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DATA FOR EPOCS/FGGE DRIFTING BUOYS: FEBRUARY 1979 THROUGH OCTOBER 1980

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INTRODUCTION

Since February 1979, AOML has intermittently deployed satellite-tracked drifting buoys in the eastern tropical Pacific as part of the EPOCS and FGGE experiments. This data report will cover the first 31 of these deployments with data through October 1980. Table 1 details the deployment times and locations of these buoys. Most of these deployments were in the South Equatorial Current (SEC) and a few were deployed in the North Equatorial Countercurrent (NECC). When all the buoy tracks are combined, the geographic coverage is quite extensive in the region from 15°N to 15°S, and 80°W to 140°W with limited additional coverage in surrounding areas.

BUOY HARDWARE

All of the buoys used in this project were of similar design although there were some variations in the type of environmental sensors carried. The buoys were designed and constructed by the Polar Research Laboratory, Inc., in cooperation with the NOAA Data Buoy Office. The basic buoy consists of a cylindrical spar buoy with a conical flotation collar and a ballasted 2 m by 10 m windowshade drogue attached to the surface float by a 30 m nylon tether (see Figure 1). Three of the buoys (2217, 2220, and 2225) used a 100 m nylon tether. A variety of environmental sensors have been used, including water temperature, atmospheric pressure, wind speed, drogue tension, and internal battery voltage (see Table 1).

The data collection and buoy location were performed by Service ARGOS. With the ARGOS system, a data message is transmitted by each buoy approximately every 51.4 seconds. Whenever a satellite (one of the TIROS-N or NOAA-6 series) is in receiving range, the data message and the Doppler signals from which the position coordinates of the buoy are calculated are recorded. This information is relayed through a ground station to Service ARGOS in Toulouse, France, where preliminary processing is done. The data are compiled and then made available to the system users in a computer compatible magnetic tape format. Further data reduction and analysis was performed at AOML.

DESCRIPTION OF SENSORS

(1) Water Temperature. Water temperature was measured by a thermistor which was embedded in the buoy hull at a depth of about 1 m. The buoy electronics convert the resistance of the thermistor to an eight-bit digital word (0-255 decimal) giving a least count resolution of about 0.156°C. Calibrations provided by PRL give a stated minimum accuracy of 1°C (0.3°C rms).

(2) Drogue Sensors. Two different types of drogue sensors have been used. The first type consists of a mechanical assembly which transmits the tension in the drogue tether to a strain gauge device which in turn

provides an electrical output proportional to the tether tension. This signal is then digitized by the buoy electronics. The second type of sensor is similar except that instead of providing a record of the actual tether tension, it provides an "on-off" signal depending on whether the tether tension exceeds some threshold. The drogue sensor data are summarized in Figure 2.

(3) Wind Speed Sensors. The wind speed sensors vary from buoy to buoy but all involve a rotor mounted on the top of the buoy which activates a counter each revolution of the rotor. These counts are scaled and stored for subsequent transmission. The transmission to the satellite includes both the current instantaneous wind speed counts and the output of a buffer which contains a running, weighted average of the past 512 instantaneous wind speed counts. This results in a wind speed record that has essentially undergone a low-pass filter with a 1/e time constant of 7.3 hours. The wind speeds shown are the low-pass filtered winds.

(4) Atmospheric Pressure Sensors. As on other buoys deployed as part of the FGGE experiment, a Paros atmospheric pressure sensor was installed. Calibrations were provided by the PRL and accuracies are given as plus or minus 1 mb (0.6 mb rms). These data were included as part of the FGGE data base and will not be presented here.

DATA PROCESSING AND DISPLAY

The raw data on the tapes supplied by Service ARGOS are translated and converted to engineering units (for those buoys for which Service ARGOS has not already applied the correct calibration equations) and sorted by buoy identification number, then stored as disk files ("B" files) on our computer system. The position data are then edited to remove spurious points which imply an average speed between two fixes of greater than 3 knots, and then further smoothing and interpolation to uniform six-hour intervals is performed. The smoothed position data are also used to compute north-component and east-component velocities for each six-hour interval. These velocities are then sorted by Marsden squares and archived for further analysis.

The sensor data can be plotted directly from the "B" files in one of three ways: (1) raw data; (2) data smoothed by a three-point triangular filter; or (3) data block-averaged over one-day intervals.

The basic data from the drifting buoys are displayed here in several forms: trajectory plots, time series plots, and monthly composites.

The trajectory plots are simply the sequence of smoothed six-hourly positions. In addition to the actual trajectory, we have indicated the actual deployment position, which sometimes occurred several days to a few weeks before regular position reports were received.

The time series plots include the north-component and east-component of buoy velocity, the near-surface water temperature, and wind speed. The buoy velocity components have been further smoothed by passing through a three-point triangular running average. The temperature data have been block-averaged over daily intervals and out of range points have been eliminated.

Only a few of the buoys contained wind speed sensors and these sensors had mostly lifetimes; only those wind speed data deemed "good" have been plotted.

The monthly composite plots consist of one vector for each buoy representing the dislacement for that buoy during the indicated month. The associated speed scale applies only to those buoys which transmitted data for the entire month.

Buoys 2229, 2232, and 2236 have been cut off at day 609 for this report. The remainder of the data from these buoys will be presented in a future data report. Buoys 2232 and 2217 have been split into two parts because of gaps in the data. For the trajectory plots, buoys with lifetimes greater than about 400 days have been plotted in two sections for ease in display. In addition, several areas of complicated motion have been enlarged for greater clarity. Buoy 2206 failed almost immediately after launch and no data from it has been included in this report. The star symbol denotes the point of deployment and the numbered crosses denote location during subsequent Julian days. Closed triangles denote the day the drogue was off. Open triangles show the day that the drogue might have been off, but not certain.

ACKNOWLEDGMENTS

The authors would like to acknowledge Ms. Gail Derr for doing all the typing and producing all tables. Recognition is also due to Mr. Dale Martin, who made most of the drawings.

Table 1: Drift Buoy History.

Buoy #	Day	Deployment °N	Deployment °W	Sea Surface Temperature	Atmospheric Pressure	Drogue Tension	Drogue On-Off	Wind Sensor	Battery Voltage
2201	32	-4.90	84.00	X	X	---	X	---	X
2202	25	-7.63	83.50	X	X	---	X	---	X
2204	35	-7.8	86.93	X	X	---	X	---	X
2205	145	-11.08	80.03	X	X	---	X	---	X
2207	33	-3.18	86.92	X	X	---	X	---	X
2208	157	0.0	105.0	X	X	X	---	X	X
2209	157	-2.0	105.0	X	X	X	---	X	X
2211	151	6.0	110.0	X	X	X	---	X	X
2212	158	4.0	105.0	X	X	X	---	X	X
2213	156	-4.0	105.0	X	X	X	---	X	X
2214	159	6.0	105.0	X	X	X	---	X	X
2215	154	-2.0	110.0	X	X	X	---	X	X
2217	157	0.0	105.0	X	X	X	---	X	X
2218	158	2.0	105.0	X	X	X	---	X	X
2220	158	4.0	105.0	X	X	X	---	X	X
2222	155	-4.0	110.0	X	X	X	---	X	X
2223	150	8.0	110.0	X	X	X	---	X	X
2225	156	-4.0	105.0	X	X	X	---	X	X
2226	302	0.02	105.0	X	---	---	X	---	X
2229	301	-2.0	105.0	X	---	---	X	---	X
2231	389	0.0	87.0	X	---	---	X	---	X
2232	390	0.0	85.0	X	---	---	X	---	X
2233	294	5.98	110.01	X	---	---	X	---	X
2235	305	11.0	105.0	X	---	---	X	---	X
2236	296	-0.03	110.0	X	---	---	X	---	X
2251	162	-5.45	86.97	X	X	X	---	X	X
2252	163	-10.23	86.95	X	X	X		X	X
2254	157	-7.67	83.65	X	X	X	---	X	X
2255	162	-3.12	86.97	X	X	X	---	X	X
2257	151	4.0	110.0	X	X	X	---	X	X

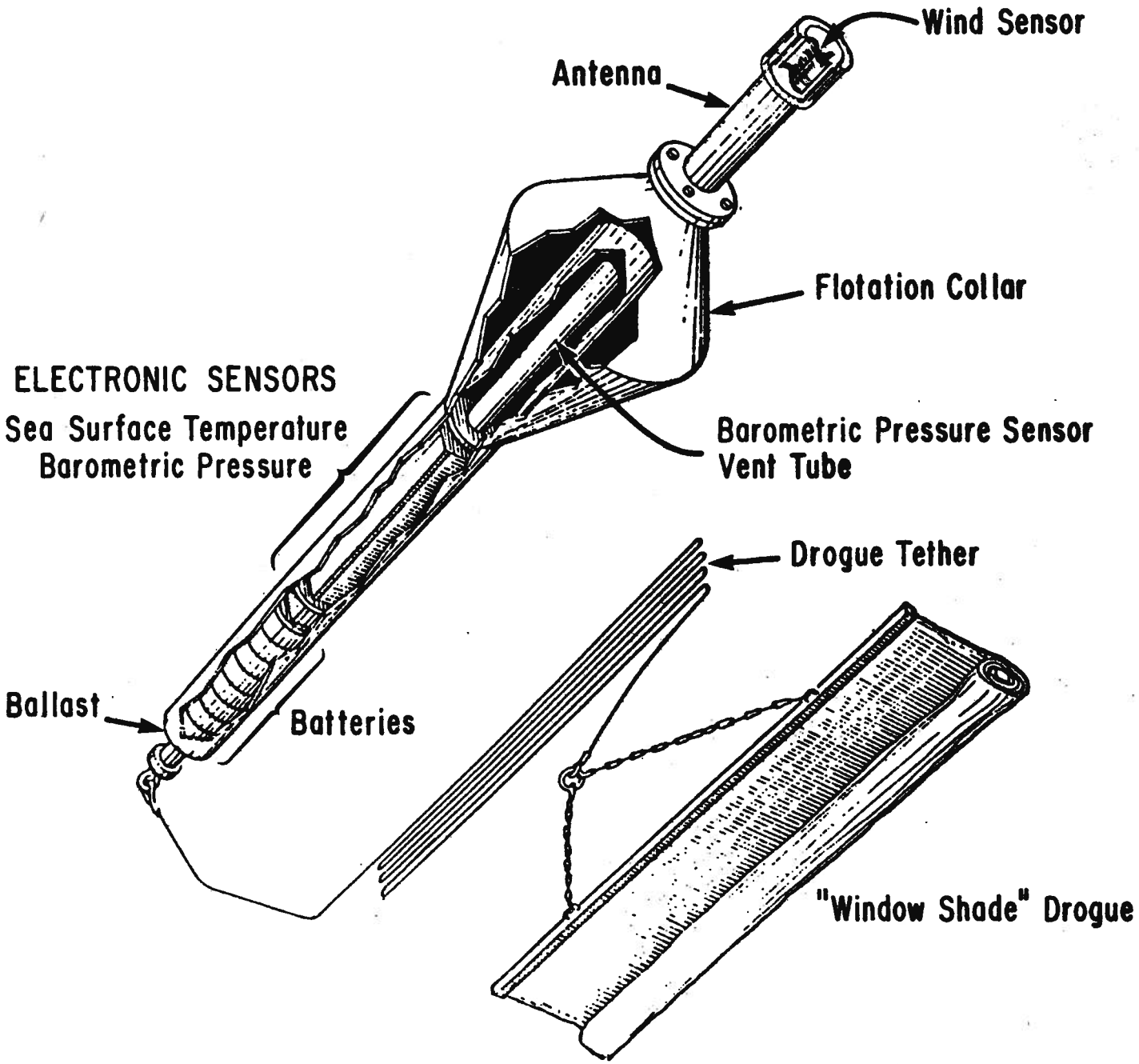

Figure 1. Schematic drawing of PRL drifting buoy used in this experiment.

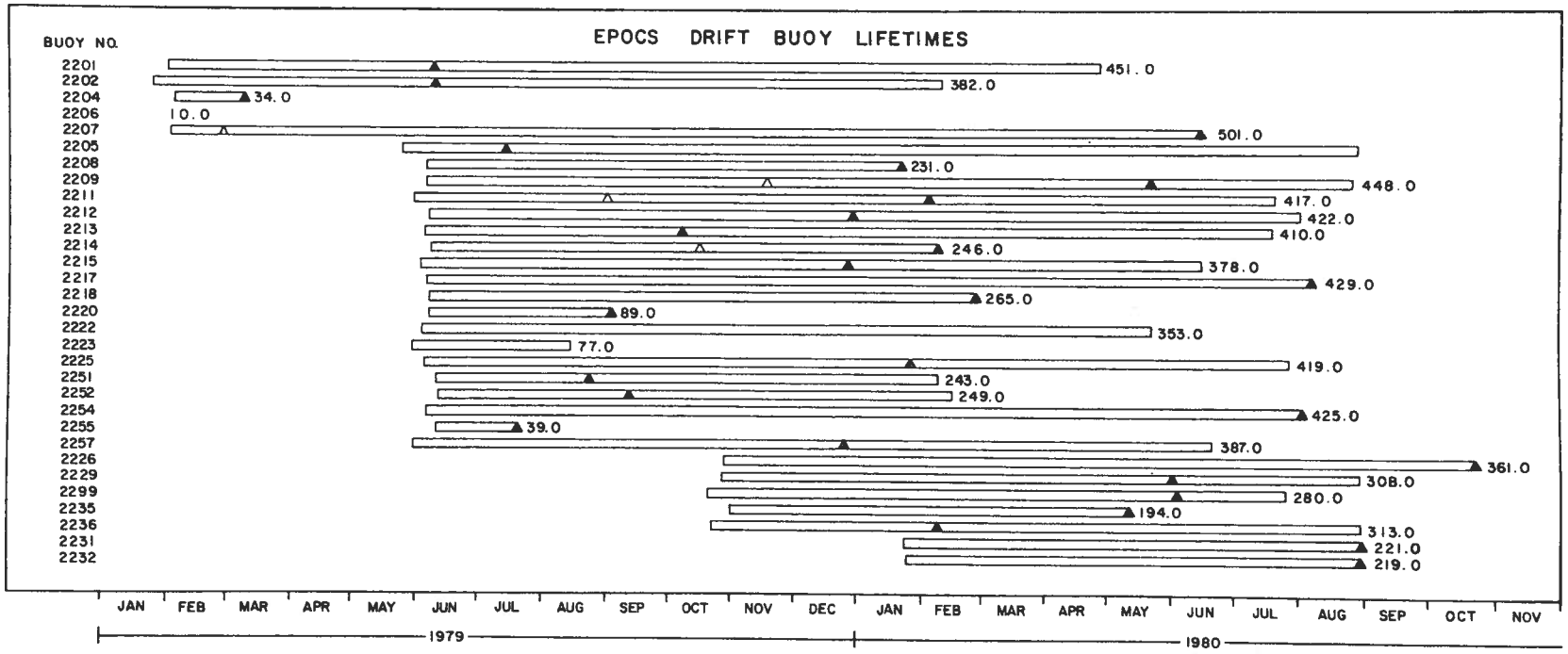

Figure 2. Time span of data from drifting buoys included in this report.

Table 2: Julian Day Conversion.

1	1 JAN 79
2	2 JAN 79
3	3 JAN 79
4	4 JAN 79
5	5 JAN 79
6	6 JAN 79
7	7 JAN 79
8	8 JAN 79
9	9 JAN 79
10	10 JAN 79
11	11 JAN 79
12	12 JAN 79
13	13 JAN 79
14	14 JAN 79
15	15 JAN 79
16	16 JAN 79
17	17 JAN 79
18	18 JAN 79
19	19 JAN 79
20	20 JAN 79
21	21 JAN 79
22	22 JAN 79
23	23 JAN 79
24	24 JAN 79
25	25 JAN 79
26	26 JAN 79
27	27 JAN 79
28	28 JAN 79
29	29 JAN 79
30	30 JAN 79
31	31 JAN 79
32	1 FEB 79
33	2 FEB 79
34	3 FEB 79
35	4 FEB 79
36	5 FEB 79
37	6 FEB 79
38	7 FEB 79
39	8 FEB 79
40	9 FEB 79
41	10 FEB 79
42	11 FEB 79
43	12 FEB 79
44	13 FEB 79
45	14 FEB 79
46	15 FEB 79
47	16 FEB 79
48	17 FEB 79
49	18 FEB 79
50	19 FEB 79
51	20 FEB 79
52	21 FEB 79
53	22 FEB 79
54	23 FEB 79
55	24 FEB 79
56	25 FEB 79
57	26 FEB 79
58	27 FEB 79
59	28 FEB 79
60	1 MAR 79
61	2 MAR 79
62	3 MAR 79
63	4 MAR 79
64	5 MAR 79
65	6 MAR 79
66	7 MAR 79
67	8 MAR 79
68	9 MAR 79
69	10 MAR 79
70	11 MAR 79
71	12 MAR 79
72	13 MAR 79
73	14 MAR 79
74	15 MAR 79
75	16 MAR 79
76	17 MAR 79
77	18 MAR 79
78	19 MAR 79
79	20 MAR 79
80	21 MAR 79
81	22 MAR 79
82	23 MAR 79
83	24 MAR 79
84	25 MAR 79
85	26 MAR 79
86	27 MAR 79
87	28 MAR 79
88	29 MAR 79
89	30 MAR 79
90	31 MAR 79
91	1 APR 79
92	2 APR 79
93	3 APR 79
94	4 APR 79
95	5 APR 79
96	6 APR 79
97	7 APR 79
98	8 APR 79
99	9 APR 79
100	10 APR 79
101	11 APR 79
102	12 APR 79
103	13 APR 79
104	14 APR 79
105	15 APR 79
106	16 APR 79
107	17 APR 79
108	18 APR 79
109	19 APR 79
110	20 APR 79
111	21 APR 79
112	22 APR 79
113	23 APR 79
114	24 APR 79
115	25 APR 79
116	26 APR 79
117	27 APR 79
118	28 APR 79
119	29 APR 79
120	30 APR 79
121	1 MAY 79
122	2 MAY 79
123	3 MAY 79
124	4 MAY 79
125	5 MAY 79
126	6 MAY 79
127	7 MAY 79
128	8 MAY 79
129	9 MAY 79
130	10 MAY 79
131	11 MAY 79
132	12 MAY 79
133	13 MAY 79
134	14 MAY 79
135	15 MAY 79
136	16 MAY 79
137	17 MAY 79
138	18 MAY 79
139	19 MAY 79
140	20 MAY 79
141	21 MAY 79
142	22 MAY 79
143	23 MAY 79
144	24 MAY 79
145	25 MAY 79
146	26 MAY 79
147	27 MAY 79
148	28 MAY 79
149	29 MAY 79
150	30 MAY 79
151	31 MAY 79
152	1 JUN 79
153	2 JUN 79
154	3 JUN 79
155	4 JUN 79
156	5 JUN 79
157	6 JUN 79
158	7 JUN 79
159	8 JUN 79
160	9 JUN 79
161	10 JUN 79
162	11 JUN 79
163	12 JUN 79
164	13 JUN 79
165	14 JUN 79
166	15 JUN 79
167	16 JUN 79
168	17 JUN 79
169	18 JUN 79
170	19 JUN 79
171	20 JUN 79

Table 2 (Continued)

172	21 JUN 79	229	17 AUG 79
173	22 JUN 79	230	18 AUG 79
174	23 JUN 79	231	19 AUG 79
175	24 JUN 79	232	20 AUG 79
176	25 JUN 79	233	21 AUG 79
177	26 JUN 79	234	22 AUG 79
178	27 JUN 79	235	23 AUG 79
179	28 JUN 79	236	24 AUG 79
180	29 JUN 79	237	25 AUG 79
181	30 JUN 79	238	26 AUG 79
182	1 JUL 79	239	27 AUG 79
183	2 JUL 79	240	28 AUG 79
184	3 JUL 79	241	29 AUG 79
185	4 JUL 79	242	30 AUG 79
186	5 JUL 79	243	31 AUG 79
187	6 JUL 79	244	1 SEP 79
188	7 JUL 79	245	2 SEP 79
189	8 JUL 79	246	3 SEP 79
190	9 JUL 79	247	4 SEP 79
191	10 JUL 79	248	5 SEP 79
192	11 JUL 79	249	6 SEP 79
193	12 JUL 79	250	7 SEP 79
194	13 JUL 79	251	8 SEP 79
195	14 JUL 79	252	9 SEP 79
196	15 JUL 79	253	10 SEP 79
197	16 JUL 79	254	11 SEP 79
198	17 JUL 79	255	12 SEP 79
199	18 JUL 79	256	13 SEP 79
200	19 JUL 79	257	14 SEP 79
201	20 JUL 79	258	15 SEP 79
202	21 JUL 79	259	16 SEP 79
203	22 JUL 79	260	17 SEP 79
204	23 JUL 79	261	18 SEP 79
205	24 JUL 79	262	19 SEP 79
206	25 JUL 79	263	20 SEP 79
207	26 JUL 79	264	21 SEP 79
208	27 JUL 79	265	22 SEP 79
209	28 JUL 79	266	23 SEP 79
210	29 JUL 79	267	24 SEP 79
211	30 JUL 79	268	25 SEP 79
212	31 JUL 79	269	26 SEP 79
213	1 AUG 79	270	27 SEP 79
214	2 AUG 79	271	28 SEP 79
215	3 AUG 79	272	29 SEP 79
216	4 AUG 79	273	30 SEP 79
217	5 AUG 79	274	1 OCT 79
218	6 AUG 79	275	2 OCT 79
219	7 AUG 79	276	3 OCT 79
220	8 AUG 79	277	4 OCT 79
221	9 AUG 79	278	5 OCT 79
222	10 AUG 79	279	6 OCT 79
223	11 AUG 79	280	7 OCT 79
224	12 AUG 79	281	8 OCT 79
225	13 AUG 79	282	9 OCT 79
226	14 AUG 79	283	10 OCT 79
227	15 AUG 79	284	11 OCT 79
228	16 AUG 79	285	12 OCT 79
286	13 OCT 79		
287	14 OCT 79		
288	15 OCT 79		
289	16 OCT 79		
290	17 OCT 79		
291	18 OCT 79		
292	19 OCT 79		
293	20 OCT 79		
294	21 OCT 79		
295	22 OCT 79		
296	23 OCT 79		
297	24 OCT 79		
298	25 OCT 79		
299	26 OCT 79		
300	27 OCT 79		
301	28 OCT 79		
302	29 OCT 79		
303	30 OCT 79		
304	31 OCT 79		
305	1 NOV 79		
306	2 NOV 79		
307	3 NOV 79		
308	4 NOV 79		
309	5 NOV 79		
310	6 NOV 79		
311	7 NOV 79		
312	8 NOV 79		
313	9 NOV 79		
314	10 NOV 79		
315	11 NOV 79		
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317	13 NOV 79		
318	14 NOV 79		
319	15 NOV 79		
320	16 NOV 79		
321	17 NOV 79		
322	18 NOV 79		
323	19 NOV 79		
324	20 NOV 79		
325	21 NOV 79		
326	22 NOV 79		
327	23 NOV 79		
328	24 NOV 79		
329	25 NOV 79		
330	26 NOV 79		
331	27 NOV 79		
332	28 NOV 79		
333	29 NOV 79		
334	30 NOV 79		
335	1 DEC 79		
336	2 DEC 79		
337	3 DEC 79		
338	4 DEC 79		
339	5 DEC 79		
340	6 DEC 79		
341	7 DEC 79		
342	8 DEC 79		

Table 2 (Continued)

343	9 DEC 79	400	4 FEB 80
344	10 DEC 79	401	5 FEB 80
345	11 DEC 79	402	6 FEB 80
346	12 DEC 79	403	7 FEB 80
347	13 DEC 79	404	8 FEB 80
348	14 DEC 79	405	9 FEB 80
349	15 DEC 79	406	10 FEB 80
350	16 DEC 79	407	11 FEB 80
351	17 DEC 79	408	12 FEB 80
352	18 DEC 79	409	13 FEB 80
353	19 DEC 79	410	14 FEB 80
354	20 DEC 79	411	15 FEB 80
355	21 DEC 79	412	16 FEB 80
356	22 DEC 79	413	17 FEB 80
357	23 DEC 79	414	18 FEB 80
358	24 DEC 79	415	19 FEB 80
359	25 DEC 79	416	20 FEB 80
360	26 DEC 79	417	21 FEB 80
361	27 DEC 79	418	22 FEB 80
362	28 DEC 79	419	23 FEB 80
363	29 DEC 79	420	24 FEB 80
364	30 DEC 79	421	25 FEB 80
365	31 DEC 79	422	26 FEB 80
366	1 JAN 80	423	27 FEB 80
367	2 JAN 80	424	28 FEB 80
368	3 JAN 80	425	29 FEB 80
369	4 JAN 80	426	1 MAR 80
370	5 JAN 80	427	2 MAR 80
371	6 JAN 80	428	3 MAR 80
372	7 JAN 80	429	4 MAR 80
373	8 JAN 80	430	5 MAR 80
374	9 JAN 80	431	6 MAR 80
375	10 JAN 80	432	7 MAR 80
376	11 JAN 80	433	8 MAR 80
377	12 JAN 80	434	9 MAR 80
378	13 JAN 80	435	10 MAR 80
379	14 JAN 80	436	11 MAR 80
380	15 JAN 80	437	12 MAR 80
381	16 JAN 80	438	13 MAR 80
382	17 JAN 80	439	14 MAR 80
383	18 JAN 80	440	15 MAR 80
384	19 JAN 80	441	16 MAR 80
385	20 JAN 80	442	17 MAR 80
386	21 JAN 80	443	18 MAR 80
387	22 JAN 80	444	19 MAR 80
388	23 JAN 80	445	20 MAR 80
389	24 JAN 80	446	21 MAR 80
390	25 JAN 80	447	22 MAR 80
391	26 JAN 80	448	23 MAR 80
392	27 JAN 80	449	24 MAR 80
393	28 JAN 80	450	25 MAR 80
394	29 JAN 80	451	26 MAR 80
395	30 JAN 80	452	27 MAR 80
396	31 JAN 80	453	28 MAR 80
397	1 FEB 80	454	29 MAR 80
398	2 FEB 80	455	30 MAR 80
399	3 FEB 80	456	31 MAR 80
		457	1 APR 80
		458	2 APR 80
		459	3 APR 80
		460	4 APR 80
		461	5 APR 80
		462	6 APR 80
		463	7 APR 80
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		465	9 APR 80
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		467	11 APR 80
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		469	13 APR 80
		470	14 APR 80
		471	15 APR 80
		472	16 APR 80
		473	17 APR 80
		474	18 APR 80
		475	19 APR 80
		476	20 APR 80
		477	21 APR 80
		478	22 APR 80
		479	23 APR 80
		480	24 APR 80
		481	25 APR 80
		482	26 APR 80
		483	27 APR 80
		484	28 APR 80
		485	29 APR 80
		486	30 APR 80
		487	1 MAY 80
		488	2 MAY 80
		489	3 MAY 80
		490	4 MAY 80
		491	5 MAY 80
		492	6 MAY 80
		493	7 MAY 80
		494	8 MAY 80
		495	9 MAY 80
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		497	11 MAY 80
		498	12 MAY 80
		499	13 MAY 80
		500	14 MAY 80
		501	15 MAY 80
		502	16 MAY 80
		503	17 MAY 80
		504	18 MAY 80
		505	19 MAY 80
		506	20 MAY 80
		507	21 MAY 80
		508	22 MAY 80
		509	23 MAY 80
		510	24 MAY 80
		511	25 MAY 80
		512	26 MAY 80
		513	27 MAY 80

Table 2 (Continued)

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

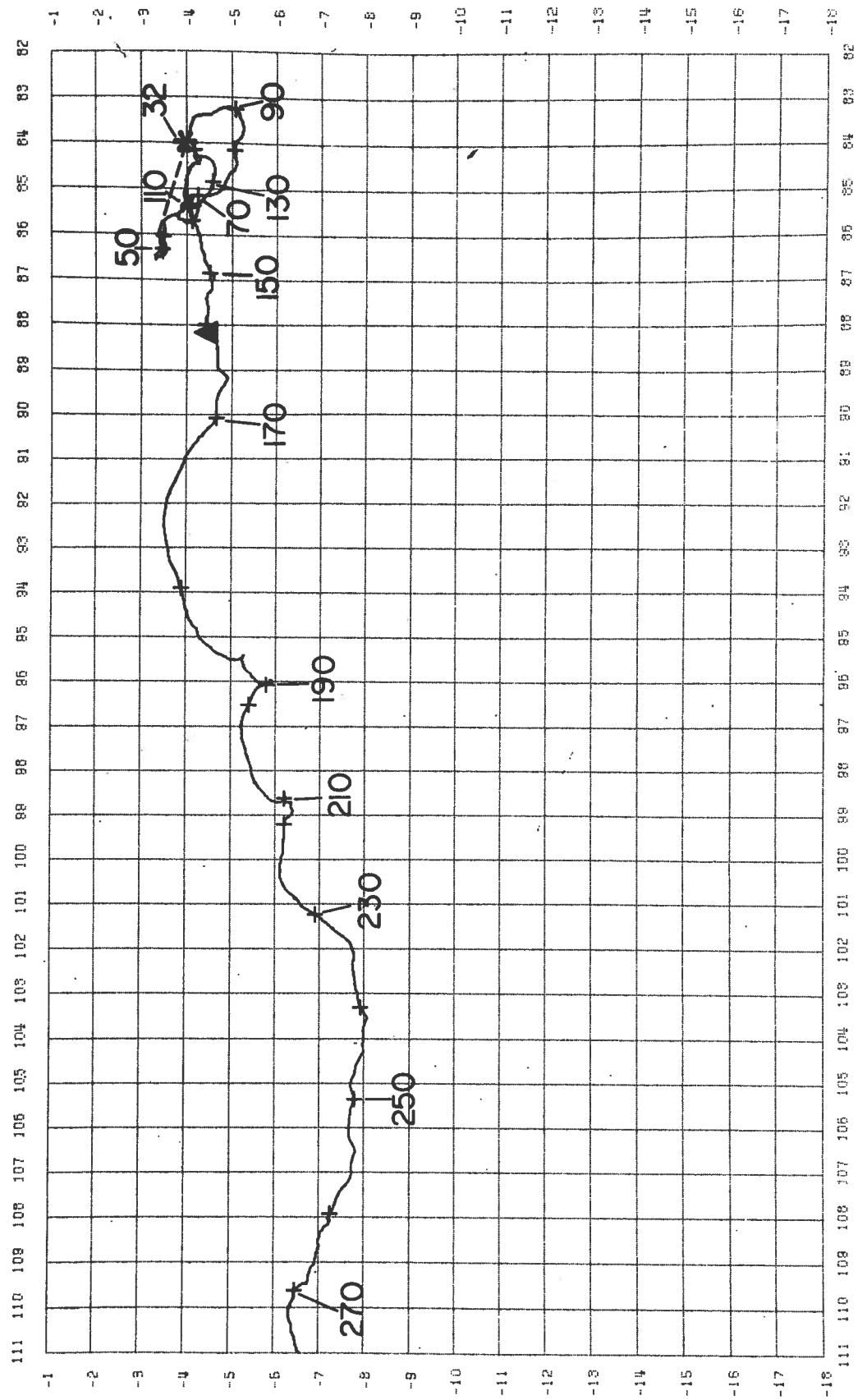


Figure 3. Trajectory of drifting buoy 2201.

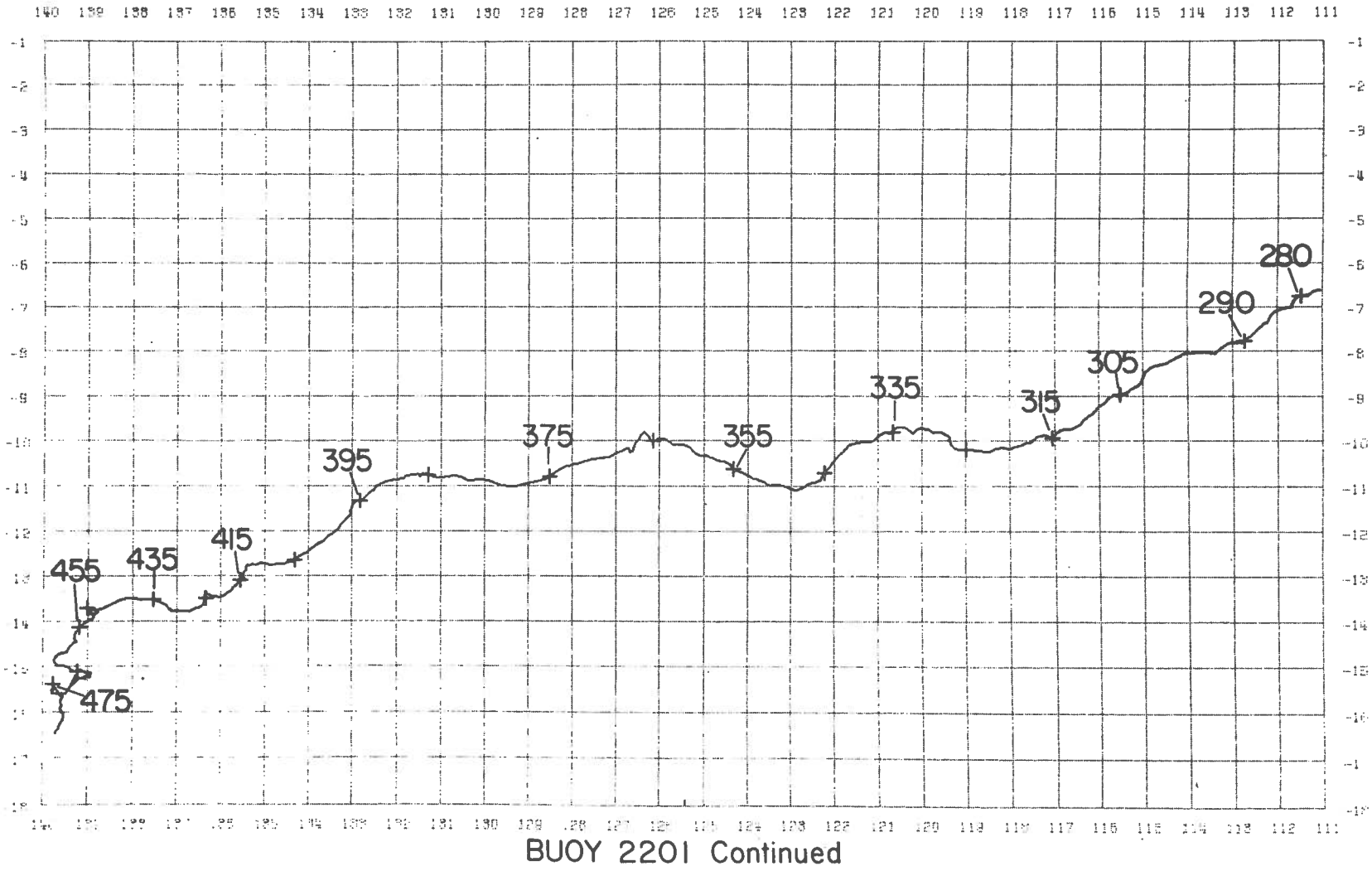


Figure 3. (Continued).

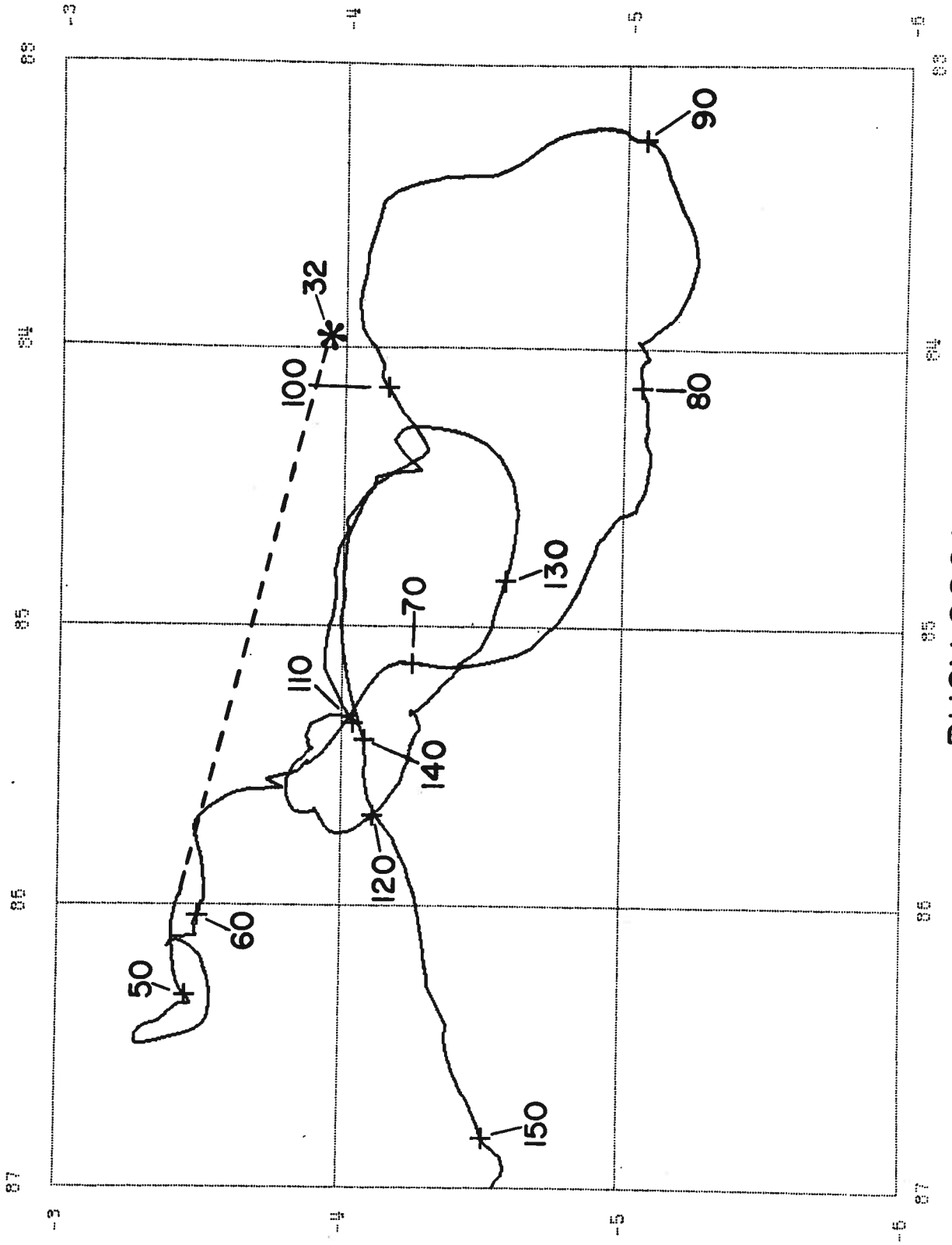


Figure 4. Trajectory detail for drifting buoy 2201.

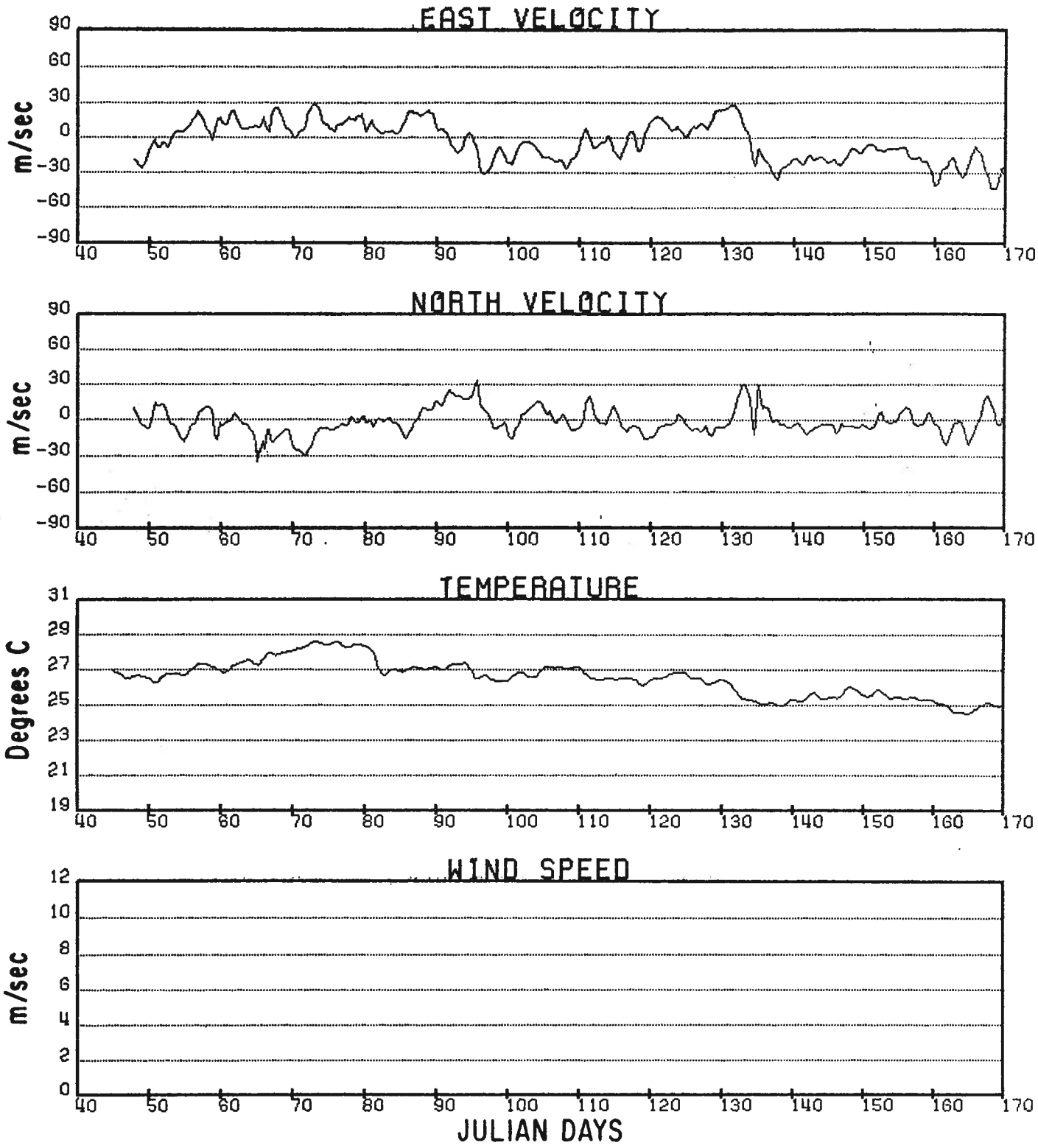


Figure 5. Time series of velocity and sensor data for drifting buoy 2201.

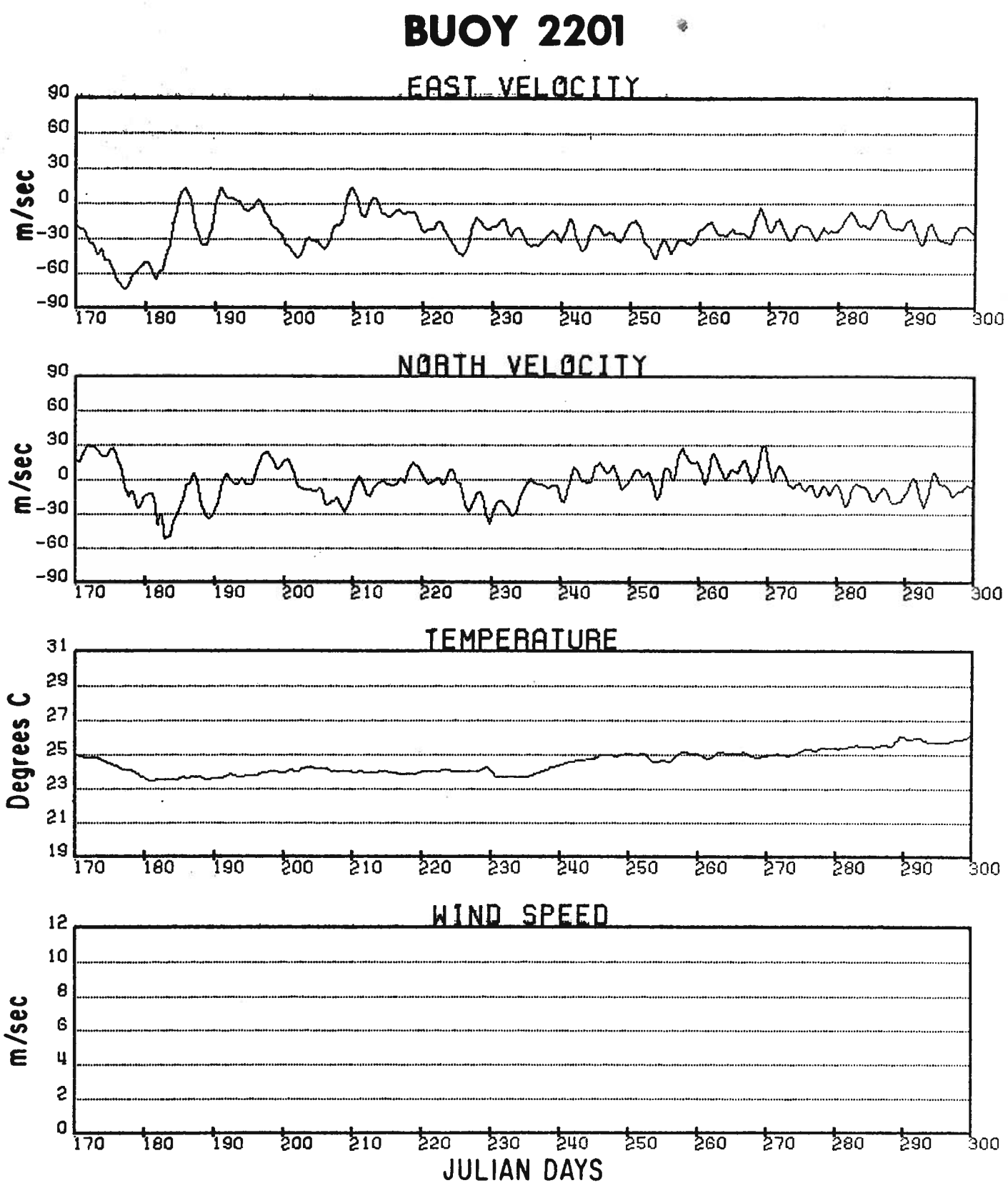


Figure 5. (Continued).

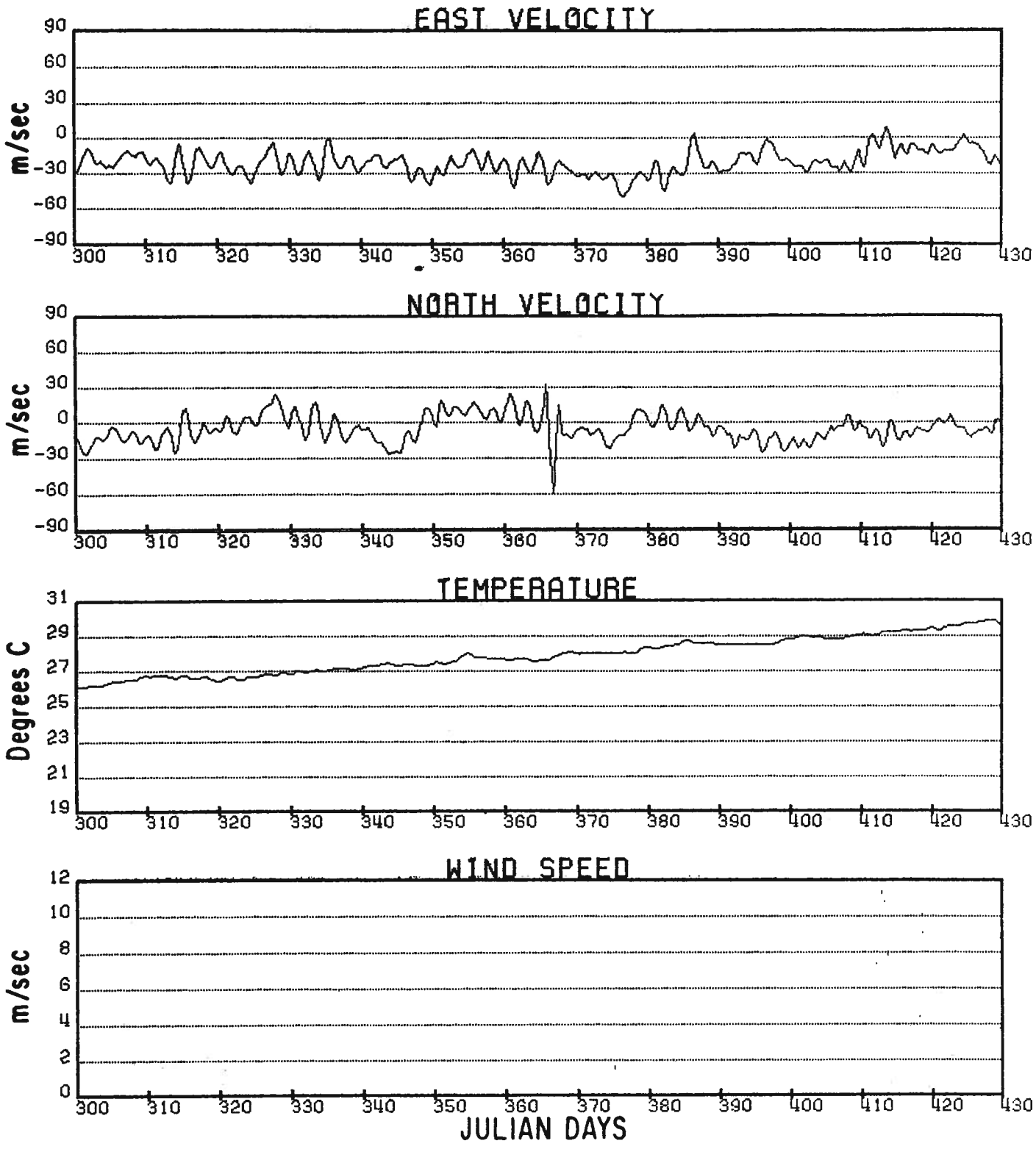


Figure 5. (Continued).

BUOY 2201

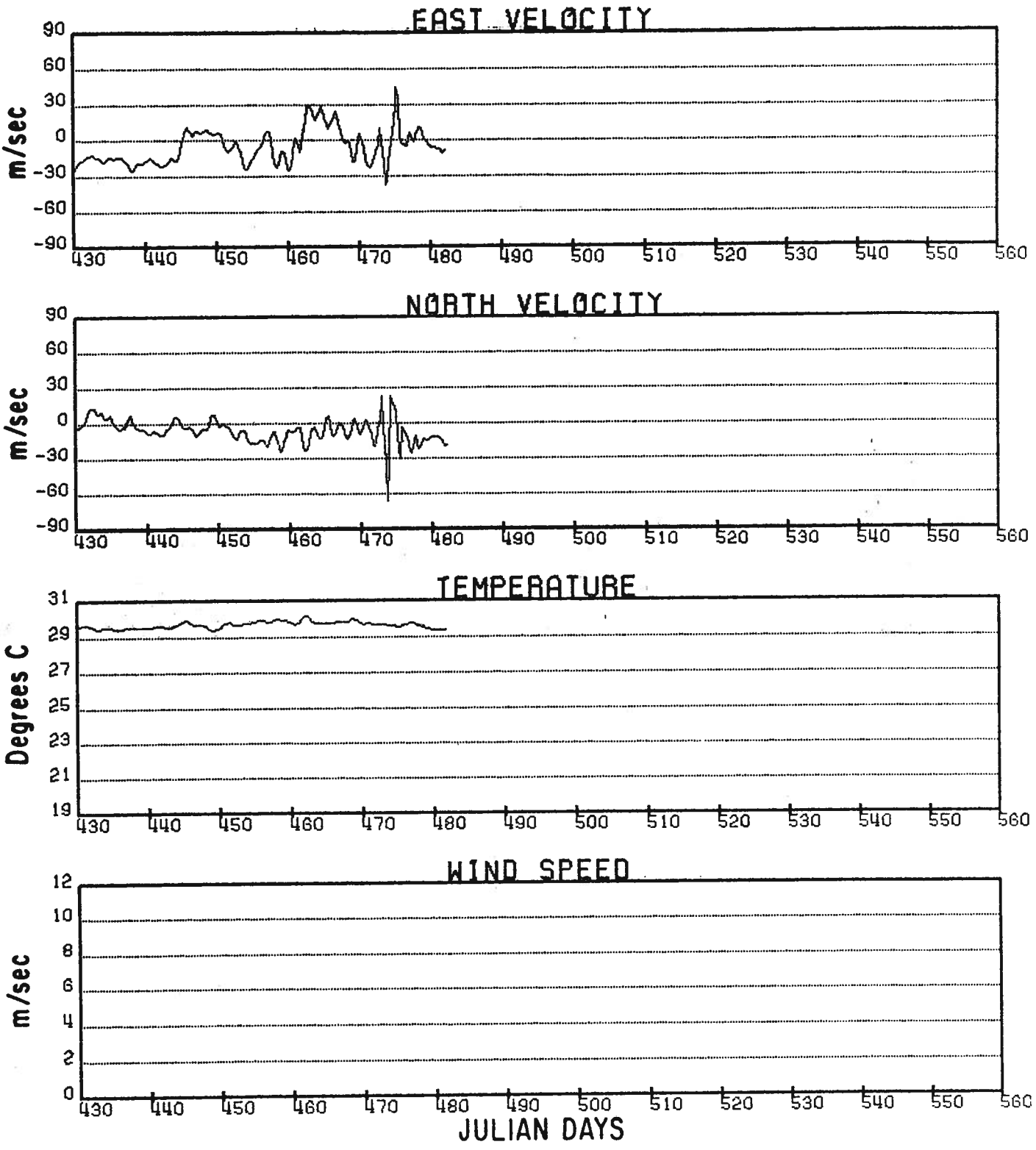


Figure 5. (Continued).

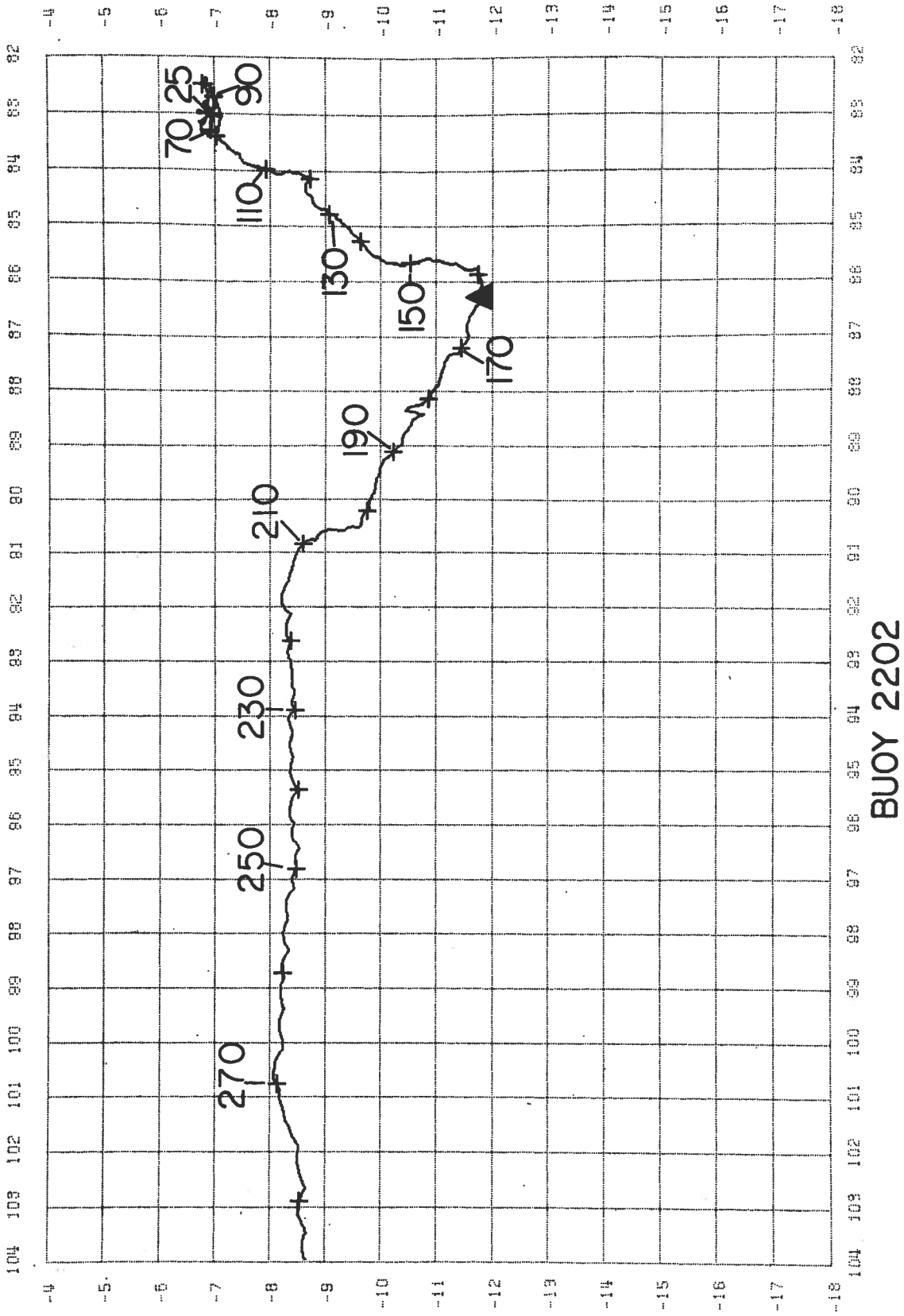


Figure 6. Trajectory of drifting buoy 2202.

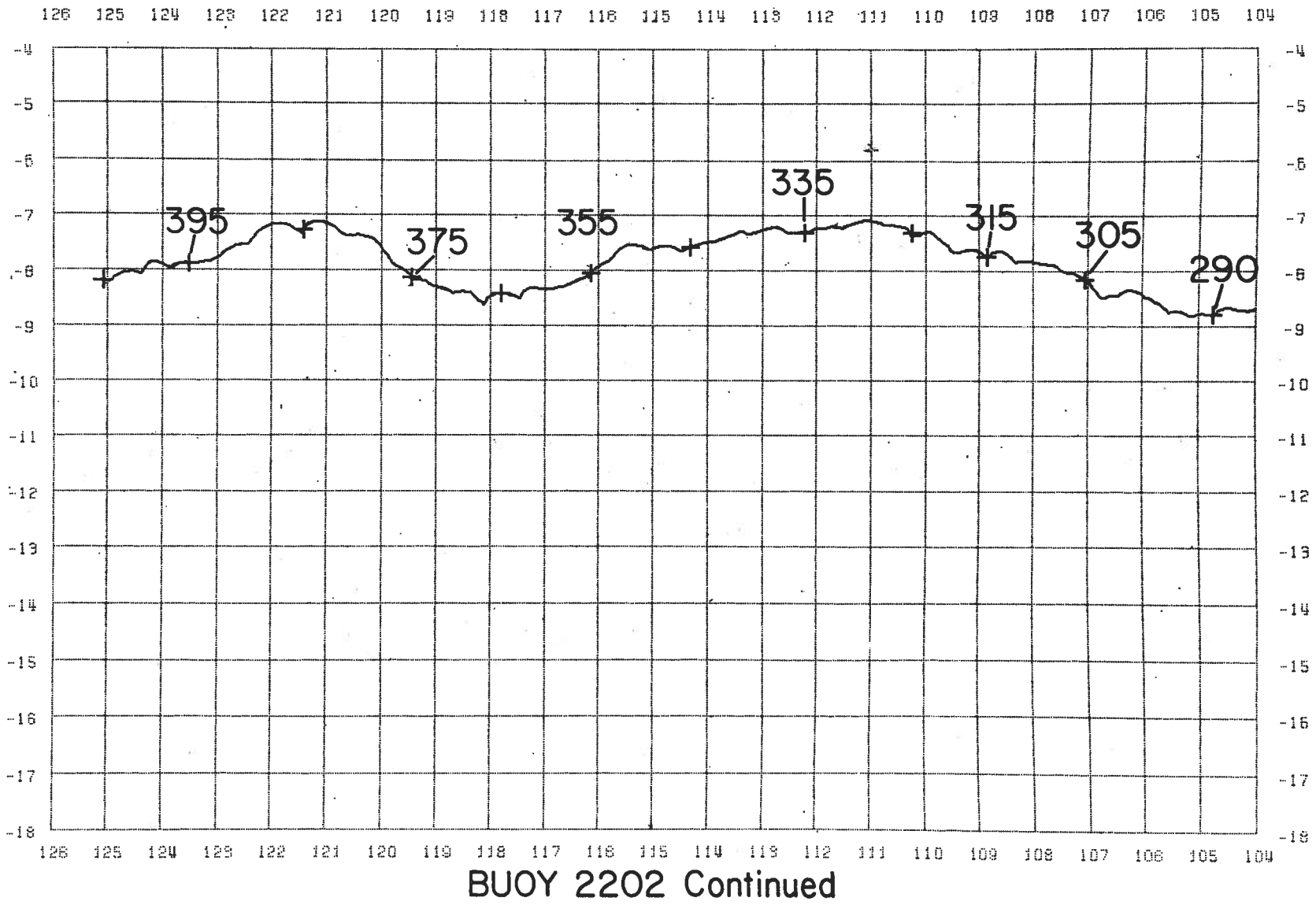


Figure 6. (Continued).

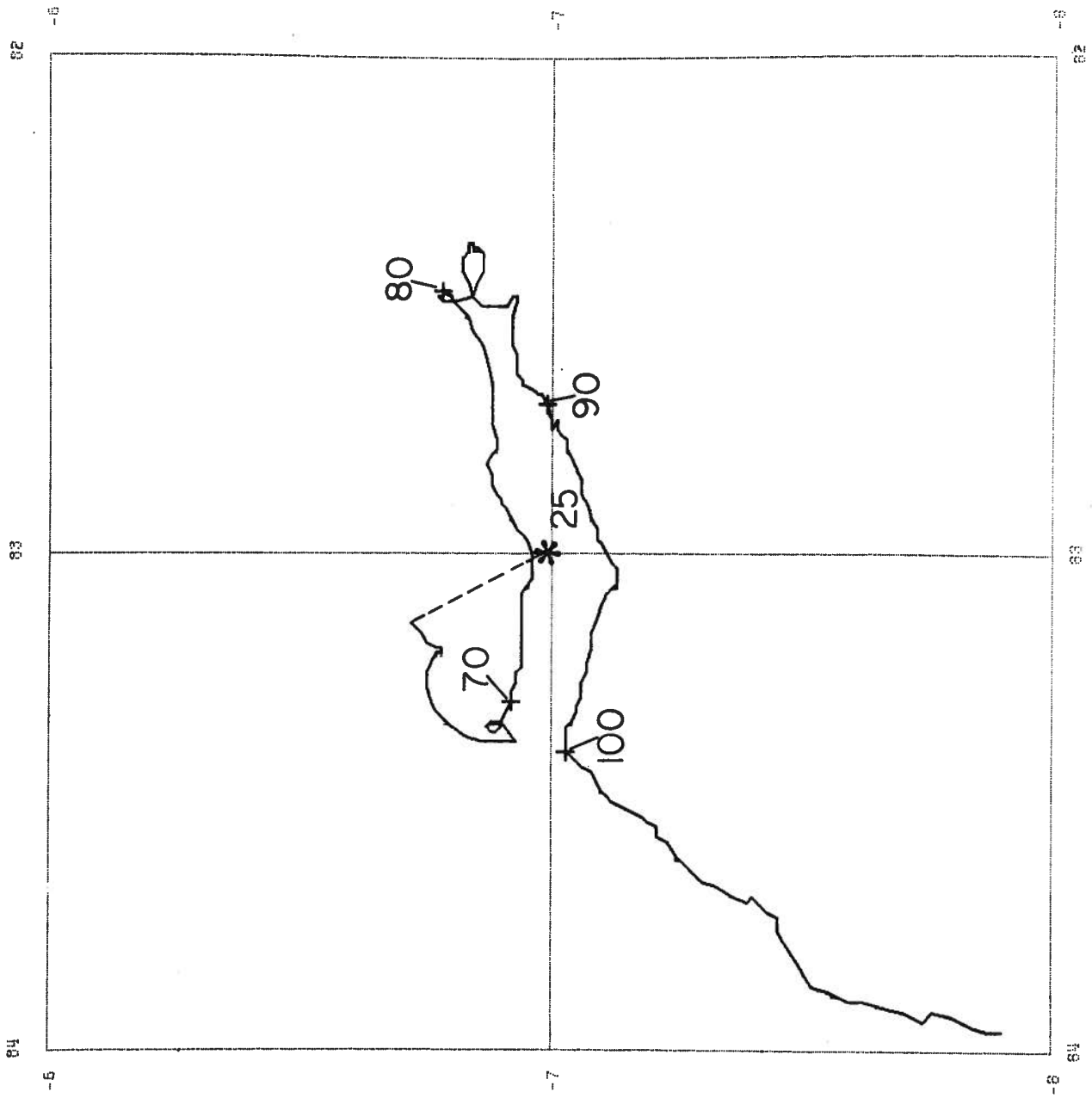


Figure 7. Trajectory detail for drifting buoy 2202.

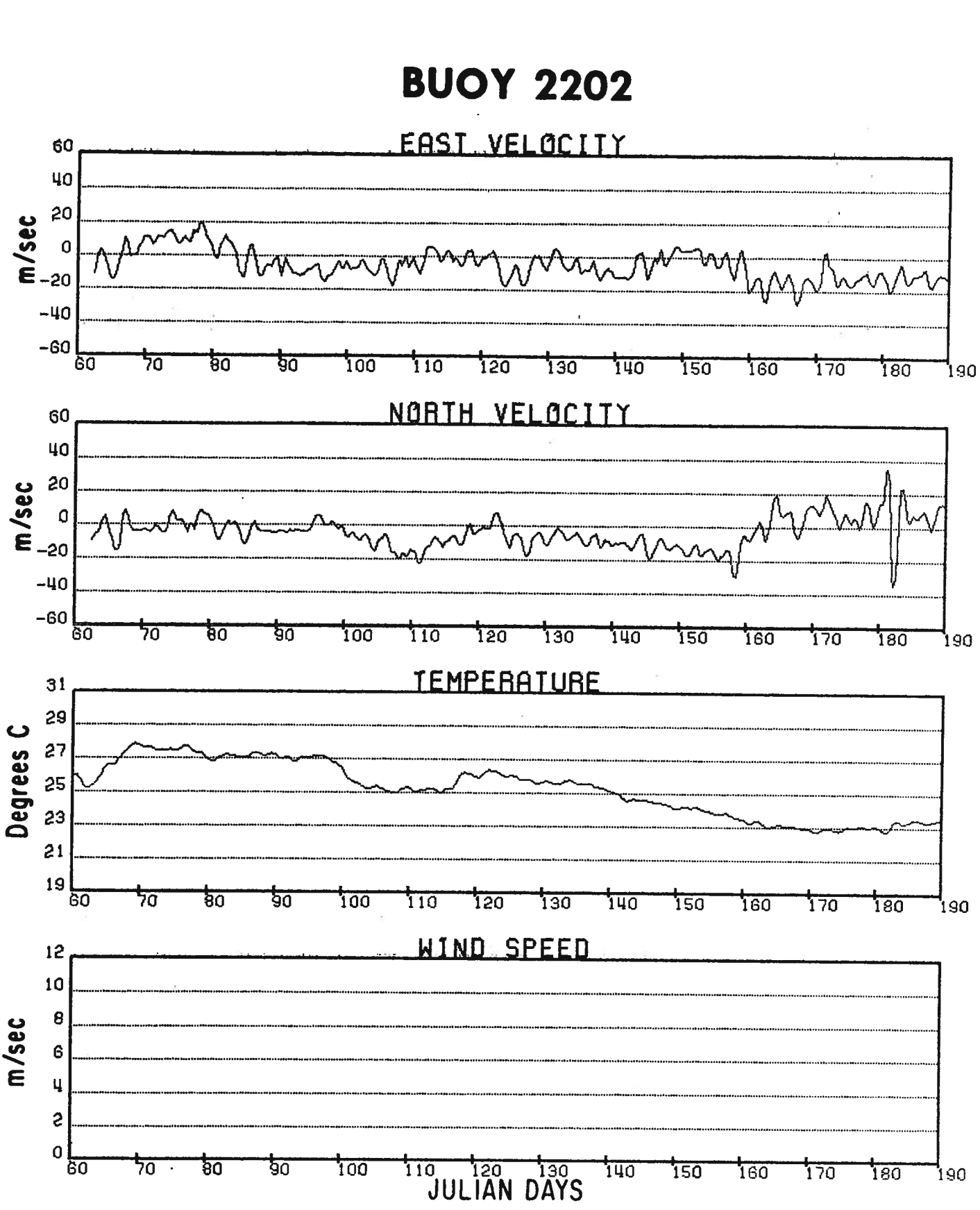
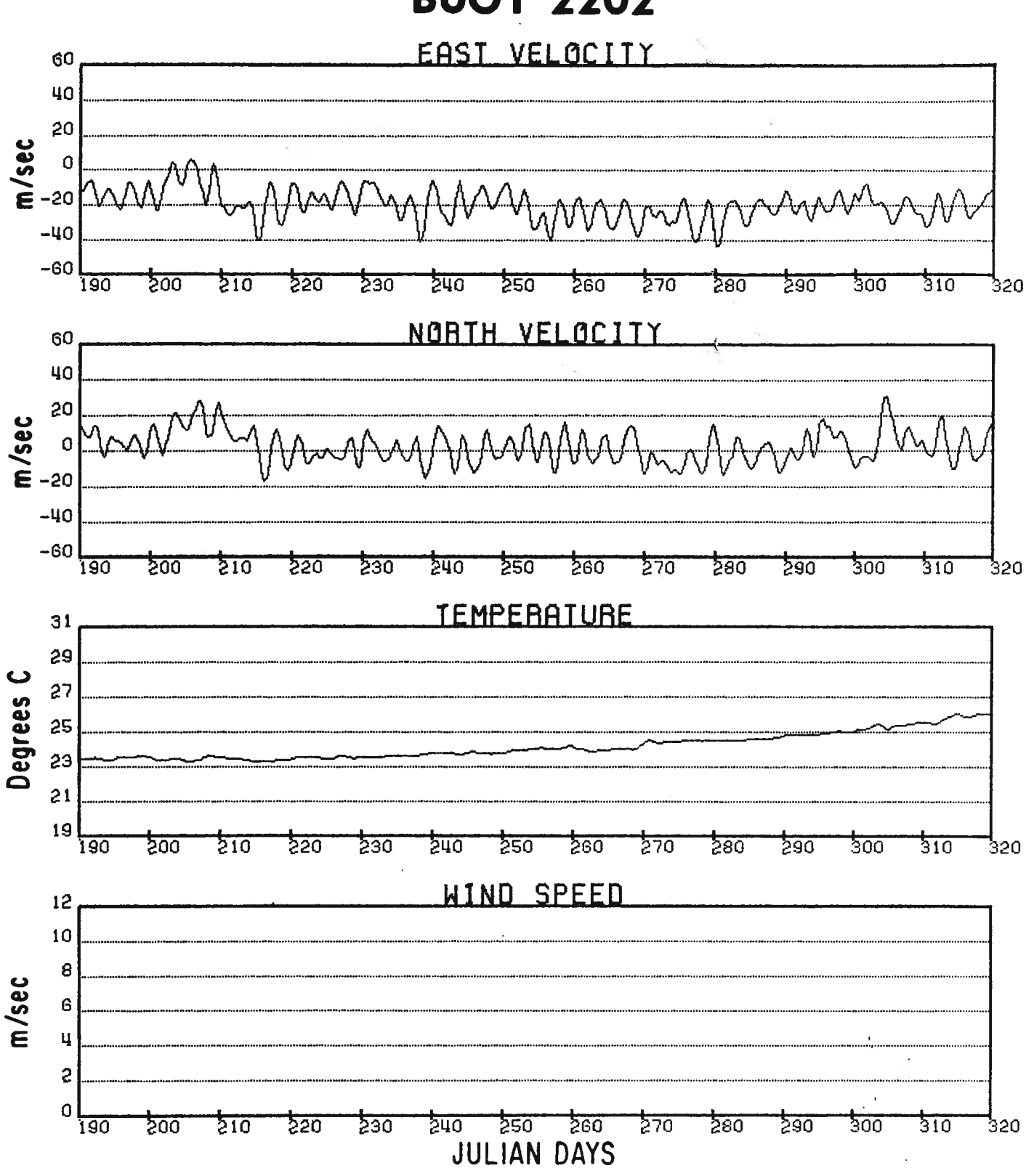


Figure 8. Time series of velocity and sensor data for drifting buoy 2202.



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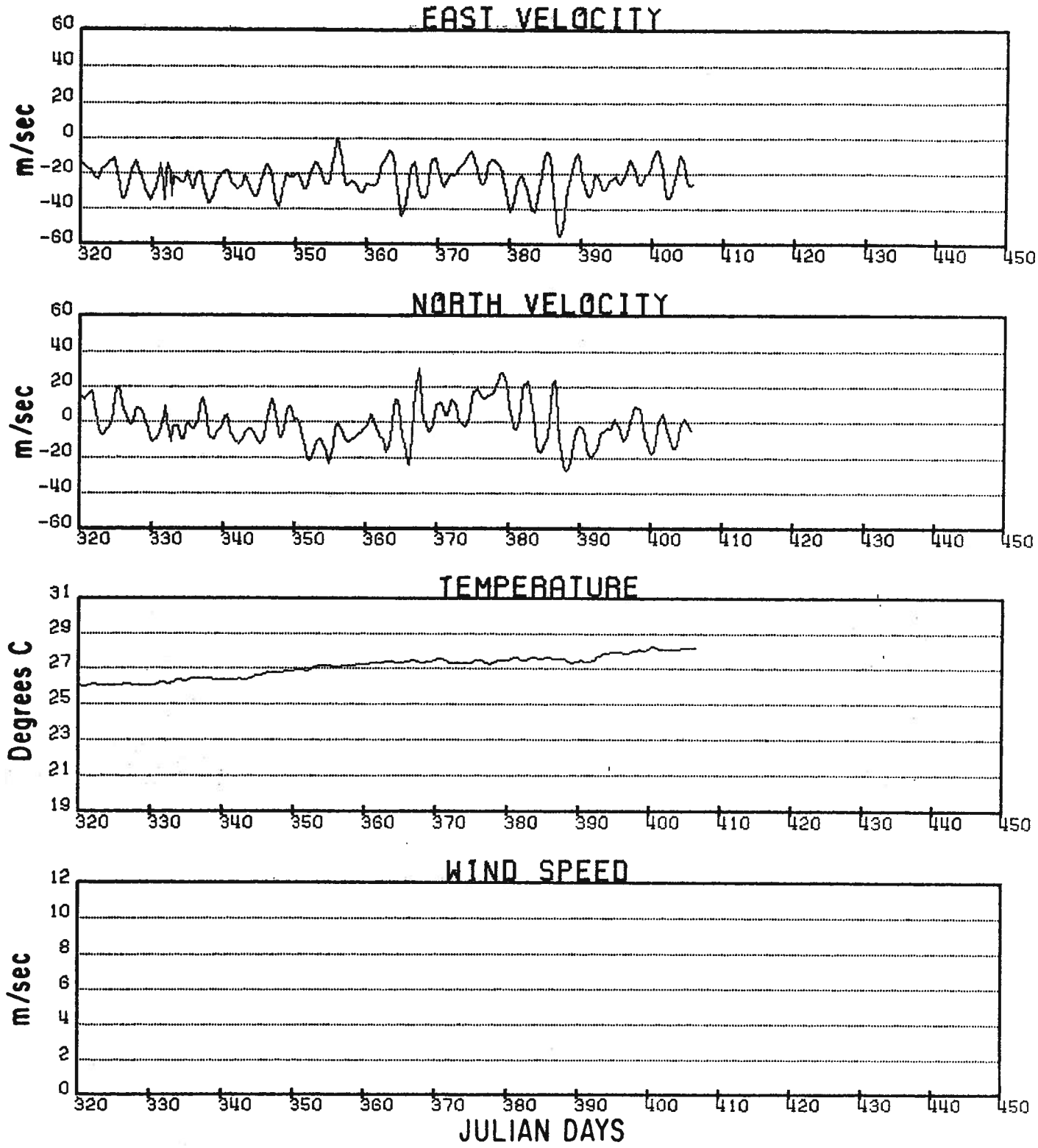

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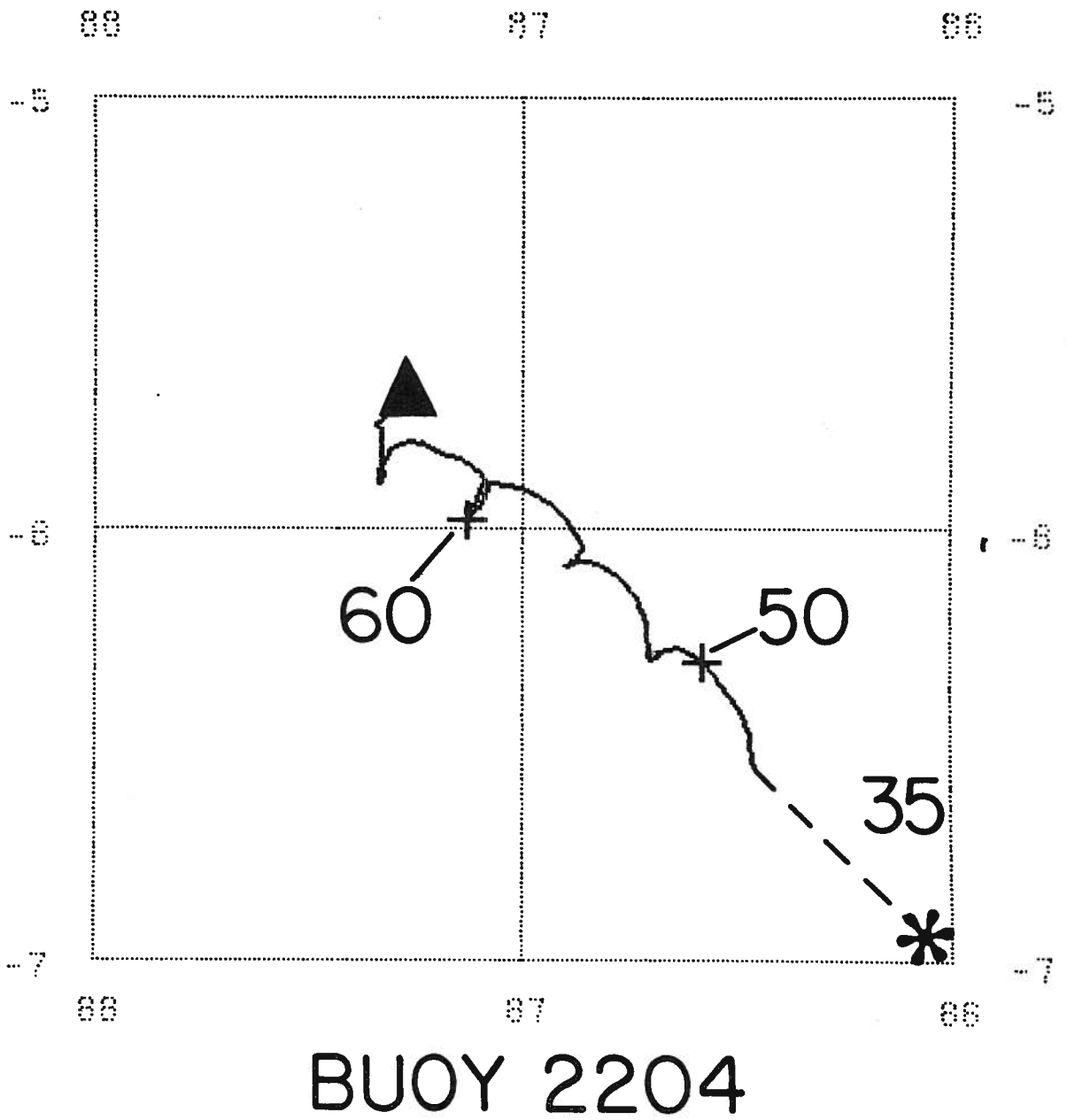


Figure 9. Trajectory for drifting buoy 2204.

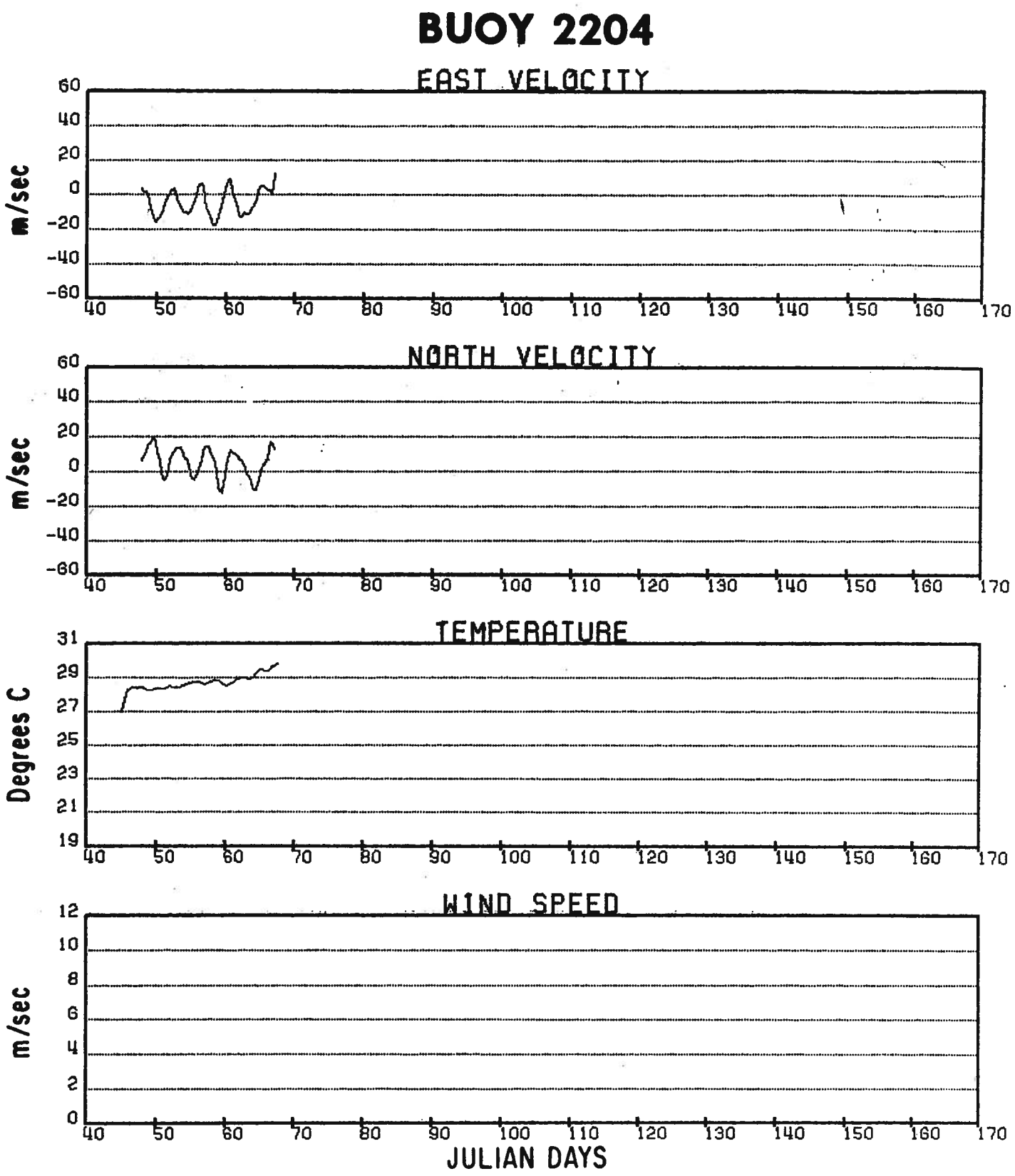


Figure 10. Time series of velocity and sensor data for drifting buoy 2204.

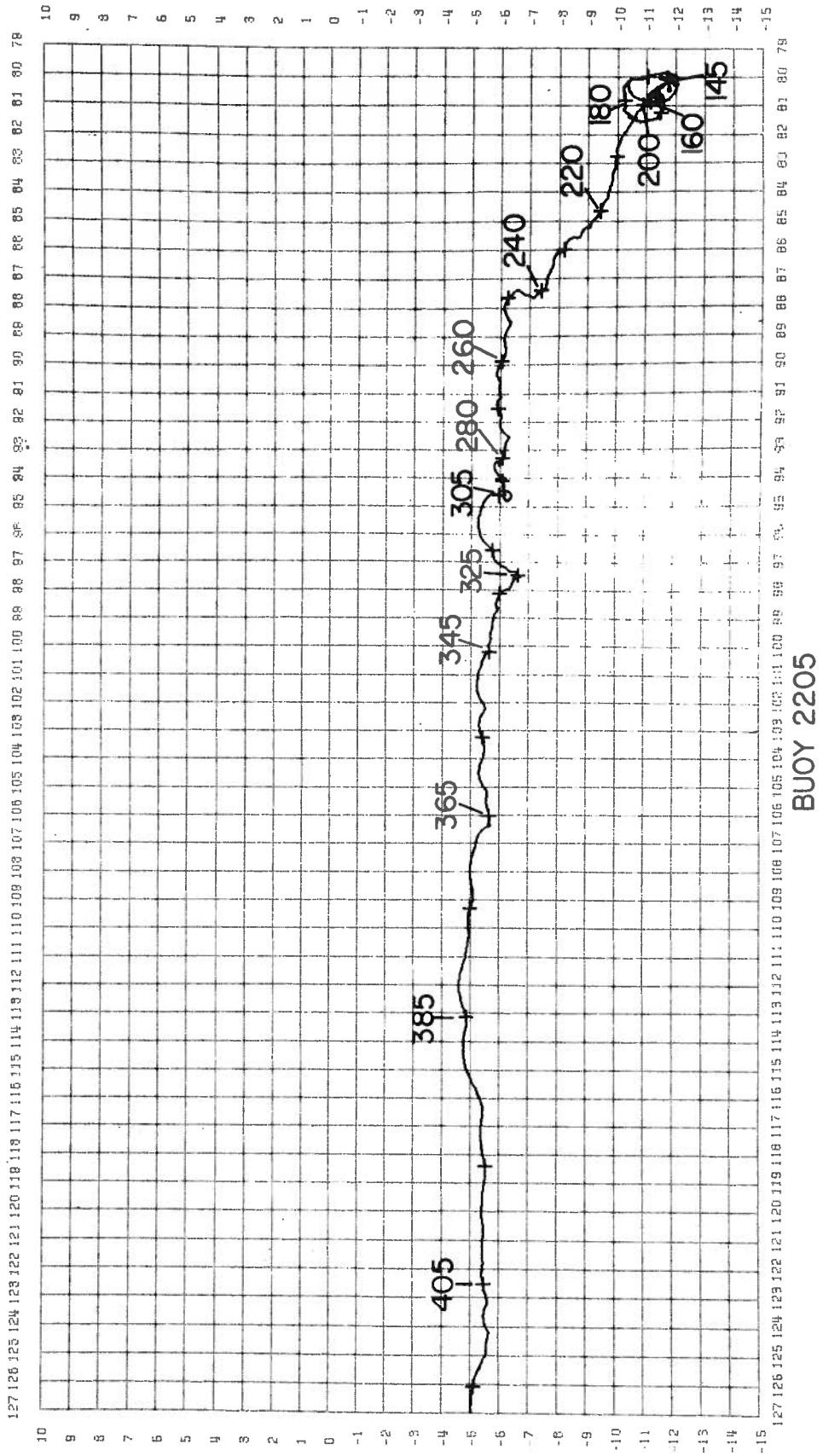


Figure 11. Trajectory of drifting buoy 2205.

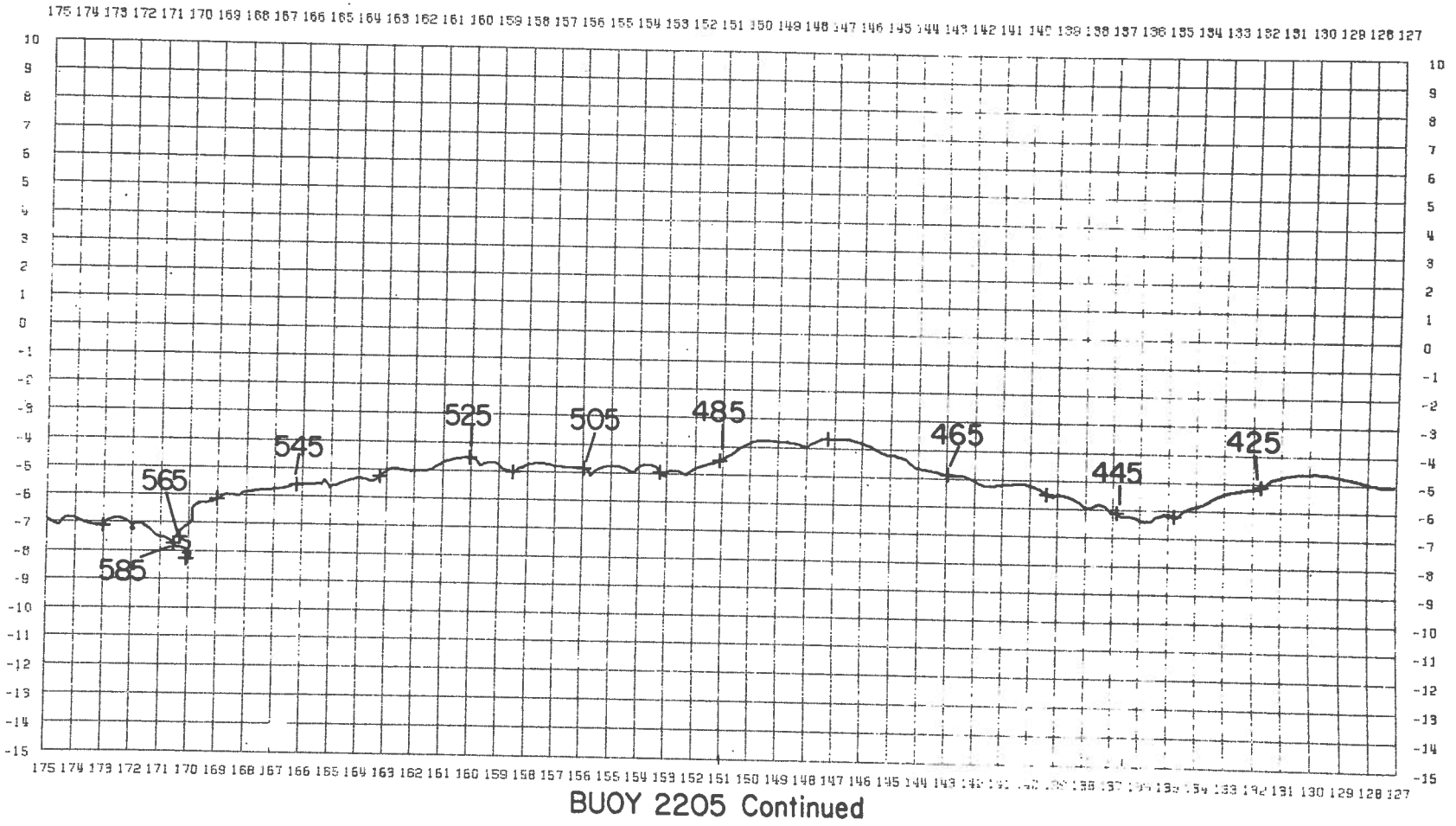


Figure 11. (Continued).

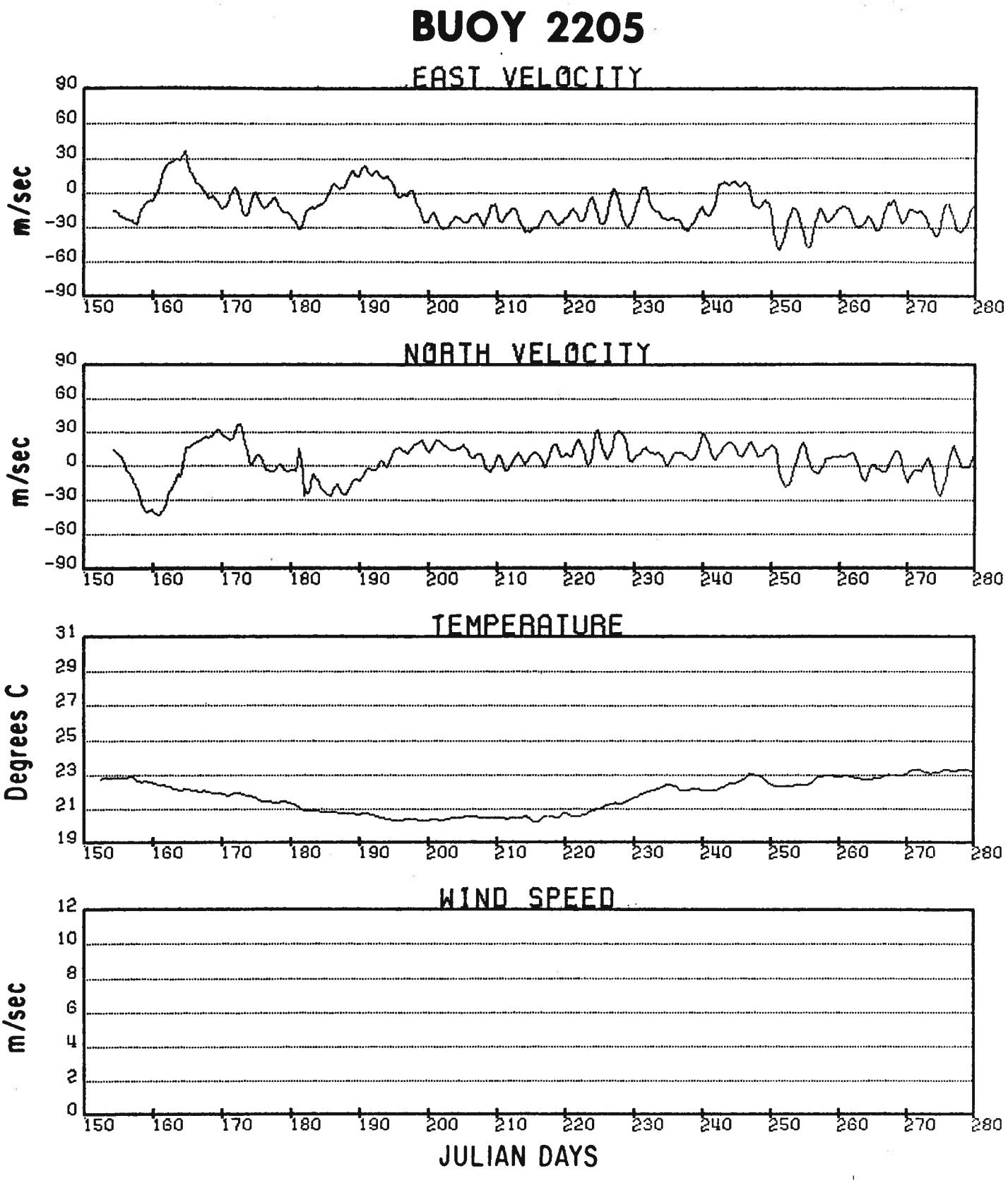


Figure 12. Time series of velocity and sensor data for drifting buoy 2205.

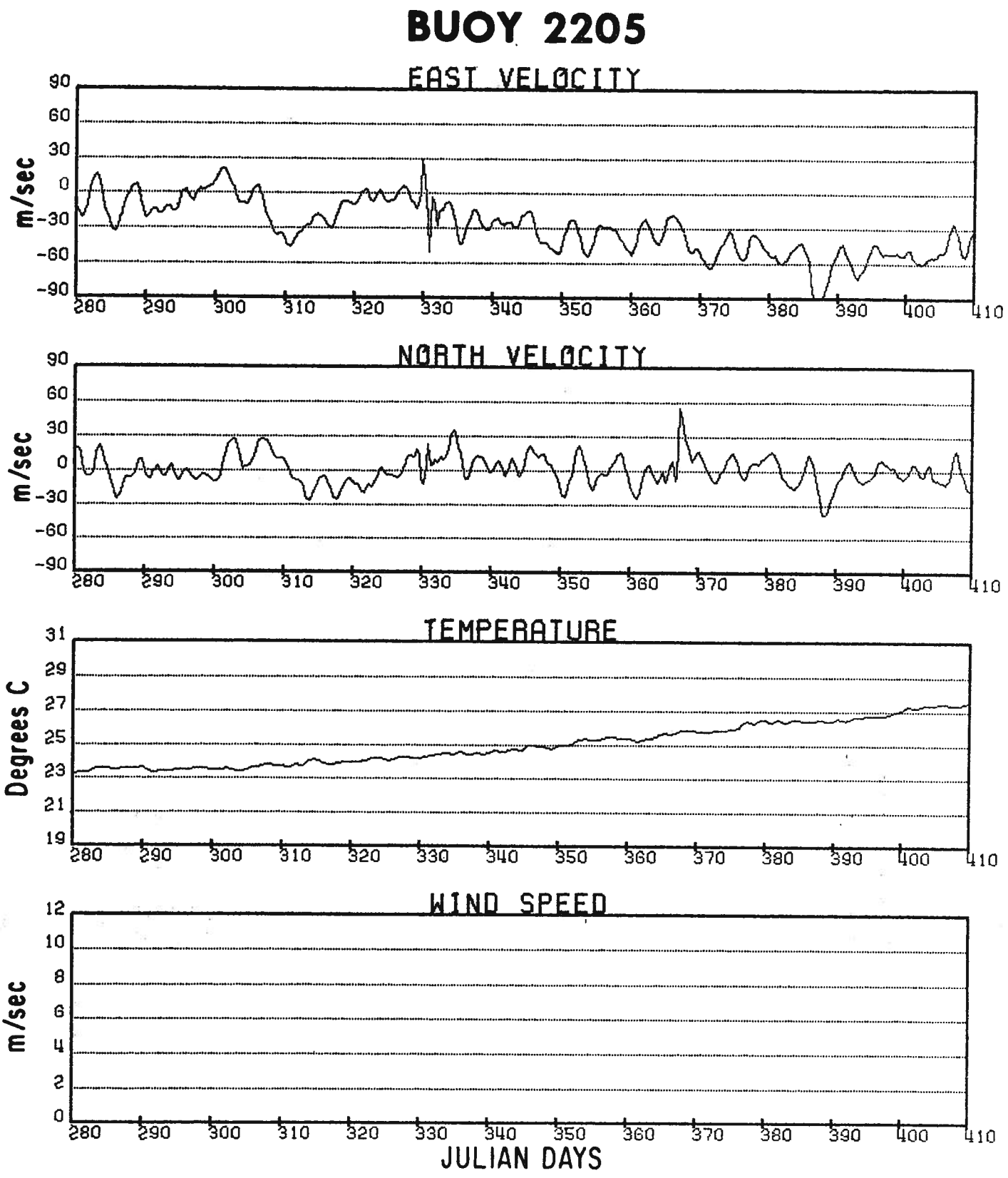


Figure 12. (Continued).

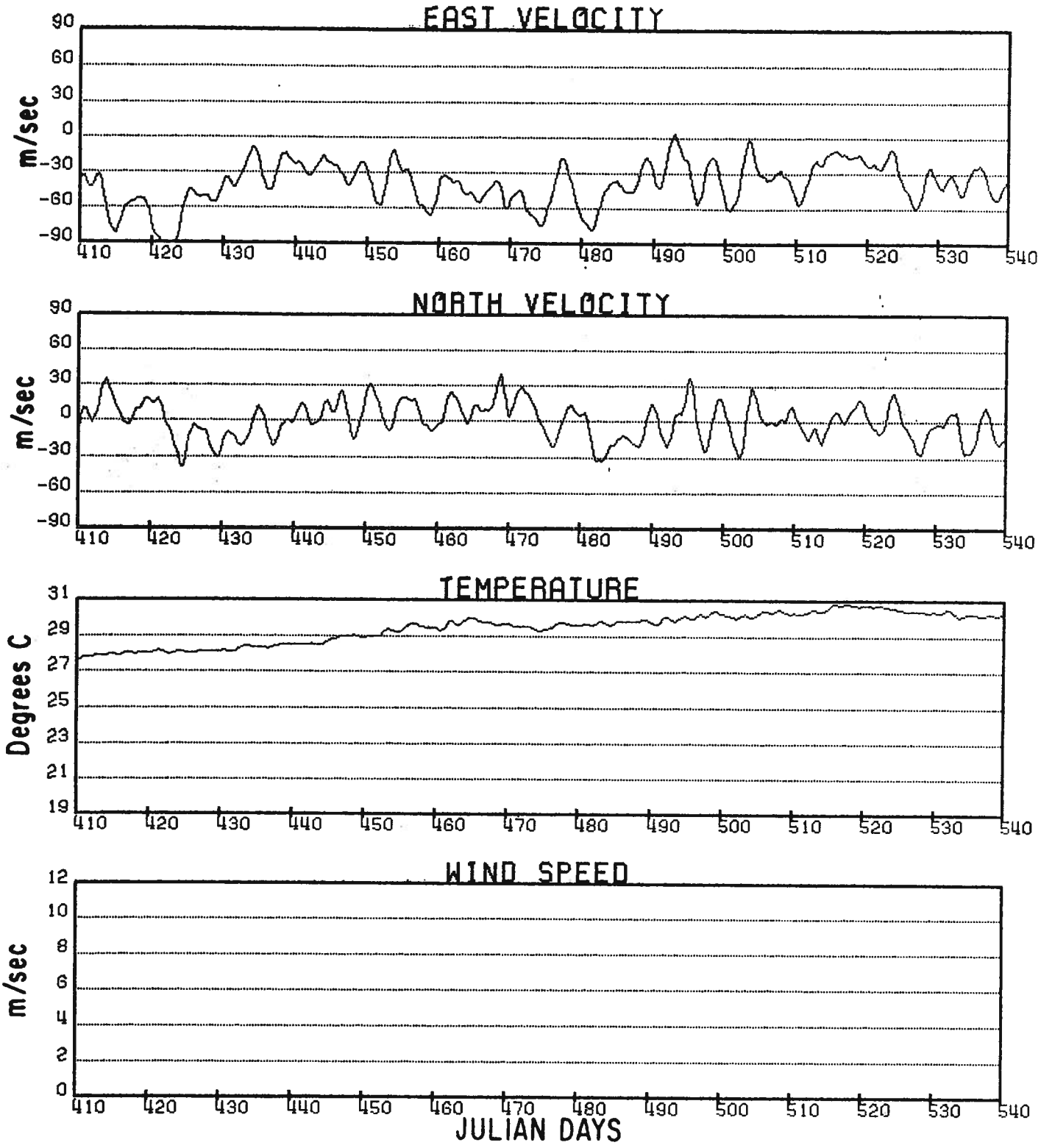


Figure 12. (Continued).

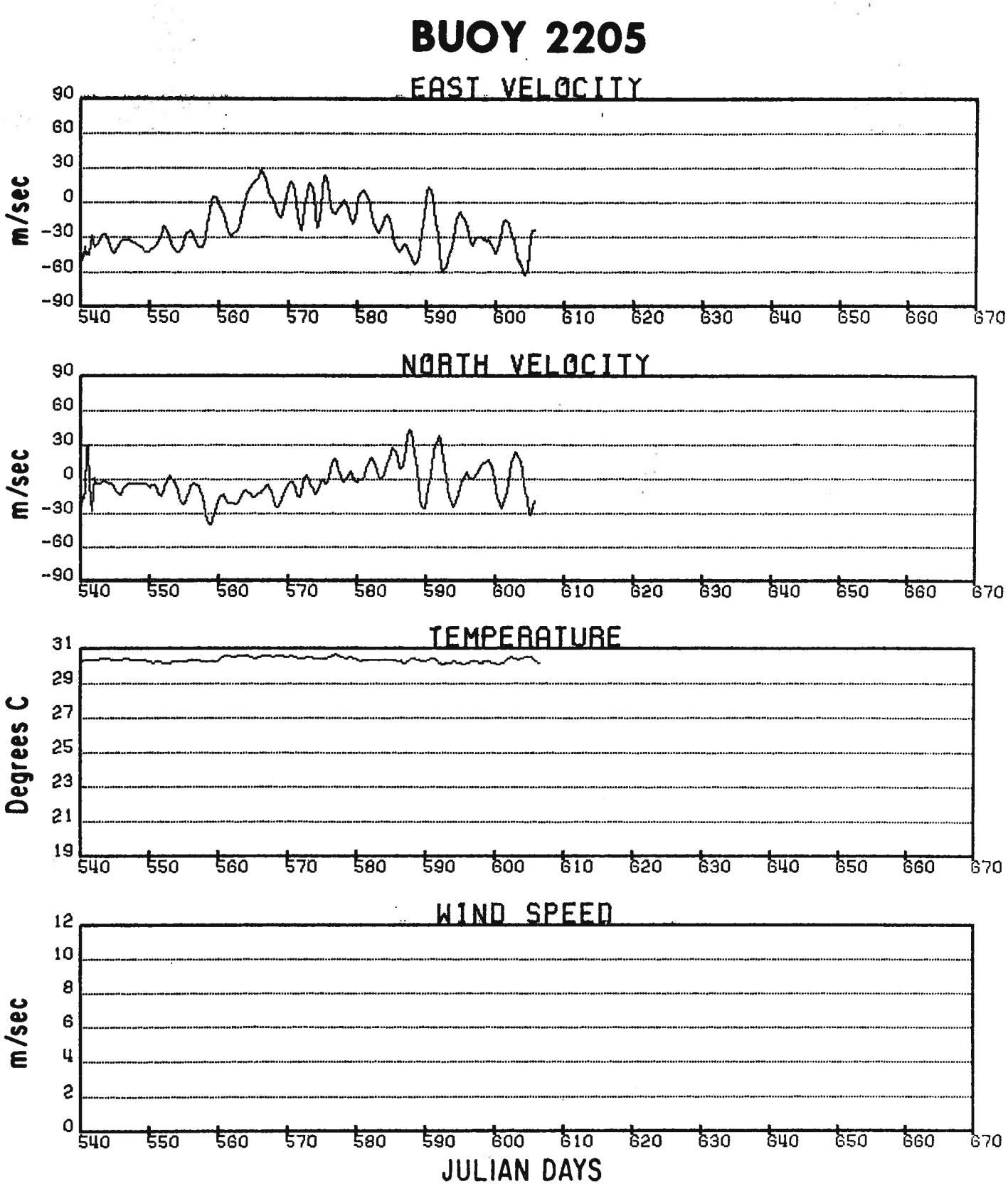


Figure 12. (Continued).

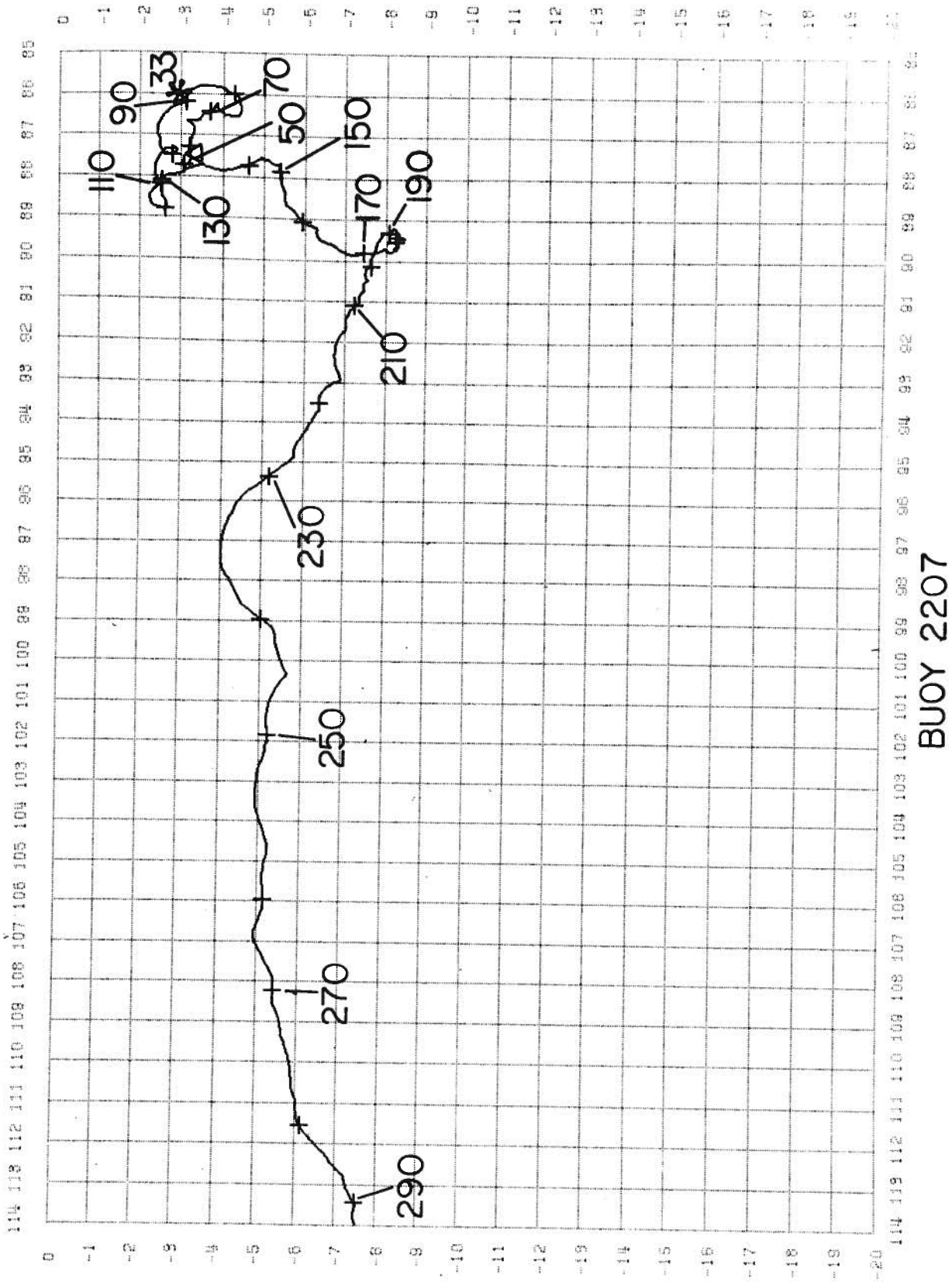


Figure 13. Trajectory of drifting buoy 2207.

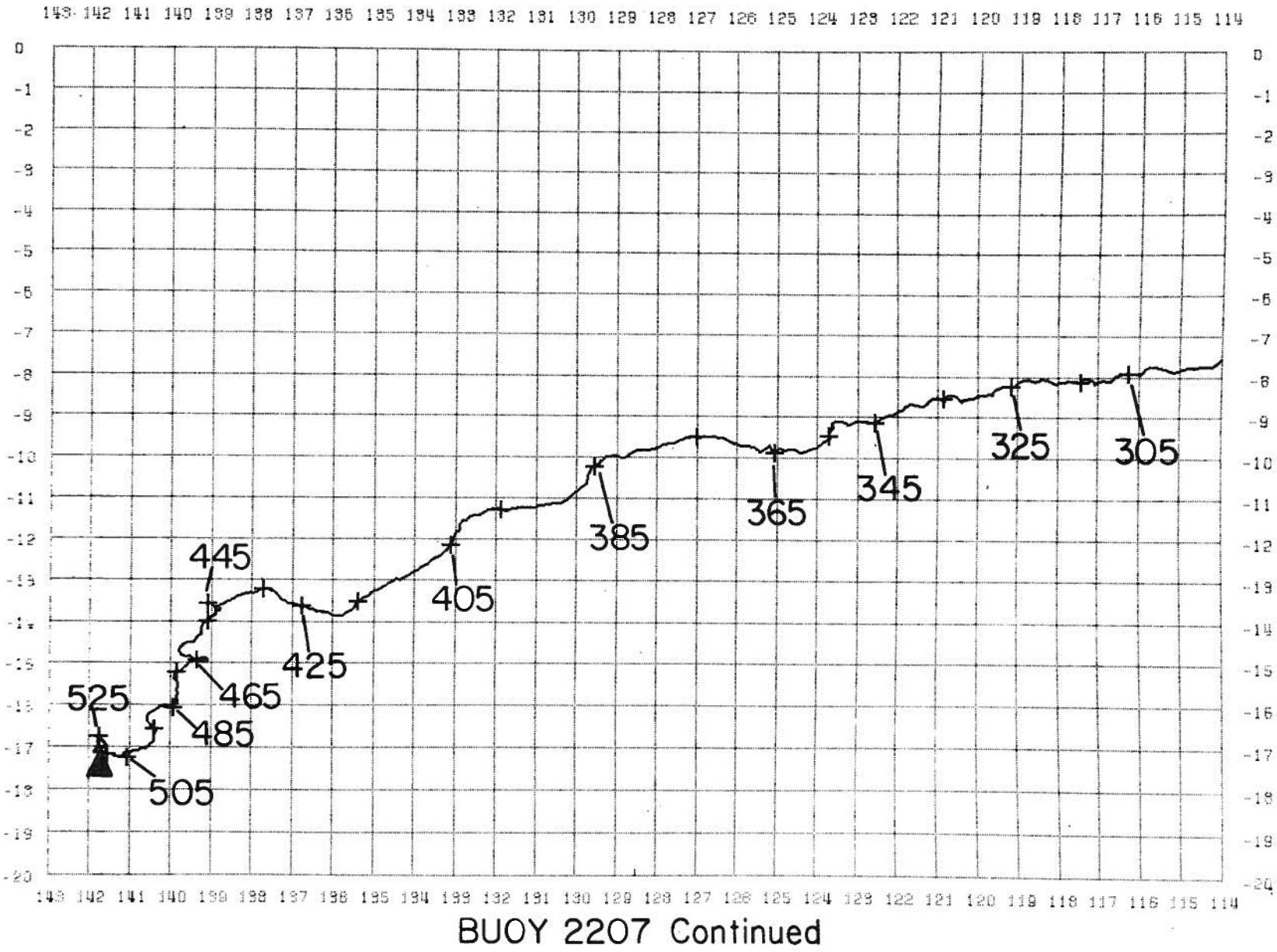


Figure 13. (Continued).

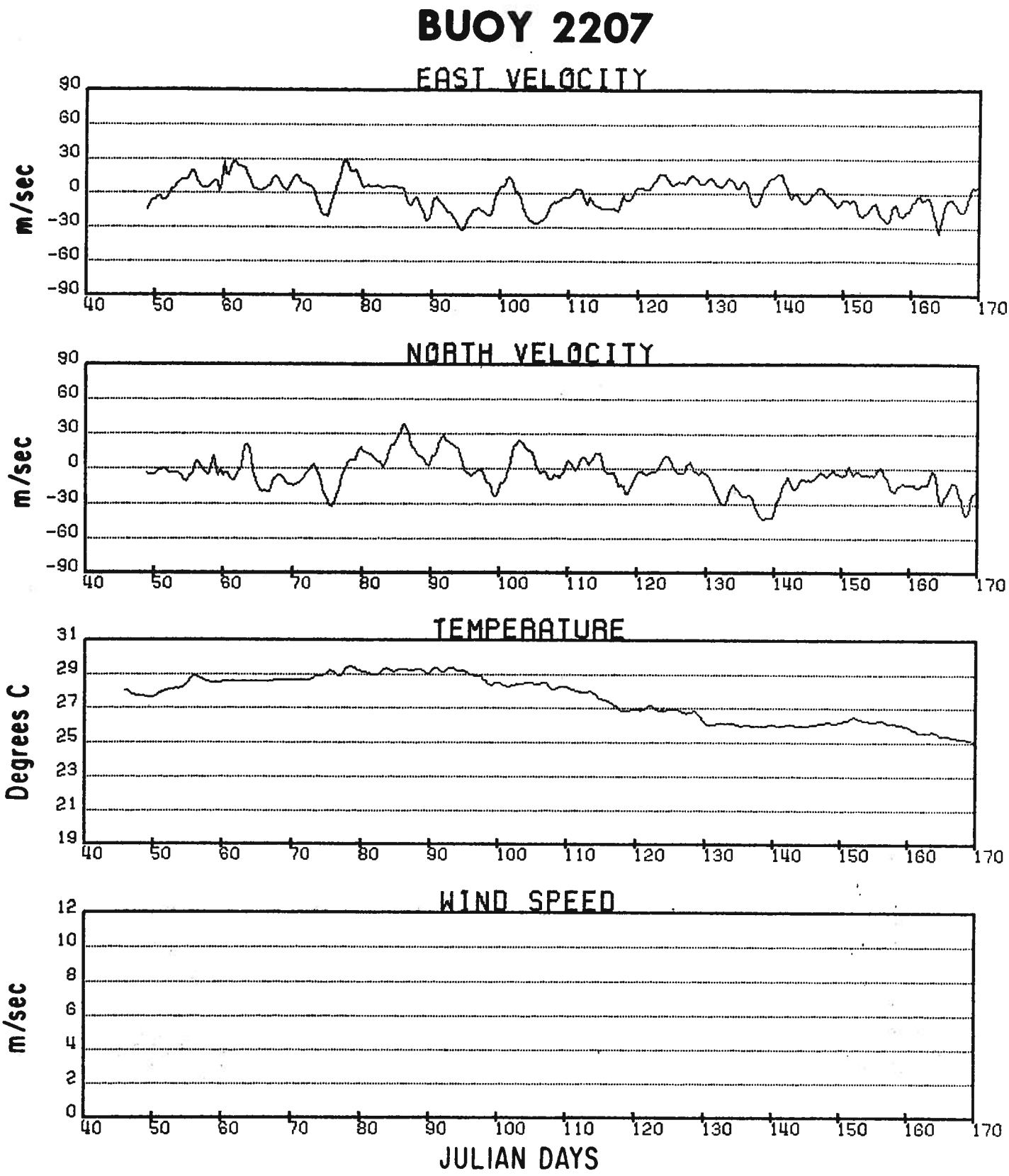


Figure 14. Time series of velocity and sensor data for drifting buoy 2207.

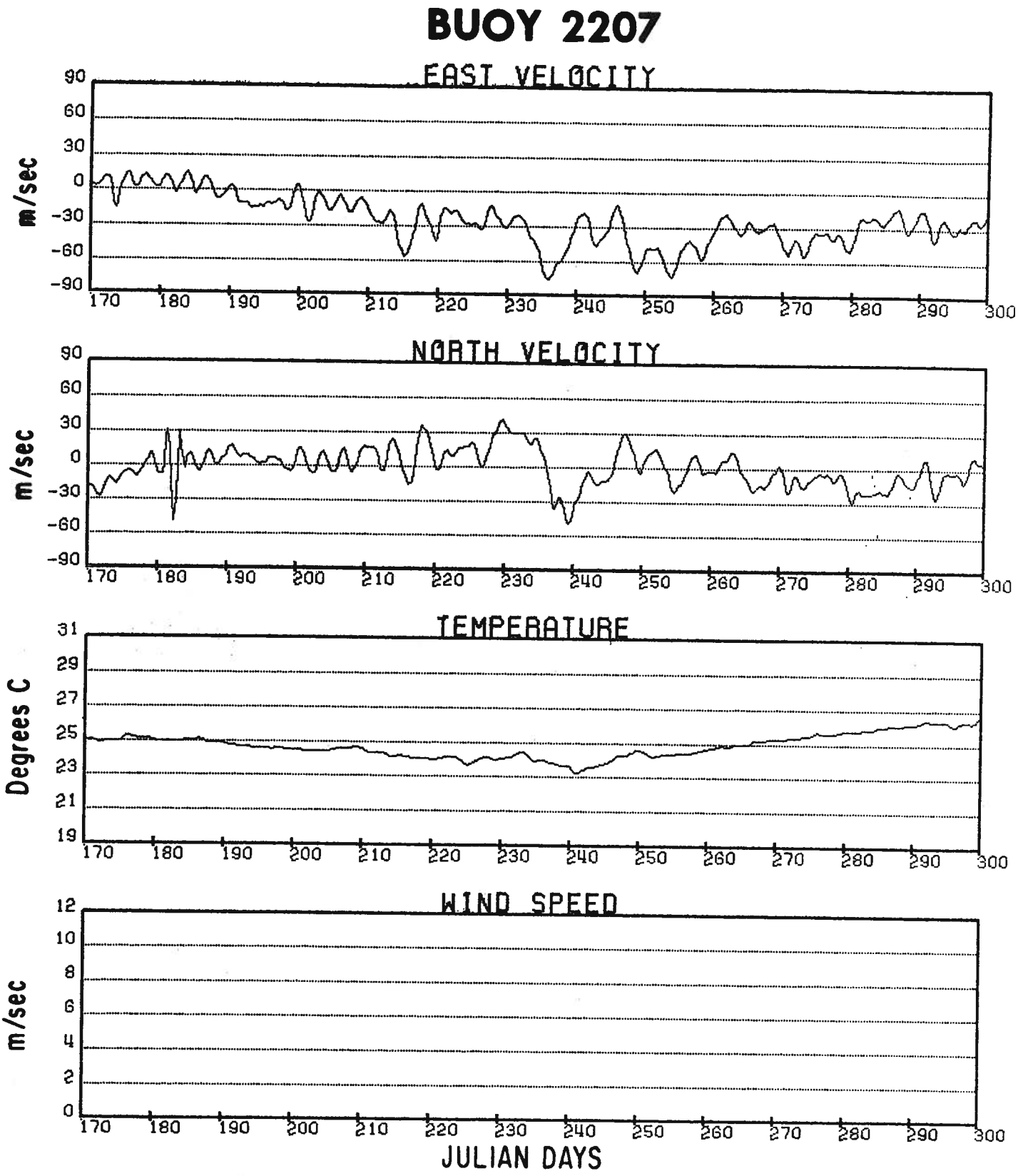


Figure 14. (Continued).

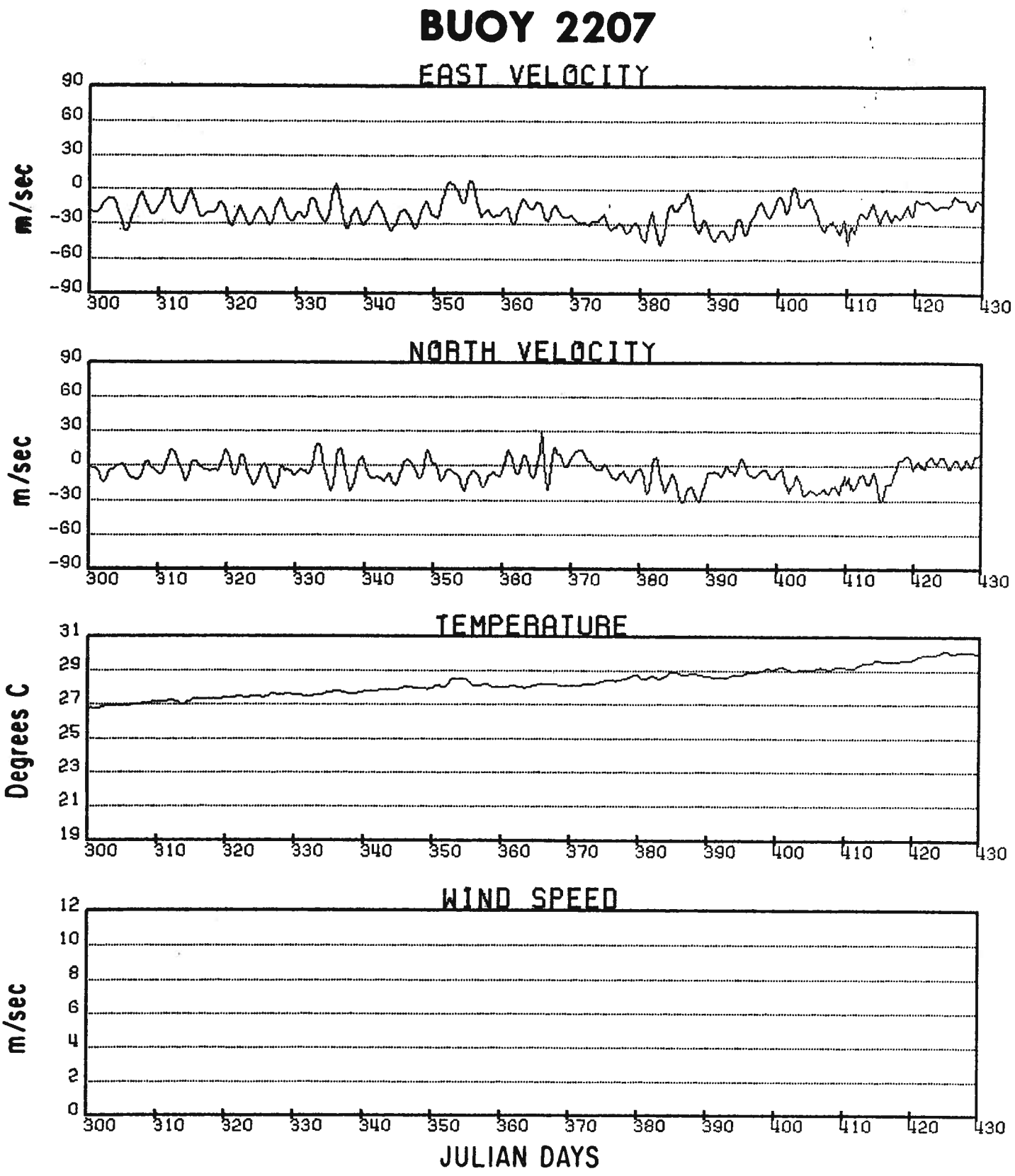


Figure 14. (Continued).

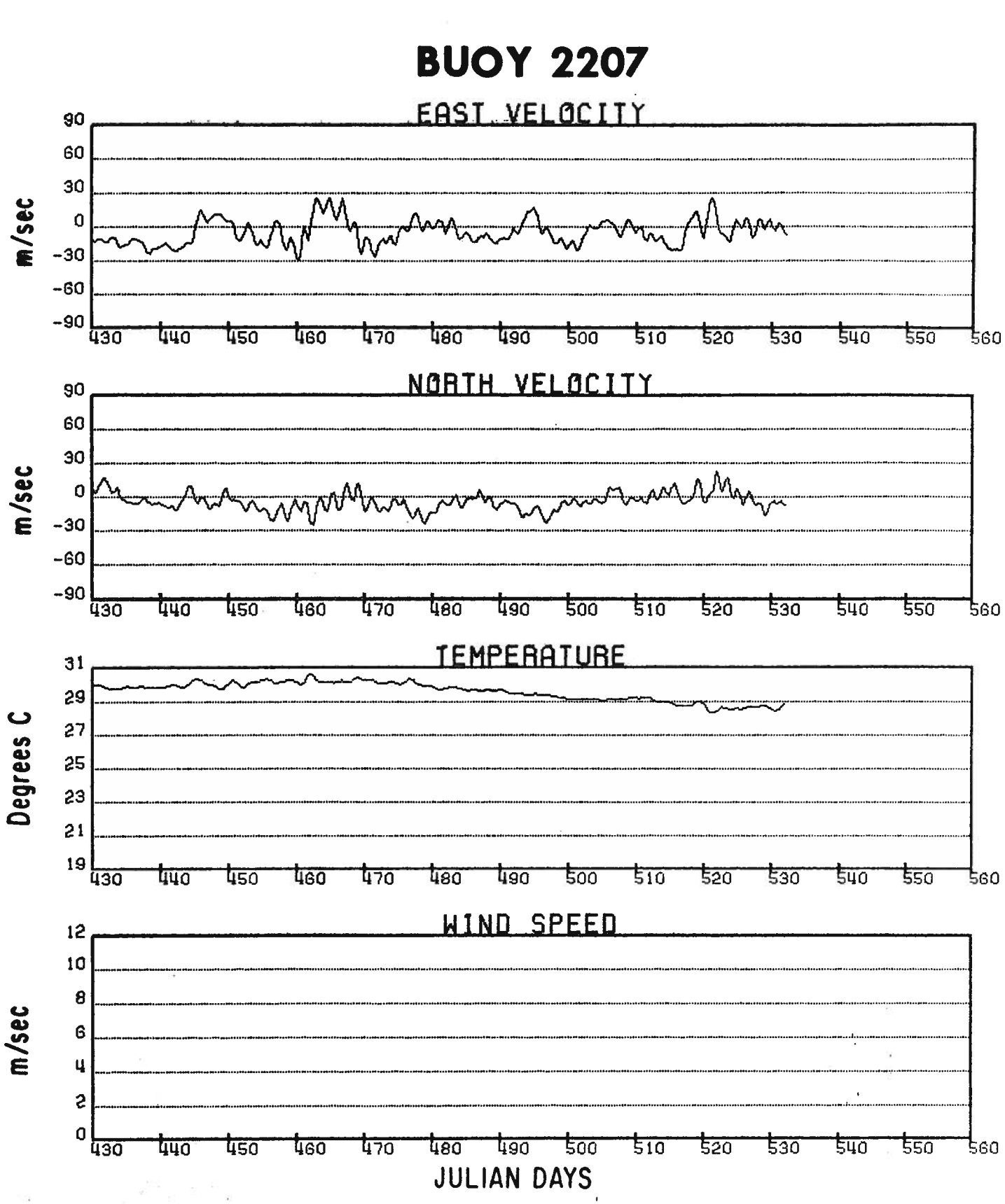


Figure 14. (Continued).

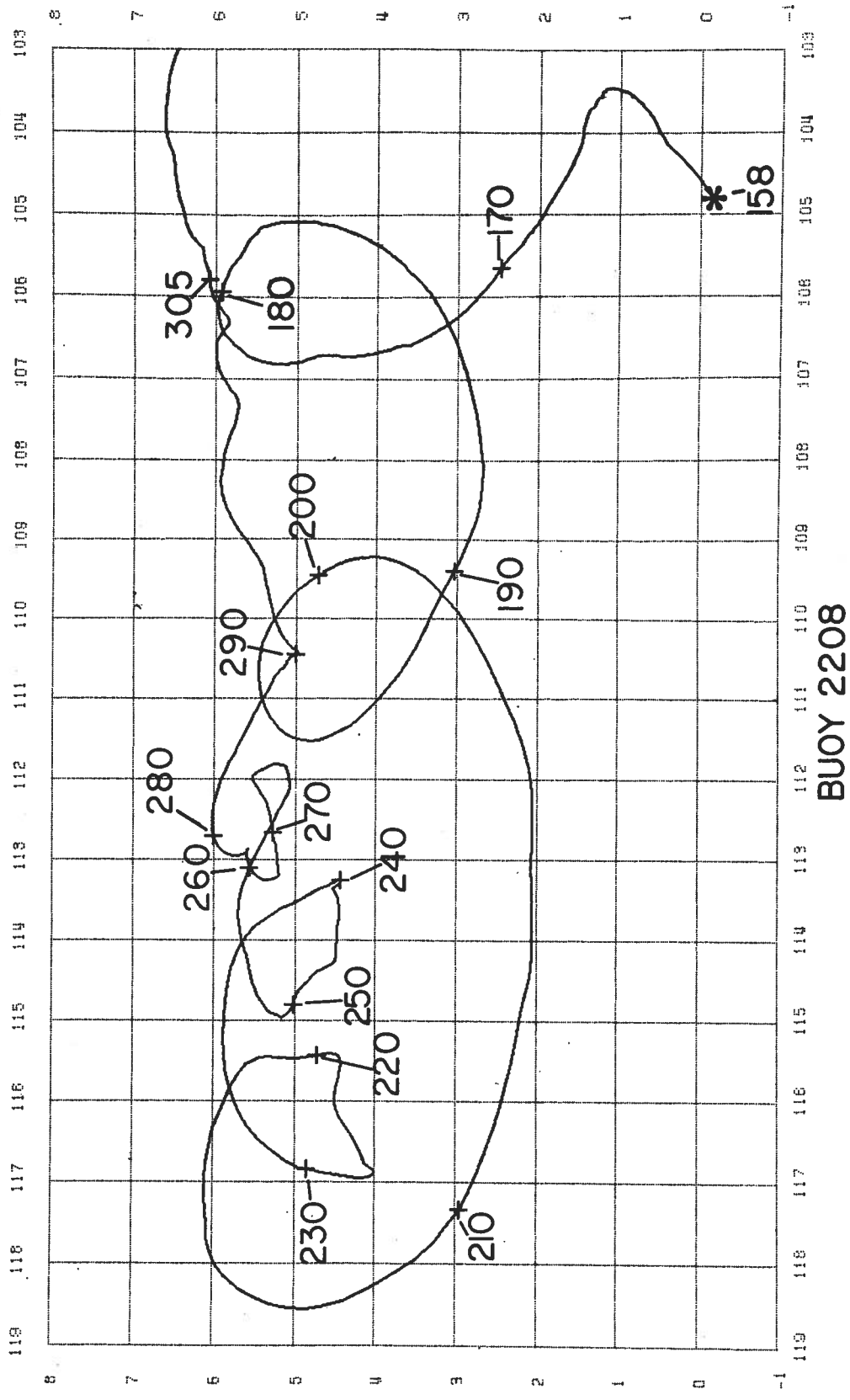
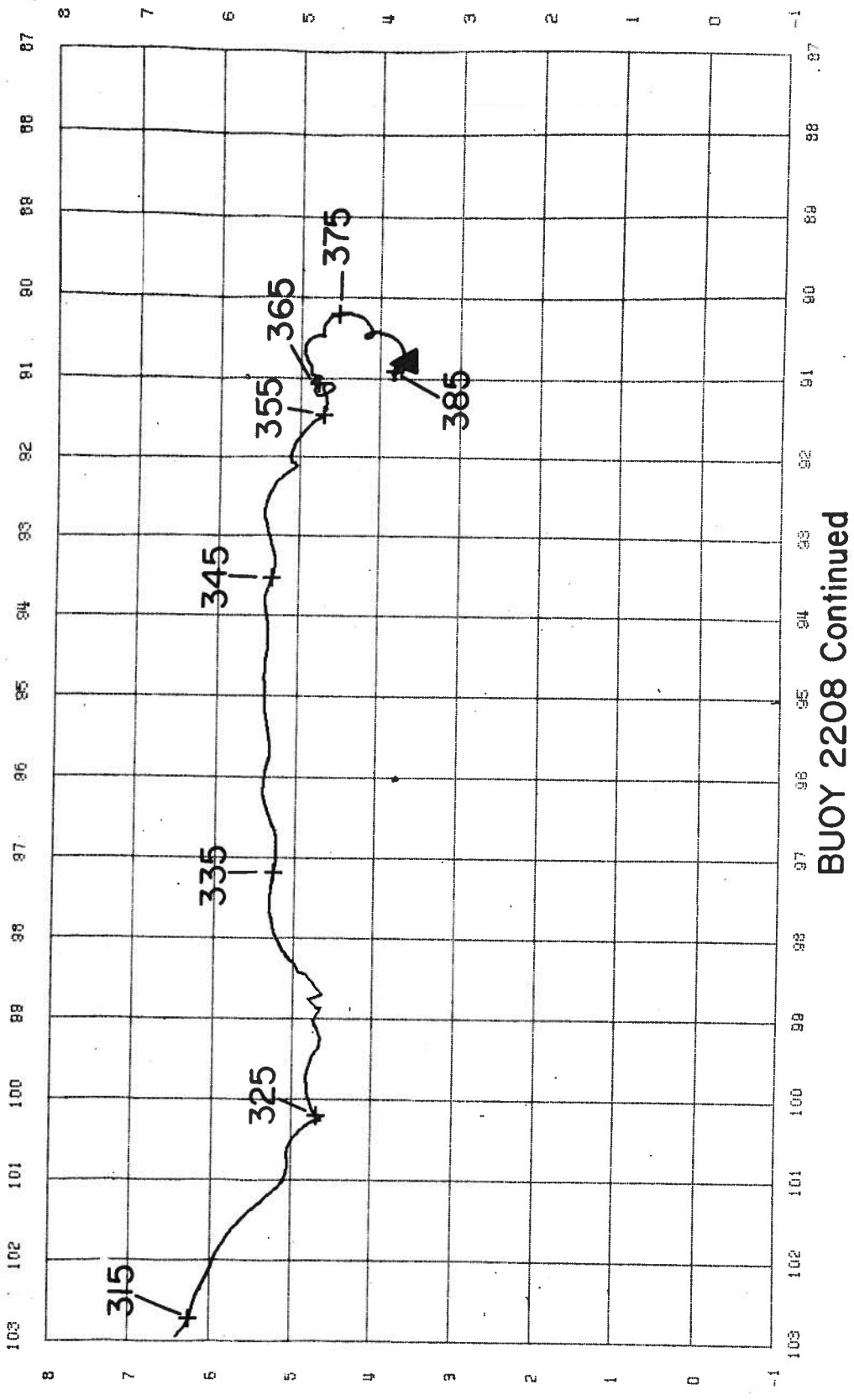


Figure 15. Trajectory of drifting buoy 2208.



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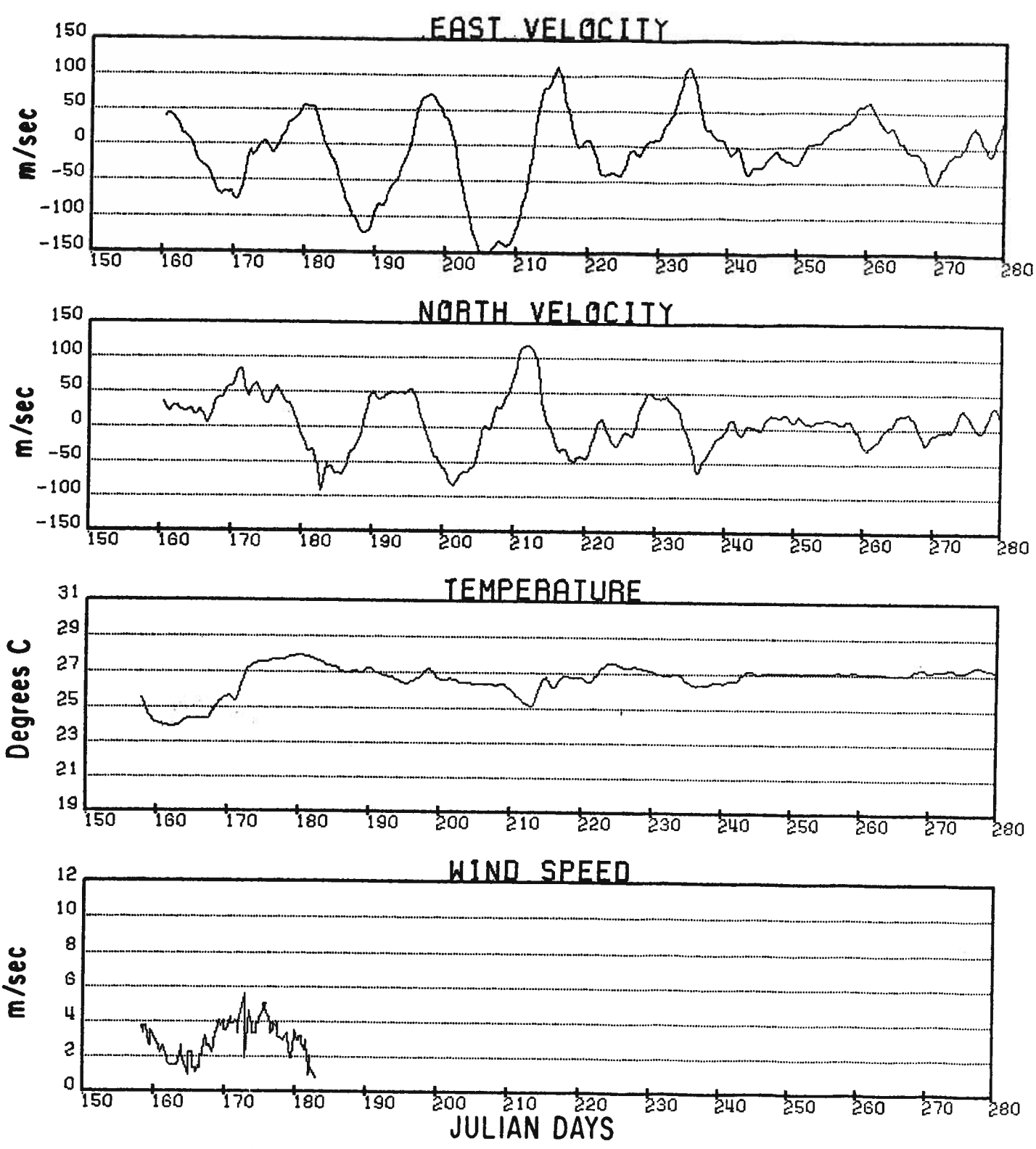
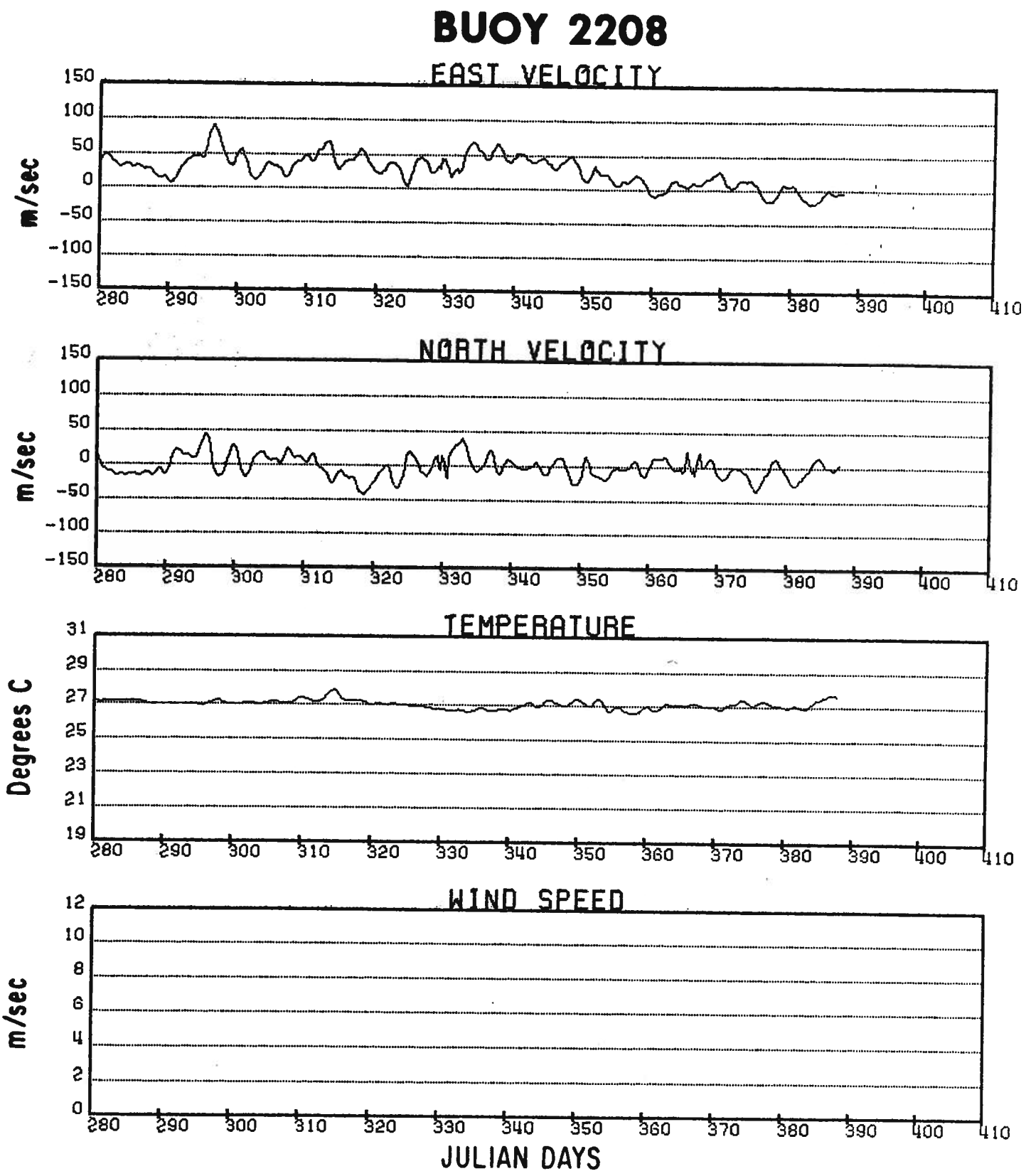


Figure 16. Time series of velocity and sensor data for drifting buoy 2208.



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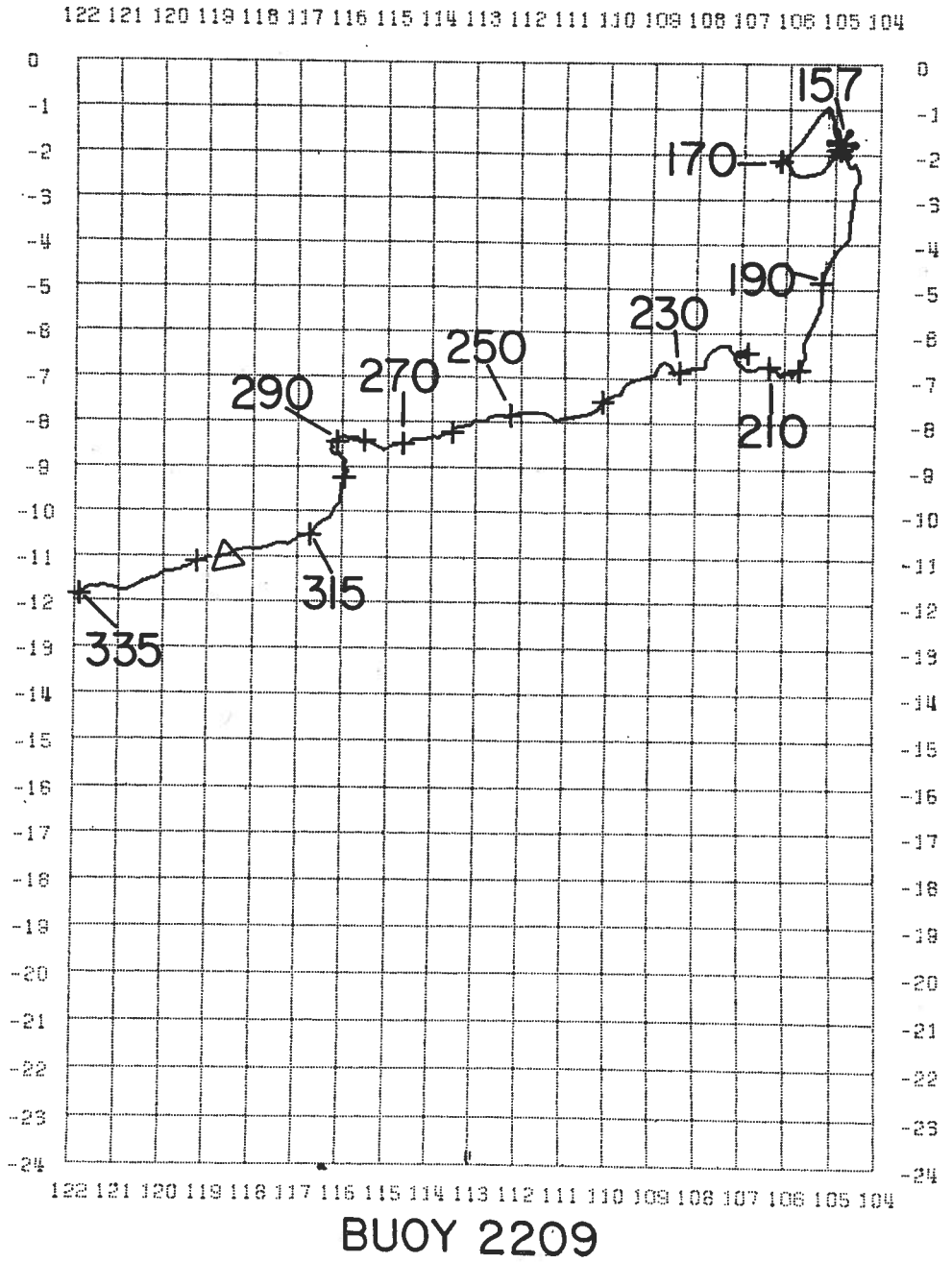


Figure 17. Trajectory of drifting buoy 2209.

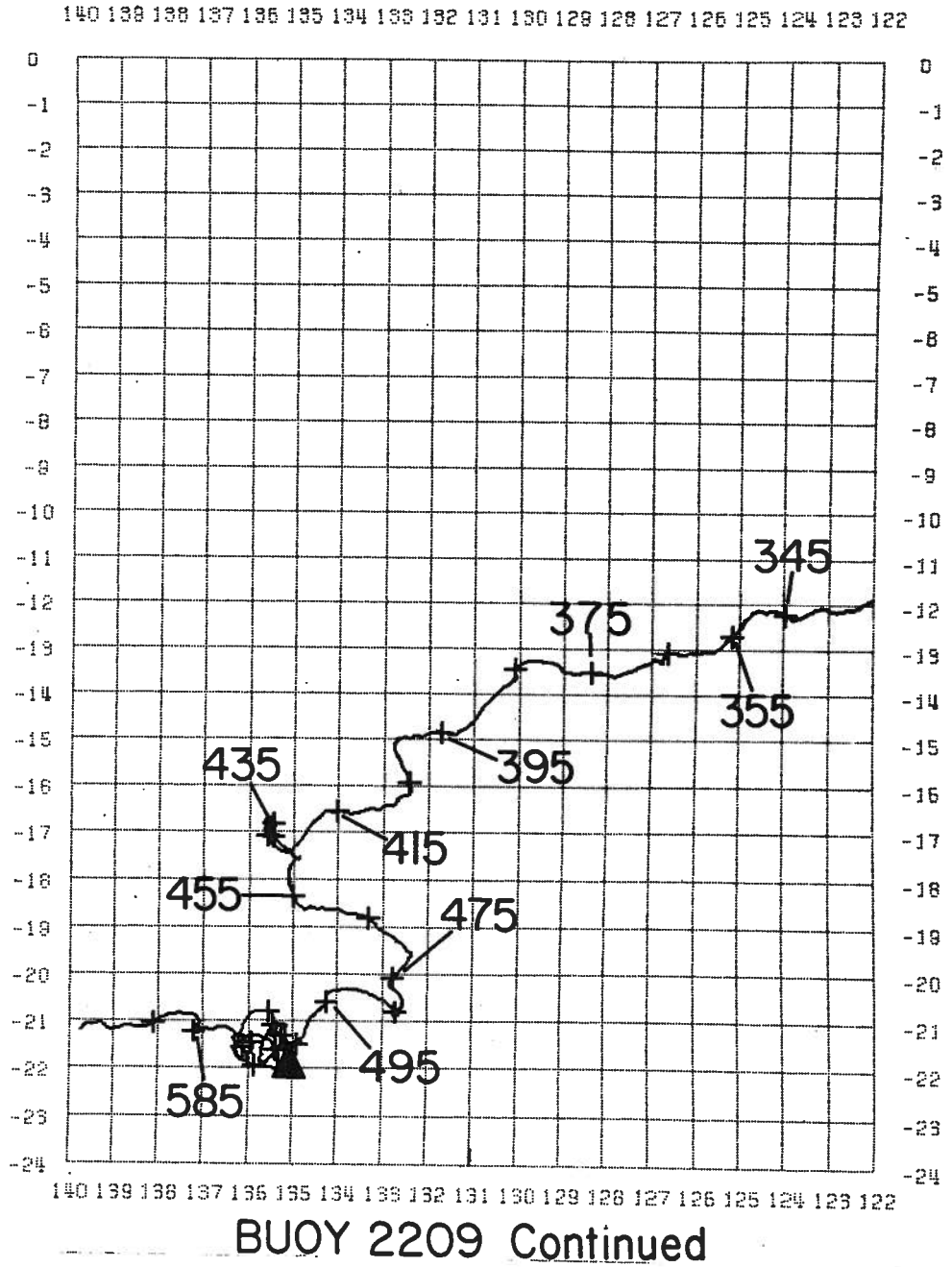


Figure 17. (Continued).

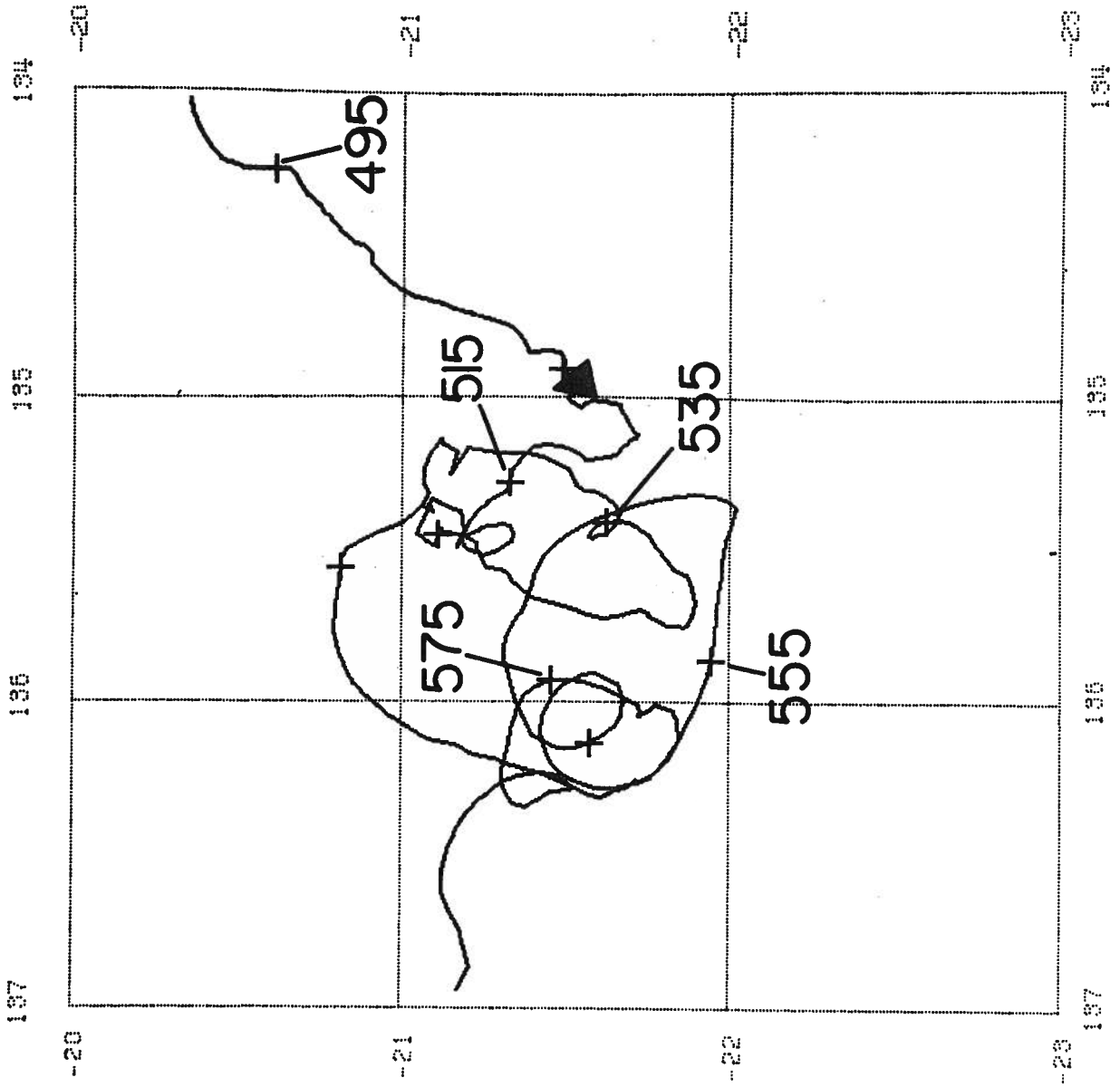


Figure 18. Trajectory detail for drifting buoy 2209.

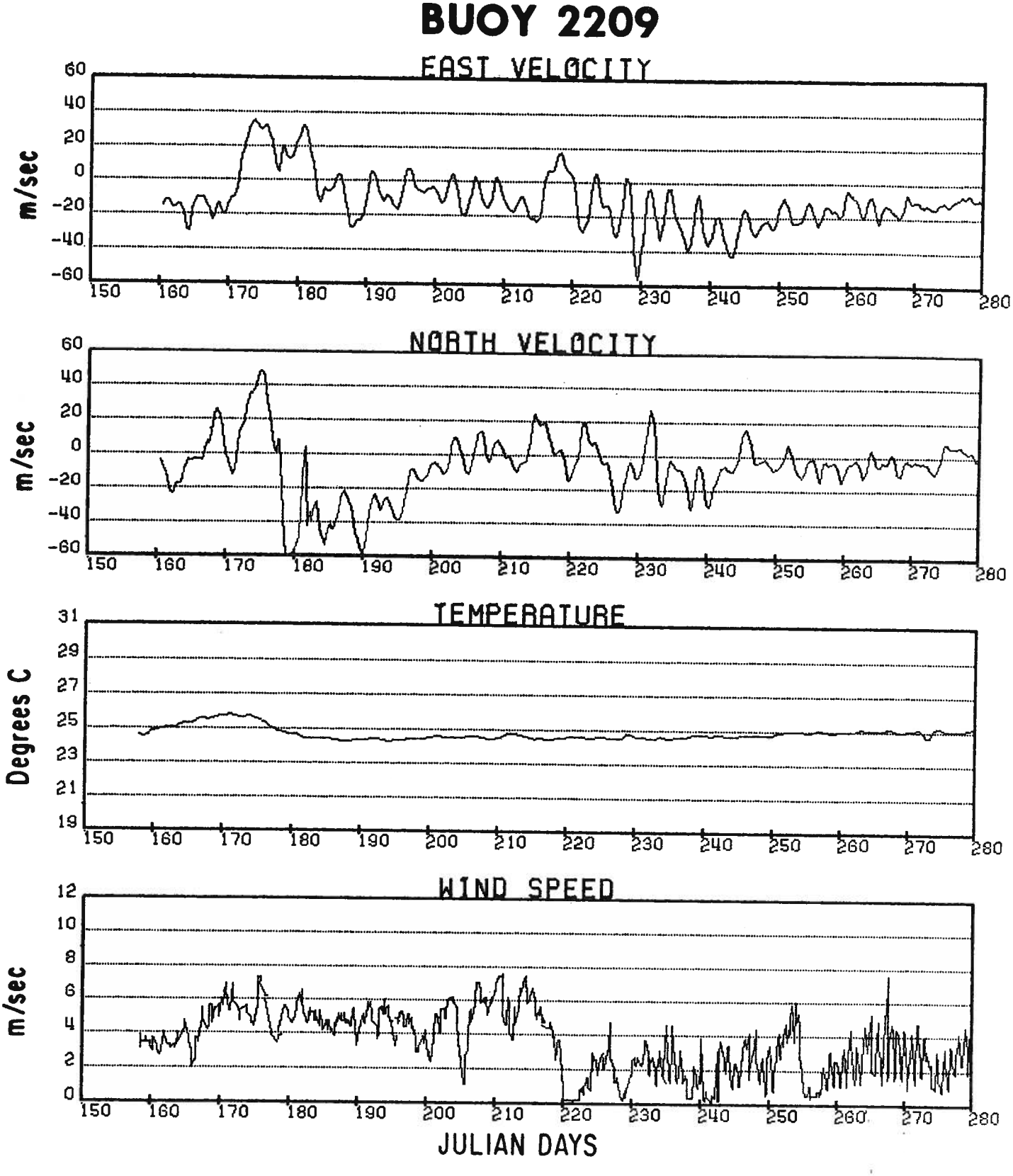


Figure 19. Time series of velocity and sensor data for drifting buoy 2209.

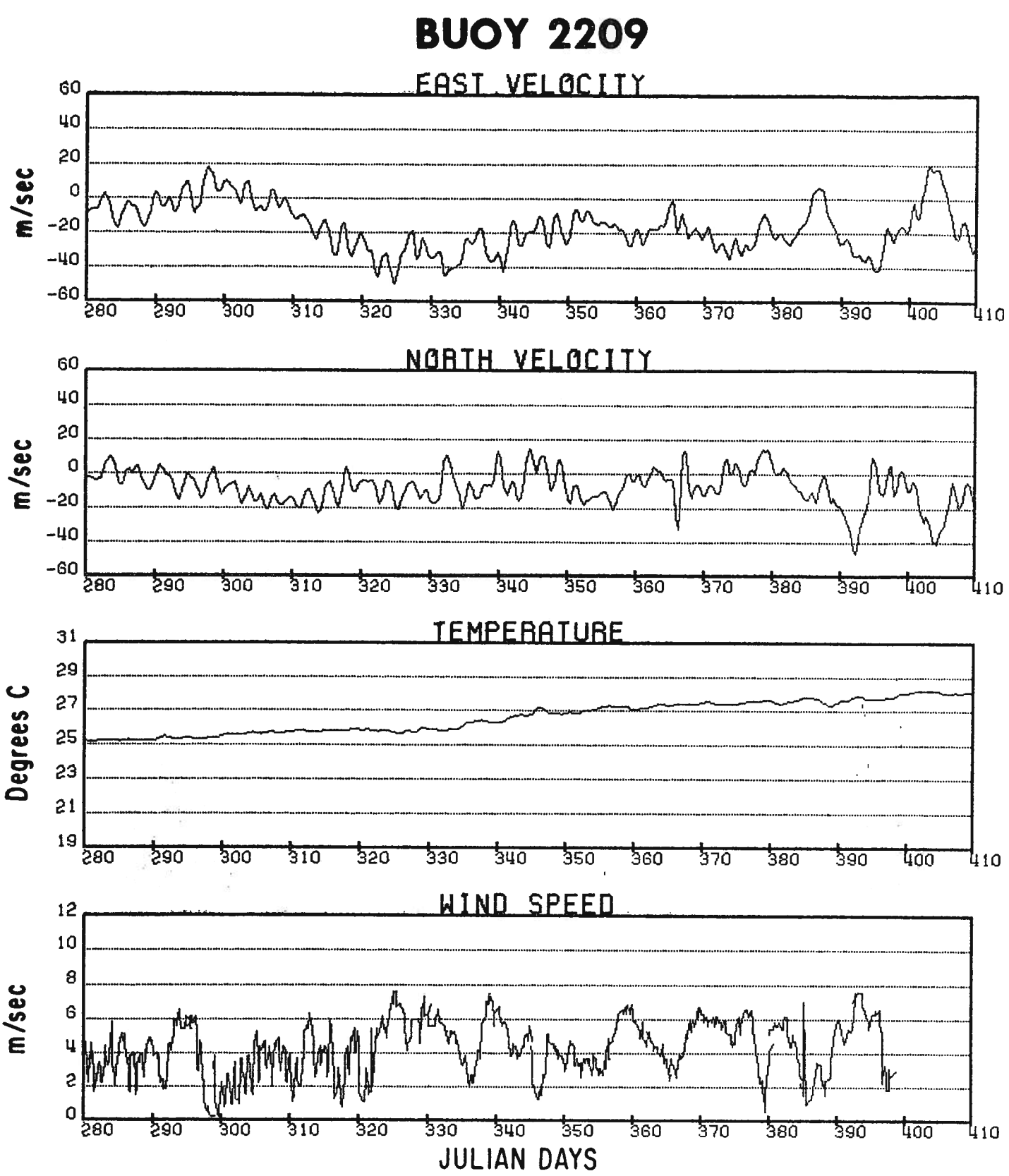


Figure 19. (Continued).

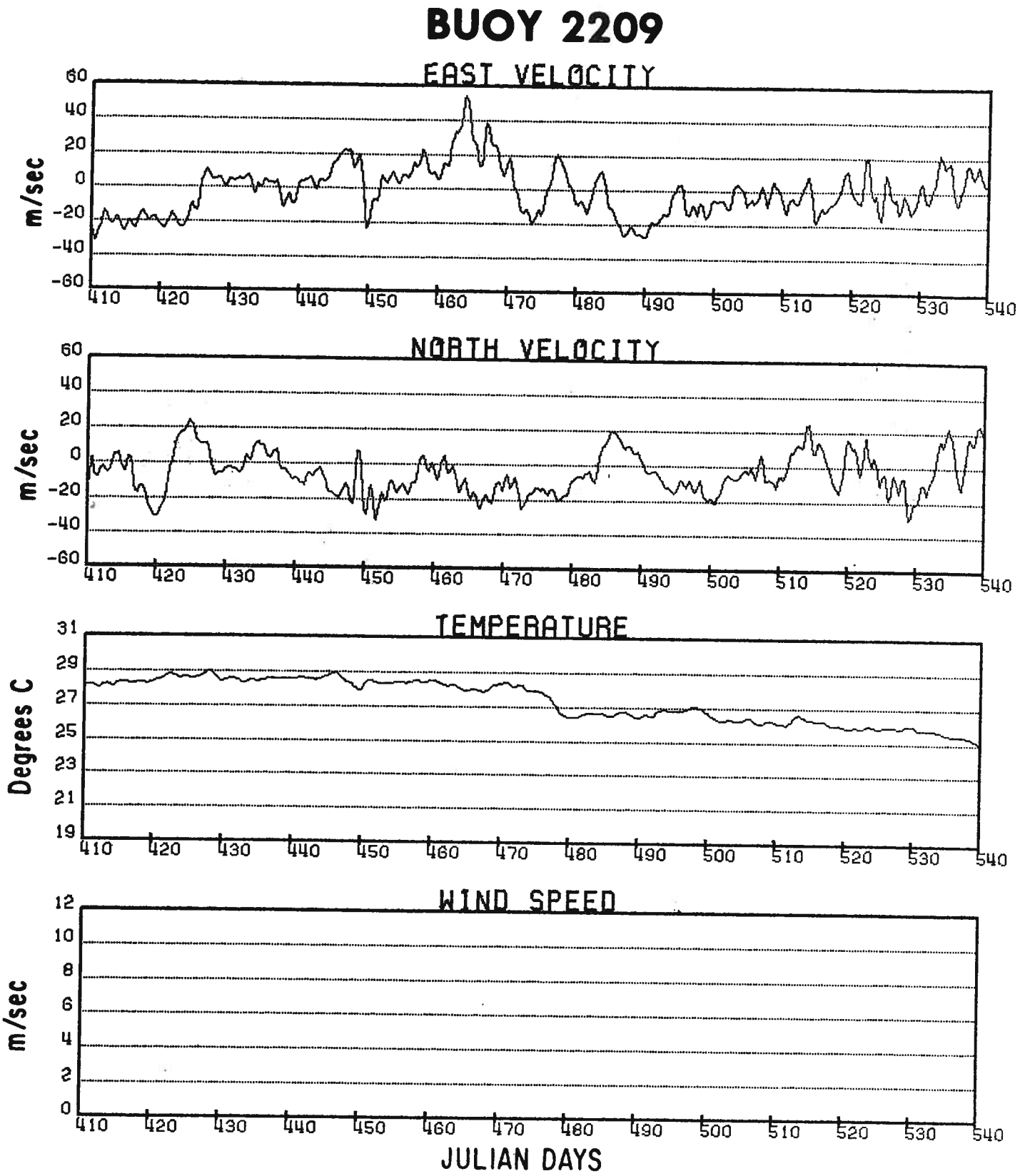


Figure 19. (Continued).

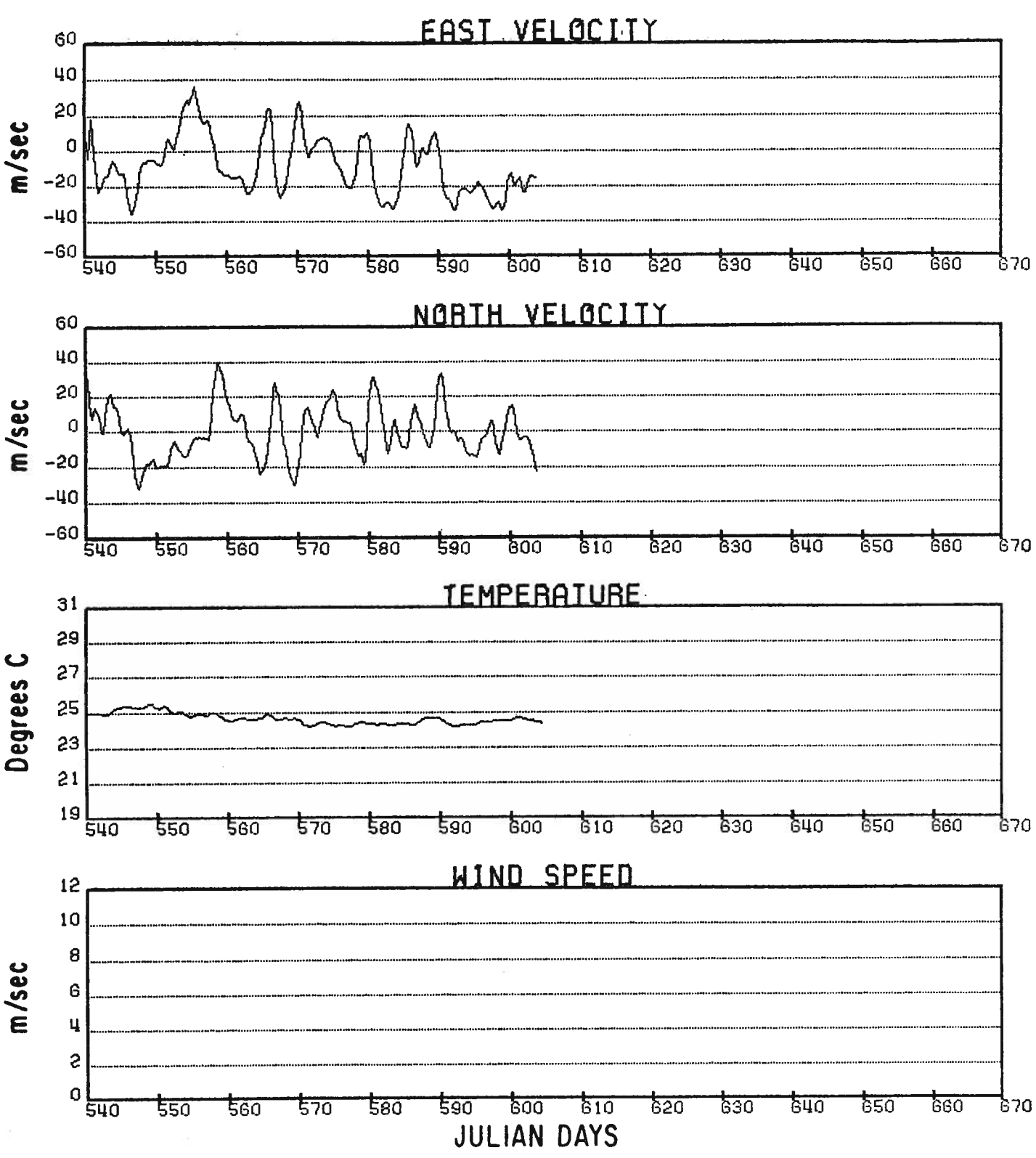


Figure 19. (Continued).

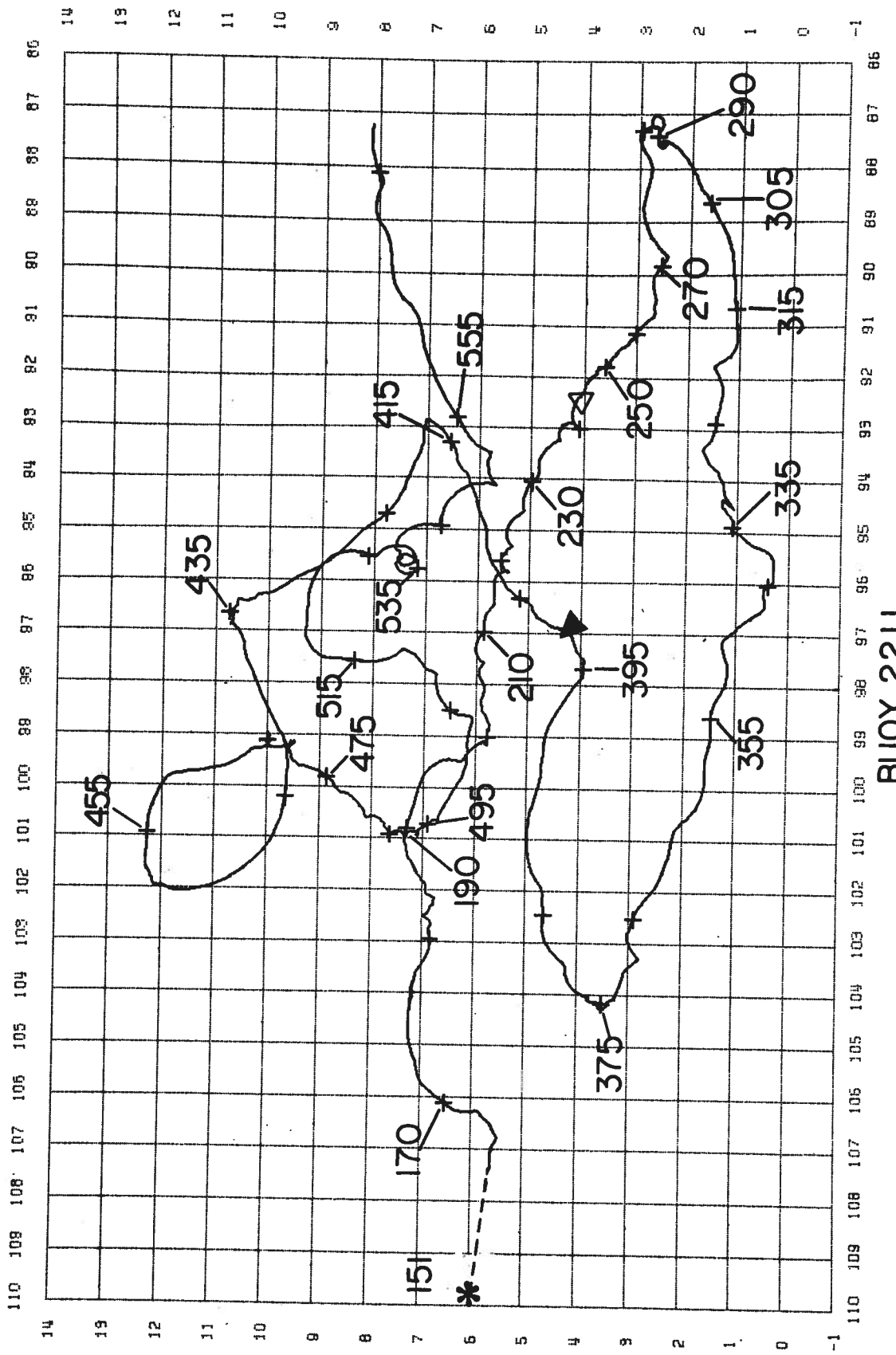


Figure 20. Trajectory of drifting buoy 2211.

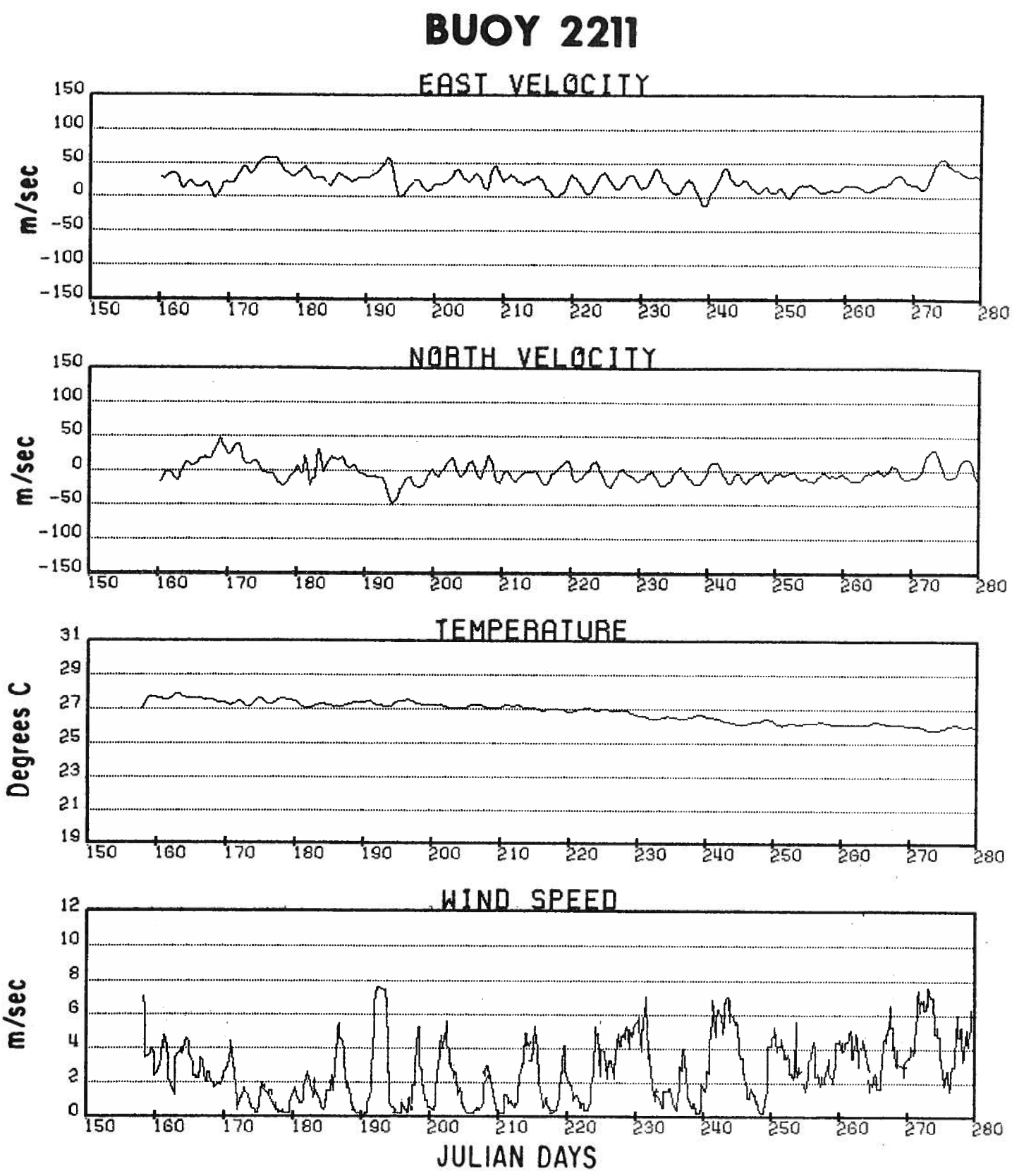


Figure 21. Time series of velocity and sensor data for drifting buoy 2211.

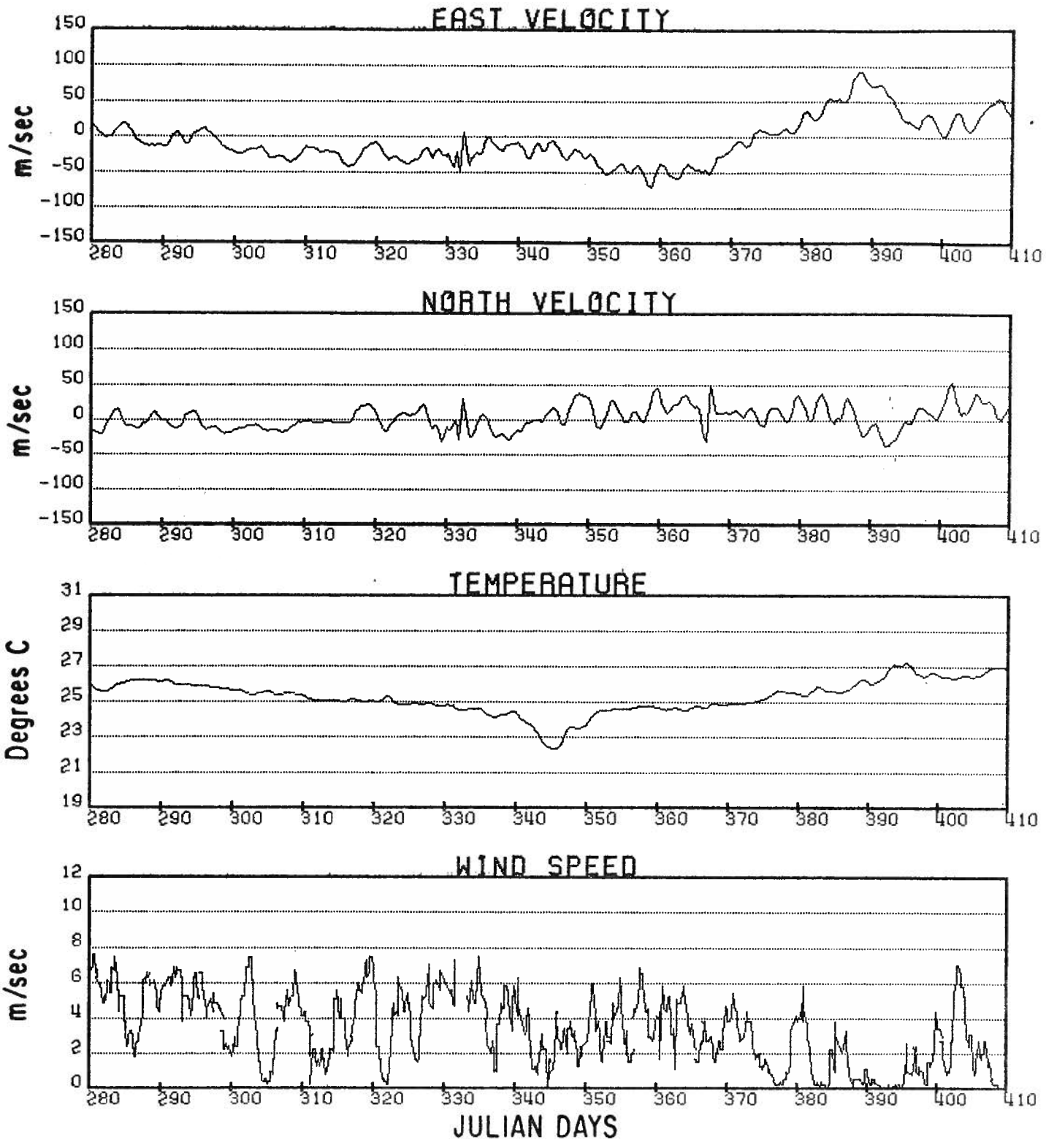
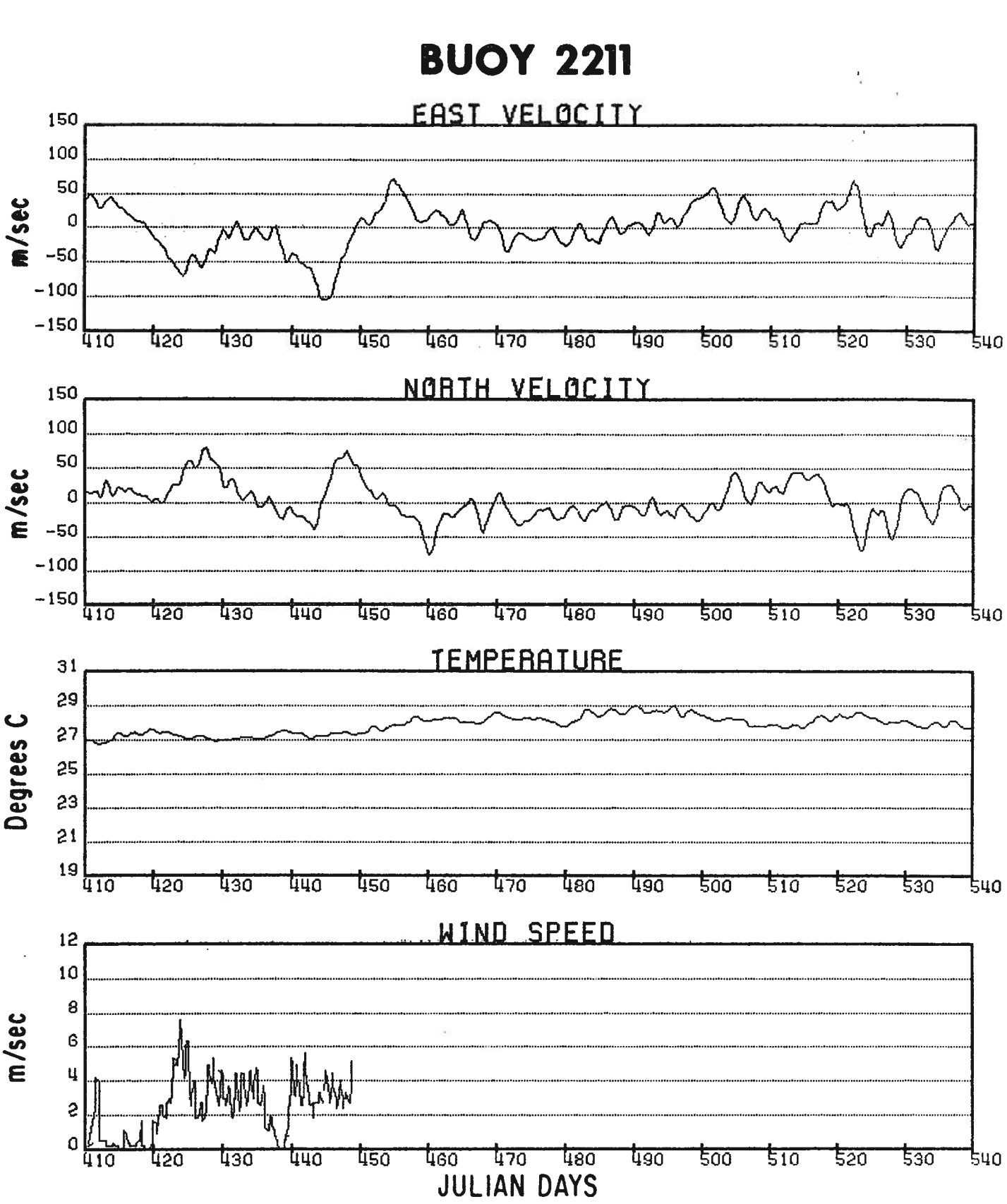


Figure 21. (Continued).



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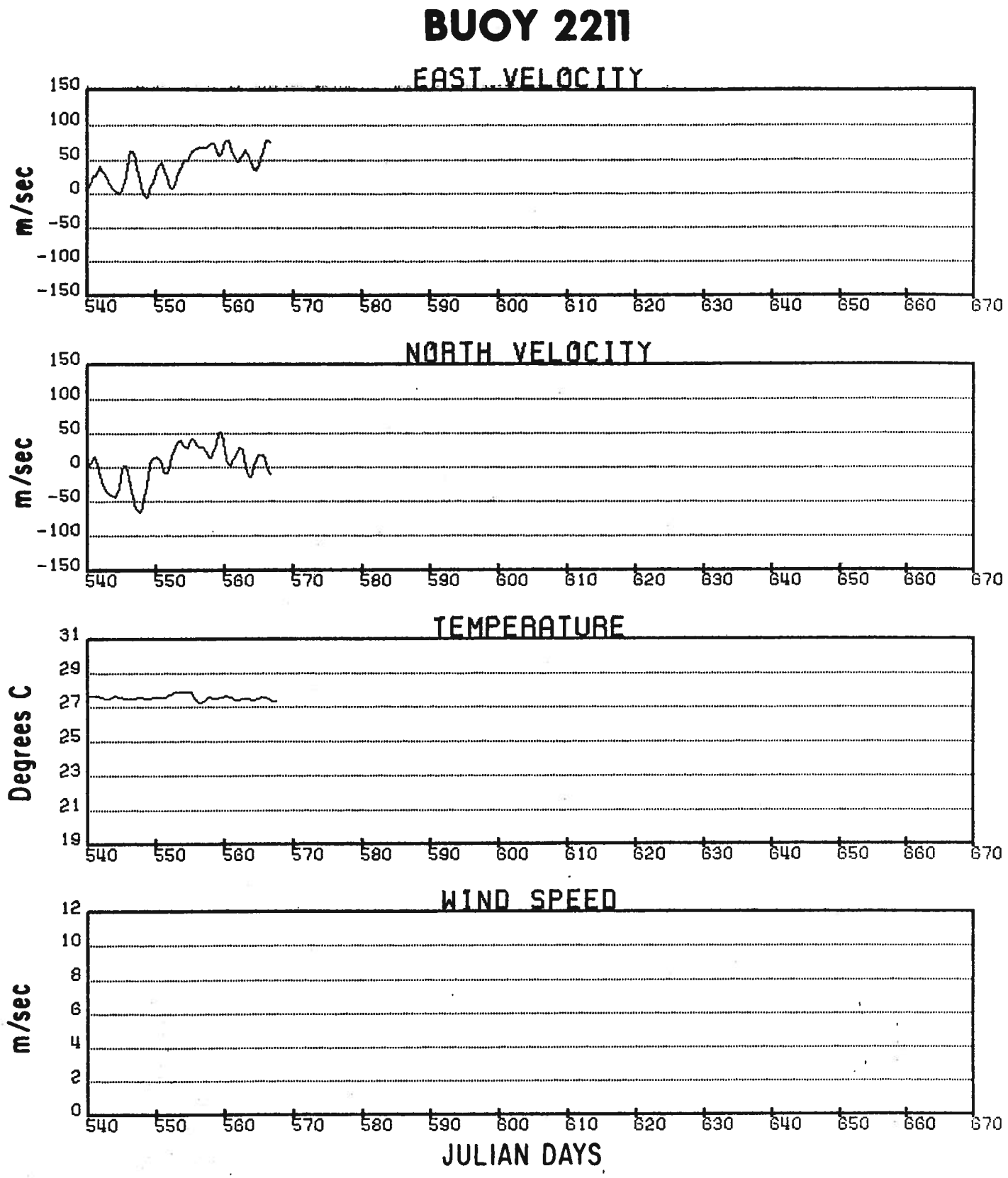


Figure 21. (Continued).

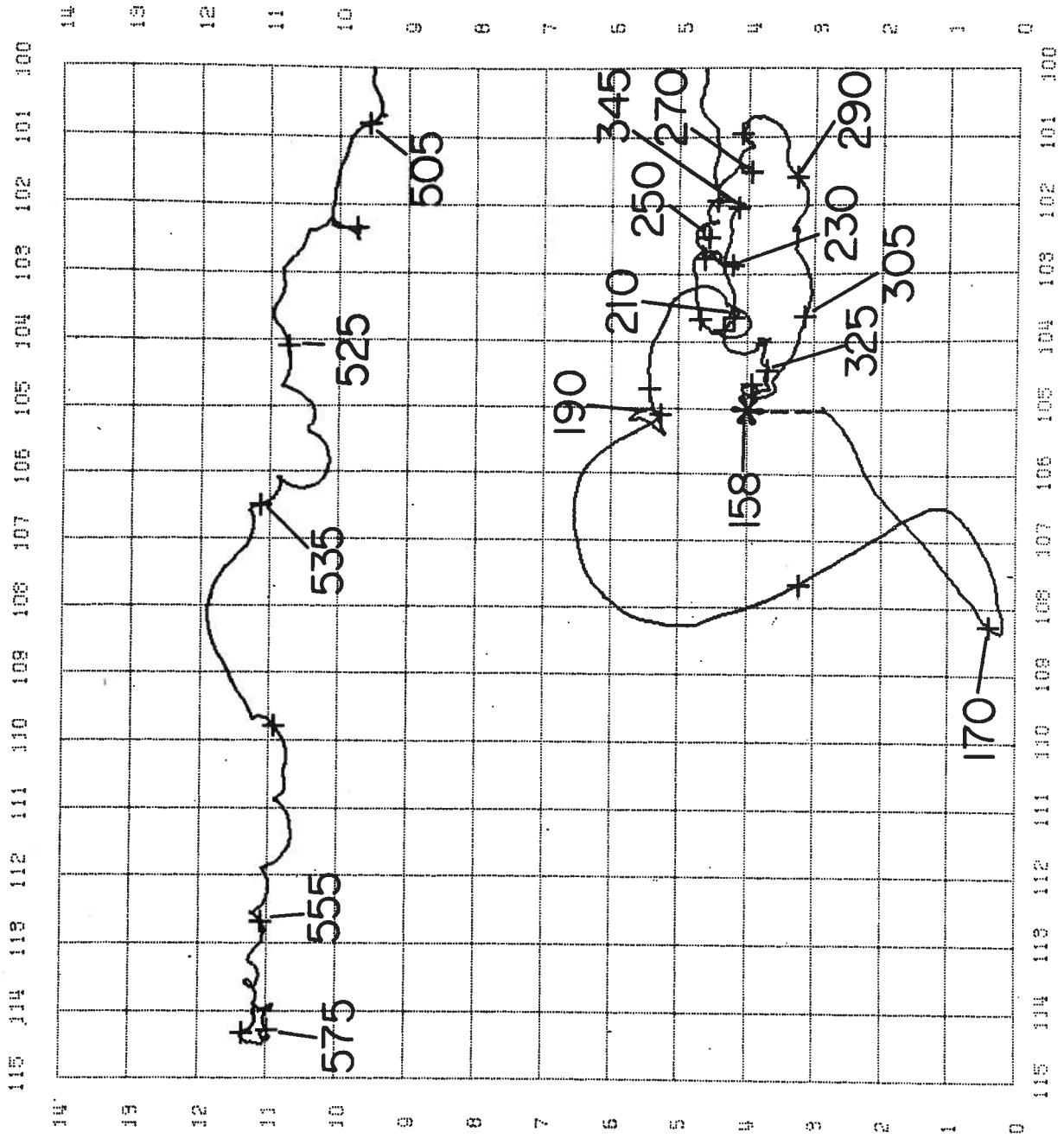


Figure 22. Trajectory of drifting buoy 2212.

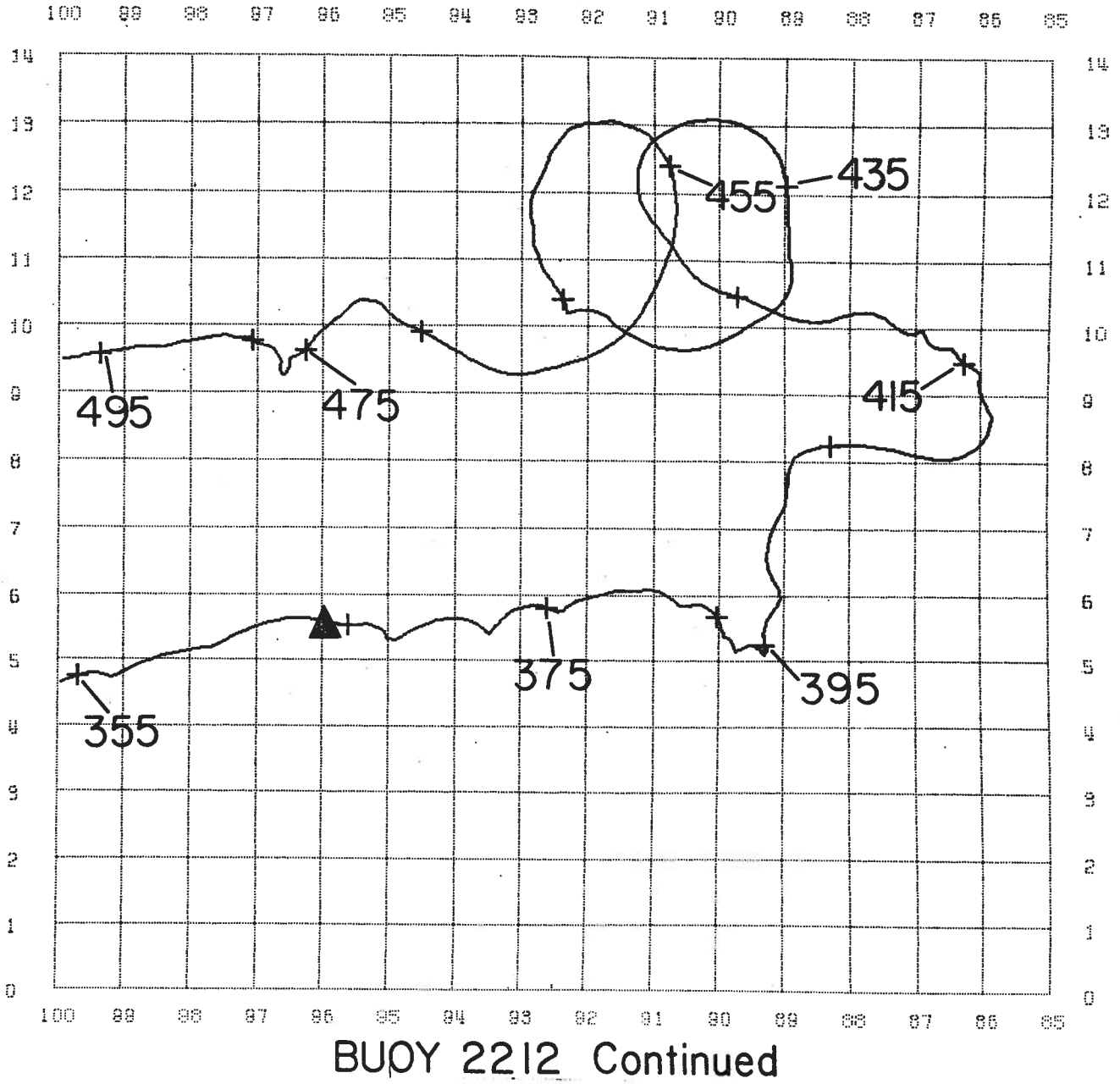


Figure 22. (Continued).

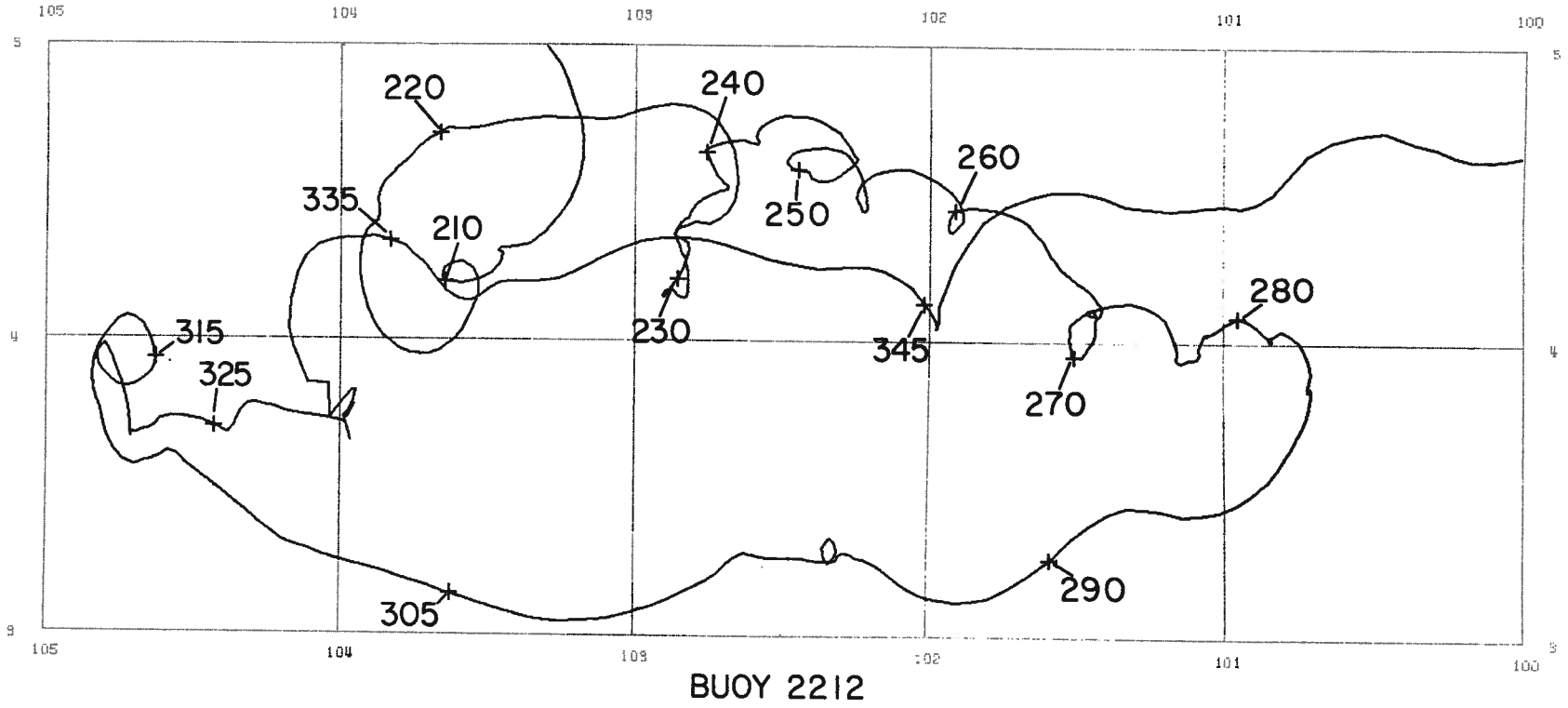


Figure 23. Trajectory detail for drifting buoy 2212.

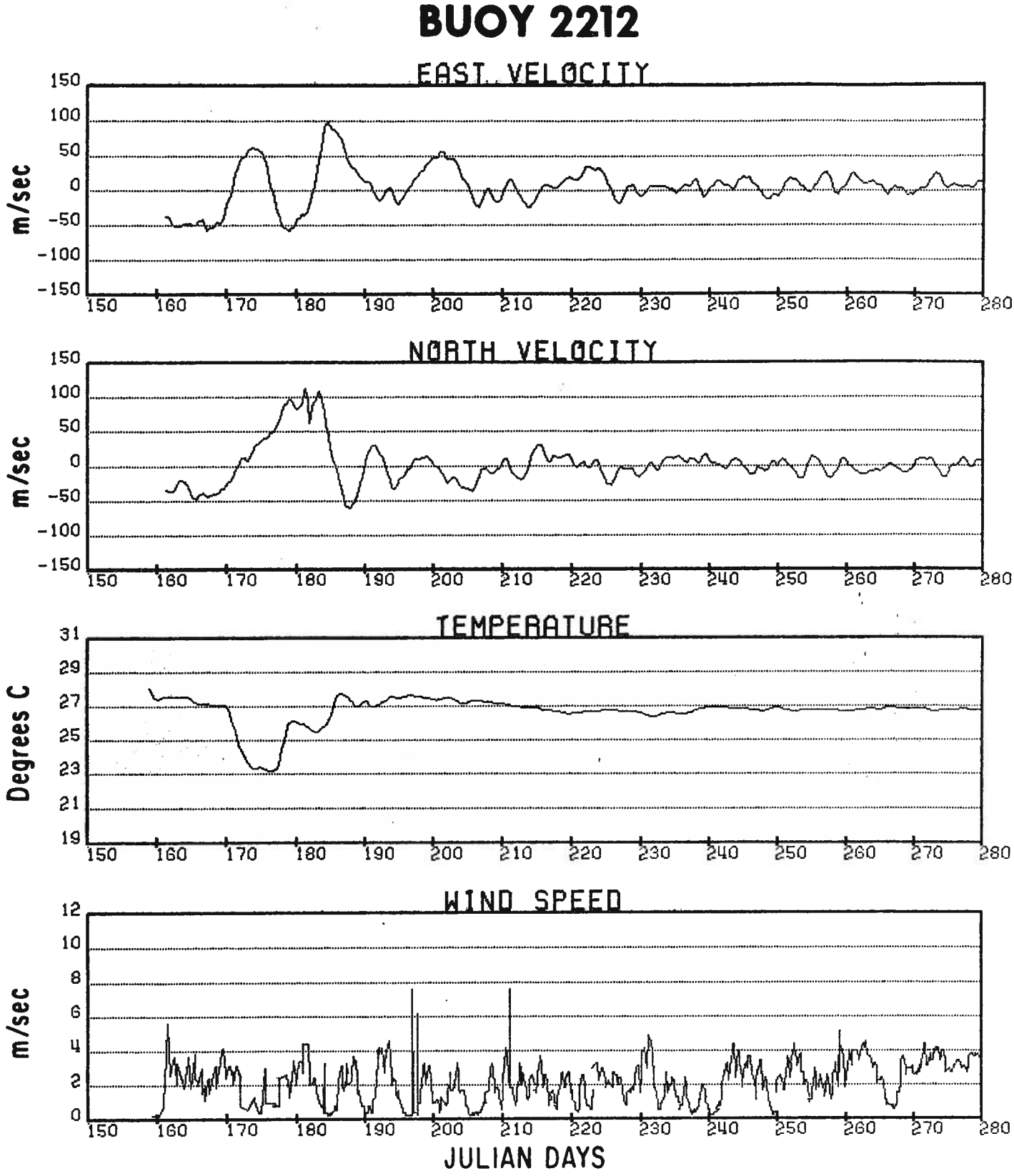


Figure 24. Time series of velocity and sensor data for drifting buoy 2212.

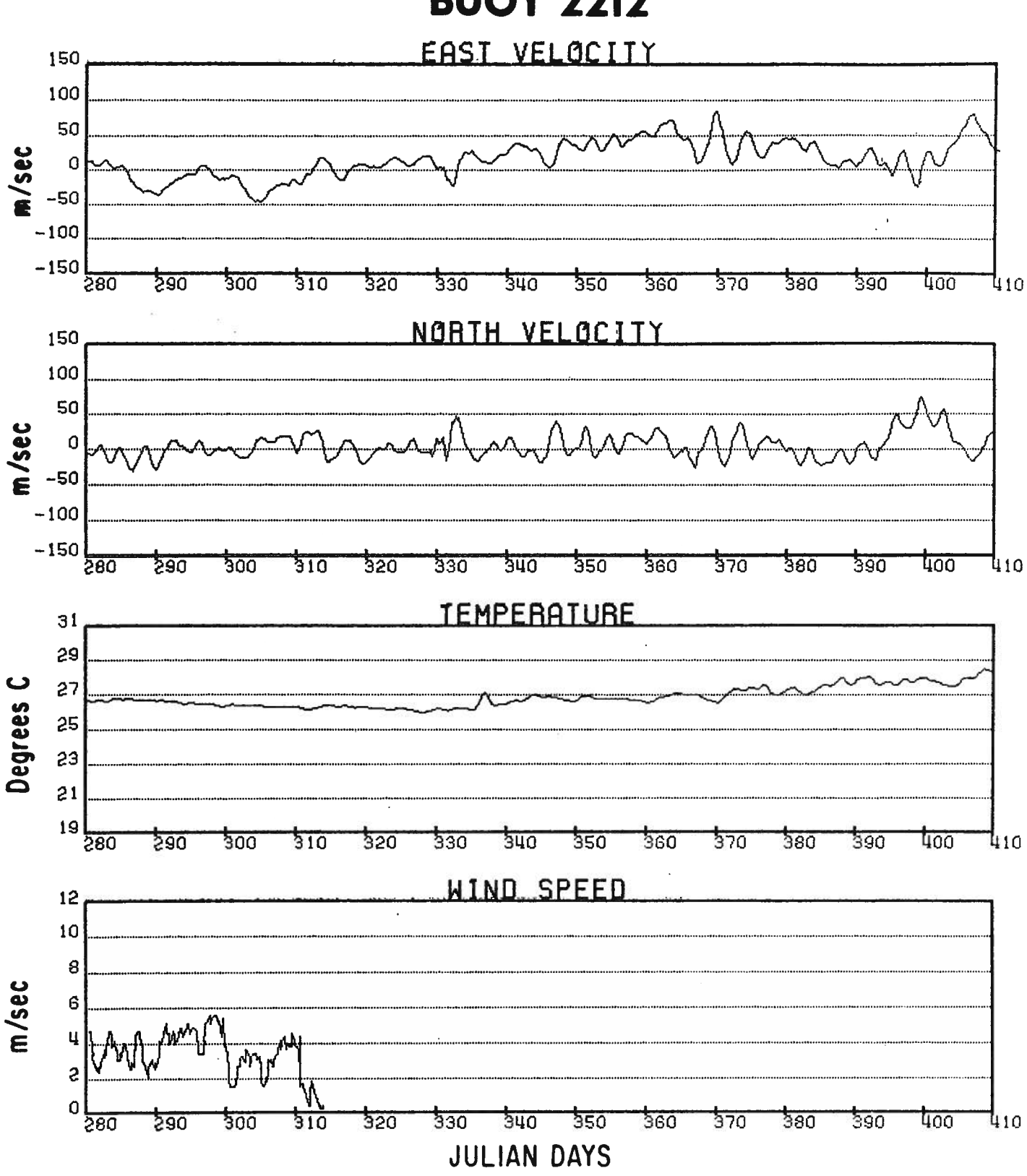
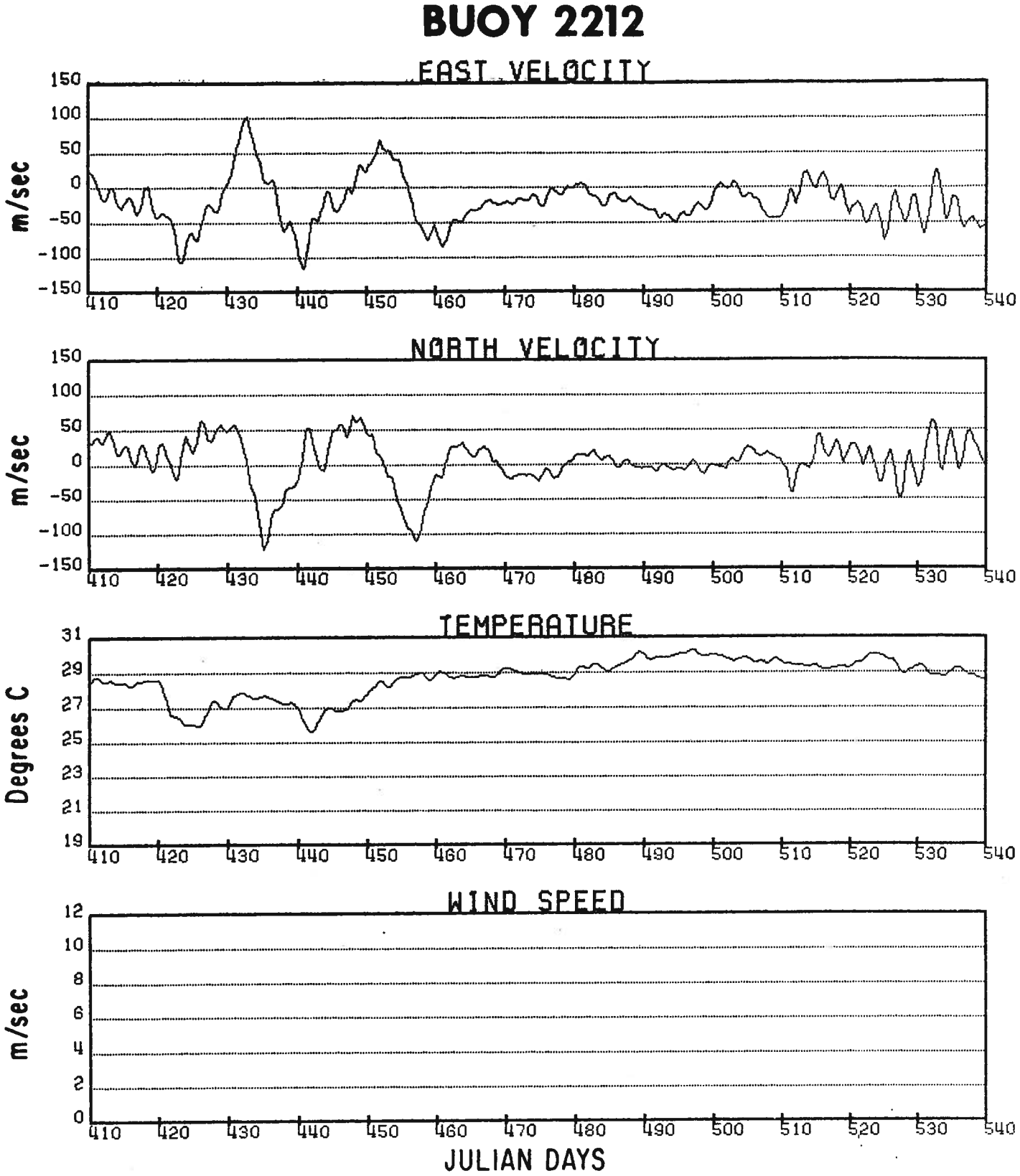


Figure 24. (Continued).



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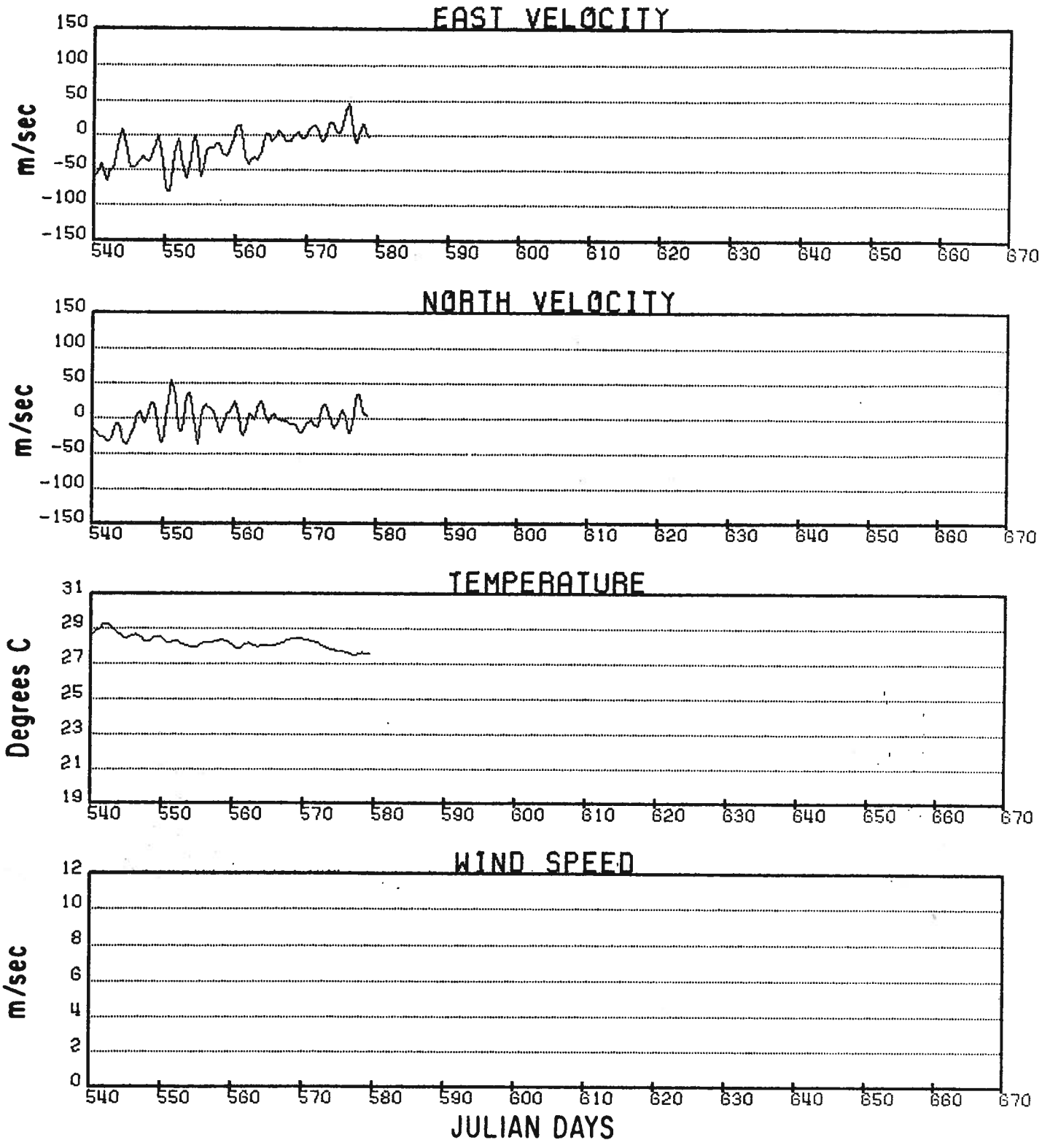


Figure 24. (Continued).

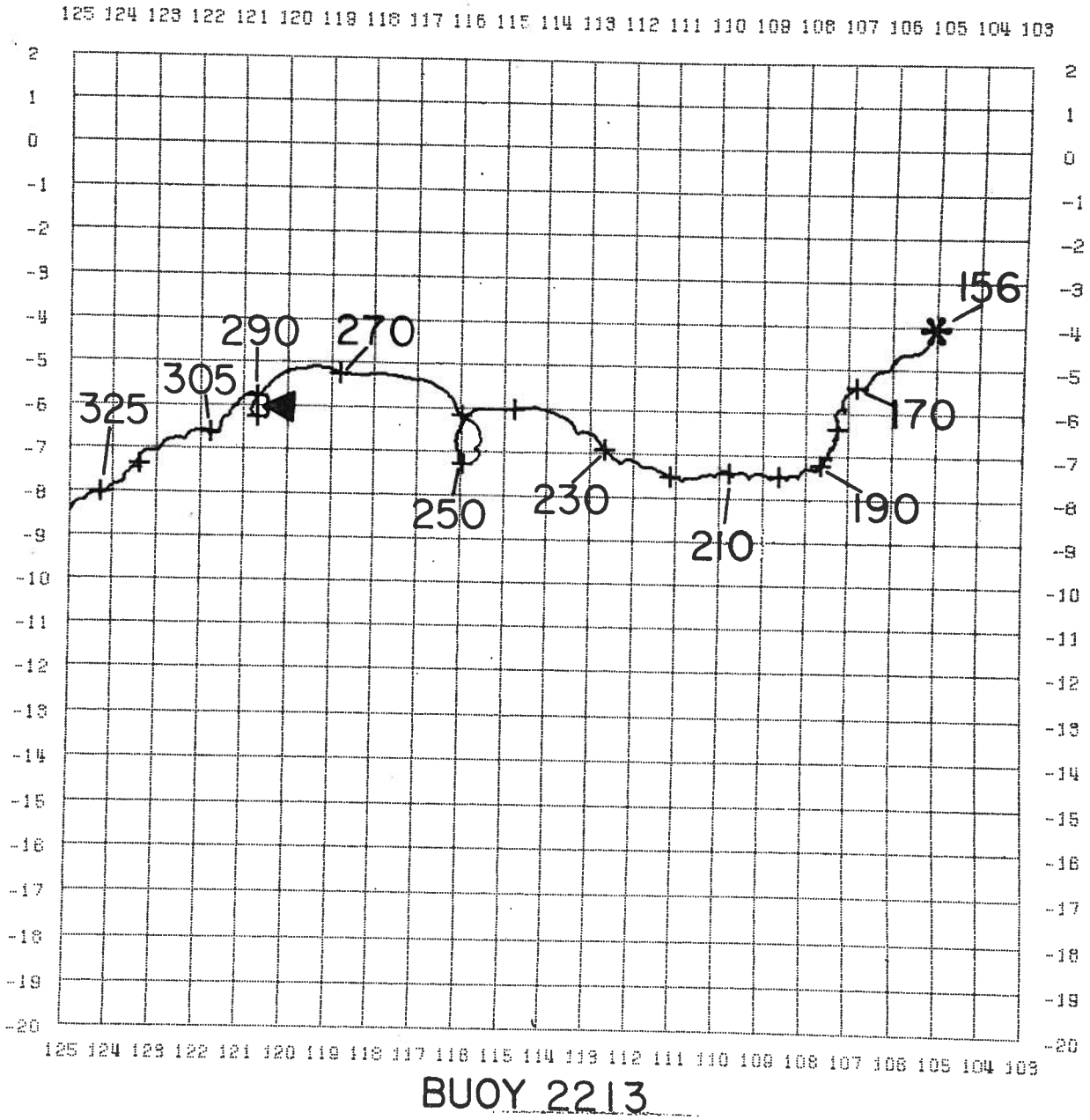


Figure 25. Trajectory of drifting buoy 2213.

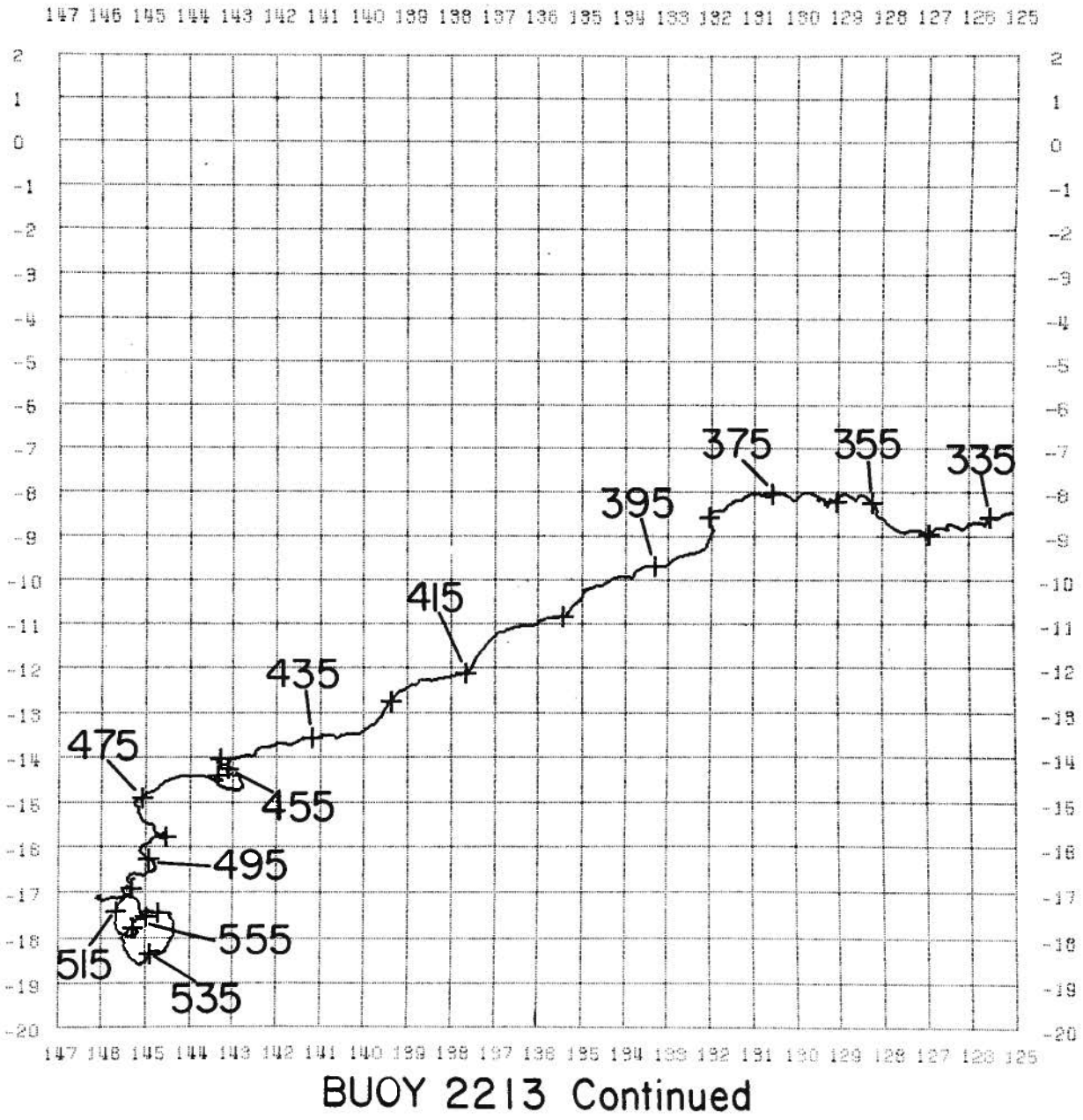


Figure 25. (Continued).

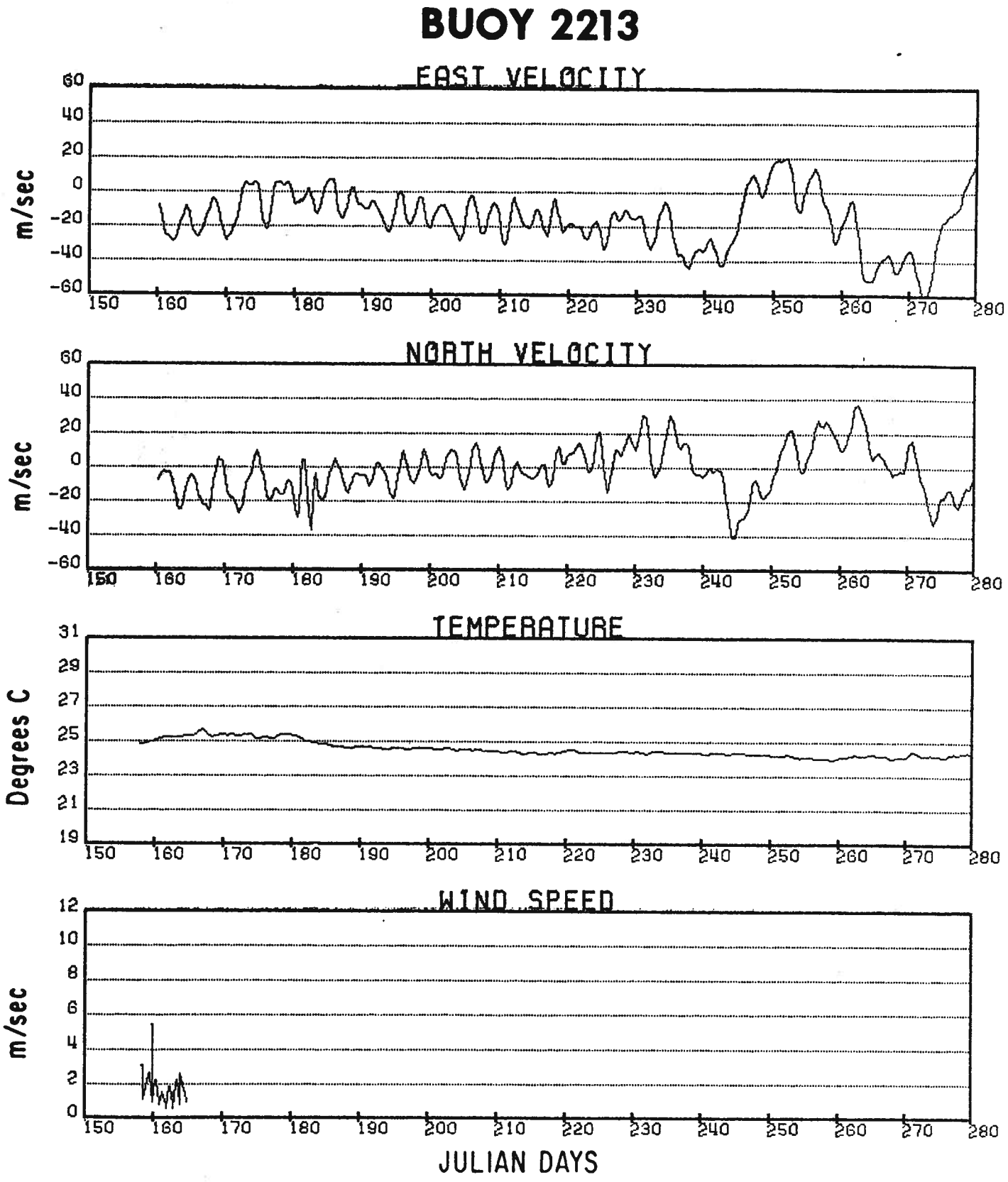


Figure 26. Time series of velocity and sensor data for drifting buoy 2213.

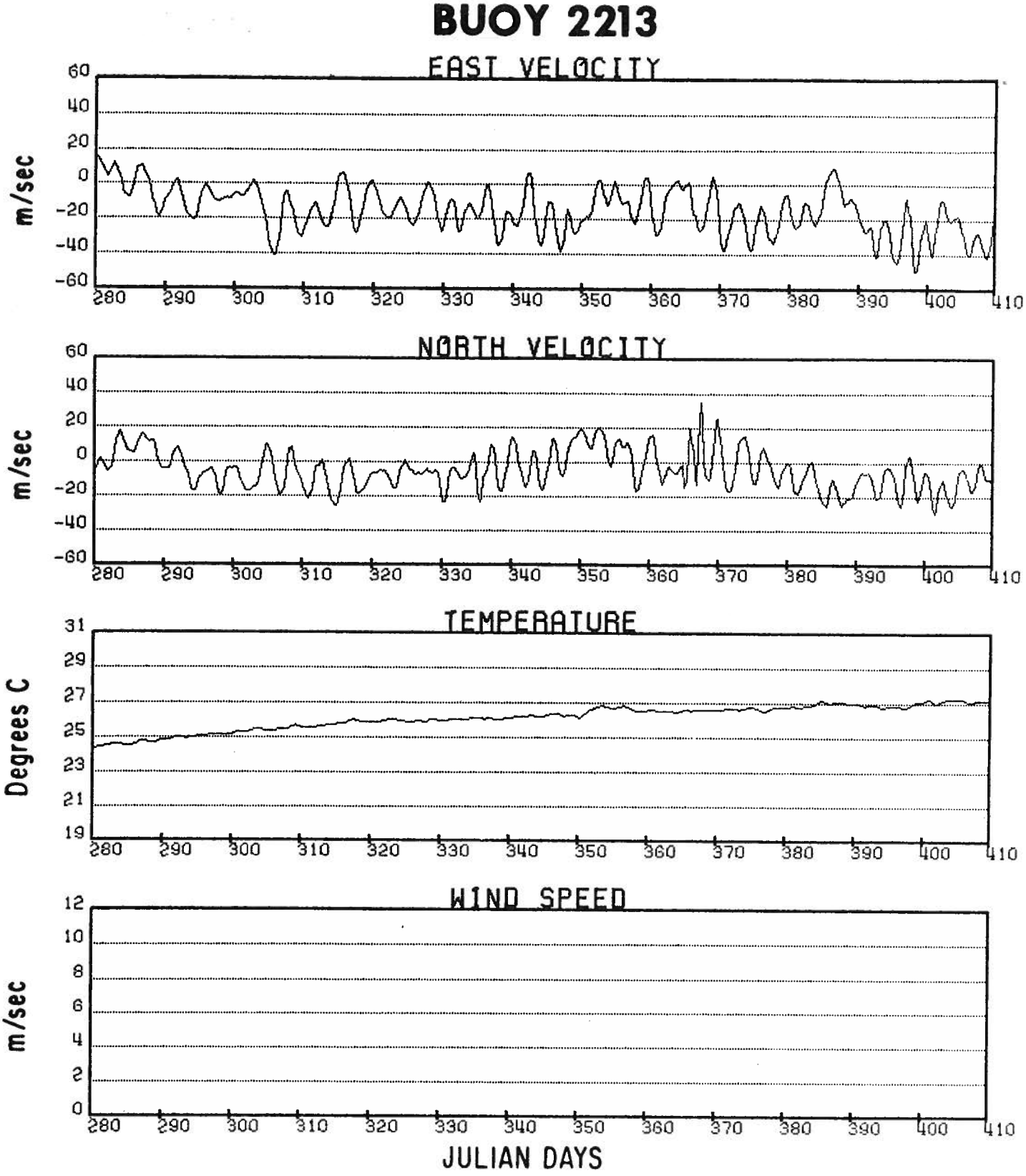


Figure 26. (Continued).

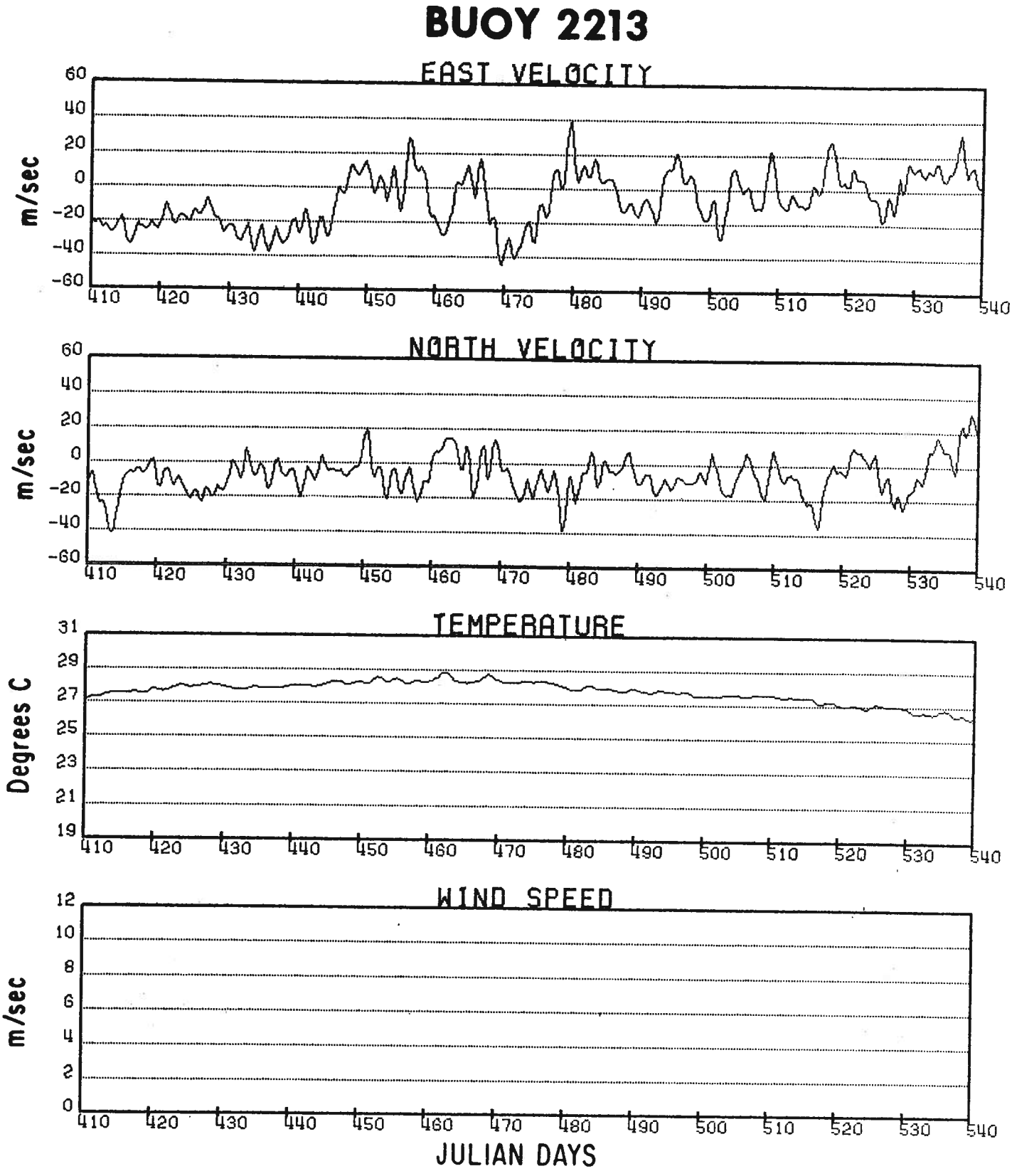


Figure 26. (Continued).

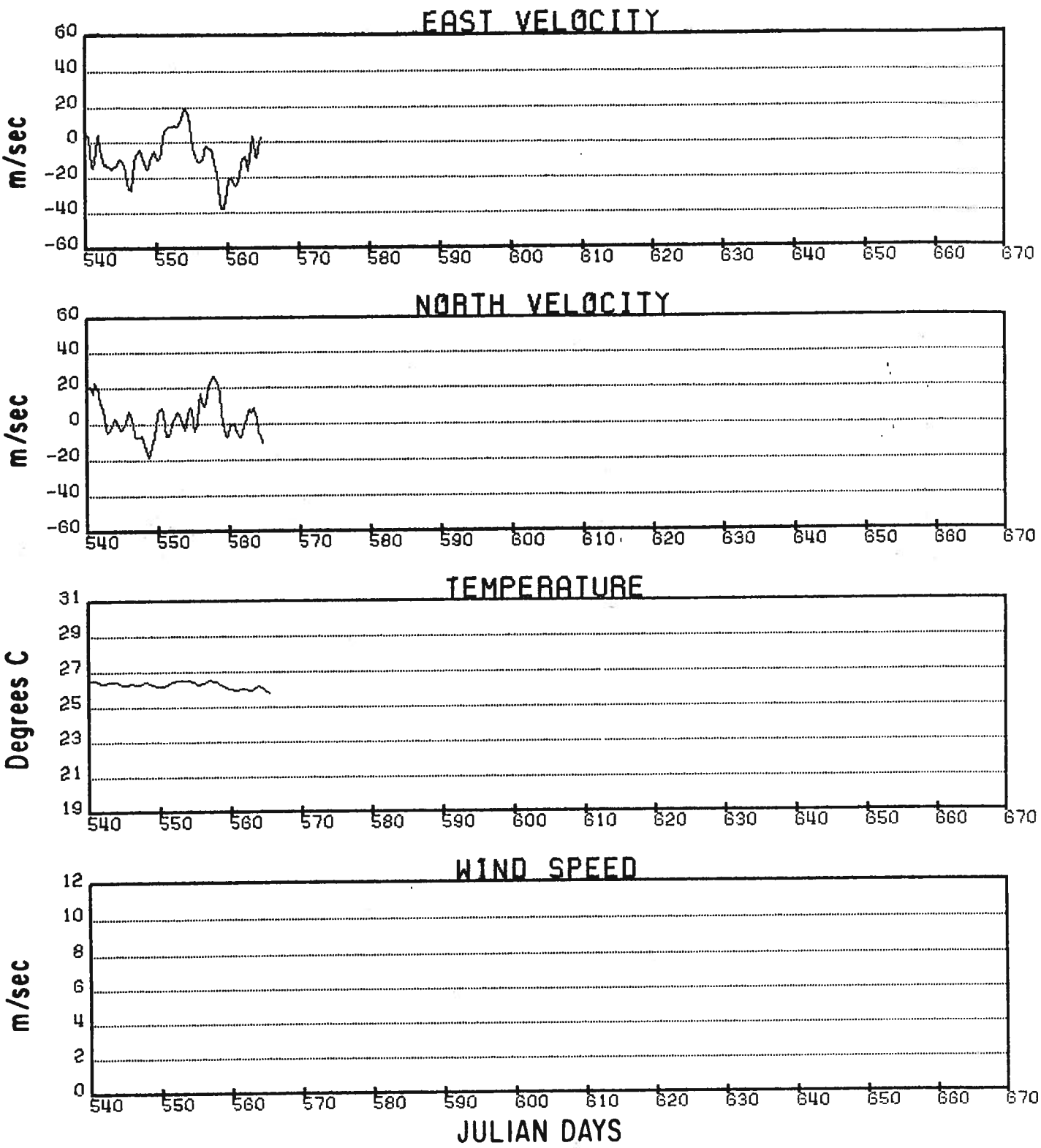


Figure 26. (Continued).

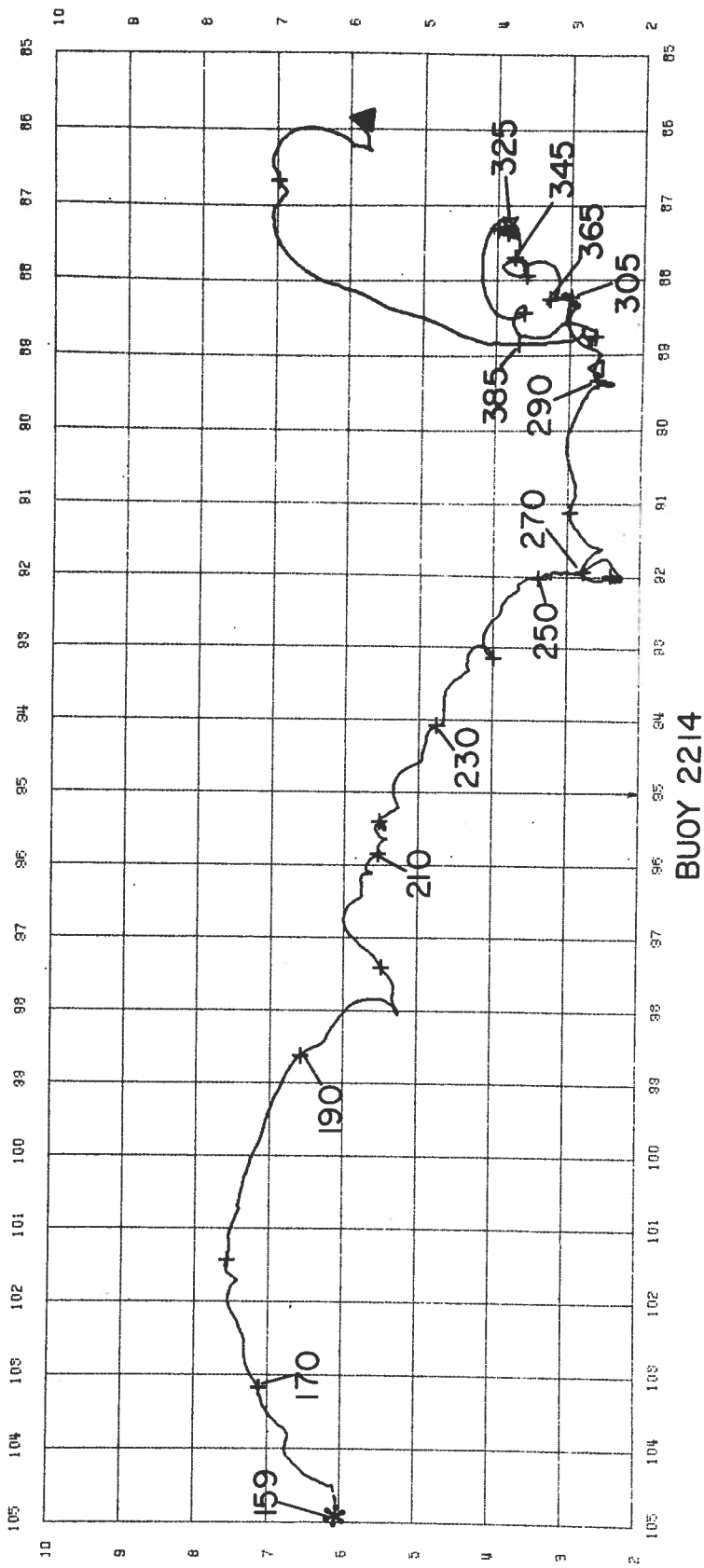


Figure 27. Trajectory of drifting buoy 2214.

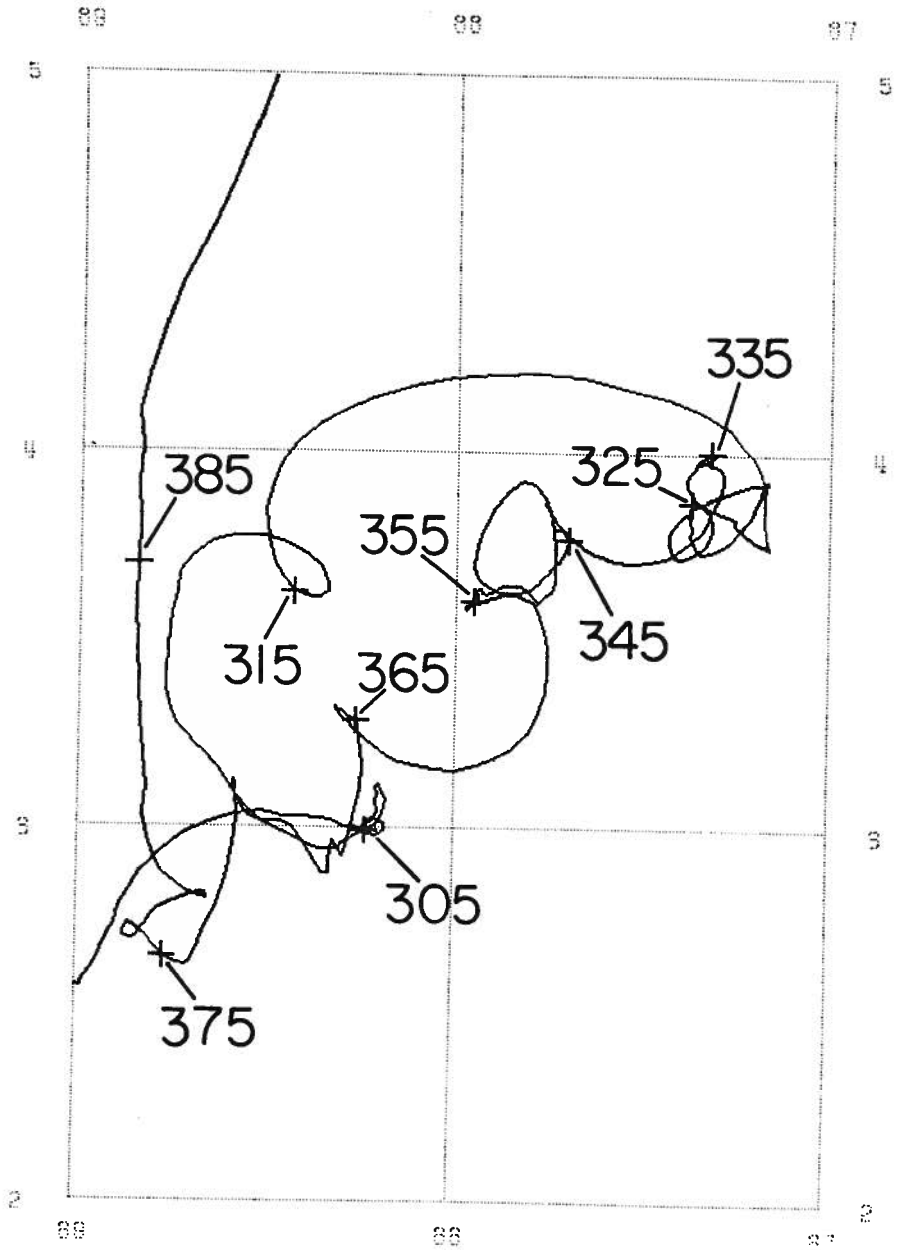


Figure 28. Trajectory detail for drifting buoy 2214.

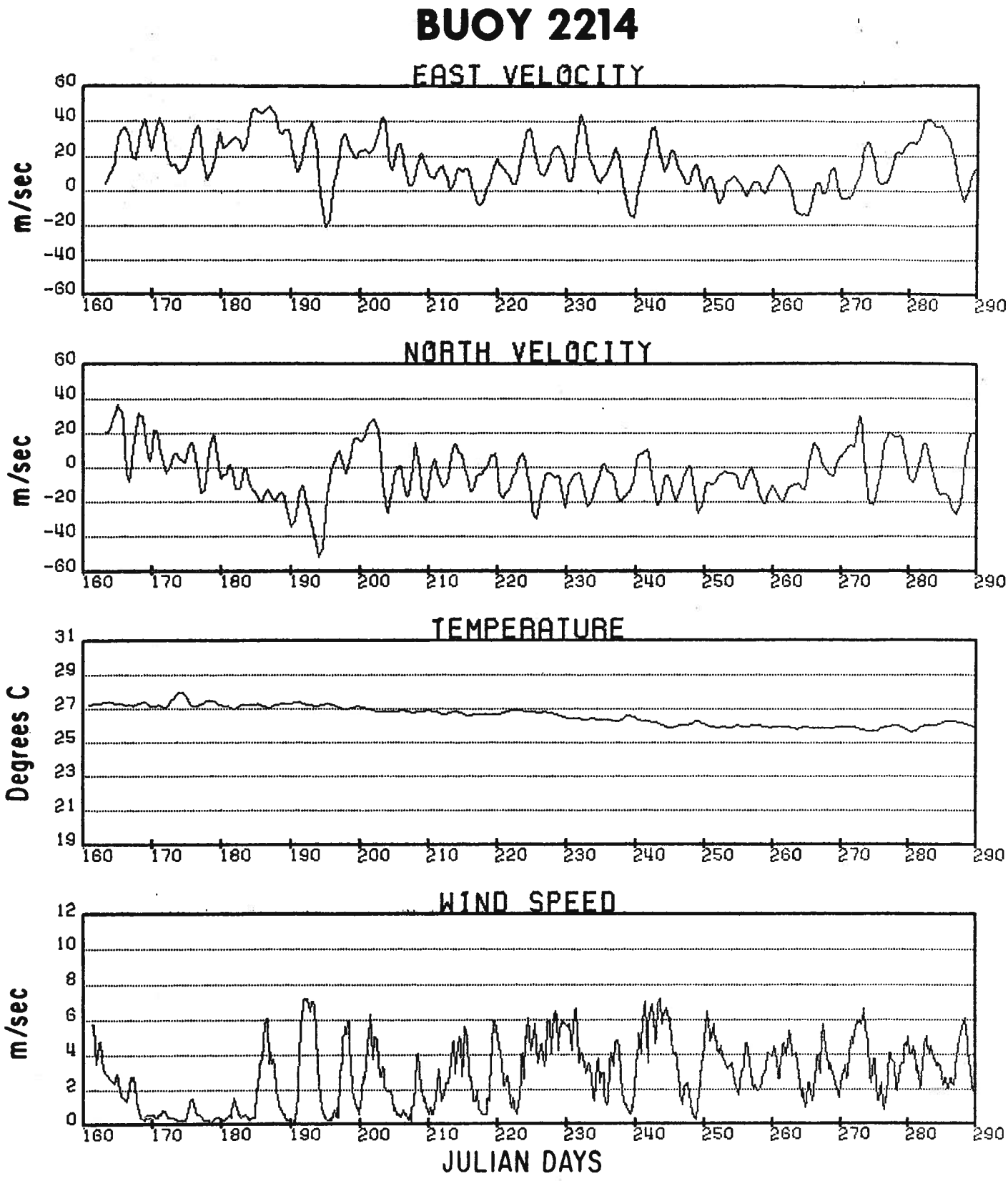


Figure 29. Time series of velocity and sensor data for drifting buoy 2214.

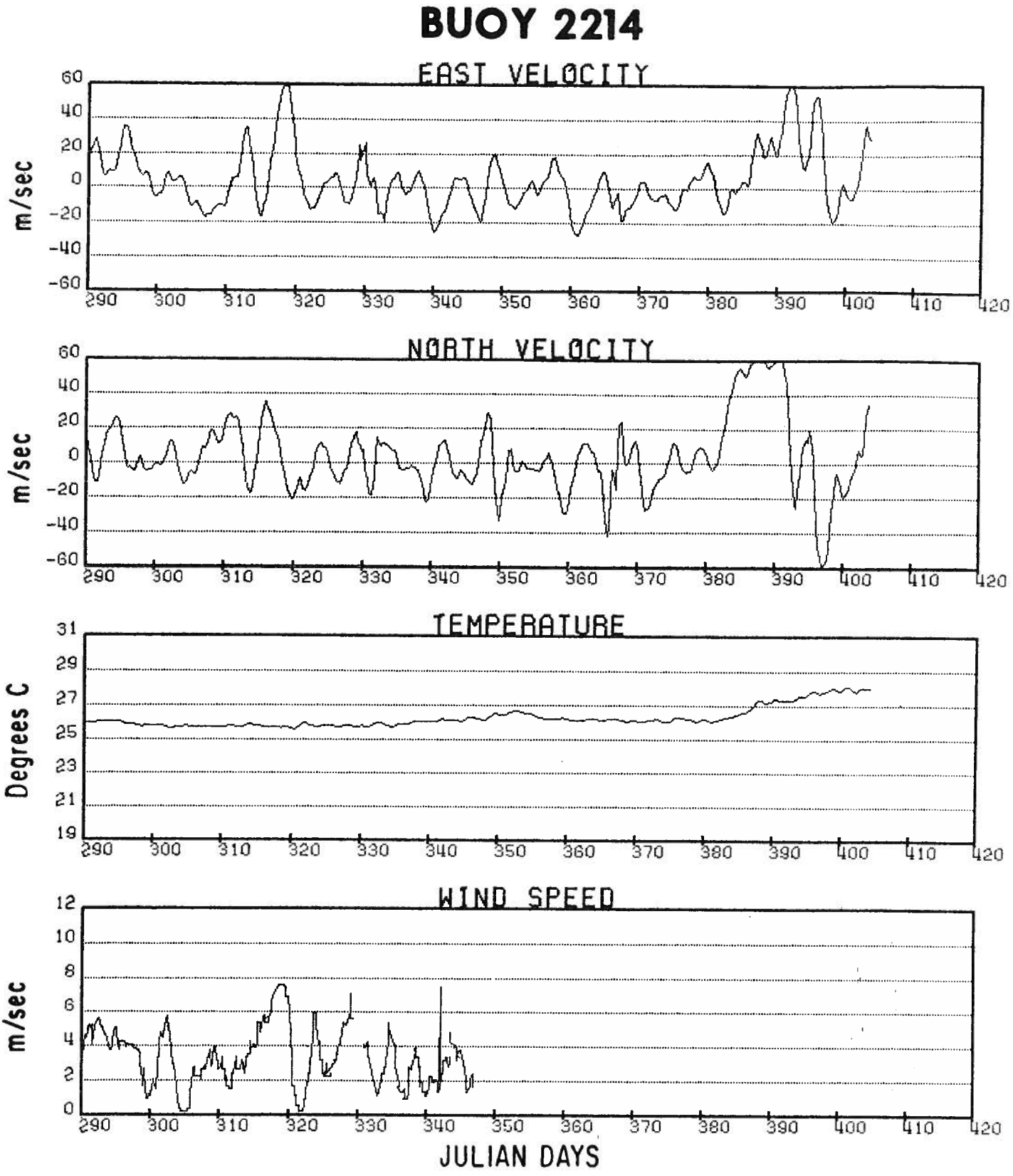


Figure 29. (Continued).

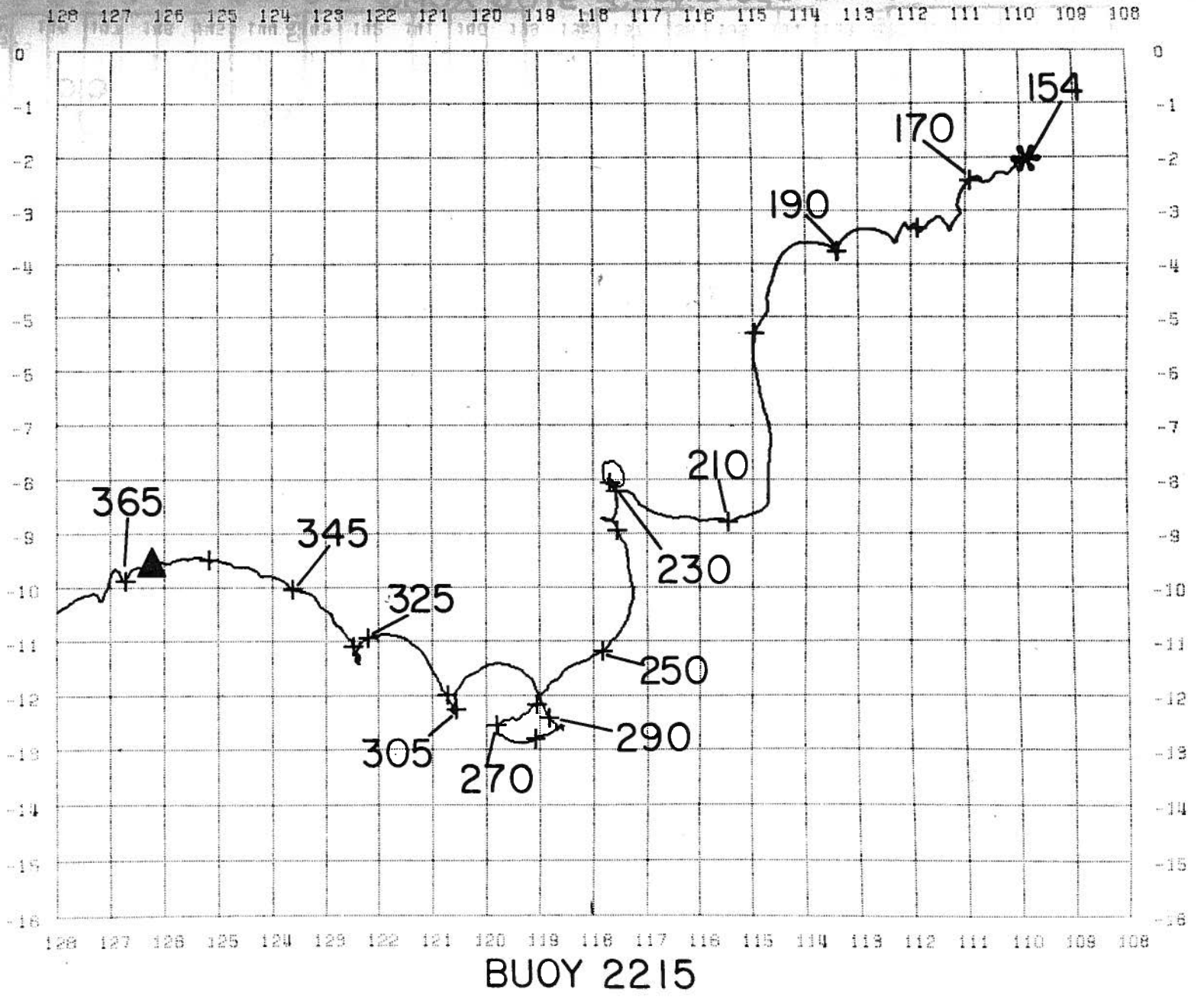
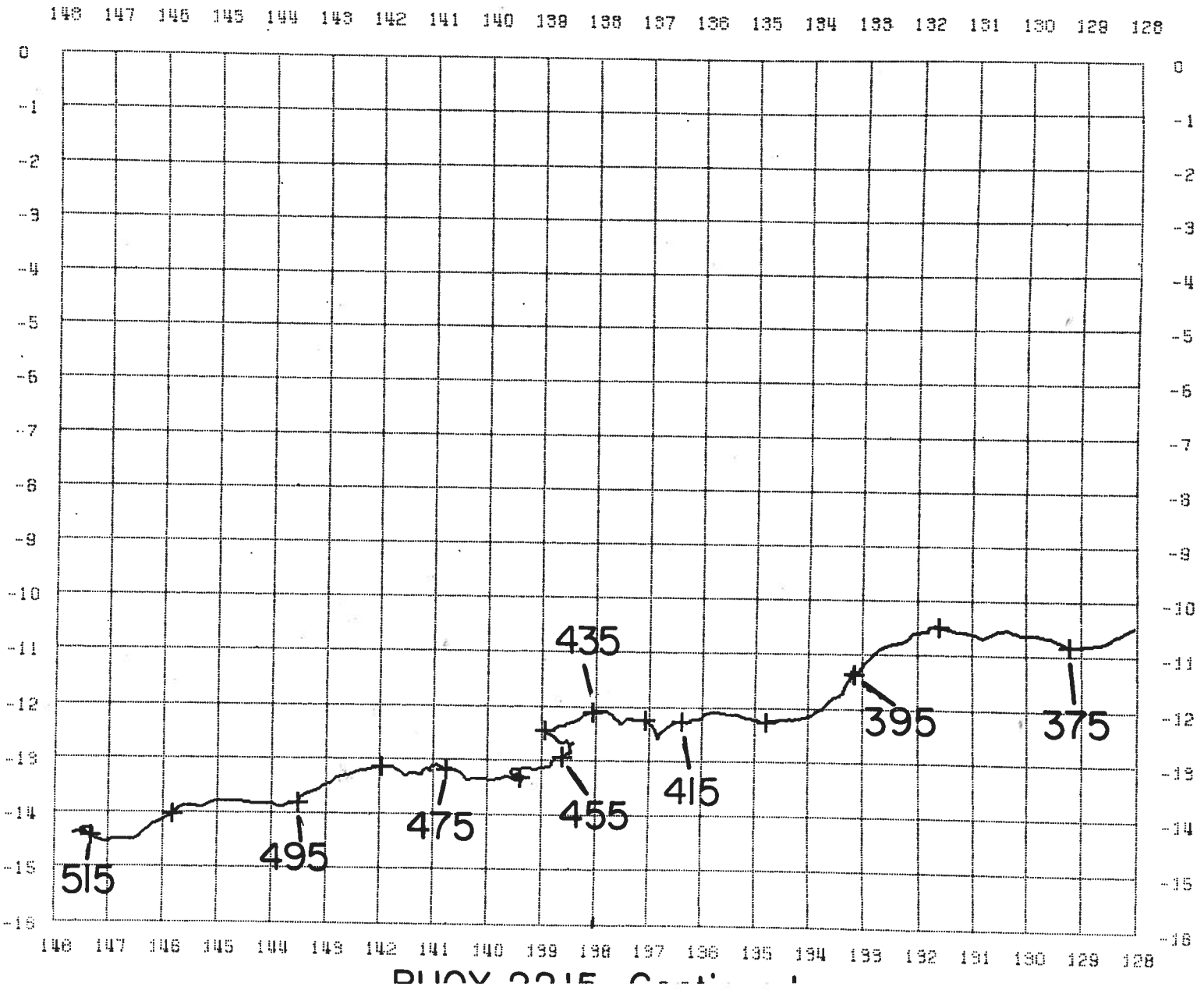


Figure 30. Trajectory of drifting buoy 2215.



BUOY 2215 Continued

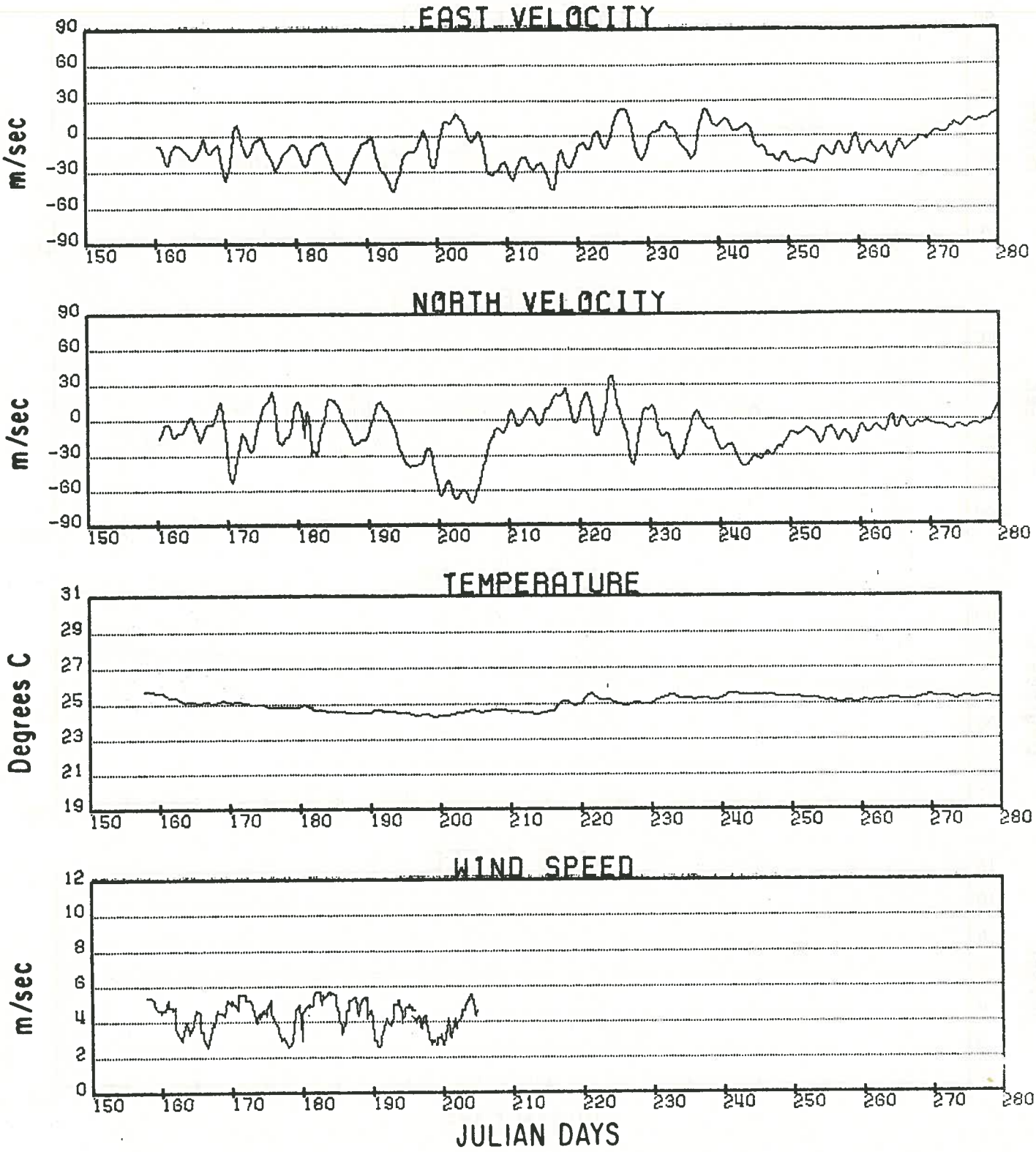


Figure 31. Time series of velocity and sensor data for drifting buoy 2215.

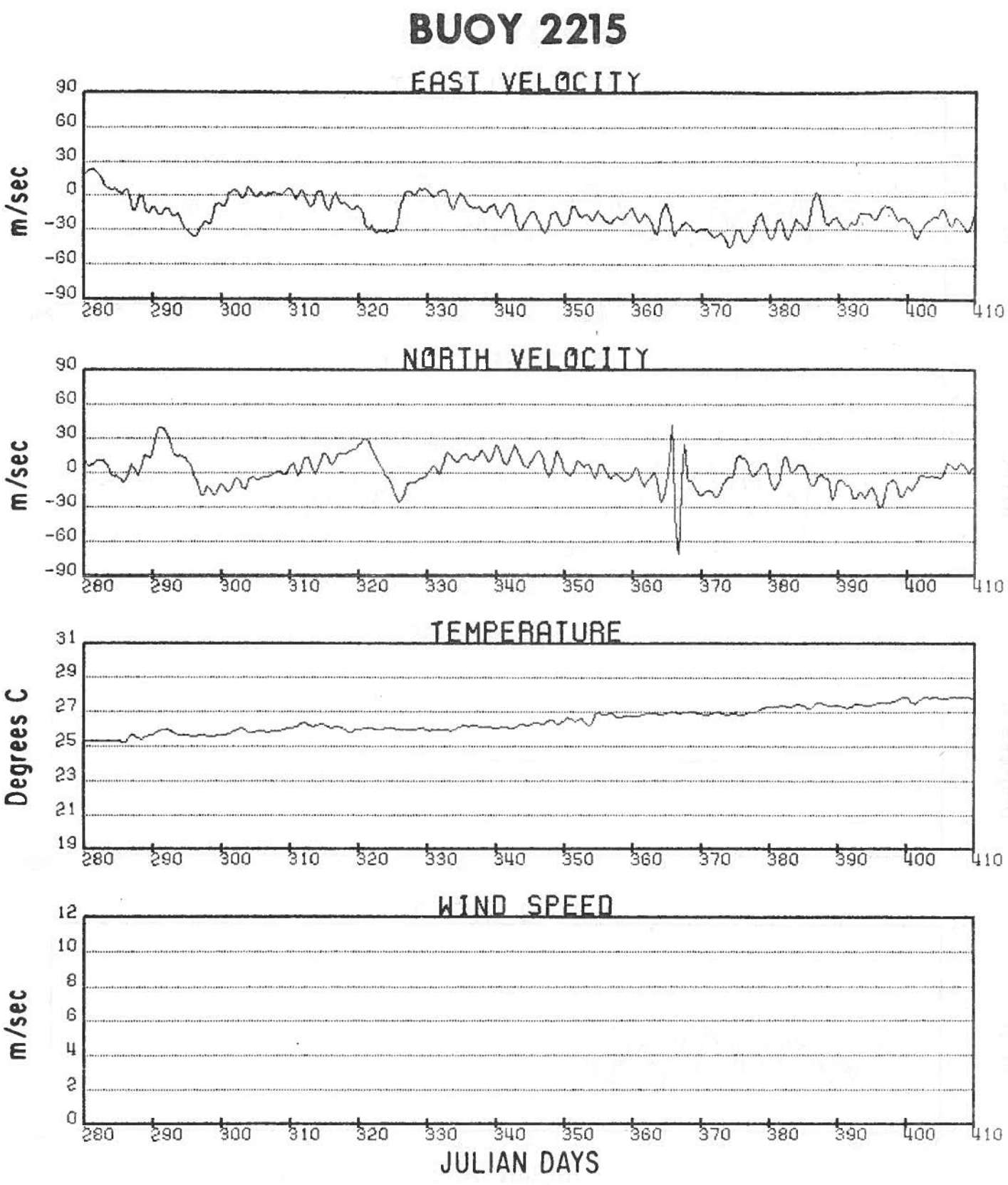


Figure 31. (Continued).

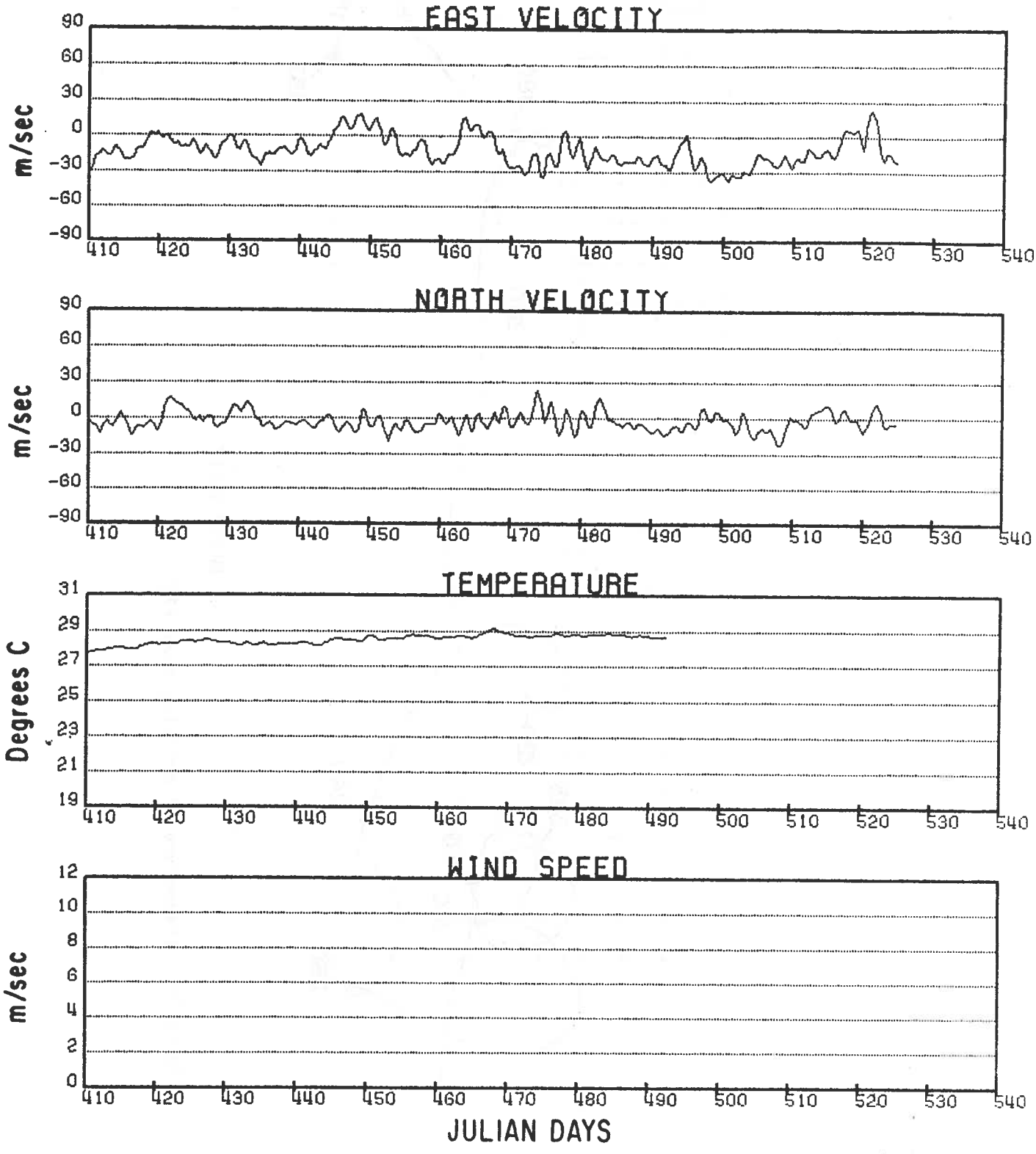


Figure 31. (Continued).

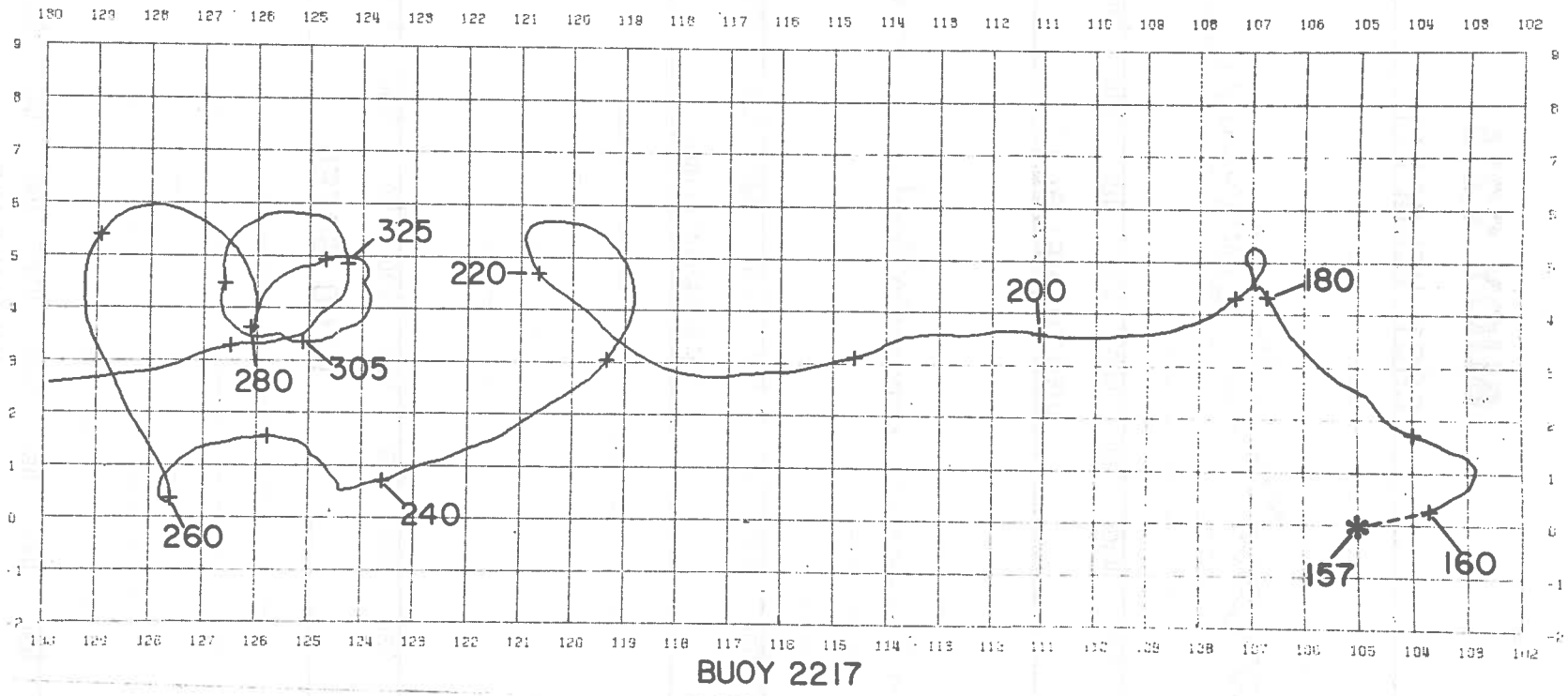
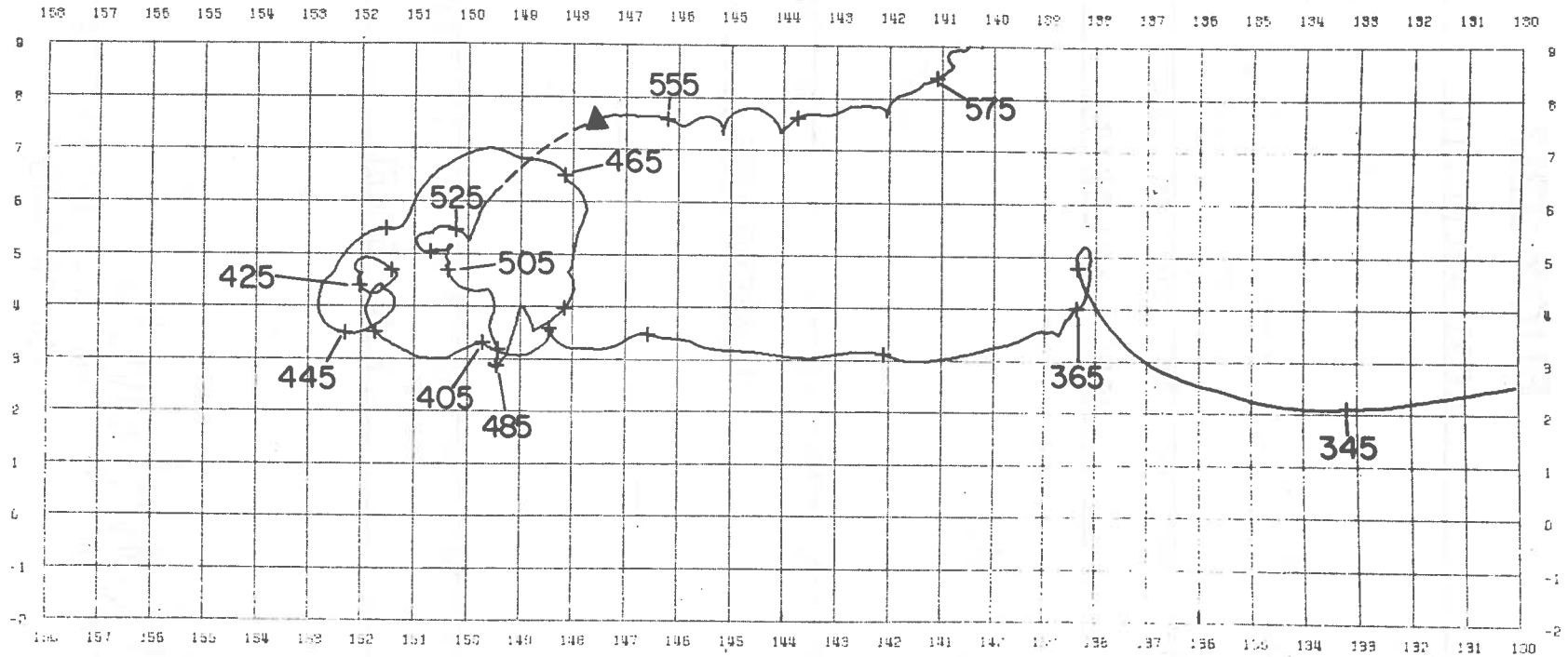


Figure 32. Trajectory of drifting buoy 2217.



BUOY 2217 Continued

Figure 32. (Continued).

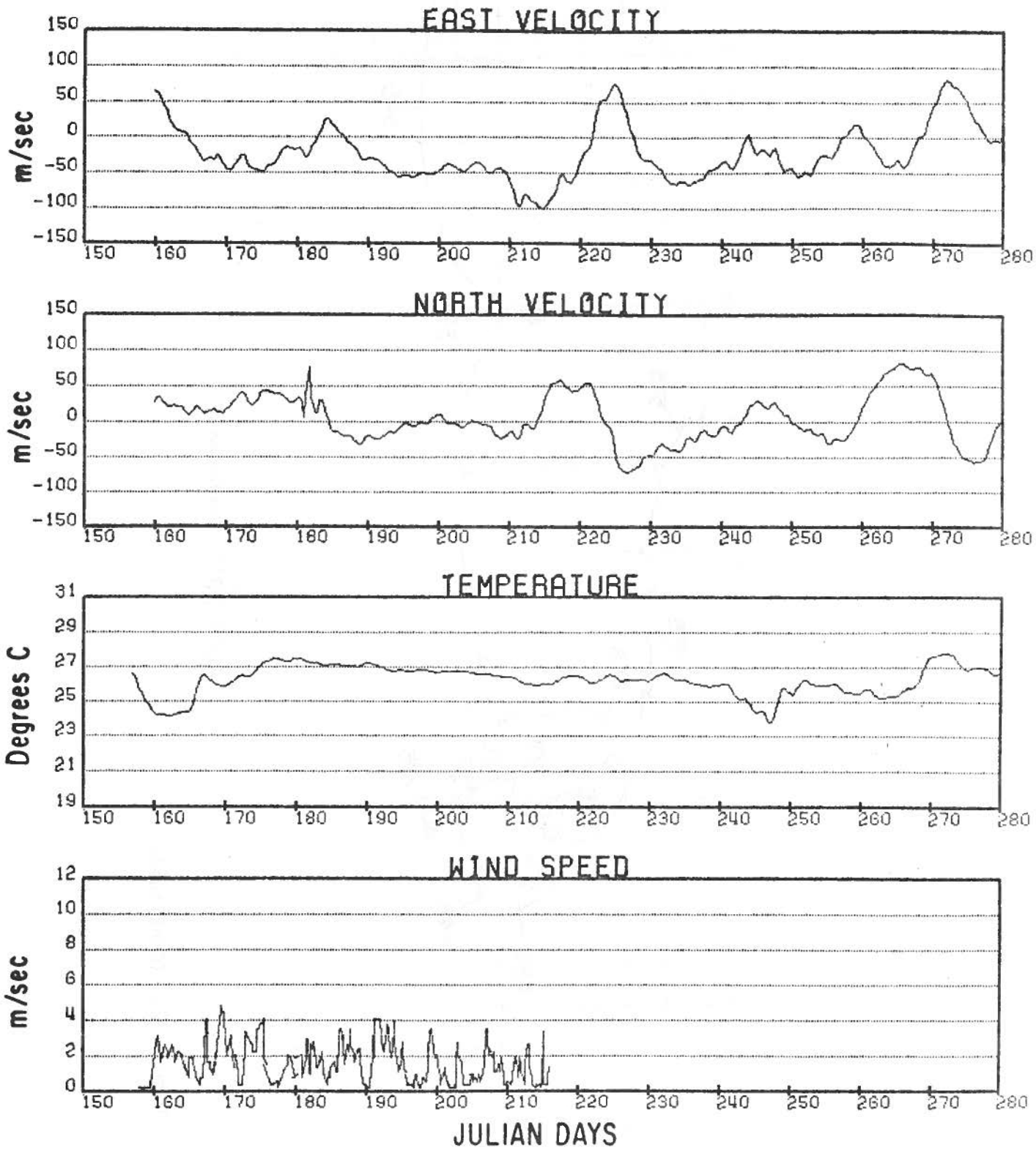


Figure 33. Time series of velocity and sensor data for drifting buoy 2217.

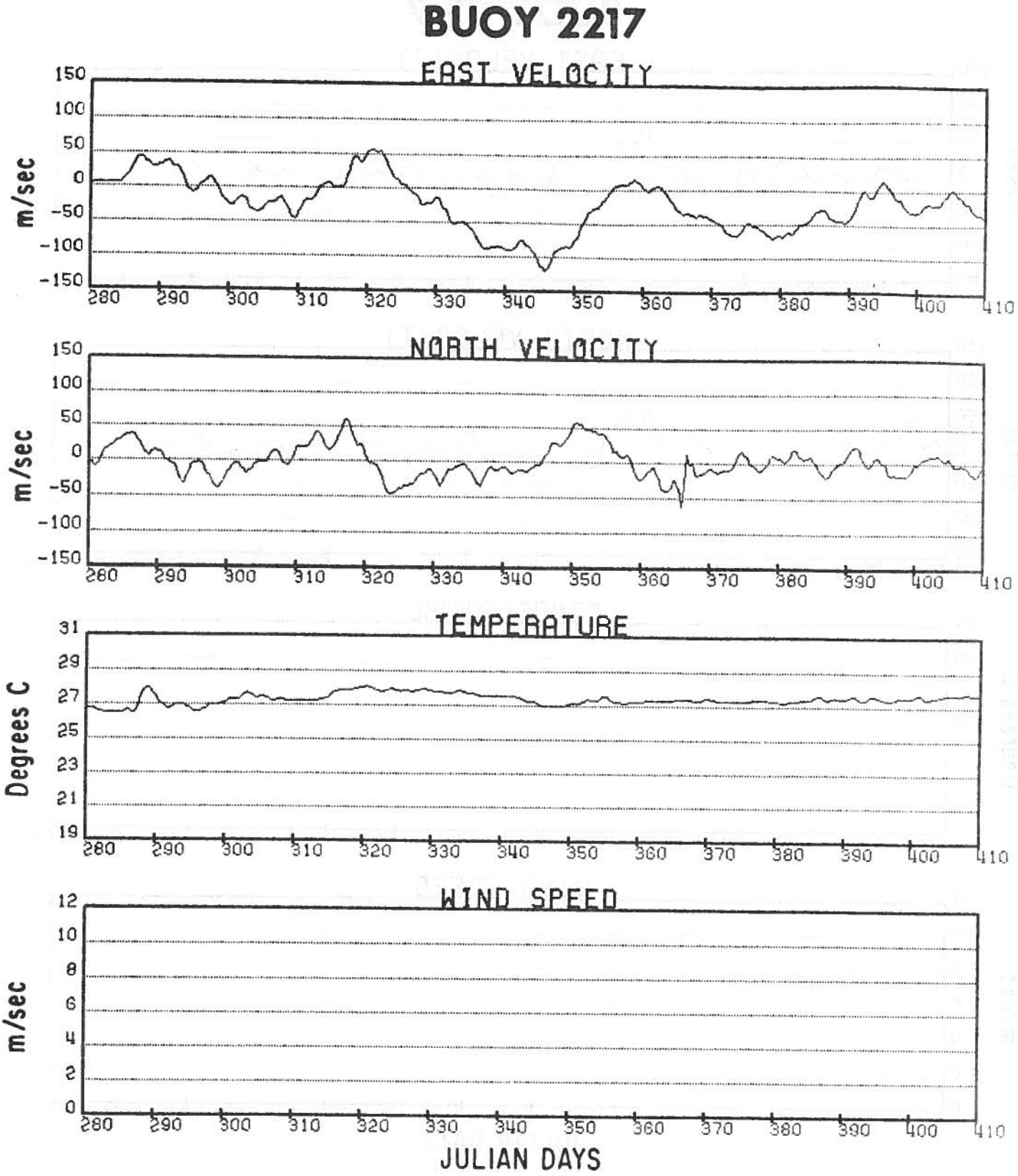


Figure 33. (Continued).

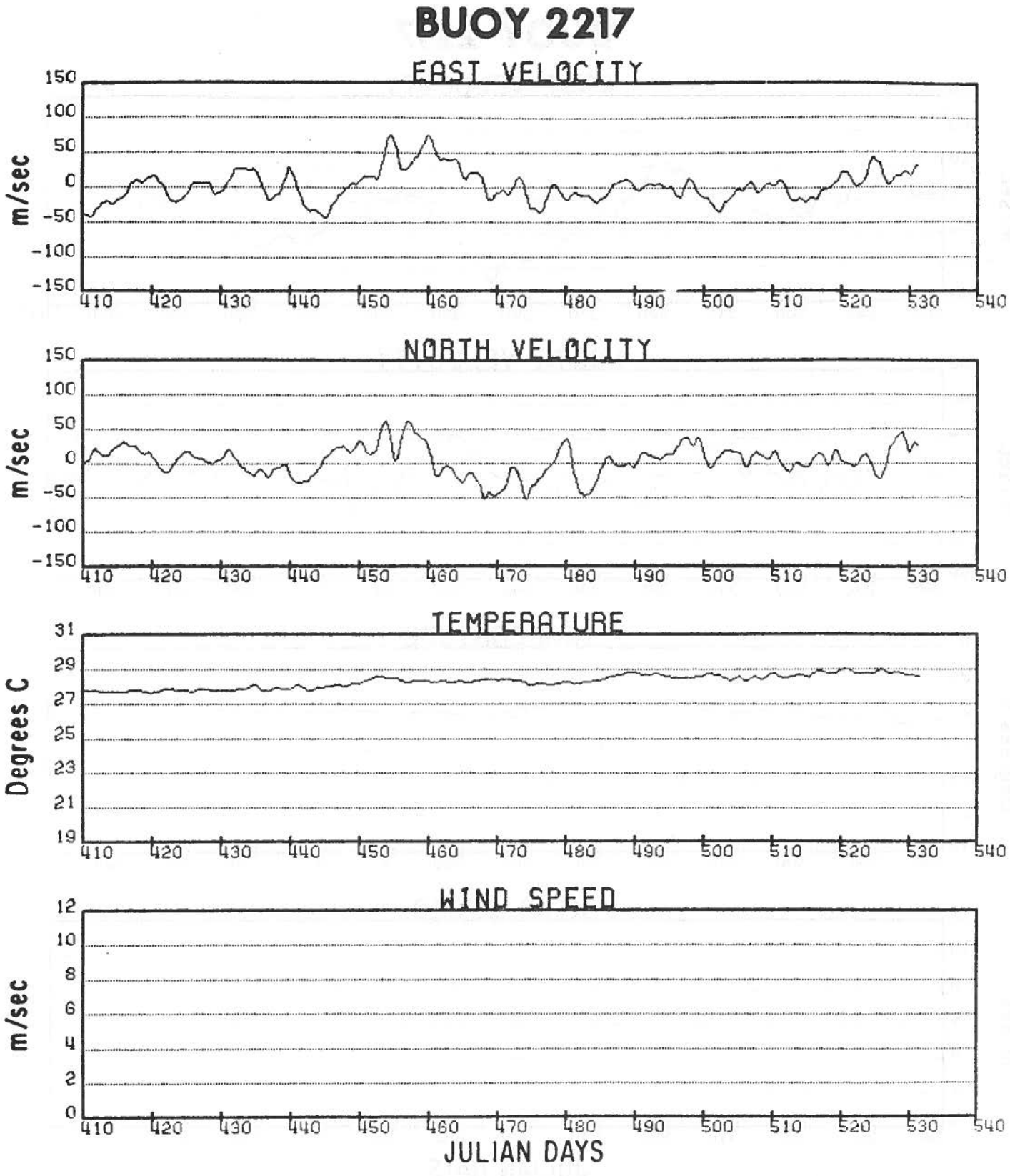


Figure 33. (Continued).

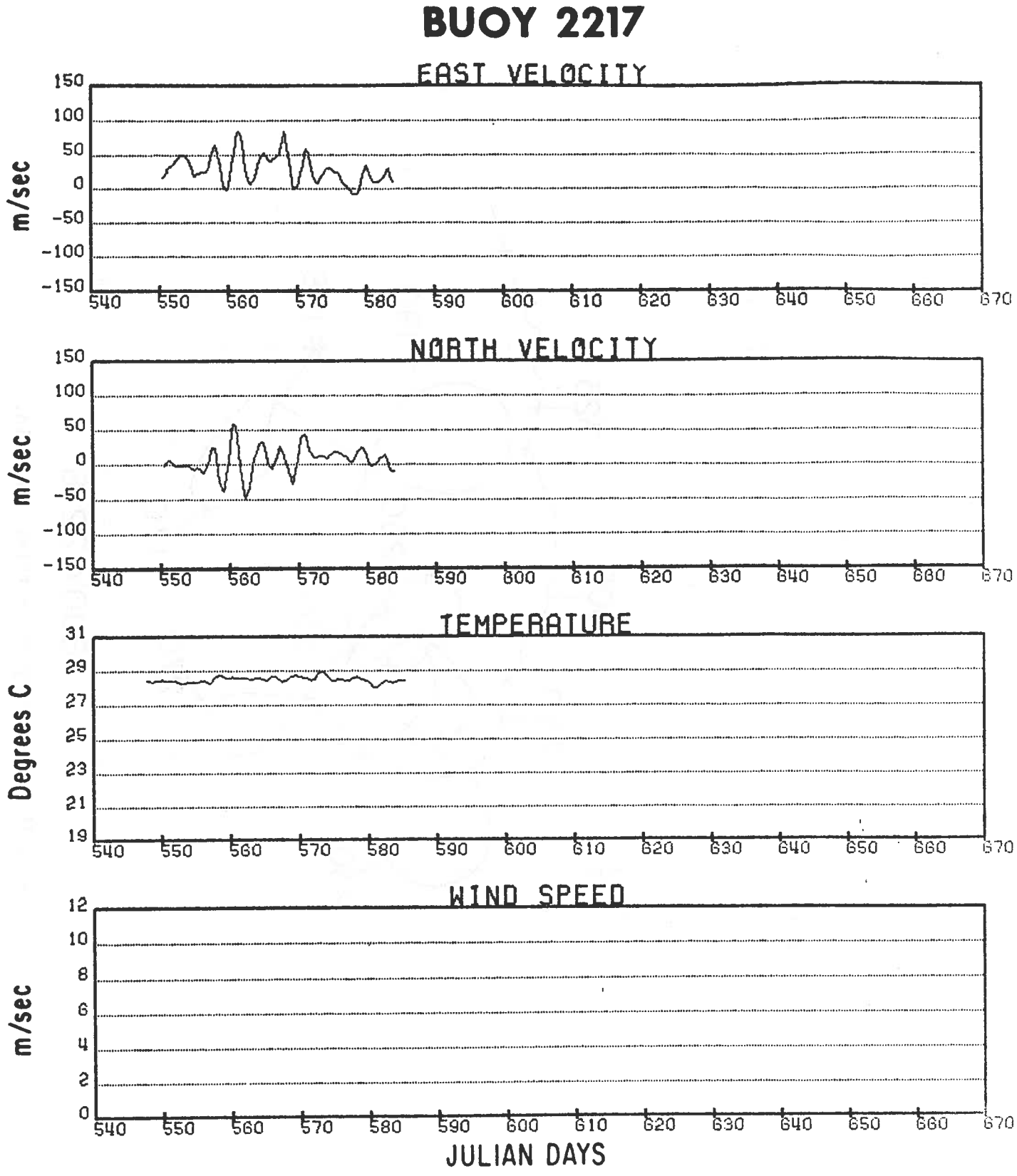


Figure 33. (Continued).

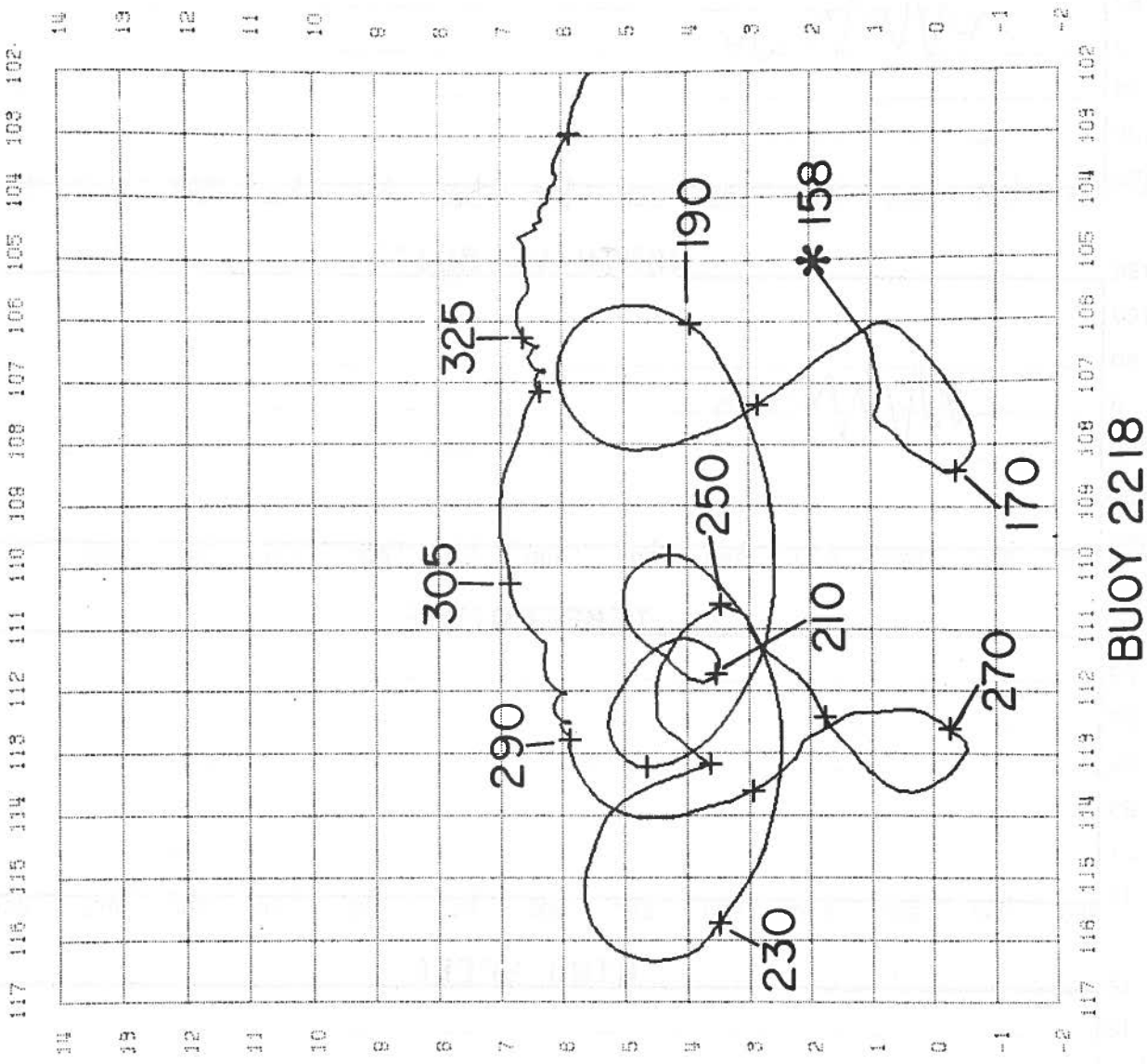


Figure 34. Trajectory of drifting buoy 2218.

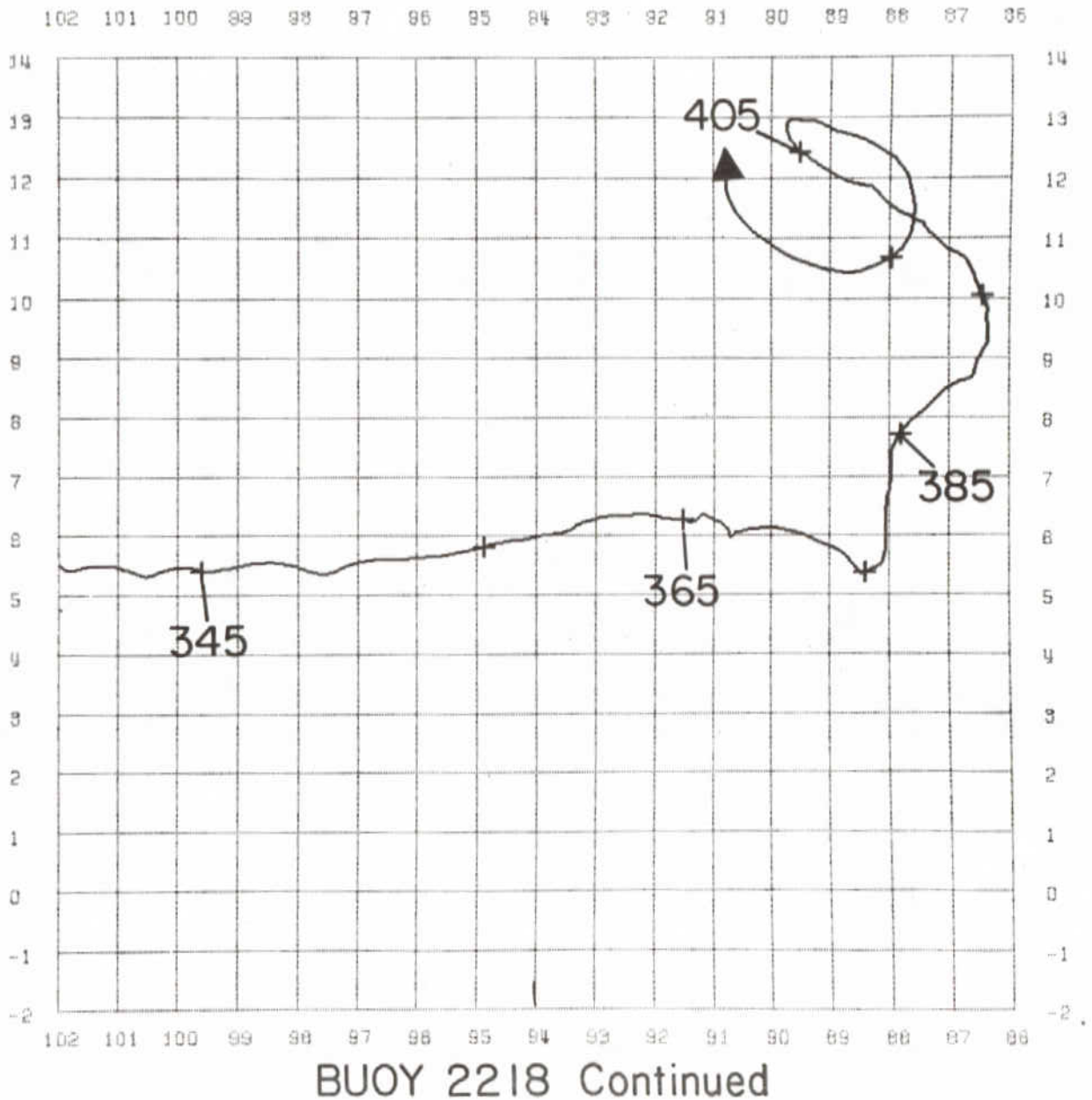


Figure 34. (Continued).

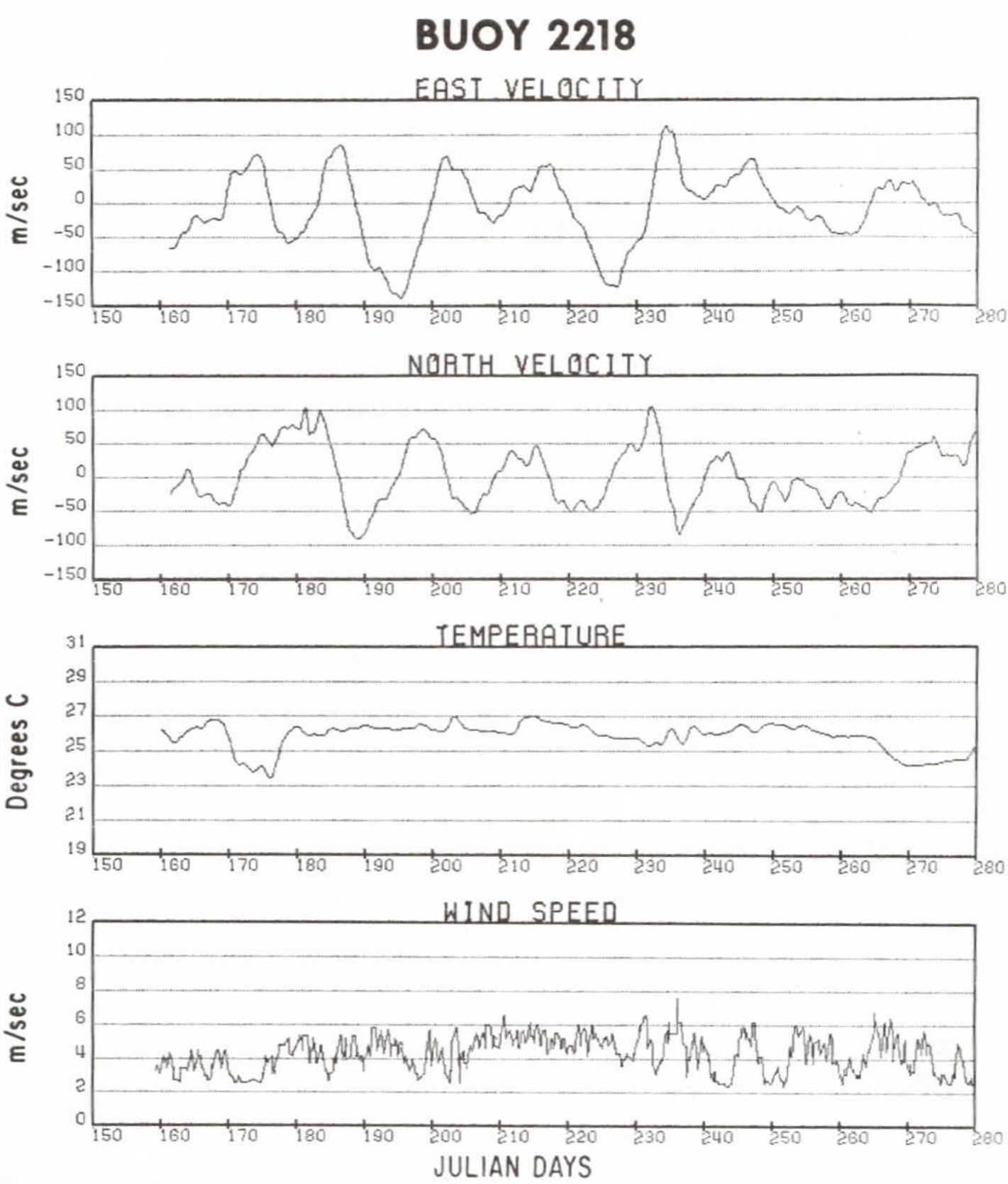


Figure 35. Time series of velocity and sensor data for drifting buoy 2218.

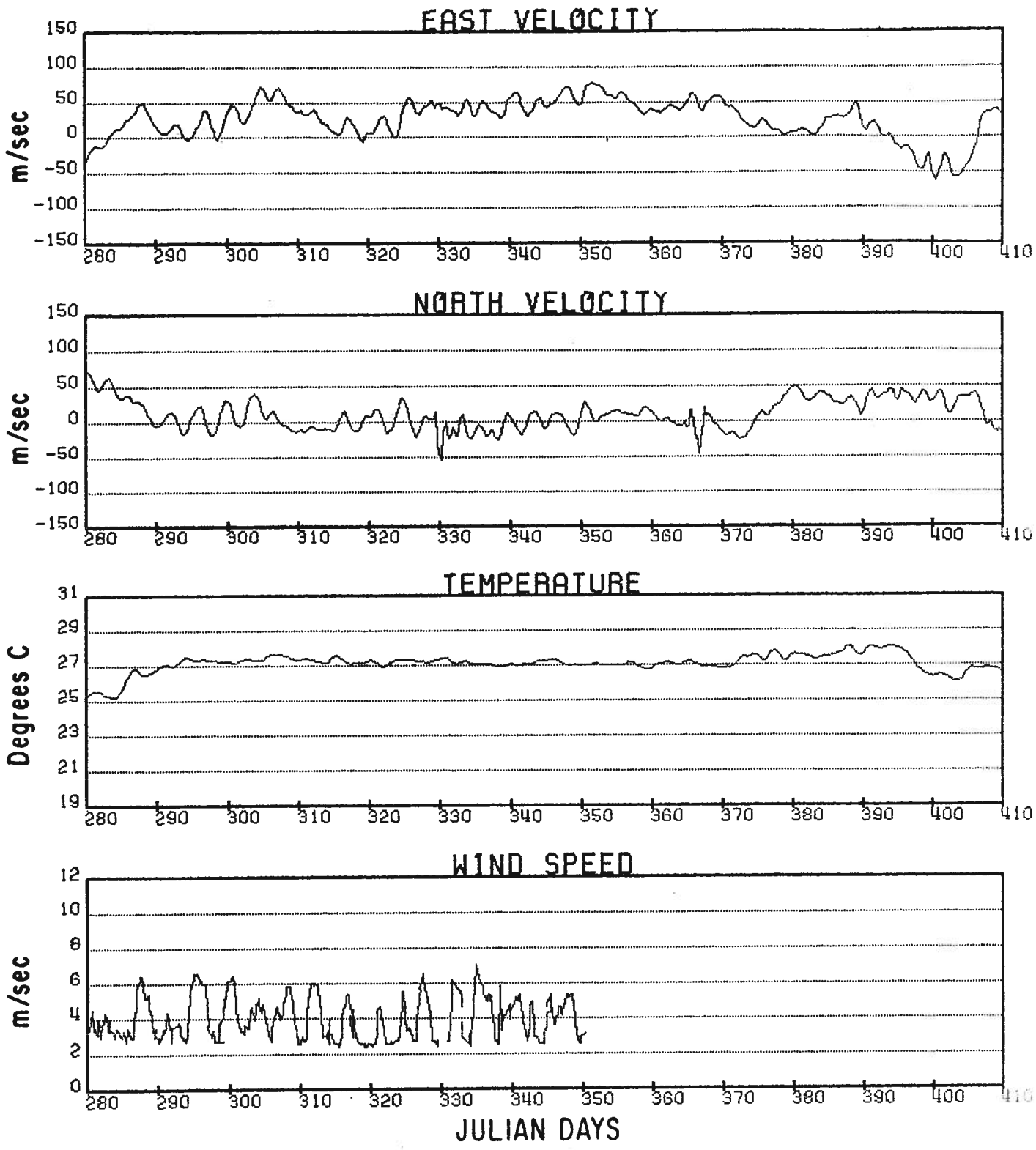


Figure 35. (Continued).

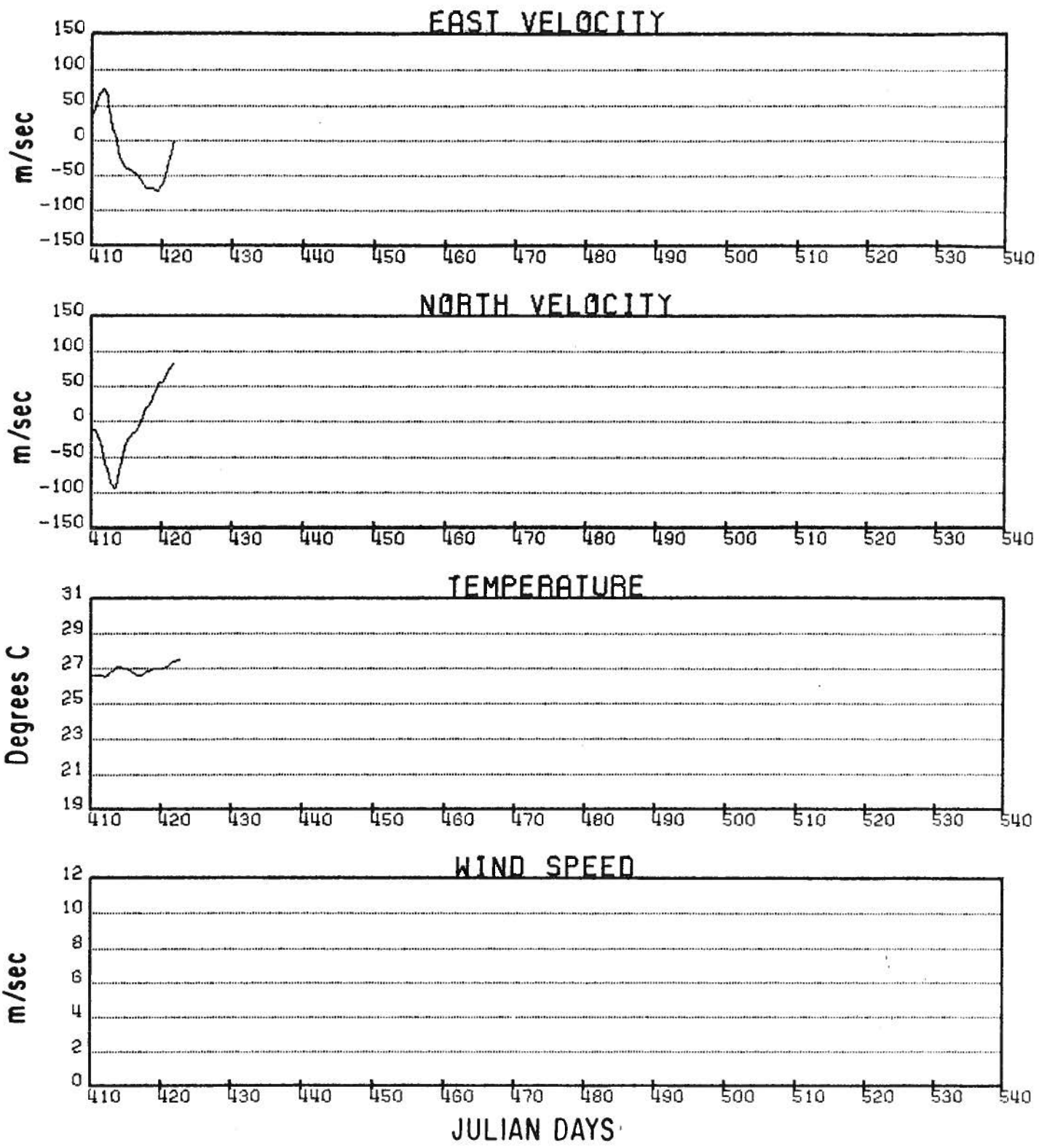


Figure 35. (Continued).

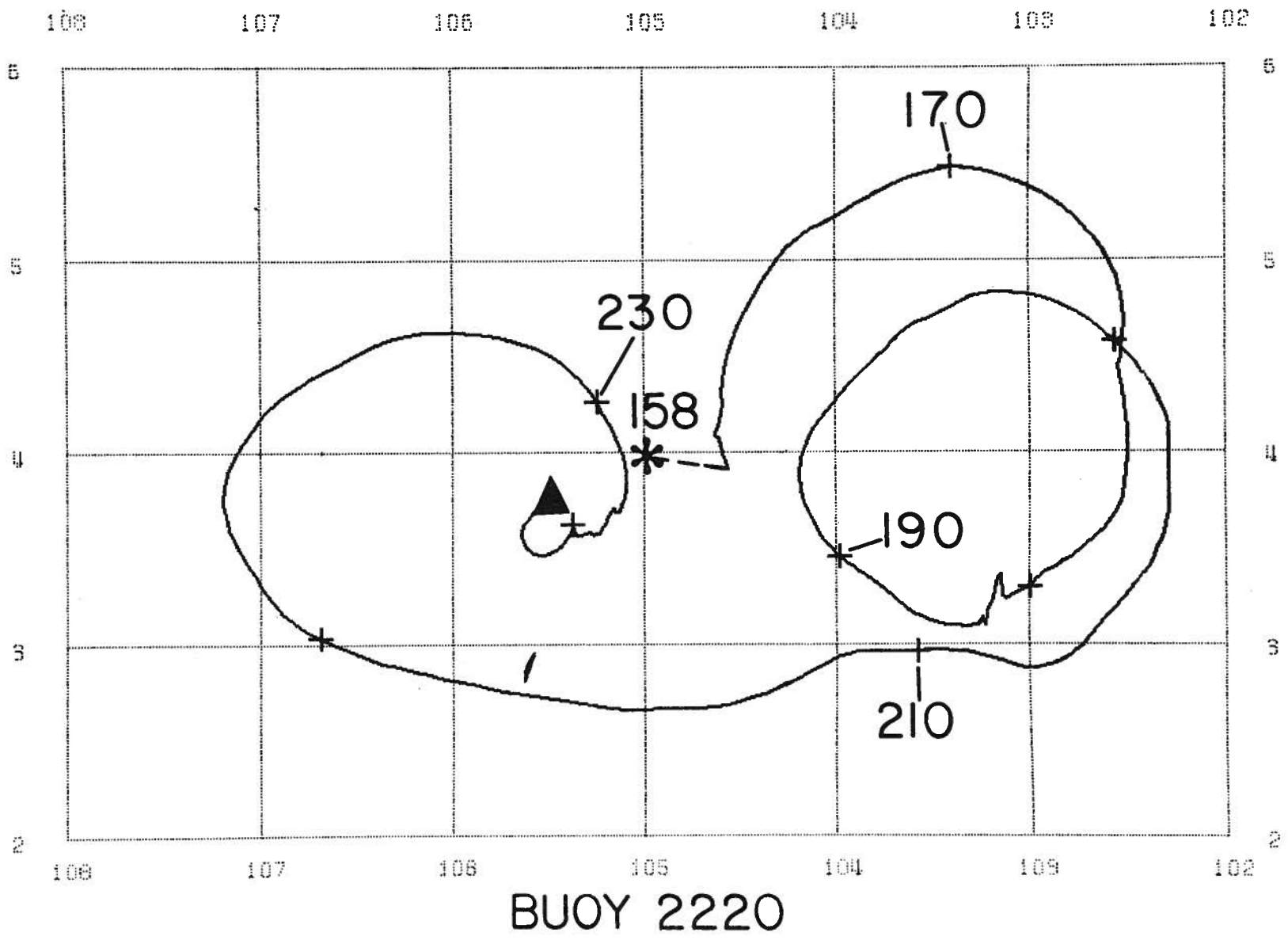


Figure 36. Trajectory of drifting buoy 2220.

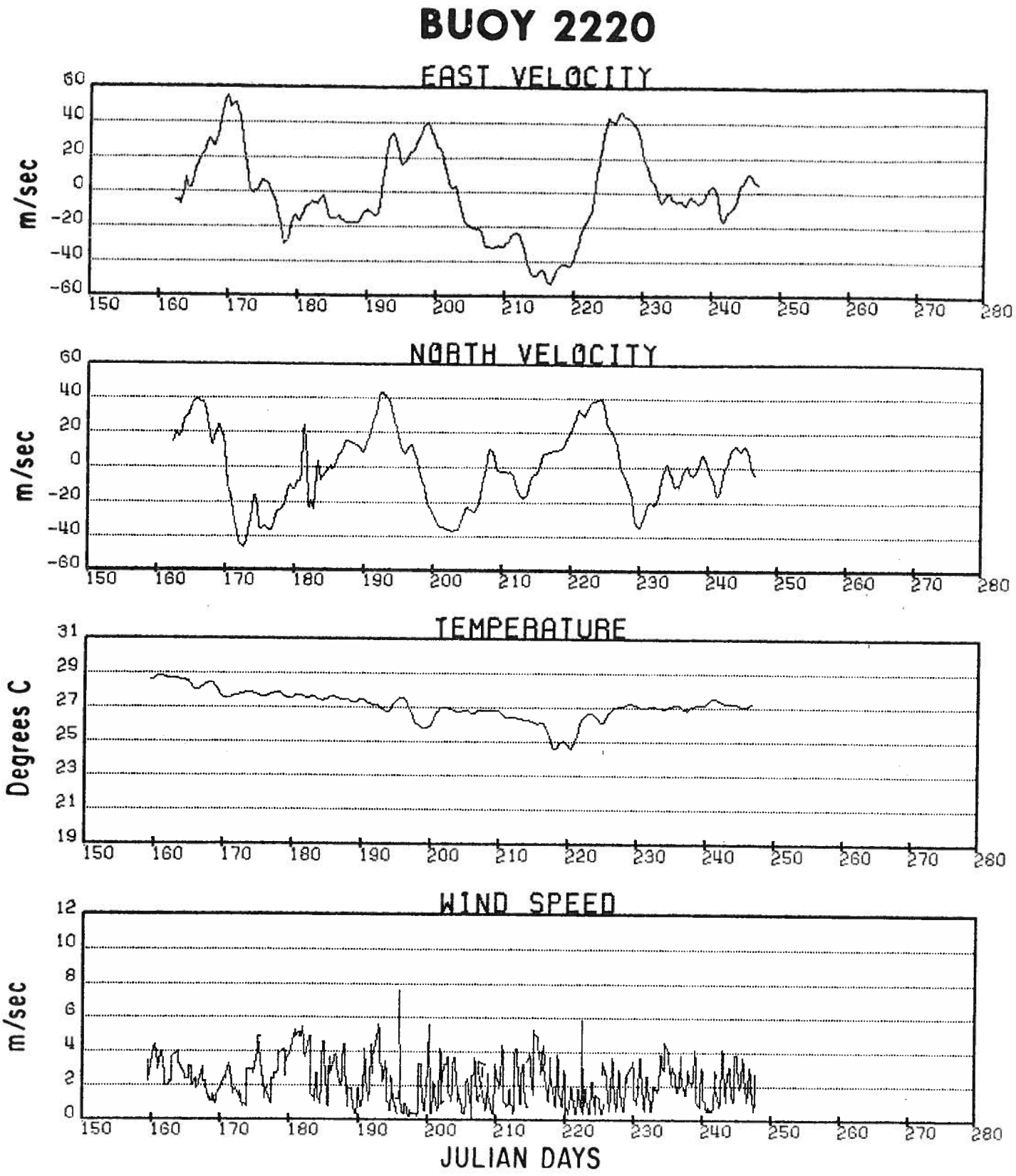


Figure 37. Time series of velocity and sensor data for drifting buoy 2220.

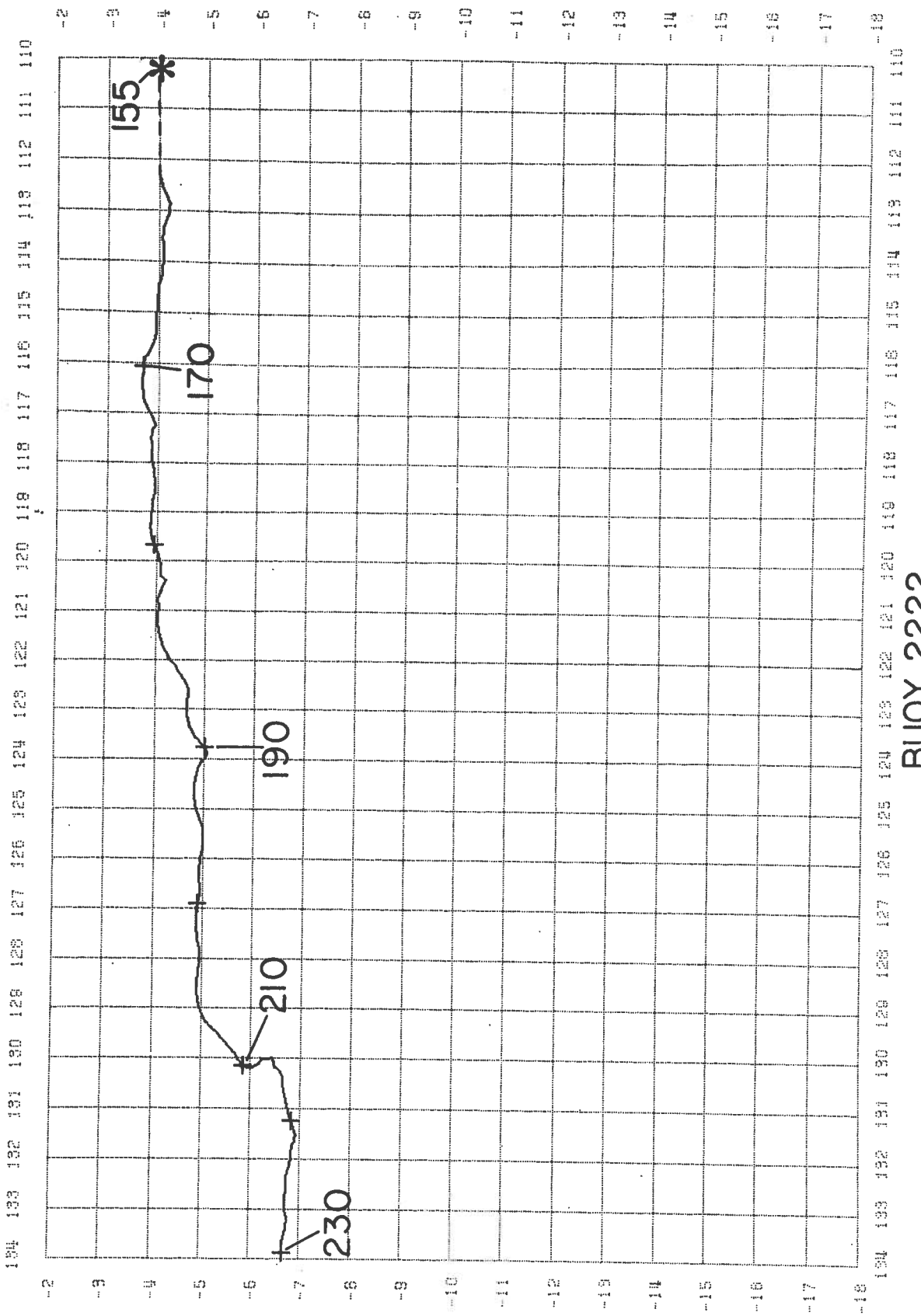


Figure 38. Trajectory of drifting buoy 2222.

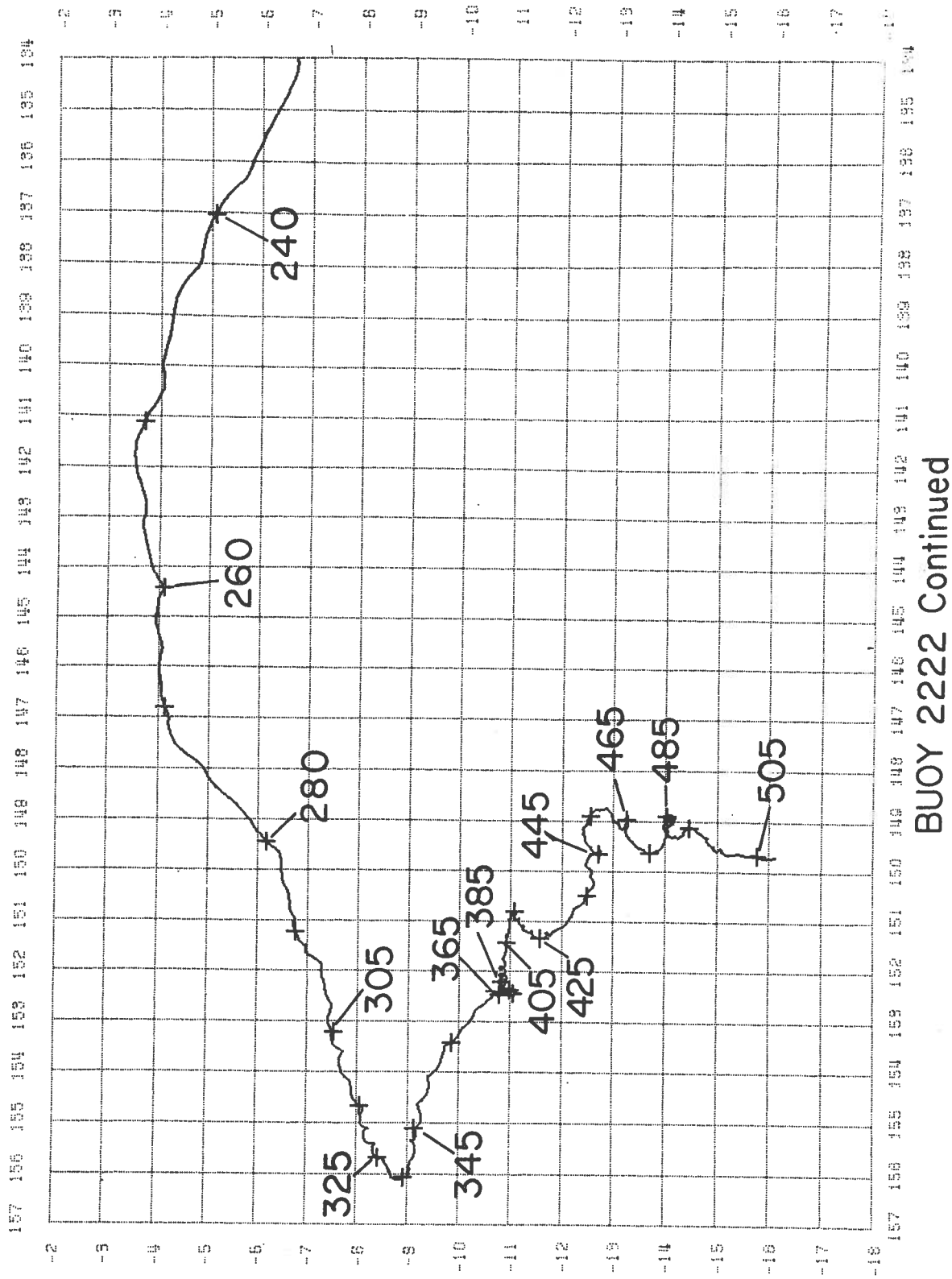


Figure 38. (Continued).

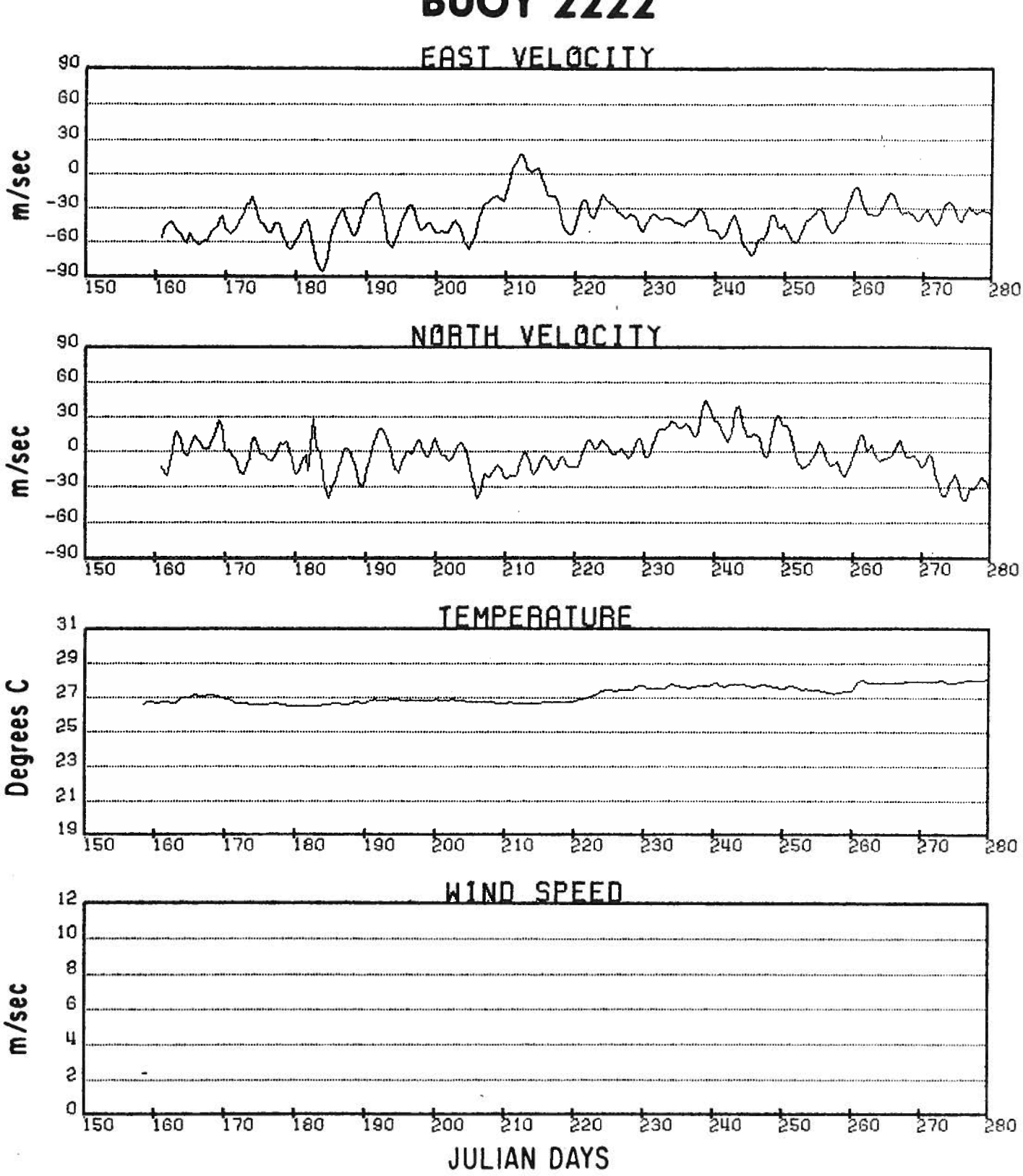


Figure 39. Time series of velocity and sensor data for drifting buoy 2222.

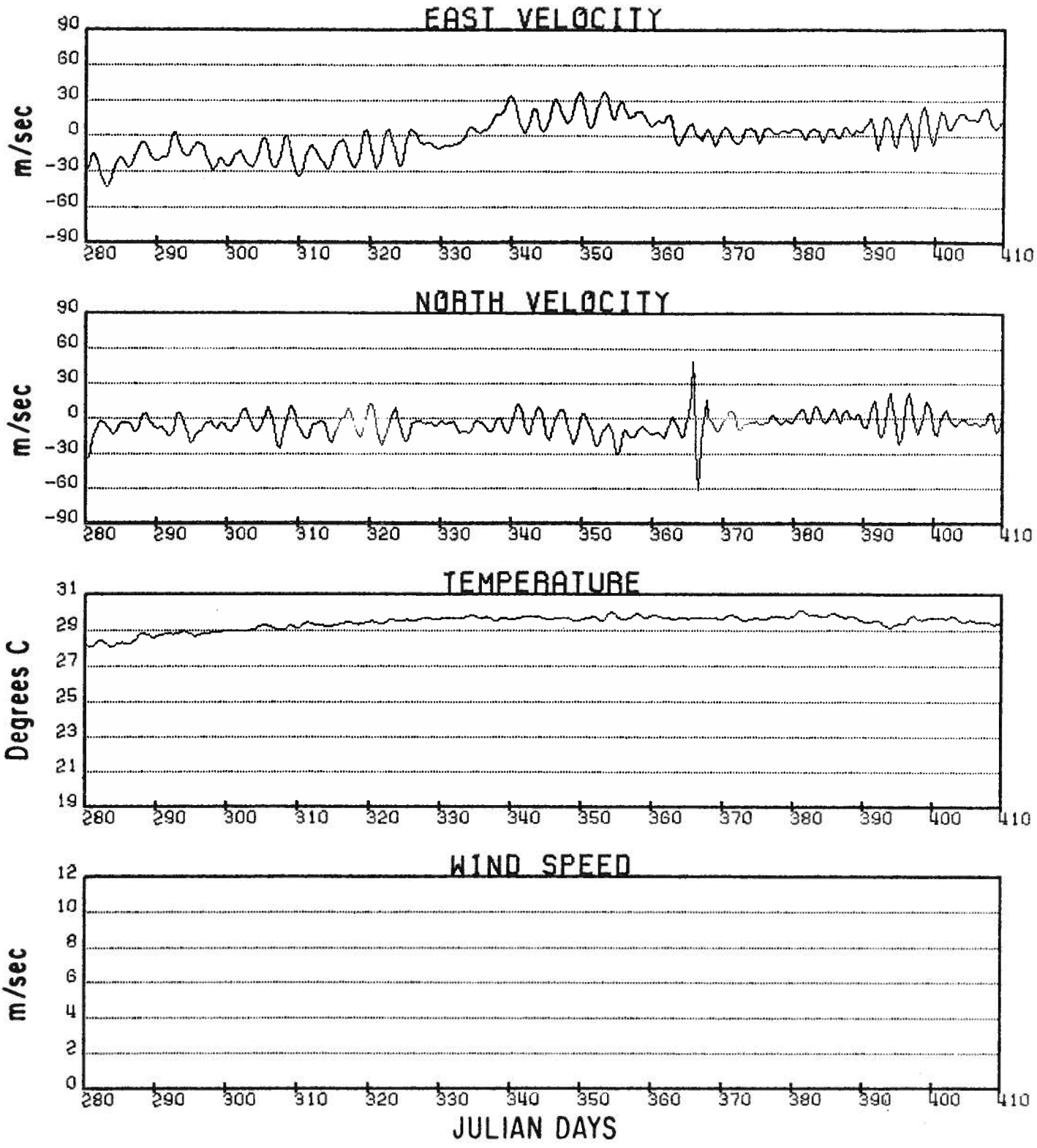


Figure 39. (Continued).

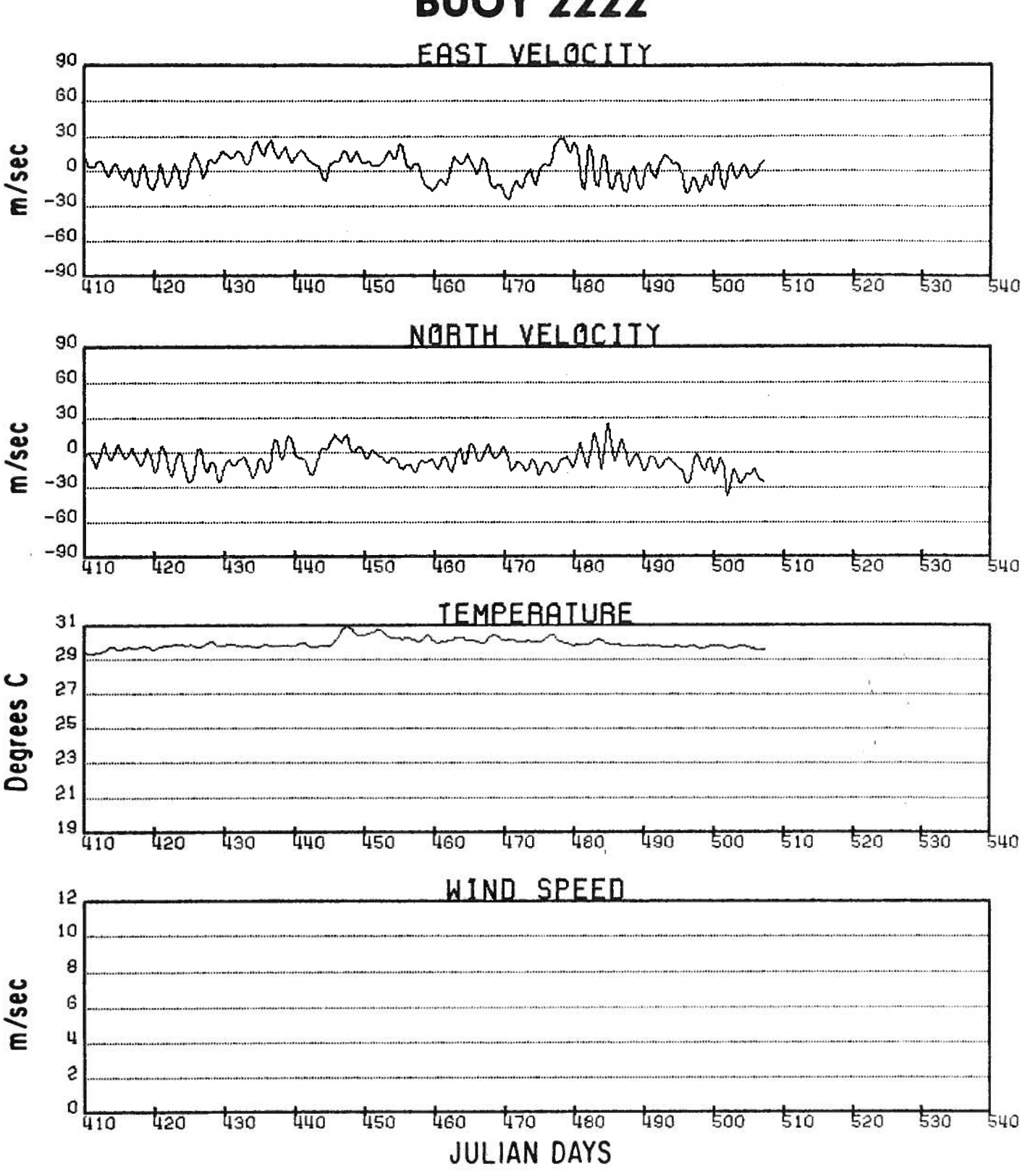


Figure 39. (Continued).

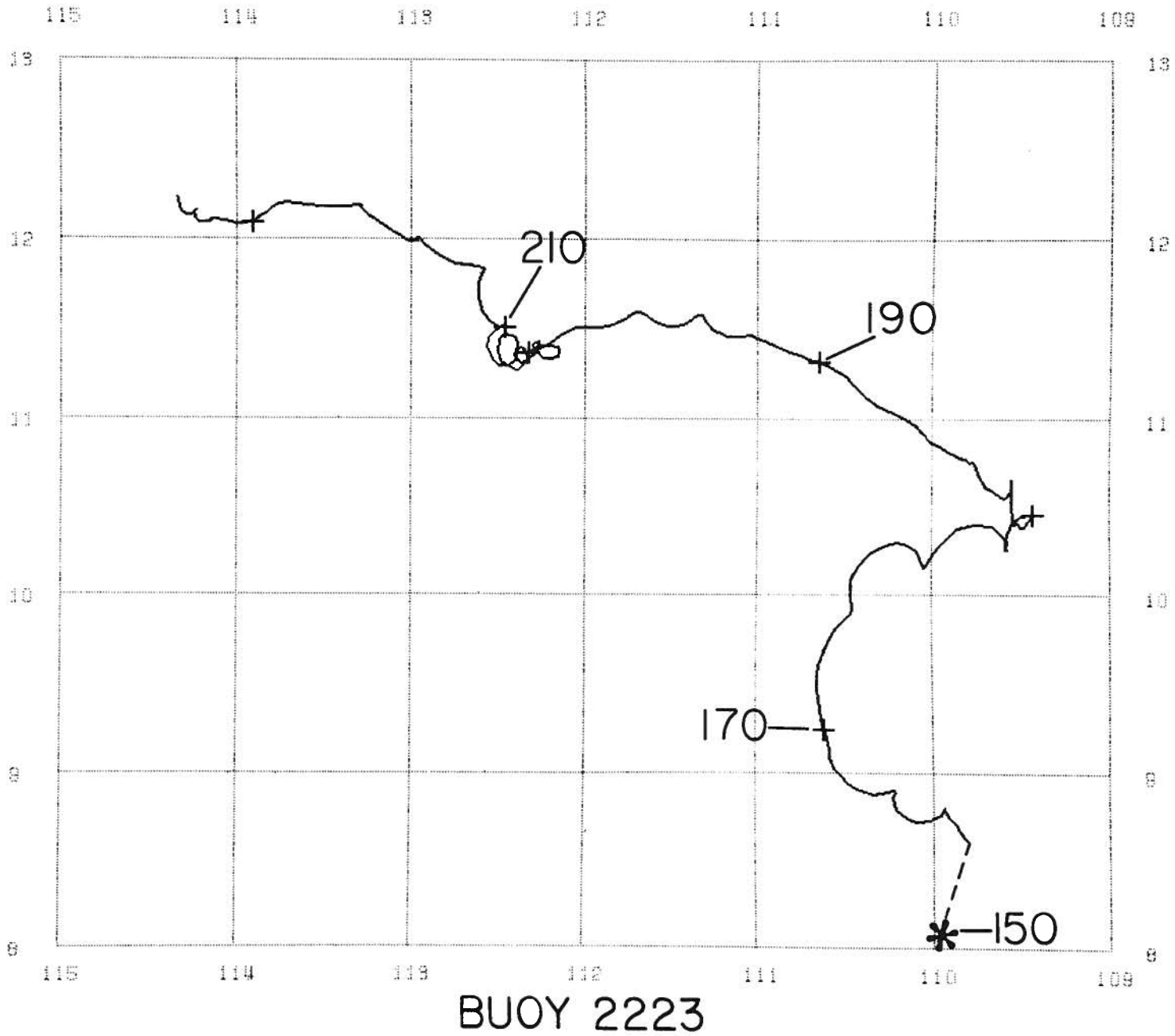


Figure 40. Trajectory of drifting buoy 2223.

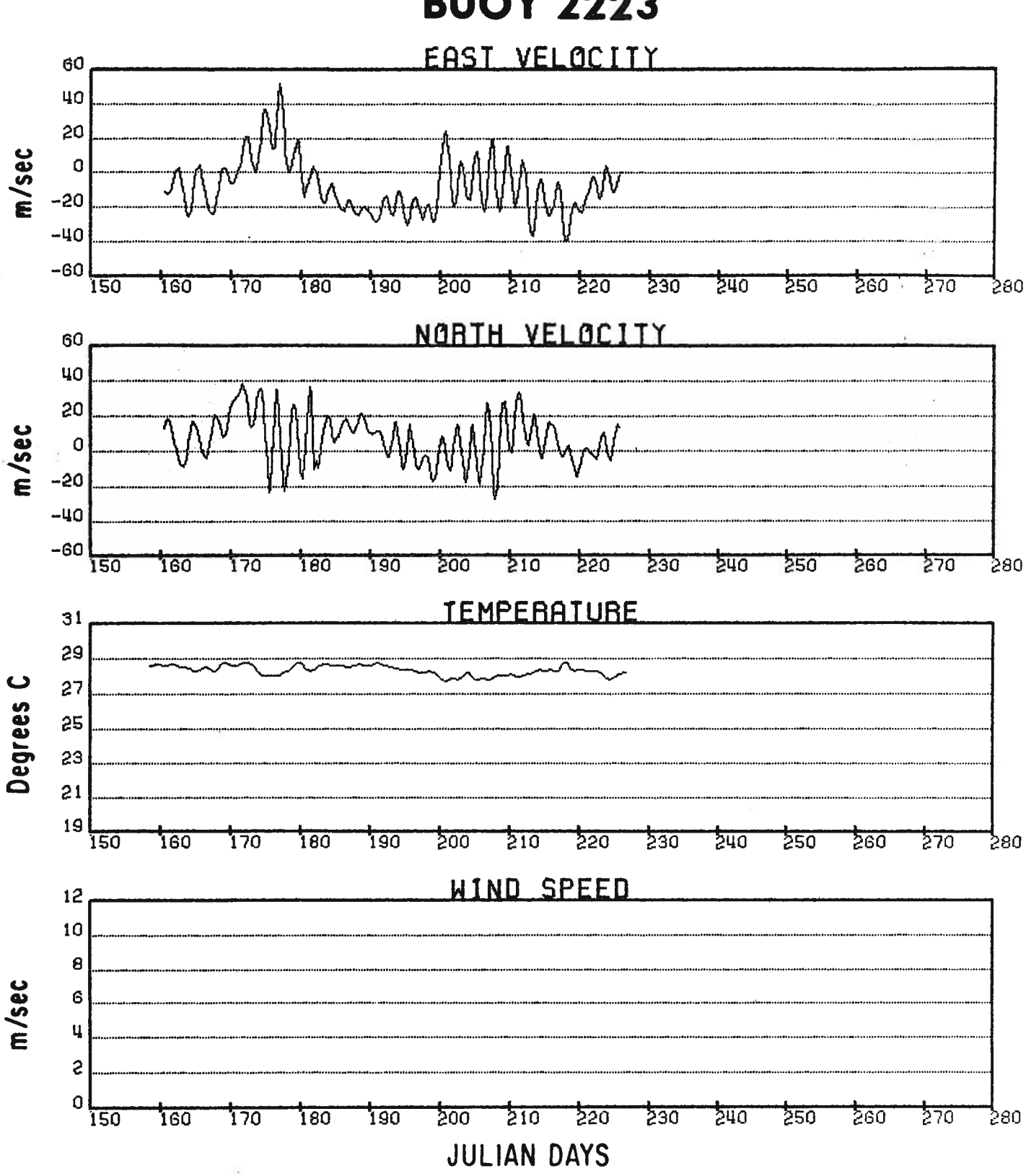


Figure 41. Time series of velocity and sensor data for drifting buoy 2223.

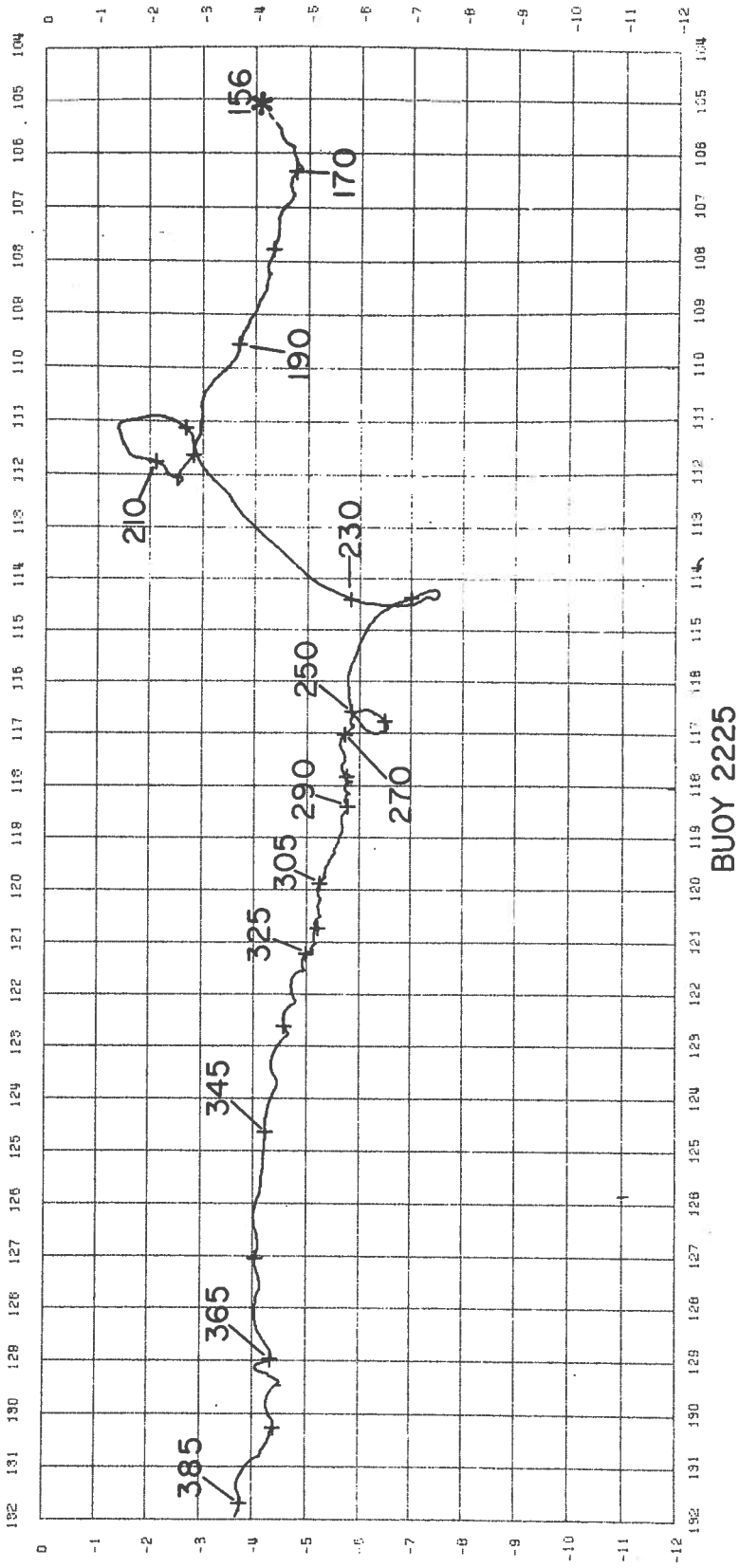


Figure 42. Trajectory of drifting buoy 2225.

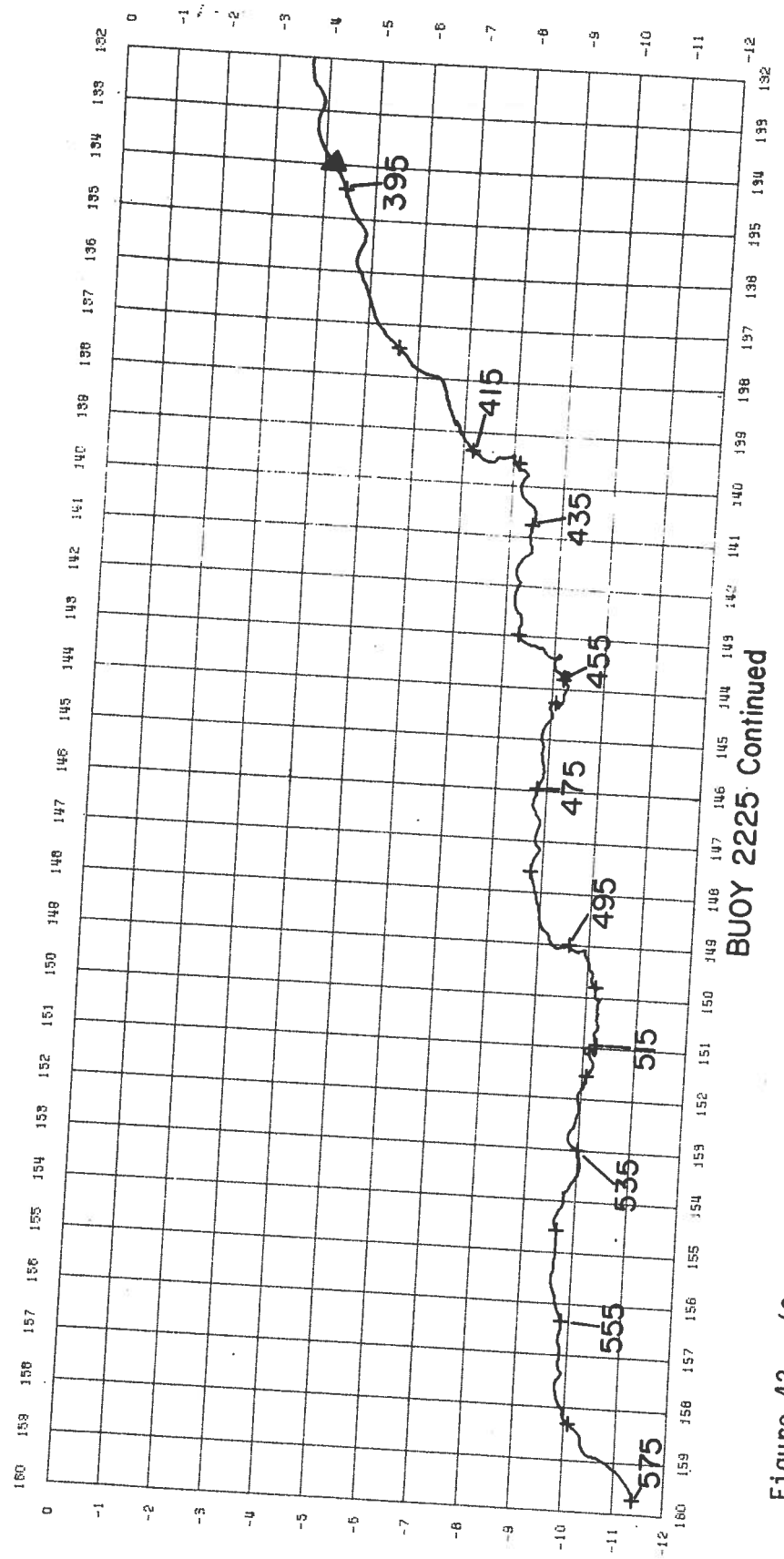


Figure 42. (Continued).

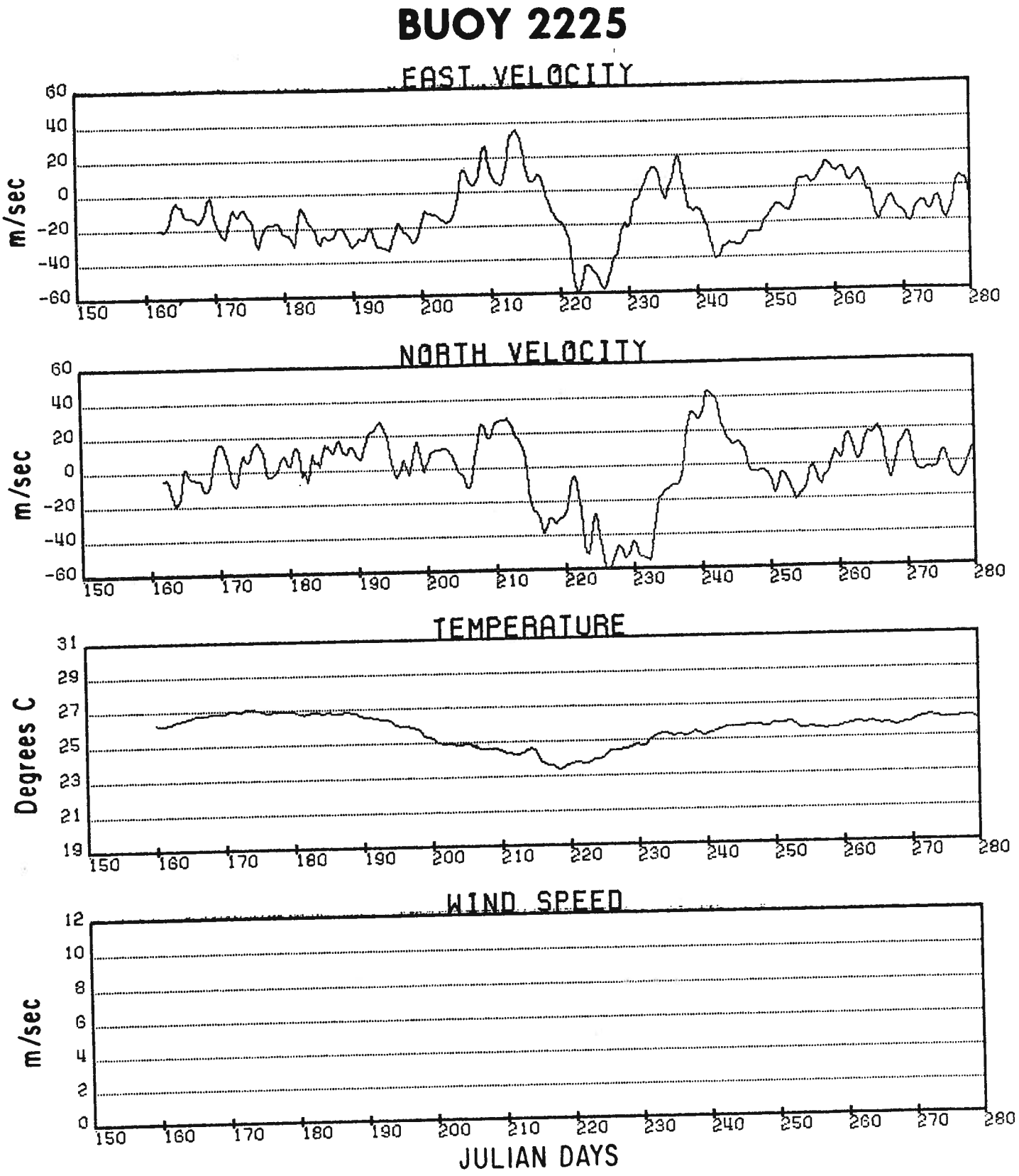


Figure 43. Time series of velocity and sensor data for drifting buoy 2225.

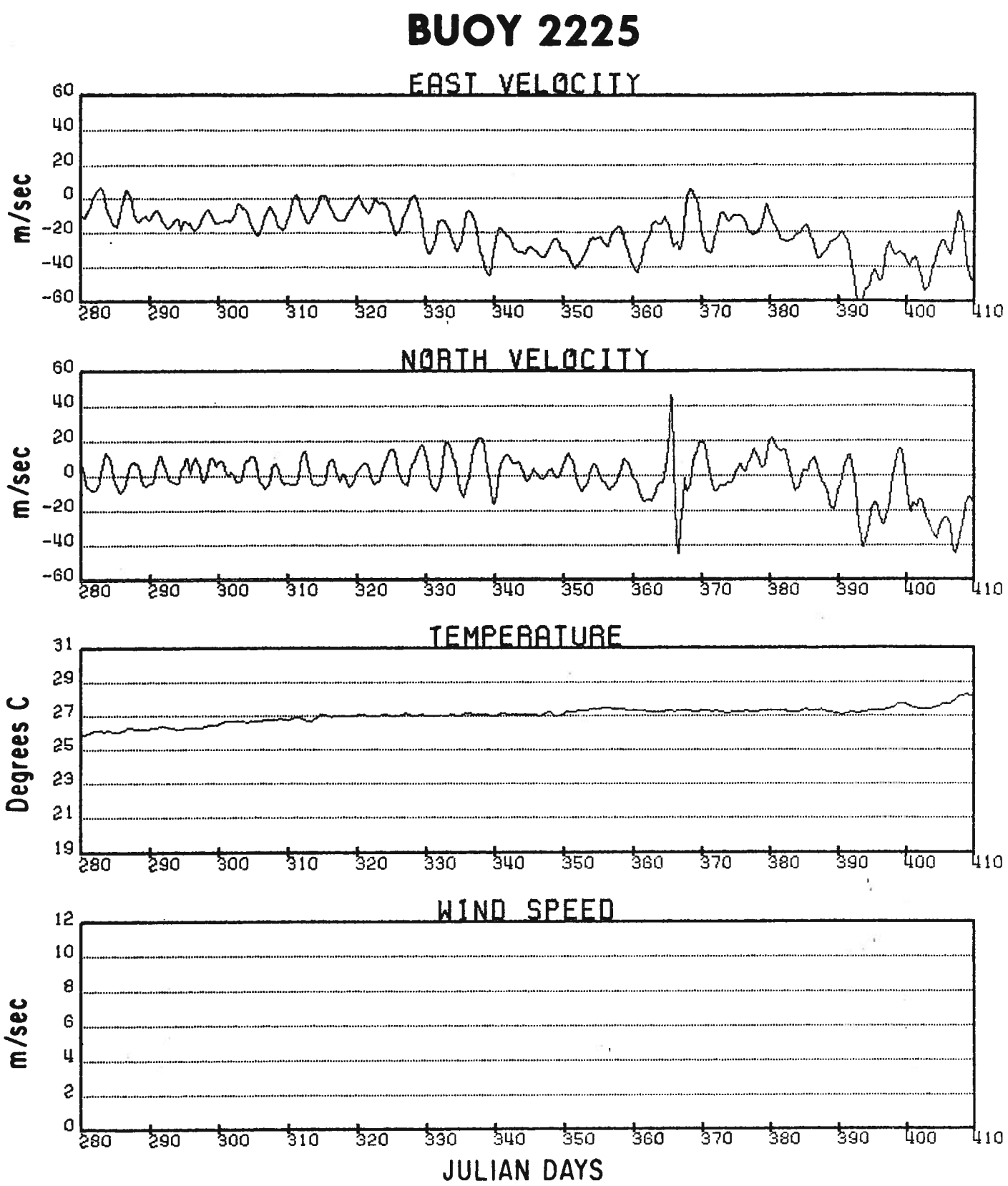


Figure 43. (Continued).

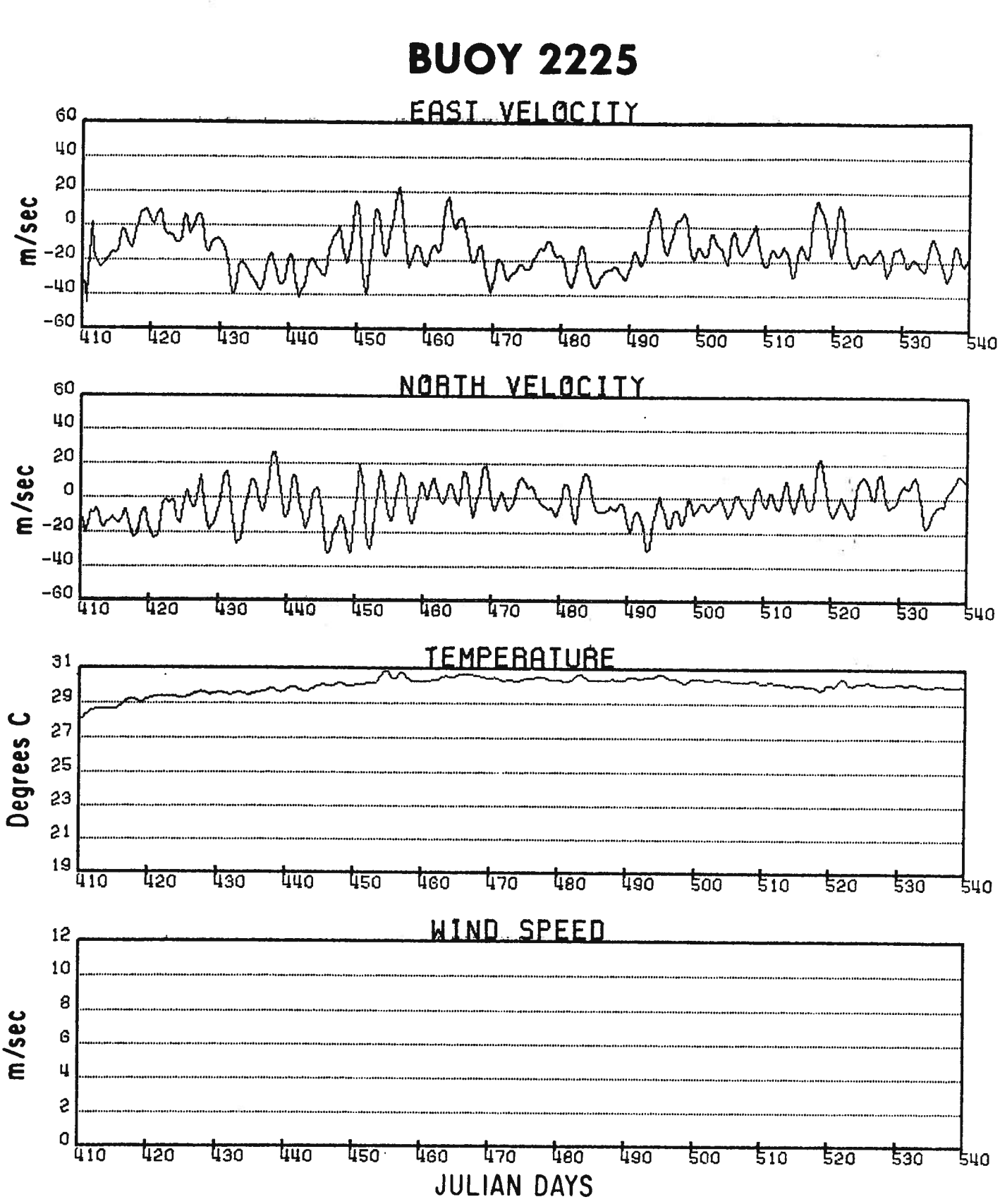


Figure 43. (Continued).

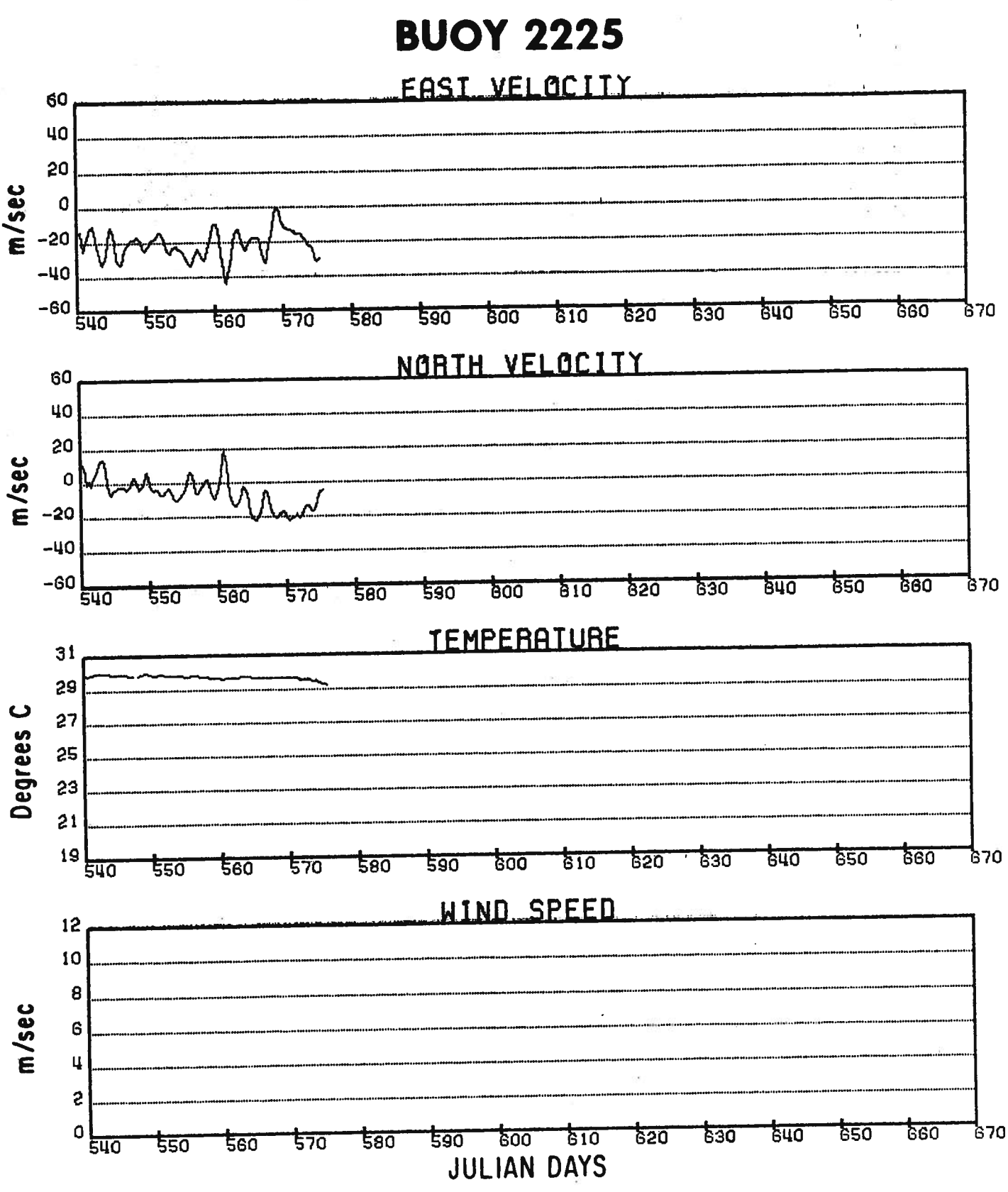


Figure 43. (Continued).

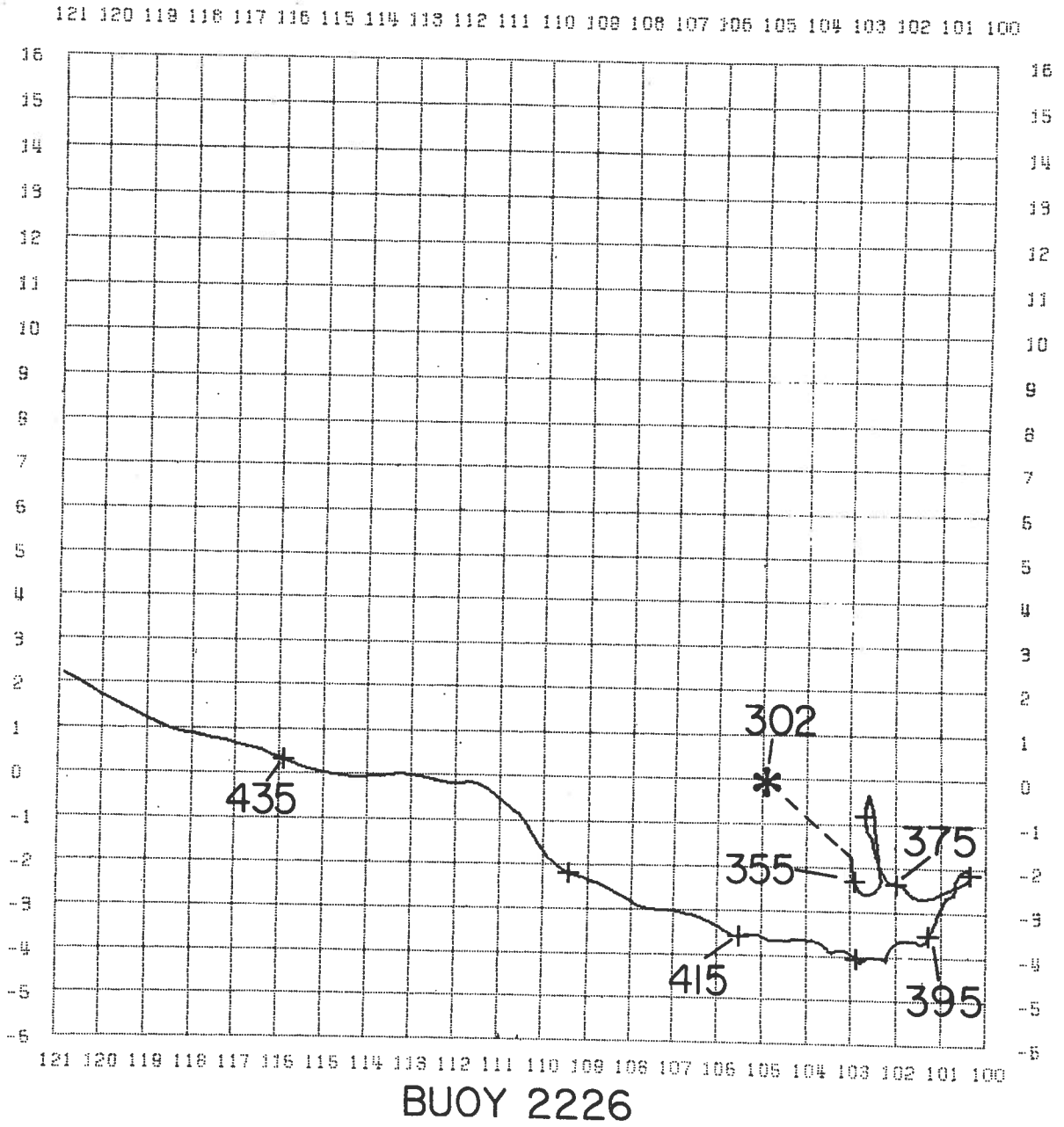


Figure 44. Trajectory of drifting buoy 2226.

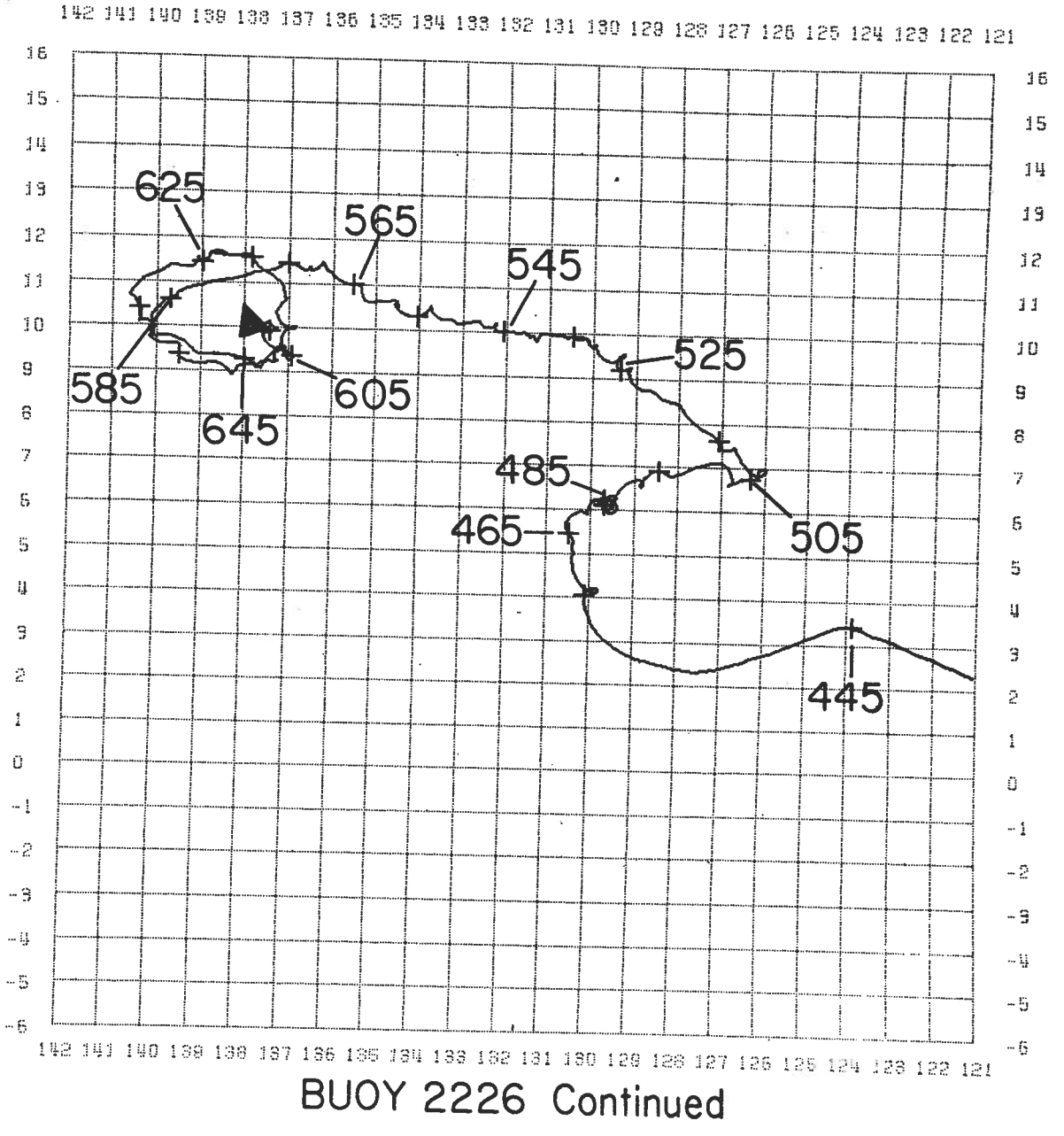


Figure 44. (Continued).

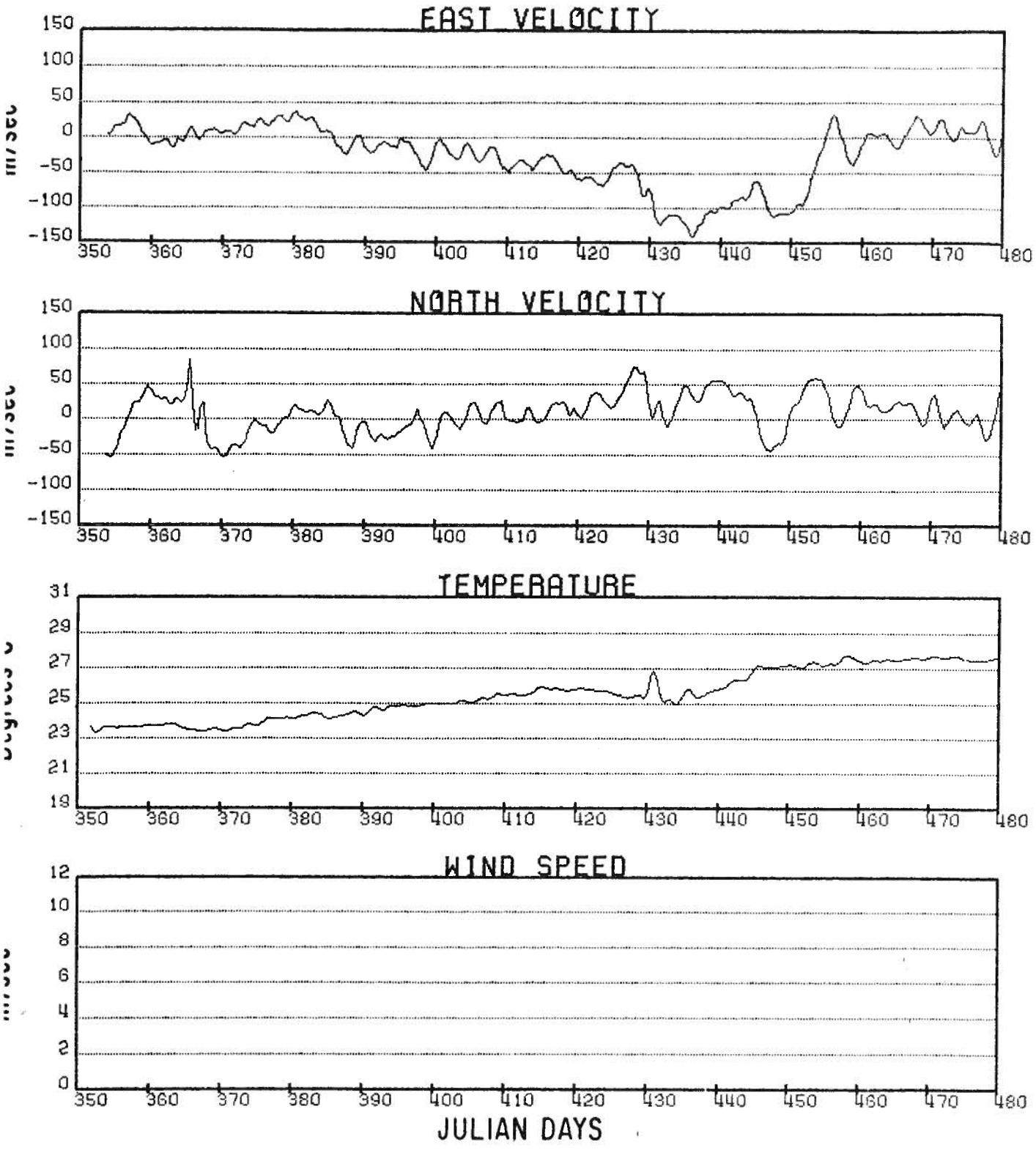


Figure 45. Time series of velocity and sensor data for drifting buoy 2226.

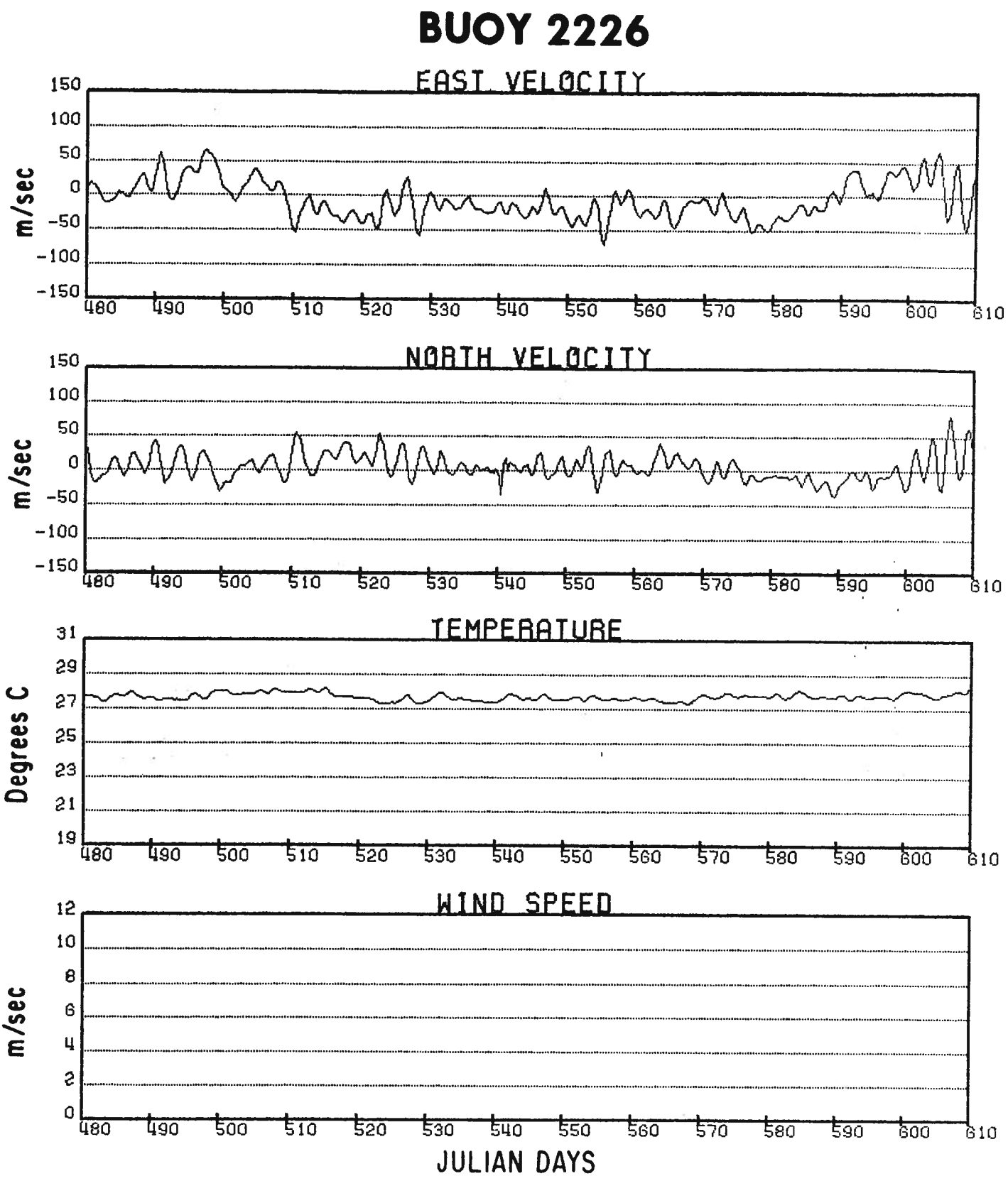


Figure 45. (Continued).

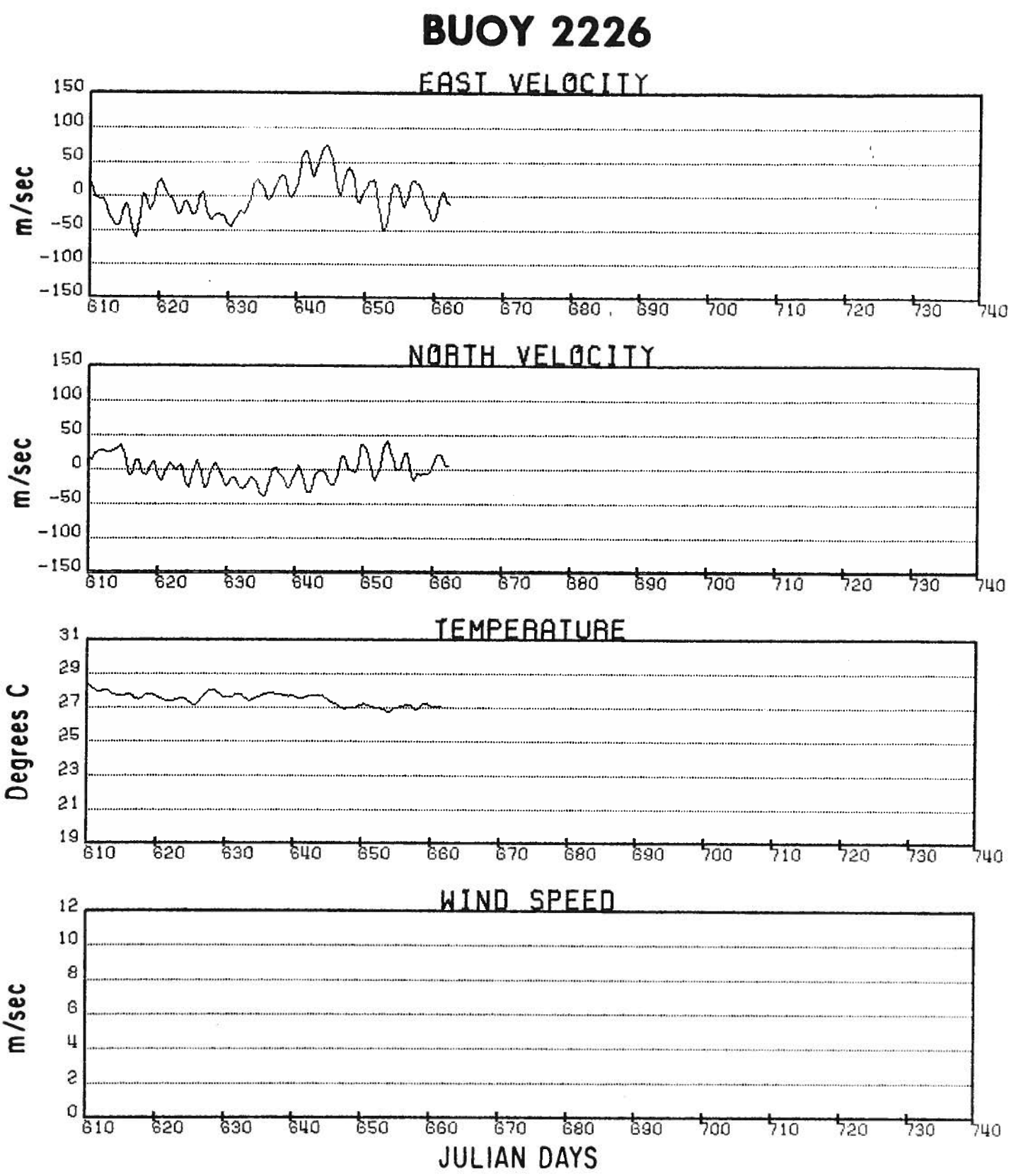


Figure 45. (Continued).

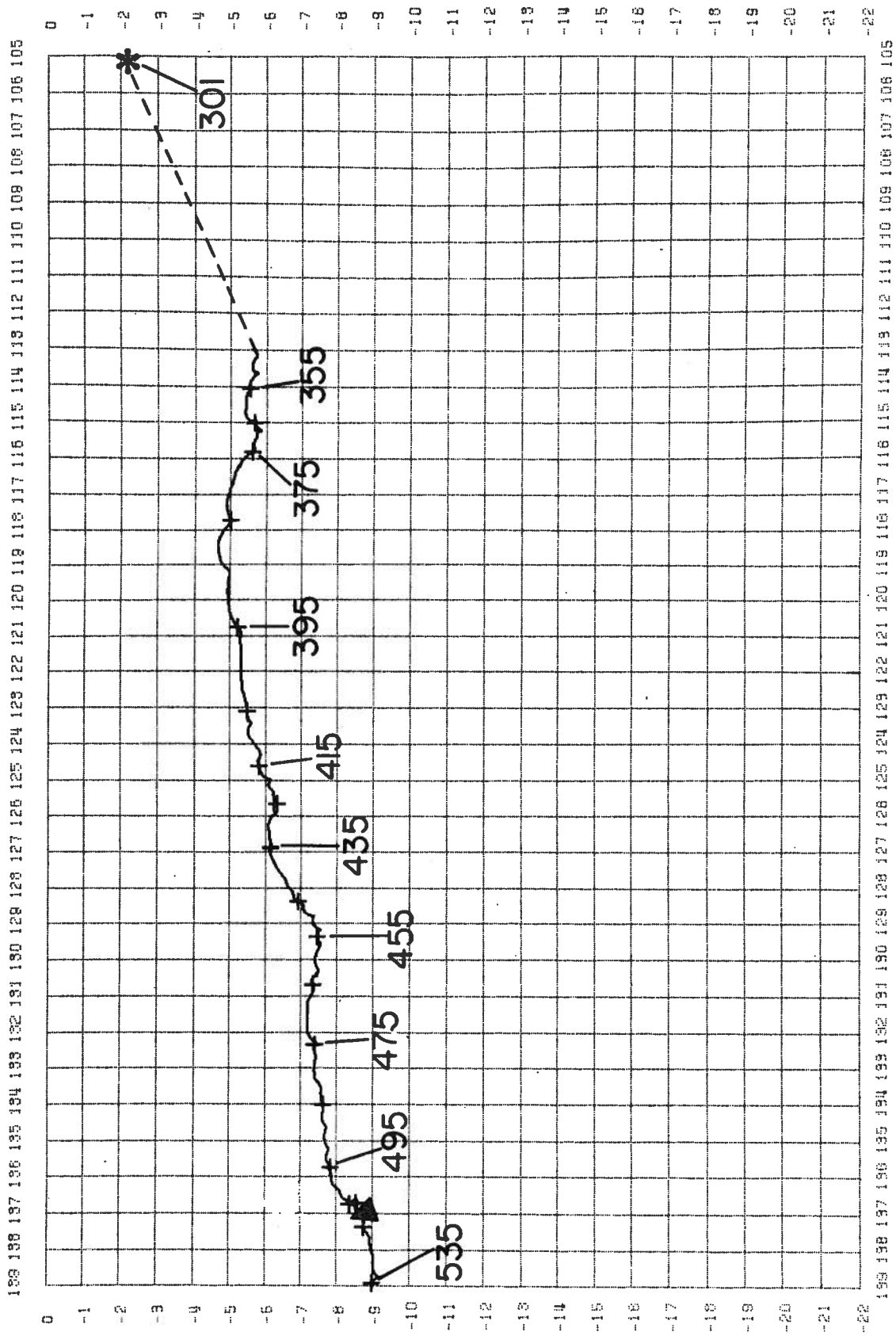


Figure 46. Trajectory of drifting buoy 2229.

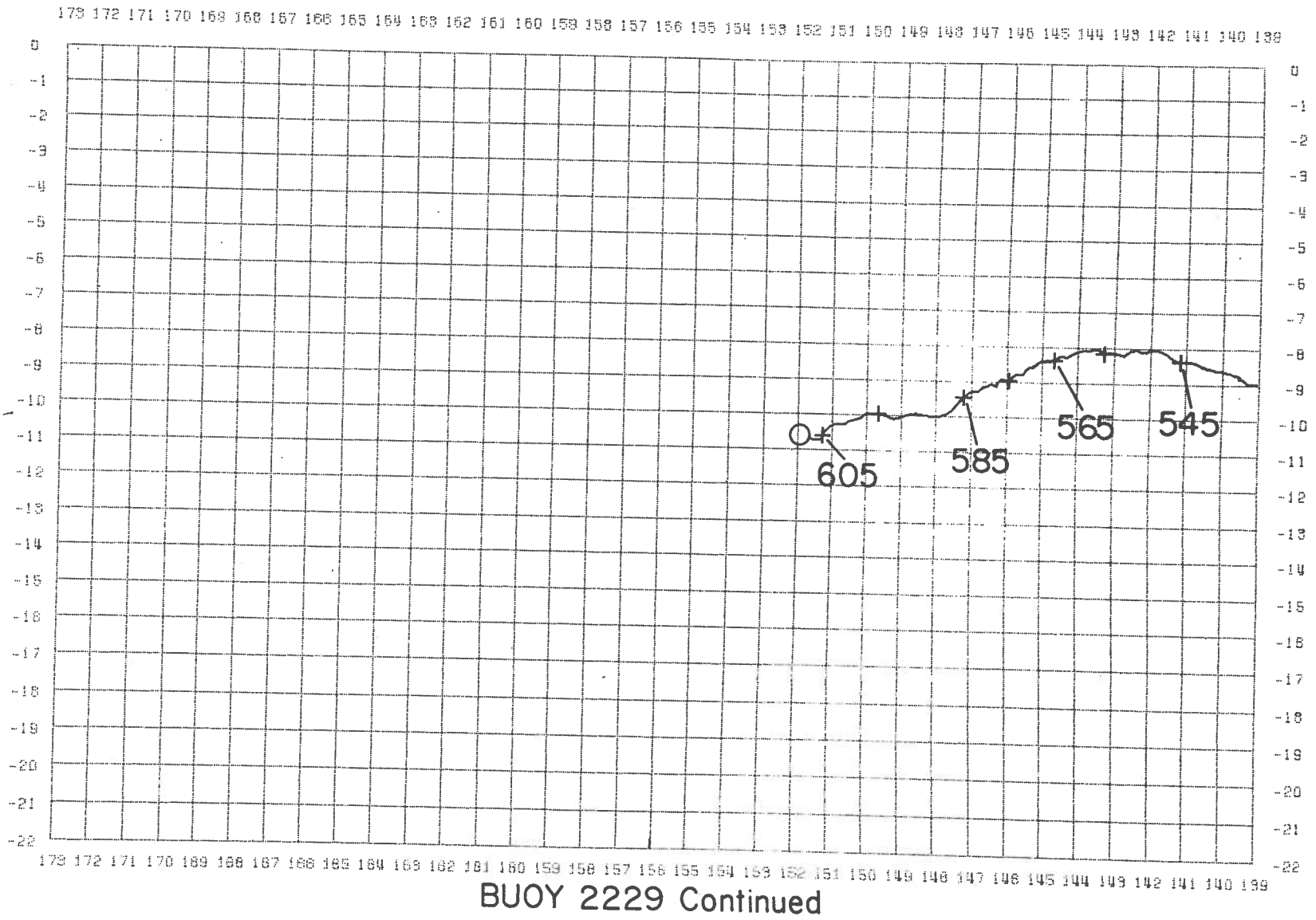


Figure 46. (Continued).

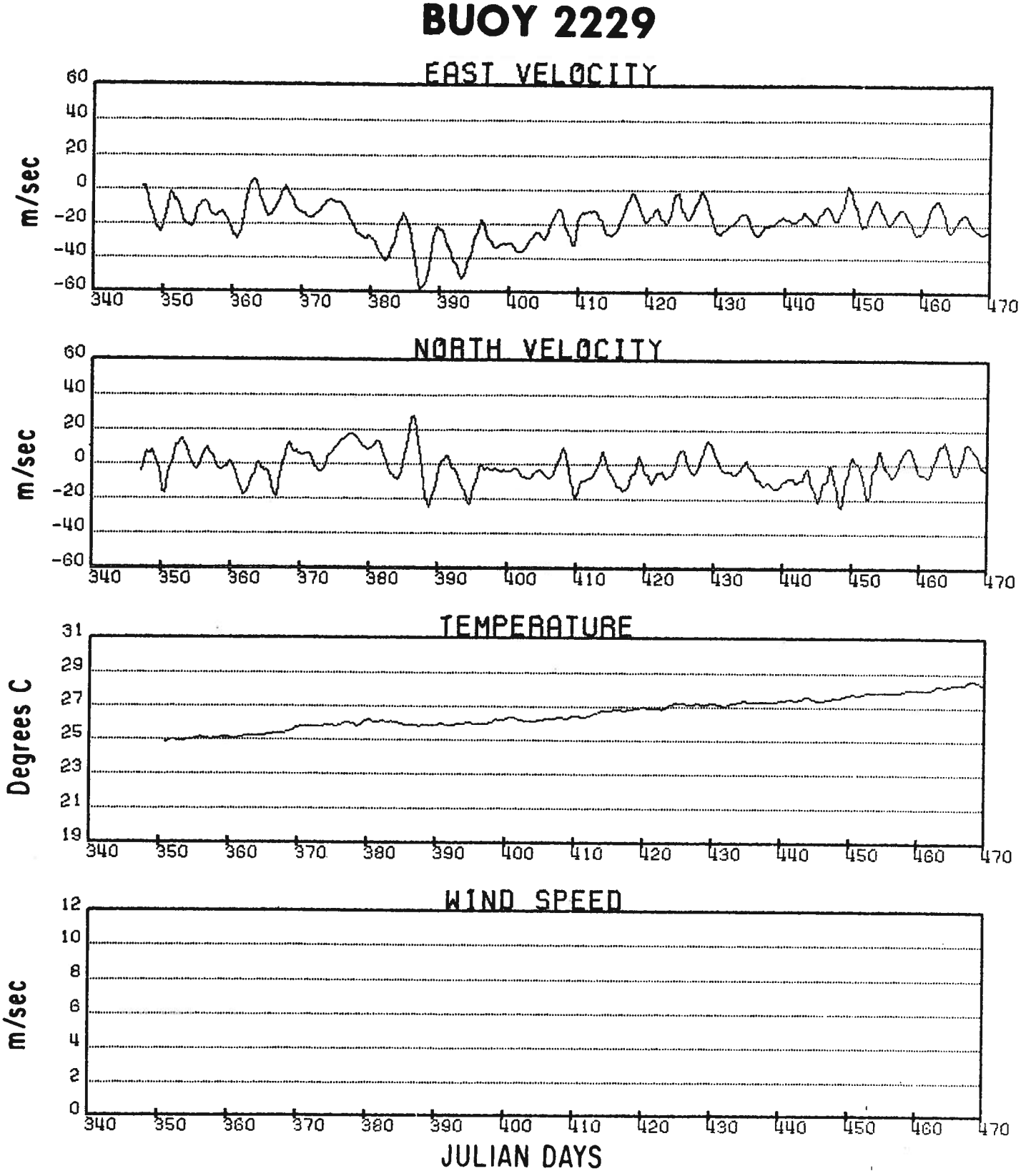


Figure 47. Time series of velocity and sensor data for drifting buoy 2229.

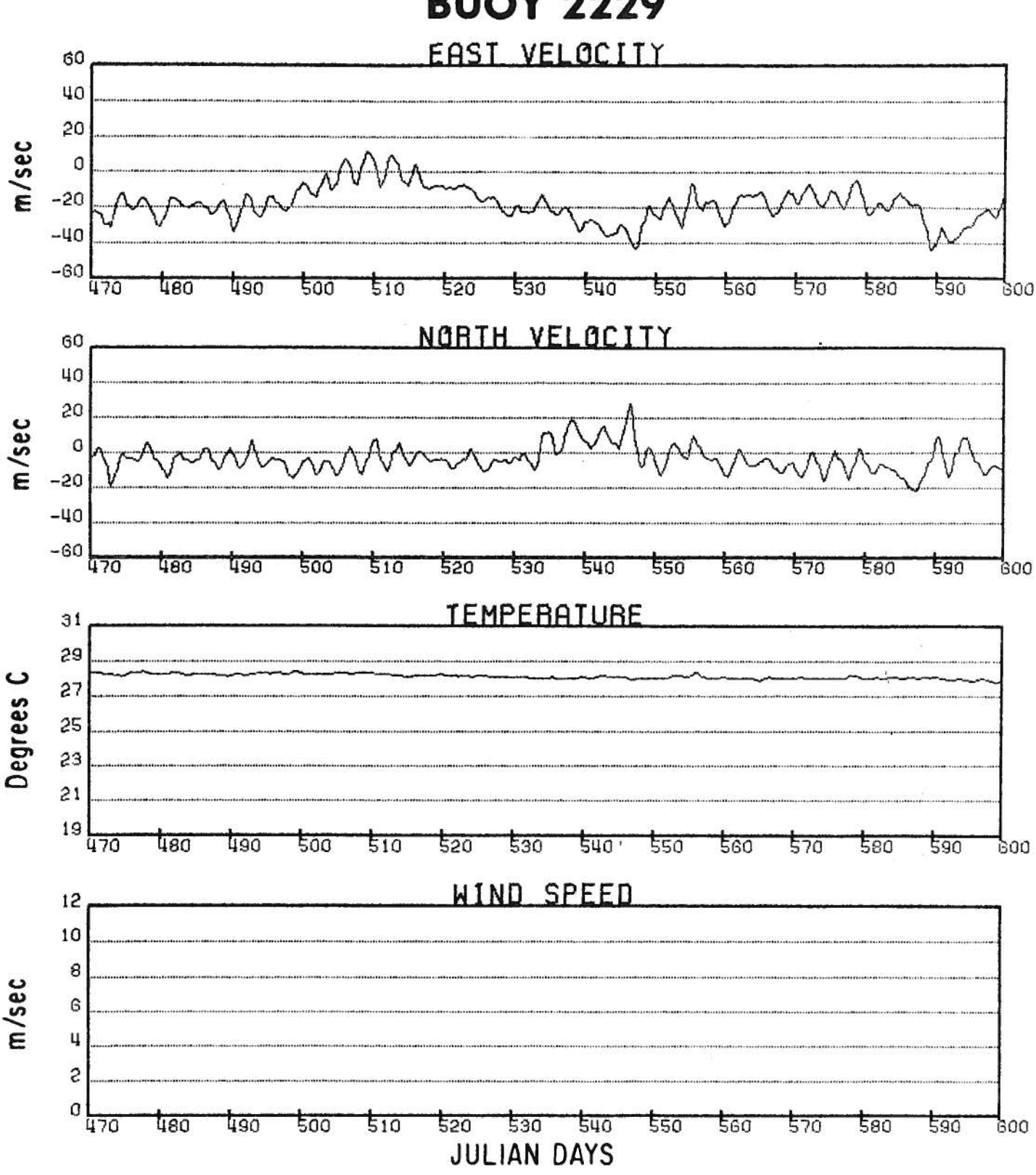


Figure 47. (Continued).

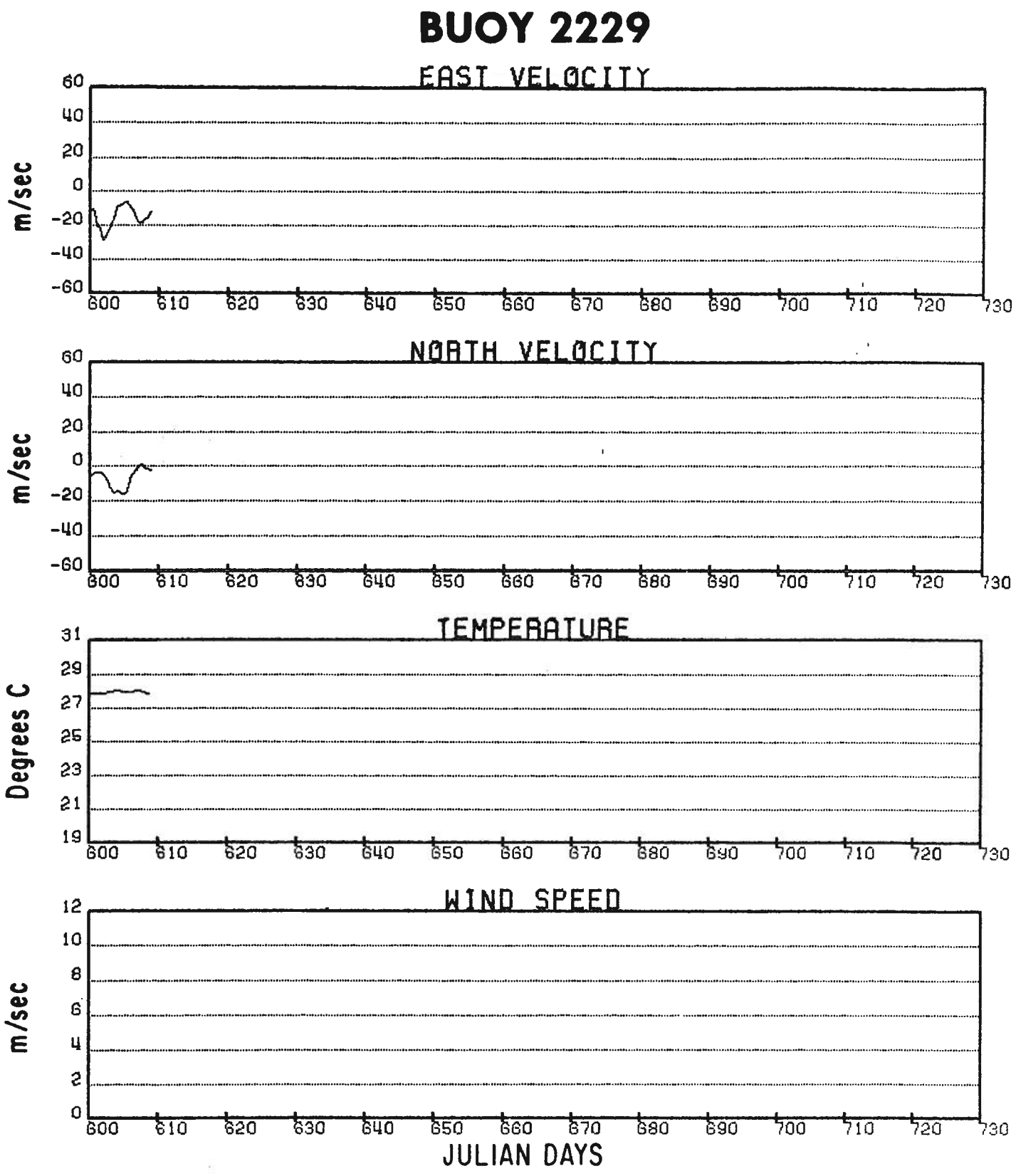


Figure 47. (Continued).

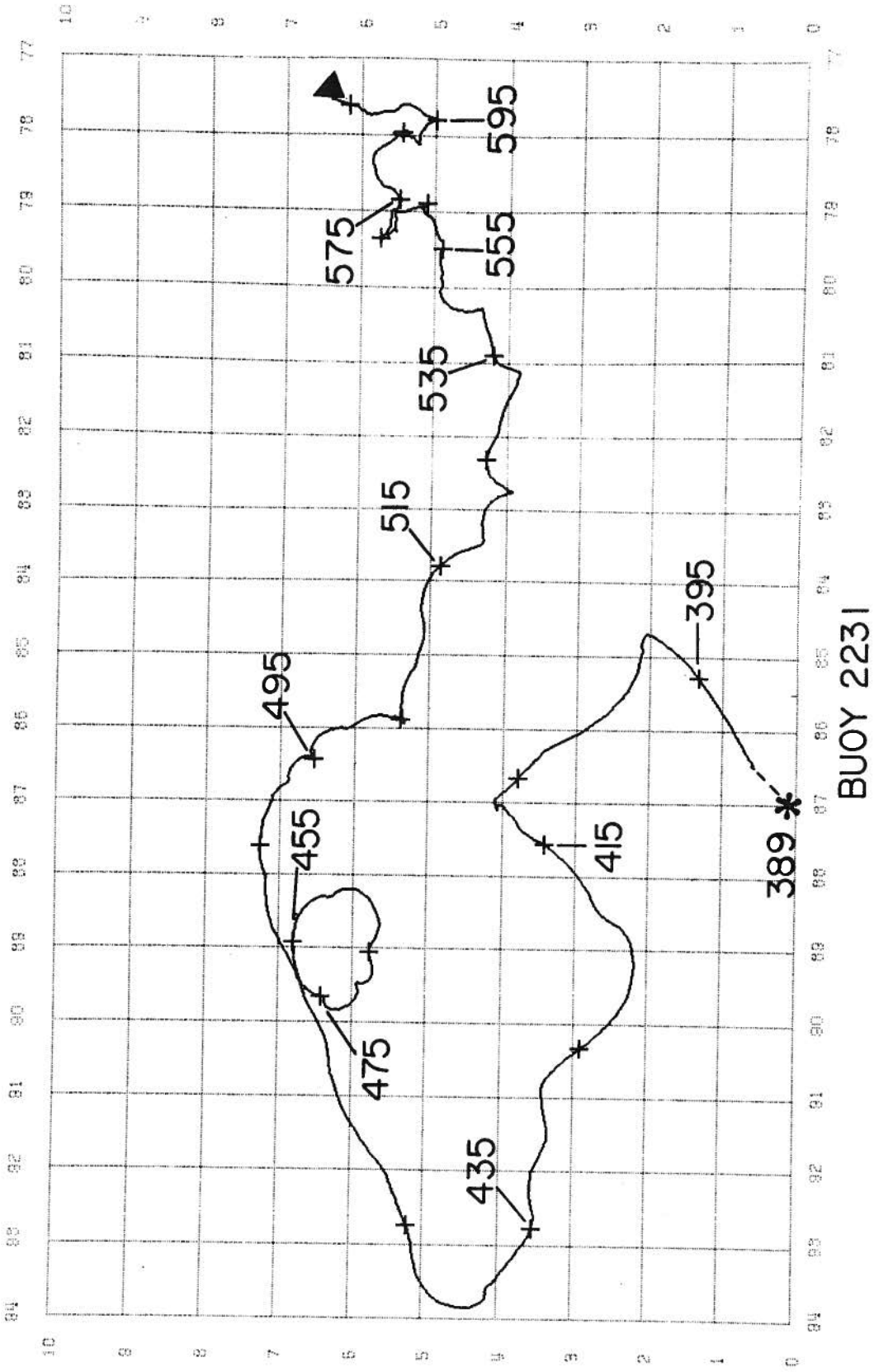


Figure 48. Trajectory of drifting buoy 2231.

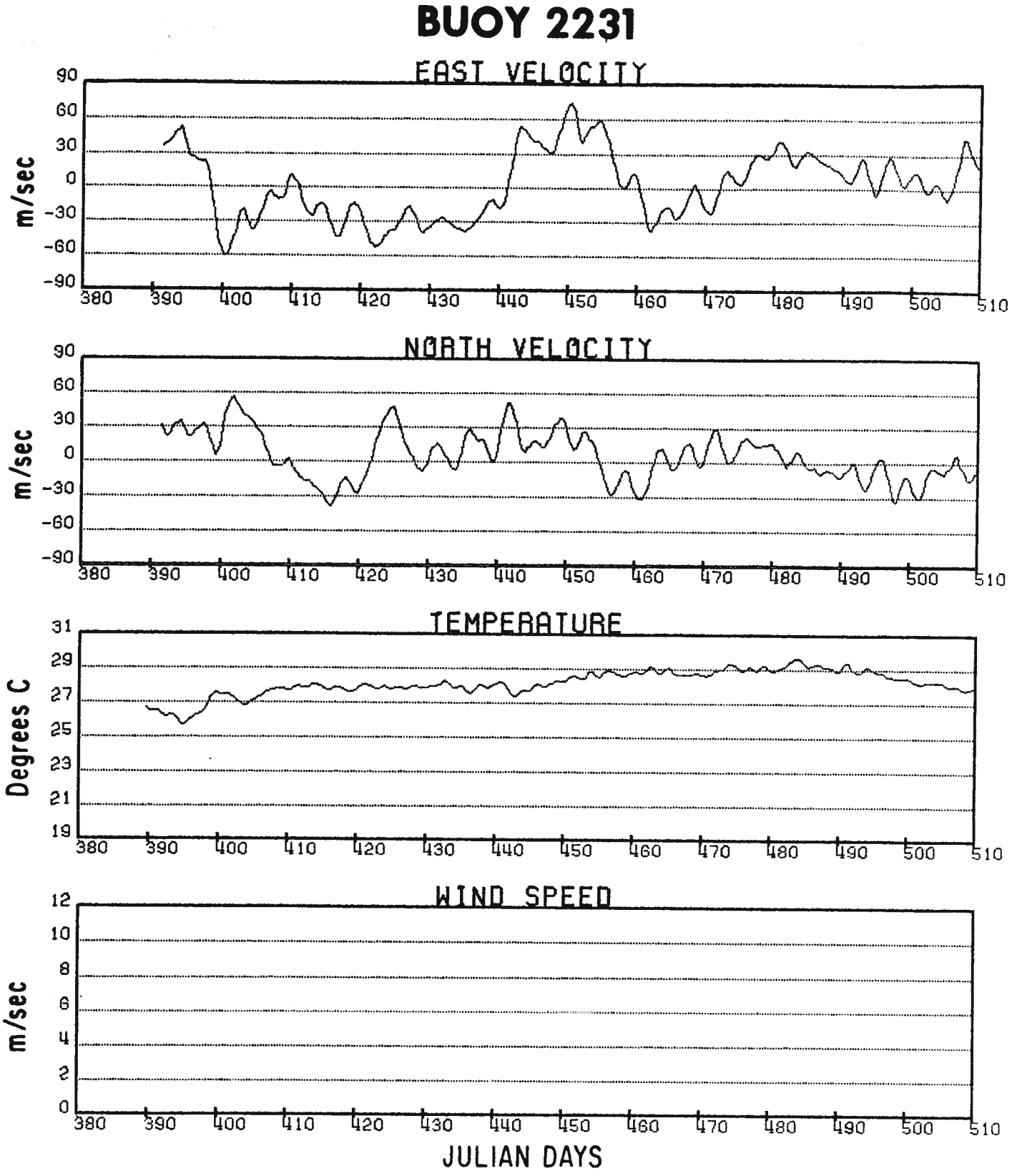


Figure 49. Time series of velocity and sensor data for drifting buoy 2231.

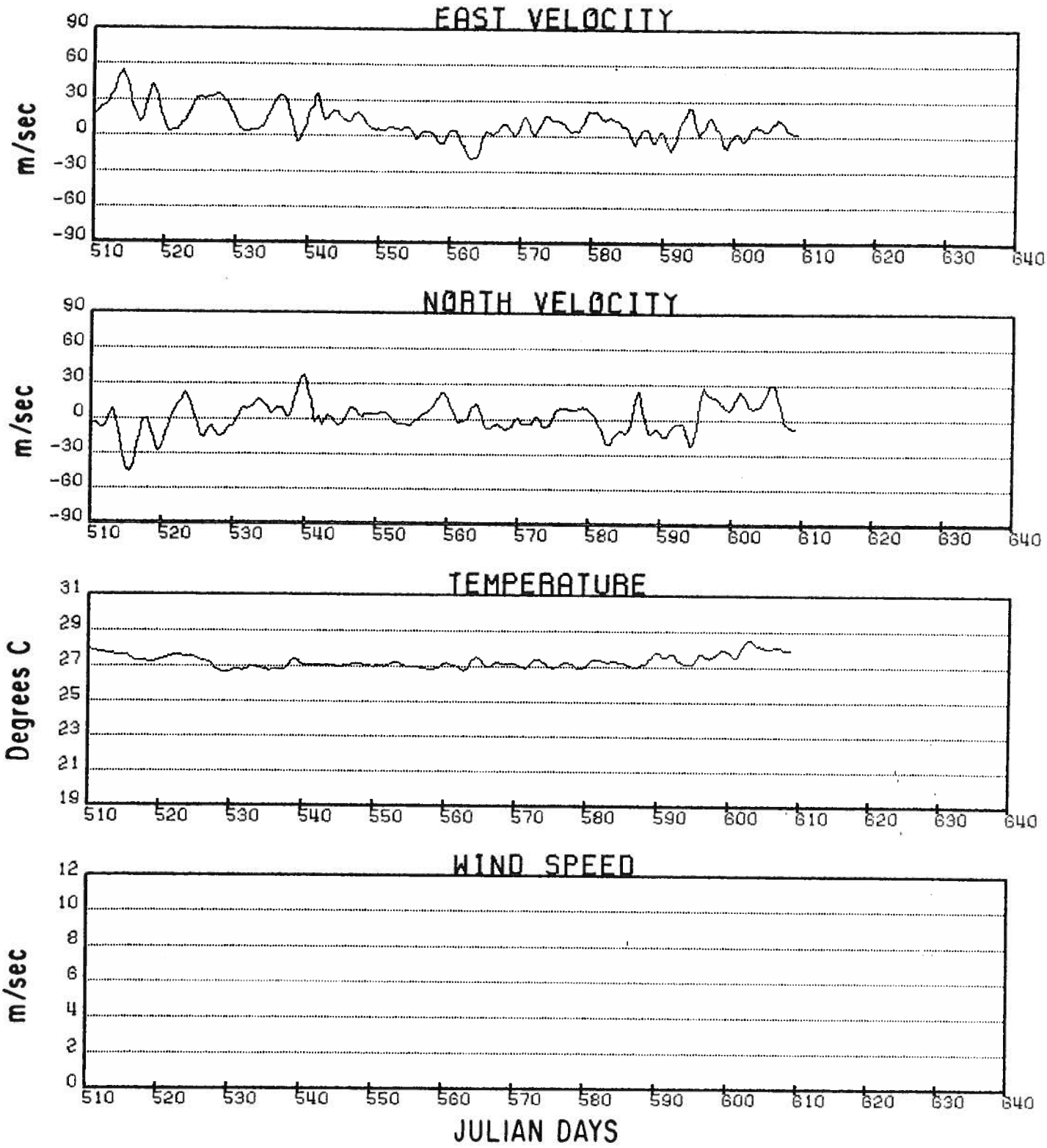


Figure 49. (Continued).

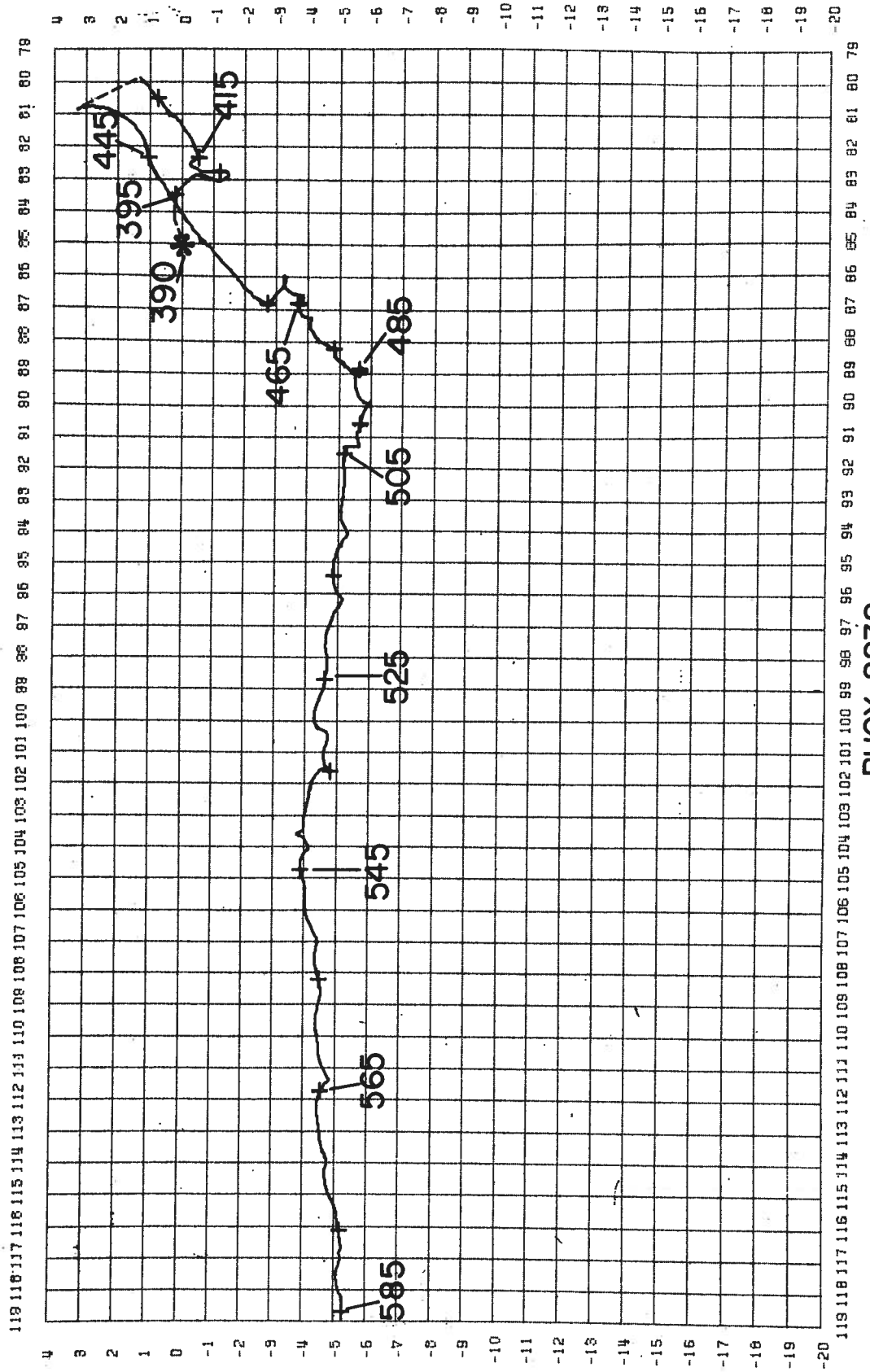


Figure 50. Trajectory of drifting buoy 2232.

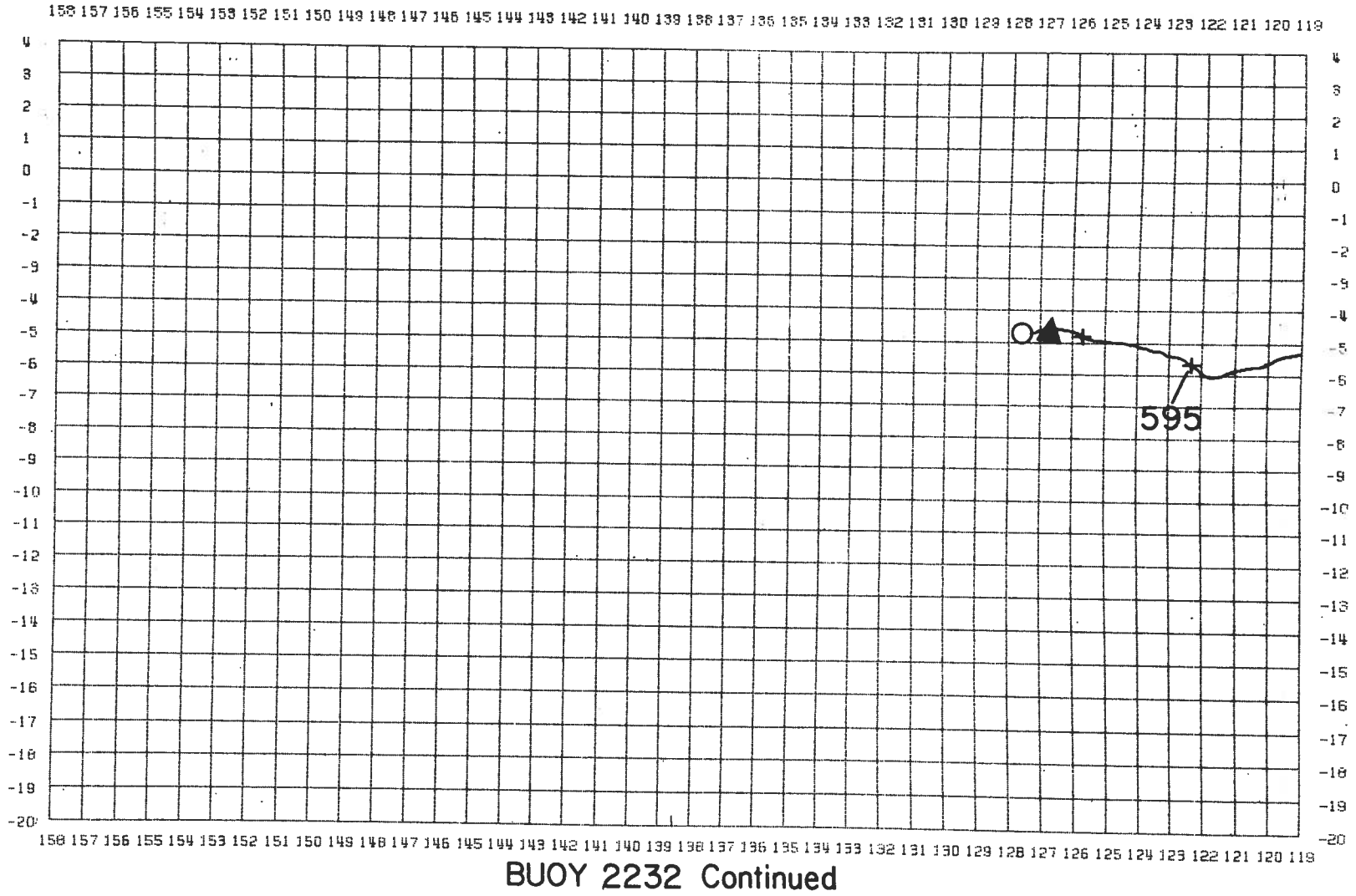


Figure 50. (Continued).

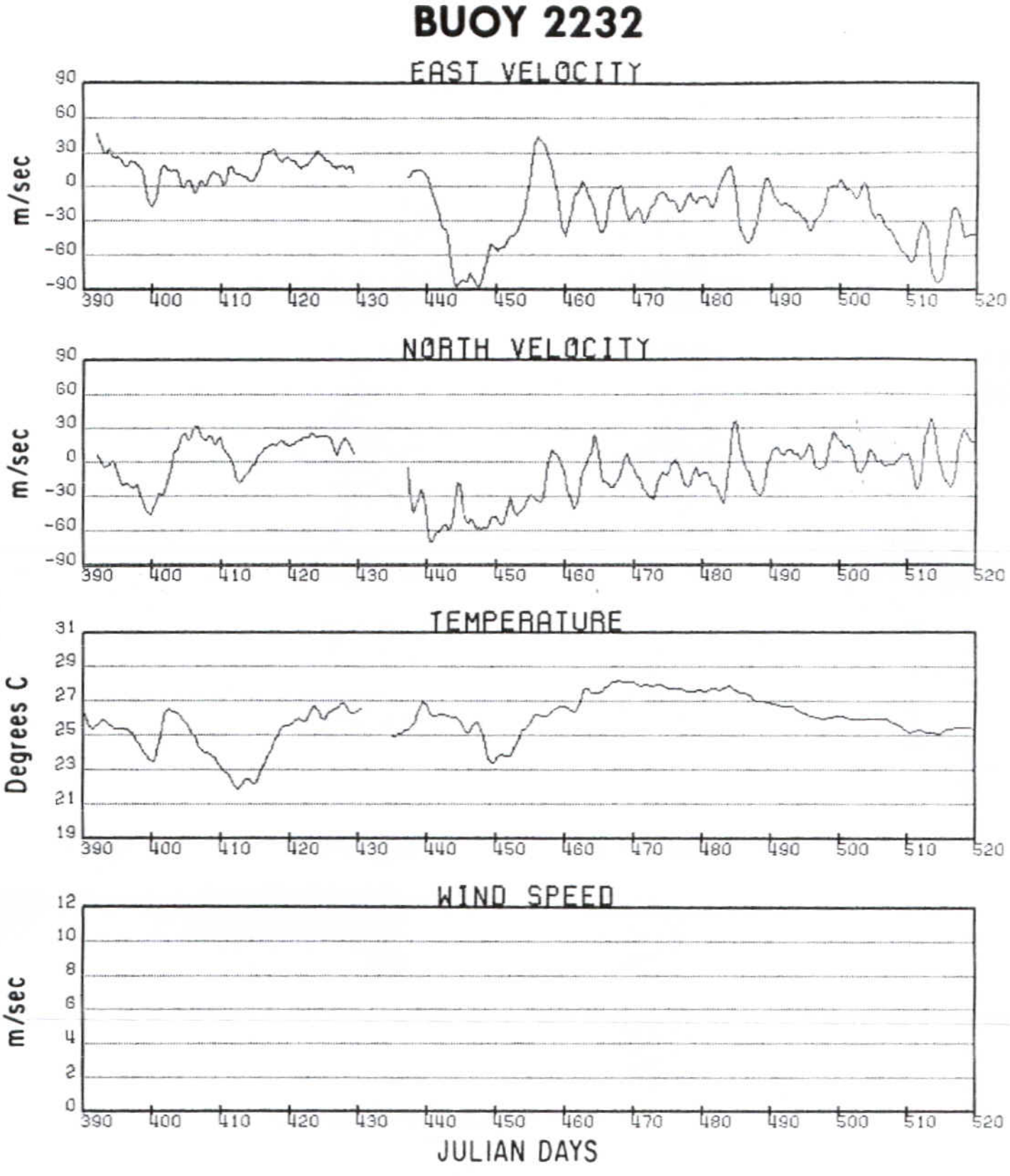


Figure 51. Time series of velocity and sensor data for drifting buoy 2232.

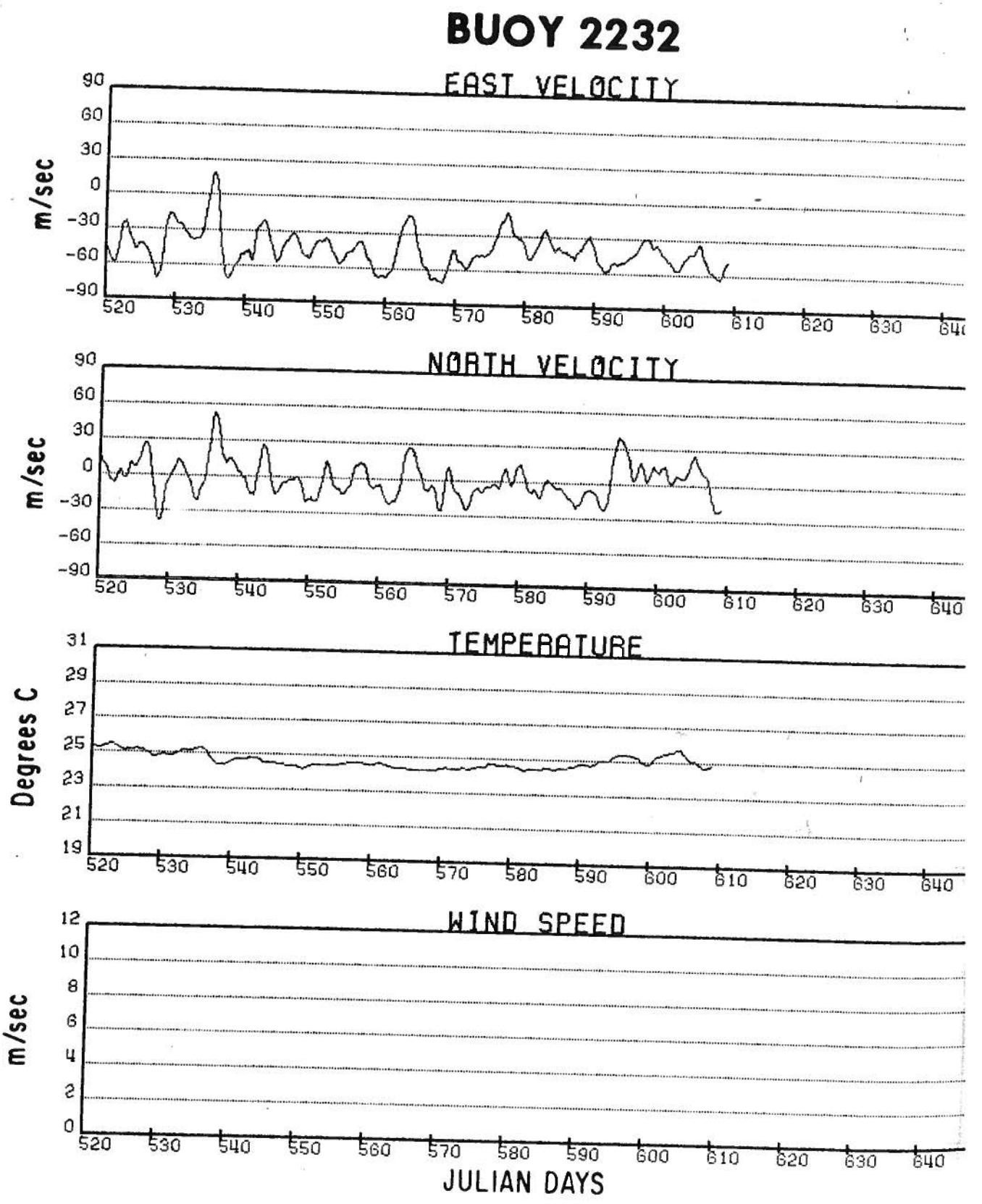


Figure 51. (Continued).

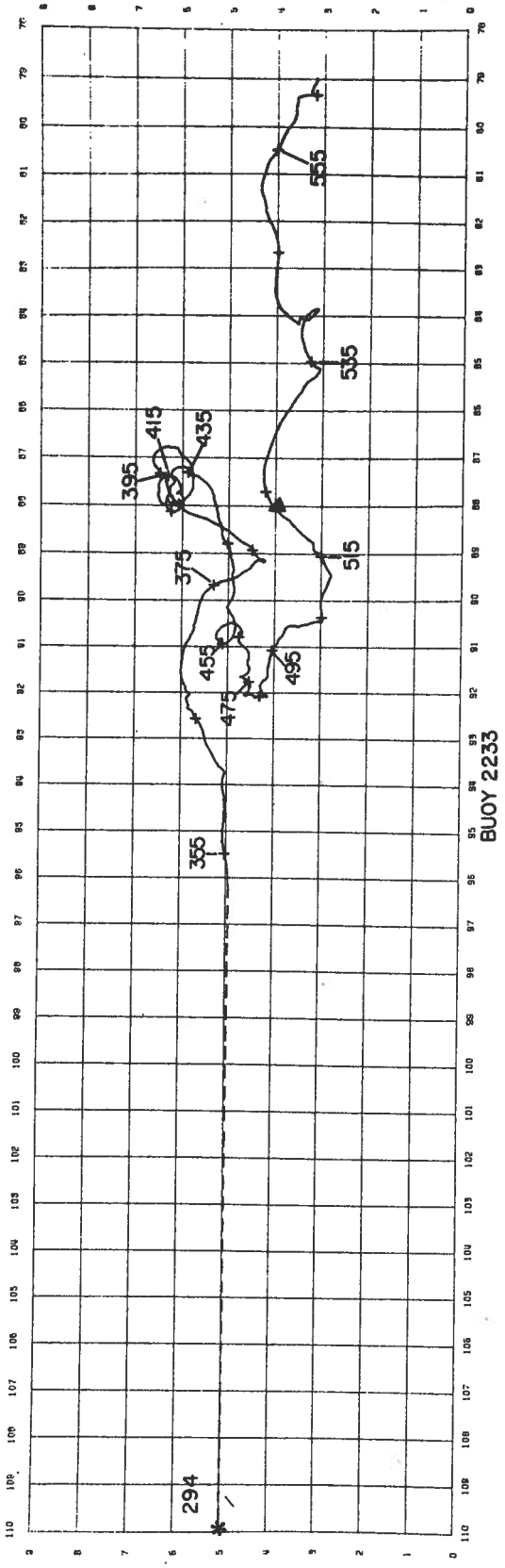


Figure 52. Trajectory of drifting buoy 2233.

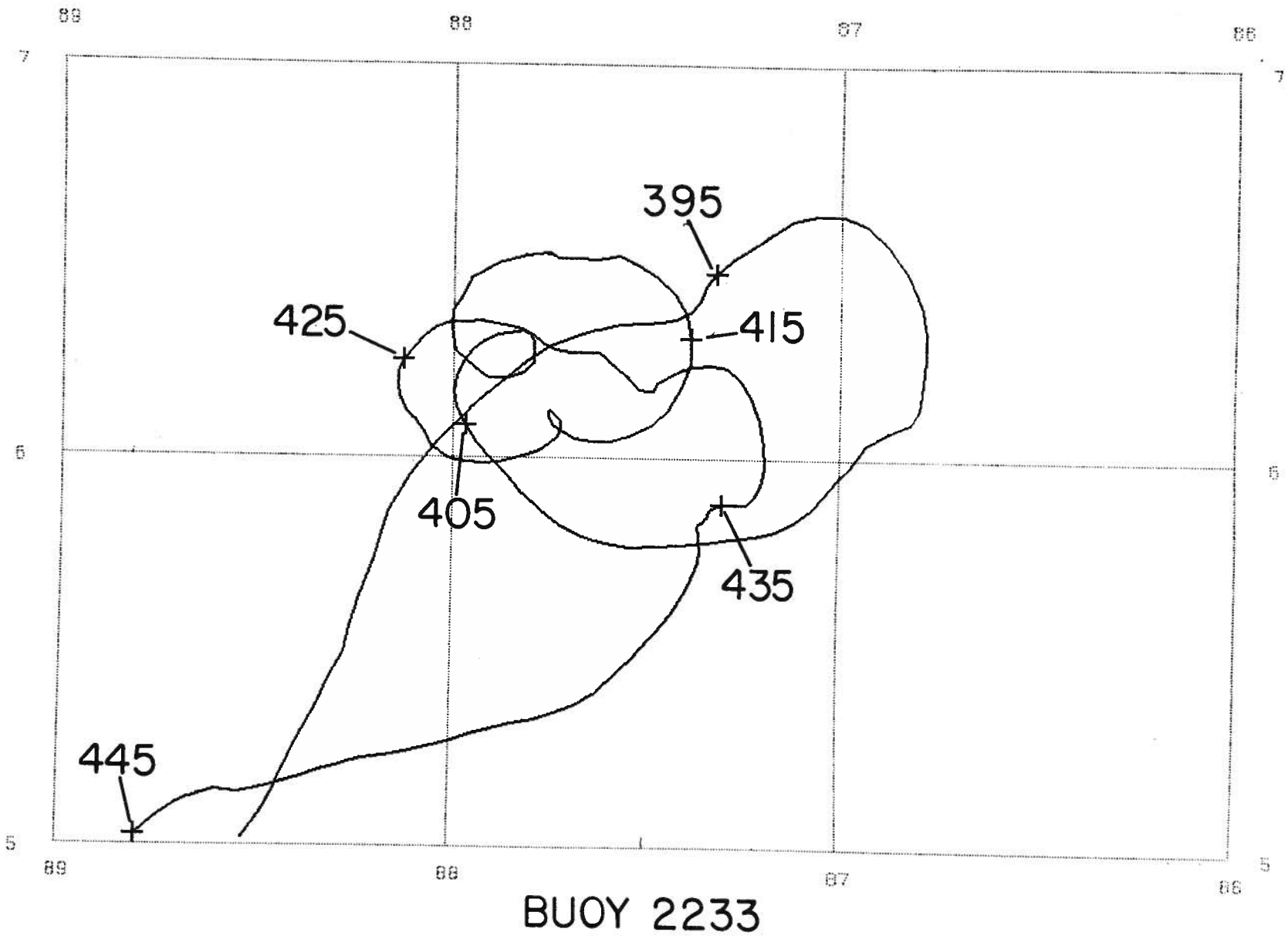


Figure 53. Trajectory detail for drifting buoy 2233.

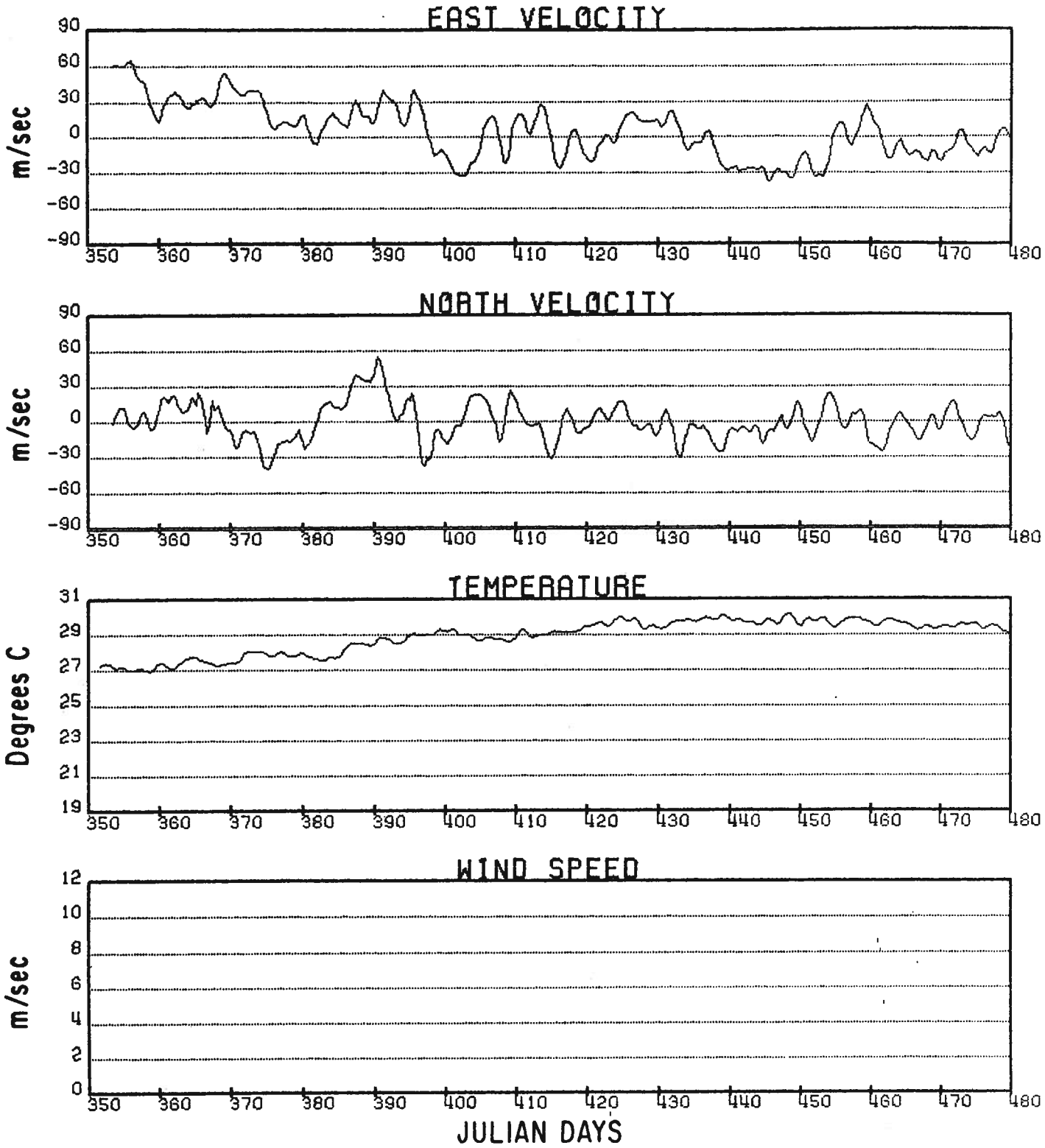


Figure 54. Time series of velocity and sensor data for drifting buoy 2233.

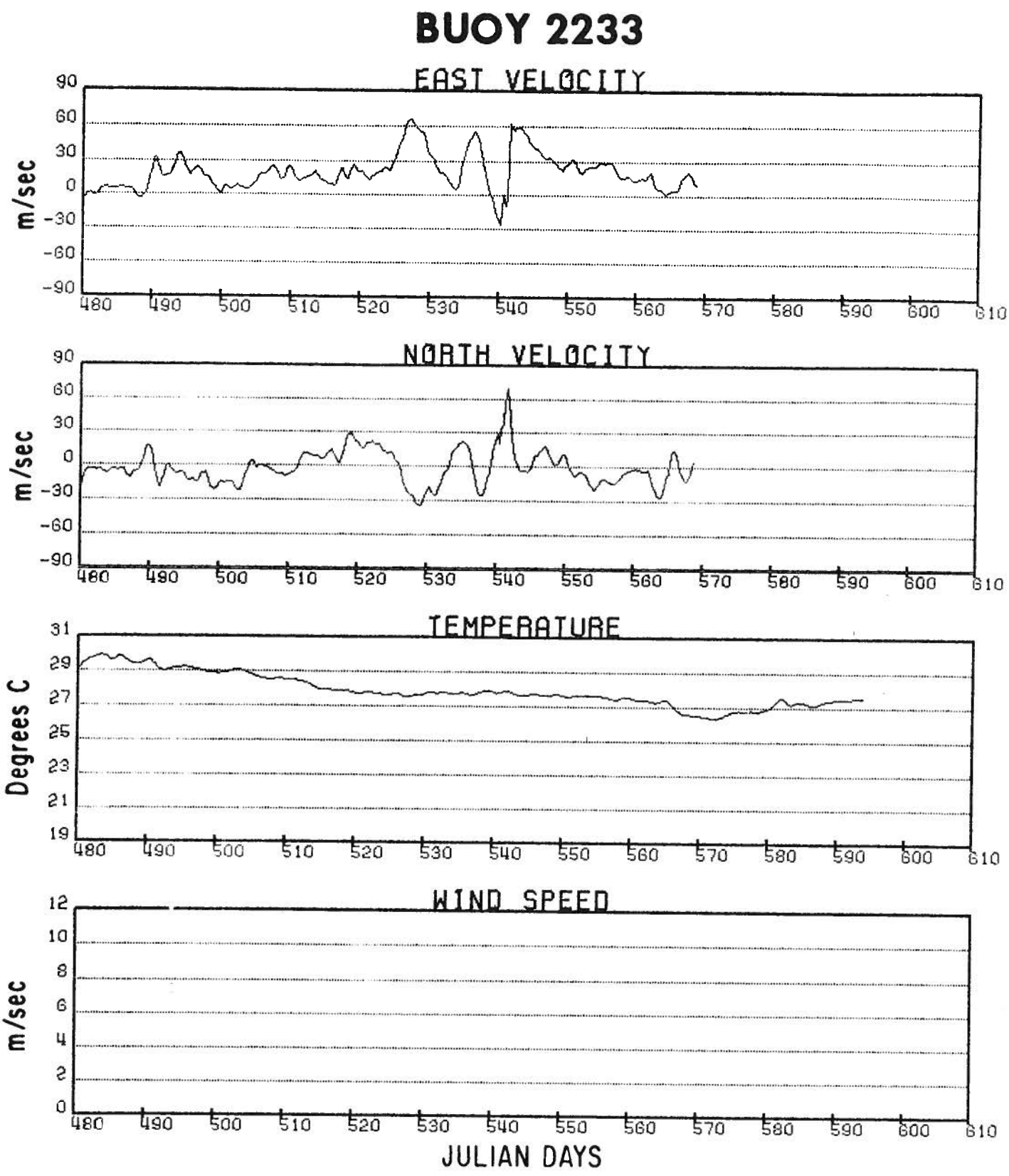


Figure 54. (Continued).

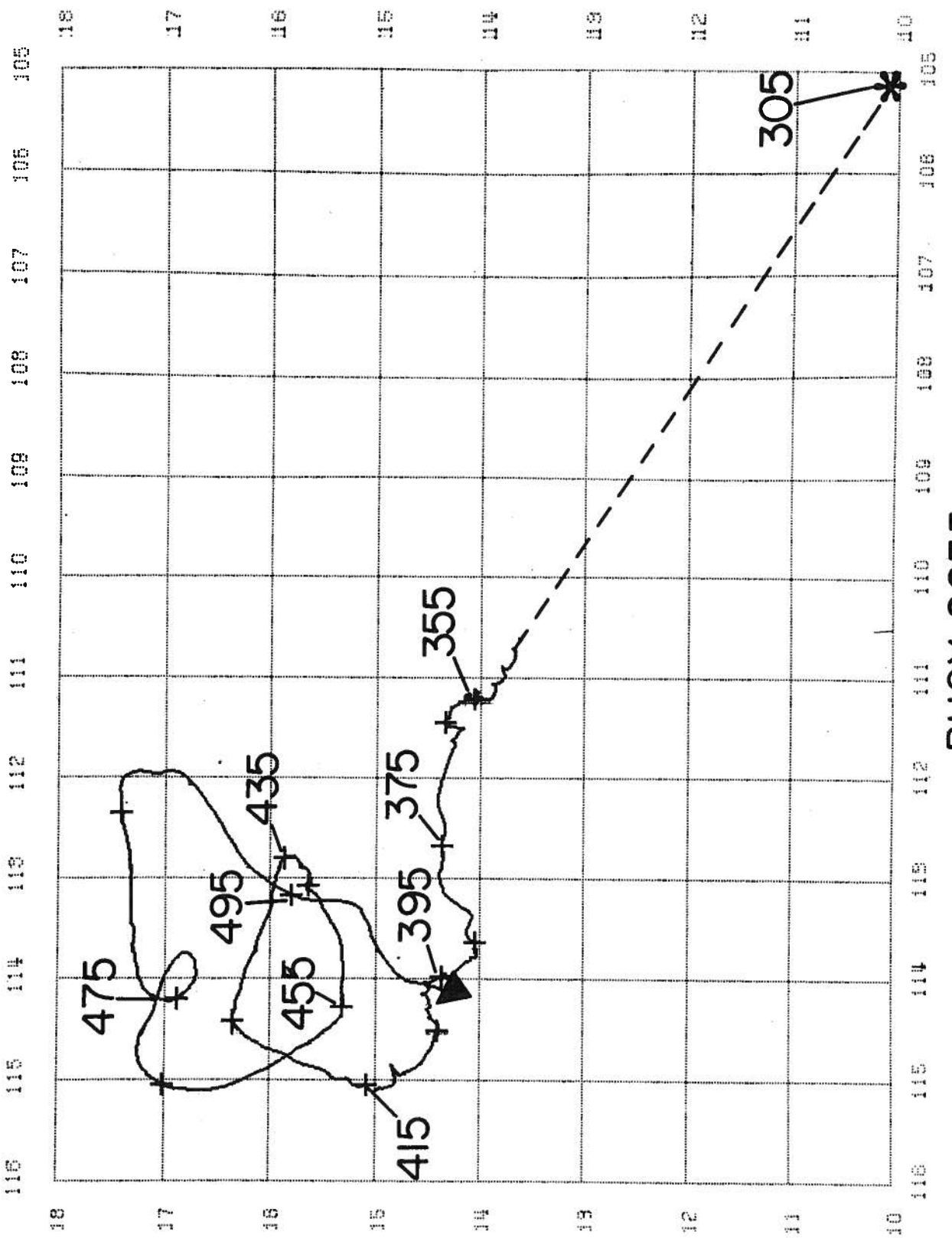


Figure 55. Trajectory of drifting buoy 2235.

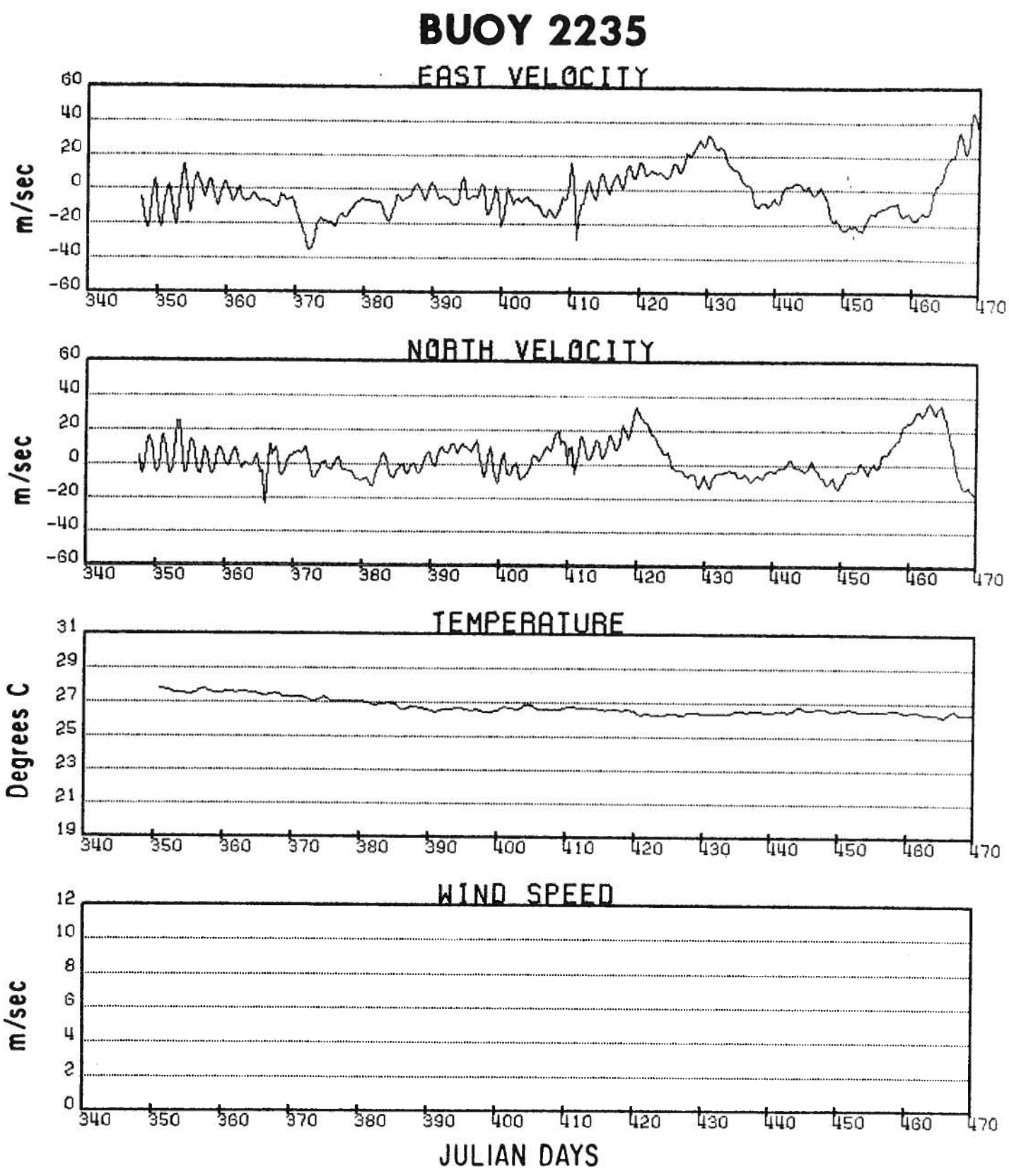


Figure 56. Time series of velocity and sensor data for drifting buoy 2235.

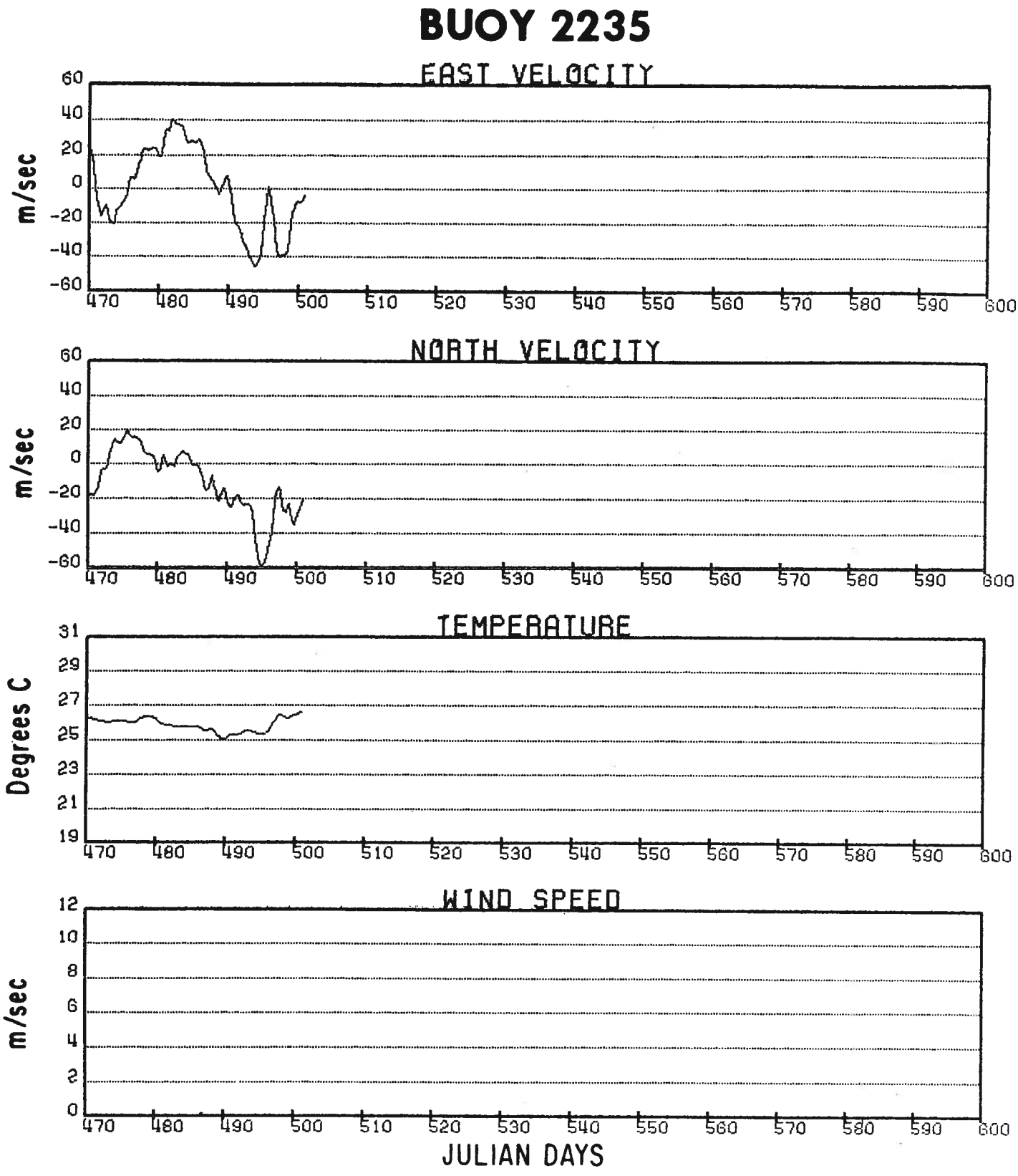


Figure 56. (Continued).

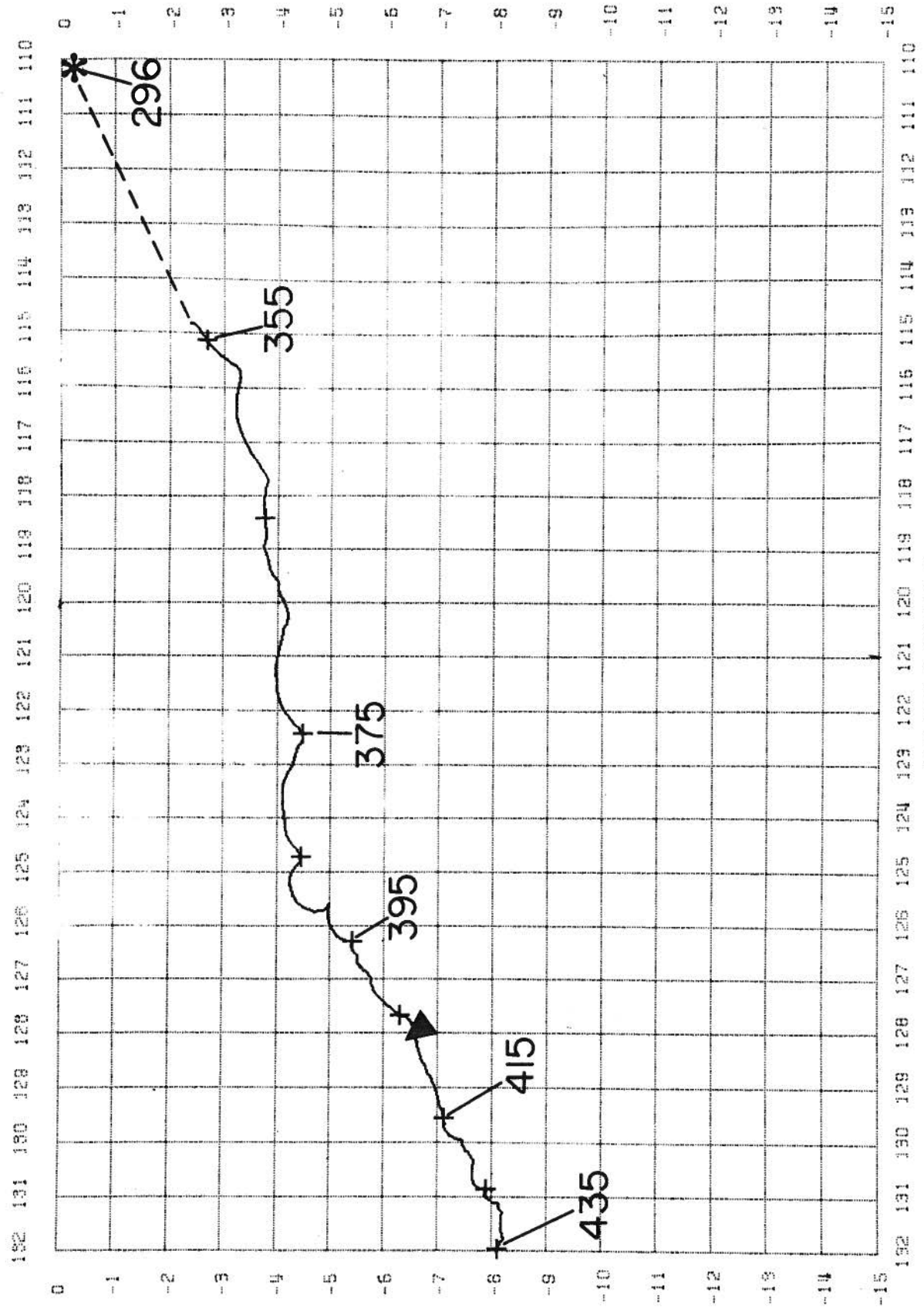


Figure 57. Trajectory of drifting buoy 2236.

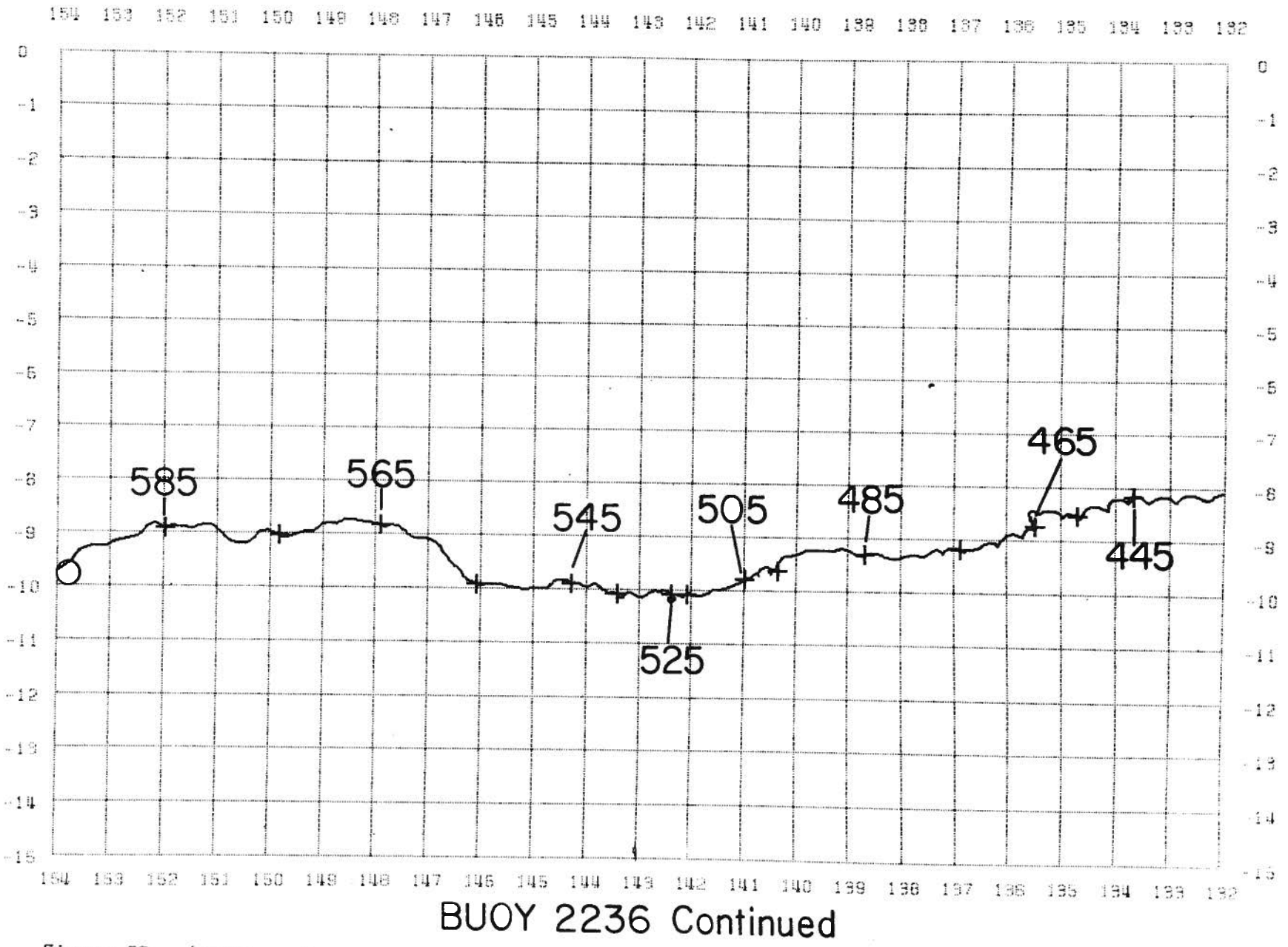


Figure 57. (Continued).

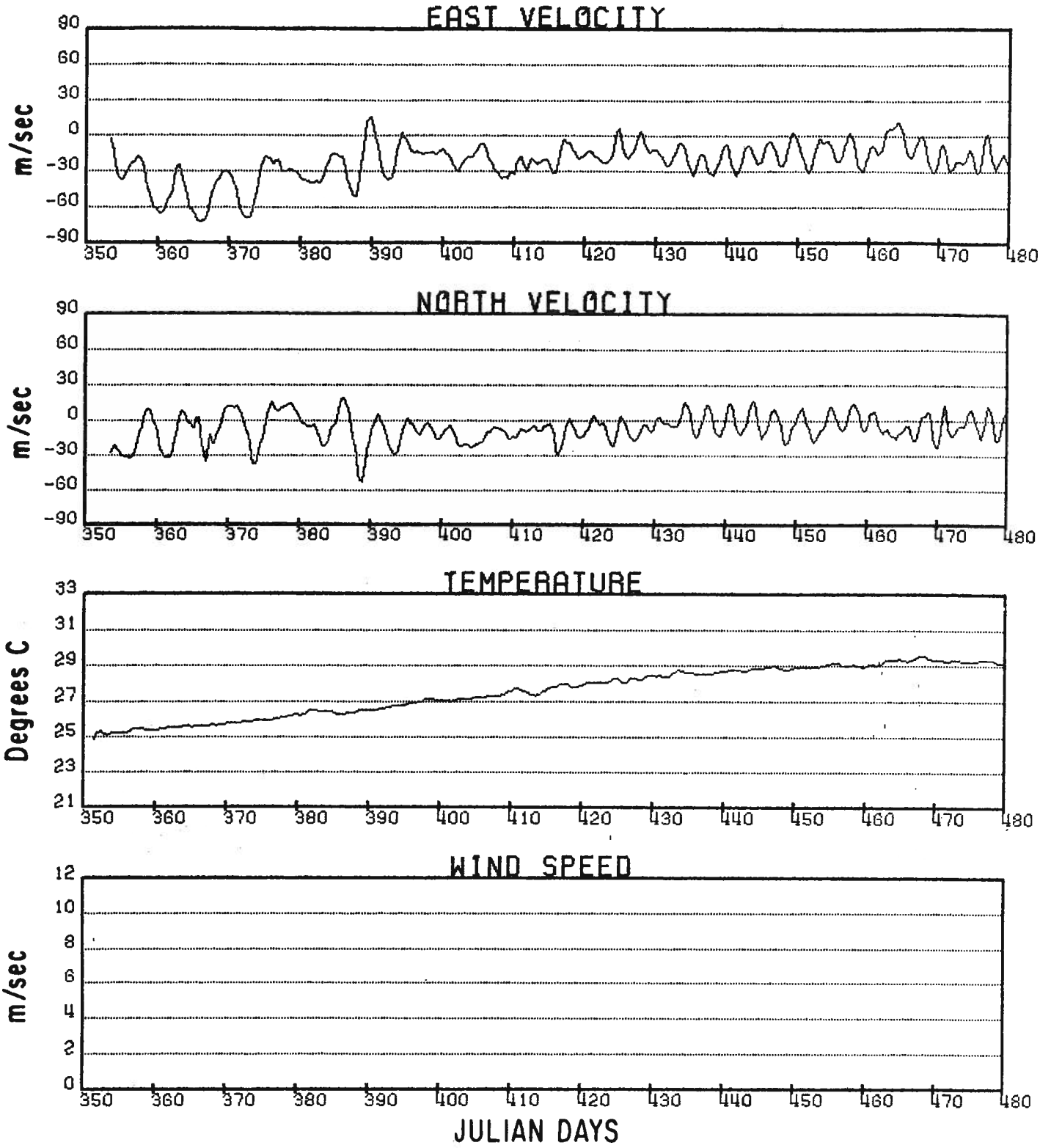


Figure 58. Time series of velocity and sensor data for drifting buoy 2236.

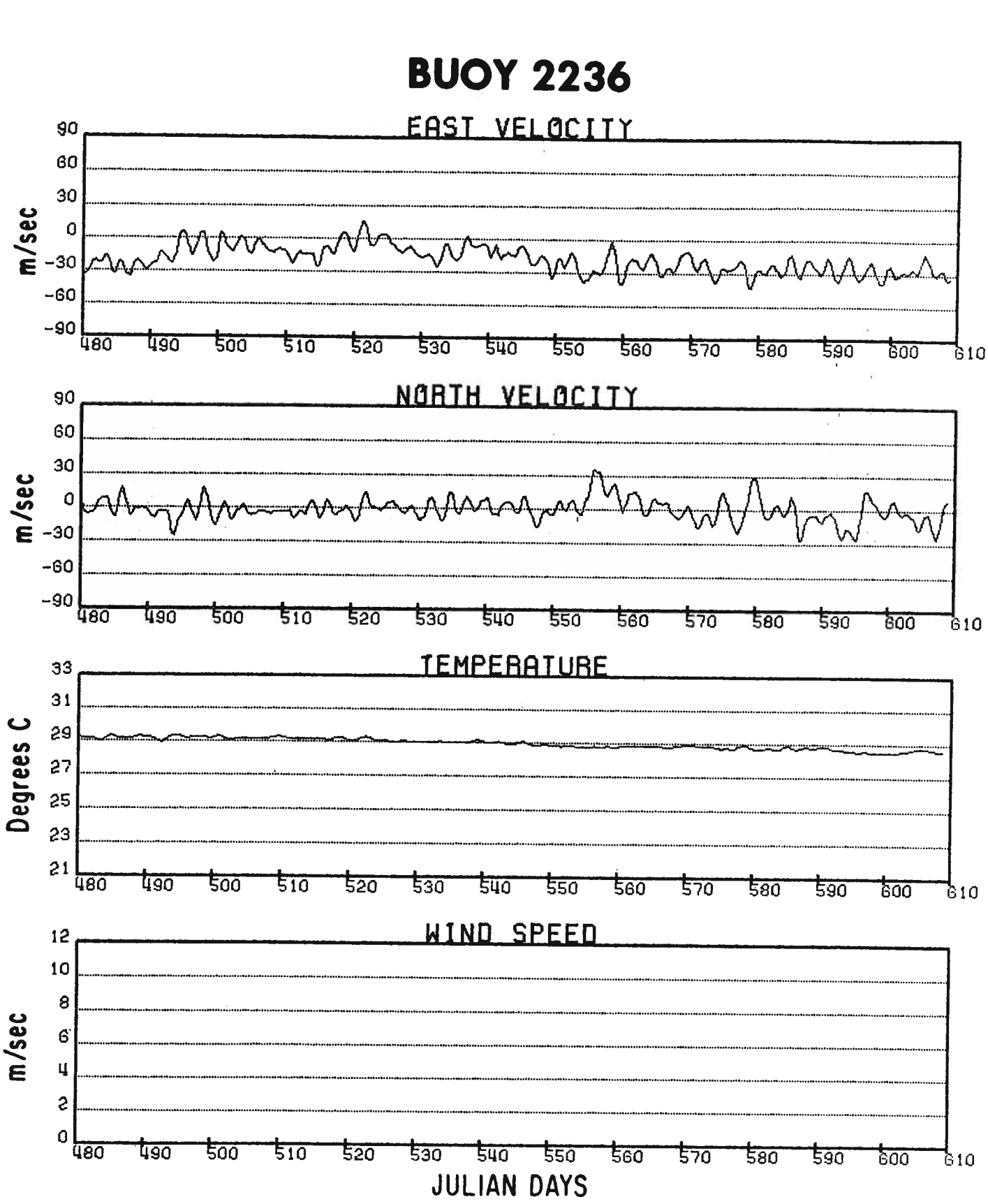


Figure 58. (Continued).

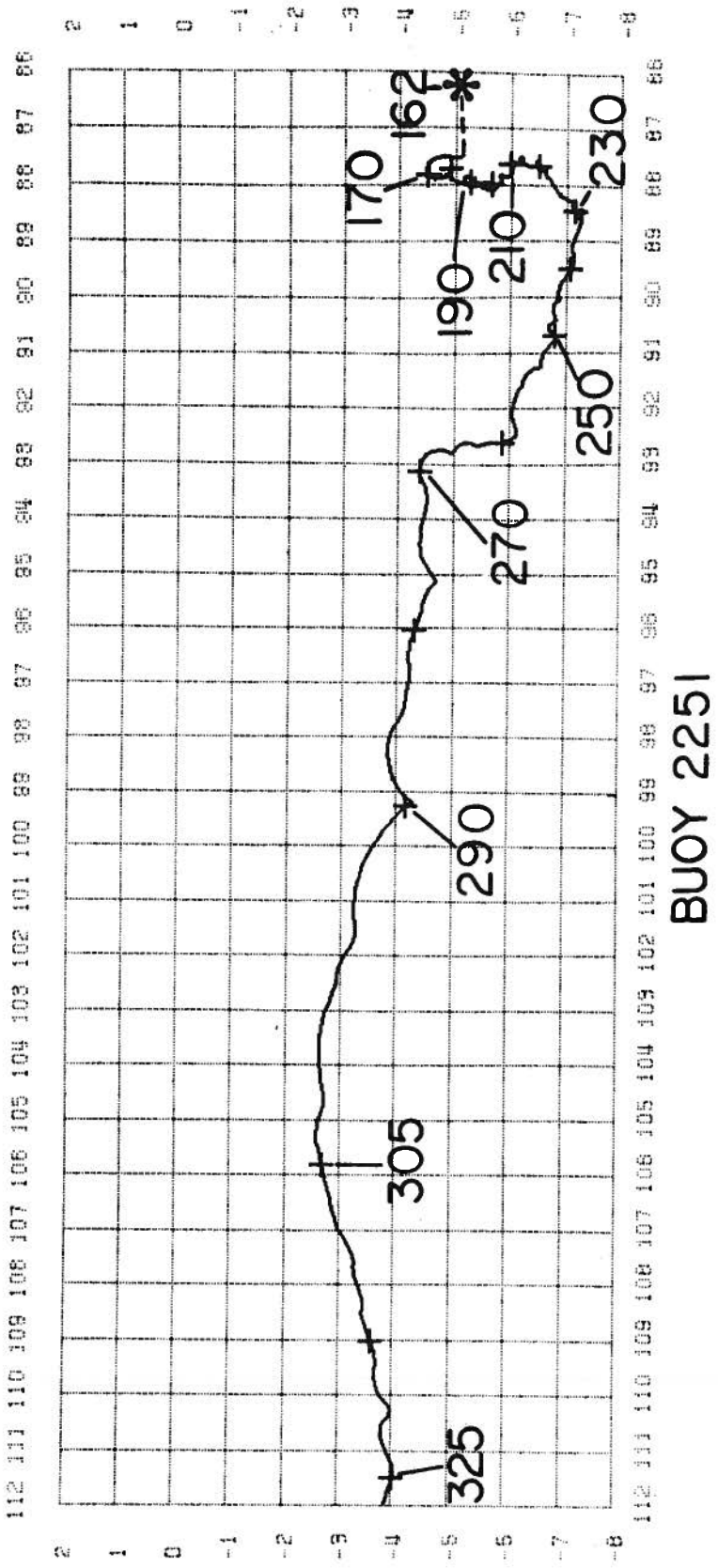


Figure 59. Trajectory of drifting buoy 2251.

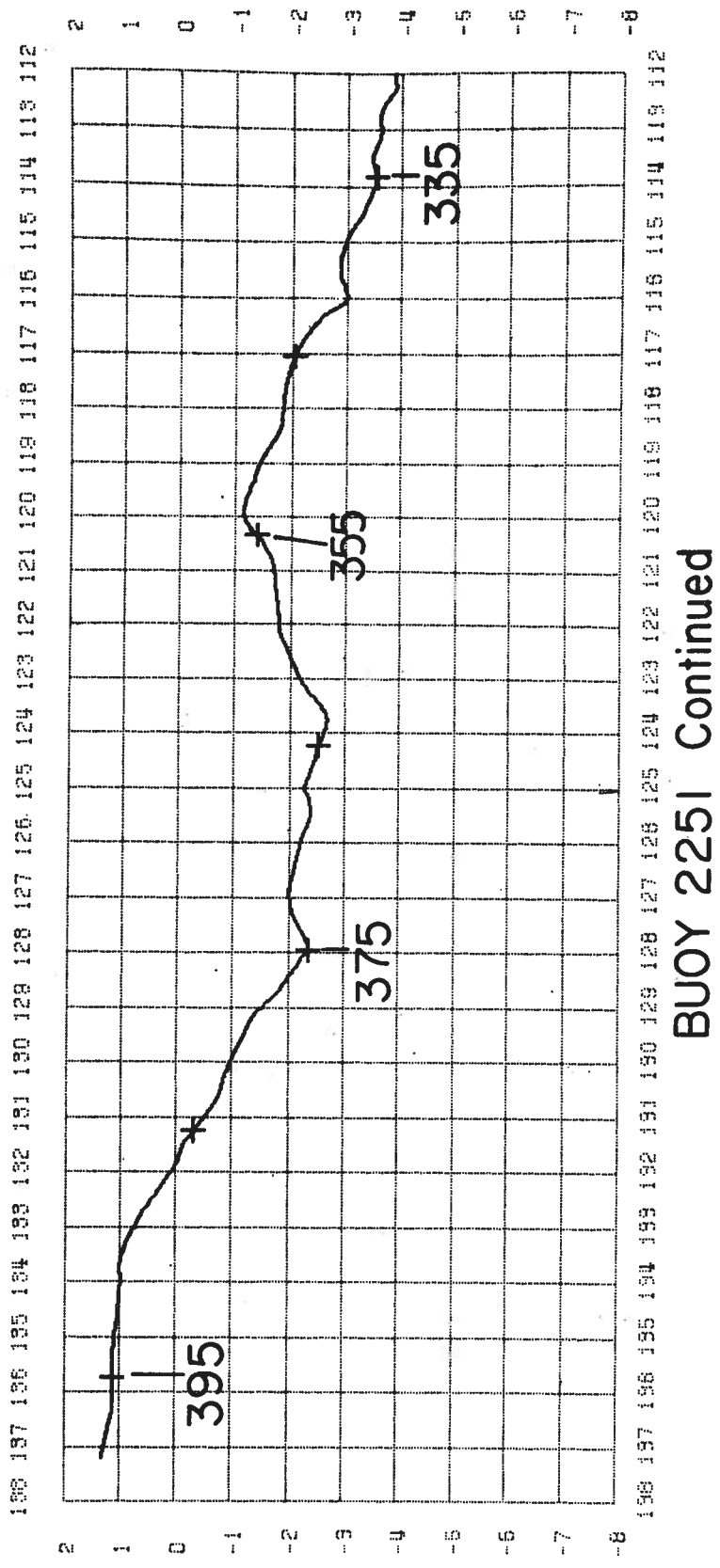


Figure 59. (Continued).

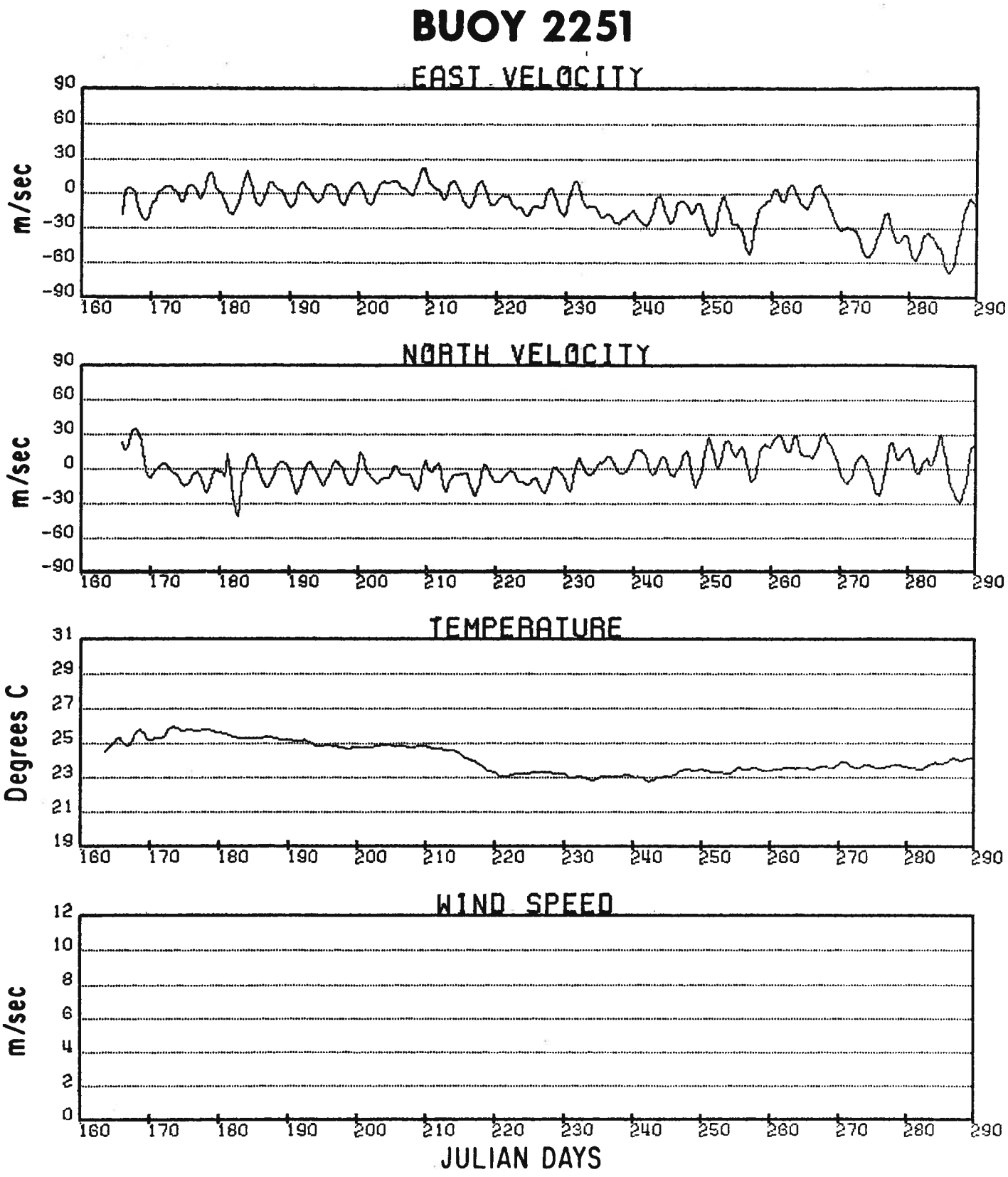


Figure 60. Time series of velocity and sensor data for drifting buoy 2251.

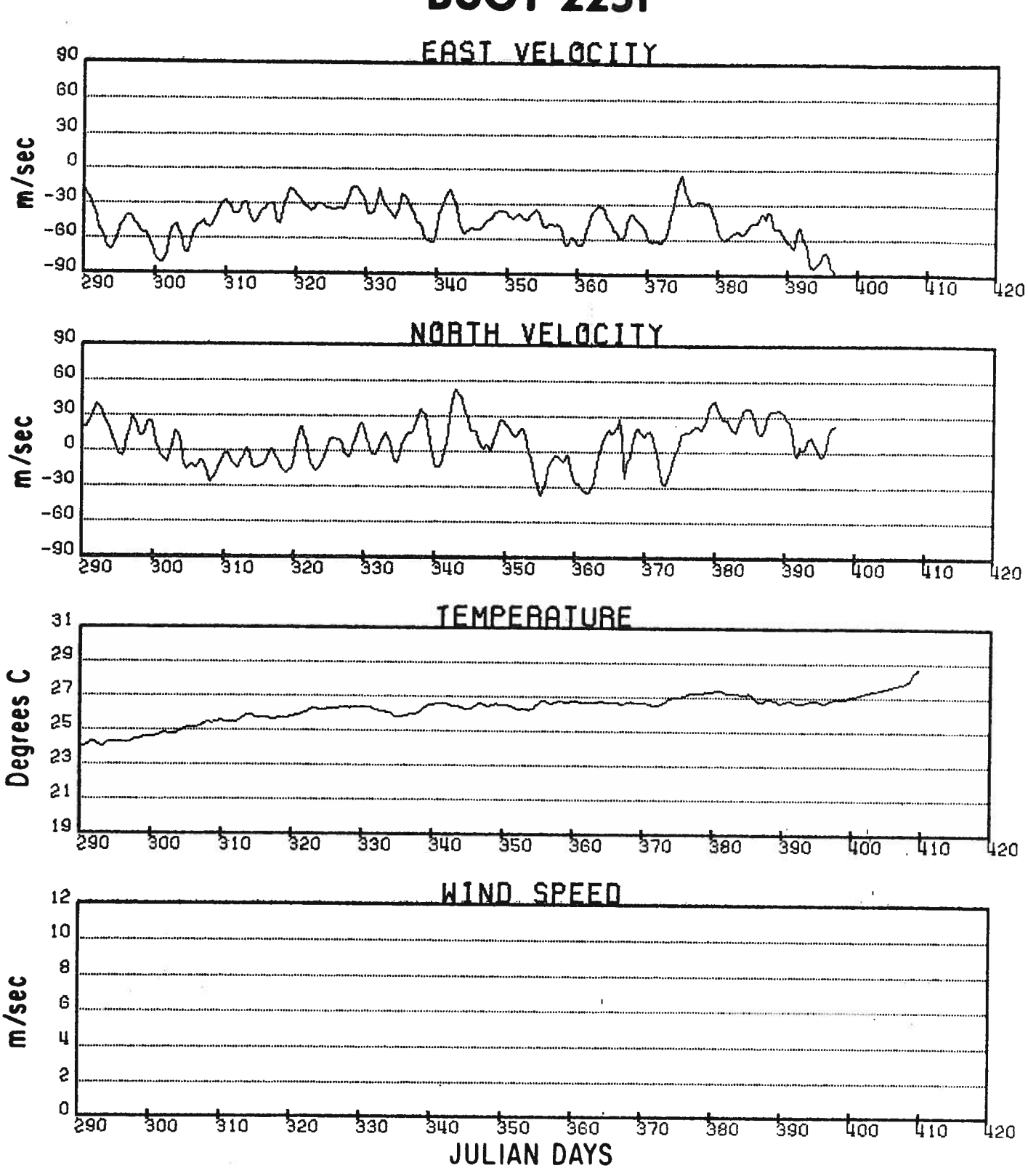


Figure 60. (Continued).

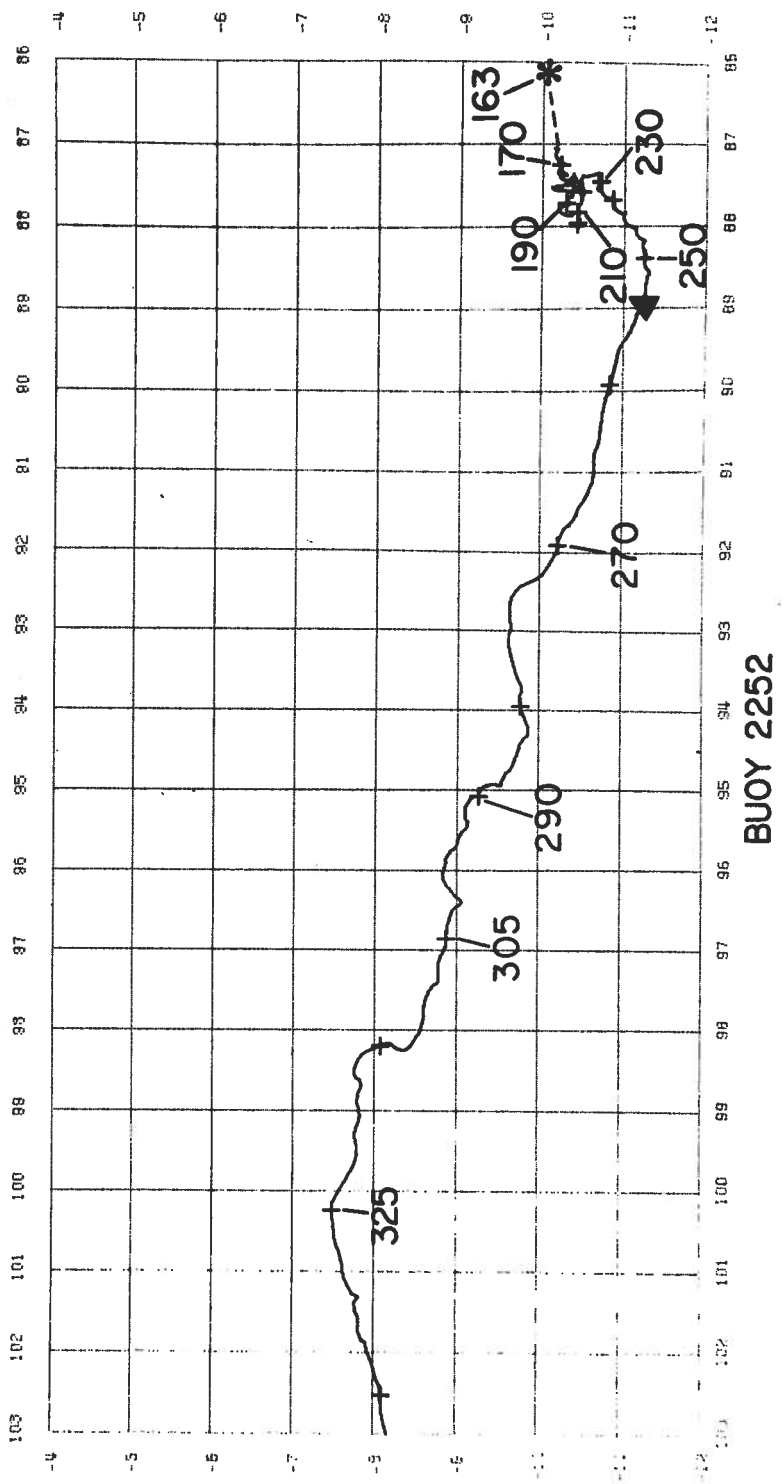


Figure 61. Trajectory of drifting buoy 2252.

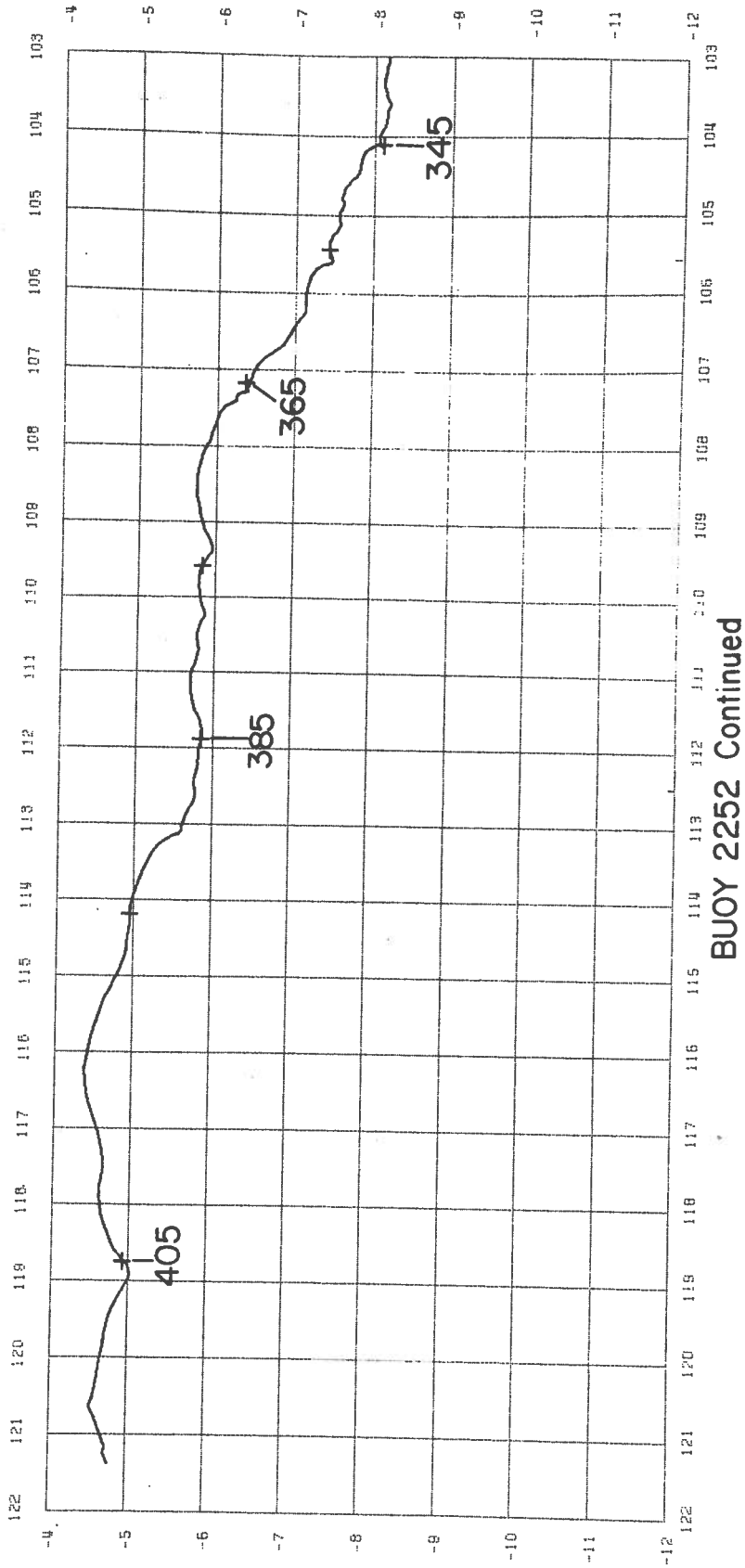


Figure 61. (Continued).

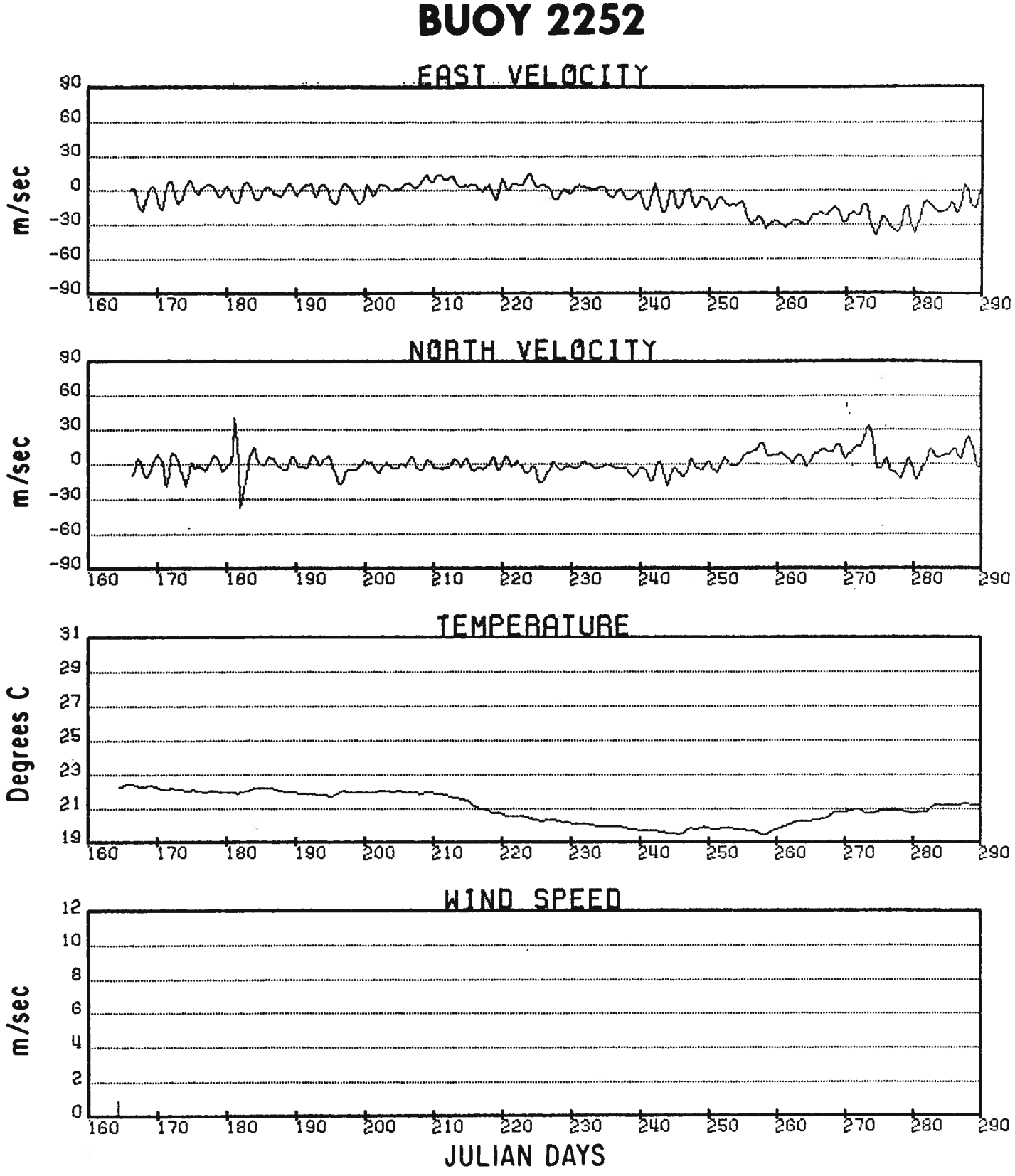


Figure 62. Time series of velocity and sensor data for drifting buoy 2252.

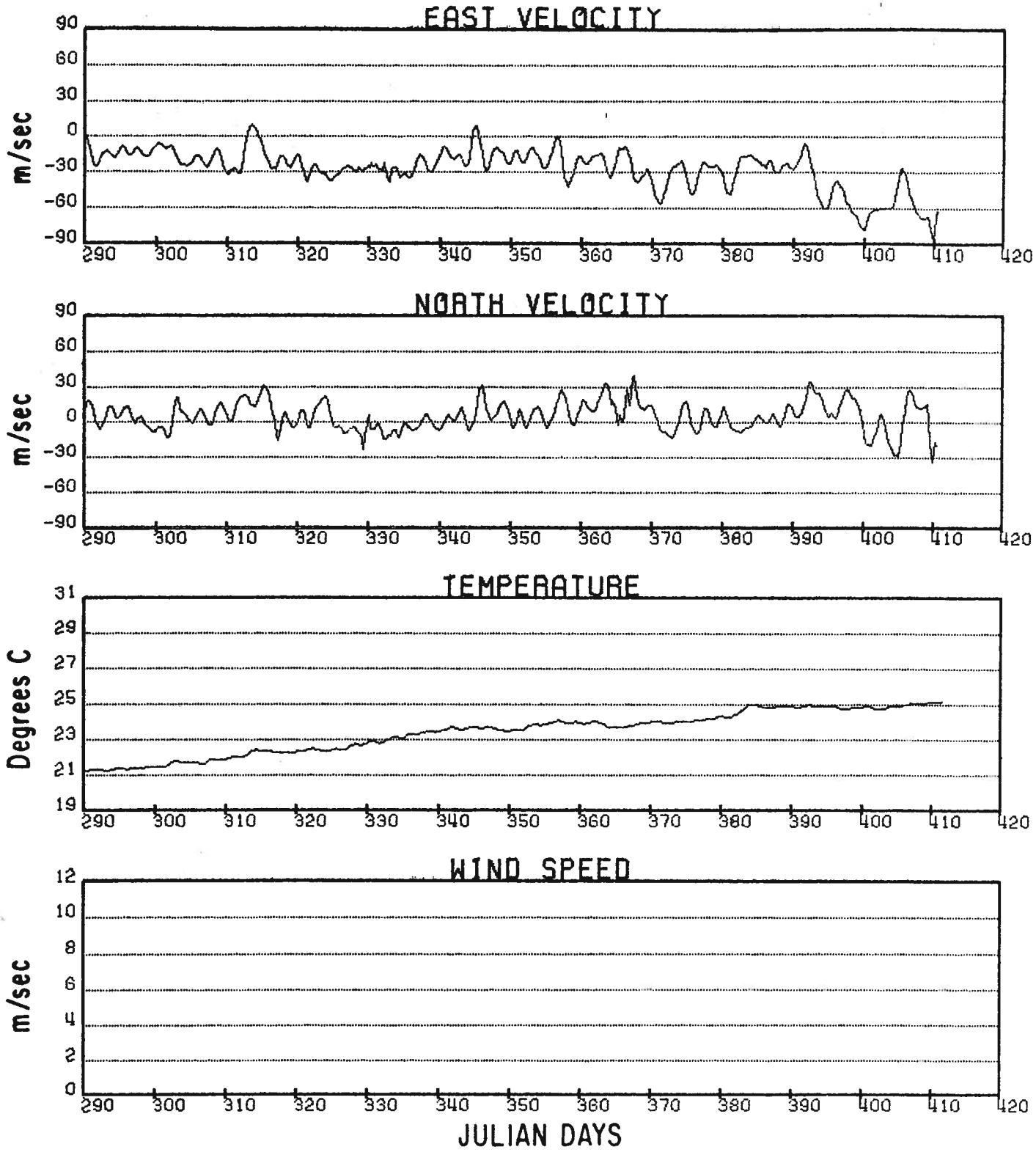


Figure 62. (Continued).

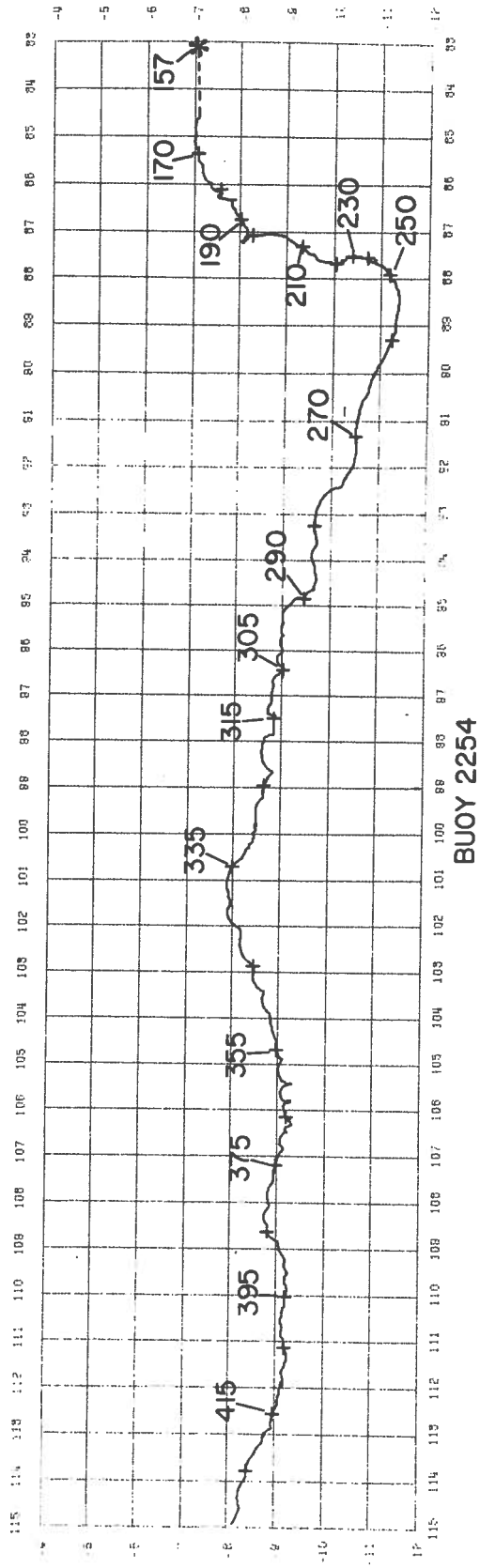


Figure 63. Trajectory of drifting buoy 2254.

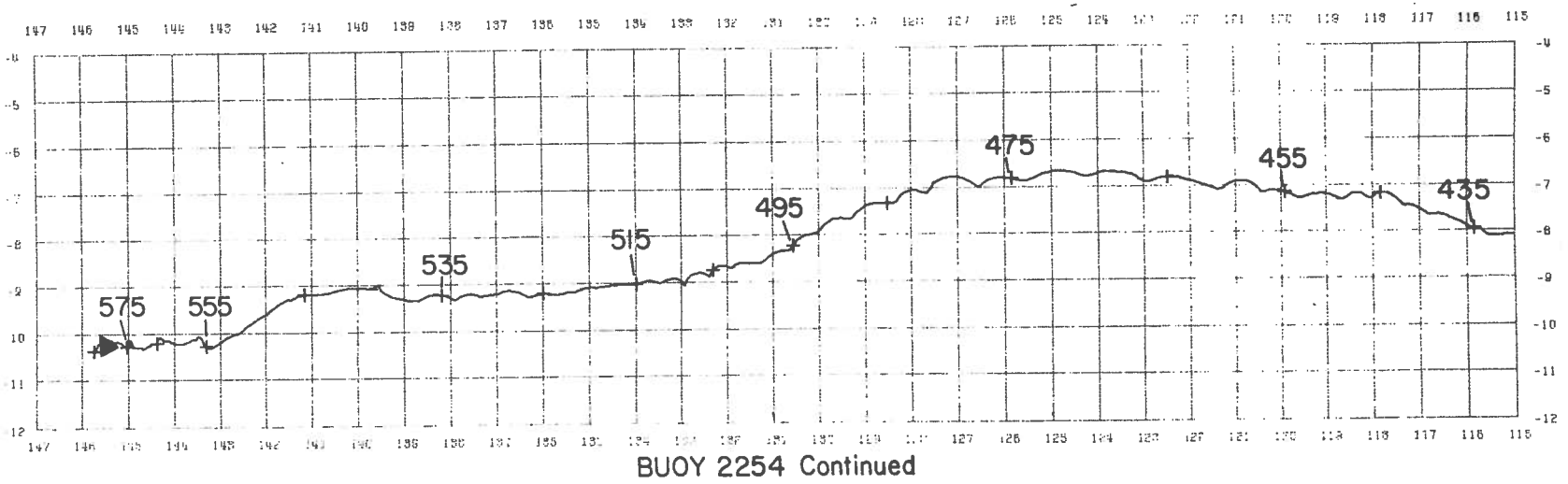


Figure 63. (Continued).

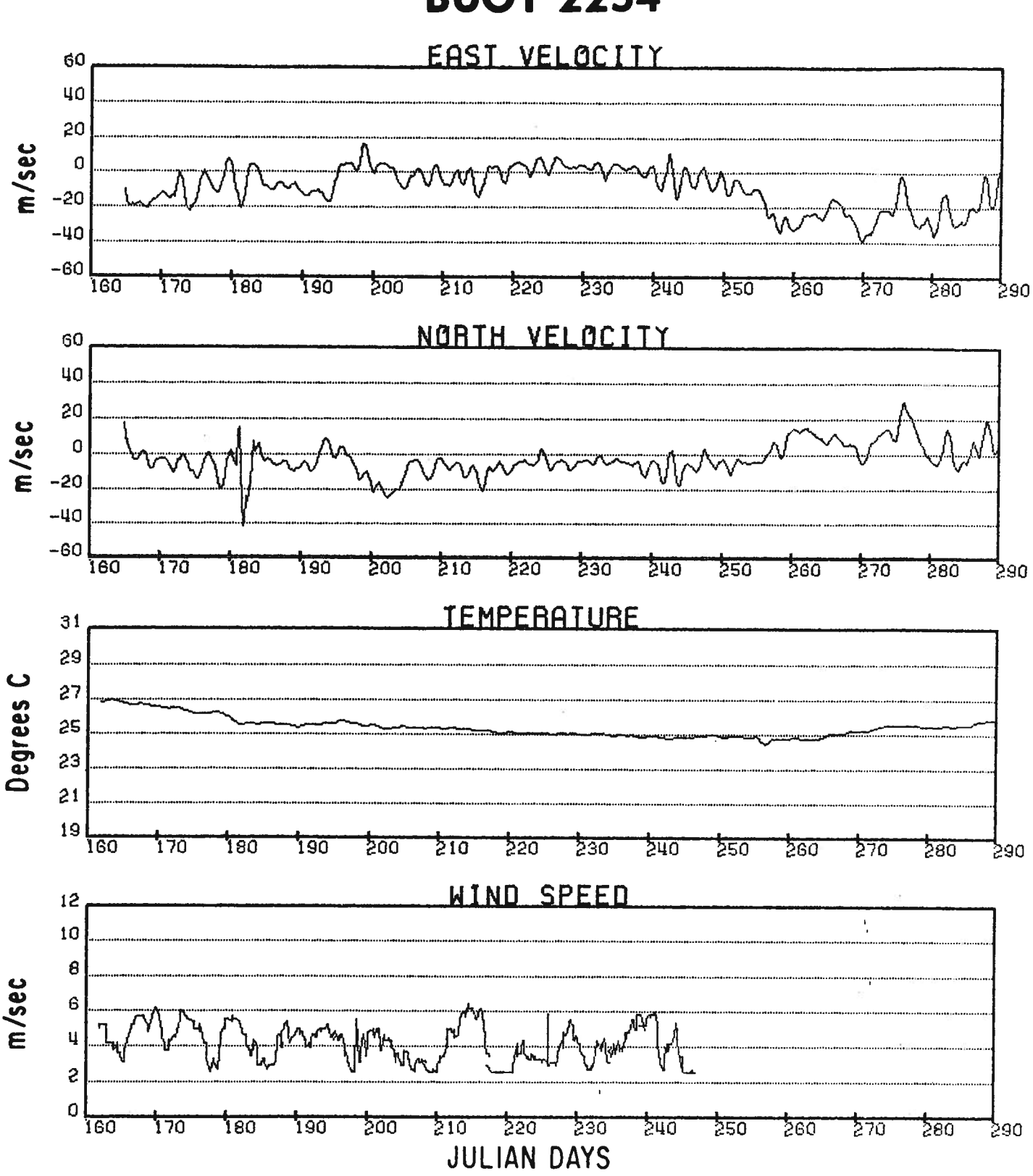


Figure 64. Time series of velocity and sensor data for drifting buoy 2254.

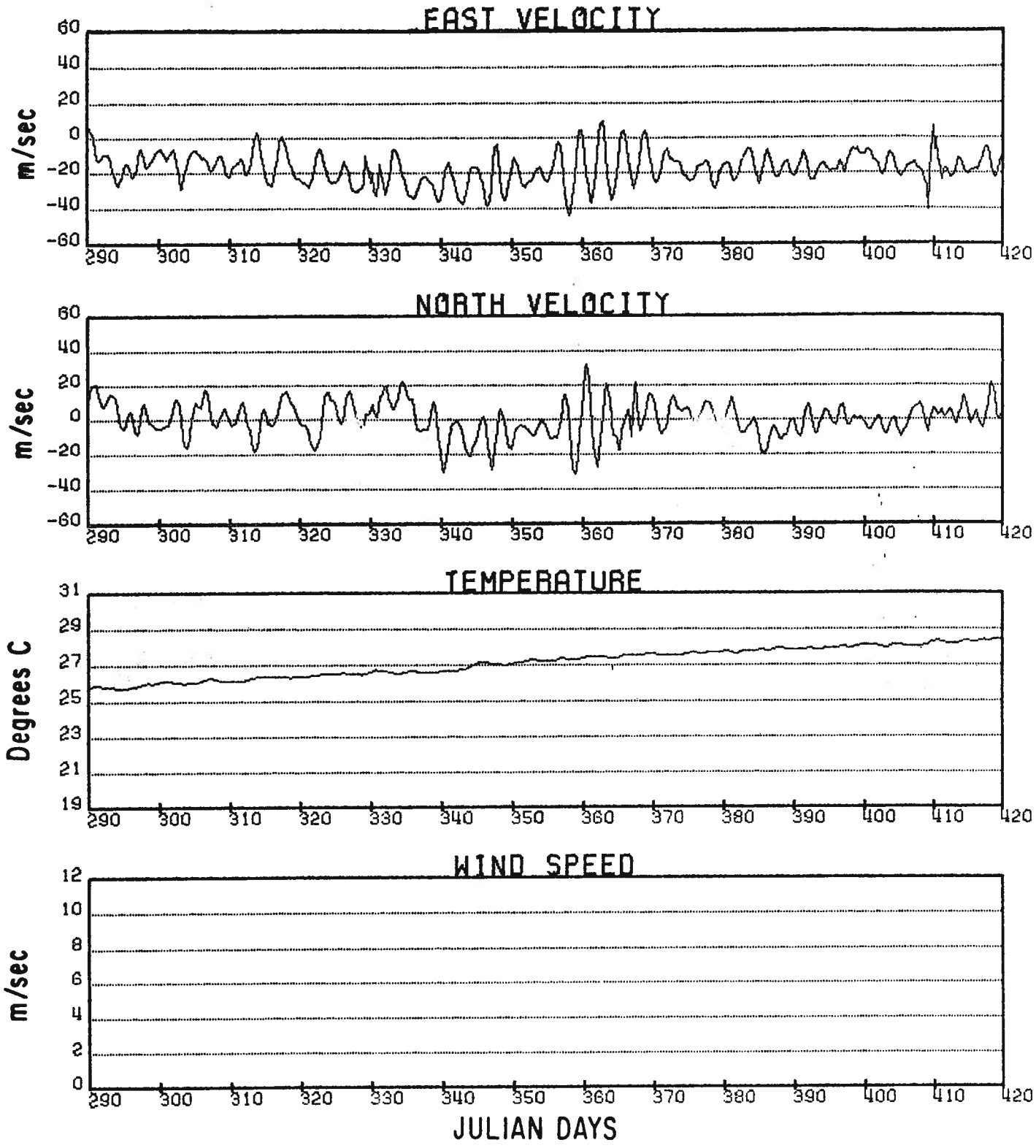


Figure 64. (Continued).

BUOY 2254

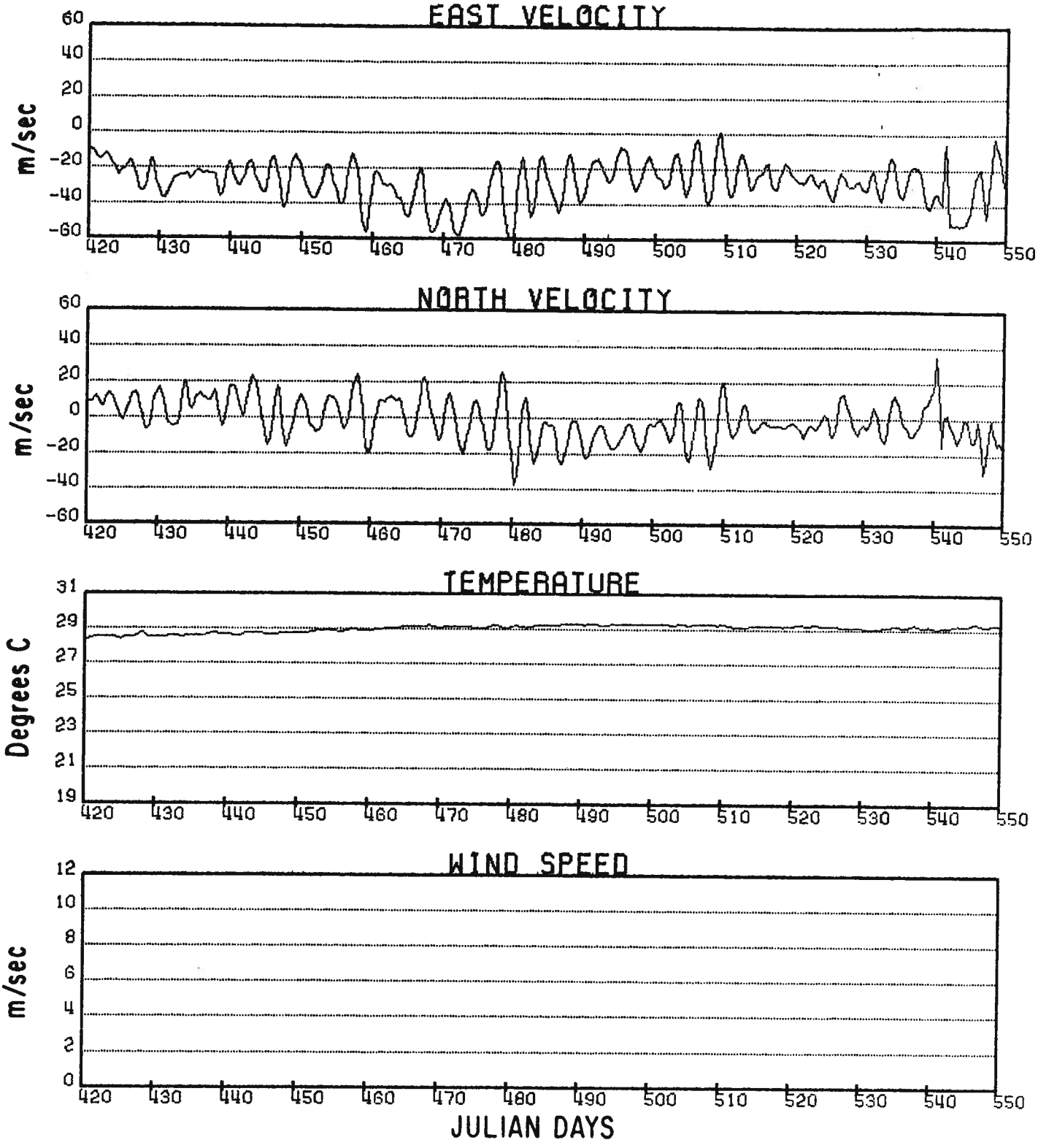


Figure 64. (Continued).

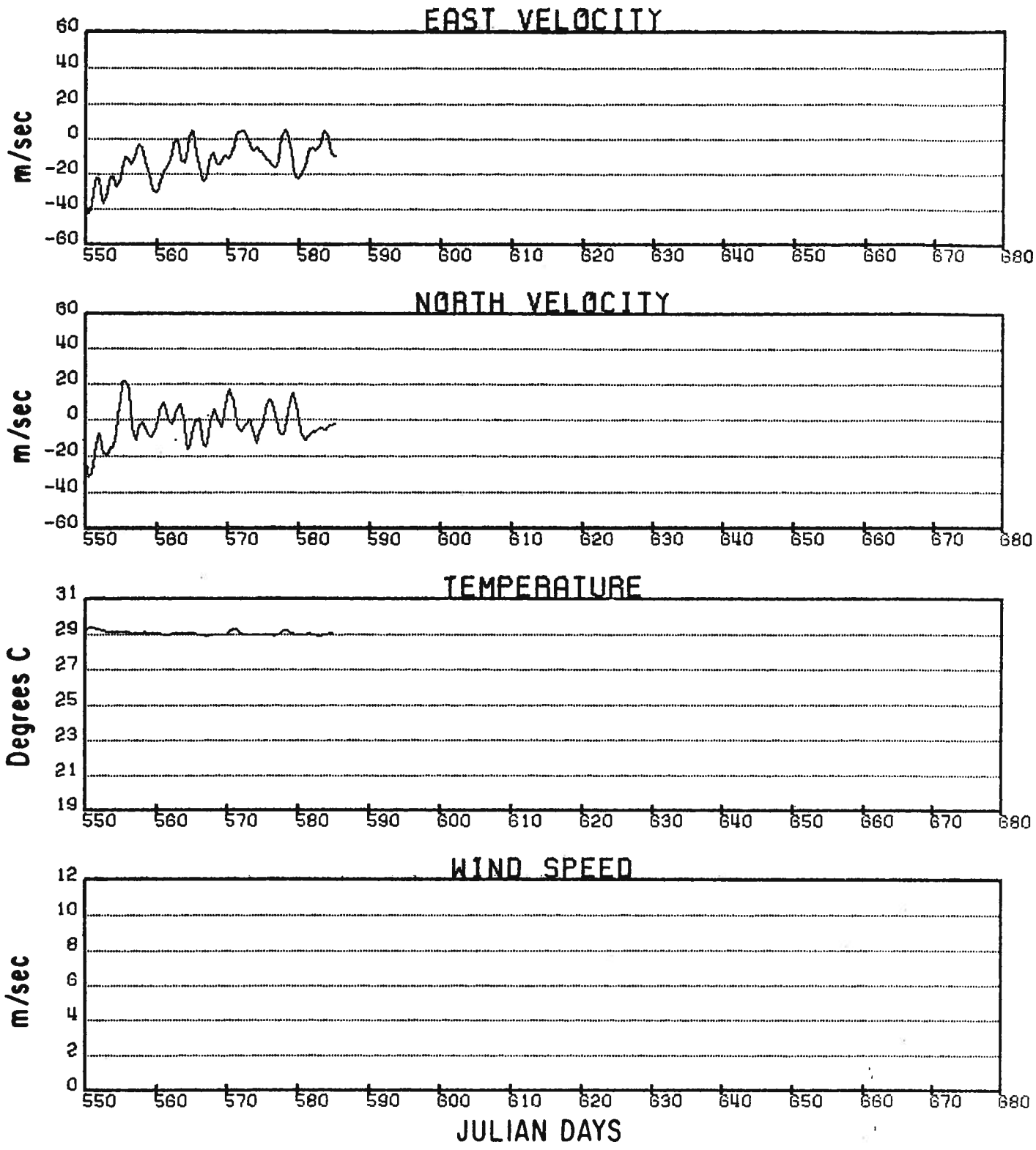


Figure 64. (Continued).

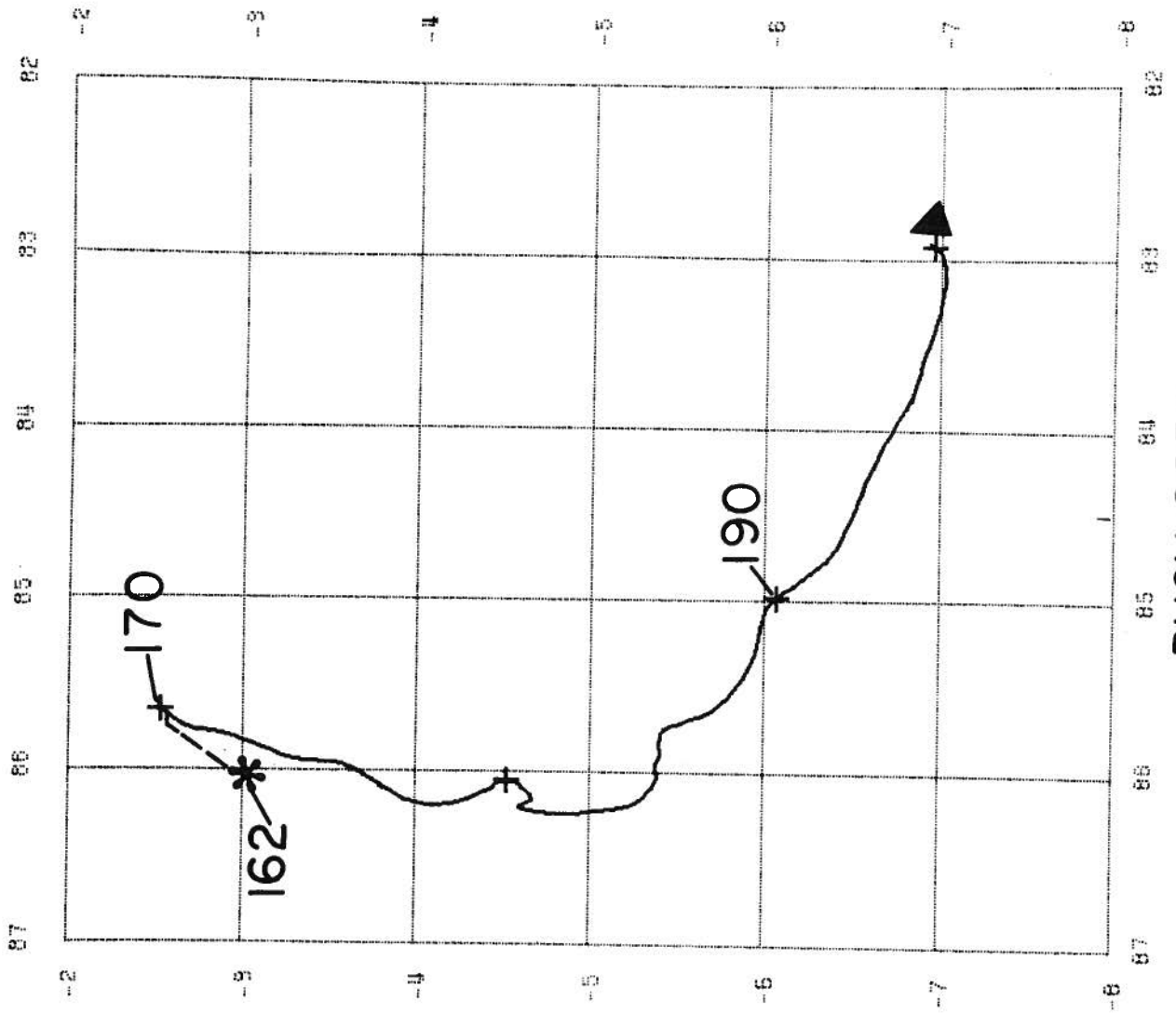


Figure 65. Trajectory of drifting buoy 2255.

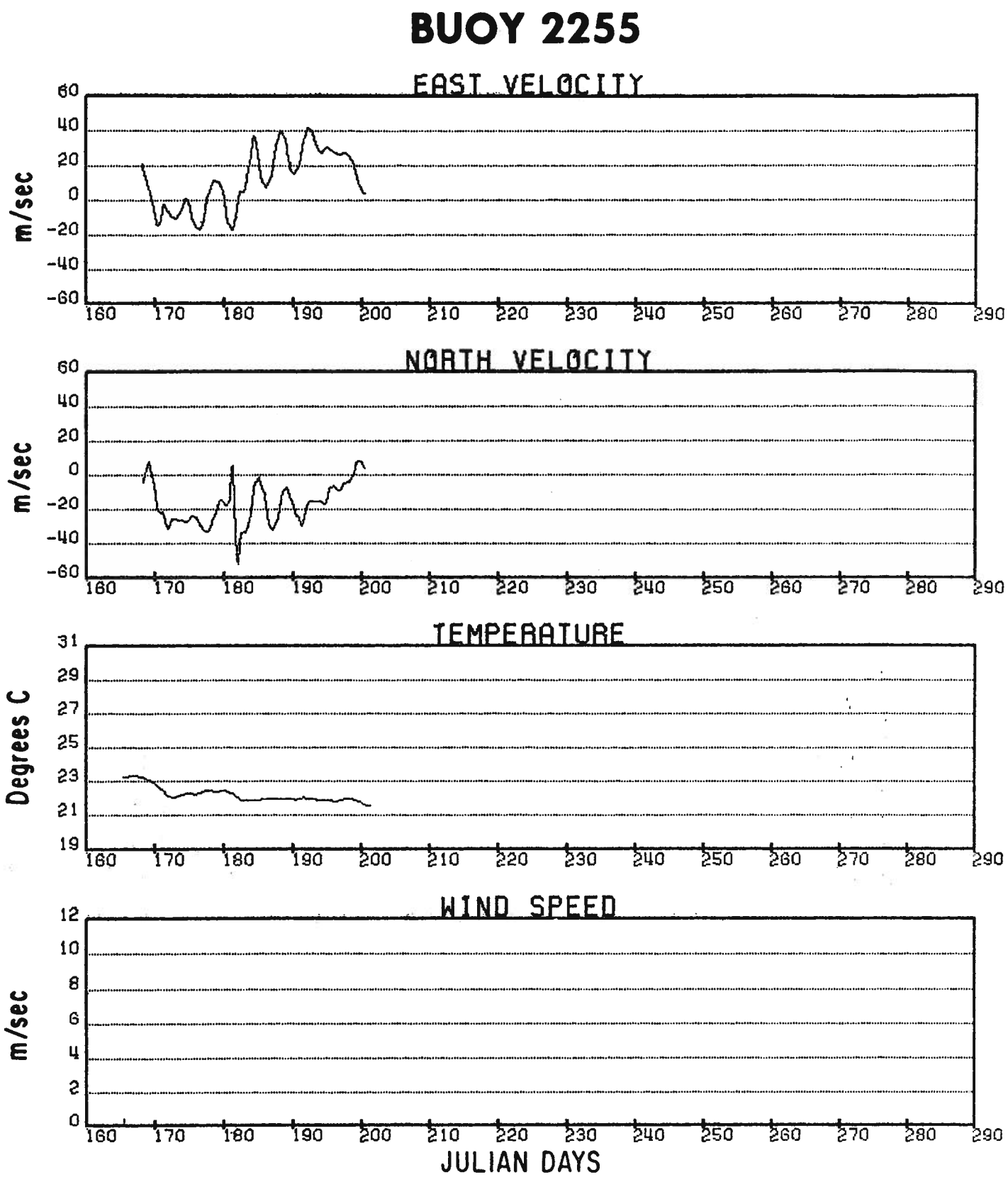


Figure 66. Time series of velocity and sensor data for drifting buoy 2255.

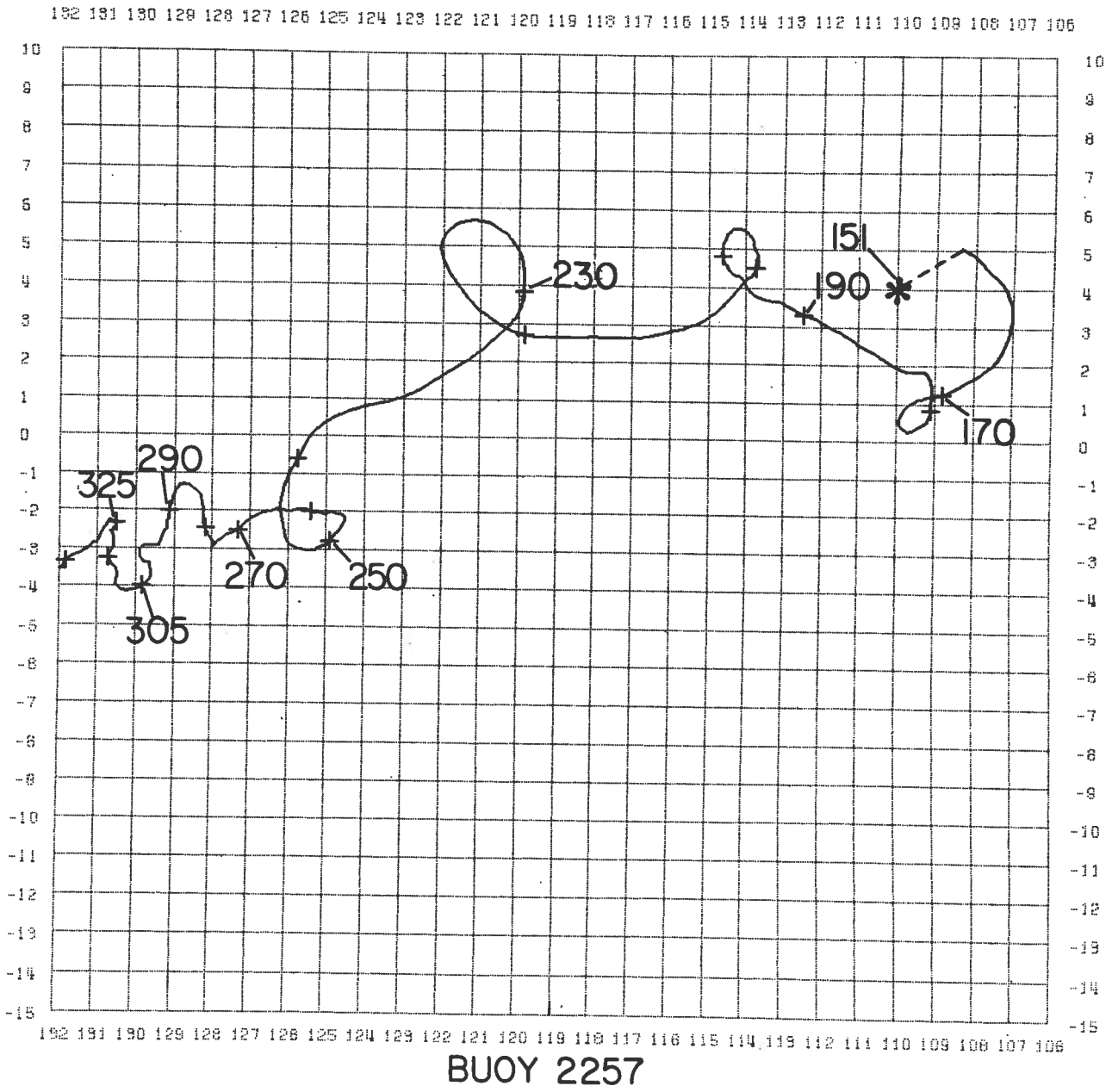


Figure 67. Trajectory of drifting buoy 2257.

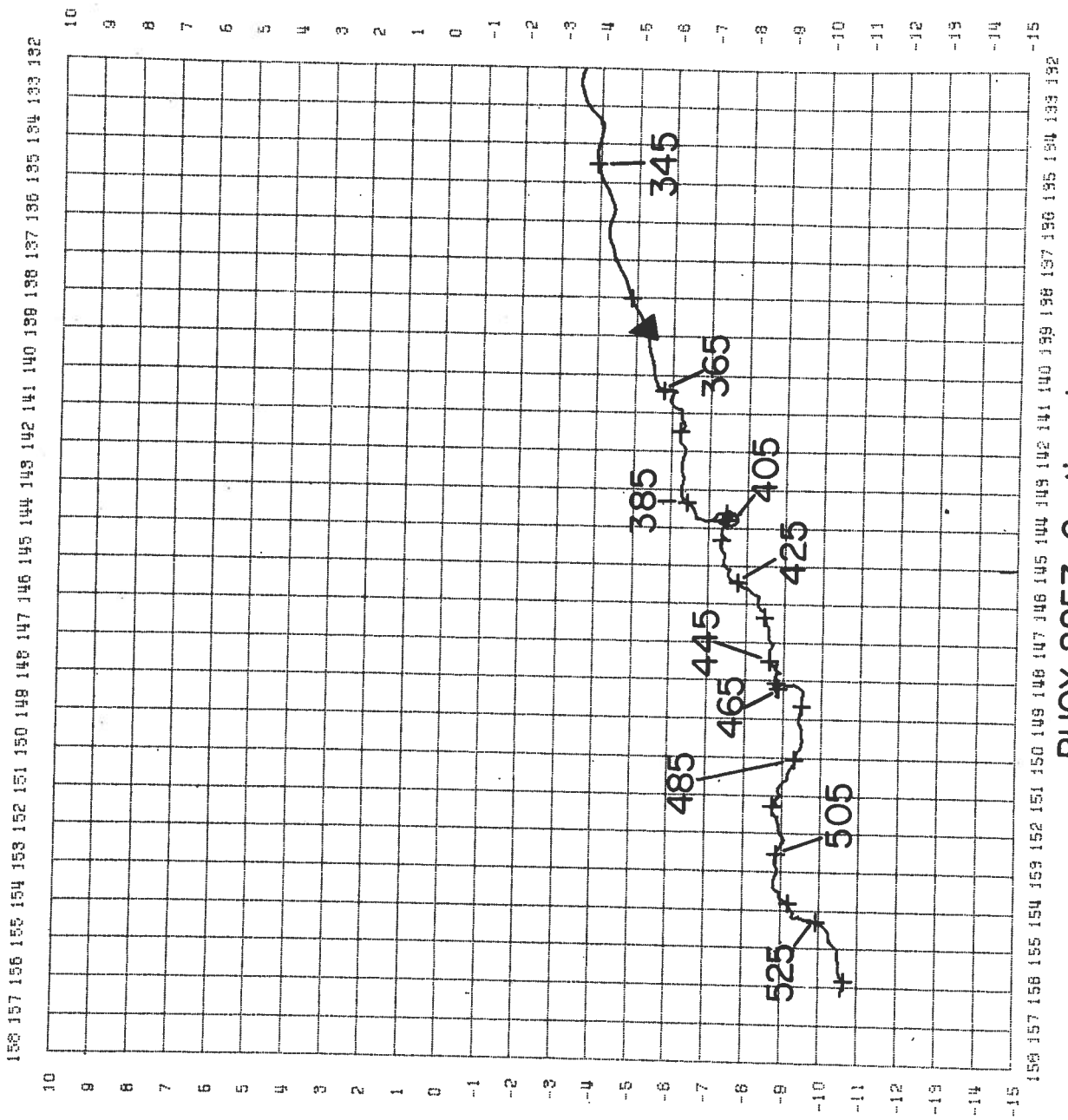


Figure 67. (Continued).

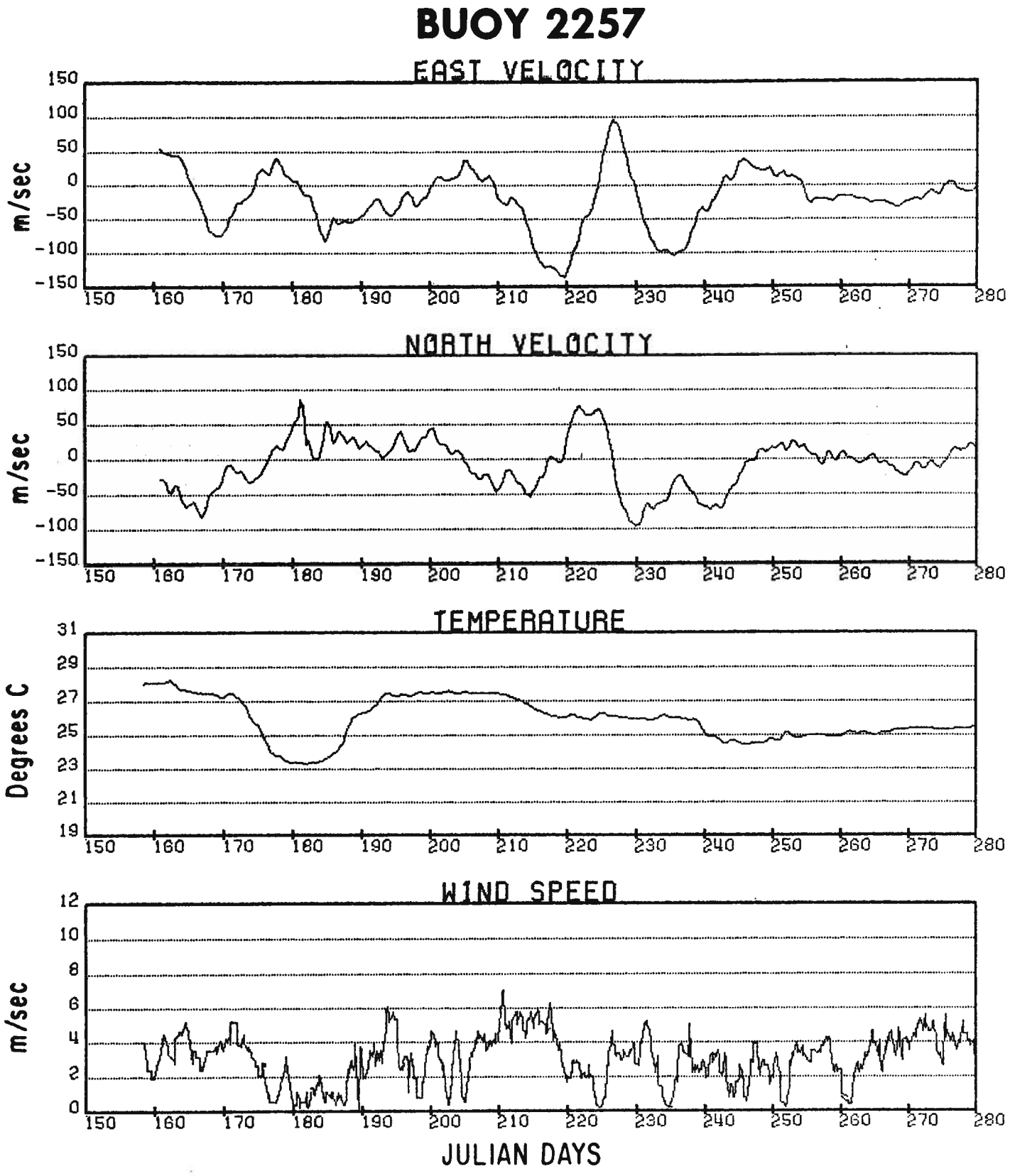


Figure 68. Time series of velocity and sensor data for drifting buoy 2257.

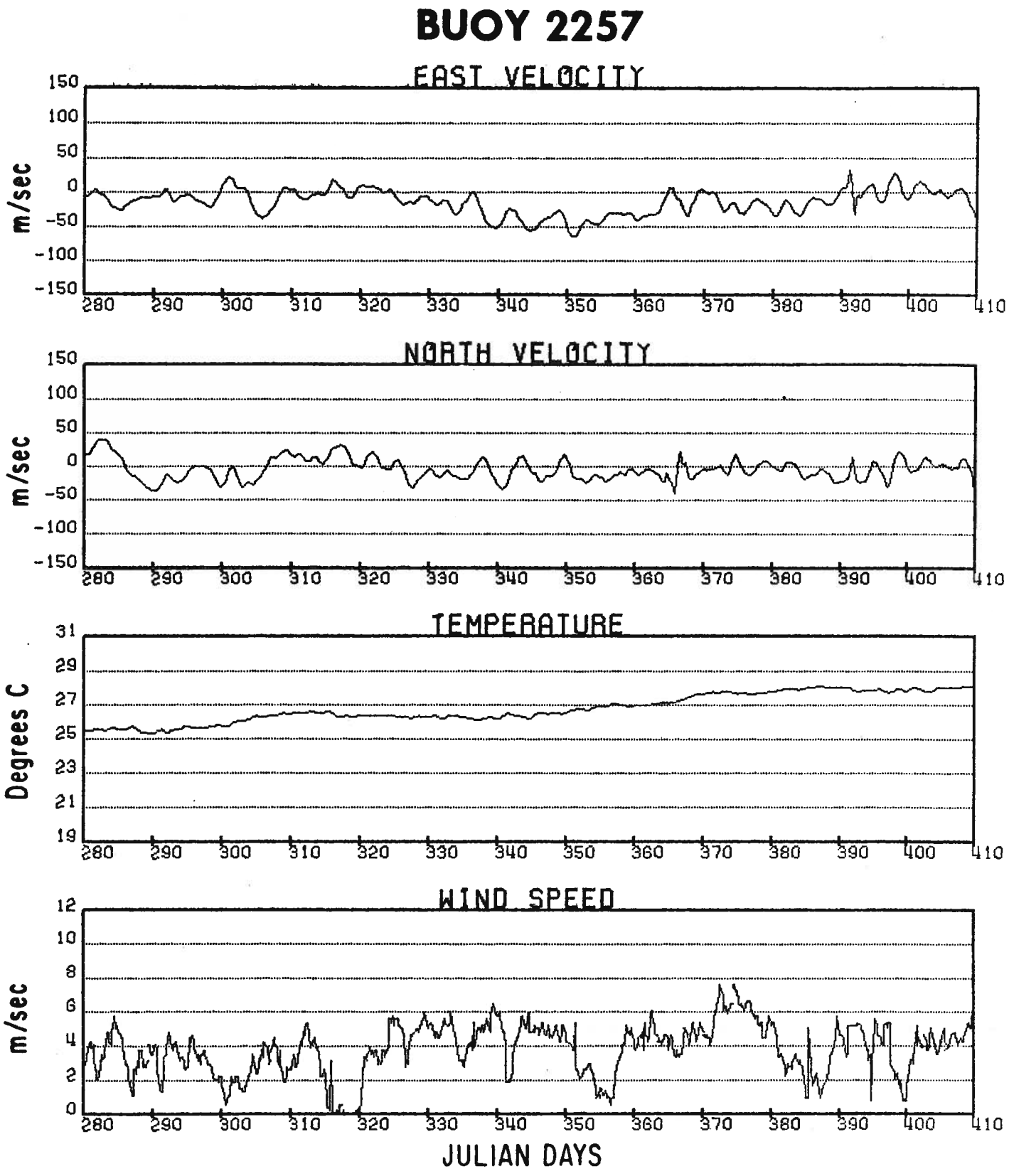


Figure 68. (Continued).

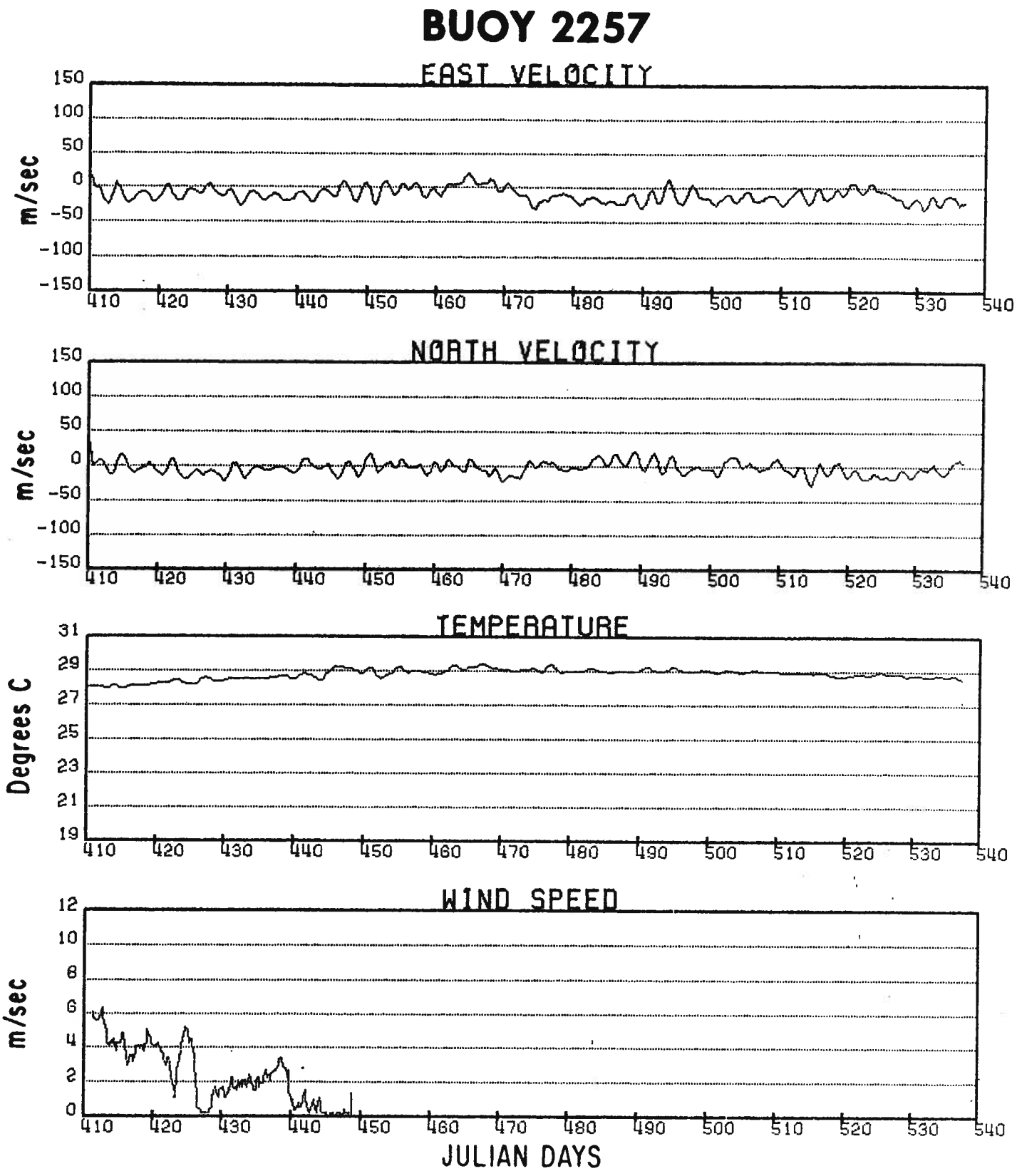


Figure 68. (Continued).

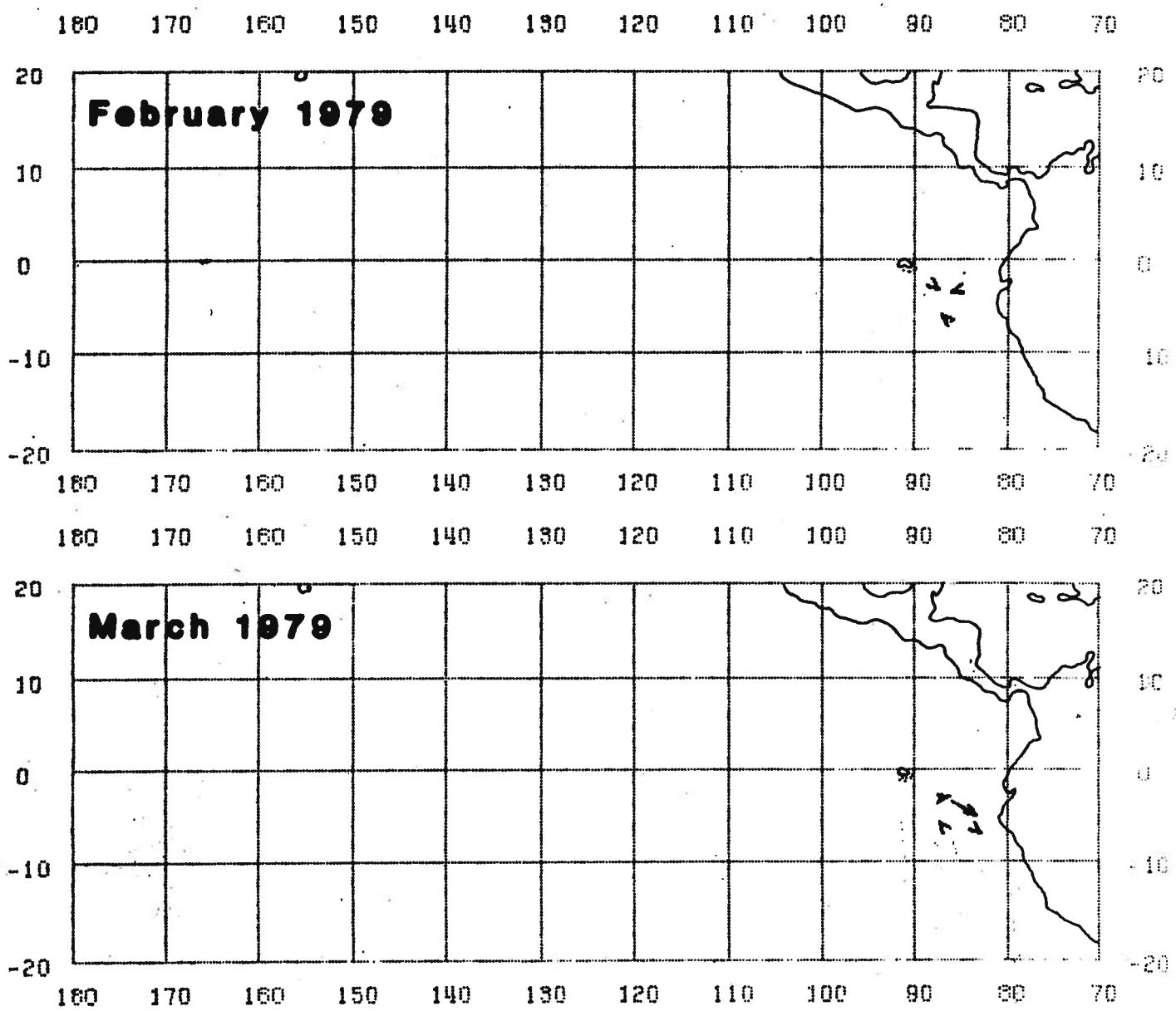


Figure 69.

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

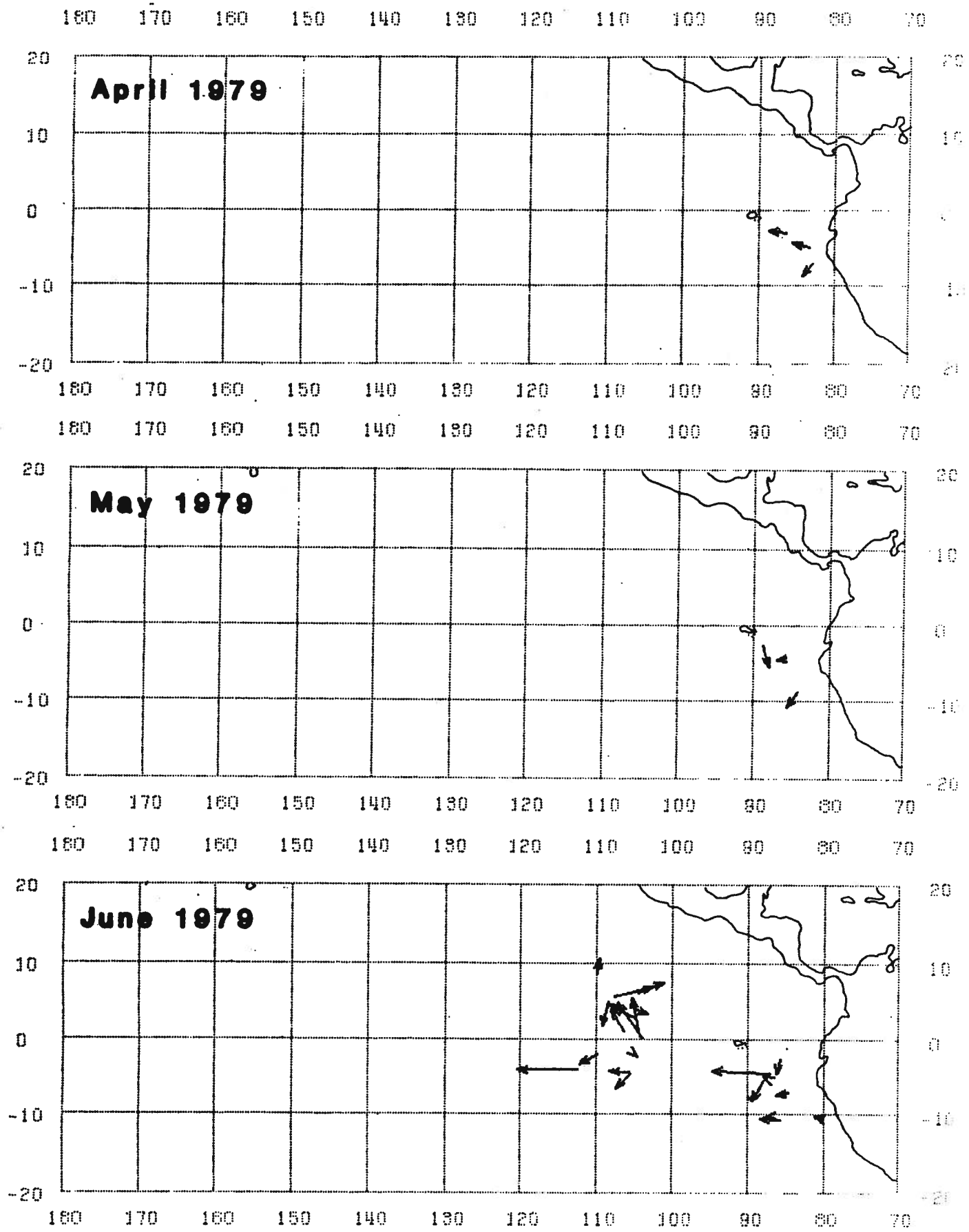


Figure 70.
Arrows indicate position of buoy at beginning and end of month and direction of travel.

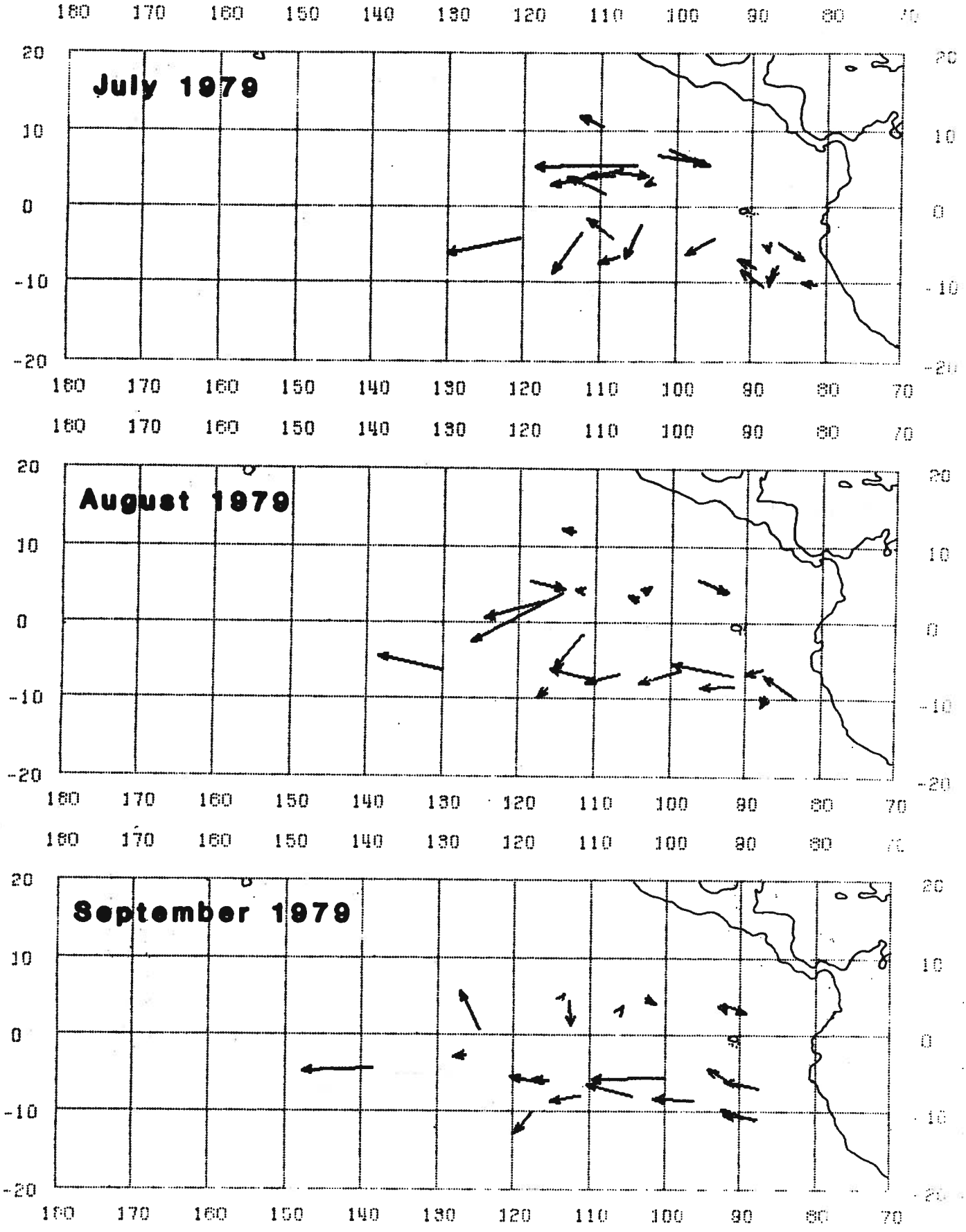


Figure 71.

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

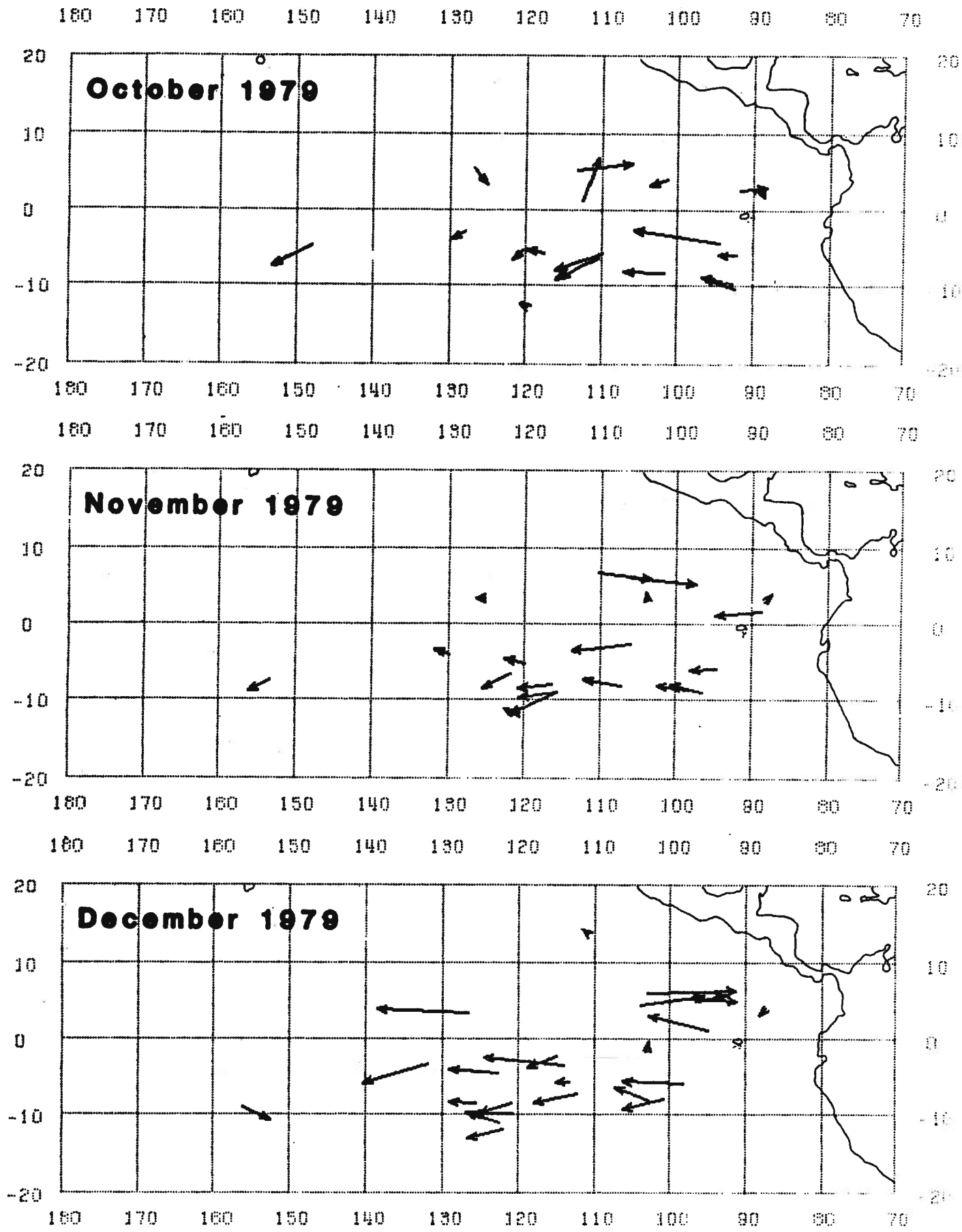


Figure 72.
Arrows indicate position of buoy at beginning and end of month and direction of travel.

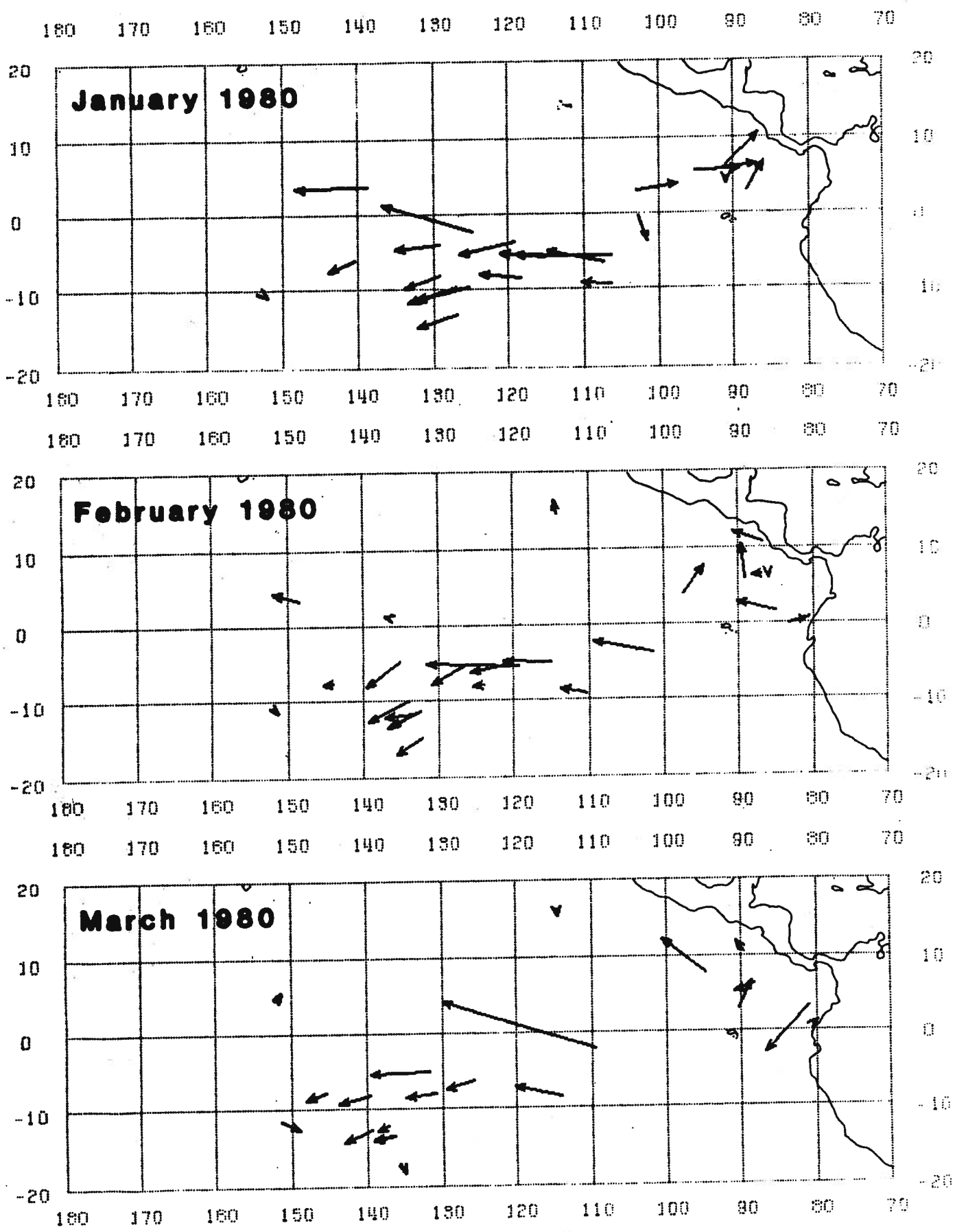


Figure 73.
Arrows indicate position of buoy at beginning and end of month and direction of travel.

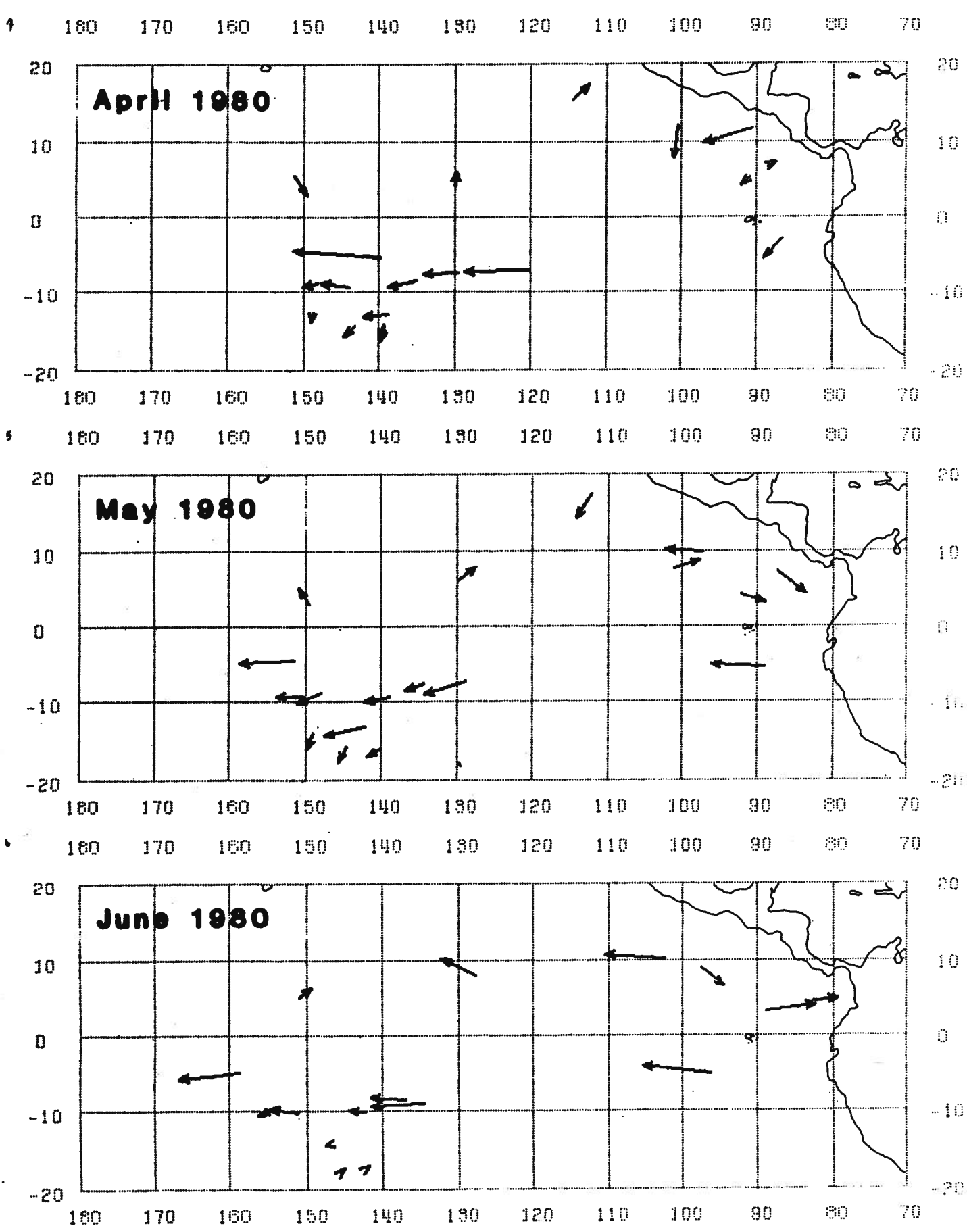


Figure 74.
Arrows indicate position of buoy at beginning and end of month and direction of travel.

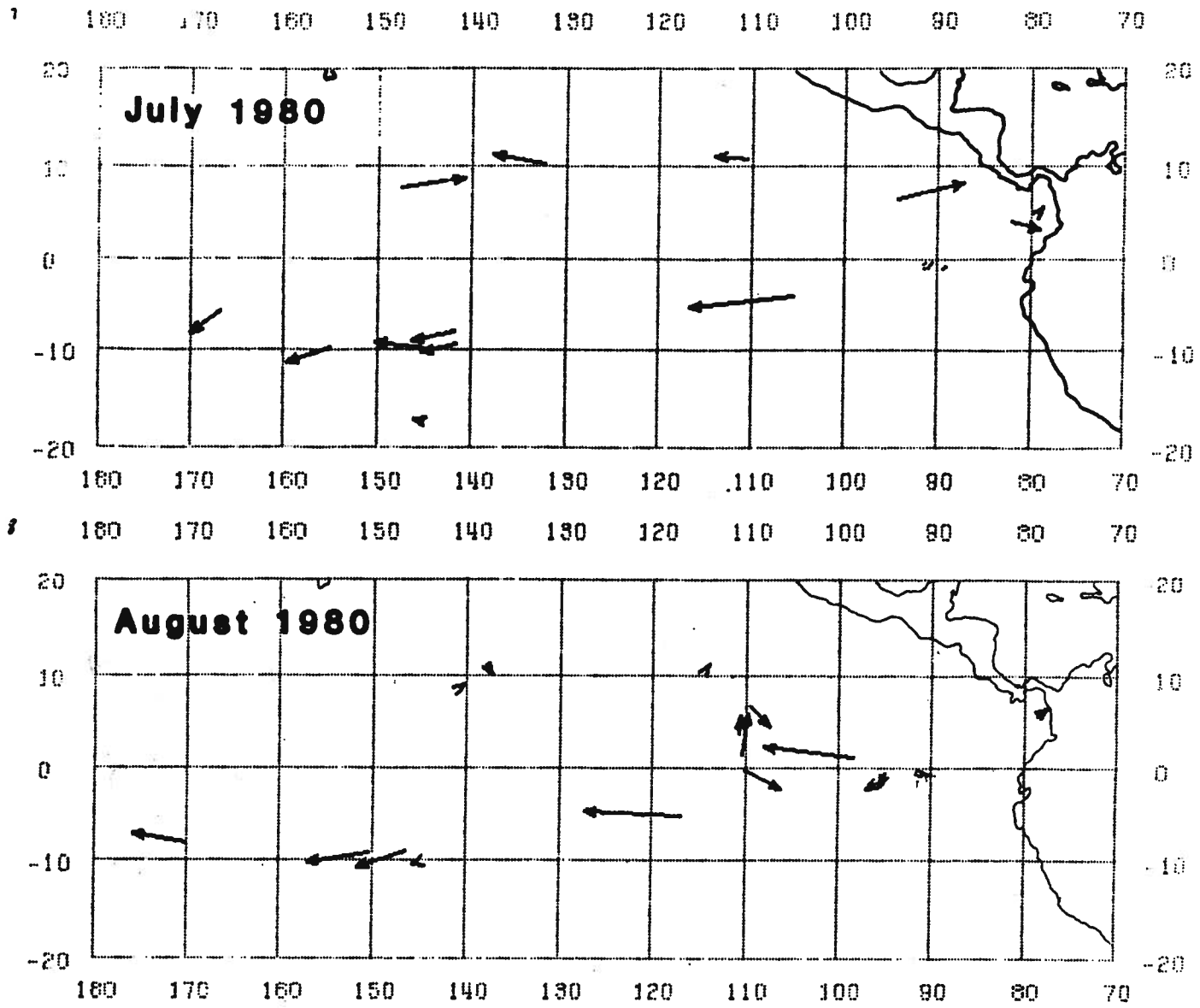


Figure 75.

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