

2003 HBMP Tables

This section contains tables not included directly in the text for each section

- **Section 1** – Introduction / Summary
- **Section 2** – Gage Flows and Withdrawals
- **Section 3** – “Moving” Isohaline Monitoring
- **Section 4** – “Fixed” Station Monitoring

Table 1.1
HBMP Fixed Sampling Locations

USGS River Mile	USGS Location Number	Previous EQL Station Number	Additional Sampling	New River Kilometer designation based on Morphometric Study
Current <i>In Situ</i> Water Column Profile Sampling Locations				
CH6	265355082075500	9	Water Quality	-2.4
RM3.95	265640082033500	10	Water Quality	6.6
RM4.88	265724082024400	21		8.4
RM6.25	265727082012800	11		10.5
RM8.61	265711081595500	Shell Creek 9 (92)		12.7
RM8.6B	265819082003200	22		12.8
RM10.2	2297460	12	Water Quality/Tide Gage/Conductivity	15.5
RM11.2	270022081591000	23		17.5
RM 12.55	270124081592500	13		20.1
RM13.95	270235081592400	24		21.9
RM14.82	270318081593100	14	Water Quality	23.6
RM15.45	270337081595800	25		24.7
RM16.29	270418082001600	15		25.9
N/A	2297350	N/A	Tide Gage/ Conductivity	26.7
RM18.25	270451081595100	17		29.5
RM18.95	2297330	18	Water Quality	30.4
RM19.5	270537081585800	19		32.3
Vegetation Transect Locations				
N/A	N/A	I		15.6
N/A	N/A	II		22.3
N/A	N/A	III		20.4
Previous EQL Water Column and Chemistry Sampling Sites				
N/A	N/A	16		27.1
N/A	N/A	20		34.1

Table 1.2
HBMP Chemical Water Quality Parameters

Ongoing Long-term Analytes	Analytes Deleted Starting March 2003
Salinity	Alkalinity
Chloride	Turbidity
Color	Total Phosphorus
Silica	Inorganic Carbon
Ortho-Phosphorus	Total Organic Carbon
Nitrate + Nitrite Nitrogen	Dissolved Organic Carbon
Ammonia/Ammonium Nitrogen	
Total Kjeldahl Nitrogen	
Total Nitrogen	
Suspended Solids	
Volatile Solids	
Chlorophyll a	

Table 2.3
Long-Term Yearly Mean Measurements of Peace River Flows
and Facility Withdrawals during HBMP Monitoring Period

Year	Means (in cubic ft/sec)			Withdrawal as Percent of Gaged Flow at:	
	Peace River Flow at Arcadia	Peace Arcadia + Horse Creek + Joshua Creek + Shell Creek	Facility Withdrawal	Arcadia	US 41 Bridge
1976	703.3	959.6	No Withdrawals Until 1980		
1977	478.7	731.9			
1978	997.2	1525.8			
1979	1171.4	2080.5			
1980	495.2	726.3	3.93	0.66	0.45
1981	288.4	629.6	5.10	1.77	0.81
1982	1610.5	2746.9	5.91	0.37	0.21
1983	1371.3	2319.9	5.11	0.37	0.22
1984	567.0	1102.7	4.07	0.72	0.37
1985	368.9	680.7	7.24	1.96	1.06
1986	548.9	1013.6	7.50	1.37	0.74
1987	802.7	1357.8	7.59	0.95	0.56
1988	1054.0	1738.4	9.48	0.90	0.55
1989	373.6	699.0	9.60	2.57	1.37
1990	402.4	741.4	8.72	2.17	1.18
1991	771.1	1567.6	10.38	1.35	0.66
1992	784.6	1543.6	9.41	1.20	0.61
1993	698.5	1249.3	12.02	1.72	0.96
1994	1365.9	2359.0	11.65	0.85	0.52
1995	1708.1	3071.6	12.23	0.72	0.40
1996	598.2	928.8	12.46	2.08	1.34
1997	1059.9	1777.6	12.12	1.14	0.68
1998	1915.9	2921.3	15.43	0.81	0.53
1999	565.2	1142.5	12.8	2.26	1.15
2000	139.4	342.4	5.7	4.09	1.66
2001	1038.1	1914.7	7.9	0.76	0.41
2002	1180.7	2191.2	22.8	1.93	1.04
2003	1853.9	2920.0	26.1	1.41	0.89

Table 3.3
Water Chemistry Methods

Parameter	Method	Detection Limit
Color	EPA 110.2	1.0 Co_Pt Units
Chloride	EPA 325.2	0.4 mg/l
Turbidity	EPA 180.1	0.1 NTU
Total Suspended Solids	EPA 160.2	0.8 mg/L
Volatile Suspended Solids	EPA 160.4	0.8 mg/L
Alkalinity	EPA 310.1	0.1 mg/l
NO2+NO3 Nitrogen	EPA 353.2	0.002 mg/l
NH3+NH4 Nitrogen	EPA 350.1	0.002 mg/l
Total Kjeldahl	EPA 351.2	0.1 mg/l
Ortho-Phosphorus	EPA 365.2	0.002 mg/l
Total Phosphorus	EPA 365.4	0.002 mg/l
Silica	EPA 370.1	0.05 mg/l
Inorganic Carbon	SM 5310 B	1.0 mg/l
Total Organic Carbon	EPA 415.1	1.0 mg/l
Dissolved Organic Carbon	SM 5310 B	1.0 mg/l
Iron	EPA 236.1	0.04 mg/l
Chlorophyll a	Fluorimetric SM 10200H.3	0.25 ug/l
	Spectrophotometric SM10200H.2	2.0 ug/l

Table 3.4

Physical and Chemical Water Quality Parameters

Year	Month	Sample Location	Temperature (C)	Color (CPU)	Turbidity	Light Extinction Coefficient	Total Organic Carbon (mg/l)	Dissolved Organic Carbon (mg/l)	Iron (mg/l)
2003	Jan	0 o/oo	15.5	200	3.4	2.7	19.60	19.80	0.29
2003	Jan	6 o/oo	15.9	200	2.8	1.8	17.20	16.90	0.24
2003	Jan	12 o/oo	16.2	160	2.5	1.5	14.50	14.40	0.25
2003	Jan	20 o/oo	15.5	120	2.0	1.7	12.00	12.30	0.20
2003	Feb	0 o/oo	19.2	180	3.3	2.1	17.20	16.20	0.38
2003	Feb	6 o/oo	19.7	120	3.2	2.4	15.80	15.10	0.23
2003	Feb	12 o/oo	19.4	160	3.3	1.8	13.90	13.30	0.22
2003	Feb	20 o/oo	18.6	140	3.4	1.7	11.40	10.90	0.28
2003	Mar	0 o/oo	25.0	180	.	2.5	.	.	0.30
2003	Mar	6 o/oo	25.7	150	.	2.3	.	.	0.25
2003	Mar	12 o/oo	25.6	140	.	2.7	.	.	0.19
2003	Mar	20 o/oo	25.8	120	.	1.9	.	.	0.24
2003	Apr	0 o/oo	22.8	160	.	1.3	.	.	0.40
2003	Apr	6 o/oo	21.4	160	.	1.8	.	.	0.26
2003	Apr	12 o/oo	21.1	120	.	2.2	.	.	0.25
2003	Apr	20 o/oo	21.6	100	.	1.9	.	.	0.24
2003	May	0 o/oo	30.0	160	.	1.5	.	.	0.21
2003	May	6 o/oo	30.3	160	.	1.9	.	.	0.14
2003	May	12 o/oo	30.1	120	.	1.3	.	.	0.13
2003	May	20 o/oo	30.0	100	.	0.9	.	.	0.12
2003	Jun	0 o/oo	28.4	500	.	.	.	.	0.49
2003	Jun	6 o/oo	28.9	450	.	.	.	.	0.30
2003	Jun	12 o/oo	28.7	350	.	2.4	.	.	0.22
2003	Jun	20 o/oo	28.9	50	.	1.2	.	.	0.18

Table 3.4

Physical and Chemical Water Quality Parameters

Year	Month	Sample Location	Temperature (C)	Color (CPU)	Turbidity	Light Extinction Coefficient	Total Organic Carbon (mg/l)	Dissolved Organic Carbon (mg/l)	Iron (mg/l)
2003	Jul	0 o/oo	29.9	175	.	1.9	.	.	0.45
2003	Jul	6 o/oo	30.4	200	.	2.6	.	.	0.30
2003	Jul	12 o/oo	29.6	175	.	2.1	.	.	0.22
2003	Jul	20 o/oo	30.2	150	.	1.9	.	.	0.16
2003	Aug	0 o/oo	28.3	250	.	3.3	.	.	0.54
2003	Aug	6 o/oo	28.4	150	.	2.3	.	.	0.22
2003	Aug	12 o/oo	28.9	150	.	1.6	.	.	0.17
2003	Aug	20 o/oo	29.0	200	.	1.5	.	.	0.13
2003	Sep	0 o/oo	29.0	250	.	3.4	.	.	0.50
2003	Sep	6 o/oo	29.3	200	.	2.4	.	.	0.29
2003	Sep	12 o/oo	28.9	150	.	2.8	.	.	0.18
2003	Sep	20 o/oo	29.0	125	.	2.2	.	.	0.19
2003	Oct	0 o/oo	26.7	240	.	2.7	.	.	0.52
2003	Oct	6 o/oo	28.2	200	.	2.0	.	.	0.31
2003	Oct	12 o/oo	27.6	120	.	2.1	.	.	0.25
2003	Oct	20 o/oo	27.4	40	.	1.4	.	.	0.16
2003	Nov	0 o/oo	26.3	100	.	2.1	.	.	0.27
2003	Nov	6 o/oo	26.9	80	.	2.0	.	.	0.23
2003	Nov	12 o/oo	26.5	80	.	2.0	.	.	0.17
2003	Nov	20 o/oo	26.5	50	.	1.0	.	.	0.14
2003	Dec	0 o/oo	19.4	70	.	1.7	.	.	0.17
2003	Dec	6 o/oo	19.9	70	.	1.6	.	.	0.11
2003	Dec	12 o/oo	18.6	60	.	1.0	.	.	0.11
2003	Dec	20 o/oo	18.9	45	.	2.2	.	.	0.15

Table 3.5
Physical and Chemical Water Quality Parameters - Nutrients

Year	Month	Sample Location	Ammonia/ Ammonium (mg/l)	Nitrite/ Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Total Phosphorus (mg/l)	Available N/P Atomic Ratio	Silica (mg/l)
2003	Jan	0 o/oo	0.010	0.243	0.90	0.500	0.570	1.2	3.84
2003	Jan	6 o/oo	0.020	0.216	0.87	0.360	0.420	1.5	3.64
2003	Jan	12 o/oo	0.010	0.185	0.87	0.260	0.330	1.7	3.44
2003	Jan	20 o/oo	0.020	0.147	0.67	0.200	0.260	1.9	3.21
2003	Feb	0 o/oo	0.010	0.817	0.89	0.700	0.760	2.7	5.12
2003	Feb	6 o/oo	0.020	0.271	0.84	0.360	0.430	1.8	2.62
2003	Feb	12 o/oo	0.020	0.099	0.84	0.290	0.360	0.9	1.36
2003	Feb	20 o/oo	0.010	0.060	0.66	0.200	0.250	0.8	2.22
2003	Mar	0 o/oo	0.010	0.513	0.92	0.830	.	1.4	5.87
2003	Mar	6 o/oo	0.010	0.338	1.03	0.610	.	1.3	4.72
2003	Mar	12 o/oo	0.010	0.161	1.87	0.430	.	0.9	3.13
2003	Mar	20 o/oo	0.010	0.043	0.57	0.280	.	0.4	1.82
2003	Apr	0 o/oo	0.020	0.253	0.95	0.640	.	1.0	5.00
2003	Apr	6 o/oo	0.020	0.113	0.90	0.450	.	0.7	3.55
2003	Apr	12 o/oo	0.040	0.013	0.81	0.370	.	0.3	2.24
2003	Apr	20 o/oo	0.060	0.003	0.68	0.250	.	0.6	0.76
2003	May	0 o/oo	0.010	0.654	0.93	0.750	.	2.0	5.44
2003	May	6 o/oo	0.010	0.127	0.84	0.500	.	0.6	5.36
2003	May	12 o/oo	0.010	0.048	0.74	0.420	.	0.3	4.53
2003	May	20 o/oo	0.020	0.010	0.57	0.350	.	0.2	3.64
2003	Jun	0 o/oo	0.010	0.211	1.06	0.570	.	0.9	6.46
2003	Jun	6 o/oo	0.010	0.165	1.04	0.550	.	0.7	5.82
2003	Jun	12 o/oo	0.010	0.115	1.83	0.380	.	0.8	5.01
2003	Jun	20 o/oo	0.010	0.028	0.36	0.150	.	0.6	3.62

Table 3.5
Physical and Chemical Water Quality Parameters - Nutrients

Year	Month	Sample Location	Ammonia/ Ammonium (mg/l)	Nitrite/ Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Total Phosphorus (mg/l)	Available N/P Atomic Ratio	Silica (mg/l)
2003	Jul	0 o/oo	0.010	0.477	1.00	0.670	.	1.7	6.49
2003	Jul	6 o/oo	0.020	0.201	0.89	0.400	.	1.3	5.85
2003	Jul	12 o/oo	0.010	0.064	0.69	0.310	.	0.5	5.03
2003	Jul	20 o/oo	0.010	0.016	0.46	0.210	.	0.3	3.80
2003	Aug	0 o/oo	0.010	0.182	1.26	0.298	.	1.5	4.58
2003	Aug	6 o/oo	0.020	0.128	0.92	0.303	.	1.1	4.61
2003	Aug	12 o/oo	0.010	0.089	0.51	0.229	.	1.0	4.47
2003	Aug	20 o/oo	0.010	0.048	0.40	0.152	.	0.9	3.45
2003	Sep	0 o/oo	0.010	0.206	0.87	0.600	.	0.8	6.18
2003	Sep	6 o/oo	0.010	1.450	0.67	0.290	.	11.5	5.47
2003	Sep	12 o/oo	0.010	0.204	0.06	0.220	.	2.2	5.60
2003	Sep	20 o/oo	0.010	0.164	0.11	0.170	.	2.3	4.75
2003	Oct	0 o/oo	0.010	0.250	0.83	0.480	.	1.2	6.16
2003	Oct	6 o/oo	0.020	0.185	0.45	0.300	.	1.6	5.47
2003	Oct	12 o/oo	0.010	0.118	0.06	0.230	.	1.3	4.18
2003	Oct	20 o/oo	0.010	0.015	0.29	0.110	.	0.5	2.28
2003	Nov	0 o/oo	0.010	0.761	1.78	1.070	.	1.6	9.71
2003	Nov	6 o/oo	0.010	0.247	0.93	0.510	.	1.2	4.20
2003	Nov	12 o/oo	0.010	0.054	0.69	0.290	.	0.5	1.34
2003	Nov	20 o/oo	0.010	0.010	0.53	0.130	.	0.4	0.47
2003	Dec	0 o/oo	0.030	1.430	0.60	0.750	.	4.4	8.16
2003	Dec	6 o/oo	0.010	0.362	0.51	0.640	.	1.3	5.80
2003	Dec	12 o/oo	0.020	0.215	0.61	0.360	.	1.5	3.90
2003	Dec	20 o/oo	0.010	0.021	0.57	0.150	.	0.5	1.75

Table 3.8
Mean Near Surface Values for Key Physical, Chemical and
Biological Measurements by Isohaline

Isohaline	TEMP	COLOR	N23	OP	NP	SI	EXC	CHLA
Summary of data from current year – 2003								
0 o/oo Salinity	25.0	204	0.500	0.655	0.7	6.08	2.3	6.9
6 o/oo Salinity	25.4	178	0.317	0.439	0.9	4.76	2.1	15.3
12 o/oo Salinity	25.1	149	0.114	0.316	0.4	3.69	2.0	41.2
20 o/oo Salinity	25.1	103	0.047	0.196	0.3	2.65	1.6	16.6
Summary of data from preceding period 1983-2002								
0 o/oo Salinity	24.9	139	0.499	0.728	0.8	2.71	3.0	9.2
6 o/oo Salinity	25.2	113	0.214	0.524	0.6	2.32	2.7	23.1
12 o/oo Salinity	25.0	84	0.101	0.368	0.4	1.82	2.2	22.5
20 o/oo Salinity	24.7	49	0.035	0.213	0.4	1.12	1.6	13.3

Temp = Temperature °C

Color = Color Co_Pt units mg/L

N23 = Nitrate/Nitrite nitrogen mg/L

OP = Orthophosphorus mg/L

NP = Atomic Inorganic nitrogen to phosphorus ratio

SI = Reactive silica mg/L

EXC = Extinction coefficient

CHLA = Chlorophyll a ug/L

Table 4.1
HBMP Fixed Sampling Locations

USGS River Mile	USGS Location Number	Previous EQL Station Number	Additional Sampling	New River Kilometer designation based on Morphometric Study
Current <i>In Situ</i> Water Column Profile Sampling Locations				
CH6	265355082075500	9	Water Quality	-2.4
RM3.95	265640082033500	10	Water Quality	6.6
RM4.88	265724082024400	21		8.4
RM6.25	265727082012800	11		10.5
RM8.61	265711081595500	Shell Creek 9 (92)		12.7
RM8.6B	265819082003200	22		12.8
RM10.2	2297460	12	Water Quality/Tide Gage/Conductivity	15.5
RM11.2	270022081591000	23		17.5
RM 12.55	270124081592500	13		20.1
RM13.95	270235081592400	24		21.9
RM14.82	270318081593100	14	Water Quality	23.6
RM15.45	270337081595800	25		24.7
RM16.29	270418082001600	15		25.9
N/A	2297350	N/A	Tide Gage/ Conductivity	26.7
RM18.25	270451081595100	17		29.5
RM18.95	2297330	18	Water Quality	30.4
RM19.5	270537081585800	19		32.3
Vegetation Transect Locations				
N/A	N/A	I		15.6
N/A	N/A	II		22.3
N/A	N/A	III		20.4
Previous EQL Water Column and Chemistry Sampling Sites				
N/A	N/A	16		27.1
N/A	N/A	20		34.1

Table 4.5

Mean Near Surface Values for Key Physical, Chemical and Biological Measurements at Fixed Sampling Sites

River Kilometer	Color	Iron	N23	TKN	OP	Si	Chla
Summary of data from current year – 2003							
-2.4	84	0.18	0.065	0.75	0.46	2.2	38.0
6.6	115	0.23	0.098	0.58	0.29	3.1	13.2
15.5	167	0.28	0.329	0.88	0.60	4.9	16.3
23.6	181	0.33	0.793	0.88	0.74	5.9	9.3
30.4	191	0.35	0.557	0.91	0.75	6.1	7.9
Summary of data from preceding period 1996-2002							
-2.4	52	0.44	0.041	0.73	0.15	1.9	13.3
6.6	86	0.36	0.096	0.88	0.26	2.7	10.6
15.5	135	0.38	0.233	1.18	0.47	4.1	16.6
23.6	140	0.41	0.413	1.06	0.61	4.8	11.9
30.4	140	0.36	0.535	1.04	0.65	4.7	7.6

Color = Color Co_Pt Units
Iron = Iron mg/L

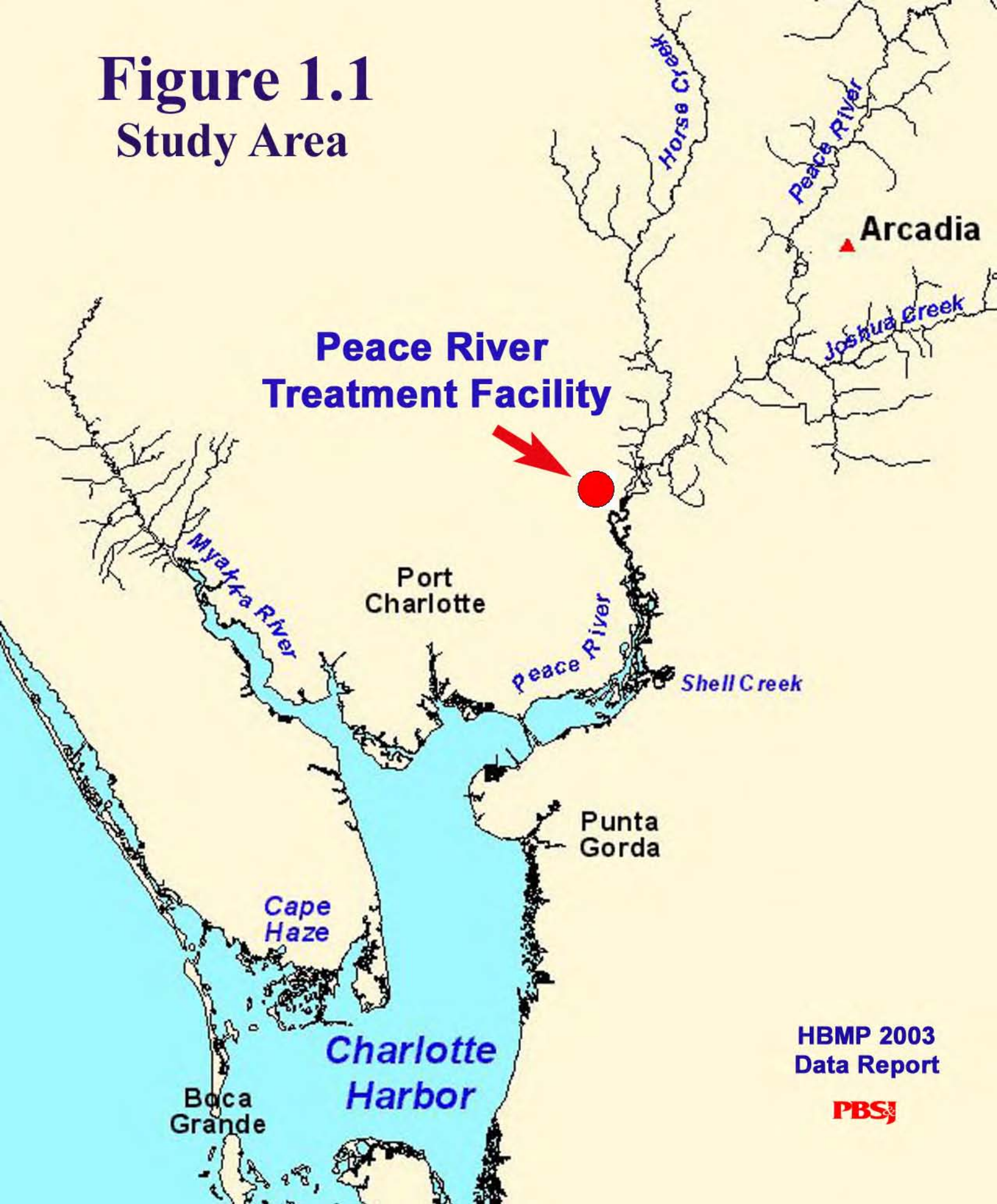
TOC = Total Organic Carbon mg/L
N23 = Nitrite+Nitrate Nitrogen mg/L
TKN = Total Kjeldhal Nitrogen mg/L

OP = Ortho-phosphorus mg/L
SI = Reactive Silica mg/L
CHLA = Chlorophyll *a* ug/L

2003 HBMP Figures

- [Section 1](#) – Introduction / Summary
- [Section 2](#) – Gage Flows and Withdrawals
- [Section 3](#) – “Moving” Isohaline Monitoring
- [Section 4](#) – “Fixed” Station Monitoring
- [Section 5](#) – Continuous Recorders

Figure 1.1
Study Area

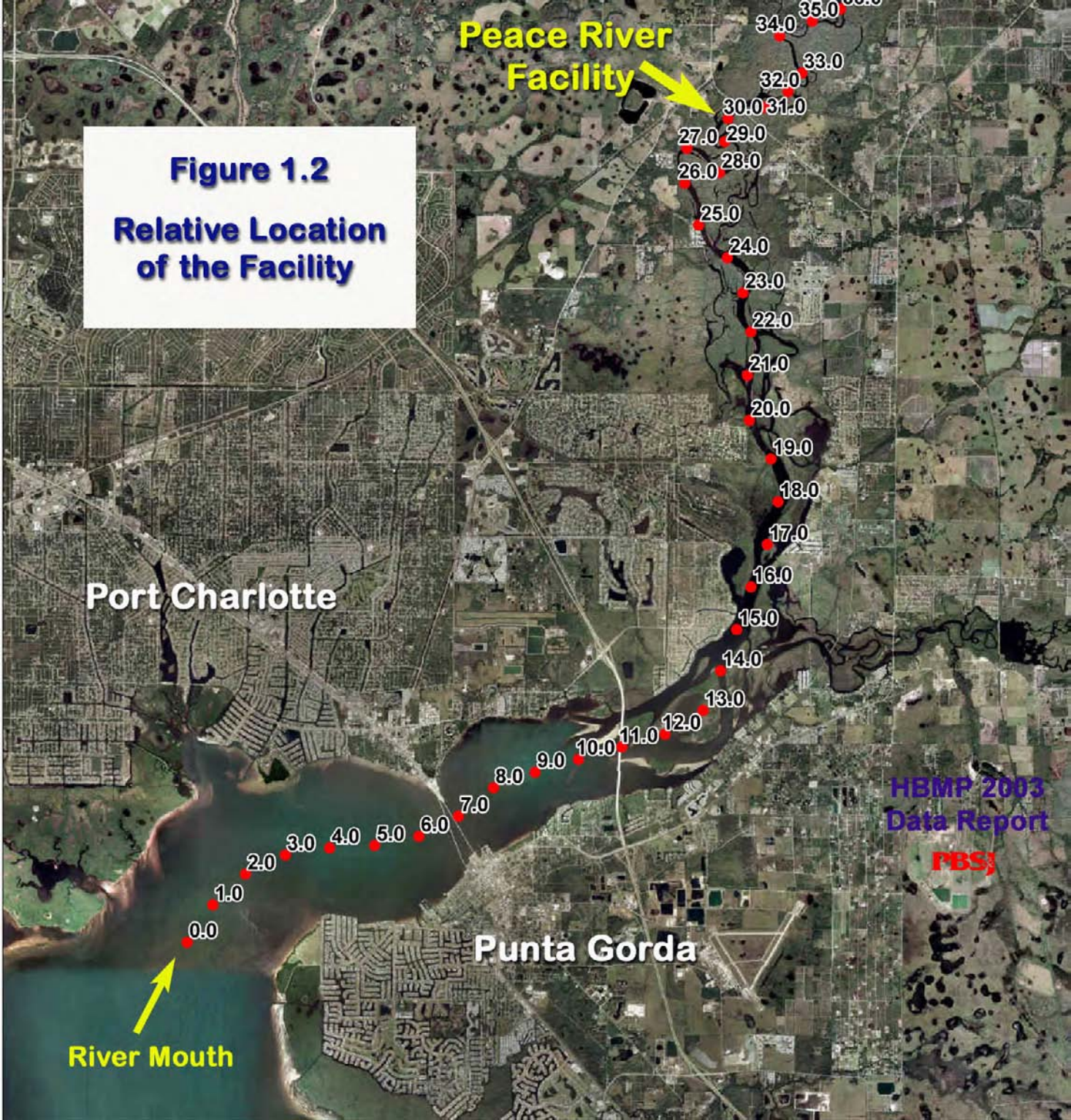


HBMP 2003
Data Report



Figure 1.2

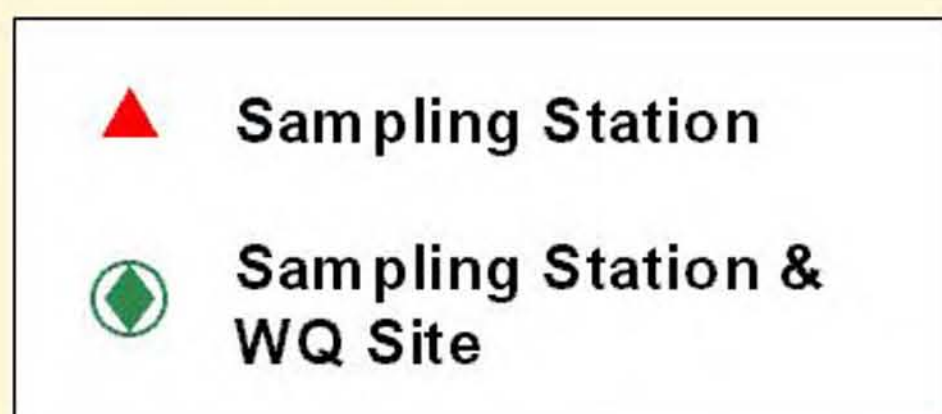
**Relative Location
of the Facility**



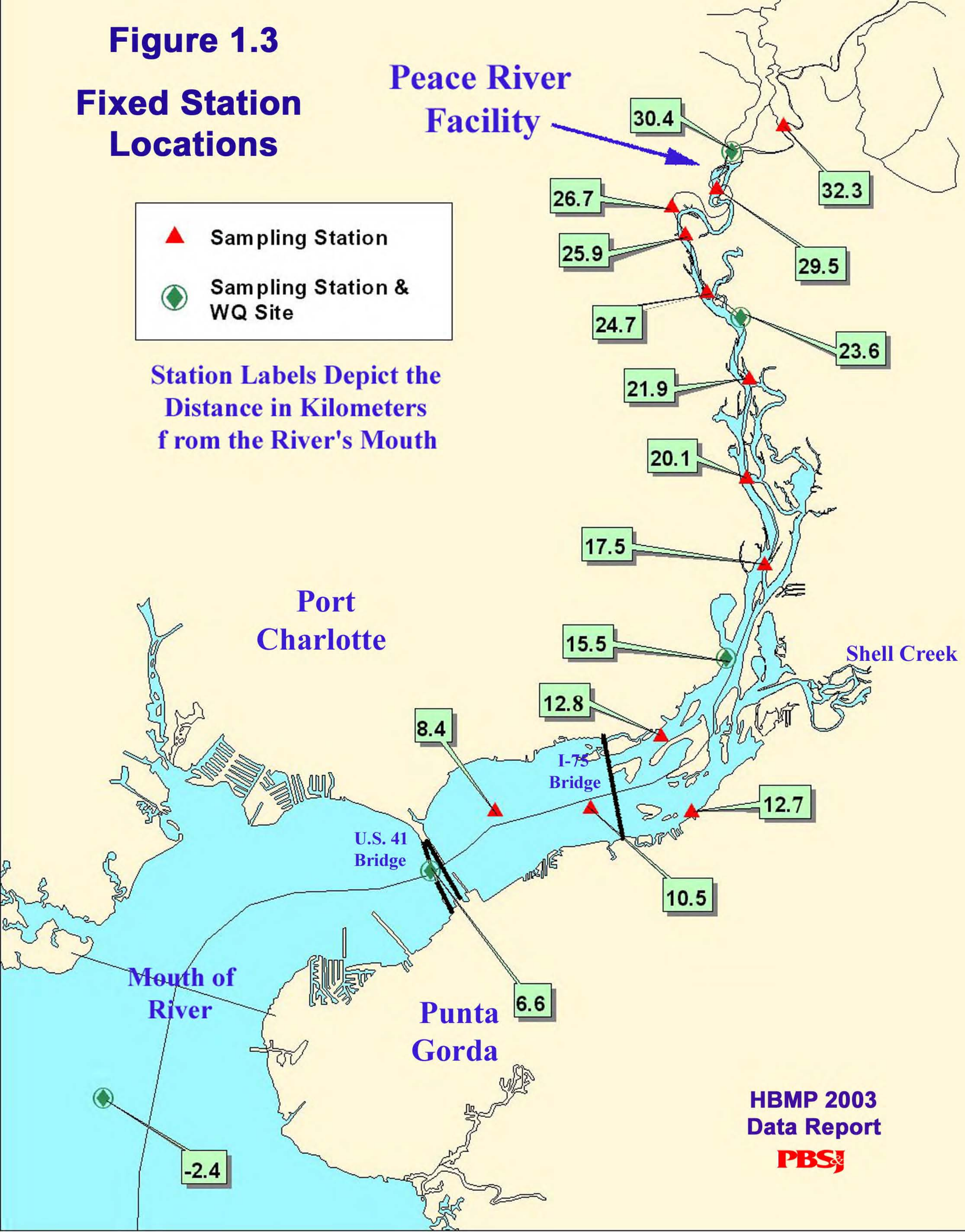
**HBMP 2003
Data Report**

PBSJ

Figure 1.3
Fixed Station
Locations

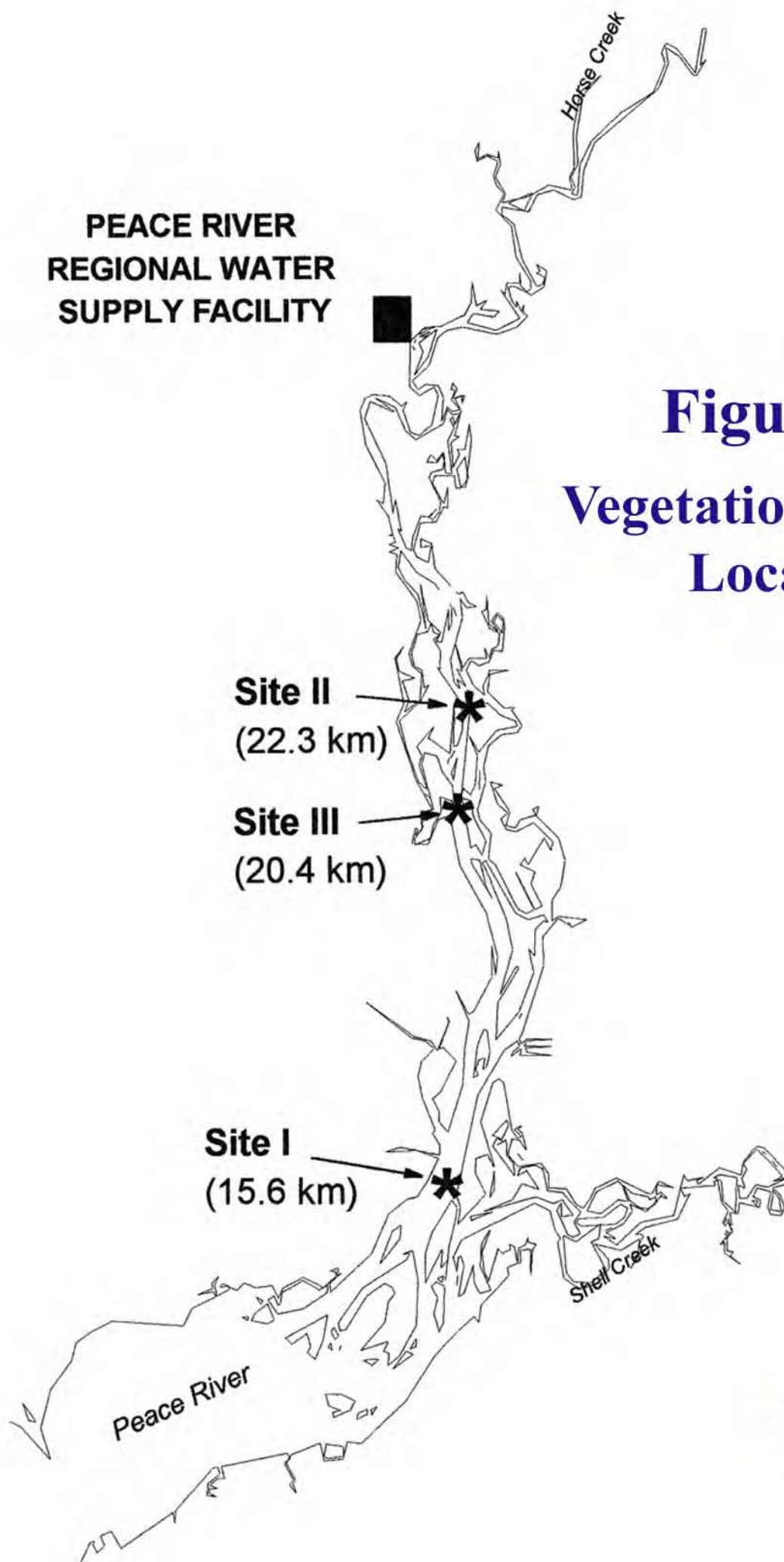


Station Labels Depict the
Distance in Kilometers
from the River's Mouth



HBMP 2003
Data Report

PBS



**PEACE RIVER
REGIONAL WATER
SUPPLY FACILITY**

Figure 1.4
Vegetation Transect
Locations

Site II
(22.3 km)

Site III
(20.4 km)

Site I
(15.6 km)

Peace River

Shell Creek

Horse Creek

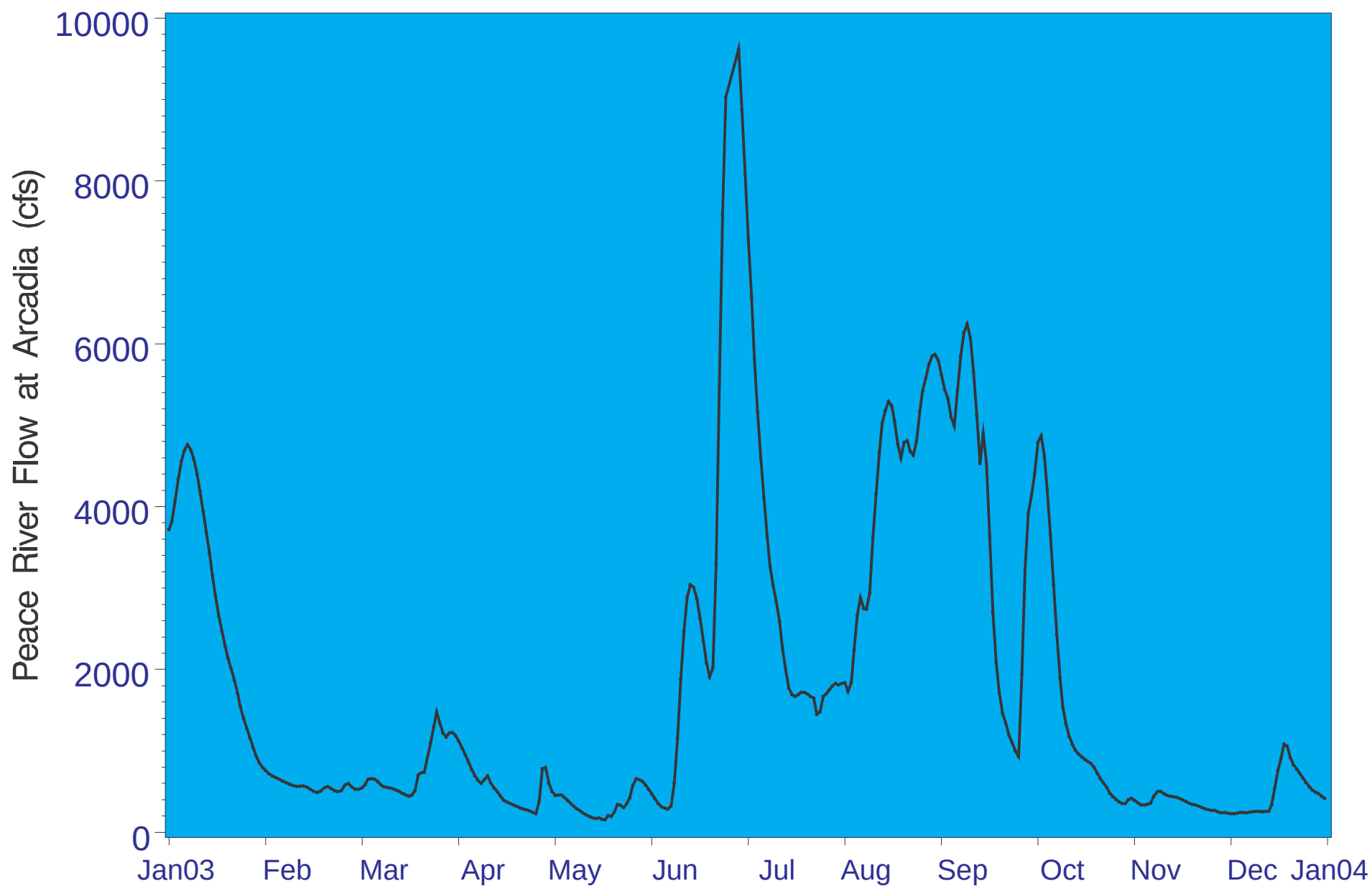


Figure 2.1a Daily Peace River flow at Arcadia (2003)

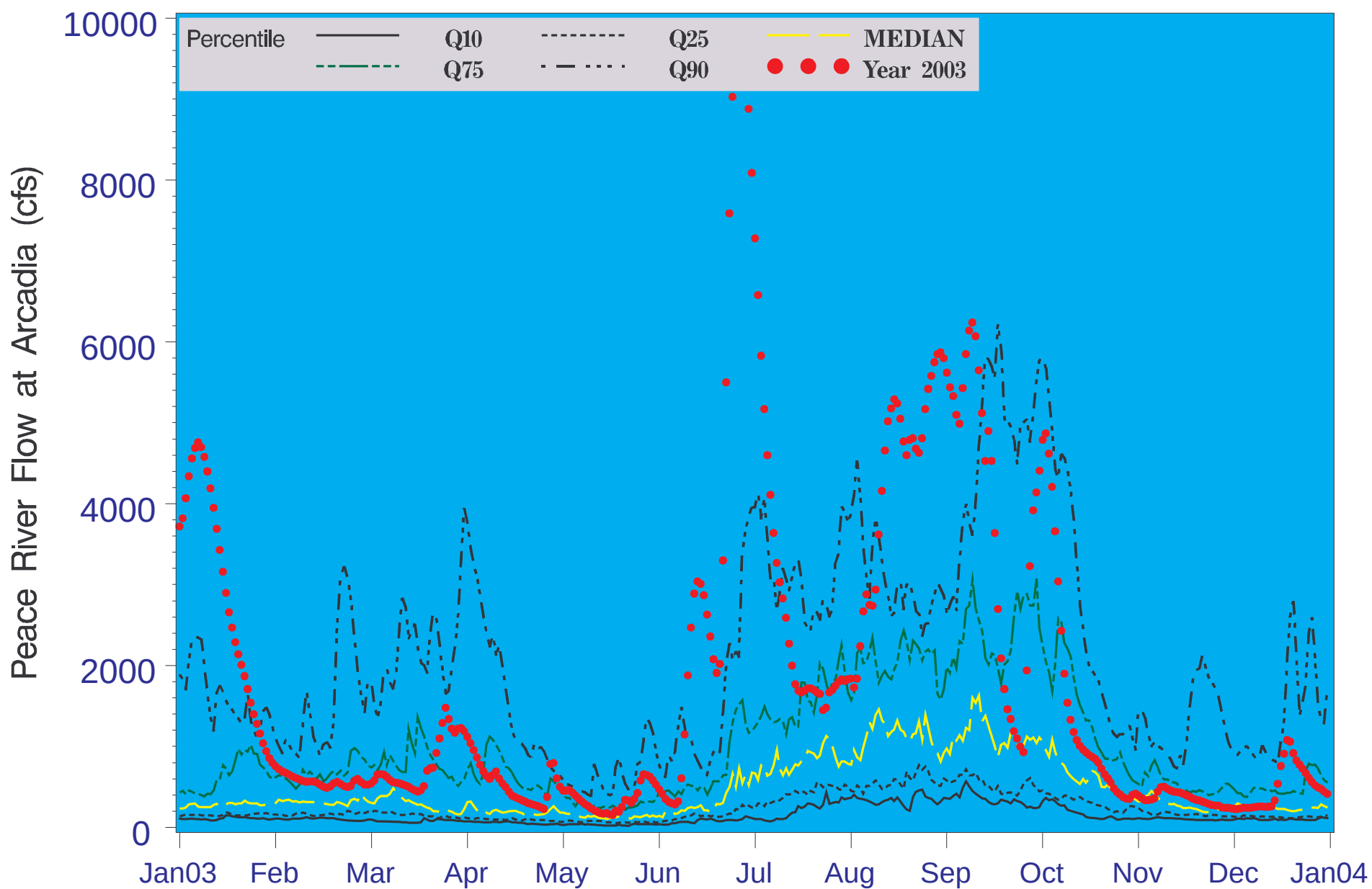


Figure 2.1b Daily Peace River flow at Arcadia in relation to long-term statistical averages

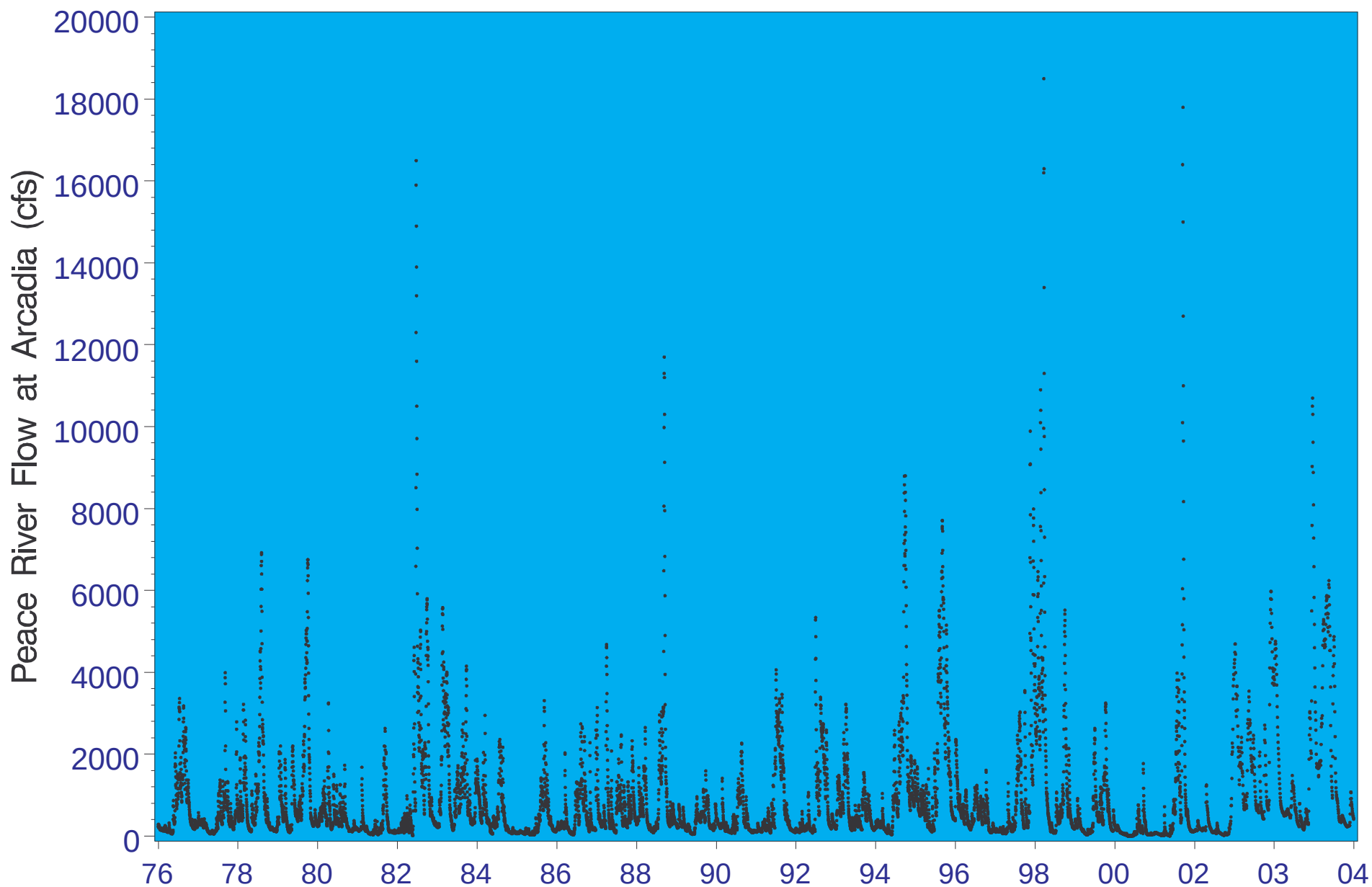


Figure 2.2 Daily Peace River flow at Arcadia (1976-2003)

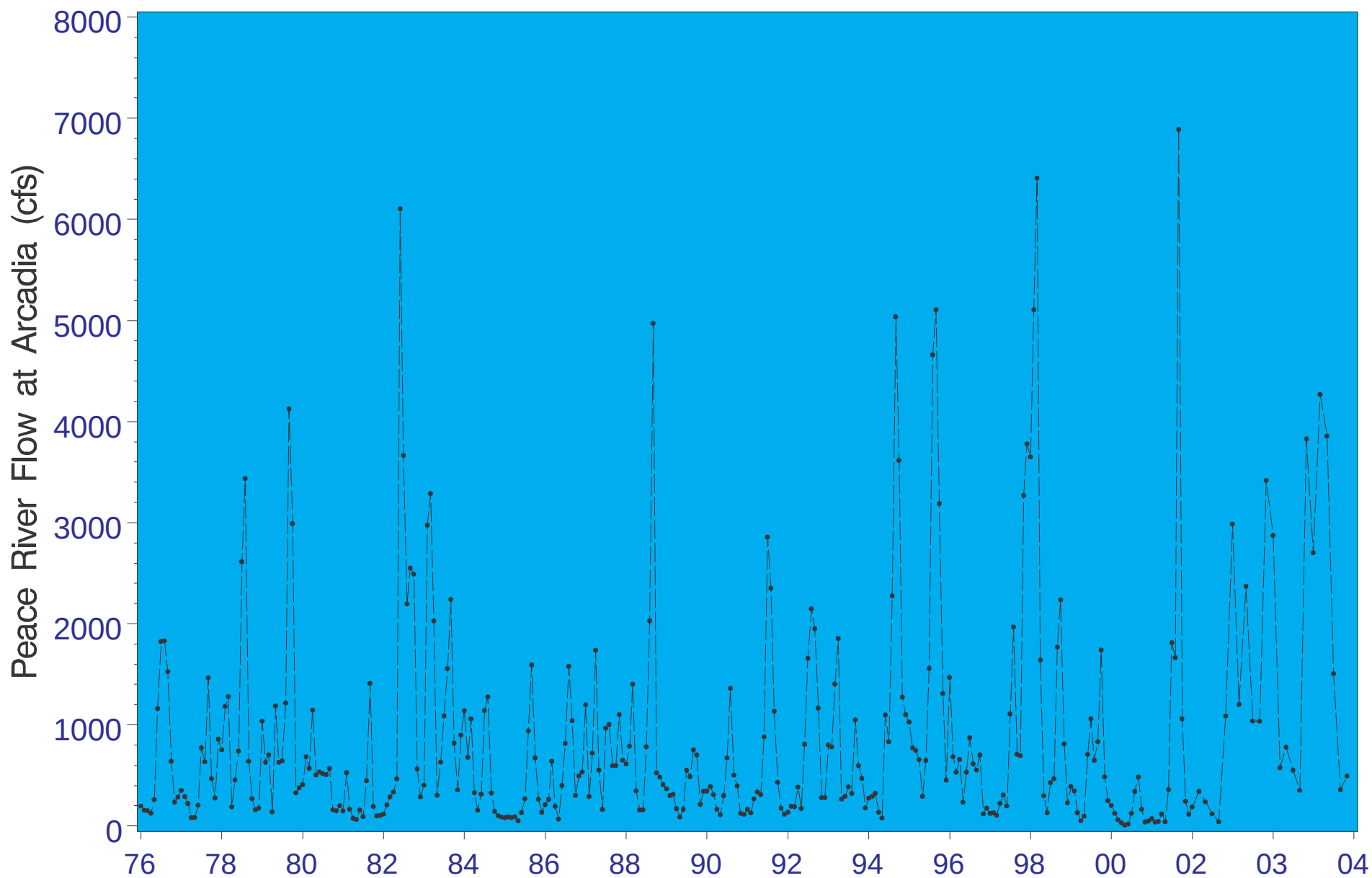


Figure 2.3 Monthly mean Peace River flow at Arcadia (1976-2003)

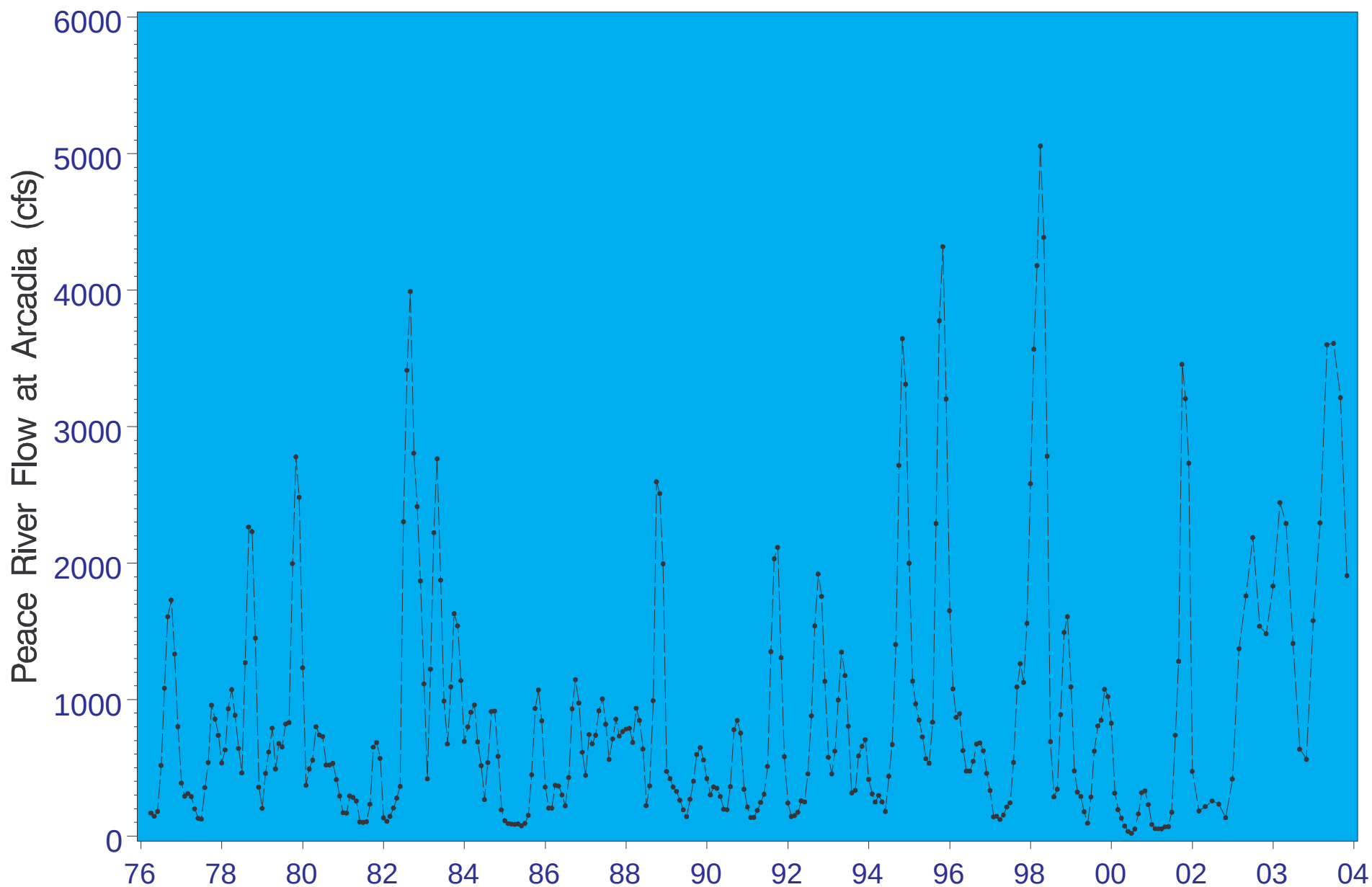


Figure 2.4 3-Month moving average Peace River flow at Arcadia (1976-2003)

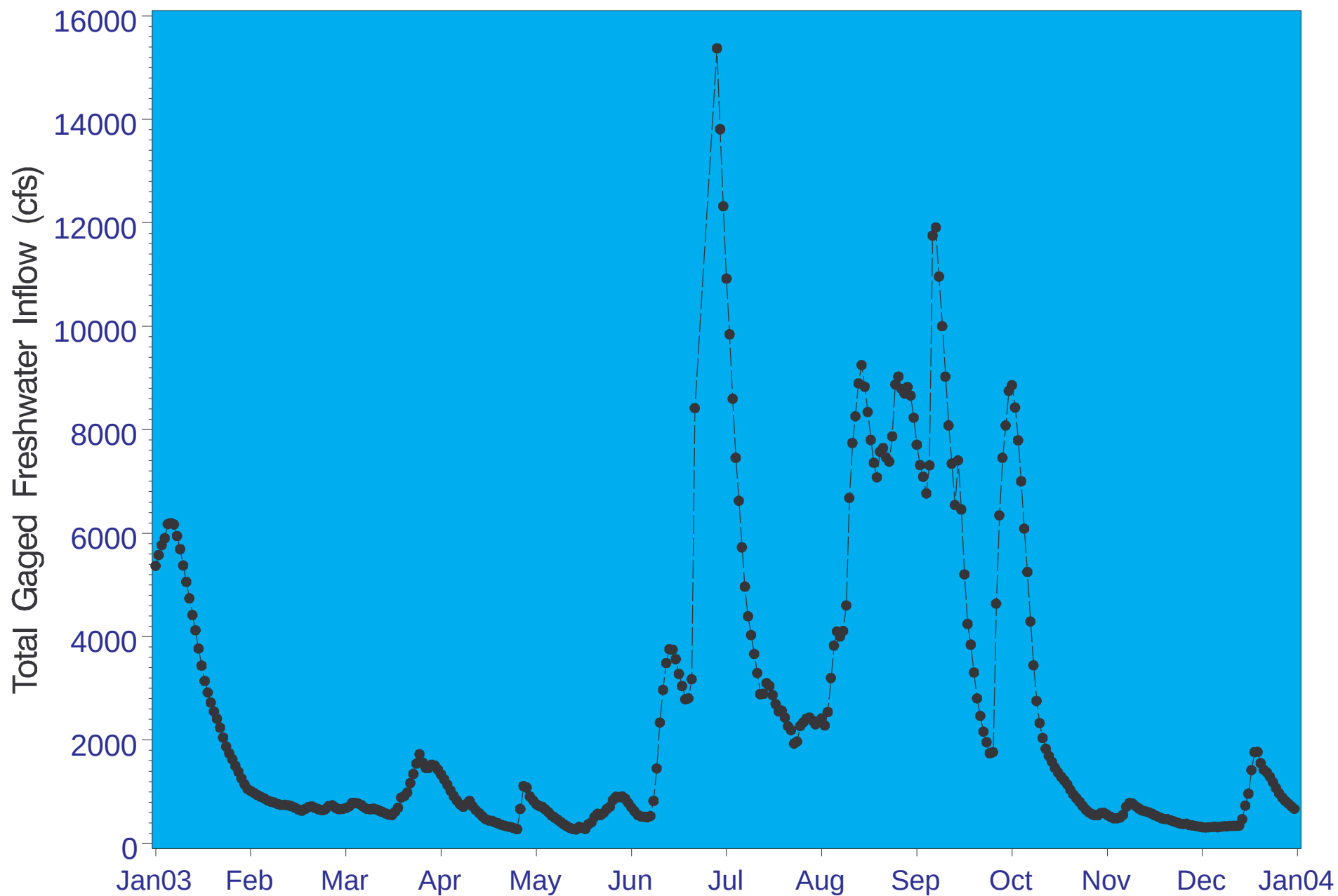


Figure 2.5 Total daily flow -Peace River + Horse, Joshua and Shell Creeks (2003)

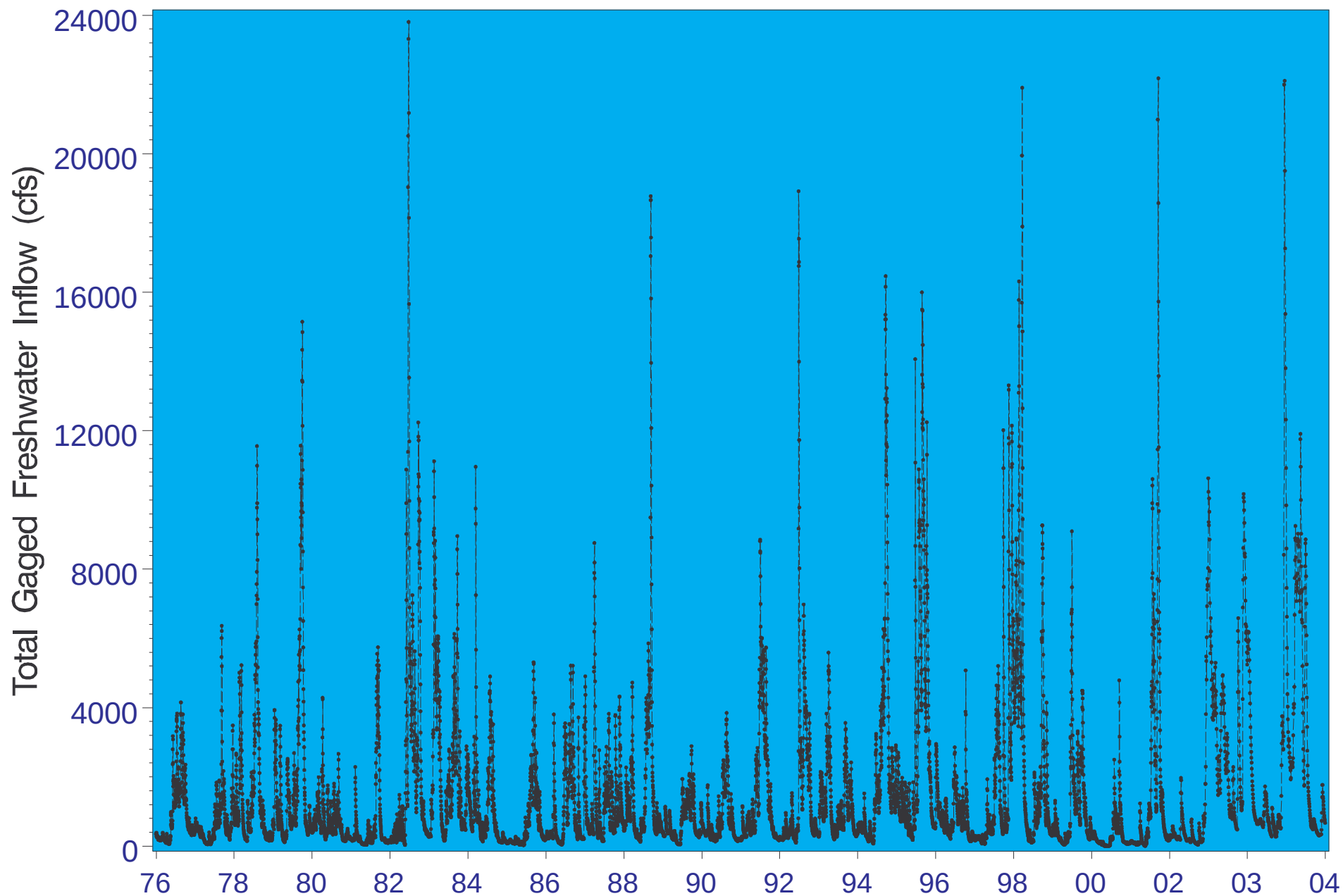


Figure 2.6 Total daily flow - Peace River at + Horse, Joshua and Shell Creeks (1976-2003)

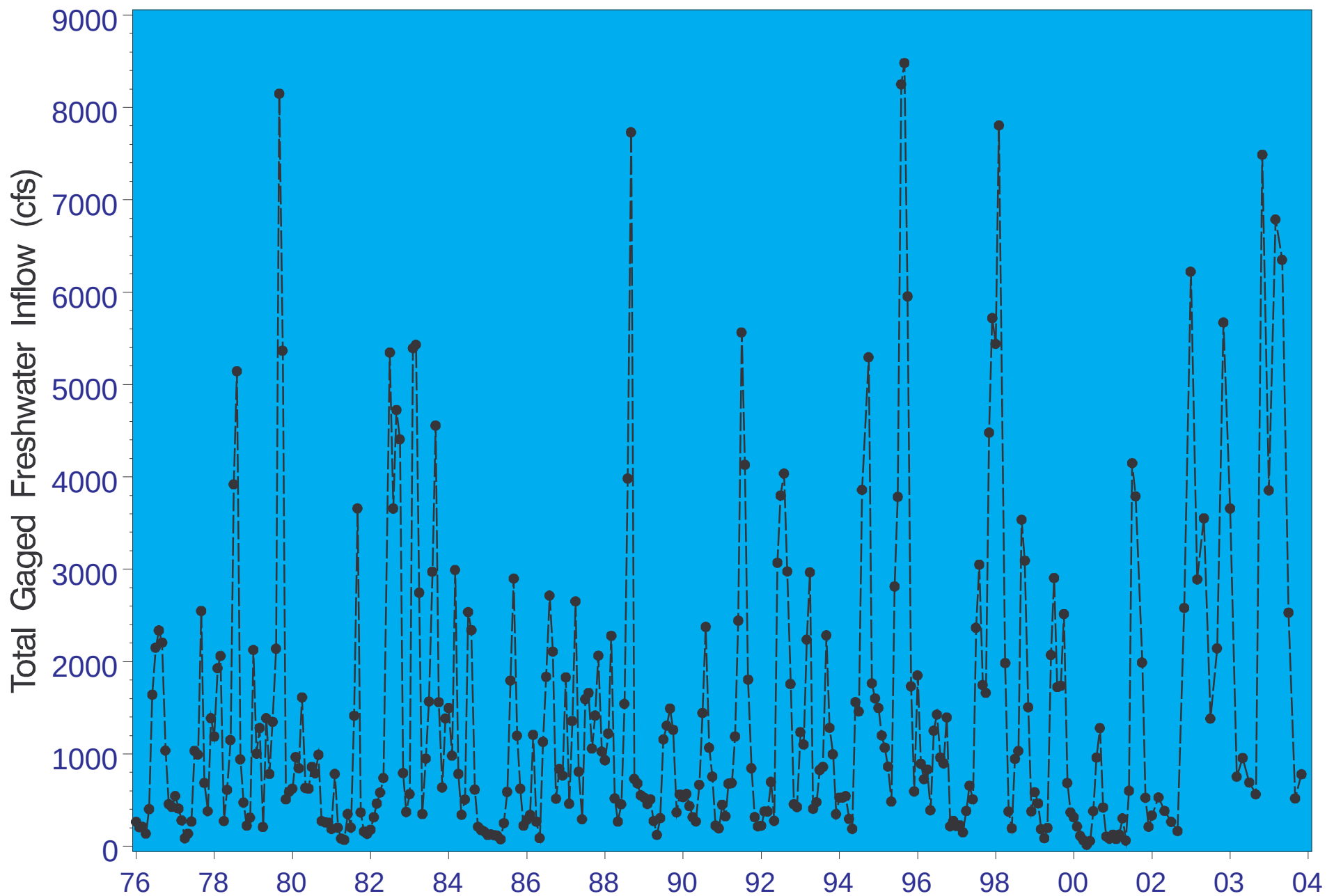


Figure 2.7 Mean monthly flow - Peace River + Horse, Joshua and Shell Creeks (1976-20032)

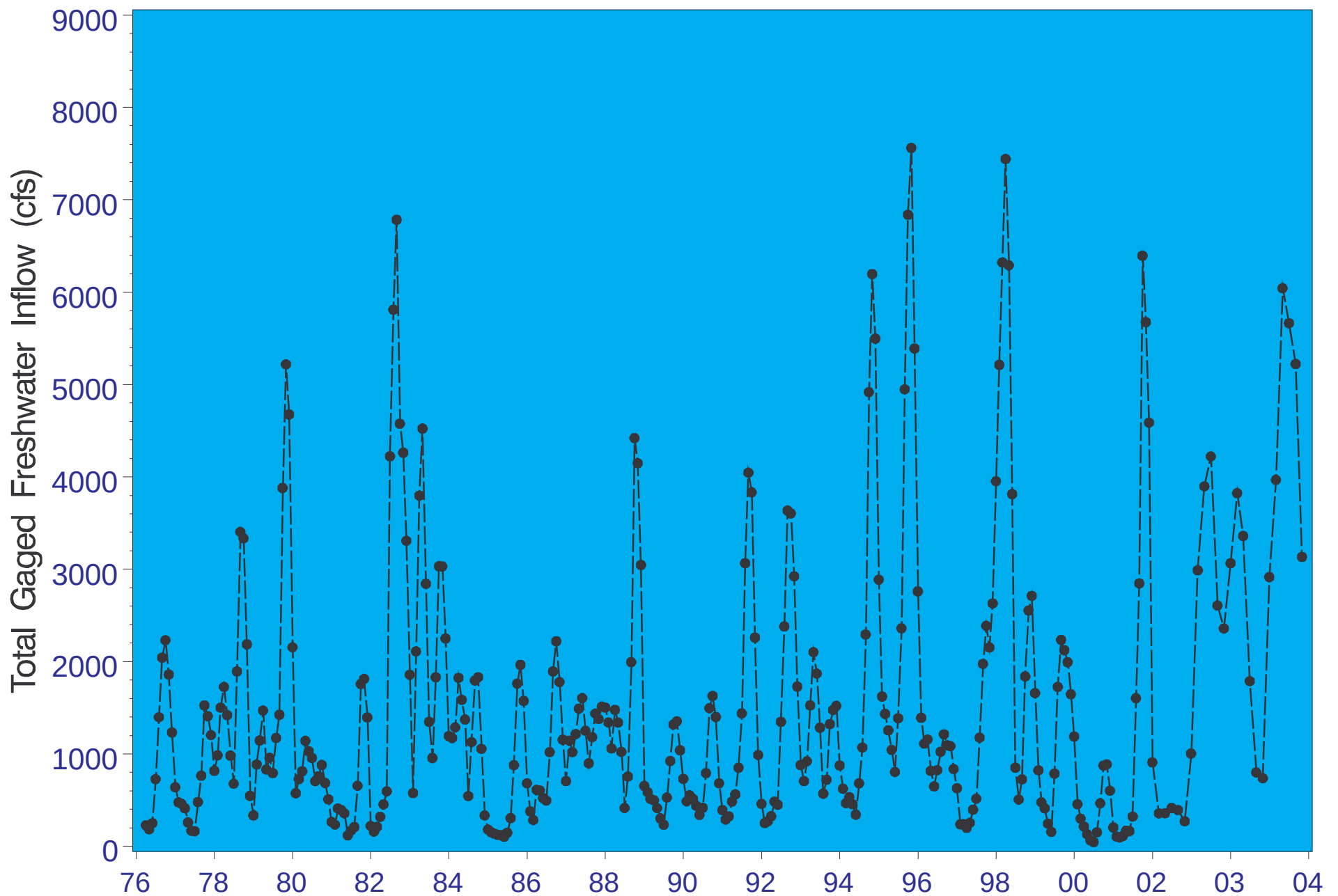


Figure 2.8 3-Month moving average flow - Peace River + Horse, Joshua and Shell Creeks (1976-2003)

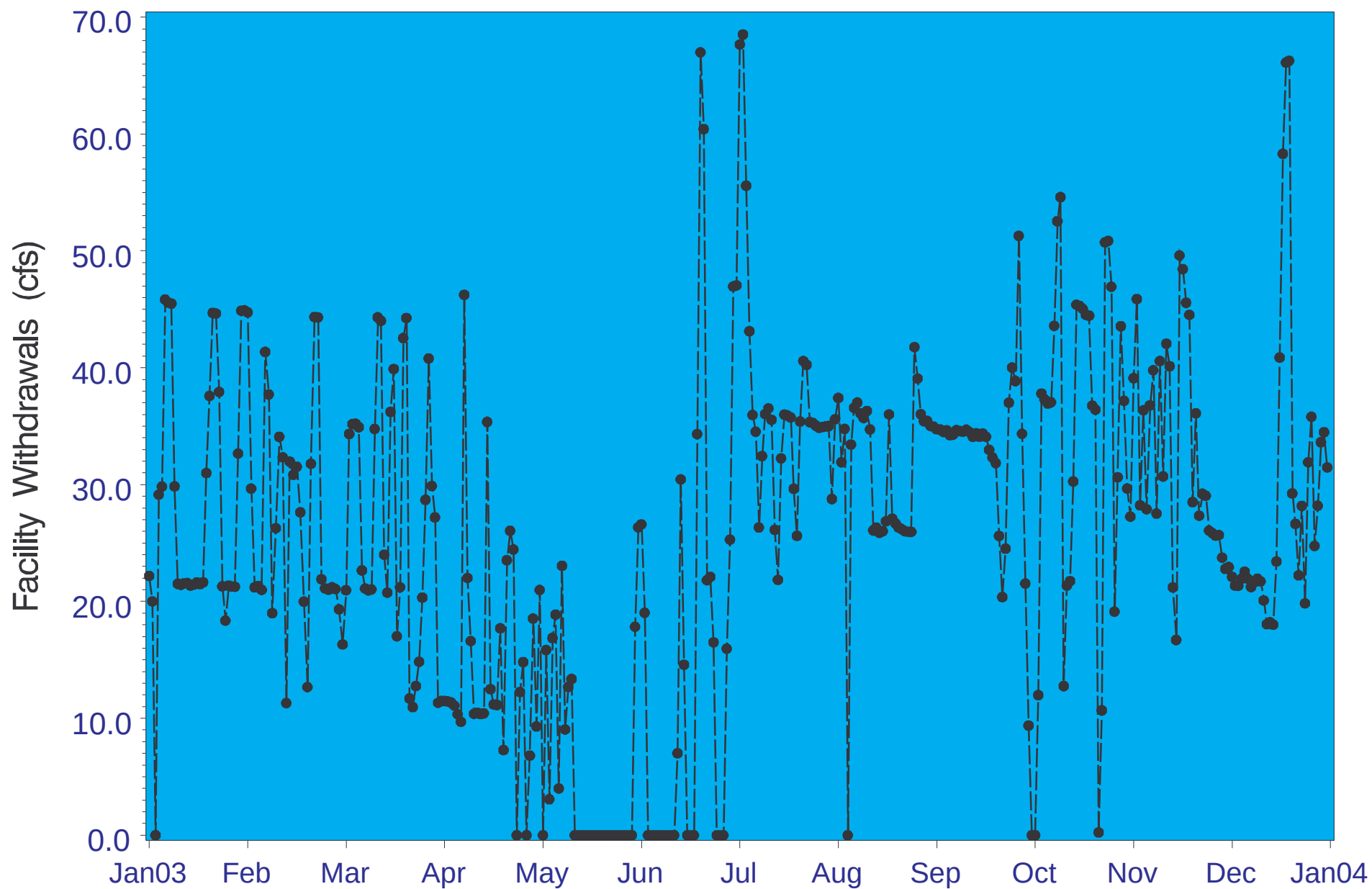


Figure 2.9 Daily water treatment facility withdrawals (2003)

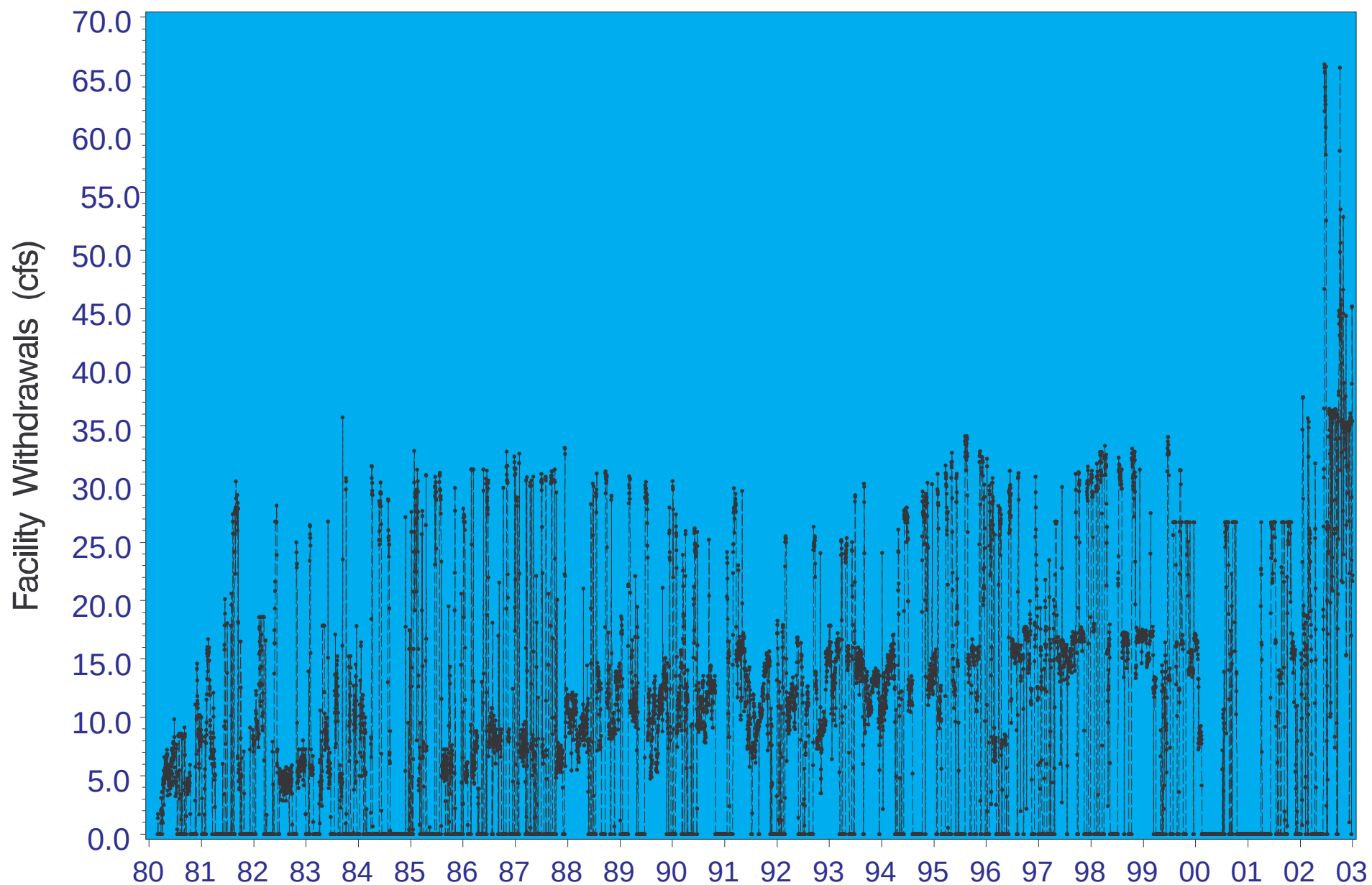


Figure 2.10 Daily water treatment facility withdrawals (1980-2003)

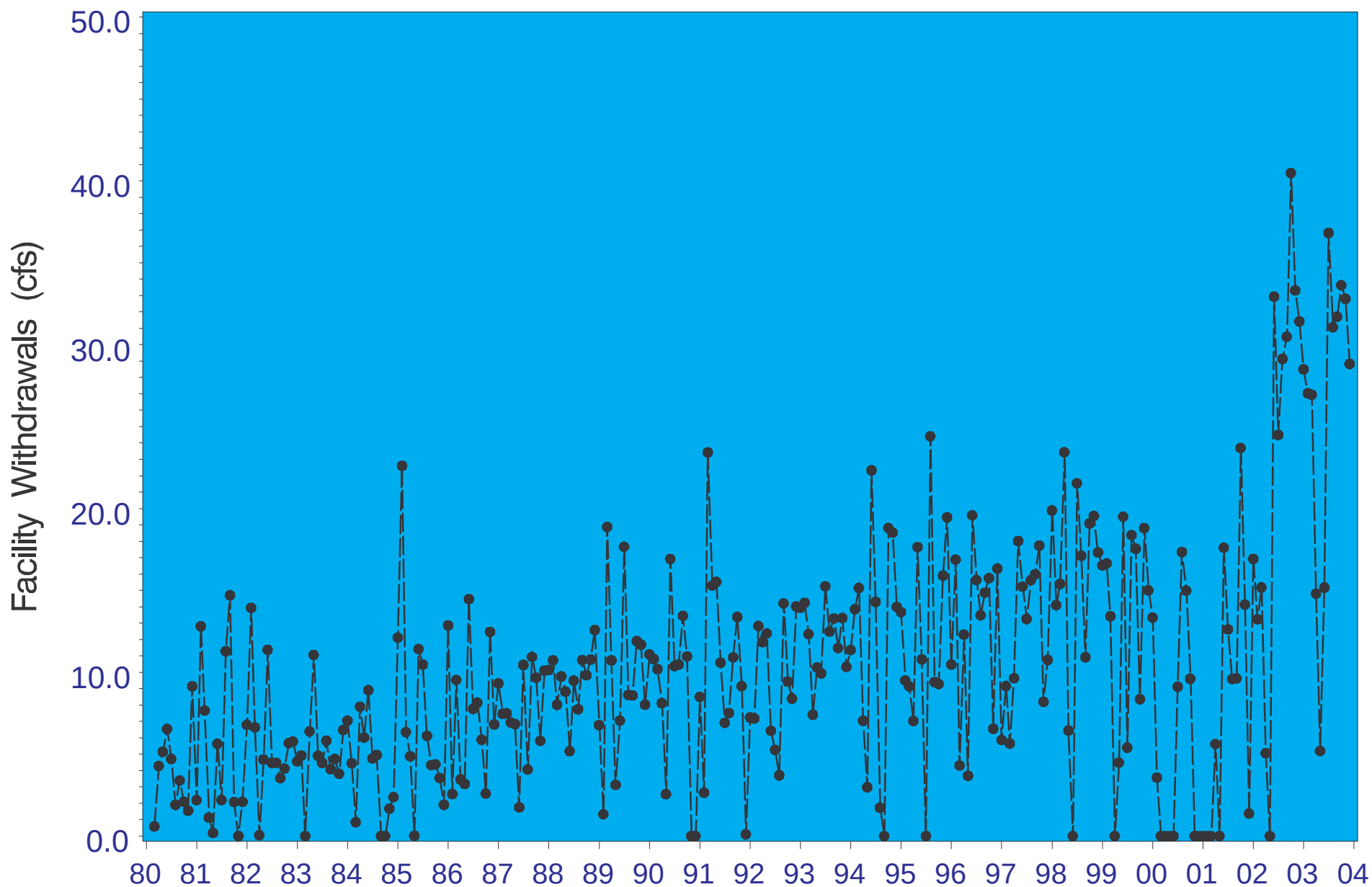


Figure 2.11 Monthly mean water treatment facility withdrawals (1980-2003)

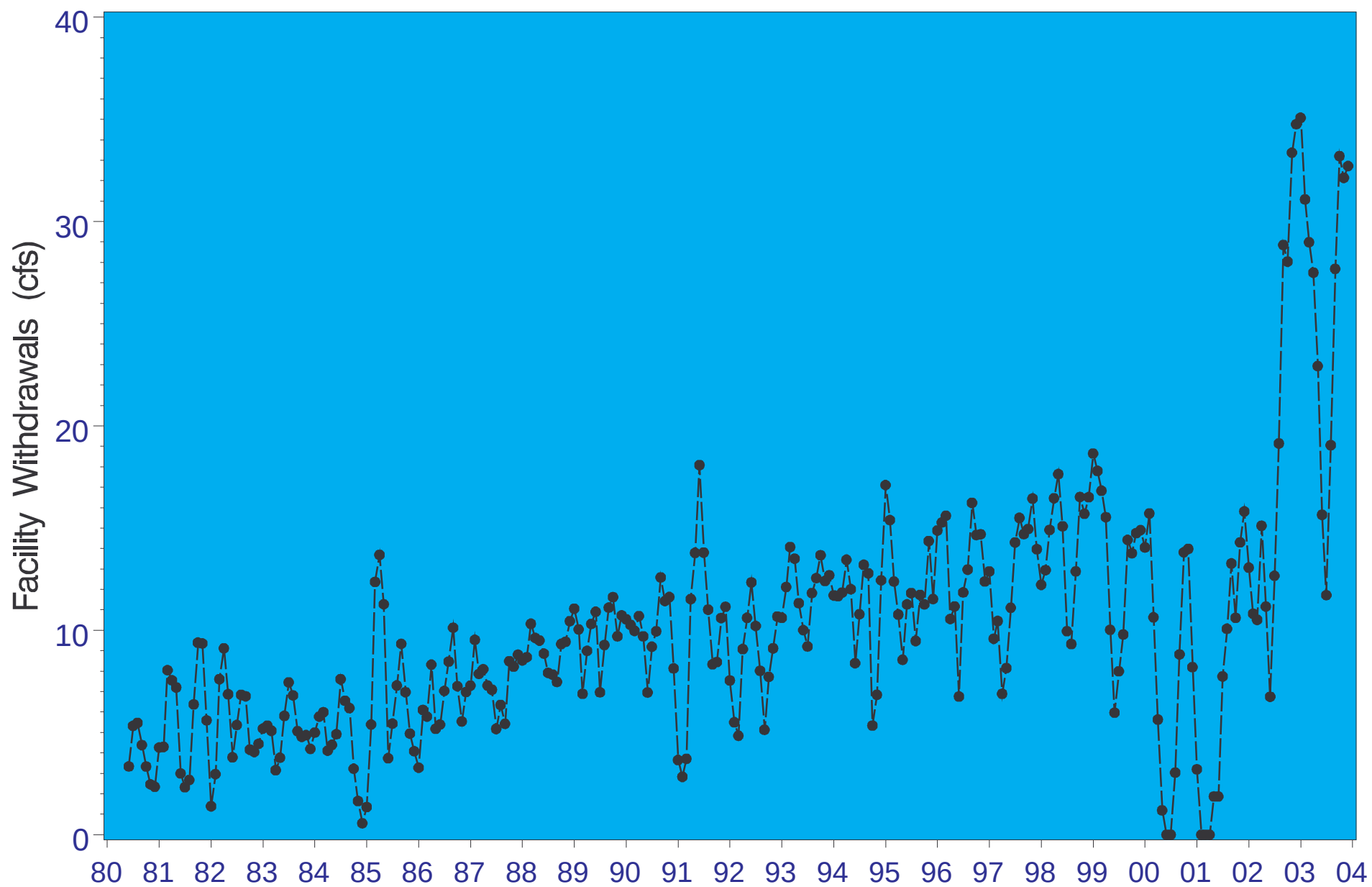


Figure 2.12 3-Month moving average water treatment facility withdrawals (1980-2003)

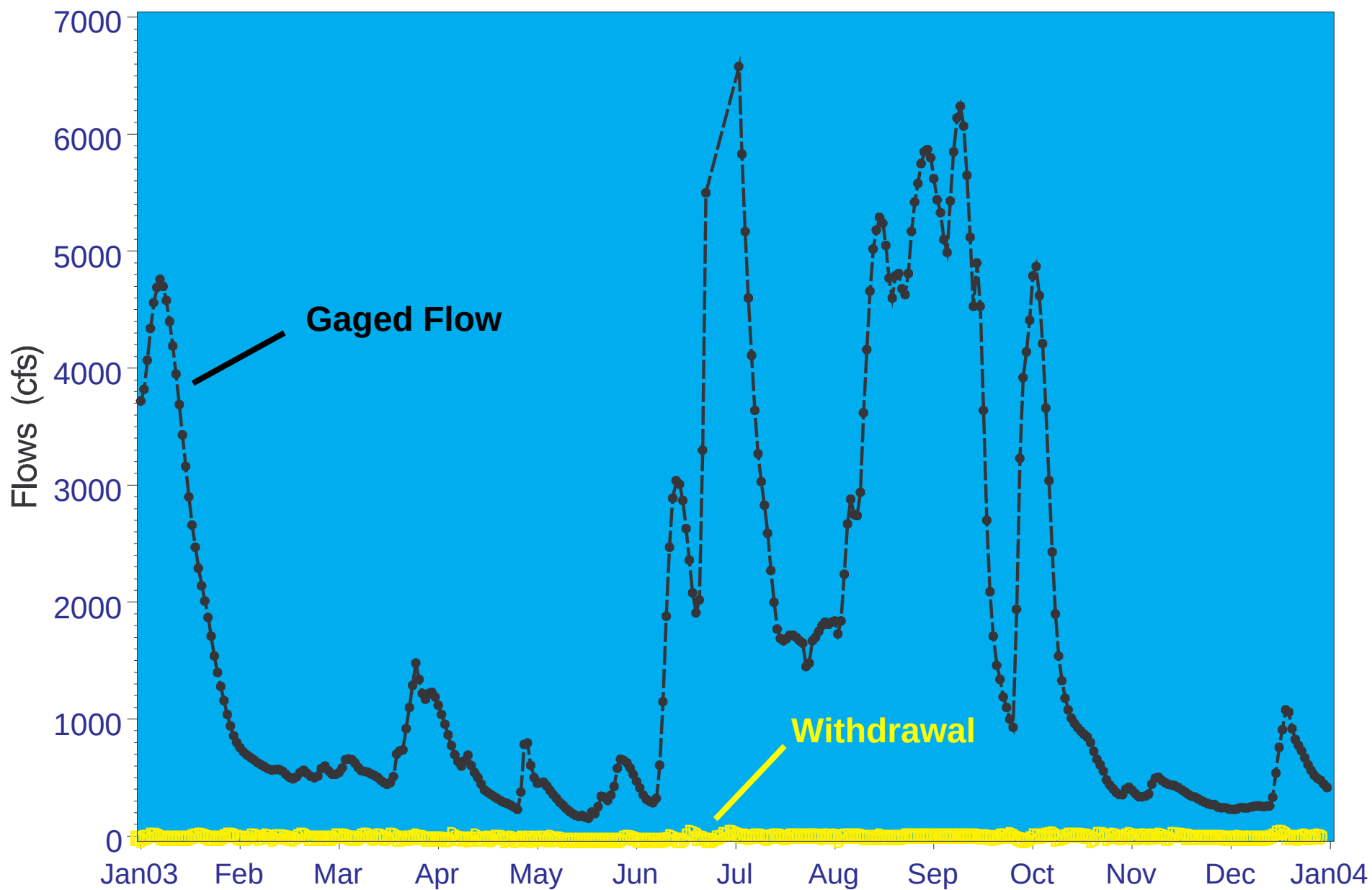


Figure 2.13 Peace River flows at Arcadia and water treatment facility withdrawals (2003)

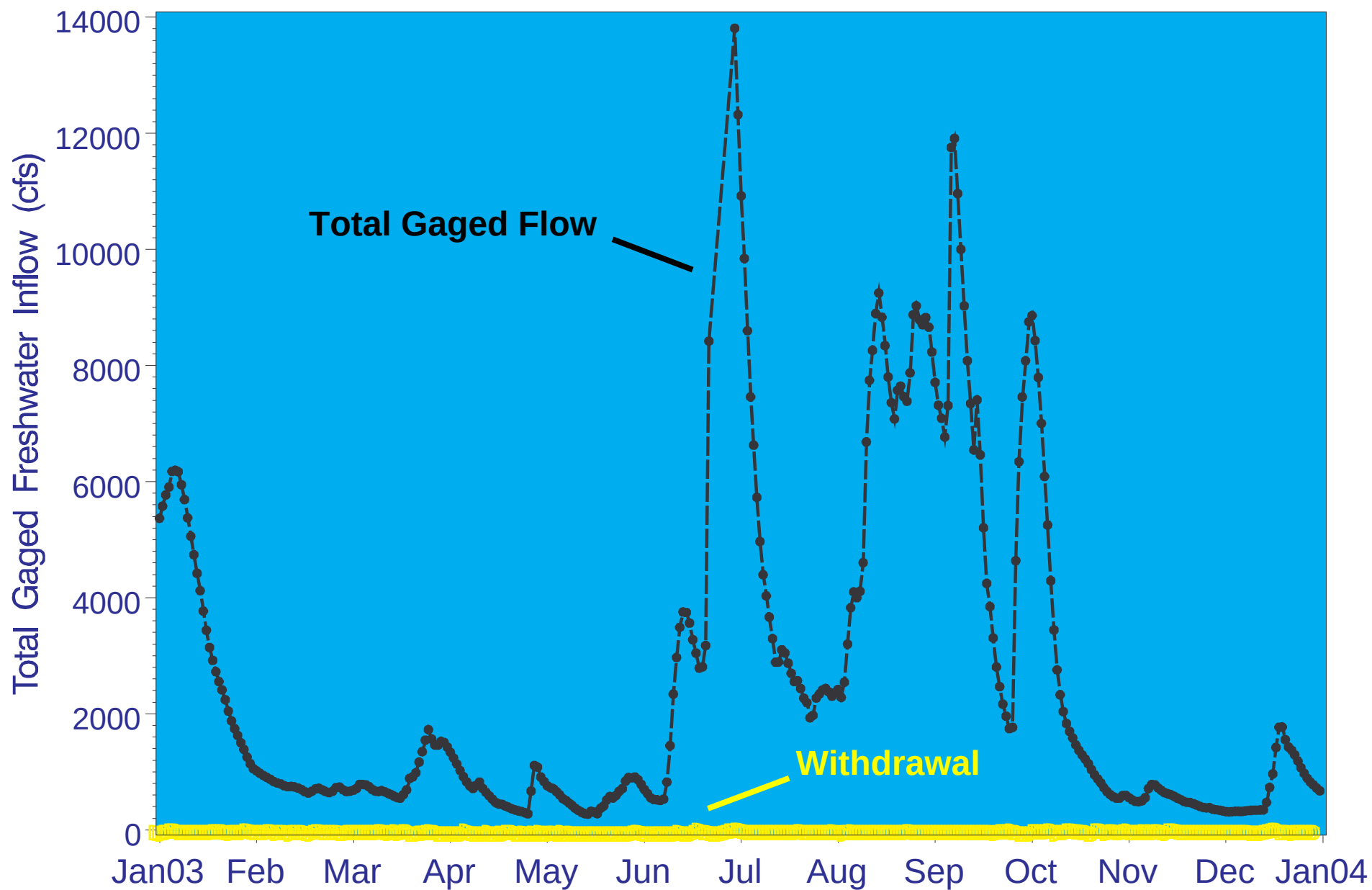


Figure 2.14 Total flow - Peace River + Horse + Joshua + Shell Creeks and Withdrawal

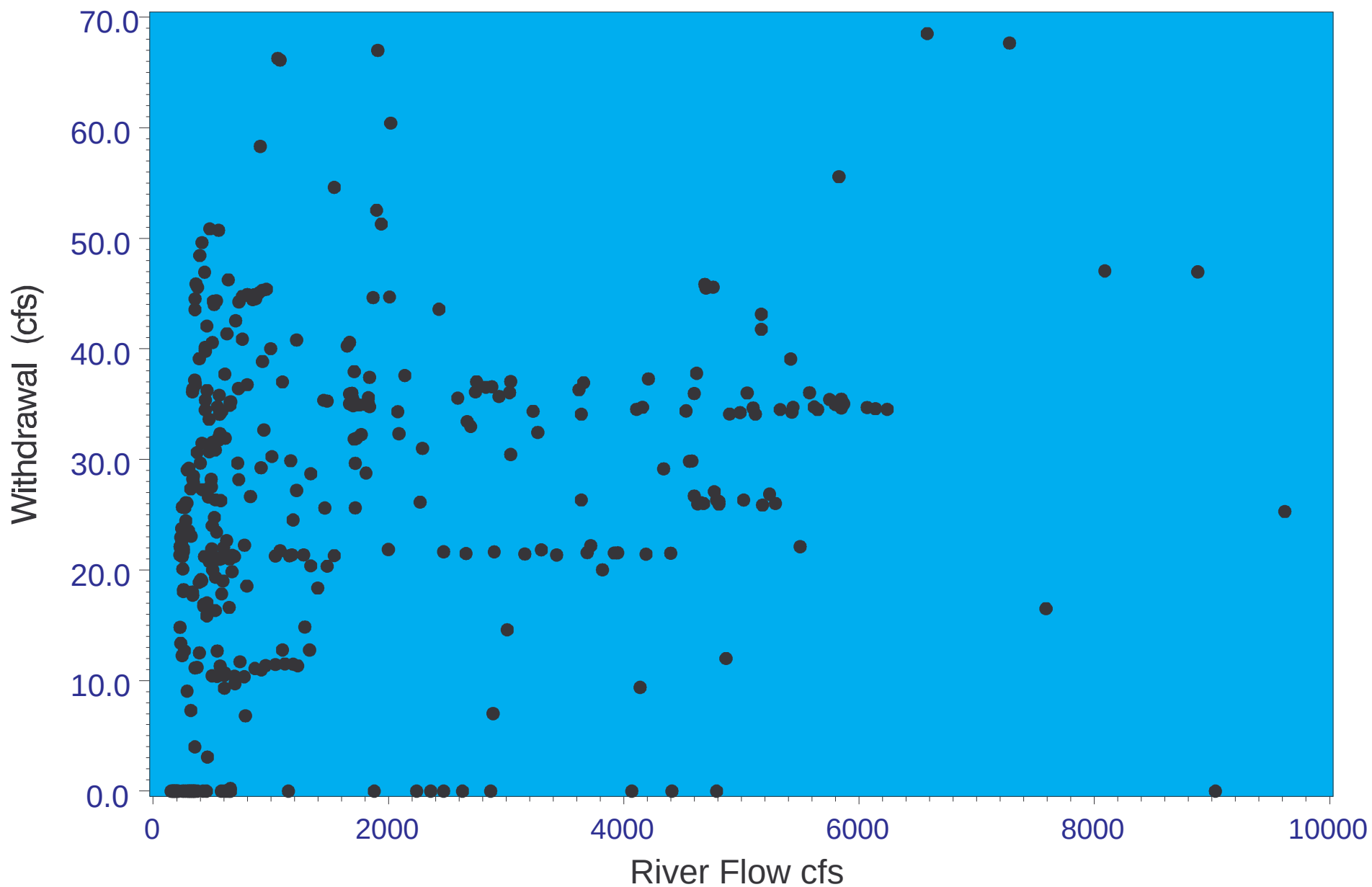


Figure 2.15 Peace River flows at Arcadia vs. water treatment facility withdrawals (2003)

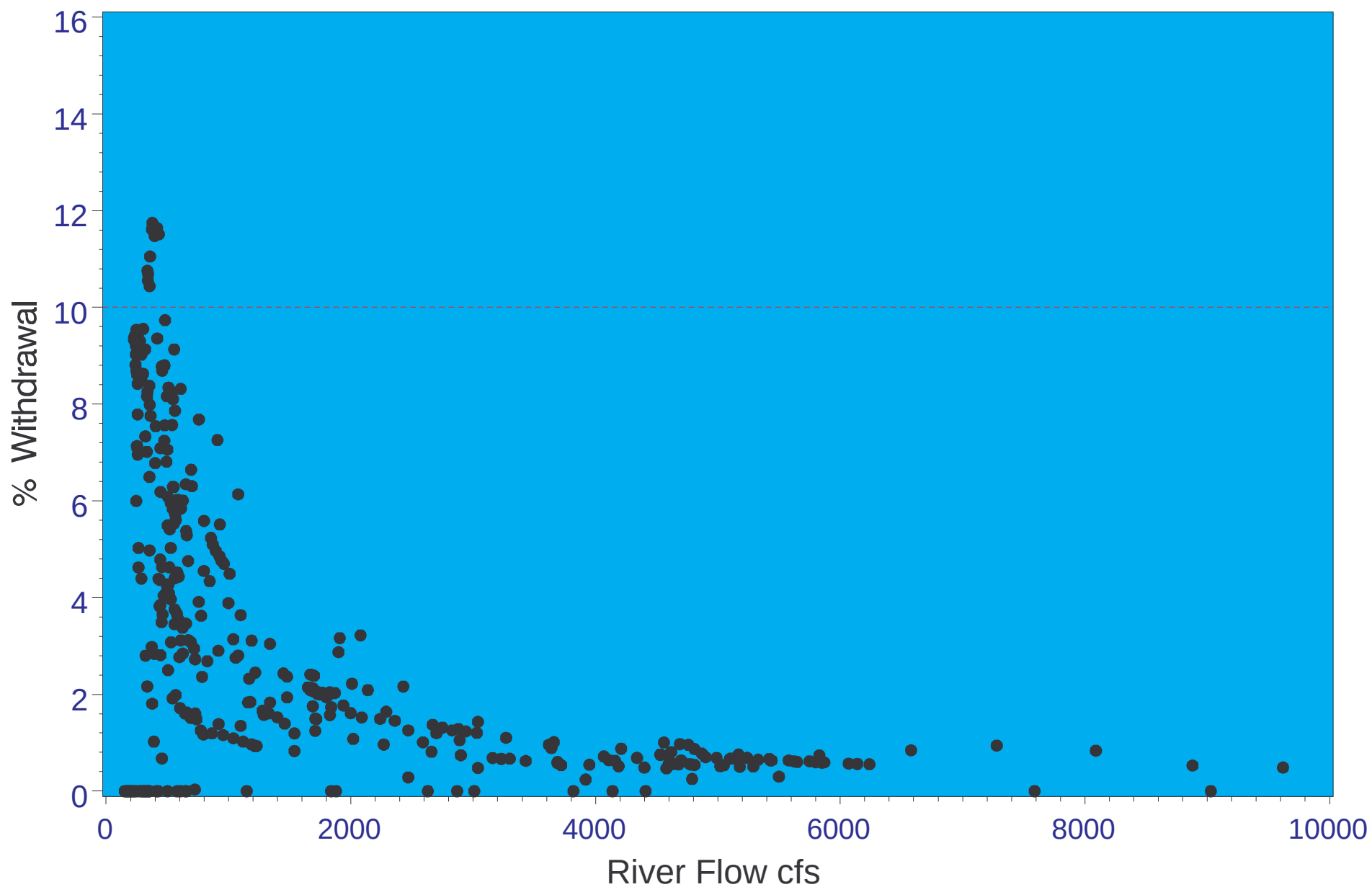
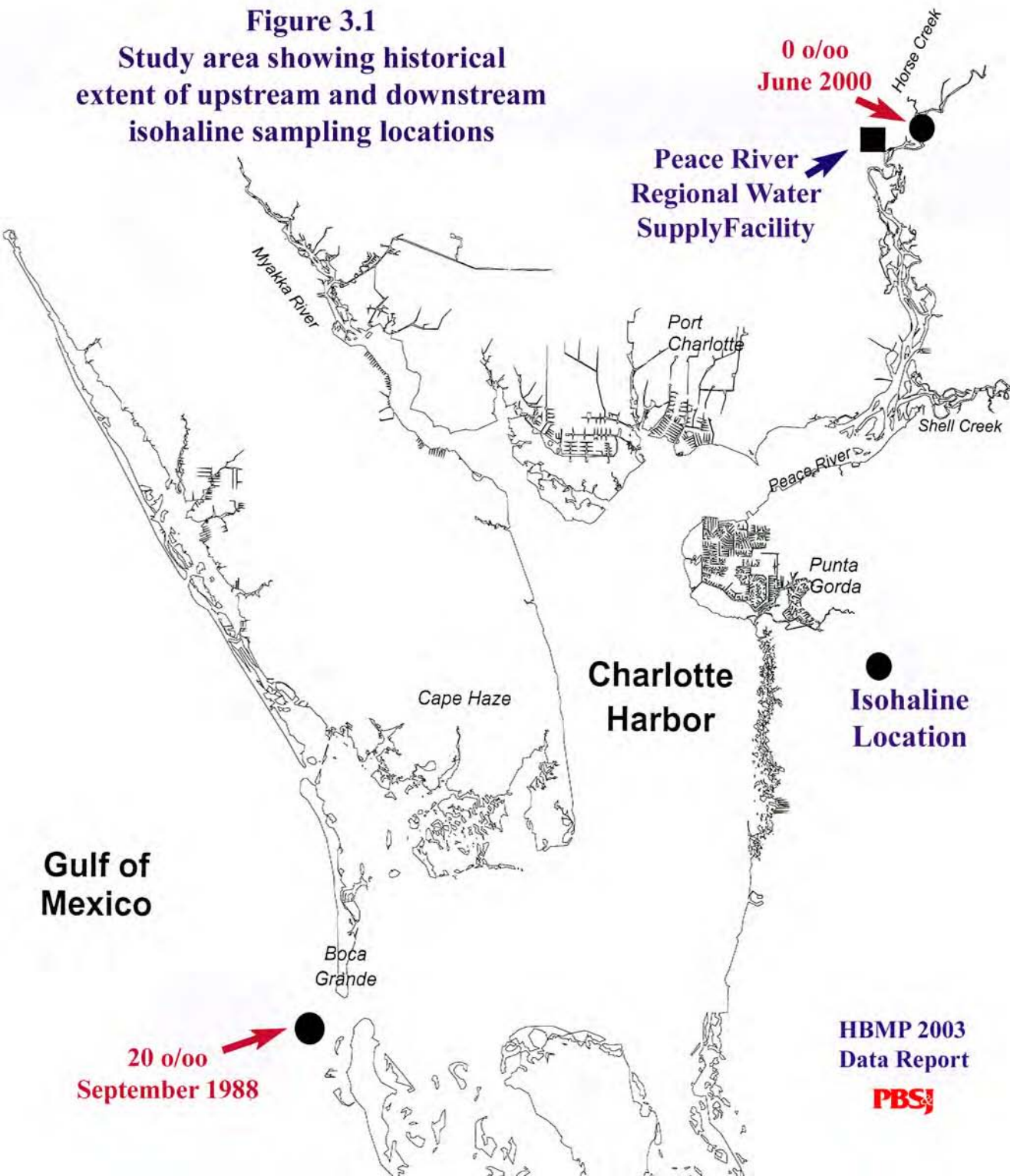


Figure 2.16 Peace River flows at Arcadia vs. % water treatment facility withdrawals (2003)

Figure 3.1
Study area showing historical
extent of upstream and downstream
isohaline sampling locations



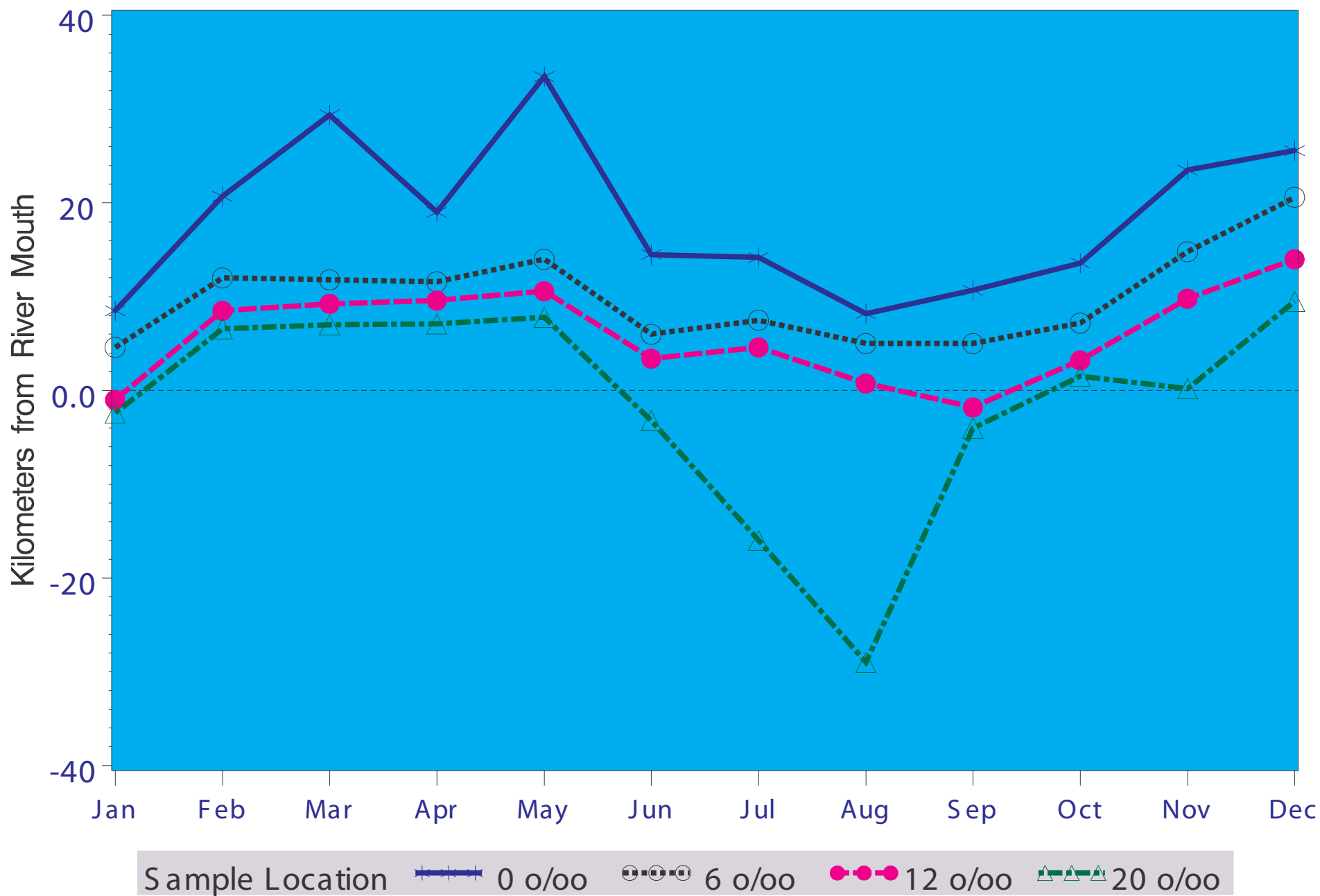


Figure 3.2 Relative distance (km) from the mouth of the river (2003)

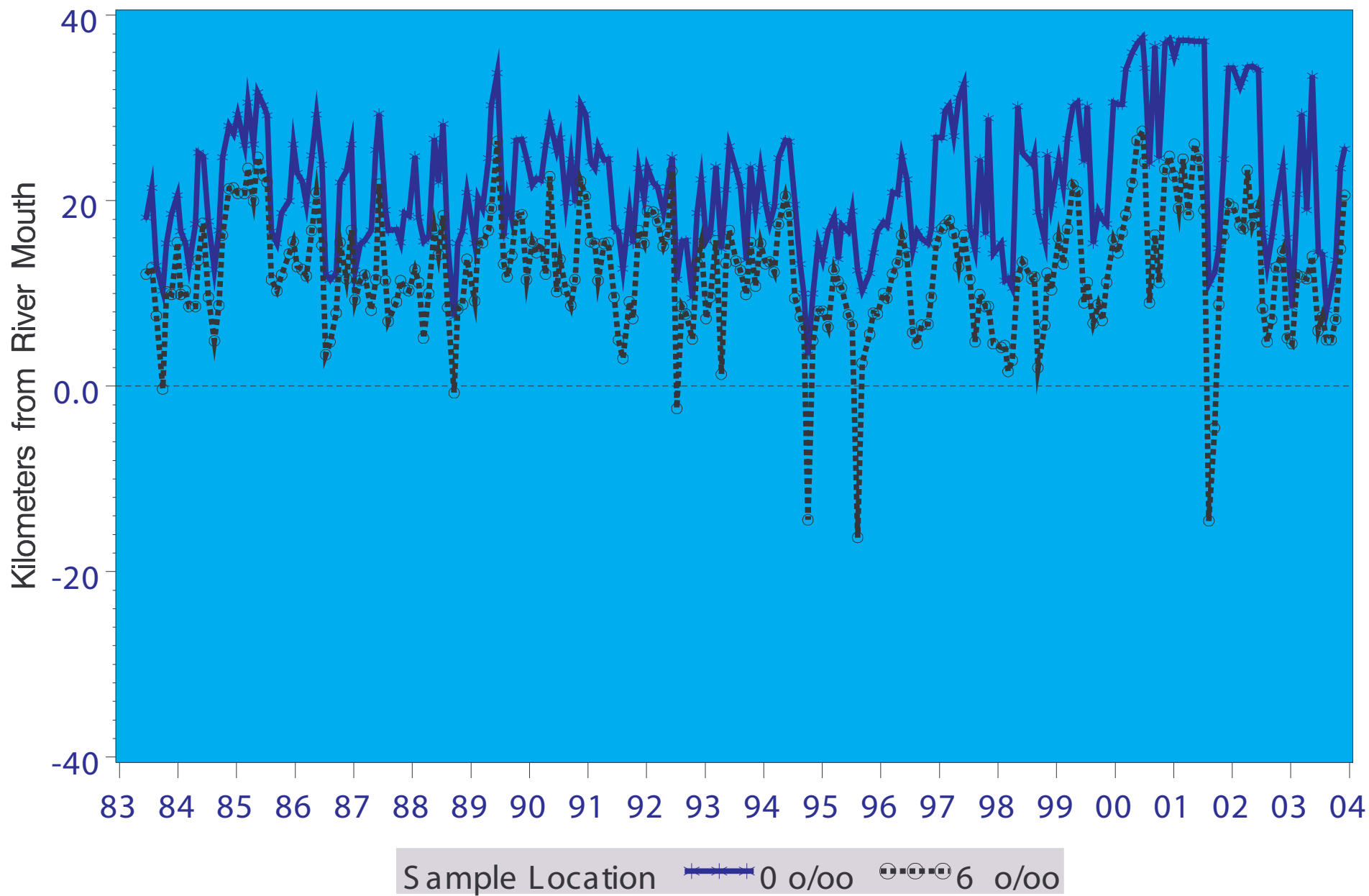


Figure 3.3 Relative distance (km) from the mouth of the river of 0 and 6 ppt salinity sampling zones (1983-2003)

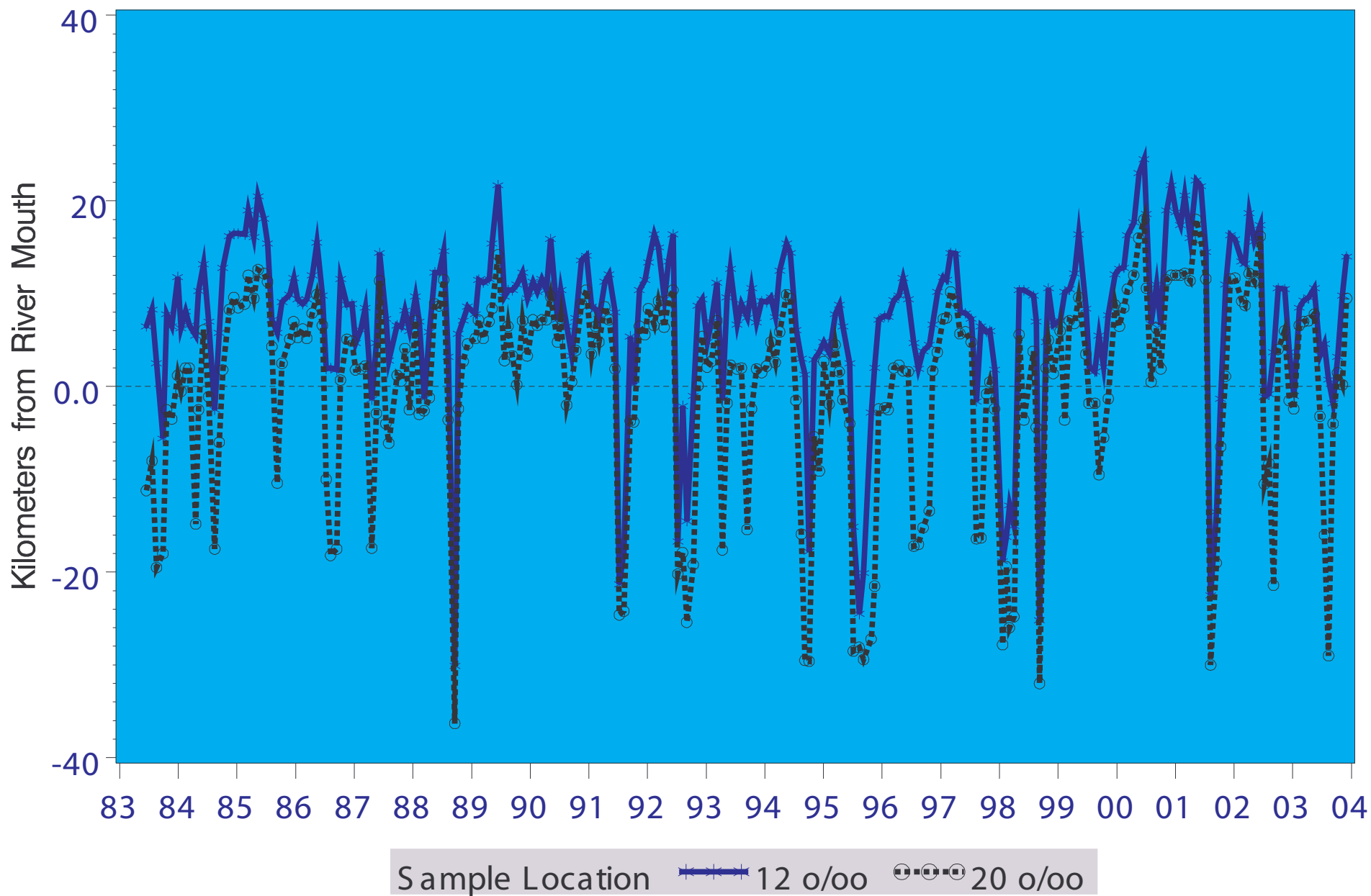


Figure 3.4 Relative distance (km) from the mouth of the river of 12 and 20 ppt salinity sampling zones (1983-2003)

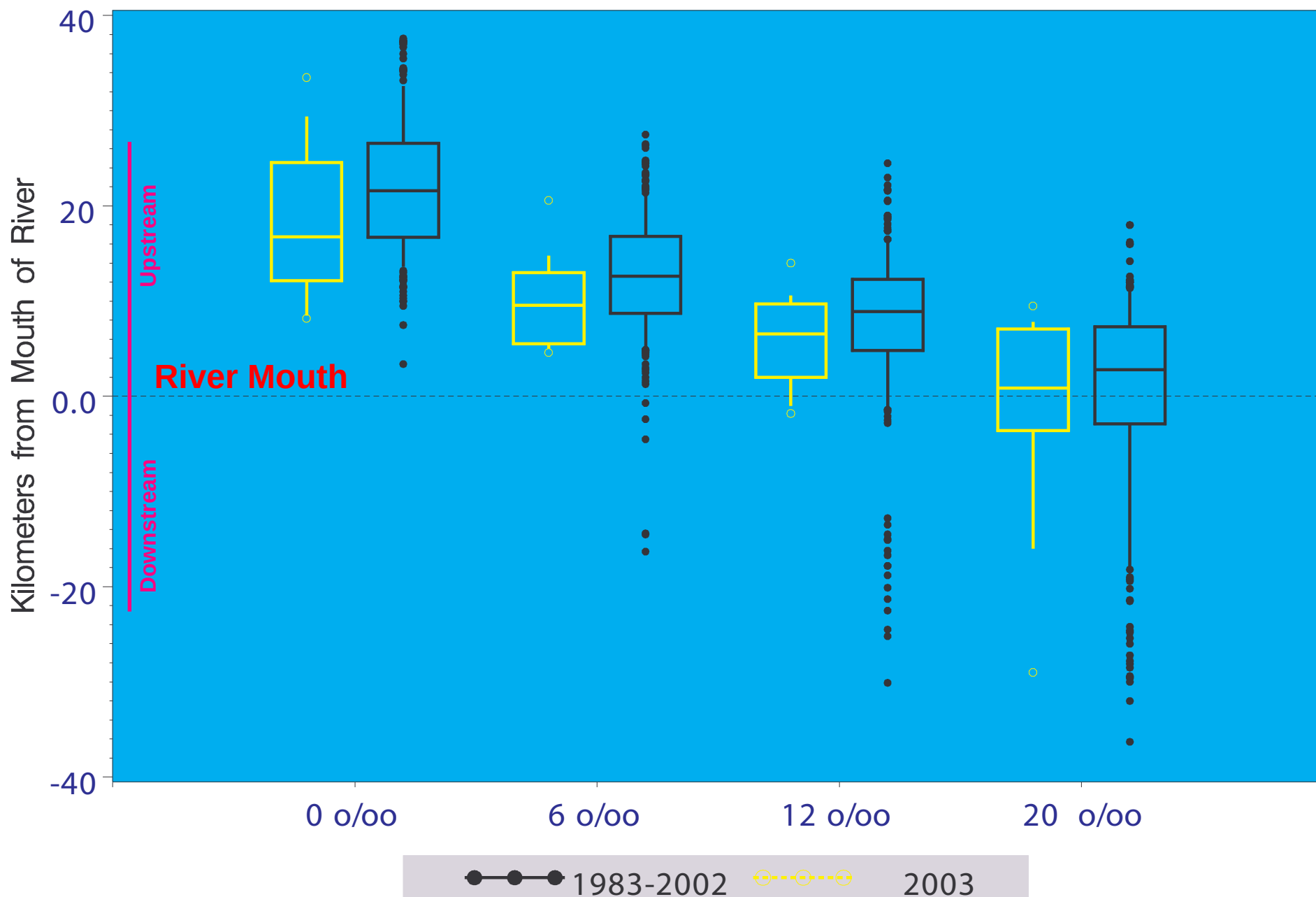


Figure 3.5 Box & whiskers of distance (km) of salinity zones from the mouth of the river

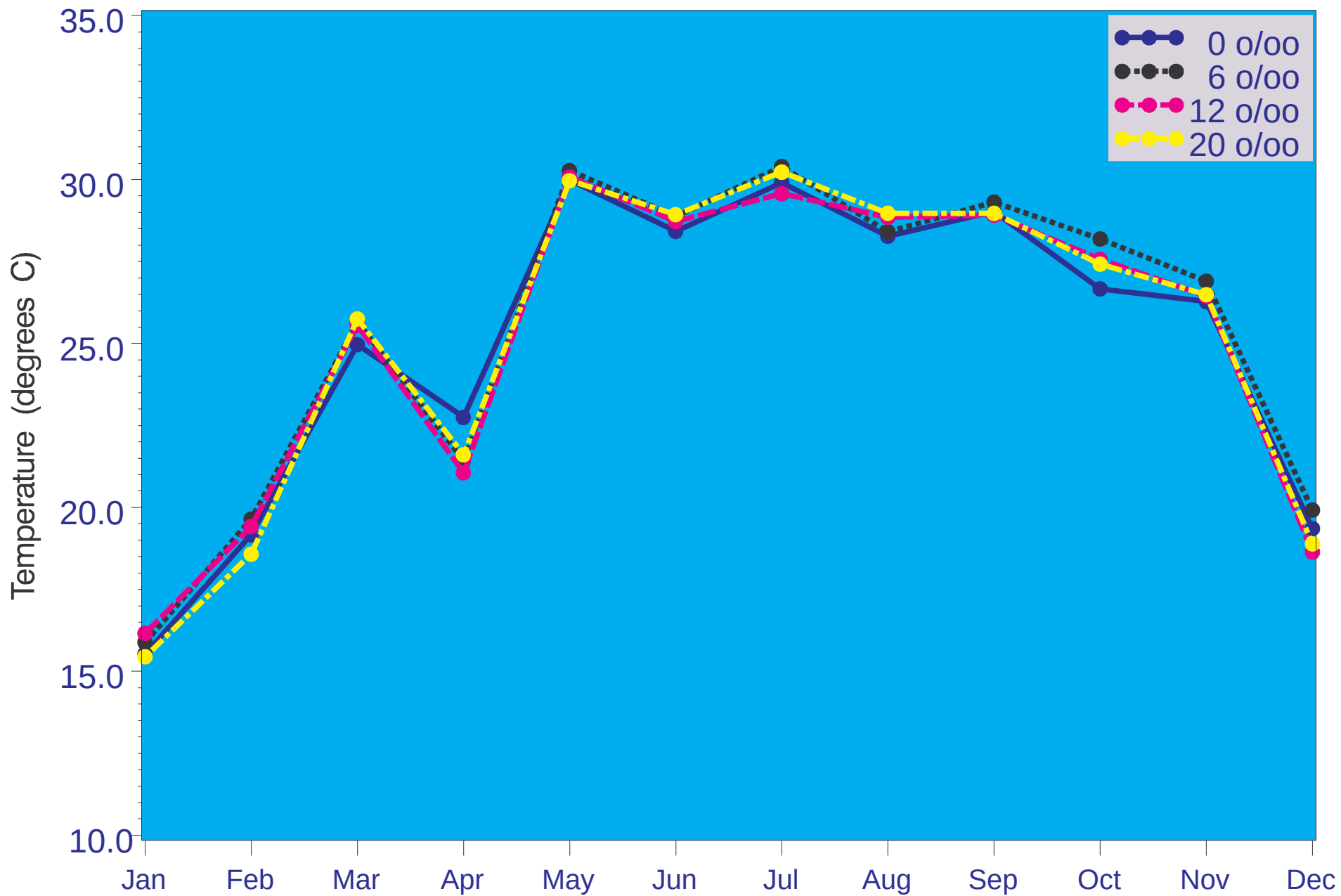


Figure 3.6 Temperature at each of the four salinity based sampling zones (2003)

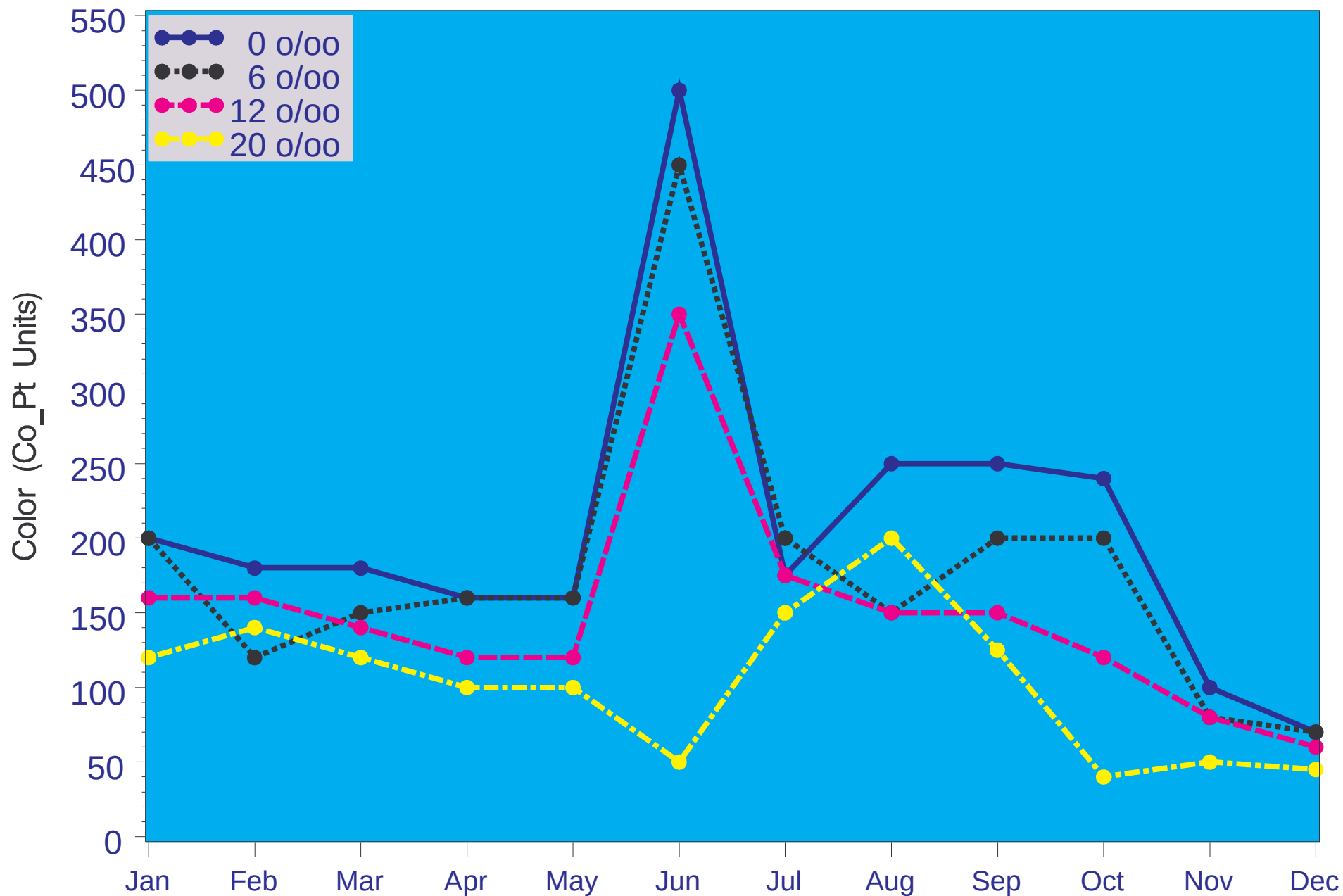


Figure 3.7 Color at each of the four salinity based sampling zones (2003)

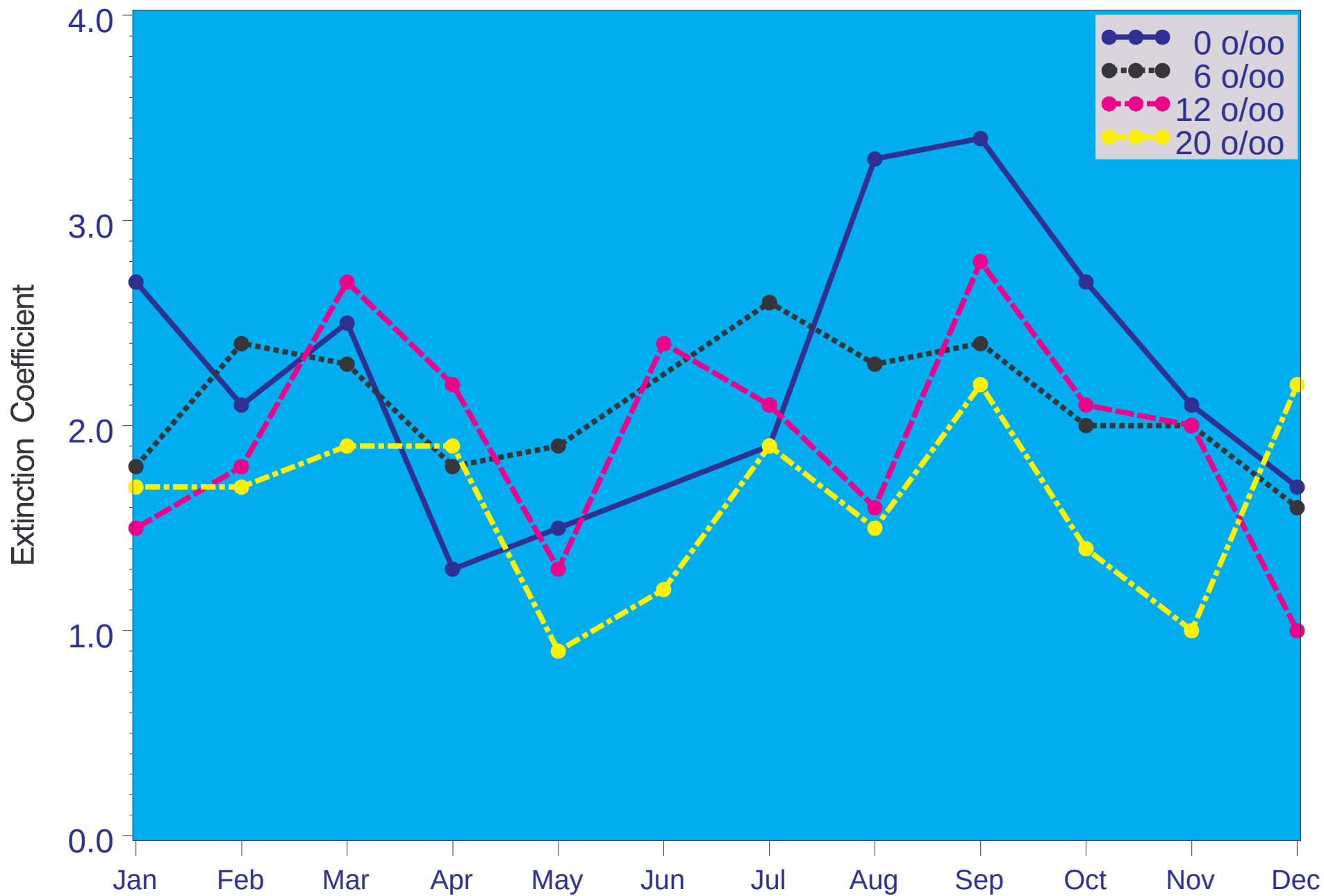


Figure 3.8 Extinction coefficient at each of the salinity based sampling zones (2003)

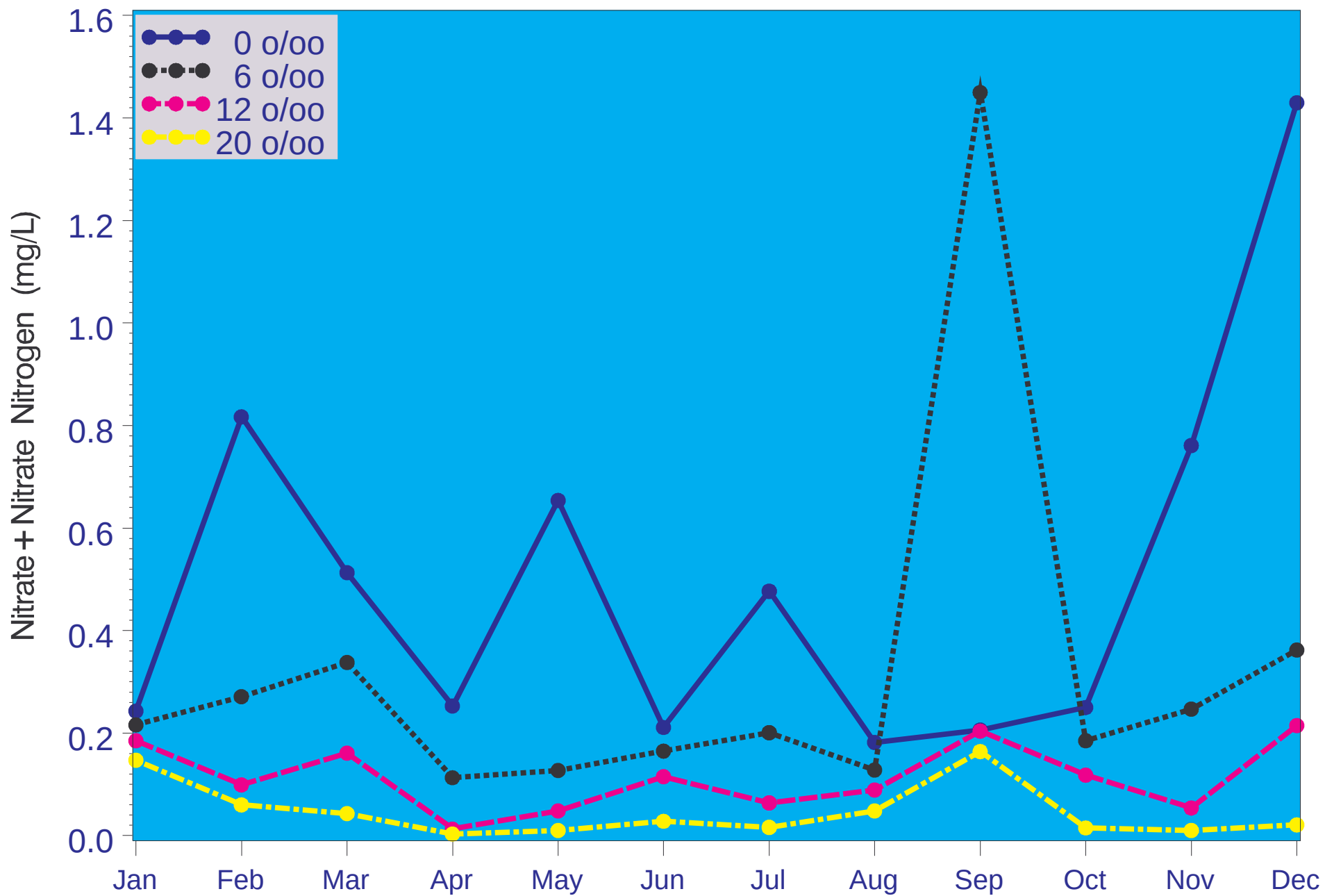


Figure 3.9 Nitrite+nitrate nitrogen at each of the four salinity based sampling zones (2003)

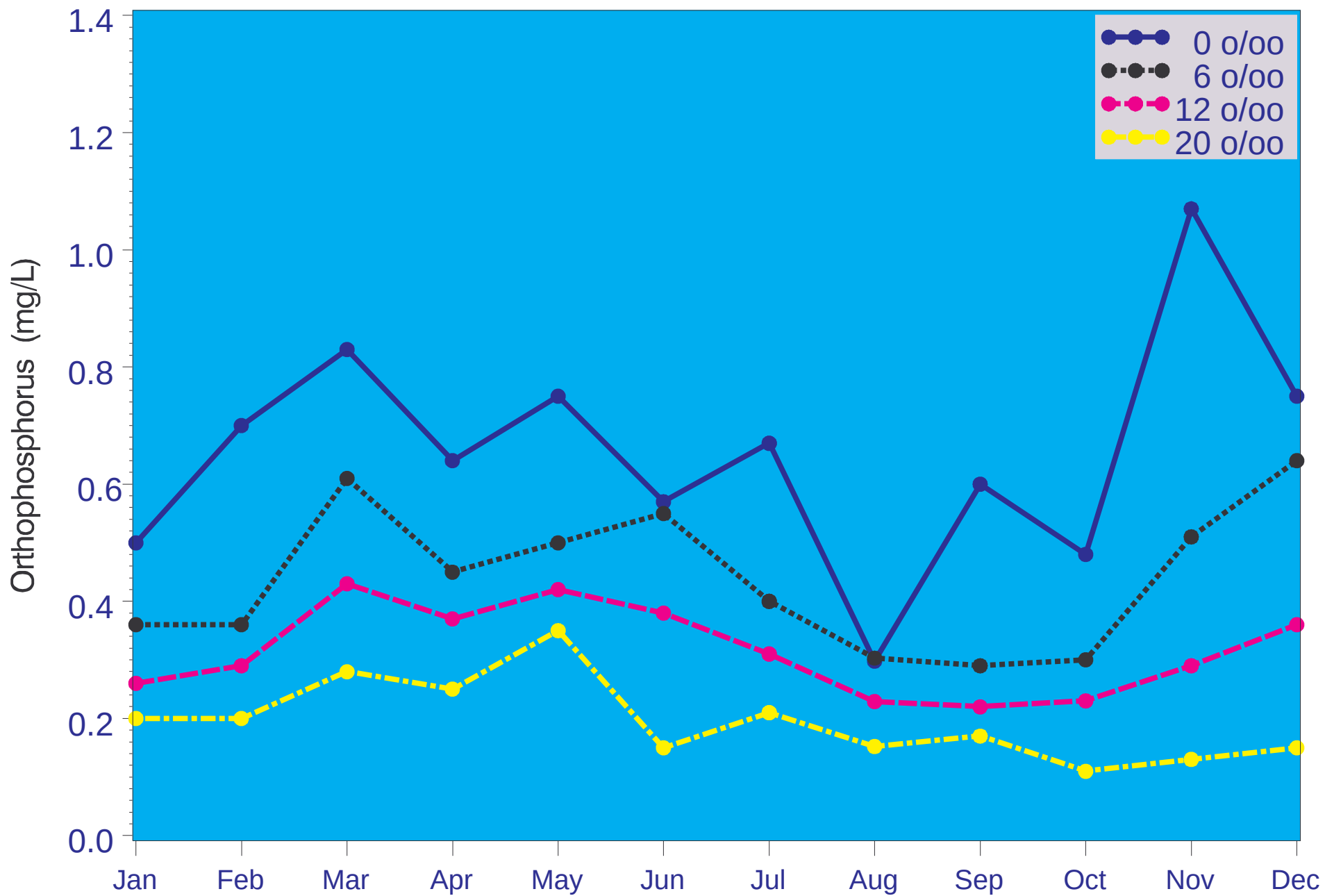


Figure 3.10 Orthophosphorus at each of the four salinity based sampling zones (2003)

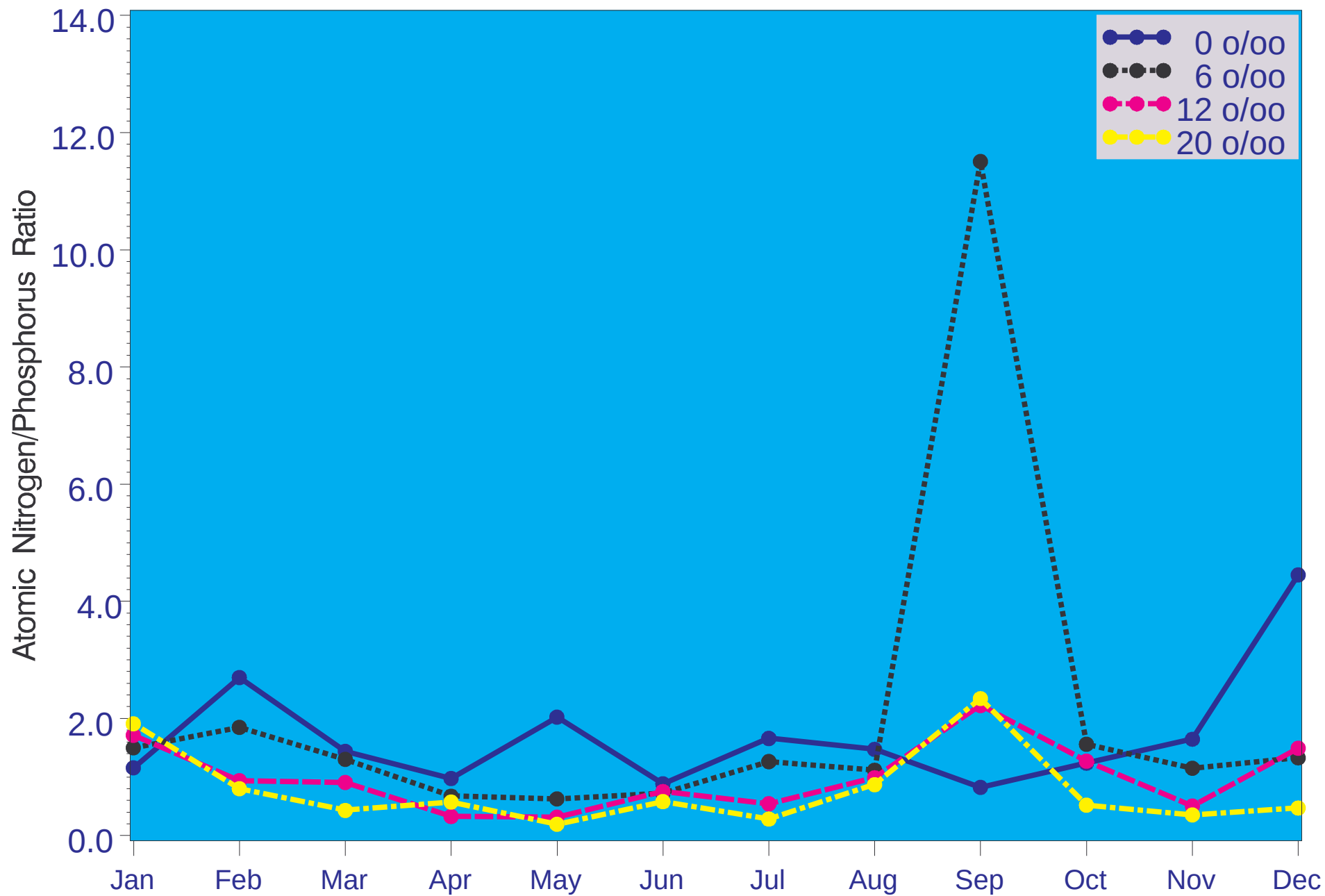


Figure 3.11 Atomic N/P ratio at each of the four salinity based sampling zones (2003)

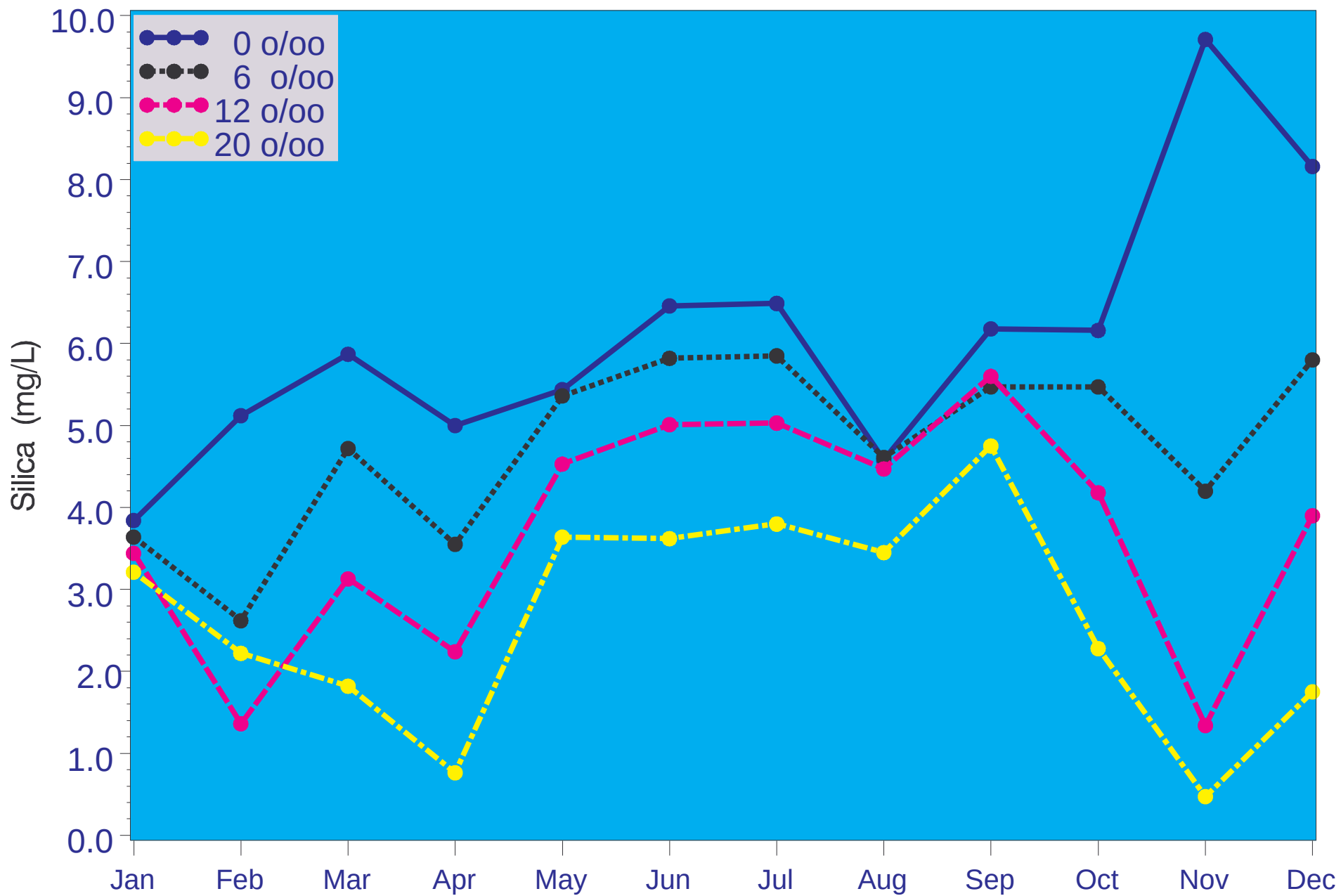


Figure 3.12 Silica at each of the four salinity based sampling zones (2003)

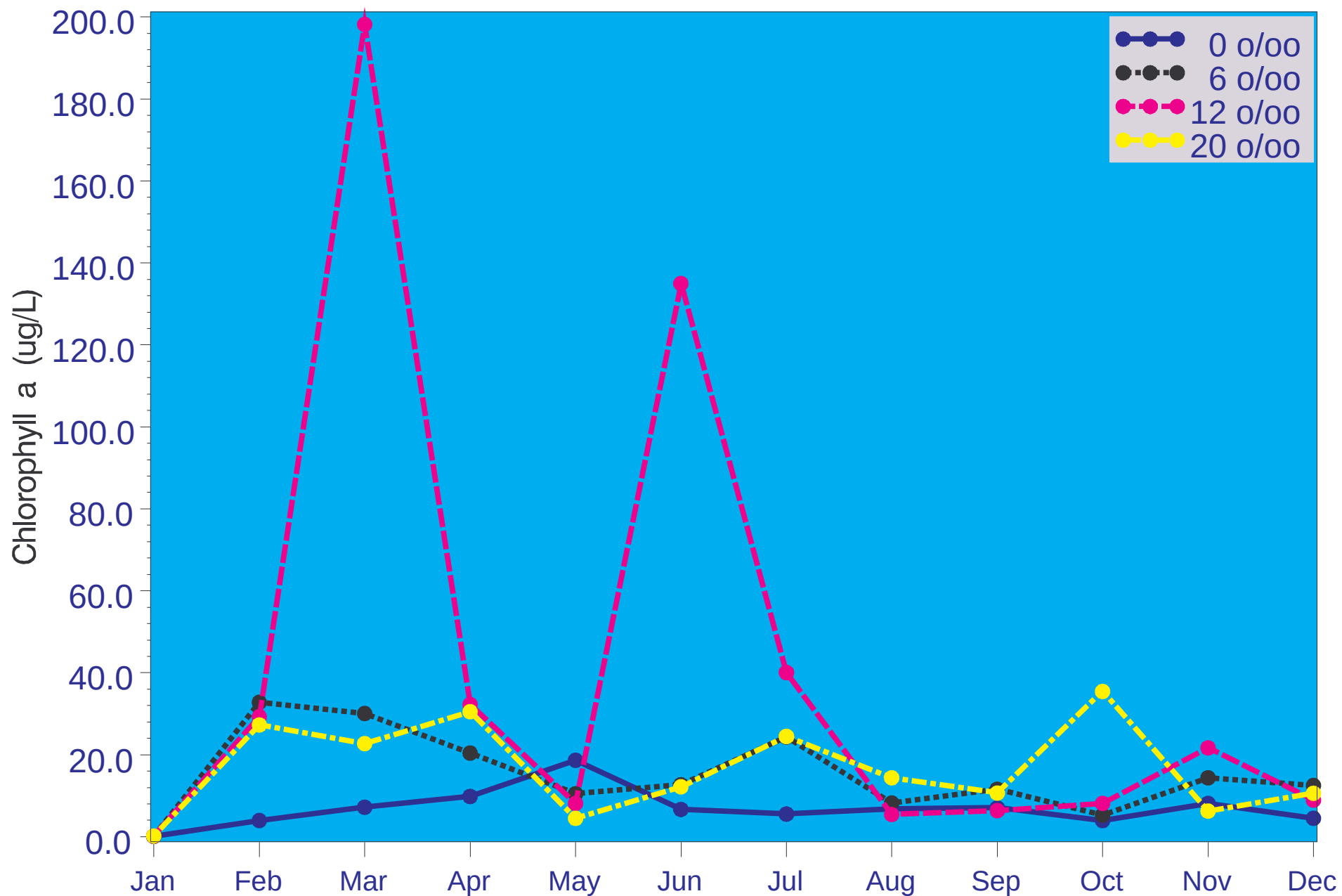


Figure 3.13 Chlorophyll a at each of the four salinity based sampling zones (2003)

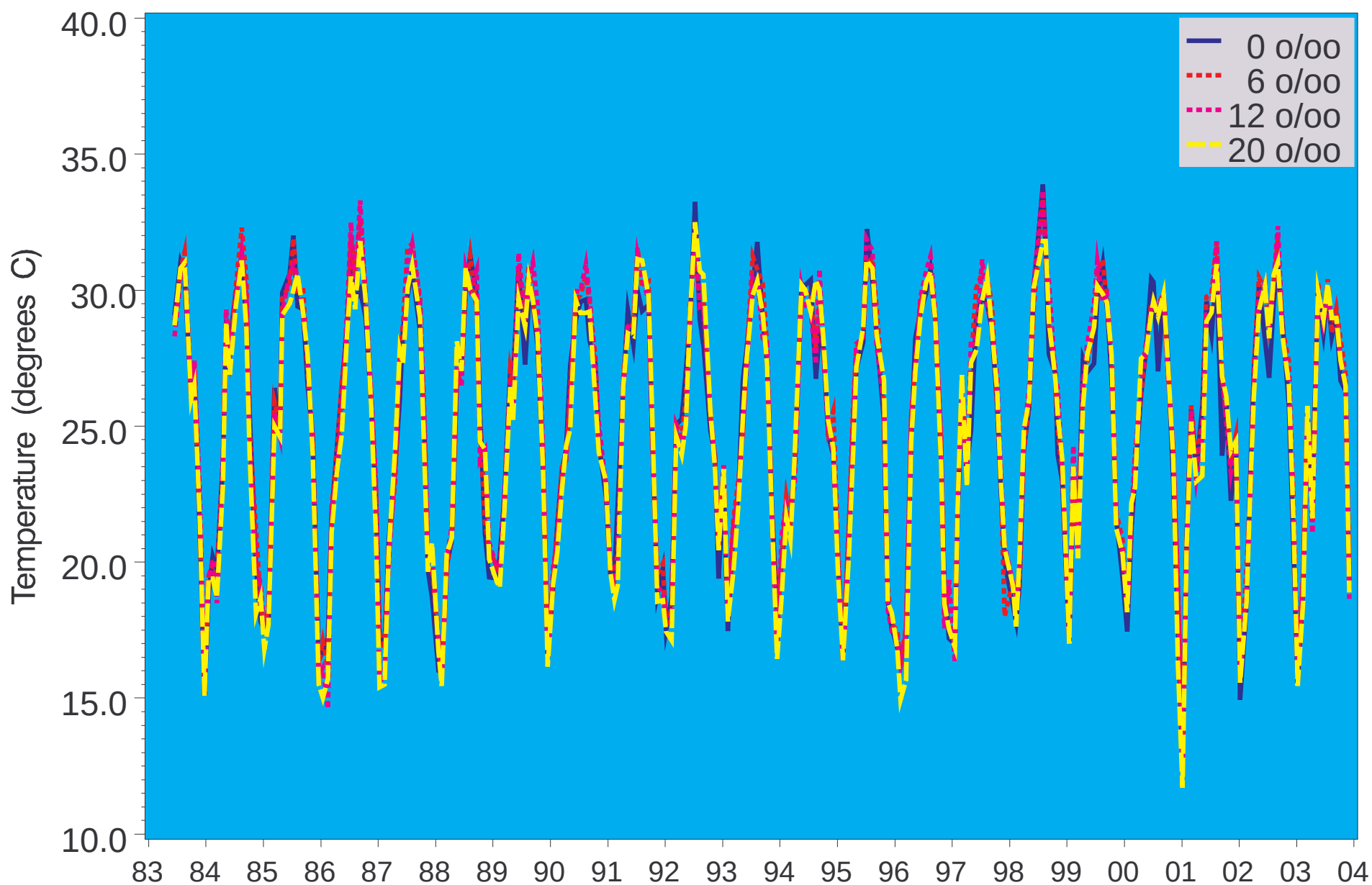


Figure 3.14 Temperature at each isohaline based sampling zone (1983-2003)

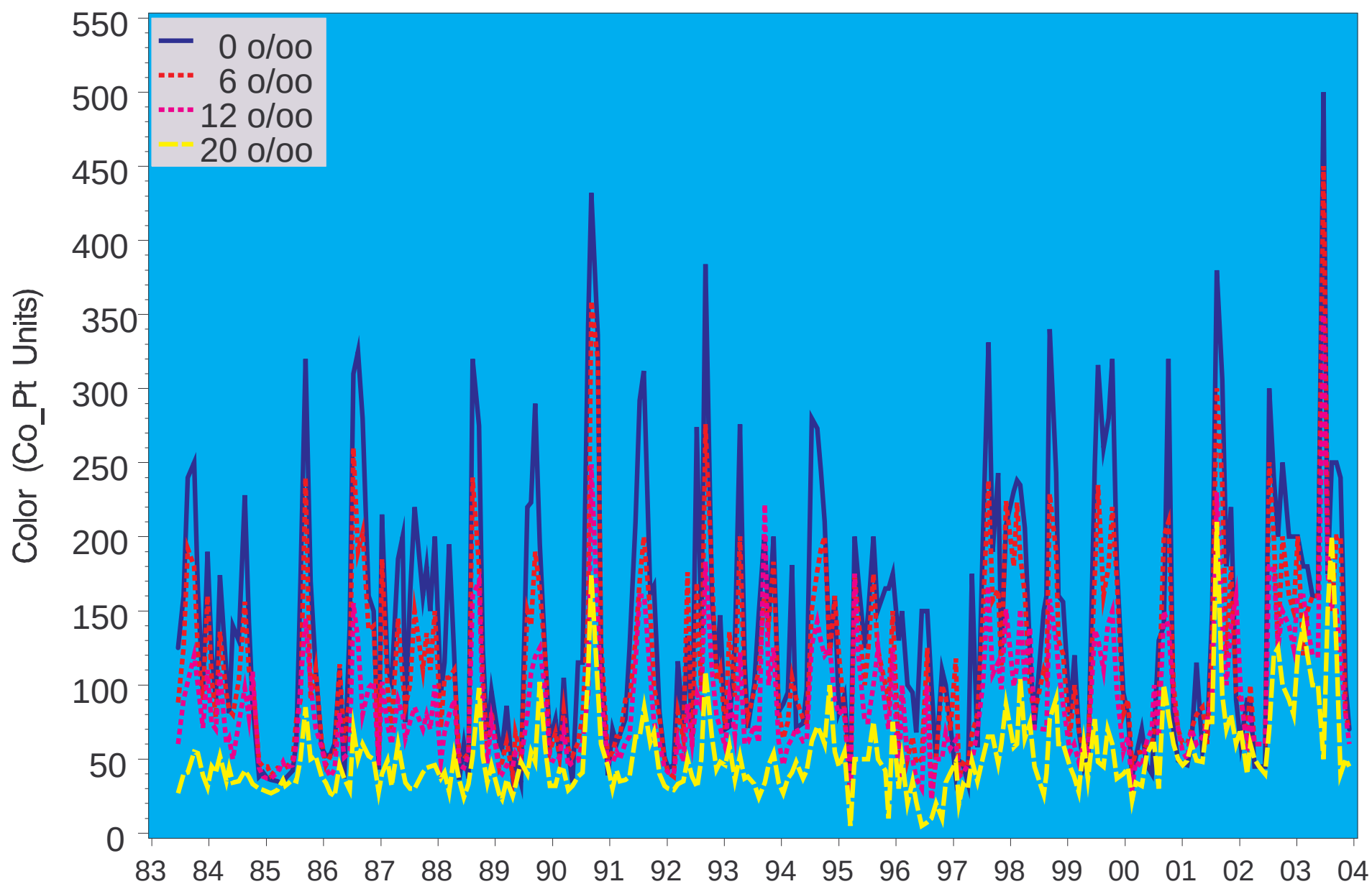


Figure 3.15 Color at each isohaline based sampling zone (1983-2003)

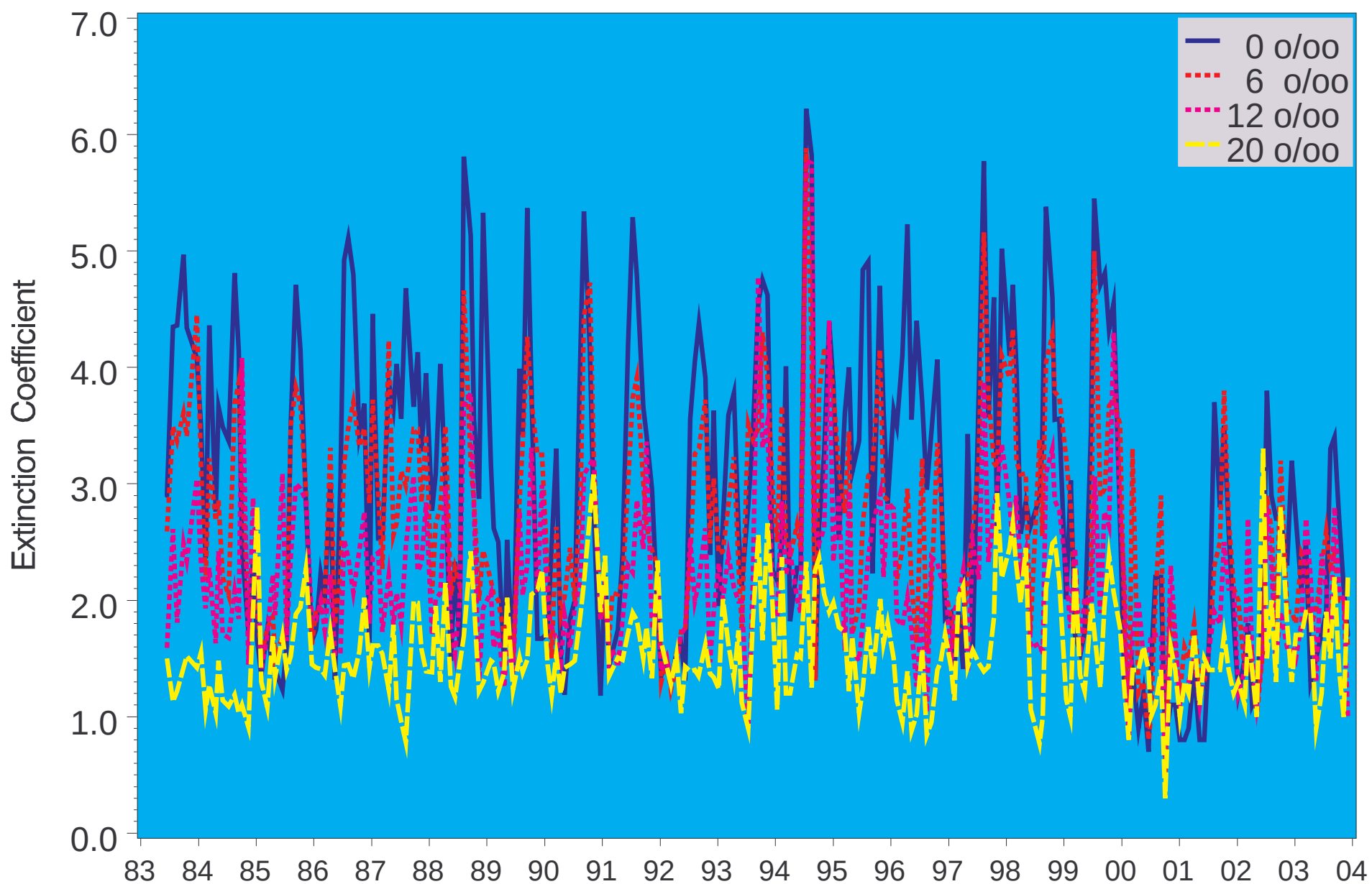


Figure 3.16 Extinction coefficient at each isohaline based sampling zone (1983-2003)

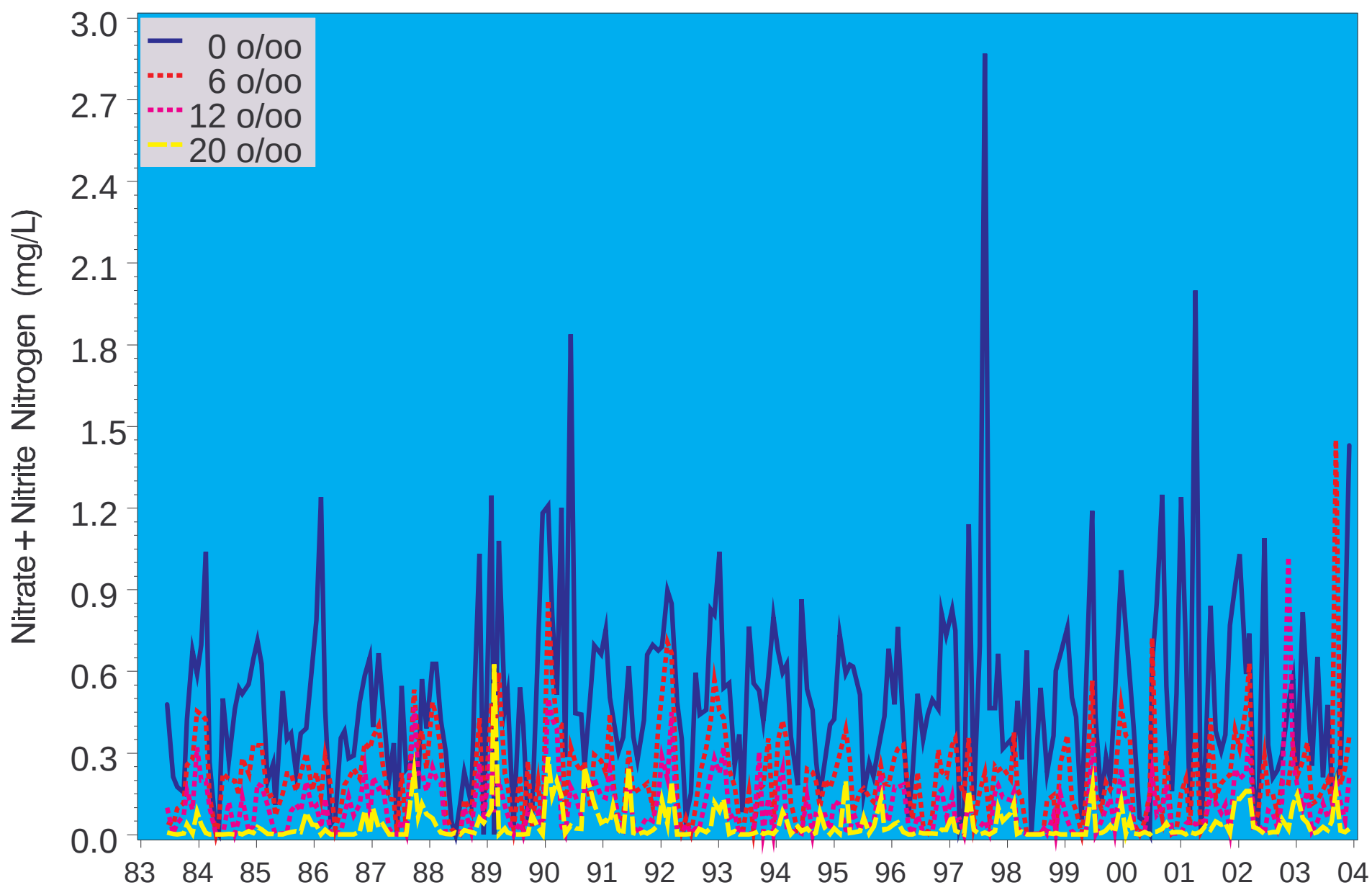


Figure 3.17 Nitrate/nitrite at each isohaline based sampling zone (1983-2003)

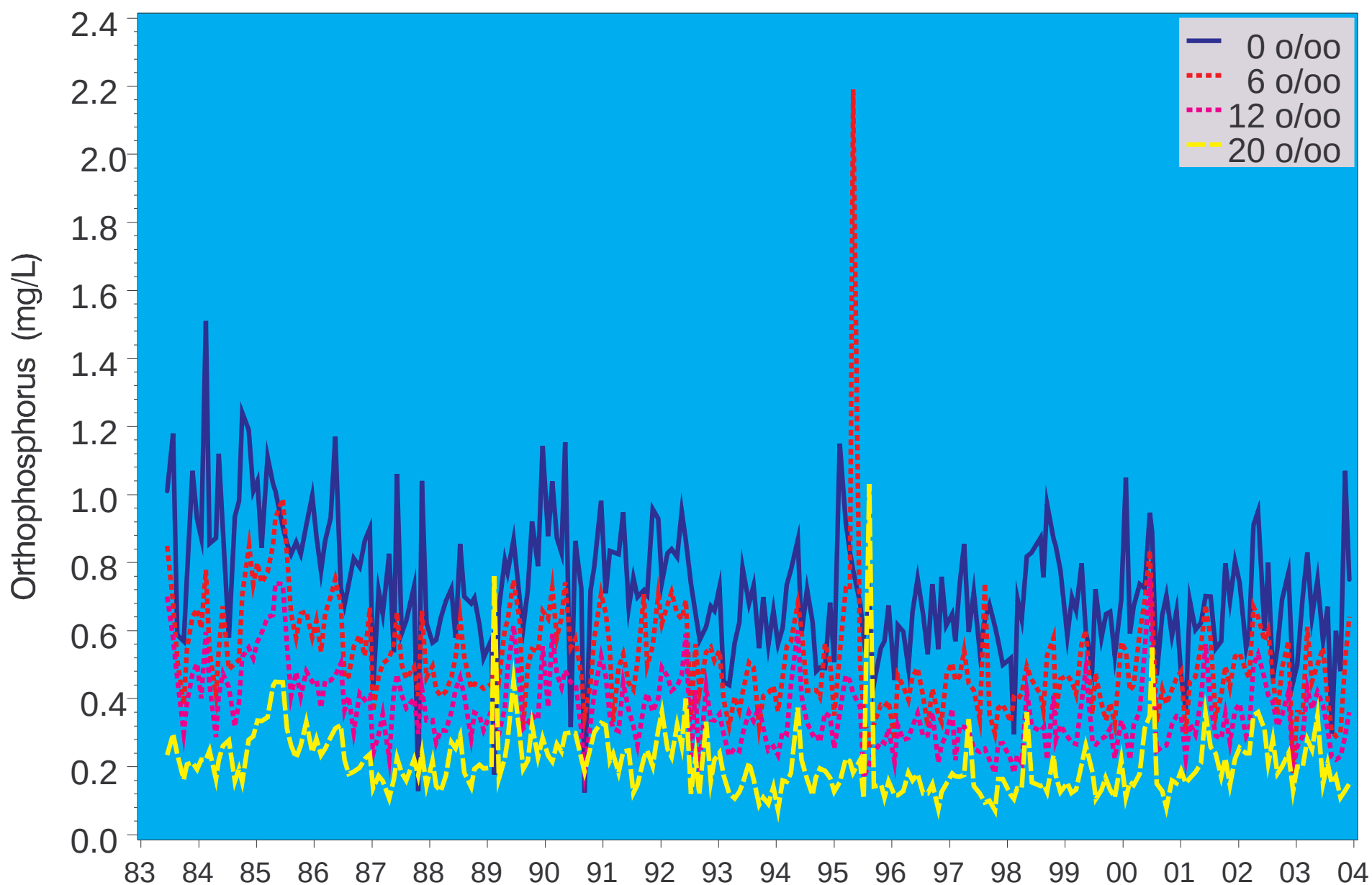


Figure 3.18 Orthophosphorus at each isohaline based sampling zone (1983-2003)

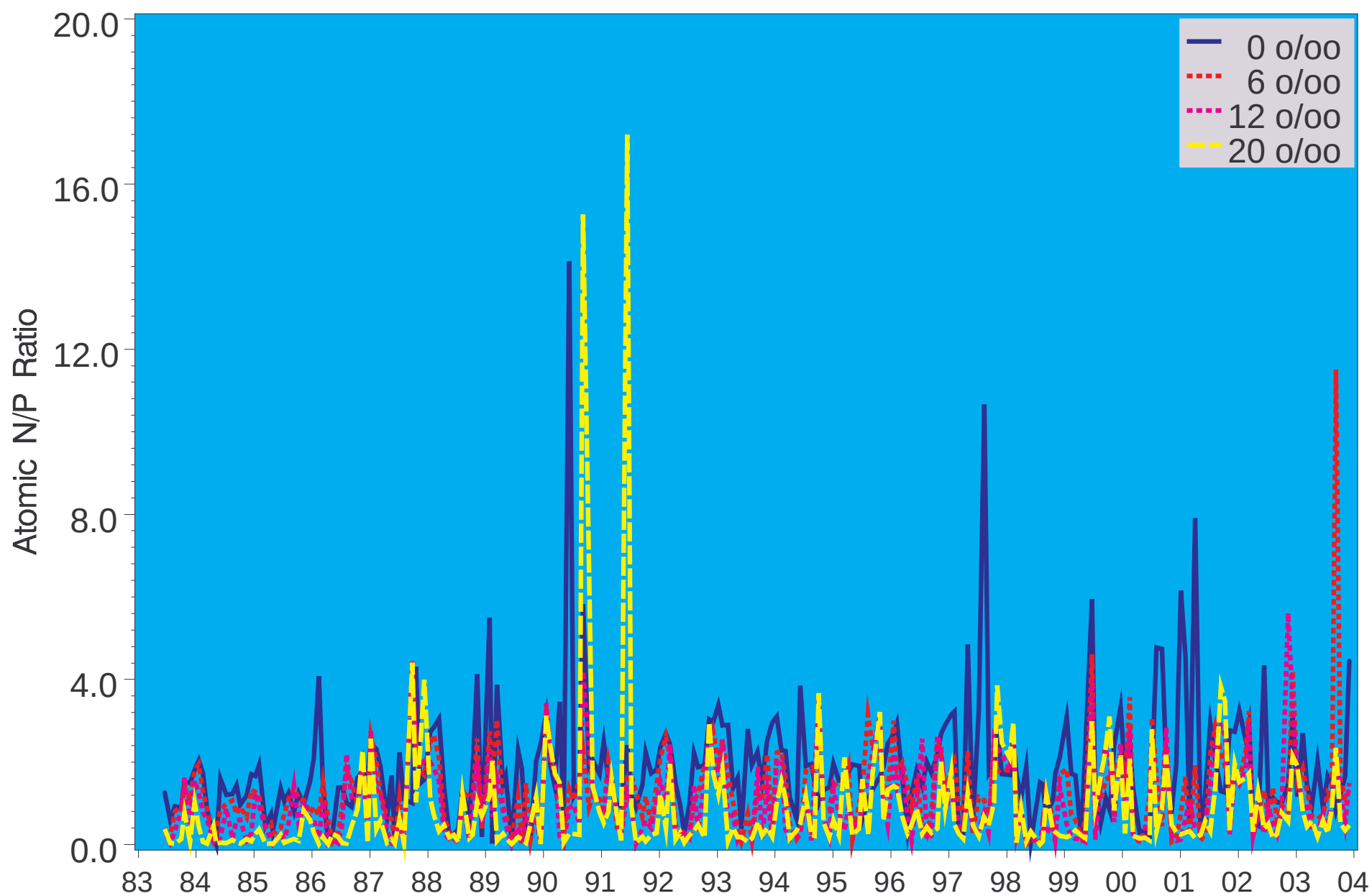


Figure 3.19 Atomic nitrogen/phosphorus ratio at each isohaline based sampling zone (1983-2003)

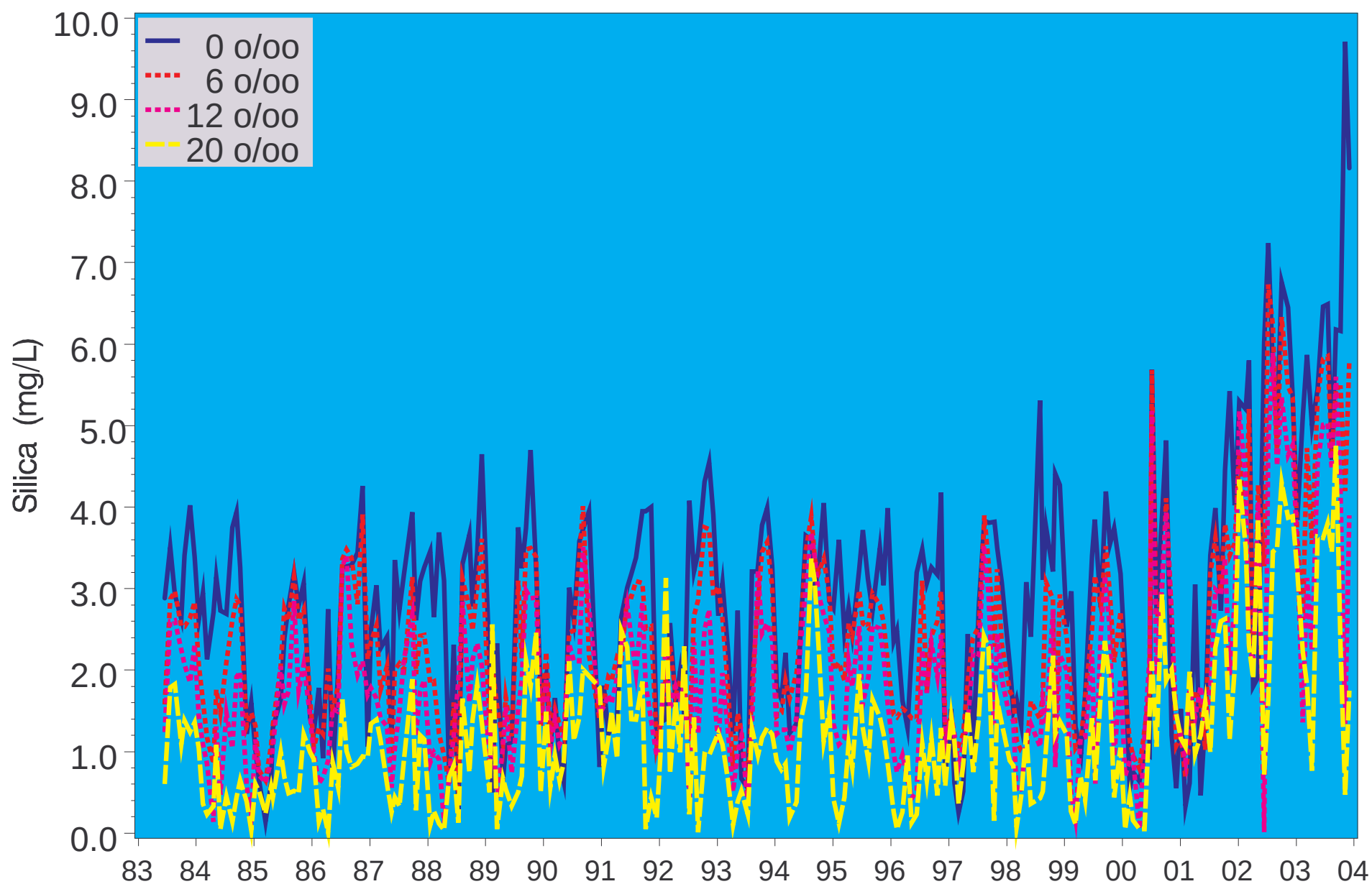


Figure 3.20 Silica at each isohaline based sampling zone (1983-2003)

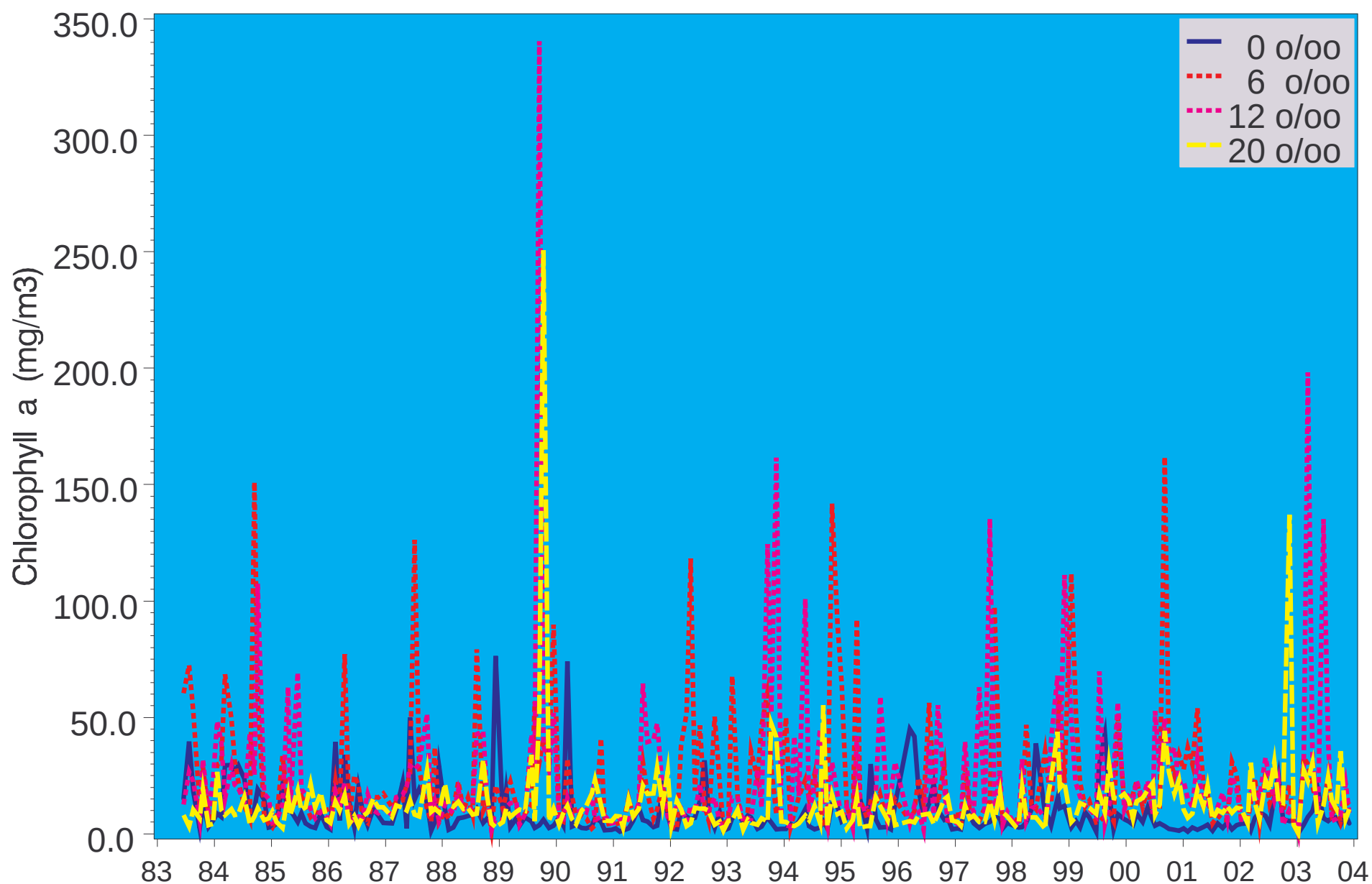


Figure 3.21 Chlorophyll a (mg/m3) at each isohaline based sampling zone (1983-2003)

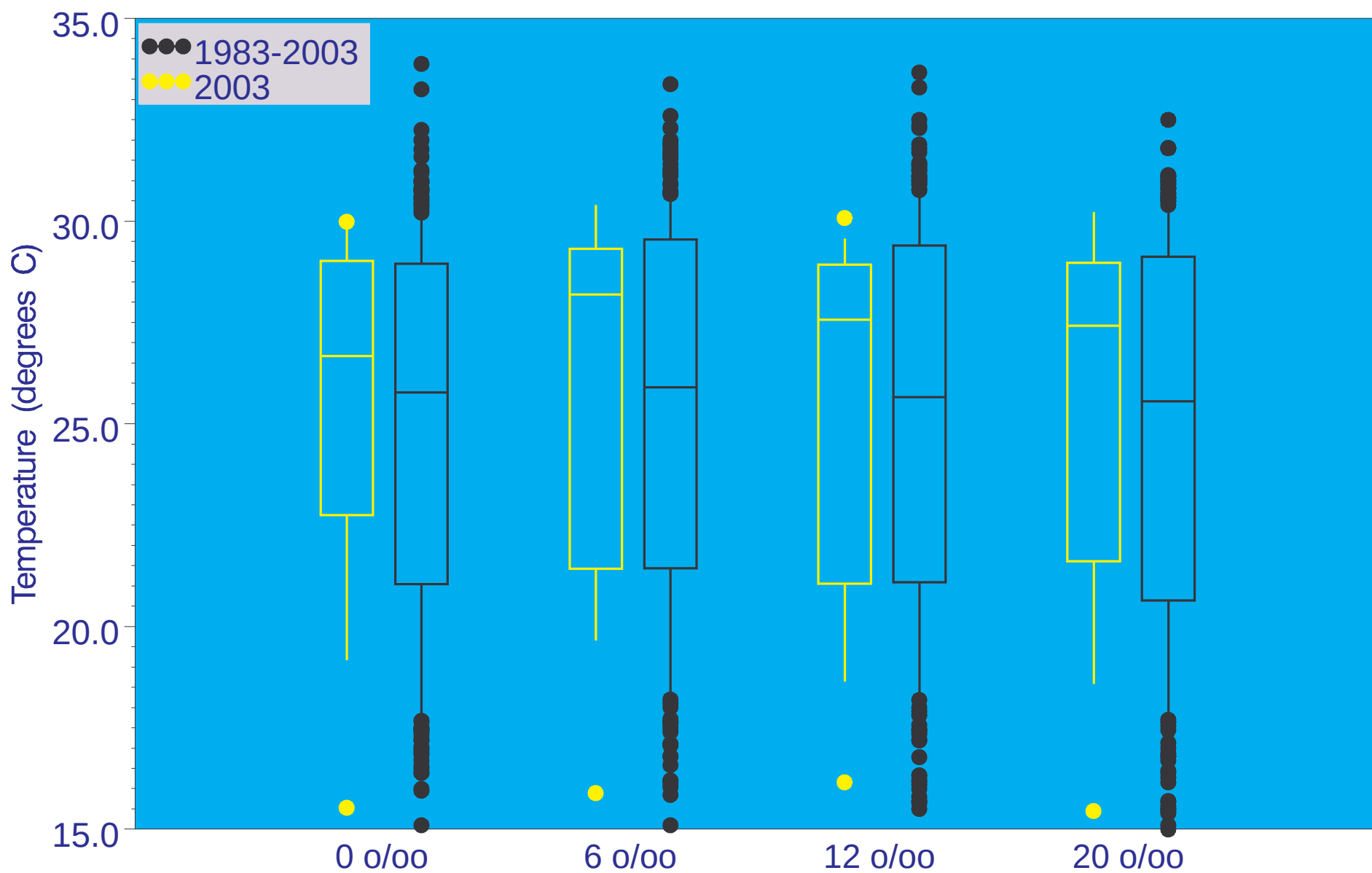


Figure 3.22 Box and whisker plots of temperature at salinity sampling zones

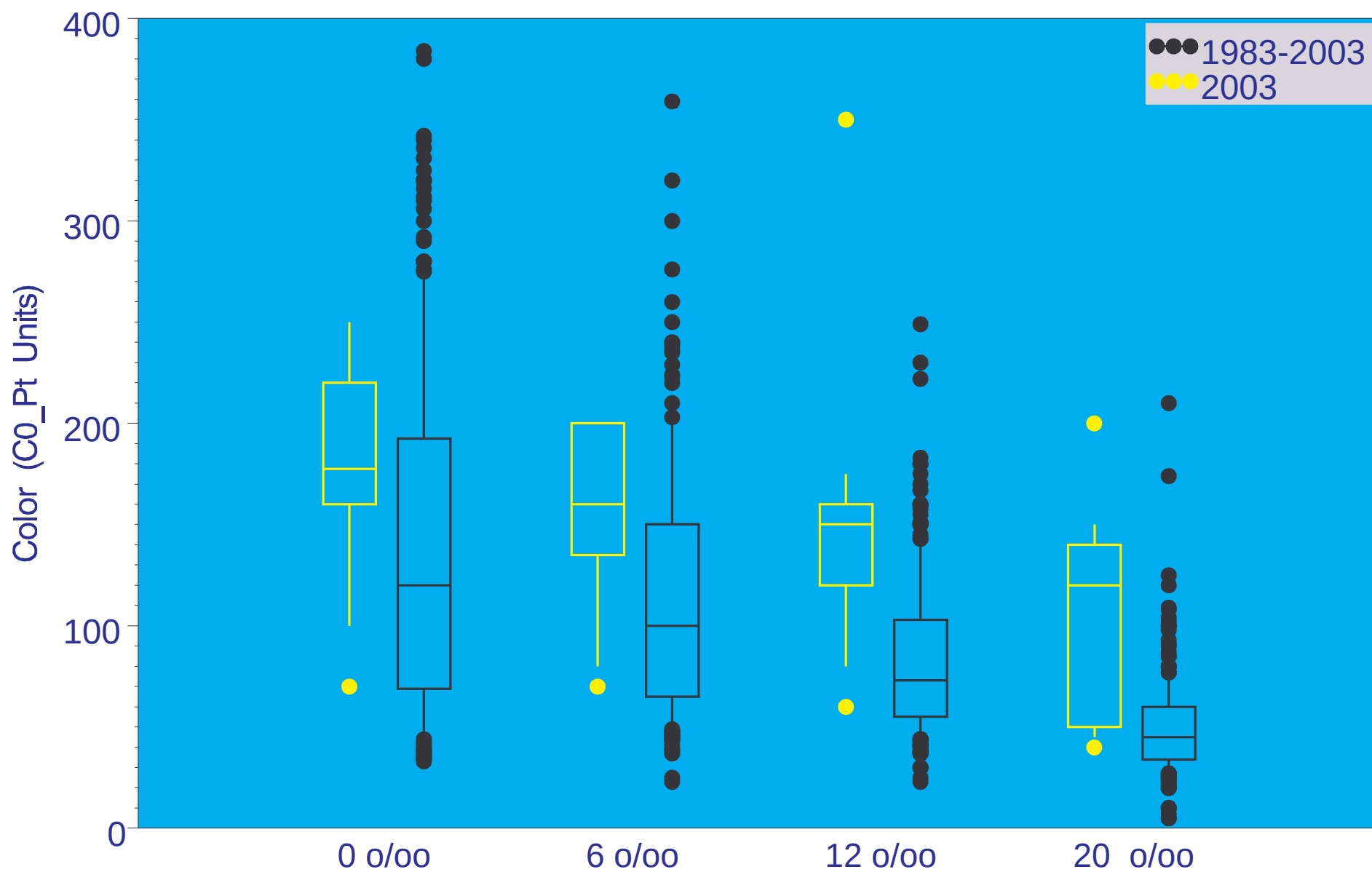


Figure 3.23 Box and whisker plots of Color at salinity sampling zones

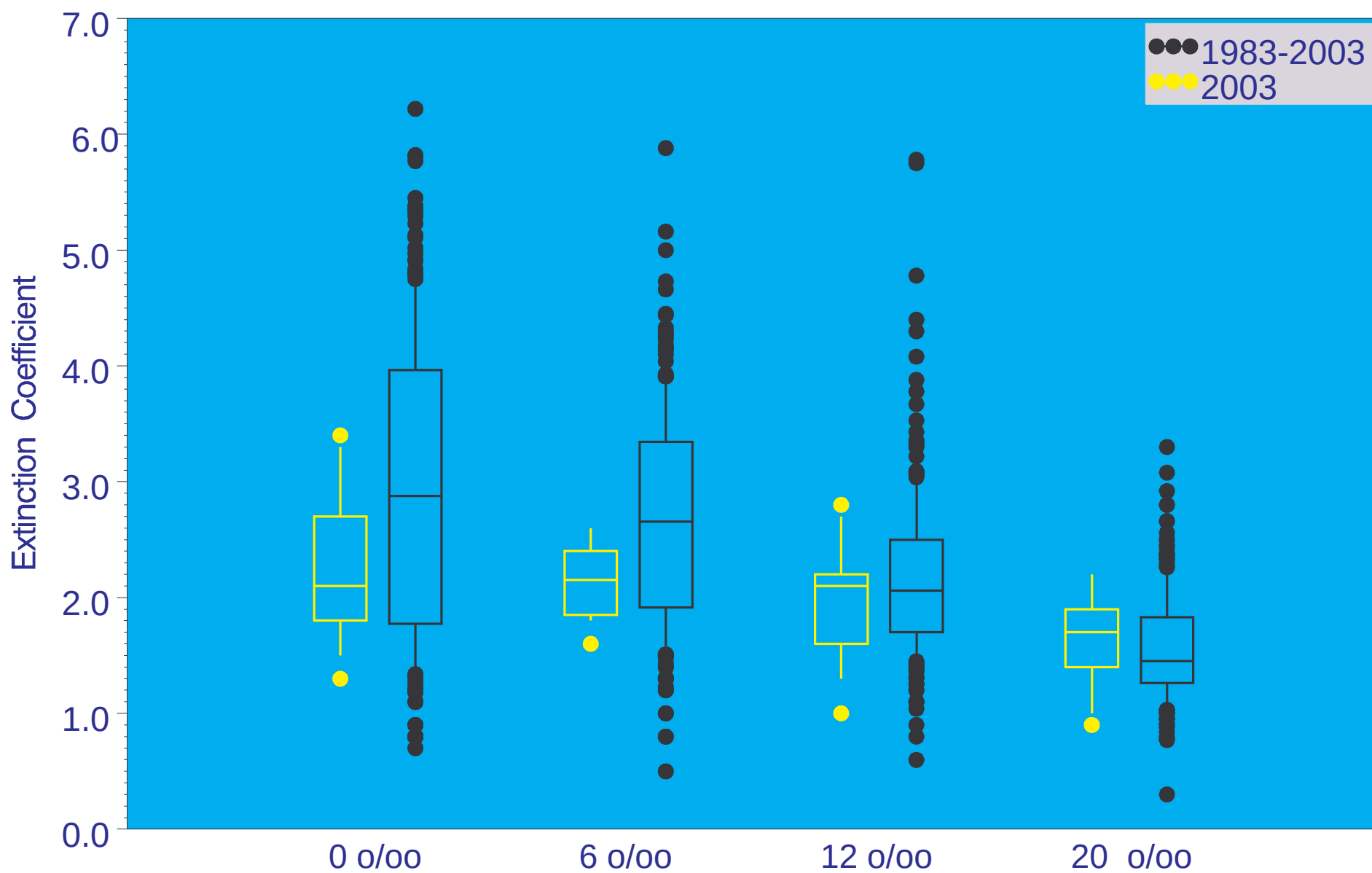


Figure 3.24 Box and whisker plots of extinction coefficient at salinity sampling zones

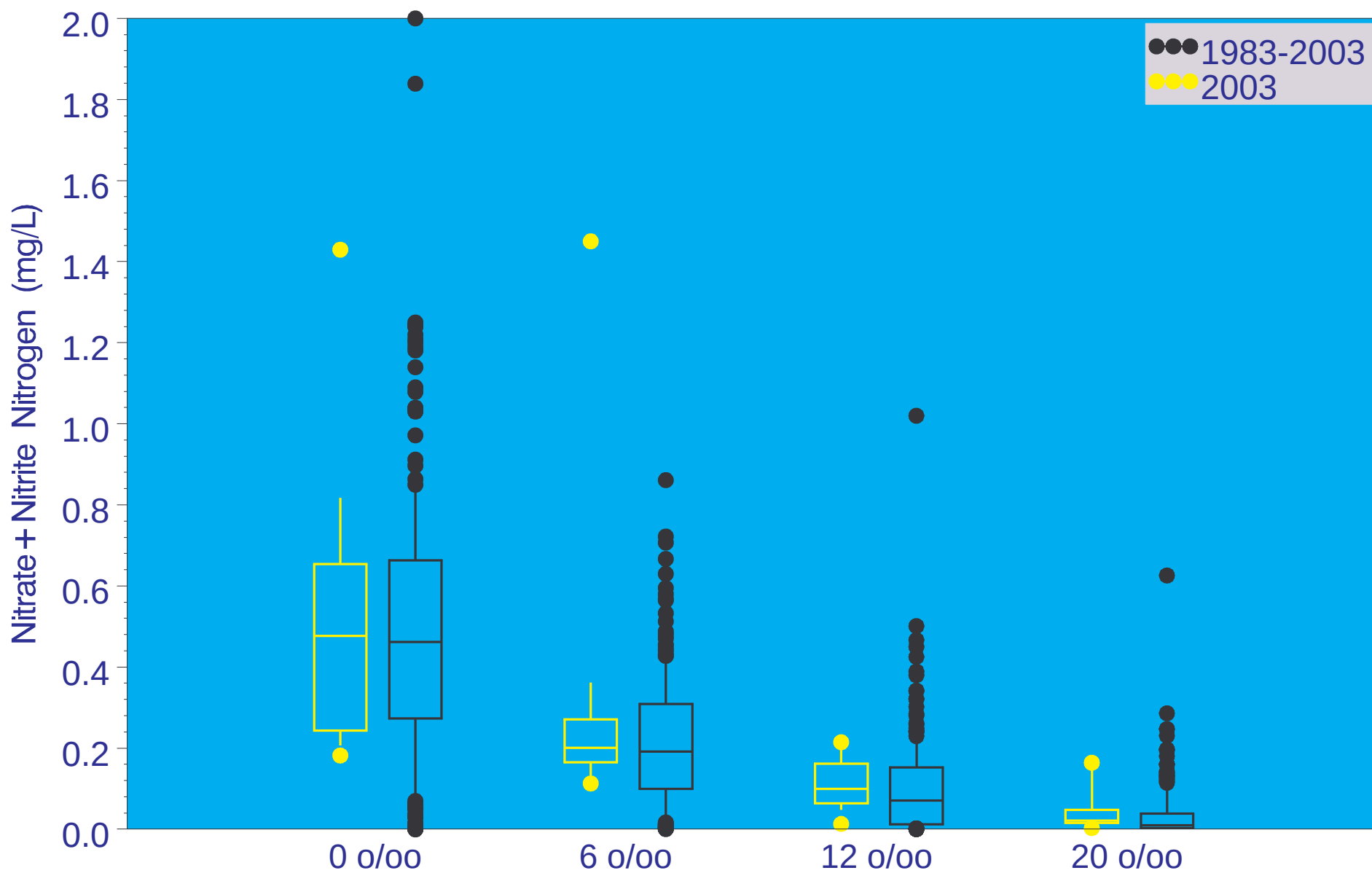


Figure 3.25 Box and whisker plots of nitrite/nitrate at salinity sampling zones

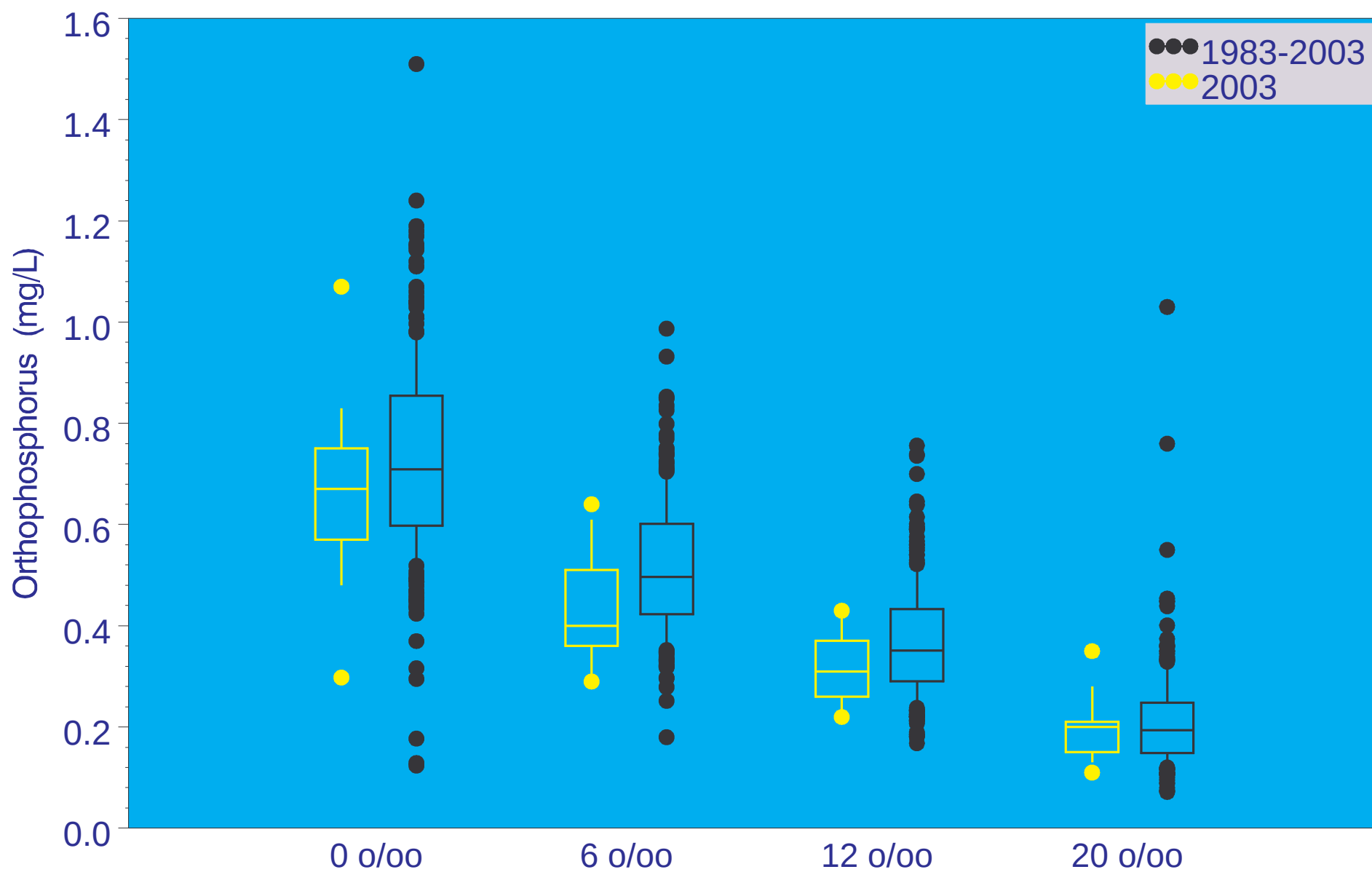


Figure 3.26 Box and whisker plots of ortho-phosphorus at salinity sampling zones

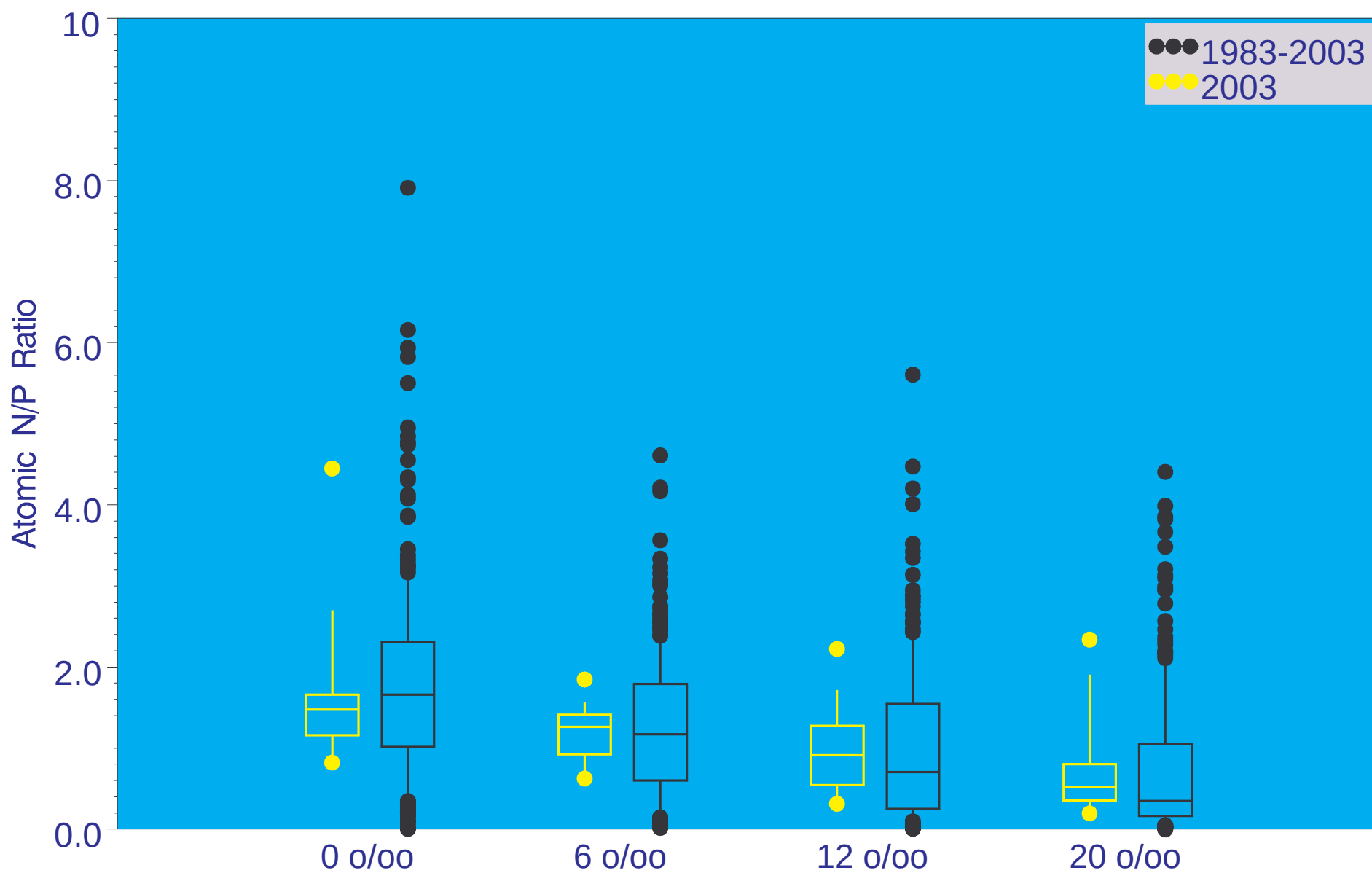


Figure 3.27 Box and whisker plots of atomic N/P ratio at salinity sampling zones

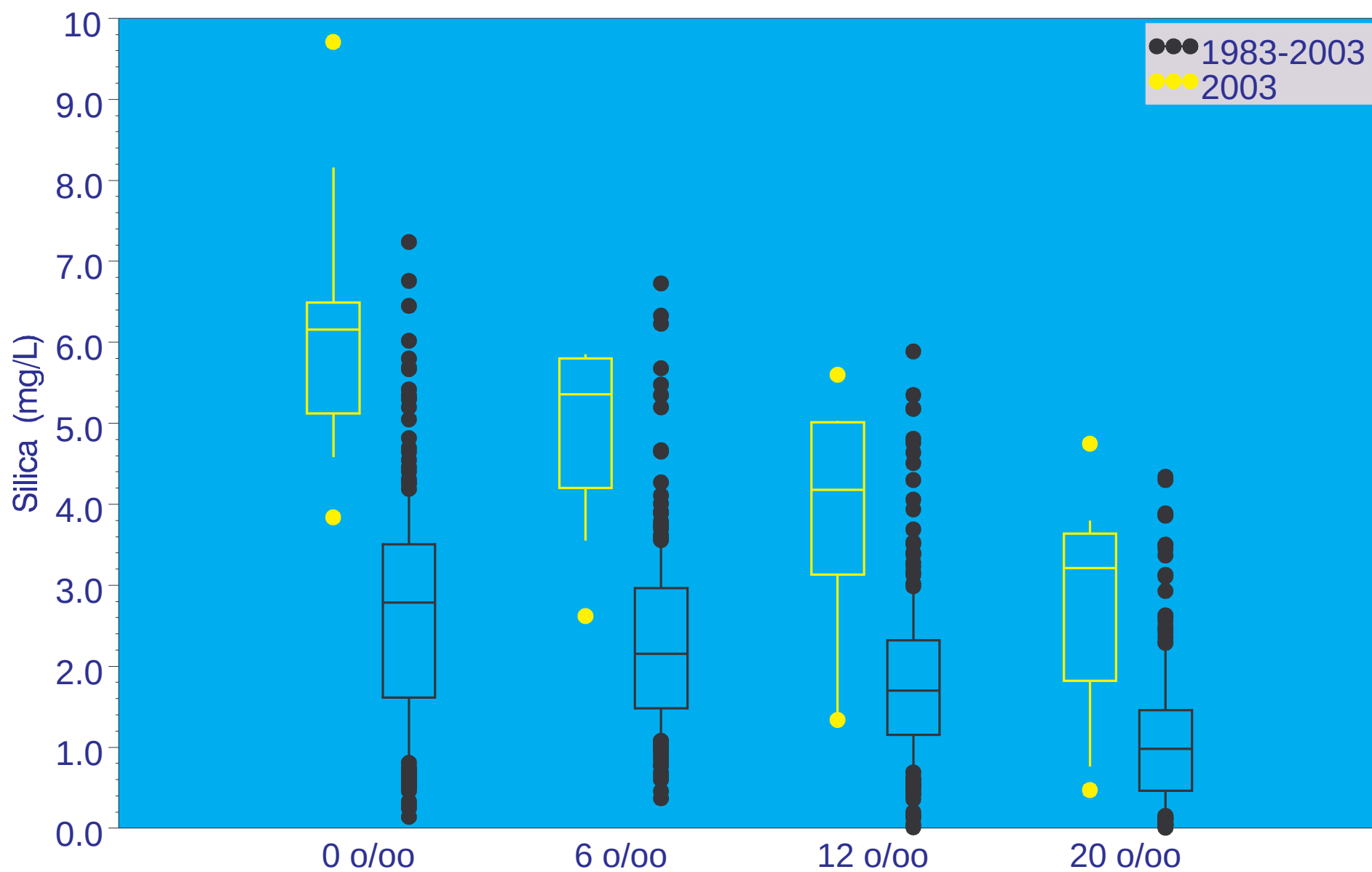


Figure 3.28 Box and whisker plots of silica at salinity sampling zones

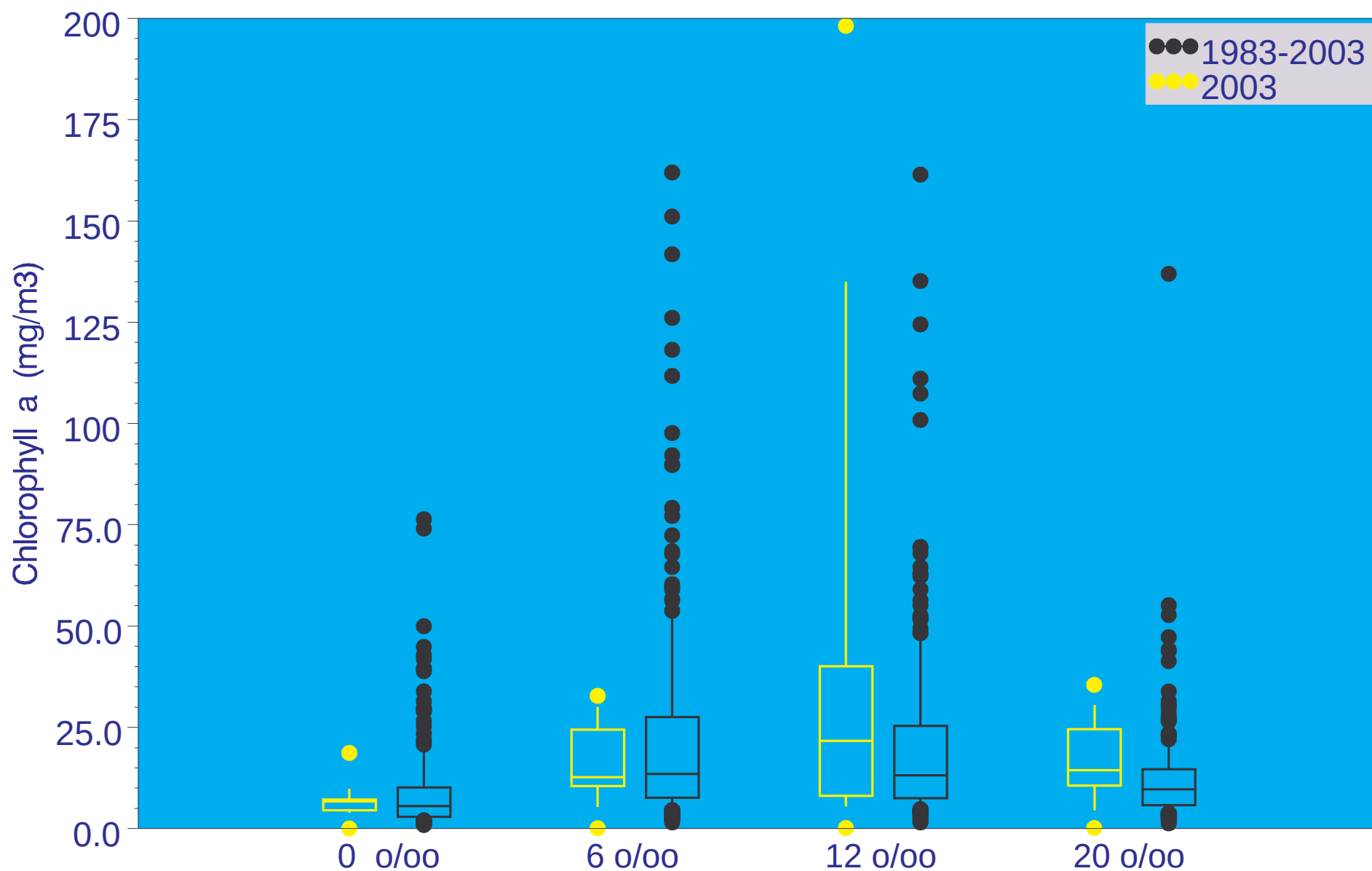
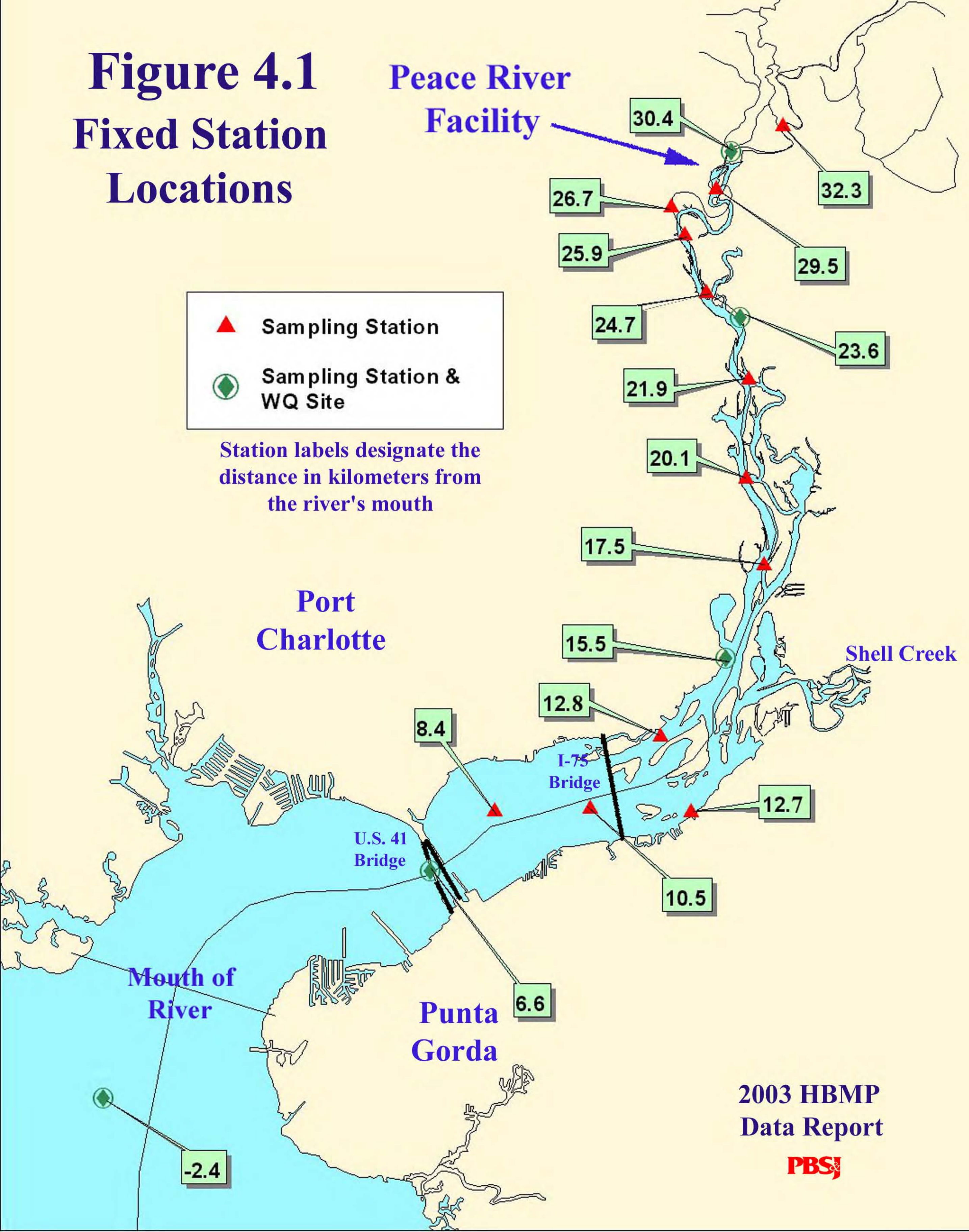


Figure 3.29 Box and whisker plots of chlorophyll a (mg/m³) at salinity sampling zones

Figure 4.1 Fixed Station Locations



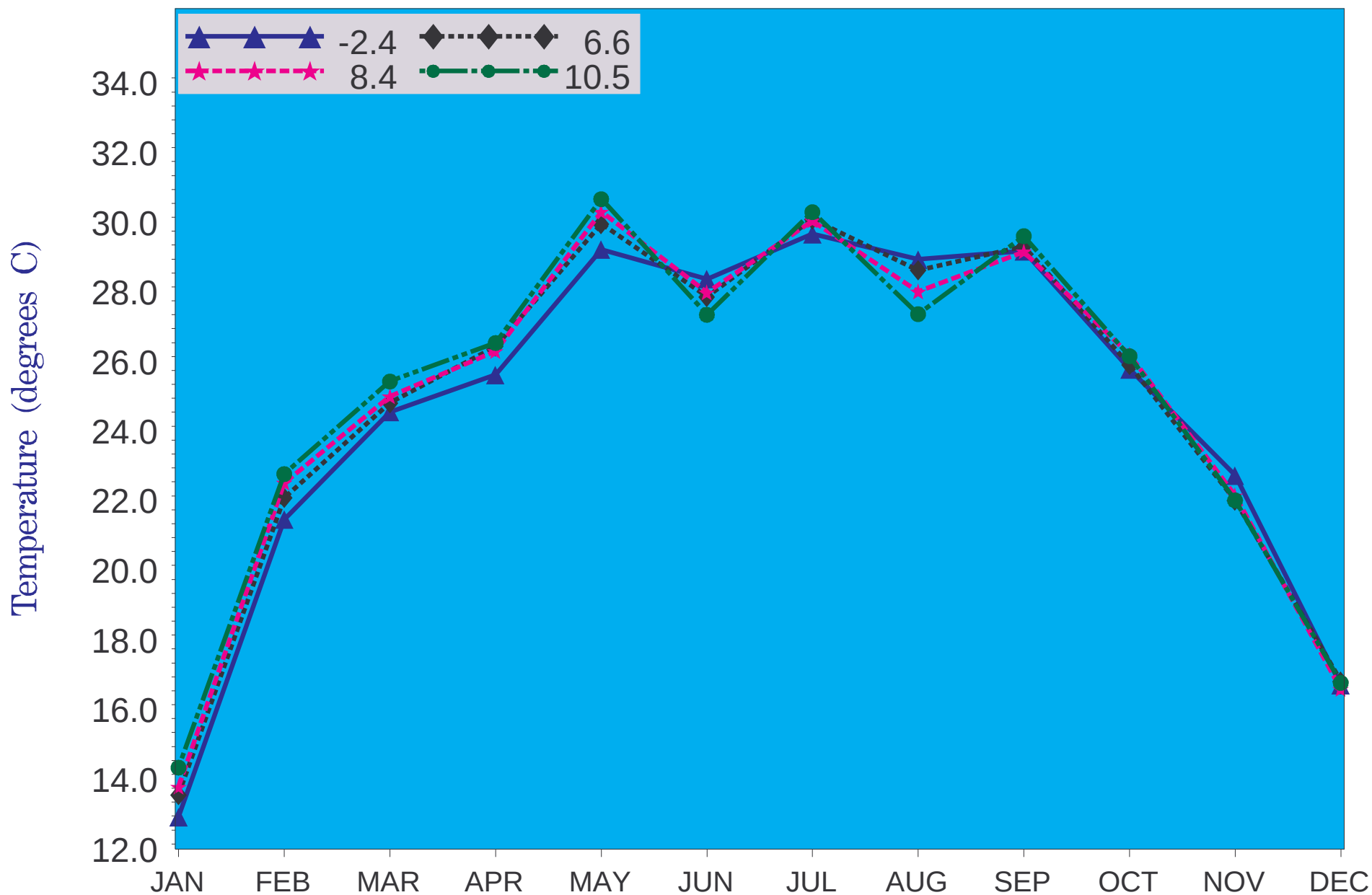


Figure 4.2a 2003 temperature at river kilometers -2.4, 6.6, 8.4 and 10.5

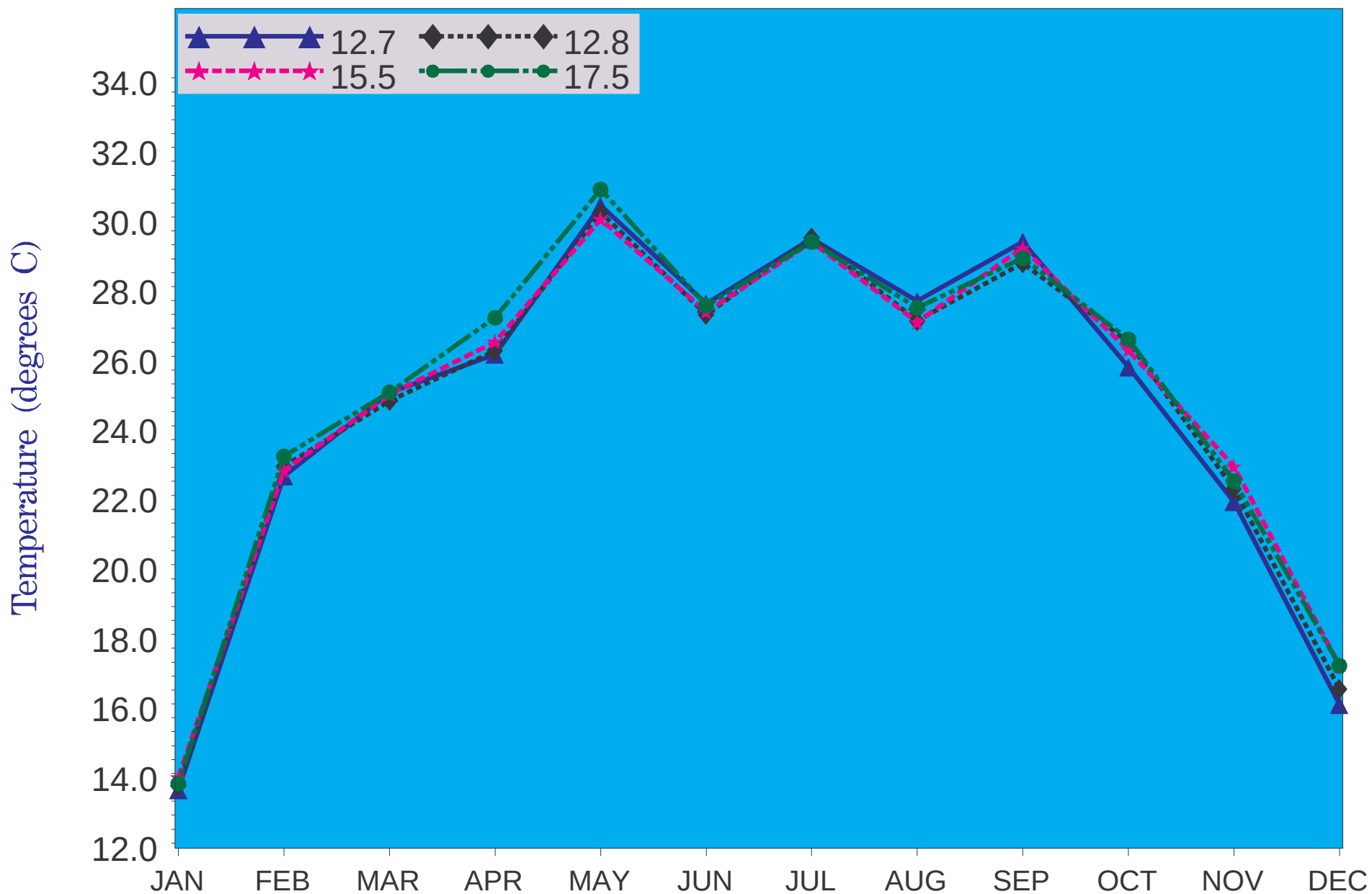


Figure 4.2b 2003 temperature at river kilometers 12.7, 12.8, 15.5 and 17.5

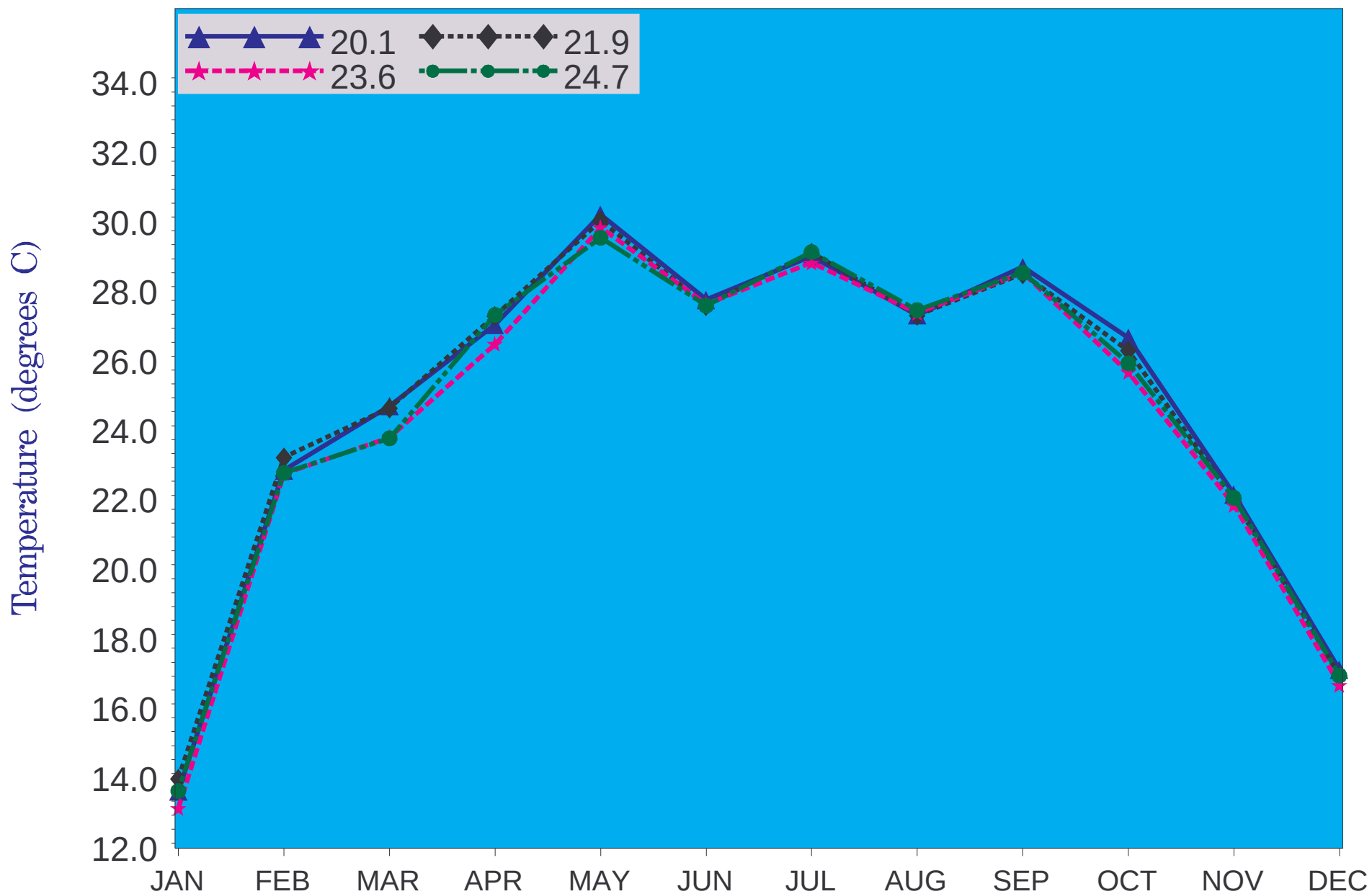


Figure 4.2c 2003 temperature at river kilometers 20.1, 21.9, 23.6 and 24.7

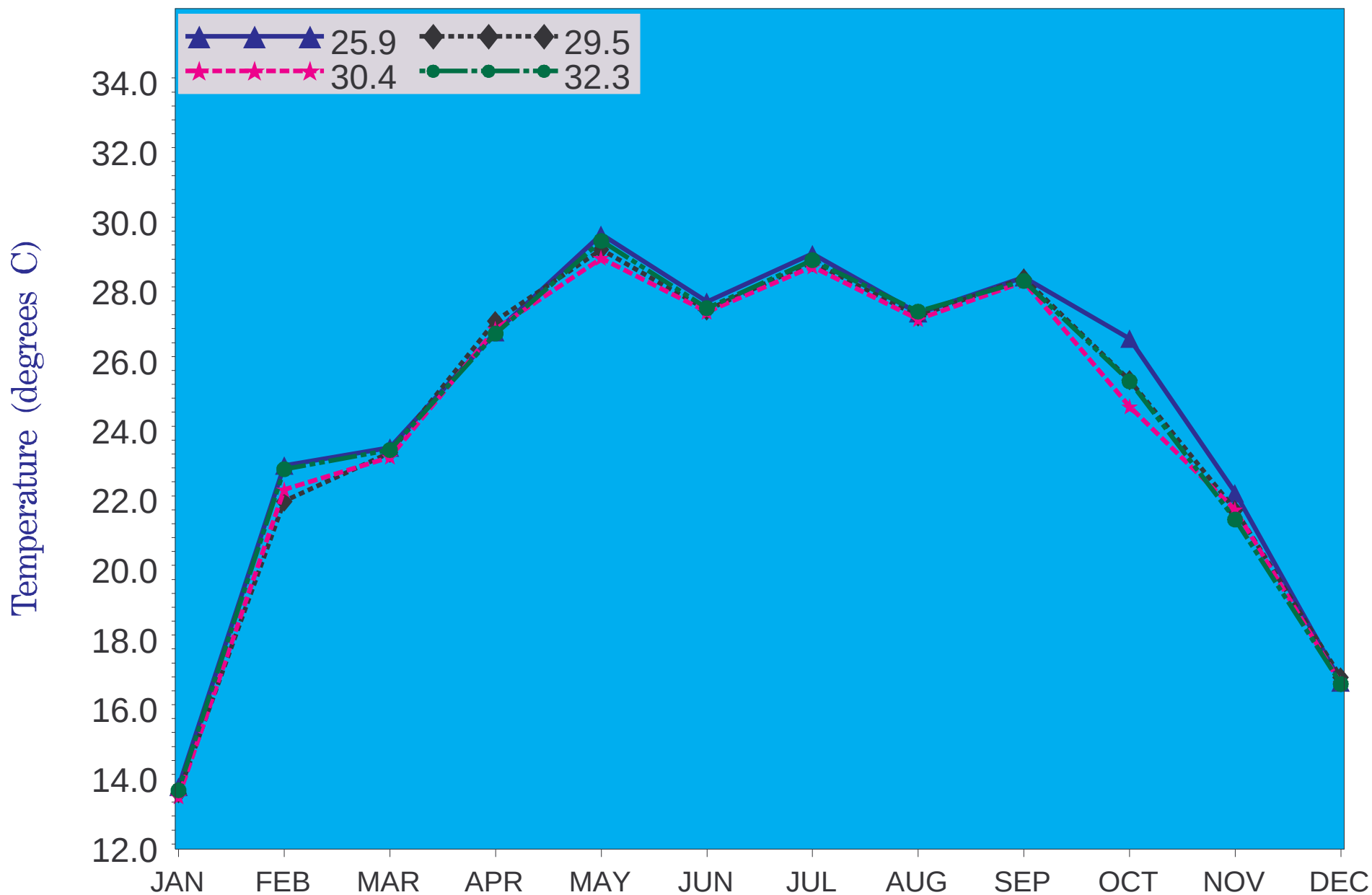


Figure 4.2d 2003 temperature at river kilometers 25.9, 29.5, 30.4 and 32.3

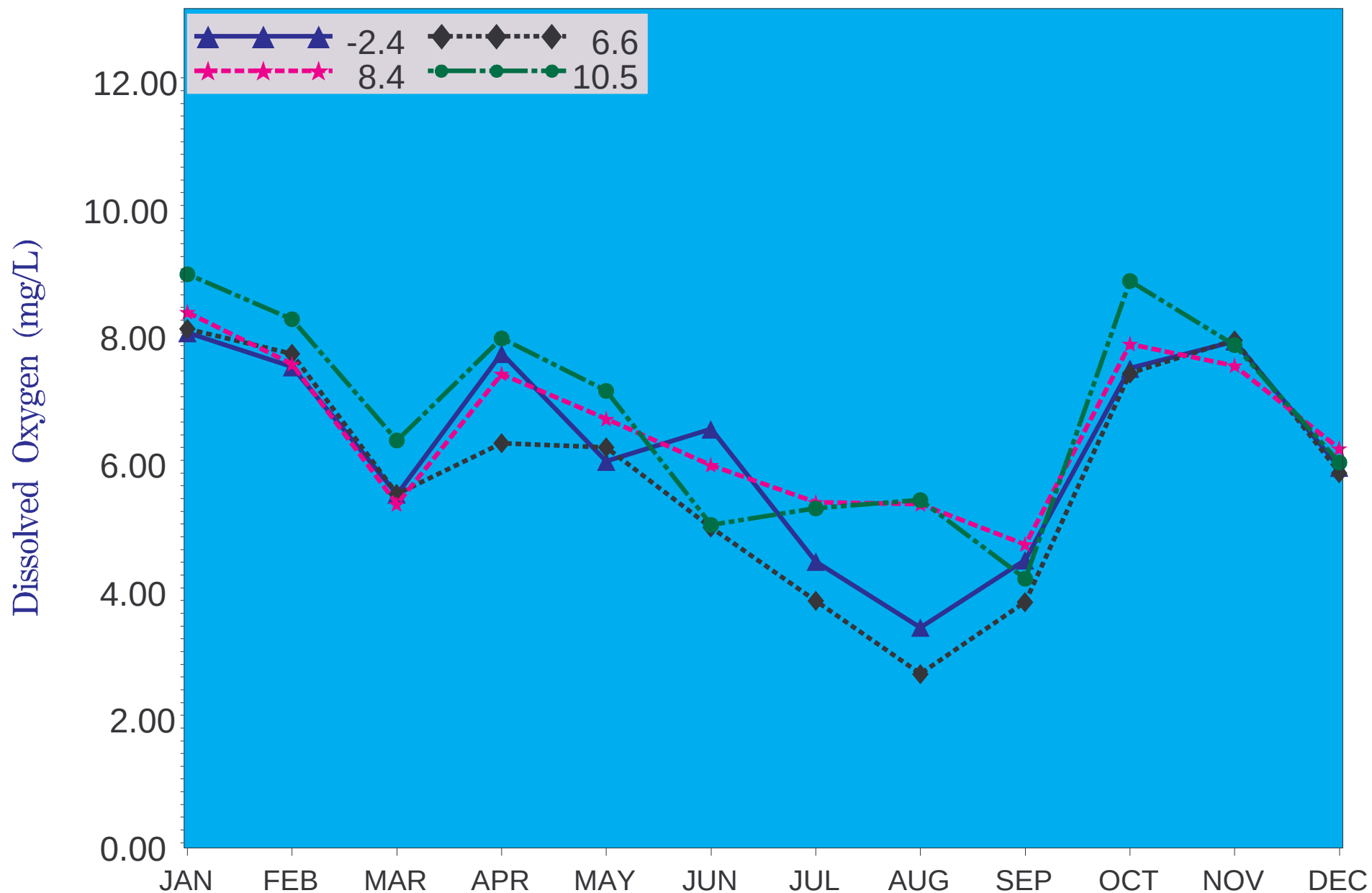


Figure 4.3a 2003 dissolved oxygen at river kilometers -2.4, 6.6, 8.4 and 10.5

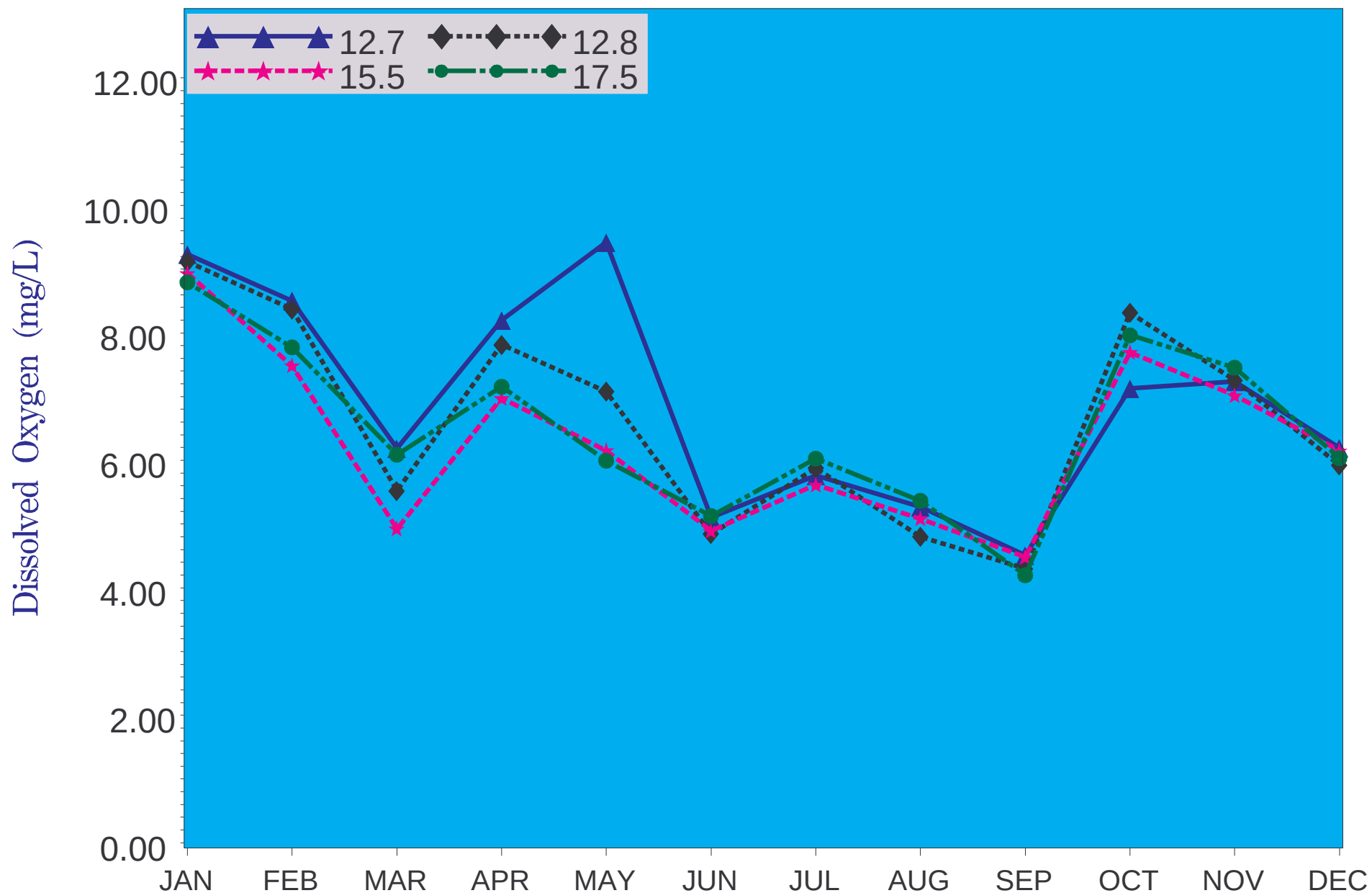


Figure 4.3b 2003 dissolved oxygen at river kilometers 12.7, 12.8, 15.5 and 17.5

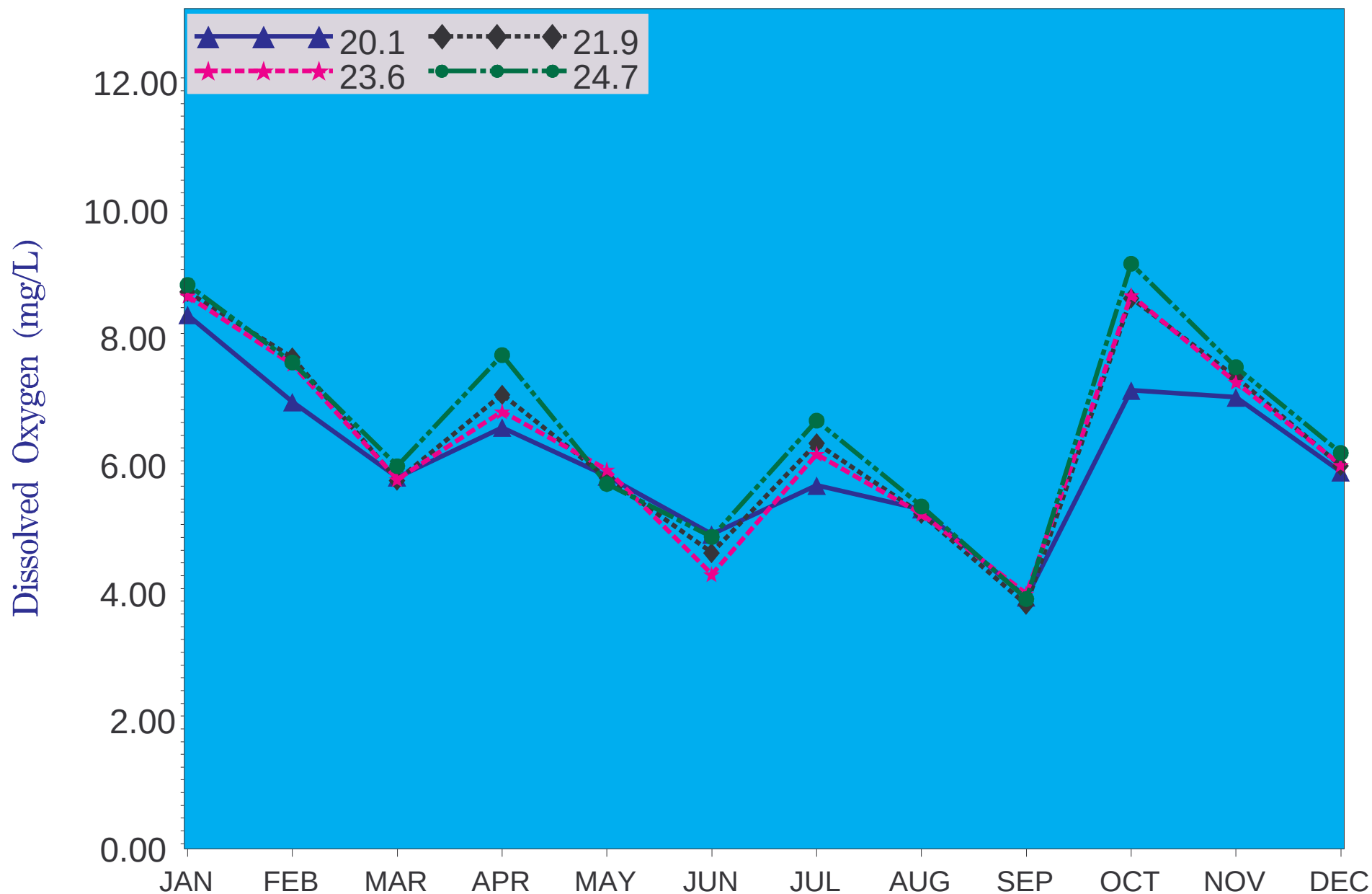


Figure 4.3c 2003 dissolved oxygen at river kilometers 20.1, 21.9, 23.6 and 24.7

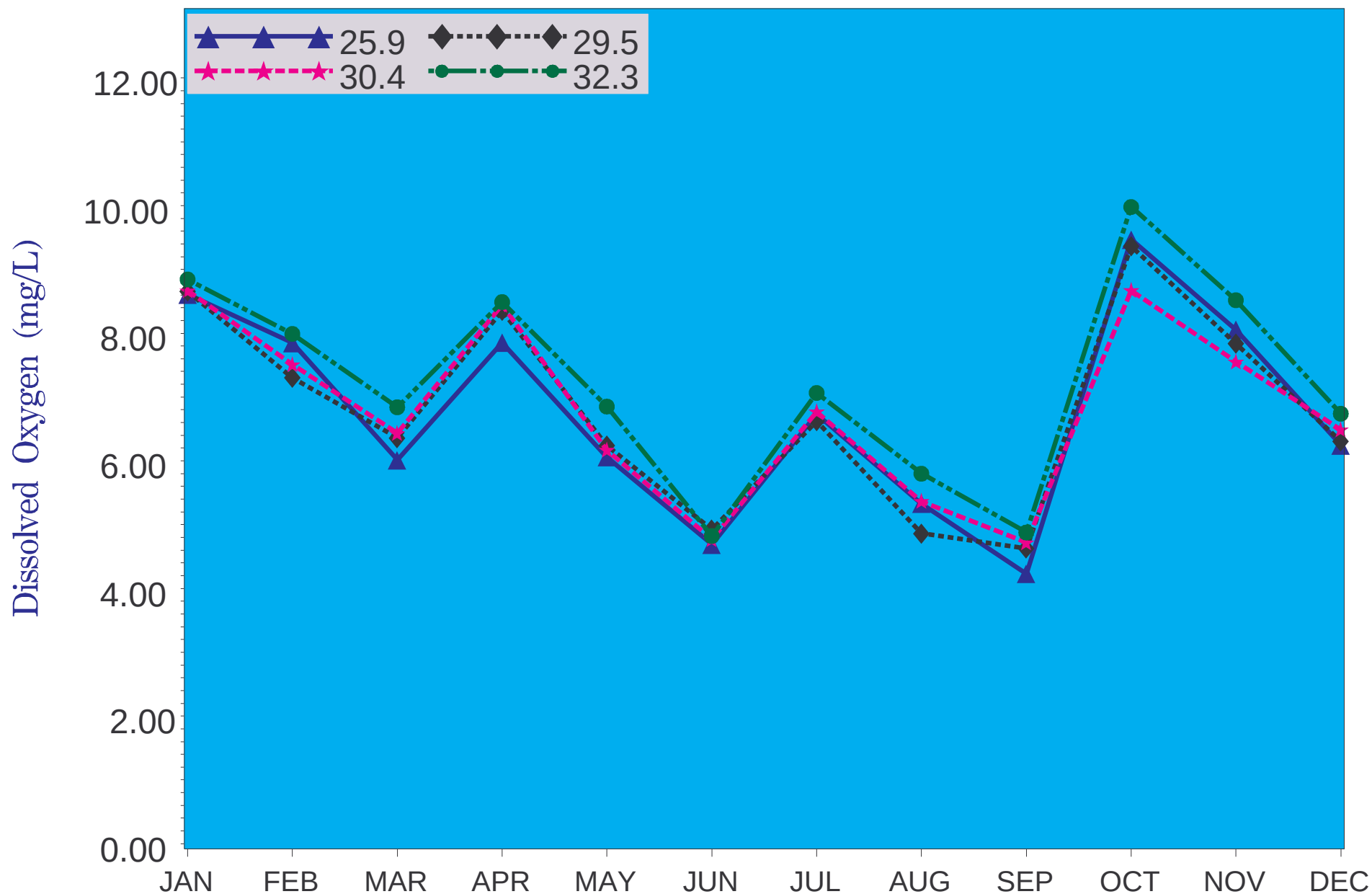


Figure 4.3d 2003 dissolved oxygen at river kilometers 25.9, 29.5, 30.4 and 32.3

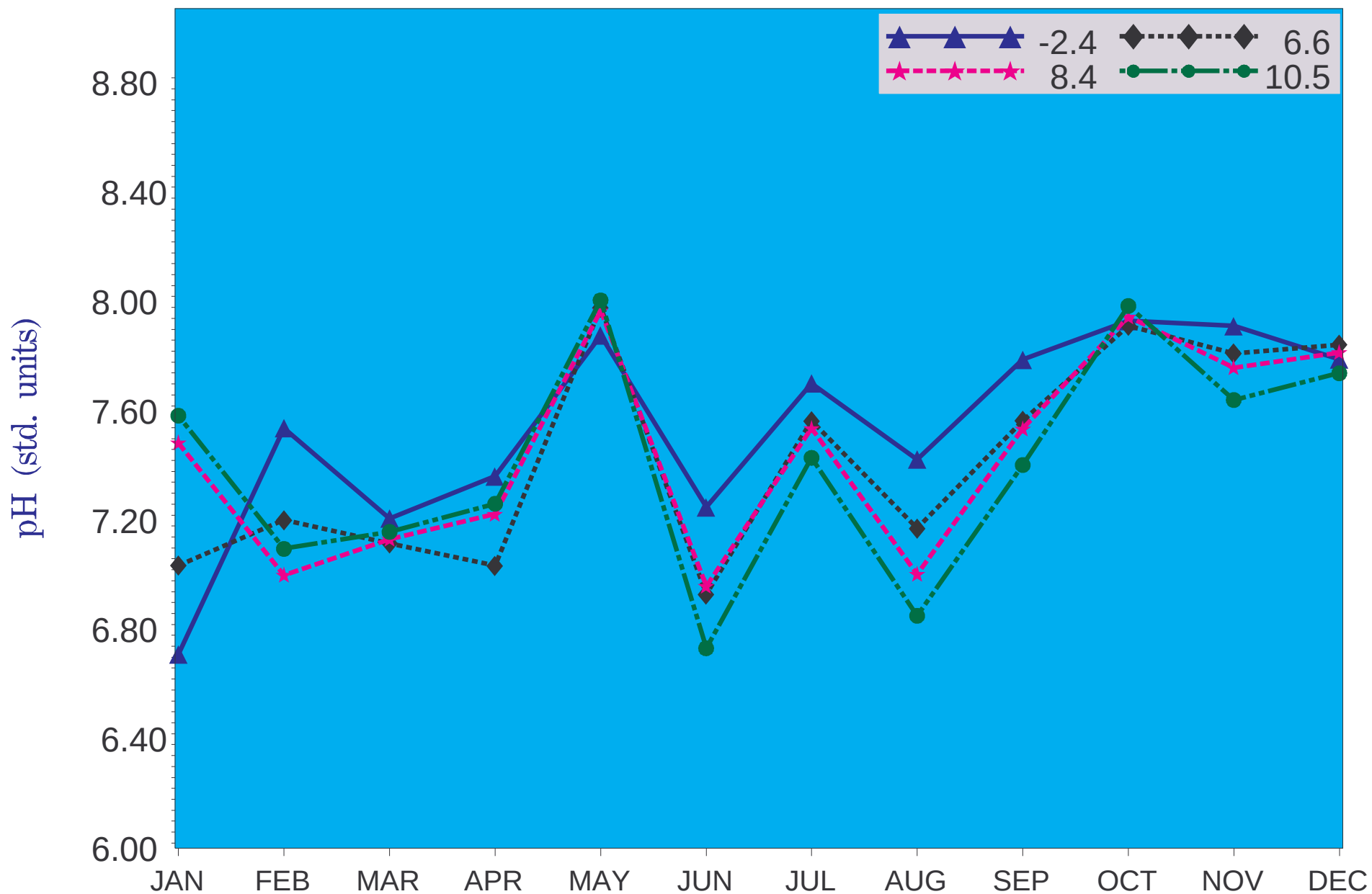


Figure 4.4a 2003 pH at river kilometers -2.4, 6.6, 8.4 and 10.5

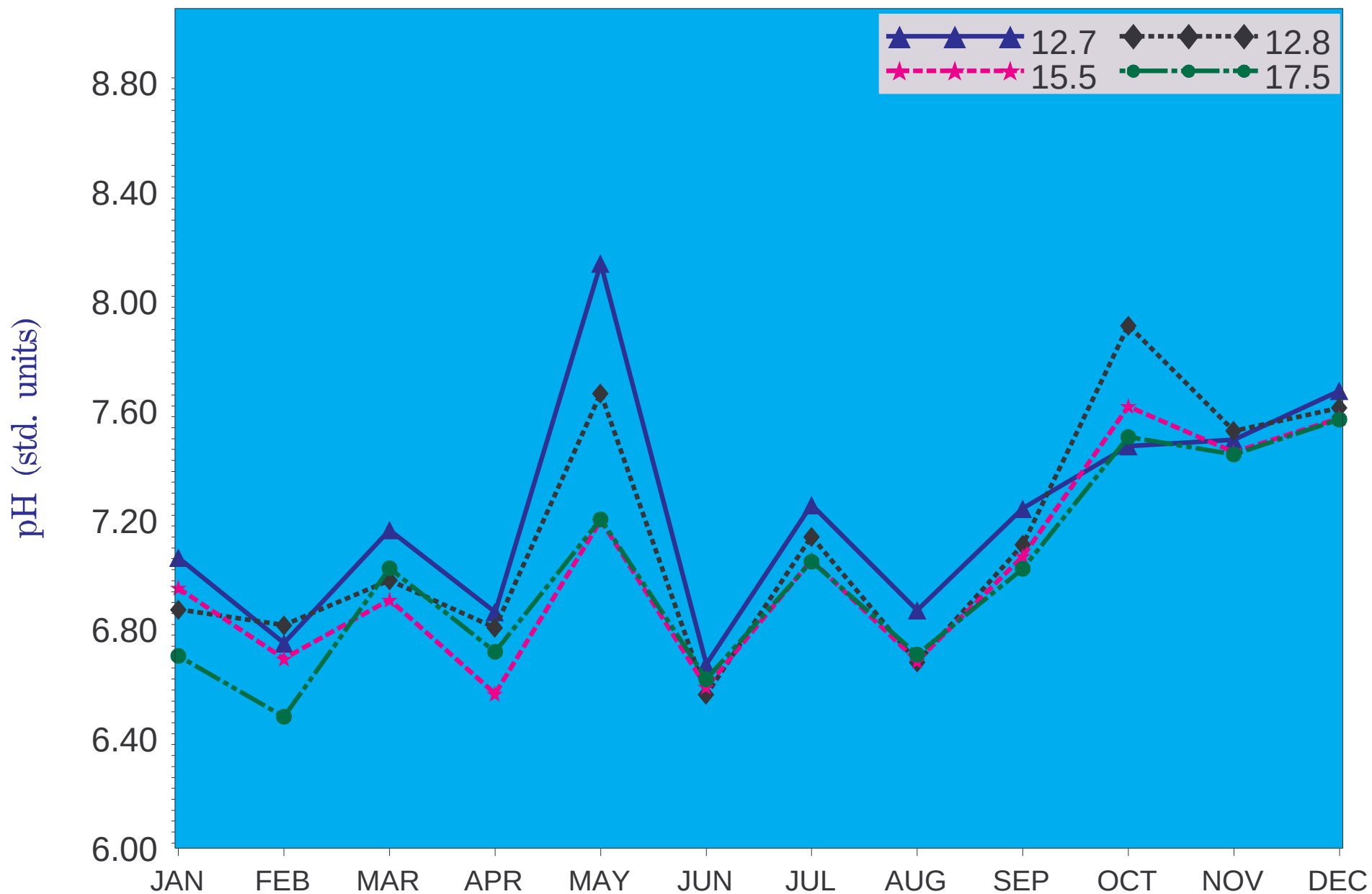


Figure 4.4b 2003 pH at river kilometers 12.7, 12.8, 15.5 and 17.5

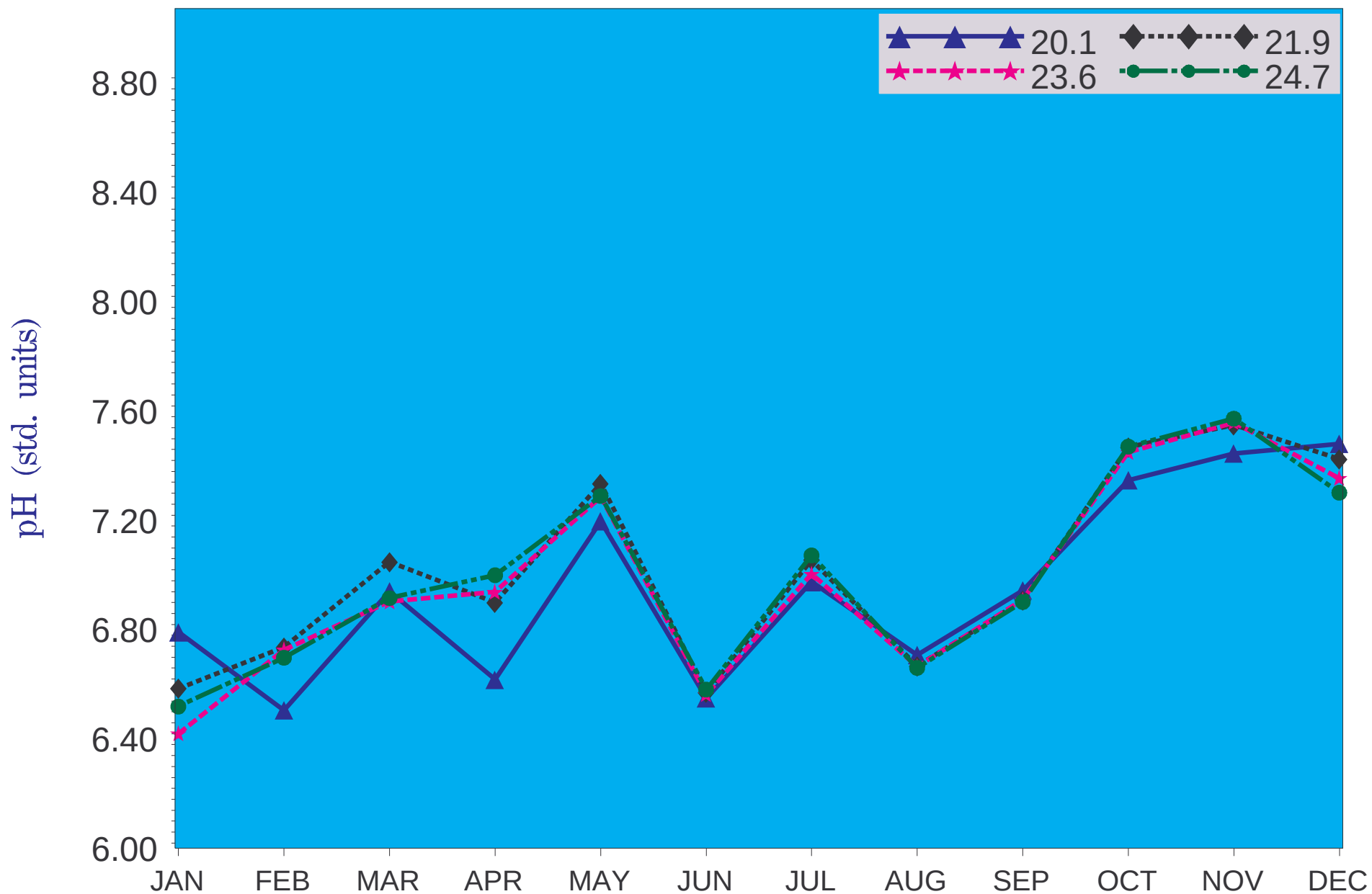


Figure 4.4c 2003 pH at river kilometers 20.1, 21.9, 23.6 and 24.7

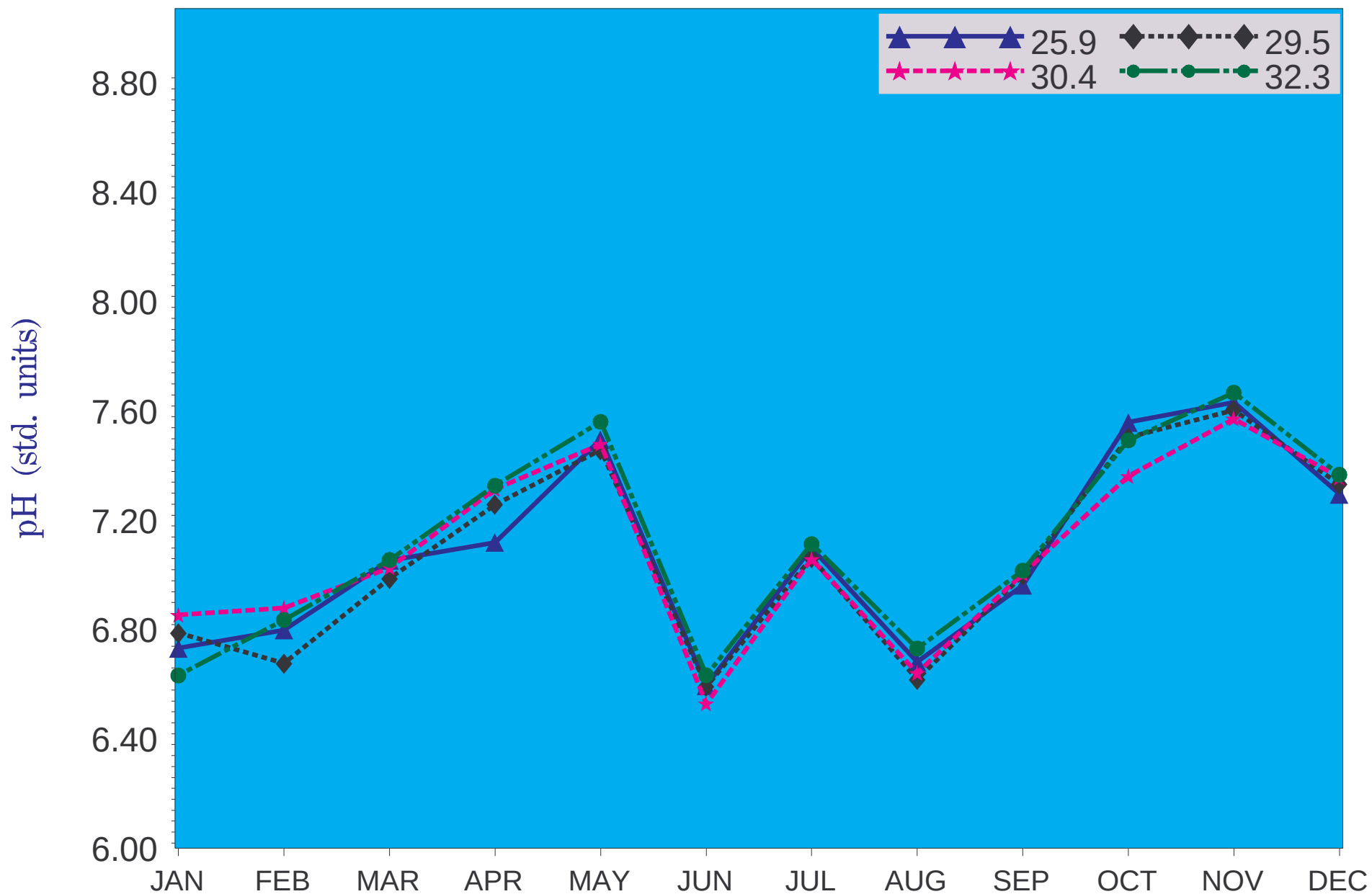


Figure 4.4d 2003 pH at river kilometers 25.9, 29.5, 30.4 and 32.3

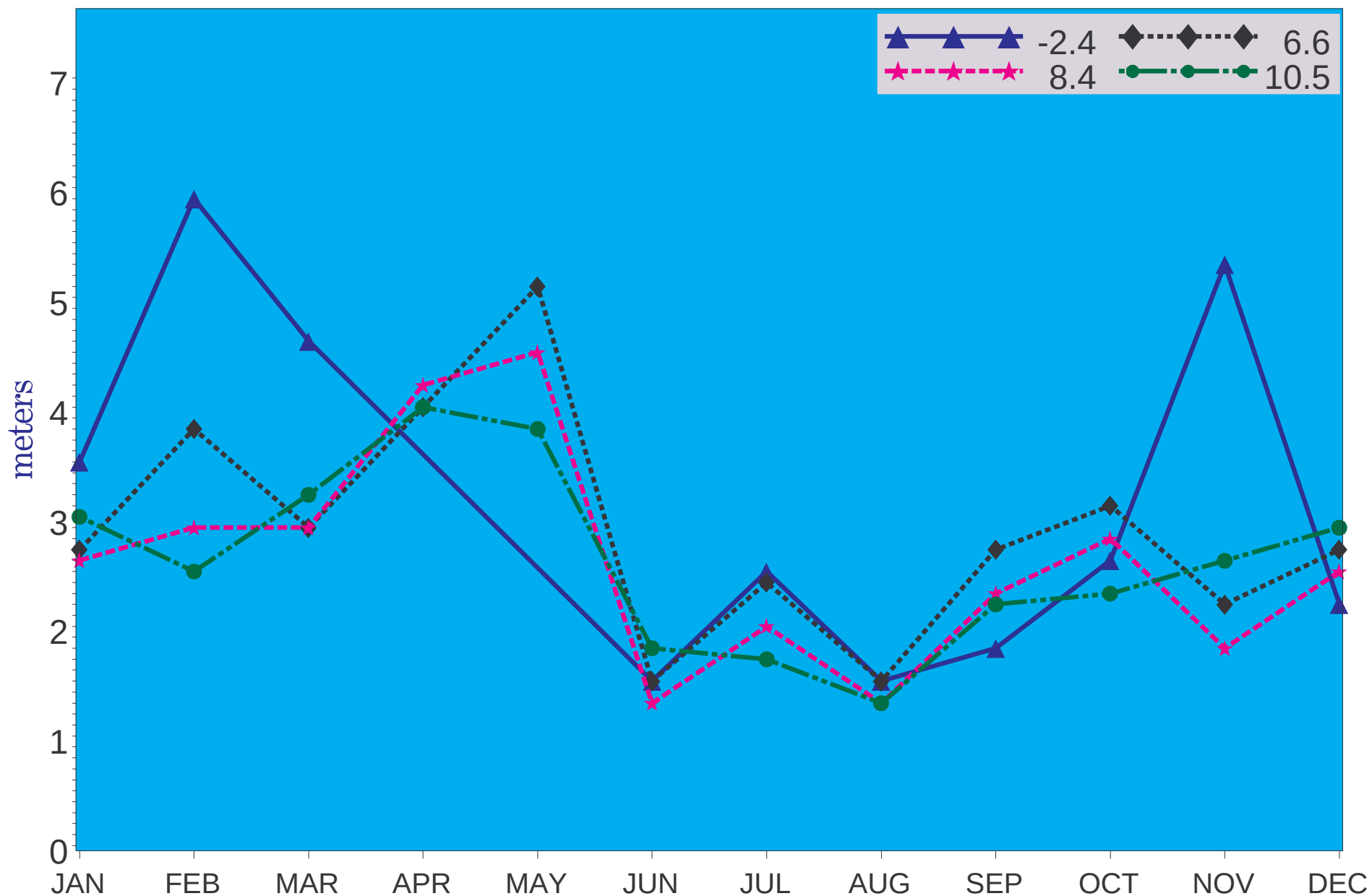


Figure 4.5a 2003 1% light depth at river kilometers -2.4, 6.6, 8.4 and 10.5

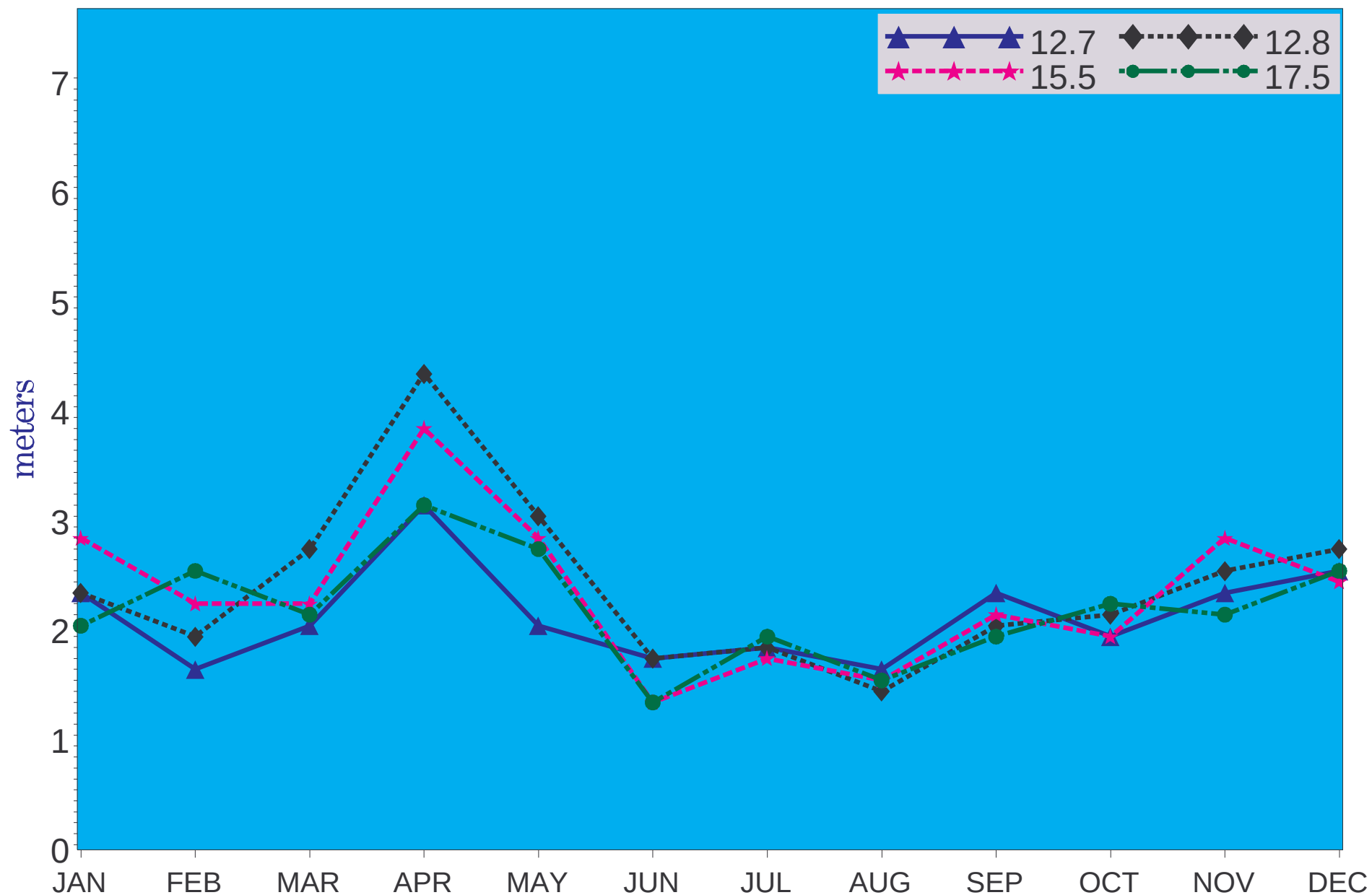


Figure 4.5b 2003 1% light depth at river kilometers 12.7, 12.8, 15.5 and 17.5

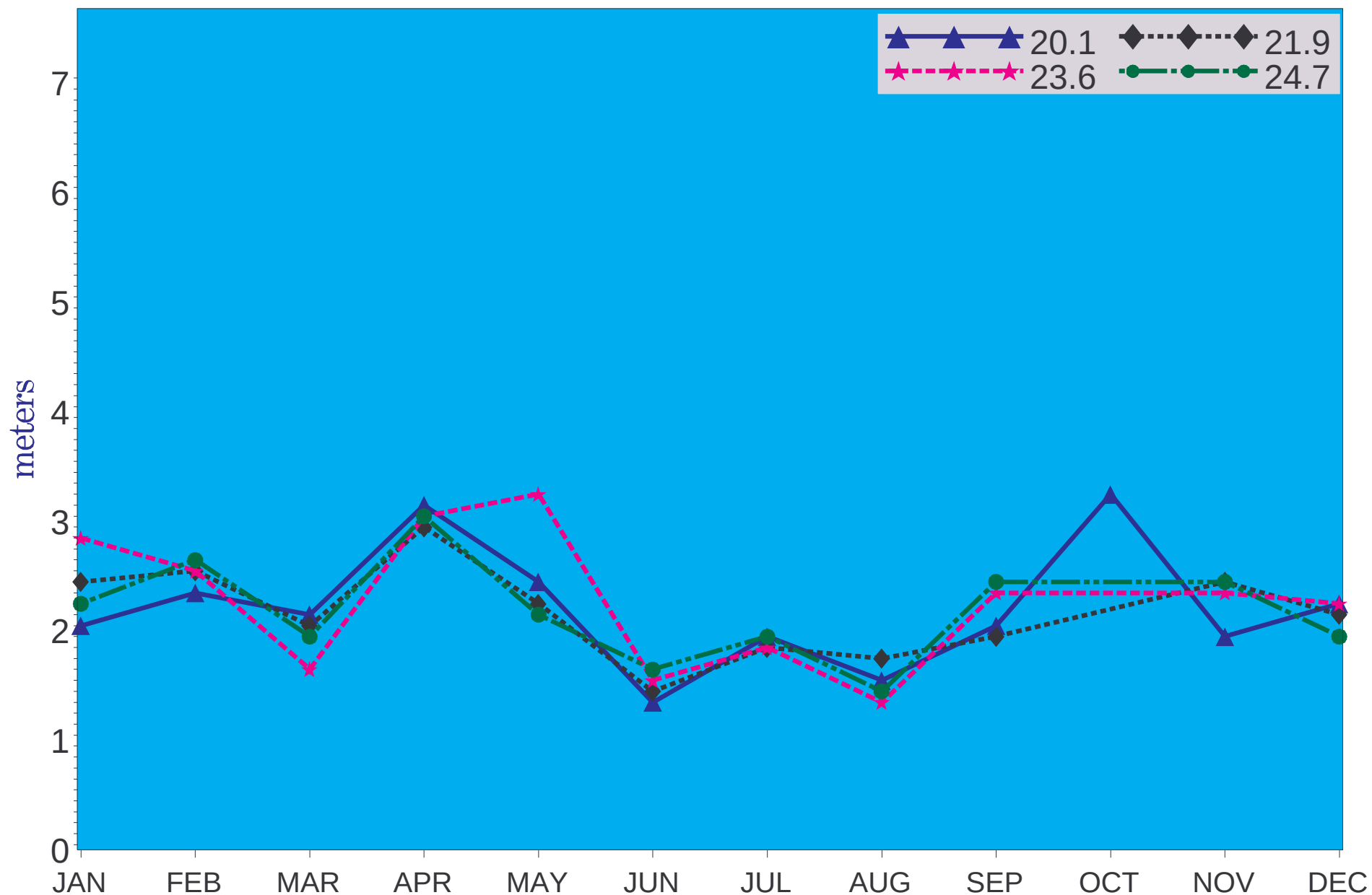


Figure 4.5c 2003 1% light depth at river kilometers 20.1, 21.9, 23.6 and 24.7

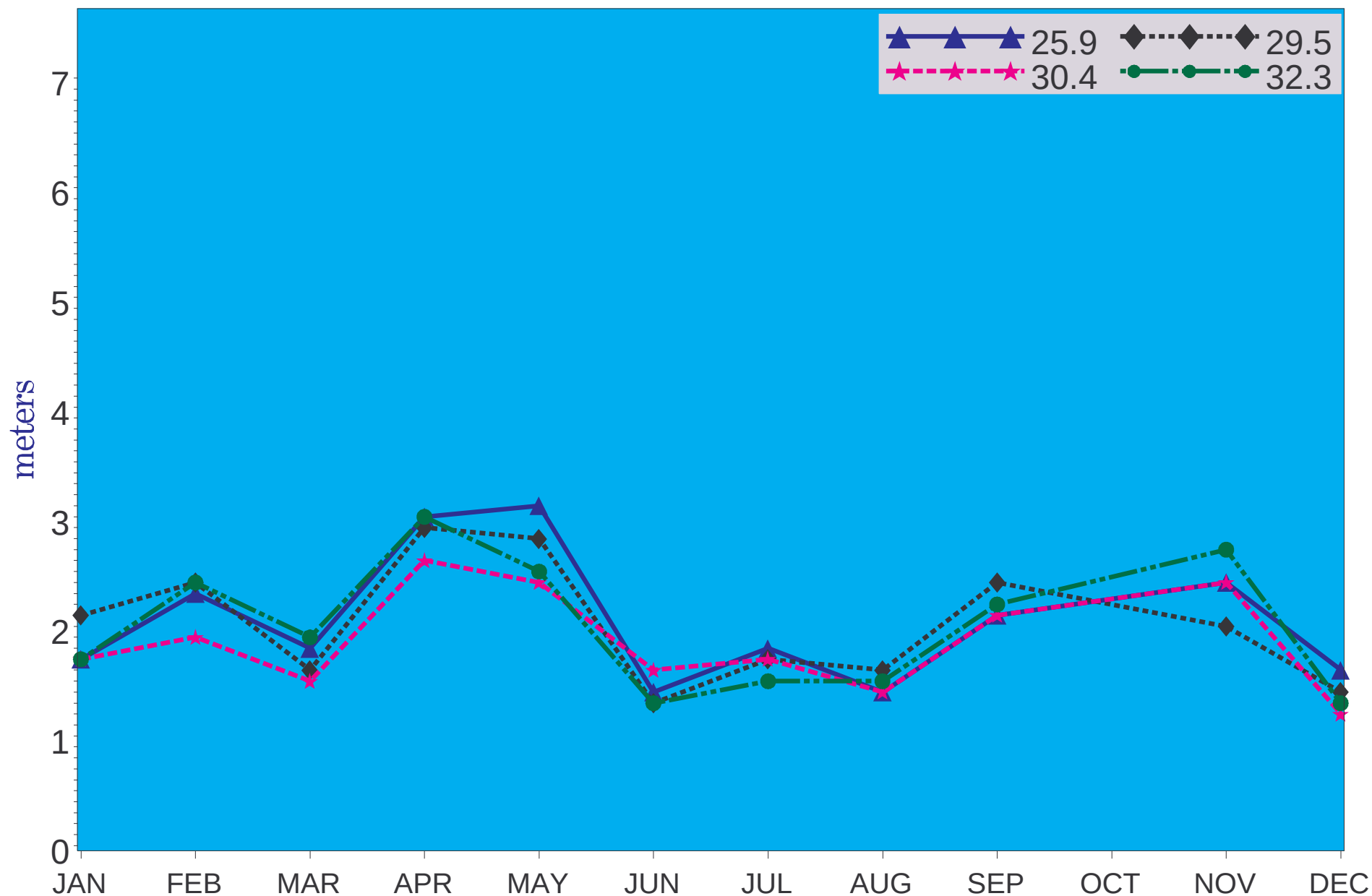


Figure 4.5d 2003 1% light depth at river kilometers 25.9, 29.5, 30.4 and 32.3

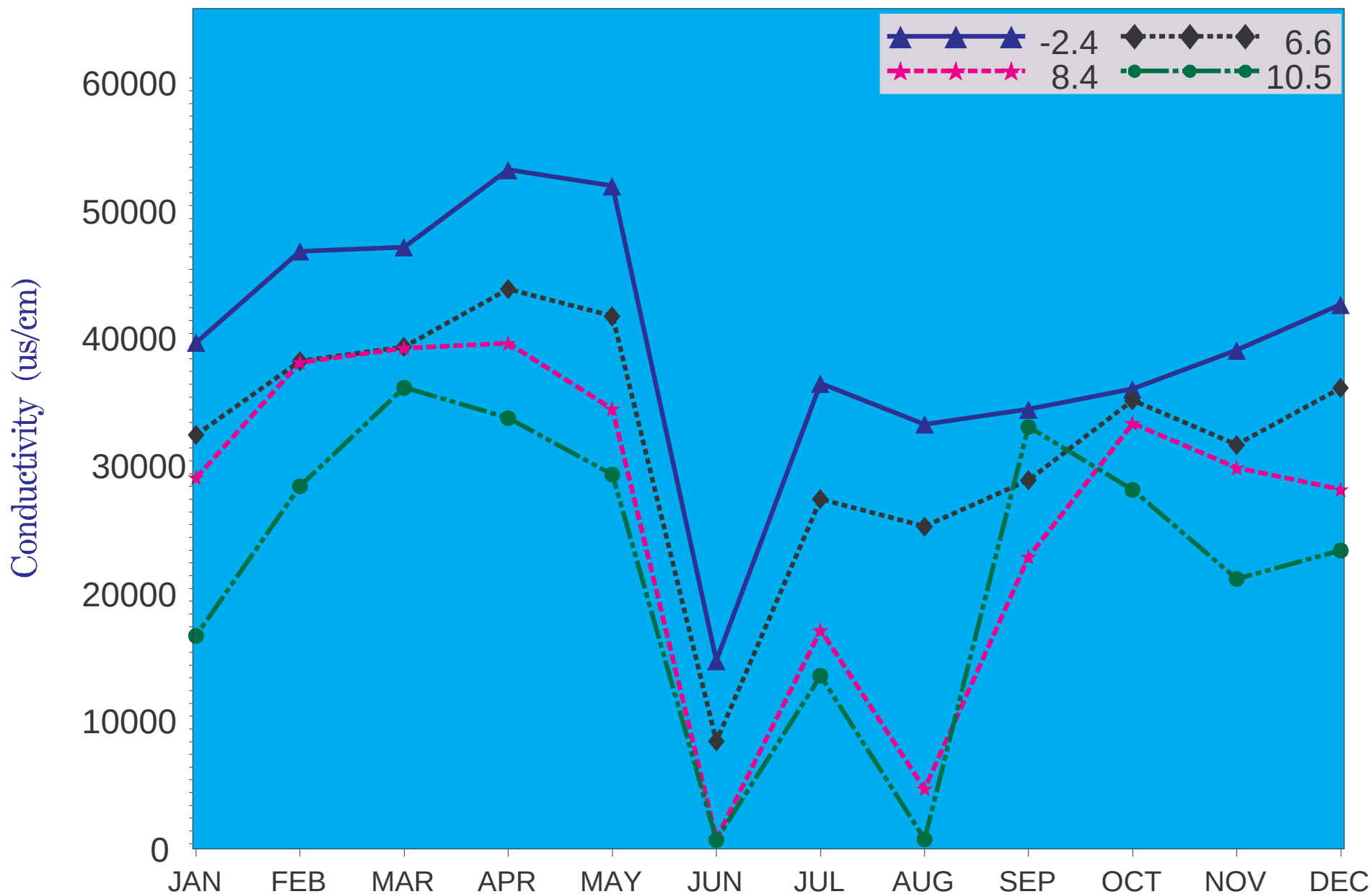


Figure 4.6a 2003 specific conductance at river kilometers -2.4, 6.6, 8.4 and 10.5

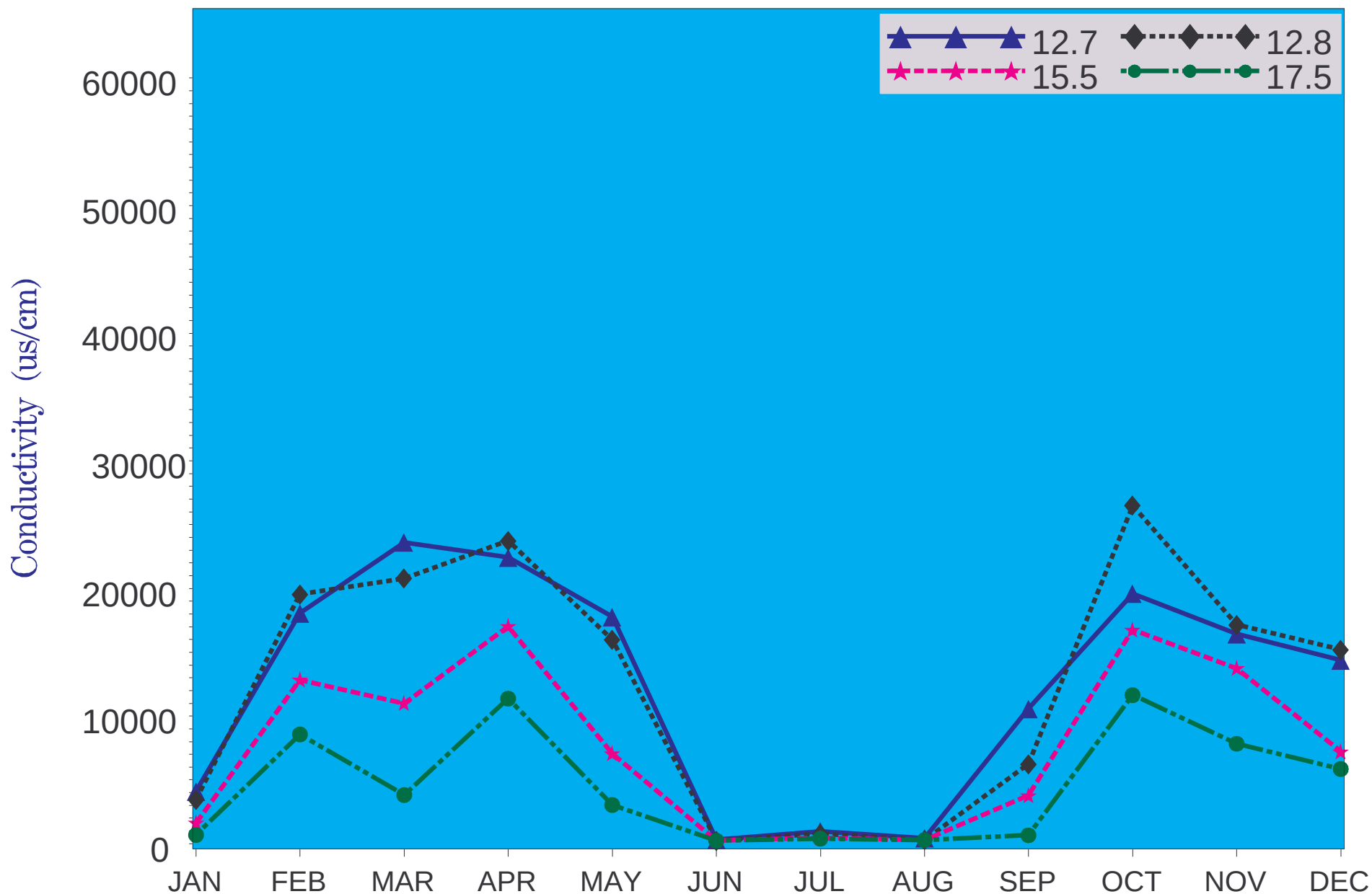


Figure 4.6b 2003 specific conductance at river kilometers 12.7, 12.8, 15.5 and 17.5

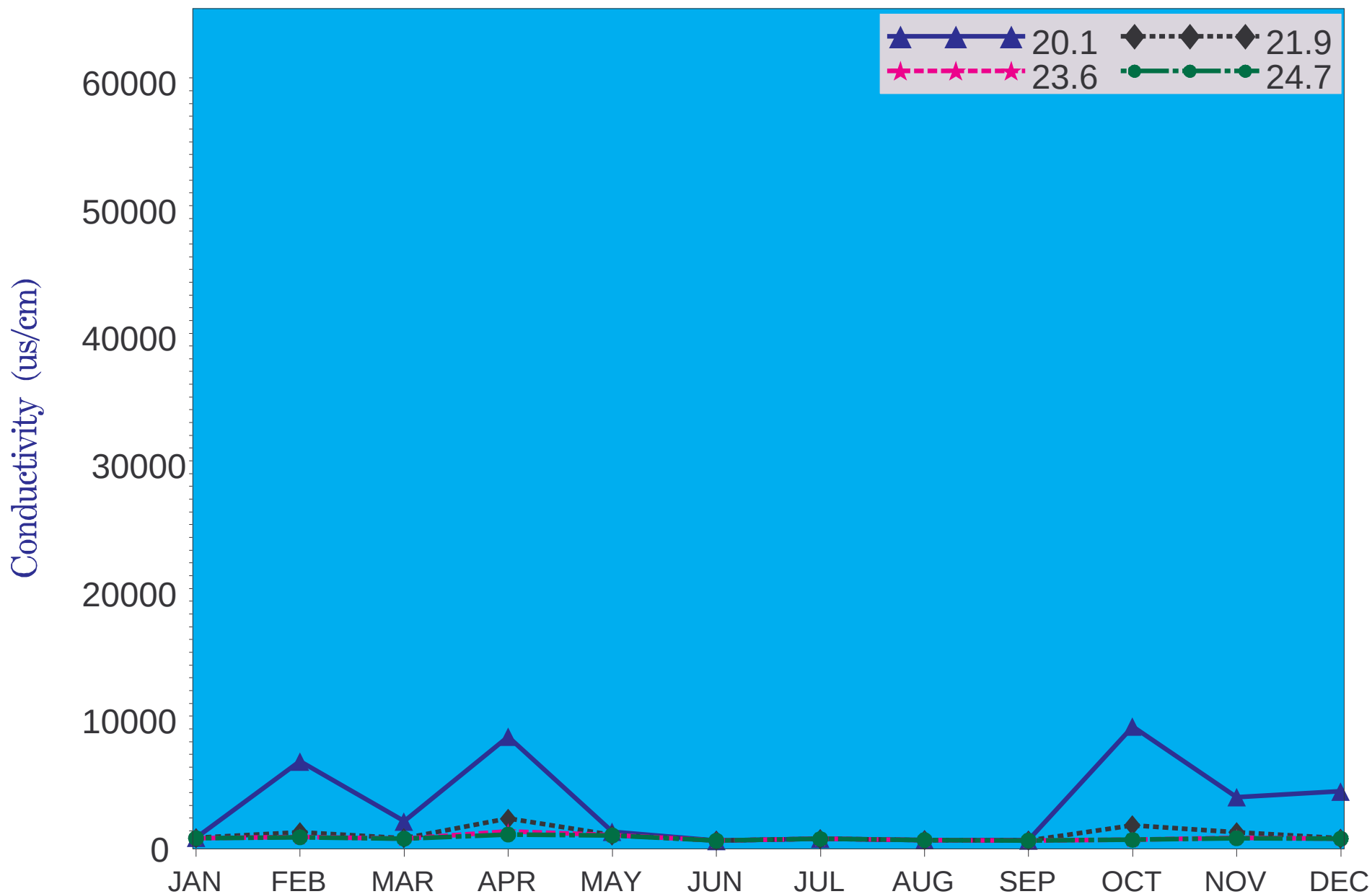


Figure 4.6c 2003 specific conductance at river kilometers 20.1, 21.9, 23.6 and 24.7

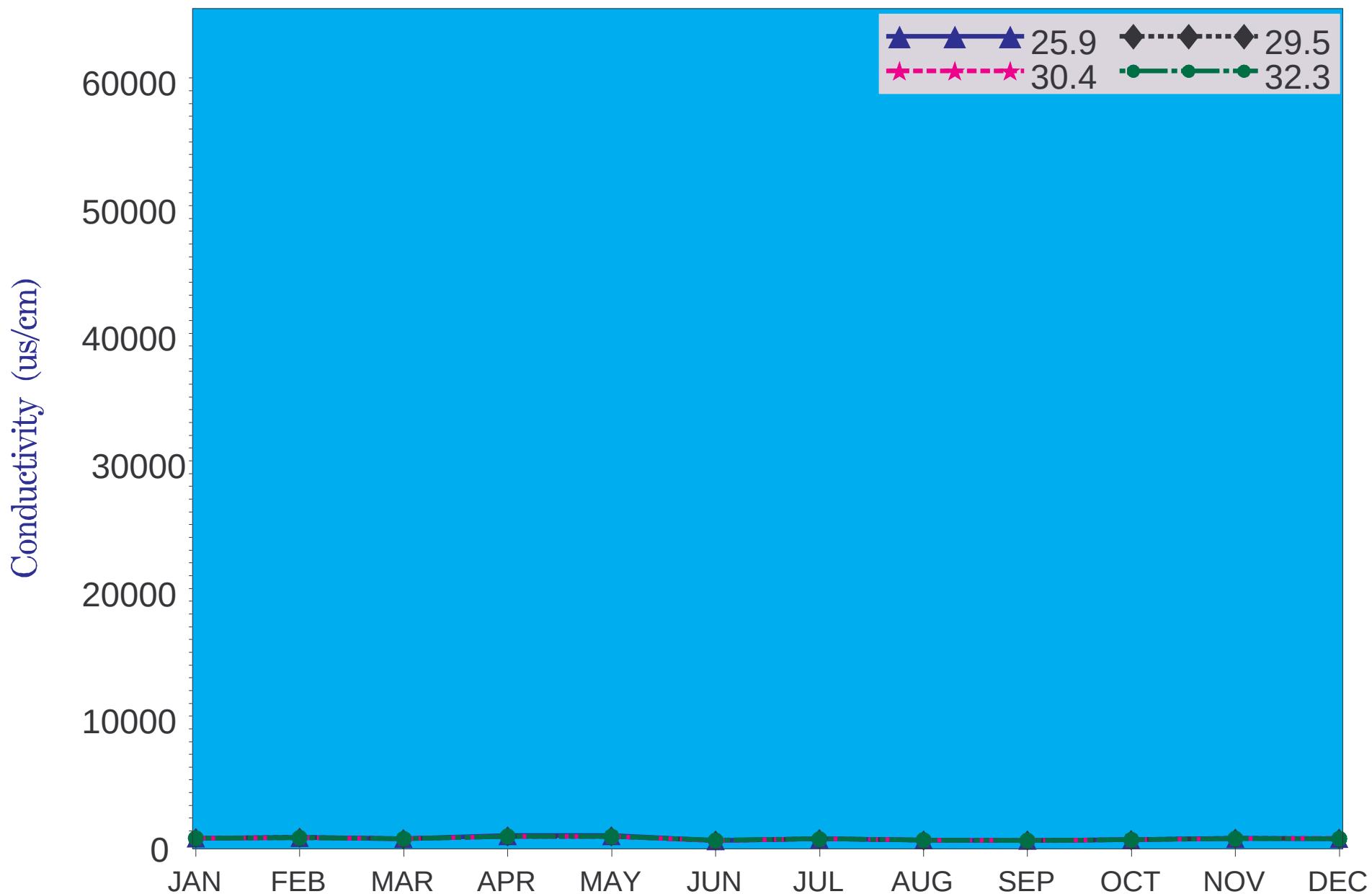


Figure 4.6d 2003 specific conductance at river kilometers 25.9, 29.5, 30.4 and 32.3

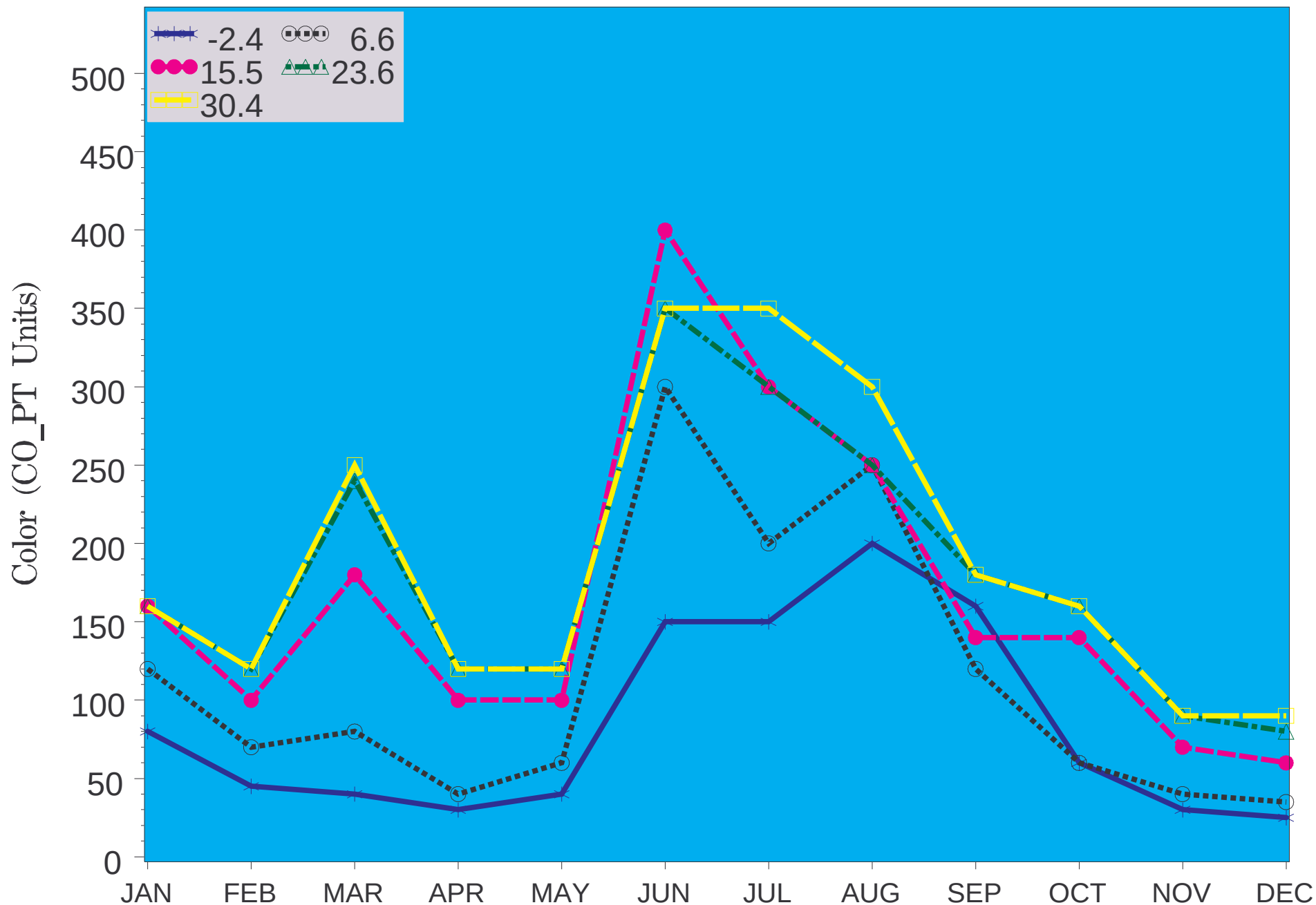


Figure 4.7a Subsurface color at fixed sampling stations (2003)

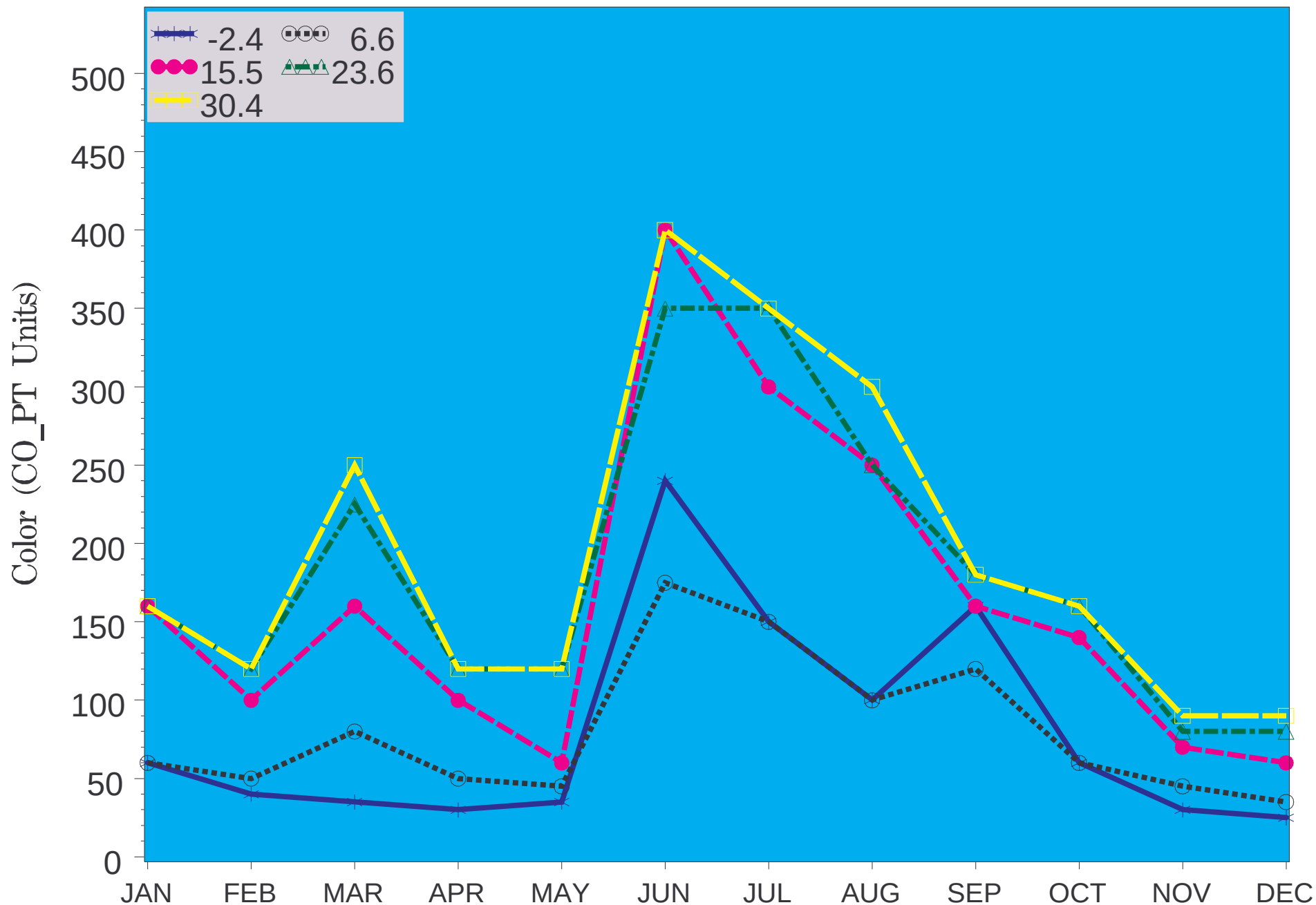


Figure 4.7b Near bottom color at fixed sampling stations (2003)

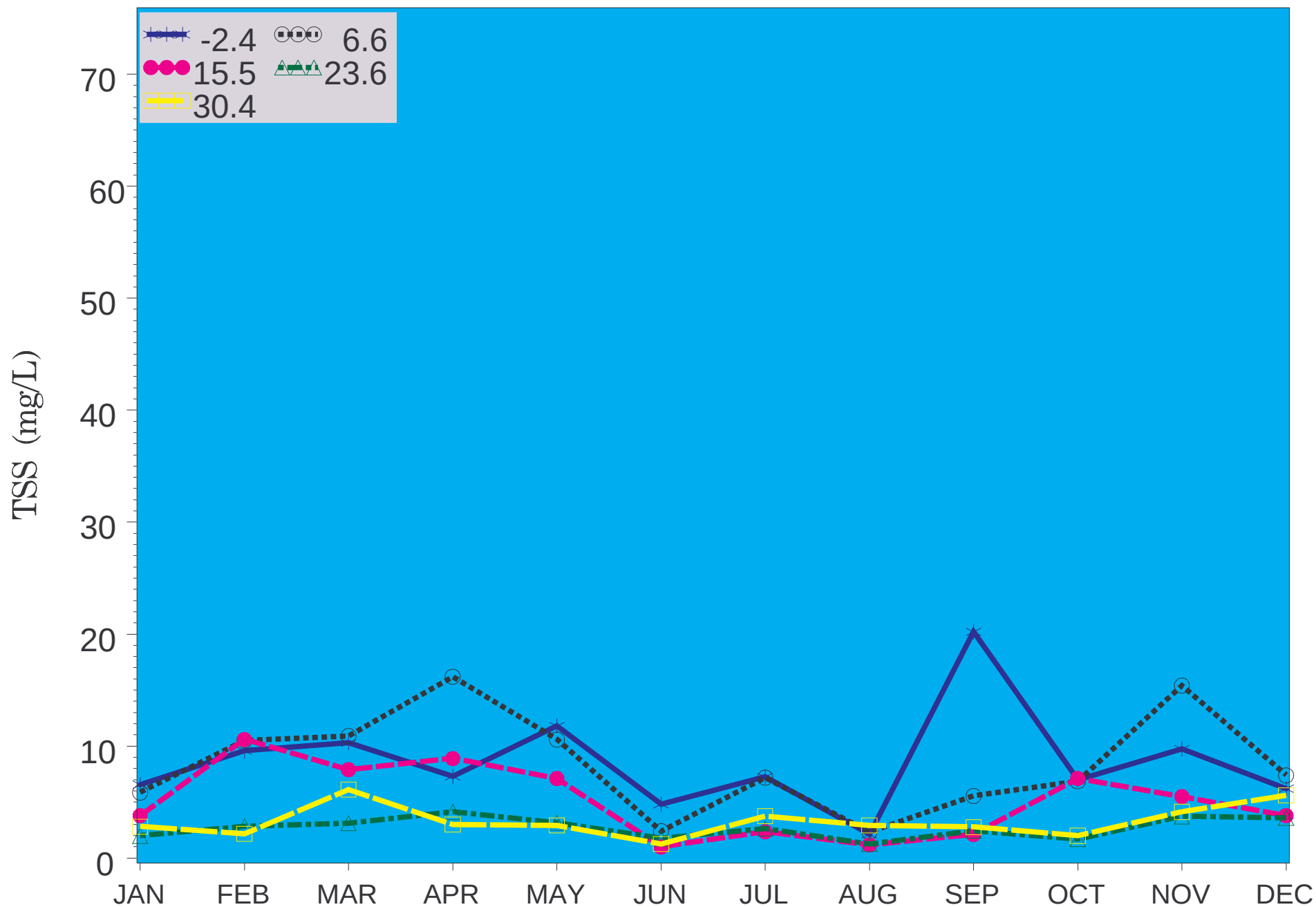


Figure 4.8a Subsurface total suspended solids at fixed sampling stations (2003)

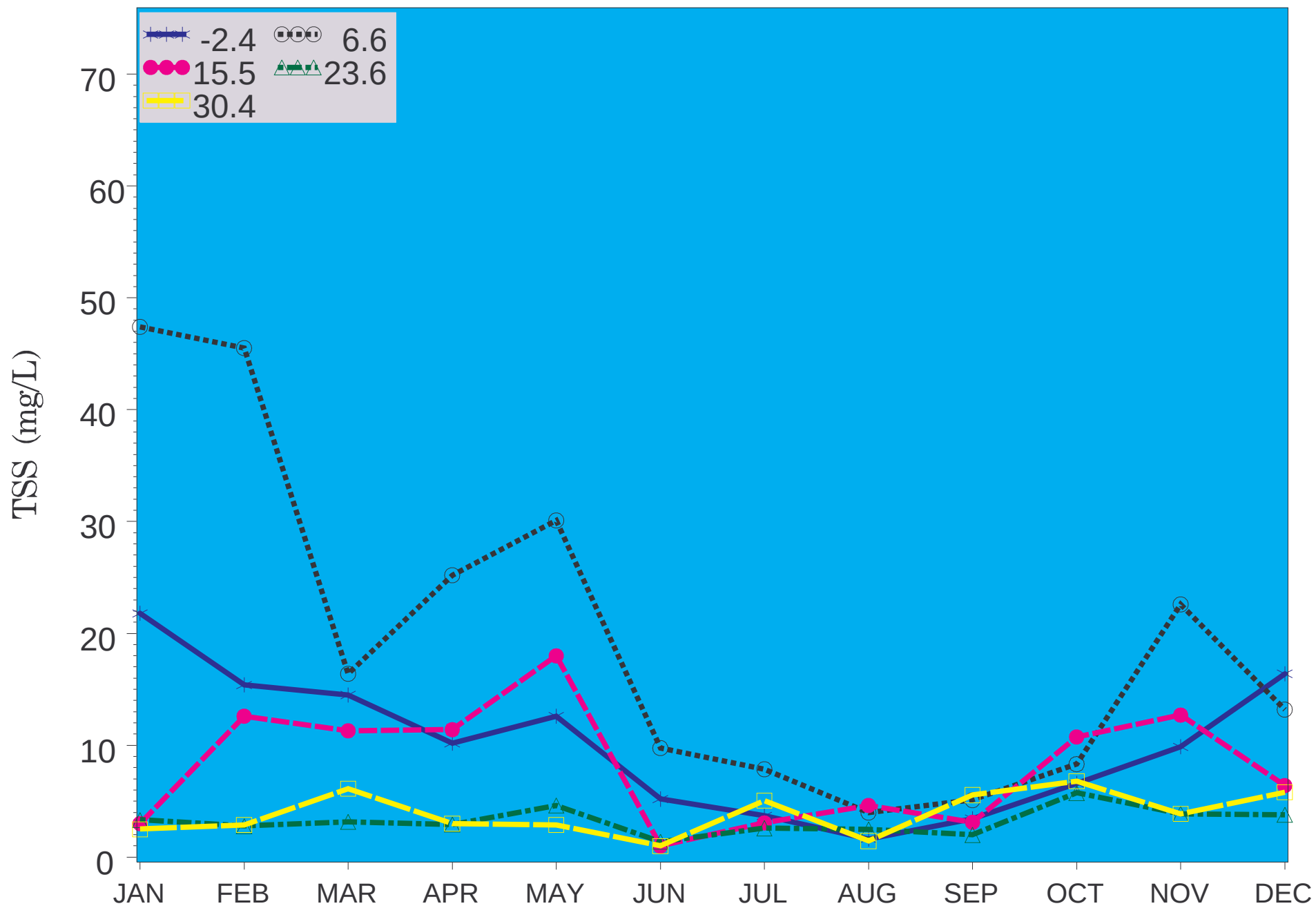


Figure 4.8b Near bottom total suspended solids at fixed sampling stations (2003)

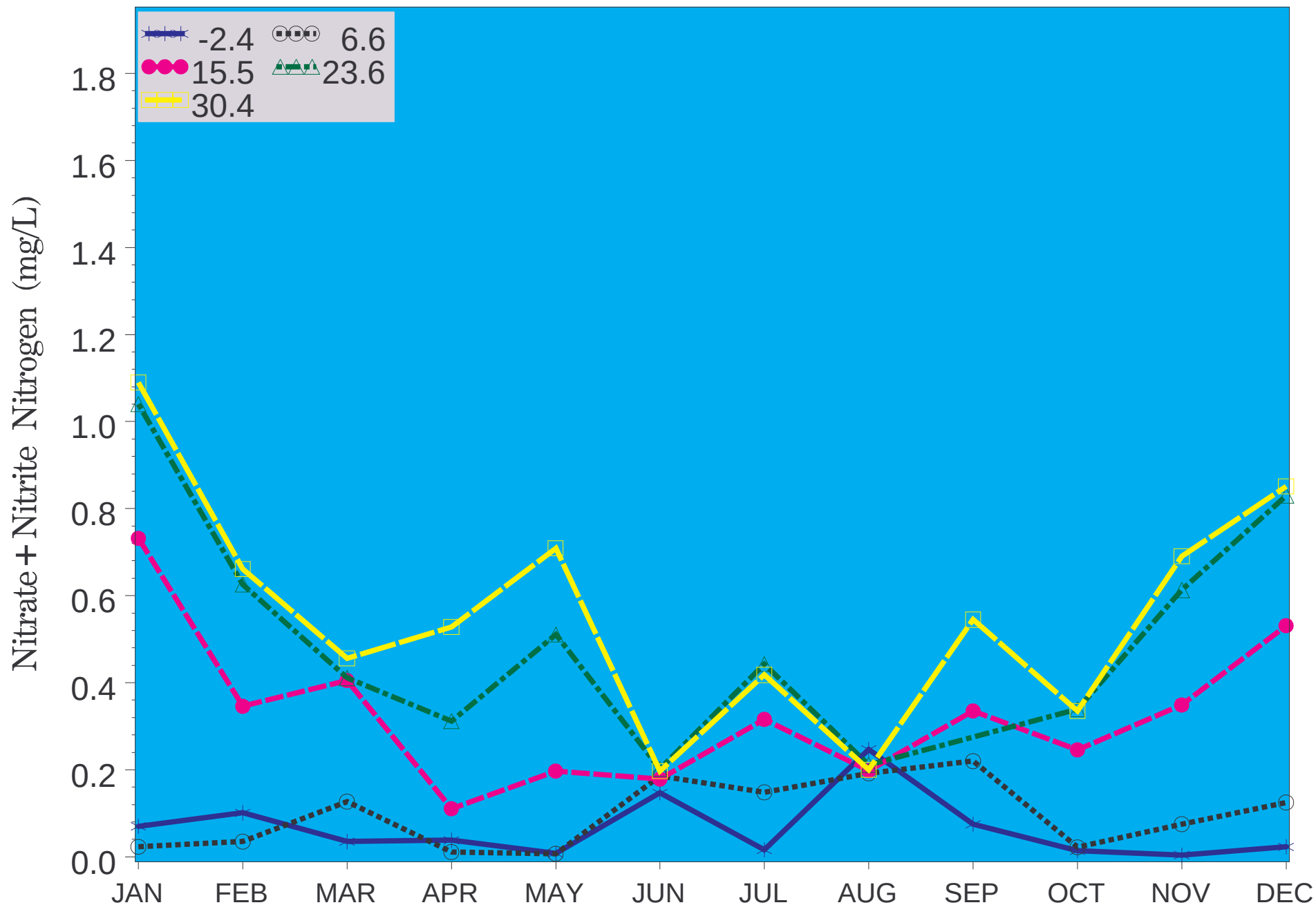


Figure 4.9a Subsurface nitrate/nitrite nitrogen at fixed sampling stations (2003)

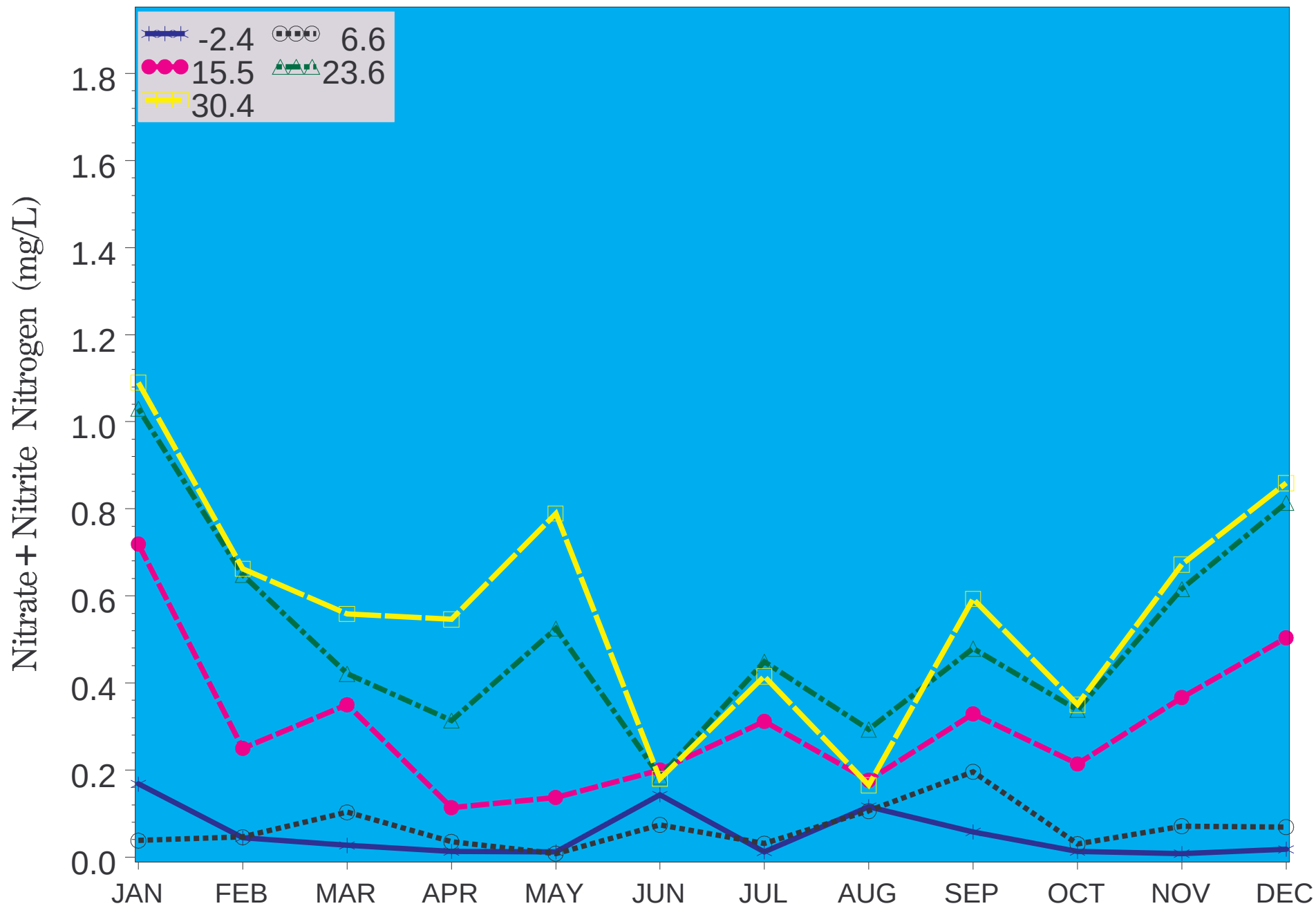


Figure 4.9b Near bottom nitrate/nitrite nitrogen at fixed sampling stations (2003)

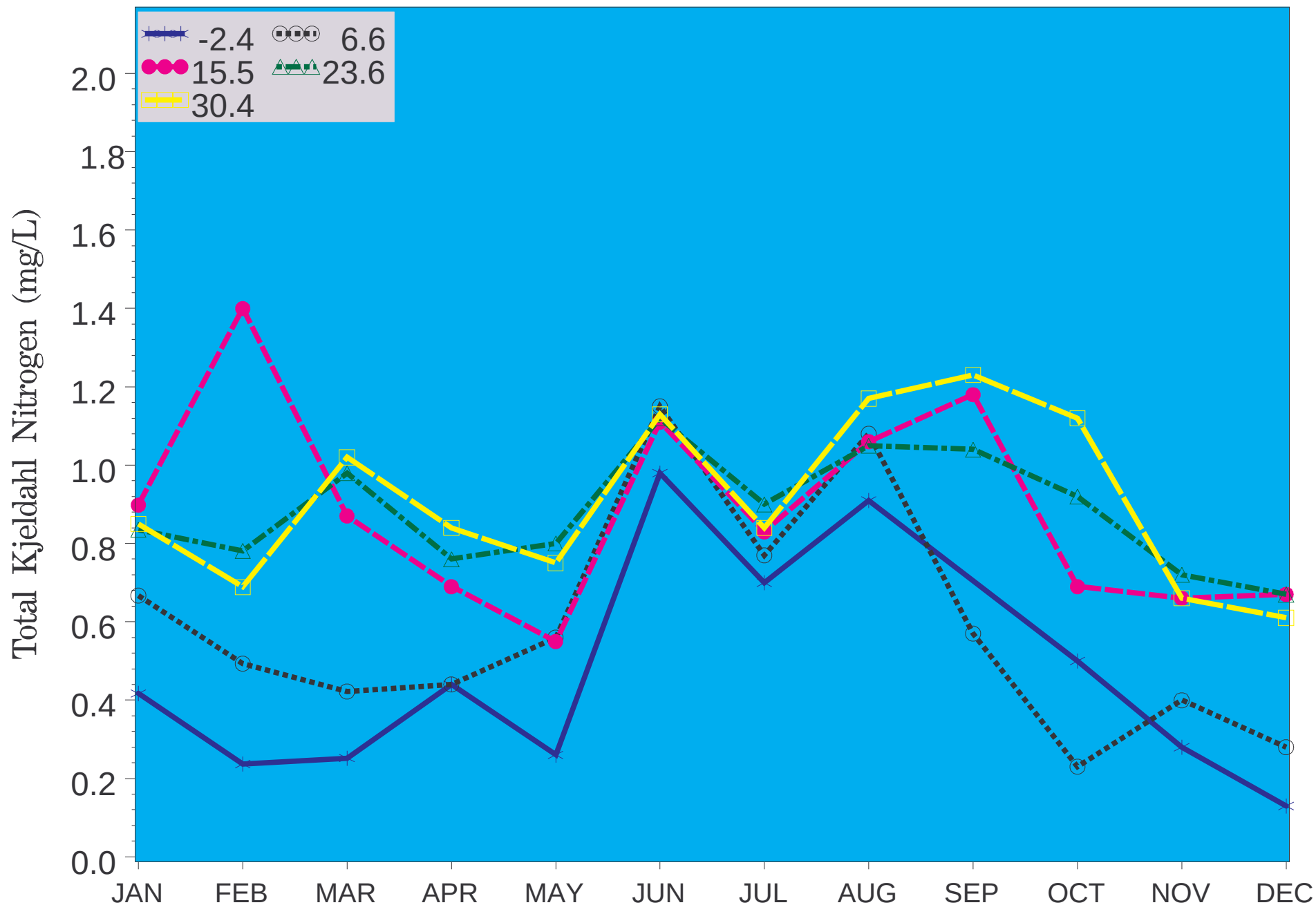


Figure 4.10a Subsurface total Kjeldahl nitrogen at fixed sampling stations (2003)

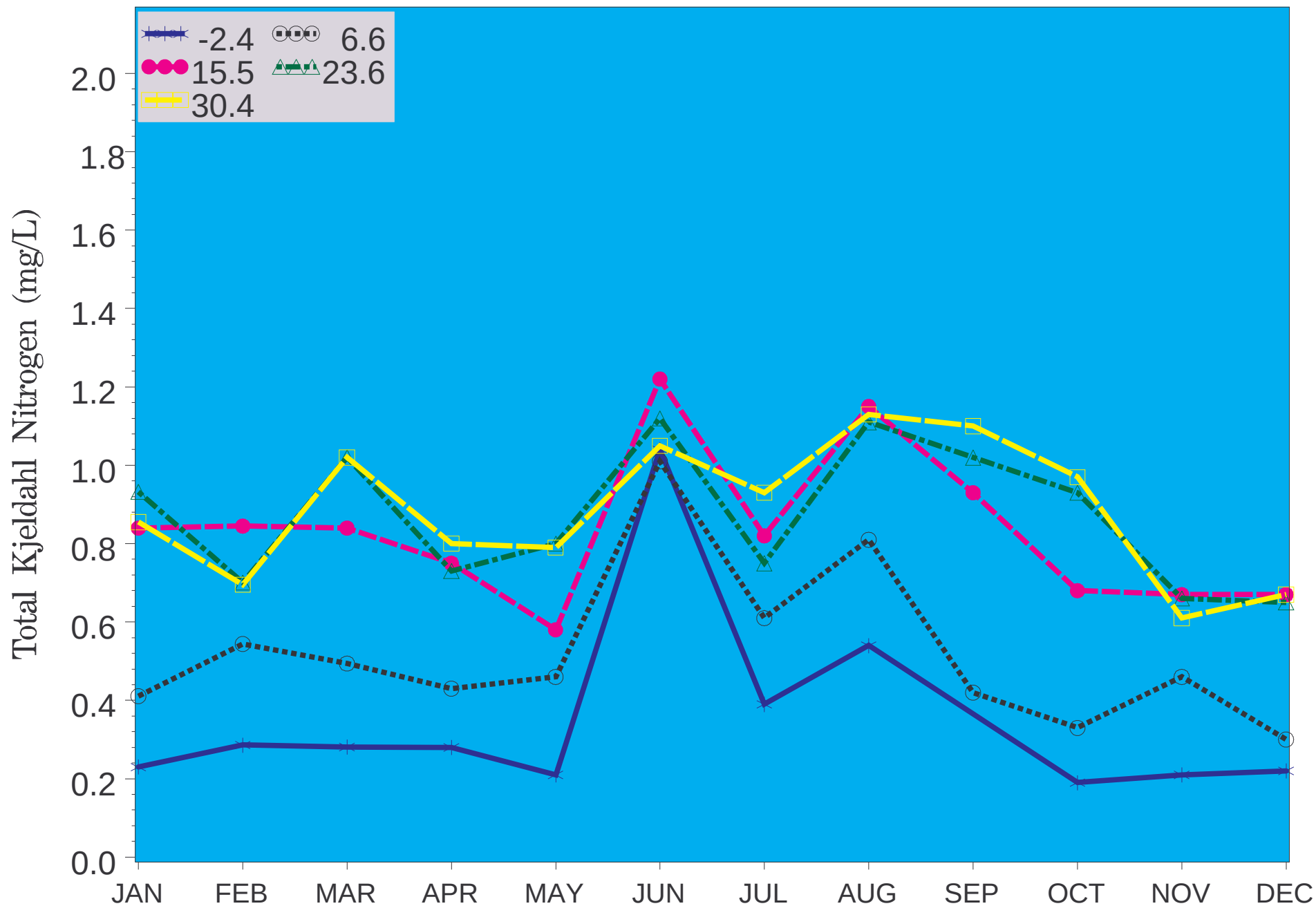


Figure 4.10b Near bottom total Kjeldahl nitrogen at fixed sampling stations (2003)

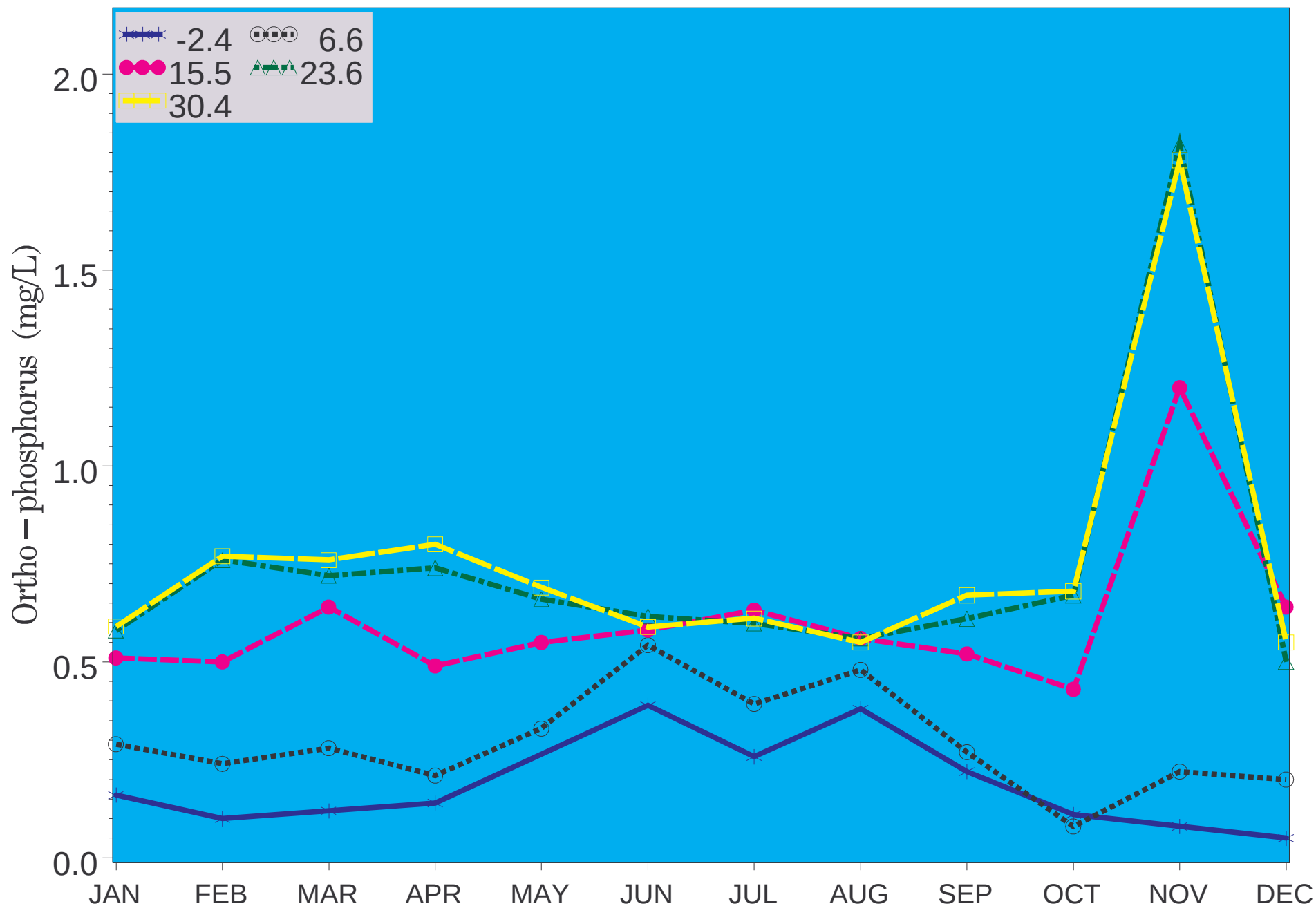


Figure 4.11a Subsurface ortho-phosphorus at fixed sampling stations (2003)

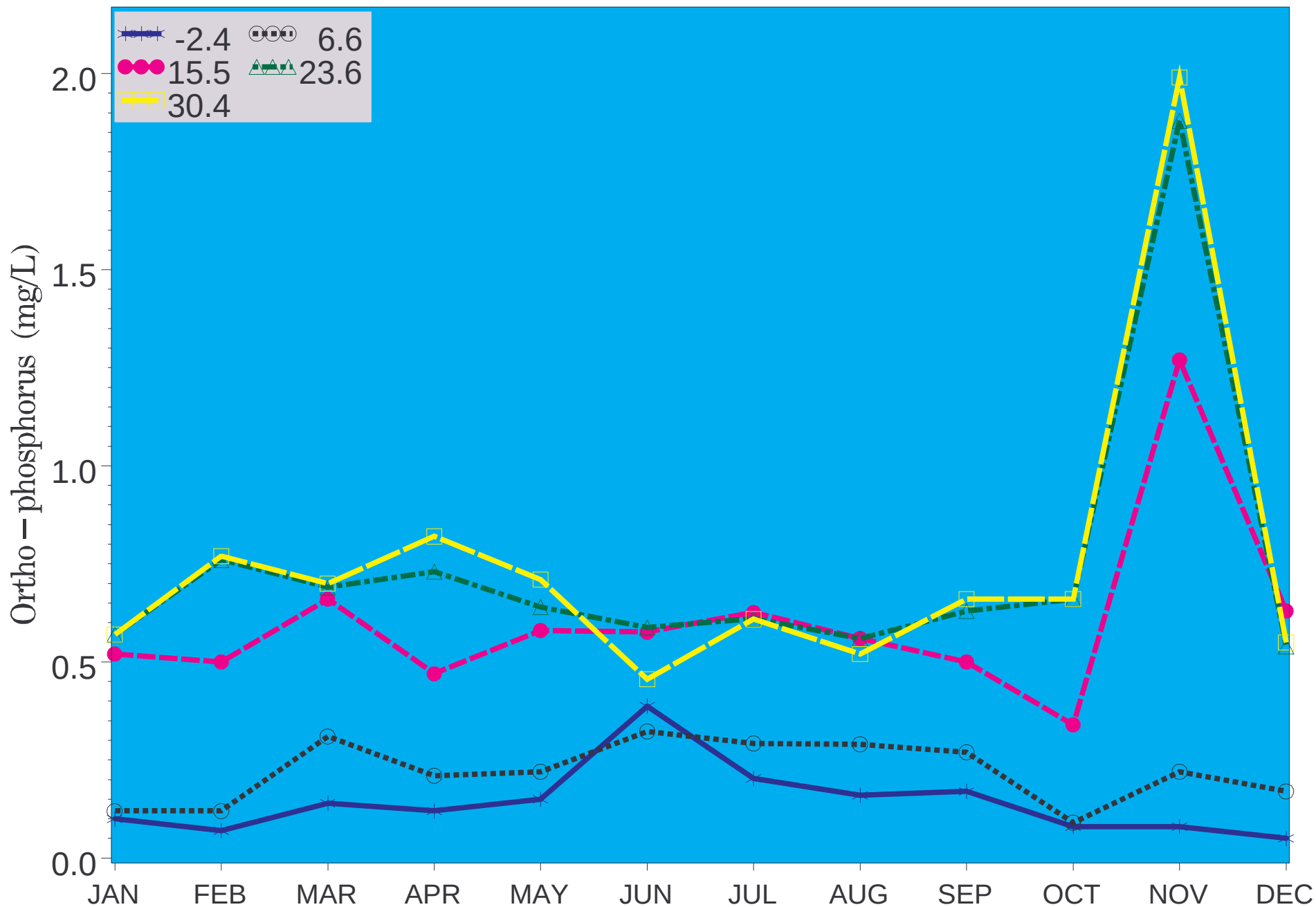


Figure 4.11b Near bottom ortho-phosphorus at fixed sampling stations (2003)

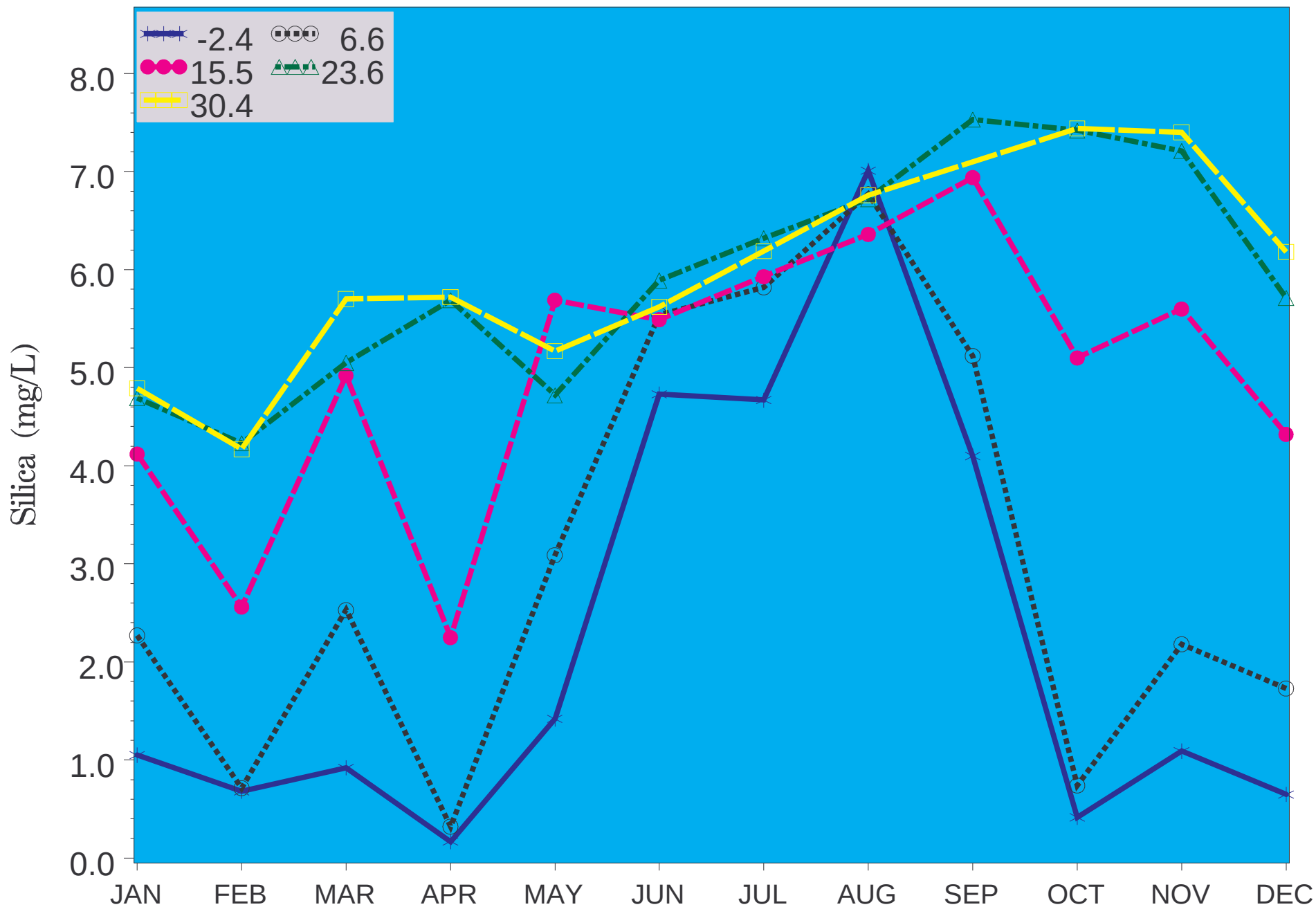


Figure 4.12a Subsurface silica at fixed sampling stations (2003)

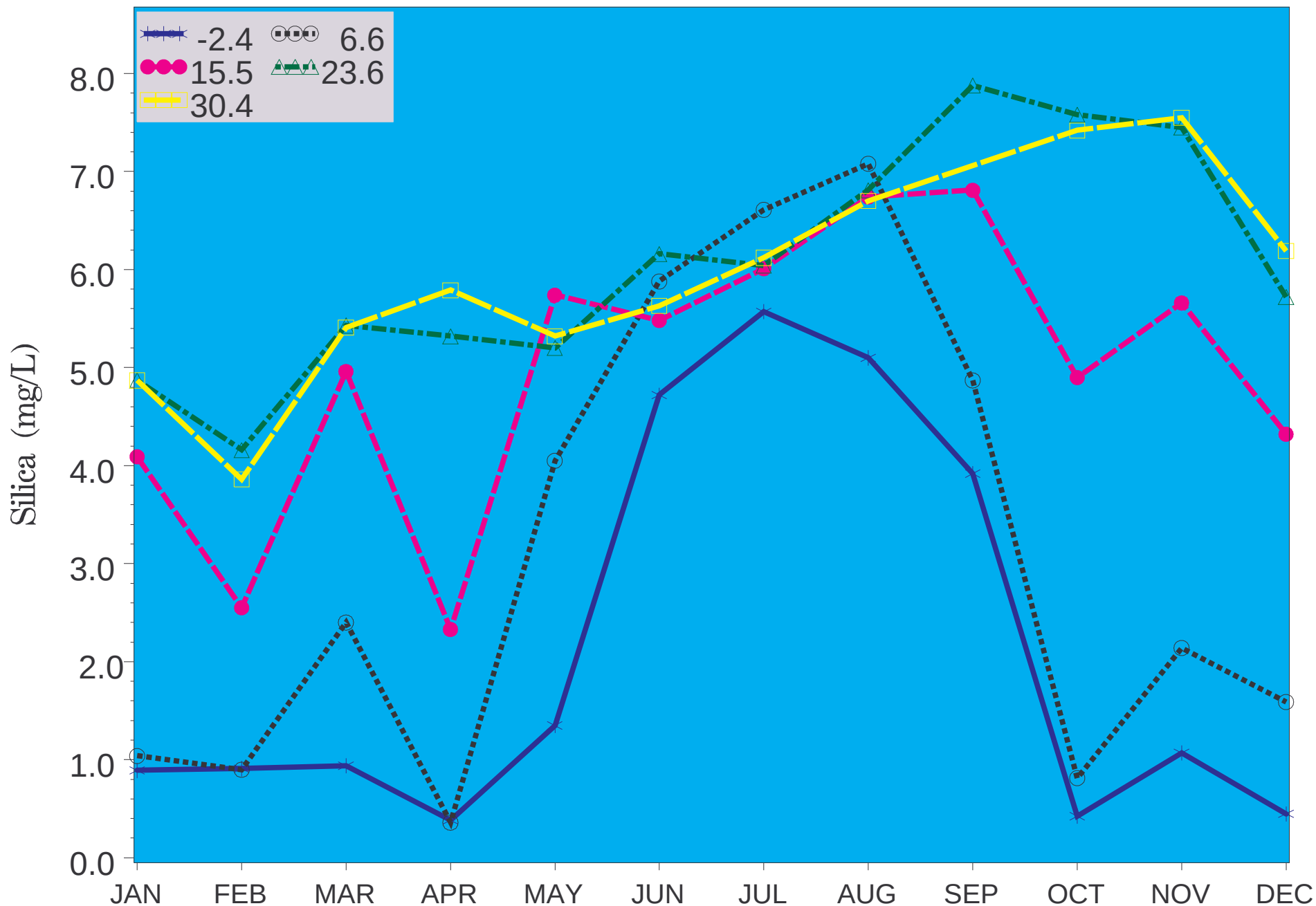


Figure 4.12b Near bottom silica at fixed sampling stations (2003)

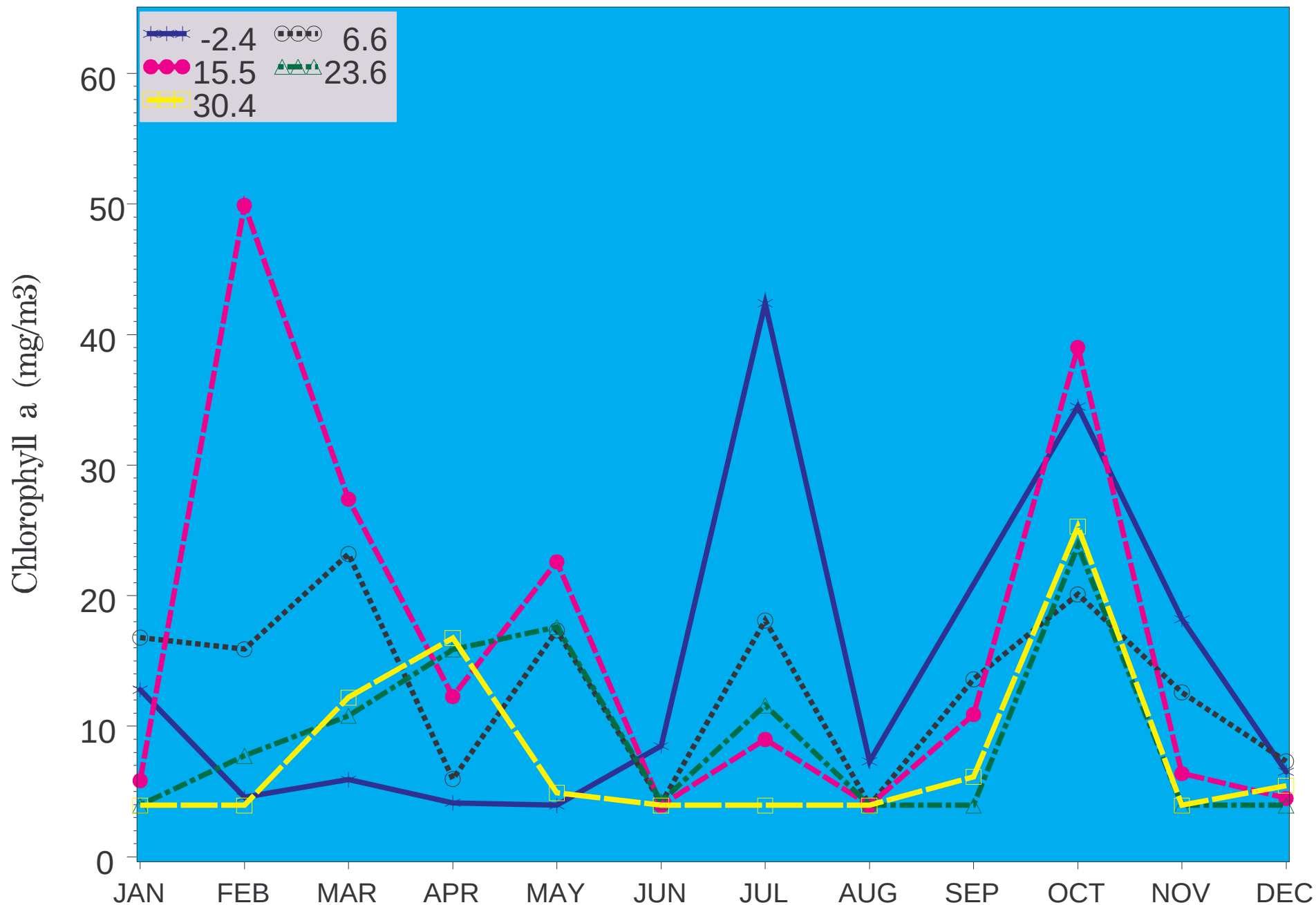


Figure 4.13a Subsurface chlorophyll a (mg/m³) at fixed stations (2003)

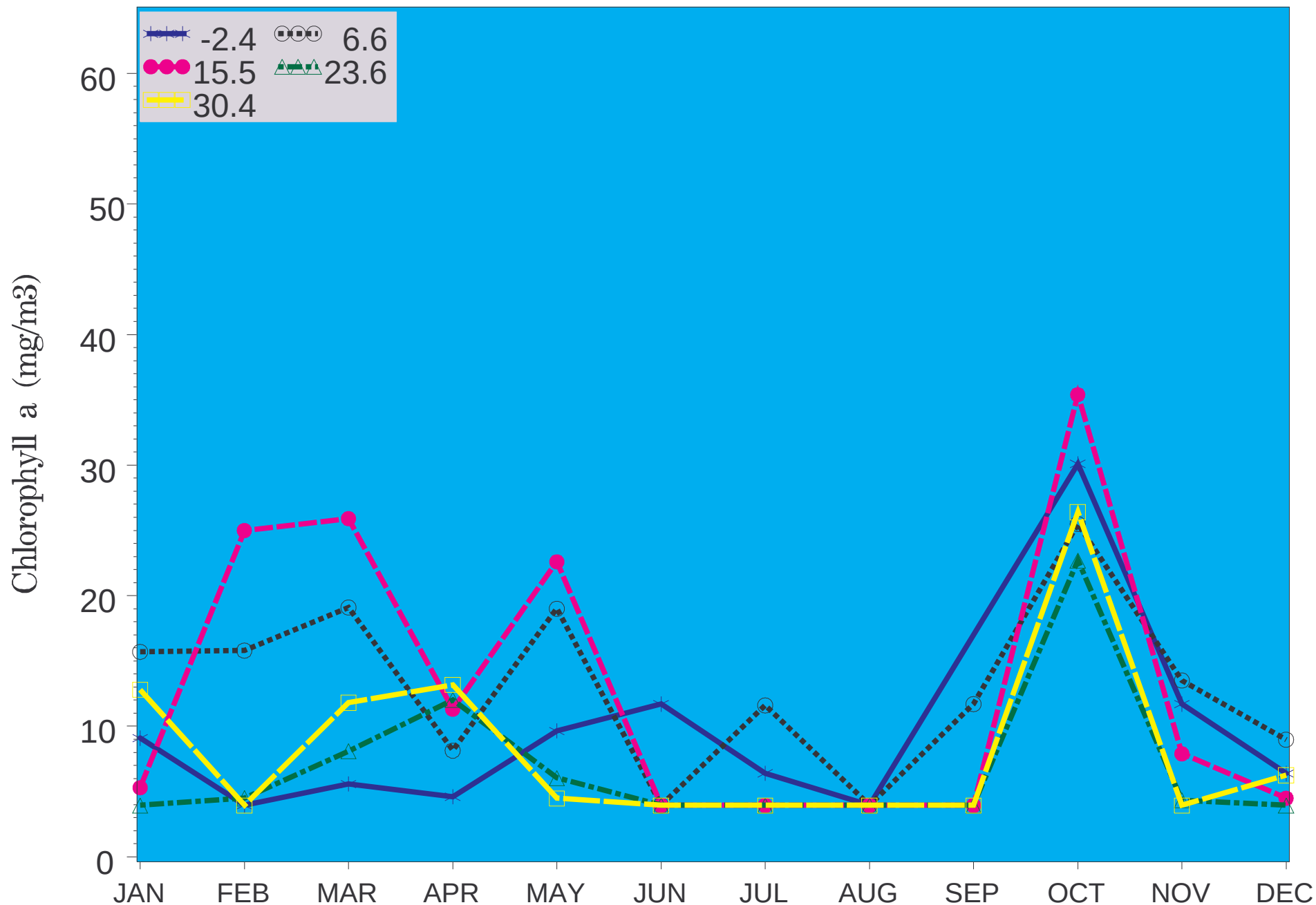


Figure 4.13b Near bottom chlorophyll a (mg/m³) at fixed stations (2003)

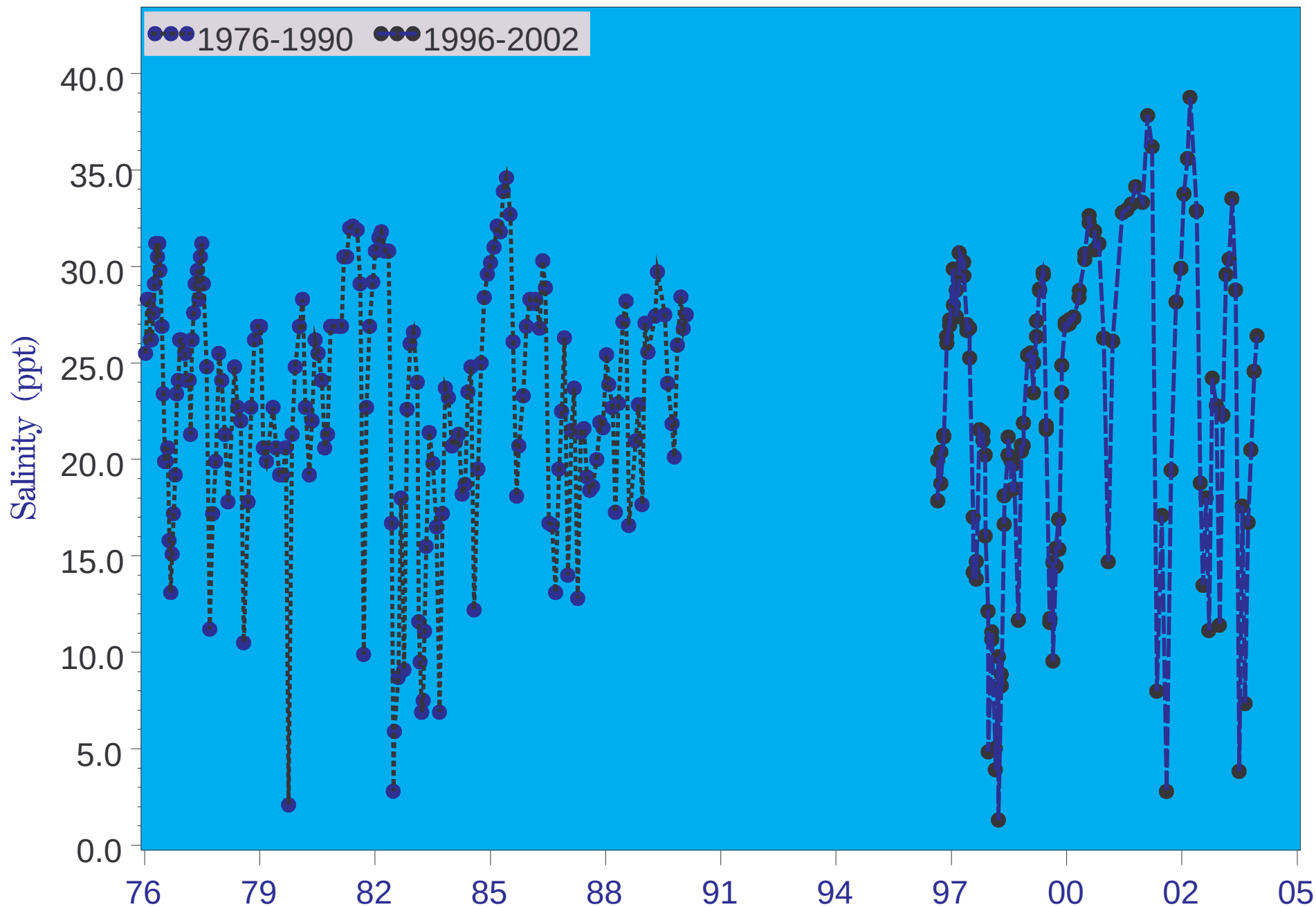


Figure 4.14a Long-term surface salinity at river kilometer -2.4

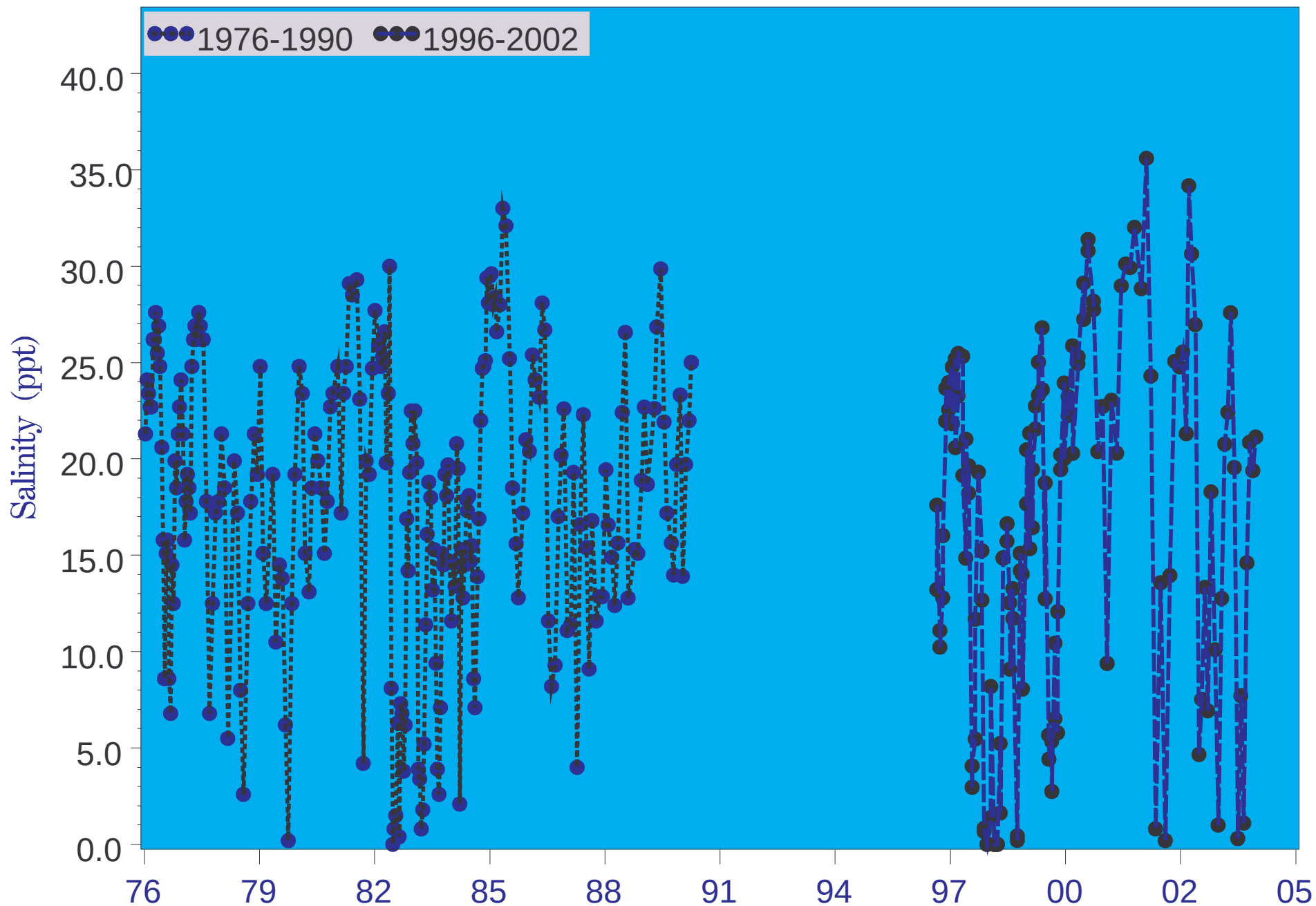


Figure 4.14b Long-term surface salinity at river kilometer 6.6

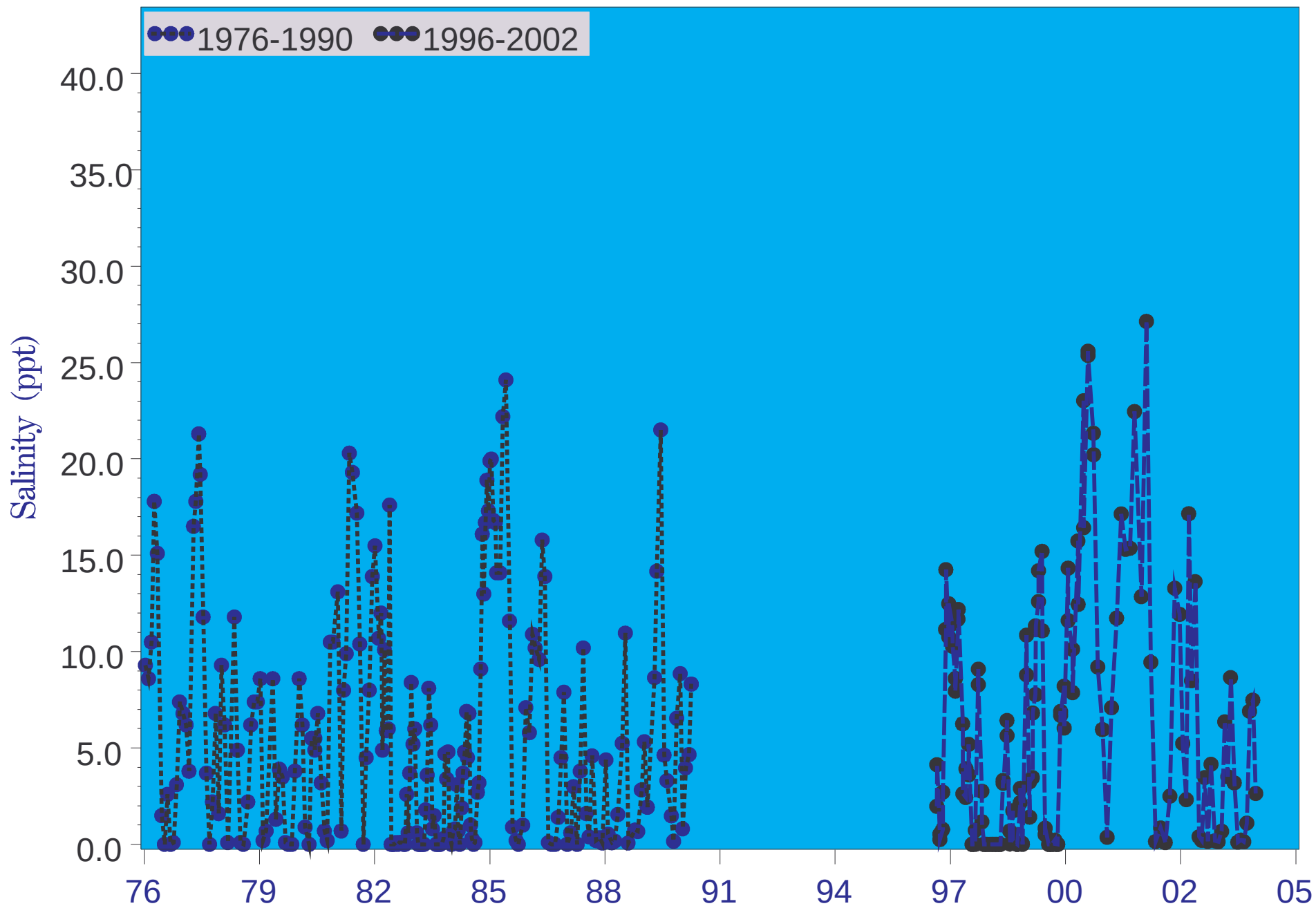


Figure 4.14c Long-term surface salinity at river kilometer 15.5

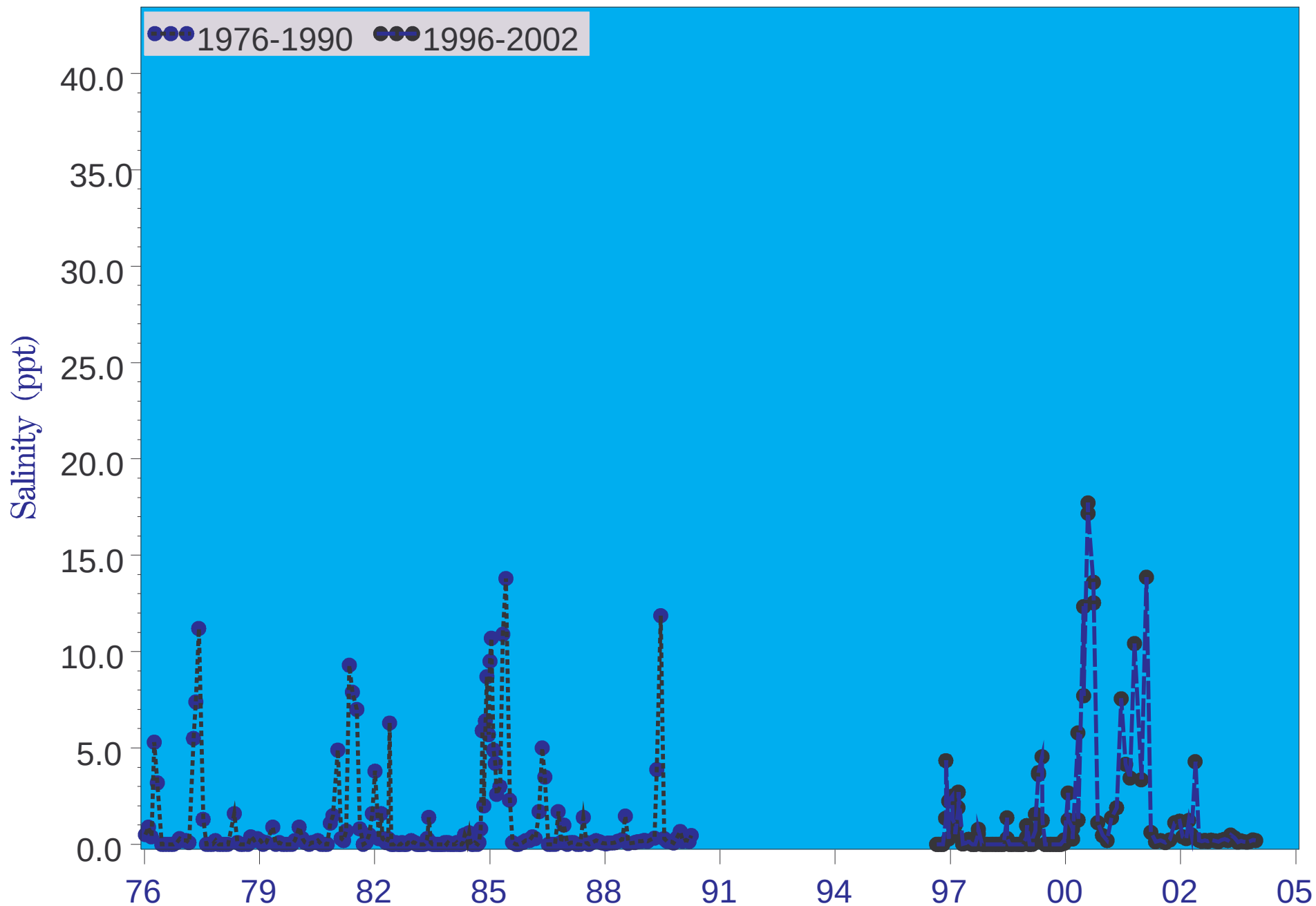


Figure 4.14d Long-term surface salinity at river kilometer 23.6

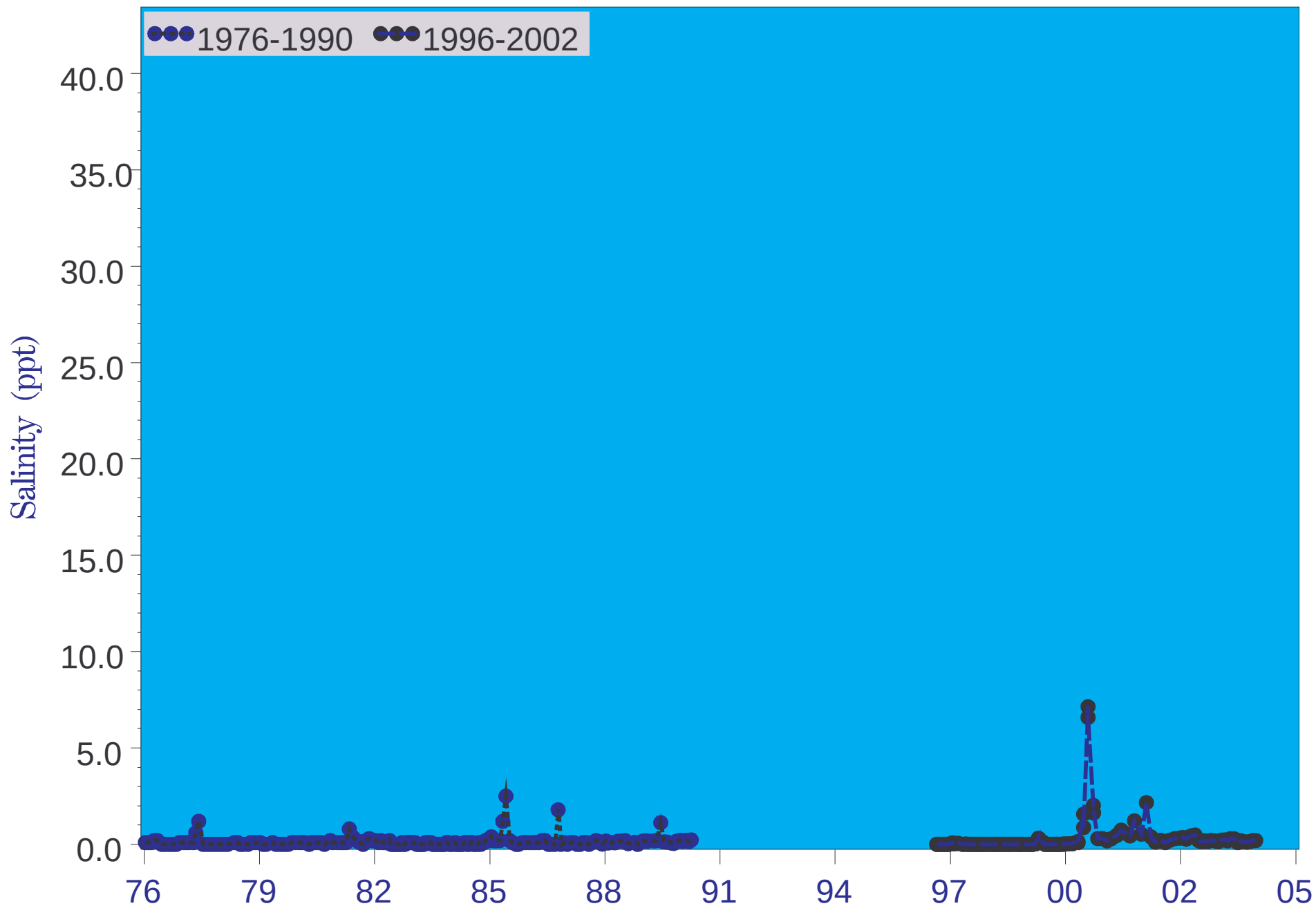
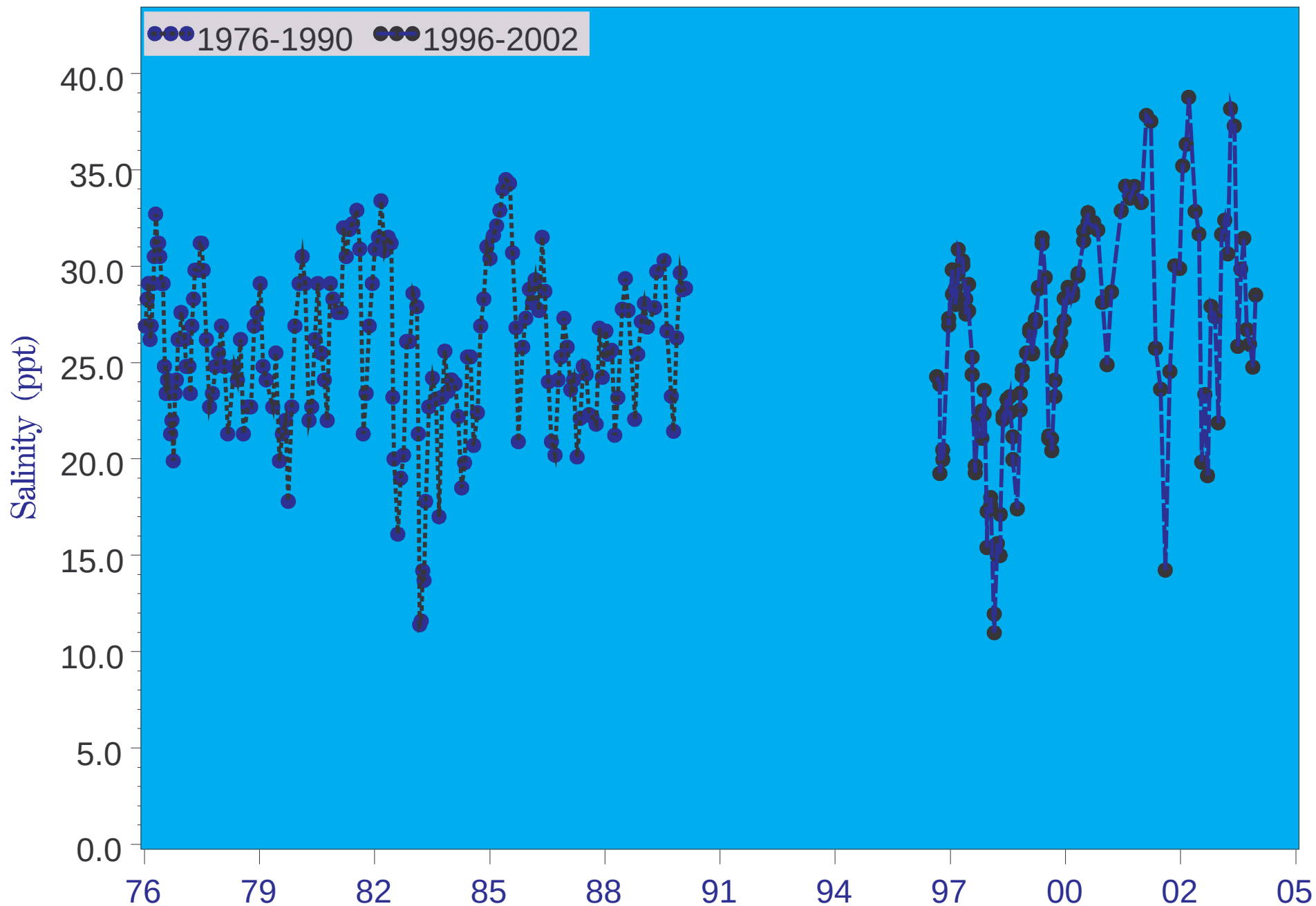


Figure 4.14e Long-term surface salinity at river kilometer 30.4



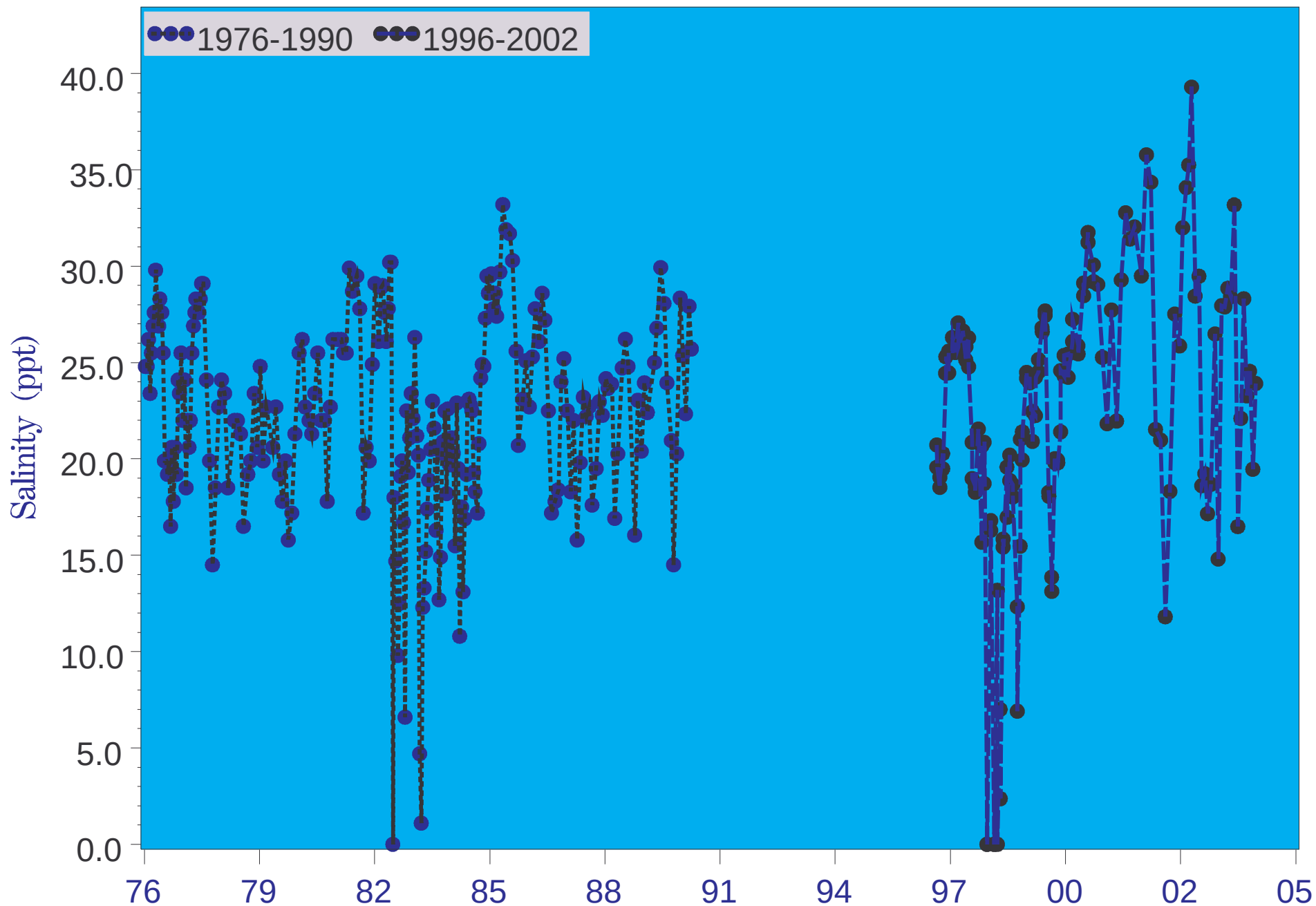


Figure 4.15b Long-term bottom salinity at river kilometer 6.6

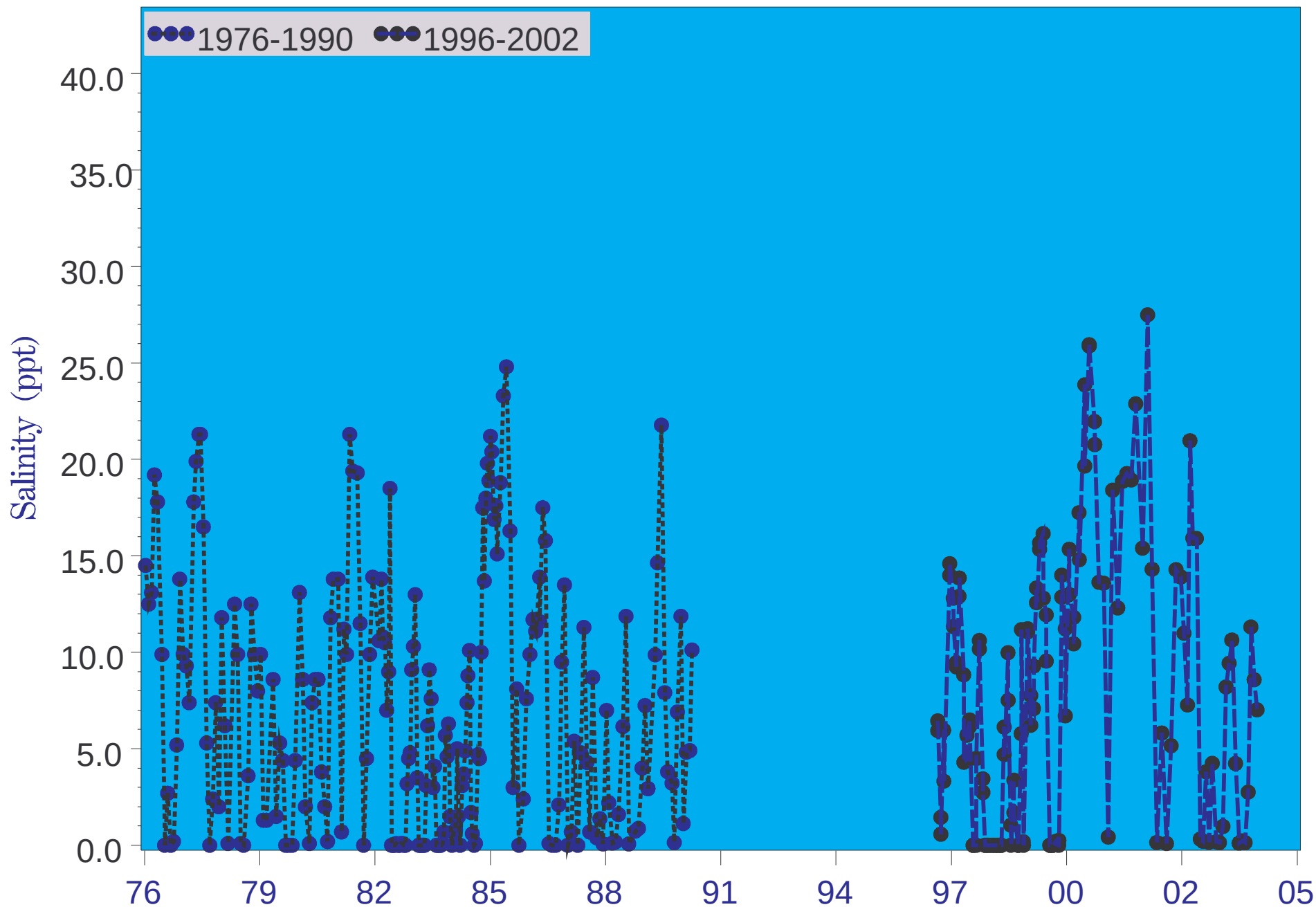


Figure 4.15c Long-term bottom salinity at river kilometer 15.5

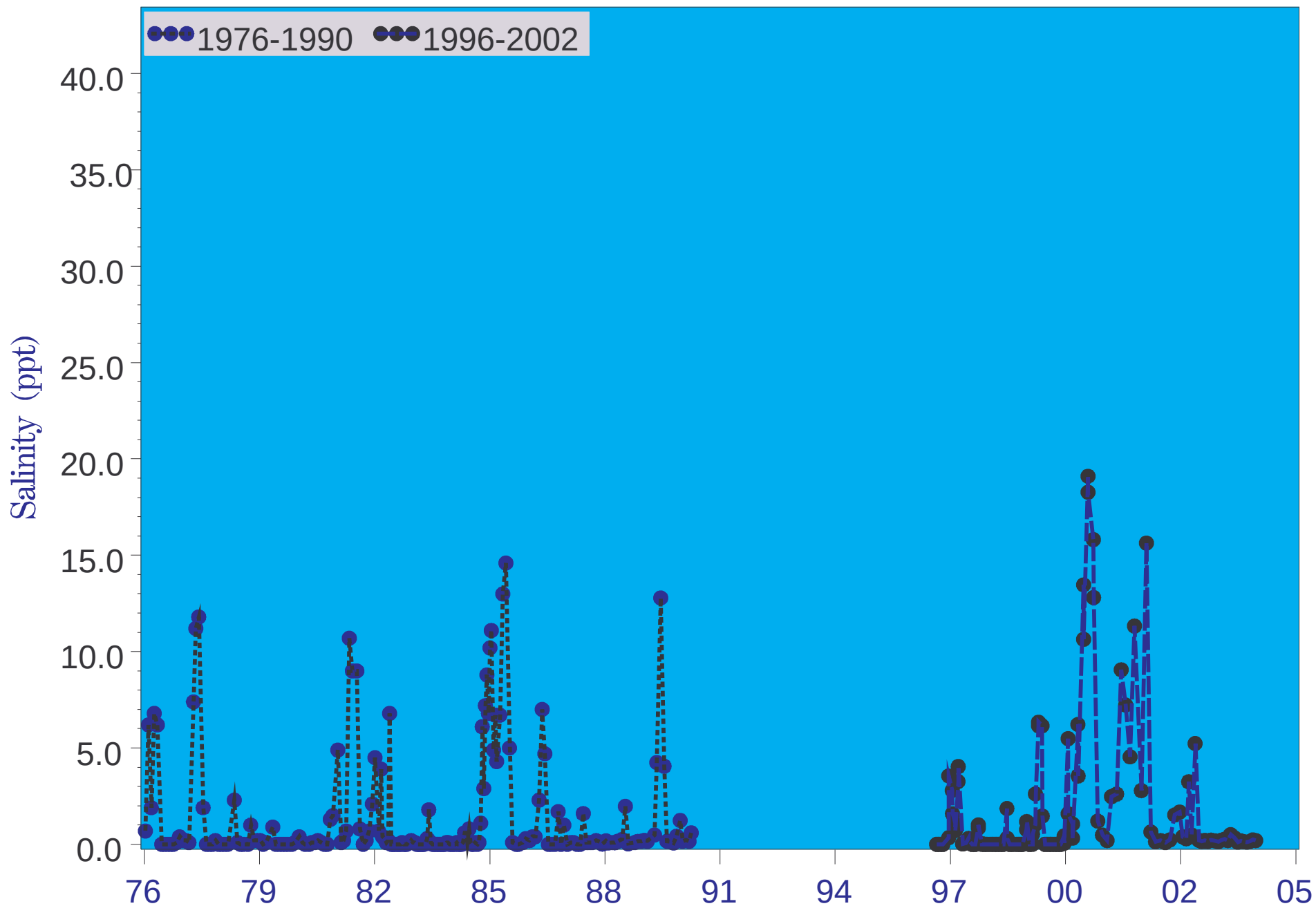


Figure 4.15d Long-term bottom salinity at river kilometer 23.6

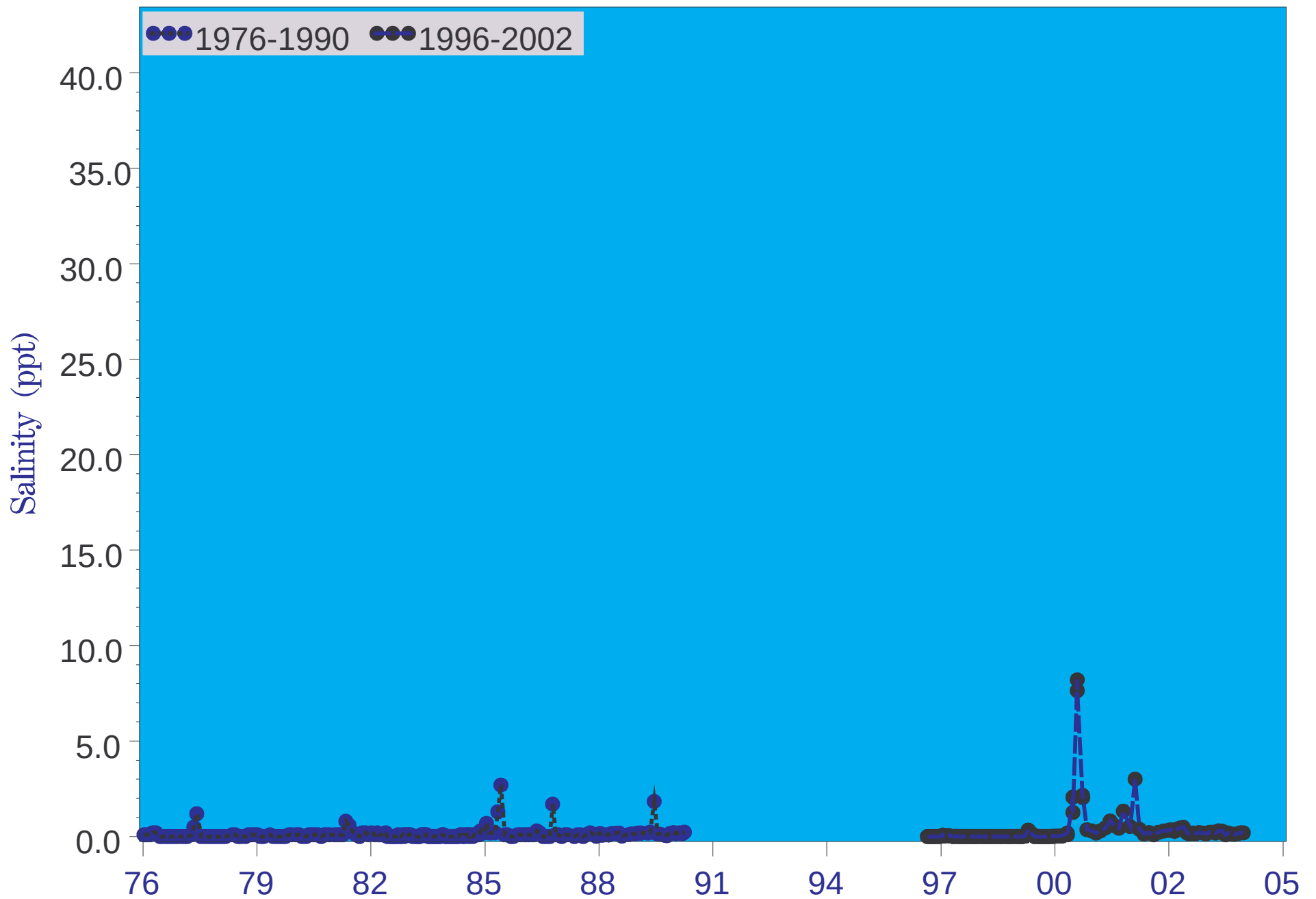


Figure 4.15e Long-term bottom salinity at river kilometer 30.4

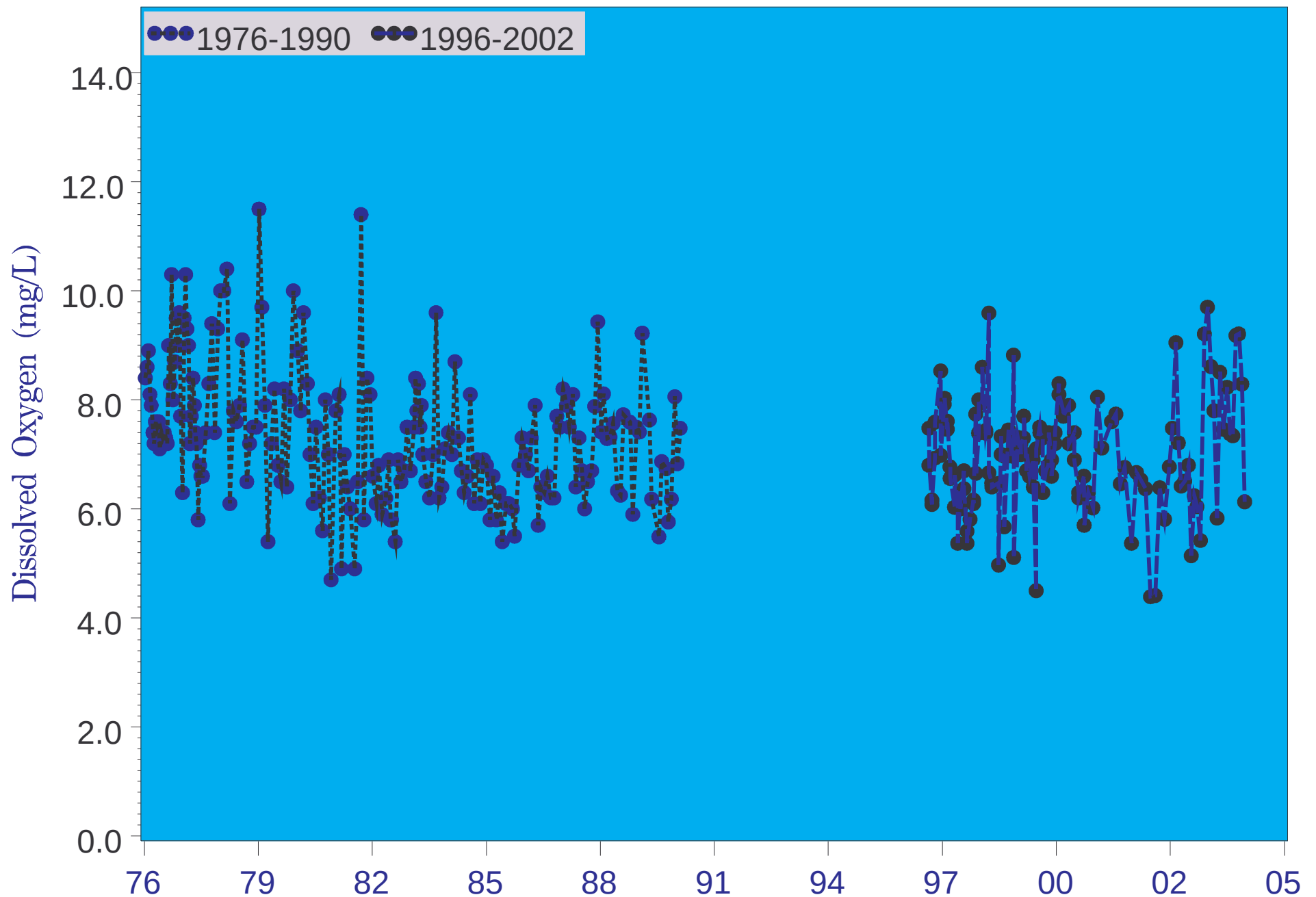


Figure 4.16a Long-term surface dissolved oxygen at river kilometer -2.4

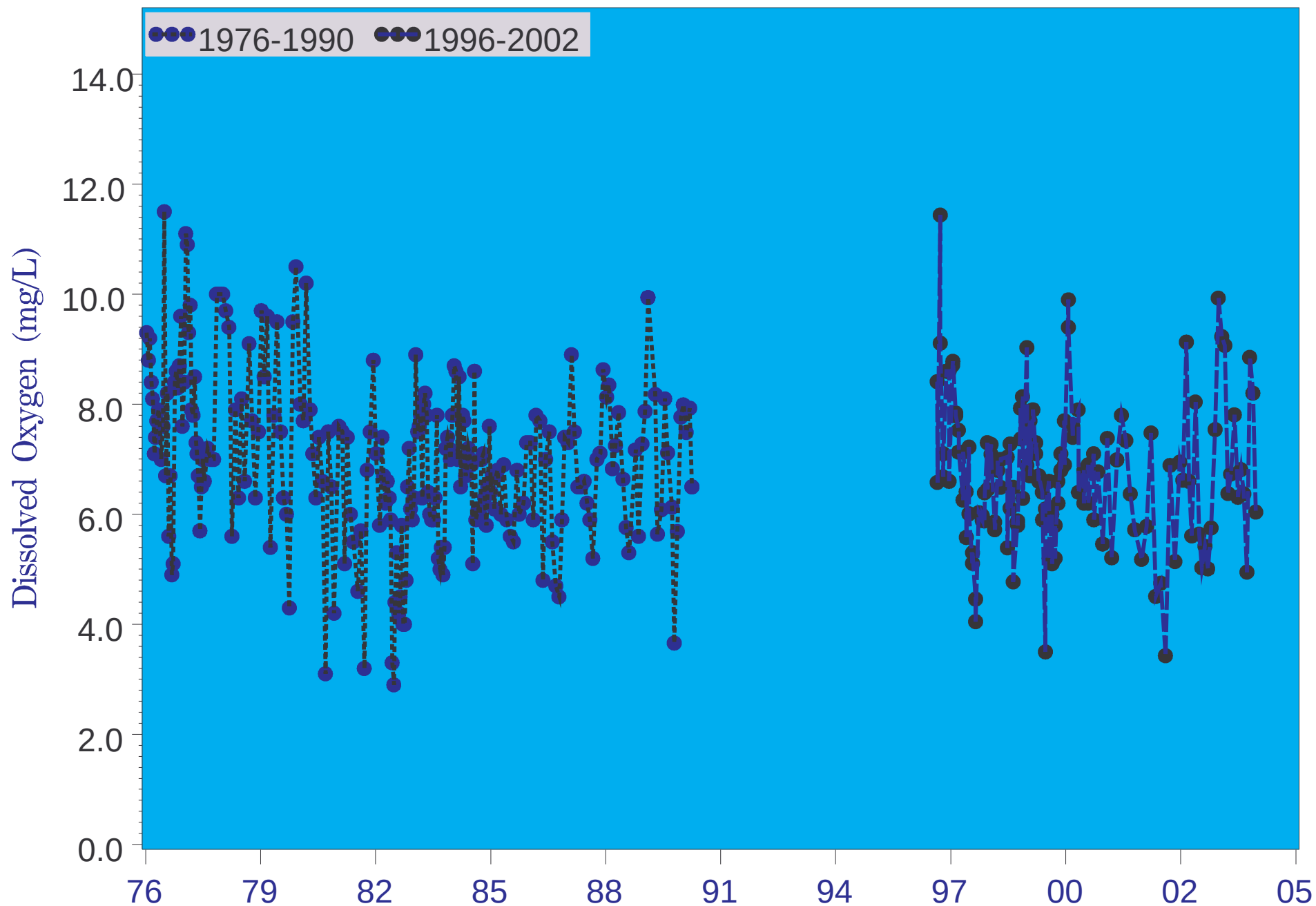


Figure 4.16b Long-term surface dissolved oxygen at river kilometer 6.6

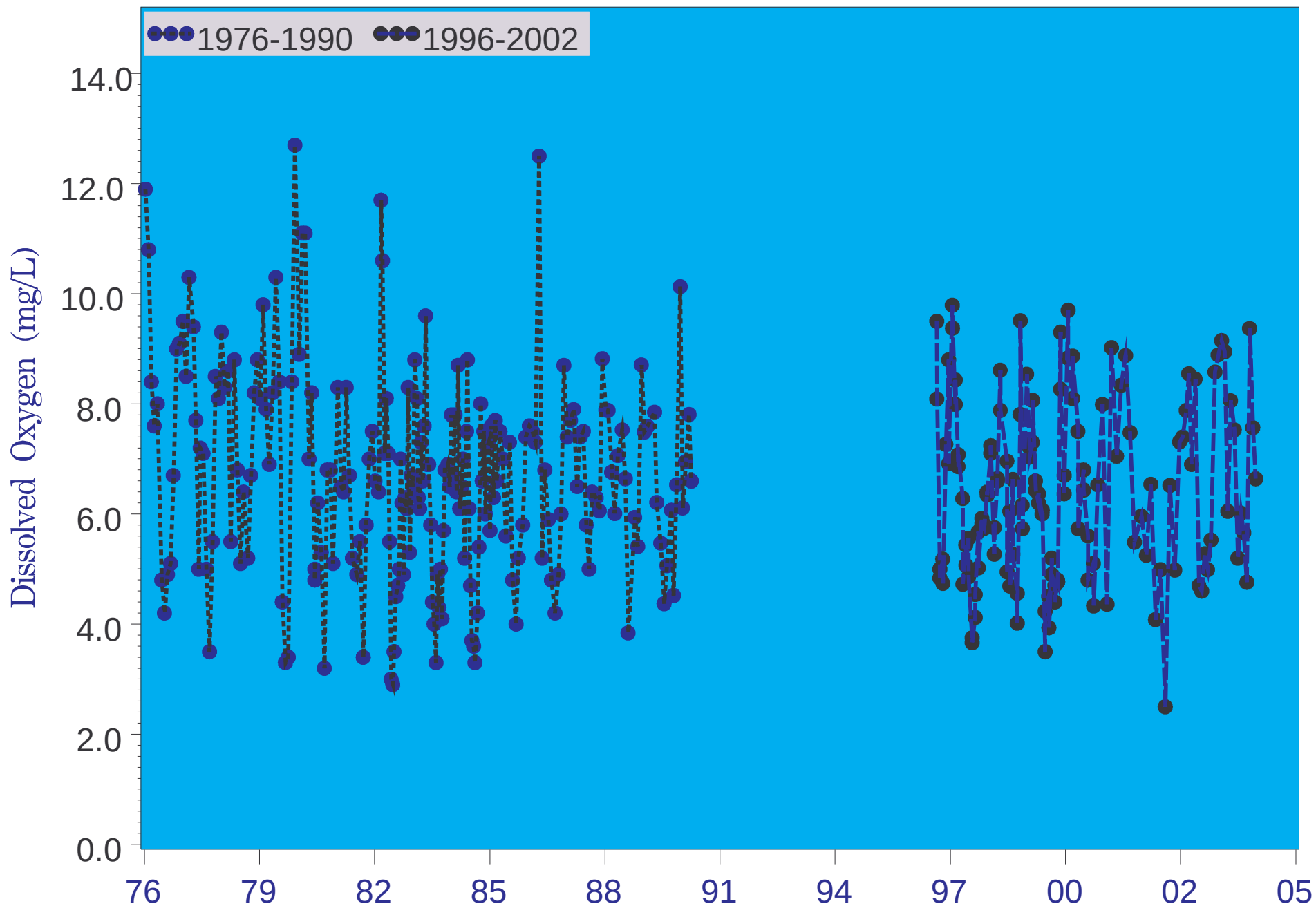


Figure 4.16c Long-term surface dissolved oxygen at river kilometer 15.5

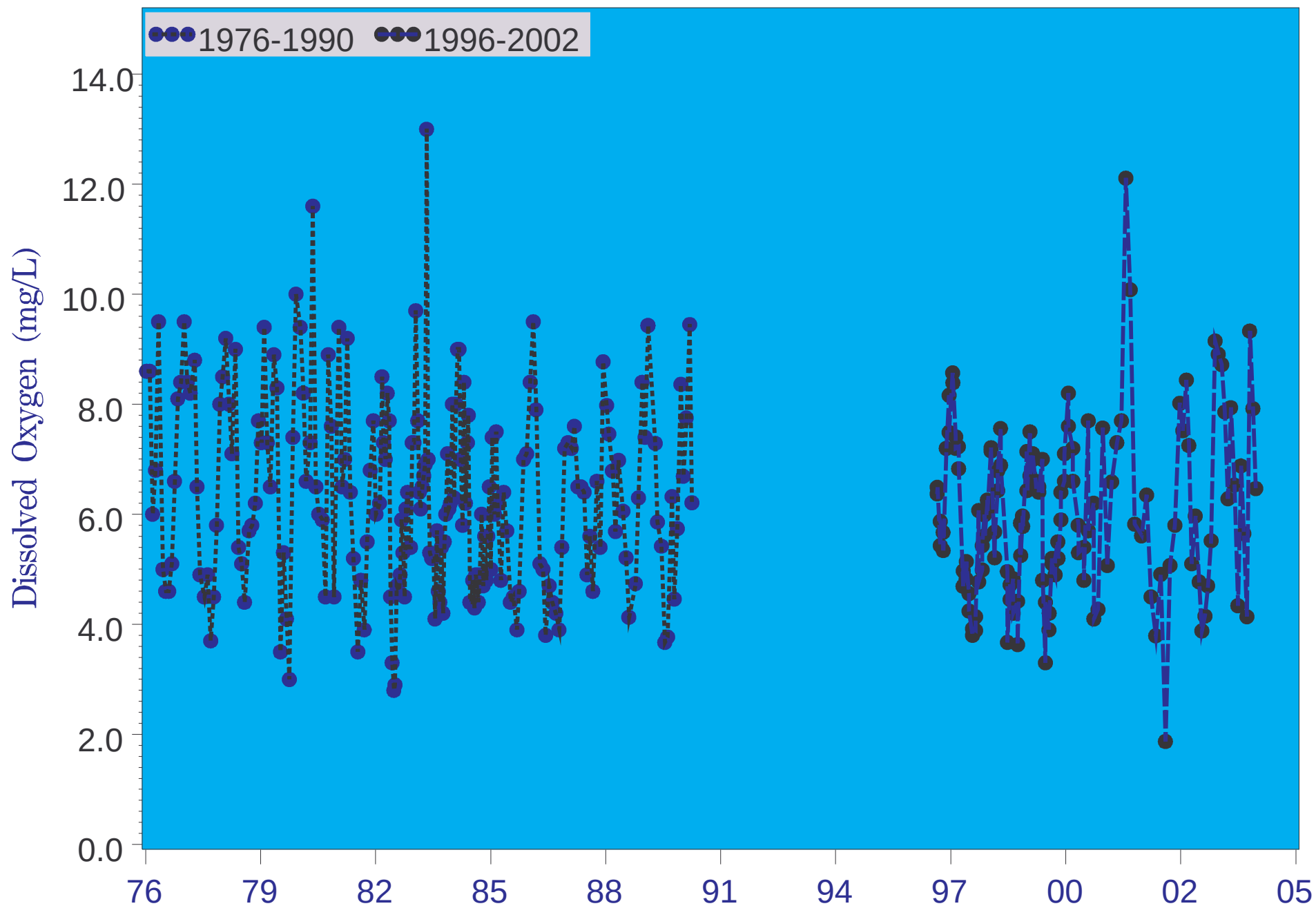


Figure 4.16d Long-term surface dissolved oxygen at river kilometer 23.6

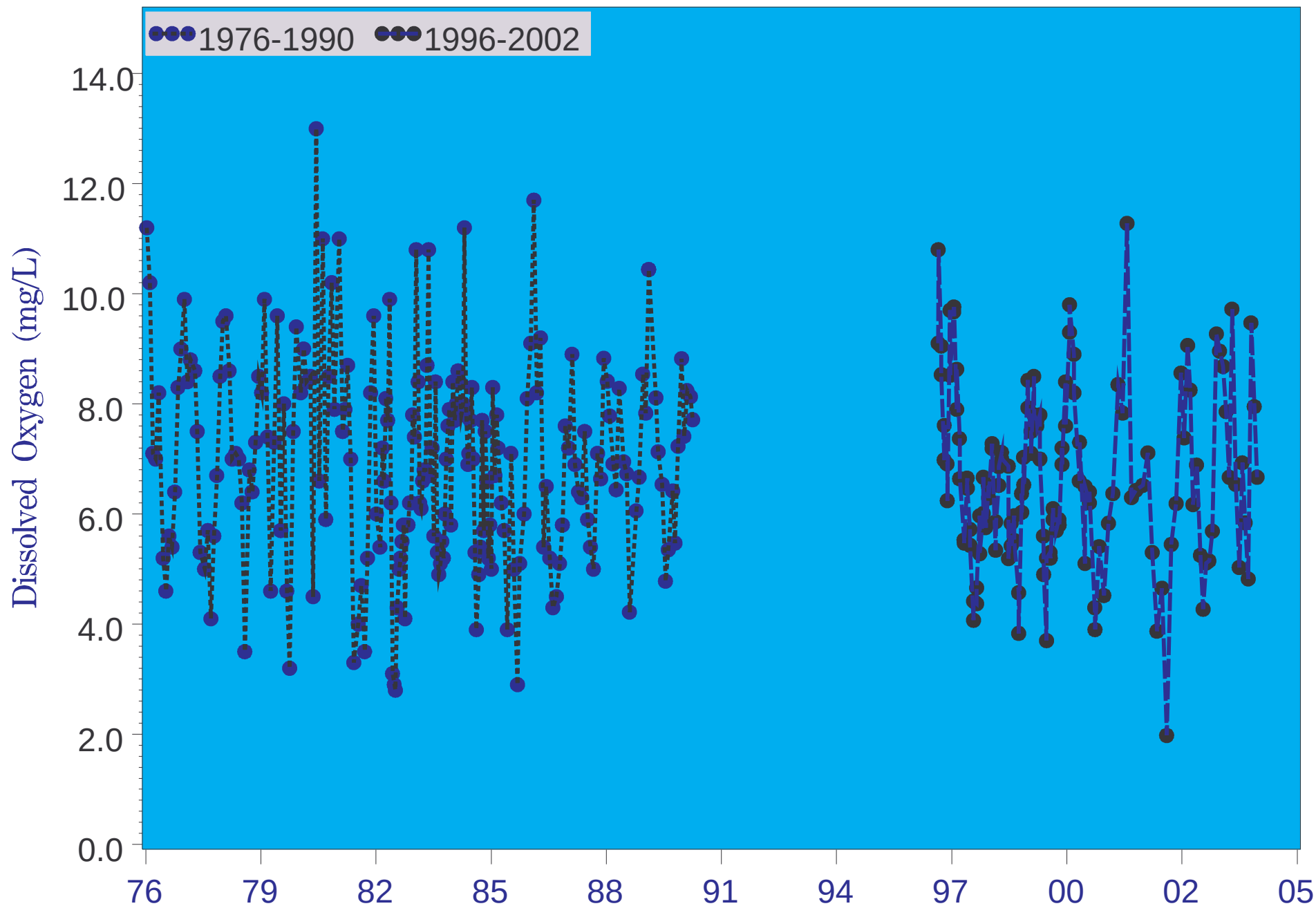


Figure 4.16e Long-term surface dissolved oxygen at river kilometer 30.4

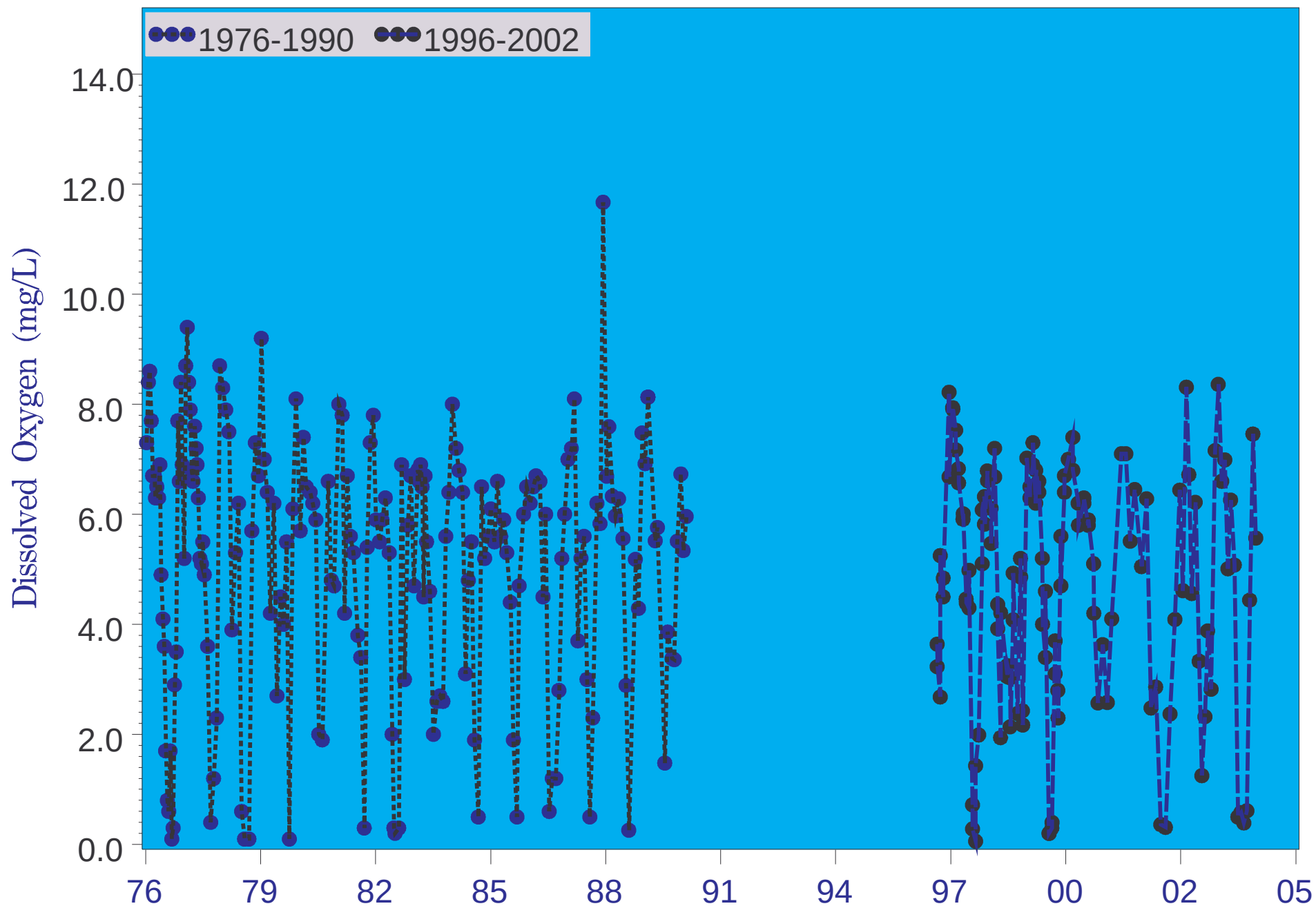


Figure 4.17a Long-term bottom dissolved oxygen at river kilometer -2.4

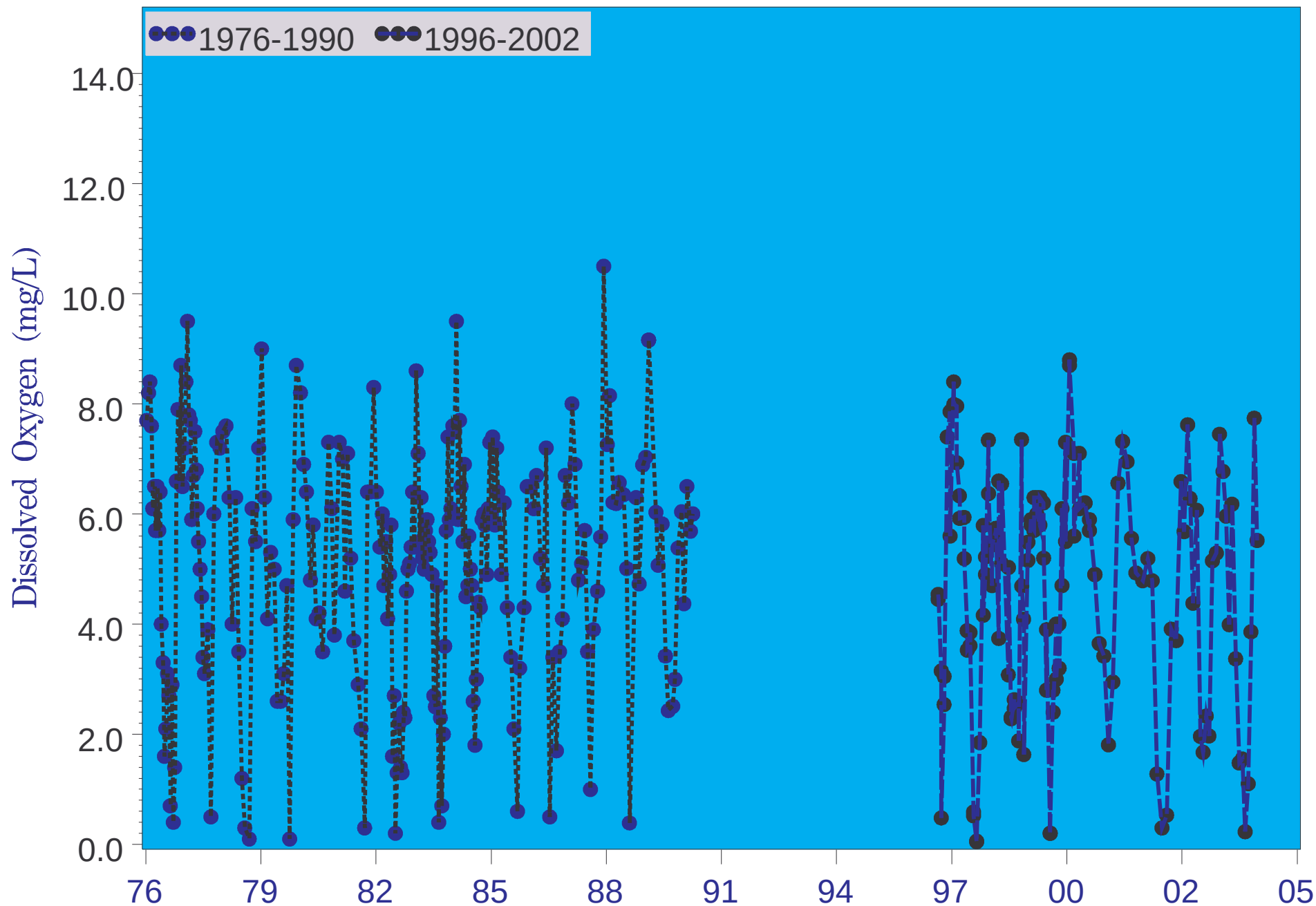


Figure 4.17b Long-term bottom dissolved oxygen at river kilometer 6.6

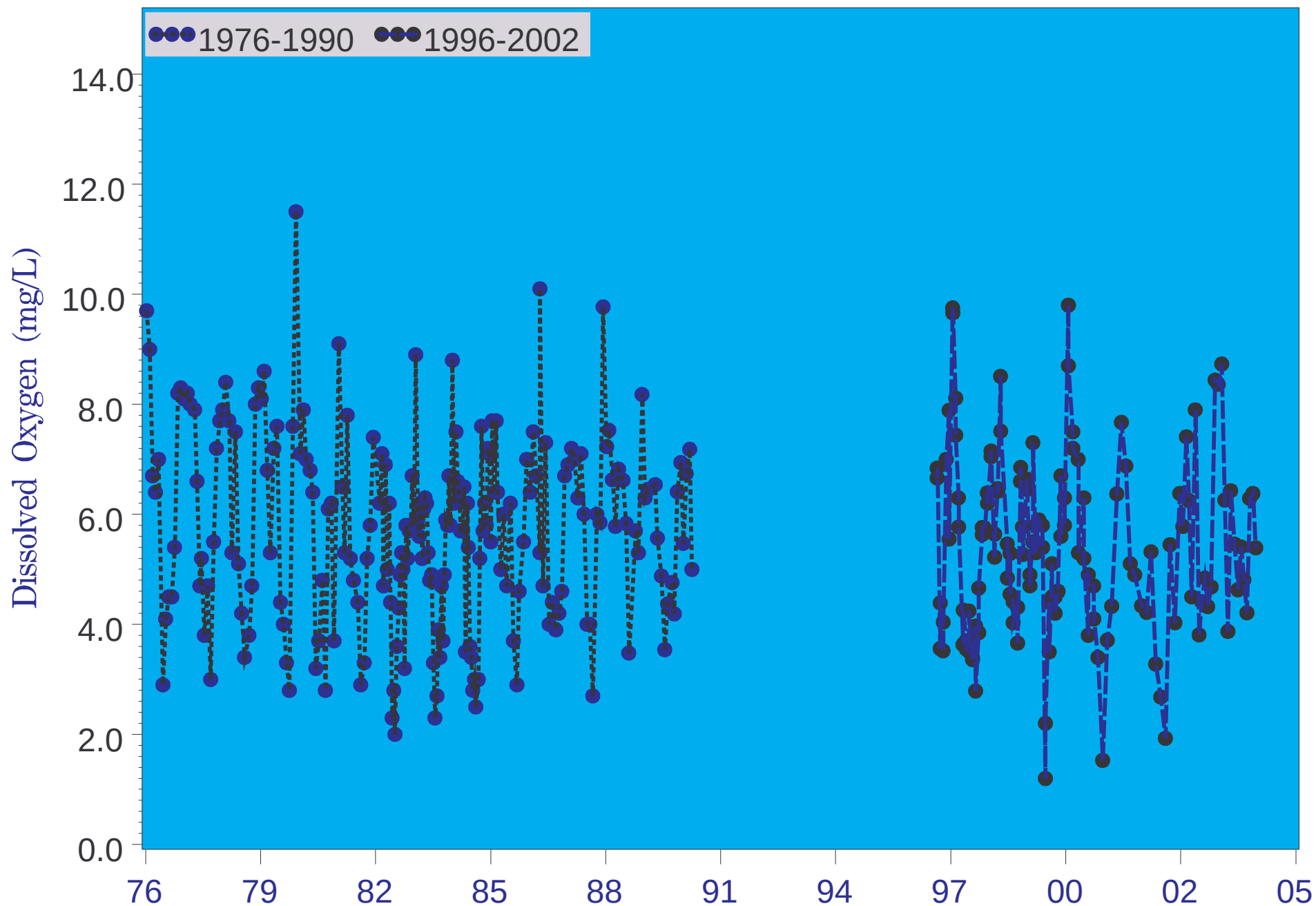


Figure 4.17c Long-term bottom dissolved oxygen at river kilometer 15.5

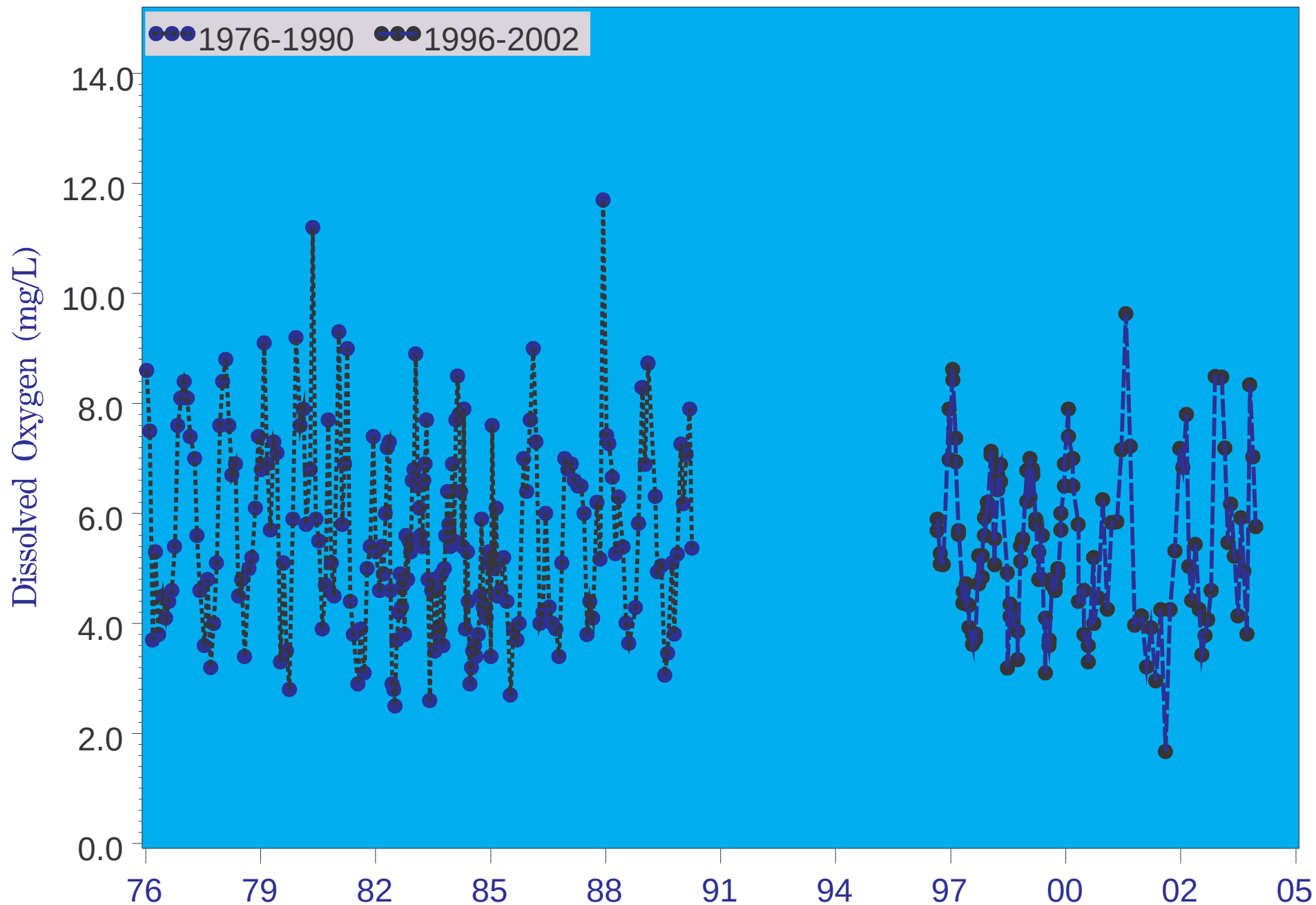


Figure 4.17d Long-term bottom dissolved oxygen at river kilometer 23.6

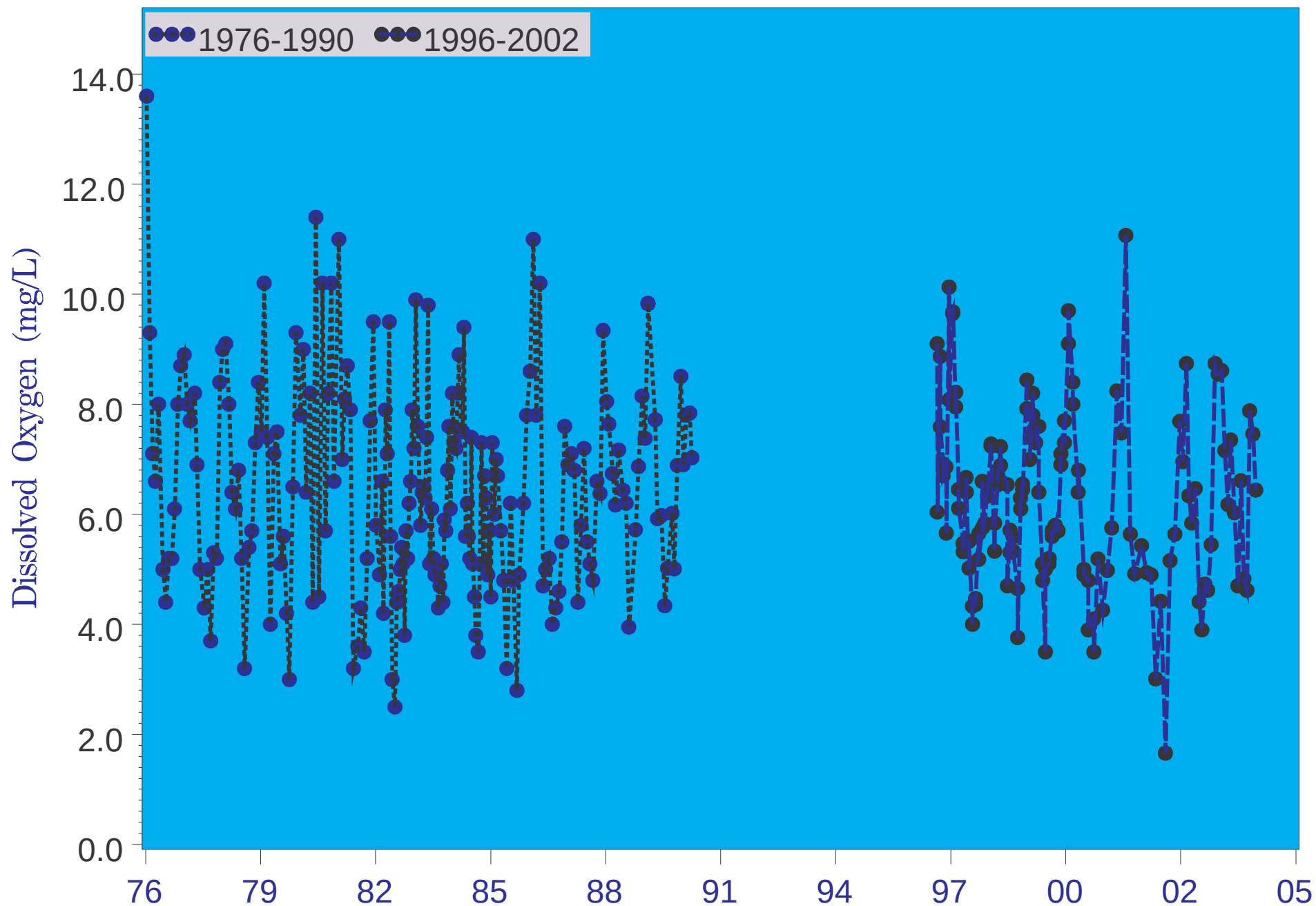


Figure 4.17e Long-term bottom dissolved oxygen at river kilometer 30.4

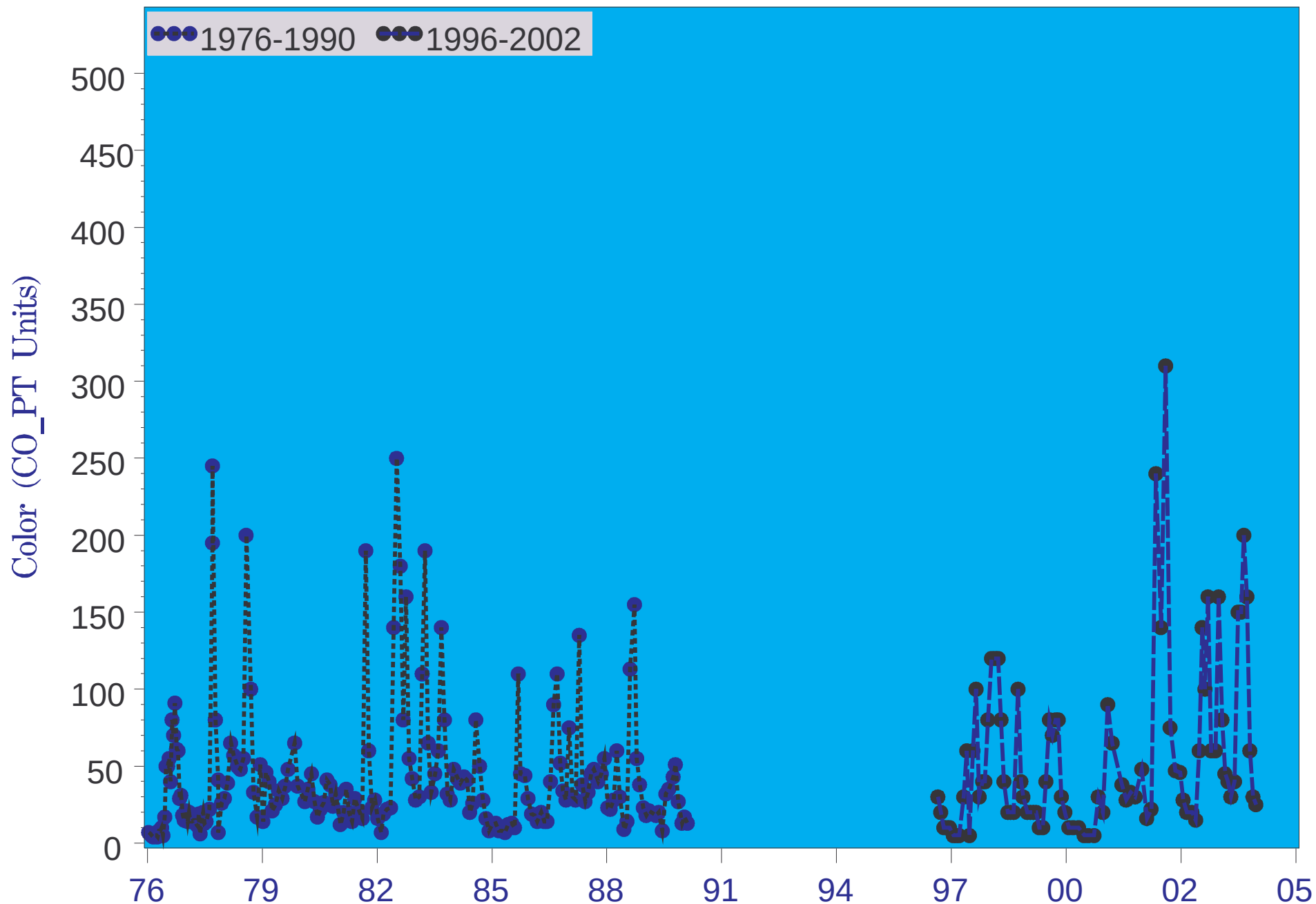


Figure 4.18a Long-term surface color at river kilometer -2.4

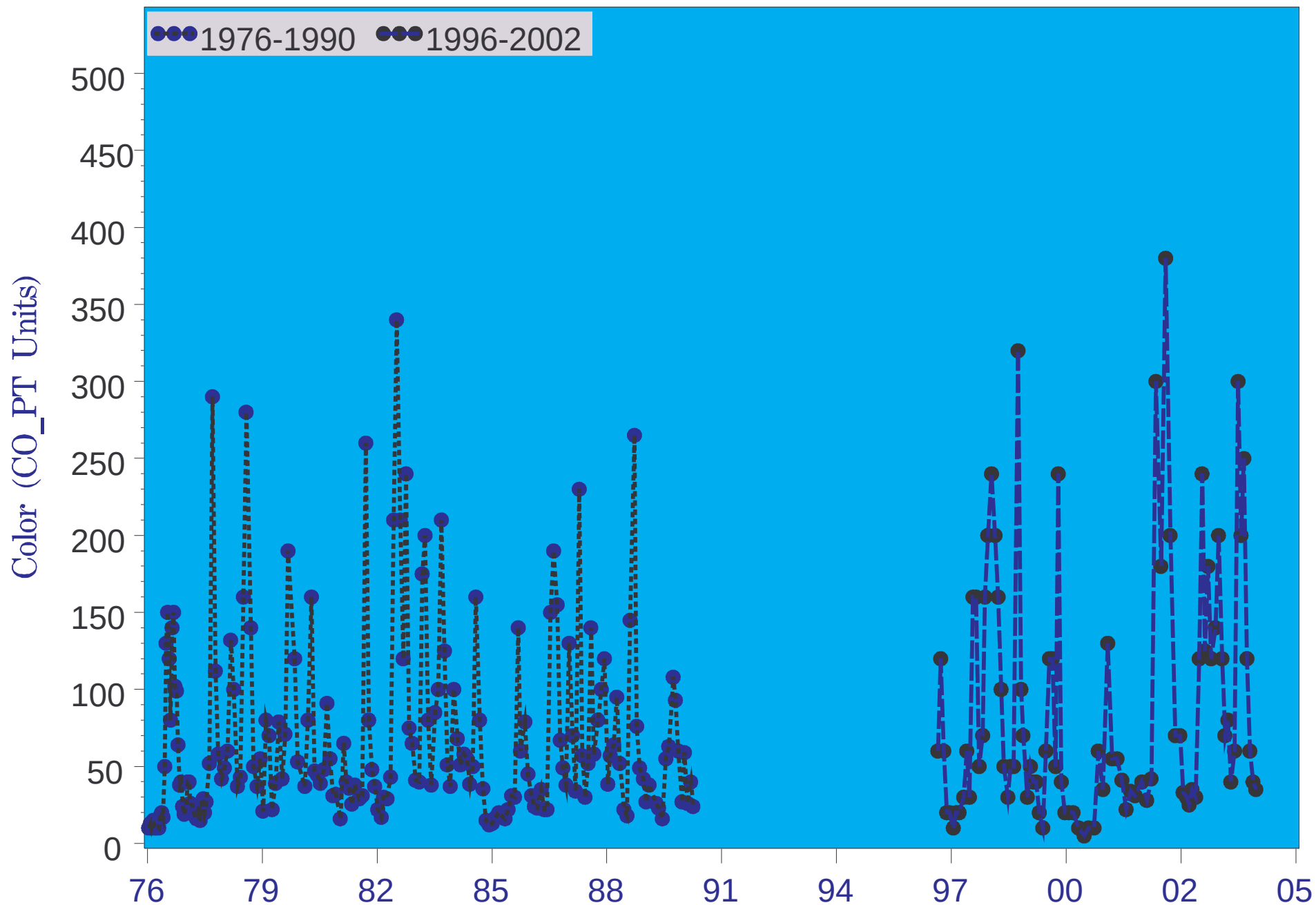


Figure 4.18b Long-term surface color at river kilometer 6.6

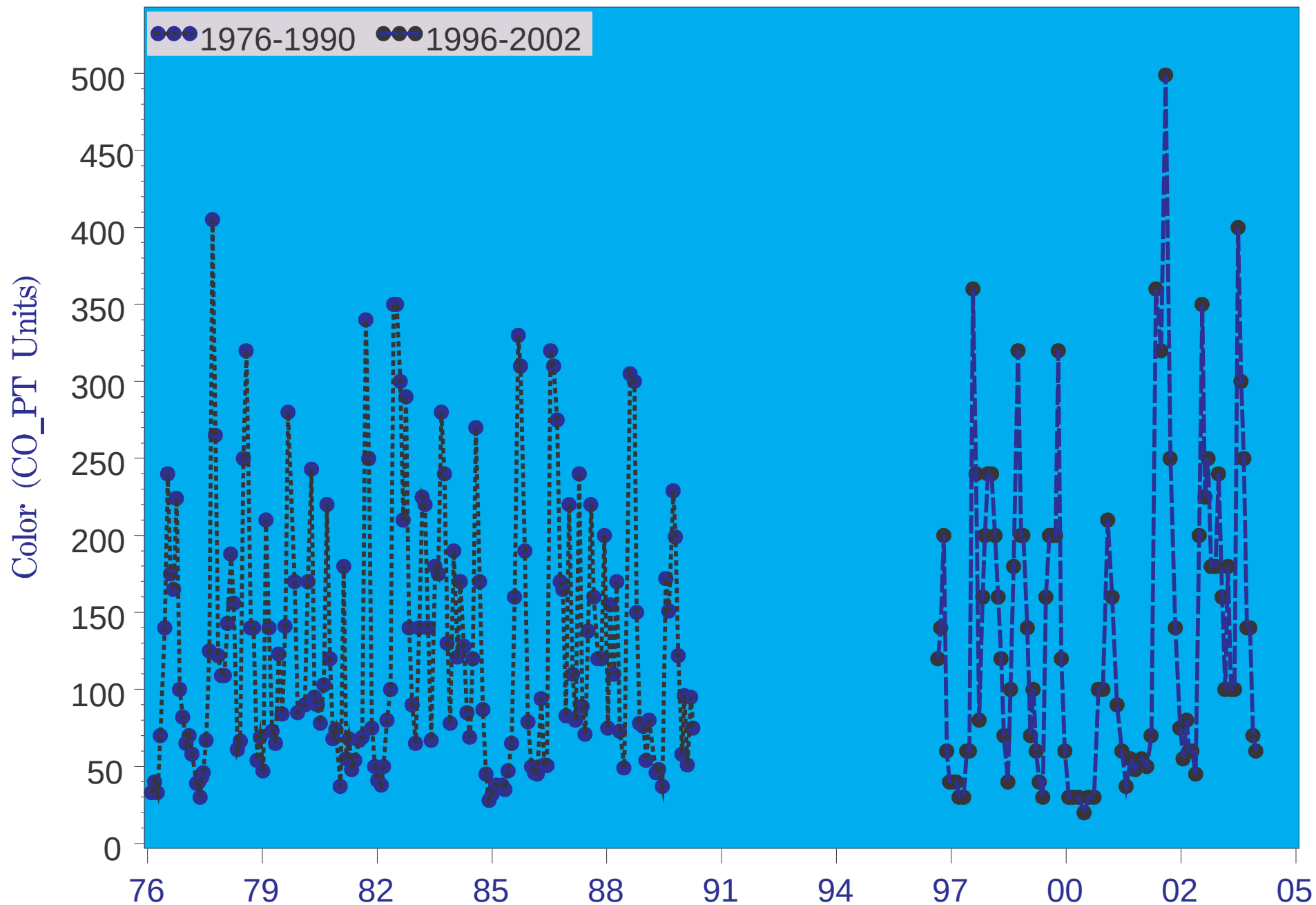


Figure 4.18c Long-term surface color at river kilometer 15.5

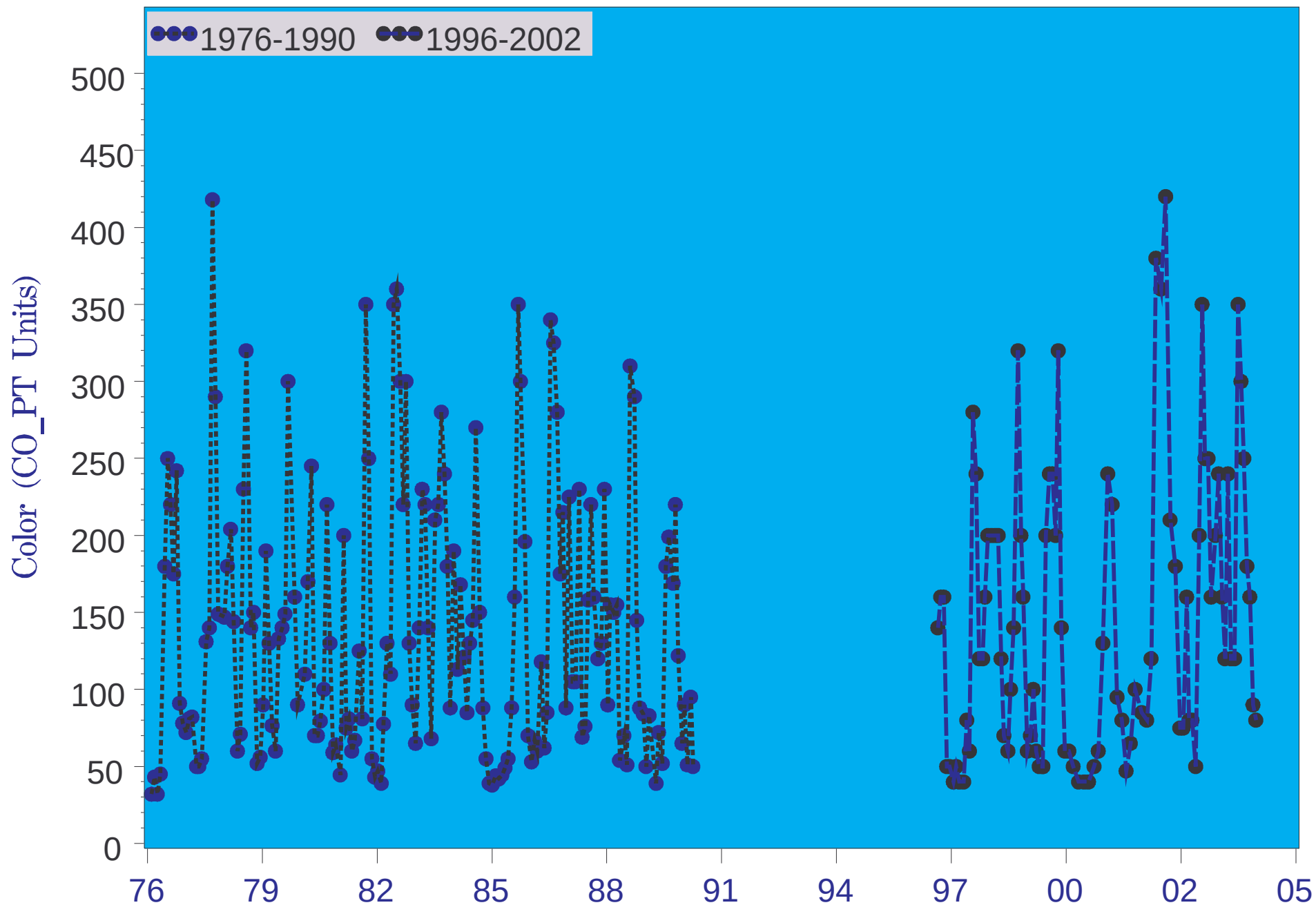


Figure 4.18d Long-term surface color at river kilometer 23.6

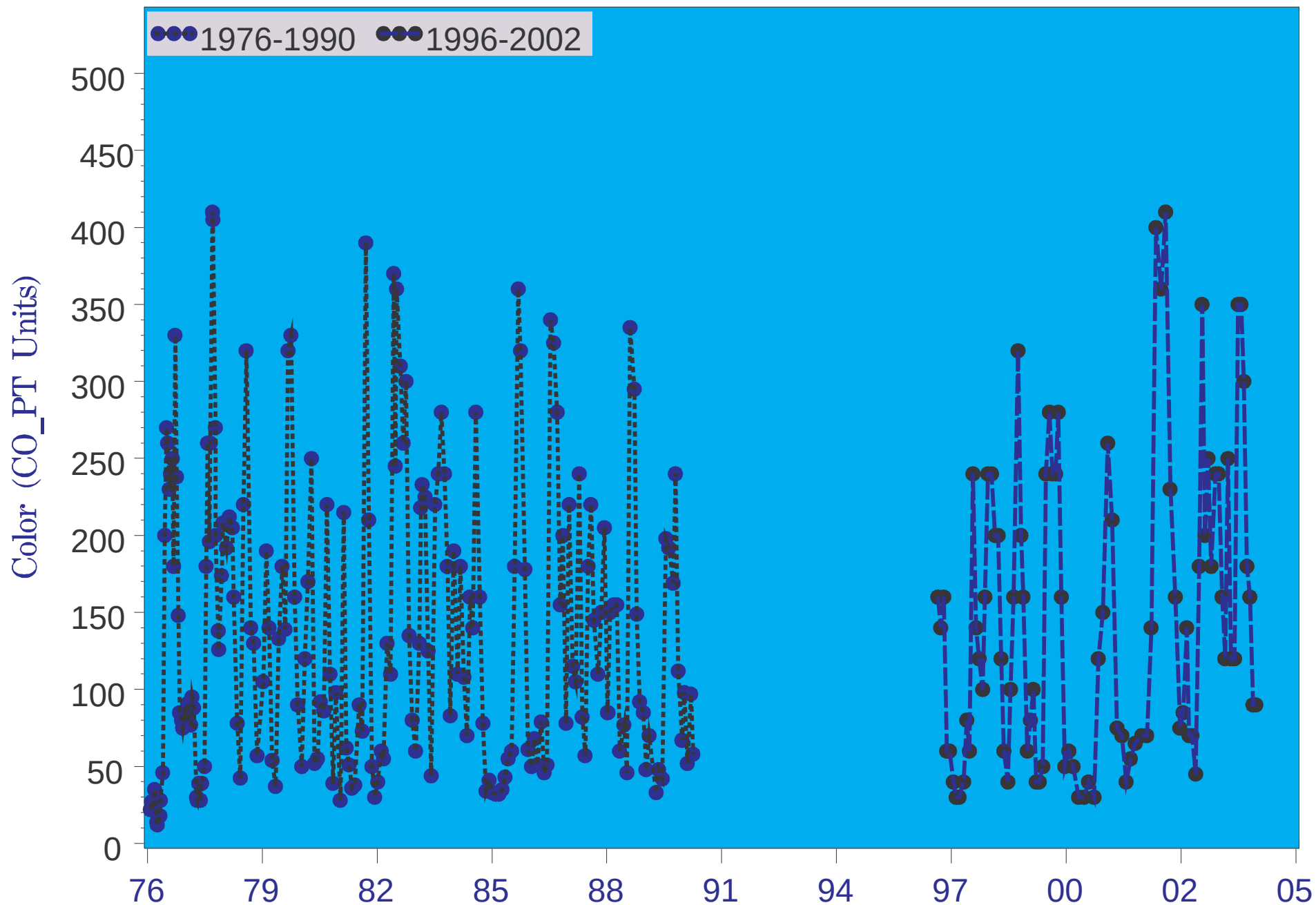


Figure 4.18e Long-term surface color at river kilometer 30.4

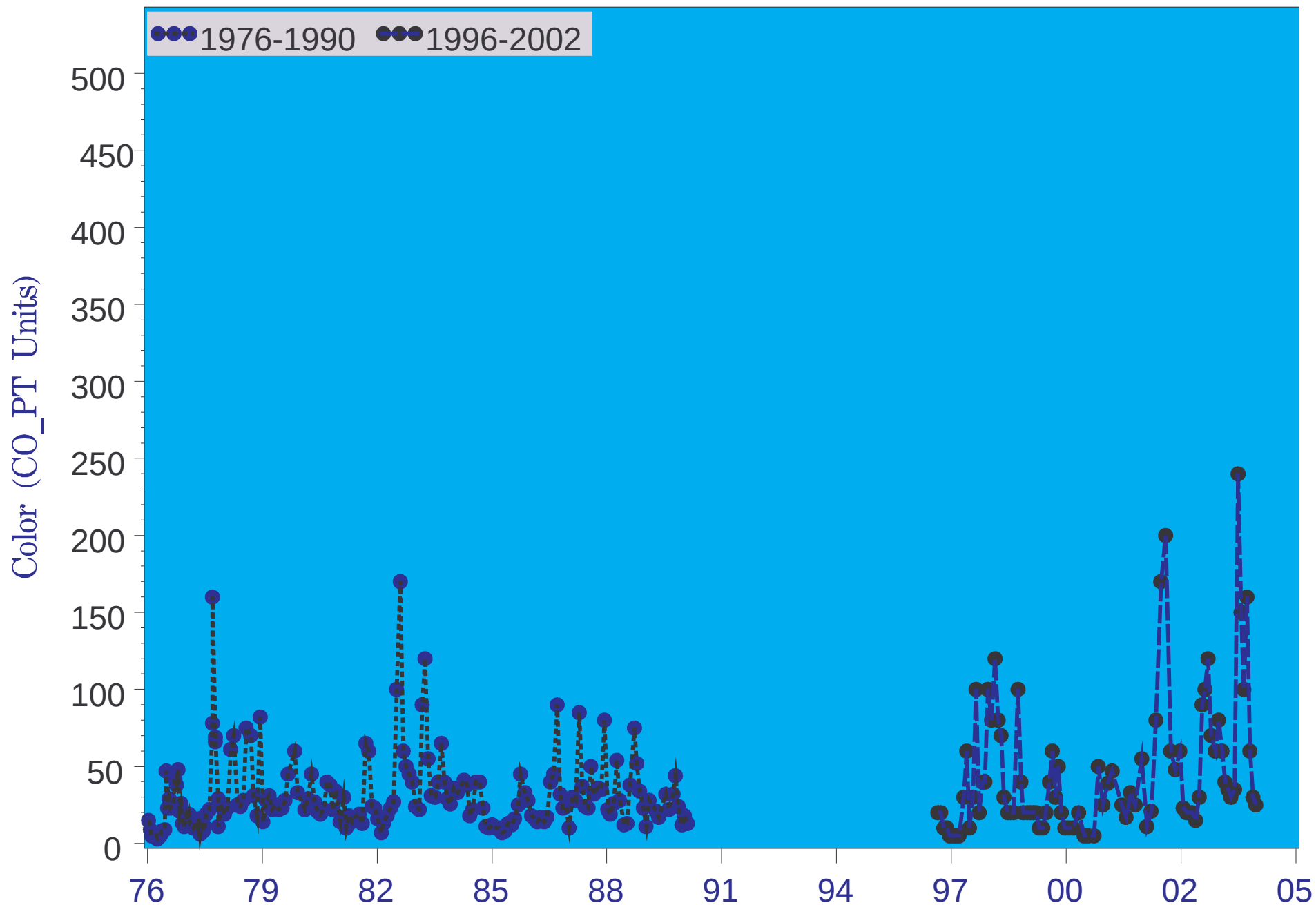


Figure 4.19a Long-term bottom color at river kilometer -2.4

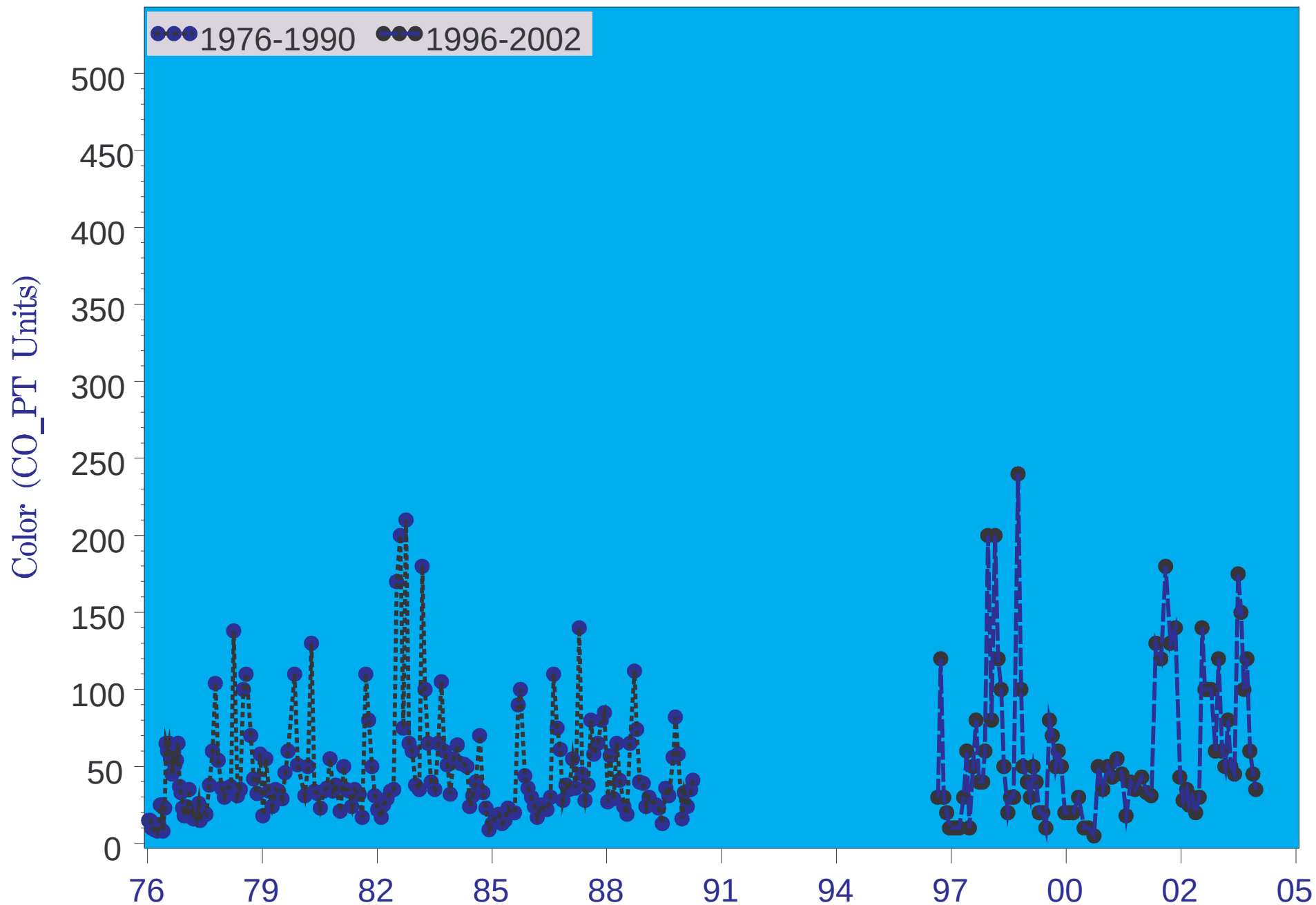


Figure 4.19b Long-term bottom color at river kilometer 6.6

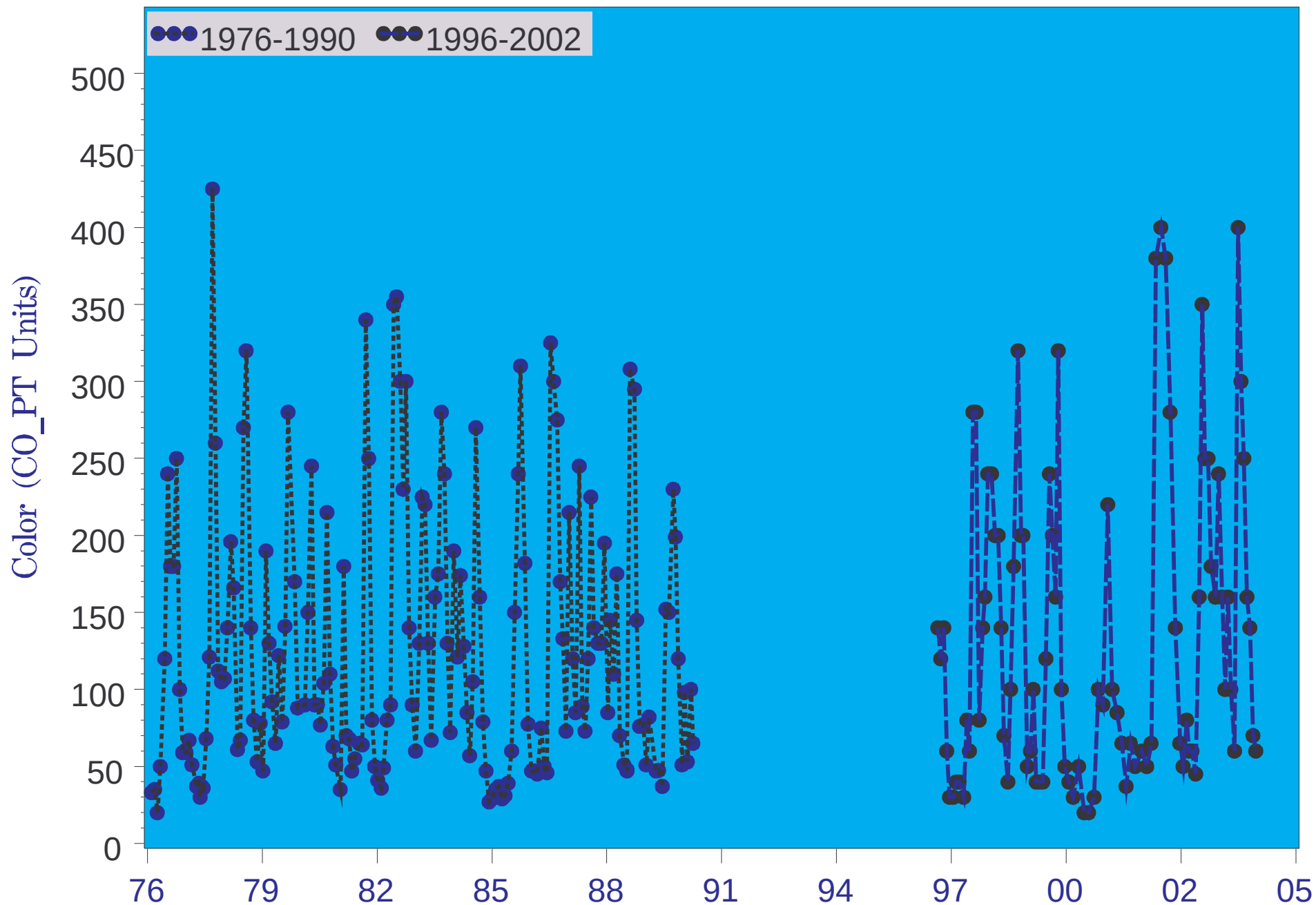


Figure 4.19c Long-term bottom color at river kilometer 15.5

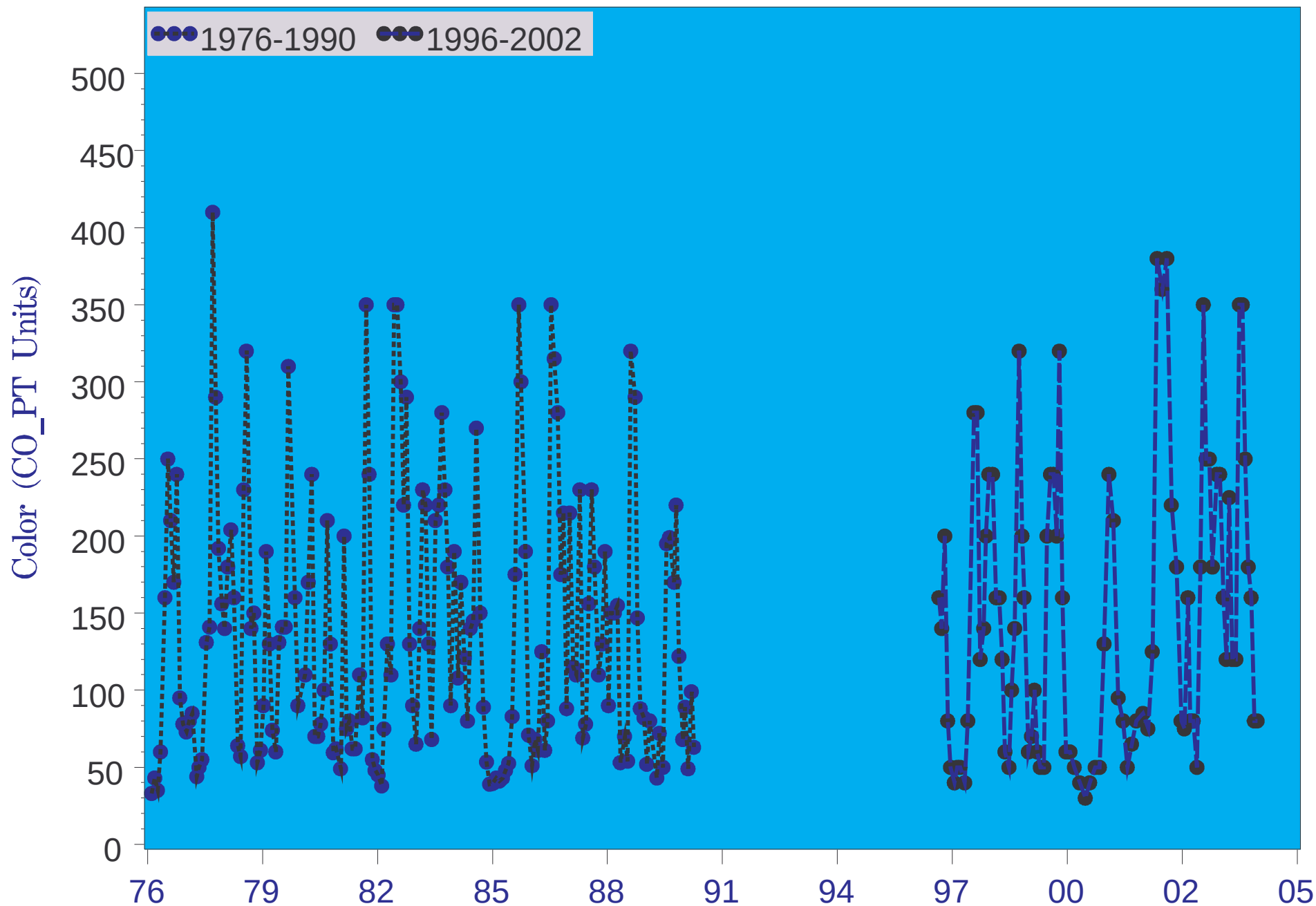


Figure 4.19d Long-term bottom color at river kilometer 23.6

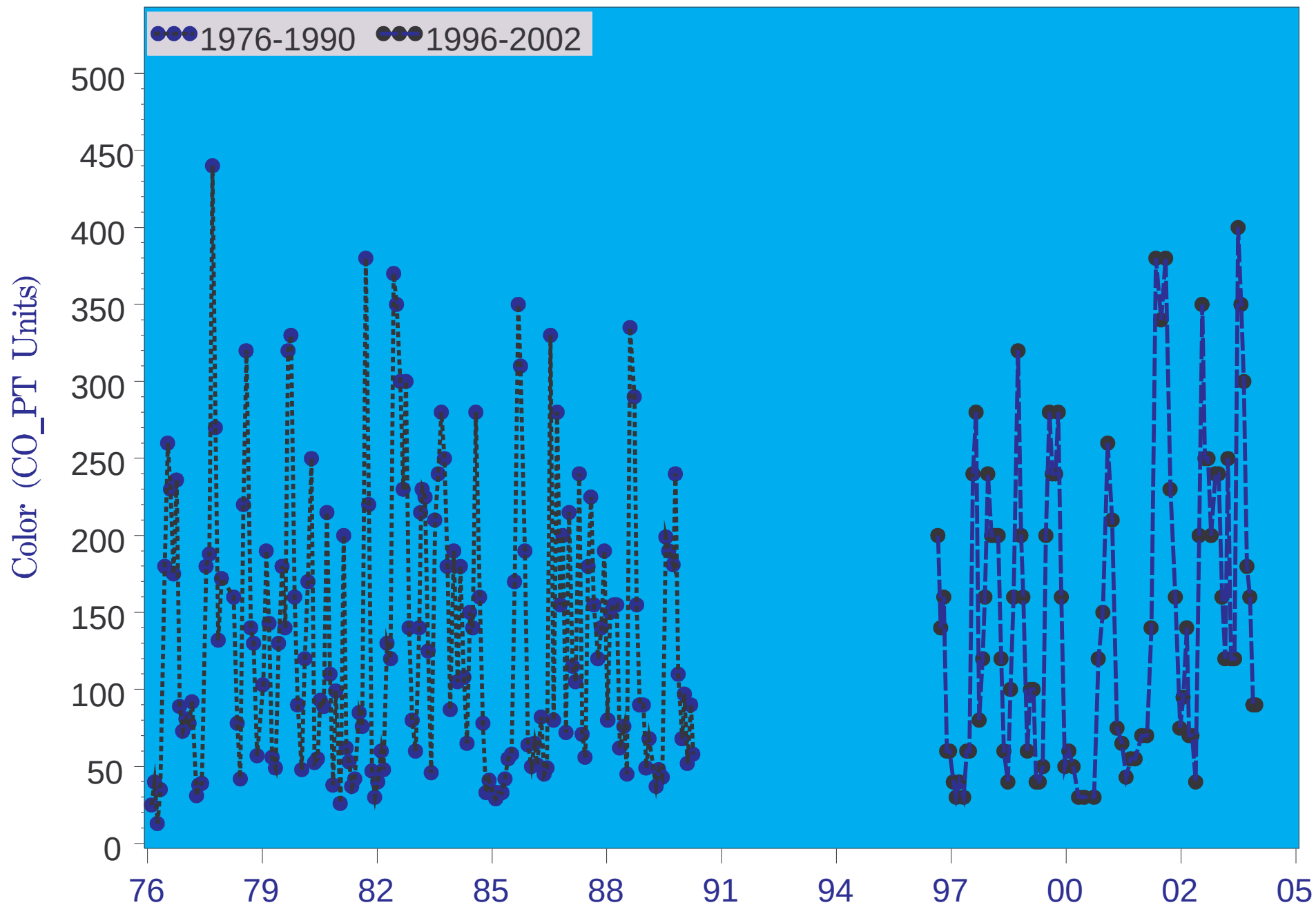


Figure 4.19e Long-term bottom color at river kilometer 30.4

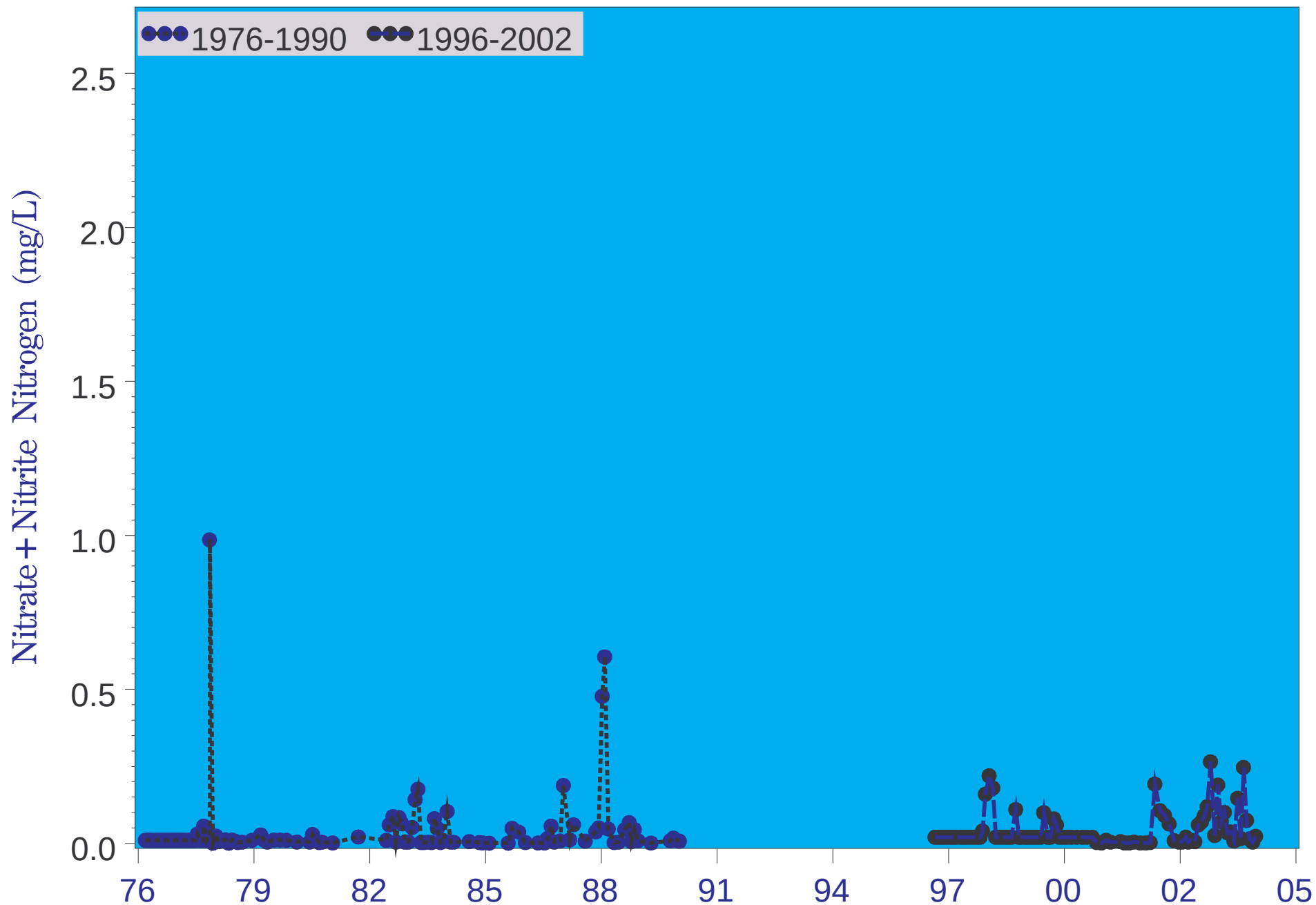


Figure 4.20a Long-term surface nitrate/nitrite nitrogen at river kilometer -2.4

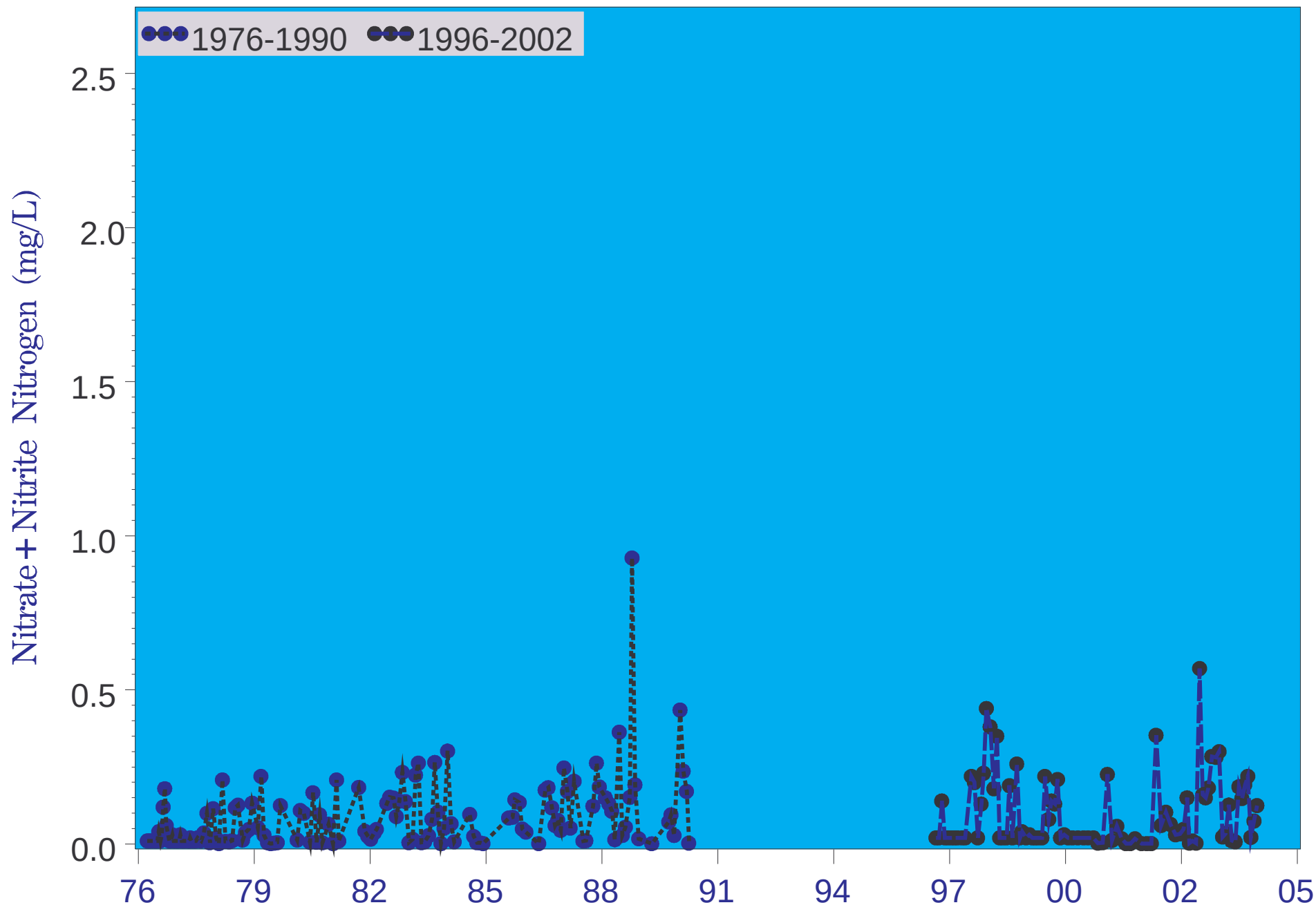


Figure 4.20b Long-term surface nitrate/nitrite nitrogen at river kilometer 6.6

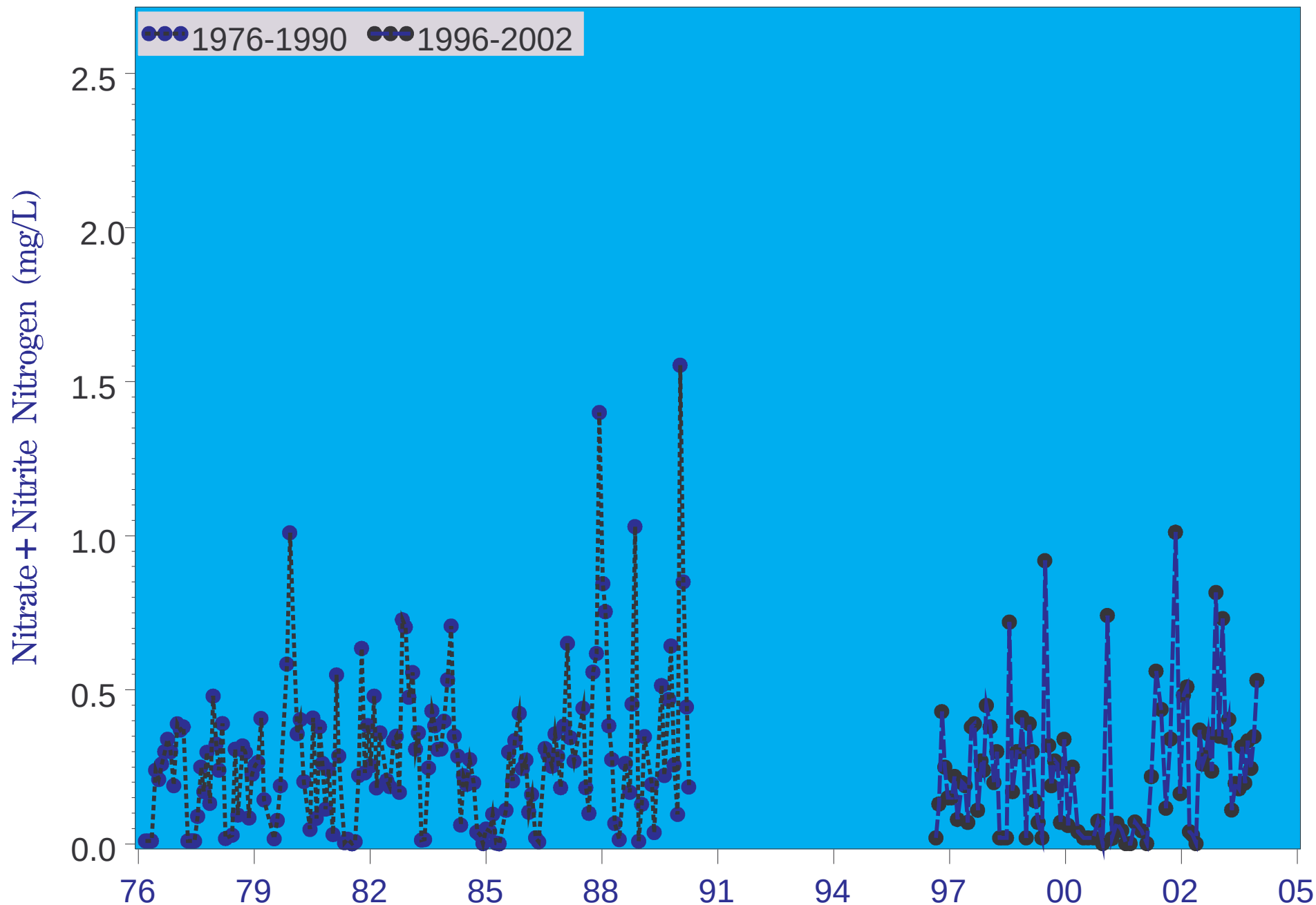


Figure 4.20c Long-term surface nitrate/nitrite nitrogen at river kilometer 15.5

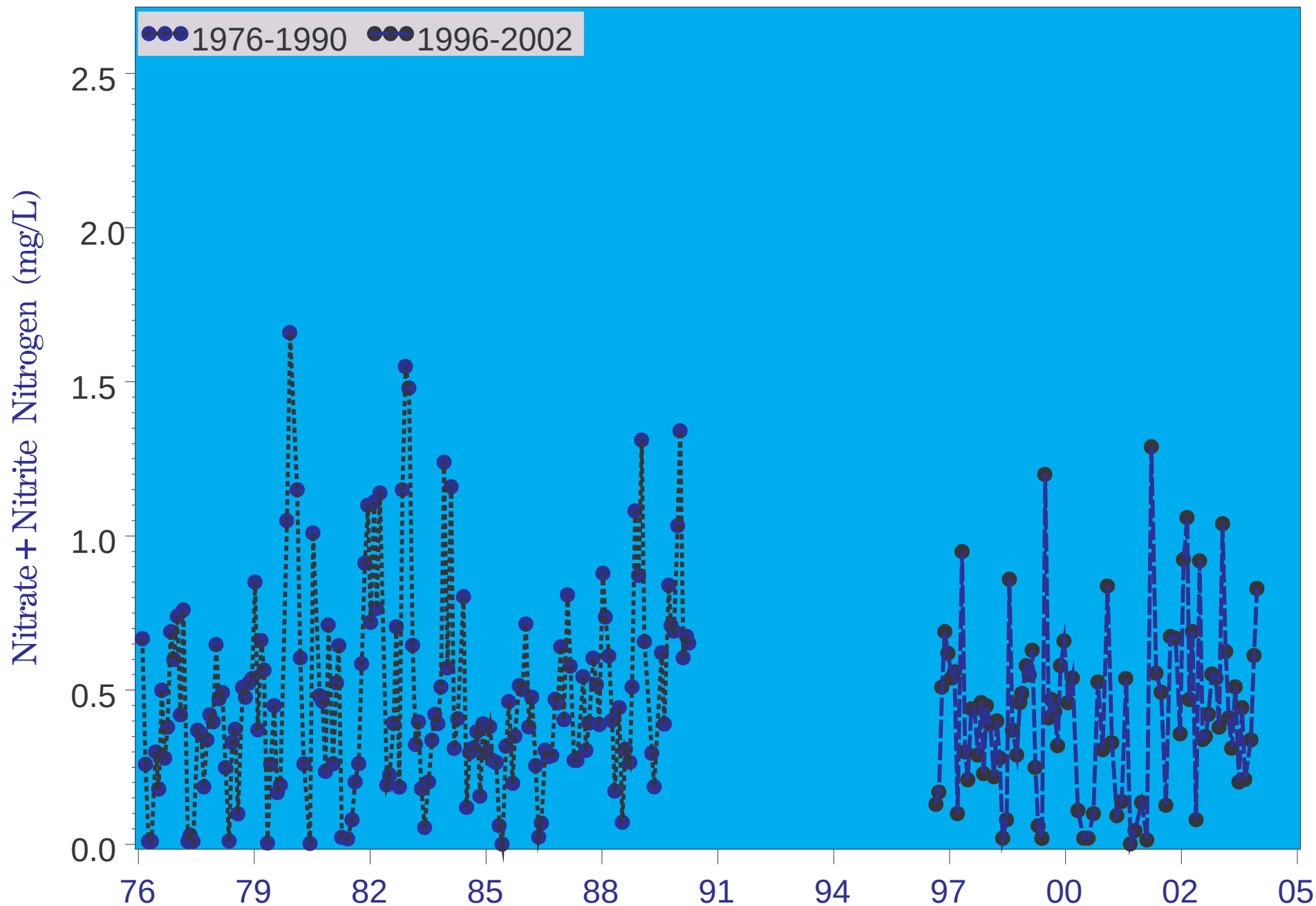


Figure 4.20d Long-term surface nitrate/nitrite nitrogen at river kilometer 23.6

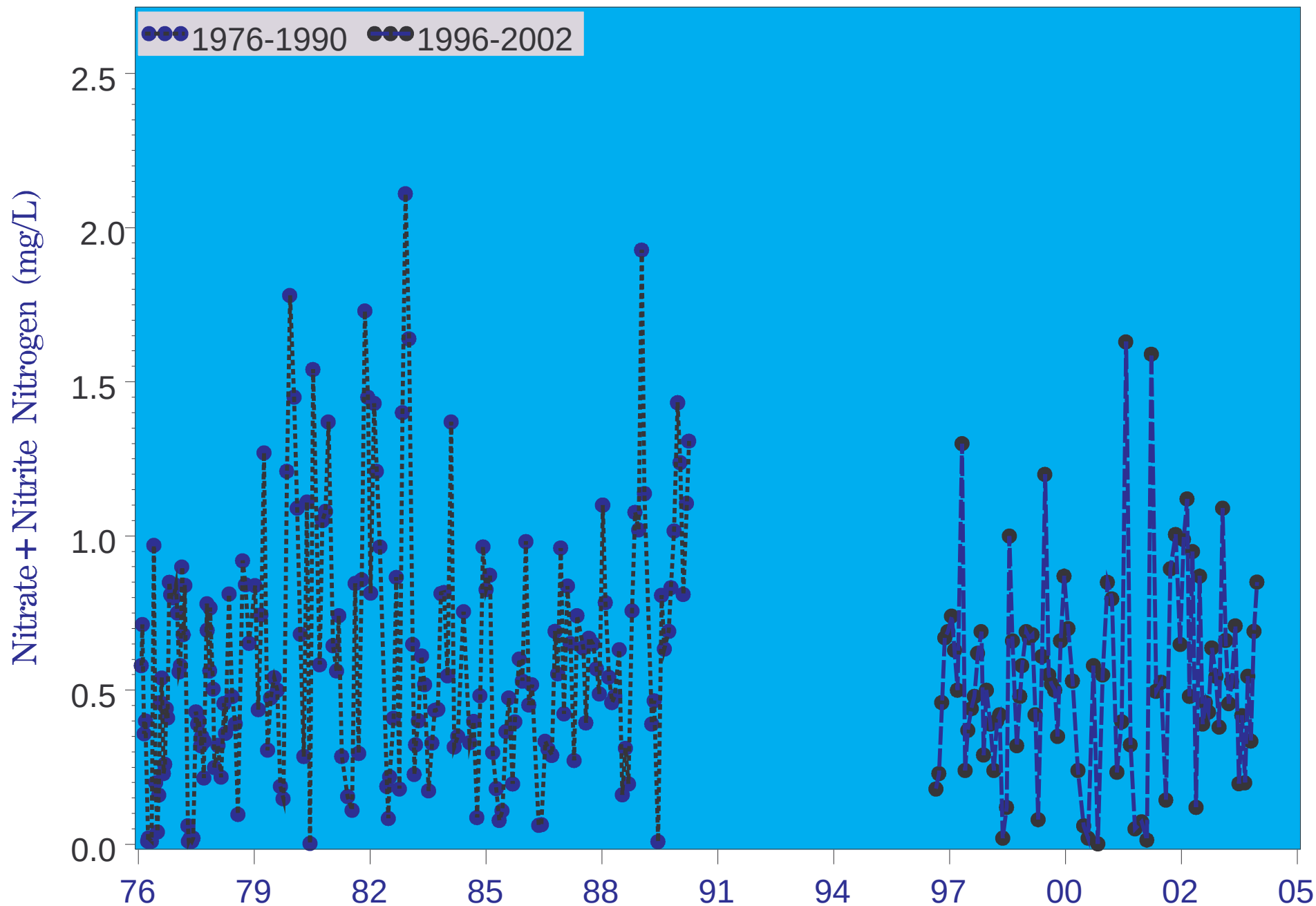


Figure 4.20e Long-term surface nitrate/nitrite nitrogen at river kilometer 30.4

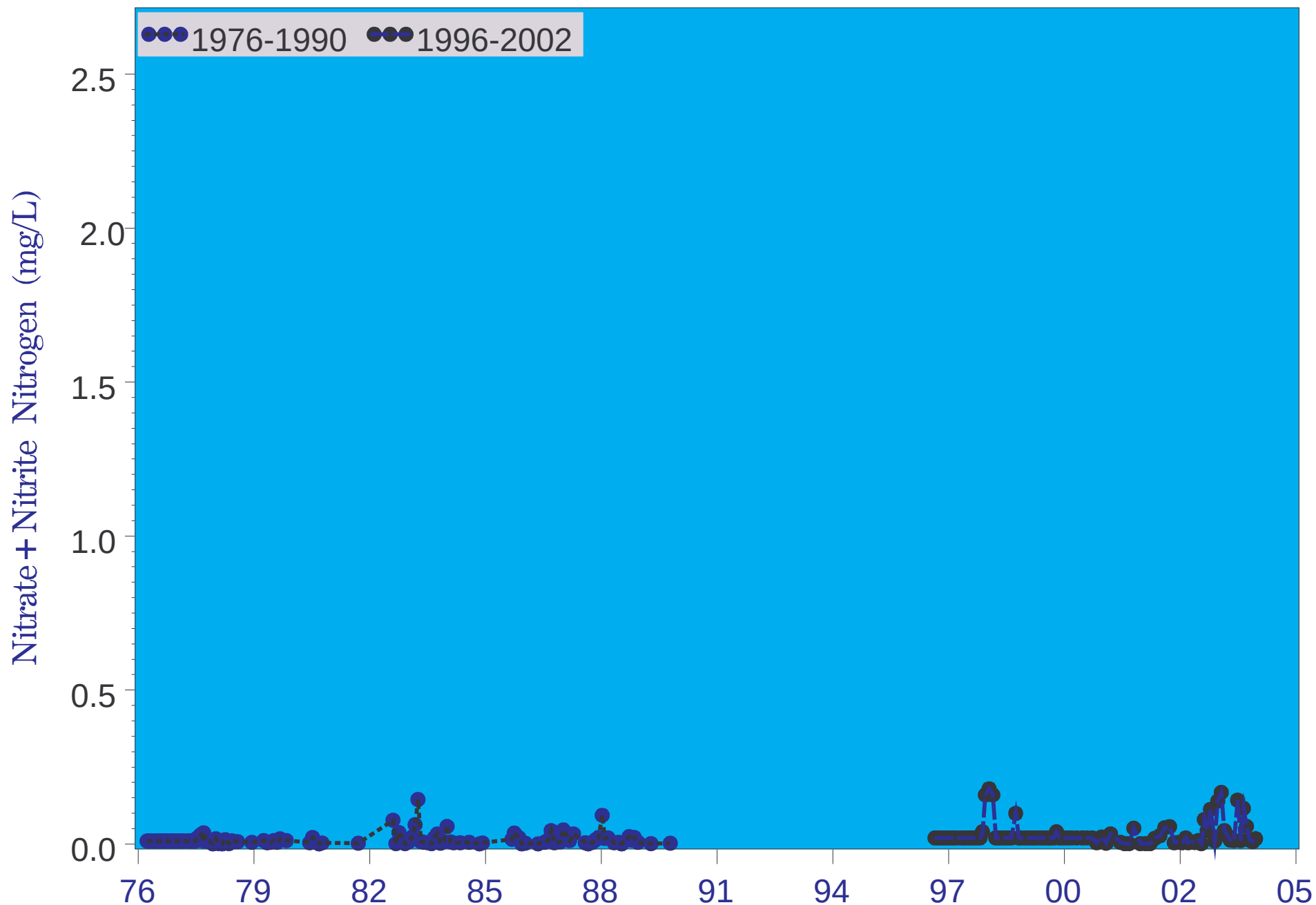


Figure 4.21a Long-term bottom nitrate/nitrite nitrogen at river kilometer -2.4

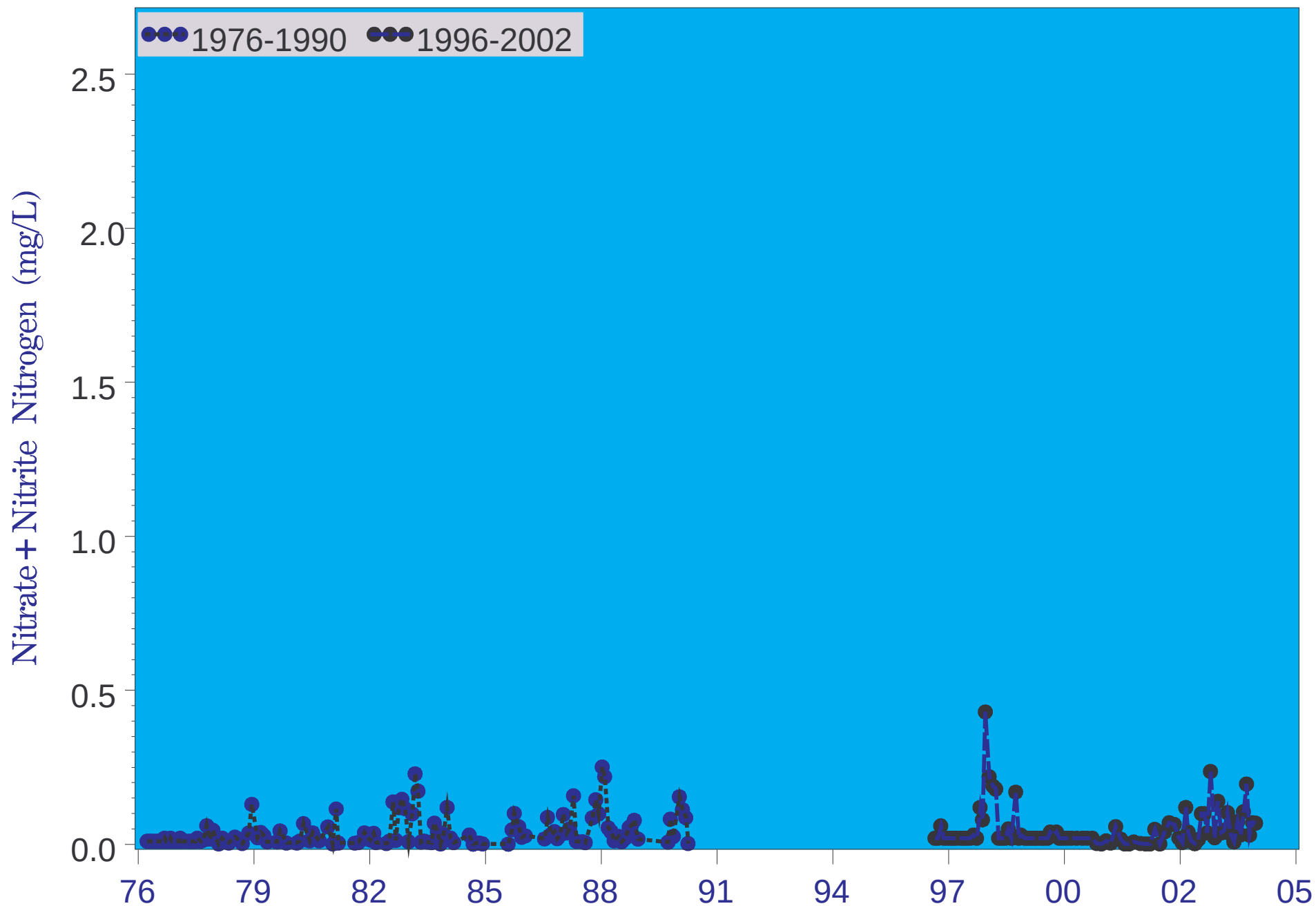


Figure 4.21b Long-term bottom nitrate/nitrite nitrogen at river kilometer 6.6

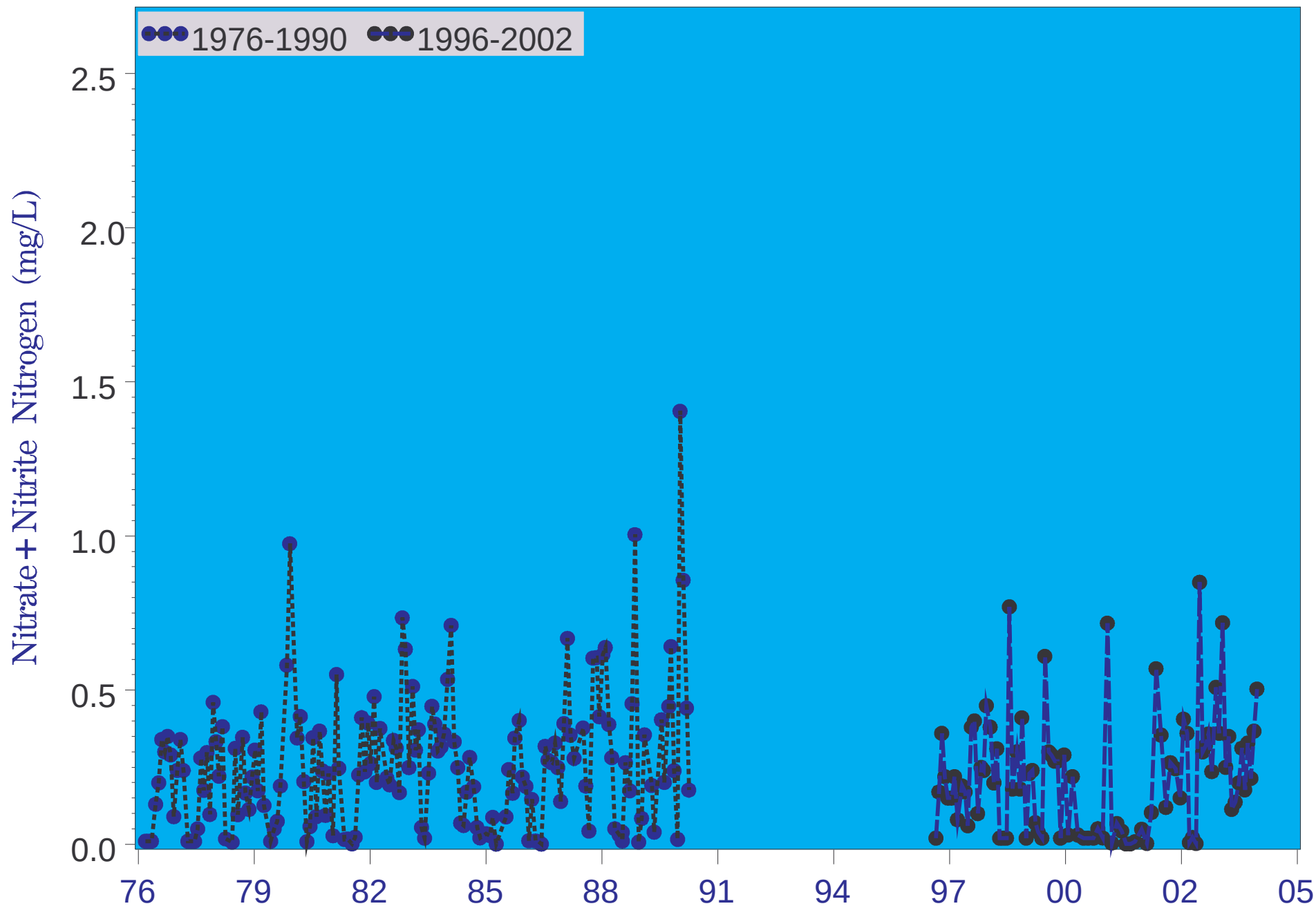


Figure 4.21c Long-term bottom nitrate/nitrite nitrogen at river kilometer 15.5

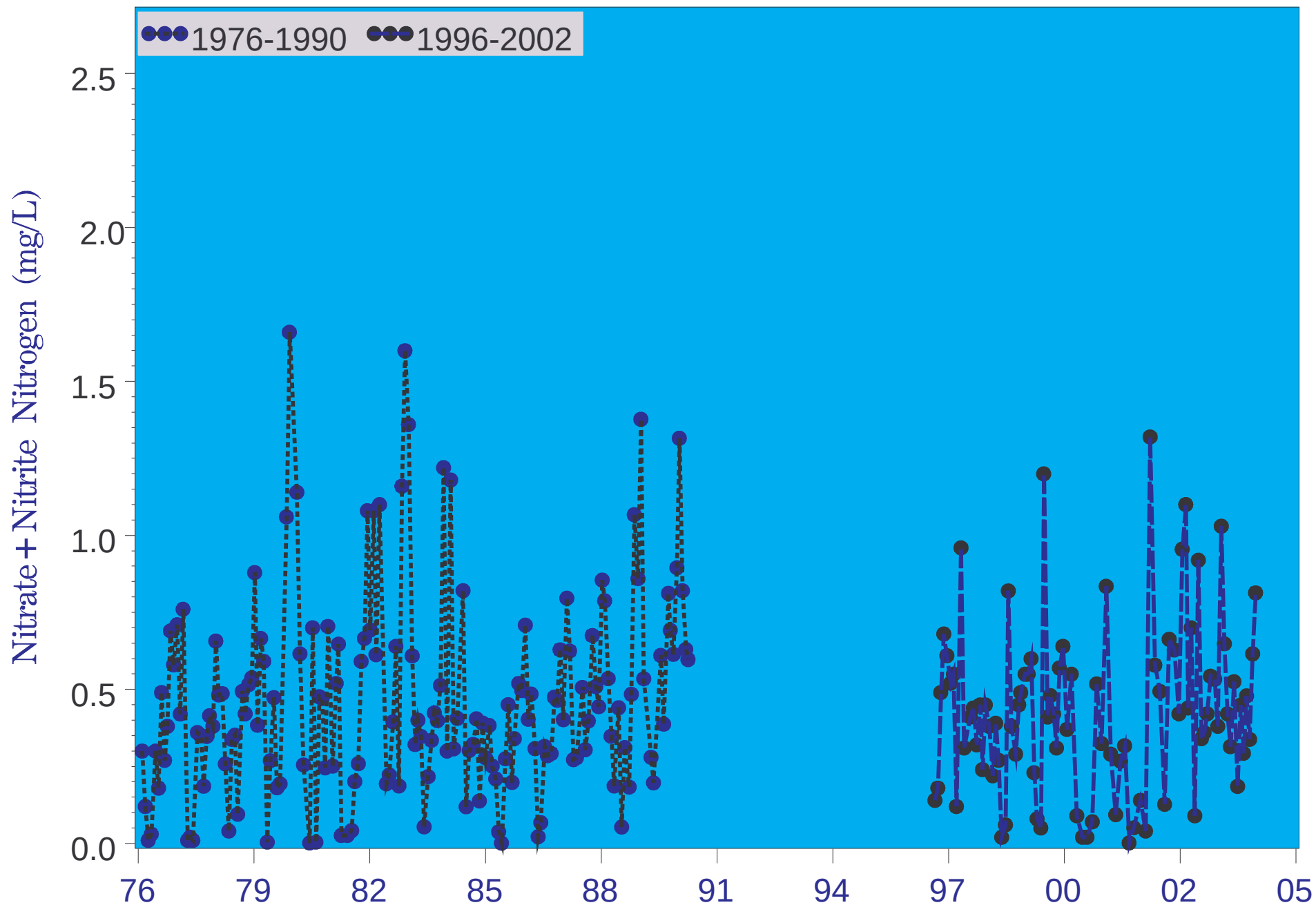


Figure 4.21d Long-term bottom nitrate/nitrite nitrogen at river kilometer 23.6

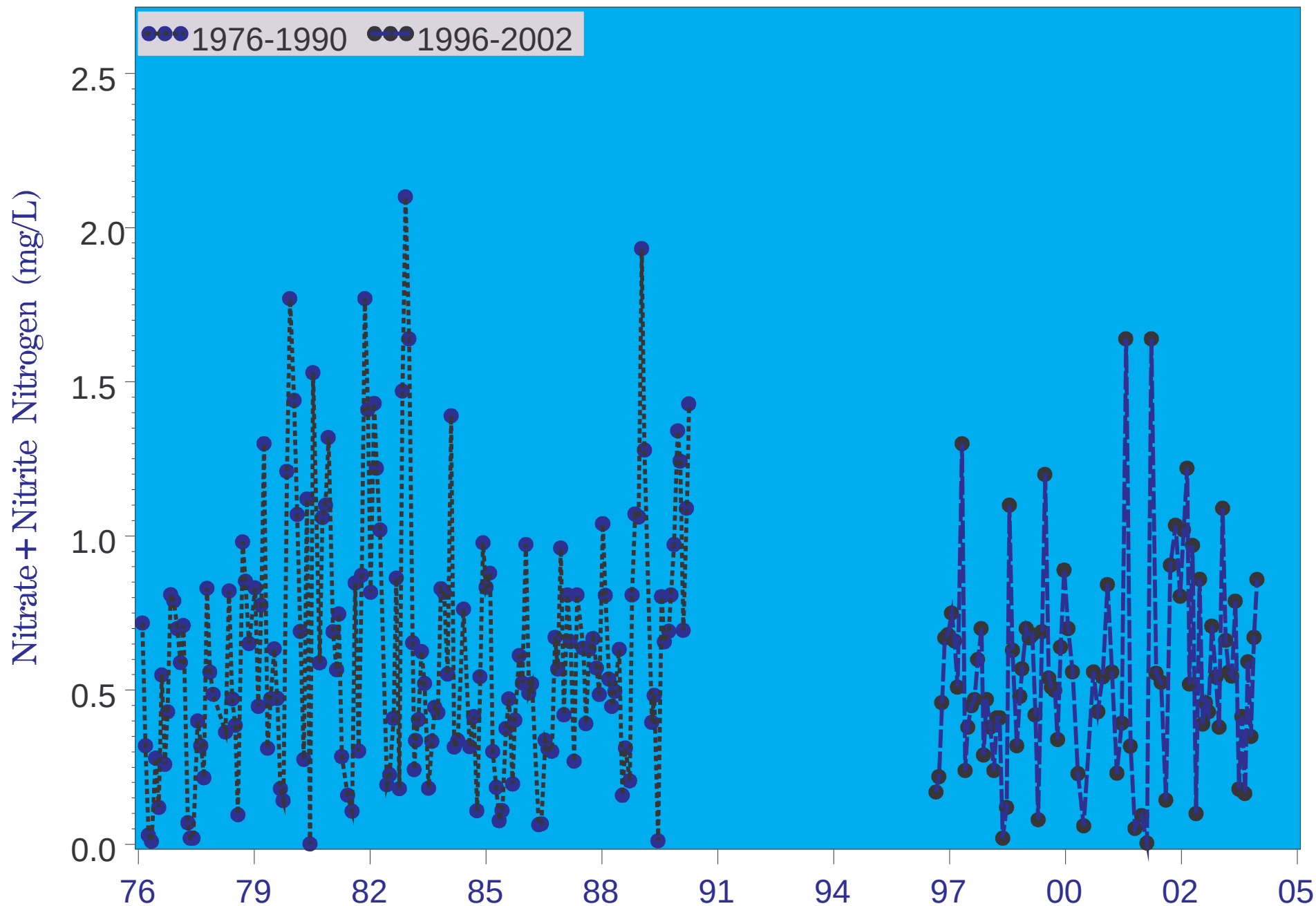


Figure 4.21e Long-term bottom nitrate/nitrite nitrogen at river kilometer 30.4

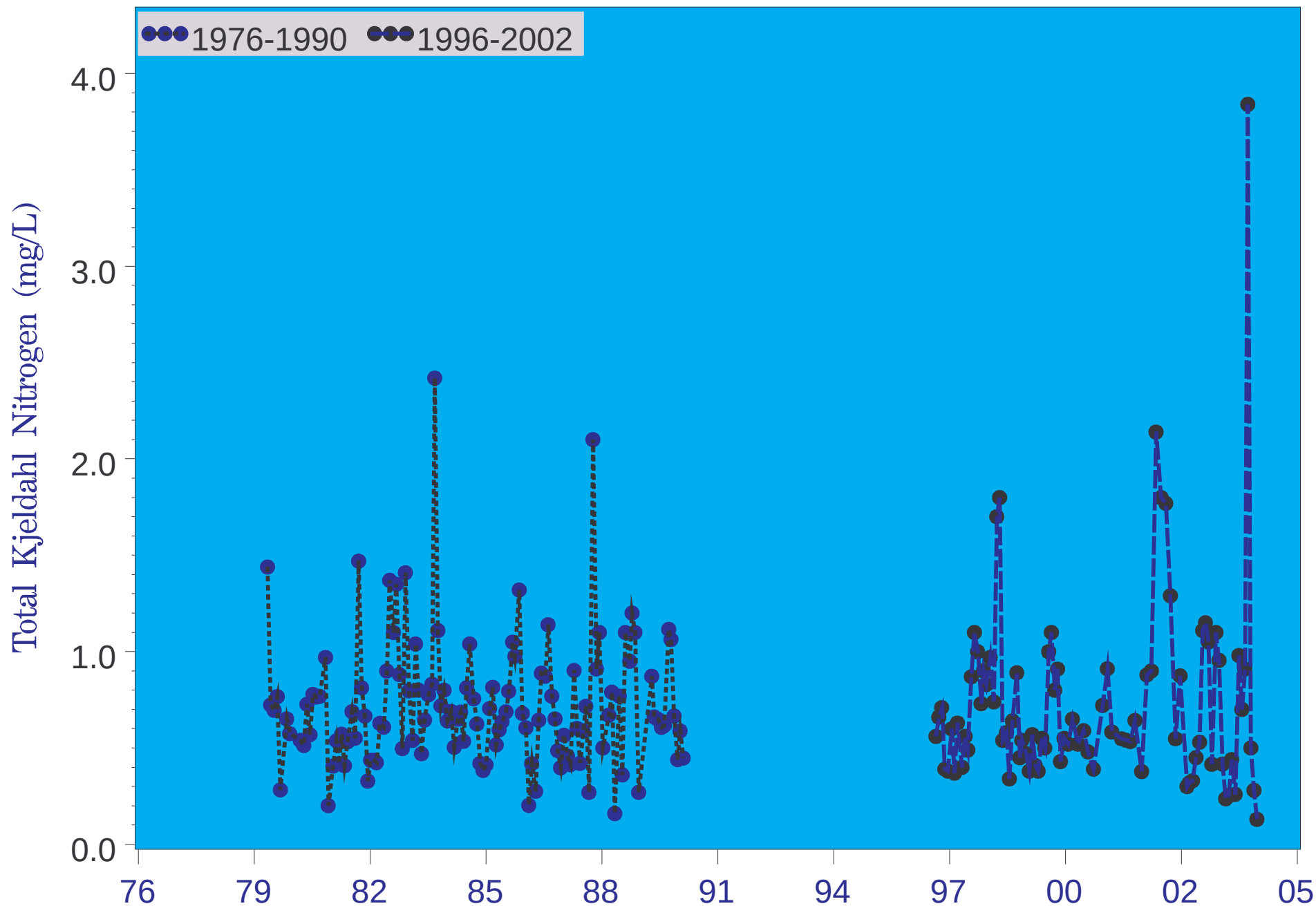


Figure 4.22a Long-term surface total Kjeldahl nitrogen at river kilometer -2.4

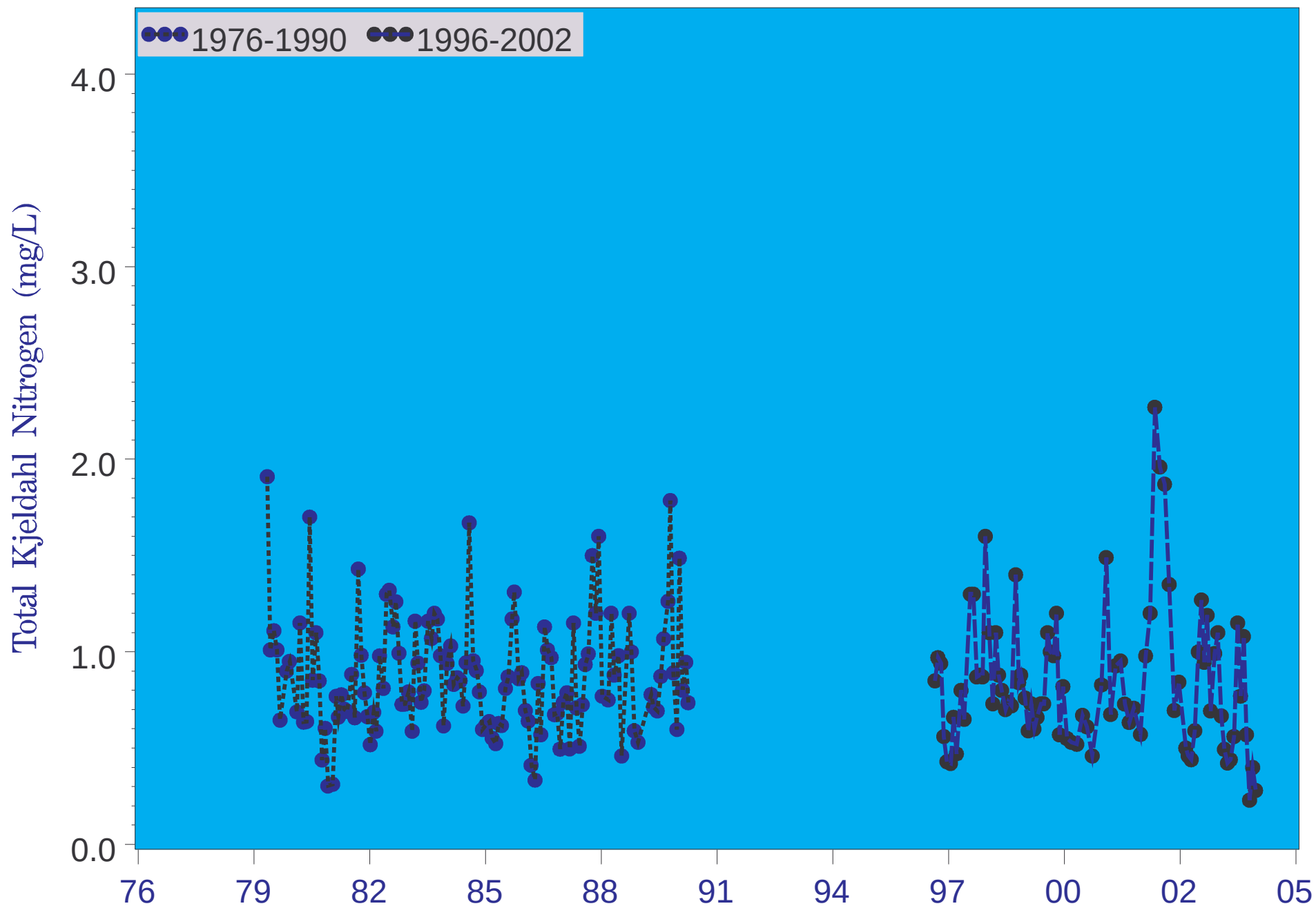


Figure 4.22b Long-term surface total Kjeldahl nitrogen at river kilometer 6.6

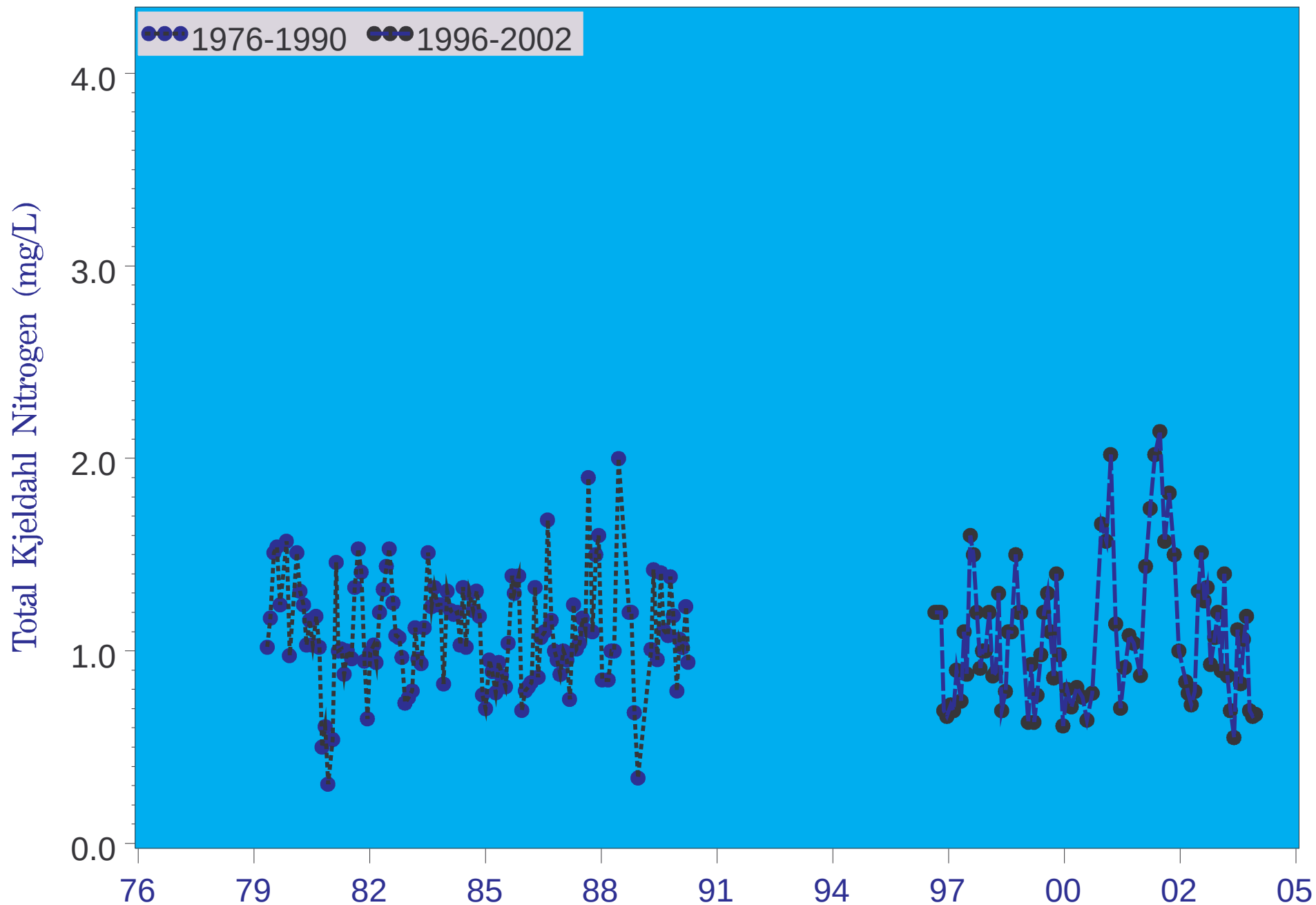


Figure 4.22c Long-term surface total Kjeldahl nitrogen at river kilometer 15.5

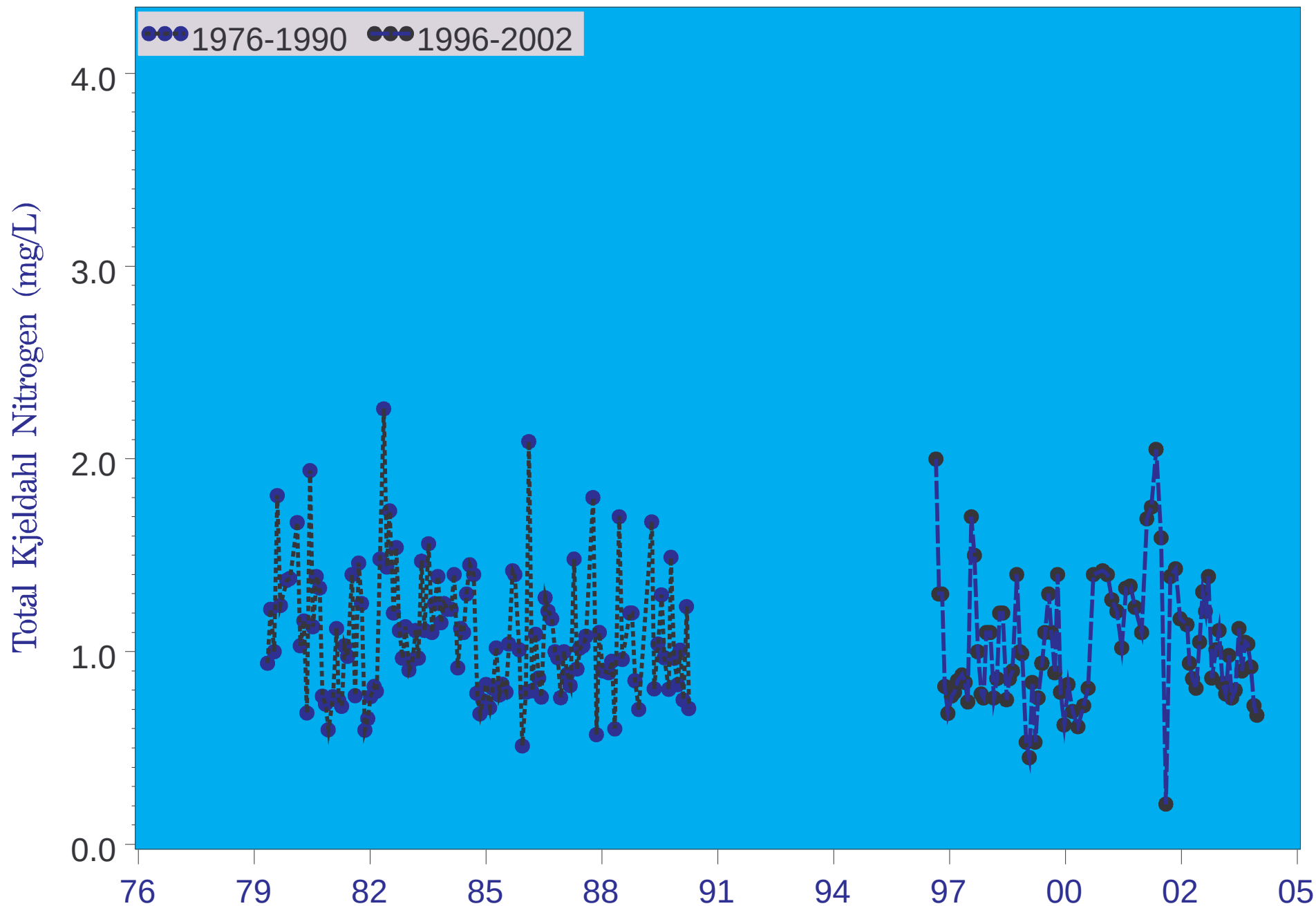


Figure 4.22d Long-term surface total Kjeldahl nitrogen at river kilometer 23.6

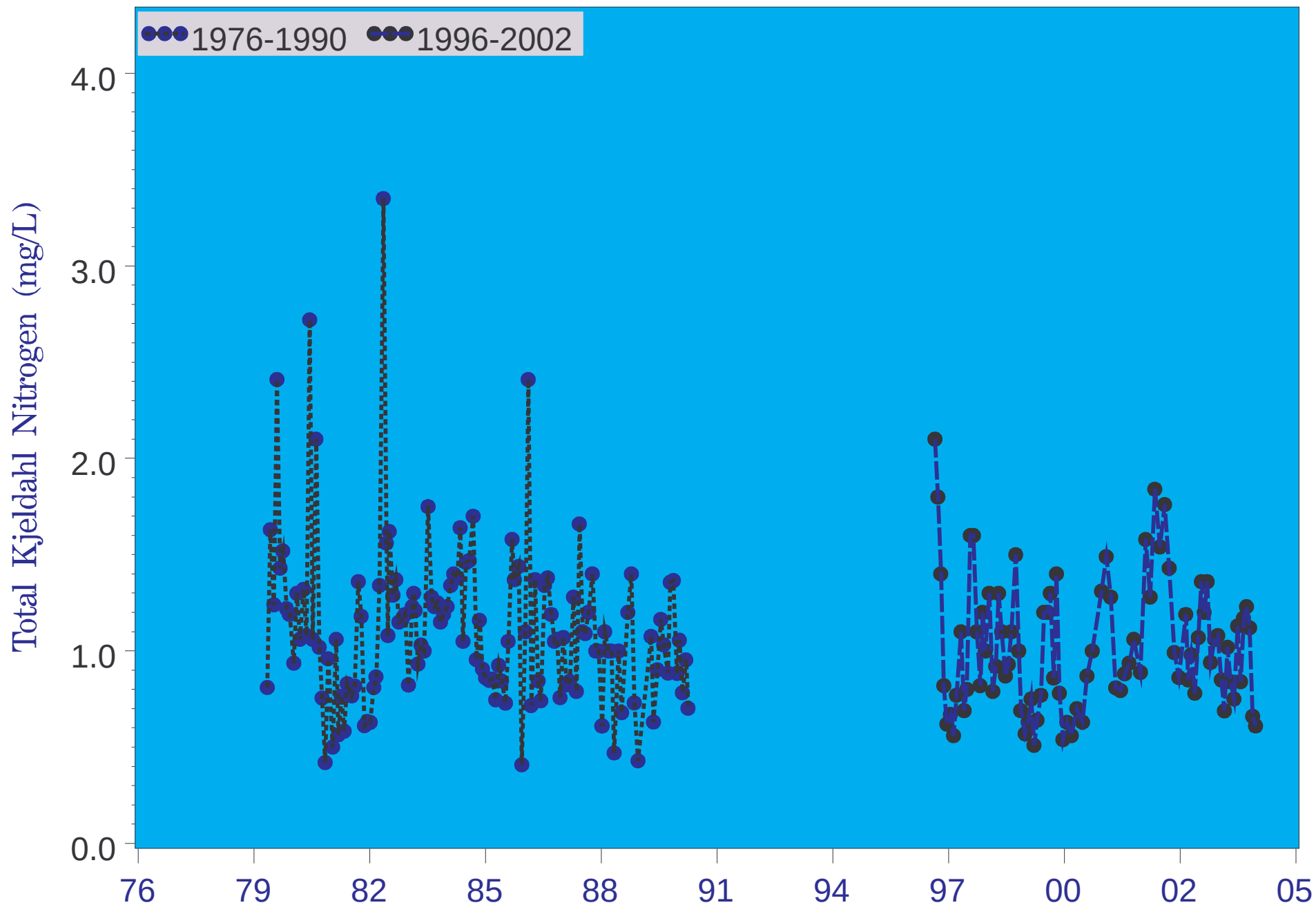


Figure 4.22e Long-term surface total Kjeldahl nitrogen at river kilometer 30.4

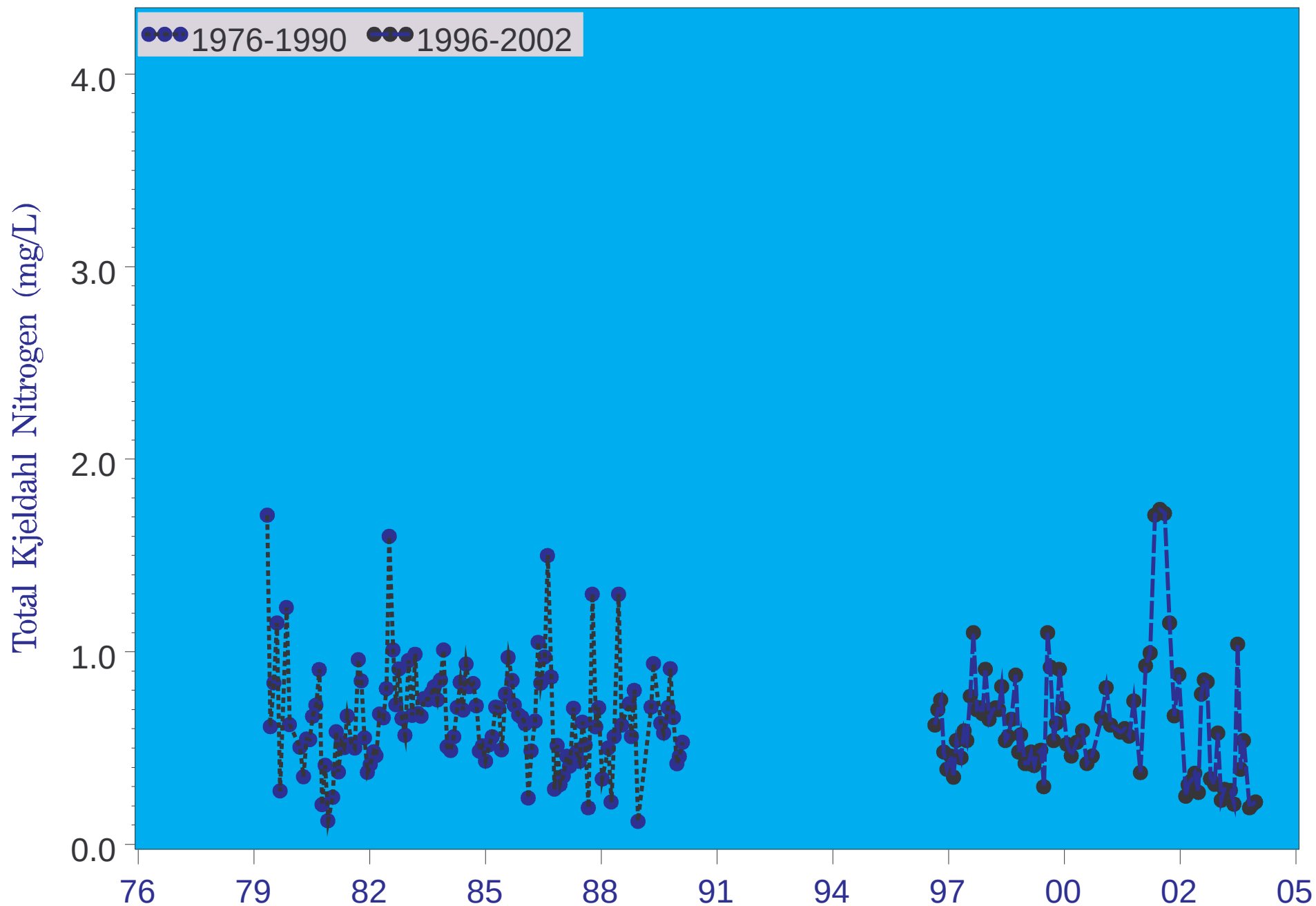


Figure 4.23a Long-term bottom total Kjeldhal nitrogen at river kilometer -2.4

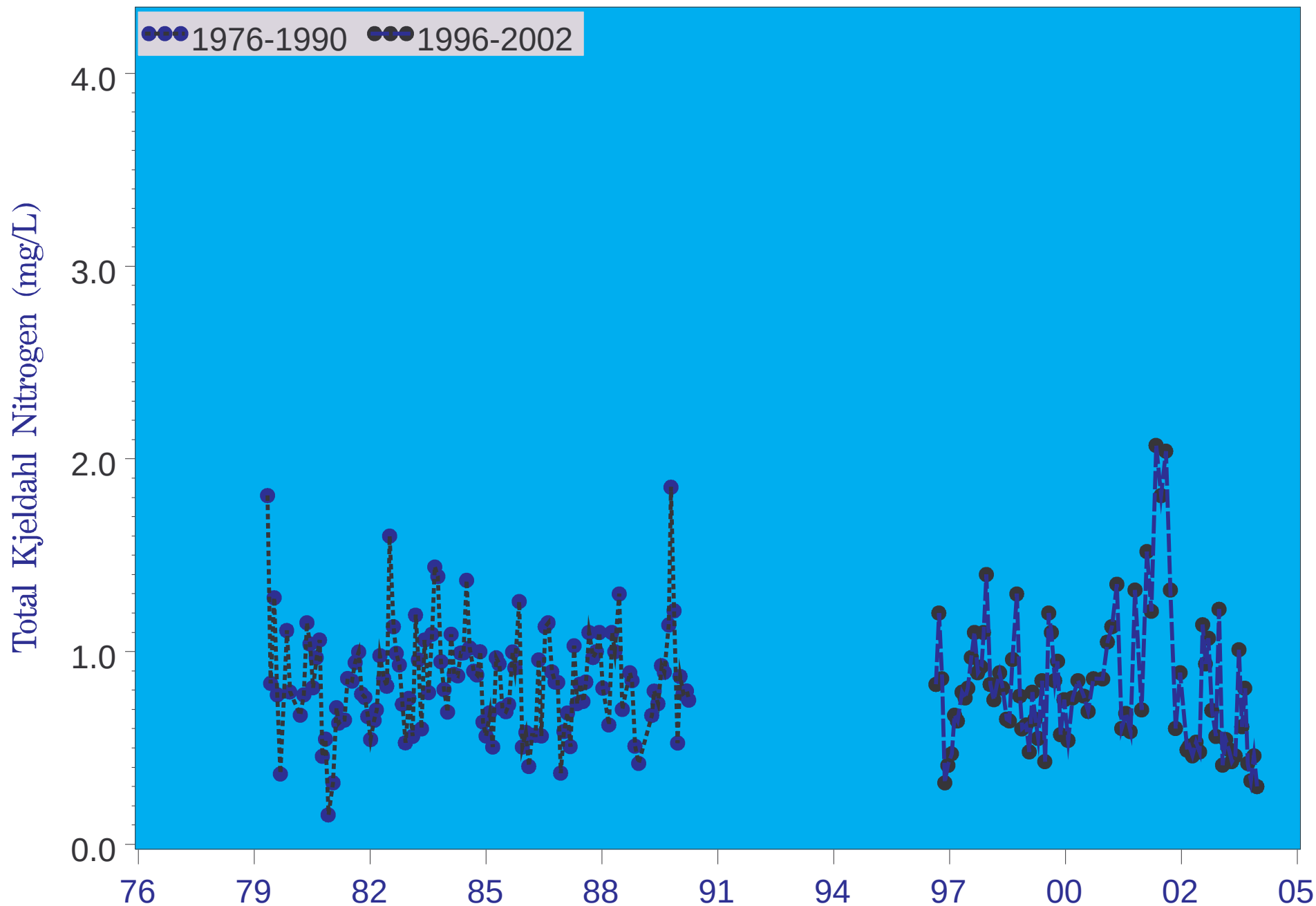


Figure 4.23b Long-term bottom total Kjeldhal nitrogen at river kilometer 6.6

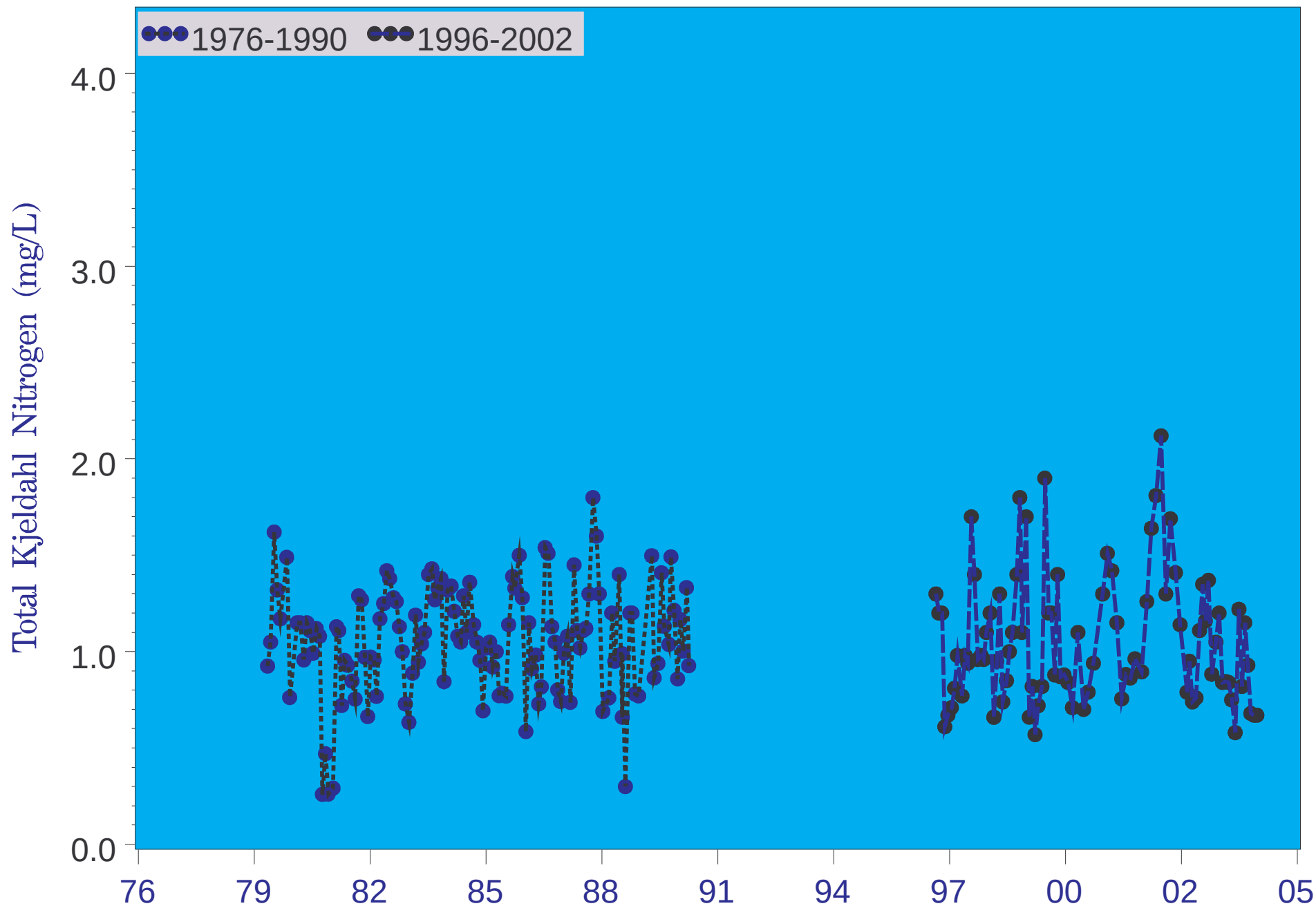


Figure 4.23c Long-term bottom total Kjeldhal nitrogen at river kilometer 15.5

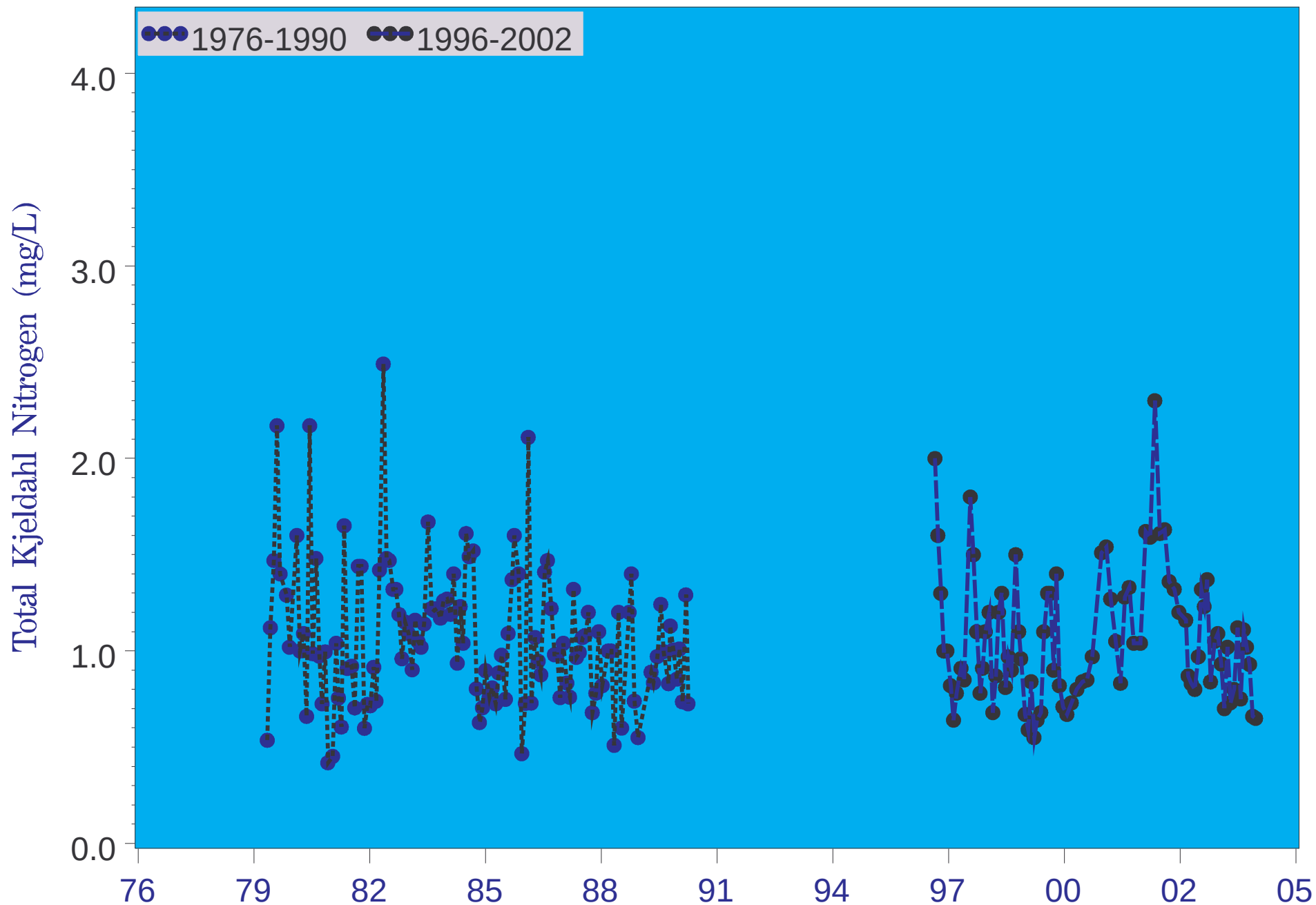


Figure 4.23d Long-term bottom total Kjeldhal nitrogen at river kilometer 23.6

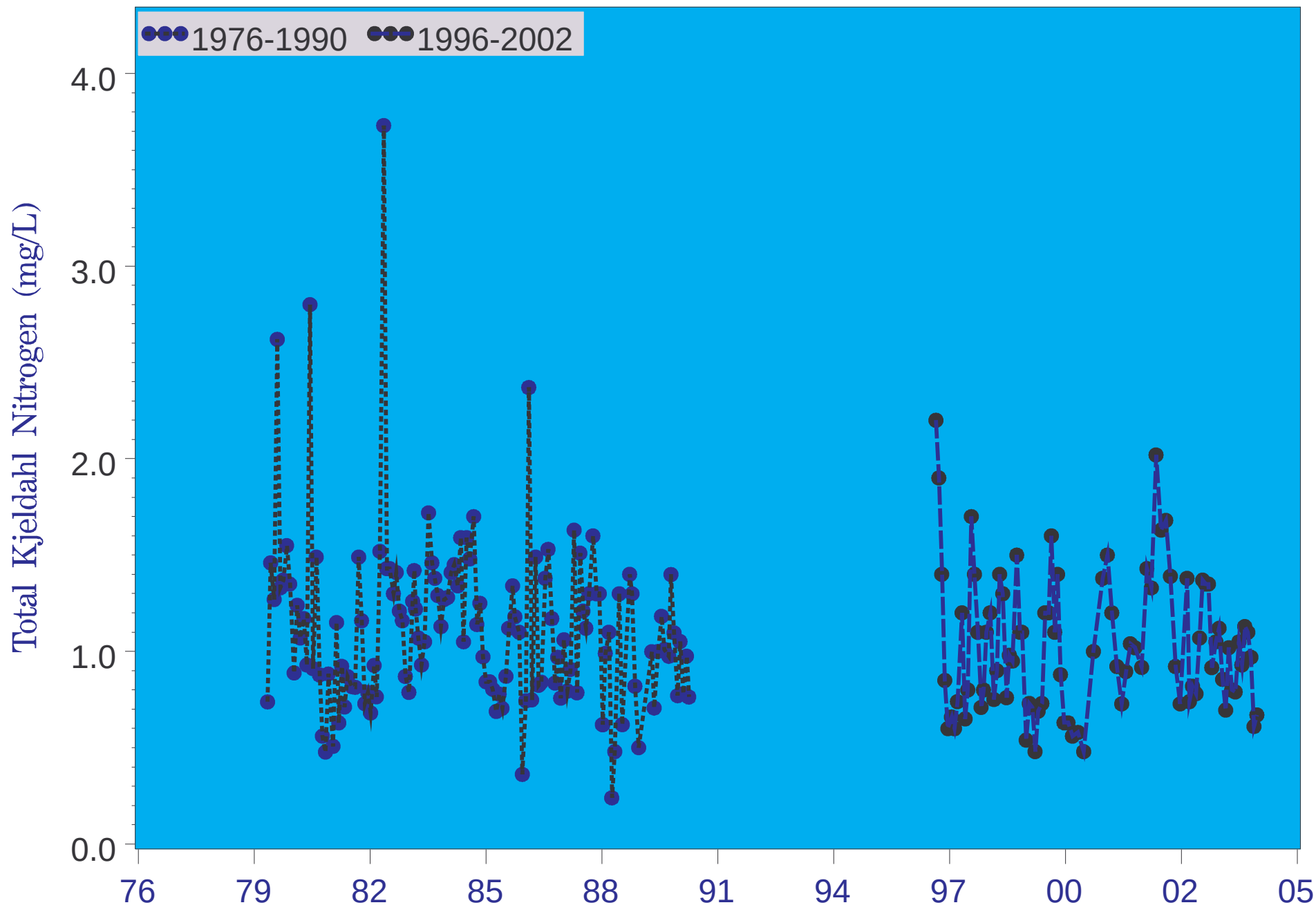


Figure 4.23e Long-term bottom total Kjeldhal nitrogen at river kilometer 30.4

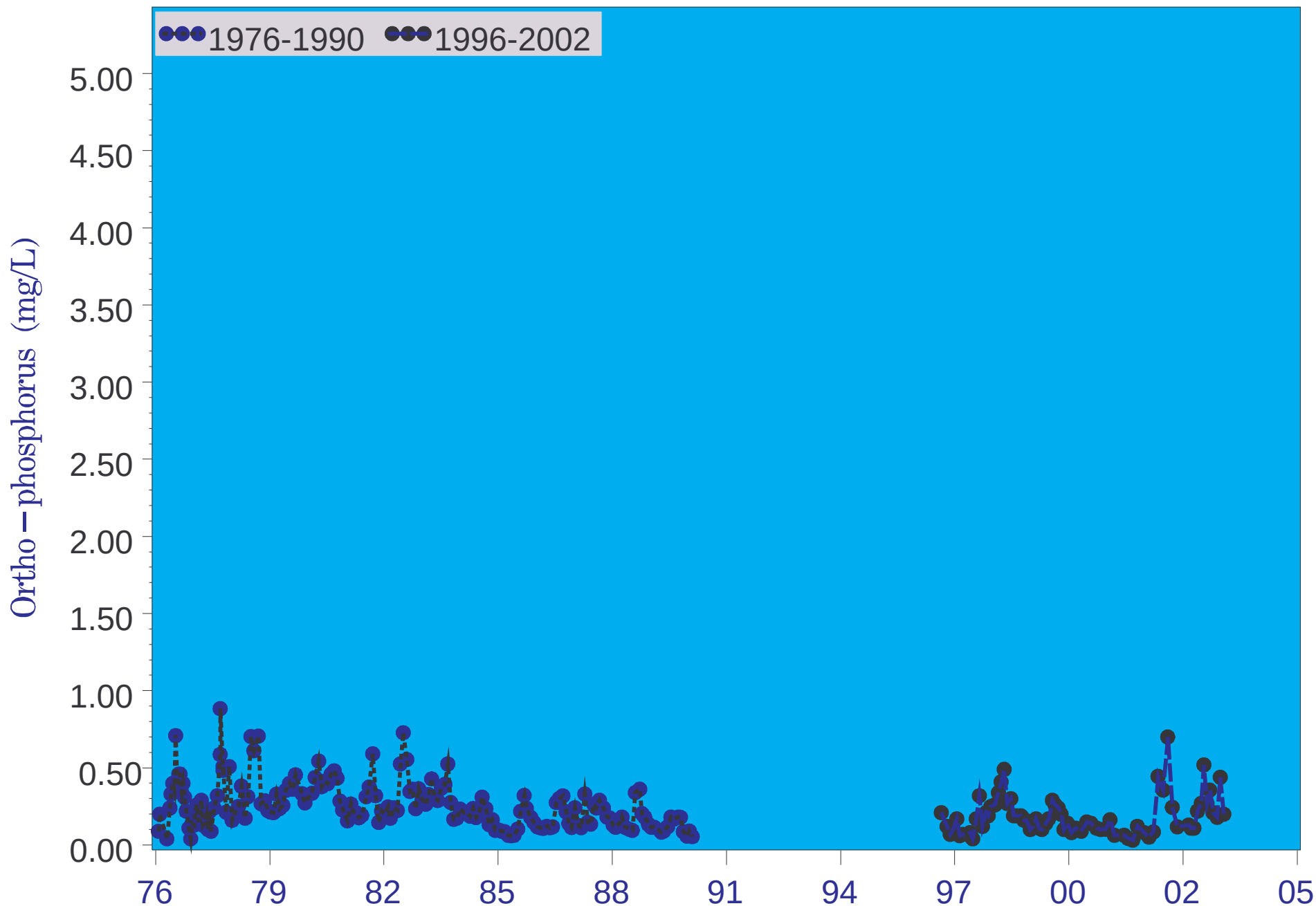


Figure 4.24a Long-term surface ortho-phosphorus at river kilometer -2.4

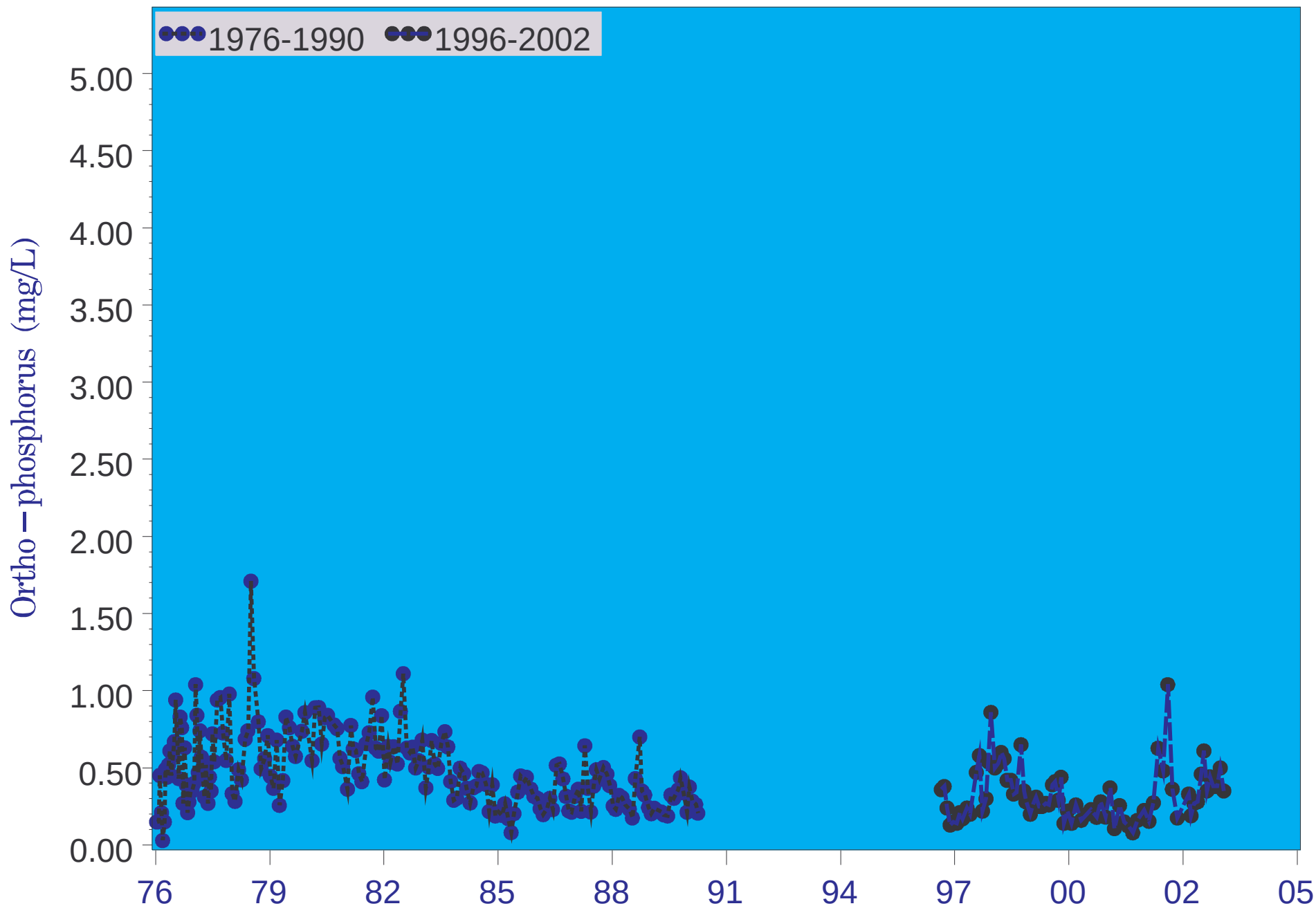


Figure 4.24b Long-term surface ortho-phosphorus at river kilometer 6.6

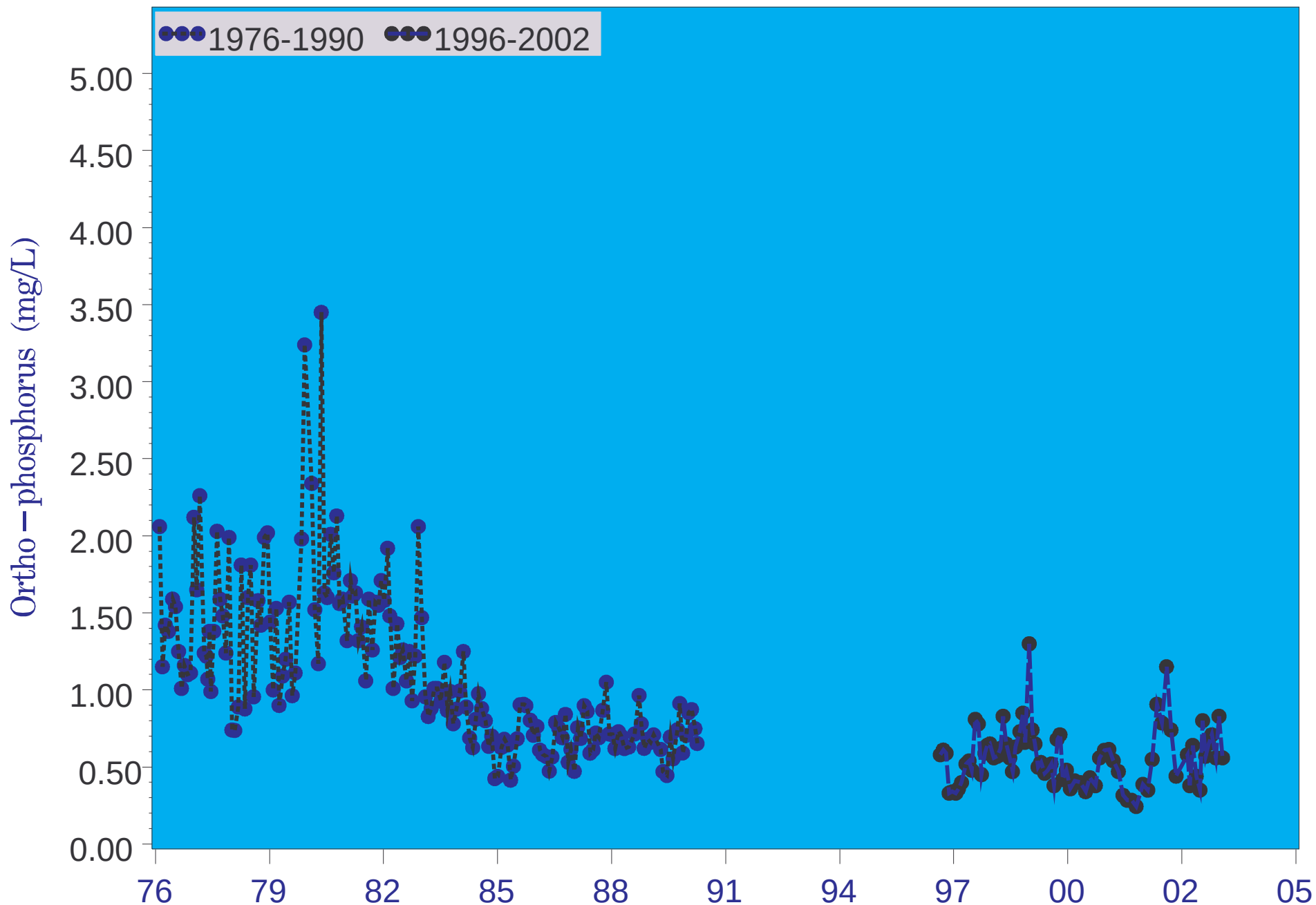


Figure 4.24c Long-term surface ortho-phosphorus at river kilometer 15.5

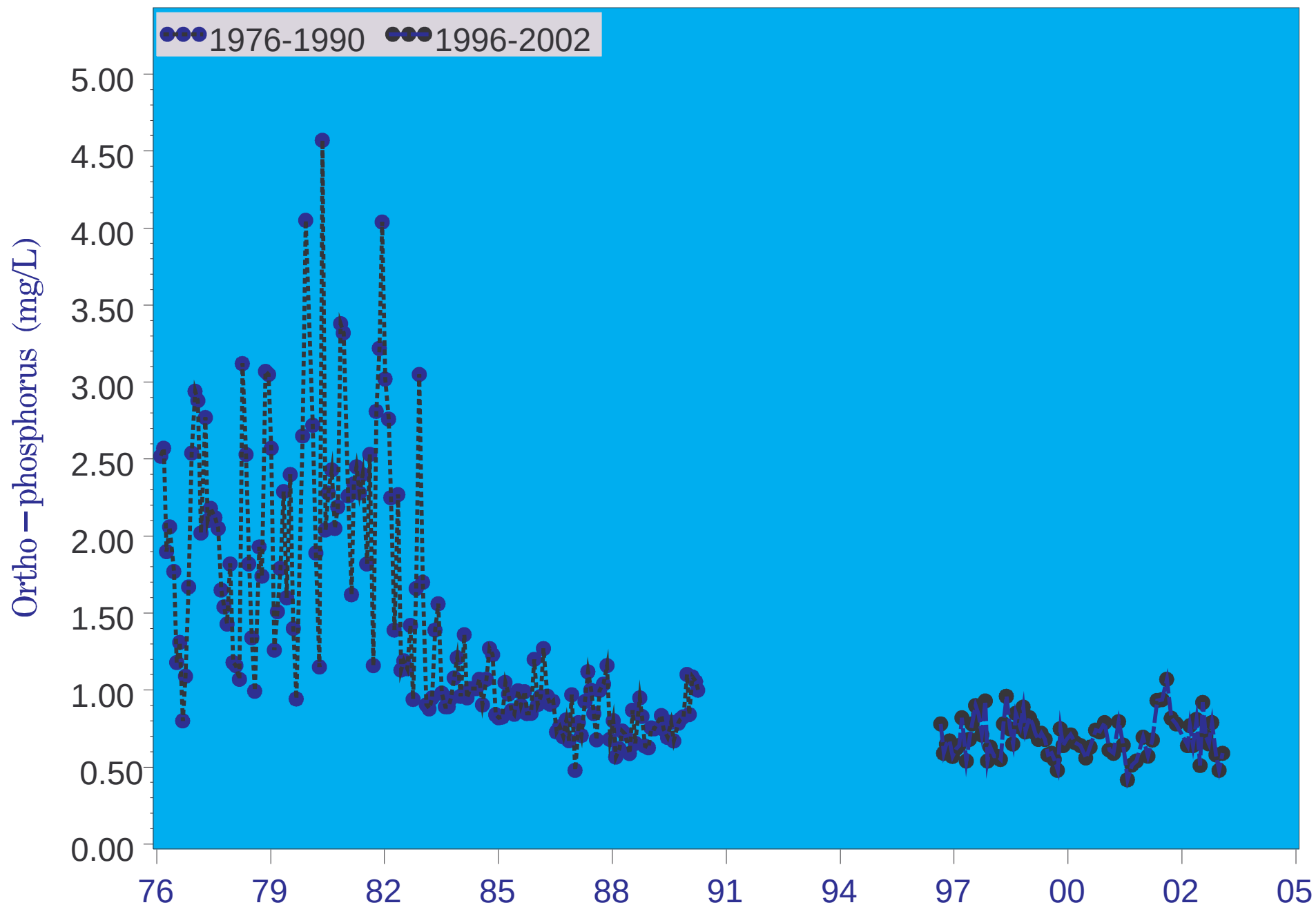


Figure 4.24d Long-term surface ortho-phosphorus at river kilometer 23.6

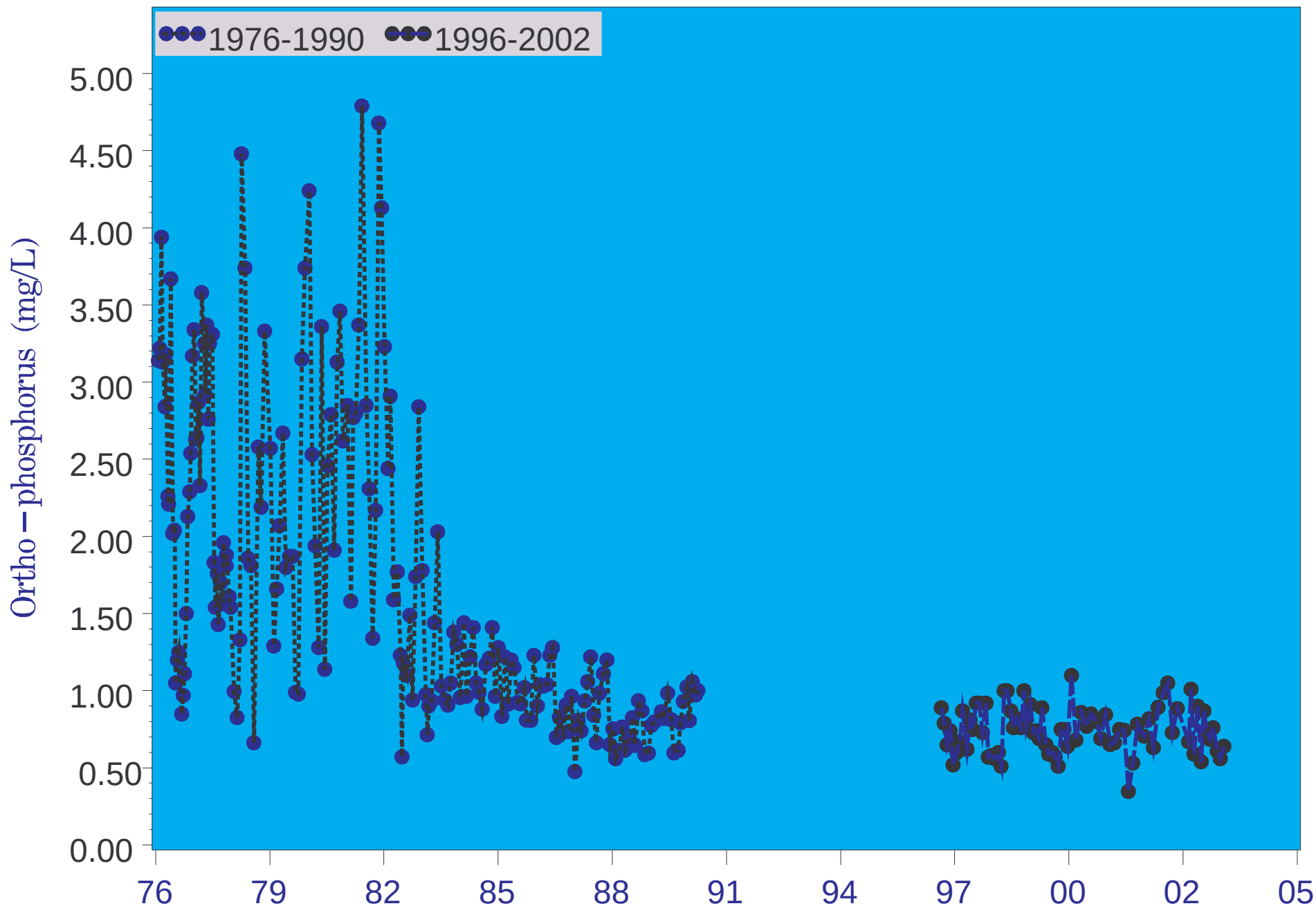


Figure 4.24e Long-term surface ortho-phosphorus at river kilometer 30.4

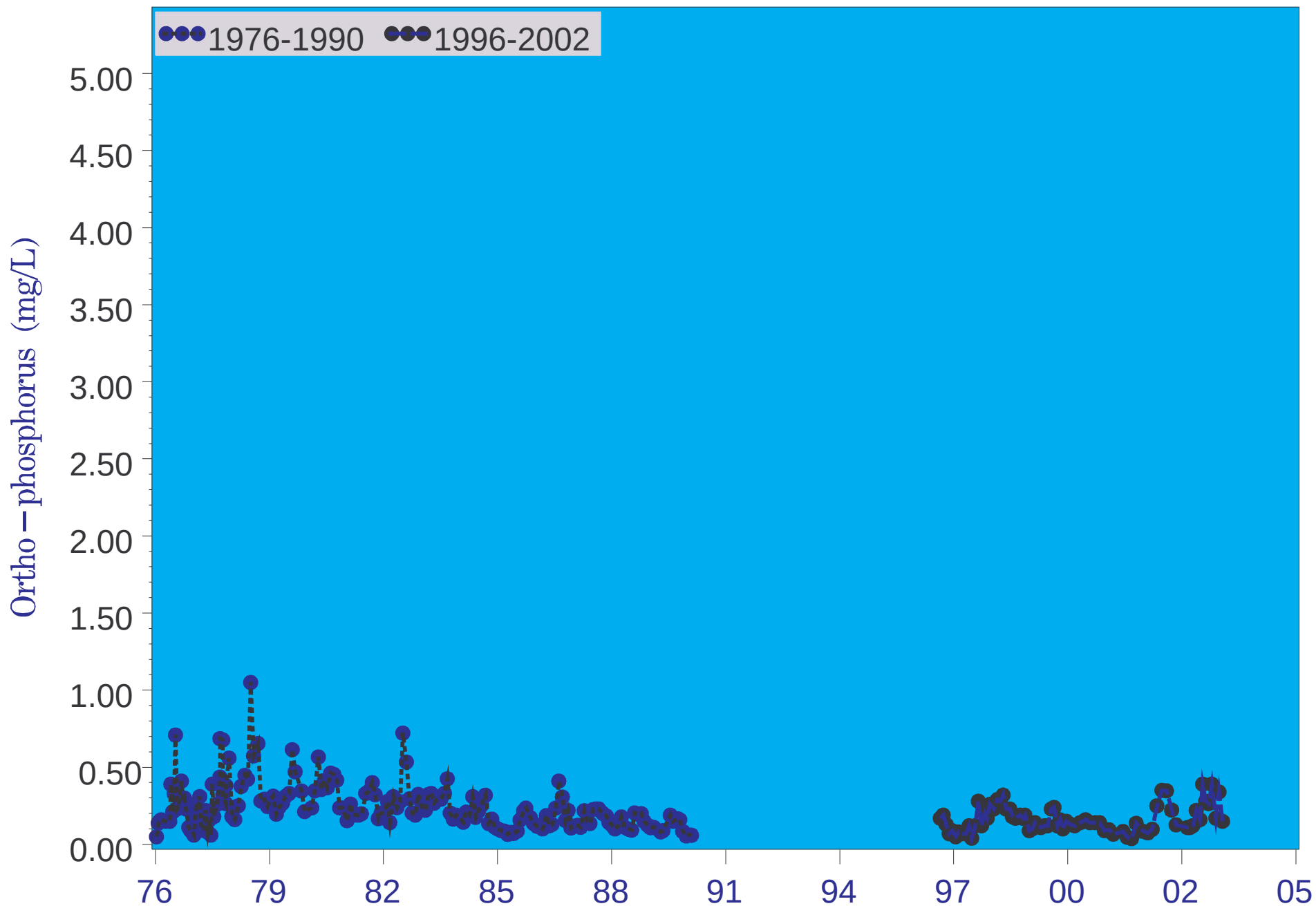


Figure 4.25a Long-term bottom ortho-phosphorus at river kilometer -2.4

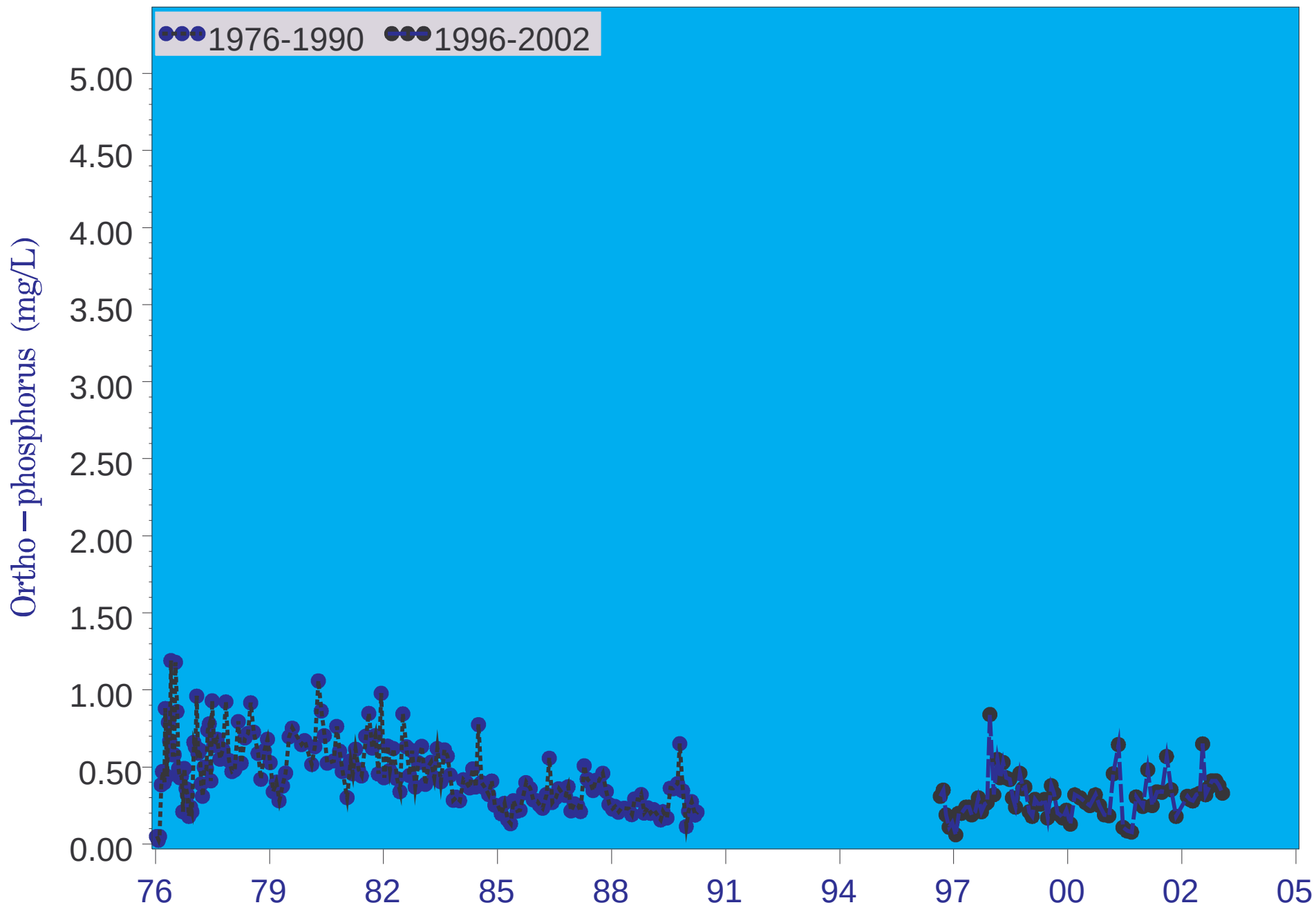


Figure 4.25b Long-term bottom ortho-phosphorus at river kilometer 6.6

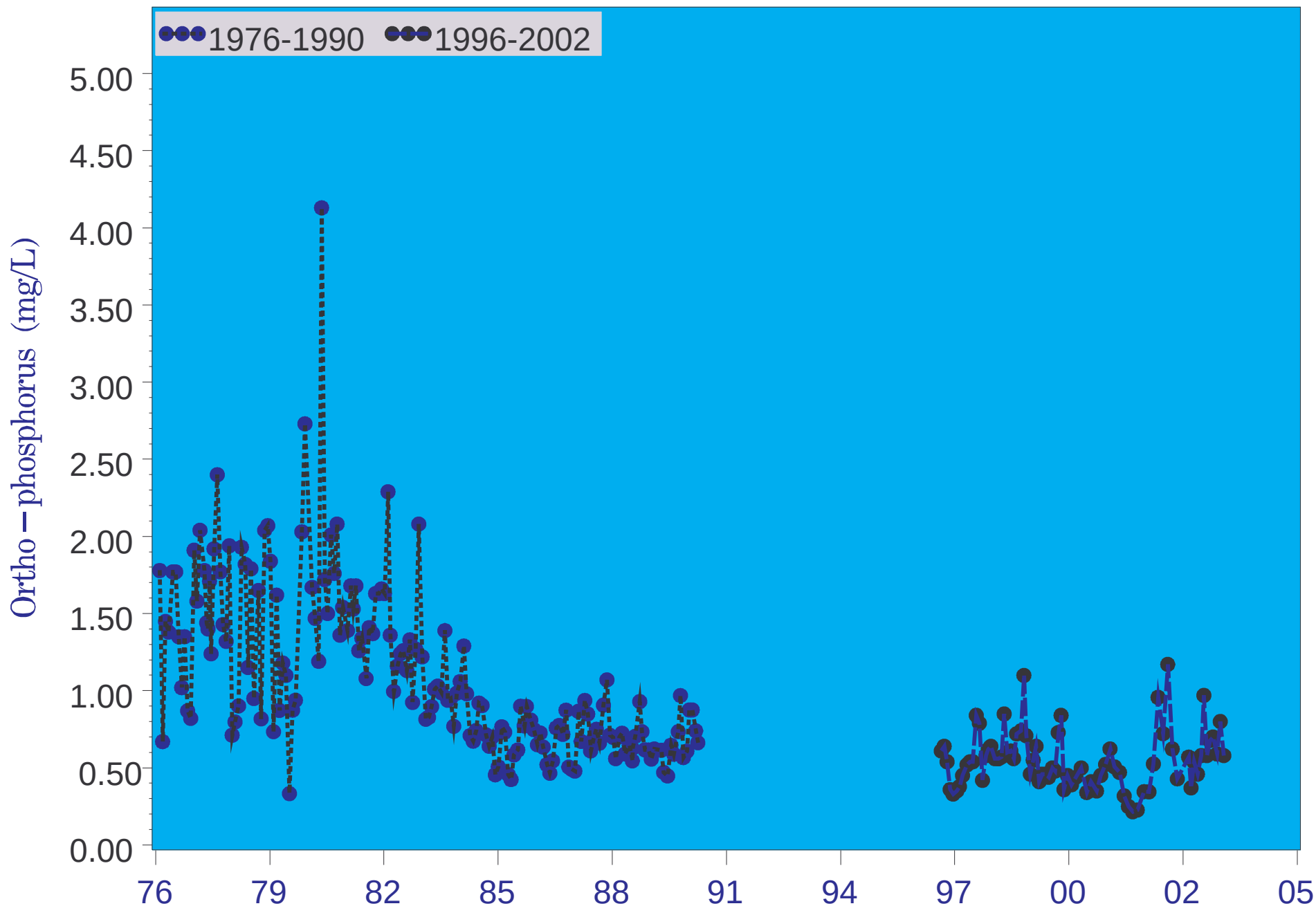


Figure 4.25c Long-term bottom ortho-phosphorus at river kilometer 15.5

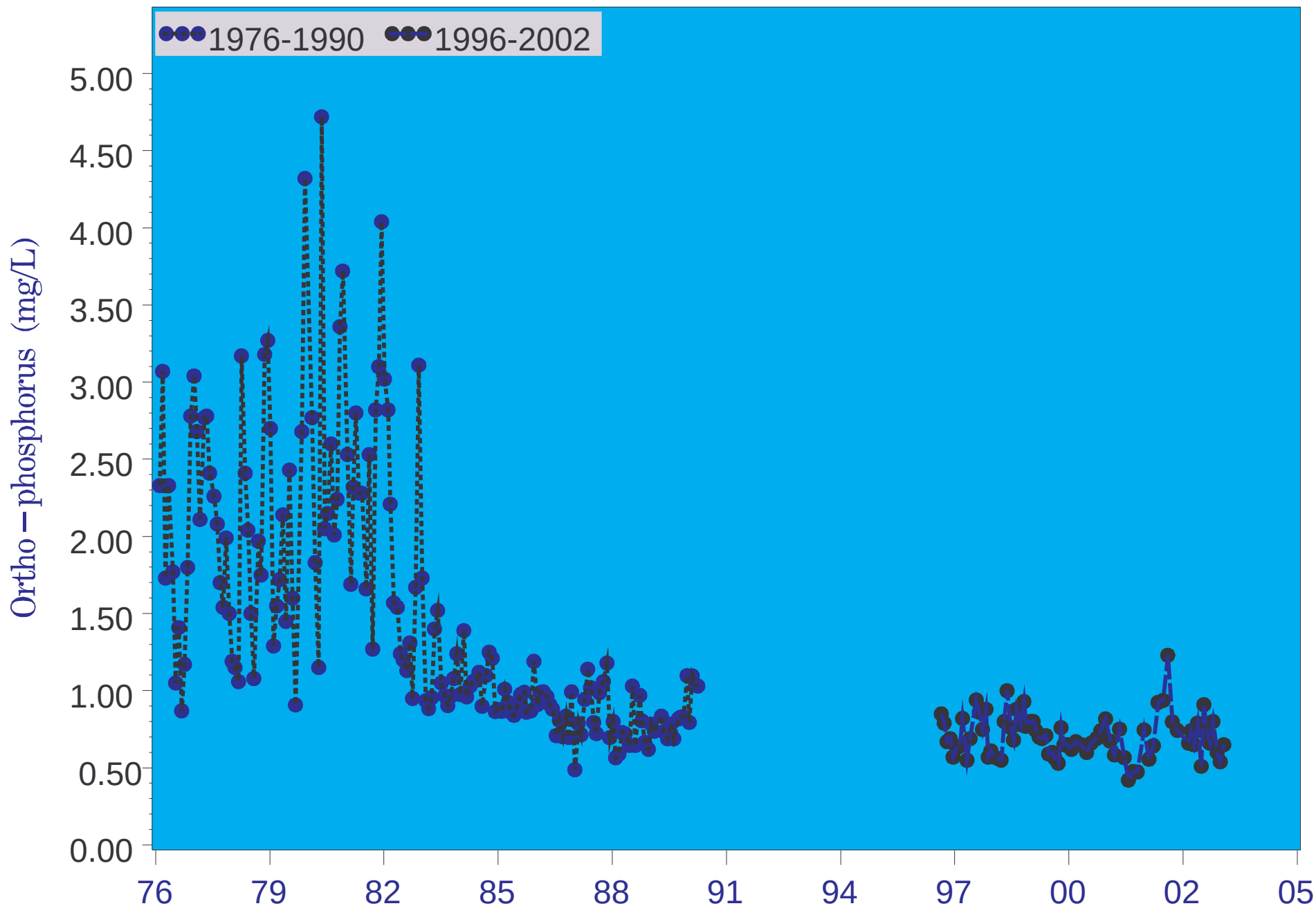


Figure 4.25d Long-term bottom ortho-phosphorus at river kilometer 23.6

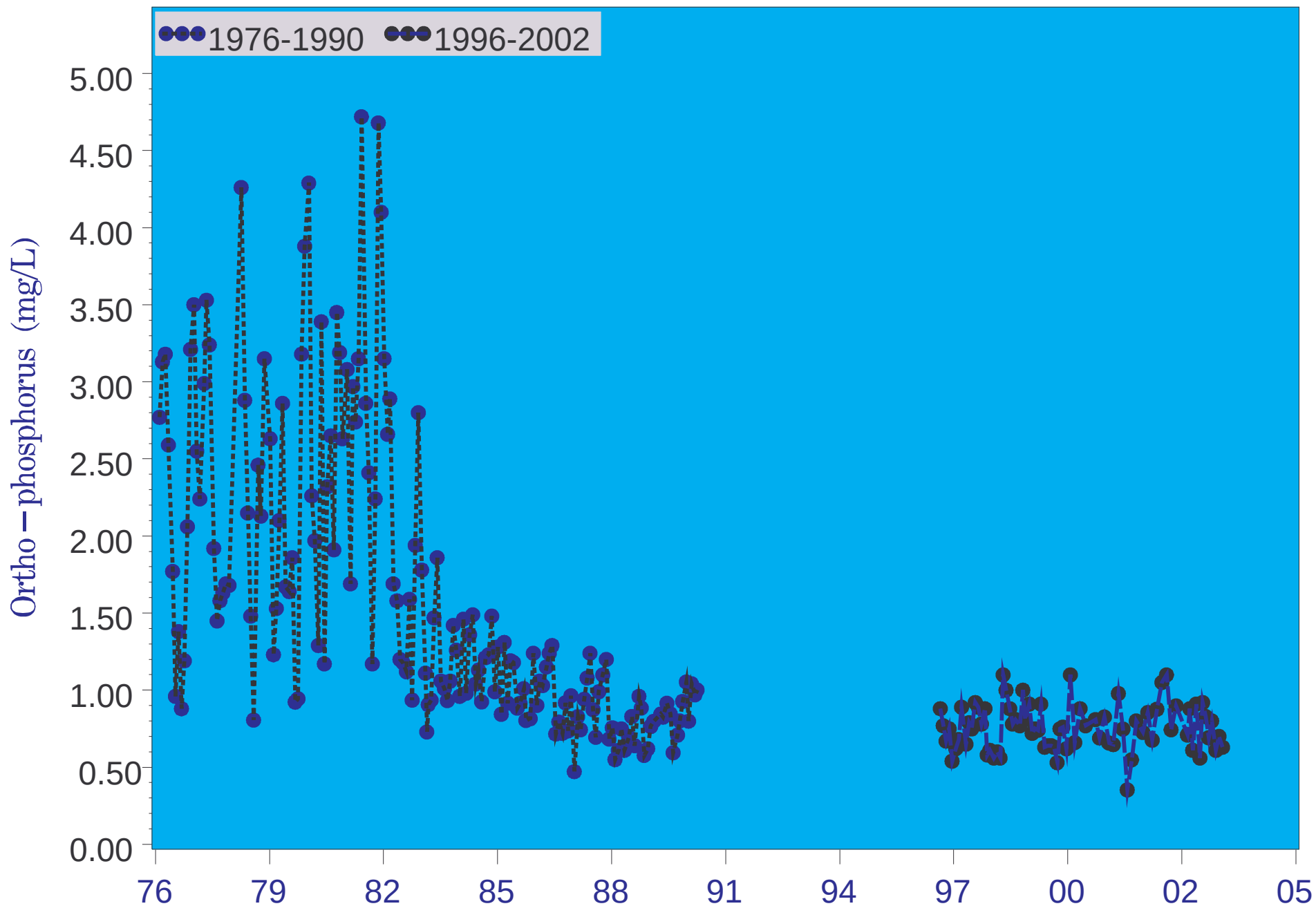


Figure 4.25e Long-term bottom ortho-phosphorus at river kilometer 30.4

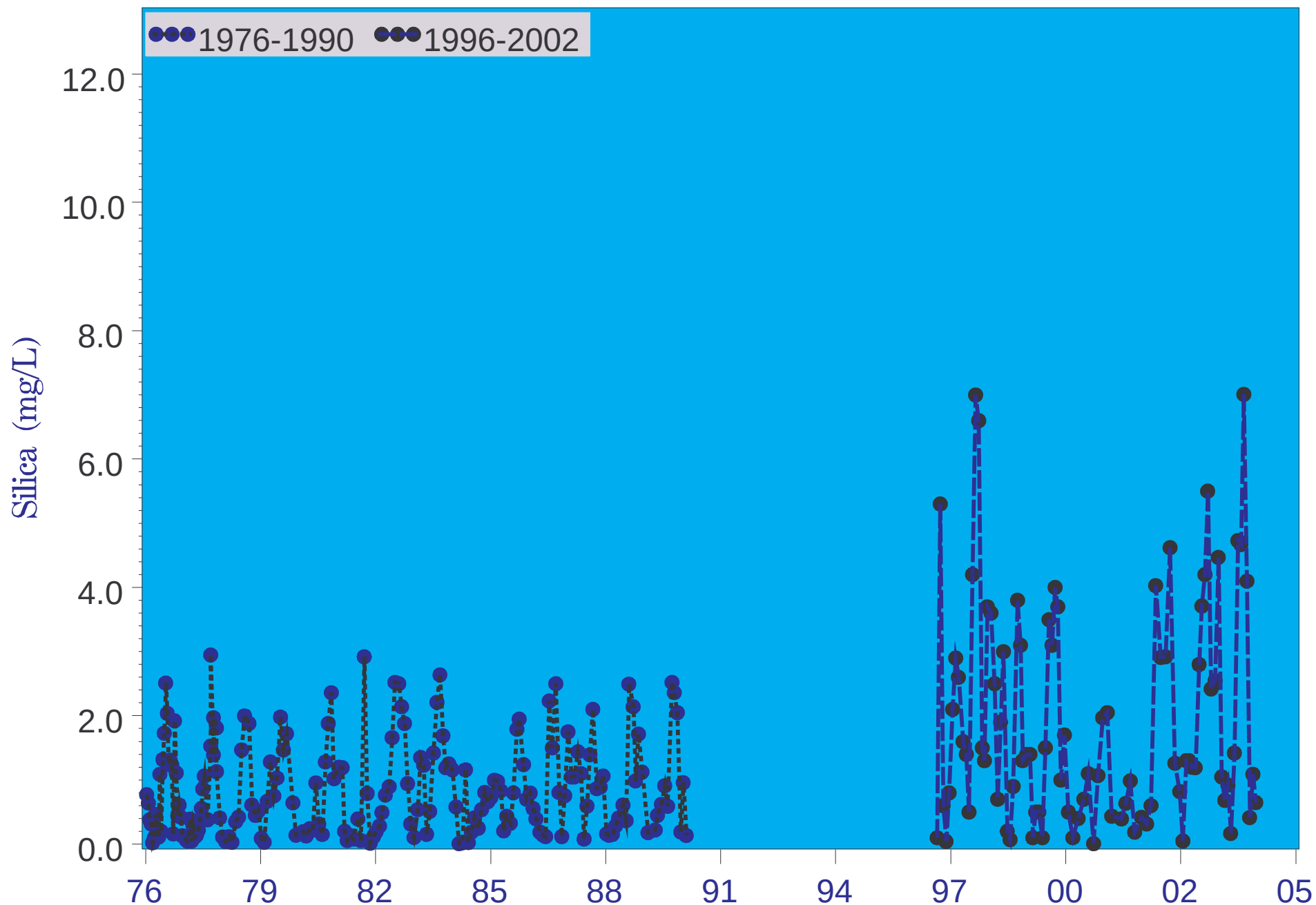


Figure 4.26a Long-term surface silica at river kilometer -2.4

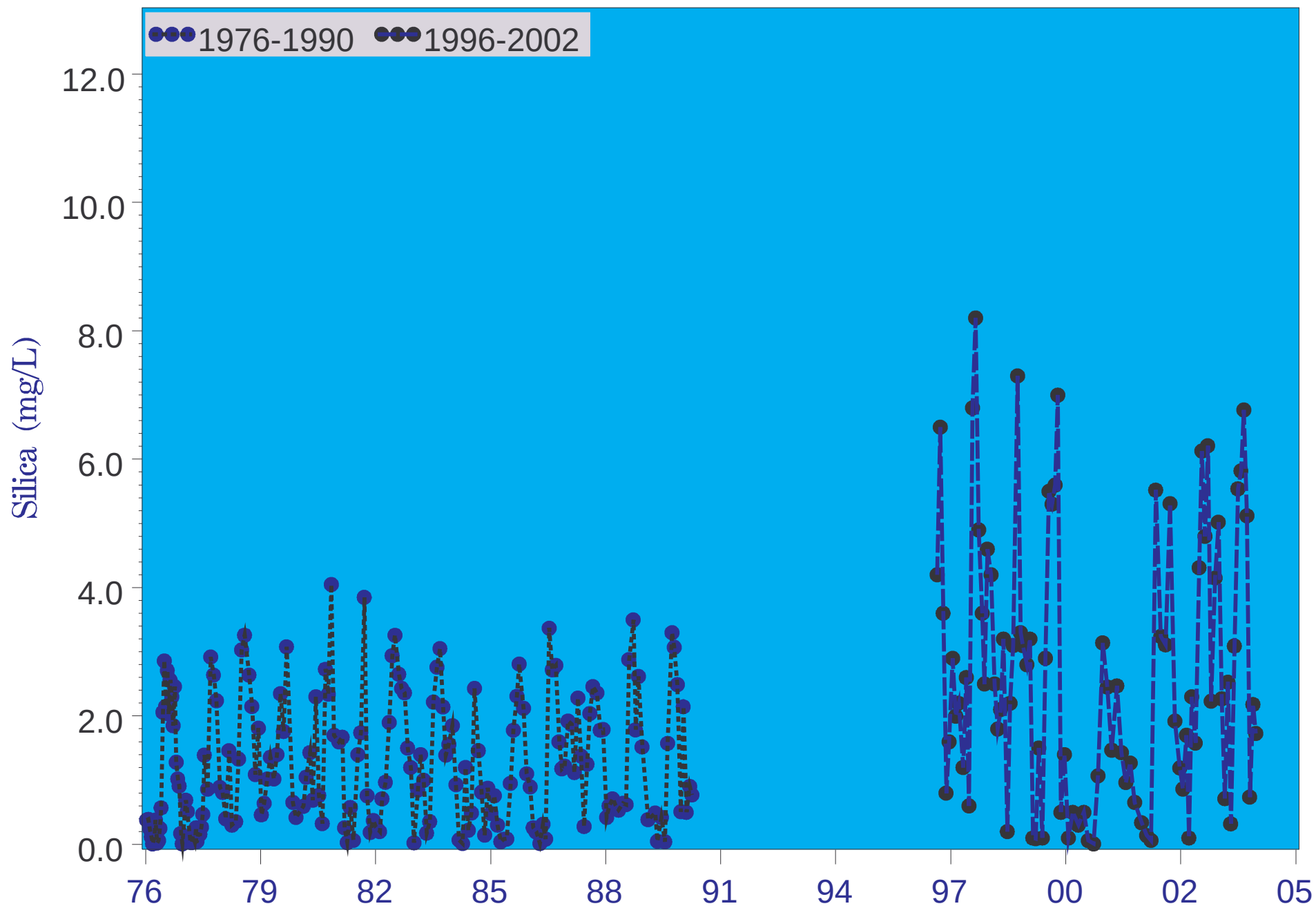


Figure 4.26b Long-term surface silica at river kilometer 6.6

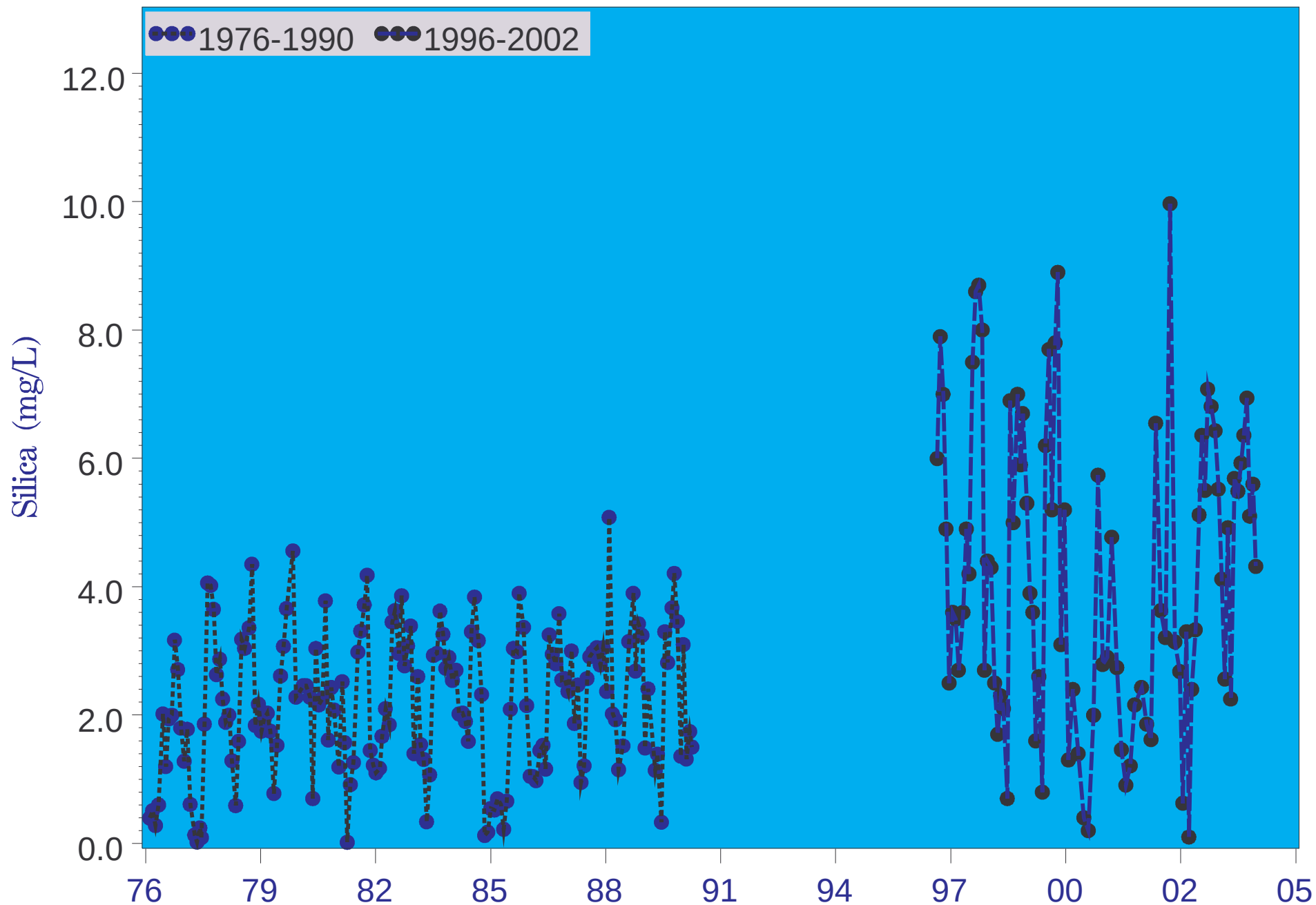


Figure 4.26c Long-term surface silica at river kilometer 15.5

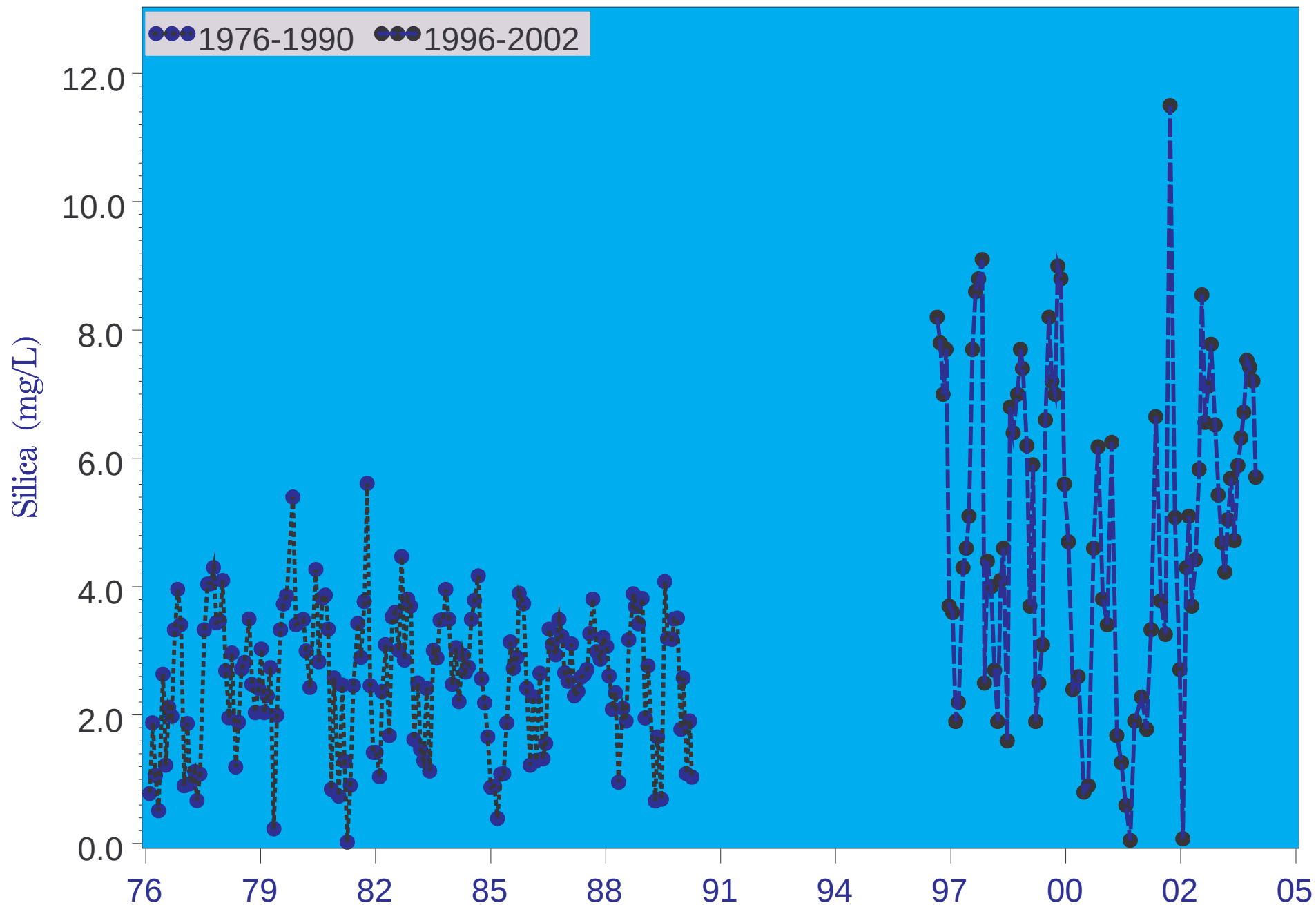


Figure 4.26d Long-term surface silica at river kilometer 23.6

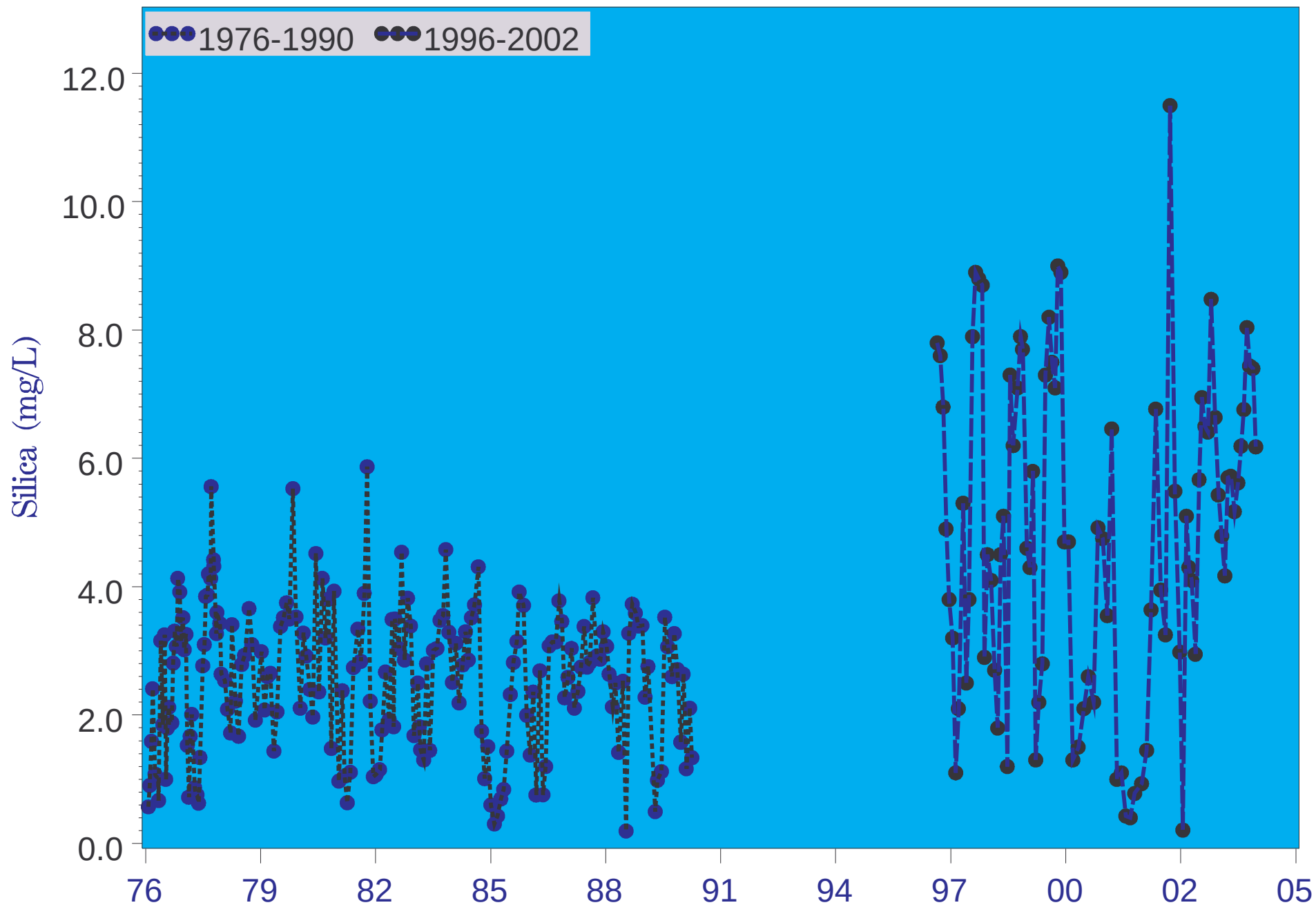


Figure 4.26e Long-term surface silica at river kilometer 30.4

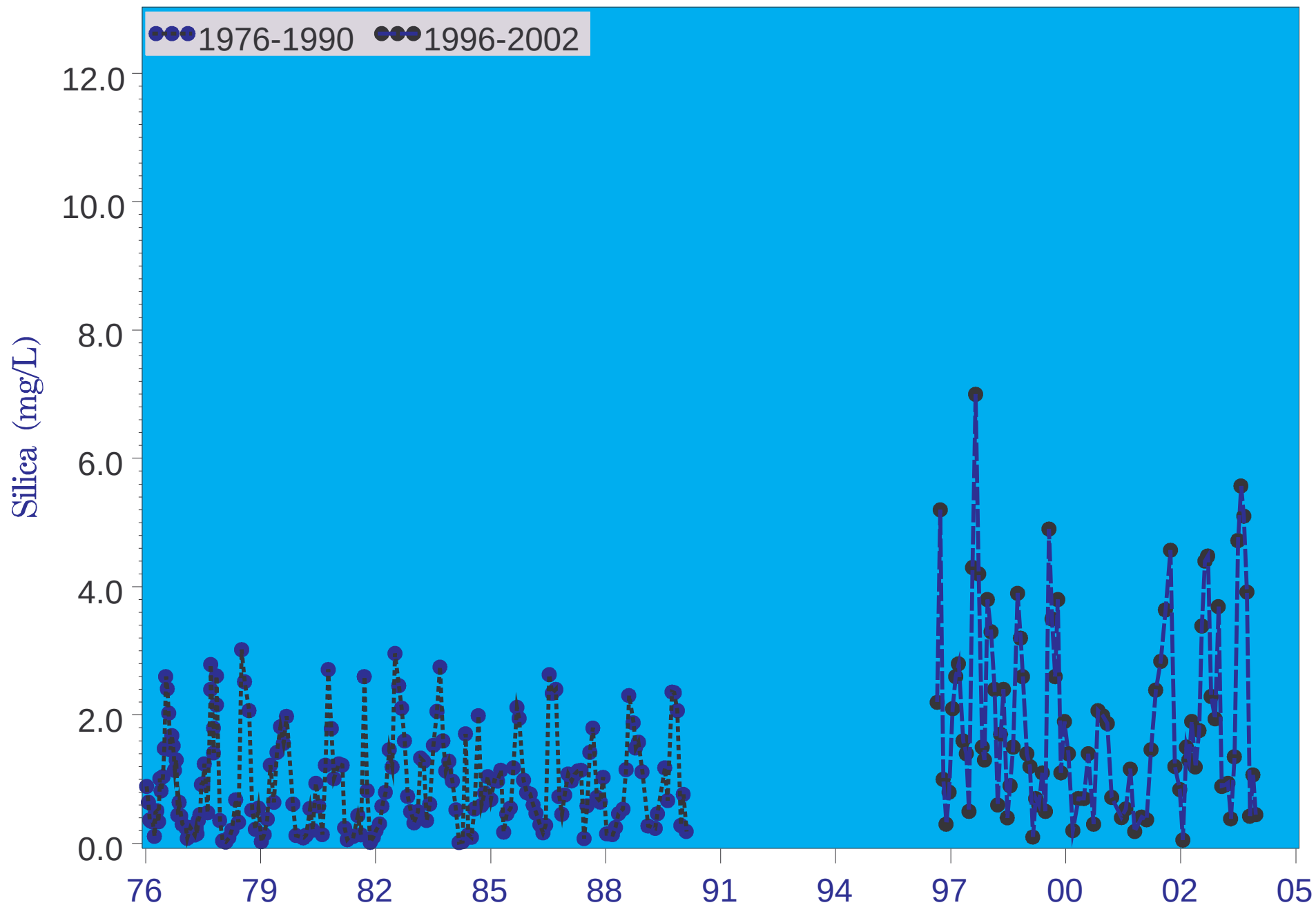


Figure 4.27a Long-term bottom silica at river kilometer -2.4

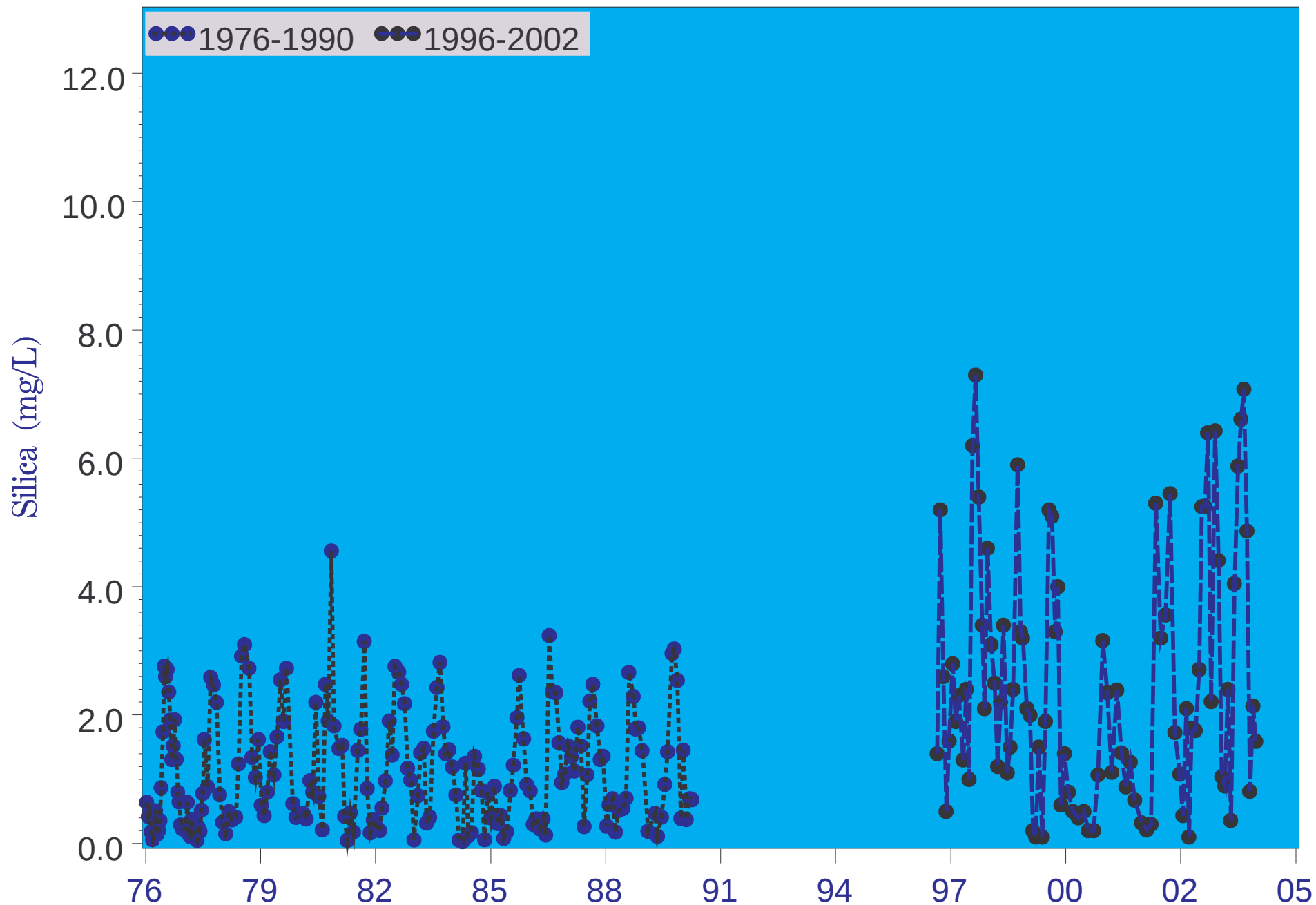


Figure 4.27b Long-term bottom silica at river kilometer 6.6

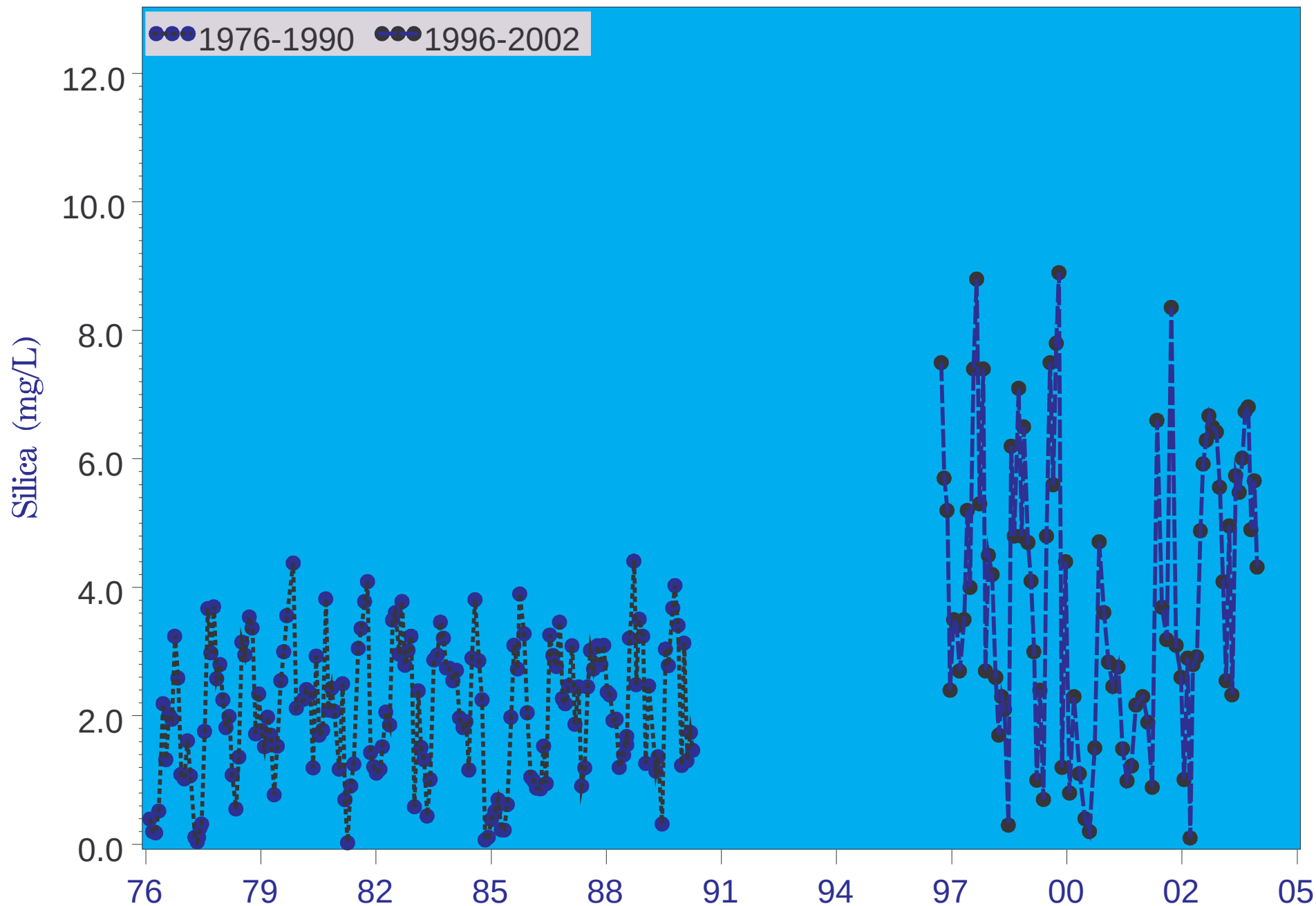
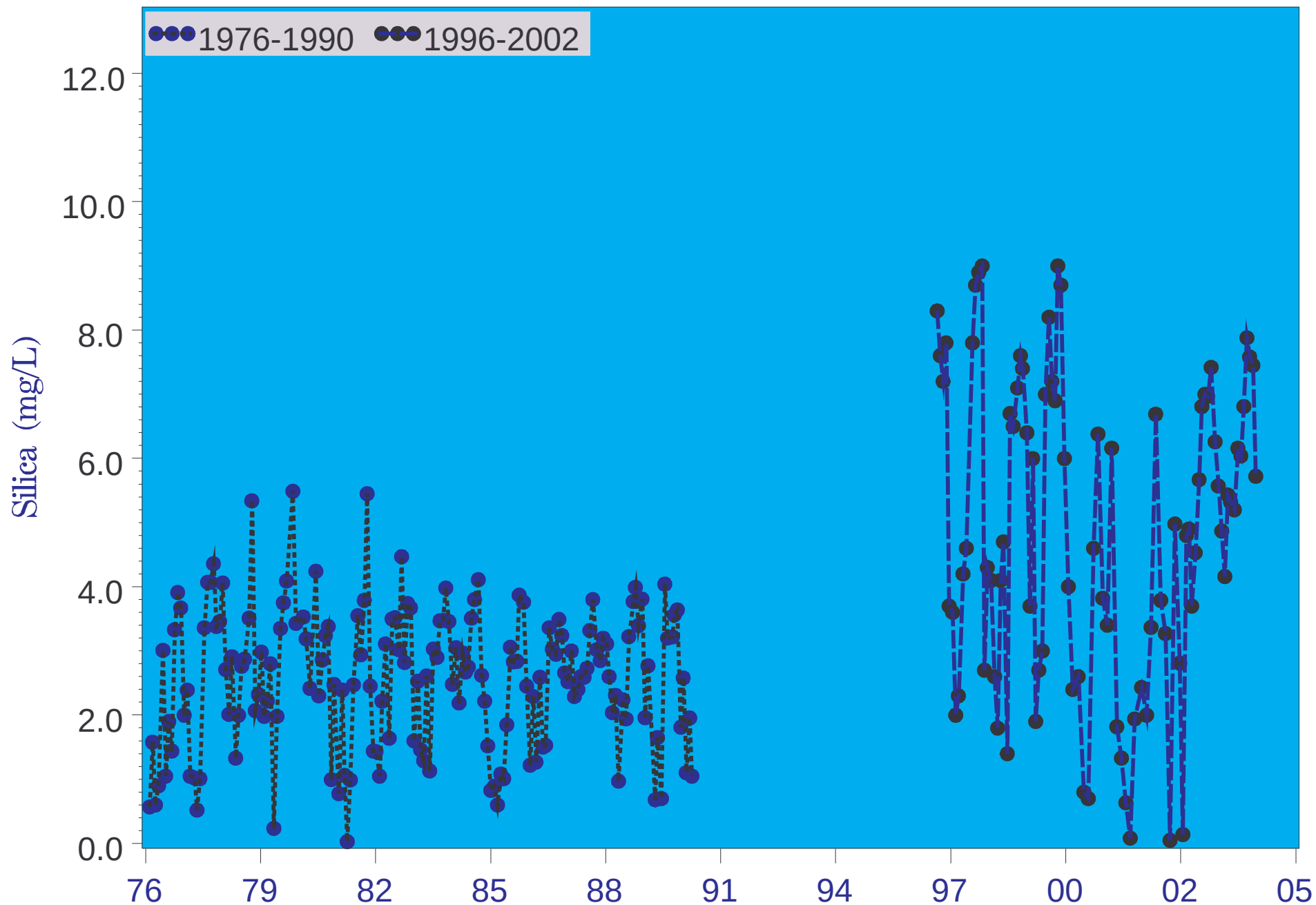


Figure 4.27c Long-term bottom silica at river kilometer 15.5



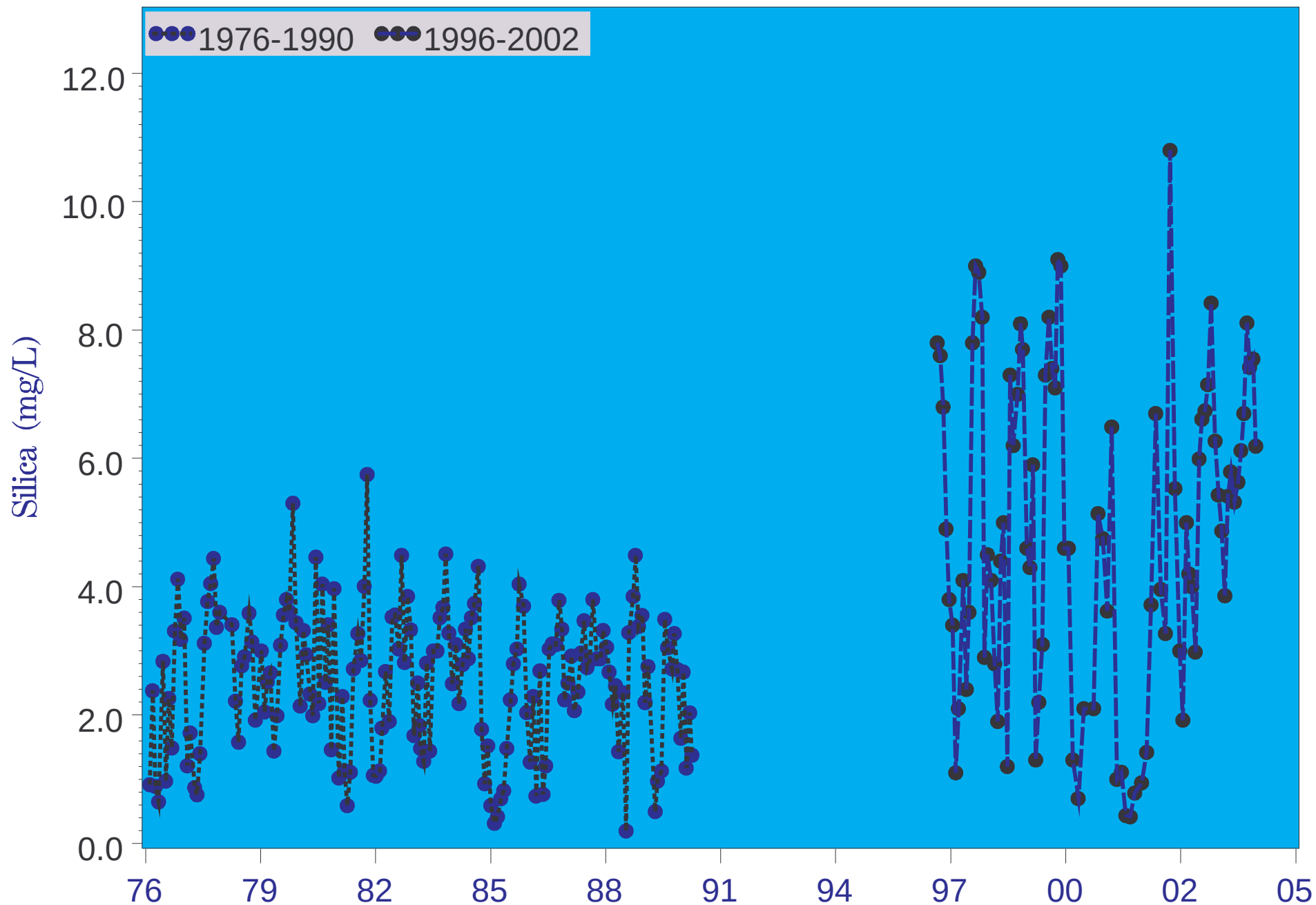


Figure 4.27e Long-term bottom silica at river kilometer 30.4

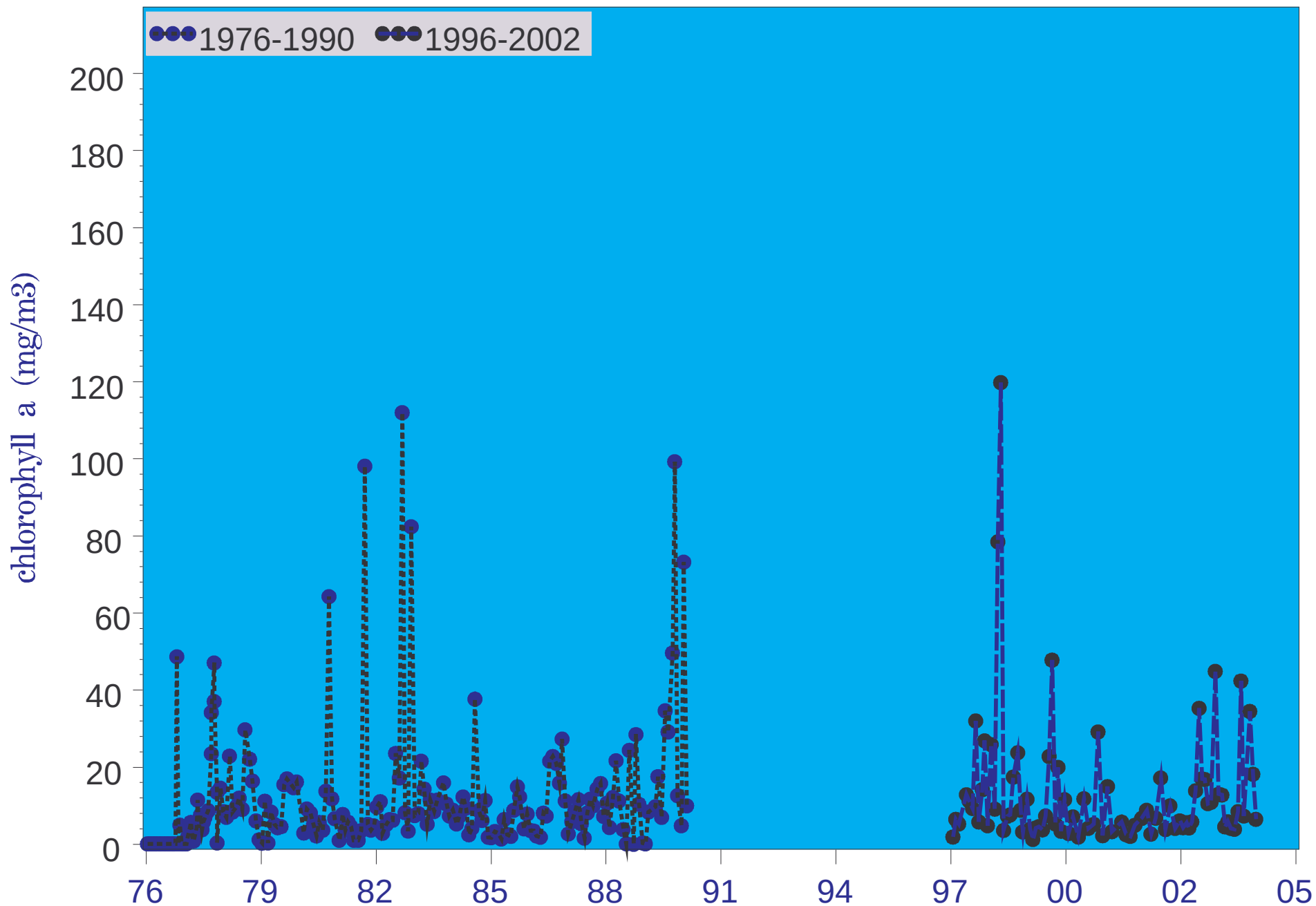


Figure 4.28a Long-term surface chlorophyll a at river kilometer -2.4

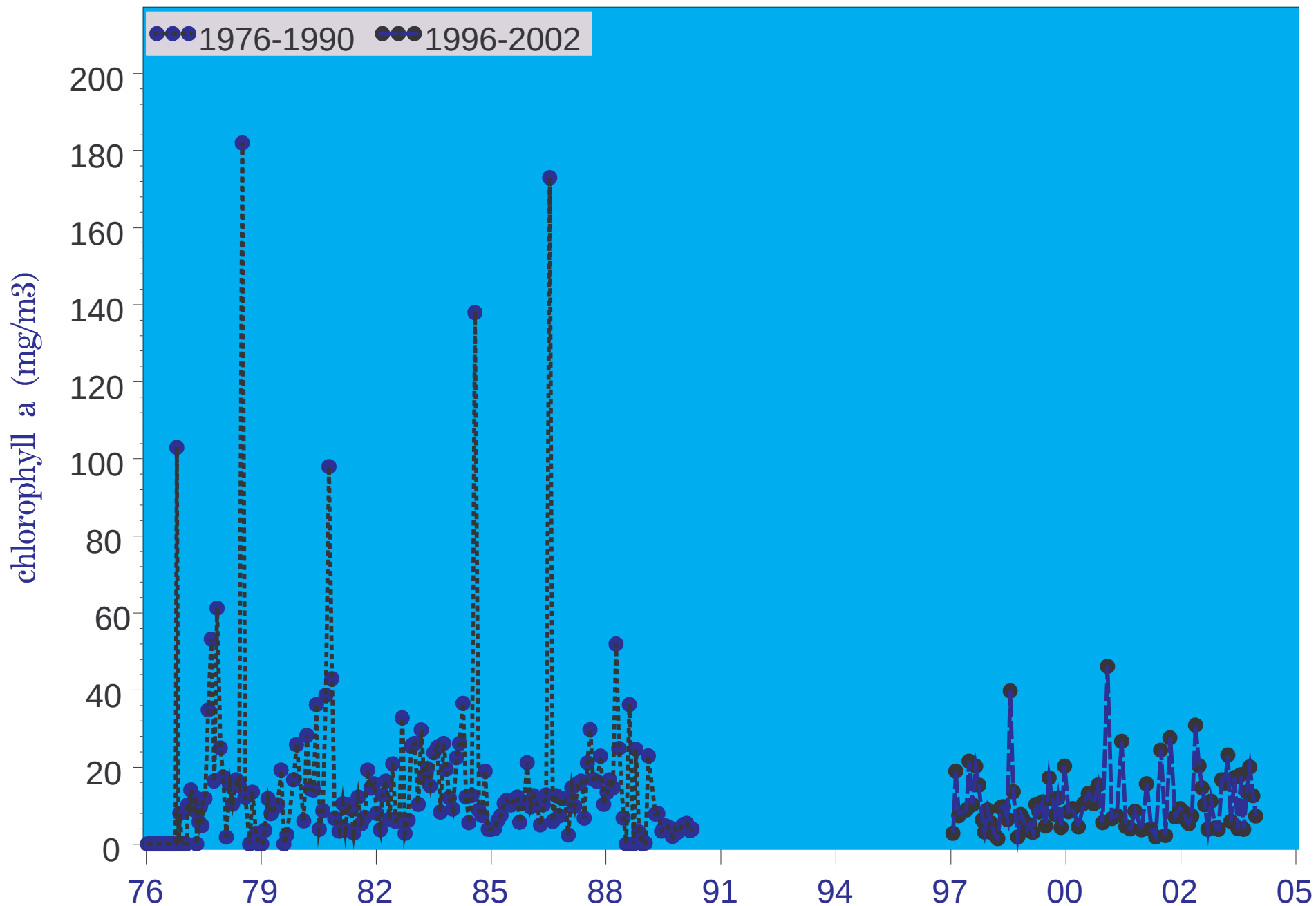


Figure 4.28b Long-term surface chlorophyll a at river kilometer 6.6

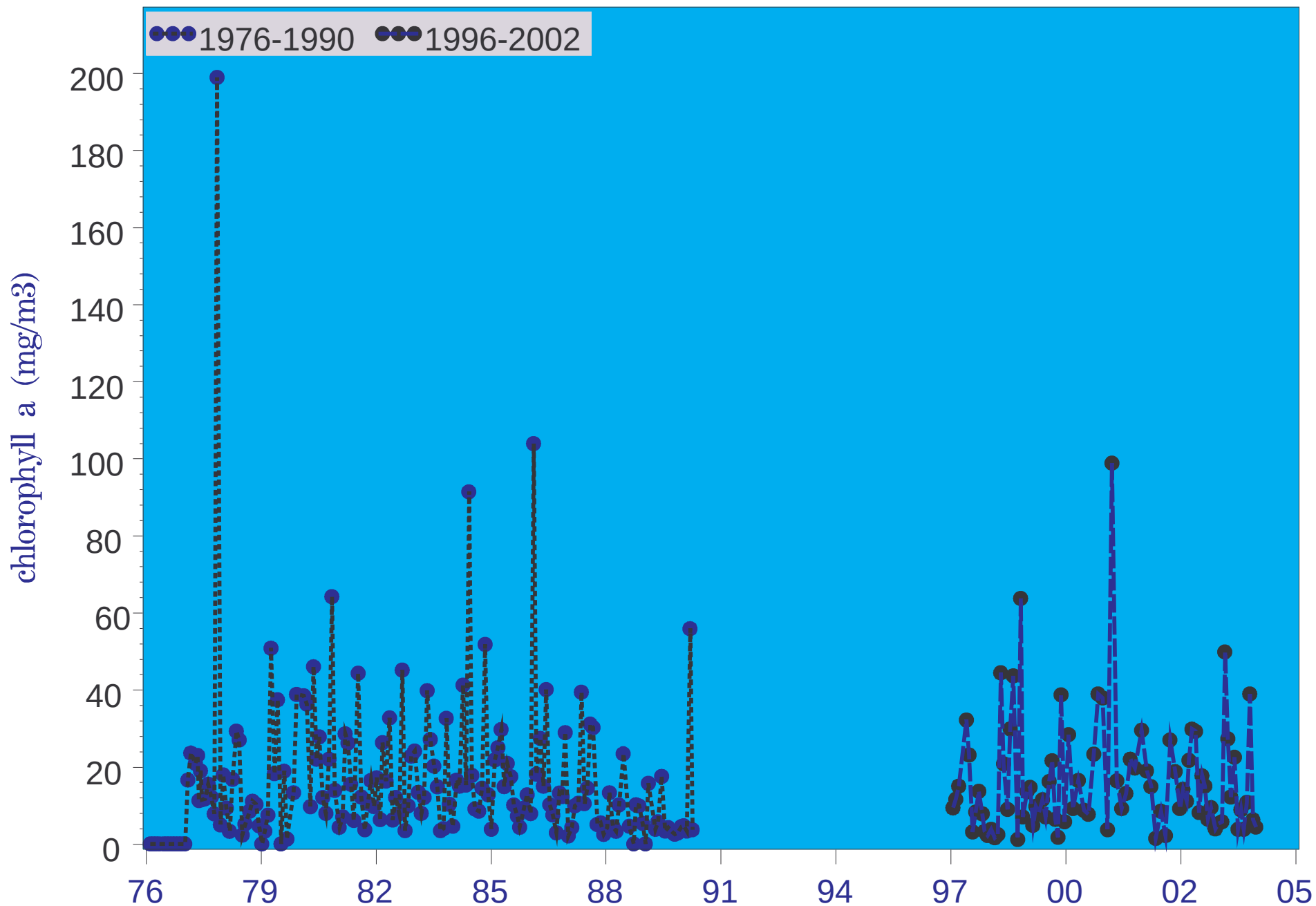


Figure 4.28c Long-term surface chlorophyll a at river kilometer 15.5

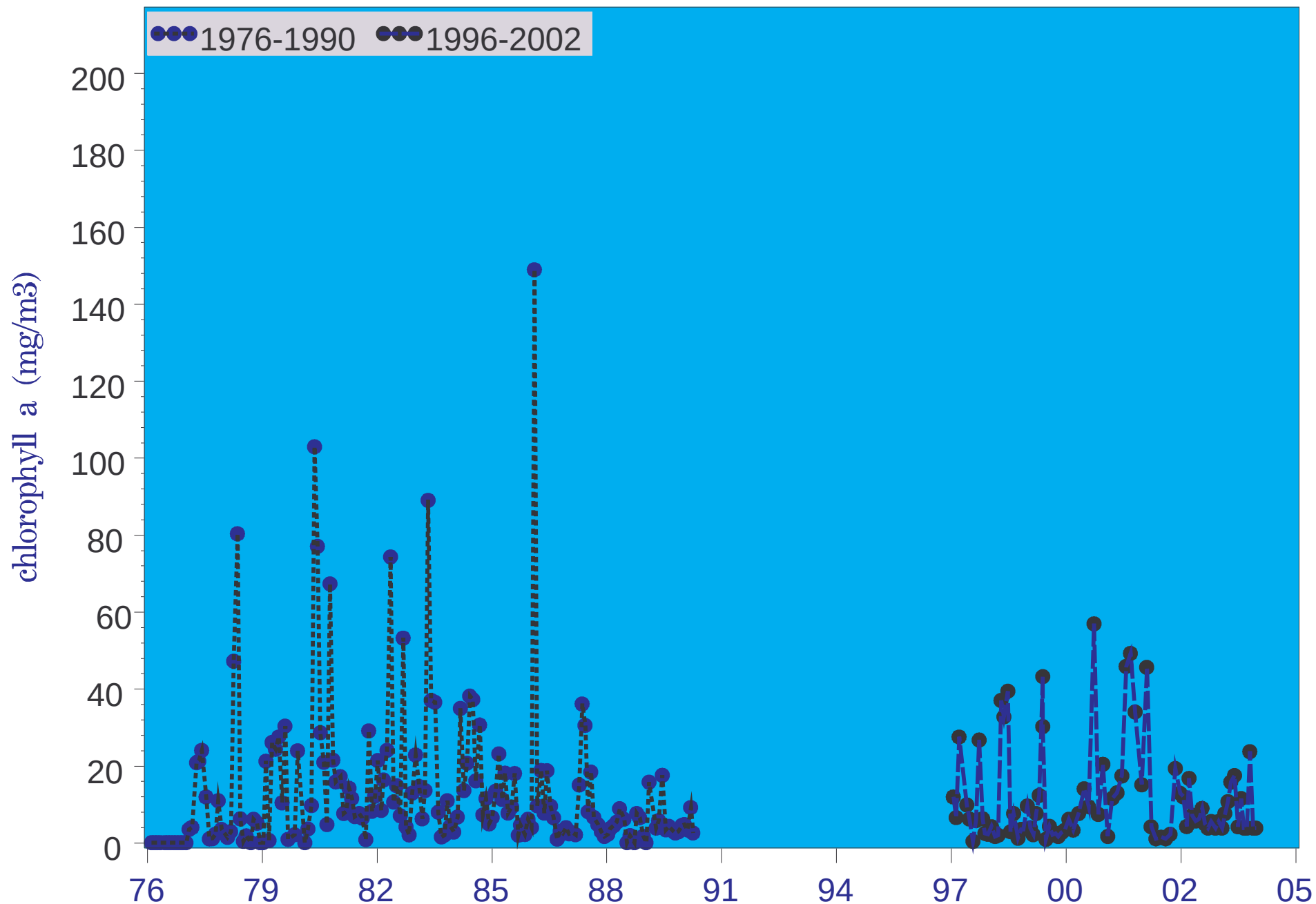


Figure 4.28d Long-term surface chlorophyll a at river kilometer 23.6

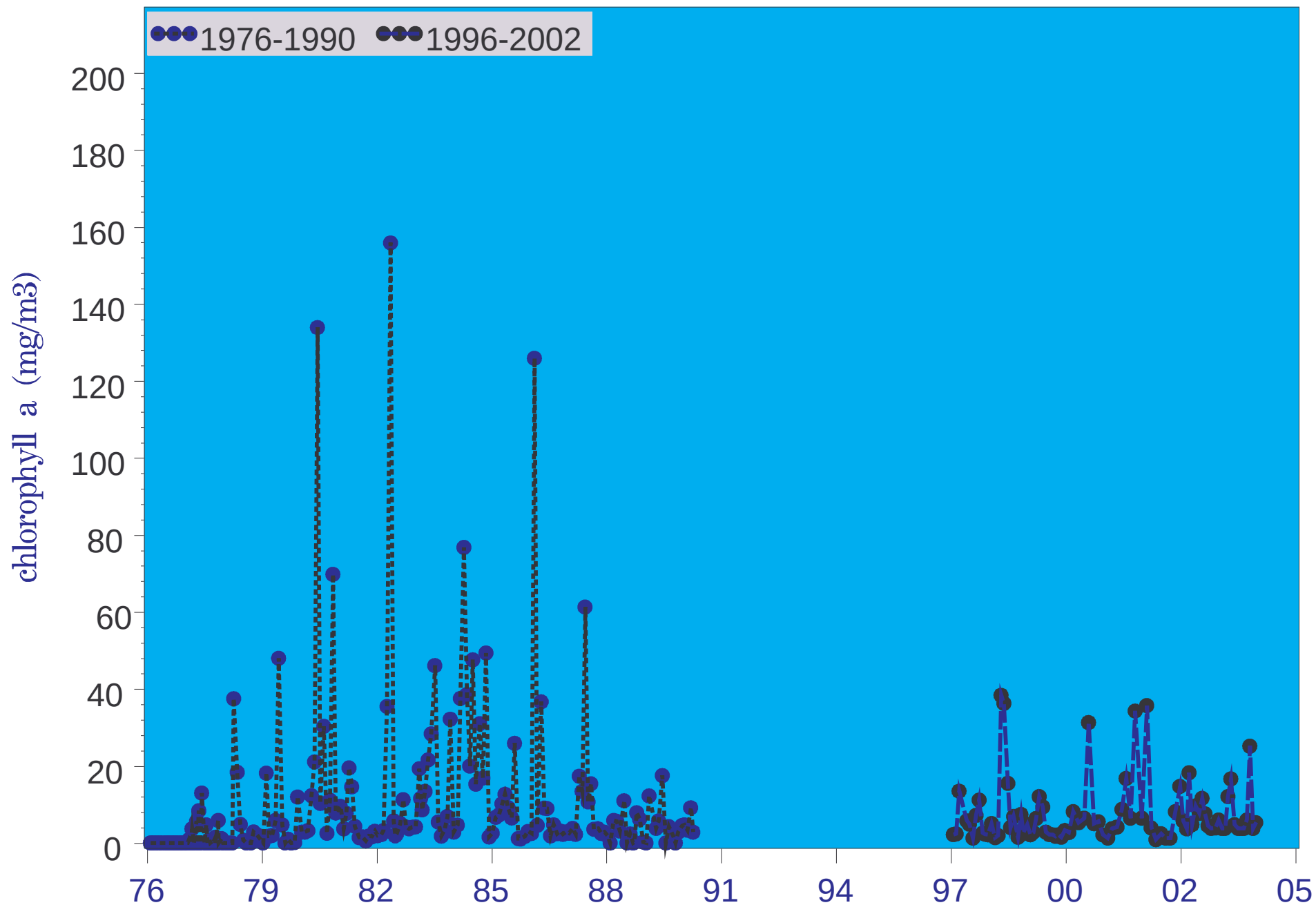


Figure 4.28e Long-term surface chlorophyll a at river kilometer 30.4

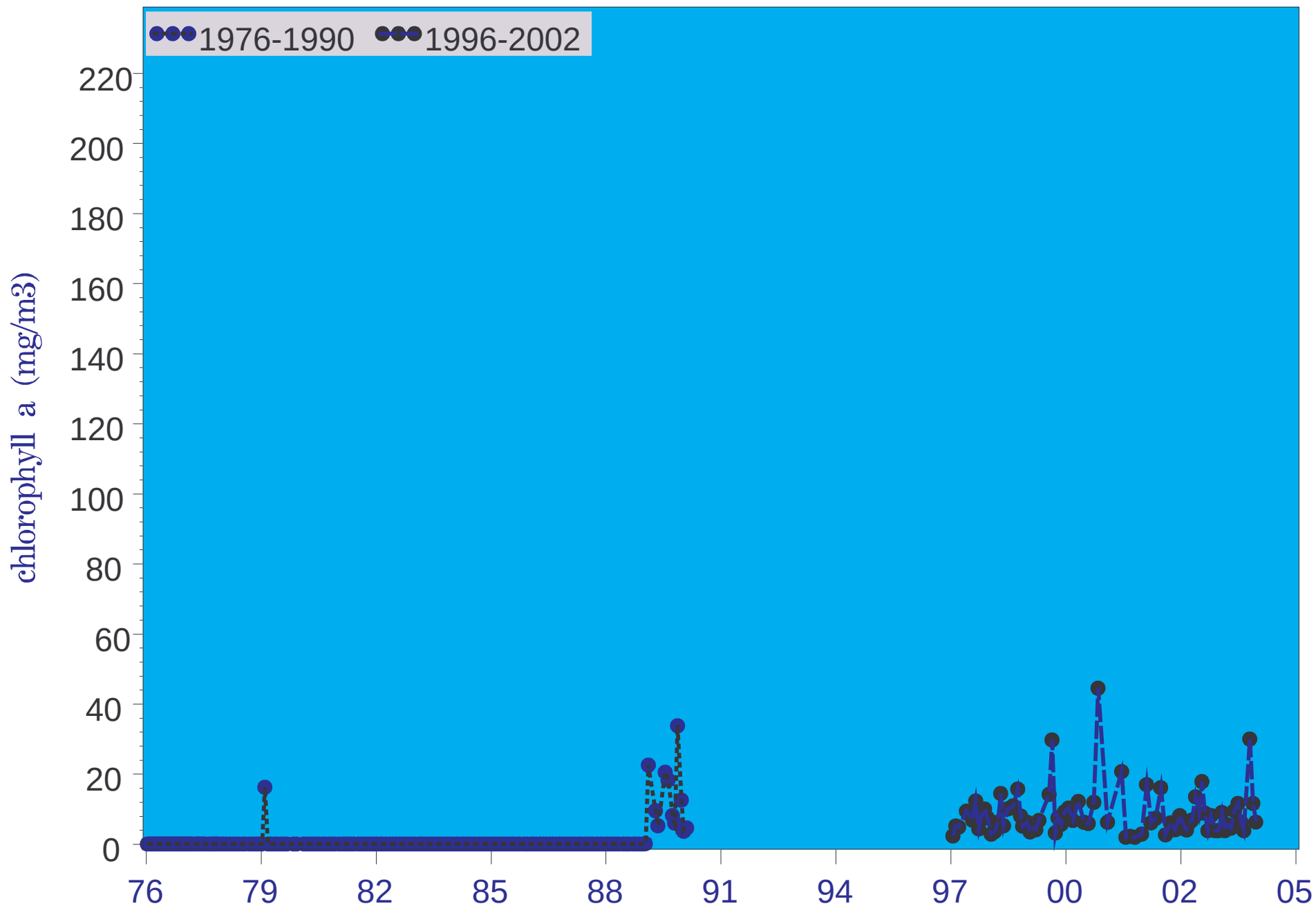


Figure 4.29a Long-term bottom chlorophyll a at river kilometer -2.4

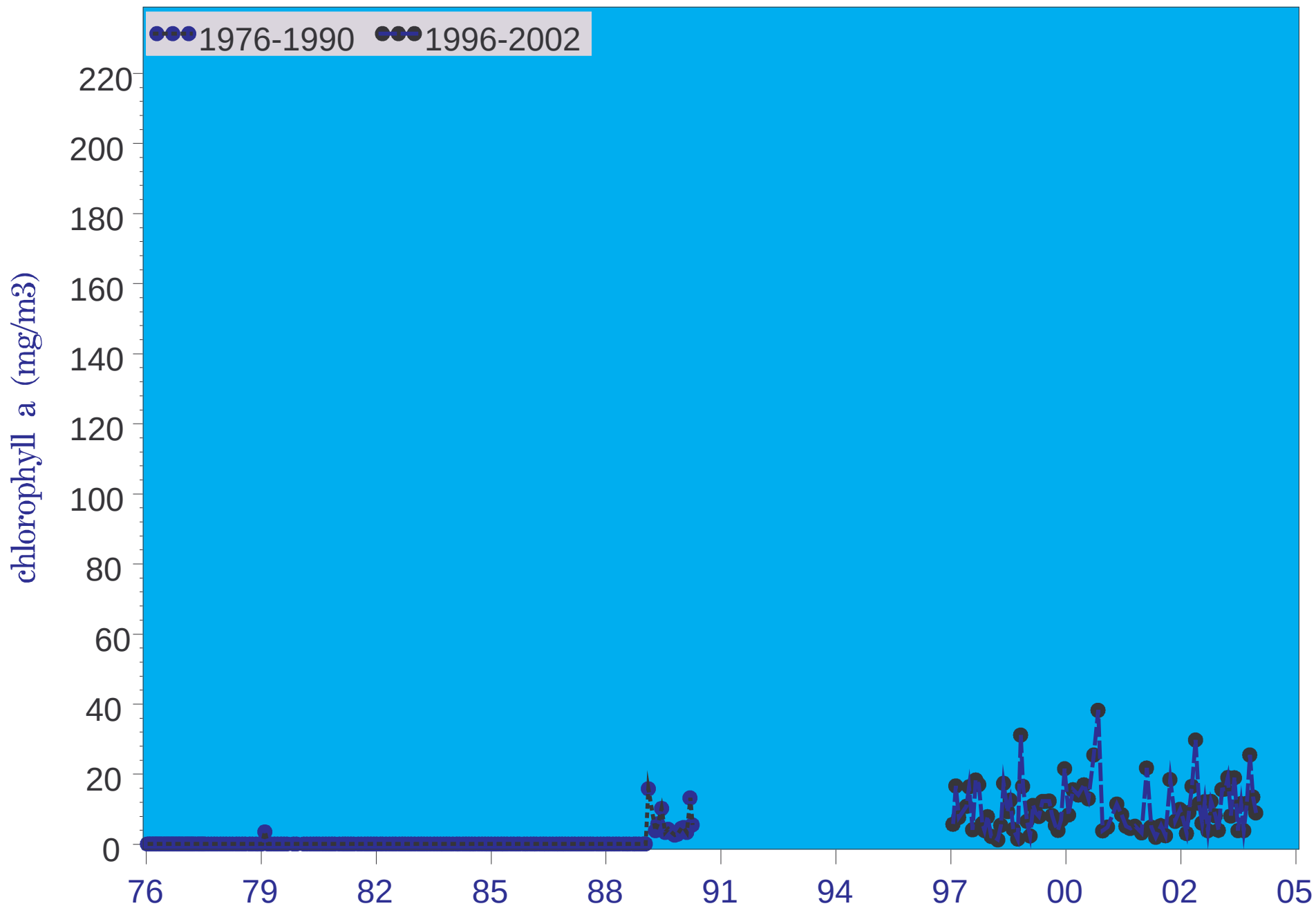


Figure 4.29b Long-term bottom chlorophyll a at river kilometer 6.6

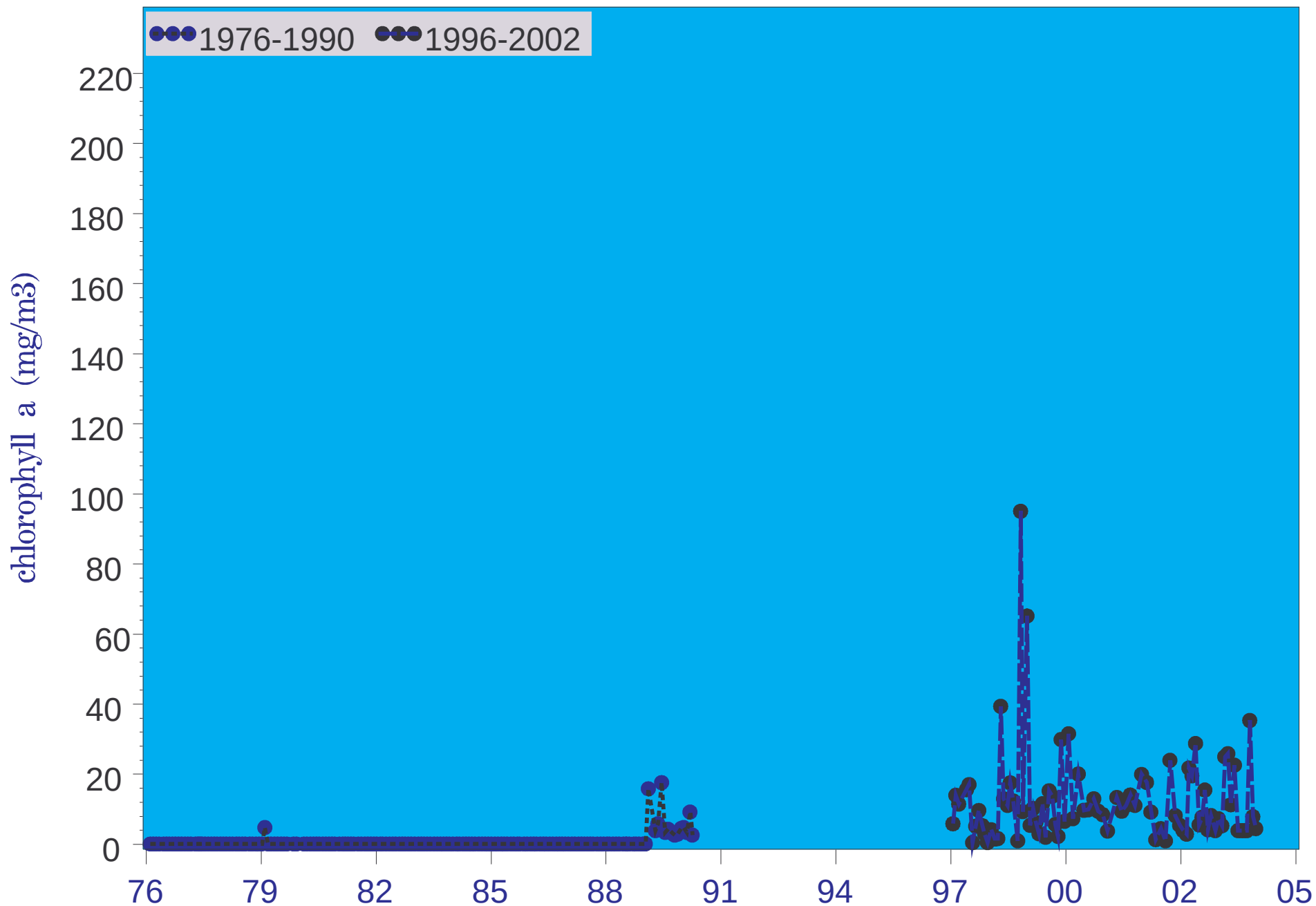


Figure 4.29c Long-term bottom chlorophyll a at river kilometer 15.5

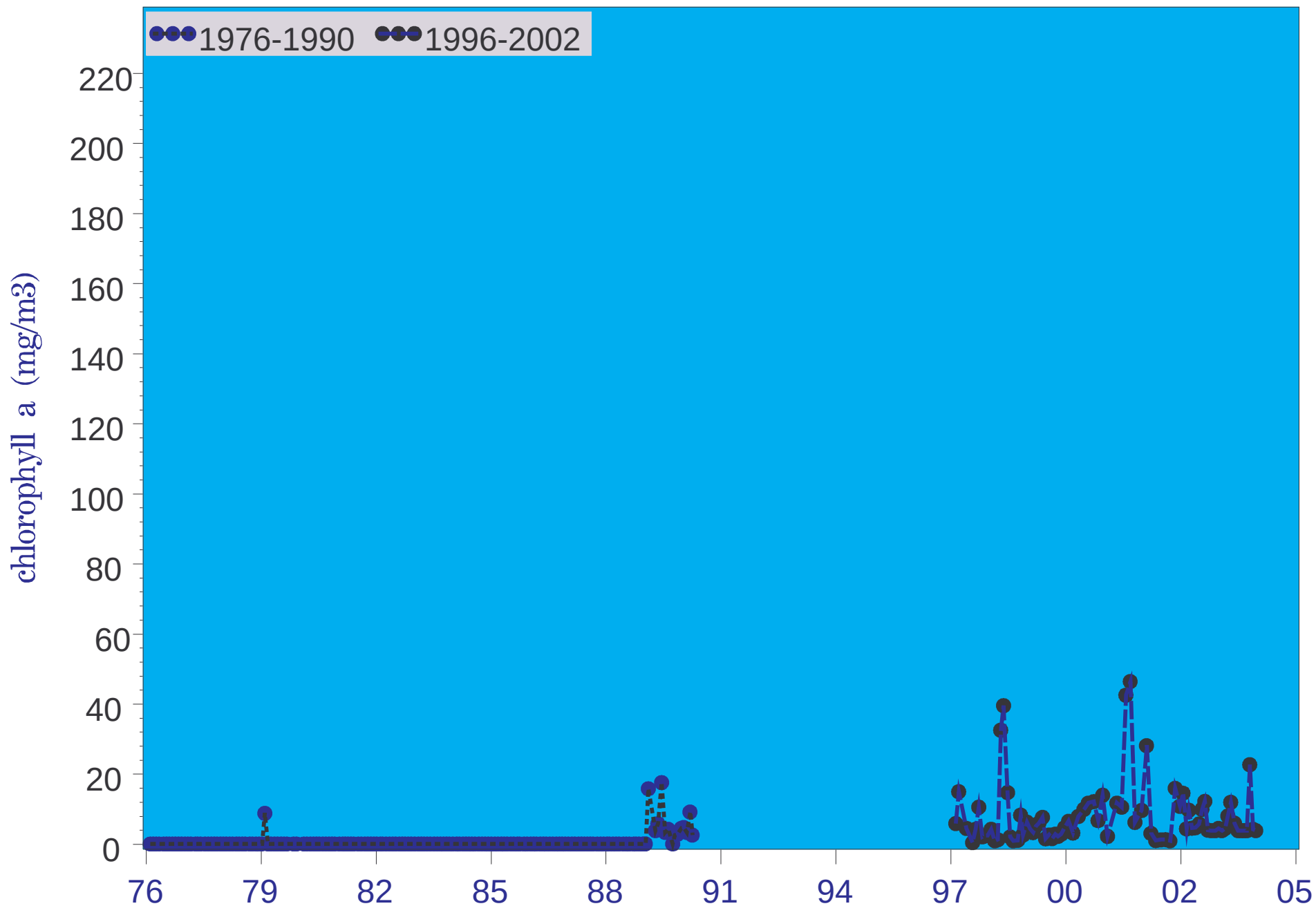


Figure 4.29d Long-term bottom chlorophyll a at river kilometer 23.6

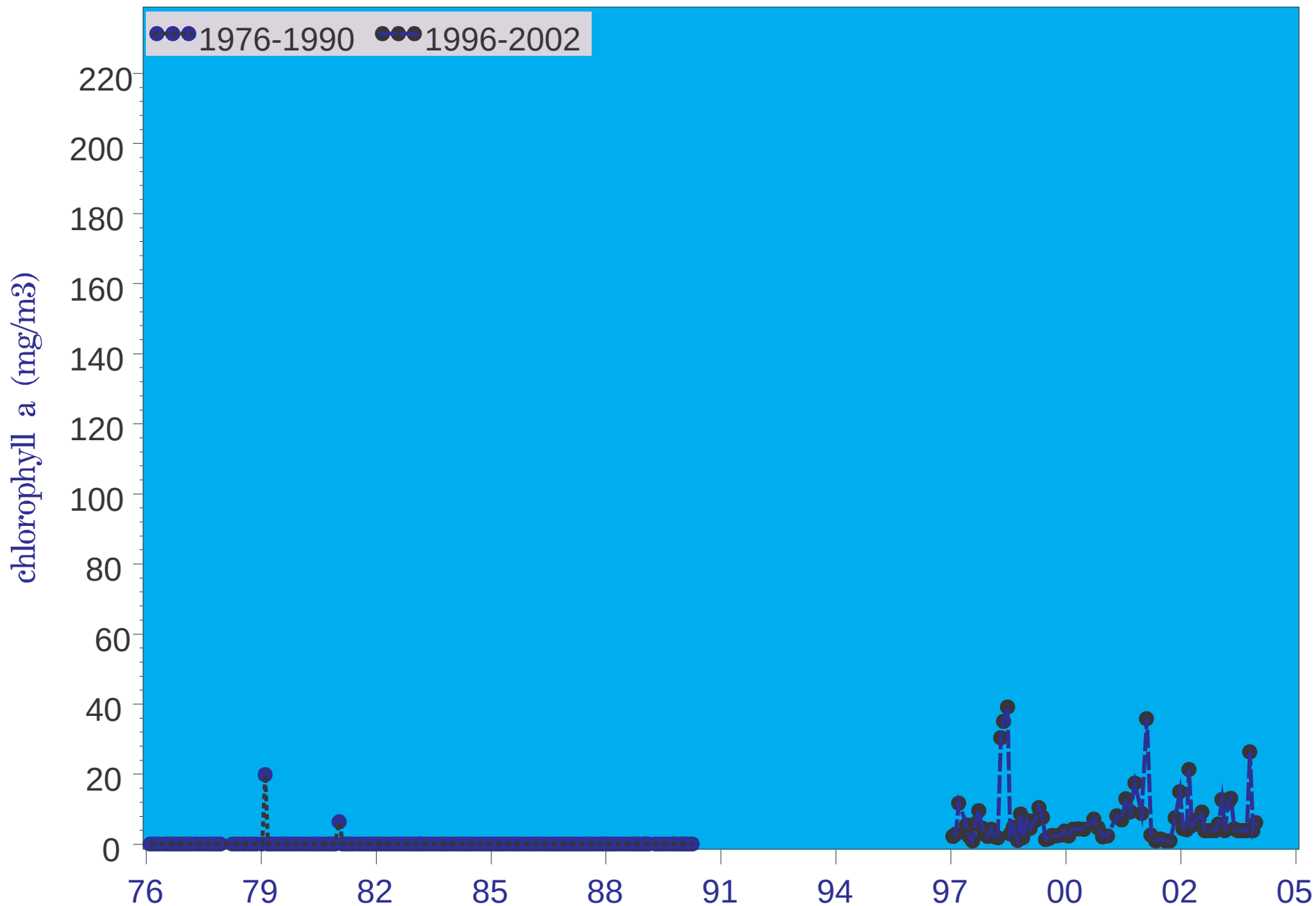
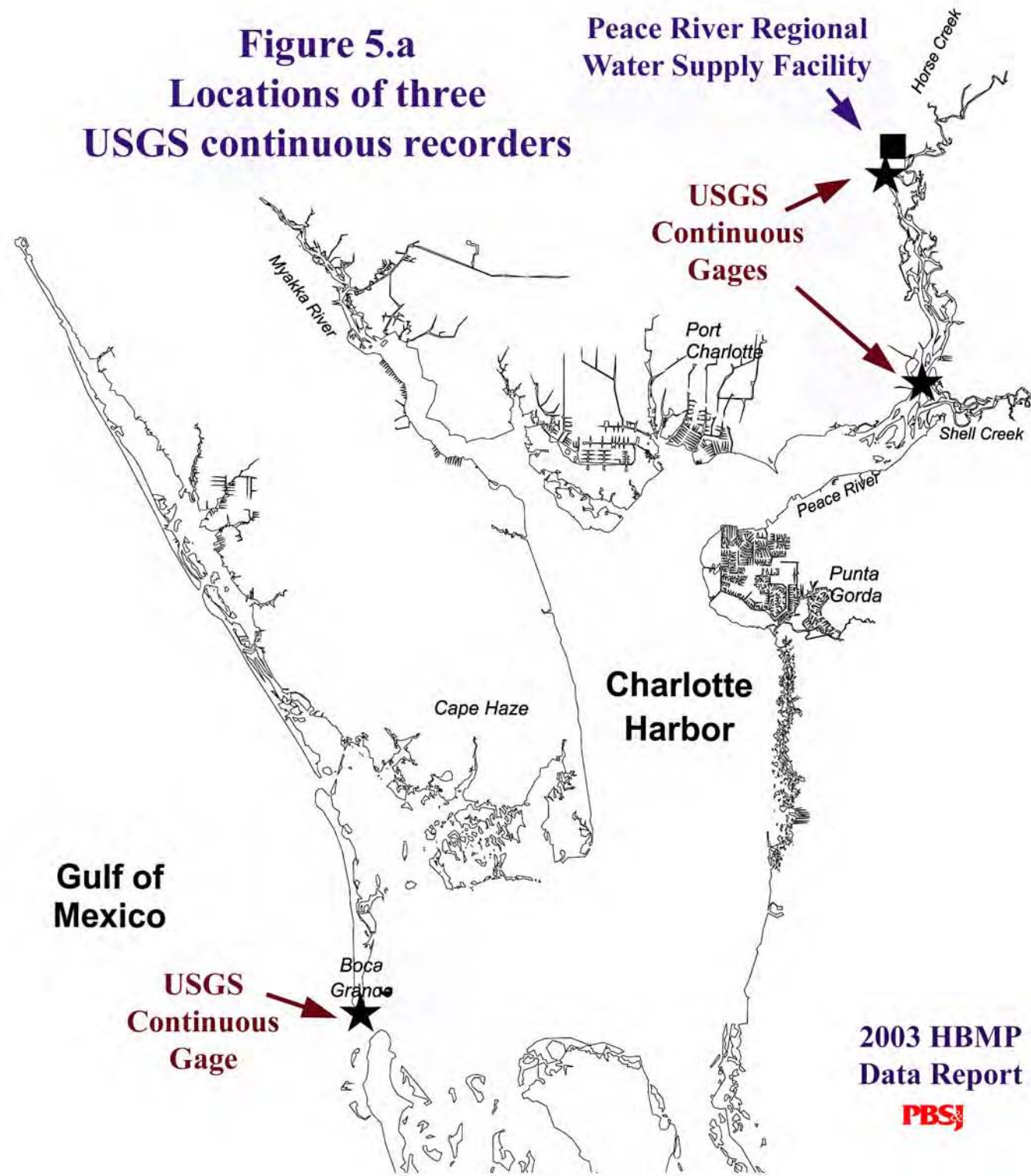


Figure 4.29e Long-term bottom chlorophyll a at river kilometer 30.4

Figure 5.a
Locations of three
USGS continuous recorders



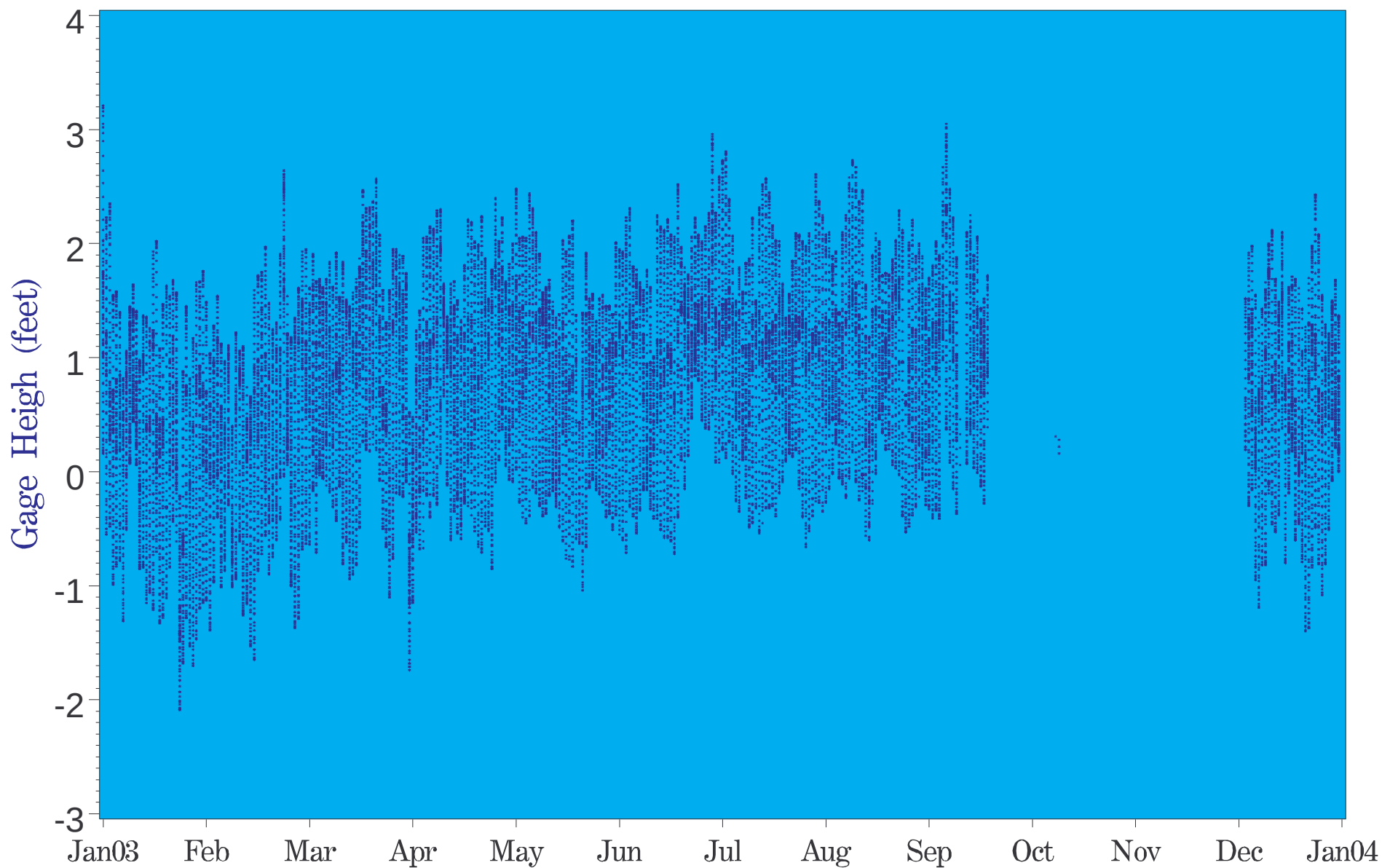


Figure 5.1 Gage height (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

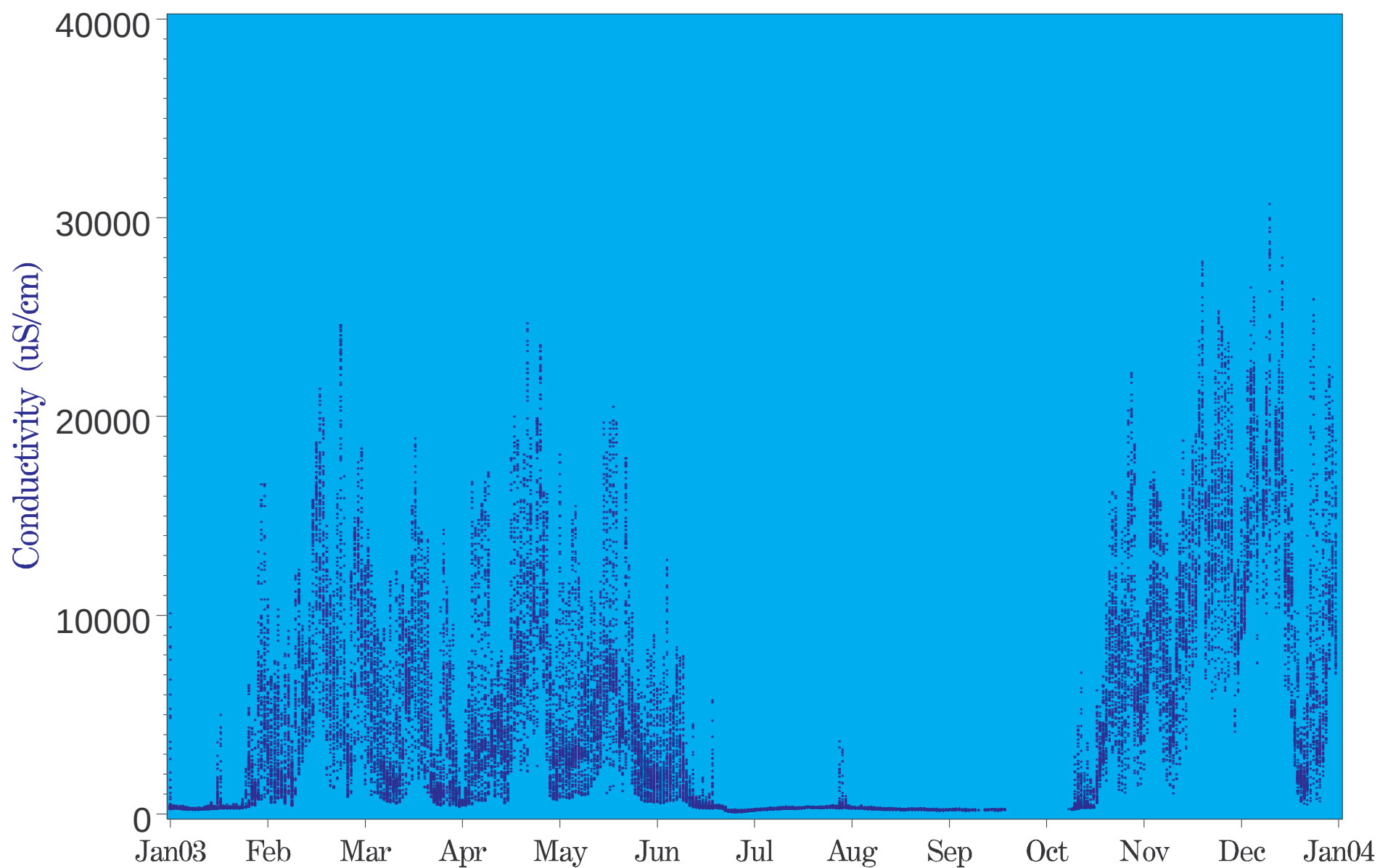


Figure 5.2 Surface conductivity (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

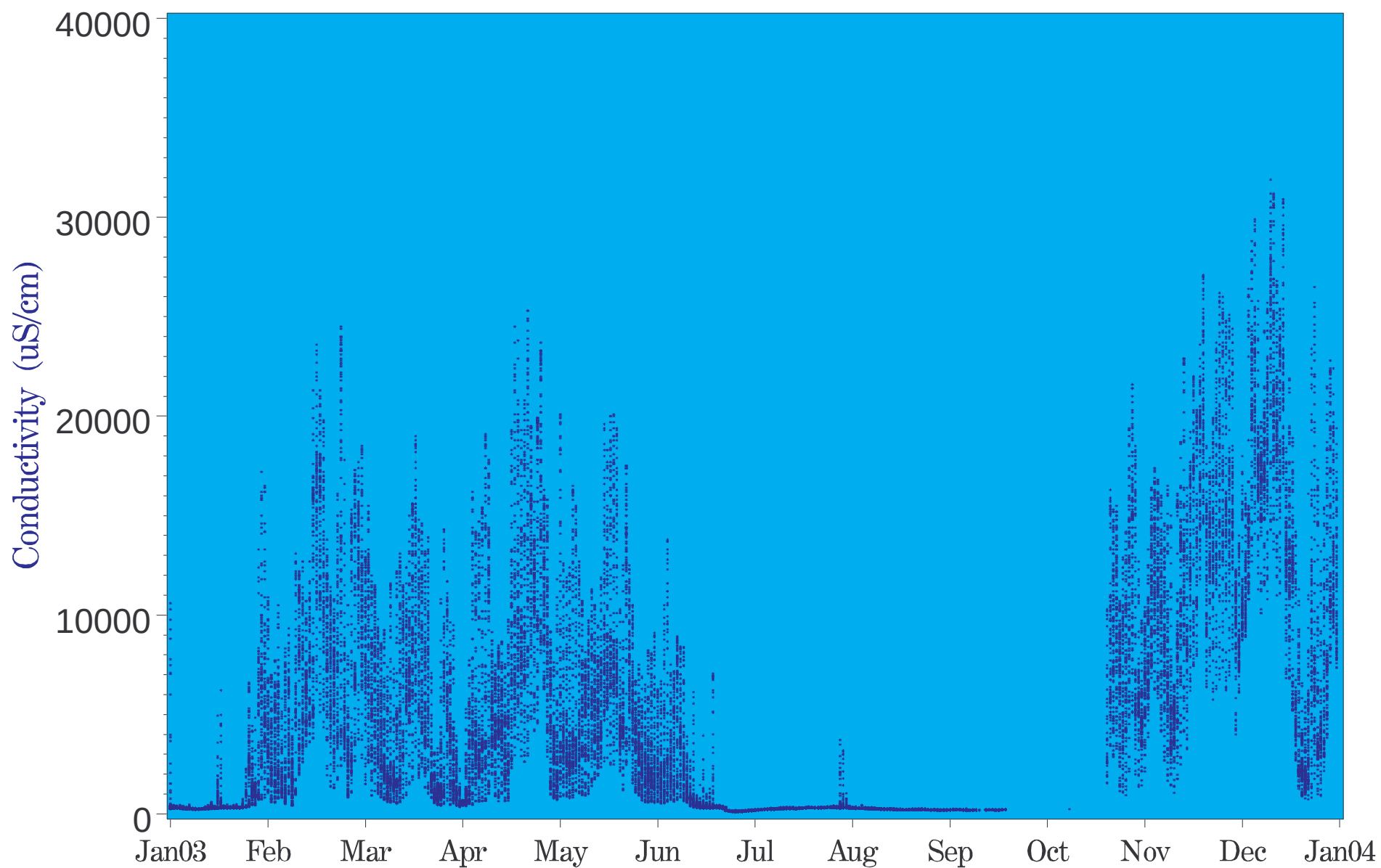


Figure 5.3 Bottom conductivity (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

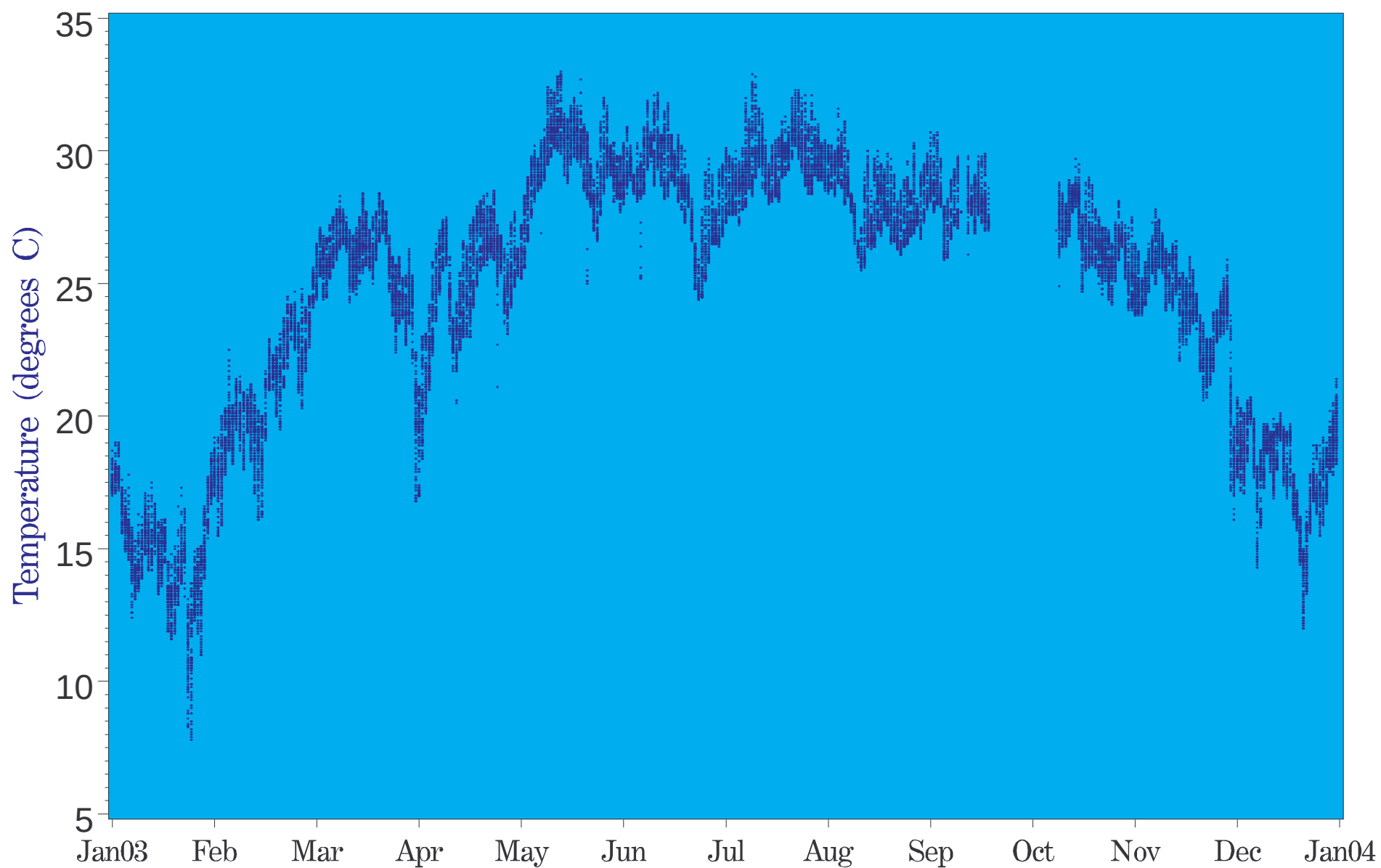


Figure 5.4 Surface temperature (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

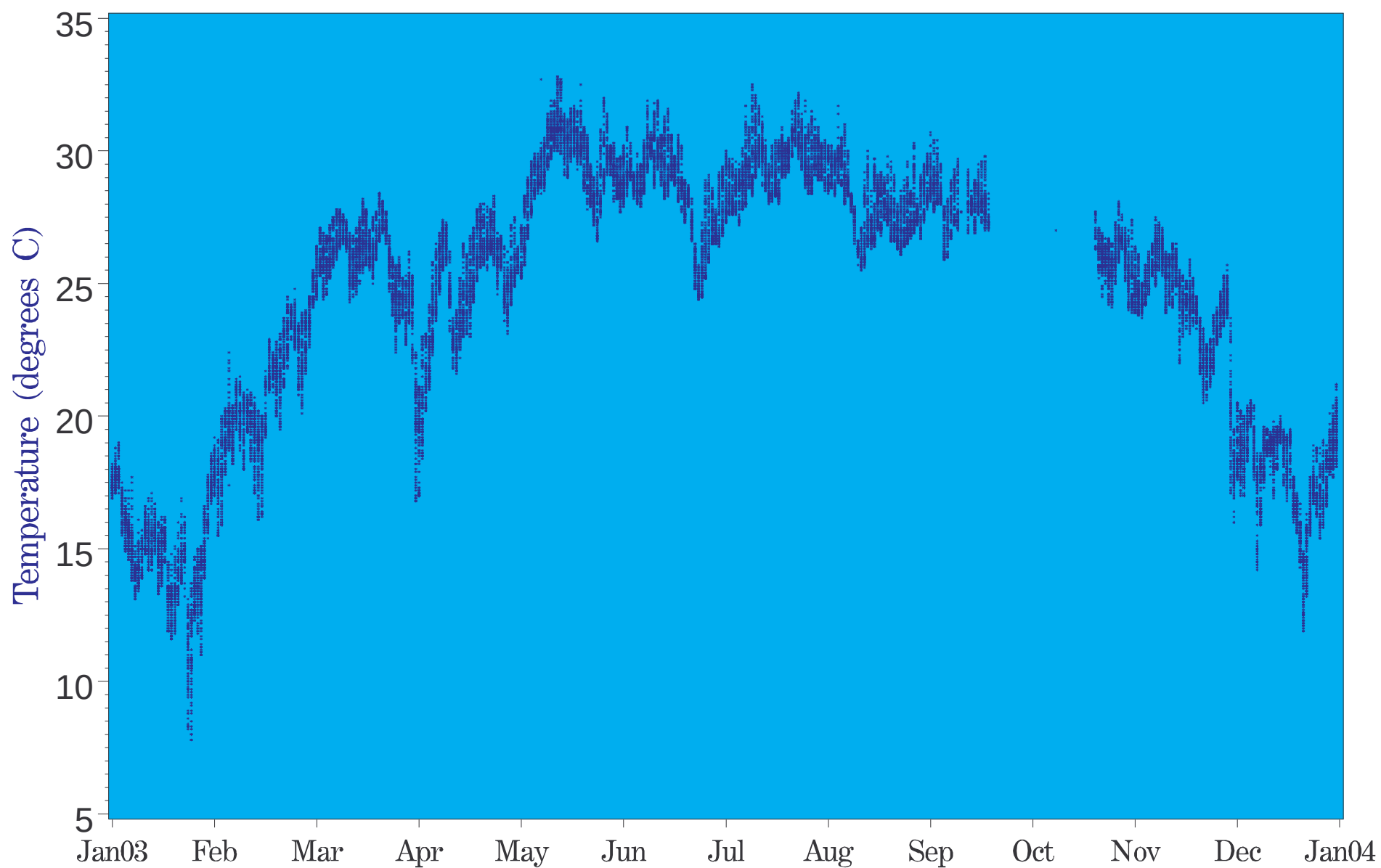


Figure 5.5 Bottom temperature (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

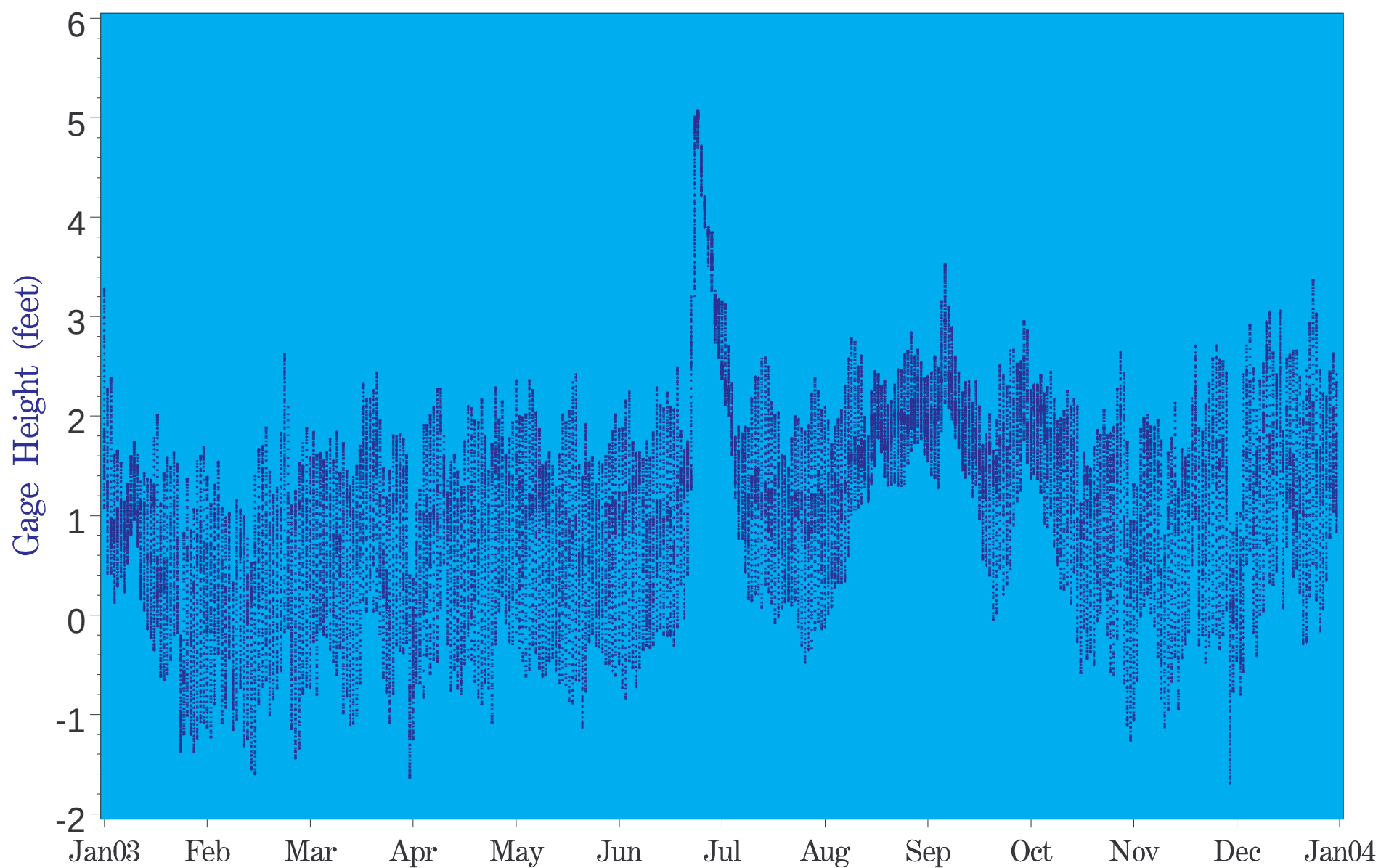


Figure 5.6 Gage height (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

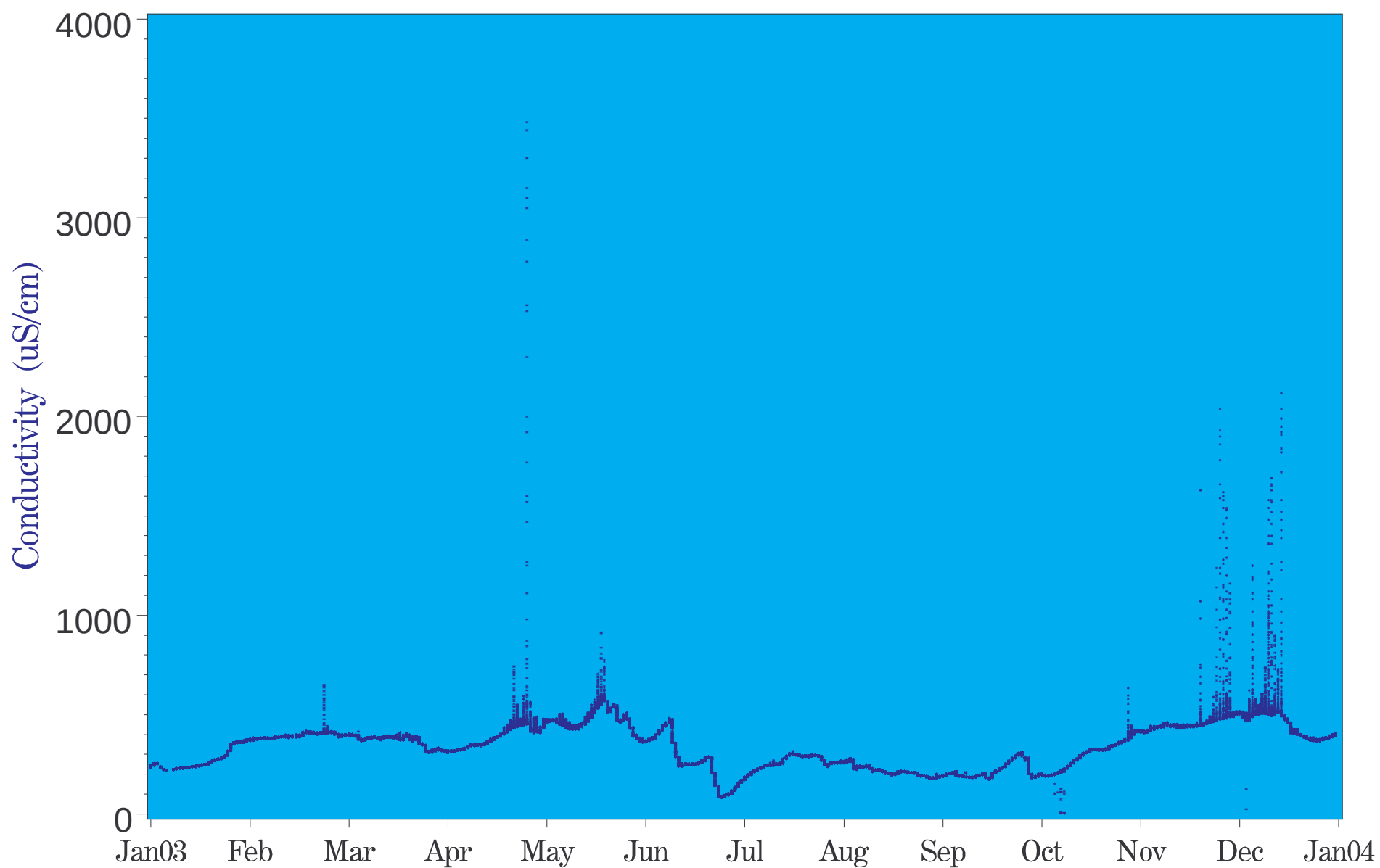


Figure 5.7 Surface conductivity (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

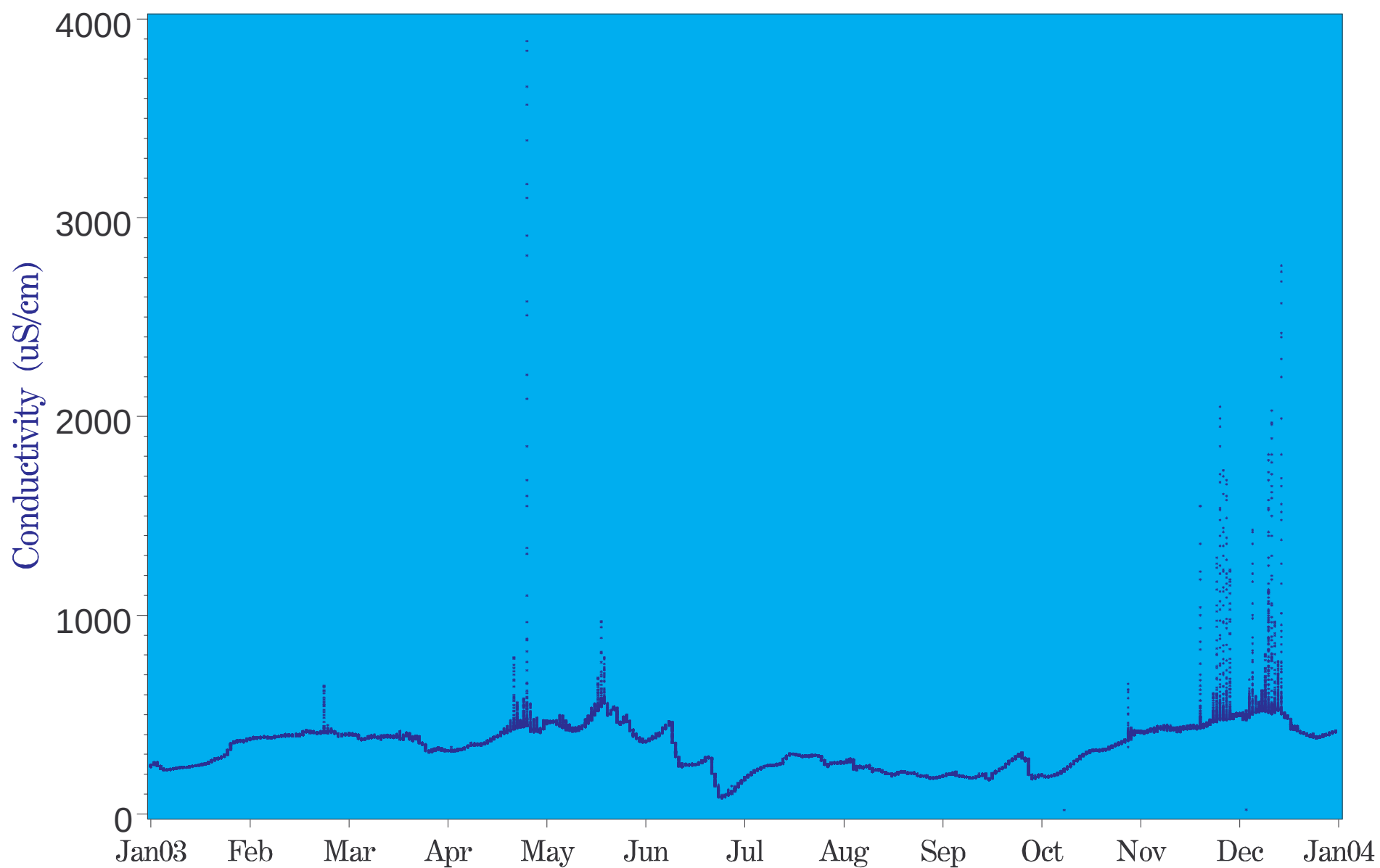


Figure 5.8 Bottom conductivity (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

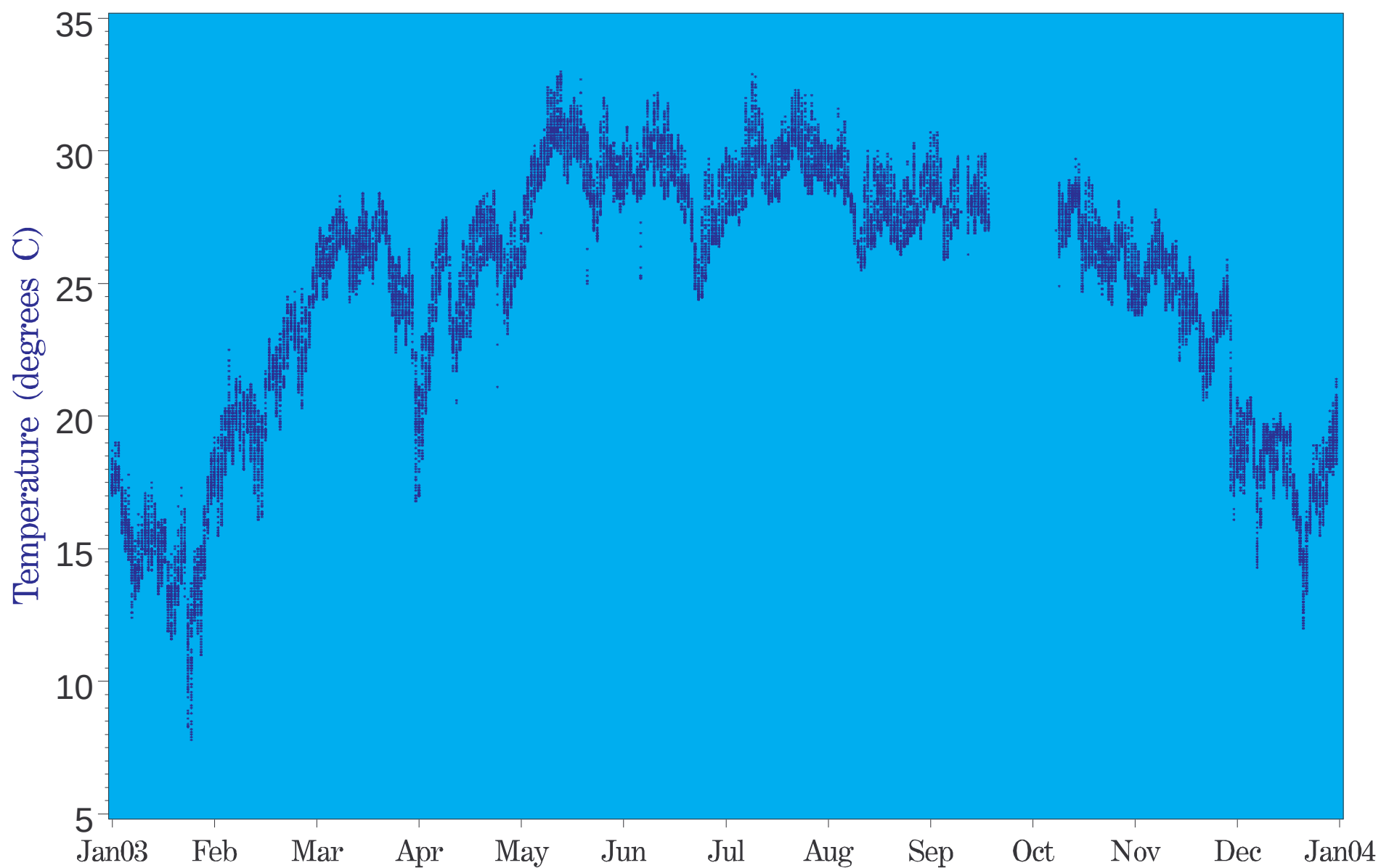


Figure 5.9 Surface temperature (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

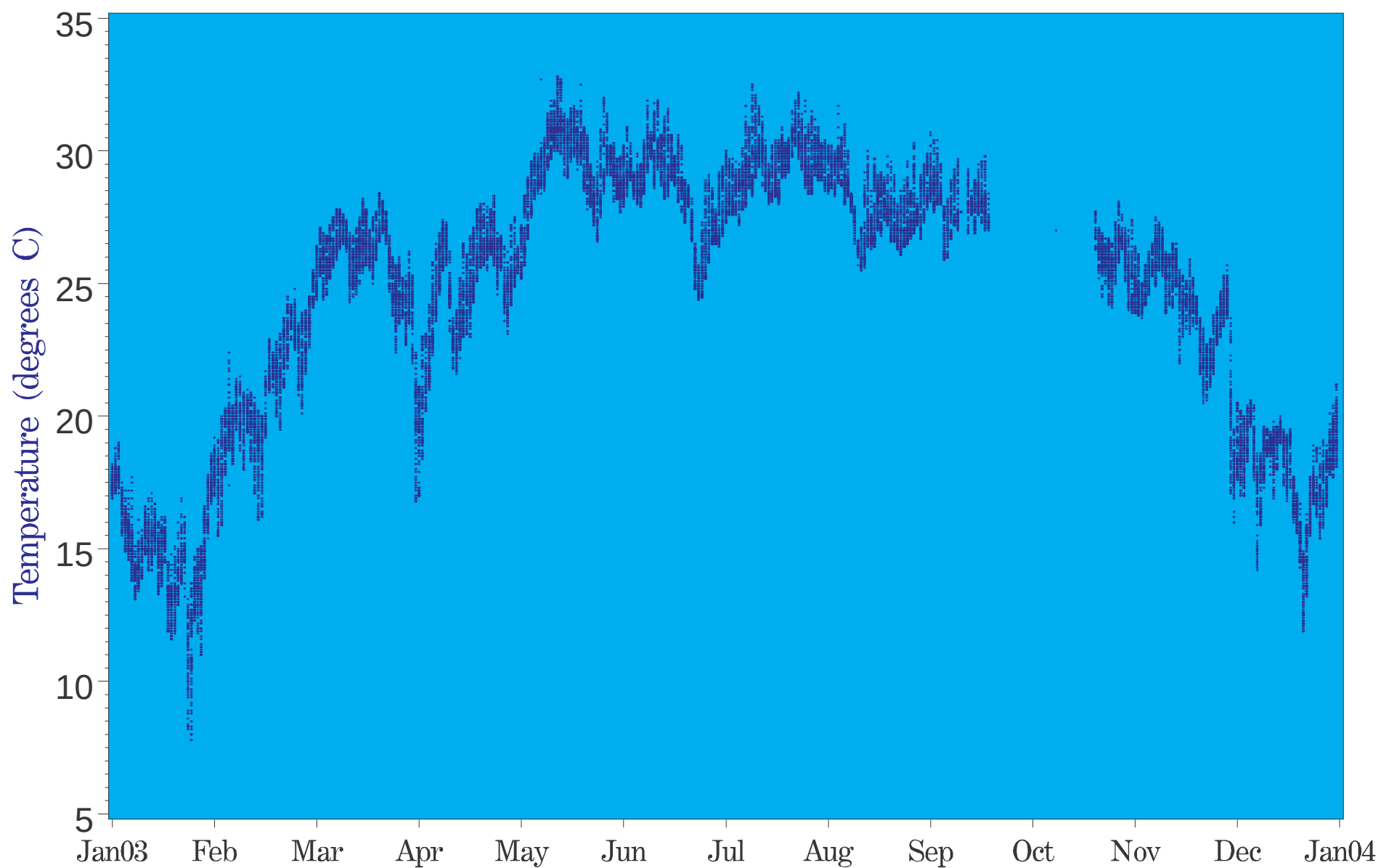


Figure 5.10 Bottom temperature (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

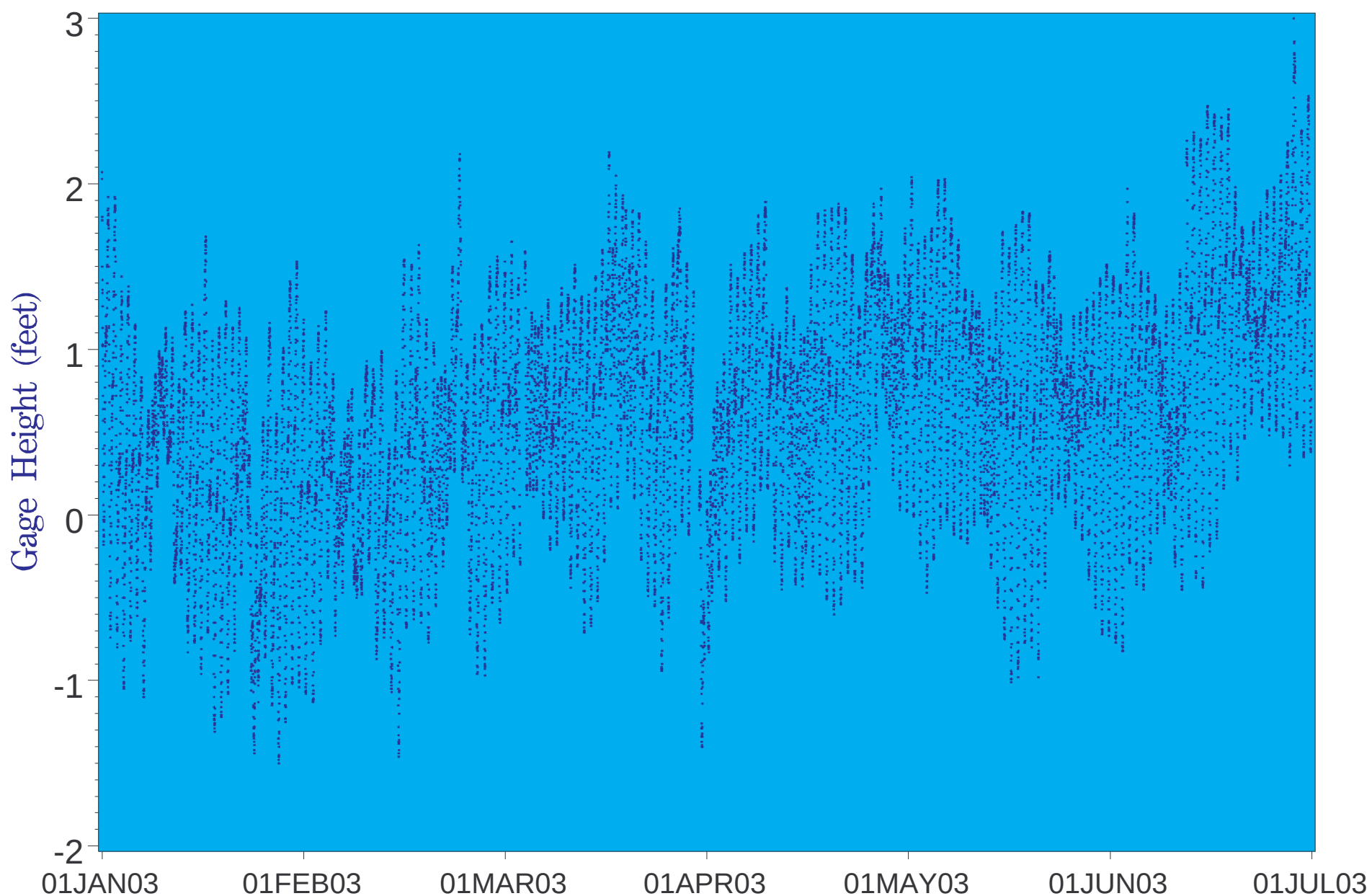


Figure 5.11a Gage height (15-minute intervals) for Boca Grande

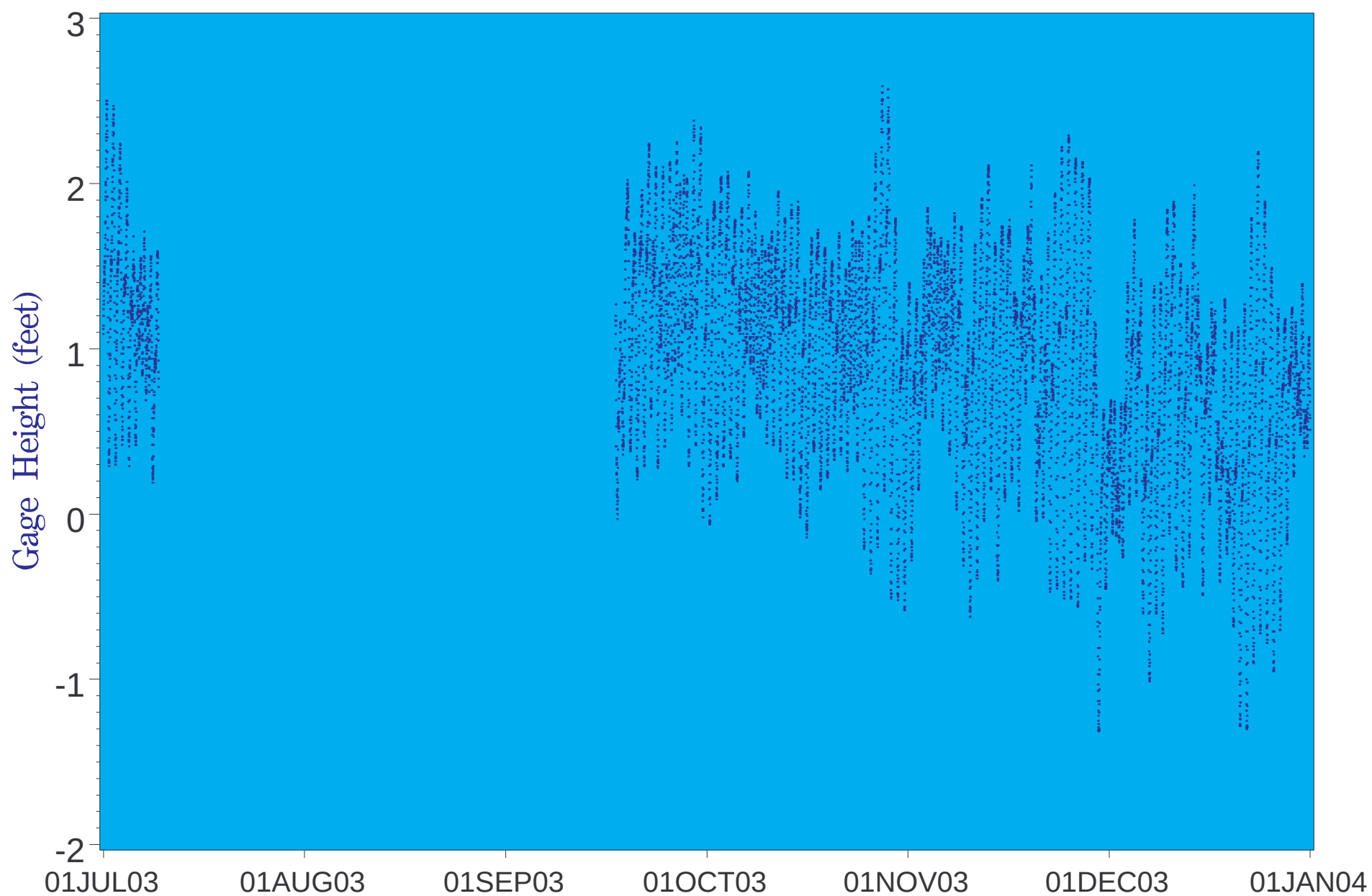


Figure 5.11b Gage height (15-minute intervals) for Boca Grande

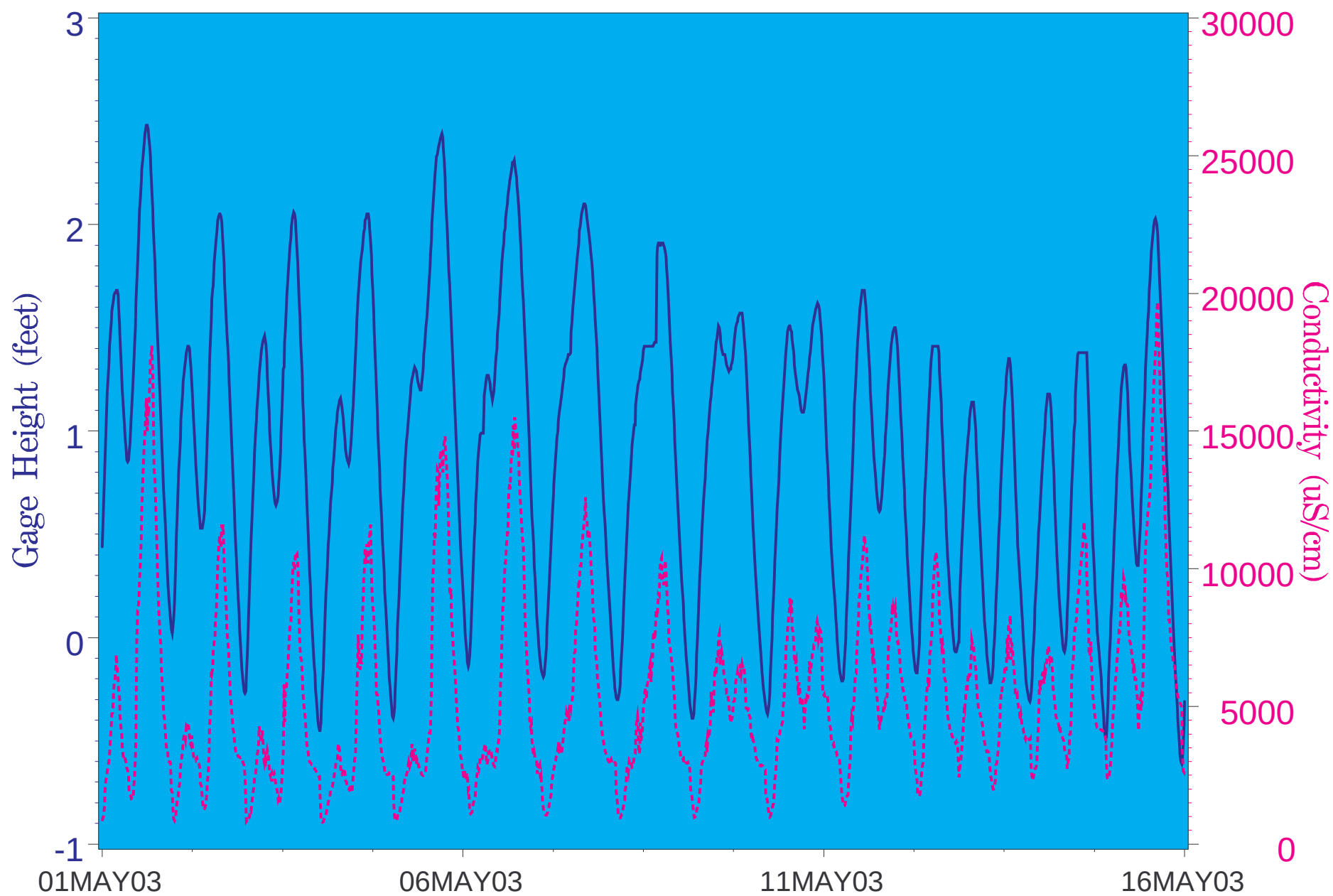


Figure 5.12 Surface conductivity in May at Harbour Heights - USGS Gage 02297460 (River Kilometer 15.5)

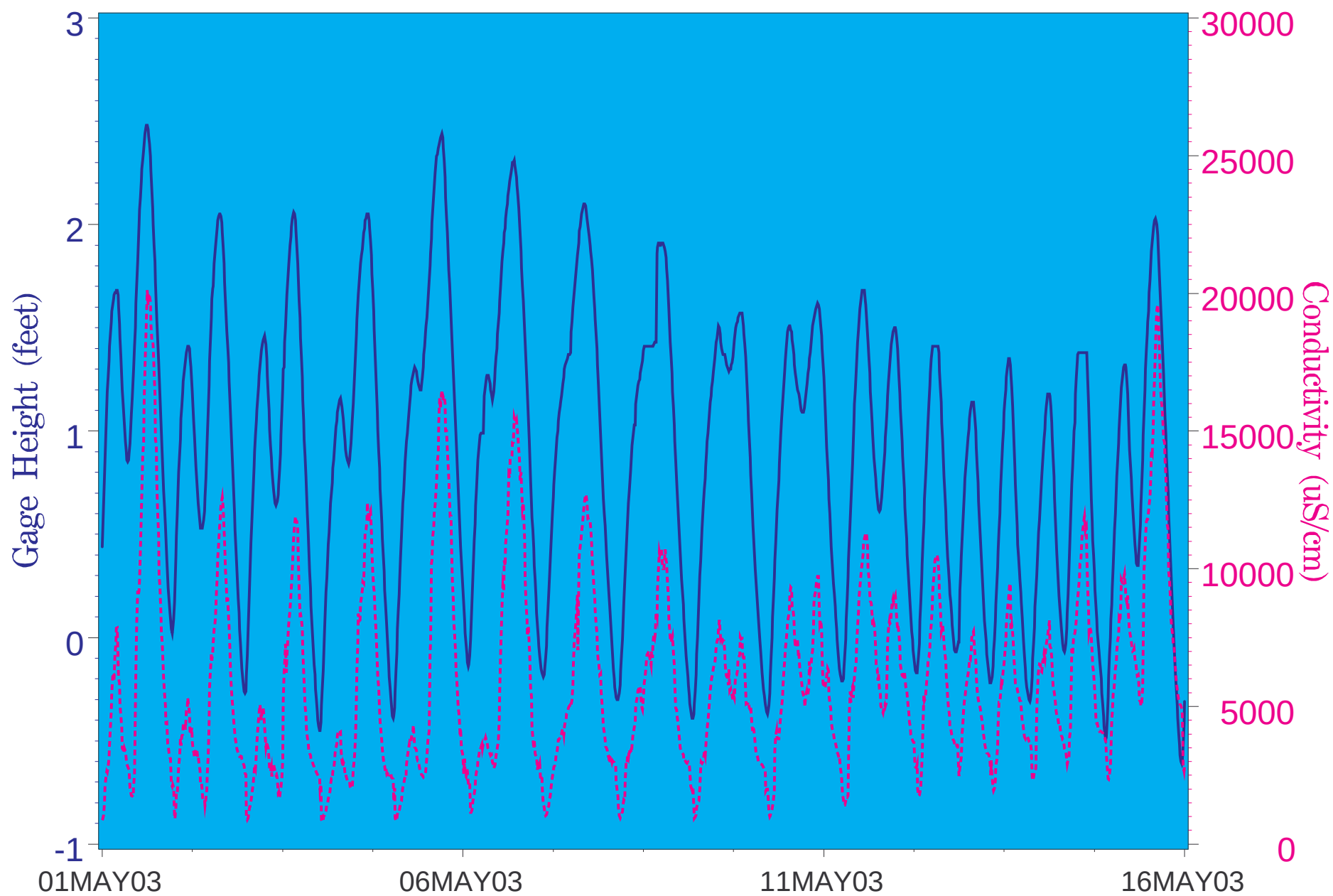


Figure 5.13 Bottom conductivity in May at Harbour Heights - USGS Gage 02297460 (River Kilometer 15.5)

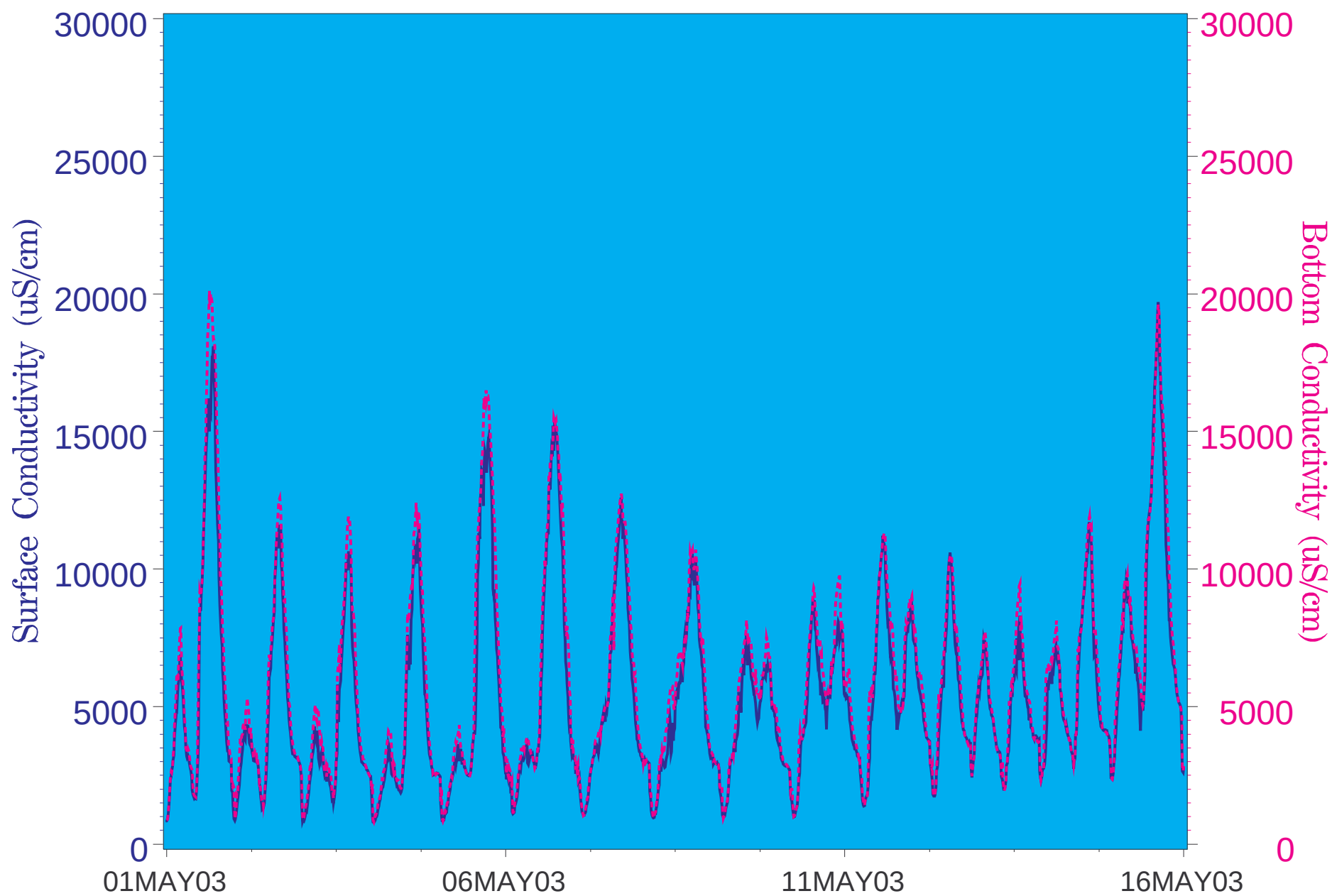


Figure 5.14 Surface & bottom conductivity in May at Harbour Heights - USGS Gage 02297460 (River Kilometer 15.5)

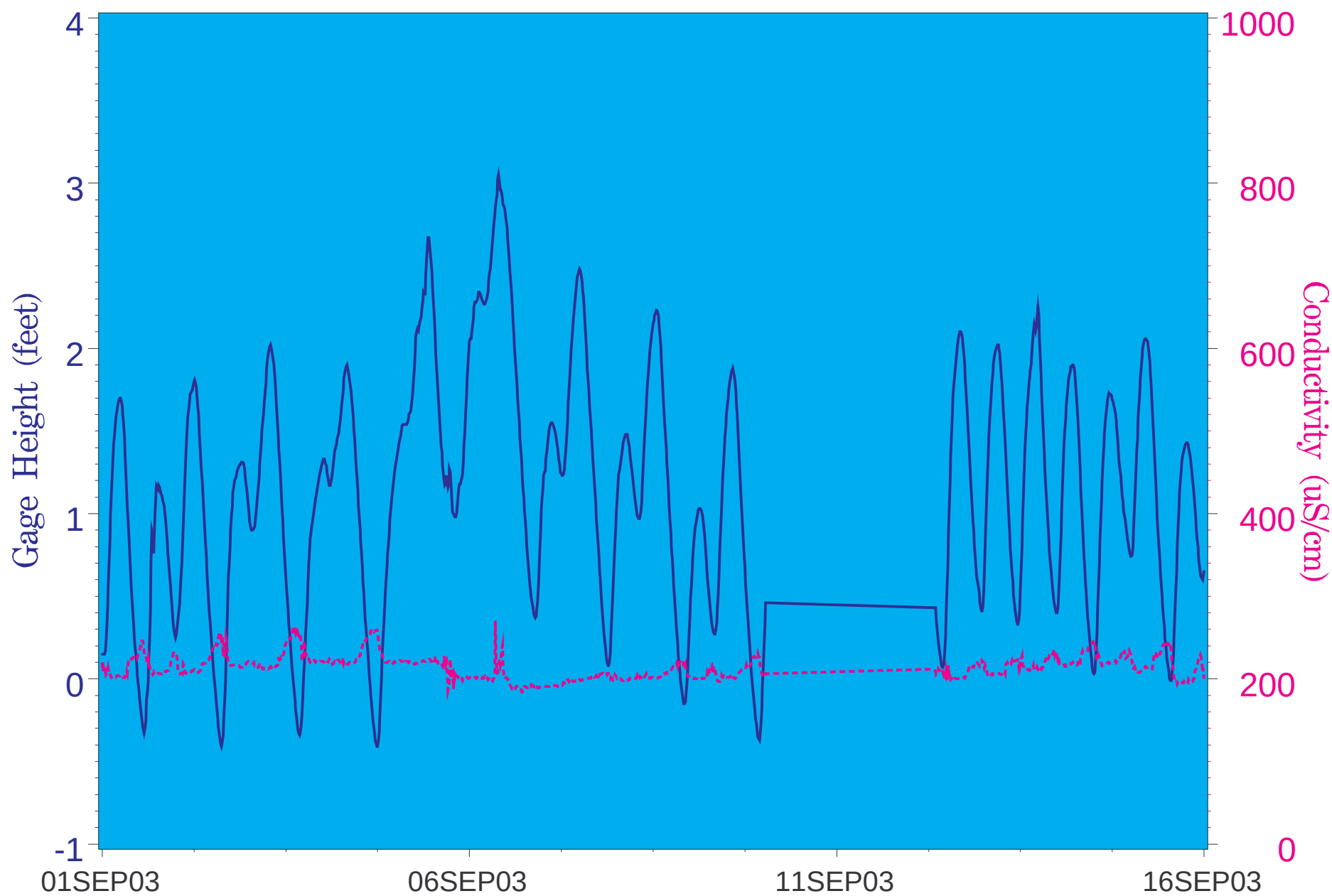


Figure 5.15 Surface conductivity in September at Harbour Heights - USGS Gage 02297460 (River Kilometer 15.5)

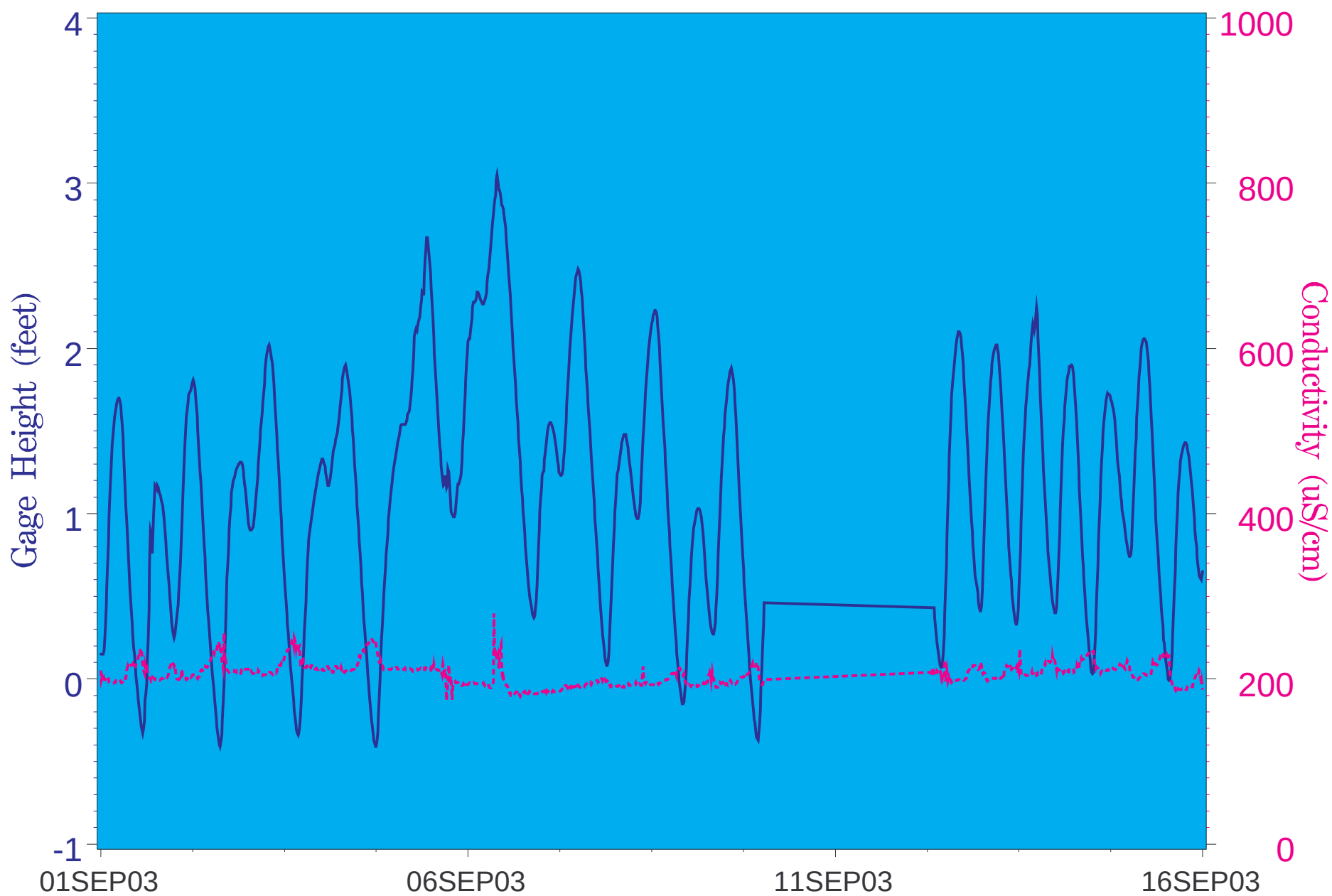


Figure 5.16 Bottom conductivity in September at Harour Heights - USGS Gage 02297460 (River Kilometer 15.5)

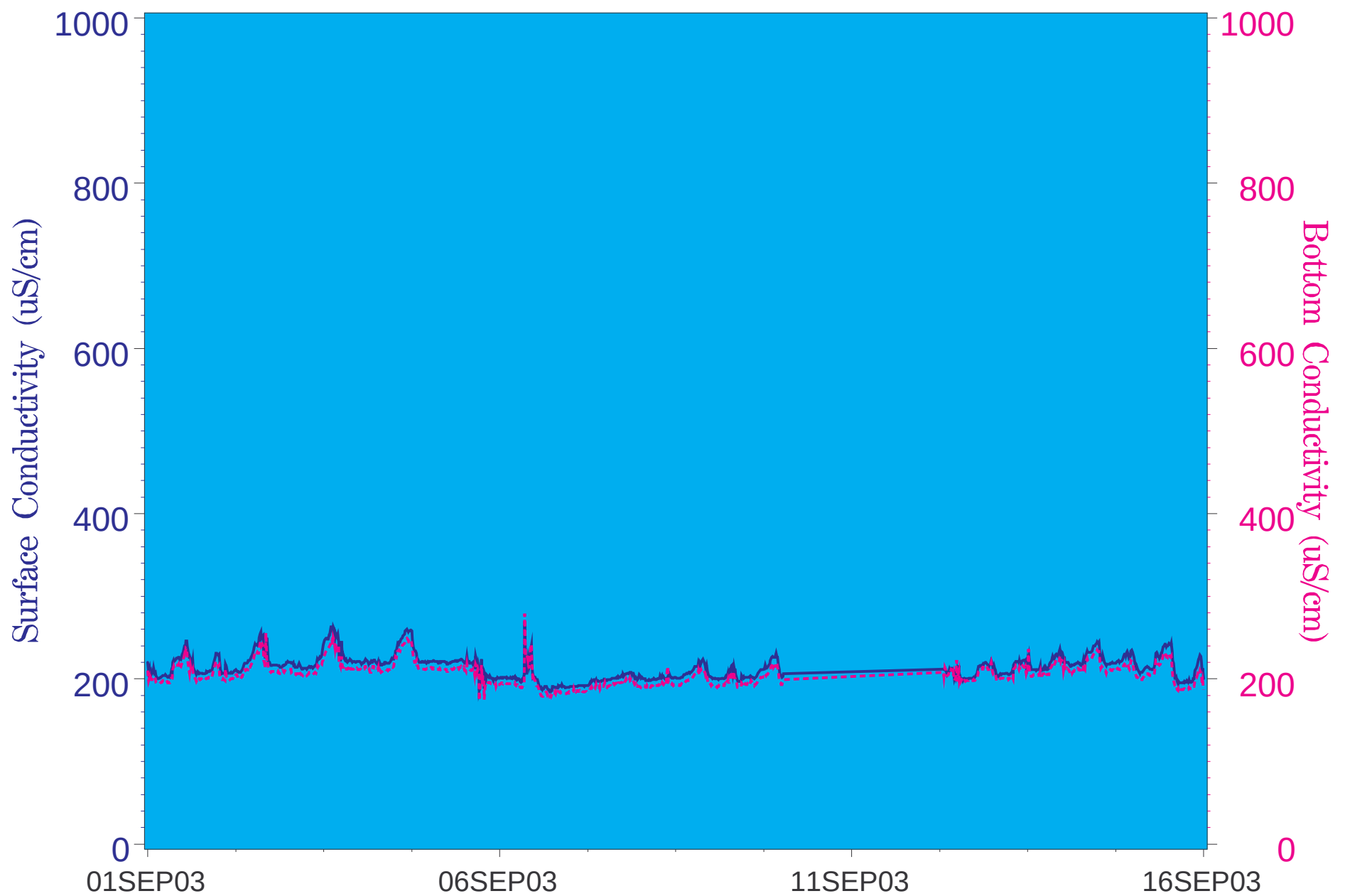


Figure 5.17 Surface and bottom conductivity in September at Harbour Heights - USGS Gage 02297460 (River Kilometer 15.5)

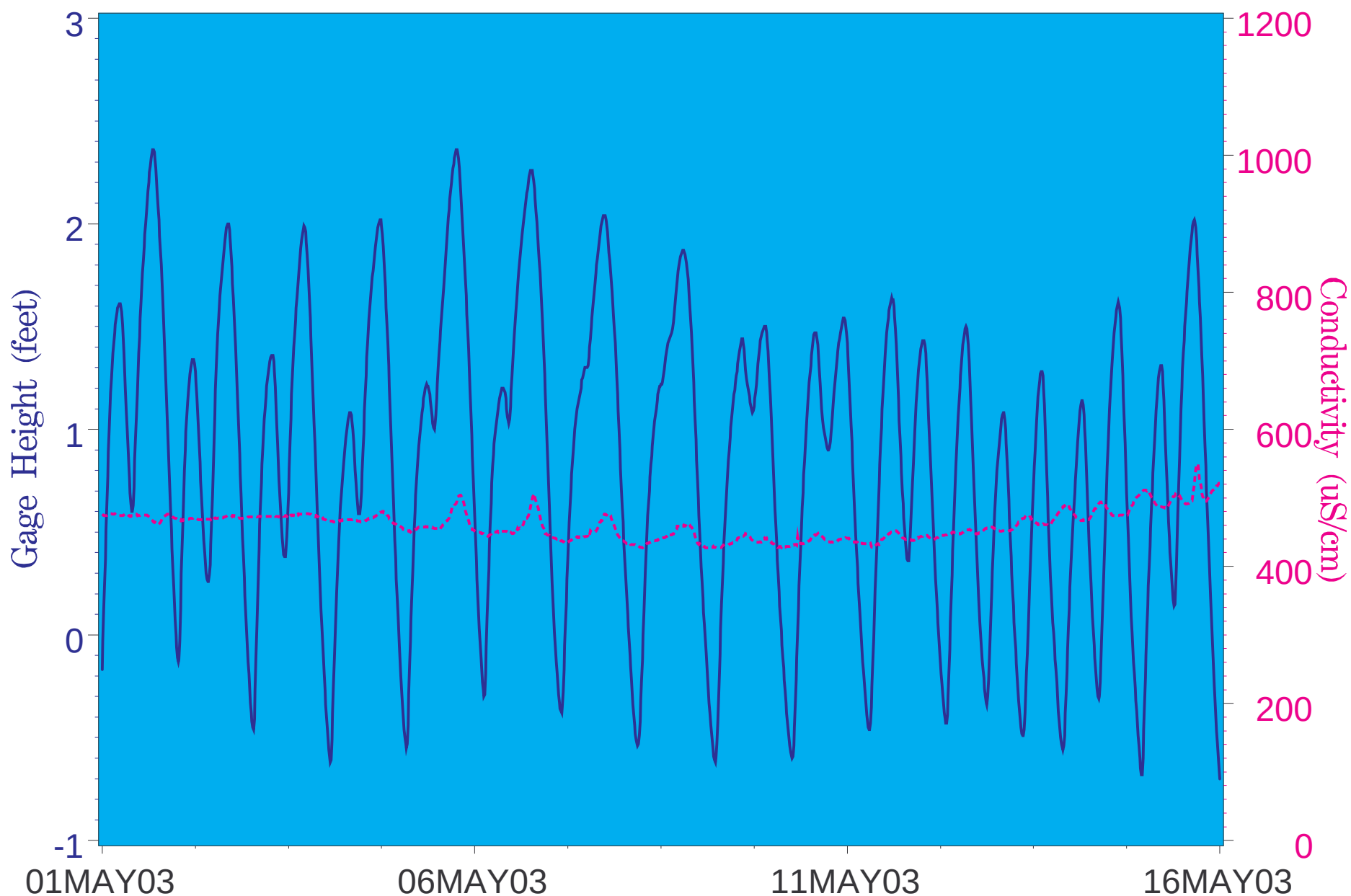


Figure 5.18 Surface conductivity in May - USGS Gage 02297350 (River Kilometer 26.7)

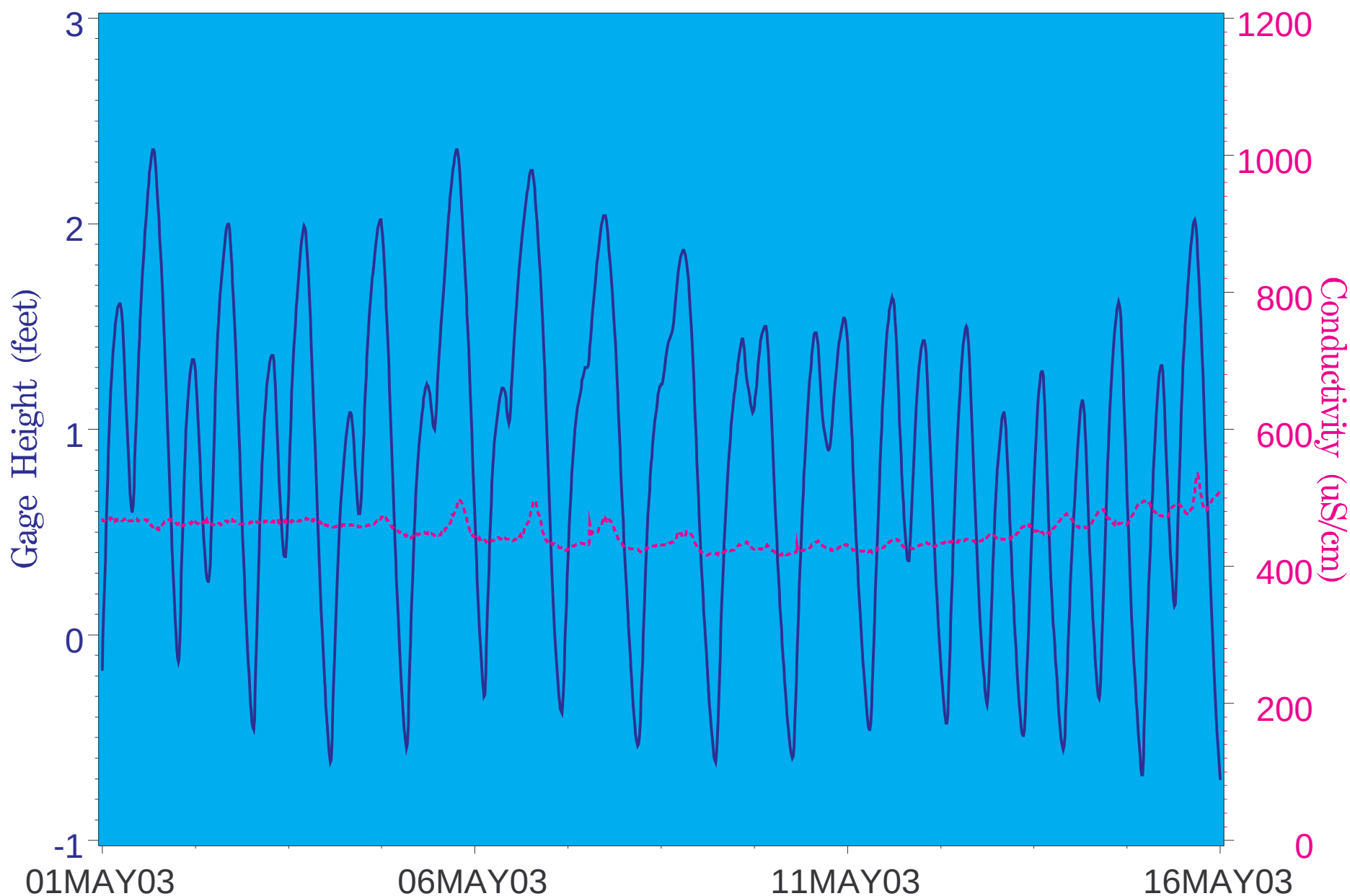


Figure 5.19 Bottom conductivity in May - USGS Gage 02297350 (River Kilometer 26.7)

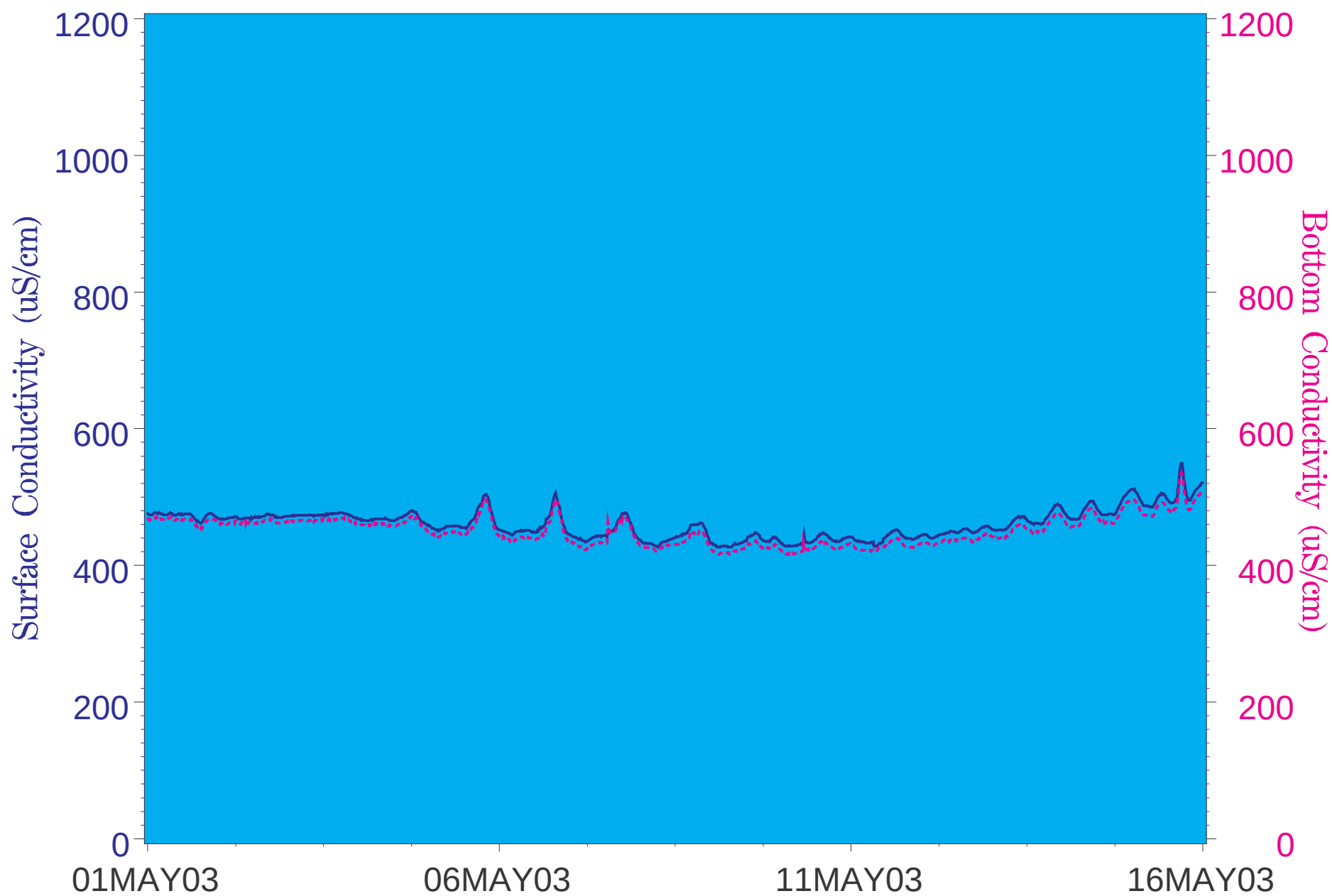


Figure 5.20 Surface and bottom conductivity in May - USGS Gage 02297350 (River Kilometer 26.7)

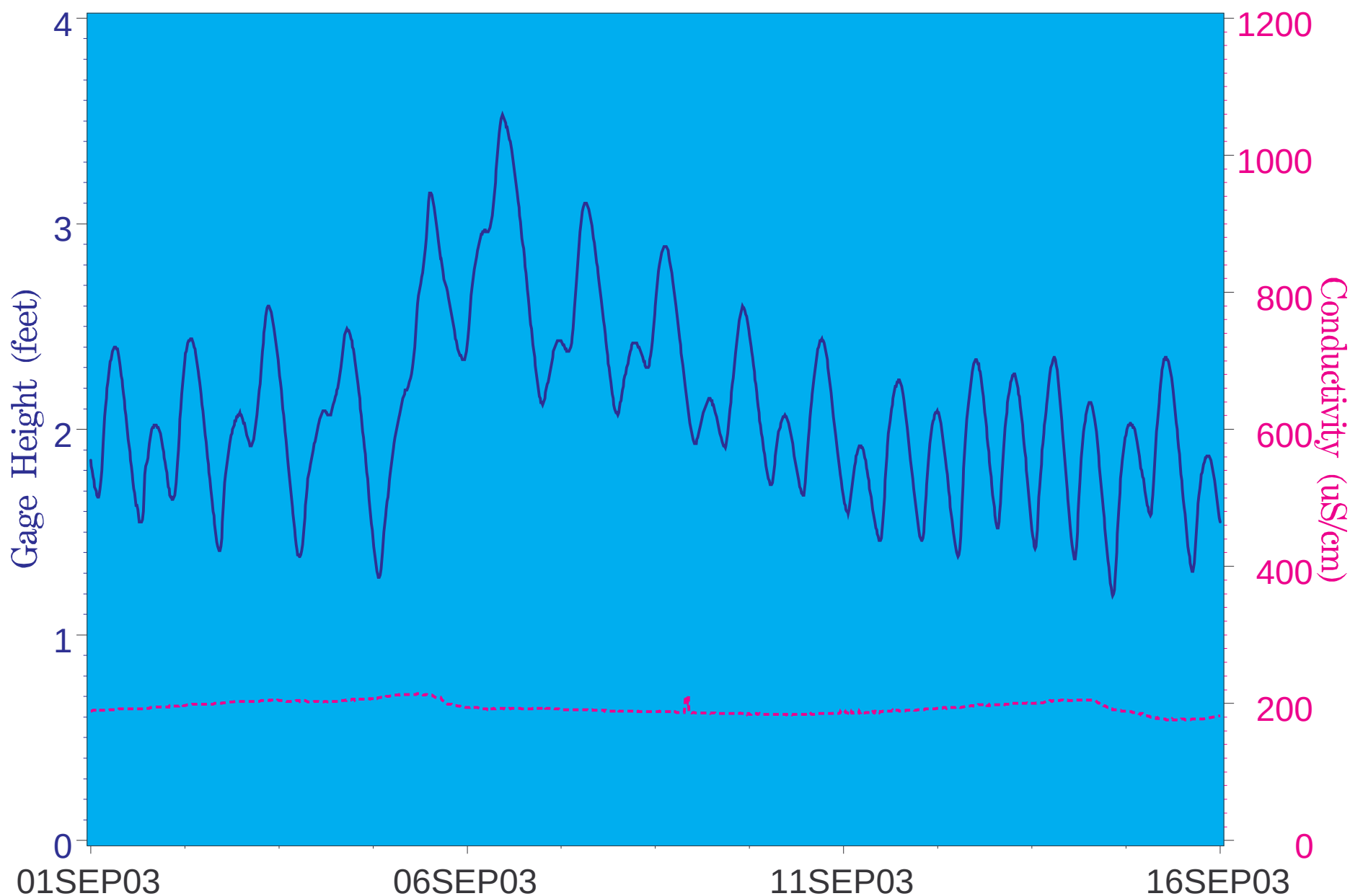


Figure 5.21 Surface conductivity in September- USGS Gage 02297350 (River Kilometer 26.7)

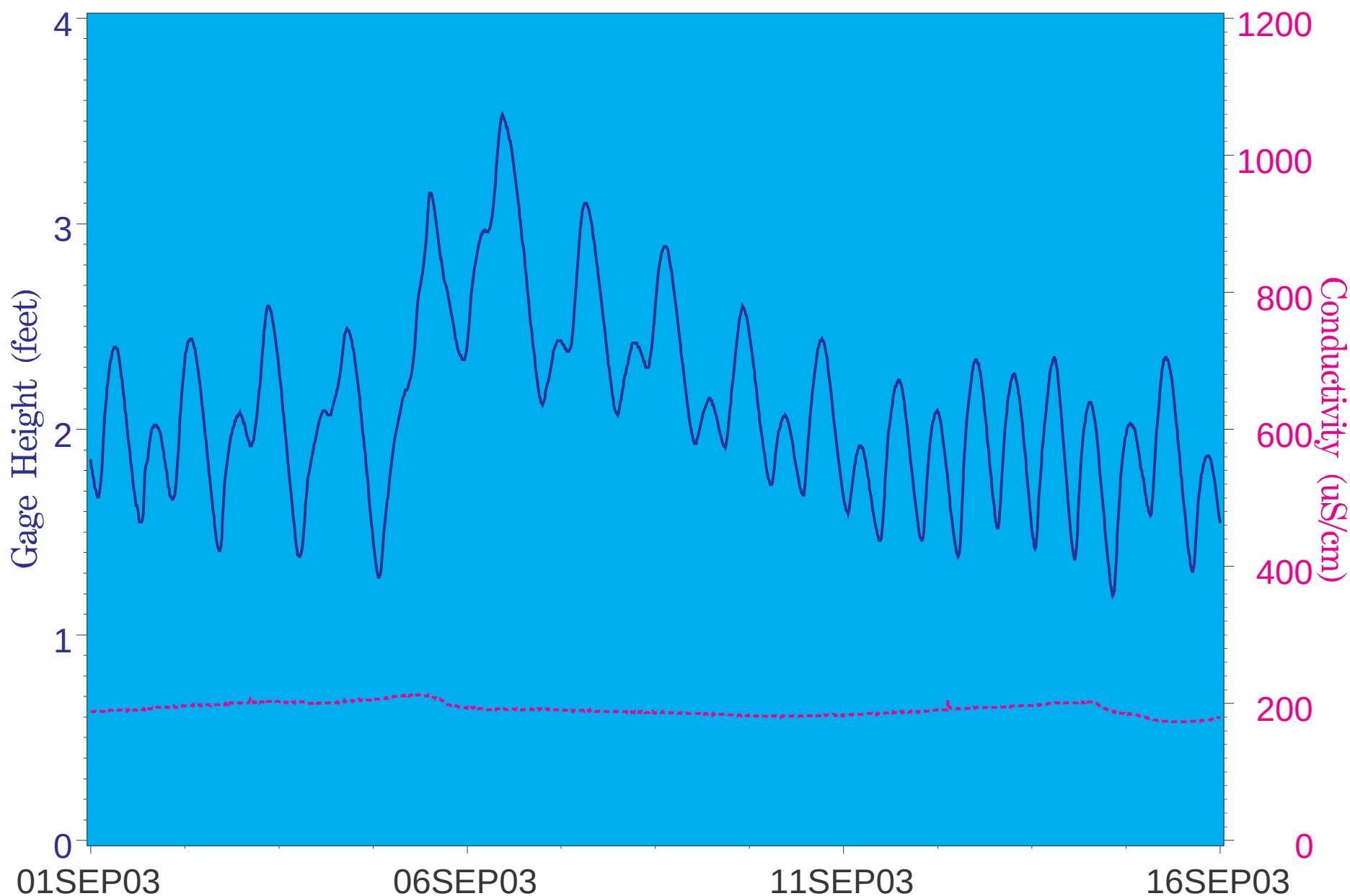


Figure 5.22 Bottom conductivity in September - USGS Gage 02297350 (River Kilometer 26.7)

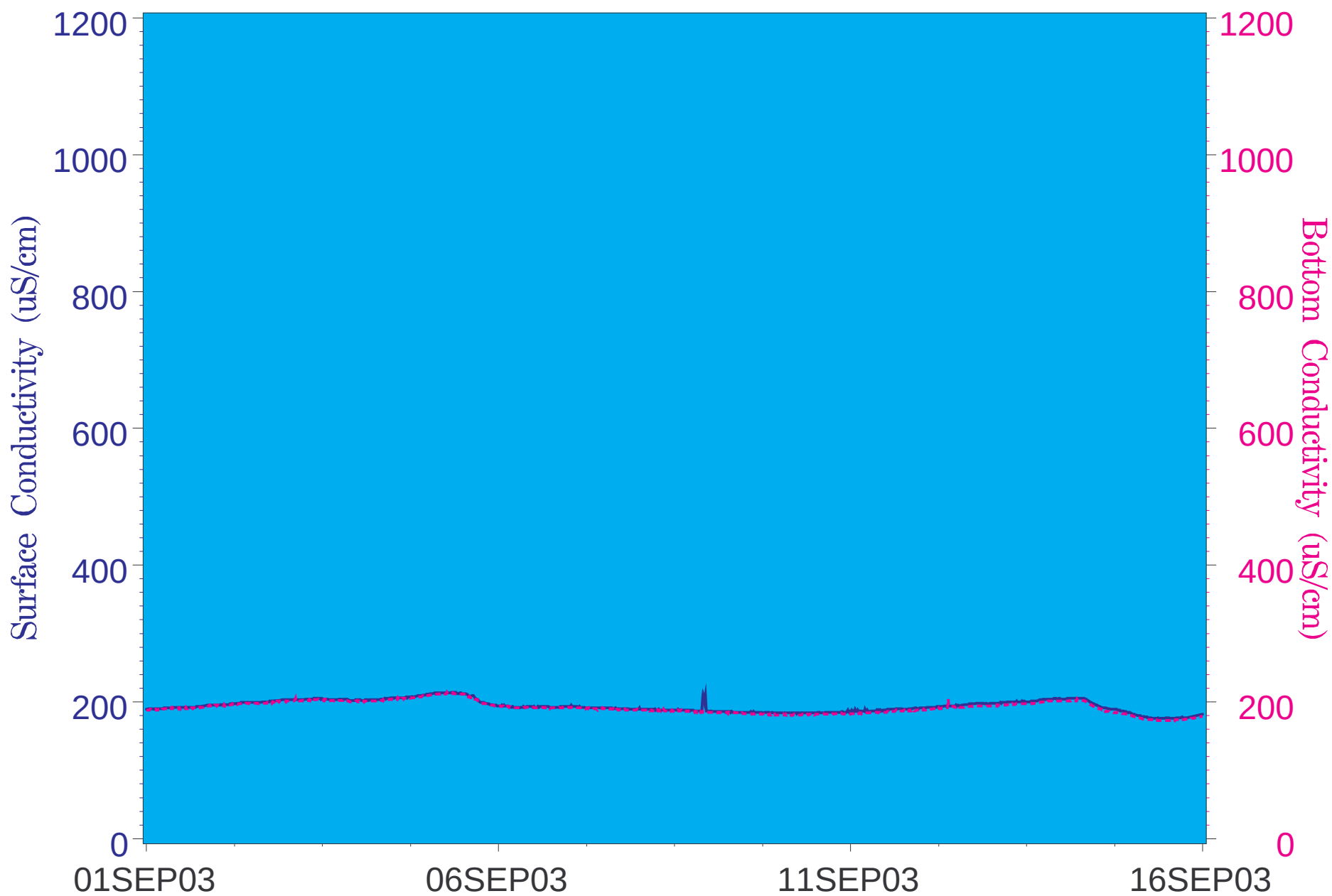


Figure 5.23 Surface and bottom conductivity in September - USGS Gage 02297350 (River Kilometer 26.7)

SAS Data Sets

Data Set Name	Time Period	Brief Description
HBMP SAS Data Sets		
Flwd03.sd2	1931-2003	Historic daily flow data for: Peace at Arcadia; Horse Creek near Arcadia; Joshua Creek near Nocatee; and Shell Creek near Punta Gorda. Historic daily Peace River Facility withdrawals. All values in cfs.
Cmov8303.sd2	1983-2003	Water quality, and phytoplankton biomass and uptake measurements from monthly surface samples collected at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hymov03.sd2	1983-2003	Monthly hydrolab <i>in situ</i> water quality measurements taken at 0.5 meter intervals at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hyfix03.sd2	1996-2003	Monthly <i>in situ</i> hydrolab water column profile data taken at 0.5 meter intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Cfix9603.sd2	1996-2003	Monthly surface and bottom chemical water quality samples taken at five intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Efix9603.sd2	1996-2003	Water column extinction coefficients collected at the fixed sampling locations.
Boca03.sd2	1996-2003	Water level at 15-minute intervals from the continuous recording gage near Boca Grande.
Ph03.sd2	1996-2003	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Harbor Heights (River Kilometer 15.5).
pr03.sd2	1997-2003	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Peace River Heights (River Kilometer 26.7).
Environmental Quality Laboratory Background Data Sets		
Chall_2.sd2	1976-1990	EQL Charlotte Harbor background water chemistry data.
Hydroall.sd2	1976-1990	EQL Charlotte Harbor hydrolab water column profile data.

Data Set Name: WORK.FLWD03

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 26573

Variables: 14

Indexes: 0

Observation Length: 112

-----Engine/Host Dependent Information-----

Data Set Page Size: 12288

Number of Data Set Pages: 244

First Data Page: 1

Max Obs per Page: 109

Obs in First Data Page: 86

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
11	BARTOW	Num	8	80		Peace at Bartow flow (cfs)
10	DATE	Num	8	72	MMDDYY8.	
8	DAY	Num	8	56		
12	FTMEADE	Num	8	88		Peace at Ft Meade flow (cfs)
1	HORSE	Num	8	0		Horse Flow (cfs)
3	JOSHUA	Num	8	16		Joshua Flow (cfs)
7	MONTH	Num	8	48		
2	PEACE	Num	8	8		Peace Flow (cfs)
14	PRAIRIE	Num	8	104		Prairie Creek flow (cfs)
9	SASDATE	Num	8	64		
4	SHELL	Num	8	24		Shell Flow (cfs)
5	WITH	Num	8	32	8.2	Withdrawal (cfs)
6	YEAR	Num	8	40		
13	ZOLFO	Num	8	96		Peace at Zolfo flow (cfs)

Data Set Name: WORK.CMOV8303

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 1036

Variables: 56

Indexes: 0

Observation Length: 448

-----Engine/Host Dependent Information-----

Data Set Page Size: 16384

Number of Data Set Pages: 30

First Data Page: 1

Max Obs per Page: 36

Obs in First Data Page: 19

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
47	ALK	Num	8	368		Alkalinity (mg/l)
24	CF1	Num	8	184	8.1	Chlorophyll a >20 um Fraction (mg/m3)
25	CF2	Num	8	192	8.1	Chlorophyll a 20><5 um Fraction (mg/m3)
26	CF3	Num	8	200	8.1	Chlorophyll a 5> um Fraction (mg/m3)
27	CF4	Num	8	208	8.1	% Chlorophyll a >20 um Size Fraction
28	CF5	Num	8	216	8.1	% Chlorophyll a 20><5 um Size Fraction
29	CF6	Num	8	224	8.1	% Chlorophyll a 5> um Size Fraction
15	CHLA	Num	8	112	8.1	Chlorophyll-a (ug/l)
54	CHLB	Num	8	408		Chlorophyll b (mg/m3)
55	CHLC	Num	8	416		Chlorophyll c (mg/m3)
44	CL	Num	8	344	8.1	Chloride (mg/l)
7	COLOR	Num	8	48	8.	Color (CPU)
45	DATE	Num	8	352	DATE8.	Date
5	DAY	Num	8	32	8.	Day
4	DIS	Num	8	24	8.1	Distance (km)
42	DOC	Num	8	328	8.2	Dissolved Organic Carbon (mg/l)
50	DOP	Num	8	392		Dissolved Orthophosphate (mg/L)
14	EXC	Num	8	104	8.2	Light Extinction Coefficient
18	F1	Num	8	136	8.2	Uptake >20 um Fraction (mg Carbon/m3/E)
19	F2	Num	8	144	8.2	Uptake 20><5 um Fract. (mg Carbon/m3/E)
20	F3	Num	8	152	8.2	Uptake 5> um Fraction (mg Carbon/m3/E)
21	F4	Num	8	160	8.1	% Carbon Uptake >20 um Size Fraction
22	F5	Num	8	168	8.1	% Carbon Uptake 20><5 um Size Fraction
23	F6	Num	8	176	8.1	% Carbon Uptake 5> um Size Fraction
32	IOC	Num	8	248	8.2	Inorganic Carbon (mg/l)
43	IRON	Num	8	336	8.2	Iron (mg/l)
6	LIGHT	Num	8	40	8.1	Light Same Day (Einsteins)
2	MONTH	Num	8	8	8.	Month
9	N23	Num	8	64	8.3	Nitrite/Nitrate (mg/l)
56	NH3	Num	8	424	8.3	Ammonia/Ammonium (mg/l)
8	NH34	Num	8	56	8.3	Ammonia/Ammonium (mg/l)
11	NP	Num	8	80	8.1	Available N/P Ratio
33	NPA	Num	8	256	8.1	Available N/P Atomic Ratio
35	ONIT	Num	8	272	8.2	TKN - NH4 (mg/l)
10	OP	Num	8	72	8.3	Orthophosphorus (mg/l)
37	OPD01	Num	8	288	8.2	Depth 1% of Surface Light Remains (m)
38	OPD10	Num	8	296	8.2	Depth 10% of Surface Light Remains (m)
39	OPD50	Num	8	304	8.2	Depth 50% of Surface Light Remains (m)
17	P2	Num	8	128	8.2	Carbon Uptake (mg Carbon/m3/hr)
16	P3	Num	8	120	8.2	Carbon Uptake (mg Carbon/m3/E)
46	SASDATE	Num	8	360		SAS Date

Data Set Name: WORK.CMOV8303 (continued)

13	SI	Num	8	96	8.2	Silica (mg/l)
51	SOURCE	Char	3	432		
3	STATION	Num	8	16	8.	Sample Location
30	TKN	Num	8	232	8.2	Total Kjeldahl Nitrogen (mg/l)
36	TN	Num	8	280	8.2	TKN + N23 (mg/l)
12	TNTP	Num	8	88	8.1	Total N/P Ratio
34	TNTPA	Num	8	264	8.1	Total N/P Atomic Ratio
41	TOC	Num	8	320	8.2	Total Organic Carbon (mg/l)
31	TP	Num	8	240	8.3	Total Phosphorus (mg/l)
48	TSS	Num	8	376		Total Suspended Solids (mg/l)
40	TURB	Num	8	312	8.2	Turbidity
52	TYPE	Char	6	435		
49	VSS	Num	8	384		Volatile Suspended Solids (mg/L)
1	YEAR	Num	8	0	8.	Year
53	time	Num	8	400	TIME5.	

Data Set Name: WORK.HYMOV03

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 6415

Variables: 17

Indexes: 0

Observation Length: 136

-----Engine/Host Dependent Information-----

Data Set Page Size: 12288

Number of Data Set Pages: 72

First Data Page: 1

Max Obs per Page: 90

Obs in First Data Page: 69

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
7	COND	Num	8	48	8.1	Conductivity
12	DATE	Num	8	88	DATE7.	DayMonthYear
3	DAY	Num	8	16	4.	Day
4	DEPTH	Num	8	24	4.1	Sample Depth (m)
13	DIS	Num	8	96	8.1	Distance (km)
6	DO	Num	8	40	8.1	Dissolved Oxygen (mg/l)
2	MONTH	Num	8	8	8.	Month
9	ORP	Num	8	64	5.	Oxidation Reduction Potential
8	PH	Num	8	56	8.1	pH
10	SAL	Num	8	72	8.1	Salinity (ppt)
11	SASDATE	Num	8	80	6.	SAS Date
14	SOURCE	Char	4	120		Data Source
16	STATION	Num	8	104	6.	
5	TEMP	Num	8	32	8.1	Temperature (C)
15	TYPE	Char	6	124		Moving or Fixed
1	YEAR	Num	8	0	8.	Year
17	time	Num	8	112	TIME5.	

Data Set Name: WORK.HYFIX03

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 11345

Variables: 16

Indexes: 0

Observation Length: 128

-----Engine/Host Dependent Information-----

Data Set Page Size: 12288

Number of Data Set Pages: 120

First Data Page: 1

Max Obs per Page: 95

Obs in First Data Page: 74

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
12	COND	Num	8	72	8.	Specific Conductance (us/cm)
6	DATE	Num	8	24	DATE7.	Date
10	DAY	Num	8	56		Day
5	DEPTH	Num	8	16	8.1	Sampling Depth (m)
4	DIS	Num	8	8		River Kilometer of Site Location
13	DO	Num	8	80	8.2	Dissolved Oxygen (mg/L)
9	MONTH	Num	8	48	8.	Month
14	PH	Num	8	88	8.2	pH Water Whole Field (std.units)
16	SAL	Num	8	104	8.1	Salinity (ppt)
3	SASDATE	Num	8	0		SAS Date
1	SOURCE	Char	4	112		Collected By
15	STATION	Num	8	96	6.	
11	TEMP	Num	8	64	8.1	Temperature (C)
7	TIME	Num	8	32	TIME5.	Time
2	TYPE	Char	5	116		Moving or Fixed
8	YEAR	Num	8	40	8.	Year

Data Set Name: WORK.CFIX9603

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 888

Variables: 40

Indexes: 0

Observation Length: 312

-----Engine/Host Dependent Information-----

Data Set Page Size: 16384

Number of Data Set Pages: 18

First Data Page: 1

Max Obs per Page: 52

Obs in First Data Page: 34

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
23	ALK	Num	8	152		Alkalinity Lab (mg/L as CaCO3)
33	CF1	Num	8	232		> 20 um Size Fraction
34	CF2	Num	8	240		20> <5 um Size Fraction
35	CF3	Num	8	248		> 5 um Size Fraction
32	CHLA	Num	8	224	8.2	Chlorophyll a (ug/L)
39	CHLB	Num	8	280	8.2	Chlorophyll b (mg/m3)
40	CHLC	Num	8	288	8.2	Chlorophyll c (mg/m3)
19	CL	Num	8	120		Chloride Dissolved (mg/l as Cl)
11	COLOR	Num	8	56		Color (Platinum-cobalt units)
1	DATE	Num	8	0	DATE7.	Date
4	DAY	Num	8	24		Day
9	DEP	Char	3	305	\$3.	Surface or Bottom Sample
6	DIS	Num	8	40		Distance from Mouth of River
17	DOC	Num	8	104		Carbon, Organic dissolved (mg/l as C)
25	DOP	Num	8	168		Dissolved Orthophosphate (mg/L)
18	IOC	Num	8	112		Carbon, Inorganic Total (mg/l as C)
36	IRON	Num	8	256		Iron (mg/L)
3	MONTH	Num	8	16		Month
15	N23	Num	8	88		Nitrogen, NO2+NO3 Total (mg/l as N)
37	NH34	Num	8	264		Ammonia/Ammonium (mg/l)
26	NP	Num	8	176	8.1	Ration of Availiable Nitriogen to Phosphorus
28	NPA	Num	8	192	8.1	Atomic Ration of Availiable Nitriogen to Phosphorus
30	ONIT	Num	8	208		Organic Nitrogen (mg/L)
22	OP	Num	8	144		Phosphorus Ortho Total (mg/l as P)
5	SASDATE	Num	8	32		SAS Date
20	SI	Num	8	128		Silica, Dissolved (mg/l as SiO2)
7	SOURCE	Char	4	296		Collected By
24	STATION	Num	8	160		Station Number
14	TKN	Num	8	80		Nitrogen, Total Kjeldahl (mg/l as N)
31	TN	Num	8	216		Total Nitrogen (mg/L)
27	TNTP	Num	8	184	8.1	Ration of Total Nitriogen to Phosphorus
29	TNTPA	Num	8	200	8.1	Atomic Ration of Total Nitriogen to Phosphorus
16	TOC	Num	8	96		Carbon, Organic Total (mg/l as C)
21	TP	Num	8	136		Phosphorus, Phosphorus Total (mg/l as P)
13	TSS	Num	8	72		Residue Volatile, suspended (mg/l)
10	TURB	Num	8	48		Turbidity (NTU)
8	TYPE	Char	5	300		Moving or Fixed
12	VSS	Num	8	64		Residue Total at 105 degC susp (mg/l)
2	YEAR	Num	8	8		Year
38	time	Num	8	272	TIME5.	

Data Set Name: WORK.EFIX9603

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 865

Variables: 13

Indexes: 0

Observation Length: 96

-----Engine/Host Dependent Information-----

Data Set Page Size: 8192

Number of Data Set Pages: 11

First Data Page: 1

Max Obs per Page: 84

Obs in First Data Page: 60

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
9	DATE	Num	8	64	DATE8.	Sampling Date
2	DAY	Num	8	8		Day
12	DIS	Num	8	80		River Kilometer
5	EXC	Num	8	32		Extinction Coefficient
1	MONTH	Num	8	0		Month
6	OPD01	Num	8	40		1% Light Depth
7	OPD10	Num	8	48		10% Light Depth
8	OPD50	Num	8	56		50% Light Depth
10	SASDATE	Num	8	72		
13	SOURCE	Char	3	93		
4	STATION	Num	8	24		EQL Station #
11	TYPE	Char	5	88		
3	YEAR	Num	8	16		Year

Data Set Name: WORK.BOCA03

Member Type: DATA
Created: 12:01 Thursday, June 10, 2004
Engine: V8

Observations: 247109
Variables: 10
Observation Length: 80
Indexes: 0

-----Engine/Host Dependent Information-----

Data Set Page Size: 8192
Number of Data Set Pages: 2447
First Data Page: 1
Max Obs per Page: 101
Obs in First Data Page: 76
Number of Data Set Repairs: 0
Release Created: 8.0202M0
Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
ff						
2	DATE	Num	8	0	DATE7.	Date
7	DAY	Num	8	40		Day
1	GAGE	Char	15	56		USGS Gage Number
4	GHEIGHT	Num	8	16		Gage Height (feet)
6	MONTH	Num	8	32		Month
8	SASDATE	Num	8	48		SAS Date
10	SOURCE	Char	4	75		
3	TIME	Num	8	8	TIME5.	Time
9	TYPE	Char	4	71		
5	YEAR	Num	8	24		Year

Data Set Name: WORK.PH03

Member Type: DATA

Engine: V8

Created: 12:01 Thursday, June 10, 2004

Observations: 242518

Variables: 15

Indexes: 0

Observation Length: 112

-----Engine/Host Dependent Information-----

Data Set Page Size: 12288

Number of Data Set Pages: 2226

First Data Page: 1

Max Obs per Page: 109

Obs in First Data Page: 85

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
6	CONDBOT	Num	8	32		Bottom Conductance (uS/cm @25C)
5	CONDSURF	Num	8	24		Surface Conductance (uS/cm @25C)
2	DATE	Num	8	0	DATE7.	Date
11	DAY	Num	8	72		Day
15	DIS	Num	8	88		Distance from Mouth of River
1	GAGE	Char	8	96		USGS Gage Number
4	GHEIGHT	Num	8	16		Gage Height (feet)
10	MONTH	Num	8	64		Month
12	SASDATE	Num	8	80		SAS Date
13	SOURCE	Char	4	104		Collected By
8	TEMPBOT	Num	8	48		Bottom Temperature (degrees C)
7	TEMPSURF	Num	8	40		Surface Temperature (degrees C)
3	TIME	Num	8	8	TIME5.	Time
14	TYPE	Char	4	108		Moving, Fixed or Gage
9	YEAR	Num	8	56		Year

Data Set Name: WORK.PR03

Member Type: DATA

Engine: V8

Created: 12:02 Thursday, June 10, 2004

Observations: 203751

Variables: 15

Indexes: 0

Observation Length: 112

-----Engine/Host Dependent Information-----

Data Set Page Size: 12288

Number of Data Set Pages: 1870

First Data Page: 1

Max Obs per Page: 109

Obs in First Data Page: 85

Number of Data Set Repairs: 0

Release Created: 8.0202M0

Host Created: WIN_98

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
6	CONDBOT	Num	8	32		Bottom Conductance (uS/cm @25C)
5	CONDSURF	Num	8	24		Surface Conductance (uS/cm @25C)
2	DATE	Num	8	0	DATE7.	Date
11	DAY	Num	8	72		Day
15	DIS	Num	8	88		Distance from Mouth of River
1	GAGE	Char	8	96		USGS Gage Number
4	GHEIGHT	Num	8	16		Gage Height (feet)
10	MONTH	Num	8	64		Month
12	SASDATE	Num	8	80		SAS Date
13	SOURCE	Char	4	104		Collected By
8	TEMPBOT	Num	8	48		Bottom Temperature (degrees C)
7	TEMPSURF	Num	8	40		Surface Temperature (degrees C)
3	TIME	Num	8	8	TIME5.	Time
14	TYPE	Char	4	108		Moving, Fixed or Gage
9	YEAR	Num	8	56		Year

Contents of SAS Data Set Chall_2.sd2

Data Set Name: WORK.CHALL_2

Member Type: DATA

Engine: V8

Release Created: 8.0202M0

Host Created: WIN_98

Observations: 3546

Variables: 37

Indexes: 0

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Format	Label
24	ALK	Num	8	184	6.1	Alkalinity-CaCO3 (mg/l)
26	CA	Num	8	200	6.1	Calcium Hardness (mg/l)
13	CHLA	Num	8	96	7.1	Chlorophyll a (ug/l)
14	CL	Num	8	104	7.1	Chloride (mg/l)
17	COLOR	Num	8	128	5.	Color (CPU)
3	D	Num	8	16		Day
23	DAY	Num	8	176		Day
18	DEPTH	Num	8	136		
37	DO	Num	8	288		Dissolved Oxygen (mg/l)
19	DOC	Num	8	144		Dissolved Organic Carbon (mg/l)
31	F	Num	8	240	6.2	Fluoride (mg/l)
32	FC	Num	8	248	5.	Fecal Coliform Bacteria (c/100 ml)
20	FE	Num	8	152		Iron (mg/l)
33	FS	Num	8	256	5.	Fecal Strep. Bacteria (c/100 ml)
25	HARD	Num	8	192	5.	Hardness-CaCO3 (mg/l)
11	IOC	Num	8	80	7.1	Inorganic Carbon (mg/l)
2	M	Num	8	8		Month
27	MG	Num	8	208	6.1	Magnesium Hardness (mg/l)
22	MONTH	Num	8	168		Month
4	N23	Num	8	24	6.3	Nitrite/Nitrate (mg/l)
5	NH3	Num	8	32	6.3	Ammonia/Ammonium (mg/l)
8	OP	Num	8	56	6.3	Orthophosphorus (mg/l)
30	PH	Num	8	232		
15	SASDATE	Num	8	112		SAS Date
9	SI	Num	8	64	6.2	Silica (mg/l)
28	S04	Num	8	216	6.1	Sulfate (mg/l)
16	STATION	Num	8	120		Station Number
34	TC	Num	8	264	5.	Total Coliform Bacteria (c/100 ml)
36	TCOL	Num	8	280		Total Coliform Bacteria (c/100 ml)
29	TDS	Num	8	224	5.	Total Dissolved Solids (mg/l)
35	TEMP	Num	8	272		
6	TKN	Num	8	40	6.2	Total Kjeldahl Nitrogen (mg/l)
10	TOC	Num	8	72	7.1	Total Organic Carbon (mg/l)
7	TP	Num	8	48	6.2	Total Phosphorus (mg/l)
12	TURB	Num	8	88	4.1	turbidity (NTU)
1	Y	Num	8	0		Year
21	YEAR	Num	8	160		Year

Contents of SAS Data Set Hydroall.sd2

Data Set Name: WORK.HYDROALL

Member Type: DATA

Engine: V8

Release Created: 8.0202M0

Host Created: WIN_98

Observations:

22515

Variables:

13

Indexes:

0

-----Alphabetic List of Variables and Attributes-----

#	Variable	Type	Len	Pos	Label
7	COND	Num	8	48	Conductivity (mmho)
3	DAY	Num	8	16	Day
5	DEPTH	Num	8	32	Depth (meters)
6	DO	Num	8	40	Dissolved Oxygen (mg/l)
2	MONTH	Num	8	8	Month
9	ORP	Num	8	64	Oxidation Reduction Potential
8	PH	Num	8	56	pH
10	SAL	Num	8	72	Salinity o/oo
12	SASDATE	Num	8	88	SAS Date
11	SAT	Num	8	80	Percent Oxygen Saturation
4	STATION	Num	8	24	Station Number
13	TEMP	Num	8	96	Temperature (C)
1	YEAR	Num	8	0	Year