

some of original scan  
content was blurred  
especially in tables

SUMMARY OF MEASUREMENTS OF PRIMARY PRODUCTIVITY MADE  
DURING MARMAP SURVEYS (BELOGORSK 79-01, 79-03, 79-05)

by

J. E. O'Reilly<sup>1</sup> and D. A. Busch<sup>2</sup>

U. S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Northeast Fisheries Center

<sup>1</sup>Division of Environmental Assessment  
Sandy Hook Laboratory  
Highlands, New Jersey 07732 USA

<sup>2</sup>Marine Ecosystem Division  
Narragansett Laboratory  
Narragansett, Rhode Island 02882 USA

Report No. SHL 80-15 (August 1980)

## Introduction

Phytoplankton primary productivity was measured during three cooperative U. S.-U. S. S. R. MARMAP surveys of coastal/shelf water between Cape Hatteras and Nova Scotia aboard the RV Belogorsk (79-01, 79-03, 79-05).

Primary productivity was measured at 40 stations during the BE-79-01 survey, at 33 stations during BE-79-03, and at 11 stations during the BE-79-05 survey. The locations of stations occupied and the cruise tracks for these surveys are given in Figures 1, 2, 3, and 4.

Measurements of phytoplankton productivity were made in conjunction with measurements of chlorophyll a (Evans and O'Reilly, 1980), nutrients (Waldhauer et al., 1980), temperature, salinity, dissolved oxygen, water transparency (submarine quantum photometer), daily photosynthetically active radiation, and collections of zooplankton, ichthyoplankton, and phytoplankton.

## Methods

Netphytoplankton carbon production, nanophytoplankton production, and the release of dissolved organic matter was measured according to the method of O'Reilly and Thomas (1979). A submersible quantum photometer was used to determine the vertical extinction of photosynthetically active radiation (400-700 nanometers) as well as sampling depths corresponding to 100, 69, 46, 25, 10, 3, and 1% of subsurface light intensity.

Duplicate "light bottles" and one "dark bottle" were filled with seawater from each sampling depth. Zooplankton larger than 300 microns were removed from productivity bottles during filling. Approximately 15  $\mu\text{Ci-}^{14}\text{C}$  were added to each productivity sample. Alkalinity and pH were measured at surface and at the 10% light-depth.

Measurements of primary productivity were usually made at two stations each day of the cruise. Incubations lasted five hours with morning stations ending and afternoon stations commencing at approximately local solar noon.

Following incubation under ambient light, the organic  $^{14}\text{C}$  activity in productivity samples was filter-fractionated into netplankton ( $>20$  microns), nanoplankton ( $<20$  microns), and dissolved organic matter ( $<0.45$  microns) released by phytoplankton. Rates of production for each size fraction ( $\text{mgC}/\text{m}^3/\text{d}$ ) and daily integral rates of production ( $\text{mgC}/\text{m}^2/\text{d}$ ) were calculated using our computer program PP1074 (O'Reilly and Thomas, 1979).

### Results

Average daily rates ( $\text{mgC}/\text{m}^3/\text{d}$ ) of netplankton productivity, nanoplankton productivity, release of dissolved organic matter (DOM), and total productivity for these three surveys are given according to date, station, sampling depth, and percent light intensity in Tables 1, 2, and 3 (79-01, 79-03, 79-05, respectively). The percent of total carbon production by nanoplankton, netplankton, and percent of released DOM is also given in these tables. Tables 1, 2, and 3 represent the output ("Section D") from our computer program PP1074 (O'Reilly and Thomas, 1979). Vertical profiles of productivity versus depth (percent light intensity) can be derived from these tables.

Integral daily rates ( $\text{mgC}/\text{m}^2/\text{d}$ ) of netplankton and nanoplankton production, daily rates of phytoplankton release of dissolved organic matter, total daily productivity, daily photosynthetically active radiation, and euphotic depth are given according to the station number and date in Tables 4, 5, and 6.

The distribution of total daily production, euphotic depth, percent of particulate production by nanoplankton, and euphotic percent extracellular release is depicted in Figures 5 through 12.

In August during the Belogorsk 79-01 survey, intergral rates of total daily production ( $\text{gC}/\text{m}^2/\text{d}$ ) were relatively high throughout the area surveyed, ranging between 0.91 and 5.04  $\text{gC}/\text{m}^2/\text{d}$ . At seventeen of the forty stations surveyed, production exceeded 2 grams of carbon/ $\text{m}^2/\text{day}$  (Figure 5). The highest values were observed off the coasts of New Jersey, Delaware, and Virginia. Netphytoplankton were the dominant photosynthesizers at these relatively more productive stations. Euphotic percent extracellular release of carbon was relatively low (avg. = 7%) throughout the area of the shelf surveyed in August (Figure 6).

During both parts of the September Belogorsk 79-03 cruise, total daily productivity was comparable to values measured in the same areas surveyed in August (Figures 7 and 9). However, in September nanophytoplankton were the dominant producers during both legs of the BE-79-03 survey of New York Bight-Georges Bank area.

During the Belogorsk 79-05 November survey of Georges Bank, southern portion of the Gulf of Maine, and northern New York Bight, total daily primary productivity ranged between 0.7 and 2.02  $\text{gC}/\text{m}^2/\text{d}$  (Figure 11).

## Acknowledgments

We wish to thank Igor Krasovsky, Ralph Bruno, and Michael Hurd for their assistance with shipboard measurements of primary productivity.

## References

- Evans, C. and J. E. O'Reilly. 1980. Report on chlorophyll measurements made between June 1979-June 1980 during surveys AL-79-06, BE-79-01, BE-79-03, AL-79-11, BE-79-05, EV-80-01, EV-80-02 and DE-80-03/EV-80-04. Sandy Hook Laboratory Report No. 80-14 (August 1980).
- O'Reilly, J. E. and J. P. Thomas. 1979. A manual for the measurement of total daily primary productivity on MARMAP and Ocean Pulse cruises using  $^{14}\text{C}$  simulated in situ sunlight incubation. Sandy Hook Laboratory Report No. 79-06 (February 1979).
- Waldhauer, R., A. Matte and J. E. O'Reilly. 1980. Summary of ammonium-nitrogen measurements made during six cooperative U. S.-U. S. S. R. MARMAP surveys. Sandy Hook Laboratory Report No. 80-16 (August 1980).

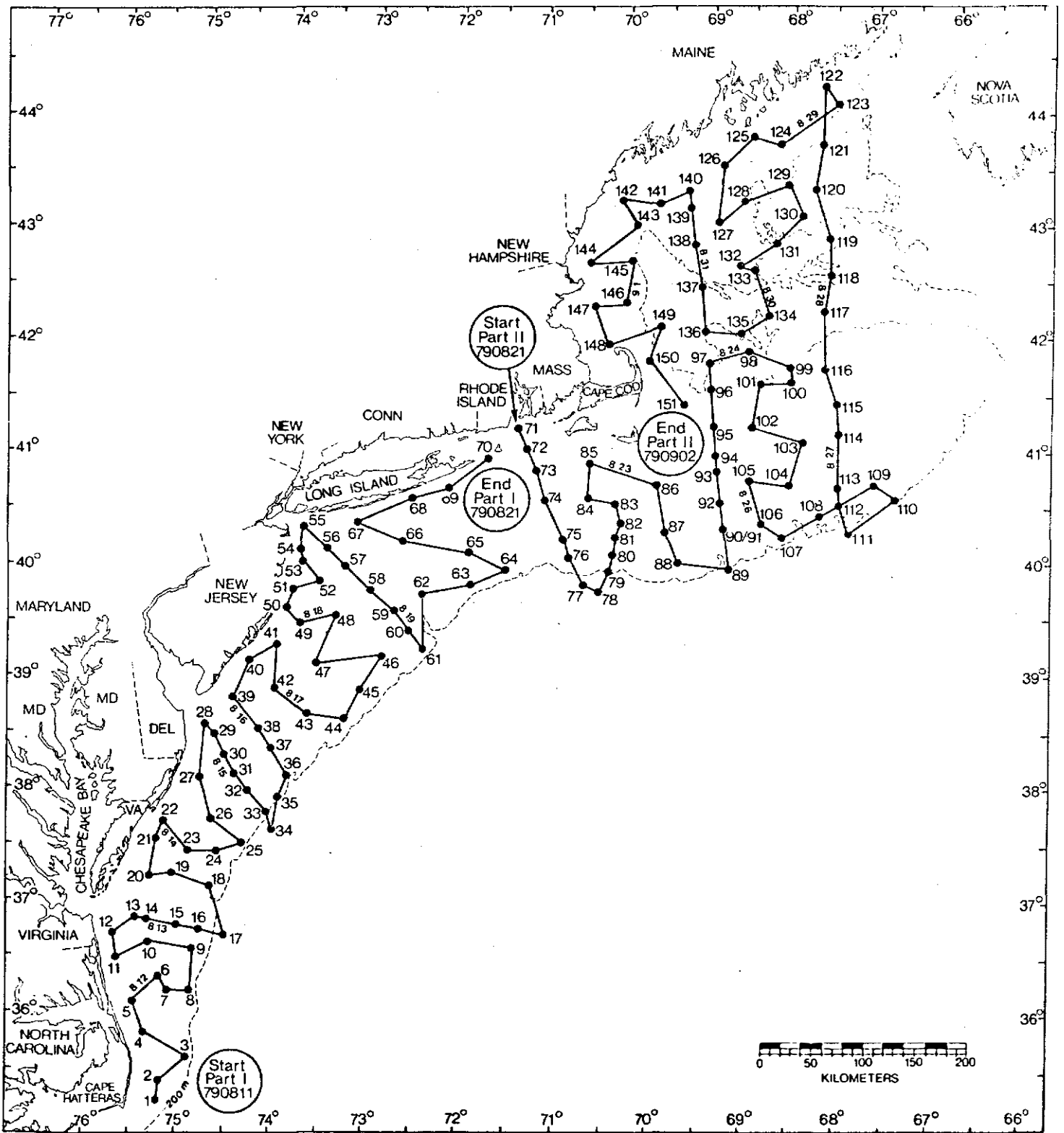


Figure 1. Cruise track and station locations sampled during Belogorsk 79-01,

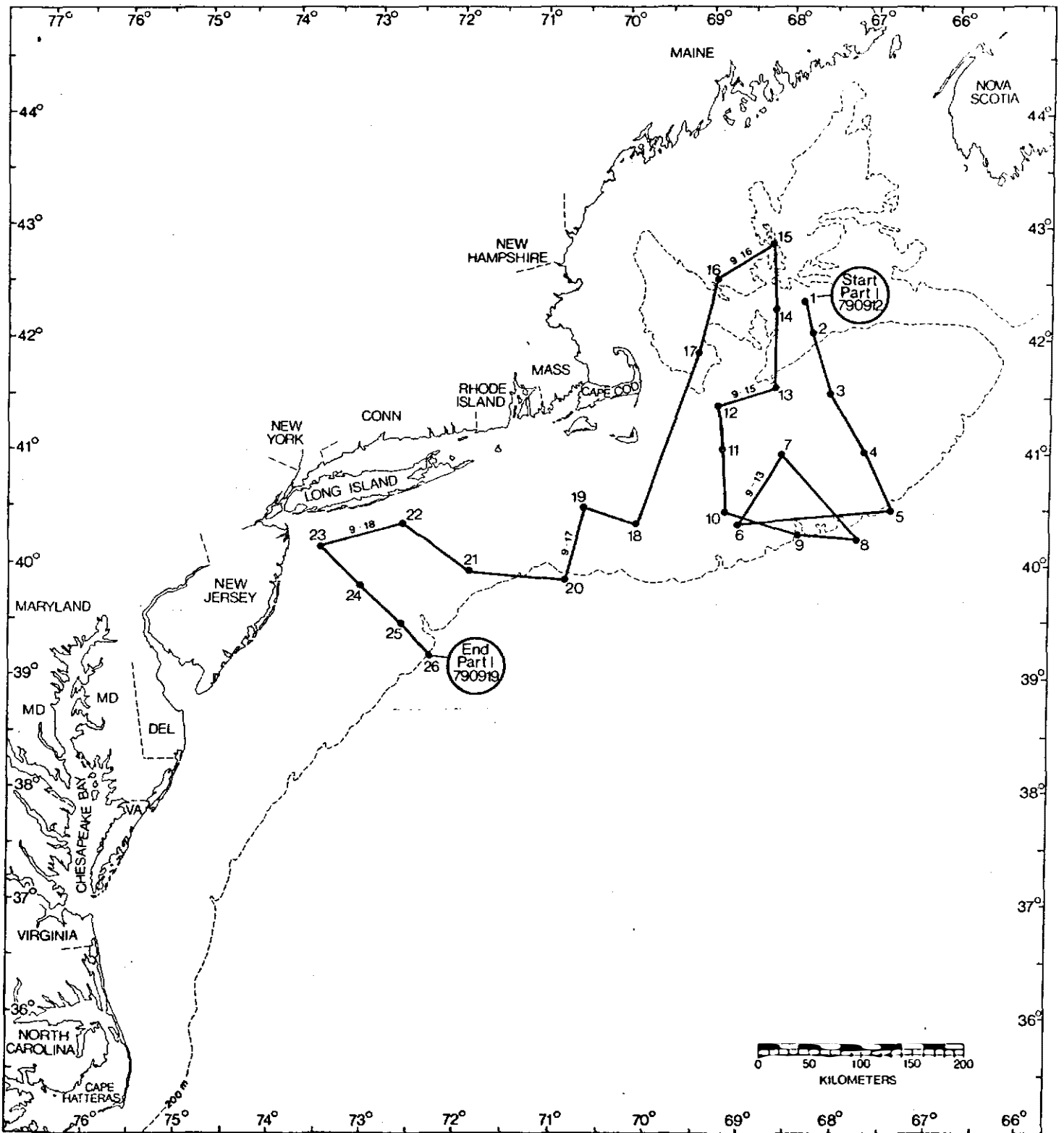


Figure 2. Cruise track and station locations sampled during Belogorsk 79-03, Part I, September 12-19, 1979.



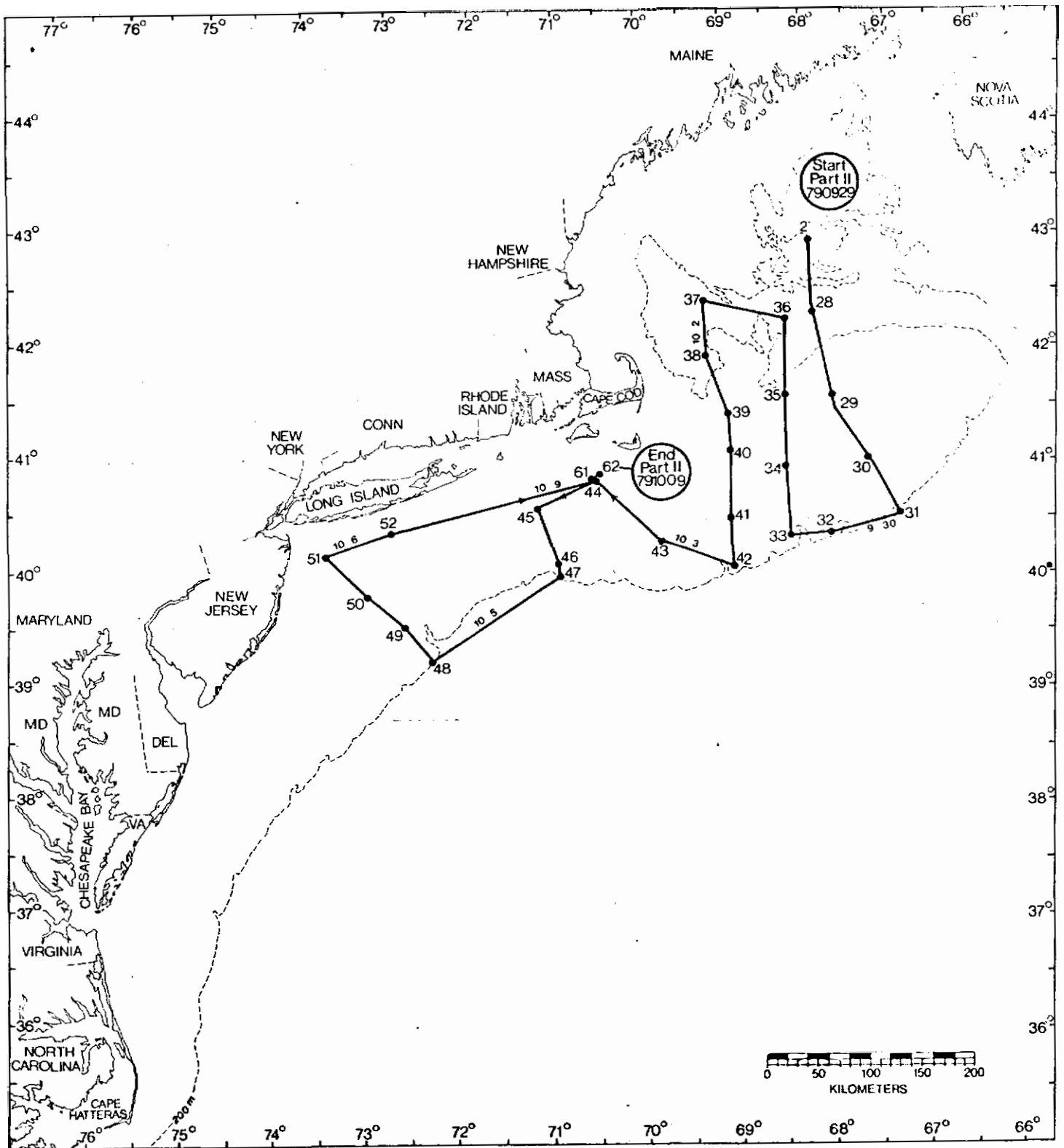


Figure 3. Cruise track and station locations sampled during Belogorsk 79-03, Part II, September 29-October 9, 1979.

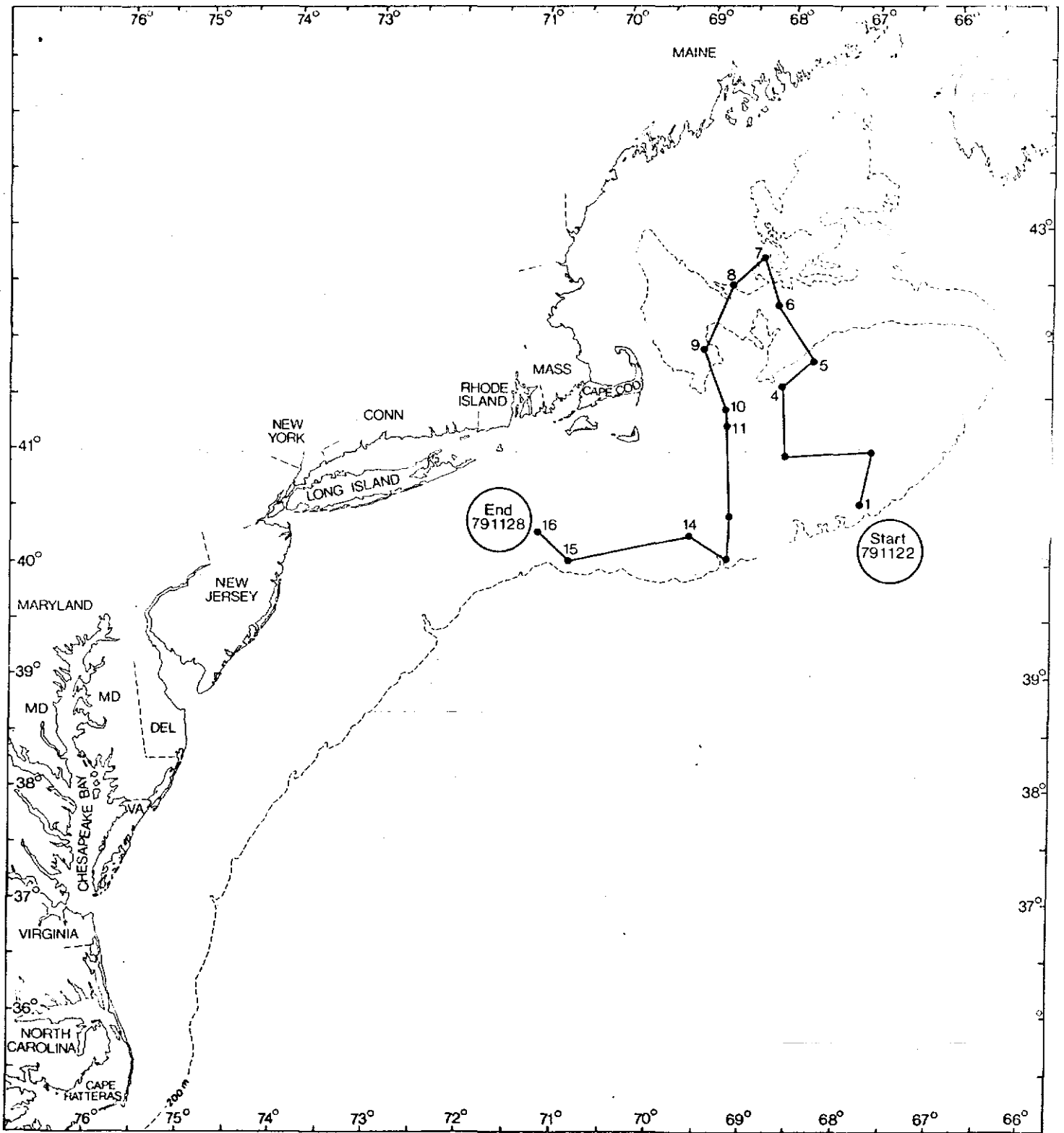


Figure 4. Cruise track and station locations sampled during Belogorsk 79-05, November 22-November 28, 1979.

Figure 5.

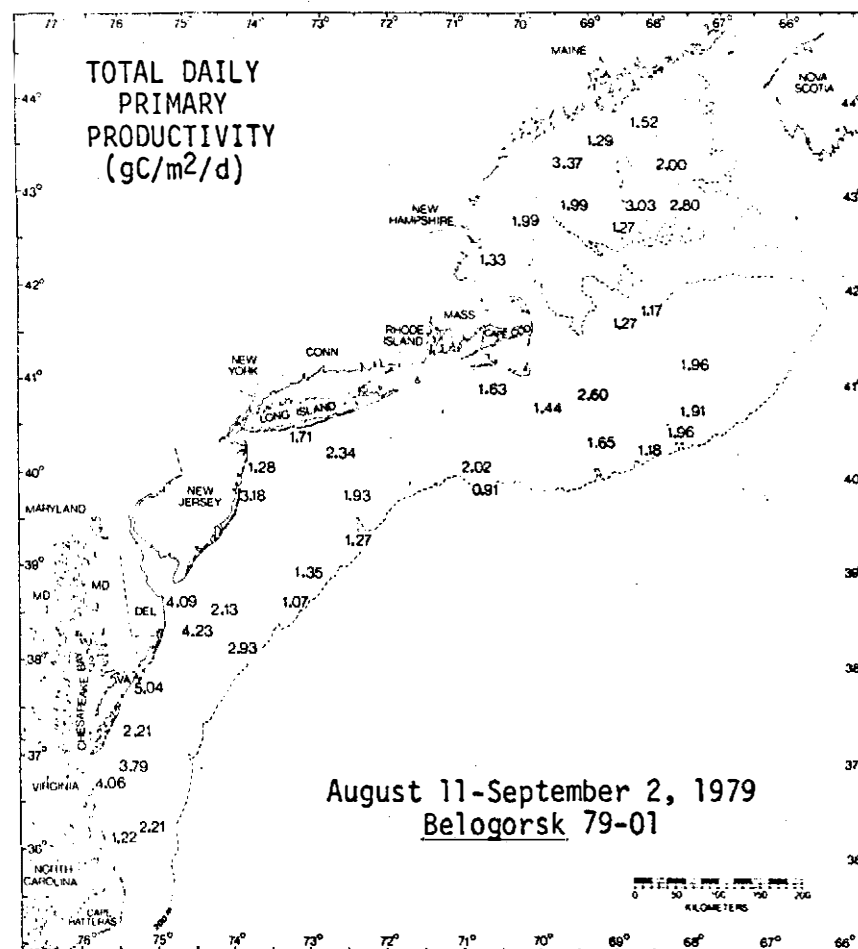
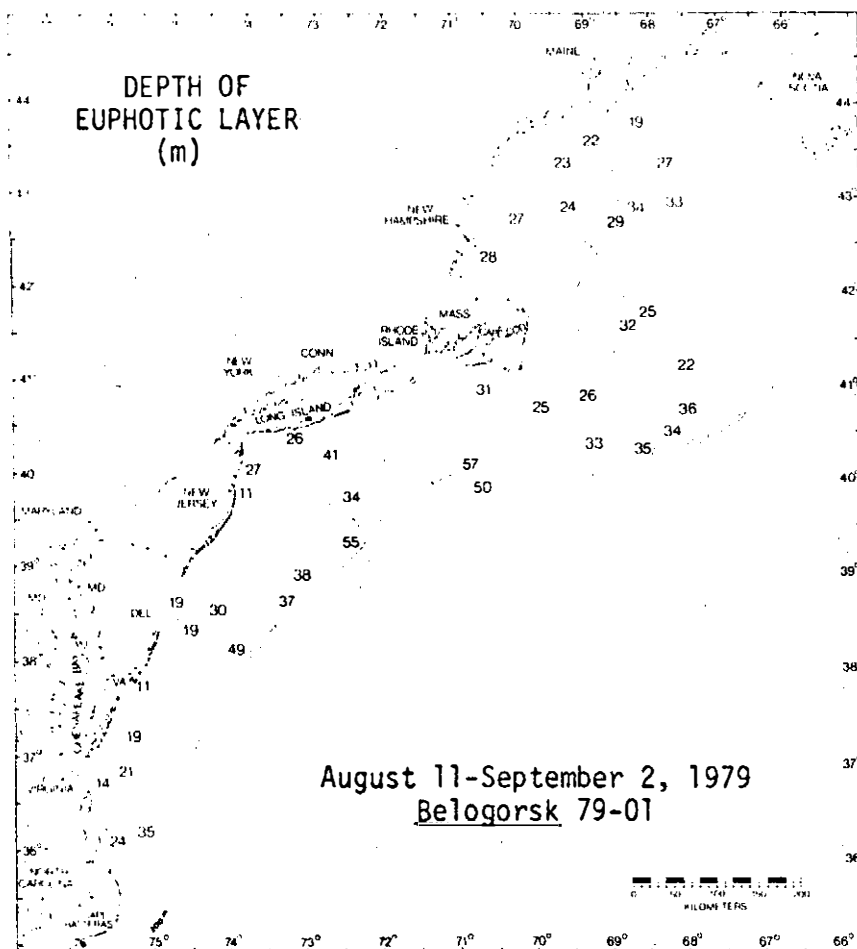


Figure 6.

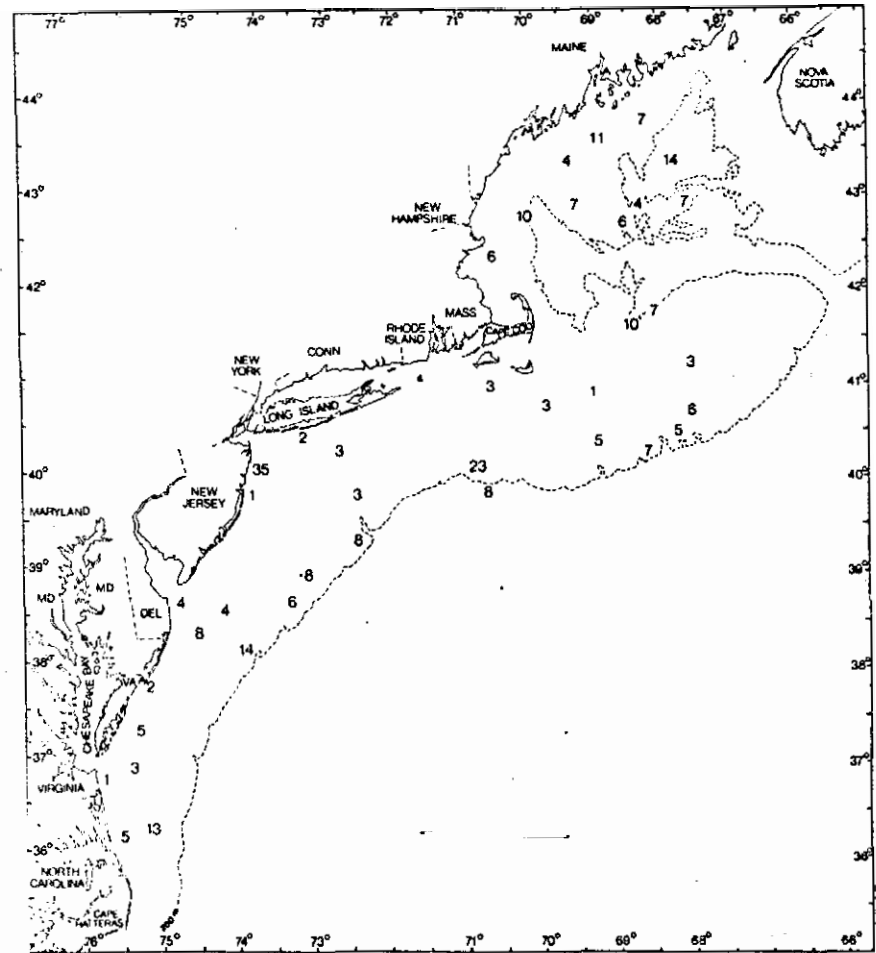
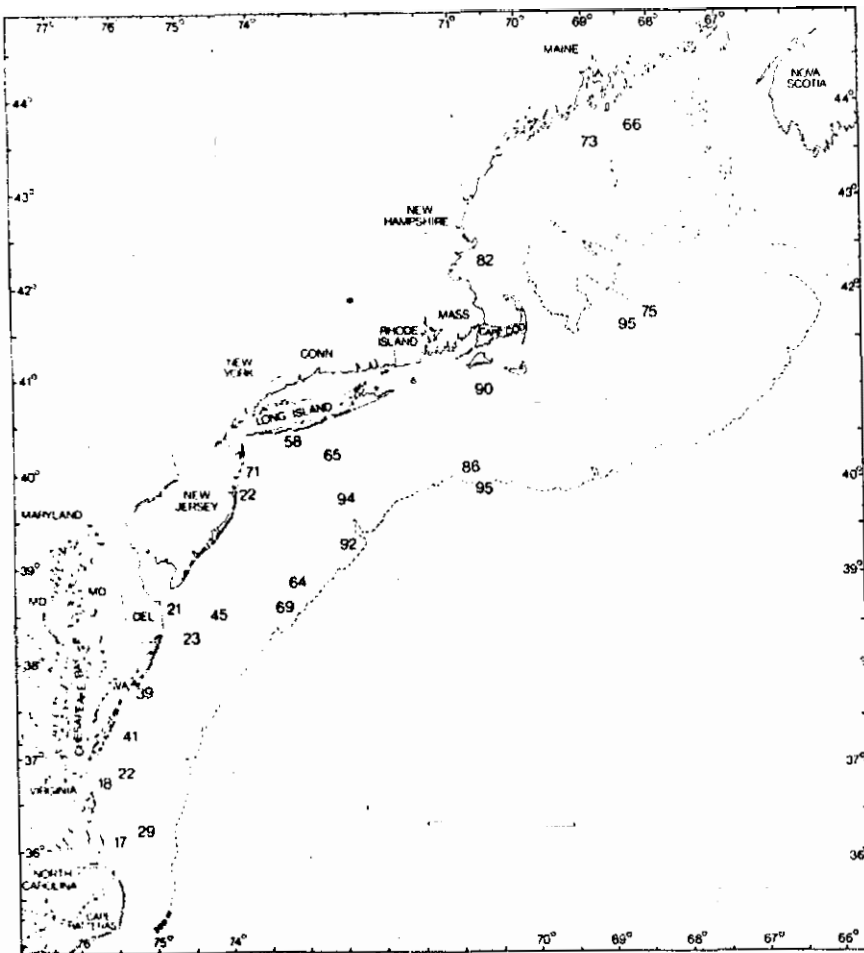


Figure 7.

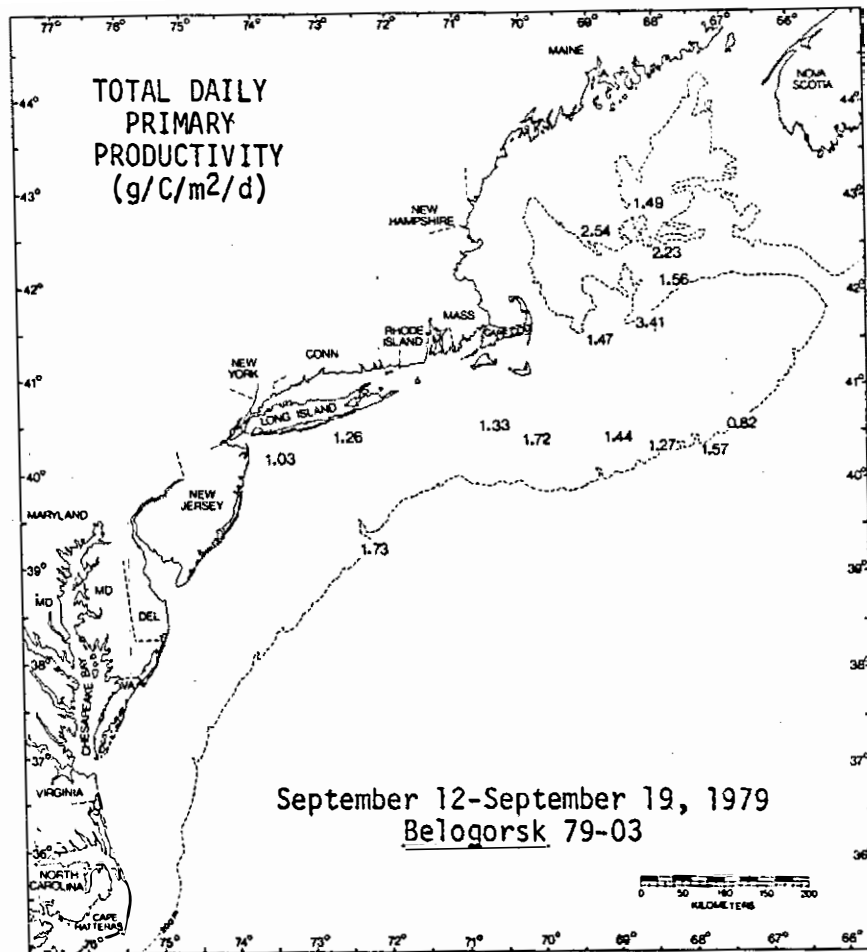
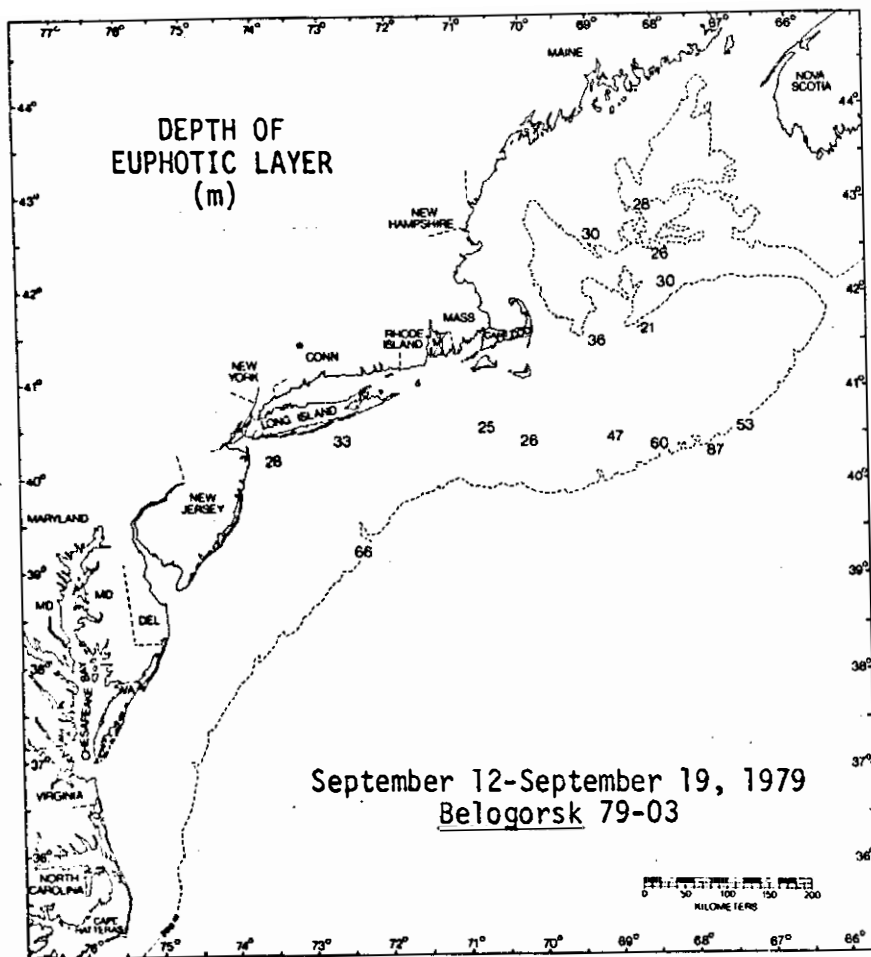
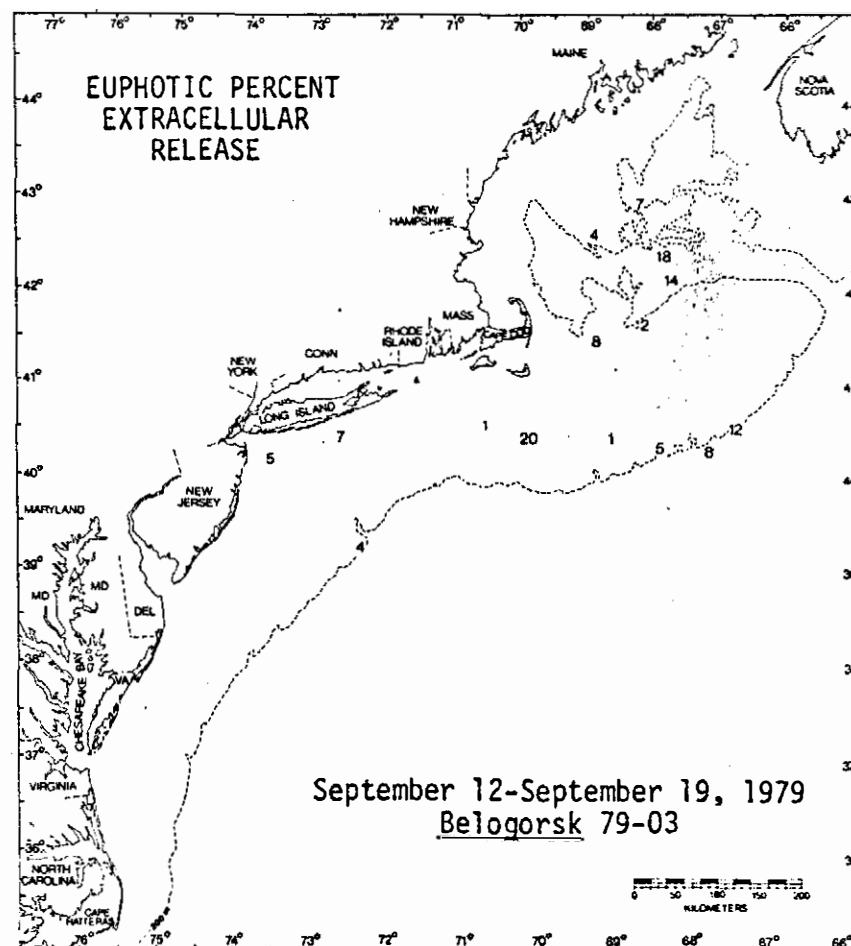
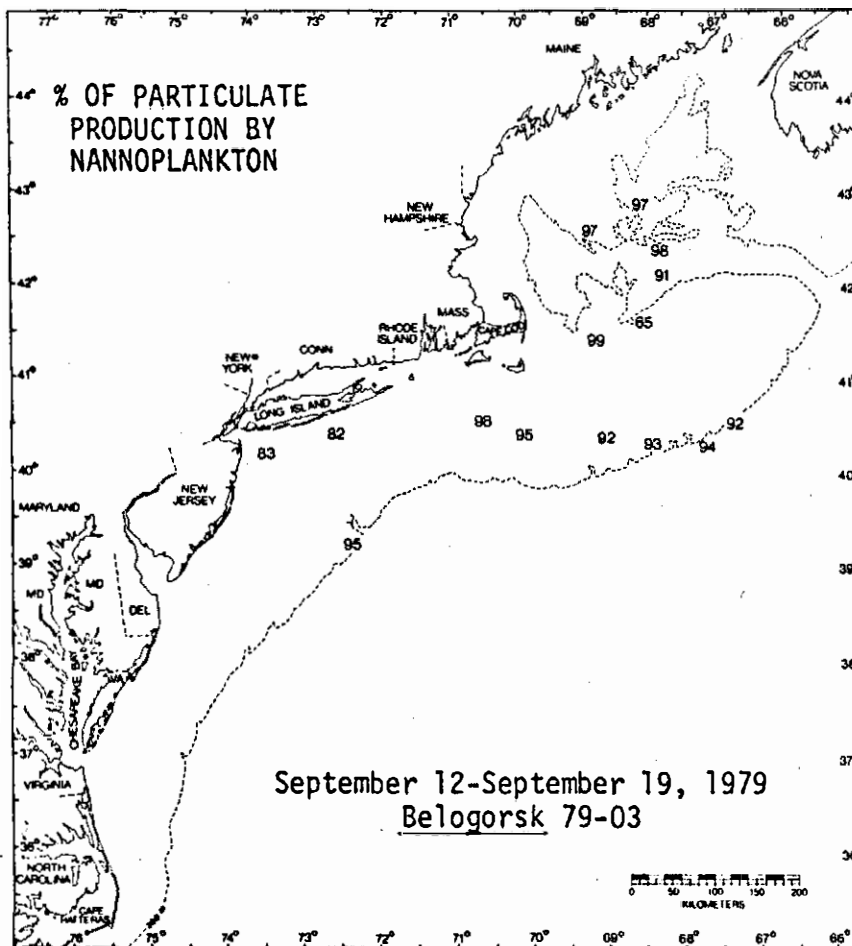
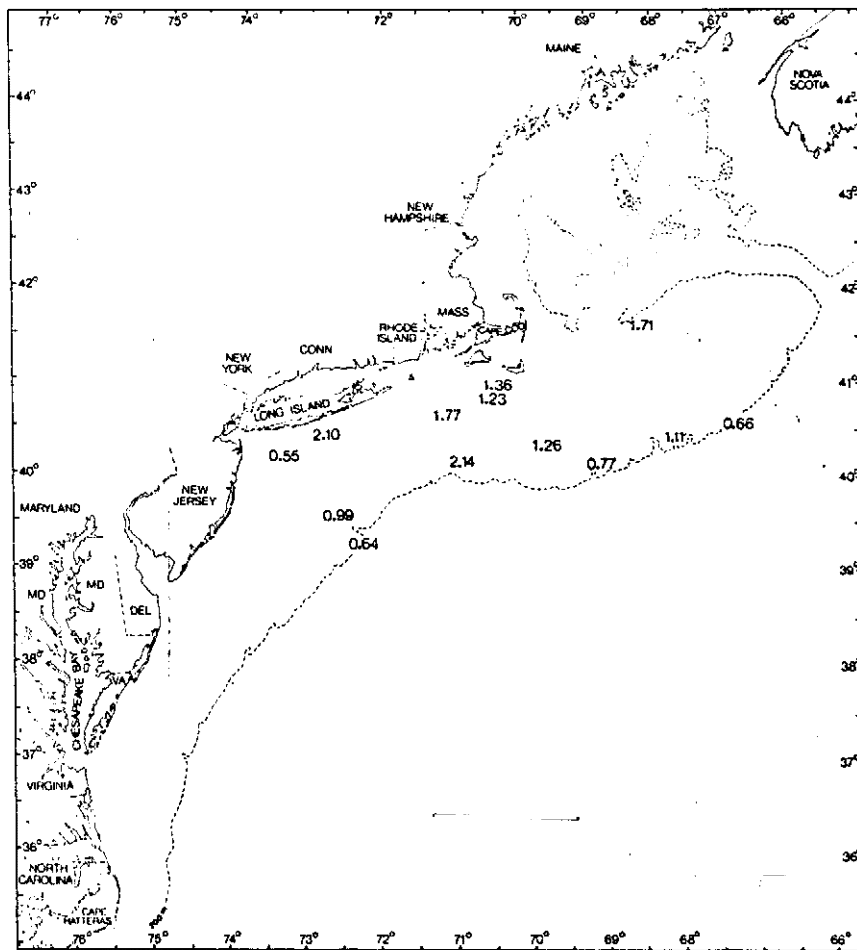
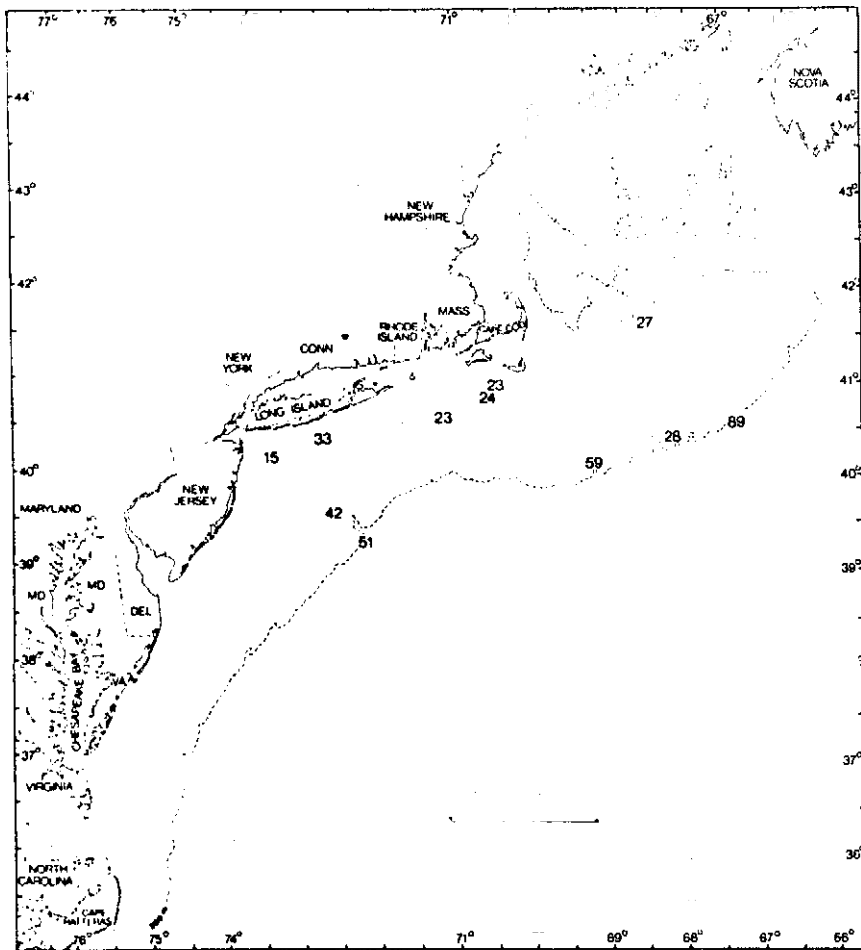


Figure 8.





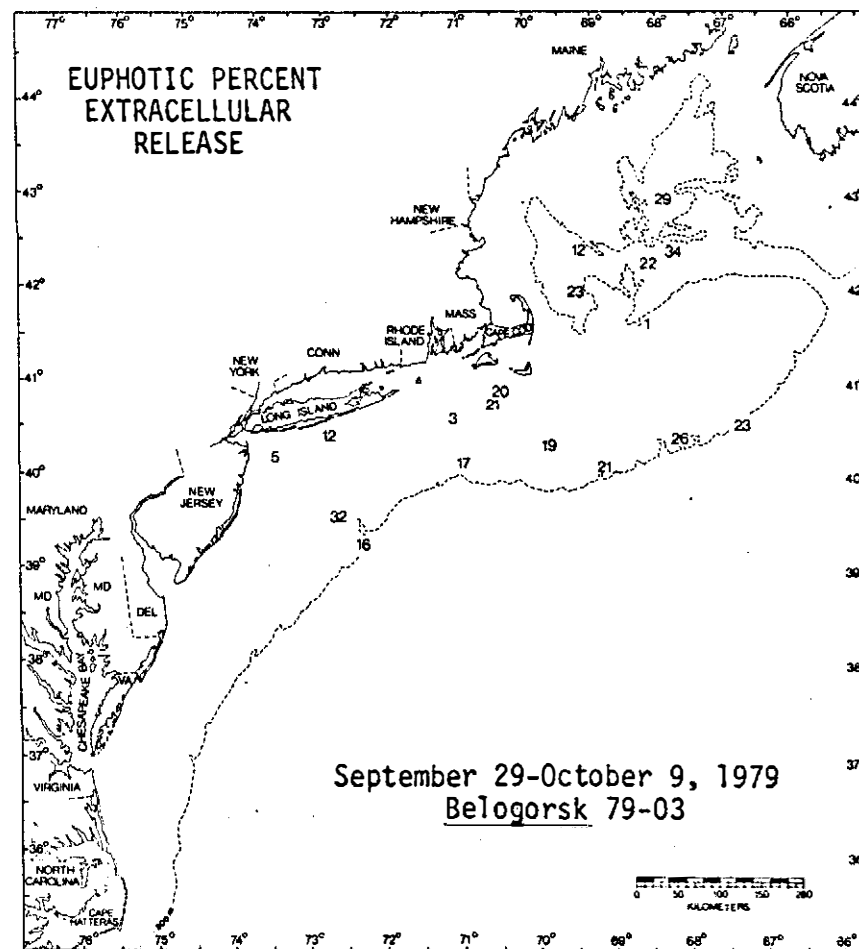
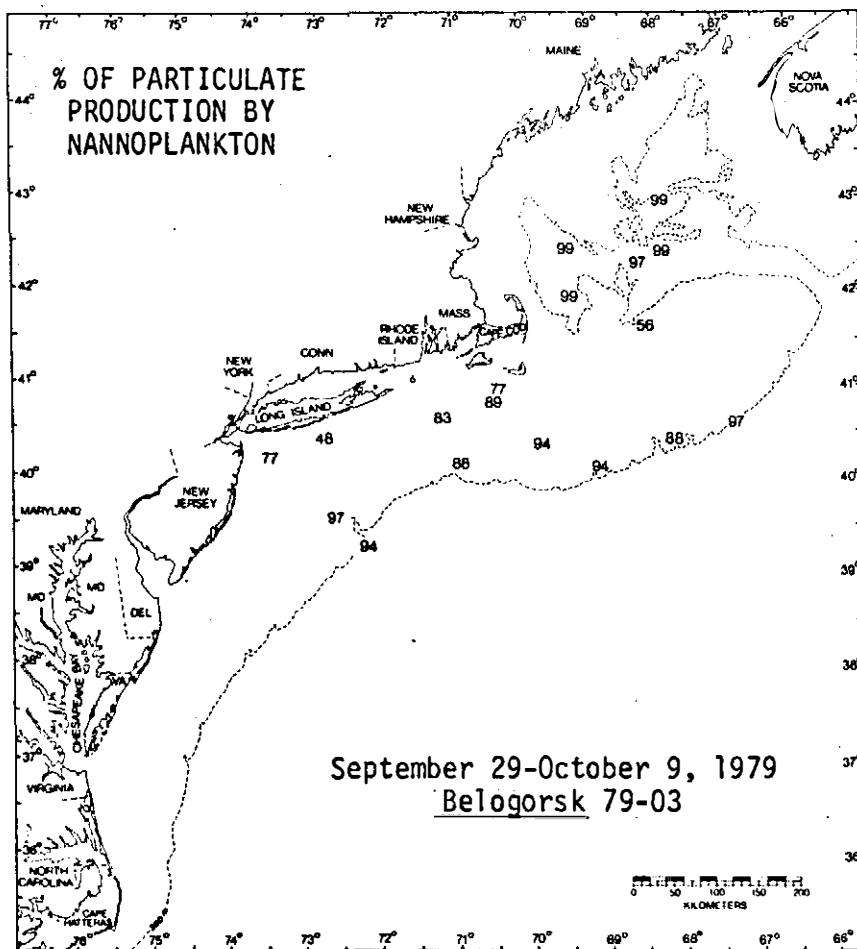


Figure 10.



Figure 11.

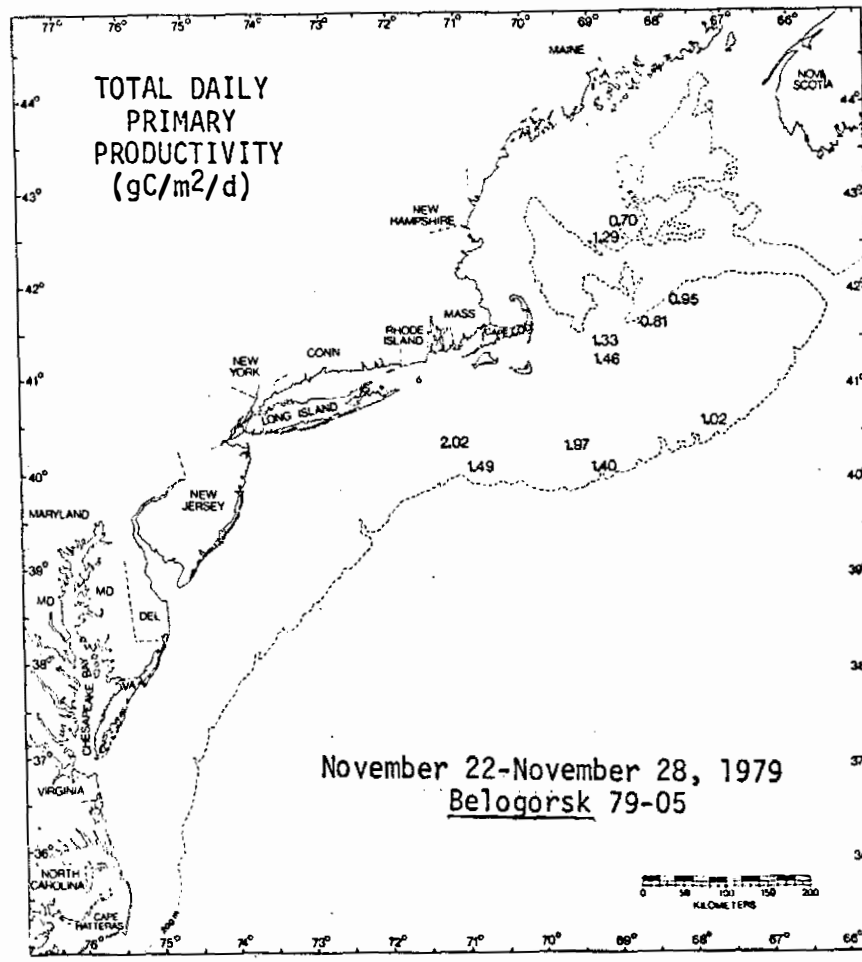
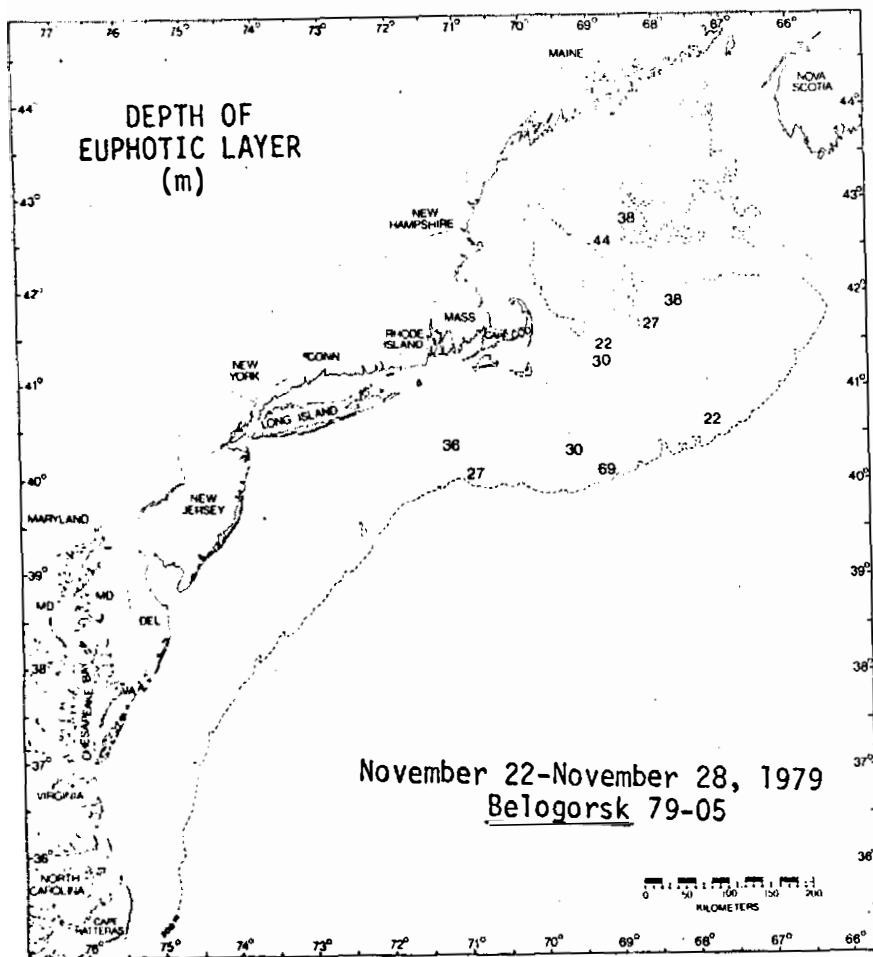


Figure 12.

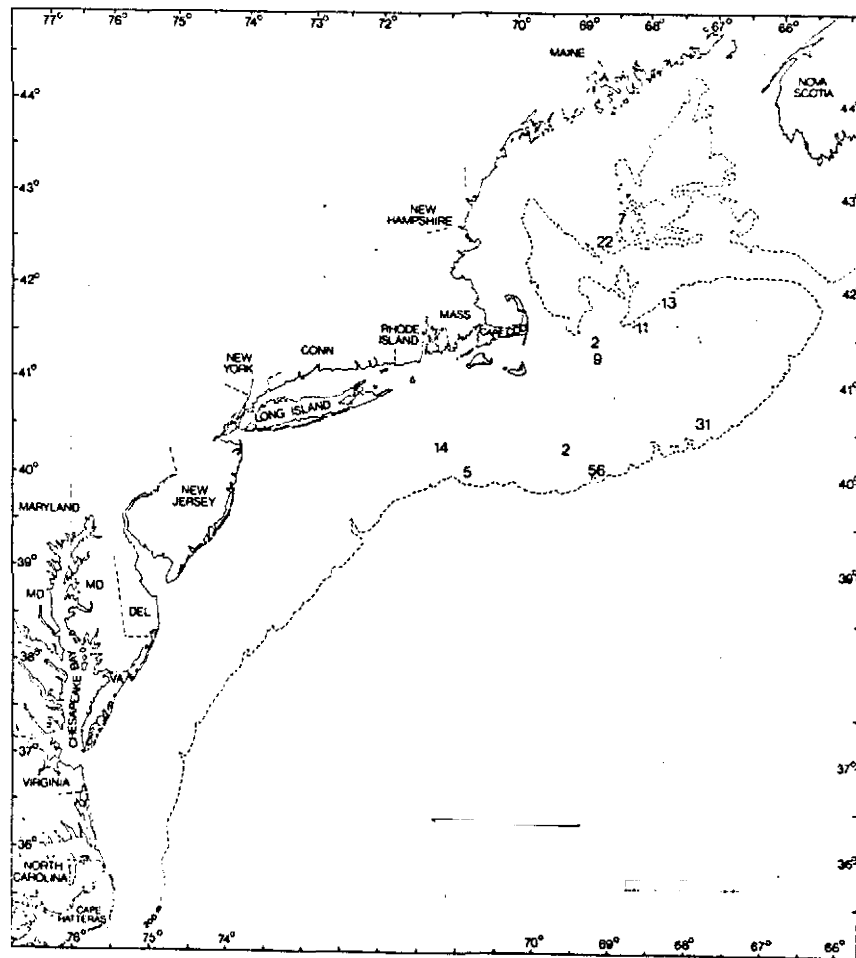
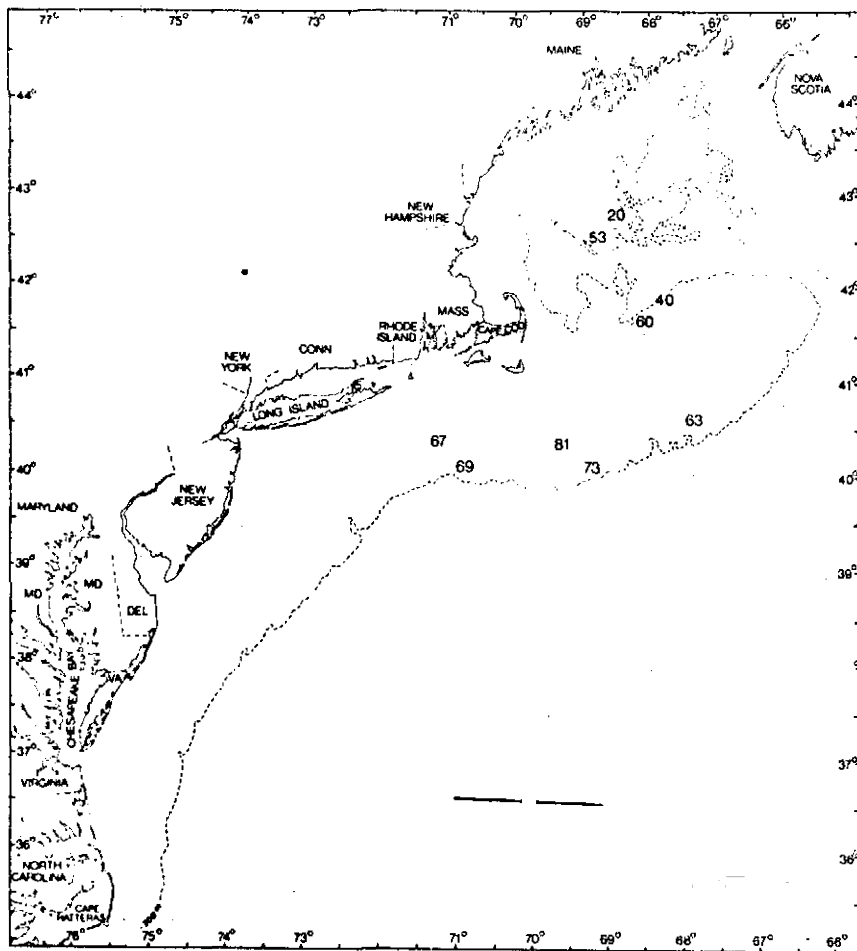


Table 1. Rates of primary productivity (mgC/m<sup>3</sup>/d) by station, depth, and size-fraction, Belogorsk 79-01.

		NET	NAN OR PPP	DEM	IMP	SUP	% NET	% NAN OR PPP	% DEM	NAN/NET	
7908120642	5	1AA1	40.30	7.81	0.68	0.0	54.79	64.50	14.25	1.24	0.17
7908120642	5	2001	69.96	11.94	0.46	0.0	62.36	84.94	14.50	0.56	0.17
7908120642	5	4001	27.45	15.03	3.35	0.0	85.83	78.59	17.51	3.90	0.22
7908120642	5	6001	56.22	19.42	4.51	0.0	80.15	70.14	24.23	5.63	0.35
7908120642	5	11EE1	48.10	7.35	3.26	0.0	58.71	81.93	12.52	5.55	0.15
7908120642	5	17FF1	25.15	3.41	2.06	0.0	30.62	82.14	11.14	6.73	0.14
7908120642	5	24GG1	7.04	1.33	0.60	0.0	6.97	78.48	14.83	6.09	0.19
7908121138	7	1AA1	108.57	36.03	16.01	0.0	161.21	67.35	22.72	9.93	0.34
7908121138	7	3001	113.92	32.03	19.66	0.0	165.81	66.71	19.32	11.98	0.28
7908121138	7	5001	91.82	26.35	19.60	0.0	139.53	65.71	20.27	14.02	0.31
7908121138	7	10001	40.83	20.35	15.62	0.0	76.60	53.16	26.50	20.14	0.50
7908121138	7	21EE1	10.52	11.51	1.35	0.0	11.38	59.02	36.66	4.30	0.62
7908121138	7	26FF1	13.78	8.65	2.00	0.0	25.03	55.05	34.50	10.39	0.63
7908121138	7	35GG1	4.99	2.94	0.59	0.0	8.52	58.57	34.51	6.92	0.59
7908130652	12	1AA1	242.21	50.03	7.61	0.0	285.85	84.73	12.60	2.66	0.15
7908130652	12	1001	247.84	57.08	8.80	0.0	353.72	81.36	16.14	2.49	0.20
7908130652	12	2001	310.44	70.11	9.03	0.0	389.58	79.09	18.00	2.32	0.23
7908130652	12	6001	260.69	52.33	0.0	0.0	313.02	83.28	16.72	0.0	0.20
7908130652	12	10FF1	208.64	58.86	3.94	0.0	271.46	76.86	21.69	1.45	0.28
7908130652	12	14FF1	33.51	7.59	1.08	0.0	42.16	79.45	17.99	2.56	0.23
7908130652	12	14GG1	9.05	2.47	0.17	0.0	11.69	77.42	21.13	1.45	0.27
7908131145	14	1AA1	77.60	30.44	0.47	0.0	108.71	71.57	28.00	0.43	0.39
7908131145	14	2001	156.76	25.04	3.84	0.0	186.24	84.17	13.77	2.06	0.16
7908131145	14	4001	174.06	54.27	9.73	0.0	238.66	73.18	22.74	4.08	0.31
7908131145	14	6001	162.70	67.52	11.77	0.0	241.99	67.23	27.90	4.86	0.41
7908131145	14	12EE1	195.21	50.04	3.93	0.0	249.16	78.34	20.08	1.58	0.26
7908131145	14	17FF1	74.39	12.12	1.72	0.0	88.23	84.31	13.74	1.95	0.16
7908131145	14	21GG1	20.41	2.90	0.0	0.0	25.31	87.56	12.44	0.0	0.14
7908140633	20	1AA1	68.49	36.54	4.23	0.0	109.26	62.69	33.44	3.87	0.53
7908140633	20	2001	95.26	45.64	9.11	0.0	150.01	63.50	30.42	6.07	0.48
7908140633	20	3001	104.96	60.05	12.60	0.0	197.61	53.11	40.51	6.38	0.76
7908140633	20	6001	93.54	62.49	17.07	0.0	193.10	48.44	42.72	8.84	0.88
7908140633	20	9EE1	63.66	48.34	2.97	0.0	114.97	55.37	42.05	2.58	0.76
7908140633	20	16FF1	34.86	10.66	1.30	0.0	52.82	66.00	31.54	2.46	0.48
7908140633	20	19GG1	9.43	5.51	0.34	0.0	15.28	61.71	36.06	2.23	0.58
7908141105	22	1AA1	322.52	113.54	9.73	0.0	445.79	72.35	25.47	2.18	0.35
7908141105	22	1001	534.44	195.69	15.64	0.0	745.77	71.66	26.24	2.10	0.37
7908141105	22	2001	601.16	339.25	16.39	0.0	956.80	62.83	35.46	1.71	0.56
7908141105	22	3001	472.25	346.76	26.60	0.0	845.83	55.83	41.00	3.17	0.73
7908141105	22	5EE1	295.15	217.64	7.61	0.0	520.40	56.72	41.82	1.46	0.74
7908141105	22	8FF1	63.56	71.10	2.63	0.0	137.29	46.30	51.79	1.92	1.12
7908141105	22	11GG1	26.32	16.52	0.63	0.0	43.47	60.55	38.00	1.45	0.63
7908150655	28	1AA1	136.11	25.83	4.98	0.0	168.92	81.76	15.29	2.95	0.19
7908150655	28	1001	294.08	66.69	16.59	0.0	377.56	77.69	17.72	4.39	0.23
7908150655	28	2001	462.89	82.71	17.51	0.0	503.11	80.08	16.44	3.48	0.21
7908150655	28	4001	363.40	160.60	31.11	0.0	495.31	73.37	20.35	6.26	0.28
7908150655	28	7EE1	230.55	66.04	6.98	0.0	305.57	75.45	22.27	2.26	0.30
7908150655	28	13FF1	47.74	12.92	1.93	0.0	62.59	76.27	20.64	3.08	0.27
7908150655	28	19GG1	10.07	3.13	0.43	0.0	13.63	73.86	22.96	3.15	0.31
7908151145	30	1AA2	263.70	39.25	15.28	0.0	258.23	78.88	15.20	5.92	0.19
7908151145	30	2001	288.95	65.86	14.57	0.0	369.36	78.23	17.83	3.94	0.23
7908151145	30	3001	351.44	104.49	62.41	0.0	518.34	67.80	20.16	12.04	0.30
7908151145	30	6001	307.39	91.12	47.00	0.0	445.51	69.00	20.45	10.55	0.30
7908151145	30	9EE1	150.69	53.13	6.40	0.0	212.22	71.01	25.04	3.96	0.35
7908151145	30	14FF1	23.86	8.74	0.51	0.0	33.11	72.06	26.40	1.54	0.37
7908151145	30	19GG1	13.38	6.43	0.31	0.0	20.12	66.50	31.96	1.54	0.48
7908160642	36	1AA2	2.47	9.61	0.0	0.0					
7908160642	36	4001	3.00	16.08	32.35	0.0	51.43	5.83	31.27	62.90	5.36

	NET	NAN LR PPP	DCM	TRP	SUM	% NET	% NAN LR PPP	% DCM	NAN/NET		
7908100042	30	6CC1	4.32	21.42	33.24	0.0	58.90	7.32	36.32	56.36	4.96
7908100042	36	11DD1	3.63	17.61	16.11	0.0	37.35	4.72	47.15	43.13	4.85
7908100042	36	21EE1	5.09	37.19	0.81	0.0	43.09	11.81	80.31	1.88	7.31
7908100042	36	35FF1	2.06	111.36	2.82	0.0	122.26	6.59	91.10	2.31	13.82
7908100042	36	44GG1	0.31	1.26	0.32	0.0	1.89	16.40	66.67	16.93	4.06
7908161205	38	1AA1	5.26	7.92	0.0	0.0	13.16	39.91	60.69	0.0	1.51
7908161205	38	4881	12.00	19.00	1.25	0.0	32.25	37.21	50.91	3.88	1.58
7908161205	38	7CC1	11.83	26.95	3.48	0.0	44.26	26.73	65.41	7.86	2.45
7908161205	36	12DD1	42.25	29.70	3.19	0.0	75.14	50.23	34.53	4.25	0.70
7908161205	38	19EE1	41.64	55.52	3.76	0.0	100.92	41.26	54.01	3.73	1.33
7908161205	38	25FF1	79.64	31.22	3.58	0.0	114.44	69.59	27.28	3.13	0.39
7908161205	38	30GG1	20.70	8.49	0.03	0.0	35.22	75.81	24.11	0.09	0.32
7908170640	44	1AA1	5.94	0.41	1.27	0.0	13.62	43.61	47.06	9.32	1.08
7908170640	44	28B1	16.77	16.90	3.57	0.0	37.24	45.03	45.38	9.59	1.01
7908170640	44	4CC1	20.17	18.93	3.92	0.0	43.02	46.89	44.00	9.11	0.94
7908170640	44	6DD1	11.16	10.78	3.48	0.0	25.42	43.90	42.41	13.69	0.97
7908170640	44	16EE1	13.36	14.07	0.95	0.0	28.76	46.42	50.28	3.30	1.08
7908170640	44	27FF1	1.74	33.57	1.34	0.0	36.65	4.75	91.60	3.66	19.29
7908170640	44	37GG1	0.55	0.81	0.43	0.0	7.79	7.06	67.42	5.52	12.38
7908171110	45	1AA1	14.73	15.20	0.20	0.0	30.13	48.89	50.45	0.66	1.03
7908171110	45	28B1	20.58	22.55	4.09	0.0	47.22	43.58	47.76	8.66	1.10
7908171110	45	4CC1	23.88	28.60	3.00	0.0	55.54	43.00	51.60	5.40	1.20
7908171110	45	11DD1	36.51	22.96	4.76	0.0	56.23	52.40	39.43	8.17	0.75
7908171110	45	19EE1	1.68	31.91	3.38	0.0	36.97	4.54	66.31	9.14	18.99
7908171110	45	29FF1	3.13	11.75	2.16	0.0	17.04	16.37	66.96	12.68	3.75
7908171110	45	37GG1	3.22	8.03	0.40	0.0	11.65	27.64	60.93	3.43	2.49
7908180637	51	1AA1	643.00	135.29	4.61	0.0	783.10	82.11	17.28	0.61	0.21
7908180637	51	18B1	608.44	154.30	6.93	0.0	769.67	79.05	20.05	0.90	0.25
7908180637	51	2CC1	560.21	150.40	3.84	0.0	720.45	77.76	21.71	0.53	0.28
7908180637	51	3DD1	307.20	165.64	8.61	0.0	421.45	72.89	25.07	2.04	0.34
7908180637	51	5EE1	147.17	40.88	2.88	0.0	190.93	77.06	21.41	1.51	0.28
7908180637	51	6FF1	21.77	6.38	0.80	0.0	28.95	75.20	22.04	2.76	0.29
7908180637	51	11GG1	7.28	2.30	0.26	0.0	9.84	73.98	23.37	2.64	0.32
7908181133	53	1AA1	37.75	52.73	58.03	0.0	148.51	25.42	35.51	39.07	1.40
7908181133	53	28B1	23.46	60.36	59.49	0.0	149.31	15.71	44.44	39.84	2.63
7908181133	53	3CC1	22.26	54.04	54.62	0.0	130.92	17.00	41.28	41.72	2.43
7908181133	53	7DD1	10.73	11.21	26.07	0.0	66.01	15.78	45.69	38.33	2.91
7908181133	53	14EE1	3.87	13.76	3.08	0.0	20.71	18.69	66.44	14.87	3.56
7908181133	53	23FF1	2.56	2.70	0.51	0.0	5.85	43.76	47.52	8.72	1.09
7908181133	53	27GG1	2.30	1.03	0.33	0.0	3.66	62.84	28.14	9.02	0.45
7908190715	61	1AA1	4.21	11.62	7.41	0.0	23.24	18.12	50.00	31.88	2.76
7908190715	61	38B1	5.42	23.24	7.74	0.0	36.40	14.89	63.85	21.26	4.29
7908190715	61	5CC1	5.91	24.70	6.16	0.0	36.77	16.07	67.17	16.75	4.18
7908190715	61	15DD1	1.32	7.30	1.66	0.0	10.26	12.84	71.01	16.15	5.53
7908190715	61	31EE1	0.70	10.99	0.38	0.0	12.07	5.80	91.05	3.15	15.70
7908190715	61	45FF1	0.66	45.13	1.06	0.0	46.85	1.41	96.33	2.26	68.38
7908190715	61	55GG1	0.27	8.79	0.0	0.0	9.06	2.98	97.02	0.0	32.56
7908191139	62	1AA1	4.26	36.66	0.0	0.0	42.92	9.93	90.07	0.0	9.08
7908191139	62	38B1	5.81	44.07	0.0	0.0	49.88	11.65	88.35	0.0	7.59
7908191139	62	7CC1	5.14	58.97	0.0	0.0	64.11	8.02	91.98	0.0	11.47
7908191139	62	13DD1	3.40	43.87	1.35	0.0	46.62	6.99	90.23	2.78	12.90
7908191139	62	21EE1	2.01	100.29	3.49	0.0	106.39	2.45	94.27	3.28	38.43
7908191139	62	27FF1	2.55	36.80	1.94	0.0	43.09	5.45	90.04	4.50	16.51
7908191139	62	34GG1	0.39	3.91	0.36	0.0	4.68	8.33	83.55	8.12	10.03
7908200644	66	1AA1	12.43	21.18	0.0	0.0	33.61	30.96	63.02	0.0	1.70
7908200644	66	28B1	13.07	10.57	0.0	0.0	30.24	45.21	54.79	0.0	1.21
7908200644	66	5CC1	17.01	17.35	0.0	0.0	35.16	50.65	49.35	0.0	0.97
7908200644	66	16DD1	22.13	19.43	2.99	0.0	44.55	49.67	43.01	6.71	0.86

		NET	KAR CR PPP	DCM	TRF	SUM	% NET	% KAR CR PPP	% DCM	NAN/NET	
7908200644	66	182E1	53.09	104.43	3.01	0.0	160.53	33.07	65.05	1.88	1.97
7908200644	66	29FF1	2.27	10.49	0.97	0.0	19.73	11.51	83.58	4.92	7.26
7908200644	66	41GG1	0.81	3.28	0.22	0.0	4.11	14.64	79.81	5.35	5.38
7908201110	67	1AA1	29.21	31.76	0.85	0.0	61.82	47.25	51.37	1.37	1.09
7908201110	67	28B1	39.77	47.07	2.15	0.0	88.44	44.69	52.89	2.42	1.18
7908201110	67	3CC1	47.33	53.86	2.27	0.0	103.46	45.75	52.06	2.19	1.14
7908201110	67	6001	44.27	56.96	4.34	0.0	105.57	44.93	53.95	4.11	1.29
7908201110	67	12EE1	42.70	50.08	1.60	0.0	102.38	41.71	56.73	1.56	1.36
7908201110	67	20FF1	3.22	13.38	0.36	0.0	16.96	18.99	76.89	2.12	4.16
7908201110	67	26GG1	0.96	3.29	0.03	0.0	4.26	22.43	76.87	0.70	3.43
7908220714	76	1AA1	1.02	4.27	1.62	0.0	7.11	14.35	60.06	25.60	4.19
7908220714	76	28B1	1.41	6.47	4.47	0.0	14.35	9.83	59.02	31.15	6.01
7908220714	76	5CC1	1.59	11.07	4.73	0.0	17.99	8.84	64.87	26.29	7.34
7908220714	76	15CC1	1.11	9.76	7.09	0.0	17.96	6.18	54.34	39.48	8.79
7908220714	76	31FF1	12.16	76.84	22.01	0.0	111.01	10.95	69.22	19.83	6.32
7908220714	76	41FF1	1.81	8.49	2.05	0.0	12.95	13.96	65.56	20.46	4.69
7908220714	76	57GG1	0.25	0.44	0.31	0.0	1.00	25.00	44.00	31.00	1.76
7908221145	77	1AA1	1.26	15.08	1.55	0.0	17.89	7.04	84.29	8.66	11.97
7908221145	77	46B1	1.35	21.47	2.01	0.0	24.83	5.44	86.47	8.10	15.90
7908221145	77	8CC1	1.27	11.88	1.51	0.0	14.66	8.66	81.04	10.30	9.35
7908221145	77	15CC1	1.38	28.63	2.74	0.0	24.75	5.58	63.35	11.07	14.95
7908221145	77	25EE1	0.85	23.11	1.52	0.0	25.48	3.34	40.70	5.97	27.19
7908221145	77	3eFF1	0.17	11.62	0.65	0.0	12.44	1.37	93.41	5.23	68.35
7908221145	77	50GG1	0.06	5.39	0.01	0.0	5.40	1.10	98.72	0.18	89.83
7908230614	85	1AA1	0.89	40.30	0.76	0.0	41.95	2.12	96.07	1.81	45.28
7908230614	85	28B1	1.74	58.30	1.80	0.0	61.84	2.81	94.28	2.91	33.51
7908230614	85	4CC1	1.27	64.82	0.96	0.0	67.05	1.89	96.67	1.43	51.04
7908230614	85	7501	1.59	62.97	3.88	0.0	68.44	2.32	92.01	5.67	39.60
7908230614	85	14EE1	3.58	75.01	1.91	0.0	80.50	4.45	93.18	2.37	20.95
7908230614	85	23FF1	12.90	21.84	1.05	0.0	35.79	36.04	61.02	2.93	1.65
7908230614	85	31GG1	1.73	1.48	0.11	0.0	3.32	52.11	44.58	3.31	0.81
7908231105	86	1AA1	3.81	3.70	0.0	0.0	7.51	50.73	49.27	0.0	0.9
7908231105	86	28B1	14.13	25.74	0.0	0.0	39.87	35.44	64.56	0.0	1.8
7908231105	86	4CC1	16.86	47.60	3.28	0.0	69.74	27.00	68.25	4.70	2.5
7908231105	86	6001	24.40	79.22	1.93	0.0	105.55	23.12	75.05	1.83	3.2
7908231105	86	11EE1	21.35	66.85	4.05	0.0	92.25	23.14	72.47	4.39	3.1
7908231105	86	19FF1	5.47	23.65	0.85	0.0	30.17	18.13	79.05	2.82	4.3
7908231105	86	25GG1	1.89	9.83	0.15	0.0	11.87	15.92	82.81	1.26	5.2
7908240628	91	1AA1	1.00	26.24	6.60	0.0	29.64	3.35	44.64	2.01	28.2
7908240628	91	3eB1	1.60	44.16	3.67	0.0	49.43	3.24	89.34	7.42	27.1
7908240628	91	5CC1	2.52	55.99	4.72	0.0	63.23	3.99	88.55	7.46	22.1
7908240628	91	10001	4.22	56.35	7.31	0.0	67.86	6.22	83.01	10.77	13.1
7908240628	91	16EE1	1.03	50.99	1.31	0.0	53.93	3.02	94.55	2.43	31.1
7908240628	91	25FF1	1.16	47.22	0.98	0.0	49.36	2.35	95.66	1.99	40.1
7908240628	91	31GG1	0.82	12.90	0.0	0.0	13.72	5.98	94.02	0.0	15.1
7908241110	93	1AA1	2.43	35.10	0.0	0.0	37.53	6.47	93.53	0.0	14.1
7908241110	93	28B1	3.37	86.47	0.0	0.0	69.84	4.83	95.17	0.0	19.1
7908241110	93	5CC1	4.53	84.02	0.0	0.0	88.55	5.12	94.88	0.0	18.1
7908241110	93	9CC1	7.01	121.28	4.88	0.0	133.17	5.26	91.07	3.66	17.1
7908241110	93	13EE1	7.01	158.29	0.19	0.0	166.09	4.58	95.30	0.11	20.1
7908241110	93	20FF1	6.65	79.64	1.62	0.0	88.31	7.76	90.18	2.06	11.1
7908241110	93	26GG1	3.95	17.29	0.0	0.0	21.24	18.60	81.40	0.0	4.1
7908250620	94	1AA1	0.48	9.06	1.31	0.0	10.85	4.42	83.50	12.07	18.1
7908250620	94	28B1	0.79	22.81	6.00	0.0	29.60	2.67	77.06	20.27	28.1
7908250620	94	4CC1	0.70	31.03	7.47	0.0	39.20	1.79	79.16	19.06	44.1
7908250620	94	7001	0.84	37.72	8.85	0.0	47.41	1.77	79.56	18.67	44.1
7908250620	94	12EE1	17.94	44.38	1.56	0.0	63.86	28.08	69.47	2.44	2.1
7908250620	94	19FF1	22.00	36.35	1.26	0.0	59.61	36.91	60.98	2.11	1.1

	REF	KAN	CR	PPP	DCM	TPP	SUM	% NET	% KAN	CR	PPP	% DCM	NAN/NET
7908250620	99	25GG1			9.65	12.85	0.0	22.50	42.89	57.11	0.0	1.33	
7908251100101	1A21				1.42	18.45	2.38	0.0	20.25	7.01	81.23	11.75	11.58
7908251100101	2801				0.09	27.60	11.51	0.0	39.60	1.74	69.70	28.56	40.00
7908251100101	5CC1				0.67	55.19	9.36	0.0	45.24	1.48	77.79	20.73	52.52
7908251100101	10001				0.59	30.15	11.53	0.0	42.27	1.40	71.33	27.28	51.10
7908251100101	16EE1				2.30	47.52	0.59	0.0	50.41	4.56	94.27	1.17	20.66
7908251100101	24FF1				2.37	28.24	0.0	0.0	30.61	7.74	92.26	0.0	11.92
7908251100101	32GG1				2.52	32.38	0.0	0.0	34.90	7.22	92.78	0.0	12.85
7908260637107	1AA1				0.38	27.15	2.95	0.0	30.46	1.25	89.07	9.68	71.45
7908260637107	2HB1				0.55	29.49	2.00	0.0	32.70	1.68	90.18	8.13	53.62
7908260637107	5CC1				1.02	52.07	6.60	0.0	59.69	1.71	87.23	11.06	51.05
7908260637107	9CC1				0.75	46.96	4.51	0.0	52.22	1.44	89.93	8.64	62.61
7908260637107	17EE1				0.84	36.70	2.06	0.0	39.61	2.12	92.68	5.20	43.69
7908260637107	26FF1				0.56	15.27	0.0	0.0	15.83	3.54	90.46	0.0	27.27
7908260637107	35GG1				0.60	15.03	0.0	0.0	15.83	5.05	44.95	0.0	18.79
7908261105108	1AA1				1.13	48.53	0.0	0.0	49.66	2.28	97.72	0.0	42.95
7908261105108	38B1				1.07	66.47	5.86	0.0	73.40	1.46	90.56	7.98	62.12
7908261105108	6CC1				0.91	63.43	10.47	0.0	74.61	1.22	84.79	14.00	69.70
7908261105108	11001				0.10	74.27	4.02	0.0	78.39	0.13	94.74	5.13	742.70
7908261105108	17EE1				1.25	60.43	0.29	0.0	61.97	2.02	97.51	0.47	48.34
7908261105108	26FF1				1.66	47.51	1.31	0.0	50.46	3.29	94.12	2.60	28.62
7908261105108	34GG1				1.25	8.72	0.0	0.0	9.97	12.54	87.46	0.0	6.98
7908270605113	1AA1				0.59	70.72	2.64	0.0	73.95	0.80	95.63	3.57	119.80
7908270605113	2EB1				1.14	86.60	4.94	0.0	92.60	1.23	93.44	5.33	75.96
7908270605113	4CC1				1.39	49.11	9.03	0.0	109.53	1.27	90.49	8.24	71.30
7908270605113	9CC1				1.76	73.71	7.41	0.0	82.86	2.12	88.94	8.94	41.88
7908270605113	16EE1				2.43	66.69	1.52	0.0	70.64	3.44	94.41	2.15	27.44
7908270605113	26FF1				2.72	13.77	0.57	0.0	17.00	15.94	80.72	3.34	5.06
7908270605113	36GG1				0.51	0.60	0.23	0.0	1.34	38.06	44.78	17.16	1.18
7908271057114	1AA1				44.44	50.13	0.0	0.0	94.57	46.99	53.01	0.0	1.13
7908271057114	2HB1				79.63	84.35	7.57	0.0	171.55	46.42	49.17	4.41	1.06
7908271057114	3CC1				102.83	99.93	6.95	0.0	209.71	49.03	47.65	3.31	0.97
7908271057114	6CC1				80.02	102.54	3.66	0.0	186.22	42.97	55.06	1.97	1.28
7908271057114	9EE1				46.67	56.13	1.60	0.0	104.40	44.70	53.76	1.53	1.20
7908271057114	14FF1				13.06	13.59	0.88	0.0	27.55	47.48	49.33	3.19	1.04
7908271057114	22GG1				4.80	5.13	0.0	0.0	9.93	46.34	51.66	0.0	1.07
7908280558119	1AA1				1.88	56.54	5.51	0.0	63.93	2.94	86.44	8.62	30.07
7908280558119	2BB1				1.39	60.15	13.53	0.0	75.07	1.85	80.13	18.02	43.27
7908280558119	4CC1				1.78	79.38	10.07	0.0	91.23	1.95	87.01	11.04	44.60
7908280558119	9CC1				1.84	61.55	15.97	0.0	99.36	1.65	82.06	16.07	44.32
7908280558119	17EE1				1.86	165.44	3.13	0.0	110.43	1.68	95.48	2.83	56.69
7908280558119	25FF1				0.66	64.60	1.67	0.0	66.93	0.76	97.32	1.92	128.18
7908280558119	33GG1				0.08	10.81	0.68	0.0	11.57	0.69	93.43	5.68	135.13
7908281113120	1AA1				0.46	20.17	1.00	0.0	21.63	2.13	43.25	4.62	43.65
7908281113120	2BB1				0.50	36.19	9.46	0.0	46.09	1.08	78.52	20.39	72.38
7908281113120	5CC1				0.91	51.40	16.85	0.0	69.16	1.32	74.32	24.36	56.48
7908281113120	8CC1				1.00	61.51	23.53	0.0	86.94	1.16	71.49	27.35	61.51
7908281113120	14EE1				0.94	72.16	6.44	0.0	79.54	1.18	90.72	8.10	76.77
7908281113120	21FF1				0.94	49.19	6.90	0.0	107.03	0.88	92.67	6.45	105.52
7908281113120	27GG1				0.23	14.84	2.22	0.0	17.29	1.33	85.83	12.64	64.52
7908290610124	1AA1				61.74	58.65	11.81	0.0	132.20	46.70	44.36	8.93	0.95
7908290610124	2BB1				56.39	63.64	15.43	0.0	135.60	41.57	47.06	11.37	1.13
7908290610124	3CC1				48.31	83.85	8.56	0.0	140.72	34.33	54.59	6.48	1.74
7908290610124	6CC1				40.44	41.71	12.26	0.0	144.41	28.00	63.51	8.49	2.27
7908290610124	9EE1				20.71	58.68	2.43	0.0	81.82	25.31	71.72	2.97	2.83
7908290610124	14FF1				5.64	16.54	0.85	0.0	23.03	24.49	71.82	3.69	2.93
7908290610124	19GG1				3.84	6.77	0.0	0.0	12.61	30.45	69.55	0.0	2.28
7908291110125	1AA1				13.75	50.82	19.65	0.0	86.22	18.27	58.94	22.79	3.23

	NET	NAN CR PPP	DUM	TRP	SUM	% NET	% NAN CR PPP	% DUM	NAN/NET	
7908291110126	24B1	14.64	58.74	19.46	0.0	92.84	15.77	63.27	20.96	4.03
7908291110126	4CC1	13.04	57.78	13.86	0.0	24.68	15.40	68.23	16.37	4.43
7908291110126	6CC1	11.69	55.71	15.07	0.0	82.47	14.17	67.55	18.27	4.77
7908291110126	11EE1	9.22	40.18	0.0	0.0	49.40	18.66	81.34	0.0	4.36
7908291110126	17FF1	20.45	22.82	0.0	0.0	43.27	47.26	52.74	0.0	1.12
7908291110126	22GG1	14.63	4.05	0.0	0.0	18.68	78.32	21.68	0.0	0.28
7908300623131	1AA1	0.52	63.10	0.74	0.0	64.36	0.81	98.04	1.15	121.35
7908300623131	2EH1	0.63	93.58	2.62	0.0	96.83	0.65	96.64	2.71	146.54
7908300623131	6CC1	0.50	106.99	4.78	0.0	112.27	0.45	95.30	4.26	213.98
7908300623131	10DD1	0.86	118.25	10.58	0.0	129.09	0.66	91.18	8.16	137.50
7908300623131	17EE1	1.33	129.92	1.81	0.0	132.86	1.00	97.79	1.21	97.68
7908300623131	26FF1	0.63	47.54	0.71	0.0	48.88	1.29	97.26	1.45	75.46
7908300623131	34GG1	0.19	6.53	0.06	0.0	6.78	2.80	96.31	0.68	34.37
7908301113133	1AA1	0.31	16.17	0.0	0.0	16.48	1.68	98.32	0.0	58.61
7908301113133	2EH1	0.67	35.99	0.0	0.0	36.66	1.83	98.17	0.0	53.72
7908301113133	4CC1	0.40	56.20	3.85	0.0	60.45	0.66	92.97	6.37	140.50
7908301113133	8DD1	1.18	53.07	6.04	0.0	60.29	1.96	88.02	10.02	44.97
7908301113133	13EE1	0.67	70.80	4.77	0.0	76.24	0.88	92.86	6.26	105.67
7908301113133	20FF1	0.42	29.66	1.47	0.0	31.55	1.33	94.01	4.66	70.62
7908301113133	29GG1	0.13	5.94	0.0	0.0	6.07	2.14	97.86	0.0	45.69
7908310618138	1AA1	0.55	14.03	0.0	0.0	14.58	3.77	96.23	0.0	25.51
7908310618138	2EH1	0.69	38.77	6.68	0.0	46.14	1.50	84.03	14.48	56.19
7908310618138	3CC1	1.12	46.85	4.45	0.0	52.42	2.14	89.37	8.49	41.63
7908310618138	8DD1	1.32	50.91	5.00	0.0	57.23	2.31	88.96	8.74	38.57
7908310618138	11EE1	4.13	47.67	0.0	0.0	51.80	7.97	92.03	0.0	11.54
7908310618138	18FF1	41.96	128.06	14.15	0.0	184.17	22.78	69.53	7.68	3.05
7908310618138	25GG1	8.21	14.19	0.0	0.0	22.40	36.65	63.35	0.0	1.73
7908311113140	1AA1	0.0	12.16	0.0	0.0	12.16	0.0	100.00	0.0	0.0
7908311113140	2EH1	1.15	32.91	3.83	0.0	37.89	3.04	86.66	10.11	28.62
7908311113140	4CC1	16.72	51.58	6.77	0.0	74.87	22.33	68.63	9.04	3.07
7908311113140	7DD1	100.89	69.79	11.93	0.0	182.61	55.25	38.22	6.53	0.69
7908311113140	11EE1	304.10	72.96	11.61	0.0	388.67	78.24	18.77	2.99	0.24
7908311113140	17FF1	37.69	16.59	1.11	0.0	55.39	66.04	29.95	2.00	0.44
7908311113140	23GG1	15.99	8.51	0.0	0.0	24.50	65.27	34.73	0.0	0.53
7909010615145	1AA1	0.13	29.58	0.0	0.0	29.71	0.44	99.56	0.0	227.54
7909010615145	2EH1	0.30	59.61	1.20	0.0	61.11	0.49	97.55	1.96	198.70
7909010615145	4CC1	0.74	74.76	4.47	0.0	79.91	0.93	93.48	5.59	100.95
7909010615145	7DD1	1.36	72.36	26.29	0.0	102.01	1.53	70.93	27.73	53.21
7909010615145	13EE1	0.68	83.11	6.31	0.0	92.10	0.74	90.24	9.02	122.22
7909010615145	20FF1	0.31	77.71	1.67	0.0	79.69	0.39	97.52	2.10	250.68
7909010615145	27GG1	0.46	9.53	0.0	0.0	9.99	4.60	95.40	0.0	20.72
7909011103147	1AA1	4.47	14.27	0.0	0.0	18.74	23.85	76.15	0.0	3.19
7909011103147	3EH1	5.66	34.23	3.03	0.0	42.92	13.19	79.75	7.06	6.05
7909011103147	5CC1	7.66	39.04	5.68	0.0	52.38	14.02	74.53	10.84	5.10
7909011103147	9DD1	7.31	41.11	7.75	0.0	56.17	13.01	73.19	13.80	5.62
7909011103147	14EE1	8.91	49.14	1.06	0.0	59.11	15.07	83.13	1.79	5.52
7909011103147	21FF1	10.95	36.65	1.38	0.0	50.98	21.48	75.81	2.71	3.53
7909011103147	28GG1	6.09	7.97	0.76	0.0	14.82	41.09	53.78	5.13	1.31



Table 2. Rates of primary productivity (mgC/m<sup>3</sup>/d) by station, depth, and size fraction, Belogorsk 79-03.

	NET	LAN LR PPP	DCM	IFP	SUM	% NET	% LAN LR PPP	% DCM	NAN/NET		
7909120017	1	1AA1	0.75	15.30	10.71	0.0	20.70	2.80	57.17	40.02	20.40
7909120017	1	1BB1	1.34	57.99	23.85	0.0	83.10	1.01	69.72	28.07	43.28
7909120017	1	3CC1	2.31	116.55	43.06	0.0	161.92	1.43	71.98	26.59	50.45
7909120017	1	5001	2.54	137.41	49.55	0.0	169.30	1.24	72.59	26.18	58.72
7909120017	1	11EE1	1.98	104.88	4.75	0.0	116.61	1.70	89.94	8.36	52.97
7909120017	1	19FF1	0.31	22.57	1.92	0.0	24.80	1.25	91.01	7.74	72.81
7909120017	1	25001	0.17	0.00	0.16	0.0	6.35	2.04	95.81	2.16	47.00
7909121120	2	1AA1	1.76	15.43	0.0	0.0	17.19	10.24	89.76	0.0	8.77
7909121120	2	3BB1	2.49	42.65	1.07	0.0	47.01	5.30	91.15	3.55	17.21
7909121120	2	5CC1	2.21	50.10	10.01	0.0	74.92	2.95	74.88	22.17	25.38
7909121120	2	9001	6.14	63.38	19.77	0.0	89.29	0.88	70.96	22.14	10.32
7909121120	2	14EE1	9.75	80.51	4.97	0.0	100.23	9.73	80.33	9.95	8.26
7909121120	2	16FF1	2.40	30.05	2.12	0.0	34.57	0.94	86.93	6.13	12.52
7909121120	2	29001	1.46	5.32	1.23	0.0	8.01	18.23	66.42	15.36	3.64
7909130020	5	1AA1	0.92	5.89	0.50	0.0	7.39	12.45	79.70	7.85	6.40
7909130020	5	3BB1	1.01	9.96	3.24	0.0	14.21	7.11	70.09	22.80	9.66
7909130020	5	6CC1	0.91	11.32	3.22	0.0	15.45	5.89	73.27	15.84	12.44
7909130020	5	12001	1.80	13.70	5.64	0.0	21.22	8.48	64.44	26.58	7.66
7909130020	5	23EE1	1.02	9.55	0.45	0.0	11.02	4.26	86.66	4.08	9.36
7909130020	5	37FF1	0.92	18.83	1.50	0.0	21.25	4.33	88.01	7.06	20.47
7909130020	5	53001	0.47	0.28	0.10	0.0	0.85	0.86	91.08	1.46	13.36
7909131123	6	1AA2	1.00	24.69	0.0	0.0					
7909131123	6	3BB1	1.97	40.88	0.0	0.0	42.85	4.66	95.40	0.0	20.75
7909131123	6	7CC2	1.22	29.62	0.02	0.0	30.80	3.95	95.90	0.06	24.28
7909131123	6	14001	1.11	19.72	0.0	0.0	20.83	5.33	94.67	0.0	17.77
7909131123	6	23EE1	6.82	49.68	0.0	0.0	50.50	12.07	87.93	0.0	7.26
7909131123	6	35FF1	1.46	23.42	1.56	0.0	28.44	5.13	89.38	5.49	17.41
7909131123	6	47001	0.21	4.03	0.04	0.0	4.28	4.91	94.16	0.93	19.19
7909140035	8	1AA1	0.97	10.59	3.06	0.0	14.62	0.63	72.44	20.93	10.92
7909140035	8	3BB1	1.51	26.34	4.54	0.0	32.39	4.68	81.32	14.02	17.44
7909140035	8	6CC1	1.83	20.20	2.92	0.0	24.95	7.33	80.96	11.70	11.04
7909140035	8	18001	1.07	24.80	2.76	0.0	29.23	5.71	84.84	9.44	14.85
7909140035	8	30EE1	1.62	27.99	1.39	0.0	31.00	5.23	90.29	4.48	17.28
7909140035	8	65FF1	0.25	1.09	0.42	0.0	2.50	9.77	73.83	16.41	7.56
7909140035	8	87001	0.07	0.26	0.24	0.0	0.57	12.22	45.81	42.11	3.71
7909141137	9	1AA1	0.47	9.32	0.31	0.0	10.10	4.65	92.28	3.07	19.83
7909141137	9	3BB1	0.70	15.05	1.72	0.0	17.47	4.01	88.15	9.85	21.50
7909141137	9	10CC1	0.92	10.90	2.32	0.0	15.14	5.07	82.14	12.79	16.20
7909141137	9	18001	0.86	15.42	2.48	0.0	18.70	4.58	82.20	13.22	17.93
7909141137	9	30EE1	2.96	23.18	0.59	0.0	26.73	11.07	66.72	2.21	7.83
7909141137	9	46FF1	1.67	24.68	0.74	0.0	27.09	6.10	91.10	2.73	14.78
7909141137	9	60001	0.22	9.87	0.03	0.0	10.12	2.17	97.53	0.30	44.66
7909150035	12	1AA1	0.46	18.25	0.0	0.0	18.71	2.46	97.54	0.0	39.67
7909150035	12	2BB1	0.63	36.55	0.72	0.0	39.90	1.58	96.62	1.80	61.19
7909150035	12	4CC1	0.42	52.01	3.03	0.0	55.06	0.76	93.76	5.46	123.83
7909150035	12	8001	0.34	60.55	0.76	0.0	69.65	0.44	86.93	12.58	178.09
7909150035	12	10EE1	0.45	64.36	4.77	0.0	74.58	0.80	93.00	6.40	154.13
7909150035	12	26FF1	0.65	9.22	1.15	0.0	10.42	0.48	88.48	11.04	184.40
7909150035	12	41001	0.13	0.69	0.51	0.0	1.33	9.77	51.88	38.35	5.31
7909151138	13	1AA1	60.49	77.34	0.0	0.0	137.83	43.84	56.11	0.0	1.28
7909151138	13	1BB1	66.93	127.18	0.0	0.0	194.11	34.48	65.52	0.0	1.90
7909151138	13	3CC1	103.99	104.39	0.0	0.0	288.38	36.06	63.94	0.0	1.77
7909151138	13	5001	109.00	191.85	0.56	0.0	309.41	35.23	62.01	2.77	1.76
7909151138	13	9EE1	65.02	105.13	4.99	0.0	215.14	30.22	67.46	2.32	2.23
7909151138	13	14FF1	25.02	49.01	1.67	0.0	75.90	32.96	64.57	2.46	1.96
7909151138	13	21001	12.21	15.23	0.0	0.0	27.44	44.50	55.50	0.0	1.25
7909150010	15	1AA1	1.07	25.53	1.65	0.0	28.85	5.79	88.49	5.72	15.29
7909150010	15	1BB1	1.70	53.62	0.25	0.0	61.65	2.88	87.02	10.11	30.24

	NET	KAN CR PPP	DCM	TRF	SLY	X NET	X KAN CR PPP	X DCM	NAN/NET		
7909100010	15	3001	2.68	60.56	9.58	0.0	92.54	2.89	86.79	10.32	30.07
7909100010	15	5001	2.01	69.60	11.27	0.0	83.00	3.36	63.17	13.47	20.77
7909100010	15	12EE1	1.40	70.37	1.48	0.0	75.25	1.91	96.07	2.02	50.20
7909100010	15	20FF1	0.65	25.50	1.49	0.0	27.60	2.35	92.27	5.38	39.29
7909100010	15	20GG1	1.00	5.42	0.08	0.0	0.50	15.32	23.34	1.23	5.42
7909101127	16	1AA1	1.07	53.78	0.0	0.0	55.45	3.01	96.99	0.0	32.20
7909101127	16	1EB1	2.71	92.03	0.0	0.0	95.34	2.04	97.16	0.0	34.18
7909101127	16	40C1	3.05	152.41	0.42	0.0	156.65	2.46	97.27	0.27	39.59
7909101127	16	6001	4.02	223.49	10.41	0.0	243.92	1.65	91.62	0.73	55.59
7909101127	16	10EE1	3.29	103.71	4.85	0.0	171.85	1.91	95.26	2.82	49.76
7909101127	16	19FF1	2.14	11.50	1.32	0.0	14.96	14.30	76.67	8.82	5.37
7909101127	16	30GG1	0.83	2.56	0.41	0.0	3.80	21.84	07.37	10.79	3.08
7909170010	18	1AA1	3.07	00.19	13.34	0.0	82.60	3.72	80.13	16.15	21.56
7909170010	18	20B1	2.98	70.29	25.88	0.0	99.15	3.01	70.64	26.10	23.59
7909170010	18	40C1	2.99	61.03	12.89	0.0	97.51	3.07	83.71	13.22	27.30
7909170010	18	7001	5.52	74.32	32.51	0.0	112.35	4.91	66.15	28.94	13.46
7909170010	18	13EE1	2.40	50.04	7.66	0.0	60.10	3.99	83.20	12.75	20.85
7909170010	18	20FF1	1.56	31.49	7.66	0.0	40.71	3.83	77.35	18.02	20.19
7909170010	18	20GG1	0.71	6.74	1.97	0.0	9.42	7.54	71.55	20.91	9.49
7909171113	19	1AA1	0.05	42.09	0.0	0.0	42.14	0.12	99.86	0.0	841.80
7909171113	19	1EB1	0.15	48.72	0.0	0.0	48.07	0.31	99.69	0.0	324.80
7909171113	19	40C1	2.02	67.93	0.0	0.0	69.95	2.89	97.11	0.0	33.63
7909171113	19	7001	1.16	69.67	0.72	0.0	71.55	1.62	97.37	1.01	60.06
7909171113	19	12EE1	2.04	73.60	0.47	0.0	76.31	2.67	96.71	0.62	36.18
7909171113	19	19FF1	0.70	33.44	0.93	0.0	35.07	2.00	95.35	2.65	47.77
7909171113	19	25GG1	0.10	12.51	0.0	0.0	12.67	1.26	98.74	0.0	78.19
7909180029	22	1AA1	10.39	25.54	3.50	0.0	39.43	26.35	64.77	8.68	2.40
7909180029	22	1EB1	11.30	30.39	4.19	0.0	53.68	20.97	71.25	7.78	3.40
7909180029	22	40C1	10.34	50.41	6.99	0.0	67.74	15.26	74.42	10.32	4.68
7909180029	22	7001	9.27	42.88	7.56	0.0	59.71	15.53	71.81	12.00	4.63
7909180029	22	15EE1	0.74	36.94	1.00	0.0	44.00	15.04	82.60	2.24	5.48
7909180029	22	25FF1	3.50	17.34	0.91	0.0	21.81	16.32	79.50	4.17	4.87
7909180029	22	35GG1	1.86	1.21	0.21	0.0	3.24	56.71	36.09	6.40	0.65
7909181130	23	1AA1	8.01	24.36	1.26	0.0	33.05	23.80	72.39	3.80	3.04
7909181130	23	1EB1	14.50	43.70	2.22	0.0	60.42	24.00	72.33	3.67	3.01
7909181130	23	40C1	12.07	49.66	3.08	0.0	64.81	18.62	76.62	4.75	4.11
7909181130	23	7001	14.00	58.83	4.41	0.0	77.24	18.13	76.17	5.71	4.20
7909181130	23	13FF1	3.60	38.77	1.94	0.0	44.31	8.12	87.50	4.38	10.77
7909181130	23	21FF1	0.98	5.87	0.42	0.0	7.27	13.48	80.74	5.78	5.99
7909181130	23	20GG1	0.77	1.44	0.13	0.0	2.34	32.91	61.54	5.56	1.67
7909190051	26	1AA1	3.53	20.06	0.29	0.0	23.00	14.72	84.00	1.21	5.68
7909190051	26	20B1	3.09	20.49	1.39	0.0	30.97	9.98	85.53	4.49	8.57
7909190051	26	40C1	4.47	25.26	1.57	0.0	31.30	14.28	80.70	5.02	5.65
7909190051	26	12EE1	2.30	23.40	3.24	0.0	29.00	7.93	80.90	11.17	10.20
7909190051	26	27EE1	1.23	54.66	0.66	0.0	56.55	2.18	96.66	1.17	44.44
7909190051	26	44FF1	0.45	10.89	0.70	0.0	12.04	3.74	90.45	5.81	24.20
7909190051	26	60GG1	0.16	1.11	0.38	0.0	1.65	9.70	67.27	23.03	6.94
7909240030	27	1AA1	0.61	34.30	14.25	0.0	49.10	1.24	69.77	28.99	56.23
7909240030	27	1EB1	0.29	24.13	12.80	0.0	42.22	0.69	69.00	30.32	100.45
7909240030	27	40C1	0.30	32.13	14.66	0.0	46.49	0.65	69.11	30.24	107.10
7909240030	27	6001	0.17	21.49	6.67	0.0	30.33	0.56	70.65	28.59	126.41
7909240030	27	14EE1	0.09	8.23	3.30	0.0	11.62	0.77	70.83	28.40	91.44
7909240030	27	20FF1	0.11	3.11	1.29	0.0	4.51	2.44	68.96	28.60	28.27
7909240030	27	25GG1	0.01	1.47	0.62	0.0	2.10	0.48	70.00	29.52	147.00
7909241115	28	1AA1	0.25	53.07	30.14	0.0	83.46	0.36	63.56	36.11	212.28
7909241115	28	1EB1	0.19	40.23	22.64	0.0	63.11	0.30	63.75	35.95	211.74
7909241115	28	50C1	0.20	45.93	22.71	0.0	60.84	0.29	66.72	32.99	229.65
7909241115	28	1001	0.19	29.00	10.42	0.0	45.01	0.42	63.58	30.00	152.63

		NET	SAR CR PPP	LLP	TRP	SLP	% NET	% SAR CR PPP	% OCM	NAN/NET	
7909241115	28	10001	0.10	15.60	0.92	0.0	22.62	0.40	66.97	30.59	156.00
7909241115	28	24FF1	0.04	1.72	0.63	0.0	2.39	1.67	71.97	26.36	43.00
7909241115	28	43GG1	0.02	0.40	0.21	0.0	0.63	3.17	63.49	33.33	20.00
7909300026	31	2AA1	0.36	4.30	2.78	0.0	7.46	5.04	57.64	37.27	11.32
7909300026	31	20B1	0.39	5.24	2.42	0.0	8.05	4.84	65.09	30.06	13.44
7909300026	31	10CC1	0.50	6.00	3.45	0.0	11.95	4.18	66.95	28.67	16.00
7909300026	31	21001	0.27	6.20	2.69	0.0	11.36	2.42	73.46	24.10	30.37
7909300026	31	41EE1	0.02	5.42	1.35	0.0	6.79	0.29	79.82	19.88	271.00
7909300026	31	60FF1	0.13	5.02	1.16	0.0	6.31	2.06	79.56	16.38	36.62
7909300026	31	69GG1	0.05	1.55	0.51	0.0	2.11	2.37	73.46	24.17	31.00
7909301128	32	1AA1	0.98	47.18	14.51	0.0	75.67	9.22	64.99	25.78	7.05
7909301128	32	10B1	0.65	50.25	22.71	0.0	79.61	6.35	63.12	28.53	7.56
7909301128	32	3CC1	7.00	47.47	19.50	0.0	76.69	9.26	65.02	25.71	7.61
7909301128	32	4001	7.24	50.60	19.57	0.0	77.41	9.35	65.37	25.28	6.99
7909301128	32	15EE1	1.30	14.13	5.09	0.0	20.52	6.34	68.86	24.81	10.67
7909301128	32	20FF1	0.68	4.63	1.38	0.0	6.69	10.16	69.21	20.63	6.81
7909301128	32	26GG1	0.82	1.12	0.34	0.0	2.33	35.19	48.67	16.74	1.37
7910010625	35	1AA1	47.99	50.40	0.01	0.0	112.40	46.67	53.12	0.01	1.13
7910010625	35	10B1	50.58	68.90	0.80	0.0	120.26	42.05	57.20	0.67	1.36
7910010625	35	3CC1	58.84	77.11	0.0	0.0	135.95	43.24	56.72	0.0	1.31
7910010625	35	4001	44.68	65.89	2.81	0.0	113.38	39.41	58.11	2.48	1.47
7910010625	35	12EE1	33.07	40.69	0.40	0.0	74.36	44.47	54.99	0.54	1.24
7910010625	35	14FF1	10.82	10.95	0.19	0.0	21.90	49.27	49.86	0.87	1.01
7910010625	35	27GG1	2.72	4.11	0.08	0.0	6.91	39.36	59.48	1.16	1.51
7910011125	36	1AA1	2.98	104.70	18.23	0.0	125.91	2.37	83.15	14.46	35.13
7910011125	36	10B1	3.67	113.10	24.39	0.0	146.36	2.60	77.26	20.08	29.22
7910011125	36	4CC1	4.41	114.46	34.08	0.0	152.69	2.66	74.63	22.29	25.94
7910011125	36	4001	3.82	86.92	27.43	0.0	118.17	3.23	73.56	23.21	22.75
7910011125	36	17EE1	0.72	59.71	16.43	0.0	67.86	1.06	74.73	24.21	70.43
7910011125	36	20FF1	0.31	5.22	0.76	0.0	6.29	4.93	62.49	12.08	16.84
7910011125	36	37GG1	0.21	0.76	0.40	0.0	1.39	15.11	66.12	28.78	3.71
7910020700	37	1AA1	0.43	51.40	9.41	0.0	61.24	0.70	83.93	15.37	119.53
7910020700	37	10B1	0.47	57.35	14.25	0.0	77.07	0.61	74.41	24.98	122.02
7910020700	37	4CC1	0.49	75.37	12.12	0.0	87.98	0.56	85.67	13.78	153.82
7910020700	37	4001	0.50	66.10	7.95	0.0	76.55	0.65	86.46	10.39	136.20
7910020700	37	16EE1	0.19	36.99	3.25	0.0	40.43	0.47	91.49	8.04	194.68
7910020700	37	27FF1	0.14	0.56	0.66	0.0	7.56	1.85	86.54	11.61	46.86
7910020700	37	39GG1	0.07	0.75	0.31	0.0	1.13	6.19	66.37	27.43	10.71
7910021130	38	1AA1	1.34	50.36	17.57	0.0	69.27	1.93	72.70	25.36	37.58
7910021130	38	10B1	1.50	56.05	35.99	0.0	95.54	1.57	60.76	37.67	38.70
7910021130	38	4CC1	1.16	68.18	19.59	0.0	68.93	1.30	76.67	22.03	58.78
7910021130	38	7001	0.91	57.89	33.45	0.0	92.25	0.99	62.75	36.26	63.62
7910021130	38	15EE1	0.27	42.30	1.81	0.0	44.36	0.61	95.31	4.08	156.67
7910021130	38	25FF1	0.04	4.98	0.64	0.0	10.66	0.38	93.62	6.00	249.50
7910021130	38	35GG1	0.03	4.59	0.01	0.0	0.63	4.76	93.65	1.59	19.67
7910030635	42	1AA1	1.01	4.57	8.93	0.0	19.51	5.18	49.05	45.77	9.48
7910030635	42	10B1	1.34	14.54	5.55	0.0	21.43	6.25	67.85	25.90	10.85
7910030635	42	5CC1	1.36	16.26	6.03	0.0	23.67	5.83	68.69	25.48	11.78
7910030635	42	13001	0.28	14.51	5.13	0.0	19.92	1.41	72.84	25.75	51.82
7910030635	42	26EE1	1.37	15.05	2.28	0.0	18.70	7.33	80.48	12.19	10.99
7910030635	42	43FF1	0.14	3.63	0.88	0.0	4.65	3.01	78.06	18.92	25.93
7910030635	42	59GG1	0.02	0.36	0.34	0.0	0.72	2.78	50.06	47.22	18.00
7910031125	43	1AA1	1.43	27.00	8.47	0.0	36.40	3.88	73.17	22.95	18.88
7910031125	43	10B1	1.59	26.86	7.83	0.0	36.30	4.36	74.05	21.57	16.91
7910031125	43	4CC1	1.11	21.88	4.79	0.0	27.78	4.00	76.76	17.24	19.71
7910031125	43	10001	1.51	24.74	6.21	0.0	32.46	4.65	76.22	19.13	16.36
7910031125	43	26EE1	1.85	26.07	6.36	0.0	36.28	5.16	77.37	17.53	15.17
7910031125	43	41FF1	0.36	6.97	1.72	0.0	4.97	4.24	76.59	19.16	15.08

		NET	KAN ER PPP	DLH	TPP	SLP	% NET	% KAN ER PPP	% DLH	NAN/NET	
7910031125	43	53001	0.18	0.63	0.31	0.0	1.18	10.07	56.25	27.68	3.50
7910040027	45	1AA1	14.16	40.96	0.0	0.0	61.14	23.16	76.84	0.0	3.32
7910040028	45	10B2	20.15	80.04	0.0	0.0	100.44	19.95	80.05	0.0	4.01
7910040029	45	30C1	19.56	94.11	0.0	0.0	118.67	16.44	83.52	0.0	5.07
7910040029	45	5001	24.29	106.32	5.56	0.0	136.17	17.84	78.08	4.08	4.38
7910040020	45	10EE1	16.07	92.42	1.38	0.0	104.07	14.03	84.12	1.26	5.75
7910040020	45	10FF1	0.19	26.72	2.78	0.0	35.69	17.34	74.67	7.79	4.32
7910040020	45	23001	1.61	4.74	1.06	0.0	12.01	14.35	77.24	8.41	5.38
7910041130	46	1AA1	5.25	25.26	8.44	0.0	34.02	13.45	64.74	21.76	4.82
7910041130	46	10B1	6.09	43.16	13.41	0.0	64.64	9.42	66.76	23.82	7.09
7910041130	46	60C1	7.96	49.07	12.76	0.0	64.81	11.43	70.29	18.28	6.15
7910041130	46	12001	8.47	49.63	9.94	0.0	68.04	12.40	72.69	14.67	5.86
7910041130	46	21EE1	7.91	51.77	11.07	0.0	70.75	11.16	73.17	15.65	6.54
7910041130	46	30FF1	0.03	10.35	3.71	0.0	20.64	3.04	74.02	17.93	25.95
7910041130	46	40001	0.11	2.63	0.65	0.0	3.54	3.06	73.26	23.68	23.91
7910050050	48	1AA1	1.45	16.27	3.50	0.0	21.22	6.83	76.67	16.49	11.22
7910050050	48	10B1	2.22	20.27	2.89	0.0	25.35	8.75	74.87	11.39	9.13
7910050050	48	60C1	1.73	21.90	6.75	0.0	30.38	5.69	72.09	22.22	12.66
7910050050	48	14001	0.97	14.26	2.82	0.0	23.05	4.21	83.56	12.23	19.86
7910050050	48	25001	0.13	6.31	1.27	0.0	7.71	1.69	81.64	16.47	48.54
7910050050	48	39FF1	0.08	2.54	0.48	0.0	3.10	2.58	81.94	15.48	31.75
7910050050	48	51001	0.03	1.68	0.34	0.0	2.05	1.46	81.45	16.59	56.00
7910051135	49	1AA1	3.26	52.21	25.62	0.0	61.64	4.02	64.39	31.59	16.02
7910051135	49	10B1	1.62	44.82	23.52	0.0	74.46	2.16	66.46	31.38	30.75
7910051135	49	50C1	2.14	41.42	16.36	0.0	61.42	3.46	66.84	29.65	19.36
7910051135	49	11001	0.56	23.17	12.80	0.0	36.53	1.53	63.43	35.04	41.37
7910051135	49	20EE1	0.21	7.15	3.38	0.0	10.74	1.96	66.57	31.47	34.05
7910051135	49	32FF1	0.0	3.73	1.03	0.0	4.76	0.0	78.36	21.64	0.0
7910051135	49	42001	0.04	0.61	0.54	0.0	1.14	3.36	51.26	45.38	15.25
7910060700	51	1AA1	11.28	24.53	1.64	0.0	37.45	30.12	65.50	4.38	2.17
7910060700	51	10B1	18.64	42.35	1.44	0.0	62.48	24.83	67.78	2.38	2.27
7910060700	51	20C1	14.90	55.75	1.70	0.0	72.35	20.54	77.06	2.35	3.74
7910060700	51	4001	13.74	40.40	3.76	0.0	65.46	23.86	70.44	5.70	2.95
7910060700	51	70EE1	8.07	36.35	1.76	0.0	46.76	18.53	77.70	3.76	4.19
7910060700	51	11FF1	1.32	5.00	0.77	0.0	7.04	16.62	70.52	10.86	3.79
7910060700	51	15001	0.53	2.37	0.63	0.0	3.53	15.01	67.14	17.85	4.47
7910061115	52	1AA1	42.48	54.33	5.39	0.0	87.20	48.72	45.10	6.18	0.93
7910061115	52	10B1	57.24	49.07	13.89	0.0	120.20	47.62	40.82	11.56	0.66
7910061115	52	50C1	65.41	54.55	22.00	0.0	141.96	46.08	38.45	15.50	0.83
7910061115	52	4001	45.92	44.93	12.26	0.0	108.11	42.48	46.18	11.34	1.04
7910061115	52	10EE1	32.17	28.15	0.45	0.0	66.77	48.18	42.16	9.66	0.88
7910061115	52	25FF1	7.78	7.83	1.60	0.0	17.21	45.21	45.50	4.30	1.01
7910061115	52	33001	1.19	0.58	0.43	0.0	2.20	54.04	26.36	14.55	0.49
7910090025	01	1AA1	21.95	113.16	36.63	0.0	171.74	12.78	65.84	21.33	5.16
7910090025	01	10B1	25.32	103.00	31.32	0.0	160.24	15.80	64.05	14.55	4.04
7910090025	01	30C1	16.33	64.43	25.46	0.0	126.72	12.84	66.63	20.44	5.17
7910090025	01	5002	5.88	68.60	24.71	0.0	104.14	5.64	65.64	28.52	11.67
7910090025	01	10EE1	0.74	31.64	4.97	0.0	37.45	2.11	84.62	13.27	40.11
7910090025	01	17FF1	0.30	5.52	1.15	0.0	6.47	4.50	74.20	16.50	18.40
7910090025	01	24001	0.15	1.76	0.41	0.0	2.32	6.47	75.86	17.67	11.73
7910090026	01	1AA1	20.40	64.43	24.54	0.0	134.37	15.18	62.83	21.98	4.14
7910090026	01	10B1	17.10	75.40	33.65	0.0	126.15	13.56	59.77	26.67	4.41
7910090026	01	30C1	14.05	54.10	25.33	0.0	98.40	14.27	60.01	25.72	4.21
7910090026	01	5001	8.56	45.06	14.24	0.0	72.86	11.75	61.64	26.41	5.26
7910090026	01	10EE1	2.78	15.71	3.04	0.0	22.13	12.56	70.44	16.45	5.65
7910090026	01	17FF1	0.86	3.48	2.43	0.0	6.77	12.70	51.40	35.84	4.05
7910090026	01	24001	0.32	1.50	1.05	0.0	3.47	4.22	43.23	47.55	4.64
7910091135	02	1AA1	27.00	71.42	20.75	0.0	114.17	22.06	54.43	17.41	2.65

		NET	NAN OR PPP	UCM	TRP	SRP	% NET	% NAN OR PPP	% UCM -	NAN/NET	
7910091135	02	1001	26.52	89.50	29.63	0.0	145.65	18.21	61.45	20.34	3.37
7910091135	02	4001	25.47	69.29	25.69	0.0	120.65	21.11	57.43	21.46	2.72
7910091135	02	7001	15.21	50.54	22.08	0.0	96.43	15.77	60.71	23.52	3.85
7910091135	02	12001	0.84	26.75	5.88	0.0	39.27	17.42	68.12	14.46	3.91
7910091135	02	10001	0.89	4.22	1.34	0.0	6.05	13.00	65.43	20.78	4.74
7910091135	02	23001	0.38	1.39	0.47	0.0	2.24	16.96	62.05	20.98	3.66
7910091136	02	1001	25.11	79.86	10.38	0.0	115.55	21.77	69.23	9.00	3.18
7910091136	02	1001	19.16	69.05	8.51	0.0	116.72	18.42	76.29	7.29	4.65
7910091136	02	4001	17.04	65.51	4.96	0.0	87.51	19.47	74.86	5.67	3.64
7910091136	02	7001	8.07	40.11	3.76	0.0	51.96	15.53	77.19	7.27	4.97
7910091136	02	12001	2.55	10.39	2.18	0.0	15.12	16.67	68.72	14.42	4.07
7910091136	02	10001	0.57	2.43	0.58	0.0	3.56	15.92	67.88	16.20	4.26
7910091136	02	23001	0.39	1.34	0.01	0.0	1.74	22.41	77.61	0.57	3.44

Table 3. Rates of primary productivity (mgC/m<sup>3</sup>/d) by station, depth, and size-fraction, Belogorsk 79-05.

		NET	% KAR CR PPP	DCM	TRP	SUP	% NET	% KAR CR PPP	% DCM	NAN/NET	
7911221120	1	14A1	10.61	25.58	0.0	0.0	40.39	36.67	63.33	0.0	1.73
7911221120	1	14A1	22.49	20.35	7.78	0.0	56.62	39.72	46.54	13.74	1.17
7911221120	1	10C1	20.65	36.50	0.0	0.0	57.15	36.13	63.87	0.0	1.77
7911221120	1	47E1	23.95	35.44	0.31	0.0	67.70	35.38	52.35	12.27	1.48
7911221120	1	7FE1	10.46	27.10	40.83	0.0	90.27	20.45	30.11	49.44	1.47
7911221120	1	15FF1	4.38	15.92	5.83	0.0	21.93	19.97	63.47	16.55	3.18
7911221120	1	22GG1	2.60	1.34	1.22	0.0	5.10	50.39	25.97	23.04	0.52
7911230720	4	14A1	15.74	16.10	2.56	0.0	54.48	45.65	46.43	7.42	1.03
7911230720	4	10B1	15.95	30.60	0.97	0.0	51.52	30.96	59.39	9.65	1.92
7911230720	4	4LC1	20.93	31.02	5.52	0.0	55.47	37.73	55.42	6.35	1.48
7911230720	4	8001	19.74	29.93	9.31	0.0	58.96	33.47	50.75	15.79	1.52
7911230720	4	14FF1	10.92	15.33	2.16	0.0	26.41	38.44	53.96	7.60	1.40
7911230720	4	21FF1	2.13	2.67	0.36	0.0	5.30	39.74	53.54	6.72	1.35
7911230720	4	27GG1	0.75	1.10	0.06	0.0	1.91	39.27	57.59	3.14	1.47
7911231110	5	14A1	17.18	10.46	5.29	0.0	30.93	55.54	33.82	10.64	0.61
7911231110	5	30H1	25.91	21.29	4.28	0.0	56.48	45.67	37.69	16.43	0.82
7911231110	5	50C1	33.74	15.36	5.57	0.0	54.61	61.76	26.02	10.20	0.45
7911231110	5	100B1	22.37	17.25	6.49	0.0	40.11	40.50	35.86	17.65	0.77
7911231110	5	18CC1	11.63	0.53	2.07	0.0	22.43	52.74	38.03	9.23	0.72
7911231110	5	20FF1	2.41	1.18	0.34	0.0	3.93	61.32	30.03	0.65	0.49
7911231110	5	30GG1	1.09	0.37	0.02	0.0	1.45	73.65	25.00	1.35	0.34
7911240728	7	14A1	14.10	2.53	0.61	0.0	17.24	61.79	14.62	3.54	0.18
7911240728	7	10B1	23.38	5.84	2.77	0.0	31.99	73.09	18.26	8.66	0.25
7911240728	7	50C1	28.95	5.58	2.15	0.0	36.88	78.93	15.21	5.86	0.19
7911240728	7	4001	29.23	0.02	4.02	0.0	41.27	70.83	19.43	9.74	0.27
7911240728	7	14FF1	15.24	5.82	0.78	0.0	17.84	74.22	21.41	4.37	0.29
7911240728	7	30FF1	1.49	0.23	0.15	0.0	1.87	79.68	12.30	8.02	0.15
7911240728	7	30GG1	0.63	0.16	0.04	0.0	0.77	61.82	12.99	5.19	0.16
7911241115	8	14A1	32.82	27.16	14.23	0.0	74.21	44.23	36.60	19.18	0.83
7911241115	8	30H1	30.52	30.66	20.59	0.0	81.77	37.32	37.50	25.18	1.00
7911241115	8	60C1	28.35	37.82	11.64	0.0	77.81	36.43	48.61	14.96	1.33
7911241115	8	10001	20.46	23.25	20.40	0.0	64.61	31.67	35.99	32.35	1.14
7911241115	8	14FF1	8.58	10.08	1.31	0.0	19.97	42.96	50.48	6.56	1.17
7911241115	8	32FF1	1.22	0.74	0.32	0.0	2.28	53.51	32.46	14.00	0.61
7911241115	8	44GG1	0.48	0.0	0.10	0.0					
7911250716	10	14A1	46.60	24.79	0.43	0.0	71.82	64.88	34.52	0.60	0.53
7911250716	10	10B1	64.82	33.49	1.36	0.0	99.67	65.03	33.60	1.36	0.52
7911250716	10	40C1	74.07	39.02	0.25	0.0	113.34	65.35	34.43	0.22	0.53
7911250716	10	7001	72.94	35.52	4.98	0.0	113.44	64.30	31.31	4.39	0.49
7911250716	10	12EE1	36.42	17.02	0.46	0.0	54.42	67.84	31.28	0.88	0.46
7911250716	10	16FF1	6.73	5.27	0.15	0.0	10.15	60.31	32.22	1.48	0.49
7911250716	10	22GG1	1.82	0.83	0.0	0.0	2.65	68.68	31.32	0.0	0.46
7911251109	11	14A1	33.17	78.28	7.55	0.0	119.00	27.87	65.78	6.34	2.36
7911251109	11	10B1	51.60	92.49	14.75	0.0	156.64	32.49	58.23	9.29	1.79
7911251109	11	40C1	42.69	102.61	15.57	0.0	166.27	20.26	64.02	9.71	2.44
7911251109	11	7001	27.35	65.97	15.32	0.0	106.64	25.17	60.72	14.10	2.41
7911251109	11	11EE1	12.40	25.10	1.40	0.0	36.90	33.60	62.60	3.79	1.66
7911251109	11	21FF1	1.59	1.94	0.31	0.0	3.84	41.41	50.52	8.07	1.22
7911251109	11	30GG1	0.55	0.31	0.16	0.0	1.02	53.92	30.39	15.69	0.56
7911260740	13	14A1	6.20	16.92	33.60	0.0	58.72	10.56	32.22	57.22	3.05
7911260740	13	10B1	7.74	14.38	31.24	0.0	58.36	13.26	33.21	53.53	2.50
7911260740	13	50C1	5.30	20.46	36.84	0.0	62.60	8.55	32.65	56.74	3.82
7911260740	13	15001	5.35	11.53	34.04	0.0	46.42	11.40	24.57	64.02	2.16
7911260740	13	24EE1	1.82	5.78	2.85	0.0	14.65	17.42	55.31	27.27	3.18
7911260740	13	47FF1	0.61	1.31	1.94	0.0	2.91	20.96	45.02	34.02	2.15
7911260740	13	69001	0.10	0.16	0.54	0.0	0.74	13.51	72.97	1.00	
7911261112	14	14A1	25.39	156.35	4.68	0.0	186.42	13.62	83.87	2.51	6.16
7911261112	14	10B1	27.31	175.43	5.21	0.0	203.95	13.39	85.04	1.57	6.35



	NET	% AN CR PPP	LOP	TRP	SLP	% NET	% AN CR PPP	% UCM	NAN/NET
7911261112 14 4CC1	29.76	149.63	3.30	0.0	142.89	16.27	61.92	1.80	5.03
7911261112 14 7001	25.40	115.17	3.77	0.0	144.34	17.60	79.79	2.61	4.53
7911261112 14 150E1	11.09	20.55	0.31	0.0	31.95	34.71	64.32	0.97	1.85
7911261112 14 22FF1	2.43	2.17	0.41	0.0	5.01	40.50	43.31	6.18	0.69
7911261112 14 300G1	1.12	0.55	0.19	0.0	1.66	68.22	29.57	10.22	0.49
7911270745 15 1AA1	40.19	40.30	6.91	0.0	43.40	43.03	49.57	7.40	1.15
7911270745 15 1001	35.63	67.36	7.70	0.0	110.91	32.31	60.75	6.94	1.88
7911270745 15 3001	39.80	79.47	6.13	0.0	125.36	31.74	63.38	4.87	2.00
7911270745 15 5001	30.97	73.18	6.63	0.0	112.76	27.46	64.69	7.65	2.36
7911270745 15 110E1	16.67	43.04	0.42	0.0	60.13	27.72	71.56	0.70	2.58
7911270745 15 19FF1	4.97	11.19	0.36	0.0	16.54	30.05	67.65	2.30	2.25
7911270745 15 270G1	3.06	3.74	0.0	0.0	6.80	45.00	55.00	0.0	1.22
7911271108 16 1AA1	24.06	23.53	6.00	0.0	54.19	40.40	43.42	12.18	0.98
7911271108 16 3001	45.29	57.51	12.37	0.0	115.17	39.32	49.93	10.74	1.27
7911271108 16 5001	37.60	59.33	20.36	0.0	117.29	32.00	50.58	17.36	1.58
7911271108 16 9001	22.83	61.54	15.33	0.0	99.76	22.90	61.73	15.38	2.70
7911271108 16 120E1	14.85	42.26	6.43	0.0	62.74	22.39	67.36	10.25	3.01
7911271108 16 27FF1	3.95	0.34	2.30	0.0	12.59	31.37	50.30	16.27	1.61
7911271108 16 300G1	0.95	3.09	1.01	0.0	5.65	16.61	61.19	20.00	3.25

Table 4. Total daily integral productivity, Belogorsk 79-01.

A T M S												I C T I A S						DAILY INTEGRAL				PARTICULATE					
H I												U H E Y T F						% OF DAILY PRODUCTION									
A N Y M A C												P I C E L S						% OF DAILY PRODUCTION									
E U A I T S												U E I T D E P						% OF DAILY PRODUCTION									
Y	M	D	T	S	S	100	09	46	25	10	3	1	E	D	I	T	D	E	P	NET	MANNL	DEM	TOTAL	NET	MANNO	DOM	NANNO
79	06	12	0642	5	8.0	0.0	1.8	3.6	0.3	10.7	17.0	23.6	23.6	4.83	28.71	1.54	962.	197.	58.	1216.	79.1	16.2	4.7	17.0			
79	08	12	1136	7	13.0	0.0	2.8	5.1	9.5	20.5	27.9	35.0	35.0	4.92	28.71	3.41	1353.	564.	292.	2204.	61.2	25.5	13.2	29.4			
79	08	13	0652	12	7.0	0.0	0.9	2.0	0.9	10.8	14.0	14.0	14.0	4.83	39.09	2.45	3269.	735.	55.	4060.	60.5	18.1	1.4	18.4			
79	08	13	1145	14	10.0	0.0	1.7	3.0	7.6	12.2	17.0	21.2	21.2	4.75	39.09	1.82	2858.	818.	113.	3789.	75.4	21.6	3.0	22.3			
79	08	14	0633	20	8.0	0.0	1.5	3.0	0.0	9.1	10.2	19.0	19.0	4.75	51.76	2.23	1226.	814.	119.	2210.	55.5	39.1	5.4	41.3			
79	08	14	1105	22	3.1	0.0	1.0	2.0	3.2	5.2	8.0	10.5	10.5	5.17	51.76	2.01	3022.	1912.	107.	5042.	59.9	37.9	2.1	38.7			
79	08	15	0655	28	0.0	0.0	1.0	2.0	3.5	0.5	13.0	19.0	19.0	4.60	41.78	1.81	3168.	823.	157.	4089.	76.0	20.1	3.9	20.9			
79	08	15	1145	30	7.0	0.0	2.0	3.2	5.9	9.0	14.0	19.0	19.0	4.67	41.78	2.77	3006.	828.	334.	4227.	71.1	21.0	7.9	22.8			
79	08	16	0642	36	10.0	0.0	3.0	6.4	11.0	21.0	35.0	49.0	49.0	5.33	42.52	1.95	253.	2294.	406.	2933.	7.9	78.2	13.6	90.8			
79	08	17	0640	44	14.0	0.0	2.0	3.8	8.0	16.0	27.0	37.2	37.2	4.17	42.52	2.44	1120.	925.	82.	2127.	52.7	43.5	3.8	45.2			
79	08	17	1110	45	18.0	0.0	2.0	4.2	10.8	19.0	28.6	38.0	38.0	5.17	46.90	2.18	449.	792.	110.	1350.	33.2	58.7	8.1	63.8			
79	08	18	0637	51	5.0	0.0	0.8	1.8	3.2	5.3	8.2	11.1	11.1	4.83	9.02	1.87	2456.	690.	38.	3184.	77.2	21.7	1.2	21.9			
79	08	18	1133	53	12.0	0.0	1.9	3.3	6.7	14.0	23.0	27.0	27.0	5.00	9.02	3.37	238.	569.	453.	1280.	18.0	46.0	35.4	71.2			
79	08	19	0715	61	21.0	0.0	2.8	5.0	15.0	31.0	48.6	55.0	55.0	4.45	31.35	1.87	92.	1070.	107.	1209.	7.3	84.3	8.4	92.1			
79	08	19	1139	62	20.0	0.0	3.0	7.0	12.0	20.7	26.6	34.0	34.0	4.97	31.35	2.51	110.	1778.	48.	1926.	5.7	91.8	2.5	94.1			
79	08	20	0644	66	18.0	0.0	2.4	5.2	9.7	17.8	29.2	40.6	40.6	4.83	37.68	2.24	802.	1481.	61.	2344.	34.2	63.2	2.6	64.9			
79	08	20	1110	67	9.0	0.0	1.7	3.1	6.0	12.0	19.0	26.0	26.0	5.42	37.68	1.71	701.	968.	42.	1711.	41.0	56.6	2.4	58.0			
79	08	22	0714	70	27.0	0.0	2.1	4.8	15.0	31.0	41.1	57.1	57.1	4.75	39.67	1.87	214.	1355.	460.	2019.	10.6	66.6	22.8	86.3			
79	08	22	1145	77	22.0	0.0	3.9	7.4	15.0	25.0	38.2	50.4	50.4	4.67	39.67	2.54	39.	803.	69.	913.	4.3	88.2	7.5	95.4			
79	08	23	0614	85	11.0	0.0	1.5	3.5	7.0	13.8	22.7	31.0	31.0	5.00	37.68	2.54	162.	1418.	51.	1630.	9.9	87.0	3.1	89.8			
79	08	23	1105	86	11.0	0.0	1.9	3.8	6.4	11.0	18.6	25.2	25.2	5.00	37.68	1.74	336.	1054.	46.	1436.	23.4	73.4	3.2	75.8			
79	08	24	0628	91	10.0	0.0	2.5	5.1	9.6	16.0	25.1	33.1	33.1	4.82	37.12	2.17	63.	1504.	85.	1653.	3.8	91.0	5.2	96.0			
79	08	24	1110	93	9.0	0.0	2.0	5.0	8.5	13.0	19.0	26.0	26.0	5.25	37.12	2.00	153.	2411.	32.	2596.	5.9	92.9	1.2	94.0			
79	08	25	0620	99	12.0	0.0	2.0	4.0	7.2	12.1	18.7	24.5	24.5	4.93	40.37	1.95	275.	806.	85.	1160.	23.6	69.1	7.3	74.6			
79	08	25	1100	101	15.0	0.0	2.3	5.1	9.5	16.0	24.4	32.0	32.0	4.13	40.37	2.56	55.	1043.	133.	1271.	4.3	85.3	10.4	95.2			
79	08	26	0637	107	11.0	0.0	2.2	4.5	9.3	16.7	26.0	35.0	35.0	4.43	33.01	1.95	26.	1081.	77.	1184.	2.2	91.3	6.5	97.7			
79	08	26	1105	108	12.0	0.0	3.0	5.9	10.5	17.1	28.6	34.0	34.0	4.97	33.01	2.39	38.	1827.	92.	1957.	1.9	93.4	4.7	98.0			
79	08	27	0605	113	12.0	0.0	2.0	4.1	8.7	16.0	26.1	35.5	35.5	4.97	22.34	2.36	68.	1736.	107.	1911.	3.0	90.8	5.6	96.2			
79	08	27	1057	114	9.0	0.0	1.8	3.2	5.7	9.1	14.1	21.5	21.5	4.97	22.34	2.01	699.	1016.	49.	1964.	45.8	51.8	2.5	53.1			
79	08	28	0658	119	9.0	0.0	2.0	4.2	8.5	15.8	24.9	33.1	33.1	5.27	34.79	2.45	43.	2553.	202.	2799.	1.5	91.3	7.2	98.4			
79	08	28	1113	120	12.0	0.0	2.3	4.8	8.2	13.8	20.9	27.2	27.2	4.78	34.79	1.77	22.	1766.	273.	2003.	1.1	85.3	13.6	98.7			
79	08	29	0610	124	6.0	0.0	1.7	3.2	5.7	9.2	14.0	18.0	18.0	5.15	18.46	2.31	483.	939.	103.	1524.	31.7	61.6	6.7	66.0			
79	08	29	1110	126	8.0	0.0	1.7	3.5	6.1	10.9	16.9	22.2	22.2	5.00	18.46	1.93	515.	836.	137.	1288.	24.5	64.9	10.6	72.6			
79	08	30	0623	131	3.0	0.0	2.3	5.6	10.0	17.0	26.0	34.2	34.2	4.95	33.26	2.24	26.	2890.	106.	3028.	0.9	95.6	3.5	99.1			
79	08	30	1113	133	11.0	0.0	1.9	4.2	7.8	13.0	20.0	28.5	28.5	4.97	33.26	1.91	16.	1179.	78.	1274.	1.3	92.6	6.2	98.7			
79	08	31	0618	138	9.0	0.0	1.6	3.2	6.0	11.0	17.9	23.9	23.9	5.10	42.74	1.91	329.	1527.	131.	1987.	16.6	76.6	6.6	82.3			
79	08	31	1113	140	11.0	0.0	1.8	3.5	6.5	11.0	17.0	22.5	22.5	4.92	42.74	2.26	2279.	957.	135.	3371.	67.6	28.4	4.0	29.6			
79	09	01	0615	145	10.0	0.0	1.6	3.0	7.0	12.6	20.0	26.7	26.7	5.08	39.80	2.15	17.	1772.	264.	1993.	0.8	88.9	10.2	99.1			
79	09	01	1133	147	14.0	0.0	2.5	4.8	6.5	14.0	21.3	28.0	28.0	5.32	39.86	2.00	230.	1016.	79.	1327.	17.3	76.7	6.0	81.6			

Table 5. Total daily integral productivity, Belogorsk 79-03.

H I T E T I C % LIGHT - DEPTHS (M)											DAILY INTEGRAL				% OF DAILY PRODUCTION				PRC-DUCTION BY					
Y	M	D	T	S	S	100	69	46	25	10	3	1	EU	LI	DE	P	NET	NANNO	DOM	TOTAL	NET	NANNO	DOM	NANNO
79	09	12	0617	1	7.0	0.0	1.5	2.8	5.0	11.0	19.0	26.0	26.0	4.83	41.23	1.93	33.	1791.	403.	2226.	1.5	80.4	18.1	98.2
79	09	12	1126	2	12.0	0.0	2.6	5.0	8.5	13.7	18.0	30.0	30.0	5.00	41.23	2.23	116.	1228.	211.	1555.	7.5	78.9	13.6	91.1
79	09	13	0620	5	20.0	0.0	3.0	6.0	11.5	23.0	38.0	53.0	53.0	5.00	40.81	1.90	54.	660.	101.	816.	6.7	80.9	12.4	92.4
79	09	13	1123	6	15.0	0.0	3.0	6.0	13.7	22.5	35.0	47.0	47.0	5.00	40.81	2.34	115.	1354.	19.	1484.	7.7	91.0	1.3	92.1
79	09	14	0635	8	26.0	0.0	3.6	6.0	18.3	38.0	65.0	67.0	67.0	5.12	36.97	1.99	91.	1348.	132.	1571.	5.8	85.8	8.4	93.1
79	09	14	1137	9	20.0	0.0	4.3	10.0	17.8	30.0	46.0	60.0	60.0	5.00	36.97	2.17	68.	1116.	69.	1273.	6.9	87.7	5.4	92.1
79	09	15	0635	12	10.0	0.0	1.8	3.6	8.0	16.0	26.0	36.0	36.0	4.83	38.47	1.90	10.	1340.	121.	1472.	0.7	91.1	8.2	99.1
79	09	15	1138	13	9.0	0.0	1.5	2.0	5.0	9.0	14.0	21.0	21.0	5.00	38.47	2.24	1161.	2160.	64.	3405.	34.1	64.0	1.9	65.1
79	09	16	0610	15	8.0	0.0	1.4	2.6	5.0	11.5	20.0	26.0	26.0	5.18	39.35	1.88	41.	1301.	100.	1442.	2.8	90.3	6.9	97.1
79	09	16	1127	16	9.0	0.0	2.0	3.6	6.0	9.5	19.0	30.0	30.0	4.98	39.35	2.24	74.	2368.	95.	2536.	2.9	93.3	3.7	97.1
79	09	17	0610	16	8.0	0.0	1.8	3.6	7.2	13.0	20.0	26.0	26.0	5.13	38.32	2.20	70.	1301.	350.	1730.	4.0	75.6	20.4	94.1
79	09	17	1113	14	10.0	0.0	1.8	3.6	7.0	12.0	19.0	25.0	25.0	5.00	38.32	1.92	28.	1290.	12.	1330.	2.1	97.0	0.9	97.1
79	09	18	0629	22	13.0	0.0	1.6	3.5	7.0	14.8	25.0	33.0	33.0	5.08	37.76	2.02	209.	959.	89.	1257.	16.6	76.3	7.1	82.1
79	09	18	1130	23	17.0	0.0	1.7	4.0	6.8	13.0	20.5	27.5	27.5	5.00	37.76	2.08	164.	813.	50.	1027.	16.0	79.2	4.9	83.1
79	09	19	0651	26	18.0	0.0	1.9	4.0	12.0	26.5	44.0	66.0	66.0	5.00	26.31	2.06	68.	1565.	76.	1730.	5.1	90.5	4.4	94.1
79	09	29	0630	27	8.0	0.0	2.0	4.0	8.0	14.0	20.0	25.0	25.0	4.75	4.51	1.97	4.	367.	154.	524.	0.8	69.9	29.3	98.1
79	09	29	1115	27	11.0	0.0	2.0	4.5	10.0	18.0	24.0	39.5	39.5	5.08	4.51	2.13	4.	692.	356.	1053.	0.4	65.7	33.9	99.1
79	09	30	0626	31	24.0	0.0	4.0	10.0	21.0	41.0	66.0	89.0	89.0	4.67	15.73	1.66	15.	490.	153.	658.	2.3	74.5	23.2	97.1
79	09	30	1128	32	14.0	0.0	2.0	5.0	9.0	15.0	22.0	28.0	28.0	5.08	15.73	2.82	100.	726.	286.	1112.	9.0	65.3	25.7	87.1
79	10	01	0625	35	16.0	0.0	1.5	3.0	5.5	11.5	19.0	27.0	27.0	5.00	16.44	1.57	717.	956.	18.	1711.	43.1	55.9	1.0	56.1
79	10	01	1125	36	11.0	0.0	2.0	4.0	8.0	17.0	28.0	36.0	36.0	4.92	16.44	3.01	60.	1805.	532.	2347.	2.5	75.3	22.2	96.1
79	10	02	0700	37	10.0	0.0	2.0	4.0	9.0	16.0	27.0	39.0	39.0	4.67	18.21	1.99	10.	1251.	179.	1440.	0.7	86.9	12.4	99.1
79	10	02	1130	38	10.0	0.0	2.0	4.0	7.0	15.0	25.0	35.0	35.0	4.83	18.21	2.22	15.	1139.	345.	1449.	1.0	76.0	23.0	92.1
79	10	03	0635	42	21.0	0.0	2.0	5.0	13.0	26.0	43.0	56.5	58.5	4.92	15.36	1.59	36.	575.	161.	774.	4.9	74.3	20.8	93.1
79	10	03	1125	43	19.0	0.0	3.0	6.0	14.0	26.0	41.0	53.0	53.0	4.92	15.36	3.09	59.	966.	237.	1263.	4.7	76.5	18.8	94.1
79	10	04	0620	45	9.0	0.0	1.0	2.5	5.0	10.0	16.0	22.5	22.5	5.08	27.00	1.82	295.	1428.	49.	1773.	16.7	80.6	2.6	82.1
79	10	04	1130	46	13.0	0.0	3.0	6.0	12.0	21.0	34.0	46.0	46.0	4.83	27.00	2.38	221.	1550.	365.	2136.	10.4	72.6	17.1	87.1
79	10	05	0650	48	19.0	0.0	2.5	6.0	13.5	24.5	39.0	51.0	51.0	5.00	10.90	1.36	30.	564.	101.	635.	4.7	79.4	15.9	94.1
79	10	05	1135	49	12.0	0.0	2.0	5.0	11.0	20.0	31.5	42.0	42.0	4.75	10.90	4.32	24.	654.	312.	940.	2.4	66.1	31.5	96.1
79	10	06	0700	51	0.0	0.0	1.0	2.0	3.5	7.0	11.0	15.0	15.0	4.75	29.81	1.79	121.	402.	25.	547.	22.1	73.3	4.5	76.1
79	10	06	1115	52	0.0	0.0	2.0	4.5	8.5	15.5	24.5	32.5	32.5	5.00	29.81	2.42	965.	896.	242.	2103.	45.9	42.6	11.5	48.1
79	10	09	0625	61	7.0	0.0	1.0	3.0	5.0	10.0	17.0	24.0	24.0	5.03	8.70	2.23	110.	856.	261.	1226.	8.9	69.8	21.2	82.1
79	10	09	0626	61	7.0	0.0	1.0	3.0	5.0	10.0	17.0	24.0	24.0	5.00	8.70	2.25	118.	555.	228.	901.	13.1	61.6	25.3	82.1
79	10	09	1135	62	0.0	0.0	2.0	4.0	7.0	12.0	18.0	23.0	23.0	3.17	8.70	2.32	246.	832.	275.	1355.	16.3	61.4	20.3	77.1
79	10	09	1136	62	0.0	0.0	2.0	4.0	7.0	12.0	18.0	23.0	23.0	3.37	8.70	2.27	156.	656.	70.	883.	17.7	74.3	7.9	80.1

Table 6. Total daily integral productivity, Belogorsk 79-05.

L I G H T D E P T H S (M)											DAILY INTEGRAL				% OF DAILY PRODUCTION									
Y	M	D	T	S	S	100	69	46	25	10	3	1	ED	IT	DE	P	NET	NANNO	DCM	TOTAL	NET	NANNO	DDM	NANNO
79	11	22	1120	1	15.0	0.0	1.2	2.0	3.5	7.0	15.0	22.0	22.0	4.50	15.67	2.69	203.	436.	317.	1017.	25.9	43.0	31.1	62.5
79	11	23	0720	4	12.0	0.0	1.9	4.0	7.5	13.8	21.0	27.0	27.0	5.00	13.68	1.72	292.	436.	85.	813.	35.9	53.6	10.5	59.9
79	11	23	1110	5	14.0	0.0	2.5	4.8	10.0	18.0	28.0	36.0	38.0	3.58	13.88	2.53	494.	326.	125.	945.	52.3	34.5	13.3	39.8
79	11	24	0725	7	15.0	0.0	2.2	4.3	9.3	17.0	29.5	36.0	38.0	3.75	12.61	1.55	517.	131.	51.	699.	74.0	18.7	7.3	20.2
79	11	24	1115	8	17.0	0.0	2.6	5.7	9.5	19.0	32.0	44.0	44.0	4.92	12.61	3.10	478.	530.	276.	1265.	37.2	41.3	21.5	52.1
79	11	25	0716	10	12.0	0.0	1.8	4.0	7.0	11.5	17.7	21.7	21.7	4.00	12.50	1.61	873.	433.	26.	1352.	65.5	32.5	1.9	33.2
79	11	25	1109	11	12.0	0.0	2.0	3.8	6.5	10.8	20.5	29.7	29.7	5.00	12.50	2.86	420.	897.	138.	1461.	29.2	61.4	9.4	67.1
79	11	26	0740	13	16.0	0.0	2.0	5.0	14.5	29.0	47.0	60.5	68.5	1.08	6.57	9.68	166.	454.	774.	1395.	11.9	32.6	55.5	73.1
79	11	26	1112	14	7.0	0.0	2.0	4.1	7.0	12.7	22.0	30.0	30.0	5.00	6.57	2.19	374.	1557.	42.	1973.	18.9	78.9	2.1	80.1
79	11	27	0745	15	9.0	0.0	1.2	2.6	4.5	11.0	19.4	26.8	26.8	3.50	17.01	2.29	441.	977.	67.	1465.	29.7	65.8	4.5	68.1
79	11	27	1108	16	0.0	0.0	2.7	5.0	9.3	16.5	27.0	36.0	36.0	4.92	17.01	1.93	568.	1175.	279.	2022.	28.1	58.1	13.8	67.1