Short-range Forecasting Research

GLOBAL PRECIPITATION CLIMATOLOGY PROJECT ALGORITHM INTERCOMPARISON PROJECT - 2

REPORT No. 6

GPCP AIP/2 - ATLAS: SSM/I DATA

by

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Introduction

As part of the Global Precipitation Climatology Project - Algorithm Intercomparison Project - 2 (GPCP-AIP/2) (WMO, 1989), data from the Defense Meteorological Satellite Program (DMSP) Block 5D-2 Spacecrafts F8 and F10 (Hollinger et. al., 1987) were collected for the period 1st February to 9th April 1991. The data were provided by NOAA.
Fig.1 shows the GPCP-AIP/2 area as well as the area for which data were extracted for analysis in this study.

The Special Sensor Microwave Imager (SSM/I) consists of 7 separate total-power radiometers, each simultaneously measuring the microwave upwelling radiance from the earth and the intervening atmosphere. Tab.1 gives the frequencies, polarisations and temporal and spatial resolutions of the 7 channels.
For the F8 data, the 85 GHz channel data were not available in either polarizations because of a problem with the instrument (see Wentz 1991).

The raw data have been processed and navigated as recommended by Wentz (1991).
Statistical analyses were carried out on the data set in order to:
- test the quality of the data;
- study the statistical properties of the data;
- help select interesting cases from the point of view of estimating precipitation;
- compare with similar analyses of data sets from other instruments during the GPCP-AIP/2 Campaign.

This report shows the results of these analyses. Preliminary results have been published in Liberti (1992).
The data origin and characteristics are described in Section 1.
Section 2 describes the analyses applied to the data set.
In Section 3, some comments on the data set are reported.

1 Data Origin and Characteristics

Although the GPCP-AIP/2 SSM/I data set was distributed to the participants accompanied with the preprocessing software from Wentz (1988) (Fortran subroutine DECODE), the analyses in this report have been performed on data processed following Wentz (1991) (Revision-1 DECODE).

The Revision-1 DECODE differs from the previous version as follows:

- It is independent of the byte-ordering of the Fortran compiler.
- It is set up to process multiple satellites (ie F8 and F10).
- It corrects the known geolocation error for the F8 data (for the F10 data the geolocation is already corrected in the tape data).
- It performs a more exact computation of the incidence angle.

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- The F8 antenna temperatures are corrected for an along-scan error that occurs near the edge of the scan where the feedhorn partially sees the cold-sky reflector. Correction for the F10 data are currently set to 0.

For more details, see Wentz (1991).

Because of the different nature of surface properties in the microwave spectrum, separate analyses have been done for different surface types in order to understand the behaviour of the data and to help discriminate potential signals. The data have been divided into three surface types: land, water and coast. The surface classification was based on the surface flag included in the data.

Although the F10 was planned to have exactly the same characteristics of the F8 in order to substitute it, due to a malfunction during launch, F10 is not exactly sun synchronous. In *Tab.2*, the principal differences in the orbital parameters between the two platforms are reported. *Fig.2* shows the values of the incidence angle, computed according with Wentz (1991), for each scan during the campaign for the F8 (upper panel) and the F10 (lower panel). For the reasons mentioned previously, separate analyses have been performed for each platform.

2 Results Summary

In *Tab.3* is summarized the amount of data used for the analyses.
Having divided the data by platform and surface type the following products were produced, for each orbit and each channel:

- Number of footprints analysed [N];

- Minimum [min] and maximum [MAX] value;

- Mean:

$$\bar{x} = \frac{\sum_{i=1}^{N} x_i}{N}$$

- Standard Deviation:

$$s_2 = \sqrt{\frac{\sum_{i=1}^{N} (x_i - \bar{x})^2}{N-1}}$$

- Coefficient of Skewness:

$$s_3 = \frac{\sum_{i=1}^{N} (x_i - \bar{x})^3}{(N-1) \cdot s_2^3}$$

- Coefficient of Kurtosis:

$$s_4 = \frac{\sum_{i=1}^{N} (x_i - \bar{x})^4}{(N-1) \cdot s_2^4} - 3$$

- Frequency distribution for 5 K wide classes as specified in *Table 4*.
For each month the results are shown in form of summary panels (*Figs.3-110*).

Referring to *Fig.3*, each summary panel contains the following information:
FRAME A: Time series of the number of orbits available for each day;
FRAME B: Time series of the percentage of footprints of the frame containing useful data;
FRAME C: Time series of the frequency histogram where the contour lines correspond to [1] 1%, [2] 10%, [3] 25%, [4] 50% for the histogram classes as specified in *Table 4*;
FRAME D: Time series of the coefficient of Kurtosis;
FRAME E: Time series of the coefficient of Skewness;
FRAME F: Time series of the Standard Deviation;

FRAME G: Time series of the mean, minimum and maximum values;
FRAME H: Cumulative histogram for the for the histogram classes as specified in *Table 4*;
FRAME I: Frequency distribution [%] of values for the coefficient of Kurtosis;
FRAME J: Frequency distribution [%] of values for the coefficient of Skewness;
FRAME K: Frequency distribution [%] of values for the Standard Deviation;
FRAME L: Frequency distribution [%] of values for mean (continuous line) minimum and maximum (dashed lines).
In the April panels, the column of plots on the extreme right represents the same as panels H to L except for the whole period.
The axis limits, interval and unit of measurement are reported in *Table 5.*

For each time series of statistical parameters computed from the images, some basic statistics (minimum and maximum value, mean, Standard Deviation, Skewness and Kurtosis) have been also calculated. The results are shown in (*Table 6.a-l.*) for each month as well as for the whole period (ALL).

3 Comments

During the GPCP-AIP/2 campaign, only $\simeq$ 70 % and $\simeq$ 30 % of the orbits (see *Tab.3*) for the F8 and F10 respectively was available for analysis. Serious, unrecoverable, gaps of data occurred, especially in April, where no data were available from the F10.

Due to the orbital characteristics of the DMSP polar satellites, the images analysed have different sizes and hence the data analysed within each image may cover different regions and surface types according to the relative position within the image. The effect of the different size of the analysed data sets has not taken into account in this study. However, an attempt to account for the different size of the data sets is shown in *Fig.111.* This figure shows the time series of the difference between single orbit average brightness temperature and the average brightness temperature for the whole period, for each F8 channel, for *land* surface type. In the upper panel (*Fig.111.a*) are plotted the simple differences, while in the lower panel (*Fig.111.b*) each value of the difference has been *normalized* by multiplying by the ratio between the size of the data set and a fixed number (nominally 6000, that is a few hundred greater than the maximum size available). Such a *normalization* should reduce the entity of the differences for small ensemble, in the hypothesis of their low representativeness.
However, whereas the single images statistics may suffer from difference in size of the generating data set, the cumulative properties, taken over a month or over the whole period, should be representative of the whole area.

Differences in the cumulative as well as in the extreme values between the F10 and the F8 data were observed (see for example *Table 6.a-m*). In general, the F10 brightness temperatures are warmer than the F8 ones. *Fig.112* shows the cumulative histograms of brightness temperature (the classes' limits are reported in *Tab.4*) for the F10 channels (upper panel) and the corresponding differences in class frequencies [%] between the F10 and the F8 (lower panel). An approximate shift of one class (5 K) can be inferred.
Such difference it is not due to the different preprocessing adopted for the two platforms. In fact, despite the absence of along track correction for the F10 data, the maximum absolute value of such a correction can be 0.4 % of the brightness temperature (1 K for 300 K) and although the sign varies with the position in the scan, the greatest values are positive, and therefore produce warmer F8 brightness temperatures. Nor can the difference be explained by the variations in the incidence angle because, on the average, the value of the incidence angle were approximately the same (see *Fig.2*) during the campaign. Furthermore, it is hard to account for a 5 K difference through changes in surface emissivity arising from a few tenths of a degree difference in the incidence angle. The same can be said for the different atmospheric path. Further investigations are therefore needed.

The effect on the precipitation estimate would depend upon the technique adopted. As a general rule, a warmer temperature should produce overestimation of precipitation for an emission-based algorithm over water, whereas an attenuation-based algorithm should produce an underestimation of the precipitation.

The results of the analyses described have been used, together with results from studies of other types of data, including surface precipitation measurements, to select the cases for which precipitation estimates have been required for the GPCP-AIP/2. In *Tab.7*, the list of GPCP-AIP/2 selected SSM/I passes (i.e. the passes for which instantaneous precipitation estimation have been requested to the GPCP-AIP/2 participants) is reported together with the selected AVHRR orbits.

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REFERENCES

Hollinger, J.P., R.Lo, G.Poe, R.Savage and J.Pierce, 1987. Special Sensor Microwave/Imager Users' Guide. Naval Research Laboratory. Washington D.C.. 120 pp..

Liberti, G.L., 1992. Statistical properties of the SSM/I data during the GPCP-AIP/2. Preliminary results. Proc. of the 3rd Specialist Meeting in Microwave Radiometry and Remote Sensing Applications. 14-16 January, 1992. Boulder, CO, USA. 298-302.

Wentz F.J., 1991. User's Manual SSM/I Antenna Temperature Tapes. Revision 1. RSS Technical Report 120191. 70 pp.

Wentz F.J., 1988. User's Manual SSM/I Antenna Temperature Tapes. RSS Technical Report 032588. 23 pp.

W.M.O./T.D., 1989. The Global Precipitation Climatology Project. Report of the 4th session of the international working group on data management. WMO/TD No. 356. Bristol, U.K., 26-28 July 1989.

TABLES

1. Temporal and spatial resolution (3 dB footprint size) of SSM/I channels (from Wentz (1991)).
   [A-T Along-Track; C-T Cross-Track]

Frequency (GHz)	Polarisation	Integration period (ms)	A-T (km)	X-T (km)
19.35	Vertical	7.95	69	43
19.35	Horizontal	7.95	69	43
22.235	Vertical	7.95	50	40
37.0	Vertical	7.95	37	28
37.0	Horizontal	7.95	37	29
85.5	Vertical	3.89	15	13
85.5	Horizontal	3.89	15	13

2. Orbital parameters for the F8 and F10 (Wentz (1991)).

Parameter	F8	F10
Surface incidence angle	53.1 ± 0.25	53.25 ± 0.75
Eccentricity of the orbit	0.0015	0.0085
Altitude [Km]	860 ± 25	805 ± 72
Orbital period	102'	101'
Ascending equatorial crossing time	6:12	19:39[1] + 47'/yr

[1] 1st January 1991

3. DATA STATISTICS:

   (A) number of orbits analysed;
   (B) % of expected number of orbits (assuming 4 a day);
   (C) number of footprints analysed (in *italics* the values for the 85 GHz resolution).

		LAND			WATER			COAST			ALL		
	MONTH	A	B	C	A	B	C	A	B	C	A	B	C
F	Feb	83	74.1	86797	86	76.8	74845	85	75.9	35187	86	76.8	196830
8	Mar	83	66.9	86012	86	69.4	72603	85	68.5	34206	86	69.4	192821
	Apr	22	61.1	22434	24	66.7	21174	23	63.9	9615	24	66.7	53224
	All	188	69.1	195243	196	72.1	168622	193	71.0	79008	196	72.1	442875
F	Feb	22	19.6	22664	25	22.3	20452	23	20.5	9398	25	22.5	52514
1				*90581*			*81814*			*37509*			*209904*
0	Mar	52	41.9	52599	52	41.9	45155	53	42.7	21003	54	43.5	119757
				214113			*180582*			*83932*			*478588*
	Apr	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0
	All	74	27.2	76263	77	28.3	65607	76	27.9	30401	79	29.0	172271
				304694			*262356*			*121441*			*688492*

4. HISTOGRAM CLASSES:

CLASS	BOUNDARIES	CLASS	BOUNDARIES
1	$-\infty < T < 105$	21	$200 \leq T < 205$
2	$105 \leq T < 110$	22	$205 \leq T < 210$
3	$110 \leq T < 115$	23	$210 \leq T < 215$
4	$115 \leq T < 120$	24	$215 \leq T < 220$
5	$120 \leq T < 125$	25	$220 \leq T < 225$
6	$125 \leq T < 130$	26	$225 \leq T < 230$
7	$130 \leq T < 135$	27	$230 \leq T < 235$
8	$135 \leq T < 140$	28	$235 \leq T < 240$
9	$140 \leq T < 145$	29	$240 \leq T < 245$
10	$145 \leq T < 150$	30	$245 \leq T < 250$
11	$150 \leq T < 155$	31	$250 \leq T < 255$
12	$155 \leq T < 160$	32	$255 \leq T < 260$
13	$160 \leq T < 165$	33	$260 \leq T < 265$
14	$165 \leq T < 170$	34	$265 \leq T < 270$
15	$170 \leq T < 175$	35	$270 \leq T < 275$
16	$175 \leq T < 180$	36	$275 \leq T < 280$
17	$180 \leq T < 185$	37	$280 \leq T < 285$
18	$185 \leq T < 190$	38	$285 \leq T < 290$
19	$190 \leq T < 195$	39	$290 \leq T < 295$
20	$195 \leq T < 200$	40	$295 \leq T < +\infty$

5. PLOT SCALE AND MARKS:

FR: Reference frame;
Xm: Minimum value for the X-axis;
XM: Maximum value for the X-axis;
DX: Tick mark distance for the X-axis;
UX: Unit for the X-axis;
Ym: Minimum value for the Y-axis;
YM: Maximum value for the Y-axis;
DY: Tick mark distance for the Y-axis;
UY: Unit for the Y-axis;

FR	Xm	XM	DX	UX	Ym	YM	DY	UY
A	1	*	1	DAY	0	5	1	ORBITS
B	1	*	1	DAY	0	2500	250	# OF FOOTPRINTS
B^1					0	10000	1000	
C	1	*	1	DAY	100	300	10	K
D	1	*	1	DAY	-2	6	1	
E	1	*	1	DAY	-2.5	1	0.5	
F	1	*	1	DAY	0.0	30	5.0	K
G	1	*	1	DAY	0	100	10	K
H	0	40	5	% of total	0	100	10	K
I	0	30	5	% of total	-2	6	1	
J	0	30	5	% of total	-2.5	1	0.5	
K	0	30	5	% of total	0.0	30	5.0	K
L	0	30	5	% of total	0	100	10	K

*: end of the month.

B^1: 85 GHZ V/H only.

6. STATISTIC OF THE STATISTICS

A		F8 - 19V																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	260.86	2.04	-0.03	0.07	255.71	266.13	187.91	3.56	0.55	-0.33	181.37	196.33	226.85	4.13	-2.93	16.22	201.05	233.78
E	min [K]	236.22	9.90	-0.38	2.00	200.50	263.76	178.93	2.35	0.77	0.03	175.48	185.59	183.40	3.47	1.15	1.20	178.18	194.96
B	MAX [K]	267.74	2.68	-0.03	-0.31	261.33	273.64	219.93	12.30	-0.03	-0.49	190.73	249.00	264.89	6.20	-5.34	39.51	217.03	273.79
	S_2 [K]	4.46	1.13	-0.83	1.75	0.83	7.08	6.35	1.73	0.04	0.06	1.97	10.31	21.86	1.84	-1.62	7.88	12.16	25.82
	S_3	-1.75	0.73	-0.16	-0.06	-3.77	0.12	1.56	0.90	1.07	2.32	-0.26	5.19	-0.12	0.13	-0.42	2.44	-0.59	0.24
	S_4	4.97	4.32	0.94	0.11	-2.00	16.03	4.57	6.14	2.88	11.98	-1.60	40.12	-1.13	0.11	-0.95	13.27	-1.75	-0.67
M	AV [K]	264.17	2.43	0.06	-0.44	258.54	269.68	189.52	4.00	0.75	0.89	182.24	204.12	228.45	5.30	-1.38	9.68	199.63	245.88
A	min [K]	236.83	7.80	-0.04	0.86	214.81	261.35	181.21	3.02	1.69	4.74	176.80	195.62	185.74	5.67	3.45	18.47	179.51	222.18
R	MAX [K]	271.76	3.38	-0.26	-0.52	264.39	278.16	222.87	13.38	-0.53	0.09	188.08	248.54	267.85	7.91	-4.95	33.28	209.28	276.52
	S_2 [K]	4.58	1.09	0.77	1.20	2.07	8.39	6.46	2.11	-0.12	0.08	0.09	11.27	22.00	2.51	-2.14	8.56	8.75	26.39
	S_3	-1.80	0.75	-0.19	0.14	-3.86	0.06	1.76	0.98	0.85	1.03	-0.43	4.95	-0.06	0.15	-0.21	1.83	-0.57	0.36
	S_4	5.96	3.80	0.98	1.12	-0.31	20.00	5.34	7.09	2.37	6.77	-1.91	39.40	-1.15	0.12	-3.31	23.91	-2.00	-0.82
A	AV [K]	265.54	3.20	-0.38	0.10	257.75	271.82	189.37	3.82	0.78	0.75	182.59	200.05	229.68	3.83	1.35	3.03	222.73	242.14
P	min [K]	237.88	8.99	1.17	1.15	227.52	264.14	181.12	1.74	0.78	0.45	178.61	185.85	185.82	2.13	-0.22	0.30	180.58	189.98
R	MAX [K]	272.11	3.14	-0.76	-0.60	265.83	275.89	223.05	13.40	-0.29	-0.76	193.71	243.13	268.78	4.69	-0.77	0.23	256.44	275.64
	S_2 [K]	4.65	1.34	0.02	-0.61	1.89	7.35	6.38	2.15	0.23	-1.36	2.91	10.02	22.38	1.63	-0.59	-0.46	18.49	24.63
	S_3	-2.12	0.68	-0.36	-0.82	-3.47	-1.00	2.09	1.74	0.69	-0.19	-0.76	6.47	-0.09	0.14	-1.45	3.59	-0.56	0.16
	S_4	7.08	4.50	0.75	-0.47	0.89	17.13	9.42	13.35	1.62	2.01	-1.51	51.56	-1.13	0.11	2.20	5.11	-1.24	-0.73
A	AV [K]	262.87	2.99	0.25	-0.23	255.71	271.82	188.80	3.85	0.70	0.63	181.37	204.12	227.89	4.74	-1.55	11.54	199.63	245.88
L	min [K]	236.68	8.89	-0.13	2.01	200.50	264.14	180.20	2.83	1.27	3.83	175.48	195.62	184.72	4.61	3.27	21.73	178.18	222.18
L	MAX [K]	270.03	3.67	0.04	-0.70	261.33	278.16	221.60	12.94	-0.28	-0.30	188.08	249.00	266.66	7.02	-4.67	33.74	209.28	276.52
	S_2 [K]	4.53	1.13	-0.05	1.31	0.83	8.39	6.40	1.95	0.00	-0.03	0.09	11.27	21.98	2.14	-2.00	9.41	8.75	26.39
	S_3	-1.81	0.74	-0.17	0.02	-3.86	0.12	1.71	1.08	1.14	2.27	-0.76	6.47	-0.09	0.14	-0.31	2.21	-0.59	0.36
	S_4	5.66	4.15	0.88	0.37	-2.00	20.00	5.50	7.85	2.71	9.27	-1.91	51.56	-1.14	0.12	-1.88	19.07	-2.00	-0.67

B		F8 - 19H																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	252.49	2.35	0.64	3.17	246.26	262.33	121.11	6.82	0.73	-0.05	108.63	138.44	189.89	7.12	-2.77	15.44	145.98	203.49
E	min [K]	205.25	18.43	-0.09	1.64	144.94	257.08	104.18	4.57	0.78	-0.26	98.11	117.80	111.86	6.73	1.14	1.15	101.63	133.75
B	MAX [K]	262.76	3.08	0.08	-0.40	255.87	269.50	178.42	21.66	-0.12	-0.60	128.53	226.89	258.23	10.42	-6.07	46.04	174.82	270.64
	S_2 [K]	7.30	2.40	0.41	0.86	0.63	13.81	11.91	3.36	0.08	0.08	3.76	20.01	39.32	3.67	-1.08	4.61	22.20	47.70
	S_3	-2.01	0.80	0.21	-0.15	-3.78	0.31	1.42	0.84	1.03	2.38	-0.33	4.85	-0.10	0.13	-0.69	2.84	-0.62	0.25
	S_4	7.31	5.38	1.01	1.34	-2.00	25.59	3.79	5.42	3.00	13.20	-1.60	35.95	-1.13	0.12	-0.67	11.70	-1.77	-0.66
M	AV [K]	256.43	3.26	-0.27	-0.11	248.32	262.91	122.57	7.65	0.94	1.61	107.62	152.06	191.48	9.30	-1.04	9.98	141.63	226.11
A	min [K]	205.41	14.08	-0.05	0.75	166.03	246.92	107.08	6.31	1.66	4.35	97.90	136.48	114.94	10.88	3.63	20.15	101.93	186.48
R	MAX [K]	267.82	4.09	-0.69	0.24	255.48	275.18	182.57	23.79	-0.65	0.26	114.49	229.44	261.39	13.11	-5.76	40.81	159.53	271.79
	S_2 [K]	7.94	2.23	0.83	0.46	4.02	14.65	11.94	4.10	0.03	-0.06	0.58	21.68	39.48	4.66	-2.00	7.36	15.96	47.72
	S_3	-2.13	0.77	-0.24	-0.14	-4.21	-0.41	1.69	0.96	0.73	0.89	-0.48	4.60	-0.06	0.16	-0.16	1.99	-0.56	0.43
	S_4	8.16	5.01	1.11	1.47	0.26	25.22	4.96	6.59	2.29	6.08	-1.82	34.61	-1.14	0.13	-3.19	22.29	-2.00	-0.81
A	AV [K]	258.87	4.19	-0.77	1.23	247.37	267.34	123.38	7.90	1.54	2.90	112.21	149.05	194.44	5.97	1.11	2.21	184.12	212.73
P	min [K]	207.45	15.08	1.02	0.60	186.21	248.98	107.42	3.78	0.18	-0.26	100.38	115.87	116.16	4.59	0.27	-0.83	108.41	124.64
R	MAX [K]	268.62	3.32	-0.72	-0.62	262.11	273.35	183.96	24.09	-0.45	-0.72	130.00	216.31	263.47	6.47	-1.40	1.74	245.91	271.45
	S_2 [K]	8.06	2.56	0.48	-0.67	3.90	13.88	12.11	4.17	0.31	-1.41	5.35	18.48	39.89	2.82	-0.53	-0.52	33.29	43.67
	S_3	-2.53	0.67	-0.09	-0.95	-3.81	-1.30	1.84	1.63	0.73	0.31	-1.01	6.15	-0.10	0.14	-1.07	1.55	-0.52	0.15
	S_4	9.57	4.85	0.40	-0.84	2.71	19.14	7.69	11.61	1.92	3.48	-1.60	47.48	-1.11	0.12	1.72	2.62	-1.24	-0.73
A	AV [K]	254.98	3.81	0.36	-0.22	246.26	267.34	122.03	7.34	0.98	1.52	107.62	152.06	191.13	8.13	-1.44	12.20	141.63	226.11
L	min [K]	205.58	16.18	0.01	1.73	144.94	257.08	105.85	5.51	1.44	4.27	97.90	136.48	113.73	8.77	3.40	23.29	101.63	186.48
L	MAX [K]	265.68	4.42	-0.06	-0.81	255.48	275.18	180.92	22.91	-0.40	-0.23	114.49	229.44	260.25	11.45	-5.80	44.68	159.53	271.79
	S_2 [K]	7.67	2.35	0.55	0.58	0.63	14.65	11.95	3.78	0.09	-0.11	0.58	21.68	39.46	4.04	-1.73	7.35	15.96	47.72
	S_3	-2.12	0.78	0.03	-0.10	-4.21	0.31	1.59	1.02	1.04	2.36	-1.01	6.15	-0.08	0.15	-0.37	2.40	-0.62	0.43
	S_4	7.95	5.18	0.94	1.09	-2.00	25.59	4.78	7.01	2.79	10.21	-1.82	47.48	-1.13	0.12	-1.66	16.80	-2.00	-0.66

C		F8 - 22V																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	260.23	2.56	0.06	0.08	253.72	266.61	202.24	6.41	0.42	-0.49	190.44	217.55	233.29	4.79	-0.47	2.29	213.66	245.93
E	min [K]	239.88	8.49	-0.23	2.59	208.19	265.80	189.11	4.68	0.92	0.69	182.43	204.74	193.57	5.09	1.05	0.70	186.67	210.75
B	MAX [K]	267.21	2.88	-0.02	-0.45	260.61	274.04	230.42	11.74	-0.40	-0.21	196.90	254.98	265.23	5.21	-3.87	25.62	228.93	273.77
	S_2 [K]	4.09	1.21	-0.97	0.77	0.20	5.95	7.57	2.58	0.13	-0.59	2.31	14.04	19.12	1.95	-1.09	3.14	10.82	24.04
	S_3	-1.58	0.72	0.22	1.96	-3.73	1.07	0.83	0.76	0.45	0.65	-0.97	3.09	-0.20	0.14	-0.07	1.49	-0.67	0.18
	S_4	4.32	3.78	1.09	0.73	-2.00	15.91	1.41	3.29	2.57	7.24	-1.36	16.22	-1.10	0.17	1.47	5.24	-1.57	-0.29
M	AV [K]	264.52	2.56	0.03	-0.58	259.06	270.01	206.92	6.93	0.59	0.59	192.91	228.86	237.07	5.77	-0.44	2.69	213.33	254.42
A	min [K]	243.14	6.53	-0.53	0.97	222.70	259.27	194.39	5.77	1.66	4.77	186.81	222.15	199.48	7.56	1.67	5.66	188.00	237.32
R	MAX [K]	271.71	3.28	-0.29	-0.61	264.32	278.27	234.81	12.54	-0.98	1.09	198.17	256.94	268.68	6.60	-4.23	26.19	222.47	275.83
	S_2 [K]	3.91	0.80	0.08	0.70	1.85	6.34	7.37	2.84	0.16	-0.05	1.17	14.05	18.39	2.44	-1.32	3.98	8.06	23.69
	S_3	-1.60	0.74	-0.48	-0.18	-3.62	-0.26	0.90	0.76	0.72	0.48	-0.82	3.21	-0.14	0.18	0.37	1.61	-0.57	0.49
	S_4	4.85	3.28	0.91	0.19	0.13	14.28	1.49	3.42	2.43	6.82	-1.94	17.28	-1.11	0.16	-1.42	9.94	-2.00	-0.64
A	AV [K]	265.42	2.79	-0.25	-0.21	258.86	270.66	206.16	4.54	0.29	-0.97	198.24	214.55	238.05	4.32	0.67	1.09	228.84	249.69
P	min [K]	243.32	7.36	1.23	1.45	234.19	265.24	194.78	3.22	2.01	5.57	190.06	206.69	199.11	2.65	0.10	1.30	192.58	206.13
R	MAX [K]	271.81	2.85	-0.75	-0.33	265.68	276.02	235.15	10.27	0.02	-1.26	216.56	251.22	269.05	4.32	-0.77	0.00	258.12	275.81
	S_2 [K]	3.83	0.92	-0.22	-0.42	1.91	5.58	7.24	2.78	0.52	-0.64	2.36	12.45	18.64	1.44	-0.20	-1.17	15.82	20.77
	S_3	-1.97	0.73	0.07	-0.03	-3.59	-0.47	1.18	1.38	1.09	1.76	-1.11	5.42	-0.19	0.17	-0.42	0.02	-0.61	0.13
	S_4	6.54	4.20	0.69	0.13	-0.28	17.02	4.17	9.50	3.10	9.81	-1.68	43.41	-1.07	0.18	0.99	0.02	-1.26	-0.63
A	AV [K]	262.73	3.42	-0.03	-0.49	253.72	270.66	204.77	6.81	0.46	0.32	190.44	228.86	235.52	5.55	-0.22	2.05	213.33	254.42
L	min [K]	241.72	7.69	-0.30	2.38	208.19	265.80	192.12	5.70	1.12	3.24	182.43	222.15	196.83	6.75	1.51	5.62	186.67	237.32
L	MAX [K]	269.73	3.79	-0.06	-0.72	260.61	278.27	232.93	12.08	-0.62	0.29	196.90	256.94	267.21	6.01	-3.47	22.11	222.47	275.83
	S_2 [K]	3.98	1.01	-0.62	0.93	0.20	6.34	7.44	2.71	0.18	-0.29	1.17	14.05	18.74	2.15	-1.30	4.39	8.06	24.04
	S_3	-1.63	0.74	-0.11	0.72	-3.73	1.07	0.90	0.86	1.09	3.42	-1.11	5.42	-0.17	0.16	0.22	1.68	-0.67	0.49
	S_4	4.81	3.67	0.97	0.56	-2.00	17.02	1.78	4.61	4.72	33.82	-1.94	43.41	-1.10	0.17	0.30	6.48	-2.00	-0.29

D		F8 - 37V																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	257.08	3.36	-0.15	-0.32	248.52	263.84	209.58	3.69	0.81	0.04	204.05	220.29	236.59	3.75	-1.18	5.51	218.26	245.90
E	min [K]	231.80	13.10	0.42	-1.10	213.05	262.83	201.28	1.67	1.04	1.41	198.50	207.49	203.10	3.46	-3.58	26.48	178.95	211.05
B	MAX [K]	265.67	3.03	0.07	-0.71	259.53	271.96	236.68	11.10	-0.40	-0.44	210.65	261.55	264.46	4.65	-2.67	15.65	235.45	272.05
	S_2 [K]	5.82	2.72	-0.05	-1.32	0.47	10.51	6.37	2.55	0.43	-0.27	1.39	13.54	17.75	1.48	-0.77	2.96	11.78	21.87
	S_3	-1.60	0.68	0.98	1.48	-2.81	0.70	1.41	0.68	0.45	0.26	-0.32	3.30	-0.23	0.16	-0.07	1.80	-0.72	0.26
	S_4	3.66	2.83	0.70	0.35	-2.00	12.39	2.84	3.67	1.82	3.99	-1.08	17.95	-1.25	0.15	1.79	5.99	-1.59	-0.52
M	AV [K]	262.63	2.38	-0.04	-0.45	256.42	267.80	210.31	4.37	1.60	4.20	203.86	230.60	238.57	4.74	0.16	5.34	218.71	258.33
A	min [K]	238.10	11.53	-0.24	-1.08	216.39	257.85	202.94	2.35	1.88	4.92	199.82	213.34	205.53	4.83	5.22	35.85	201.53	241.96
R	MAX [K]	269.87	3.12	-0.38	-0.33	261.86	276.40	238.13	12.84	-0.57	-0.24	205.73	259.38	267.83	5.70	-3.64	21.04	229.91	275.27
	S_2 [K]	4.53	1.76	0.41	-0.84	1.53	8.52	6.07	2.74	0.50	-0.18	0.97	13.40	18.52	2.14	-1.95	6.95	8.44	22.28
	S_3	-1.92	0.88	-0.02	-0.39	-4.43	-0.25	1.73	0.98	0.66	0.88	-0.53	4.79	-0.16	0.20	0.03	1.86	-0.70	0.56
	S_4	6.06	4.23	1.43	4.99	-0.14	26.29	4.89	6.81	2.24	5.14	-2.13	31.22	-1.31	0.16	0.26	6.07	-2.00	-0.70
A	AV [K]	263.58	2.59	0.25	-0.88	259.21	268.73	209.50	4.14	1.26	0.87	203.55	220.63	239.07	3.31	0.74	1.07	232.50	248.22
P	min [K]	238.63	12.00	-0.34	-0.79	216.82	259.20	202.32	1.33	1.23	0.50	200.79	205.37	204.41	1.63	0.81	1.10	201.31	209.01
R	MAX [K]	269.94	2.84	-0.76	-0.39	263.81	274.00	237.75	12.34	-0.02	-1.10	216.07	257.96	268.24	3.76	-0.84	-0.04	258.81	274.20
	S_2 [K]	4.43	1.78	1.00	-0.14	1.91	8.63	5.80	2.73	0.76	0.09	1.93	13.05	19.11	1.33	-0.57	-0.32	16.05	21.18
	S_3	-2.27	0.84	0.23	-1.03	-3.58	-0.67	2.09	1.50	0.15	-0.29	-1.05	5.14	-0.20	0.15	-0.25	-0.17	-0.55	0.14
	S_4	7.83	4.64	0.34	-0.54	0.33	18.62	8.90	11.92	1.35	0.41	-0.95	38.45	-1.30	0.12	0.69	-0.73	-1.45	-1.06
A	AV [K]	260.29	4.06	-0.45	-0.26	248.52	268.73	209.89	4.05	1.34	2.92	203.55	230.60	237.76	4.28	-0.12	5.64	218.26	258.33
L	min [K]	235.38	12.65	0.00	-1.22	213.05	262.83	202.13	2.11	1.68	5.27	198.50	213.34	204.33	4.13	2.99	41.02	178.95	241.96
L	MAX [K]	268.03	3.69	-0.16	-0.76	259.53	276.40	237.45	12.00	-0.43	-0.37	205.73	261.55	266.39	5.32	-2.68	15.26	229.91	275.27
	S_2 [K]	5.09	2.32	0.43	-0.88	0.47	10.51	6.17	2.65	0.49	-0.17	0.97	13.54	18.25	1.84	-1.42	5.75	8.44	22.28
	S_3	-1.82	0.82	0.11	0.31	-4.43	0.70	1.63	0.97	0.82	1.63	-1.05	5.14	-0.19	0.18	0.07	1.84	-0.72	0.56
	S_4	5.21	3.99	1.28	3.65	-2.00	26.29	4.48	6.82	2.66	7.85	-2.13	38.45	-1.28	0.15	0.92	6.11	-2.00	-0.52

E		F8 - 37H																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	251.05	3.81	-0.13	0.12	241.15	261.63	150.00	8.77	0.70	-0.06	136.38	176.05	204.99	7.33	-1.22	6.04	169.06	224.25
E	min [K]	215.62	15.64	-0.57	2.91	162.47	259.73	130.43	4.16	0.88	0.10	123.29	141.54	134.24	5.46	1.28	1.74	125.59	153.38
B	MAX [K]	262.83	3.51	-0.01	-0.80	255.96	269.82	206.68	22.16	-0.57	-0.30	150.04	250.65	260.65	7.67	-4.55	30.52	204.94	269.68
	S_2 [K]	7.32	2.28	-0.83	0.07	0.62	10.50	14.25	5.37	0.47	-0.01	3.38	29.08	37.29	3.47	-0.60	1.55	25.54	47.19
	S_3	-1.56	0.77	-0.32	1.66	-4.45	0.31	1.22	0.68	0.10	0.67	-0.87	3.11	-0.24	0.17	-0.38	1.81	-0.78	0.22
	S_4	4.26	4.93	2.31	7.11	-2.00	28.71	2.08	2.89	1.43	1.67	-1.16	12.42	-1.25	0.18	1.68	4.25	-1.68	-0.50
M	AV [K]	257.56	2.77	-0.02	-0.54	251.47	264.55	149.35	10.06	1.45	3.48	131.53	194.16	206.35	9.47	0.61	6.53	167.72	249.45
A	min [K]	218.89	13.58	-0.63	1.48	170.12	248.43	132.38	6.05	1.82	4.04	124.54	158.38	136.91	11.37	4.94	32.71	126.47	220.79
R	MAX [K]	267.57	3.63	-0.64	0.27	256.68	274.95	207.87	27.46	-0.66	-0.19	132.61	253.59	264.44	9.55	-5.46	38.07	191.41	272.91
	S_2 [K]	6.35	1.45	-0.26	-0.30	2.79	9.46	13.26	6.10	0.50	-0.21	1.27	28.94	38.67	4.62	-2.16	8.40	15.19	47.23
	S_3	-2.01	0.81	-0.59	0.01	-4.42	-0.61	1.59	0.90	0.49	1.24	-0.64	4.67	-0.17	0.21	0.00	1.54	-0.72	0.57
	S_4	7.19	5.19	1.12	0.66	0.19	24.27	4.16	5.70	2.29	6.28	-2.21	30.88	-1.30	0.17	0.59	4.54	-2.00	-0.67
A	AV [K]	259.16	2.93	0.09	-0.10	252.64	265.53	149.81	10.57	1.46	1.76	138.55	181.25	208.63	5.78	0.37	-0.08	197.92	221.85
P	min [K]	218.34	11.73	0.75	0.13	199.40	244.96	131.81	3.99	0.37	-0.45	124.88	140.09	136.72	5.27	0.47	-0.72	128.40	147.67
R	MAX [K]	267.92	3.16	-0.87	-0.26	261.05	272.40	207.72	25.96	-0.31	-0.85	157.79	248.61	265.40	4.88	-1.31	1.24	251.45	270.72
	S_2 [K]	6.41	1.51	0.05	-0.67	3.58	9.29	13.25	6.13	0.42	-0.95	4.38	25.84	39.09	2.51	-0.10	-0.68	33.97	43.26
	S_3	-2.57	0.79	-0.37	0.22	-4.47	-0.96	1.66	1.28	-0.15	-0.40	-1.10	3.83	-0.22	0.17	-0.38	-0.67	-0.58	0.10
	S_4	10.21	6.16	1.06	0.26	1.17	25.47	5.89	7.98	1.20	-0.03	-1.22	24.42	-1.27	0.16	0.91	-0.40	-1.45	-0.92
A	AV [K]	254.87	4.75	-0.40	-0.26	241.15	265.53	149.69	9.53	1.20	2.21	131.53	194.16	206.03	8.24	0.04	7.17	167.72	249.45
L	min [K]	217.38	14.36	-0.57	2.53	162.47	259.73	131.46	5.12	1.70	4.65	123.29	158.38	135.71	8.63	5.34	47.20	125.59	220.79
L	MAX [K]	265.51	4.25	-0.26	-0.73	255.96	274.95	207.33	24.95	-0.58	-0.19	132.61	253.59	262.88	8.51	-4.81	34.56	191.41	272.91
	S_2 [K]	6.78	1.92	-0.35	-0.08	0.62	10.50	13.69	5.78	0.45	-0.22	1.27	29.08	38.11	3.99	-1.58	6.72	15.19	47.23
	S_3	-1.88	0.85	-0.42	0.58	-4.47	0.31	1.44	0.89	0.42	1.20	-1.10	4.67	-0.21	0.19	-0.05	1.65	-0.78	0.57
	S_4	6.25	5.54	1.42	2.07	-2.00	28.71	3.46	5.21	2.42	6.97	-2.21	30.88	-1.27	0.17	1.10	4.20	-2.00	-0.50

F — **F10 - 19V**

	Variable	LAND: Statistics of the variable						WATER: Statistics of the variable						COAST: Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	261.54	1.86	-1.17	0.65	256.66	264.06	189.54	5.95	0.35	-0.32	179.94	203.17	223.85	6.49	0.11	0.37	210.29	240.02
E	min [K]	221.01	11.03	2.18	4.99	205.71	259.55	180.43	2.84	1.14	0.81	176.32	187.96	183.04	6.74	2.62	6.09	177.24	207.32
B	MAX [K]	269.55	2.75	-0.84	0.25	263.05	273.68	229.76	26.24	0.41	1.81	183.55	309.22	266.12	5.76	-2.32	5.85	244.83	271.84
	S_2 [K]	6.34	1.96	0.13	0.12	1.89	10.53	6.79	3.26	-0.29	-0.82	1.27	13.11	24.34	2.93	-2.04	4.04	14.21	26.75
	S_3	-2.48	0.84	2.01	5.32	-3.53	0.53	2.13	1.65	1.03	1.28	-0.87	6.58	0.05	0.25	0.42	0.03	-0.43	0.65
	S_4	9.64	4.66	-0.44	0.04	-2.00	18.13	10.75	17.55	2.62	6.36	-0.96	77.13	-1.22	0.28	0.95	1.17	-1.81	-0.46
M	AV [K]	265.29	2.69	-0.33	-0.30	259.32	270.59	190.23	4.50	0.95	1.01	182.13	204.26	227.33	5.64	-0.63	0.40	212.84	239.01
A	min [K]	226.58	12.81	0.76	1.00	204.86	263.37	180.71	2.80	1.25	1.64	177.15	190.44	184.72	5.29	1.96	4.92	178.68	207.12
R	MAX [K]	273.87	3.41	-0.36	-0.85	266.87	279.88	231.29	16.74	-1.12	0.59	185.61	257.09	270.66	5.57	-1.53	3.79	248.13	280.60
	S_2 [K]	6.19	1.88	0.41	-0.15	2.36	10.97	7.50	3.11	0.14	0.05	0.75	16.33	24.80	2.90	-0.66	0.82	15.08	30.31
	S_3	-2.35	0.90	0.36	0.56	-4.36	0.15	1.84	0.88	-0.70	0.99	-1.03	3.53	0.05	0.24	0.18	0.79	-0.68	0.58
	S_4	9.10	5.87	0.78	1.34	-1.63	29.30	6.19	5.59	1.68	3.29	-0.65	27.99	-1.22	0.21	1.38	1.68	-1.55	-0.54
A	AV [K]	264.17	3.00	-0.08	-0.43	256.66	270.59	190.01	4.99	0.61	0.54	179.94	204.26	226.28	6.08	-0.42	0.16	210.29	240.02
L	min [K]	224.93	12.50	1.08	1.46	204.86	263.37	180.62	2.80	1.22	1.42	176.32	190.44	184.21	5.78	2.18	5.32	177.24	207.32
L	MAX [K]	272.59	3.78	-0.19	-0.56	263.05	279.88	230.79	20.15	-0.19	2.42	183.55	309.22	269.28	5.97	-1.53	4.00	244.83	280.60
	S_2 [K]	6.24	1.89	0.33	-0.03	1.89	10.97	7.27	3.16	-0.02	-0.13	0.75	16.33	24.66	2.90	-1.08	2.04	14.21	30.31
	S_3	-2.39	0.88	0.79	1.59	-4.36	0.53	1.94	1.18	0.92	3.75	-1.03	6.58	0.05	0.24	0.26	0.59	-0.68	0.65
	S_4	9.26	5.51	0.56	1.26	-2.00	29.30	7.67	11.09	4.03	19.80	-0.96	77.13	-1.22	0.23	1.19	1.86	-1.81	-0.46

G — **F10 - 19H**

	Variable	LAND: Statistics of the variable						WATER: Statistics of the variable						COAST: Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	251.26	3.17	-1.28	1.10	242.18	254.87	123.81	11.79	0.44	0.01	102.69	152.35	183.21	13.08	0.17	0.49	156.15	216.72
E	min [K]	176.10	20.99	2.26	5.61	145.46	251.42	106.84	5.85	1.42	1.71	99.60	123.75	110.72	12.87	2.91	7.72	100.32	159.99
B	MAX [K]	264.49	4.01	-0.81	0.43	253.89	270.66	191.24	37.74	-1.19	-0.15	111.41	229.05	258.35	10.57	-2.01	3.76	222.21	267.24
	S_2 [K]	11.41	3.99	0.27	-0.08	3.07	19.98	12.49	6.10	-0.30	-0.84	2.18	24.22	43.43	5.45	-1.81	3.04	25.34	48.31
	S_3	-2.73	0.94	1.56	4.34	-4.30	0.49	1.95	1.58	0.85	1.37	-1.22	6.14	0.07	0.26	0.37	-0.28	-0.41	0.67
	S_4	11.78	6.07	0.21	0.27	-2.00	24.63	8.83	15.04	3.00	8.59	-1.06	69.03	-1.22	0.30	0.98	1.24	-1.83	-0.40
M	AV [K]	256.76	3.88	-0.68	0.37	246.51	263.43	125.56	7.98	0.92	1.03	111.20	151.06	189.58	10.37	-0.80	0.60	162.44	210.33
A	min [K]	186.08	22.48	0.83	1.17	149.93	252.43	108.42	5.08	1.02	1.42	100.85	126.12	115.06	9.65	2.05	6.06	101.46	158.23
R	MAX [K]	269.99	4.02	-0.27	-1.04	261.87	276.54	197.67	29.78	-1.14	0.68	113.89	243.74	264.59	9.45	-2.07	4.59	226.24	277.27
	S_2 [K]	10.83	3.54	0.39	-0.42	3.84	19.84	13.57	5.65	-0.03	-0.12	1.06	28.79	43.61	5.41	-0.72	1.05	24.87	53.64
	S_3	-2.63	0.83	0.57	0.89	-4.70	-0.17	1.74	0.95	-1.51	4.59	-2.33	3.28	0.05	0.25	0.14	0.94	-0.73	0.58
	S_4	11.06	6.30	0.57	1.23	-1.37	32.79	5.61	4.62	1.20	2.13	-0.87	22.89	-1.21	0.22	1.52	2.16	-1.56	-0.44
A	AV [K]	255.13	4.45	-0.41	-0.07	242.18	263.43	124.99	9.34	0.56	0.86	102.69	152.35	187.65	11.55	-0.50	0.36	156.15	216.72
L	min [K]	183.11	22.38	1.16	1.75	145.46	252.43	107.91	5.36	1.12	1.40	99.60	126.12	113.75	10.82	2.28	6.38	100.32	159.99
L	MAX [K]	268.35	4.73	-0.38	-0.13	253.89	276.54	195.58	32.47	-1.24	0.61	111.41	243.74	262.70	10.15	-1.92	4.05	222.21	277.27
	S_2 [K]	11.00	3.66	0.37	-0.21	3.07	19.98	13.22	5.78	-0.15	-0.29	1.06	28.79	43.56	5.38	-1.05	1.75	24.87	53.64
	S_3	-2.66	0.86	0.93	2.24	-4.70	0.49	1.80	1.18	0.25	3.96	-2.33	6.14	0.06	0.25	0.22	0.60	-0.73	0.67
	S_4	11.27	6.20	0.47	0.99	-2.00	32.79	6.65	9.39	4.52	25.22	-1.06	69.03	-1.21	0.25	1.29	2.10	-1.83	-0.40

H		F10 - 22V																	
		LAND						*WATER*						*COAST*					
	Variable	Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	260.99	1.85	-0.55	-0.08	256.35	264.34	205.18	8.98	0.39	-0.53	190.92	223.81	231.18	7.30	0.07	-0.12	216.81	248.03
E	min [K]	226.86	9.69	2.14	4.78	213.94	260.65	189.38	14.39	-3.81	14.87	123.98	203.43	194.56	8.98	2.81	7.13	188.44	228.42
B	MAX [K]	268.50	2.85	-0.55	-0.22	262.28	273.50	236.87	18.42	-1.20	0.09	193.43	257.08	266.06	4.63	-1.75	3.23	250.65	271.36
	S_2 [K]	5.31	1.52	-0.40	0.80	1.23	8.29	7.55	3.31	-0.18	-0.62	1.11	14.32	20.69	2.99	-2.30	5.47	9.82	23.50
	S_3	-2.32	0.85	1.22	3.27	-3.83	0.47	1.06	1.28	1.22	1.25	-0.72	4.76	0.00	0.28	0.53	0.05	-0.51	0.71
	S_4	8.90	4.76	-0.02	-0.01	-2.00	18.28	3.76	7.45	2.66	7.28	-1.11	33.03	-1.22	0.27	0.89	1.69	-1.80	-0.44
M	AV [K]	265.32	2.52	-0.35	-0.48	259.46	270.45	208.67	7.01	0.81	0.93	195.40	231.85	236.67	6.09	-0.50	-0.16	220.31	246.13
A	min [K]	234.68	12.19	0.15	-0.02	211.49	264.01	194.99	5.59	0.98	0.68	186.50	211.59	199.37	7.26	0.89	0.42	189.36	221.69
R	MAX [K]	272.93	3.21	-0.34	-0.48	265.75	279.82	242.18	13.91	-1.11	0.68	202.31	262.99	270.51	4.58	-1.03	2.05	254.12	279.82
	S_2 [K]	4.97	1.35	0.28	0.48	1.64	8.65	8.25	3.05	0.12	-0.40	1.89	15.30	20.00	3.00	0.03	-0.15	12.11	26.89
	S_3	-2.18	0.93	0.11	-0.08	-4.28	0.19	0.81	0.88	-1.13	3.35	-2.75	2.28	-0.03	0.26	0.38	0.71	-0.78	0.59
	S_4	8.20	5.97	0.85	0.25	-1.18	25.46	1.60	2.30	1.06	0.25	-1.29	8.09	-1.17	0.25	0.81	0.46	-1.59	-0.36
A	AV [K]	264.03	3.06	-0.13	-0.73	256.35	270.45	207.54	7.82	0.43	0.36	190.92	231.85	235.01	6.91	-0.41	-0.23	216.81	248.03
L	min [K]	232.35	11.99	0.57	0.08	211.49	264.01	193.17	9.66	-4.56	32.07	123.98	211.59	197.91	8.07	1.41	2.04	188.44	228.42
L	MAX [K]	271.61	3.70	-0.24	-0.42	262.28	279.82	240.46	15.59	-1.29	0.98	193.43	262.99	269.16	5.01	-1.01	2.09	250.65	279.82
	S_2 [K]	5.07	1.40	0.06	0.53	1.23	8.65	8.03	3.14	-0.01	-0.37	1.11	15.30	20.21	2.99	-0.66	1.10	9.82	26.89
	S_3	-2.22	0.90	0.40	0.63	-4.28	0.47	0.89	1.02	0.40	3.31	-2.75	4.76	-0.02	0.27	0.44	0.55	-0.78	0.71
	S_4	8.41	5.61	0.67	0.26	-2.00	25.46	2.30	4.70	4.09	22.13	-1.29	33.03	-1.19	0.26	0.82	0.93	-1.80	-0.36

I — F10 - 37V

	Variable	LAND						WATER						COAST					
		Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	259.10	2.27	0.00	-1.37	255.17	262.68	212.00	6.36	0.90	0.36	203.65	229.22	235.31	5.71	0.32	0.18	224.09	249.60
E	min [K]	227.18	9.43	1.95	4.50	217.49	260.16	202.82	2.34	1.70	3.67	199.87	210.97	204.64	5.49	2.68	6.62	199.33	224.97
B	MAX [K]	267.78	3.06	-0.62	-0.48	261.00	272.13	252.76	55.24	3.89	15.27	205.53	505.25	266.33	3.81	-0.74	-0.48	257.47	271.64
	S_2 [K]	6.15	2.15	-0.31	0.88	0.42	10.76	6.70	3.53	-0.26	-0.98	0.65	13.31	19.29	2.68	-2.07	4.60	9.75	21.61
	S_3	-2.10	0.81	0.16	2.62	-4.25	0.21	2.25	3.40	3.32	11.35	-0.23	16.85	-0.02	0.34	-0.25	0.99	-0.92	0.72
	S_4	6.63	4.94	1.42	3.55	-2.00	23.08	26.85	97.99	4.36	17.59	-1.91	488.80	-1.33	0.34	1.87	3.08	-1.79	-0.23
M	AV [K]	264.55	2.50	-0.39	-0.49	259.21	269.88	211.56	4.68	1.13	1.41	204.33	227.26	238.36	5.19	-0.40	0.13	225.24	248.97
A	min [K]	232.55	11.57	0.92	0.95	214.16	264.01	202.60	1.99	0.85	0.14	199.97	208.34	205.03	3.38	1.55	2.06	200.74	216.00
R	MAX [K]	272.21	3.30	-0.30	-0.42	264.52	279.43	246.14	14.53	-0.99	0.20	206.46	267.15	270.54	4.42	-1.15	3.16	253.12	280.33
	S_2 [K]	5.39	1.83	0.63	2.08	1.11	11.62	7.58	3.10	-0.10	-0.49	0.79	14.26	20.22	2.41	-0.52	-0.62	14.47	23.90
	S_3	-2.45	0.82	0.25	0.93	-4.26	0.16	1.68	0.84	0.29	-0.61	0.30	3.89	-0.06	0.29	0.36	0.83	-0.86	0.65
	S_4	9.11	5.78	0.89	0.52	-1.70	24.31	4.11	4.46	1.02	0.70	-1.04	19.15	-1.32	0.26	1.38	2.07	-1.68	-0.35
A	AV [K]	262.93	3.49	-0.33	-0.81	255.17	269.88	211.70	5.24	1.08	1.24	203.65	229.22	237.43	5.50	-0.20	-0.11	224.09	249.60
L	min [K]	230.95	11.19	1.15	1.43	214.16	264.01	202.67	2.10	1.26	2.13	199.87	210.97	204.91	4.10	2.43	7.29	199.33	224.97
L	MAX [K]	270.90	3.80	-0.27	-0.28	261.00	279.43	248.29	33.39	5.83	43.36	205.53	505.25	269.27	4.65	-0.73	1.19	253.12	280.33
	S_2 [K]	5.61	1.95	0.32	1.33	0.42	11.62	7.30	3.25	-0.21	-0.56	0.65	14.26	19.94	2.51	-1.10	2.07	9.75	23.90
	S_3	-2.34	0.83	0.21	1.33	-4.26	0.21	1.87	2.05	5.27	35.24	-0.23	16.85	-0.05	0.30	0.14	0.98	-0.92	0.72
	S_4	8.37	5.63	1.03	1.07	-2.00	24.31	11.50	56.22	8.09	65.42	-1.91	488.80	-1.32	0.29	1.66	3.04	-1.79	-0.23

J — F10 - 37H

	Variable	LAND						WATER						COAST					
		Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	251.43	3.92	-0.63	-0.10	241.28	256.40	154.52	14.78	0.84	0.54	130.13	194.91	199.89	13.24	0.23	0.49	172.13	233.81
E	min [K]	186.30	20.26	1.88	4.15	160.28	256.02	133.65	6.76	2.13	5.08	127.65	158.49	136.10	12.25	2.75	6.97	127.57	182.08
B	MAX [K]	264.67	4.08	-0.63	-0.74	256.17	269.90	219.99	39.33	-0.55	0.26	138.55	308.87	261.21	7.50	-0.98	-0.63	245.34	268.28
	S_2 [K]	9.73	3.34	-0.37	1.61	0.34	17.15	14.12	7.34	-0.25	-1.00	1.83	27.69	39.96	5.81	-2.08	4.43	19.49	45.20
	S_3	-2.44	0.93	-0.31	0.19	-4.75	-0.49	1.55	1.32	0.62	0.06	-0.61	4.97	-0.01	0.34	-0.10	0.42	-0.86	0.72
	S_4	9.96	6.28	0.81	1.24	-2.00	27.32	6.37	12.33	3.22	10.93	-1.18	59.00	-1.33	0.34	1.78	2.80	-1.80	-0.24
M	AV [K]	258.72	3.17	-0.43	-0.17	250.95	264.97	153.59	9.75	1.00	1.49	137.19	186.17	205.21	11.03	-0.57	0.24	177.22	225.34
A	min [K]	196.63	23.20	0.56	0.48	159.34	256.84	133.80	4.18	0.52	0.05	127.24	145.75	138.32	7.67	1.81	4.09	128.12	166.15
R	MAX [K]	269.91	3.75	-0.51	-0.17	259.40	277.07	222.61	29.37	-1.12	0.46	138.14	259.28	266.94	6.78	-2.03	5.66	237.26	277.88
	S_2 [K]	8.74	2.70	0.22	1.10	1.64	17.02	15.88	6.60	-0.12	-0.49	0.86	28.98	40.74	5.09	-0.47	-0.60	27.84	48.88
	S_3	-2.85	1.05	0.02	0.44	-5.38	0.23	1.49	0.91	-0.01	-0.03	-0.67	3.50	-0.07	0.31	0.41	0.75	-0.90	0.70
	S_4	13.14	8.84	1.04	1.23	-1.46	43.40	3.51	4.00	1.03	0.29	-1.09	15.33	-1.32	0.29	1.43	1.97	-1.70	-0.27
A	AV [K]	256.55	4.76	-0.71	0.22	241.28	264.97	153.89	11.53	1.01	1.65	130.13	194.91	203.60	11.91	-0.33	0.21	172.13	233.81
L	min [K]	193.56	22.73	0.87	0.90	159.34	256.84	133.75	5.11	1.73	5.59	127.24	158.49	137.65	9.27	2.43	7.31	127.57	182.08
L	MAX [K]	268.35	4.52	-0.54	-0.06	256.17	277.07	221.76	32.69	-0.88	0.69	138.14	308.87	265.20	7.44	-1.47	2.22	237.26	277.88
	S_2 [K]	9.03	2.92	0.06	1.34	0.34	17.15	15.31	6.85	-0.20	-0.58	0.86	28.98	40.51	5.29	-1.12	1.90	19.49	48.88
	S_3	-2.72	1.03	-0.11	0.33	-5.38	0.23	1.51	1.05	0.41	0.57	-0.67	4.97	-0.05	0.32	0.25	0.62	-0.90	0.72
	S_4	12.20	8.25	1.13	1.73	-2.00	43.40	4.44	7.78	4.67	29.17	-1.18	59.00	-1.32	0.30	1.59	2.55	-1.80	-0.24

K — **F10 - 85V**

	Variable	LAND						WATER						COAST					
		Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	255.99	7.15	-0.83	-0.21	238.06	264.59	246.76	6.23	0.33	-0.98	236.93	258.58	253.39	5.07	-0.25	-0.46	241.71	263.16
E	min [K]	211.93	17.53	0.80	-0.39	190.49	254.23	232.65	7.46	-1.48	3.04	208.89	247.50	226.97	13.40	-0.98	-0.27	193.81	242.69
B	MAX [K]	270.84	5.31	1.15	3.57	260.40	288.31	264.04	9.08	-1.38	0.81	240.32	273.20	270.73	5.62	0.52	3.39	256.59	288.31
	S_2 [K]	9.90	4.30	-0.43	-1.00	1.60	16.10	6.12	2.72	0.12	-0.24	1.57	12.64	9.83	2.15	-0.29	0.90	4.54	14.69
	S_3	-1.73	1.14	0.27	-0.78	-3.55	0.71	0.36	0.67	0.14	0.00	-1.15	1.92	-0.37	0.52	-0.48	0.34	-1.62	0.67
	S_4	5.34	5.81	0.90	-0.07	-0.78	19.63	0.28	1.87	2.48	6.28	-1.31	7.35	-0.21	2.45	3.71	13.18	-1.67	10.43
M	AV [K]	266.06	3.24	-0.78	0.59	256.50	272.22	247.60	5.09	0.53	0.26	238.30	260.99	257.80	3.96	0.09	0.45	247.42	269.36
A	min [K]	226.78	22.01	0.08	-1.21	192.29	269.00	233.88	7.37	-1.72	3.11	206.92	244.78	235.57	8.08	-1.49	2.15	209.55	245.60
R	MAX [K]	274.78	5.15	3.36	17.42	266.76	303.87	268.06	7.71	0.35	6.60	244.45	300.80	274.25	5.54	3.31	17.71	264.08	305.79
	S_2 [K]	6.55	3.52	0.63	0.26	0.72	17.52	6.21	2.14	0.58	2.26	1.47	14.08	9.70	1.66	-0.07	-0.53	5.84	13.13
	S_3	-2.51	1.27	0.42	0.81	-6.12	0.66	0.71	0.61	0.72	1.98	-0.53	2.93	-0.25	0.39	0.54	1.73	-1.09	1.09
	S_4	10.13	7.53	1.44	4.79	-1.71	42.84	0.69	2.44	3.65	16.10	-1.32	14.12	-1.00	0.64	1.64	2.63	-1.69	1.21
A	AV [K]	263.06	6.60	-1.53	2.41	238.06	272.22	247.33	5.46	0.40	-0.23	236.93	260.99	256.46	4.75	-0.37	0.52	241.71	269.36
L	min [K]	222.37	21.76	0.32	-1.11	190.49	269.00	233.48	7.38	-1.63	3.09	206.92	247.50	232.97	10.67	-1.55	2.08	193.81	245.60
L	MAX [K]	273.61	5.47	2.22	11.55	260.40	303.87	266.76	8.34	-0.48	4.58	240.32	300.80	273.19	5.76	2.16	12.70	256.59	305.79
	S_2 [K]	7.54	4.04	0.37	-0.70	0.72	17.52	6.18	2.33	0.35	1.17	1.47	14.08	9.74	1.81	-0.16	0.48	4.54	14.69
	S_3	-2.28	1.27	0.28	0.30	-6.12	0.71	0.60	0.65	0.37	1.32	-1.15	2.93	-0.29	0.43	-0.07	1.58	-1.62	1.09
	S_4	8.71	7.36	1.36	4.30	-1.71	42.84	0.56	2.27	3.56	16.13	-1.32	14.12	-0.76	1.48	5.92	41.27	-1.69	10.43

L — **F10 - 85H**

	Variable	LAND						WATER						COAST					
		Statistics of the variable						Statistics of the variable						Statistics of the variable					
		AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX	AV	S_2	S_3	S_4	min	MAX
F	AV [K]	251.99	8.42	-0.99	0.33	229.31	262.06	210.44	16.63	0.27	-0.69	178.43	240.11	230.89	11.80	0.00	-0.58	208.82	252.94
E	min [K]	198.72	15.80	1.78	3.62	176.49	251.09	180.57	10.23	2.09	4.95	168.58	217.89	180.42	11.62	2.19	5.06	168.71	221.87
B	MAX [K]	269.02	5.14	-0.70	0.30	257.16	279.31	252.52	23.84	-1.65	1.54	188.31	270.98	268.05	7.09	-1.89	4.37	243.40	279.31
	S_2 [K]	10.86	4.20	-0.38	-0.87	1.95	17.48	15.10	6.27	-0.71	-0.70	2.68	24.53	25.64	5.19	-1.59	1.68	10.54	30.34
	S_3	-1.75	1.38	-0.51	0.87	-5.55	0.92	0.28	0.67	-0.03	-1.00	-0.88	1.48	-0.35	0.48	-0.68	0.69	-1.66	0.53
	S_4	6.70	11.51	3.10	9.82	-0.88	53.24	0.36	2.14	3.15	10.58	-1.15	9.43	-0.93	0.95	2.85	8.14	-1.67	2.81
M	AV [K]	263.32	3.47	-0.58	0.29	253.33	270.18	212.39	12.62	0.42	0.78	184.04	248.39	238.23	9.61	-0.18	-0.45	216.15	258.75
A	min [K]	213.34	20.32	0.73	-0.06	180.67	265.76	185.31	7.53	0.43	-0.39	172.69	204.32	188.42	8.56	0.31	-0.56	172.69	208.97
R	MAX [K]	273.87	4.83	2.52	12.00	264.78	298.98	261.25	15.65	-2.17	6.30	194.22	295.88	272.77	5.46	1.67	9.64	258.22	299.45
	S_2 [K]	7.64	3.10	0.44	0.40	1.08	17.11	16.15	5.32	-0.31	-0.21	1.46	25.86	24.79	4.91	-0.04	-0.29	14.11	35.89
	S_3	-2.66	1.27	0.05	0.35	-5.84	0.48	0.67	0.76	0.57	1.60	-1.11	3.01	-0.41	0.45	-0.78	2.31	-2.08	0.53
	S_4	11.70	10.07	1.64	2.93	-1.39	47.13	0.61	2.75	2.93	8.78	-1.47	12.35	-0.96	0.95	3.45	15.52	-1.71	4.32
A	AV [K]	259.95	7.48	-1.70	3.36	229.31	270.18	211.75	13.96	0.30	0.17	178.43	248.39	236.01	10.79	-0.27	-0.31	208.82	258.75
L	min [K]	208.99	20.14	0.93	0.30	176.49	265.76	183.77	8.72	1.03	1.74	168.58	217.89	186.00	10.20	0.76	0.74	168.71	221.87
L	MAX [K]	272.43	5.37	1.00	7.39	257.16	298.98	258.42	18.99	-2.11	4.59	188.31	295.88	271.34	6.34	-0.30	8.26	243.40	299.45
	S_2 [K]	8.60	3.74	0.36	-0.43	1.08	17.48	15.81	5.63	-0.53	-0.21	1.46	25.86	25.05	4.97	-0.54	0.20	10.54	35.89
	S_3	-2.39	1.36	-0.05	0.20	-5.84	0.92	0.54	0.75	0.46	1.23	-1.11	3.01	-0.40	0.46	-0.74	1.81	-2.08	0.53
	S_4	10.22	10.69	1.99	4.58	-1.39	53.24	0.53	2.55	3.06	9.86	-1.47	12.35	-0.95	0.95	3.29	13.52	-1.71	4.32

7. GPCP-AIP/2: SELECTED CASES

Date	Time [GMT]							
	NOAA-11	NOAA-10	NOAA-11	NOAA-10	SSM/I:F-8		SSM/I:F-10	
08/Feb/91	02:58				05:35			
12/Feb/91								19:27
16/Feb/91				18:31		19:24		19:08
21/Feb/91				18:15		18:16	08:37	
24/Feb/91				18:46		19:16		
27/Feb/91							08:58	18:40
01/Mar/91								19:21
02/Mar/91								18:51
06/Mar/91				18:15		18:40	08:49	18:32
07/Mar/91							08:19	
08/Mar/91	02:46	07:42	14:18	17:29			07:49	19:12
12/Mar/91								18:52
16/Mar/91								18:32
17/Mar/91	02:45	07:34			05:33		08:20	
18/Mar/91				18:37		19:16		
20/Mar/91							08:31	
21/Mar/91			17:28	19:07		18:36	08:00	19:32
22/Mar/91								18:53
25/Mar/91		07:48		19:15		19:20		
26/Mar/91	02:44	07:25	14:17	18:51		19:07		18:33
01/Apr/91	03:17	08:26			05:28			
02/Apr/91				19:29	05:15	19:11		
04/Apr/91	02:43	07:16	12:35	18:42		18:44		

LIST OF FIGURES

30. F8-LAND-37H, FEB: SUMMARY
31. F8-LAND-37H, MAR: SUMMARY
32. F8-LAND-37H, APR: SUMMARY+CUM
33. F8-COAST-19V, FEB: SUMMARY
34. F8-COAST-19V, MAR: SUMMARY
35. F8-COAST-19V, APR: SUMMARY+CUM
36. F8-COAST-19H, FEB: SUMMARY
37. F8-COAST-19H, MAR: SUMMARY
38. F8-COAST-19H, APR: SUMMARY+CUM
39. F8-COAST-22V, FEB: SUMMARY
40. F8-COAST-22V, MAR: SUMMARY
41. F8-COAST-22V, APR: SUMMARY+CUM
42. F8-COAST-37V, FEB: SUMMARY
43. F8-COAST-37V, MAR: SUMMARY
44. F8-COAST-37V, APR: SUMMARY+CUM
45. F8-COAST-37H, FEB: SUMMARY
46. F8-COAST-37H, MAR: SUMMARY
47. F8-COAST-37H, APR: SUMMARY+CUM
48. F10-WATER-19V, FEB: SUMMARY
49. F10-WATER-19V, MAR: SUMMARY
50. F10-WATER-19V, APR: SUMMARY+CUM
51. F10-WATER-19H, FEB: SUMMARY
52. F10-WATER-19H, MAR: SUMMARY
53. F10-WATER-19H, APR: SUMMARY+CUM
54. F10-WATER-22V, FEB: SUMMARY
55. F10-WATER-22V, MAR: SUMMARY
56. F10-WATER-22V, APR: SUMMARY+CUM
57. F10-WATER-37V, FEB: SUMMARY
58. F10-WATER-37V, MAR: SUMMARY
59. F10-WATER-37V, APR: SUMMARY+CUM
60. F10-WATER-37H, FEB: SUMMARY

61. F10-WATER-37H, MAR: SUMMARY
62. F10-WATER-37H, APR: SUMMARY+CUM
63. F10-WATER-85V, FEB: SUMMARY
64. F10-WATER-85V, MAR: SUMMARY
65. F10-WATER-85V, APR: SUMMARY+CUM
66. F10-WATER-85H, FEB: SUMMARY
67. F10-WATER-85H, MAR: SUMMARY
68. F10-WATER-85H, APR: SUMMARY+CUM
69. F10-LAND-19V, FEB: SUMMARY
70. F10-LAND-19V, MAR: SUMMARY
71. F10-LAND-19V, APR: SUMMARY+CUM
72. F10-LAND-19H, FEB: SUMMARY
73. F10-LAND-19H, MAR: SUMMARY
74. F10-LAND-19H, APR: SUMMARY+CUM
75. F10-LAND-22V, FEB: SUMMARY
76. F10-LAND-22V, MAR: SUMMARY
77. F10-LAND-22V, APR: SUMMARY+CUM
78. F10-LAND-37V, FEB: SUMMARY
79. F10-LAND-37V, MAR: SUMMARY
80. F10-LAND-37V, APR: SUMMARY+CUM
81. F10-LAND-37H, FEB: SUMMARY
82. F10-LAND-37H, MAR: SUMMARY
83. F10-LAND-37H, APR: SUMMARY+CUM
84. F10-LAND-85V, FEB: SUMMARY
85. F10-LAND-85V, MAR: SUMMARY
86. F10-LAND-85V, APR: SUMMARY+CUM
87. F10-LAND-85H, FEB: SUMMARY
88. F10-LAND-85H, MAR: SUMMARY
89. F10-LAND-85H, APR: SUMMARY+CUM
90. F10-COAST-19V, FEB: SUMMARY
91. F10-COAST-19V, MAR: SUMMARY

92. F10-COAST-19V, APR: SUMMARY+CUM

93. F10-COAST-19H, FEB: SUMMARY

94. F10-COAST-19H, MAR: SUMMARY

95. F10-COAST-19H, APR: SUMMARY+CUM

96. F10-COAST-22V, FEB: SUMMARY

97. F10-COAST-22V, MAR: SUMMARY

98. F10-COAST-22V, APR: SUMMARY+CUM

99. F10-COAST-37V, FEB: SUMMARY

100. F10-COAST-37V, MAR: SUMMARY

101. F10-COAST-37V, APR: SUMMARY+CUM

102. F10-COAST-37H, FEB: SUMMARY

103. F10-COAST-37H, MAR: SUMMARY

104. F10-COAST-37H, APR: SUMMARY+CUM

105. F10-COAST-85V, FEB: SUMMARY

106. F10-COAST-85V, MAR: SUMMARY

107. F10-COAST-85V, APR: SUMMARY+CUM

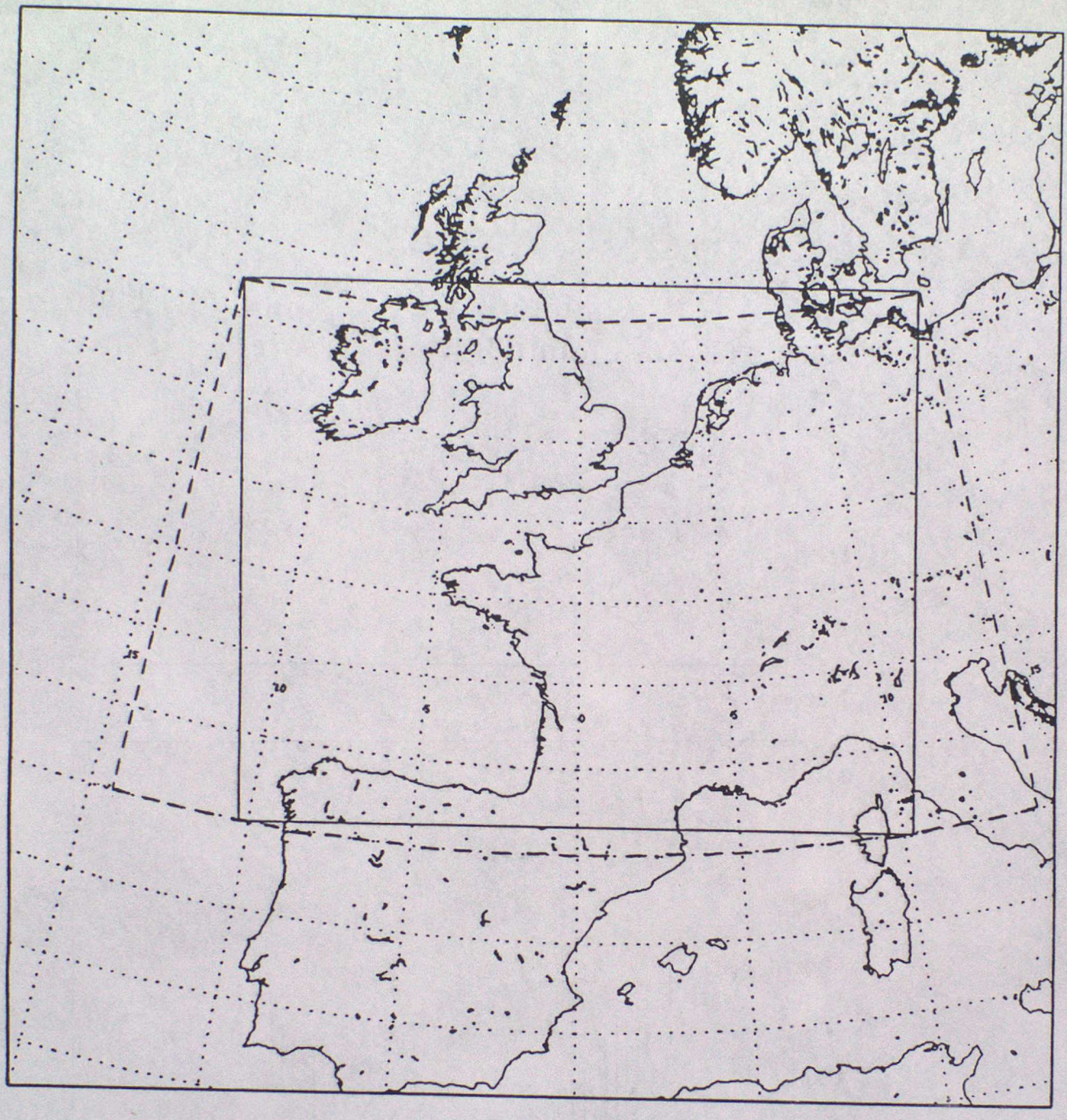
108. F10-COAST-85H, FEB: SUMMARY

109. F10-COAST-85H, MAR: SUMMARY

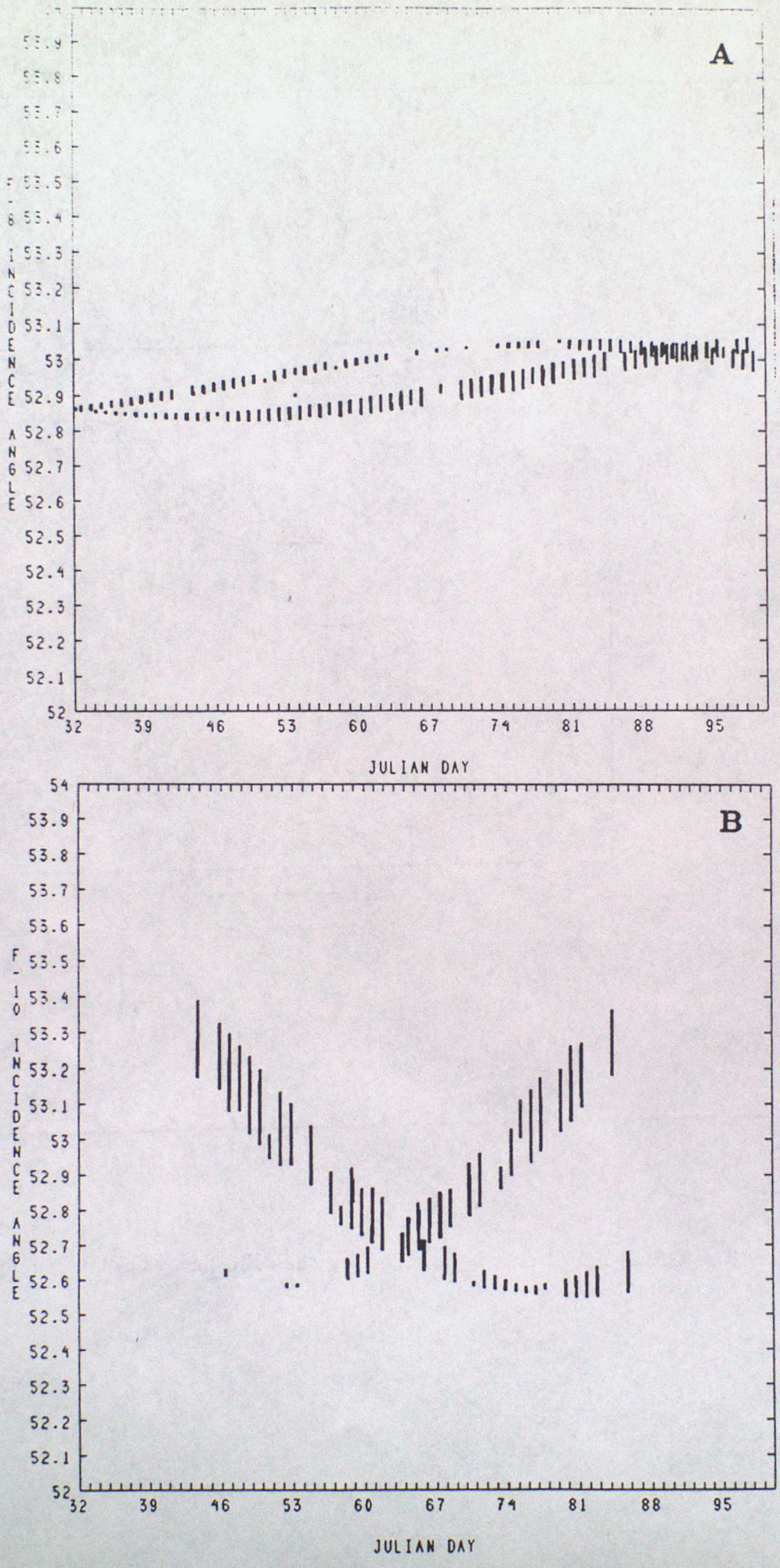
110. F10-COAST-85H, APR: SUMMARY+CUM

111. Time series of the differences between single orbit average brightness temperature and the average brightness temperature for the whole period, for each F8 channel, for *land* surface type. In the upper panel are plotted the simple differences, while in the lower panel each value of the difference has been *normalized* (see text).

112. Cumulative histograms of brightness temperature (classes' limits are reported in *Tab.4*) for the F10 channels (upper panel) and the correspondent differences in class frequencies [%] between the F10 and the F8 (lower panel).

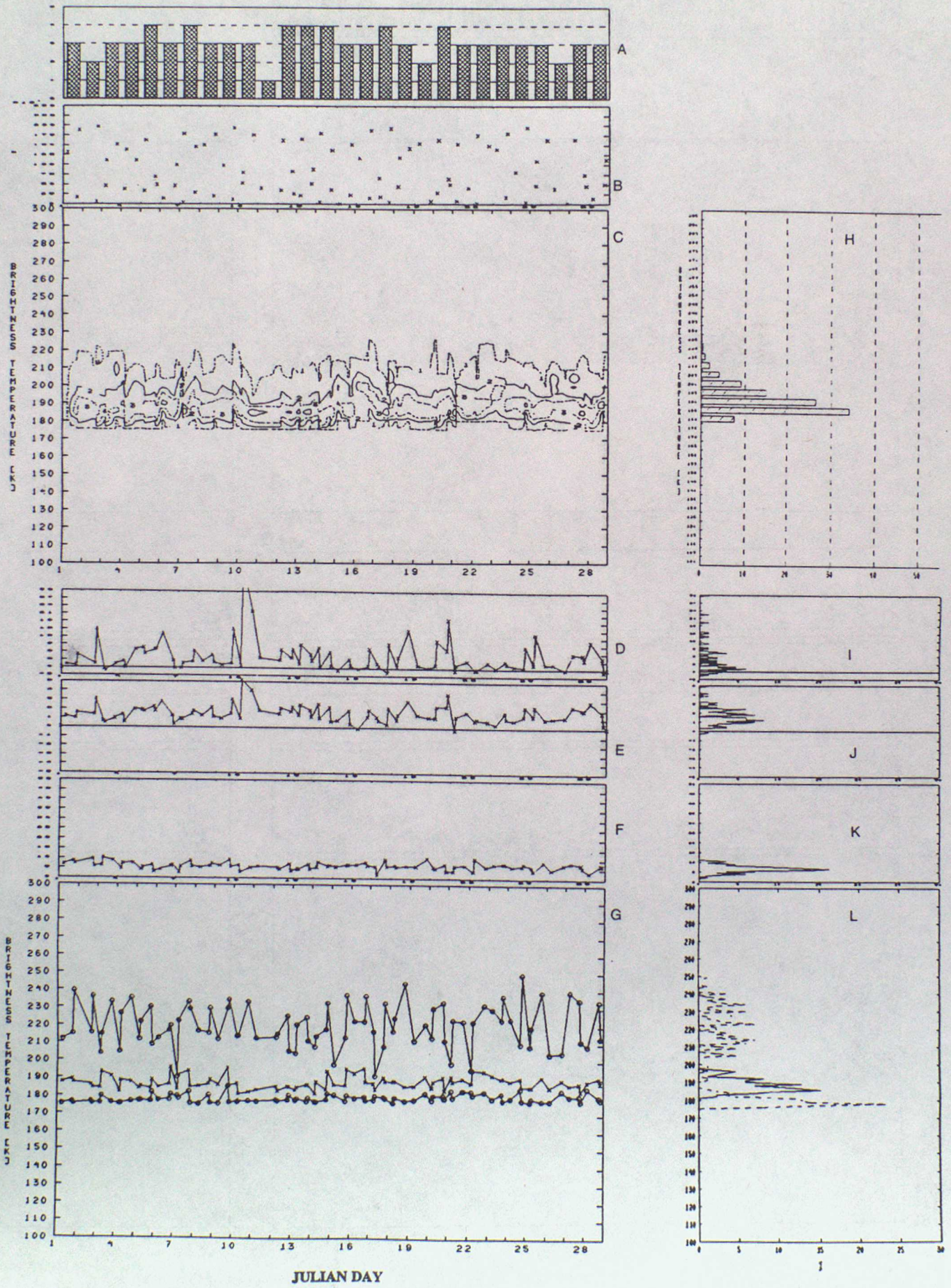


1. The GPCP-AIP/2 area is bounded by the solid line. The dashed line shows the area containing the data analysed.

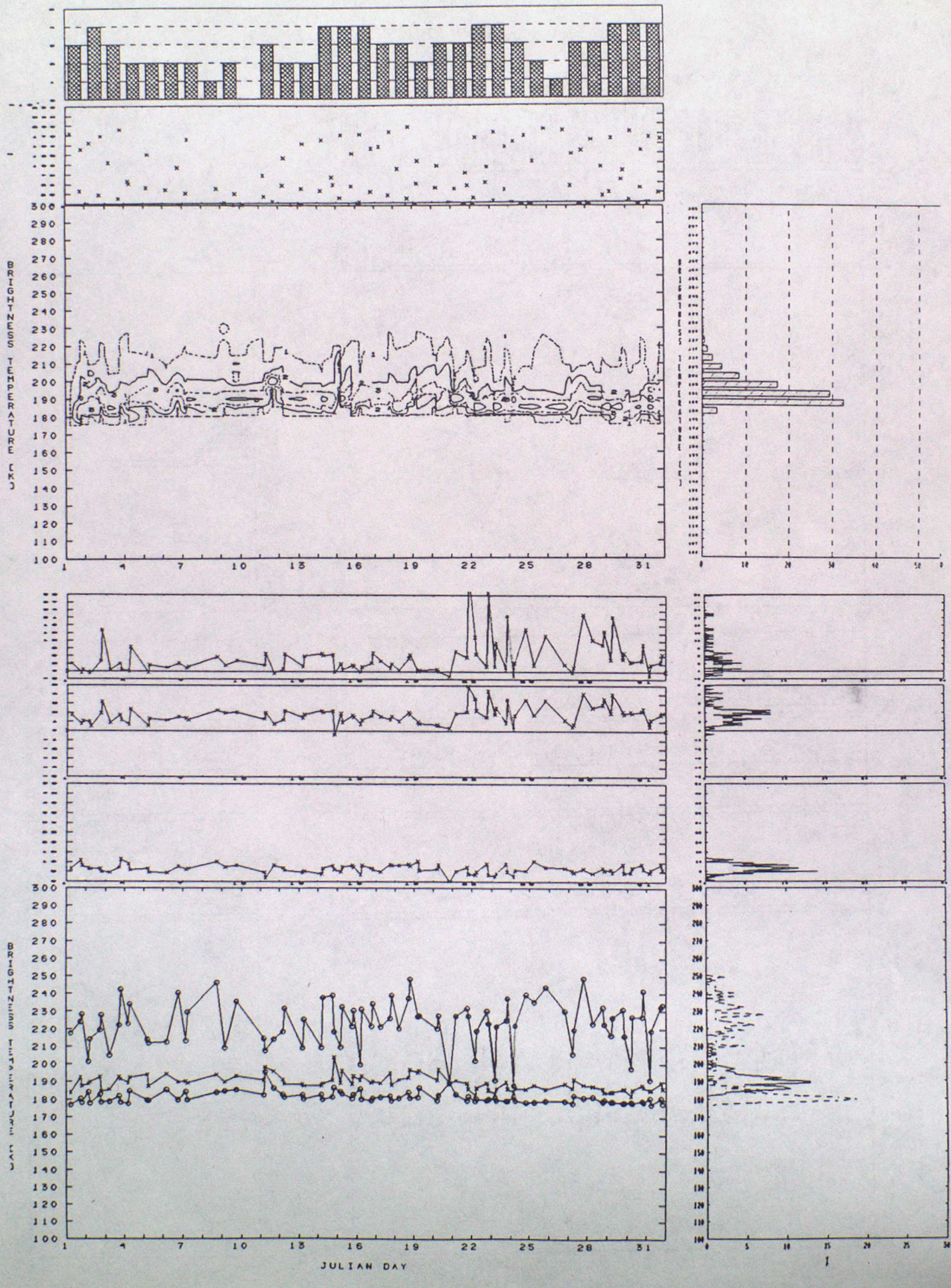


2. Values of the incidence angle, computed according with Wentz (1991), for each scan included in the data analysis: F8 (upper panel) and F10 (lower panel).

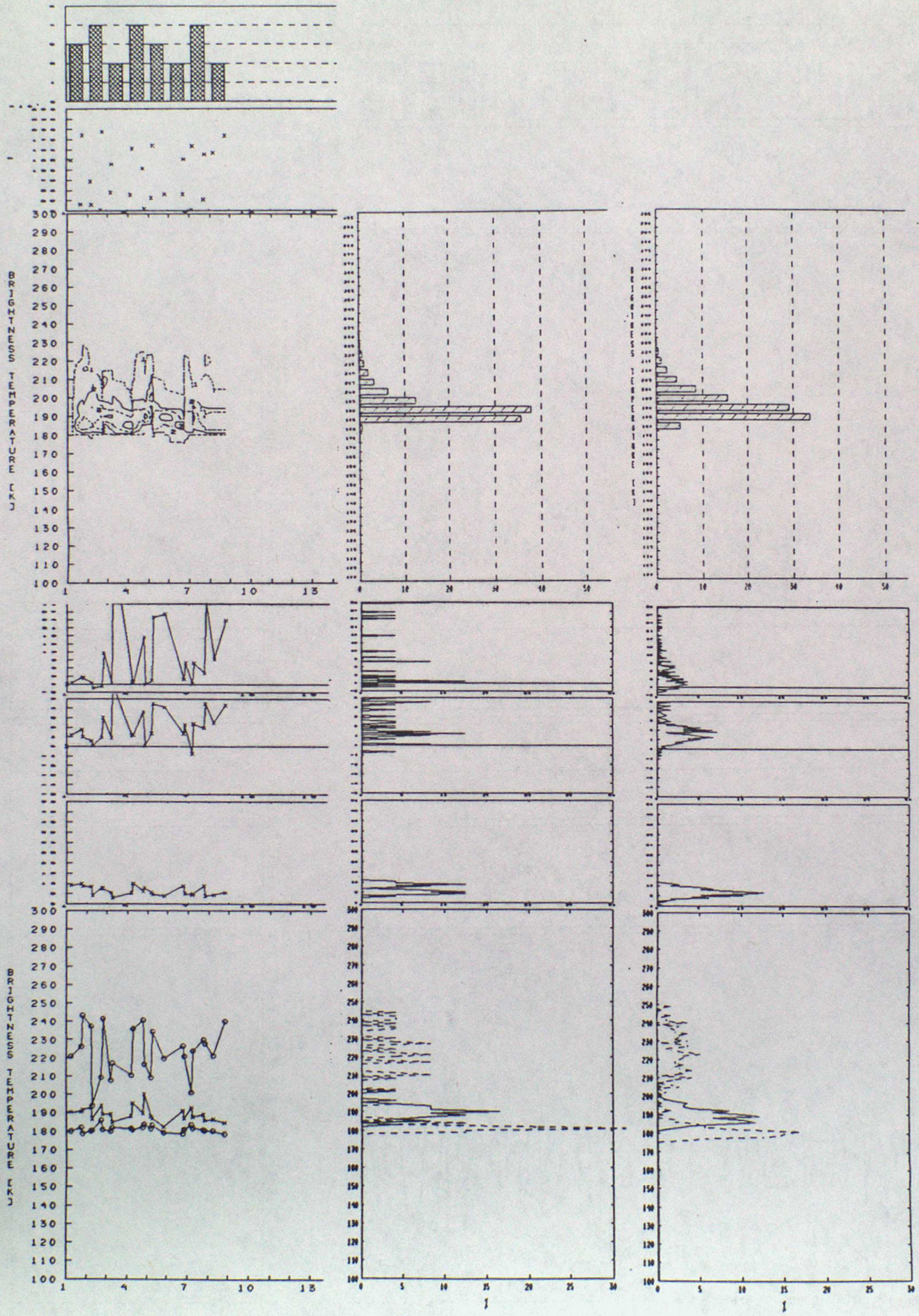
3. F8-WATER-19V, FEB: SUMMARY



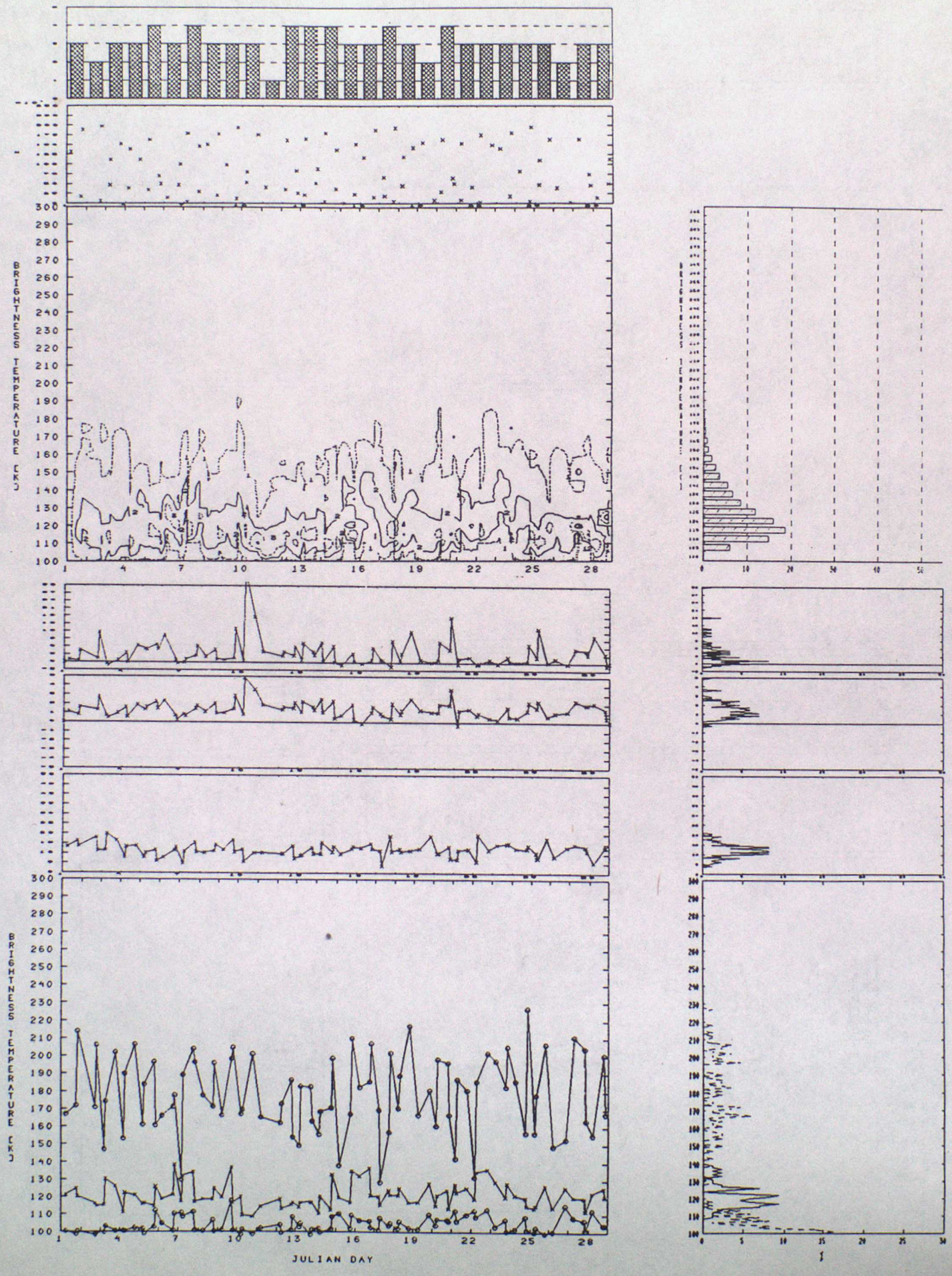
4. F8-WATER-19V, MAR: SUMMARY



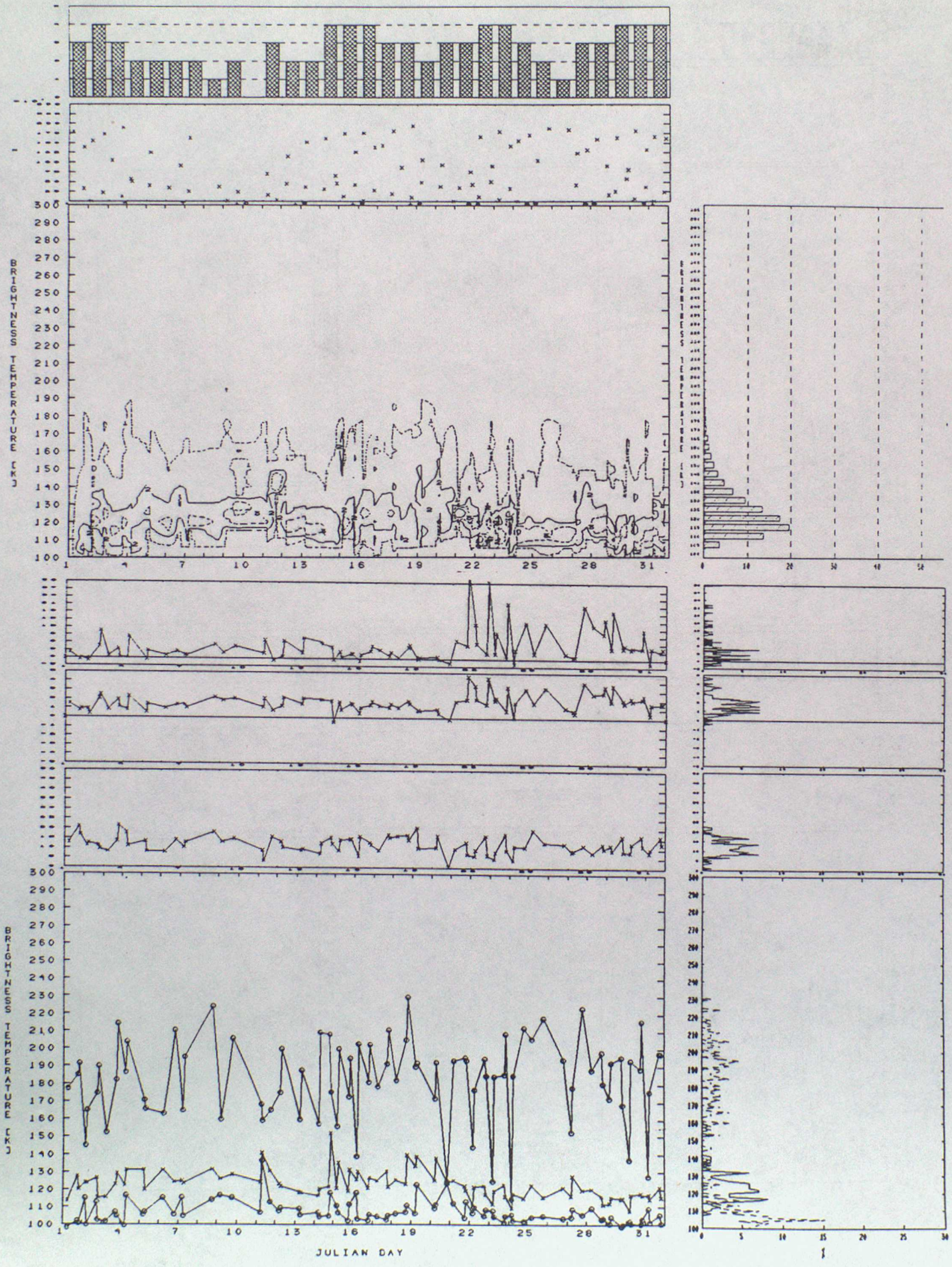
5. F8-WATER-19V, APR: SUMMARY+CUM



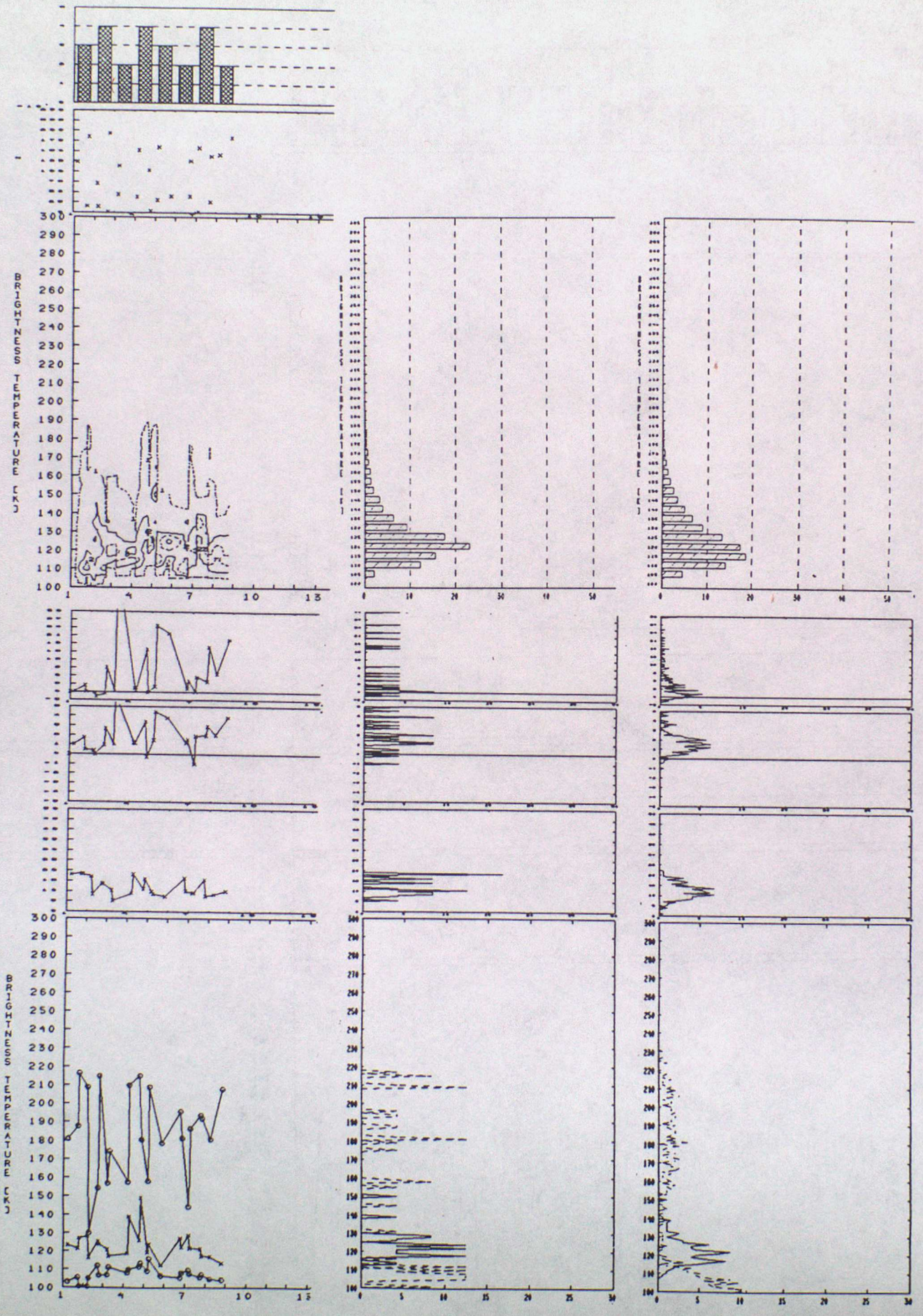
6. F8-WATER-19H, FEB: SUMMARY



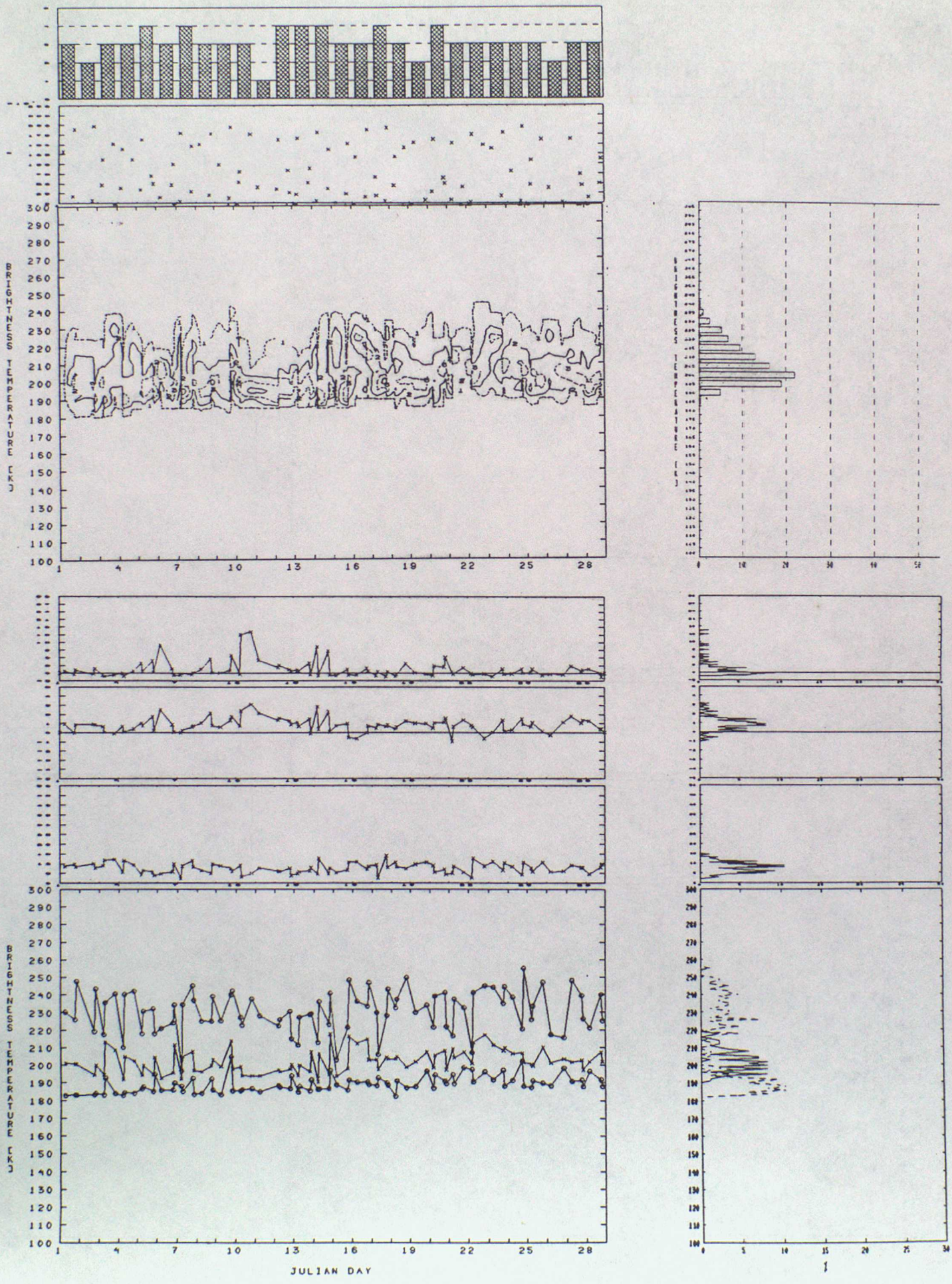
7. F8-WATER-19H, MAR: SUMMARY



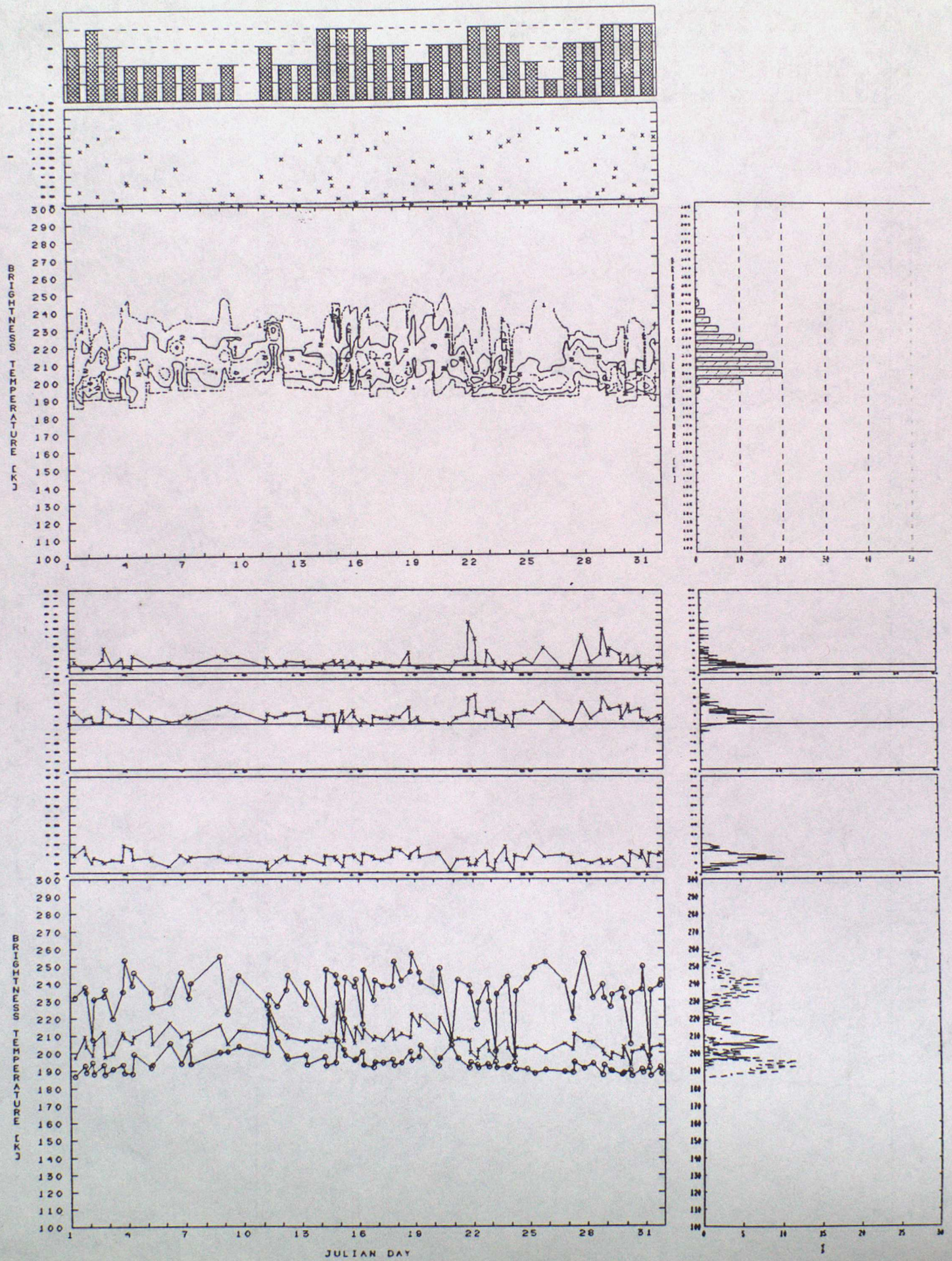
8. F8-WATER-19H, APR: SUMMARY+CUM



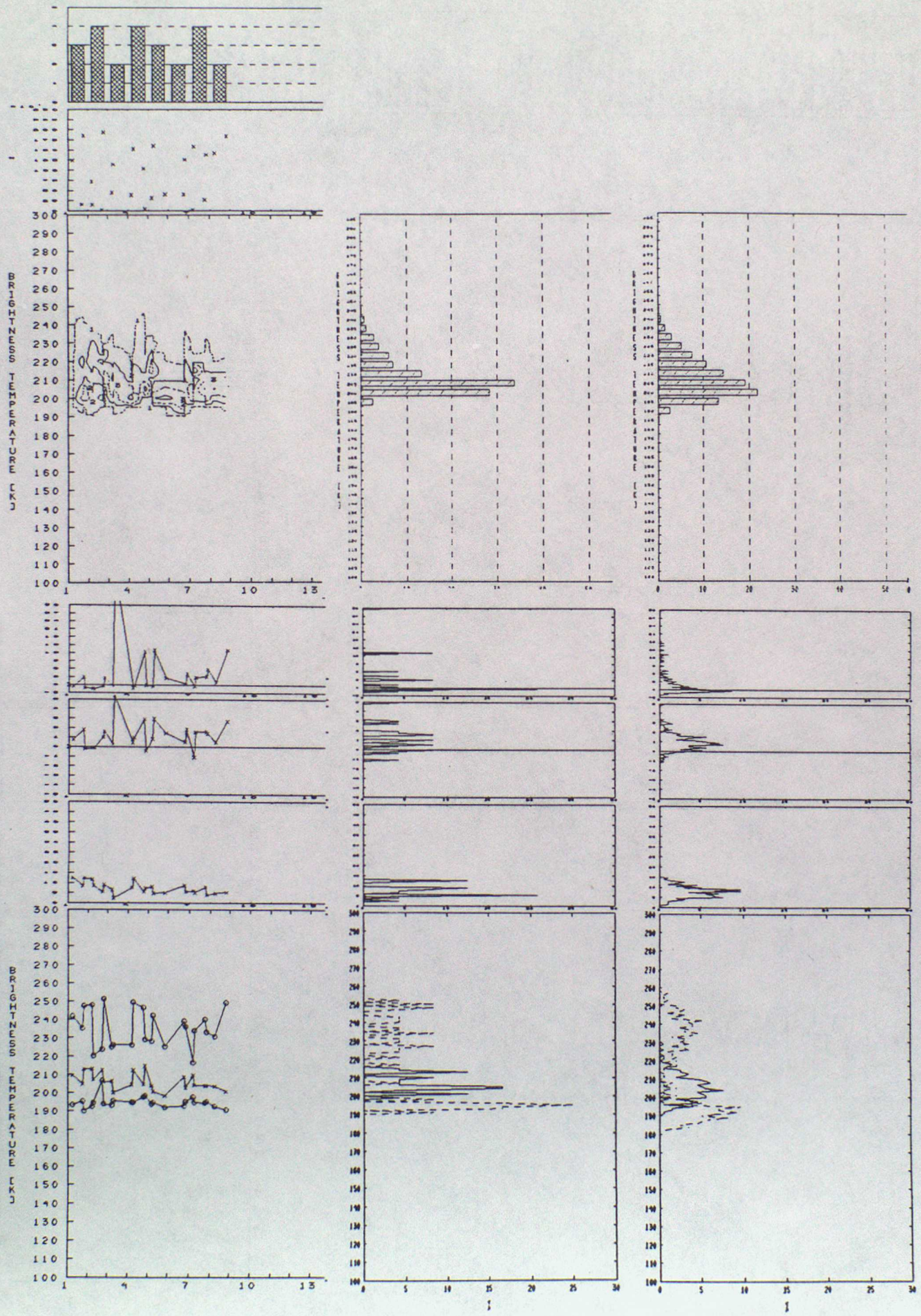
9. F8-WATER-22V, FEB: SUMMARY



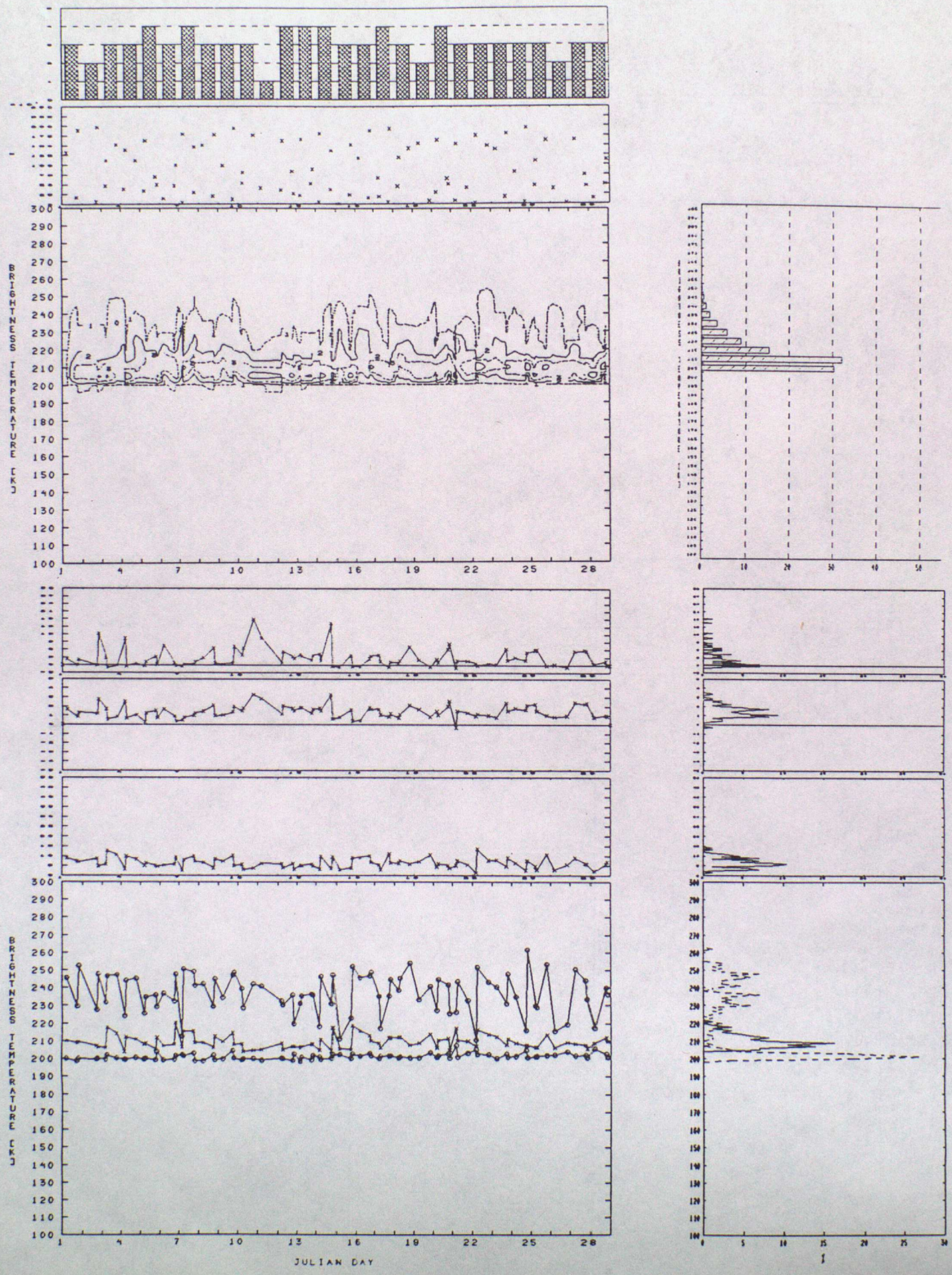
10. F8-WATER-22V, MAR: SUMMARY



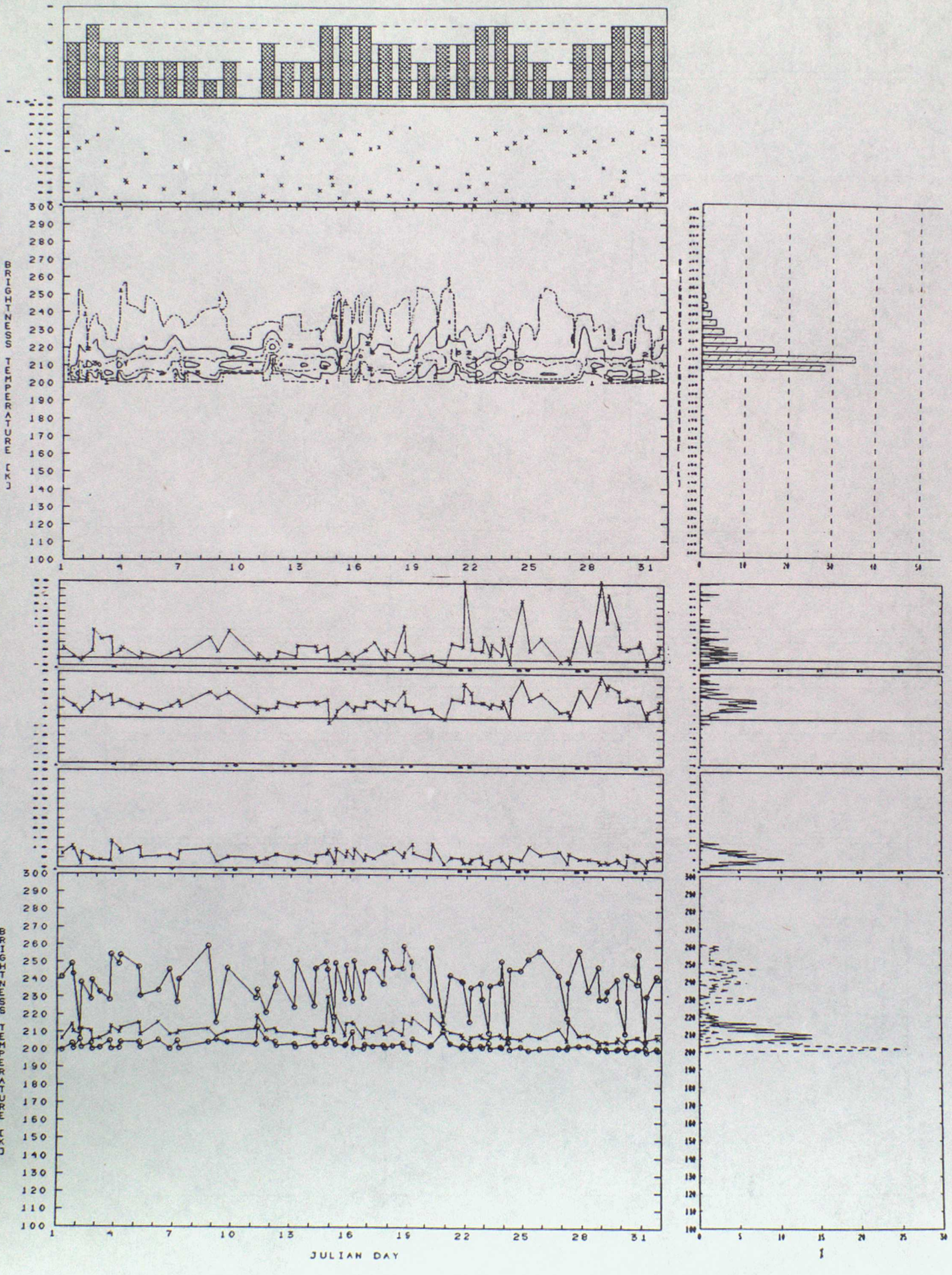
11. F8-WATER-22V, APR: SUMMARY+CUM



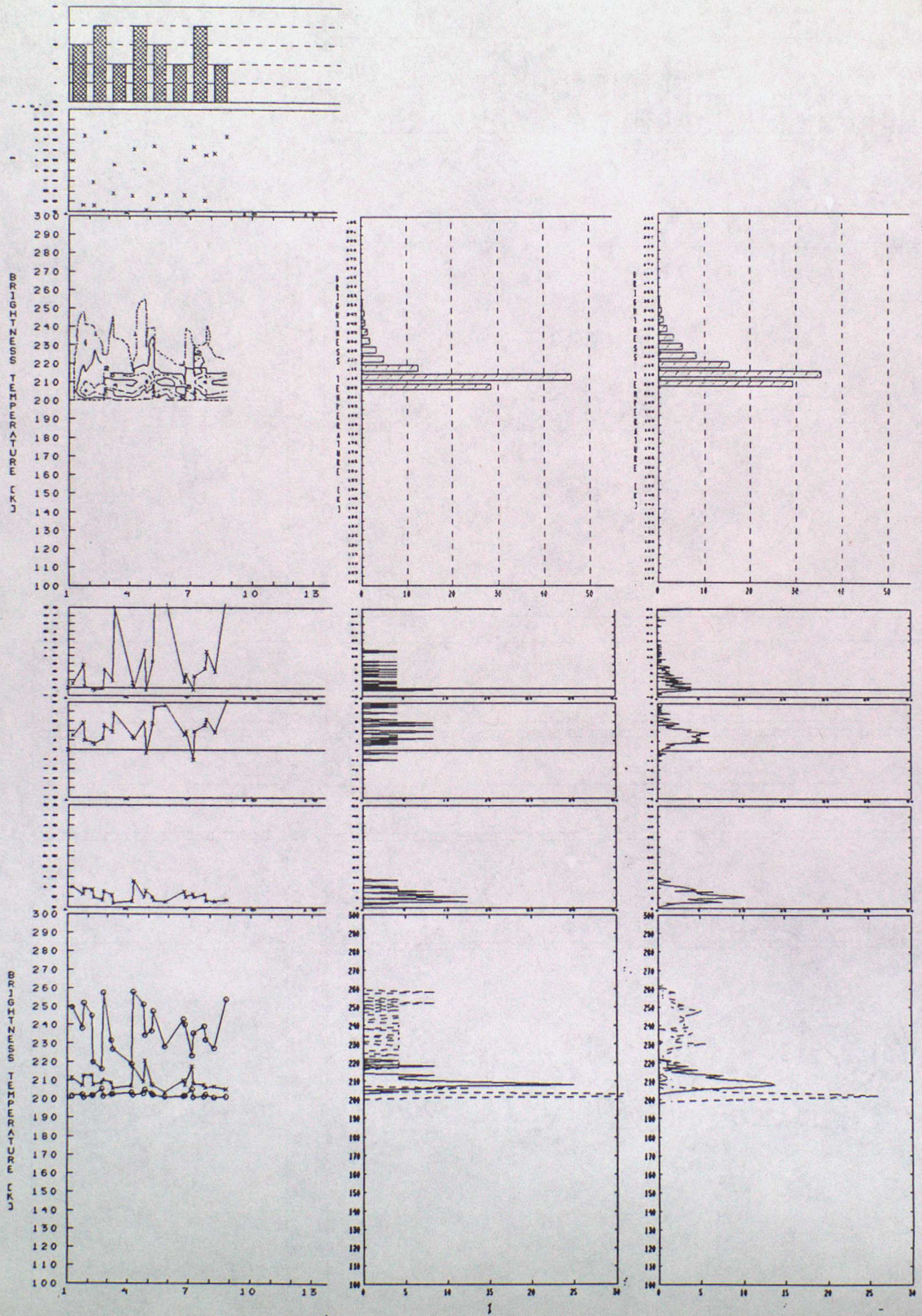
12. F8-WATER-37V, FEB: SUMMARY



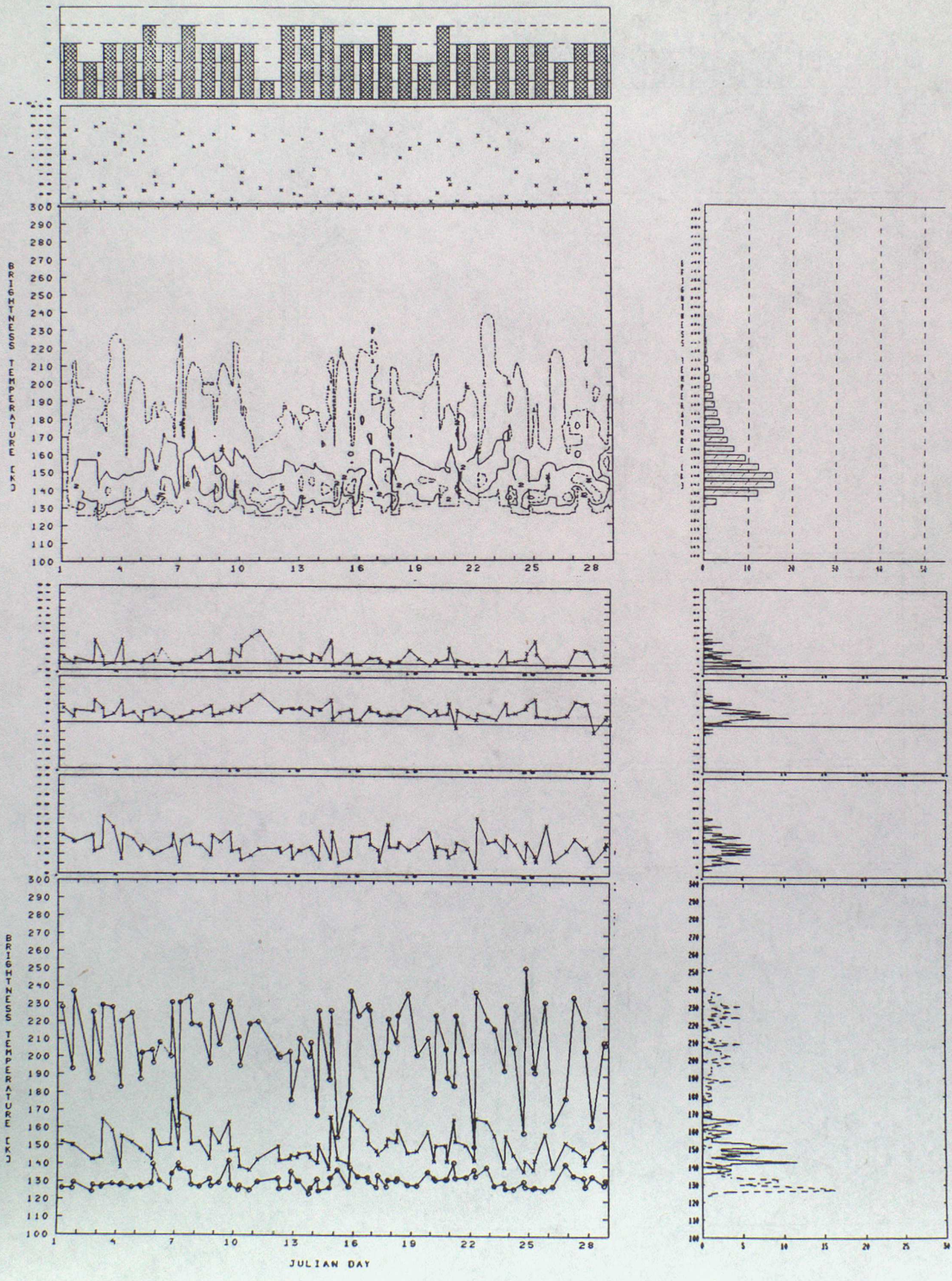
13. F8-WATER-37V, MAR: SUMMARY



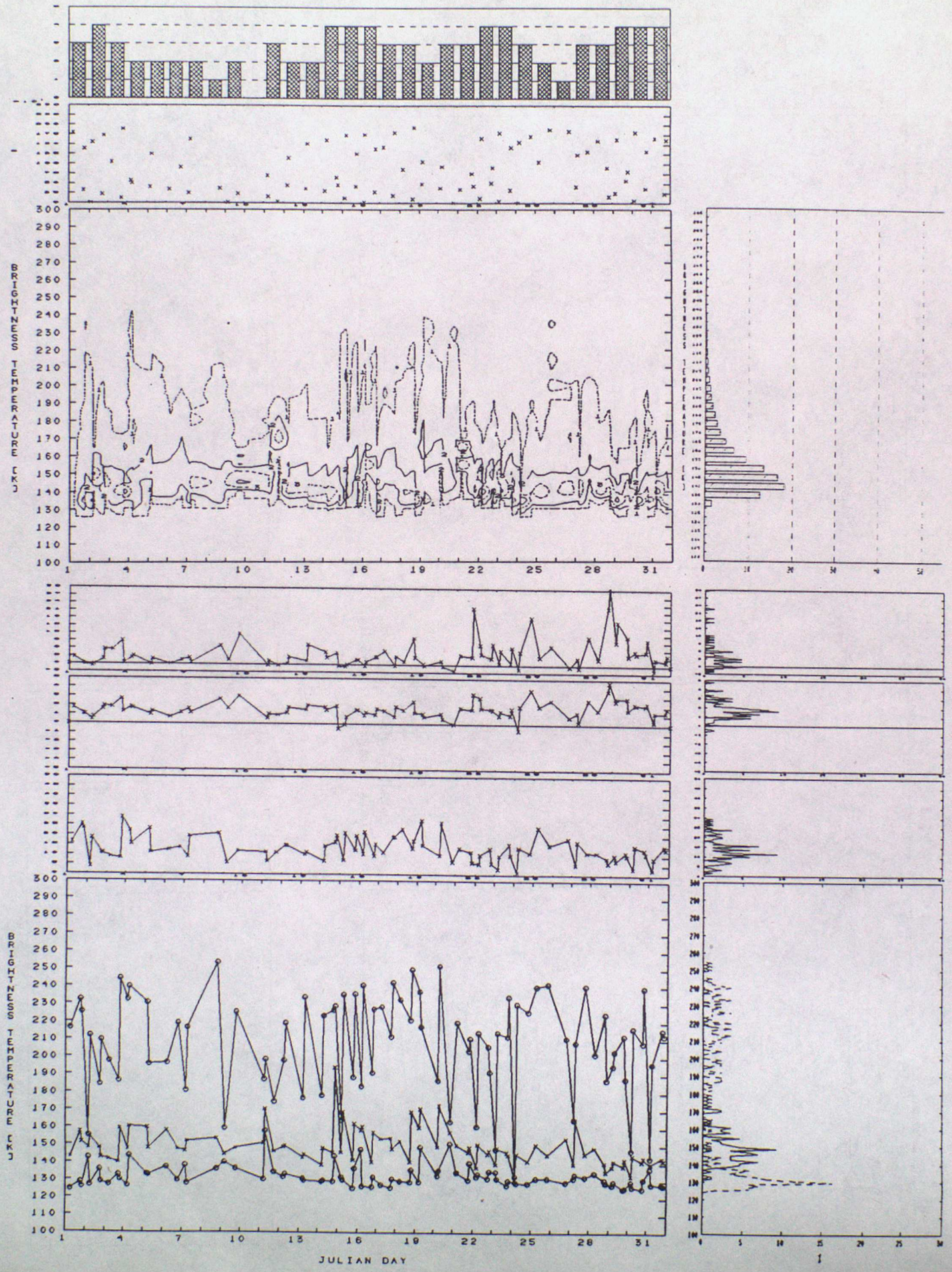
14. F8-WATER-37V, APR: SUMMARY+CUM



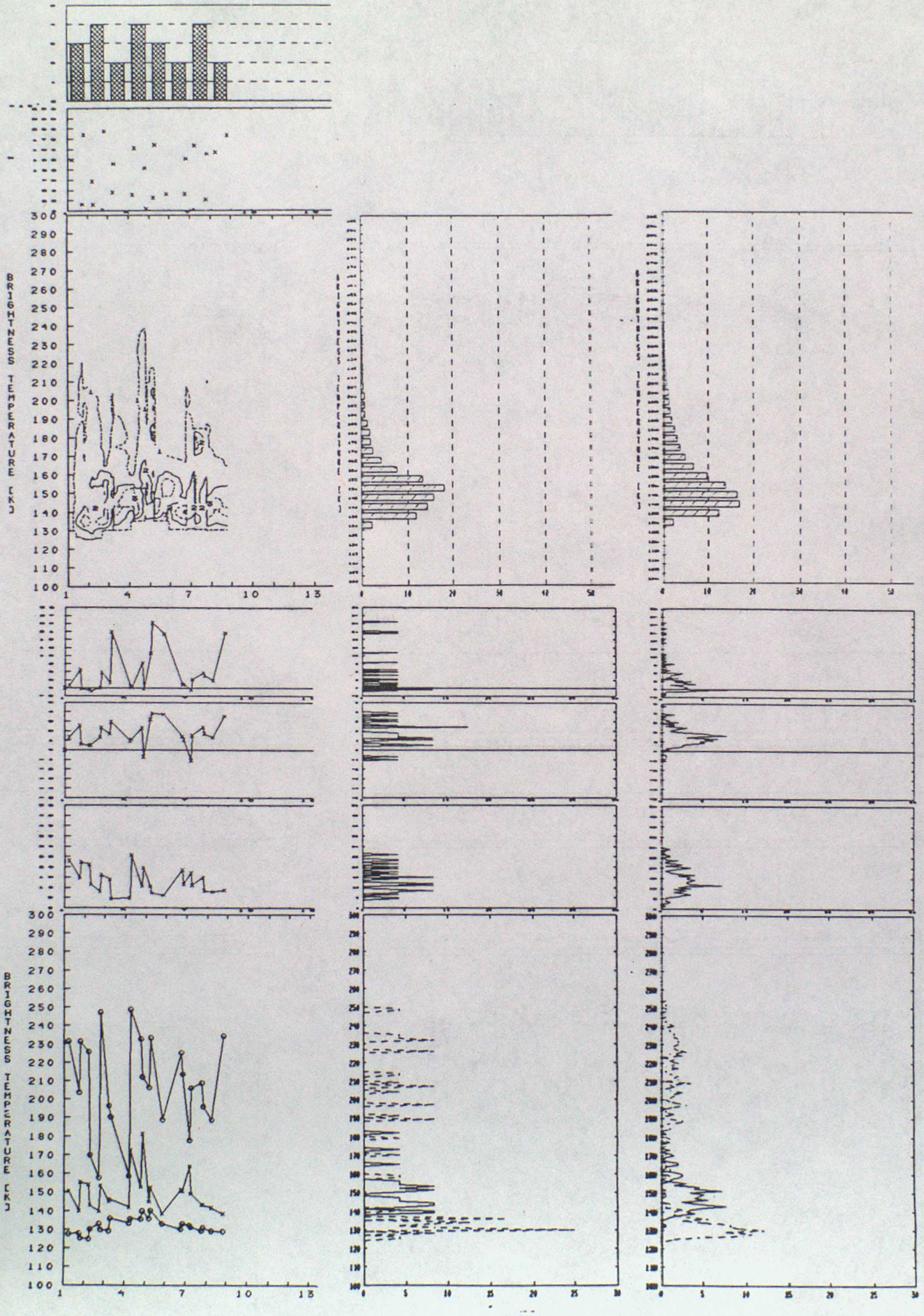
15. F8-WATER-37H, FEB: SUMMARY



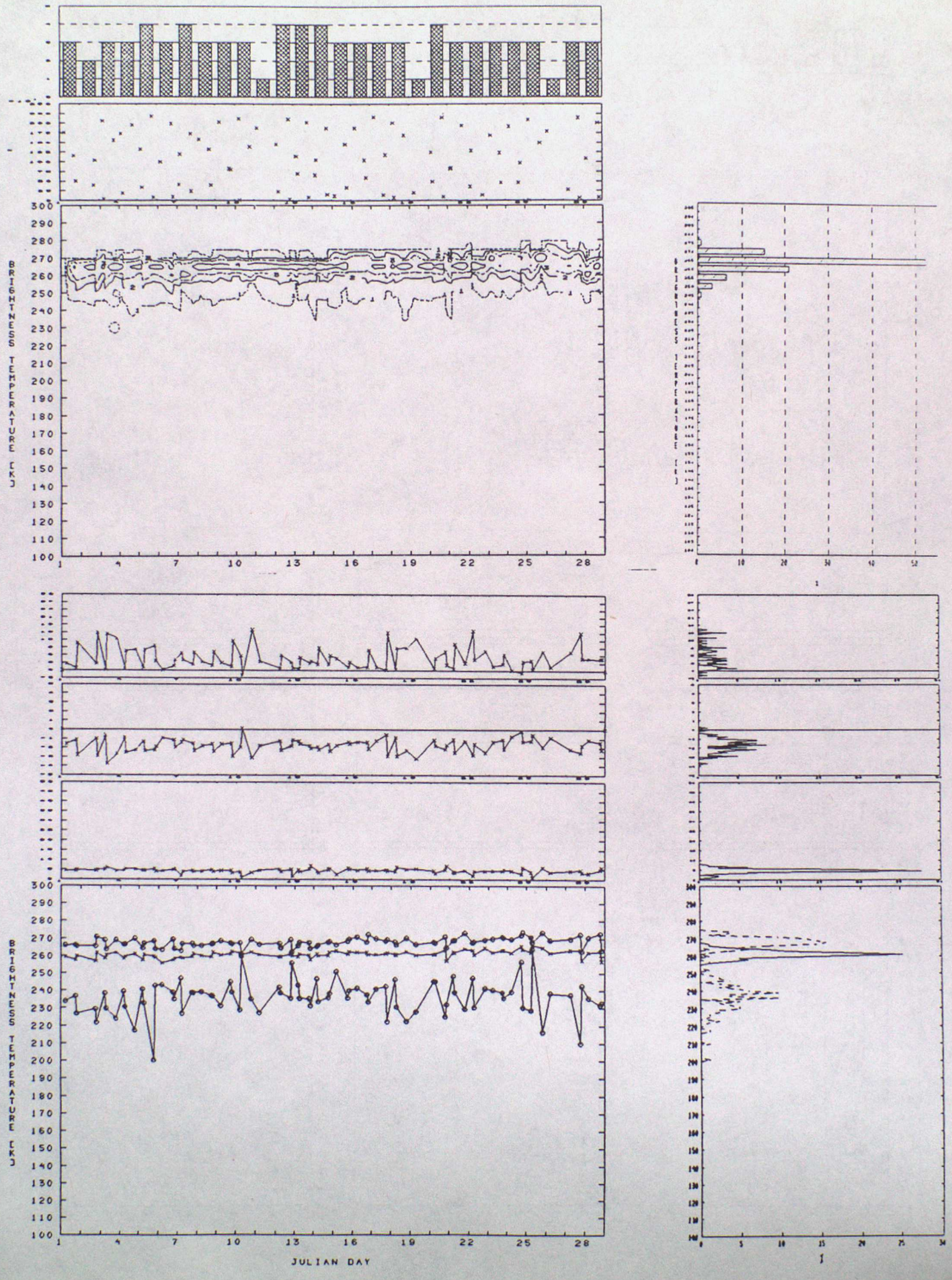
16. F8-WATER-37H, MAR: SUMMARY



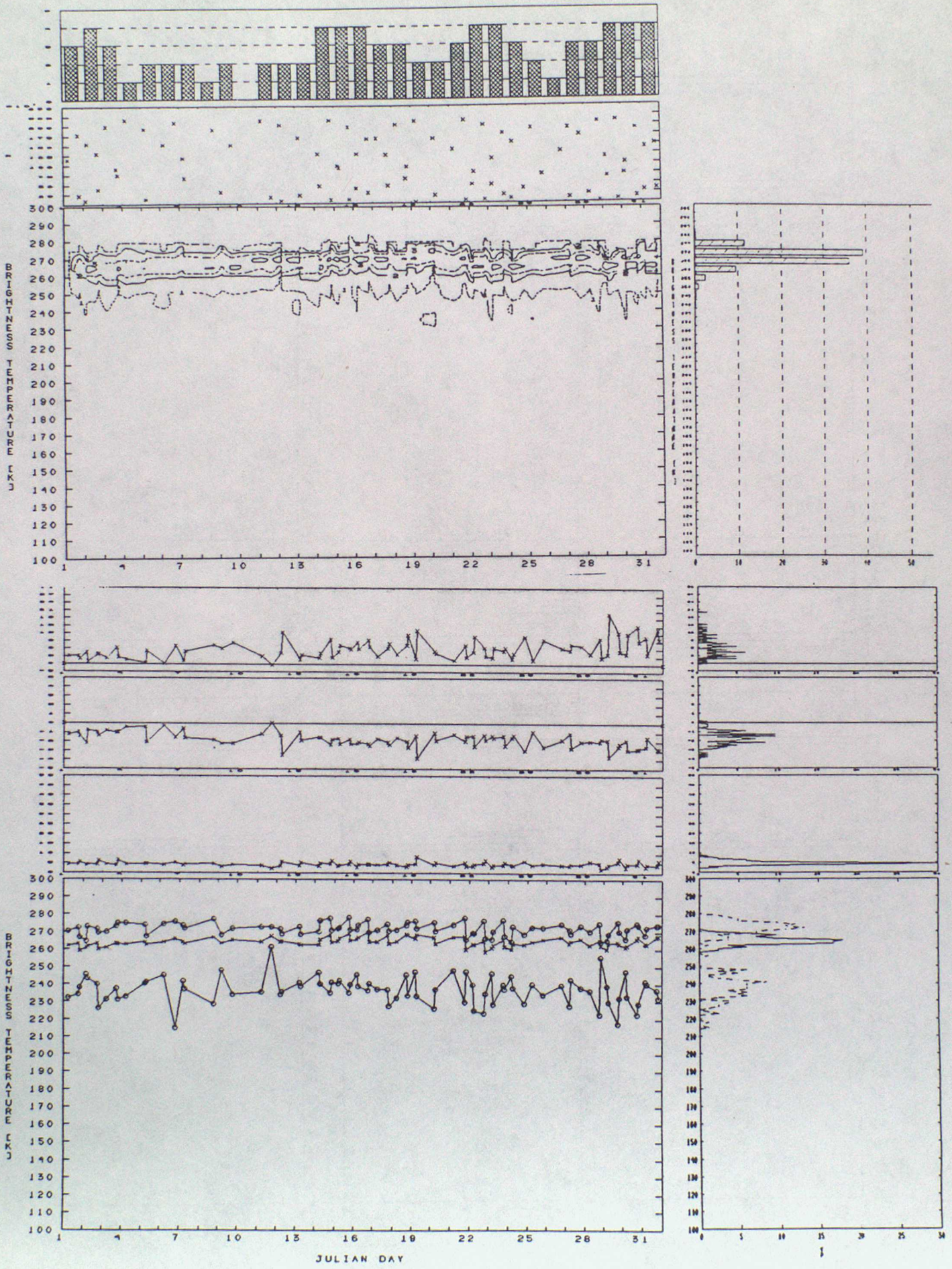
17. F8-WATER-37H, APR: SUMMARY+CUM



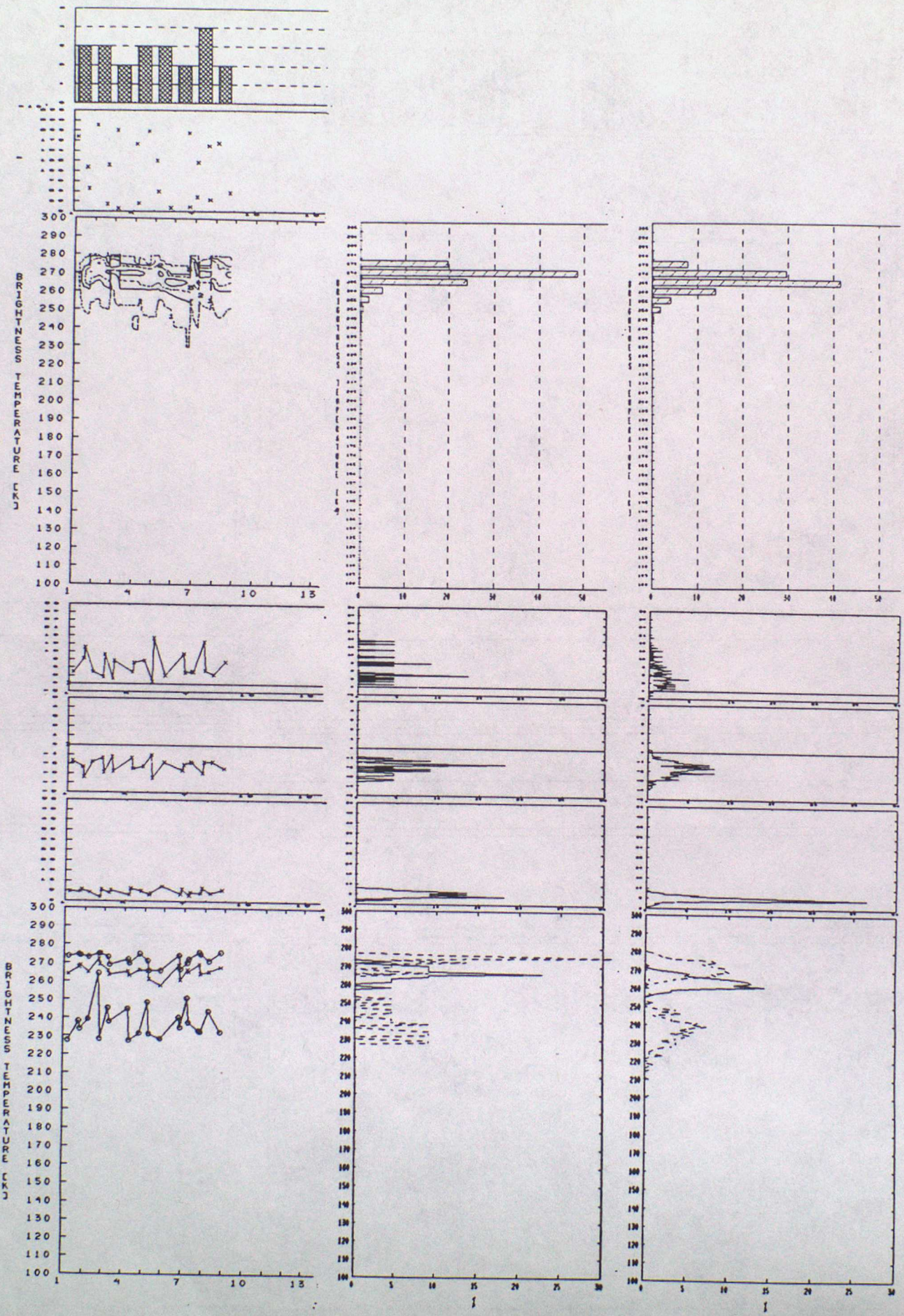
18. F8-LAND-19V, FEB: SUMMARY



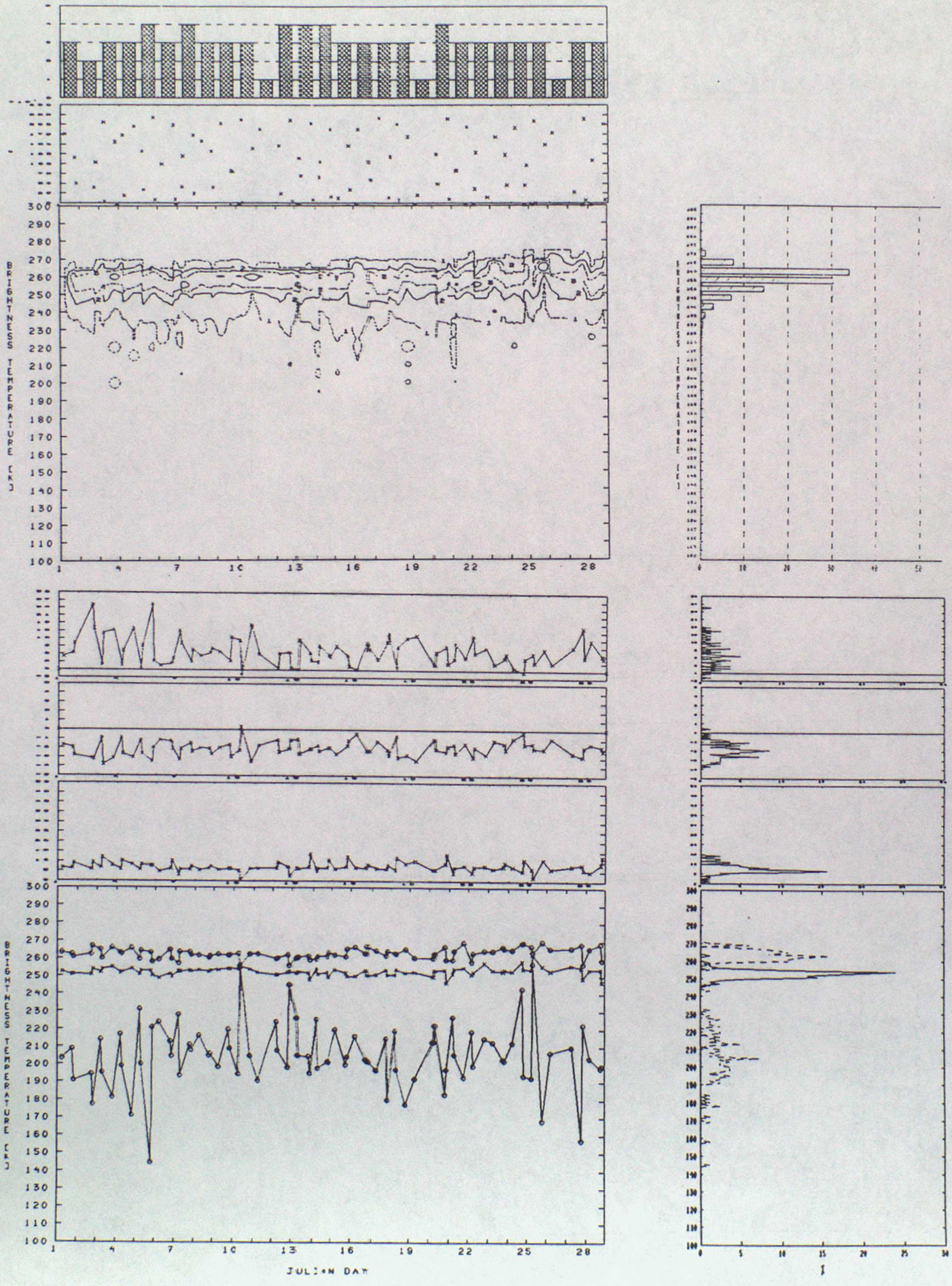
19. F8-LAND-19V, MAR: SUMMARY



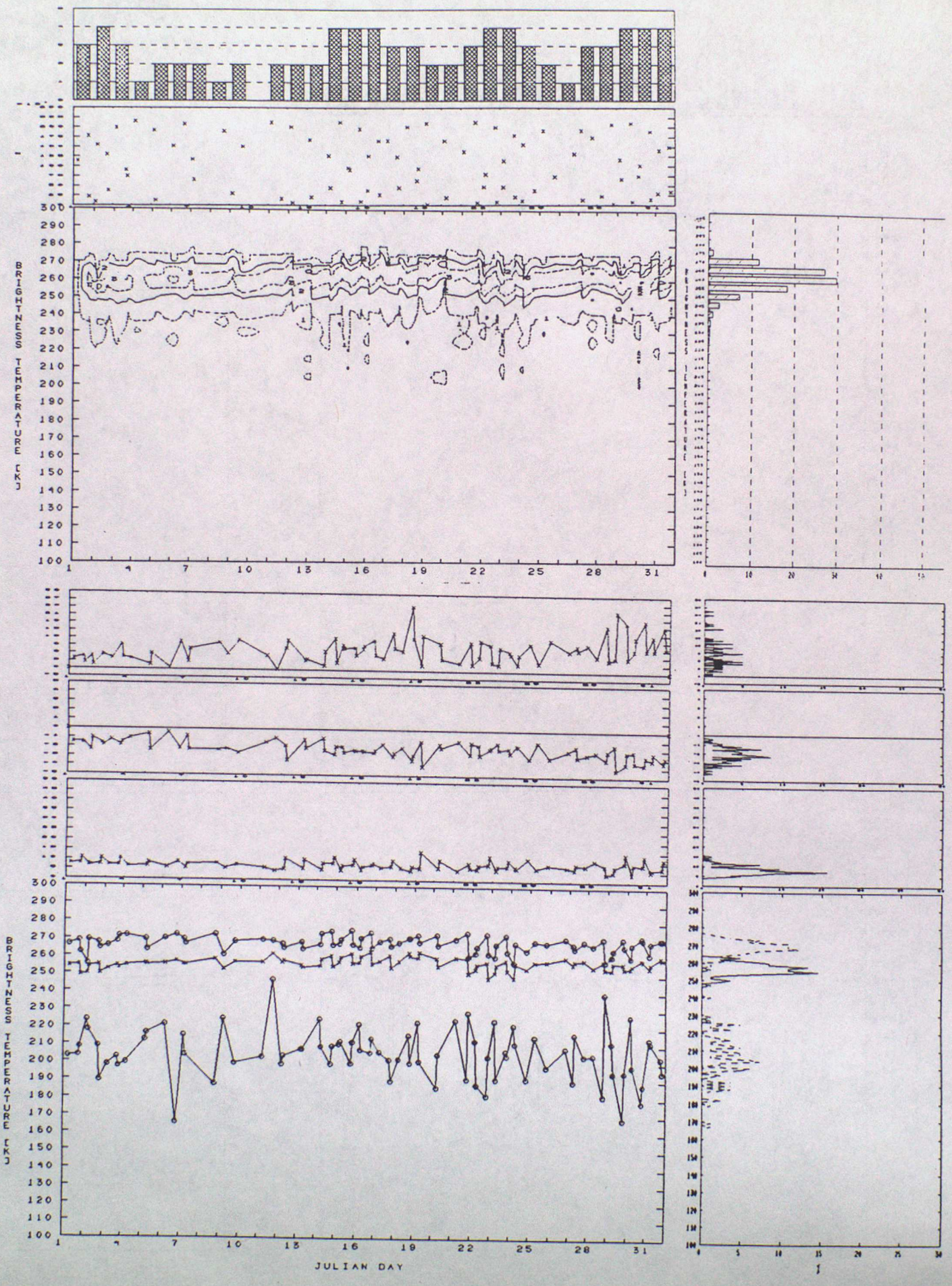
20. F8-LAND-19V, APR: SUMMARY+CUM



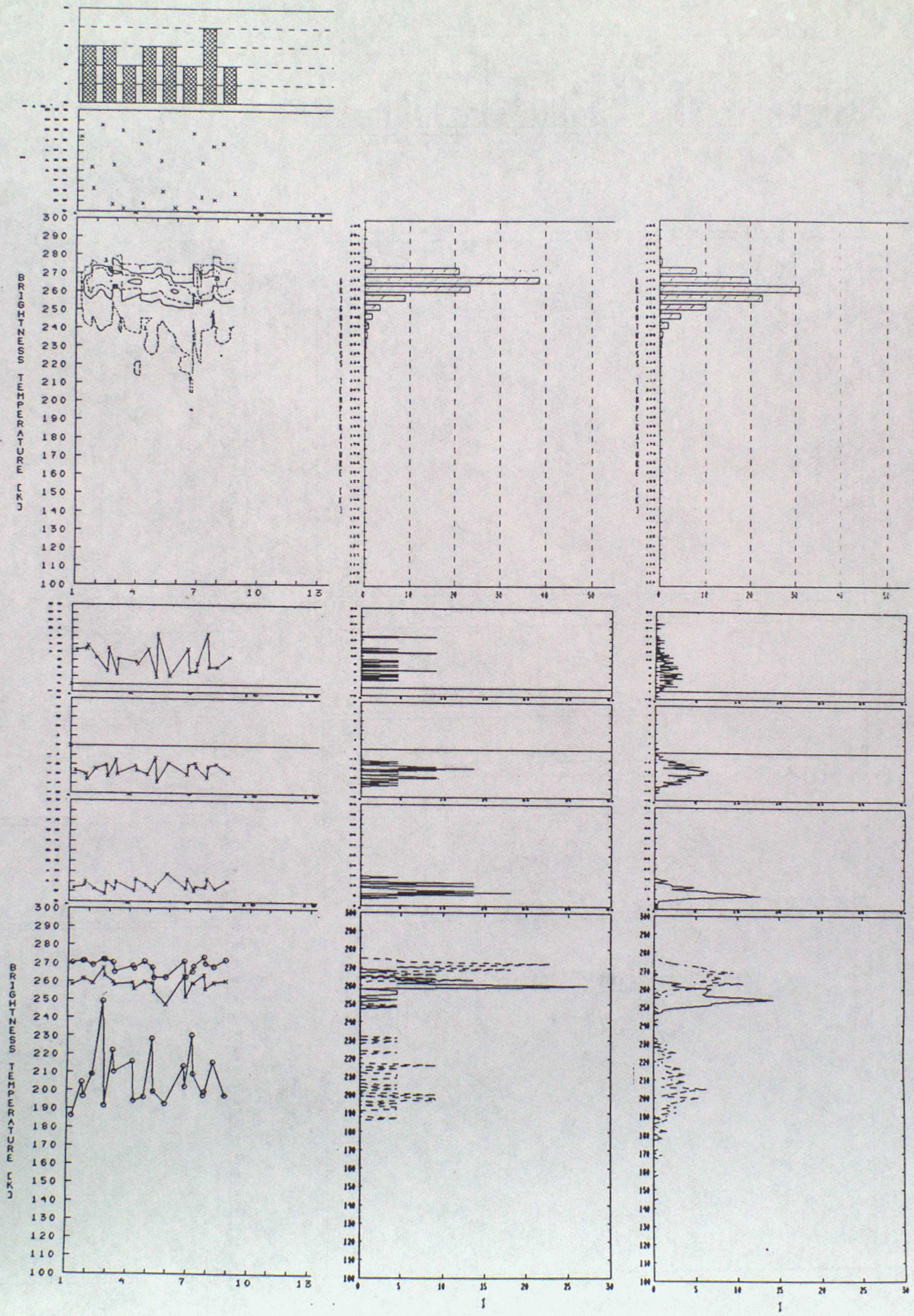
21. F8-LAND-19H, FEB: SUMMARY



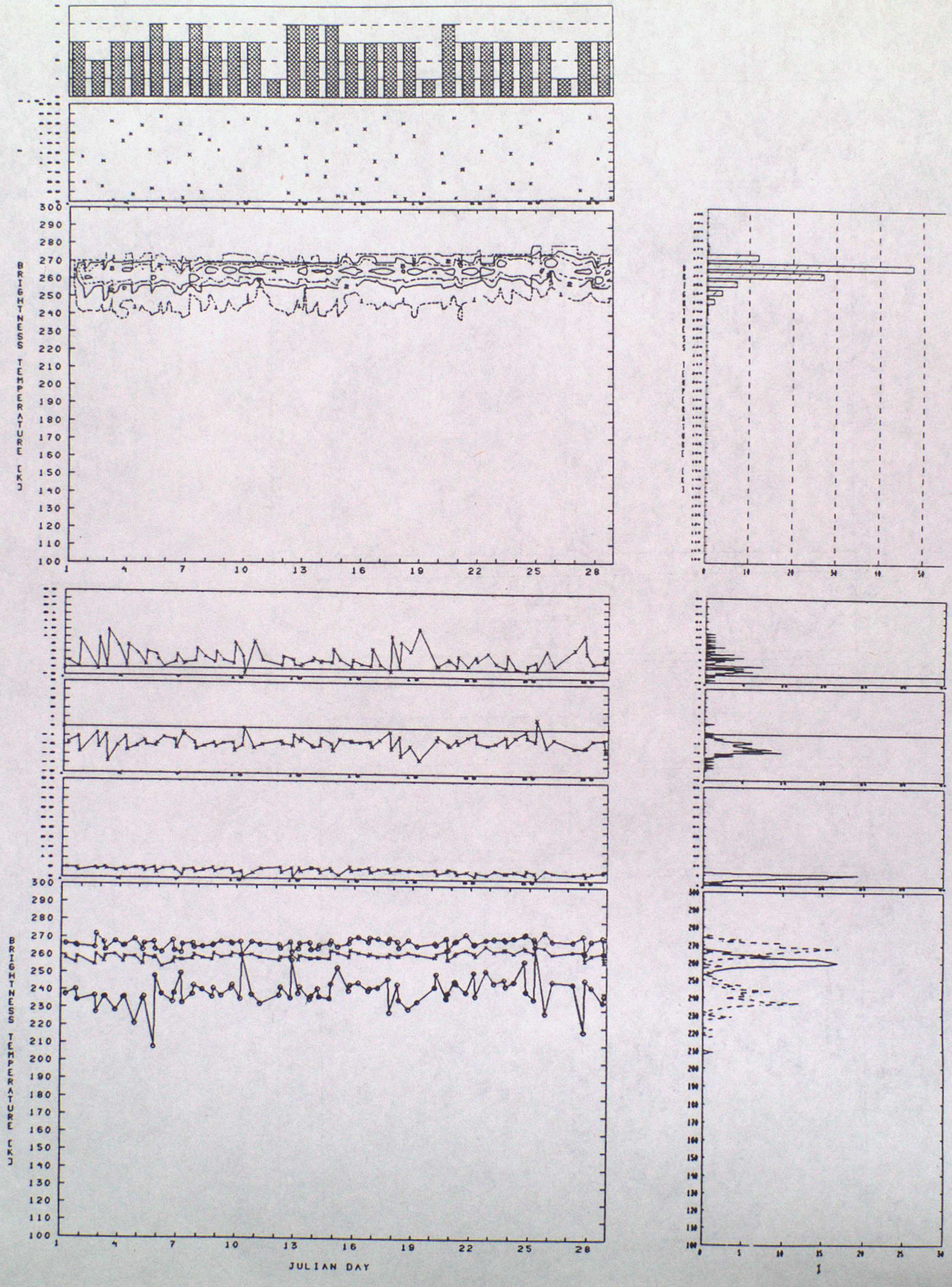
22. F8-LAND-19H, MAR: SUMMARY



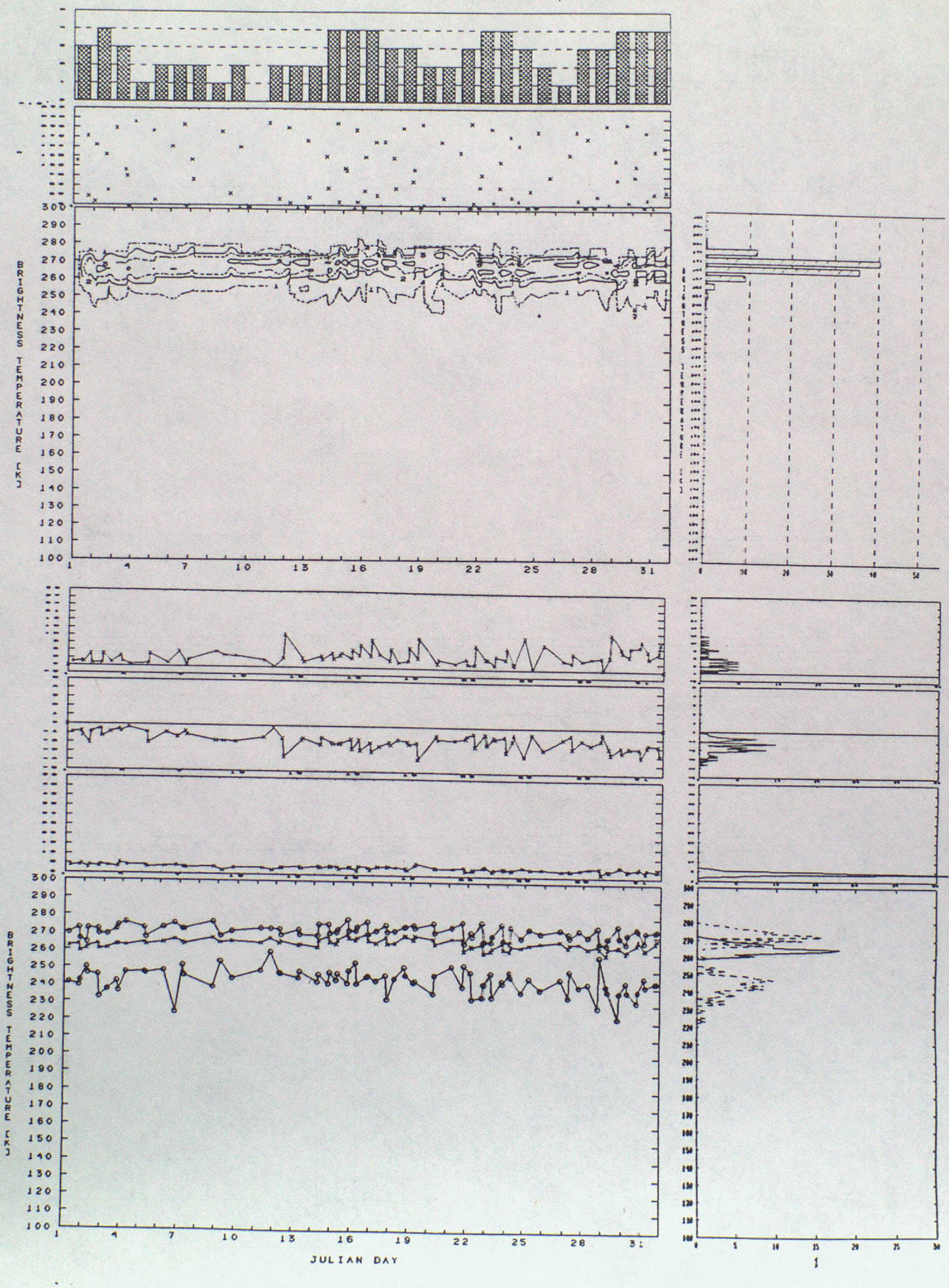
23. F8-LAND-19H, APR: SUMMARY+CUM



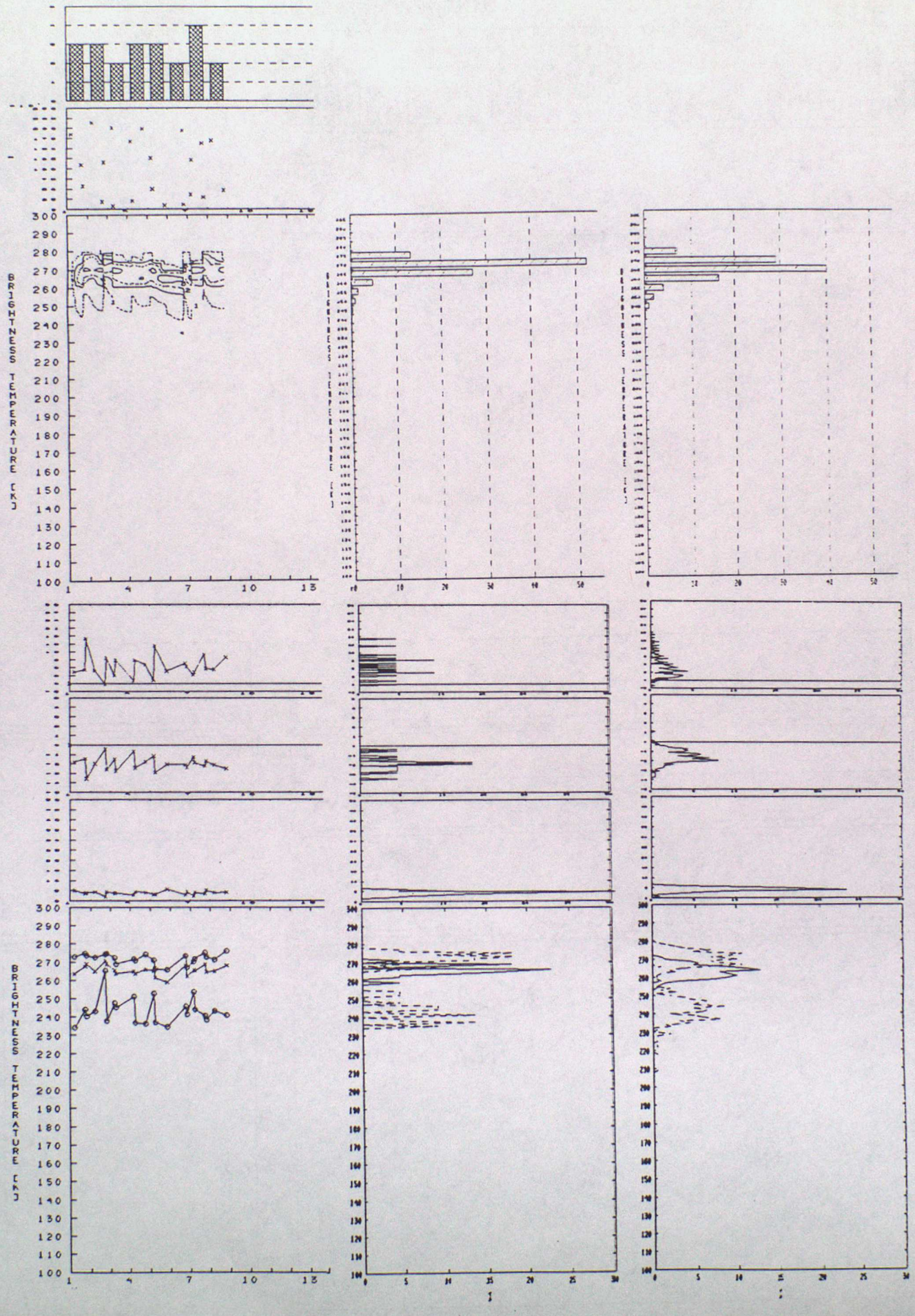
24. F8-LAND-22V, FEB: SUMMARY



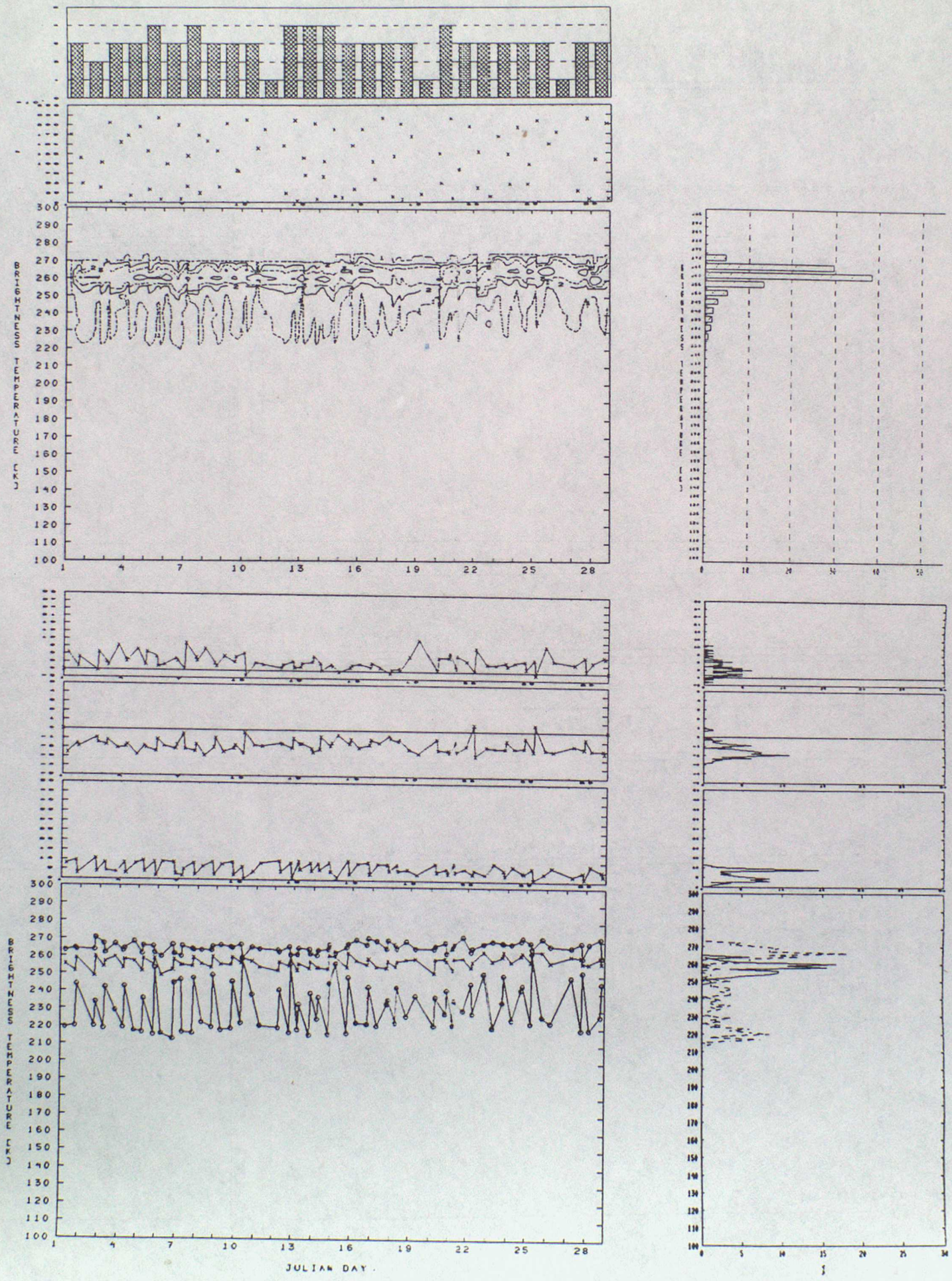
25. F8-LAND-22V, MAR: SUMMARY



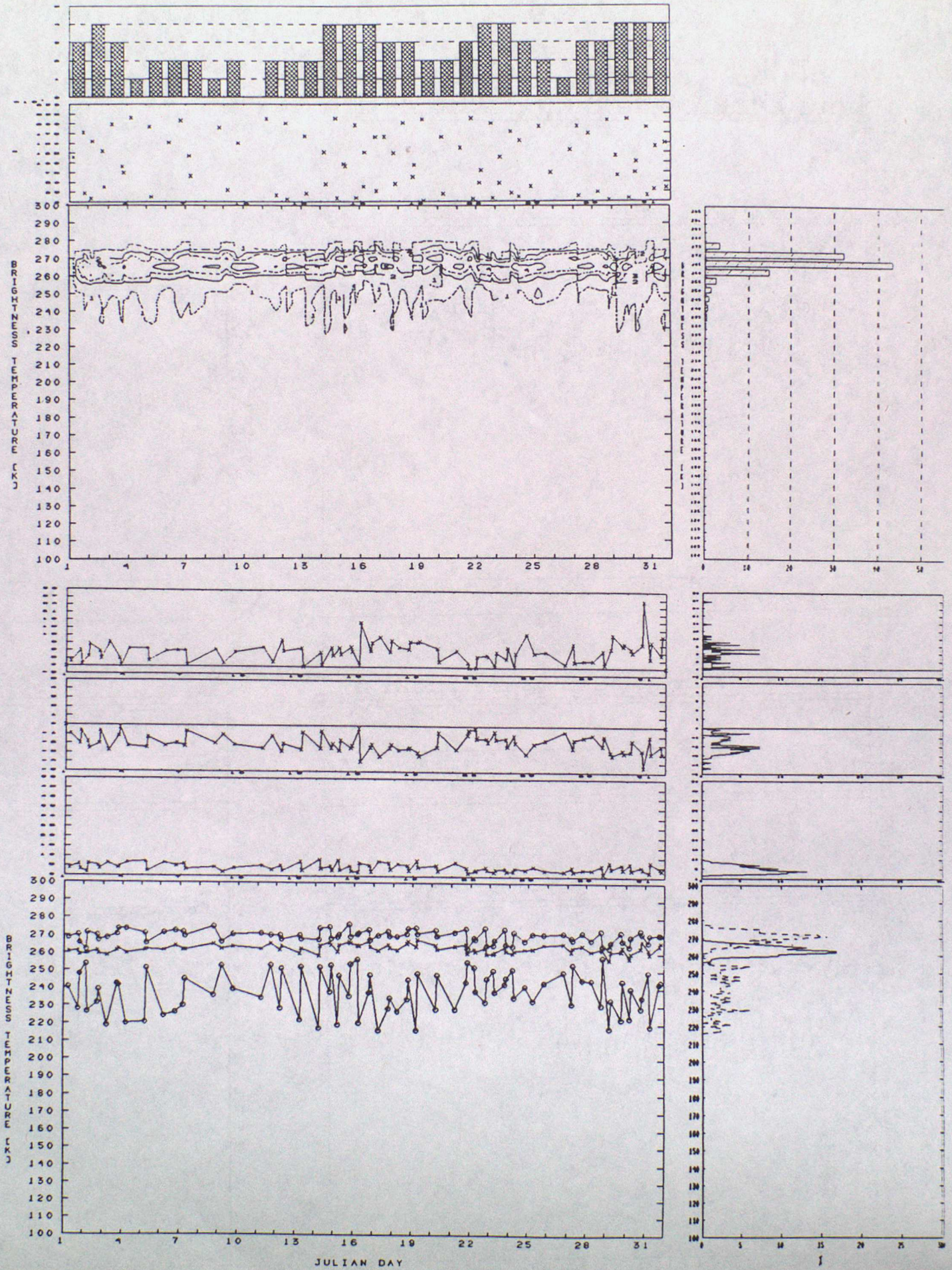
26. F8-LAND-22V, APR: SUMMARY+CUM



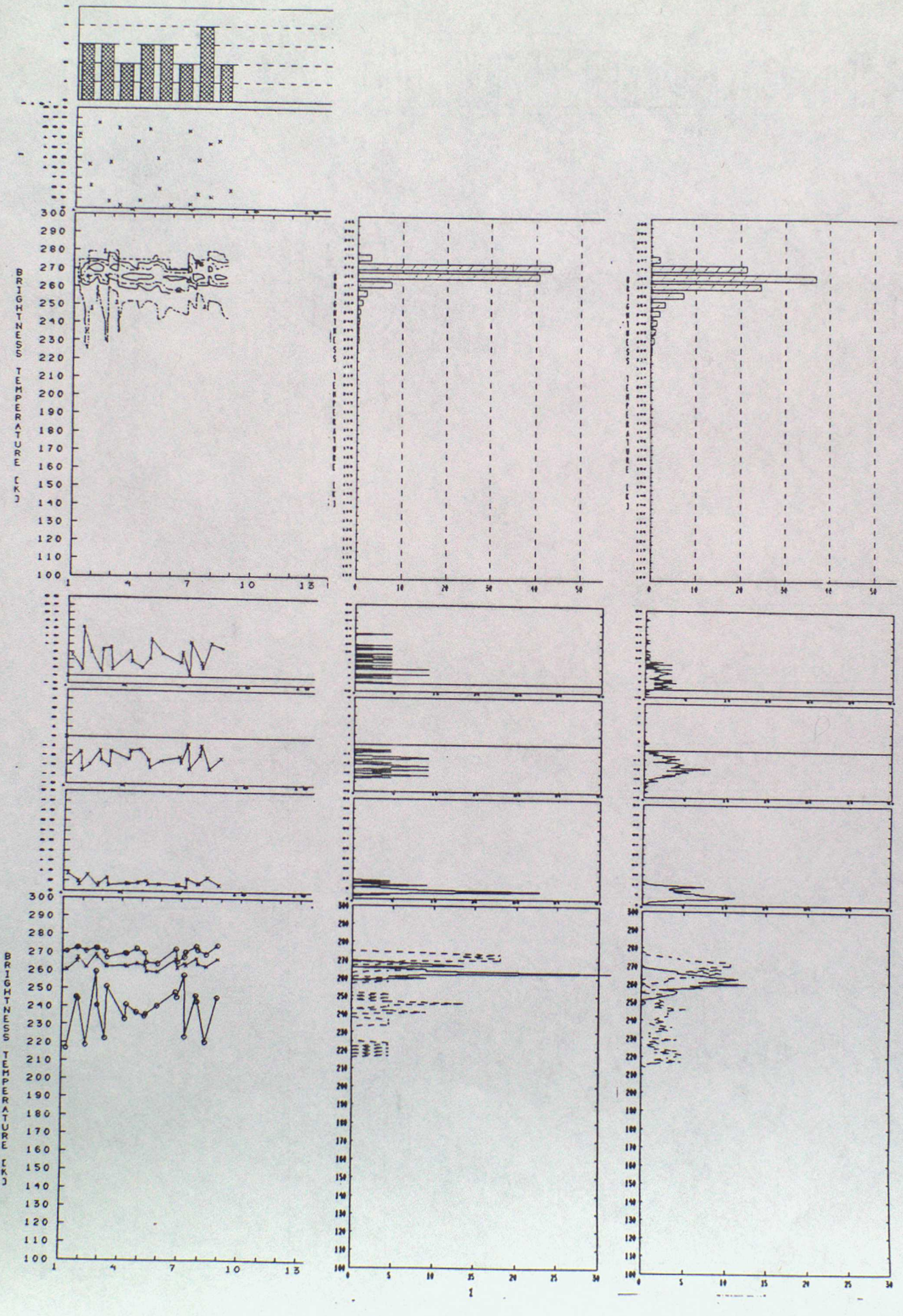
27. F8-LAND-37V, FEB: SUMMARY



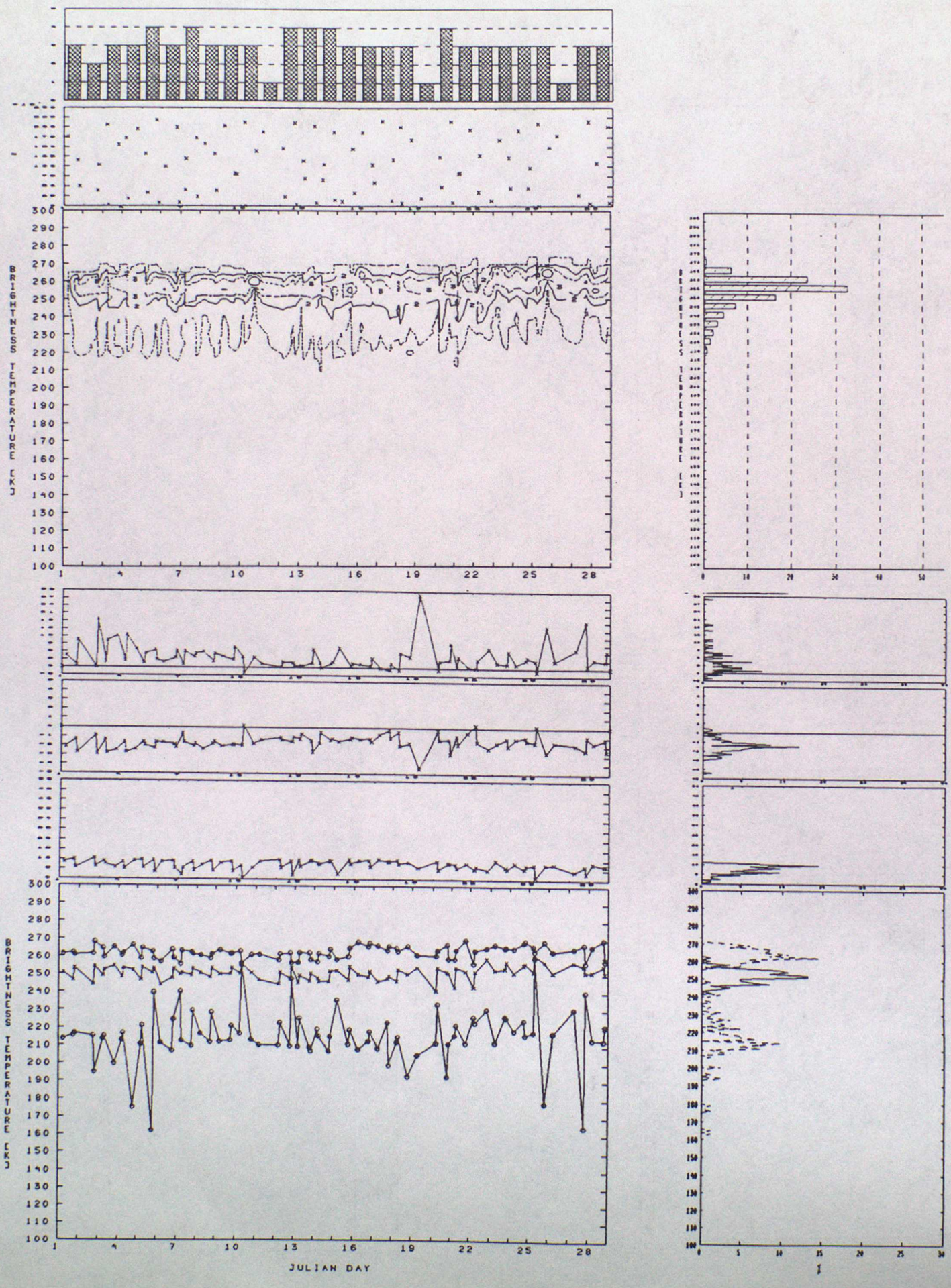
28. F8-LAND-37V, MAR: SUMMARY



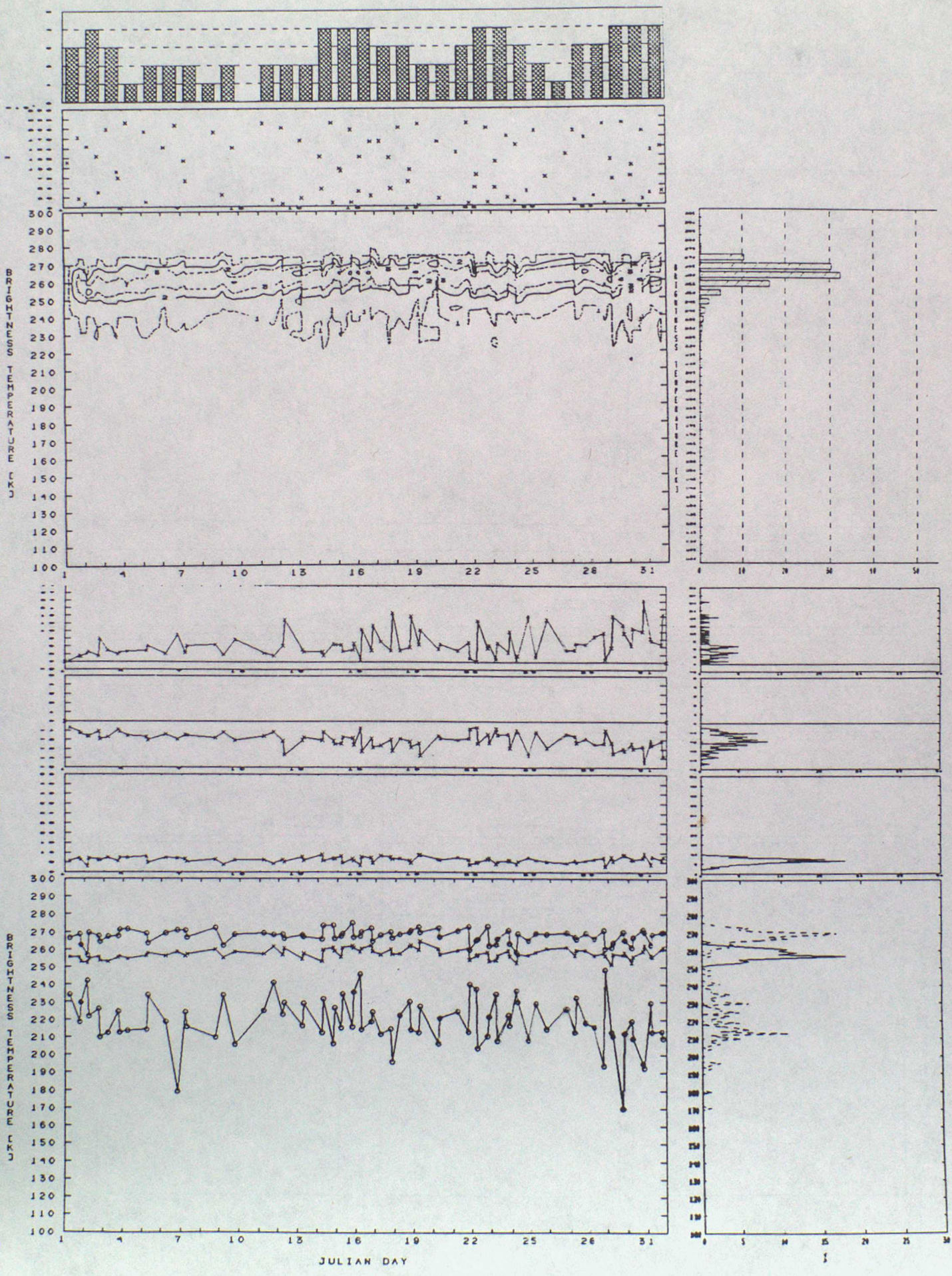
29. F8-LAND-37V, APR: SUMMARY+CUM



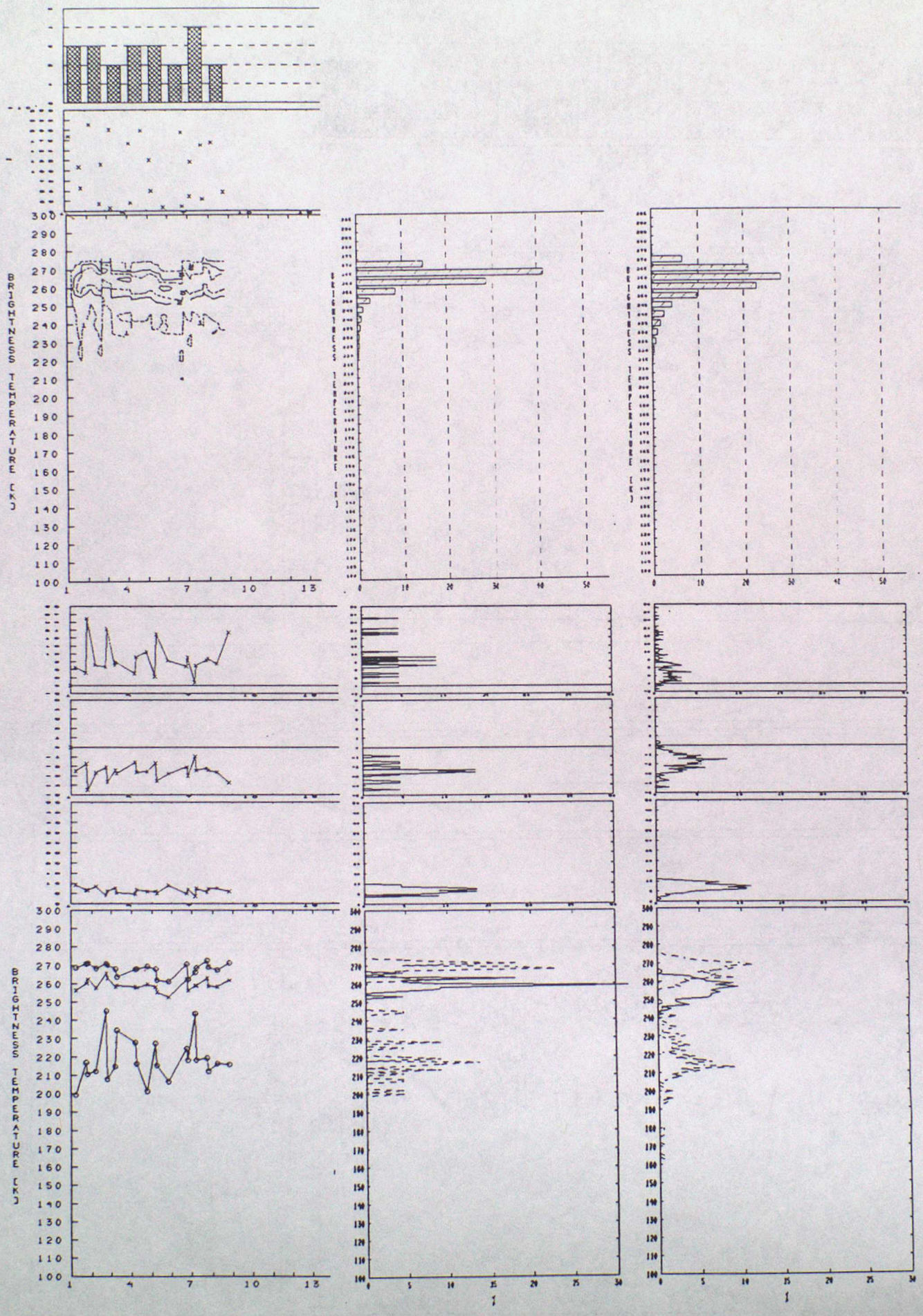
30. F8-LAND-37H, FEB: SUMMARY



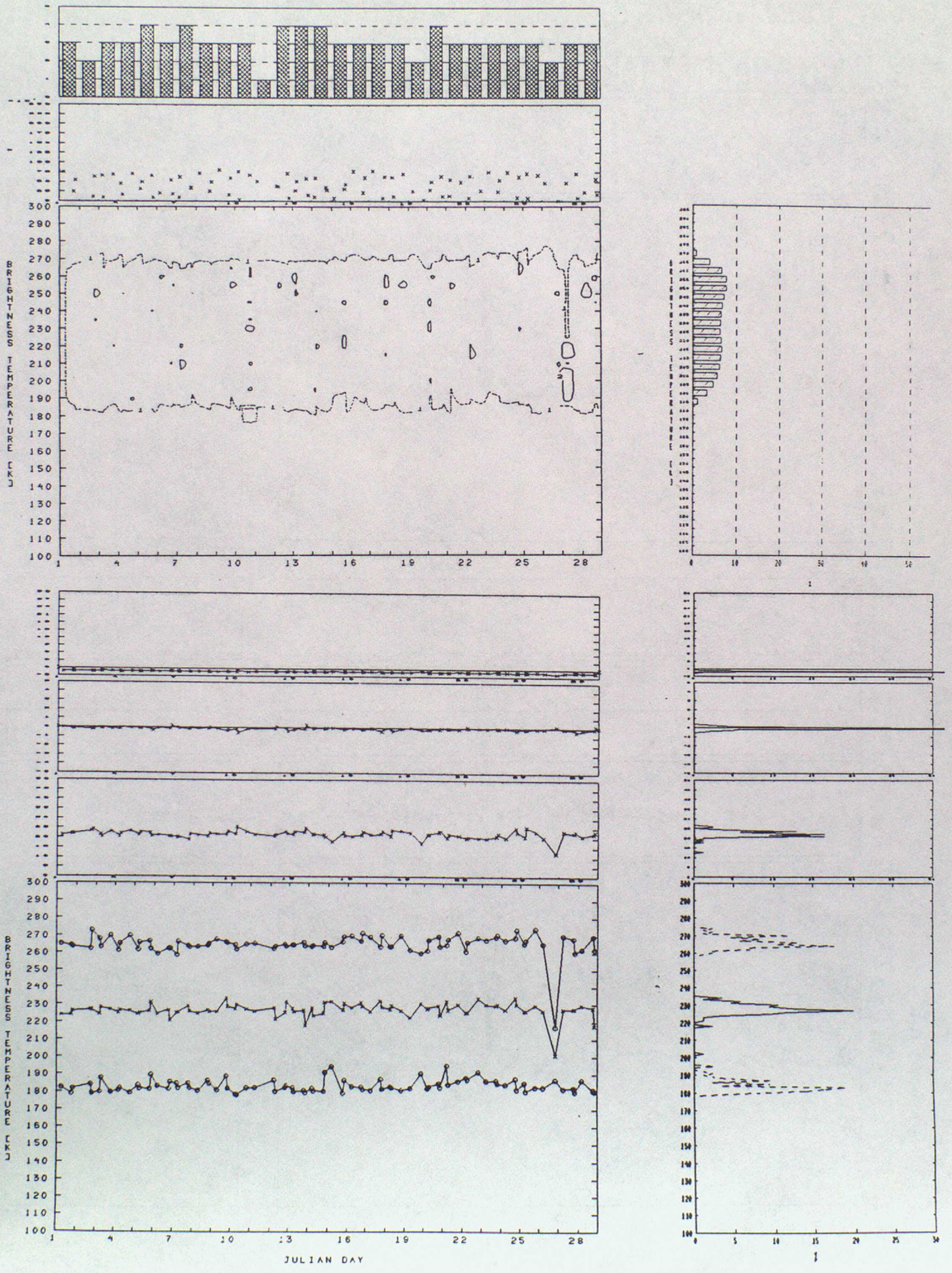
31. F8-LAND-37H, MAR: SUMMARY



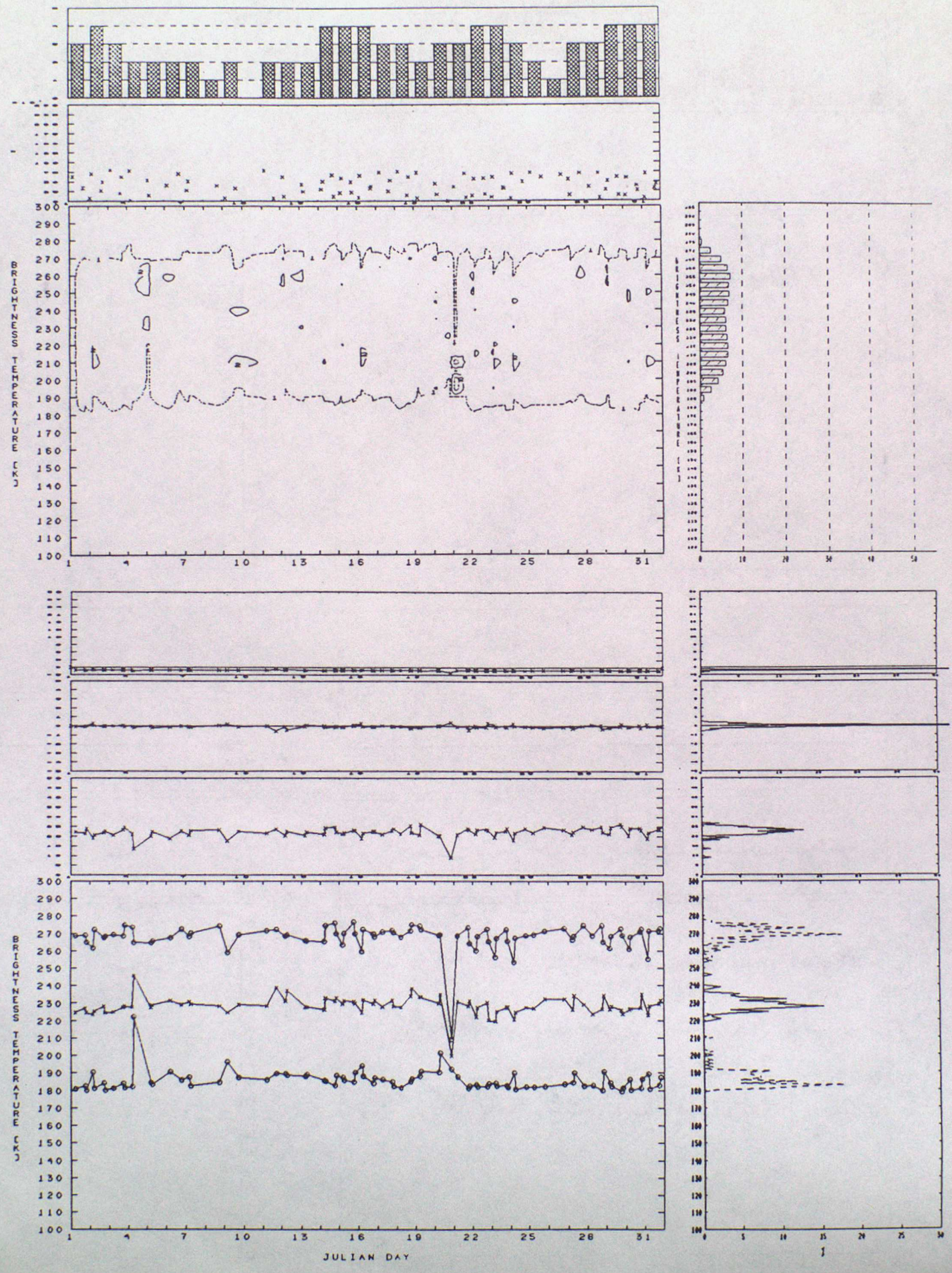
32. F8-LAND-37H, APR: SUMMARY+CUM



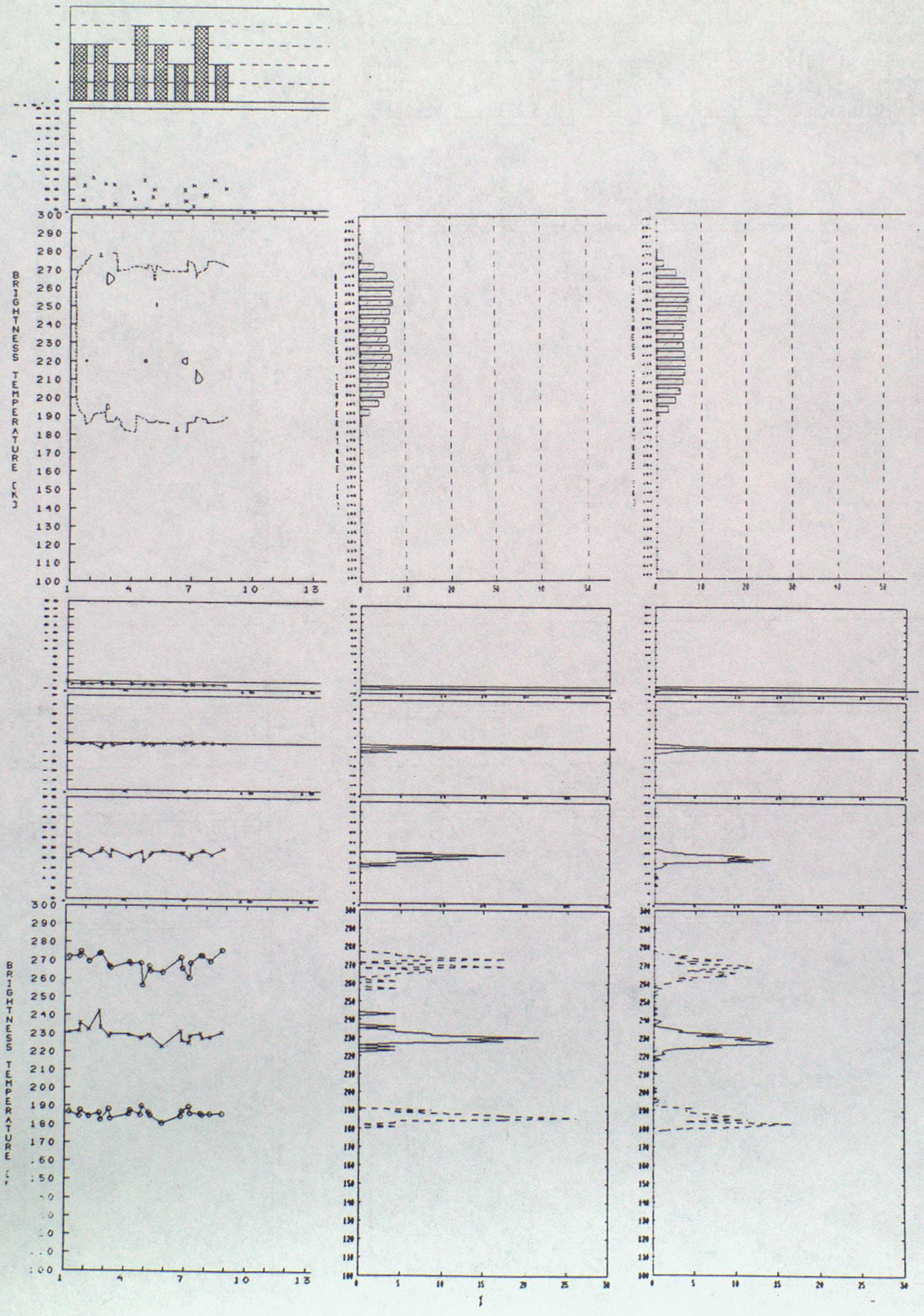
33. F8-COAST-19V, FEB: SUMMARY



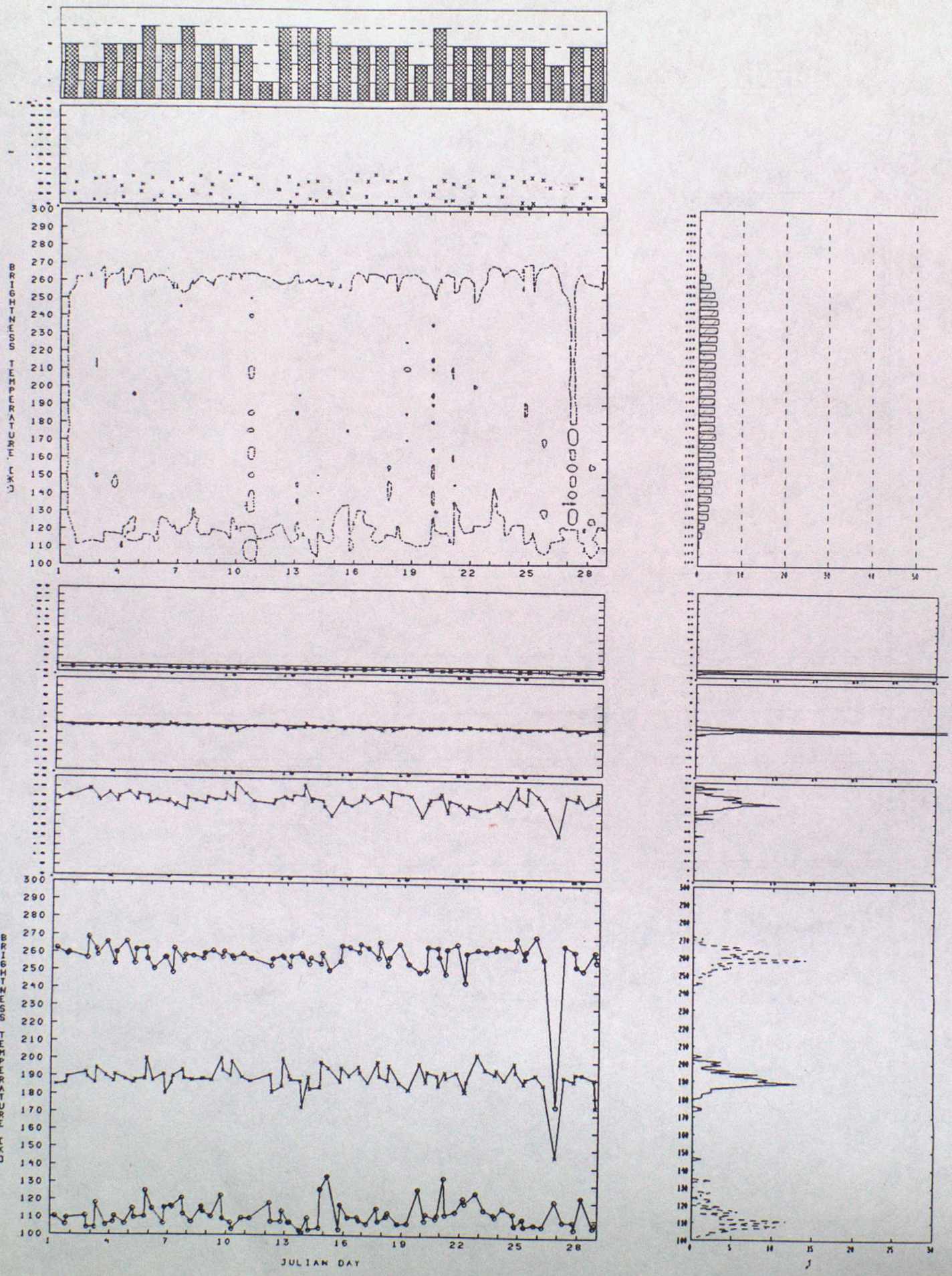
34. F8-COAST-19V, MAR: SUMMARY



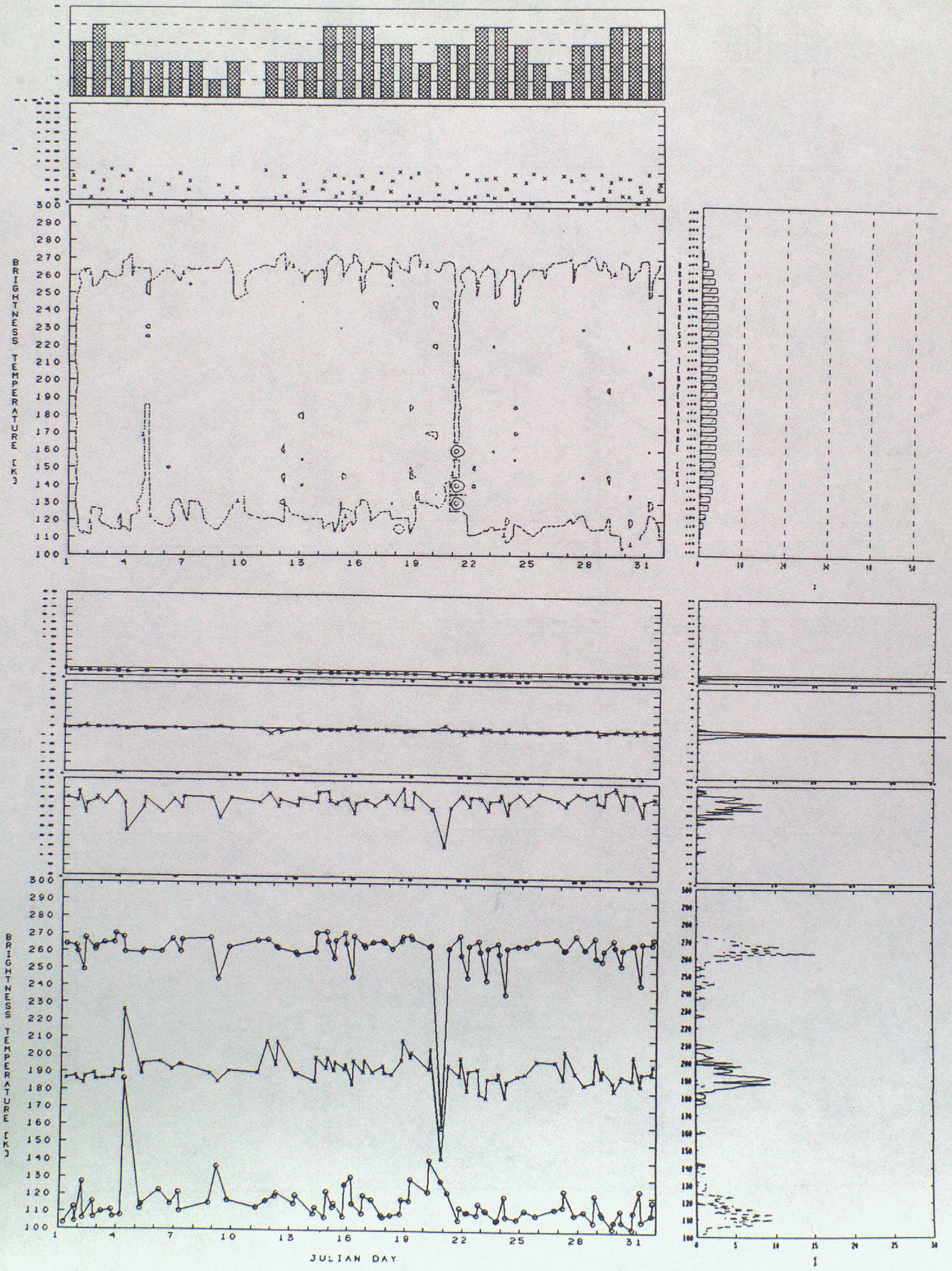
35. F8-COAST-19V, APR: SUMMARY+CUM



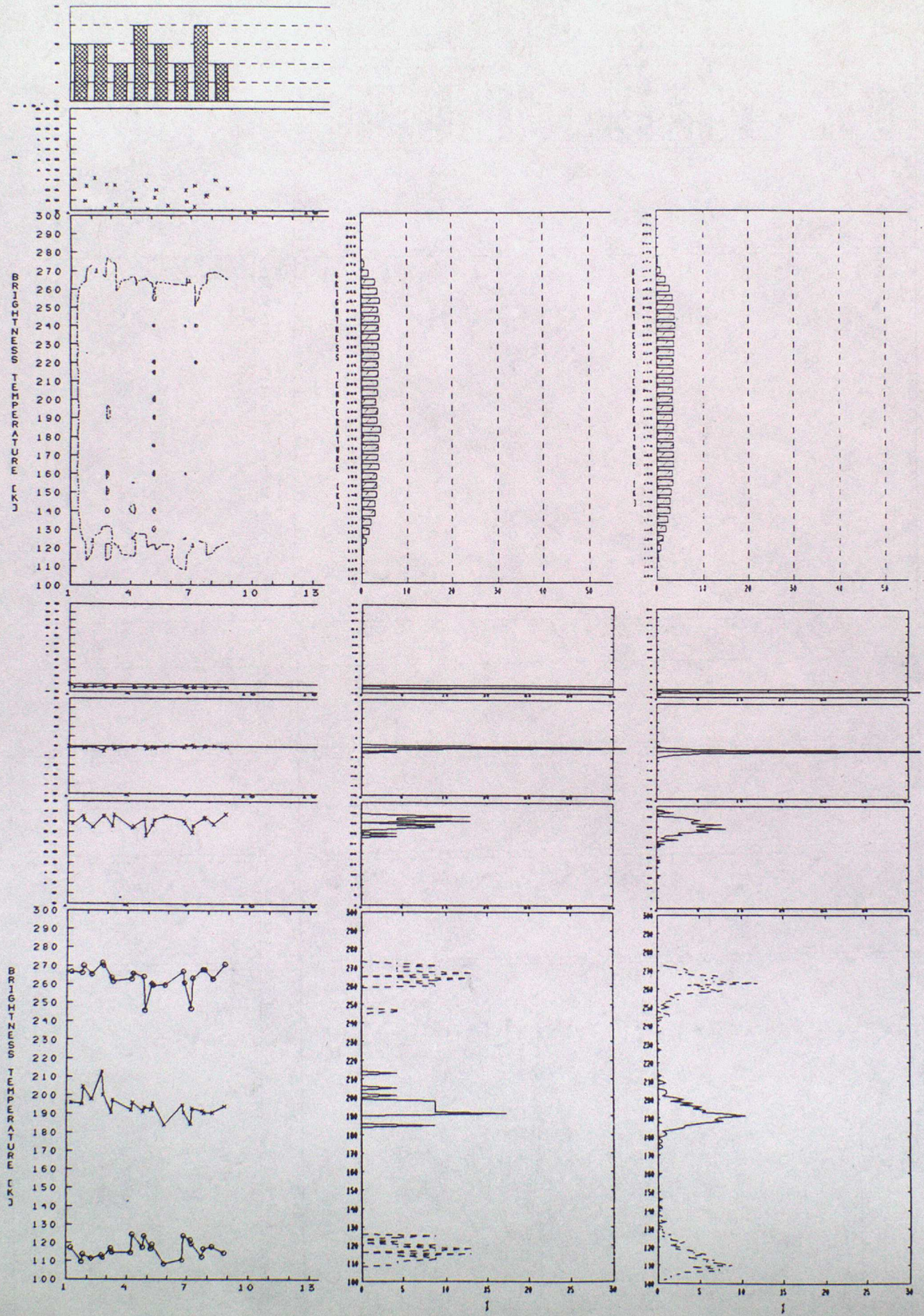
36. F8-COAST-19H, FEB: SUMMARY



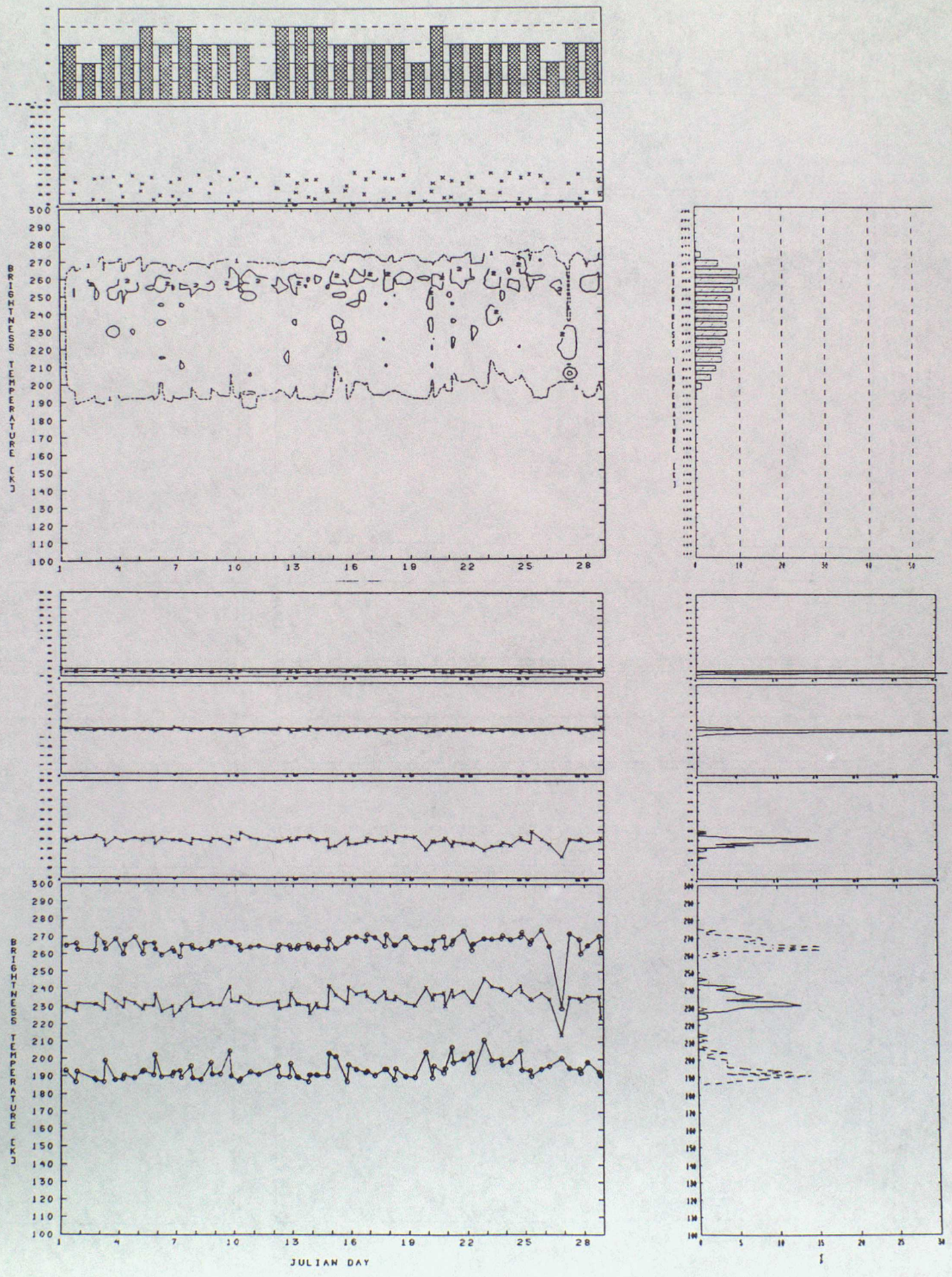
37. F8-COAST-19H, MAR: SUMMARY



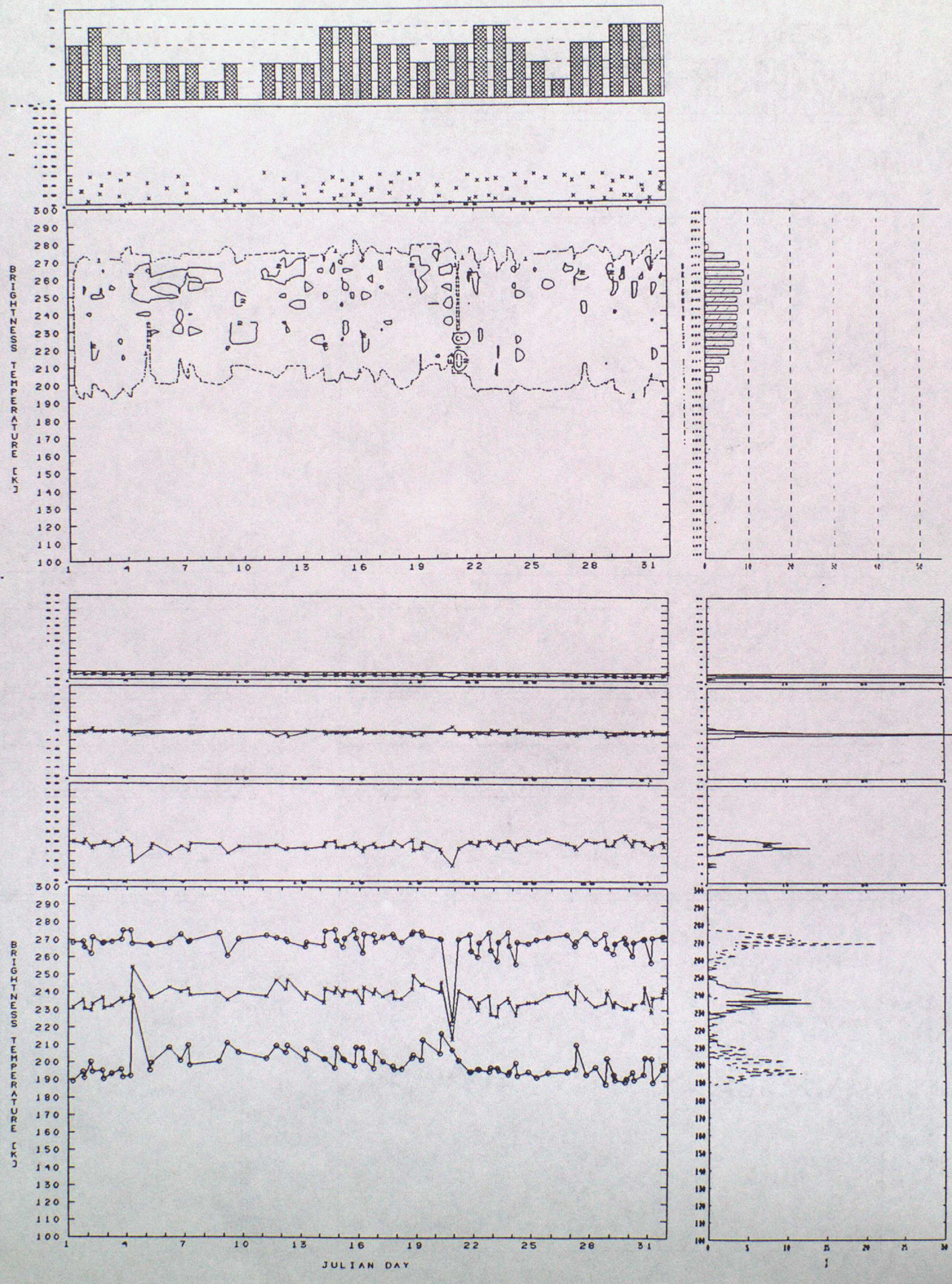
38. F8-COAST-19H, APR: SUMMARY+CUM



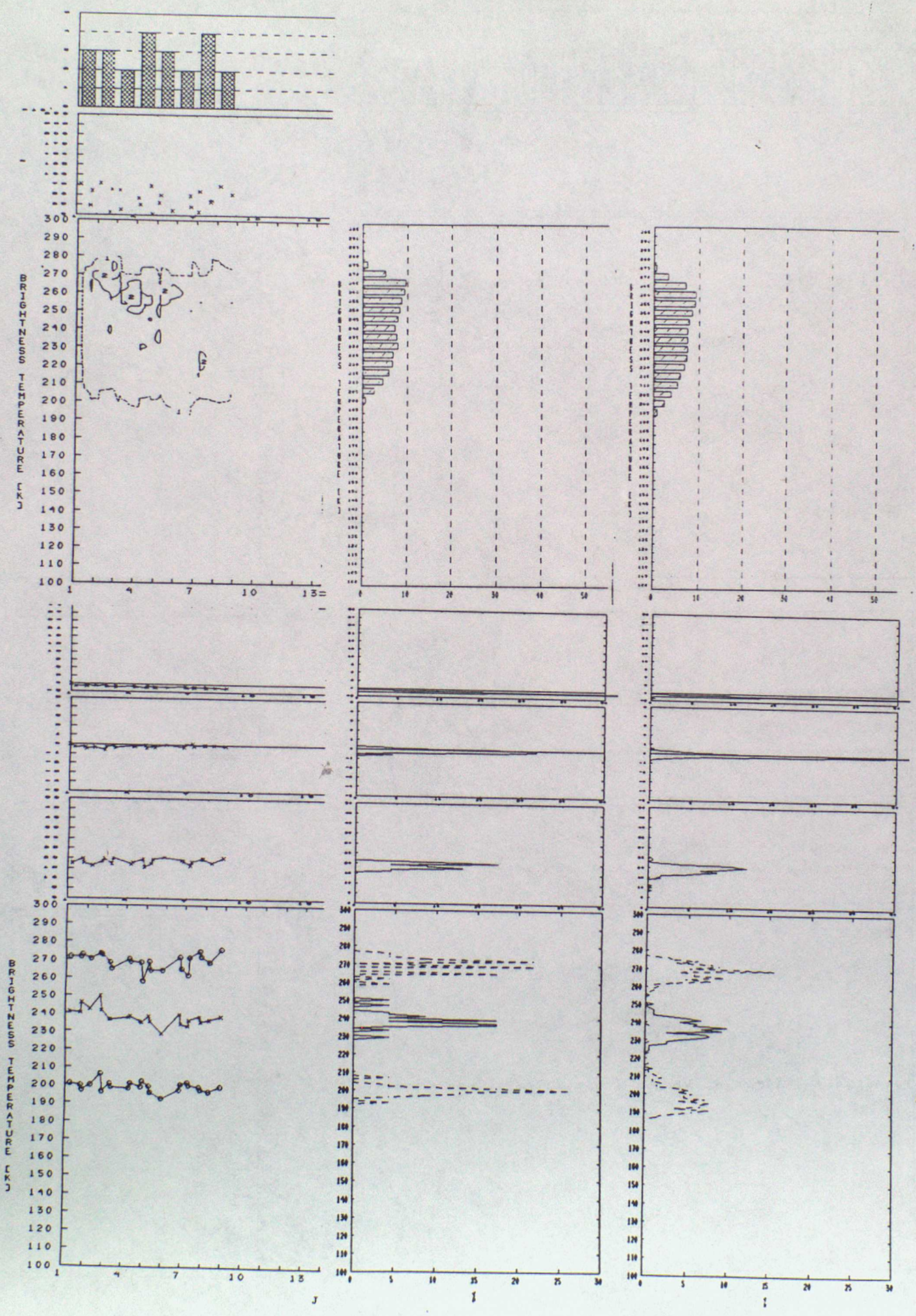
39. F8-COAST-22V, FEB: SUMMARY



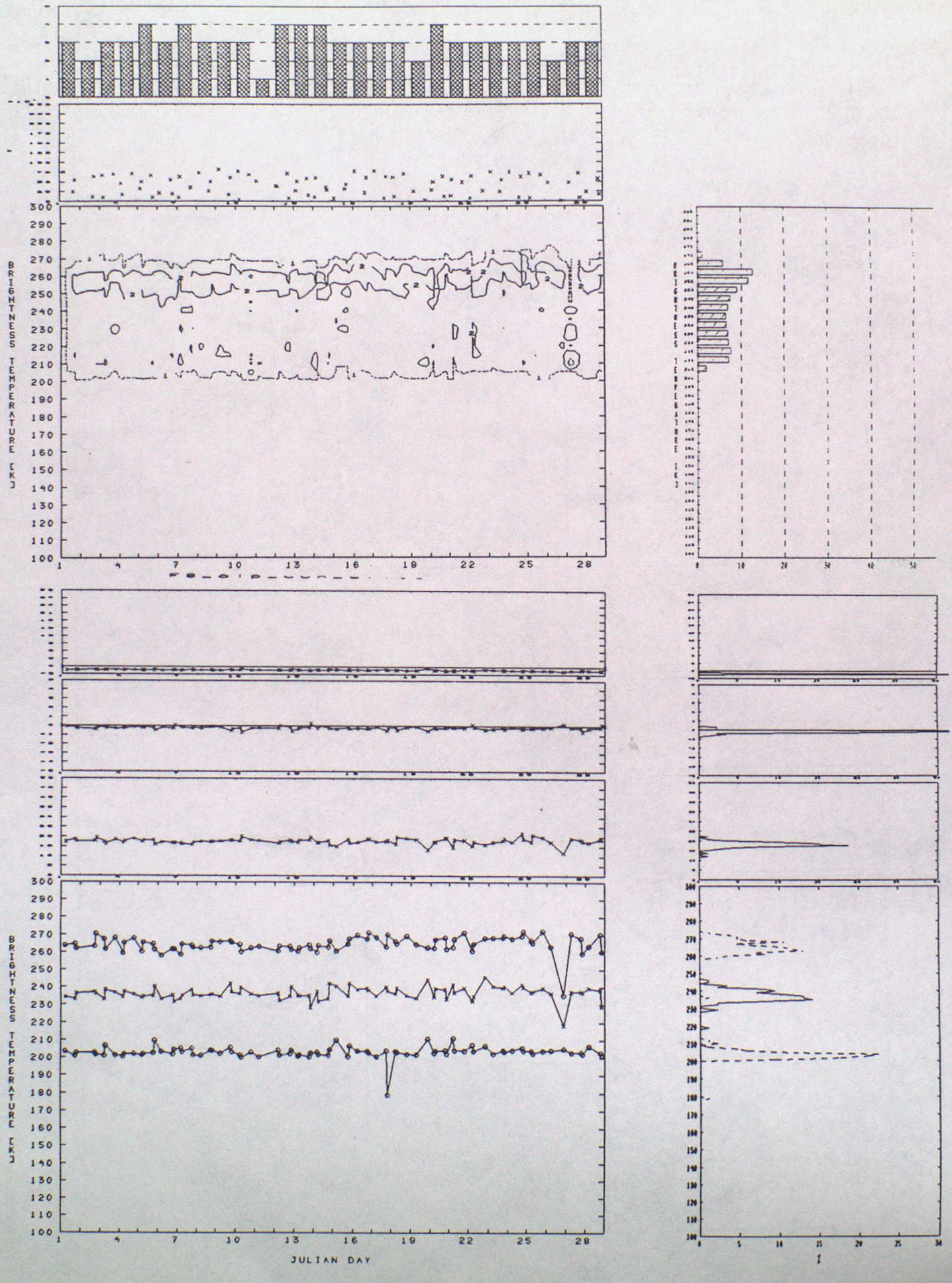
40. F8-COAST-22V, MAR: SUMMARY



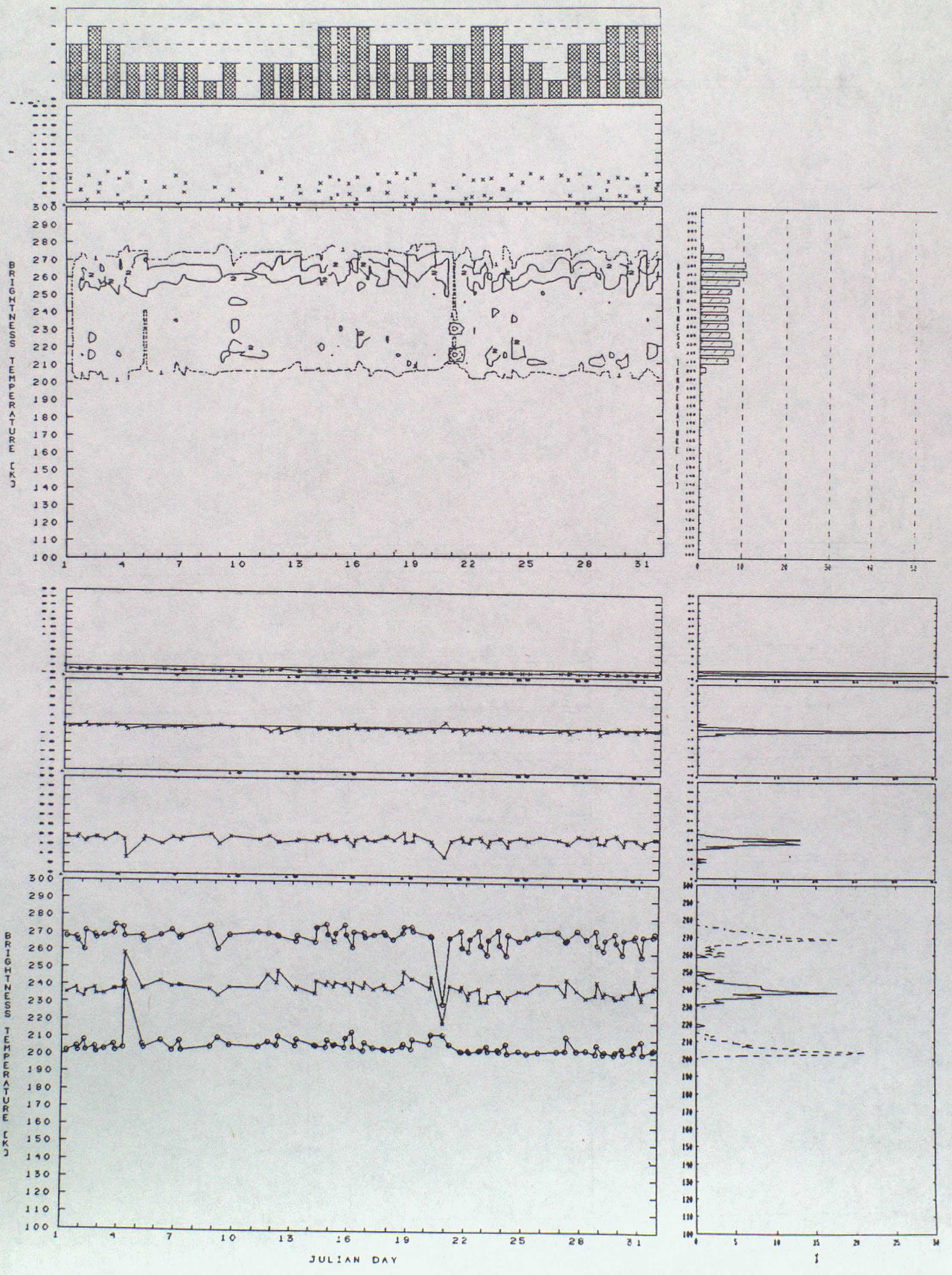
41. F8-COAST-22V, APR: SUMMARY+CUM



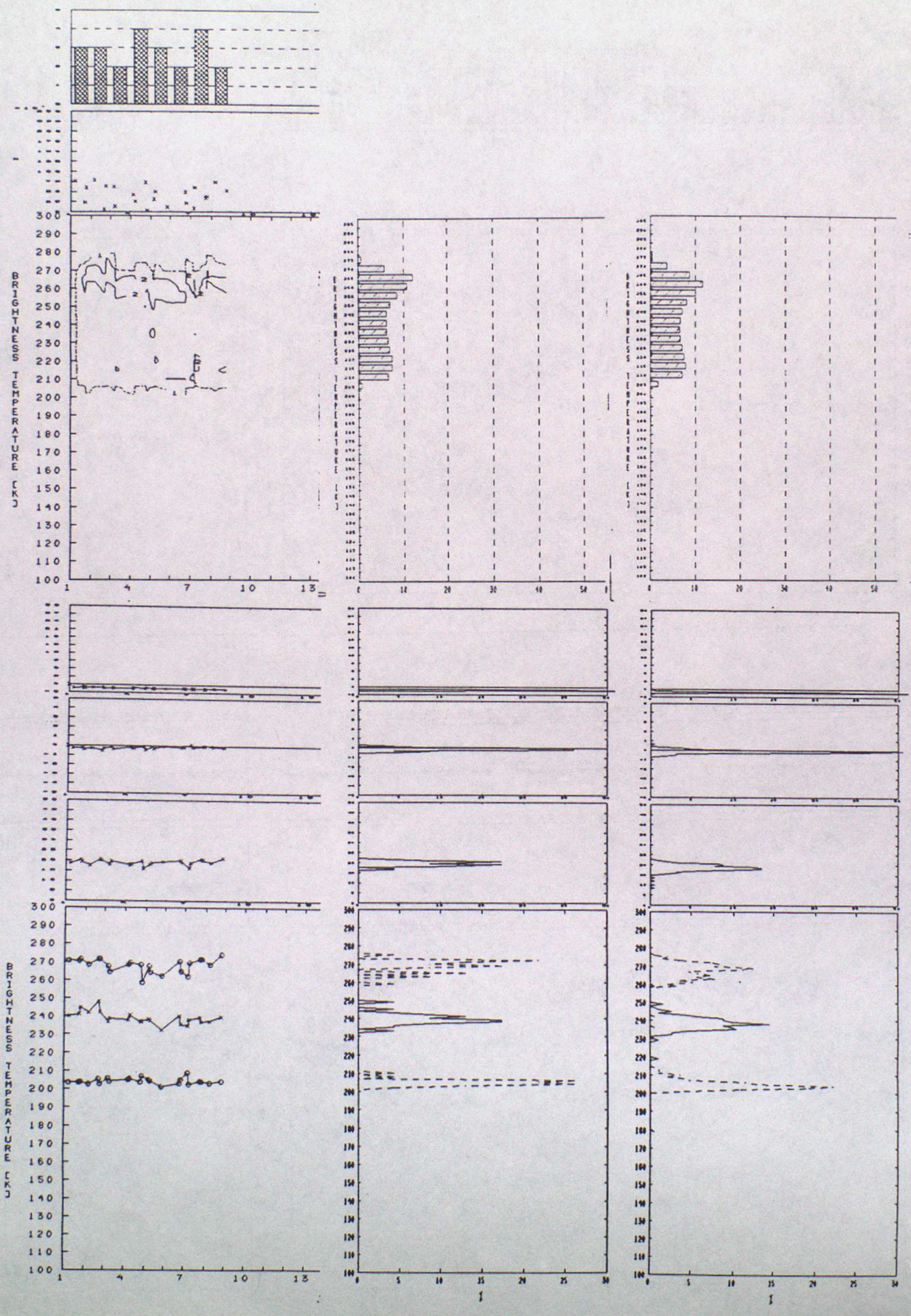
42. F8-COAST-37V, FEB: SUMMARY



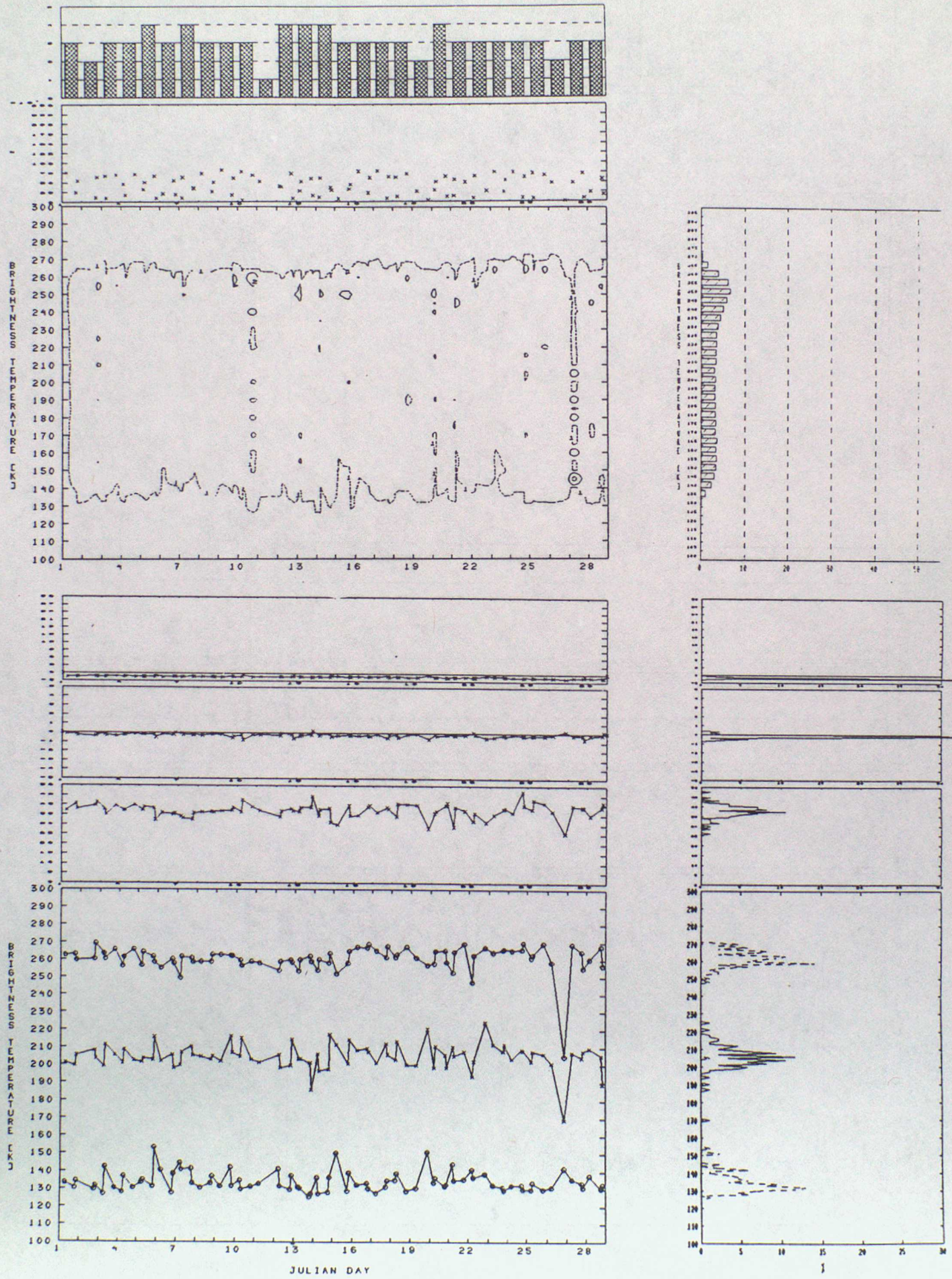
43. F8-COAST-37V, MAR: SUMMARY



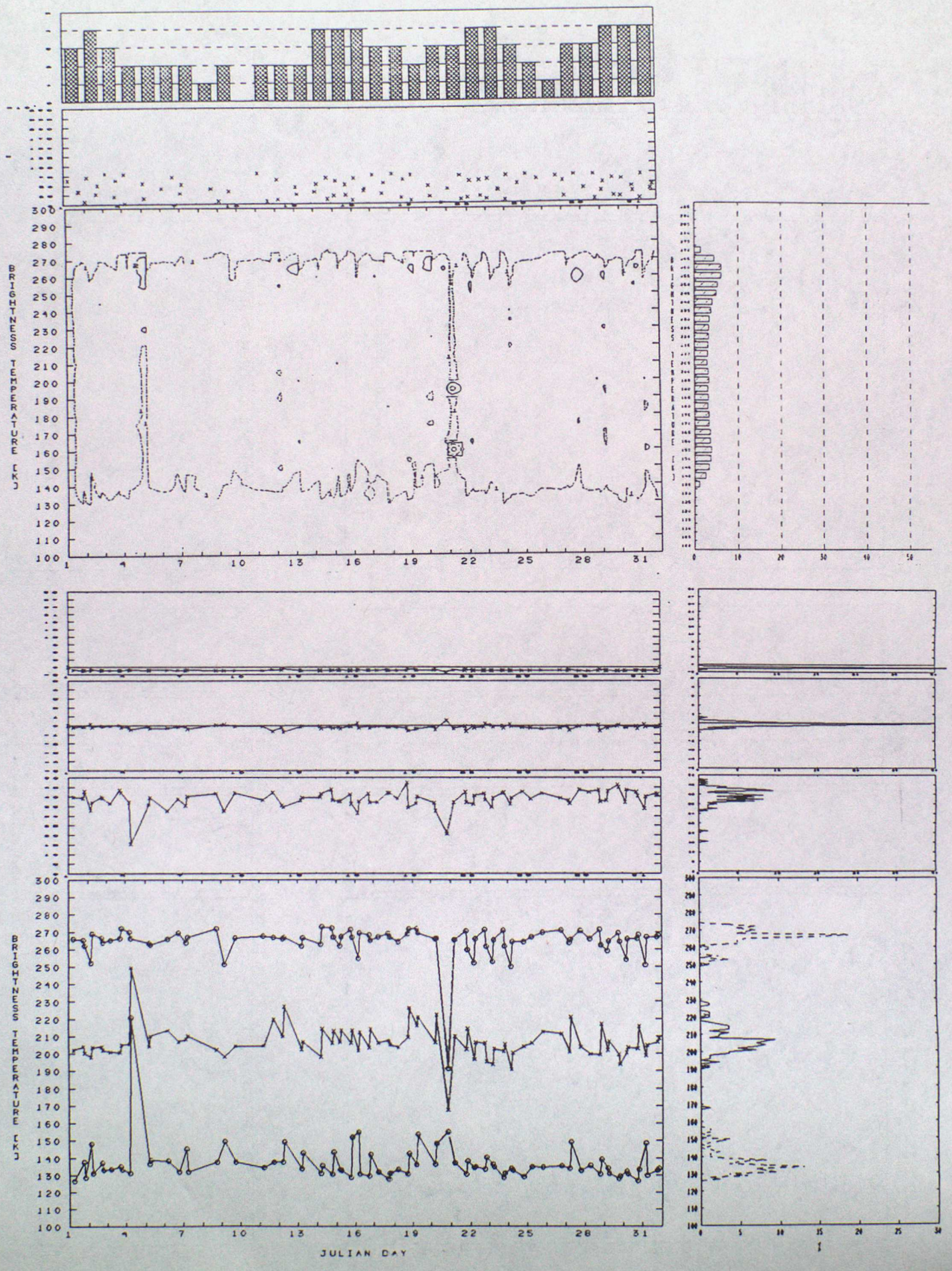
44. F8-COAST-37V, APR: SUMMARY+CUM



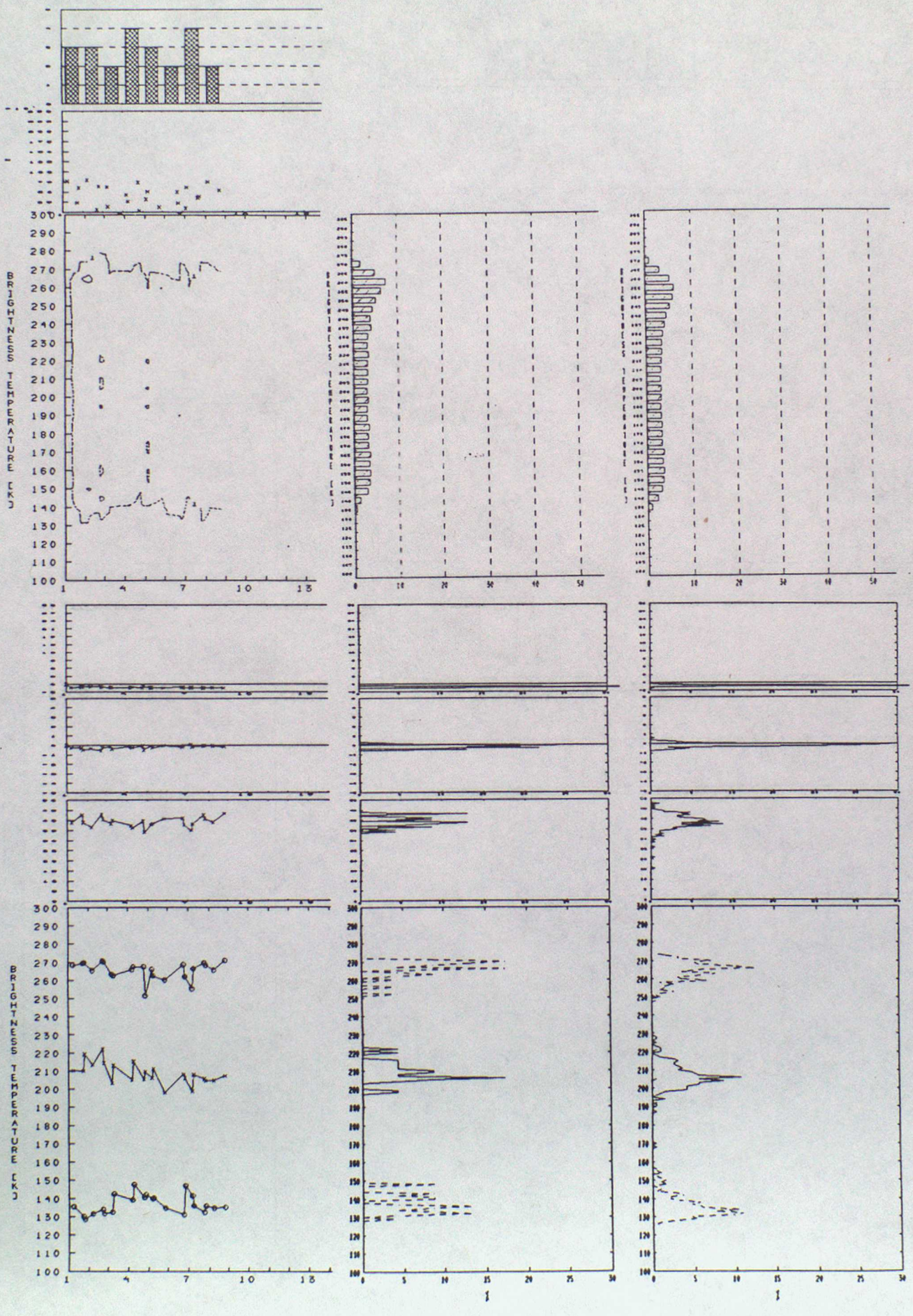
45. F8-COAST-37H, FEB: SUMMARY



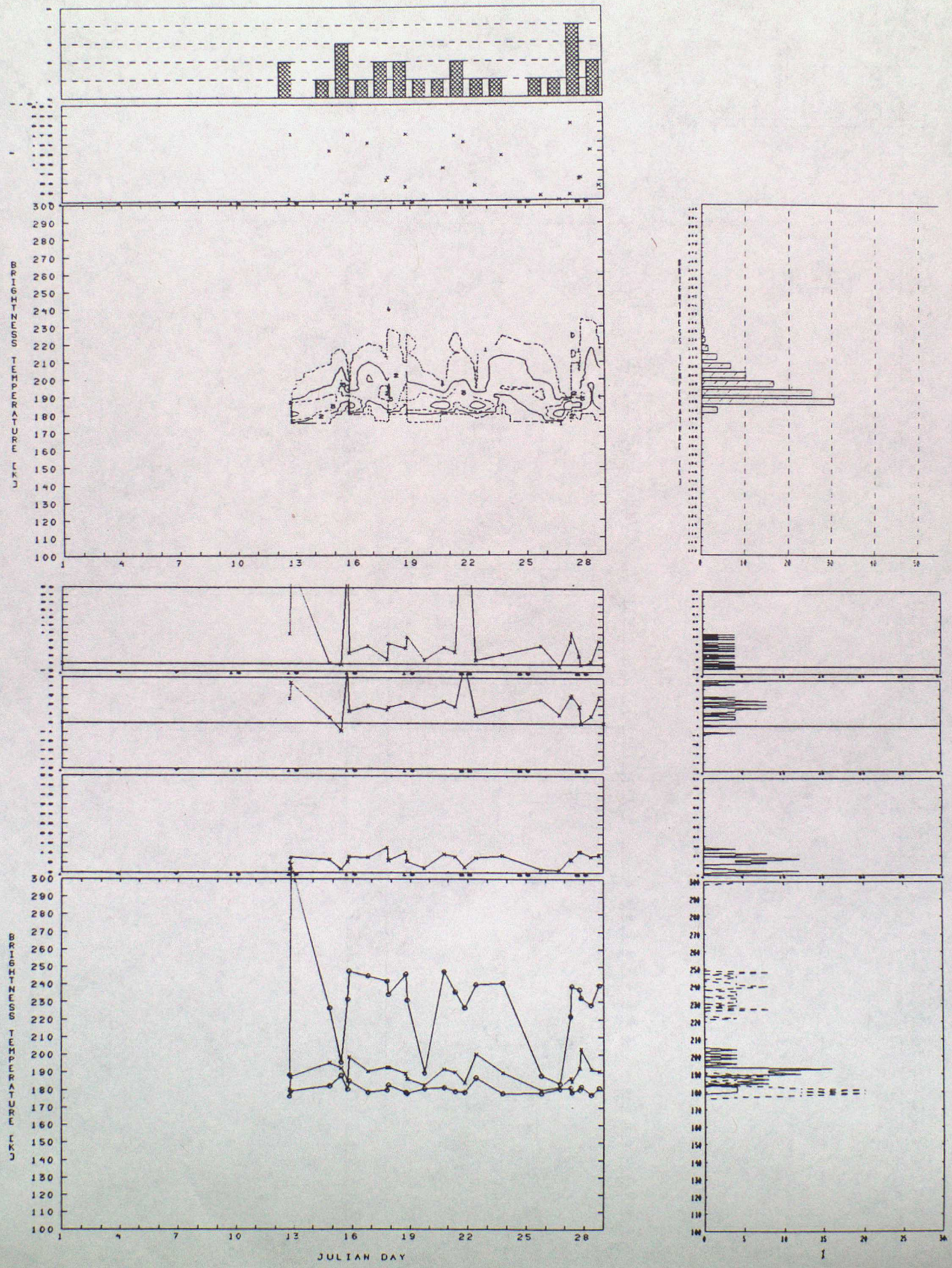
46. F8-COAST-37H, MAR: SUMMARY



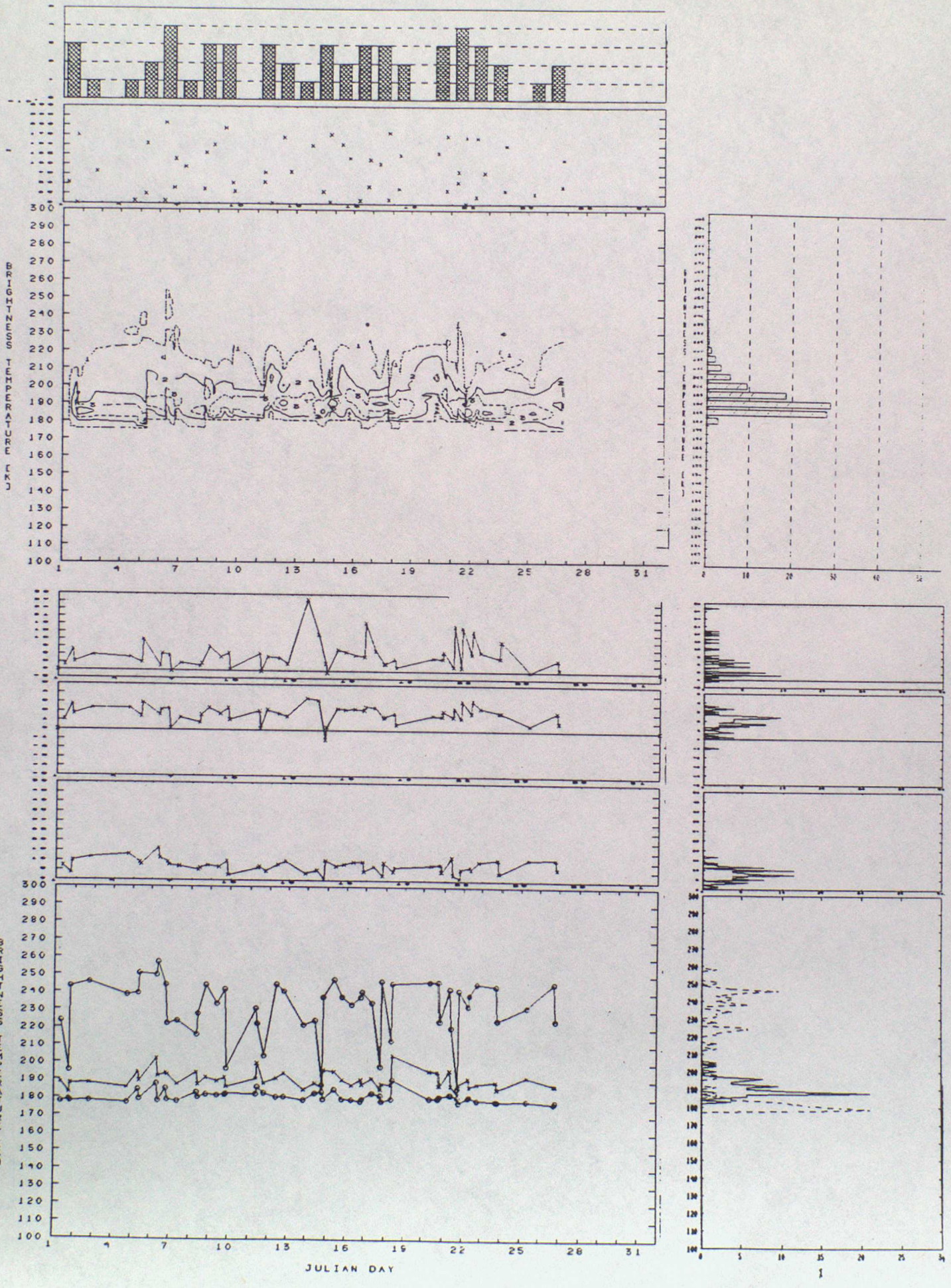
47. F8-COAST-37H, APR: SUMMARY+CUM



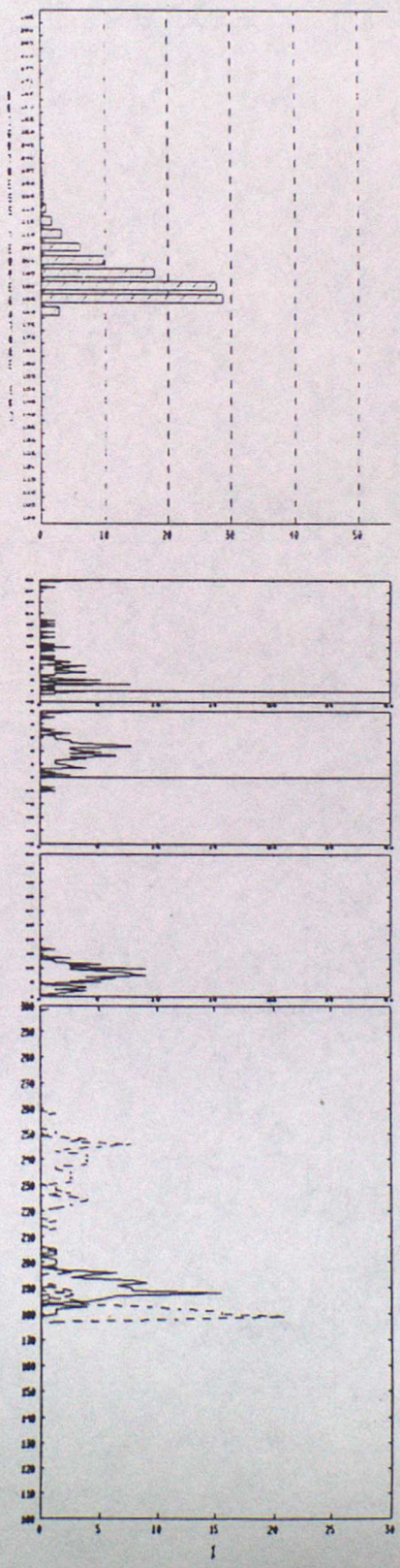
48. F10-WATER-19V, FEB: SUMMARY



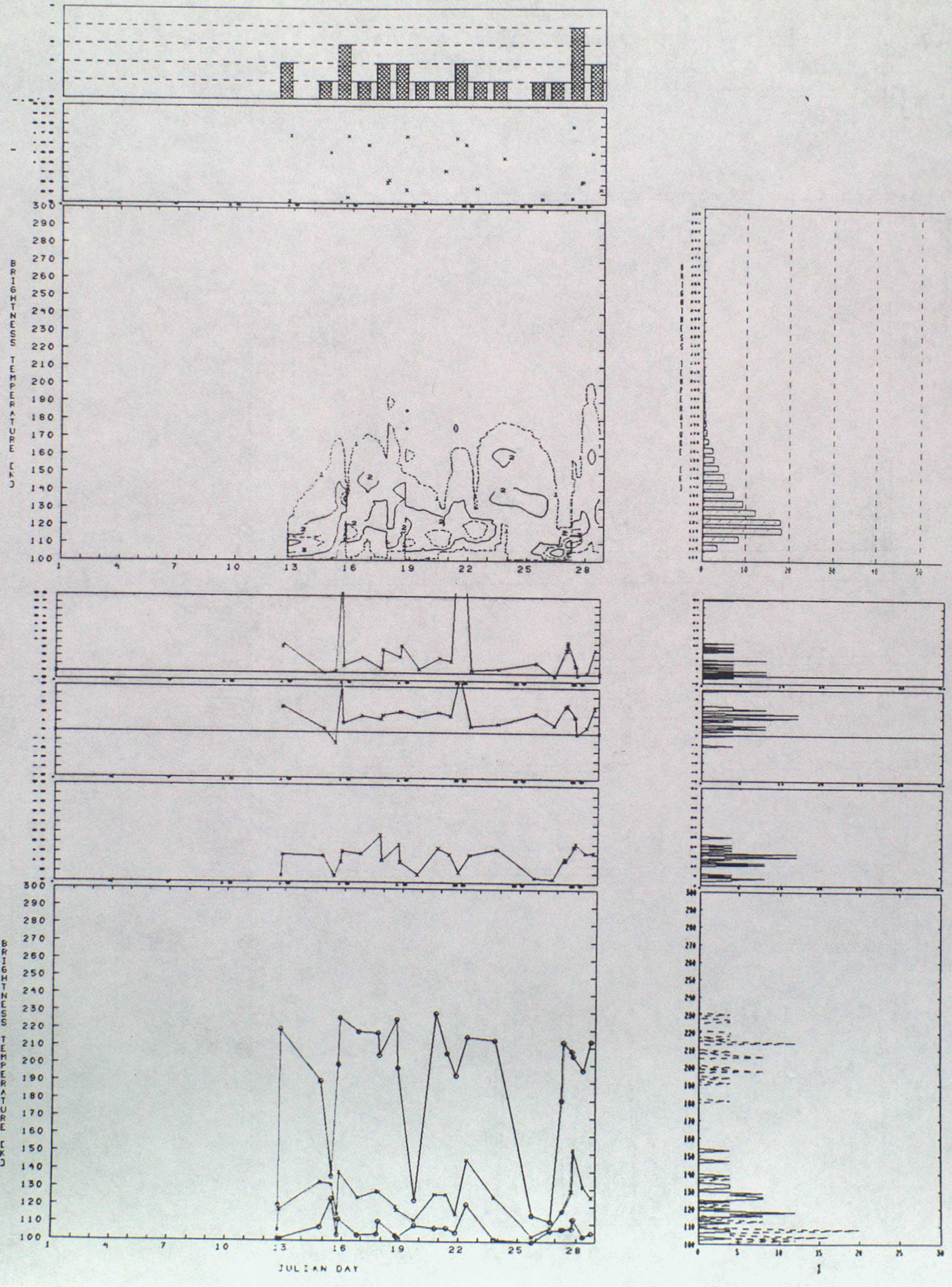
49. F10-WATER-19V, MAR: SUMMARY



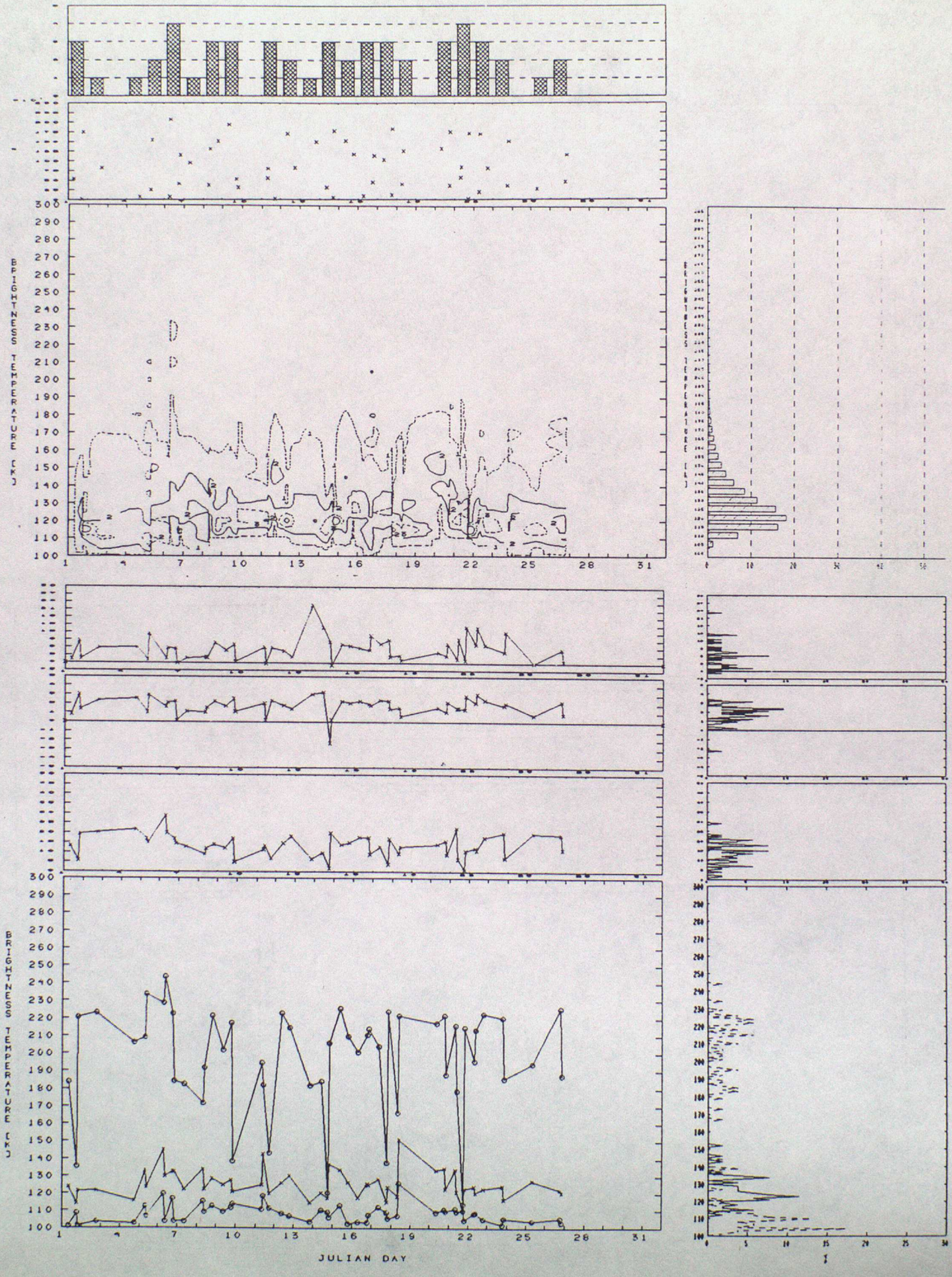
50. F10-WATER-19V, APR: SUMMARY+CUM



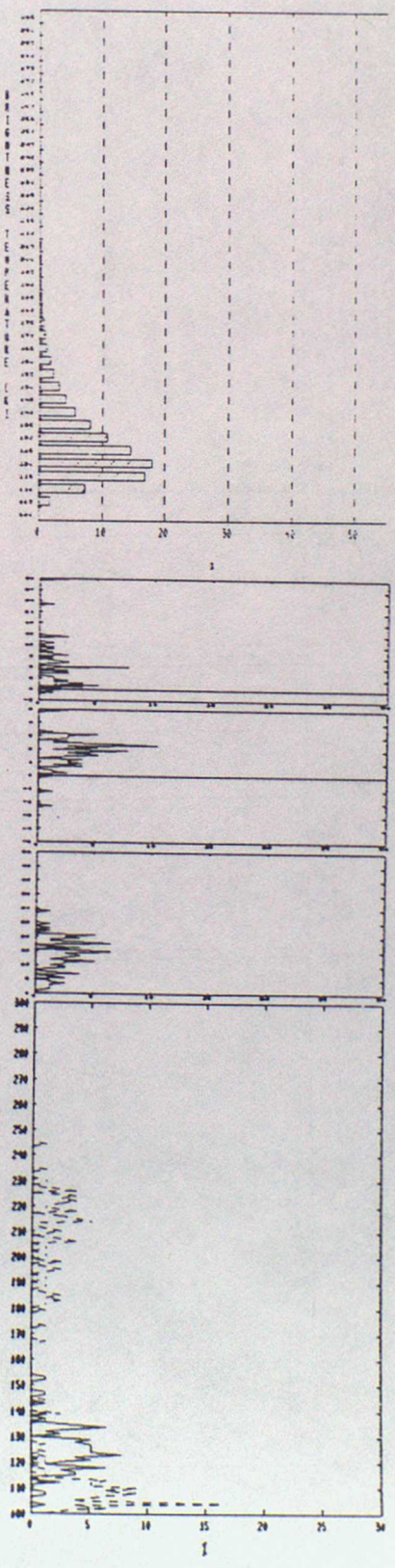
51. F10-WATER-19H, FEB: SUMMARY



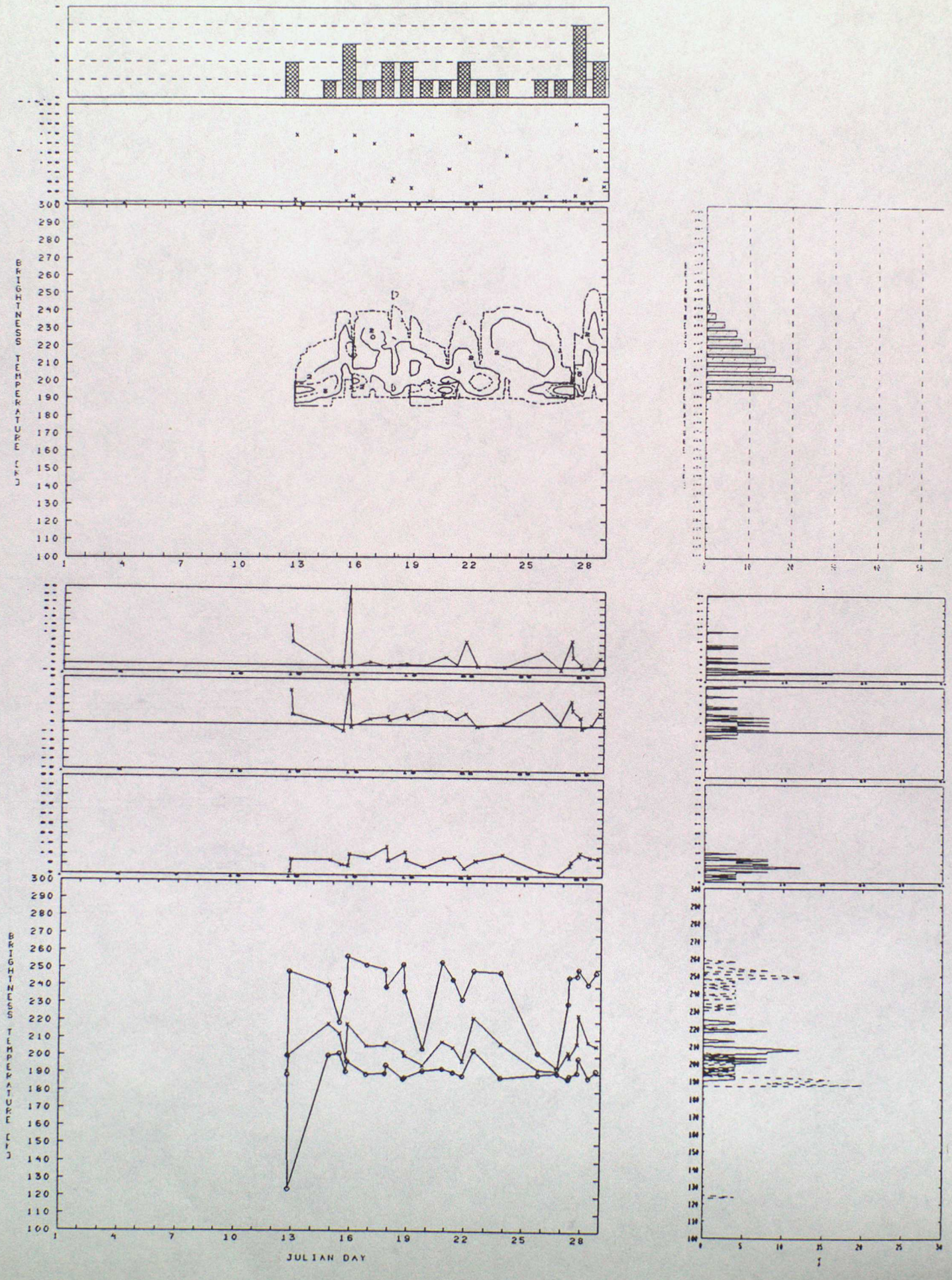
52. F10-WATER-19H, MAR: SUMMARY



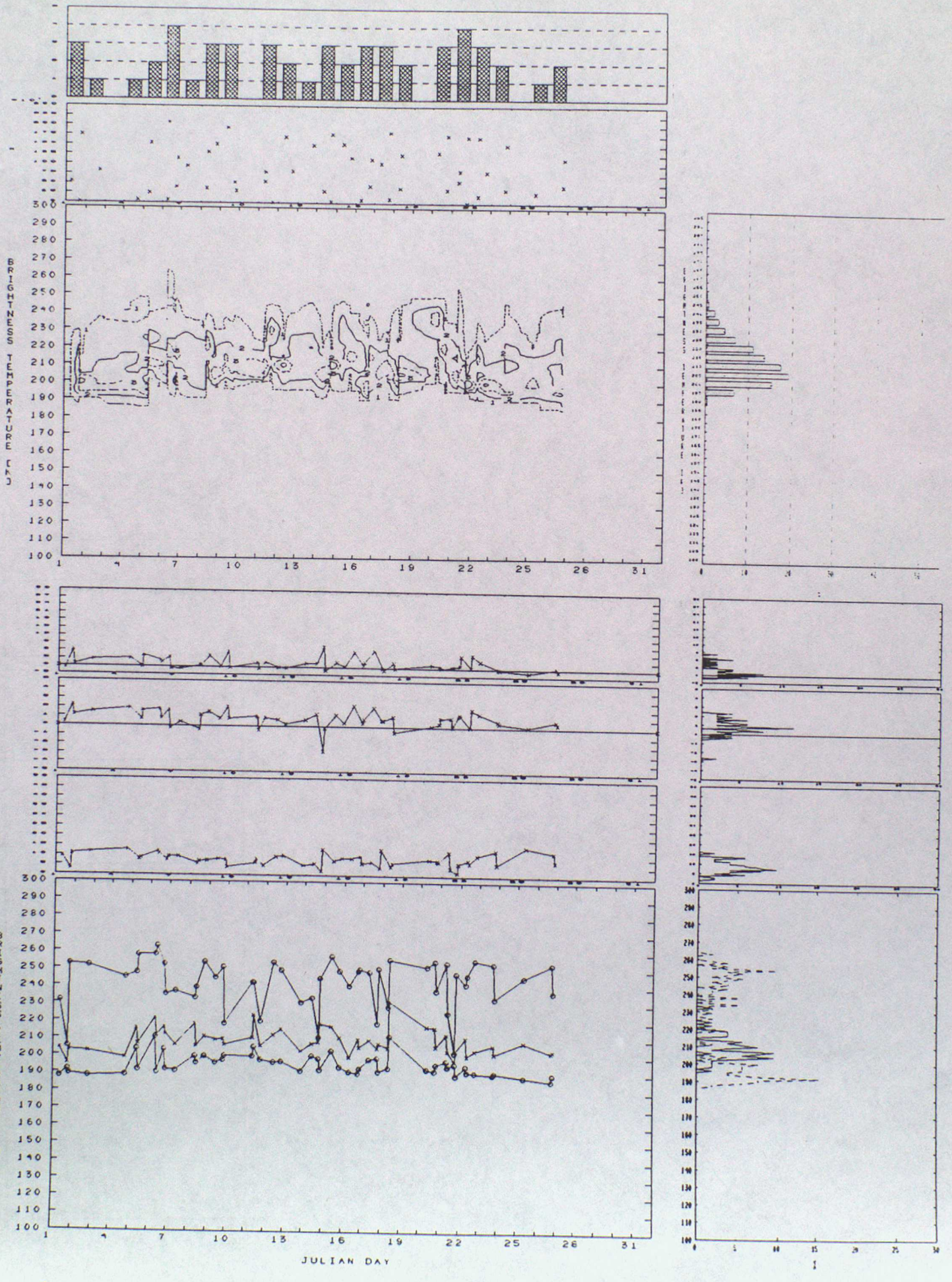
53. F10-WATER-19H, APR: SUMMARY+CUM



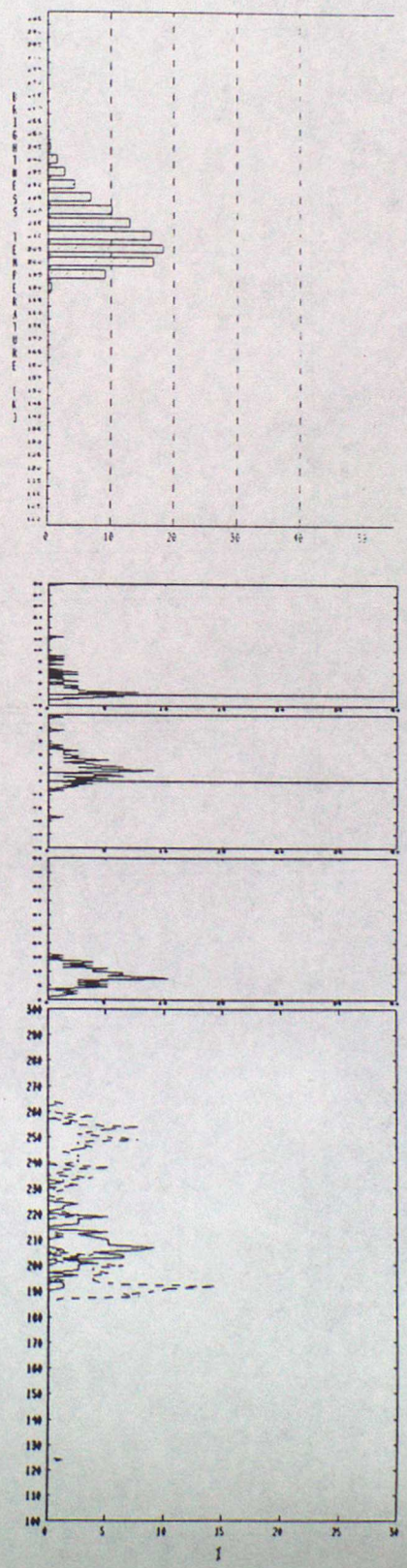
54. F10-WATER-22V, FEB: SUMMARY



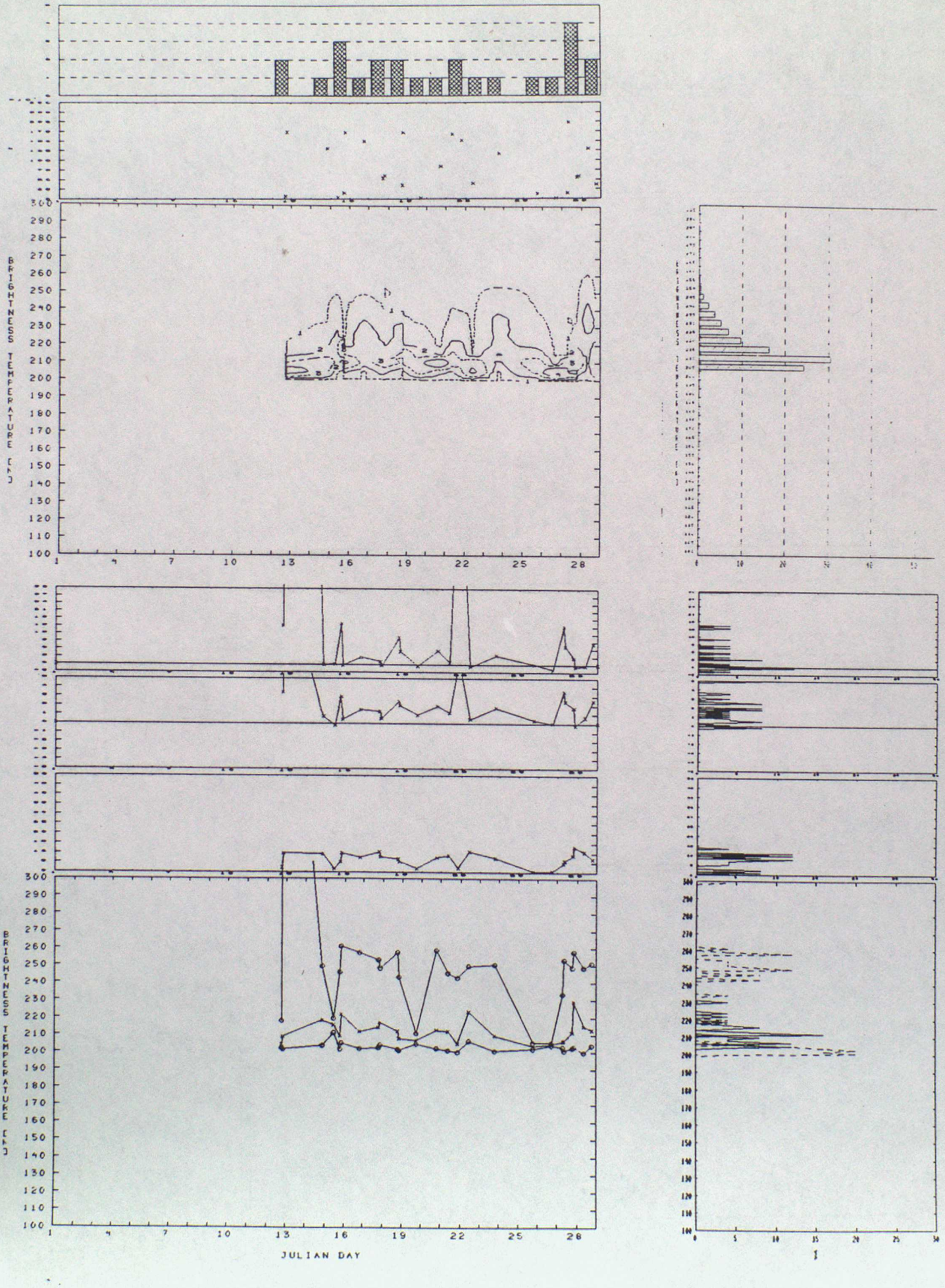
55. F10-WATER-22V, MAR: SUMMARY



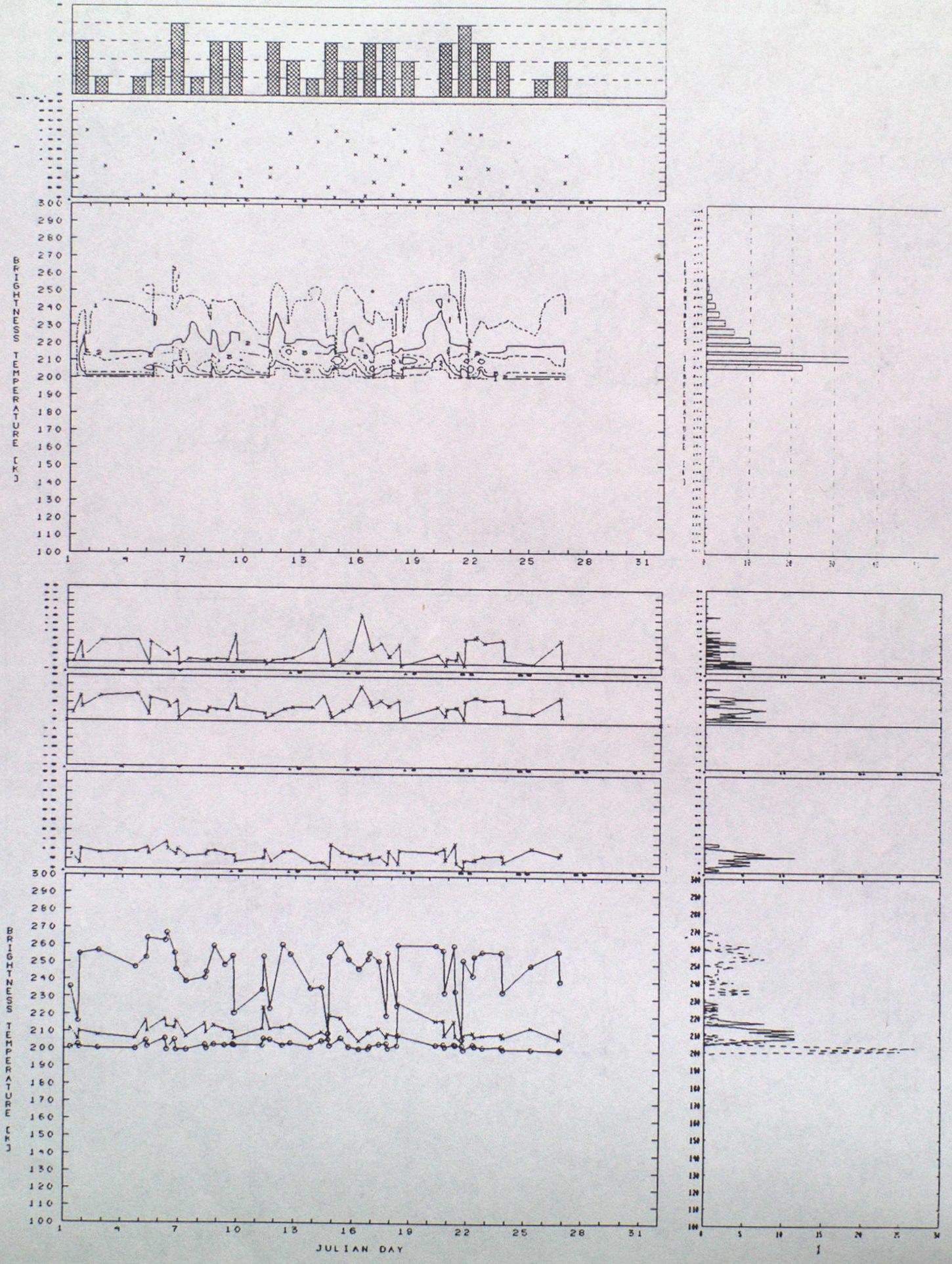
56. F10-WATER-22V, APR: SUMMARY+CUM



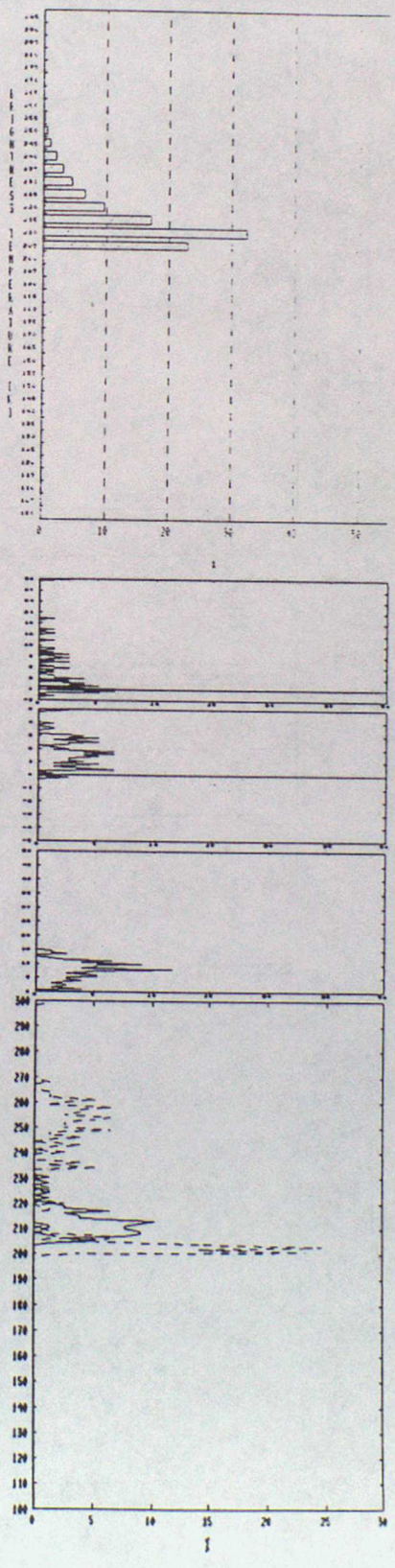
57. F10-WATER-37V, FEB: SUMMARY



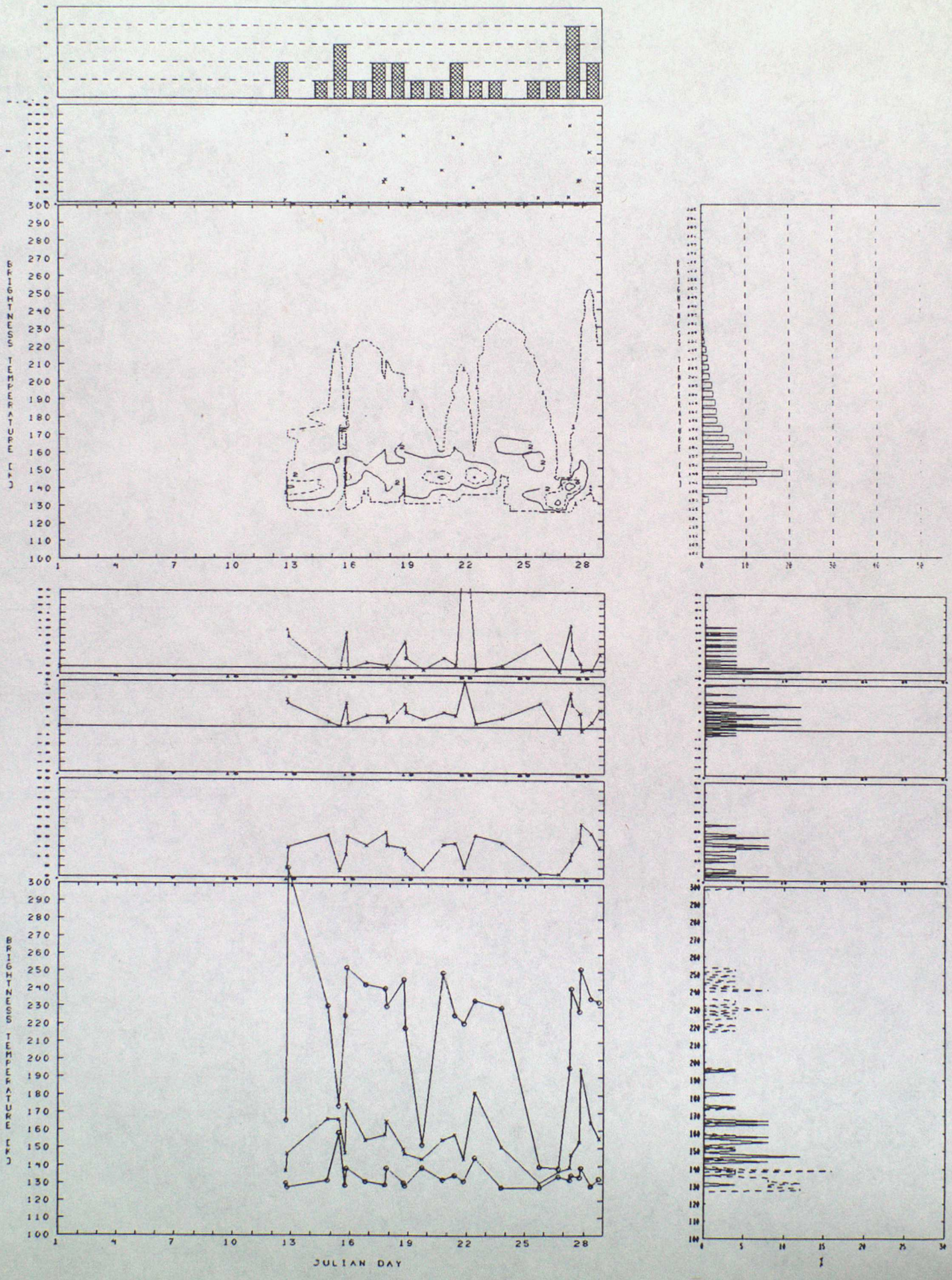
58. F10-WATER-37V, MAR: SUMMARY



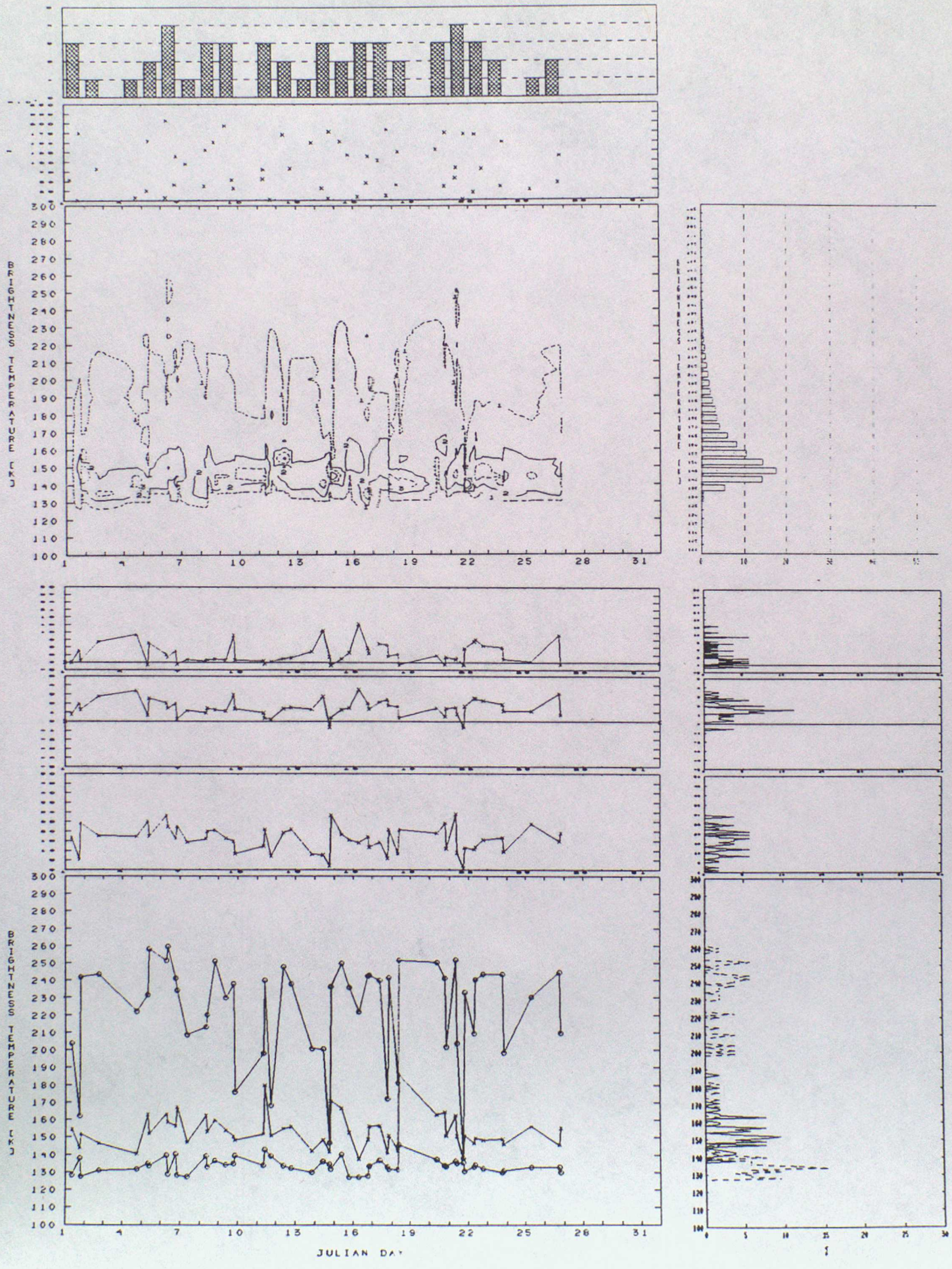
59. F10-WATER-37V, APR: SUMMARY+CUM



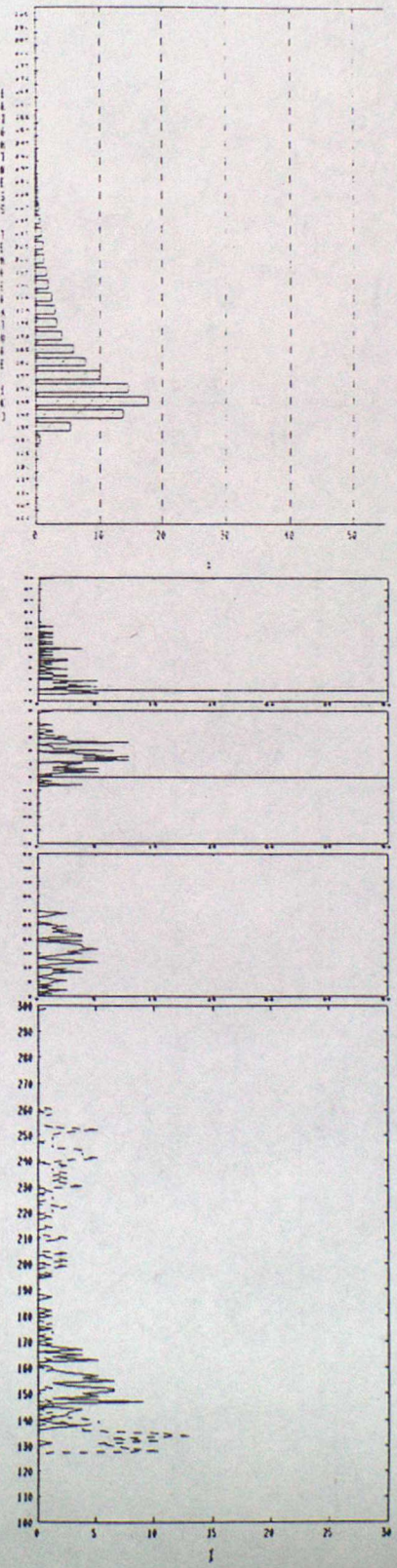
60. F10-WATER-37H, FEB: SUMMARY



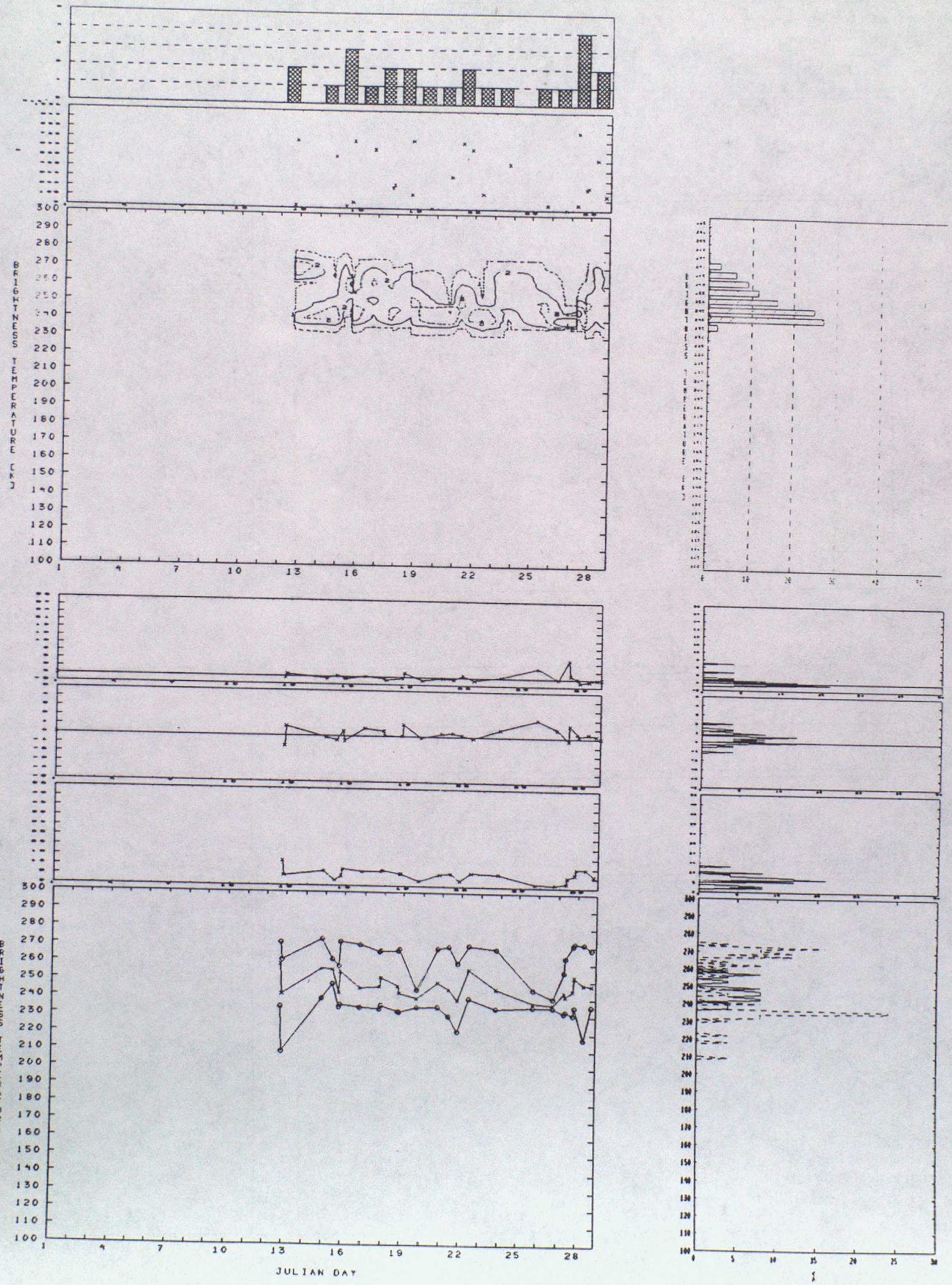
61. F10-WATER-37H, MAR: SUMMARY



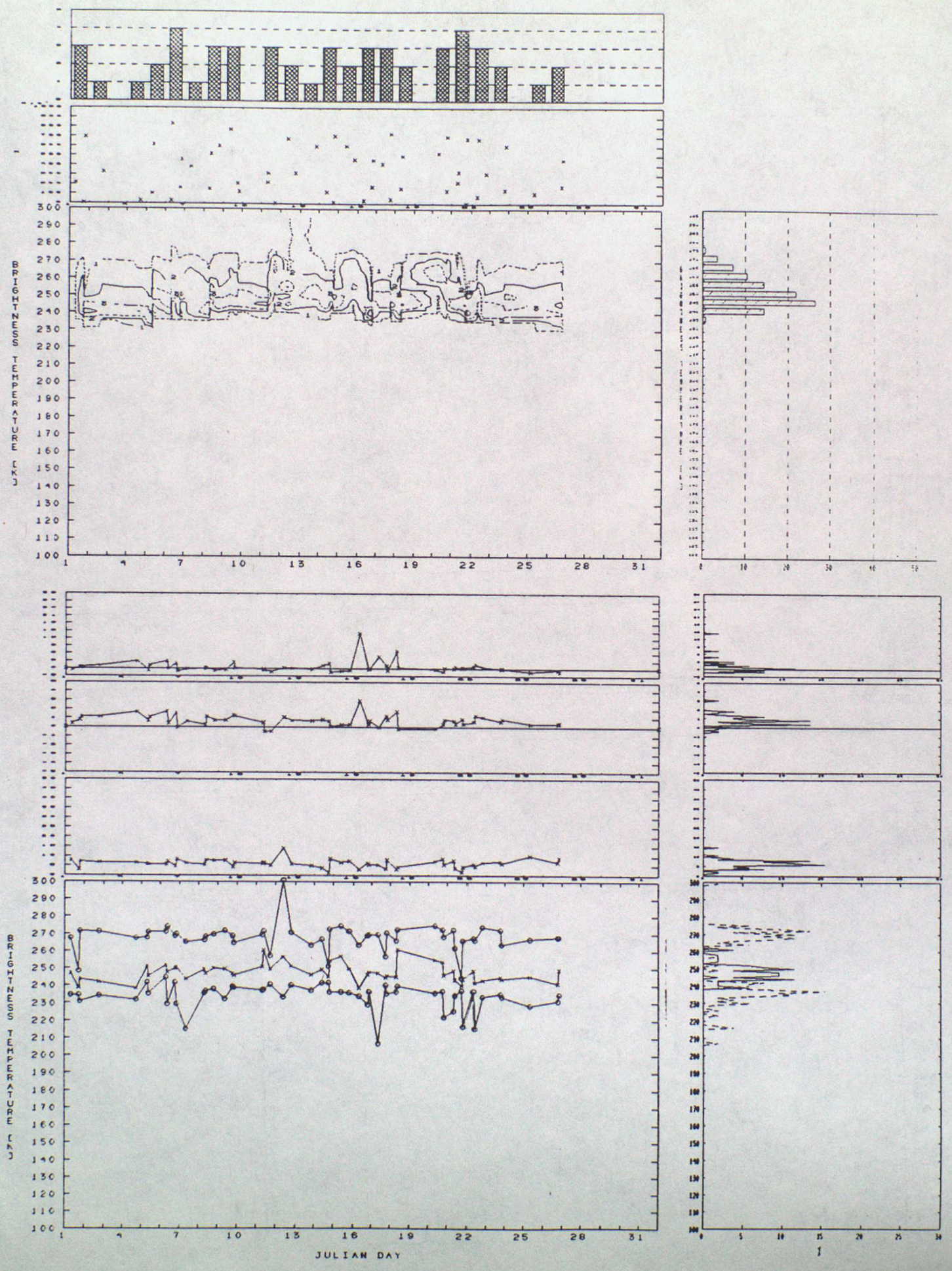
62. F10-WATER-37H, APR: SUMMARY+CUM



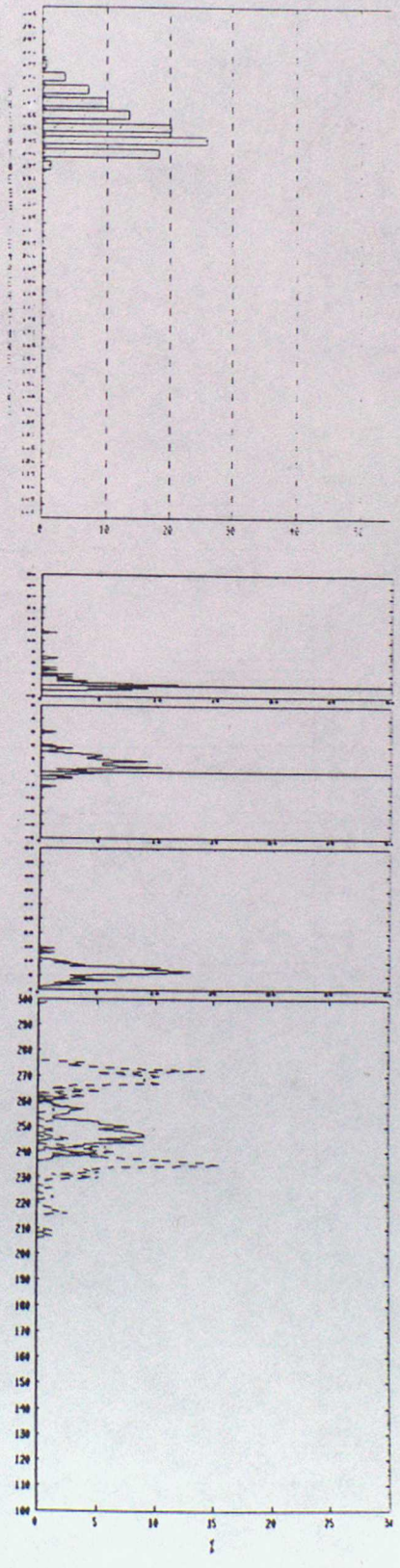
63. F10-WATER-85V, FEB: SUMMARY



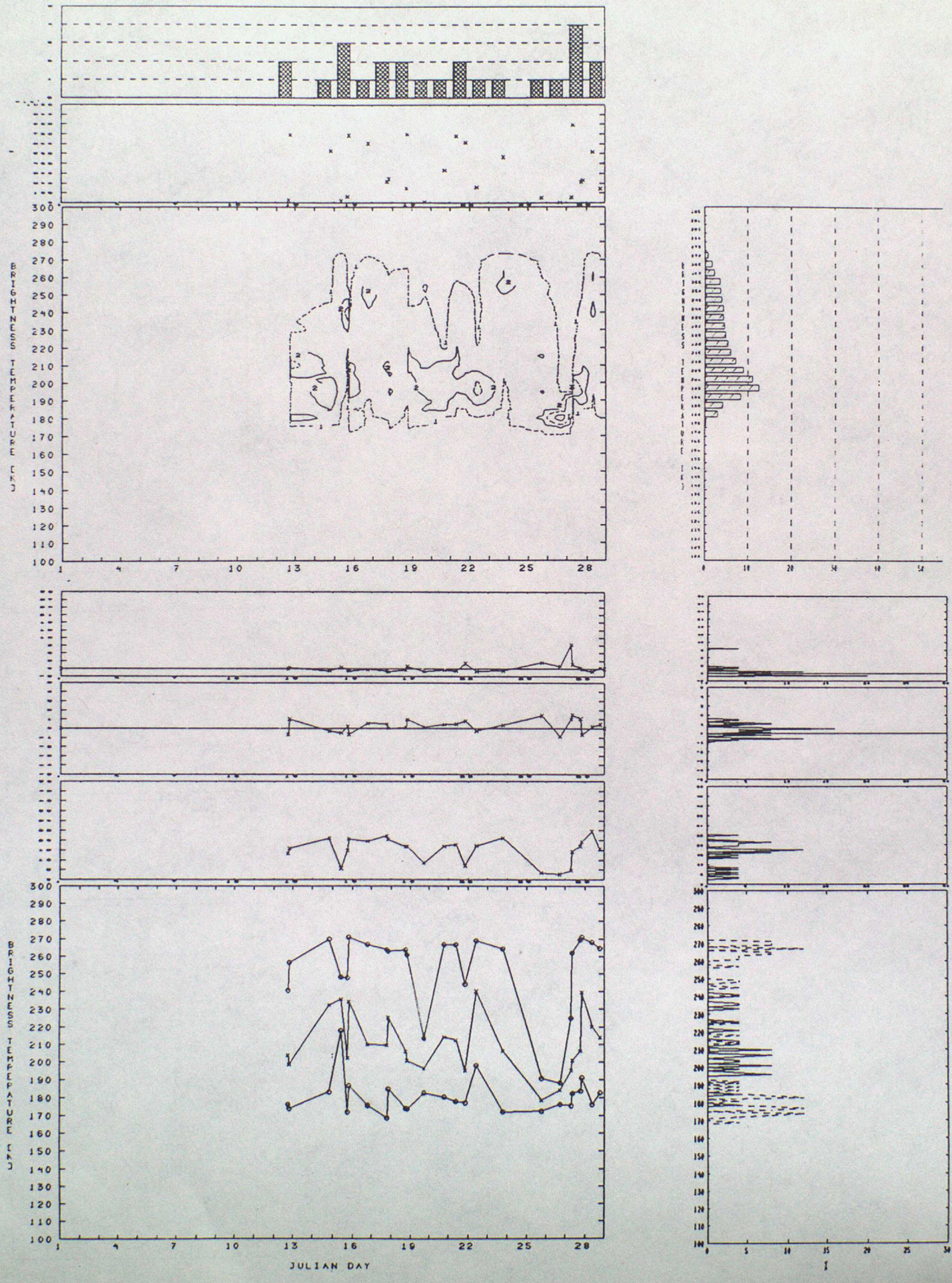
64. F10-WATER-85V, MAR: SUMMARY



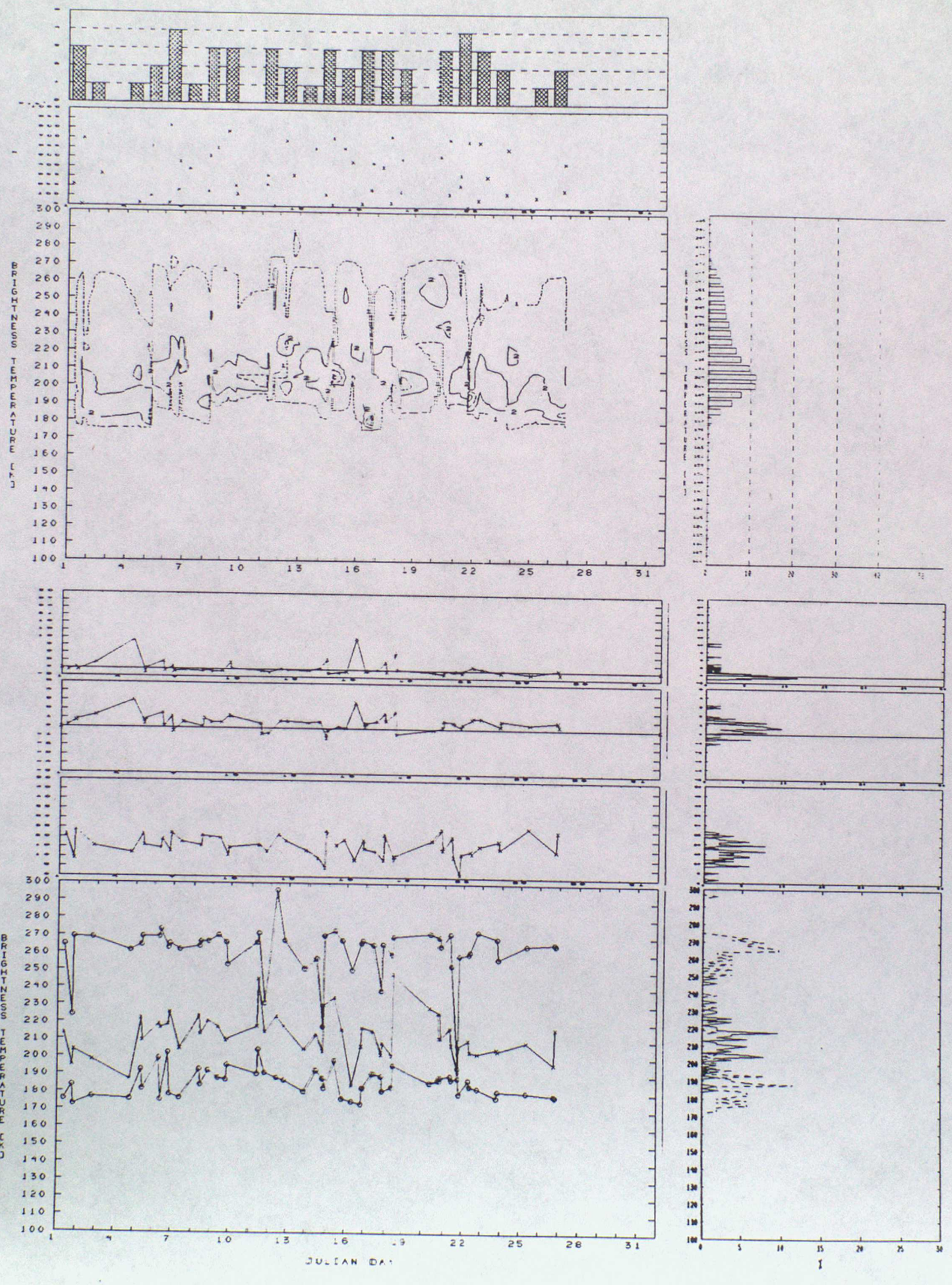
65. F10-WATER-85V, APR: SUMMARY+CUM



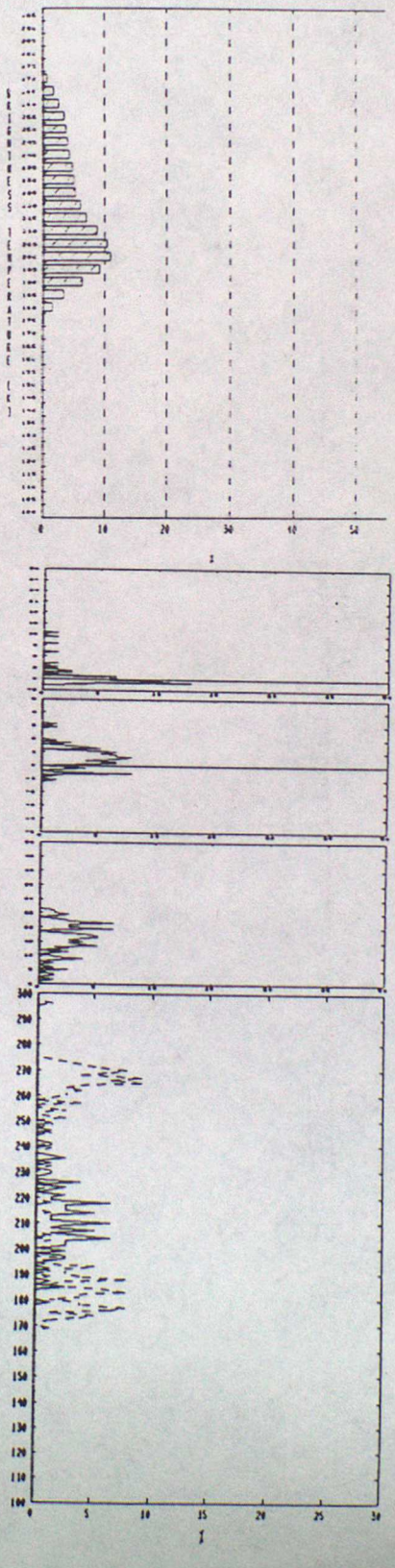
66. F10-WATER-85H, FEB: SUMMARY



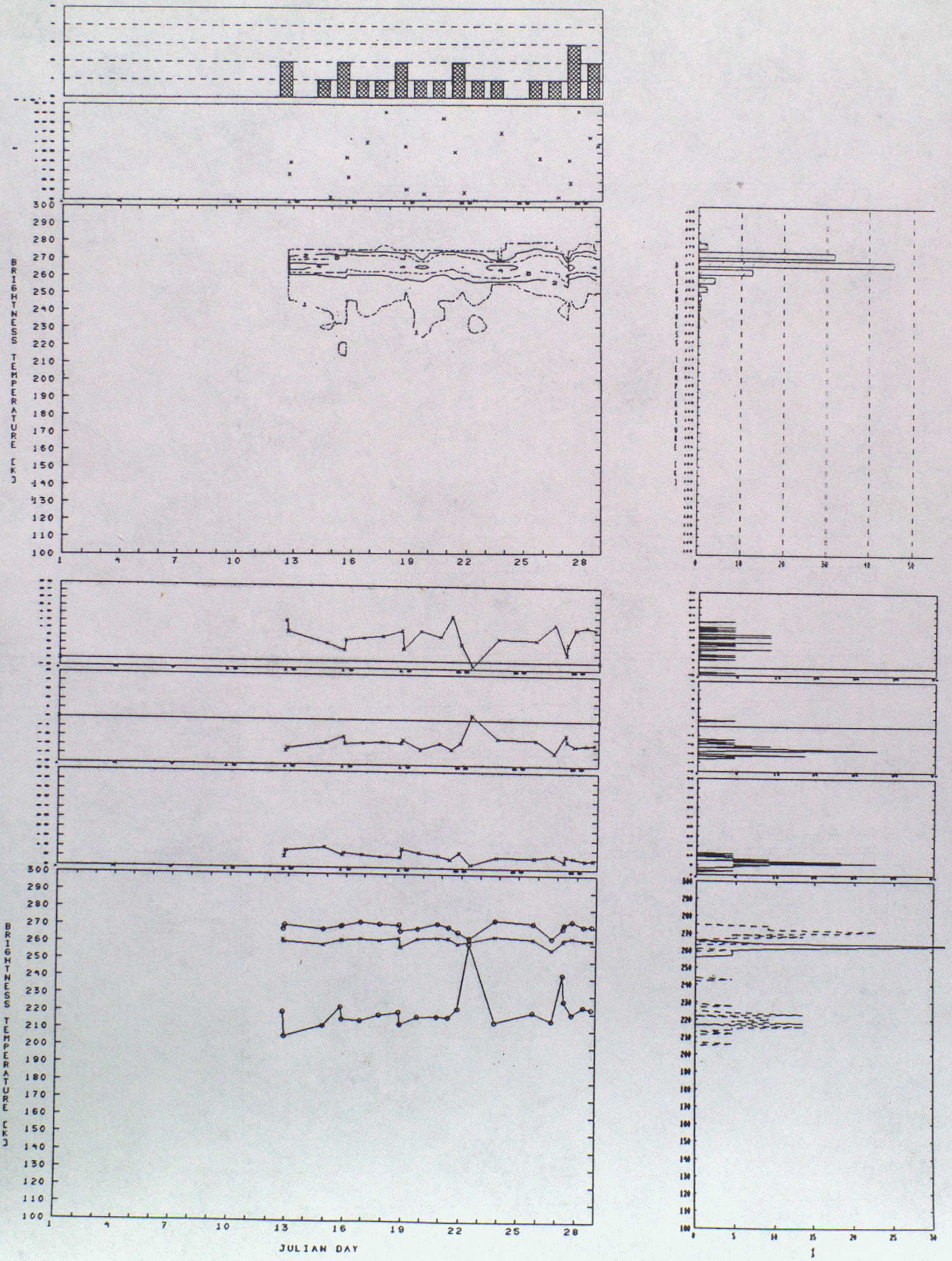
67. F10-WATER-85H, MAR: SUMMARY



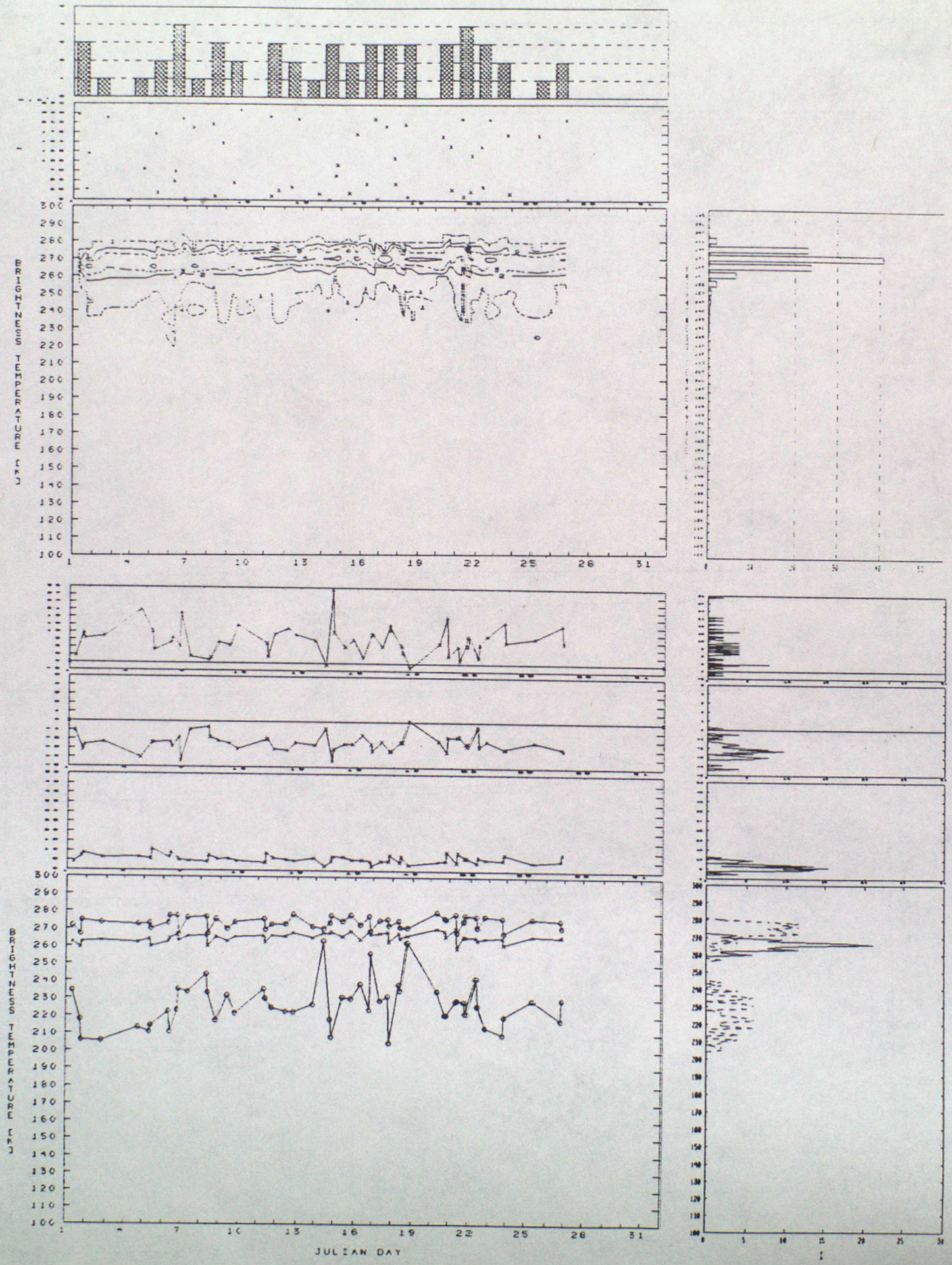
68. F10-WATER-85H, APR: SUMMARY+CUM



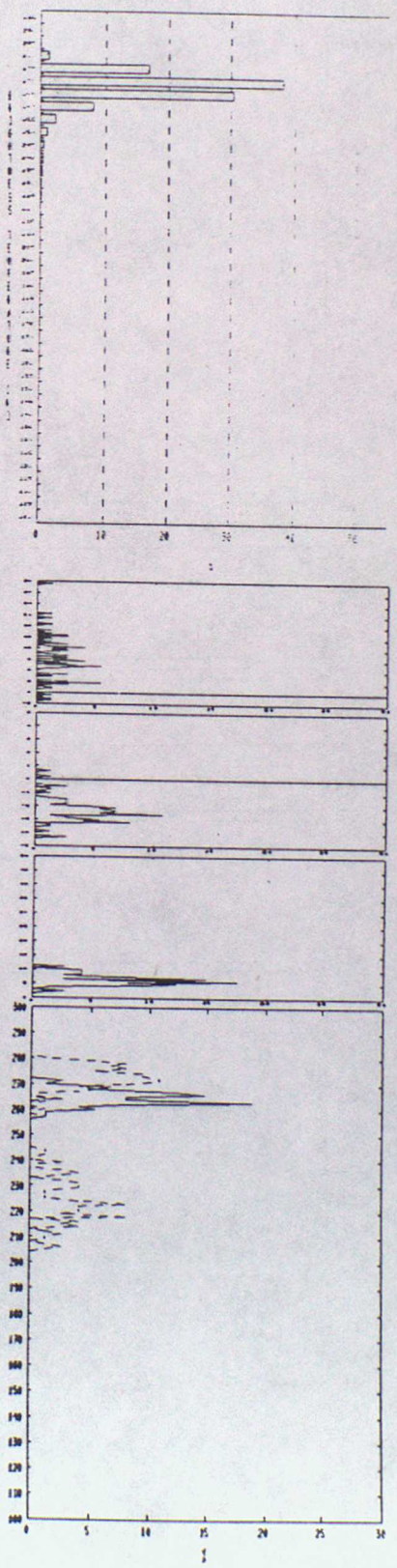
69. F10-LAND-19V, FEB: SUMMARY



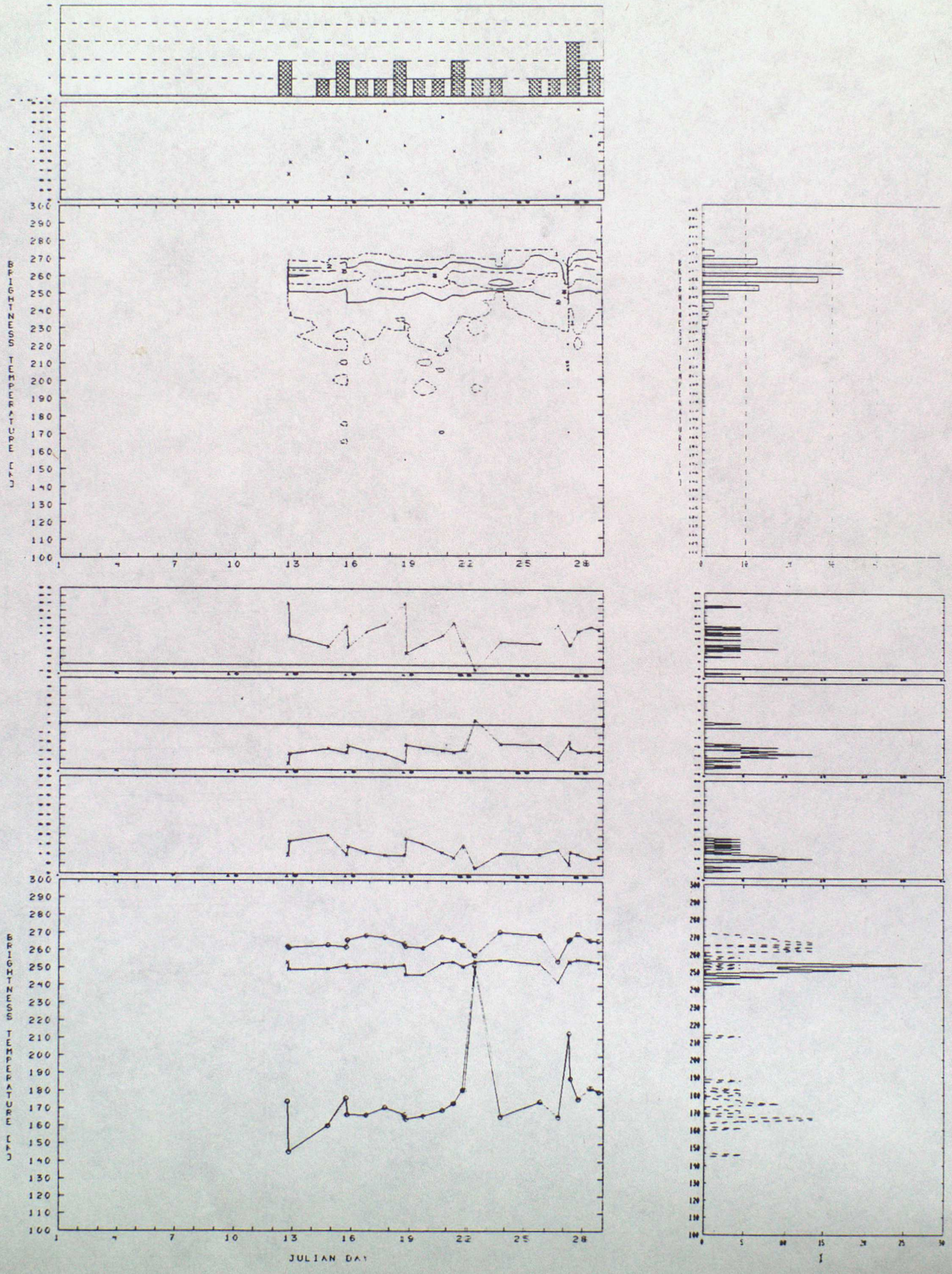
70. F10-LAND-19V, MAR: SUMMARY



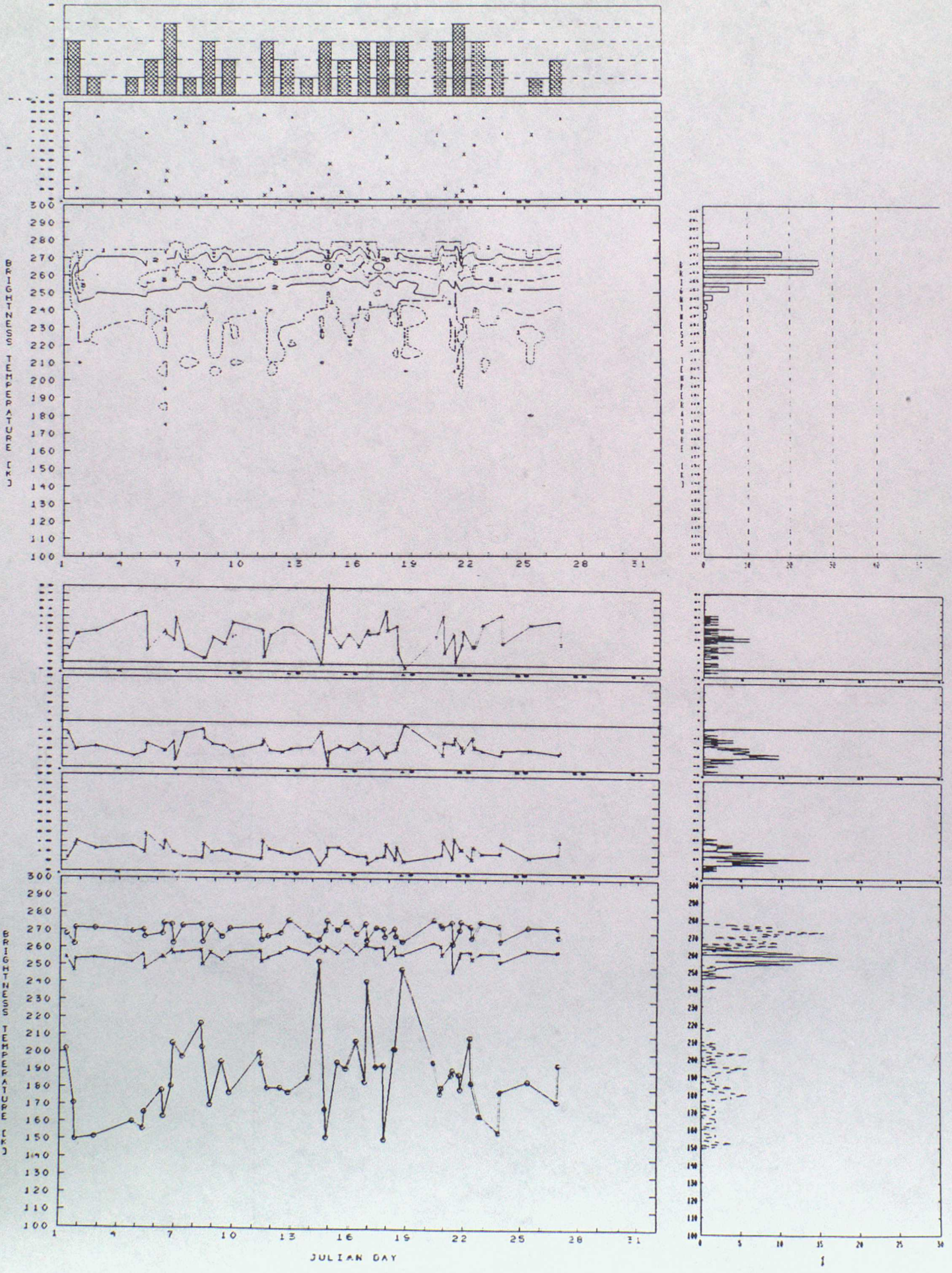
71. F10-LAND-19V, APR: SUMMARY+CUM



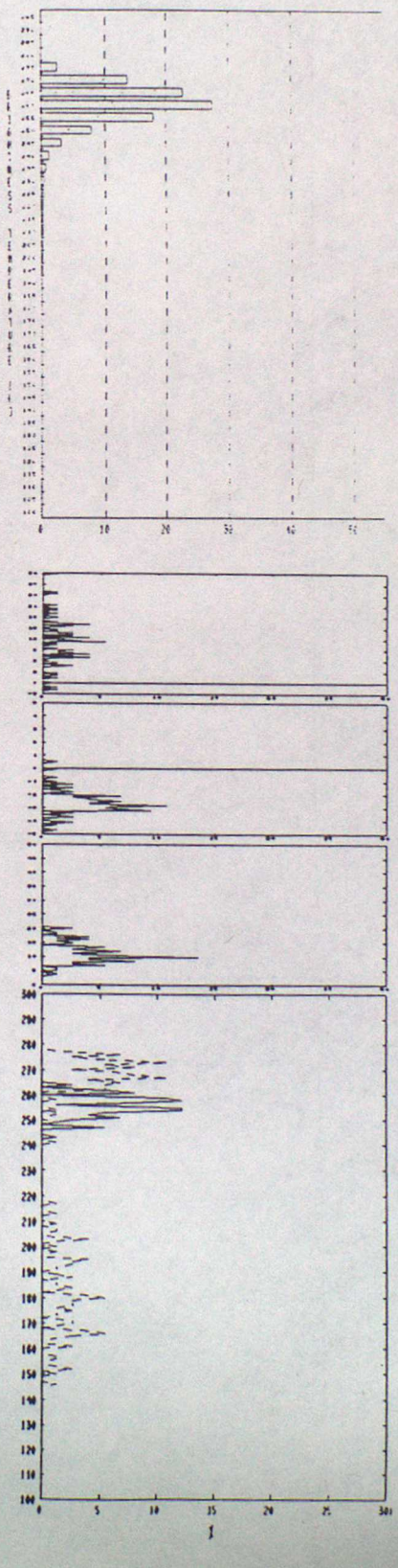
72. F10-LAND-19H, FEB: SUMMARY



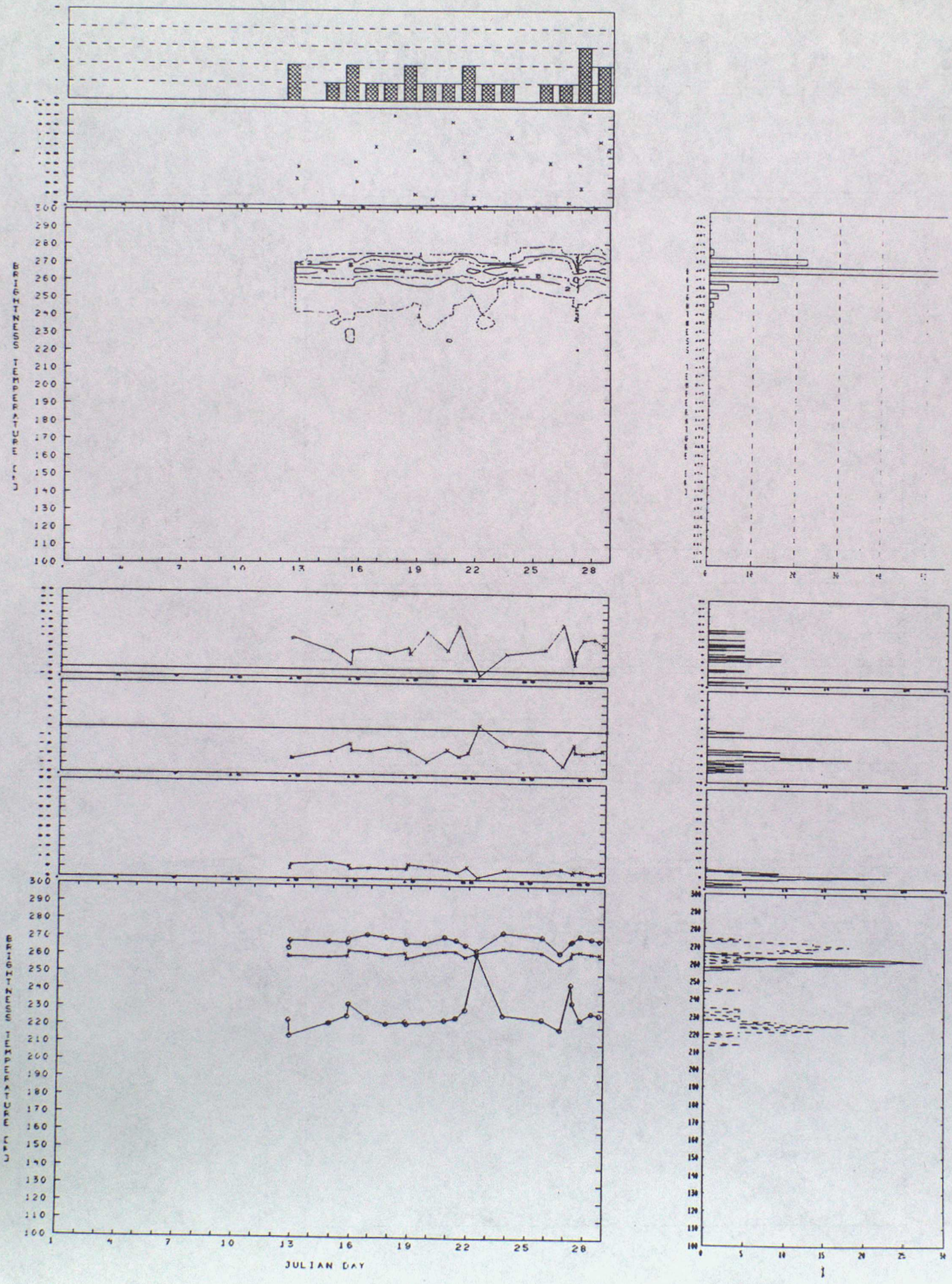
73. F10-LAND-19H, MAR: SUMMARY



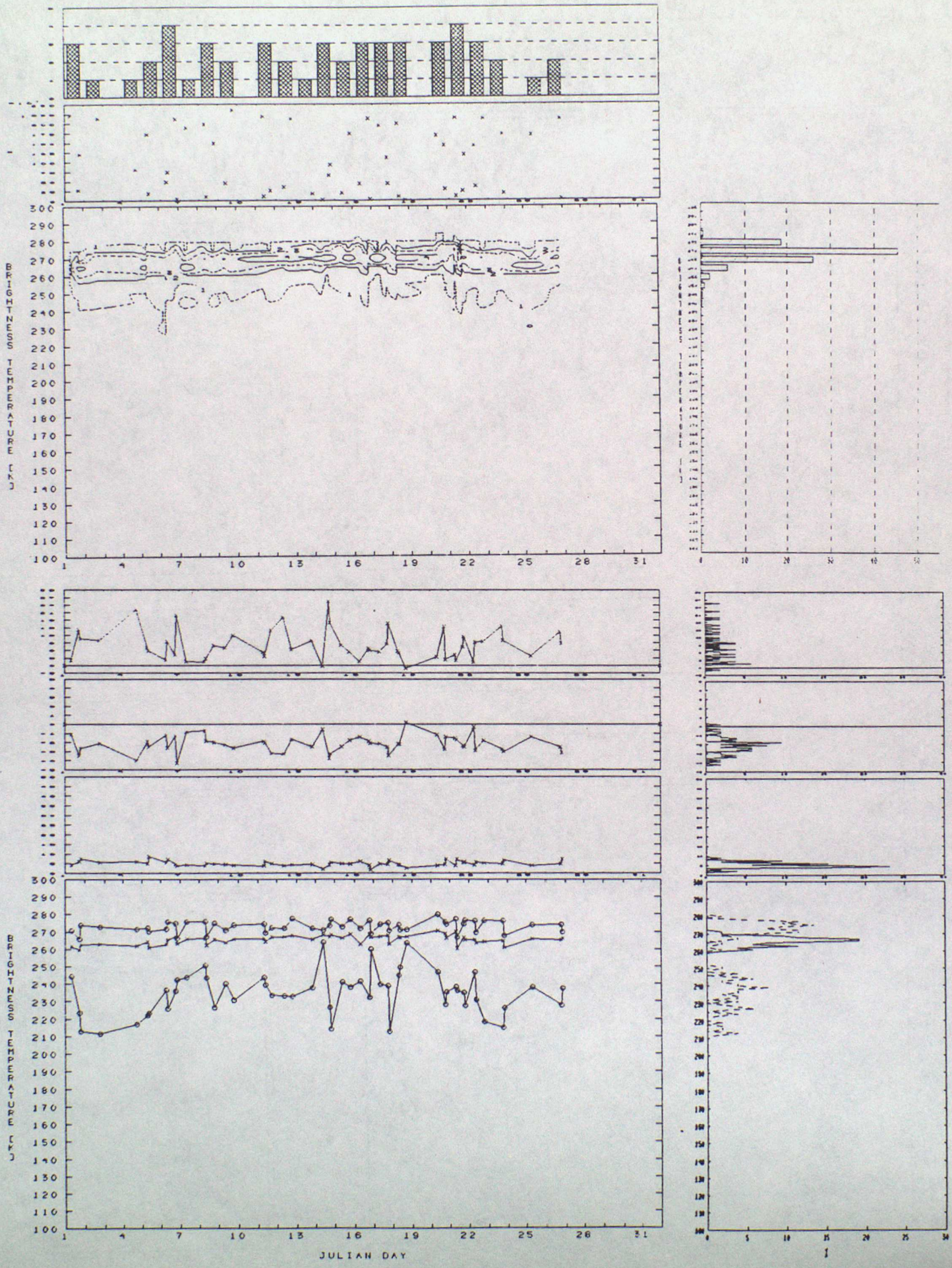
74. F10-LAND-19H, APR: SUMMARY+CUM



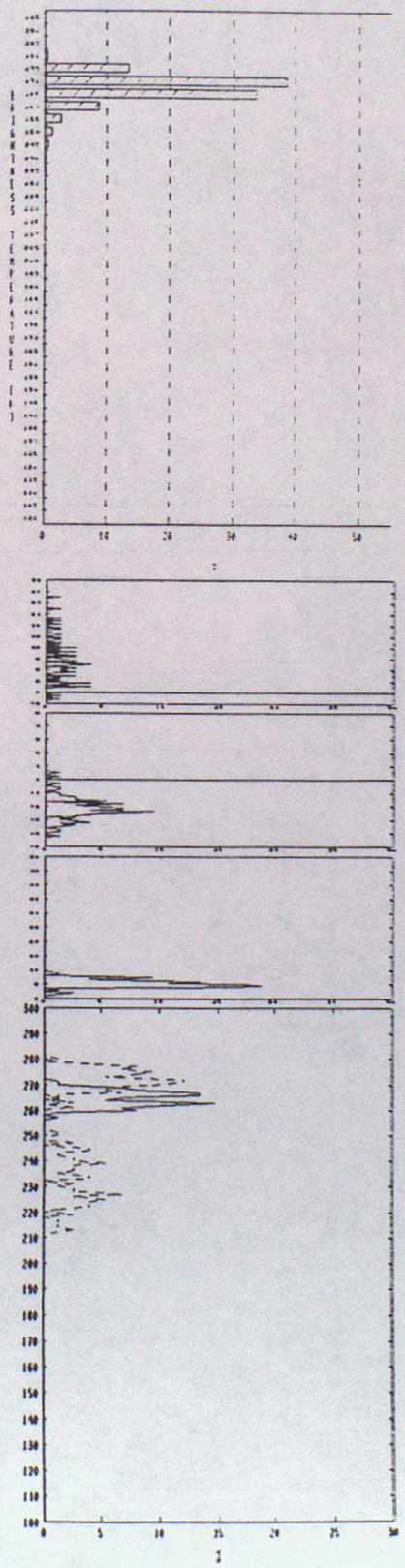
75. F10-LAND-22V, FEB: SUMMARY



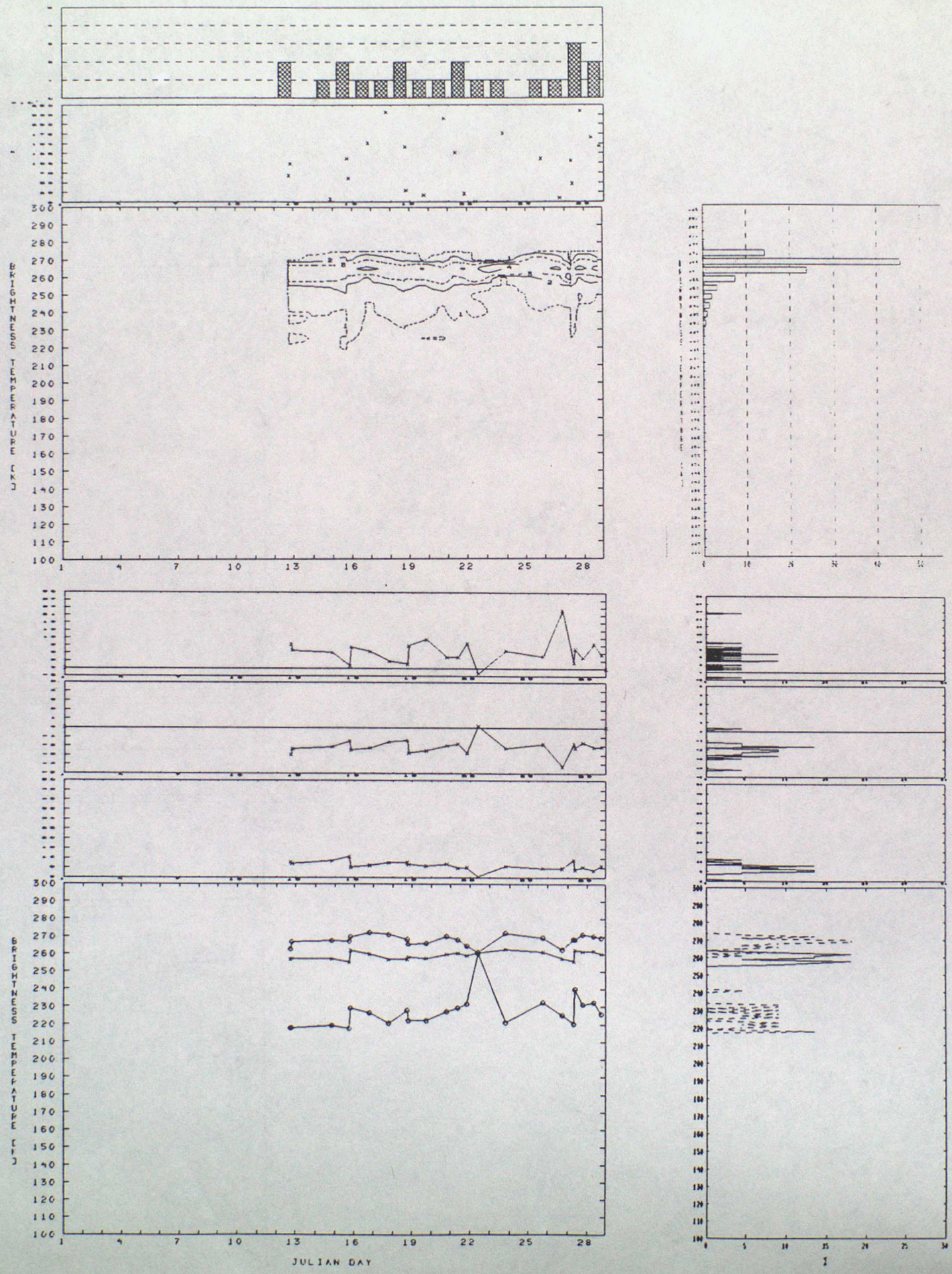
76. F10-LAND-22V, MAR: SUMMARY



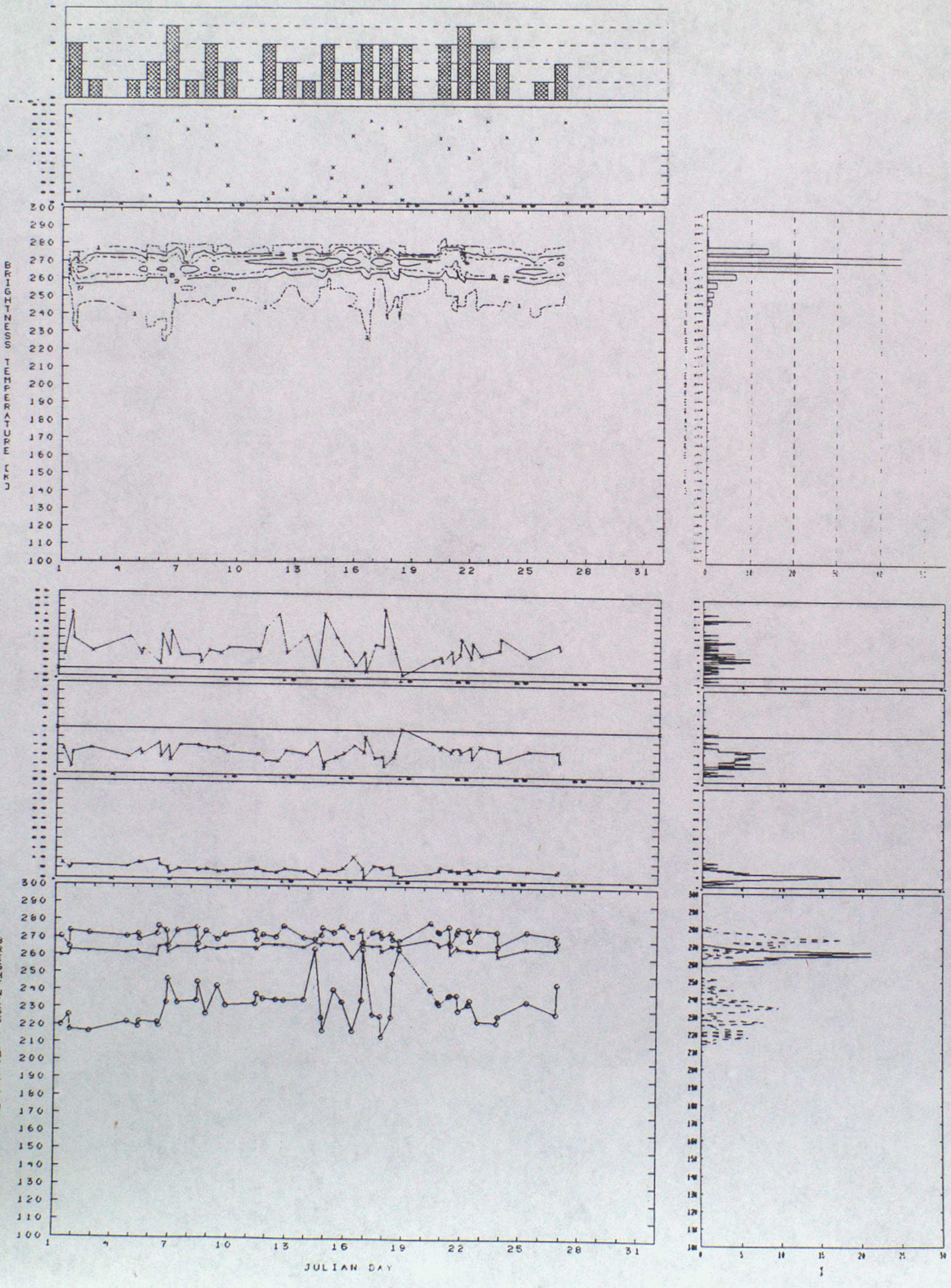
77. F10-LAND-22V, APR: SUMMARY+CUM



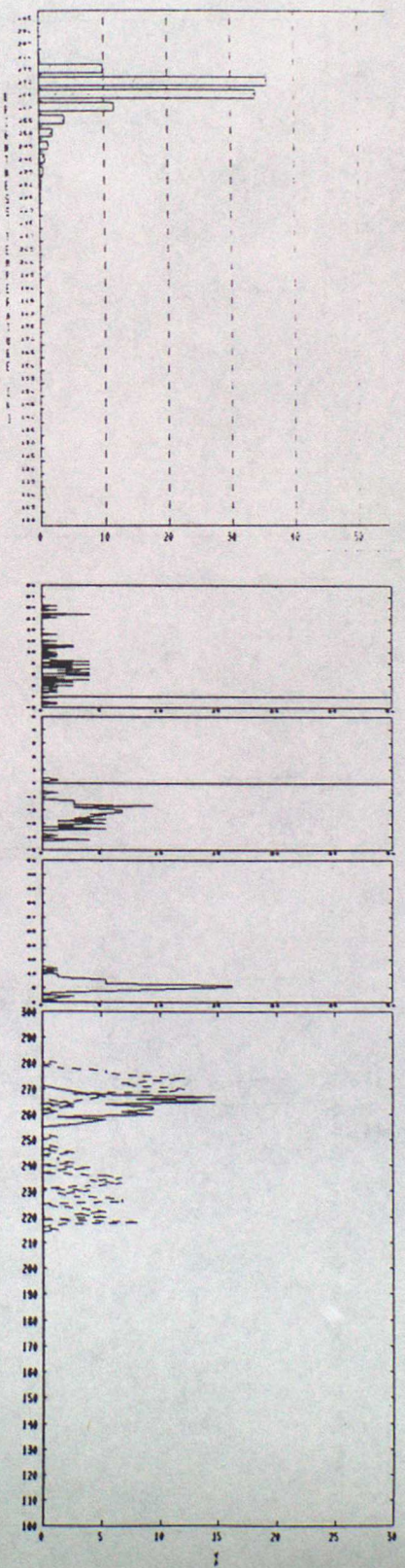
78. F10-LAND-37V, FEB: SUMMARY



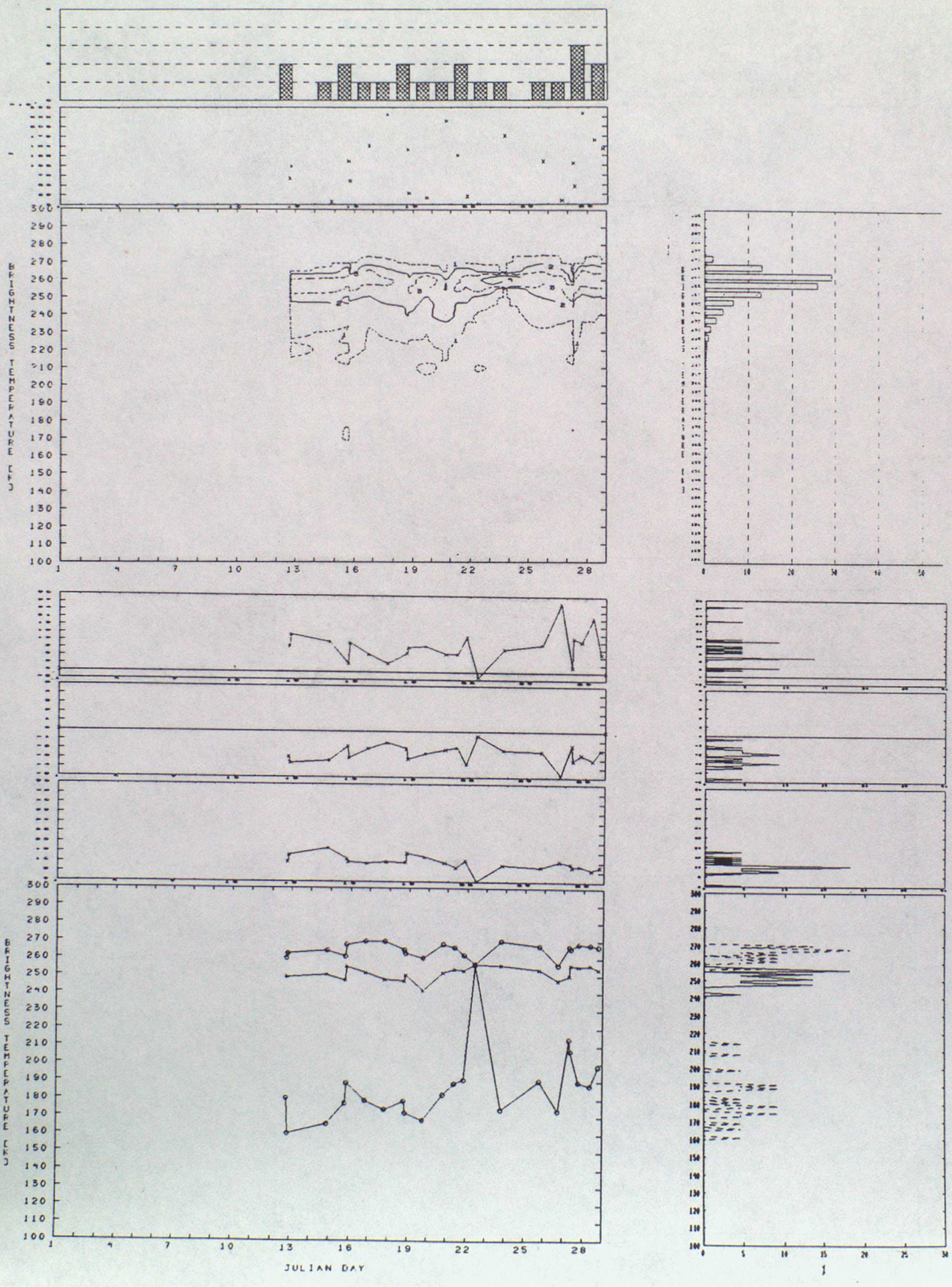
79. F10-LAND-37V, MAR: SUMMARY



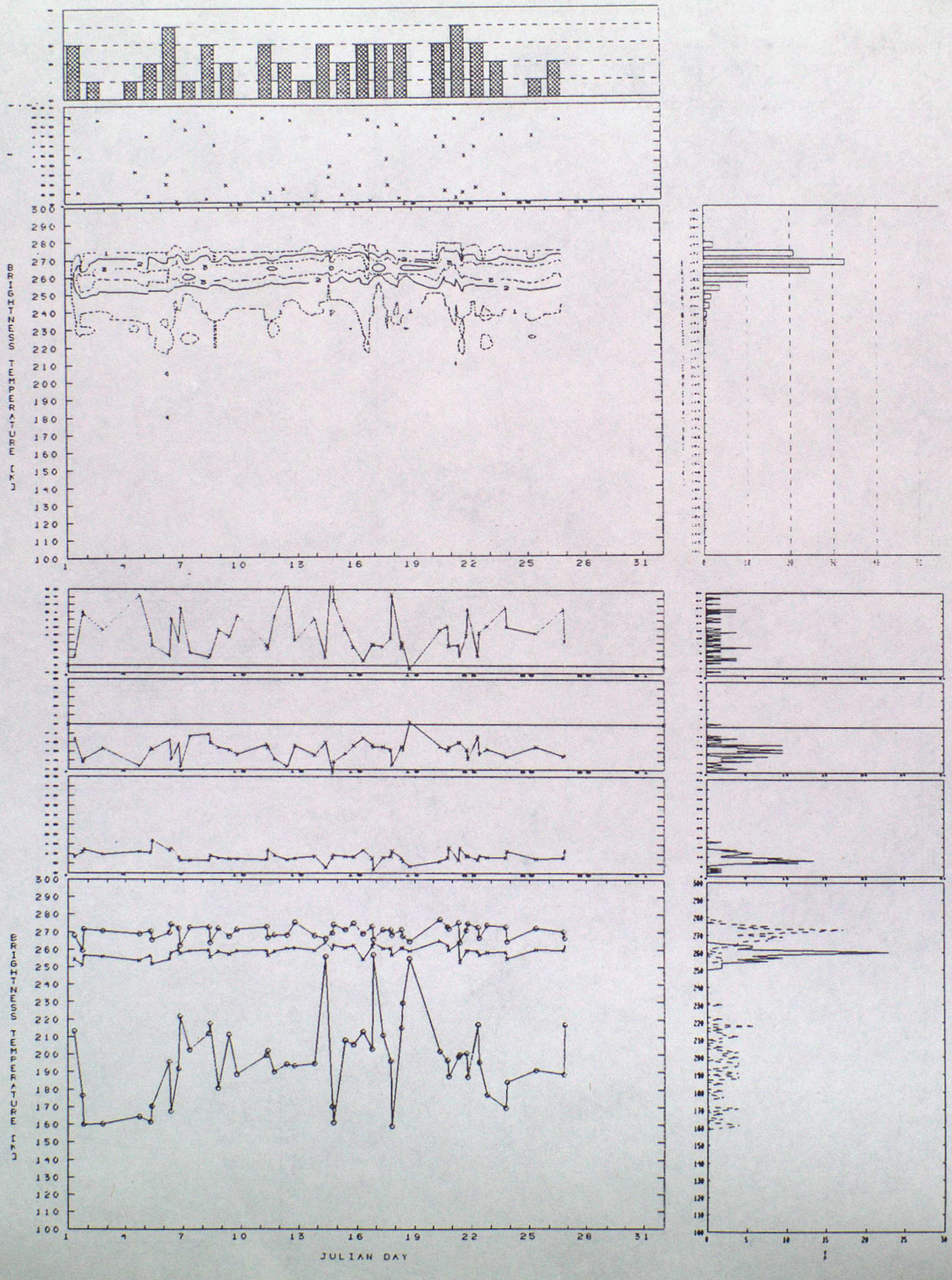
80. F10-LAND-37V, APR: SUMMARY+CUM



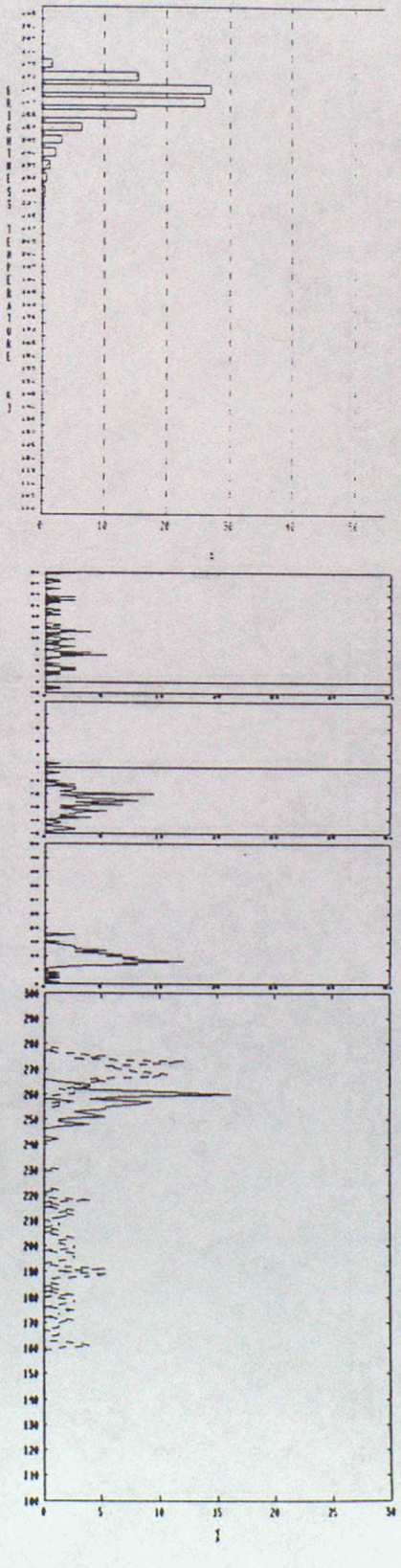
81. F10-LAND-37H, FEB: SUMMARY



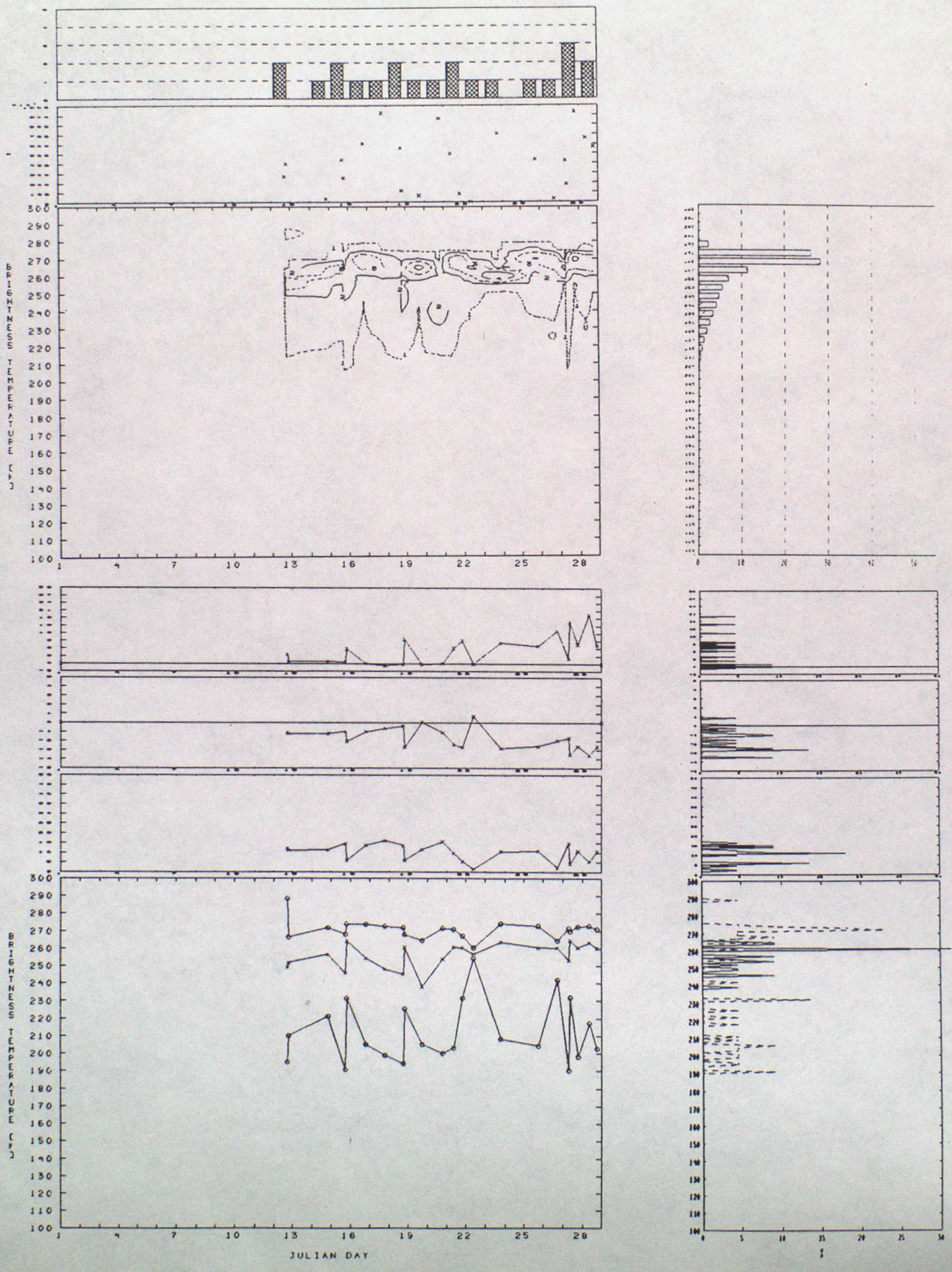
82. F10-LAND-37H, MAR: SUMMARY



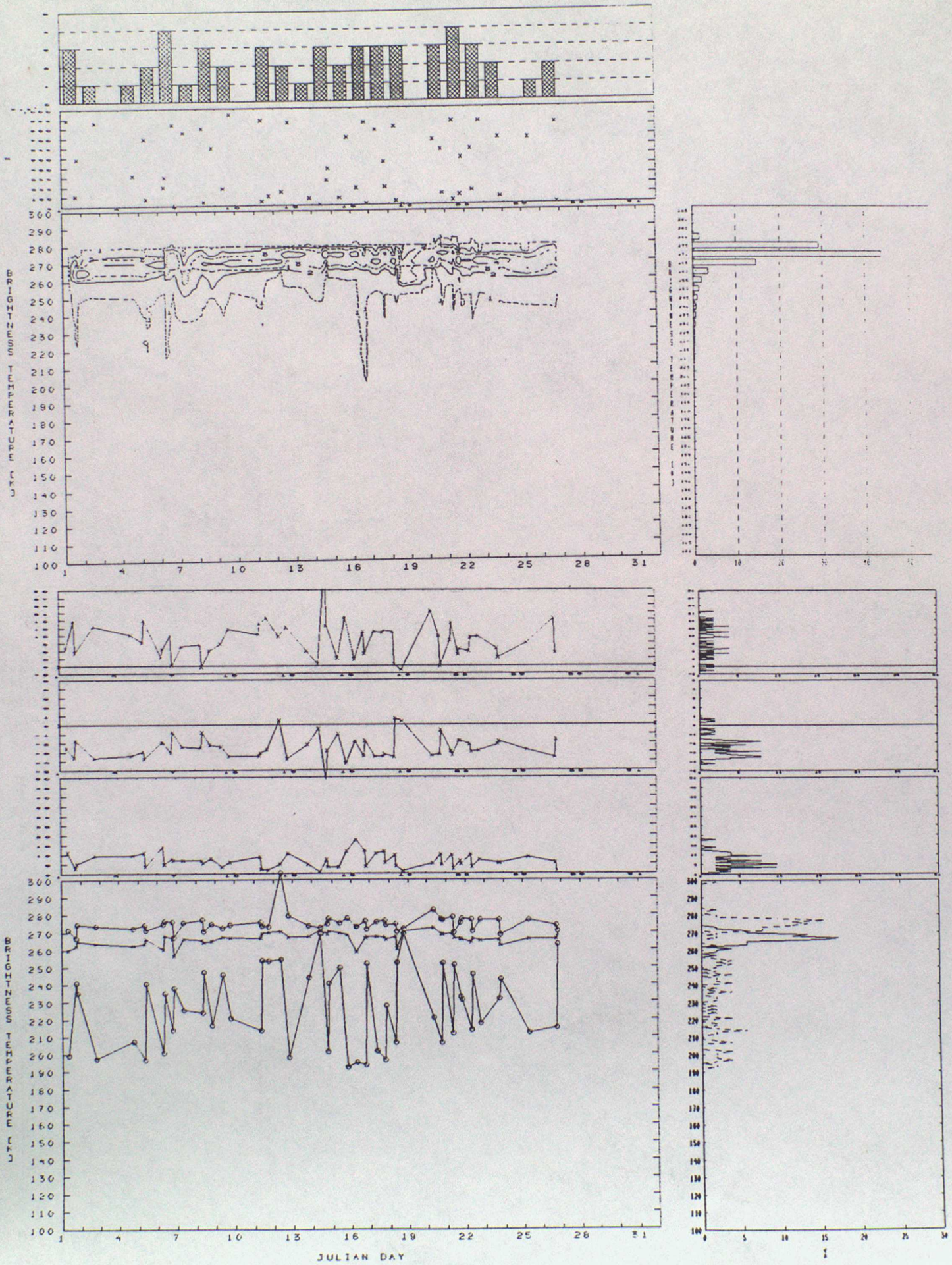
83. F10-LAND-37H, APR: SUMMARY+CUM



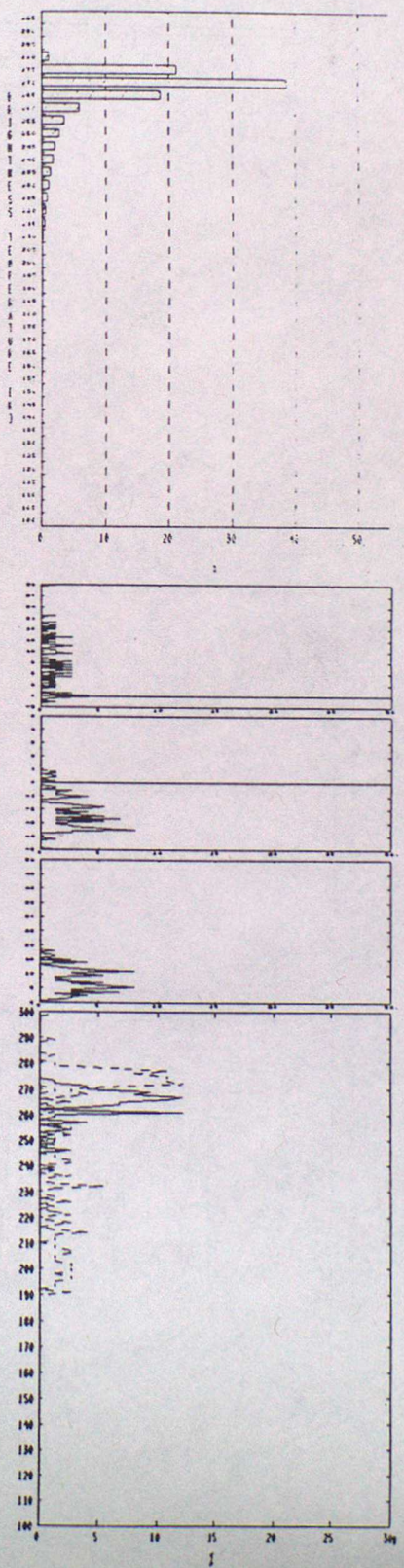
84. F10-LAND-85V, FEB: SUMMARY



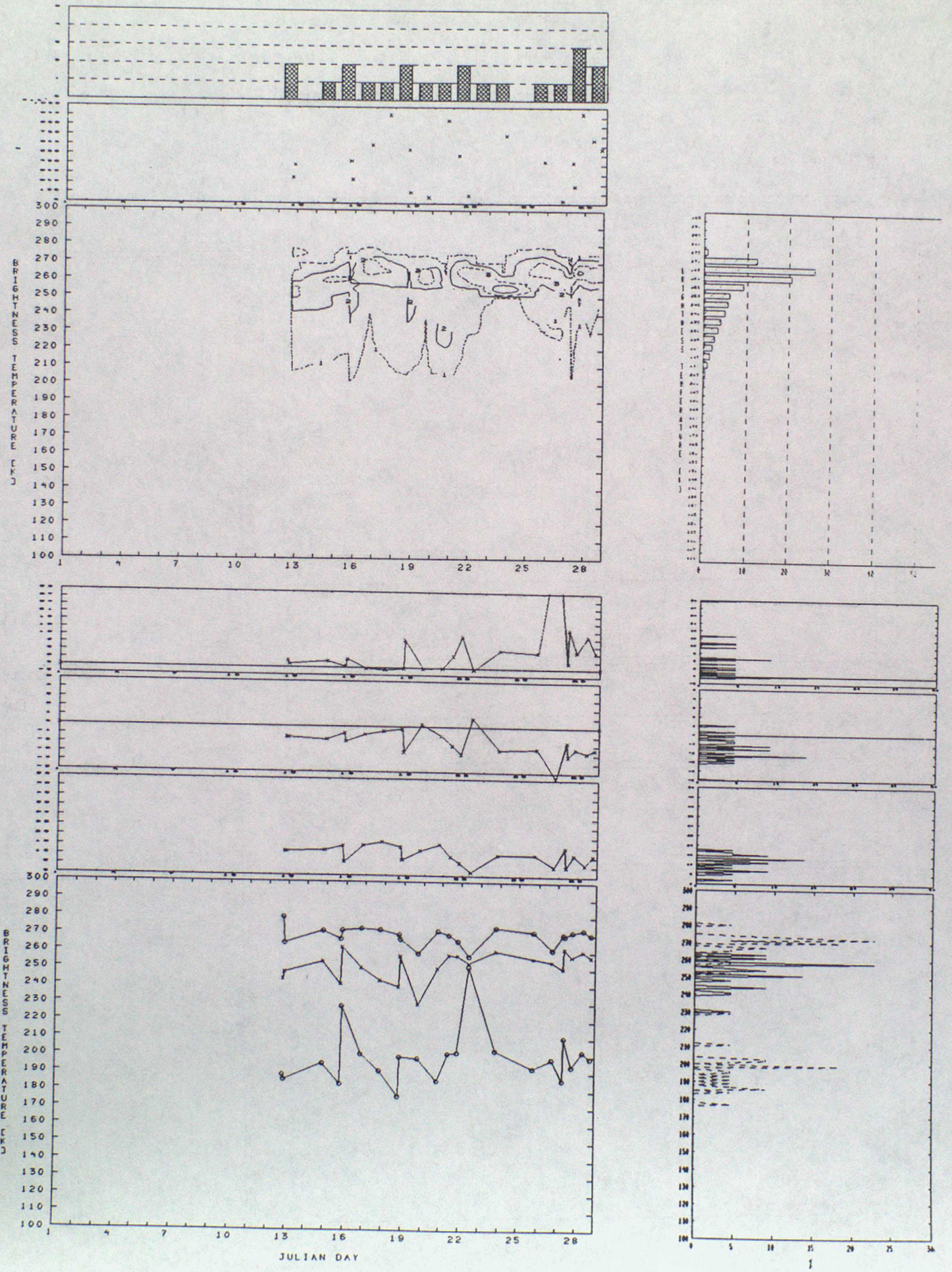
85. F10-LAND-85V, MAR: SUMMARY



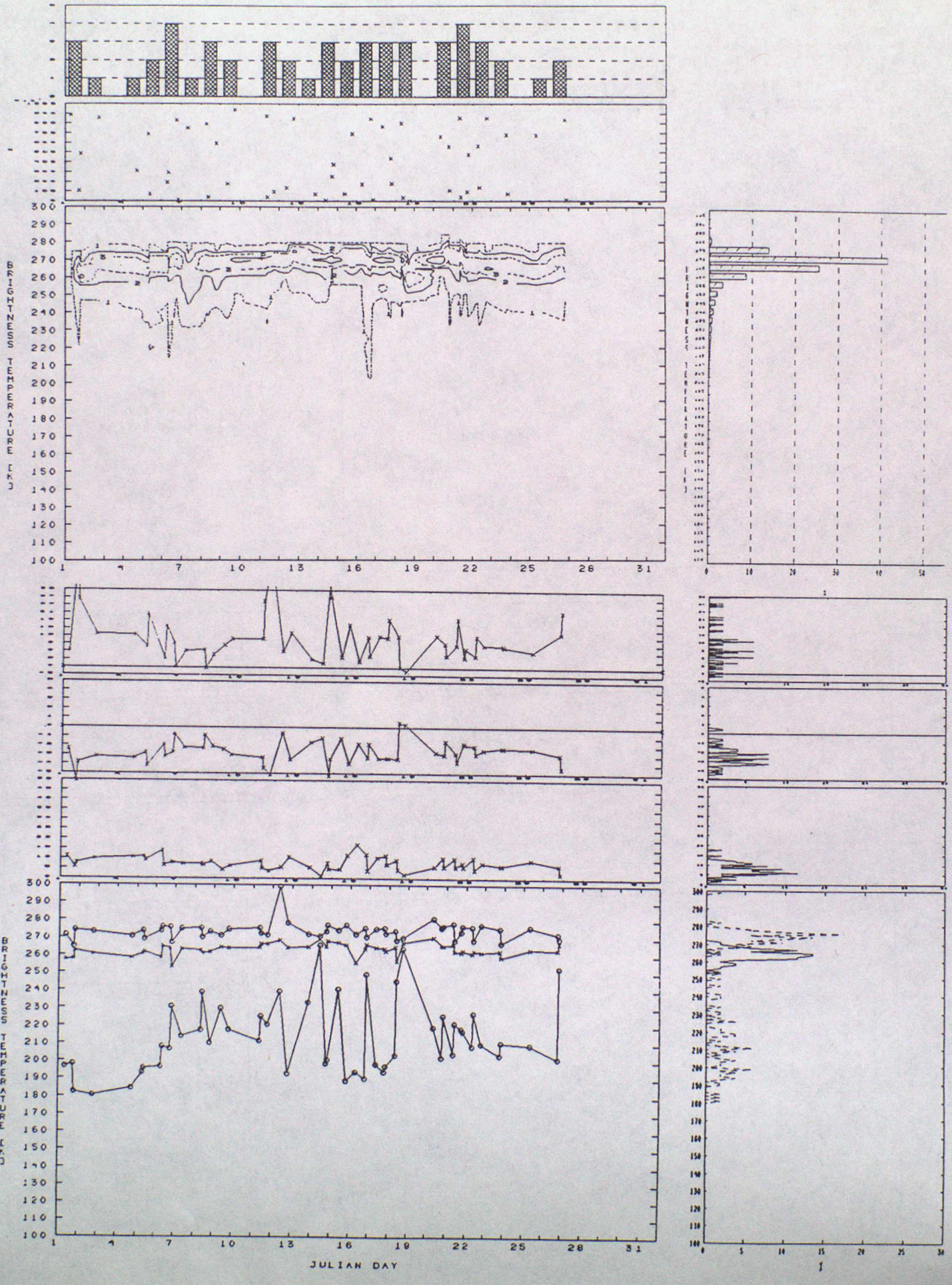
86. F10-LAND-85V, APR: SUMMARY+CUM



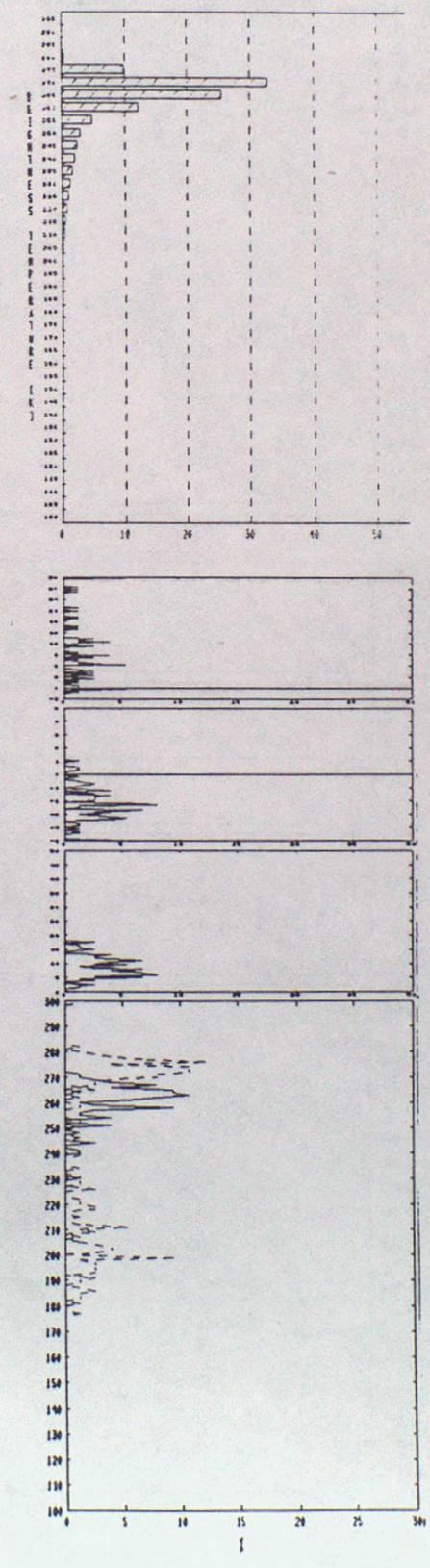
87. F10-LAND-85H, FEB: SUMMARY



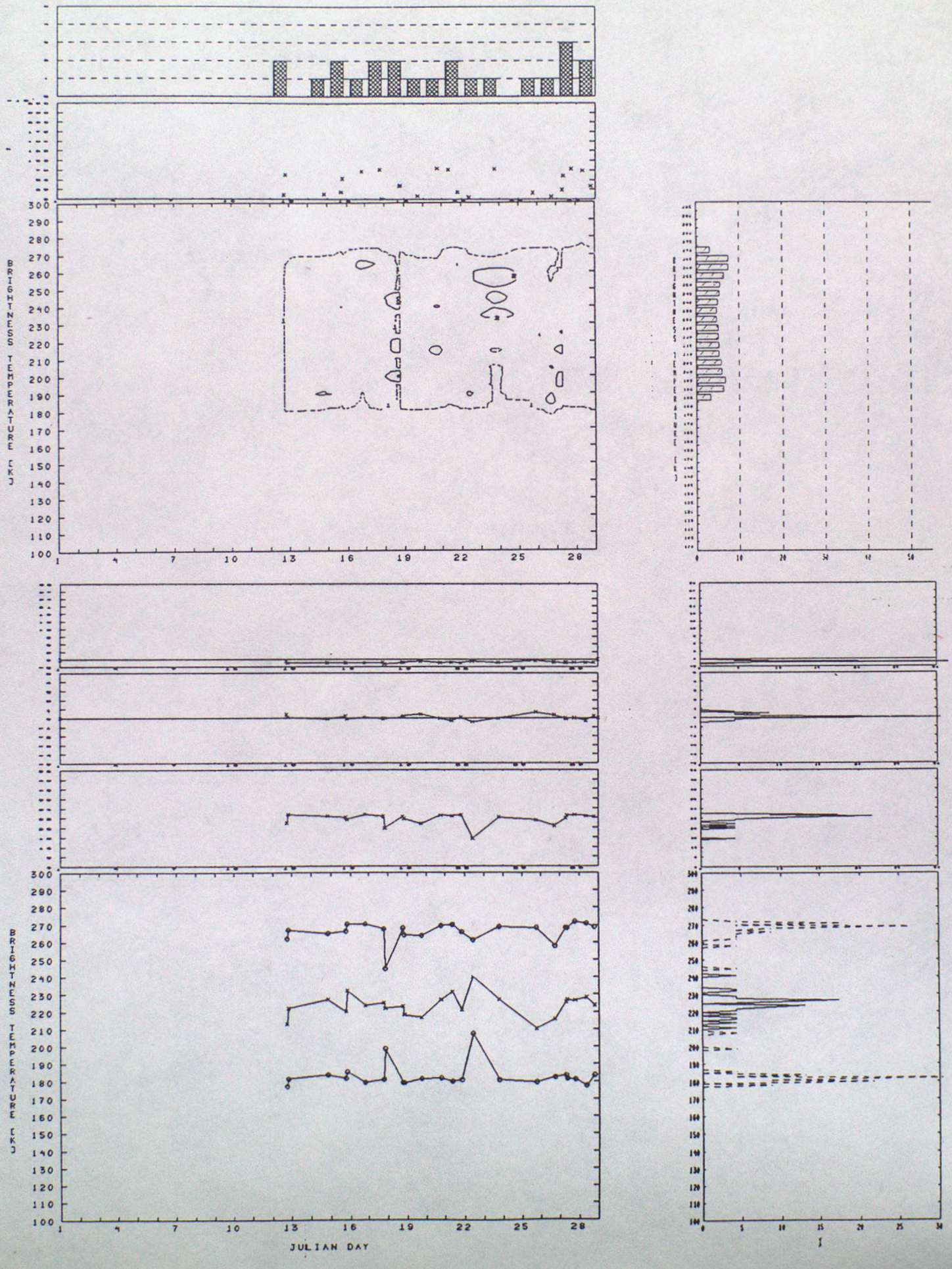
88. F10-LAND-85H, MAR: SUMMARY



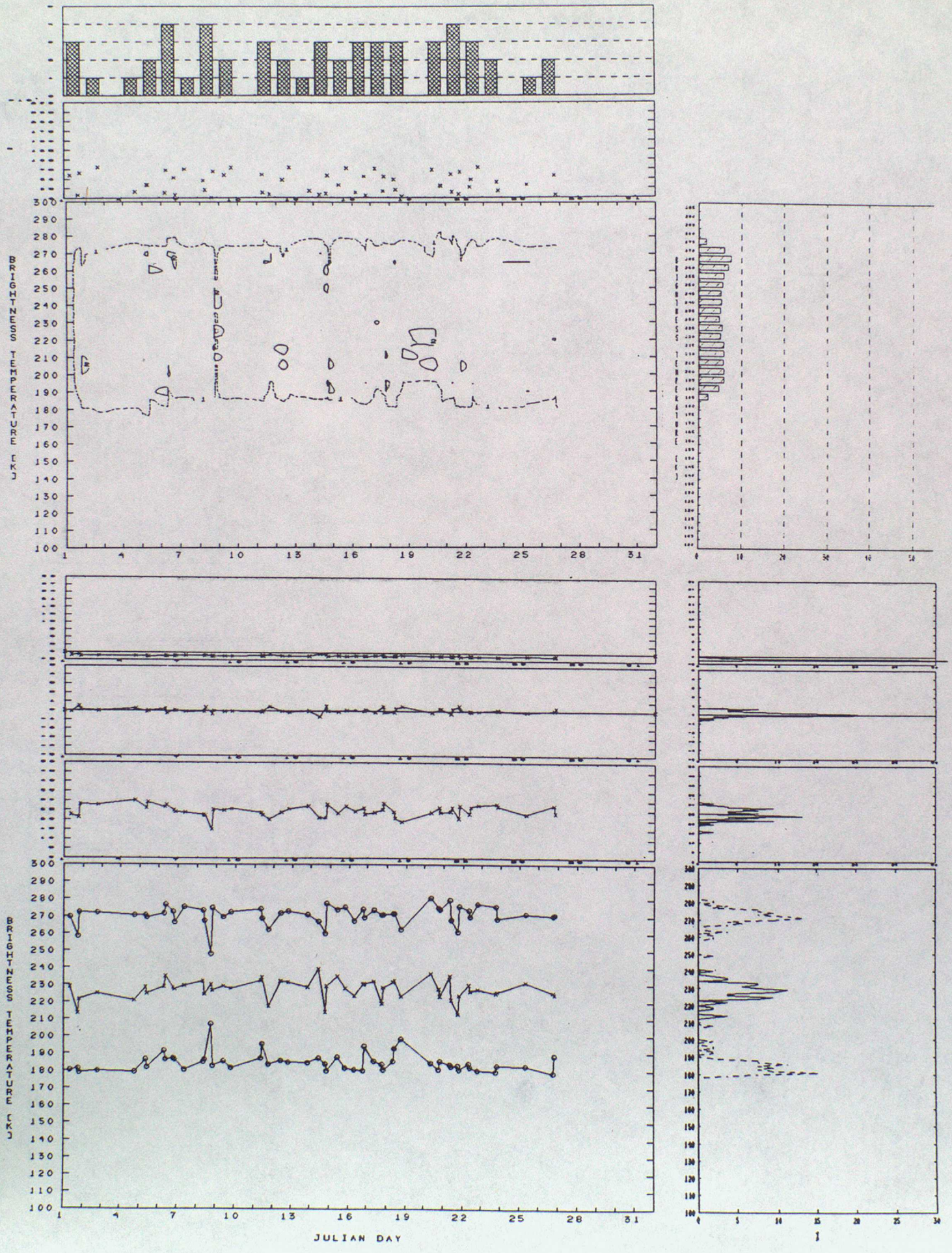
89. F10-LAND-85H, APR: SUMMARY+CUM



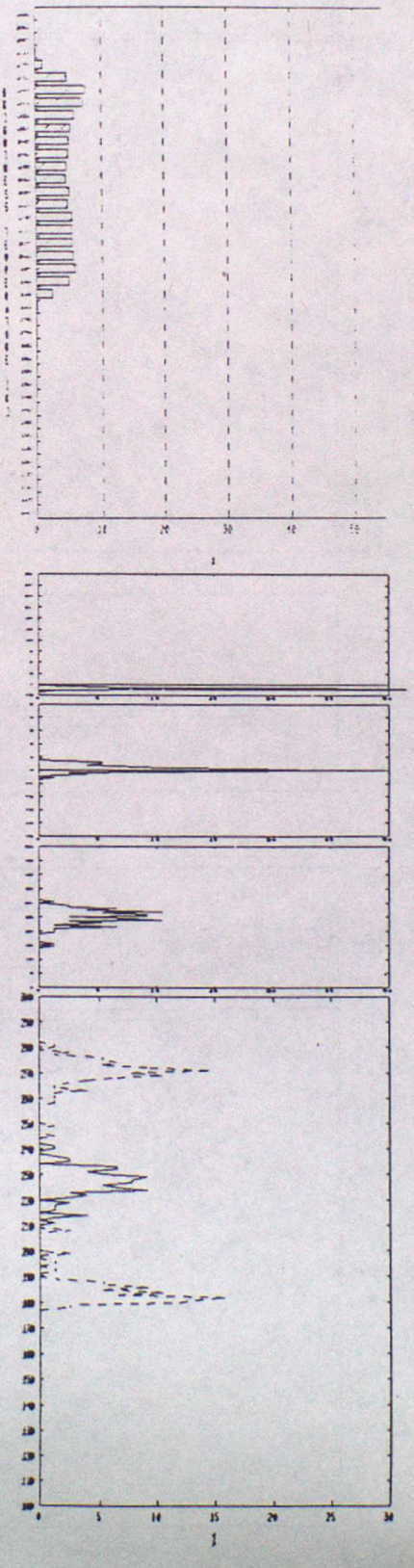
90. F10-COAST-19V, FEB: SUMMARY



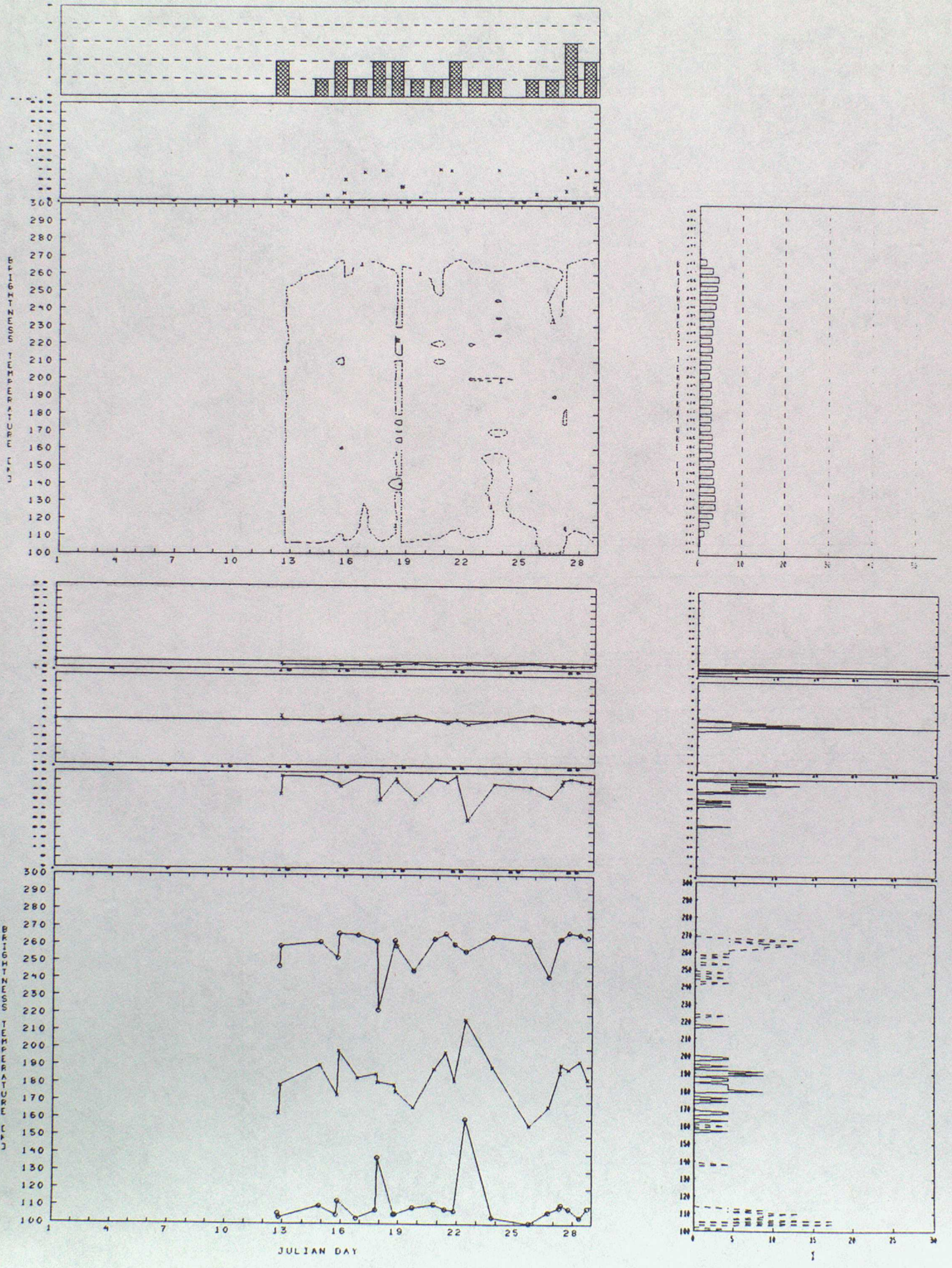
91. F10-COAST-19V, MAR: SUMMARY



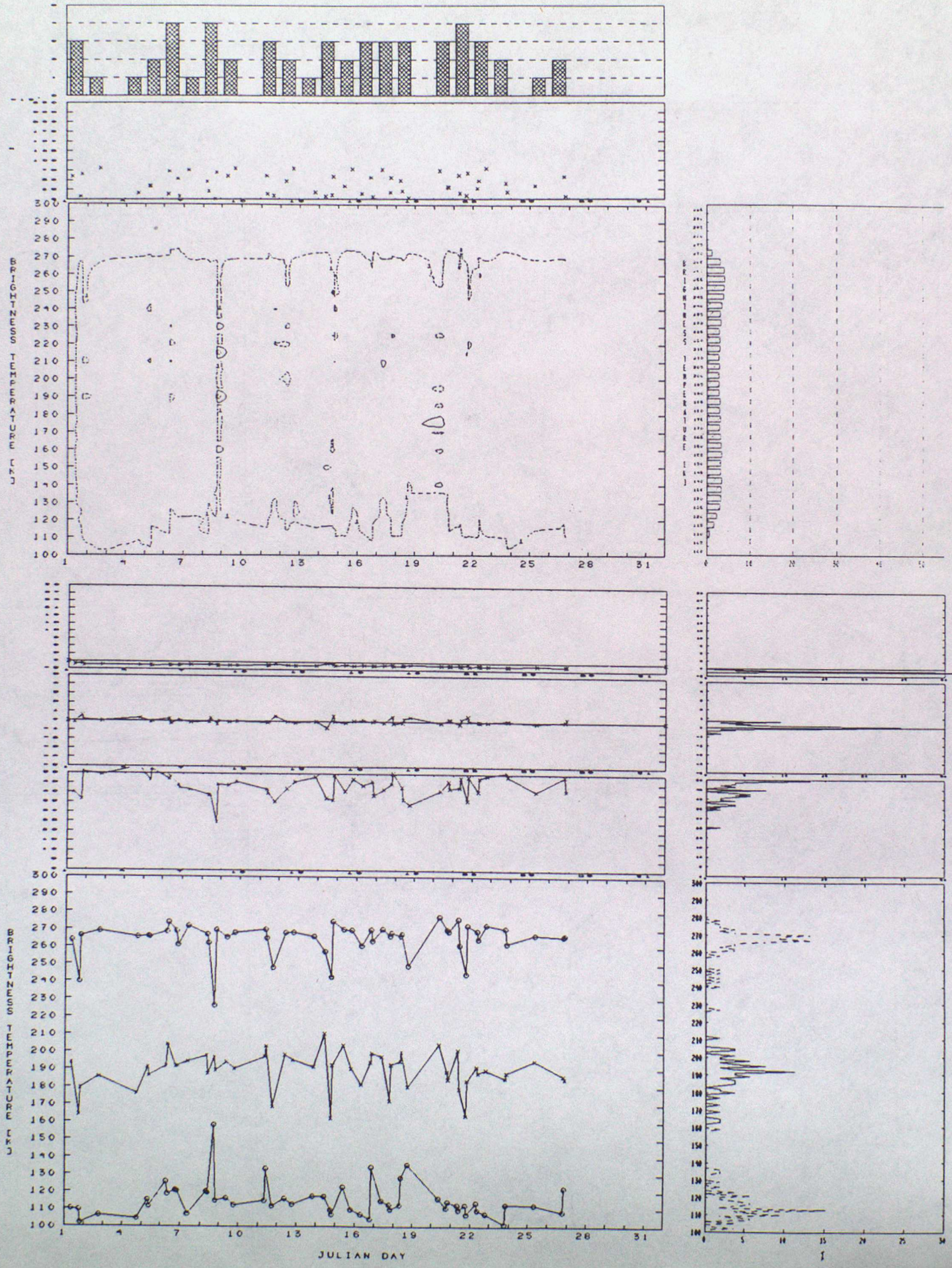
92. F10-COAST-19V, APR: SUMMARY+CUM



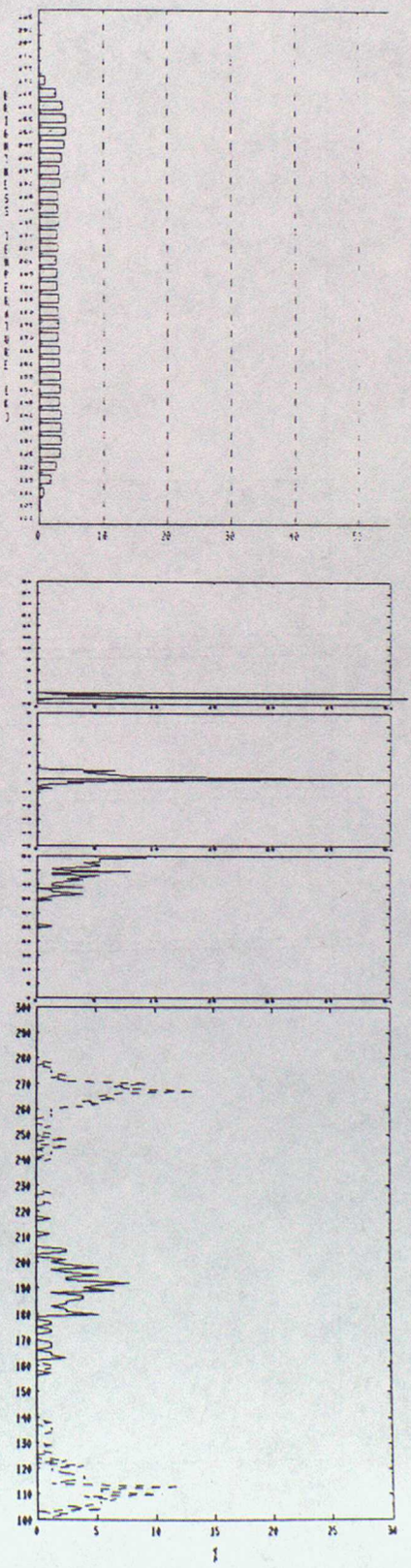
93. F10-COAST-19H, FEB: SUMMARY



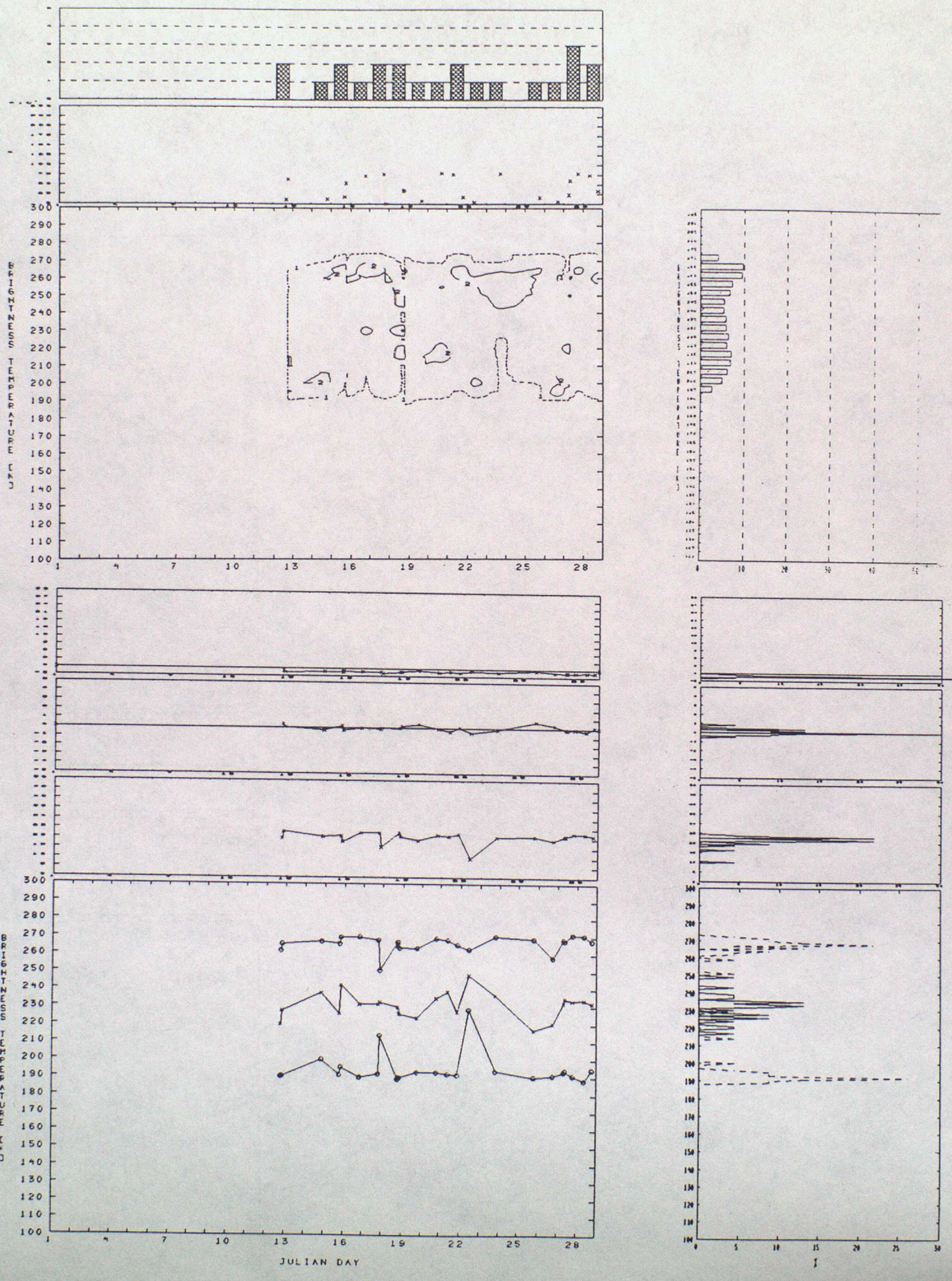
94. F10-COAST-19H, MAR: SUMMARY



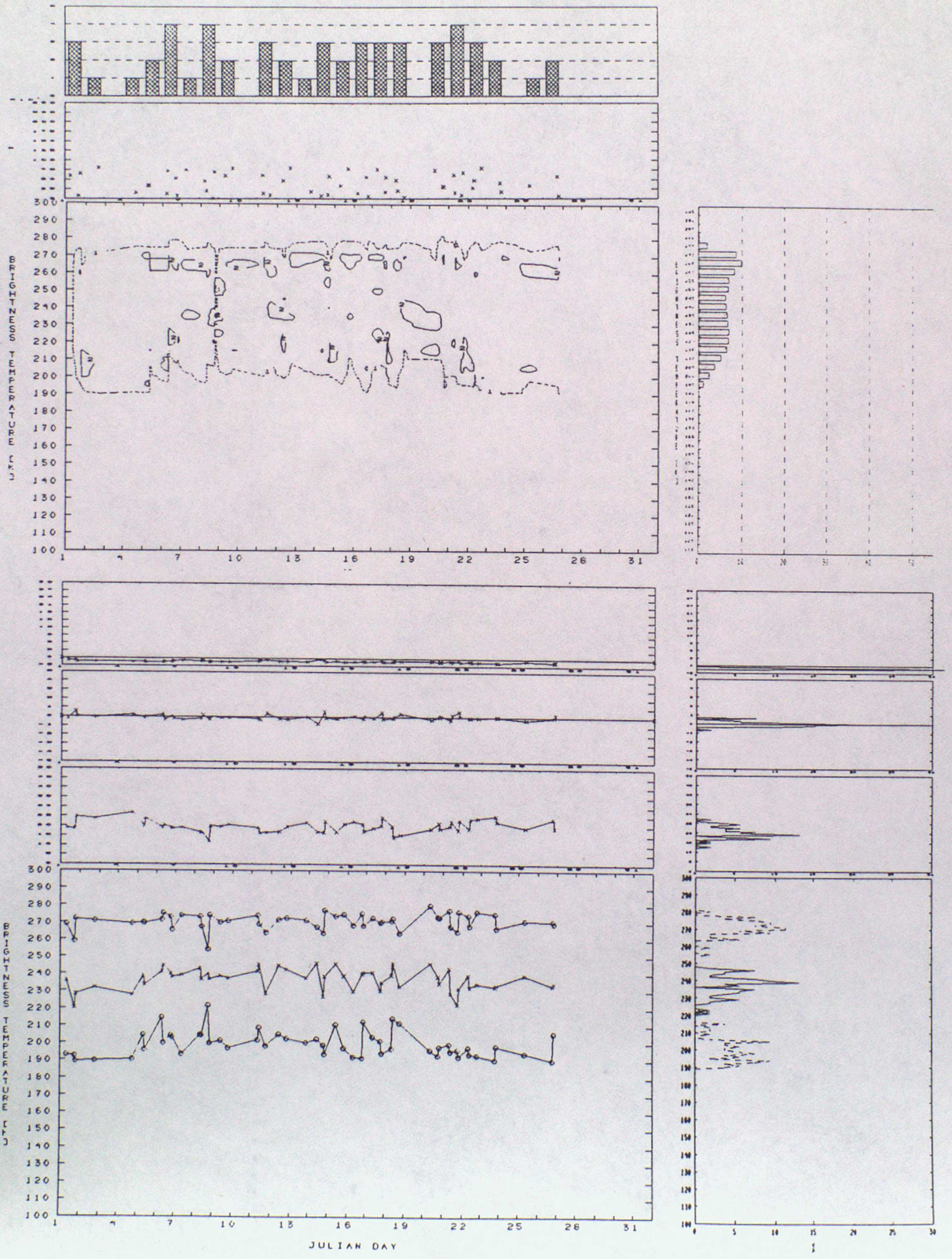
95. F10-COAST-19H, APR: SUMMARY+CUM



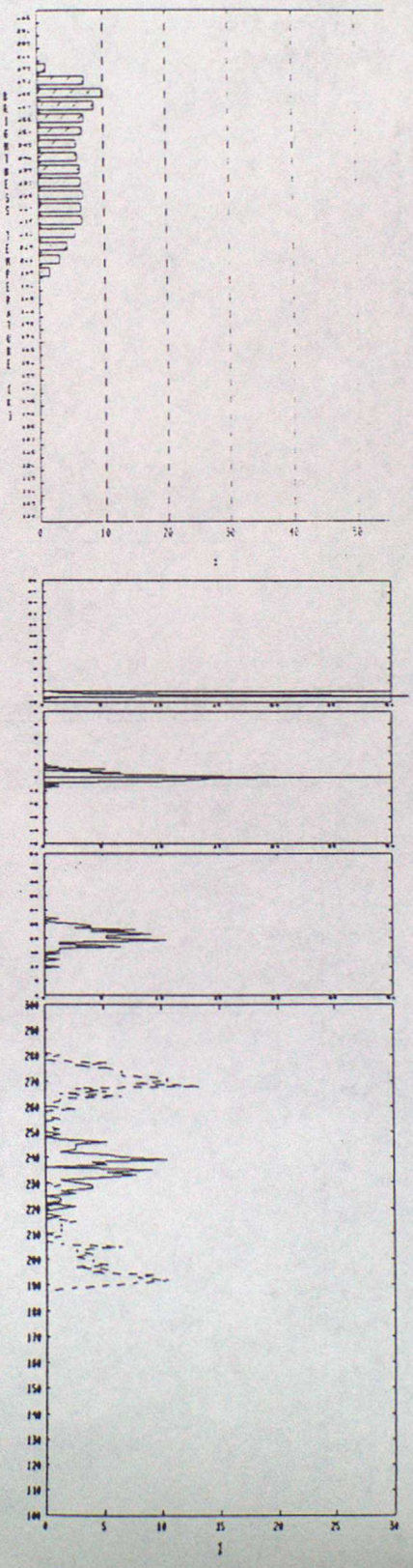
96. F10-COAST-22V, FEB: SUMMARY



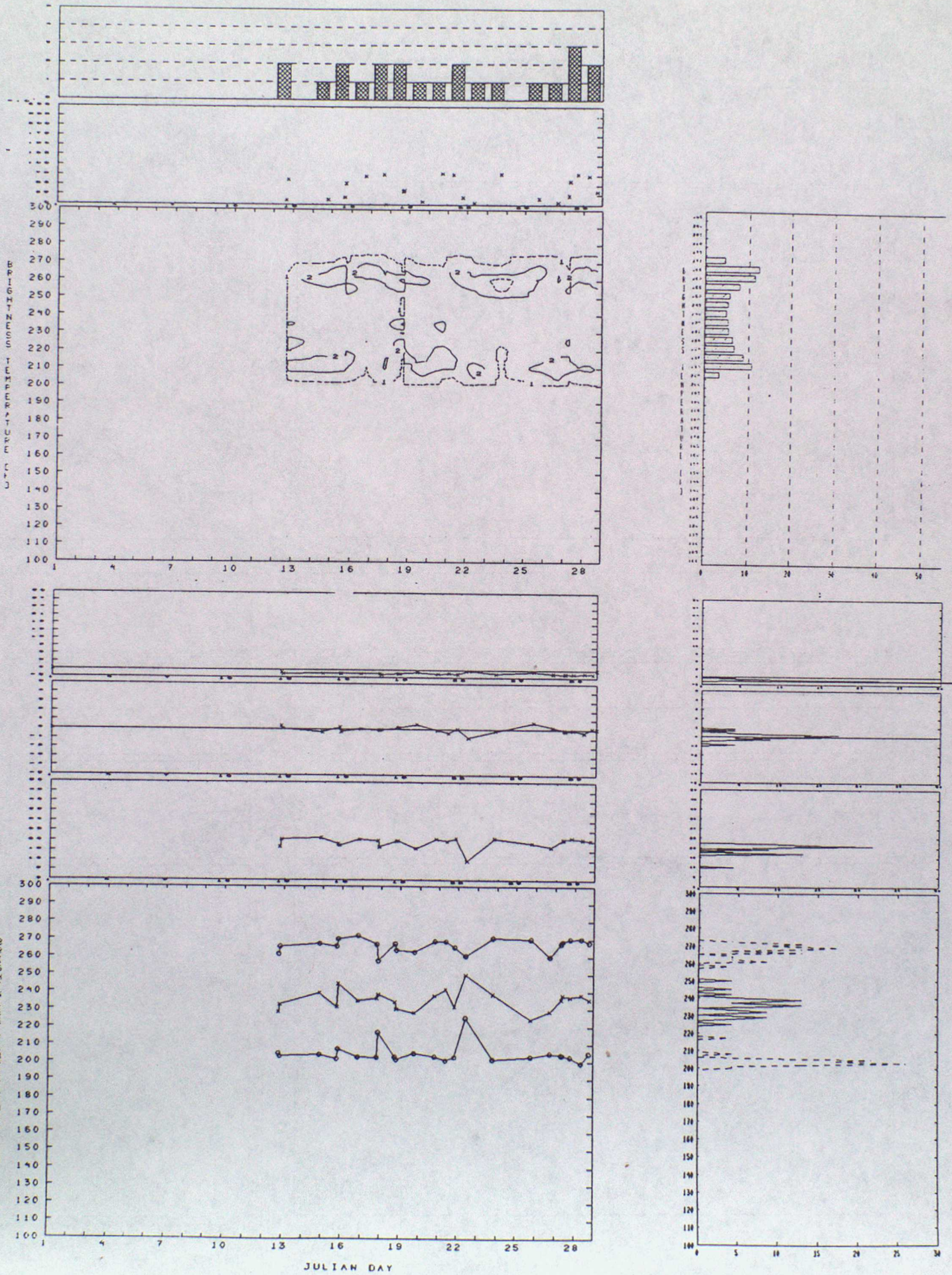
97. F10-COAST-22V, MAR: SUMMARY



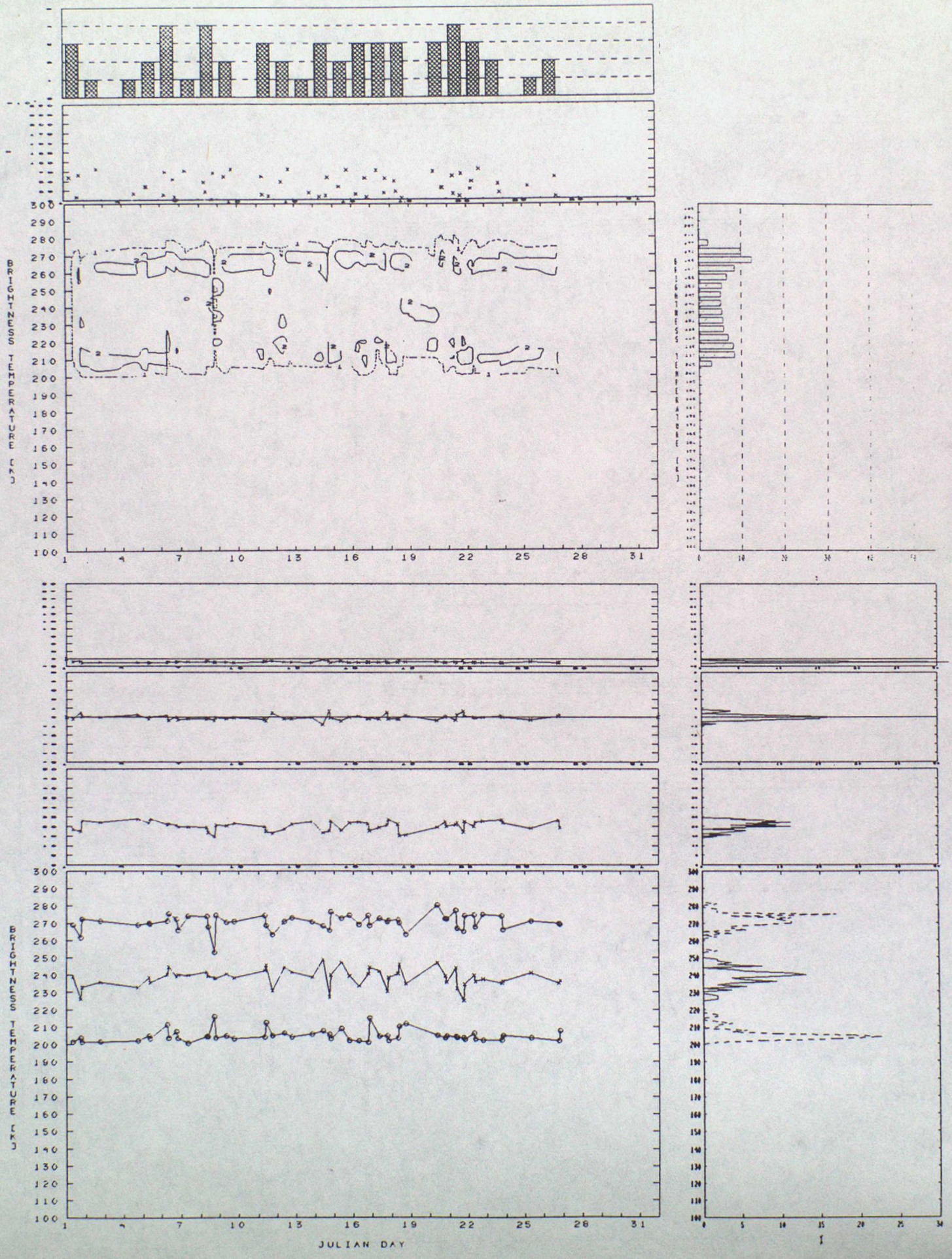
98. F10-COAST-22V, APR: SUMMARY+CUM



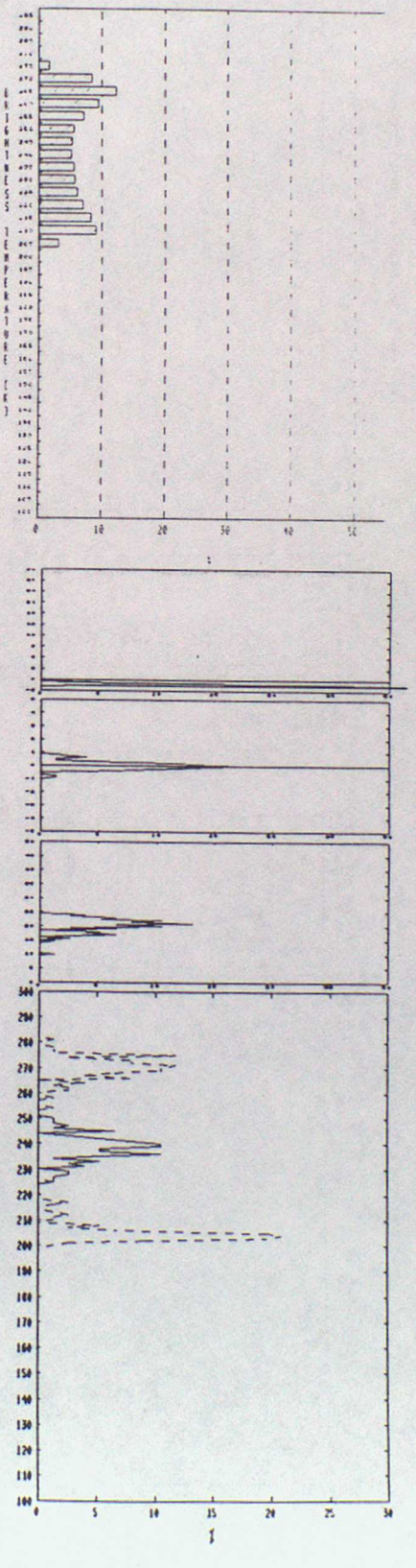
99. F10-COAST-37V, FEB: SUMMARY



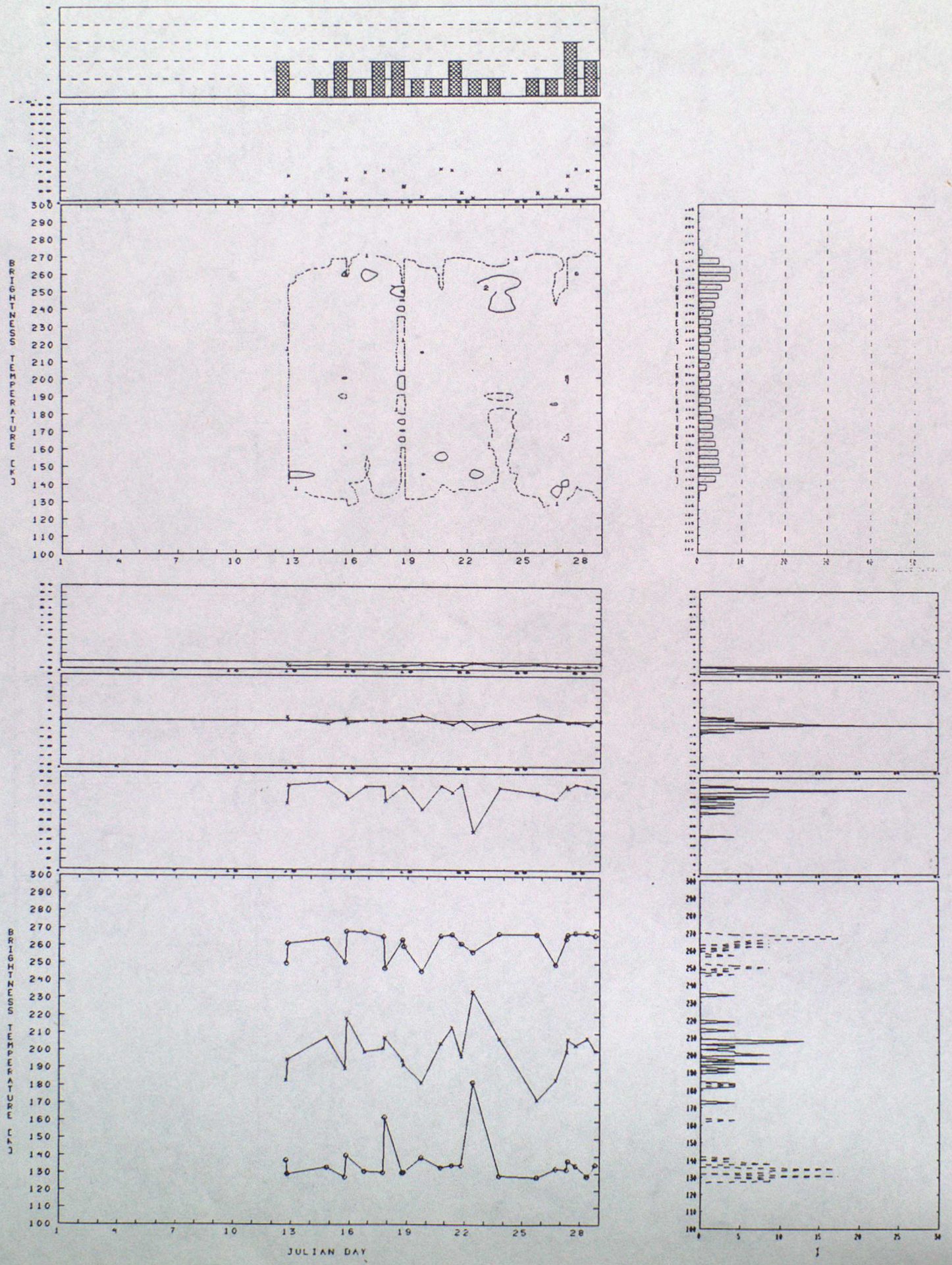
100. F10-COAST-37V, MAR: SUMMARY



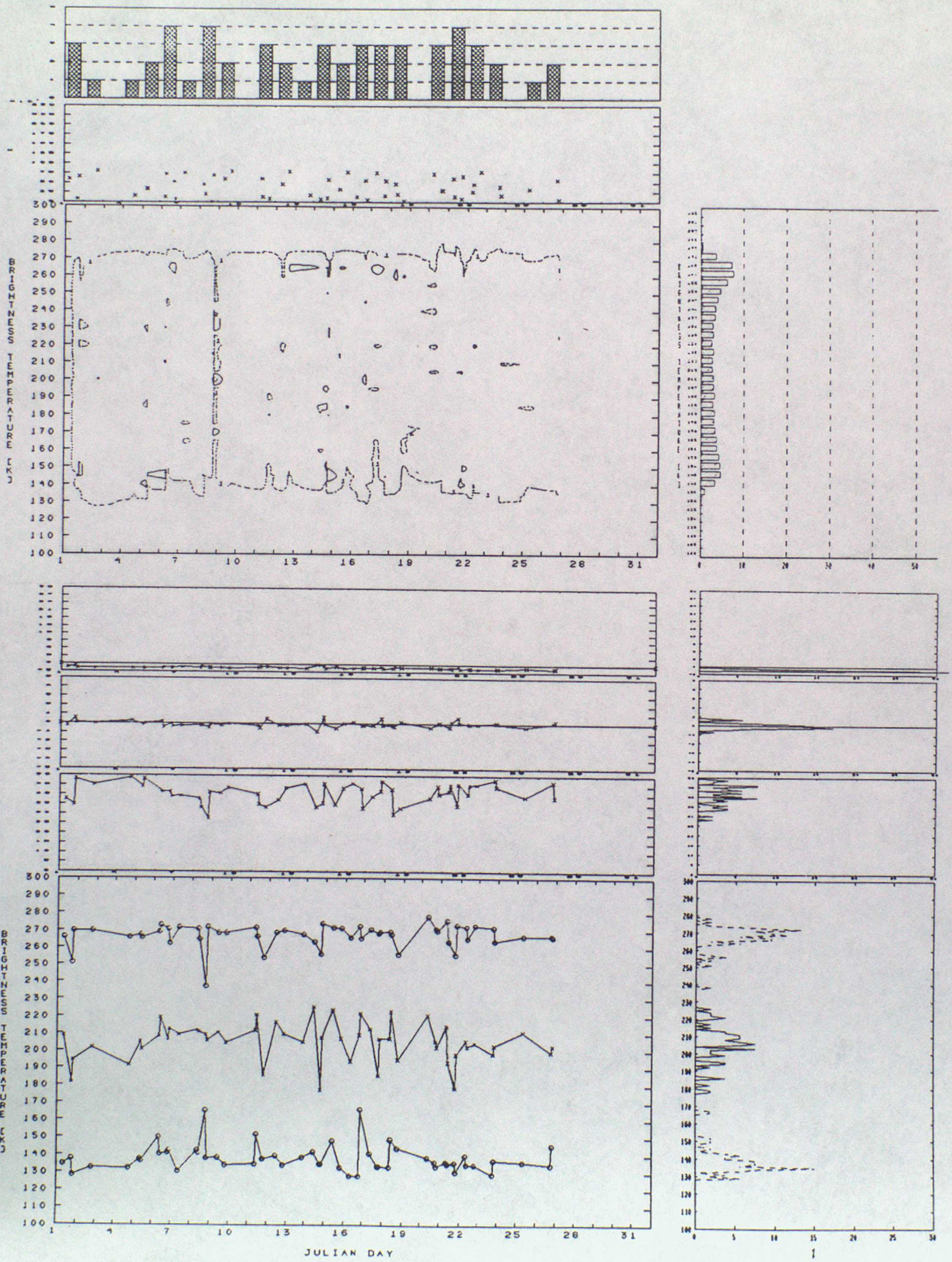
101. F10-COAST-37V, APR: SUMMARY+CUM



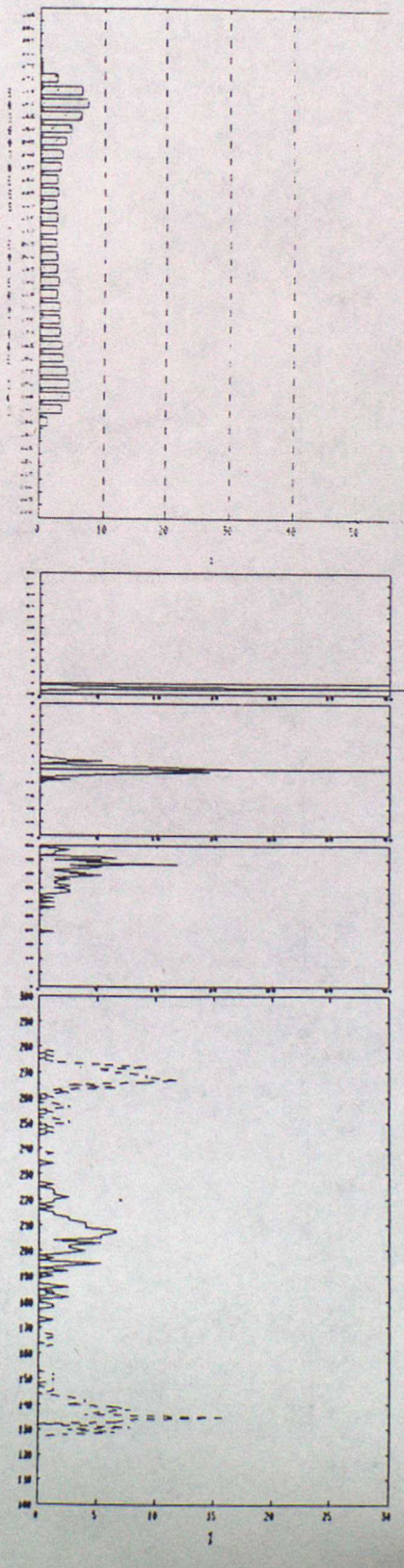
102. F10-COAST-37H, FEB: SUMMARY



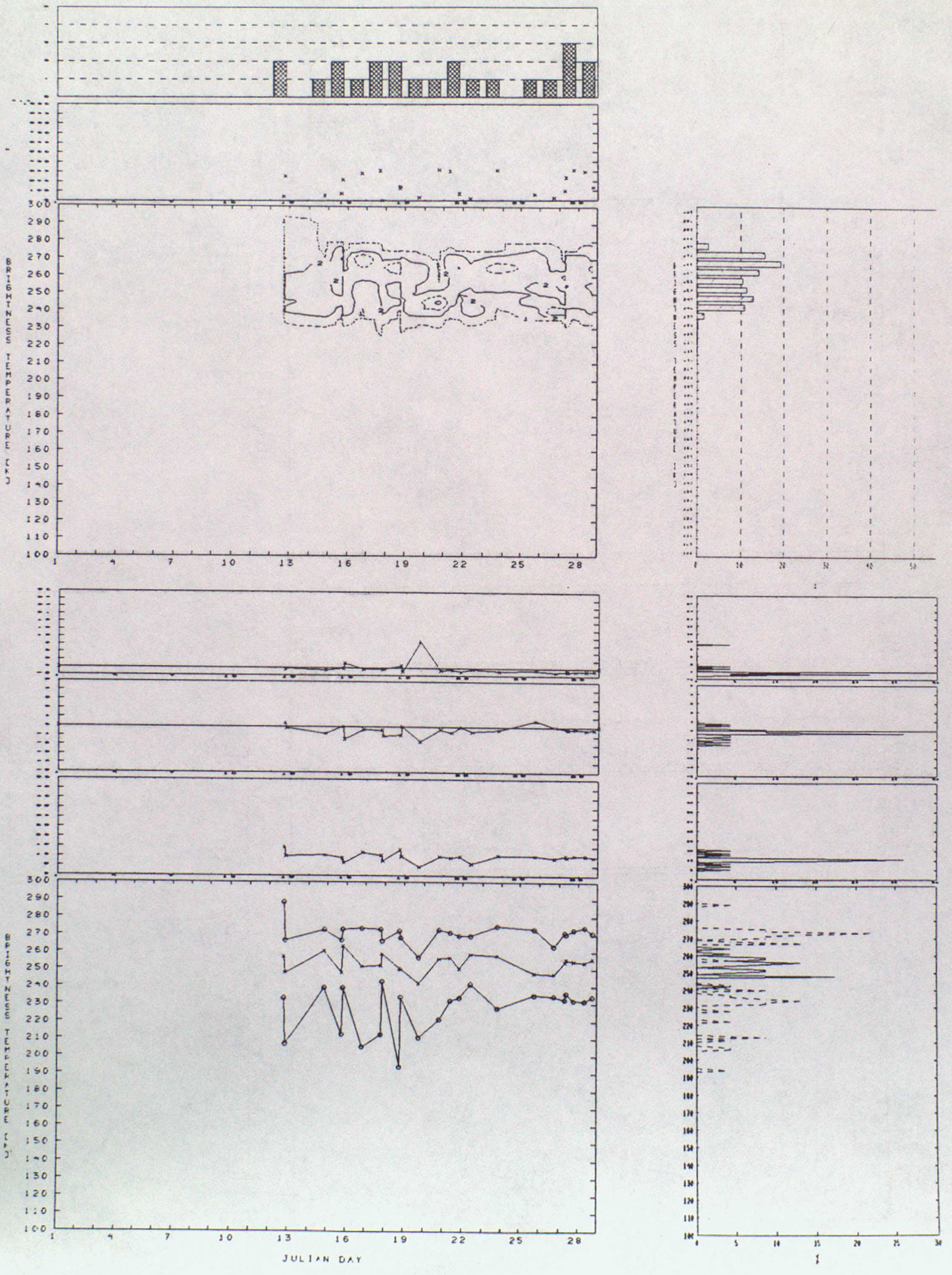
103. F10-COAST-37H, MAR: SUMMARY



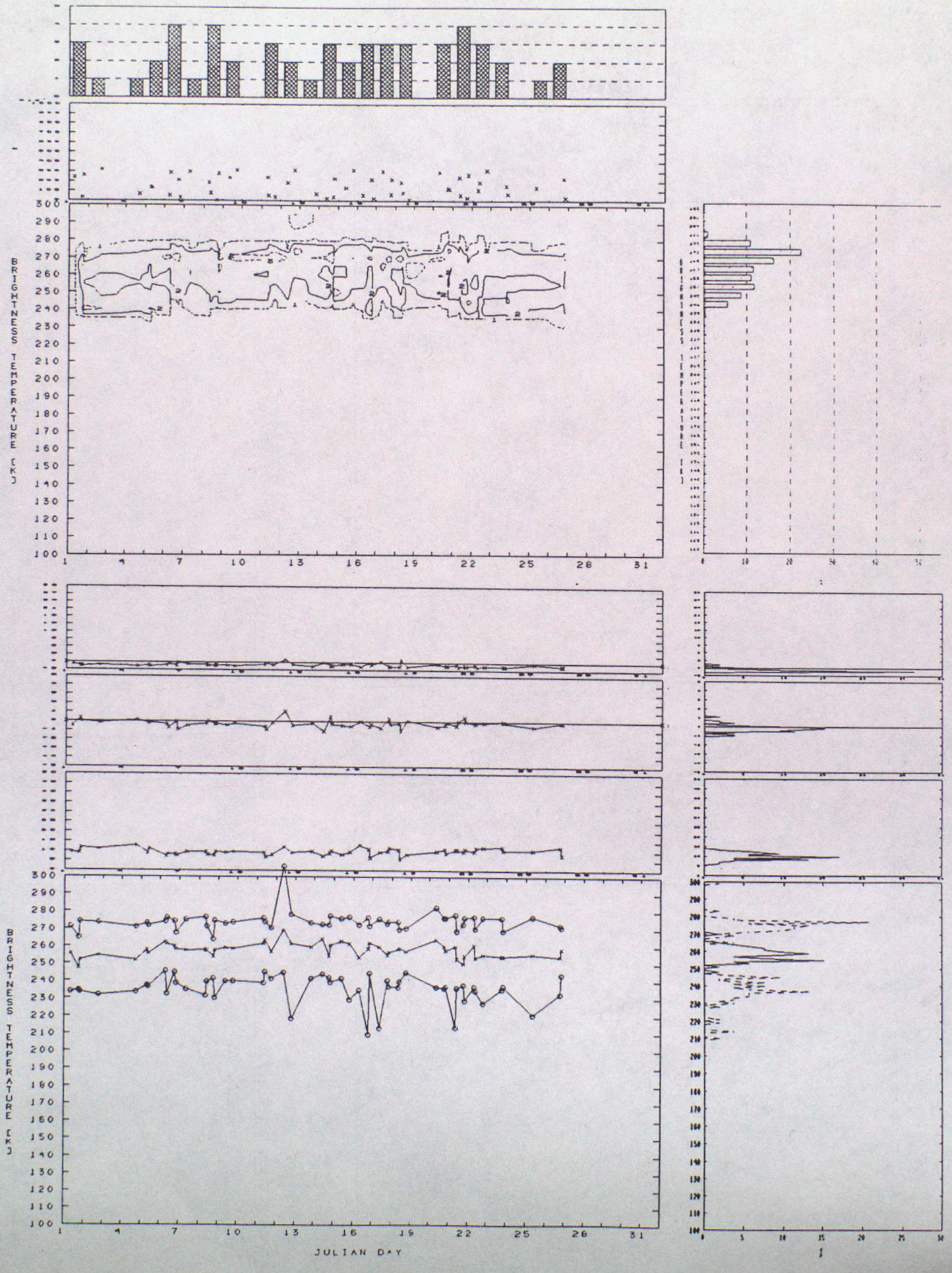
104. F10-COAST-37H, APR: SUMMARY+CUM



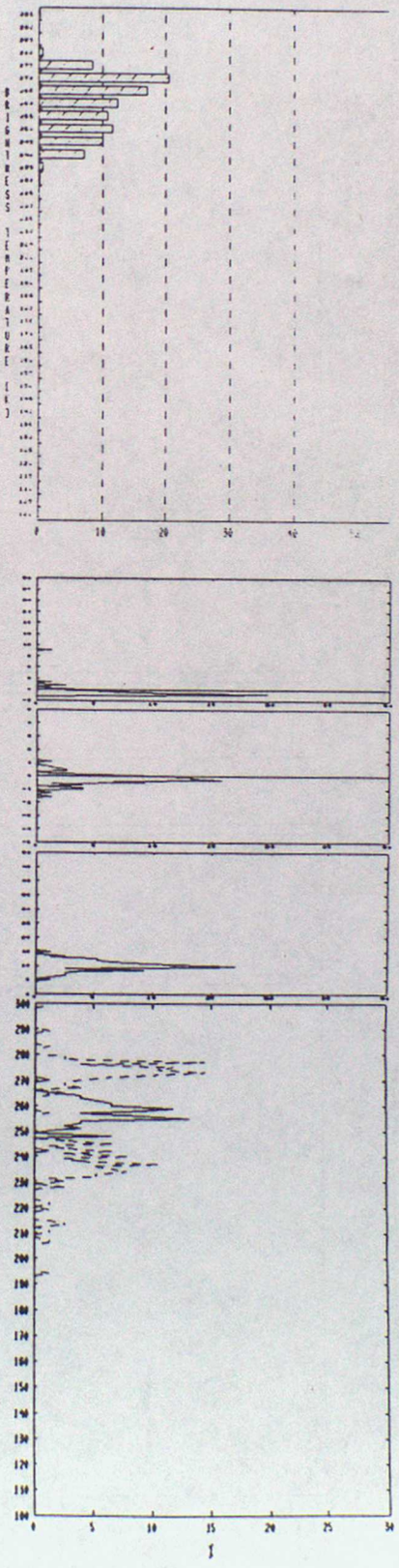
105. F10-COAST-85V, FEB: SUMMARY



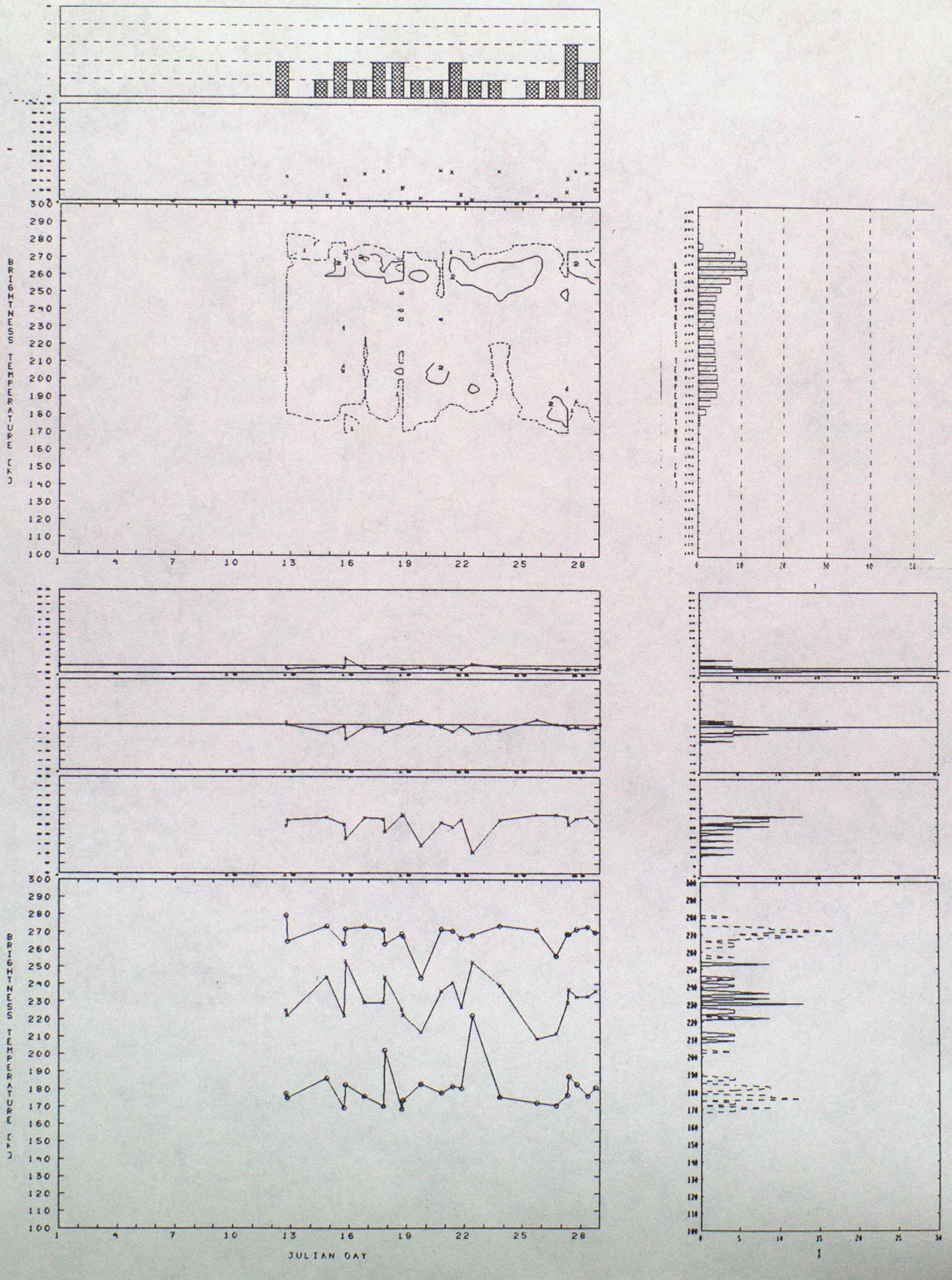
106. F10-COAST-85V, MAR: SUMMARY



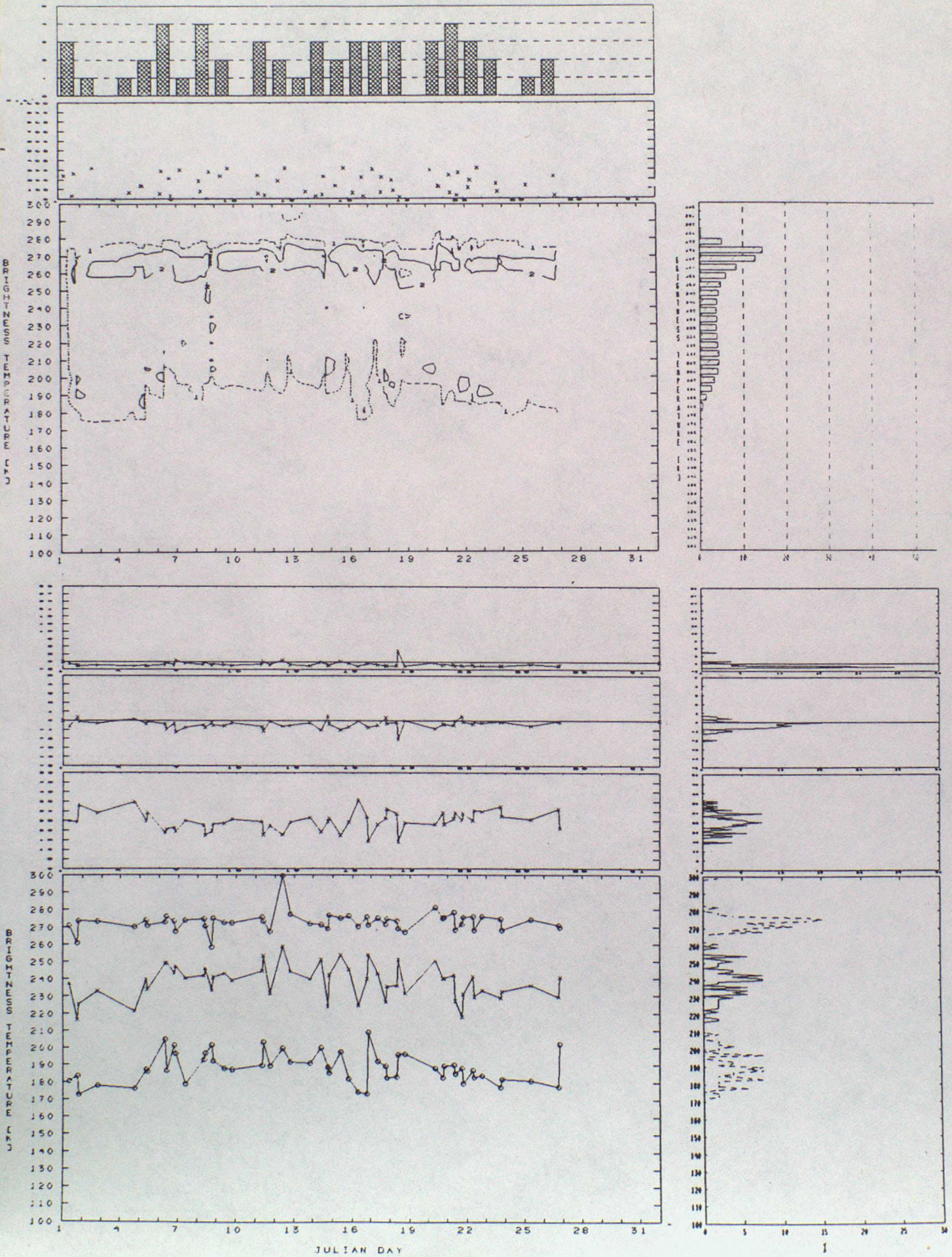
107. F10-COAST-85V, APR: SUMMARY+CUM



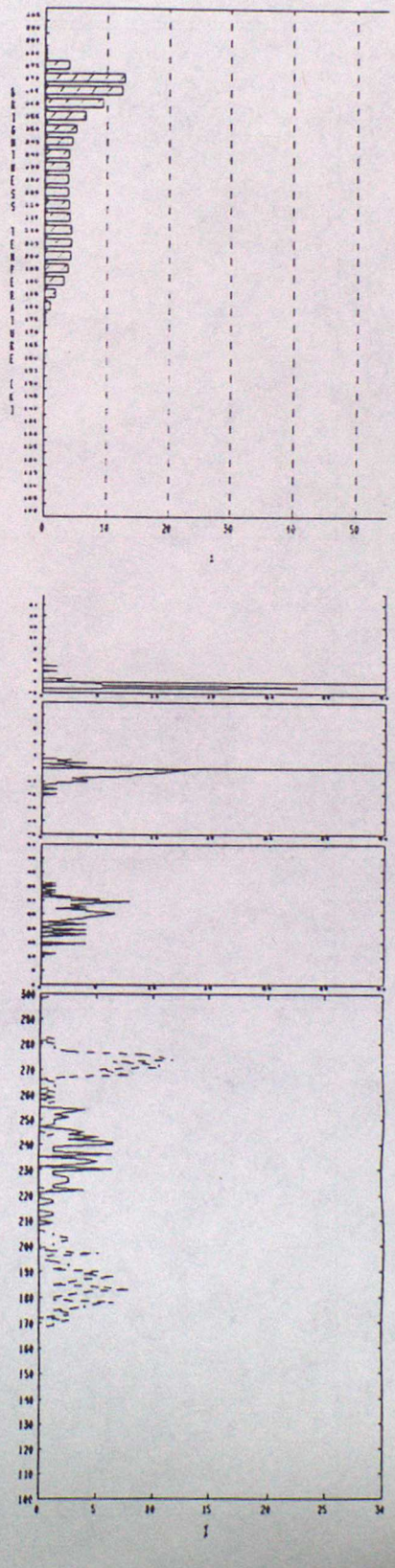
108. F10-COAST-85H, FEB: SUMMARY

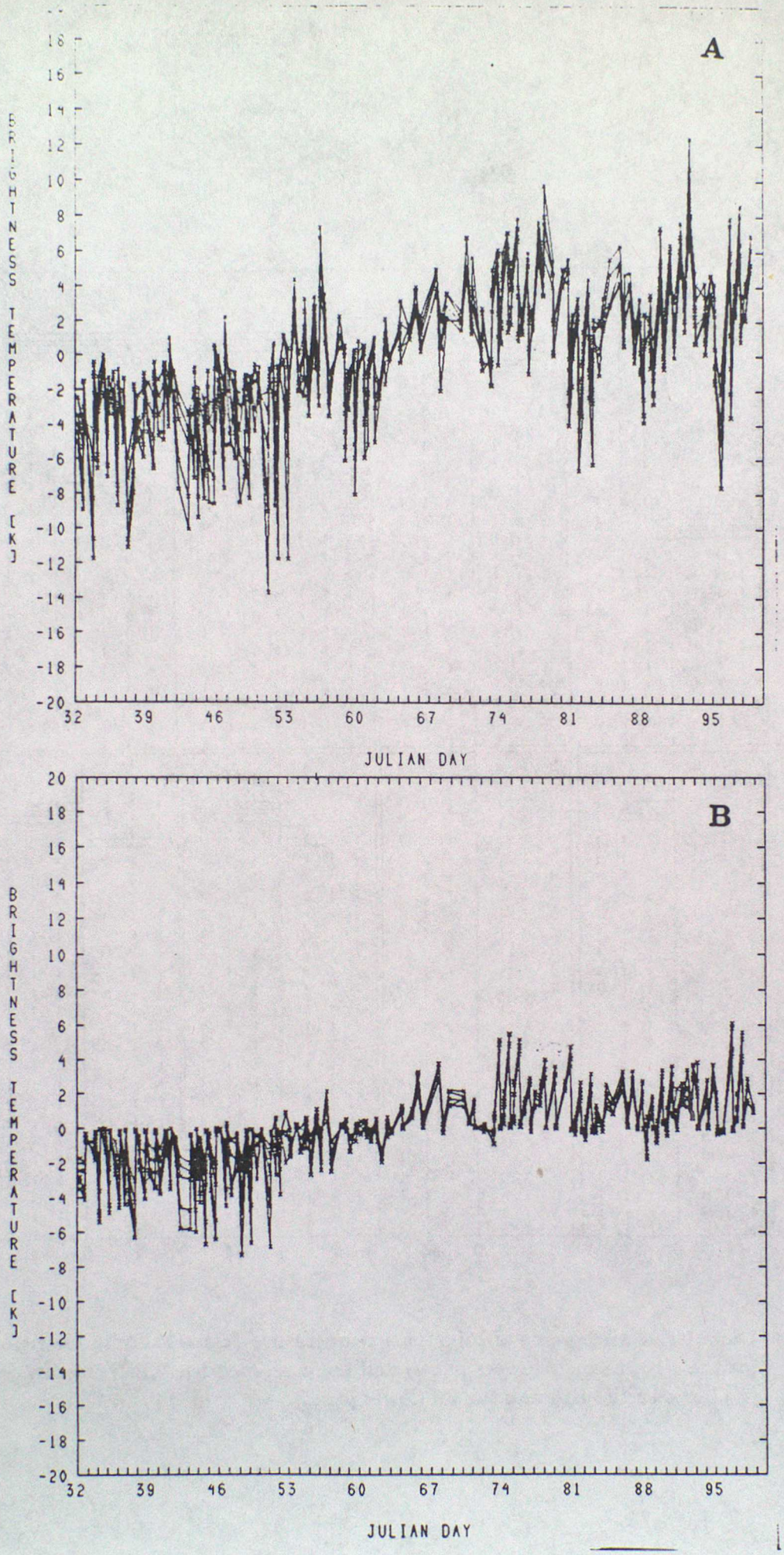


109. F10-COAST-85H, MAR: SUMMARY

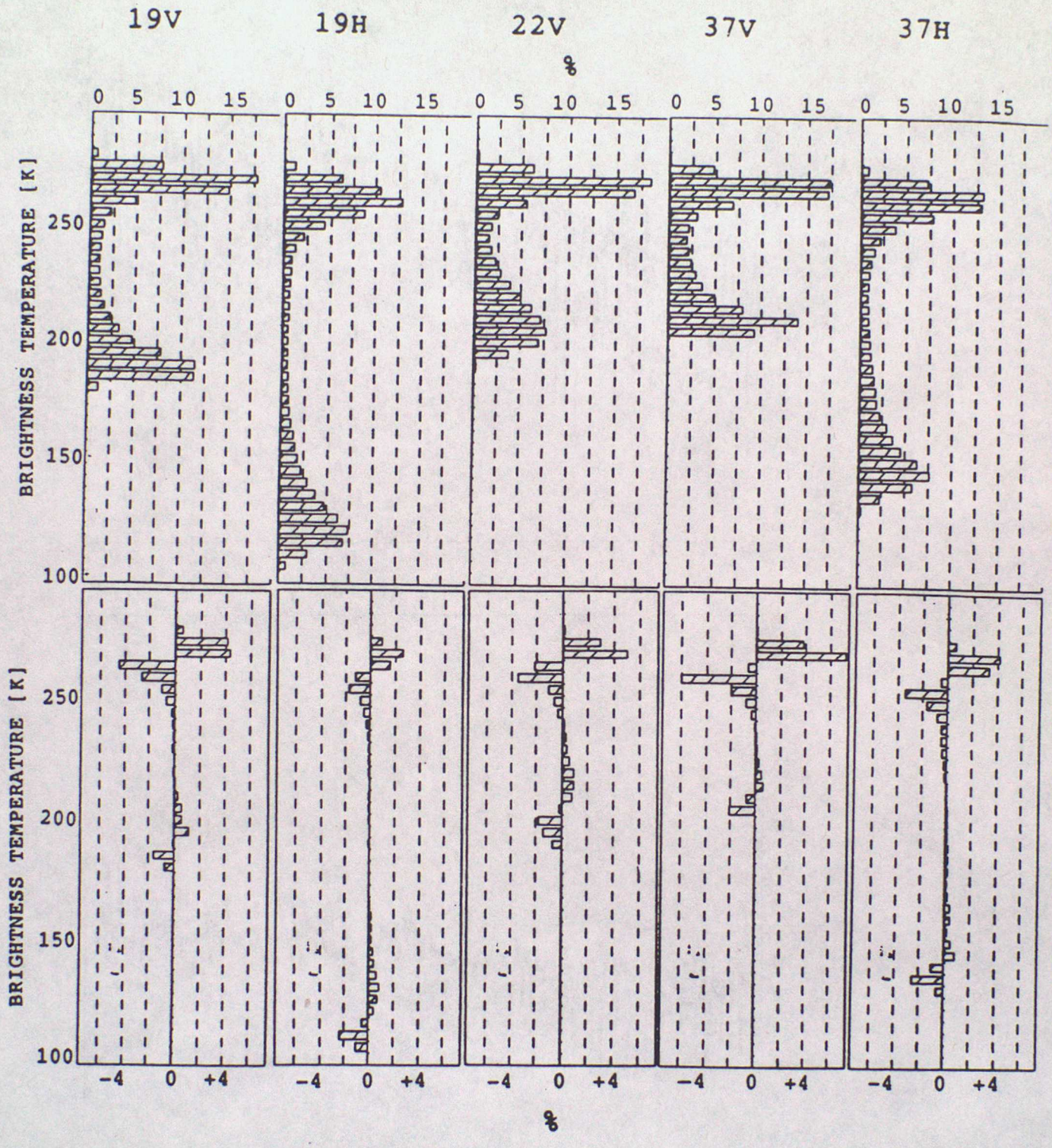


110. F10-COAST-85H, APR: SUMMARY+CUM





111. Time series of the differences between single orbit average brightness temperature and the average brightness temperature for the whole period, for each F8 channel, for *land* surface type. In the upper panel are plotted the simple differences, while in the lower panel each value of the difference has been *normalized* (see text).



112. Cumulative histograms of brightness temperature (classes' limits are reported in *Tab.4*) for the F10 channels (upper panel) and the correspondent differences in class frequencies [%] between the F10 and the F8 (lower panel).