NOAA Technical Memorandum ERL AOML-60

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

DRIFTING BUOY DATA FROM THE EQUATORIAL PACIFIC OCEAN FOR THE PERIOD OF AUGUST 31, 1980 THROUGH APRIL 30, 1982

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UNITED STATES DEPARTMENT OF COMMERCE

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Environmental Research Laboratories

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INTRODUCTION

As part of the EPOCS program, free-drifting buoys have been deployed in the equatorial Pacific since 1979 to study the variations of sea surface temperatures and currents in the area.

This data report covers the history and behavior of those buoys successfully reporting and deployed from August 21, 1980 through April 30, 1982 (Julian Days 609-1216 since January 1, 1979). A total of 17 buoys are included in this report.

Some of these drifters were deployed a few days before the nominal beginning date, but they were not included in the previous report; therefore, they are covered since their day of deployment (refer to Table 1).

DATA ACQUISITION

The buoy data are collected by the ARGOS data collection and location system, which offers capabilities for the location of fixed and moving platforms and the collection of sensor data transmitted by platforms located anywhere on the Earth's surface.

The space segment of the ARGOS system usually consists of two operational orbiting satellites, carrying the ARGOS Data Collection System (DCS). The satellites are equipped with receivers that pick up messages transmitted by buoys within the satellite's coverage. Each buoy contains a platform transmitter terminal (PTT), providing the up-link between buoy and satellite. All PTT's transmit on the same frequency (401.650 MHz) and at regular intervals: every 40 to 60 seconds. Message duration is less than 1 second. Message reception is on a random access basis. These data are formatted and stored on magnetic tape, then each time the satellite passes over one of the three telemetry stations the data on tape are transmitted to the ground station. When the satellite has completed data transmission for a particular pass, the received data are transmitted to the National Environmental Satellite Service Center at Suitland (Maryland) where the data that concern the ARGOS system are separated and sent to the ARGOS Data Processing Center, Toulouse, France. The center processes the data, determining platform positions and extraction of sensor data. A magnetic tape with all buoy data for the previous month is received at AOML once a month.

BUOY HARDWARE

The buoys presented in this data report were equipped with two different sets of sensors. Buoys 2228, 2229, 2230, 2232, 2234, and 2236 had only three sensors: drogue, temperature, and battery voltage. The rest of the buoys contain equipment also for sensing and reporting instantaneous wind speed, most recent six-hour average wind speed, previous six-hour average wind speed, and time elapsed since last average wind speed.

DATA PROCESSING

The raw data received from Service ARGOS is usually very clean but some editing and smoothing still needs to be done. The first editing program eliminates obviously bad fixes deleting positions that imply excessive speeds between successive fixes. Then a second program is run to obtain smooth trajectories, which fits a day's worth of data to a quadratic curve starting with day one and using an orthogonal least squares solution. The distances to all points in the curve are computed and weights are assigned to each position which are then used to least square spline-fit the data. This gives a final data series of smooth trajectories interpolated to six-hour intervals.

The temperature time series are edited in a similar fashion. First, obviously bad points are removed and then smoothing is performed with a low-pass Butterworth filter. Some of the temperature records are missing some data at the beginning of the record because the files at Service ARGOS had not been opened when the buoys were deployed, with consequent loss of some data.

Wind speed has been plotted without any editing, the word containing the most recent six-hour average wind speed was used.

DATA PRESENTATION

Illustrations of the final smoothed data are presented in this report.

Figure 1 shows a composite spaghetti diagram of all the drifters during the period covered on this report; the details of the trajectories are lost but an overall view of the current movements can be observed.

Table 1 summarizes the history of each individual buoy. Julian days are continuous, taking January 1, 1979 as Julian Day 1. Table 2 is included to facilitate conversion to corresponding day, month, and year.

Figures 9 to 44 show the trajectory, and time series of velocity and sensor data history of the individual drifters. For some of them several illustrations were necessary to show the complete track and still preserve as much detail as possible. Deployment location for each buoy is indicated on the charts by a star, and crosses appear along the trajectories to denote subsequent ten-day intervals. Closed circles indicate the day the drogue was lost, open circles are used when the drogue sensor did not indicate loss of drogue.

The velocity and sensor data time series plots show 130 days per graph with ten-day interval marks to facilitate interpretation of results.

Table 1: Drift Buoy History

Buoy #	Deployment Day(1)	Deployment °N	Deployment °W	Drogue Lost Day(1)	Last Message Day(1)
2228	580	-1.95	95.0	861 (3)	1194
2229	301	-2.00	105.0	366 (3) (6)	933
2230	581	-0.5	94.9	736 (3)	1141
2232	390	0.	85.0	(4) (3)	1065
2234	582	-0.95	95.0	(4) (3)	1120
2236	296	-0.03	110.0	406 (3)	779
2161	617	-0.49	102.5	(4) (3)	698
2165	595	6.60	109.97	849 (3)	994
2166	899	-3.50	84.97	959 (2)	1455
2167	590	-0.5	110.48	(5) (3)	1177
2168	592	1.0	110.00	778 (3)	1005
2169	593	3.0	110.0	751 (3)	811
2170	608	5.97	110.0	(4) (3)	750
2171	900	-2.45	85.0	981 (2)	1338
2173	618	0.5	102.5	747 (3)	995
2174	900	-1.5	85.0	982 (2)	1471
2179	901	-0.5	84.97	1057 (2)	1424

Notes:

(1) Base year for all buoys is January 1, 1979. Table 2 shows conversion from Julian Day to: day, month and year.

(2) These buoys had drogues 10 meters long.

(3) These buoys had drogues 30 meters long.

(4) Drogue sensor on these buoys did not indicate loss of drogues.

(5) Drogue sensor on these buoys was never on.

(6) Drogue broke.

Table 2: Julian Day Conversion

514	28 MAY 80
515	29 MAY 80
516	30 MAY 80
517	31 MAY 80
518	1 JUN 80
519	2 JUN 80
520	3 JUN 80
521	4 JUN 80
522	5 JUN 80
523	6 JUN 80
524	7 JUN 80
525	8 JUN 80
526	9 JUN 80
527	10 JUN 80
528	11 JUN 80
529	12 JUN 80
530	13 JUN 80
531	14 JUN 80
532	15 JUN 80
533	16 JUN 80
534	17 JUN 80
535	18 JUN 80
536	19 JUN 80
537	20 JUN 80
538	21 JUN 80
539	22 JUN 80
540	23 JUN 80
541	24 JUN 80
542	25 JUN 80
543	26 JUN 80
544	27 JUN 80
545	28 JUN 80
546	29 JUN 80
547	30 JUN 80
548	1 JUL 80
549	2 JUL 80
550	3 JUL 80
551	4 JUL 80
552	5 JUL 80
553	6 JUL 80
554	7 JUL 80
555	8 JUL 80
556	9 JUL 80
557	10 JUL 80
558	11 JUL 80
559	12 JUL 80
560	13 JUL 80
561	14 JUL 80
562	15 JUL 80
563	16 JUL 80
564	17 JUL 80
565	18 JUL 80
566	19 JUL 80
567	20 JUL 80
568	21 JUL 80
569	22 JUL 80
570	23 JUL 80
571	24 JUL 80
572	25 JUL 80
573	26 JUL 80
574	27 JUL 80
575	28 JUL 80
576	29 JUL 80
577	30 JUL 80
578	31 JUL 80
579	1 AUG 80
580	2 AUG 80
581	3 AUG 80
582	4 AUG 80
583	5 AUG 80
584	6 AUG 80
585	7 AUG 80
586	8 AUG 80
587	9 AUG 80
588	10 AUG 80
589	11 AUG 80
590	12 AUG 80
591	13 AUG 80
592	14 AUG 80
593	15 AUG 80
594	16 AUG 80
595	17 AUG 80
596	18 AUG 80
597	19 AUG 80
598	20 AUG 80
599	21 AUG 80
600	22 AUG 80
601	23 AUG 80
602	24 AUG 80
603	25 AUG 80
604	26 AUG 80
605	27 AUG 80
606	28 AUG 80
607	29 AUG 80
608	30 AUG 80
609	31 AUG 80
610	1 SEP 80
611	2 SEP 80
612	3 SEP 80
613	4 SEP 80
614	5 SEP 80
615	6 SEP 80
616	7 SEP 80
617	8 SEP 80
618	9 SEP 80
619	10 SEP 80
620	11 SEP 80
621	12 SEP 80
622	13 SEP 80
623	14 SEP 80
624	15 SEP 80
625	16 SEP 80
626	17 SEP 80
627	18 SEP 80
628	19 SEP 80
629	20 SEP 80
630	21 SEP 80
631	22 SEP 80
632	23 SEP 80
633	24 SEP 80
634	25 SEP 80
635	26 SEP 80
636	27 SEP 80
637	28 SEP 80
638	29 SEP 80
639	30 SEP 80
640	1 OCT 80
641	2 OCT 80
642	3 OCT 80
643	4 OCT 80
644	5 OCT 80
645	6 OCT 80
646	7 OCT 80
647	8 OCT 80
648	9 OCT 80
649	10 OCT 80
650	11 OCT 80
651	12 OCT 80
652	13 OCT 80
653	14 OCT 80
654	15 OCT 80
655	16 OCT 80
656	17 OCT 80
657	18 OCT 80
658	19 OCT 80
659	20 OCT 80
660	21 OCT 80
661	22 OCT 80
662	23 OCT 80
663	24 OCT 80
664	25 OCT 80
665	26 OCT 80
666	27 OCT 80
667	28 OCT 80
668	29 OCT 80
669	30 OCT 80
670	31 OCT 80
671	1 NOV 80
672	2 NOV 80
673	3 NOV 80
674	4 NOV 80
675	5 NOV 80
676	6 NOV 80
677	7 NOV 80
678	8 NOV 80
679	9 NOV 80
680	10 NOV 80
681	11 NOV 80
682	12 NOV 80
683	13 NOV 80
684	14 NOV 80

685	15 NOV 80	742	11 JAN 81	799	9 MAR 81
686	16 NOV 80	743	12 JAN 81	800	10 MAR 81
687	17 NOV 80	744	13 JAN 81	801	11 MAR 81
688	18 NOV 80	745	14 JAN 81	802	12 MAR 81
689	19 NOV 80	746	15 JAN 81	803	13 MAR 81
690	20 NOV 80	747	16 JAN 81	804	14 MAR 81
691	21 NOV 80	748	17 JAN 81	805	15 MAR 81
692	22 NOV 80	749	18 JAN 81	806	16 MAR 81
693	23 NOV 80	750	19 JAN 81	807	17 MAR 81
694	24 NOV 80	751	20 JAN 81	808	18 MAR 81
695	25 NOV 80	752	21 JAN 81	809	19 MAR 81
696	26 NOV 80	753	22 JAN 81	810	20 MAR 81
697	27 NOV 80	754	23 JAN 81	811	21 MAR 81
698	28 NOV 80	755	24 JAN 81	812	22 MAR 81
699	29 NOV 80	756	25 JAN 81	813	23 MAR 81
700	30 NOV 80	757	26 JAN 81	814	24 MAR 81
701	1 DEC 80	758	27 JAN 81	815	25 MAR 81
702	2 DEC 80	759	28 JAN 81	816	26 MAR 81
703	3 DEC 80	760	29 JAN 81	817	27 MAR 81
704	4 DEC 80	761	30 JAN 81	818	28 MAR 81
705	5 DEC 80	762	31 JAN 81	819	29 MAR 81
706	6 DEC 80	763	1 FEB 81	820	30 MAR 81
707	7 DEC 80	764	2 FEB 81	821	31 MAR 81
708	8 DEC 80	765	3 FEB 81	822	1 APR 81
709	9 DEC 80	766	4 FEB 81	823	2 APR 81
710	10 DEC 80	767	5 FEB 81	824	3 APR 81
711	11 DEC 80	768	6 FEB 81	825	4 APR 81
712	12 DEC 80	769	7 FEB 81	826	5 APR 81
713	13 DEC 80	770	8 FEB 81	827	6 APR 81
714	14 DEC 80	771	9 FEB 81	828	7 APR 81
715	15 DEC 80	772	10 FEB 81	829	8 APR 81
716	16 DEC 80	773	11 FEB 81	830	9 APR 81
717	17 DEC 80	774	12 FEB 81	831	10 APR 81
718	18 DEC 80	775	13 FEB 81	832	11 APR 81
719	19 DEC 80	776	14 FEB 81	833	12 APR 81
720	20 DEC 80	777	15 FEB 81	834	13 APR 81
721	21 DEC 80	778	16 FEB 81	835	14 APR 81
722	22 DEC 80	779	17 FEB 81	836	15 APR 81
723	23 DEC 80	780	18 FEB 81	837	16 APR 81
724	24 DEC 80	781	19 FEB 81	838	17 APR 81
725	25 DEC 80	782	20 FEB 81	839	18 APR 81
726	26 DEC 80	783	21 FEB 81	840	19 APR 81
727	27 DEC 80	784	22 FEB 81	841	20 APR 81
728	28 DEC 80	785	23 FEB 81	842	21 APR 81
729	29 DEC 80	786	24 FEB 81	843	22 APR 81
730	30 DEC 80	787	25 FEB 81	844	23 APR 81
731	31 DEC 80	788	26 FEB 81	845	24 APR 81
732	1 JAN 81	789	27 FEB 81	846	25 APR 81
733	2 JAN 81	790	28 FEB 81	847	26 APR 81
734	3 JAN 81	791	1 MAR 81	848	27 APR 81
735	4 JAN 81	792	2 MAR 81	849	28 APR 81
736	5 JAN 81	793	3 MAR 81	850	29 APR 81
737	6 JAN 81	794	4 MAR 81	851	30 APR 81
738	7 JAN 81	795	5 MAR 81	852	1 MAY 81
739	8 JAN 81	796	6 MAR 81	853	2 MAY 81
740	9 JAN 81	797	7 MAR 81	854	3 MAY 81
741	10 JAN 81	798	8 MAR 81	855	4 MAY 81

Table 2 (Continued)

856	5 MAY 81	913	1 JUL 81	970	27 AUG 81
857	6 MAY 81	914	2 JUL 81	971	28 AUG 81
858	7 MAY 81	915	3 JUL 81	972	29 AUG 81
859	8 MAY 81	916	4 JUL 81	973	30 AUG 81
860	9 MAY 81	917	5 JUL 81	974	31 AUG 81
861	10 MAY 81	918	6 JUL 81	975	1 SEP 81
862	11 MAY 81	919	7 JUL 81	976	2 SEP 81
863	12 MAY 81	920	8 JUL 81	977	3 SEP 81
864	13 MAY 81	921	9 JUL 81	978	4 SEP 81
865	14 MAY 81	922	10 JUL 81	979	5 SEP 81
866	15 MAY 81	923	11 JUL 81	980	6 SEP 81
867	16 MAY 81	924	12 JUL 81	981	7 SEP 81
868	17 MAY 81	925	13 JUL 81	982	8 SEP 81
869	18 MAY 81	926	14 JUL 81	983	9 SEP 81
870	19 MAY 81	927	15 JUL 81	984	10 SEP 81
871	20 MAY 81	928	16 JUL 81	985	11 SEP 81
872	21 MAY 81	929	17 JUL 81	986	12 SEP 81
873	22 MAY 81	930	18 JUL 81	987	13 SEP 81
874	23 MAY 81	931	19 JUL 81	988	14 SEP 81
875	24 MAY 81	932	20 JUL 81	989	15 SEP 81
876	25 MAY 81	933	21 JUL 81	990	16 SEP 81
877	26 MAY 81	934	22 JUL 81	991	17 SEP 81
878	27 MAY 81	935	23 JUL 81	992	18 SEP 81
879	28 MAY 81	936	24 JUL 81	993	19 SEP 81
880	29 MAY 81	937	25 JUL 81	994	20 SEP 81
881	30 MAY 81	938	26 JUL 81	995	21 SEP 81
882	31 MAY 81	939	27 JUL 81	996	22 SEP 81
883	1 JUN 81	940	28 JUL 81	997	23 SEP 81
884	2 JUN 81	941	29 JUL 81	998	24 SEP 81
885	3 JUN 81	942	30 JUL 81	999	25 SEP 81
886	4 JUN 81	943	31 JUL 81	1000	26 SEP 81
887	5 JUN 81	944	1 AUG 81	1001	27 SEP 81
888	6 JUN 81	945	2 AUG 81	1002	28 SEP 81
889	7 JUN 81	946	3 AUG 81	1003	29 SEP 81
890	8 JUN 81	947	4 AUG 81	1004	30 SEP 81
891	9 JUN 81	948	5 AUG 81	1005	1 OCT 81
892	10 JUN 81	949	6 AUG 81	1006	2 OCT 81
893	11 JUN 81	950	7 AUG 81	1007	3 OCT 81
894	12 JUN 81	951	8 AUG 81	1008	4 OCT 81
895	13 JUN 81	952	9 AUG 81	1009	5 OCT 81
896	14 JUN 81	953	10 AUG 81	1010	6 OCT 81
897	15 JUN 81	954	11 AUG 81	1011	7 OCT 81
898	16 JUN 81	955	12 AUG 81	1012	8 OCT 81
899	17 JUN 81	956	13 AUG 81	1013	9 OCT 81
900	18 JUN 81	957	14 AUG 81	1014	10 OCT 81
901	19 JUN 81	958	15 AUG 81	1015	11 OCT 81
902	20 JUN 81	959	16 AUG 81	1016	12 OCT 81
903	21 JUN 81	960	17 AUG 81	1017	13 OCT 81
904	22 JUN 81	961	18 AUG 81	1018	14 OCT 81
905	23 JUN 81	962	19 AUG 81	1019	15 OCT 81
906	24 JUN 81	963	20 AUG 81	1020	16 OCT 81
907	25 JUN 81	964	21 AUG 81	1021	17 OCT 81
908	26 JUN 81	965	22 AUG 81	1022	18 OCT 81
909	27 JUN 81	966	23 AUG 81	1023	19 OCT 81
910	28 JUN 81	967	24 AUG 81	1024	20 OCT 81
911	29 JUN 81	968	25 AUG 81	1025	21 OCT 81
912	30 JUN 81	969	26 AUG 81	1026	22 OCT 81

Table 2 (Continued)

1027	23 OCT 81	1084	19 DEC 81	1141	14 FEB 82
1028	24 OCT 81	1085	20 DEC 81	1142	15 FEB 82
1029	25 OCT 81	1086	21 DEC 81	1143	16 FEB 82
1030	26 OCT 81	1087	22 DEC 81	1144	17 FEB 82
1031	27 OCT 81	1088	23 DEC 81	1145	18 FEB 82
1032	28 OCT 81	1089	24 DEC 81	1146	19 FEB 82
1033	29 OCT 81	1090	25 DEC 81	1147	20 FEB 82
1034	30 OCT 81	1091	26 DEC 81	1148	21 FEB 82
1035	31 OCT 81	1092	27 DEC 81	1149	22 FEB 82
1036	1 NOV 81	1093	28 DEC 81	1150	23 FEB 82
1037	2 NOV 81	1094	29 DEC 81	1151	24 FEB 82
1038	3 NOV 81	1095	30 DEC 81	1152	25 FEB 82
1039	4 NOV 81	1096	31 DEC 81	1153	26 FEB 82
1040	5 NOV 81	1097	1 JAN 82	1154	27 FEB 82
1041	6 NOV 81	1098	2 JAN 82	1155	28 FEB 82
1042	7 NOV 81	1099	3 JAN 82	1156	1 MAR 82
1043	8 NOV 81	1100	4 JAN 82	1157	2 MAR 82
1044	9 NOV 81	1101	5 JAN 82	1158	3 MAR 82
1045	10 NOV 81	1102	6 JAN 82	1159	4 MAR 82
1046	11 NOV 81	1103	7 JAN 82	1160	5 MAR 82
1047	12 NOV 81	1104	8 JAN 82	1161	6 MAR 82
1048	13 NOV 81	1105	9 JAN 82	1162	7 MAR 82
1049	14 NOV 81	1106	10 JAN 82	1163	8 MAR 82
1050	15 NOV 81	1107	11 JAN 82	1164	9 MAR 82
1051	16 NOV 81	1108	12 JAN 82	1165	10 MAR 82
1052	17 NOV 81	1109	13 JAN 82	1166	11 MAR 82
1053	18 NOV 81	1110	14 JAN 82	1167	12 MAR 82
1054	19 NOV 81	1111	15 JAN 82	1168	13 MAR 82
1055	20 NOV 81	1112	16 JAN 82	1169	14 MAR 82
1056	21 NOV 81	1113	17 JAN 82	1170	15 MAR 82
1057	22 NOV 81	1114	18 JAN 82	1171	16 MAR 82
1058	23 NOV 81	1115	19 JAN 82	1172	17 MAR 82
1059	24 NOV 81	1116	20 JAN 82	1173	18 MAR 82
1060	25 NOV 81	1117	21 JAN 82	1174	19 MAR 82
1061	26 NOV 81	1118	22 JAN 82	1175	20 MAR 82
1062	27 NOV 81	1119	23 JAN 82	1176	21 MAR 82
1063	28 NOV 81	1120	24 JAN 82	1177	22 MAR 82
1064	29 NOV 81	1121	25 JAN 82	1178	23 MAR 82
1065	30 NOV 81	1122	26 JAN 82	1179	24 MAR 82
1066	1 DEC 81	1123	27 JAN 82	1180	25 MAR 82
1067	2 DEC 81	1124	28 JAN 82	1181	26 MAR 82
1068	3 DEC 81	1125	29 JAN 82	1182	27 MAR 82
1069	4 DEC 81	1126	30 JAN 82	1183	28 MAR 82
1070	5 DEC 81	1127	31 JAN 82	1184	29 MAR 82
1071	6 DEC 81	1128	1 FEB 82	1185	30 MAR 82
1072	7 DEC 81	1129	2 FEB 82	1186	31 MAR 82
1073	8 DEC 81	1130	3 FEB 82	1187	1 APR 82
1074	9 DEC 81	1131	4 FEB 82	1188	2 APR 82
1075	10 DEC 81	1132	5 FEB 82	1189	3 APR 82
1076	11 DEC 81	1133	6 FEB 82	1190	4 APR 82
1077	12 DEC 81	1134	7 FEB 82	1191	5 APR 82
1078	13 DEC 81	1135	8 FEB 82	1192	6 APR 82
1079	14 DEC 81	1136	9 FEB 82	1193	7 APR 82
1080	15 DEC 81	1137	10 FEB 82	1194	8 APR 82
1081	16 DEC 81	1138	11 FEB 82	1195	9 APR 82
1082	17 DEC 81	1139	12 FEB 82	1196	10 APR 82
1083	18 DEC 81	1140	13 FEB 82	1197	11 APR 82

Table 2 (Continued)

1198	12 APR 82	1255	8 JUN 82	1312	4 AUG 82
1199	13 APR 82	1256	9 JUN 82	1313	5 AUG 82
1200	14 APR 82	1257	10 JUN 82	1314	6 AUG 82
1201	15 APR 82	1258	11 JUN 82	1315	7 AUG 82
1202	16 APR 82	1259	12 JUN 82	1316	8 AUG 82
1203	17 APR 82	1260	13 JUN 82	1317	9 AUG 82
1204	18 APR 82	1261	14 JUN 82	1318	10 AUG 82
1205	19 APR 82	1262	15 JUN 82	1319	11 AUG 82
1206	20 APR 82	1263	16 JUN 82	1320	12 AUG 82
1207	21 APR 82	1264	17 JUN 82	1321	13 AUG 82
1208	22 APR 82	1265	18 JUN 82	1322	14 AUG 82
1209	23 APR 82	1266	19 JUN 82	1323	15 AUG 82
1210	24 APR 82	1267	20 JUN 82	1324	16 AUG 82
1211	25 APR 82	1268	21 JUN 82	1325	17 AUG 82
1212	26 APR 82	1269	22 JUN 82	1326	18 AUG 82
1213	27 APR 82	1270	23 JUN 82	1327	19 AUG 82
1214	28 APR 82	1271	24 JUN 82	1328	20 AUG 82
1215	29 APR 82	1272	25 JUN 82	1329	21 AUG 82
1216	30 APR 82	1273	26 JUN 82	1330	22 AUG 82
1217	1 MAY 82	1274	27 JUN 82	1331	23 AUG 82
1218	2 MAY 82	1275	28 JUN 82	1332	24 AUG 82
1219	3 MAY 82	1276	29 JUN 82	1333	25 AUG 82
1220	4 MAY 82	1277	30 JUN 82	1334	26 AUG 82
1221	5 MAY 82	1278	1 JUL 82	1335	27 AUG 82
1222	6 MAY 82	1279	2 JUL 82	1336	28 AUG 82
1223	7 MAY 82	1280	3 JUL 82	1337	29 AUG 82
1224	8 MAY 82	1281	4 JUL 82	1338	30 AUG 82
1225	9 MAY 82	1282	5 JUL 82	1339	31 AUG 82
1226	10 MAY 82	1283	6 JUL 82	1340	1 SEP 82
1227	11 MAY 82	1284	7 JUL 82	1341	2 SEP 82
1228	12 MAY 82	1285	8 JUL 82	1342	3 SEP 82
1229	13 MAY 82	1286	9 JUL 82	1343	4 SEP 82
1230	14 MAY 82	1287	10 JUL 82	1344	5 SEP 82
1231	15 MAY 82	1288	11 JUL 82	1345	6 SEP 82
1232	16 MAY 82	1289	12 JUL 82	1346	7 SEP 82
1233	17 MAY 82	1290	13 JUL 82	1347	8 SEP 82
1234	18 MAY 82	1291	14 JUL 82	1348	9 SEP 82
1235	19 MAY 82	1292	15 JUL 82	1349	10 SEP 82
1236	20 MAY 82	1293	16 JUL 82	1350	11 SEP 82
1237	21 MAY 82	1294	17 JUL 82	1351	12 SEP 82
1238	22 MAY 82	1295	18 JUL 82	1352	13 SEP 82
1239	23 MAY 82	1296	19 JUL 82	1353	14 SEP 82
1240	24 MAY 82	1297	20 JUL 82	1354	15 SEP 82
1241	25 MAY 82	1298	21 JUL 82	1355	16 SEP 82
1242	26 MAY 82	1299	22 JUL 82	1356	17 SEP 82
1243	27 MAY 82	1300	23 JUL 82	1357	18 SEP 82
1244	28 MAY 82	1301	24 JUL 82	1358	19 SEP 82
1245	29 MAY 82	1302	25 JUL 82	1359	20 SEP 82
1246	30 MAY 82	1303	26 JUL 82	1360	21 SEP 82
1247	31 MAY 82	1304	27 JUL 82	1361	22 SEP 82
1248	1 JUN 82	1305	28 JUL 82	1362	23 SEP 82
1249	2 JUN 82	1306	29 JUL 82	1363	24 SEP 82
1250	3 JUN 82	1307	30 JUL 82	1364	25 SEP 82
1251	4 JUN 82	1308	31 JUL 82	1365	26 SEP 82
1252	5 JUN 82	1309	1 AUG 82	1366	27 SEP 82
1253	6 JUN 82	1310	2 AUG 82	1367	28 SEP 82
1254	7 JUN 82	1311	3 AUG 82	1368	29 SEP 82

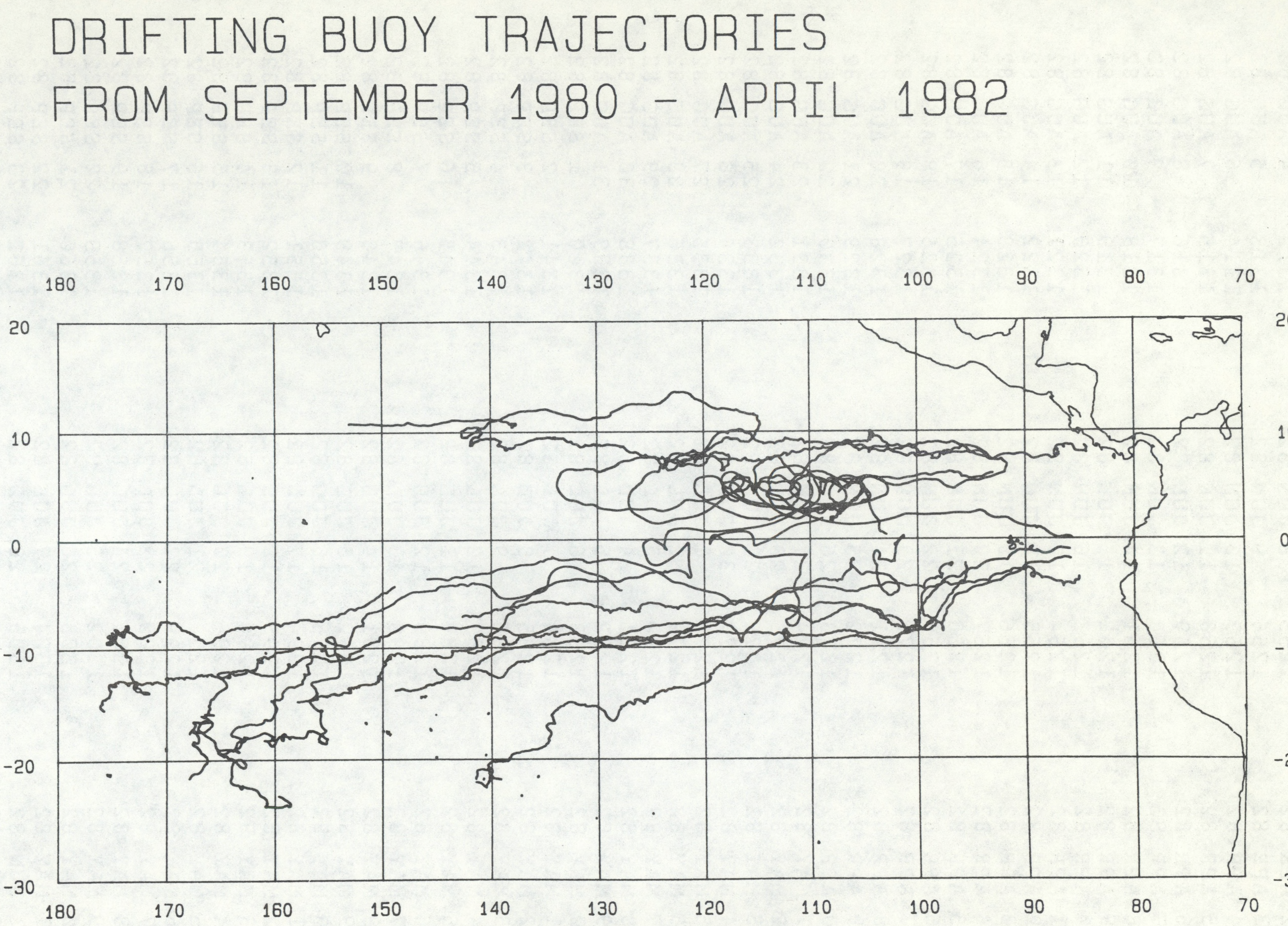
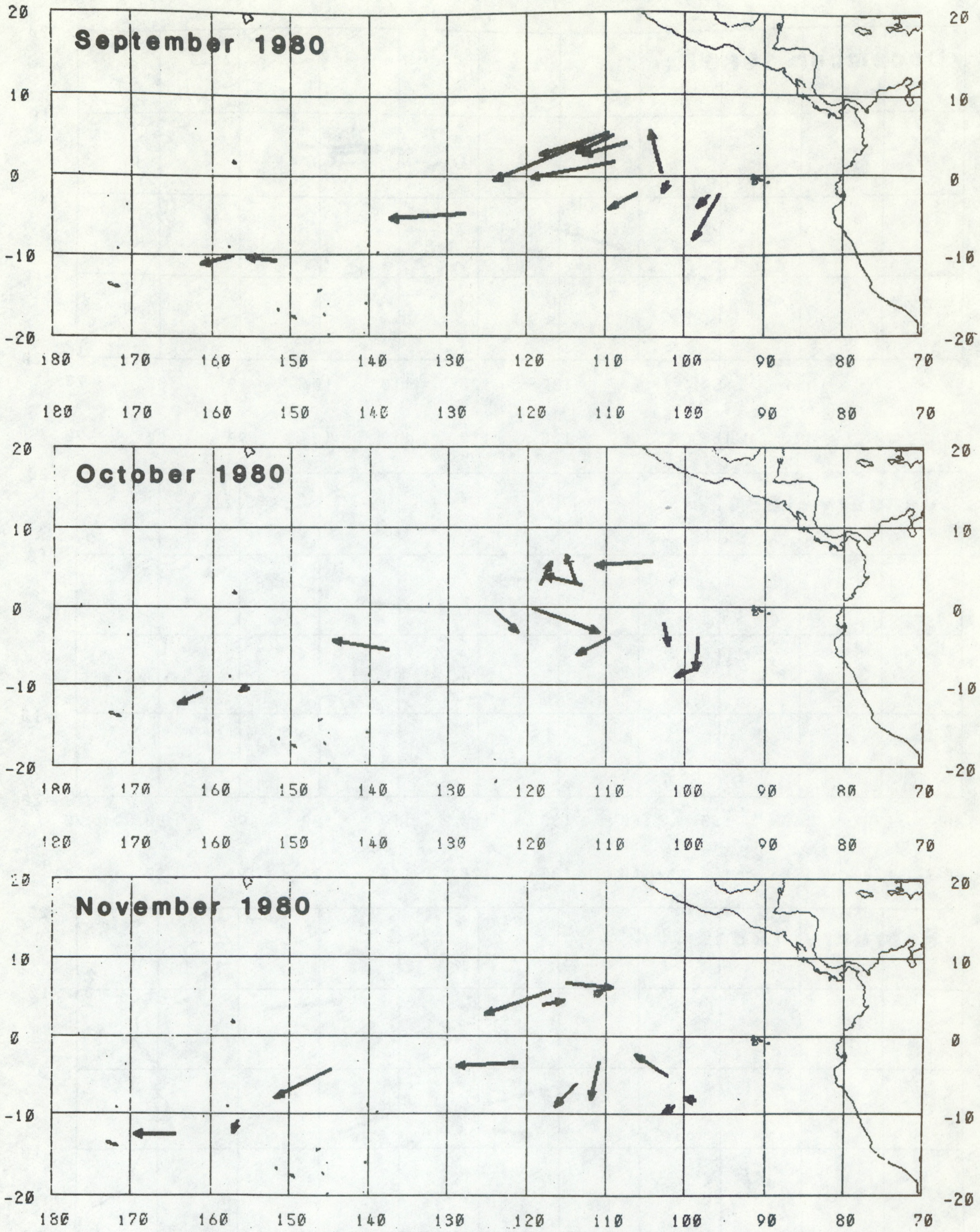
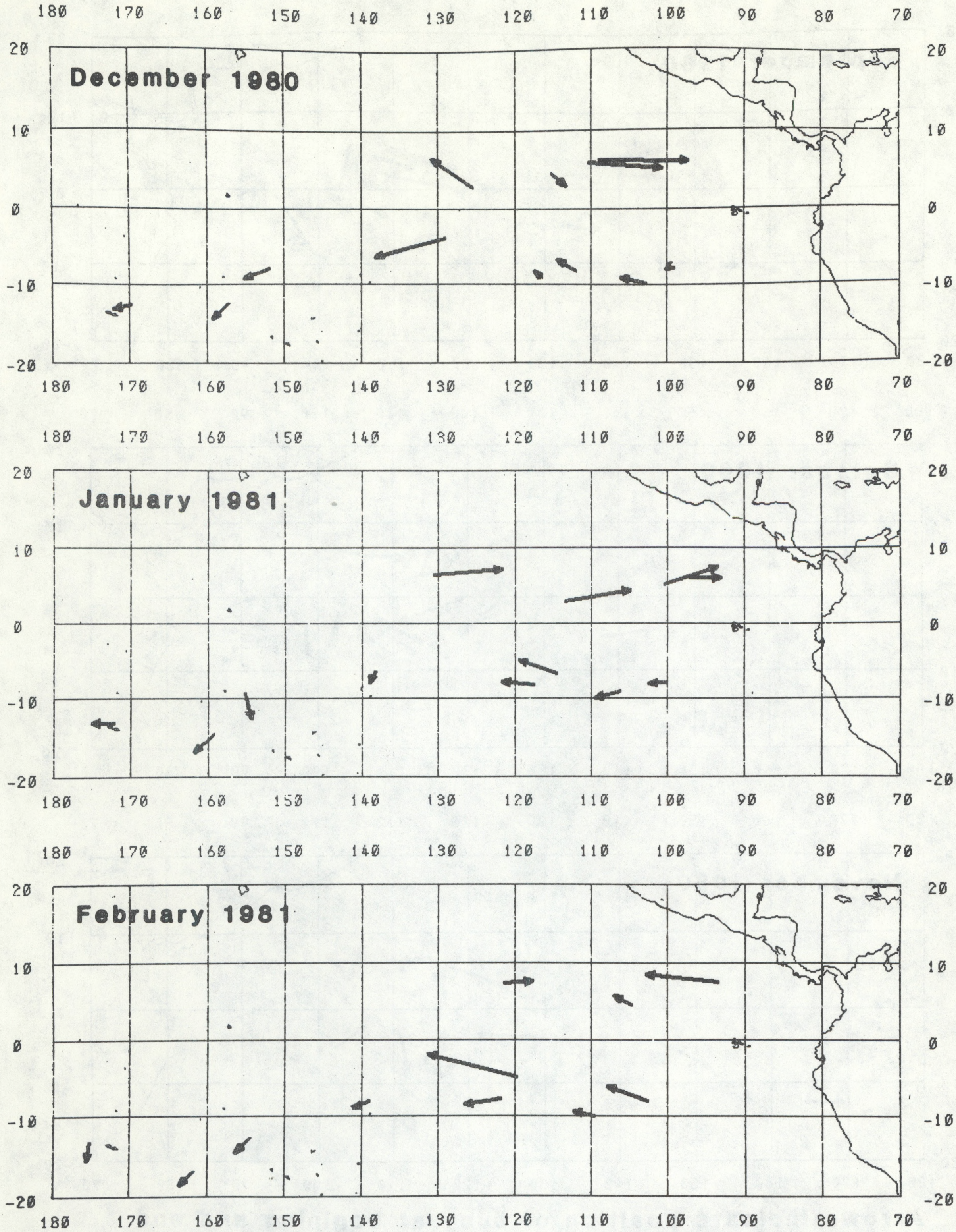


Figure 1. Composite plot of all drifting buoy trajectories.



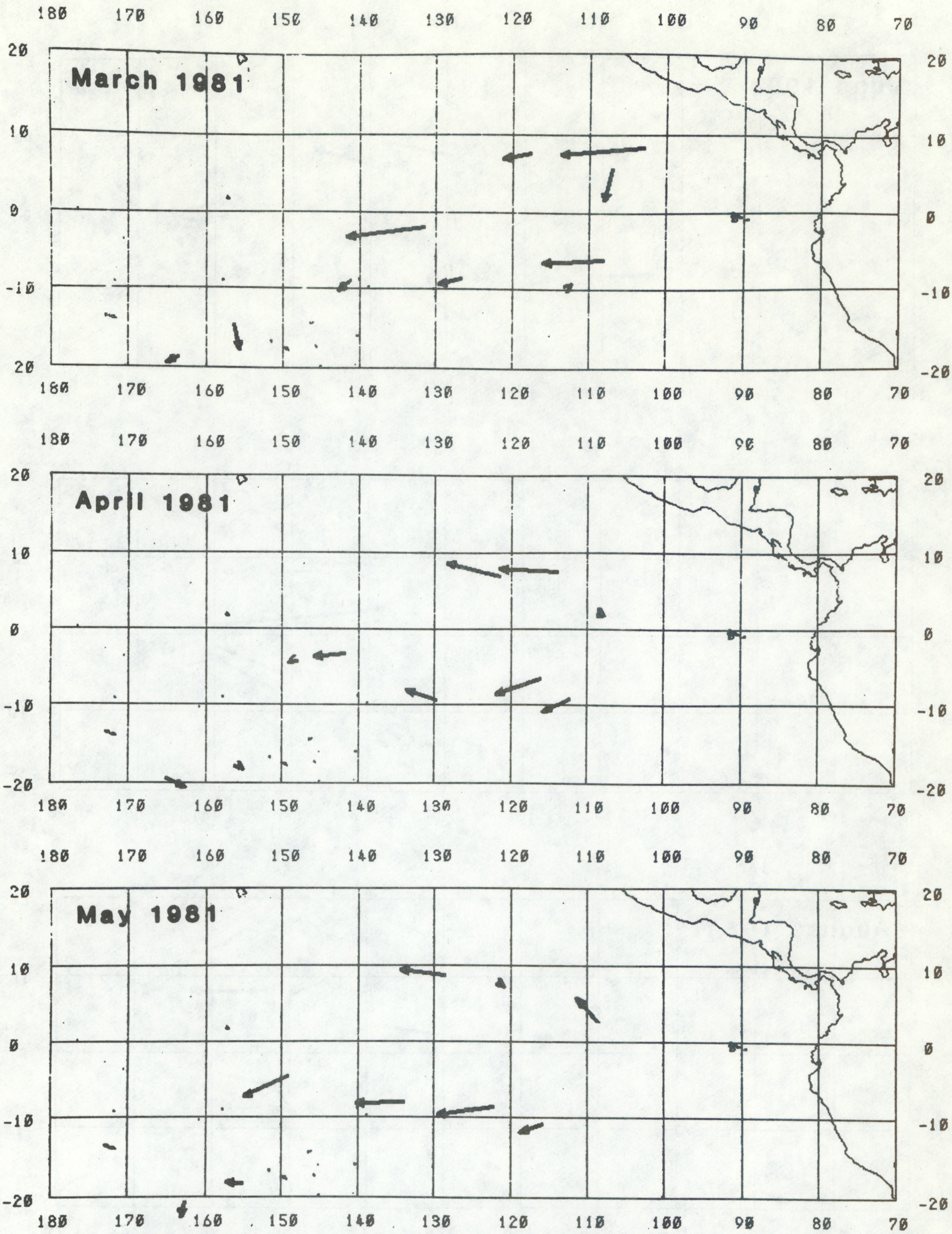
Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 2.



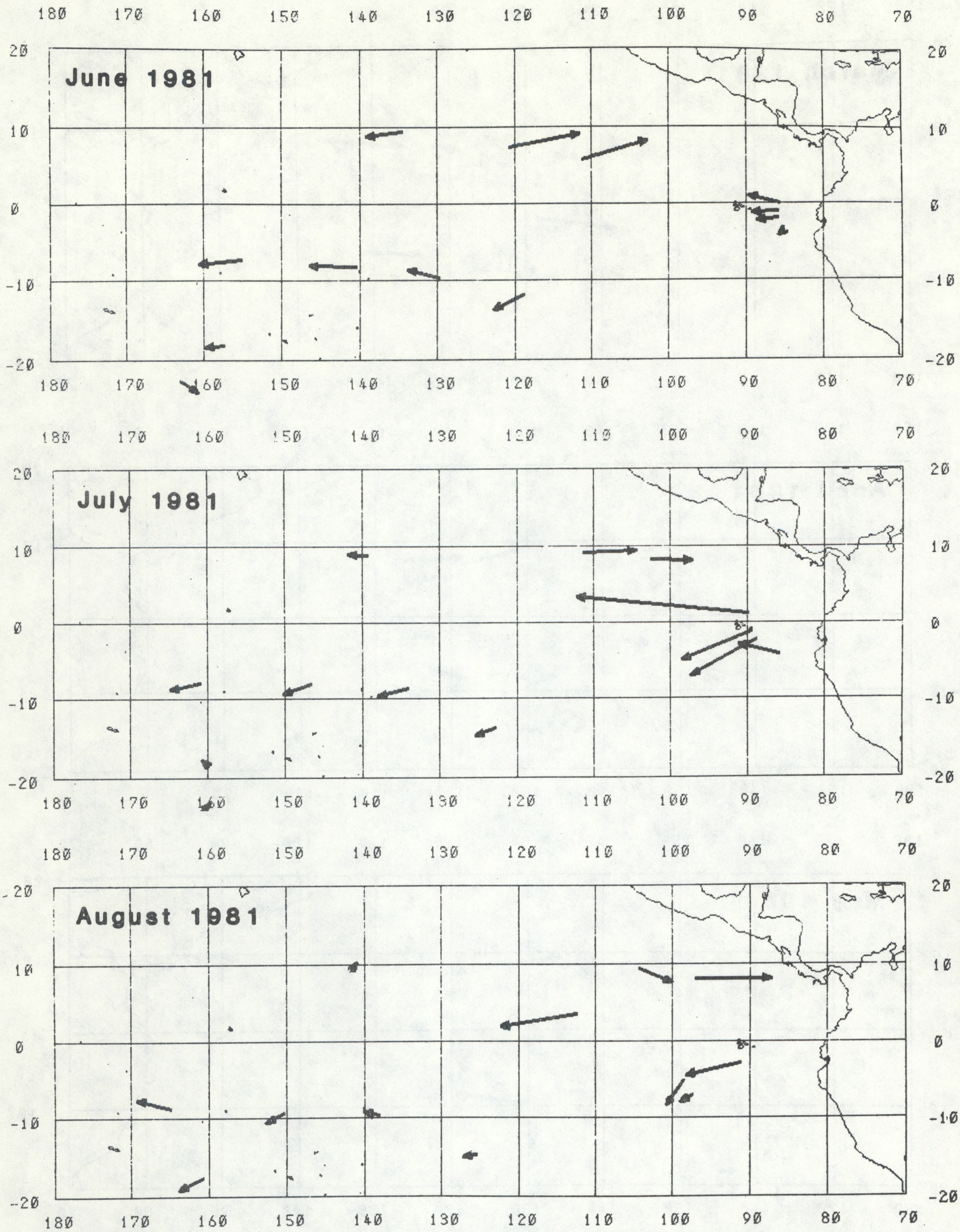
Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 3.



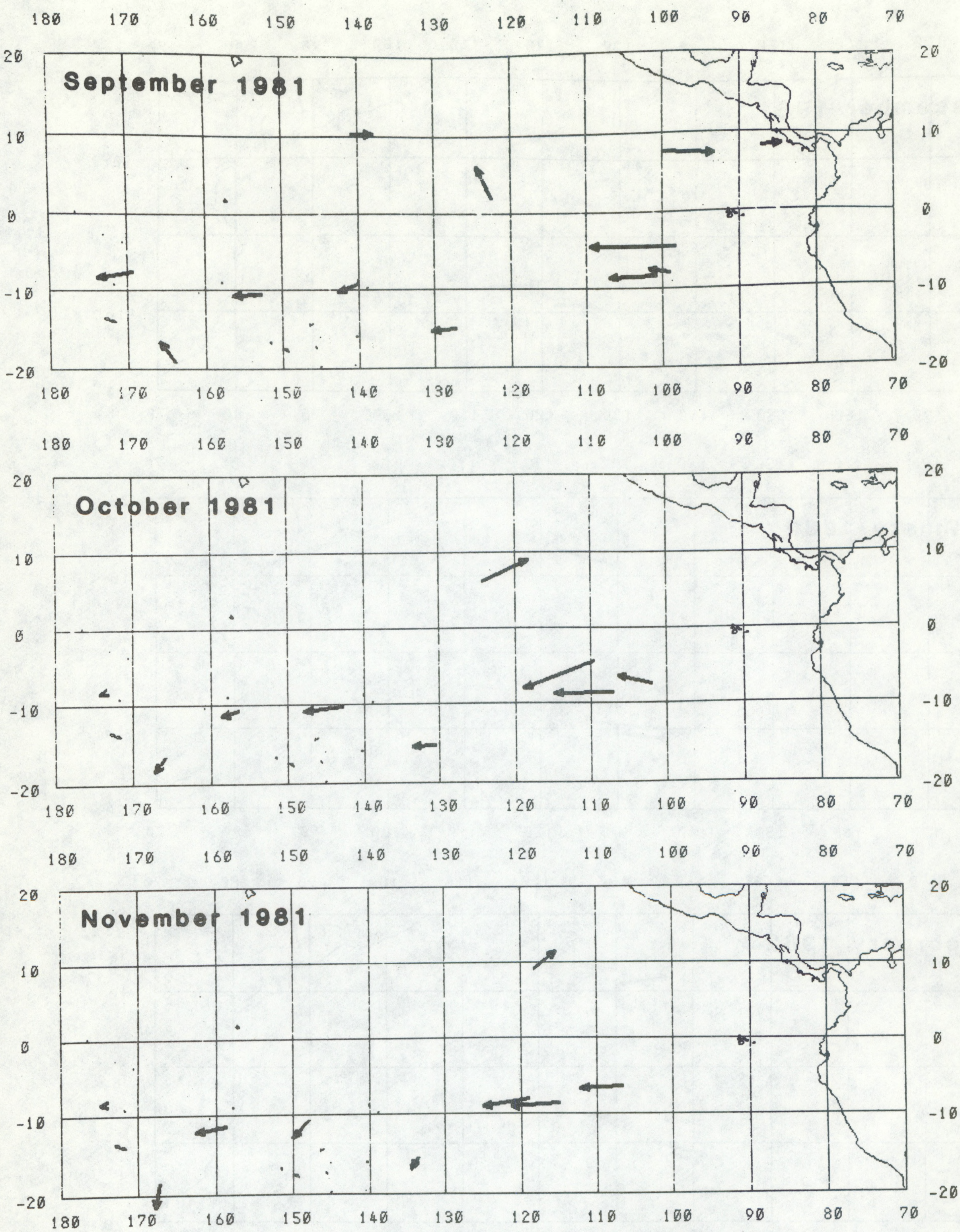
Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 4.



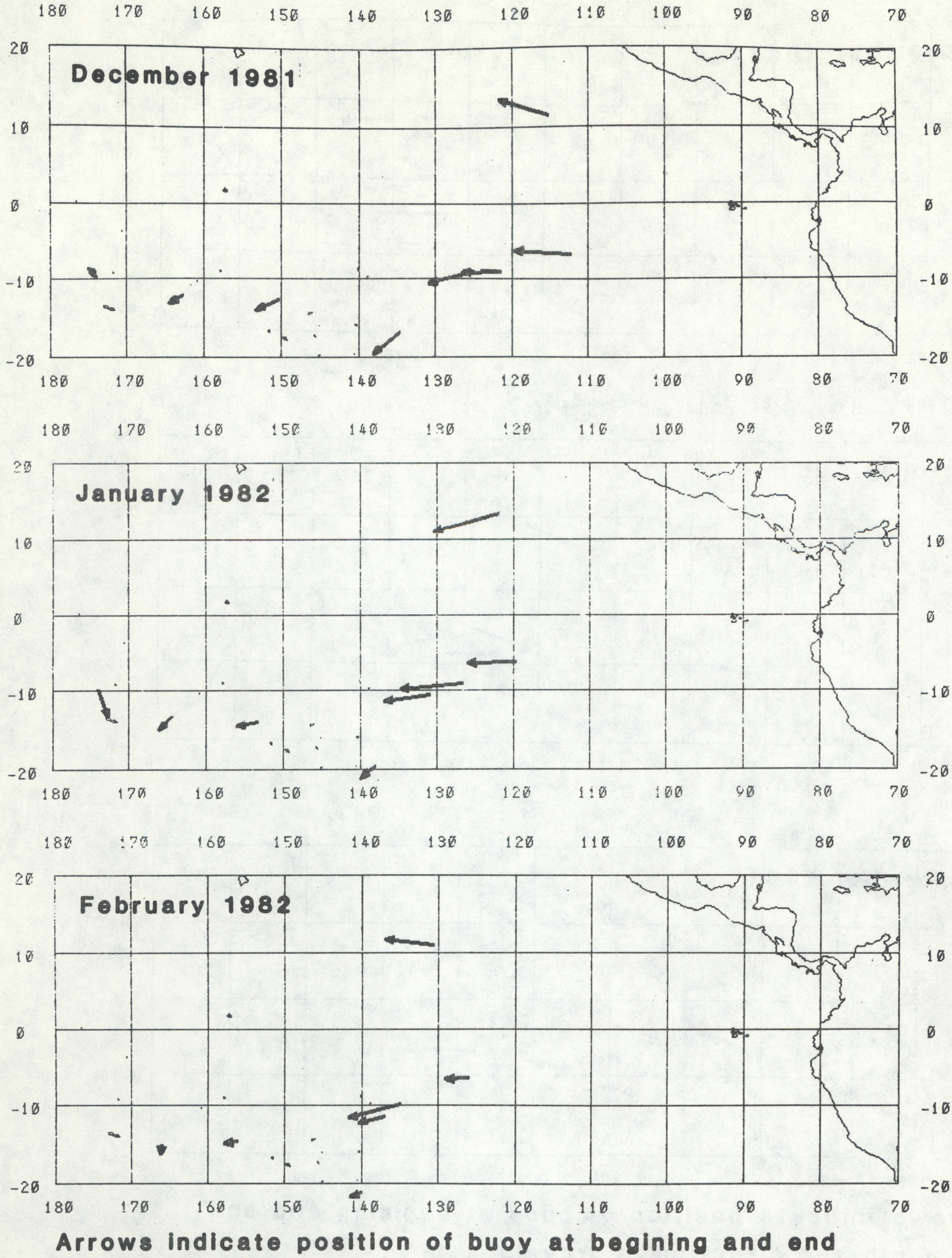
Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 5.



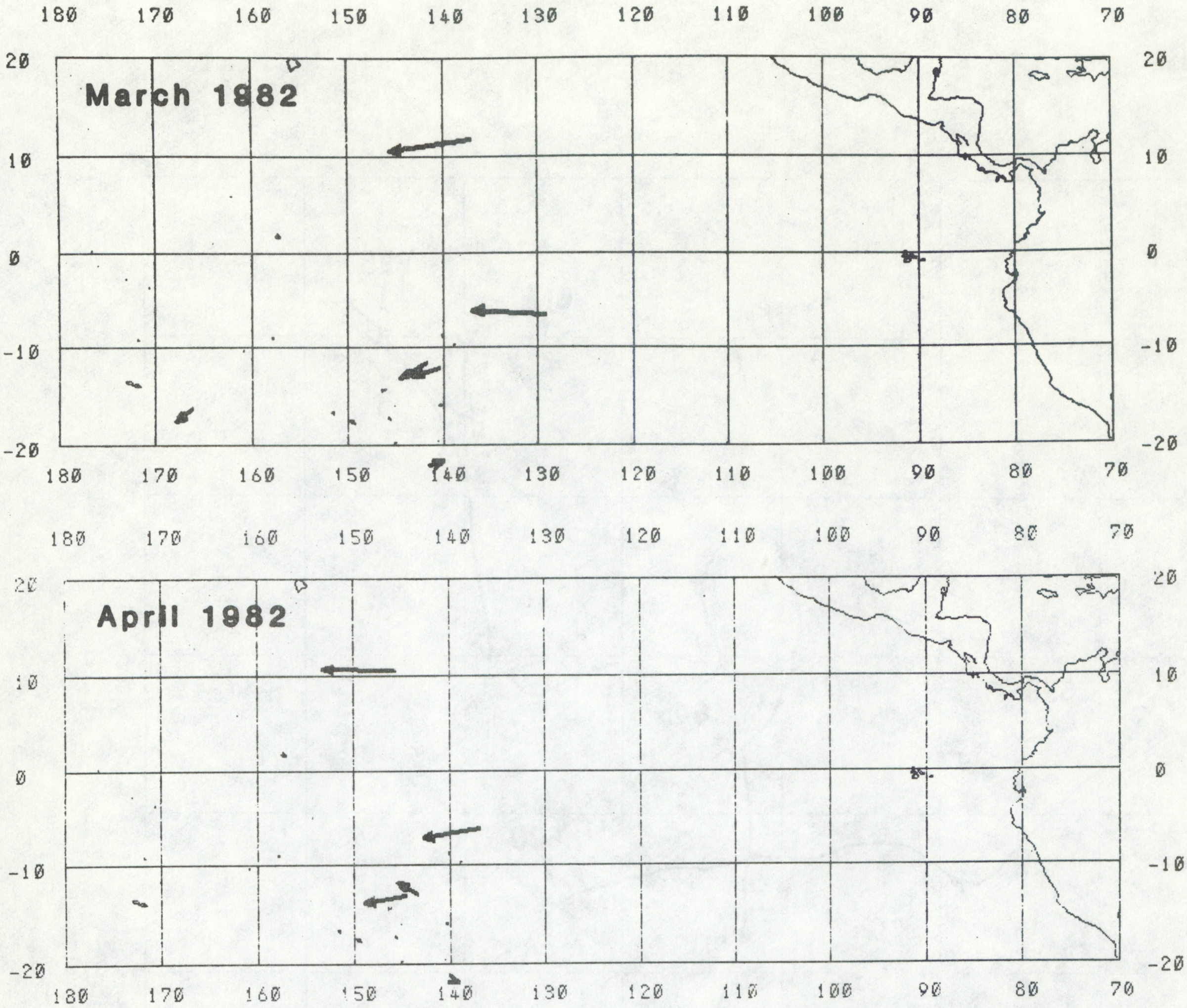
Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 6.



Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 7.



Arrows indicate position of buoy at begining and end of month and direction of travel.

Figure 8.

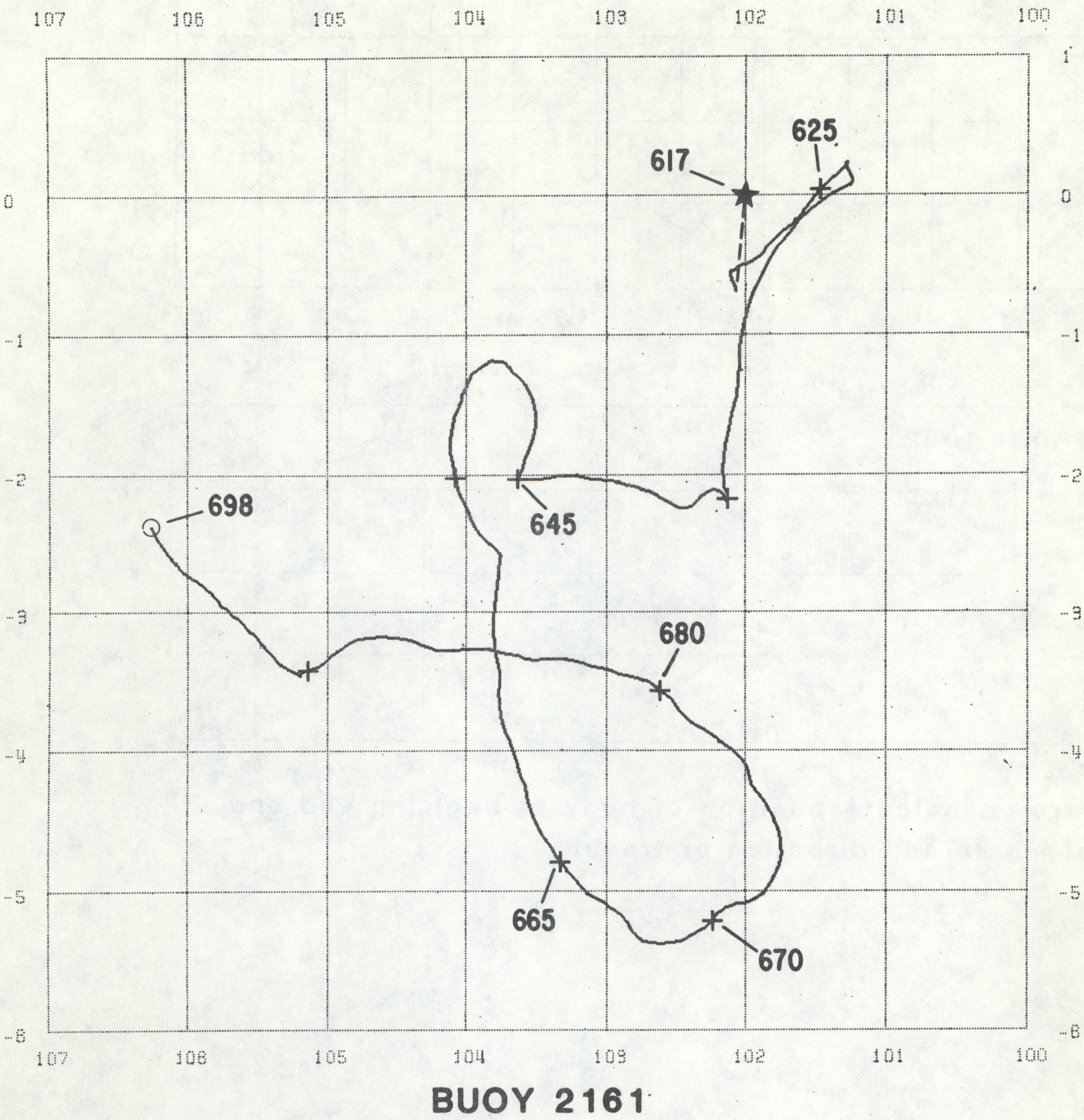


Figure 9. Trajectory of drifting buoy number 2161. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

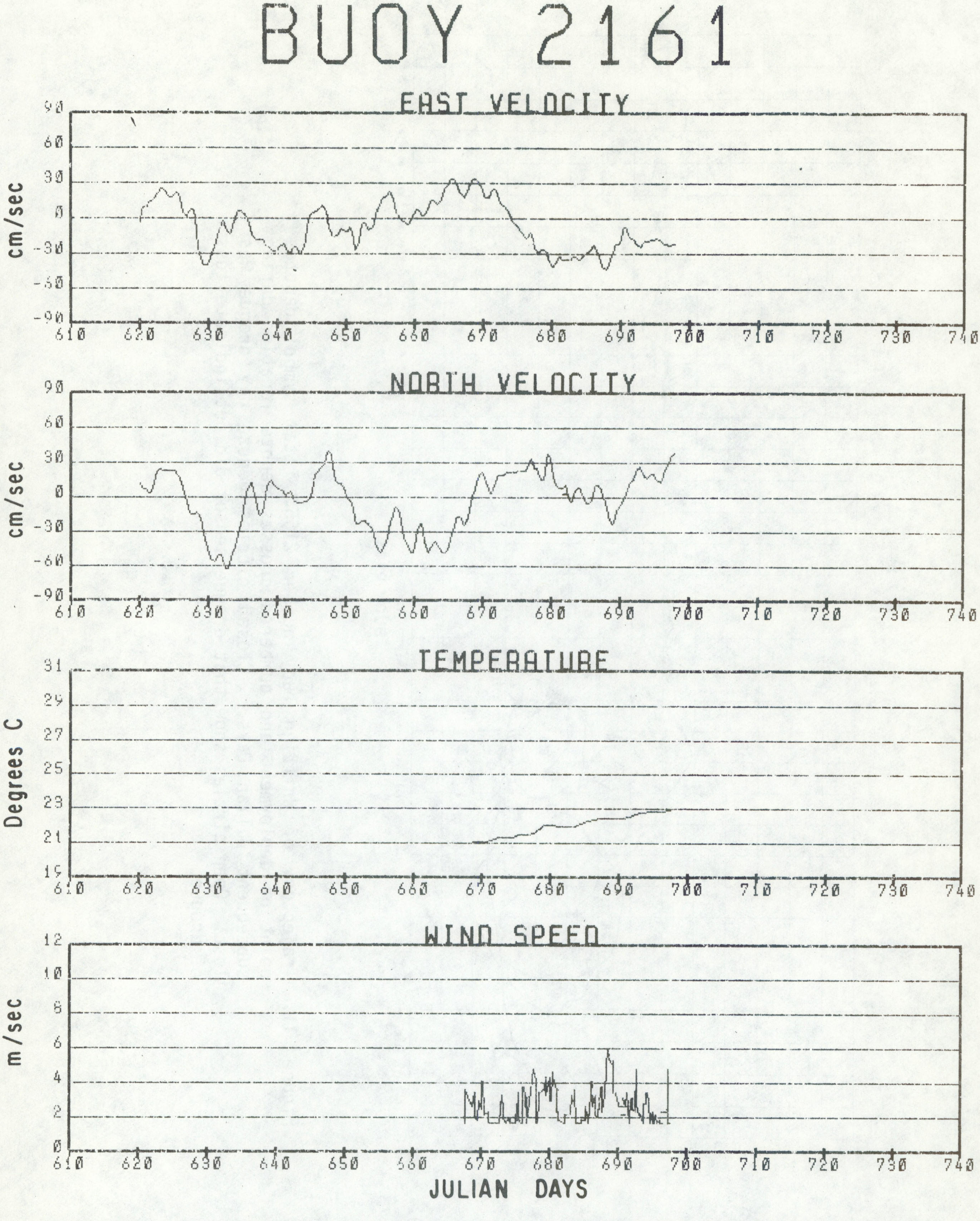


Figure 10. Time series of velocity and sensor data history for drifting buoy 2161.

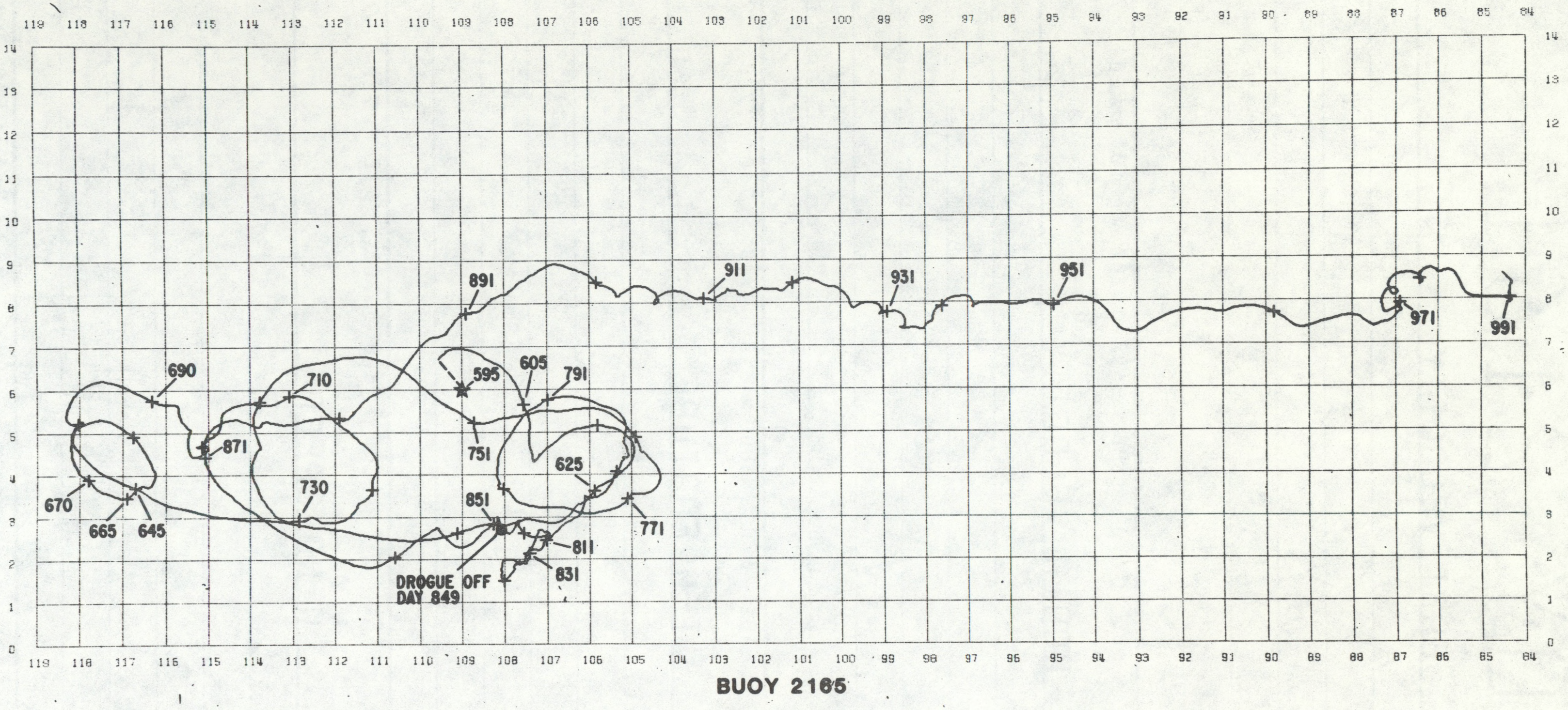


Figure 11. Trajectory of drifting buoy number 2165. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

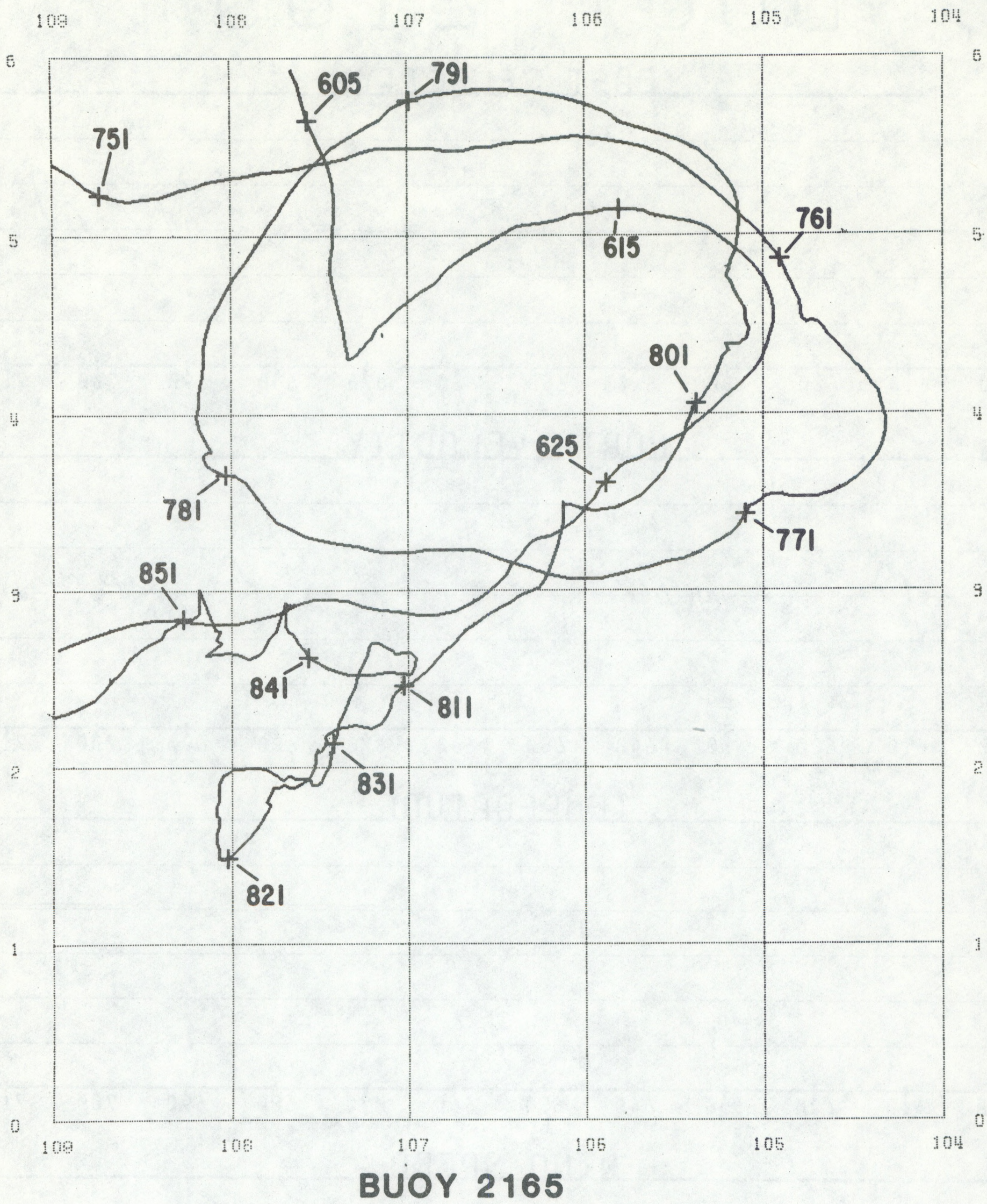


Figure 12. Trajectory detail for drifting buoy number 2165.

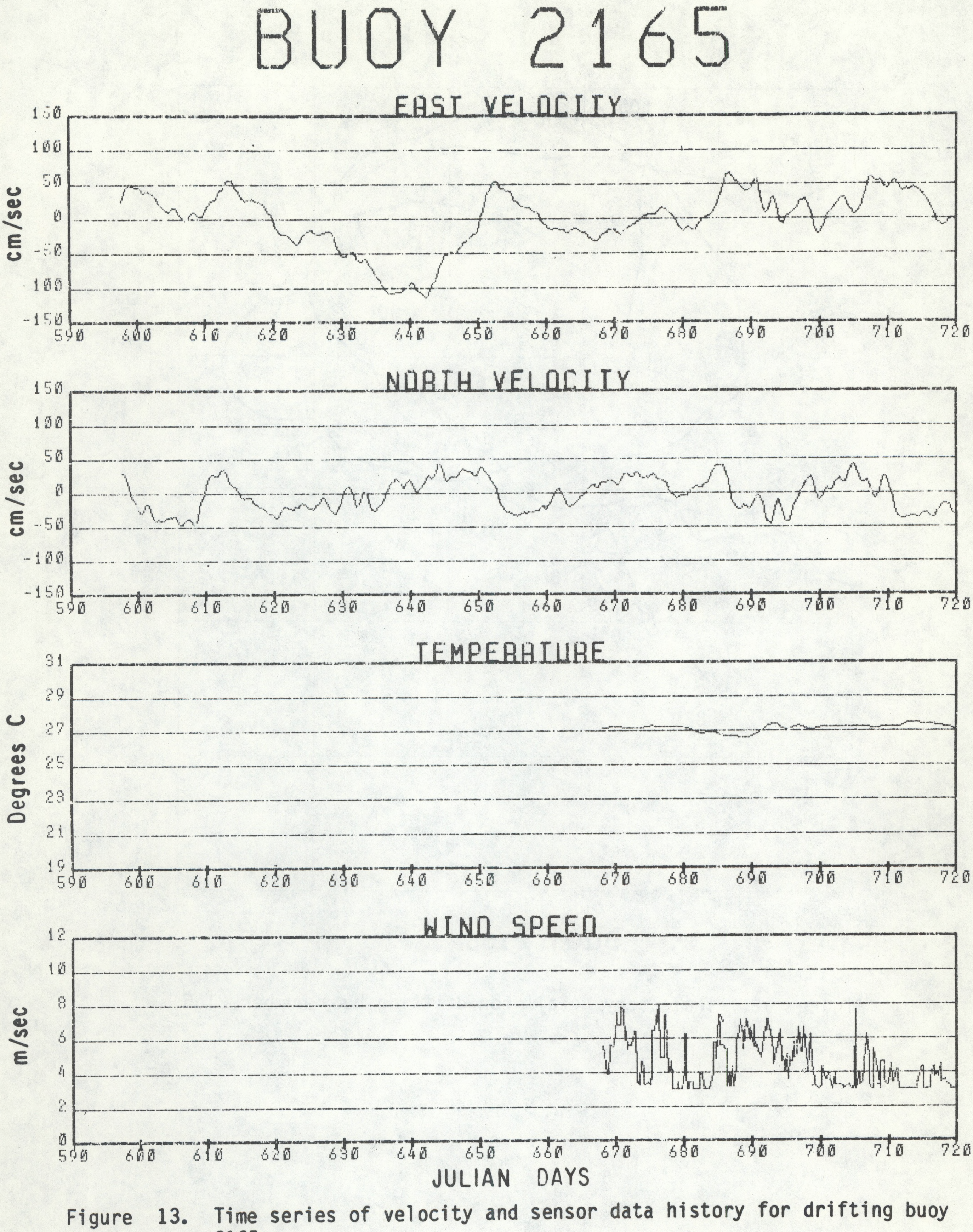


Figure 13. Time series of velocity and sensor data history for drifting buoy 2165.

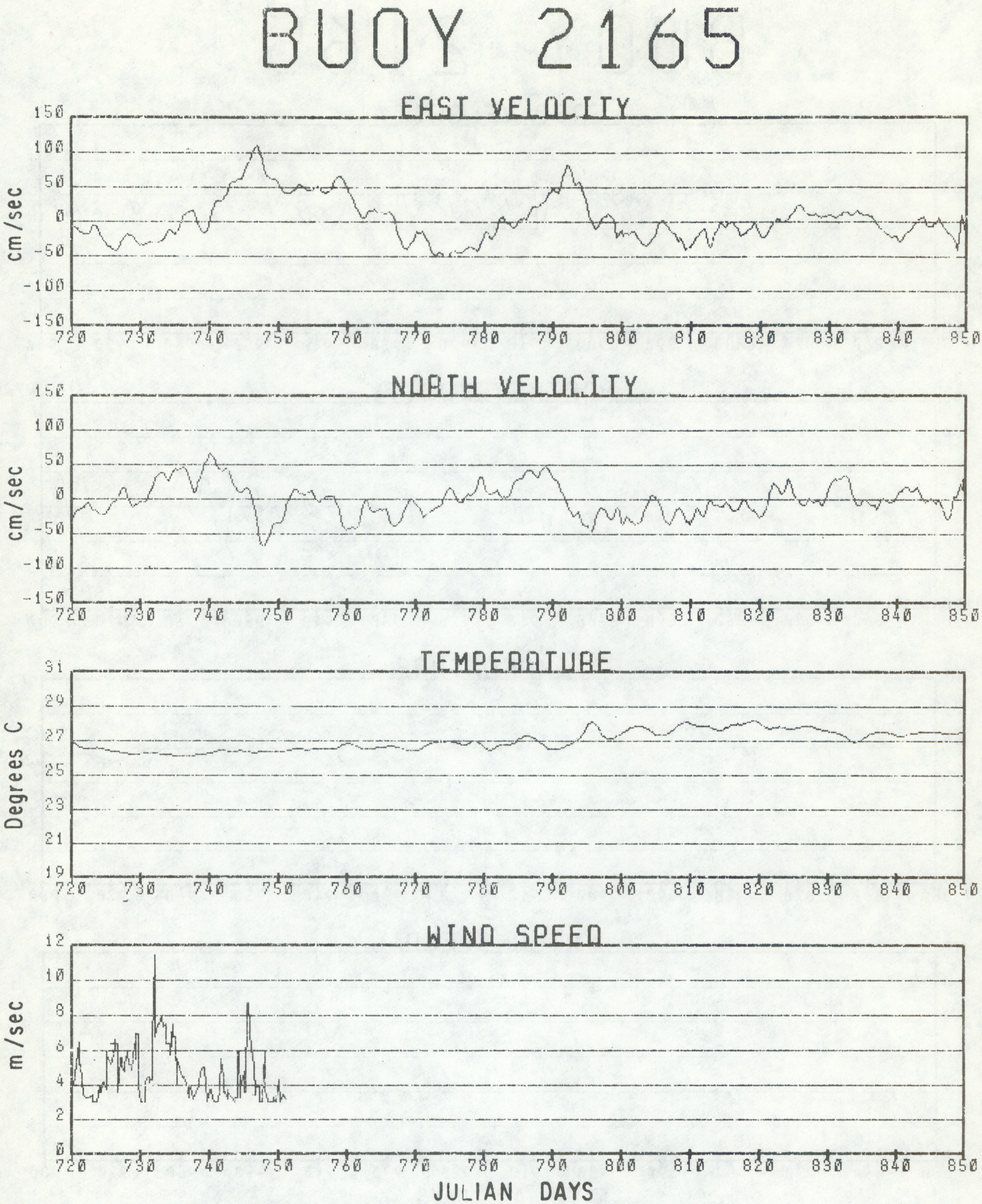


Figure 13. (Continued)

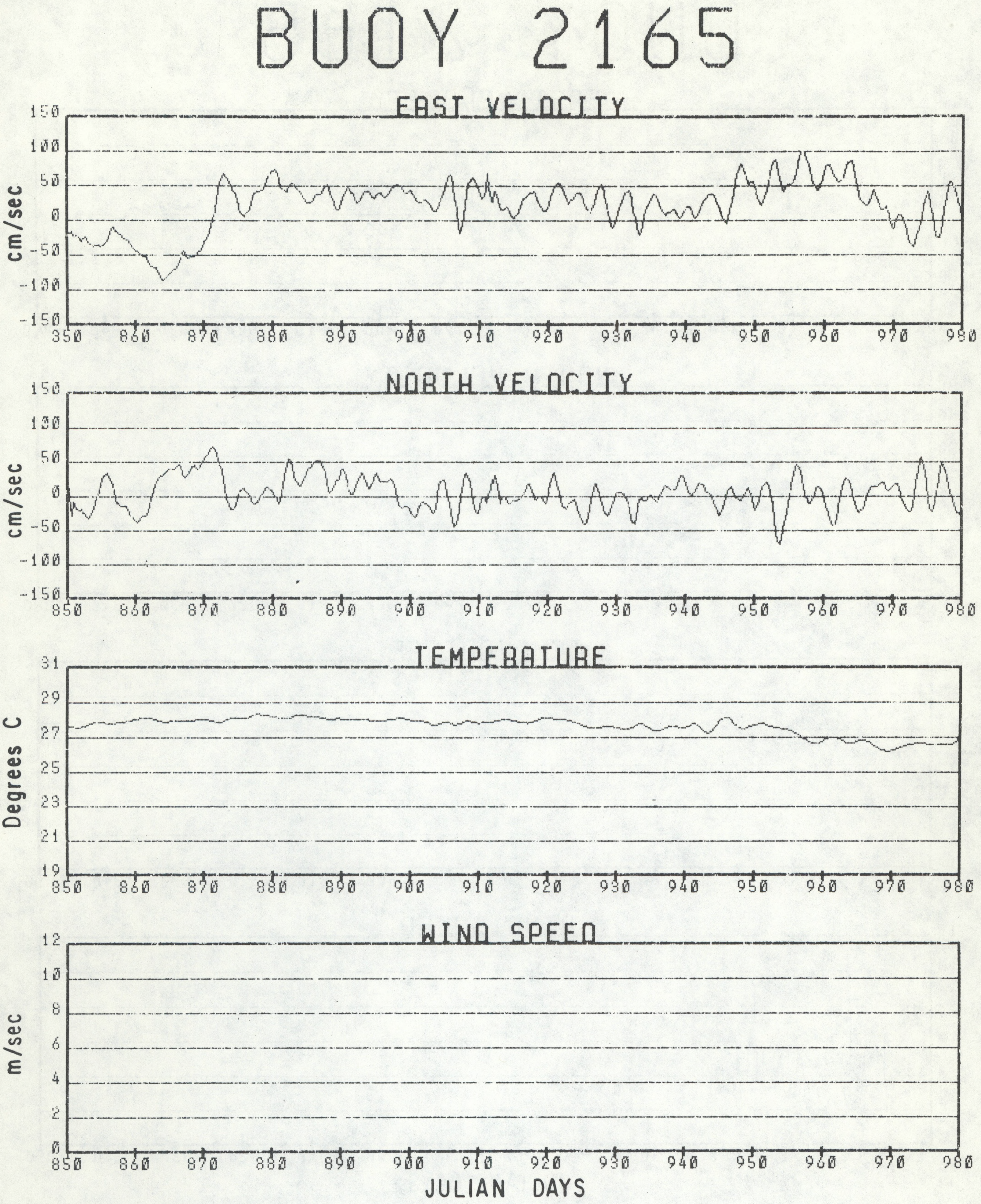


Figure 13. (Continued)

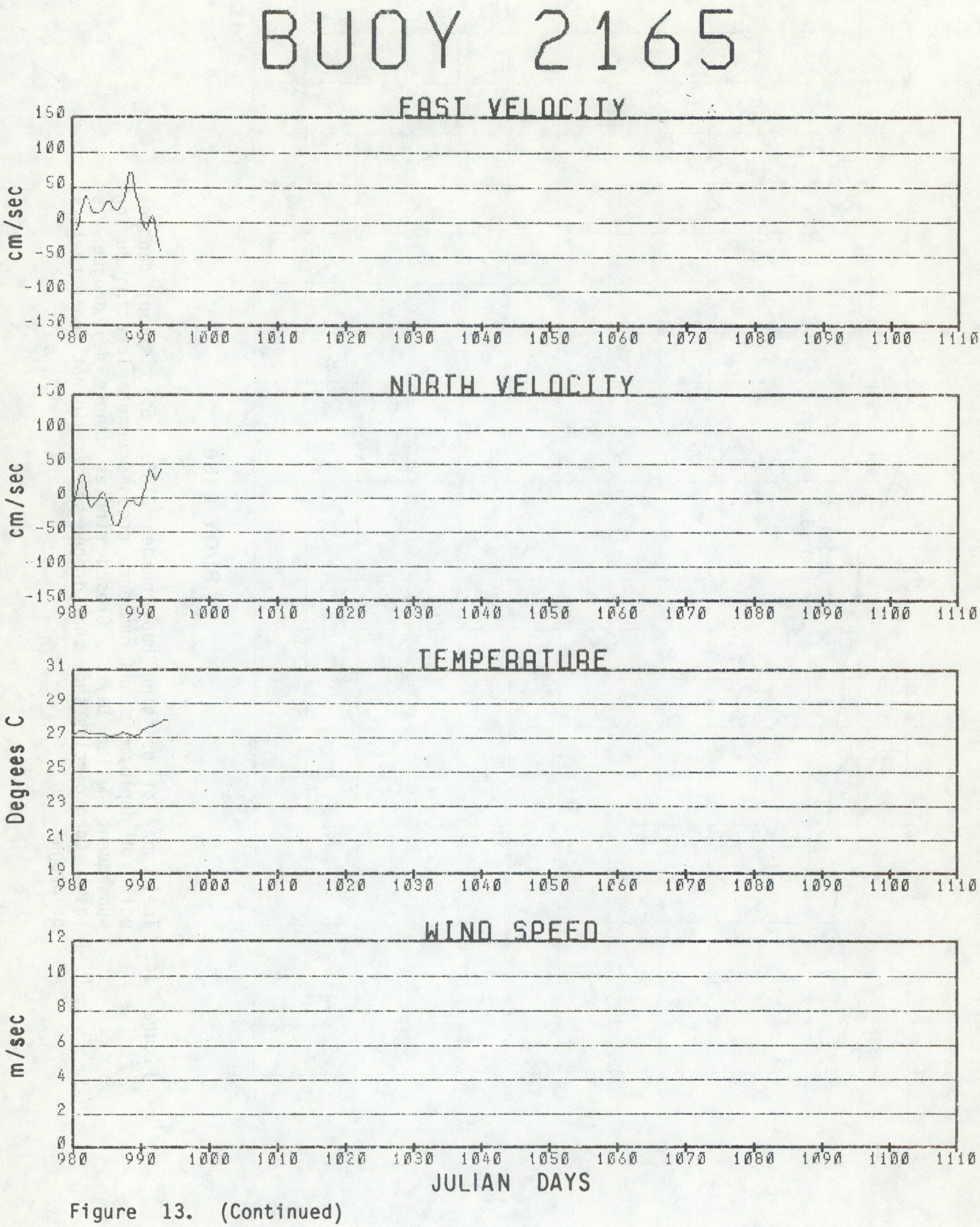


Figure 13. (Continued)

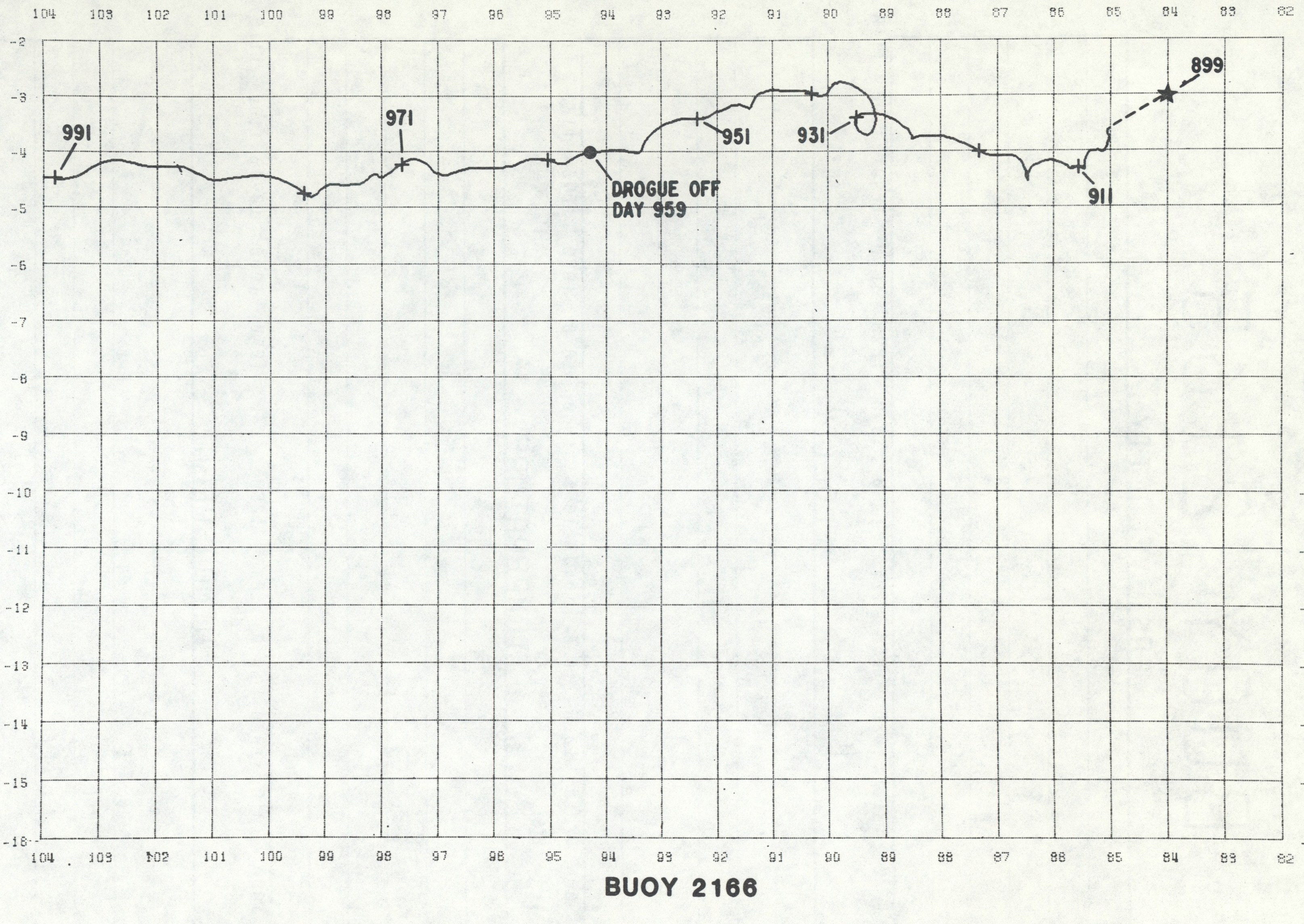


Figure 14. Trajectory of drifting buoy number 2166. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

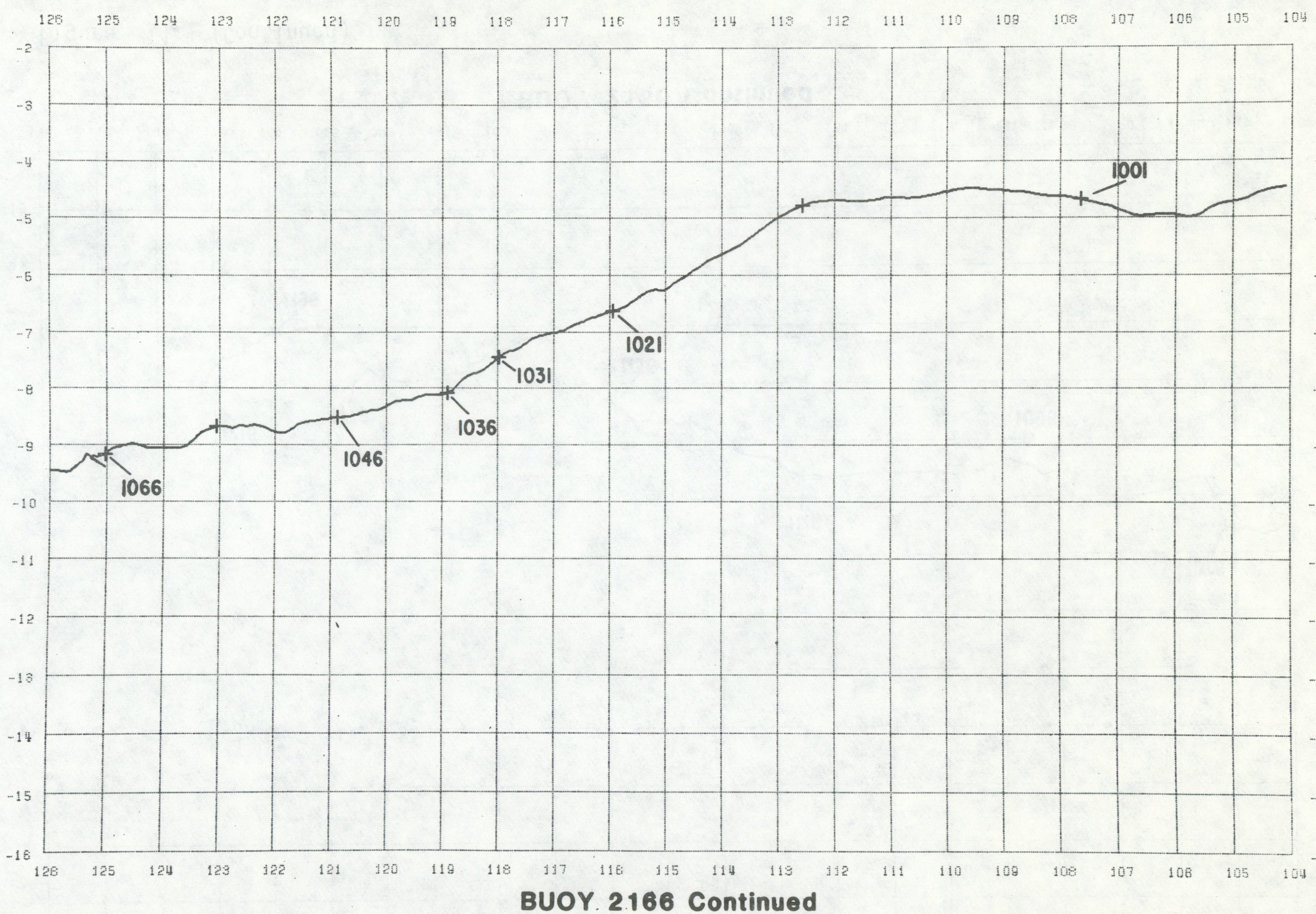
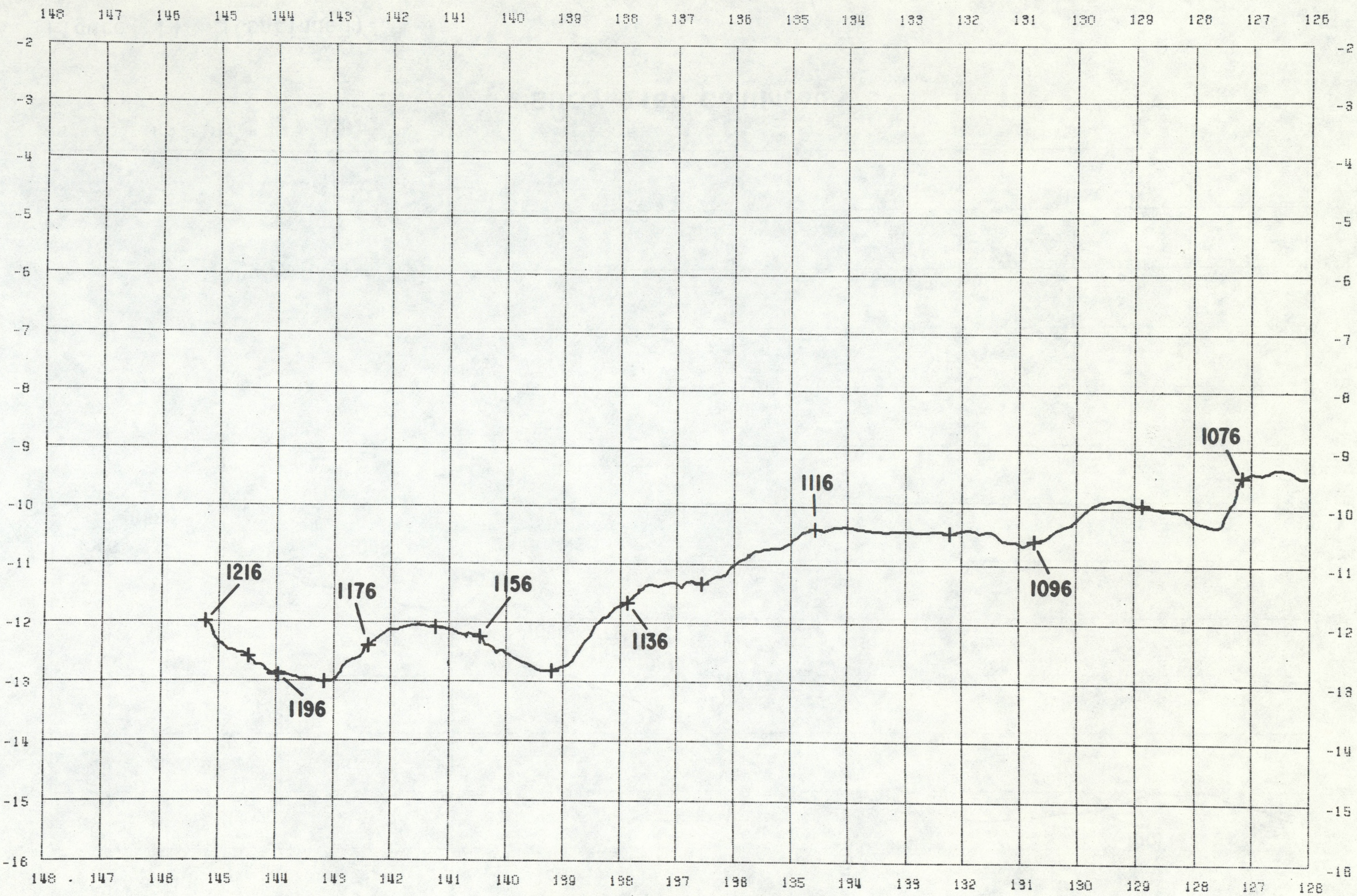


Figure 14. (Continued)



BUOY 2166 Continued

Figure 14. (Continued)

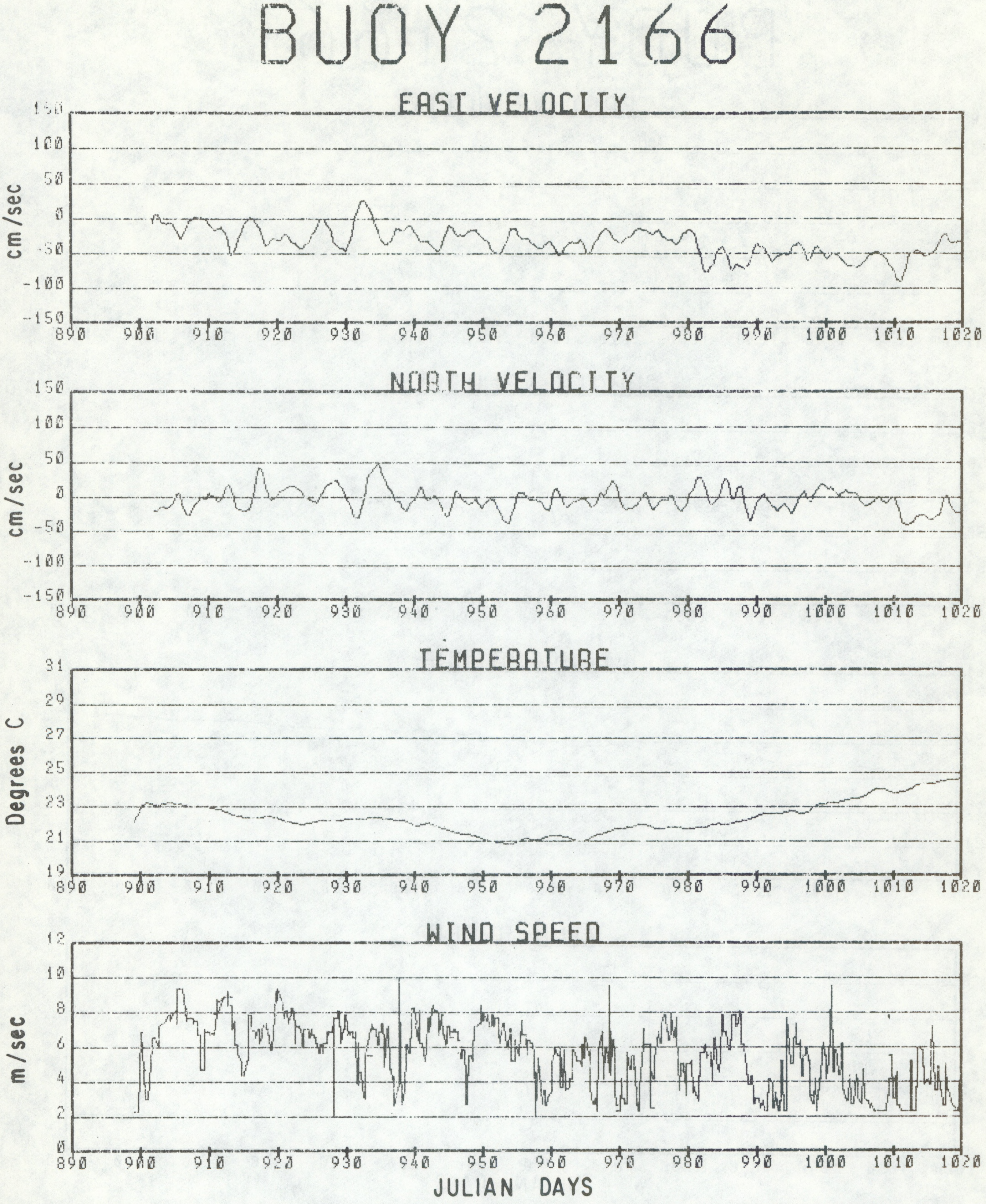


Figure 15. Time series of velocity and sensor data history for drifting buoy 2166.

BUOY 2166

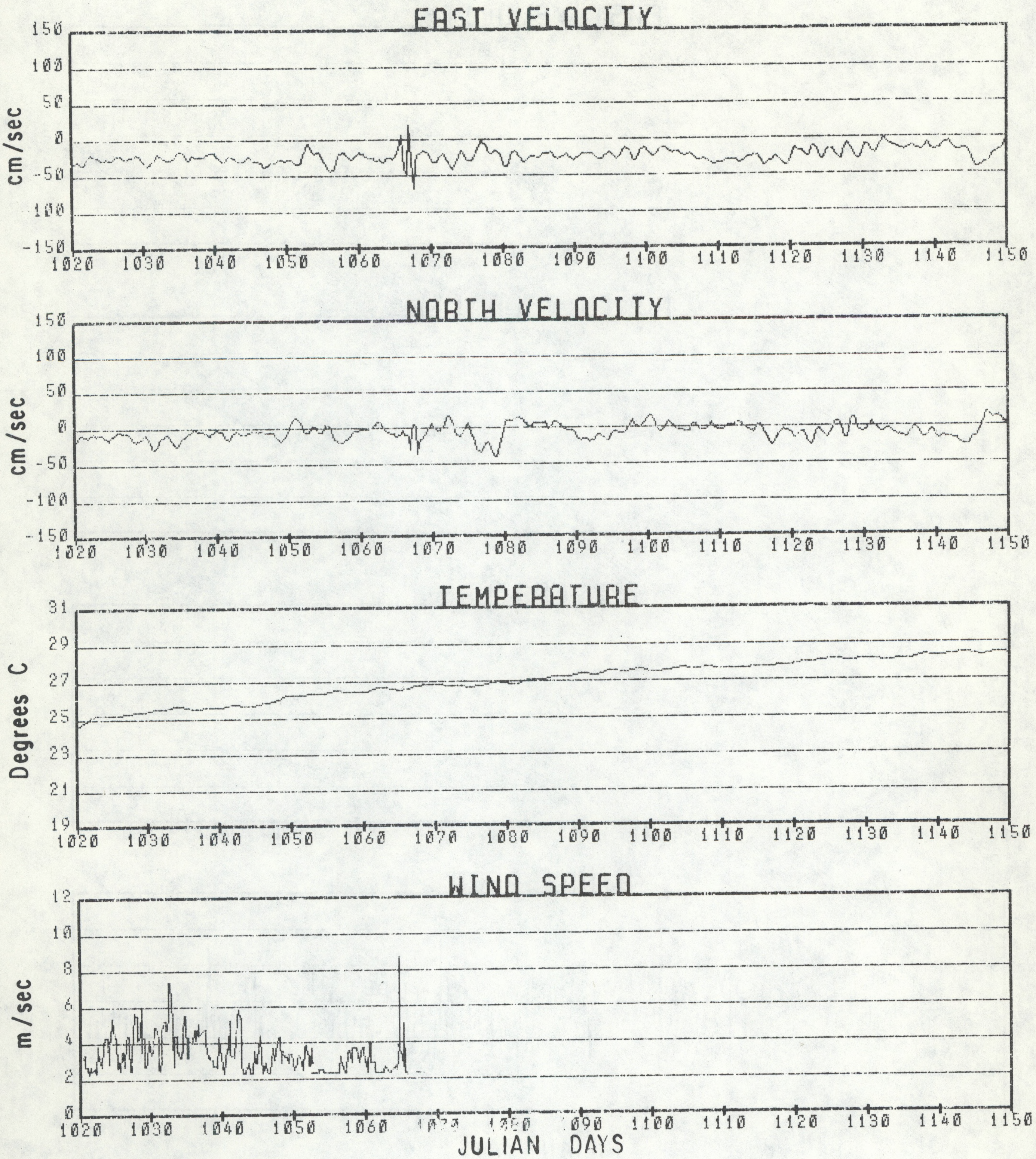


Figure 15. (Continued)

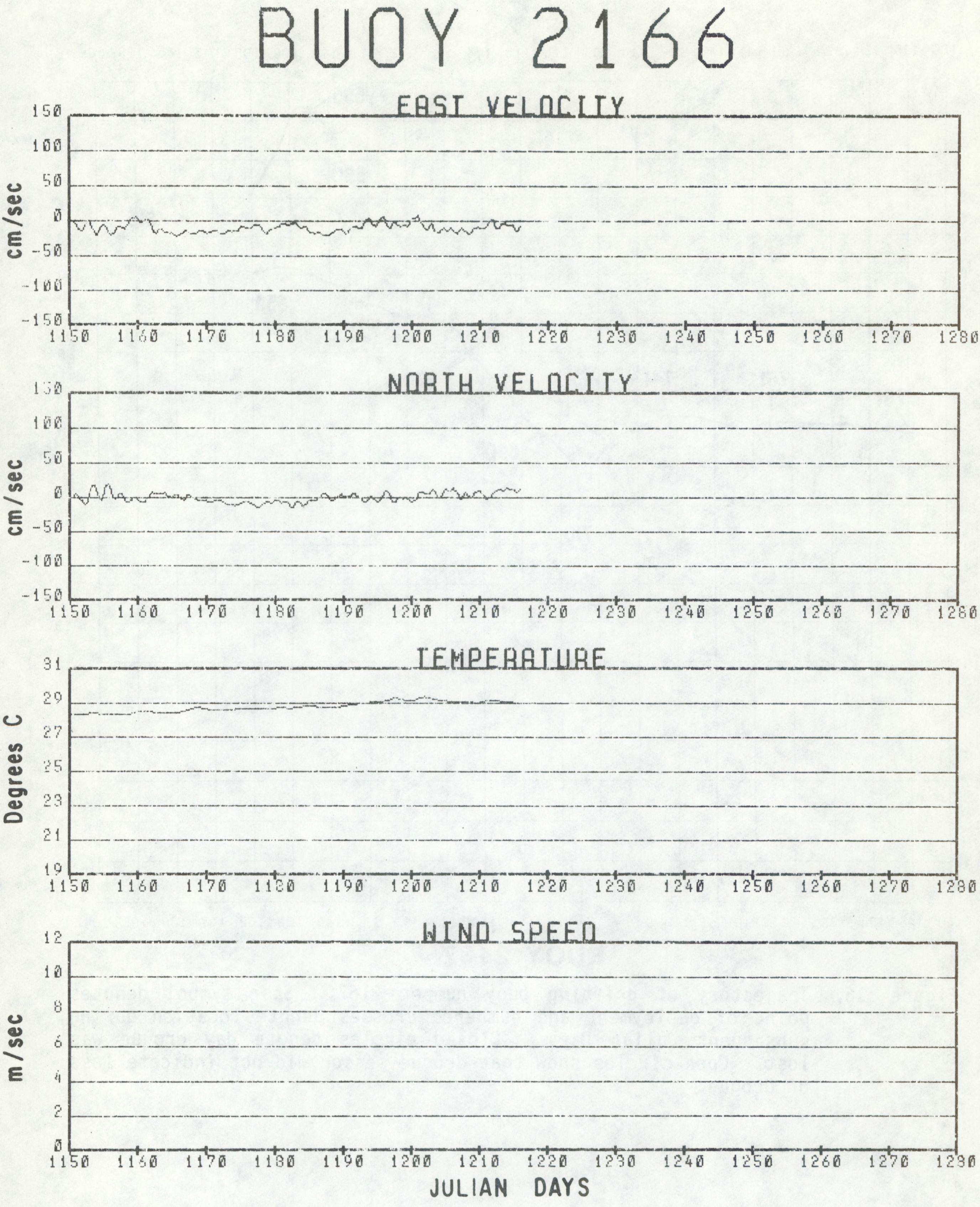


Figure 15. (Continued)

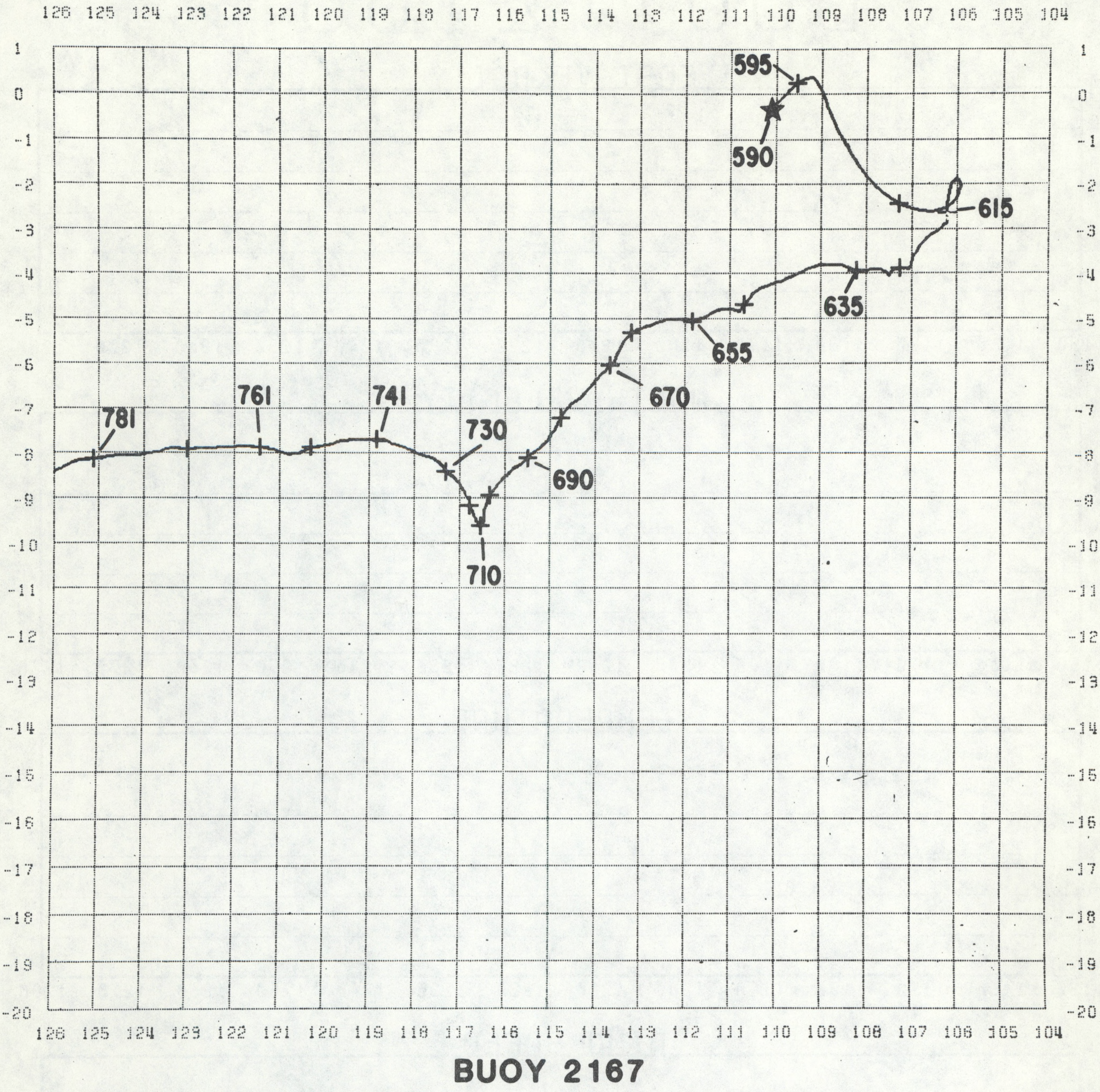
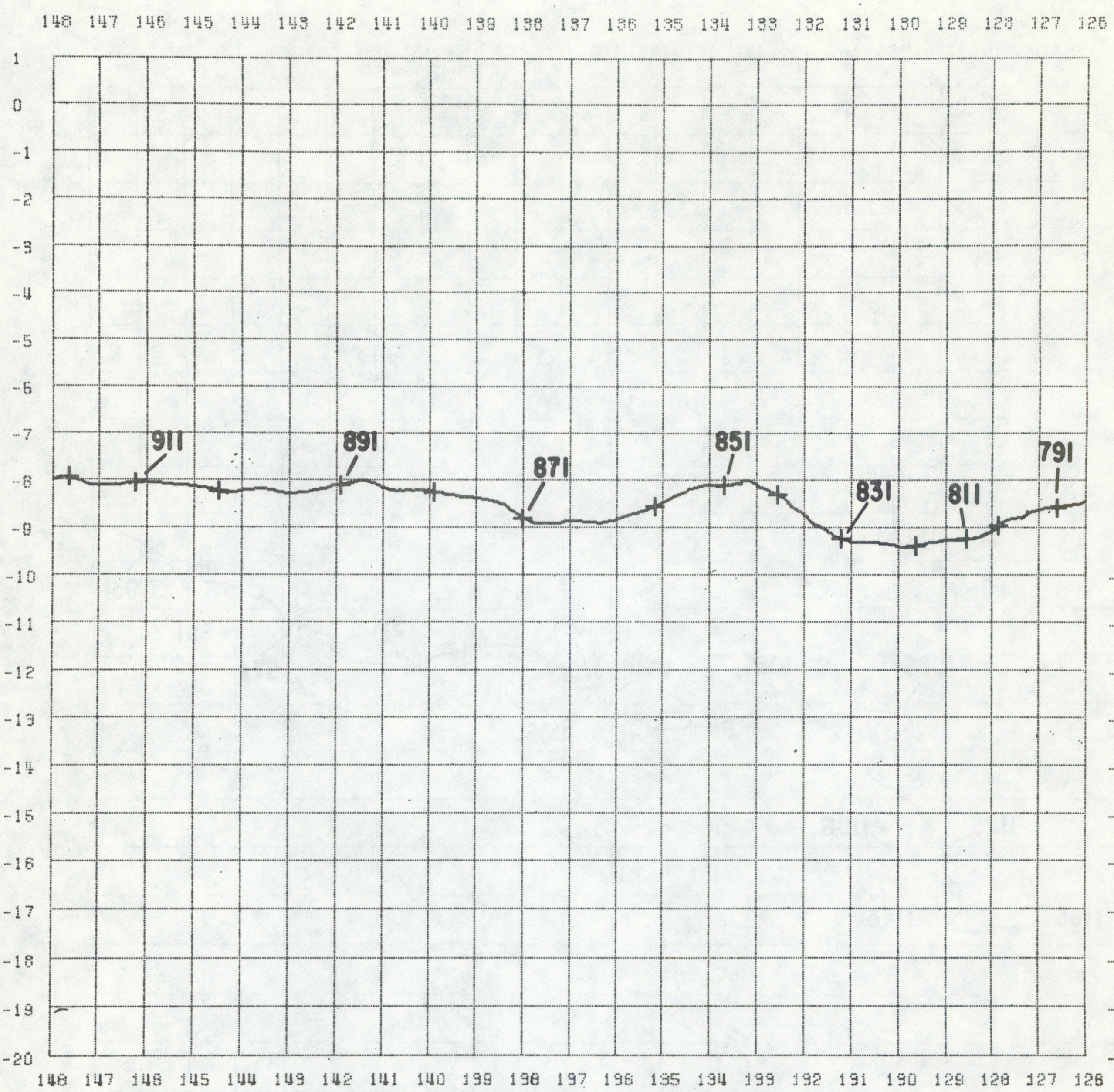


Figure 16. Trajectory of drifting buoy number 2167. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2167 Continued

Figure 16. (Continued)

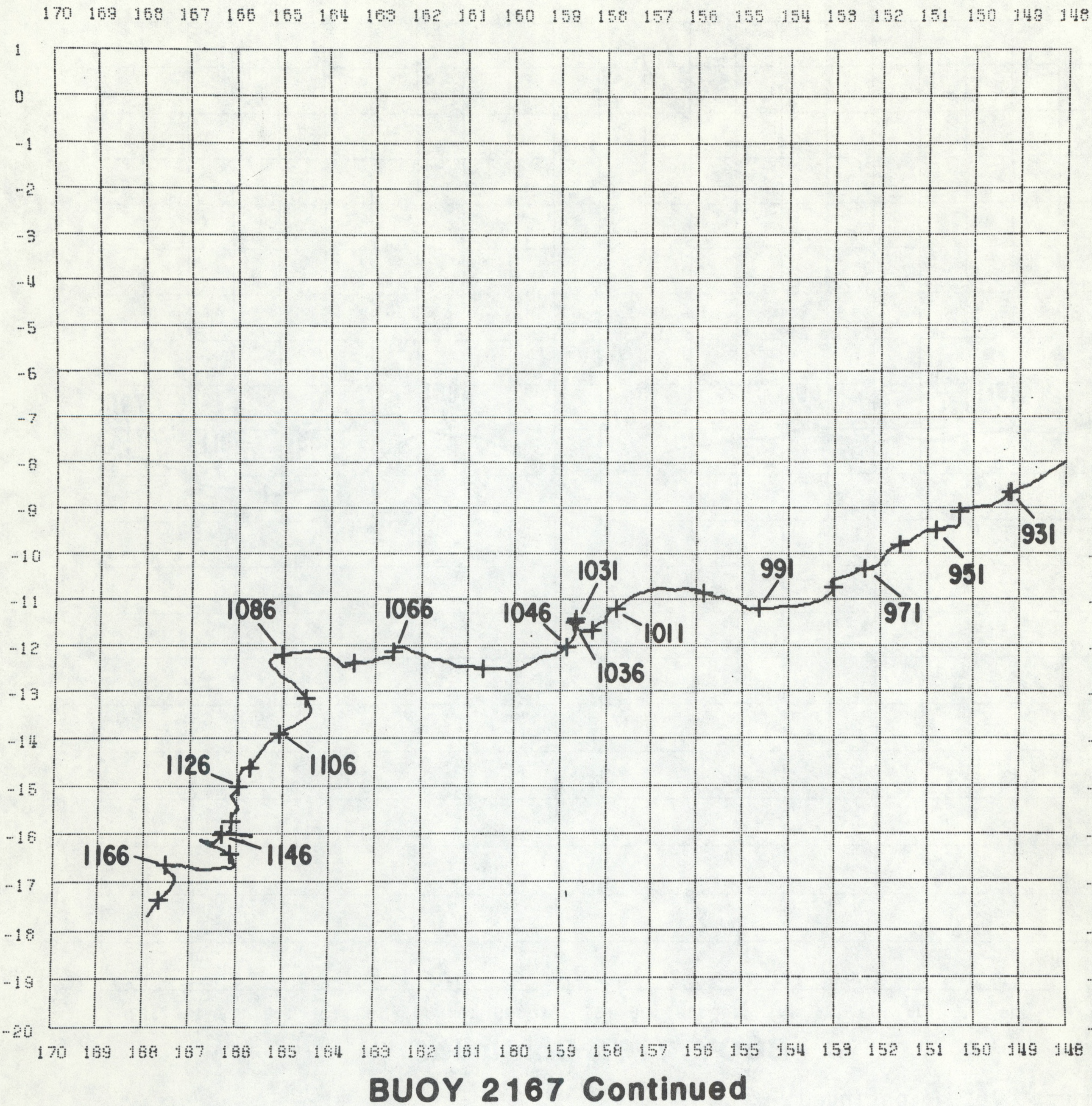


Figure 16. (Continued)

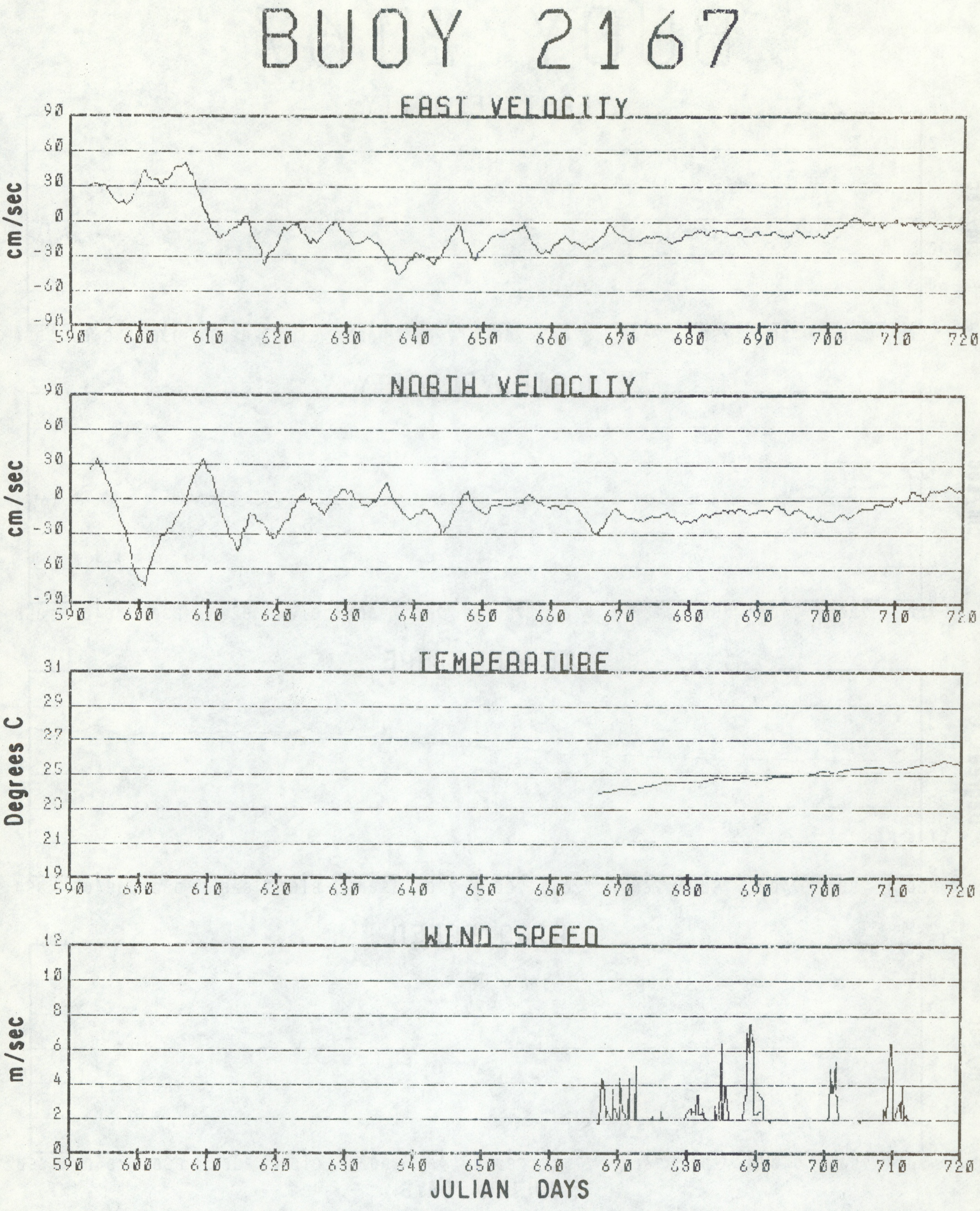


Figure 17. Time series of velocity and sensor data history for drifting buoy 2167.

BUOY 2167

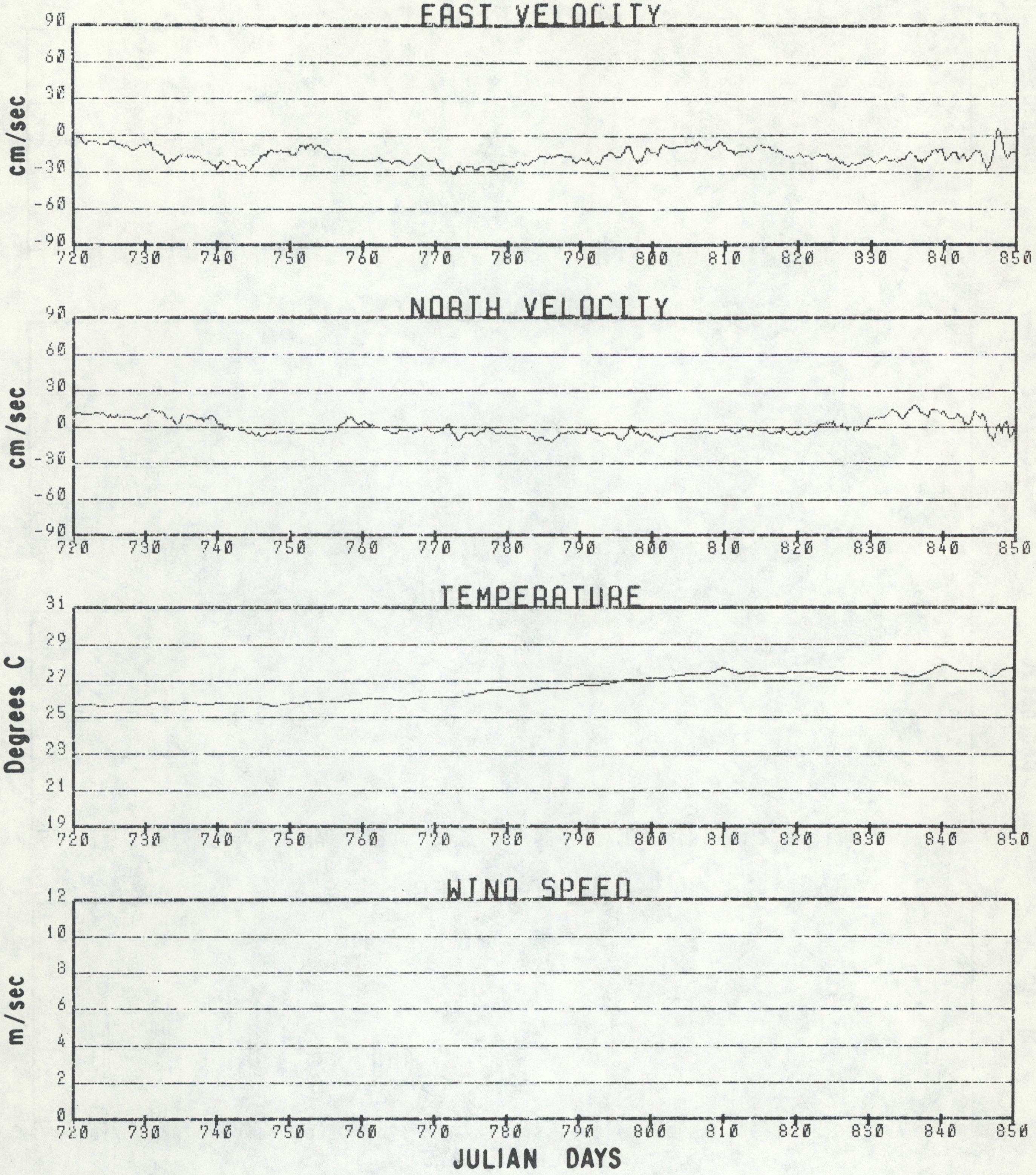


Figure 17. (Continued)

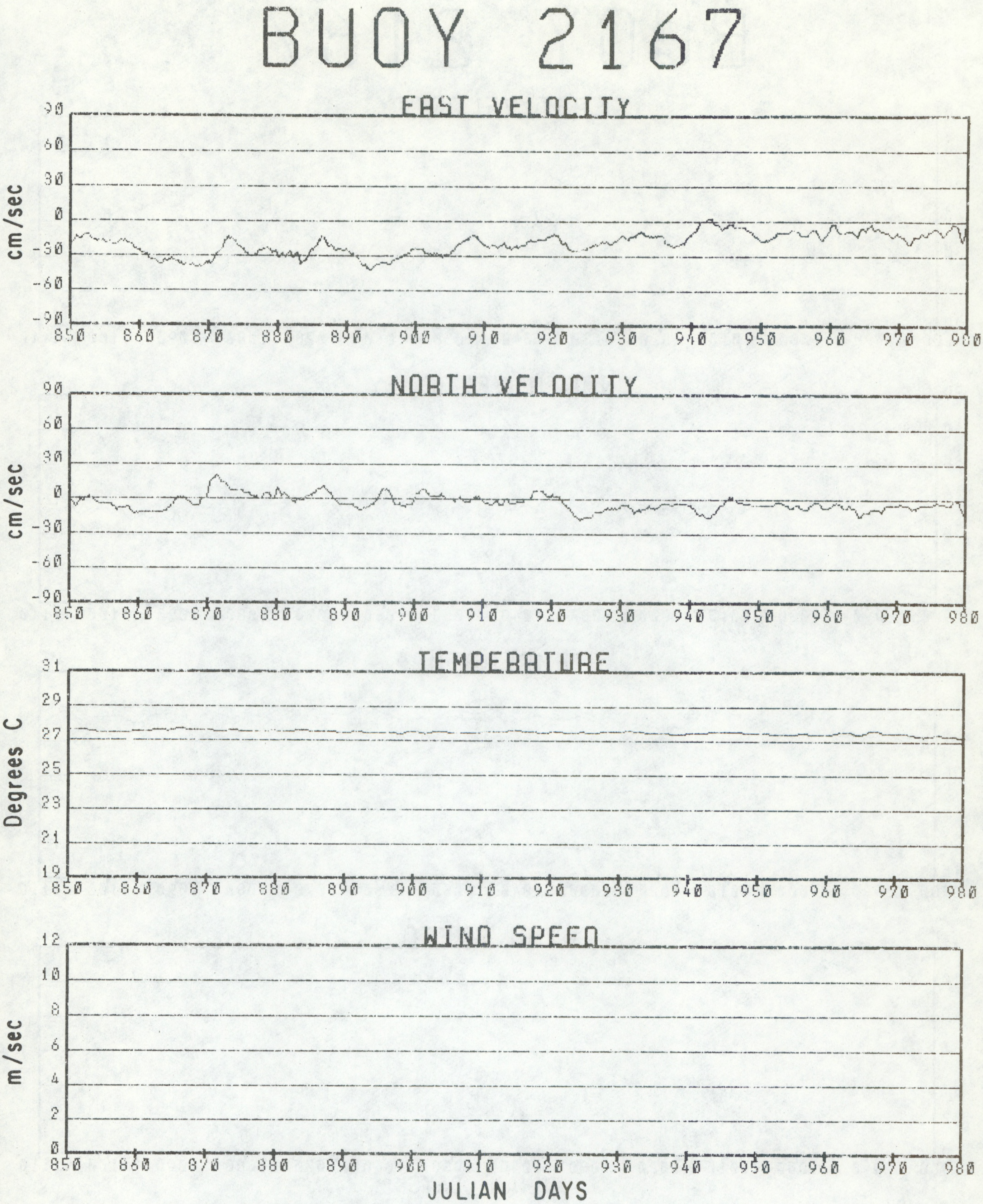


Figure 17. (Continued)

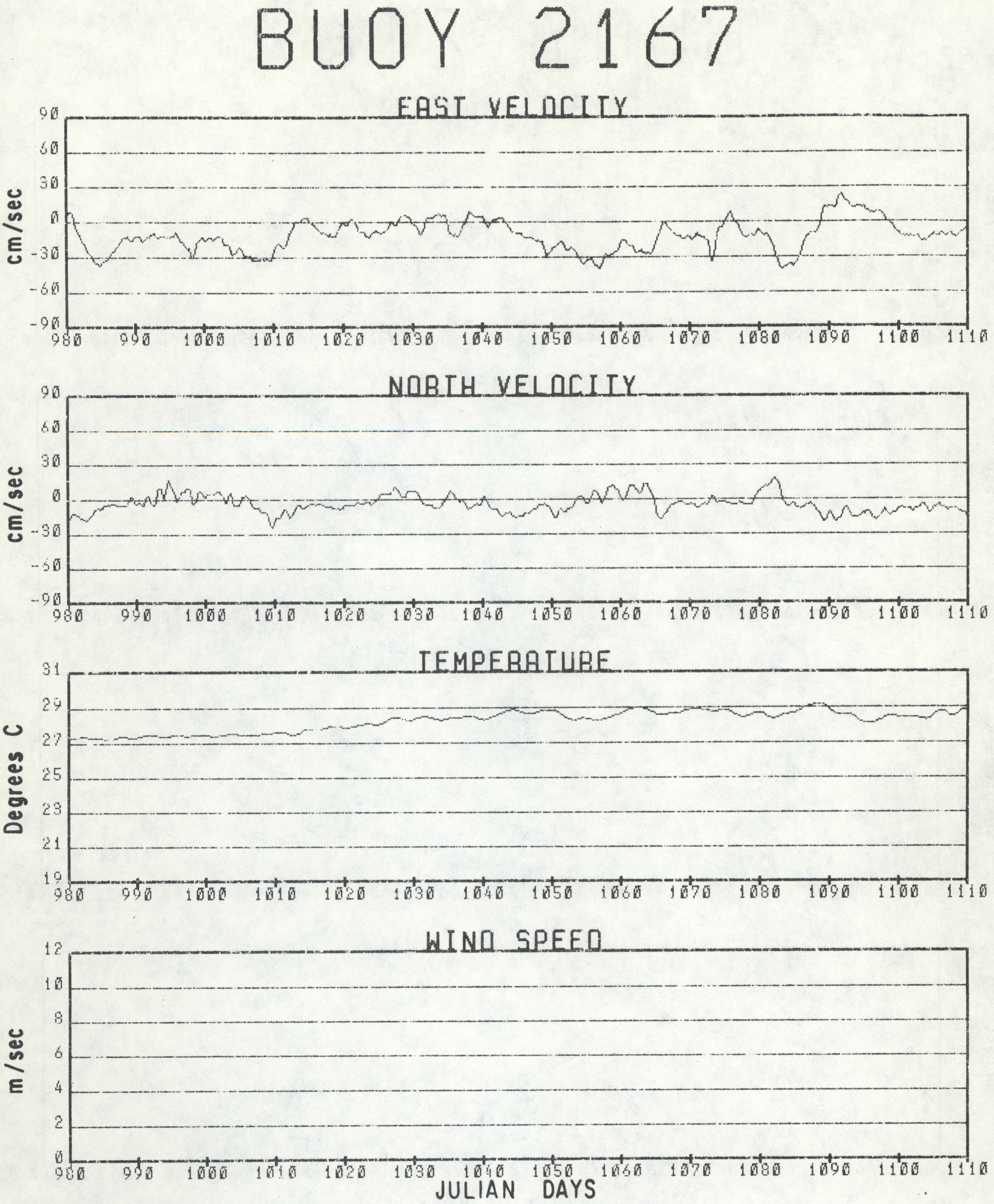


Figure 17. (Continued)

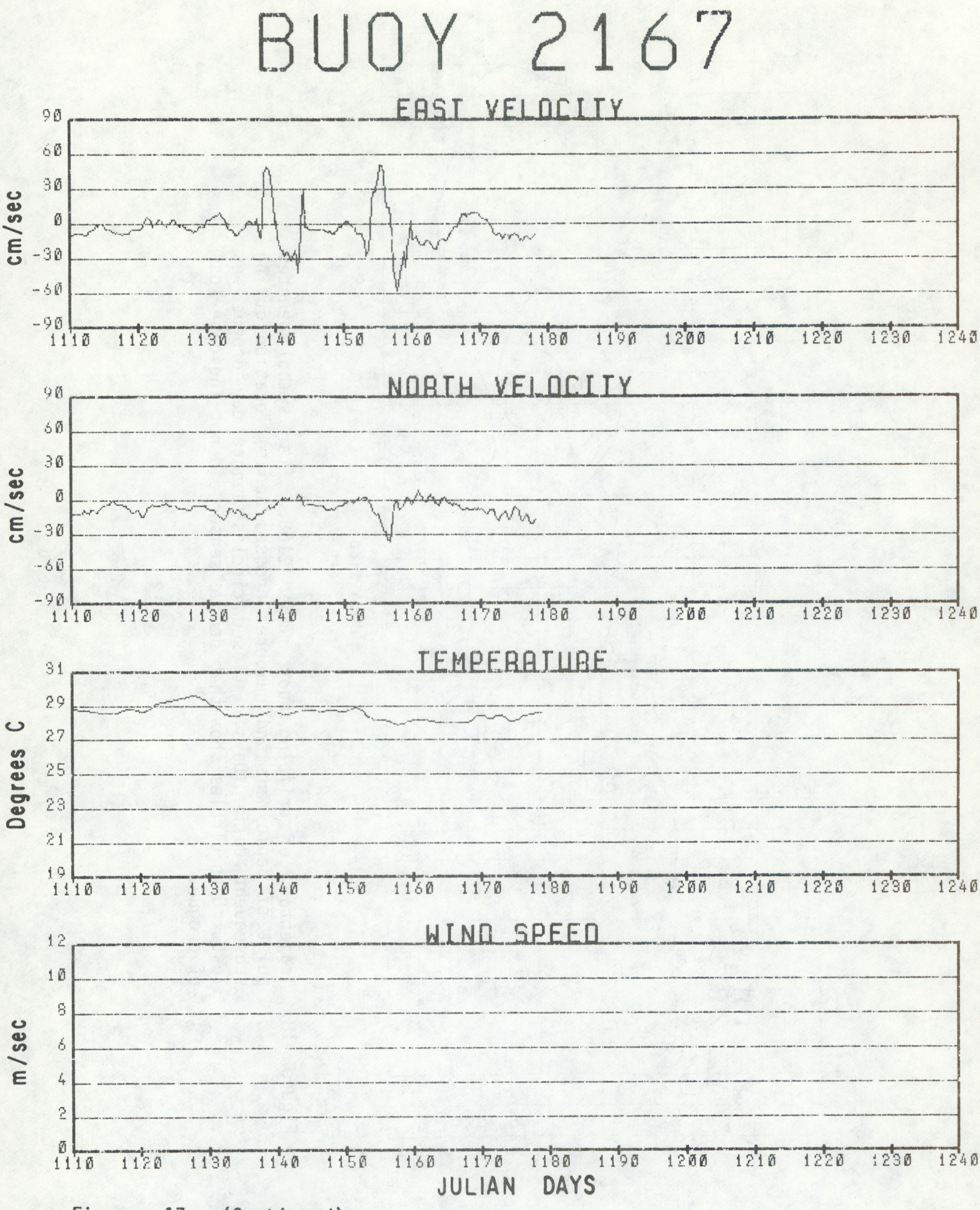
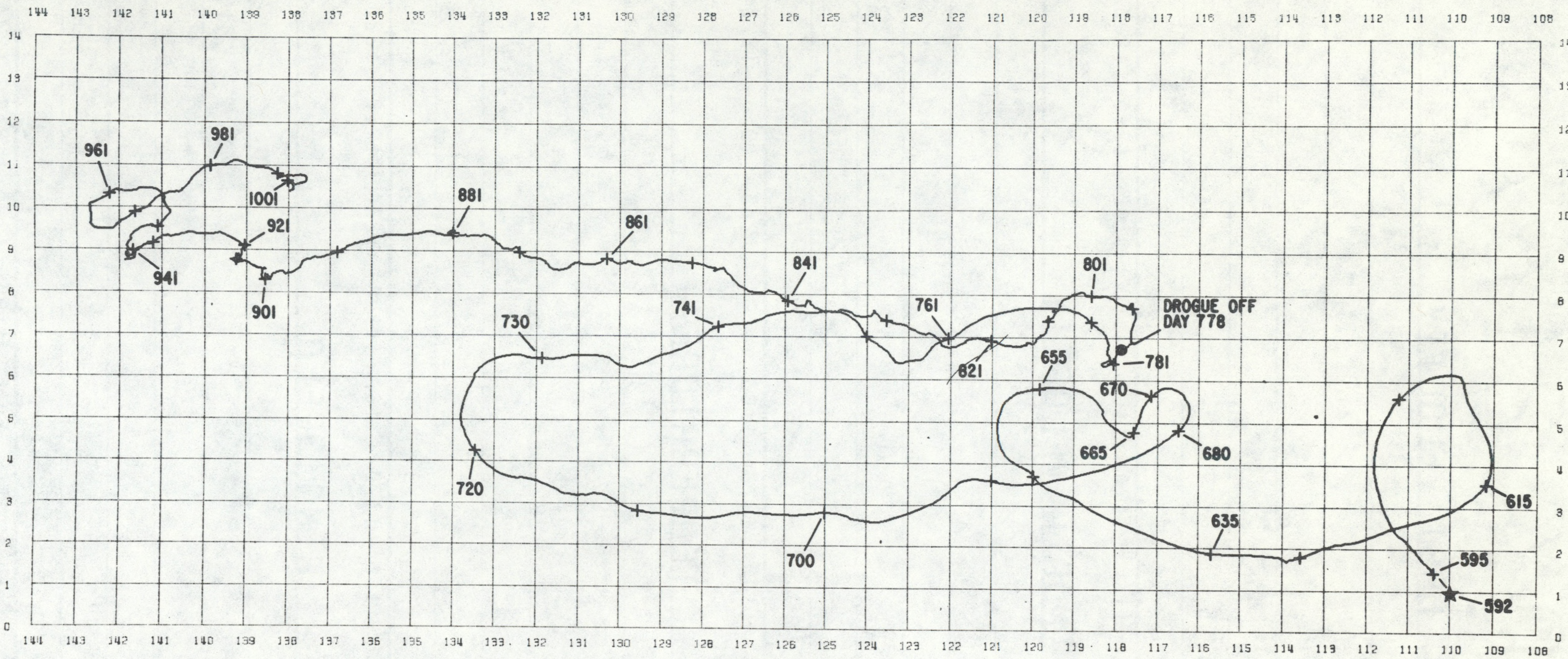


Figure 17. (Continued)



BUOY 2168

Figure 18. Trajectory of drifting buoy number 2168. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

BUOY 2168

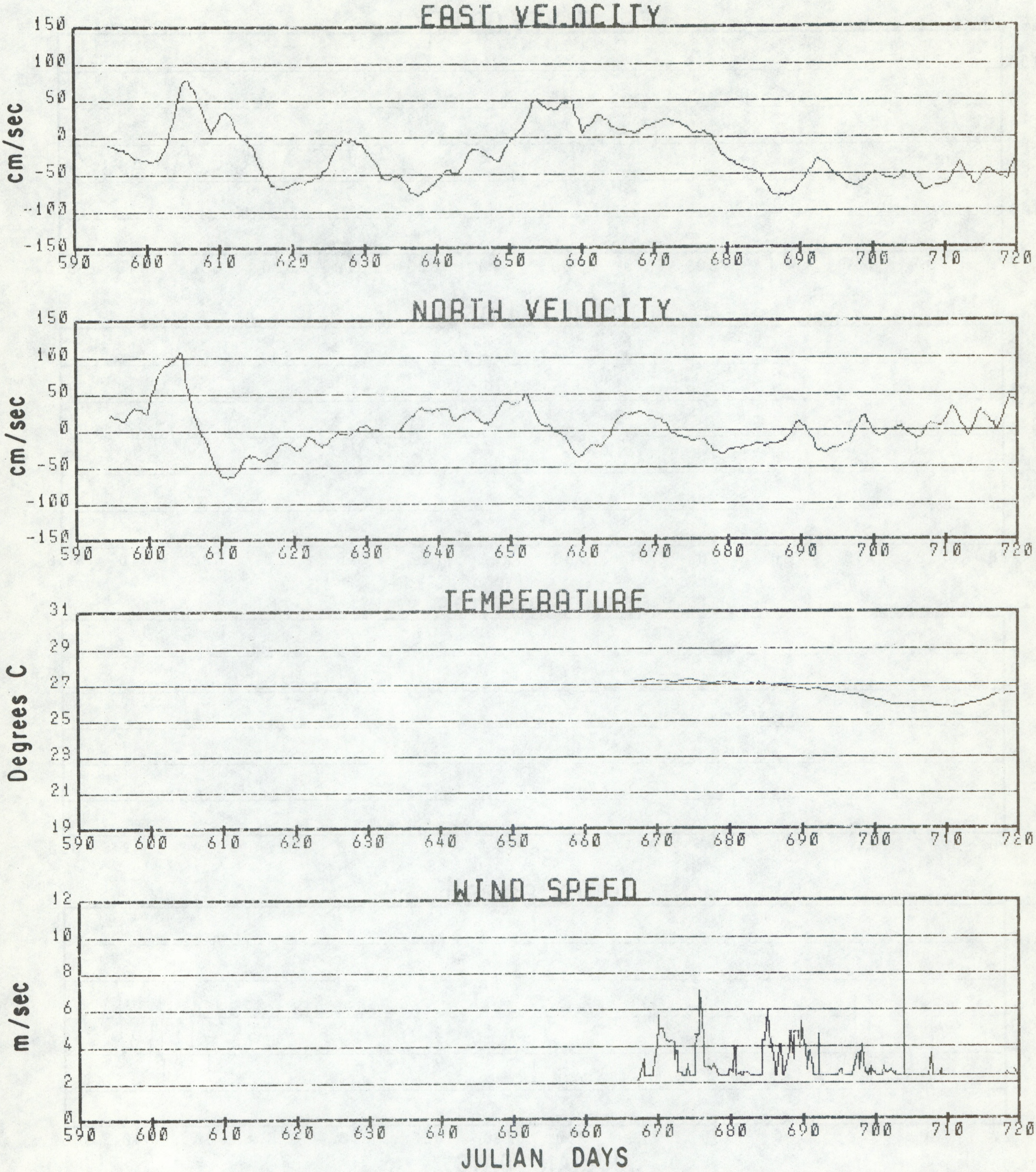


Figure 19. Time series of velocity and sensor data history for drifting buoy 2168.

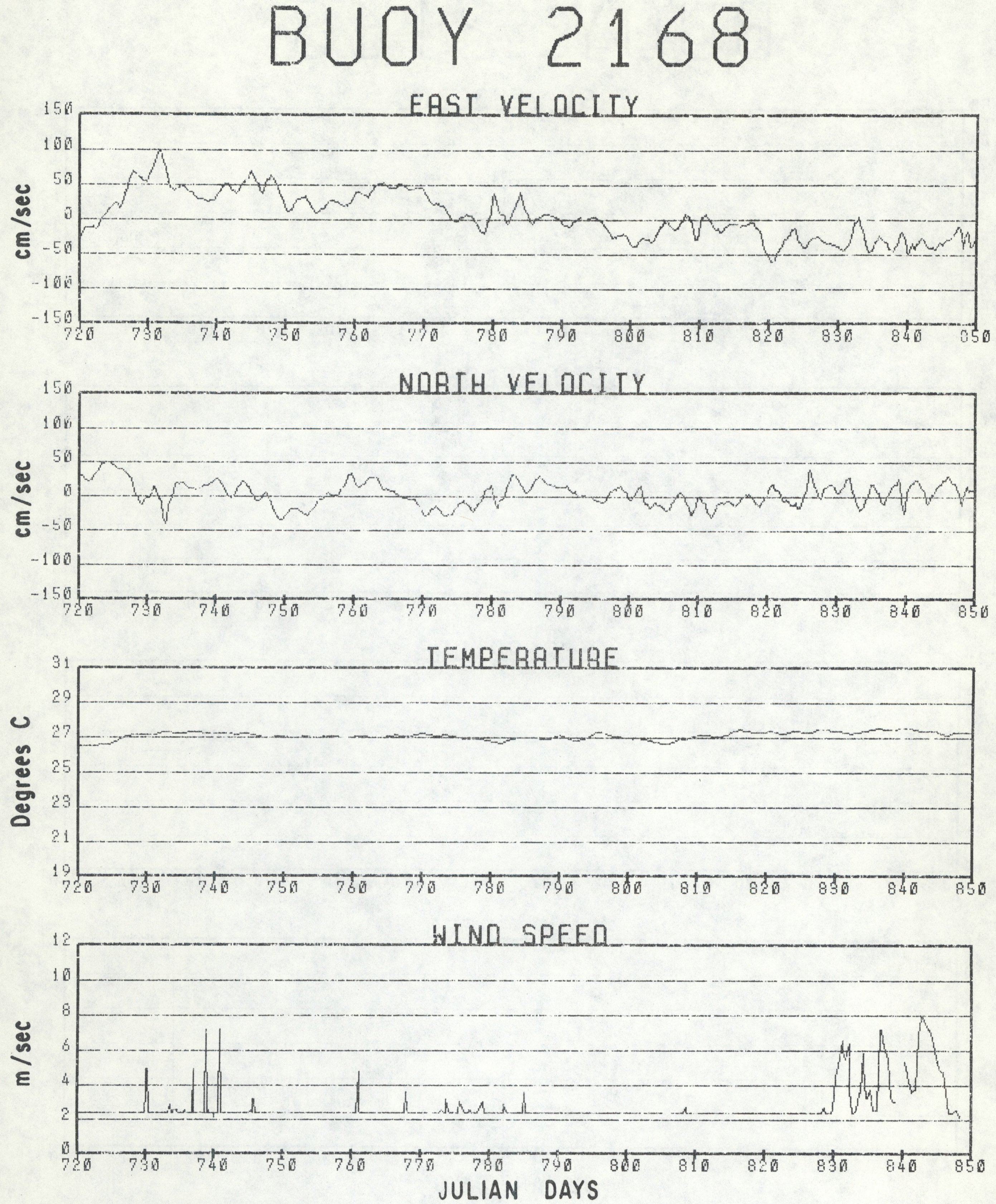


Figure 19. (Continued)

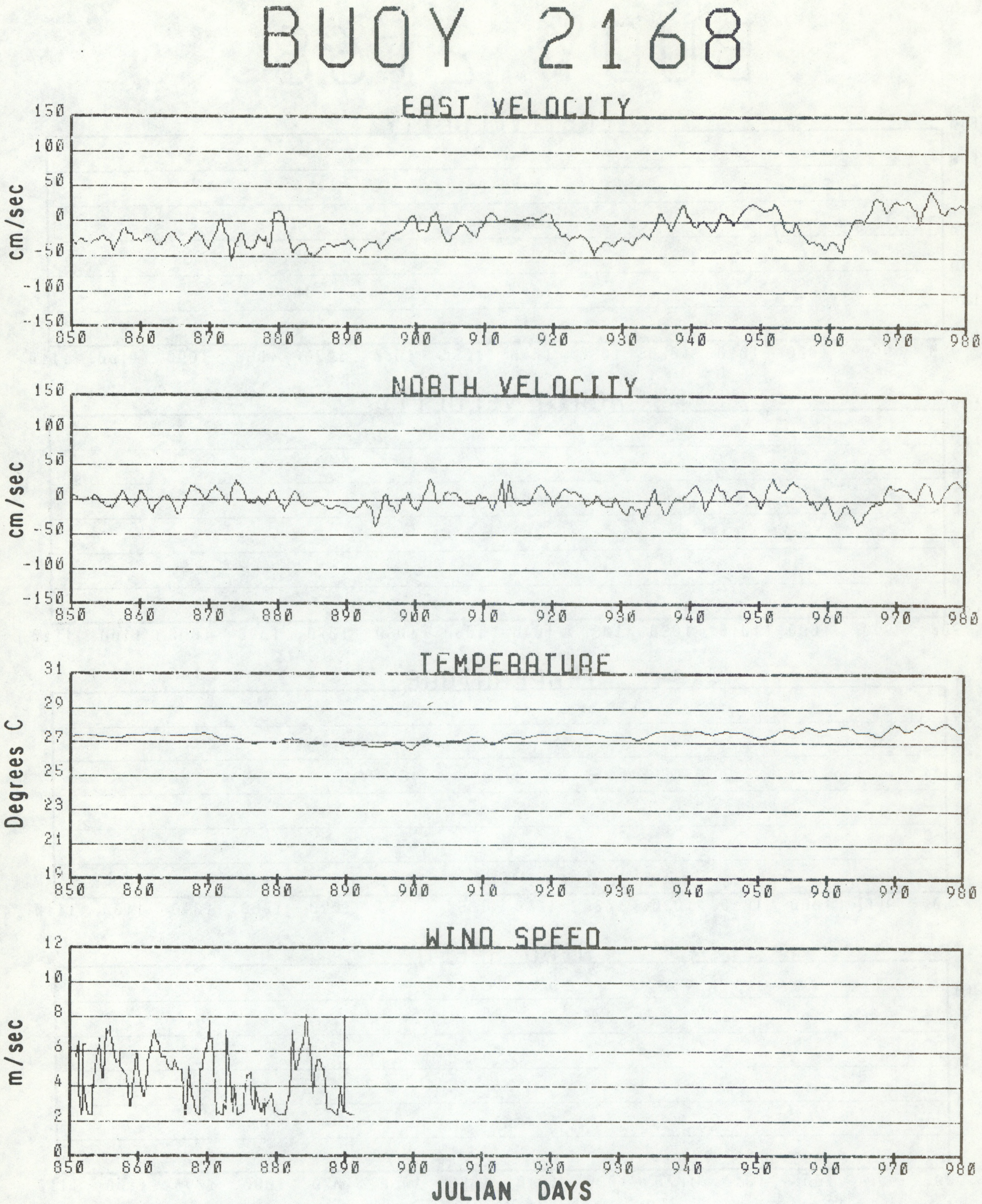


Figure 19. (Continued)

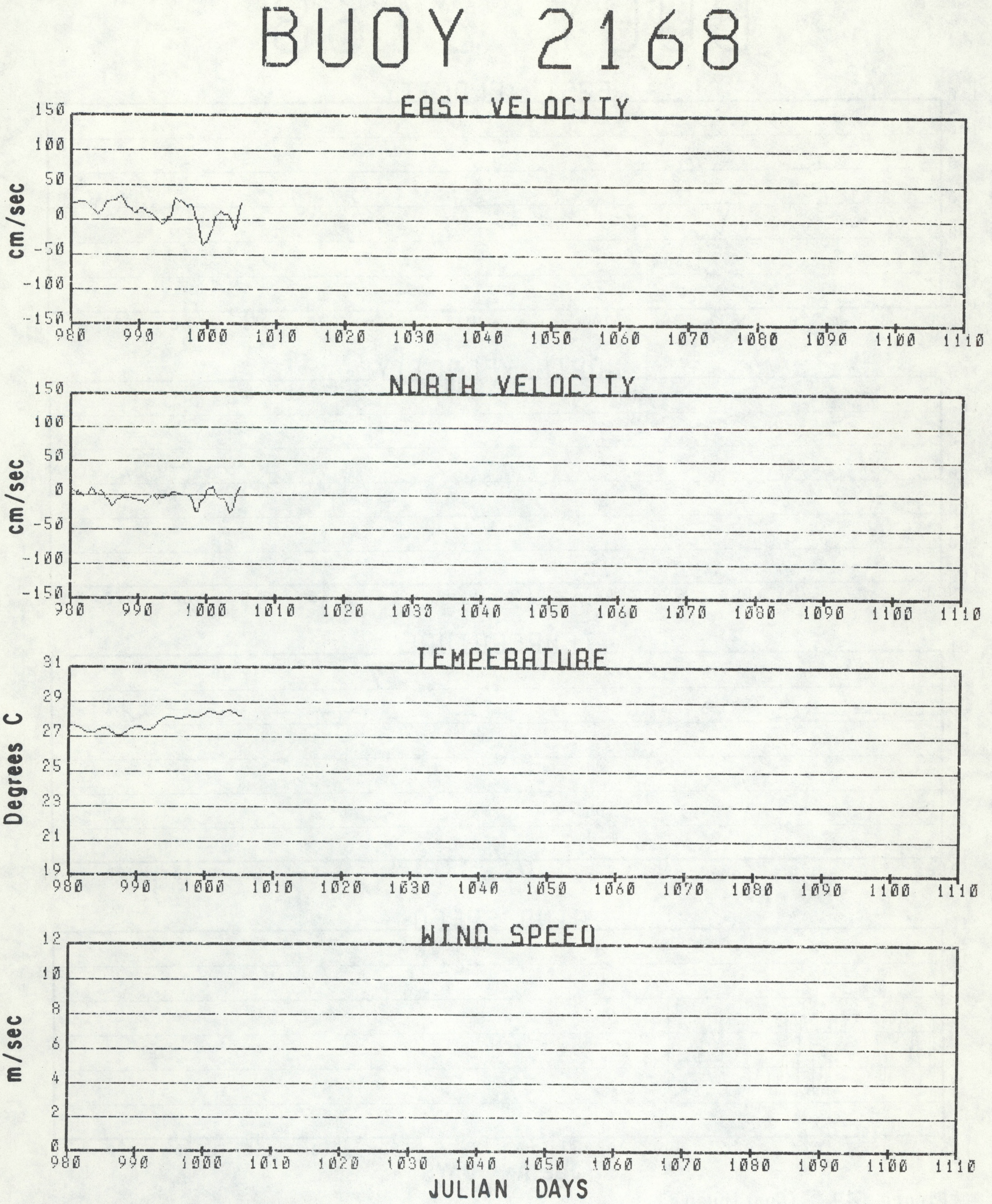
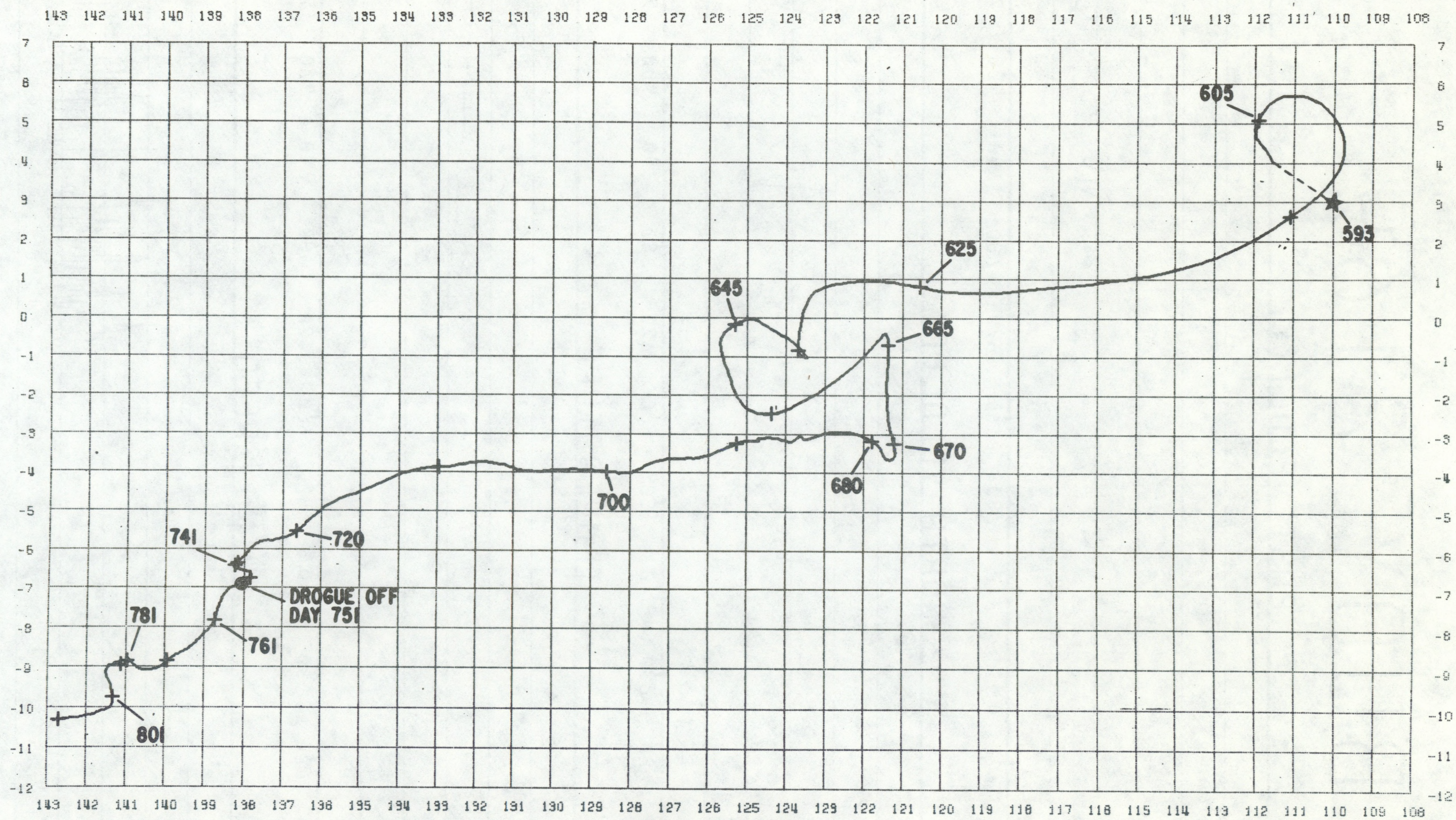


Figure 19. (Continued)



BUOY 2169

Figure 20. Trajectory of drifting buoy number 2169. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

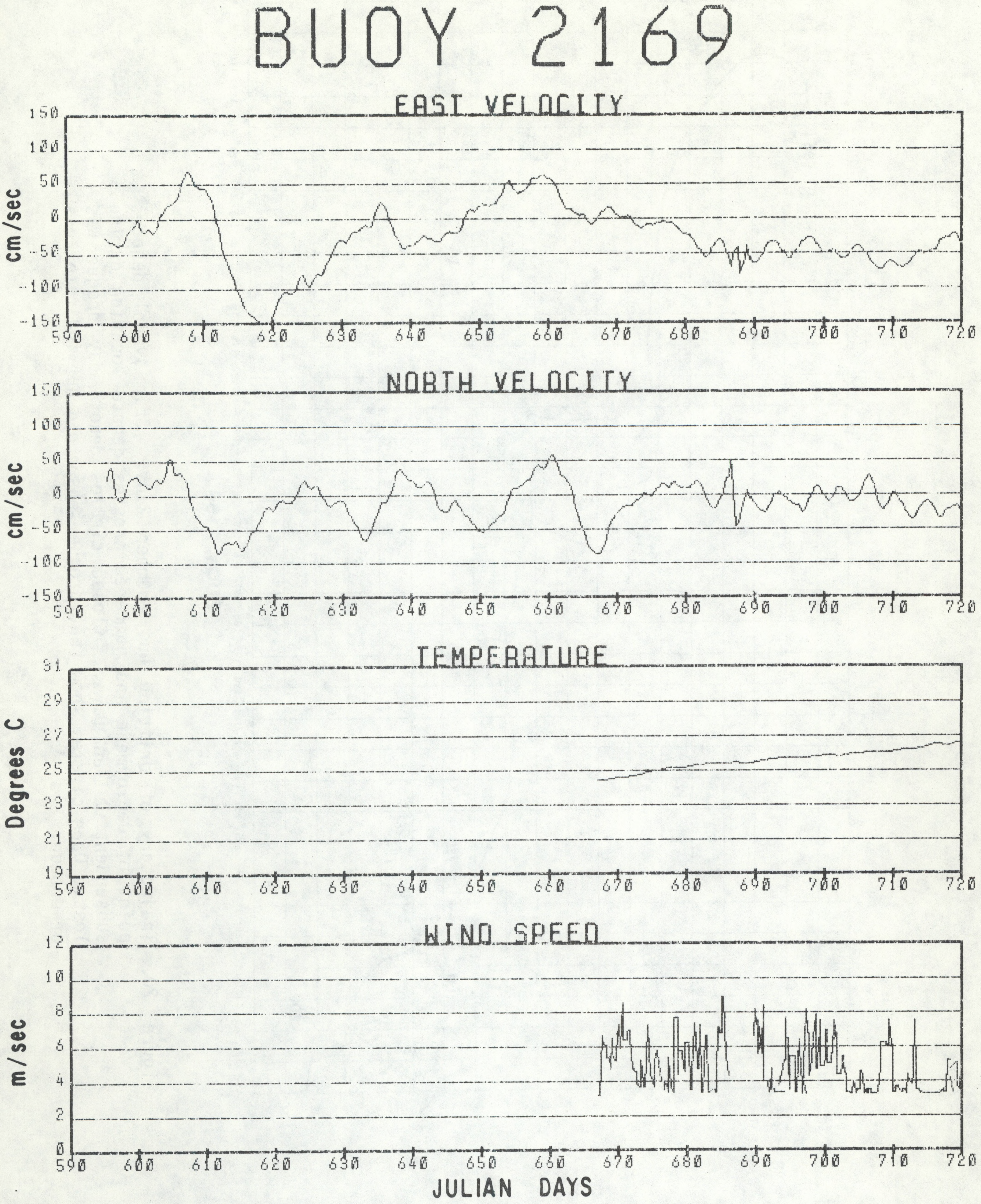


Figure 21. Time series of velocity and sensor data history for drifting buoy 2169.

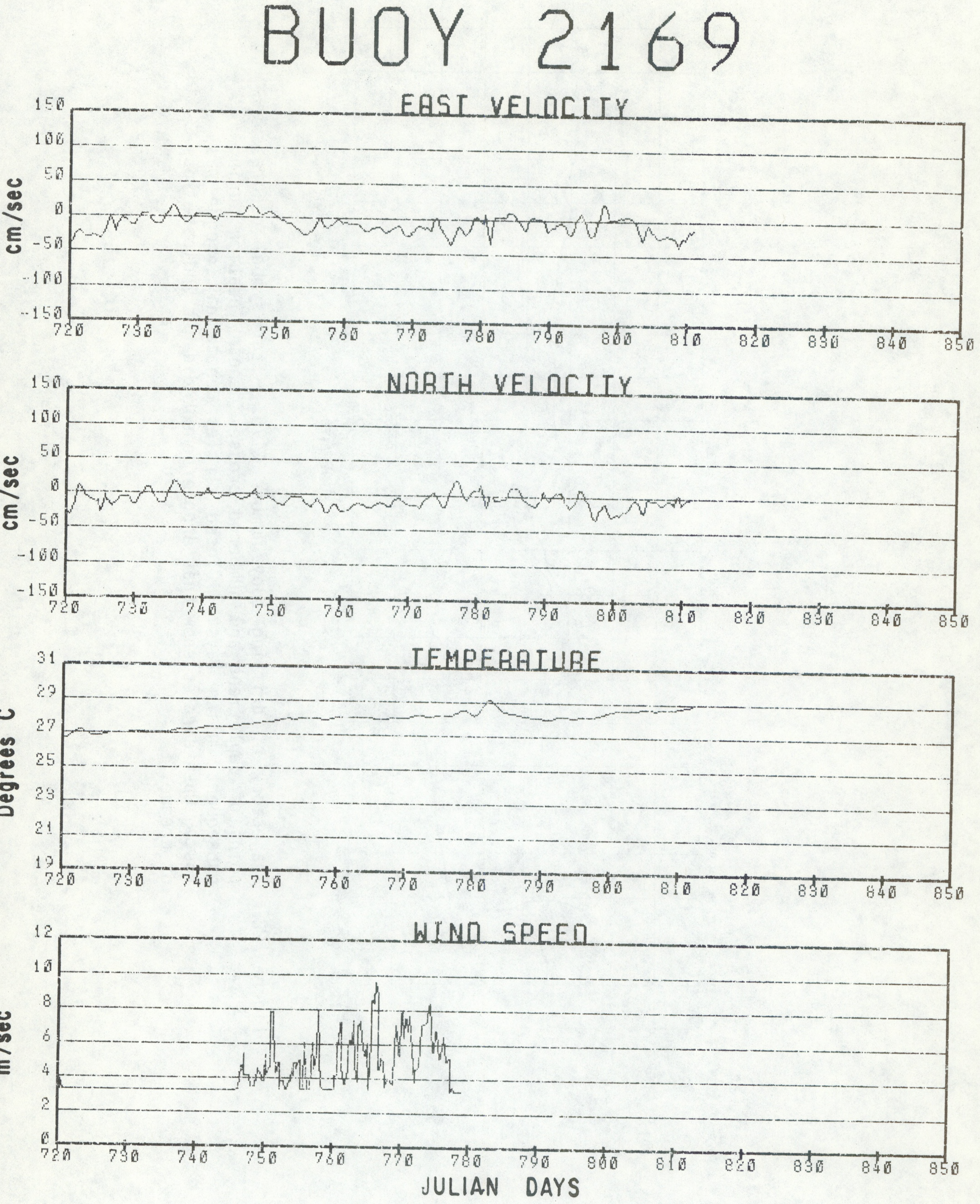


Figure 21. (Continued)

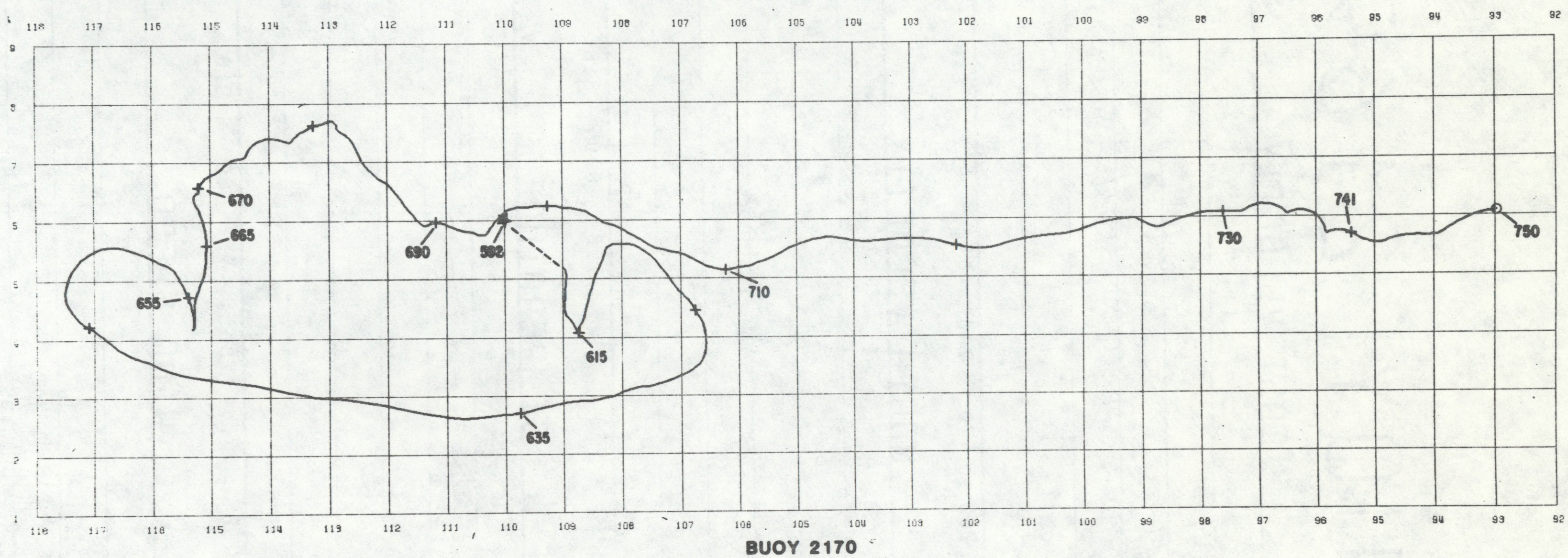


Figure 22. Trajectory of drifting buoy number 2170. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

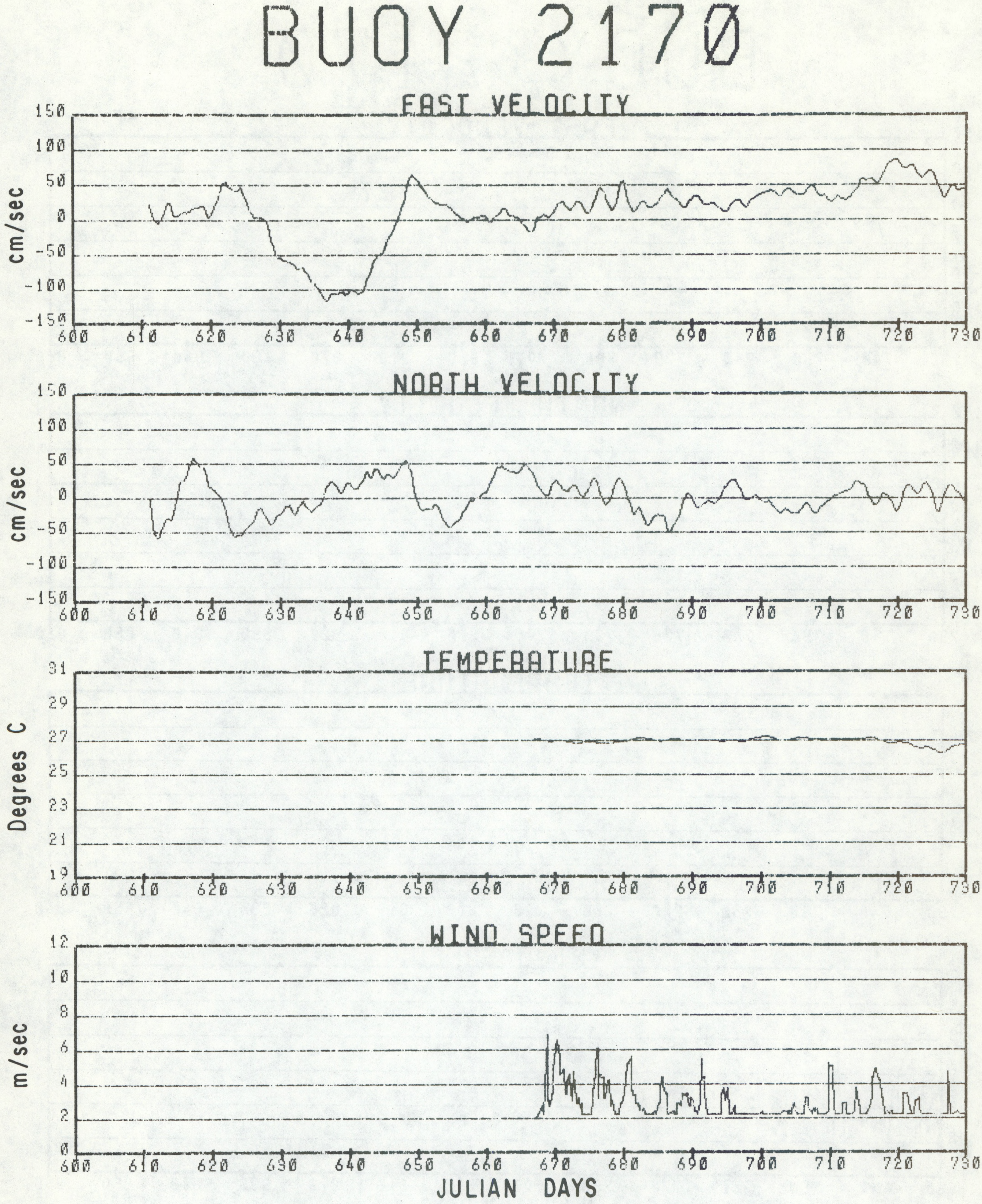


Figure 23. Time series of velocity and sensor data history for drifting buoy 2170.

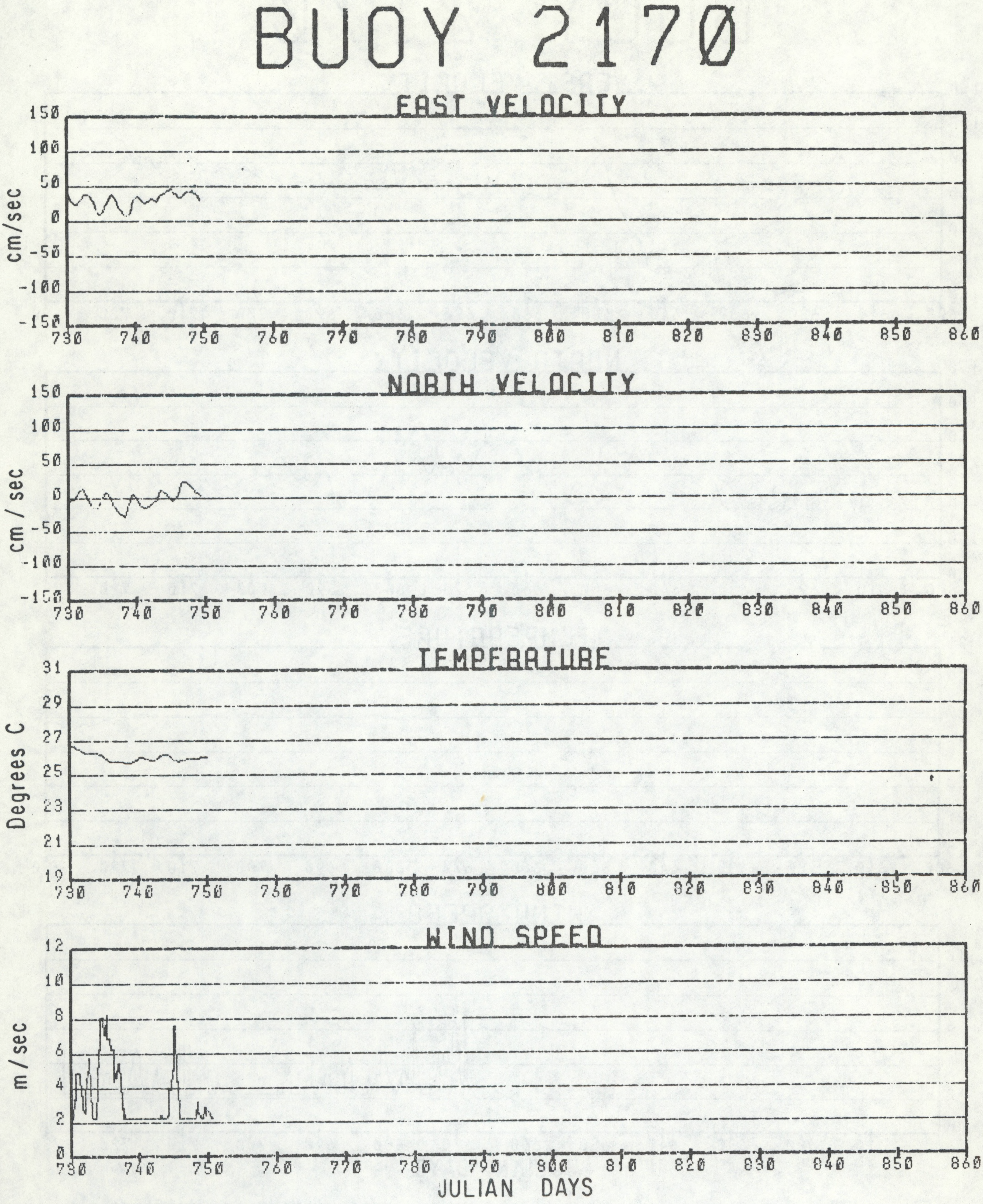


Figure 23. (Continued)

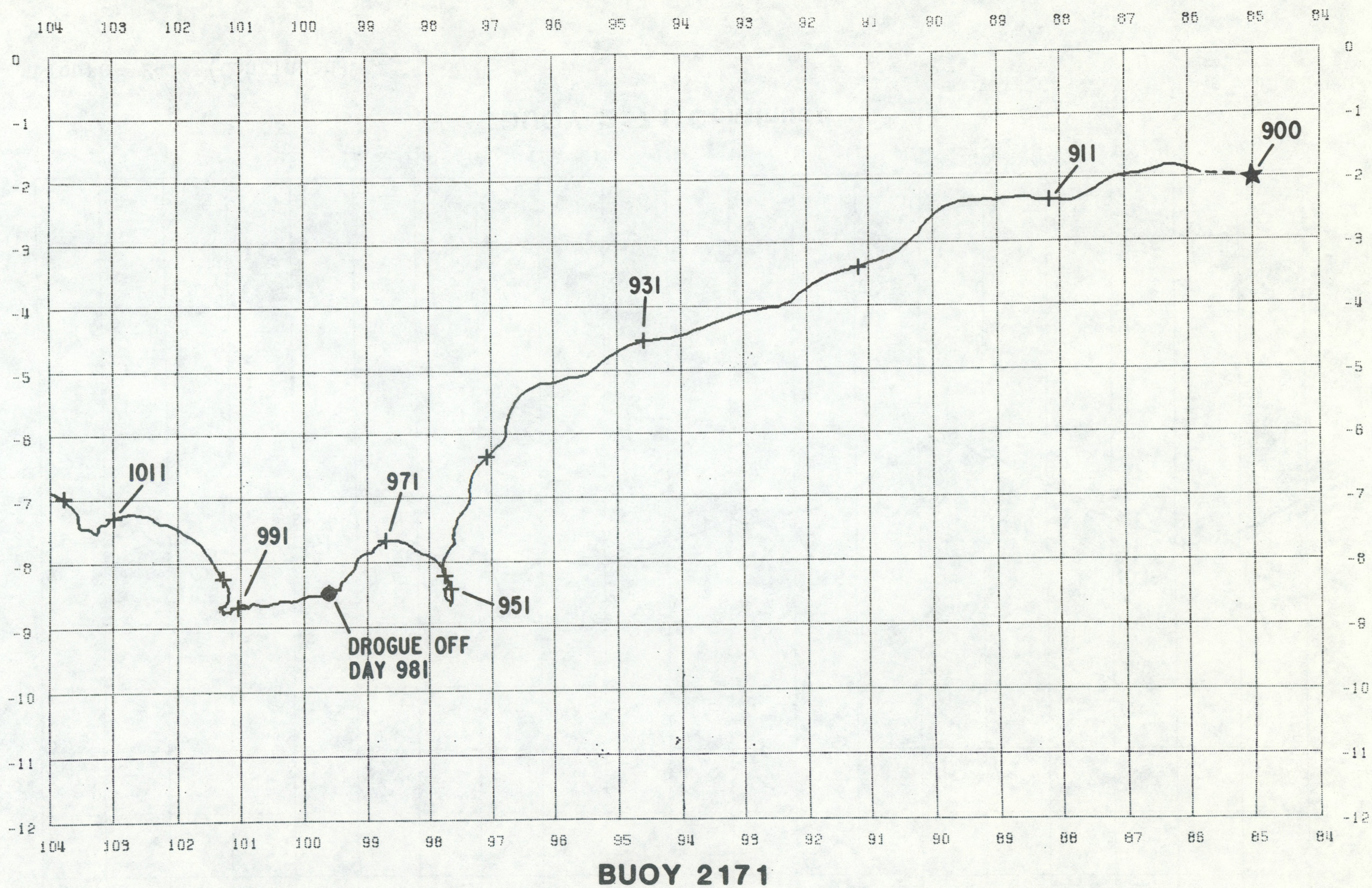
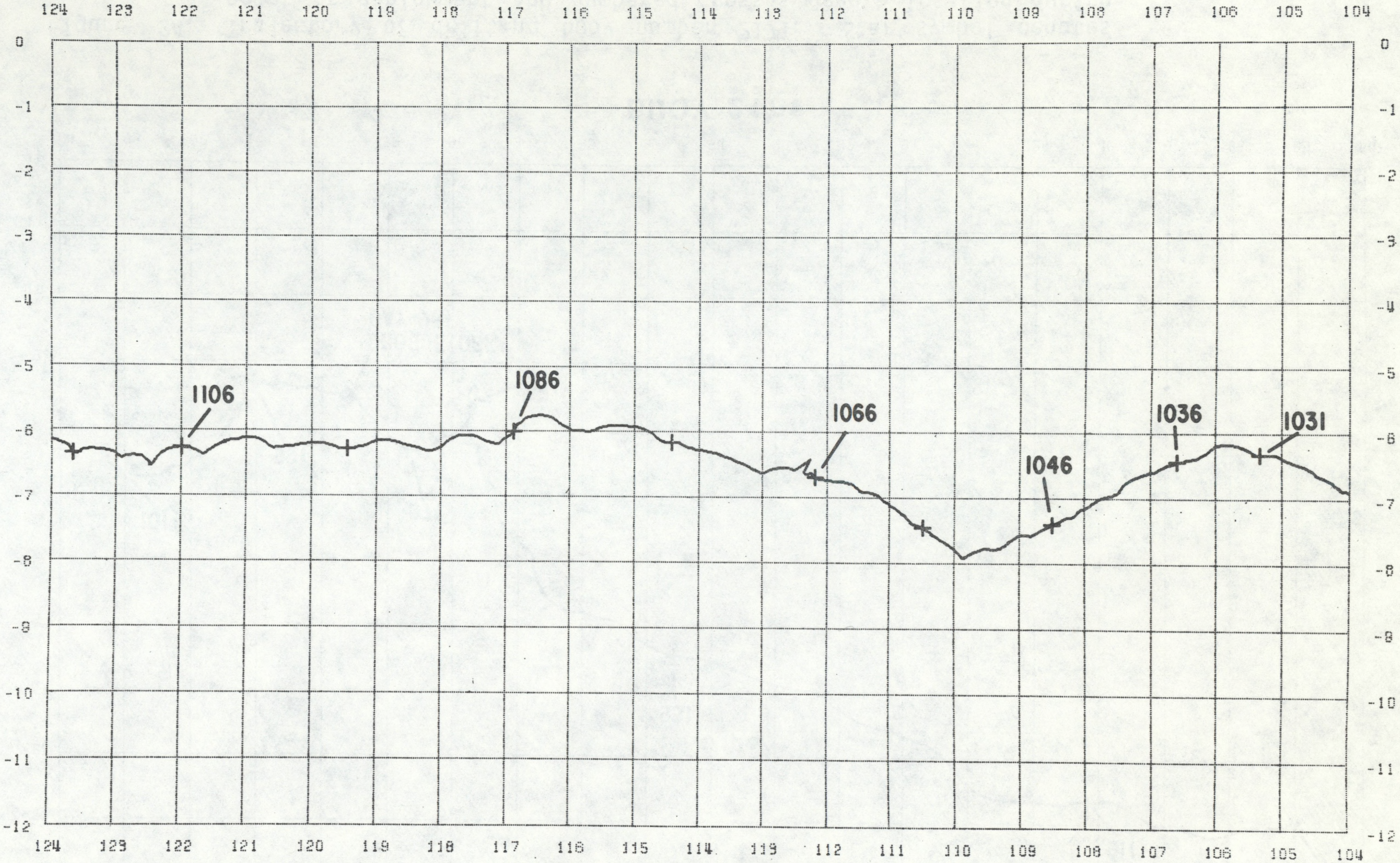
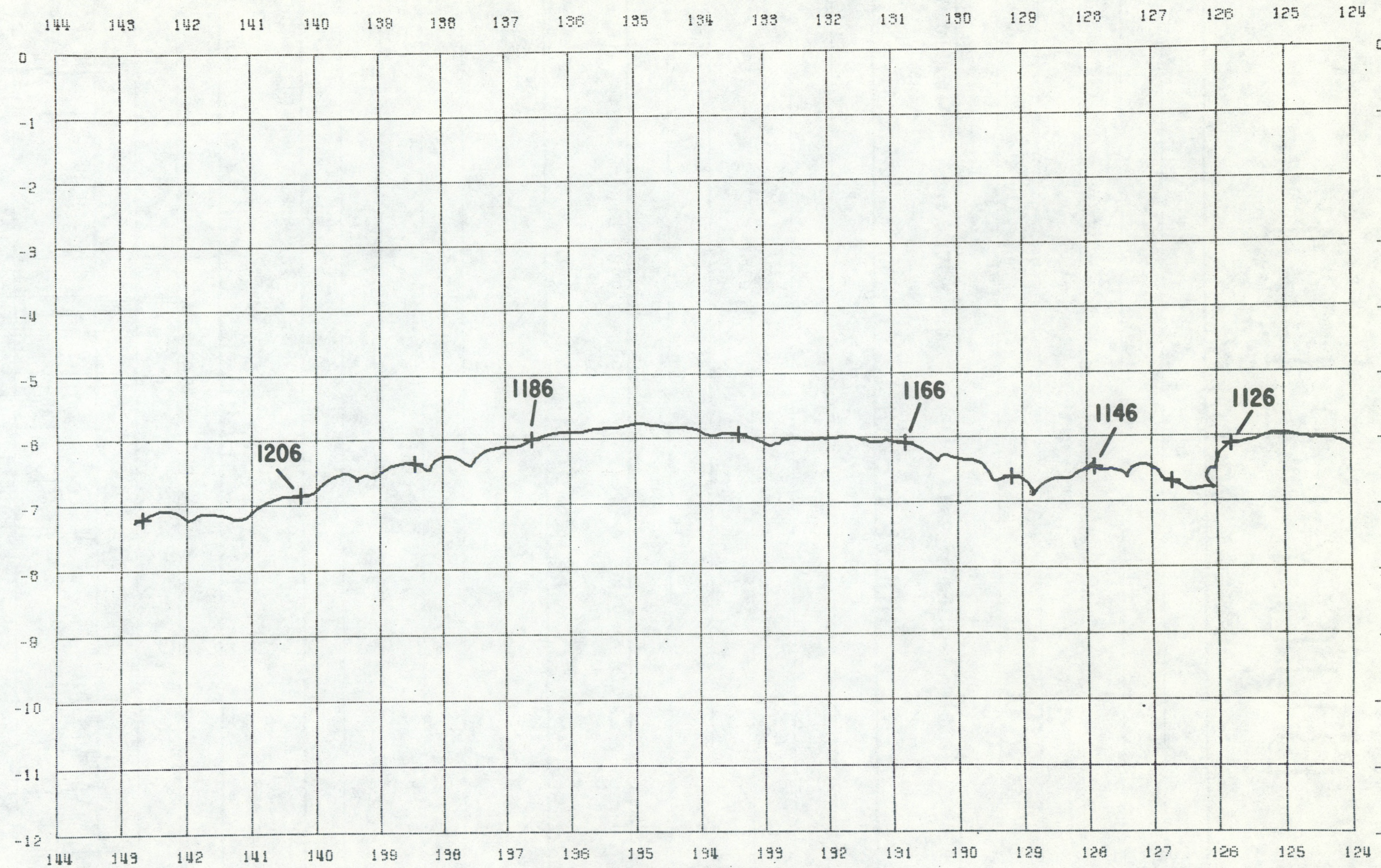


Figure 24. Trajectory of drifting buoy number 2171. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2171 Continued

Figure 24. (Continued)



BUOY 2171 Continued

Figure 24. (Continued)

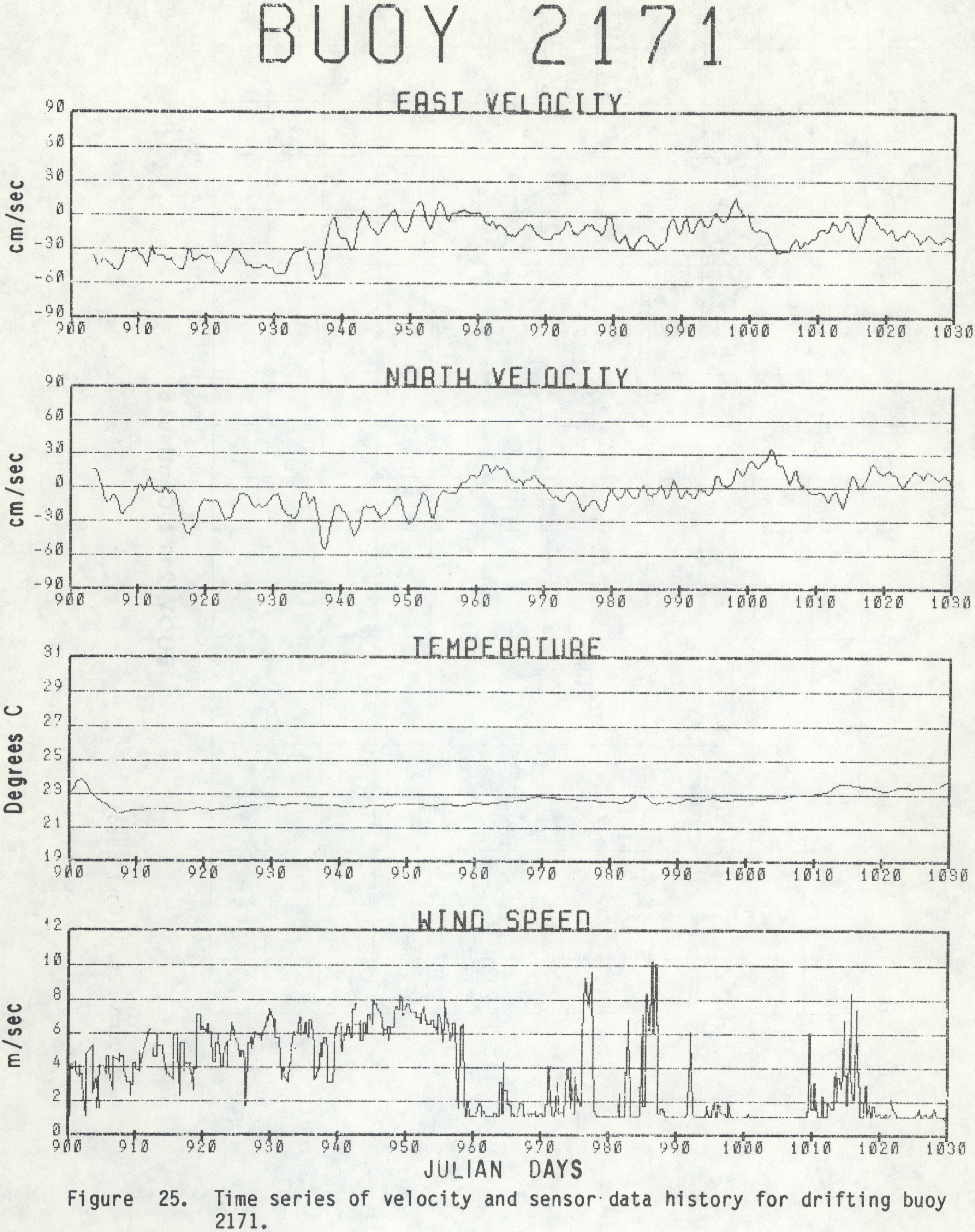


Figure 25. Time series of velocity and sensor data history for drifting buoy 2171.

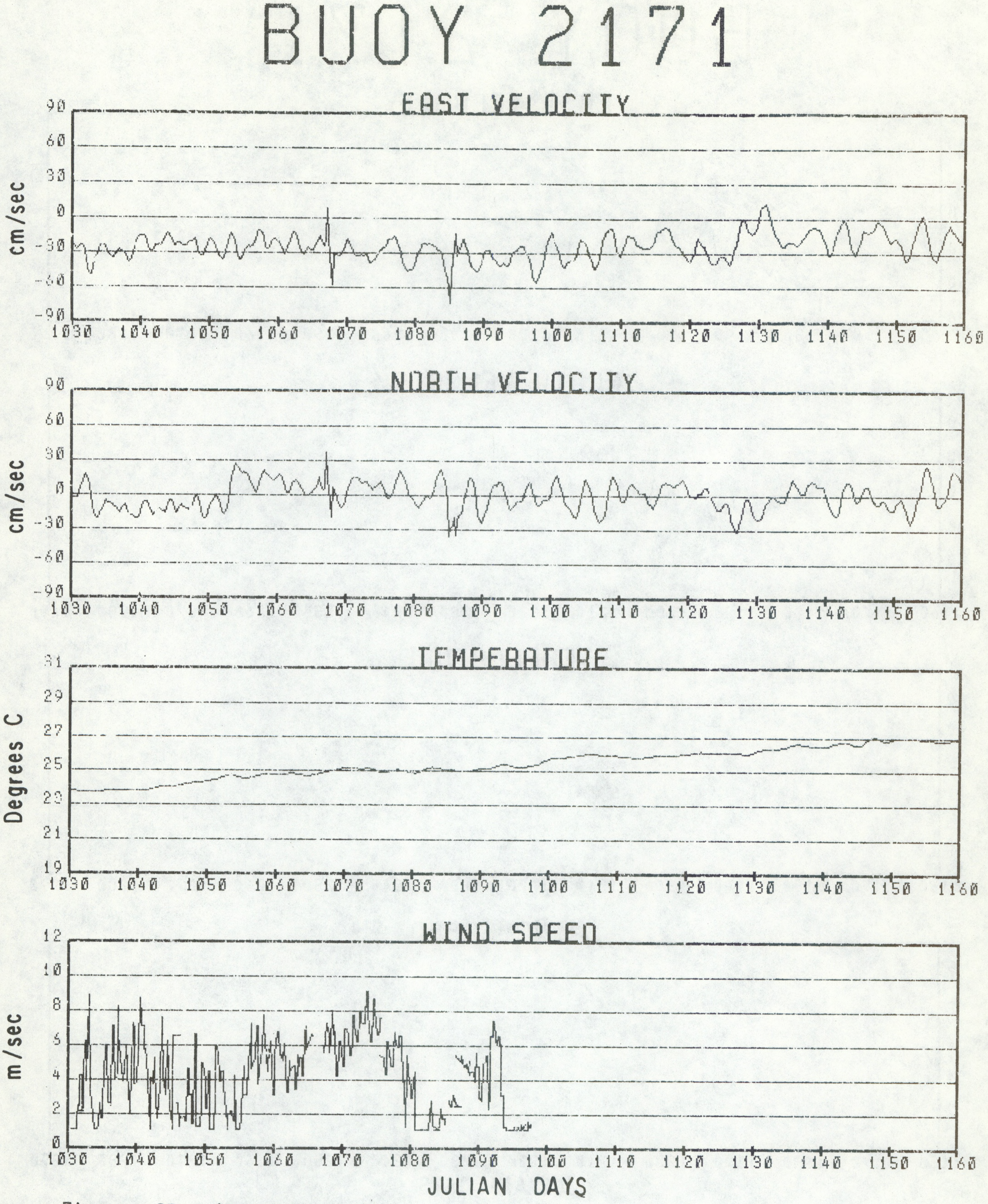


Figure 25. (Continued)

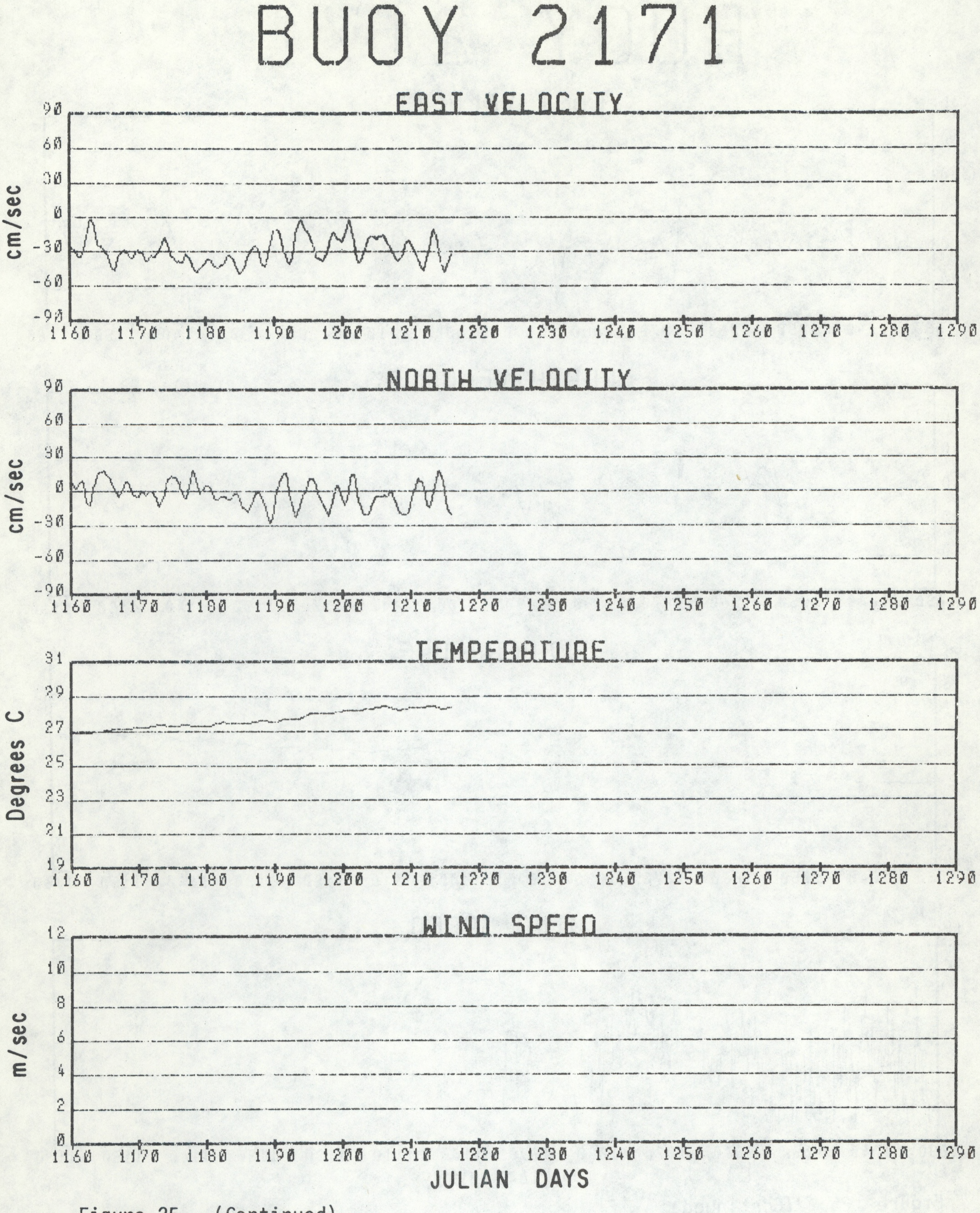


Figure 25. (Continued)

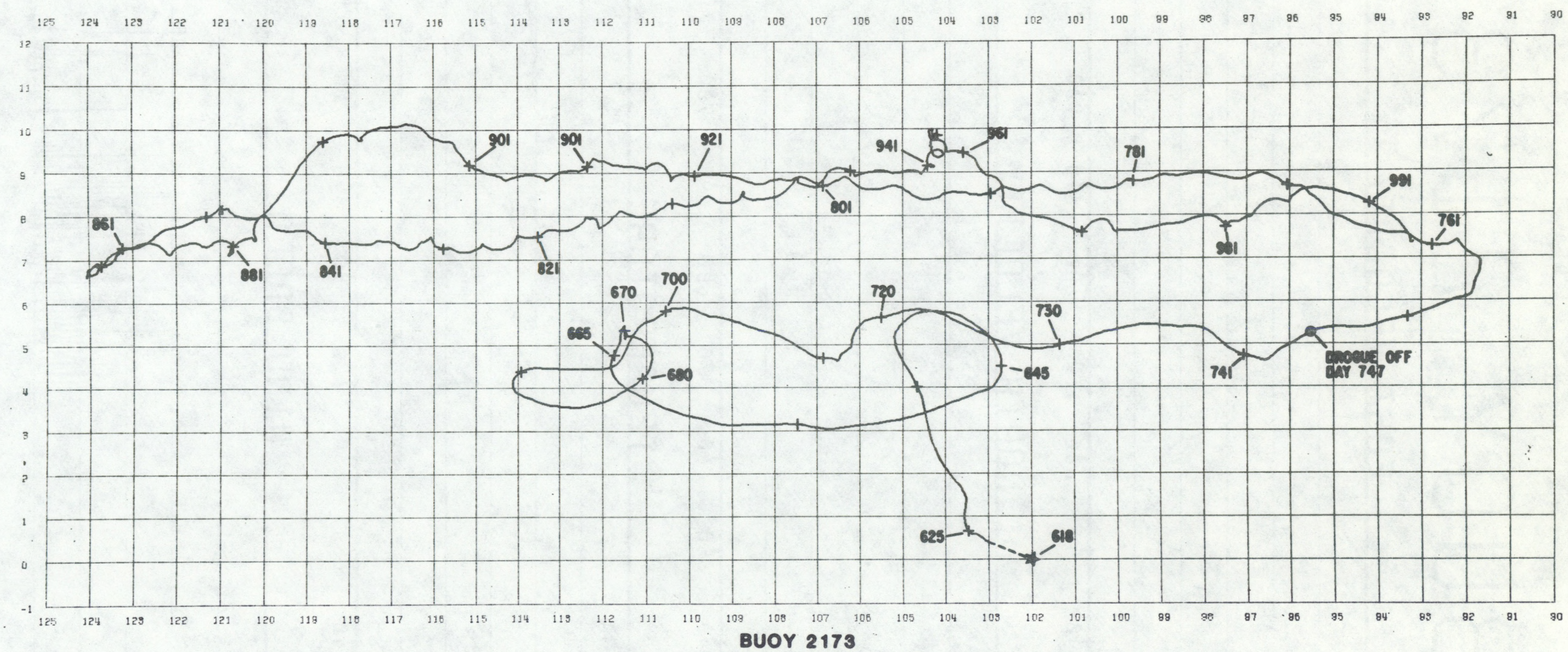


Figure 26. Trajectory of drifting buoy number 2173. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

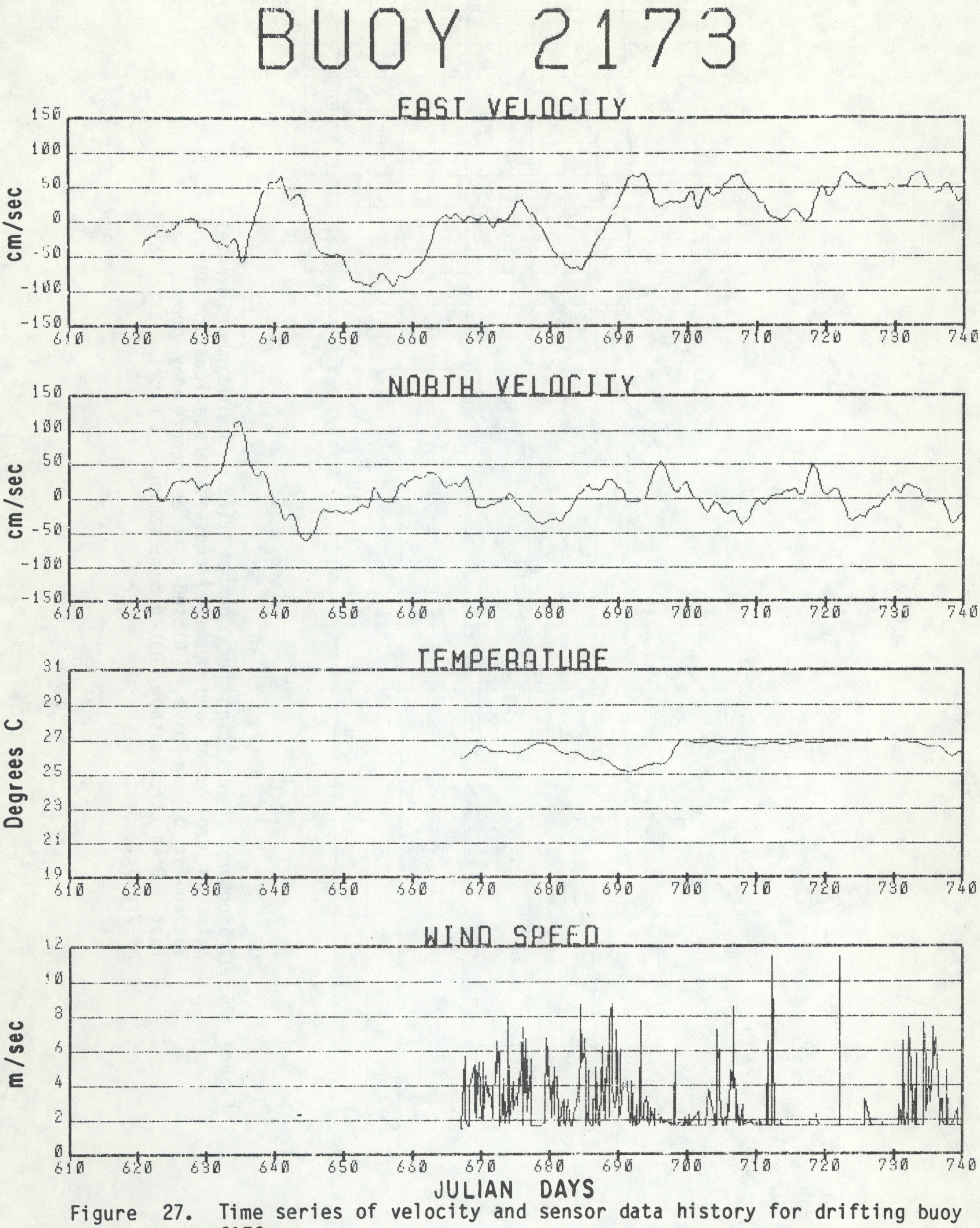


Figure 27. Time series of velocity and sensor data history for drifting buoy 2173.

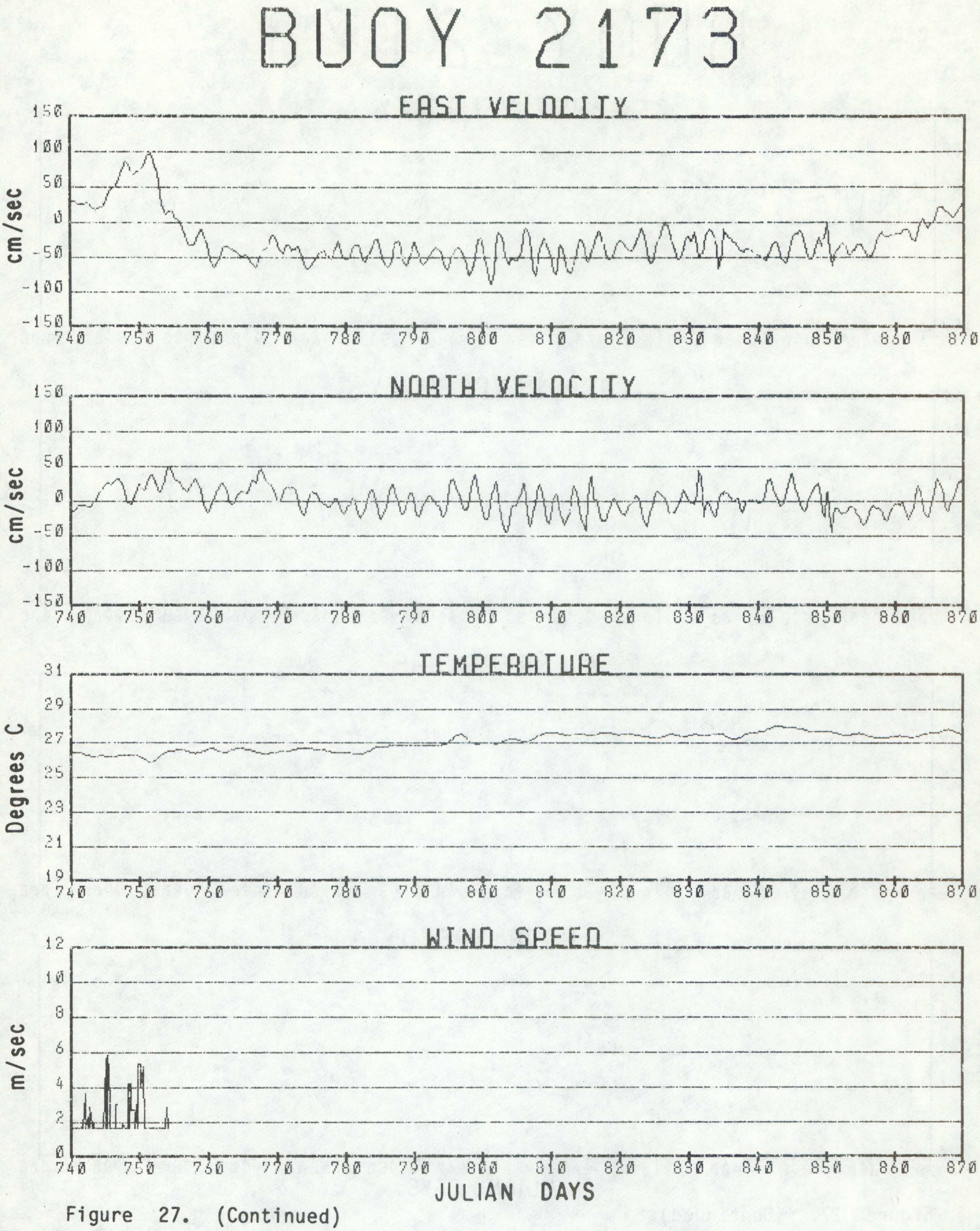


Figure 27. (Continued)

BUOY 2173

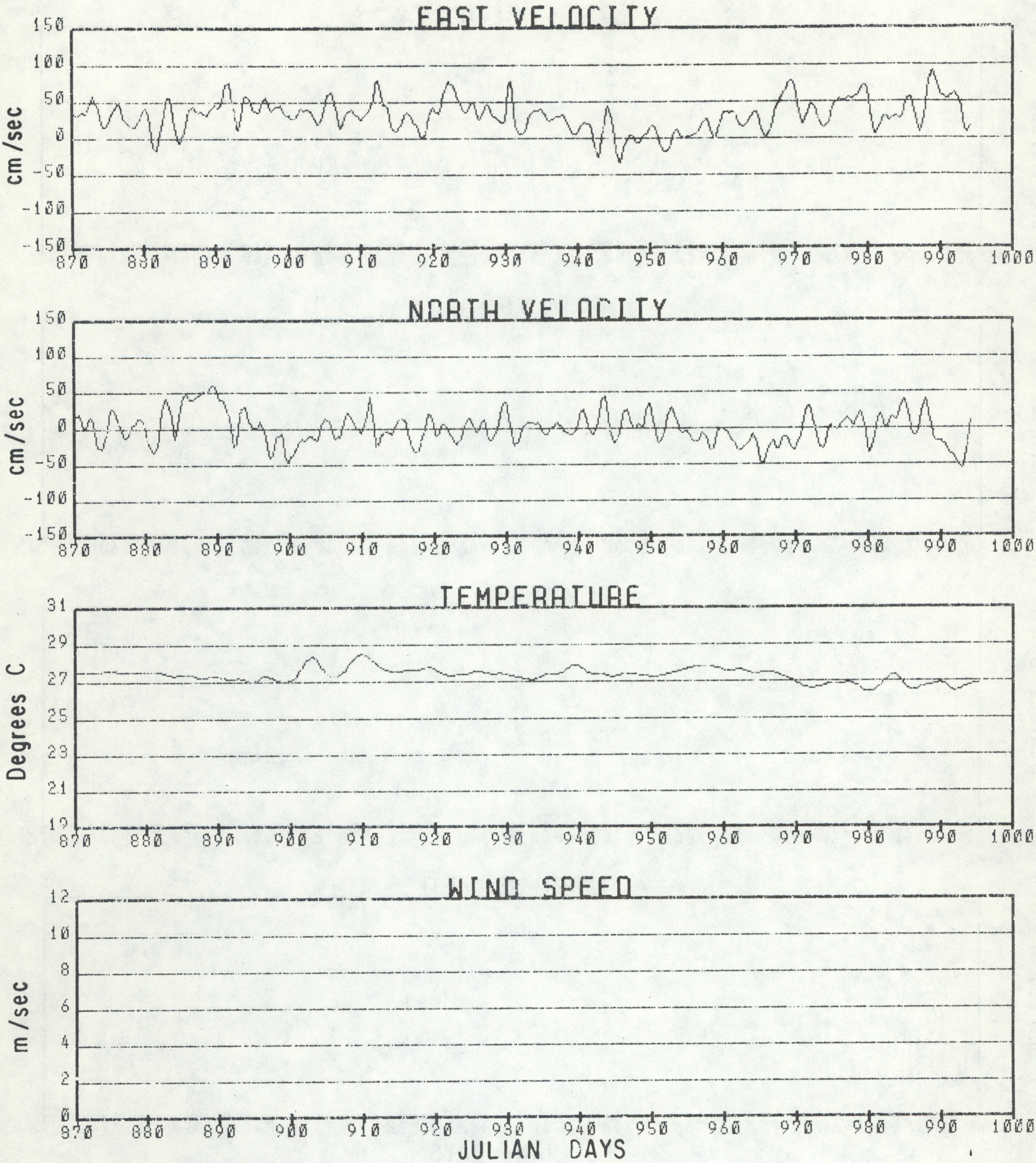
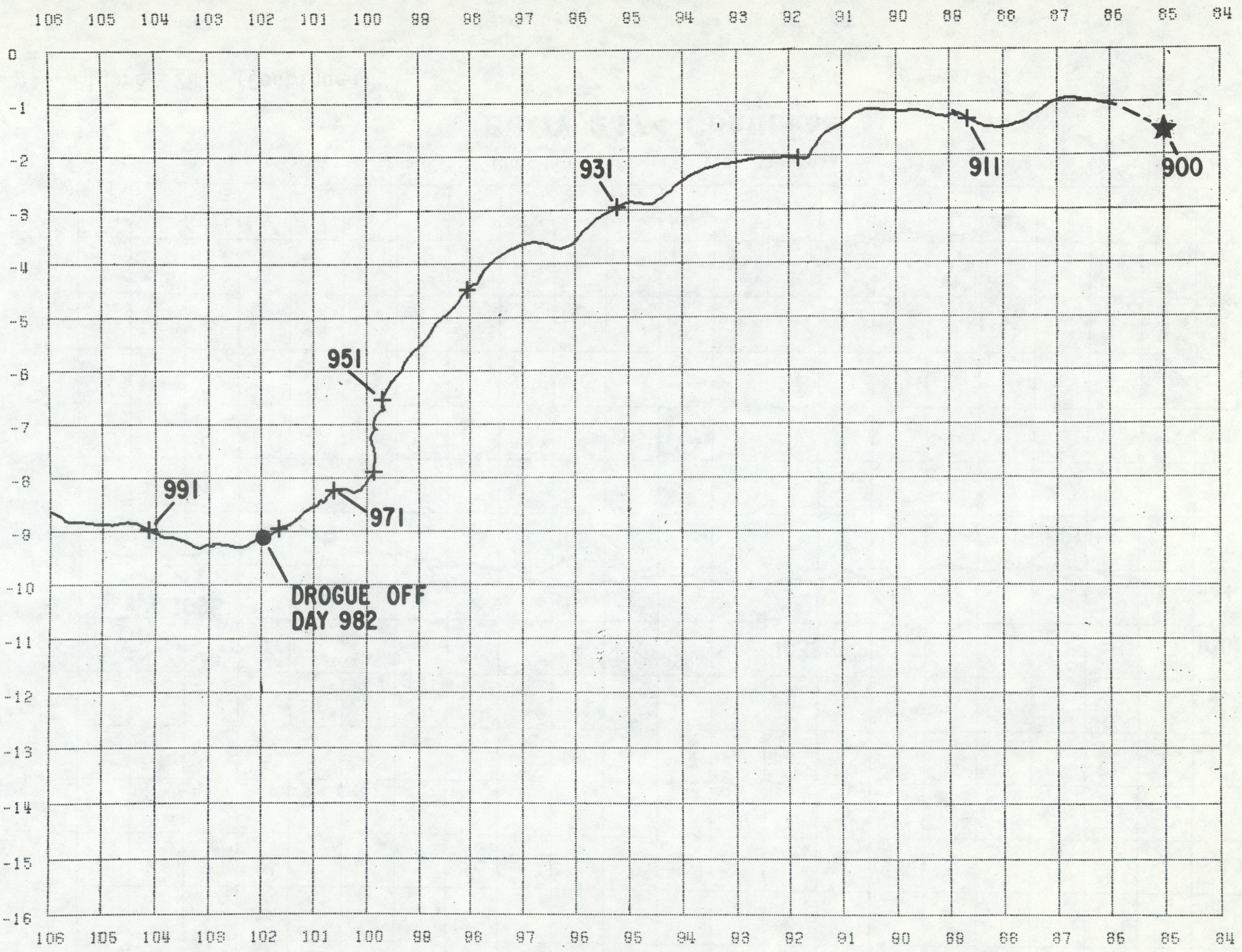
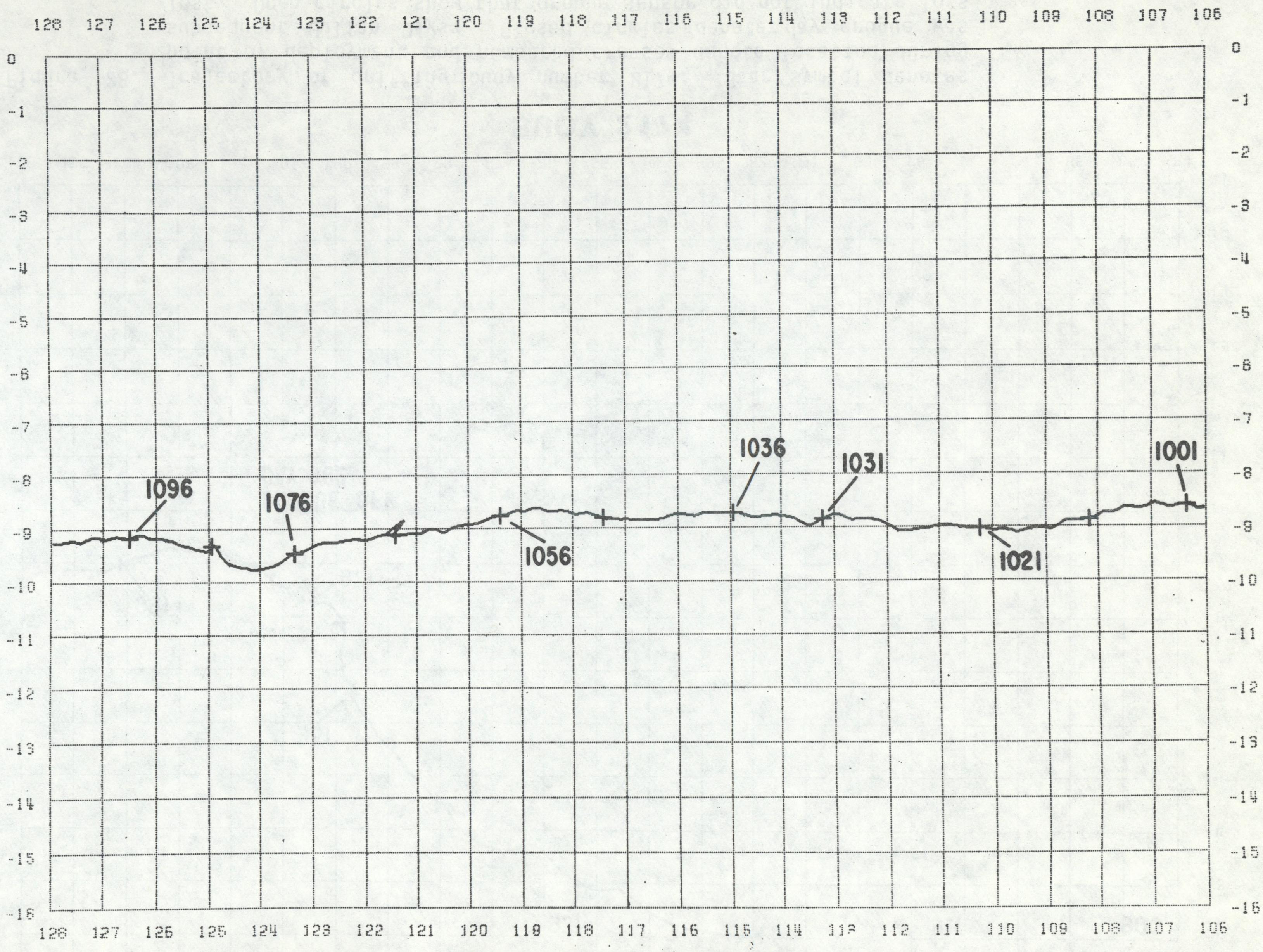


Figure 27. (Continued)



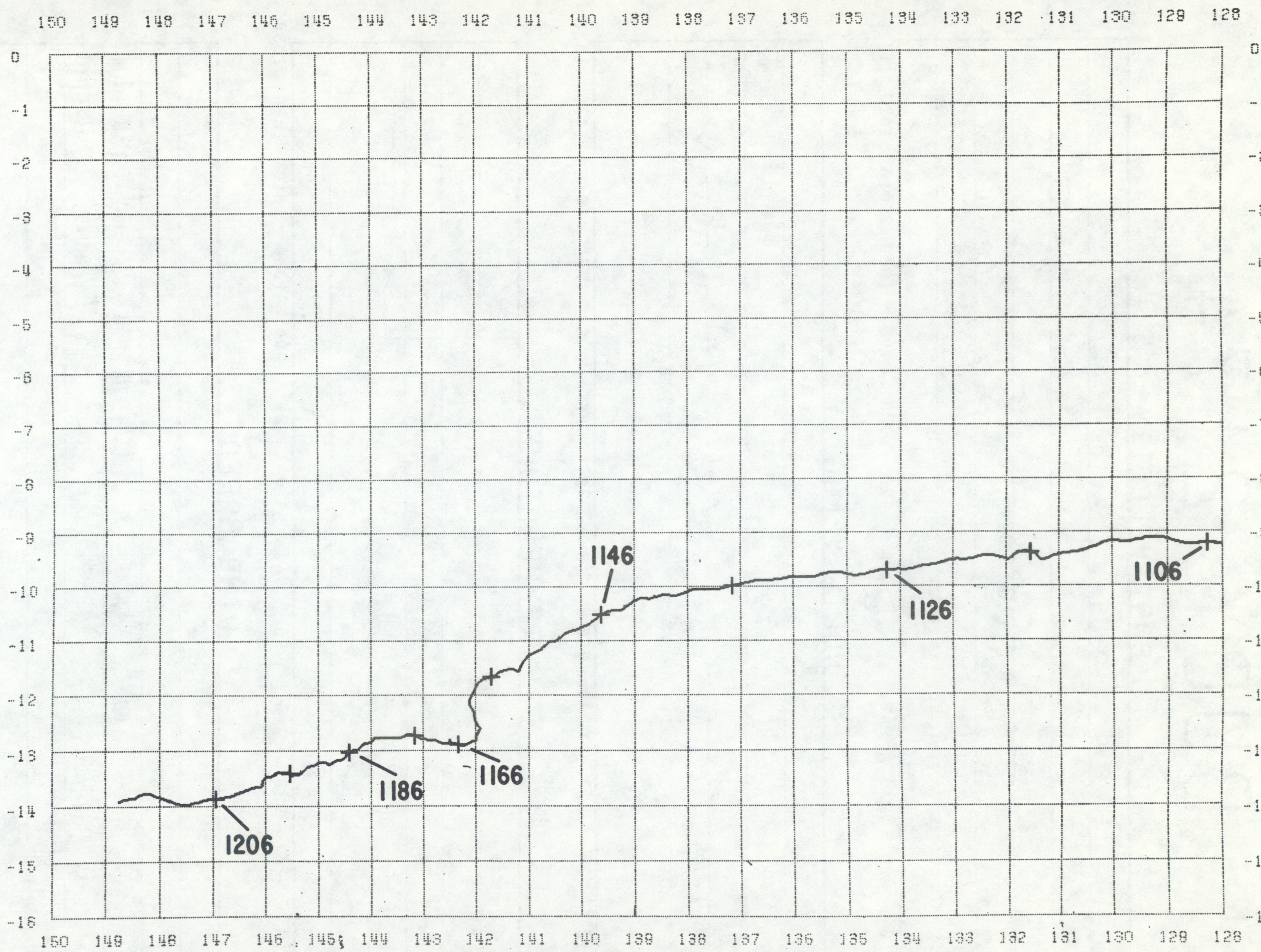
BUOY 2174

Figure 28. Trajectory of drifting buoy number 2174. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2174 Continued

Figure 28. (Continued)



BUOY 2174 Continued

Figure 28. (Continued)

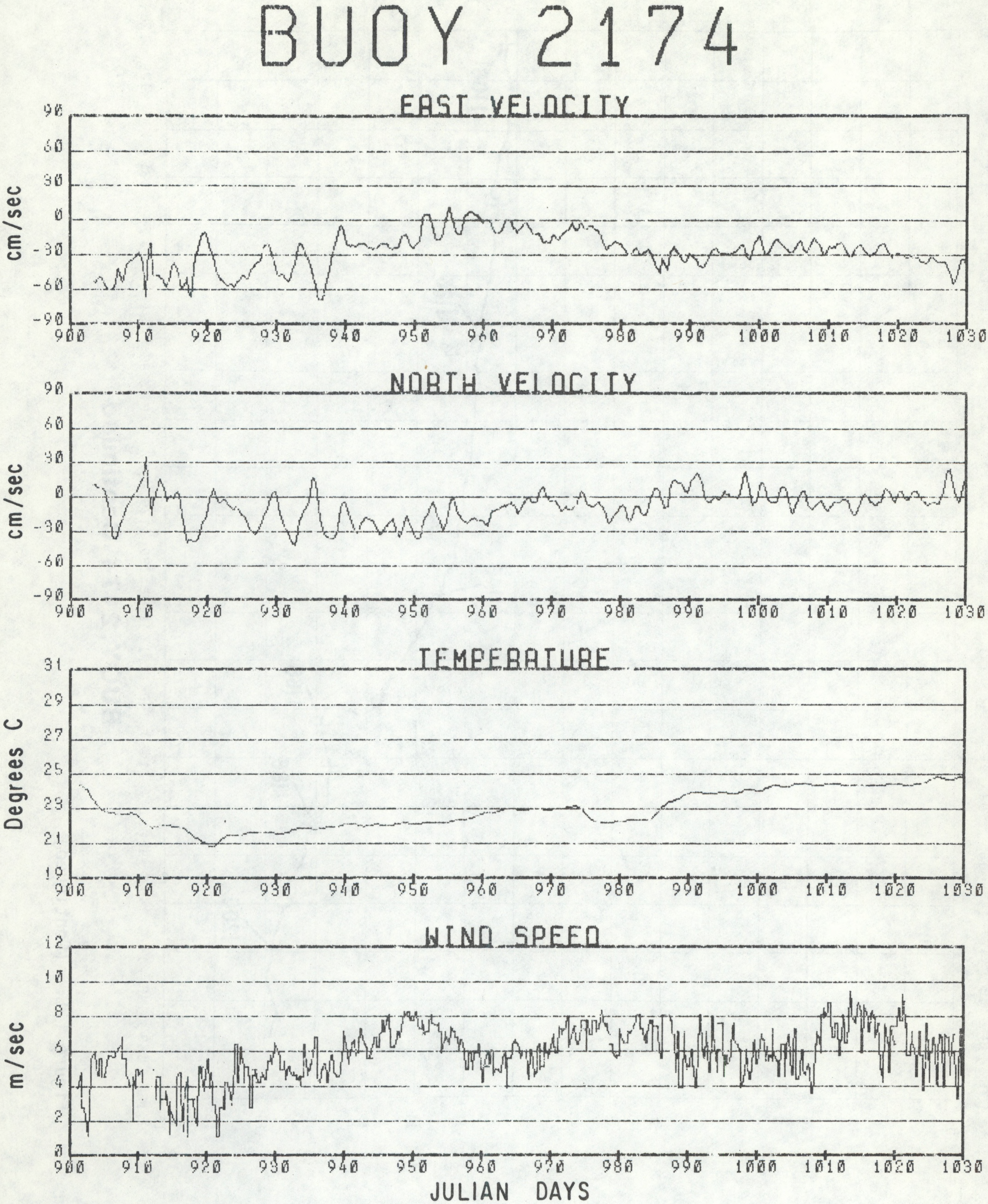


Figure 29. Time series of velocity and sensor data history for drifting buoy 2174.

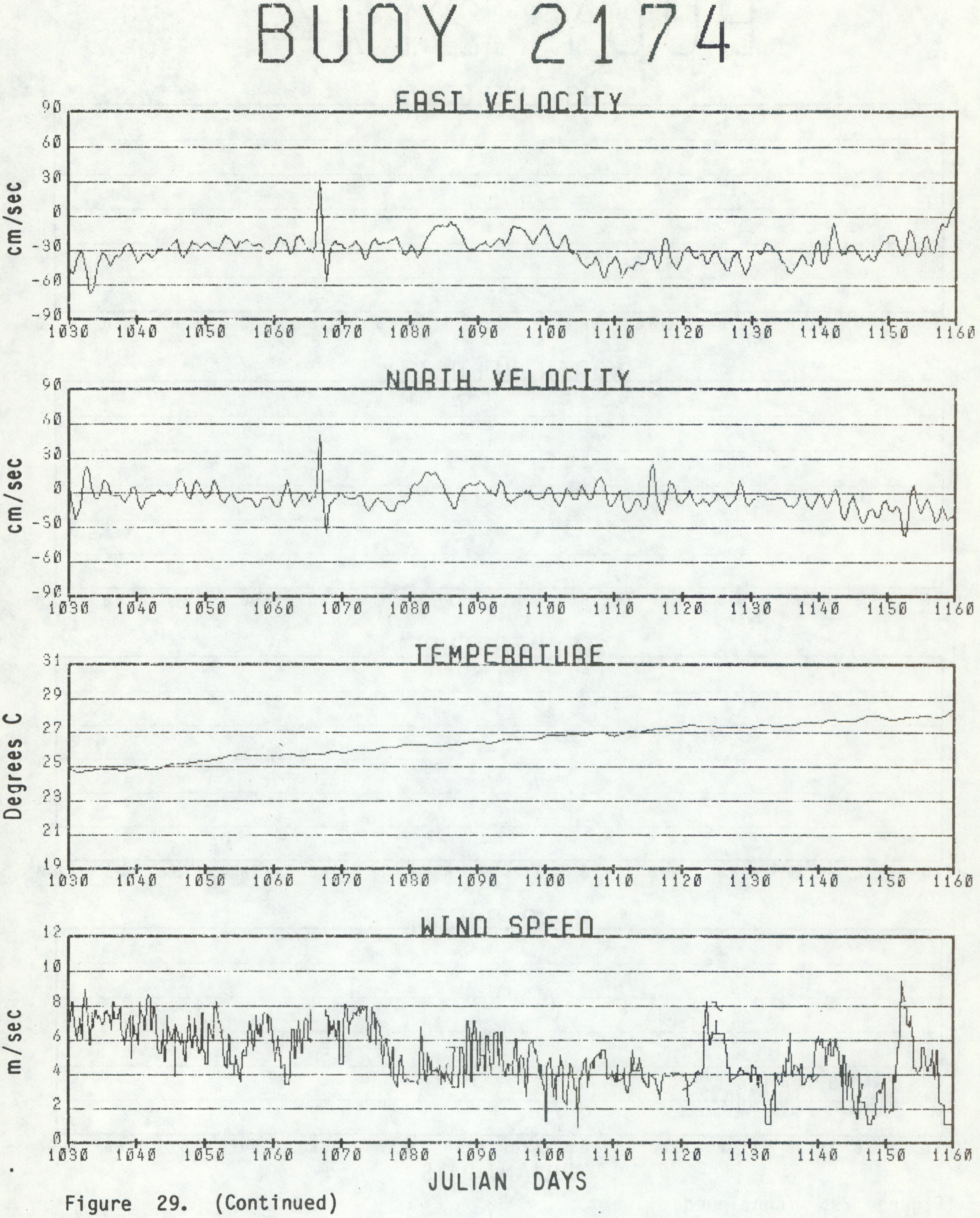


Figure 29. (Continued)

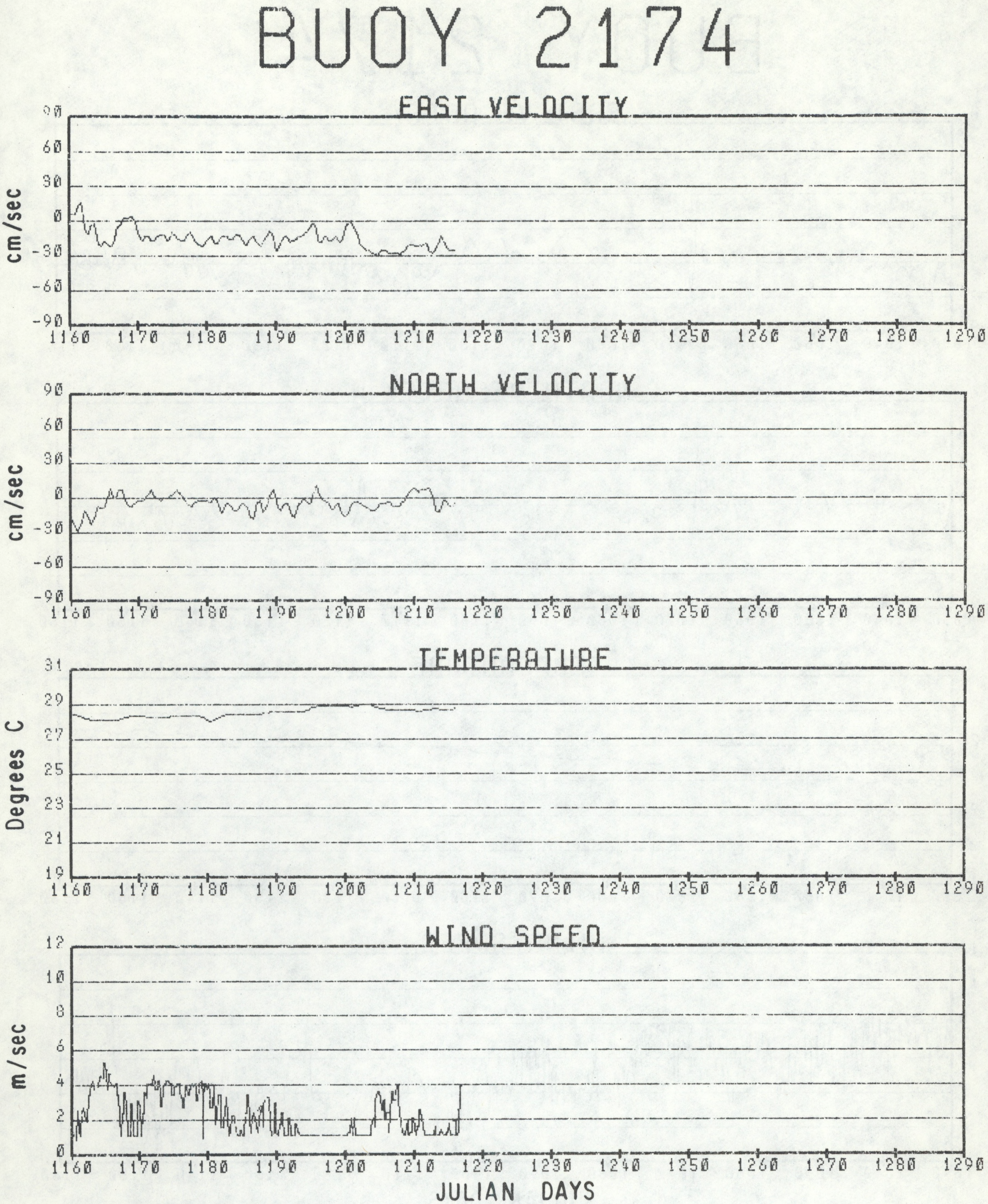
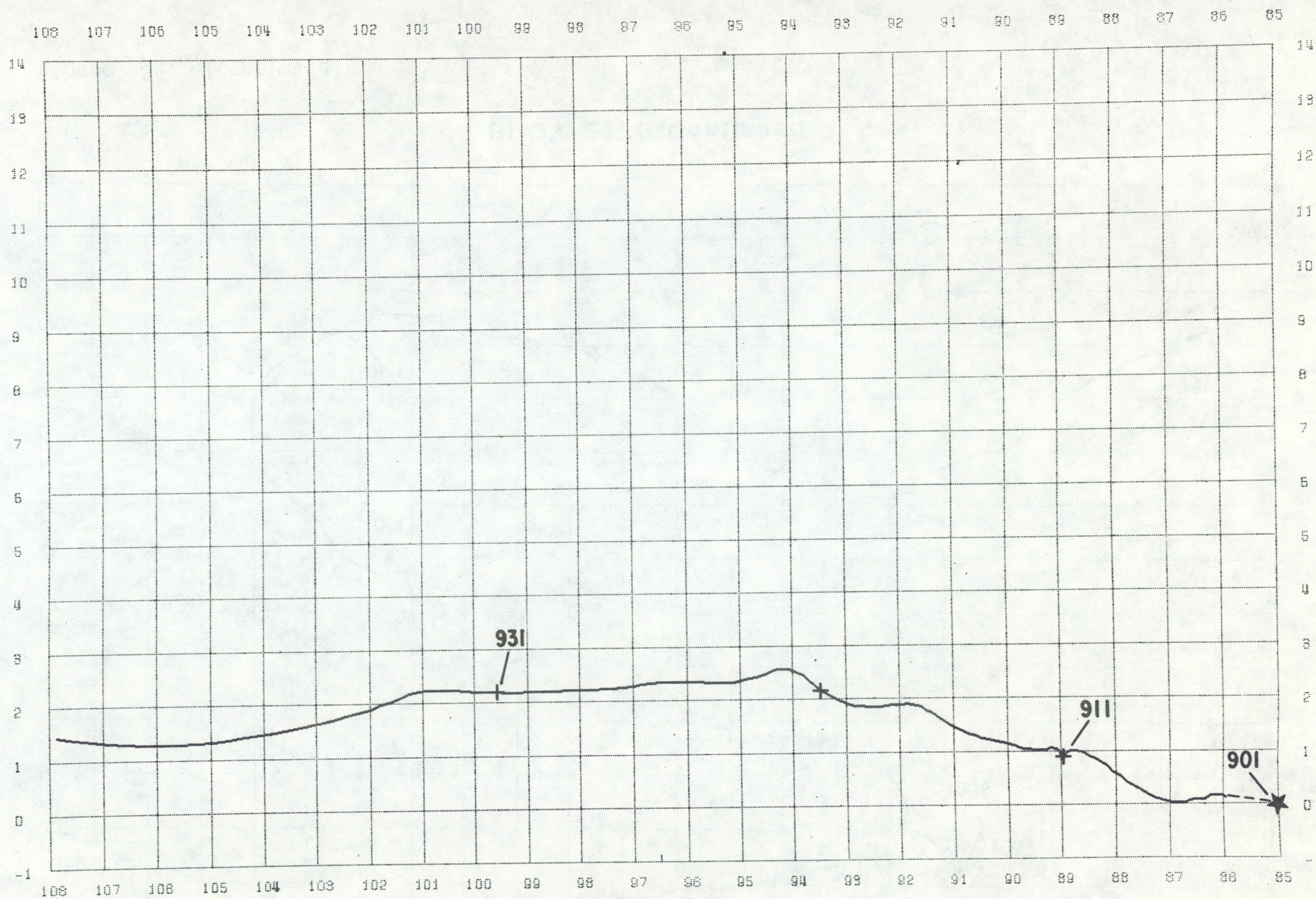
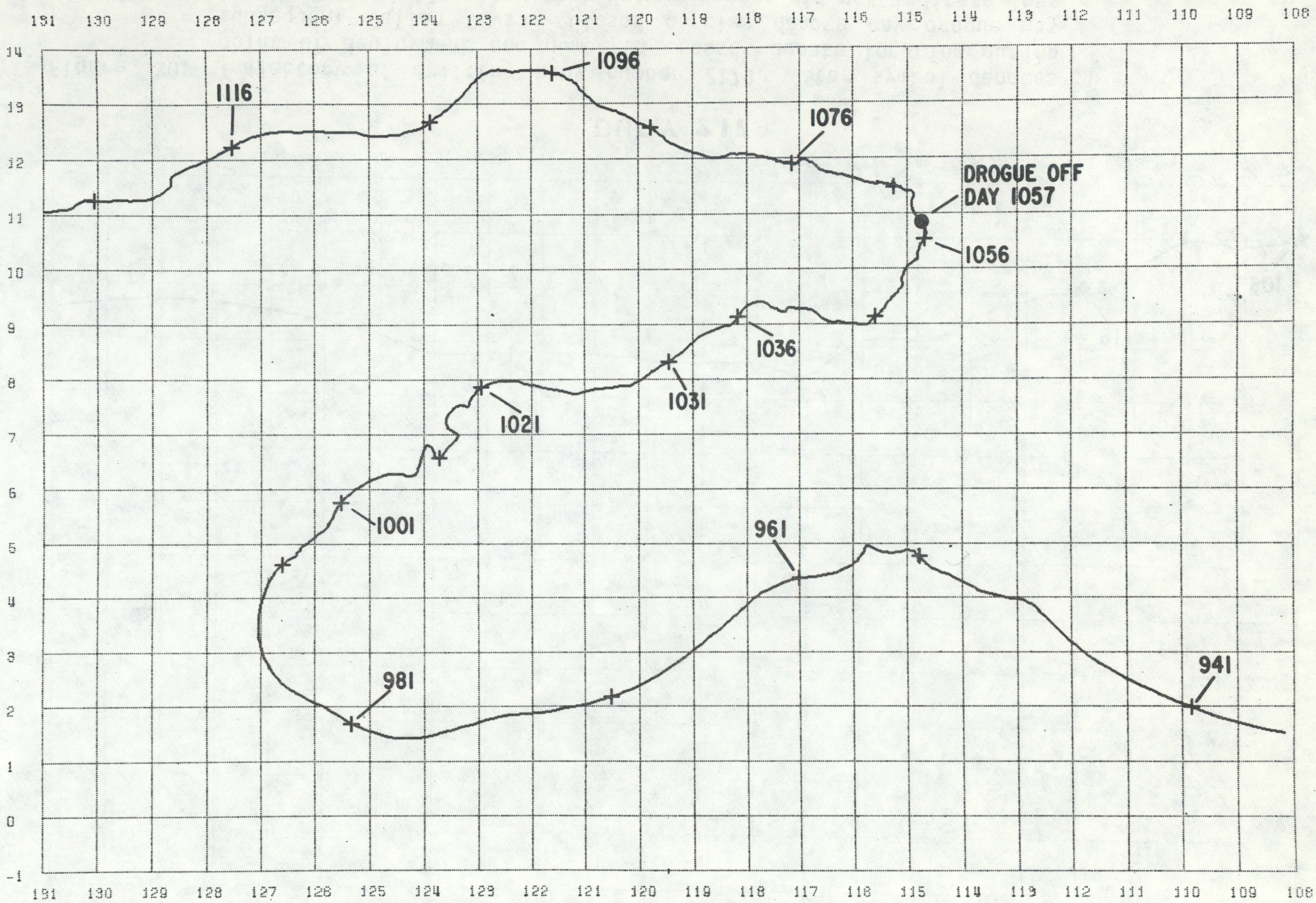


Figure 29. (Continued)



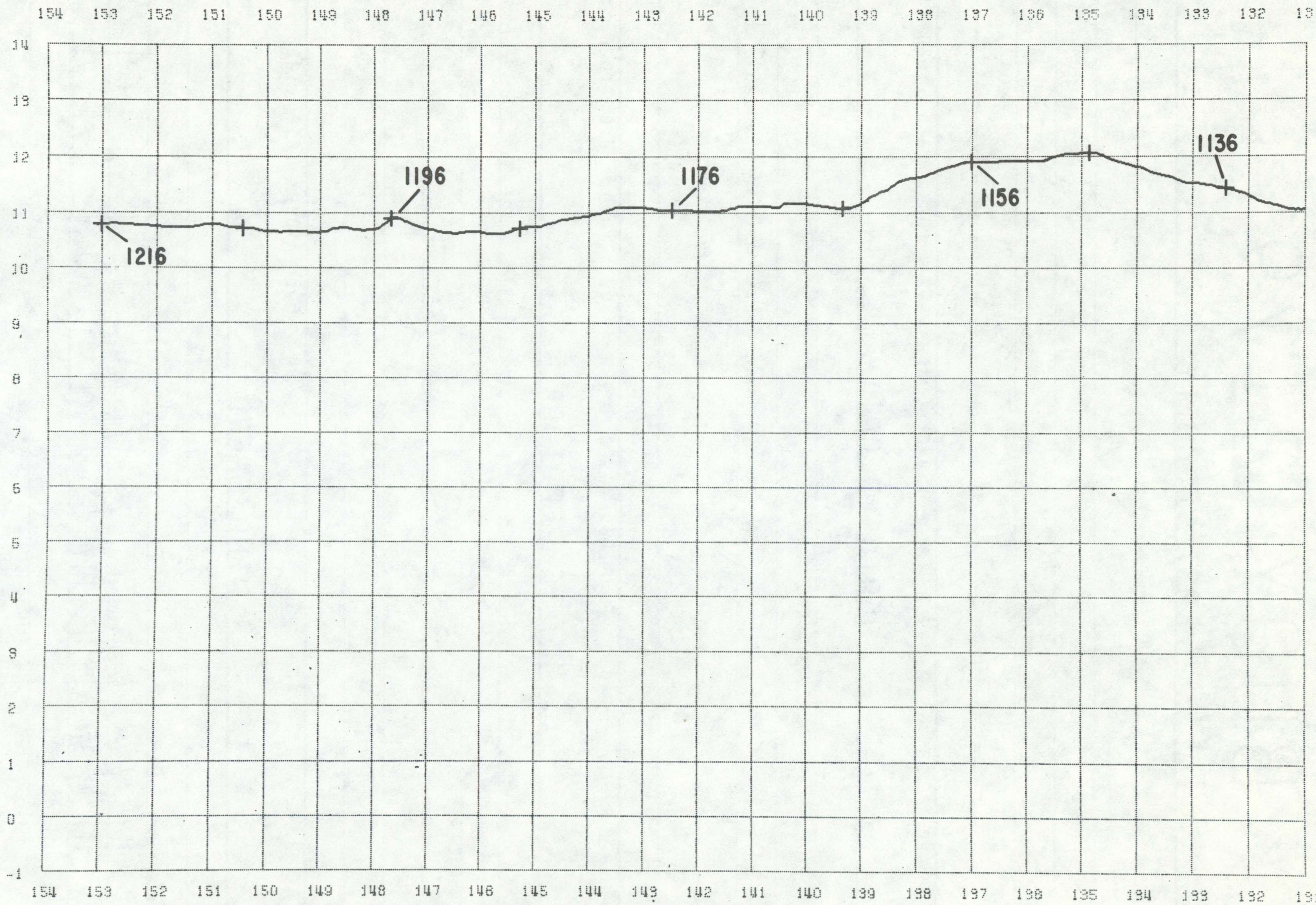
BUOY 2179

Figure 30. Trajectory of drifting buoy number 2179. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2179 Continued

Figure 30. (Continued)



BUOY 2179 Continued

Figure 30. (Continued)

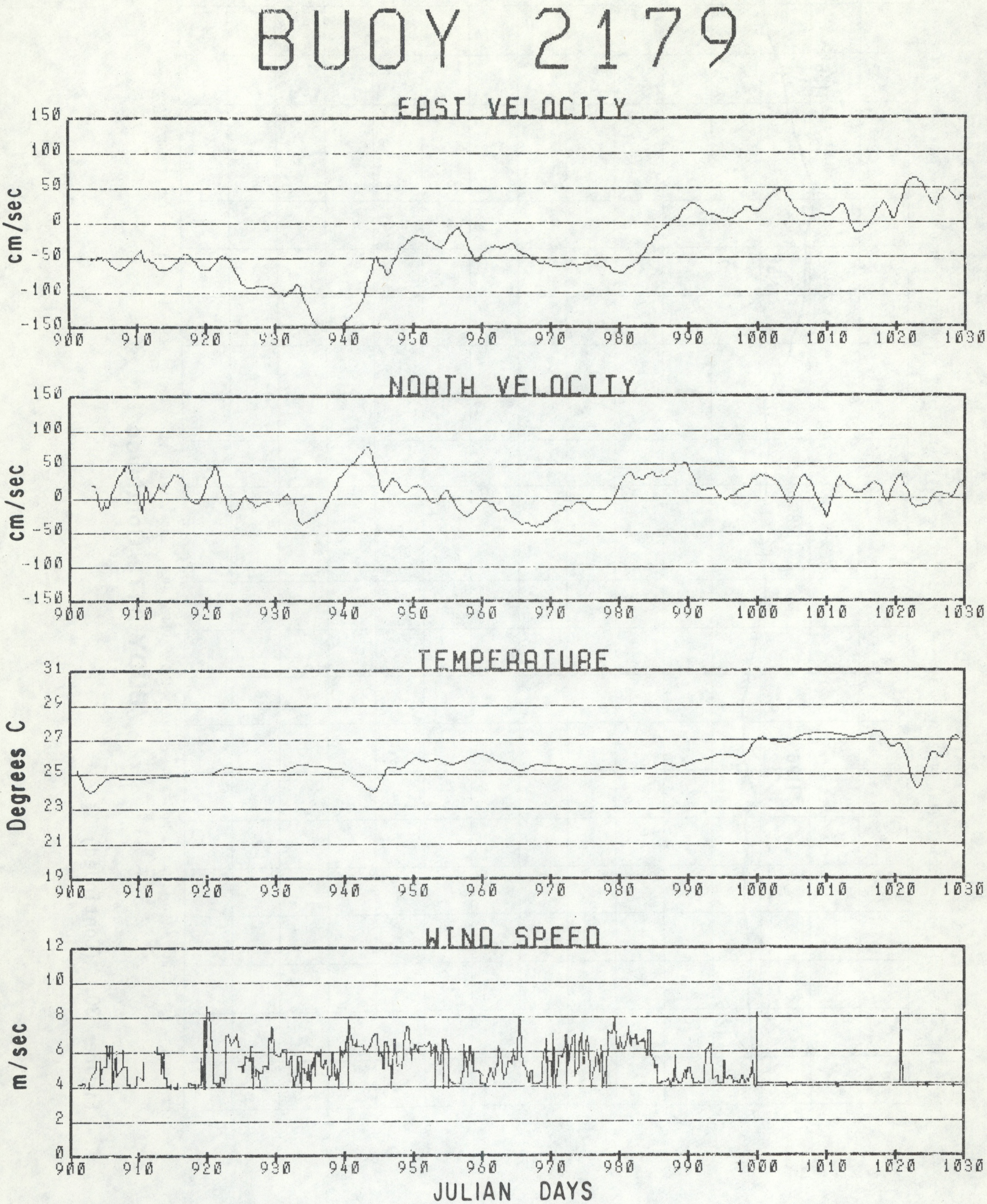


Figure 31. Time series of velocity and sensor data history for drifting buoy 2179.

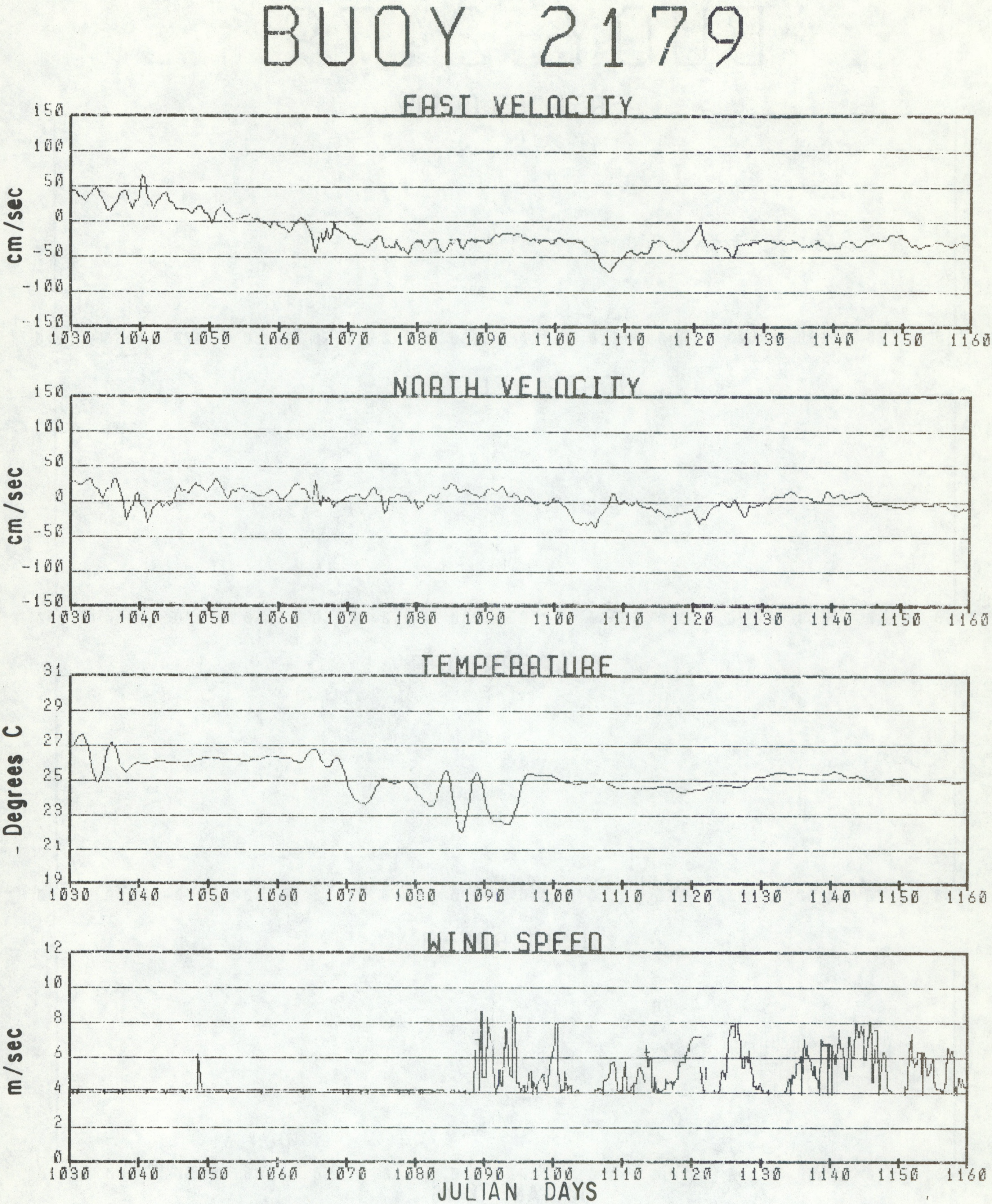


Figure 31. (Continued)

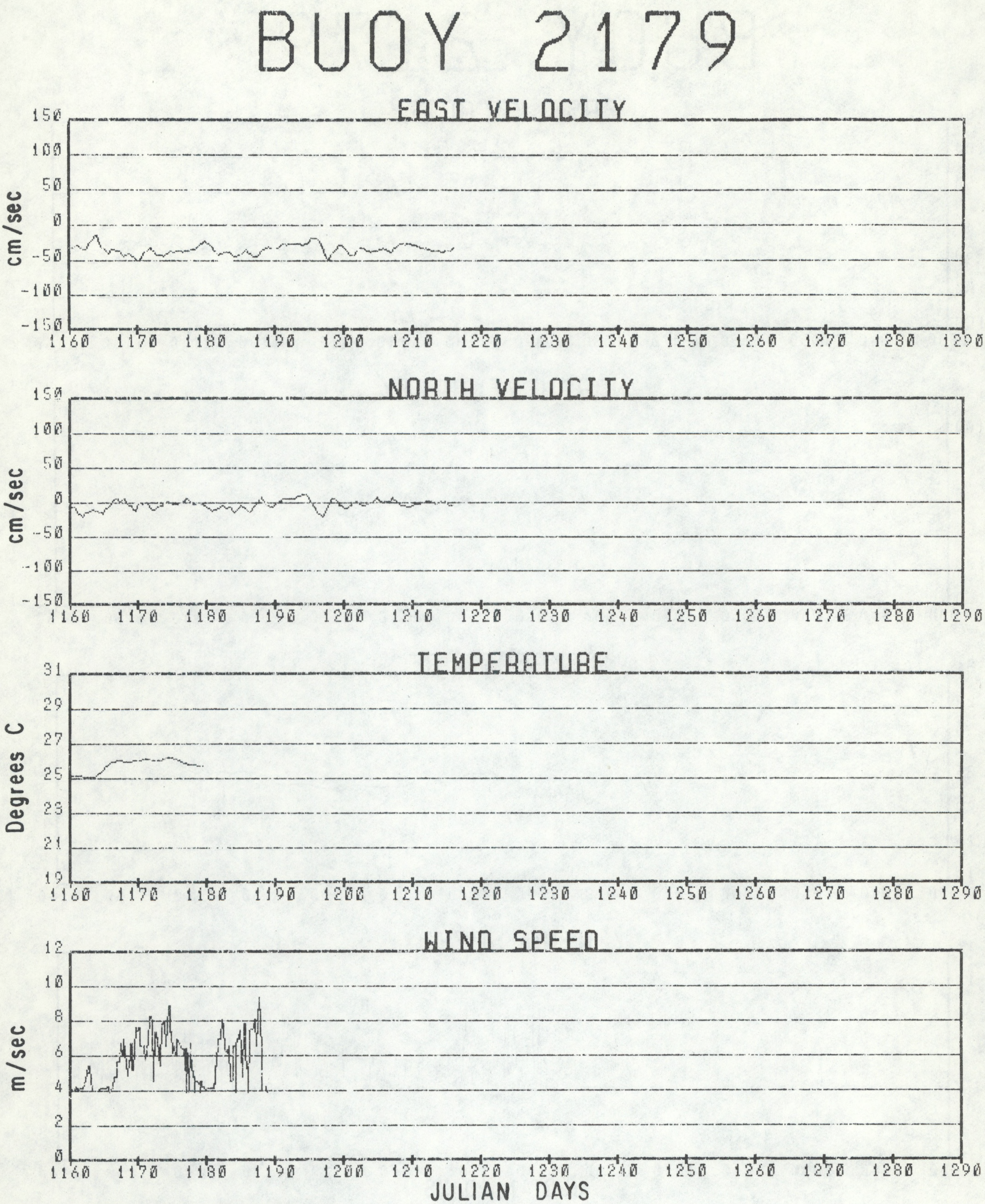


Figure 31. (Continued)

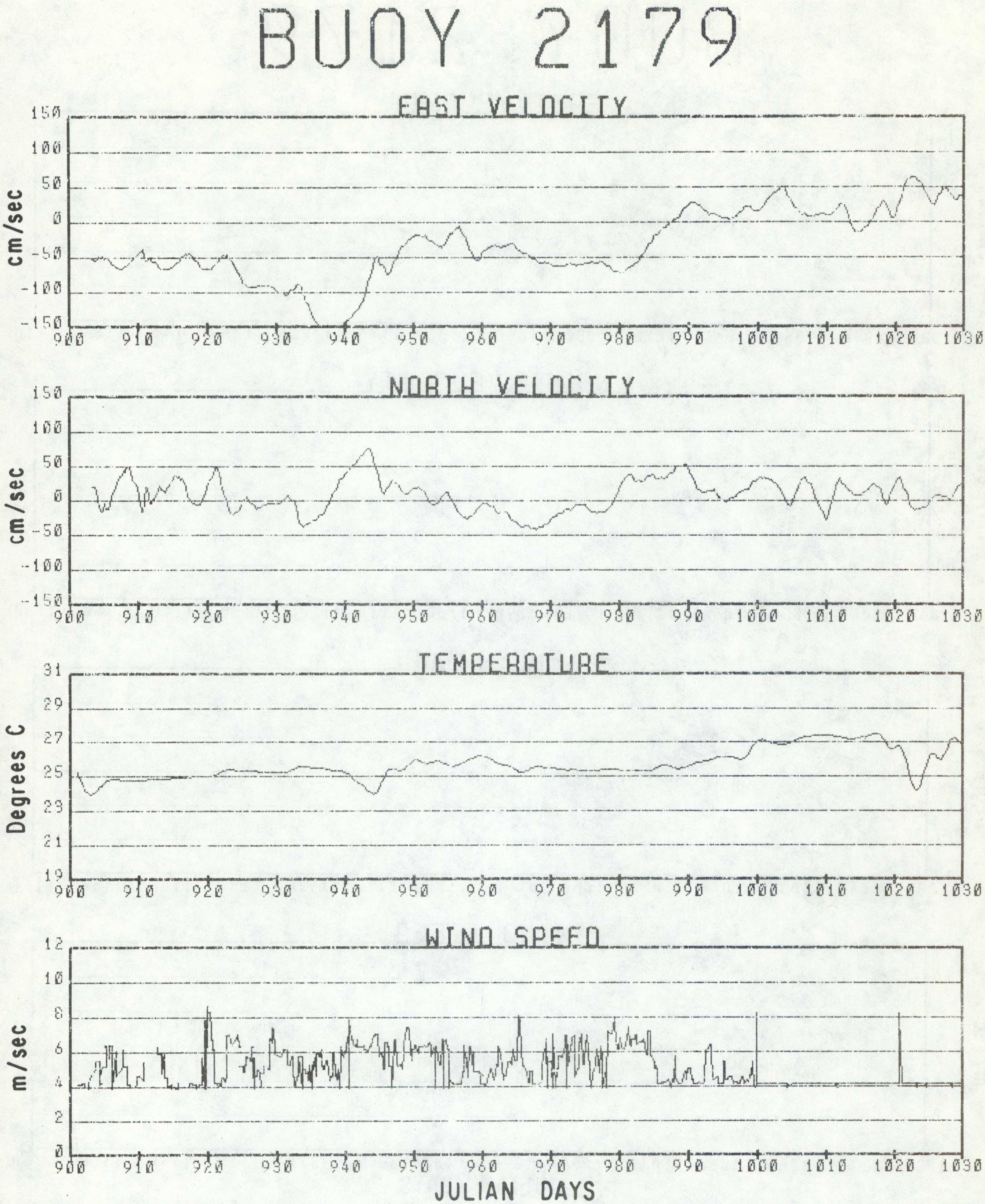


Figure 31. (Continued)

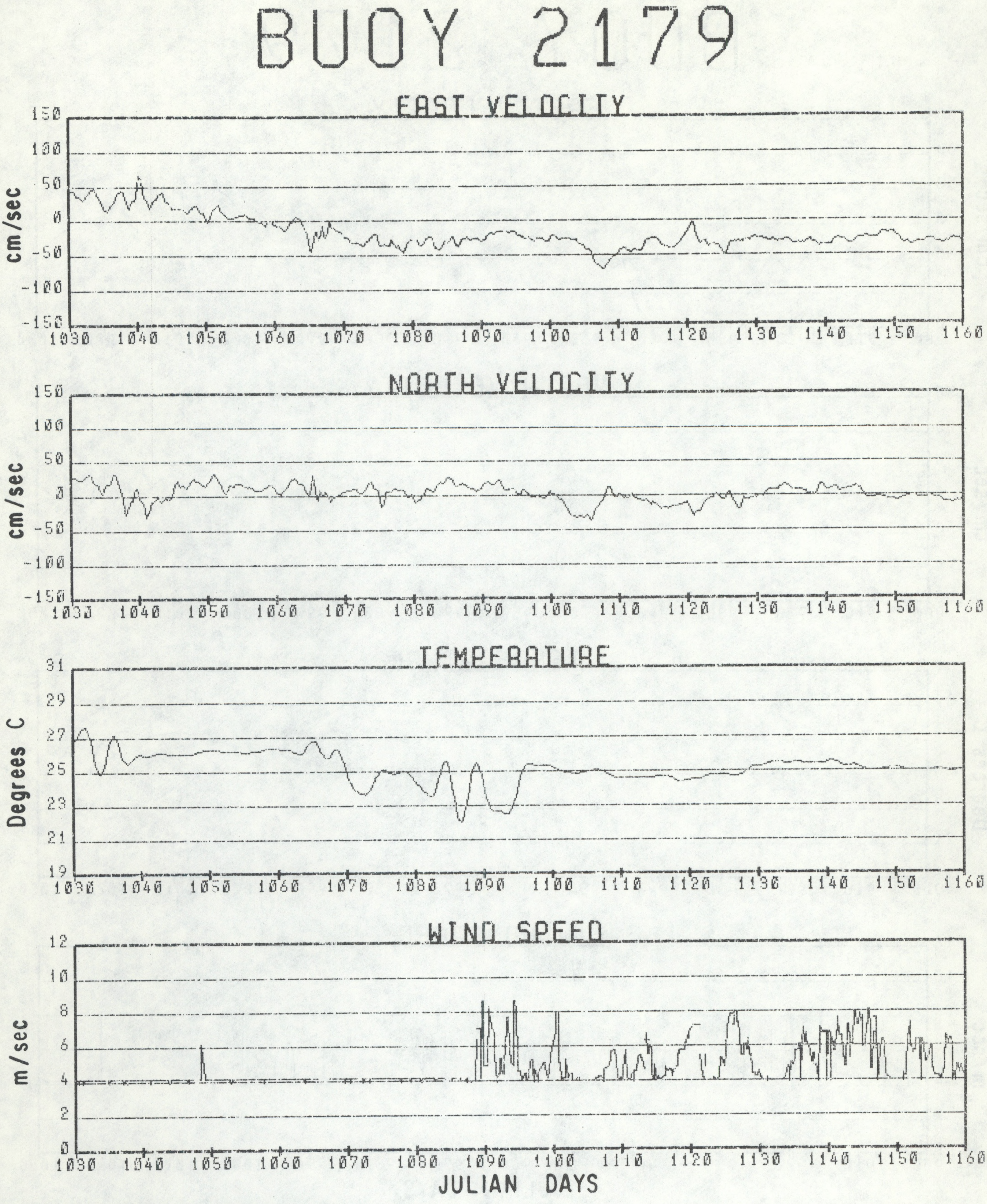


Figure 31. (Continued)

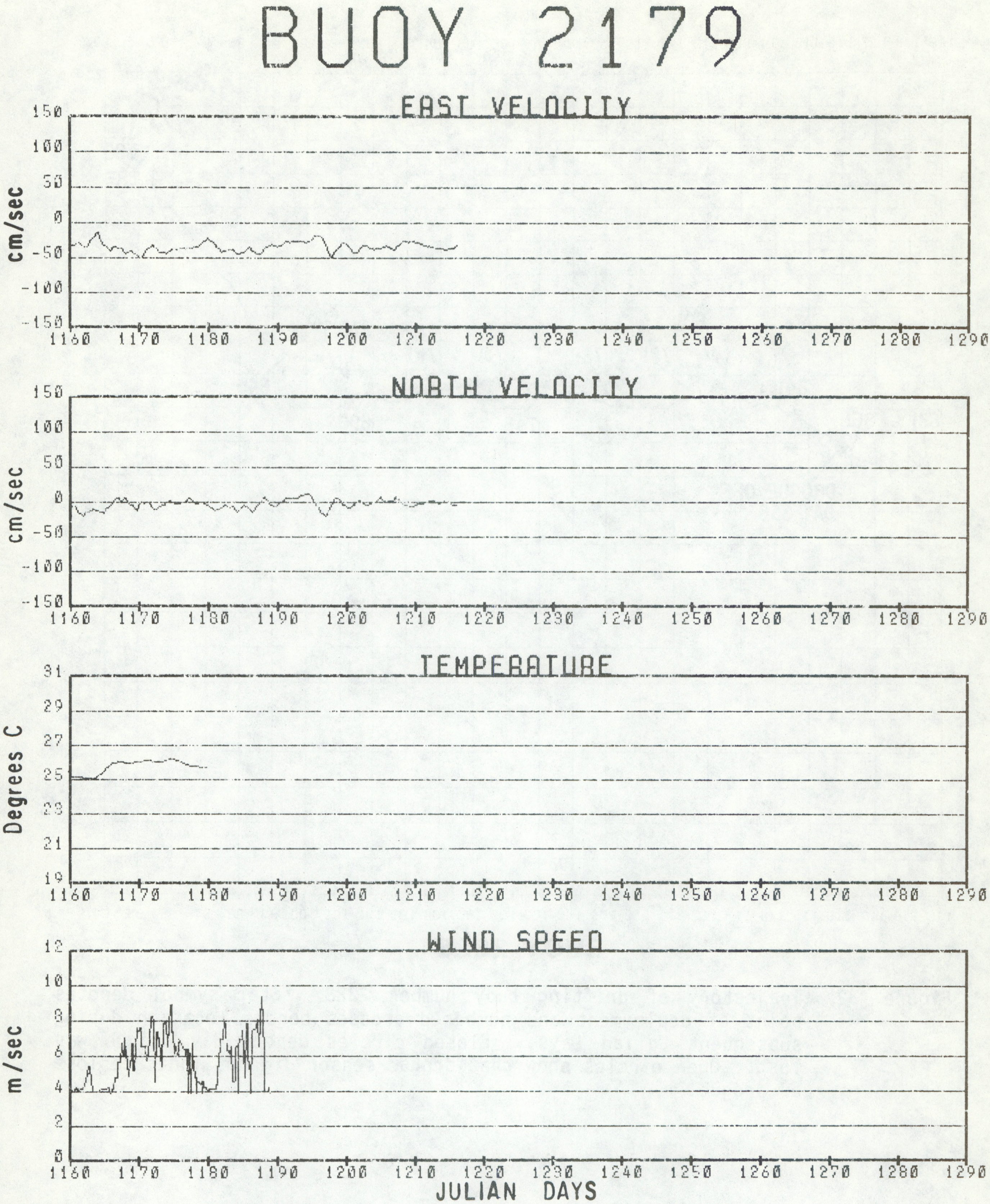


Figure 31. (Continued)

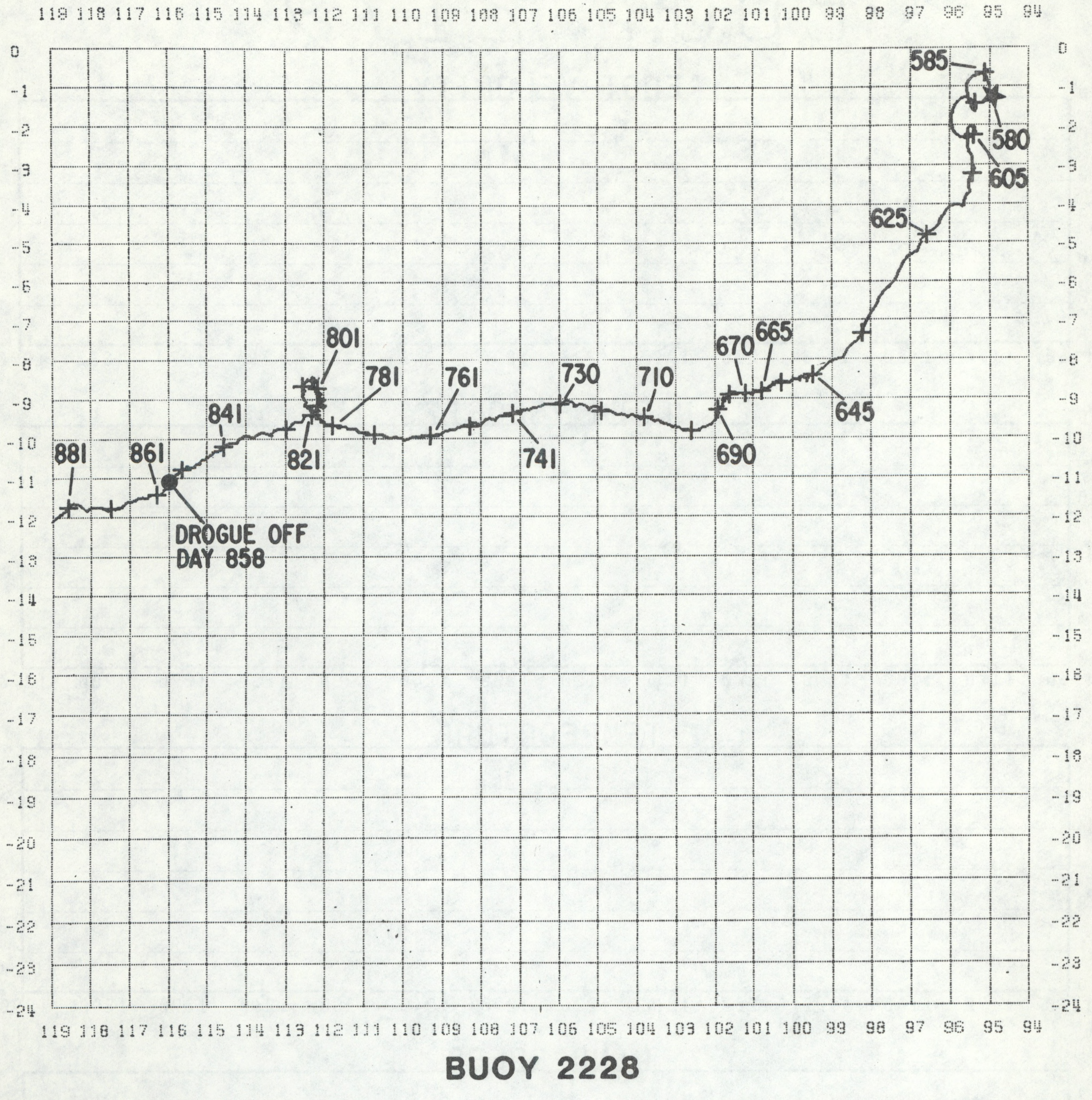
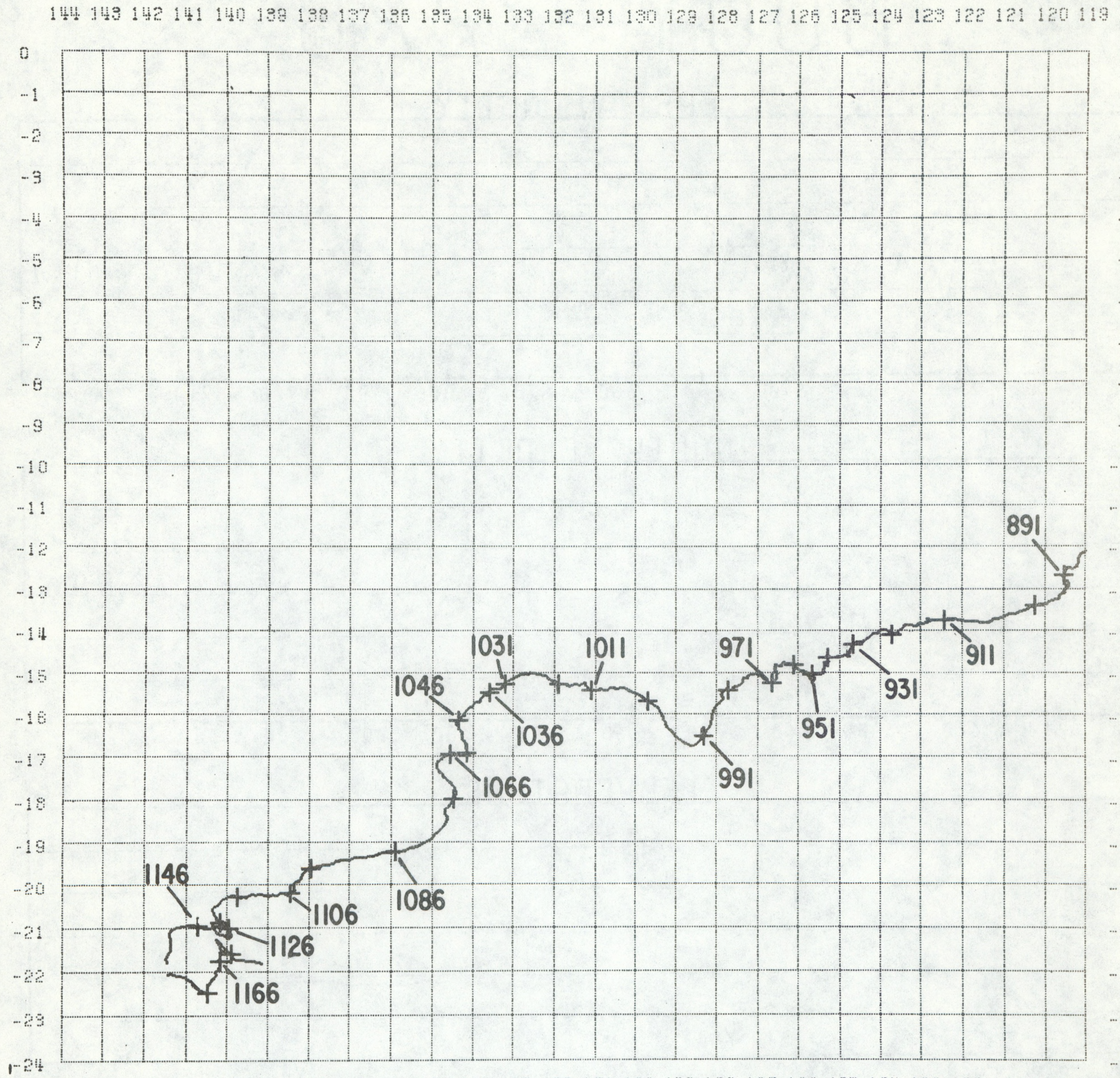


Figure 32. Trajectory of drifting buoy number 2228. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2228 Continued

Figure 32. (Continued)

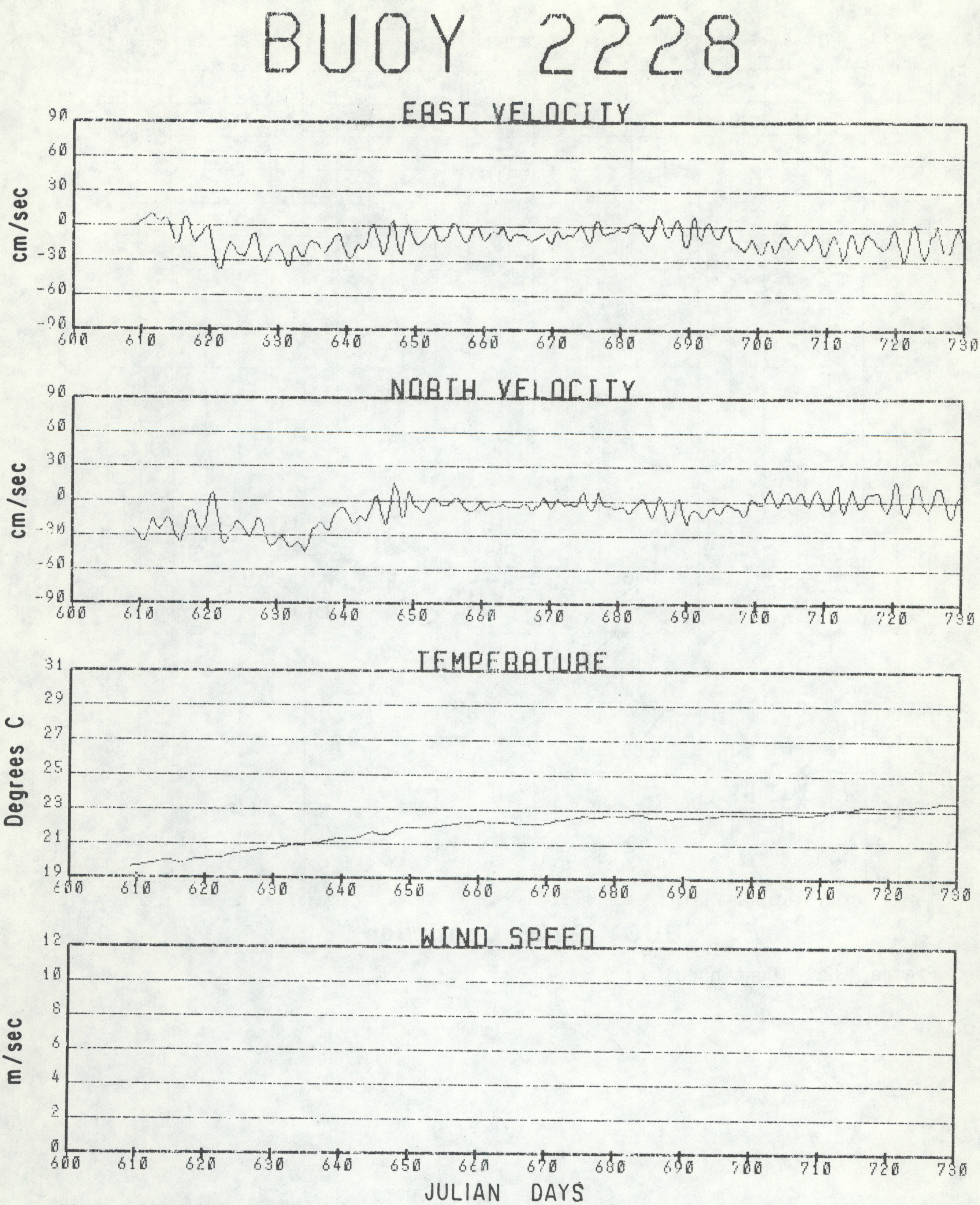


Figure 33. Time series of velocity and sensor data history for drifting buoy 2228.

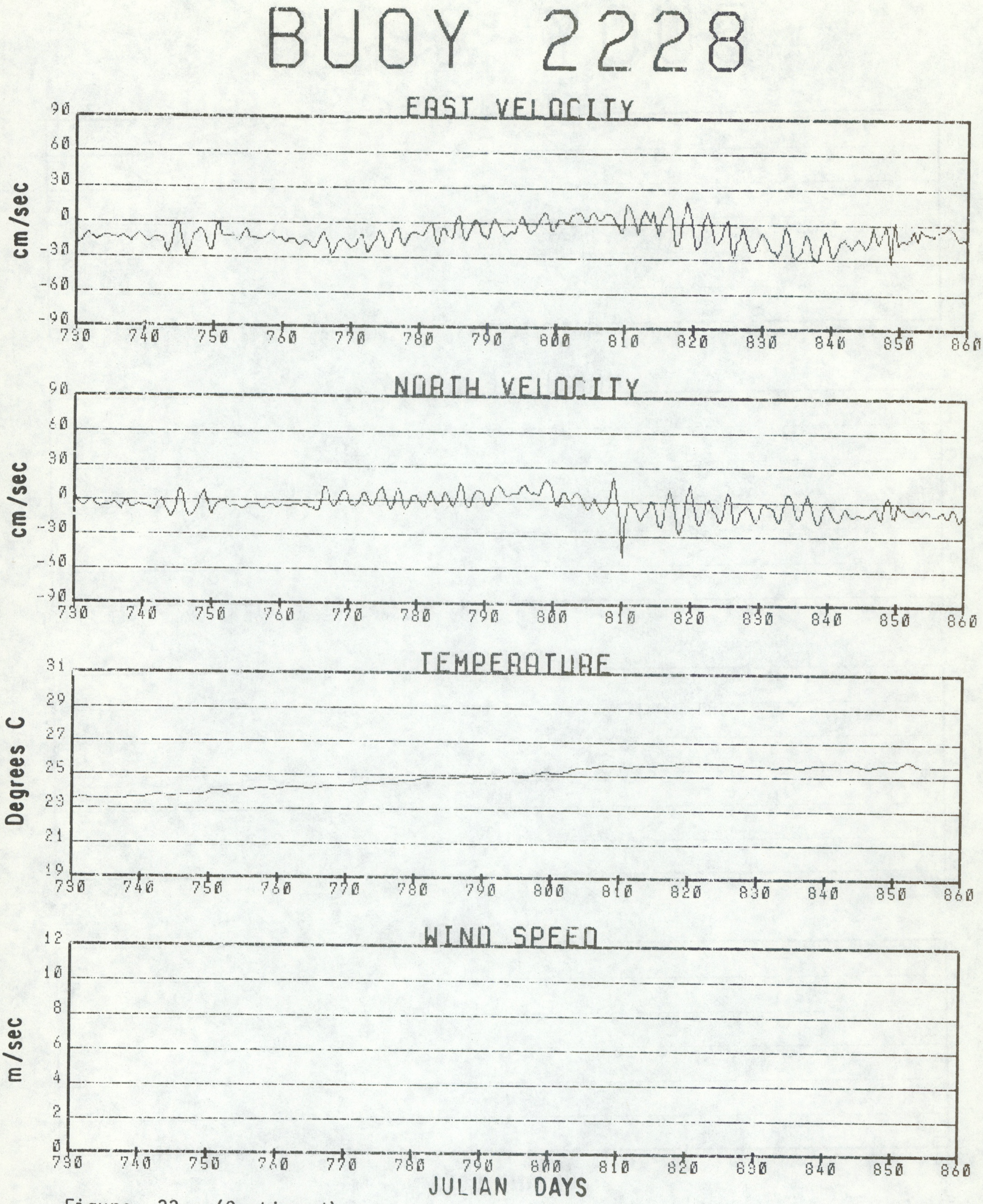


Figure 33. (Continued)

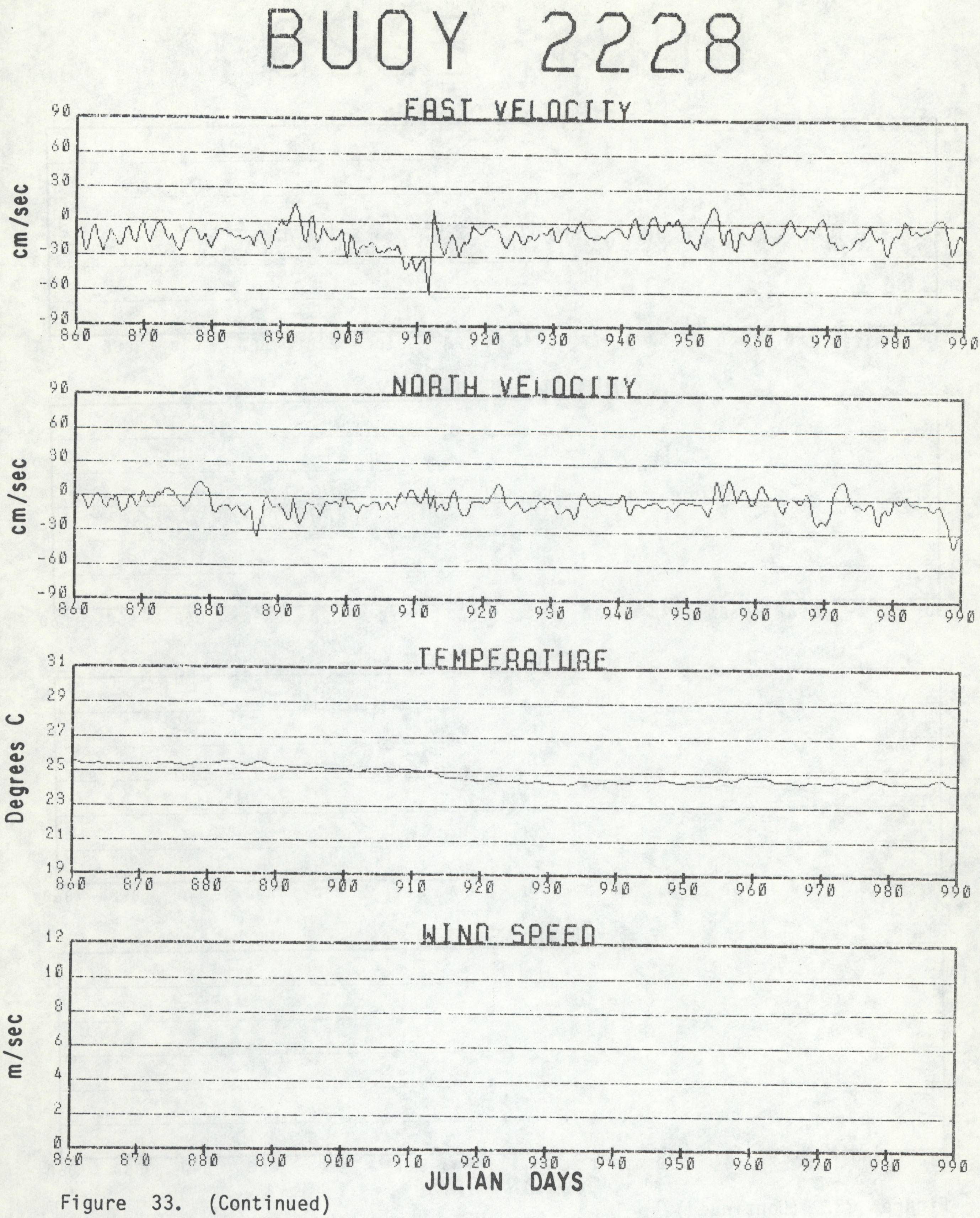


Figure 33. (Continued)

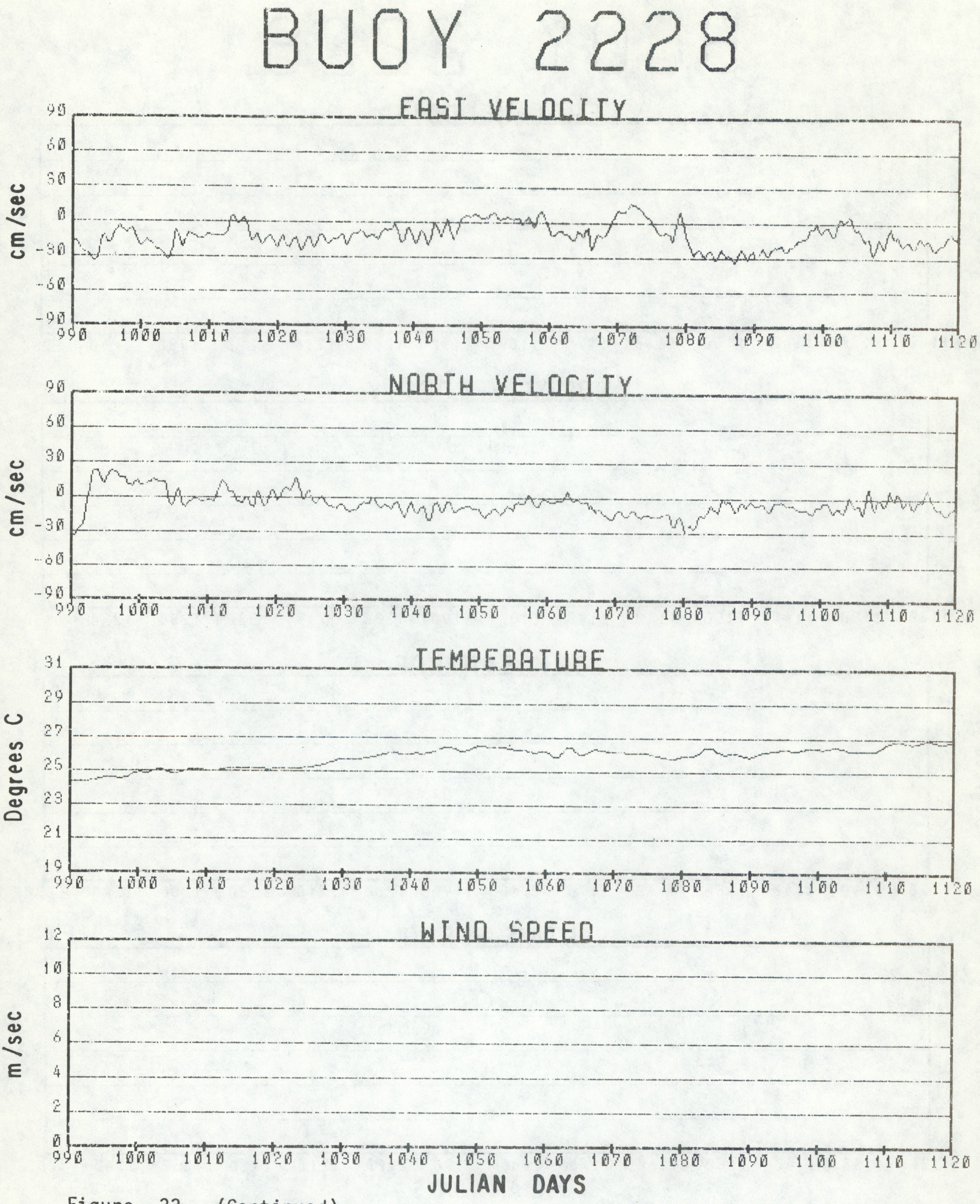


Figure 33. (Continued)

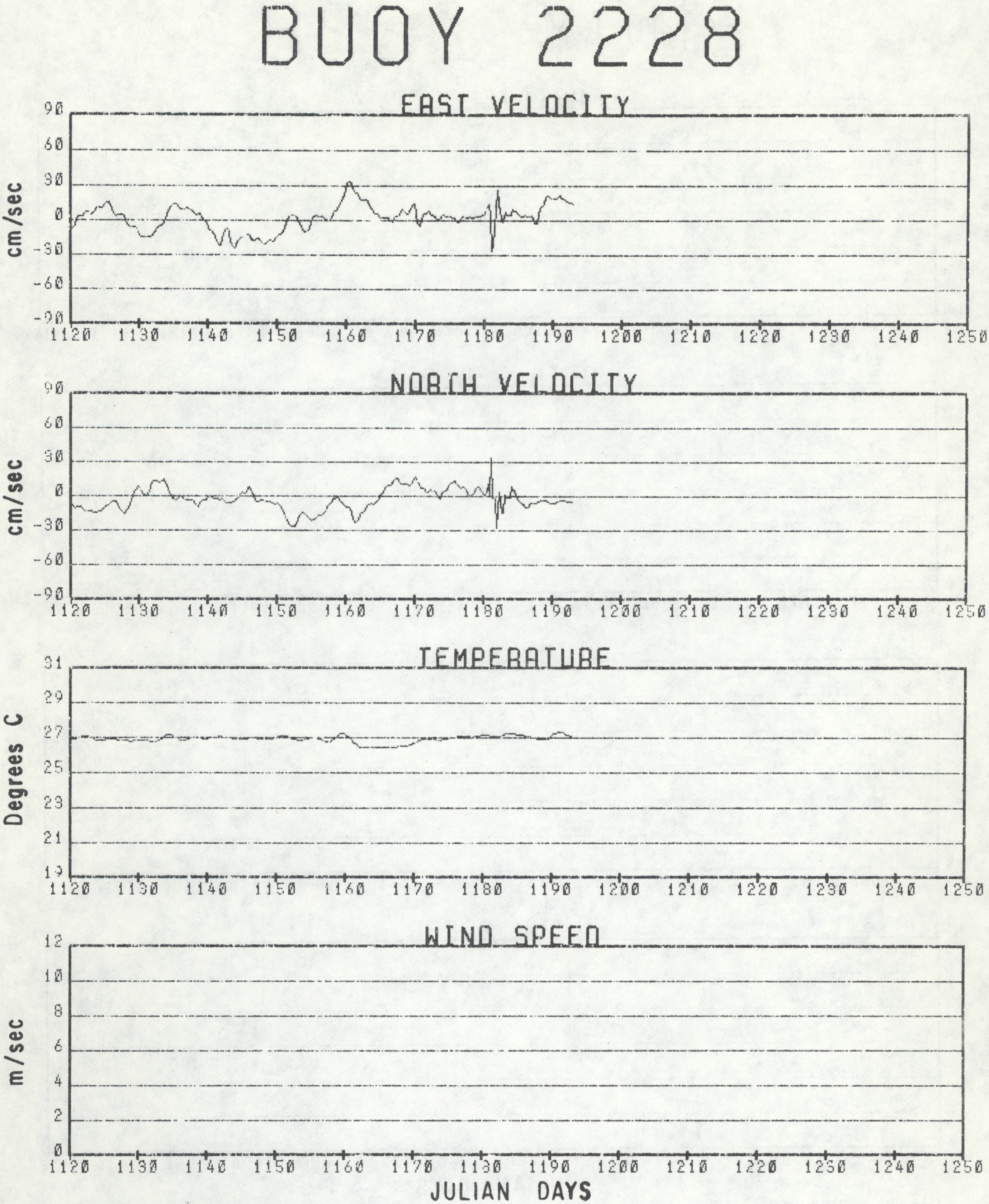


Figure 33. (Continued)

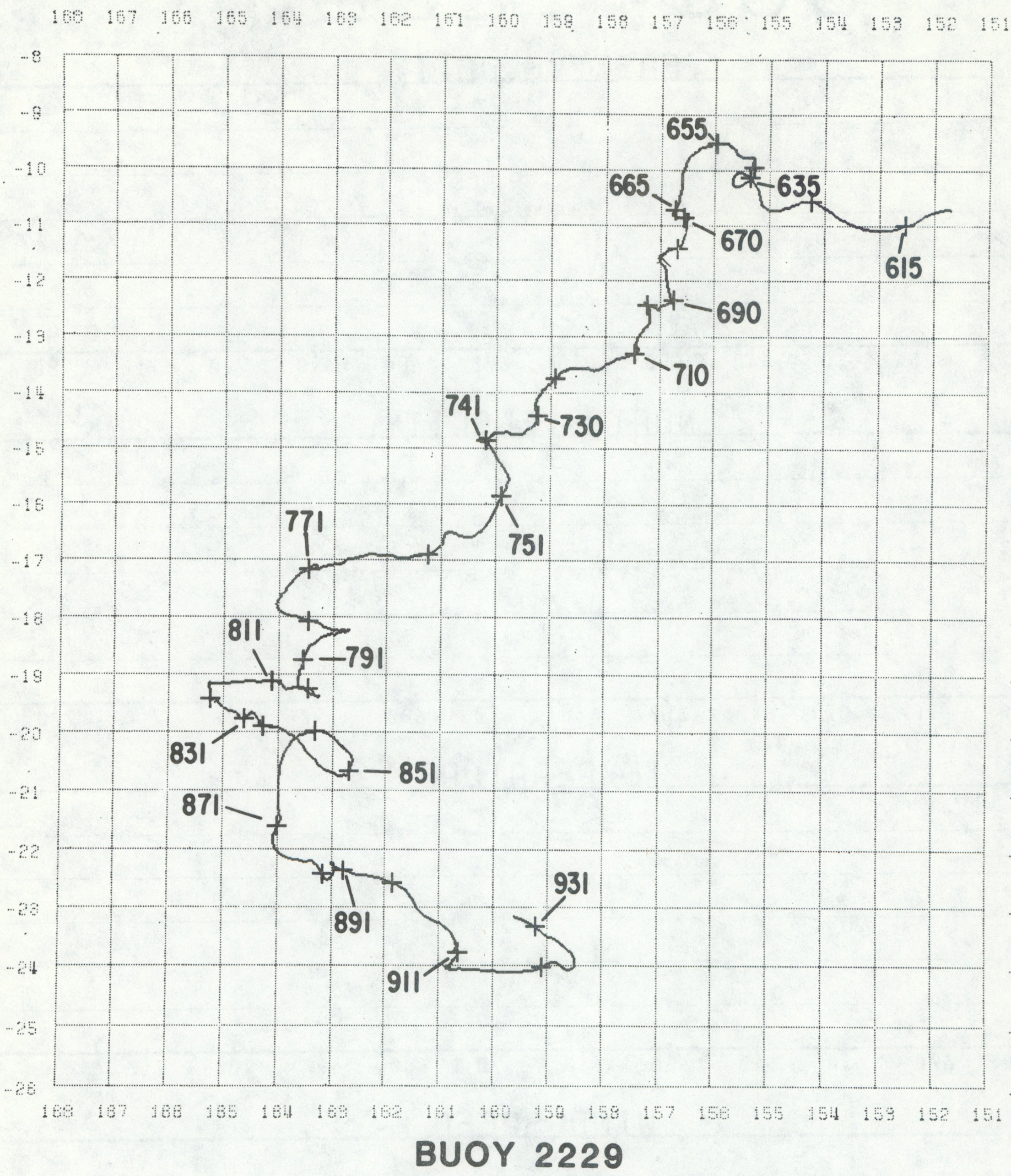


Figure 34. Trajectory of drifting buoy number 2229. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

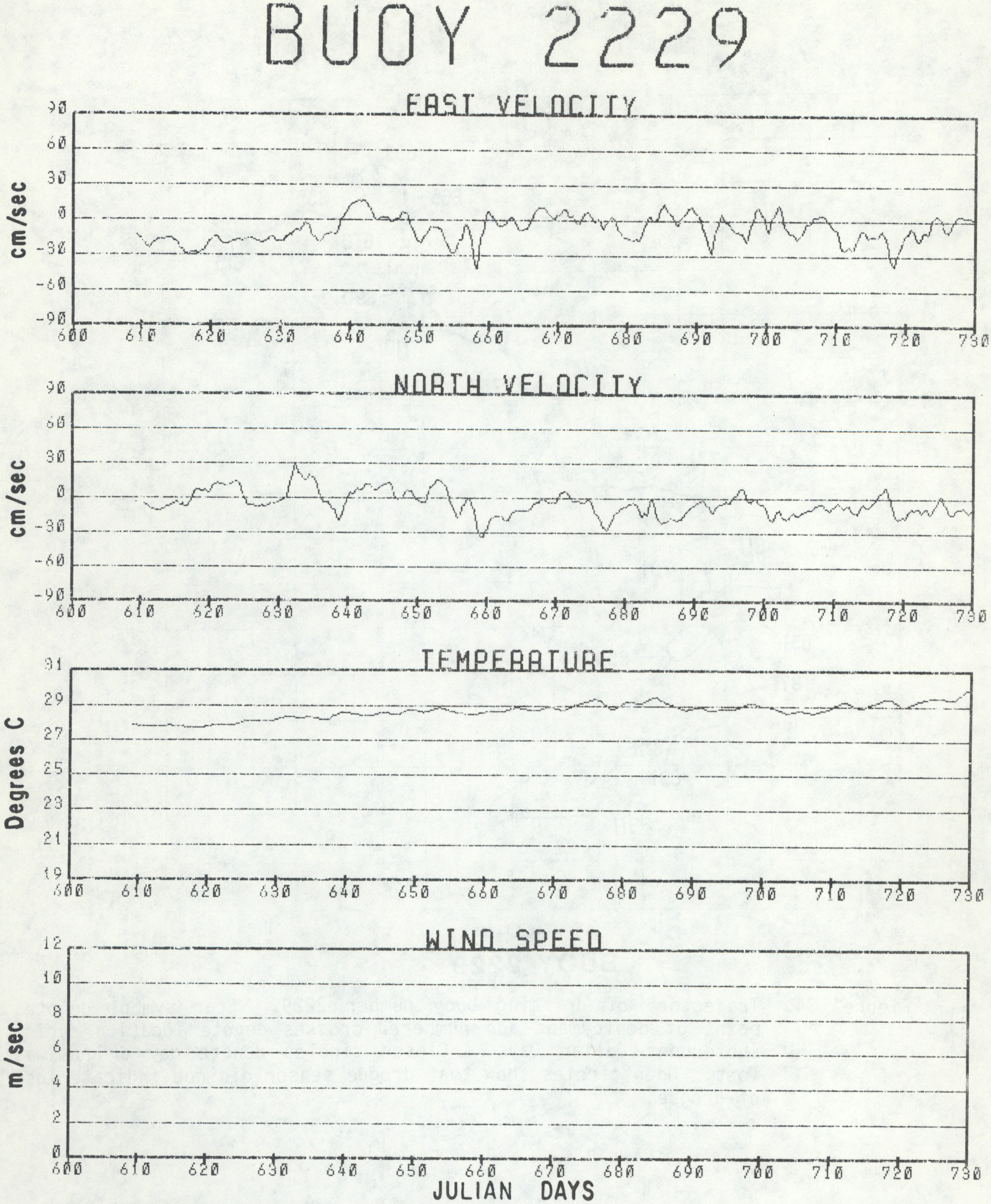


Figure 35. Time series of velocity and sensor data history for drifting buoy 2229.

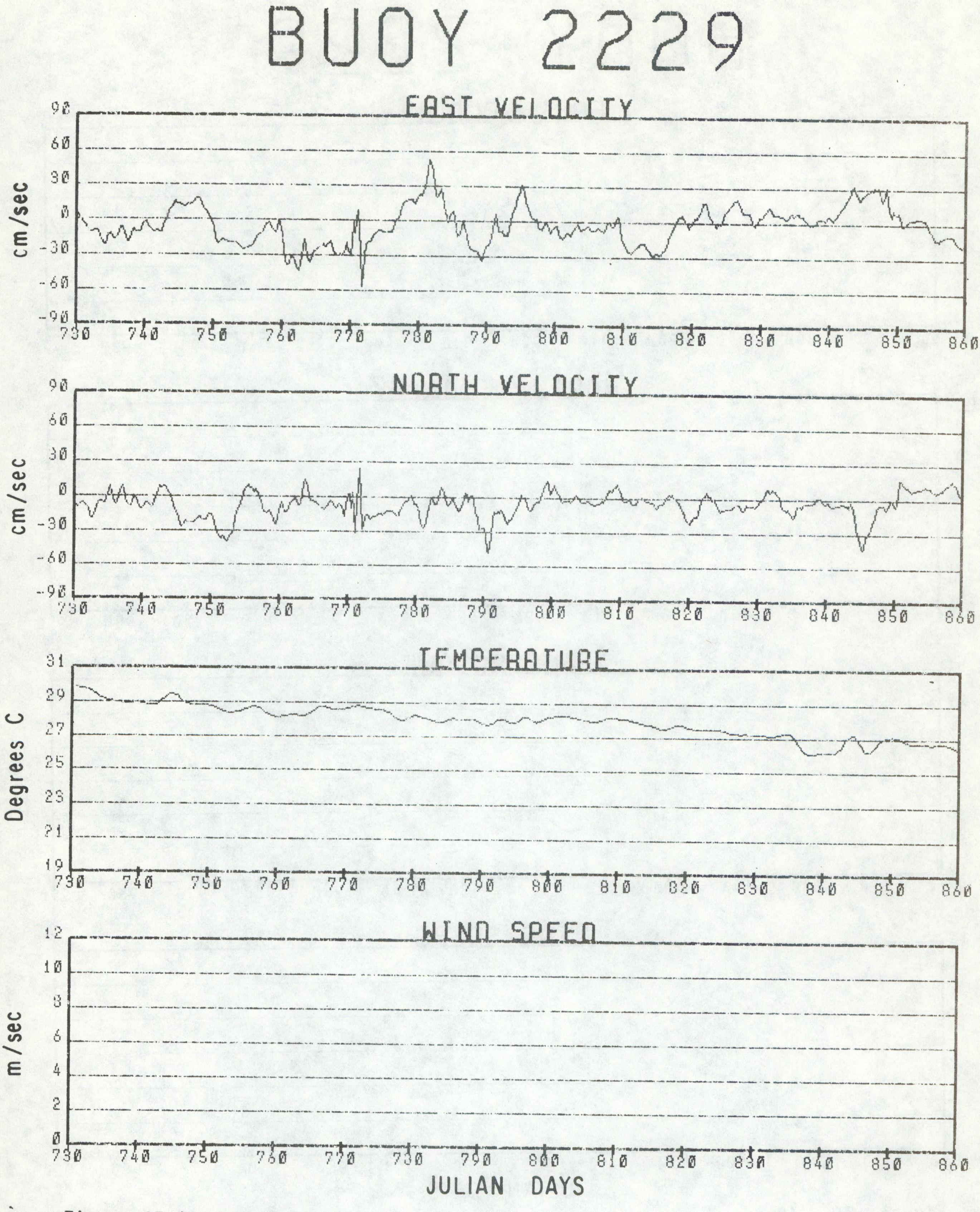


Figure 35 (Continued)

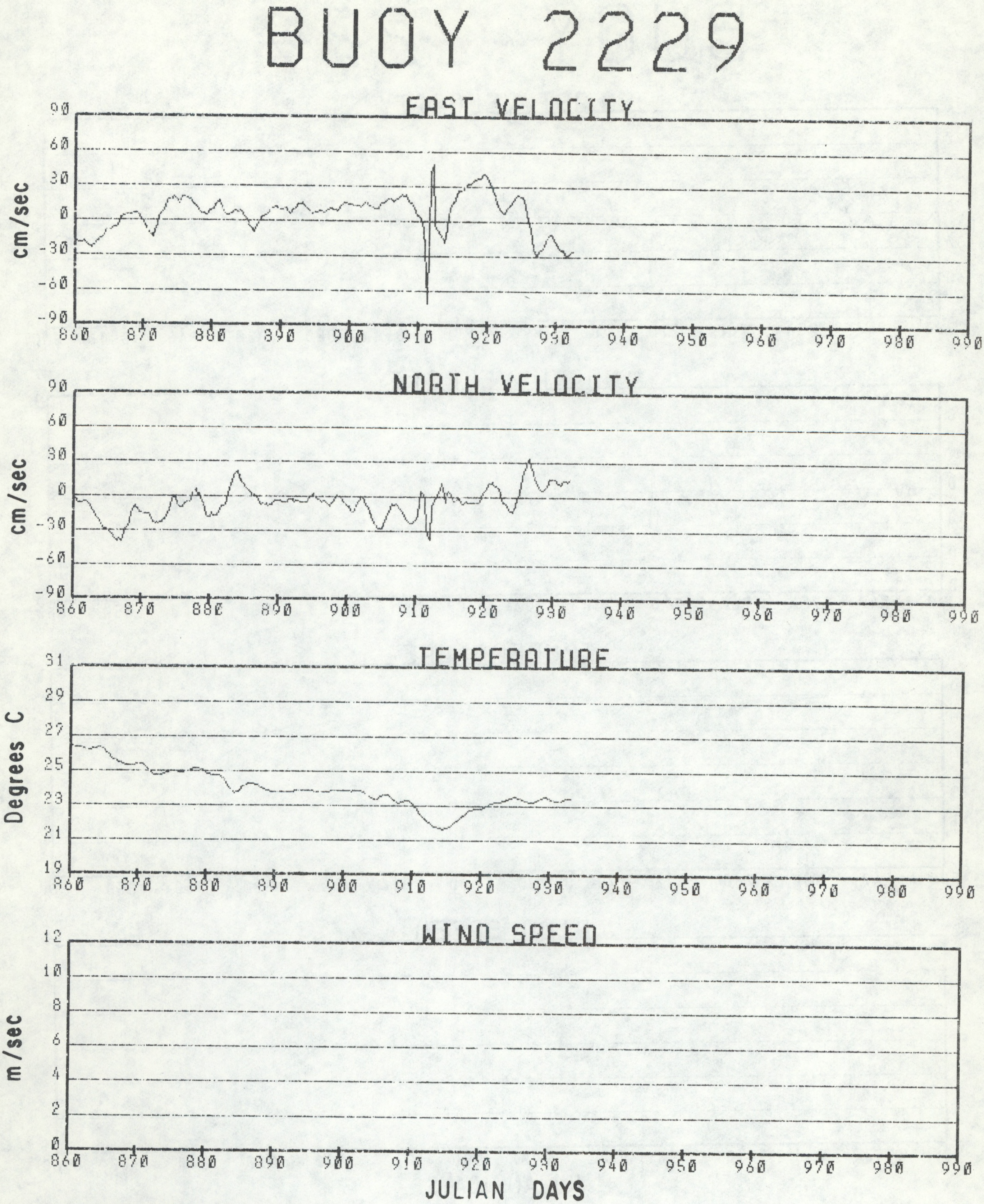
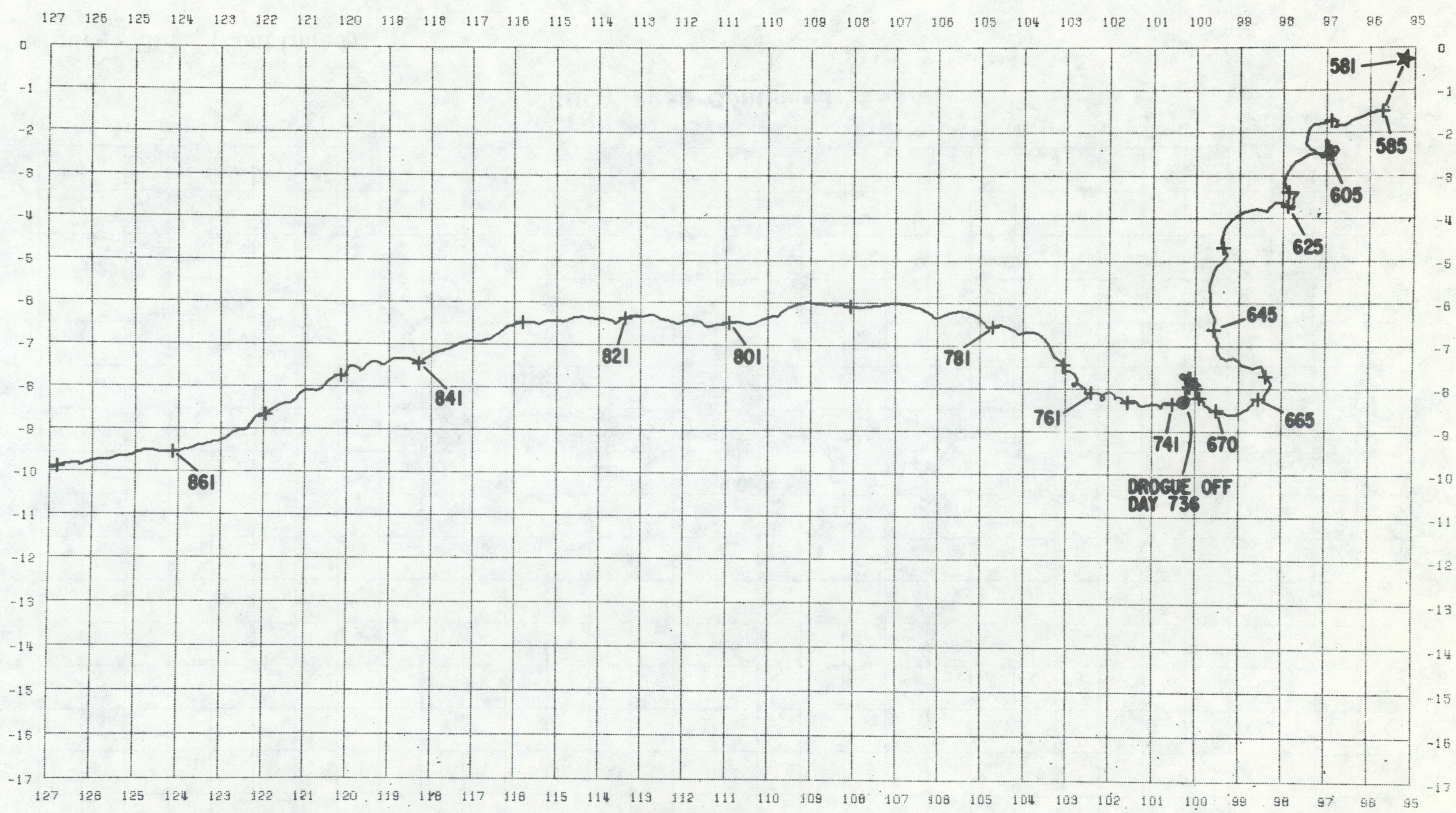
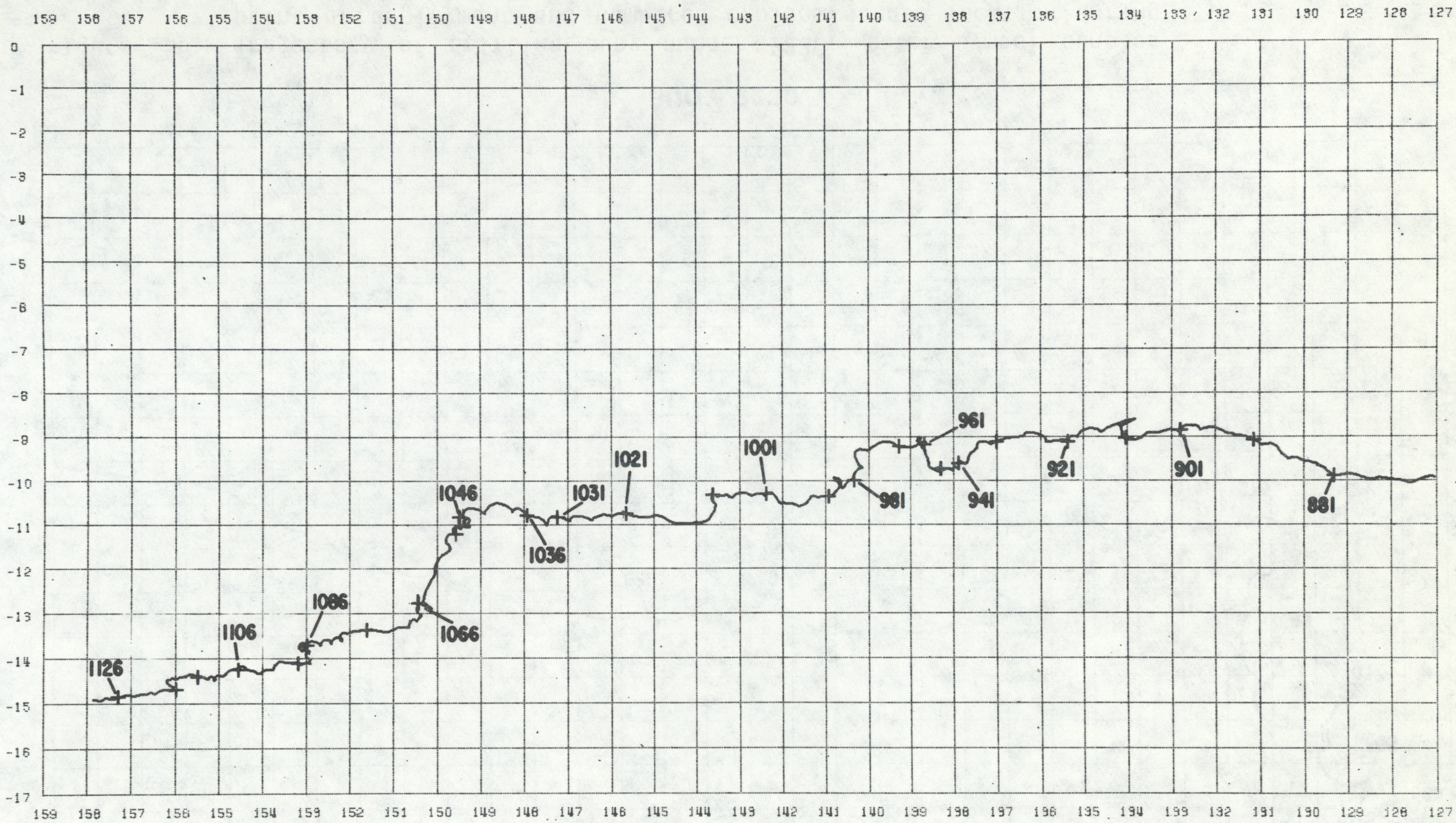


Figure 35. (Continued)



BUOY 2230

Figure 36. Trajectory of drifting buoy number 2230. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2230 Continued

Figure 36. (Continued)

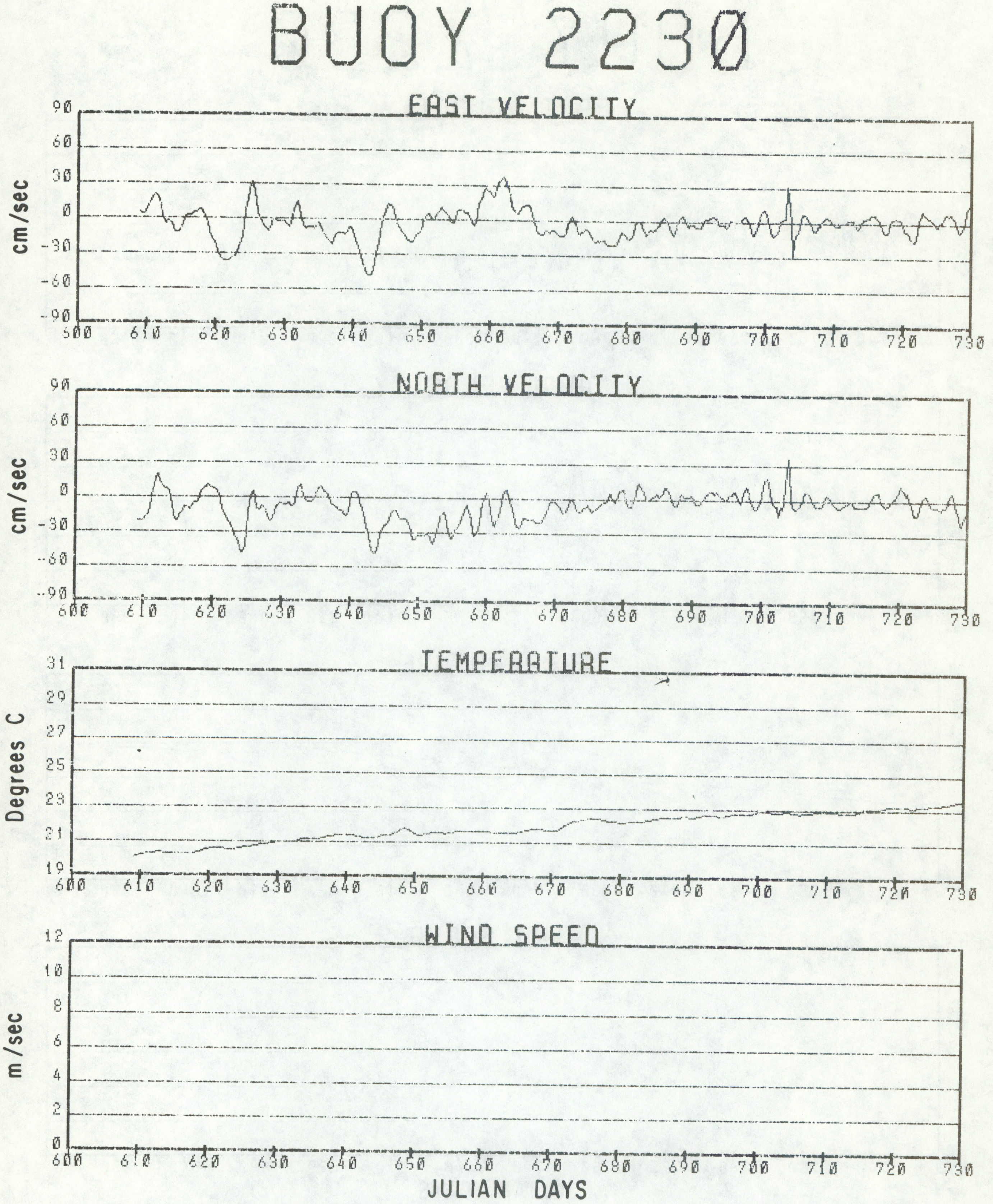


Figure 37. Time series of velocity and sensor data history for drifting buoy 2230.

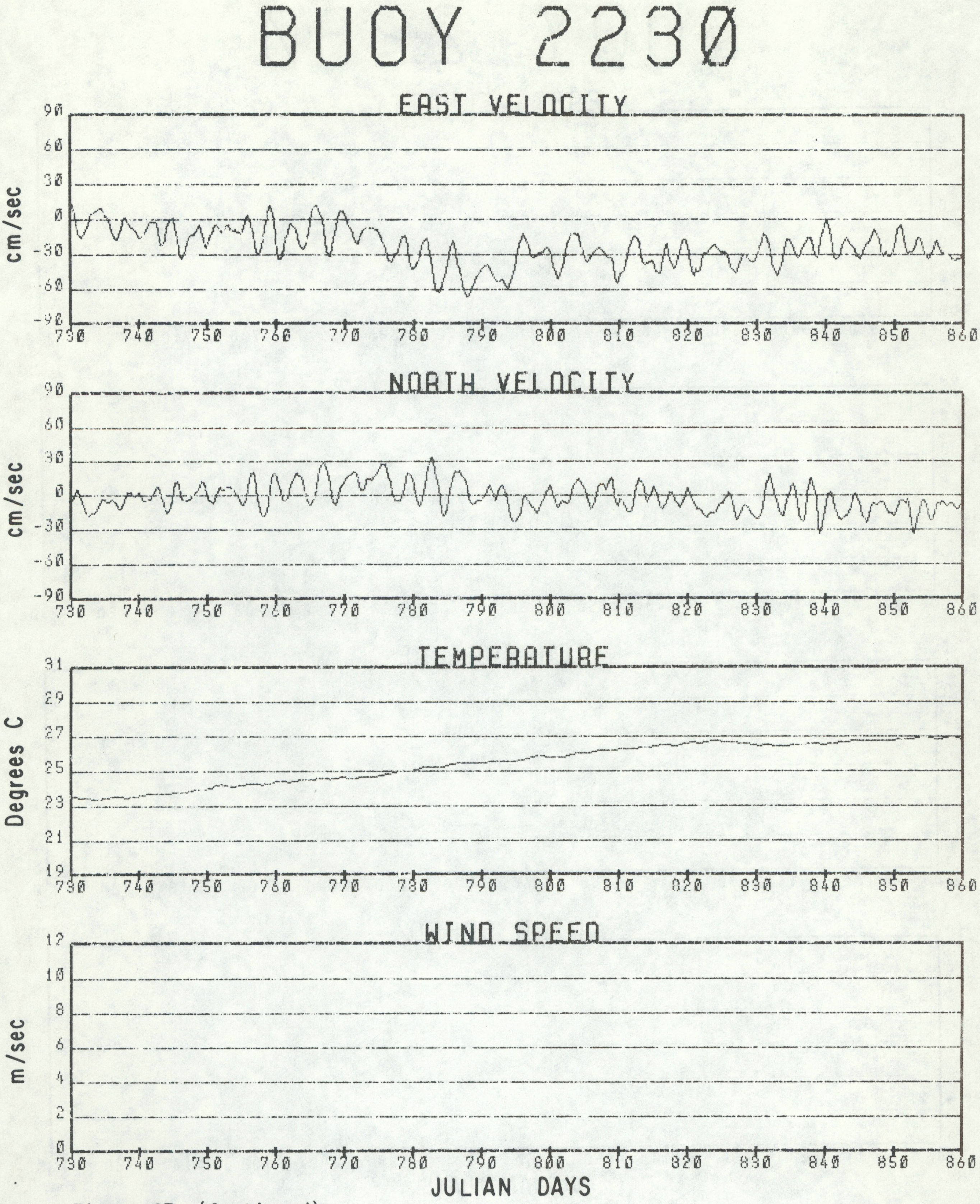


Figure 37. (Continued)

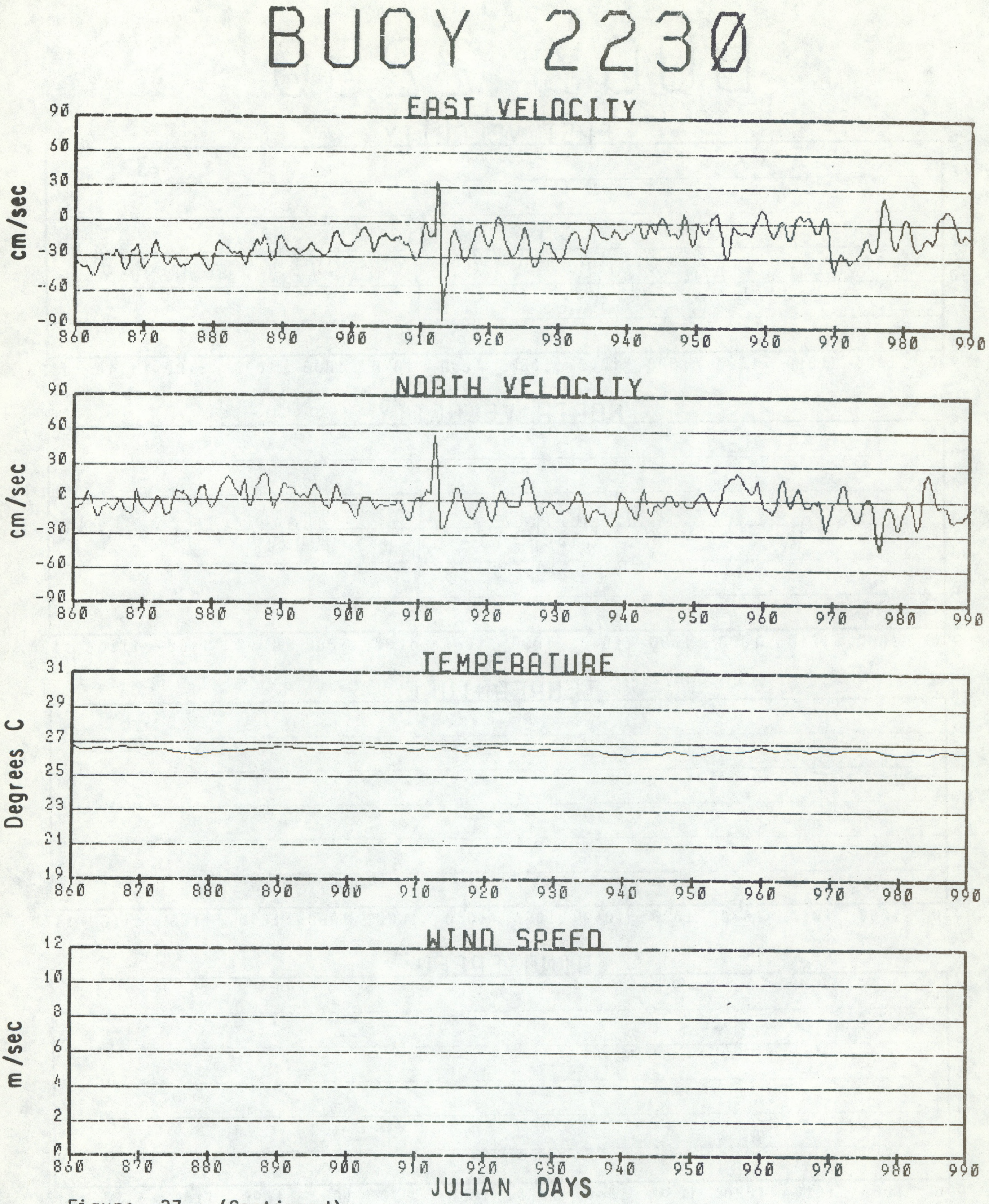


Figure 37. (Continued)

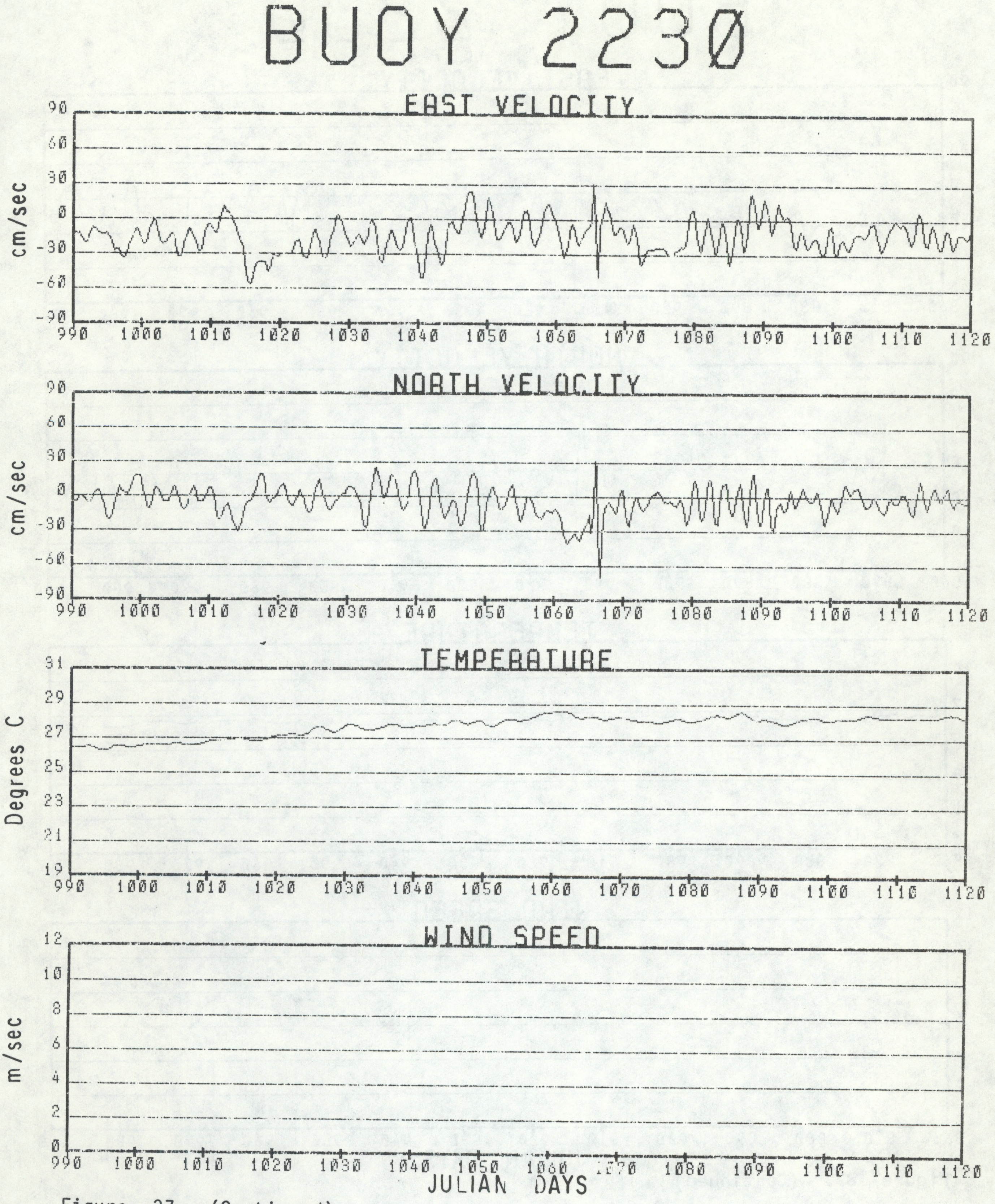


Figure 37. (Continued)

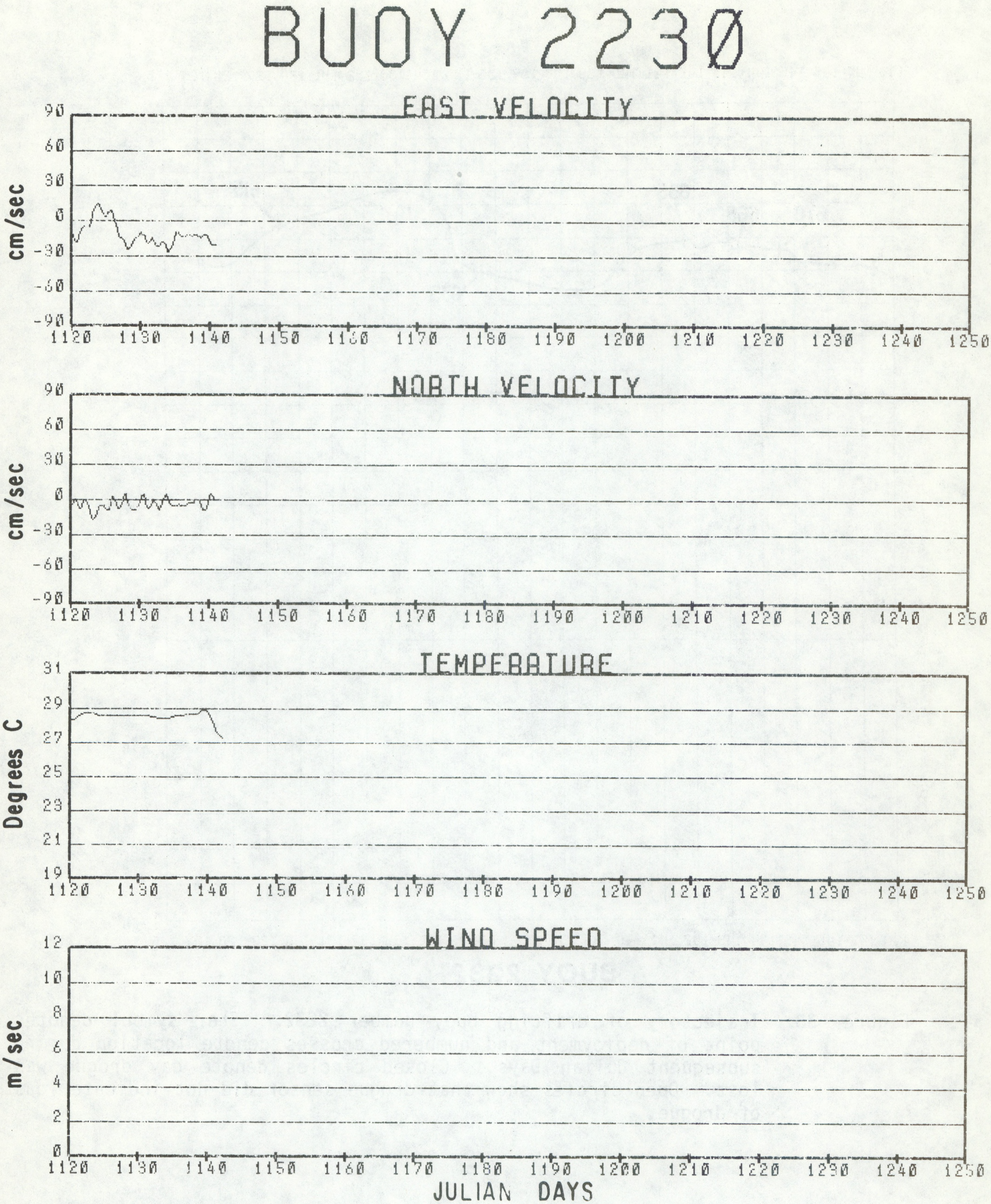
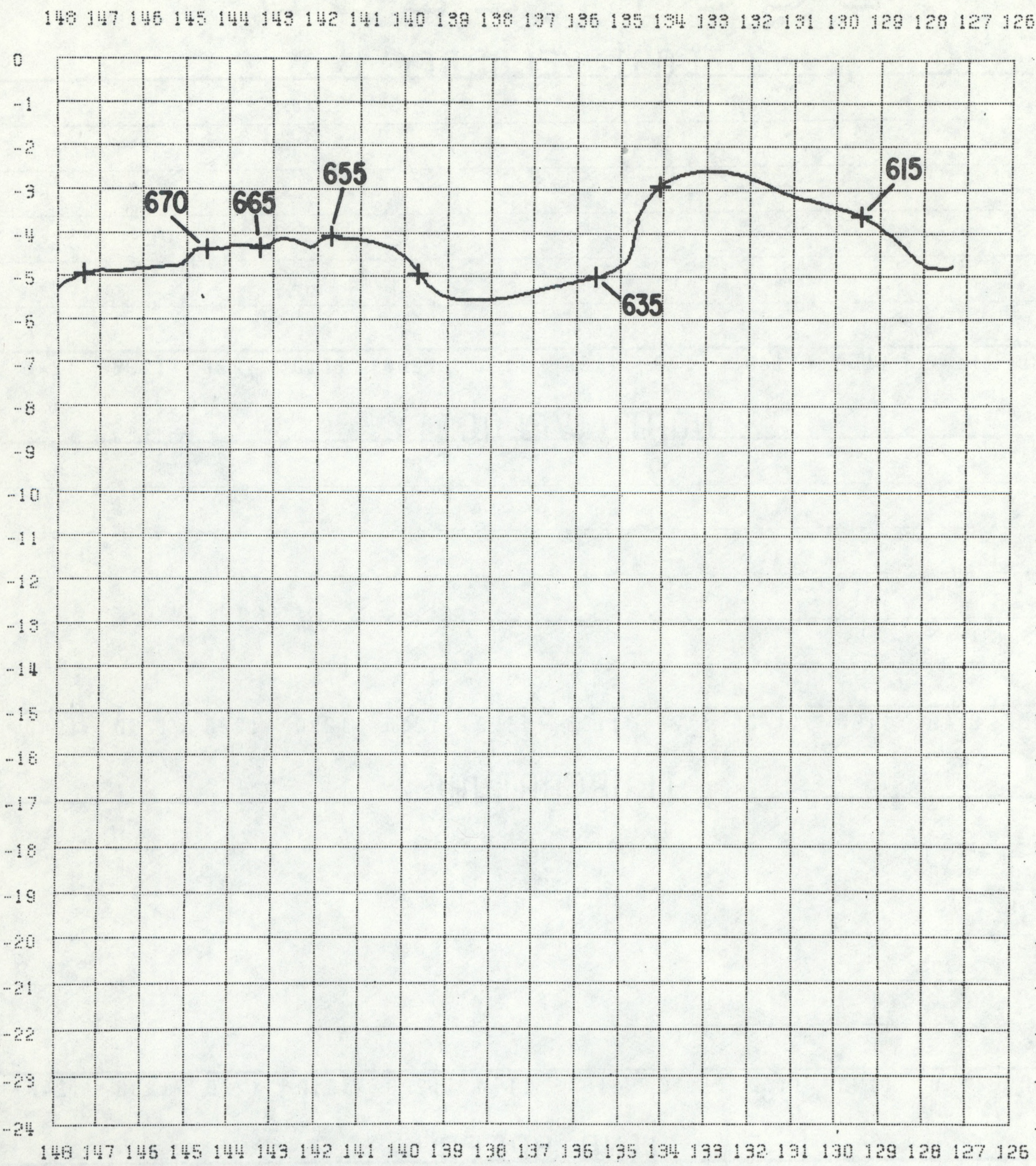
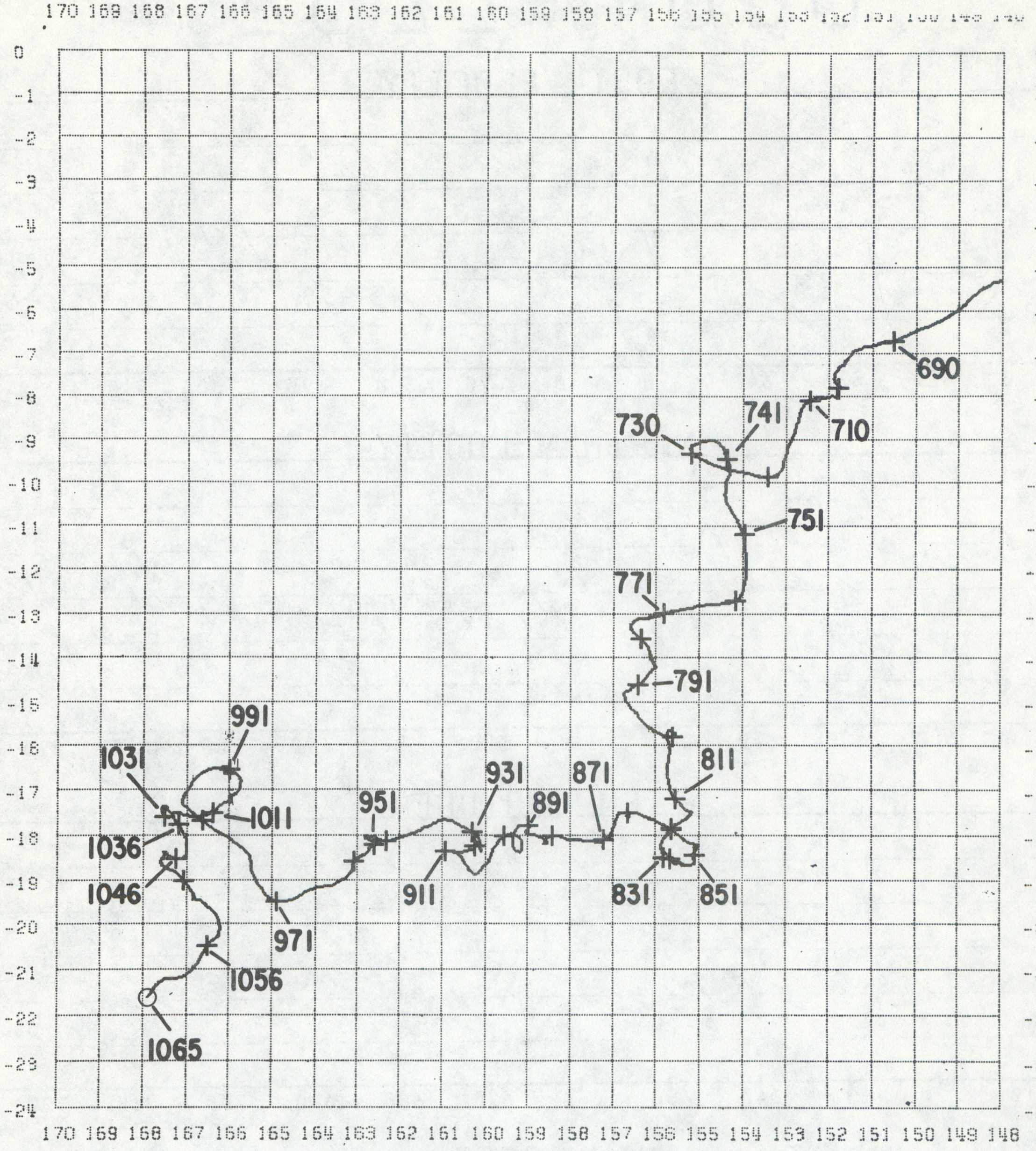


Figure 37. (Continued)



BUOY 2232

Figure 38. Trajectory of drifting buoy number 2232. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.



BUOY 2232 Continued

Figure 38. (Continued)

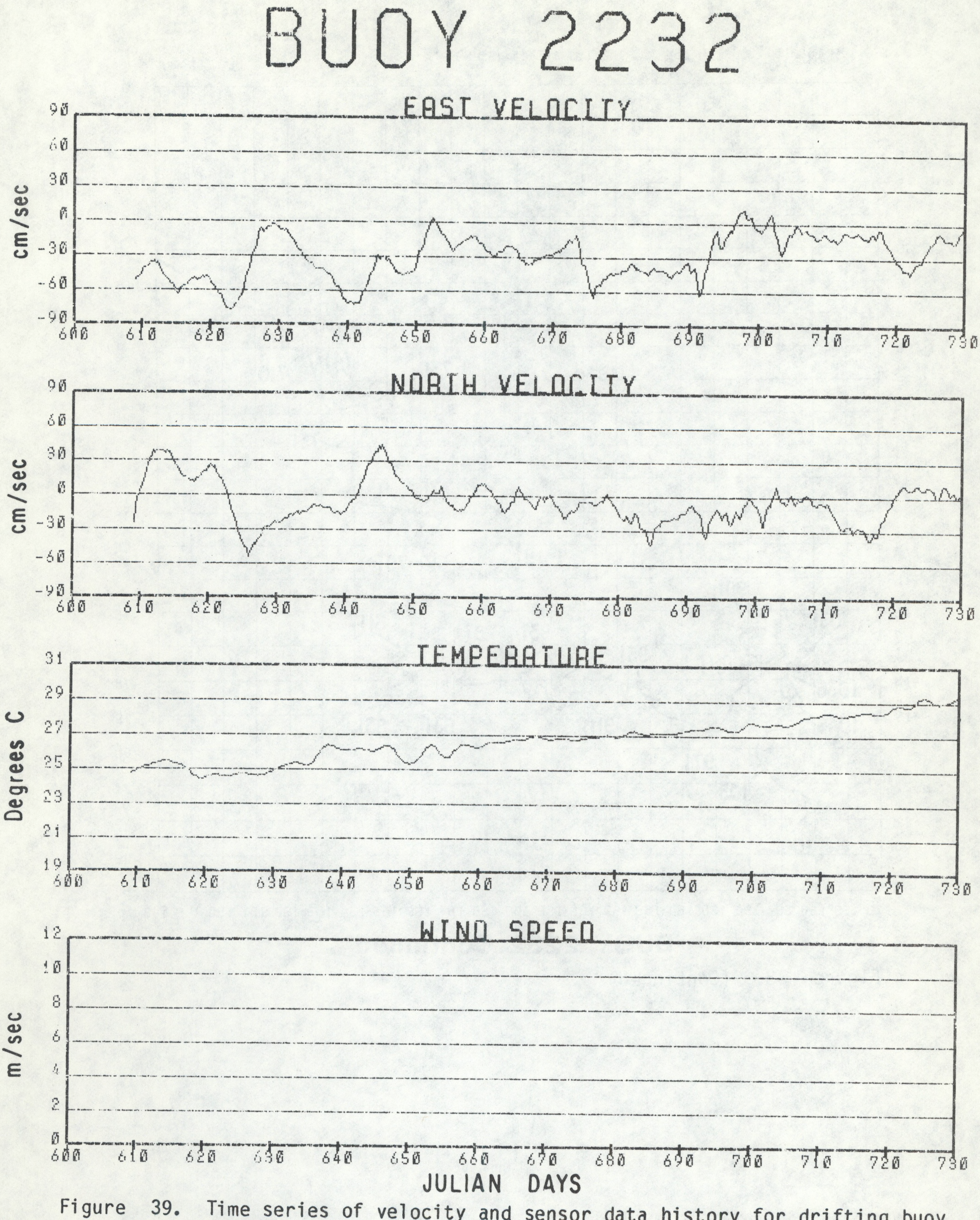


Figure 39. Time series of velocity and sensor data history for drifting buoy 2232.

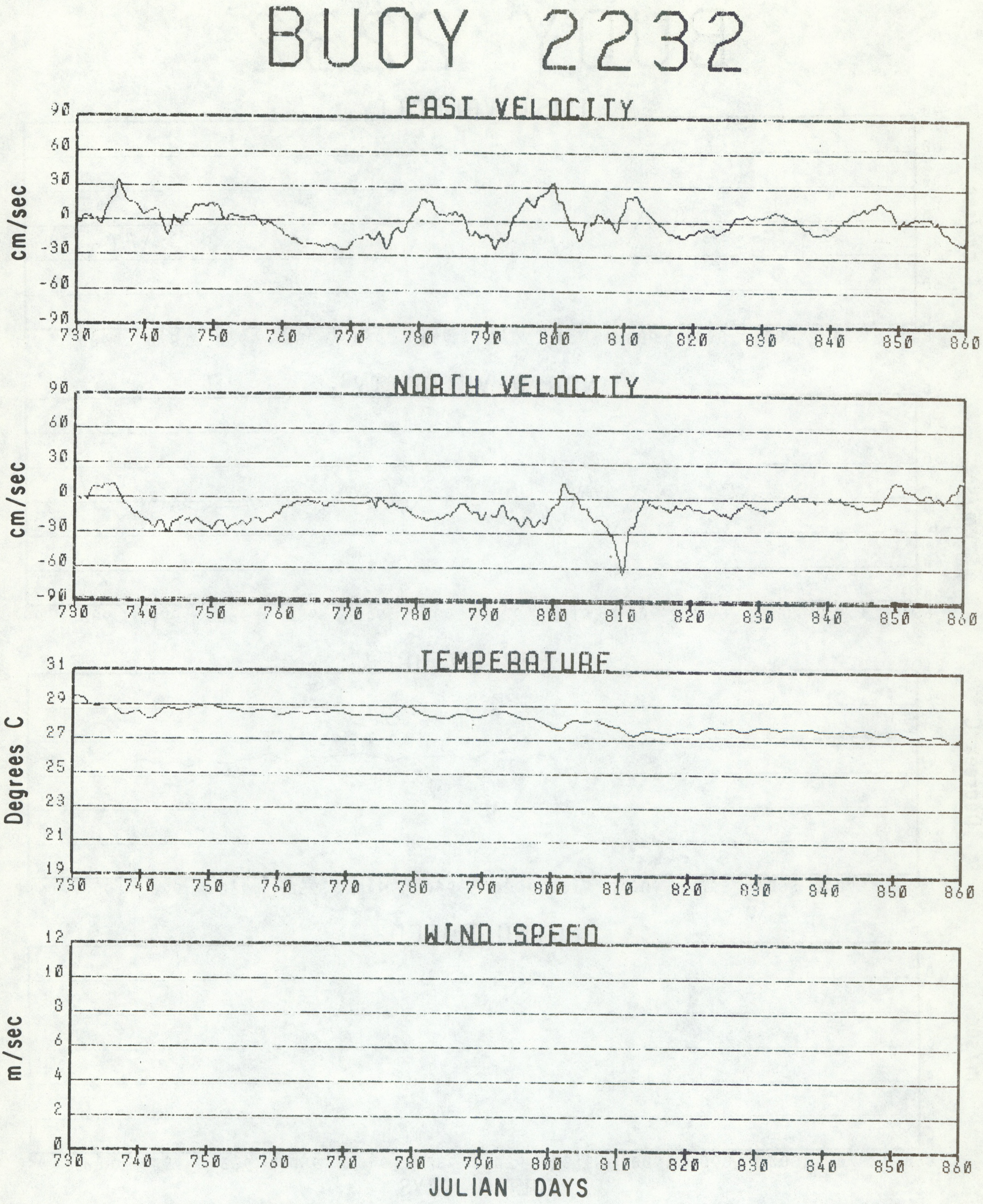


Figure 39. (Continued)

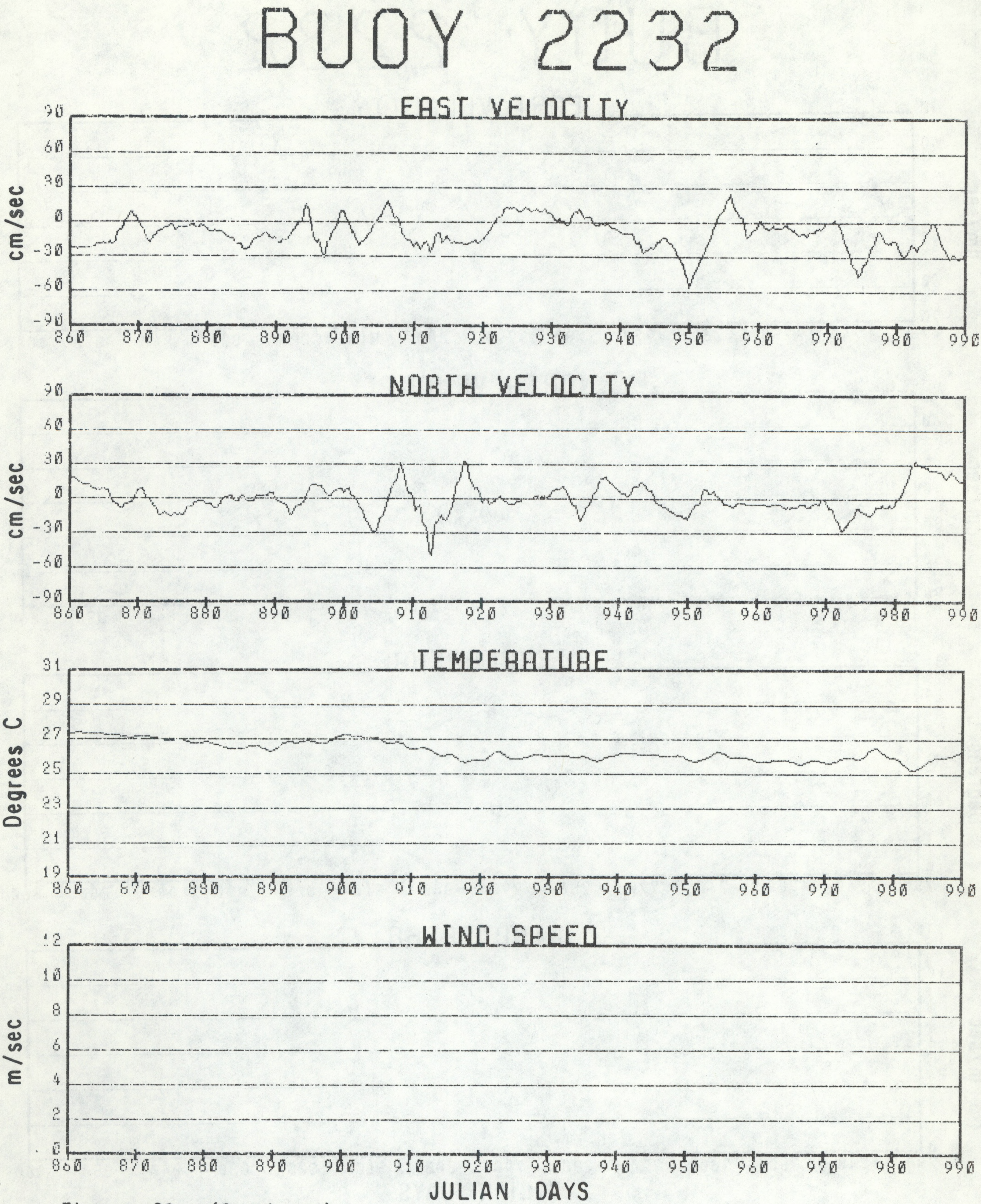


Figure 39. (Continued)

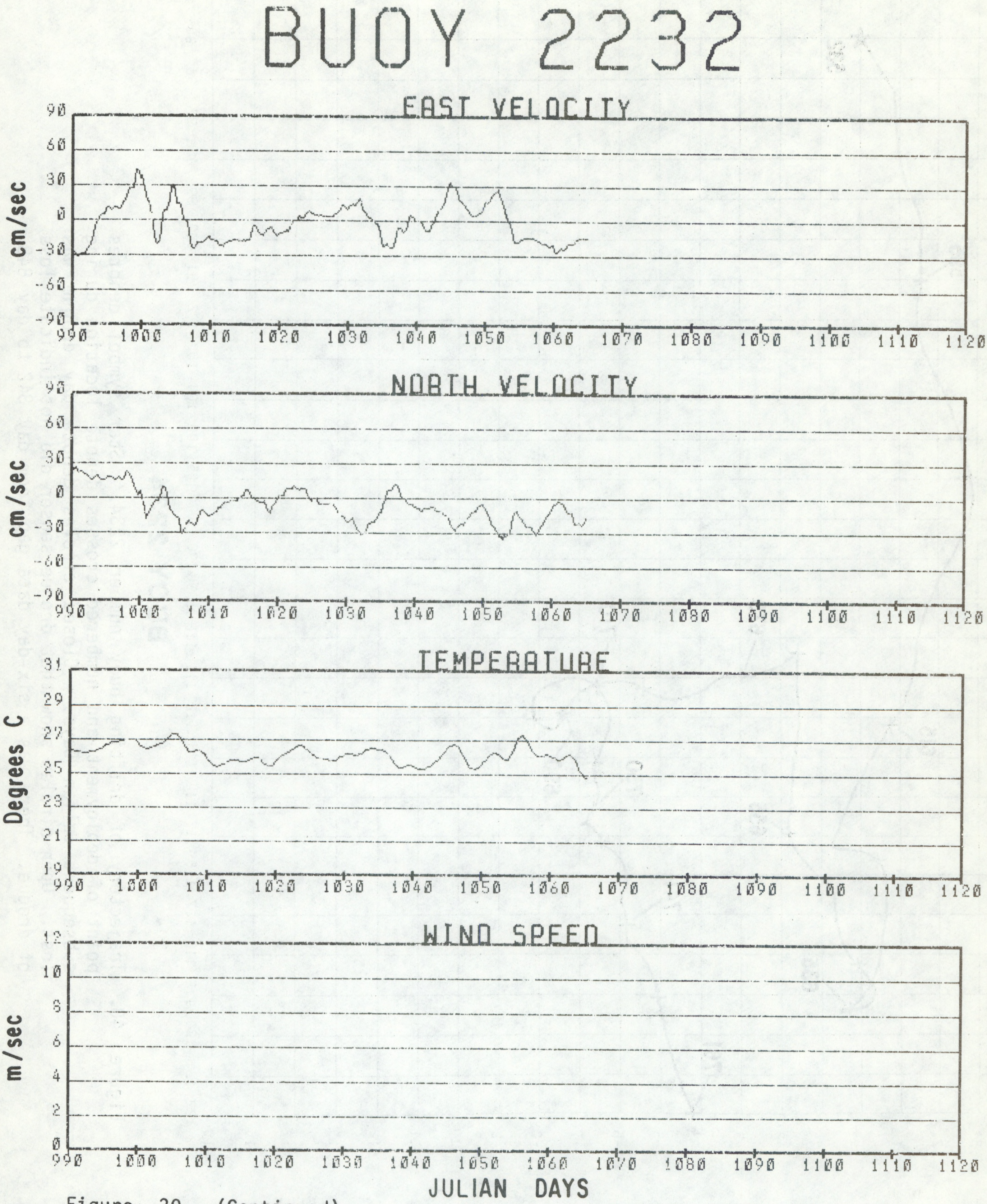
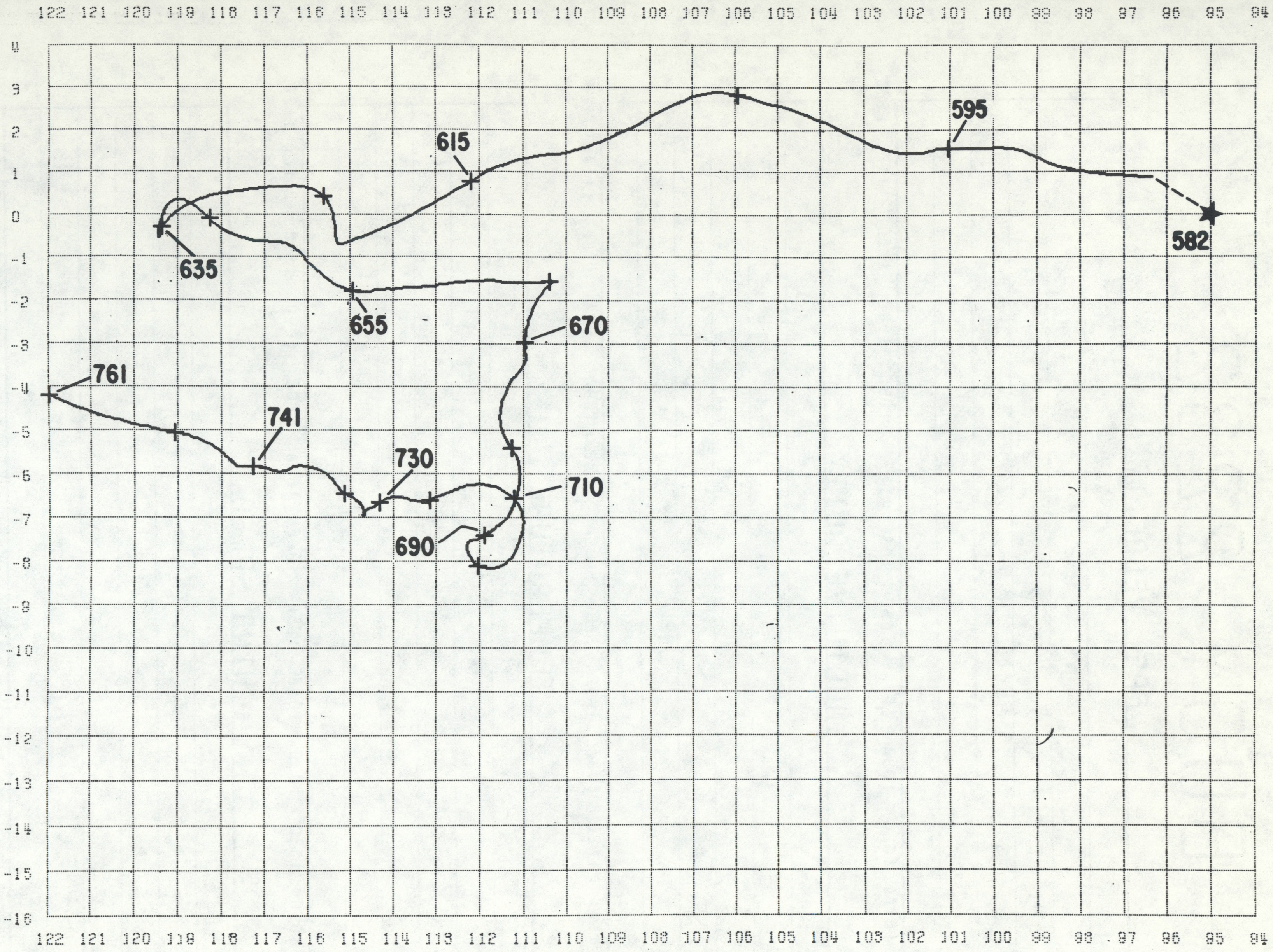
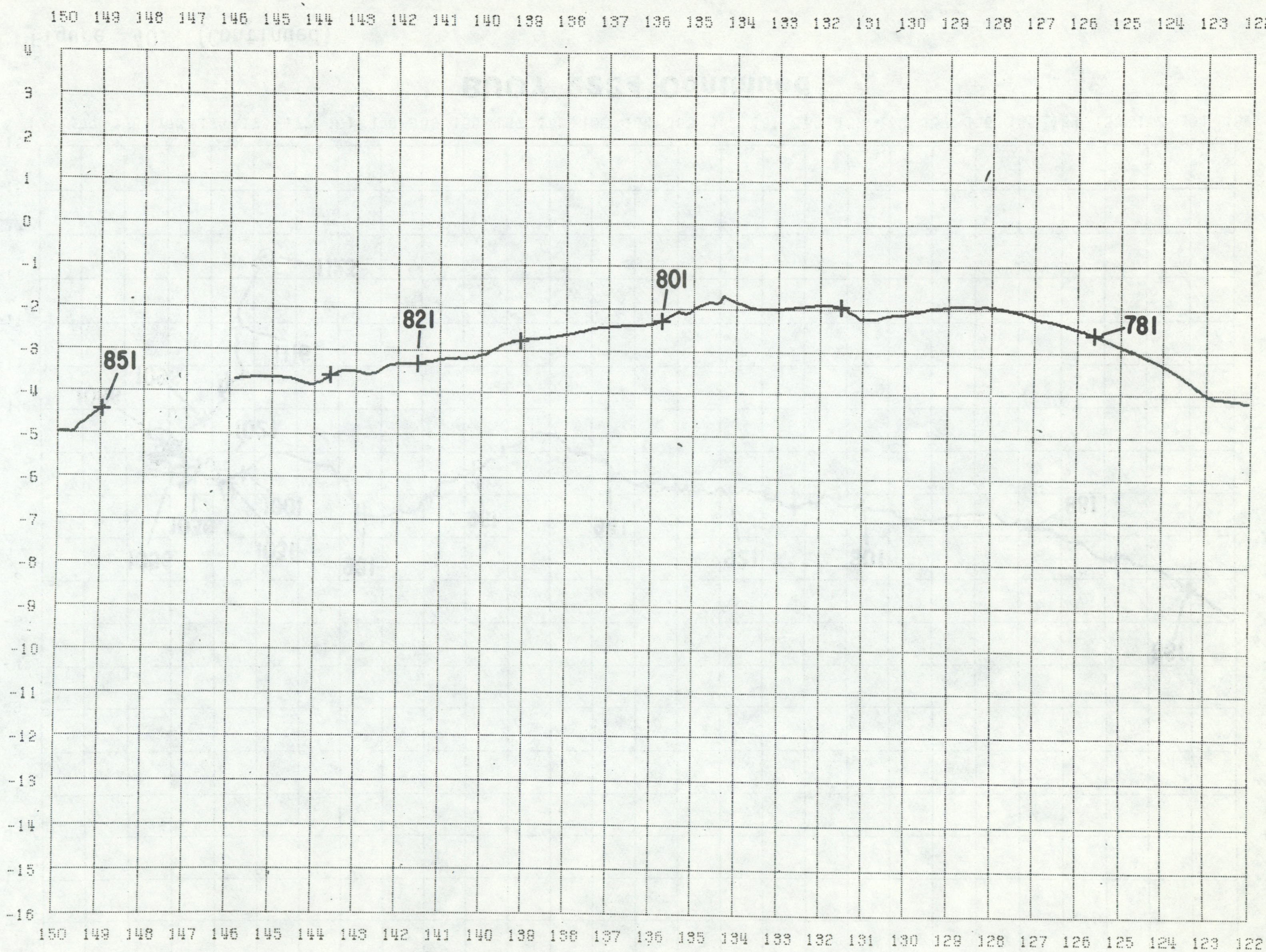


Figure 39. (Continued)



BUOY 2234

Figure 40. Trajectory of drifting buoy number 2234. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue. There was a six-day data gap from day 842 to day 848.



BUOY 2234 Continued

Figure 40. (Continued)

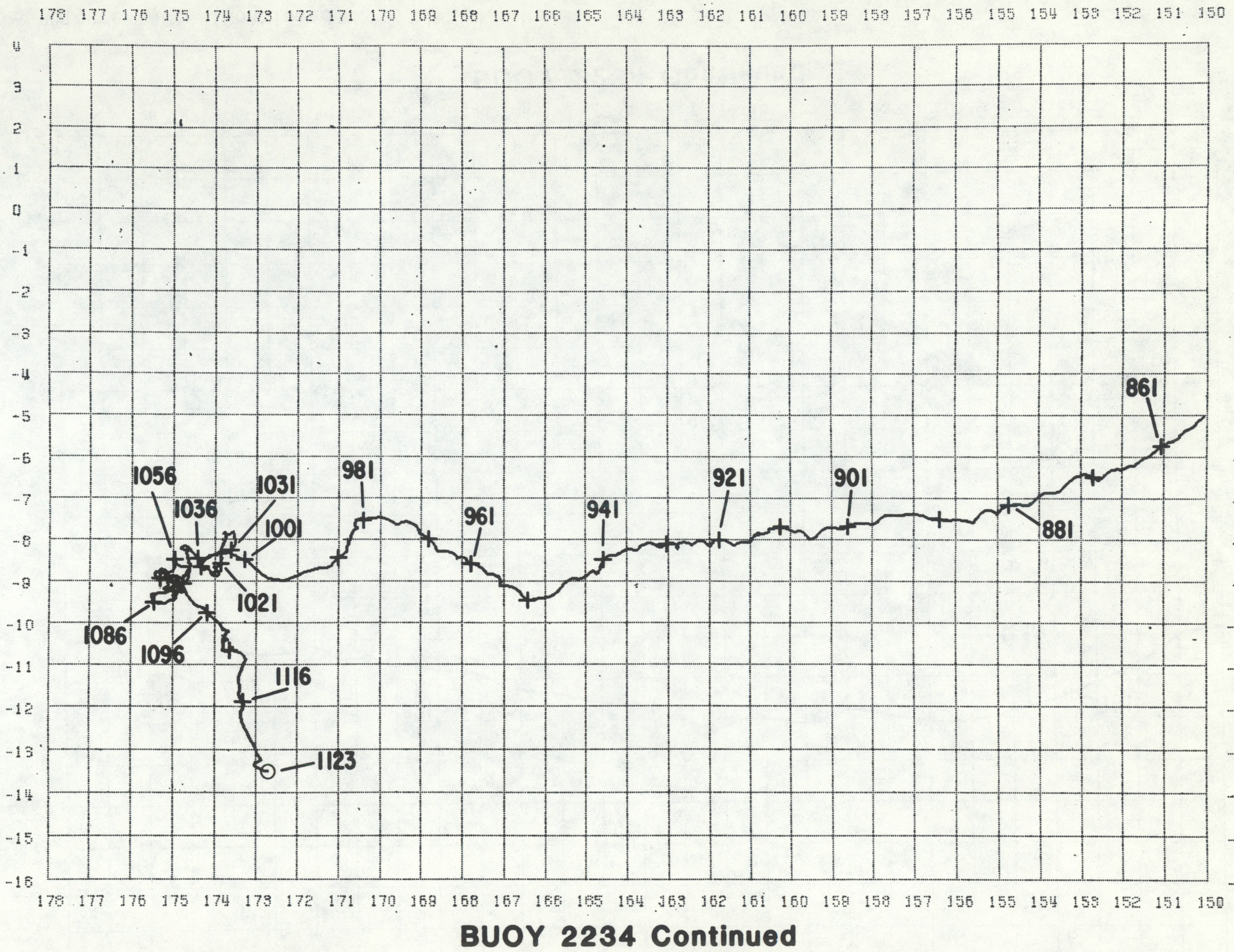


Figure 40. (Continued)

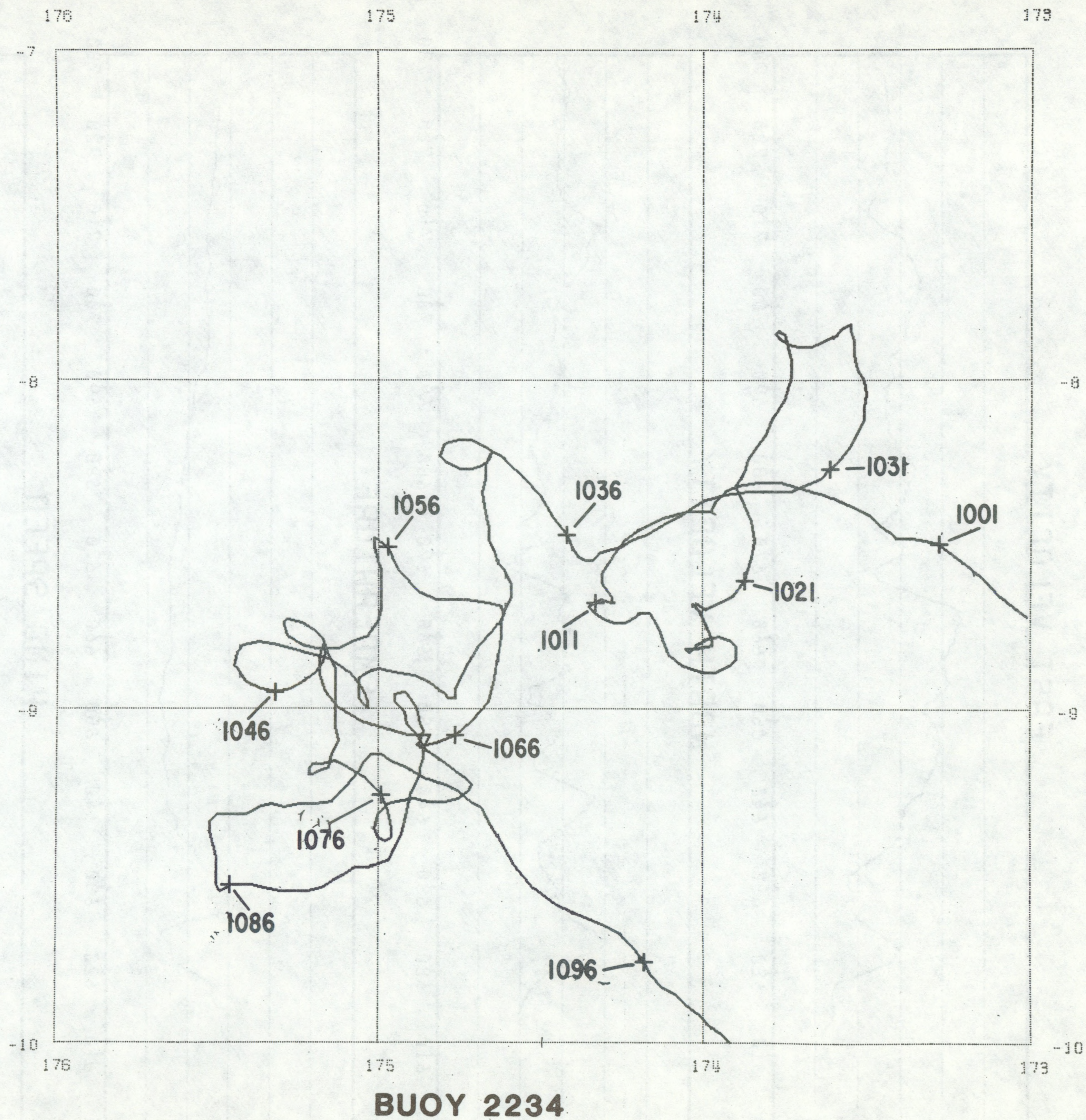


Figure 41. Trajectory detail for drifting buoy 2234.

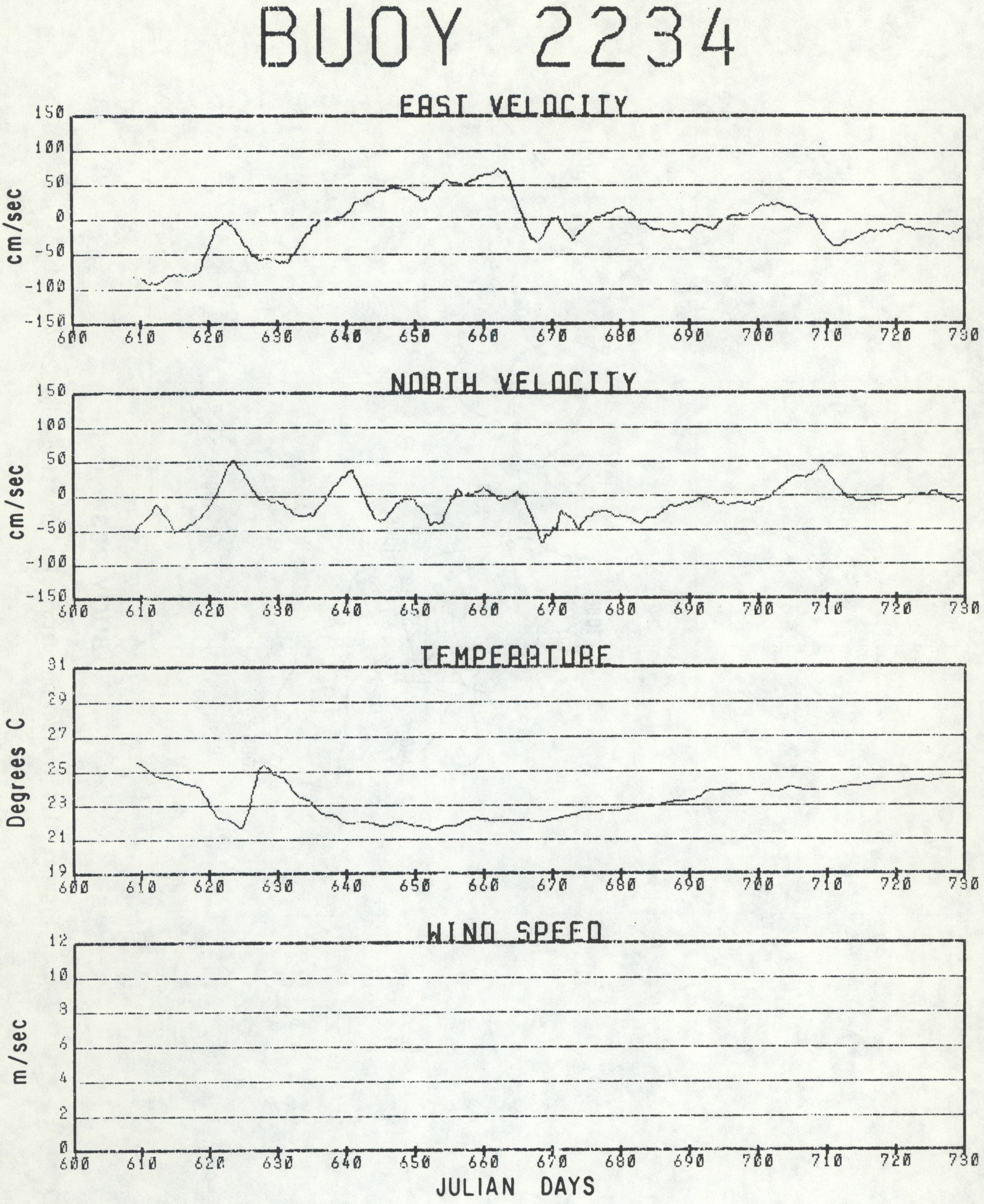


Figure 42. Time series of velocity and sensor data history for drifting buoy 2234.

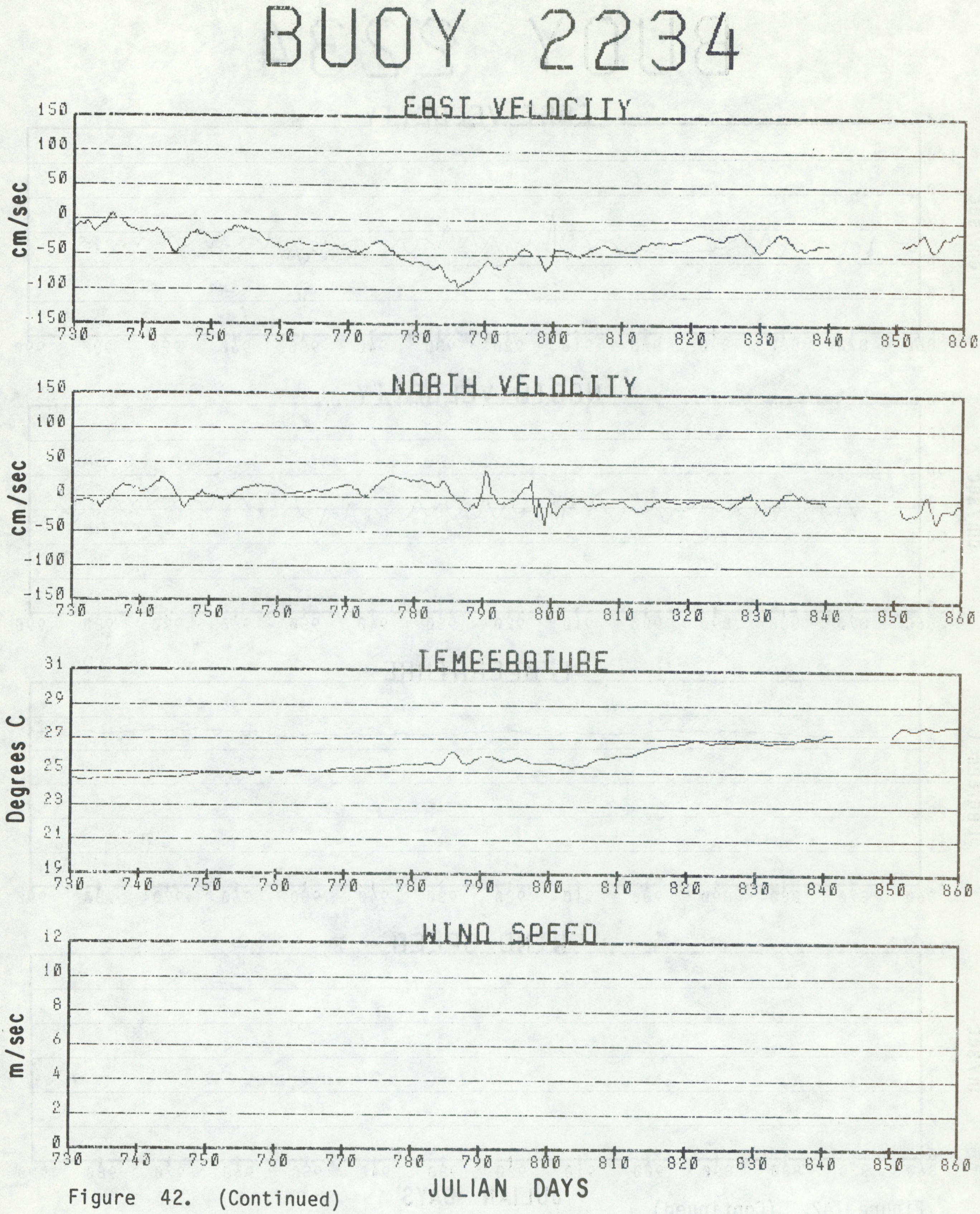


Figure 42. (Continued)

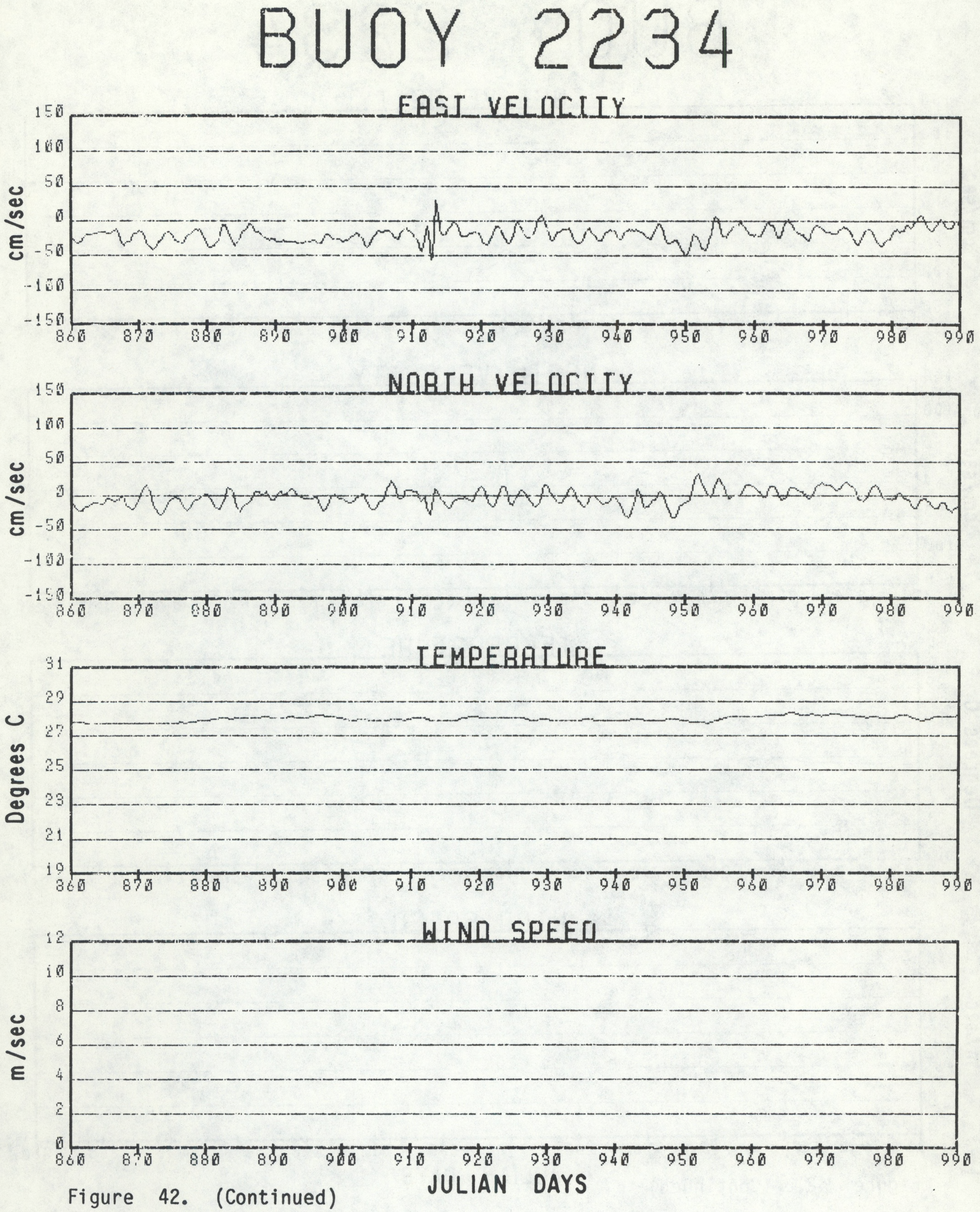


Figure 42. (Continued)

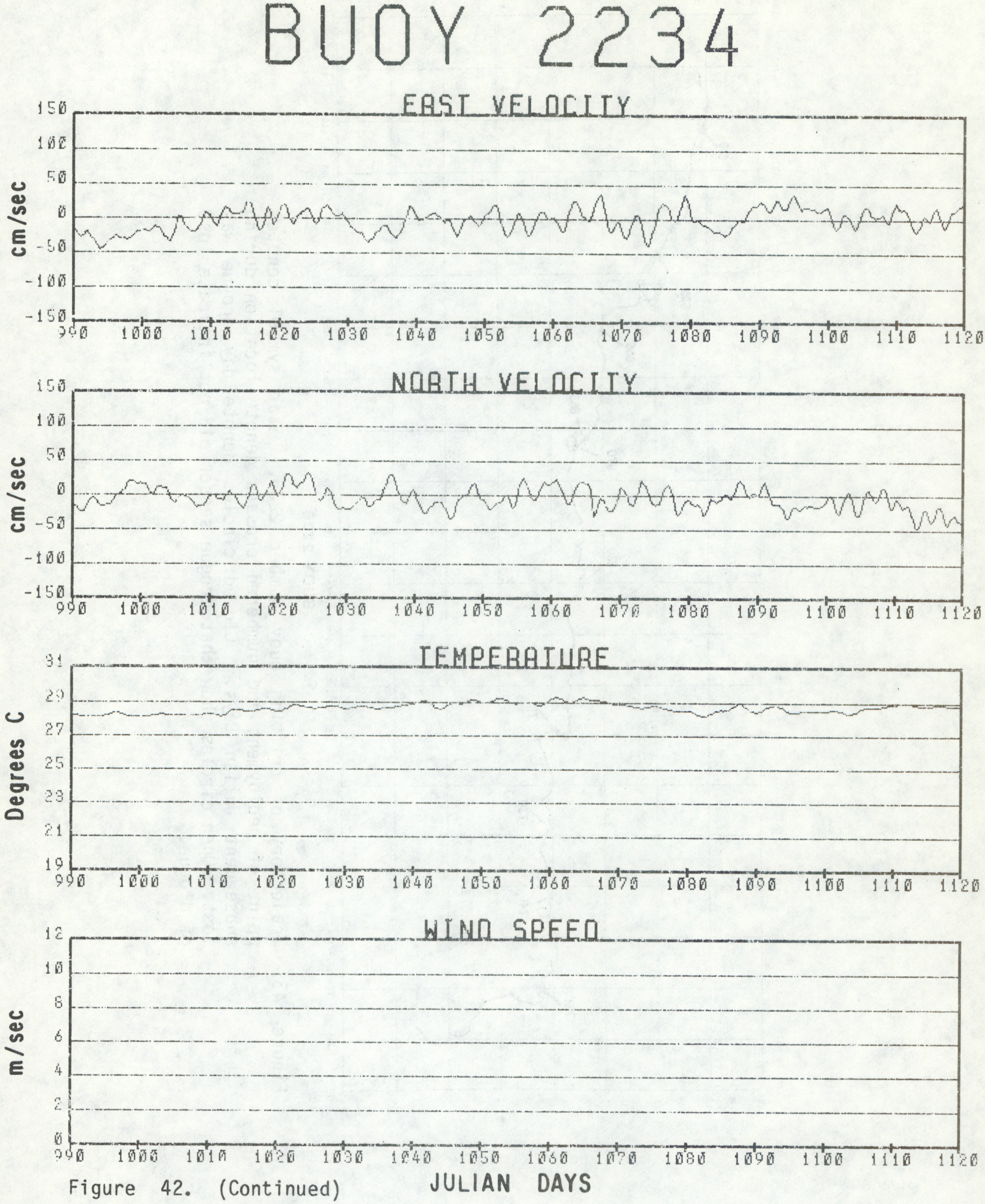
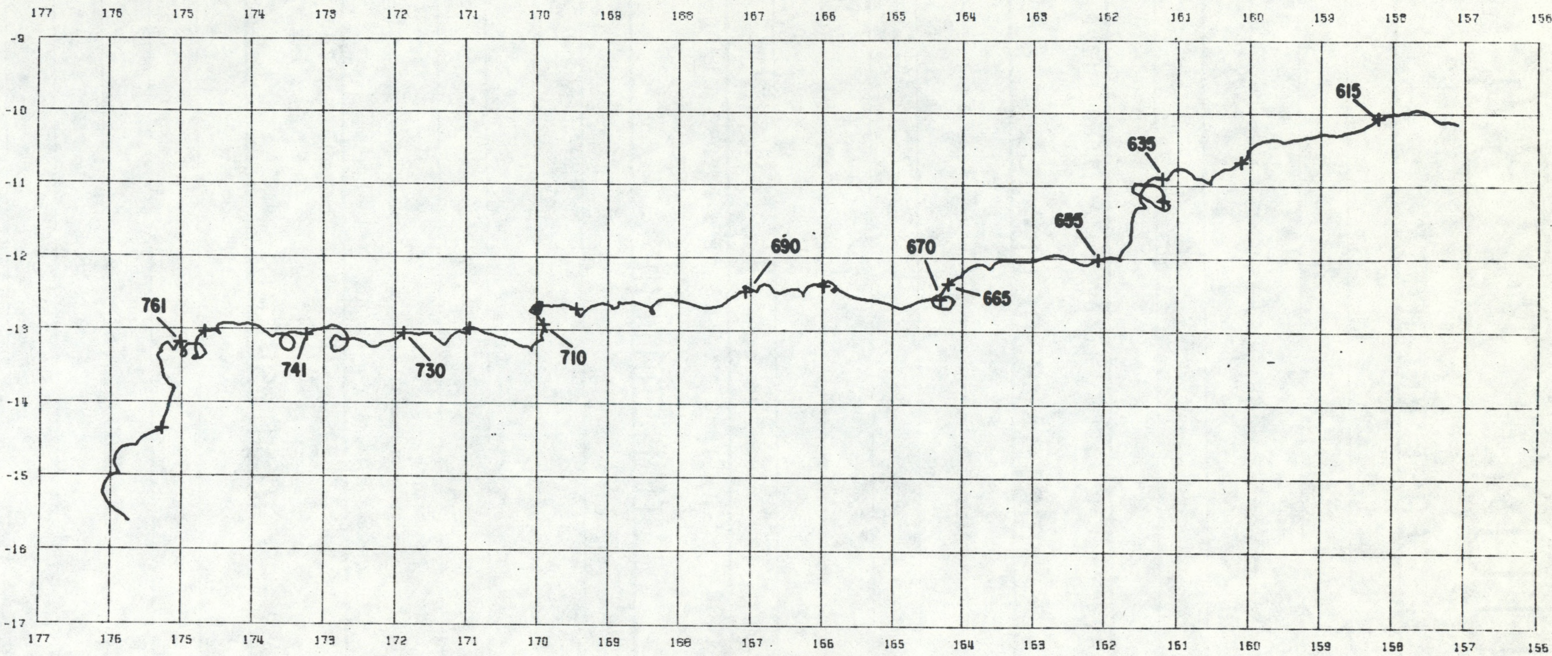


Figure 42. (Continued)



BUOY 2236

Figure 43. Trajectory of drifting buoy number 2236. Star symbol denotes point of deployment and numbered crosses denote location during subsequent Julian Days. Closed circles denote day drogue was lost. Open circles show that drogue sensor did not indicate loss of drogue.

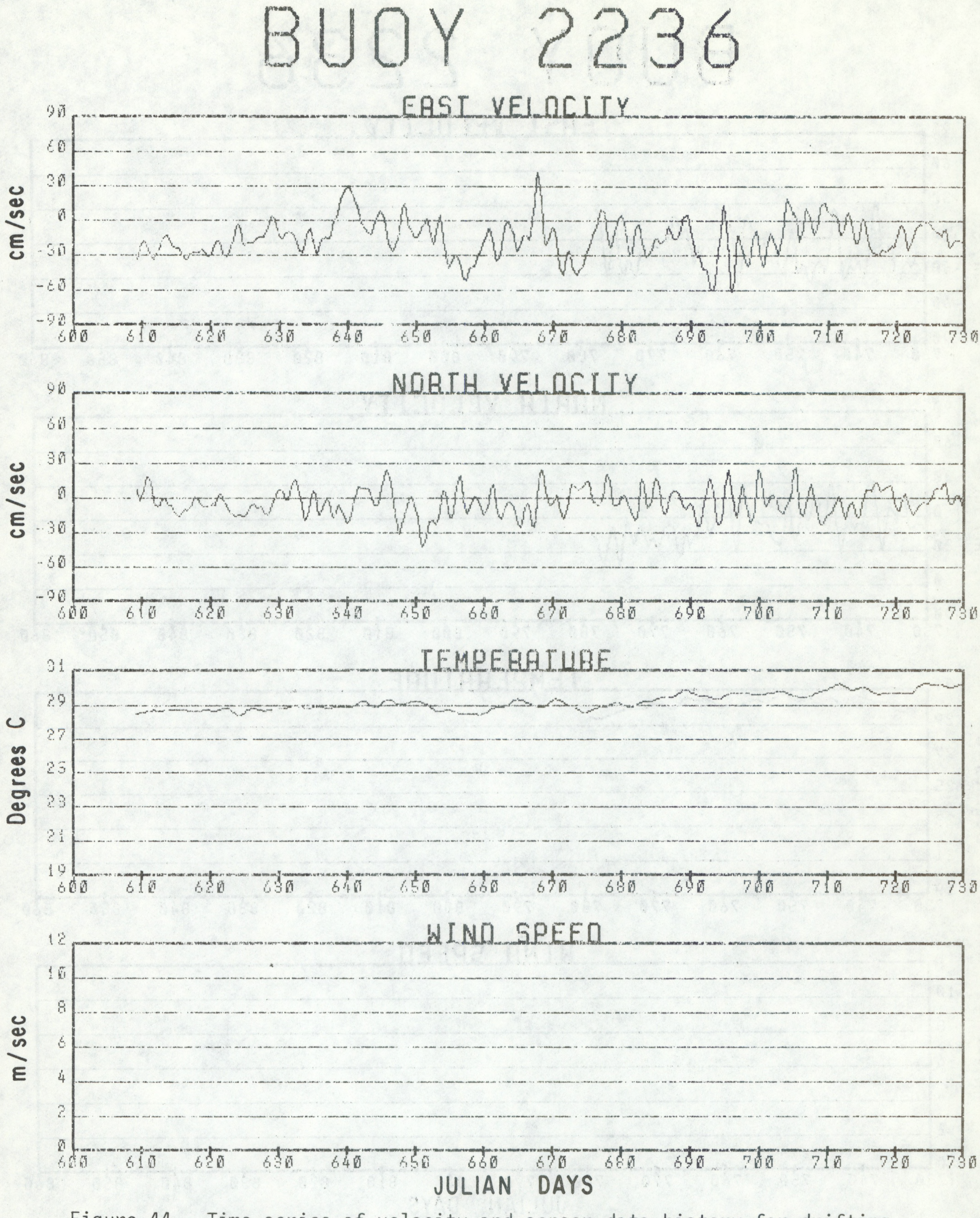


Figure 44. Time series of velocity and sensor data history for drifting buoy 2236.

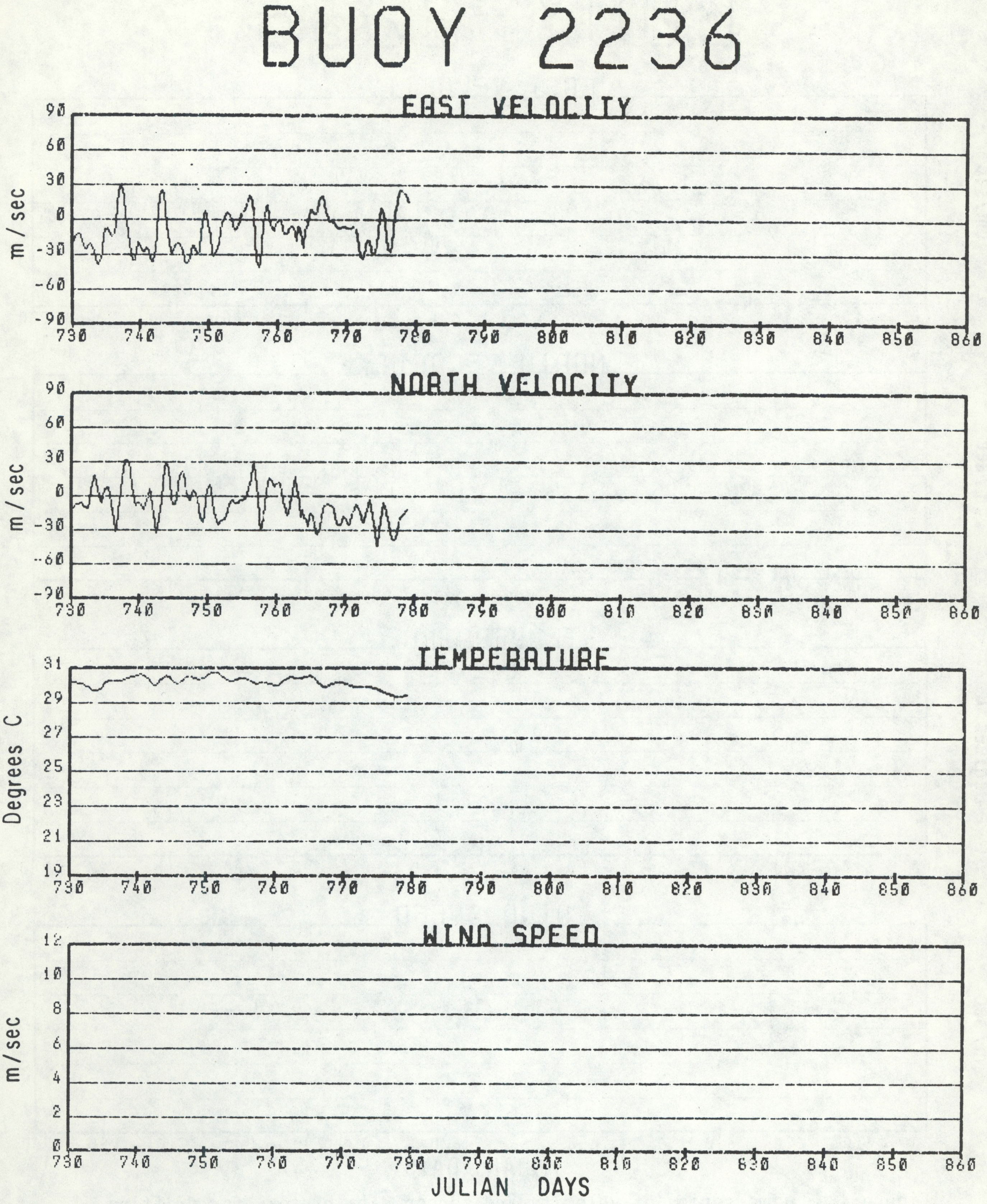


Figure 44. (Continued)