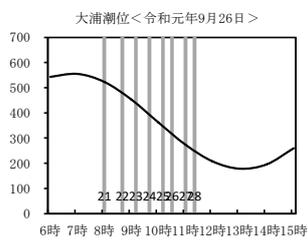
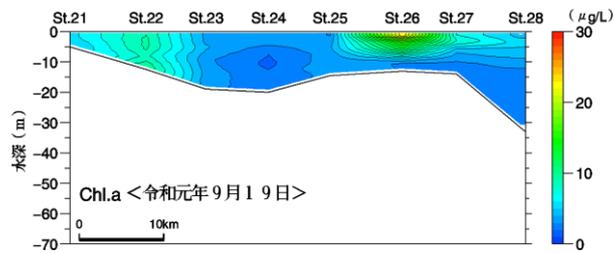
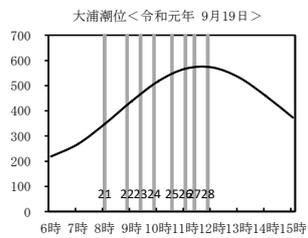
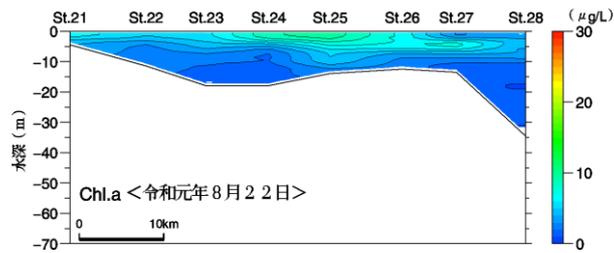
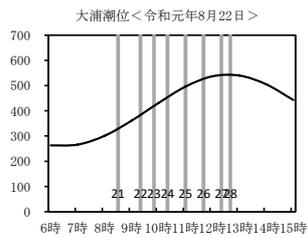
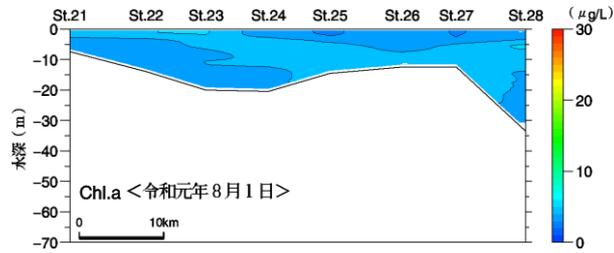
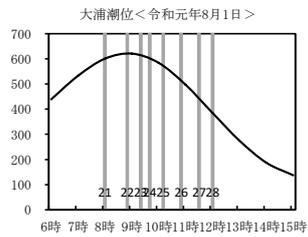
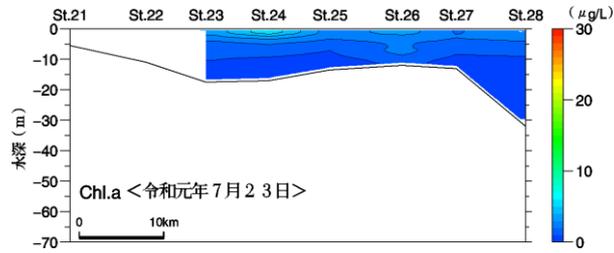
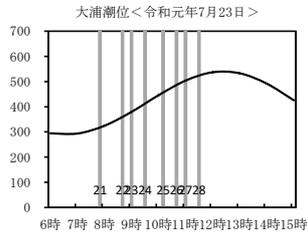
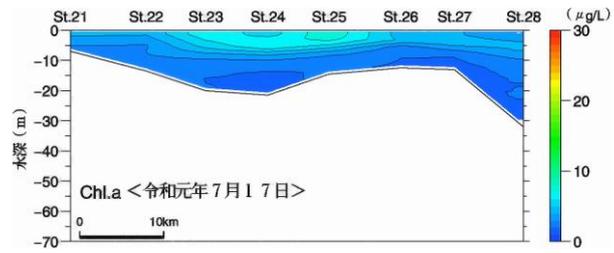
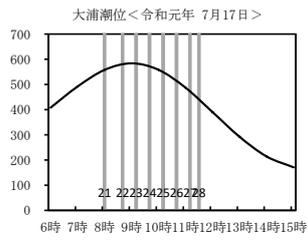


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

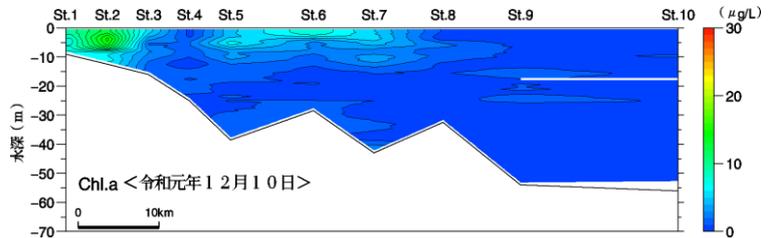
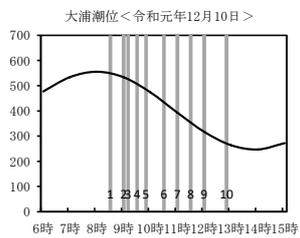
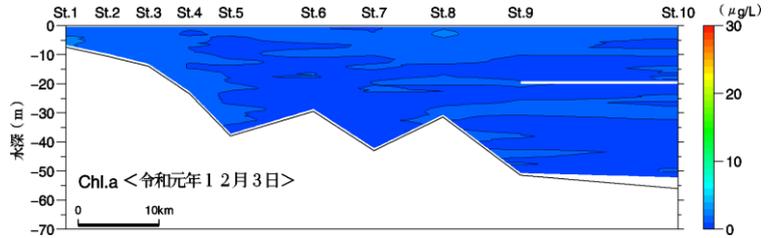
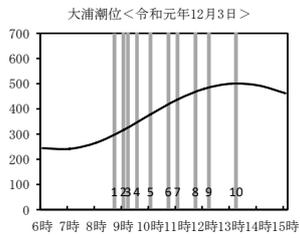
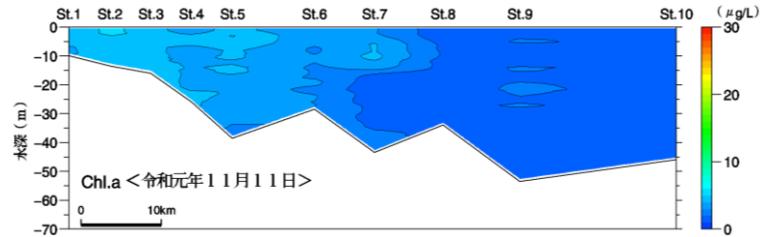
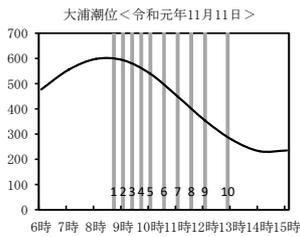
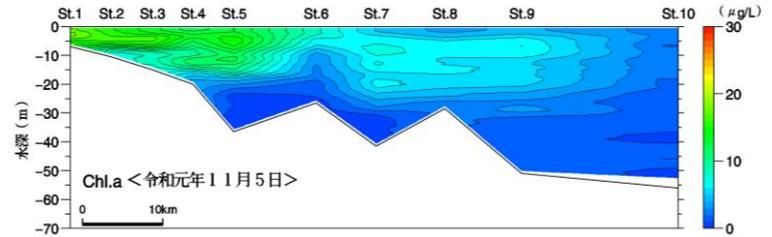
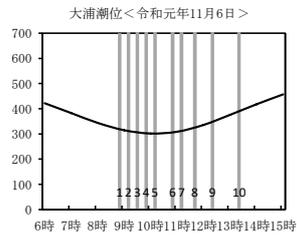
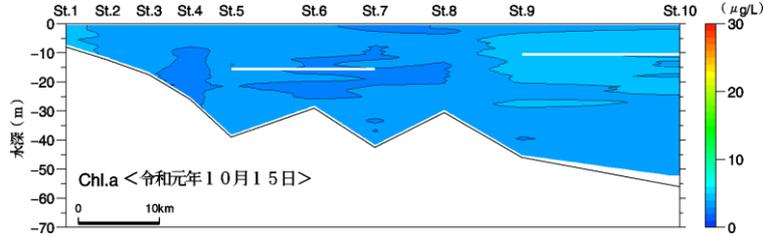
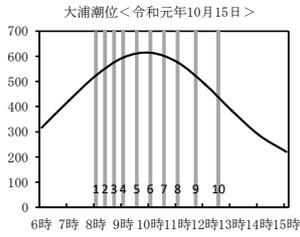
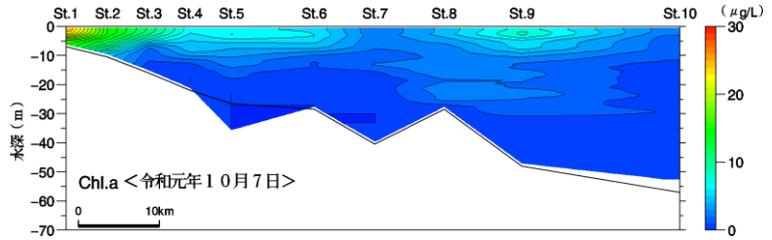
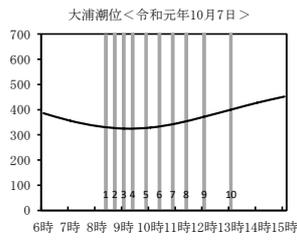
付図 2.1-3(3) 水塊構造調査結果(有明中央・クロロフィル a、令和元年 7~9 月)



※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。  
 出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-3(4) 水塊構造調査結果(有明東・クロロフィル a、令和元年7~9月)

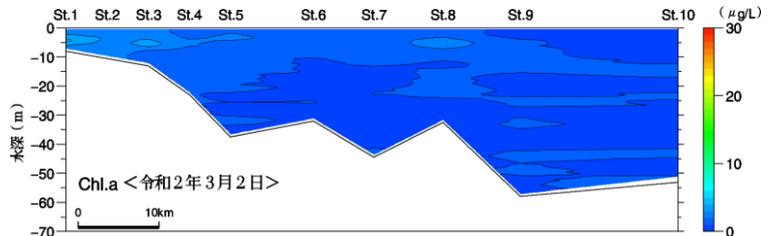
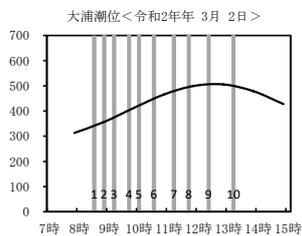
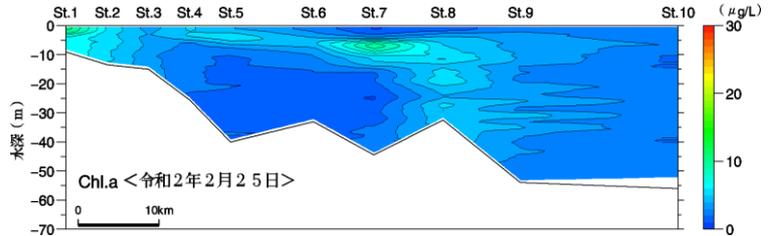
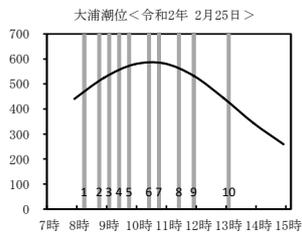
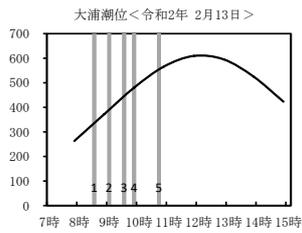
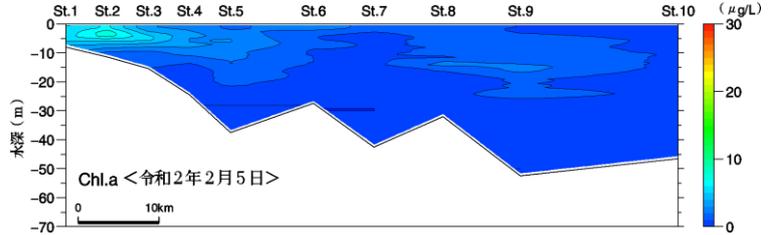
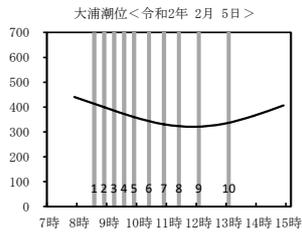
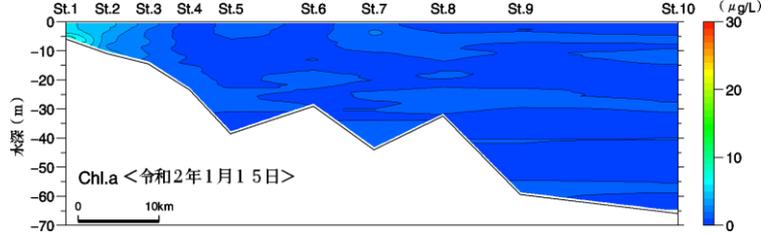
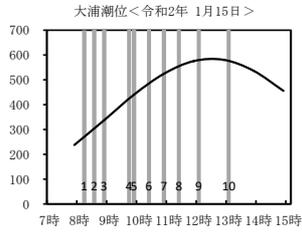
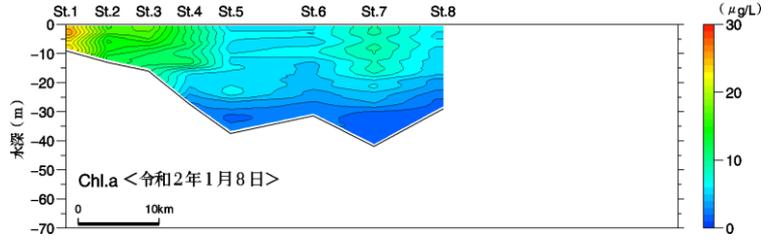
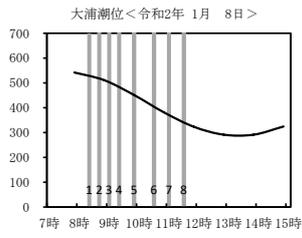


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-3(5) 水塊構造調査結果(有明中央・クロロフィル a、令和元年 10~12 月)



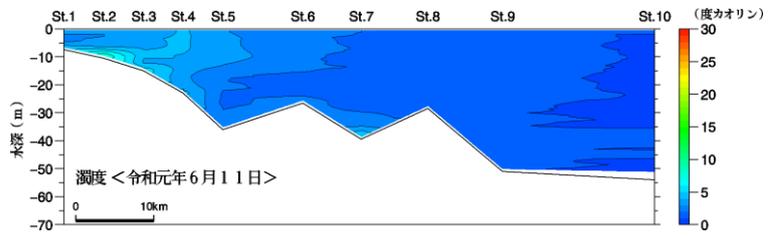
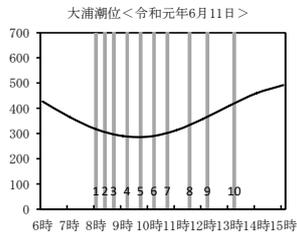
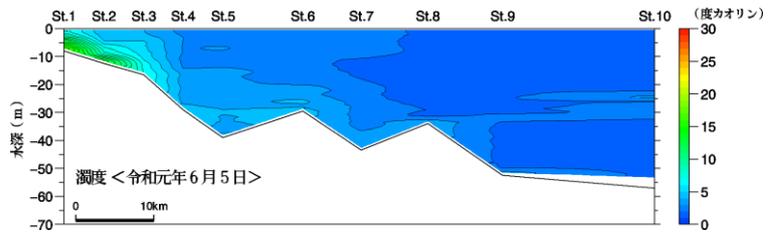
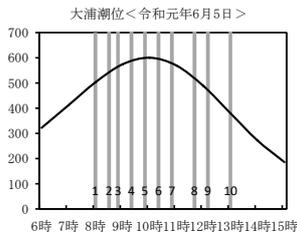
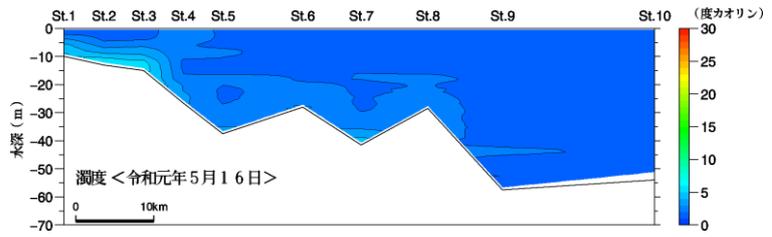
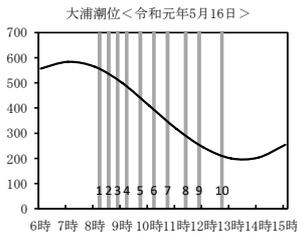
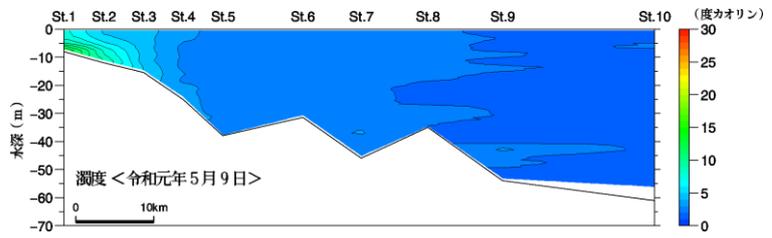
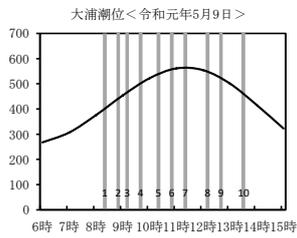
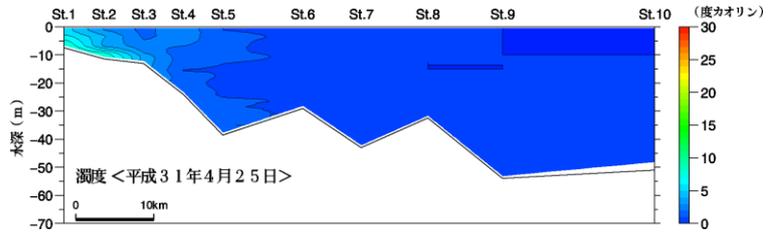
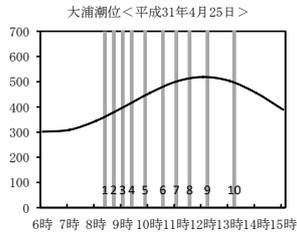
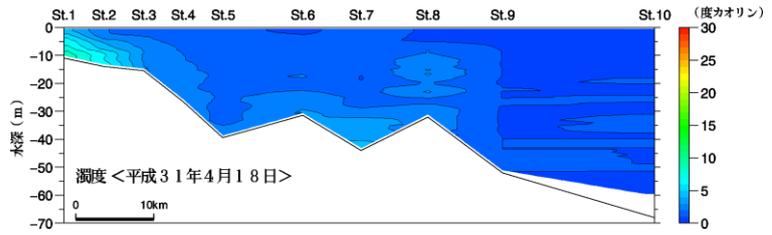
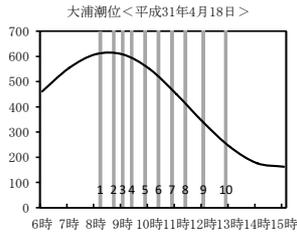
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-3(6) 水塊構造調査結果(有明中央・クロロフィル a、令和2年1~3月)

#### (4) 濁度

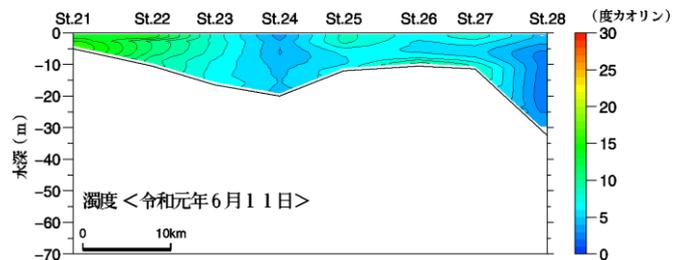
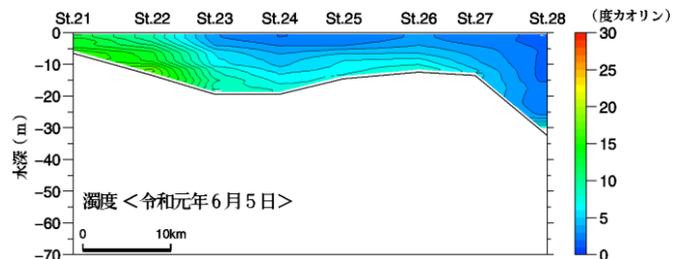
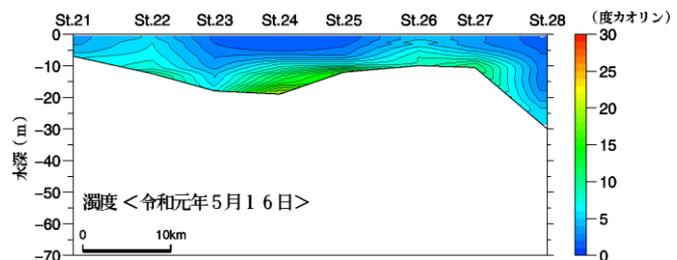
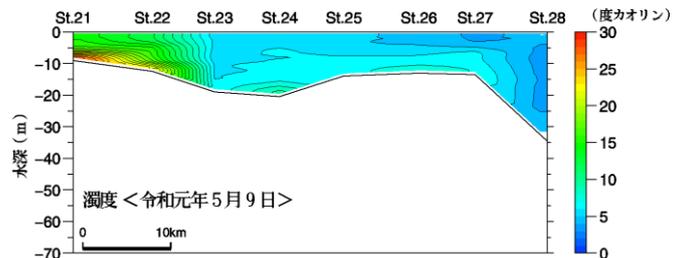
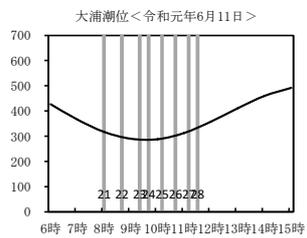
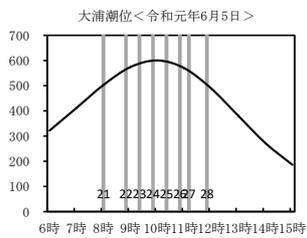
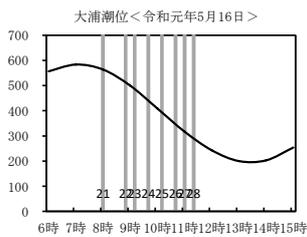
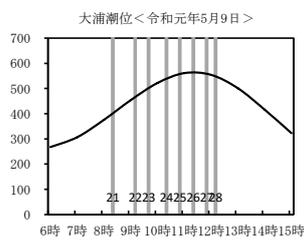


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所(<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(1) 水塊構造調査結果(有明中央・濁度、平成31年4月～令和元年6月)

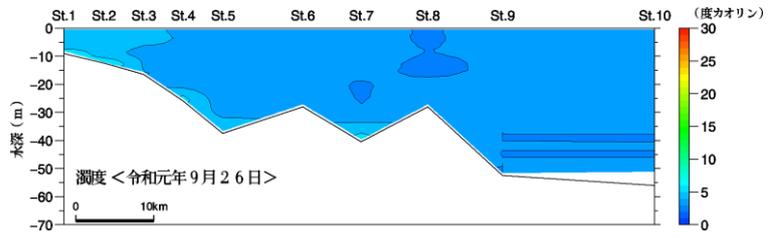
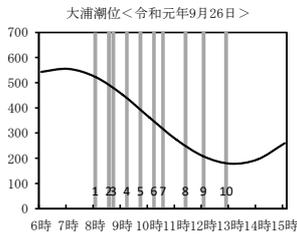
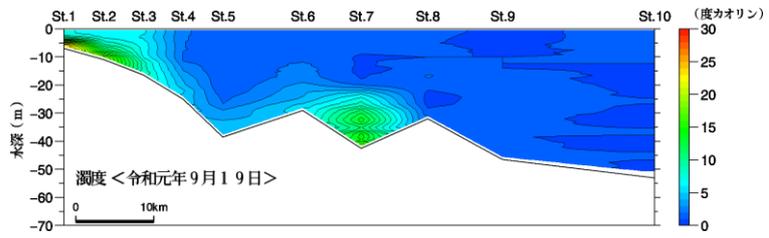
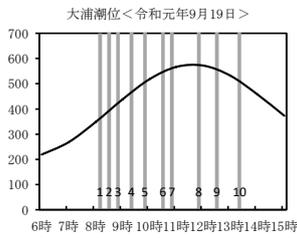
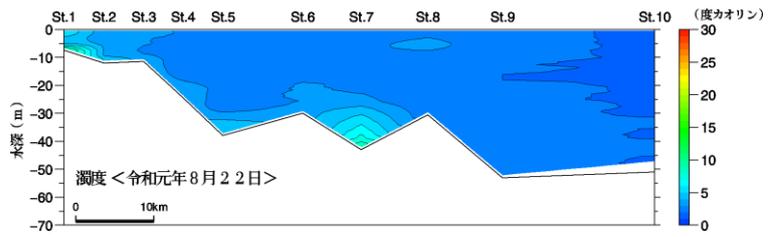
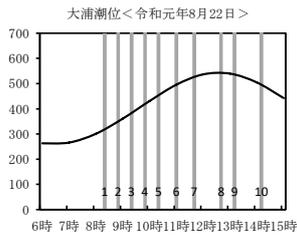
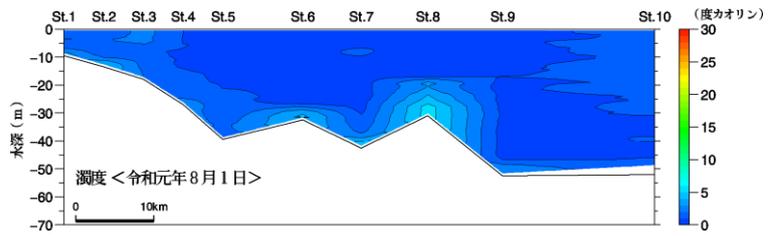
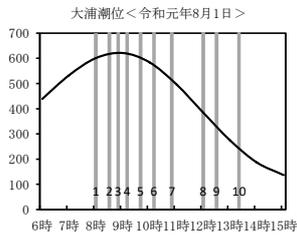
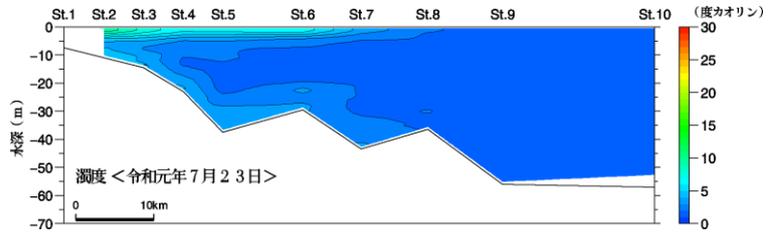
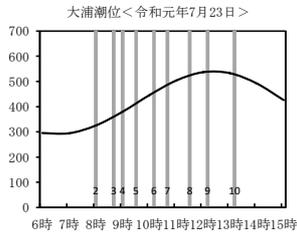
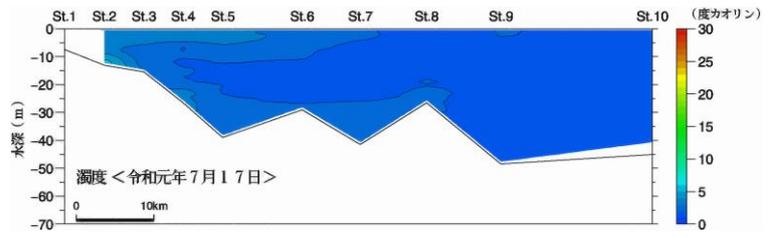
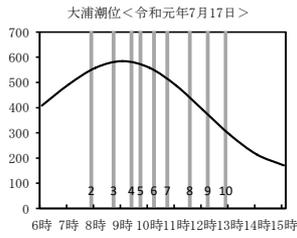


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(2) 水塊構造調査結果(有明東・濁度、令和元年5~6月)

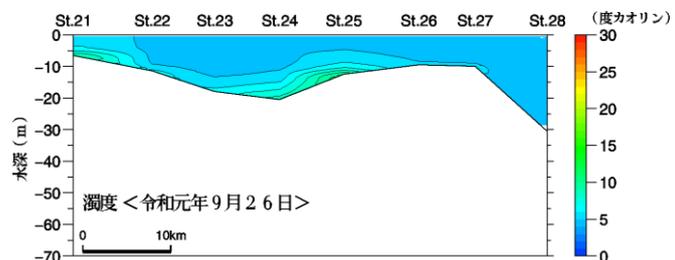
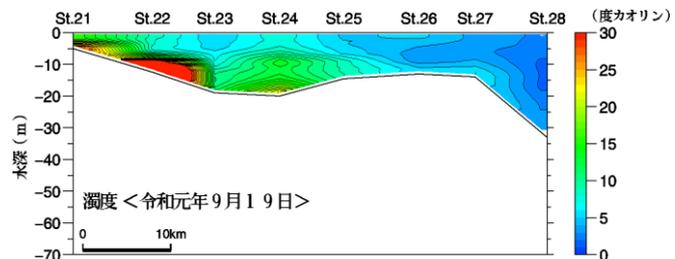
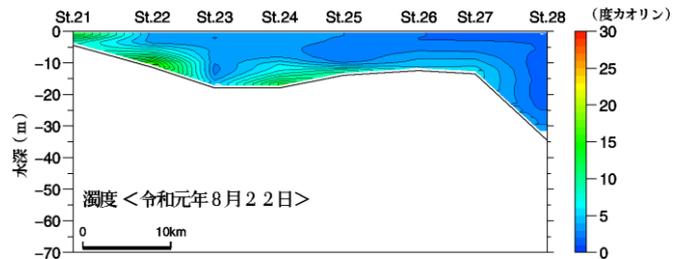
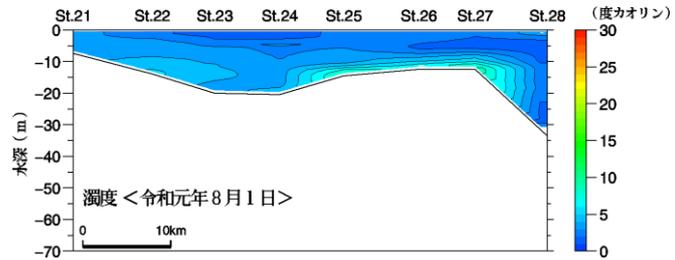
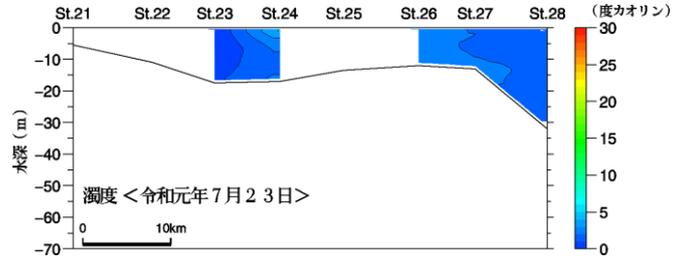
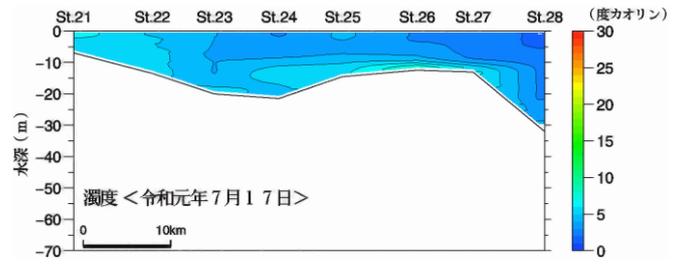
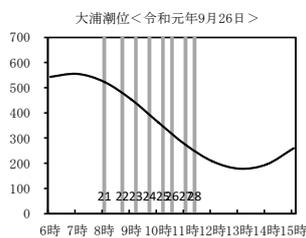
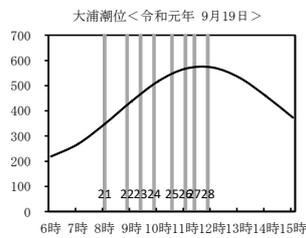
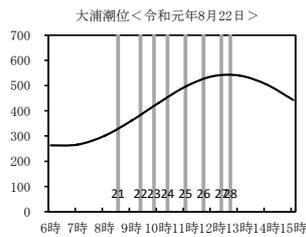
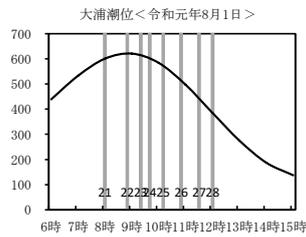
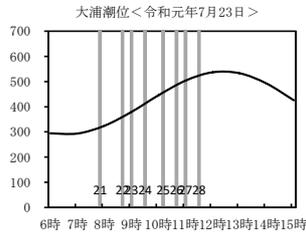
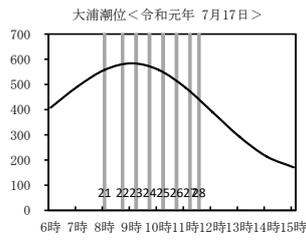


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(3) 水塊構造調査結果(有明中央・濁度、令和元年7~9月)

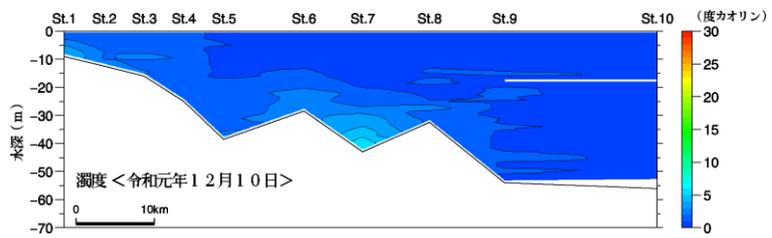
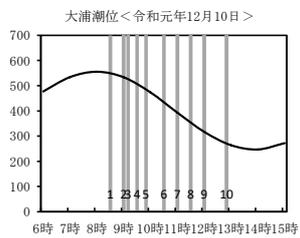
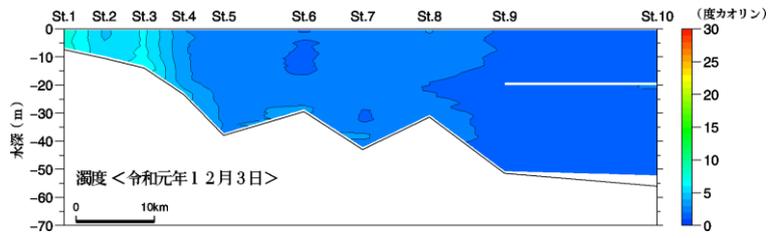
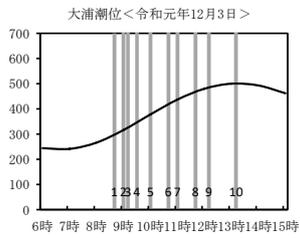
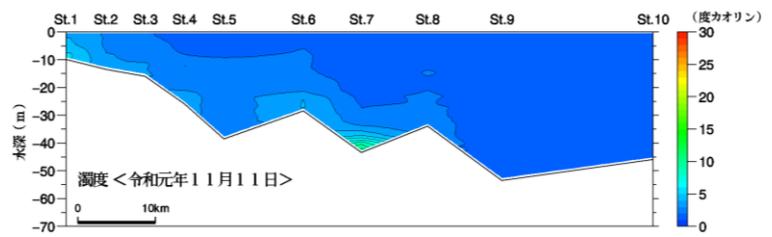
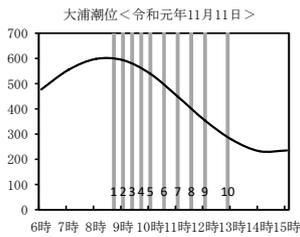
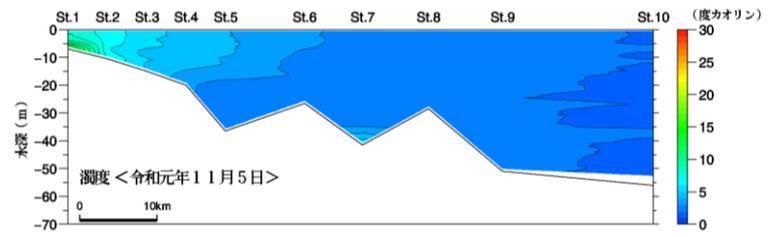
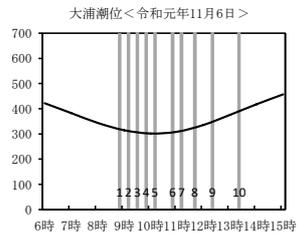
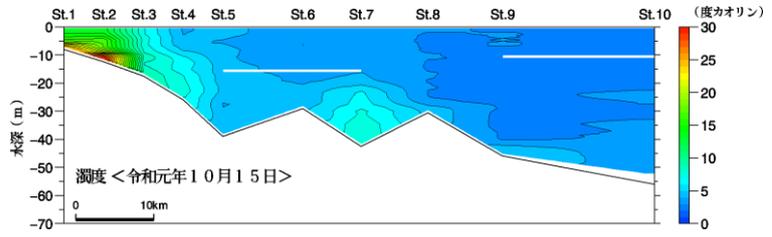
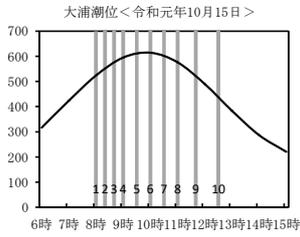
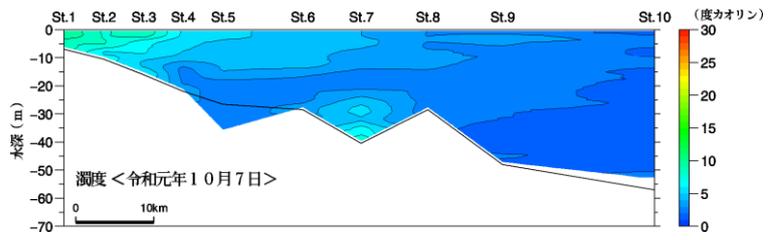
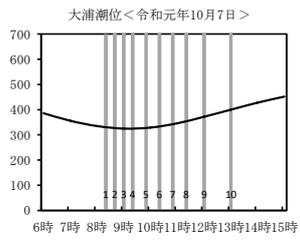


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(4) 水塊構造調査結果(有明東・濁度、令和元年7~9月)

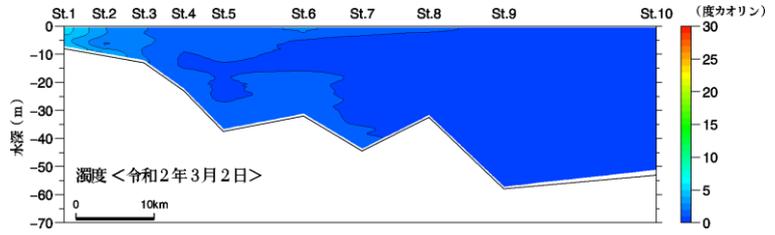
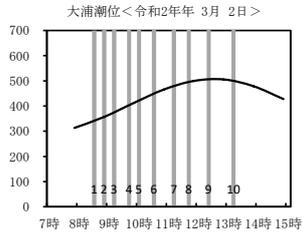
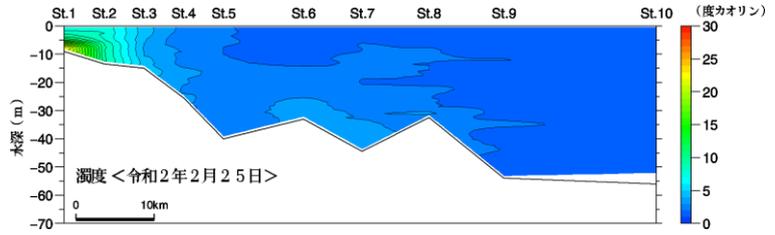
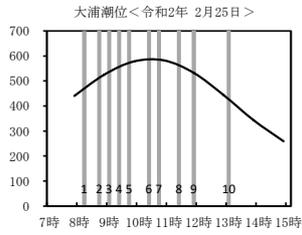
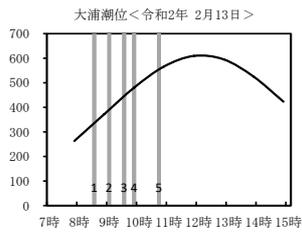
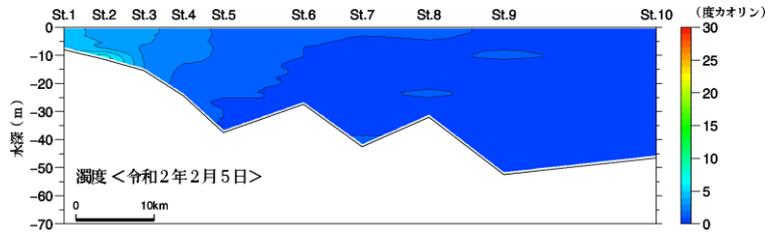
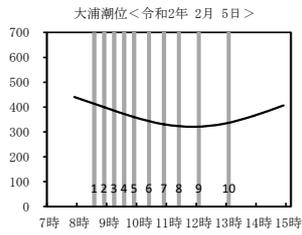
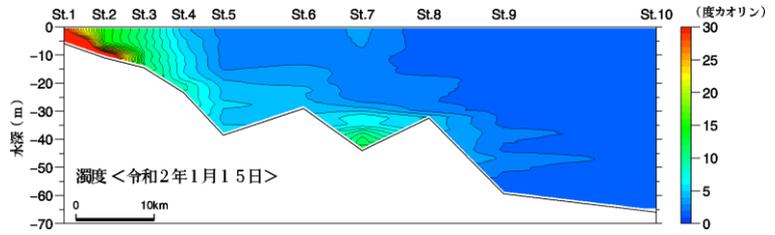
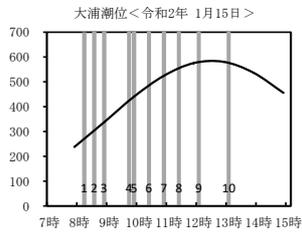
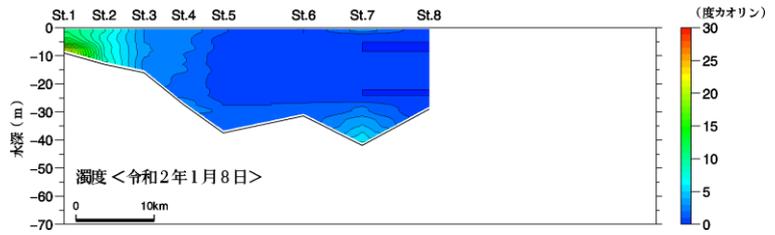
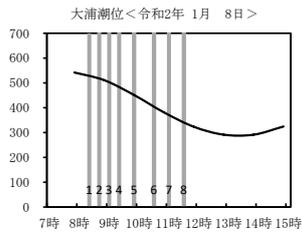


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(5) 水塊構造調査結果(有明中央・濁度、令和元年10~12月)



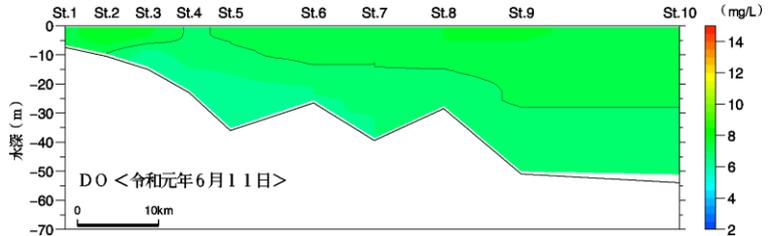
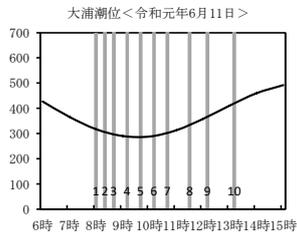
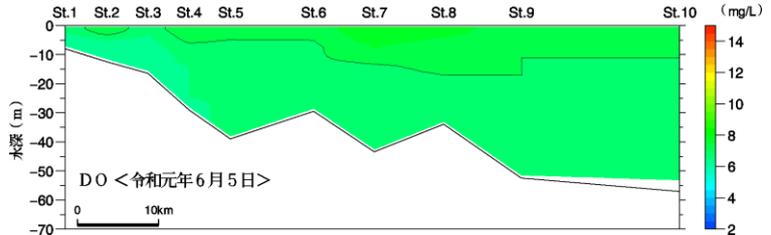
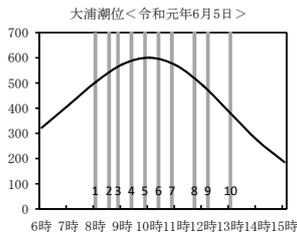
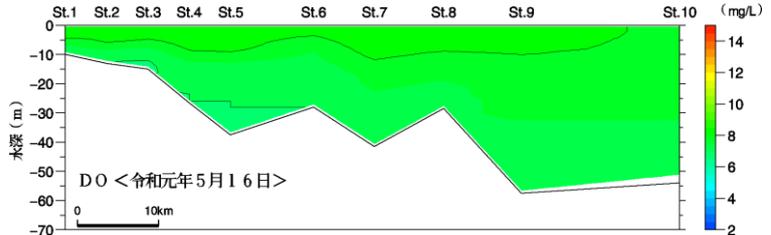
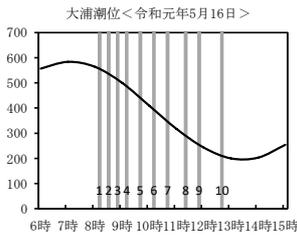
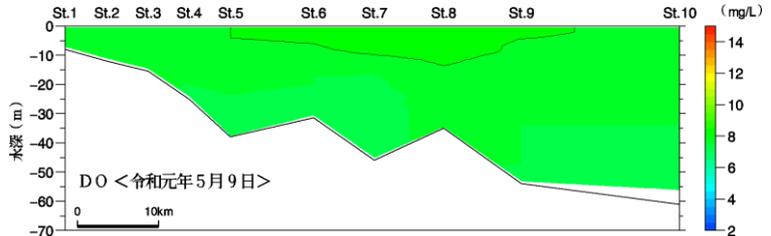
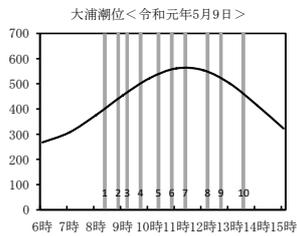
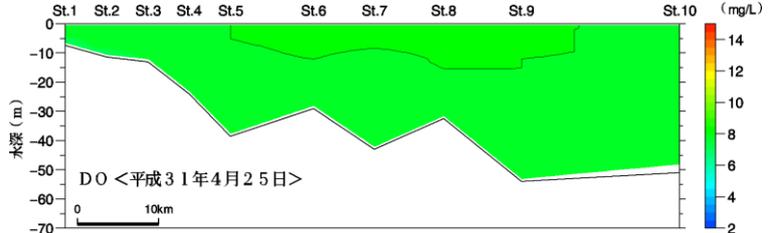
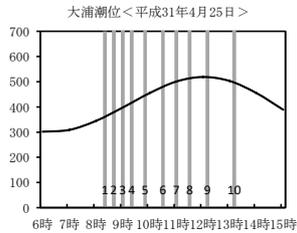
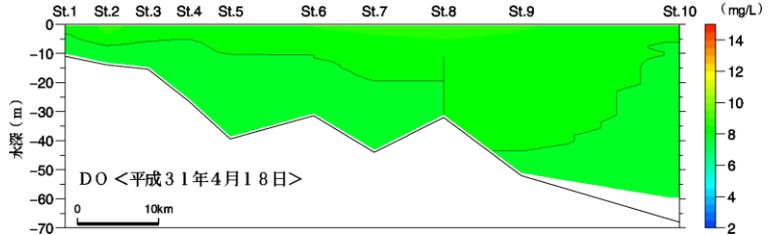
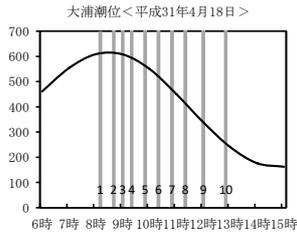
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-4(6) 水塊構造調査結果(有明中央・濁度、令和2年1~3月)

(5) DO

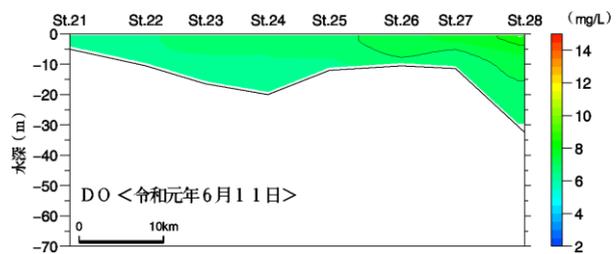
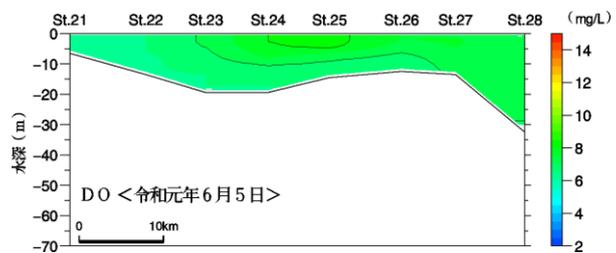
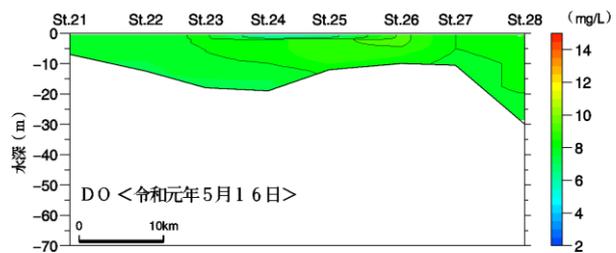
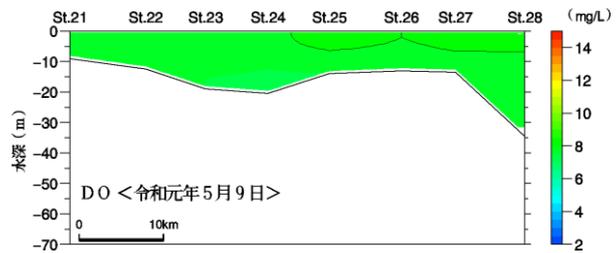
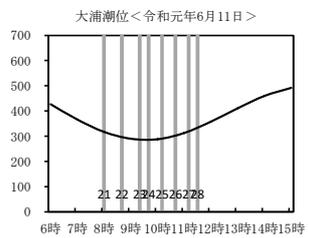
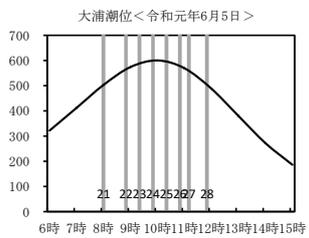
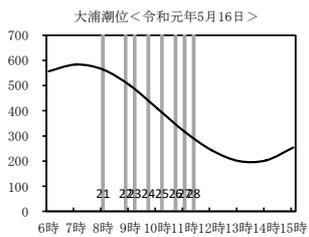
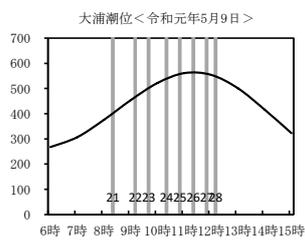


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所(<http://www.jma.go.jp/jma/index.html>)

付図 2.1-5(1) 水塊構造調査結果(有明中央・DO、平成31年4月～令和元年6月)

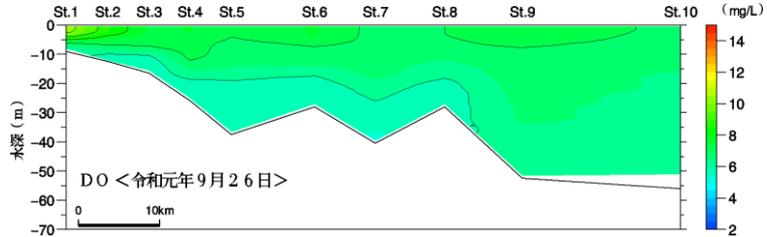
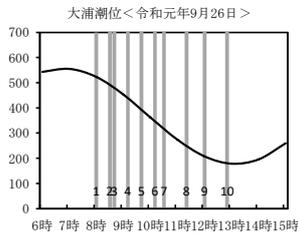
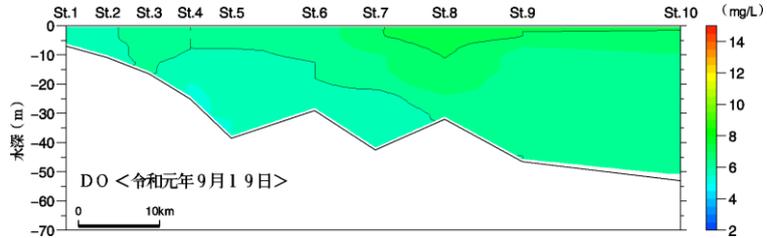
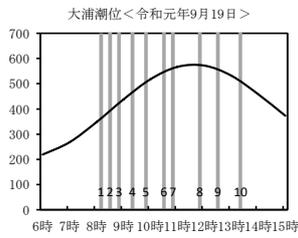
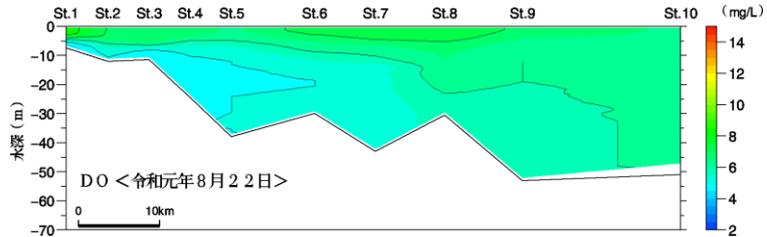
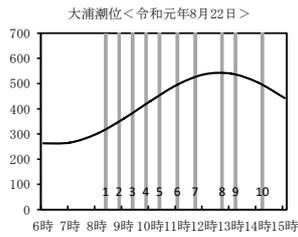
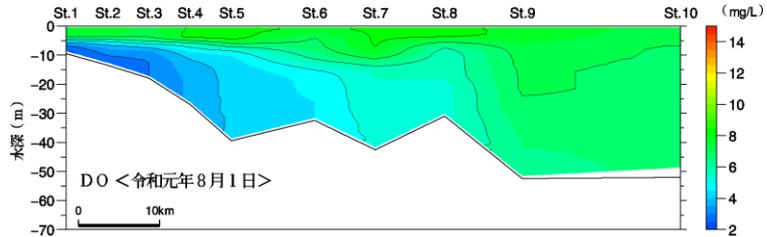
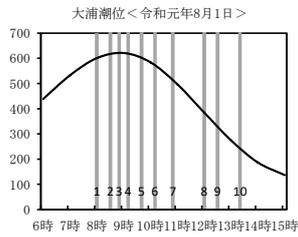
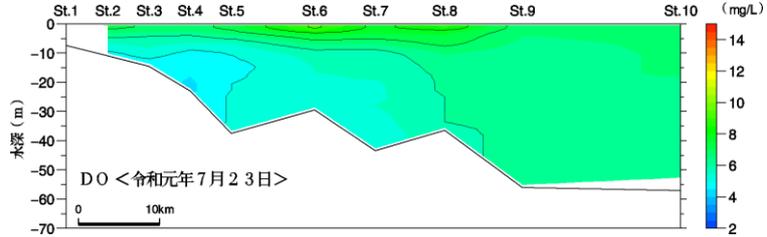
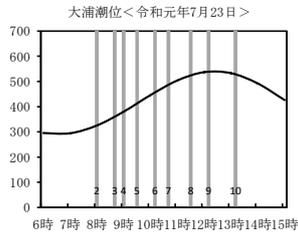
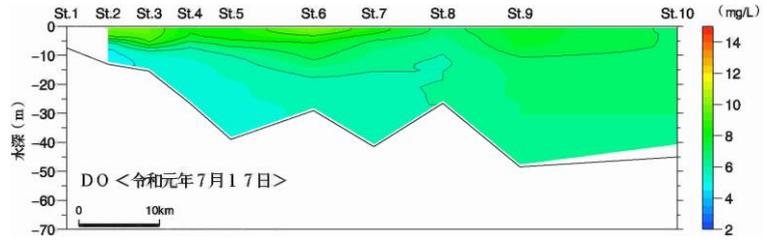
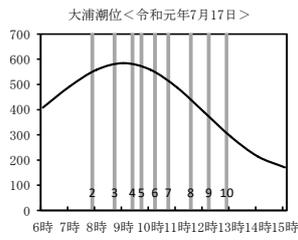


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-5(2) 水塊構造調査結果(有明東・DO、令和元年5~6月)

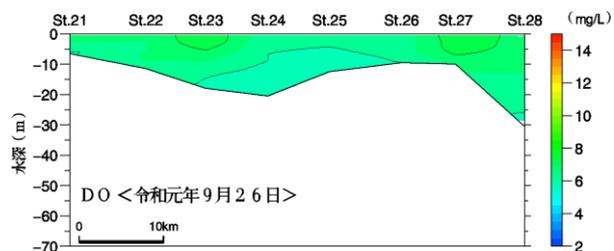
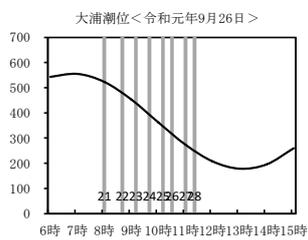
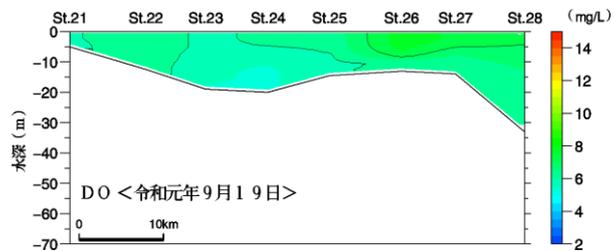
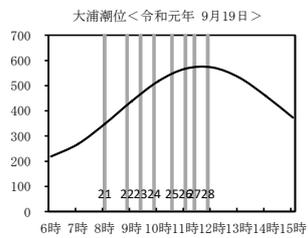
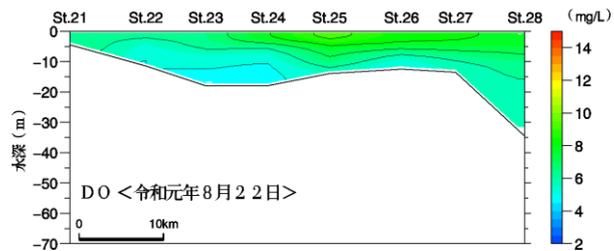
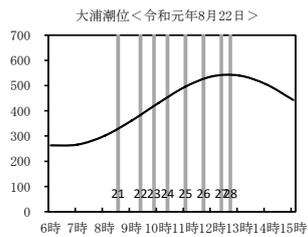
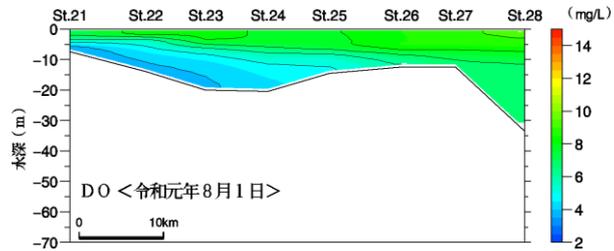
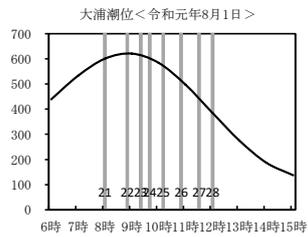
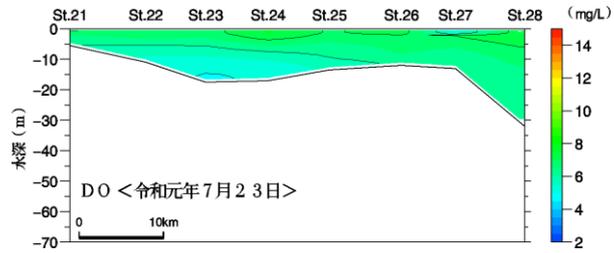
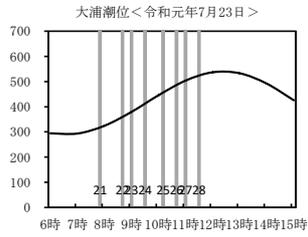
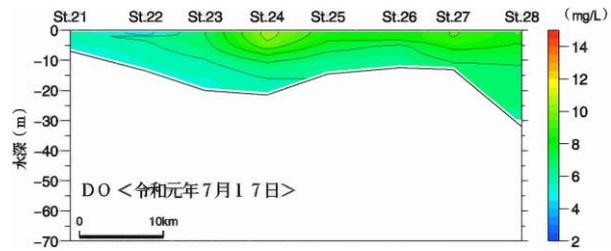
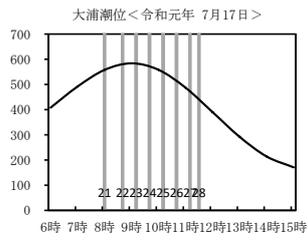


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

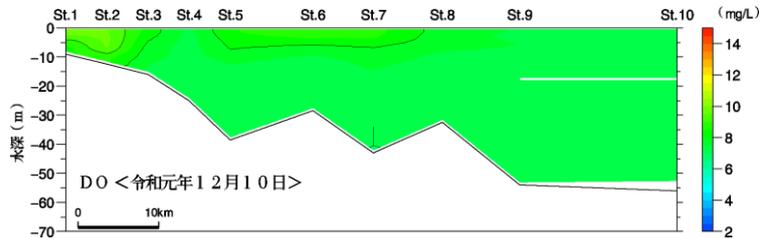
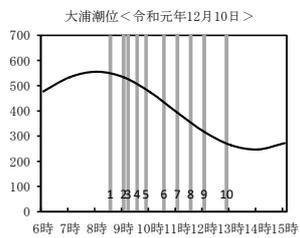
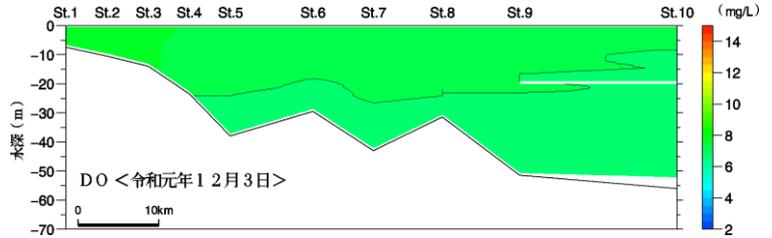
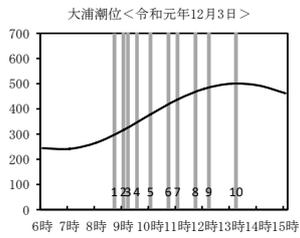
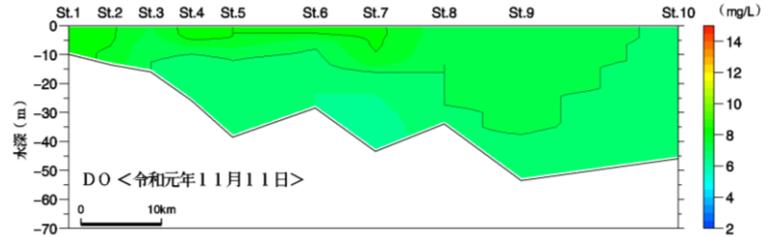
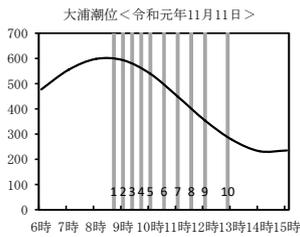
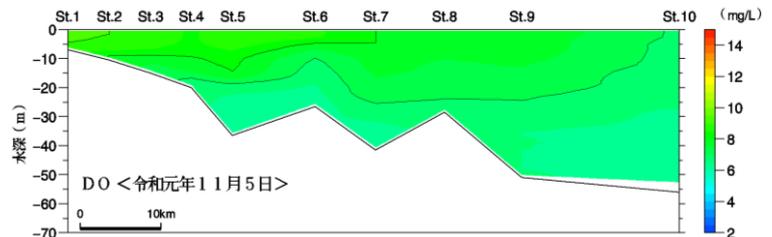
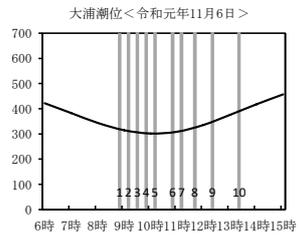
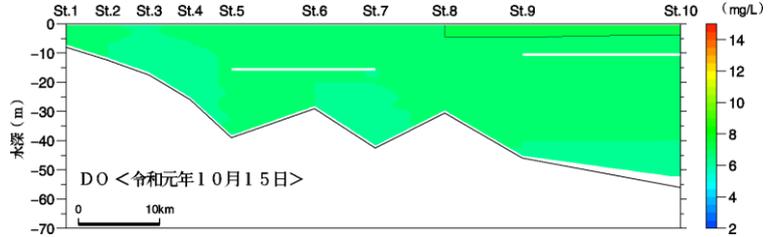
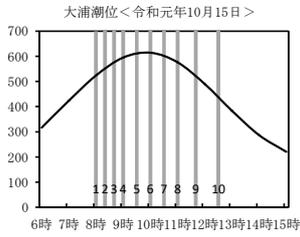
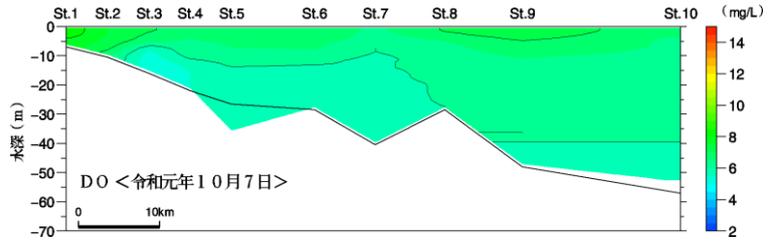
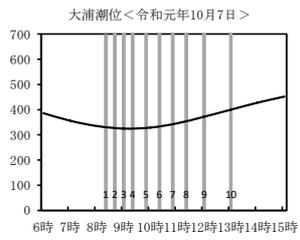
付図 2.1-5(3) 水塊構造調査結果(有明中央・DO、令和元年7~9月)



※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。  
 出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-5(4) 水塊構造調査結果(有明東・DO、令和元年7~9月)

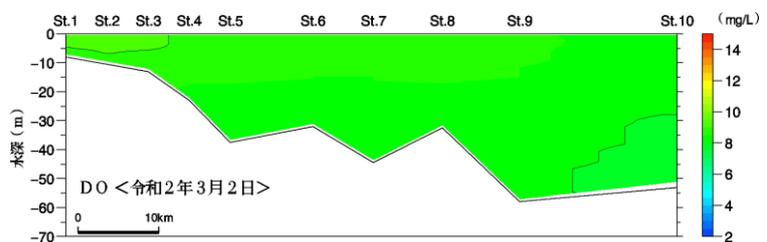
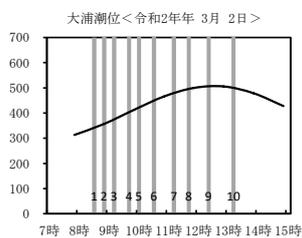
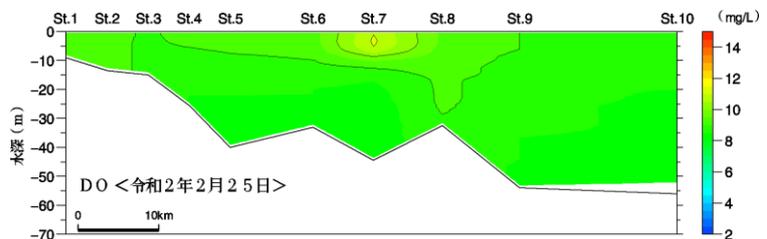
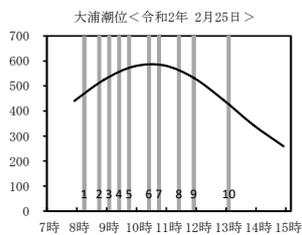
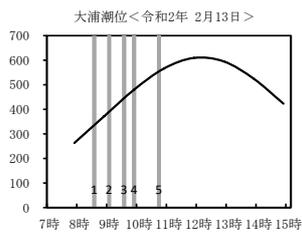
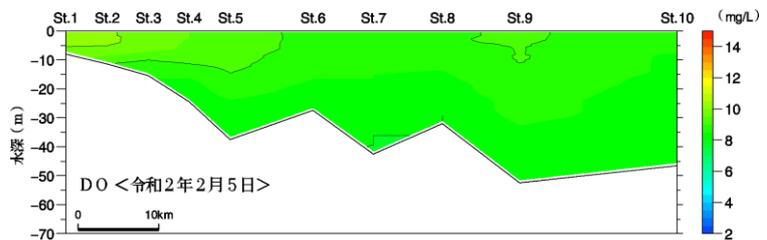
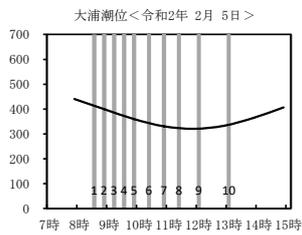
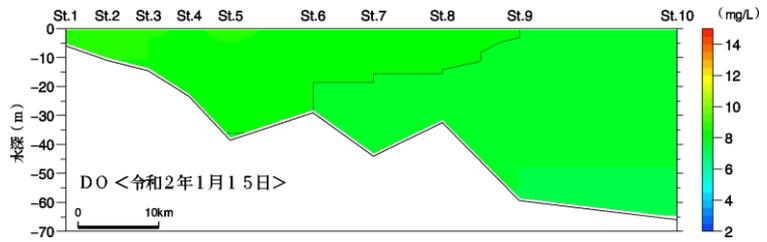
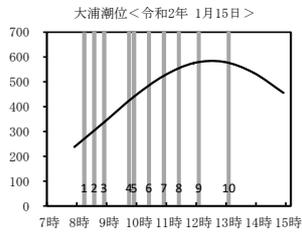
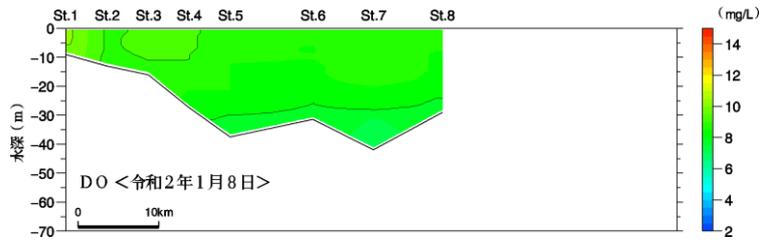
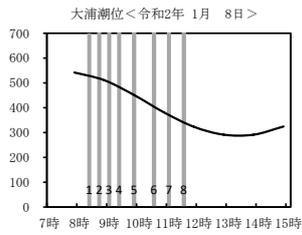


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-5(5) 水塊構造調査結果(有明中央・DO、令和元年10~12月)



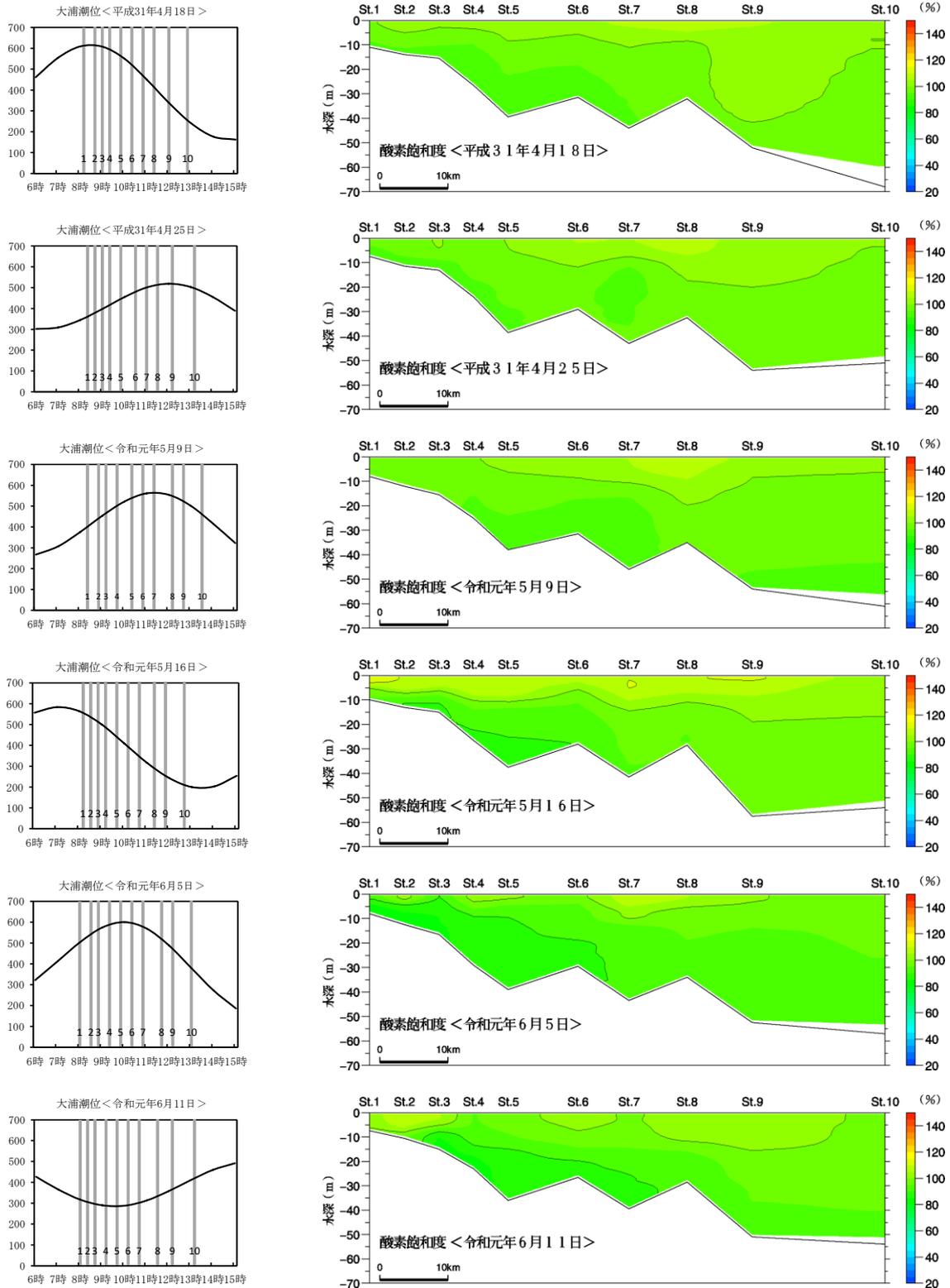
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-5(6) 水塊構造調査結果(有明中央・DO、令和2年1~3月)

## (6) 酸素飽和度

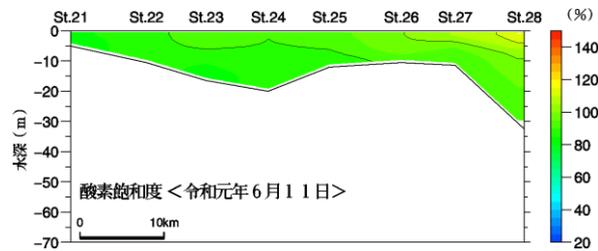
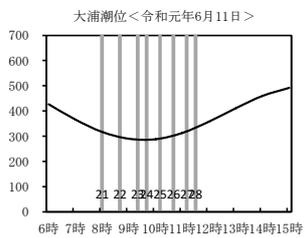
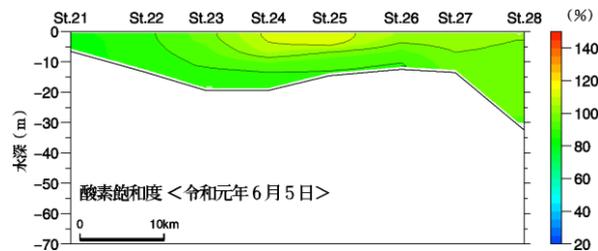
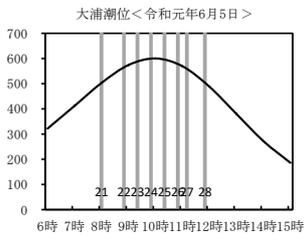
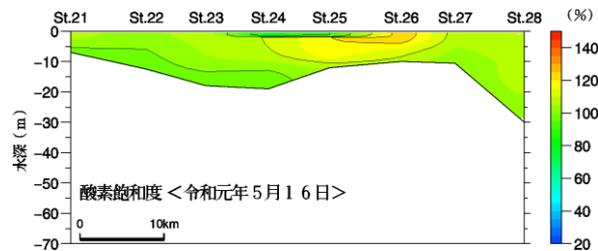
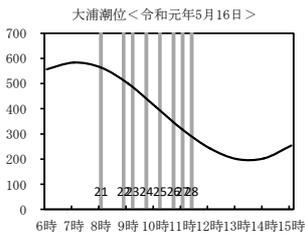
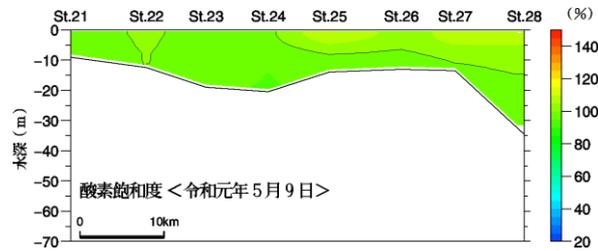
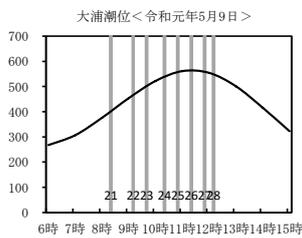


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(1) 水塊構造調査結果(有明中央・酸素飽和度、平成31年4月～令和元年6月)

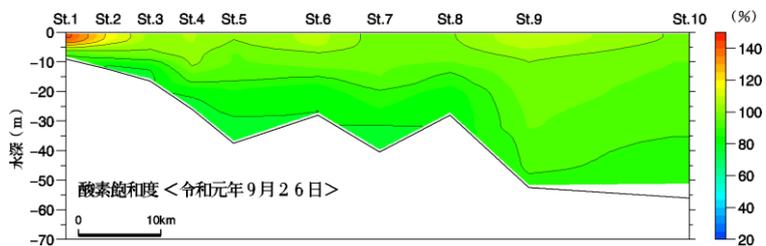
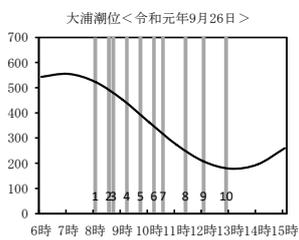
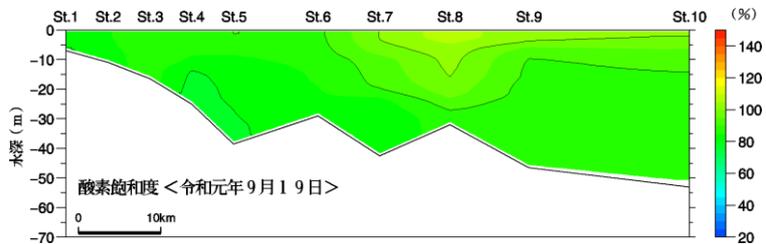
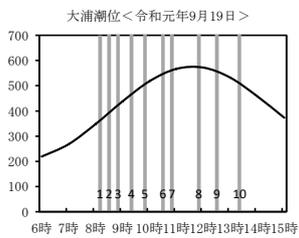
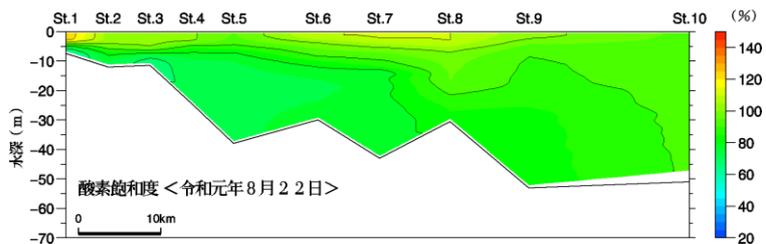
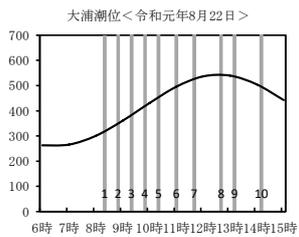
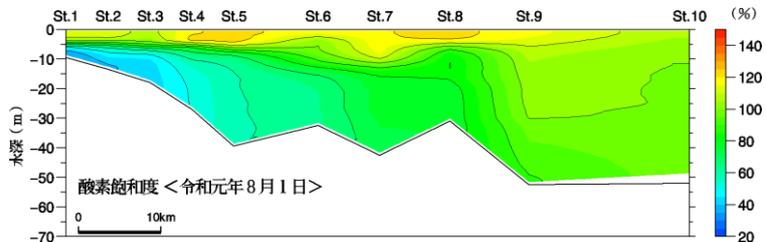
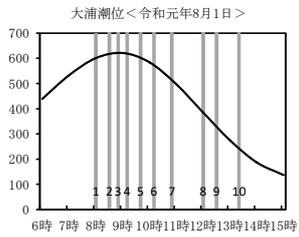
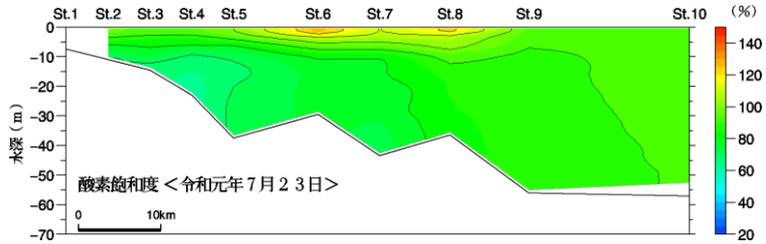
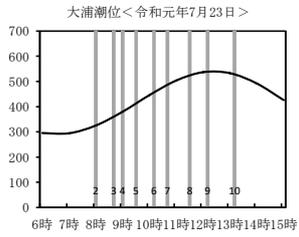
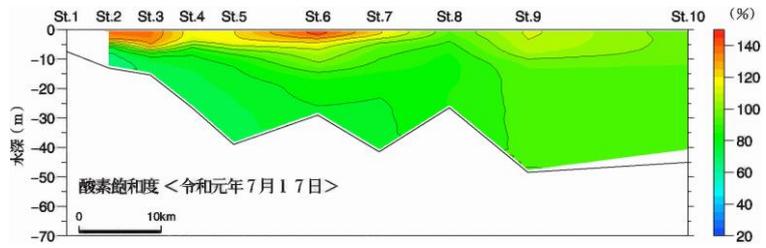
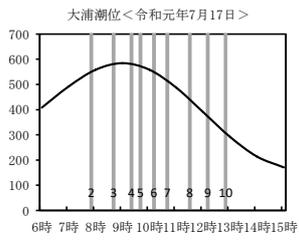


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(2) 水塊構造調査結果(有明東・酸素飽和度、令和元年5~6月)

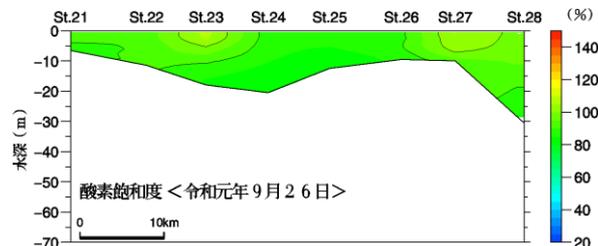
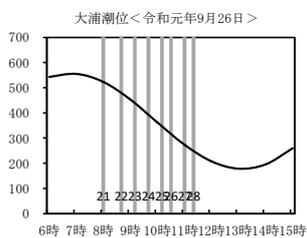
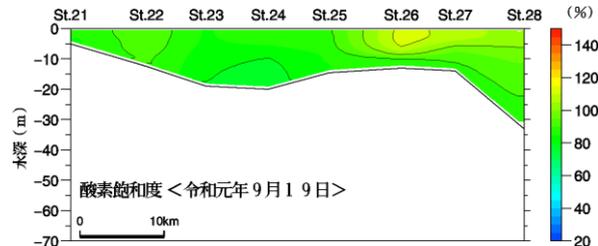
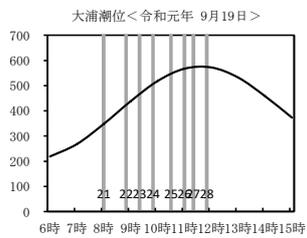
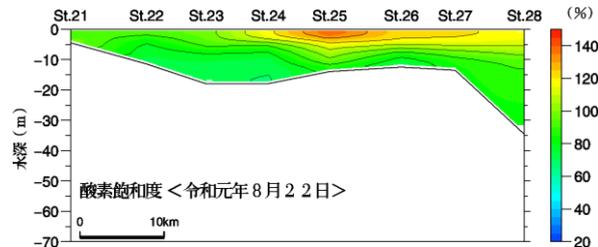
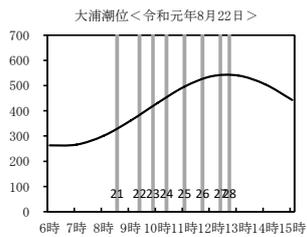
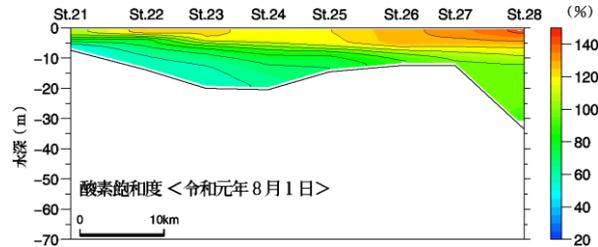
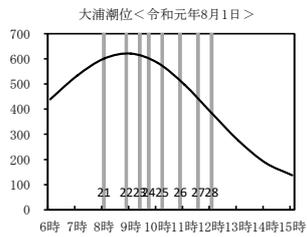
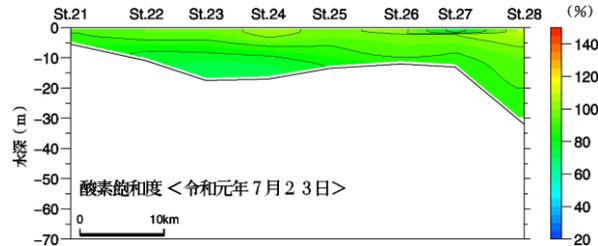
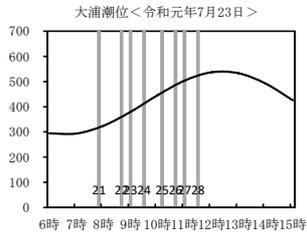
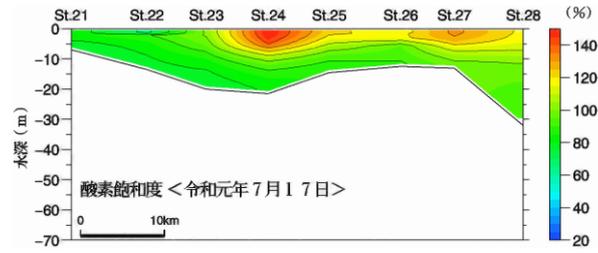
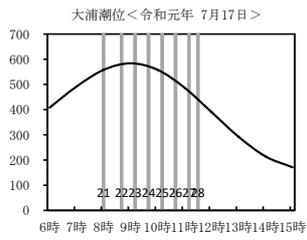


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(3) 水塊構造調査結果(有明中央・酸素飽和度、令和元年7~9月)

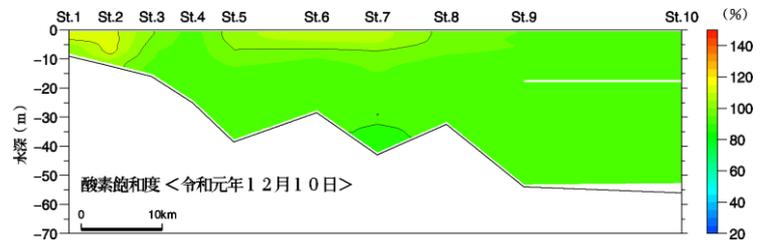
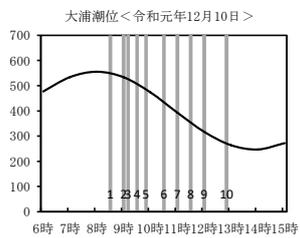
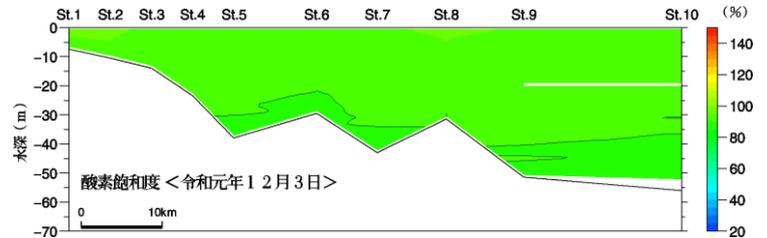
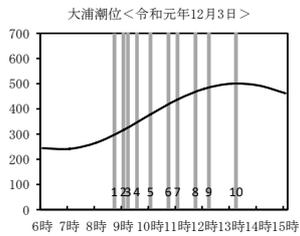
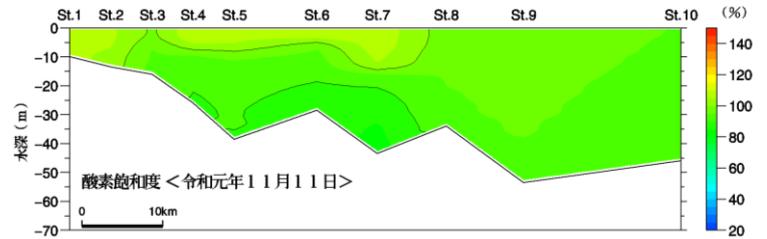
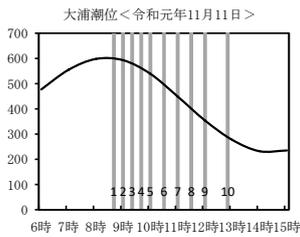
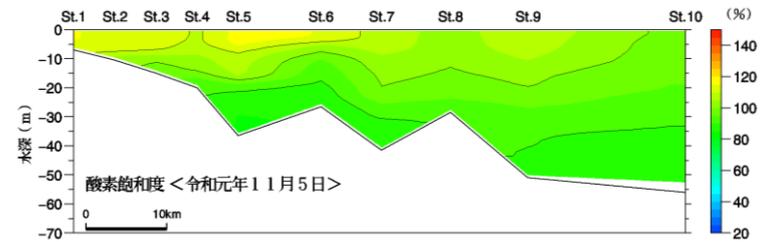
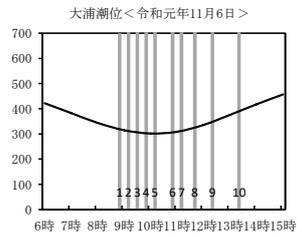
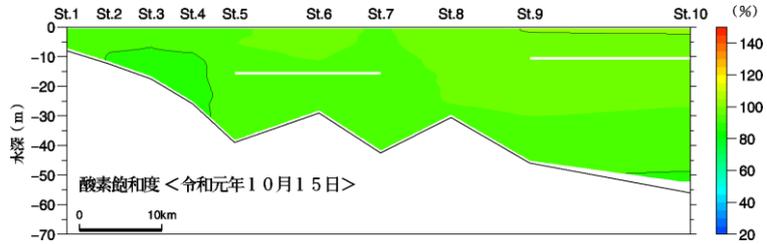
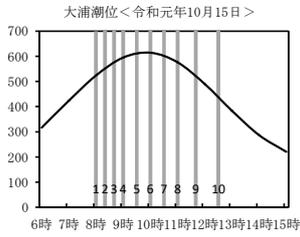
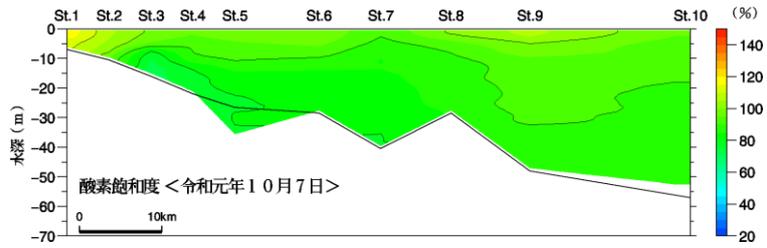
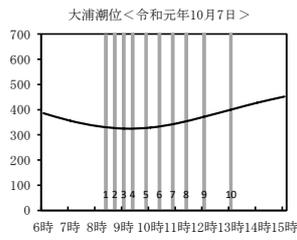


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(4) 水塊構造調査結果(有明東・酸素飽和度、令和元年7~9月)

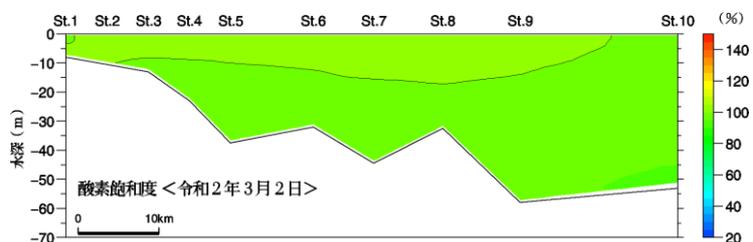
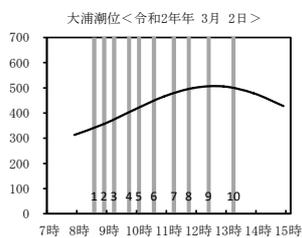
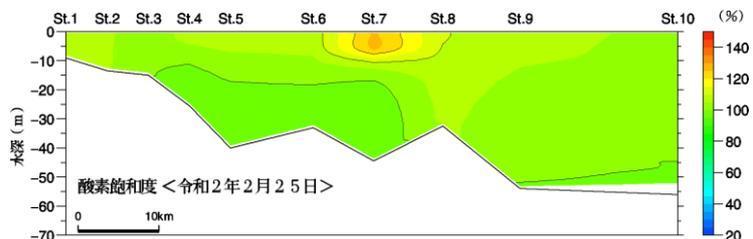
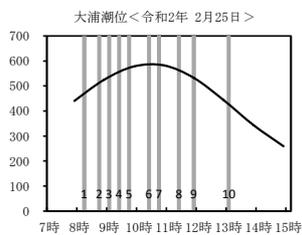
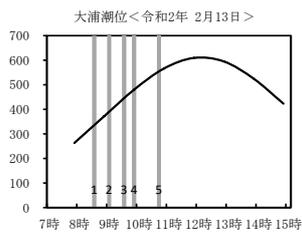
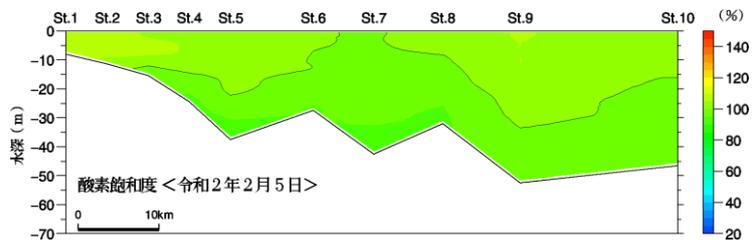
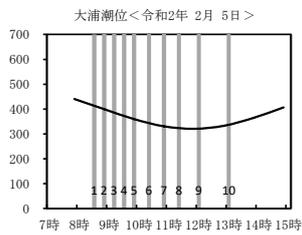
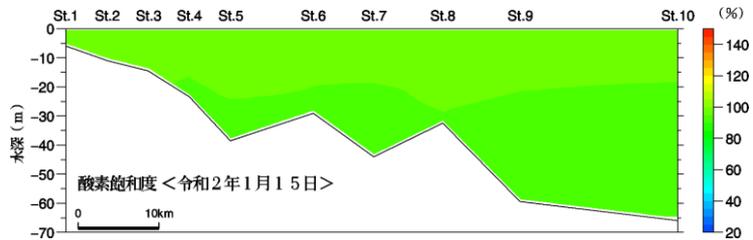
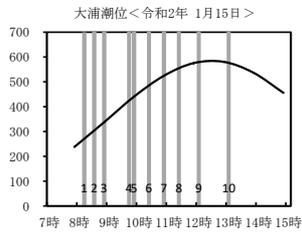
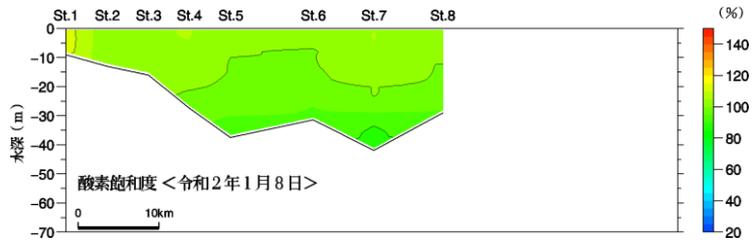
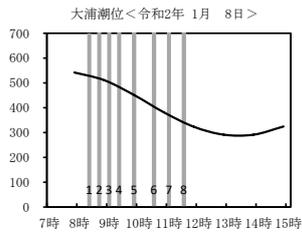


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(5) 水塊構造調査結果(有明中央・酸素飽和度、令和元年10~12月)



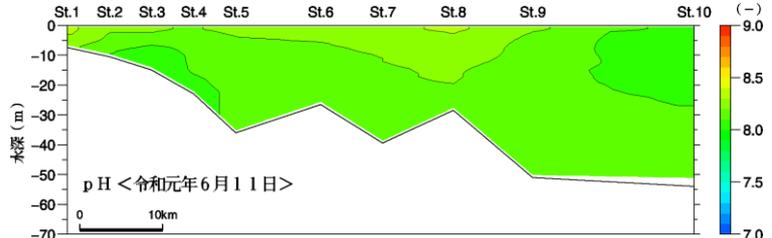
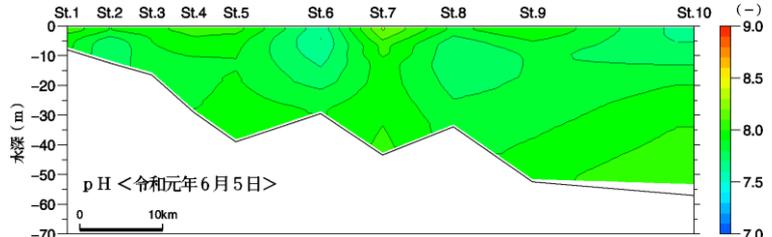
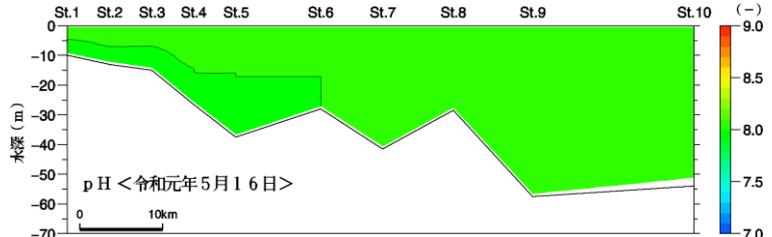
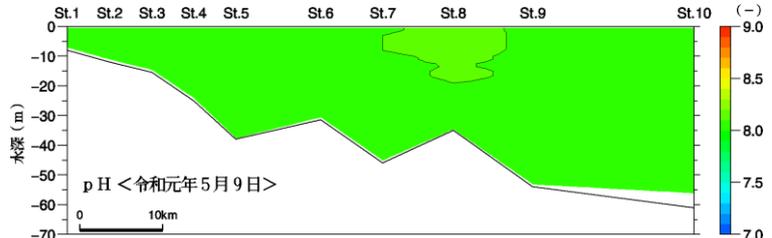
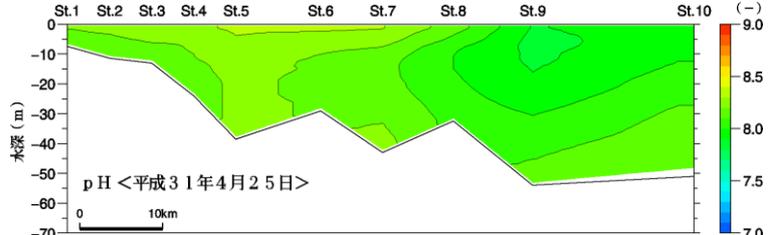
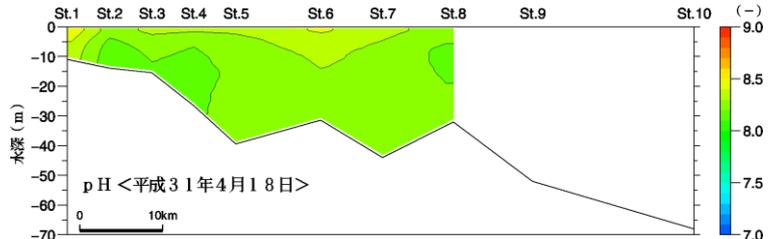
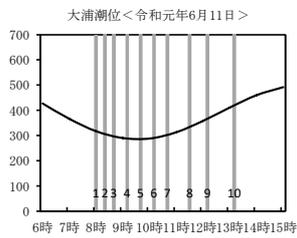
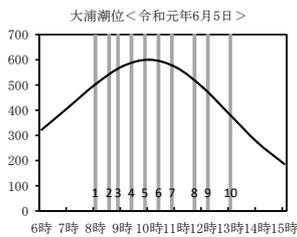
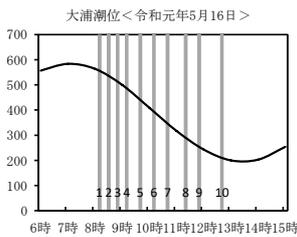
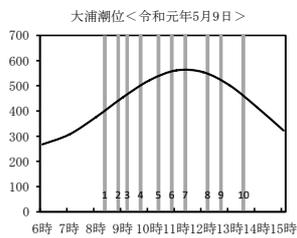
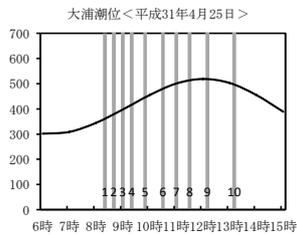
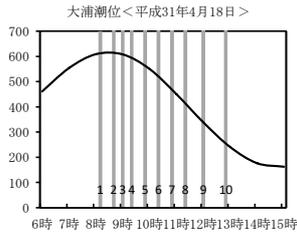
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-6(6) 水塊構造調査結果(有明中央・酸素飽和度、令和2年1~3月)

(7) pH

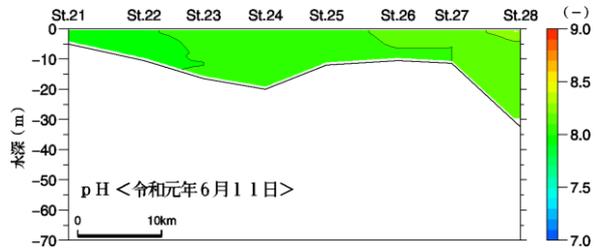
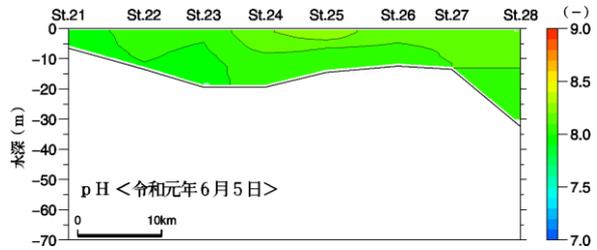
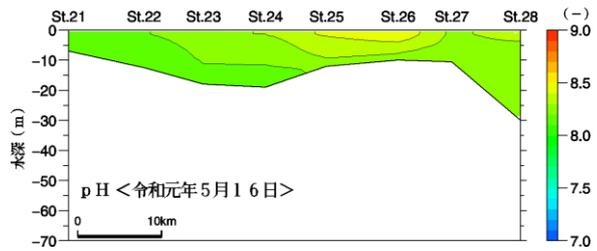
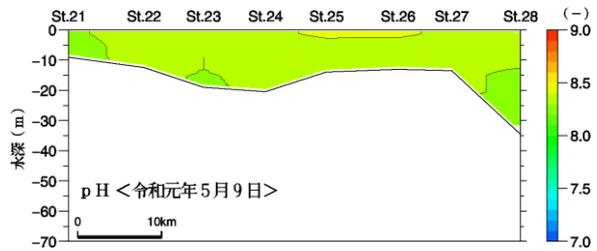
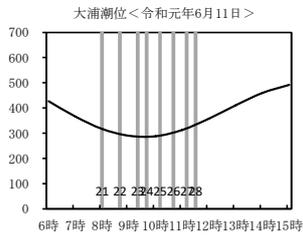
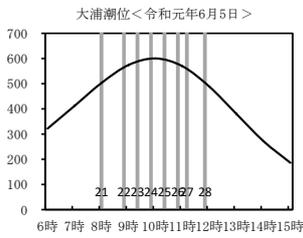
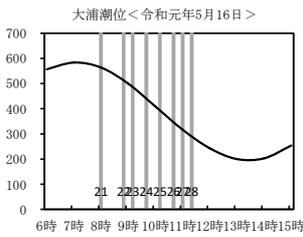
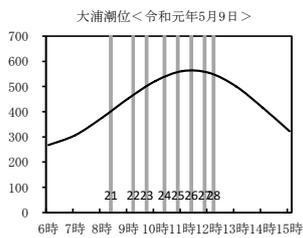


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 大浦検潮所(<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(1) 水塊構造調査結果(有明中央・pH、平成31年4月～令和元年6月)

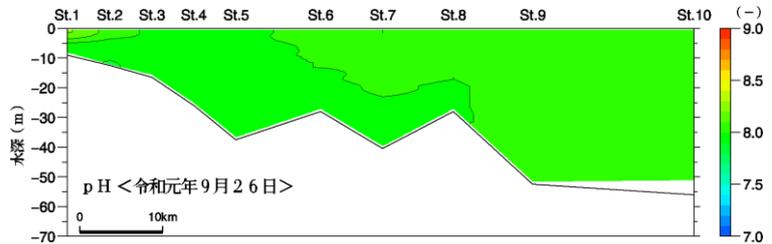
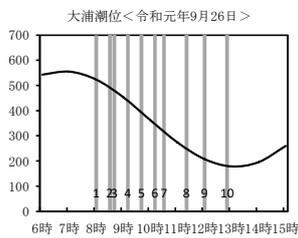
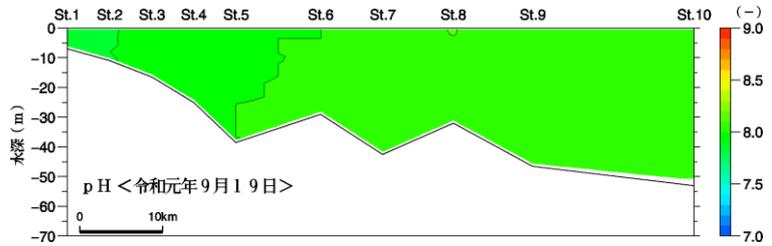
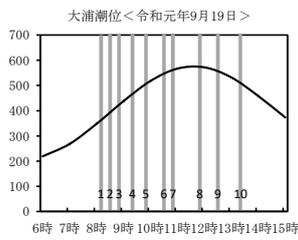
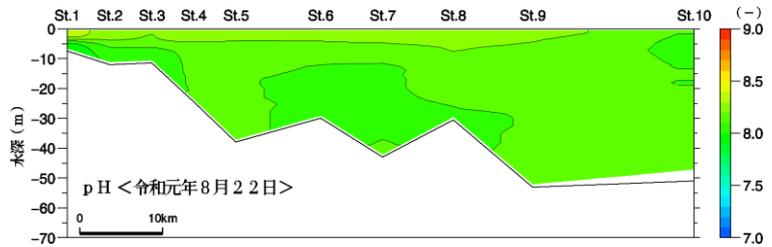
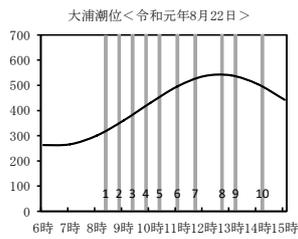
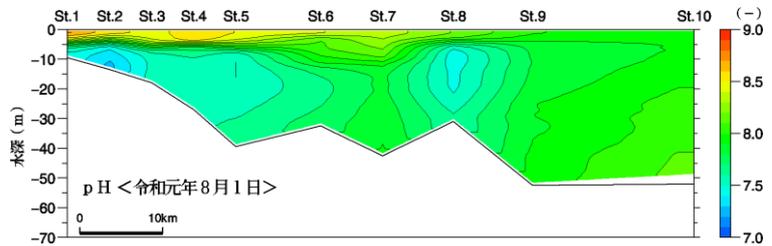
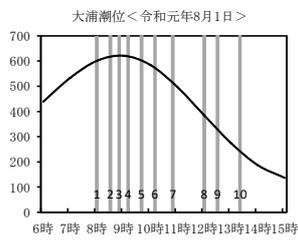
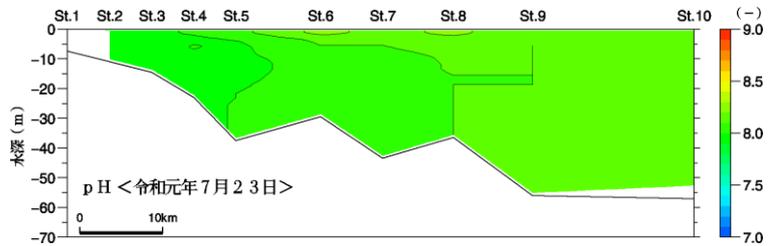
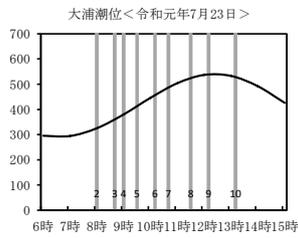
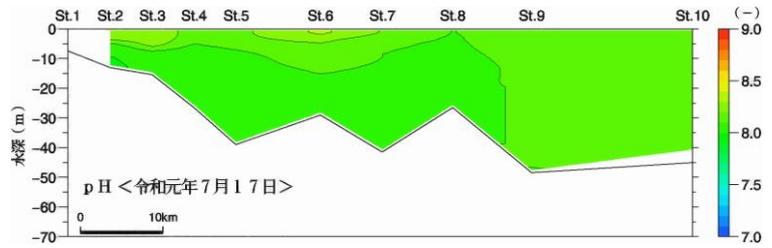
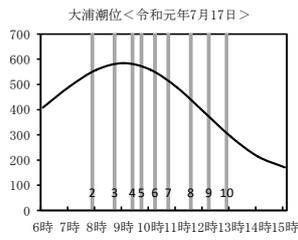


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(2) 水塊構造調査結果(有明東・pH、令和元年5~6月)

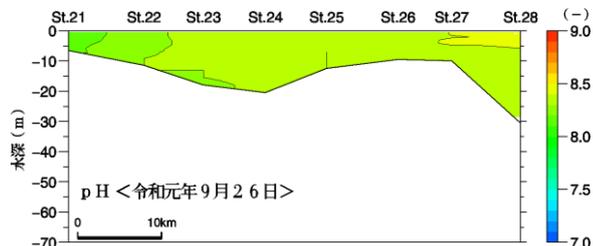
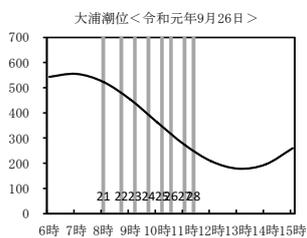
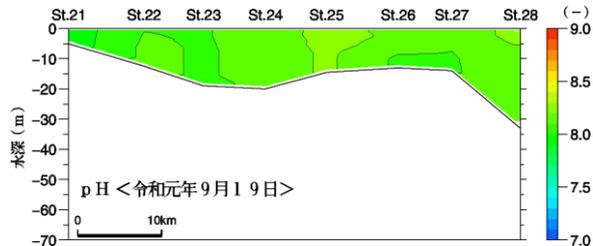
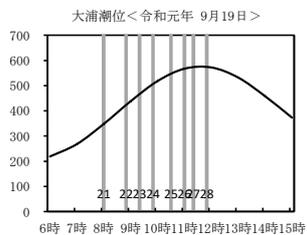
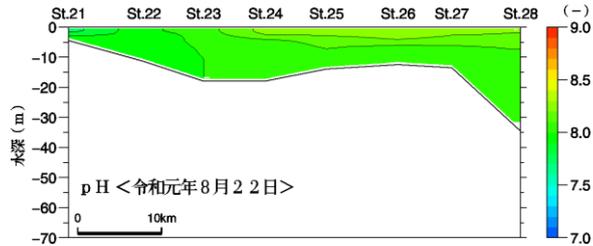
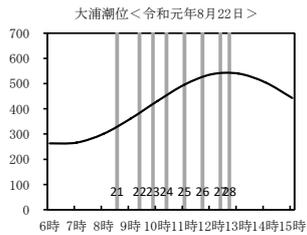
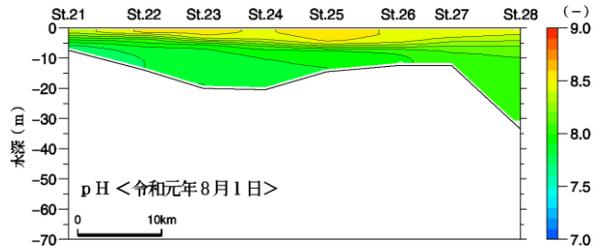
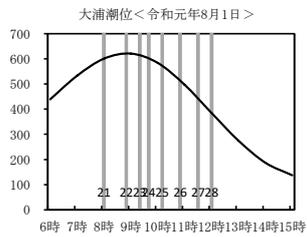
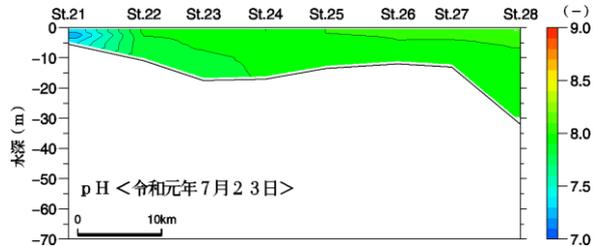
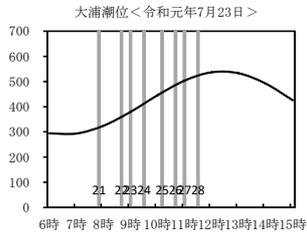
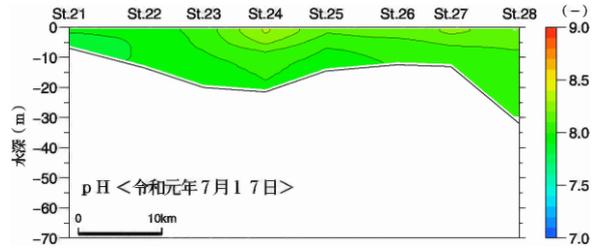
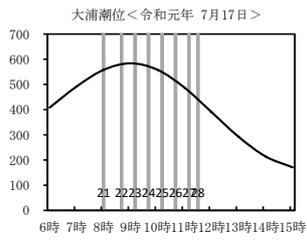


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(3) 水塊構造調査結果(有明中央・pH、令和元年7~9月)

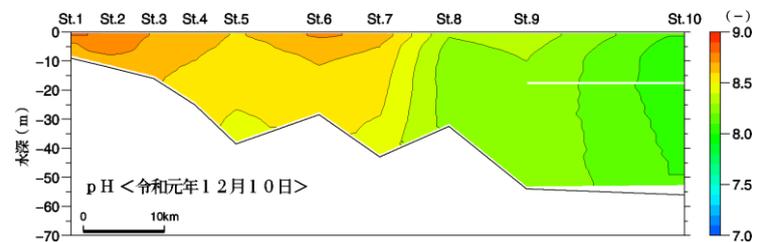
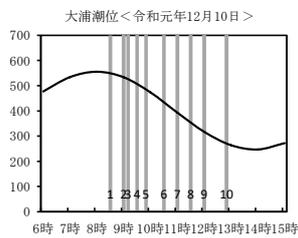
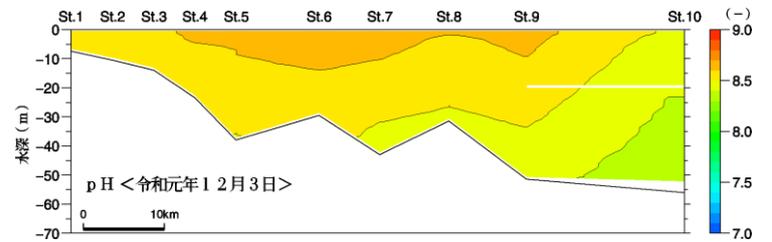
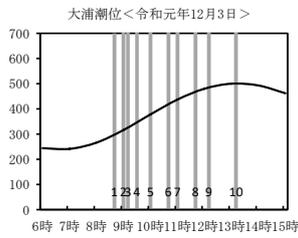
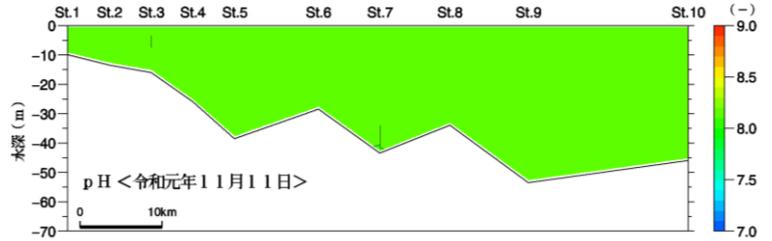
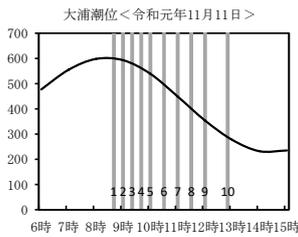
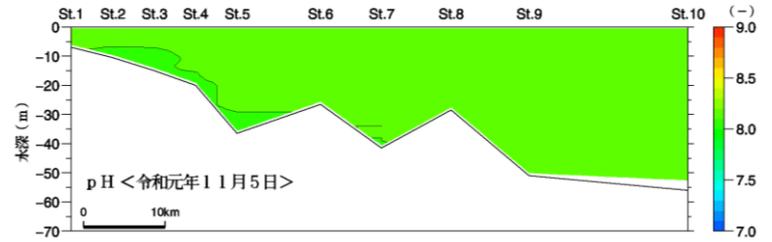
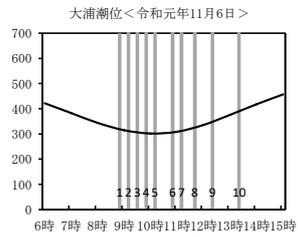
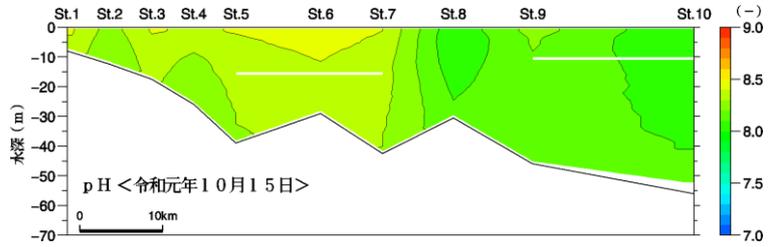
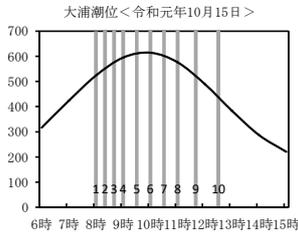
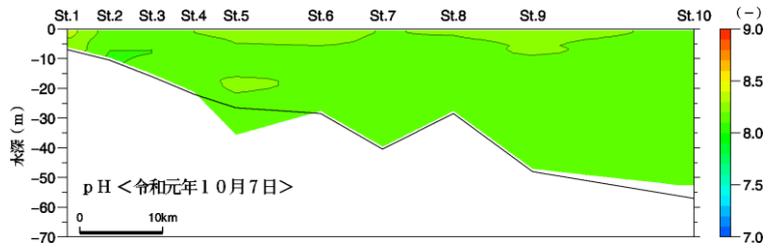
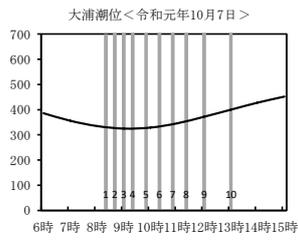


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(4) 水塊構造調査結果(有明東・pH、令和元年7~9月)

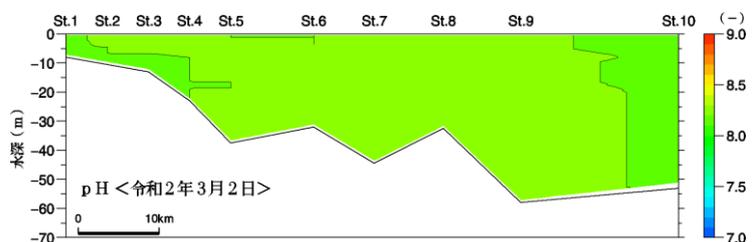
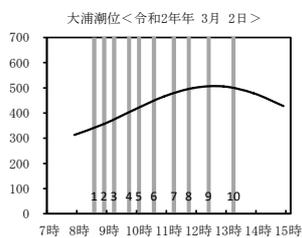
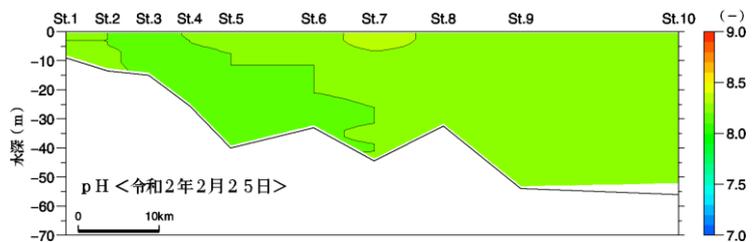
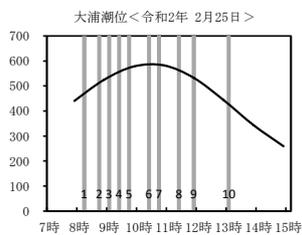
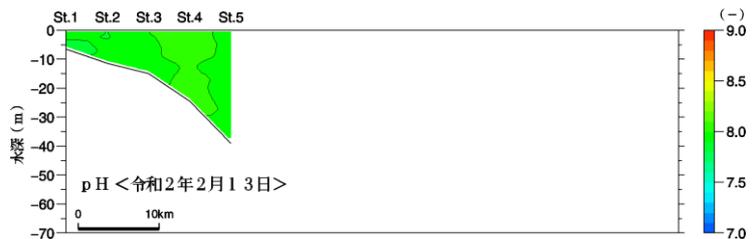
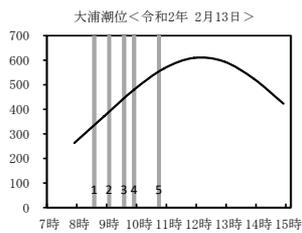
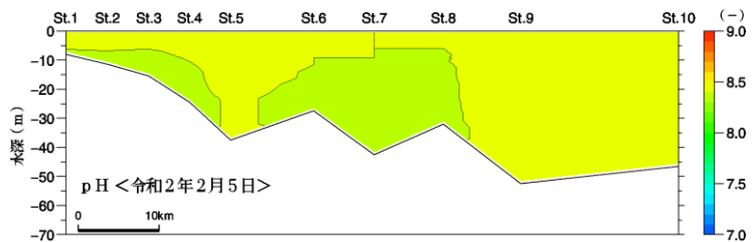
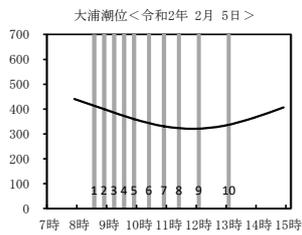
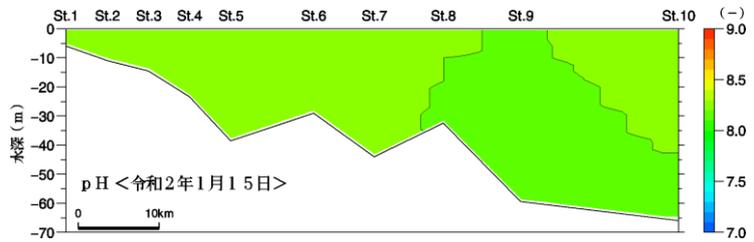
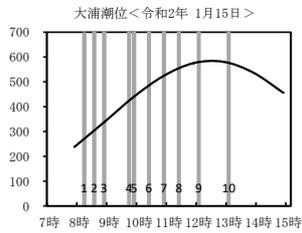
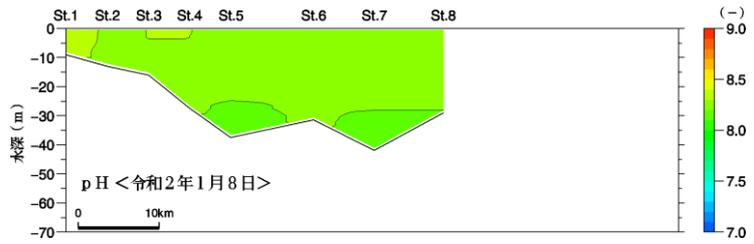
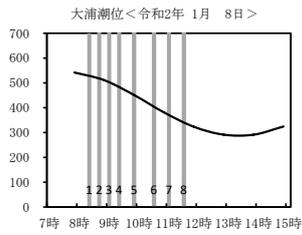


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(5) 水塊構造調査結果(有明中央・pH、令和元年10~12月)



※空白部は欠測を示す。

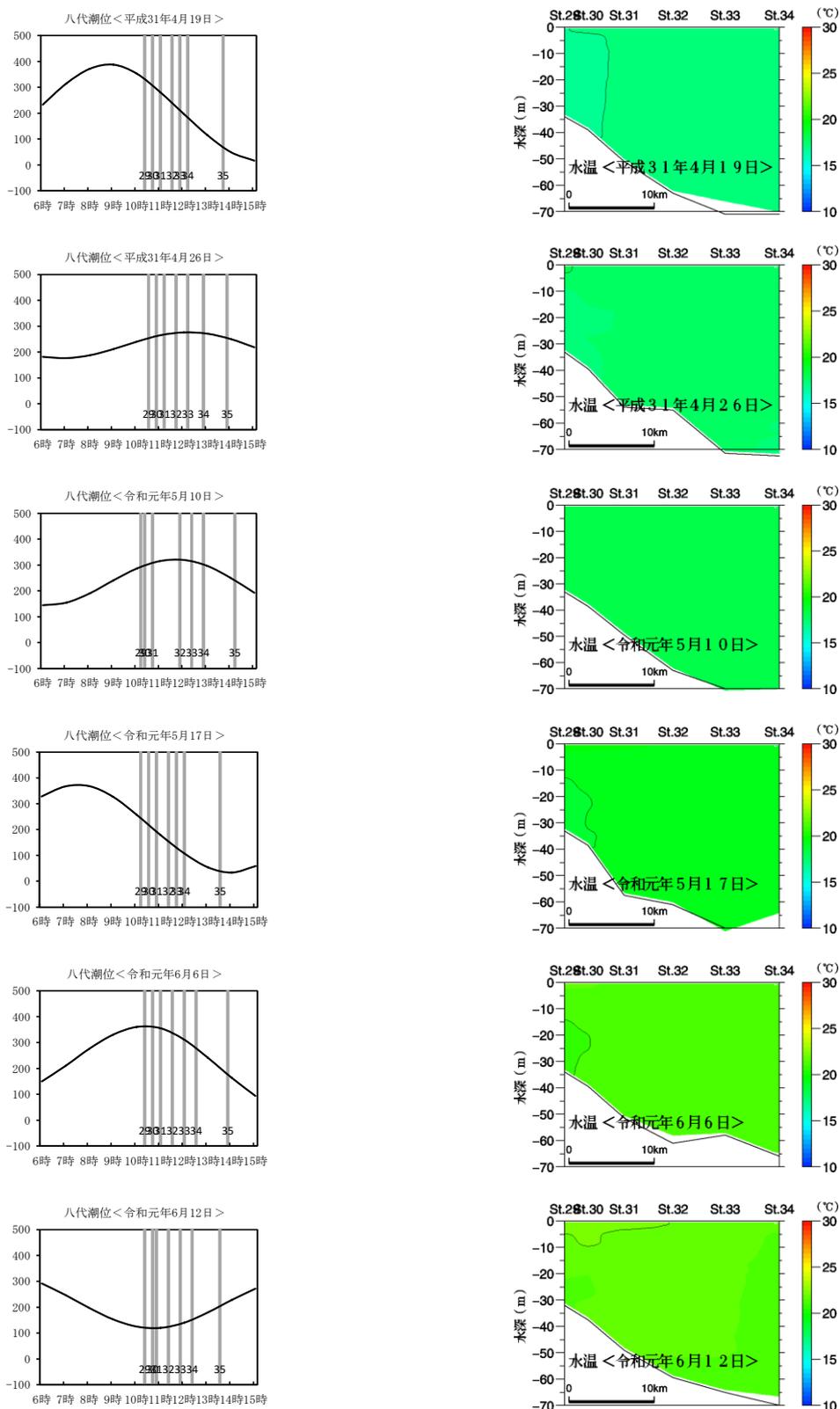
※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 大浦検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.1-7(6) 水塊構造調査結果(有明中央・pH、令和2年1~3月)

## 2.2 八代中央・八代西

### (1) 水温



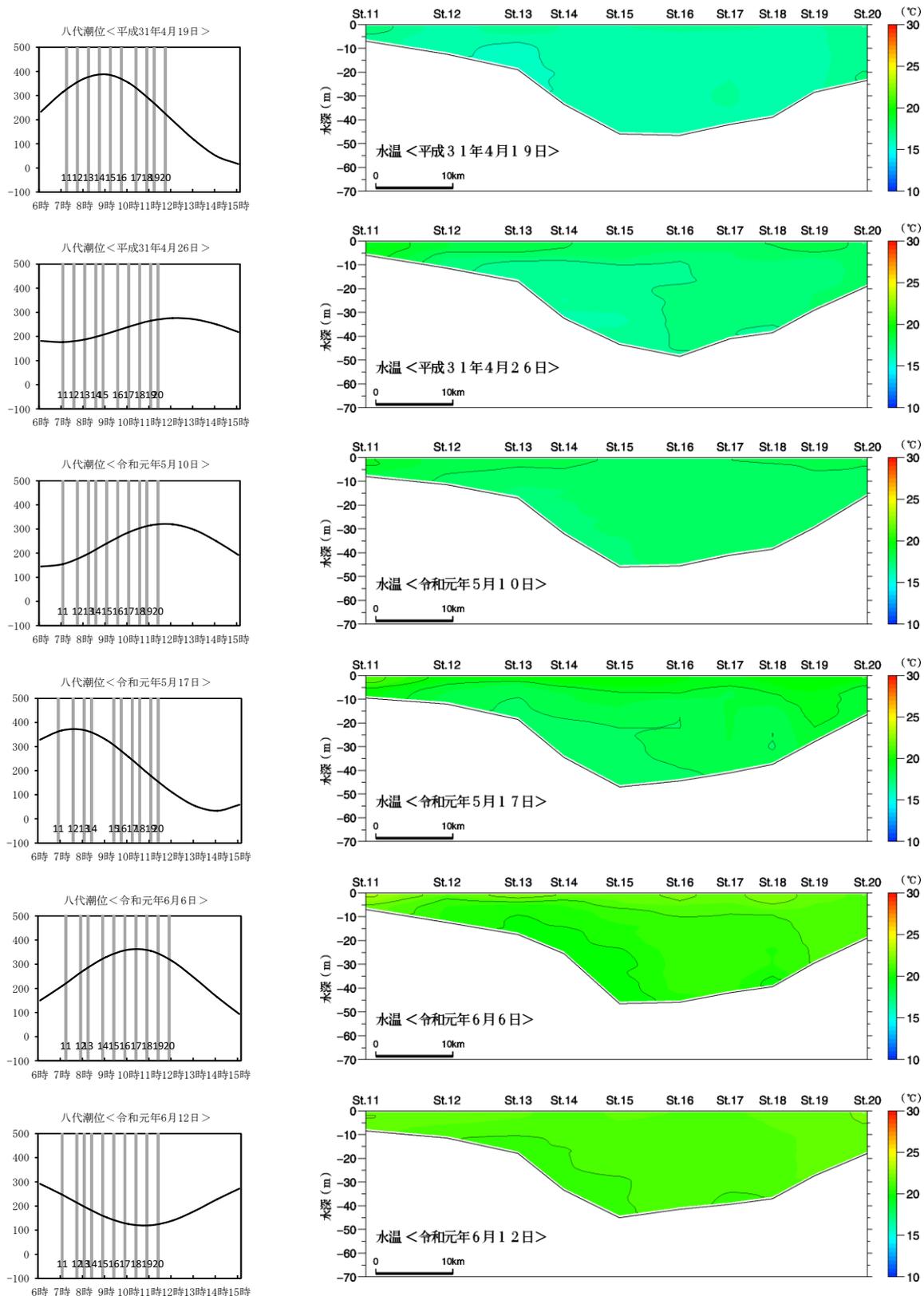
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

5月2日の St. 34 は天候不良による観測中止に伴い欠測。

付図 2.2-1(1) 水塊構造調査結果(八代西・水温、平成31年4月～令和元年6月)

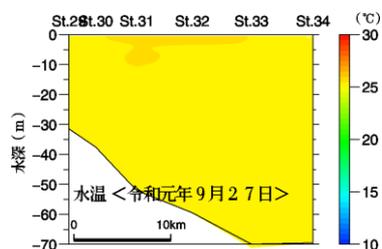
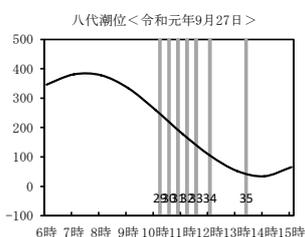
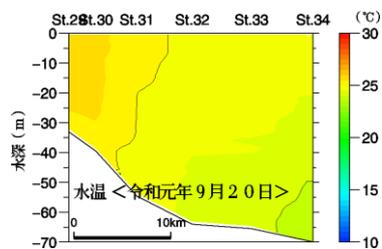
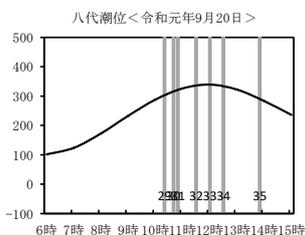
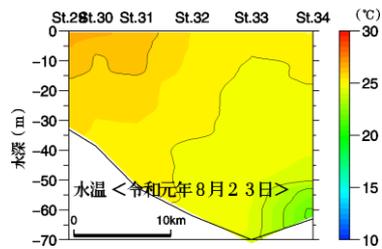
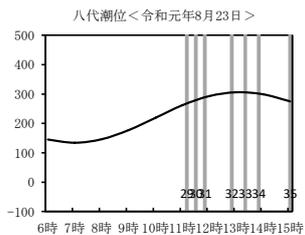
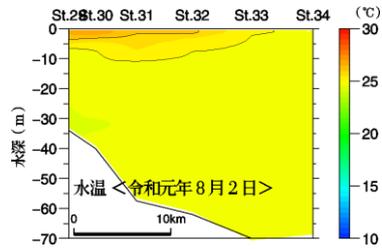
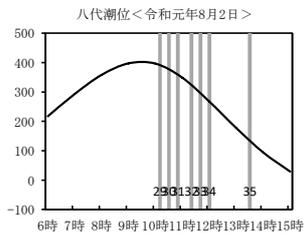
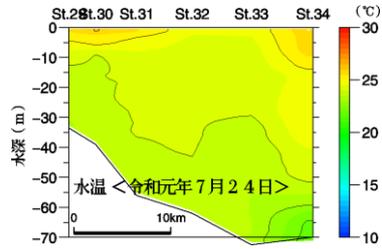
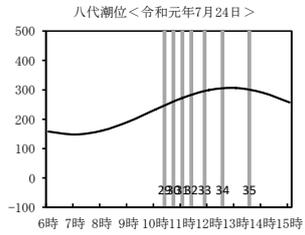
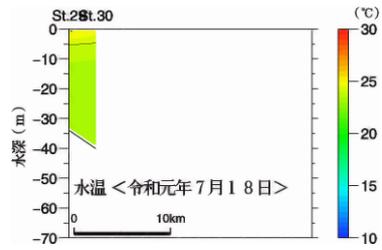
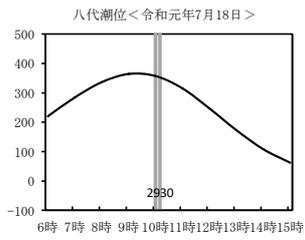


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-1(2) 水塊構造調査結果(八代中央・水温、平成31年4月～令和元年6月)

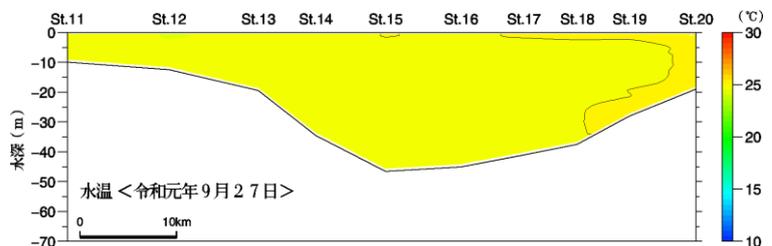
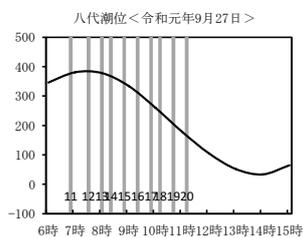
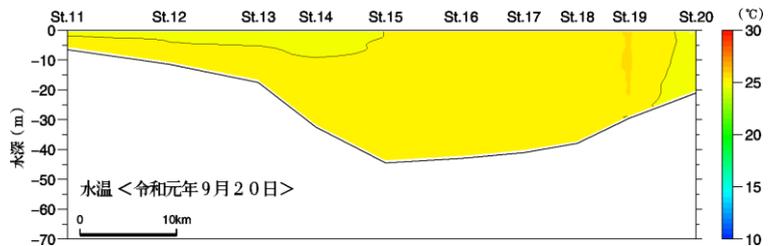
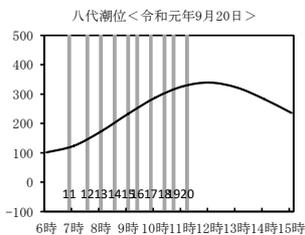
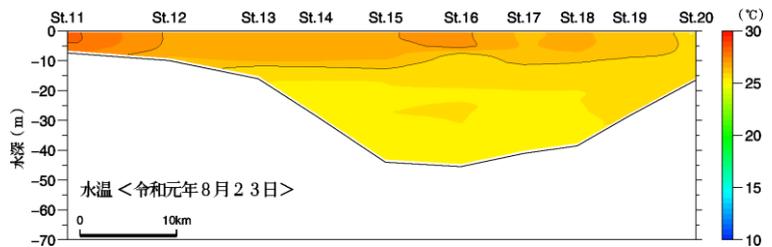
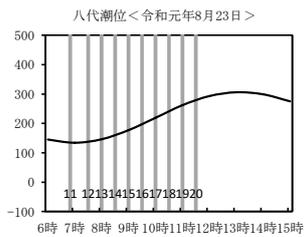
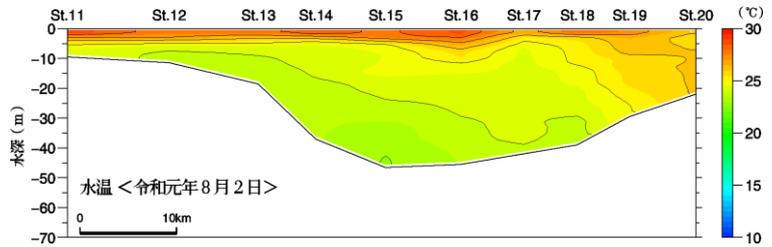
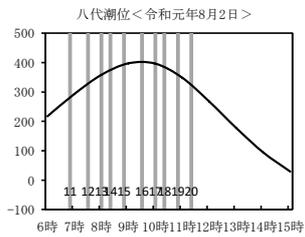
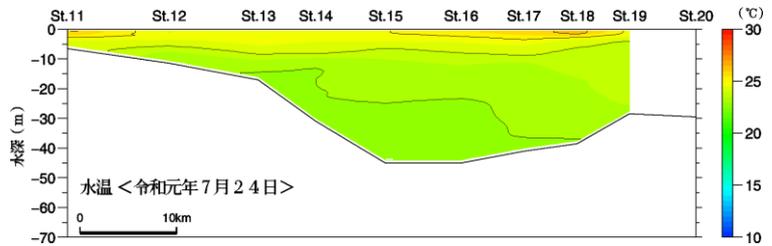
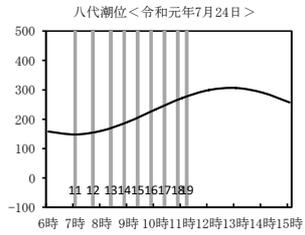
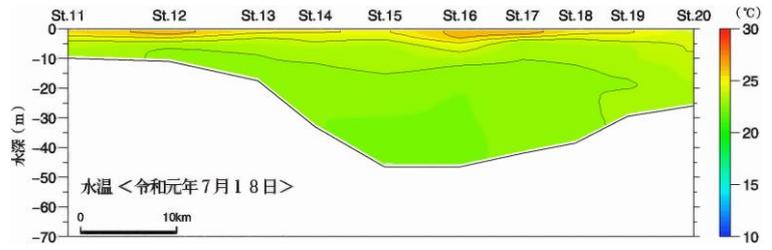
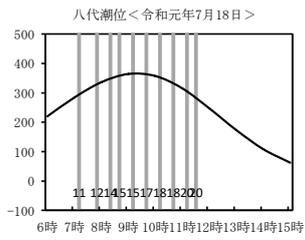


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2. 2-1 (3) 水塊構造調査結果(八代西・水温、令和元年7~9月)

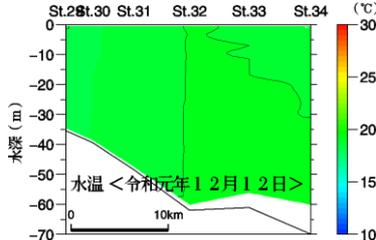
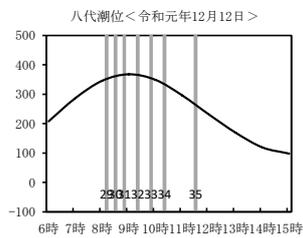
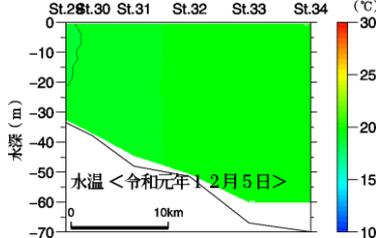
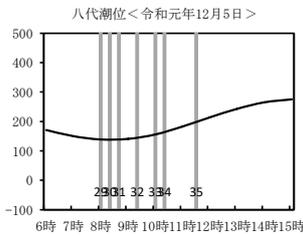
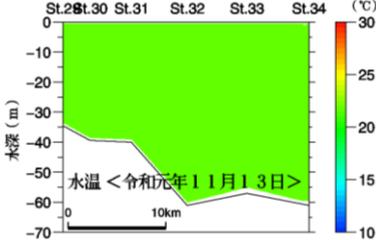
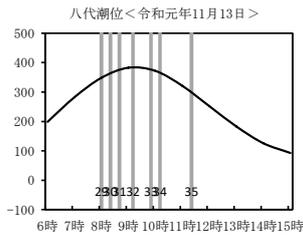
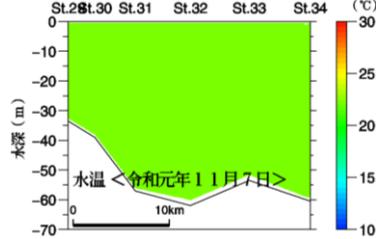
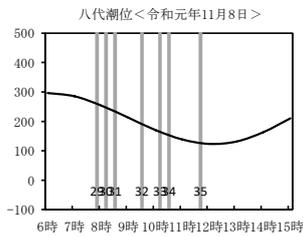
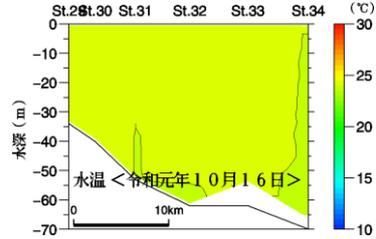
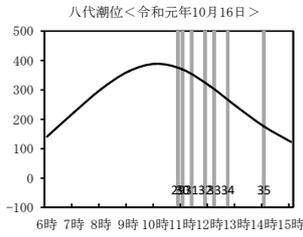
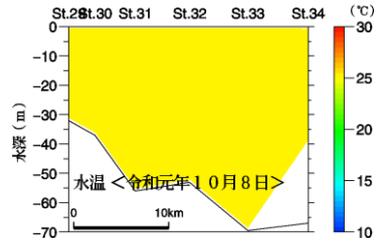
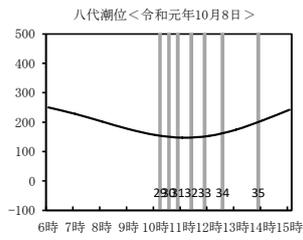


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-1(4) 水塊構造調査結果(八代中央・水温、令和元年7~9月)

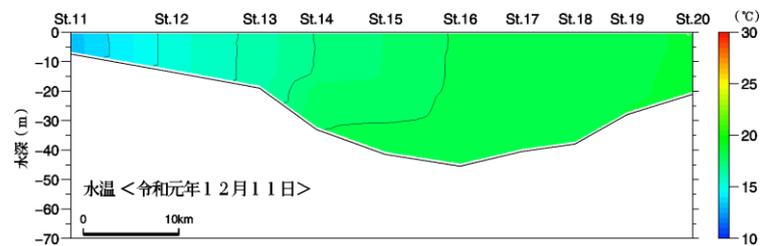
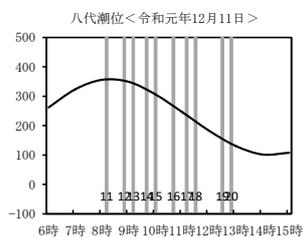
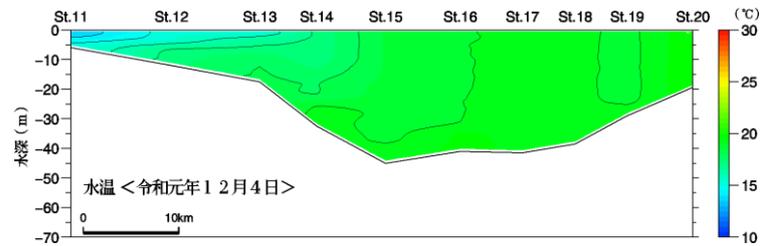
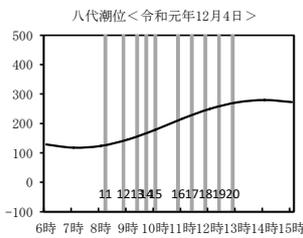
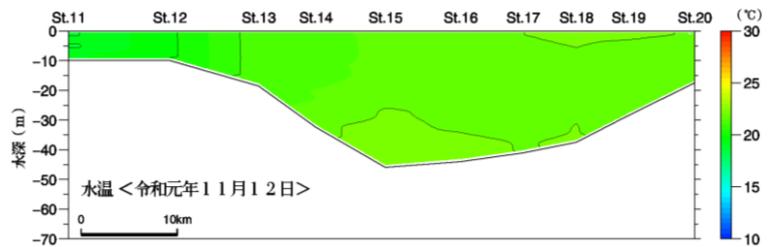
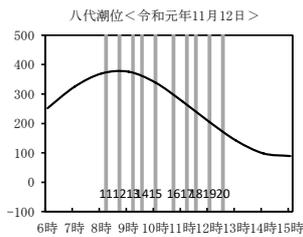
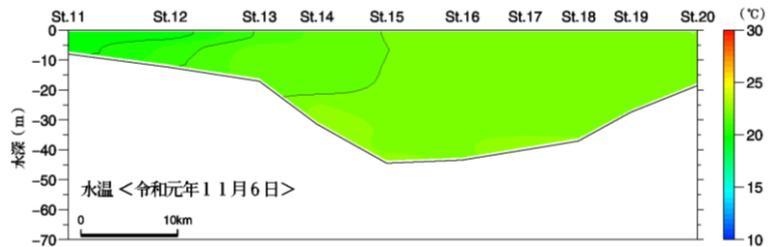
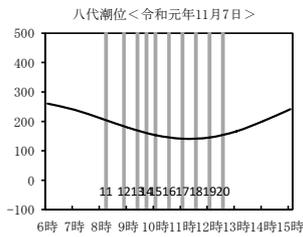
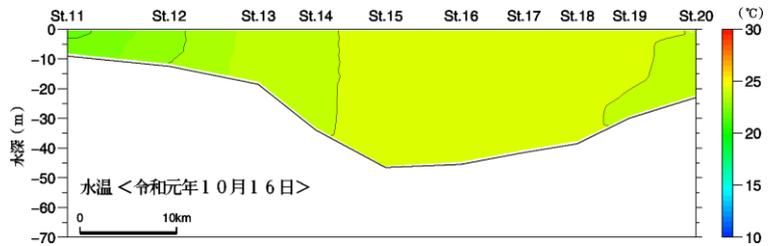
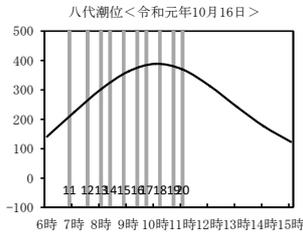
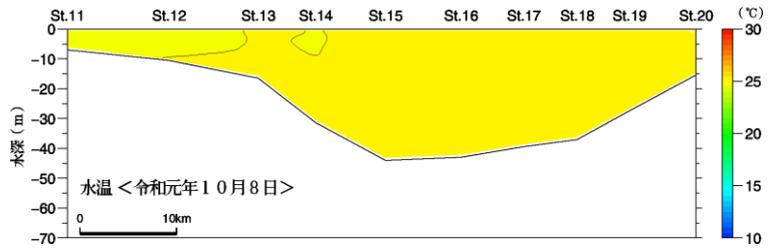
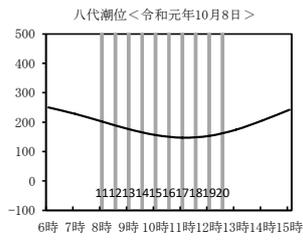


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-1(5) 水塊構造調査結果(八代西・水温、令和元年10~12月)

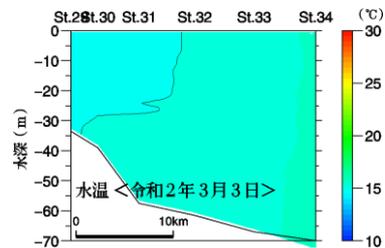
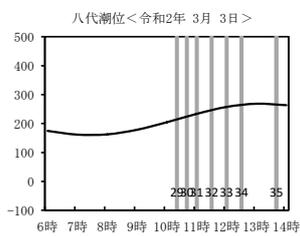
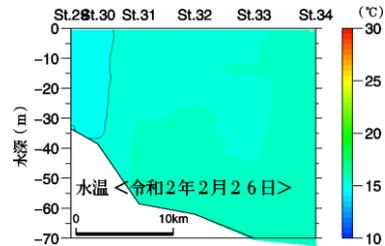
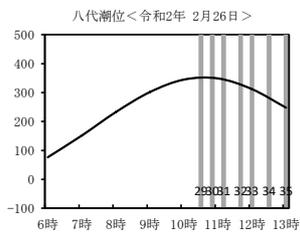
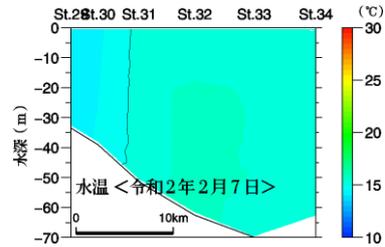
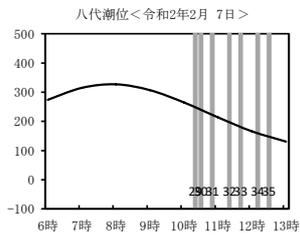
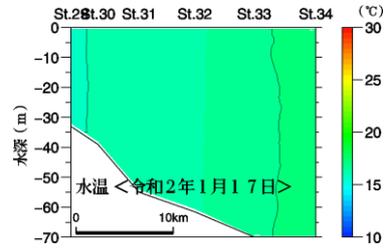
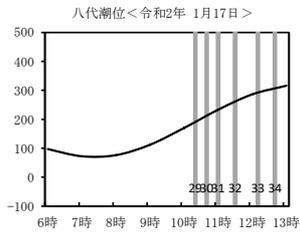
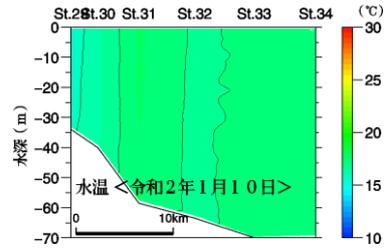
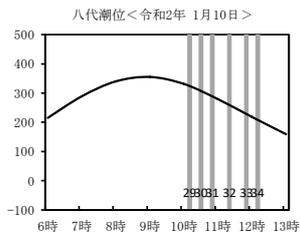


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-1(6) 水塊構造調査結果(八代中央・水温、令和元年10~12月)



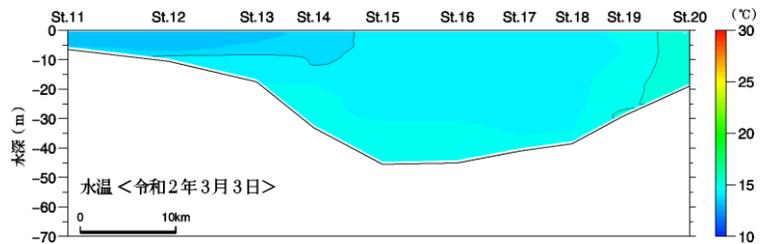
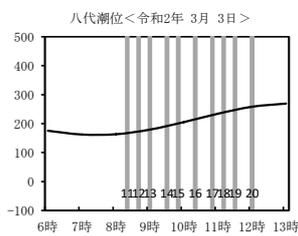
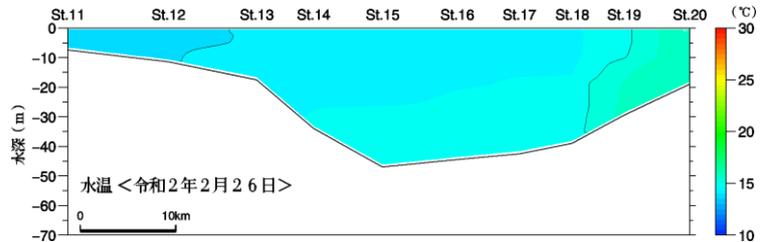
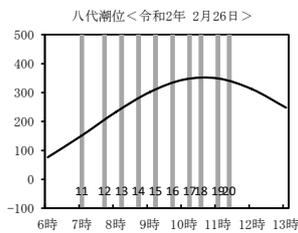
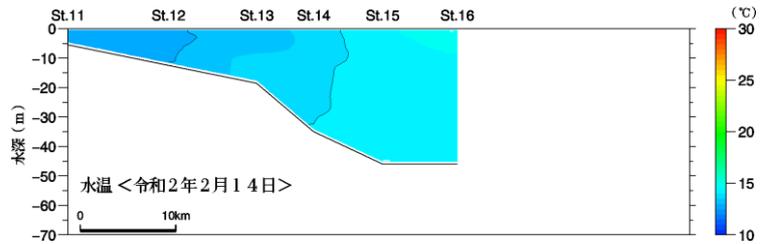
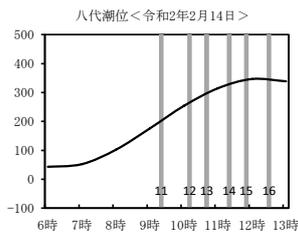
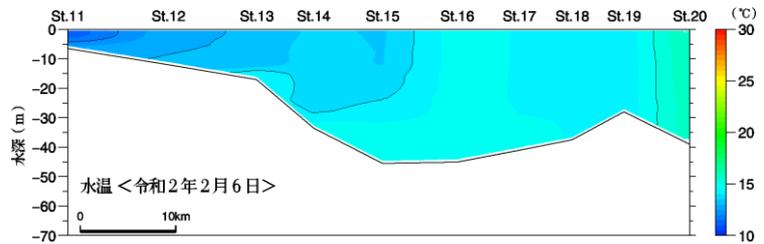
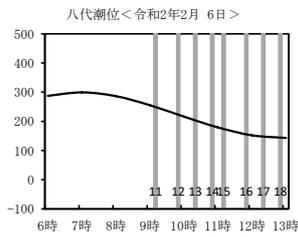
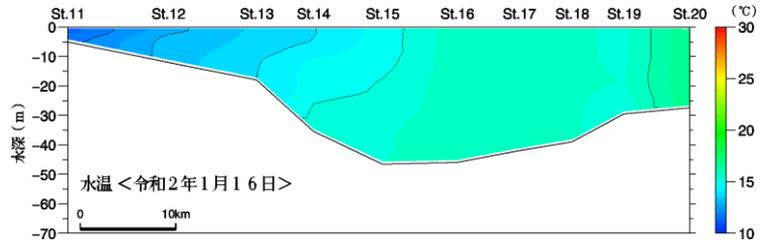
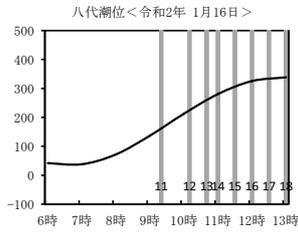
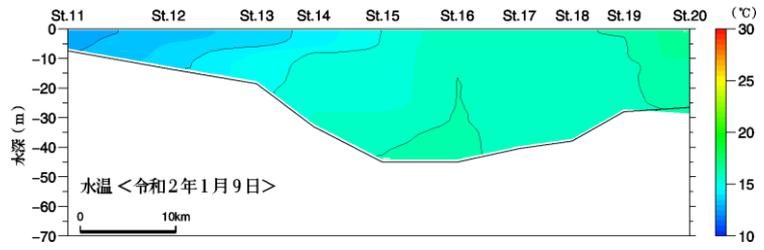
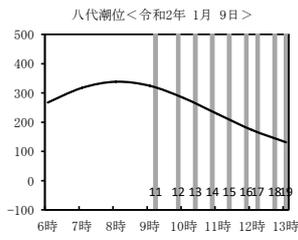
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-1(7) 水塊構造調査結果(八代西・水温、令和2年1~3月)



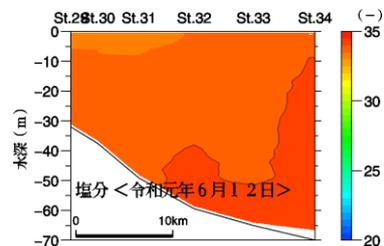
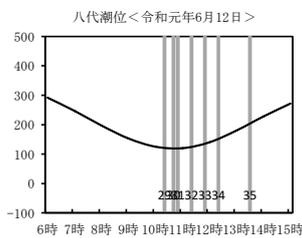
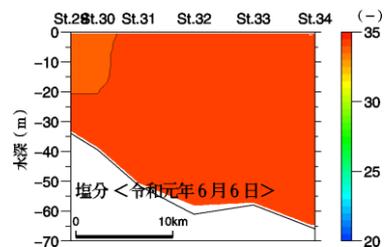
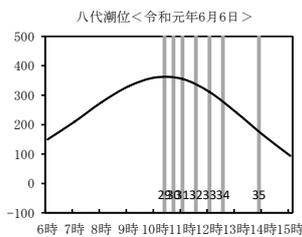
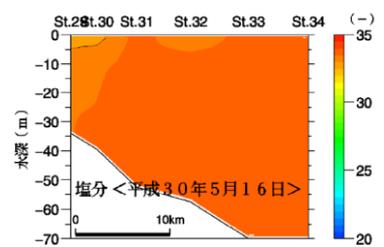
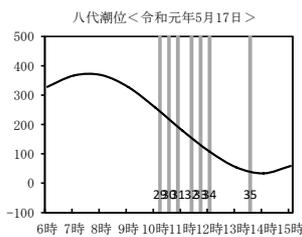
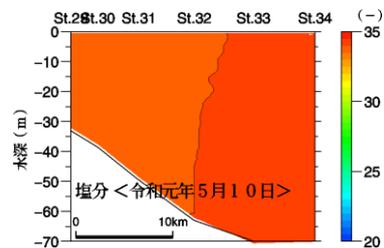
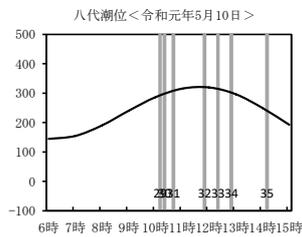
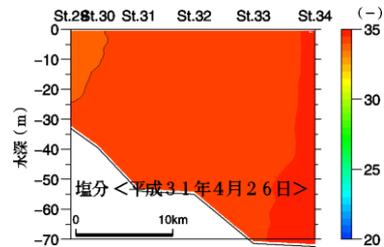
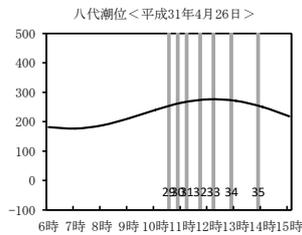
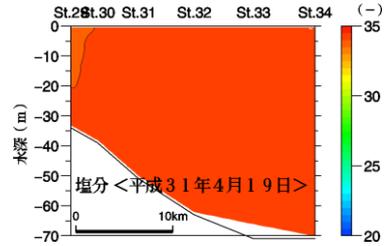
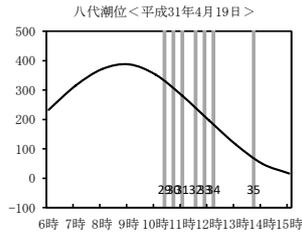
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-1(8) 水塊構造調査結果(八代中央・水温、令和2年1~3月)

## (2) 塩分

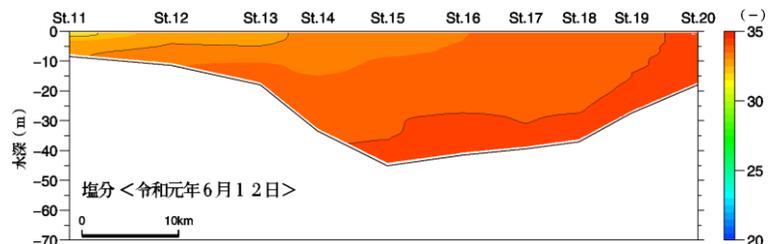
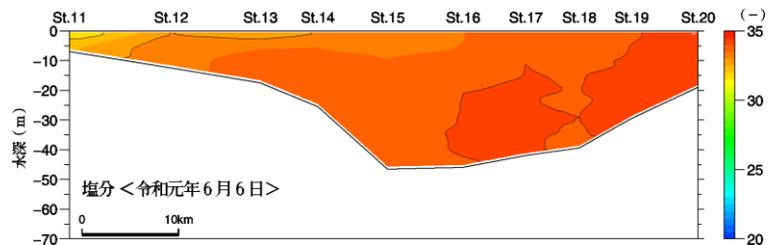
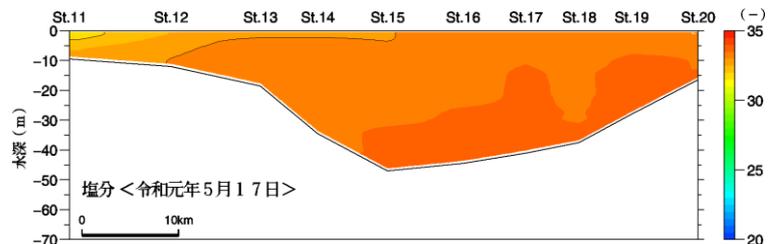
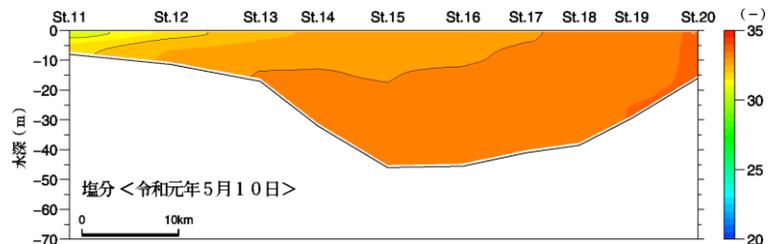
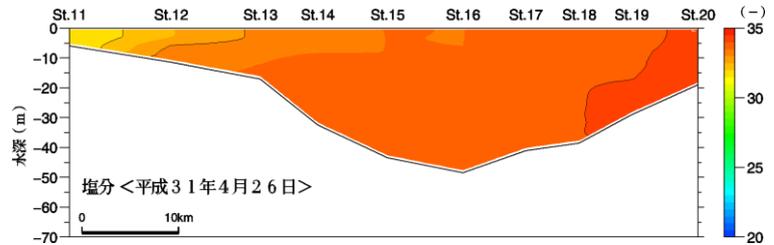
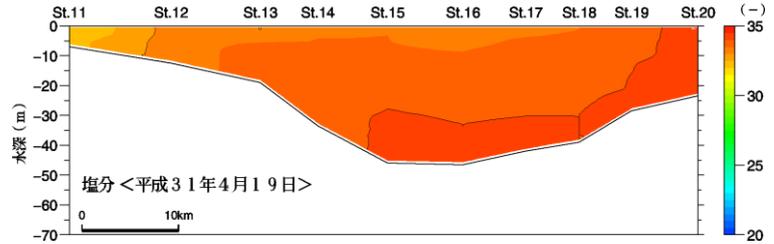
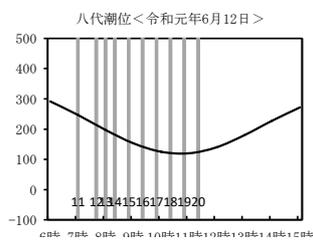
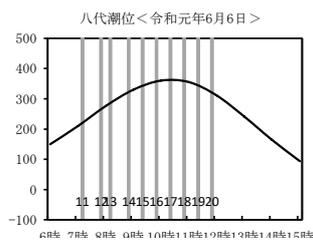
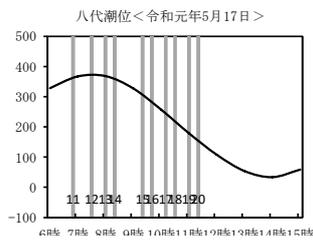
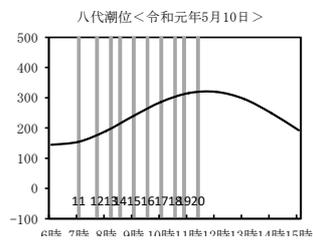
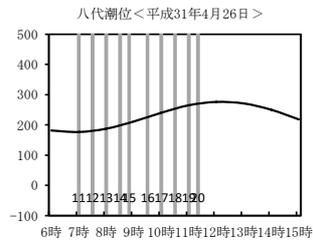
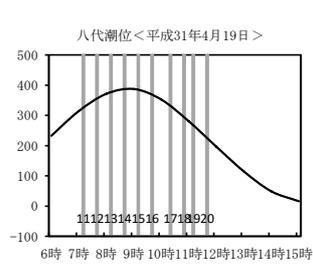


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(1) 水塊構造調査結果(八代西・塩分、平成31年4月～令和元年6月)

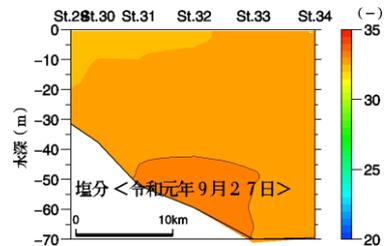
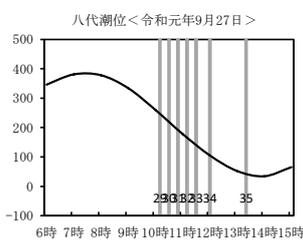
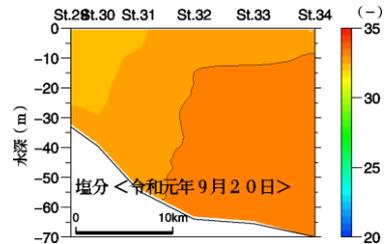
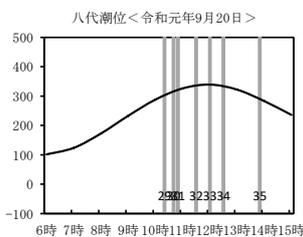
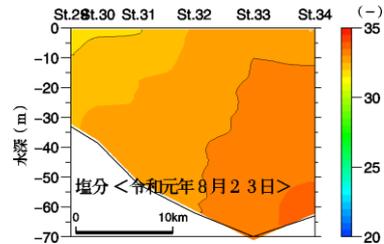
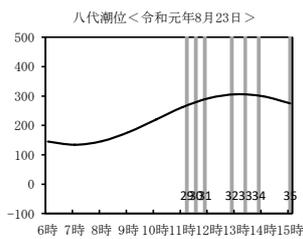
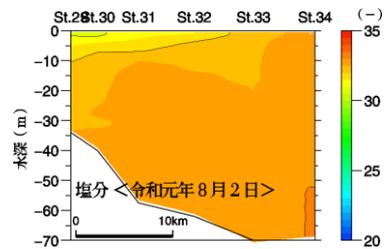
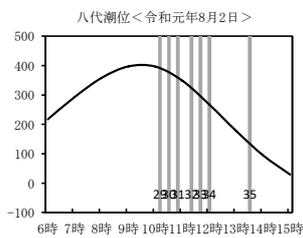
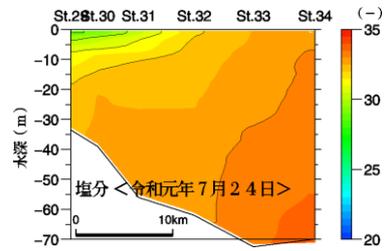
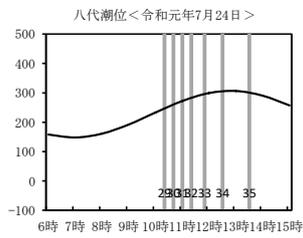
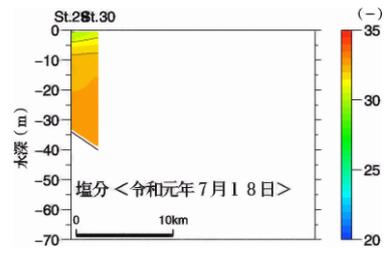
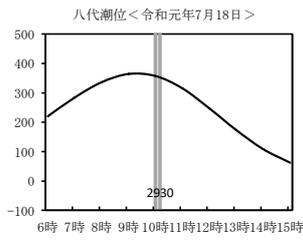


※空白部は欠測を示す。

※潮位图中的番号は調査地点名を示す。単位はcm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(2) 水塊構造調査結果(八代中央・塩分、平成31年4月～令和元年6月)

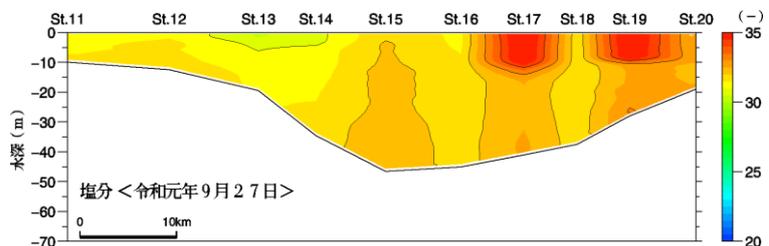
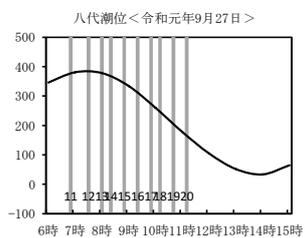
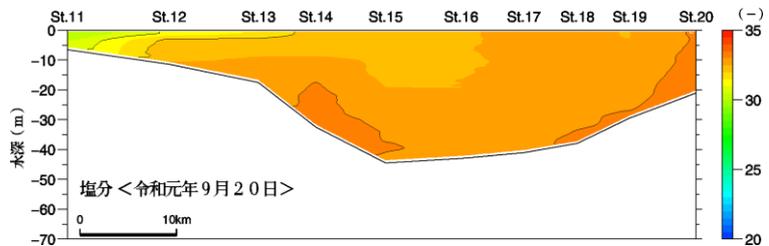
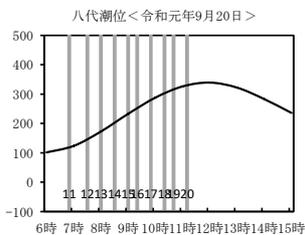
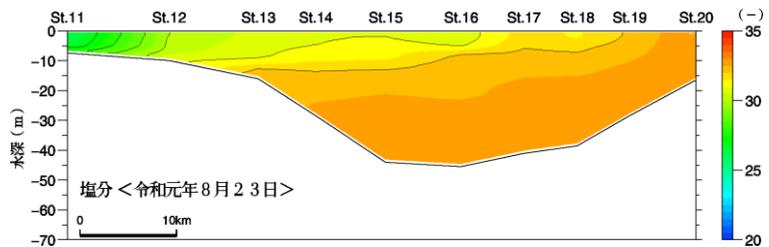
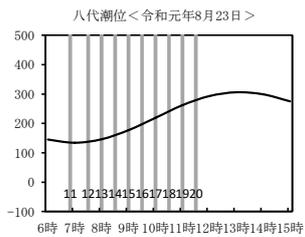
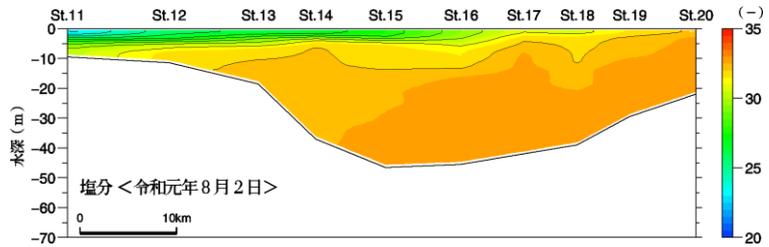
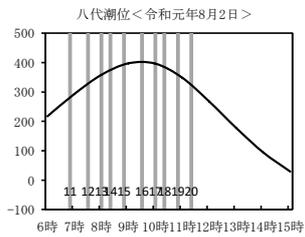
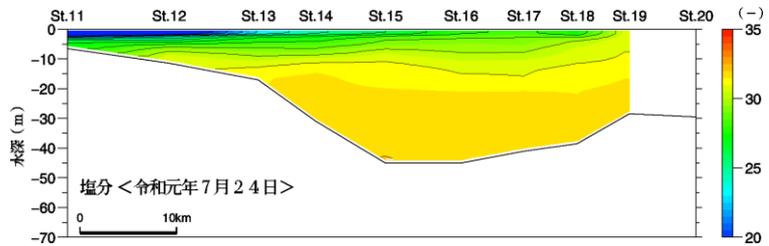
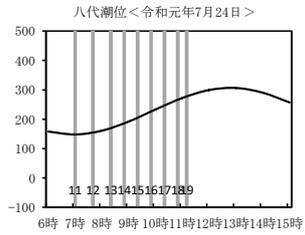
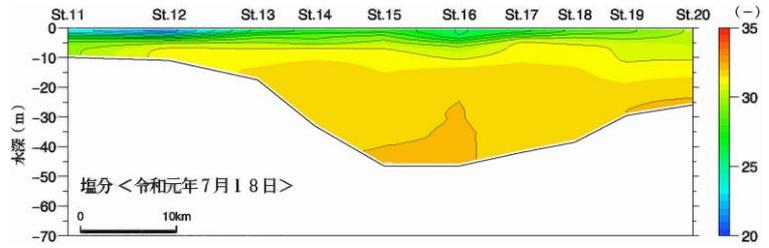
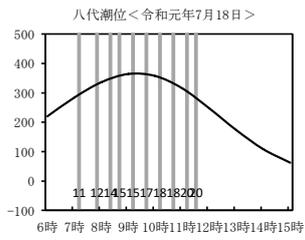


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2. 2-2 (3) 水塊構造調査結果(八代西・塩分、令和元年 7~9 月)

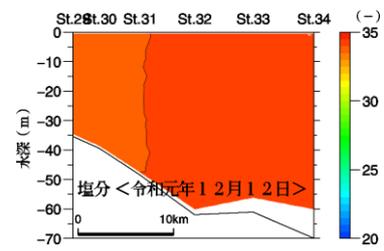
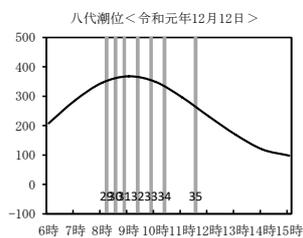
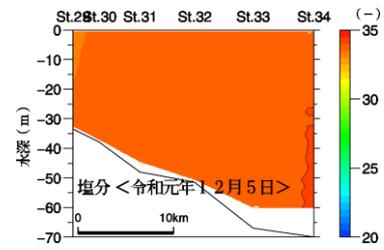
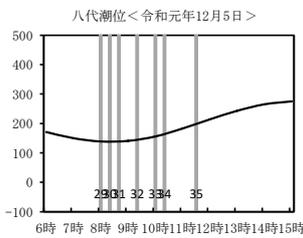
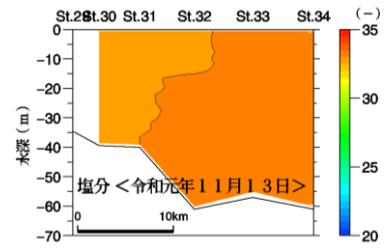
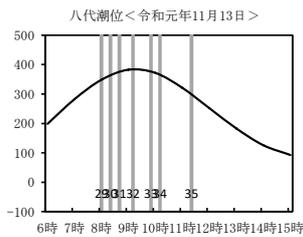
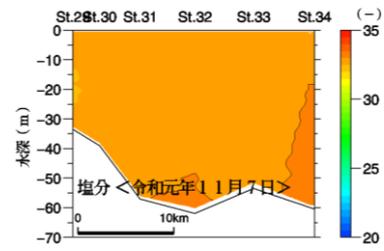
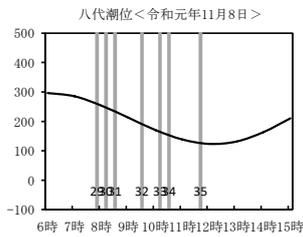
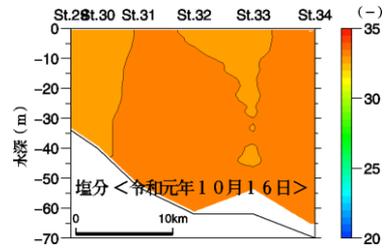
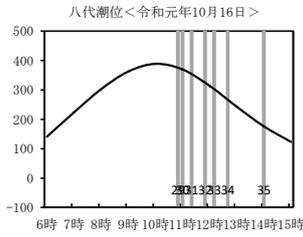
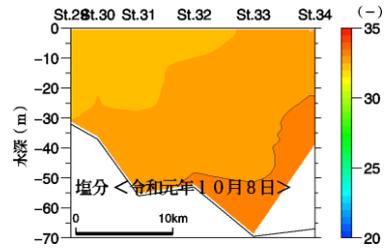
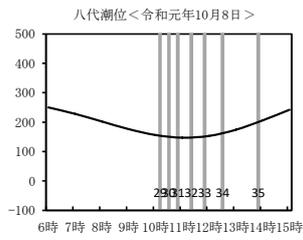


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(4) 水塊構造調査結果(八代中央・塩分、令和元年7~9月)

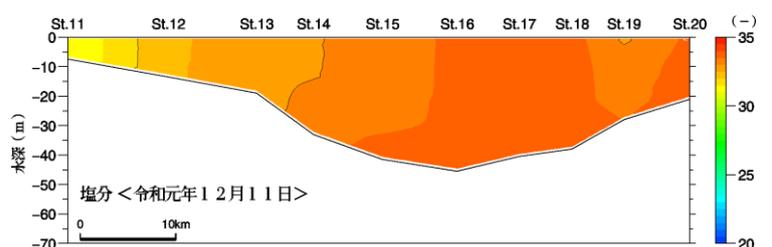
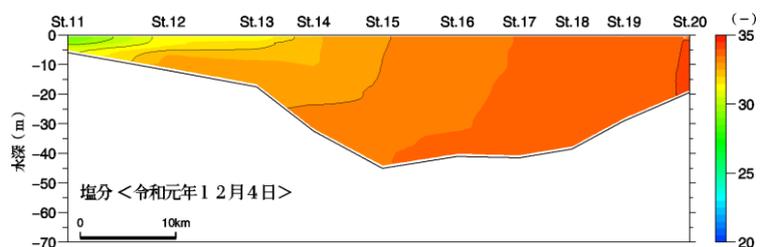
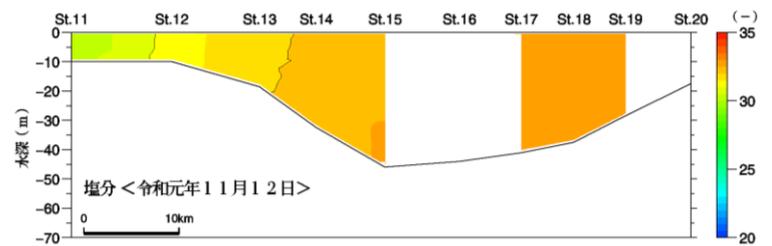
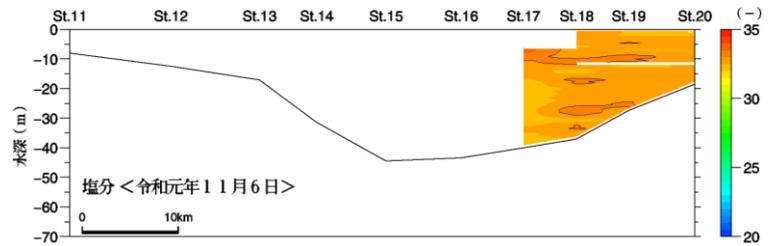
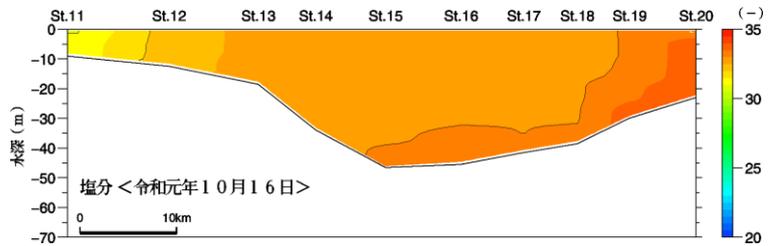
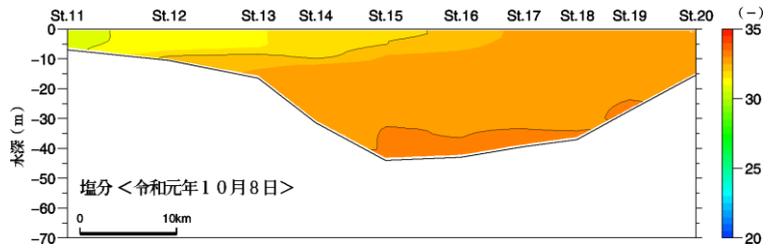
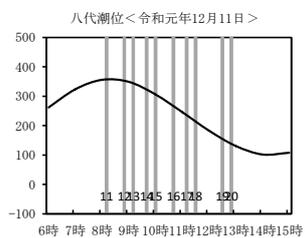
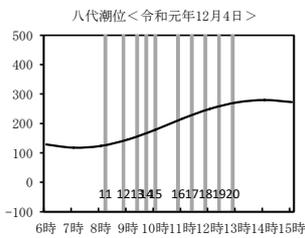
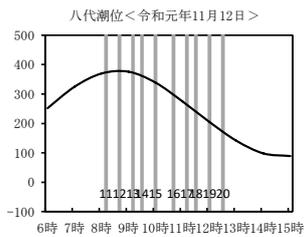
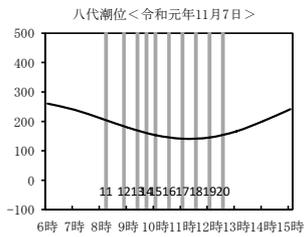
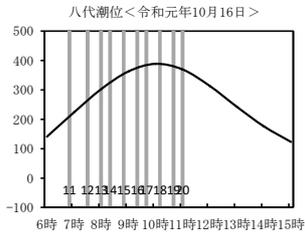
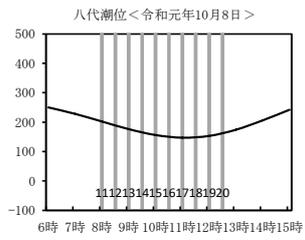


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(5) 水塊構造調査結果(八代西・塩分、令和元年10~12月)

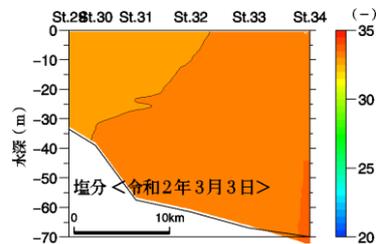
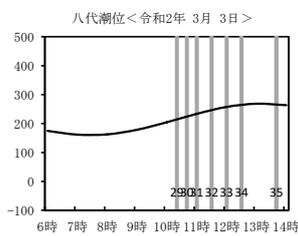
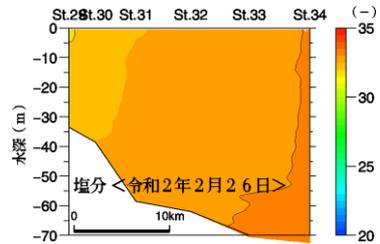
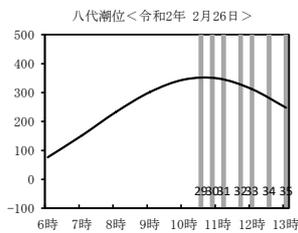
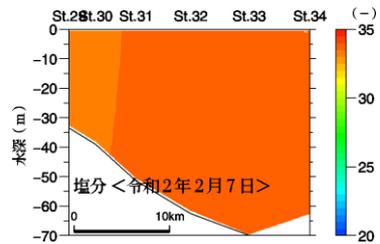
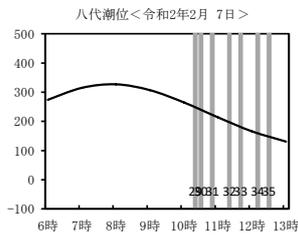
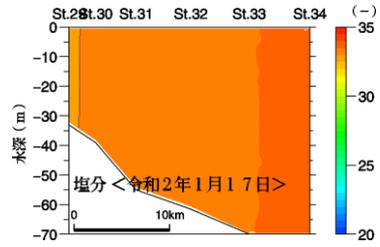
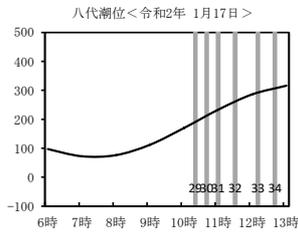
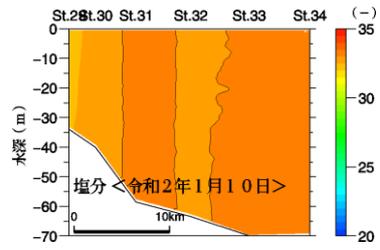
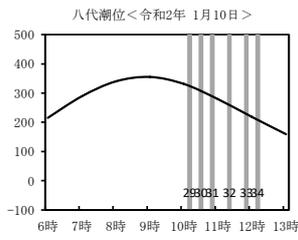


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(6) 水塊構造調査結果(八代中央・塩分、令和元年10~12月)



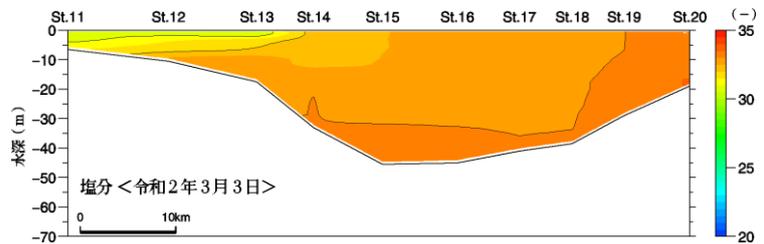
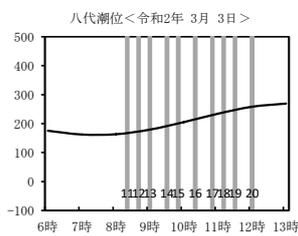
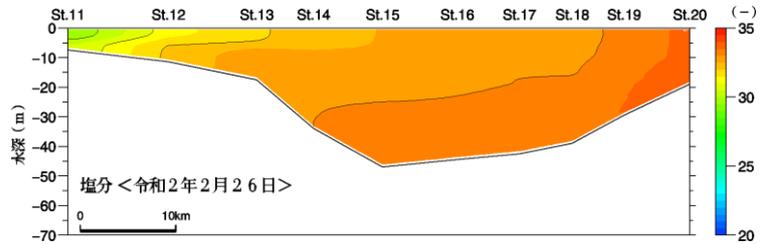
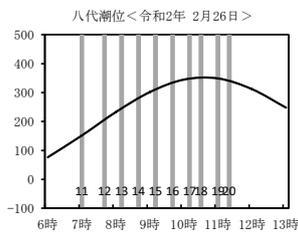
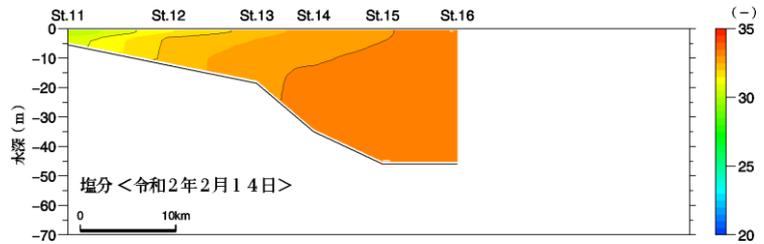
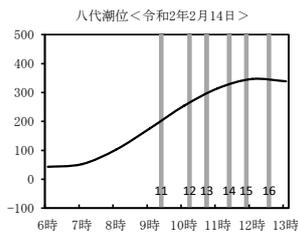
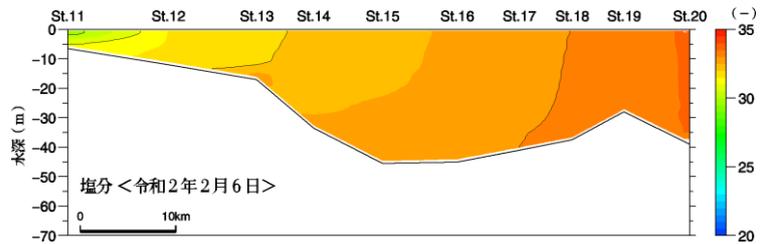
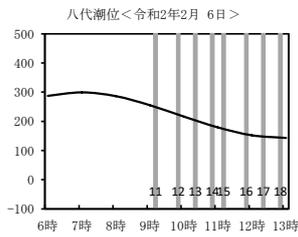
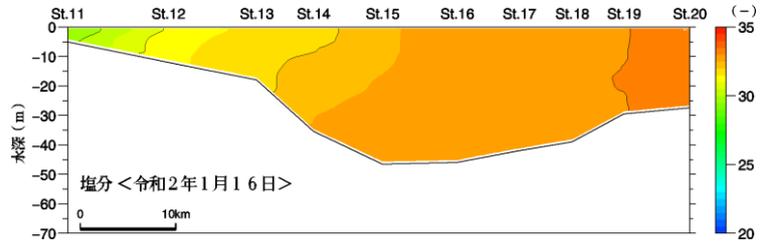
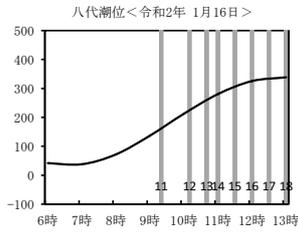
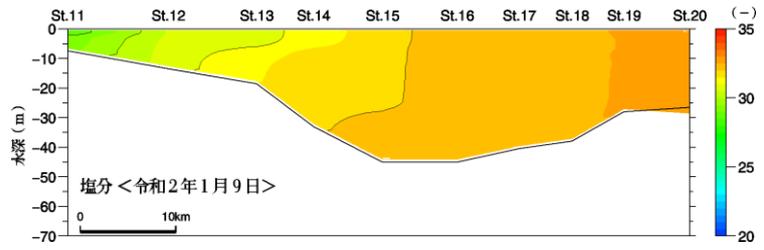
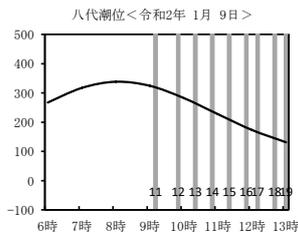
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-2(7) 水塊構造調査結果(八代西・塩分、令和2年1~3月)



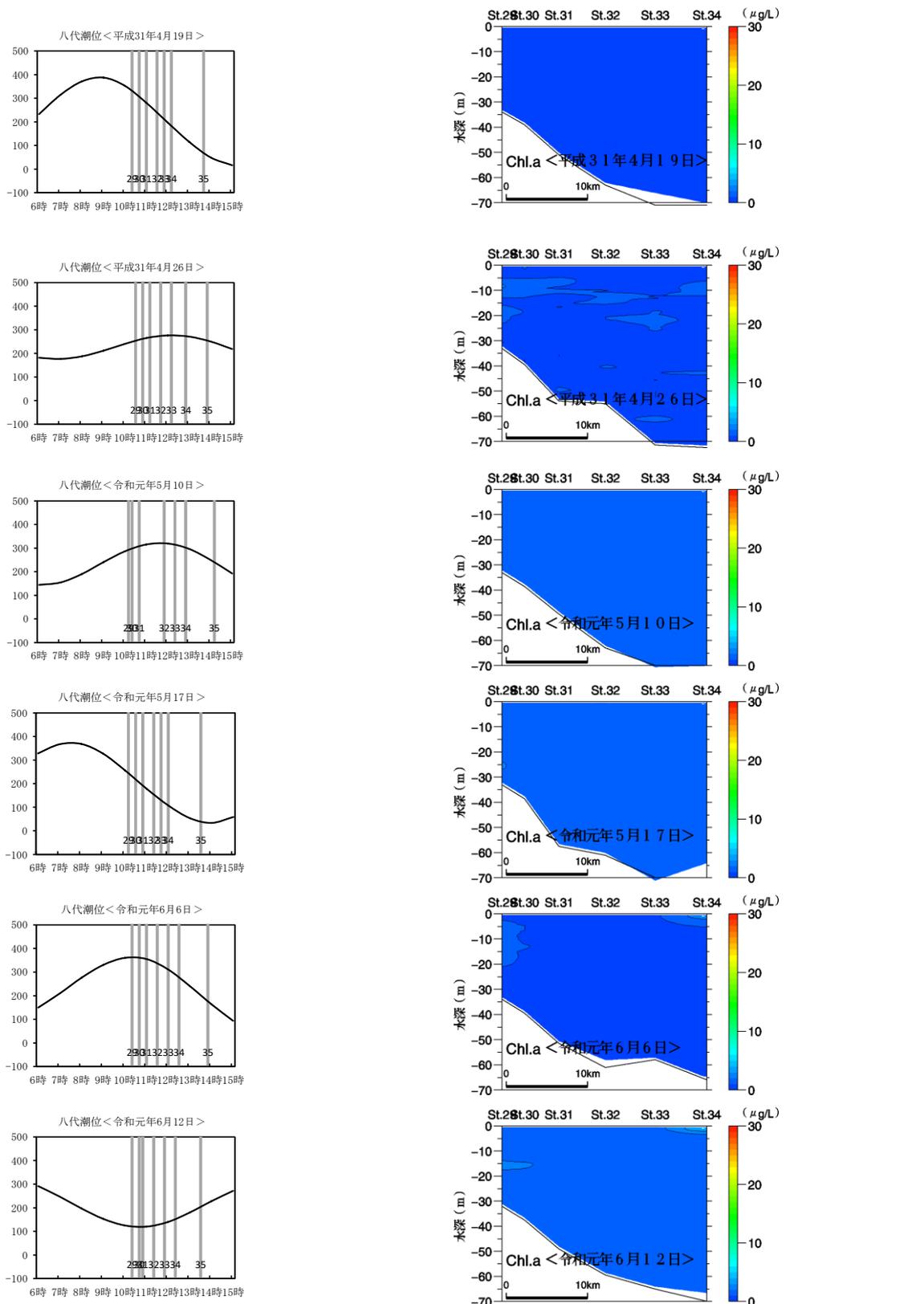
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-2(8) 水塊構造調査結果(八代中央・塩分、令和2年1~3月)

### (3) クロロフィルa

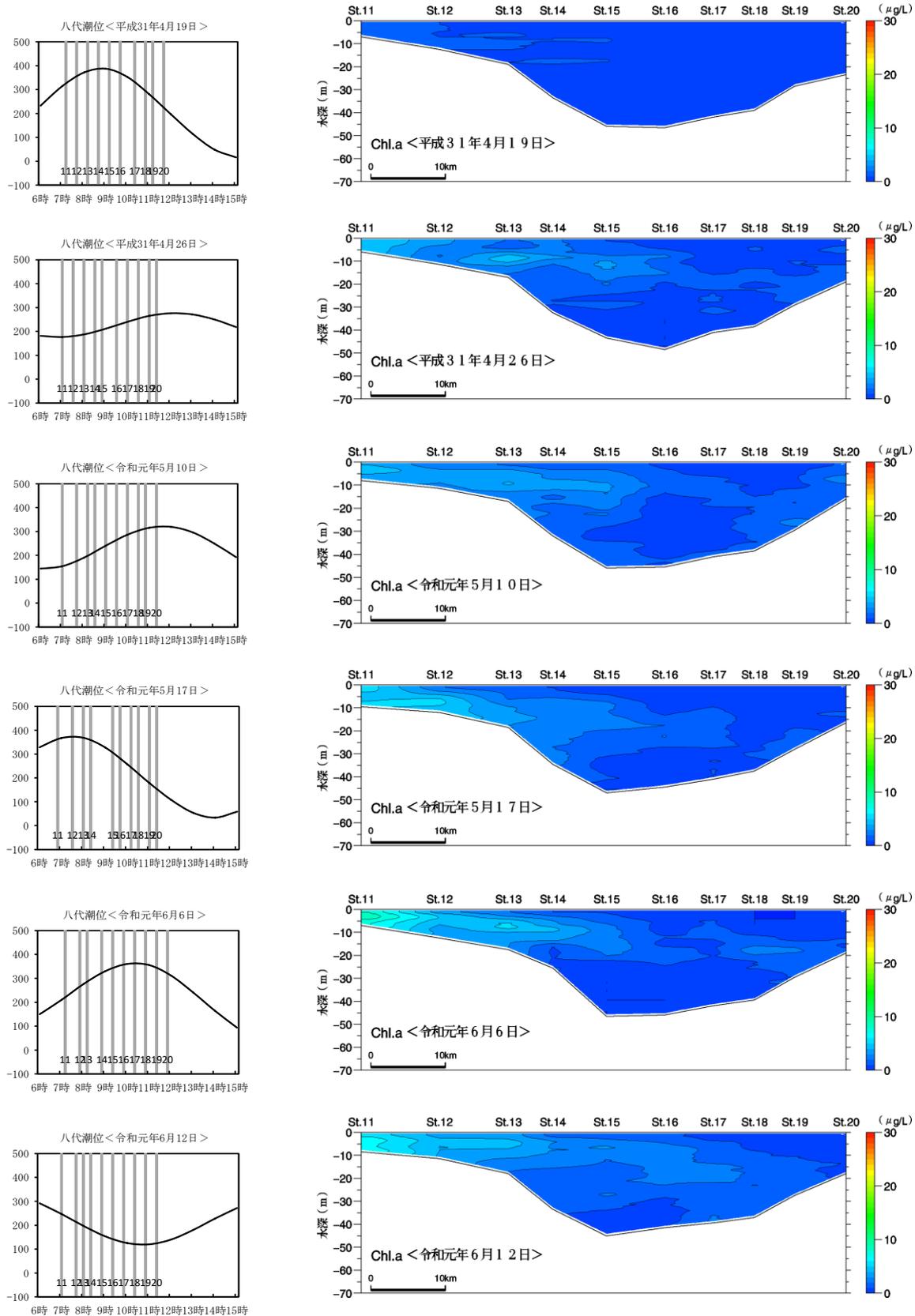


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(1)水塊構造調査結果(八代西・クロロフィルa、平成31年4月～令和元年6月)

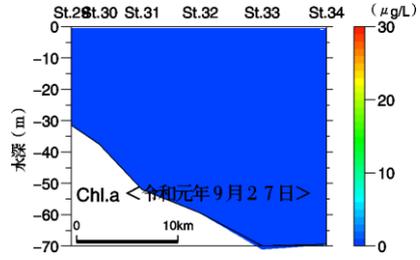
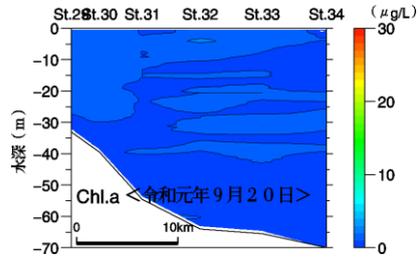
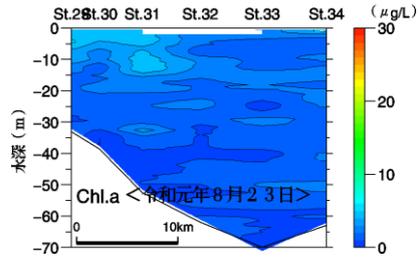
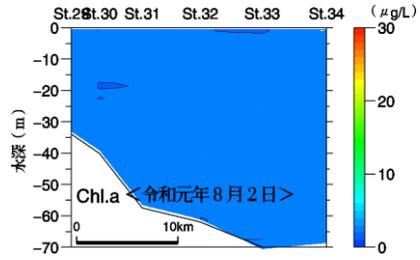
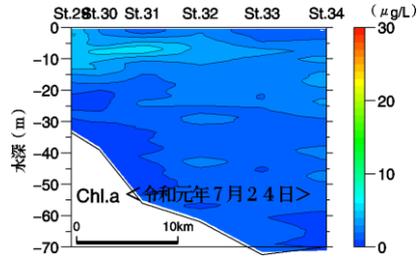
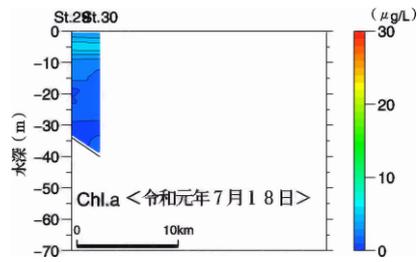
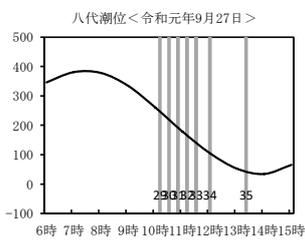
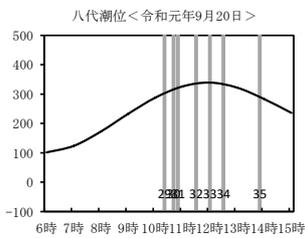
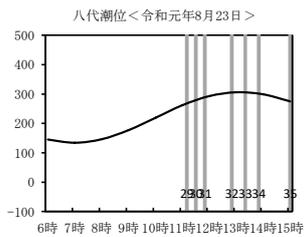
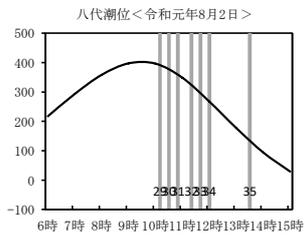
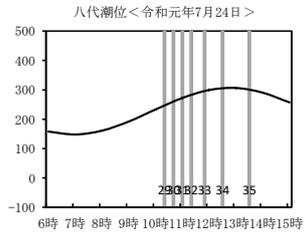
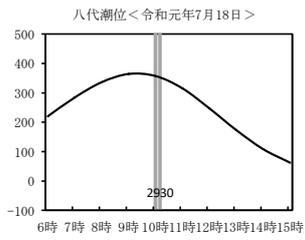


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(2) 水塊構造調査結果(八代中央・クロロフィル a、平成 31 年 4 月～令和元年 6 月)

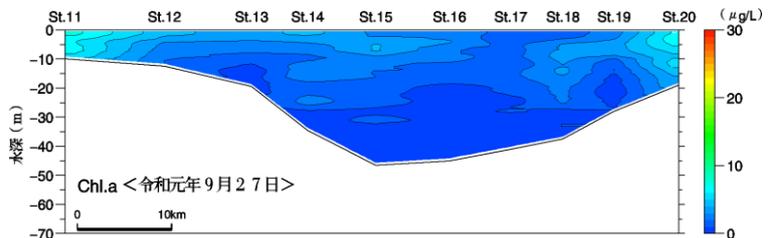
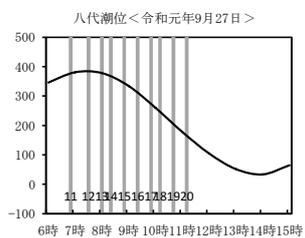
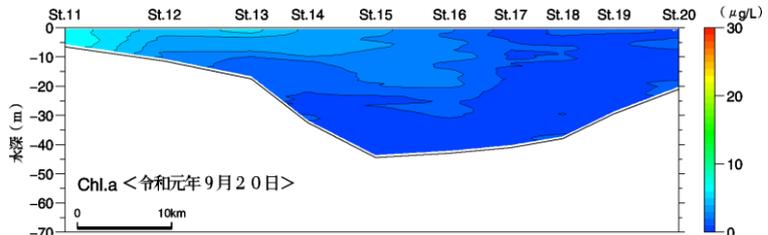
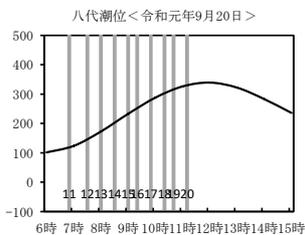
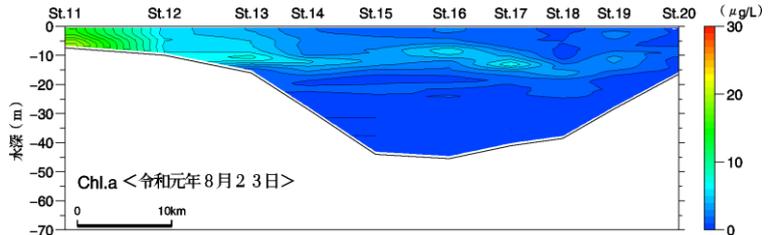
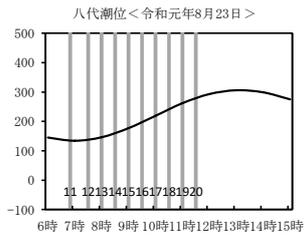
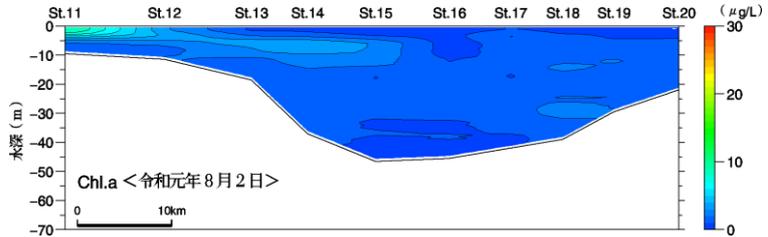
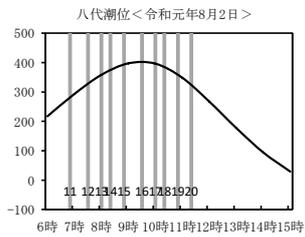
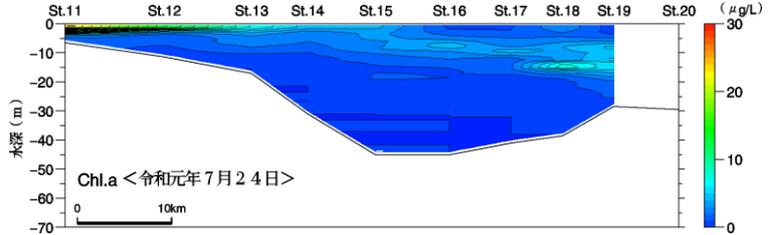
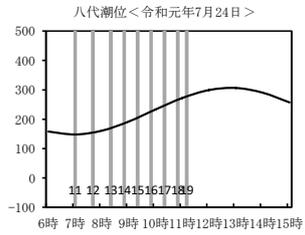
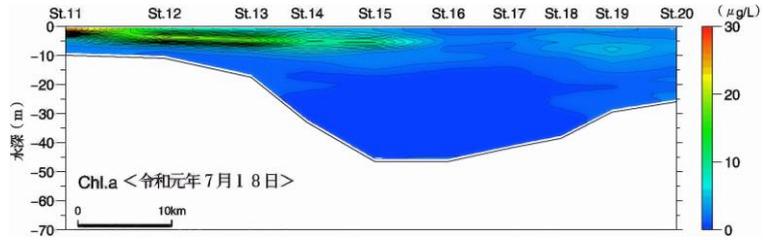
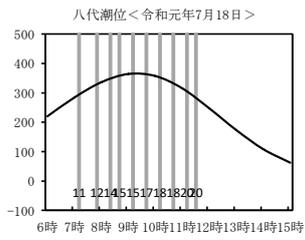


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(3) 水塊構造調査結果(八代西・クロロフィル a、令和元年7~9月)

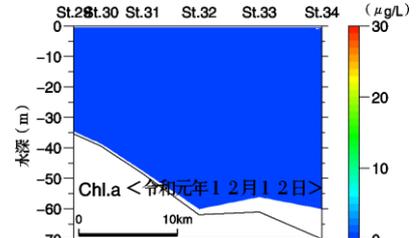
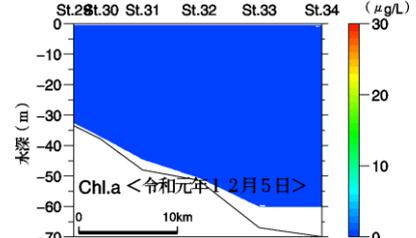
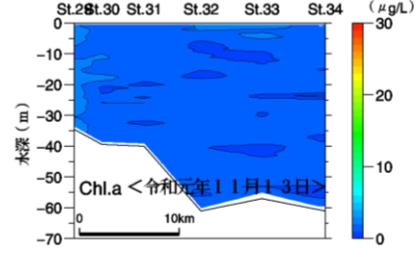
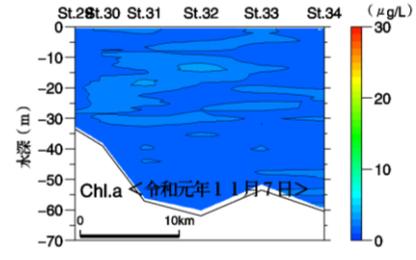
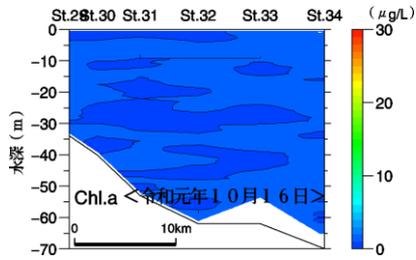
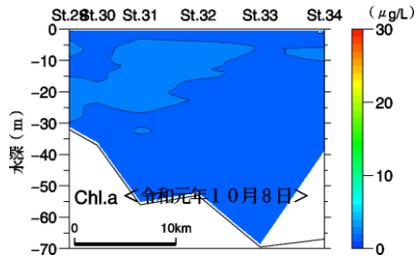
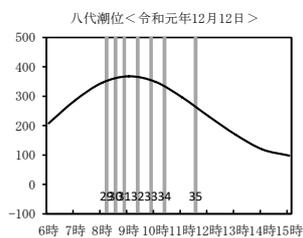
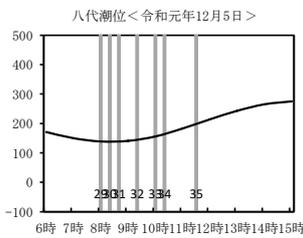
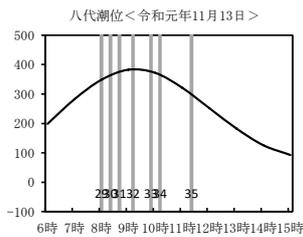
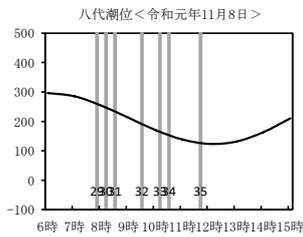
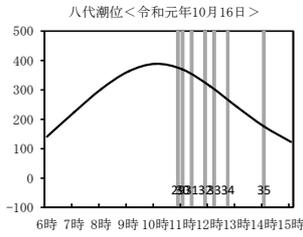
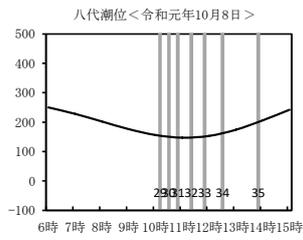


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(4) 水塊構造調査結果(八代中央・クロロフィル a、令和元年7~9月)

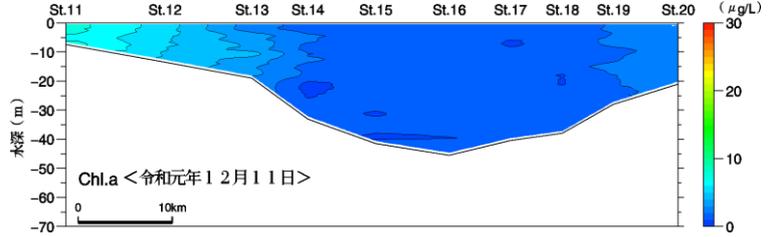
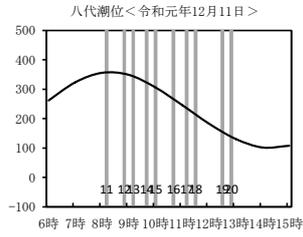
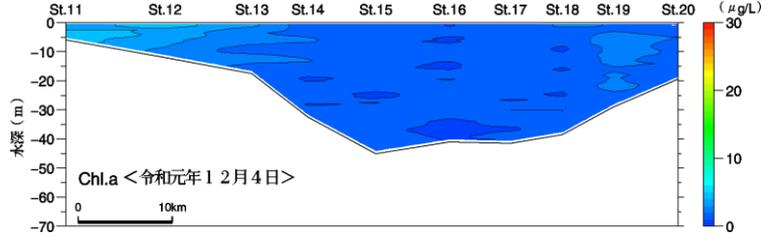
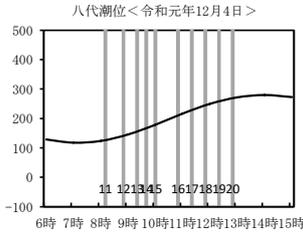
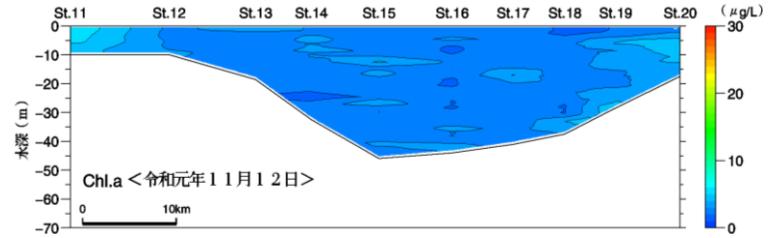
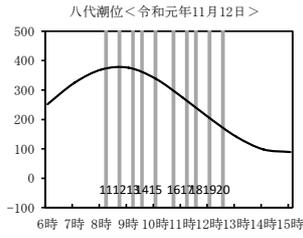
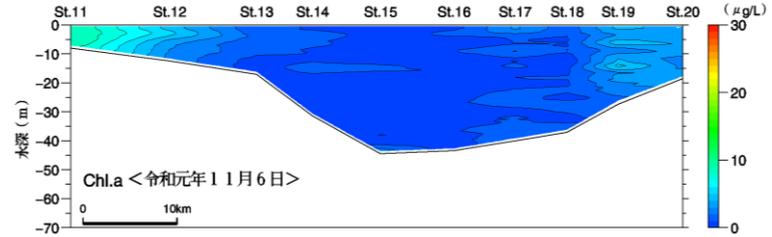
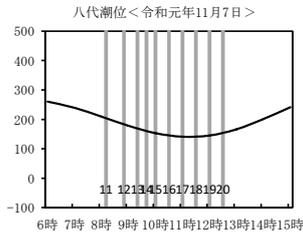
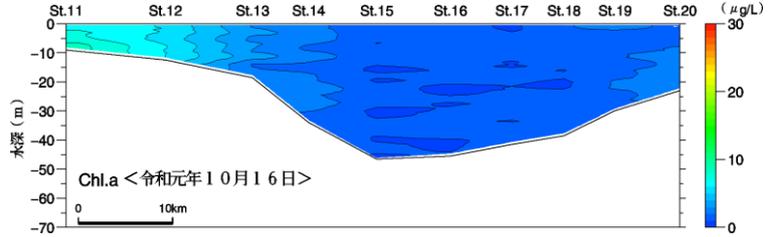
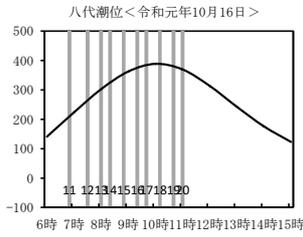
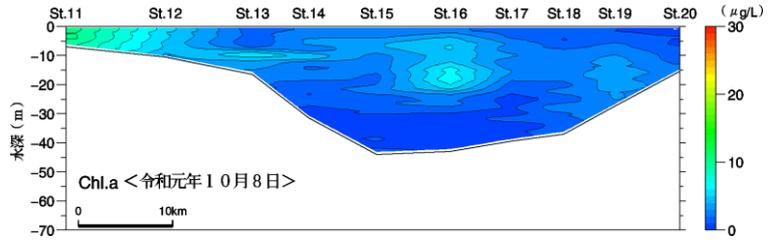
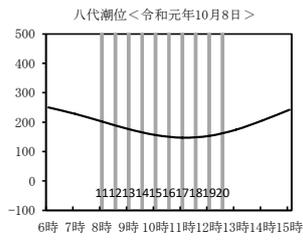


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(5) 水塊構造調査結果(八代西・クロロフィル a、令和元年10~12月)

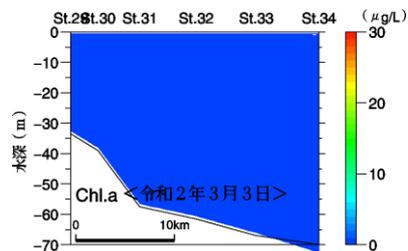
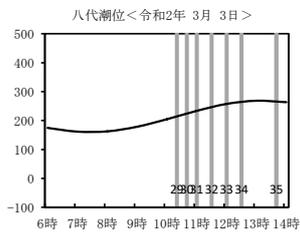
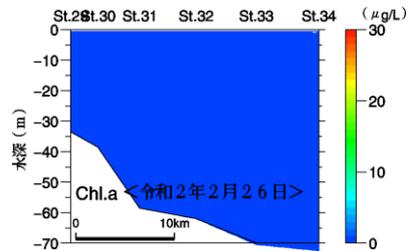
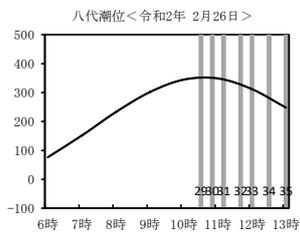
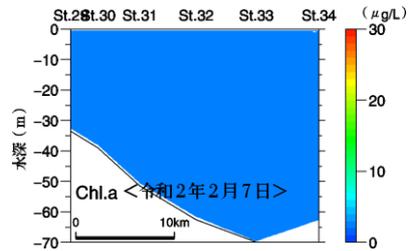
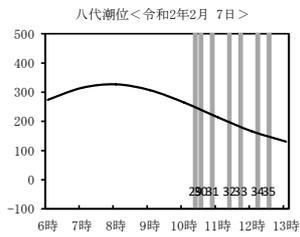
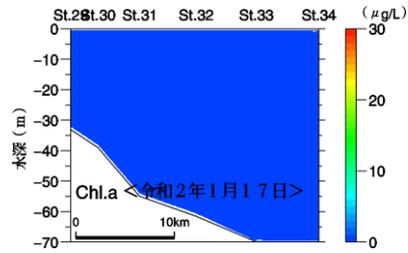
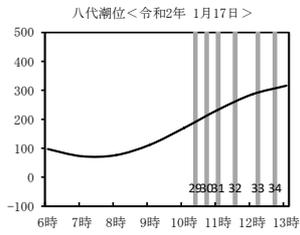
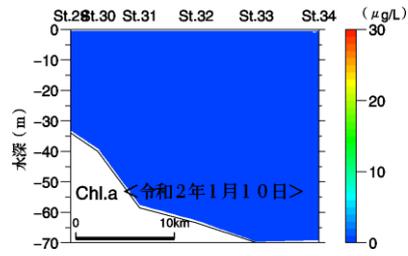
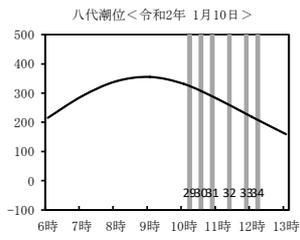


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(6) 水塊構造調査結果(八代中央・クロロフィル a、令和元年 10~12 月)



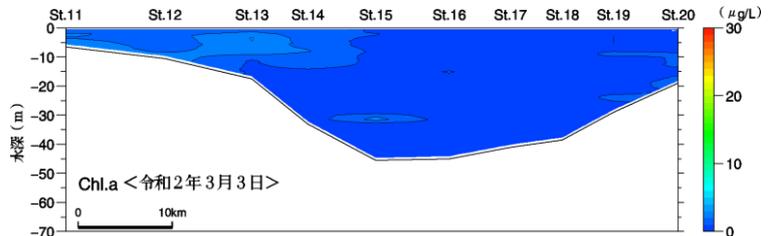
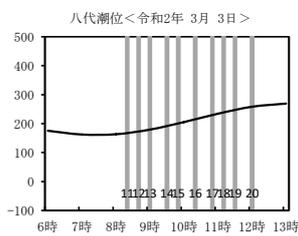
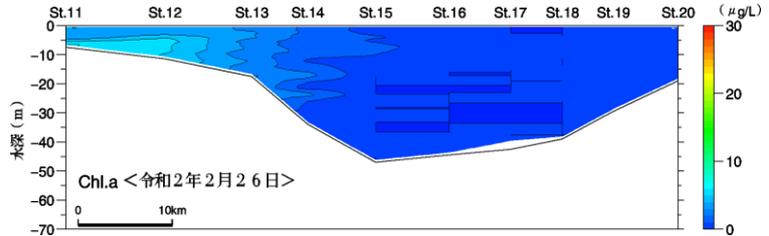
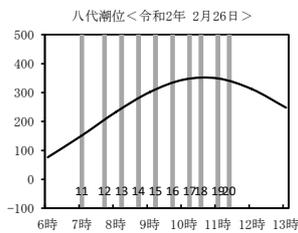
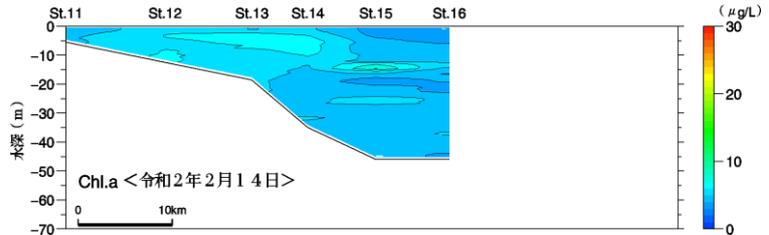
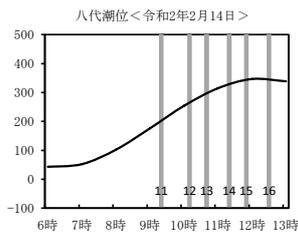
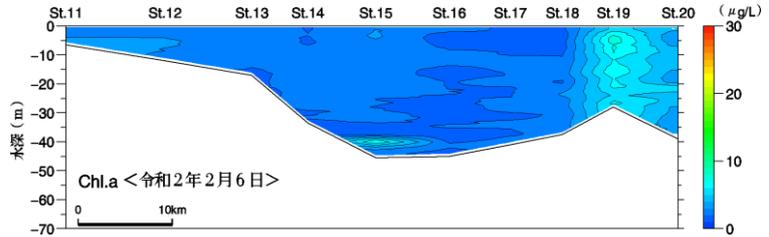
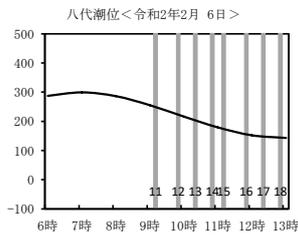
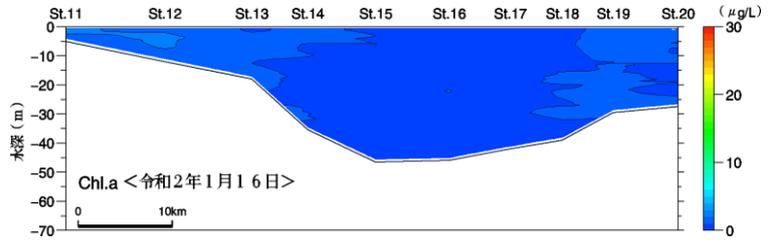
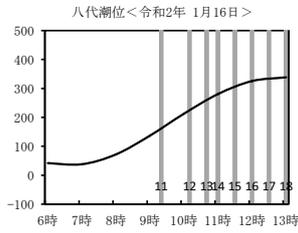
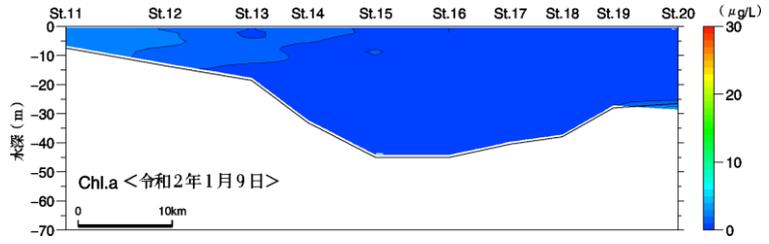
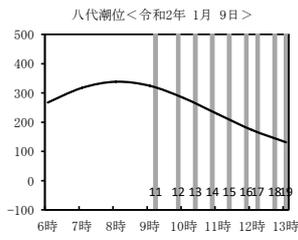
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-3(7) 水塊構造調査結果(八代西・クロロフィルa、令和2年1~3月)



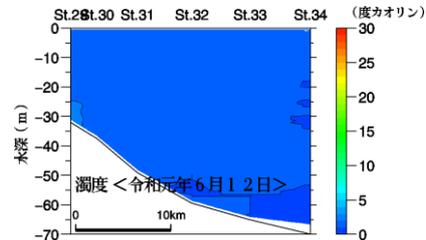
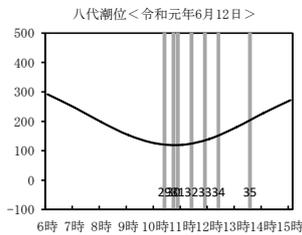
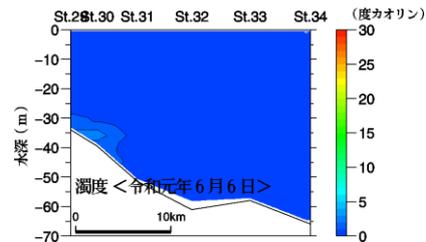
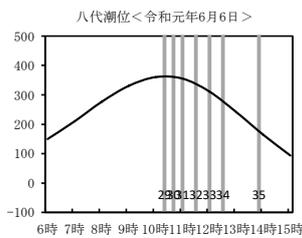
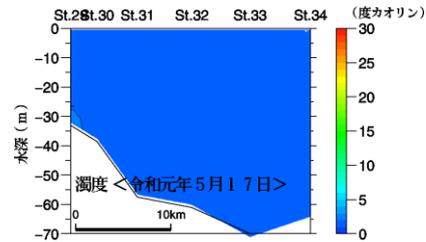
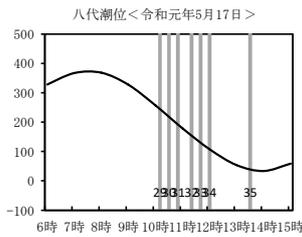
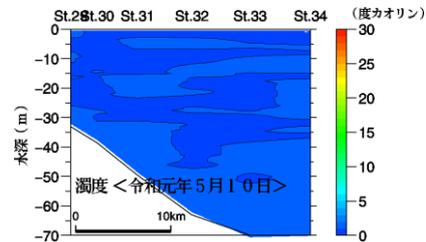
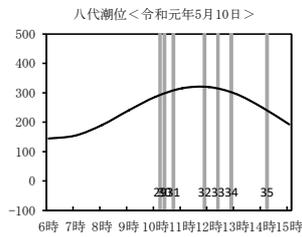
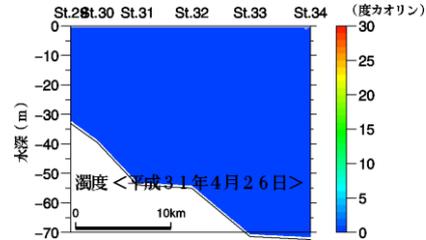
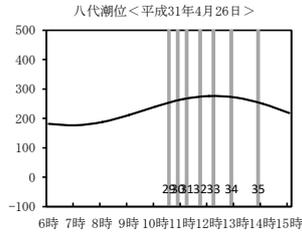
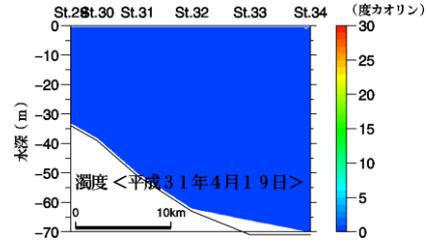
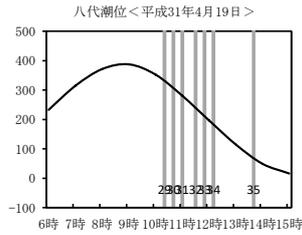
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-3(8) 水塊構造調査結果(八代中央・クロロフィル a、令和2年1~3月)

#### (4) 濁度

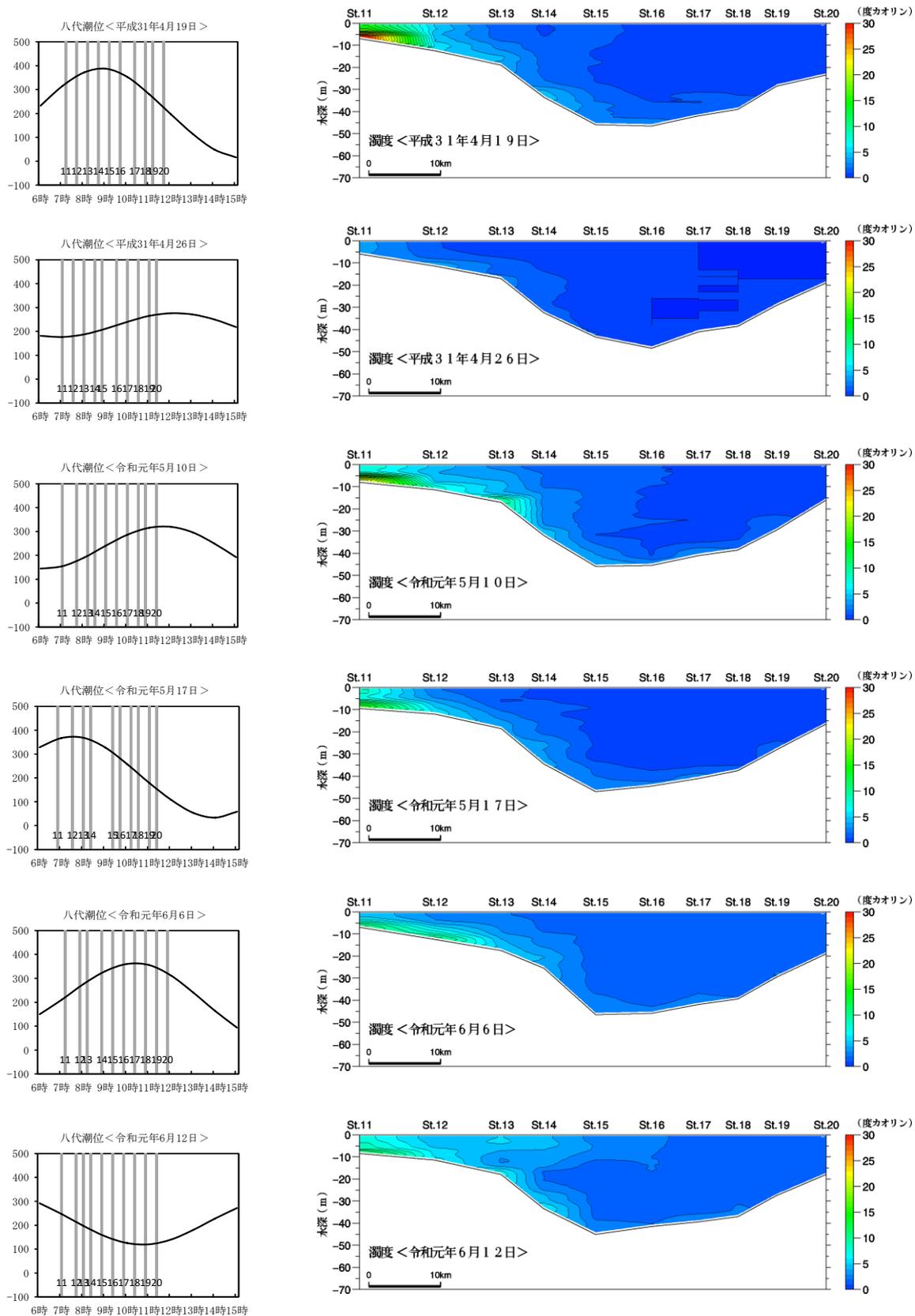


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(1) 水塊構造調査結果(八代西・濁度、平成31年4月～令和元年6月)

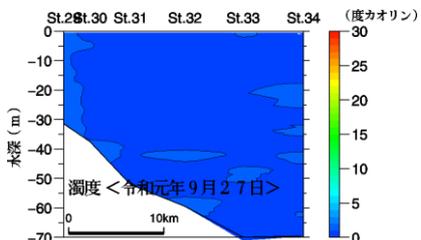
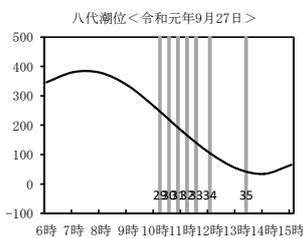
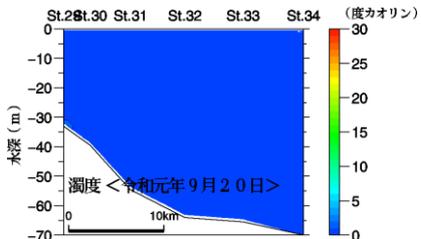
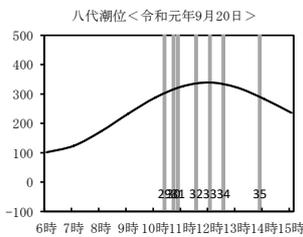
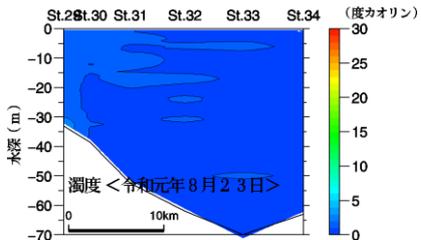
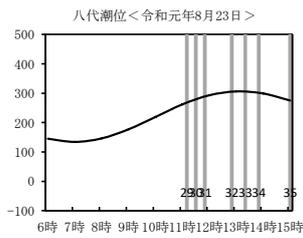
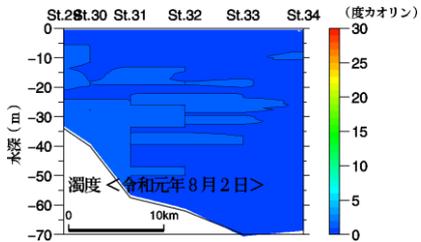
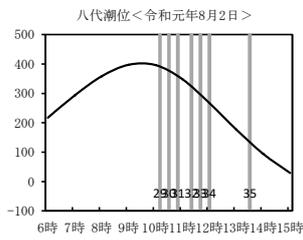
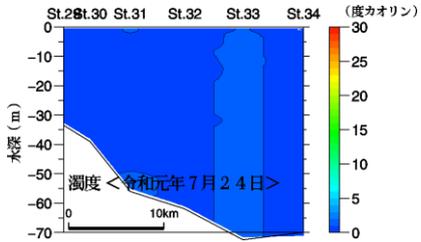
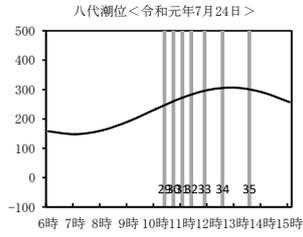
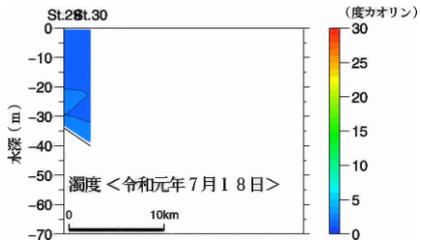
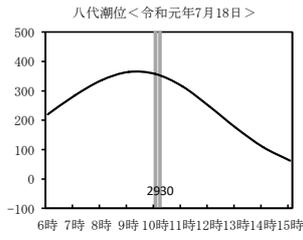


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(2) 水塊構造調査結果(八代中央・濁度、平成31年4月～令和元年6月)

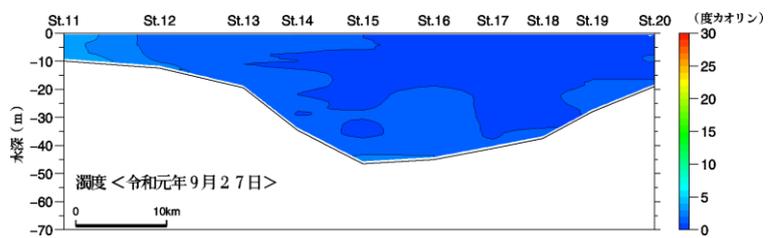
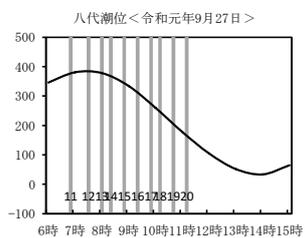
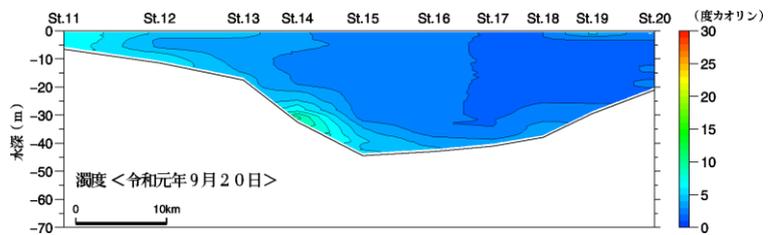
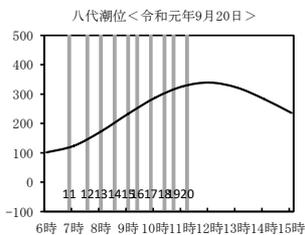
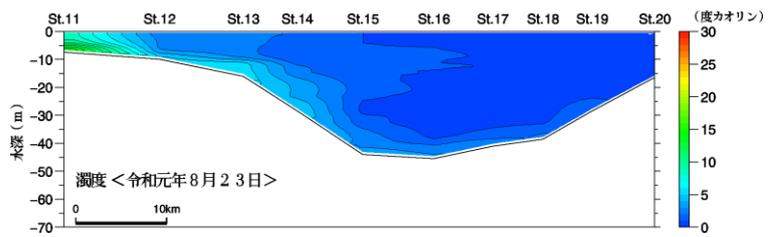
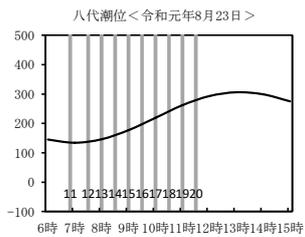
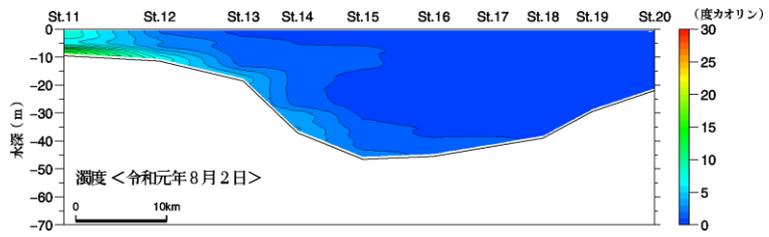
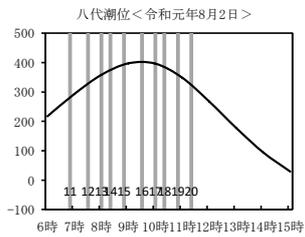
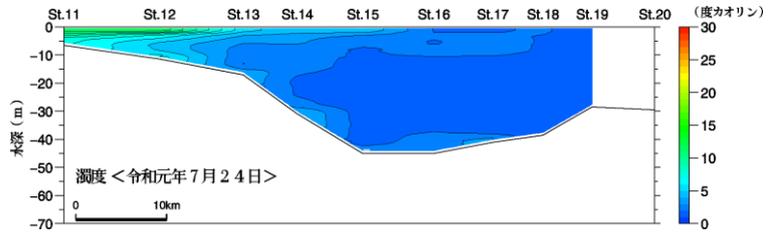
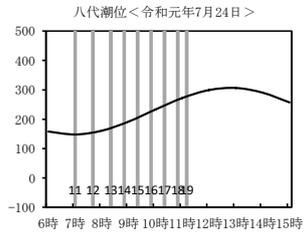
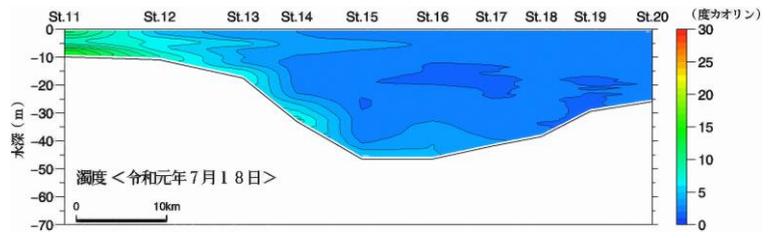
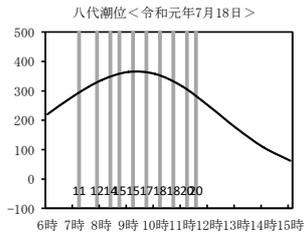


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(3) 水塊構造調査結果(八代西・濁度、令和元年7~9月)

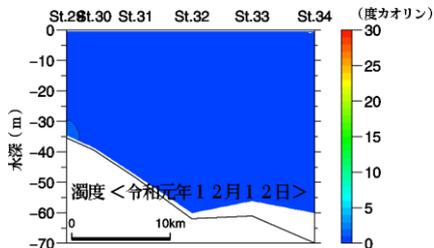
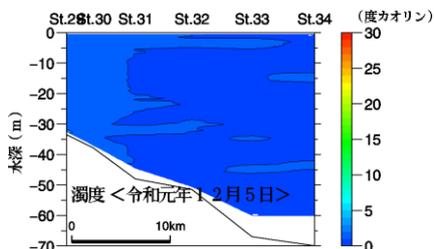
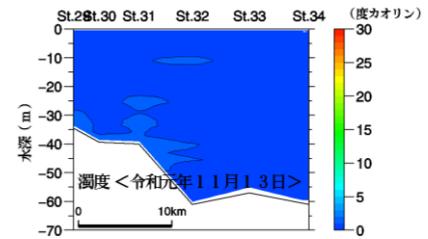
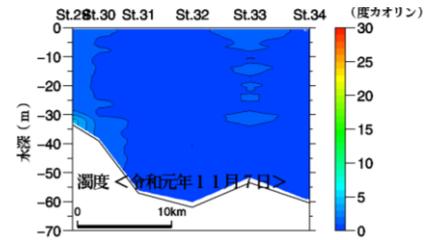
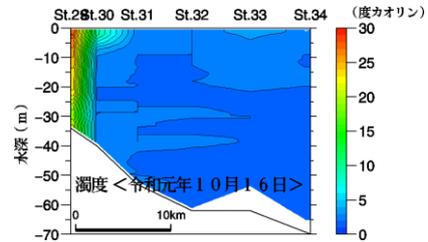
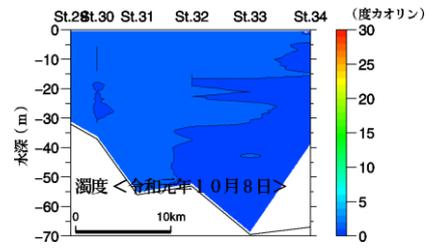
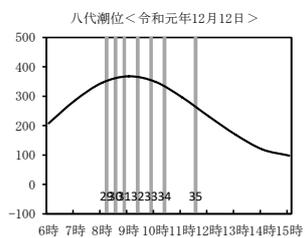
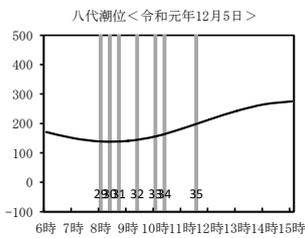
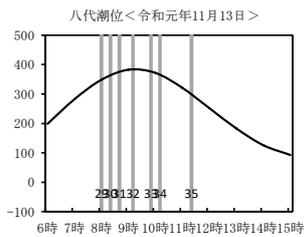
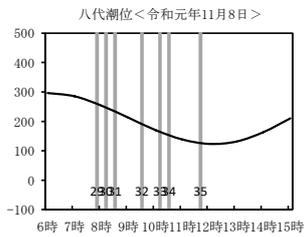
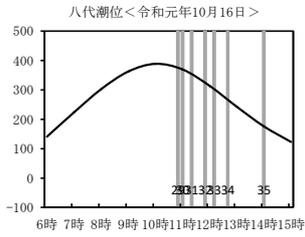
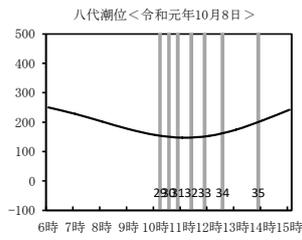


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(4) 水塊構造調査結果(八代中央・濁度、令和元年7~9月)

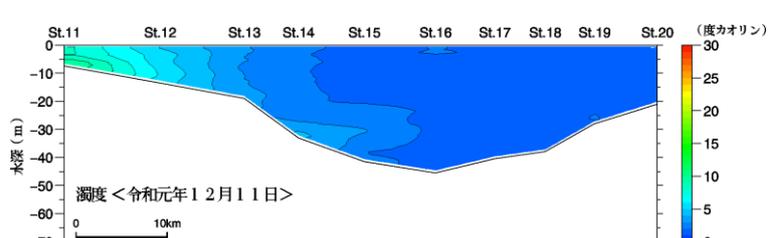
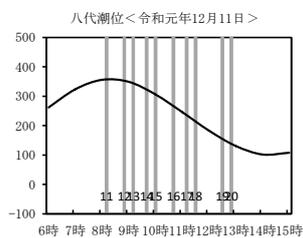
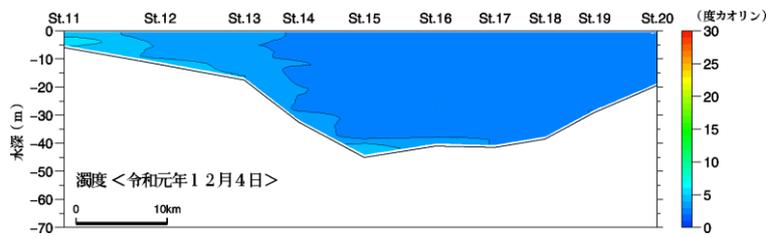
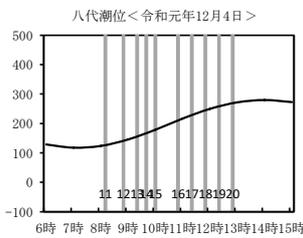
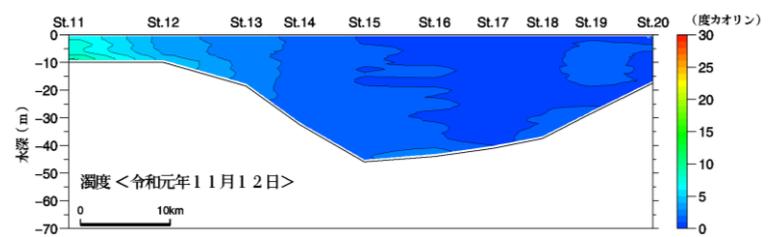
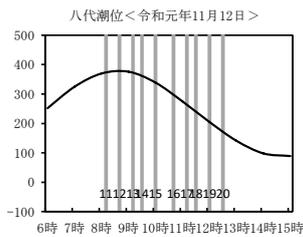
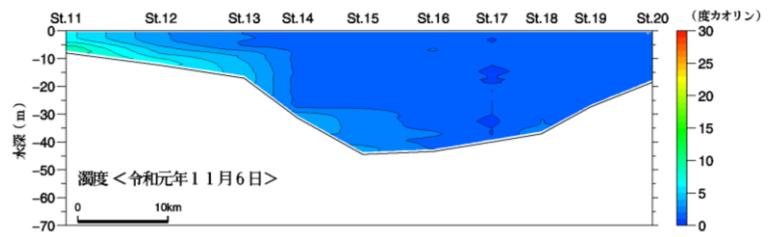
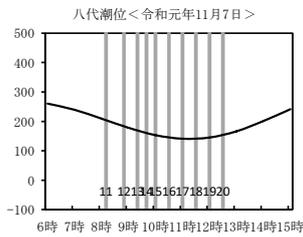
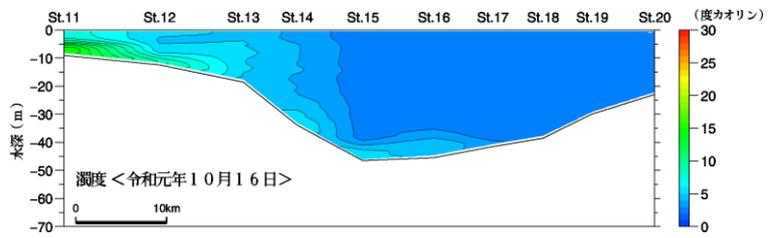
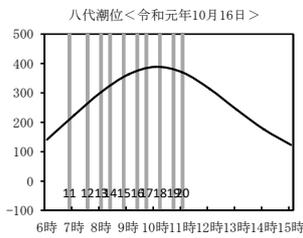
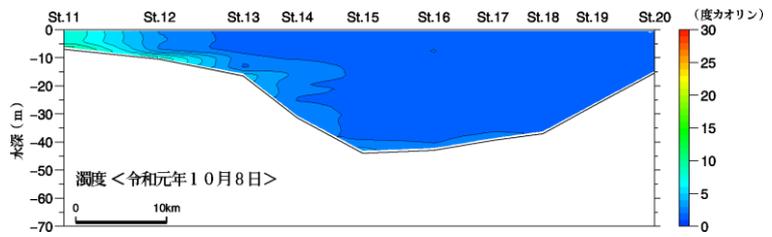
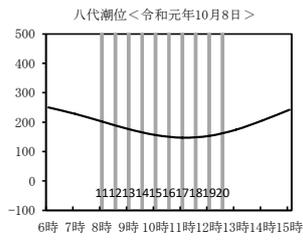


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(5) 水塊構造調査結果(八代西・濁度、令和元年10~12月)

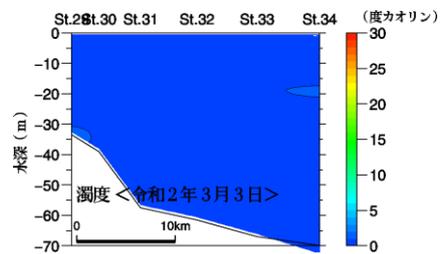
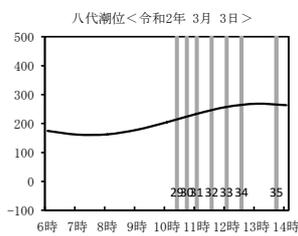
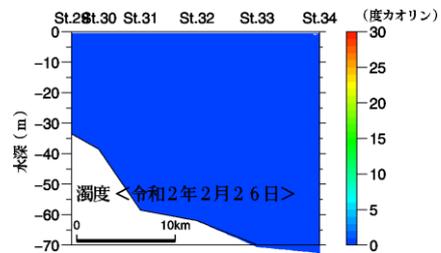
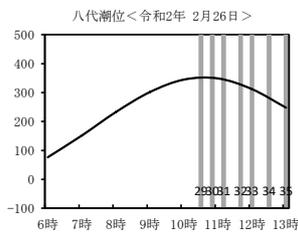
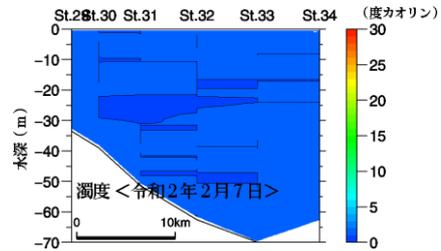
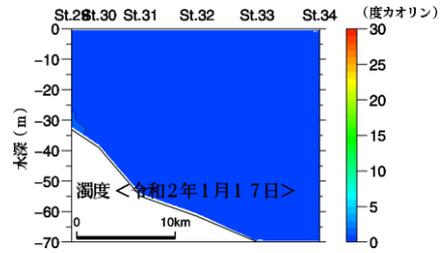
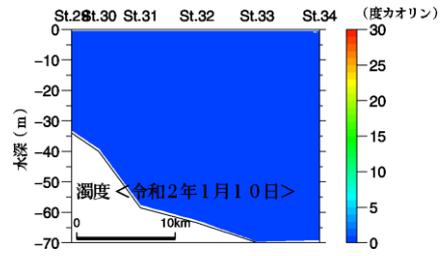
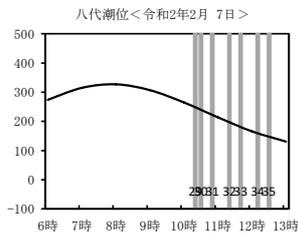
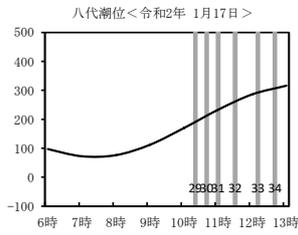
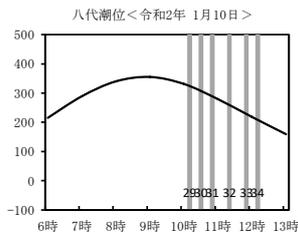


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(6) 水塊構造調査結果(八代中央・濁度、令和元年10~12月)



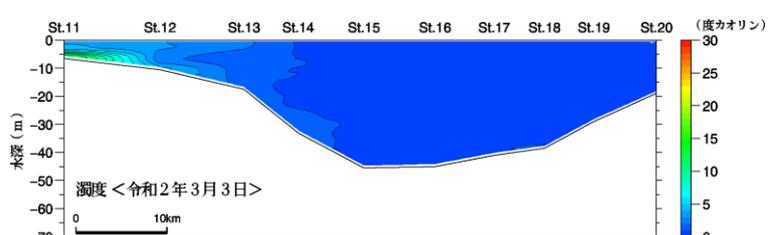
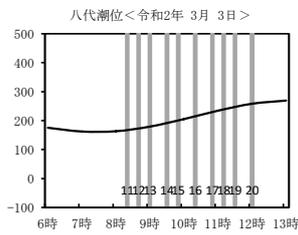
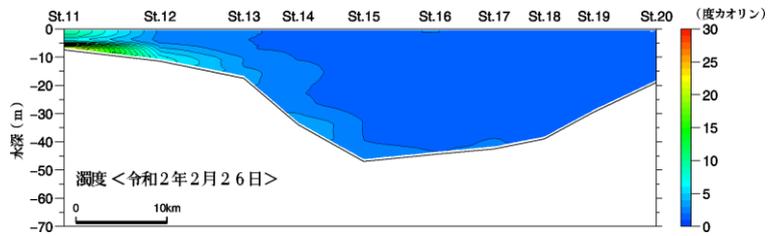
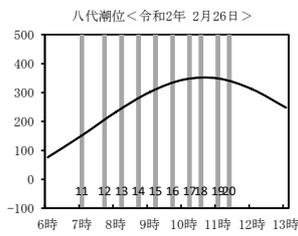
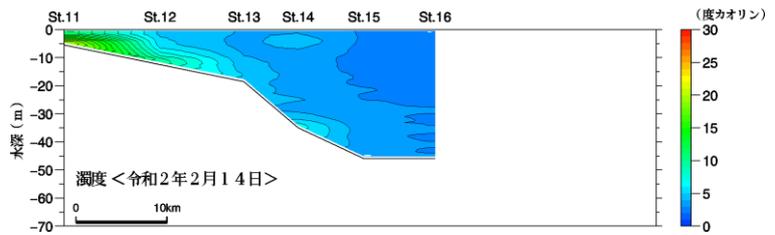
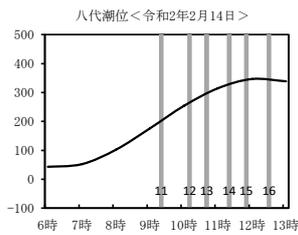
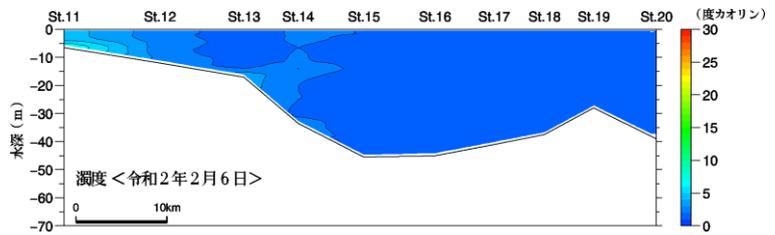
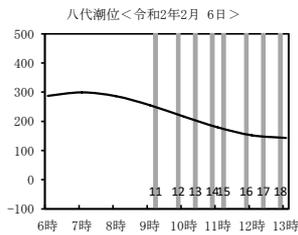
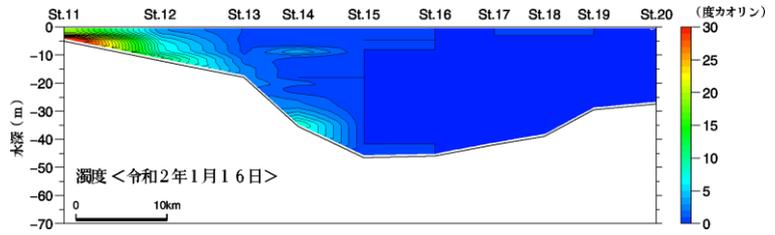
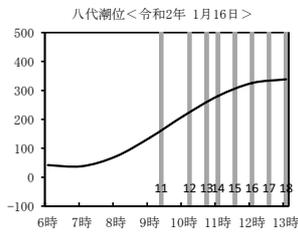
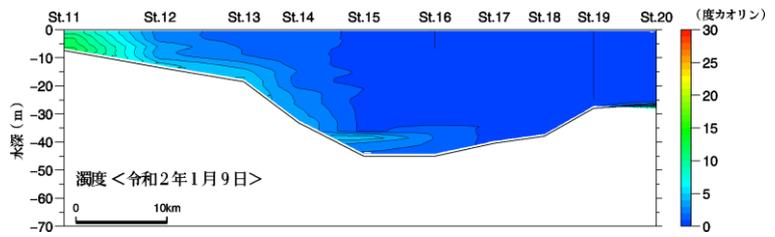
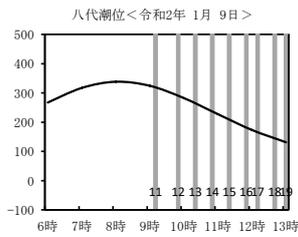
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-4(7) 水塊構造調査結果(八代西・濁度、令和2年1~3月)



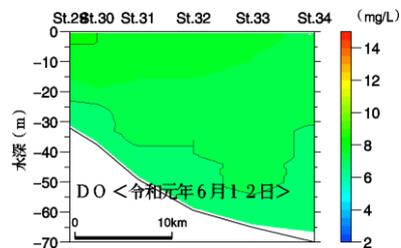
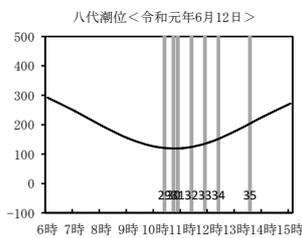
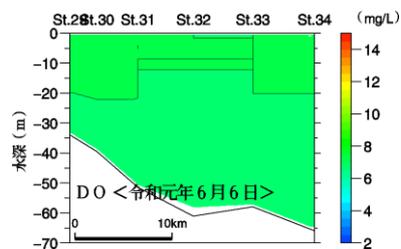
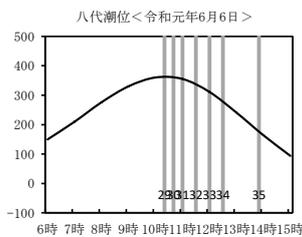
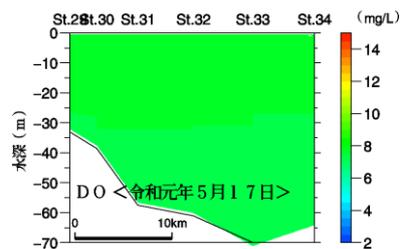
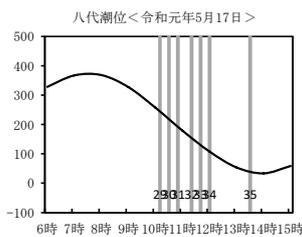
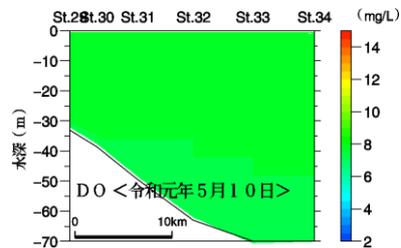
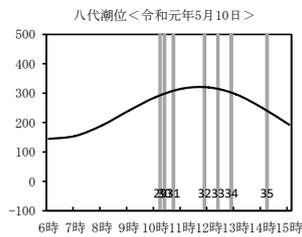
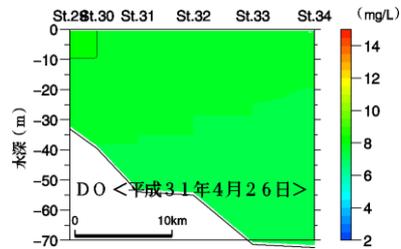
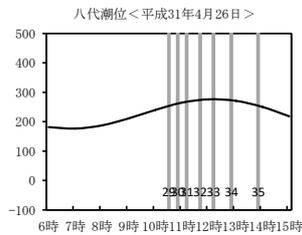
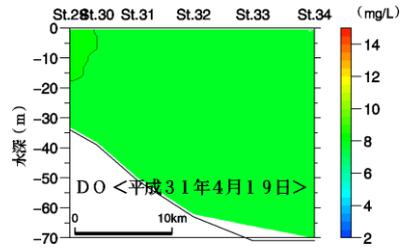
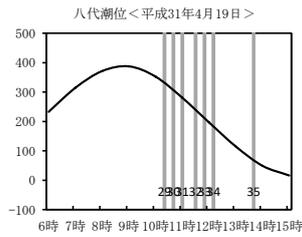
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-4(8) 水塊構造調査結果(八代中央・濁度、令和2年1~3月)

(5) DO

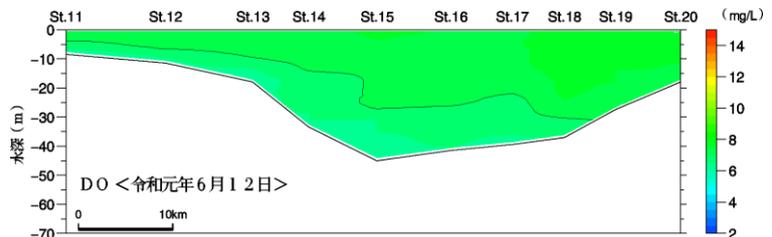
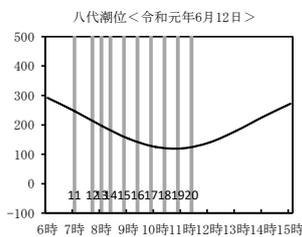
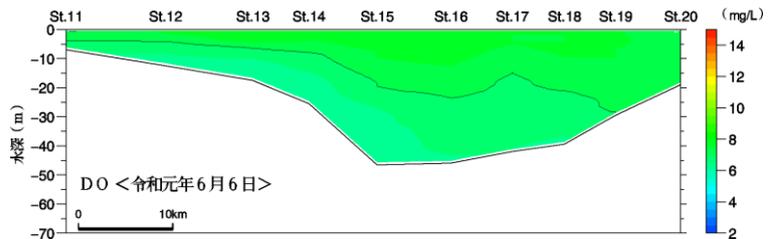
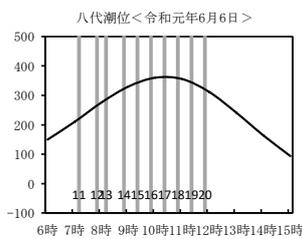
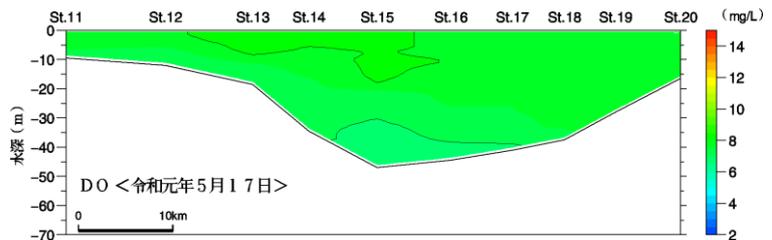
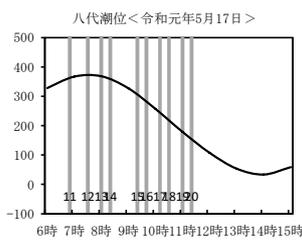
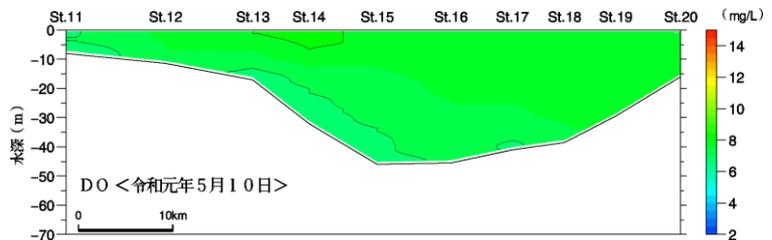
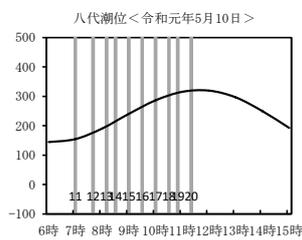
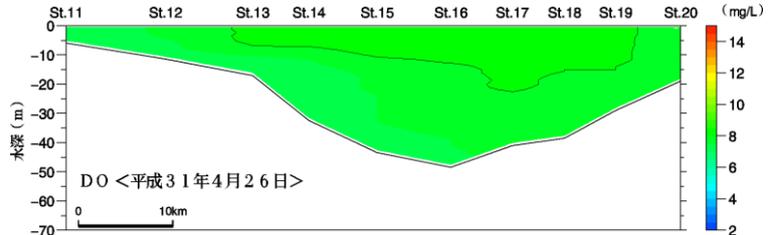
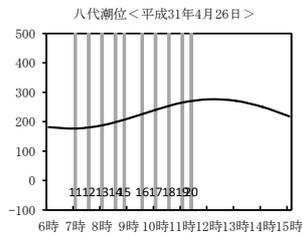
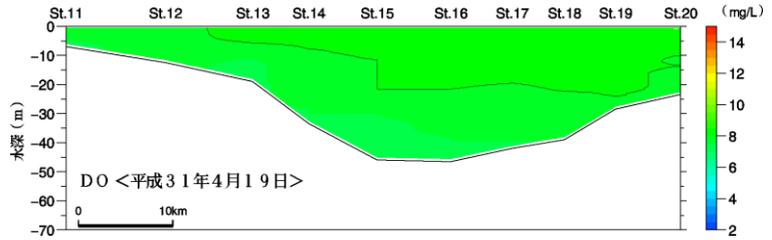
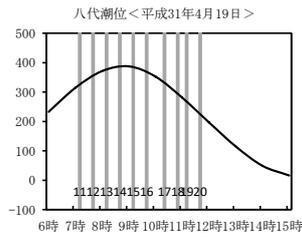


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(1) 水塊構造調査結果(八代西・DO、平成31年4月～令和元年6月)

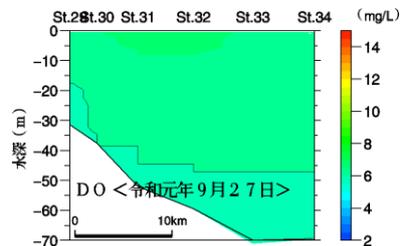
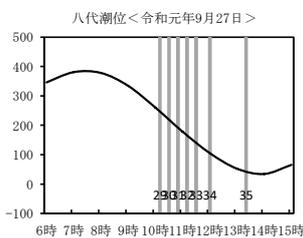
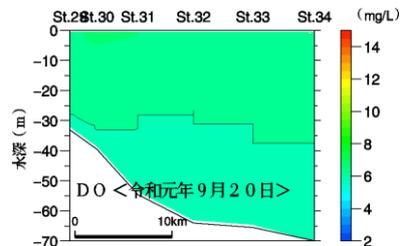
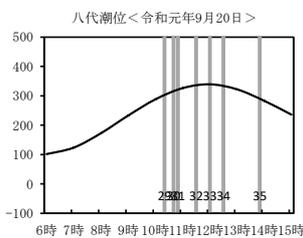
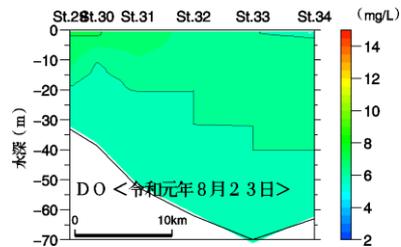
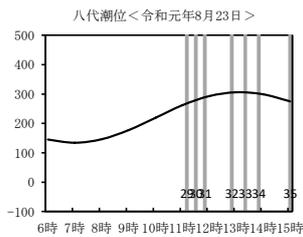
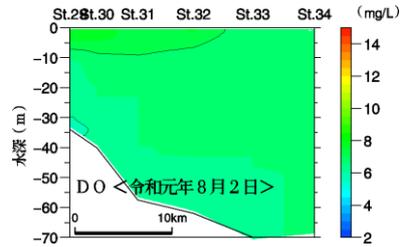
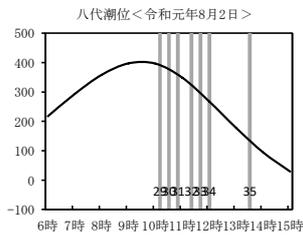
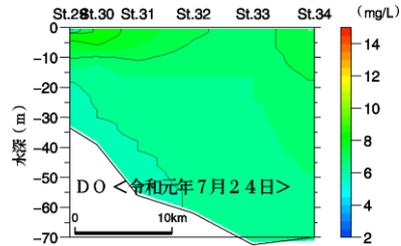
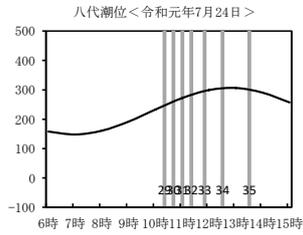
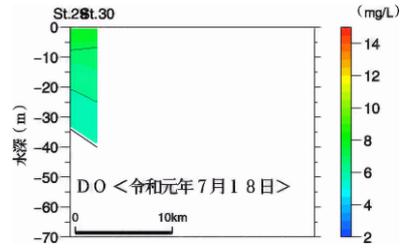
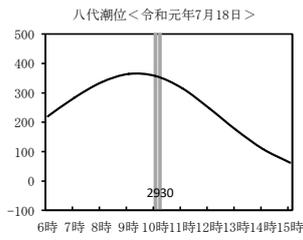


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(2) 水塊構造調査結果(八代中央・DO、平成31年4月～令和元年6月)

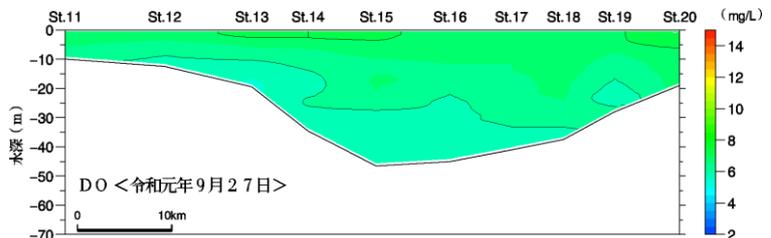
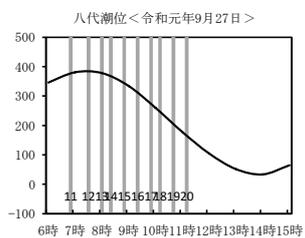
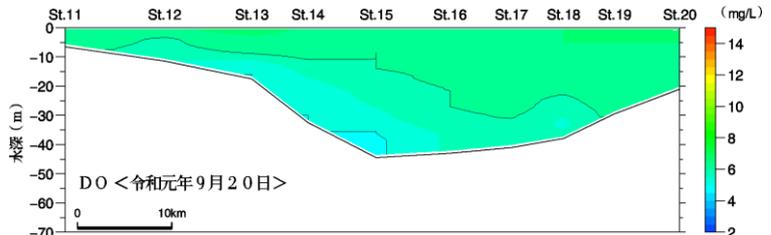
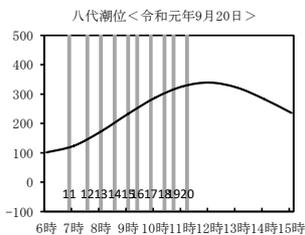
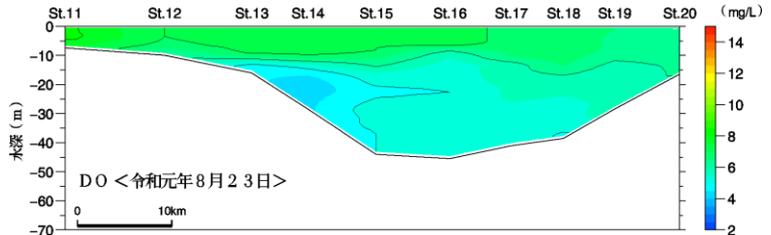
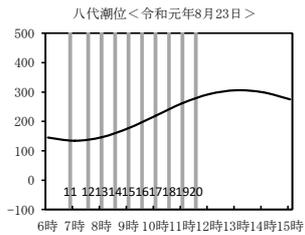
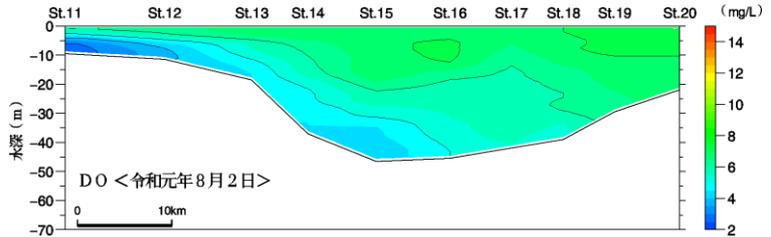
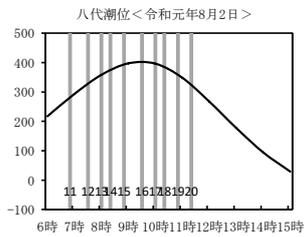
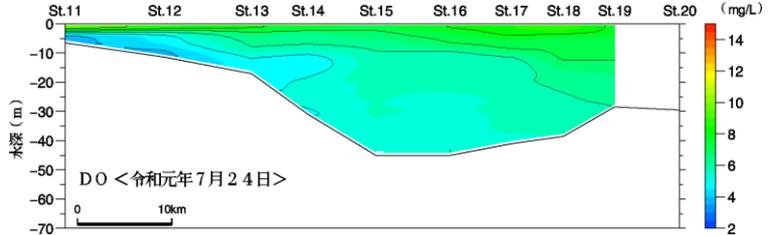
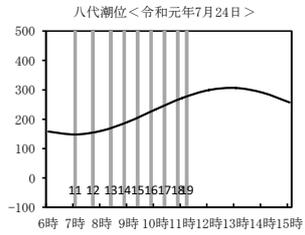
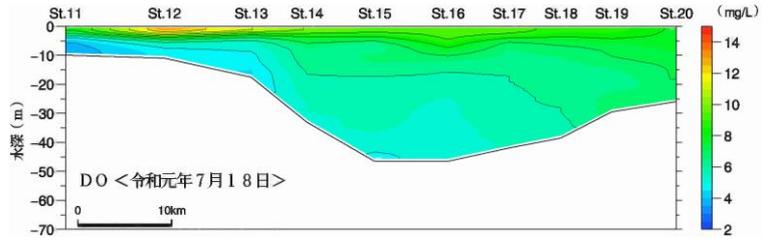
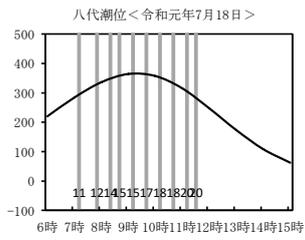


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2. 2-5 (3) 水塊構造調査結果(八代西・DO、令和元年7~9月)

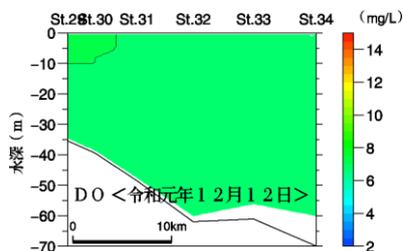
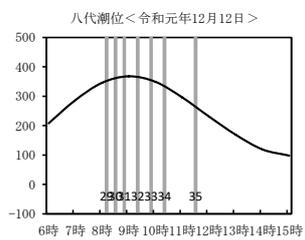
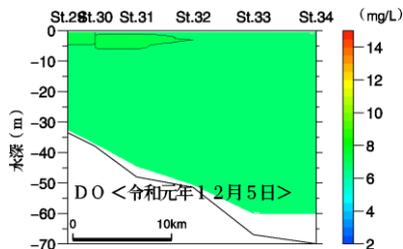
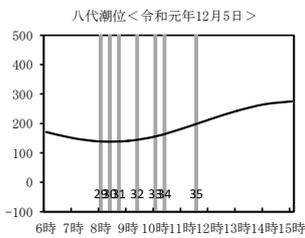
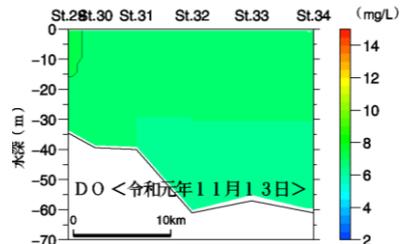
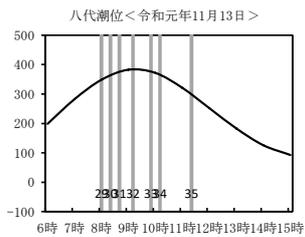
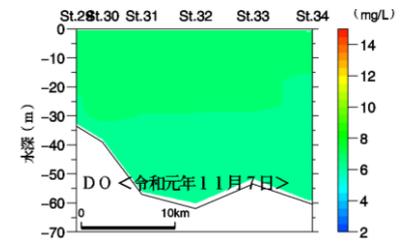
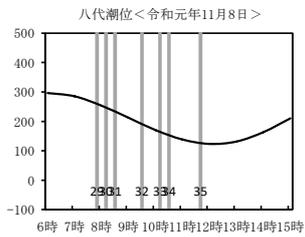
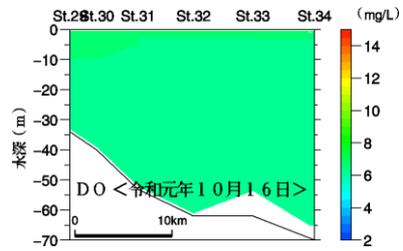
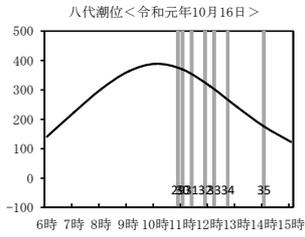
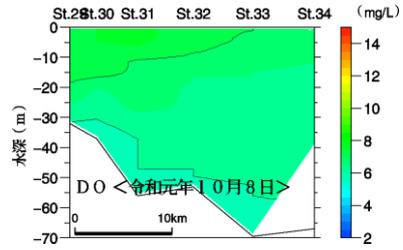
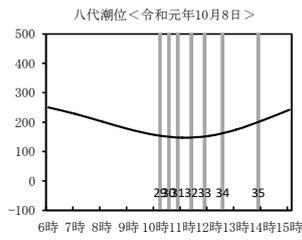


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(4) 水塊構造調査結果(八代中央・DO、令和元年7~9月)

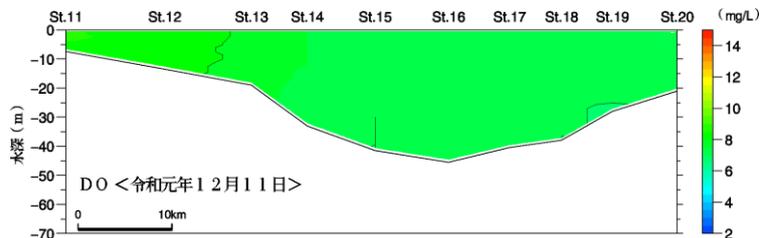
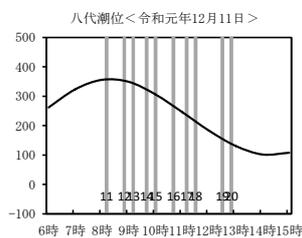
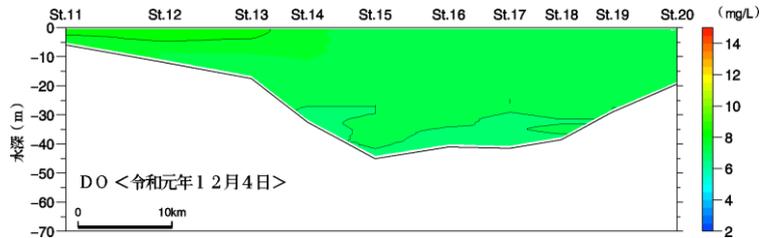
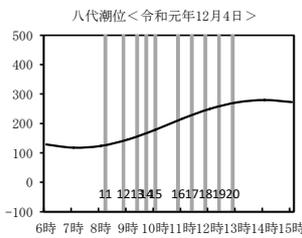
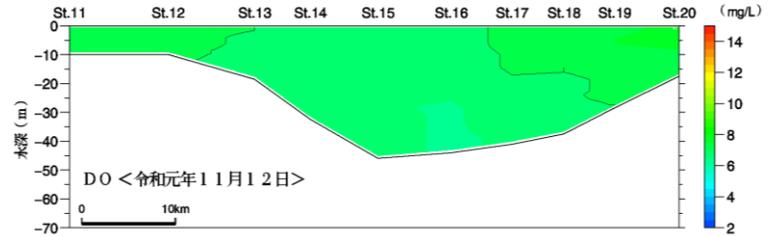
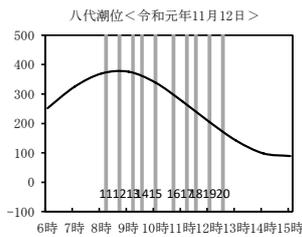
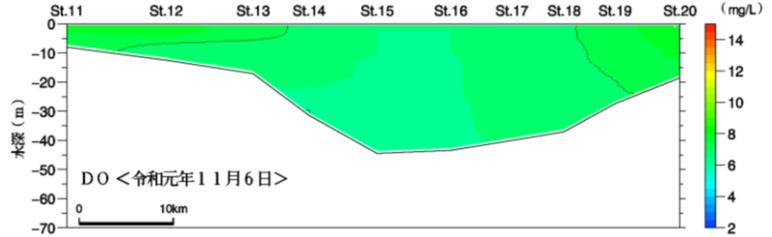
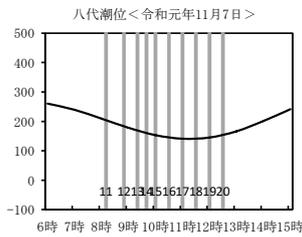
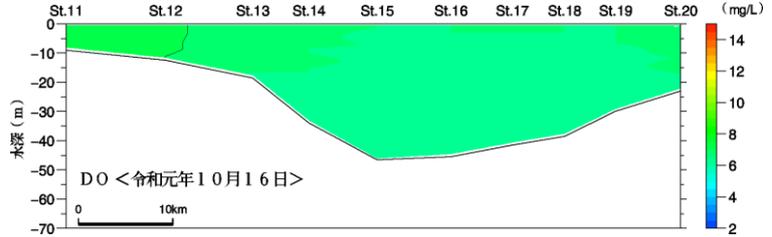
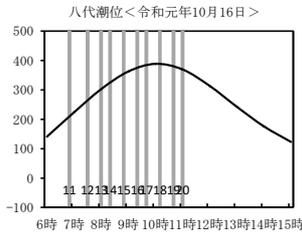
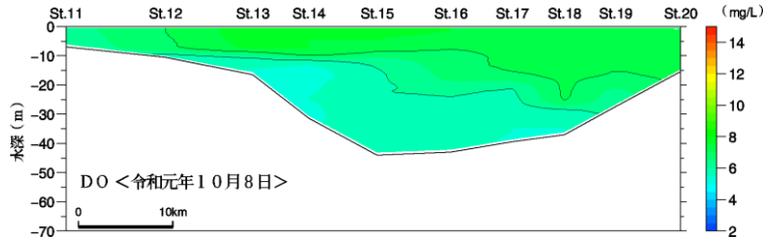
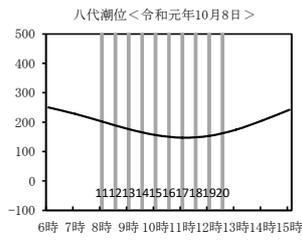


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(5) 水塊構造調査結果(八代西・DO、令和元年10~12月)

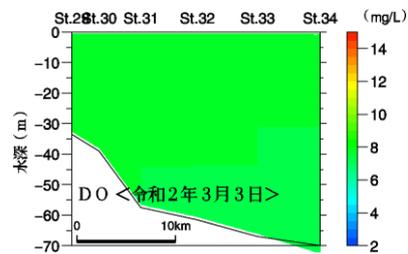
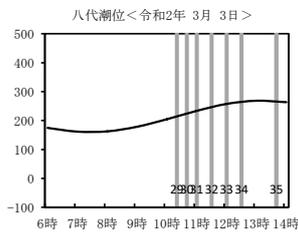
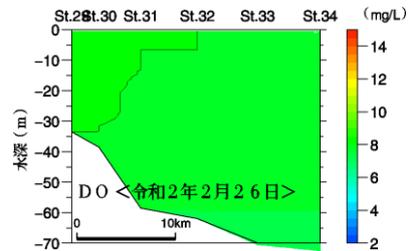
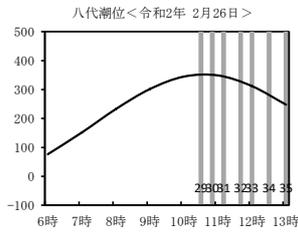
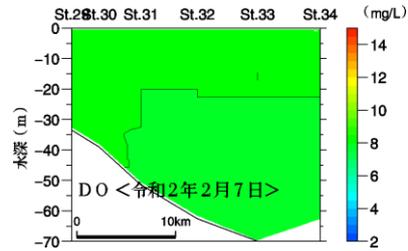
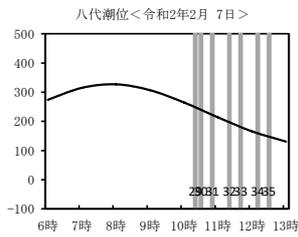
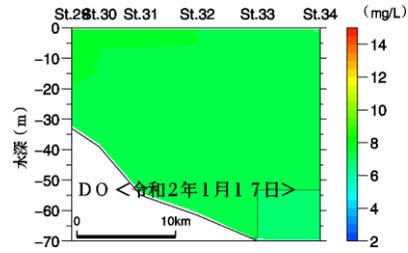
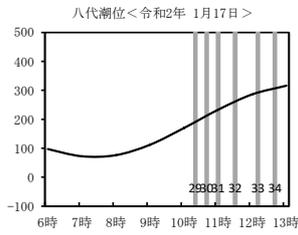
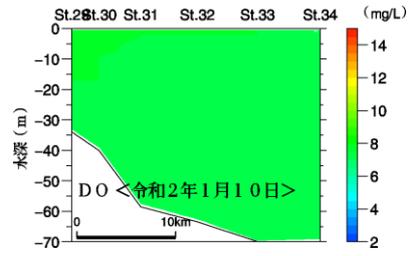
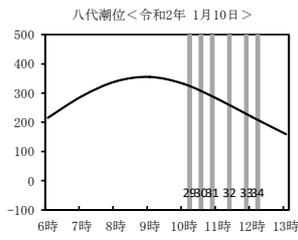


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(6) 水塊構造調査結果(八代中央・DO、令和元年10~12月)



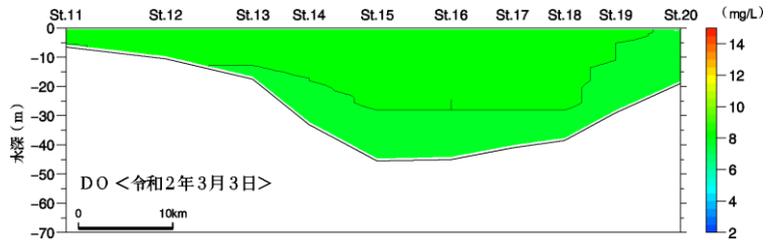
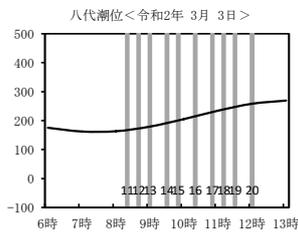
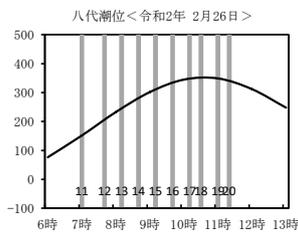
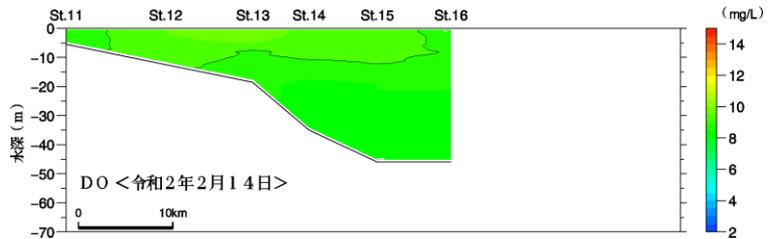
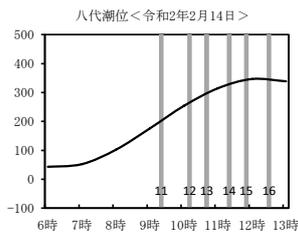
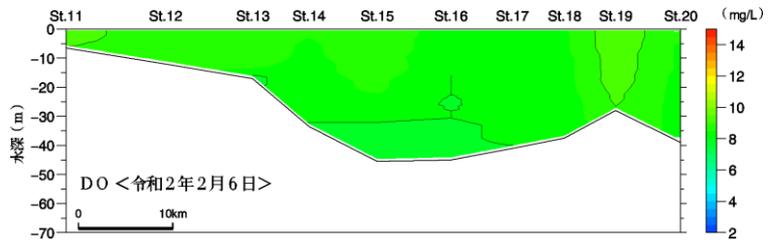
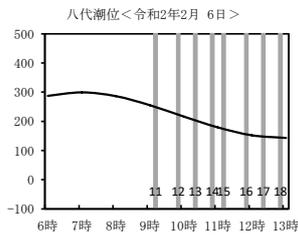
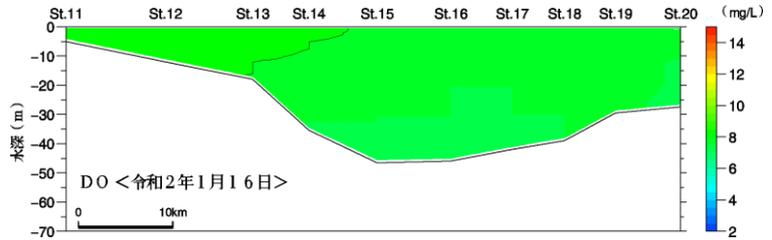
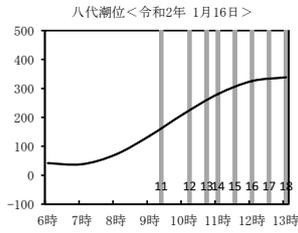
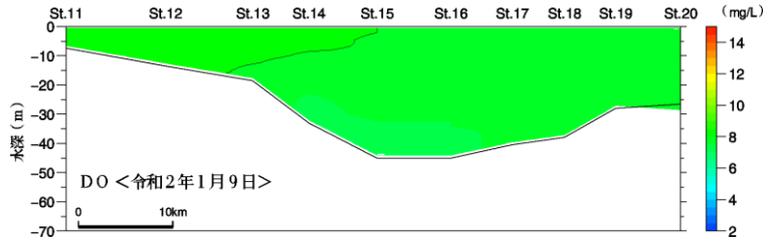
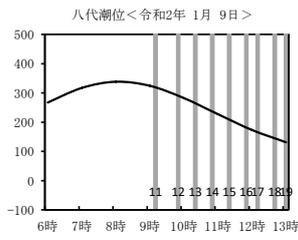
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-5(7) 水塊構造調査結果(八代西・DO、令和2年1~3月)



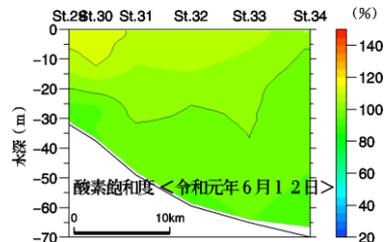
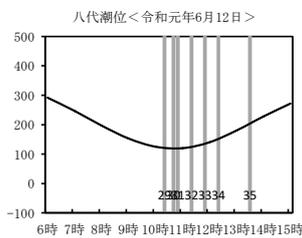
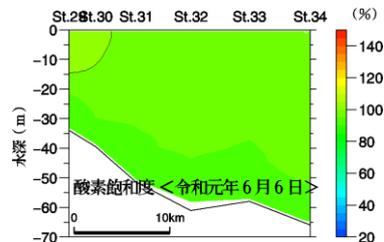
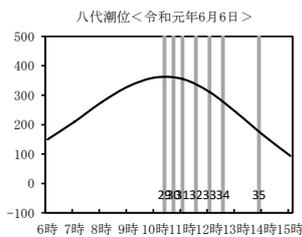
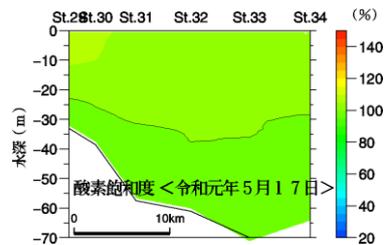
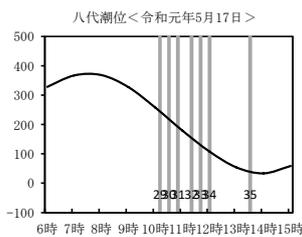
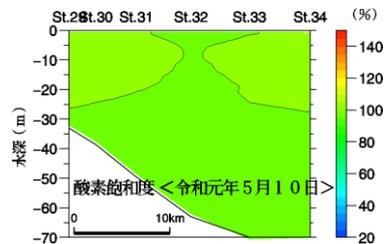
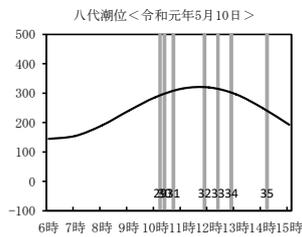
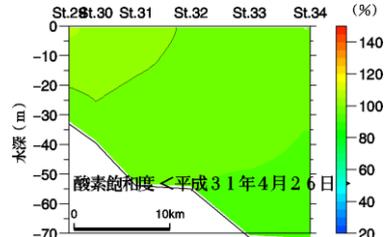
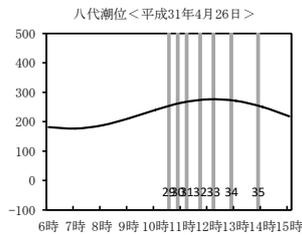
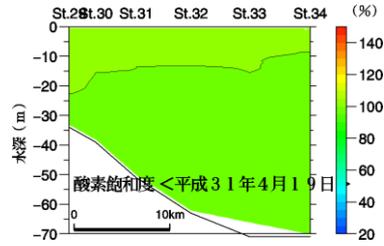
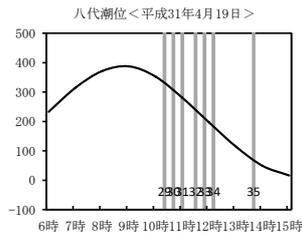
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-5(8) 水塊構造調査結果(八代中央・DO、令和2年1~3月)

## (6) 酸素飽和度

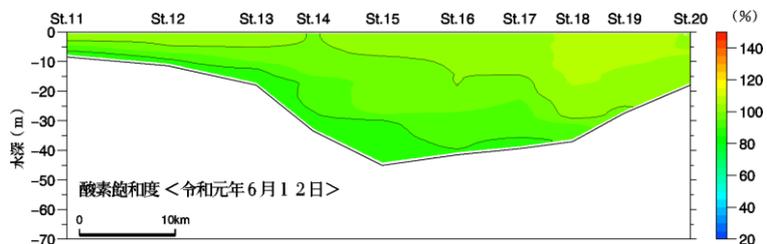
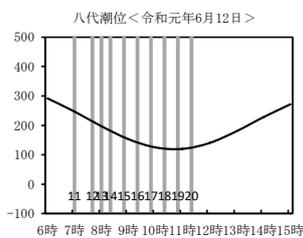
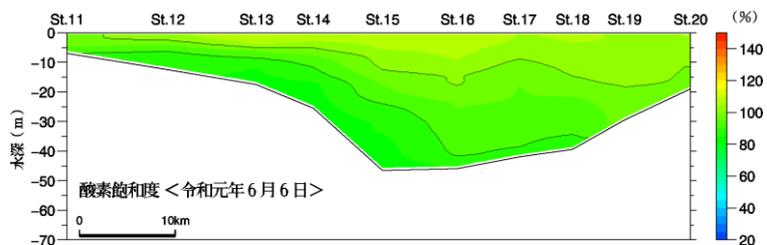
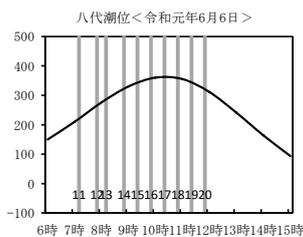
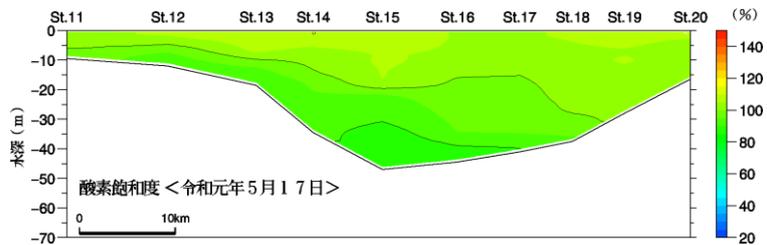
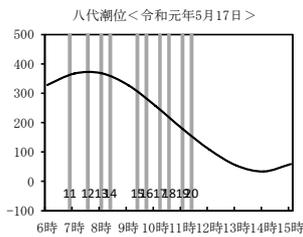
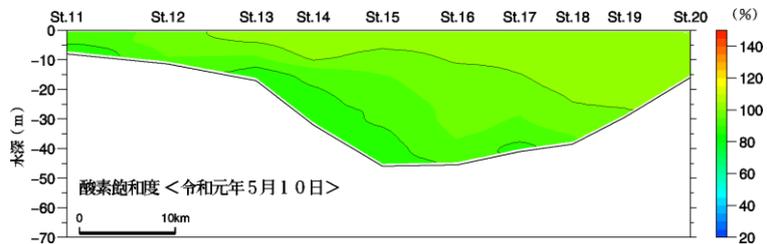
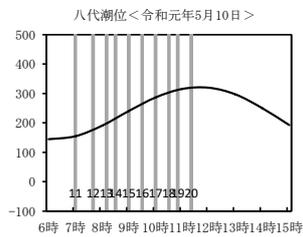
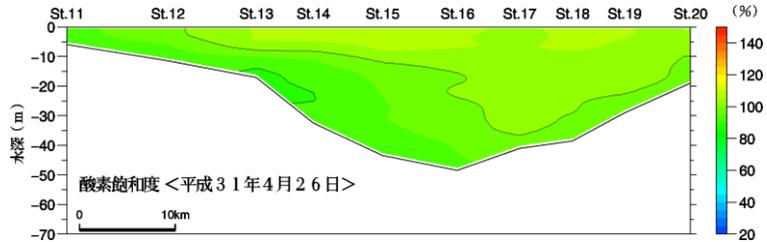
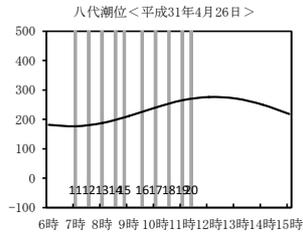
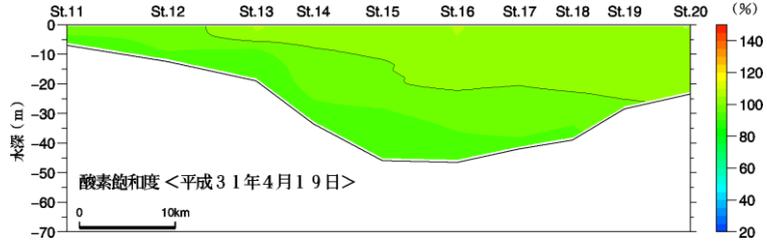
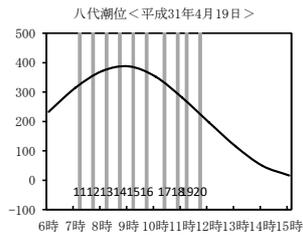


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(1) 水塊構造調査結果(八代西・酸素飽和度、平成31年4月～令和元年6月)

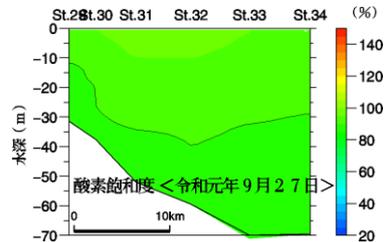
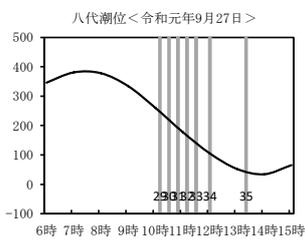
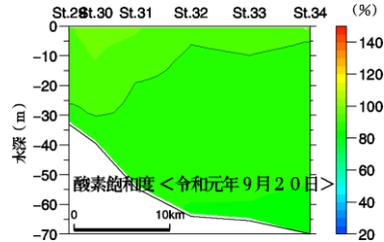
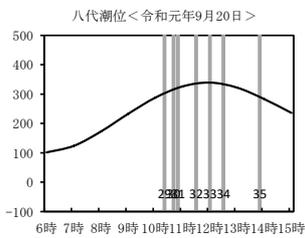
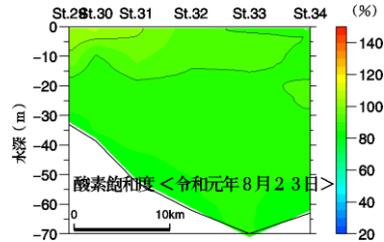
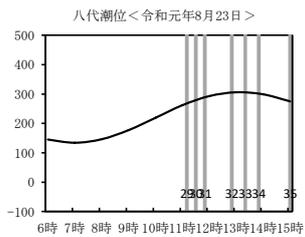
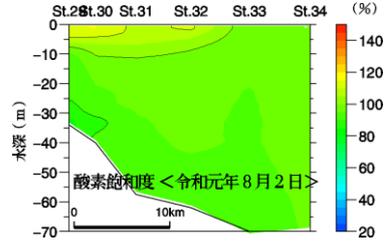
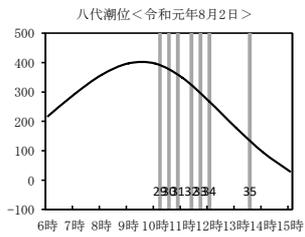
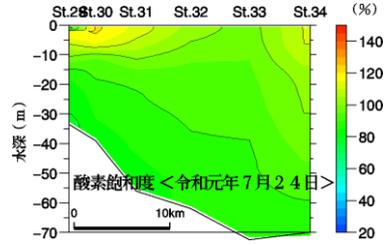
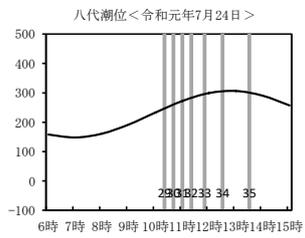
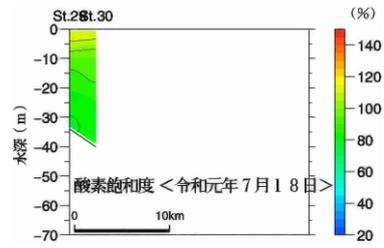
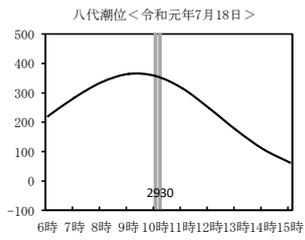


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(2) 水塊構造調査結果(八代中央・酸素飽和度、令和元年4~6月)

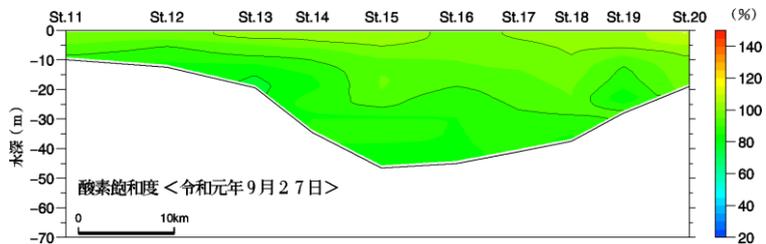
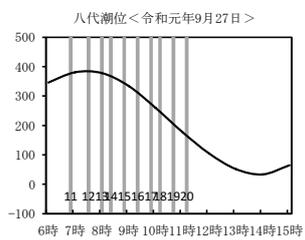
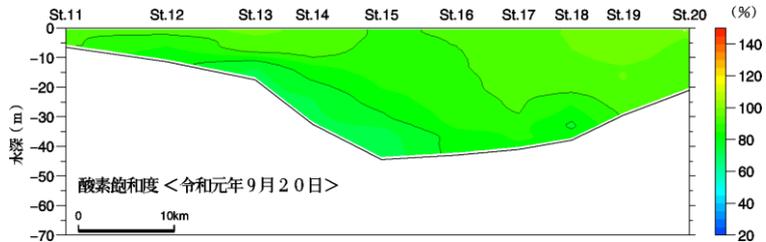
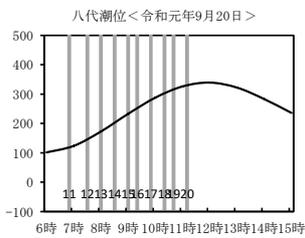
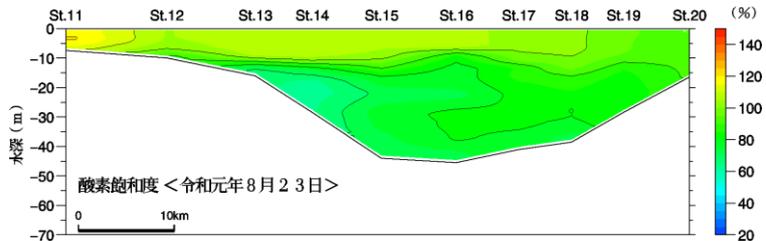
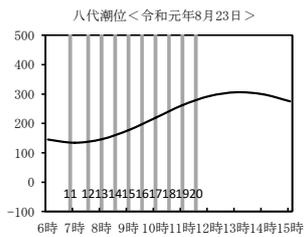
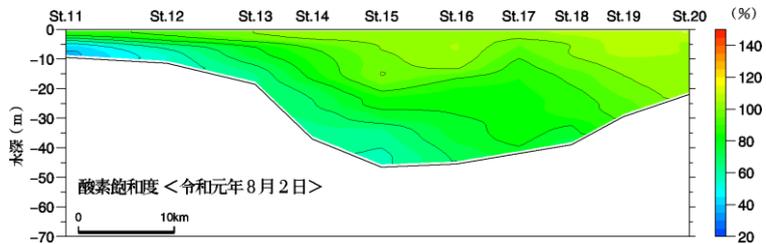
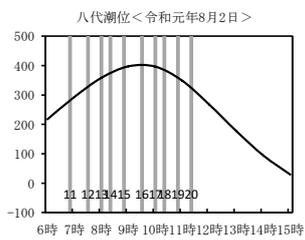
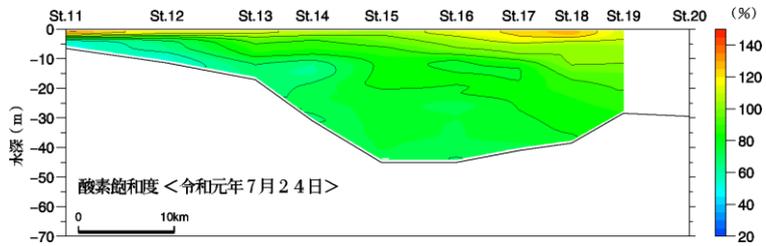
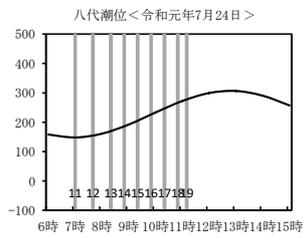
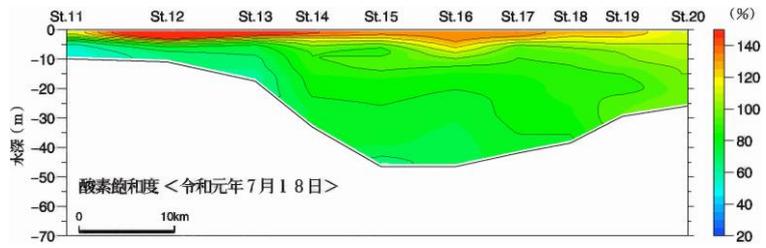
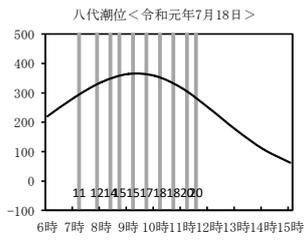


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(3) 水塊構造調査結果(八代西・酸素飽和度、令和元年7~9月)

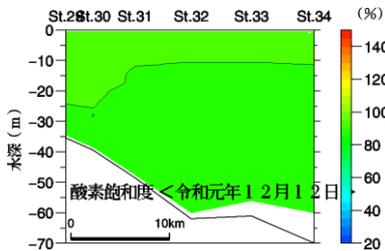
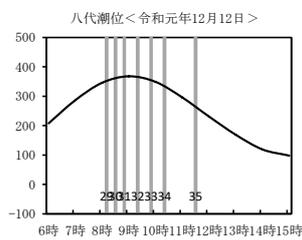
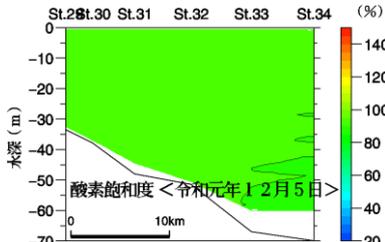
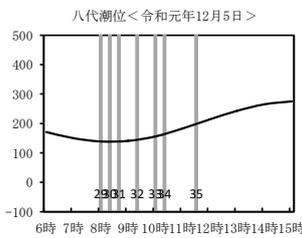
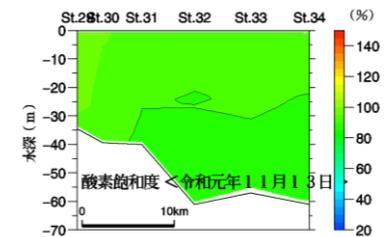
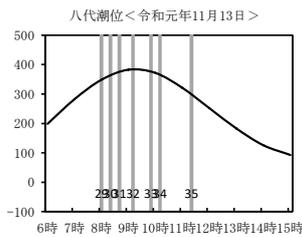
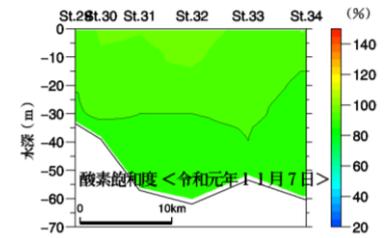
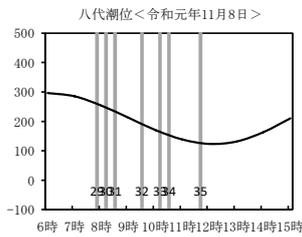
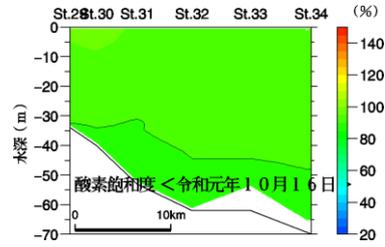
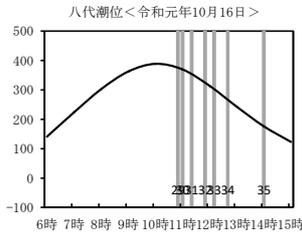
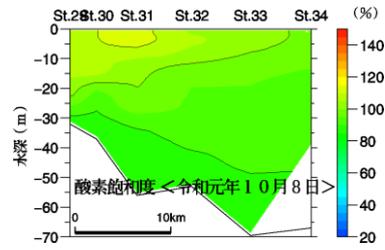
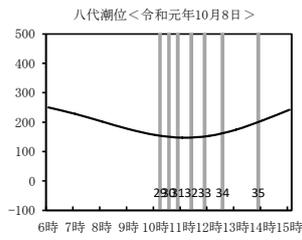


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(4) 水塊構造調査結果(八代中央・酸素飽和度、令和元年7~9月)

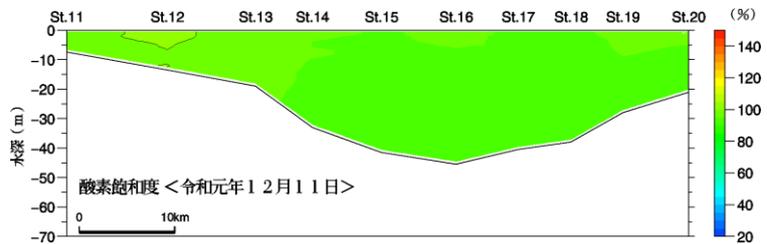
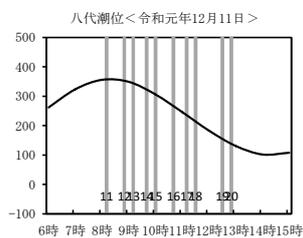
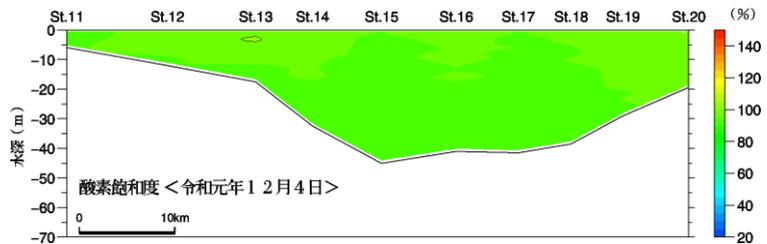
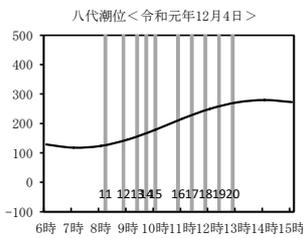
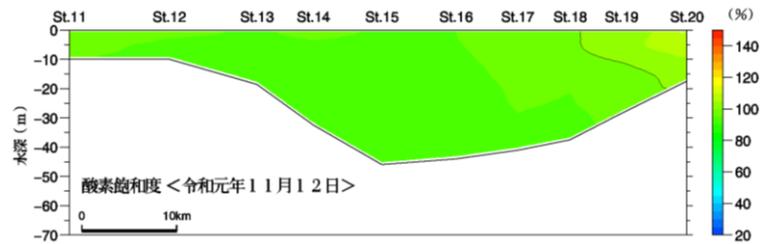
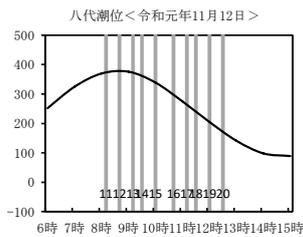
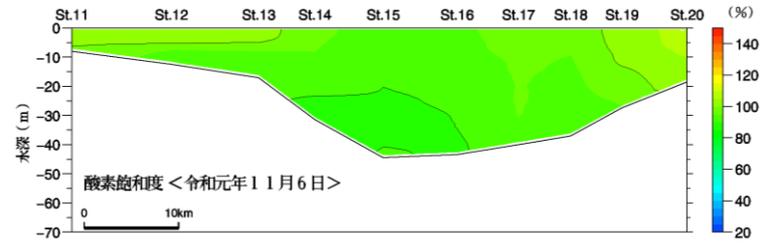
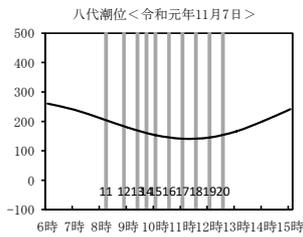
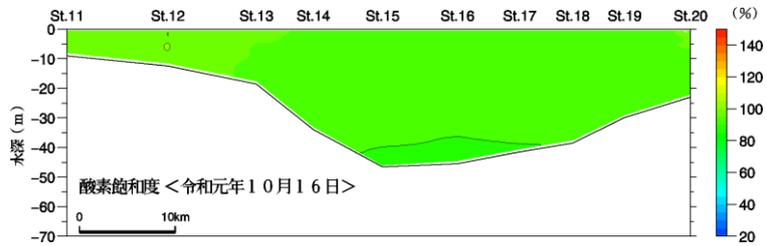
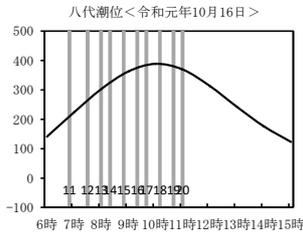
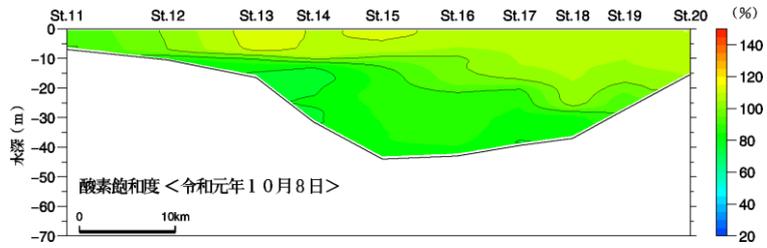
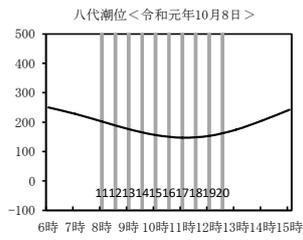


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(5) 水塊構造調査結果(八代西・酸素飽和度、令和元年10~12月)

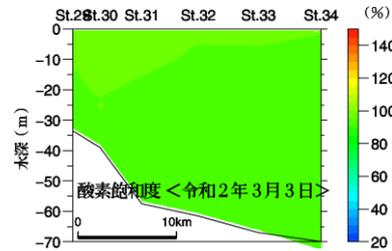
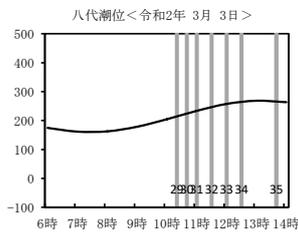
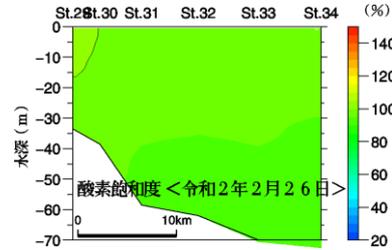
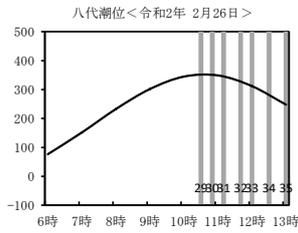
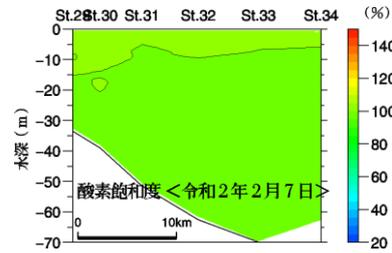
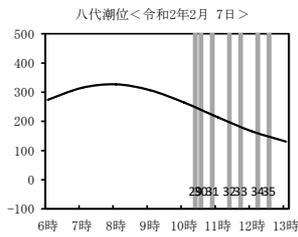
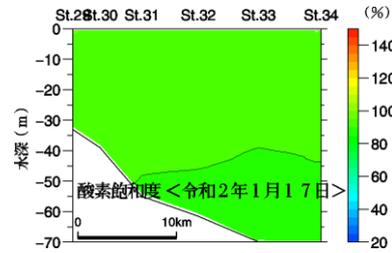
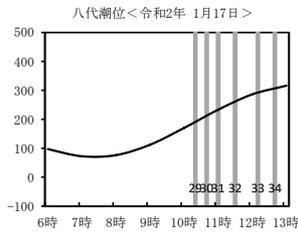
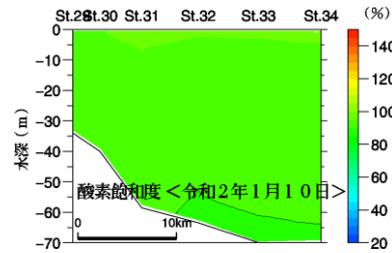
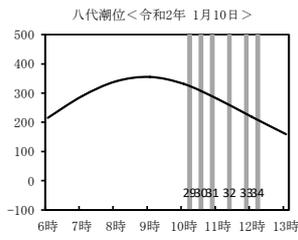


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(6) 水塊構造調査結果(八代中央・酸素飽和度、令和元年10～12月)



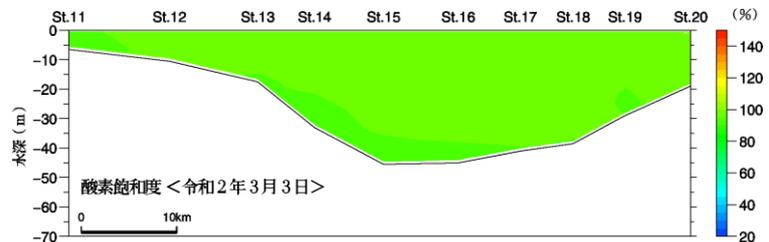
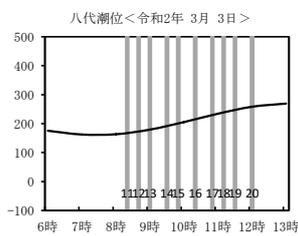
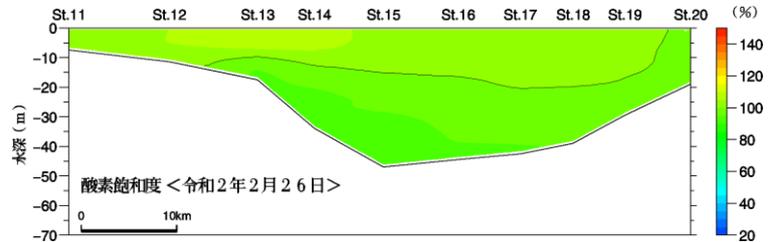
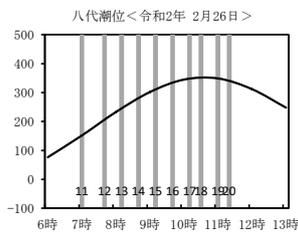
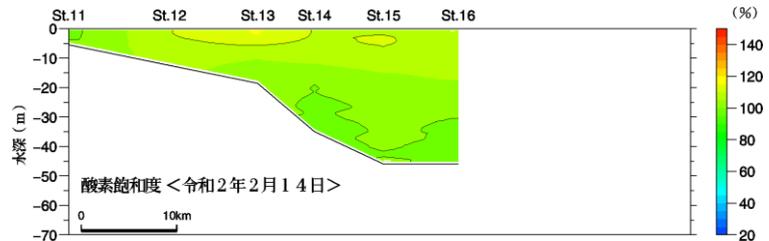
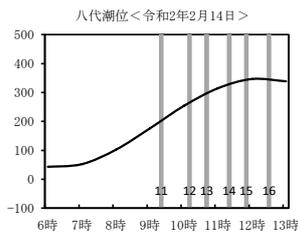
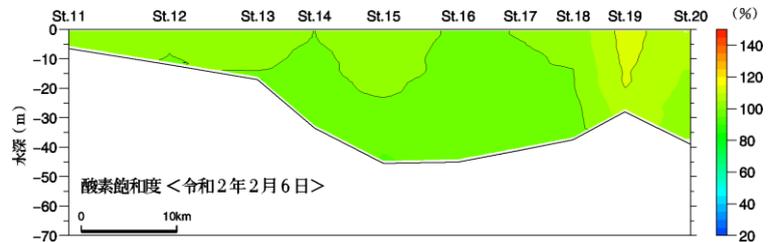
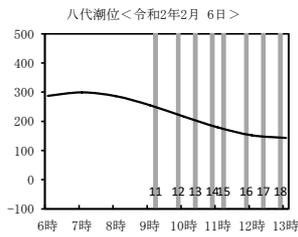
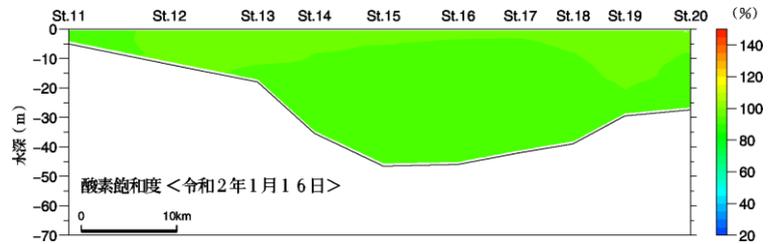
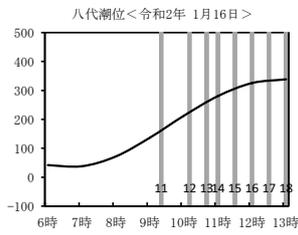
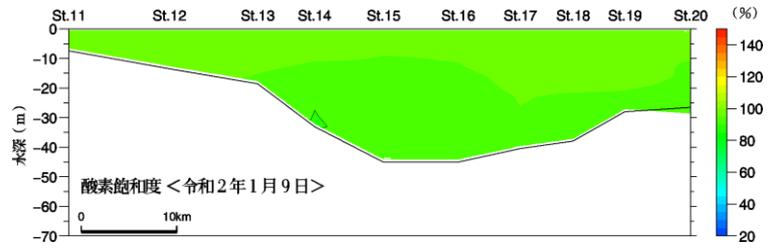
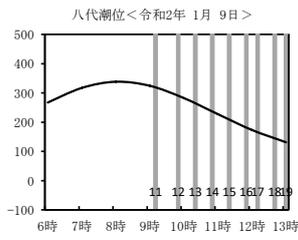
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-6(7) 水塊構造調査結果(八代西・酸素飽和度、令和2年1~3月)



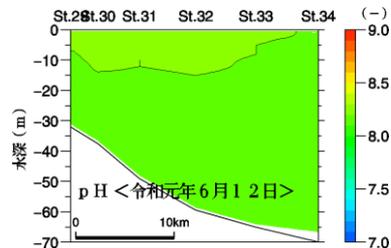
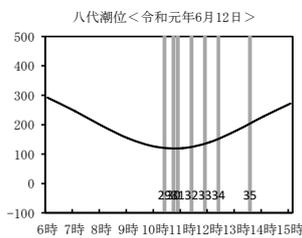
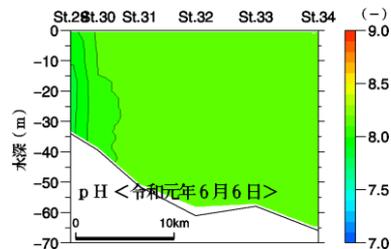
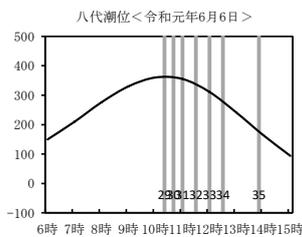
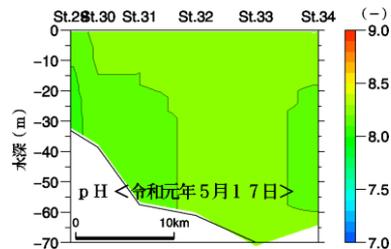
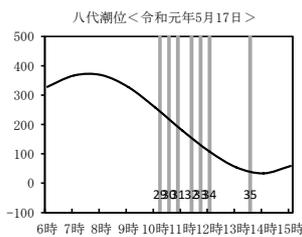
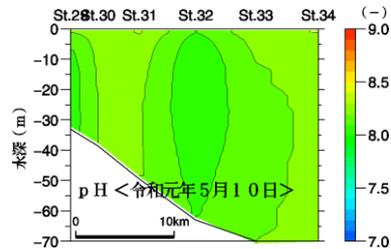
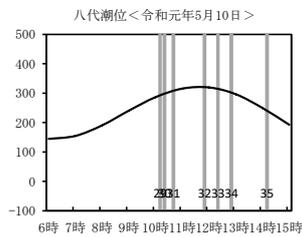
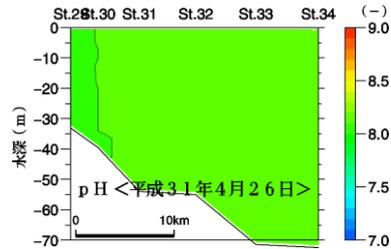
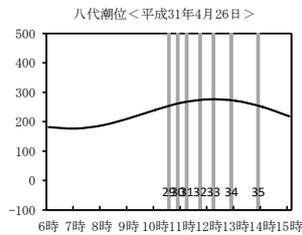
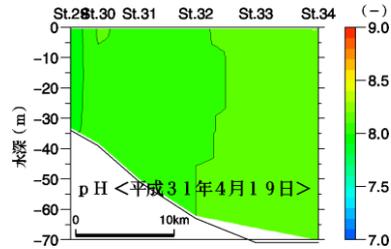
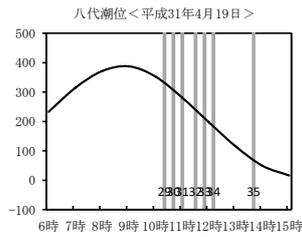
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-6(8) 水塊構造調査結果(八代中央・酸素飽和度、令和2年1~3月)

## (7) pH



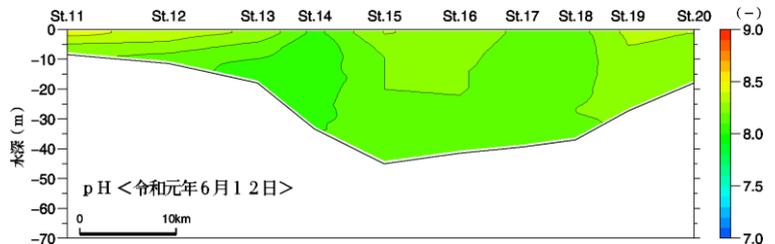
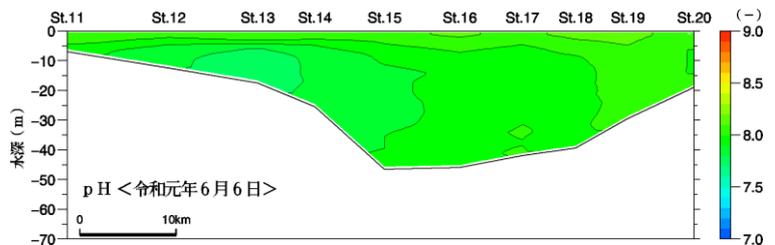
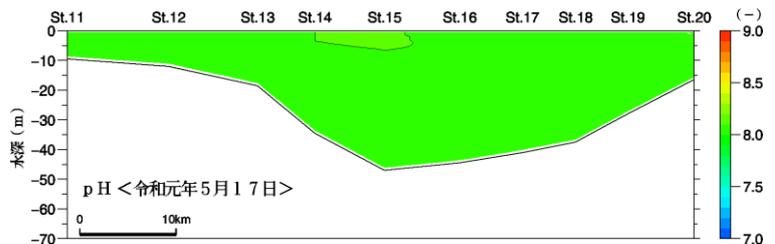
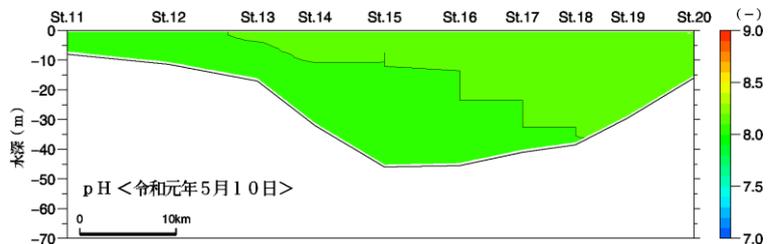
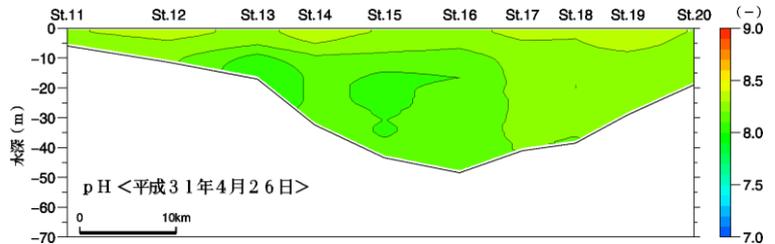
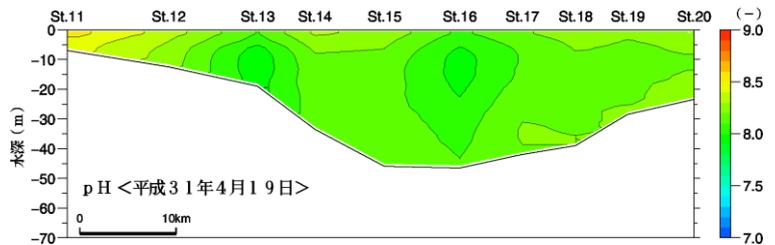
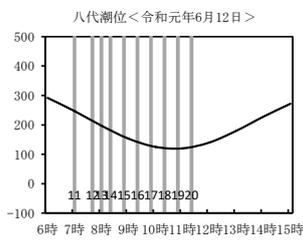
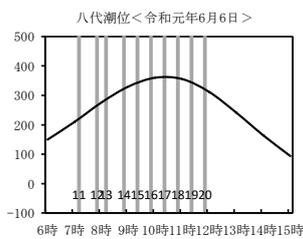
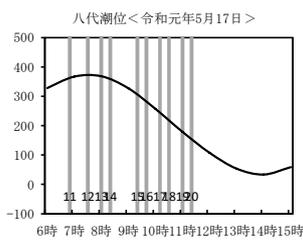
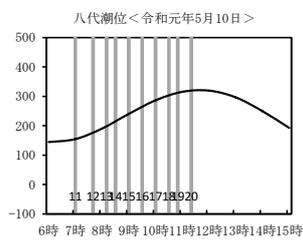
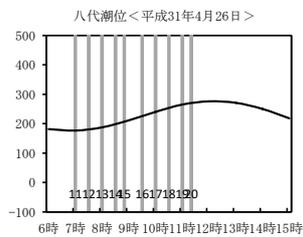
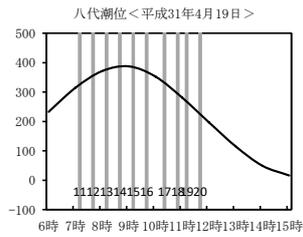
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

5月2日の St. 34 は天候不良による観測中止に伴い欠測。

付図 2.2-7(1) 水塊構造調査結果(八代西・pH、平成31年4月～令和元年6月)

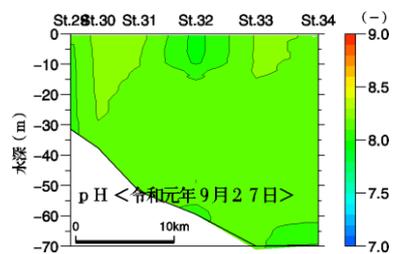
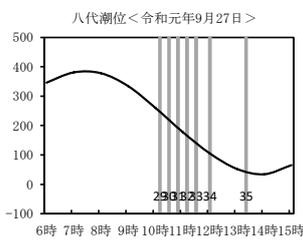
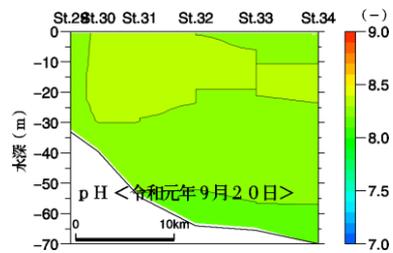
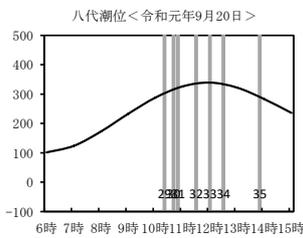
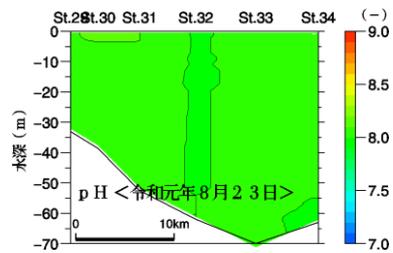
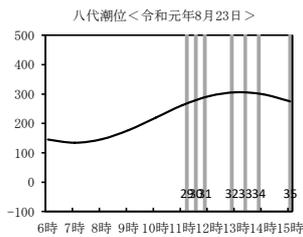
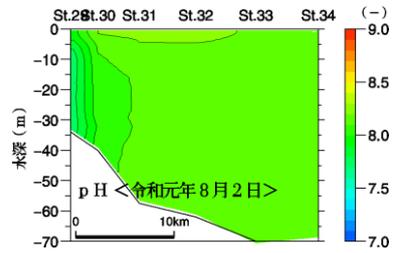
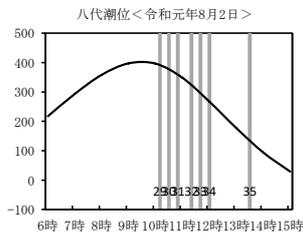
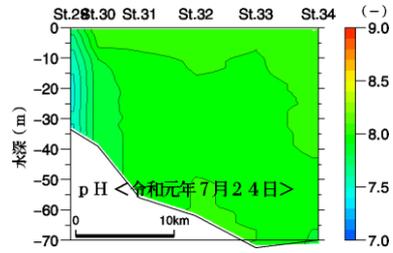
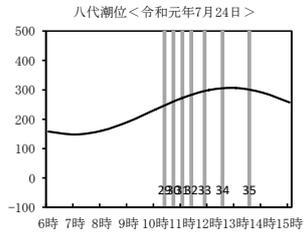
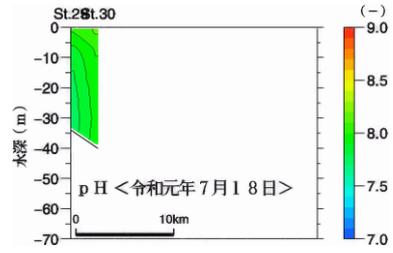
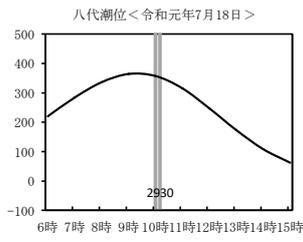


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位はcm。

出典：気象庁 八代検潮所(<http://www.jma.go.jp/jma/index.html>)

付図 2.2-7(2) 水塊構造調査結果(八代中央・pH、令和元年4~6月)

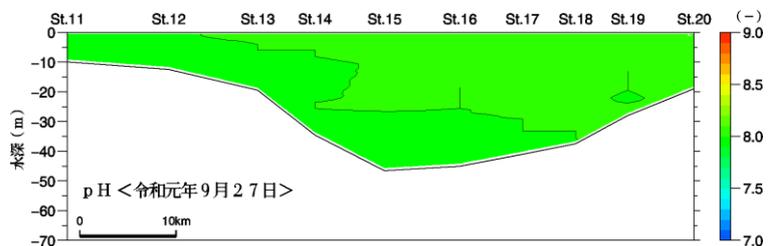
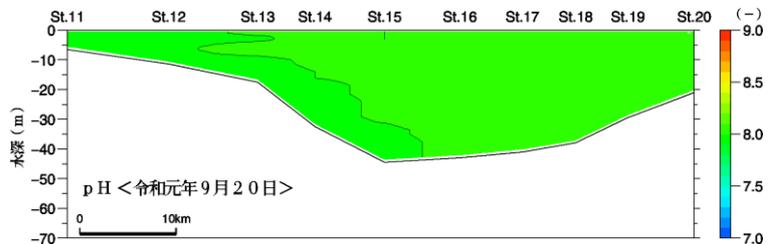
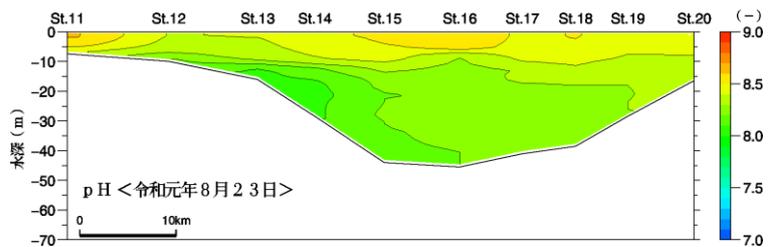
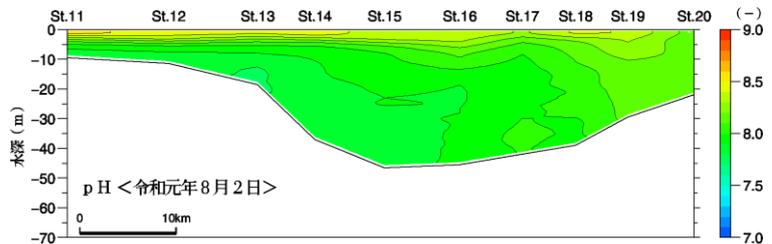
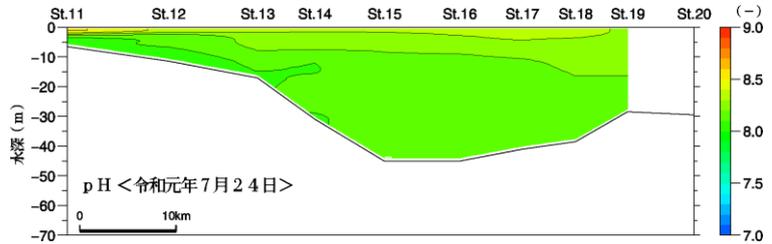
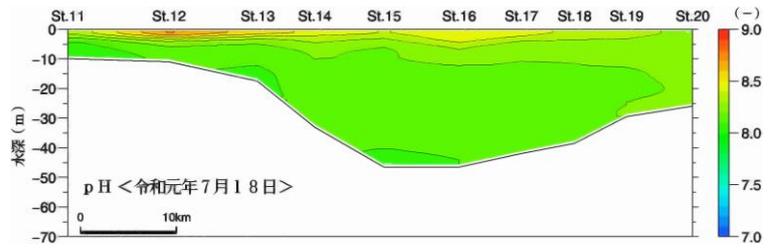
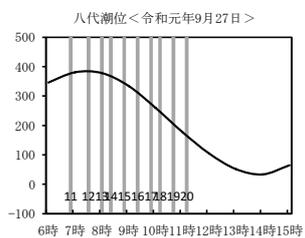
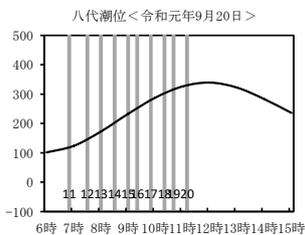
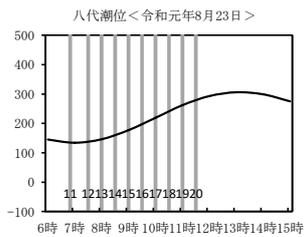
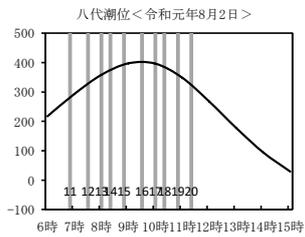
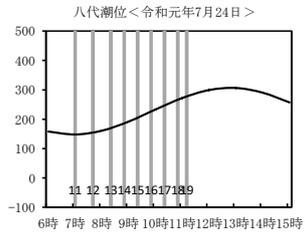
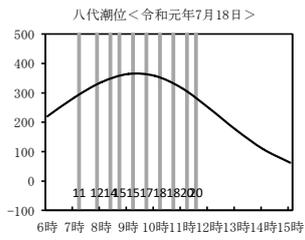


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2. 2-7(3) 水塊構造調査結果(八代西・pH、令和元年7~9月)

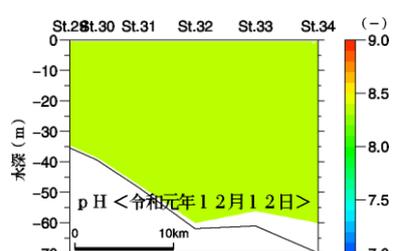
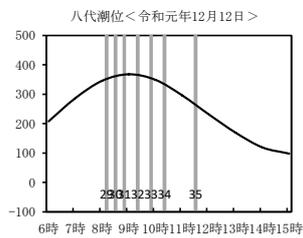
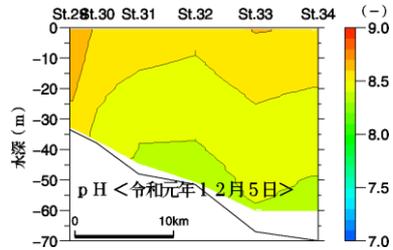
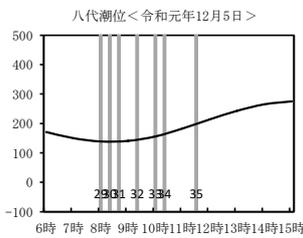
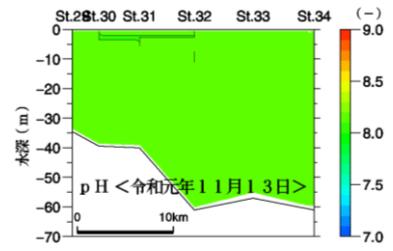
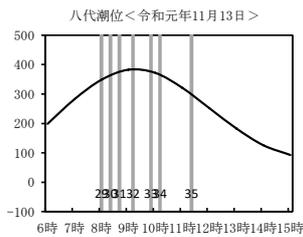
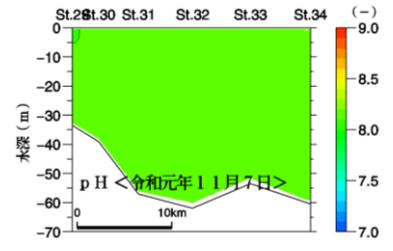
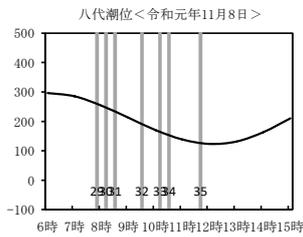
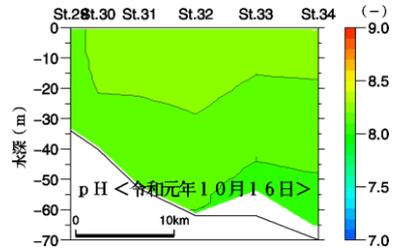
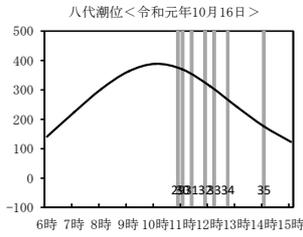
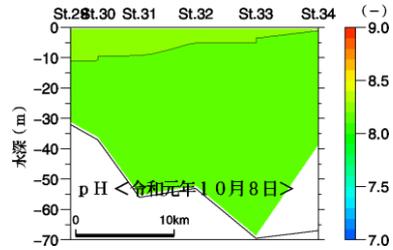
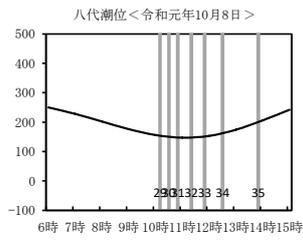


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-7(4) 水塊構造調査結果(八代中央・pH、令和元年7~9月)

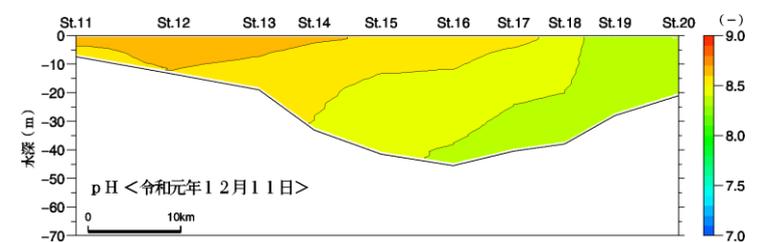
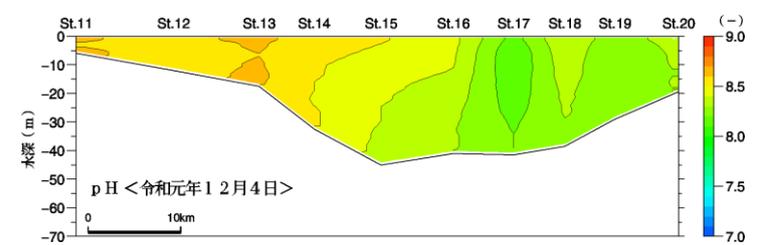
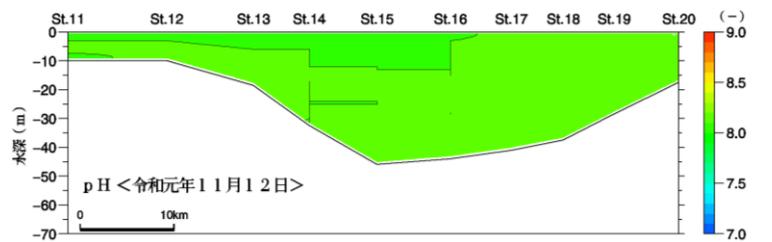
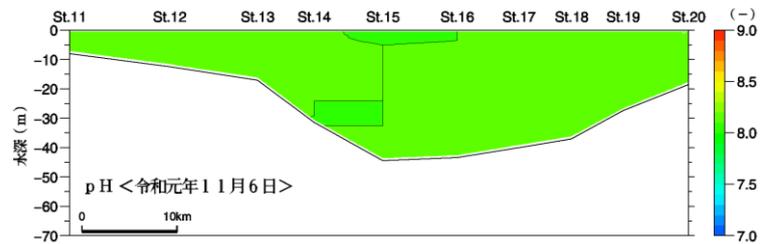
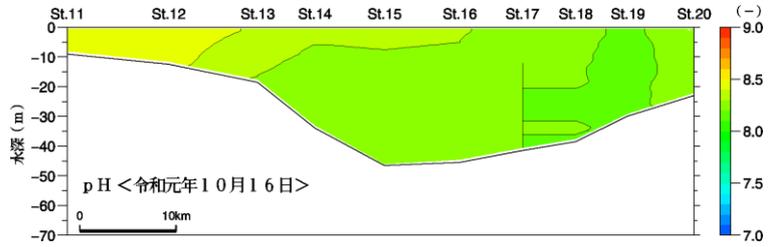
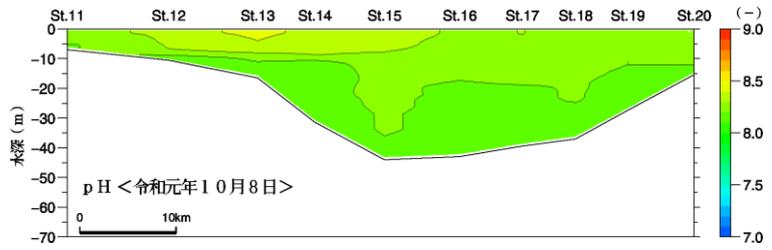
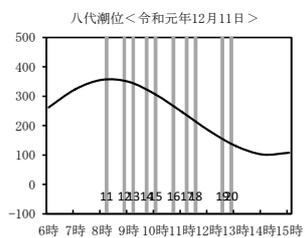
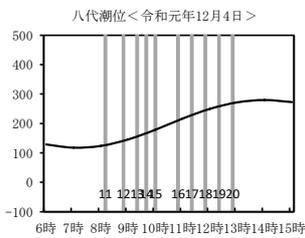
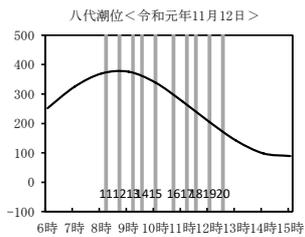
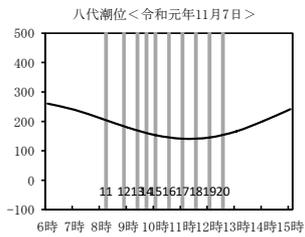
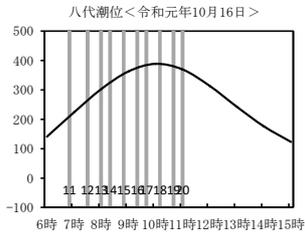
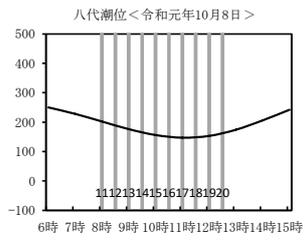


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-7(5) 水塊構造調査結果(八代西・pH、令和元年10~12月)

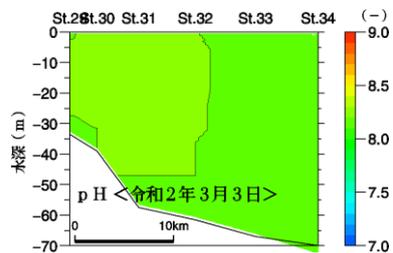
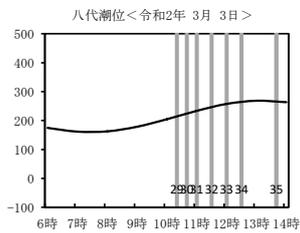
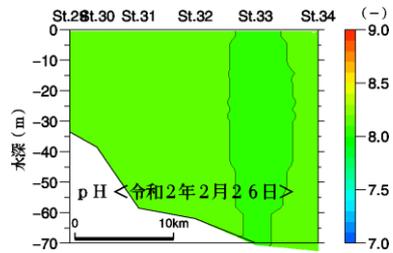
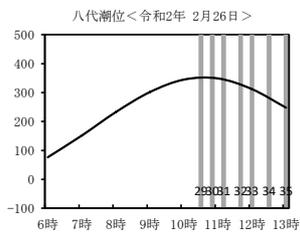
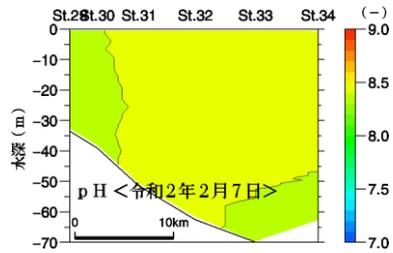
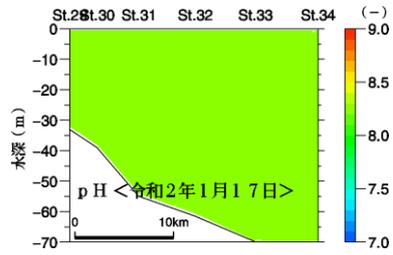
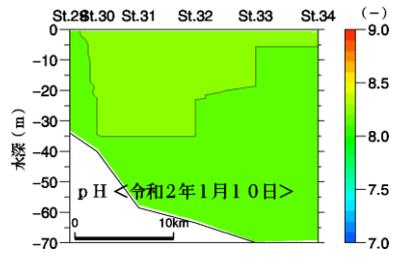
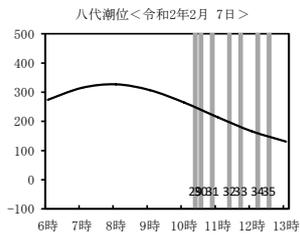
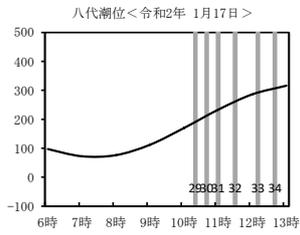
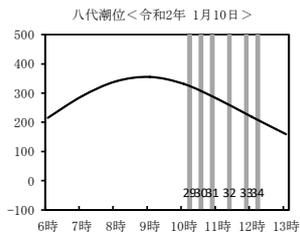


※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

付図 2.2-7(6) 水塊構造調査結果(八代中央・pH、令和元年10~12月)



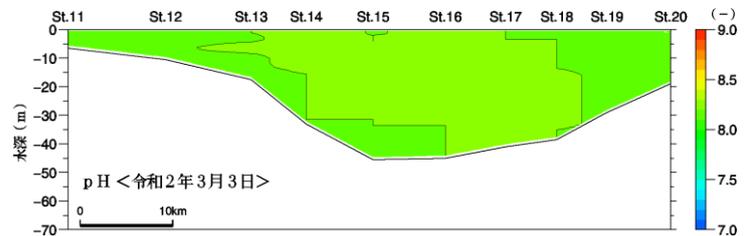
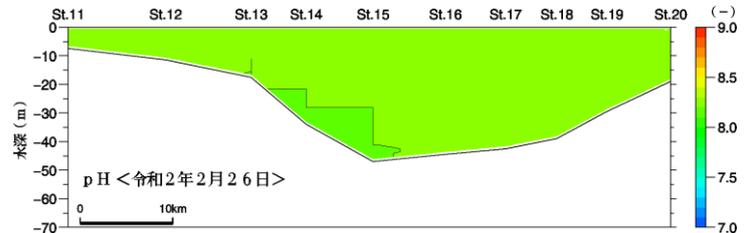
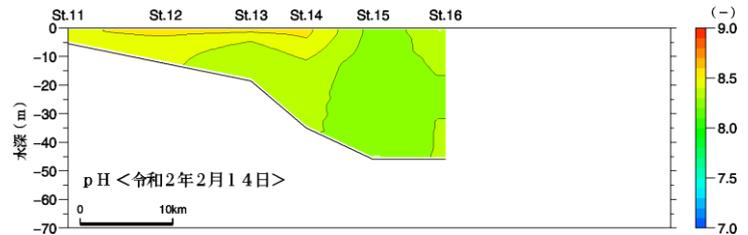
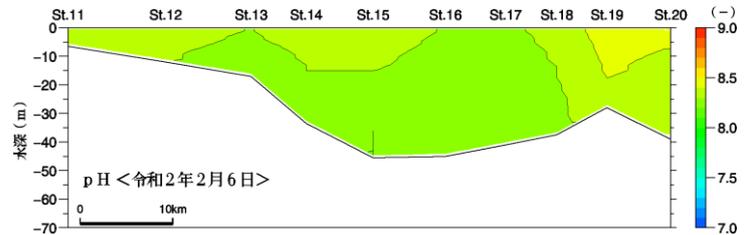
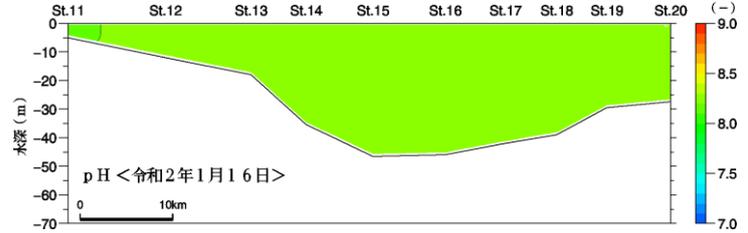
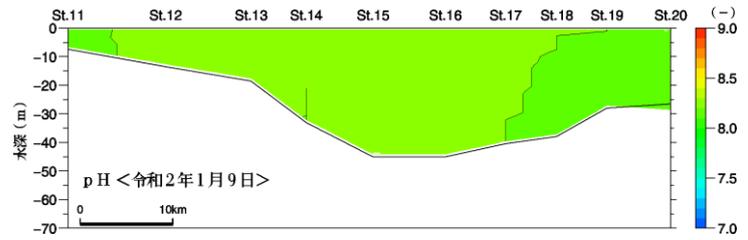
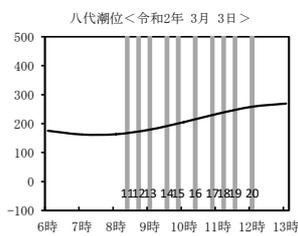
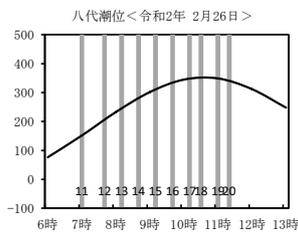
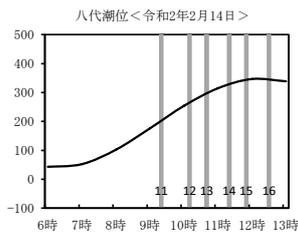
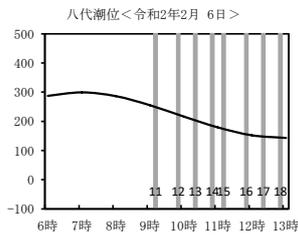
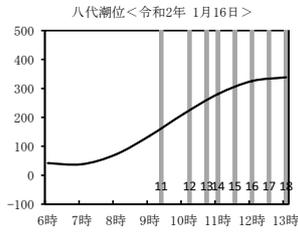
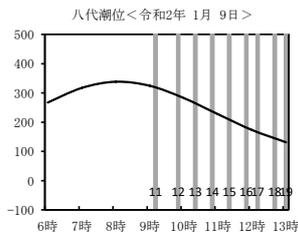
※空白部は欠測を示す。

※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

2月2回目の八代西ラインはセンサー不具合のため欠測。

付図 2.2-7(7) 水塊構造調査結果(八代西・pH、令和2年1~3月)



※空白部は欠測を示す。

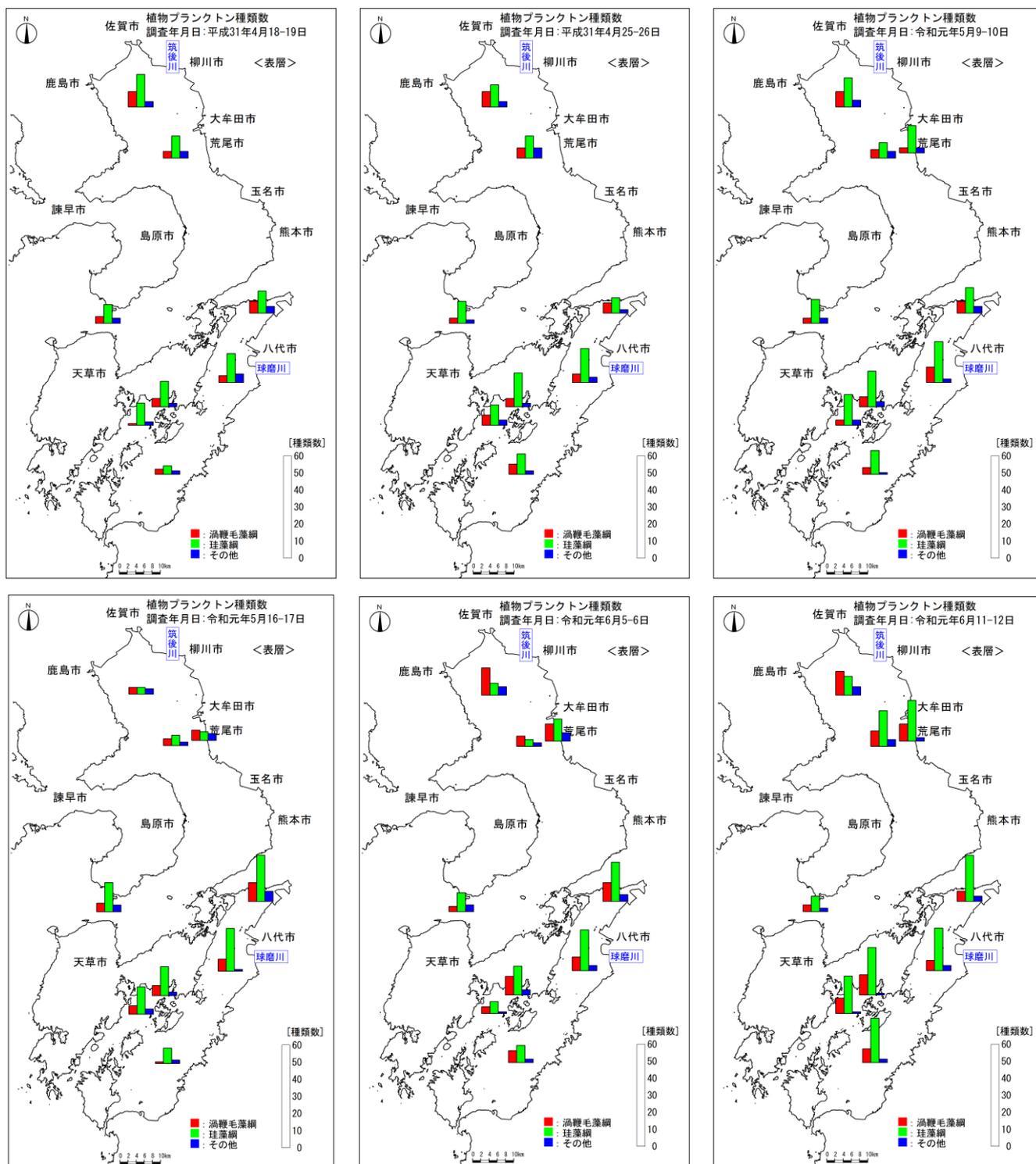
※潮位図中の番号は調査地点名を示す。単位は cm。

出典：気象庁 八代検潮所 (<http://www.jma.go.jp/jma/index.html>)

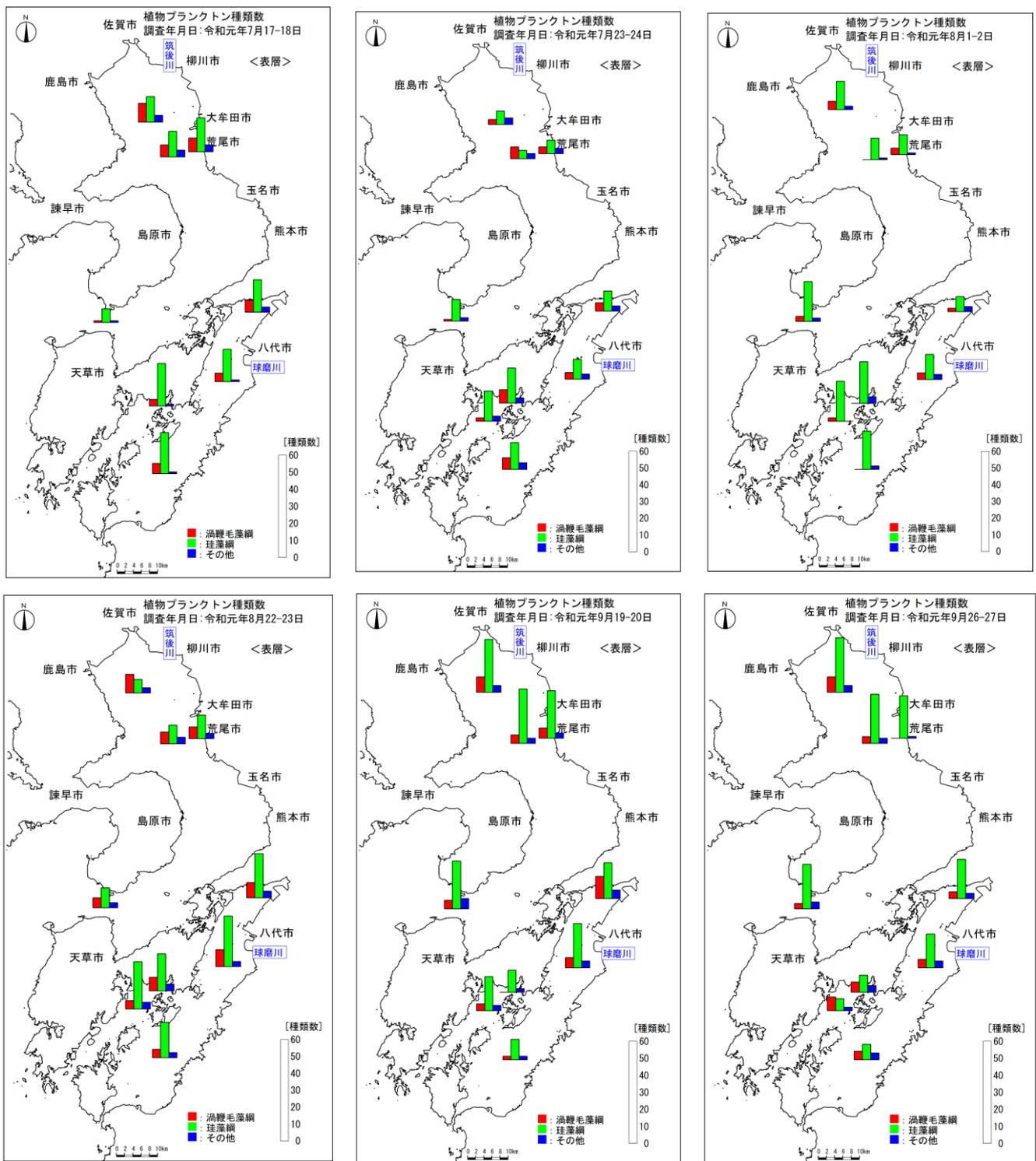
付図 2.2-7(8) 水塊構造調査結果(八代中央・pH、令和2年1~3月)

### 3 プランクトンの水平分布

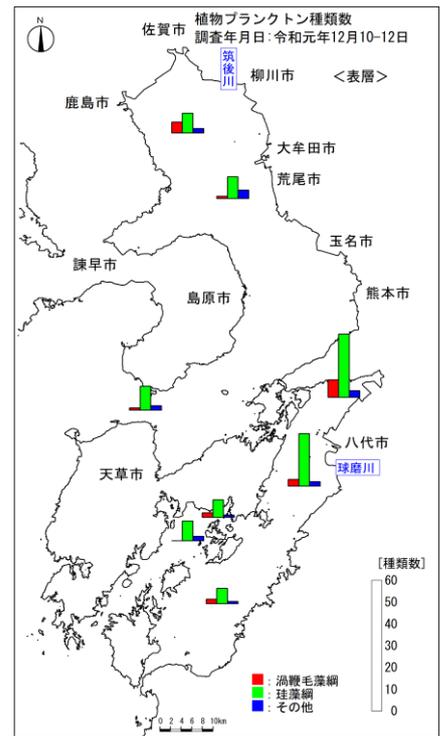
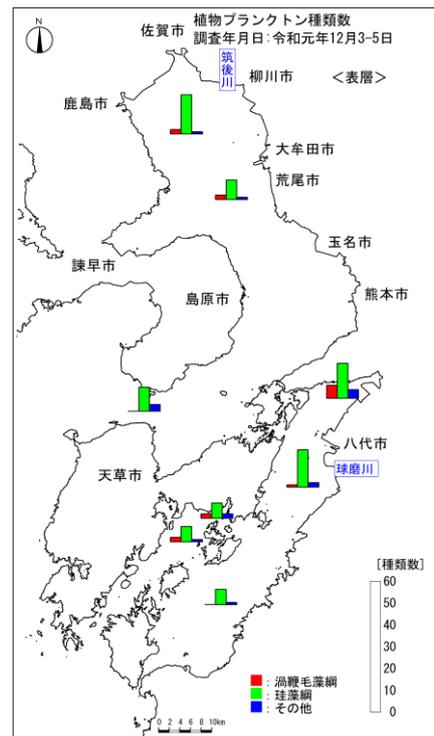
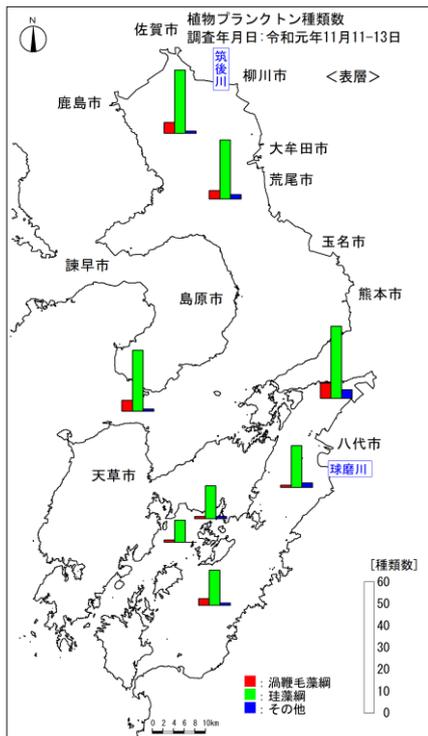
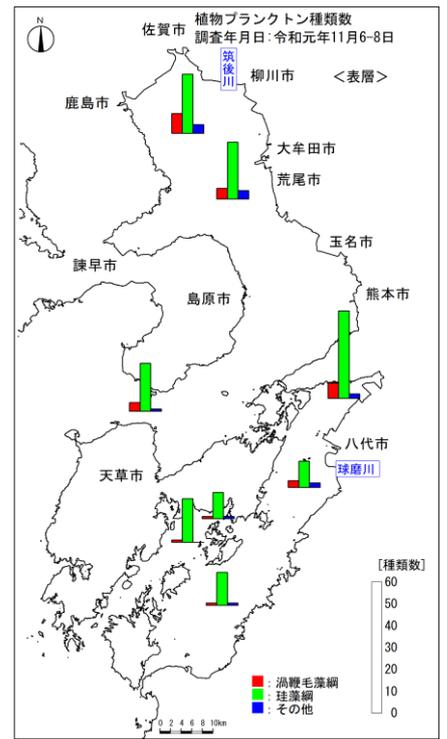
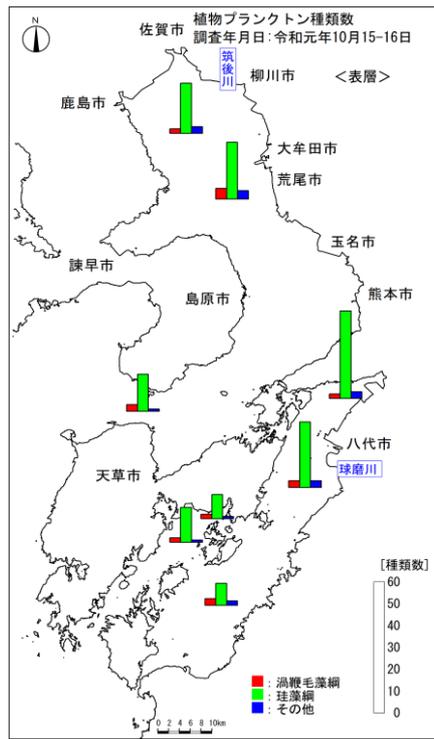
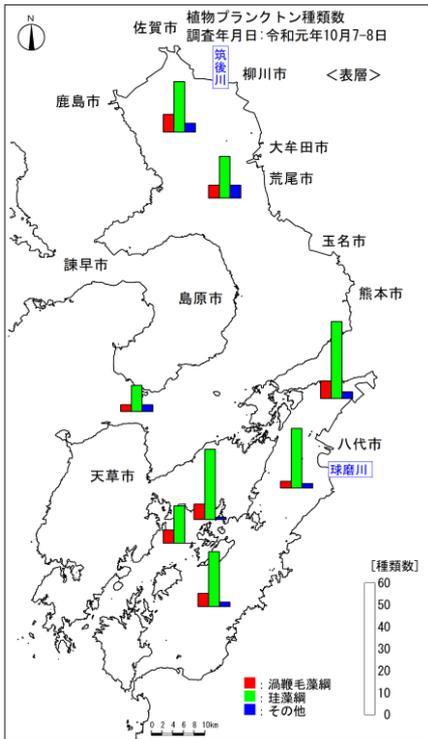
#### 3.1 植物プランクトン



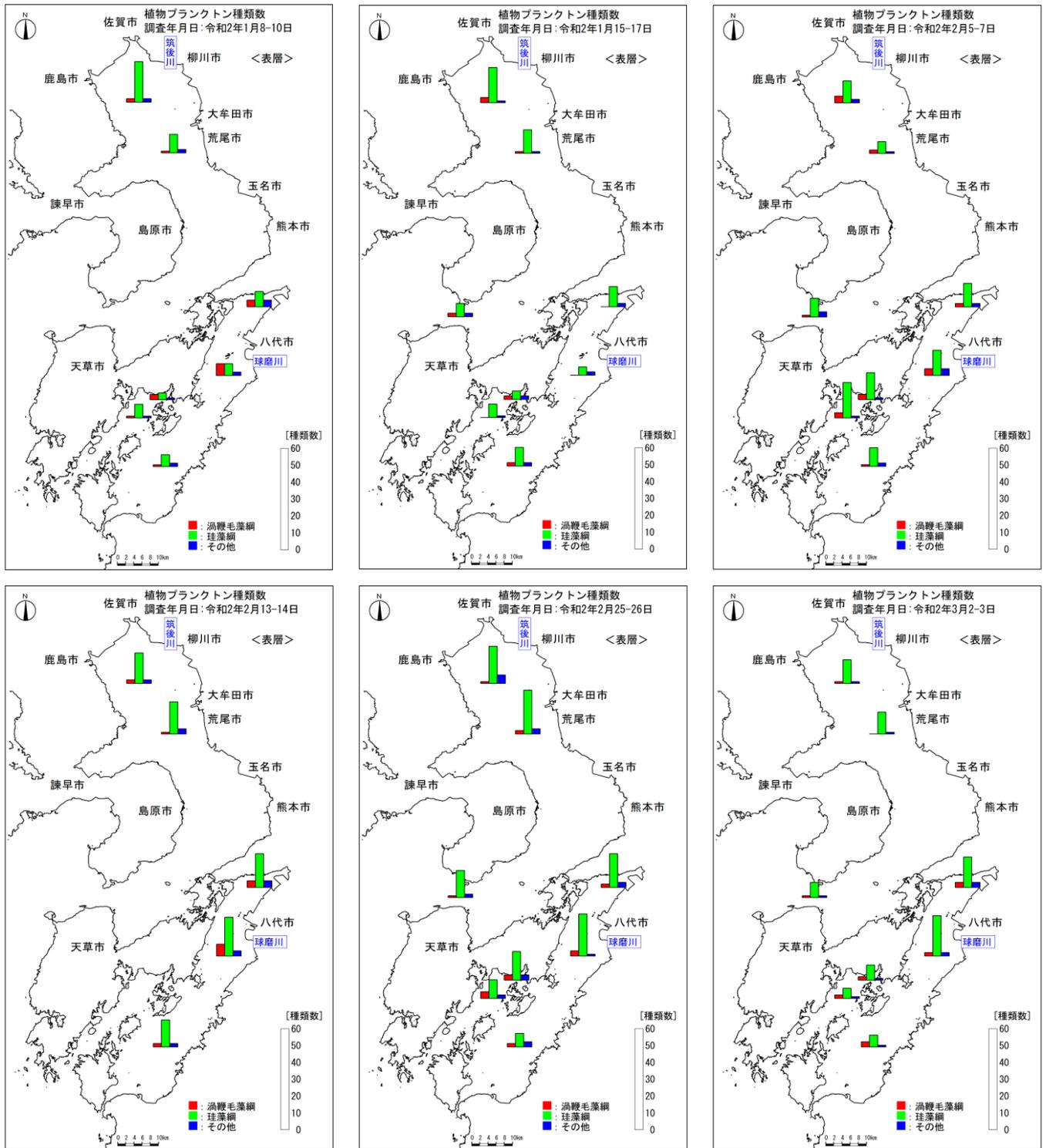
付図 3.1-1(1) 植物プランクトン分類群別種類数水平分布  
(表層、平成31年4月～令和元年6月調査)



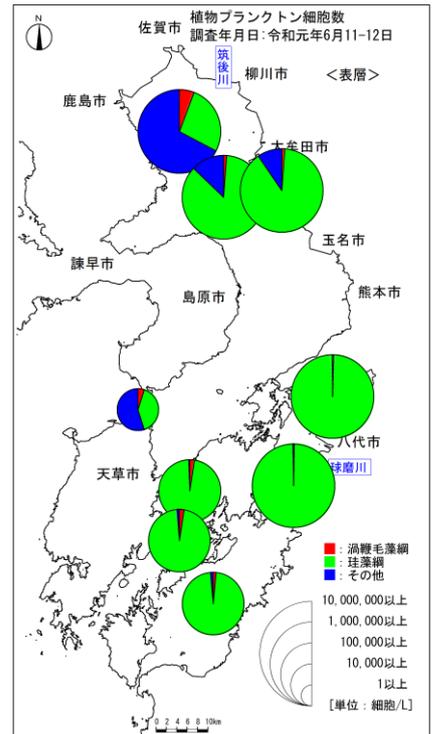
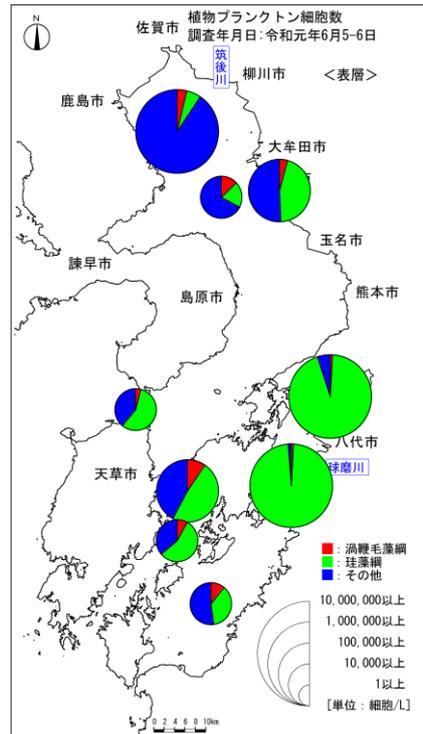
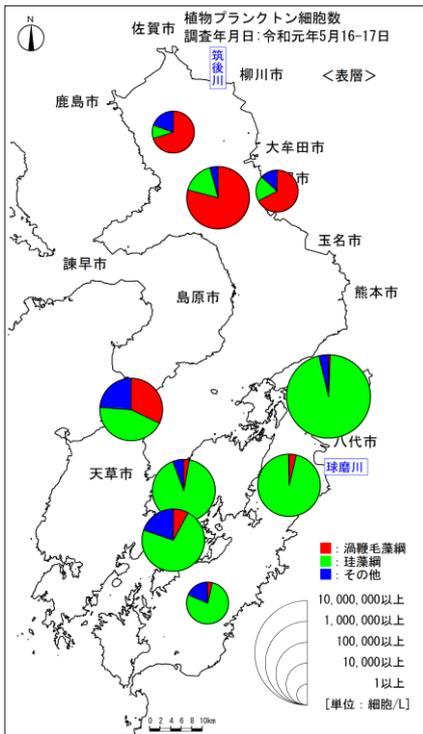
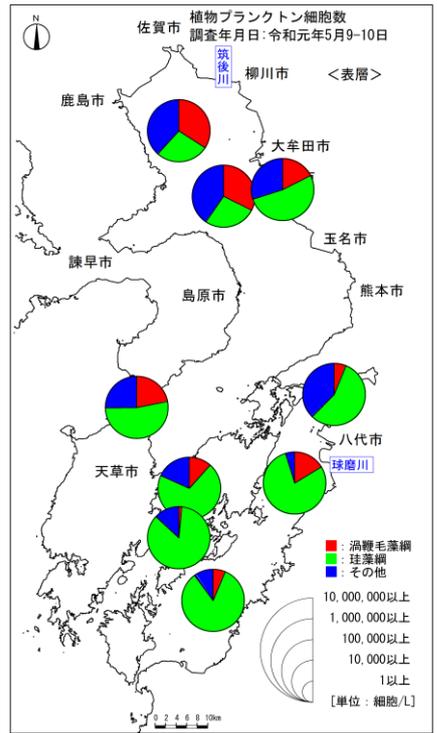
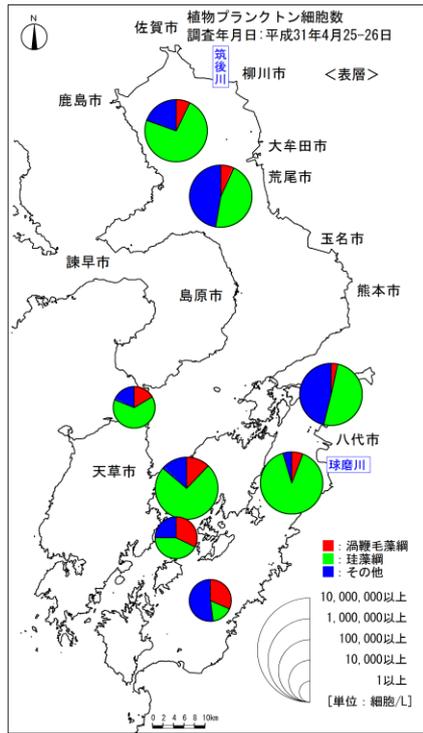
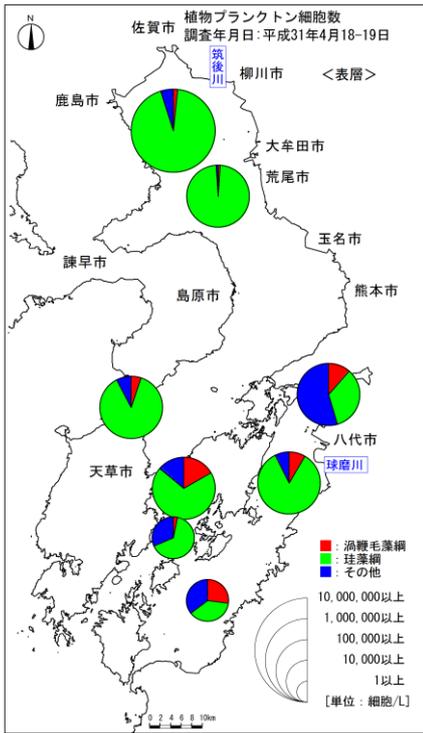
付図 3.1-1(2) 植物プランクトン分類群別種類数水平分布（表層、令和元年7~9月調査）



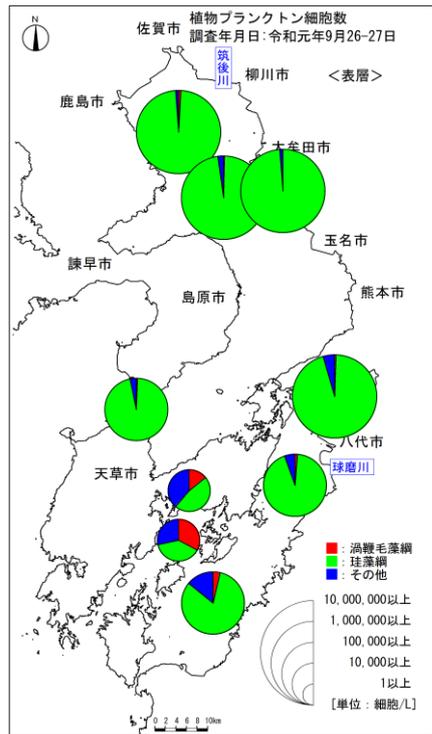
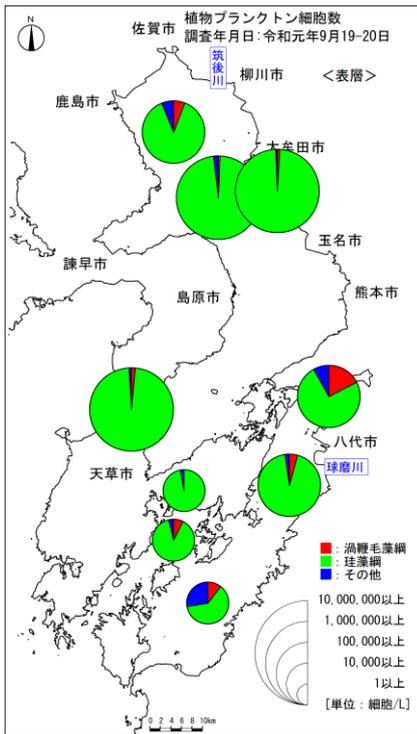
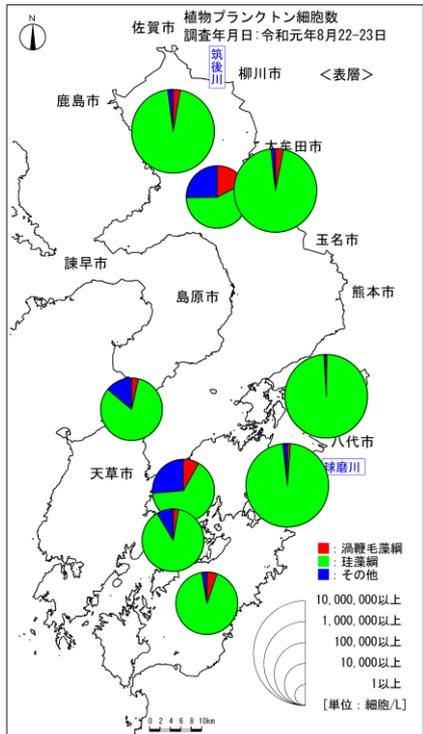
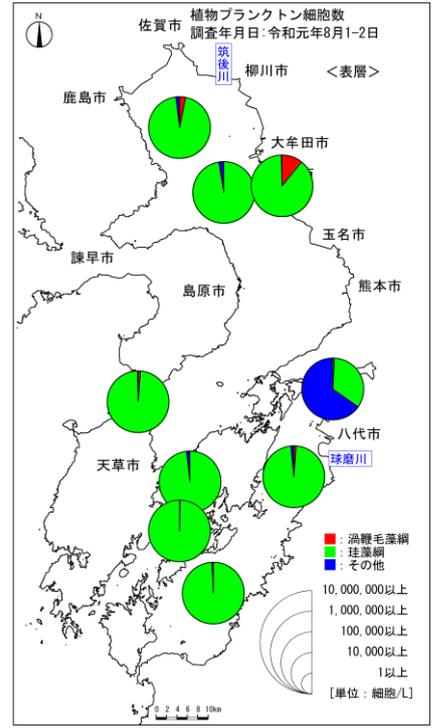
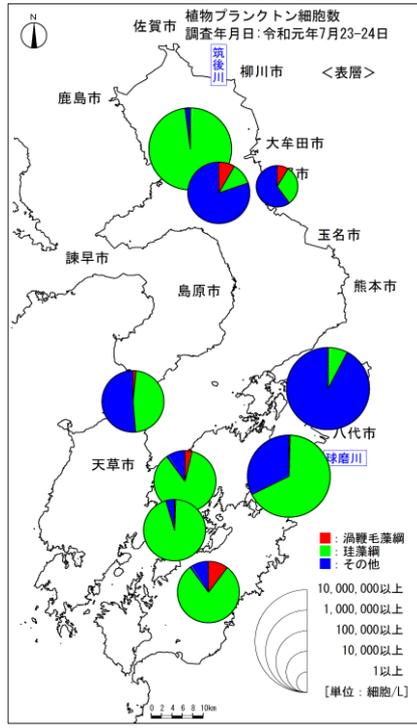
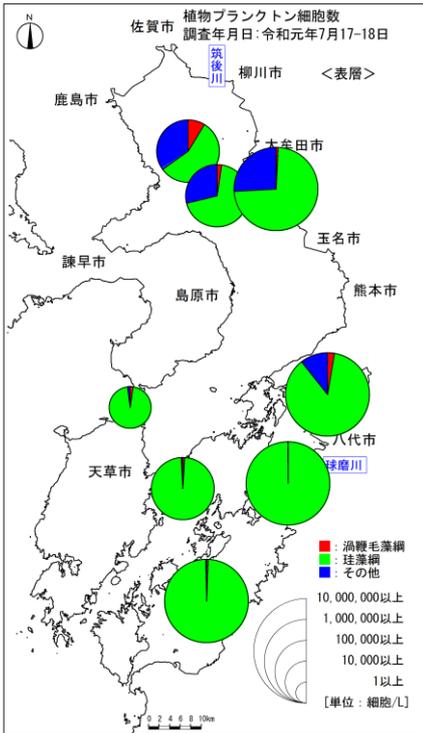
付図 3.1-1(3) 植物プランクトン分類群別種類数水平分布 (表層、令和元年10~12月調査)



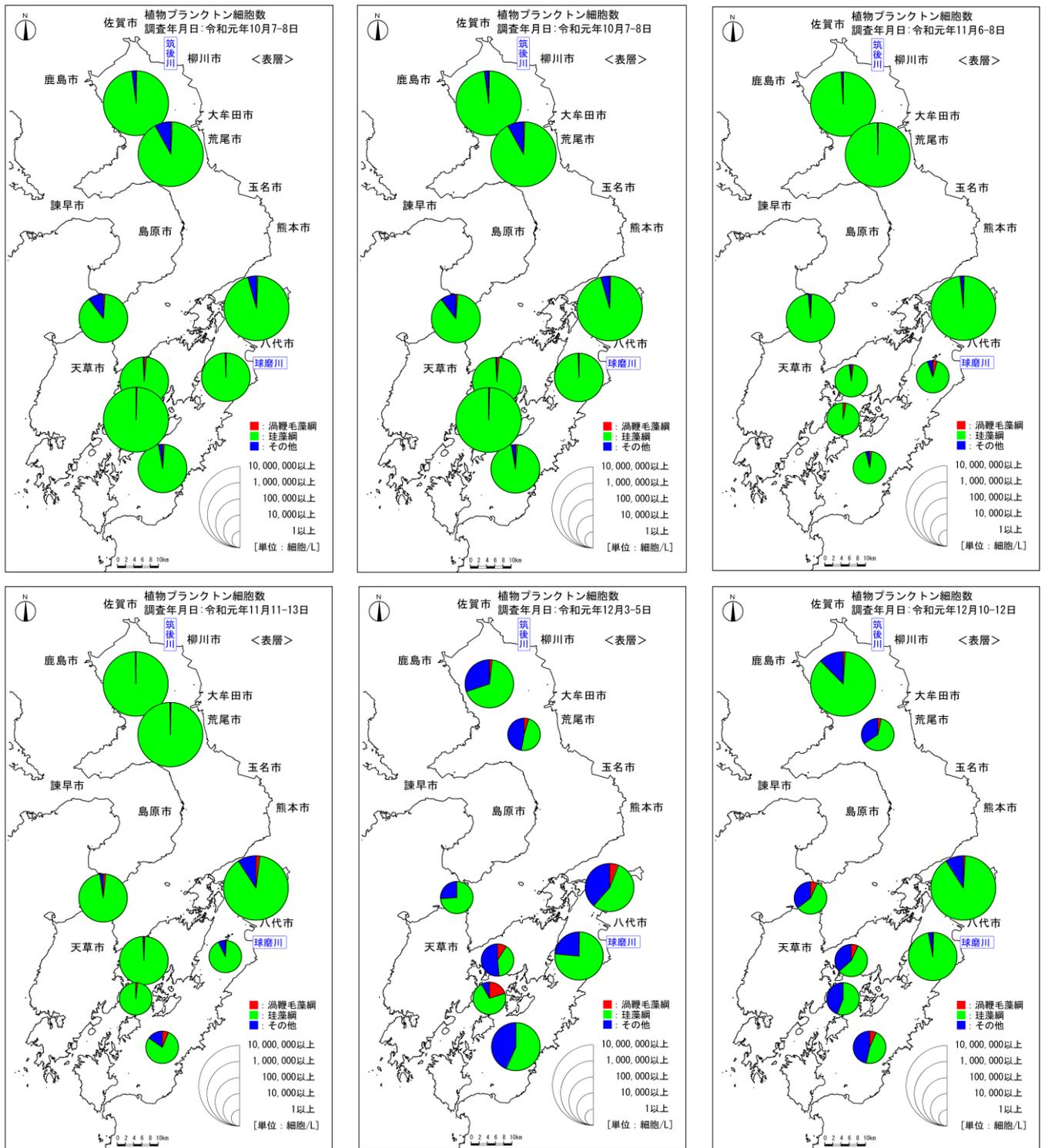
付図 3.1-1(4) 植物プランクトン分類群別種類数水平分布（表層、令和2年1～3月調査）



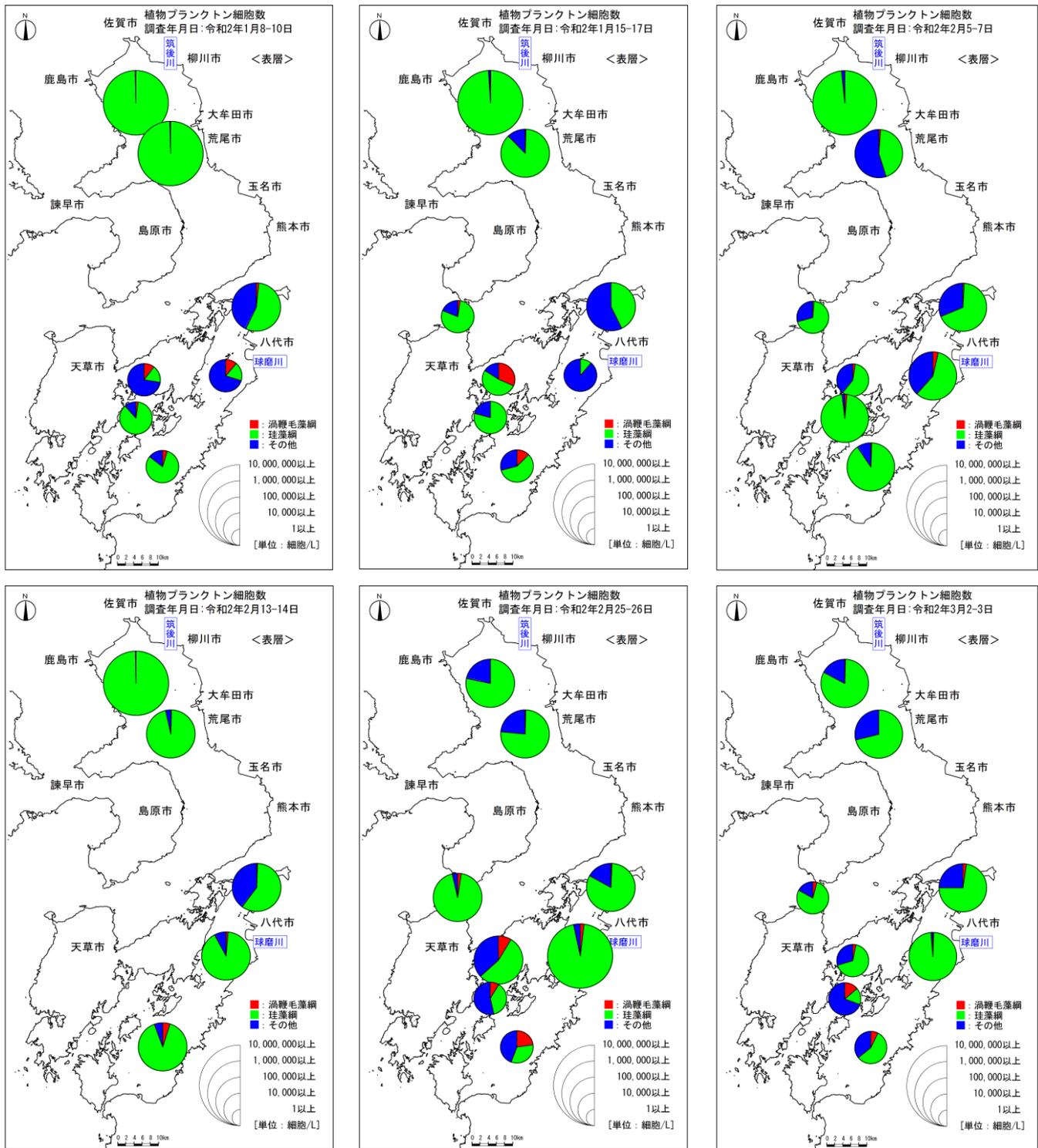
付図 3.1-2(1) 植物プランクトン分類群別細胞数水平分布  
(表層、平成31年4月~令和元年6月調査)



付図 3.1-2 (2) 植物プランクトン分類群別細胞数水平分布 (表層、令和元年7~9月調査)

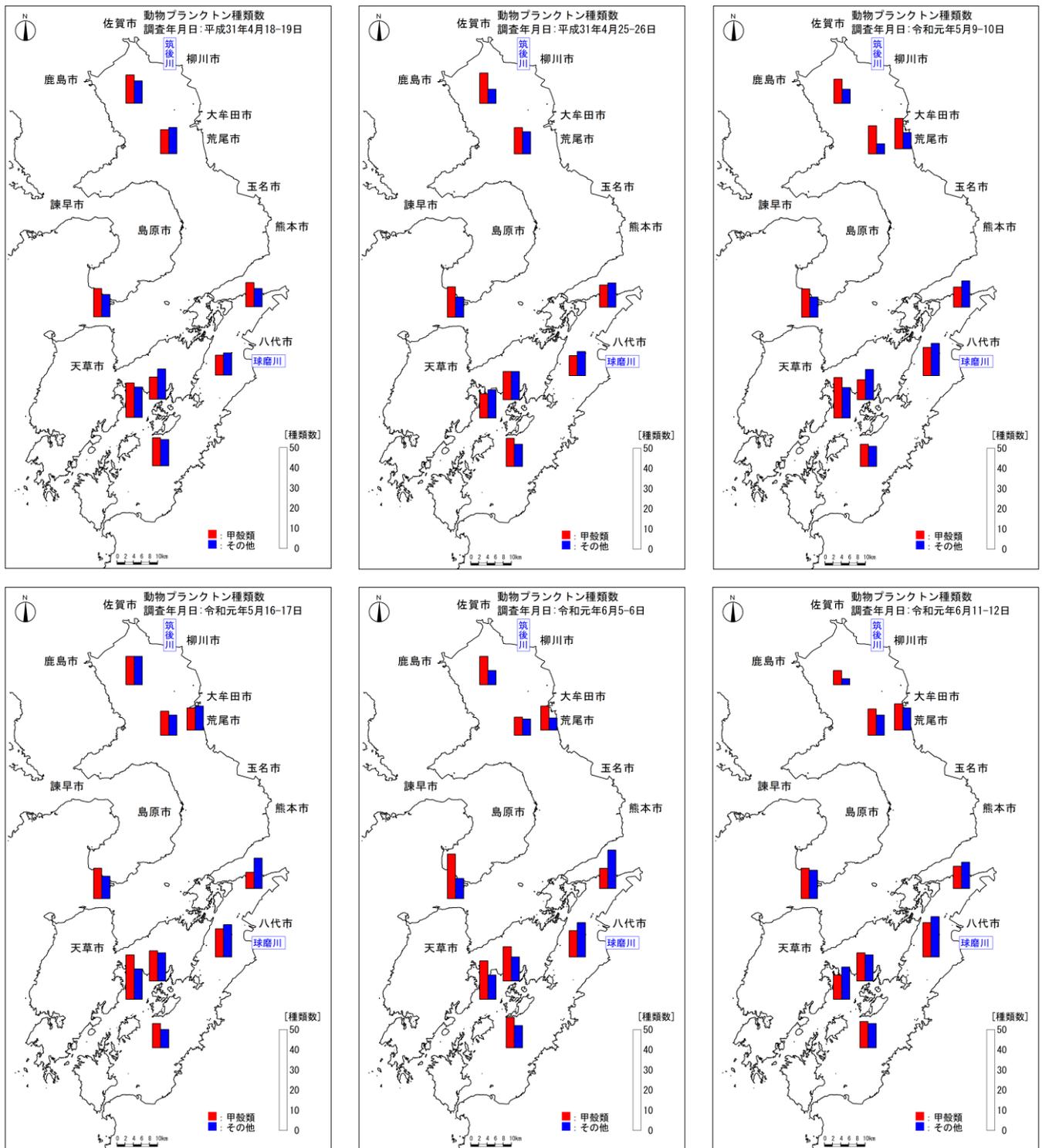


付図 3.1-2 (3) 植物プランクトン分類群別細胞数水平分布 (表層、令和元年10~12月調査)

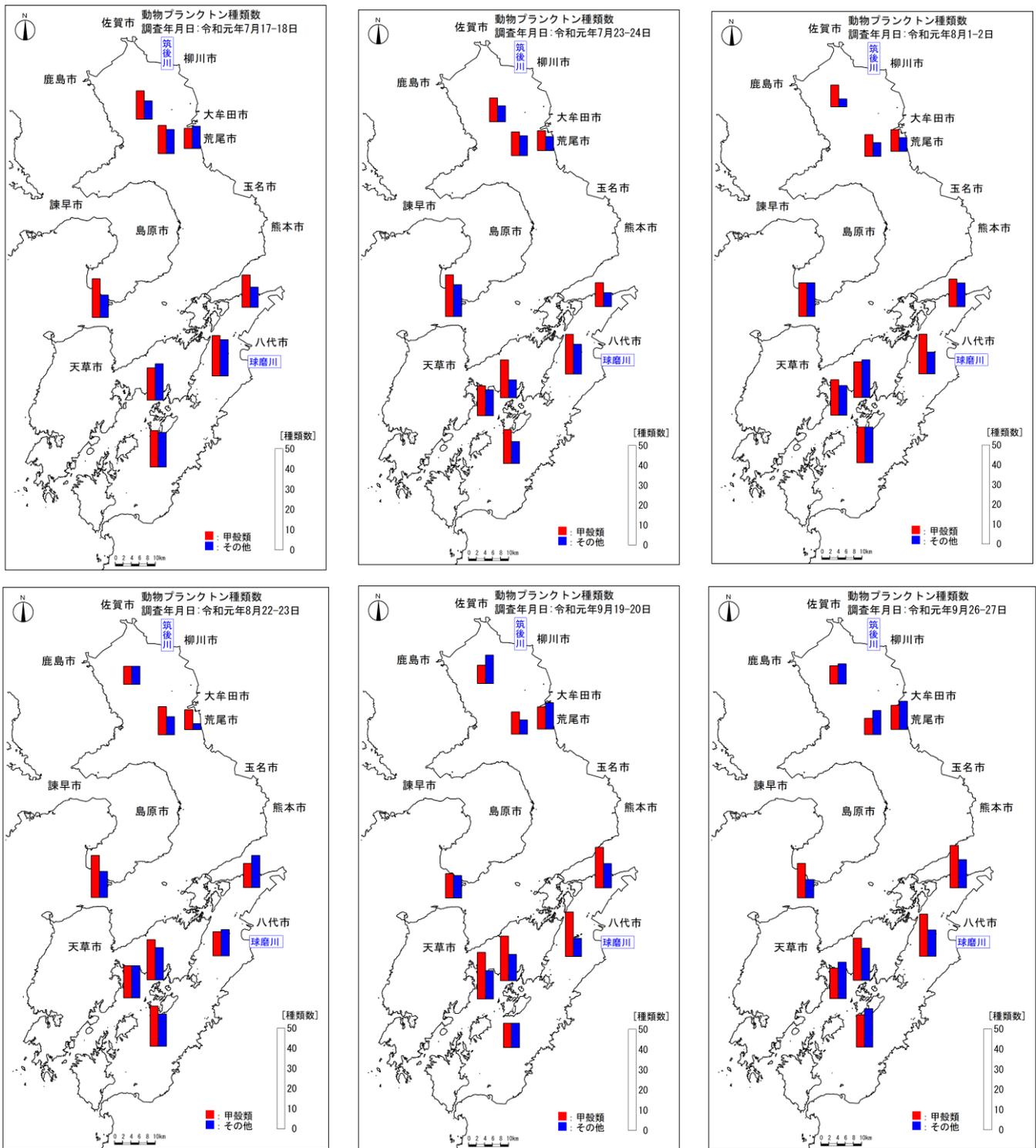


付図 3.1-2 (4) 植物プランクトン分類群別細胞数水平分布 (表層、令和2年1~3月調査)

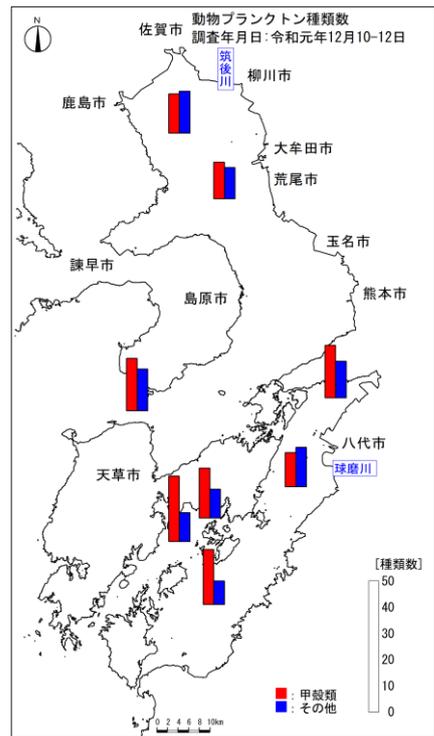
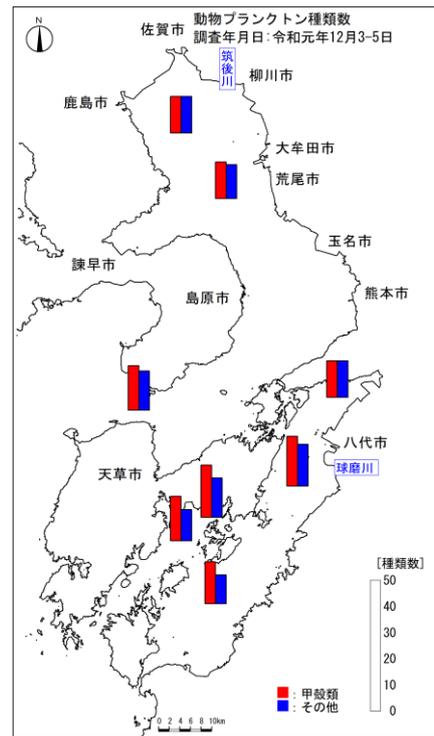
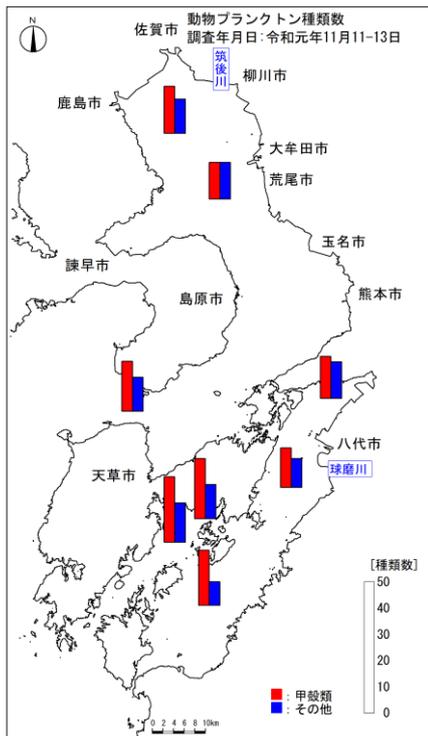
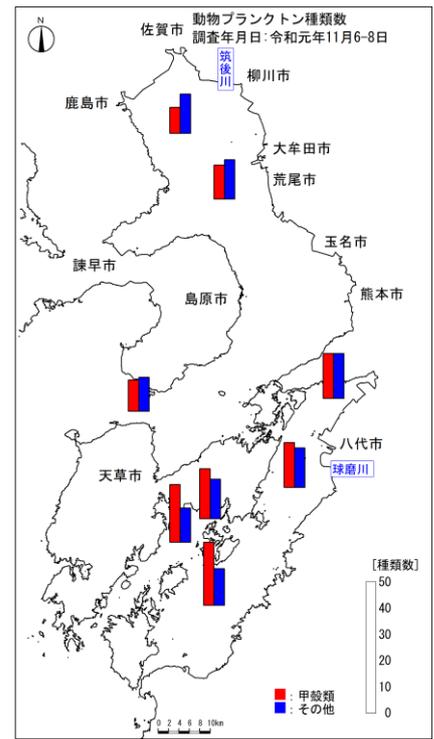
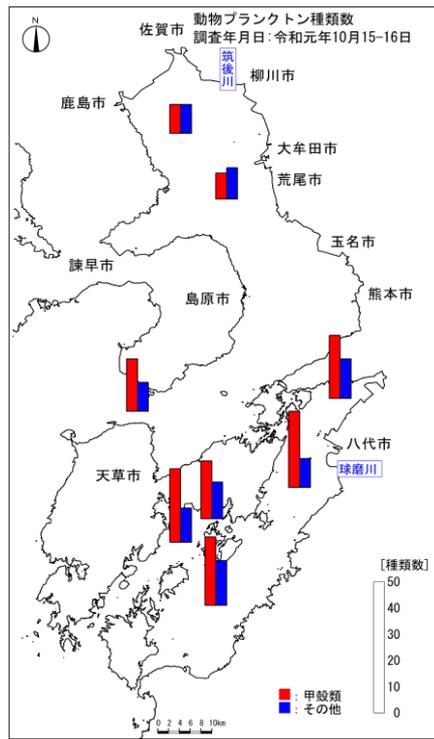
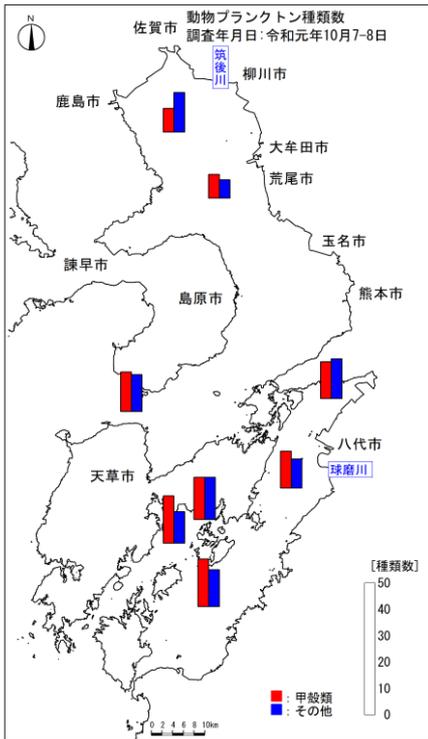
### 3.2 動物プランクトン



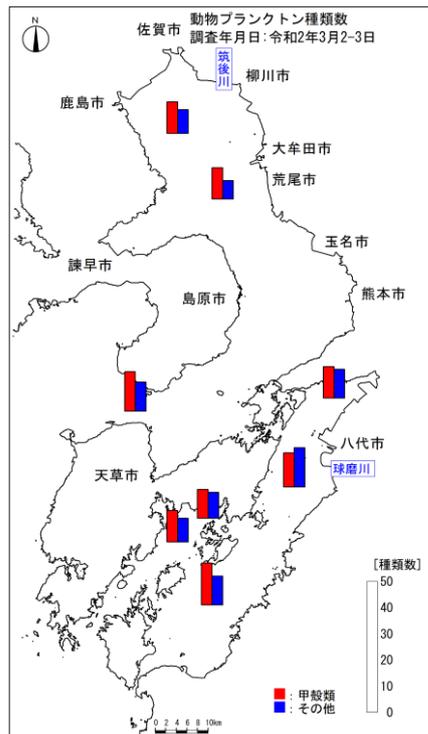
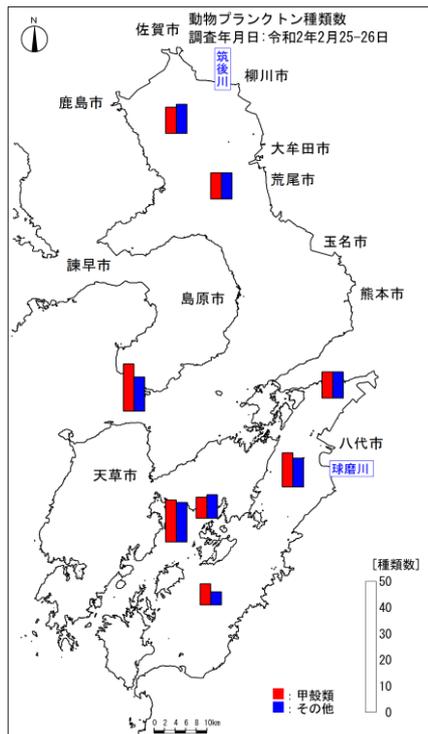
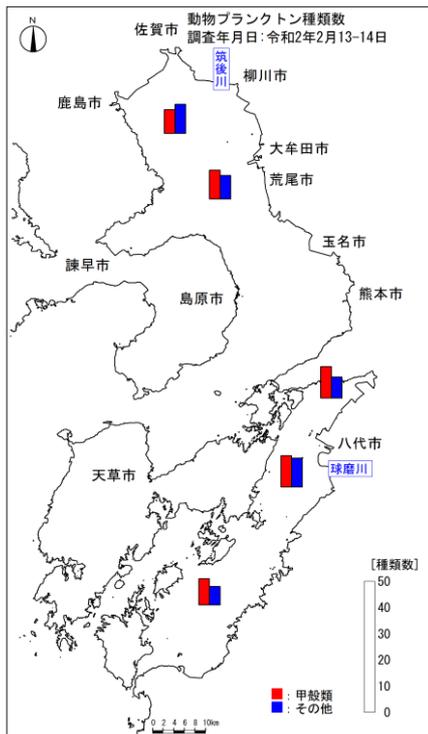
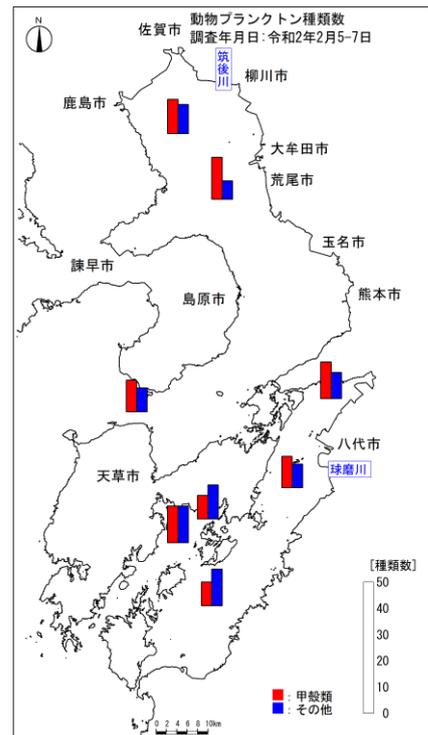
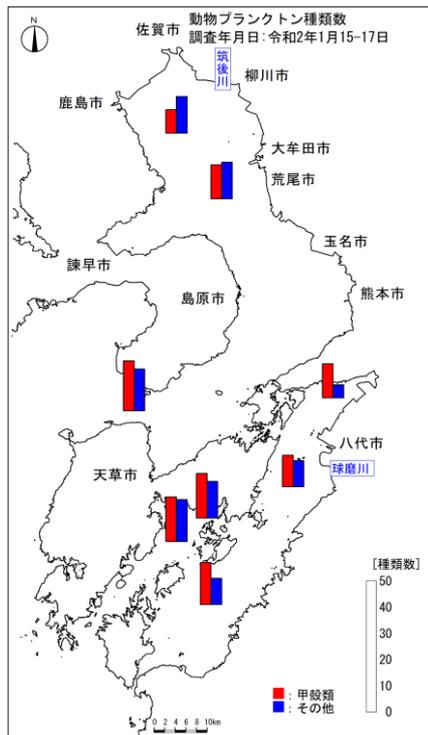
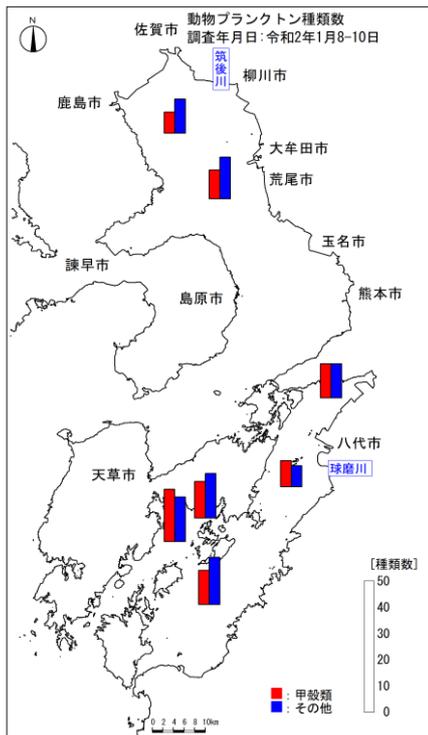
付図 3.2-1(1) 動物プランクトン分類群別種類数水平分布  
(平成31年4月～令和元年6月調査)



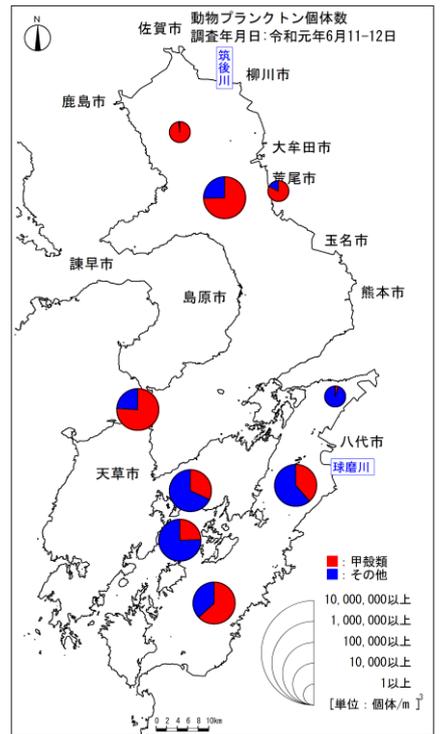
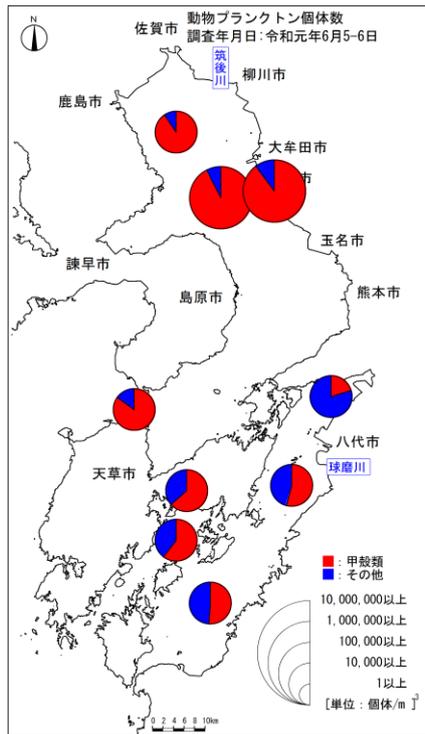
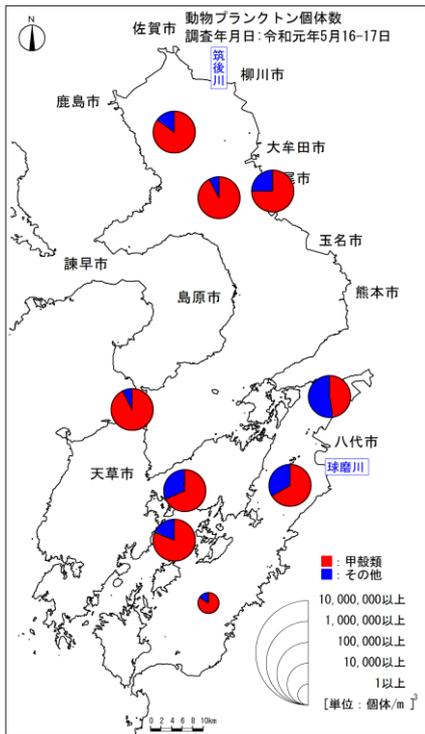
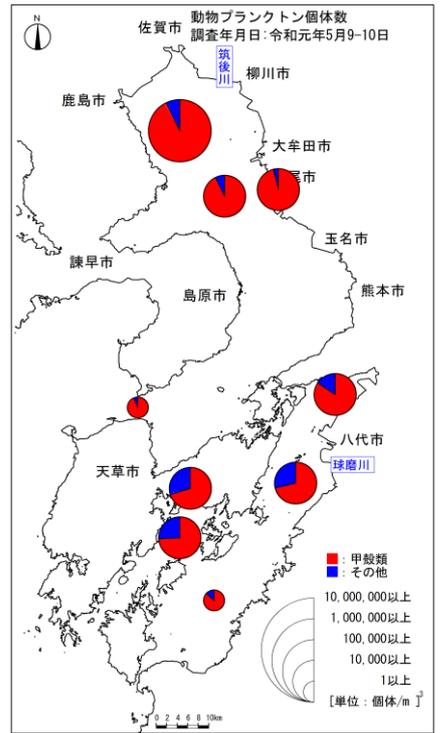
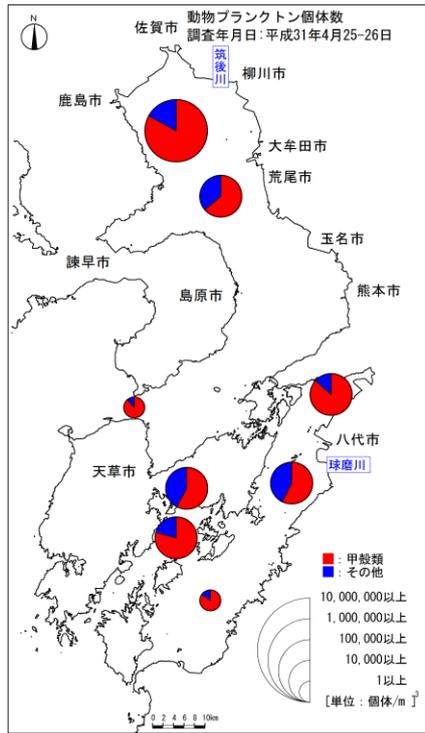
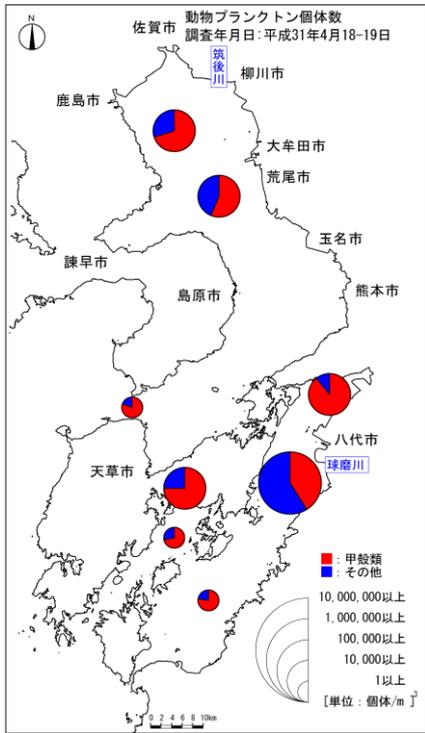
付図 3.2-1 (2) 動物プランクトン分類群別種類数水平分布 (令和元年7~9月調査)



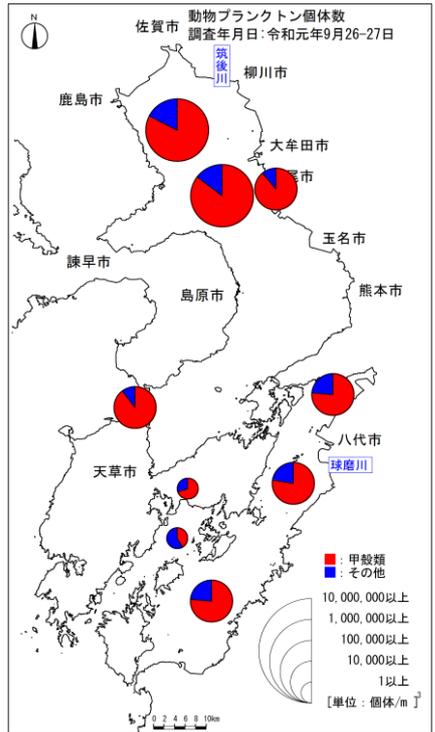
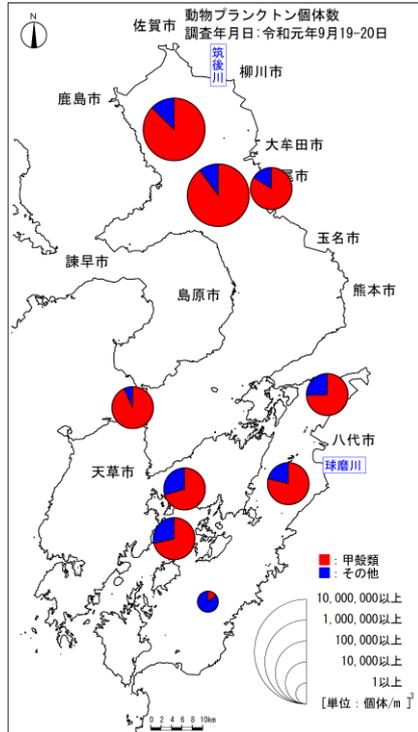
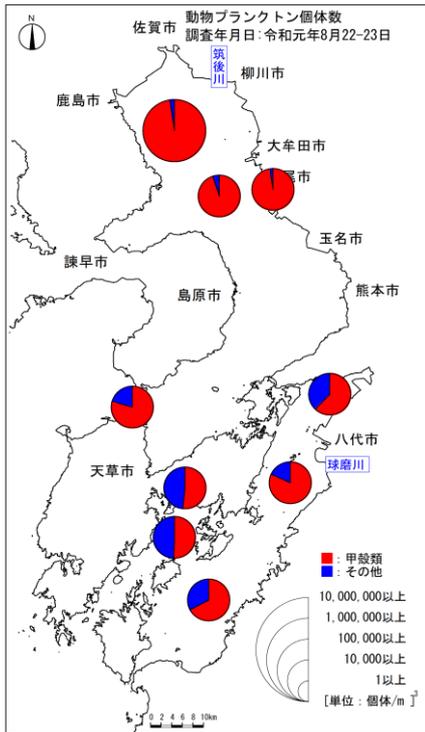
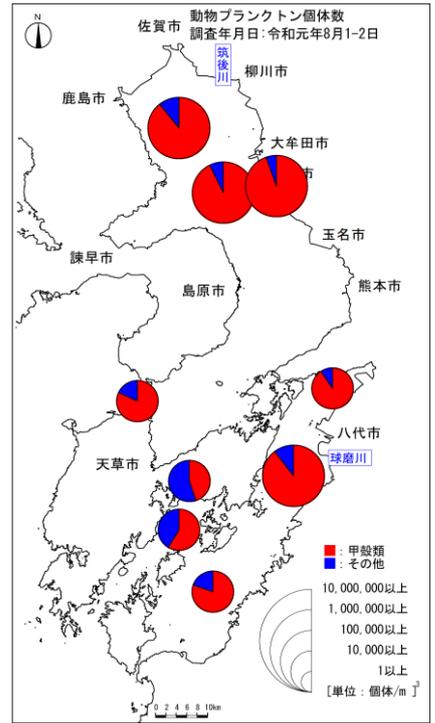
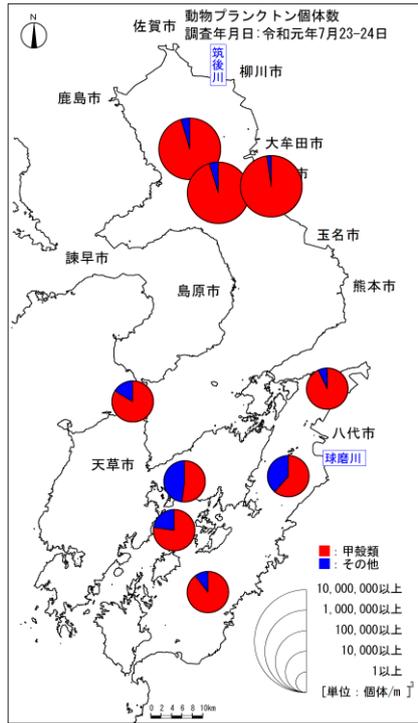
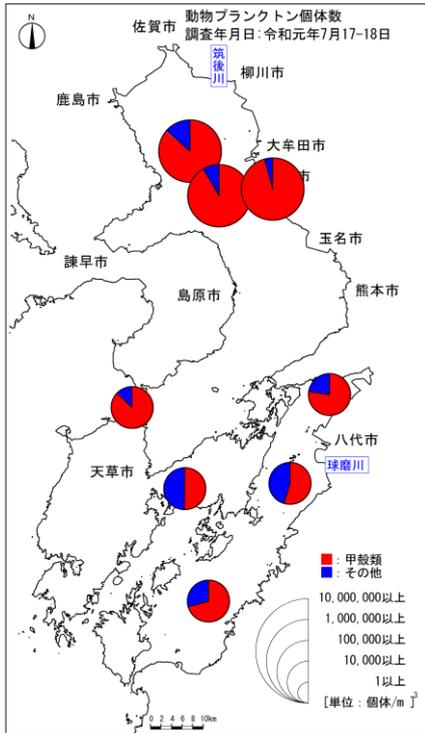
付図 3.2-1 (3) 動物プランクトン分類群別種類数水平分布 (令和元年10~12月調査)



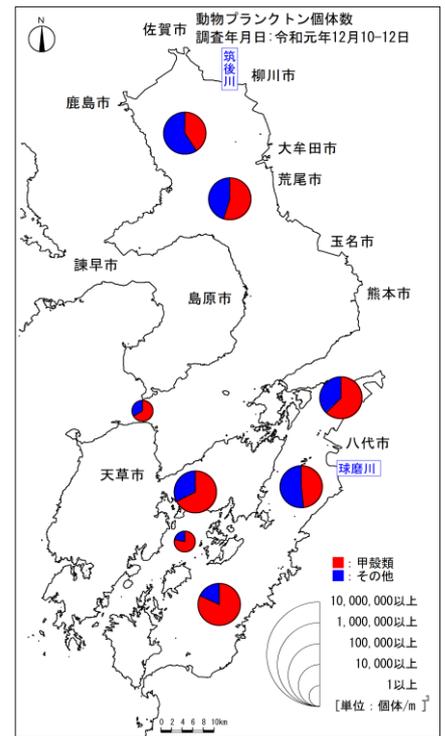
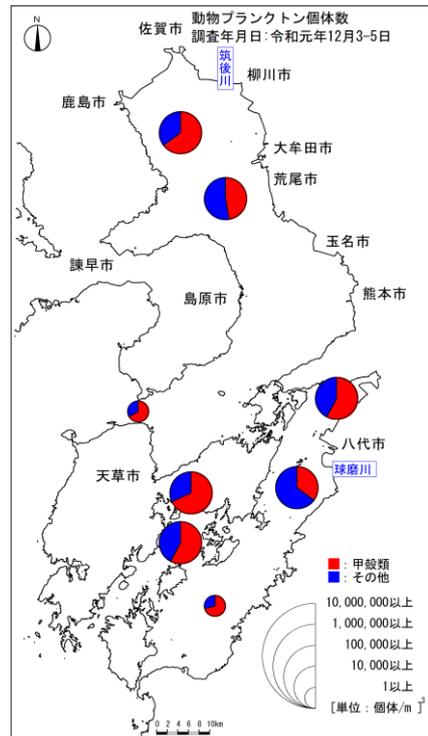
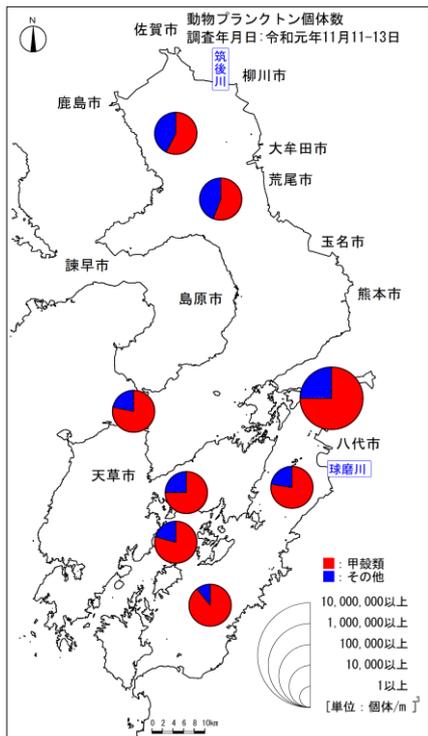
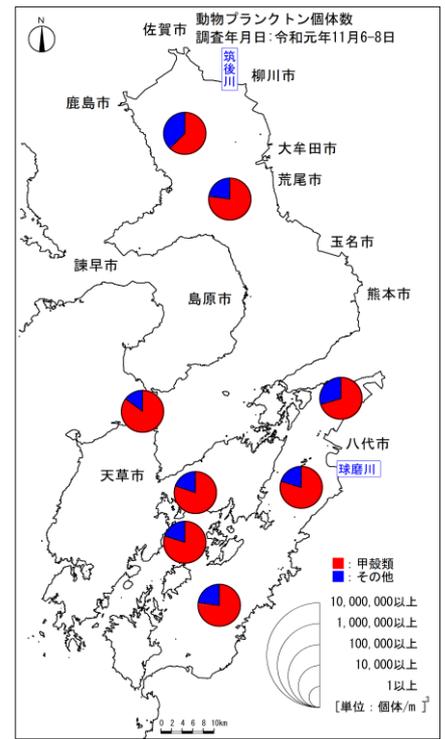
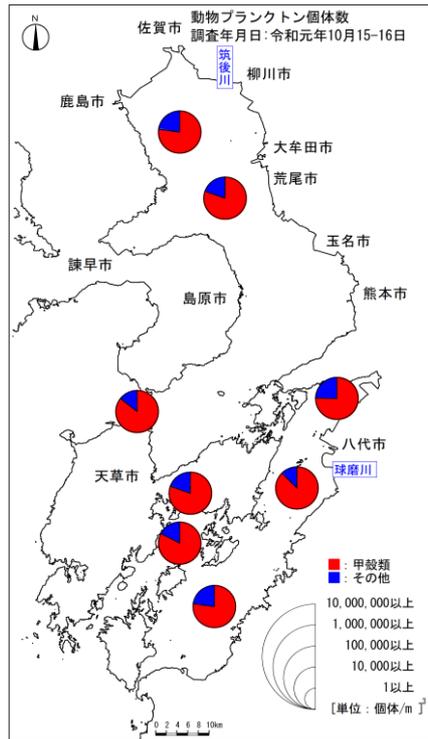
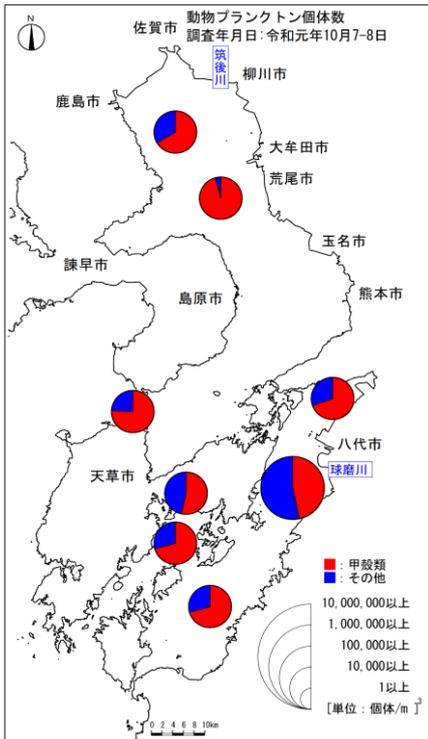
付図 3.2-1 (4) 動物プランクトン分類群別種類数水平分布 (令和2年1~3月調査)



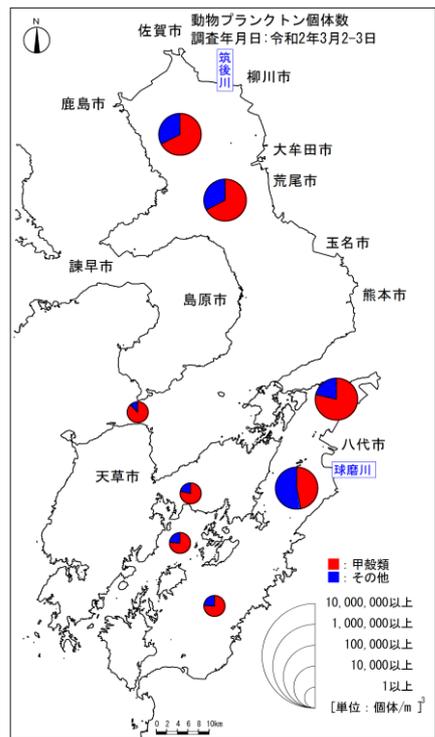
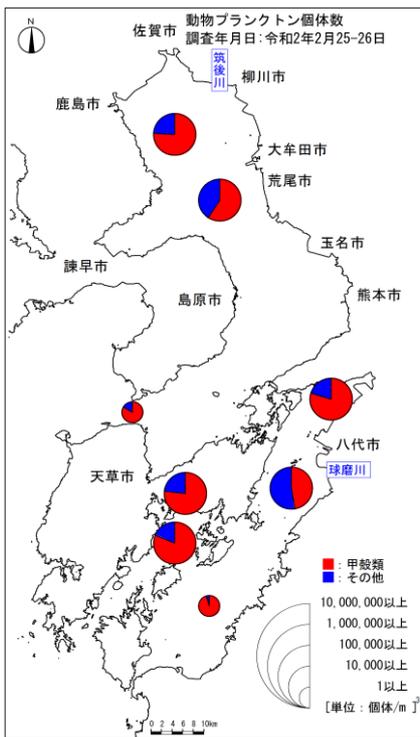
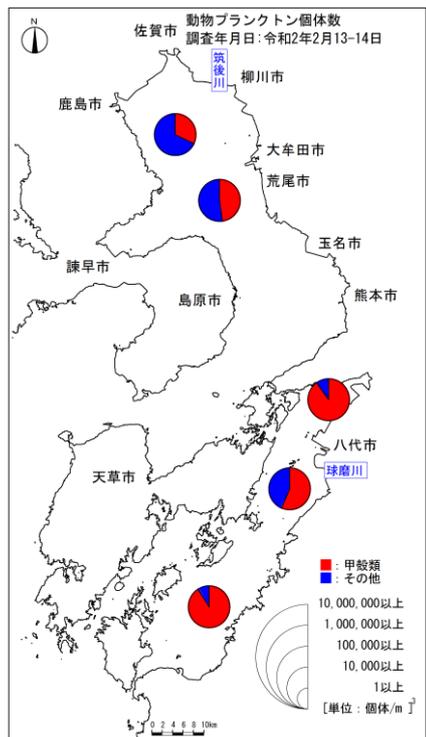
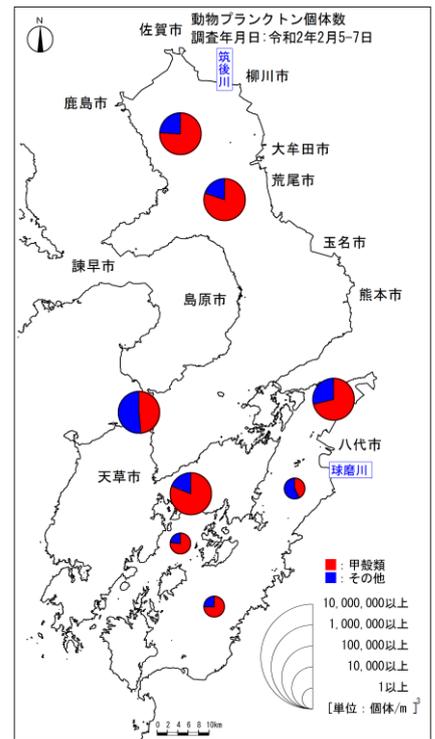
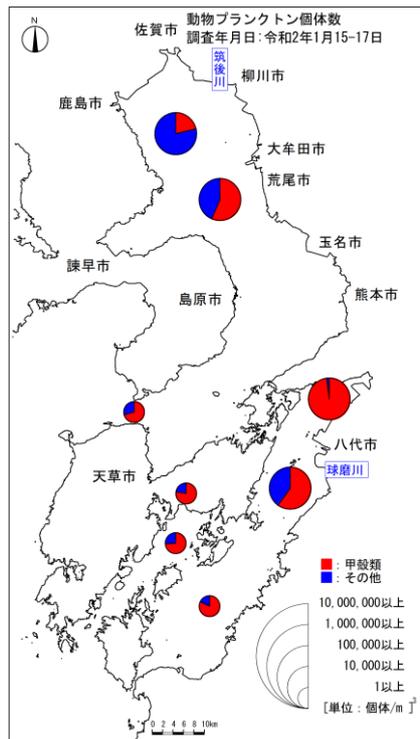
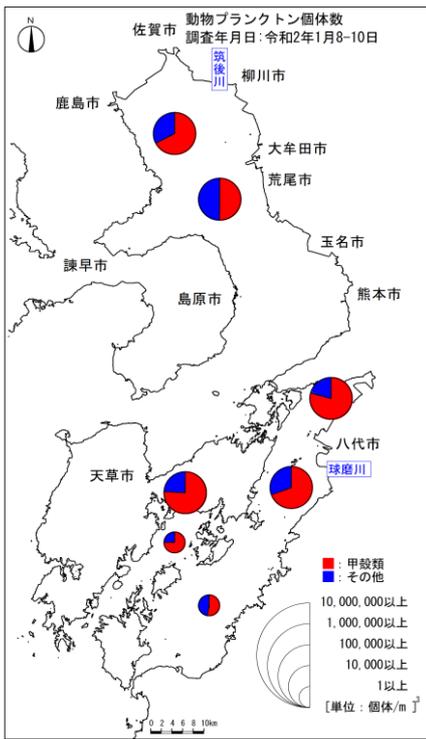
付図 3.2-2(1) 動物プランクトン分類群別個体数水平分布  
(平成31年4月～令和元年6月調査)



付図 3.2-2(2) 動物プランクトン分類群別個体数水平分布 (令和元年7~9月調査)



付図 3.2-2 (3) 動物プランクトン分類群別個体数水平分布 (令和元年9~12月調査)



付図 3.2-2 (4) 動物プランクトン分類群別個体数水平分布 (令和2年1~3月調査)