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OREGON STATE UNIVERSITY

THE CODE LARGE-SCALE METEOROLOGICAL, SEA SURFACE TEMPERATURE AND COASTAL SEA LEVEL DATA SET, 1980-84

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ABSTRACT

Meteorological, sea surface temperature, and coastal sea level data were collected along the west coast of North America from northern Baja California to the Alaska/British Columbia border from 1980 to mid-1984 for the large-scale component of the Coastal Ocean Dynamics Experiment (CODE). This report presents statistical summaries and plots of selected meteorological variables, sea surface temperature, and coastal sea level from this data set.

TABLE OF CONTENTS

List of Tables

List of Figures

1. DESCRIPTION OF THE CODE LARGE-SCALE DATA SET

1.1 Introduction

The large-scale component of the Coastal Ocean Dynamics Experiment (CODE) is designed to study the large-scale response of continental shelf circulation to atmospheric forcing. Major efforts include testing models of wind-driven shelf circulation, and relating currents measured at the CODE site, a roughly 100 km segment of the continental shelf northwest of San Francisco located between Point Arena and Point Reyes (Winant, et al., 1986), to non-local atmospheric forcing and the propagation of free coastally trapped waves through the site. We focus on the forcing and response that has periods between two days and two weeks, the dominant periods of large-scale wind fluctuations driven by synoptic atmospheric systems (cyclones and anticyclones). These efforts require good meteorological and coastal sea level data to be collected for a sufficiently large alongshore domain that contains the CODE site. Coastal sea level is an important response variable in large scale studies because current measurements are not available simultaneously over a sufficiently large alongshore domain to resolve the larger wavelengths present in the coastal current response.

Since both theory and observations indicate that alongshore wind stress is the most important forcing mechanism for large-scale coastal current fluctuations at periods between two days and two weeks, it is necessary to assemble the best possible wind set to execute these studies. We therefore obtained two representations of the coastal wind field: The first is a set of wind measurements from stations located at or near the coast and from buoys moored on the adjacent continental shelf. The second is a set of geostrophic winds calculated from the six-hourly surface atmospheric pressure analyses of the Fleet Numerical Oceanography Center (FNOC) (Bakun, 1975), which are hereinafter referred to as calculated winds. We also obtained measured air and sea surface temperatures from the offshore buoys. For the response variable, we obtained coastal sea level from all tide gauge stations within the CODE large-scale domain, and also obtained atmospheric pressure to correct coastal sea level for the inverse barometer effect.

The data from which the FNOC pressure analyses are constructed are sampled at both ships and fixed land and buoy stations. This input data consists of both surface pressure and equivalent pressure gradient calculated from surface winds assuming geostrophic balance. These data are blended with an initial best-guess surface pressure field determined from previous analyses to generate the new pressure analysis. This procedure is described in detail by Holl and Mendenhall (1972).

Measured winds should ideally be used to calculate the wind stress forcing function for shelf currents, but they have numerous problems, including topographic influence, data gaps, irregular sampling times, and sometimes human subjectivity in reading fluctuating anemometer analog displays. The problems with calculated winds include a spatial sampling resolution that restricts their use to studies of large-scale variability only, decreasing accuracy in the geostrophic approximation with decreasing latitude, variable spatial and temporal coverage with ship pressure and wind observations, and an inaccurate boundary layer correction in coastal regions (Section 1.2.3). Since these wind sets have limitations, we use both to determine properties of the coastal wind and wind stress fields (Halliwell and Allen, 1986a, 1986b), and present statistics and plots of both sets.

In this report, we present statistical summaries and plots of measured and calculated meteorological variables, plus sea surface temperature (SST) and coastal sea level, over the time interval between 1 January 1980 to 30 June 1984. This large-scale data set has previously been summarized only during the time intervals of the two CODE experiments, spring/summer 1981 and spring/summer 1982 (Halliwell and Allen, 1983, 1985).

1.2 The Code Large-Scale Data Set

1.2.1 The Data

To properly assess the impact of non-local atmospheric forcing on currents at the CODE site, we extend the large-scale analysis domain equatorward to central Baja California, 1800 km from the site. We extend the domain poleward to the Alaska border, more than 1800 km from the CODE site, to at least marginally resolve the response with very large alongshore scales. We collect data over a several-year time interval that includes the two CODE experiments. Calculated winds and FNOC atmospheric pressure, plus coastal sea levels, have been obtained for 1 January 1980 through 30 June 1984. The most extensive set of measured meteorological data exists between 1 December 1980 and 30 November 1982, but data from some stations are available from the entire 4 1/2 year time interval.

The CODE large-scale analysis domain extends from northern Baja California (26°N) to the Alaska border (54°N). The coastal alongshore coordinate y is zero at the location of the CODE central line and positive poleward of that location. The locations of the meteorological stations are shown in Fig. 1.1, and information about these stations is summarized in Table 1.1. Meteorological measurements are obtained from several sources, and information about these sources and the data obtained from each is summarized in Table 1.2. Calculated variables are interpolated to the locations of the CODE analysis grid (Fig. 1.2, Table 1.3), with grid point 7 located at $y = 0$ km. The alongshore separation of the grid points is 180 km, and the grid spans 3600 km of coastline. Alongshore separations are estimated from coastal charts by measuring the distance following a smoothed shoreline, i.e., by ignoring deviations due to small bays and headlands that span less than about 20 km of coast. The CODE experimental site (Winant, et al., 1986) is located approximately within the interval $-50 < y < 50$ km (Fig. 1.2). The locations of the coastal sea level stations are shown in Fig. 1.3, and information about these stations is summarized in Table 1.4.

1.2.2 Processing of Measured Meteorological and SST Data

The CODE large-scale data set is obtained from many diverse sources. Only winds are routinely processed at every meteorological measurement station. Atmospheric pressure is processed at only some measurement stations to check the quality of the calculated atmospheric pressure time series, since the calculated pressures are used to adjust coastal sea level (Section 1.2.4). Air and sea surface temperatures are processed at offshore buoys only. Some meteorological sources provided variables that we did not process, and these are listed in Table 1.2.

The basic editorial procedure for meteorological data is as follows:

1. Transcribe manuscript data or teletype output onto computer coding forms, then keypunch if required.
2. Read source magnetic tapes or computer cards, and store time series on disk files. Set sampling times to GMT where necessary. For a given time series, if no source data are available at a given sample time, a missing data spacer (the number 10^{35}) is stored for that time.
3. Adjust wind speed to anemometer height of 10 m, assuming neutral stability. The correction factor is a function of wind speed and

anemometer height as contoured in Figure 1.4.

4. Convert source winds to u and v components.
5. Convert all variables to common units (mb for pressure, m/s for wind and °C for temperature).
6. Check for physically unrealistic data values for each variable. If any exist, replace these values by a missing data spacer.
7. Search for unusual data jumps or spikes by flagging all points in a time series that differ from either the previous or subsequent point by more than three times the standard deviation of all first differences. Determination of whether these data jumps are due to one or more bad data values is made by visual inspection of each flagged point with nearby points in the series. If a point is determined to be bad, it is replaced by a missing data spacer.
8. Fill all short data gaps (≤12 hrs in length) using linear interpolation. Replace the missing data spacers in these gaps by interpolated data.
9. Plot and check the time series.
10. Compute wind stress time series.
11. Filter the time series.
12. Compute the major and minor axis wind components using the filtered data.

Vector wind stress in dy cm^{-2} is computed from vector wind in m s^{-1} using the bulk aerodynamic formula with the drag coefficient determined from the regression formula of Large and Pond (1981):

$$\vec{\tau} = \rho_a C_d |\vec{V}_{10}| \vec{V}_{10} \qquad (1.1)$$

with

$$10^3 C_d = \begin{cases} 1.2 & |\vec{V}_{10}| \leq 11 \text{ m s}^{-1} \\ 0.49 + 0.065|\vec{V}_{10}| & |\vec{V}_{10}| > 11 \text{ m s}^{-1} \end{cases} \qquad (1.2)$$

where ρ_a is the air density and C_d is the drag coefficient. All wind stress time series are calculated using unfiltered wind time series, and are then filtered separately.

Two sets of low-passed time series are created. The first filter has a half-amplitude period of 40 hr, and these filtered time series are referred to as LLP (low-low-passed) series. The second filter has a half-amplitude period of 25 days, and these filtered time series are referred to as VLP (very-low-passed) series. The LLP (VLP) time series have been shortened by 2.5 (25) days on each end, and all internal data gaps in the source data have been widened by 2.5 (25) days on each end. The availability of LLP wind (wind stress), air temperature, and sea surface temperature data is summarized in the chronographs in Figs. 1.5 through 1.7.

1.2.3 Processing of Calculated Meteorological Variables

Calculated variables are obtained on magnetic tape and are then subjected to essentially the same editorial procedure as the measured meteorological data. Only wind and atmospheric pressure are routinely processed, although wind stress curl and divergence, plus Ekman and Sverdrup transport, are also available (Table 1.2).

A simple boundary layer correction has been performed on the calculated winds, consisting of a 30% reduction in speed and a 15° anticlockwise rotation. Several studies have determined that the 15° anticlockwise rotation performed as part of the original boundary layer correction is not sufficient. These include the study of Halliwell and Allen (1984) for the west coast of North America, plus the wind analyses of Thomson (1983) for the British Columbia coast and Hsueh and Romea (1983) for the East China Sea. Because of this, Halliwell and Allen (1984, 1986a, 1986b) rotated calculated winds to align their fluctuations with those of measured winds prior to calculating the alongshore components of wind and wind stress. The determination of the rotation correction is presented in Halliwell and Allen, 1986a), and the correction angles, which are a function of alongshore location, are listed in Table 1.3. For the time series described in this report, the calculated winds have <u>not</u> been rotated to correct for this problem. However, calculated alongshore wind stress (Sections 3 and 11.1) is computed using calculated winds that <u>have</u> been corrected.

1.2.4 Processing of Coastal Sea Level Data

Coastal sea level data are obtained at several stations (Fig. 1.3 and Table 1.2) for all eight seasons. Sea level time series are checked for bad values and datum shifts (Pittock, et.al., 1982), then filtered to create LLP and VLP time series. Sea level heights are adjusted to represent subsurface pressure by adding FNOC surface atmospheric pressure in mb from the nearest CODE grid point to sea level in cm if that point is within 30 km of the sea level station. If it is farther away, atmospheric pressure linearly interpolated between the two nearest grid points is used. The mean sea levels are removed for each individual season. The availability of LLP coastal sea level data is summarized in the chronograph in Fig. 1.8.

1.3 Statistical Summaries And Plots

A statistical summary of the LLP data set is presented in Section 2. Statistics are presented for the entire record length and for six-month "seasons", October to March and April to September, which are hereinafter referred to as winter and summer. These seasons are denoted by the vertical dashed lines in the chronographs in Figs. 1.5 through 1.8. The order and contents of these tables is presented in the List of Tables at the beginning of this report.

LLP alongshore wind stress τ and LLP coastal sea level ζ are contoured in (y,t)-space in Section 3 for individual months from January 1980 to June 1984. These plots are useful to study the alongshore-time dependence of individual sea level events and the τ forcing events that generate them. Each contour plot begins two days before the start of the month, and each plot spans 35 days, at least two days into the following month, to make the time scale constant. For τ, all coastal grid points (32 through 35 and 1 through 17) are used. The sea level stations used for each month are shown on the right-hand side of the plots. If a station is not available for a given month, the station name is not shown next to the tick mark. Contour intervals for τ are 0.6 (May-September) and 1.2 (October-April), with the exception of April 1981 and April 1983 where 1.2 is also used. The contour interval for ζ is always 5. All sea levels have been demeaned over the entire record length. Dashed contours are used for negative values of τ and ζ.

Time series plots for several LLP variables (measured and calculated) are presented in Sections 4 through 10 (see Table of Contents) for 1 January 1980 through 30 June 1984. The plots are presented for the same six-month summer and winter seasons as the statistics. The plots are in chronological order, and within each season the series are plotted from north to south along the coast. Time series from the two NDBC buoys located offshore of the continental shelf (B02, B05) are plotted first in each season. Measured winds from several stations judged to be of relatively poor quality are not plotted to save space. These deleted stations are shown in Table 1.1. The major axis winds contain the mean wind for the 4 1/2 period along the major axis orientation. Atmospheric pressure from FNOC is referred to as "calculated" pressure.

Time series plots for VLP variables (measured and calculated) are presented in Section 11 (see Table of Contents) for the entire time interval 1 January 1980 through 30 June 1984, plotted from north to south along the coast. Since the VLP filter greatly enlarges data gaps (Section 1.2.2), VLP measured meteorological and SST data are not plotted.

1.4 Acknowlegements

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1.5 References

Bakun, A., Daily and weekly upwelling indices, west coast of North America, 1967-73, NOAA Tech. Rep. NMFS SSRF-693, National Marine Fisheries Service, Seattle, Washington, 114 pp., 1975.

Halliwell, Jr., G. R. and J. S. Allen, CODE-1: Large-scale wind and sea level observations, In CODE-1: Moored array and large-scale data report, L. K. Rosenfeld, Ed., WHOI Tech. Rep. 82-23, 139-185, 1983.

Halliwell, Jr., G. R. and J. S. Allen, Large-scale sea level response to atmospheric forcing along the west coast of North America, summer 1973, J. Phys. Oceanogr., 14, 864-886, 1984.

Halliwell, Jr., G. R. and J. S. Allen, CODE-2: Large-scale wind and sea level observations, In CODE-2: Moored array and large-scale data report, R. Limeburner, Ed., WHOI Tech. Rep. 85-35, 181-234, 1985.

Halliwell, Jr., G. R. and J. S. Allen, The large-scale coastal wind field along the west coast of North America, 1981-82, J. Geophys. Res., In press, 1986a.

Halliwell, Jr., G. R. and J. S. Allen, Wavenumber-frequency domain properties of coastal sea level response to alongshore wind stress along the west coast of North America, 1980-84, Submitted to J. Geophys. Res., 1986b.

Holl, M. M. and B. R. Mendenhall, Fields by information blending, sea level pressure version, Tech. Note. 72-2, Fleet Numerical Weather Central, Monterey, CA, 66pp., 1972.

Hsueh, Y. and R. D. Romea, A comparison of observed and geostrophically calculated wintertime surface winds over the East China Sea, J. Geophys. Res., 88, 9588-9594.

Large, W. G. and S. Pond, Open ocean flux measurements in moderate to strong winds, J. Phys. Oceanogr., 11, 324-336, 1981.

Pittock, H. L., W. E. Gilbert, A. huyer, and R. L. Smith, 1982. Observations of sea level, wind, and atmospheric pressure at Newport, Oregon, 1967-1980. Data Rep. 908, Oregon State University, Corvallis, OR, 158 pp.

Thomson, R. E., A comparison between computed and measured oceanic winds near the British Columbia coast, J. Geophys. Res., 88, 2675-2683, 1983.

Winant, C. D., R. C. Beardsley, and R. E. Davis, Moored current, wind, temperature, and current observations made during CODE-1 and CODE-2 over the northern California continental shelf and upper slope, Submitted to J. Geophys. Res., CODE issue, 1986.

Table 1.1. Meteorological Station Information. Coast orientation is measured in degrees anticlockwise from due east. Pr is atmospheric pressure, AT is air temperature, WT is water temperature, El is station elevation. The '*' before a station name indicates that it is not included in the time series plots. Latitude is in degrees and minutes north; longitude is in degrees and minutes west.

Station	Abb	Lat	Lon	Data Processed Pr	Wind	AT	WT	Alongsh Pos (km)	El (m)	Anem Ht (m)	Coast Angle (deg)
NDBO 46002	B02	42 30	130 00	*	*	*	*	????	0	10.0	???
NDBO 46005	B05	46 00	131 00	*	*	*	*	????	0	10.0	???
Prince Rupert, BC	PRR	54 18	130 27		*			1883	32	10.0	120
Cape St James, BC	CSJ	51 56	131 01		*			1760	89	13.0	115
McInnes Island, BC	MCI	52 16	128 43		*			1630	26	9.1	115
Cape Scott, BC	CSC	50 47	128 26		*			1467	72	13.0	134
* Nootka Lightstation, BC	NOO	49 36	126 37		*			1286	17	12.0	134
* Lennard Island, BC	LEN	49 07	125 55		*			1215	15	10.0	134
* Cape Flattery, WA	CPF	48 23	124 44		*			1104		6.1	120
Neah Bay, WA	NBA	48 22	124 36		*			1101	15	6.1	120
Quillayute, WA	QUI	47 57	124 32	*	*			1055	56	6.7	110
Destruction Island, WA	DST	47 40	124 29		*			1022	21	6.1	110
Hoquiam, WA	HOQ	46 58	123 56	*	*			942	8	6.1	95
Ocean Shores, WA	OSH	46 57	124 06		*			939	3	8.8	95
Grays Harbor, WA	GRH	46 55	124 06		*			936	5	6.1	95
Cape Dissappointment, WA	CPD	46 17	124 03		*			865	55	6.1	90
NDBO 46029	B29	46 12	124 12	*	*	*	*	856	0	10.0	90
Columbia River LNB	CLB	46 11	124 11	*	*	*	*	854	0	10.0	90
Astoria, OR	AST	46 09	123 53	*	*			850	3	6.1	90
* Tillamook Bay, OR	TIL	45 34	123 48		*			786	15	6.1	84
Newport, OR	NEW	44 38	124 03		*			683	3	6.1	82
NDBO C-MAN Buoy (Newport, OR)	BNE	44 36	124 06	*	*	*	*	680	0		82
Siuslaw River, OR	SIU	44 00	124 07		*			612	15	6.1	81
North Bend, OR	NOB	43 25	124 15	*	*			547	5	6.1	73
* Five Mile Point, OR	FMP	43 14	124 23		*			525		10.0	73
Cape Blanco Tower, OR	CBT	42 50	124 32		*			480		9.1	90
Cape Blanco, OR	CBL	42 50	124 34		*			480	55	10.0	90
NDBO 46027	B27	41 48	124 24	*	*	*	*	364	0	10.0	103
Point St George, CA	PSG	41 47	124 16		*			362		12.5	103
Crescent City, CA	CCY	41 47	124 14	*	*			362	17	6.1	103
* Arcata, CA	ACA	40 59	124 06	*	*			270	70	6.1	75
Humboldt Bay, CA	HUM	40 46	124 14		*			246	3	6.1	75
NDBO 46022	B22	40 46	124 31	*	*	*	*	240	0	5.0	75
* Point Cabrillo, CA	PCB	39 22	123 49		*			87		6.1	90
NDBO 46014	B14	39 13	123 58	*	*	*	*	71	0	10.0	100
Point Arena Light, CA	ARL	38 57	123 44		*			41	19	6.1	110
* Point Arena Tower, CA	ART	38 55	123 43		*			37		9.1	110
N3	N3	38 48	123 42		*	*	*	19	0	3.5	133
Sea Ranch, CA (cent. line)	SRA	38 41	123 26		*			0	3	10.0	133
C2	C2	38 38	123 25		*	*	*	0	0	3.5	133
C3	C3	38 36	123 28		*	*	*	0	0	3.5	133

Table 1.1. (continued)

Station	Abb	Lat	Lon	Data Processed Pr	Wind	AT	WT	Alongsh Pos (km)	El (m)	Anem Ht (m)	Coast Angle (deg)
C4	C4	38 33	123 32		*	*	*	0	0	3.5	133
C5	C5	38 31	123 40	*	*	*	*	0	0	3.5	133
R3	R3	38 22	123 13		*	*	*	-35	0	3.5	133
Bodega Marine Lab (CODE), CA	BML	38 19	123 04		*			-46		10.0	133
NDBO 46013	B13	38 14	123 18	*	*	*	*	-61	0	10.0	133
NDBO 46026	B26	37 48	122 42	*	*	*	*	-116	0	10.0	125
Pillar Point, CA	PIL	37 30	122 30		*			-156	40	15.2	105
NDBO 46012	B12	37 22	122 39	*	*	*	*	-171	0	5.0	105
Pigeon Point, CA	PIG	37 11	122 24		*			-191	9	6.1	102
Point Pinos, CA	PIN	36 38	121 56		*			-271	6	6.1	110
* Monterey, CA	MRY	36 35	121 51	*	*			-278	50	6.1	110
Point Sur, CA	SUR	36 18	121 53		*			-301	15	6.1	115
NDBO 46028	B28	35 48	121 42	*	*	*	*	-370	0	10.0	130
Point Piedras Blancas, CA	PPB	35 40	121 17		*			-401	18	6.1	130
* Morro Bay, CA	MOR	35 22	120 48		*			-455	18	4.0	130
Diablo Canyon, CA	DIA	35 14	120 50		*			-464	2	9.1	120
* Grover City, CA	GRO	35 08	120 38		*			-487	5	10.6	90
NDBO 46011	B11	34 53	120 52	*	*	*	*	-506	0	10.0	90
NDBO 46023	B23	34 15	120 40	*	*	*	*	-563	0	5.0	90
Santa Barbara, CA	SBA	34 26	119 50	*	*			-623	4	6.1	175
NDBO 46025	B25	33 36	119 00	*	*	*	*	-650	0	5.0	170
Point Mugu, CA	MUG	34 07	119 07	*	*			-678	3	4.0	155
San Nicholas Island, CA	SNI	33 15	119 27	*	*			-685	173	3.0	155
NDBO 46024	B24	32 50	119 10	*	*	*	*	-750	0	10.0	155
Los Angeles, CA	LOS	33 56	118 24	*	*			-757	34	9.1	150
Long Beach, CA	LBC	33 49	118 09	*	*			-785	21	6.1	150
San Clemente Island, CA	SCI	33 01	118 35	*	*			-825	52	7.9	130
San Diego, CA	SDO	32 44	117 10	*	*			-936	10	6.1	105
* Imperial Beach, CA	IMP	32 34	117 07	*	*			-954	6	6.1	105

Table 1.2: Meteorological Data Source Information.

	Source	Station	Sampling and Time	Time Zone	Data Source Format	Source Units: Pressure	Source Units: Winds	Other Variables Received
1.	University of Wisconsin SSEC McIDAS surface obs.	QUI	Δt=1 hr[(1)]	GMT	magnetic tape	altimeter setting	speed - knots direction-degrees clockwise from N	air temperature relative humidity precipitation visibility
		HOQ	Δt=1 hr[(1)]					
		AST	Δt=1 hr[(1)]					
		NOB	Δt=1 hr[(1)]					
		CCY	[16]Δt=1 hr[(1)(2)]					
		ACA	Δt=1 hr[(1)]					
		MRY	Δt=1 hr[(1)]					
		SBA	Δt=1 hr[(1)]					
		MUG	Δt=1 hr[(1)]					
		SNI	[16]Δt=1 hr[(1)(3)]					
		LOS	Δt=1 hr[(1)]					
		LBC	Δt=1 hr[(1)]					
		SCI	Δt=1 hr[(1)]					
		SDO	Δt=1 hr[(1)]					
		IMP	[16]Δt=1 hr[(1)(4)]					
2.	NDBO buoy data	B02	Δt=1 hr[(1)]	GMT	magnetic tape sent by NCC in NDBO format containing data from all buoys worldwide	mb	speed - m/s direction-degrees clockwise from N	air temperature dew point, sea surface temperature wave statistics
		B05	Δt=1 hr[(1)(5)]					
		CLB	Δt=1 hr[(1)(5)]					
		B11	Δt=1 hr[(1)(5)]					
		B12	Δt=1 hr[(1)(5)]					
		B13	Δt=1 hr[(1)(5)]					
		B22	Δt=1 hr[(1)]					
		B23	Δt=1 hr[(1)(5)]					
		B24	Δt=1 hr[(1)(5)]					
		B25	Δt=1 hr[(1)(5)]					
		B26	Δt=1 hr[(1)(5)]					
		B27	Δt=1 hr[(1)(5)]					
		B28	Δt=1 hr[(1)]					
		B29	Δt=1 hr[(1)]					
		BNE	Δt=1 hr[(1)]					
		BPA	Δt=1 hr[(1)]					
3.	OSU Atmospheric Science Dept.	FMP	Δt=1 hr[(1)(5)]	PST	disk file	(none)	speed - knots direction-degrees clockwise from N	(none)
		CBL	Δt=1 hr[(1)(5)]					
		CBT[(6)]	Δt=1 hr[(1)(5)]					
4.	Marine circuit reports - north region (NWS SOSU, Seattle)	CPF	Δt=3 hr[(1)(5)]	GMT	teletype output (coded and key-punched)	(none)	speed - knots direction-16 pt.[(7)]	wave height[(8)] air temperature
		NBA	[6]Δt=3 hr[(1)(3)(5)]					
		DST	Δt=3 hr[(1)(5)]					
		CPD	[5]Δt=3 hr[(1)(3)(5)]					
		SIU	[6]Δt=3 hr[(1)(3)(5)]					

5. Marine cirult reports - south region (NWS WSFO, Redwood City)	ARL PIG SUR PPB	Δt=1 hr(1)(5) Δt=1 hr(1)(5) Δt=1 hr(1)(5) Δt=1 hr(1)(5)	GMT	teletype output (coded and key-punched)	(none)	speed - knots direction-16 pt.(7)	(none)
6. Meteorological data logns from NCC (1980-1984)	GRH TIL HUM PCB PIL PIN	Δt=3 hr(1)(5) [5]Δt=3 hr(1)(3)(5) Δt=3 hr 07,10,13,16,19(1)(5)(9) Δt=3 hr Δt=3 hr	PST	marine coastal weather log (coded and key-punched)	(not digitized)	speed - knots direction-16 pt.(7)	sky conditions visibility sea state air temperature
7. Battele NW Labs wind tower data	CBT(10) ART	Δt=1 hr(1)(5) Δt=1 hr(1)(5)	PST	magnetic tape	(none)	speed - knots direction-degrees clockwise from N	(none)
8. OSU Oceanography	NEW PSG	Δt=1 hr Δt=1 hr	GMT	disk	(none)	u,v´- m/s	(none)
9. Pacific Gas and Electric	DIA	Δt=1 hr(1)(5)	PST	magnetic tape	(none)	speed - mph direction-degrees clockwise from N	dew point air temperature
10. Scripps Institution of Oceanography	BML SRA	Δt=1 hr Δt=1 hr	PST	magnetic tape	(none)	alongshore and across-shore	(none)
11. WHOI CODE buoys	N3 C2 C3 C4 C5 R3	Δt=1 hr Δt=1 hr Δt=1 hr Δt=1 hr Δt=1 hr Δt=1 hr	GMT	magnetic tape	mb (C5 only)	speed - m/s direction-degrees clockwise from N	air temperature sea surface temp-erature, insolation
12. Canada Climate Center	PRR MCI CSC NOO LEN CSJ(11)	Δt=1 hr(1) Δt=1 hr(1)(4) Δt=1 hr(1) Δt=1 hr(1)(5) Δt=1 hr(1)(5) Δt=1 hr(1)	GMT	magnetic tape	(none)	speed - m/s direction-degrees(12) clockwise from N	(none)
13. University of British Columbia	CSJ(13)	Δt=1 hr	GMT	magnetic tape	(none)	speed - m/s direction-degrees clockwise from N	(none)
14. San Luis Obispo Air Pollution Control District	MOR GRO	Δt=1 hr Δt=1 hr	PST	hardcopy data forms (coded and keypunched)	(none)	speed - m/s direction-degrees clockwise from N	(none)

15. University of Washington	OSH	Δt=1 hr	GMT	card-image magnetic tape	(none)	speed - m/s direction-degrees clockwise from N	(none)
16. FNOC/Compass Systems, Inc. Bakun Data	35-pt. CODE grid	Δt=6 hr	GMT	card-image magnetic tape	mb	u,v - m/s	wind stress divergence wind stress curl Ekman transport Sverdrup transport

Table 1.2: Notes.

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(1) Occasional (<20%) missing data observations. For the SSEC University of Wisconsin data set, most missing reports were due to down time of the McIDAS computer at Wisconsin used for real-time data collection, a problem that became more serious after April 1983.
(2) After mid-July 1981, station did not record data at night. The number of observations per day is given in brackets.
(3) The station did not record data at night. The number of observations per day is given in brackets.
(4) The station did not record data at night or on weekends. The number of observations per day during the week is given in brackets.
(5) Long data gaps (>10 days) occurred occasionally.
(6) After 11/1/81.
(7) N, NNE, NE, etc.
(8) Not at all stations.
(9) Frequent (>20%) missing data reports.
(10) Prior to 11/1/81.
(11) After 9/1/82.
(12) 36-pt. compass for PRR, MCI, CSC, CSJ; 8-pt. compass for NOO, LEN.
(13) Prior to 9/1/82.

Important Abbreviations

FNOC = Fleet Numerical Oceanography Center
NCC = National Climatic Center
NDBO = National Data Buoy Office
NWS = National Weather Service
OSU = Oregon State University
SOSU = Seattle Ocean Service Unit
SSEC = Space Science and Engineering Center, University of Wisconsin
WSFO = Weather Service Forecast Office
LFM-II = Limited Fine Mesh Model #2 (from NWS)

Table 1.3. CODE Grid Points for Calculated Meteorological and Sea Level Data. Coast orientation is in degrees anticlockwise from due east. Only data from odd points between 1 and 17 and from 34 are used in the time series plots. Latitude is in degrees and minutes north; longitude is in degrees and minutes west.

Station or Point Number	Lat.	Lon.	y (km)	Coast Orient. (deg)	Rotation Correction for Winds (deg)
17	54 09	130 20	1800	120	22.7
16	52 10	128 19	1620	115	24.2
15	50 32	127 13	1440	100	11.7
14	49 23	126 06	1260	128	24.4
13	48 11	124 42	1080	120	37.1
12	46 36	124 05	900	95	32.1
11	44 58	124 03	720	85	15.6
10	43 21	124 20	540	73	34.2
09	41 46	124 12	360	103	51.6
08	40 12	124 18	180	130	23.9
07	38 42	123 27	0	133	39.4
06	37 18	122 24	-180	102	44.6
05	35 59	121 31	-360	128	38.2
04	34 35	120 39	-540	90	13.6
03	34 01	118 53	-720	150	41.3
02	33 00	117 21	-900	110	46.4
01	31 27	116 44	-1080	110	45.0
35	30 00	115 54	-1260	115	45.0
34	28 47	114 41	-1440	130	45.0
33	27 20	113 52	-1620	130	45.0
32	26 07	112 40	-1800	130	45.0

Table 1.4. Sea Level Station Information. Latitude is in degrees and minutes north; longitude is in degrees and minutes west.

Station	Abb	Lat		Lon		Alongsh Pos (km)	Atmospheric Pressure Stations Used for Barometric Adjustment*
Prince Rupert, BC	PRR	54	19	130	20	1883	CG17
Bella Bella, BC	BBL	52	10	128	08	1608	CG16
Zeballos, BC	ZBL	50	01	126	47	1349	CG14-CG15
Tofino, BC	TOF	49	09	125	55	1232	CG14
Bamfield, BC	BAM	48	49	125	06	1164	CG13-CG14
Port Renfrew, BC	REN	48	33	124	24	1110	CG13
Neah Bay, WA	NBA	48	22	124	37	1100	CG13
Toke Point, WA	TKP	46	42	123	58	911	CG12
Astoria, OR	AST	46	10	123	46	852	CG11-CG12
South Beach, OR	SBC	44	38	124	03	683	CG10-CG11
Charleston, OR	CHR	43	20	124	19	538	CG10
Crescent City, CA	CCY	41	45	124	11	359	CG09
Trinidad Head, CA	TRH	41	03	124	09	277	CG08-CG09
North Spit, CA	NSP	40	45	124	14	244	CG08-CG09
Arena Cove, CA	ARC	38	55	123	43	37	CG07-CG08
Point Reyes, CA	PRY	38	00	122	58	-76	CG06-CG07
San Francisco, CA	SFO	37	48	122	28	-126	CG06-CG07
Half Moon Bay, CA	HMB	37	30	122	29	-163	CG06
Monterey, CA	MRY	36	36	121	53	-276	CG05-CG06
Port San Luis, CA	PSL	35	10	120	45	-473	CG04-CG05
Santa Barbara, CA	SBA	34	25	119	41	-634	CG03-CG04
Rincon Island, CA	RIS	34	21	119	27	-650	CG03-CG04
Santa Monica, CA	SMA	34	01	118	27	-739	CG03
Los Angeles, CA	LOS	33	43	118	16	-780	CG02-CG03
La Jolla, CA	LAJ	32	55	117	11	-920	CG02
San Diego, CA	SDO	32	45	117	10	-938	CG01-CG02

*(two stations if interpolated alongshore)

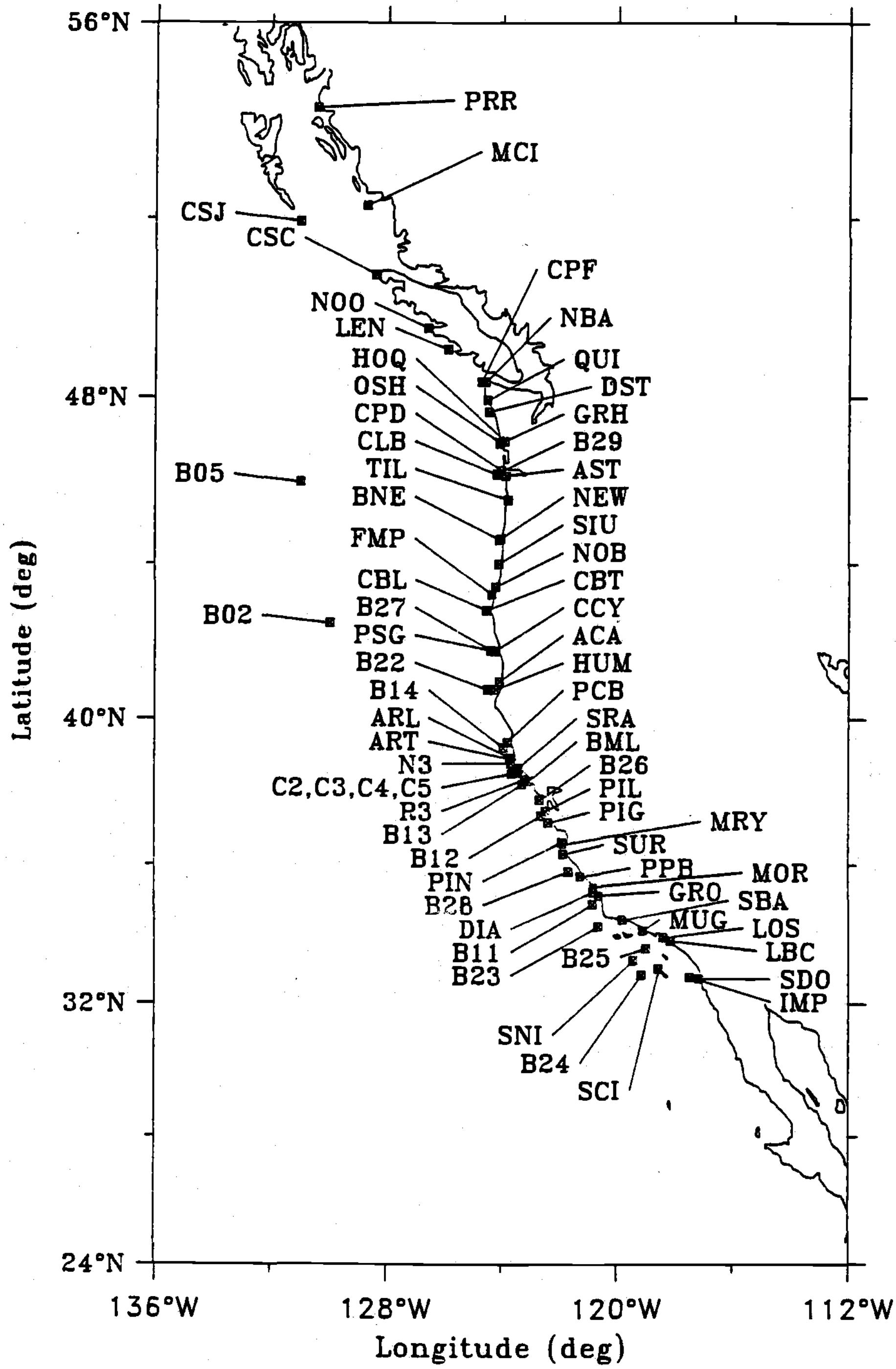


Figure 1.1. CODE Meteorological Stations

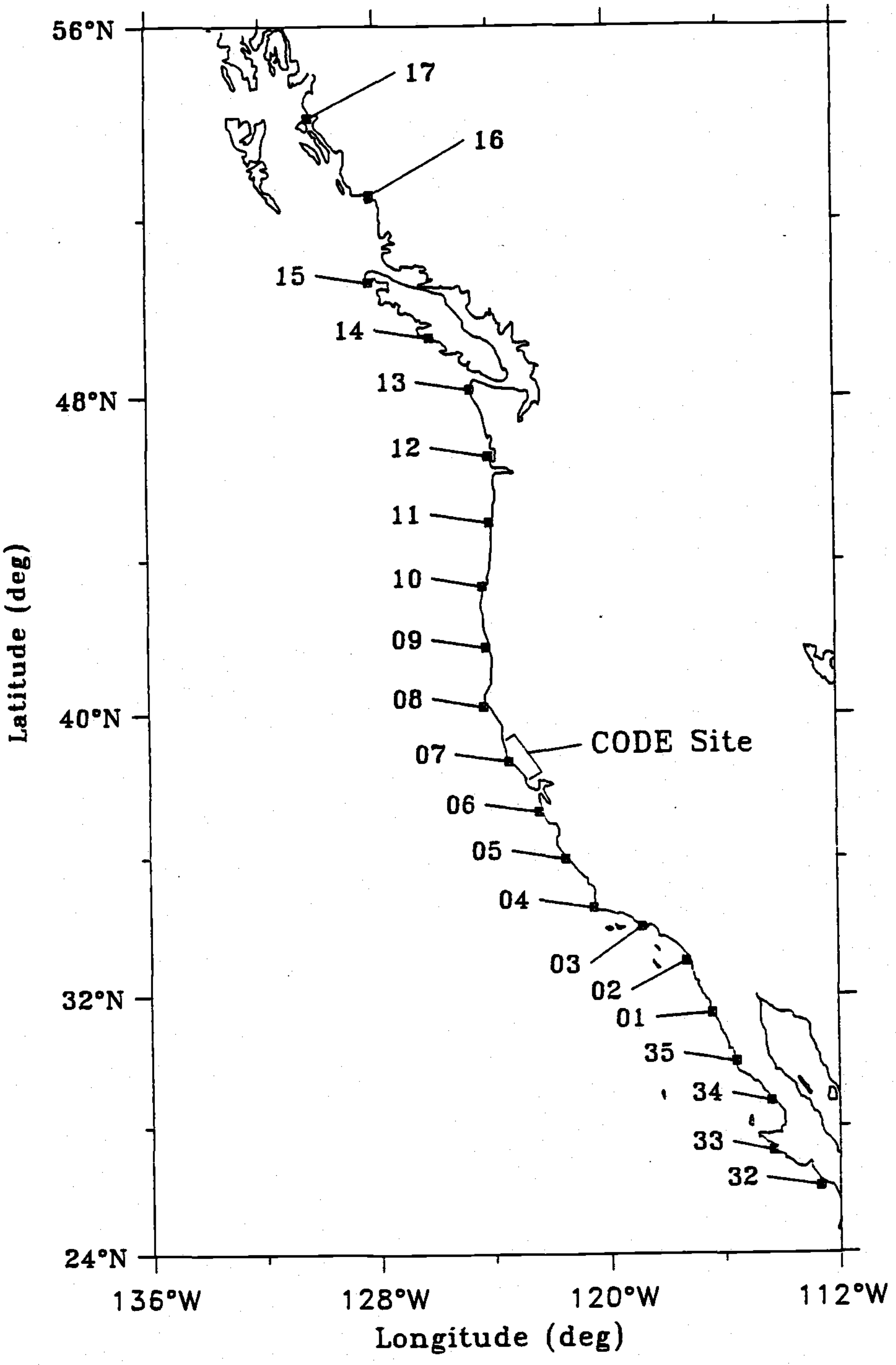


Figure 1.2. The CODE Coastal Analysis Grid Points. (The location of the CODE experimental site is shown.)

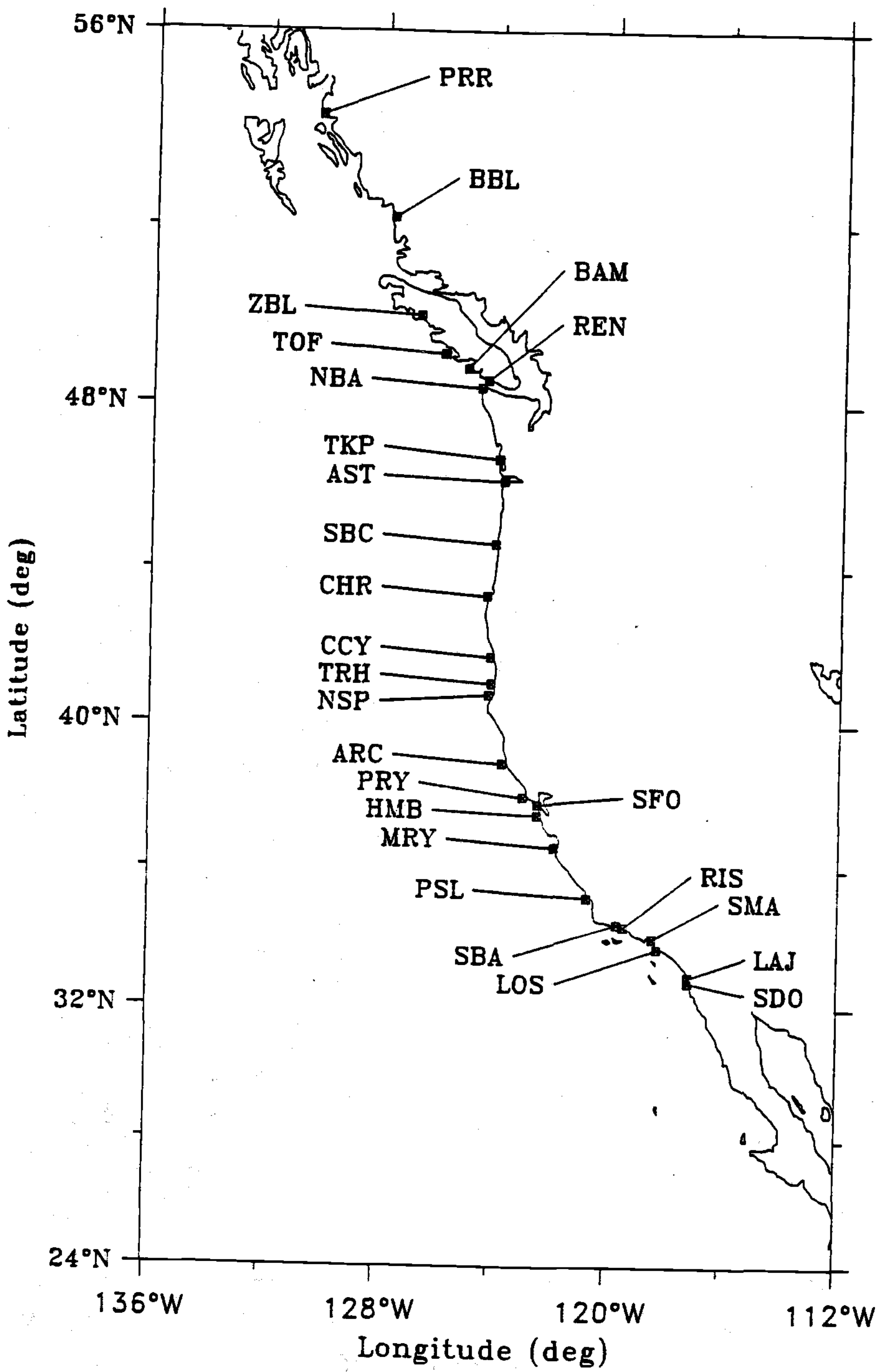


Figure 1.3. CODE Sea Level Stations.

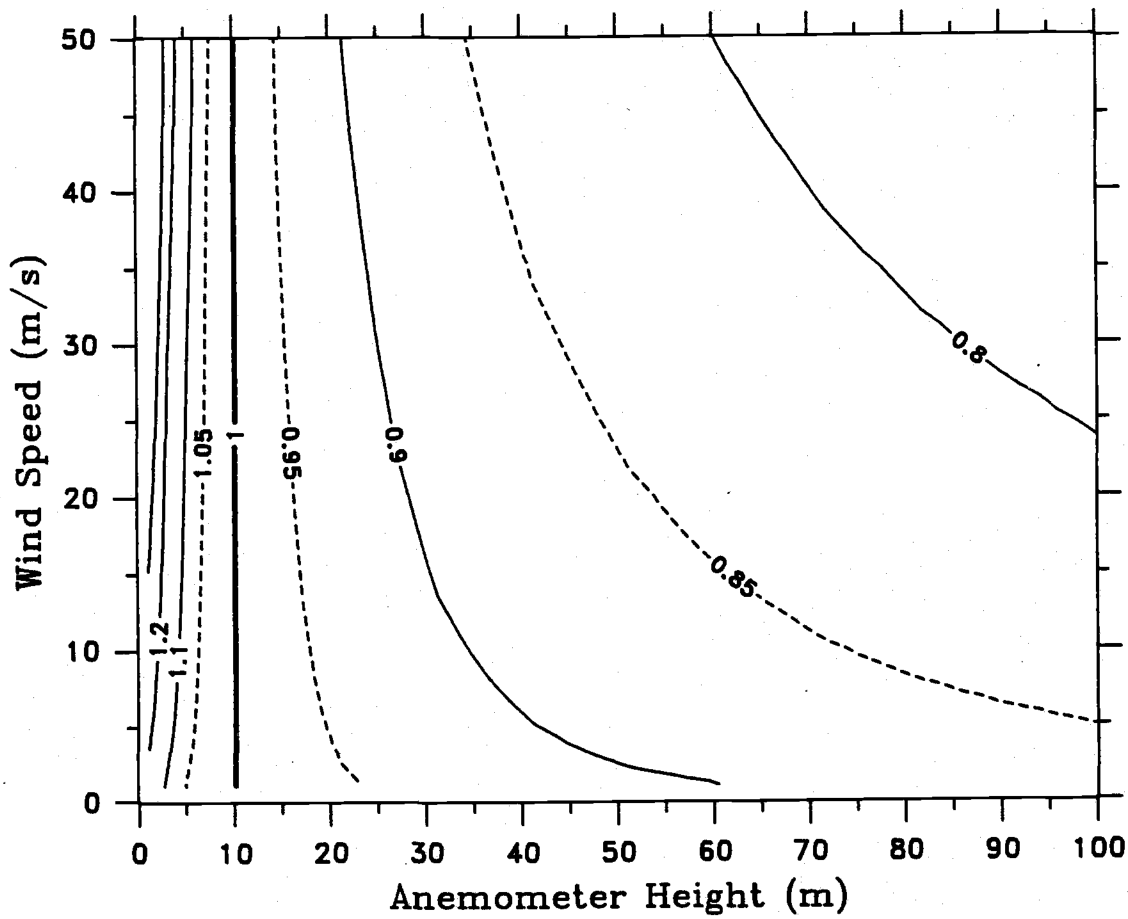


Figure 1.4. Correction Factor for Wind Speed Adjustment to 10 m as a Function of Anemometer Height and Wind Speed.

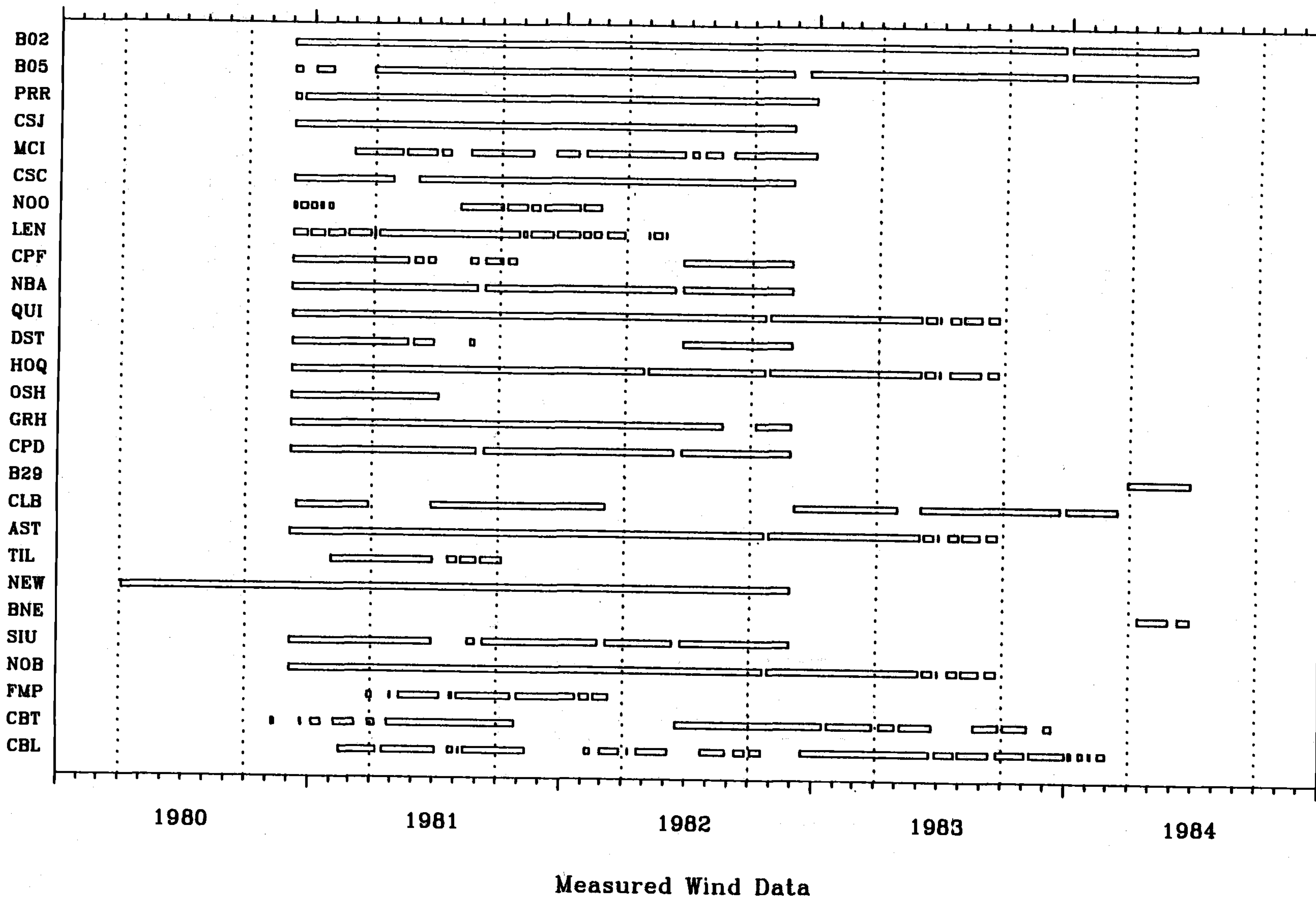


Figure 1.5. Chronograph of Measured Wind Data

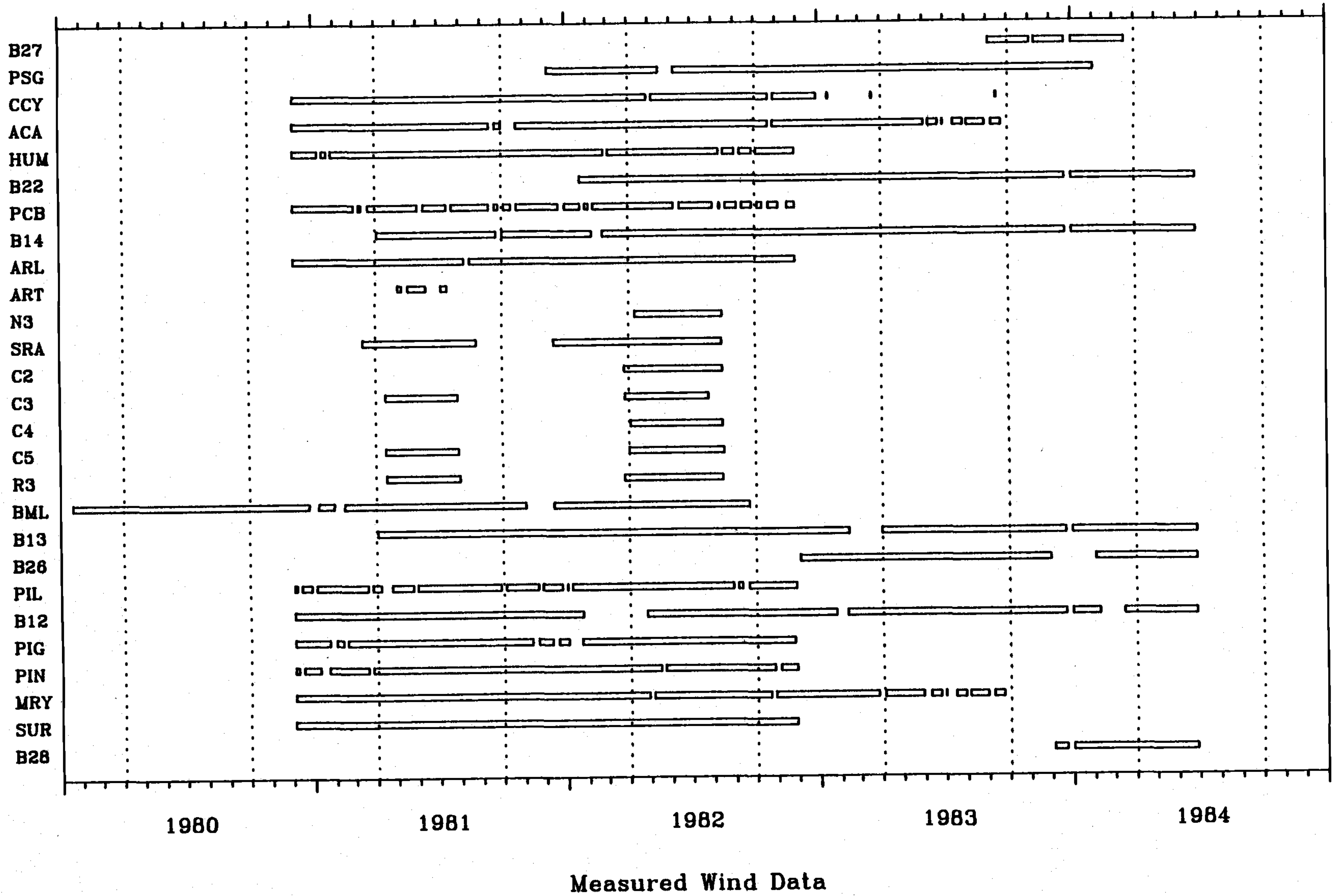


Figure 1.5. (continued)

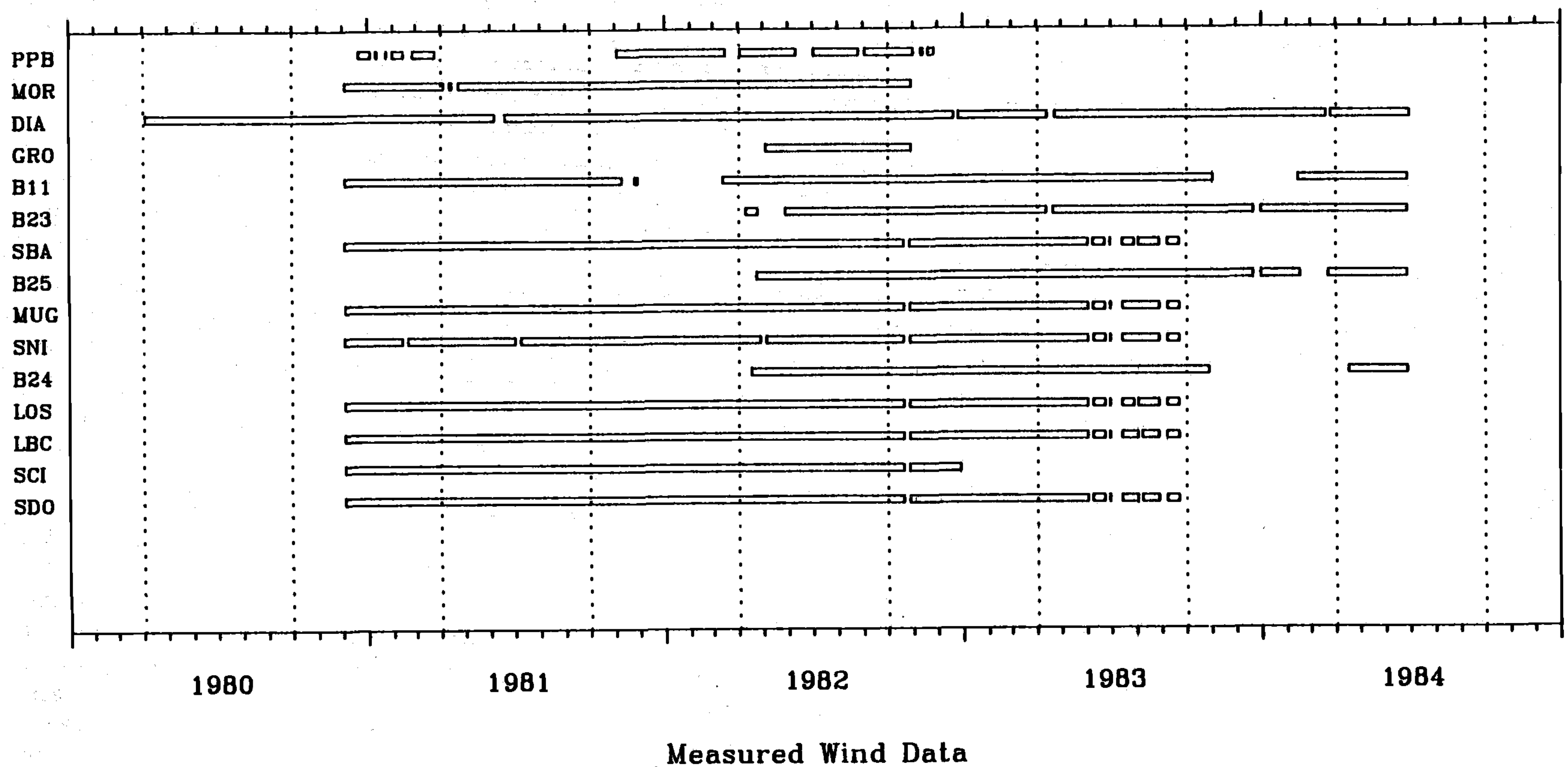


Figure 1.5. (continued)

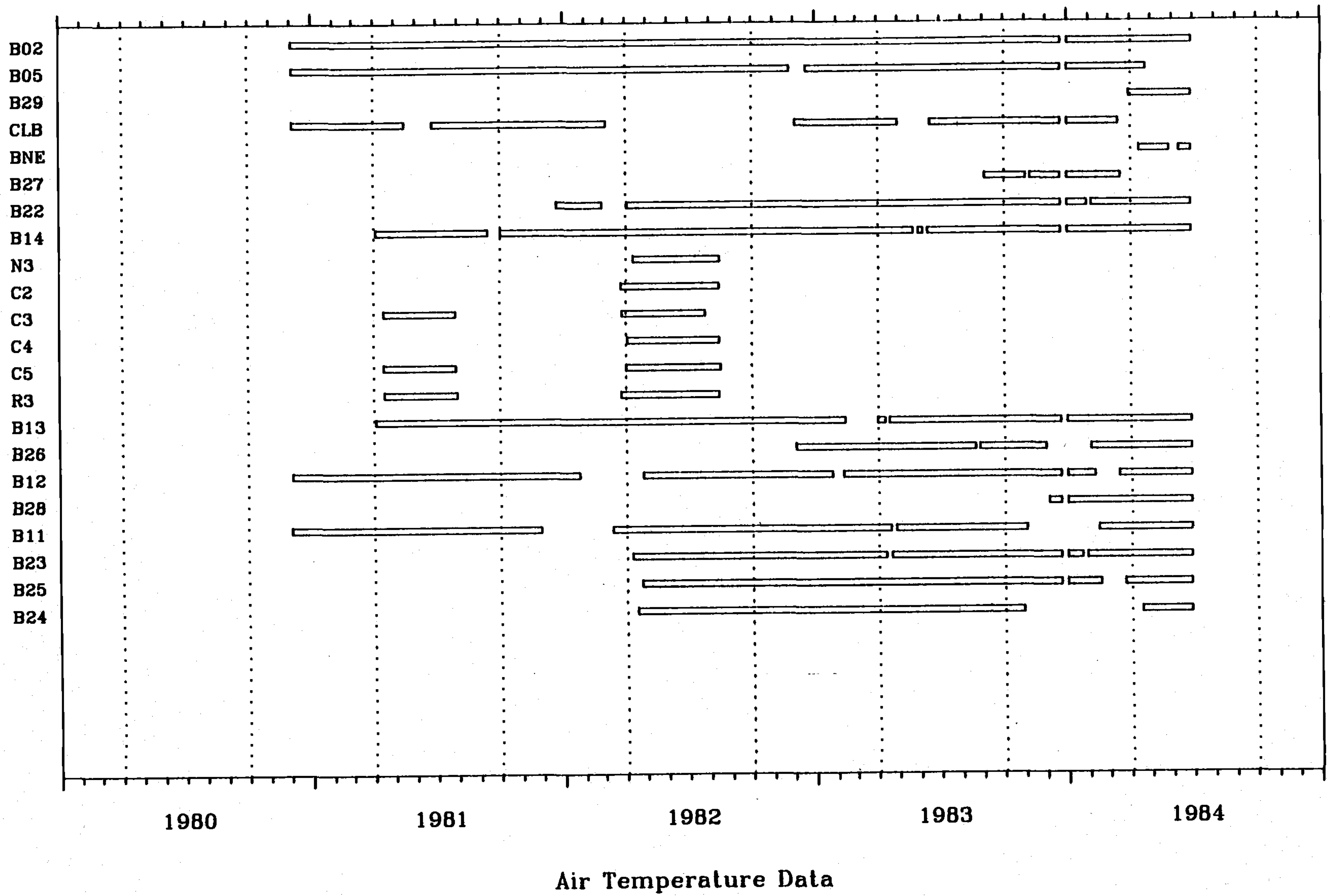


Figure 1.6. Chronograph of Air Temperature Data

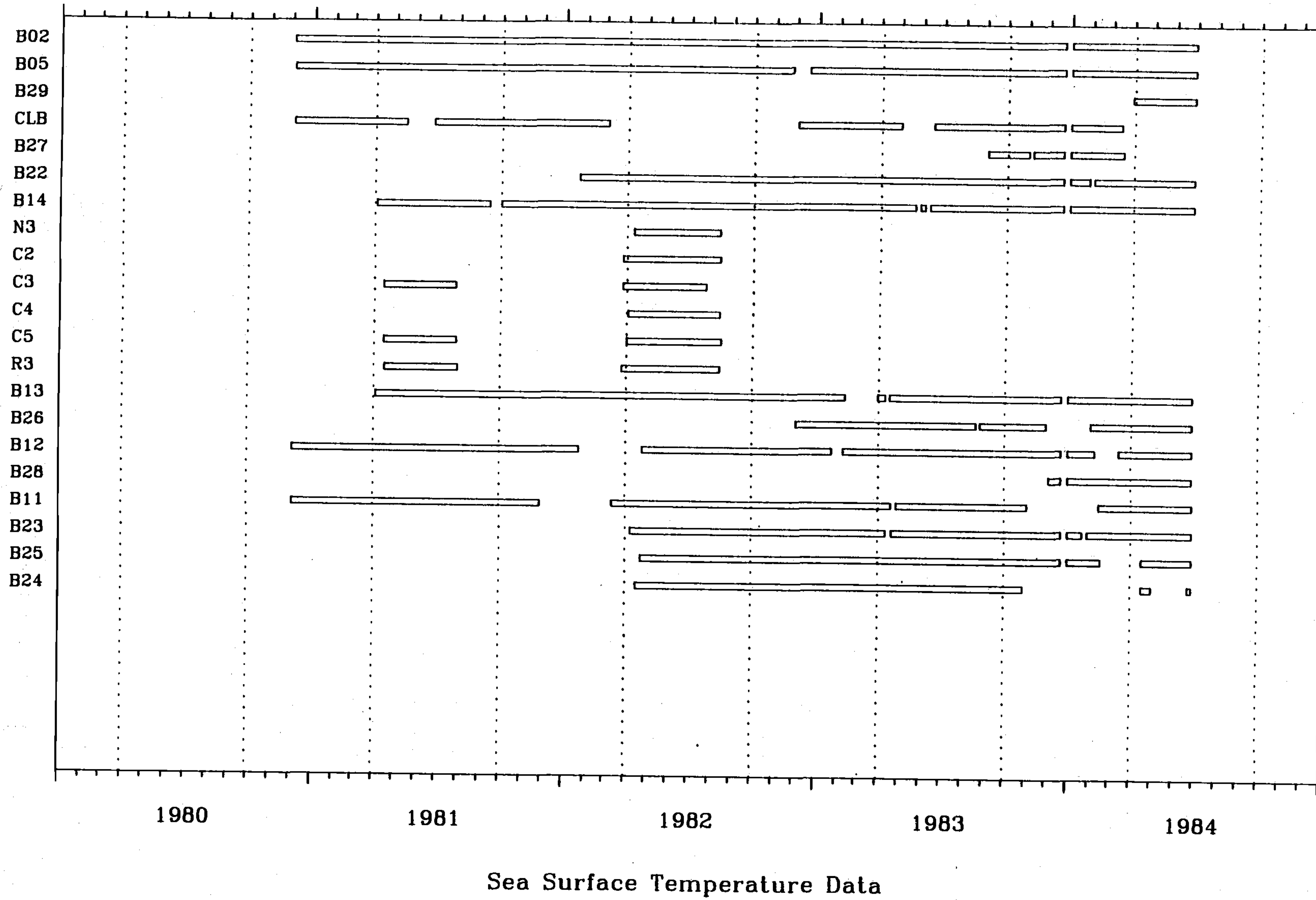


Figure 1.7. Chronograph of Sea Surface Temperature Data

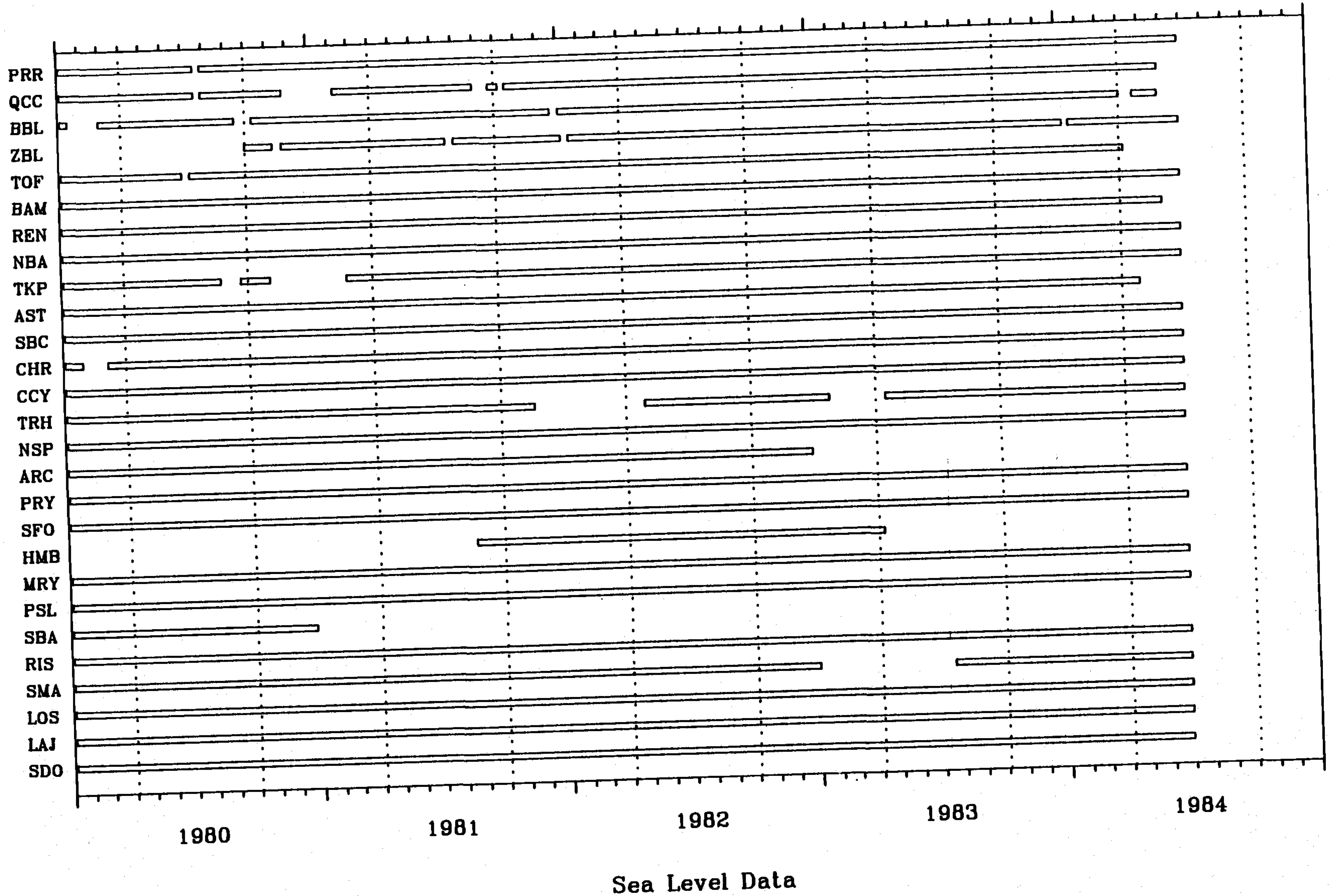


Figure 1.8. Chronograph of Sea Level Data

2. Statistical Tables for LLP Data.

Table 2.1: Statistical summary of measured winds, 1980-84.
All orientations are measured anticlockwise from due east.

Station	y (km)	Coast Orient (deg)	Pct Good Data	Principal Axis Orient Maj (deg)	Principal Axis Orient Min (deg)	Principal Axis Std Dev Maj (m/s)	Principal Axis Std Dev Min (m/s)	Wind Comp	Mean (m/s)	Std Dev (m/s)	Min (m/s)	Max (m/s)
B02	443	---	70	82	-7	5.38	4.00	u	2.27	4.03	-13.06	16.58
								v	-0.46	5.36	-17.14	15.86
B05	0	---	55	103	13	5.69	4.20	u	3.39	4.30	-12.73	18.10
								v	0.34	5.62	-16.54	18.79
PRR	1883	120	41	133	43	2.77	1.39	u	-0.98	2.14	-11.09	9.41
								v	1.35	2.24	-3.93	8.90
CSJ	1760	115	39	128	38	6.71	4.23	u	1.46	5.33	-17.84	18.52
								v	0.71	5.87	-14.74	19.62
MCI	1630	115	29	102	12	4.33	2.33	u	-0.27	2.46	-13.02	10.10
								v	1.60	4.25	-10.96	18.06
CSC	1467	134	37	106	16	3.25	1.39	u	-0.47	1.63	-8.22	4.44
								v	1.37	3.14	-6.44	14.93
NOO	1286	134	11	20	-69	3.19	2.61	u	-1.87	3.13	-9.13	7.96
								v	2.53	2.70	-4.29	9.66
LEN	1215	134	23	18	-71	2.78	1.95	u	-1.67	2.71	-8.19	5.56
								v	0.47	2.05	-5.45	9.36
CPF	1104	120	21	26	-63	3.94	2.25	u	-0.73	3.67	-11.42	13.26
								v	1.60	2.67	-5.23	13.90
NBA	1101	120	38	168	78	2.93	1.51	u	0.65	2.88	-7.25	11.88
								v	0.88	1.60	-5.68	8.65
QUI	1055	110	53	107	17	1.72	1.20	u	0.14	1.26	-4.23	5.64
								v	0.66	1.67	-4.08	7.47
DST	1022	110	19	144	54	3.57	1.70	u	-0.40	3.06	-9.26	8.81
								v	0.24	2.50	-6.52	8.63
HOQ	941	95	53	162	72	3.18	1.91	u	0.51	3.09	-7.92	11.40
								v	0.58	2.06	-8.60	10.25
OSH	941	95	11	176	86	2.98	2.10	u	0.24	2.98	-6.95	9.83
								v	0.16	2.11	-4.28	11.45
GRH	936	95	37	120	30	3.66	3.49	u	0.62	3.53	-10.77	12.77
								v	0.45	3.62	-9.83	13.37
CPD	865	90	38	113	23	4.96	3.43	u	0.07	3.72	-14.01	15.32
								v	2.03	4.74	-8.14	20.38
B29	856	90	4	97	7	4.65	2.14	u	1.58	2.20	-4.60	7.05
								v	0.29	4.63	-8.33	11.09
CLB	854	90	42	78	-11	4.52	3.78	u	-0.24	3.81	-11.27	13.10
								v	1.41	4.50	-10.22	14.41
AST	850	90	53	64	-25	2.43	2.23	u	0.29	2.27	-7.12	7.12
								v	0.90	2.39	-5.46	12.10
TIL	786	84	11	99	9	5.49	2.61	u	0.18	2.72	-11.60	8.46
								v	2.49	5.44	-12.71	21.85
NEW	683	82	53	64	-25	3.41	2.00	u	0.24	2.33	-7.81	11.62
								v	0.01	3.20	-11.04	14.76

Table 2.1. (continued)

				Principal Axis								
				Orient		Std Dev						
Station	y (km)	Coast Orient (deg)	Pct Good Data	Maj (deg)	Min (deg)	Maj (m/s)	Min (m/s)	Wind Comp	Mean (m/s)	Std Dev (m/s)	Min (m/s)	Max (m/s)
BNE	680	82	3	75	-14	4.08	1.42	u	1.45	1.71	-1.62	7.01
								v	-0.41	3.98	-9.26	8.33
SIU	612	81	34	90	0	4.75	2.82	u	0.02	2.82	-14.96	13.65
								v	0.12	4.75	-16.88	20.24
NOB	547	73	53	107	17	3.41	1.38	u	0.32	1.66	-5.82	6.20
								v	0.00	3.28	-12.84	9.99
FMP	525	73	14	75	-14	5.17	1.93	u	0.16	2.26	-5.30	10.28
								v	0.77	5.03	-9.82	17.63
CBT	480	90	36	97	7	6.11	1.88	u	-1.06	2.03	-15.79	5.70
								v	-0.19	6.06	-12.58	21.37
CBL	480	90	41	80	-9	10.44	2.62	u	-0.80	3.13	-11.91	16.73
								v	1.15	10.30	-16.57	34.47
B27	364	103	9	97	7	6.03	1.84	u	-0.35	1.98	-8.11	8.02
								v	0.15	6.00	-16.49	14.26
PSG	362	103	41	106	16	4.72	1.36	u	-0.40	1.86	-7.53	8.24
								v	1.02	4.54	-12.78	14.56
CCY	362	103	40	103	13	3.92	1.37	u	0.32	1.63	-11.16	7.33
								v	-0.11	3.82	-13.03	12.03
ACA	270	75	51	114	24	2.59	1.16	u	0.15	1.50	-5.63	4.35
								v	-0.19	2.41	-7.42	8.03
HUM	246	75	37	101	11	3.79	1.48	u	-0.02	1.63	-8.55	7.38
								v	-0.36	3.73	-17.12	12.31
B22	240	75	48	92	2	6.10	1.72	u	0.32	1.75	-8.49	9.10
								v	-0.77	6.10	-14.77	18.95
PCB	87	90	32	122	32	3.32	1.25	u	0.32	2.09	-6.78	10.68
								v	-0.55	2.87	-10.39	10.88
B14	71	100	62	114	24	6.04	1.72	u	1.50	2.96	-11.37	11.12
								v	-2.04	5.55	-14.60	19.77
ARL	41	110	39	100	10	4.88	1.51	u	-0.17	1.73	-7.44	10.61
								v	-1.99	4.80	-14.76	17.64
ART	37	110	2	114	24	2.97	0.60	u	2.55	1.34	-1.97	5.00
								v	-5.82	2.73	-9.40	3.93
N3	19	133	6	115	25	5.26	0.78	u	2.93	2.35	-9.06	6.85
								v	-6.23	4.78	-15.36	9.81
SRA	0	133	22	118	28	4.15	1.21	u	1.41	2.24	-7.71	10.34
								v	-2.05	3.70	-11.66	8.64
C2	0	133	7	126	36	6.12	1.67	u	3.55	3.87	-9.04	15.32
								v	-3.60	5.03	-16.07	10.20
C3	0	133	12	132	42	5.89	1.20	u	5.42	4.05	-8.91	13.37
								v	-4.68	4.45	-12.93	9.57
C4	0	133	7	129	39	5.52	1.08	u	4.39	3.59	-8.29	10.14
								v	-4.82	4.34	-12.57	9.34
C5	0	133	13	113	23	5.60	1.34	u	4.04	2.54	-7.46	8.14
								v	-7.52	5.17	-17.34	11.88

Table 2.1. (continued)

Station	y (km)	Coast Orient (deg)	Pct Good Data	Principal Axis Orient Maj (deg)	Principal Axis Orient Min (deg)	Principal Axis Std Dev Maj (m/s)	Principal Axis Std Dev Min (m/s)	Wind Comp	Mean (m/s)	Std Dev (m/s)	Min (m/s)	Max (m/s)
R3	-35	133	13	137	47	5.28	1.34	u	5.35	3.99	-8.43	13.31
								v	-3.79	3.71	-12.24	9.56
BML	-46	133	49	128	38	3.39	1.80	u	1.49	2.53	-7.78	12.75
								v	-1.28	2.88	-10.91	12.23
B13	-61	133	61	140	50	5.63	1.97	u	3.68	4.55	-10.57	14.71
								v	-2.31	3.86	-12.27	15.34
B26	-116	125	27	135	45	4.61	2.39	u	2.46	3.68	-8.98	11.03
								v	-1.00	3.66	-8.88	13.71
PIL	-156	105	34	139	49	4.54	1.91	u	2.04	3.67	-15.13	14.14
								v	-0.82	3.28	-11.37	14.86
B12	-171	105	62	116	26	4.77	1.79	u	1.82	2.64	-7.50	11.74
								v	-2.04	4.35	-15.64	15.98
PIG	-191	102	36	139	49	4.87	1.64	u	1.77	3.85	-14.00	12.91
								v	-1.69	3.41	-8.91	13.84
PIN	-271	110	37	158	68	2.87	2.29	u	2.05	2.80	-6.39	12.09
								v	0.14	2.38	-7.74	11.27
MRY	-278	110	52	158	68	1.51	0.79	u	0.85	1.44	-3.45	8.96
								v	-0.06	0.91	-3.92	4.71
SUR	-301	115	39	116	26	4.41	0.95	u	1.02	2.17	-8.02	8.22
								v	-2.65	3.95	-11.19	11.71
B28	-370	130	10	134	44	4.49	0.92	u	5.00	3.22	-3.98	11.37
								v	-4.30	3.27	-10.54	6.77
PPB	-401	130	21	142	52	3.71	1.05	u	1.78	3.00	-9.52	11.84
								v	-1.78	2.43	-9.05	11.40
MOR	-455	130	37	16	-73	1.68	1.04	u	0.26	1.64	-7.98	5.09
								v	-0.28	1.11	-5.47	5.76
DIA	-464	120	82	137	47	3.39	0.89	u	1.95	2.58	-9.14	10.71
								v	-2.22	2.37	-10.35	9.84
GRO	-487	90	9	126	36	0.93	0.59	u	1.00	0.73	-0.92	3.70
								v	-0.27	0.83	-3.44	1.64
B11	-506	90	59	124	34	4.09	1.30	u	2.60	2.56	-7.08	11.78
								v	-3.31	3.44	-11.88	10.88
B23	-563	90	41	121	31	5.01	1.42	u	3.82	2.91	-13.16	12.41
								v	-5.63	4.31	-14.38	10.34
SBA	-623	175	53	163	73	1.64	0.80	u	0.32	1.58	-7.69	7.41
								v	0.60	0.90	-7.24	5.36
B25	-650	170	41	149	59	2.64	1.44	u	2.23	2.39	-8.73	11.92
								v	-0.62	1.82	-9.38	9.80
MUG	-678	155	53	13	-76	2.06	1.31	u	0.94	2.02	-11.05	9.74
								v	-0.21	1.36	-10.93	6.29
SNI	-685	155	52	130	40	3.34	1.36	u	2.20	2.41	-8.83	11.54
								v	-1.52	2.68	-11.11	8.42
B24	-750	155	34	131	41	3.86	1.58	u	4.17	2.81	-10.80	13.08
								v	-3.24	3.08	-12.98	12.49

Table 2.1. (continued)

Station	y (km)	Coast Orient (deg)	Pct Good Data	Principal Axis Orient Maj (deg)	Principal Axis Orient Min (deg)	Principal Axis Std Dev Maj (m/s)	Principal Axis Std Dev Min (m/s)	Wind Comp	Mean (m/s)	Std Dev (m/s)	Min (m/s)	Max (m/s)
LOS	-757	150	53	172	82	1.68	1.27	u	1.62	1.68	-5.51	13.53
								v	0.36	1.28	-6.46	7.49
LBC	-785	150	53	153	63	1.59	1.18	u	0.91	1.52	-7.02	11.30
								v	0.44	1.27	-5.07	7.54
SCI	-825	130	41	153	63	2.20	1.48	u	2.05	2.08	-6.37	10.90
								v	0.01	1.65	-9.12	7.51
SDO	-936	105	53	121	31	2.20	1.25	u	1.82	1.57	-5.36	10.90
								v	-0.33	1.99	-7.11	9.90

Table 2.2: Statistical summary of calculated winds, 1980-84.
All orientations are measured anticlockwise from due east.

Station	y (km)	Coast Orient (deg)	Pct Good Data	Principal Axis Orient Maj (deg)	Principal Axis Orient Min (deg)	Principal Axis Std Dev Maj (m/s)	Principal Axis Std Dev Min (m/s)	Wind Comp	Mean (m/s)	Std Dev (m/s)	Min (m/s)	Max (m/s)
CG17	1800	120	99	132	42	6.80	4.11	u	-0.86	5.50	-27.66	14.67
								v	3.29	5.74	-9.47	25.89
CG16	1620	115	100	125	35	6.26	4.27	u	0.07	5.04	-23.77	15.83
								v	2.58	5.66	-10.26	23.05
CG15	1440	100	100	110	20	6.22	4.11	u	0.44	4.44	-18.30	15.48
								v	2.38	5.99	-11.75	23.27
CG14	1260	128	100	113	23	6.19	3.97	u	0.65	4.42	-20.95	15.59
								v	1.94	5.88	-12.04	23.56
CG13	1080	120	100	110	20	6.33	3.88	u	0.88	4.27	-21.84	15.09
								v	1.51	6.08	-14.09	23.35
CG12	900	95	100	103	13	6.25	3.81	u	1.07	3.99	-21.29	16.02
								v	0.90	6.14	-15.54	22.93
CG11	720	85	100	90	0	6.20	3.96	u	0.94	3.96	-20.12	17.68
								v	0.48	6.20	-15.89	23.00
CG10	540	73	100	77	-12	6.46	3.89	u	0.36	4.04	-16.94	16.45
								v	0.18	6.36	-14.86	23.35
CG09	360	103	100	76	-13	6.65	3.71	u	0.15	3.93	-15.98	15.26
								v	-0.79	6.52	-14.81	22.39
CG08	180	130	100	81	-8	6.76	3.15	u	0.69	3.28	-10.18	13.20
								v	-2.02	6.70	-17.36	22.27
CG07	0	133	100	90	0	6.11	2.96	u	1.07	2.96	-8.26	11.99
								v	-2.82	6.11	-17.42	21.67
CG06	-180	102	100	103	13	5.31	3.02	u	1.59	3.19	-9.52	12.69
								v	-3.31	5.21	-17.09	19.73
CG05	-360	128	100	117	27	4.77	3.14	u	2.05	3.55	-11.15	14.14
								v	-3.62	4.48	-16.01	17.61
CG04	-540	90	100	126	36	4.33	3.23	u	2.37	3.66	-12.50	14.54
								v	-3.89	3.97	-17.48	16.72
CG03	-720	150	100	145	55	4.80	2.93	u	2.25	4.30	-16.62	15.98
								v	-4.49	3.63	-17.00	14.70
CG02	-900	110	100	149	59	4.71	2.49	u	2.34	4.26	-16.47	16.38
								v	-5.01	3.20	-14.45	12.48
CG01	-1080	110	100	147	57	4.02	2.22	u	3.03	3.58	-11.96	15.19
								v	-5.76	2.87	-13.08	11.45
CG35	-1260	115	100	148	58	3.45	2.31	u	3.67	3.19	-9.93	13.49
								v	-5.36	2.66	-13.67	10.22
CG34	-1440	130	100	163	73	3.10	2.16	u	4.19	3.03	-8.46	13.52
								v	-3.71	2.25	-9.25	8.51
CG33	-1620	130	100	167	77	2.86	2.10	u	3.88	2.83	-5.49	12.93
								v	-2.53	2.14	-9.26	10.05
CG32	-1800	130	100	159	69	2.60	1.98	u	3.10	2.53	-7.11	12.47
								v	-2.95	2.06	-10.74	9.30

Table 2.3: Statistical summary of adjusted coastal sea level, 1980-84.

	Pct Good Data	Std Dev (cm)	Min (cm)	Max (cm)
PRR	89	9.84	-26.59	38.93
QCC	82	7.62	-27.21	39.42
BBL	82	10.72	-22.48	46.72
ZBL	72	13.33	-38.74	82.39
TOF	85	12.62	-31.78	52.15
BAM	90	12.34	-24.36	52.47
REN	88	11.95	-23.31	57.85
NBA	90	14.05	-27.35	58.17
TKP	82	18.65	-35.50	102.94
AST	86	15.29	-34.72	63.45
SBC	90	14.20	-32.04	66.70
CHR	88	12.91	-28.90	59.88
CCY	90	12.39	-34.31	50.28
TRH	76	11.50	-28.95	38.78
NSP	90	11.54	-32.49	42.53
ARC	60	10.39	-24.72	49.67
PRY	90	10.65	-31.36	39.09
SFO	90	10.62	-26.82	43.99
HMB	33	9.24	-19.16	36.23
MRY	90	8.75	-19.57	26.60
PSL	90	8.22	-20.16	24.25
SBA	20	5.53	-13.21	25.13
RIS	90	7.93	-22.44	25.19
SMA	79	7.30	-21.58	27.62
LOS	90	7.73	-20.66	24.98
LAJ	90	7.95	-18.88	26.88
SDO	90	8.02	-18.94	28.15

Table 2.4: Statistical summary of calculated alongshore wind stress, 1980-84.

	Pct Good Data	Mean (cm)	Std Dev (cm)	Min (cm)	Max (cm)
CG17	89	0.99	2.40	-2.22	31.45
CG16	90	0.68	1.66	-2.00	18.85
CG15	90	0.66	1.67	-2.25	15.63
CG14	90	0.58	1.70	-2.84	17.21
CG13	90	0.53	1.57	-3.33	15.15
CG12	90	0.40	1.30	-3.78	11.26
CG11	90	0.34	1.40	-4.61	14.51
CG10	90	0.25	1.42	-3.91	18.11
CG09	90	0.10	1.49	-5.32	17.69
CG08	90	-0.21	1.40	-6.04	11.78
CG07	90	-0.39	1.19	-6.26	10.67
CG06	90	-0.27	0.85	-5.28	9.27
CG05	90	-0.49	0.84	-5.39	6.45
CG04	90	-0.43	0.69	-6.03	6.05
CG03	90	-0.67	0.77	-6.07	3.78
CG02	90	-0.36	0.38	-2.57	3.39
CG01	90	-0.45	0.38	-2.20	2.89
CG35	90	-0.43	0.39	-2.76	2.97
CG34	90	-0.33	0.31	-2.05	1.70
CG33	90	-0.18	0.25	-1.38	2.44
CG32	90	-0.23	0.25	-2.03	2.22

Table 2.5: Statistical summary of air temperature, 1980-84.

	Pct Good Data	Mean (°C)	Std Dev (°C)	Min (°C)	Max (°C)
B02	71	12.34	2.76	5.76	19.07
B05	66	10.69	2.96	2.73	17.96
B29	5	10.71	1.61	7.51	14.55
CLB	45	10.64	3.13	-1.21	20.79
BNE	3	10.20	1.57	6.01	13.58
B27	10	11.14	1.99	3.22	17.39
B22	48	12.13	1.90	4.36	17.25
B14	62	12.31	1.72	7.07	18.80
N3	7	11.13	1.23	9.11	14.02
C2	8	10.97	1.40	7.49	15.14
C3	12	10.79	1.10	7.66	14.97
C4	7	11.27	1.33	8.38	14.63
C5	13	11.63	1.16	8.61	14.95
R3	14	10.90	1.08	7.72	14.78
B13	61	12.17	1.74	7.11	18.90
B26	28	12.48	2.01	6.87	20.88
B12	63	12.98	1.62	8.06	18.98
B28	11	12.10	0.96	9.59	14.71
B11	60	13.71	1.74	9.28	20.21
B23	43	14.58	1.97	10.09	22.76
B25	41	16.72	2.13	11.19	23.45
B24	35	15.67	2.03	11.24	23.16

Table 2.6: Statistical summary of sea surface temperature, 1980-84.

	Pct Good Data	Mean (°C)	Std Dev (°C)	Min (°C)	Max (°C)
B02	71	13.36	2.68	9.37	19.20
B05	70	12.06	2.65	8.30	18.36
B29	5	11.51	1.20	9.68	14.81
CLB	45	12.05	2.24	6.93	17.33
B27	10	11.86	1.24	9.86	14.77
B22	48	12.40	1.55	8.39	17.24
B14	63	12.63	1.72	8.40	17.96
N3	7	10.49	1.32	8.17	13.83
C2	8	10.51	1.55	8.08	14.87
C3	12	9.92	1.43	7.91	14.53
C4	7	10.73	1.37	8.27	14.16
C5	13	11.14	1.17	8.77	14.58
R3	14	10.29	1.44	8.04	14.57
B13	61	11.92	1.92	8.15	17.42
B26	28	13.10	1.88	8.74	17.63
B12	63	13.40	1.55	9.85	18.18
B28	11	12.40	1.25	9.65	14.58
B11	60	14.37	1.88	10.15	20.17
B23	43	15.14	2.04	10.65	20.38
B25	40	17.74	2.05	13.48	22.86
B24	33	16.97	1.96	13.49	22.39

Table 2.7: Statistical summary of calculated atmospheric pressure, 1980-84.

	Pct Good Data	Mean (mb)	Std Dev (mb)	Min (mb)	Max (mb)
CG17	89	1013.01	9.83	963.67	1044.30
CG16	90	1014.16	9.36	965.29	1039.33
CG15	90	1014.60	9.33	970.19	1037.58
CG14	90	1015.39	8.60	975.12	1038.50
CG13	90	1015.94	7.97	980.19	1037.74
CG12	90	1016.47	7.53	984.33	1036.59
CG11	90	1017.07	7.20	986.34	1036.49
CG10	90	1017.33	6.65	988.02	1035.89
CG09	90	1017.27	5.98	990.26	1034.03
CG08	90	1016.97	5.46	989.33	1032.46
CG07	90	1016.64	5.10	990.50	1032.93
CG06	90	1016.38	4.89	992.14	1033.35
CG05	90	1016.22	4.55	992.83	1032.78
CG04	90	1016.04	4.03	993.55	1030.78
CG03	90	1015.12	3.98	994.01	1029.07
CG02	90	1014.16	4.03	994.60	1027.71
CG01	90	1013.93	3.77	995.65	1026.59
CG35	90	1013.51	3.52	996.58	1025.46
CG34	90	1013.17	3.30	998.29	1024.38
CG33	90	1013.95	3.03	1001.65	1023.64
CG32	90	1013.72	2.85	1003.39	1022.79

Table 2.8: Seasonal statistics of measure winds:

Table 2.8a: Major axis orientation in degrees anticlockwise from due east.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		112	76	66	61		77	66	62	98
B05		124	95	87	134		99	98	92	
PRR		117	130	121			137	132		
CSJ		127	149	111			135	112		
MCI		98	103	92			99	107		
CSC		113	98	105			113	101		
NOO		48	4				9			
LEN		15	10				27	54		
CPF		26	41	29			16	42		
NBA		172	172	166			179	176		
QUI		89	95	87			115	116	110	
DST		149		142			138	137		
HOQ		1	0	1			147	134	146	
OSH		2					150			
GRH		19	22	17			94	91		
CPD		113	115	120			104	104		
B29										97
CLB		33	74	40	41		94		88	
AST		57	60	62			120	121	121	
TIL		91	88				102			
NEW		51	56	16		84	51	67		
BNE										76
SIU		78	84	67			92	86		
NOB		102	95	100			99	100	100	
FMP		62	67				79			
CBT		90	98	97	114		89	98	93	
CBL		57	75	84	82		84	71	82	
B27					97				95	
PSG			102	102	101			103	111	
CCY		100	101	101			100	102		
ACA		98	94	124			88	111	118	
HUM		106	101	99			90	88		
B22			86	95	94			85	94	94
PCB		125	123	136			116	119		
B14			108	104	126		117	114	119	125
ARL		99	100	102			98	98		
ART							114			
N3								115		
SRA		121	115				116	111		
C2			3					127		
C3			157				135	133		
C4								129		
C5							118	110		
R3			22				143	135		
BML	126	132	144			127	112	134		

Table 2.8a. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B13			135	136	145		142	131	143	144
B26				94	132				127	129
PIL		141	129	145			143	141		
B12		116	113	104	115		122	111	125	114
PIG		149	141	124			132	132		
PIN		147	77	21			135	132		
MRY		161	158	157			179	163	155	
SUR		119	116	117			112	115		
B28					130					138
PPB		151	139	143				140		
MOR		27	28	42			2	137		
DIA		134	134	134	138	133	131	136	135	130
GRO				96				129		
B11		118	113	111	123		127	127	122	132
B23				120	122			120	119	124
SBA		174	165	160			167	161	164	
B25				152	147			154	147	150
MUG		11	17	18			134	165	147	
SNI		132	137	134			136	133	142	
B24				126	121			134	129	136
LOS		4	180	145			176	177	109	
LBC		170	164	0			128	138	152	
SCI		138	156	160			147	148		
SDO		126	115	136			106	107	135	

Table 2.8b: Standard deviation of measured wind major axis component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		6.10	5.80	5.78	5.00		4.61	4.36	4.38	4.36
B05		9.17	5.80	6.17	5.82		4.72	4.65	4.63	
PRR		2.99	2.53	2.49			2.75	2.67		
CSJ		7.37	6.53	5.41			6.38	5.83		
MCI		3.27	4.41	4.94			3.20	4.79		
CSC		3.68	3.24	3.23			3.07	2.83		
NOO		3.44	3.43				2.50			
LEN		2.31	2.53				3.03	3.66		
CPF		4.33	2.96	5.34			3.02	2.50		
NBA		3.12	2.87	2.69			2.64	2.39		
QUI		1.97	1.90	1.83			1.46	1.47	1.43	
DST		3.26		4.30			3.18	2.94		
HOQ		3.77	3.36	3.14			2.39	2.31	1.73	
OSH		2.76					2.49			
GRH		4.39	3.99	4.30			3.33	3.44		
CPD		4.49	5.11	4.87			4.24	4.34		
B29										4.68
CLB		4.34	4.84	4.65	4.60		4.51		3.48	
AST		3.10	2.94	2.69			2.21	2.31	2.04	
TIL		4.89	4.20				5.75			
NEW		4.01	3.46	3.57		3.54	3.08	2.70		
BNE										4.08
SIU		4.31	4.76	3.93			4.37	4.75		
NOB		2.22	2.55	2.22			3.11	3.32	3.00	
FMP		2.71	5.27				3.90			
CBT		3.89	4.20	5.88	4.66		4.08	5.46	5.55	
CBL		8.26	10.06	10.40	10.93		6.88	7.16	8.31	
B27					5.43				4.86	
PSG			5.12	4.73	3.91			4.28	3.65	
CCY		3.05	4.18	3.07			3.47	4.14		
ACA		2.36	2.43	2.49			1.94	2.31	1.91	
HUM		3.88	3.66	2.81			3.22	3.25		
B22			6.92	5.65	5.38			5.01	4.81	5.18
PCB		3.79	2.90	2.86			2.58	3.09		
B14			6.05	6.01	5.44		4.30	5.32	5.29	3.61
ARL		4.26	4.58	3.67			4.09	4.25		
ART							2.97			
N3								5.26		
SRA		6.20	2.77				4.20	3.00		
C2			3.83					6.15		
C3			3.03				5.17	6.09		
C4								5.52		
C5							4.51	6.17		
R3			3.35				4.69	5.61		
BML	3.93	3.26	3.27			2.90	3.06	3.06		
B13			5.17	5.20	5.14		4.54	5.01	4.81	4.27
B26				4.20	4.41				3.51	3.82

Table 2.8b. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		5.77	4.46	3.55			3.45	3.97		
B12		4.87	4.96	5.20	5.12		3.44	3.89	3.75	4.73
PIG		4.88	5.08	2.43			3.84	4.59		
PIN		3.56	2.66	2.31			2.46	2.50		
MRY		1.35	1.14	1.49			1.09	1.08	1.52	
SUR		3.84	3.87	3.56			3.45	4.24		
B28					4.24					3.96
PPB		3.00	3.40	2.81				3.64		
MOR		1.87	1.99	1.03			0.69	0.97		
DIA		2.79	2.79	3.42	2.95	2.70	2.63	3.35	3.12	3.07
GRO				0.89				0.96		
B11		4.39	3.53	3.24	4.24		3.06	3.62	4.12	4.59
B23				5.10	5.16			4.18	3.78	4.33
SBA		1.78	1.60	1.83			1.43	1.39	1.84	
B25				3.26	2.67			1.79	2.32	3.02
MUG		2.31	2.29	2.57			1.24	1.28	1.61	
SNI		3.15	3.07	2.77			3.26	3.27	1.96	
B24				4.18	3.62			3.60	3.56	3.53
LOS		1.86	1.73	1.95			1.17	1.31	2.31	
LBC		1.64	1.40	2.12			1.58	1.37	1.56	
SCI		2.49	2.34	2.43			2.05	1.76		
SDO		1.93	2.09	2.63			2.13	2.21	2.30	

Table 2.8c: Standard deviation of measured wind minor axis component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		4.11	4.57	4.76	4.49		2.68	2.88	2.96	2.90
B05		3.81	4.85	5.24	5.20		2.80	3.09	3.46	
PRR		1.31	1.62	1.17			1.04	0.97		
CSJ		5.23	4.96	4.37			3.07	2.71		
MCI		1.44	3.07	2.28			1.50	1.84		
CSC		1.60	1.60	1.31			1.10	0.91		
NOO		2.14	2.73				1.97			
LEN		1.69	1.74				1.99	1.90		
CPF		2.57	1.67	2.31			2.21	1.55		
NBA		1.64	1.44	1.14			1.43	1.16		
QUI		1.24	1.20	1.19			0.78	0.76	0.94	
DST		1.94		1.73			1.62	0.98		
HOQ		2.11	1.97	1.59			1.57	1.56	1.14	
OSH		2.19					1.79			
GRH		3.33	3.26	2.95			2.25	1.88		
CPD		3.99	4.08	3.95			2.51	2.14		
B29										2.11
CLB		3.53	4.15	3.22	3.47		1.43		1.98	
AST		1.86	1.92	1.25			1.57	1.60	1.45	
TIL		2.41	2.66				2.64			
NEW		2.27	1.86	1.93		1.13	1.31	1.10		
BNE										1.42
SIU		3.62	2.94	3.01			1.57	1.72		
NOB		1.36	1.44	1.67			0.86	1.01	1.06	
FMP		1.06	2.30				0.73			
CBT		1.15	0.49	2.04	3.49		0.61	1.13	1.52	
CBL		2.92	2.10	3.07	2.61		1.12	2.21	1.98	
B27					1.96				0.92	
PSG			1.49	1.43	1.36			1.04	0.90	
CCY		0.97	1.49	1.24			0.69	1.49		
ACA		0.87	1.11	1.07			0.57	0.72	0.74	
HUM		1.38	1.68	1.20			1.17	0.99		
B22			1.87	2.20	1.90			1.22	1.25	1.14
PCB		1.37	1.18	1.57			1.10	1.12		
B14			2.13	2.36	1.35		0.78	1.34	1.17	0.60
ARL		1.71	1.77	1.27			1.55	0.84		
ART							0.60			
N3								0.78		
SRA		1.27	1.39				1.16	0.86		
C2			2.20					1.32		
C3			2.00				0.61	1.18		
C4								1.08		
C5							0.80	1.39		
R3			2.63				0.68	1.23		
BML	1.76	1.65	2.51			0.77	1.22	1.60		
B13			2.52	3.12	1.78		0.98	1.35	1.34	0.83
B26				3.80	1.94				1.21	0.87

Table 2.8c. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		2.60	1.82	2.34			1.05	1.50		
B12		2.24	2.22	2.53	1.73		0.79	0.86	1.08	1.00
PIG		1.62	1.92	0.75			1.28	1.57		
PIN		2.74	2.41	1.95			1.26	1.59		
MRY		0.85	0.87	0.88			0.52	0.59	0.89	
SUR		1.31	0.74	0.80			0.91	0.79		
B28					0.97					0.70
PPB		1.47	1.17	0.64				0.71		
MOR		1.40	1.11	0.72			0.67	0.70		
DIA		0.84	0.92	1.01	0.80	0.48	0.46	0.61	0.64	1.26
GRO				0.40				0.46		
B11		1.74	1.50	1.90	1.24		0.56	0.63	0.72	0.52
B23				2.04	1.43			0.89	0.88	1.08
SBA		0.75	0.67	0.77			0.82	0.59	0.67	
B25				2.16	1.47			0.63	0.84	0.72
MUG		1.34	1.26	1.64			0.72	0.79	1.10	
SNI		1.21	1.56	1.76			0.90	0.92	0.78	
B24				2.49	1.37			0.75	0.92	0.99
LOS		0.81	0.99	1.49			0.48	0.51	0.82	
LBC		0.96	1.01	1.45			0.62	0.84	0.60	
SCI		1.42	1.46	2.04			0.98	0.94		
SDO		0.97	1.00	1.51			0.80	0.87	0.93	

Table 2.8d: Mean of measured wind u component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		1.11	2.58	1.62	2.45		3.13	1.84	2.31	3.21
B05		0.97	4.05	2.17	3.22		3.25	3.95	3.99	
PRR		-2.05	-1.61	-1.84			-0.49	0.22		
CSJ		-1.64	1.63	1.36			2.02	2.79		
MCI		-0.55	-1.19	-0.86			0.00	0.78		
CSC		-1.36	-0.38	-0.80			-0.26	-0.04		
NOO		-1.49	-1.63				-2.56			
LEN		-0.88	-1.16				-2.39	-3.03		
CPF		-2.42	-2.05	-0.59			0.32	0.31		
NBA		-0.37	-0.03	-0.70			1.68	1.50		
QUI		-0.50	-0.41	-0.59			0.77	0.85	0.62	
DST		-1.81		-1.18			0.64	0.85		
HOQ		-1.40	-0.40	-1.02			2.00	2.04	1.35	
OSH		-1.09					1.89			
GRH		-1.14	0.19	-1.65			1.86	1.87		
CPD		-2.01	-0.45	-1.56			1.42	1.26		
B29										1.63
CLB		-2.72	-0.03	-1.25	-0.33		0.95		1.42	
AST		-1.19	-0.53	-1.18			1.51	1.68	1.09	
TIL		0.03	0.56				0.22			
NEW		-0.40	0.13	0.18		0.78	0.56	0.18		
BNE										1.45
SIU		-0.91	-0.58	-1.45			1.19	0.94		
NOB		-0.55	-0.39	-1.06			1.21	1.39	1.20	
FMP		-1.24	0.20				0.17			
CBT		-1.14	-0.80	-2.10	-3.78		-0.33	0.14	-0.60	
CBL		1.65	-0.30	0.01	-0.06		-0.79	-3.34	-1.36	
B27					-0.54				0.67	
PSG			-0.76	-1.72	0.98			0.52	-0.61	
CCY		-0.68	-0.28	-0.58			0.98	1.36		
ACA		-0.64	-0.39	-1.32			0.79	1.27	1.10	
HUM		-0.69	-0.81	-1.08			0.97	0.51		
B22			0.06	-0.26	0.28			0.39	0.56	1.14
PCB		-0.60	-0.27	-1.38	*		1.08	1.13		
B14			0.17	0.10	0.53		3.07	2.75	2.53	0.98
ARL		-1.18	-0.53	-0.76			0.50	0.37		
ART							2.55			
N3								2.93		
SRA		1.16	-0.26				2.82	1.24		
C2			4.00					3.53		
C3			4.40				6.40	4.56		
C4								4.39		
C5							5.08	3.24		
R3			4.00				6.22	4.73		
BML	0.60	-0.04	0.76			2.11	1.80	2.84		
B13			1.50	-0.22	2.29		6.55	4.76	4.50	7.04
B26				-0.96	2.05				3.56	5.34

Table 2.8d. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		1.16	0.53	0.30			3.67	3.06		
B12		0.65	0.67	0.26	1.53		2.94	2.43	2.42	3.64
PIG		-0.33	-0.01	0.16			3.94	2.69		
PIN		0.53	0.38	0.57			3.57	3.42		
MRY		0.12	0.20	-0.01			1.85	1.27	1.56	
SUR		-0.14	-0.14	0.06			2.44	1.80		
B28					3.73					6.56
PPB		0.60	0.60	1.55				3.33		
MOR		-0.80	-0.75	-0.03			1.22	1.10		
DIA		0.59	0.39	0.16	0.91	3.29	3.03	2.99	3.01	4.47
GRO				0.32				1.13		
B11		1.13	1.96	0.69	3.08		3.56	3.29	3.14	3.93
B23				2.19	3.71			3.96	4.20	6.47
SBA		0.22	0.47	0.32			0.21	0.32	0.36	
B25				1.88	1.93			2.41	2.39	2.78
MUG		-0.12	0.29	0.27			1.38	1.45	2.31	
SNI		2.05	2.41	1.18			2.90	3.16	1.22	
B24				3.20	3.28			4.48	4.38	5.74
LOS		0.81	1.07	0.82			2.38	2.46	1.98	
LBC		0.67	0.87	0.52			1.04	1.04	1.36	
SCI		1.27	1.71	1.12			2.84	2.53		
SDO		1.05	1.27	1.49			2.18	2.32	2.48	

Table 2.8e: Standard deviation of measured wind u component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		4.46	4.65	4.94	4.61		2.81	3.18	3.31	2.93
B05		6.03	4.86	5.24	5.52		2.86	3.13	3.46	
PRR		1.80	2.05	1.64			2.14	1.92		
CSJ		6.11	6.17	4.53			4.98	3.30		
MCI		1.50	3.15	2.29			1.57	2.24		
CSC		2.05	1.65	1.53			1.56	1.04		
NOO		2.80	3.43				2.49			
LEN		2.28	2.52				2.84	2.67		
CPF		4.04	2.52	4.80			2.97	2.13		
NBA		3.10	2.85	2.64			2.65	2.39		
QUI		1.24	1.21	1.20			0.93	0.94	1.01	
DST		2.97		3.57			2.61	2.26		
HOQ		3.78	3.36	3.14			2.18	1.96	1.56	
OSH		2.76					2.34			
GRH		4.29	3.90	4.22			2.26	1.88		
CPD		4.07	4.29	4.21			2.65	2.32		
B29										2.18
CLB		4.12	4.21	4.12	4.15		1.46		1.98	
AST		2.30	2.22	1.68			1.75	1.81	1.63	
TIL		2.42	2.72				2.83			
NEW		3.09	2.49	3.48		1.19	2.19	1.47		
BNE										1.71
SIU		3.66	2.96	3.17			1.58	1.75		
NOB		1.41	1.45	1.69			0.97	1.15	1.18	
FMP		1.63	2.95				1.03			
CBT		1.15	0.76	2.13	3.72		0.62	1.34	1.54	
CBL		5.17	3.24	3.23	2.97		1.31	3.11	2.24	
B27					2.05				1.02	
PSG			1.78	1.72	1.53			1.38	1.53	
CCY		1.09	1.67	1.35			0.92	1.69		
ACA		0.93	1.13	1.64			0.57	1.07	1.11	
HUM		1.70	1.78	1.28			1.17	1.00		
B22			1.92	2.24	1.93			1.29	1.29	1.20
PCB		2.46	1.85	2.33			1.51	1.80		
B14			2.77	2.73	3.38		2.06	2.48	2.77	2.14
ARL		1.83	1.93	1.45			1.64	1.01		
ART							1.34			
N3								2.35		
SRA		3.39	1.72				2.14	1.34		
C2			3.91					3.87		
C3			2.97				3.67	4.22		
C4								3.59		
C5							2.25	2.45		
R3			3.33				3.76	4.06		
BML	2.72	2.49	3.04			1.84	1.62	2.42		
B13			4.06	4.31	4.36		3.61	3.45	3.91	3.51
B26				3.80	3.28				2.32	2.50

Table 2.8e. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		4.79	3.16	3.22			2.82	3.24		
B12		2.92	2.80	2.76	2.69		1.93	1.62	2.31	2.13
PIG		4.25	4.11	1.51			2.76	3.31		
PIN		3.34	2.42	2.27			1.95	2.05		
MRY		1.30	1.11	1.42			1.09	1.05	1.43	
SUR		2.20	1.85	1.76			1.54	1.92		
B28					2.84					2.97
PPB		2.73	2.70	2.27				2.84		
MOR		1.78	1.83	0.91			0.69	0.86		
DIA		2.02	2.05	2.48	2.26	1.88	1.76	2.44	2.23	2.20
GRO				0.42				0.70		
B11		2.56	1.94	2.11	2.54		1.88	2.23	2.26	3.09
B23				3.08	3.02			2.25	1.99	2.59
SBA		1.77	1.55	1.74			1.40	1.33	1.79	
B25				3.05	2.38			1.63	2.01	2.65
MUG		2.28	2.22	2.50			1.01	1.25	1.48	
SNI		2.28	2.48	2.31			2.43	2.34	1.61	
B24				3.20	2.20			2.55	2.35	2.65
LOS		1.85	1.73	1.82			1.17	1.30	1.08	
LBC		1.62	1.38	2.12			1.09	1.16	1.40	
SCI		2.08	2.23	2.39			1.80	1.57		
SDO		1.39	1.27	2.17			0.97	1.05	1.75	

Table 2.8f: Mean of measured wind v component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		2.53	-0.04	2.09	1.27		-2.12	-3.09	-2.78	-0.30
B05		4.15	0.62	2.82	2.11		-0.94	-1.63	-0.44	
PRR		1.75	1.29	1.50			1.46	0.97		
CSJ		4.02	1.04	1.18			0.64	-1.86		
MCI		1.98	1.53	2.64			1.75	0.82		
CSC		2.49	1.70	1.45			0.93	0.65		
NOO		3.90	2.68				1.45			
LEN		0.46	0.14				0.64	1.75		
CPF		1.26	-0.17	2.28			1.91	1.59		
NBA		1.80	1.44	1.64			0.20	0.08		
QUI		0.76	0.88	1.02			0.77	0.26	0.20	
DST		0.46		1.25			0.10	-0.49		
HOQ		1.56	1.49	1.57			-0.17	-0.59	-0.26	
OSH		0.01					0.34			
GRH		1.71	1.72	1.47			-0.46	-1.38		
CPD		3.10	3.72	3.60			0.92	0.07		
B29										0.34
CLB		0.58	2.88	3.96	2.26		-0.90		-0.96	
AST		0.87	1.49	1.03			1.08	0.49	0.26	
TIL		2.90	1.71				2.35			
NEW		1.21	1.33	1.49		-1.06	-0.76	-1.12		
BNE										-0.41
SIU		0.63	1.77	1.81			-0.70	-1.87		
NOB		1.52	1.63	2.14			-1.61	-1.92	-1.57	
FMP		1.61	3.02				-1.80			
CBT		2.17	-0.32	4.99	-0.89		-2.46	-3.38	-2.74	
CBL		3.56	2.61	10.33	5.83		-2.48	-5.01	-3.55	
B27					1.32				-6.33	
PSG			1.84	3.39	-1.31			-0.55	1.10	
CCY		0.65	1.20	0.76			-1.47	-0.99		
ACA		0.65	1.04	1.00			-1.69	-0.94	-0.98	
HUM		1.19	1.11	1.49			-2.25	-1.43		
B22			0.94	3.48	1.09			-2.91	-3.83	-3.74
PCB		0.68	0.25	1.03			-1.92	-1.11		
B14			-0.13	2.19	-0.52		-5.75	-4.28	-4.03	-1.42
ARL		0.29	0.23	0.02			-5.18	-3.25		
ART							-5.82			
N3								-6.23		
SRA		-1.67	0.00				-4.14	-1.47		
C2			2.04					-3.84		
C3			2.56				-6.12	-3.67		
C4								-4.82		
C5							-8.40	-6.83		
R3			2.14				-4.21	-3.72		
BML	-0.55	-0.35	-0.04			-1.71	-2.93	-1.21		
B13			-0.53	-0.05	-1.19		-4.29	-3.85	-2.63	-3.68
B26				1.21	-0.99				-1.63	-2.69

Table 2.8f. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		0.08	0.03	-0.72			-2.38	-0.73		
B12		-0.84	-0.61	-0.15	-1.88		-3.13	-3.27	-1.85	-5.27
PIG		-0.32	-0.35	-0.97			-3.15	-2.29		
PIN		-0.36	0.07	0.04			0.27	0.37		
MRY		0.07	0.27	0.42			-0.53	-0.32	-0.31	
SUR		-0.64	-0.81	-1.10			-4.93	-3.98		
B28					-3.27					-5.58
PPB		-0.84	-0.99	-1.94				-2.79		
MOR		-0.46	-0.39	-0.24			-0.14	-0.19		
DIA		-1.42	-1.27	-0.97	-1.76	-3.18	-2.91	-2.83	-2.87	-3.31
GRO				-0.65				-0.19		
B11		-2.00	-2.15	-1.41	-4.14		-4.36	-3.68	-4.17	-4.29
B23				-3.17	-5.64			-6.35	-6.05	-8.67
SBA		0.22	0.25	0.22			1.02	0.97	0.81	
B25				-0.88	-1.23			0.00	-0.45	-0.56
MUG		-0.64	-0.68	-0.34			-0.07	-0.06	0.57	
SNI		-1.61	-1.70	-0.57			-2.92	-2.96	1.22	
B24				-2.52	-2.82			-3.49	-3.38	-4.26
LOS		0.17	0.23	0.05			0.82	0.78	-0.10	
LBC		0.05	0.39	-0.15			0.92	1.15	0.00	
SCI		-0.51	-0.10	-0.46			0.49	0.21		
SDO		-0.58	-0.44	-0.43			0.00	-0.34	-0.25	

Table 2.8g: Standard deviation of measured wind v componentin m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		5.87	5.74	5.63	4.89		4.53	4.15	4.12	4.35
B05		7.93	5.80	6.17	5.54		4.69	4.62	4.63	
PRR		2.73	2.20	2.21			2.03	2.09		
CSJ		6.67	5.42	5.30			5.03	5.52		
MCI		3.26	4.35	4.95			3.17	4.63		
CSC		3.46	3.22	3.14			2.86	2.79		
NOO		2.95	2.73				1.99			
LEN		1.74	1.76				2.24	3.19		
CPF		3.00	2.33	3.31			2.29	2.03		
NBA		1.69	1.48	1.27			1.43	1.17		
QUI		1.97	1.90	1.83			1.37	1.37	1.38	
DST		2.37		2.98			2.45	2.12		
HOQ		2.12	1.97	1.59			1.86	1.98	1.35	
OSH		2.19					1.99			
GRH		3.46	3.37	3.09			3.33	3.44		
CPD		4.42	4.95	4.66			4.16	4.25		
B29										4.65
CLB		3.80	4.80	3.89	4.01		4.51		3.48	
AST		2.79	2.72	2.45			2.07	2.15	1.91	
TIL		4.90	4.30				5.66			
NEW		3.43	3.04	2.10		3.52	2.54	2.52		
BNE										3.98
SIU		4.28	4.75	3.81			4.37	4.74		
NOB		2.19	2.54	2.20			3.08	3.28	2.96	
FMP		2.50	4.94				3.84			
CBT		3.90	4.18	5.85	4.50		4.09	5.42	5.55	
CBL		7.10	9.77	10.37	10.85		6.85	6.83	8.25	
B27					5.40				4.86	
PSG			5.03	4.63	3.85			4.19	3.43	
CCY		3.01	4.11	3.03			3.42	4.07		
ACA		2.35	2.43	2.15			1.94	2.17	1.72	
HUM		3.76	3.62	2.78			3.23	3.25		
B22			6.92	5.64	5.38			5.00	4.81	5.17
PCB		3.20	2.53	2.30			2.37	2.75		
B14			5.79	5.86	4.47		3.85	4.90	4.66	2.97
ARL		4.22	4.52	3.61			4.05	4.22		
ART							2.73			
N3								4.78		
SRA		5.39	2.58				3.80	2.81		
C2			2.25					4.97		
C3			2.25				3.70	4.57		
C4								4.34		
C5							4.00	5.84		
R3			2.81				2.90	4.06		
BML	3.35	2.68	2.79			2.37	2.87	2.48		
B13			4.07	4.27	3.27		2.92	3.89	3.11	2.59
B26				4.21	3.53				2.90	3.02

Table 2.8g. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PIL		4.15	3.65	2.79			2.26	2.75		
B12		4.49	4.66	5.09	4.69		2.95	3.65	3.15	4.34
PIG		2.90	3.55	2.06			2.97	3.56		
PIN		3.01	2.65	2.00			1.96	2.15		
MRY		0.92	0.91	1.00			0.52	0.65	1.04	
SUR		3.42	3.48	3.21			3.22	3.86		
B28					3.30					2.73
PPB		1.94	2.39	1.79				2.40		
MOR		1.51	1.35	0.88			0.67	0.84		
DIA		2.10	2.11	2.57	2.06	2.00	2.01	2.38	2.27	2.50
GRO				0.89				0.80		
B11		3.98	3.32	3.11	3.63		2.48	2.92	3.53	3.44
B23				4.55	4.43			3.63	3.33	3.64
SBA		0.77	0.78	0.96			0.86	0.72	0.82	
B25				2.45	1.91			0.98	1.44	1.62
MUG		1.39	1.38	1.75			1.02	0.84	1.27	
SNI		2.50	2.39	2.34			2.36	2.47	1.36	
B24				3.68	3.21			2.65	2.83	2.54
LOS		0.82	0.99	1.66			0.49	0.51	2.20	
LBC		0.99	1.05	1.45			1.30	1.11	0.91	
SCI		1.98	1.64	2.09			1.39	1.23		
SDO		1.66	1.94	2.13			2.06	2.13	1.76	

Table 2.8h: Percent good data for measured wind in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02	0	65	100	100	95	0	100	100	100	48
B05	0	22	100	87	45	0	100	100	100	0
PRR	0	62	100	49	0	0	100	100	0	0
CSJ	0	65	100	32	0	0	100	100	0	0
MCI	0	17	76	49	0	0	77	79	0	0
CSC	0	65	100	32	0	0	80	100	0	0
NOO	0	18	66	0	0	0	32	0	0	0
LEN	0	53	78	0	0	0	97	8	0	0
CPF	0	65	9	32	0	0	57	54	0	0
NBA	0	65	100	32	0	0	94	93	0	0
QUI	0	65	100	96	0	0	100	100	72	0
DST	0	65	0	32	0	0	47	54	0	0
HOQ	0	65	100	96	0	0	100	96	75	0
OSH	0	65	0	0	0	0	52	0	0	0
GRH	0	65	100	28	0	0	100	78	0	0
CPD	0	65	100	32	0	0	94	93	0	0
B29	0	0	0	0	1	0	0	0	0	48
CLB	0	58	85	65	86	0	53	0	82	0
AST	0	65	100	96	0	0	100	100	72	0
TIL	0	33	3	0	0	0	81	0	0	0
NEW	0	100	100	32	0	99	100	100	0	0
BNE	0	0	0	0	0	0	0	0	0	33
SIU	0	65	94	32	0	0	66	93	0	0
NOB	0	65	100	96	0	0	100	100	72	0
FMP	0	3	77	0	0	0	67	0	0	0
CBT	0	29	14	94	24	0	90	58	57	0
CBL	0	26	42	67	60	0	77	53	86	0
B27	0	0	0	0	84	0	0	0	15	0
PSG	0	0	64	100	68	0	0	88	100	0
CCY	0	65	100	47	0	0	100	96	1	0
ACA	0	65	88	96	0	0	95	100	72	0
HUM	0	58	97	30	0	0	100	91	0	0
B22	0	0	38	100	95	0	0	100	100	48
PCB	0	56	82	18	0	0	85	80	0	0
B14	0	0	91	100	95	0	94	100	100	48
ARL	0	65	100	32	0	0	96	100	0	0
ART	0	0	0	0	0	0	23	0	0	0
N3	0	0	0	0	0	0	0	69	0	0
SRA	0	10	59	0	0	0	80	74	0	0
C2	0	0	3	0	0	0	0	74	0	0
C3	0	0	3	0	0	0	57	63	0	0
C4	0	0	0	0	0	0	0	73	0	0
C5	0	0	0	0	0	0	58	75	0	0
R3	0	0	3	0	0	0	58	74	0	0
BML	40	85	78	0	0	100	100	95	0	0
B13	0	0	100	74	95	0	99	100	100	48

Table 2.8h. (continued)

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B26	0	0	0	65	65	0	0	0	100	48
PIL	0	54	87	32	0	0	86	91	0	0
B12	0	65	63	91	76	0	100	86	100	48
PIG	0	56	80	30	0	0	100	100	0	0
PIN	0	51	100	27	0	0	100	97	0	0
MRY	0	65	100	93	0	0	100	96	68	0
SUR	0	65	100	32	0	0	100	100	0	0
B28	0	0	0	0	60	0	0	0	0	48
PPB	0	32	73	23	0	0	0	83	0	0
MOR	0	65	100	16	0	0	92	100	0	0
DIA	0	100	100	97	97	99	93	100	95	50
GRO	0	0	0	16	0	0	0	82	0	0
B11	0	65	34	100	44	0	100	100	100	48
B23	0	0	0	100	95	0	0	76	96	48
SBA	0	65	100	96	0	0	100	100	72	0
B25	0	0	0	100	76	0	0	88	100	48
MUG	0	65	100	96	0	0	100	100	76	0
SNI	0	61	100	96	0	0	96	96	75	0
B24	0	0	0	100	16	0	0	91	100	39
LOS	0	65	100	96	0	0	100	100	72	0
LBC	0	65	100	96	0	0	100	100	73	0
SCI	0	65	100	45	0	0	100	100	0	0
SDO	0	65	100	96	0	0	100	100	73	0

Table 2.9: Seasonal statistics of calculated winds:

Table 2.9a: Major axis orientation in degrees anticlockwise from due east..

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	152	143	148	136	155	111	111	109	127	122
CG16	122	140	141	133	161	107	106	101	124	109
CG15	130	95	107	112	111	103	102	94	109	104
CG14	126	106	109	112	131	106	98	104	116	105
CG13	121	110	104	108	124	106	95	114	120	106
CG12	110	110	99	107	114	99	90	105	108	98
CG11	85	101	74	93	83	79	74	73	79	81
CG10	80	88	61	71	58	66	61	56	51	64
CG09	82	86	63	71	64	70	59	55	55	59
CG08	85	86	70	74	73	82	70	67	78	66
CG07	88	91	74	76	81	98	77	79	92	75
CG06	92	100	72	74	88	120	93	95	105	90
CG05	93	119	66	69	90	135	143	114	107	98
CG04	106	128	58	68	89	136	24	119	101	89
CG03	165	156	170	172	135	150	158	143	121	134
CG02	57	161	170	167	155	156	160	145	136	151
CG01	62	163	170	160	153	151	158	133	127	141
CG35	57	171	172	158	157	120	163	131	123	131
CG34	73	178	173	178	172	111	174	155	126	168
CG33	121	180	169	26	5	153	178	1	135	31
CG32	125	145	115	138	166	171	166	141	143	35

Table 2.9b: Standard deviation of calculated wind major axis component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	7.02	6.86	7.88	6.76	6.37	5.10	4.84	4.69	4.04	5.37
CG16	6.58	6.20	6.70	6.13	6.16	4.69	4.59	4.14	3.84	5.51
CG15	6.83	6.55	6.21	6.06	5.60	5.15	4.98	4.50	4.09	6.06
CG14	7.03	6.07	6.09	5.78	5.78	4.58	4.41	3.69	3.66	5.41
CG13	6.78	6.08	6.11	5.98	6.07	4.40	4.14	3.60	3.63	5.24
CG12	6.28	6.02	5.79	5.84	5.78	4.28	3.93	3.59	3.61	5.10
CG11	6.30	5.89	5.75	5.60	5.37	4.38	3.84	3.84	3.64	5.05
CG10	6.88	5.99	6.18	5.80	5.63	4.61	3.87	4.42	3.89	5.36
CG09	7.45	6.16	6.27	5.96	5.70	4.39	3.74	4.66	3.88	5.52
CG08	7.07	6.28	6.34	6.14	5.71	4.39	3.89	4.89	4.09	5.35
CG07	6.27	5.59	5.56	5.60	5.23	3.77	3.38	4.32	3.89	4.30
CG06	5.86	4.66	4.60	4.97	4.66	3.20	2.56	3.48	3.60	3.27
CG05	5.65	4.27	4.04	4.72	4.37	3.01	2.34	2.95	3.50	2.92
CG04	4.68	4.07	3.85	4.60	4.10	2.75	2.37	2.61	3.44	2.84
CG03	4.26	4.84	4.53	4.50	3.92	3.11	2.91	2.92	3.33	2.92
CG02	3.70	4.86	4.66	4.54	4.01	2.99	2.96	2.81	3.20	2.85
CG01	3.81	4.19	3.86	3.70	3.28	2.48	2.49	2.44	2.92	2.25
CG35	3.47	3.53	3.16	3.22	2.92	2.39	2.18	2.26	2.87	2.01
CG34	2.84	3.15	2.73	3.02	2.71	1.92	2.06	1.97	2.66	1.69
CG33	2.26	2.58	2.26	2.84	2.41	2.86	1.85	1.95	2.54	1.90
CG32	2.06	2.32	2.15	2.89	2.29	2.13	1.78	1.96	2.62	1.87

Table 2.9c: Standard deviation of calculated wind minor axis component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	5.32	4.96	4.54	4.23	4.75	2.97	2.97	2.89	2.54	2.53
CG16	5.51	5.61	4.93	4.43	4.89	2.98	2.85	3.03	2.61	2.83
CG15	4.93	5.14	4.81	4.47	5.29	2.86	2.83	2.61	2.65	2.92
CG14	4.51	5.00	4.58	4.54	5.02	2.83	2.90	2.75	2.66	2.65
CG13	4.30	4.64	4.46	4.67	4.89	2.79	2.98	2.71	2.70	2.46
CG12	4.66	4.25	4.43	4.63	4.85	2.64	2.77	2.68	2.82	2.53
CG11	4.64	4.38	4.48	4.83	4.92	2.78	2.59	2.88	3.06	2.80
CG10	4.30	4.32	4.30	4.63	4.54	2.78	2.43	2.83	2.95	2.95
CG09	3.69	4.00	4.28	4.39	4.35	2.76	2.30	2.81	2.97	2.85
CG08	3.40	3.31	3.73	3.85	3.65	2.20	1.84	2.36	2.50	2.29
CG07	3.55	3.08	3.43	3.65	3.24	1.89	1.83	2.13	2.17	2.07
CG06	3.72	3.33	3.51	3.75	3.01	1.80	2.07	2.06	1.89	2.03
CG05	3.65	3.43	3.59	3.83	3.10	1.84	2.12	1.93	1.91	2.18
CG04	4.09	3.38	3.46	3.62	2.84	2.13	2.26	2.03	1.99	2.28
CG03	3.72	2.90	3.18	3.98	3.16	1.77	1.82	1.89	2.18	2.18
CG02	3.68	2.26	2.46	3.19	2.39	1.69	1.41	1.55	1.88	1.53
CG01	3.17	2.06	2.07	2.84	1.86	1.69	1.28	1.30	1.51	1.38
CG35	2.77	2.14	1.98	2.76	1.85	2.10	1.36	1.45	1.41	1.35
CG34	2.42	2.22	1.92	2.78	1.97	1.78	1.44	1.70	1.66	1.47
CG33	2.07	2.25	1.99	2.78	2.04	1.82	1.60	1.78	1.85	1.41
CG32	1.91	1.98	1.93	2.52	1.96	1.70	1.62	1.64	1.73	1.50

Table 2.9d: Mean of calculated wind u component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	-2.67	-3.00	-3.04	-3.39	-2.75	1.37	1.01	1.77	1.46	0.59
CG16	-1.52	-2.04	-1.54	-2.19	-1.59	1.98	1.72	2.18	1.92	1.86
CG15	-1.67	-1.43	-0.22	-1.40	-0.77	2.10	1.83	2.00	1.73	1.96
CG14	-1.34	-1.31	-0.02	-1.37	-0.56	2.32	2.22	1.95	1.93	2.76
CG13	-0.64	-0.89	0.59	-0.97	-0.32	2.25	2.35	1.76	1.90	3.12
CG12	-0.26	-0.19	1.41	-0.17	0.15	1.92	2.26	1.50	1.51	2.83
CG11	-0.13	0.09	1.68	0.48	0.45	1.23	1.70	1.06	0.77	2.05
CG10	-0.01	-0.10	1.44	0.83	0.44	0.13	0.34	0.09	-0.41	0.93
CG09	0.29	-0.17	1.24	1.11	0.45	-0.04	-0.39	-0.38	-0.82	0.39
CG08	0.37	0.16	1.31	1.33	0.77	1.23	0.35	0.32	0.04	0.97
CG07	0.53	-0.17	1.02	0.80	0.61	2.55	1.32	1.28	1.04	1.75
CG06	0.70	-0.47	0.81	0.30	0.55	3.79	2.75	2.47	2.29	2.91
CG05	0.74	-0.50	0.63	0.13	0.39	4.82	4.10	3.57	3.19	3.51
CG04	0.53	-0.48	0.55	0.34	0.59	5.11	4.46	4.35	3.96	4.29
CG03	0.71	-1.38	0.31	0.16	0.26	5.10	4.14	4.85	4.14	4.63
CG02	1.42	-1.37	0.33	0.55	0.55	4.89	3.92	4.67	4.24	5.18
CG01	1.99	-0.24	1.09	1.72	1.64	5.16	4.41	4.79	4.77	5.95
CG35	2.44	0.85	1.72	2.58	2.52	4.62	5.29	5.32	5.56	6.71
CG34	2.94	1.62	2.16	2.98	2.90	5.22	5.96	5.79	6.13	7.04
CG33	2.70	2.15	2.43	3.15	2.87	2.53	5.72	5.70	5.81	6.53
CG32	1.90	1.56	1.60	2.15	1.86	3.70	4.59	4.29	4.48	5.36

Table 2.9e: Standard deviation of calculated wind u component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	6.68	6.23	7.09	5.68	6.13	3.31	3.28	3.14	3.18	3.55
CG16	5.84	5.97	6.06	5.29	6.04	3.17	3.01	3.08	3.05	3.24
CG15	5.81	5.16	4.95	4.74	5.33	3.03	2.95	2.62	2.85	3.21
CG14	5.50	5.09	4.76	4.74	5.37	3.01	2.94	2.82	2.88	2.93
CG13	5.09	4.84	4.58	4.81	5.29	2.94	2.99	2.88	2.97	2.77
CG12	4.89	4.50	4.47	4.75	5.02	2.70	2.77	2.75	2.91	2.60
CG11	4.66	4.45	4.60	4.84	4.93	2.85	2.71	2.97	3.08	2.87
CG10	4.40	4.32	4.80	4.78	4.87	3.16	2.82	3.41	3.35	3.55
CG09	3.81	4.01	4.75	4.58	4.65	3.01	2.76	3.53	3.30	3.76
CG08	3.45	3.33	4.13	4.07	3.87	2.26	2.18	2.88	2.60	3.01
CG07	3.56	3.09	3.65	3.80	3.30	1.95	1.94	2.25	2.17	2.28
CG06	3.73	3.39	3.63	3.85	3.01	2.22	2.07	2.08	2.05	2.03
CG05	3.66	3.65	3.68	3.96	3.10	2.49	2.27	2.13	2.09	2.21
CG04	4.15	3.65	3.57	3.78	2.84	2.47	2.35	2.18	2.06	2.28
CG03	4.23	4.57	4.50	4.49	3.56	2.83	2.79	2.60	2.53	2.57
CG02	3.69	4.66	4.61	4.48	3.77	2.82	2.82	2.47	2.66	2.60
CG01	3.32	4.05	3.82	3.61	3.04	2.31	2.36	1.92	2.12	1.96
CG35	3.00	3.50	3.14	3.16	2.78	2.18	2.12	1.85	1.95	1.67
CG34	2.46	3.15	2.73	3.02	2.70	1.79	2.06	1.93	2.06	1.68
CG33	2.12	2.58	2.25	2.83	2.41	2.68	1.86	1.95	2.23	1.79
CG32	1.96	2.21	1.97	2.74	2.27	2.12	1.77	1.84	2.34	1.76

Table 2.9f: Mean of calculated wind v component in m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	4.14	7.27	5.25	6.22	5.67	0.47	1.20	-0.22	0.60	1.82
CG16	3.09	6.25	4.18	5.55	5.38	-0.31	0.48	-0.80	0.12	1.59
CG15	3.68	5.62	3.38	5.18	5.17	-0.51	0.46	-0.87	0.14	2.07
CG14	3.99	5.64	3.71	5.46	4.92	-1.34	-0.31	-1.90	-1.08	0.88
CG13	3.58	5.60	3.82	5.68	4.58	-2.12	-0.91	-2.70	-2.10	-0.08
CG12	2.90	5.10	3.45	5.69	4.13	-3.15	-1.91	-3.27	-2.83	-1.07
CG11	2.28	4.74	3.21	5.81	3.75	-3.87	-2.74	-3.51	-3.12	-2.02
CG10	1.41	4.51	3.08	6.05	3.41	-4.33	-3.58	-3.68	-3.19	-2.66
CG09	0.54	3.52	2.26	5.43	2.47	-5.18	-5.21	-4.46	-4.03	-4.29
CG08	0.00	1.99	1.35	4.34	1.08	-6.27	-7.00	-5.45	-5.22	-6.08
CG07	-0.40	0.57	0.62	2.94	-0.03	-6.59	-7.67	-5.88	-5.52	-7.24
CG06	-0.98	-0.62	-0.12	1.49	-1.03	-6.56	-7.44	-5.91	-5.28	-7.55
CG05	-1.67	-1.47	-1.11	0.06	-2.17	-6.18	-6.67	-5.39	-4.95	-7.65
CG04	-1.98	-2.21	-2.17	-1.12	-3.24	-5.87	-5.93	-4.80	-4.81	-7.73
CG03	-2.03	-2.75	-2.78	-1.77	-3.56	-6.88	-6.73	-5.51	-5.53	-7.69
CG02	-2.57	-3.37	-3.24	-2.45	-3.75	-7.62	-7.27	-6.30	-6.17	-7.10
CG01	-2.83	-4.10	-4.42	-3.89	-4.70	-7.89	-6.94	-7.77	-7.02	-7.32
CG35	-2.48	-4.03	-4.80	-4.83	-5.29	-4.24	-5.43	-7.88	-6.88	-7.25
CG34	-2.44	-2.67	-3.46	-3.51	-3.84	-3.30	-3.28	-5.05	-4.46	-5.16
CG33	-3.00	-1.93	-2.45	-2.33	-2.62	-2.11	-2.30	-3.02	-2.79	-3.56
CG32	-3.57	-2.17	-2.70	-2.58	-2.88	-3.18	-2.74	-3.22	-3.44	-3.75

Table 2.9g: Standard deviation of calculated wind u componentin m/s.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	5.76	5.73	5.71	5.61	5.07	4.89	4.64	4.54	3.57	4.76
CG16	6.30	5.86	5.71	5.41	5.05	4.57	4.49	4.10	3.51	5.29
CG15	6.12	6.55	6.11	5.86	5.57	5.06	4.92	4.50	3.96	5.92
CG14	6.30	6.00	5.96	5.62	5.47	4.47	4.39	3.64	3.49	5.28
CG13	6.23	5.93	6.02	5.87	5.73	4.30	4.13	3.47	3.43	5.10
CG12	6.13	5.85	5.77	5.75	5.64	4.25	3.93	3.54	3.55	5.07
CG11	6.30	5.85	5.66	5.61	5.37	4.33	3.76	3.77	3.62	5.01
CG10	6.83	6.00	5.81	5.69	5.36	4.37	3.60	4.00	3.56	5.00
CG09	7.40	6.16	5.92	5.82	5.47	4.23	3.42	4.14	3.61	4.95
CG08	7.06	6.27	6.10	5.99	5.57	4.36	3.72	4.61	4.03	4.99
CG07	6.28	5.59	5.42	5.50	5.20	3.74	3.33	4.26	3.89	4.19
CG06	5.86	4.63	4.51	4.89	4.67	2.92	2.56	3.47	3.51	3.27
CG05	5.66	4.09	3.97	4.62	4.37	2.50	2.20	2.81	3.40	2.91
CG04	4.65	3.83	3.75	4.48	4.10	2.45	2.28	2.49	3.41	2.85
CG03	3.76	3.32	3.23	3.99	3.57	2.19	2.01	2.31	3.07	2.59
CG02	3.70	2.67	2.56	3.28	2.75	1.97	1.68	2.05	2.60	1.94
CG01	3.68	2.33	2.15	2.95	2.22	1.91	1.50	2.00	2.52	1.78
CG35	3.28	2.19	2.01	2.83	2.05	2.32	1.45	1.95	2.53	1.76
CG34	2.81	2.22	1.93	2.78	1.99	1.90	1.45	1.76	2.36	1.48
CG33	2.22	2.25	2.01	2.79	2.05	2.09	1.60	1.78	2.22	1.55
CG32	2.02	2.10	2.12	2.69	1.98	1.71	1.63	1.78	2.10	1.63

Table 2.10: Seasonal statistics of adjusted coastal sea level:

Table 2.10a: Mean in cm.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PRR	0.53	7.41	1.98	9.91	5.86	-10.63	-6.75	-6.61	-0.31	-3.42
QCC	2.44	-0.60	0.64	8.15	4.61	-7.09	-3.98	-4.05	0.99	-2.91
BBL	-1.42	4.66	4.76	13.40	5.70	-11.54	-8.46	-5.76	-1.29	-6.95
ZBL		2.28	4.90	16.99	7.13	-6.78	-12.04	-8.88	-4.78	-11.19
TOF	5.35	3.65	4.76	17.87	5.77	-12.72	-11.05	-7.81	-3.49	-6.69
BAM	4.43	3.57	5.76	18.68	6.36	-12.32	-10.95	-6.51	-2.49	-8.56
REN	4.97	3.13	5.20	17.70	6.02	-10.43	-10.49	-7.36	-3.23	-8.39
NBA	6.18	4.52	6.86	18.96	7.58	-12.39	-11.98	-8.64	-3.21	-9.43
TKP	7.96	-4.05	10.30	23.08	7.67	-14.25	-11.97	-9.86	-5.28	-8.41
AST	3.33	-0.07	7.58	18.35	6.12	-15.20	-12.17	-5.72	-0.74	2.16
SBC	5.78	3.36	6.85	20.04	8.37	-11.81	-12.79	-9.43	-2.59	-9.67
CHR	2.30	3.30	6.71	19.39	6.70	-10.61	-11.51	-6.69	-3.85	-8.24
CCY	4.71	1.64	4.11	17.87	6.83	-8.88	-11.97	-5.39	0.04	-13.40
TRH	5.64	3.16	4.80	16.85	6.88	-7.87	-10.43	-4.74	3.11	-11.00
NSP	1.51	1.24	3.98	16.92	7.72	-10.07	-11.11	-4.07	0.52	-12.00
ARC	8.06	2.81	3.12	16.48		-6.45	-9.19	-2.22		
PRY	2.88	-0.43	1.81	14.10	6.00	-8.24	-10.32	-3.01	4.82	-12.66
SFO	5.25	-3.12	0.16	15.70	6.40	-9.17	-11.66	-2.39	7.19	-11.60
HMB			-1.45	9.94			-8.69	-6.06	-9.36	
MRY	1.89	0.16	-1.39	12.81	3.54	-6.80	-8.57	-2.44	6.01	-8.71
PSL	1.86	-0.46	-1.73	9.31	3.56	-6.53	-5.71	-2.48	6.41	-6.71
SBA	2.58	3.73				-3.02				
RIS	0.37	-1.71	-3.43	10.11	2.56	-5.30	-4.72	-1.84	6.70	-5.25
SMA	-0.14	-0.18	-2.03	12.55	2.93	-3.06	-5.09	-1.62	11.85	-4.28
LOS	0.26	-0.15	-3.33	8.60	3.07	-5.35	-4.47	-2.15	5.81	-4.46
LAJ	0.33	-1.30	-2.12	9.35	2.18	-5.76	-4.45	-2.26	6.56	-4.81
SDO	0.88	-2.19	-3.28	9.79	3.01	-5.48	-4.89	-2.24	6.88	-4.23

Table 2.10b: Standard deviation of adjusted coastal sea level in cm.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PRR	9.46	8.48	8.56	8.37	7.25	5.41	6.62	5.32	6.19	6.66
QCC	7.96	4.94	7.04	8.03	6.11	4.12	5.35	5.93	4.80	5.07
BBL	11.02	8.41	9.18	9.79	8.19	4.65	5.01	5.42	5.91	6.57
ZBL		10.66	9.79	12.89	9.51	2.07	5.96	8.41	6.88	7.55
TOF	12.18	8.94	9.07	11.13	9.15	5.41	4.64	8.15	6.30	3.53
BAM	10.96	8.51	9.19	10.95	9.51	4.56	3.99	7.66	5.45	5.67
REN	10.21	8.63	9.21	11.01	9.31	4.38	3.84	7.84	5.91	4.91
NBA	12.31	10.09	11.02	12.66	11.37	6.19	5.97	9.83	7.25	8.28
TKP	15.76	11.42	16.34	19.31	15.43	10.65	9.76	14.67	10.13	13.53
AST	13.11	12.96	13.73	15.11	12.37	8.28	9.03	9.53	9.49	11.25
SBC	12.63	9.61	10.70	12.75	10.39	6.32	5.68	10.24	7.78	7.35
CHR	12.44	9.07	9.49	10.81	9.65	5.22	5.04	9.22	7.73	6.96
CCY	14.67	8.59	8.81	9.88	9.00	5.44	5.35	8.38	8.01	5.81
TRH	14.10	8.90	9.46	9.18	8.72	5.19	4.92	7.63	7.65	4.93
NSP	12.90	8.18	6.98	8.28	8.31	5.26	5.03	7.65	7.85	5.26
ARC	13.13	8.36	5.64	8.52		5.40	5.42	7.27		
PRY	12.20	6.19	5.78	8.43	8.90	5.71	5.76	6.82	8.40	5.62
SFO	11.01	5.27	5.16	8.33	8.07	4.18	4.16	5.47	5.98	4.70
HMB			4.29	7.78			3.33	6.20	2.74	
MRY	8.30	4.92	3.70	7.36	6.57	4.39	4.19	6.66	7.09	4.42
PSL	9.04	5.30	3.47	8.32	6.46	4.87	4.10	6.77	8.28	5.09
SBA	5.65	3.90				4.29				
RIS	5.70	6.40	3.32	8.17	5.79	4.30	3.73	7.60	7.88	4.36
SMA	5.51	6.10	4.74	5.42	5.46	4.30	3.49	7.69	3.82	4.54
LOS	6.18	5.42	4.00	8.26	6.08	4.73	3.31	7.98	8.55	3.63
LAJ	4.74	4.99	3.98	8.97	6.41	4.55	3.66	8.16	8.61	4.14
SDO	5.72	5.08	3.87	8.53	5.76	4.87	3.30	8.27	8.37	3.67

Table 2.10c: Percent good data for adjusted coastal sea level in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
PRR	48	100	100	100	100	95	100	100	100	48
QCC	48	59	95	100	100	95	87	100	100	32
BBL	24	95	93	100	100	92	100	100	100	21
ZBL	0	93	94	100	95	1	94	100	100	48
TOF	48	100	100	100	100	94	100	100	100	4
BAM	48	100	100	100	100	100	100	100	100	48
REN	48	100	100	100	100	100	100	100	100	34
NBA	48	100	100	100	100	100	100	100	100	48
TKP	48	39	100	100	100	84	100	100	100	48
AST	48	100	100	100	100	100	100	100	100	15
SBC	48	100	100	100	100	100	100	100	100	48
CHR	29	100	100	100	100	100	100	100	100	48
CCY	48	100	100	100	100	100	100	100	100	48
TRH	48	100	27	64	100	100	100	84	91	48
NSP	48	100	100	100	100	100	100	100	100	48
ARC	48	100	100	49	0	100	100	100	0	0
PRY	48	100	100	100	100	100	100	100	100	48
SFO	48	100	100	100	100	100	100	100	100	48
HMB	0	0	100	100	0	0	22	100	5	0
MRY	48	100	100	100	100	100	100	100	100	48
PSL	48	100	100	100	100	100	100	100	100	48
SBA	48	48	0	0	0	100	0	0	0	0
RIS	48	100	100	100	100	100	100	100	100	48
SMA	48	100	100	51	100	100	100	100	41	48
LOS	48	100	100	100	100	100	100	100	100	48
LAJ	48	100	100	100	100	100	100	100	100	48
SDO	48	100	100	100	100	100	100	100	100	48

Table 2.11: Seasonal statistics of calculated alongshore wind stress:

Table 2.11a: Mean in dyn/cm².

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	1.21	2.28	1.90	1.98	1.47	0.14	0.21	0.02	0.06	0.37
CG16	0.85	1.59	1.16	1.38	1.19	0.04	0.12	-0.03	0.04	0.39
CG15	0.95	1.50	0.98	1.30	1.18	0.06	0.13	-0.01	0.08	0.57
CG14	1.14	1.45	1.05	1.35	1.19	-0.13	-0.03	-0.21	-0.12	0.19
CG13	0.87	1.29	1.05	1.34	1.08	-0.14	0.00	-0.22	-0.16	0.14
CG12	0.66	0.99	0.88	1.18	0.83	-0.20	-0.05	-0.22	-0.18	0.08
CG11	0.62	0.99	0.88	1.29	0.77	-0.38	-0.21	-0.30	-0.28	-0.11
CG10	0.39	0.76	0.87	1.22	0.60	-0.41	-0.29	-0.29	-0.31	-0.15
CG09	0.25	0.65	0.70	1.23	0.53	-0.58	-0.59	-0.47	-0.47	-0.50
CG08	0.02	0.43	0.35	0.90	0.25	-0.94	-1.03	-0.72	-0.68	-1.00
CG07	-0.05	0.15	0.18	0.55	0.08	-1.03	-1.20	-0.80	-0.76	-1.23
CG06	-0.03	0.00	0.14	0.32	0.01	-0.61	-0.82	-0.53	-0.50	-0.91
CG05	-0.24	-0.12	-0.08	0.09	-0.19	-0.98	-1.02	-0.71	-0.69	-1.29
CG04	-0.22	-0.22	-0.20	-0.04	-0.32	-0.69	-0.69	-0.48	-0.55	-1.13
CG03	-0.21	-0.26	-0.29	-0.17	-0.42	-1.21	-1.09	-0.89	-0.91	-1.43
CG02	-0.10	-0.37	-0.24	-0.15	-0.29	-0.57	-0.56	-0.38	-0.40	-0.48
CG01	-0.10	-0.36	-0.33	-0.24	-0.32	-0.68	-0.53	-0.69	-0.58	-0.55
CG35	-0.08	-0.32	-0.37	-0.36	-0.41	-0.24	-0.35	-0.81	-0.64	-0.64
CG34	-0.16	-0.20	-0.27	-0.29	-0.32	-0.27	-0.27	-0.54	-0.48	-0.57
CG33	-0.23	-0.13	-0.17	-0.14	-0.18	-0.15	-0.15	-0.24	-0.22	-0.29
CG32	-0.28	-0.15	-0.20	-0.18	-0.21	-0.24	-0.19	-0.27	-0.30	-0.32

Table 2.11.b: Standard deviation of calculated alongshore wind stress in dyn/cm²

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	2.04	3.22	3.44	3.77	1.90	0.85	0.81	0.65	0.54	1.01
CG16	1.80	2.29	2.15	2.36	1.52	0.70	0.73	0.52	0.48	1.13
CG15	1.90	2.30	2.10	2.17	1.64	0.91	0.80	0.65	0.59	1.52
CG14	2.17	2.24	2.23	2.05	1.87	0.70	0.63	0.50	0.47	1.05
CG13	1.78	2.02	2.07	1.97	1.81	0.58	0.55	0.49	0.40	0.82
CG12	1.59	1.59	1.60	1.76	1.43	0.49	0.46	0.48	0.38	0.68
CG11	1.69	1.73	1.71	1.90	1.34	0.60	0.48	0.61	0.45	0.75
CG10	1.55	1.53	1.93	2.02	1.29	0.65	0.53	0.80	0.55	0.83
CG09	1.62	1.59	1.81	2.11	1.31	0.71	0.71	0.98	0.62	1.01
CG08	1.40	1.57	1.35	1.77	1.16	0.91	0.85	1.01	0.67	1.07
CG07	1.27	1.09	1.02	1.32	1.03	0.87	0.83	0.95	0.69	1.09
CG06	1.09	0.81	0.79	1.04	0.84	0.47	0.54	0.62	0.49	0.80
CG05	1.07	0.69	0.53	0.91	0.79	0.64	0.62	0.52	0.66	0.88
CG04	0.72	0.58	0.53	0.88	0.69	0.50	0.55	0.36	0.68	0.78
CG03	0.55	0.54	0.48	0.68	0.61	0.71	0.66	0.55	0.82	0.84
CG02	0.46	0.33	0.40	0.51	0.33	0.31	0.26	0.25	0.34	0.28
CG01	0.51	0.28	0.31	0.39	0.24	0.37	0.23	0.36	0.37	0.29
CG35	0.45	0.29	0.30	0.38	0.26	0.30	0.20	0.43	0.41	0.34
CG34	0.32	0.26	0.24	0.37	0.24	0.24	0.20	0.31	0.36	0.27
CG33	0.23	0.24	0.21	0.37	0.21	0.20	0.19	0.24	0.26	0.23
CG32	0.23	0.21	0.24	0.34	0.21	0.21	0.18	0.25	0.26	0.23

Table 2.11c: Percent good data for calculated alongshore wind stress in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	48	100	100	100	100	95	100	100	100	48
CG16	48	100	100	100	100	100	100	100	100	48
CG15	48	100	100	100	100	100	100	100	100	48
CG14	48	100	100	100	100	100	100	100	100	48
CG13	48	100	100	100	100	100	100	100	100	48
CG12	48	100	100	100	100	100	100	100	100	48
CG11	48	100	100	100	100	100	100	100	100	48
CG10	48	100	100	100	100	100	100	100	100	48
CG09	48	100	100	100	100	100	100	100	100	48
CG08	48	100	100	100	100	100	100	100	100	48
CG07	48	100	100	100	100	100	100	100	100	48
CG06	48	100	100	100	100	100	100	100	100	48
CG05	48	100	100	100	100	100	100	100	100	48
CG04	48	100	100	100	100	100	100	100	100	48
CG03	48	100	100	100	100	100	100	100	100	48
CG02	48	100	100	100	100	100	100	100	100	48
CG01	48	100	100	100	100	100	100	100	100	48
CG35	48	100	100	100	100	100	100	100	100	48
CG34	48	100	100	100	100	100	100	100	100	48
CG33	48	100	100	100	100	100	100	100	100	48
CG32	48	100	100	100	100	100	100	100	100	48

Table 2.12: Seasonal statistics of air temperature:

Table 2.12a: Mean in °C.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		11.38	11.01	11.51	11.94		13.90	13.38	13.59	10.81
B05		9.67	9.04	9.60	10.01		12.49	11.57	12.25	7.82
B29					9.82					10.72
CLB		9.11	9.14	9.36	9.35		12.78		14.05	
BNE										10.20
B27					10.76				13.25	
B22			10.13	12.30	11.76			12.40	13.29	11.05
B14			11.78	12.79	12.16		11.65	12.52	13.51	11.19
N3								11.13		
C2			9.95					11.01		
C3			9.89				10.68	10.92		
C4								11.27		
C5							11.55	11.69		
R3			10.20				10.81	11.00		
B13			11.63	12.56	12.68		11.36	12.19	13.42	10.77
B26				11.73	13.15				13.42	10.70
B12		12.48	12.57	13.38	13.57		12.14	13.18	13.95	11.90
B28					12.58					11.51
B11		13.48	13.49	14.43	14.43		13.19	13.55	14.57	11.80
B23				15.20	14.73			14.06	15.35	12.55
B25				16.05	16.89			17.01	17.52	15.61
B24				15.68	19.24			15.19	16.25	13.92

Table 2.12.b: Standard deviation of air temperature in °C.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		1.61	2.65	2.05	2.27		2.52	3.45	2.78	1.36
B05		1.54	2.71	2.13	2.30		2.80	3.39	2.91	0.62
B29					0.57					1.62
CLB		2.07	2.94	1.60	2.45		2.50		2.46	
BNE										1.57
B27					1.83				1.41	
B22			1.46	1.43	1.83			1.85	1.97	0.99
B14			1.81	1.37	1.78		1.09	1.84	1.64	0.94
N3								1.23		
C2			0.75					1.41		
C3			0.80				0.75	1.32		
C4								1.33		
C5							0.83	1.36		
R3			0.79				0.74	1.28		
B13			1.59	1.67	1.87		1.17	1.55	1.75	0.62
B26				1.56	2.17				1.81	0.69
B12		1.01	1.60	1.32	1.91		1.21	1.43	1.86	0.61
B28					0.87					0.71
B11		1.21	1.45	1.36	2.39		1.29	1.57	1.98	0.89
B23				1.39	2.23			1.64	2.06	1.01
B25				1.89	2.30			1.63	2.51	1.21
B24				1.66	1.31			1.52	2.24	1.00

Table 2.12c: Percent good data for air temperature in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02	0	65	100	100	95	0	100	100	100	48
B05	0	65	100	87	95	0	100	100	100	13
B29	0	0	0	0	1	0	0	0	0	48
CLB	0	65	85	65	86	0	78	0	74	0
BNE	0	0	0	0	0	0	0	0	0	33
B27	0	0	0	0	84	0	0	0	15	0
B22	0	0	37	100	92	0	0	99	100	48
B14	0	0	100	100	95	0	89	100	93	48
N3	0	0	0	0	0	0	0	69	0	0
C2	0	0	3	0	0	0	0	74	0	0
C3	0	0	3	0	0	0	57	63	0	0
C4	0	0	0	0	0	0	0	73	0	0
C5	0	0	0	0	0	0	58	75	0	0
R3	0	0	3	0	0	0	58	74	0	0
B13	0	0	100	74	95	0	99	100	96	48
B26	0	0	0	65	65	0	0	0	97	48
B12	0	65	63	91	76	0	100	86	100	48
B28	0	0	0	0	60	0	0	0	0	48
B11	0	65	43	100	44	0	100	100	96	48
B23	0	0	0	100	91	0	0	95	96	48
B25	0	0	0	100	76	0	0	88	100	48
B24	0	0	0	100	16	0	0	91	100	39

Table 2.13: Seasonal statistics of sea surface temperature:

Table 2.13a: Mean in °C.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		12.12	12.55	12.04	13.08		15.00	14.49	14.60	11.73
B05		10.08	11.51	11.31	11.27		12.84	13.97	13.48	10.23
B29					9.87					11.54
CLB		10.15	12.10	11.01	10.66		13.57		14.53	
B27					11.81				12.11	
B22			10.87	12.94	12.75			11.97	13.17	11.13
B14			13.01	13.89	13.22		10.83	12.23	13.32	10.93
N3								10.49		
C2			11.40					10.47		
C3			11.46				9.19	10.52		
C4								10.73		
C5							10.68	11.50		
R3			11.68				9.68	10.71		
B13			12.30	13.61	13.10		10.03	11.39	12.74	9.56
B26				12.85	13.95				13.95	10.62
B12		12.96	13.09	14.16	14.28		12.21	13.68	14.40	11.55
B28					13.23					11.36
B11		14.04	14.11	15.69	15.22		13.47	13.96	15.44	12.08
B23				15.94	15.35			14.24	15.91	13.30
B25				16.61	18.15			17.67	18.81	17.34
B24				16.71	20.36			16.50	17.40	14.55

Table 2.13.b: Standard deviation of sea surface temperature in °C.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02		0.70	2.42	2.29	2.18		2.56	3.24	2.67	1.00
B05		0.76	1.58	2.76	2.11		2.62	2.89	2.73	1.03
B29					0.05					1.19
CLB		0.73	1.73	0.63	1.59		2.11		1.99	
B27					1.29				0.86	
B22			0.40	0.94	1.51			1.66	1.53	1.00
B14			1.37	0.97	1.51		1.24	1.54	1.57	1.10
N3								1.32		
C2			0.21					1.57		
C3			0.21				0.84	1.55		
C4								1.37		
C5							0.96	1.19		
R3			0.15				1.09	1.52		
B13			0.92	0.83	1.67		1.16	1.47	2.03	0.80
B26				0.79	1.89				1.62	0.81
B12		0.37	0.92	0.64	1.90		1.14	1.20	1.78	0.71
B28					0.66					0.99
B11		0.62	0.91	0.89	2.51		1.61	1.69	2.00	1.41
B23				1.01	2.04			1.85	2.32	1.48
B25				1.26	2.13			1.62	2.55	1.18
B24				1.39	0.19			1.36	2.38	0.90

Table 2.13c: Percent good data for sea surface temperature in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
B02	0	65	100	100	95	0	100	100	100	48
B05	0	65	100	87	95	0	100	100	100	48
B29	0	0	0	0	1	0	0	0	0	48
CLB	0	65	85	65	86	0	78	0	74	0
B27	0	0	0	0	84	0	0	0	15	0
B22	0	0	38	100	91	0	0	100	100	48
B14	0	0	100	100	95	0	90	100	93	48
N3	0	0	0	0	0	0	0	69	0	0
C2	0	0	3	0	0	0	0	74	0	0
C3	0	0	3	0	0	0	57	63	0	0
C4	0	0	0	0	0	0	0	73	0	0
C5	0	0	0	0	0	0	58	75	0	0
R3	0	0	3	0	0	0	58	74	0	0
B13	0	0	100	74	95	0	99	100	96	48
B26	0	0	0	65	65	0	0	0	97	48
B12	0	65	63	91	76	0	100	86	100	48
B28	0	0	0	0	60	0	0	0	0	48
B11	0	65	43	100	44	0	100	100	96	48
B23	0	0	0	100	91	0	0	95	96	48
B25	0	0	0	100	71	0	0	88	100	39
B24	0	0	0	100	16	0	0	91	100	11

Table 2.14: Seasonal statistics of calculated atmospheric pressure:

Table 2.14a: Mean in mb.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	1013.4	1012.2	1010.3	1007.1	1012.3	1015.2	1014.7	1016.5	1015.6	1013.3
CG16	1013.4	1014.0	1011.3	1008.4	1013.5	1016.3	1015.9	1017.4	1016.6	1014.8
CG15	1014.3	1014.0	1011.5	1008.5	1013.8	1017.0	1016.4	1018.0	1017.2	1015.5
CG14	1015.1	1015.7	1012.7	1010.2	1015.5	1017.0	1016.5	1017.8	1017.3	1016.4
CG13	1015.5	1016.9	1013.9	1011.4	1016.6	1016.9	1016.8	1017.4	1017.2	1017.0
CG12	1015.8	1017.7	1014.9	1012.0	1017.3	1017.3	1017.4	1017.4	1017.4	1017.9
CG11	1016.0	1018.3	1015.9	1012.7	1017.9	1017.8	1018.1	1017.8	1017.8	1018.8
CG10	1016.1	1018.7	1016.6	1013.3	1018.3	1017.7	1018.3	1017.8	1017.6	1019.2
CG09	1016.0	1019.0	1017.2	1014.2	1018.7	1017.0	1017.9	1017.3	1016.9	1018.8
CG08	1016.2	1018.8	1017.5	1014.7	1018.8	1016.3	1016.8	1016.5	1016.1	1018.3
CG07	1016.3	1019.1	1018.0	1015.8	1019.0	1015.4	1015.3	1015.4	1015.0	1017.1
CG06	1016.4	1019.1	1018.4	1016.4	1019.0	1014.9	1014.3	1014.7	1014.3	1016.0
CG05	1016.3	1018.8	1018.4	1016.5	1018.9	1014.8	1013.9	1014.5	1014.2	1015.6
CG04	1015.8	1018.4	1018.1	1016.3	1018.5	1014.9	1014.0	1014.5	1014.2	1015.1
CG03	1015.3	1017.9	1017.5	1015.9	1017.6	1013.6	1012.7	1013.5	1013.1	1013.3
CG02	1015.2	1017.0	1016.7	1015.4	1016.8	1012.2	1011.3	1012.5	1012.0	1012.0
CG01	1015.0	1016.2	1016.4	1015.3	1016.5	1012.1	1010.8	1012.5	1012.1	1012.3
CG35	1014.8	1015.5	1015.8	1014.9	1016.0	1011.5	1010.7	1011.9	1011.8	1012.2
CG34	1015.0	1015.1	1015.2	1014.5	1015.5	1011.6	1010.6	1011.2	1011.4	1011.8
CG33	1015.0	1015.3	1015.5	1014.9	1016.0	1014.2	1011.5	1012.0	1012.3	1012.8
CG32	1015.0	1015.3	1015.4	1014.9	1015.8	1011.7	1011.7	1012.2	1012.5	1012.9

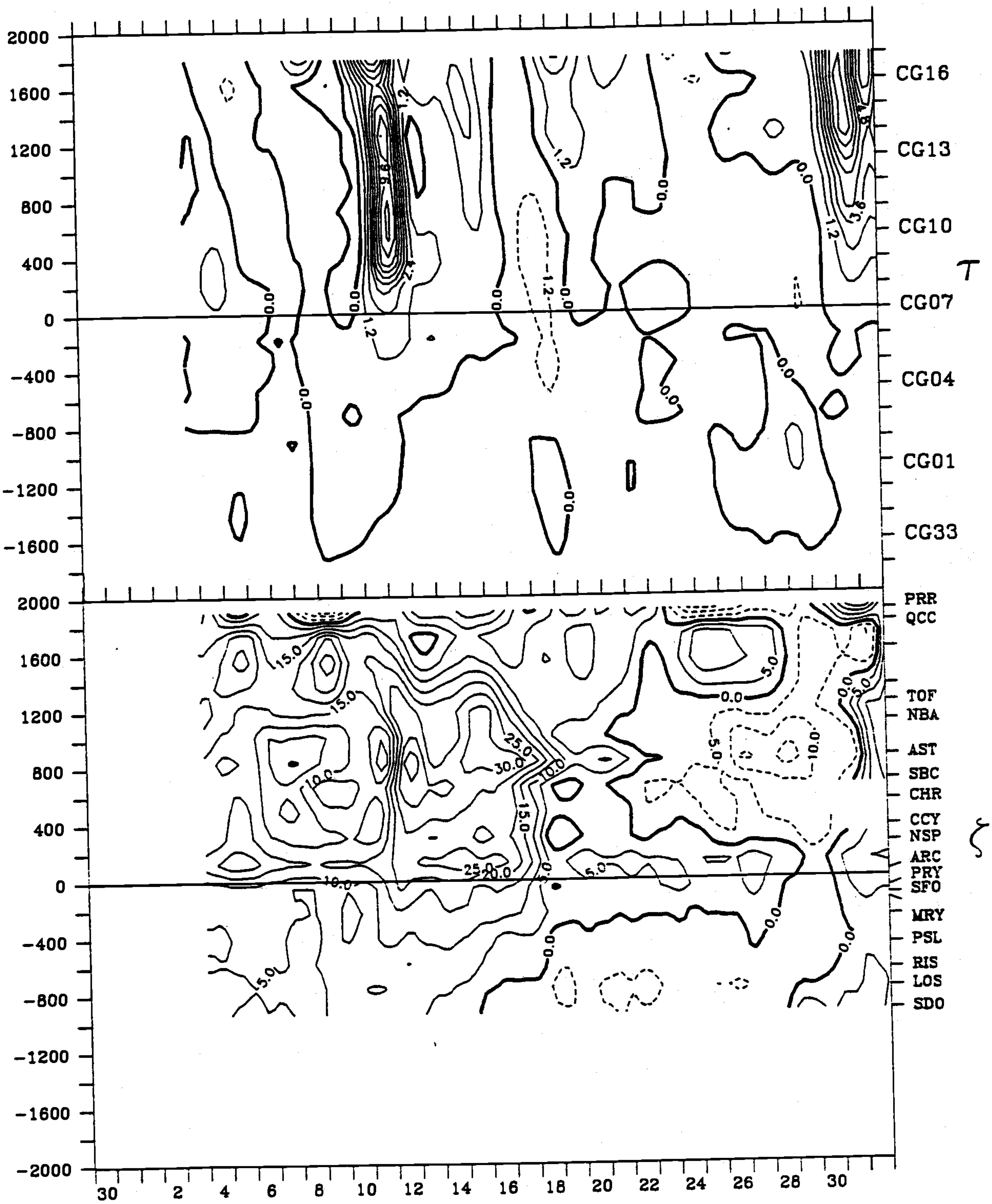
Table 2.14.b: Standard deviation of calculated atmospheric pressure in mb.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	12.51	10.12	11.61	11.86	11.91	6.63	6.28	6.84	6.07	8.28
CG16	12.34	9.77	11.18	11.48	11.02	6.03	5.69	6.40	6.01	7.49
CG15	11.69	9.65	11.27	11.49	10.74	5.91	5.62	6.48	6.07	7.52
CG14	11.05	9.23	10.57	10.85	9.96	5.10	4.99	6.18	5.70	6.66
CG13	10.50	8.74	9.87	10.22	9.21	4.57	4.51	5.82	5.35	6.10
CG12	10.16	8.28	9.32	9.72	8.52	4.22	4.31	5.52	5.09	5.78
CG11	9.58	7.89	8.88	9.46	7.99	3.93	4.28	5.21	4.90	5.49
CG10	8.69	7.39	8.20	9.07	7.30	3.49	3.95	4.56	4.52	4.80
CG09	7.85	6.76	7.28	8.43	6.48	3.32	3.65	3.80	4.14	3.96
CG08	6.95	6.12	6.41	7.83	5.85	3.39	3.37	3.28	3.99	3.47
CG07	6.26	5.49	5.67	7.19	5.22	3.47	3.25	2.99	3.84	3.30
CG06	5.66	5.03	5.18	6.54	4.71	3.50	3.17	2.96	3.71	3.27
CG05	4.95	4.59	4.72	5.91	4.26	3.30	2.95	2.82	3.44	3.03
CG04	4.45	4.04	4.05	5.21	3.76	2.90	2.62	2.58	3.07	2.72
CG03	4.08	3.98	3.86	4.80	3.58	2.71	2.55	2.50	2.82	2.71
CG02	3.54	3.94	3.73	4.51	3.53	2.68	2.64	2.53	2.79	2.79
CG01	2.93	3.51	3.37	4.17	3.31	2.63	2.67	2.51	2.77	2.76
CG35	2.50	3.00	3.05	3.82	3.06	2.53	2.63	2.43	2.69	2.74
CG34	2.32	2.68	2.81	3.43	2.82	2.24	2.55	2.35	2.59	2.66
CG33	2.23	2.40	2.62	3.00	2.50	3.21	2.40	2.17	2.40	2.35
CG32	2.11	2.25	2.55	2.65	2.30	2.52	2.24	2.10	2.23	2.10

Table 2.14c: Percent good data for calculated atmospheric pressure in the six-month time intervals.

	Winter					Summer				
	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
CG17	48	100	100	100	100	95	100	100	100	48
CG16	48	100	100	100	100	100	100	100	100	48
CG15	48	100	100	100	100	100	100	100	100	48
CG14	48	100	100	100	100	100	100	100	100	48
CG13	48	100	100	100	100	100	100	100	100	48
CG12	48	100	100	100	100	100	100	100	100	48
CG11	48	100	100	100	100	100	100	100	100	48
CG10	48	100	100	100	100	100	100	100	100	48
CG09	48	100	100	100	100	100	100	100	100	48
CG08	48	100	100	100	100	100	100	100	100	48
CG07	48	100	100	100	100	100	100	100	100	48
CG06	48	100	100	100	100	100	100	100	100	48
CG05	48	100	100	100	100	100	100	100	100	48
CG04	48	100	100	100	100	100	100	100	100	48
CG03	48	100	100	100	100	100	100	100	100	48
CG02	48	100	100	100	100	100	100	100	100	48
CG01	48	100	100	100	100	100	100	100	100	48
CG35	48	100	100	100	100	100	100	100	100	48
CG34	48	100	100	100	100	100	100	100	100	48
CG33	48	100	100	100	100	100	100	100	100	48
CG32	48	100	100	100	100	100	100	100	100	48

3. Monthly Space (y,t) Contour Plots of LLP Adjusted Sea Level (ζ) and LLP Alongshore Wind Stress (τ).



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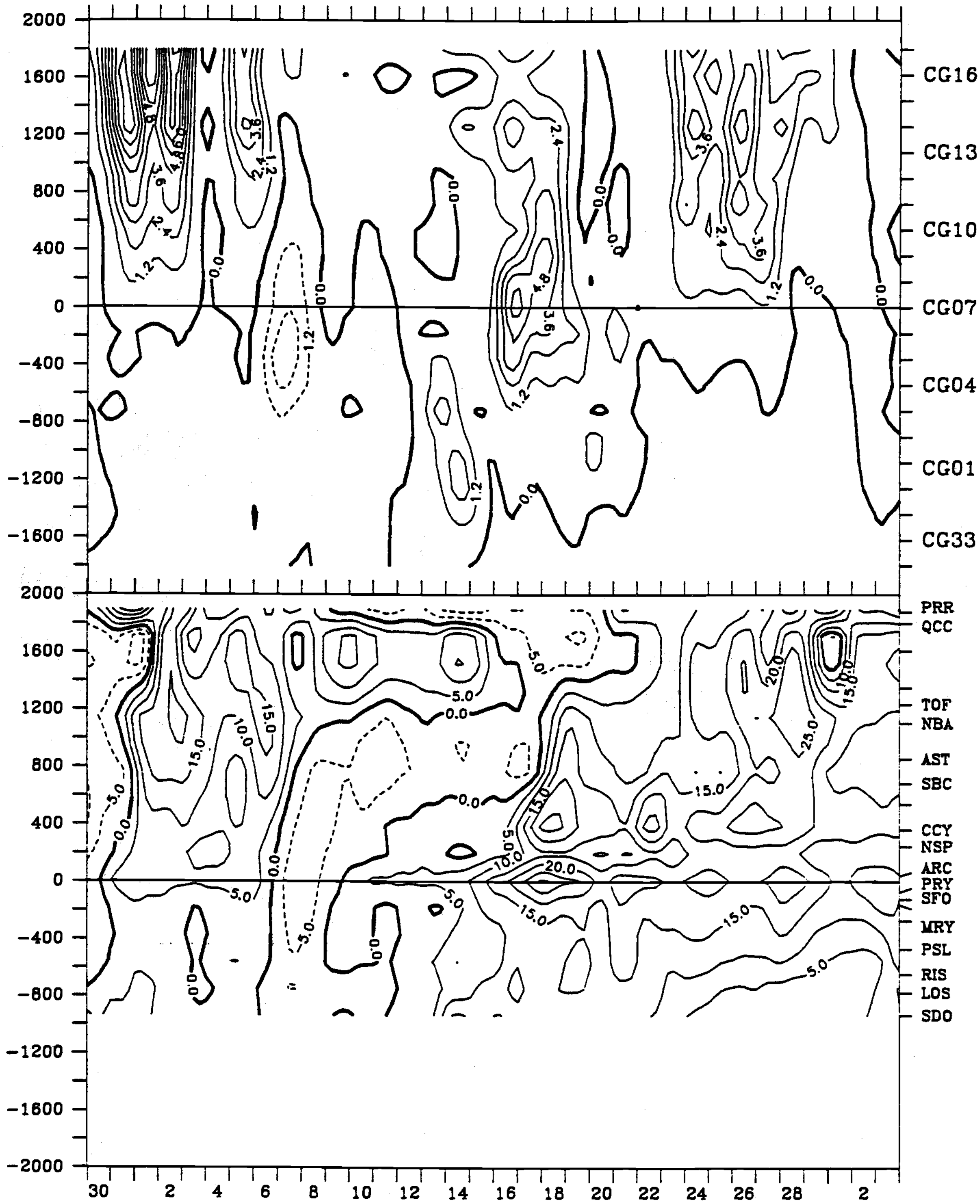

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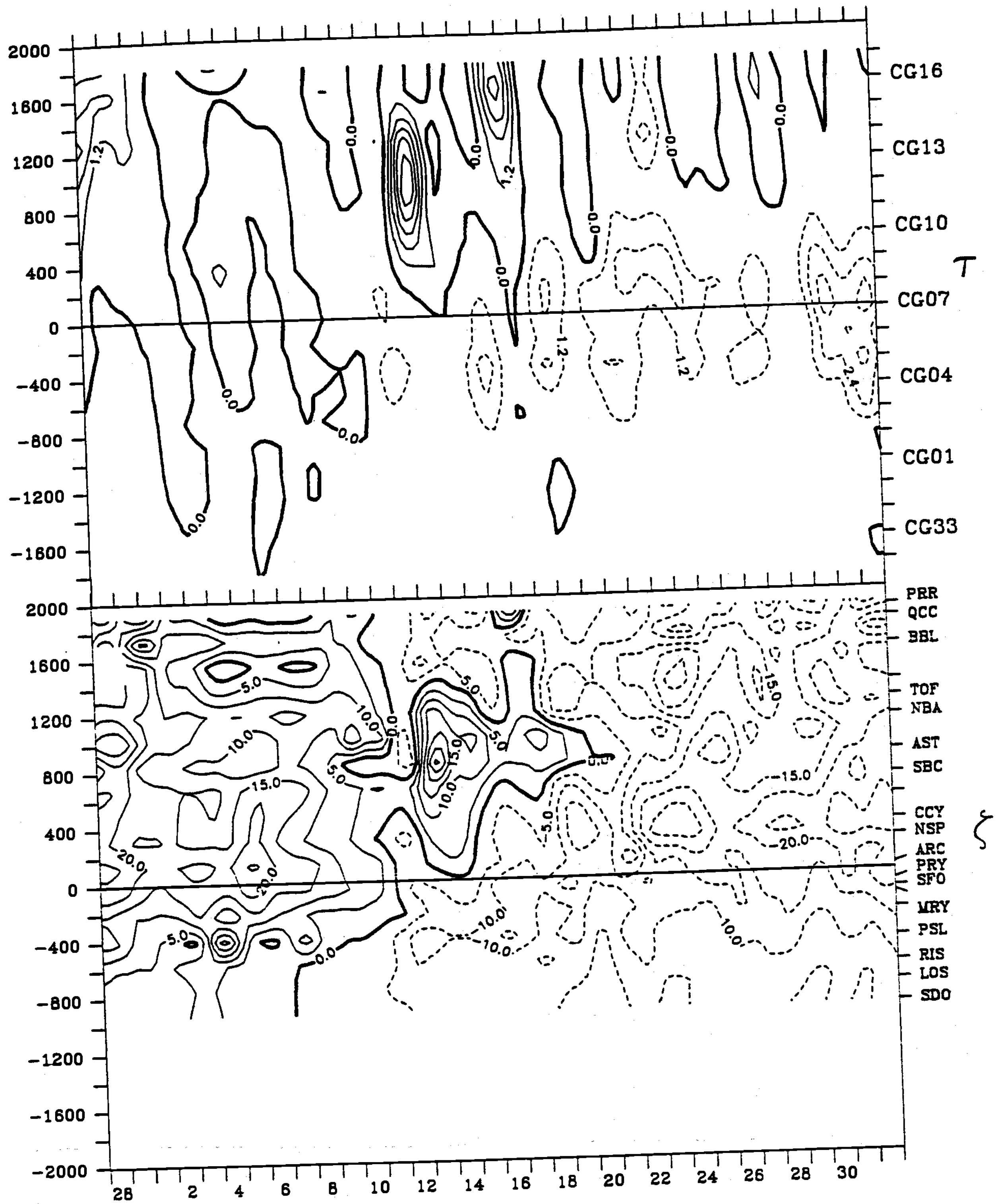
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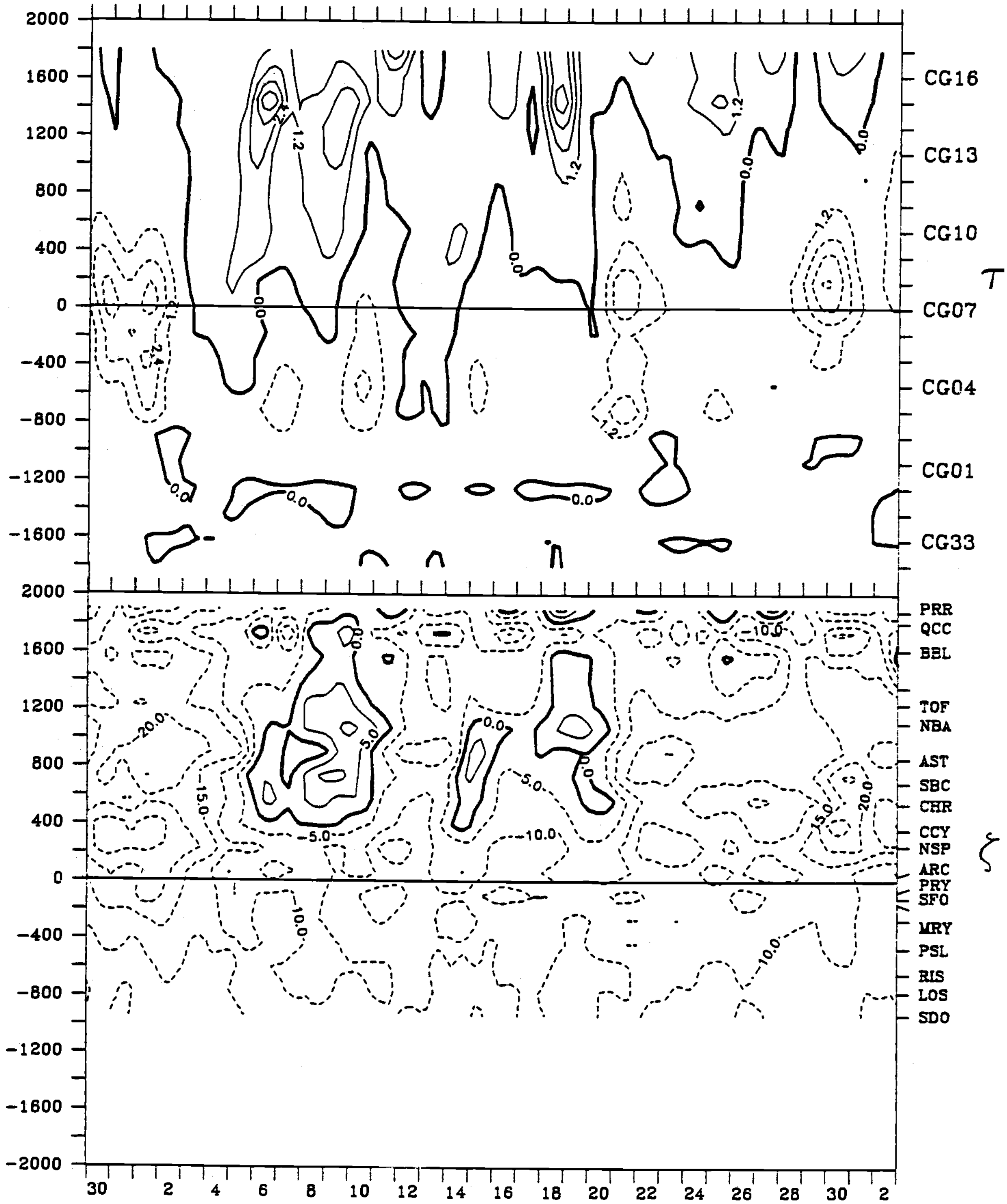

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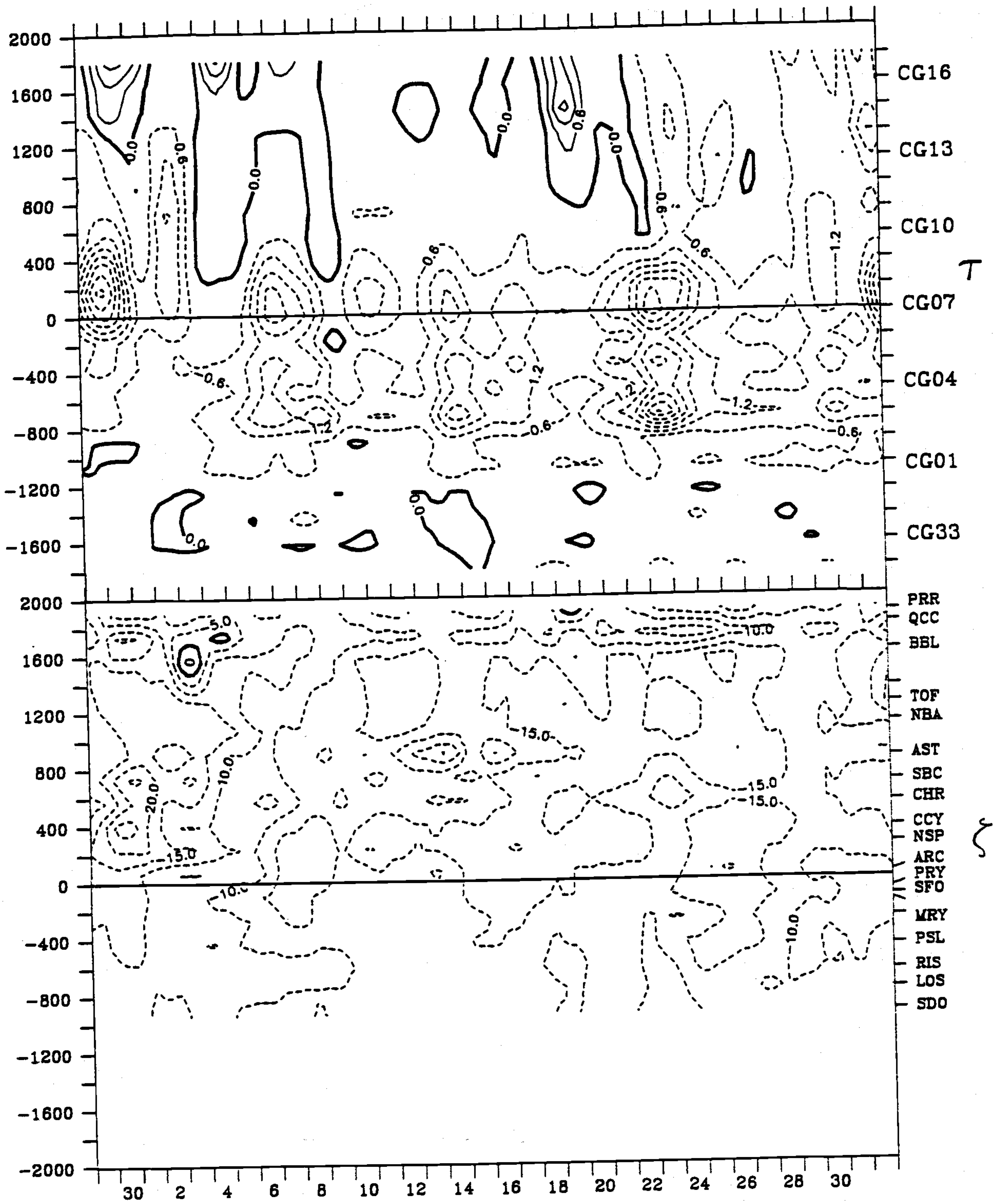

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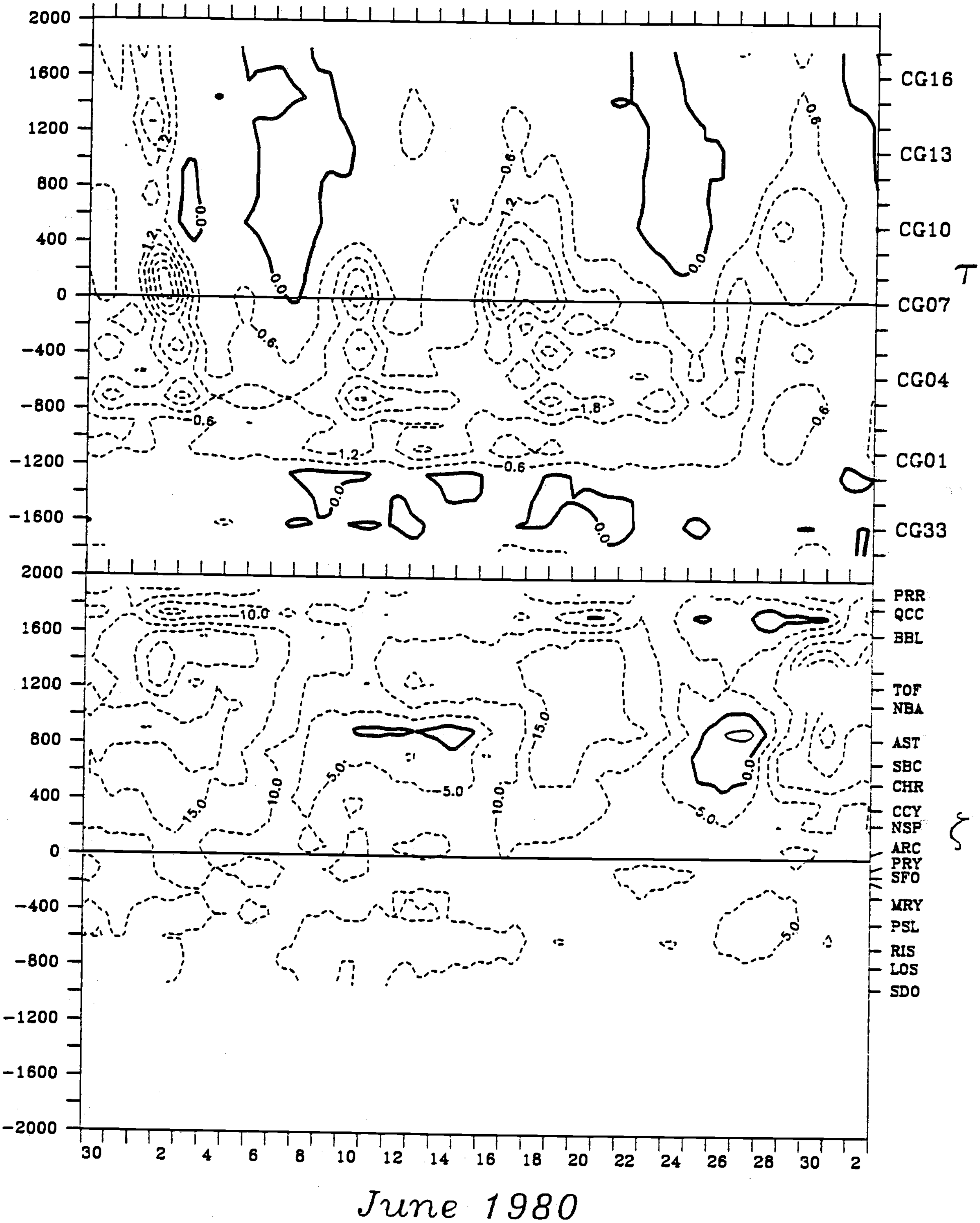
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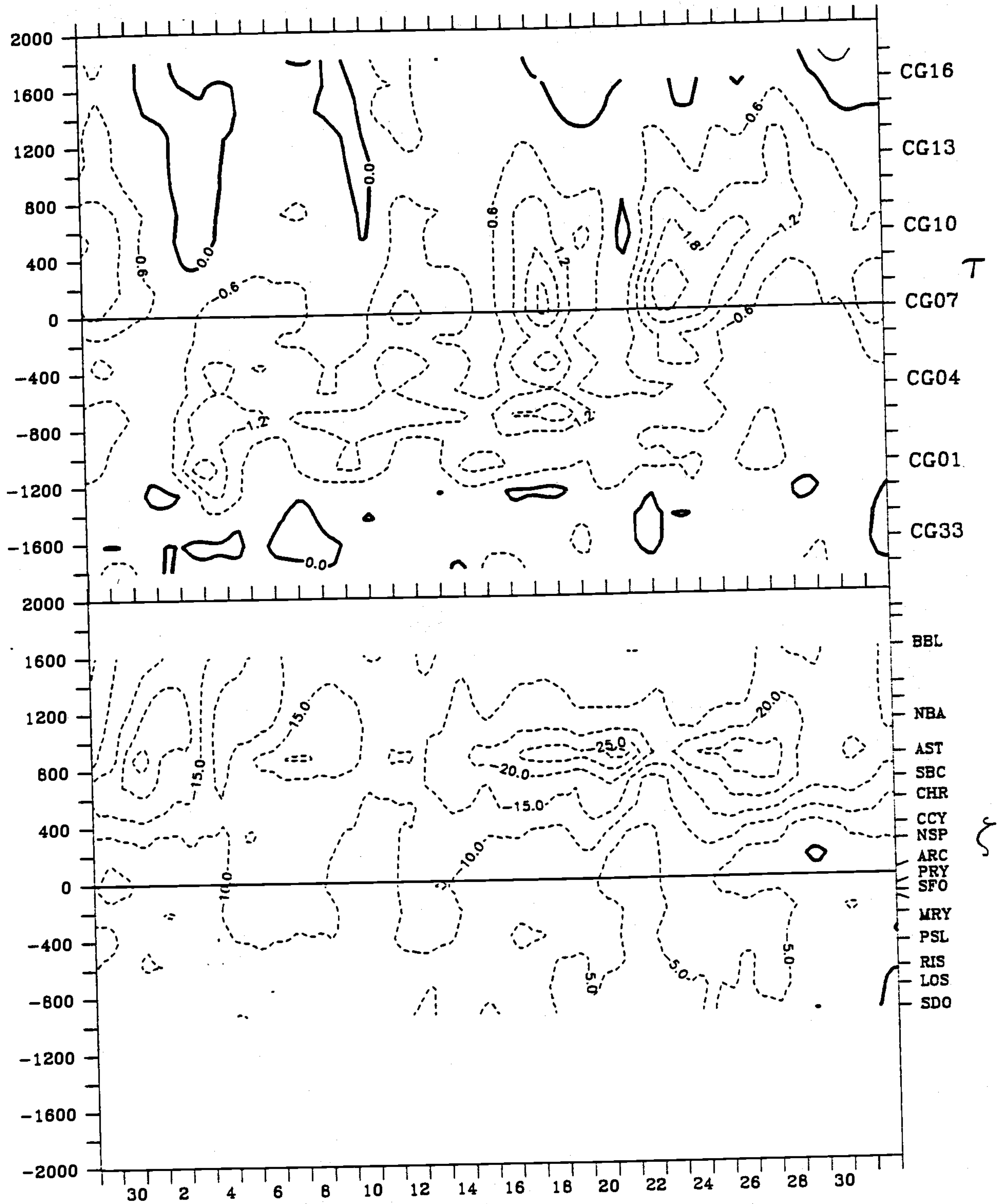
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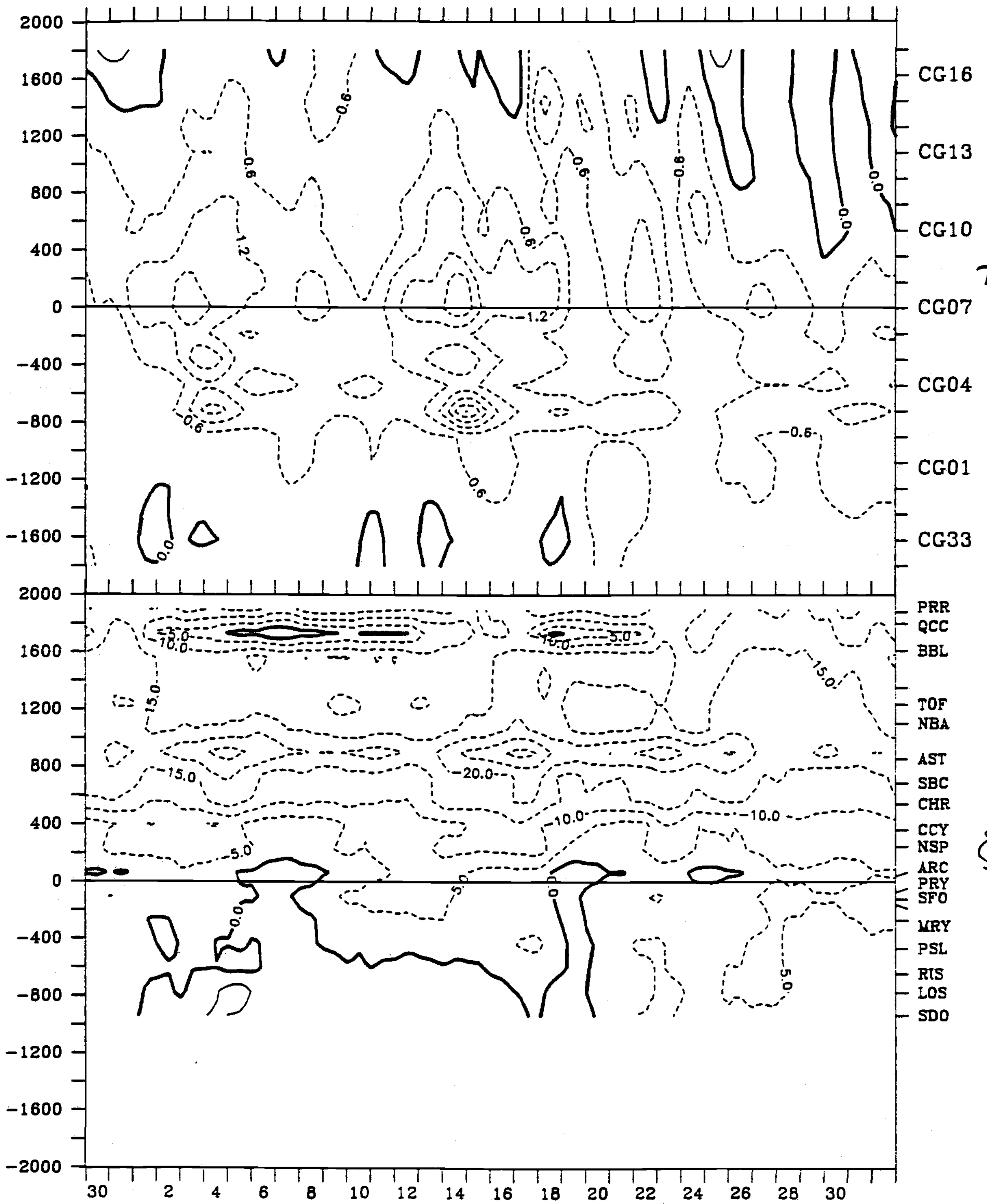
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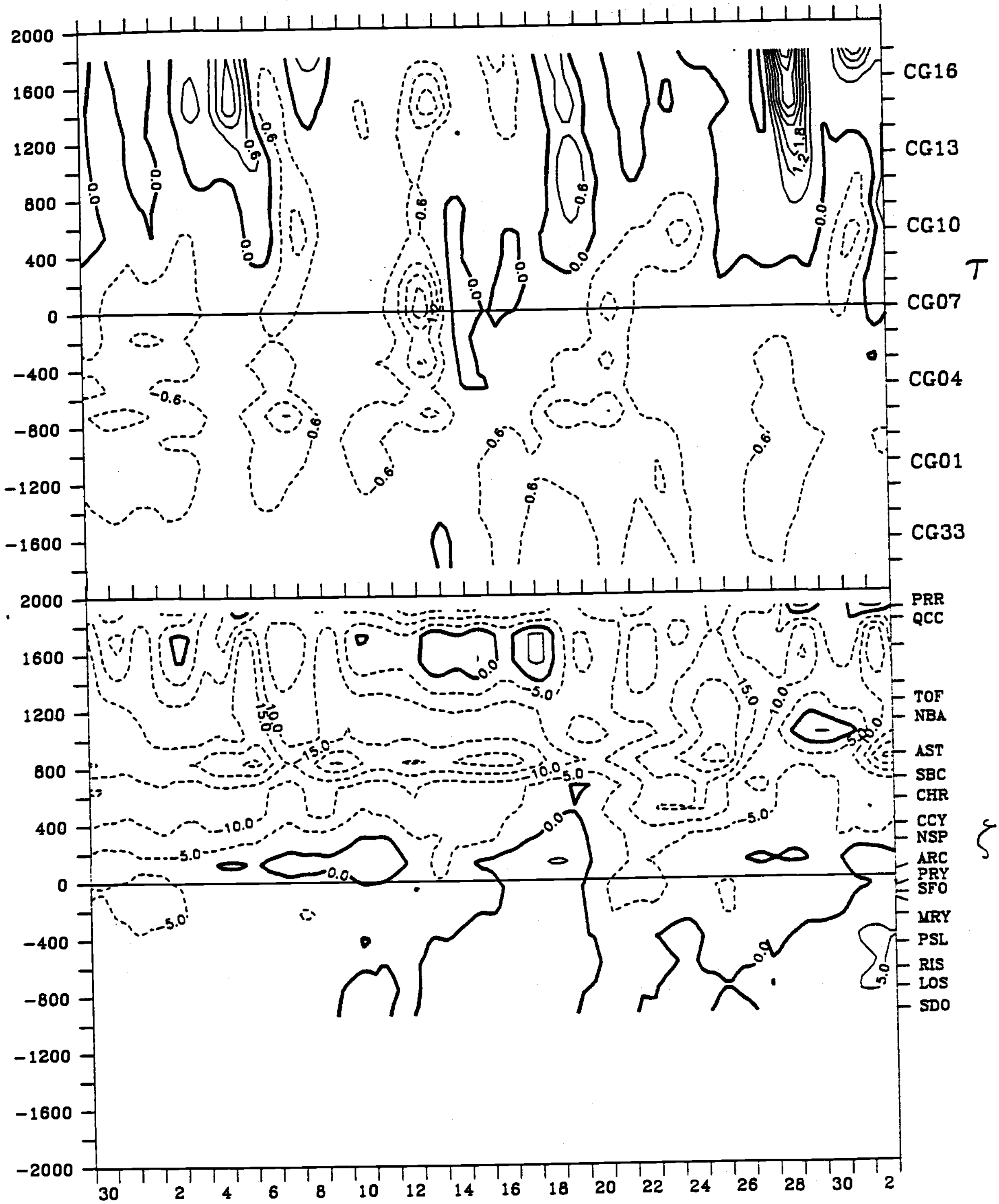

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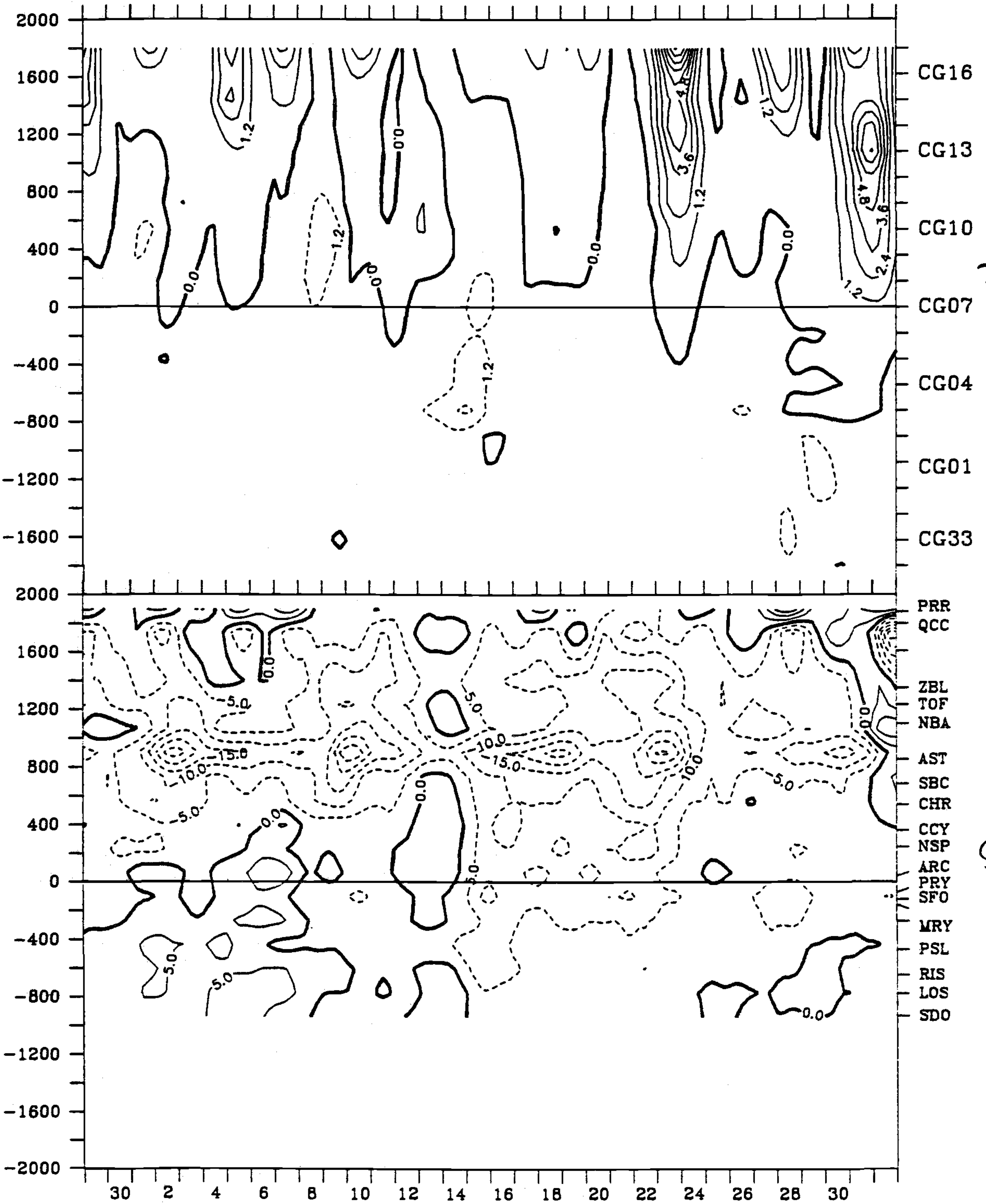

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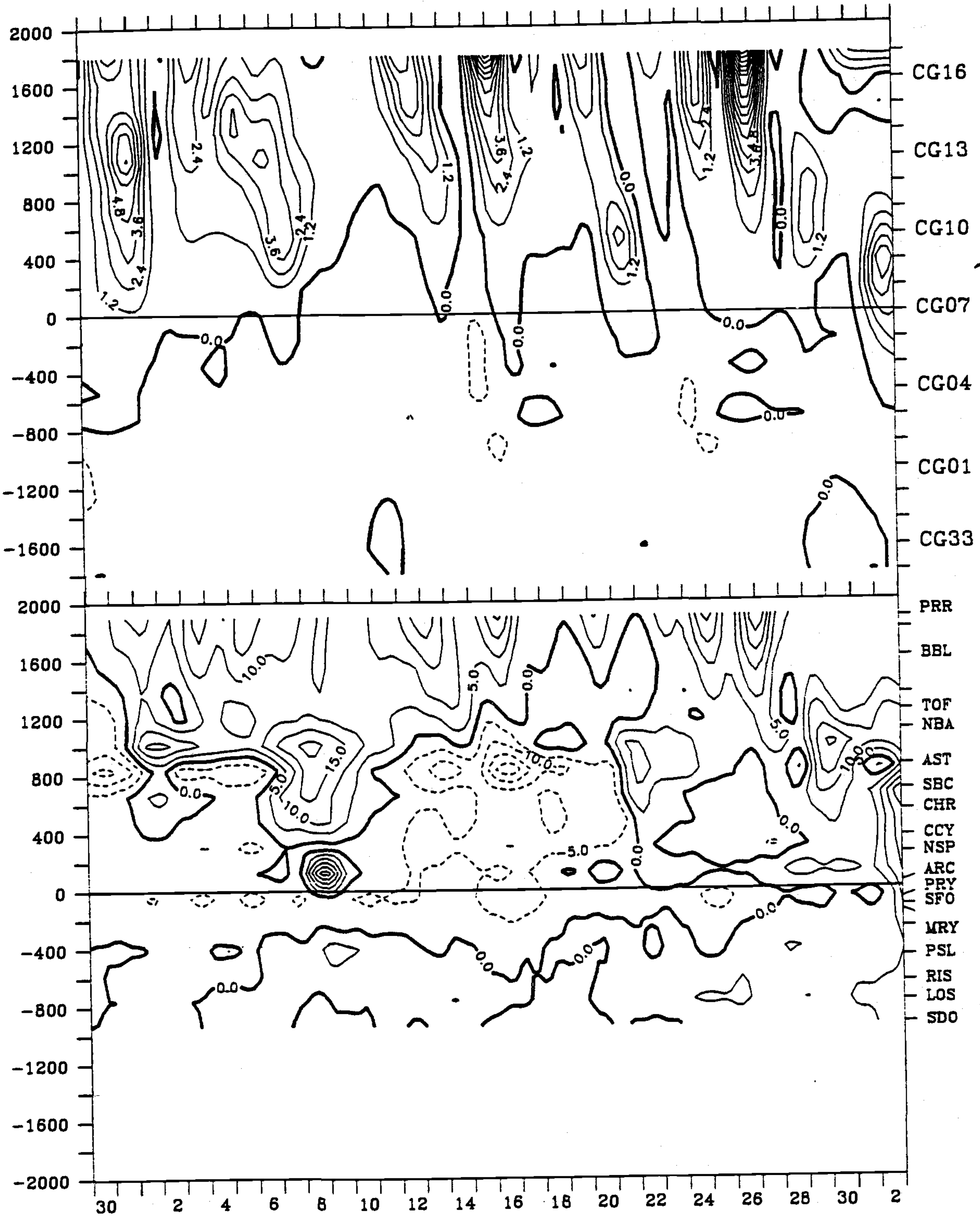

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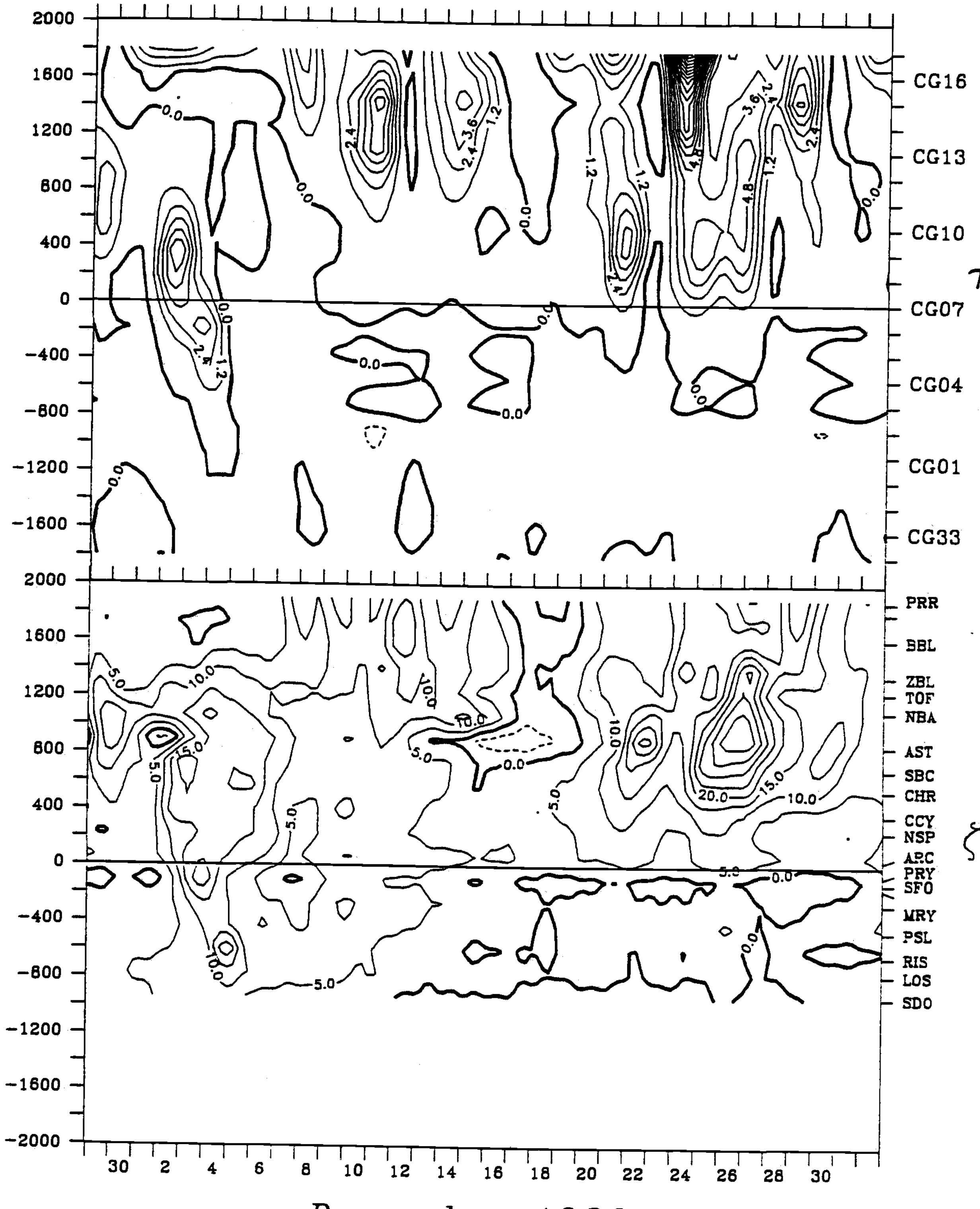

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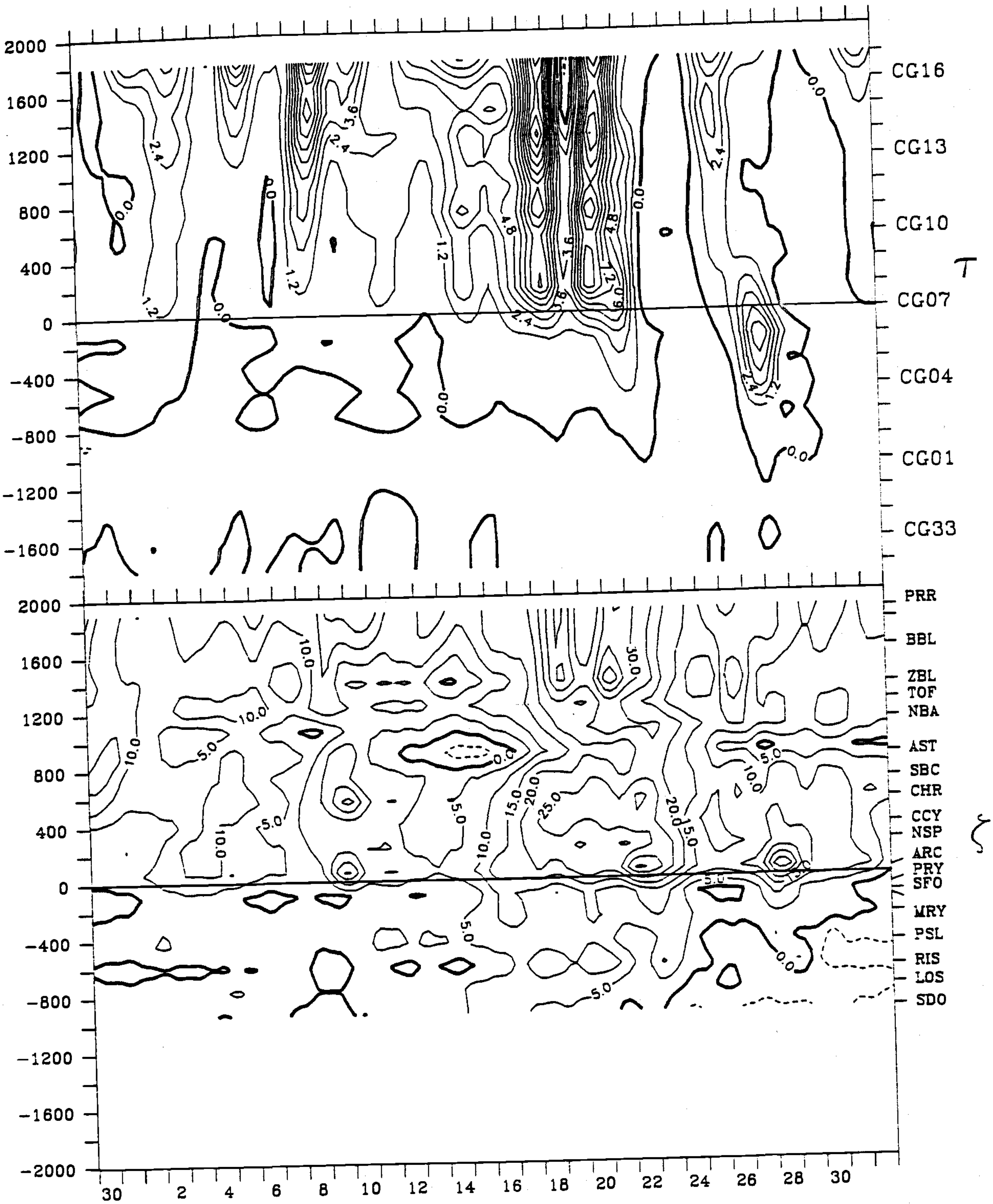

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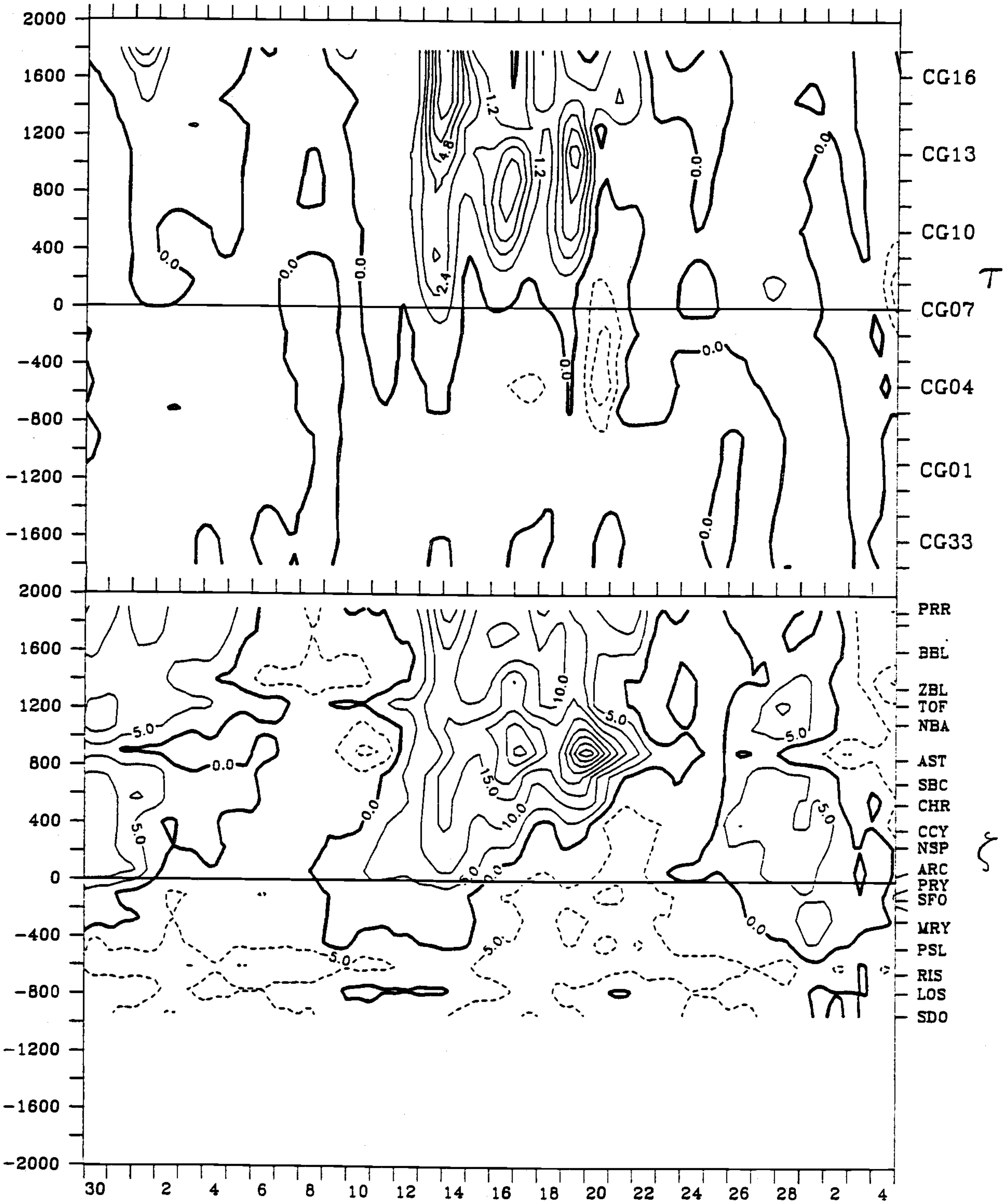

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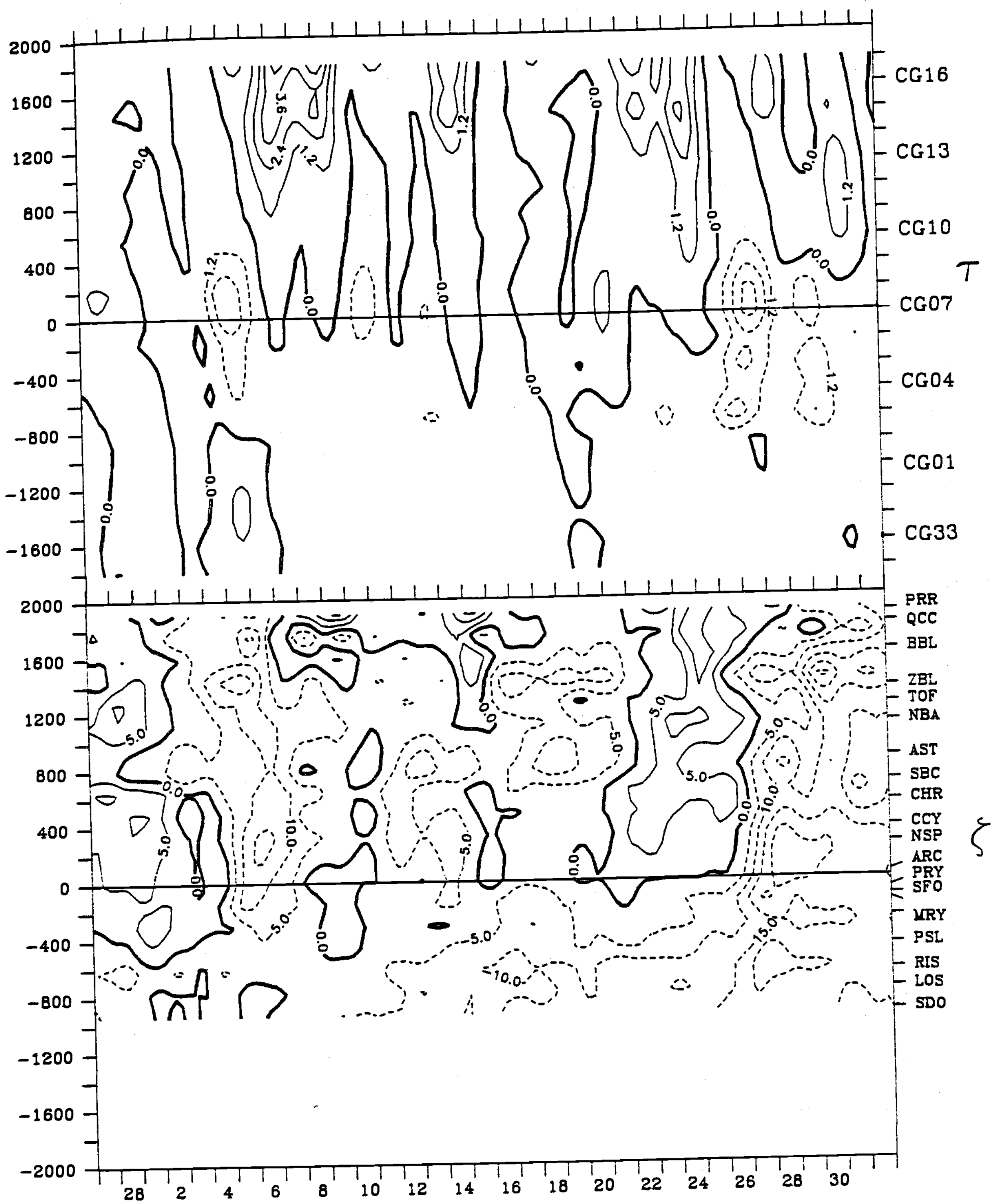
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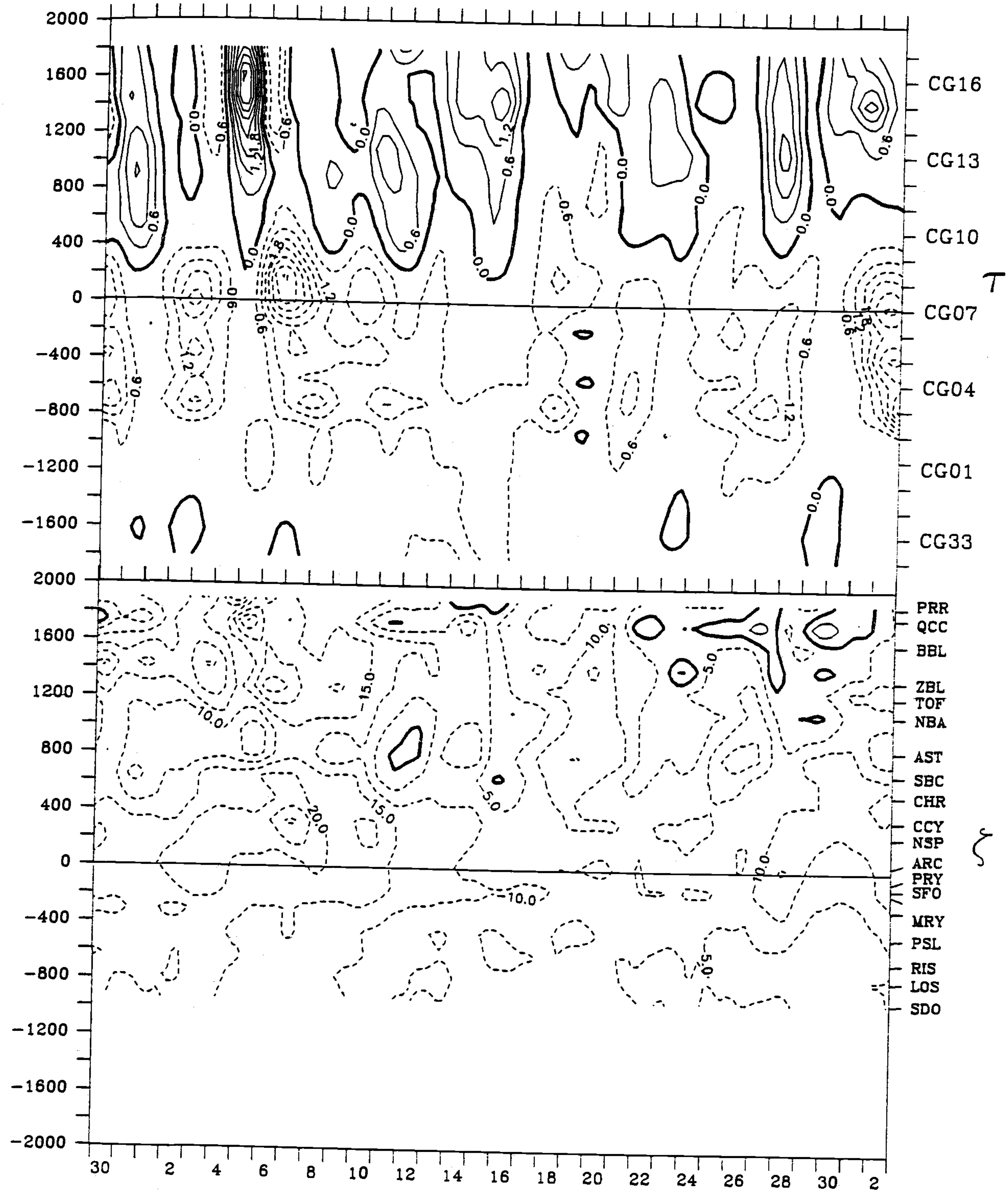
March 1981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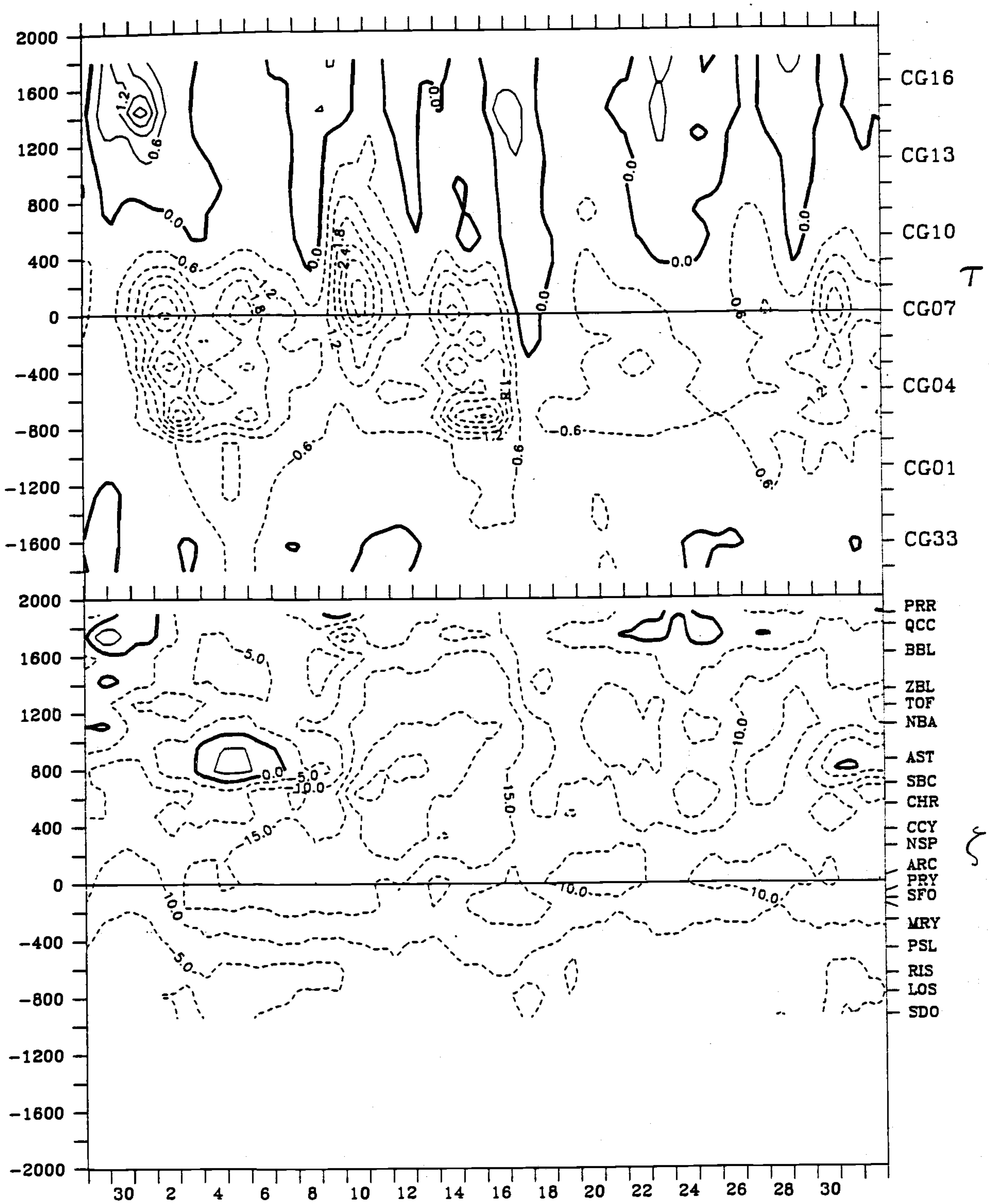
April 1981



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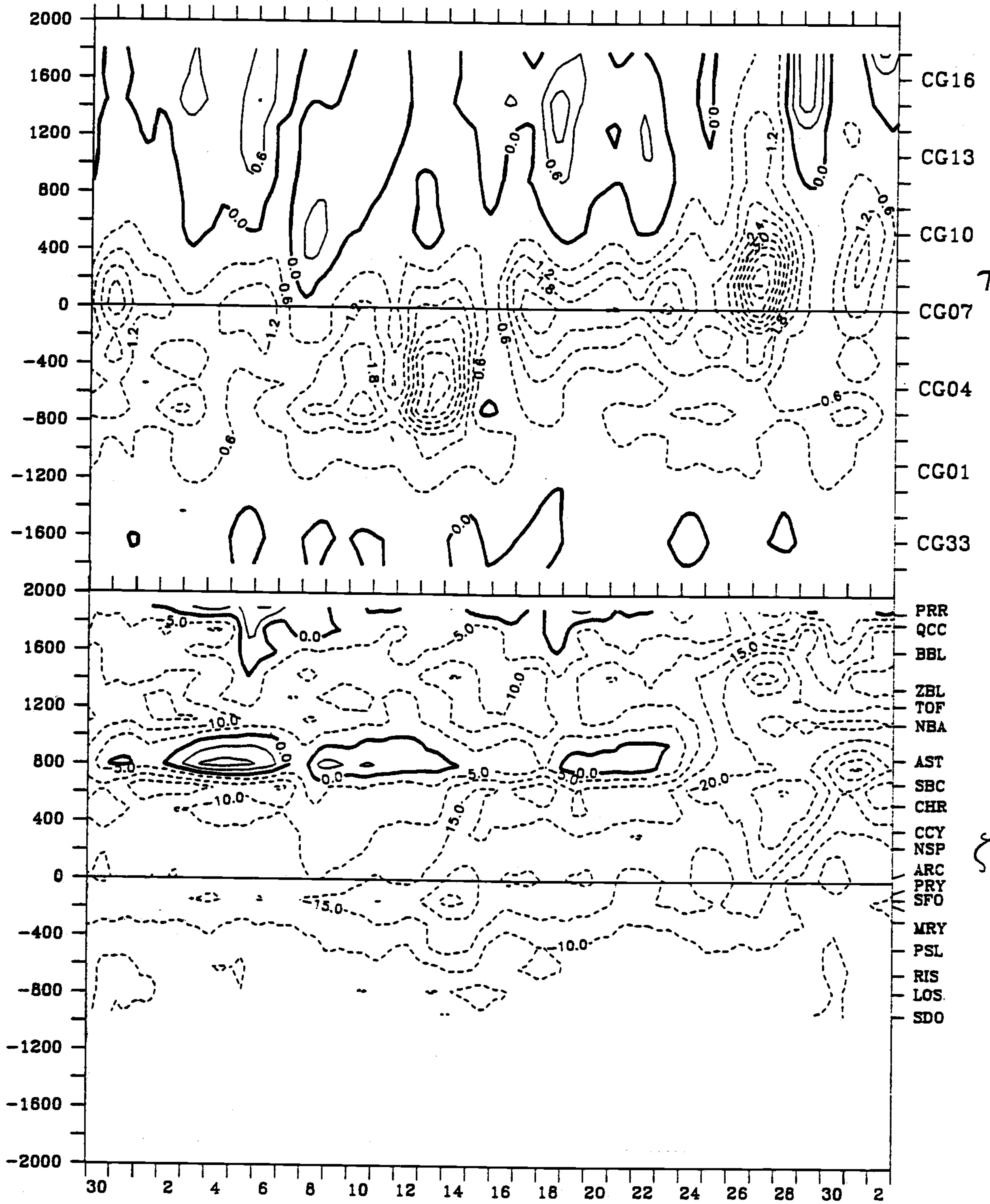
May 1981



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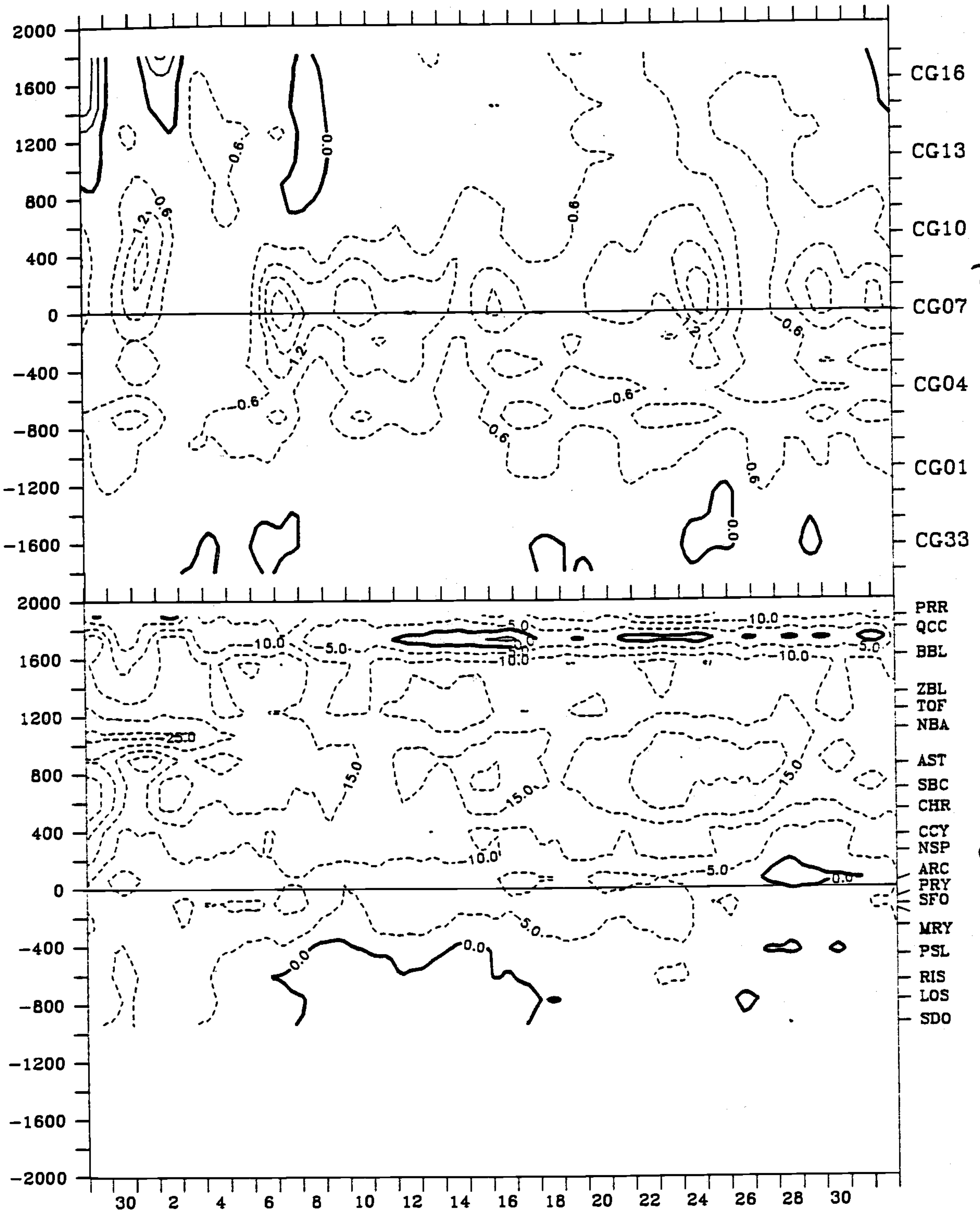
June 1981



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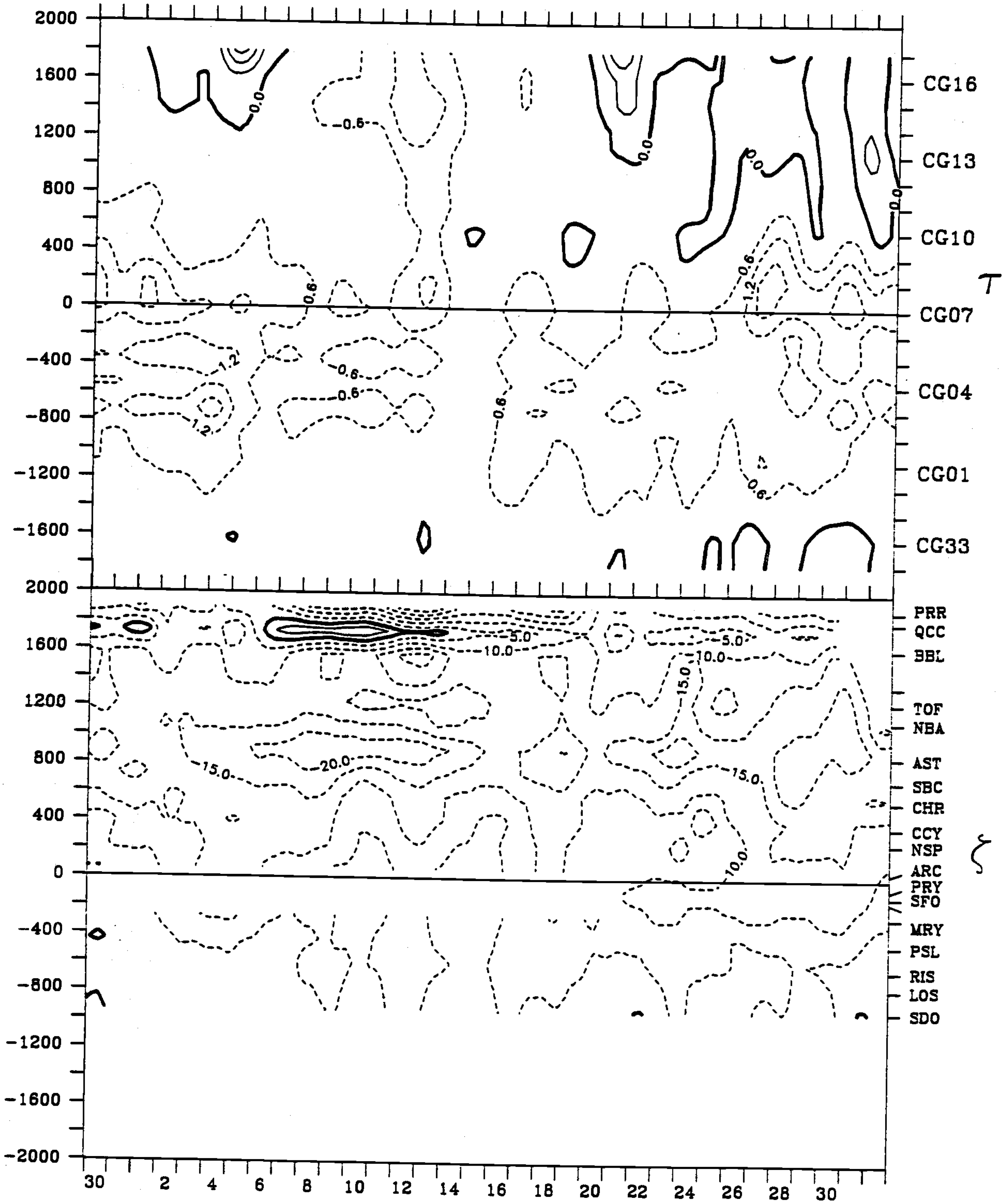
July 1981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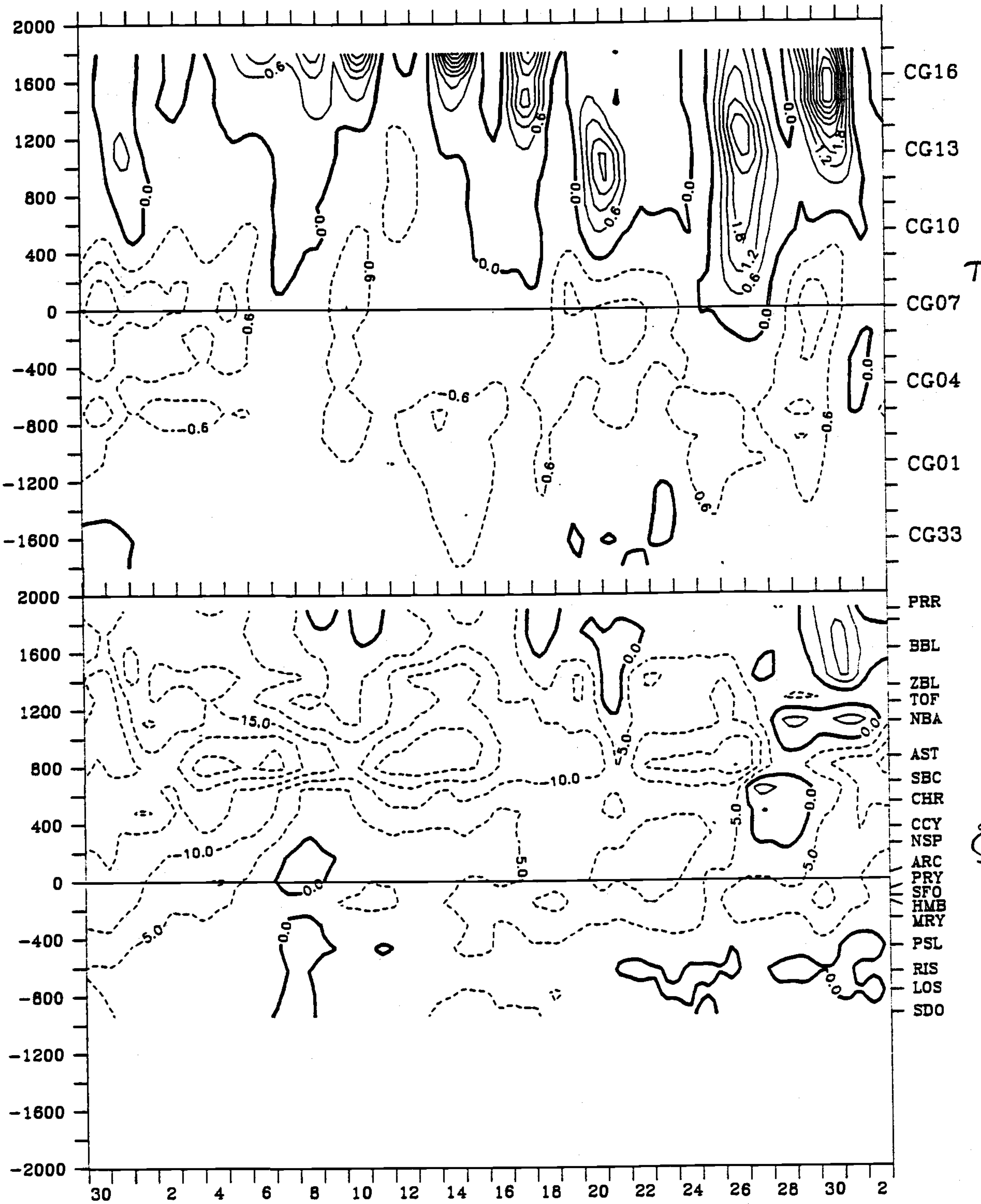
August 1981



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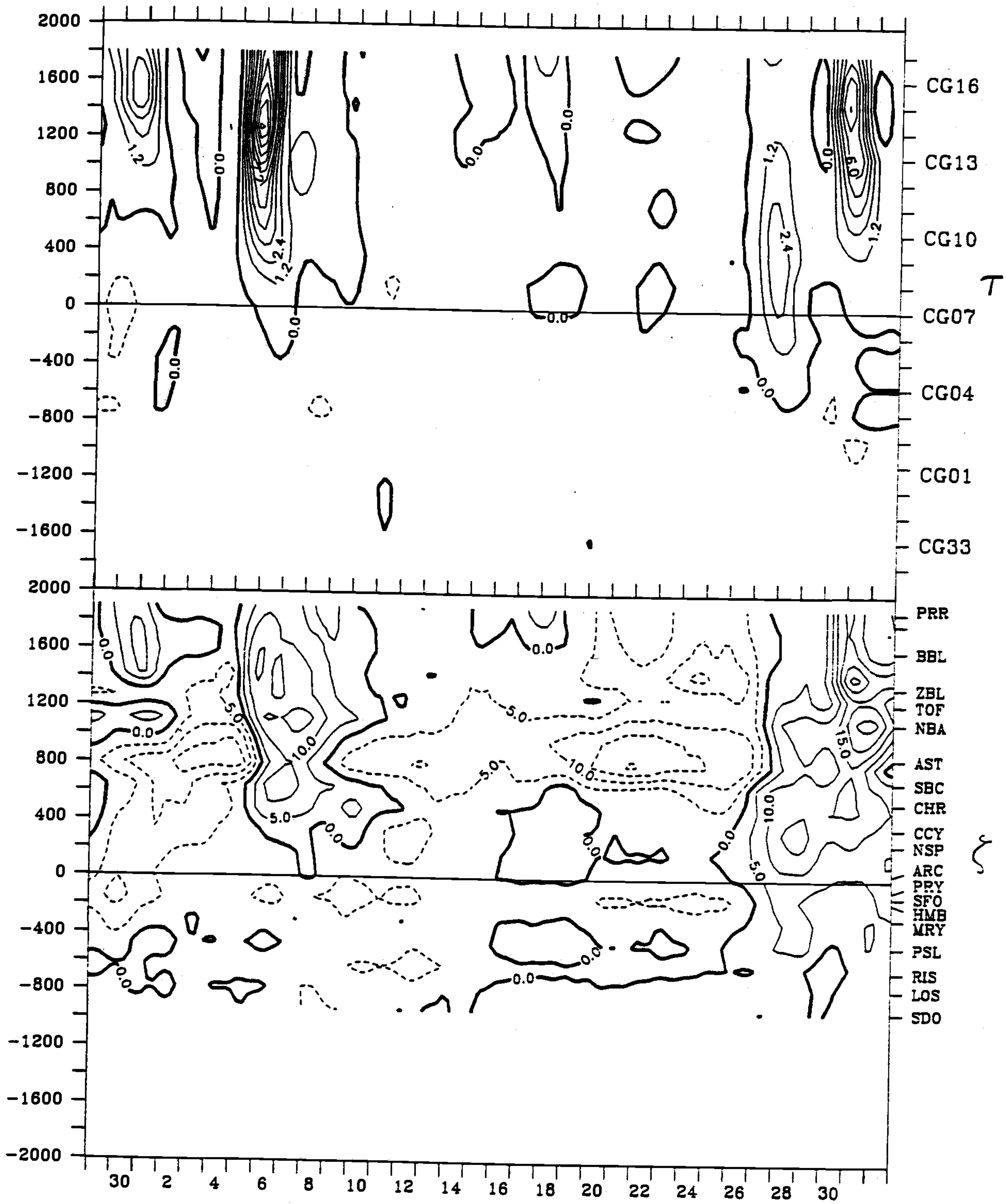

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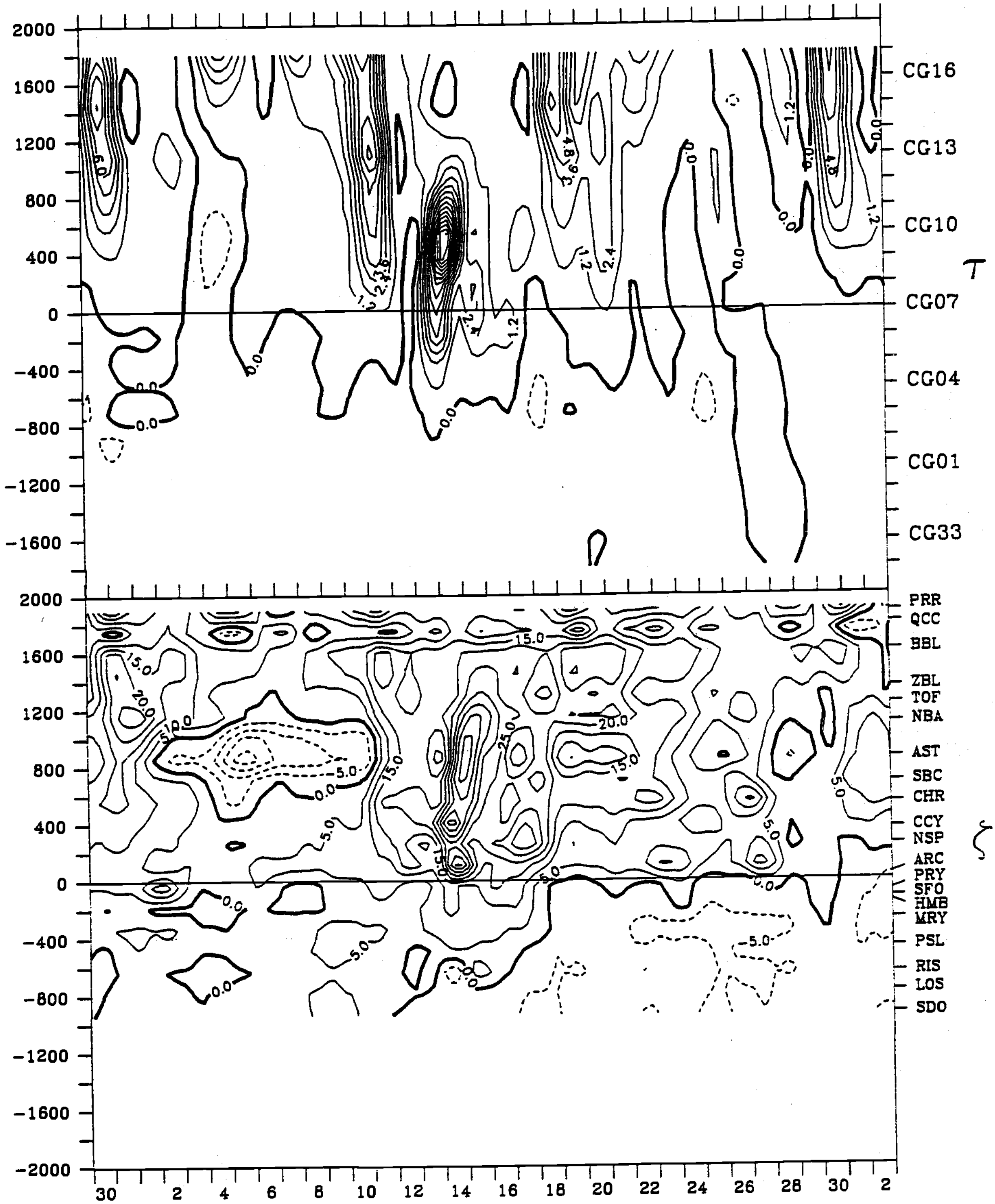

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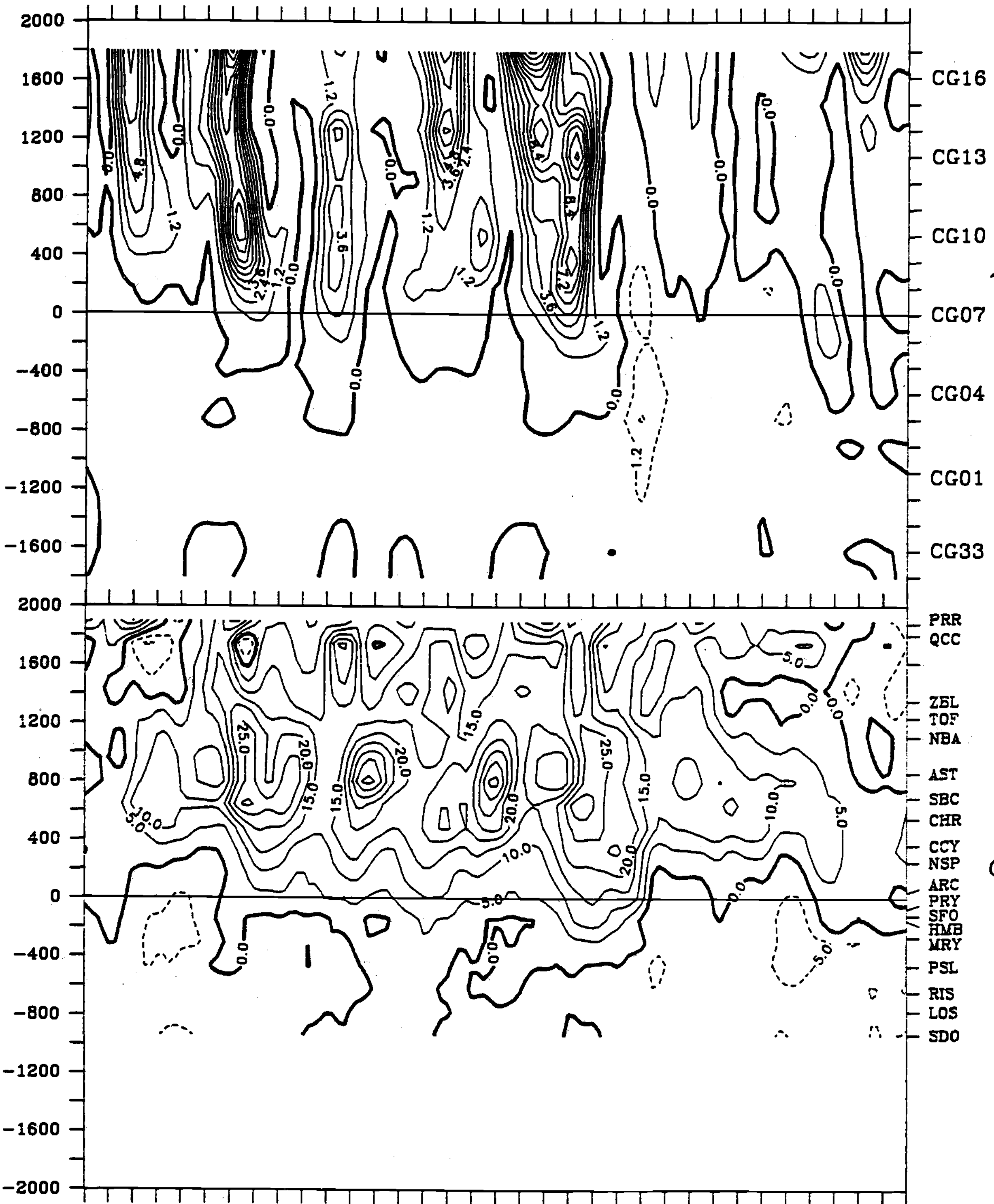

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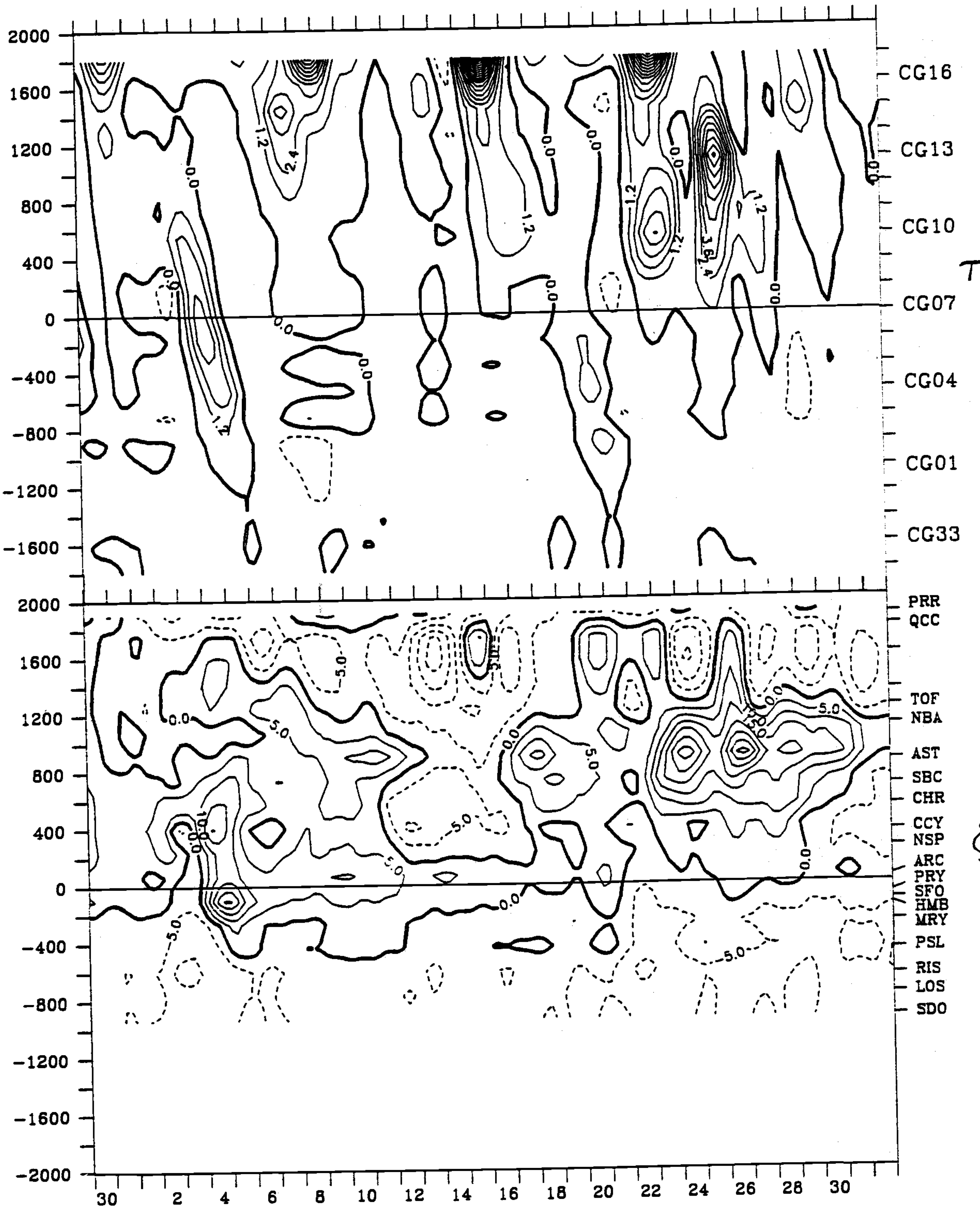

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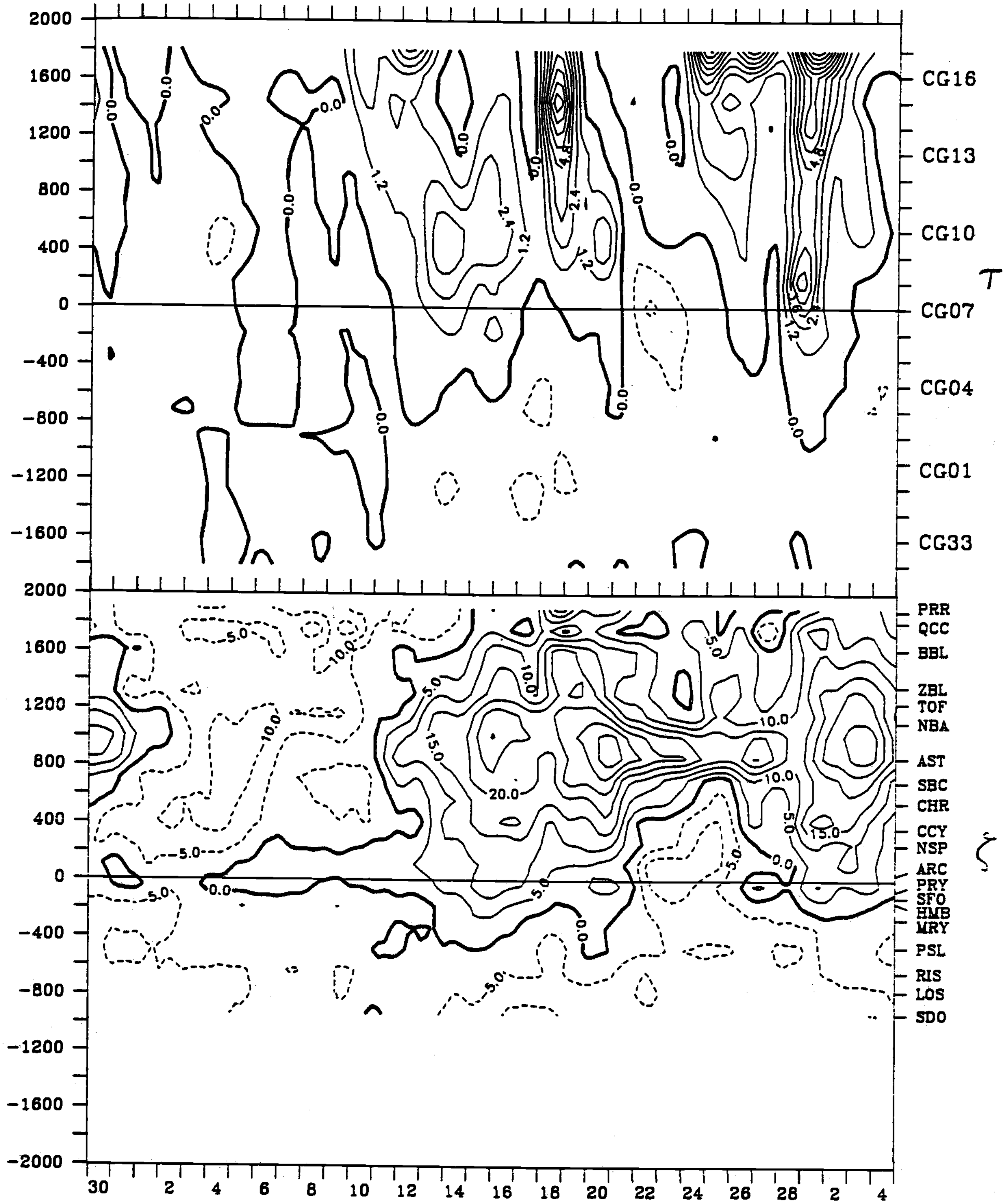

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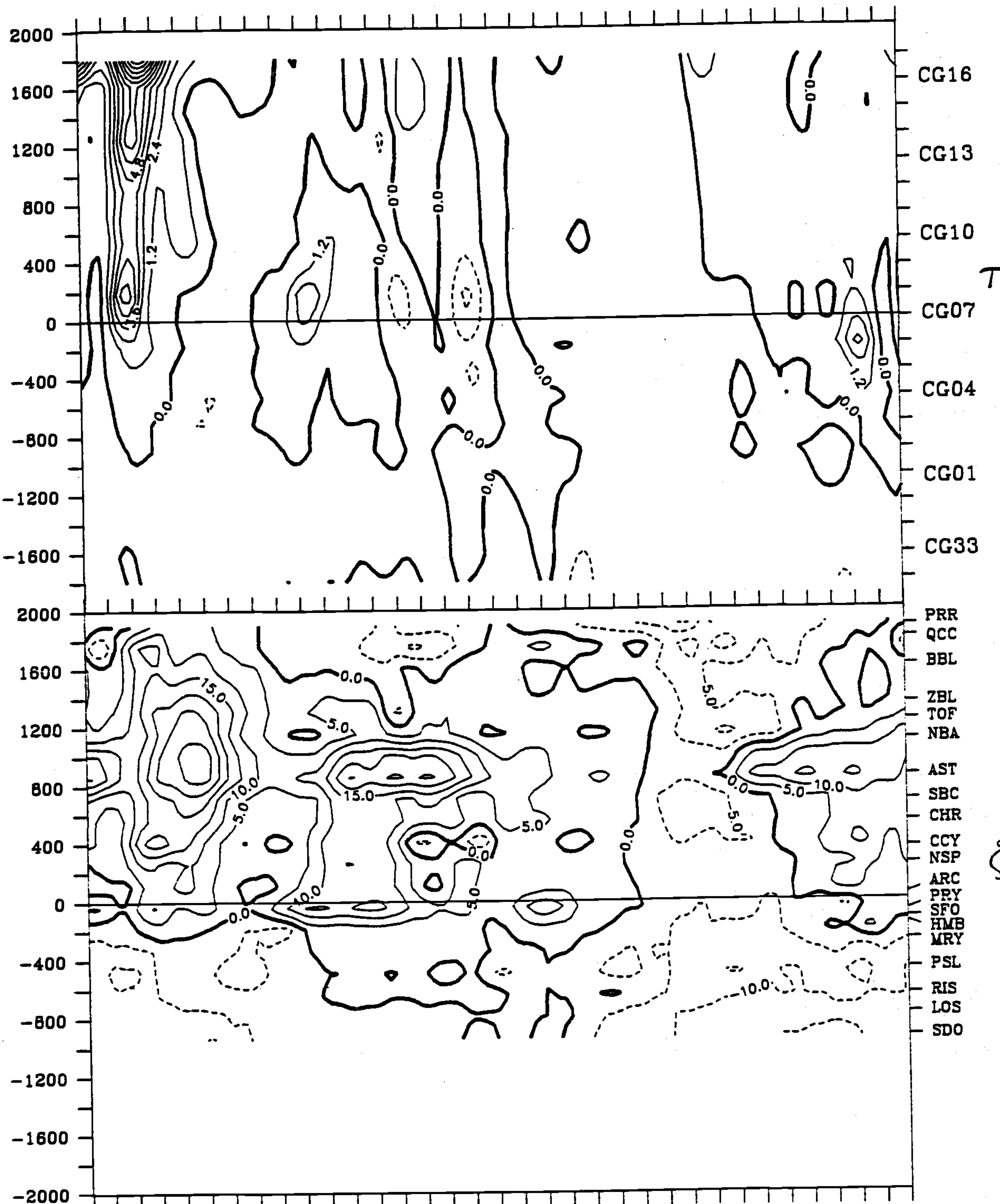
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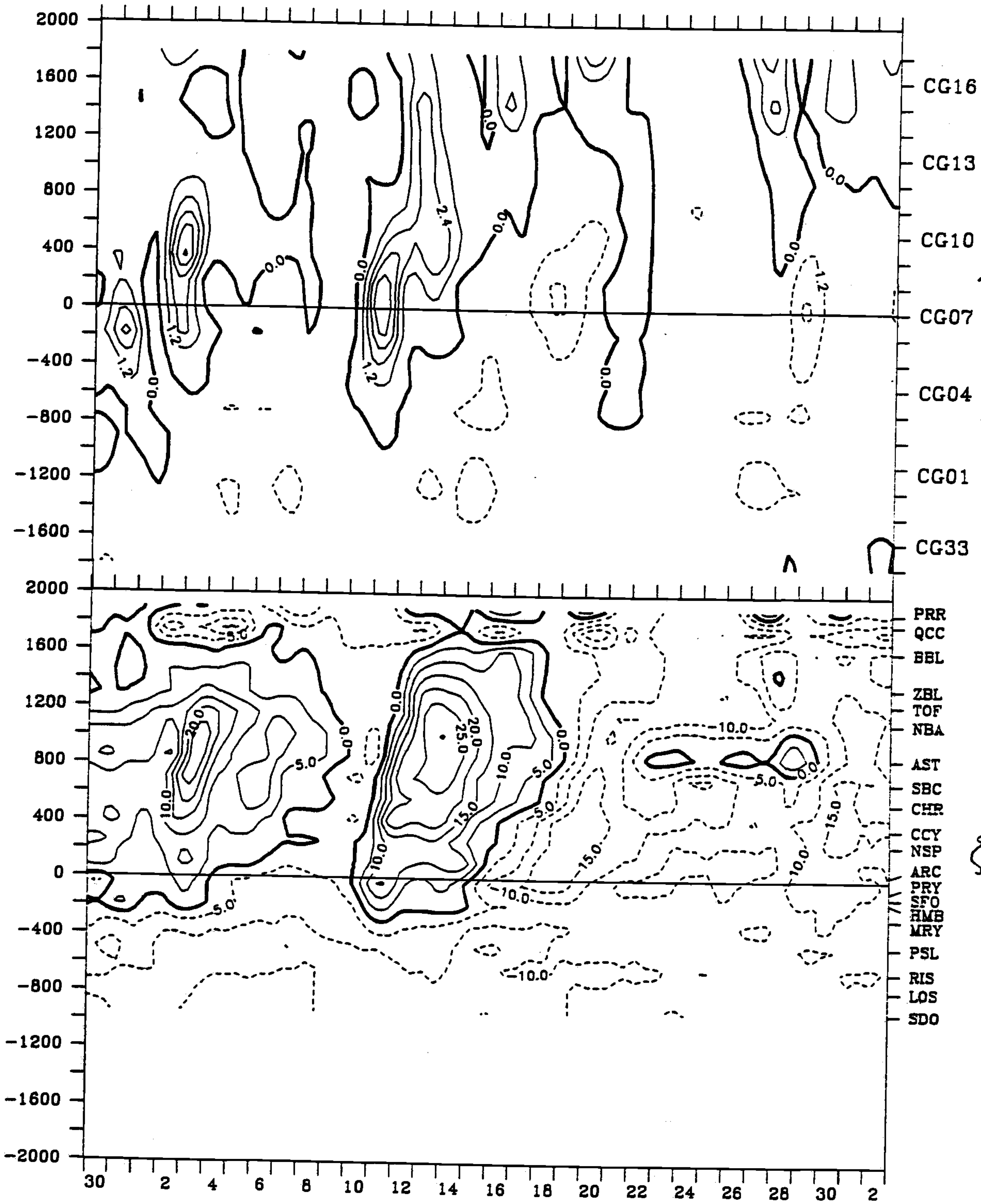
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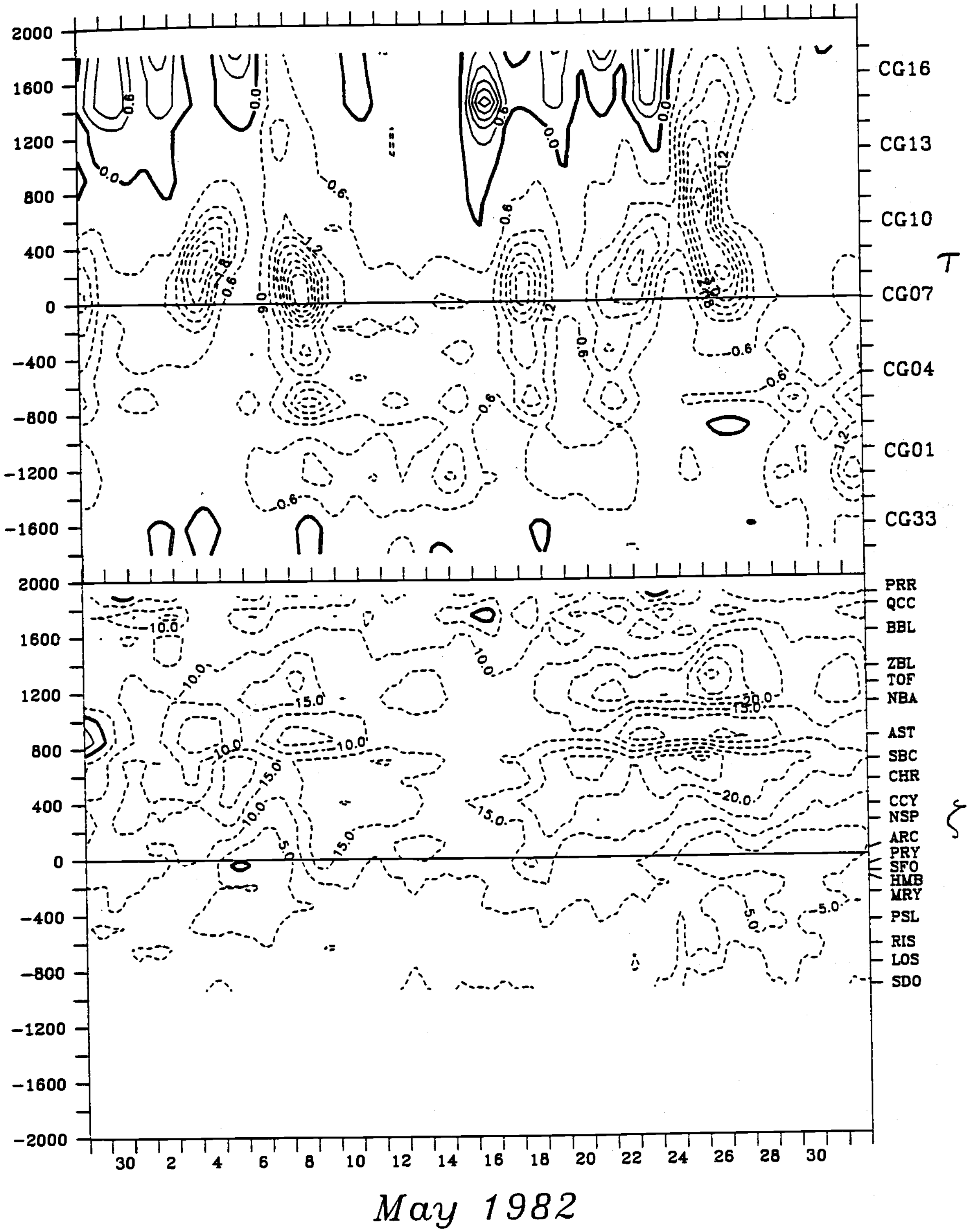
April 1982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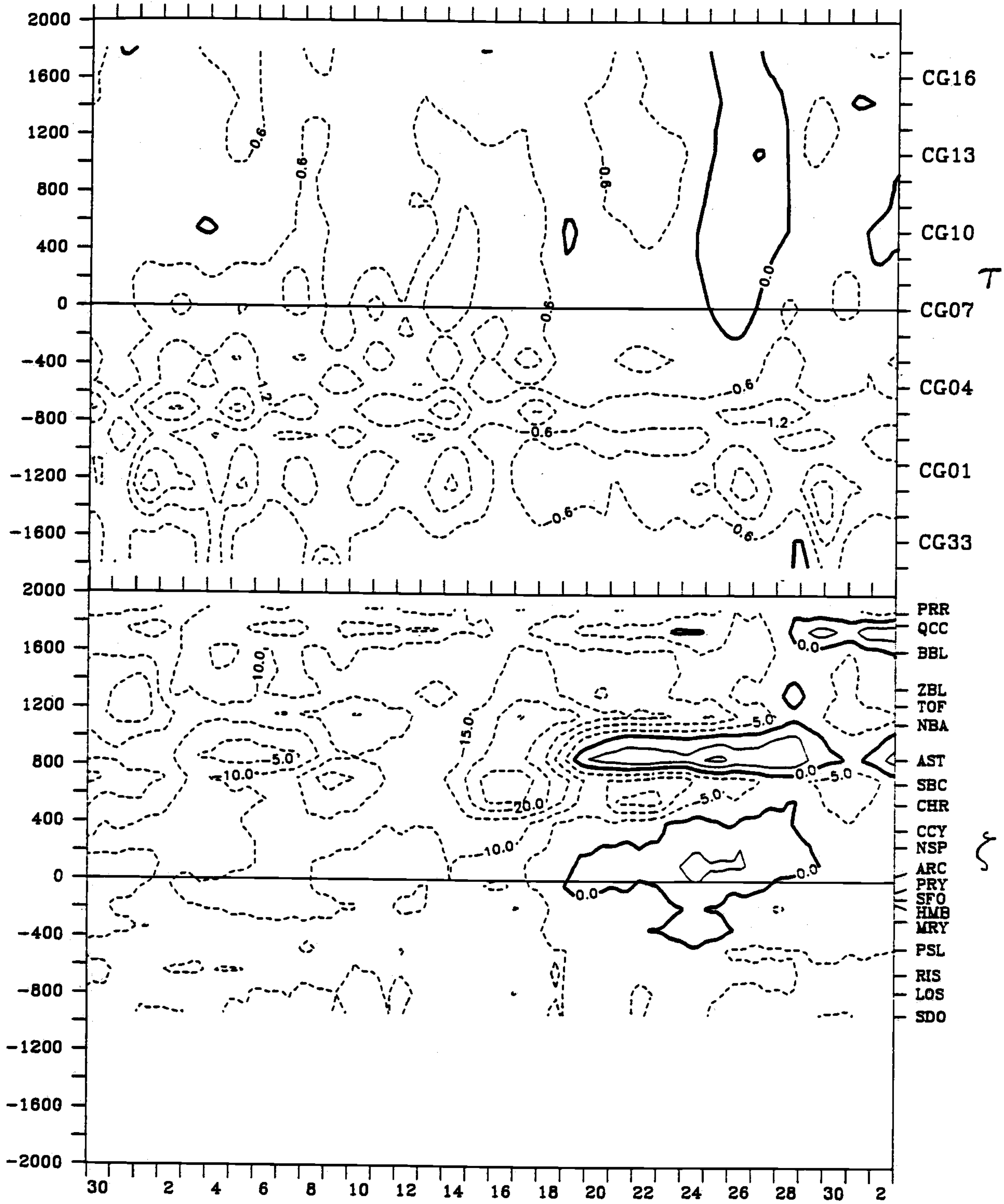
May 1982



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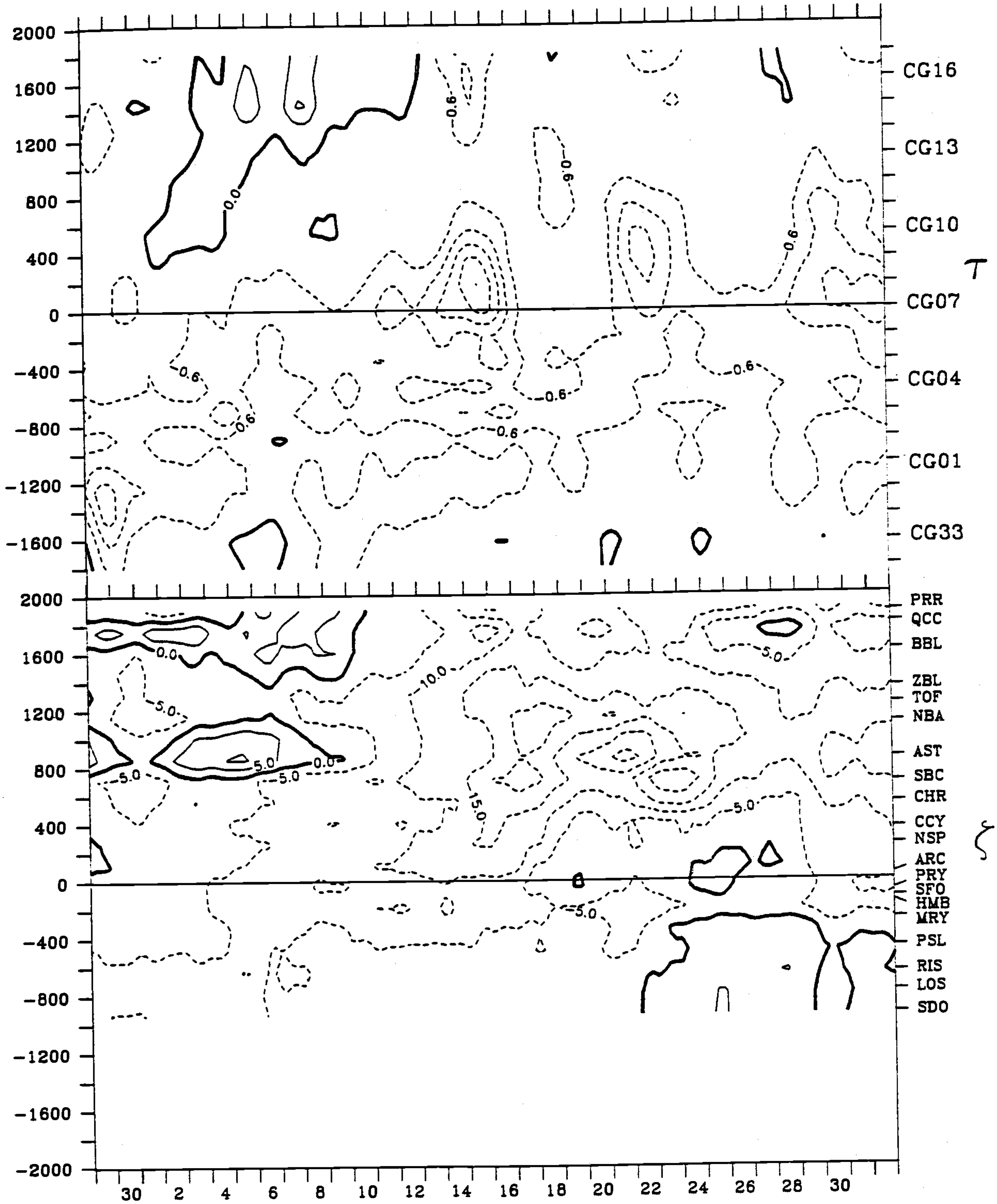
June 1982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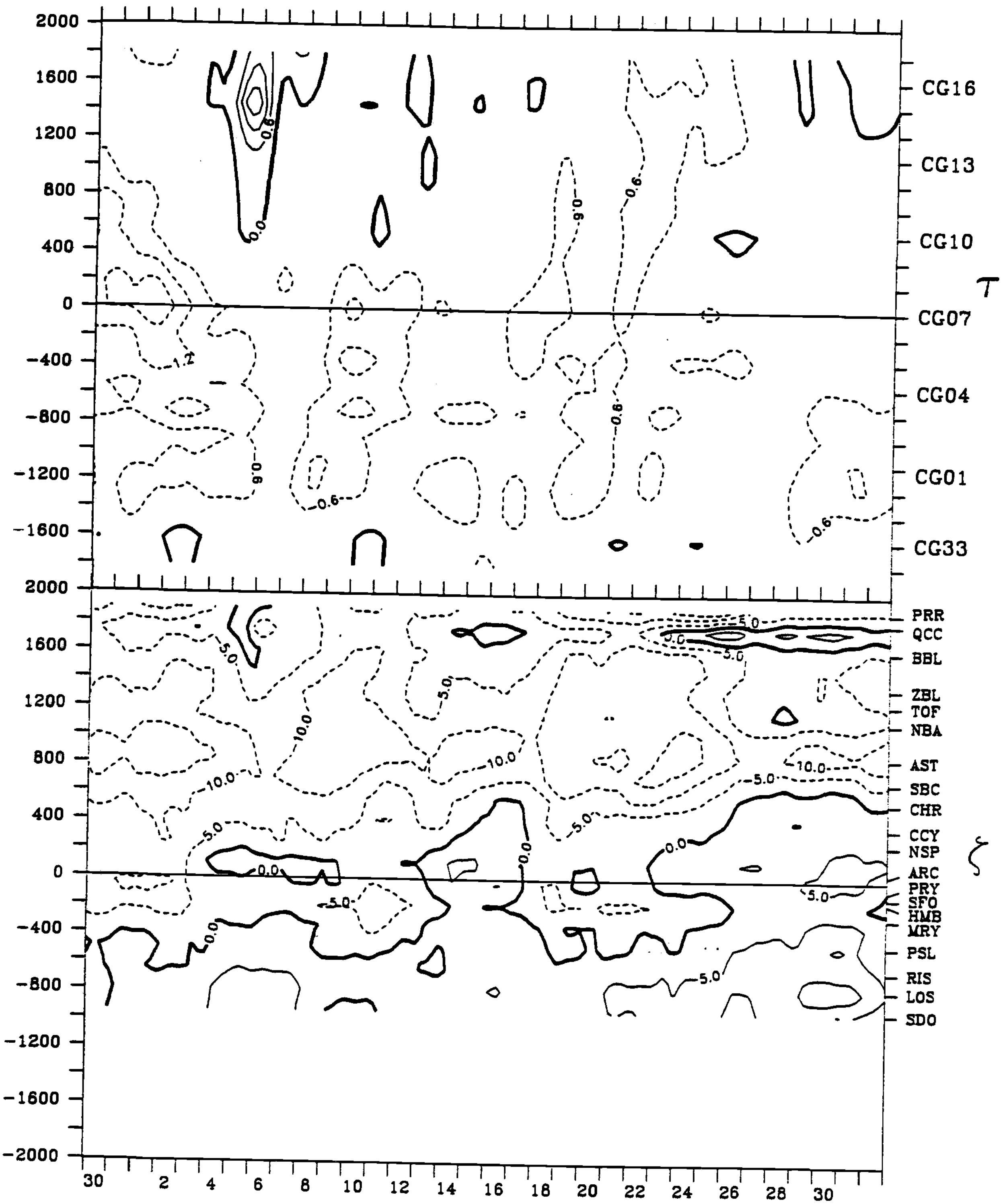
July 1982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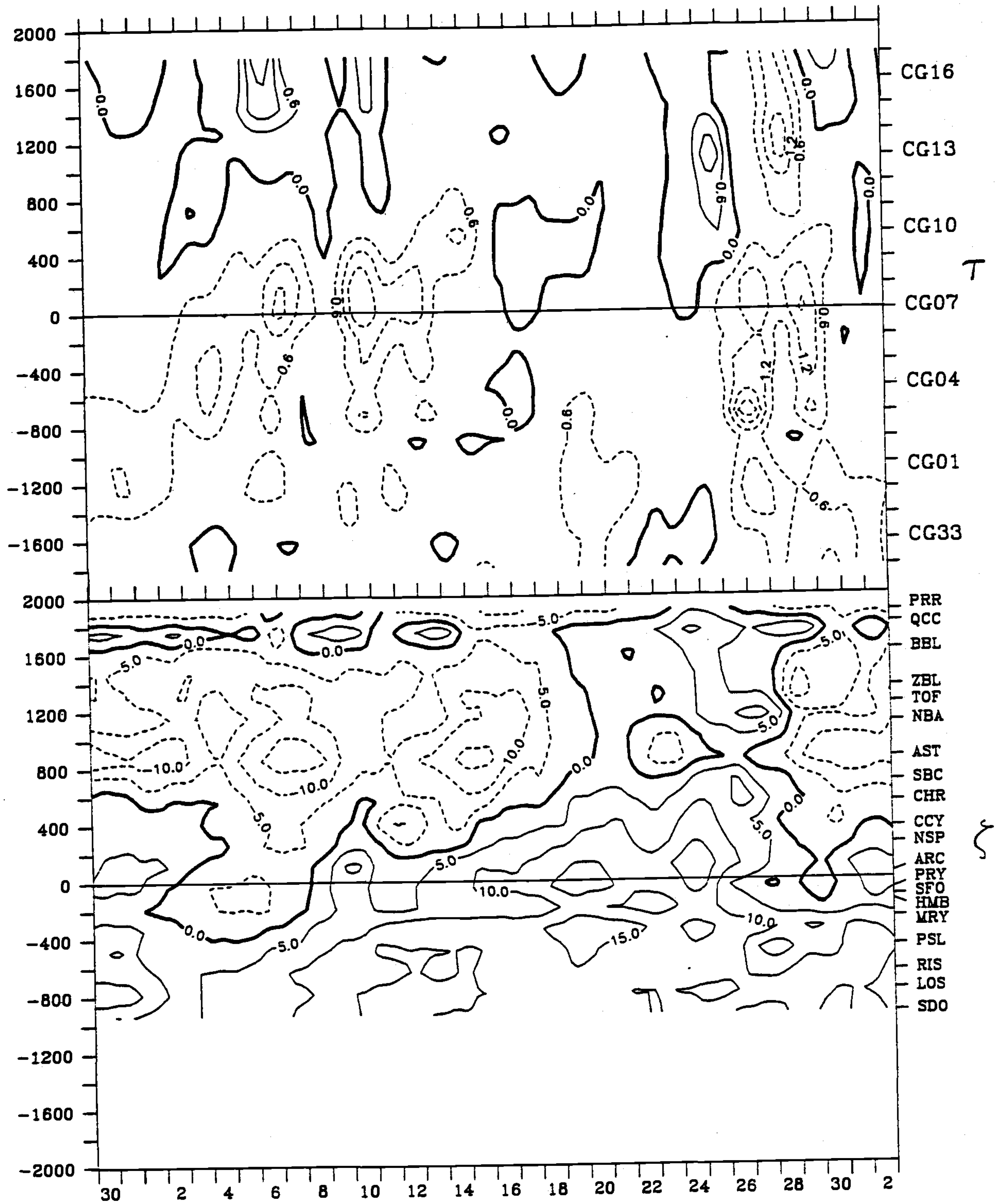
August 1982



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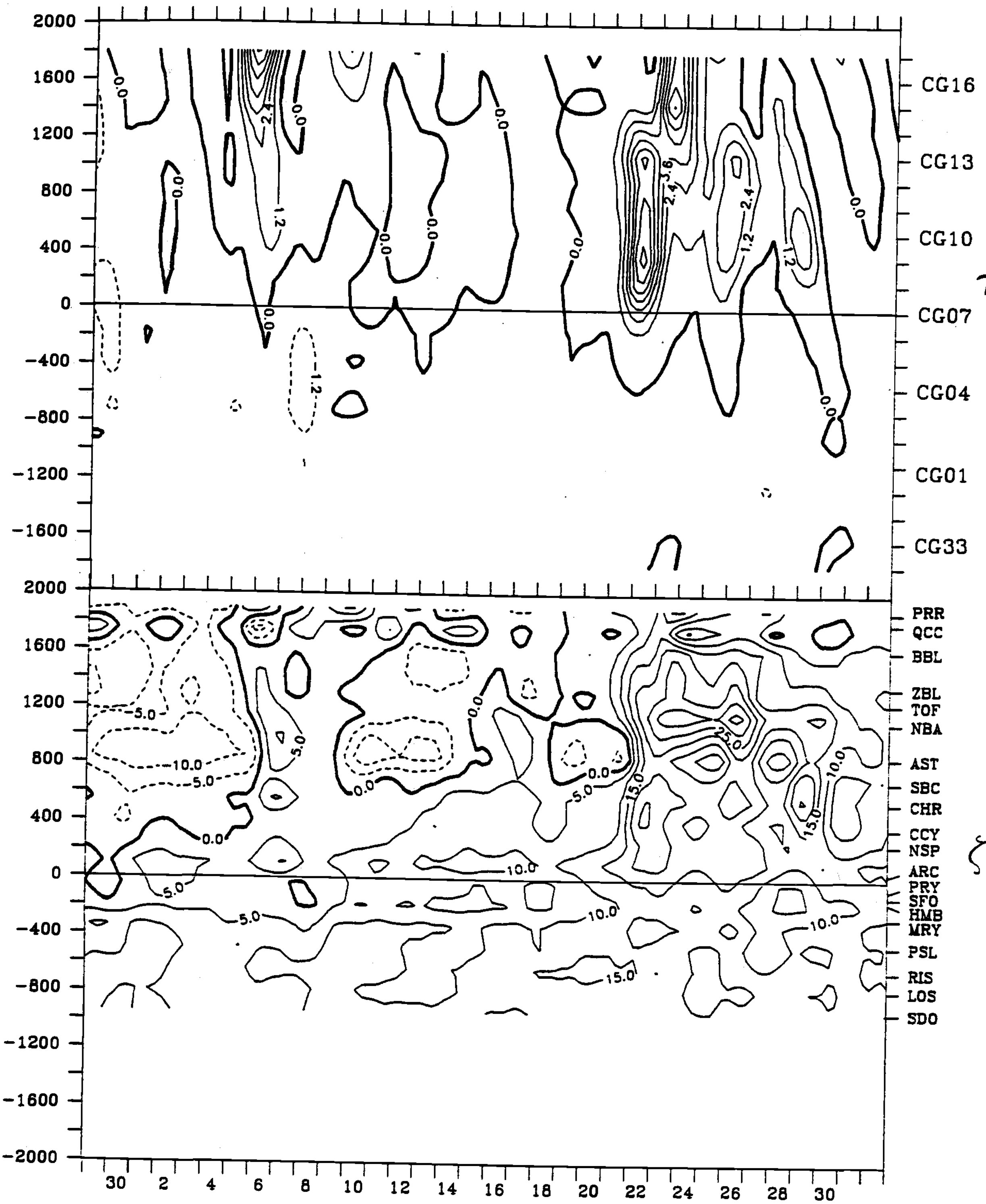

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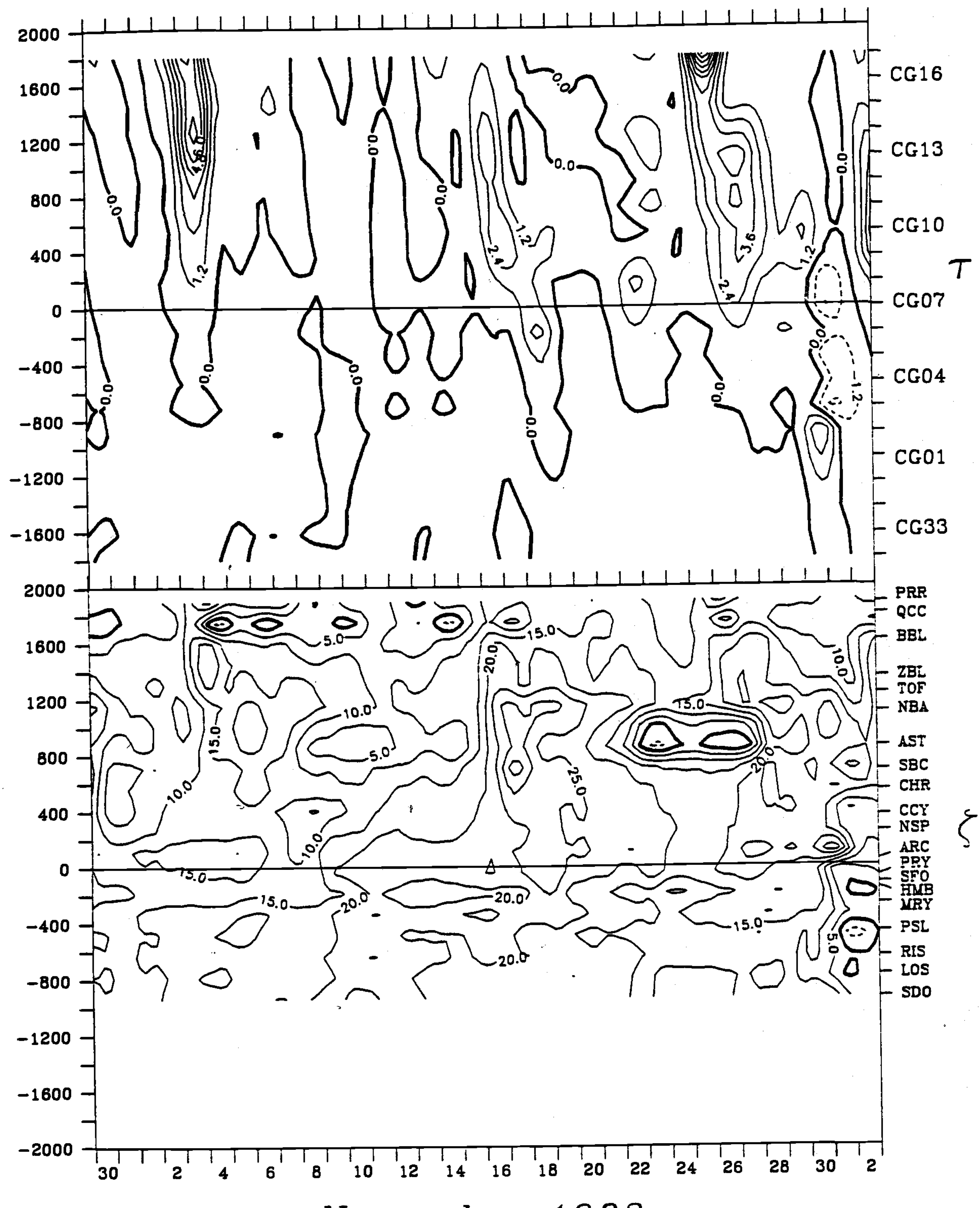

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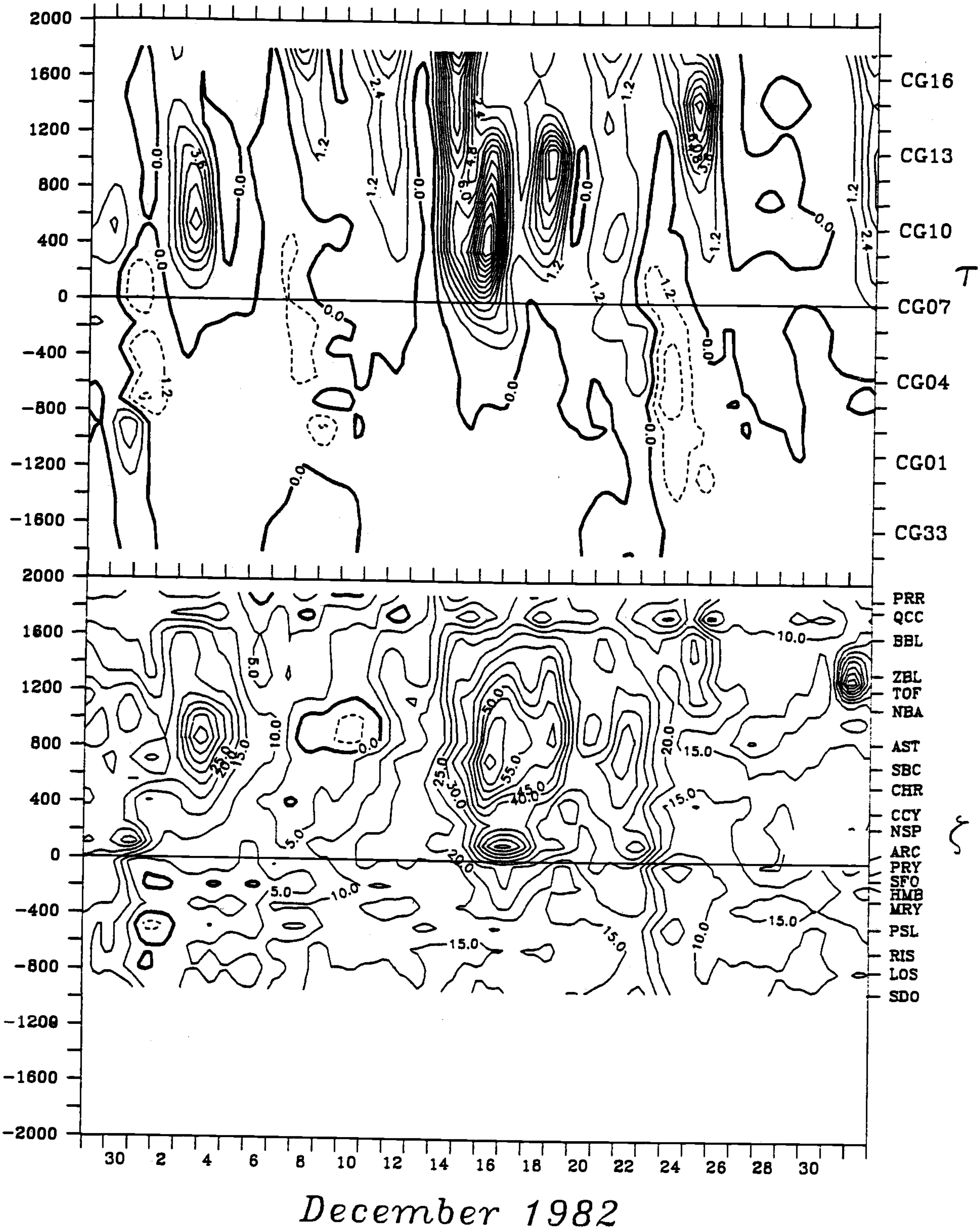
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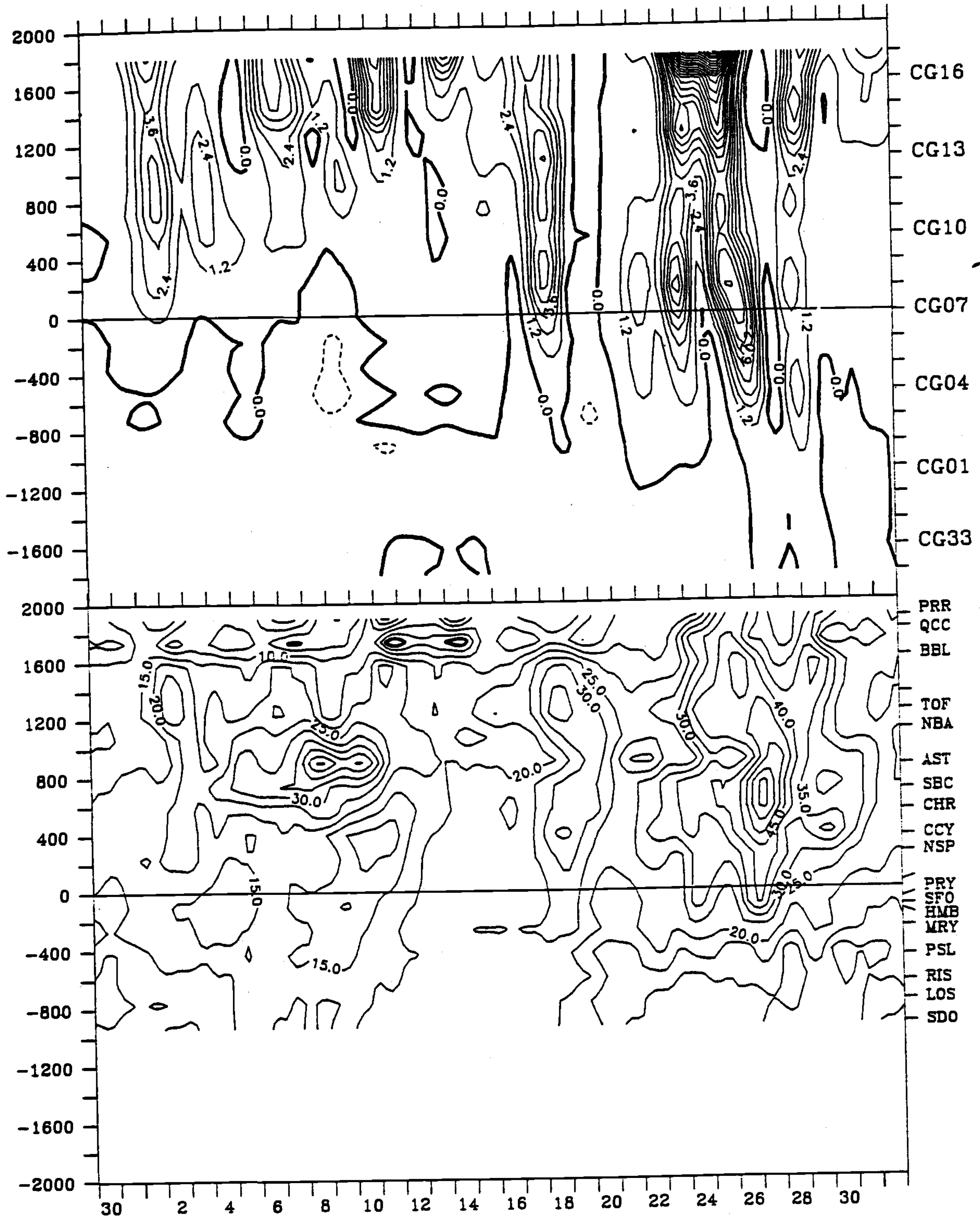

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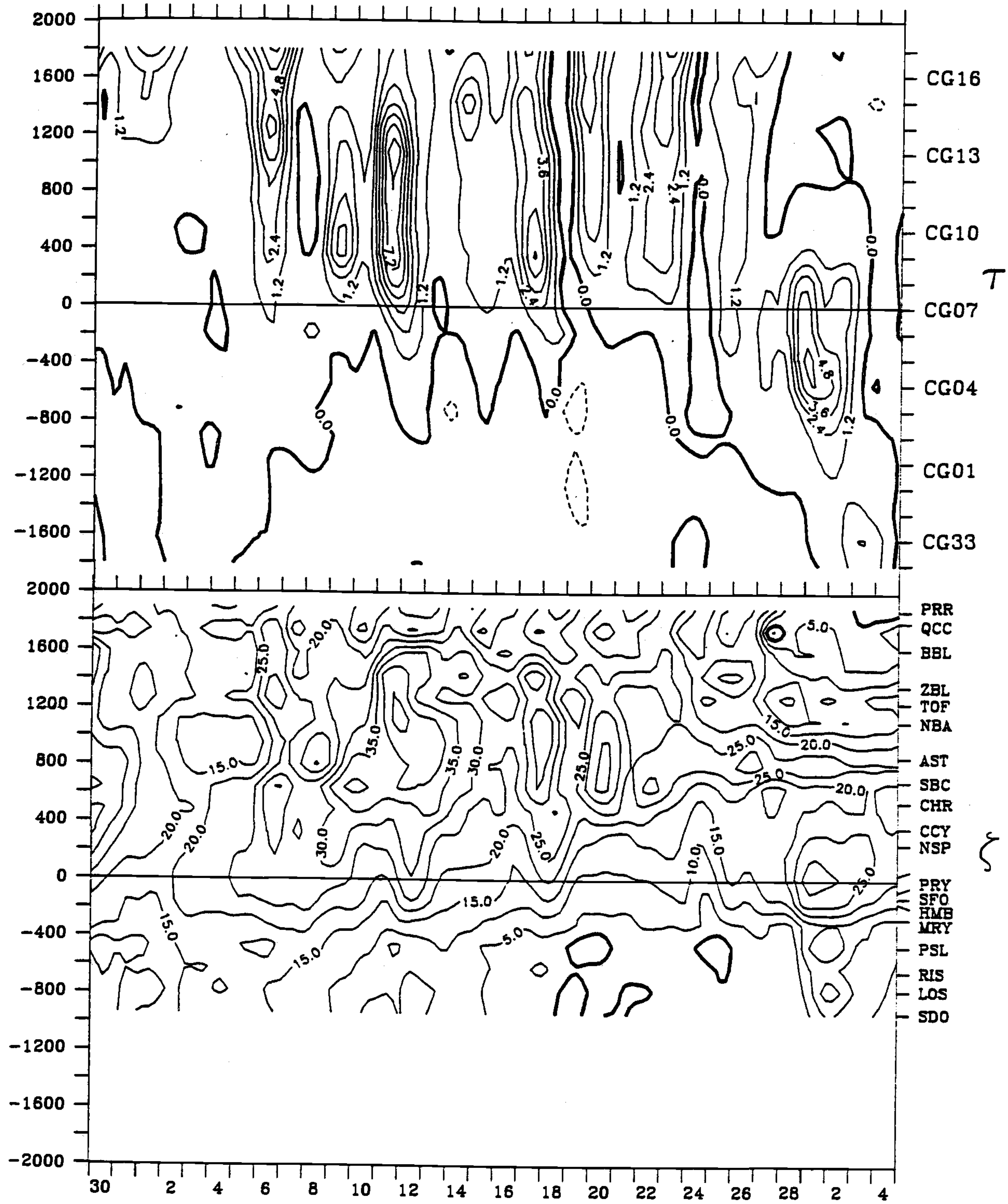

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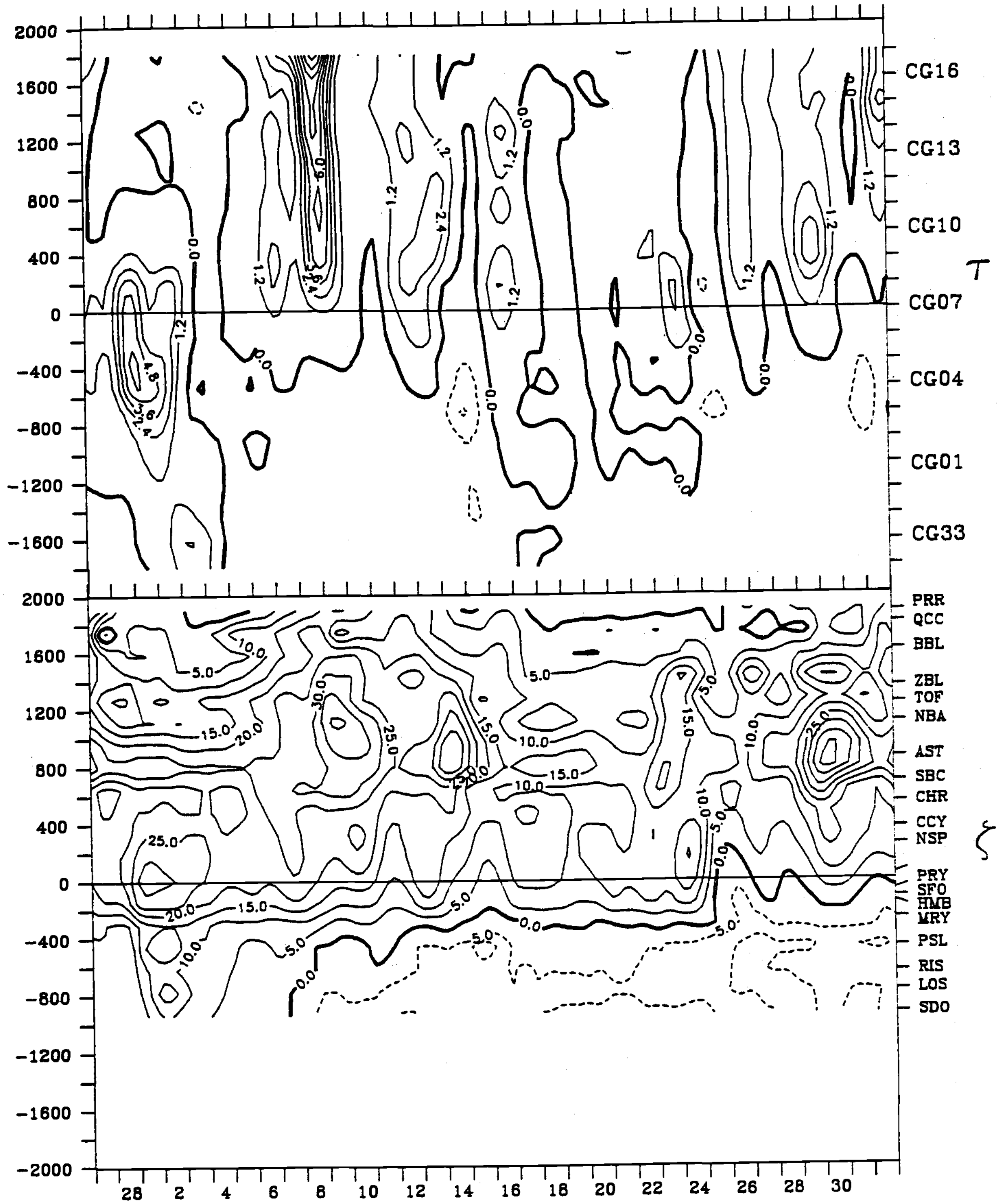

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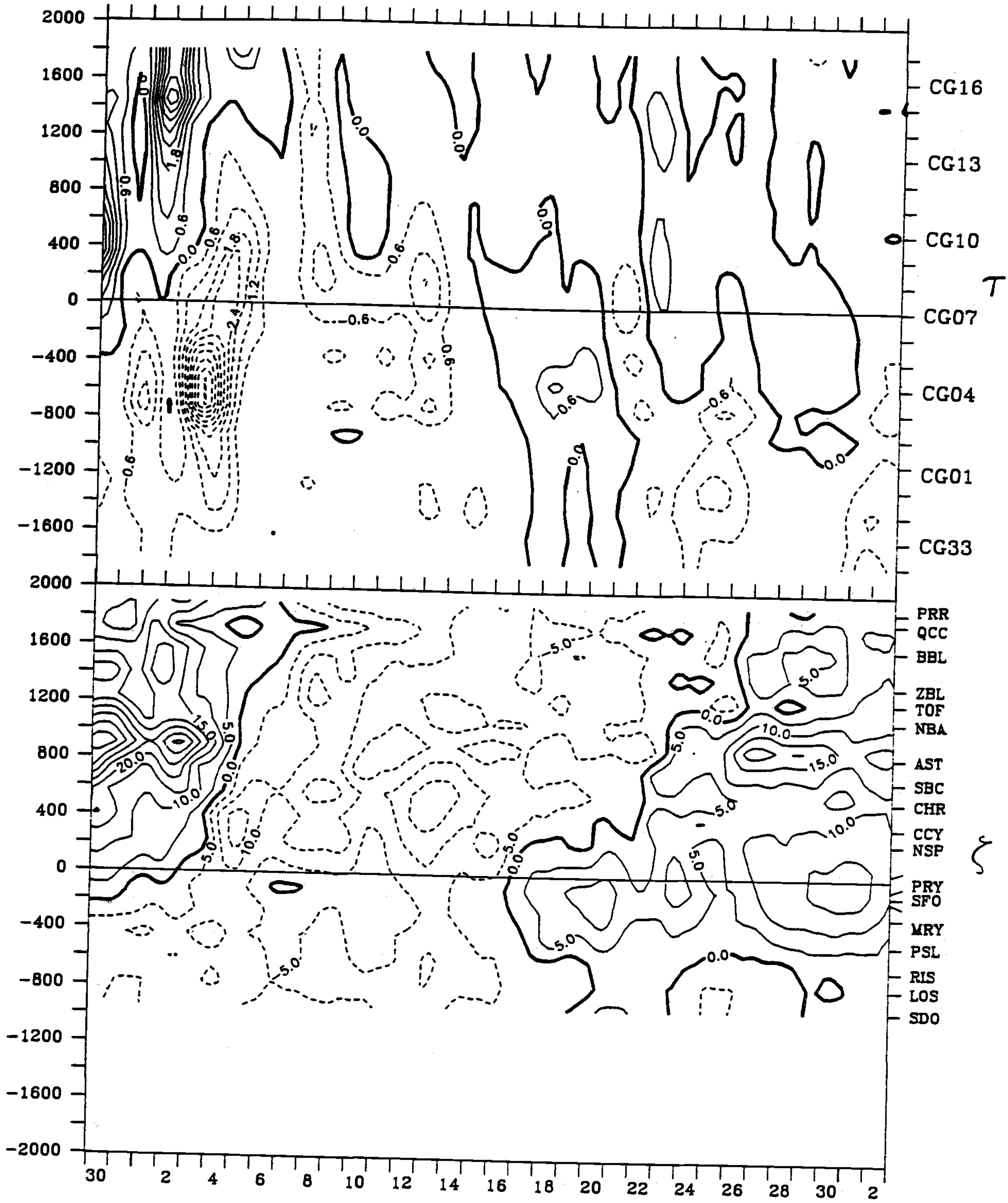

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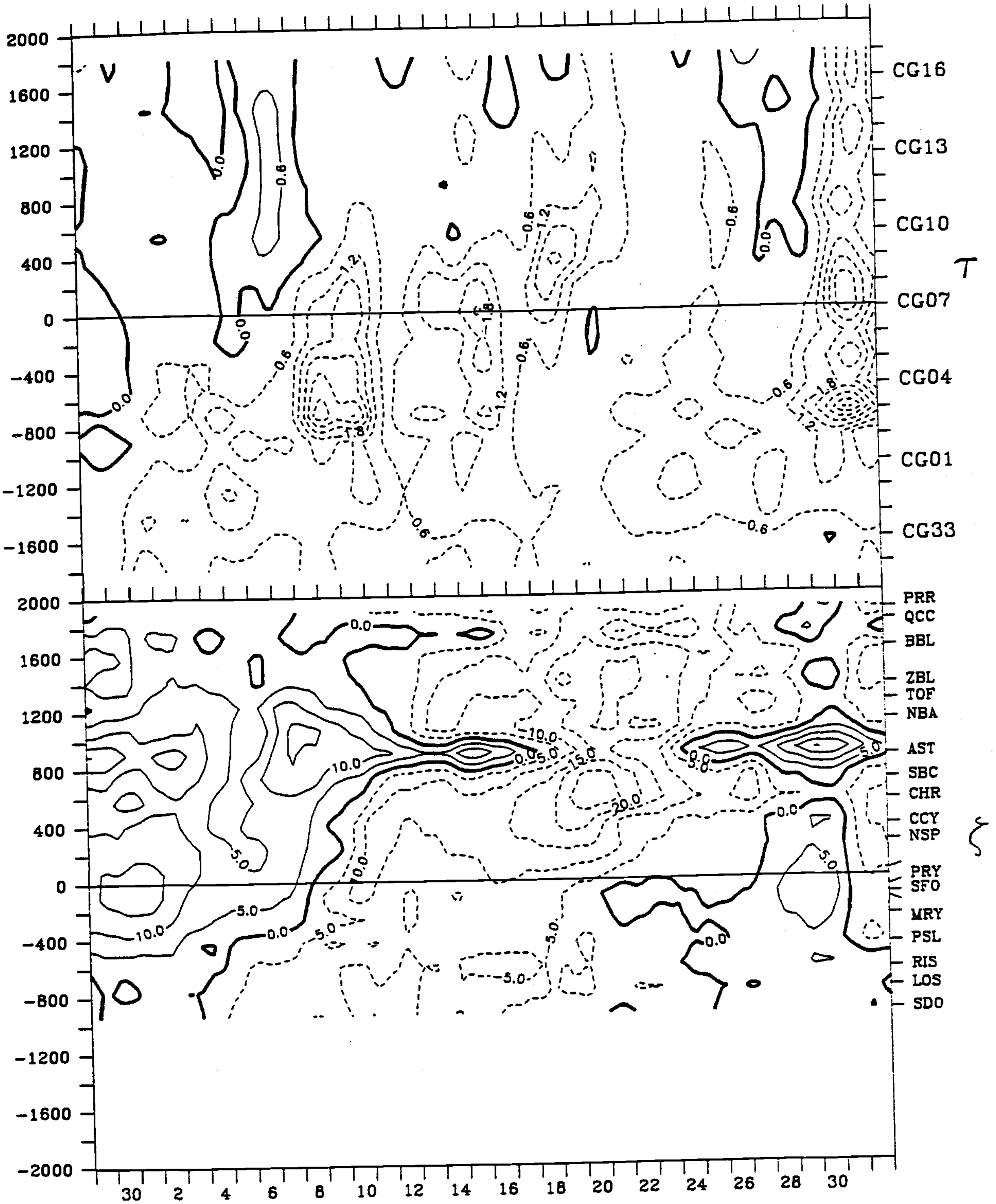
April 1983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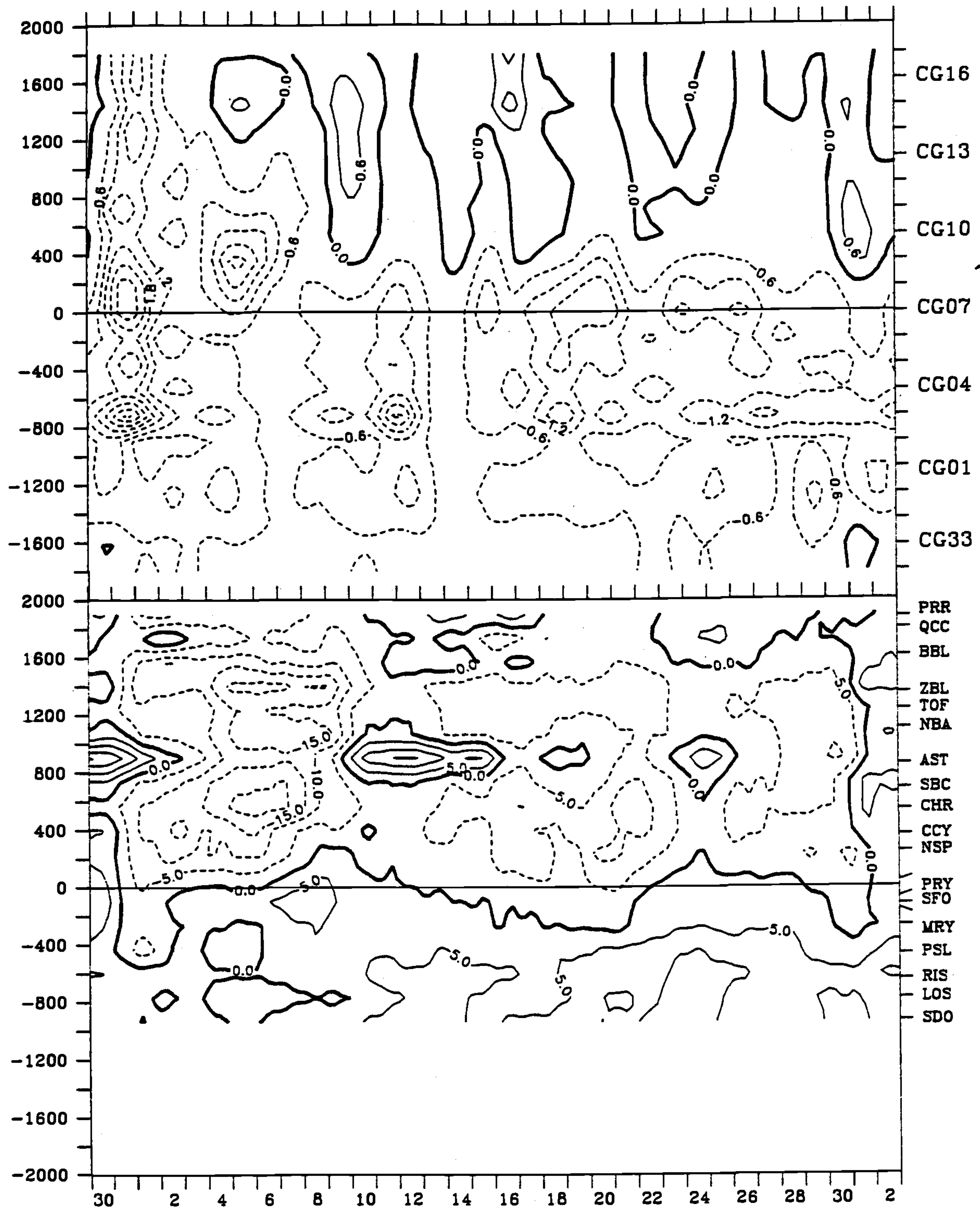
May 1983



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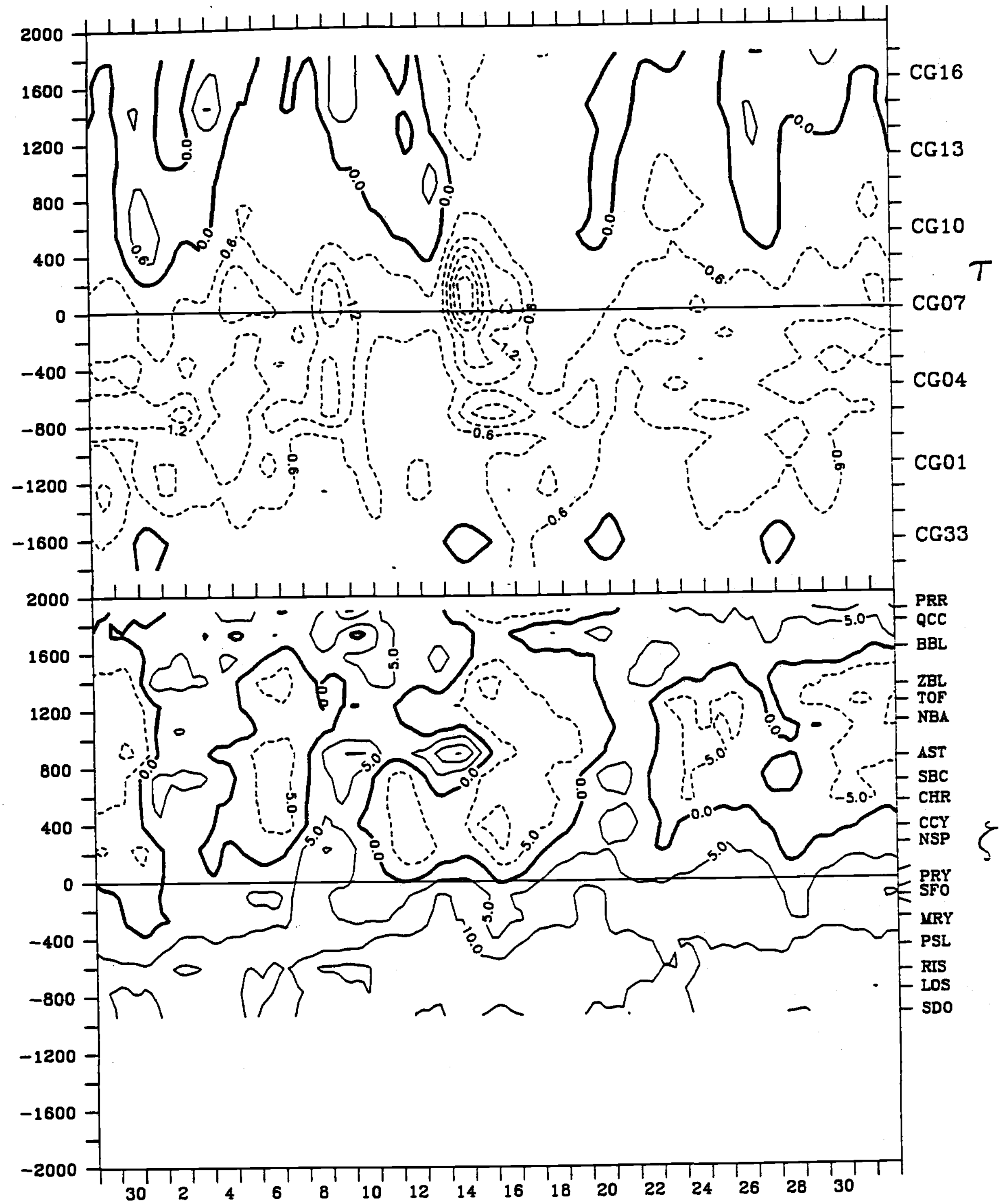
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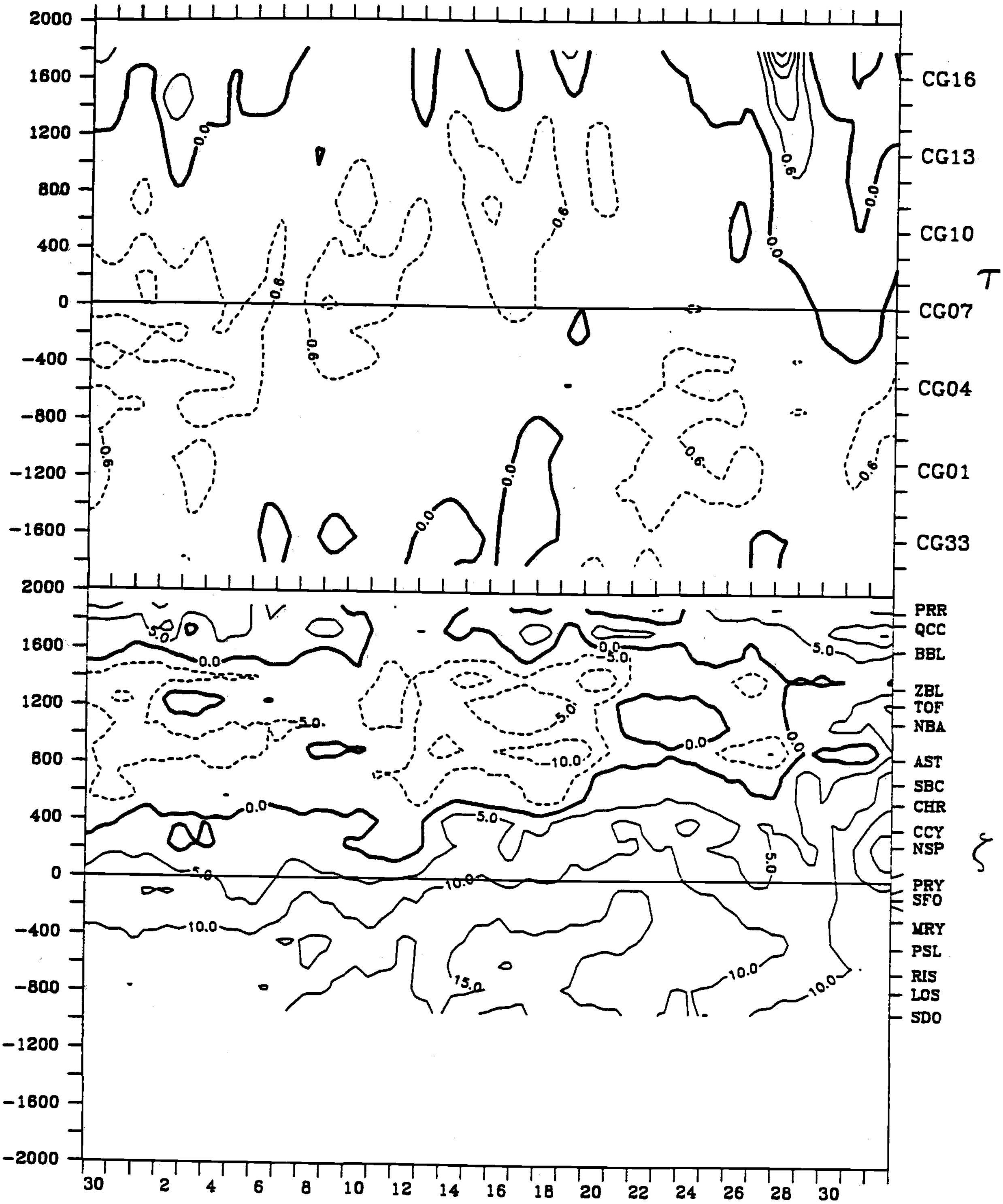
July 1983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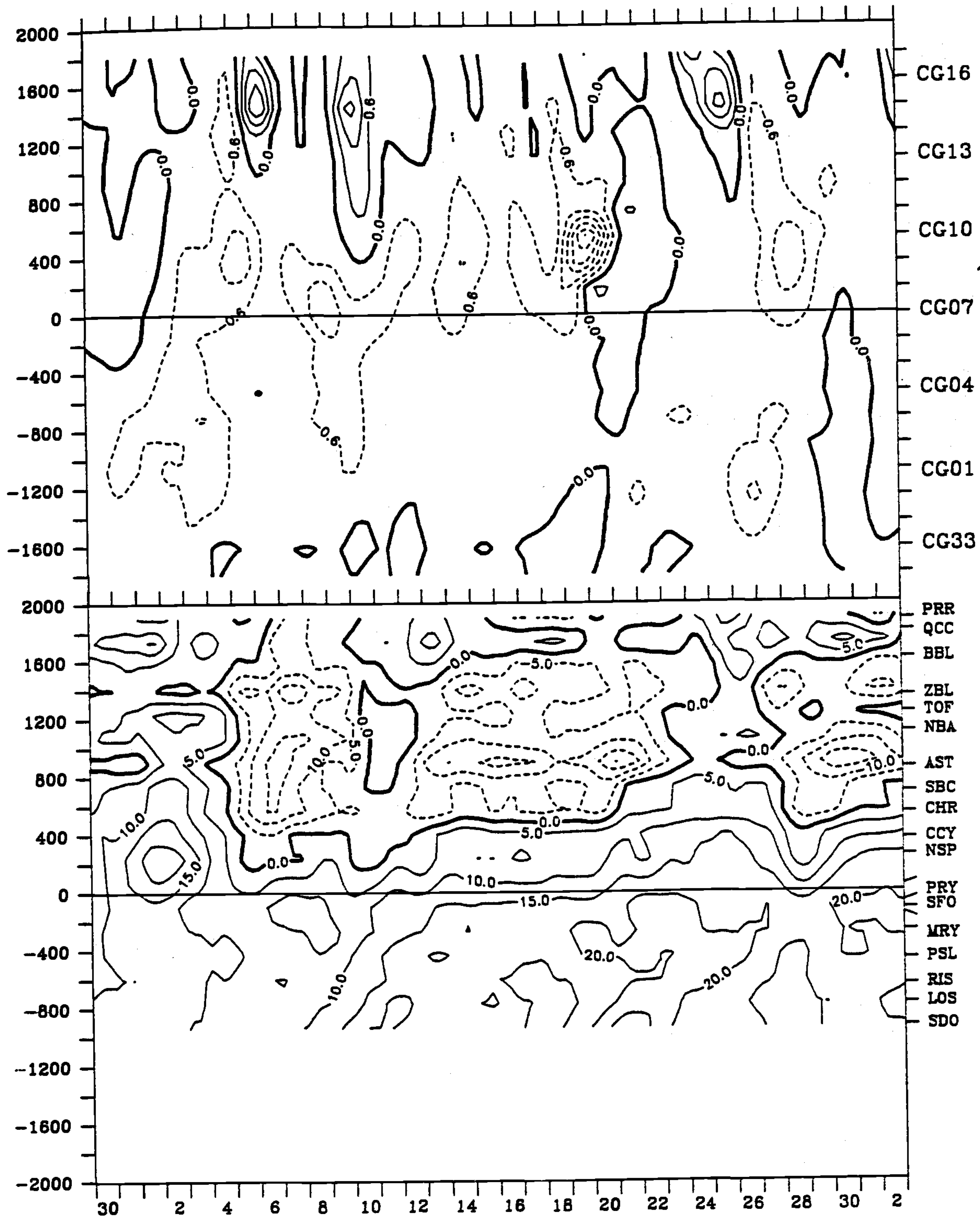
August 1983



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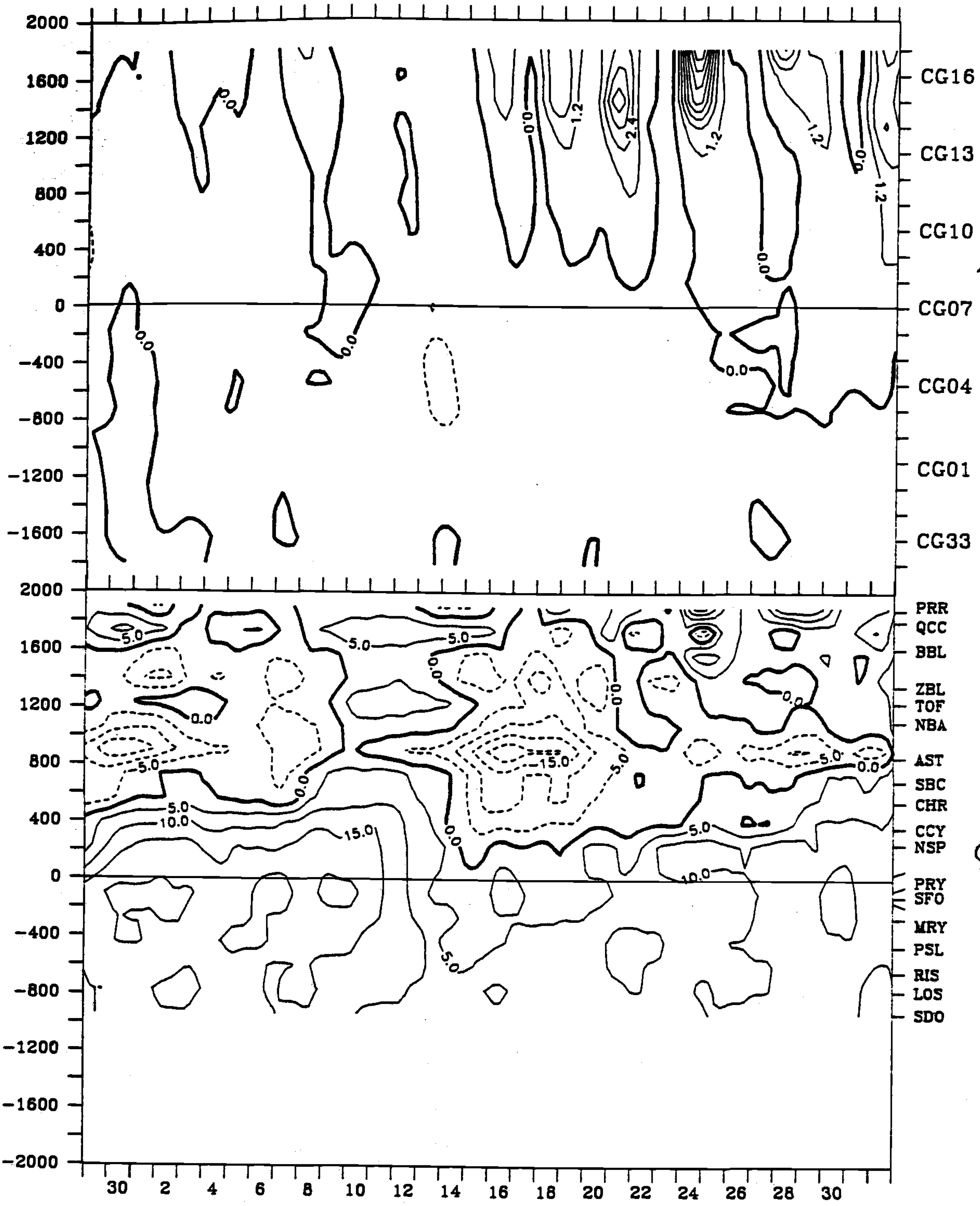

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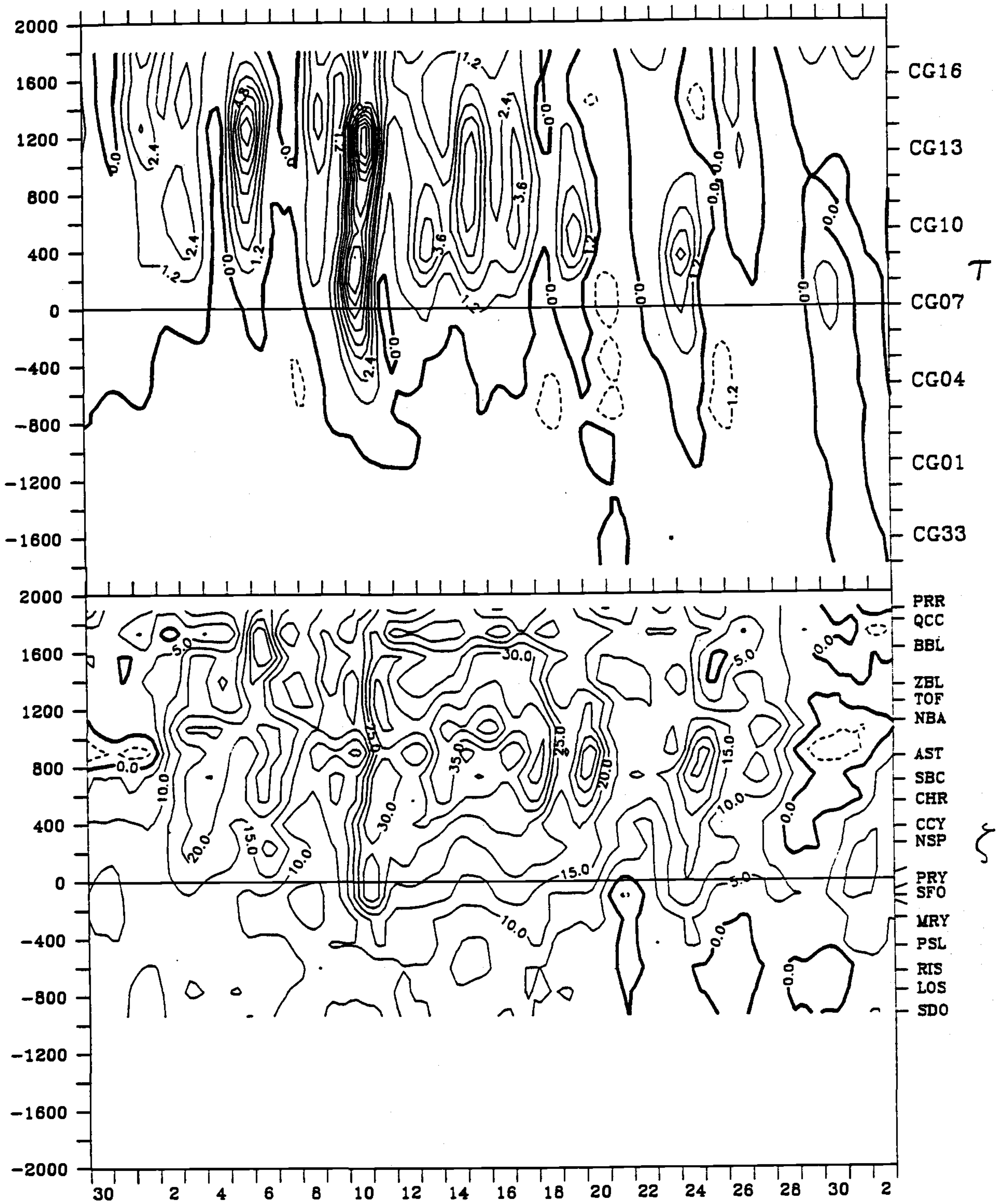

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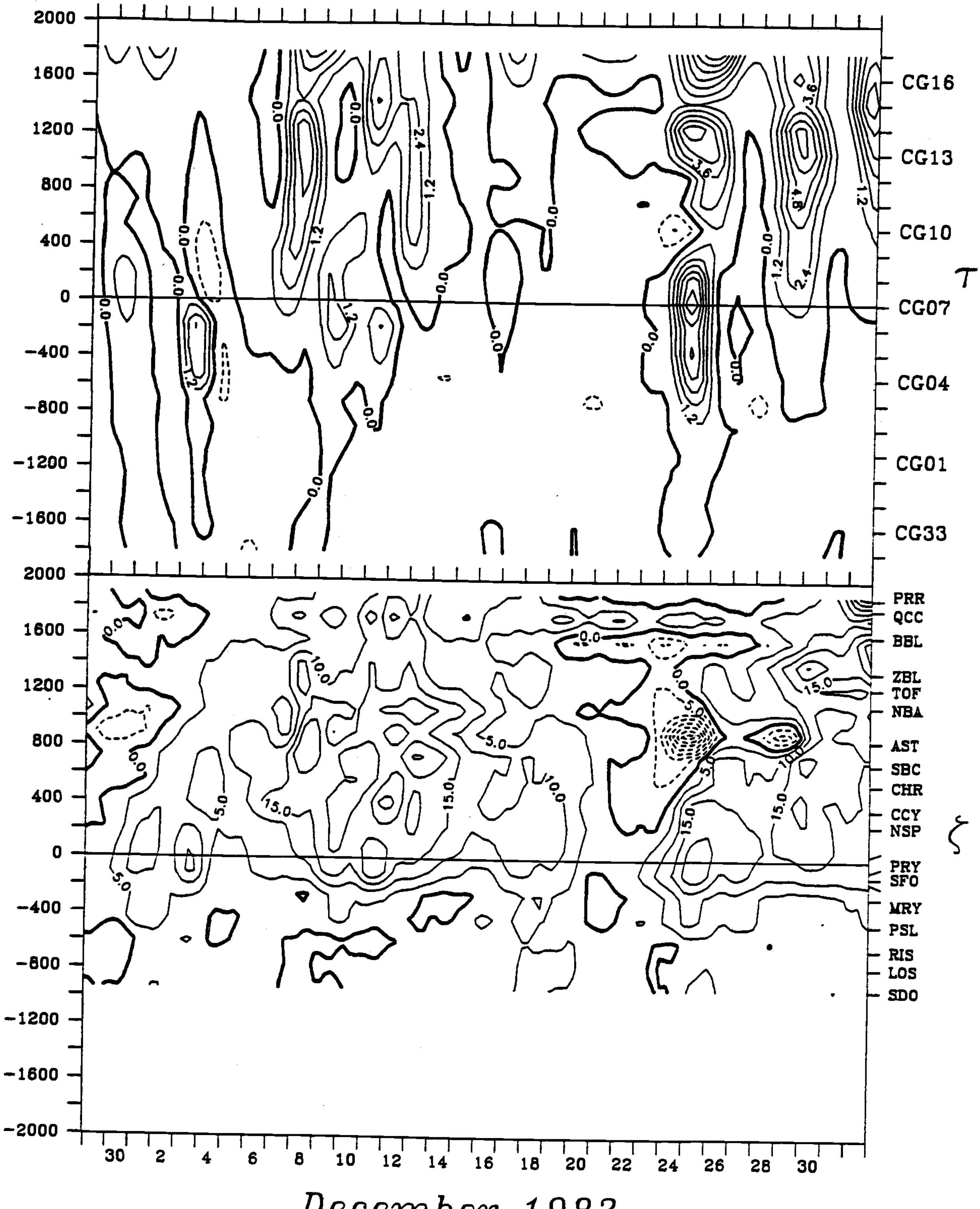

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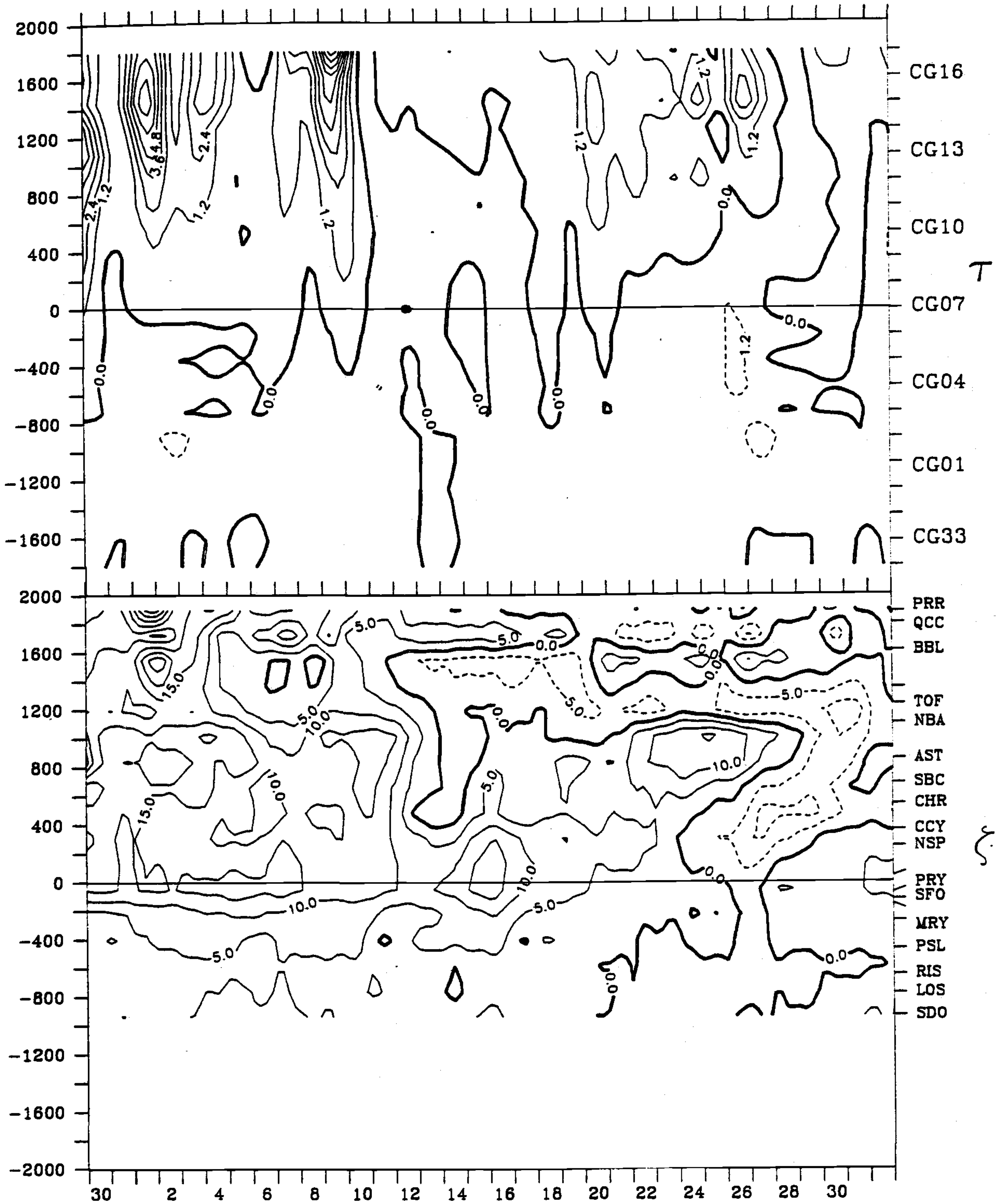

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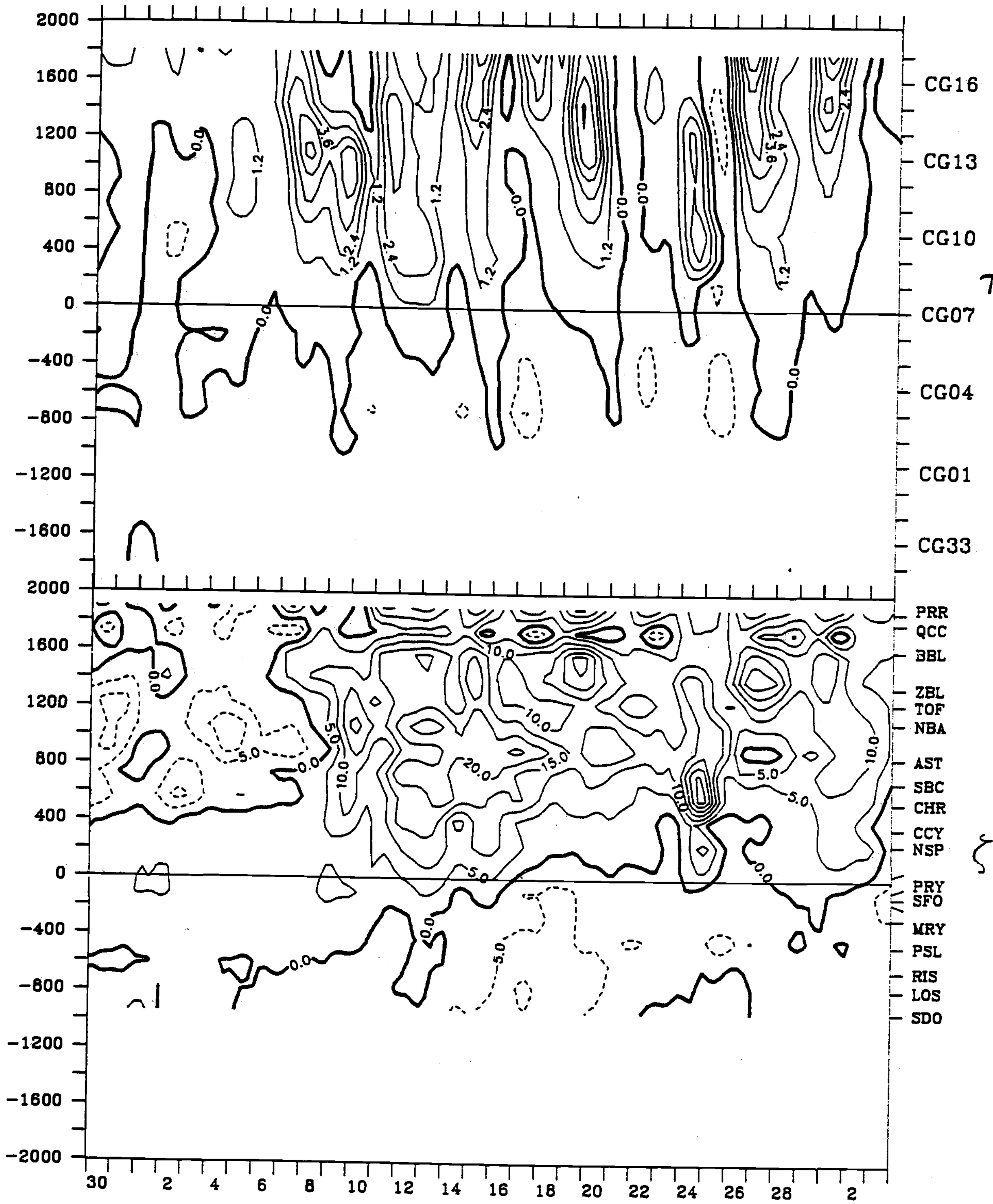
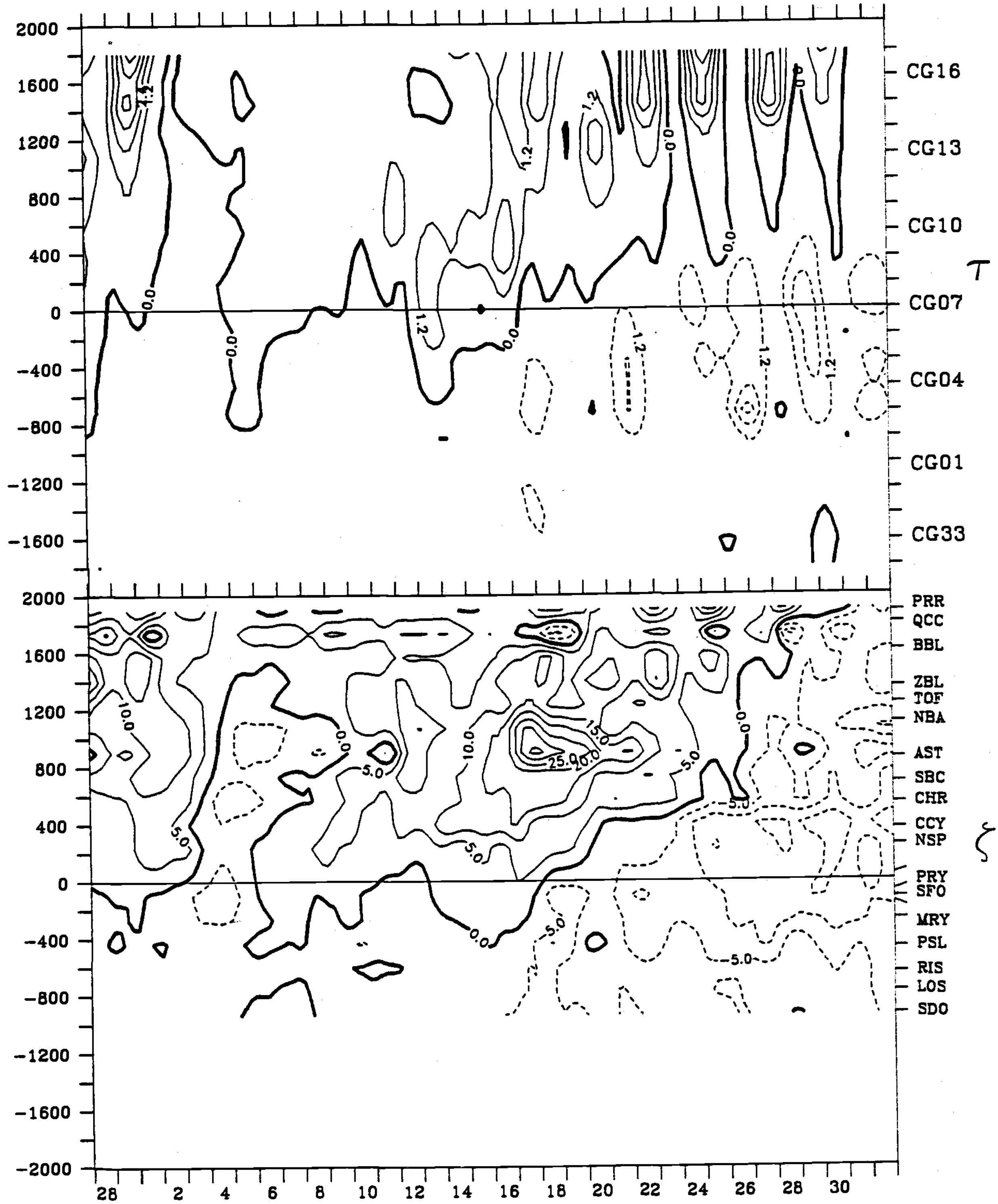


February 1984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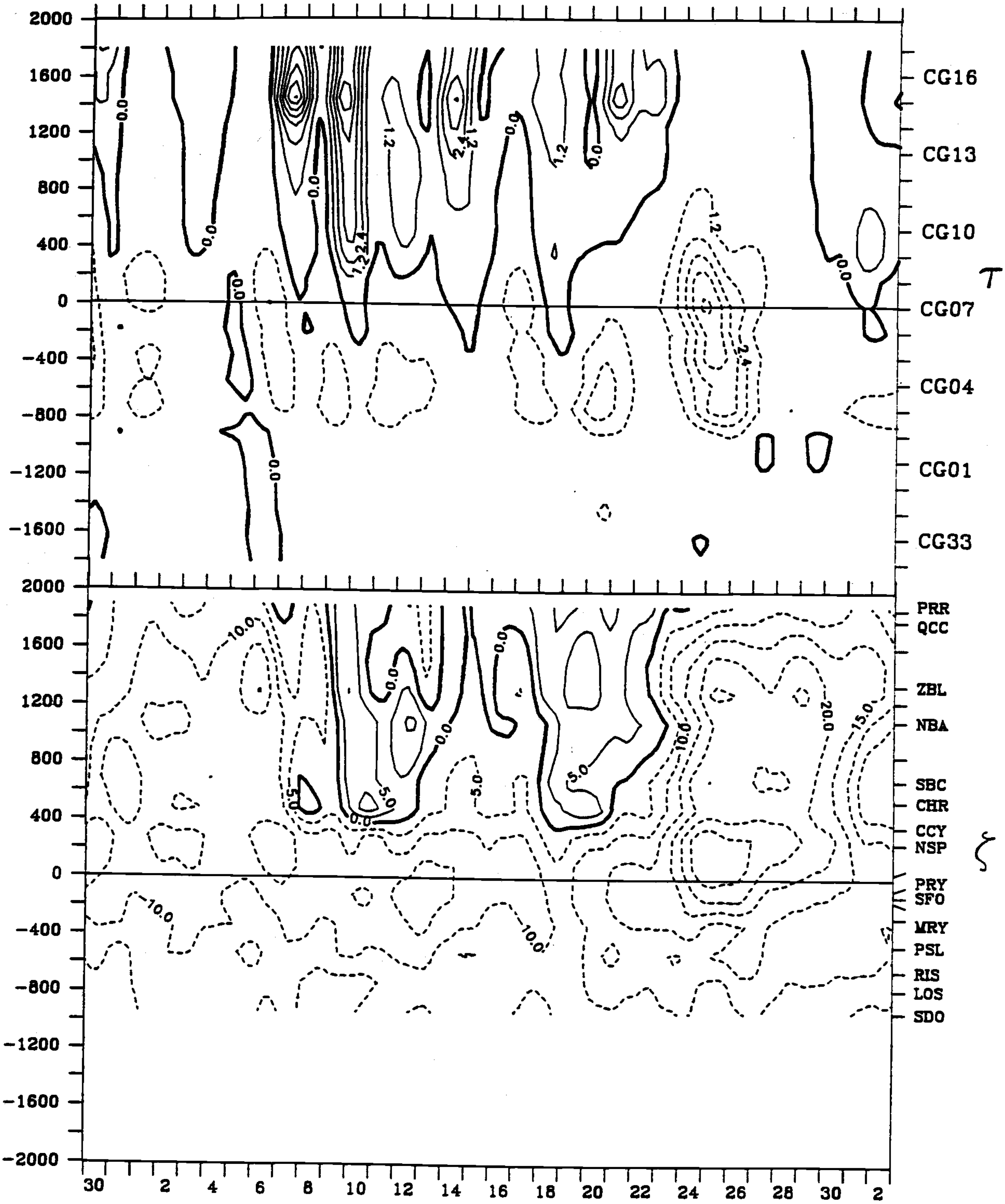
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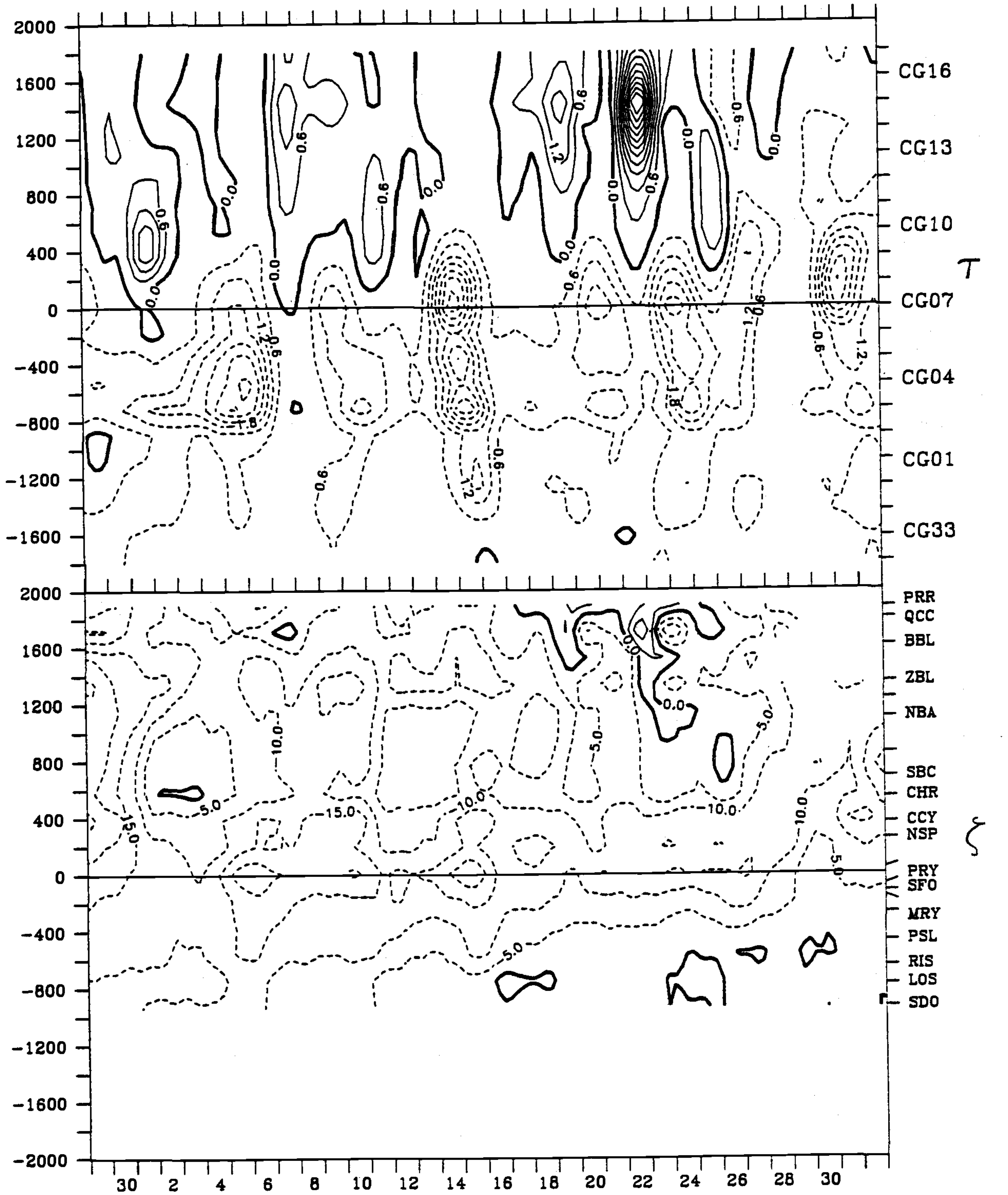
April 1984



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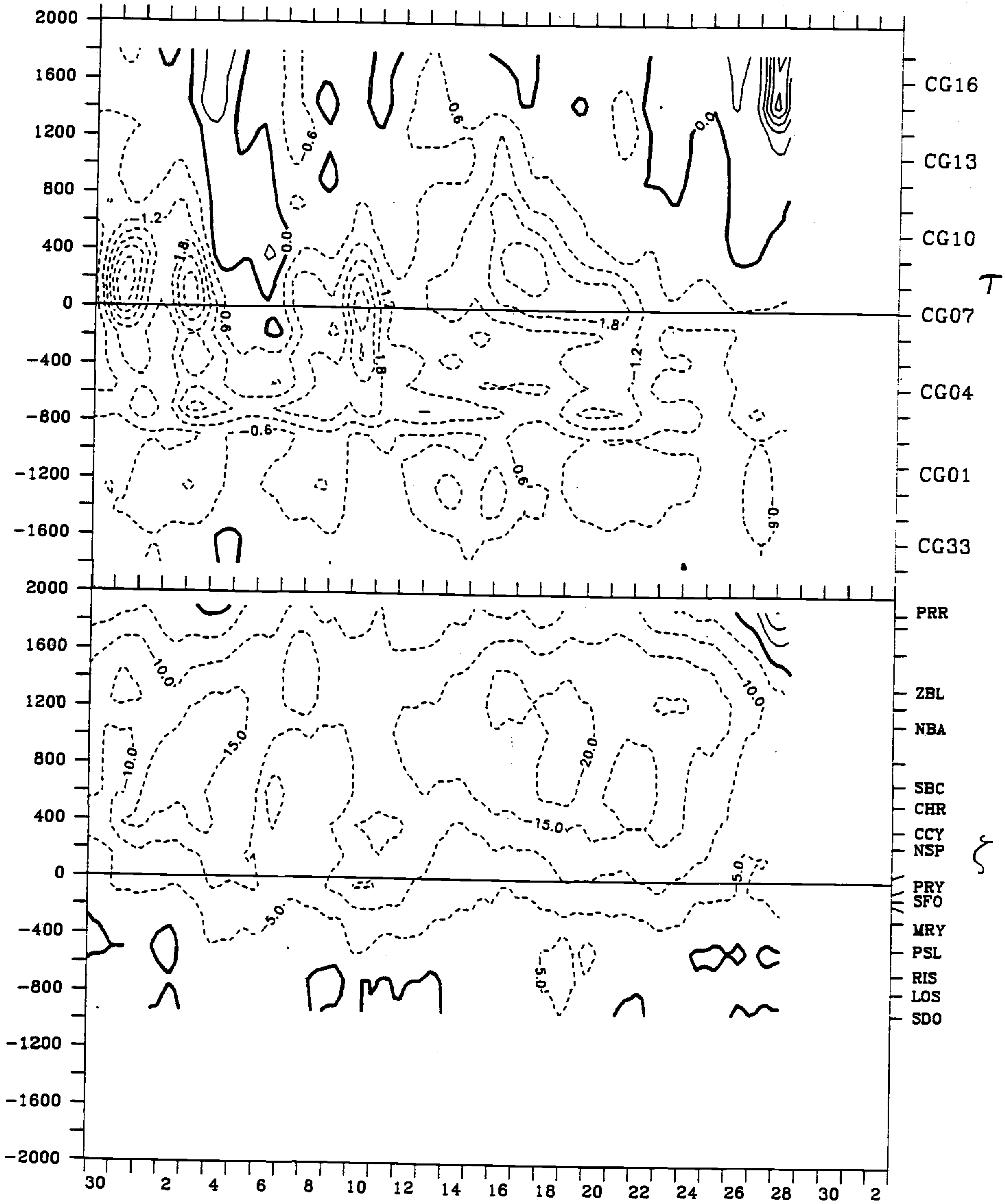
May 1984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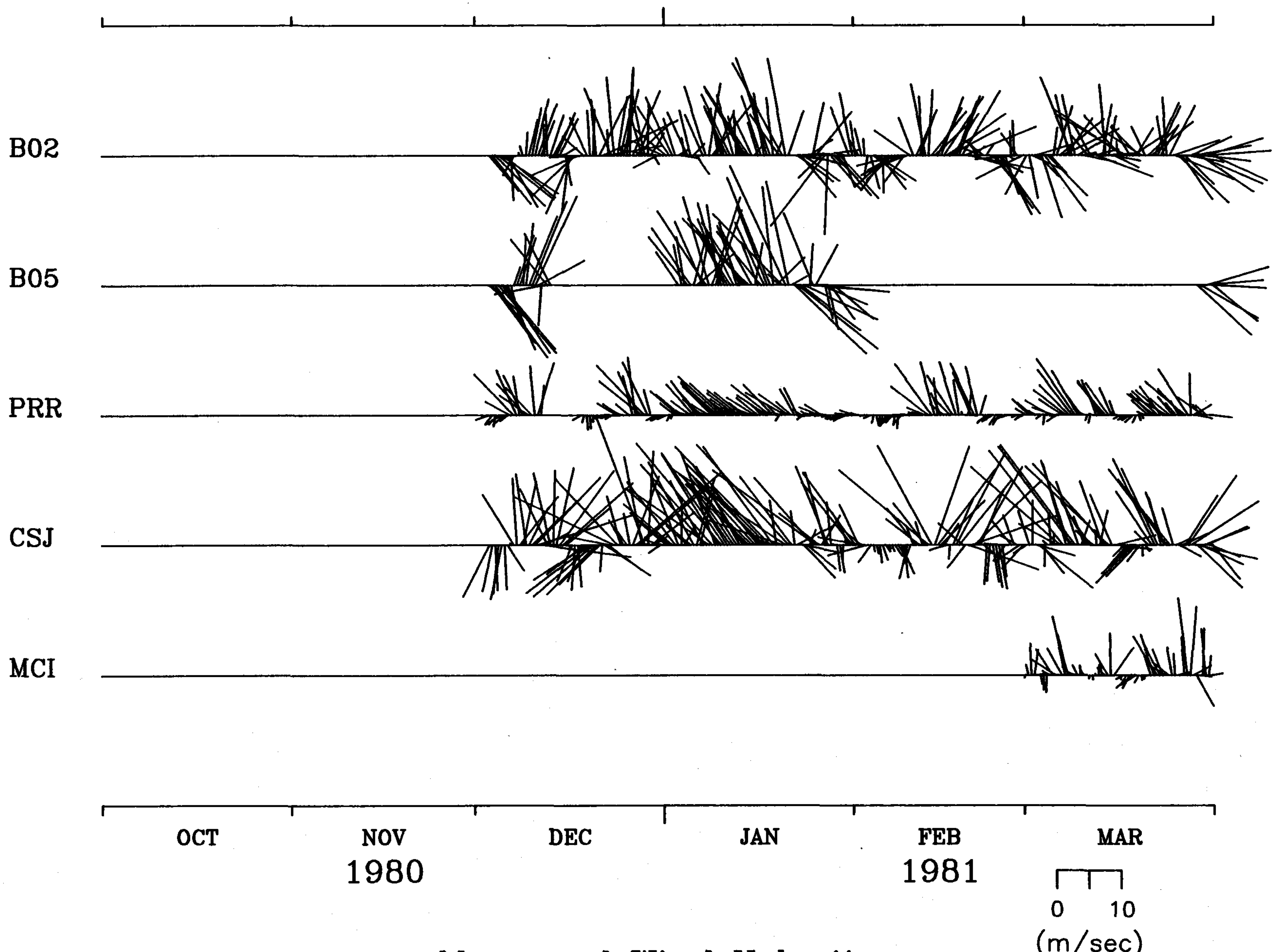
June 1984

4. LLP Measured Wind Vector Plots.



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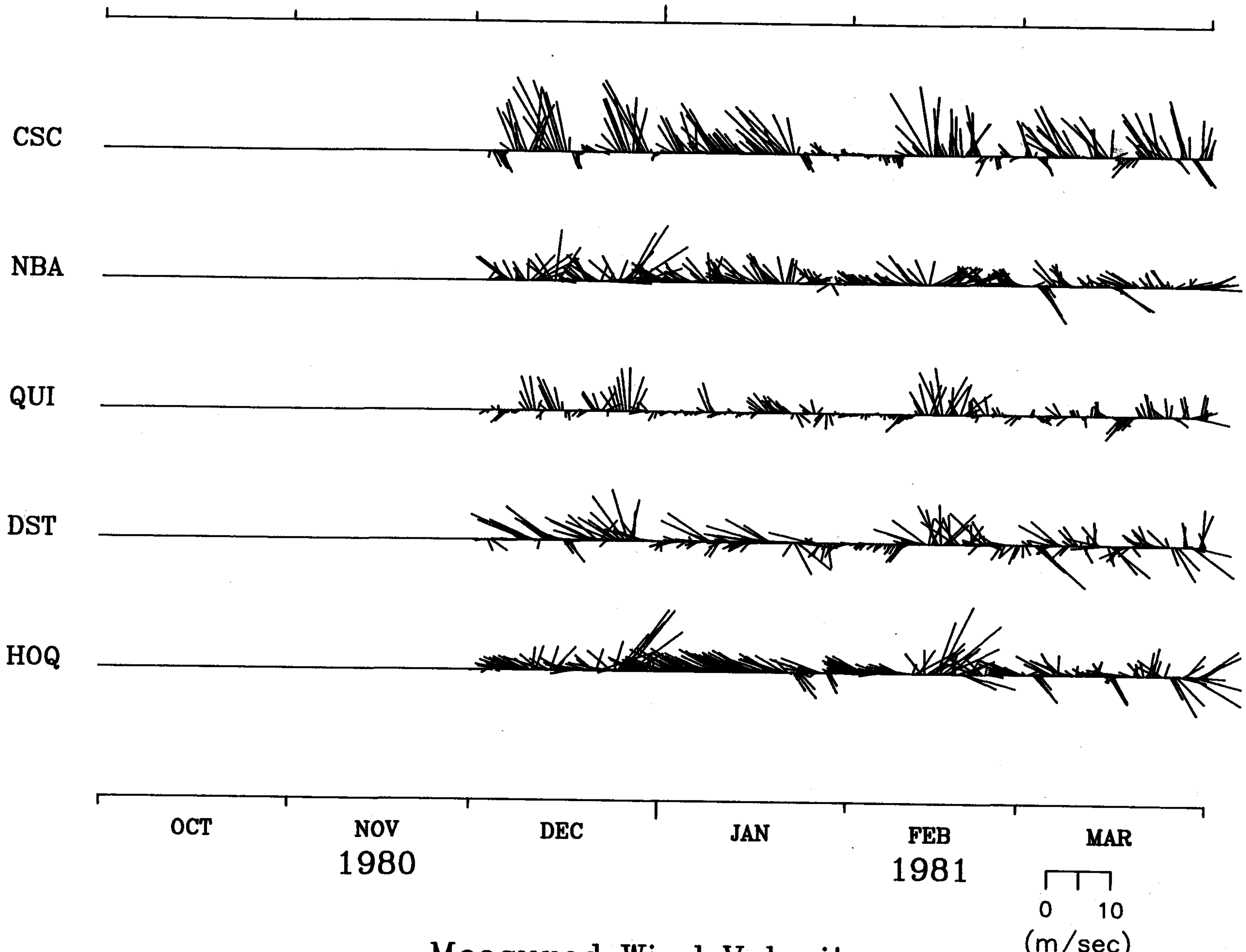

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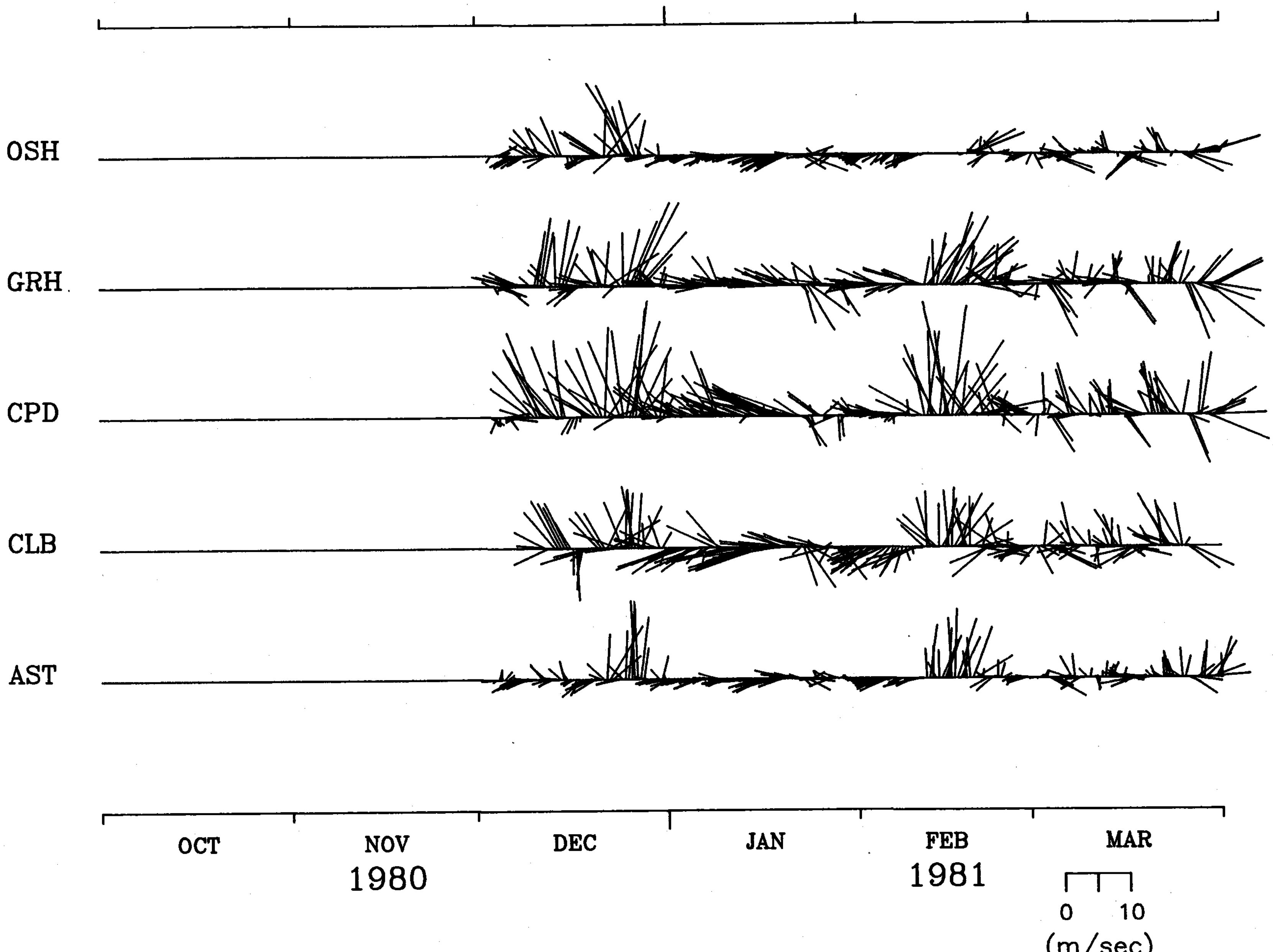

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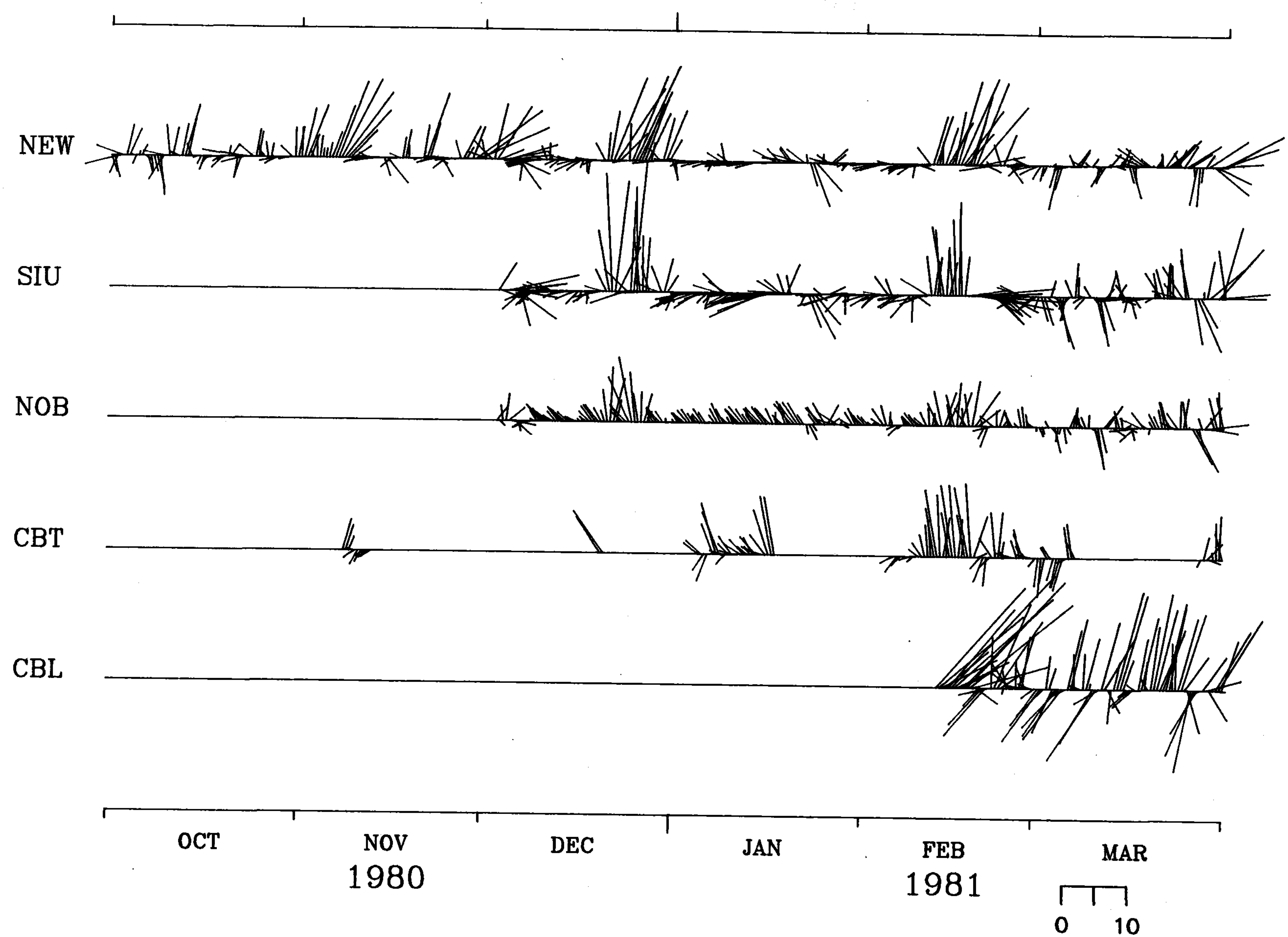

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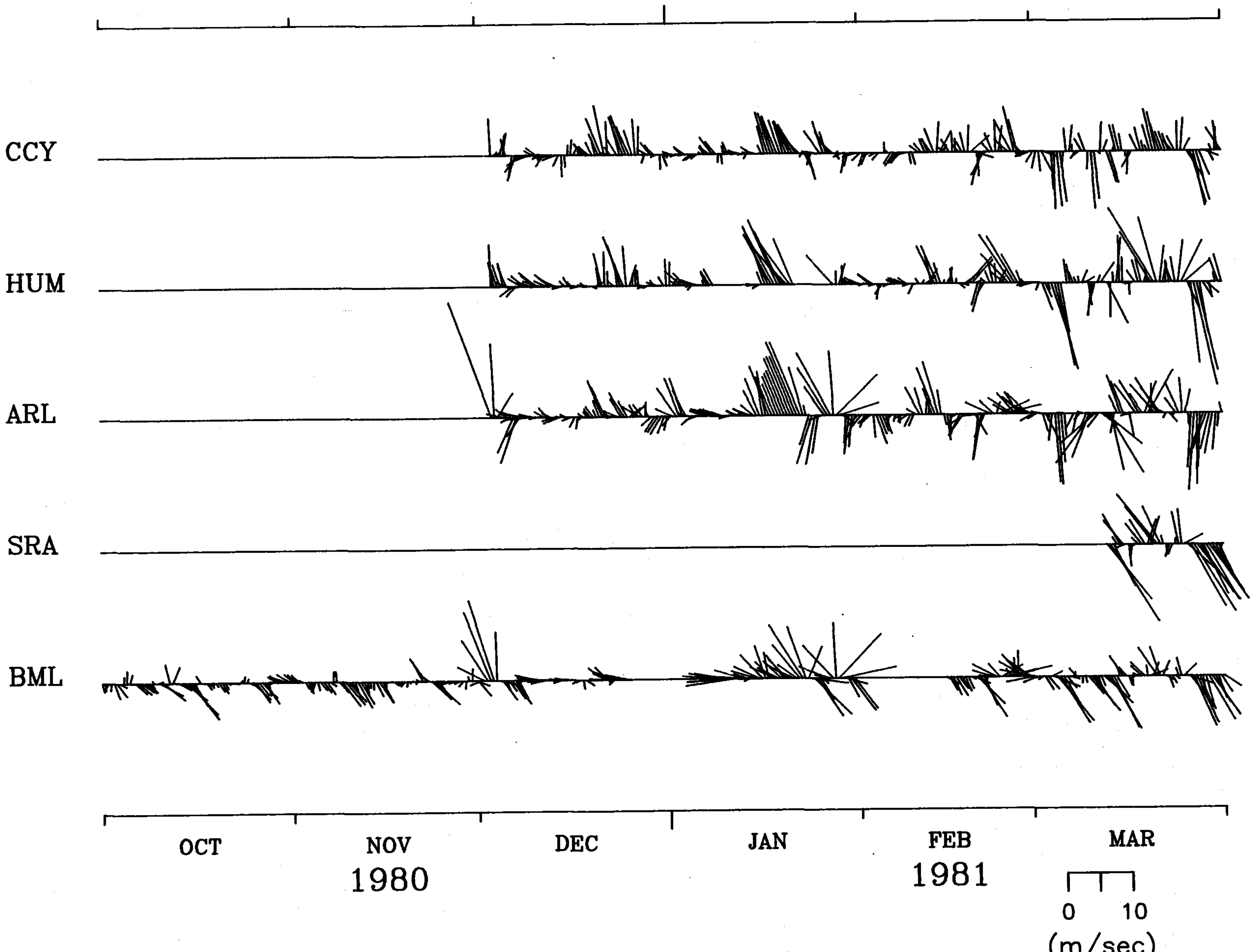

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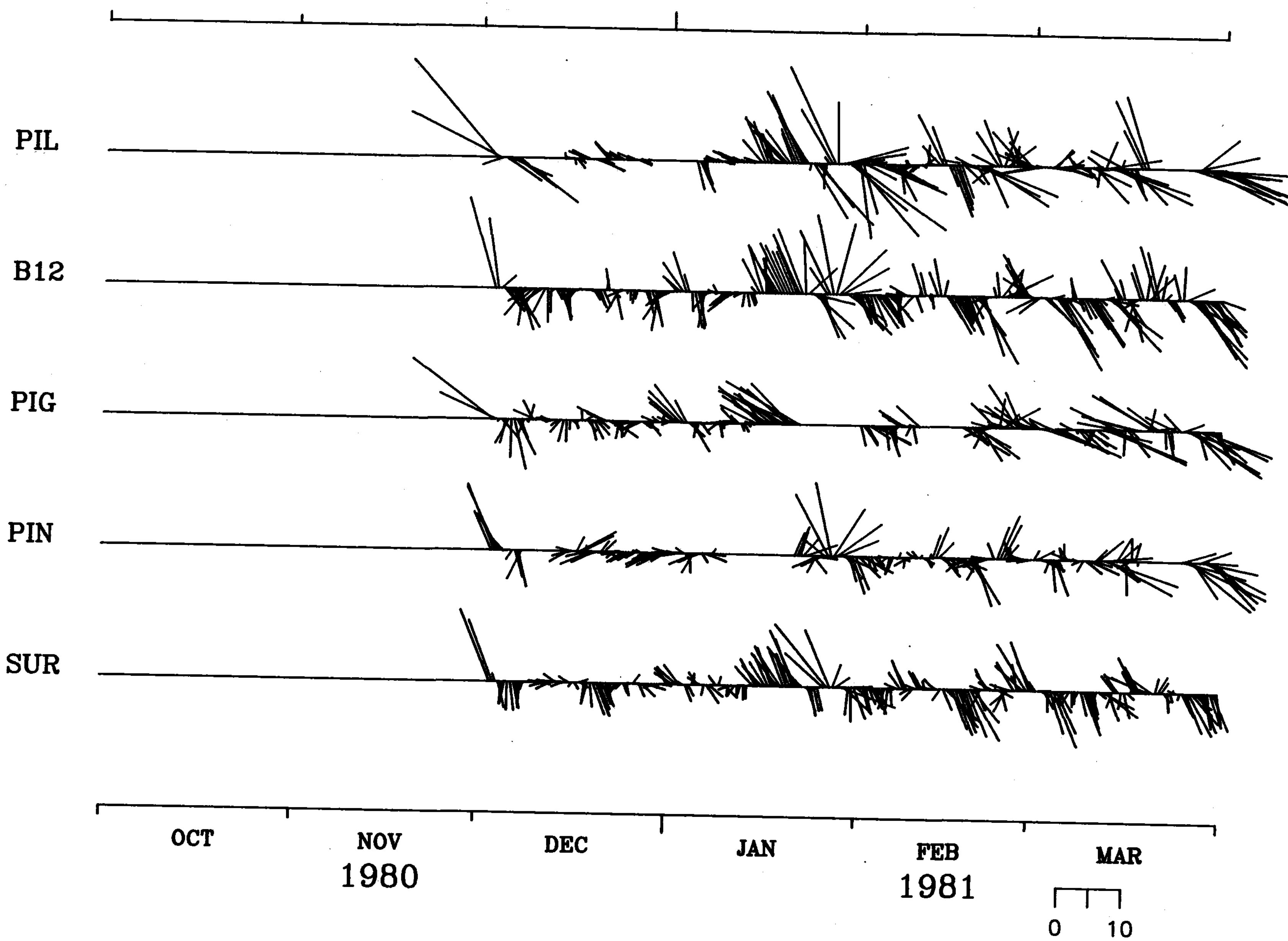

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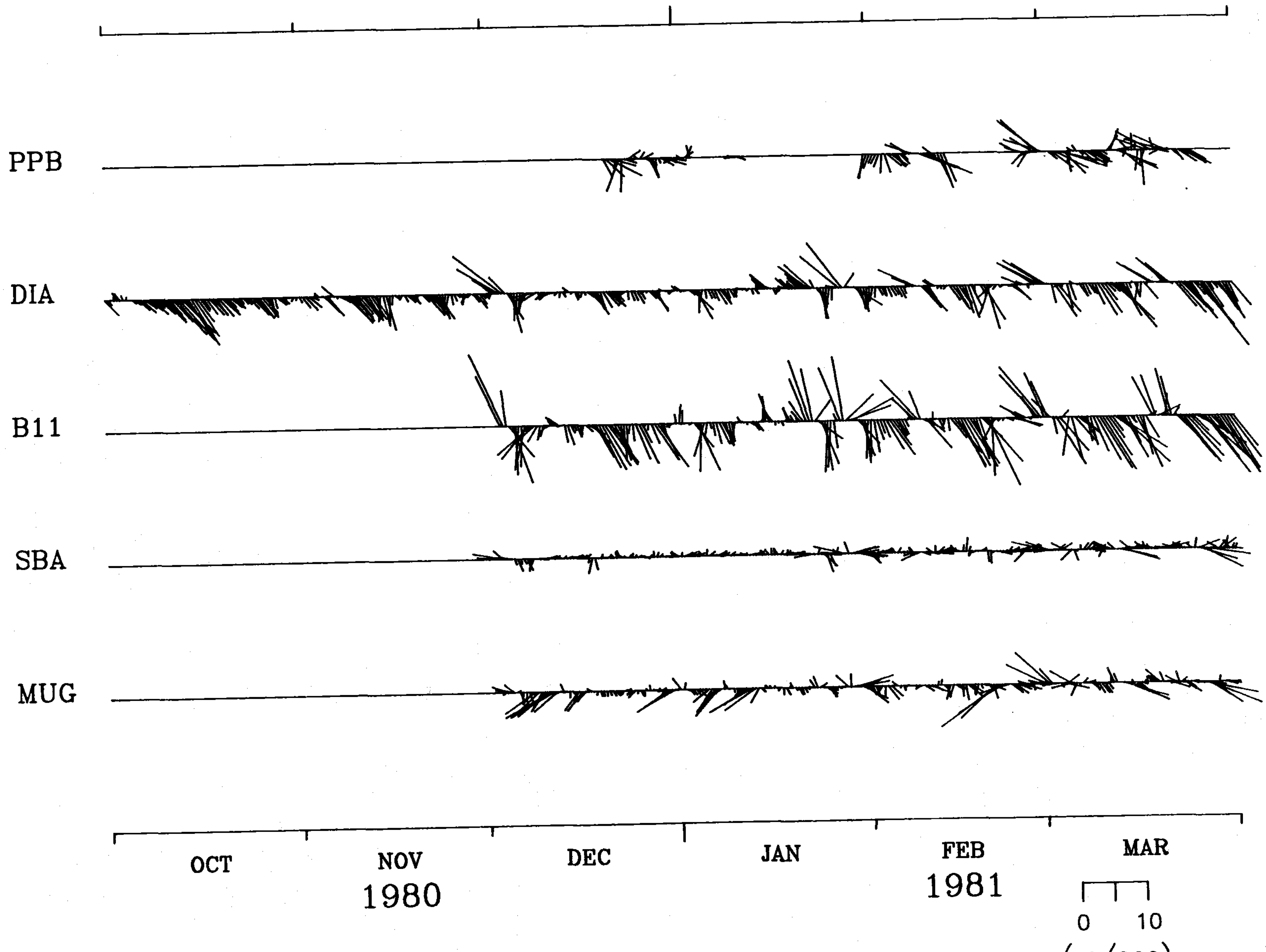

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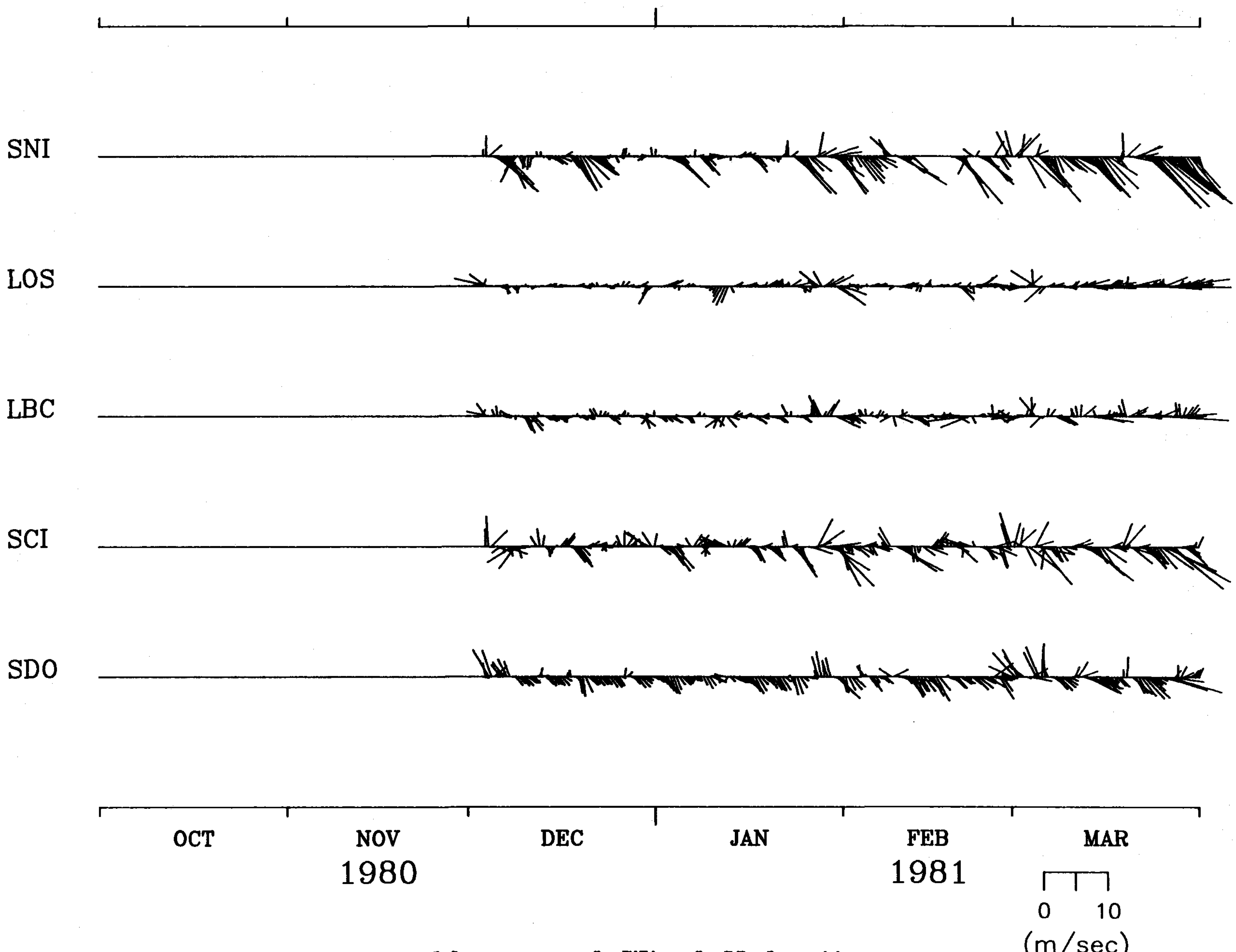

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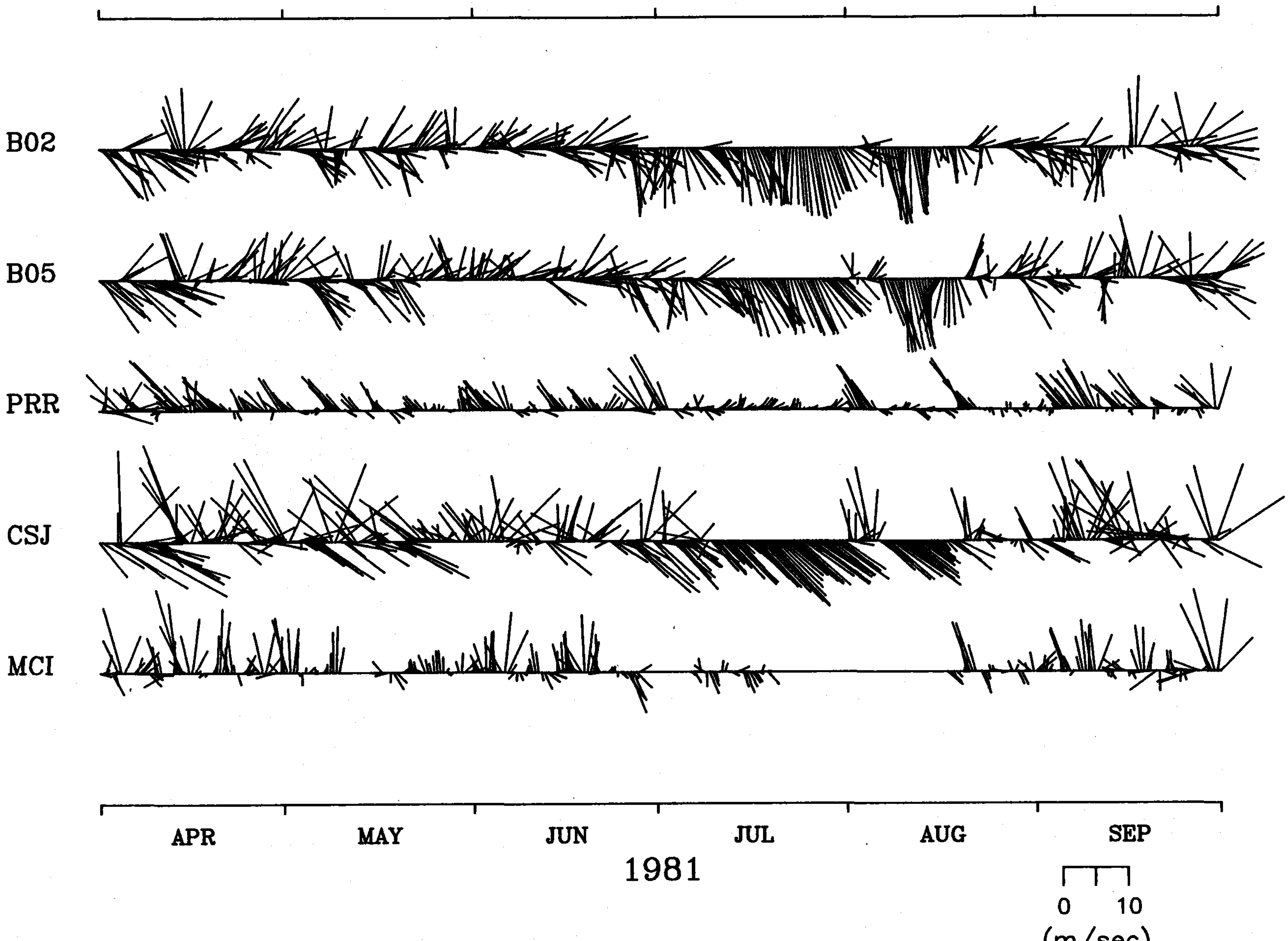

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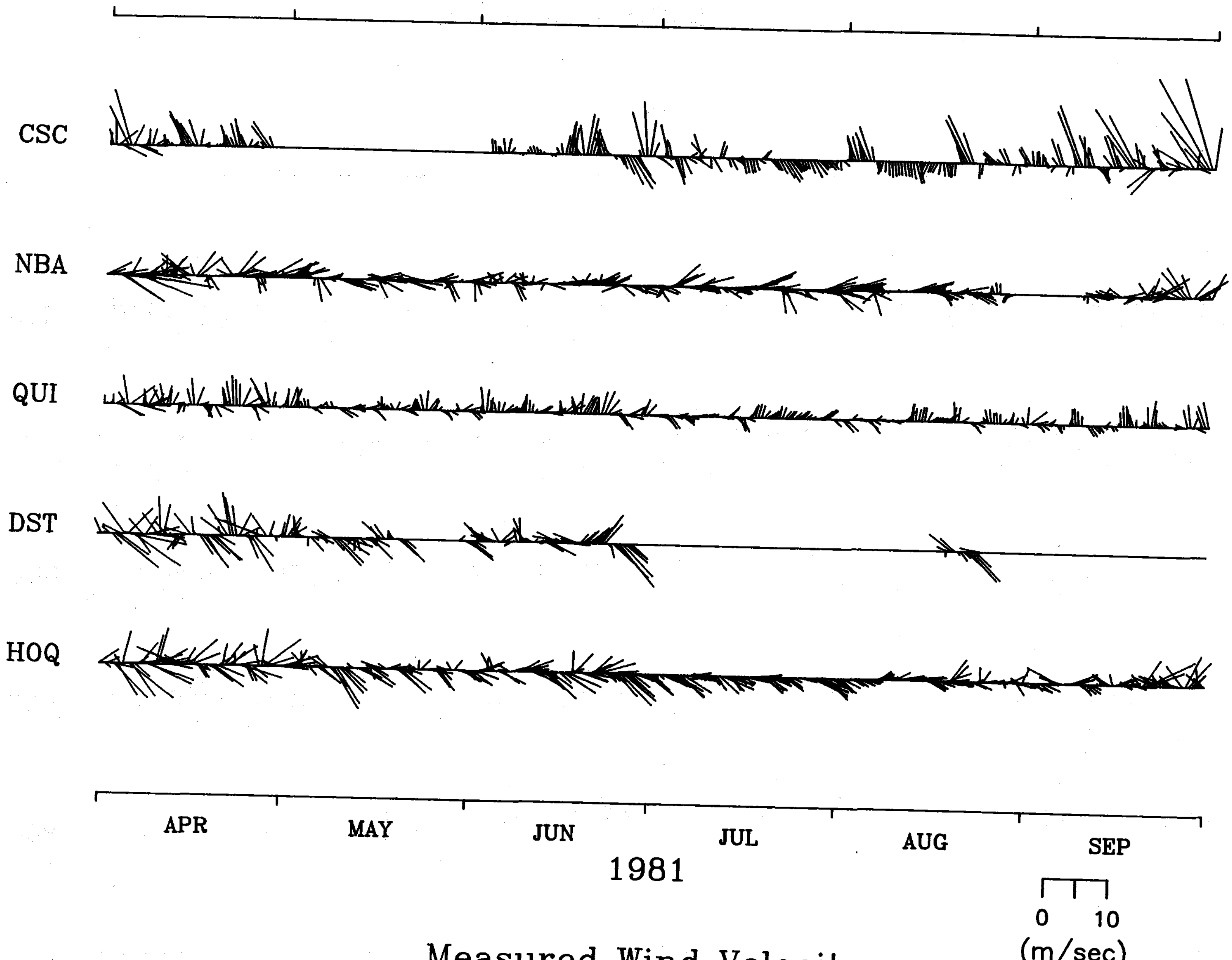

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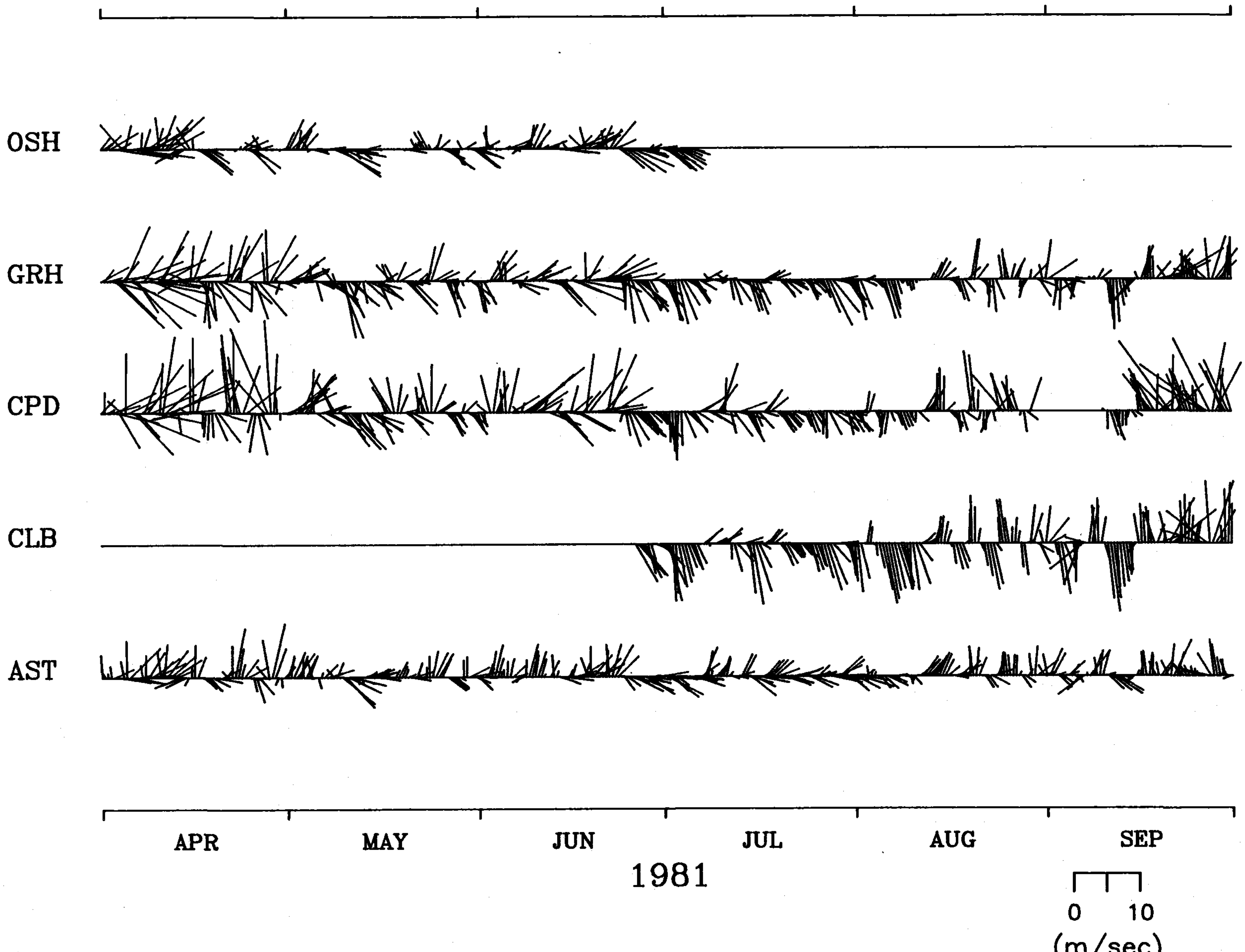

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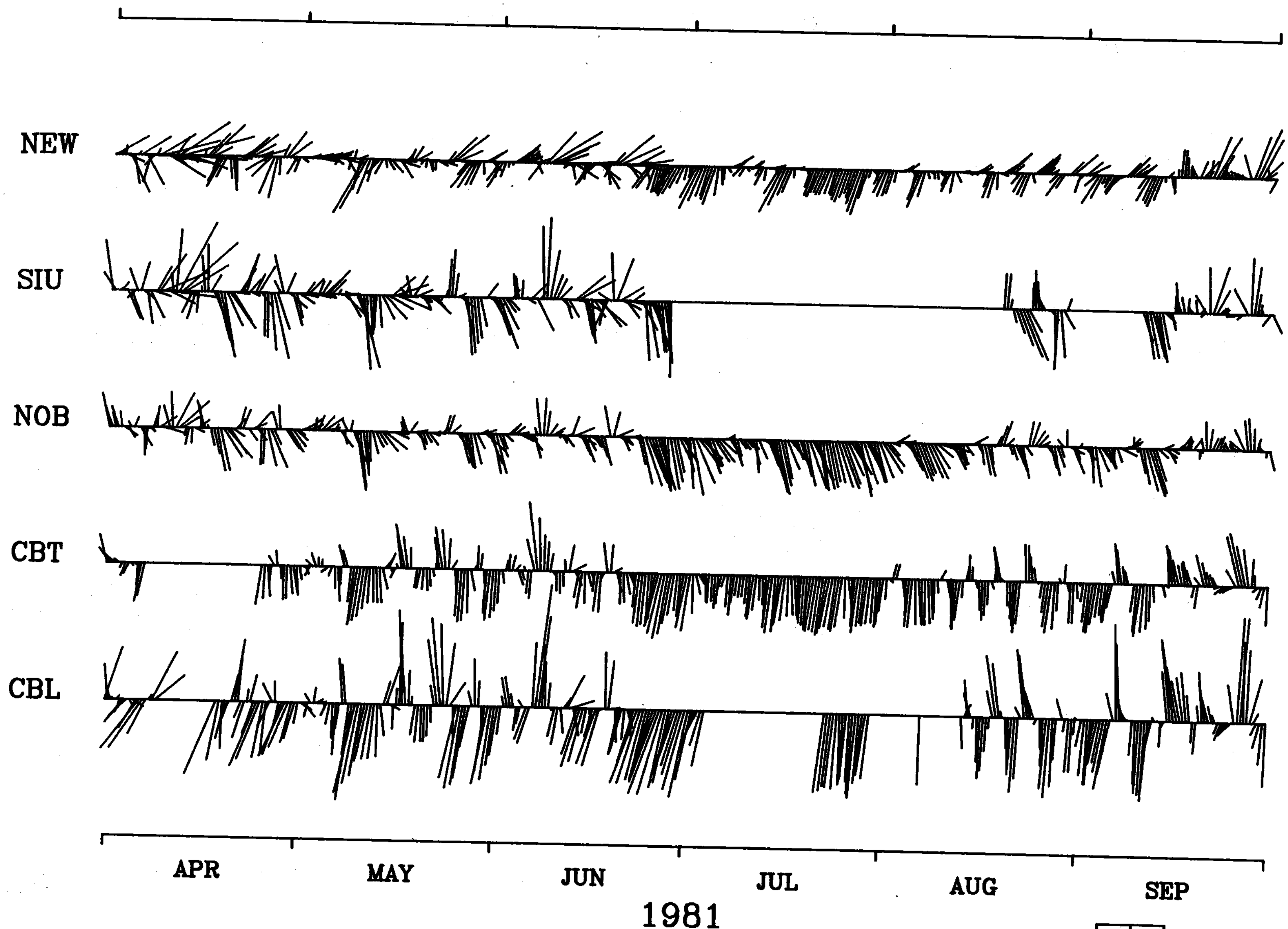

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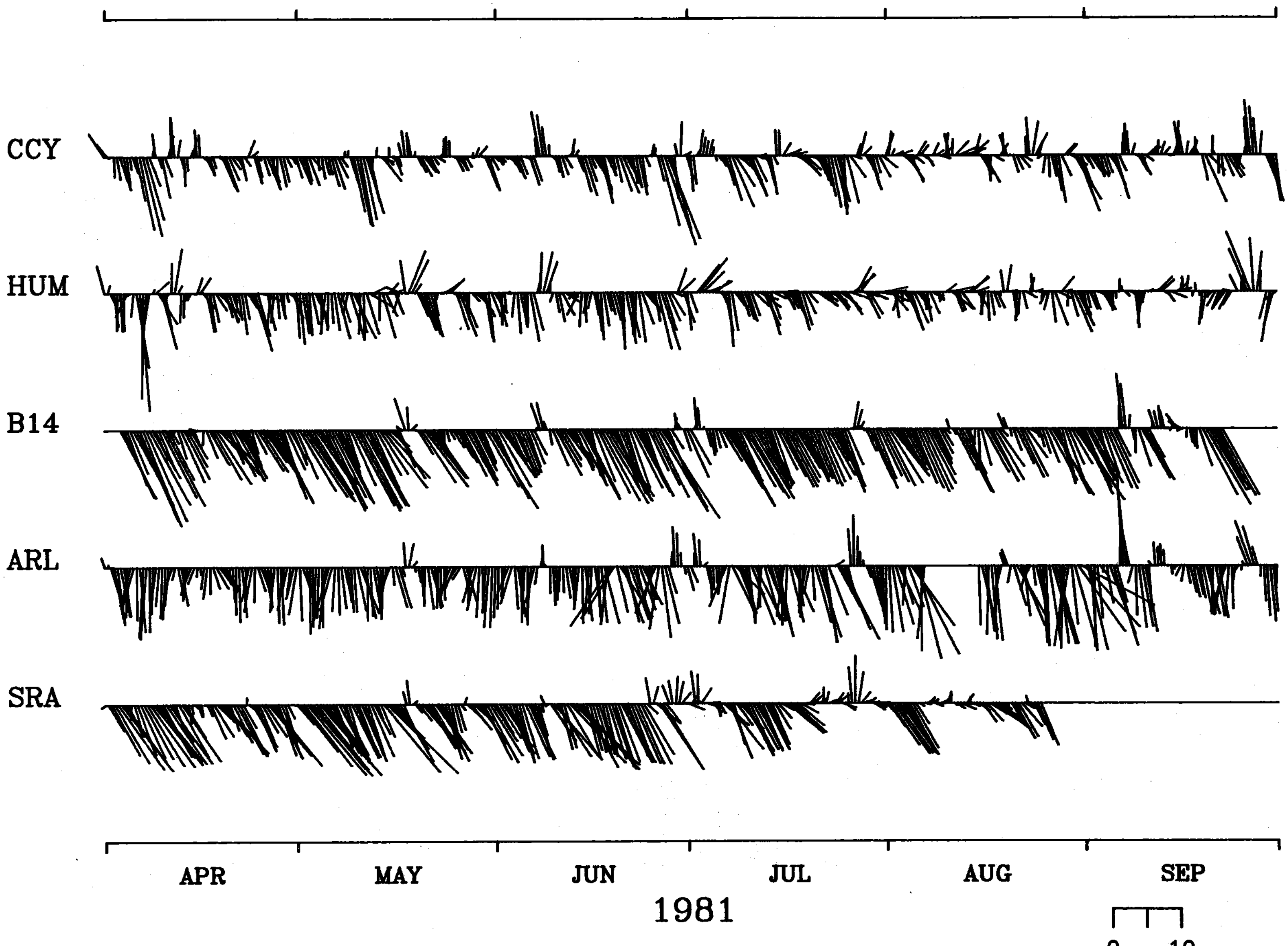
Measured Wind Velocity



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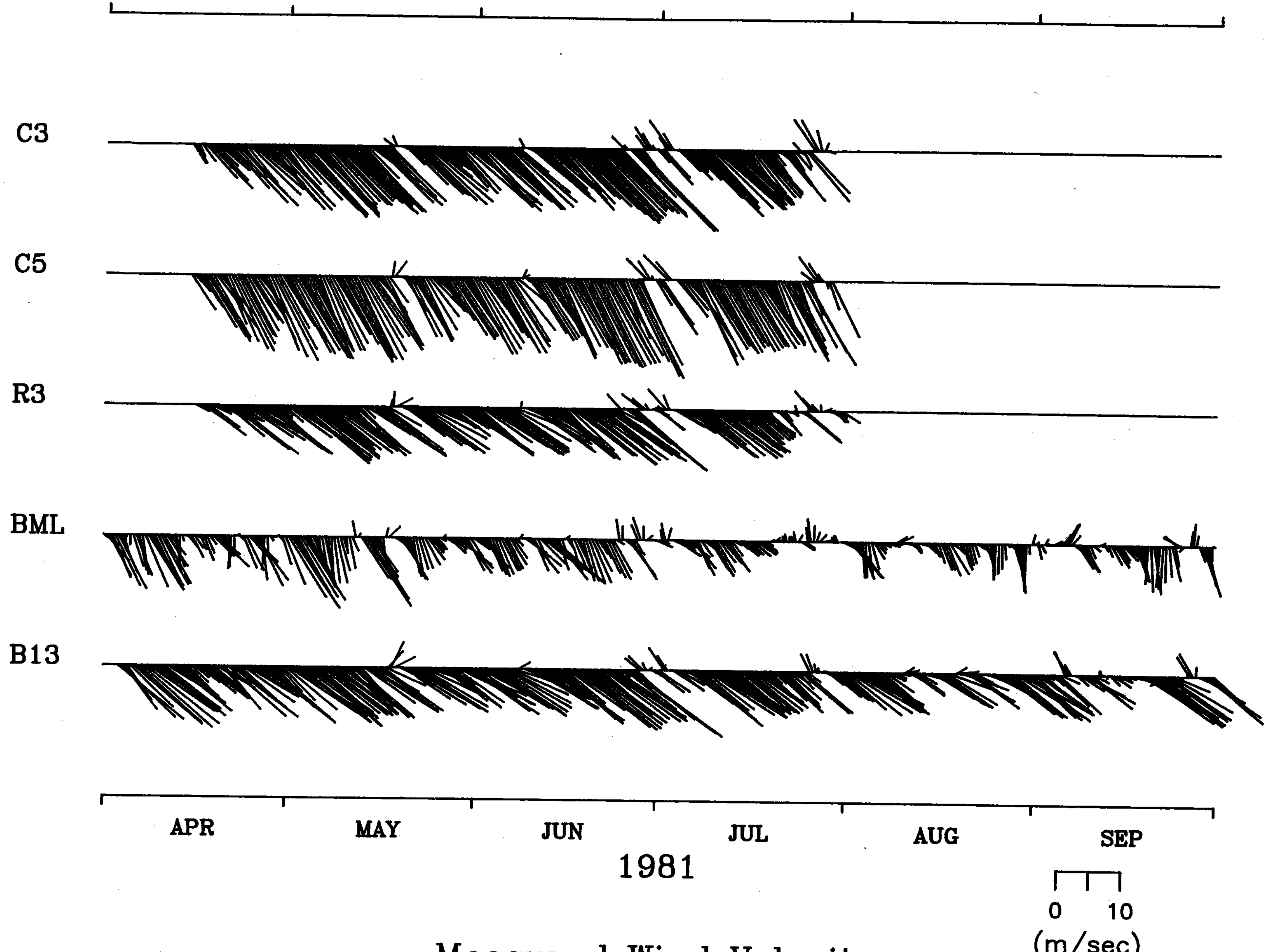

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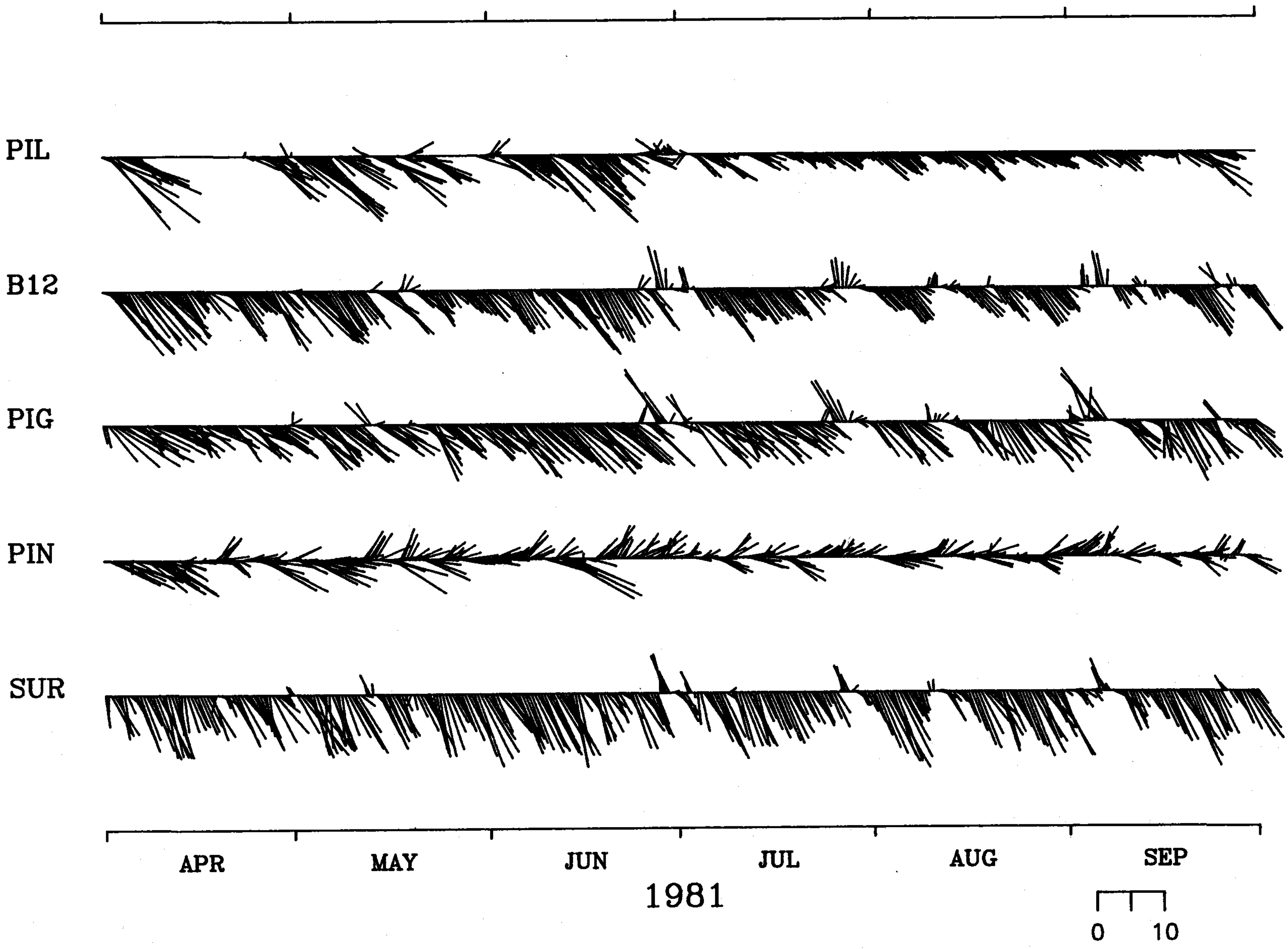

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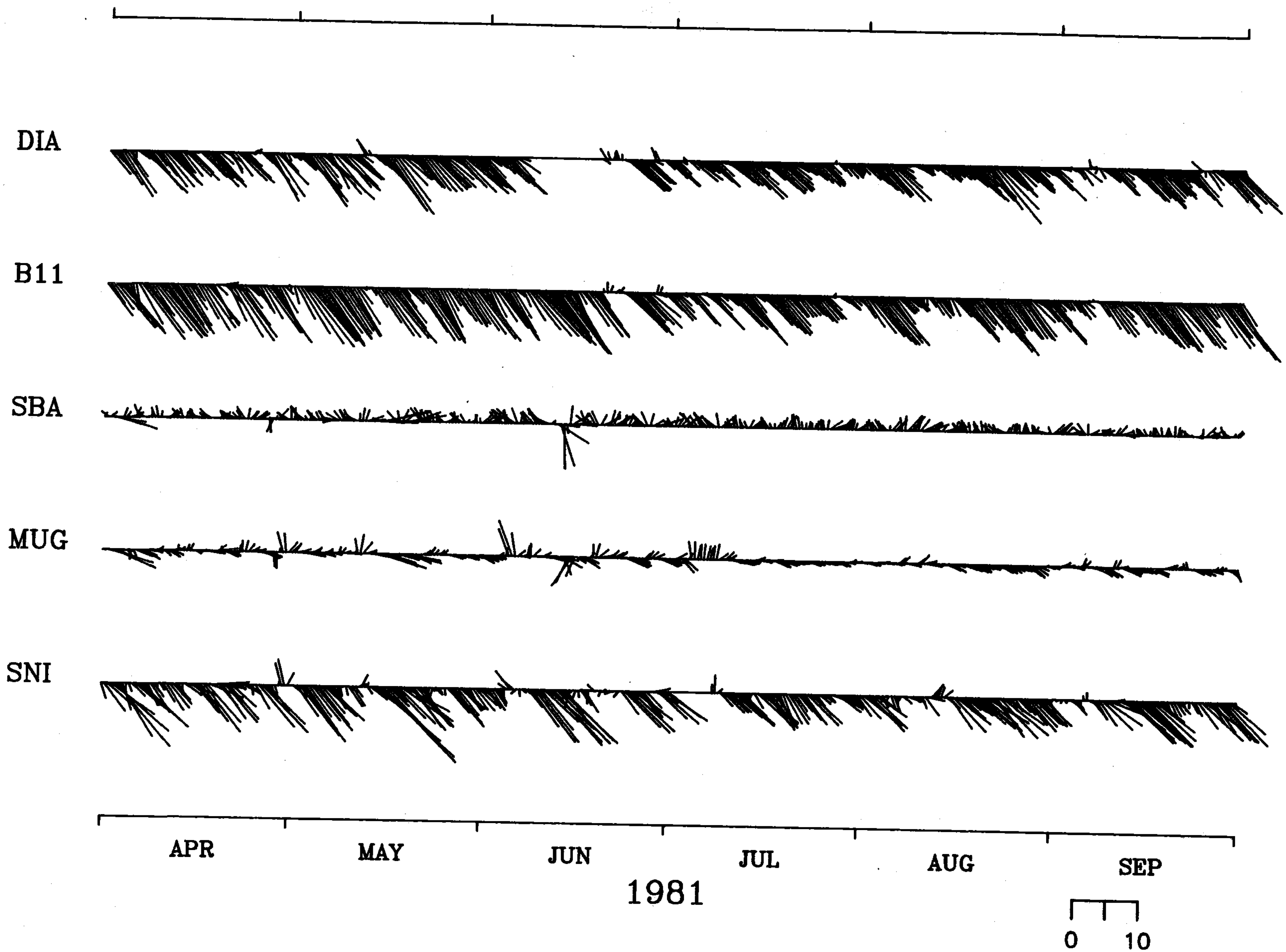

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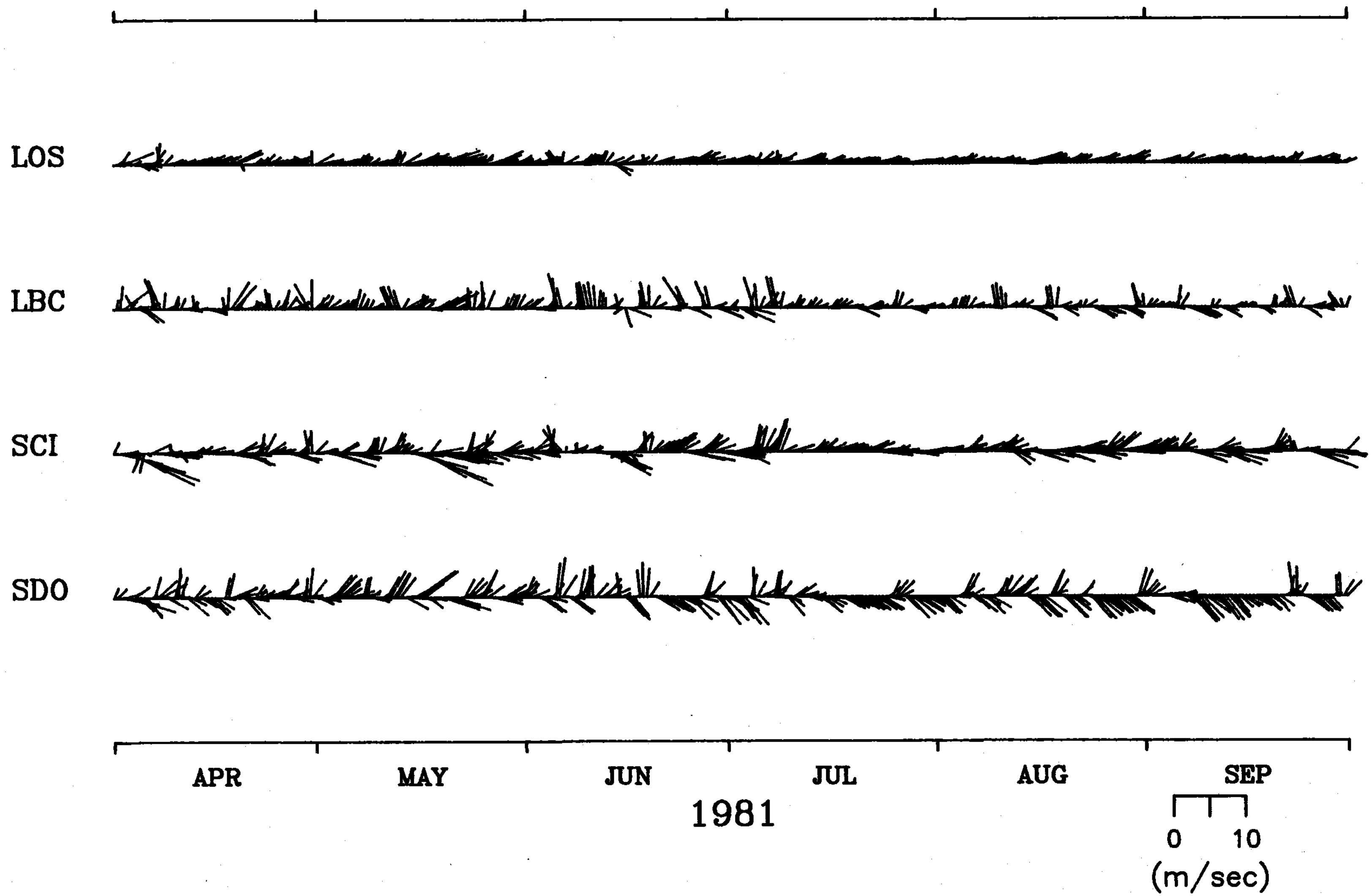

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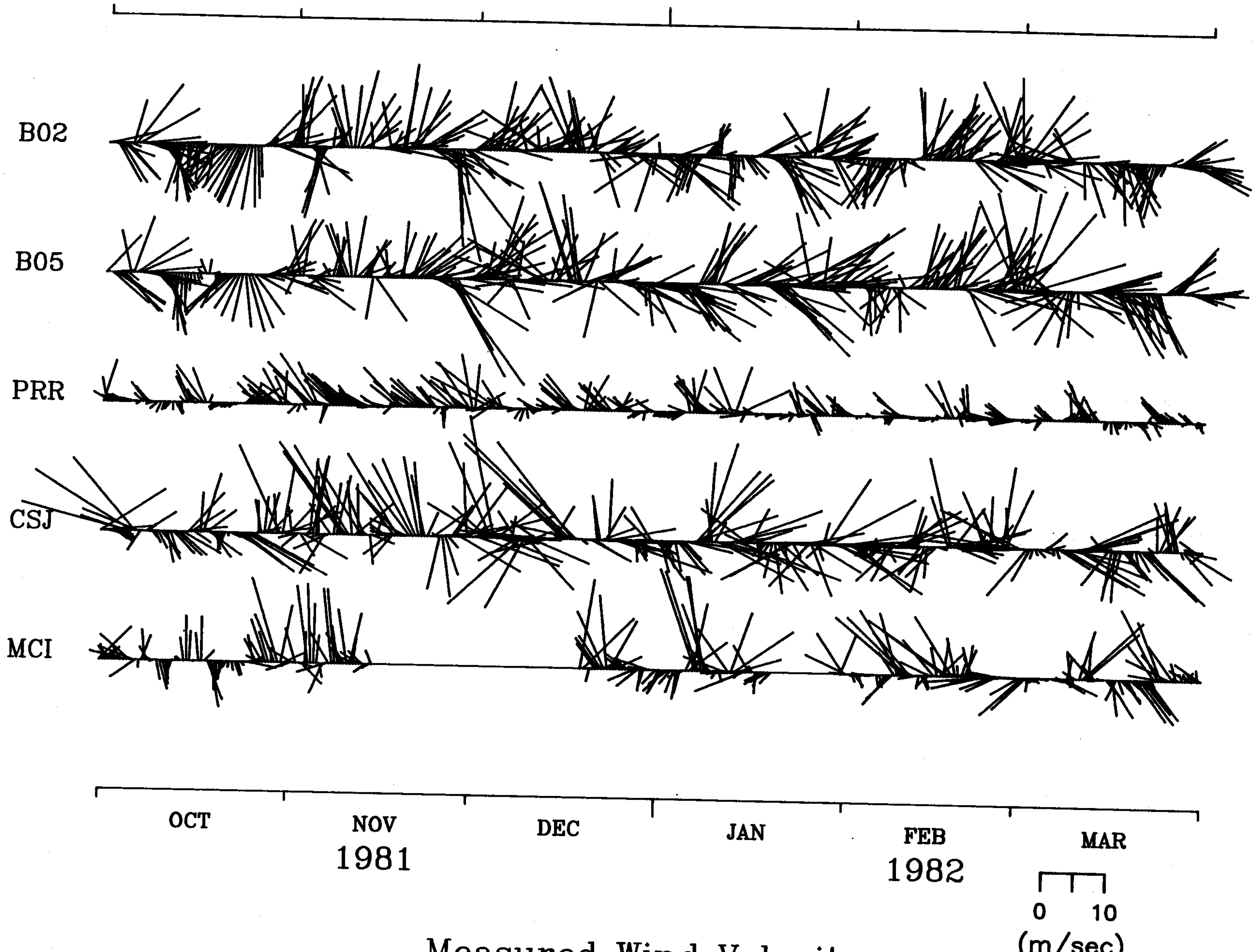

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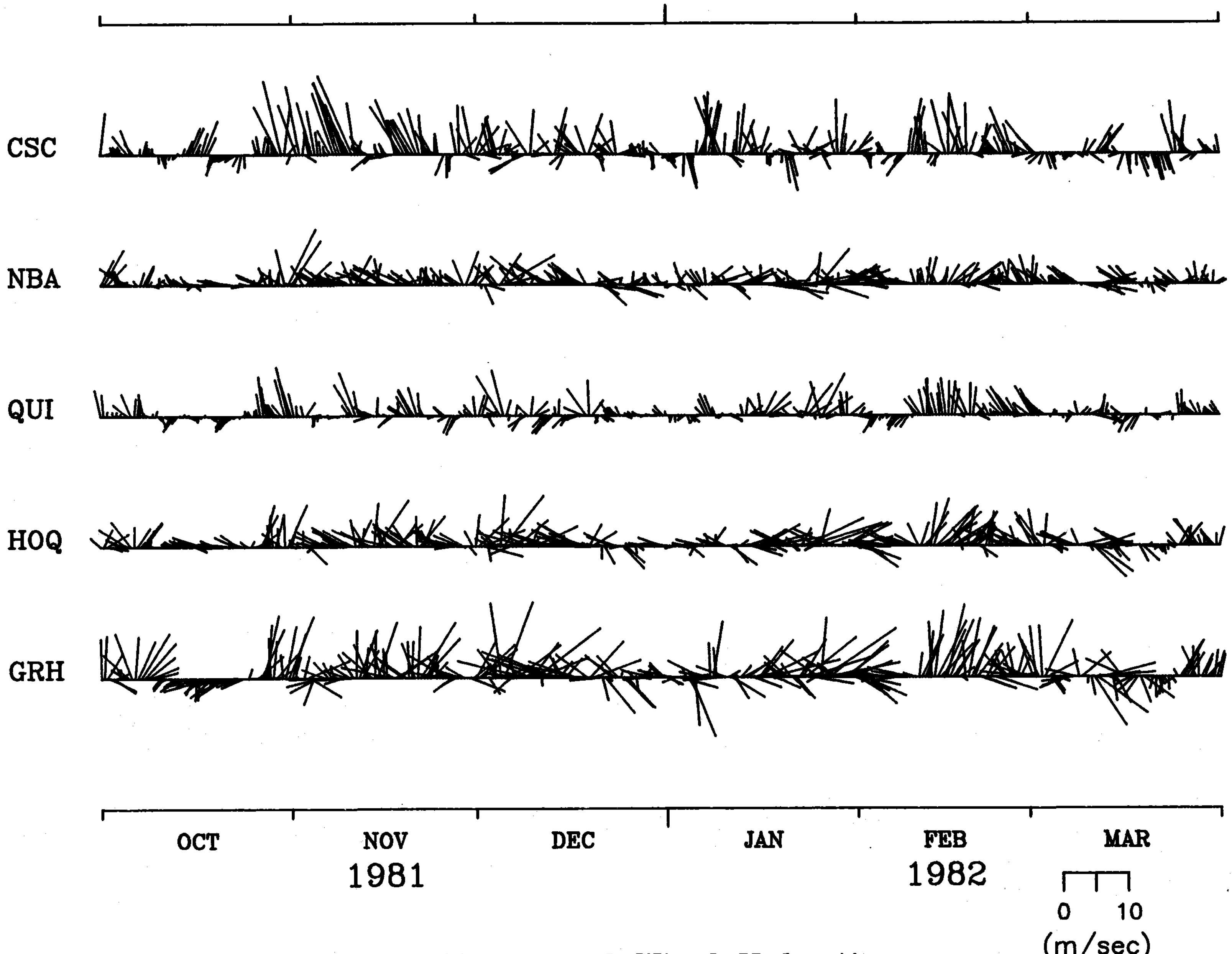
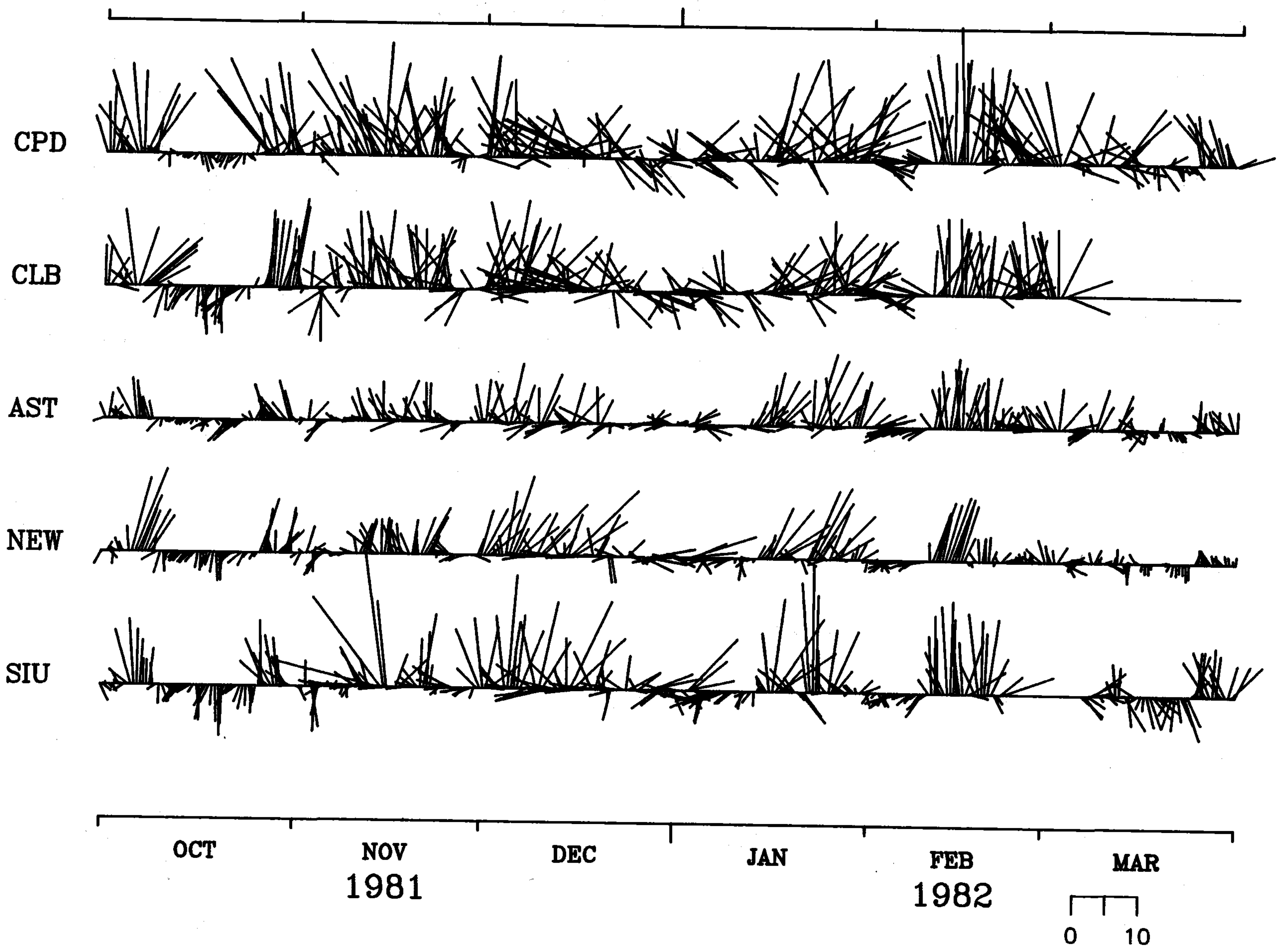


Measured Wind Velocity

4.21



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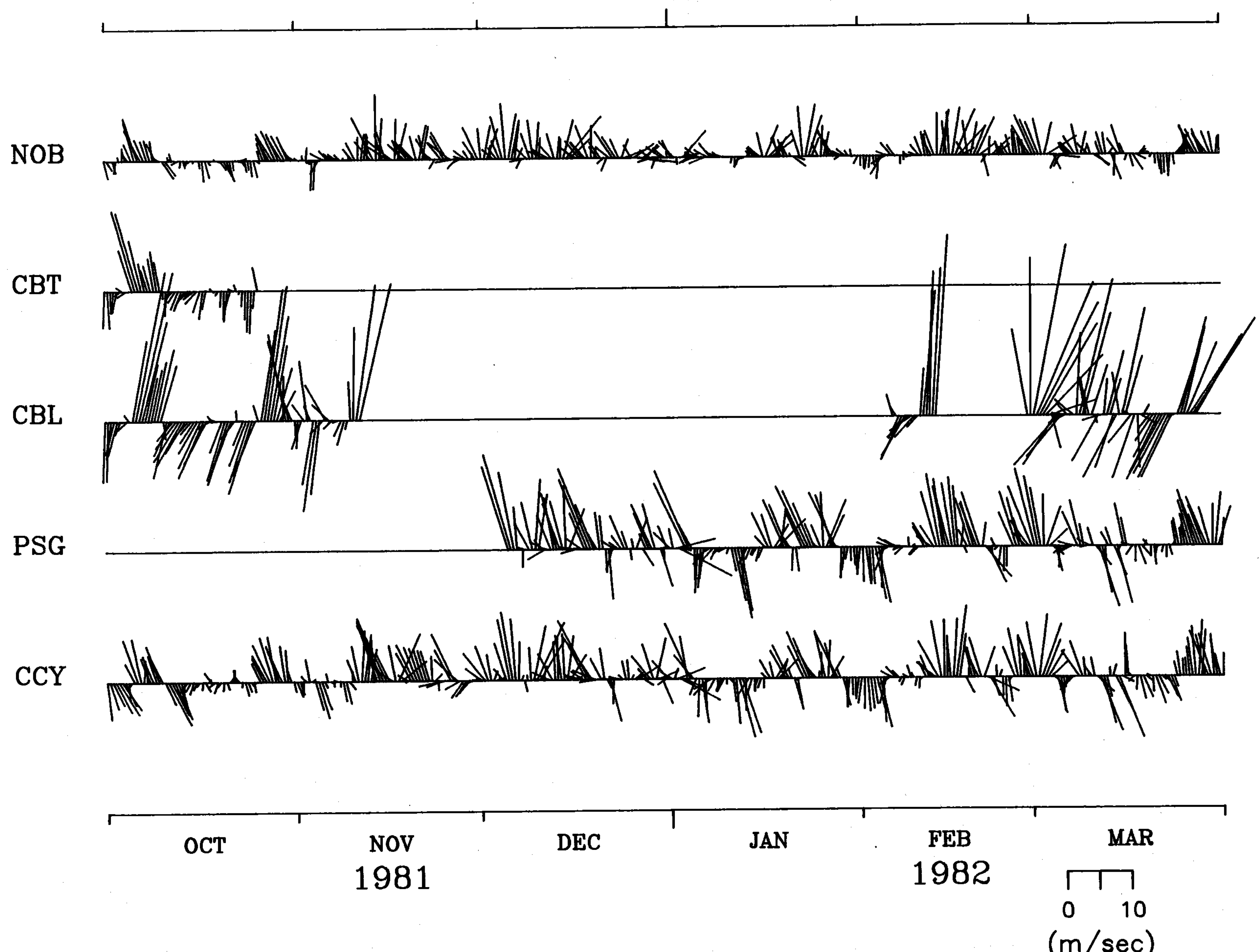

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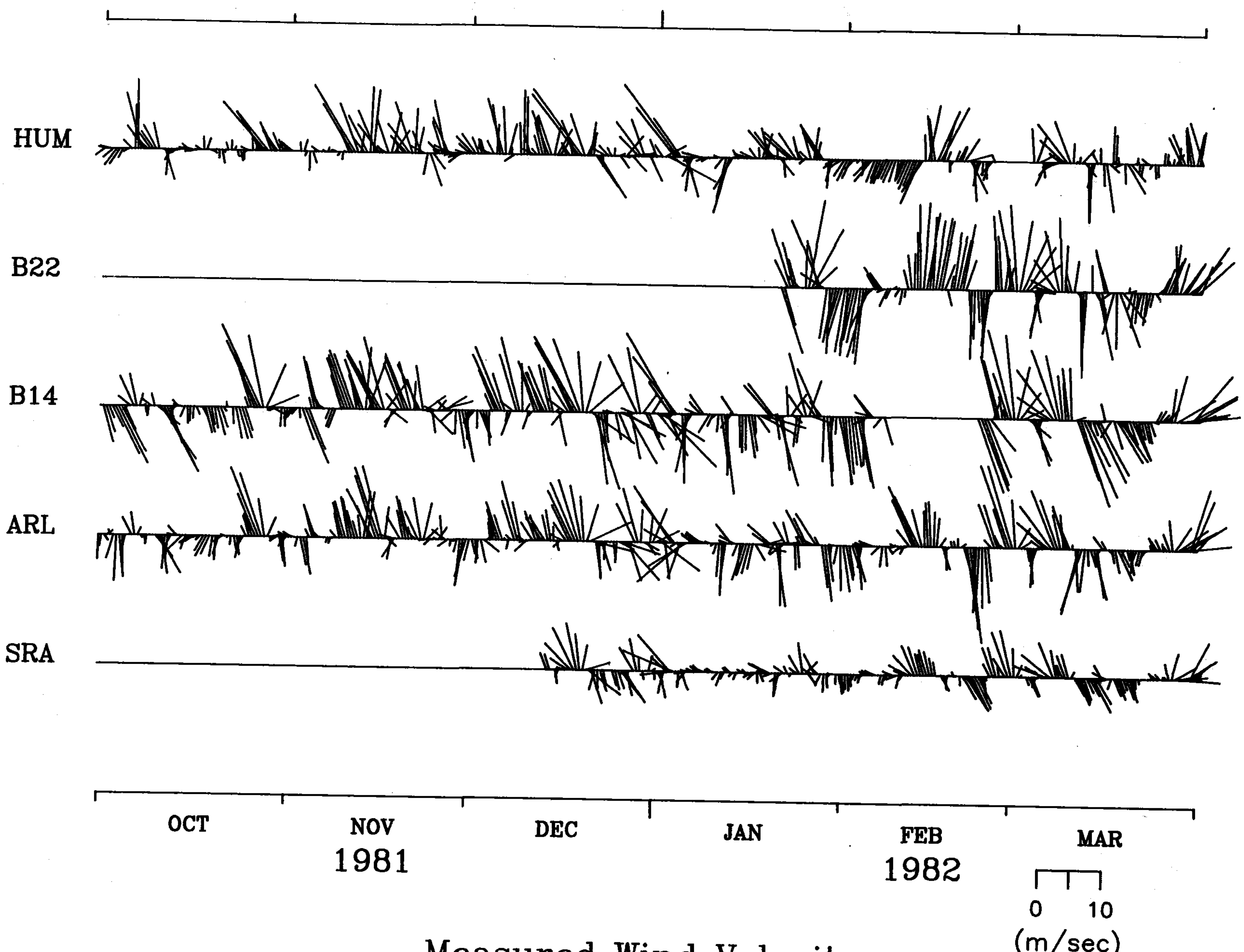

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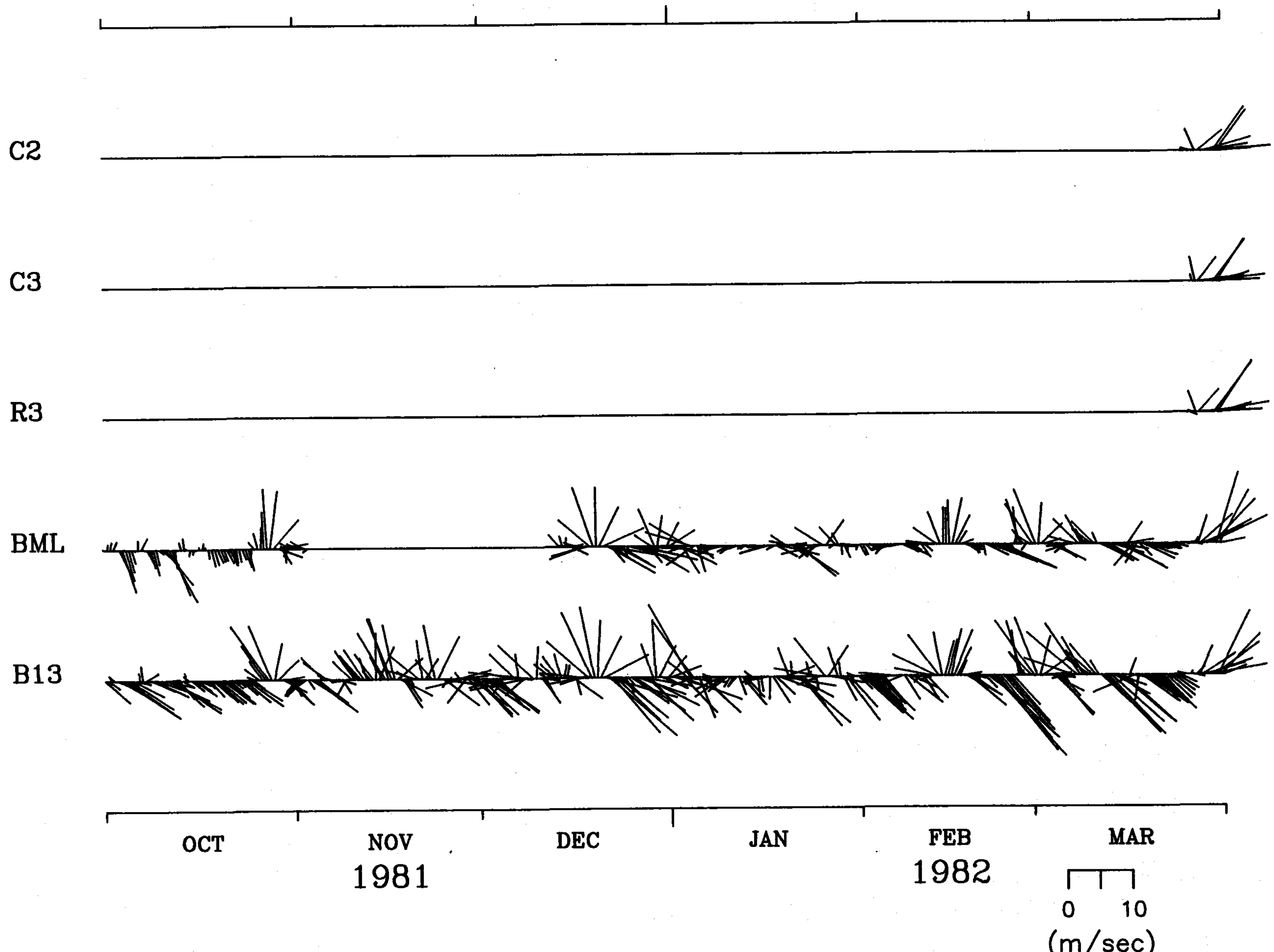

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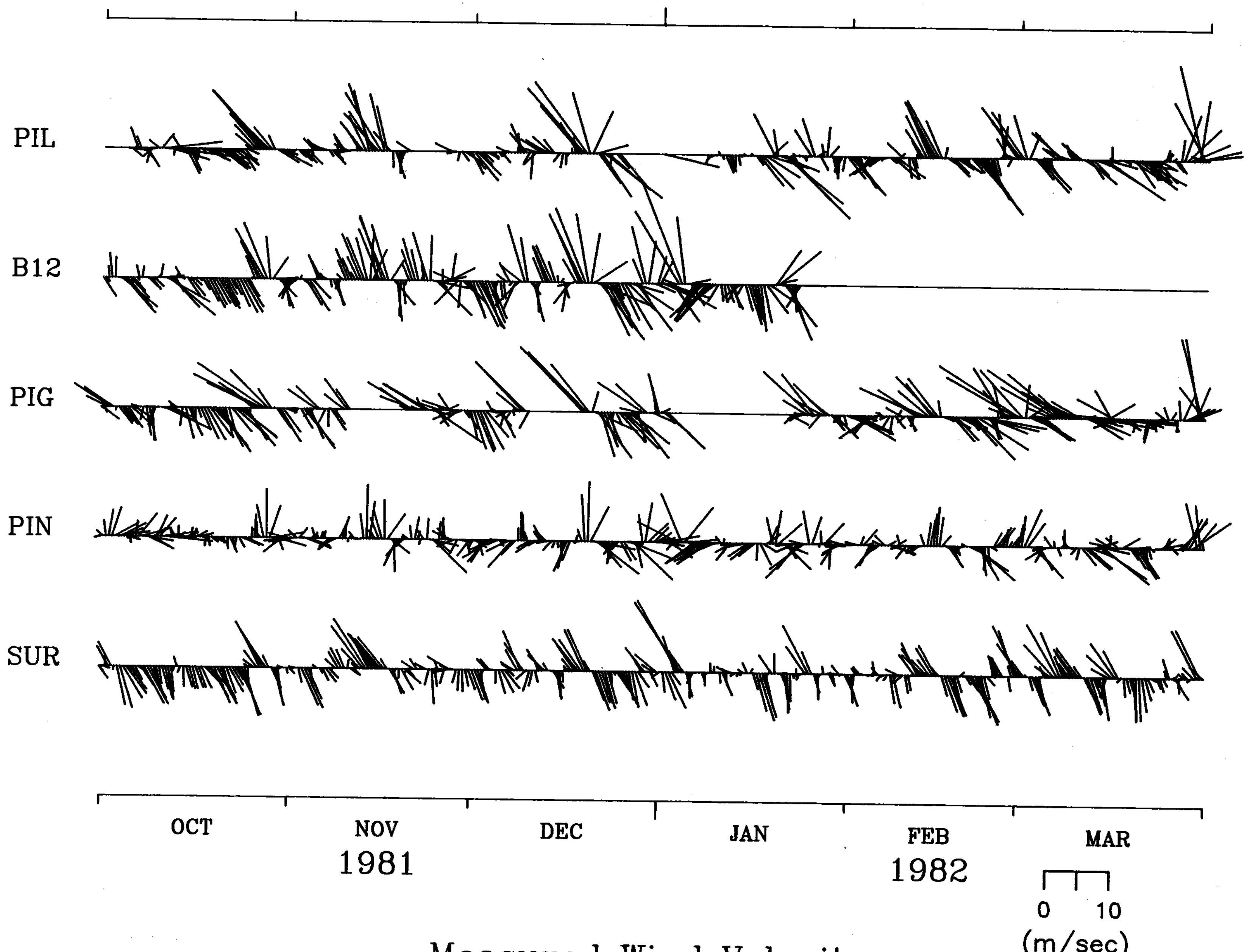

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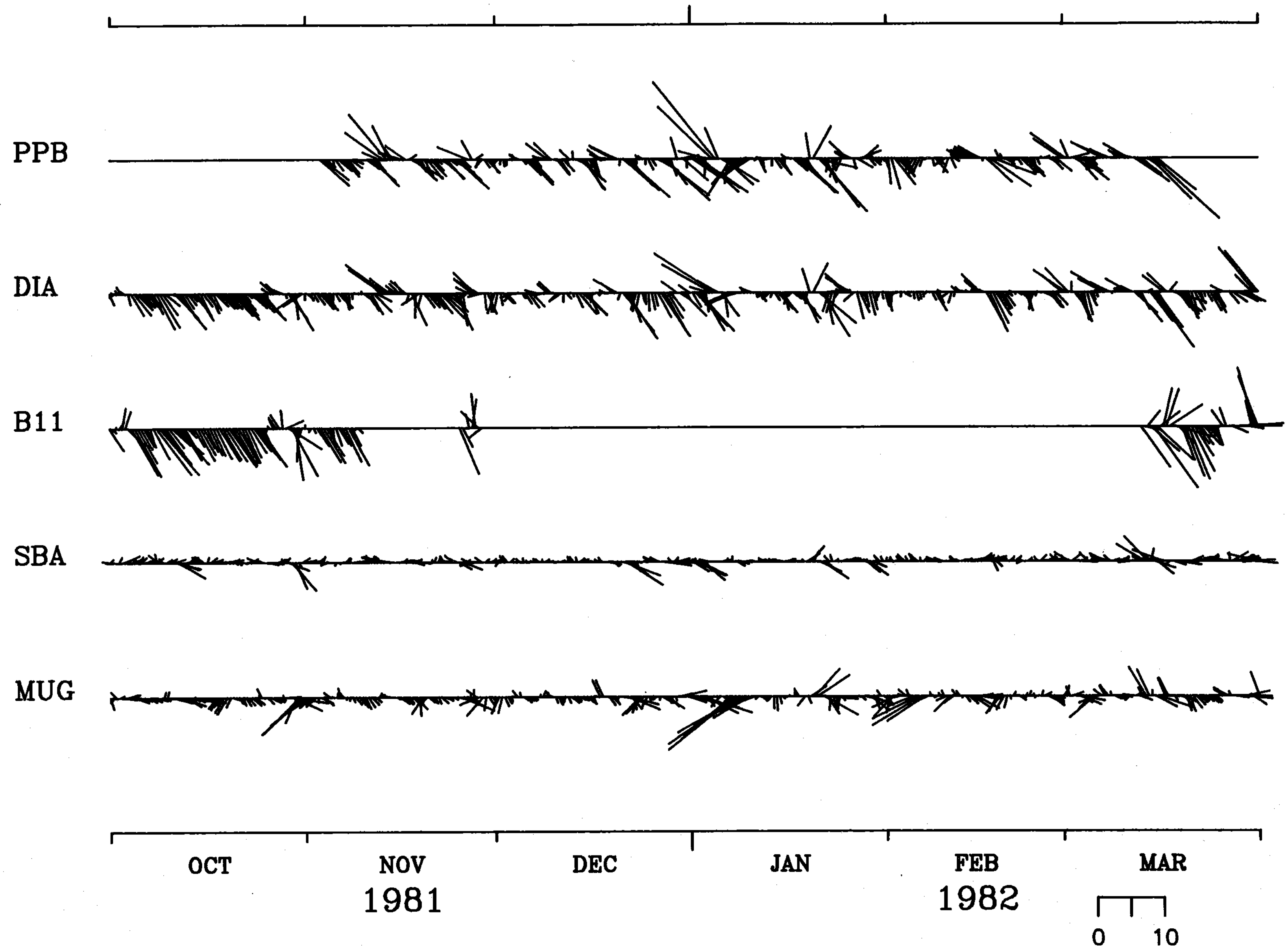

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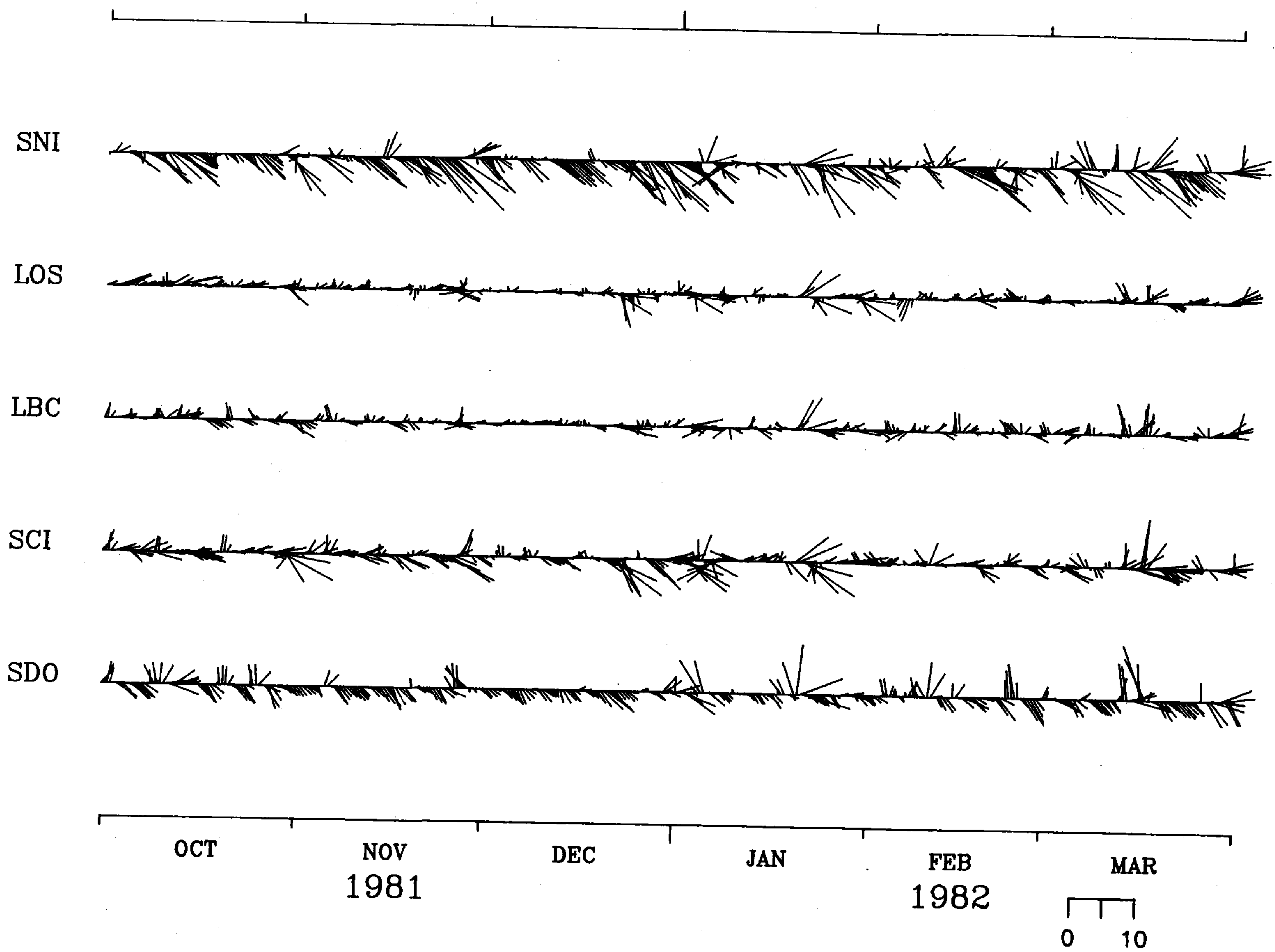

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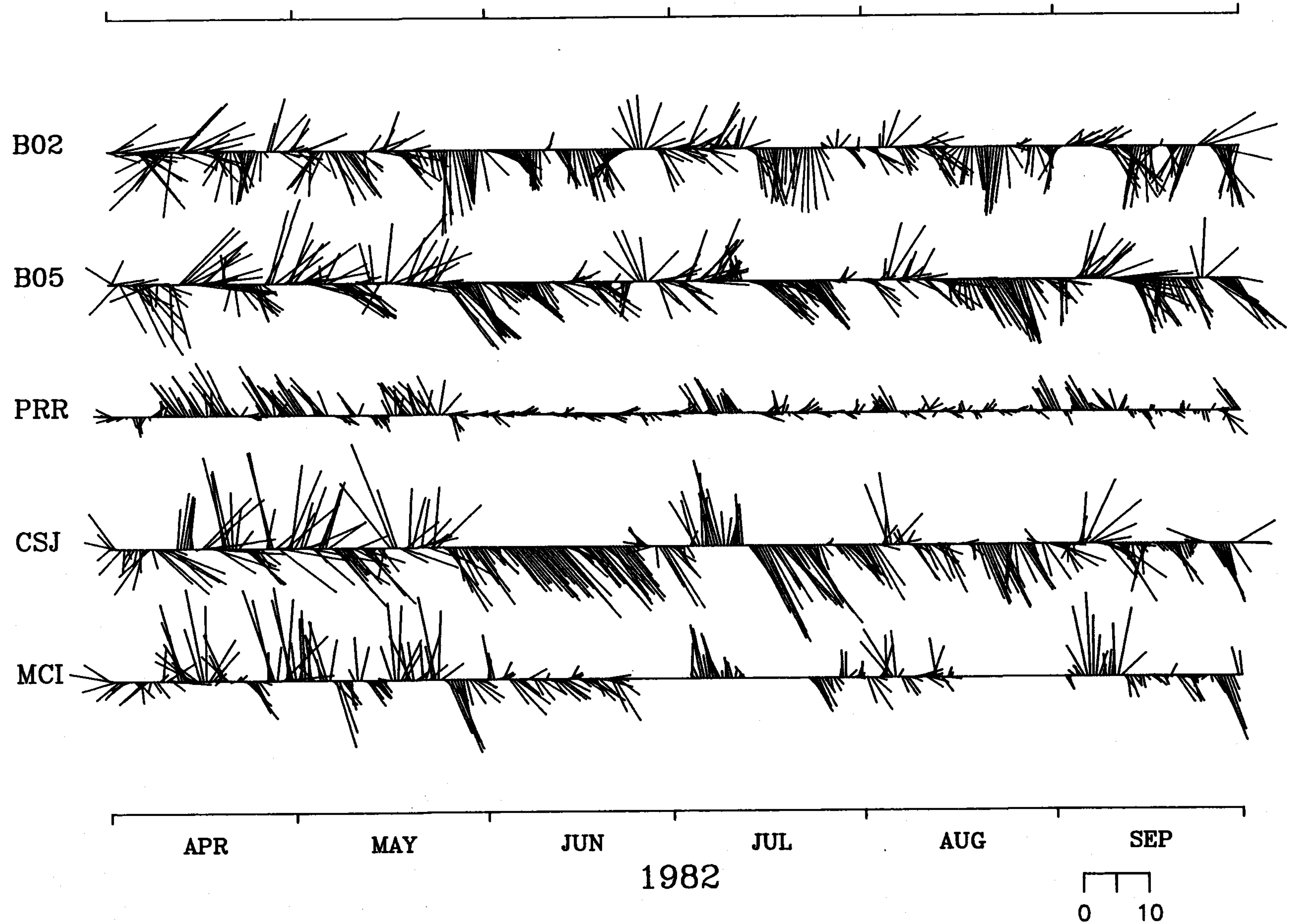

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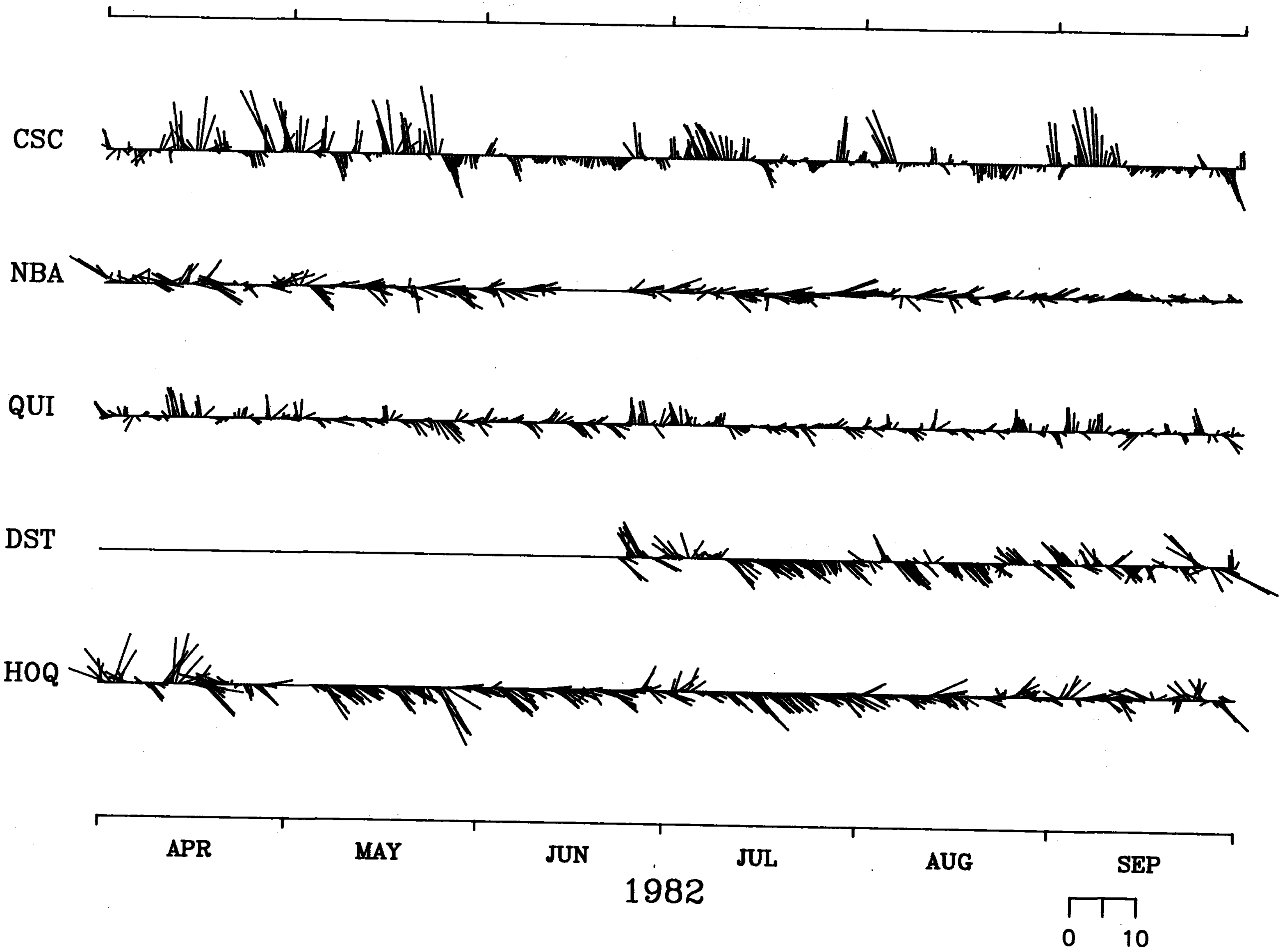

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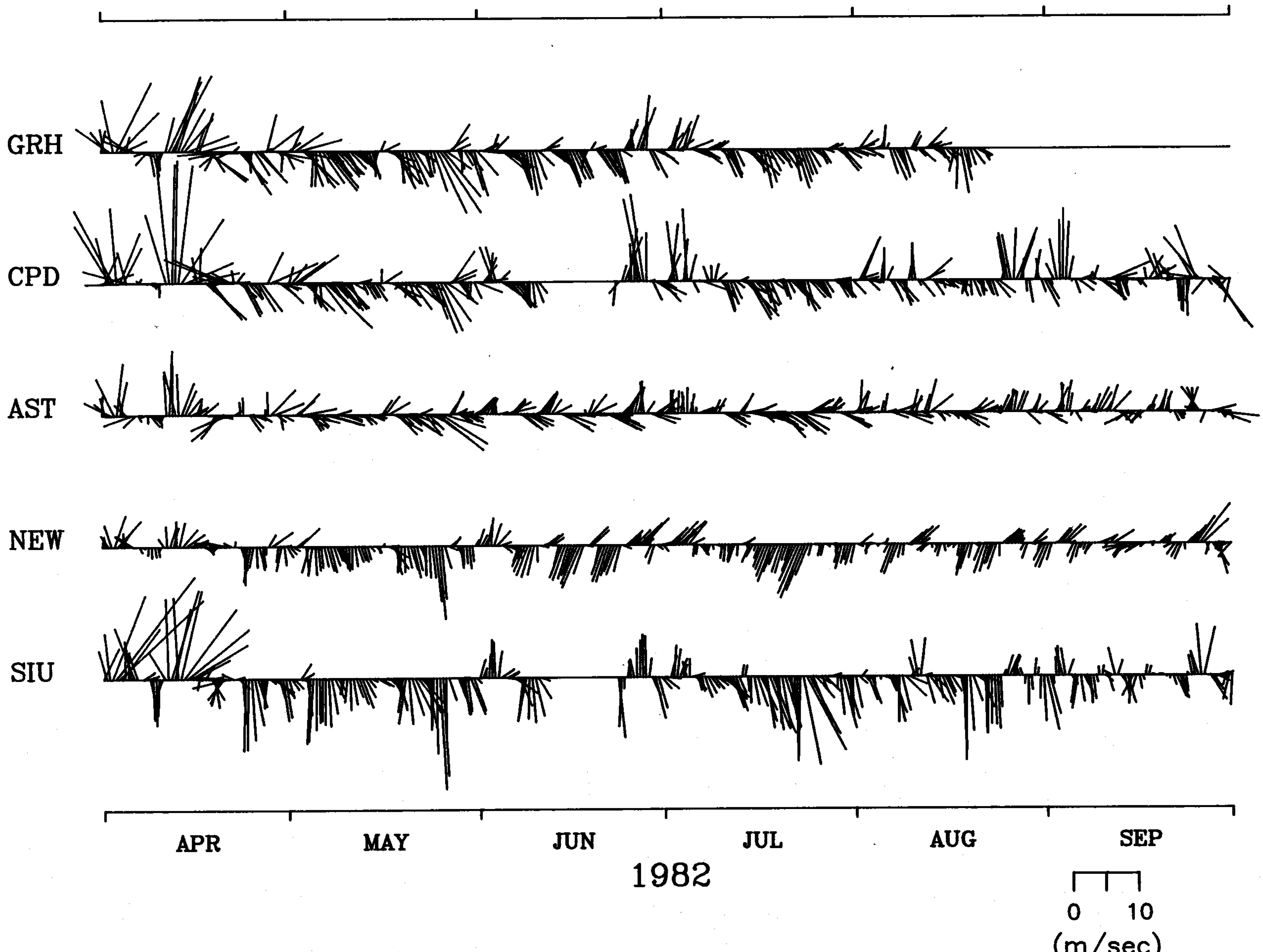

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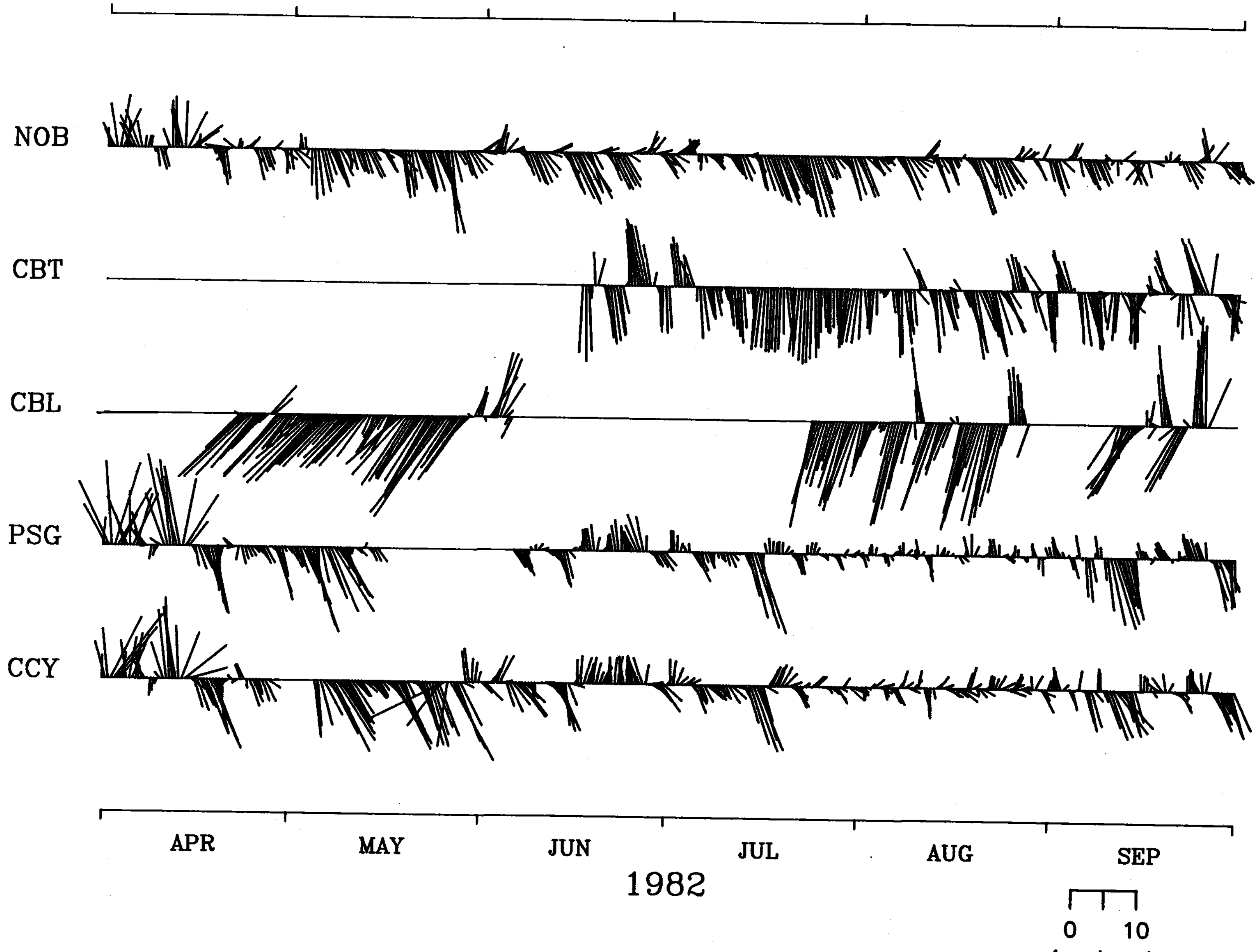

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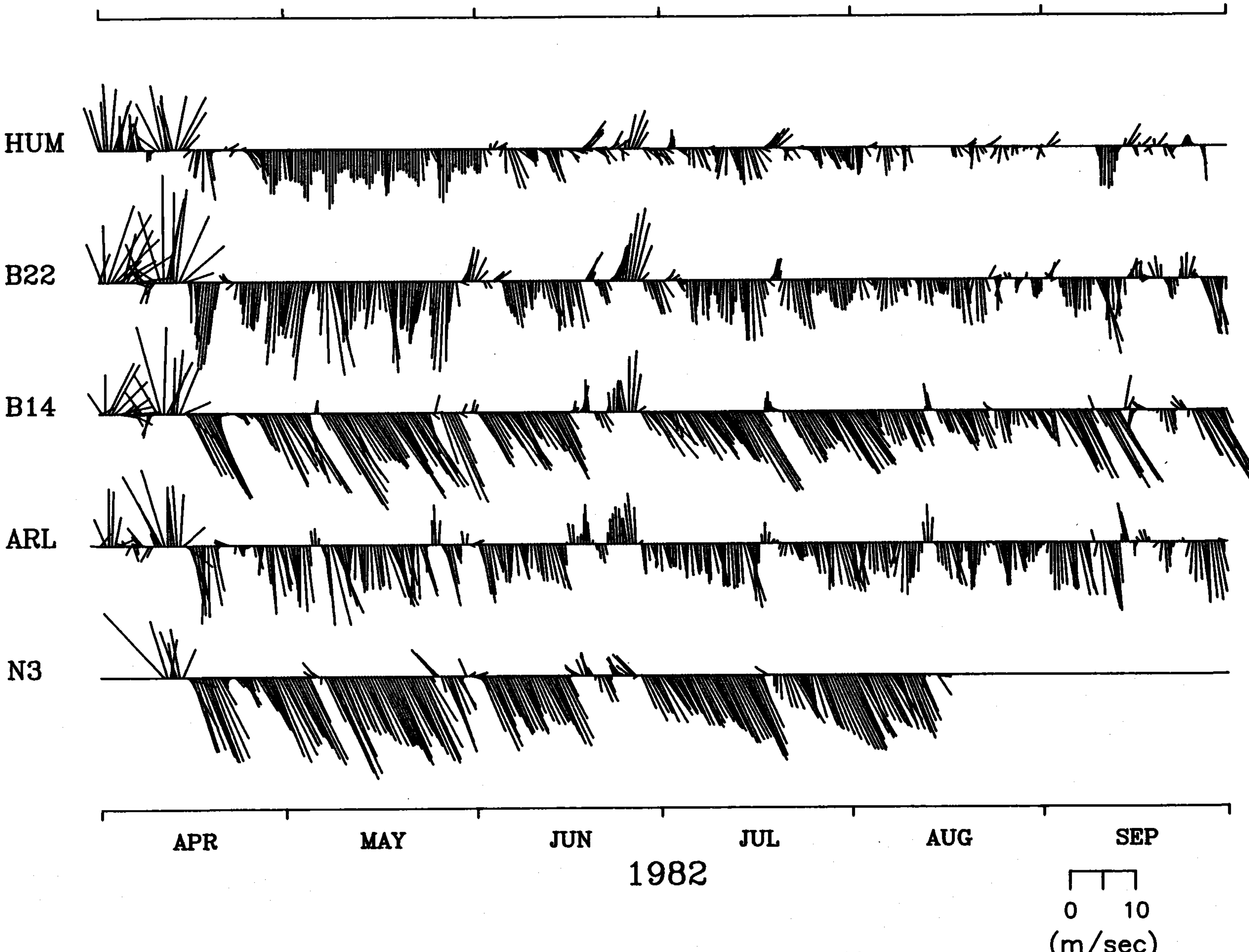

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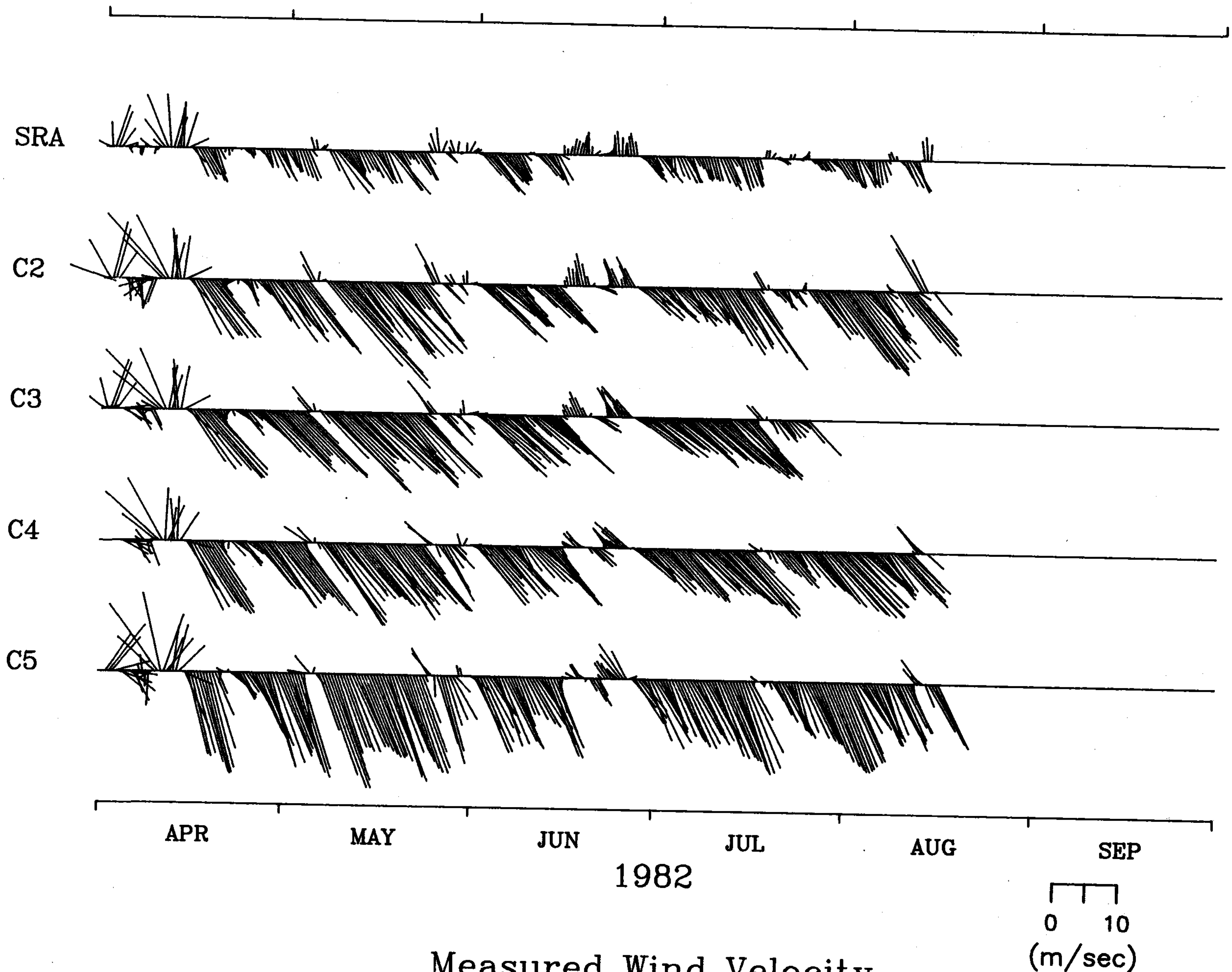

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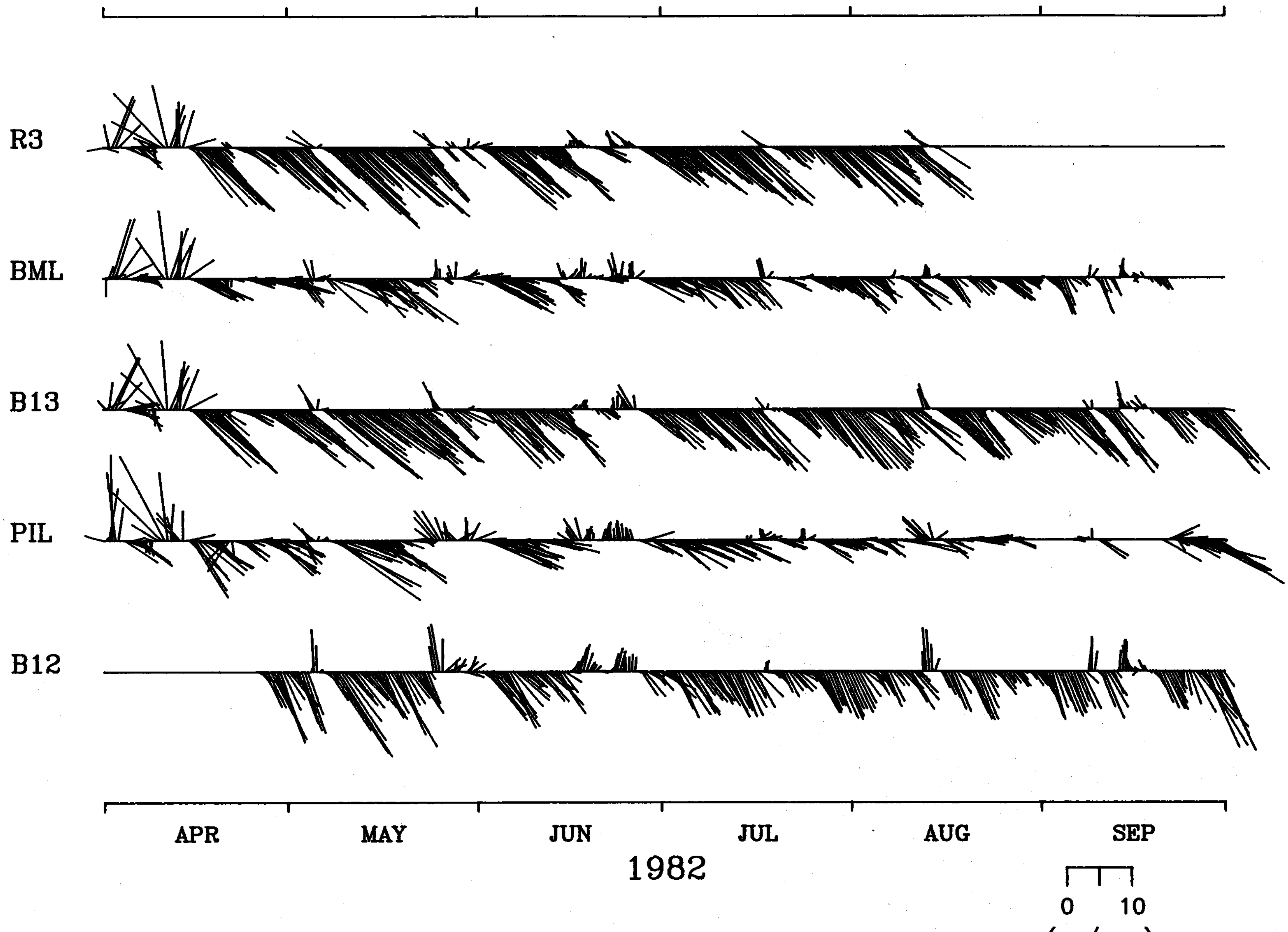

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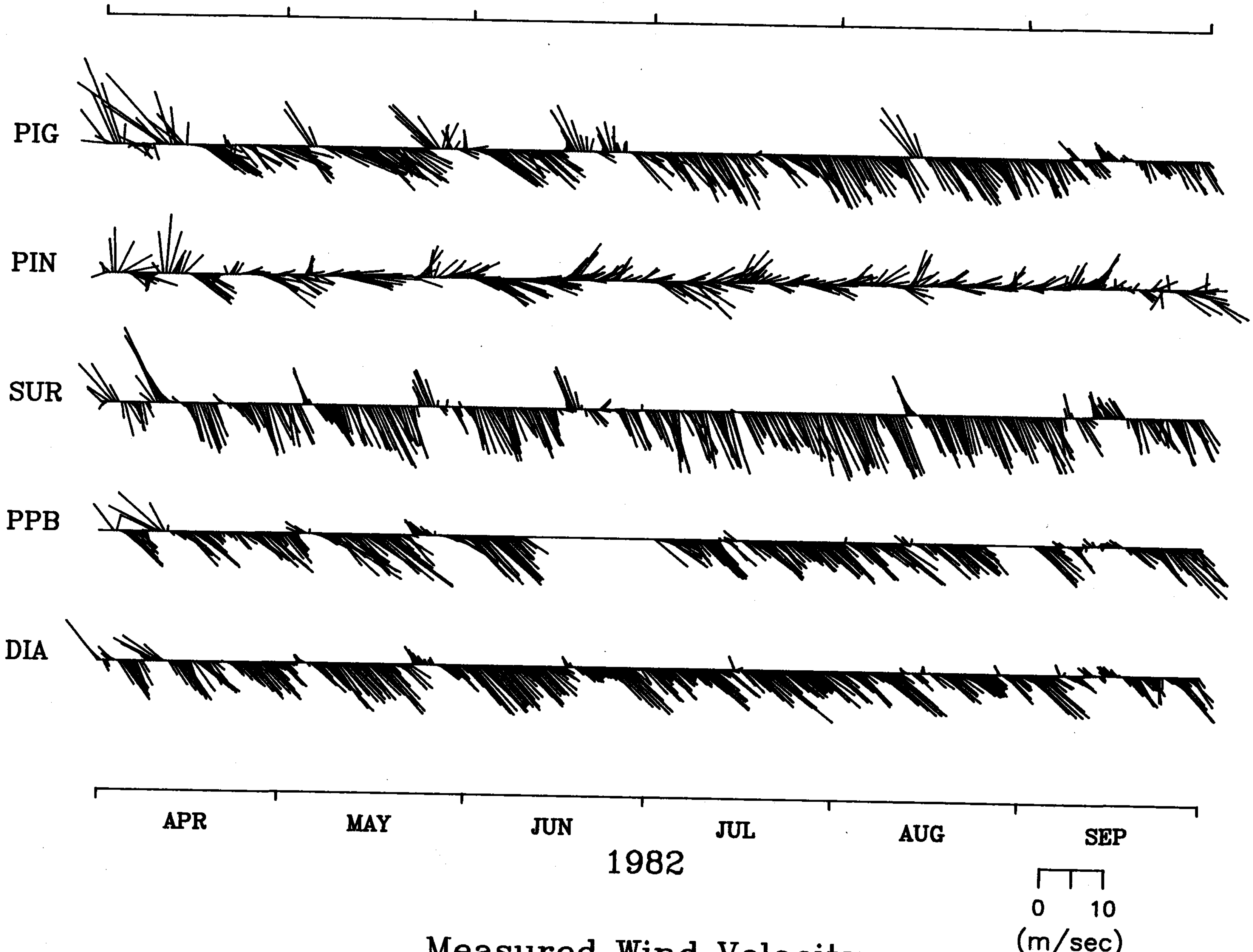

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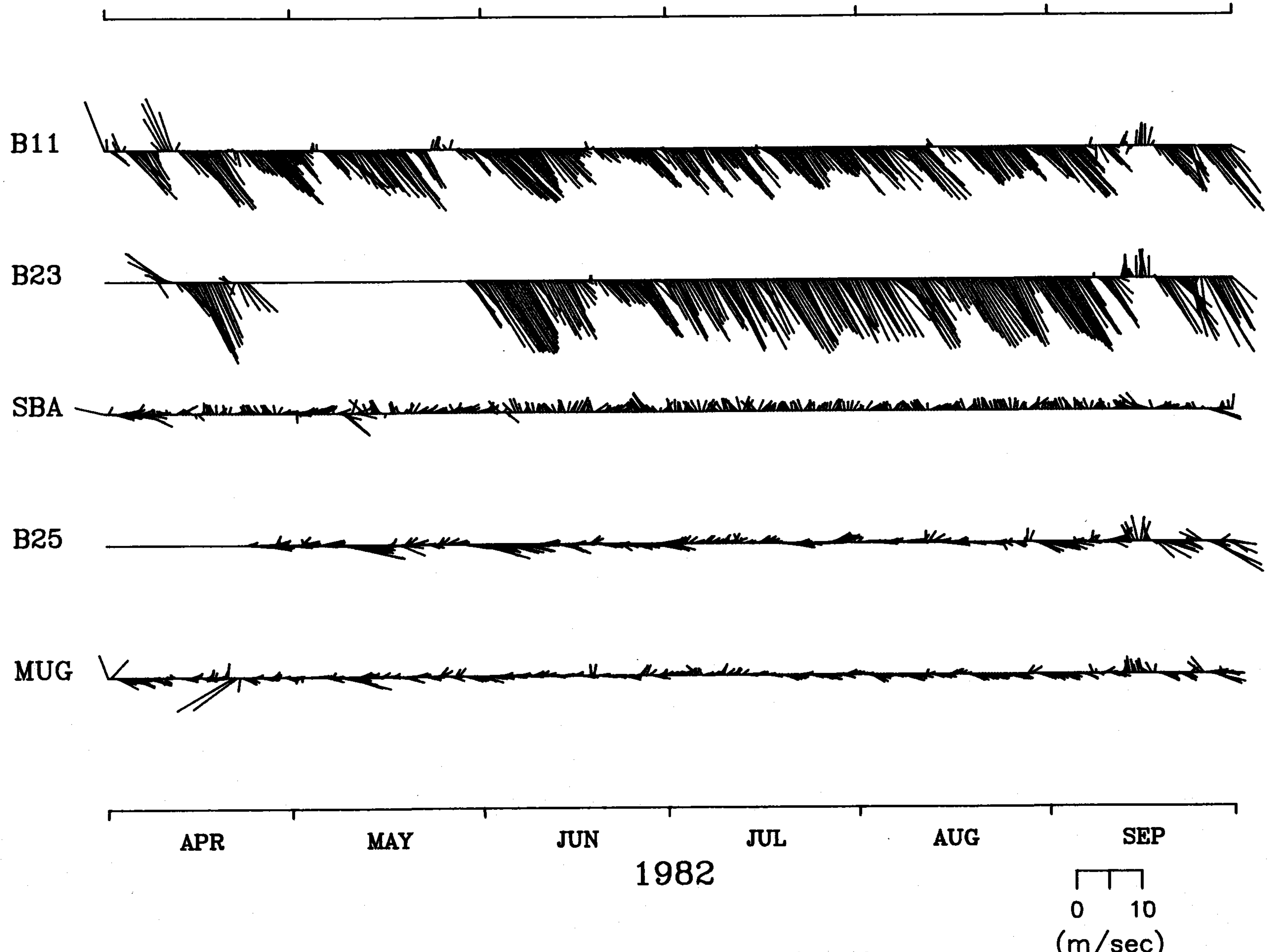

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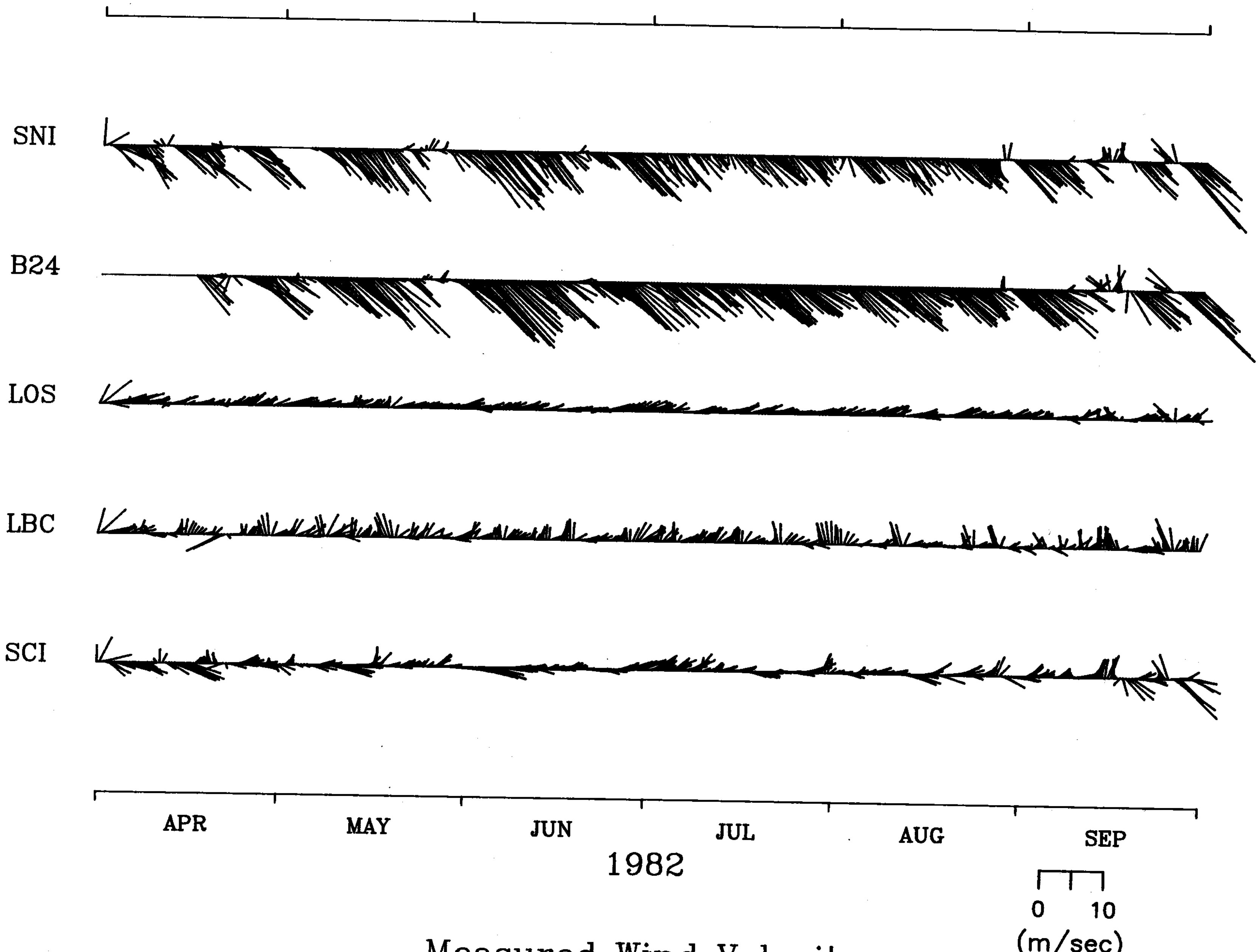

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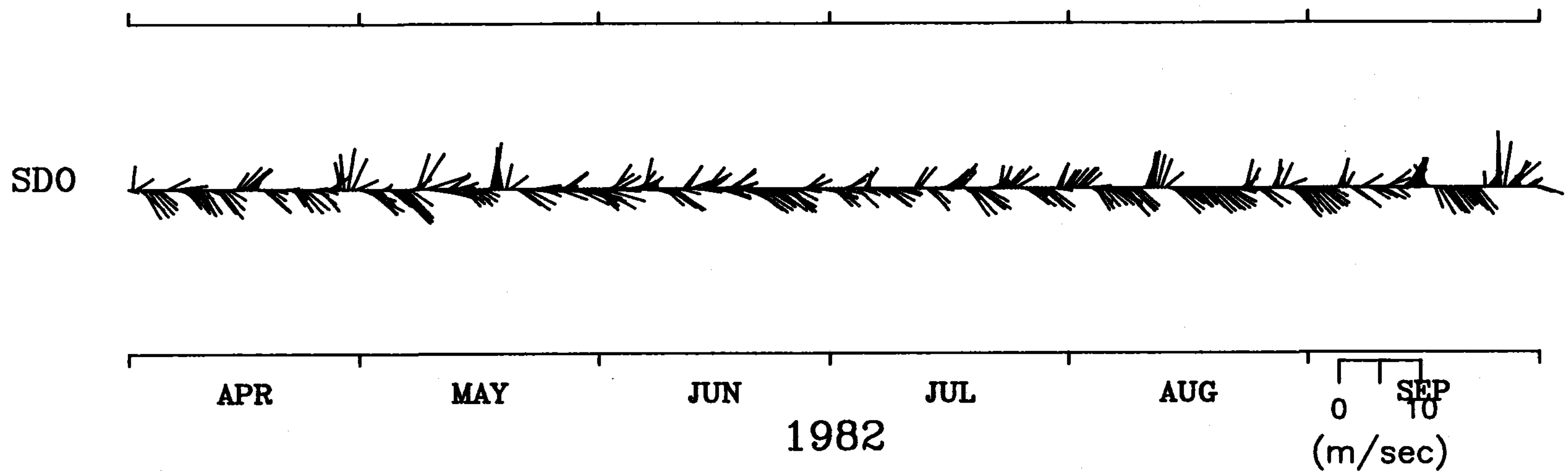

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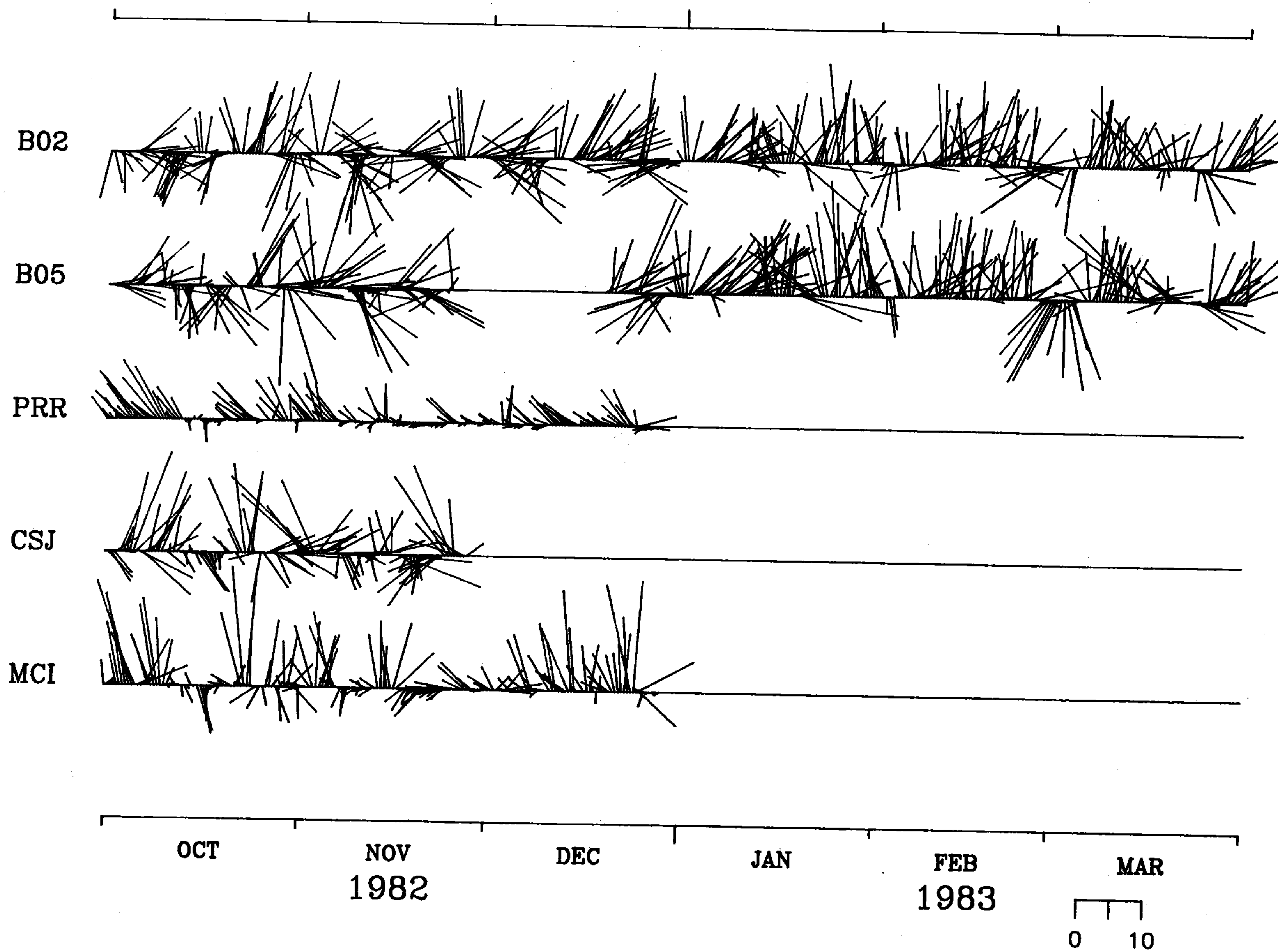

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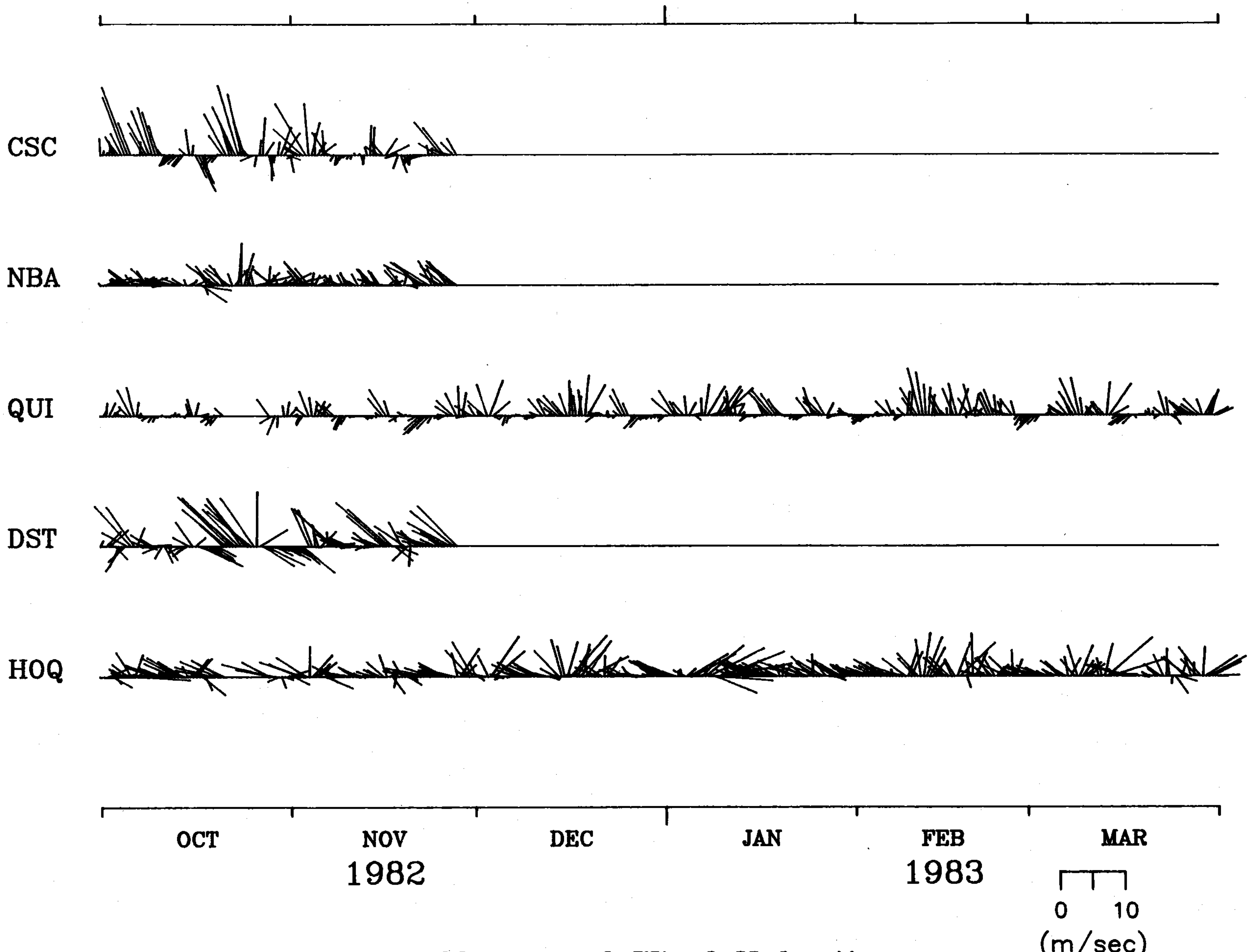

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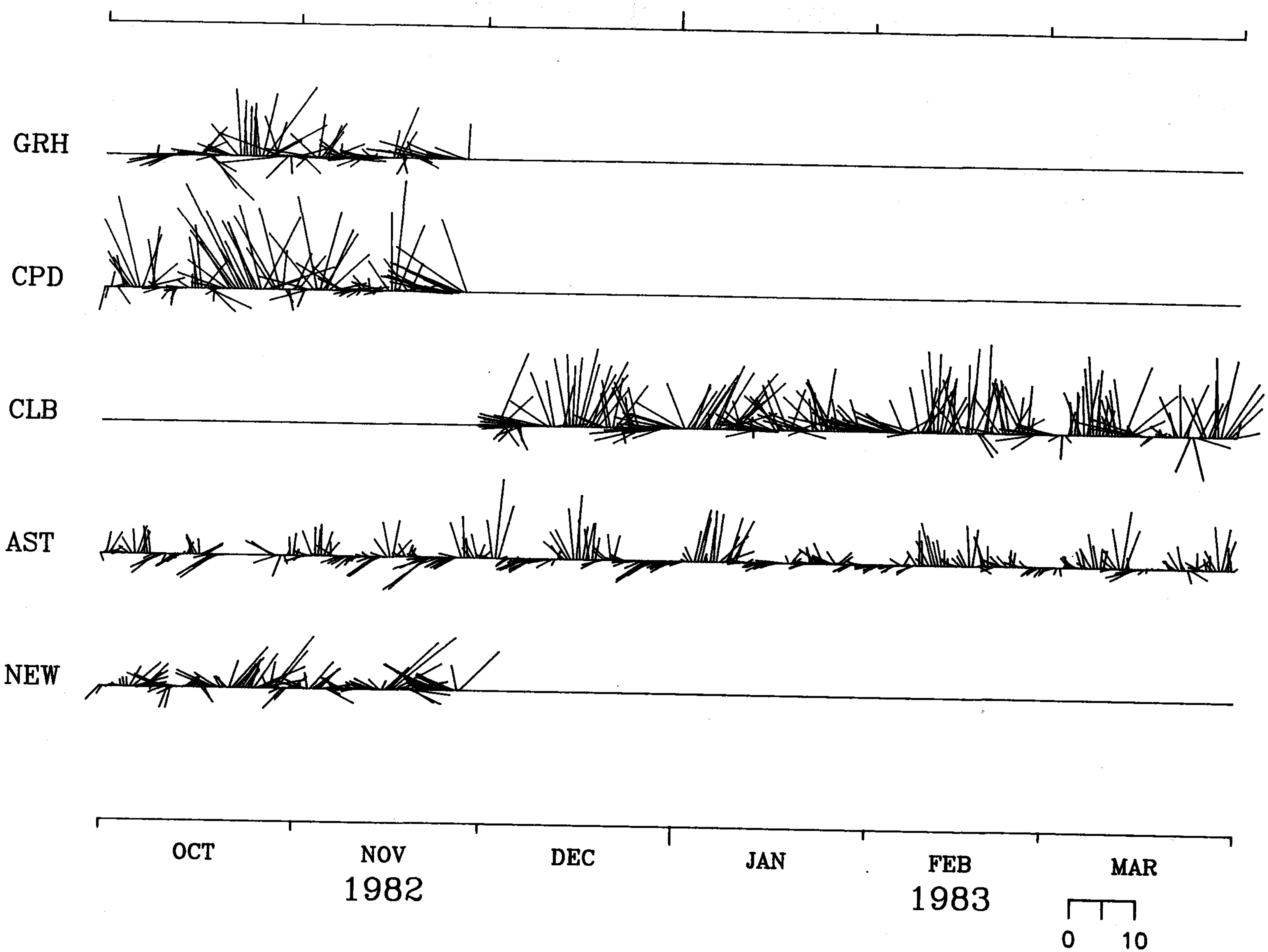

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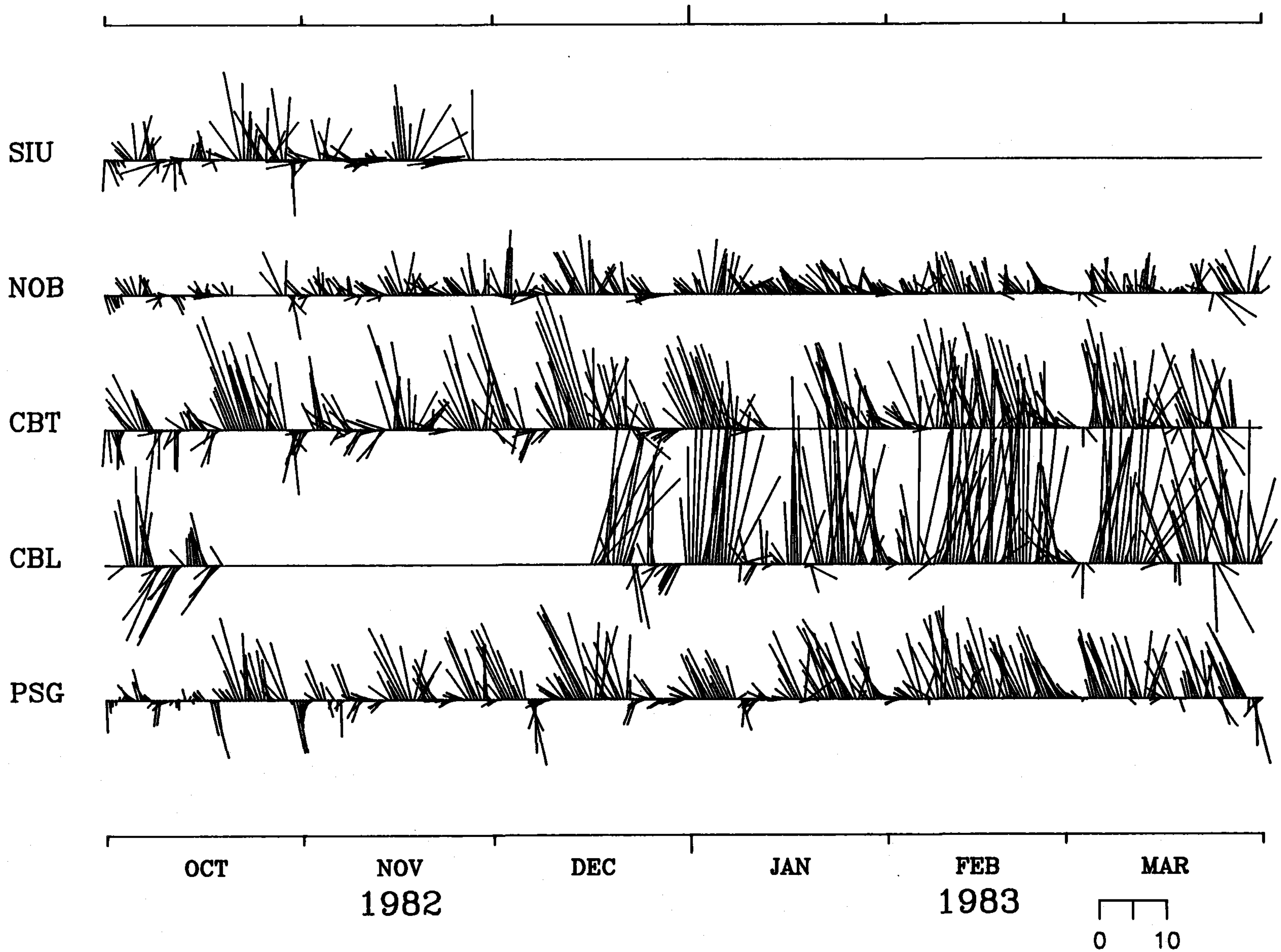

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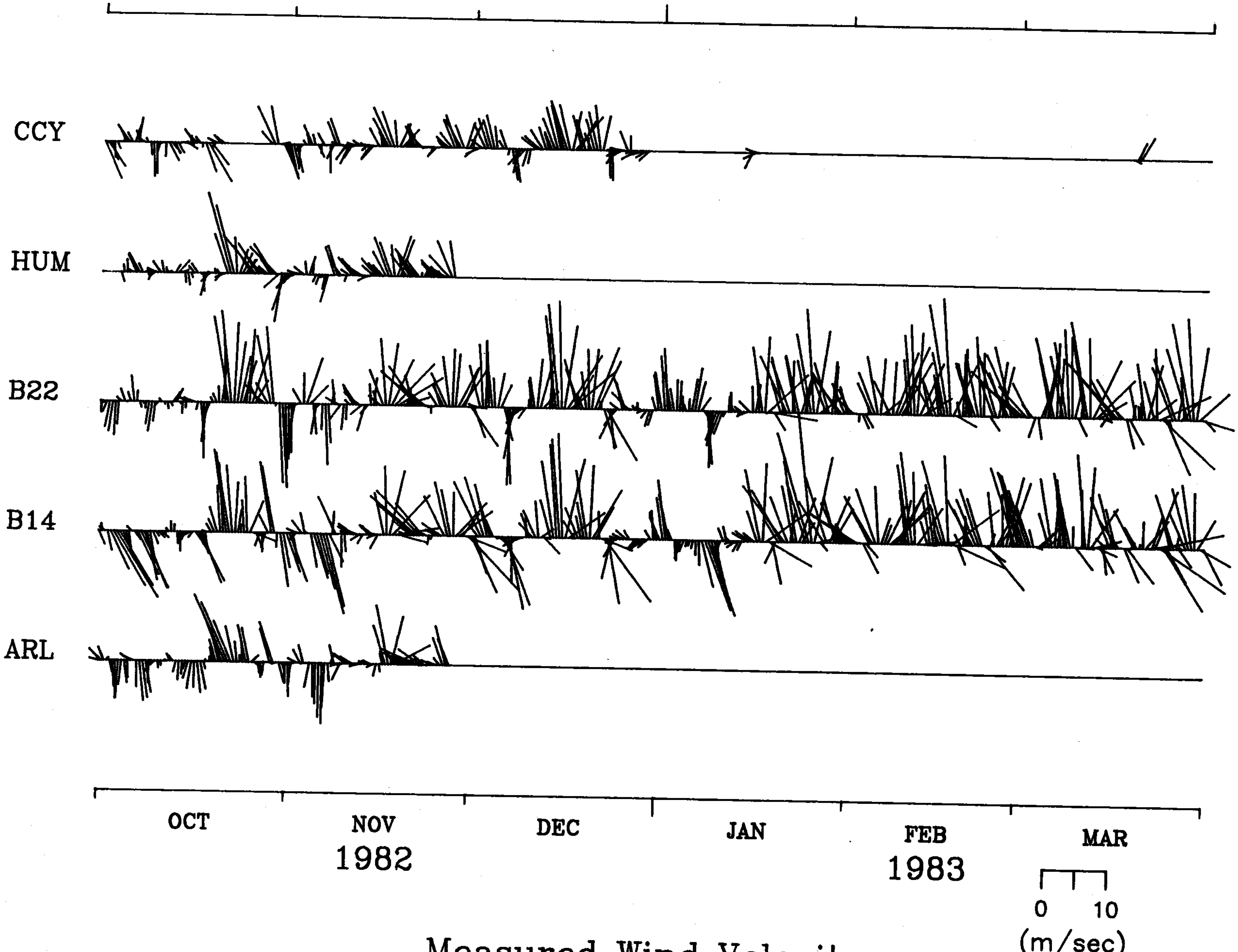

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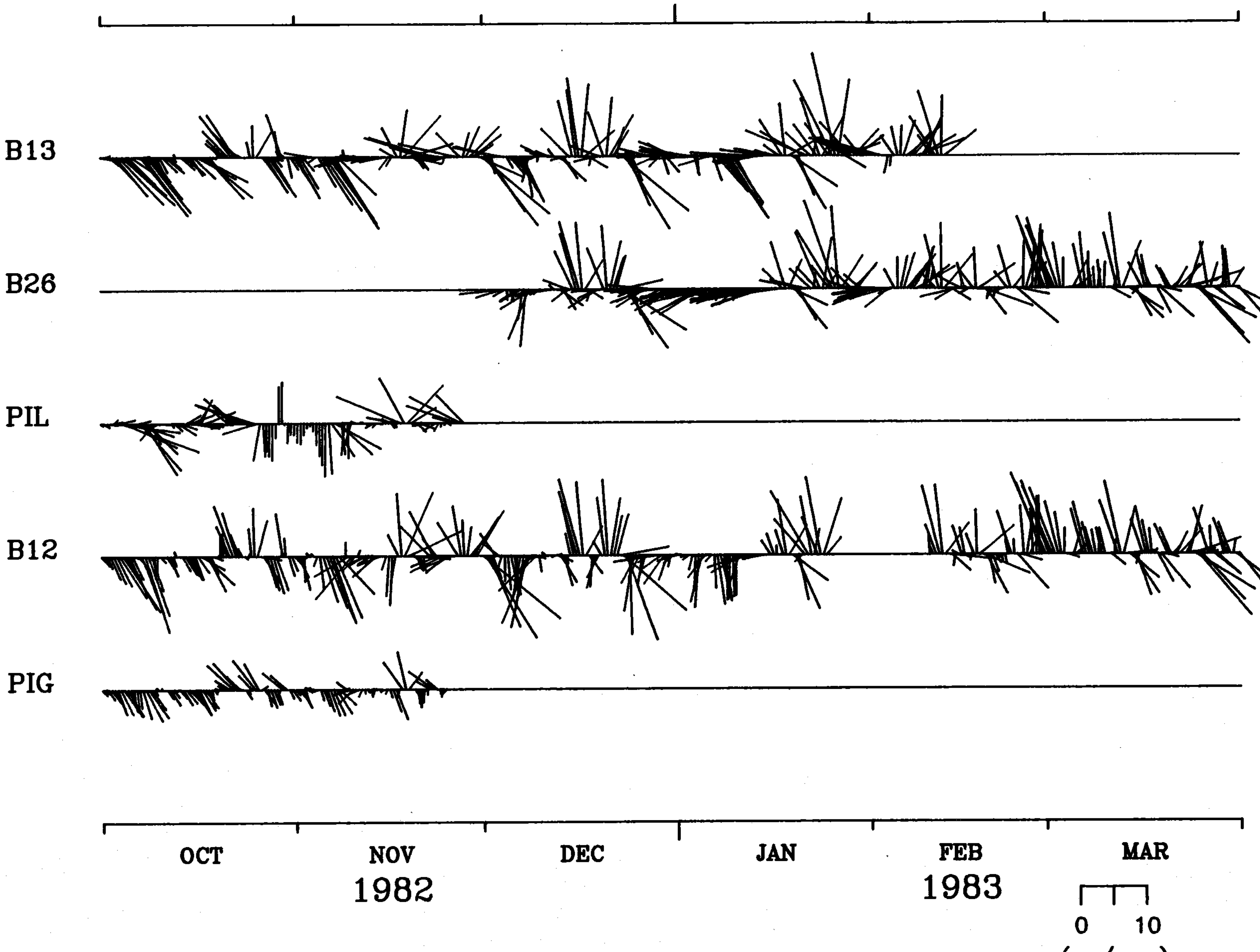

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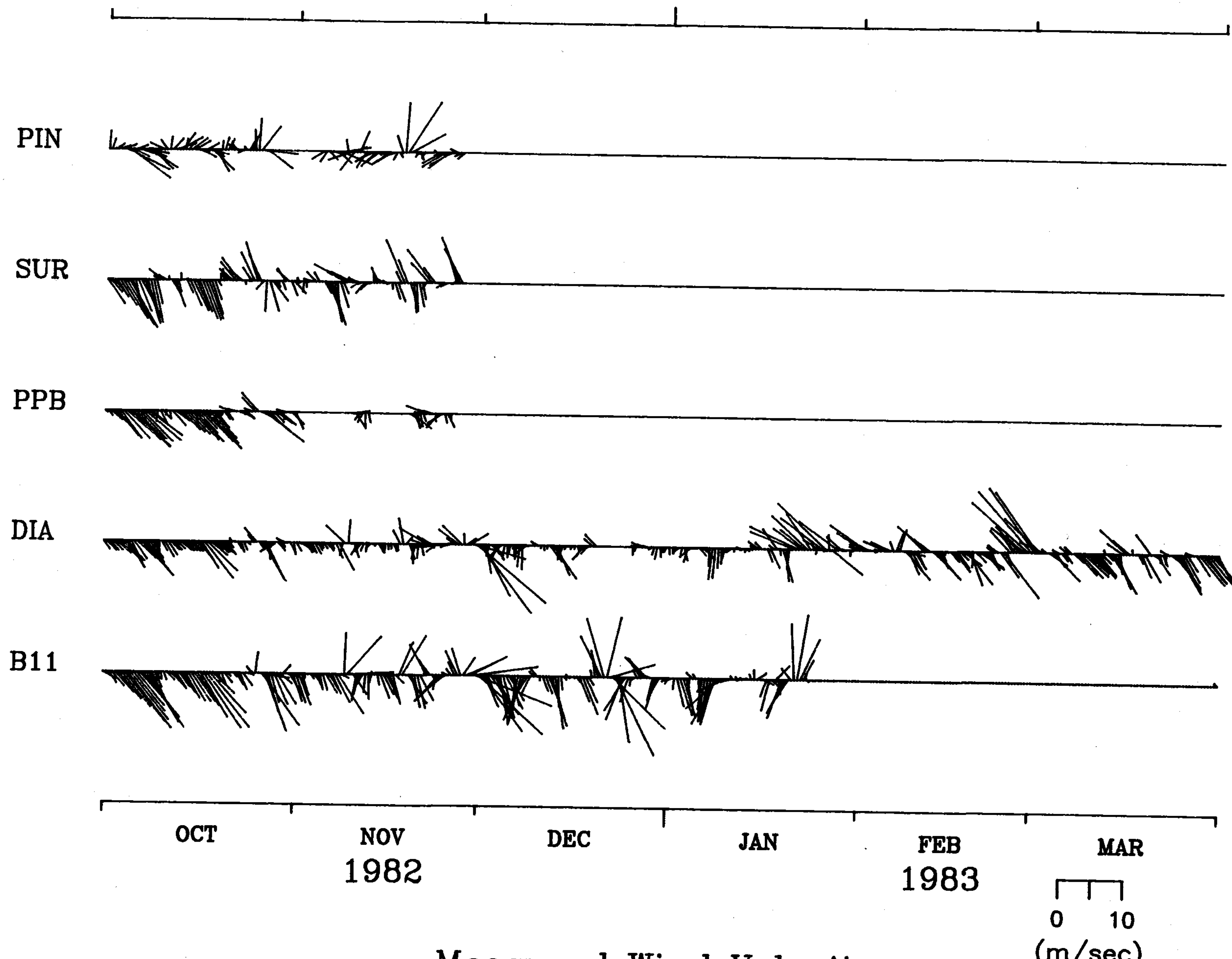

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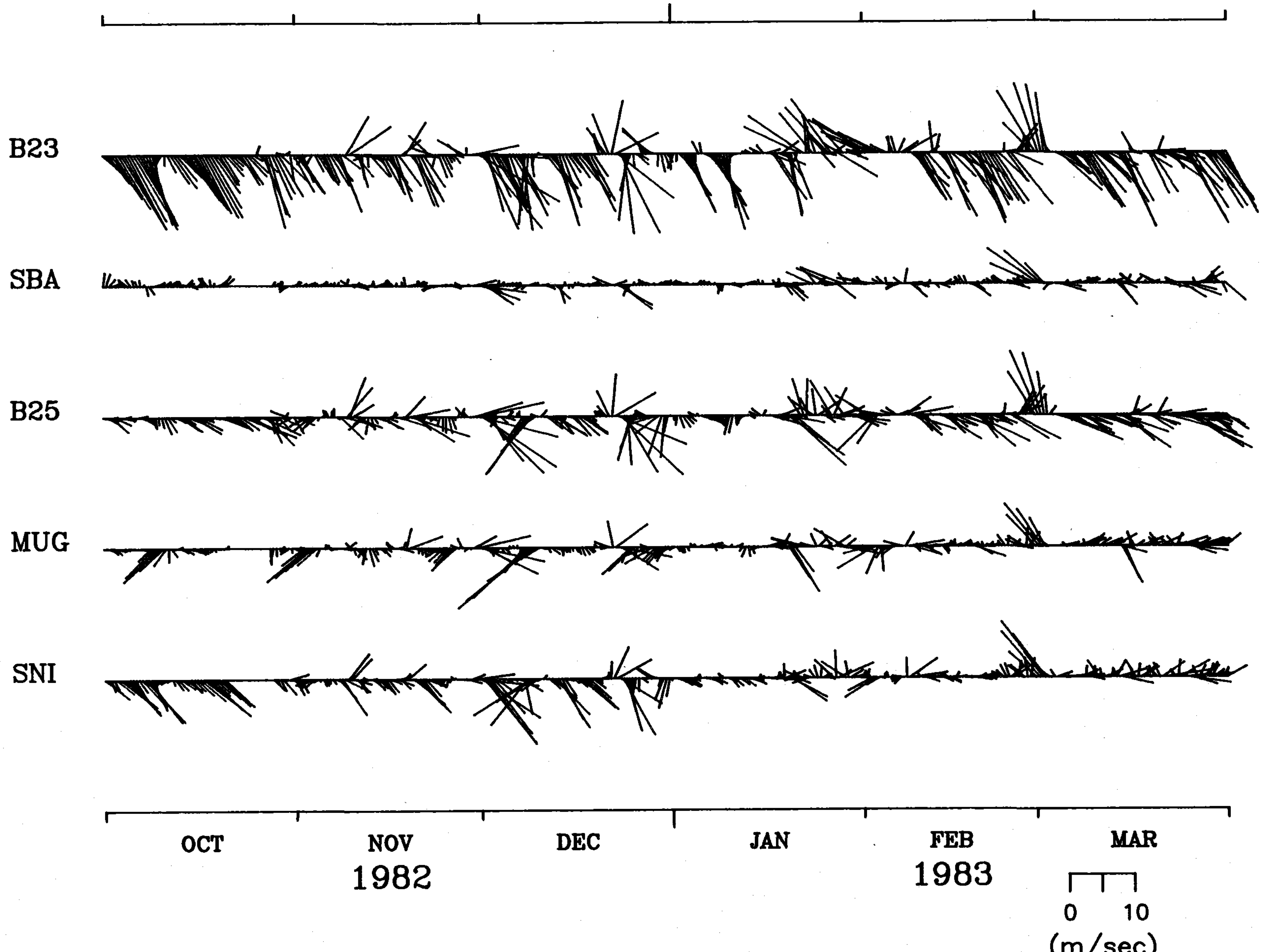

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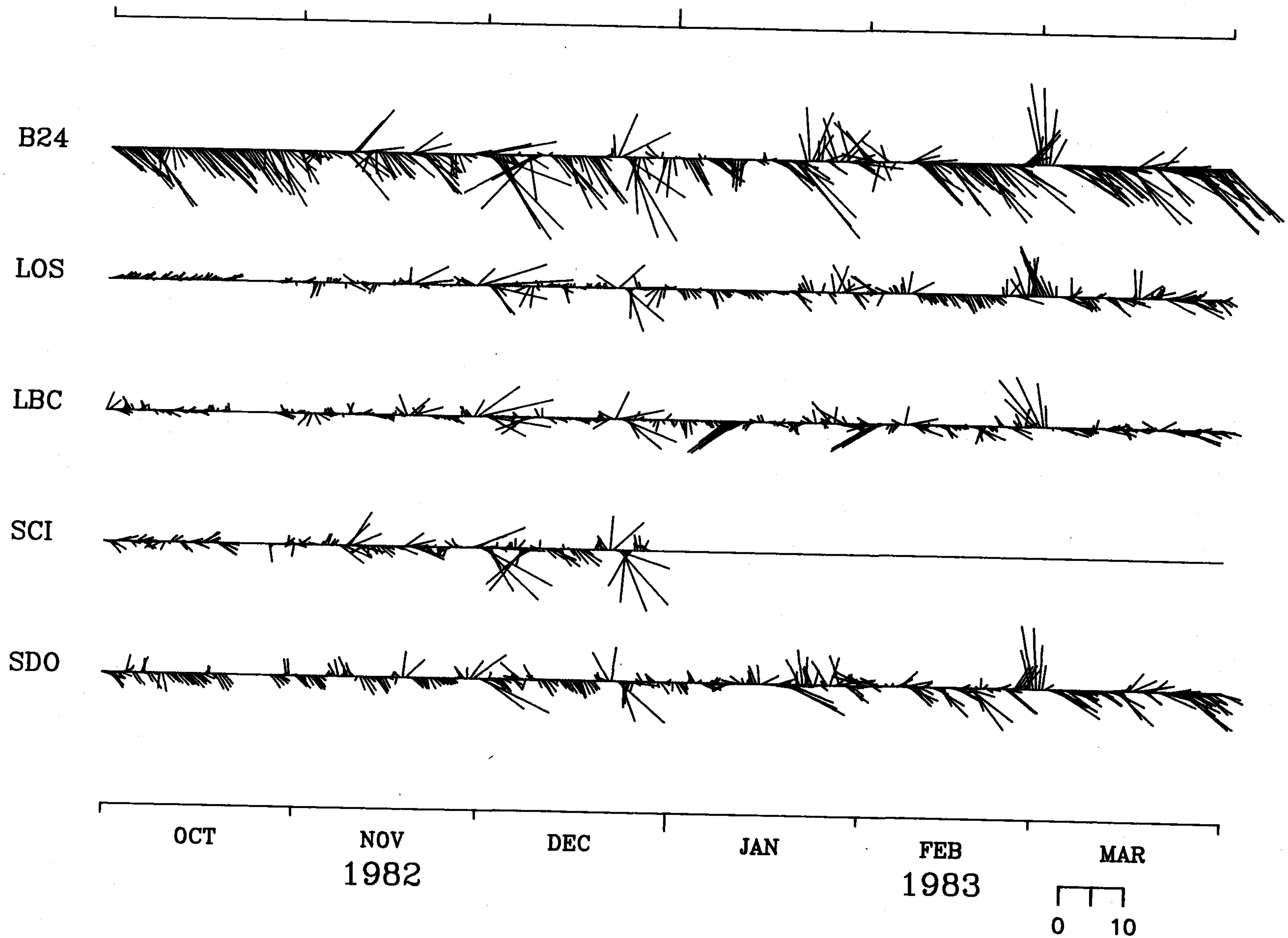

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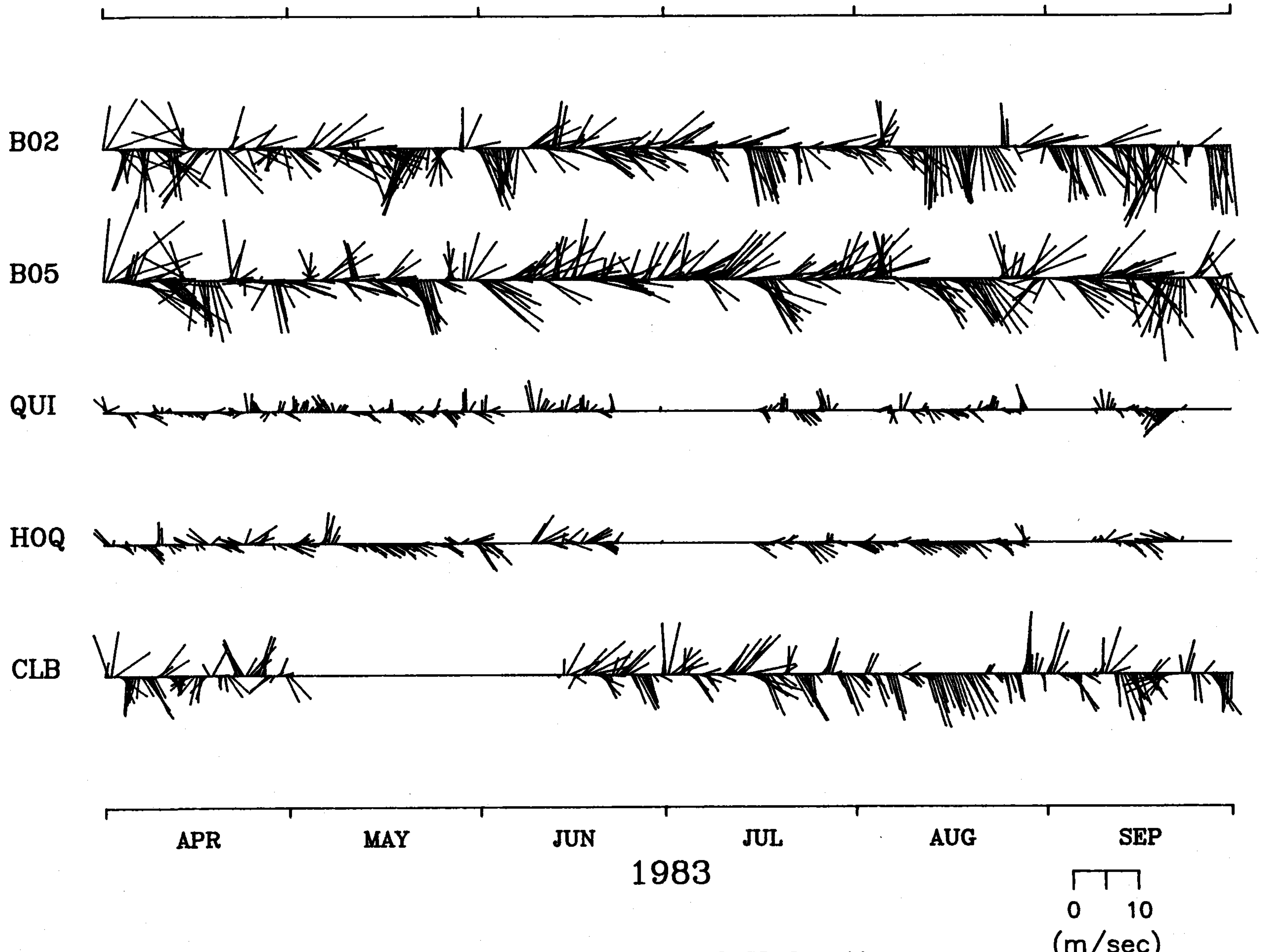

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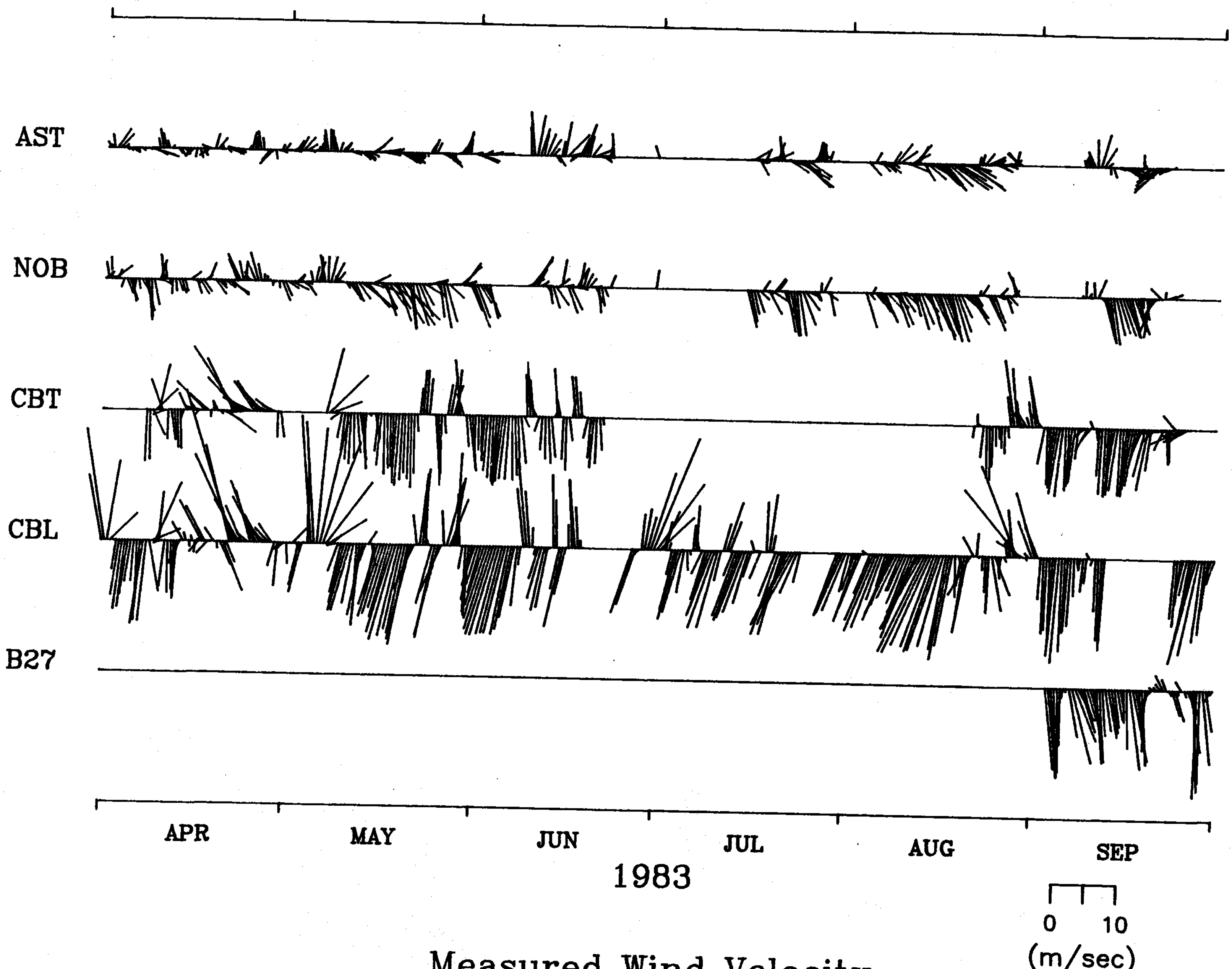

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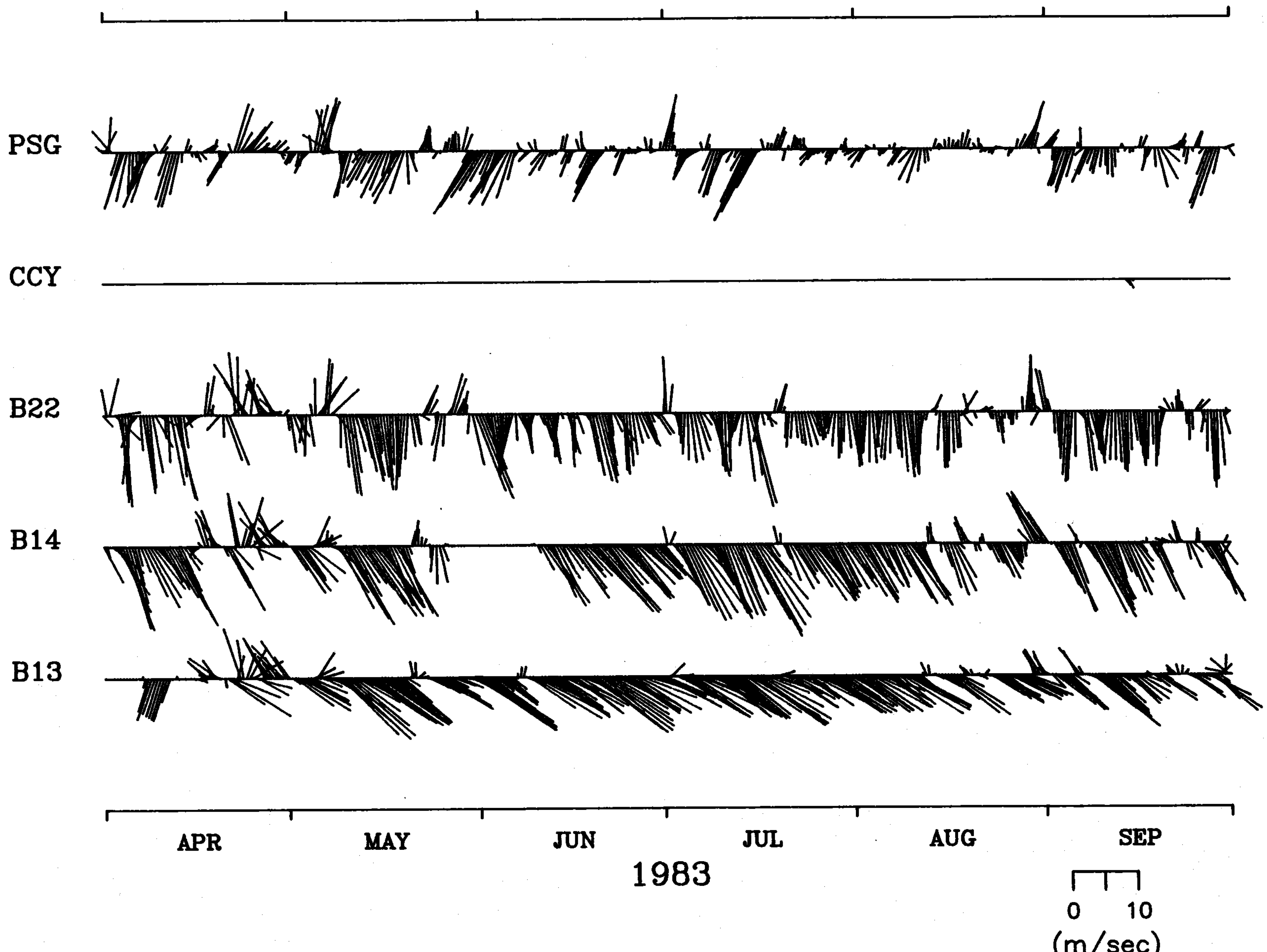

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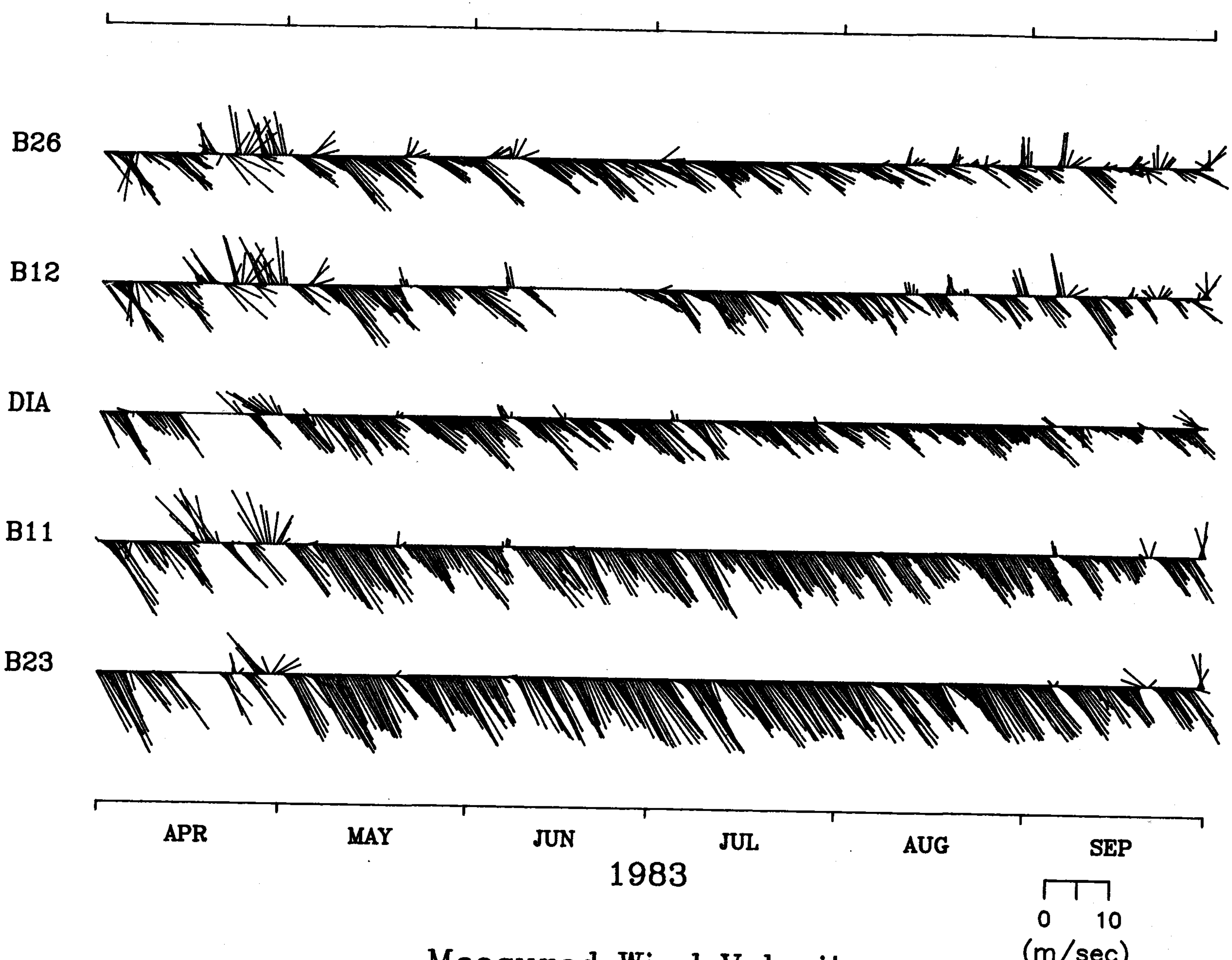

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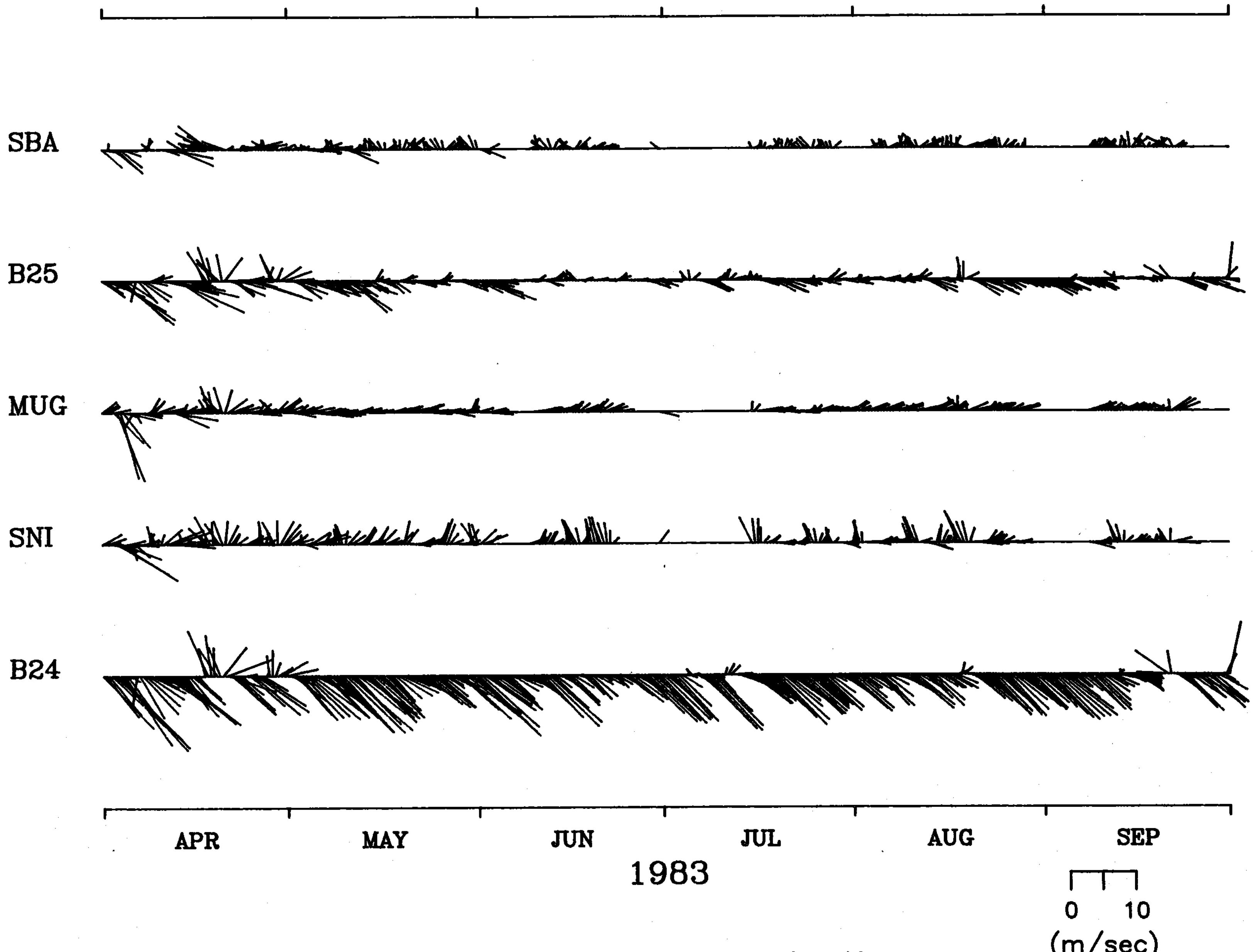

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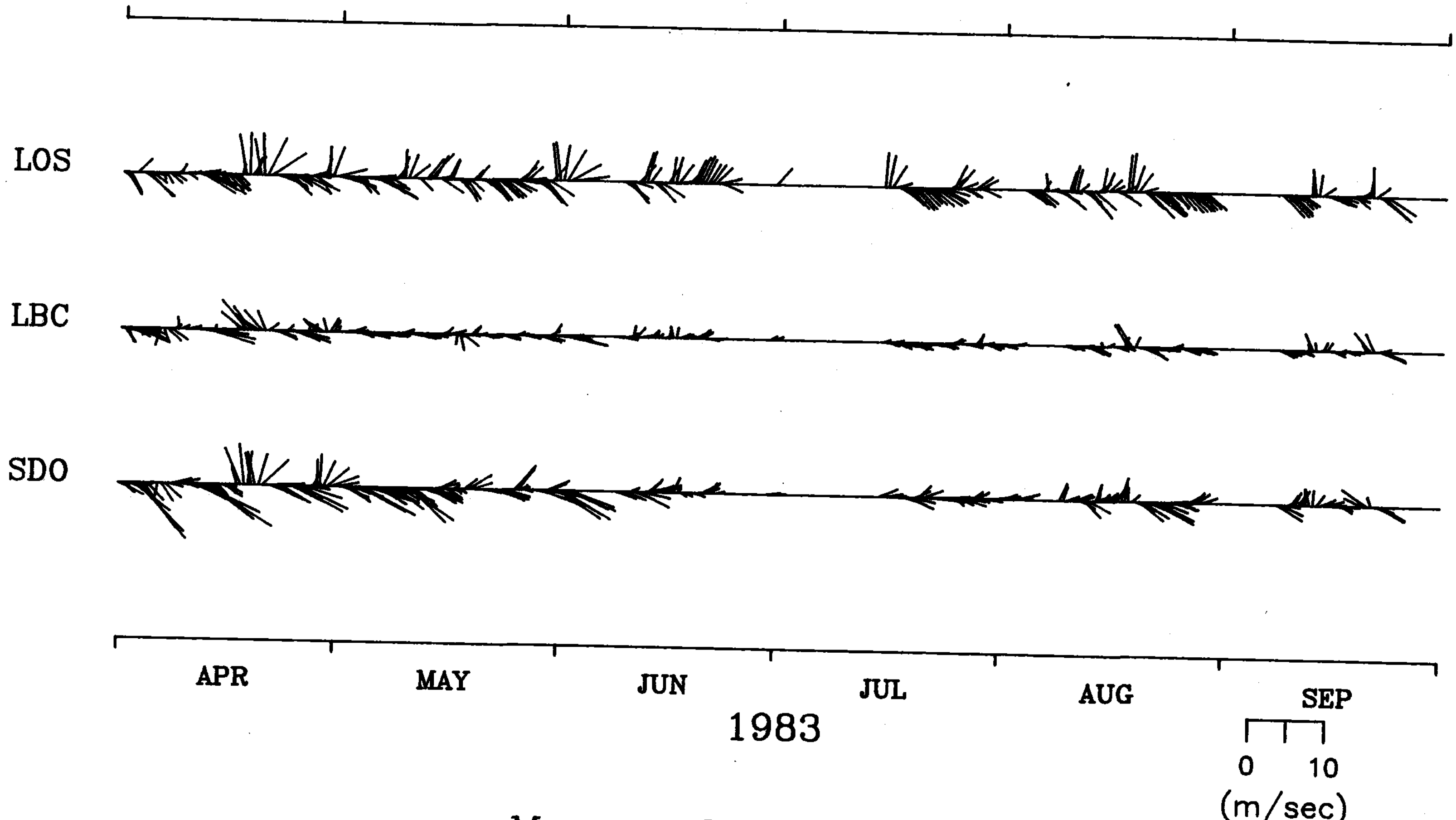

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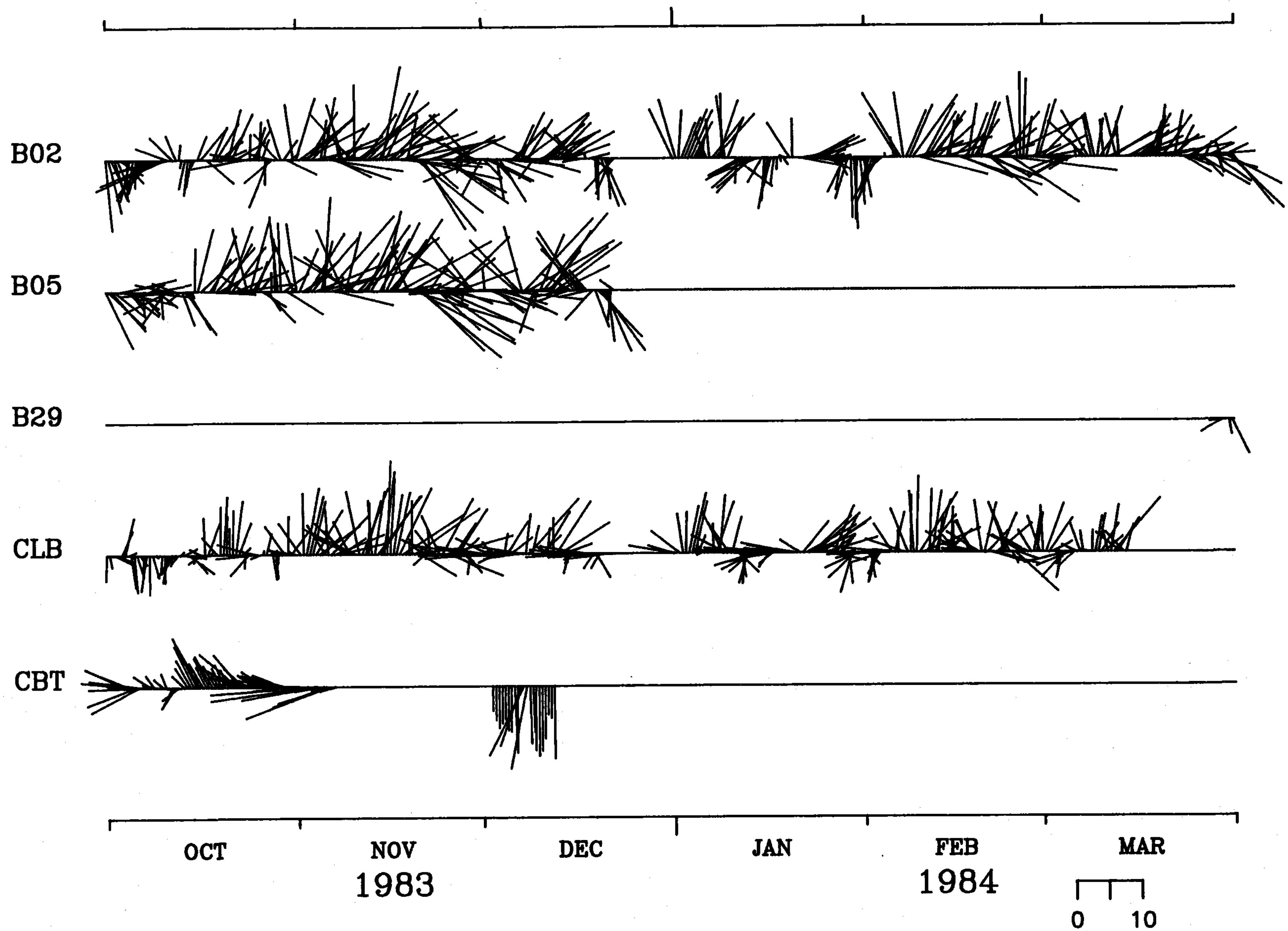

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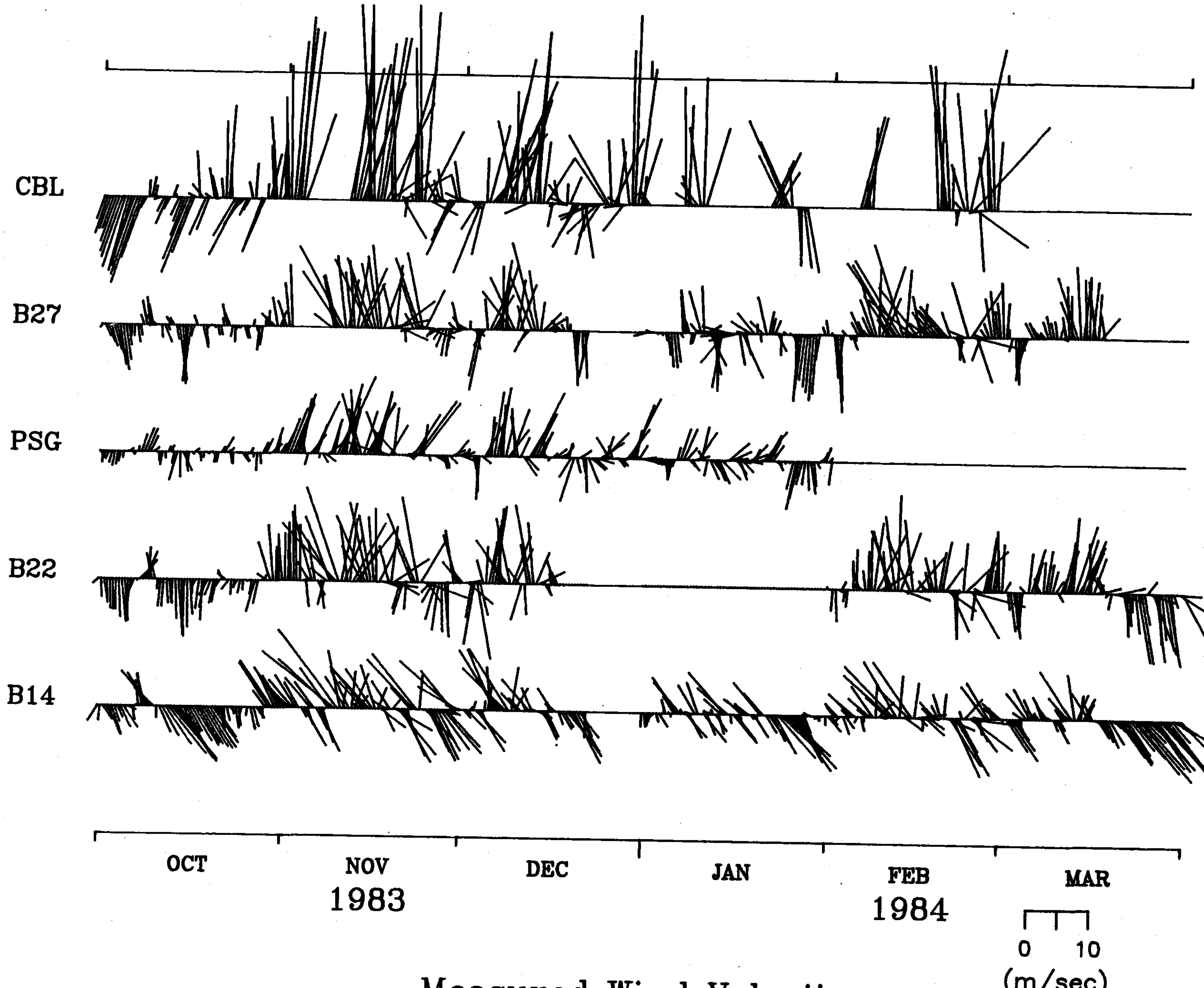

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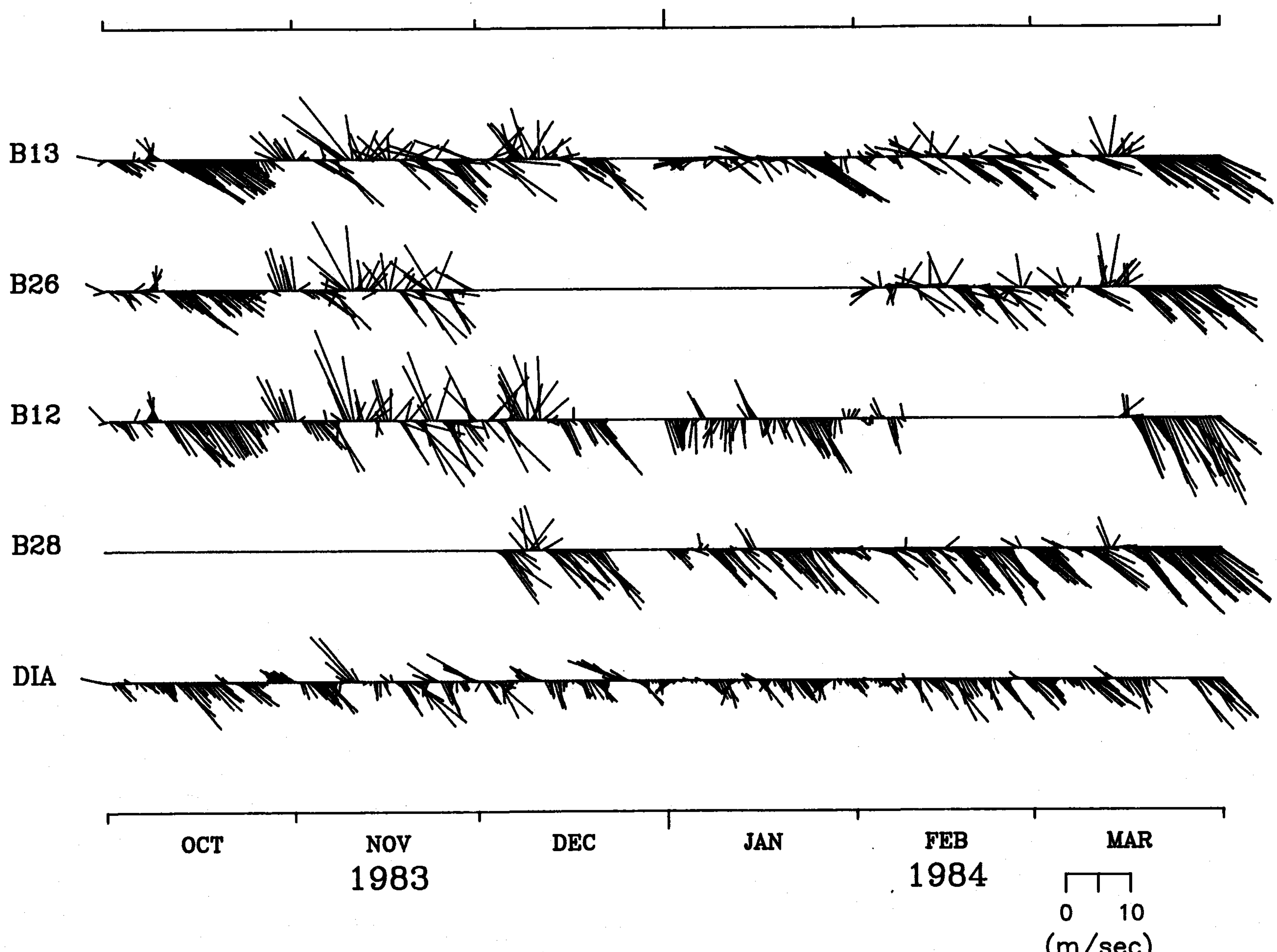

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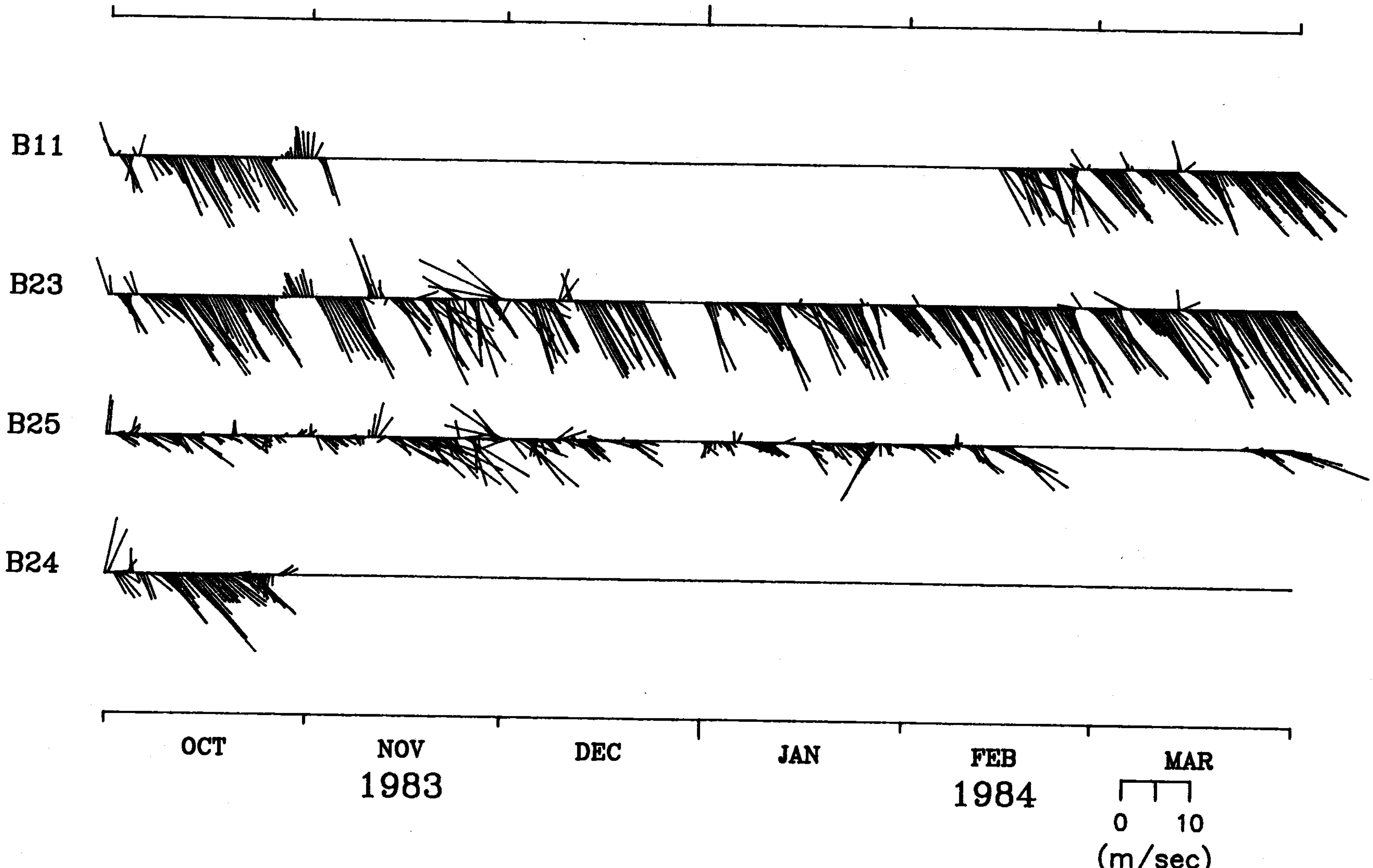

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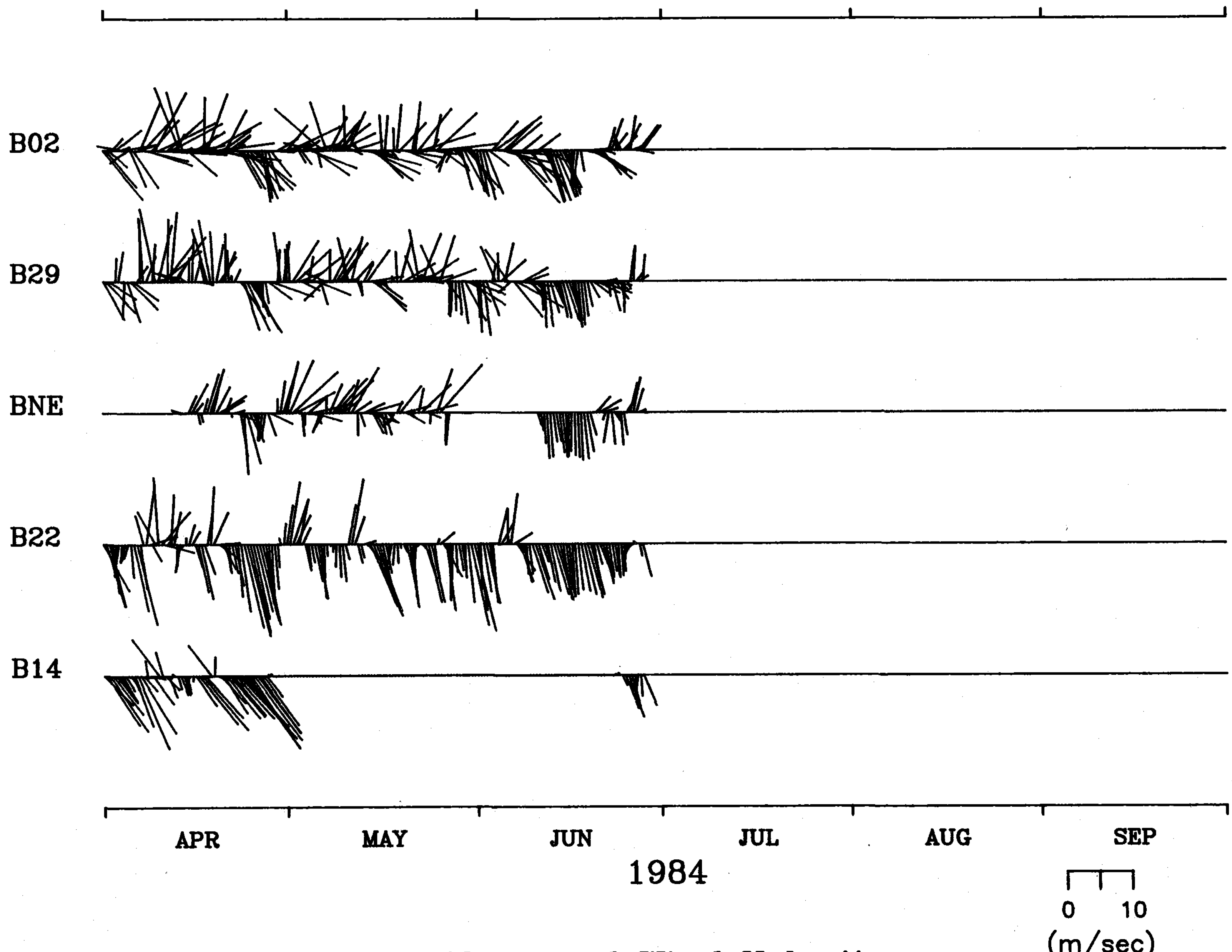

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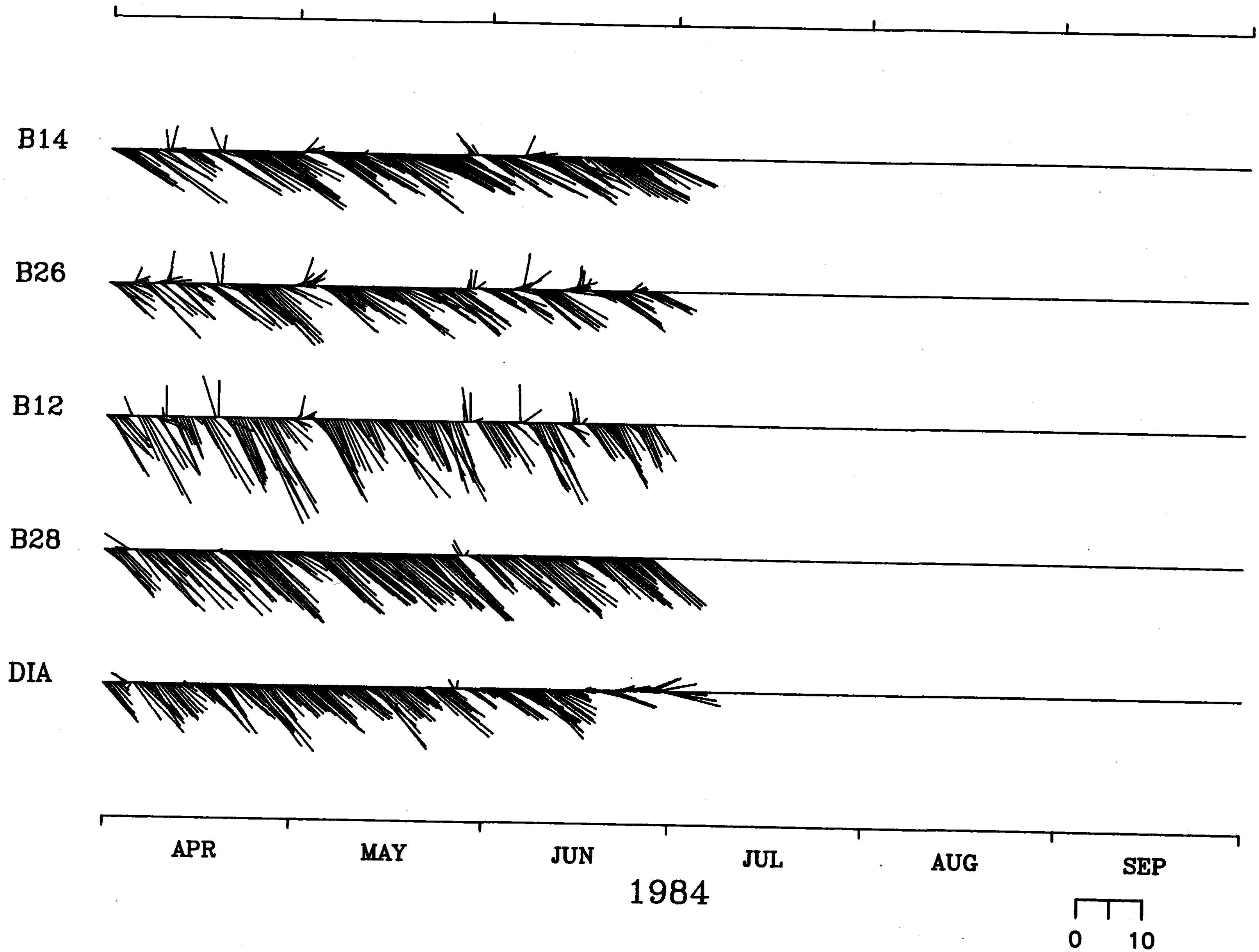

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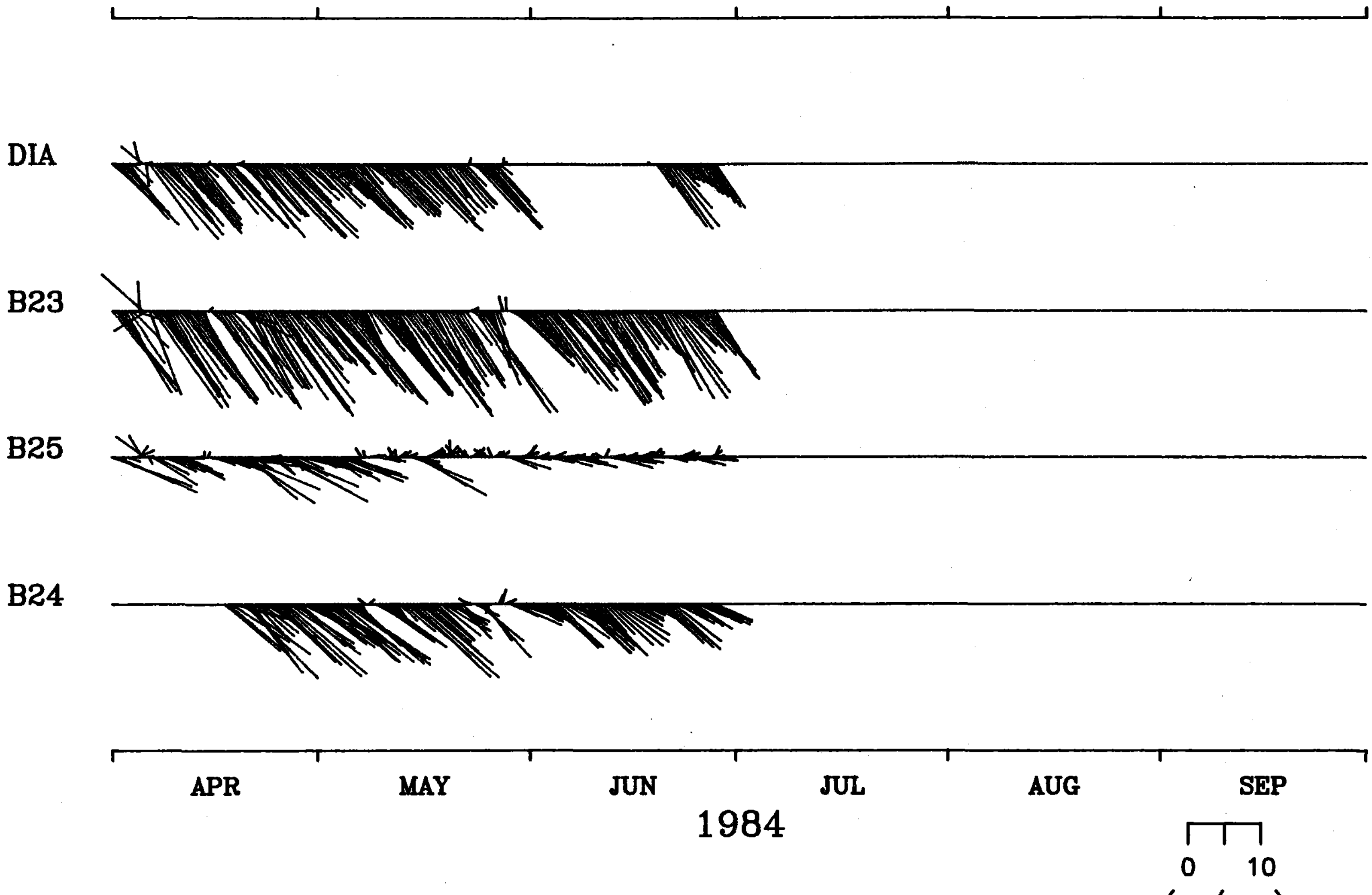
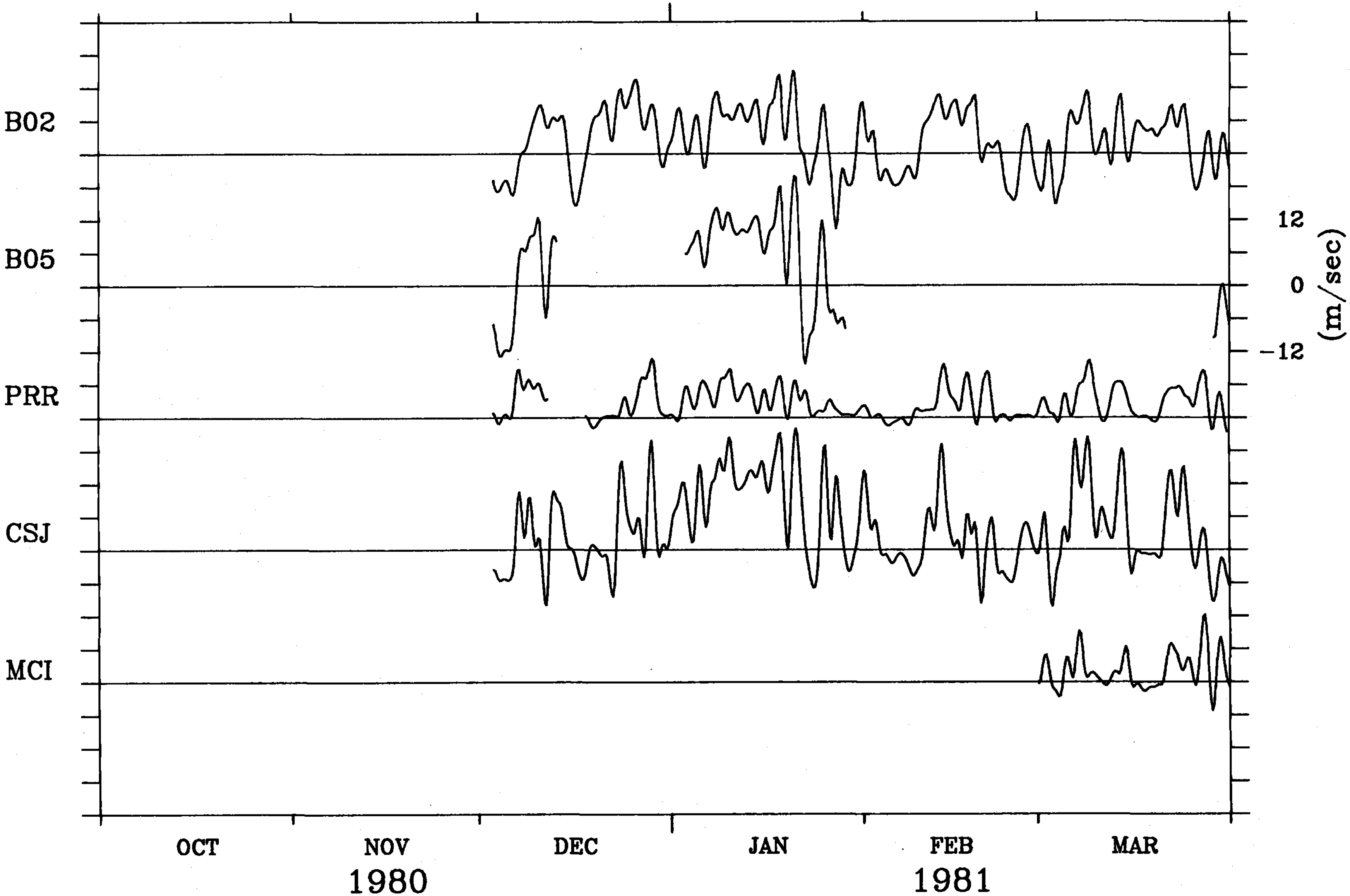
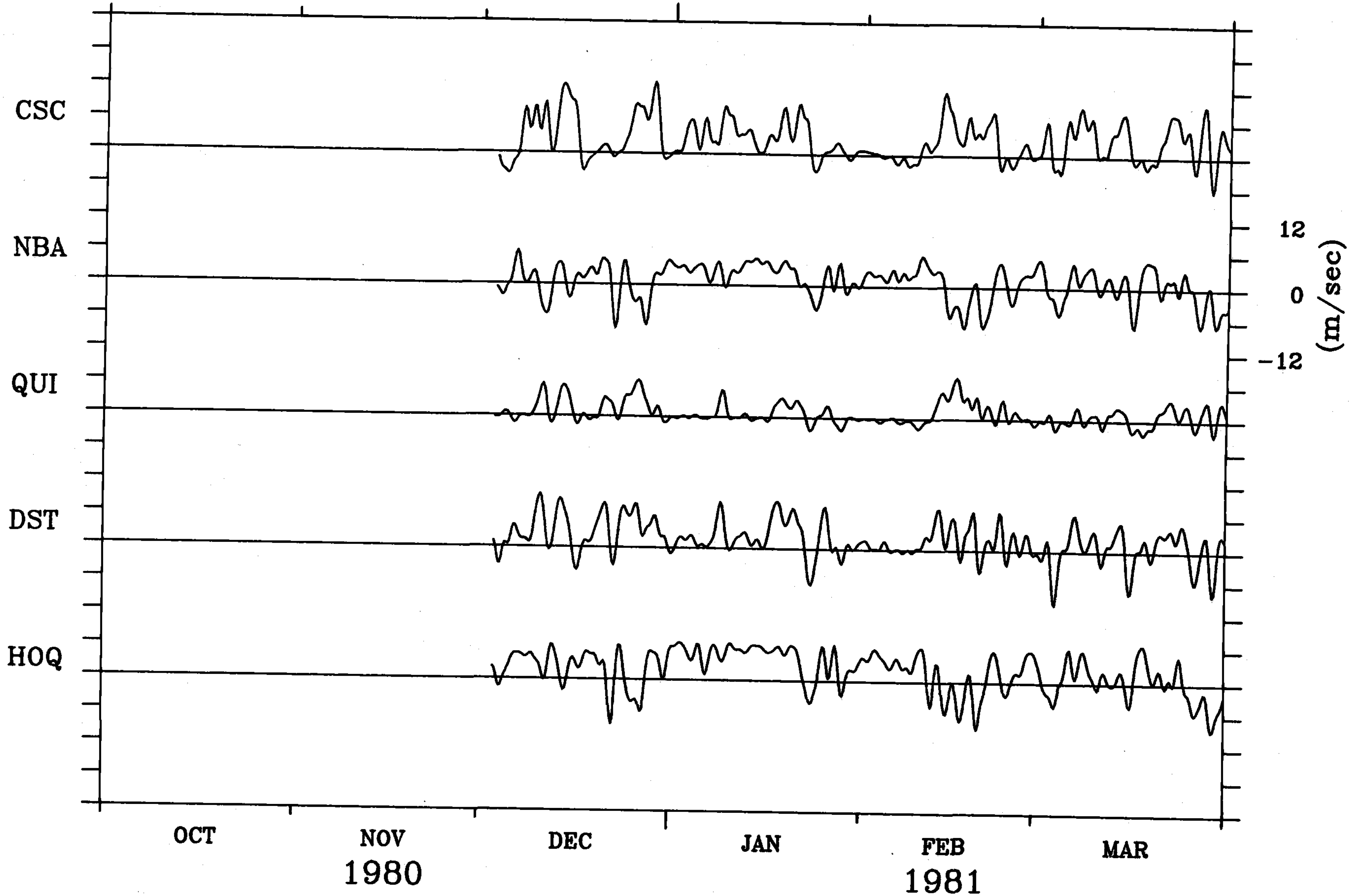


Measured Wind Velocity

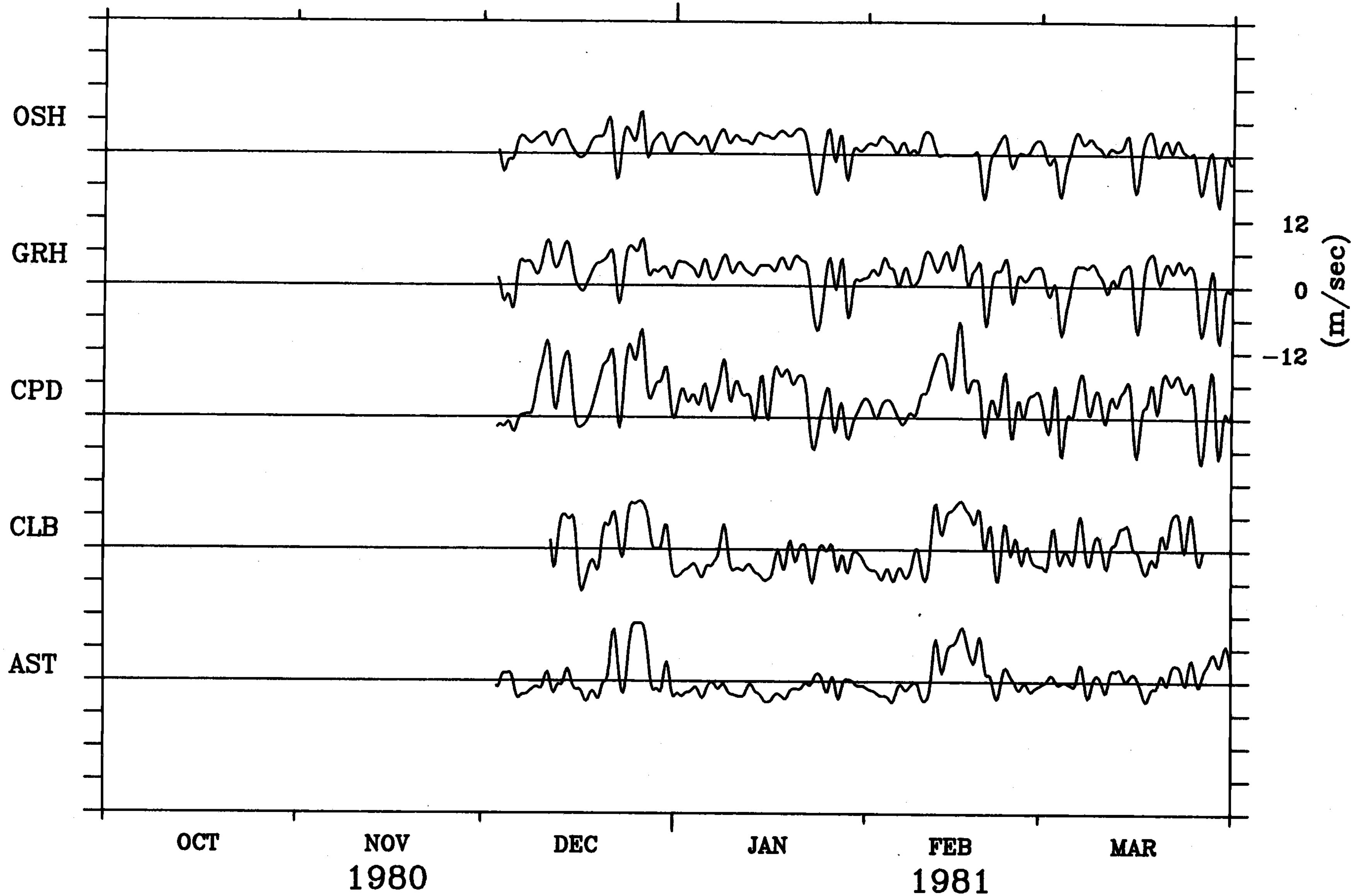
5. LLP Measured Wind Major Axis Component Plots.



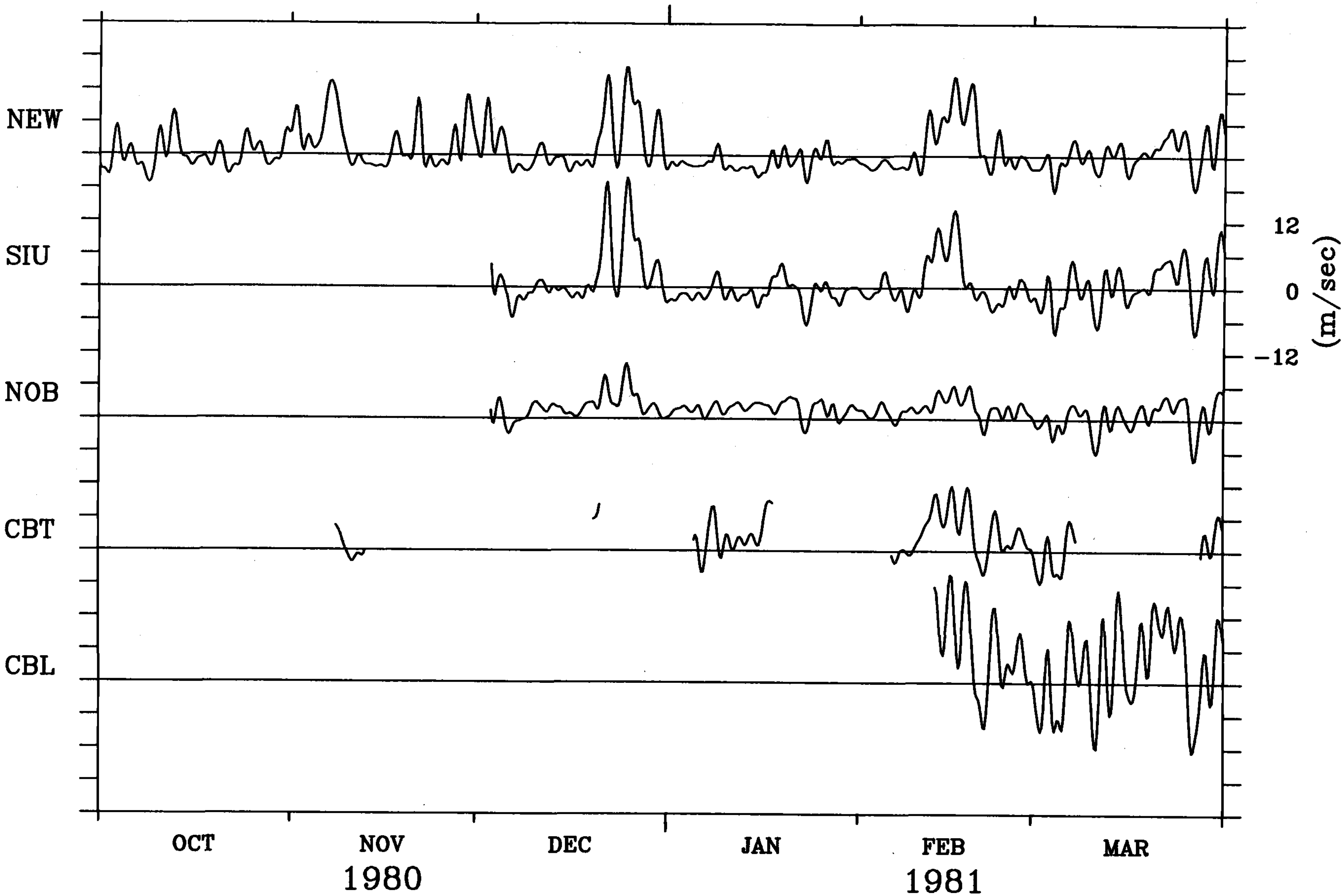
Major Axis Wind Component



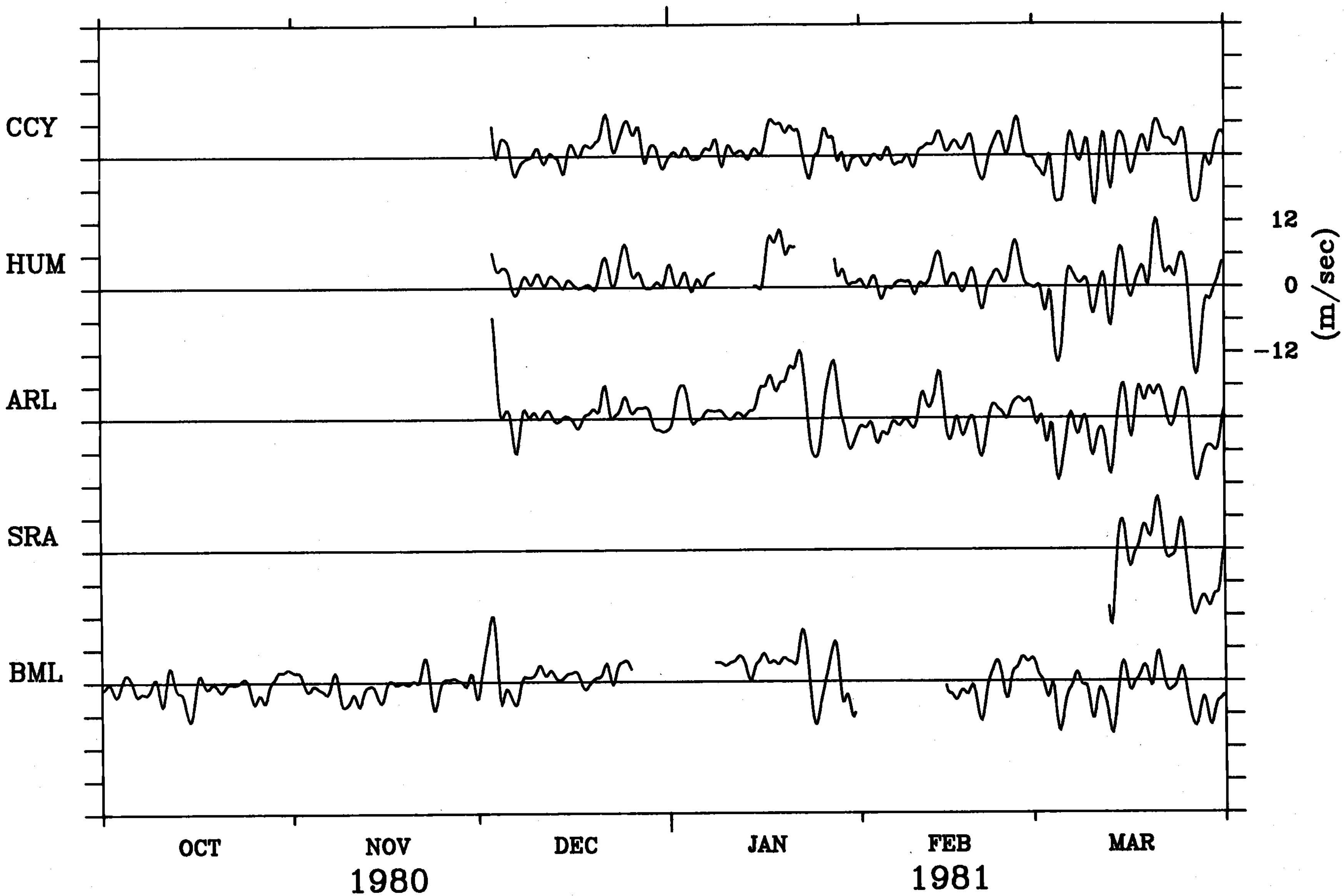
Major Axis Wind Component



Major Axis Wind Component



Major Axis Wind Component



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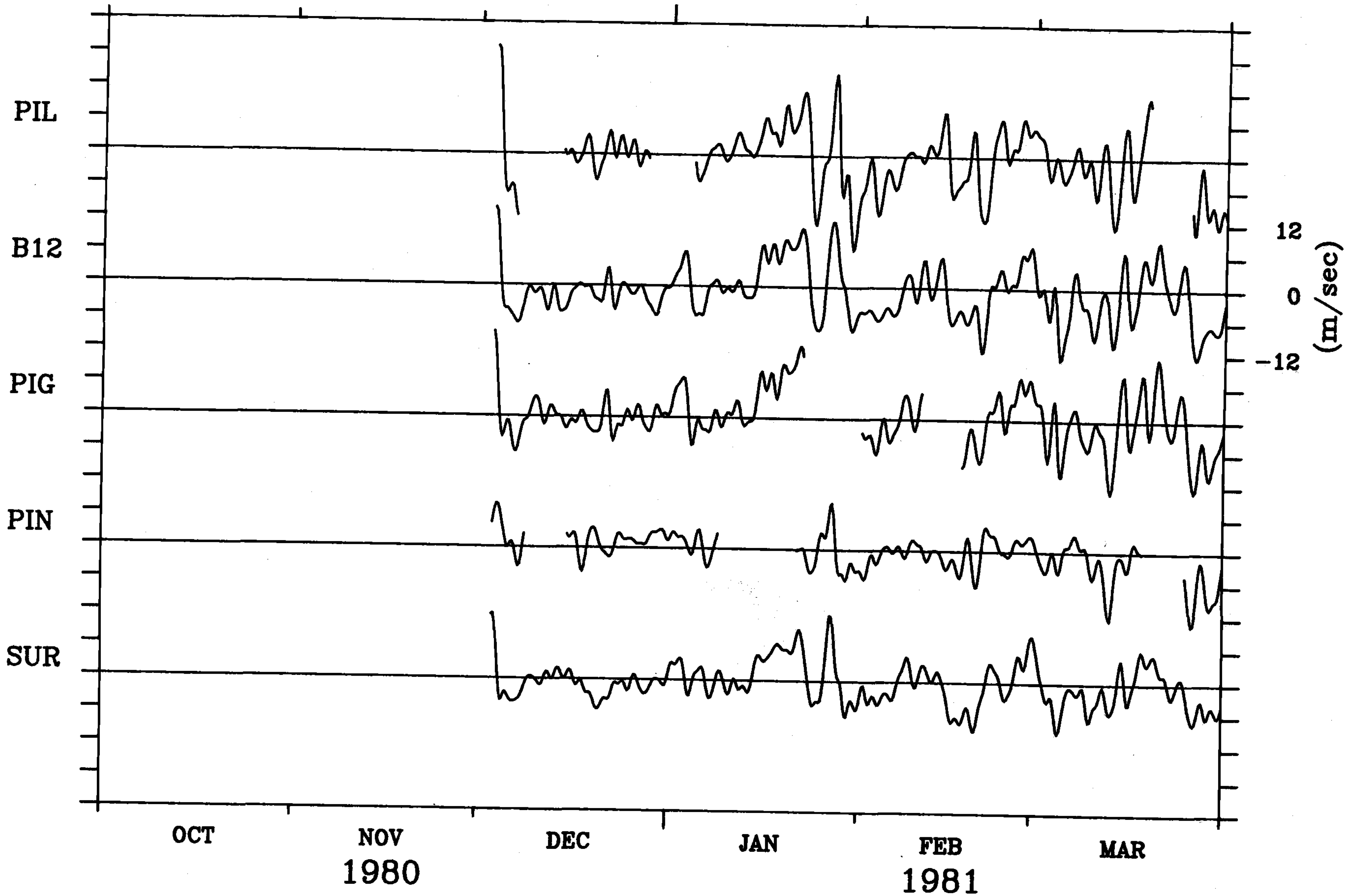

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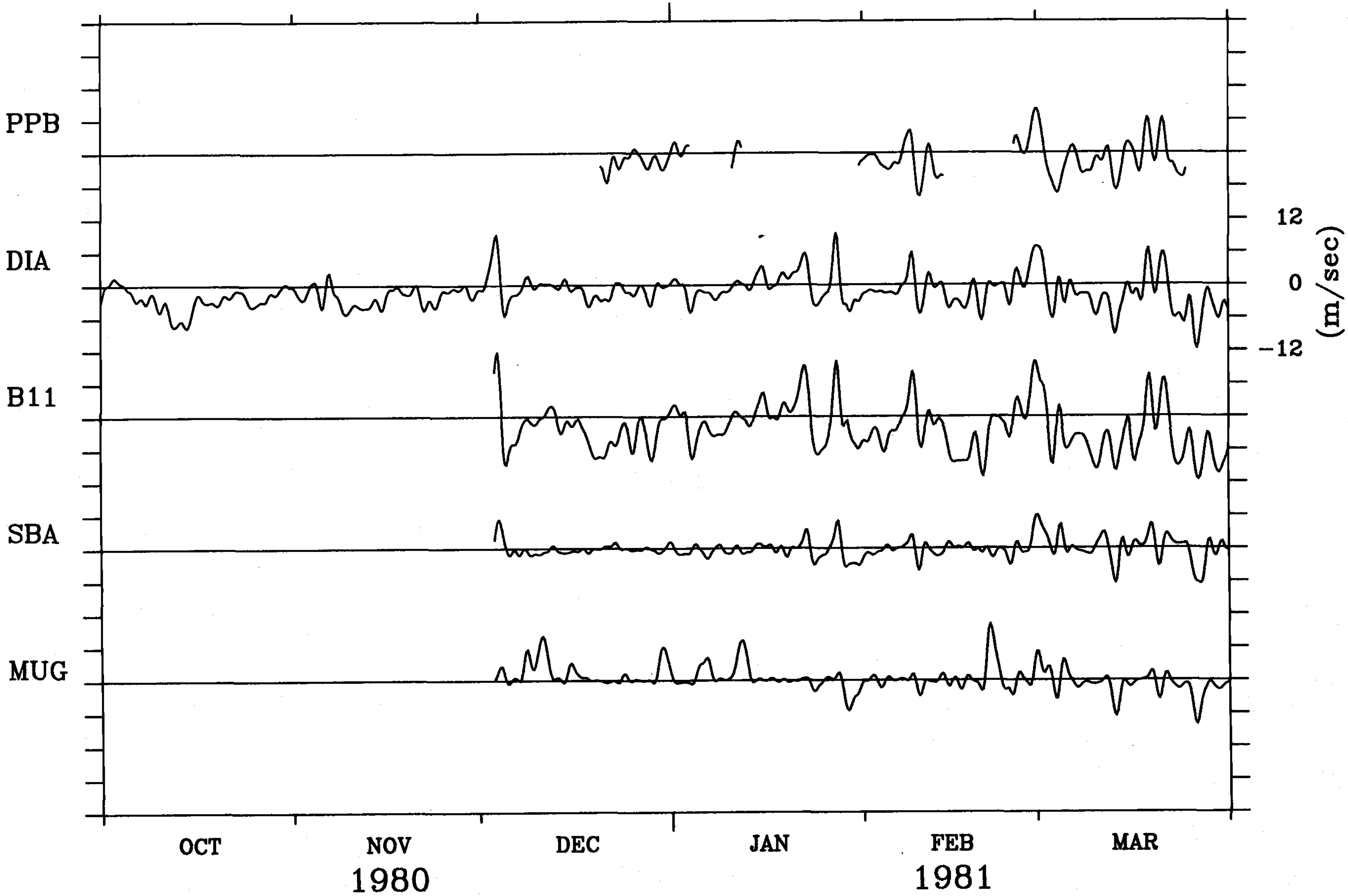

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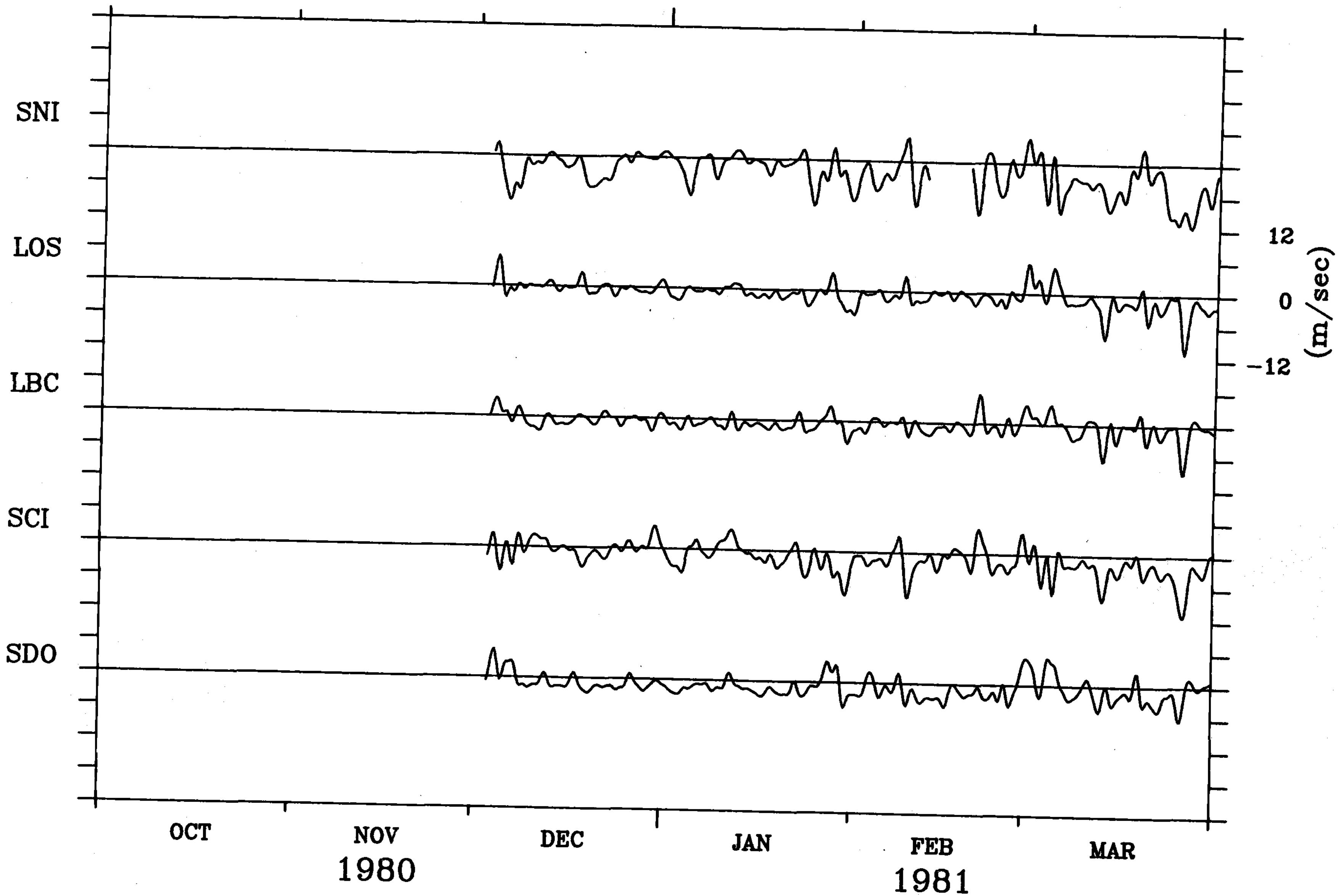

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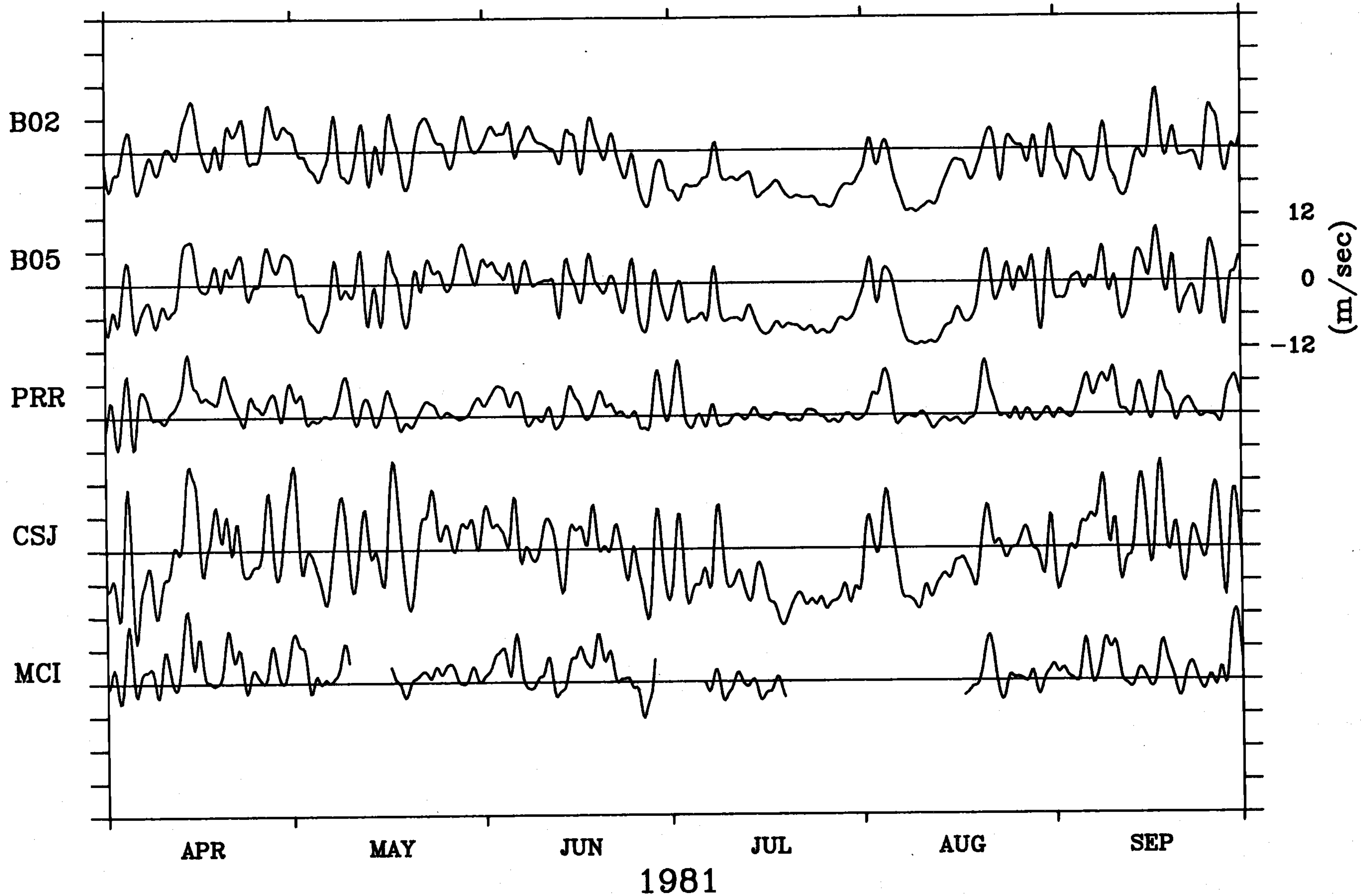

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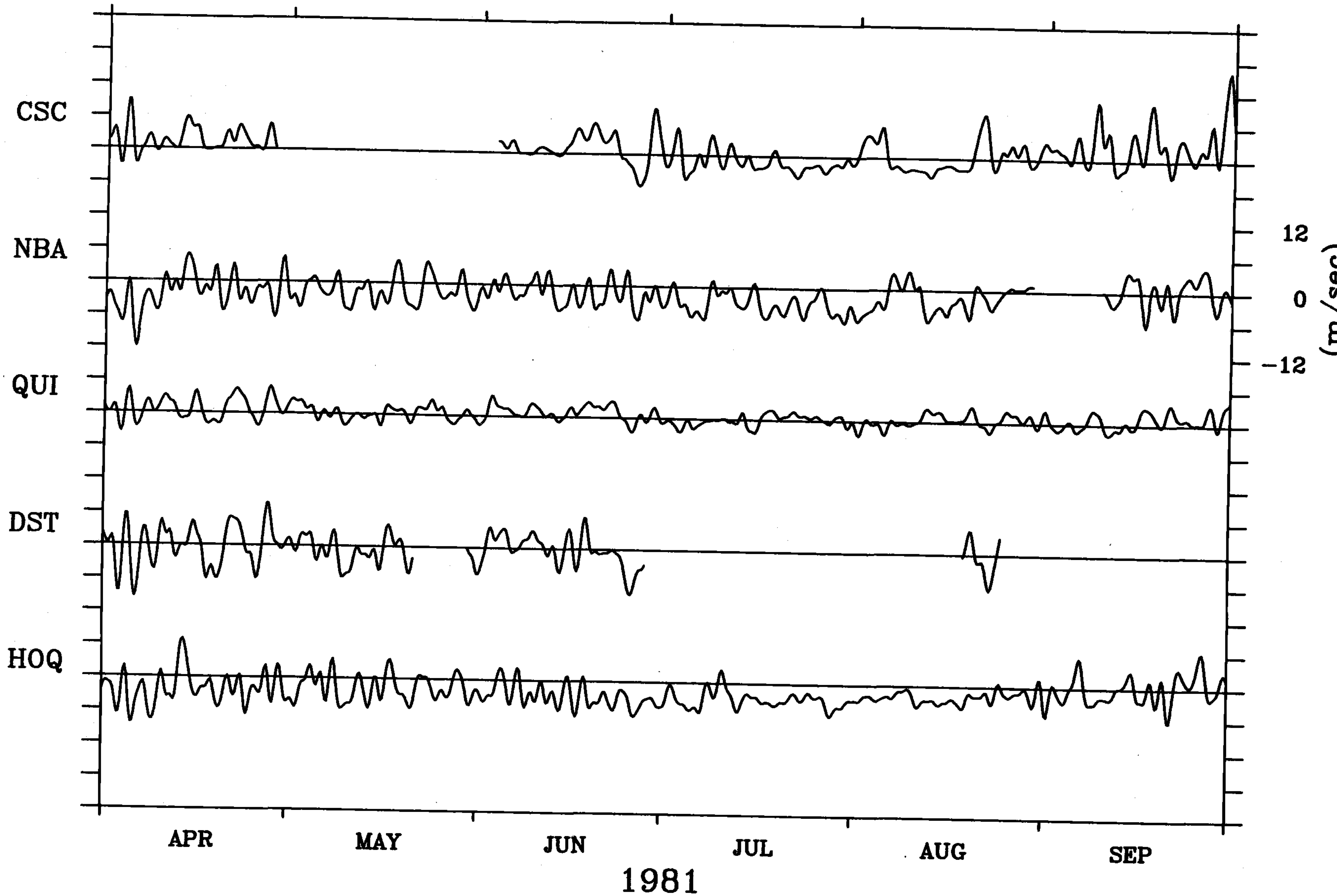

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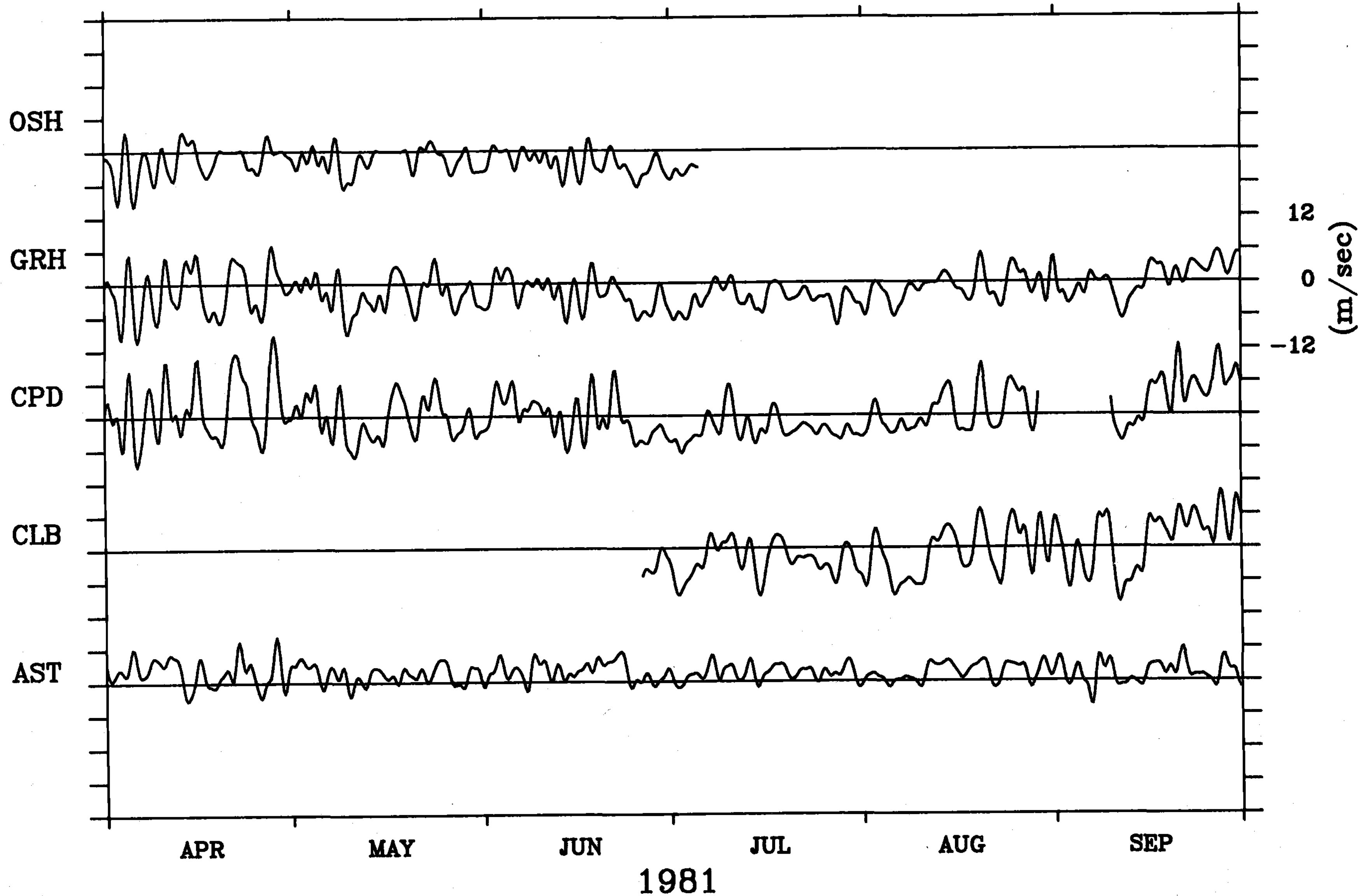

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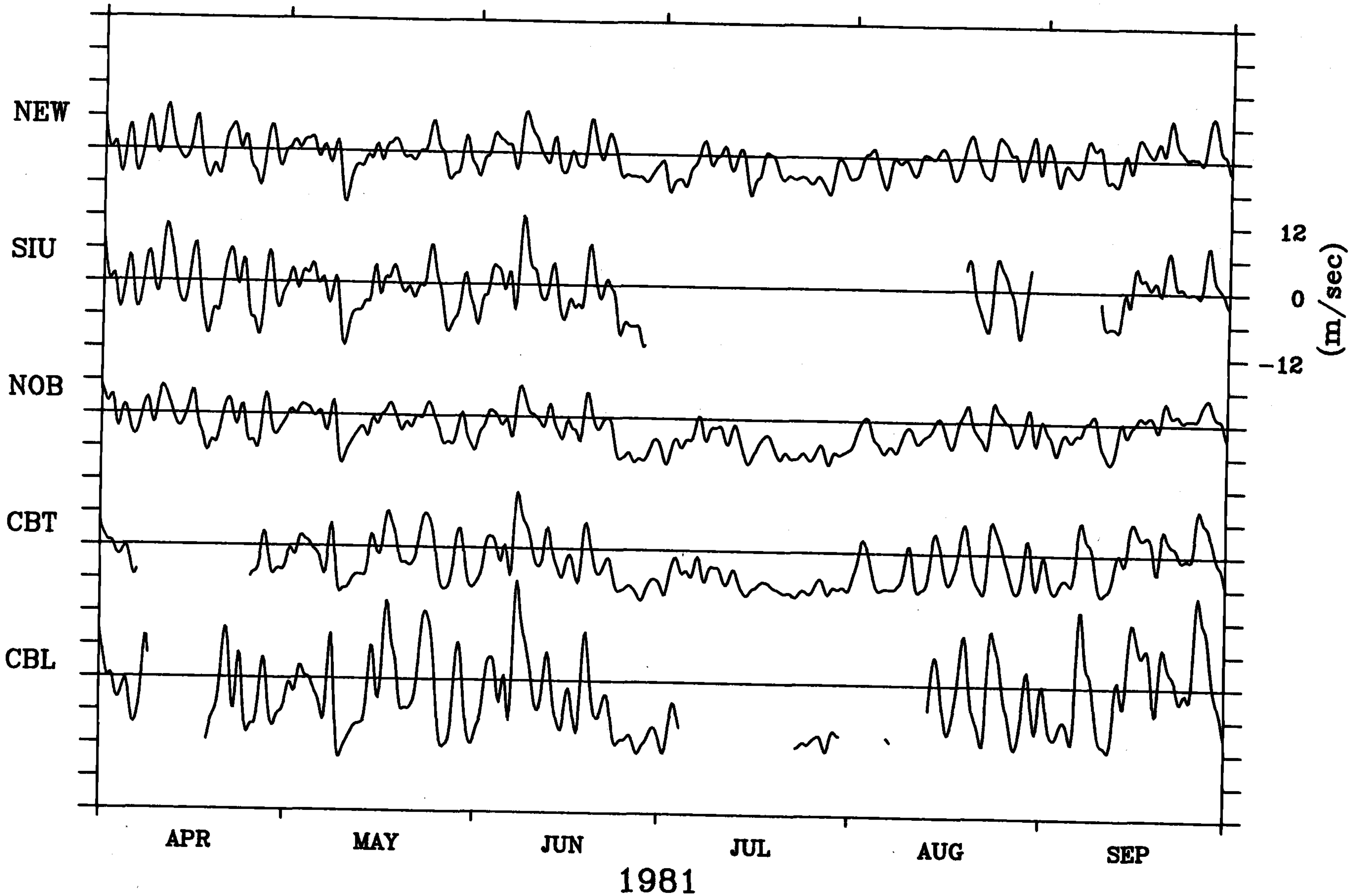

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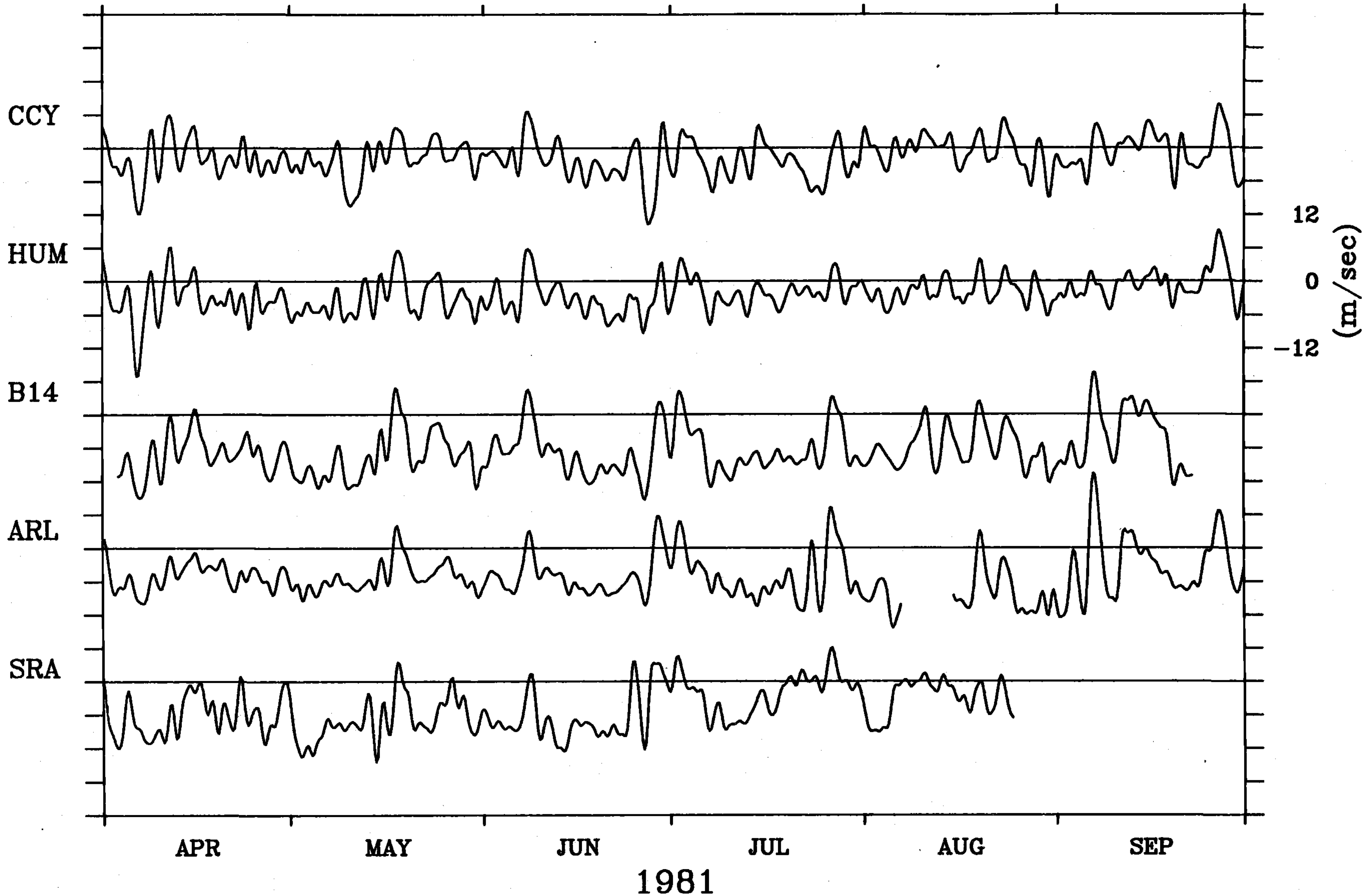

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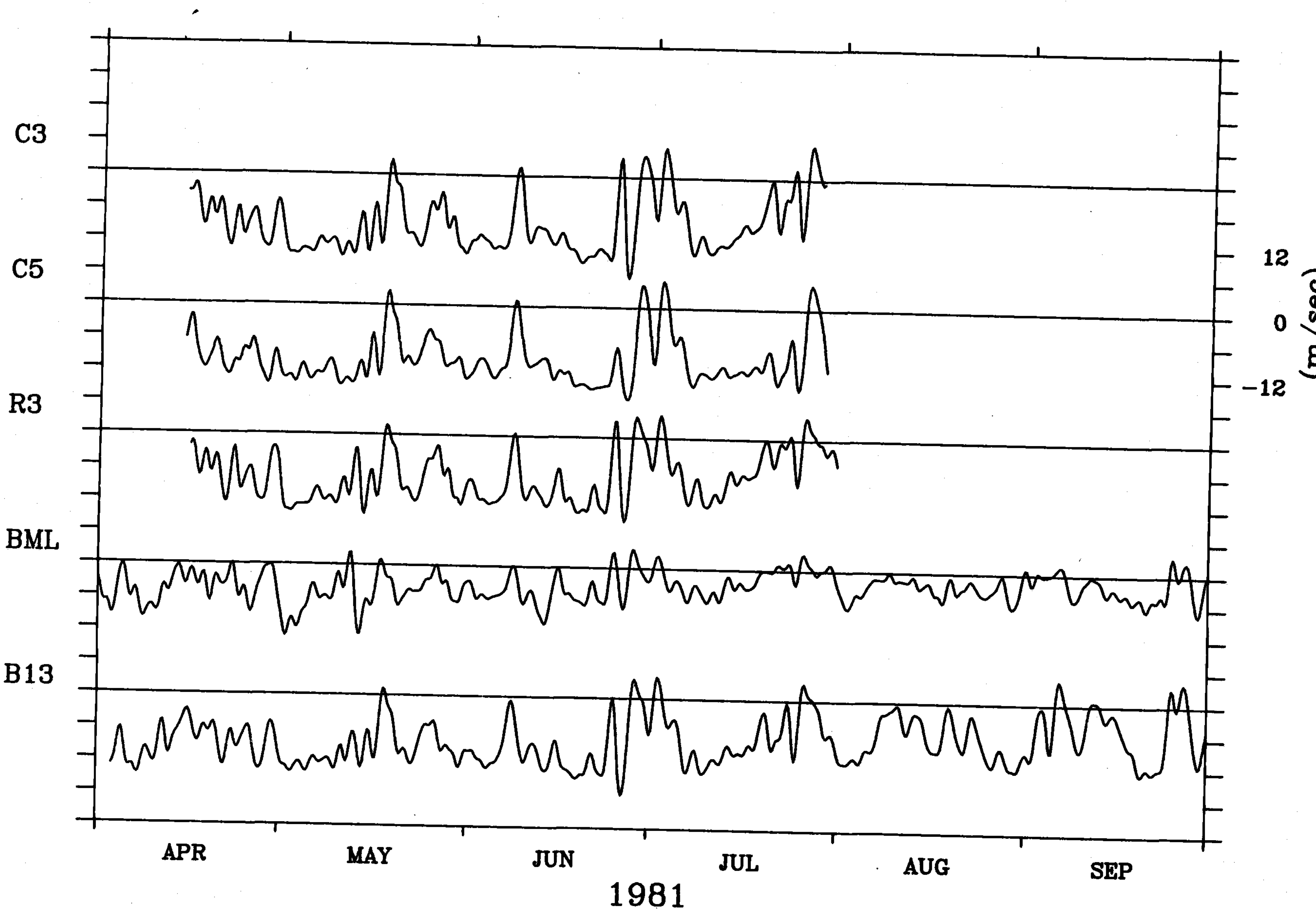

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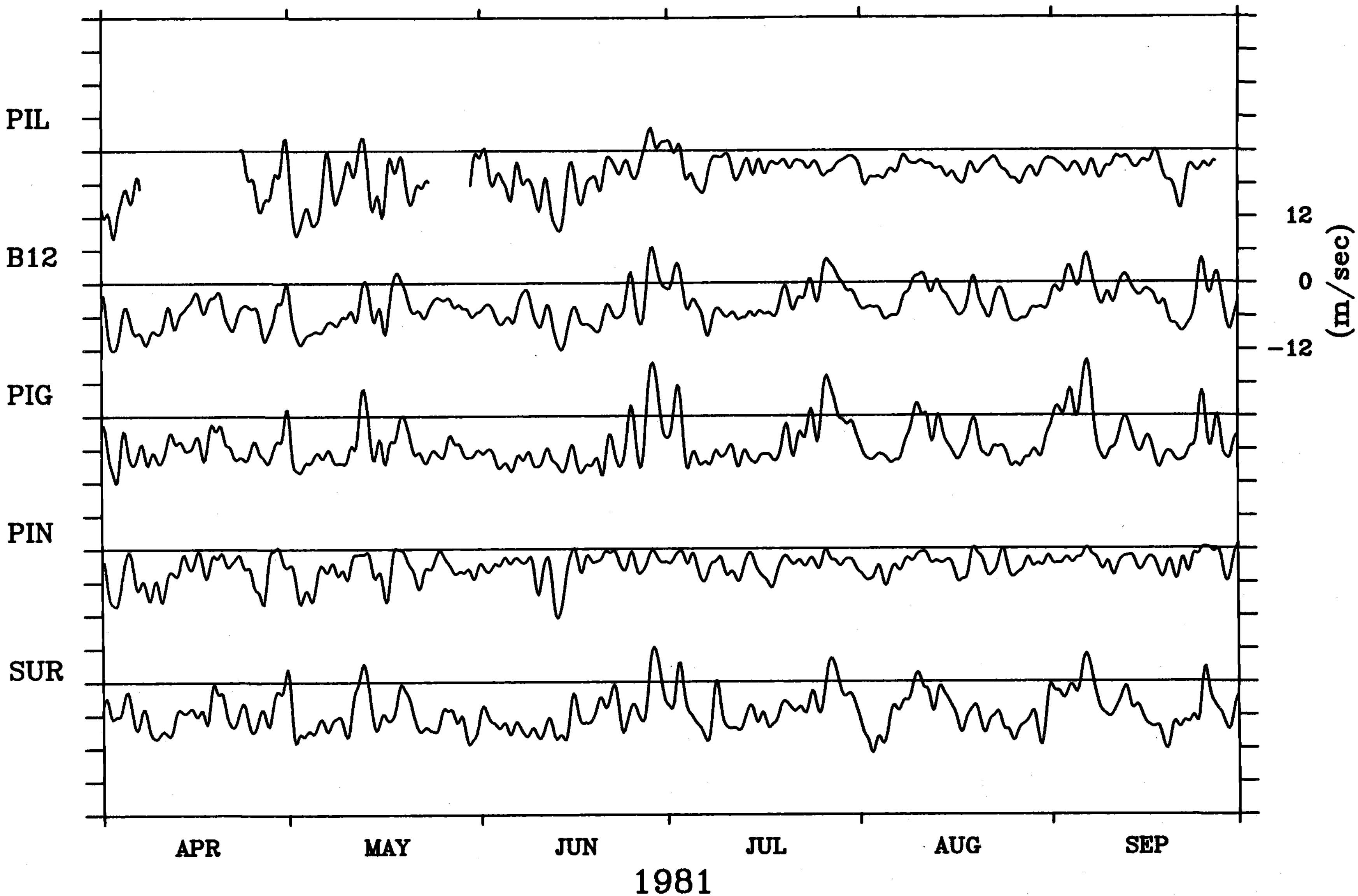

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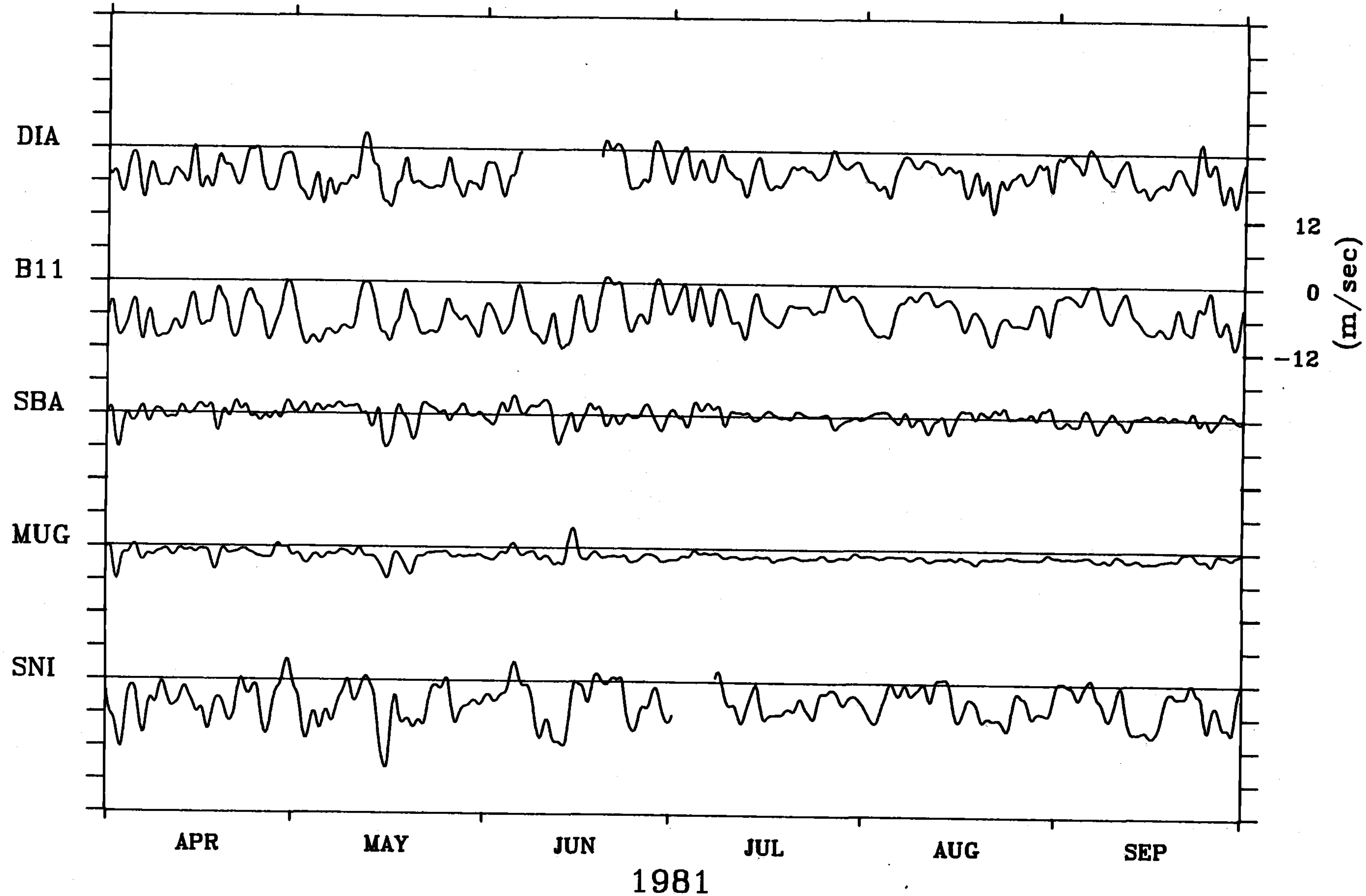

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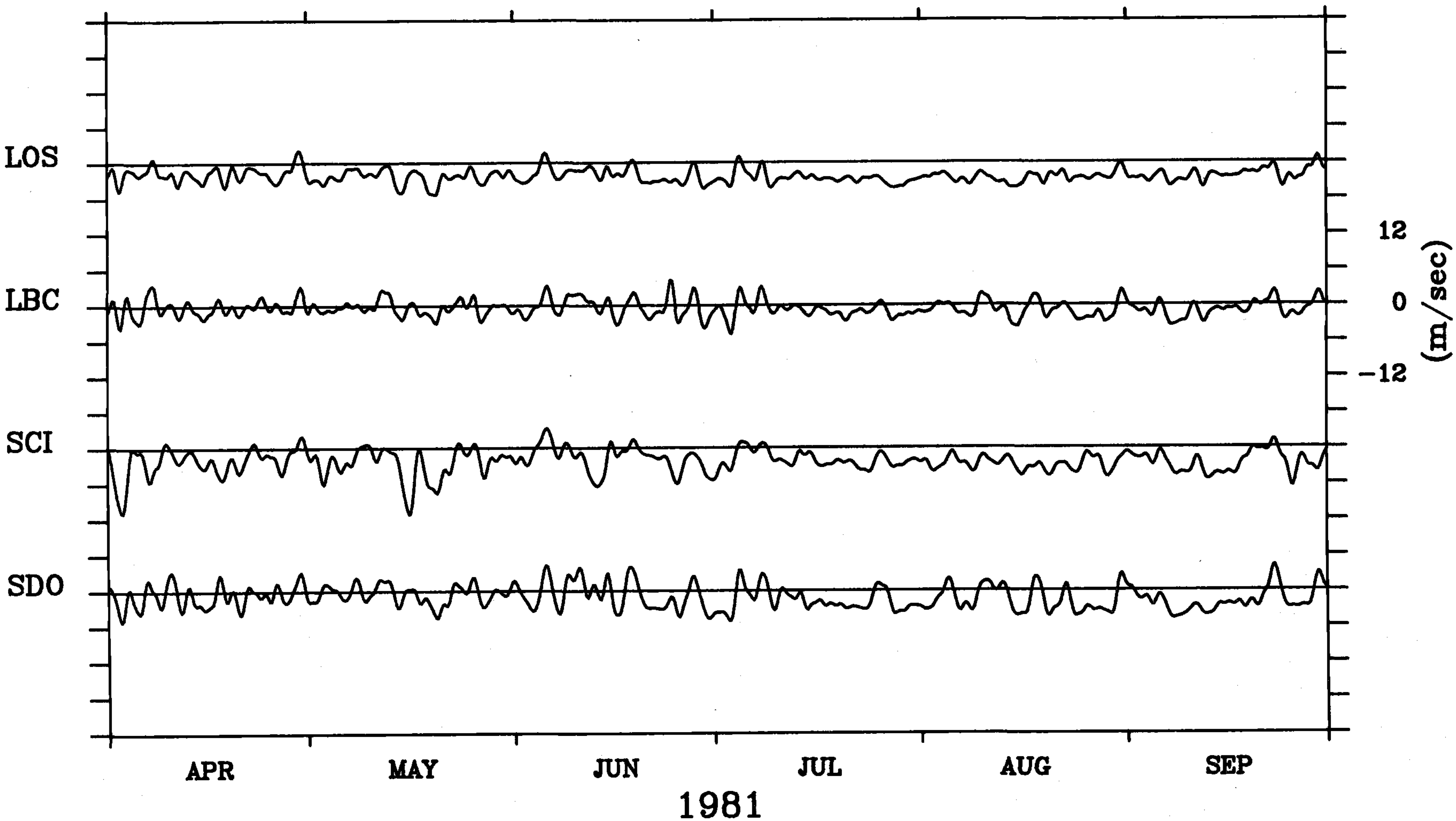

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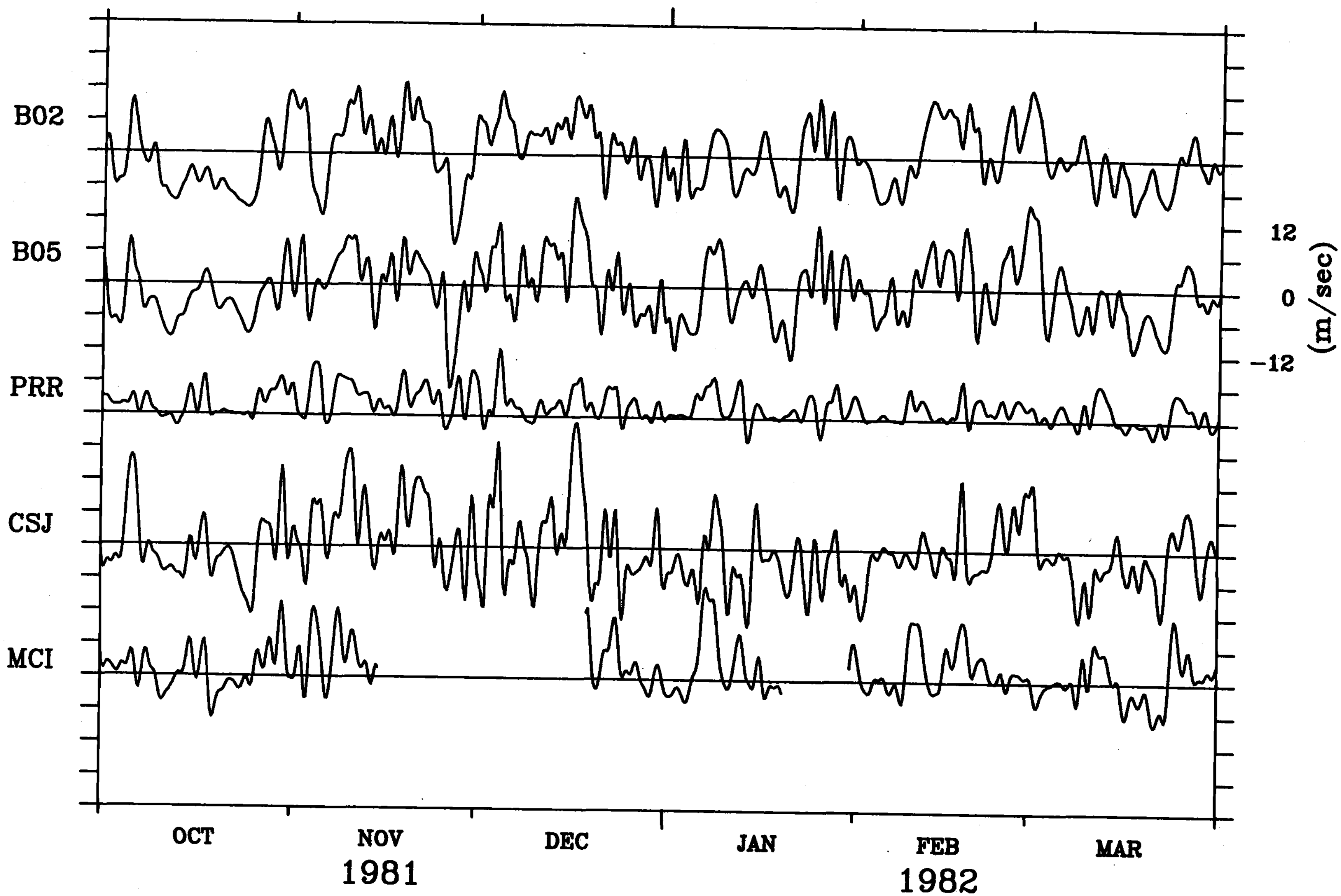

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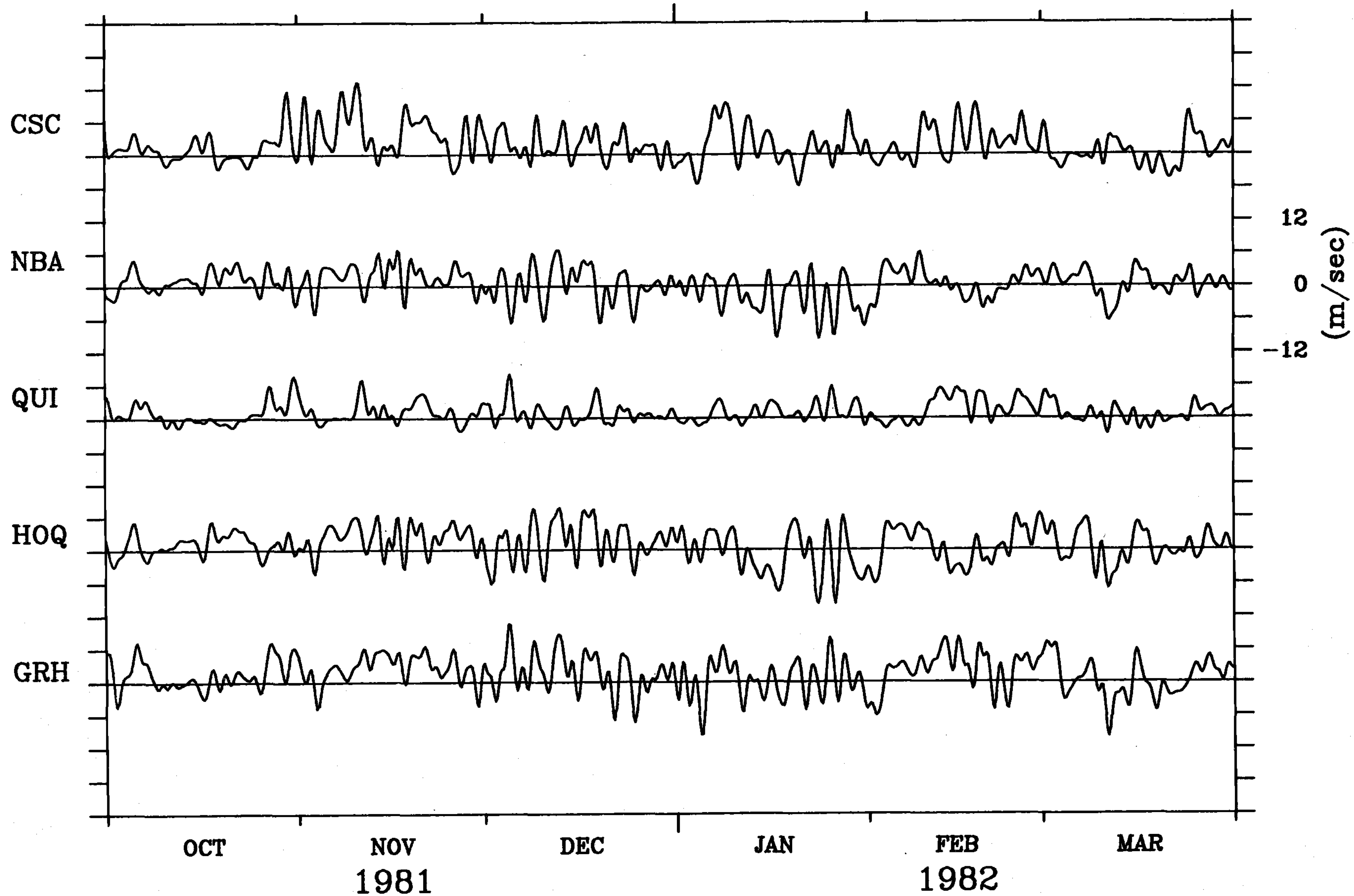

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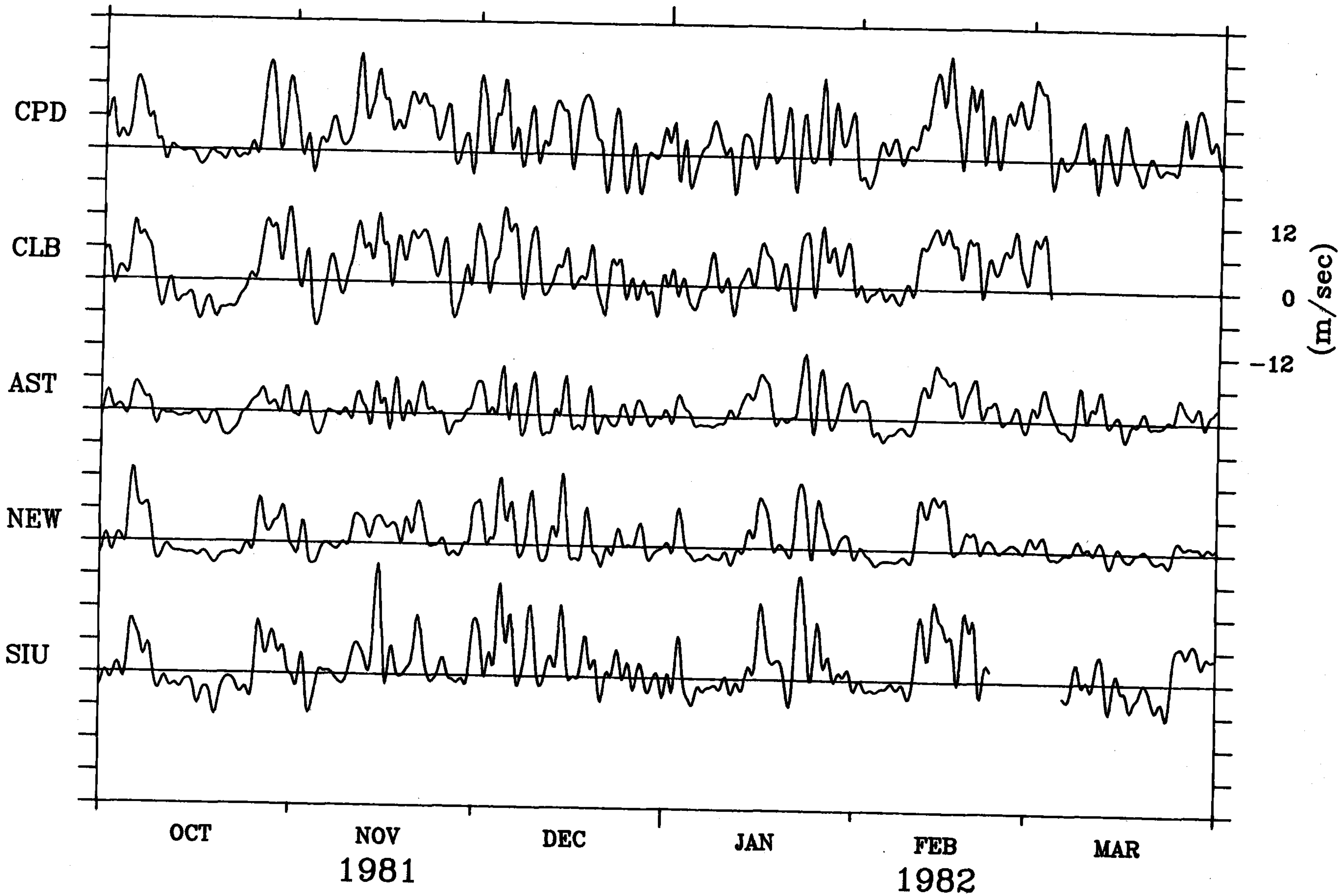

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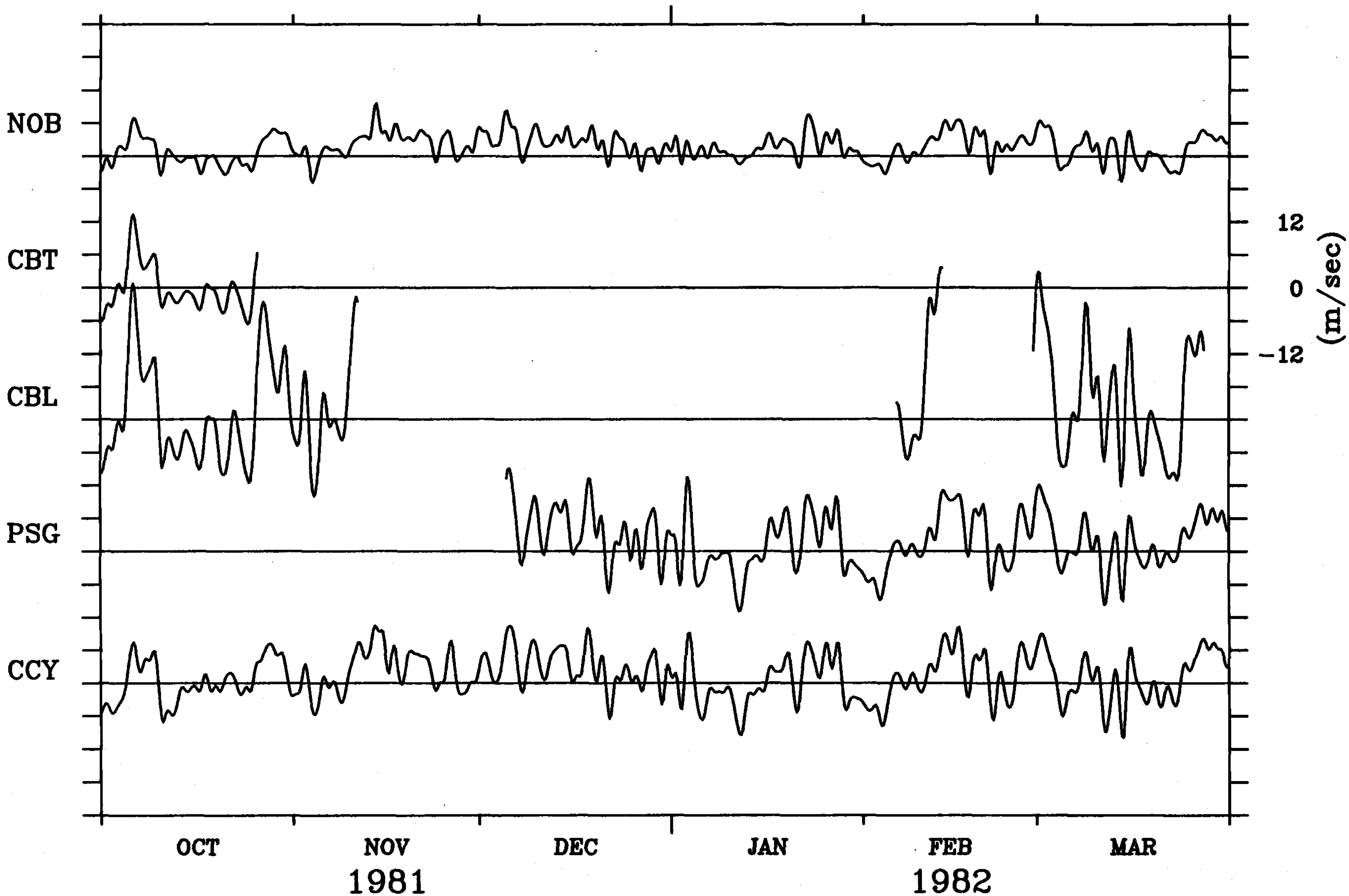

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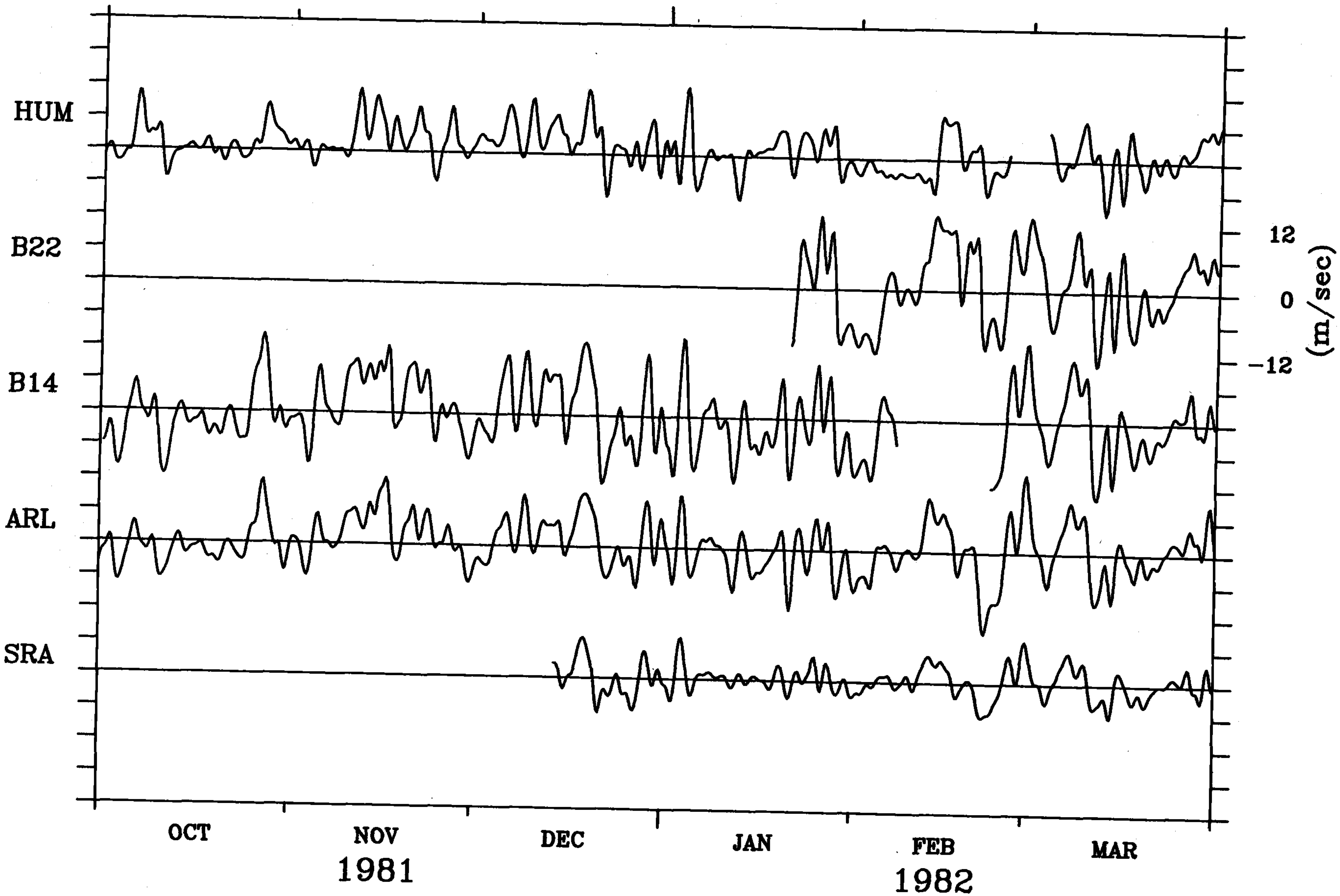

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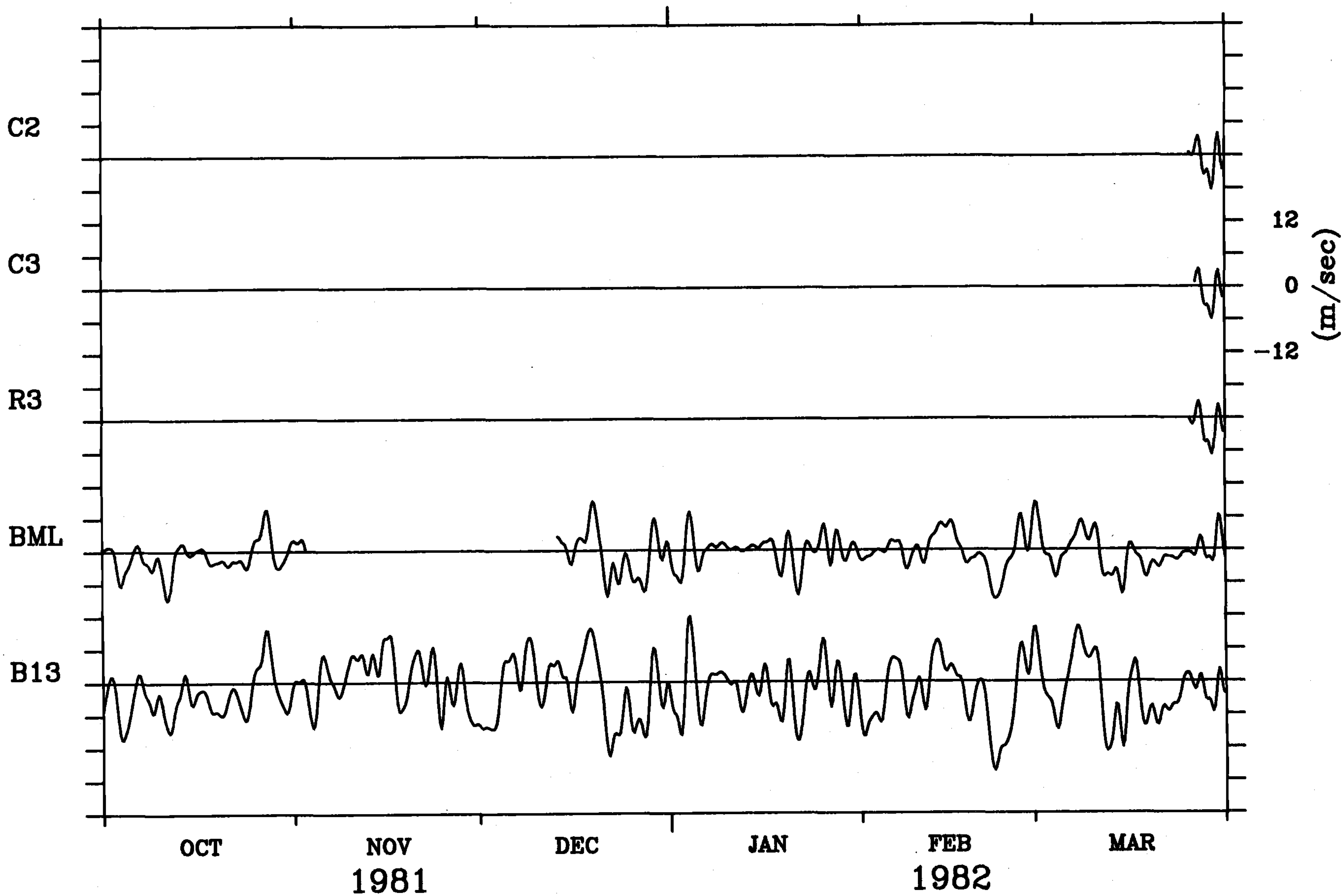
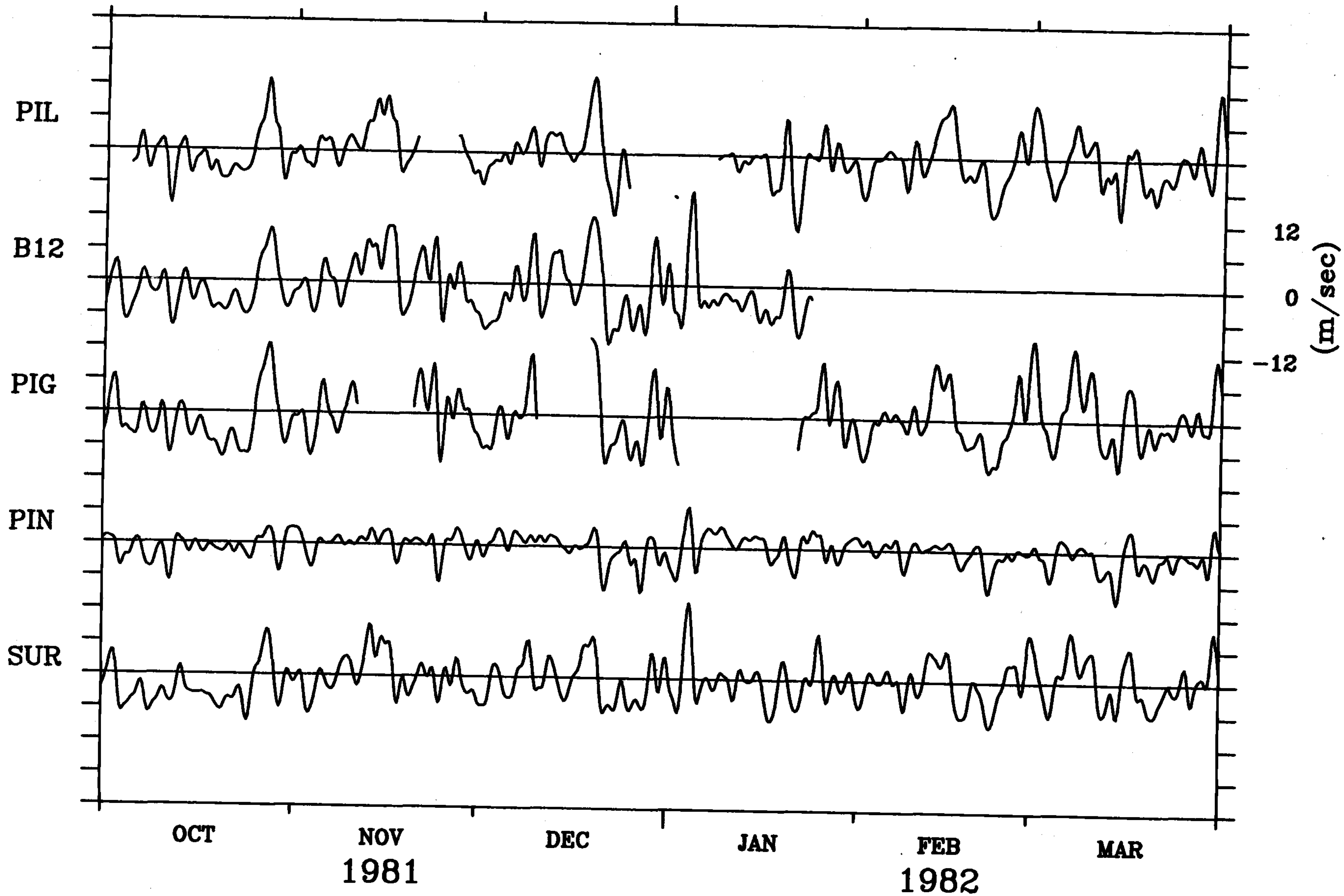


Major Axis Wind Component

5.25



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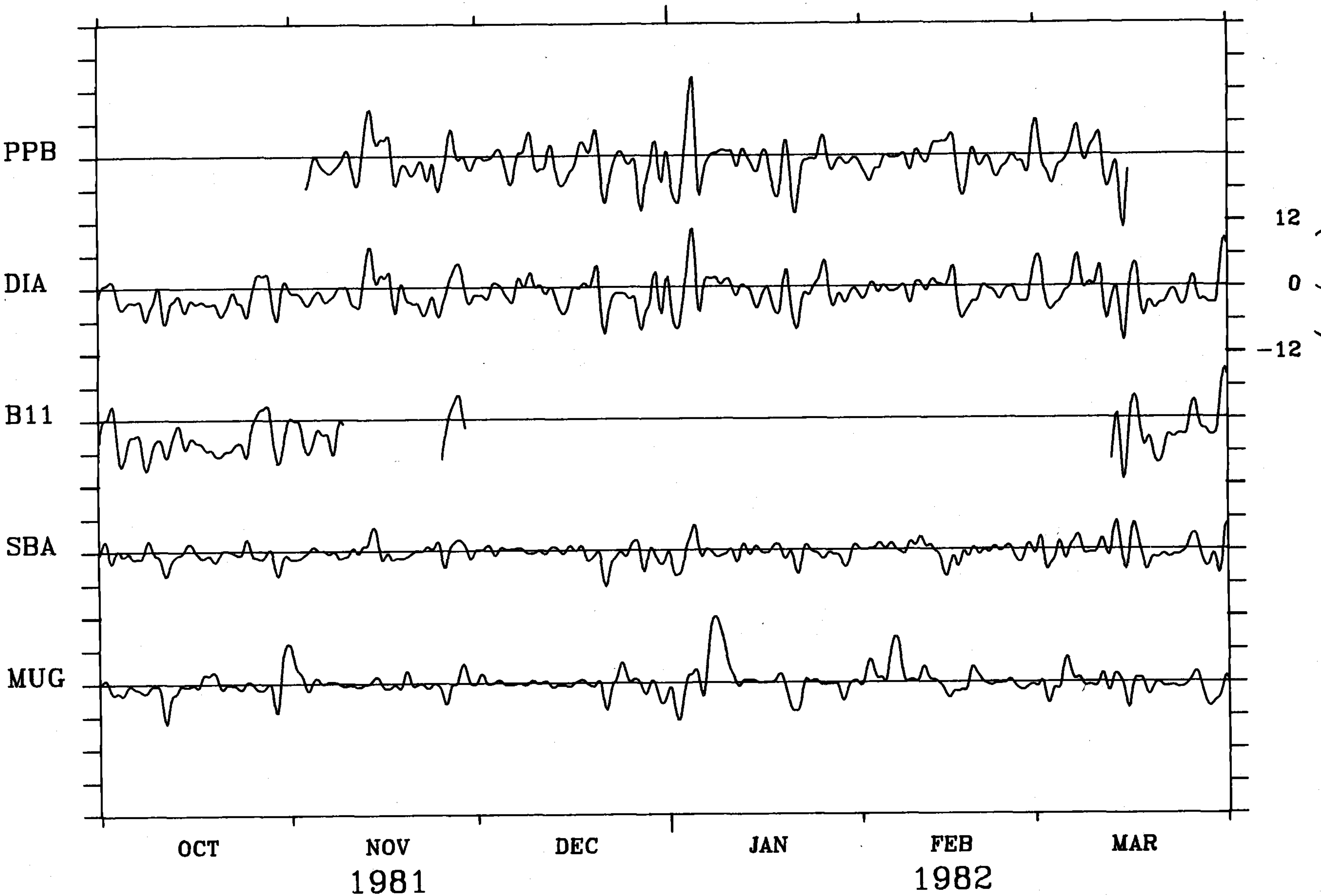

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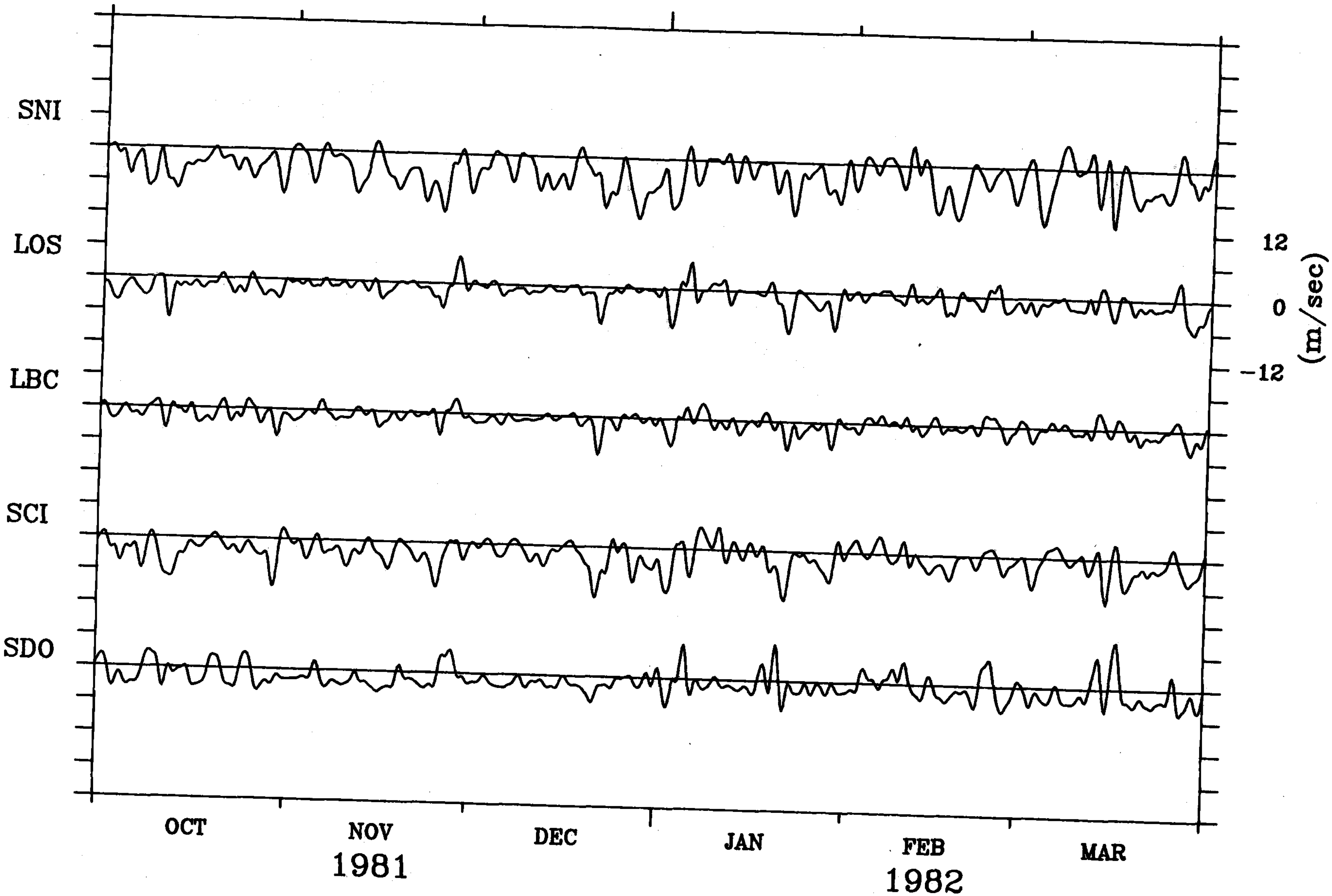

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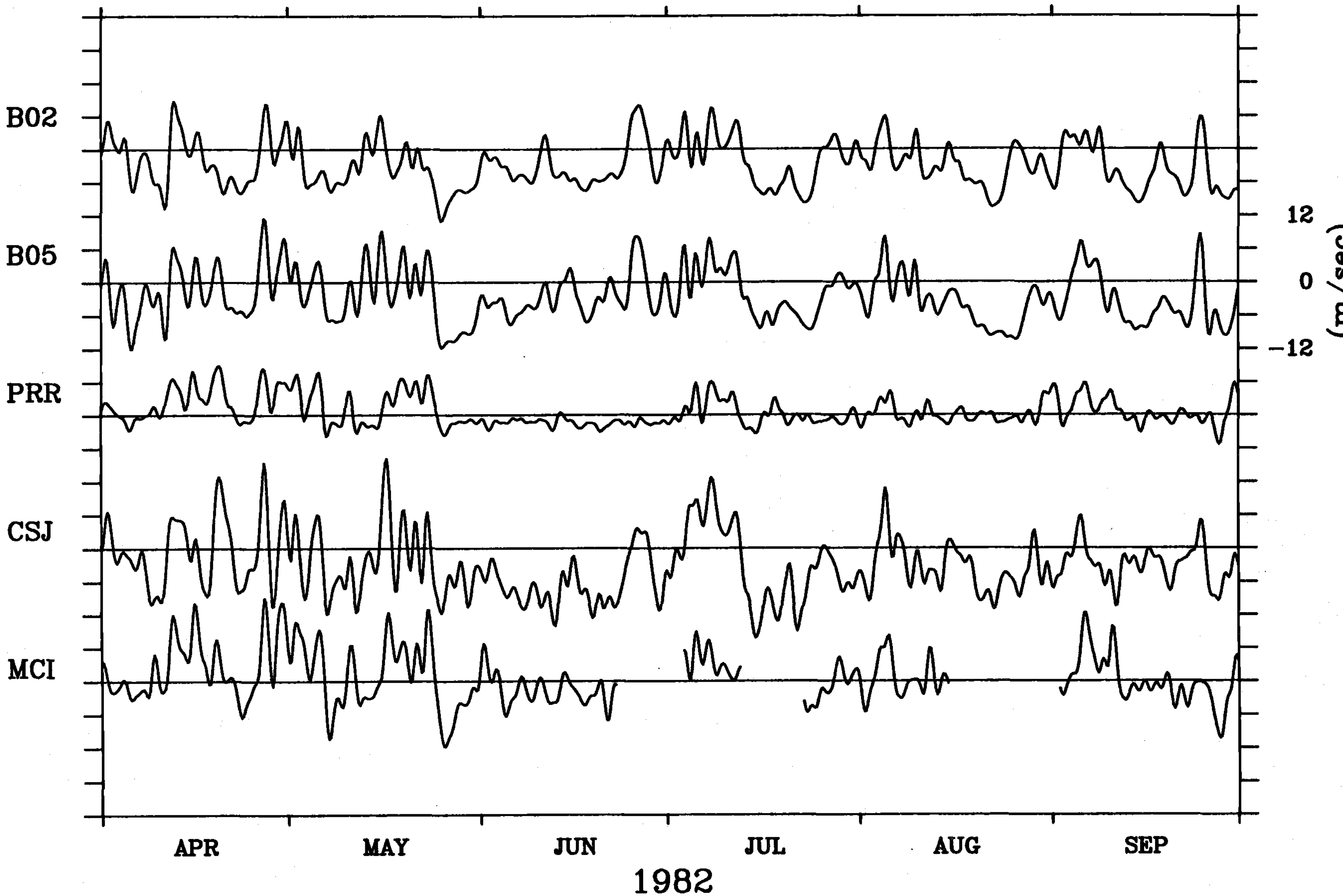

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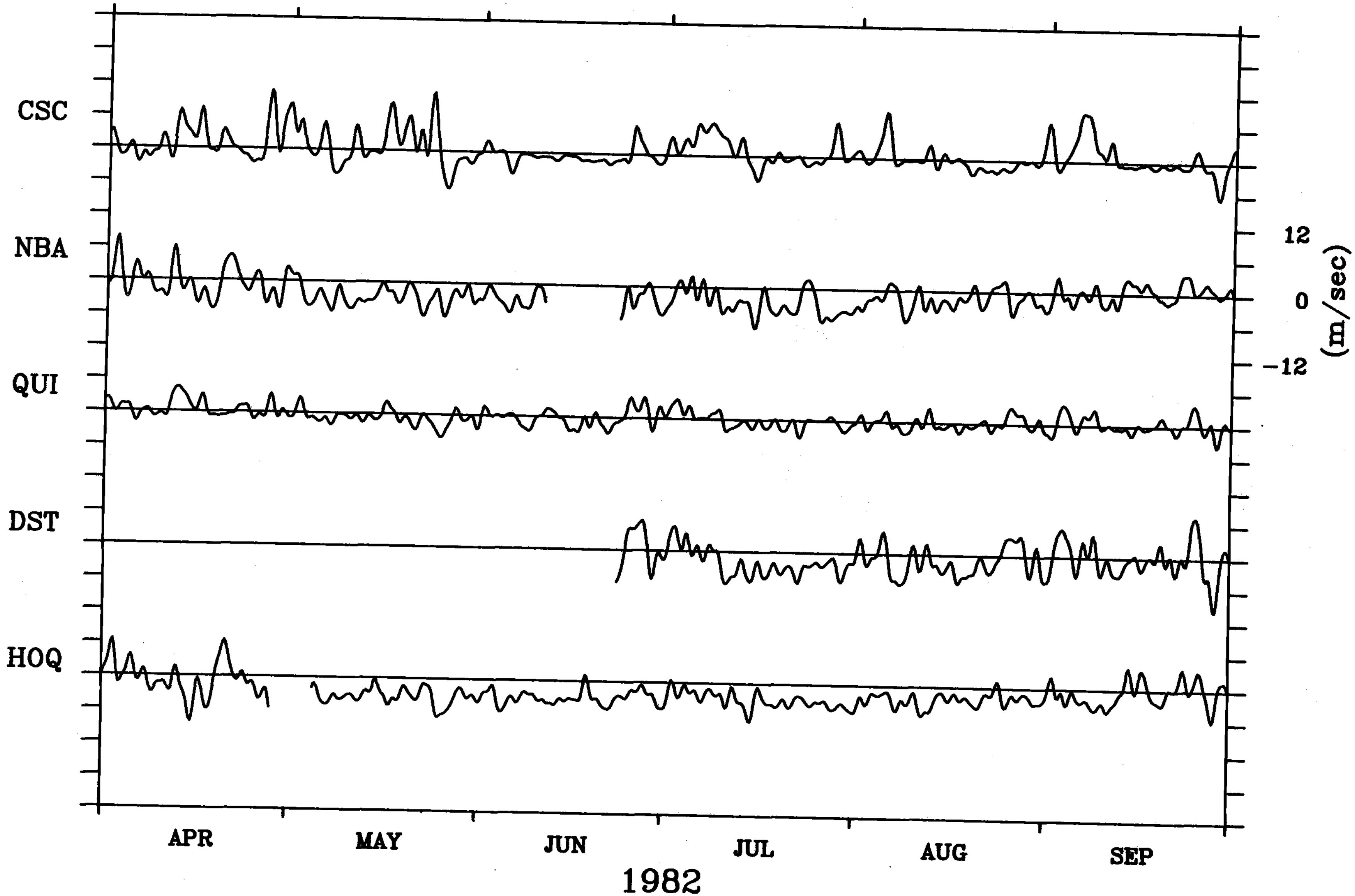

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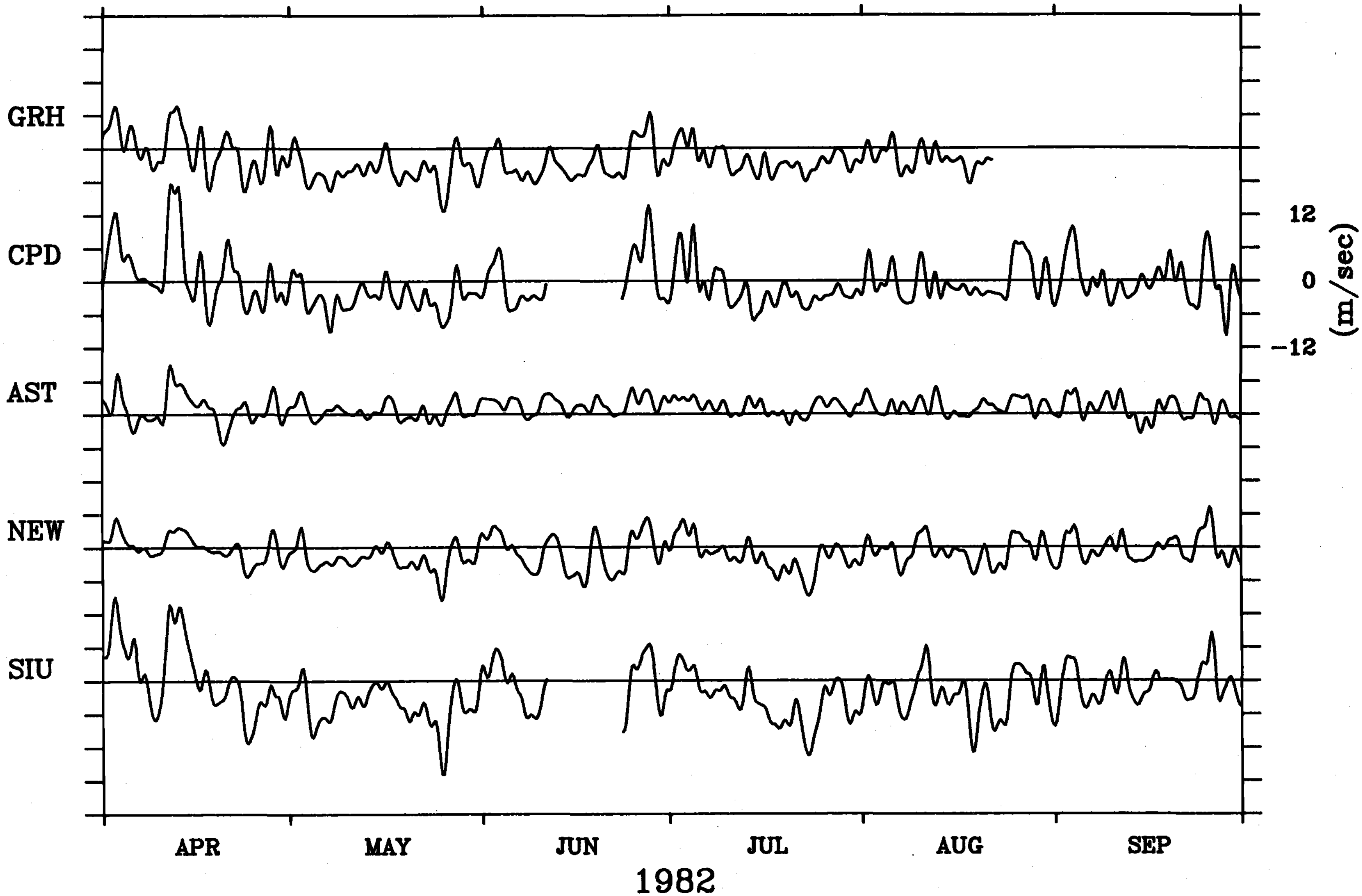

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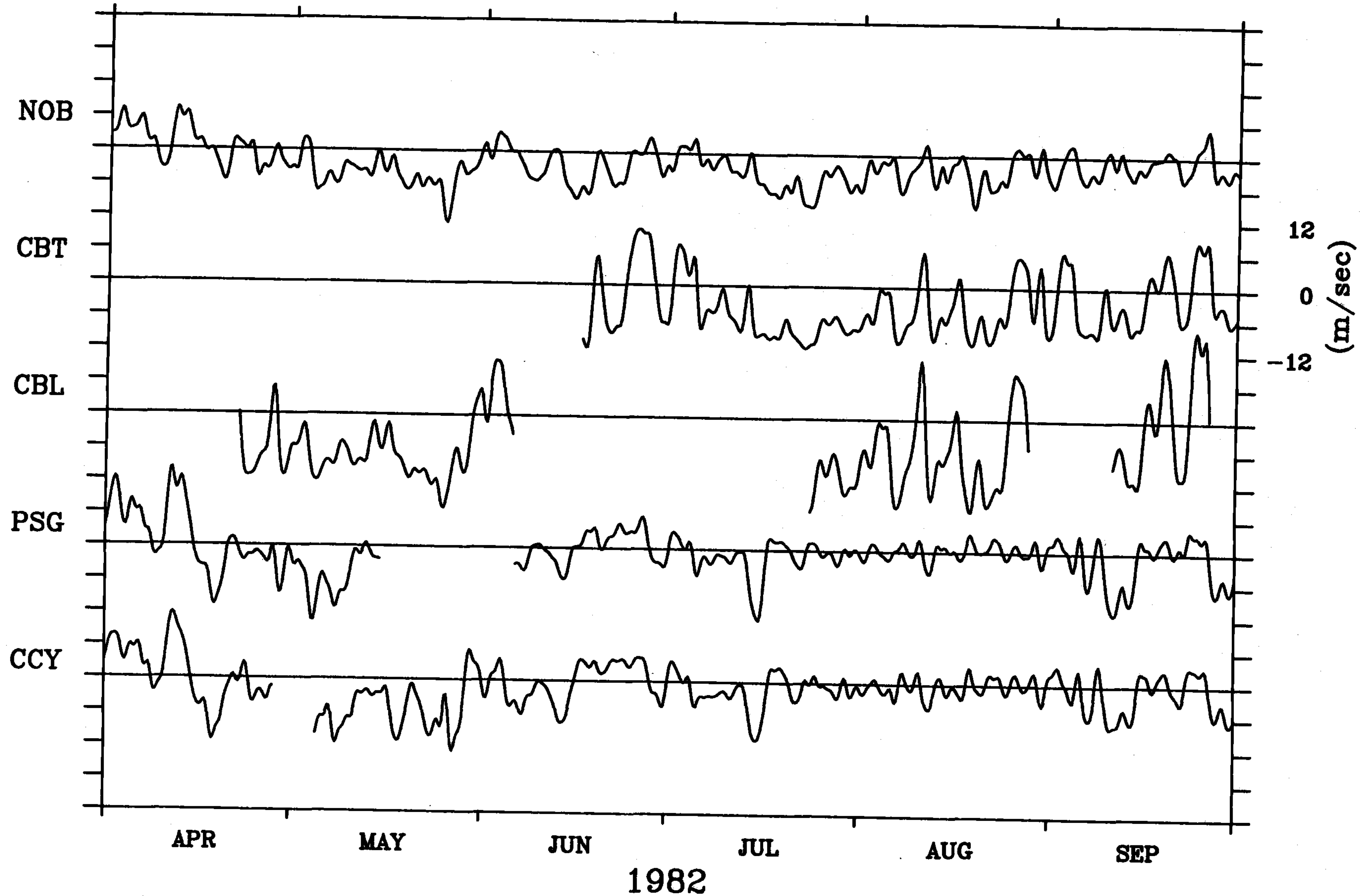

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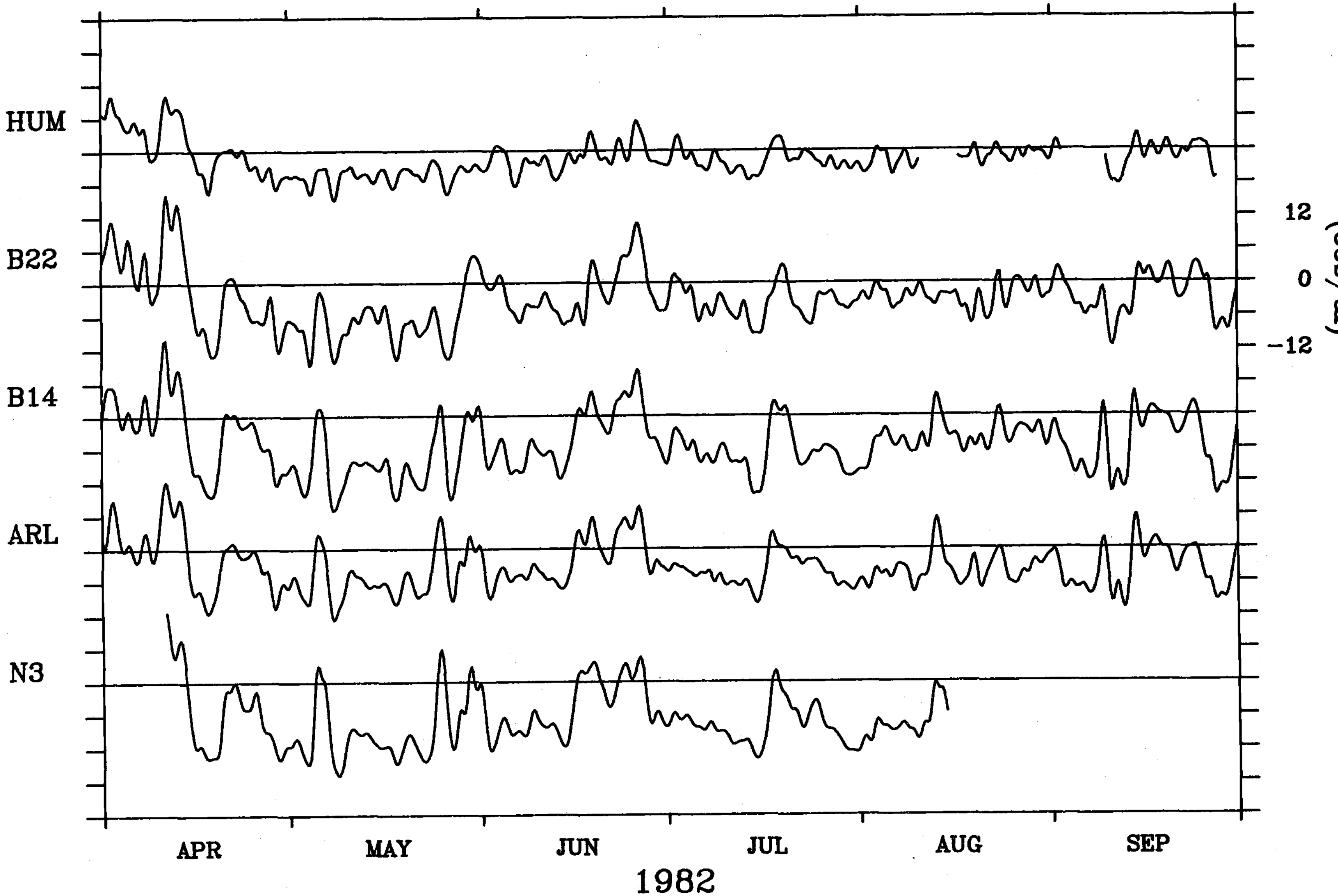

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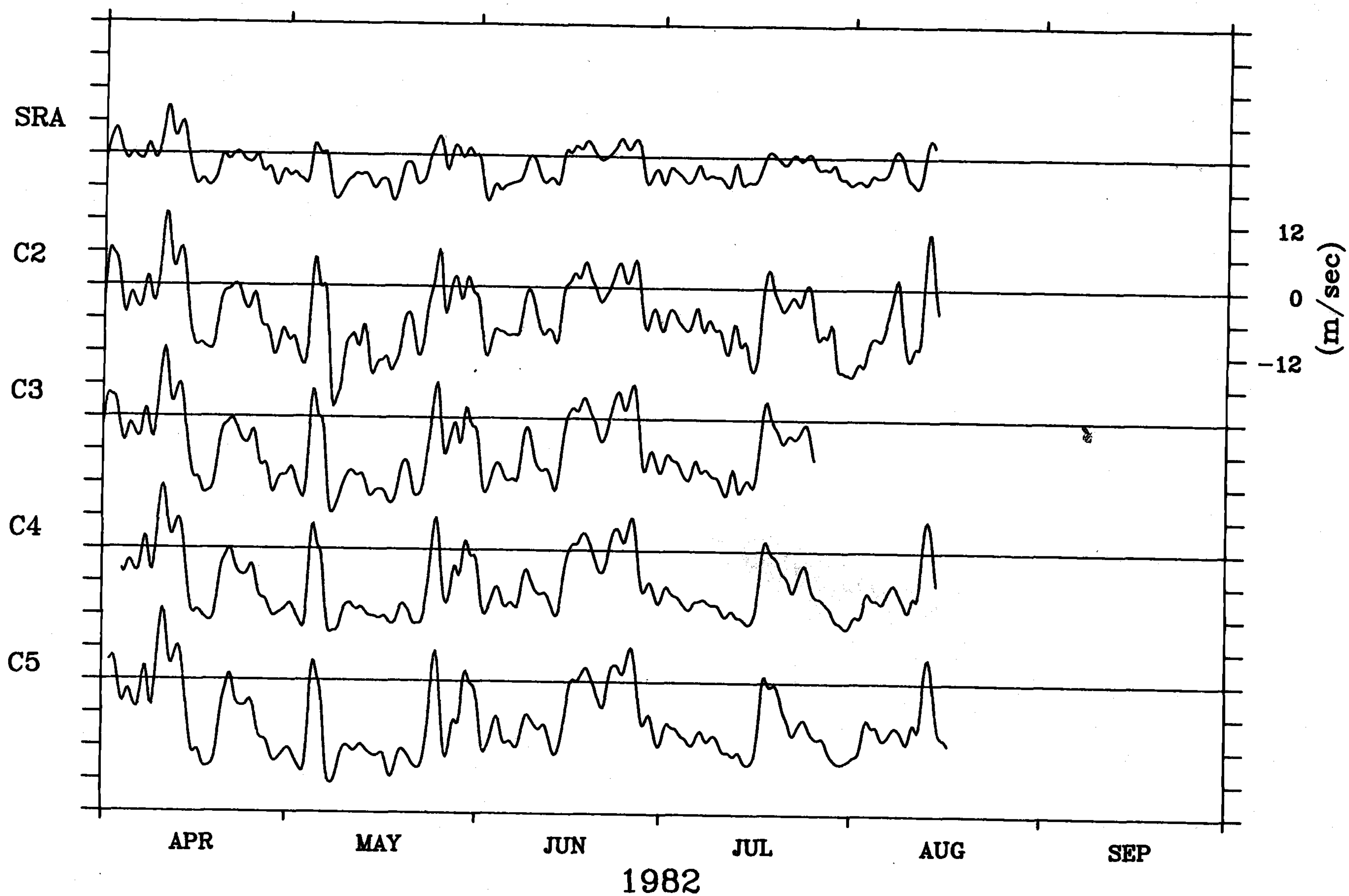

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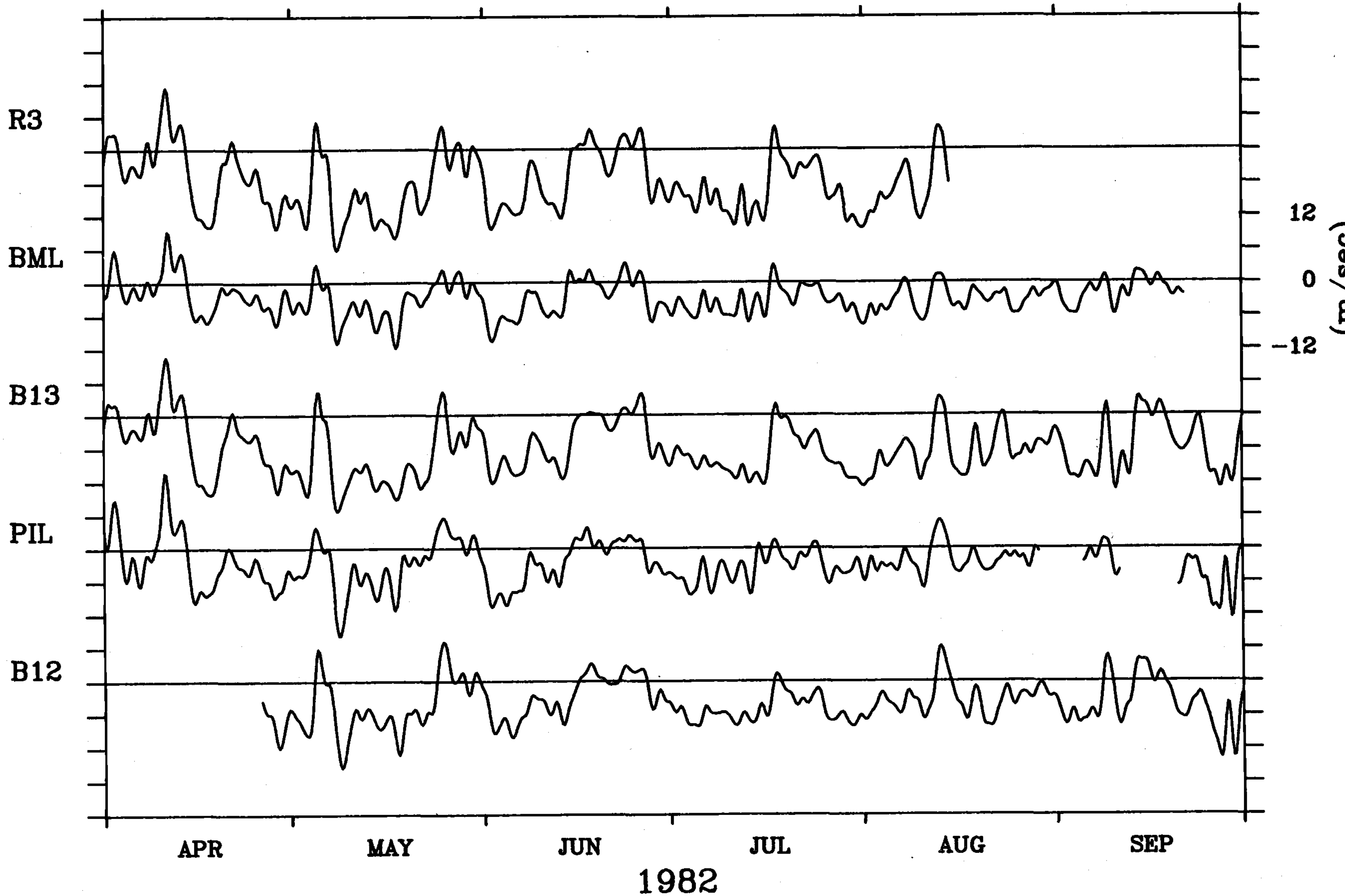

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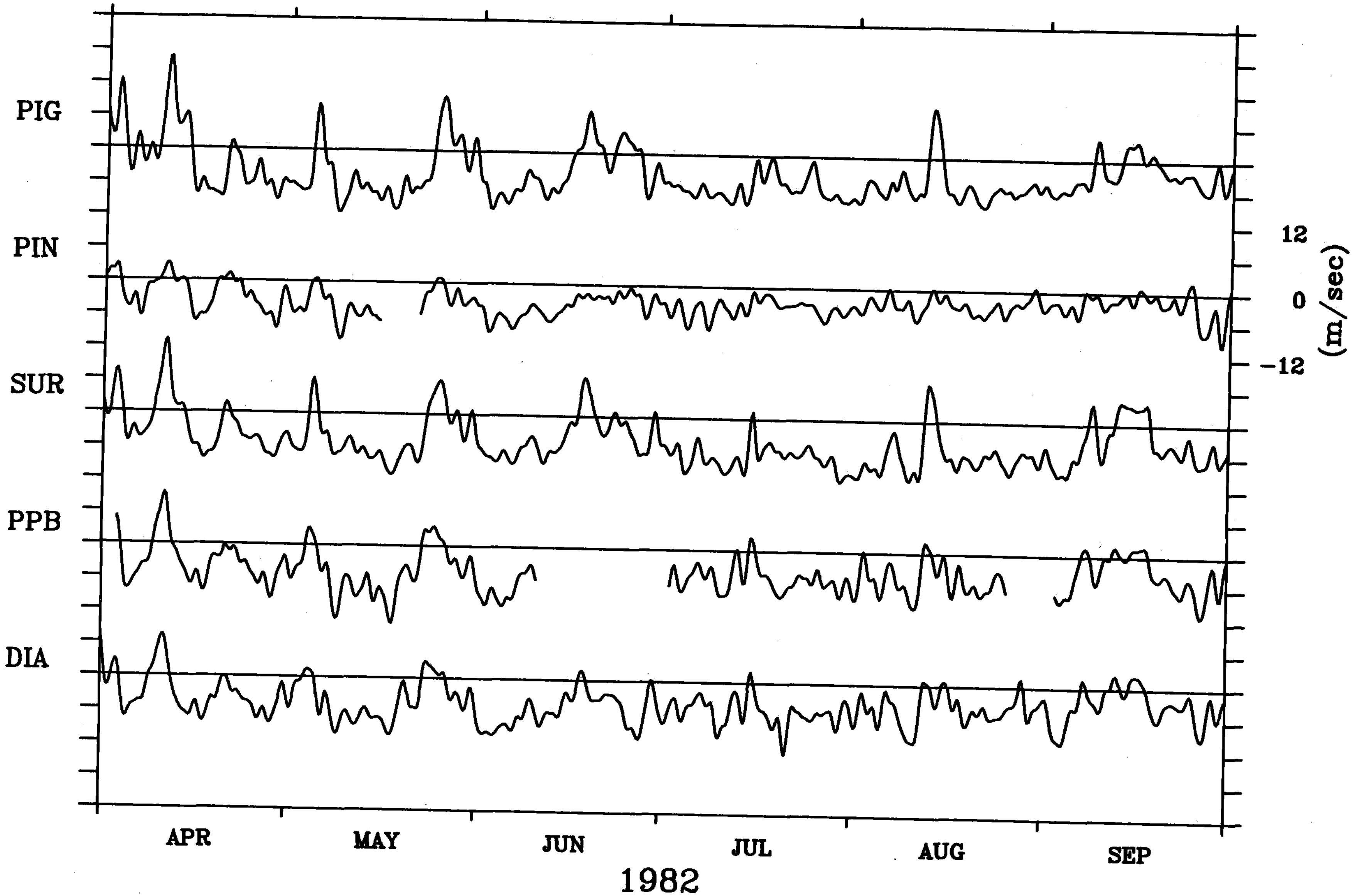

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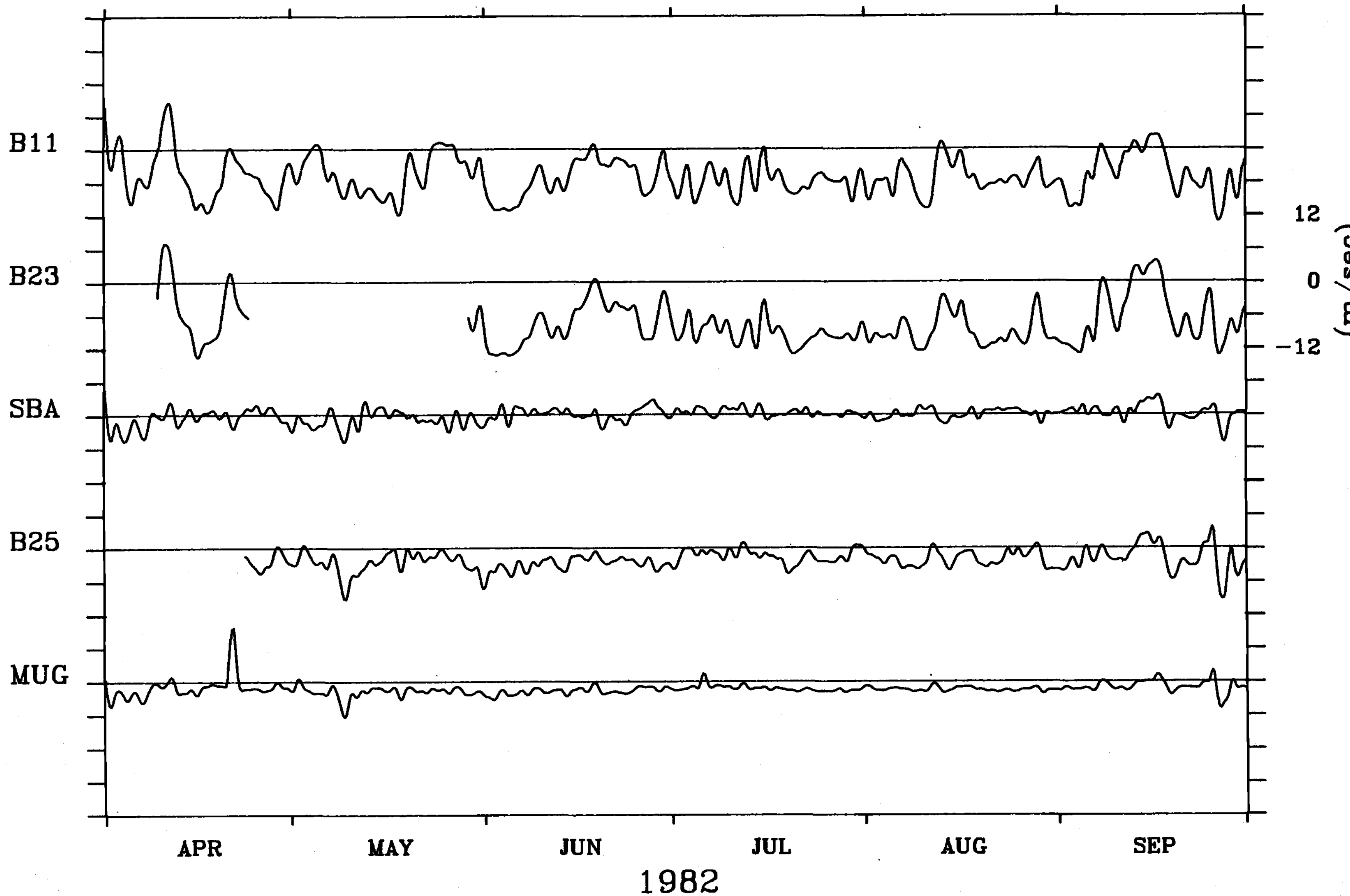

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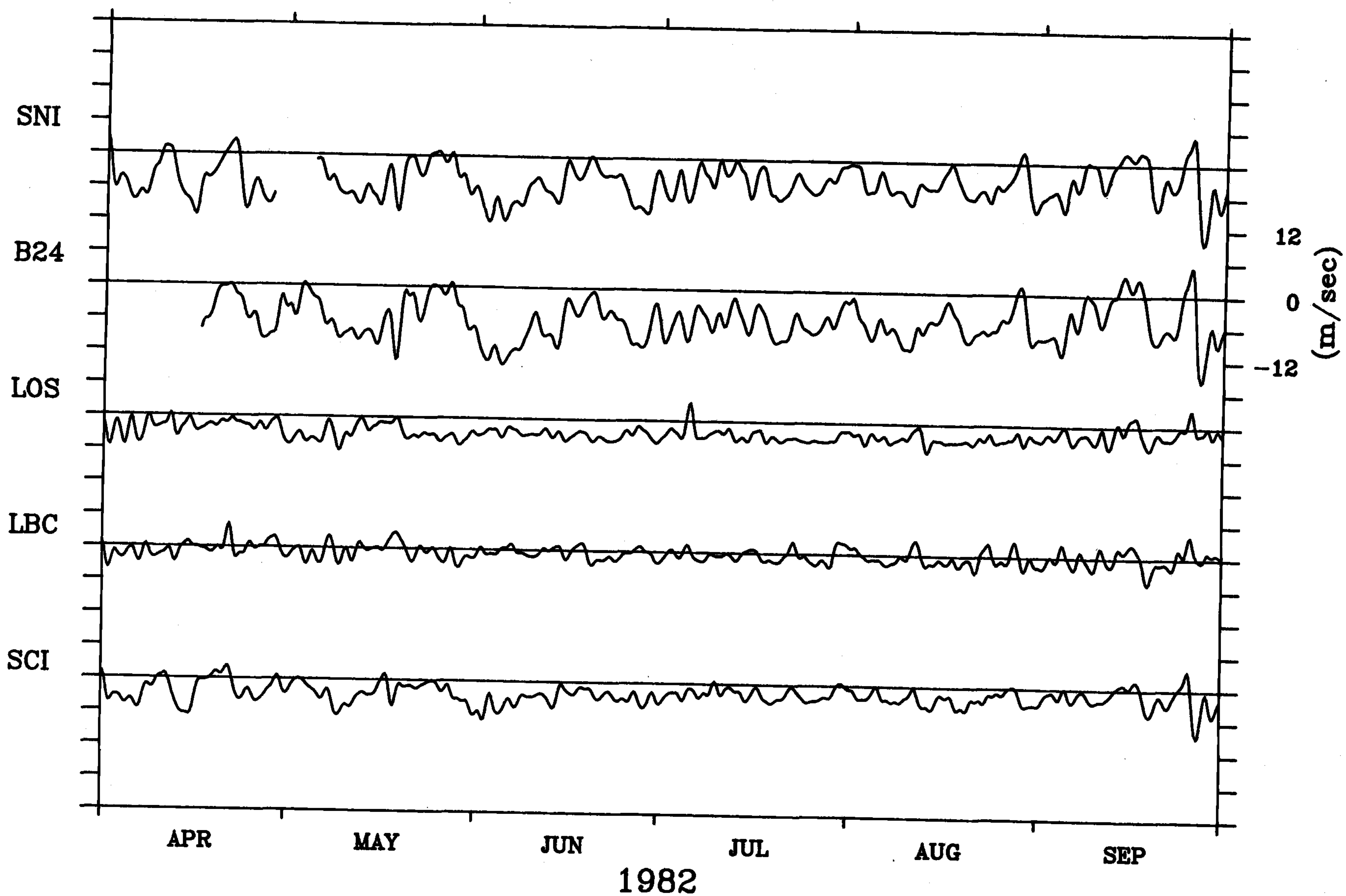

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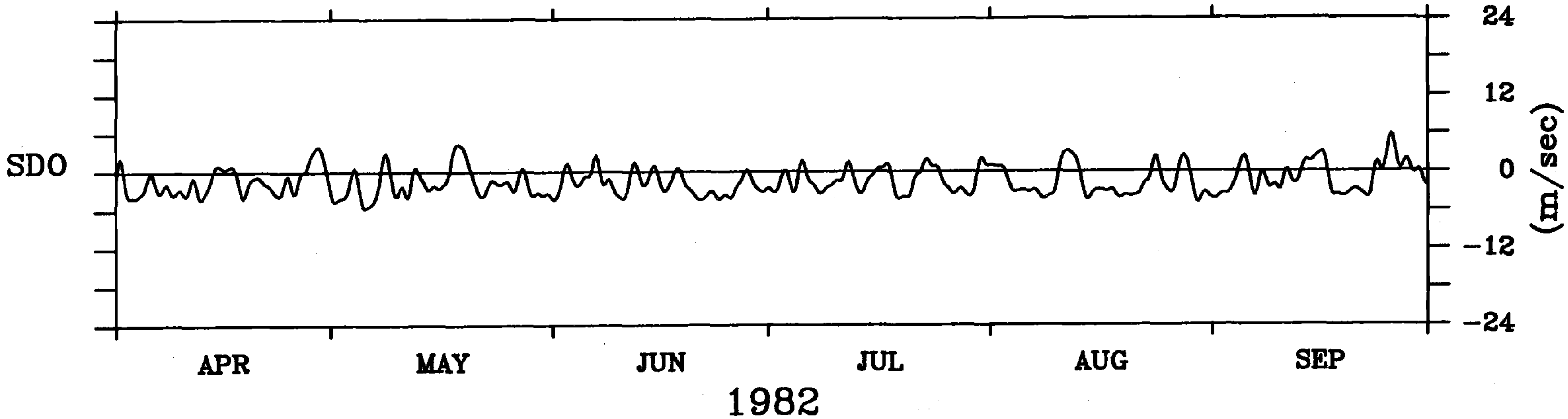

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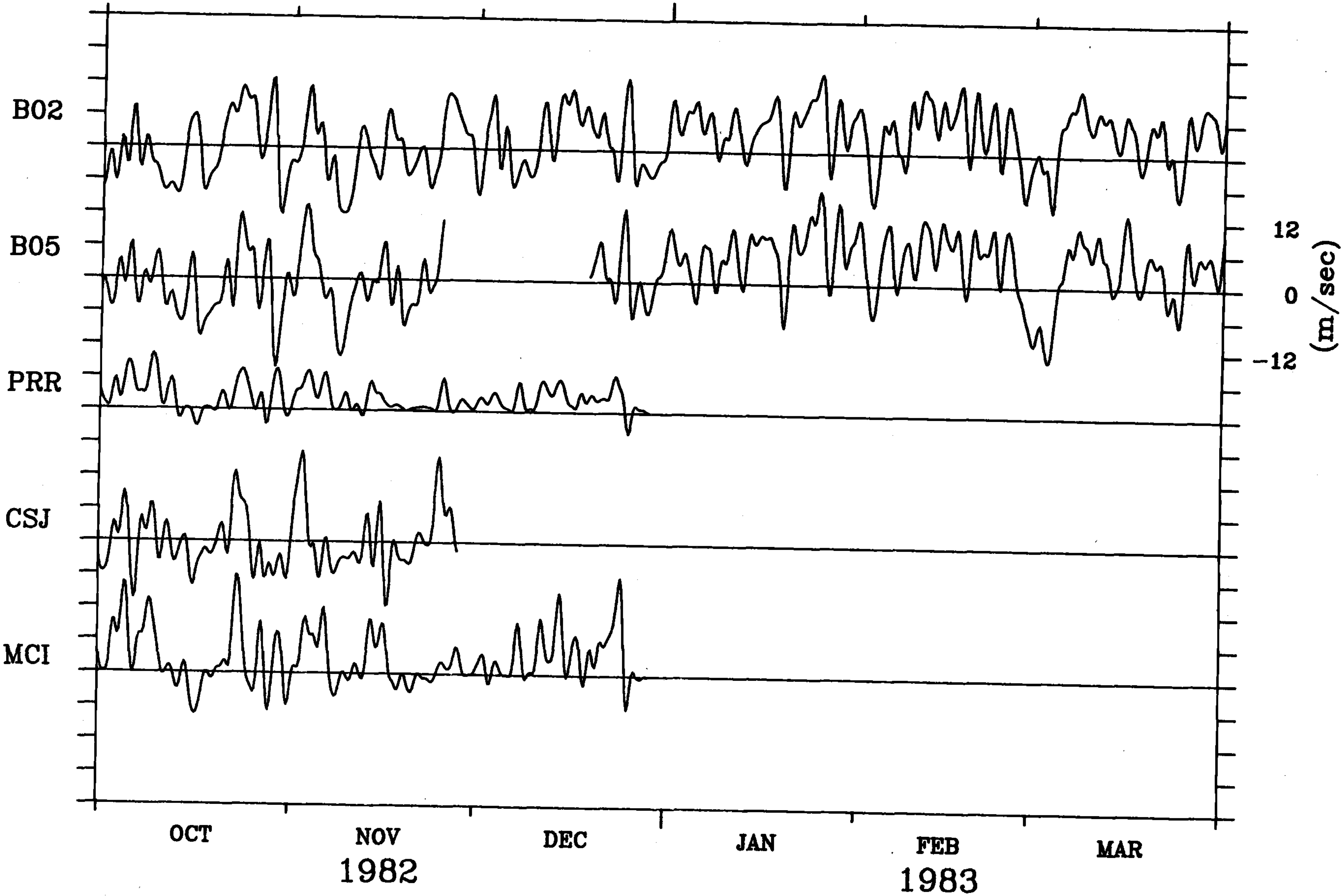

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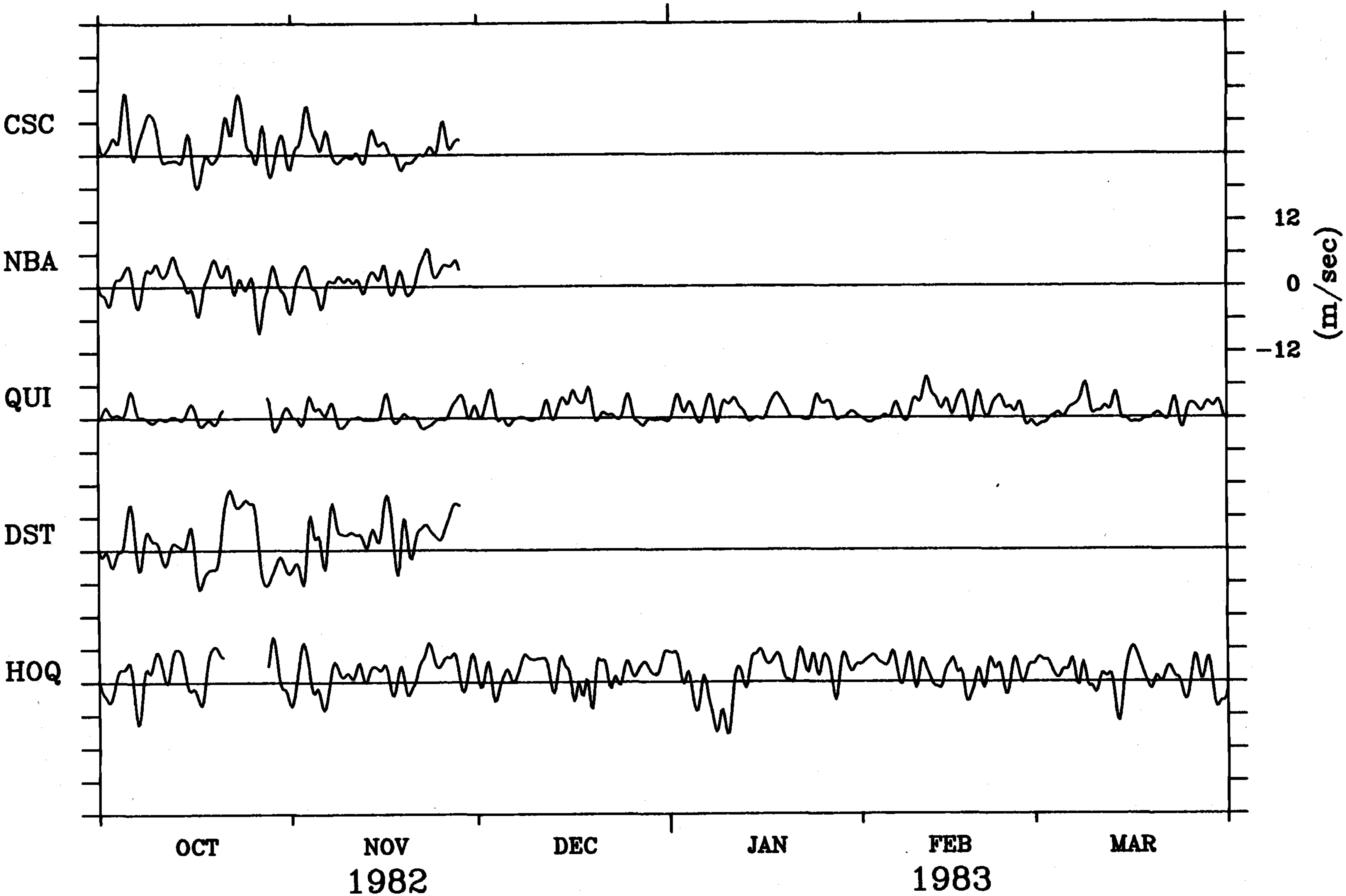

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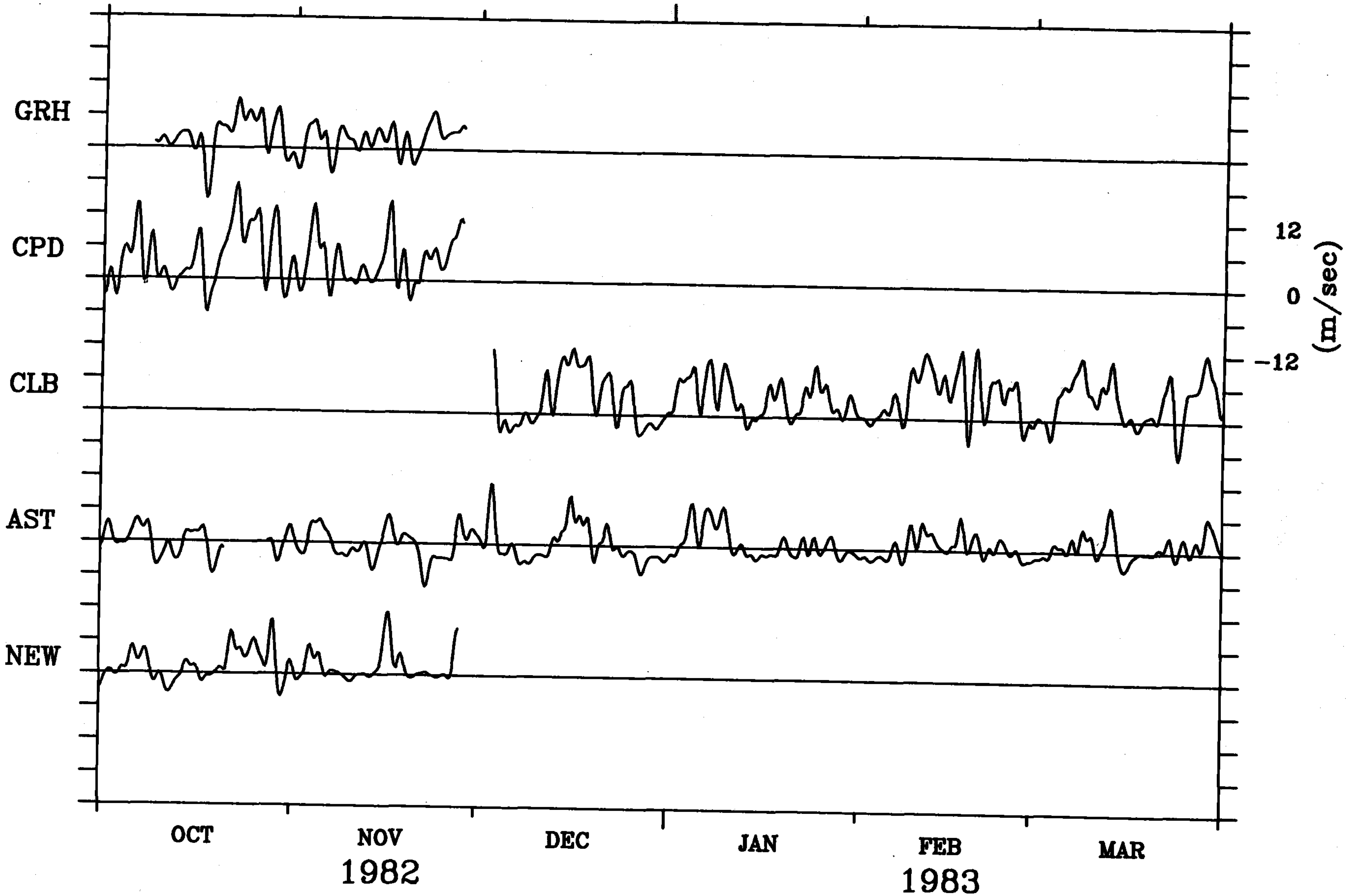

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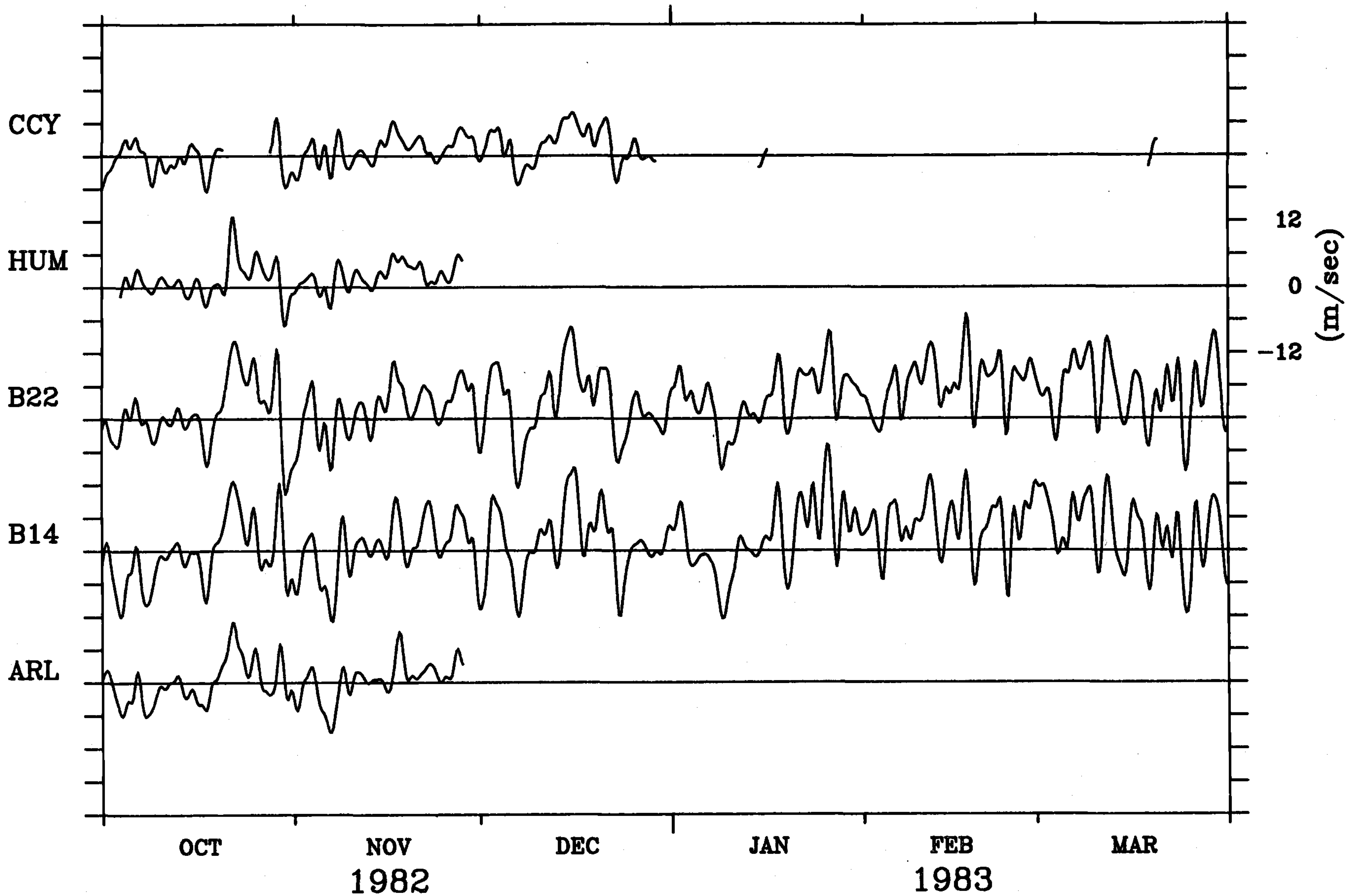

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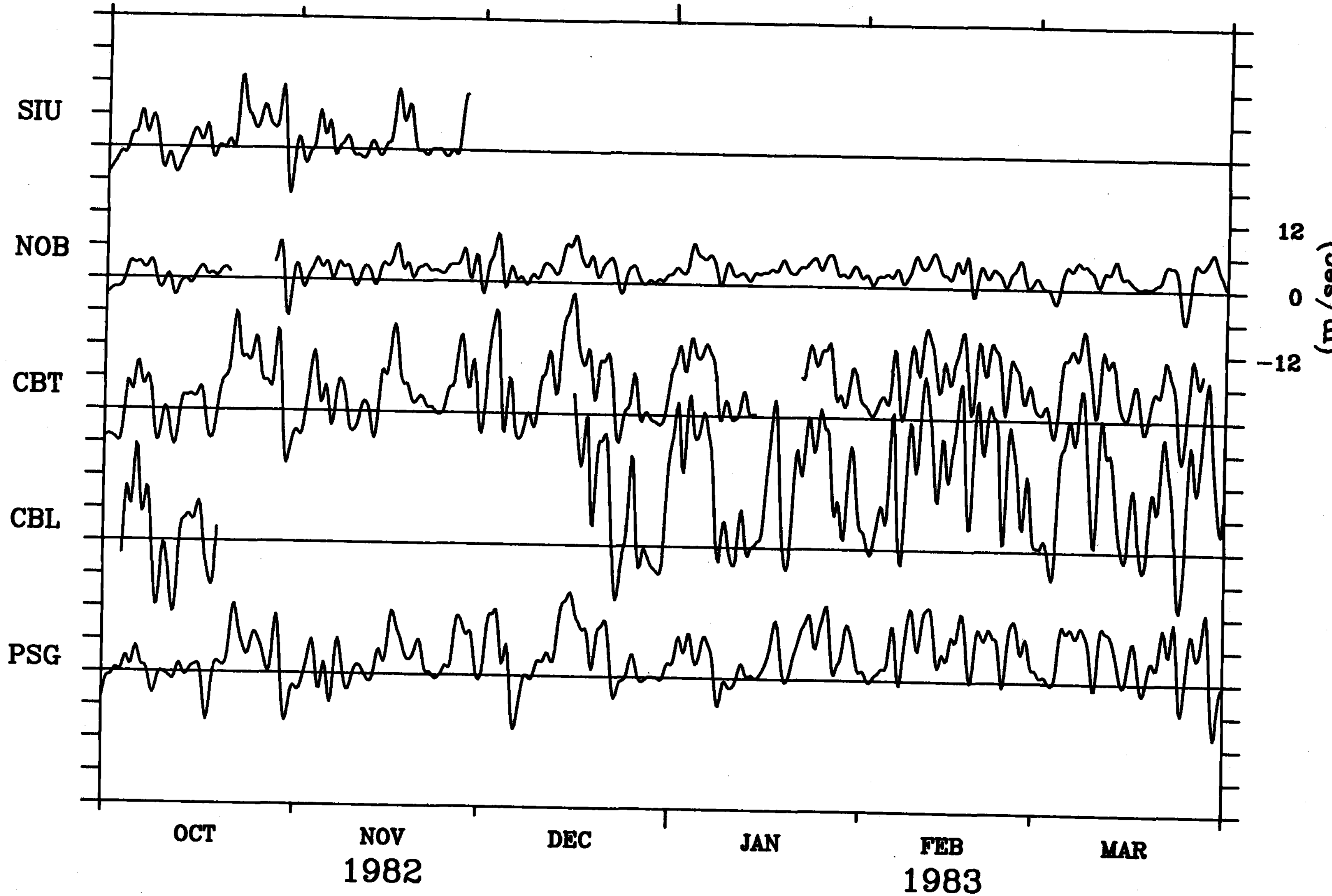

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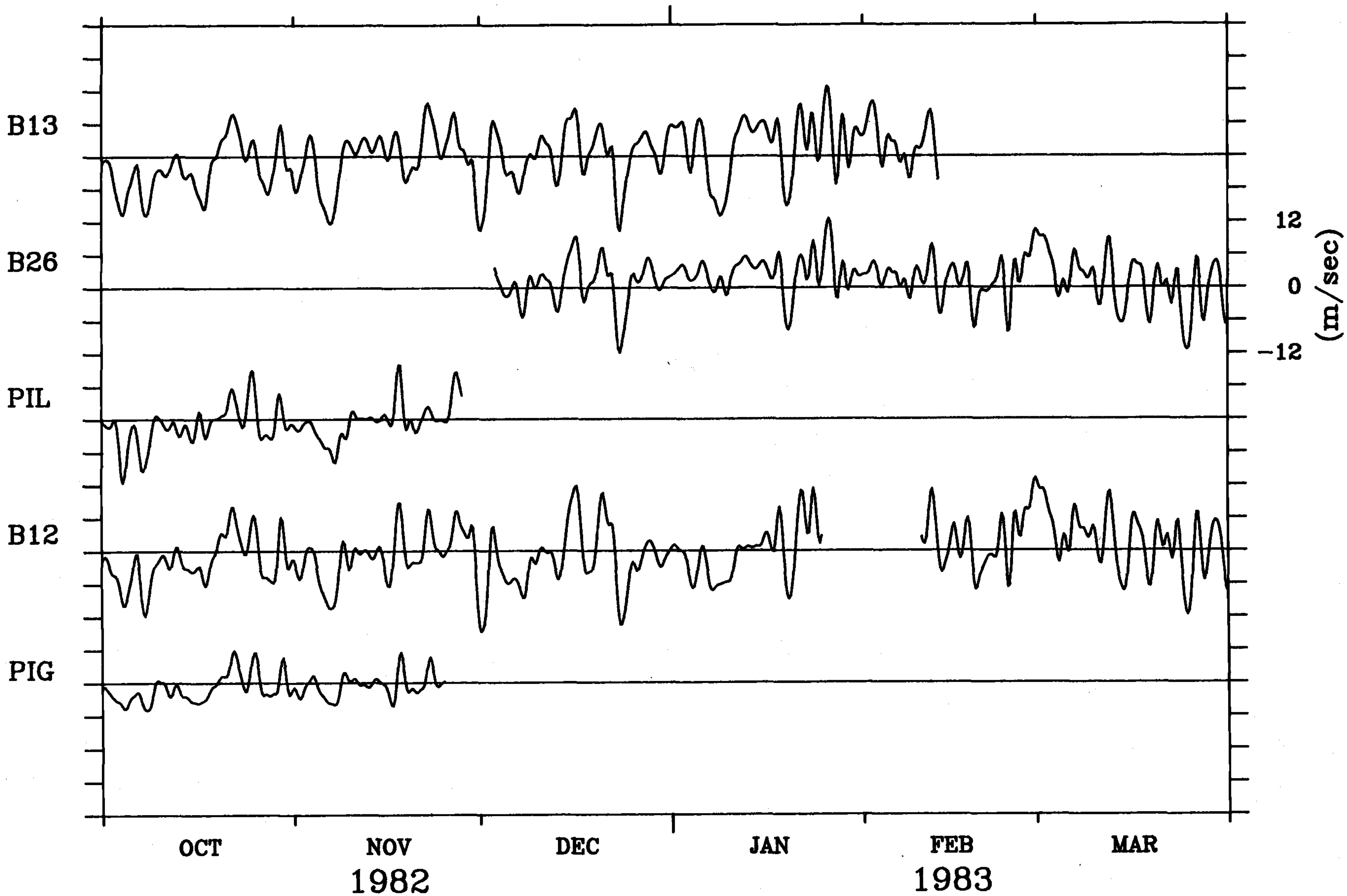
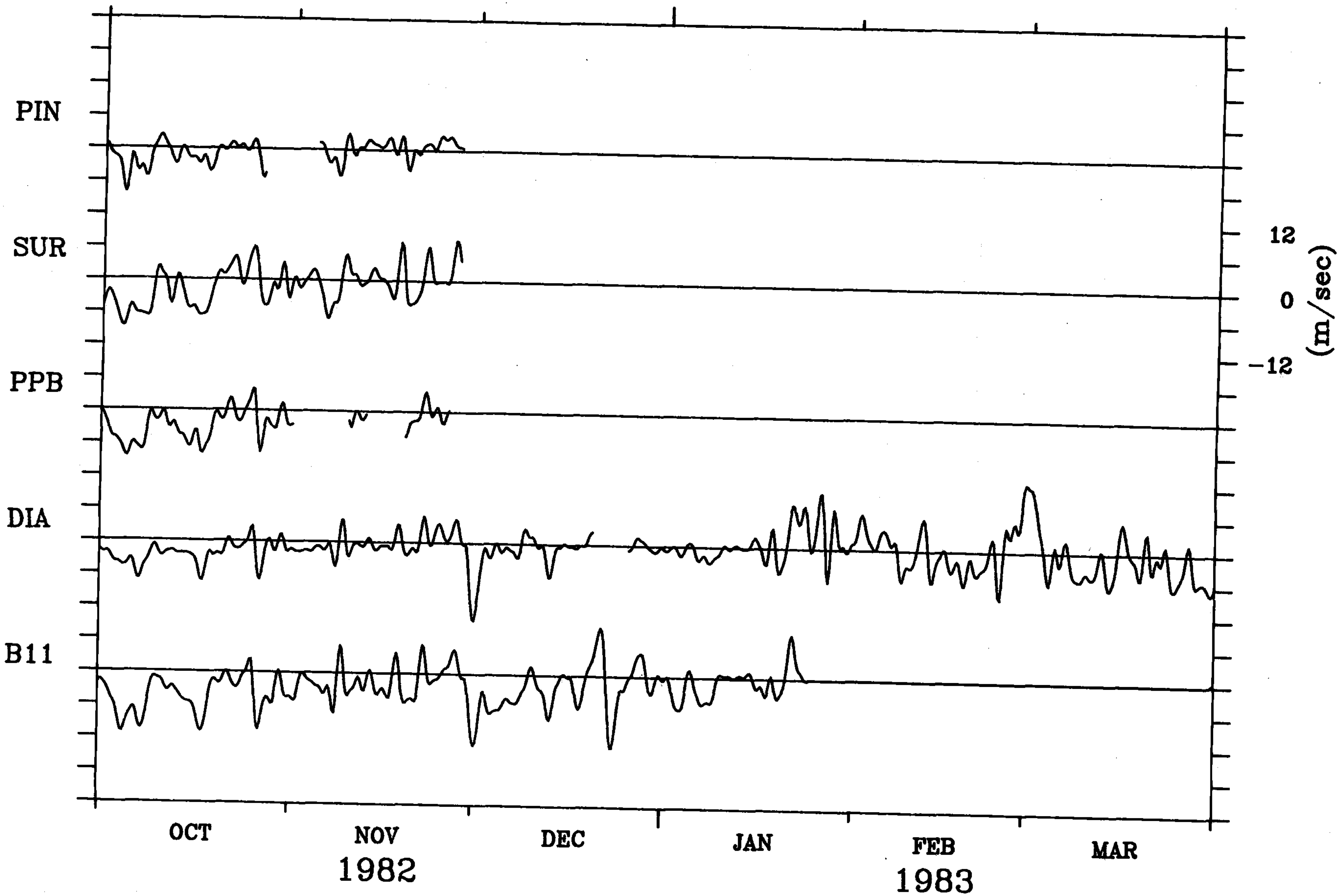


Major Axis Wind Component

5.45



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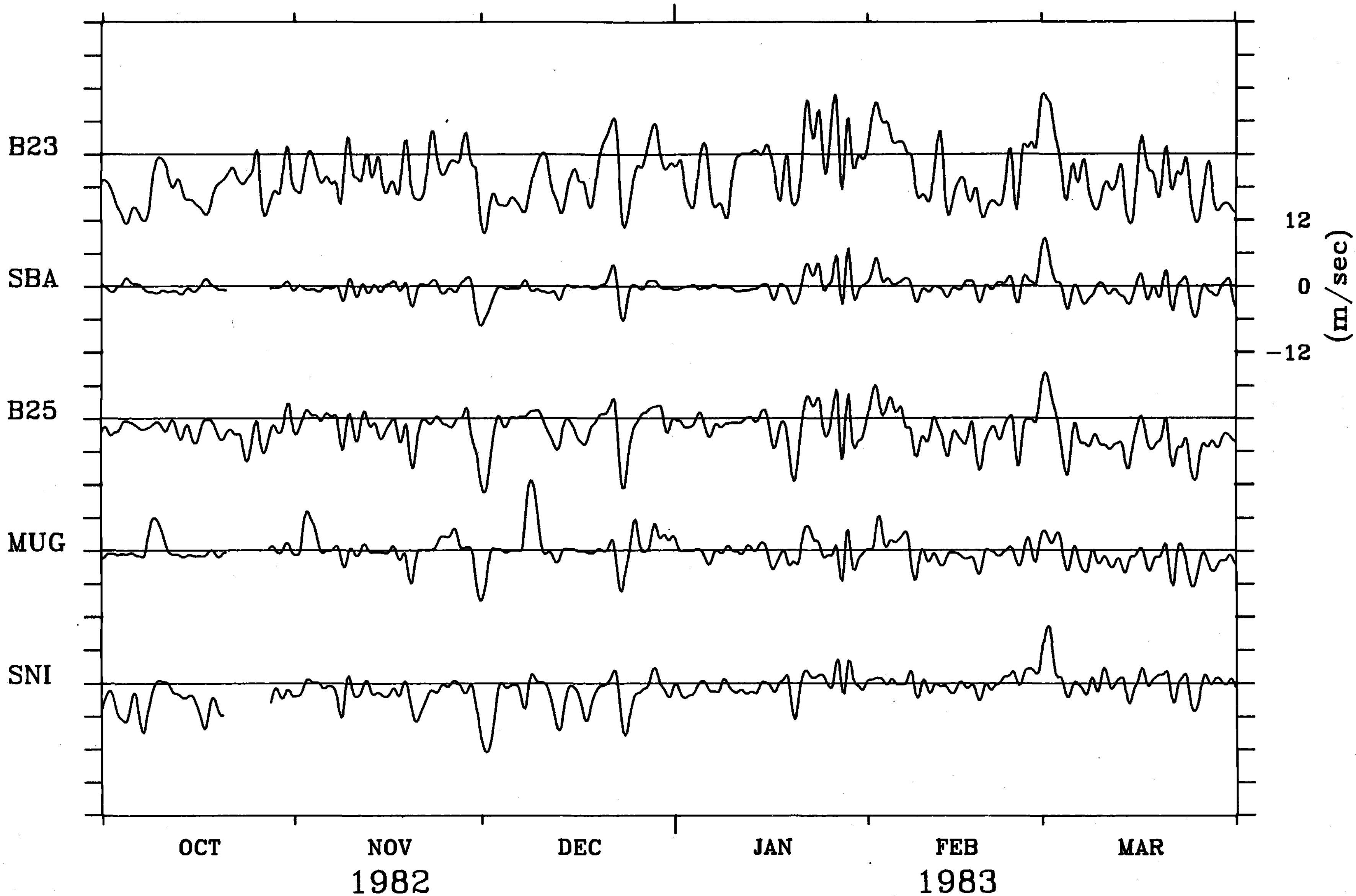

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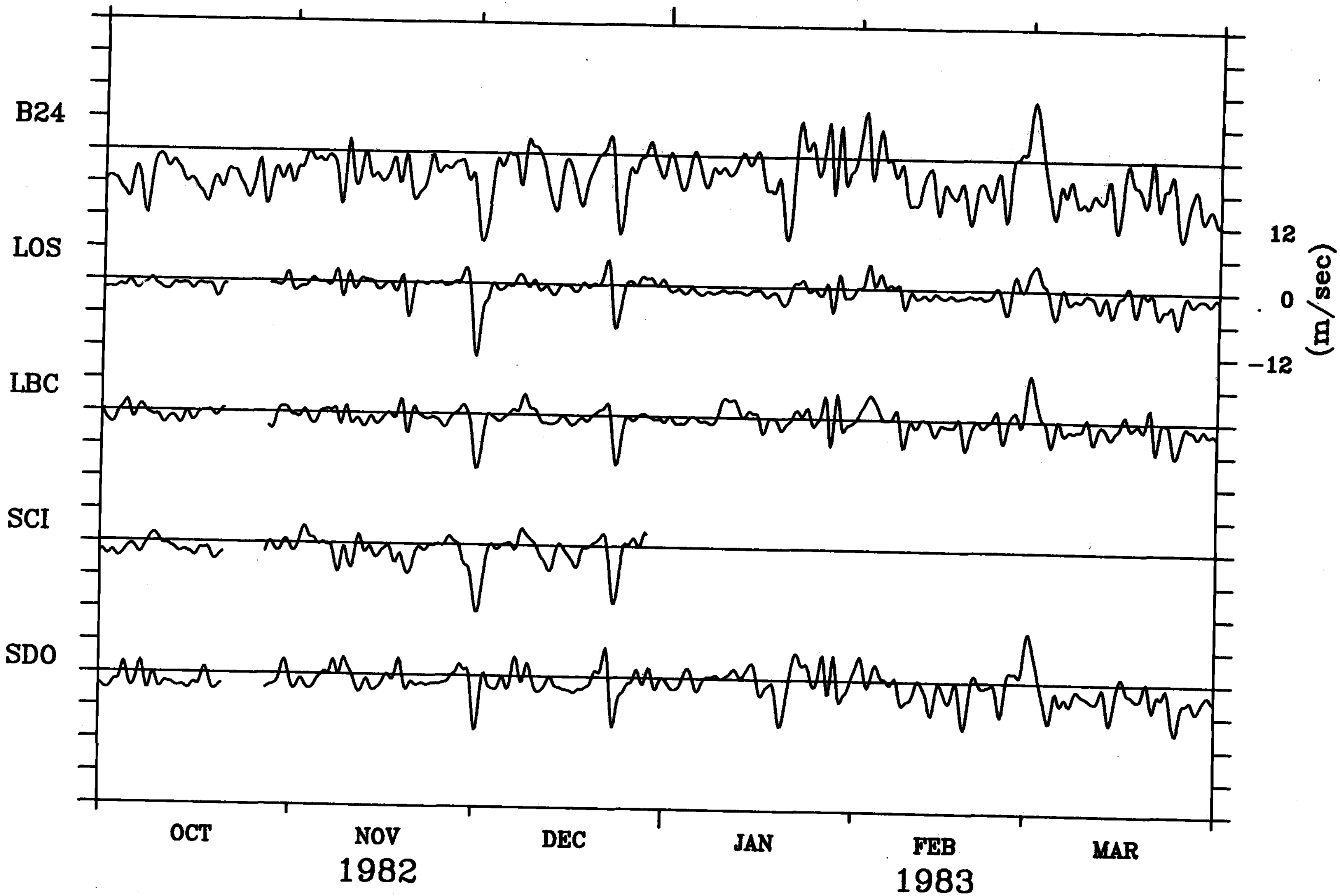

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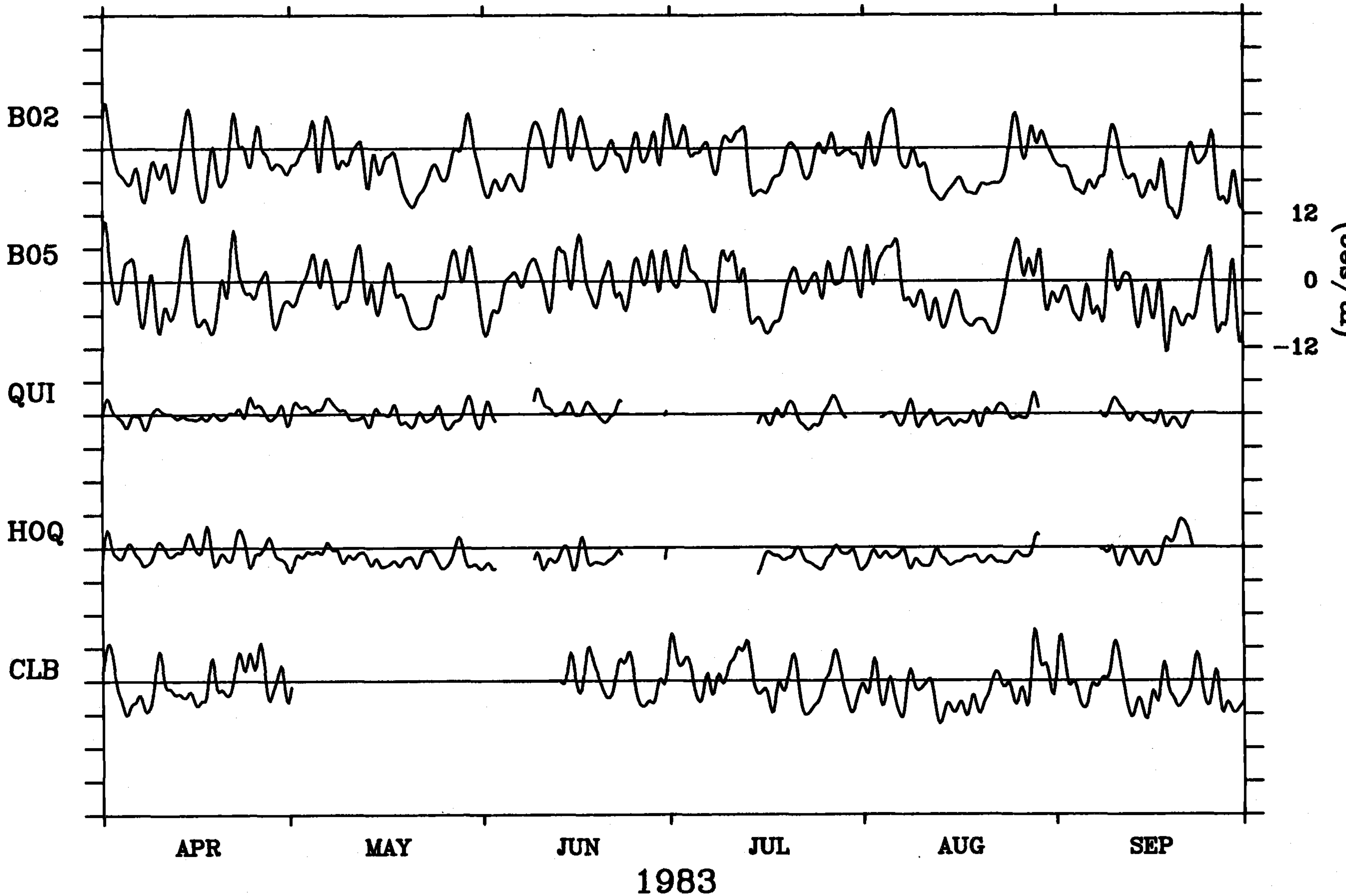

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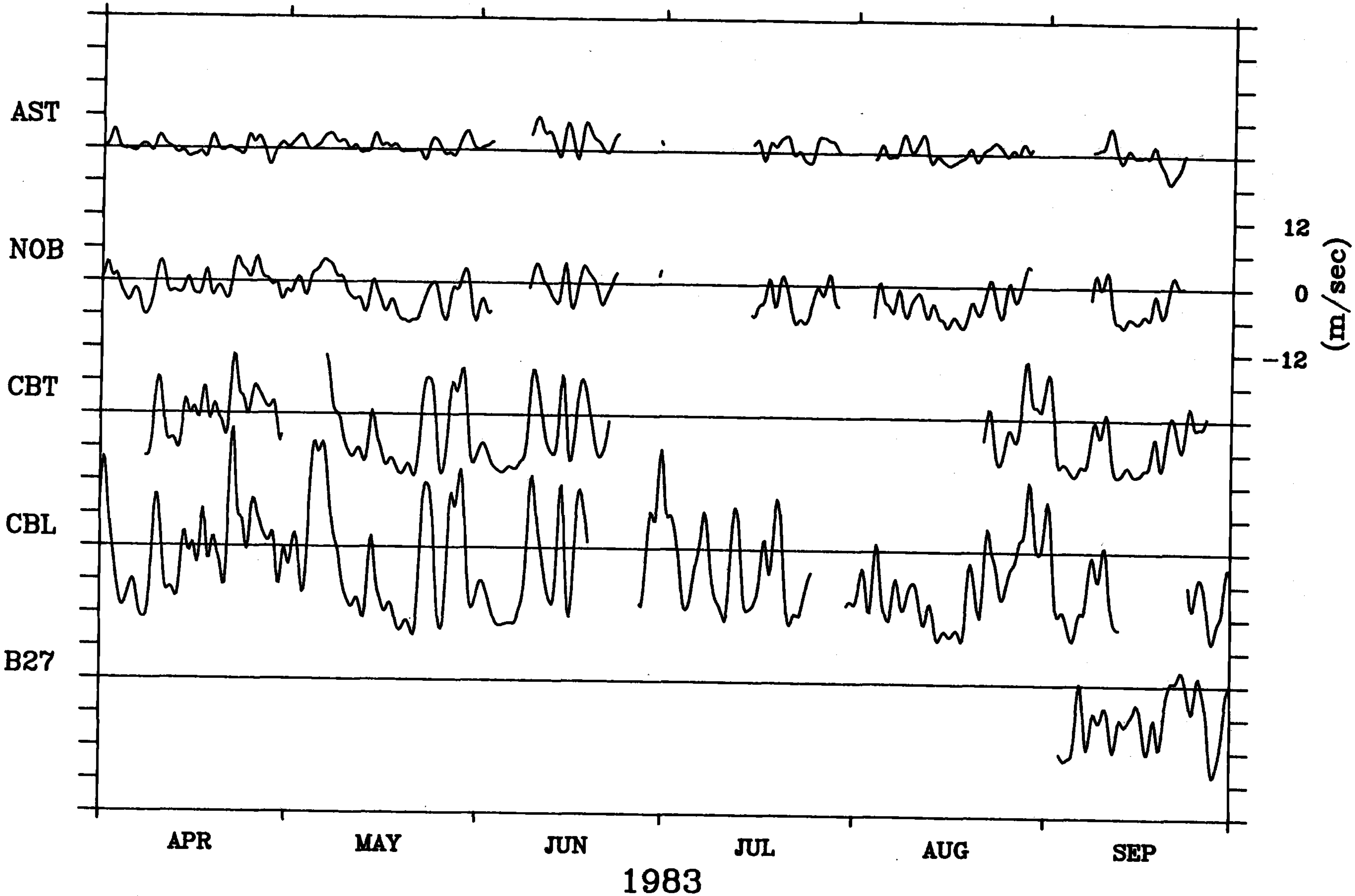

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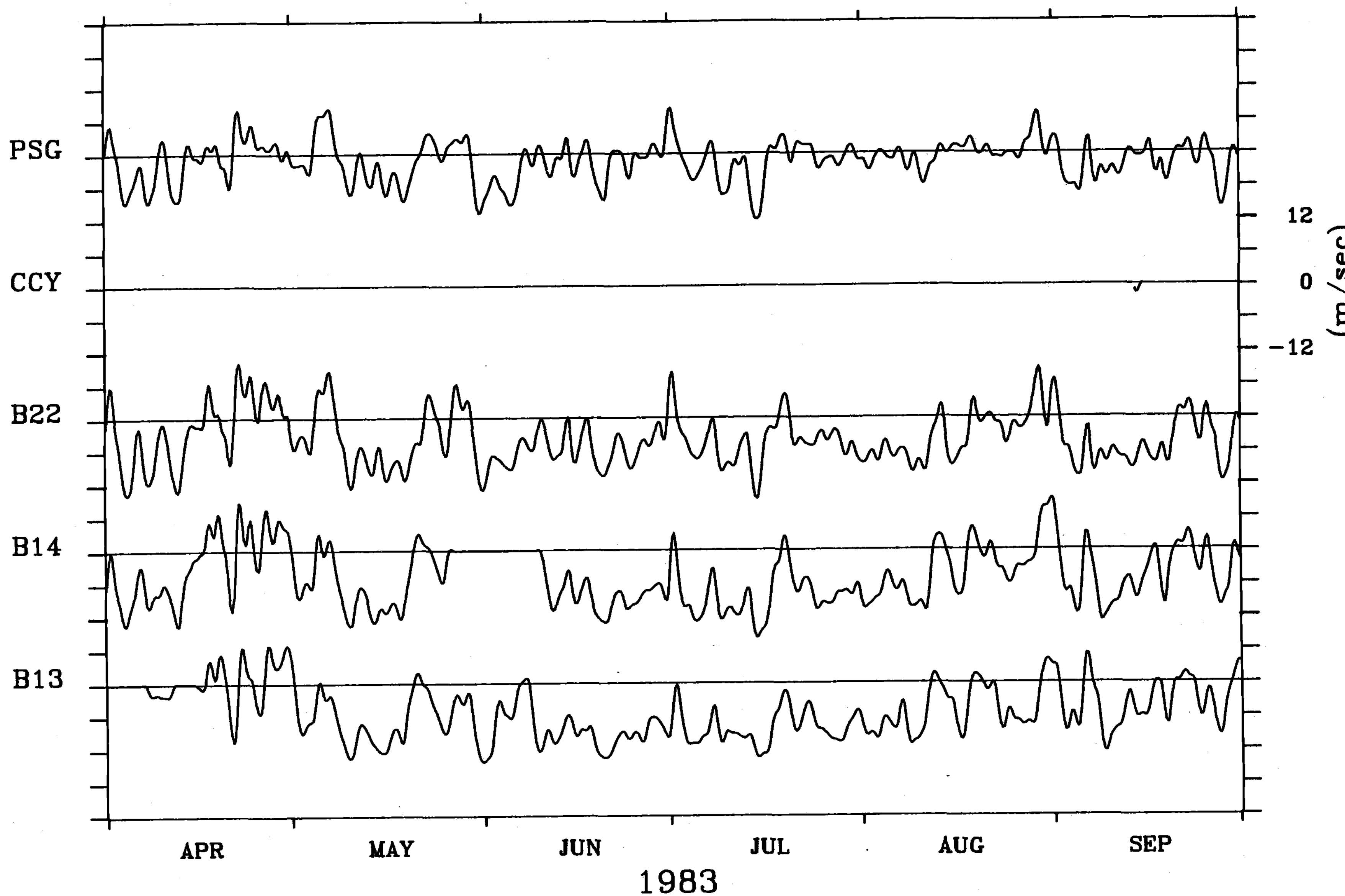

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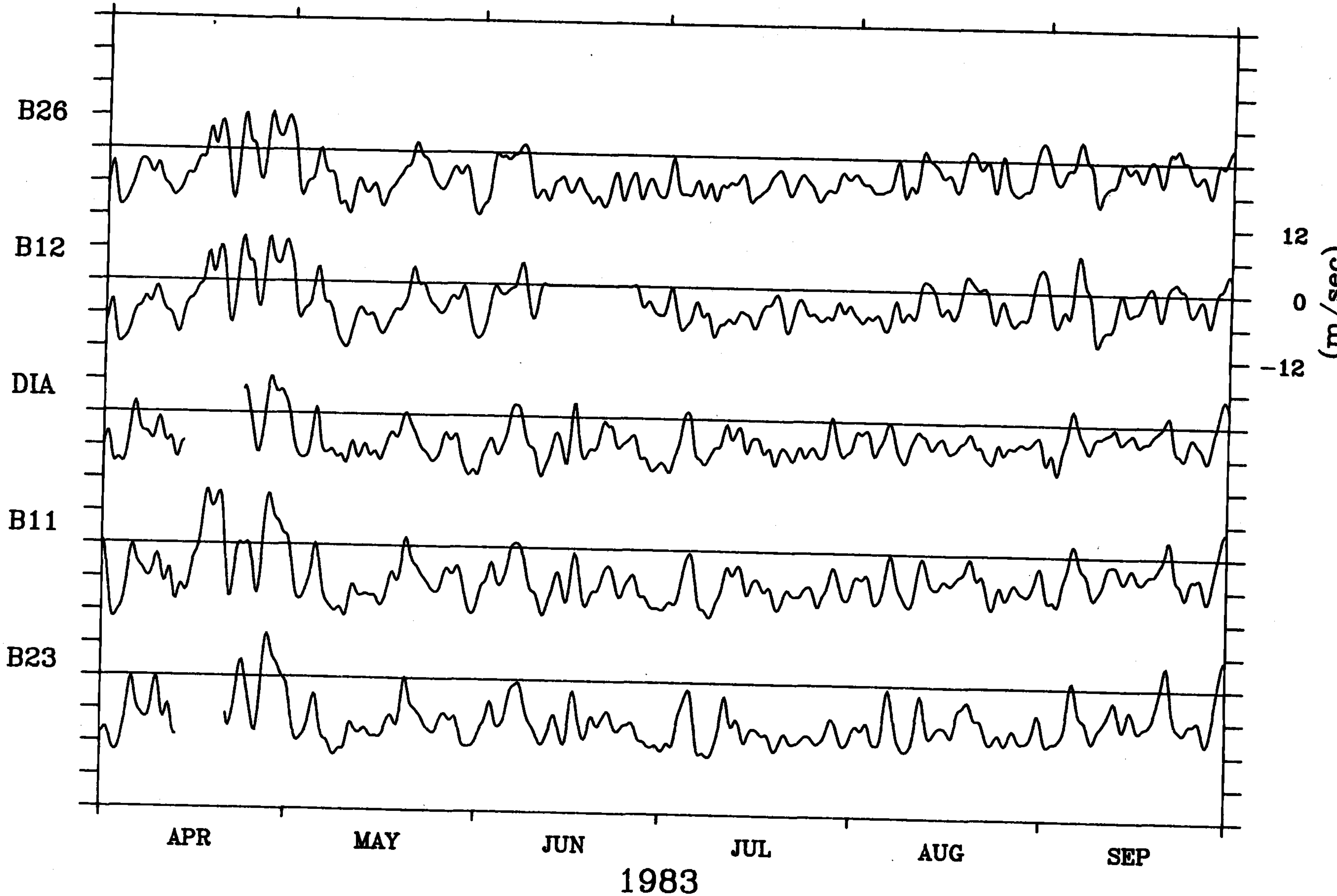

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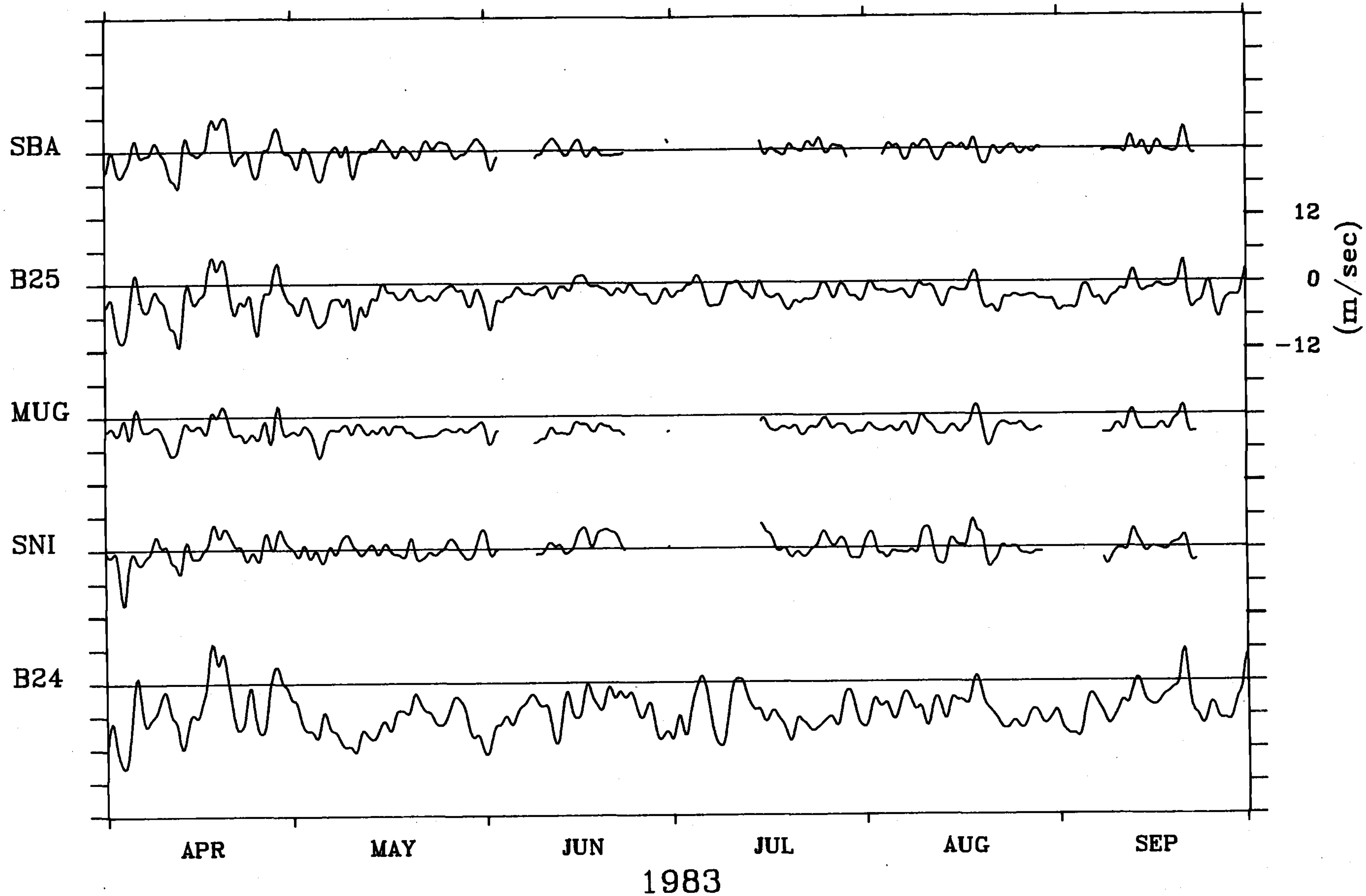

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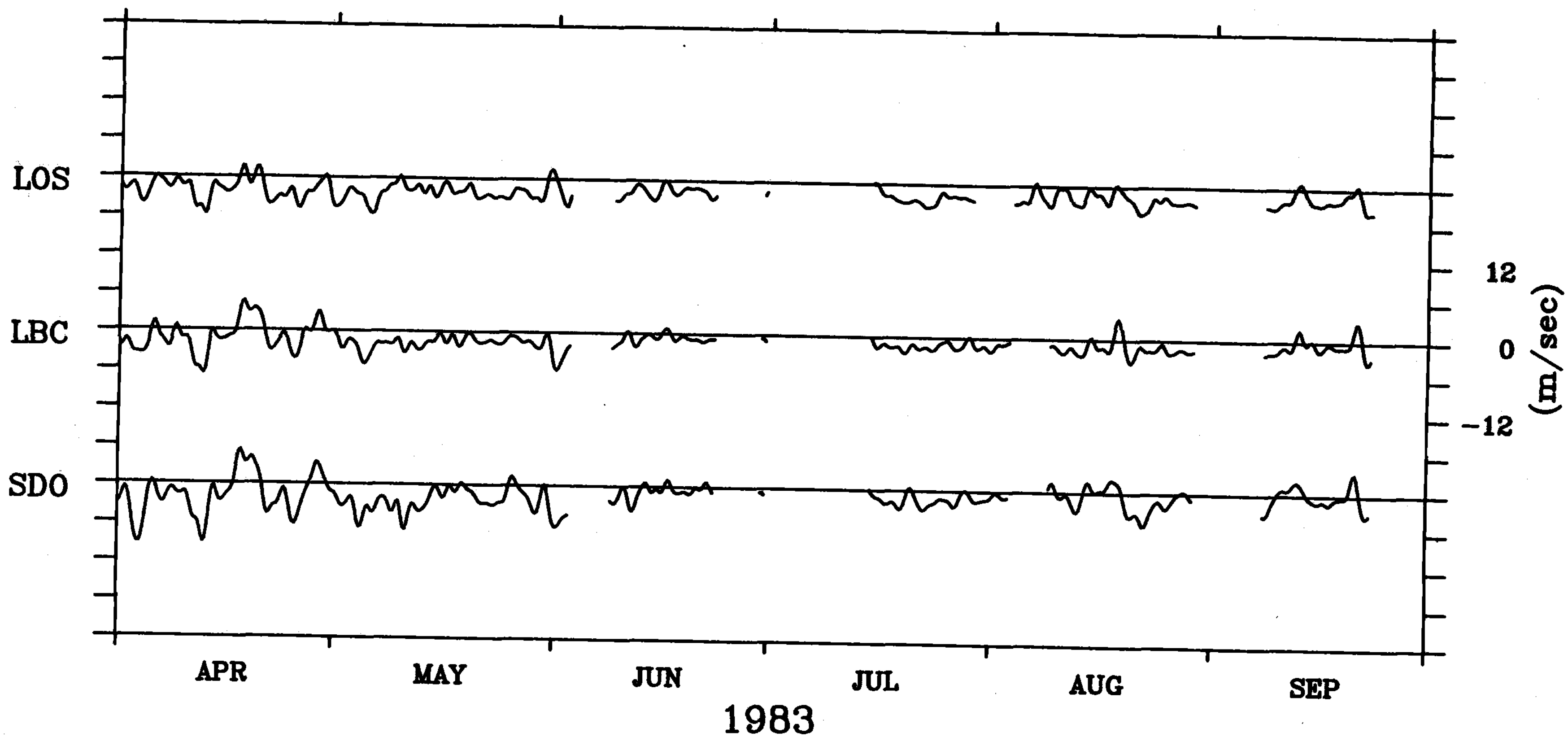

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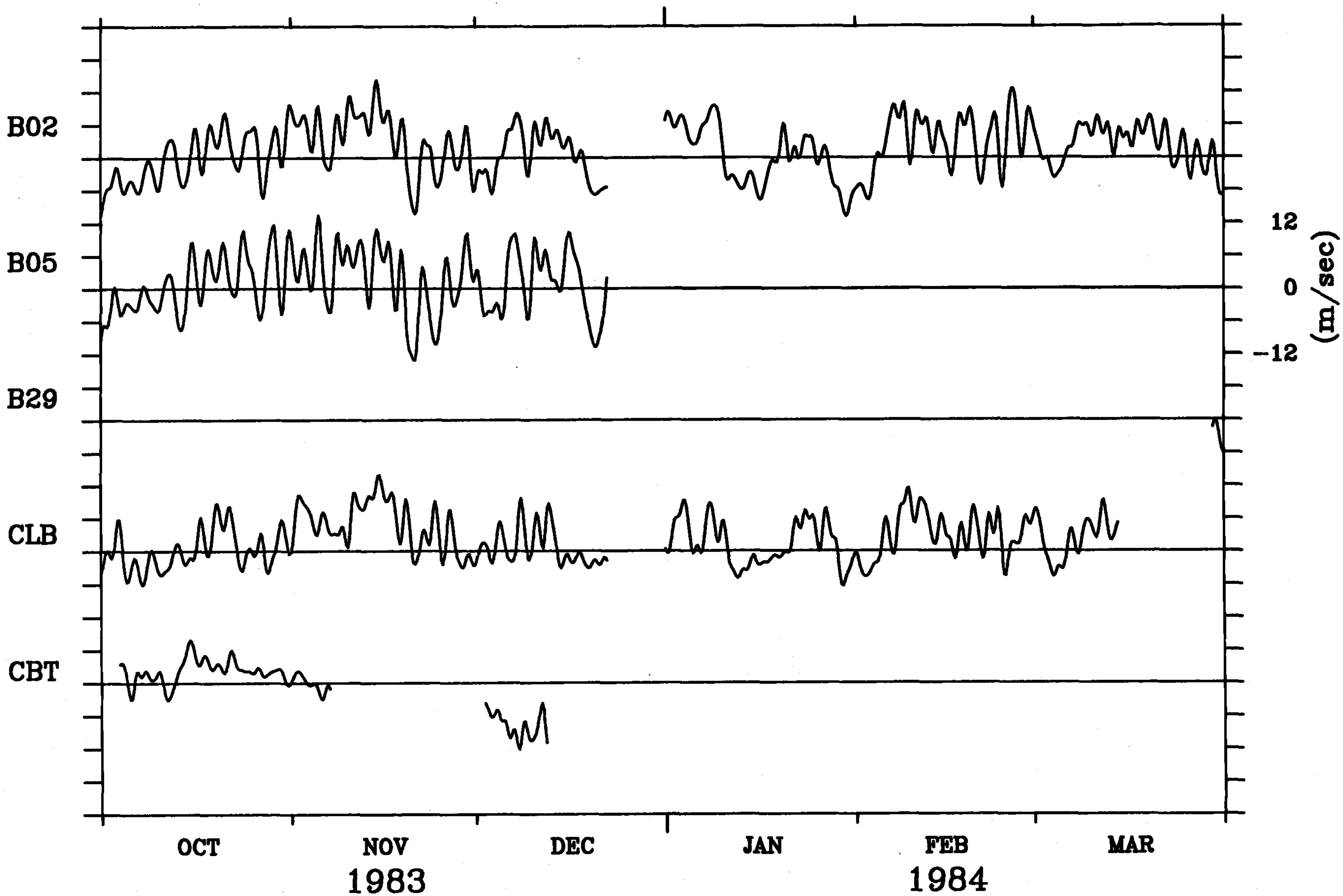

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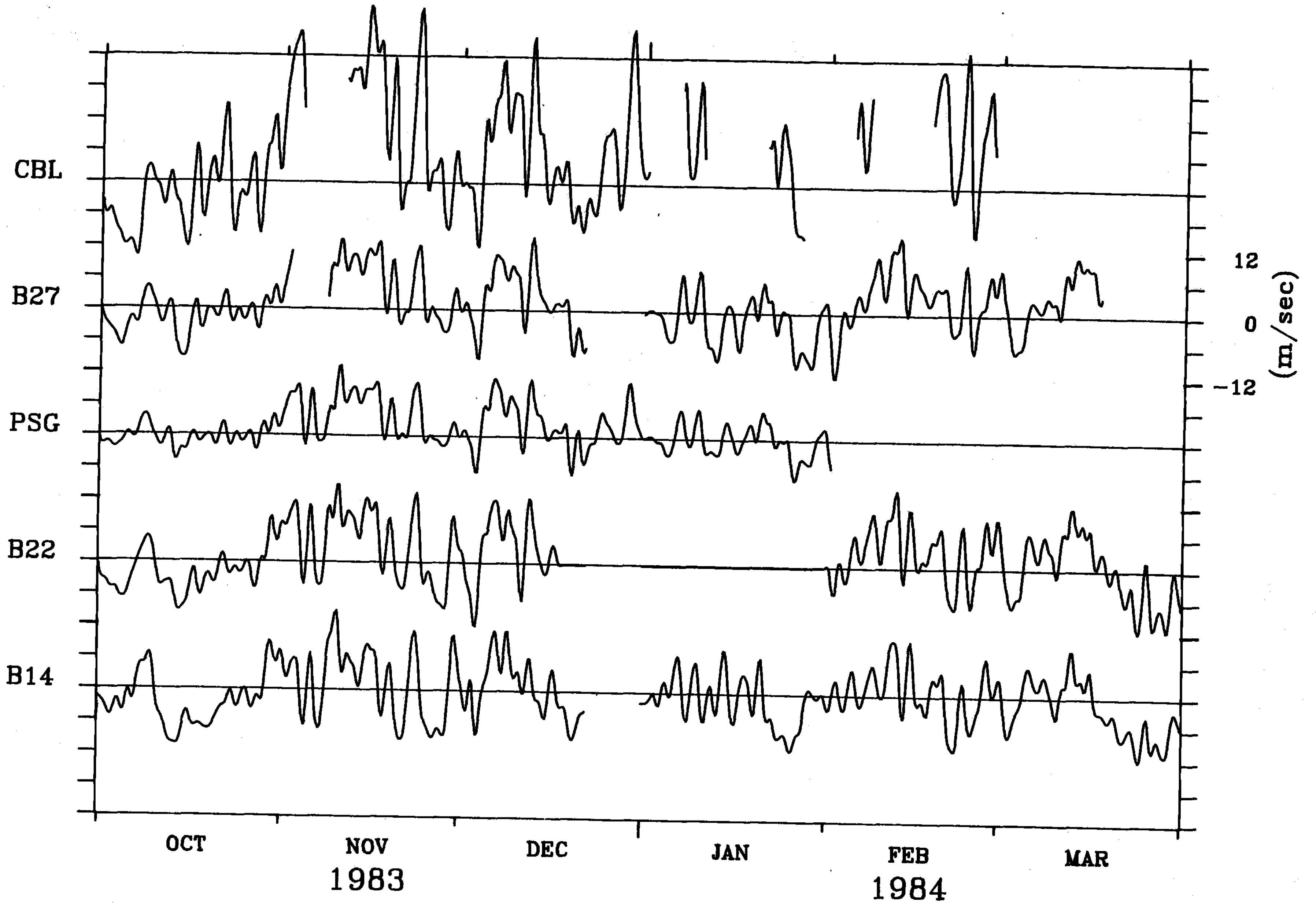

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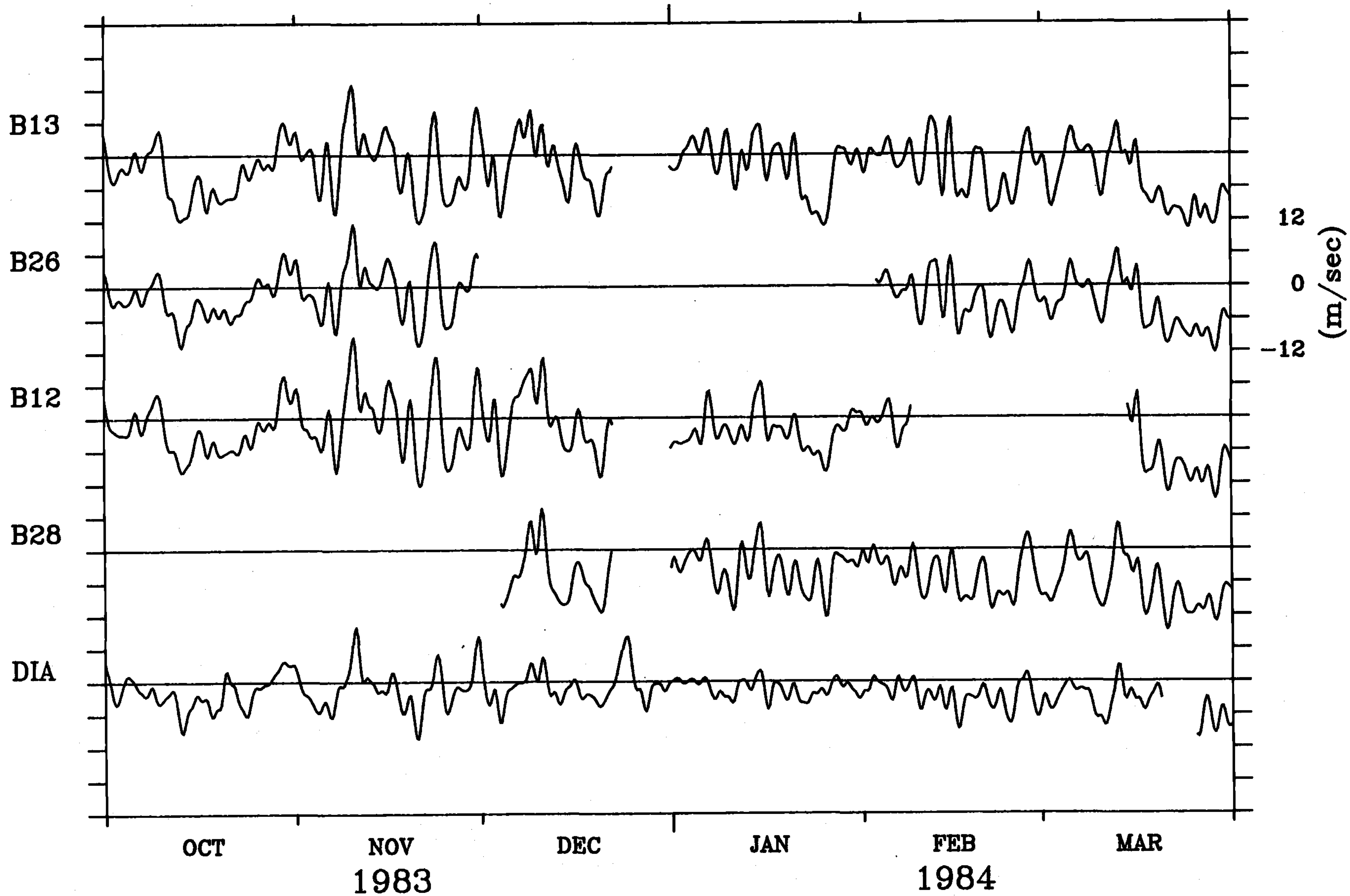

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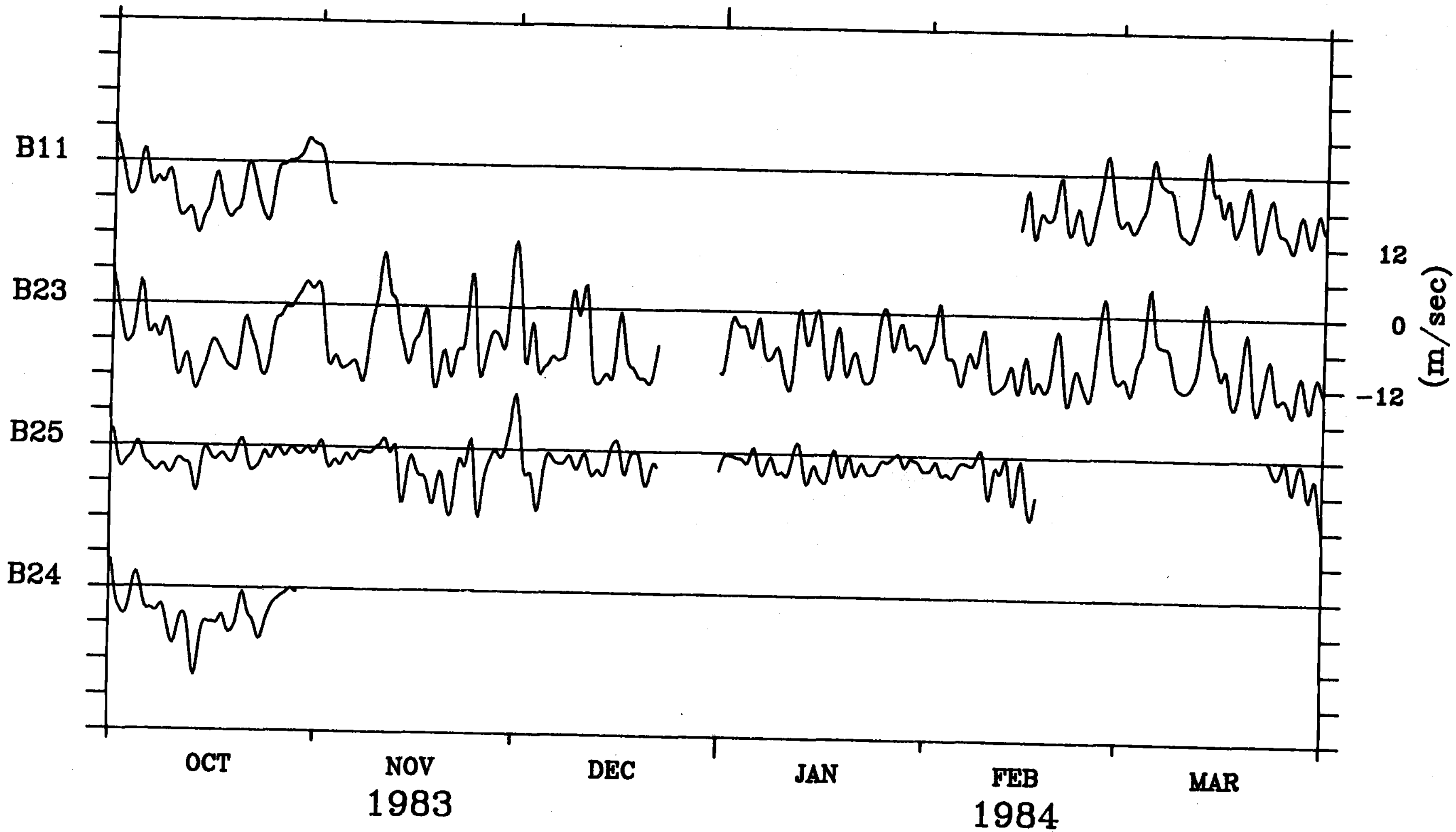

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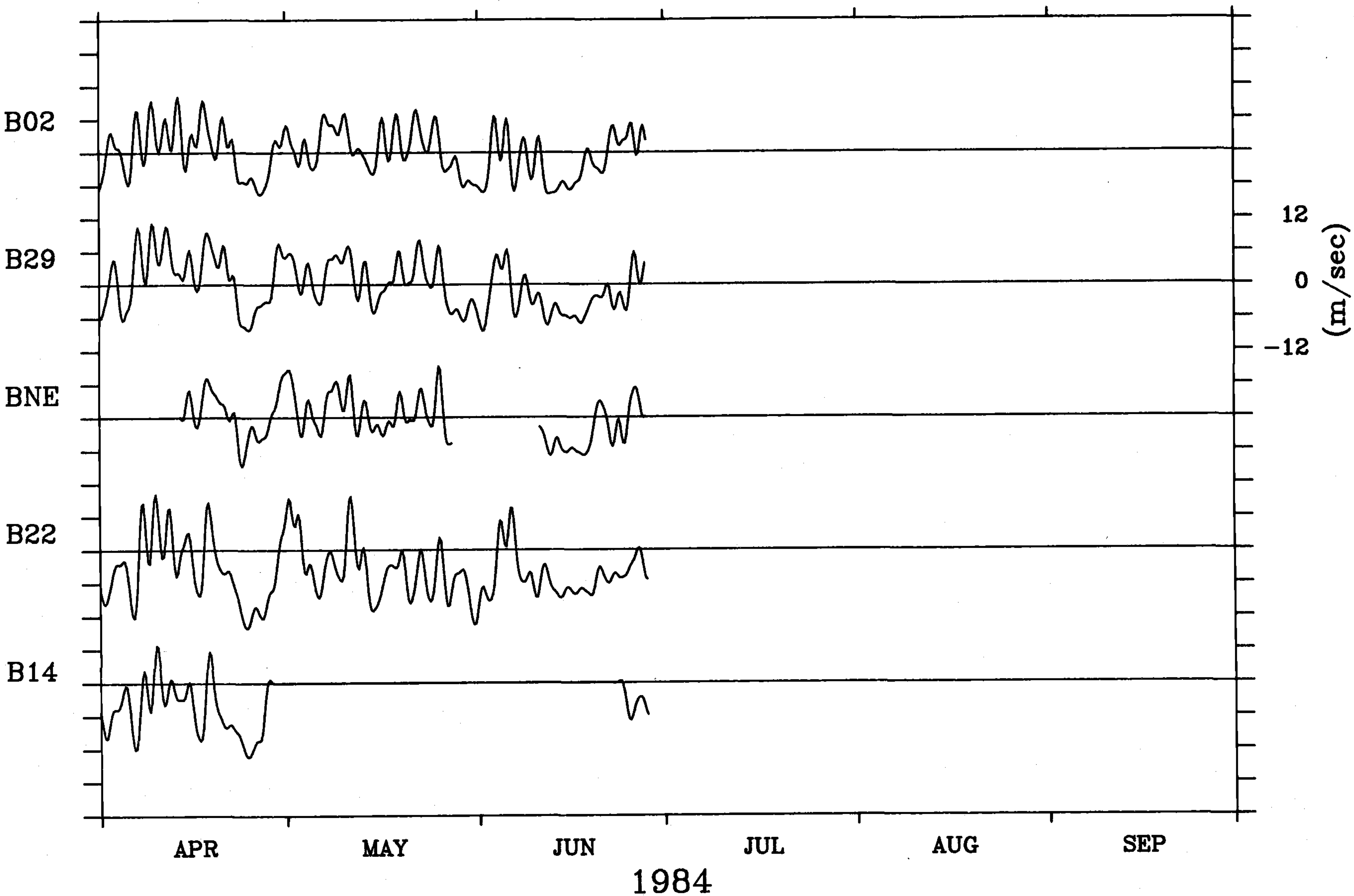

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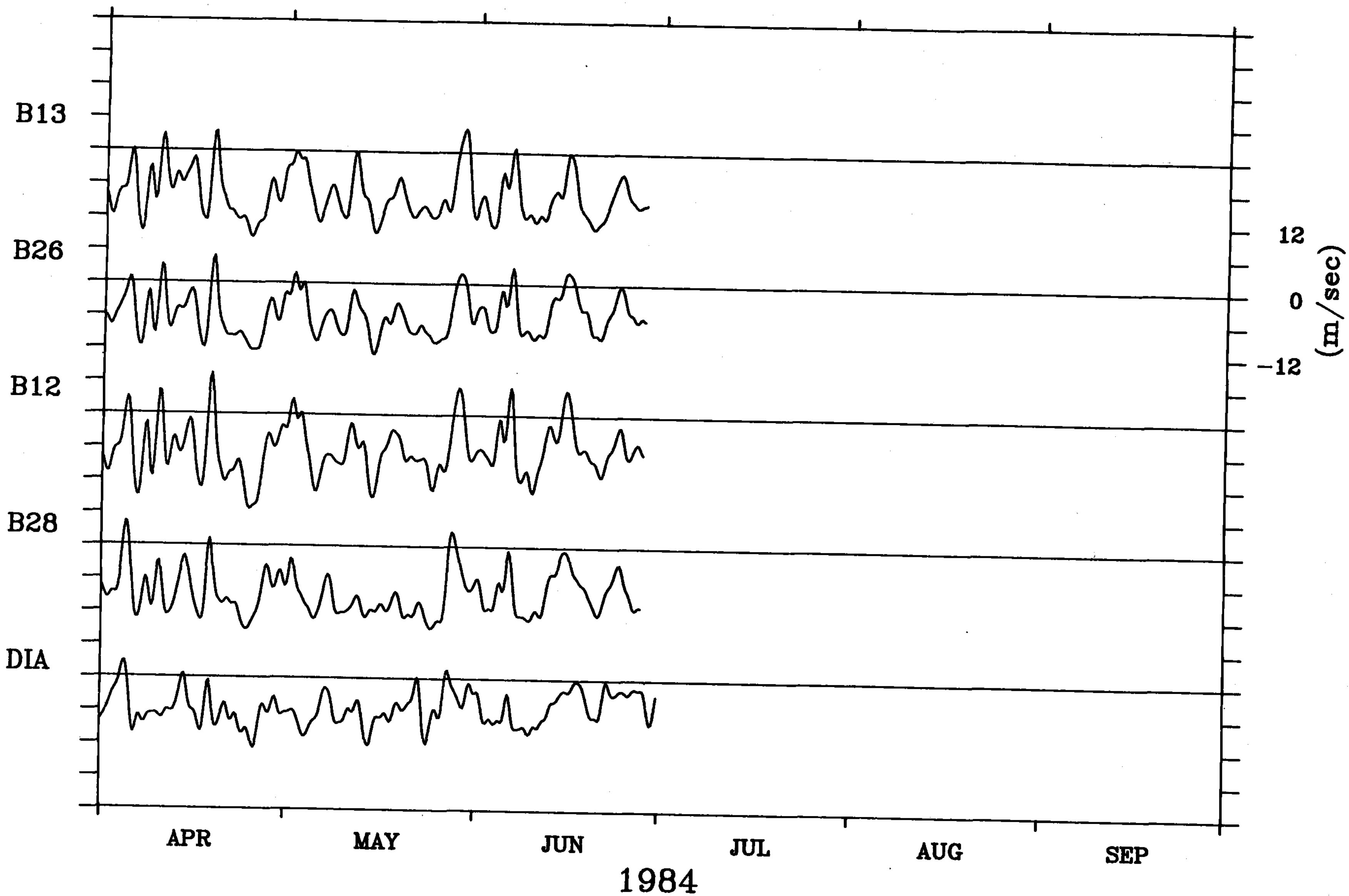

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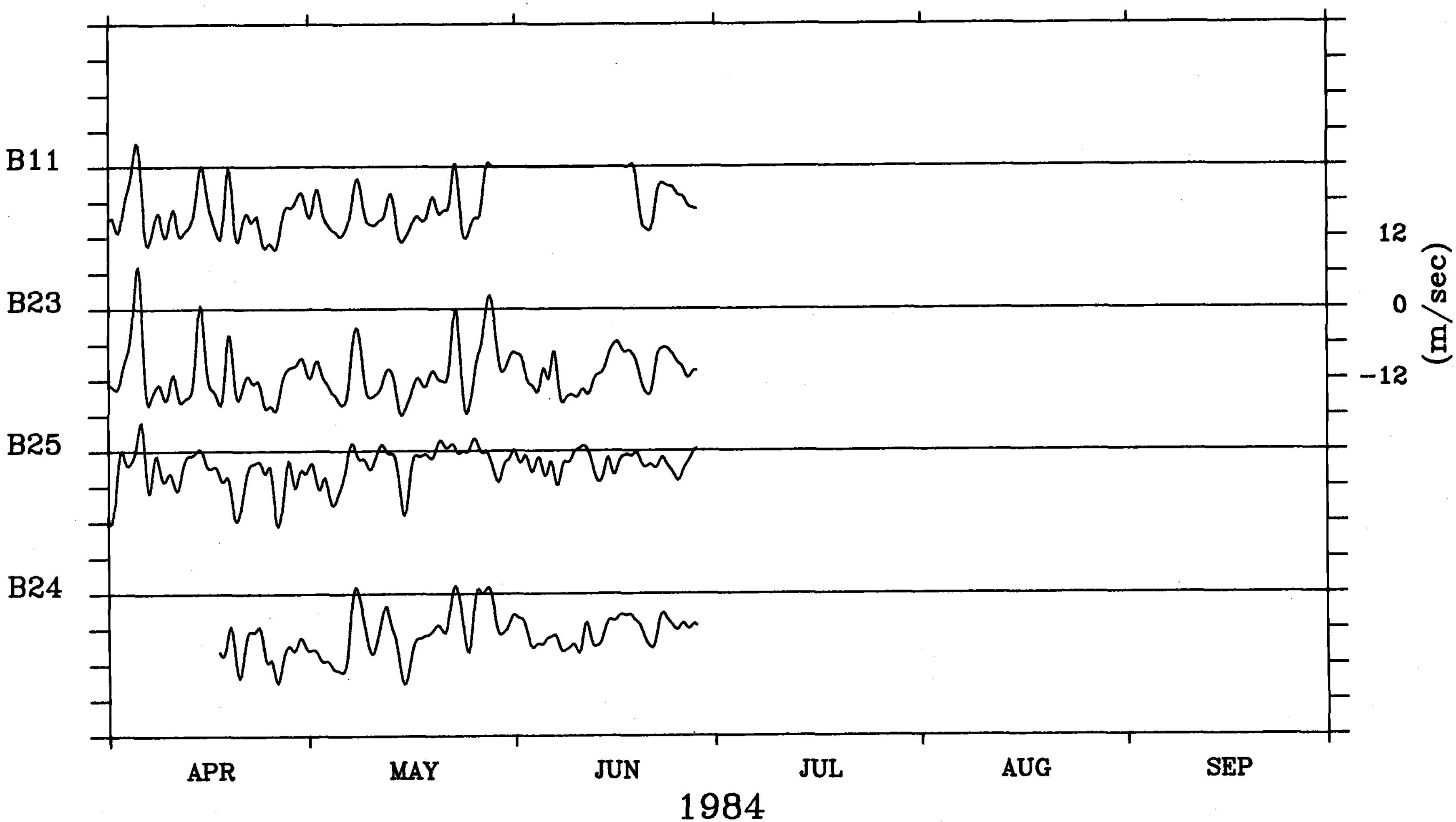
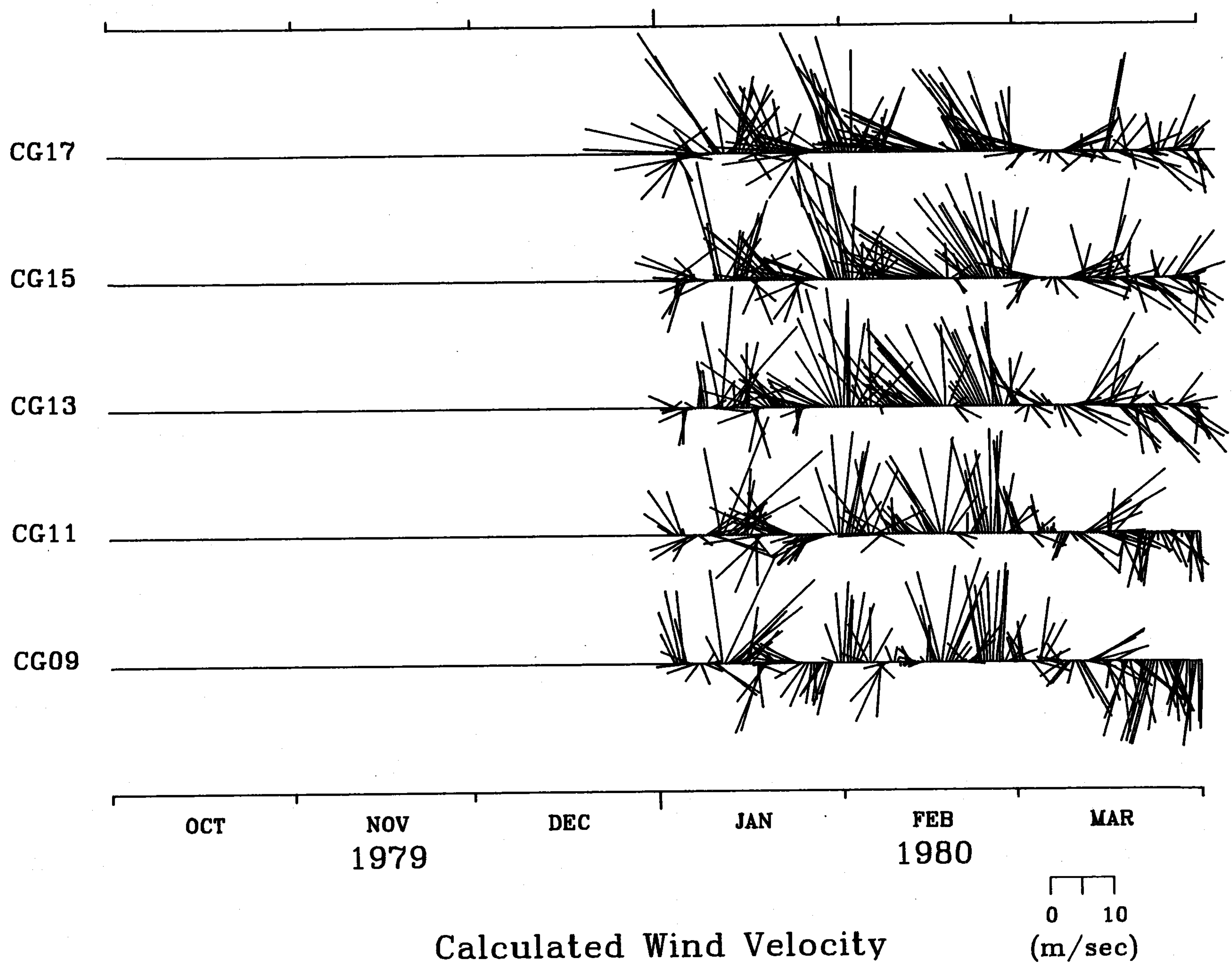
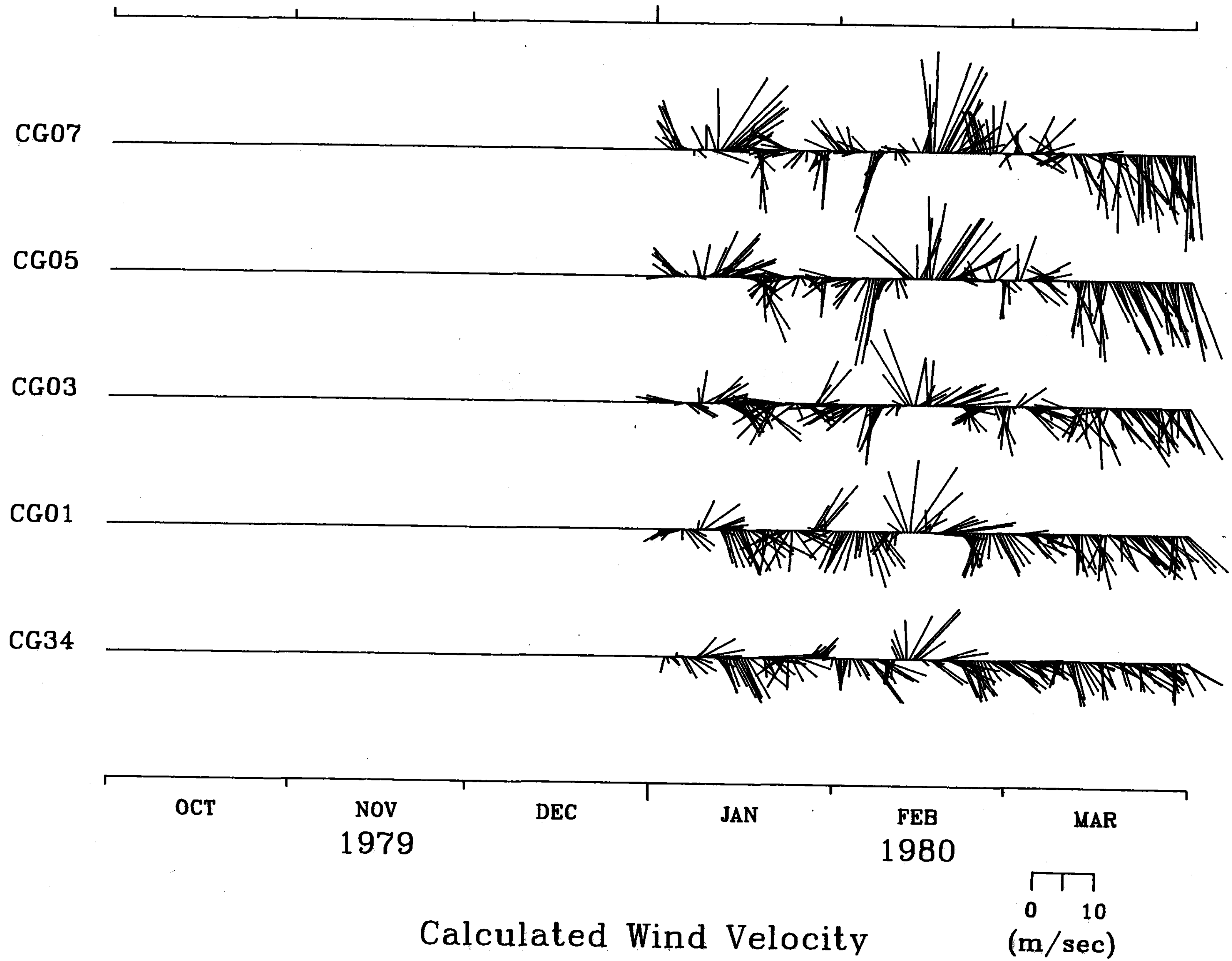


Major Axis Wind Component

6. LLP Calculated Wind Vector Plots.



Calculated Wind Velocity



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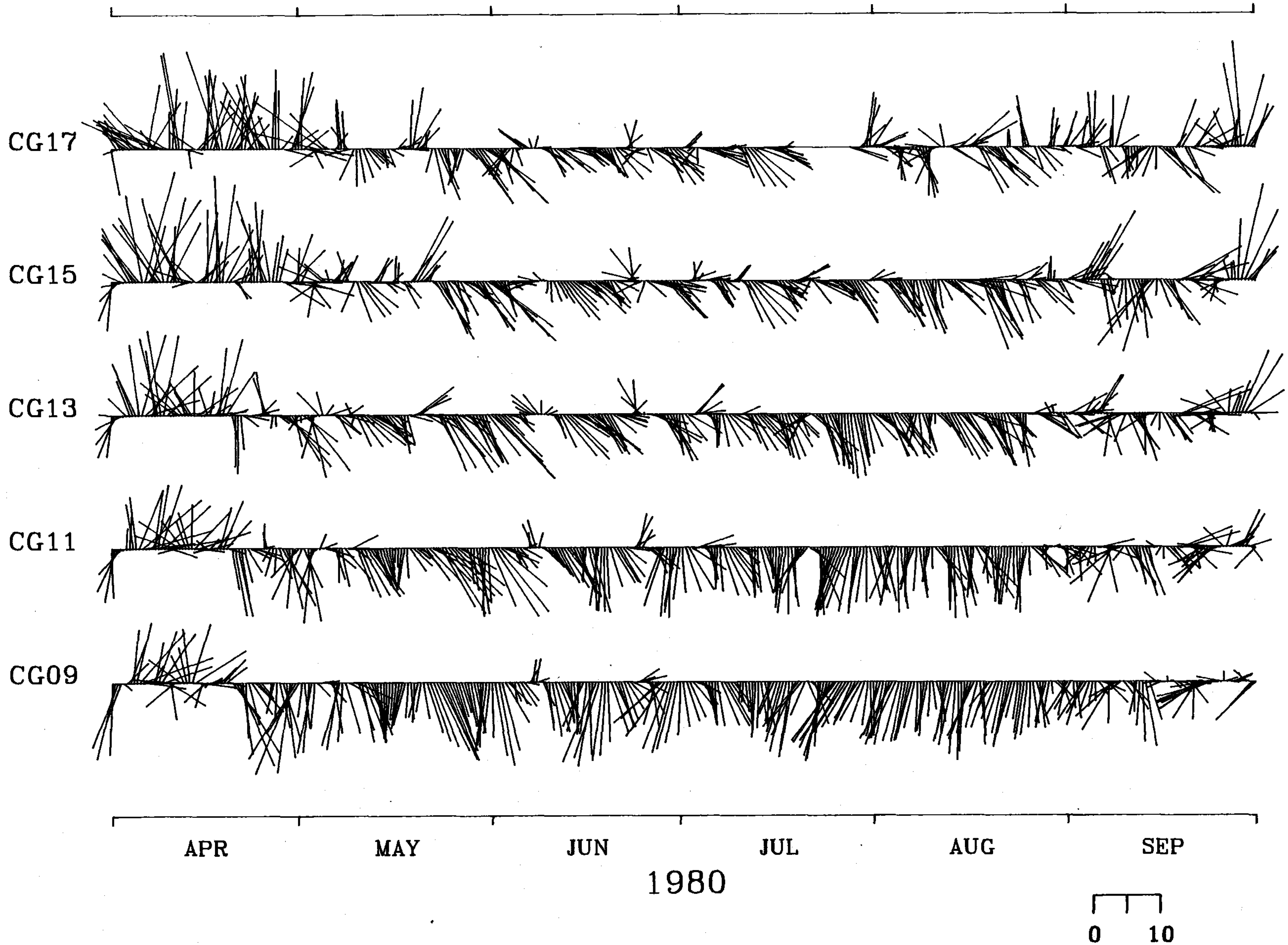
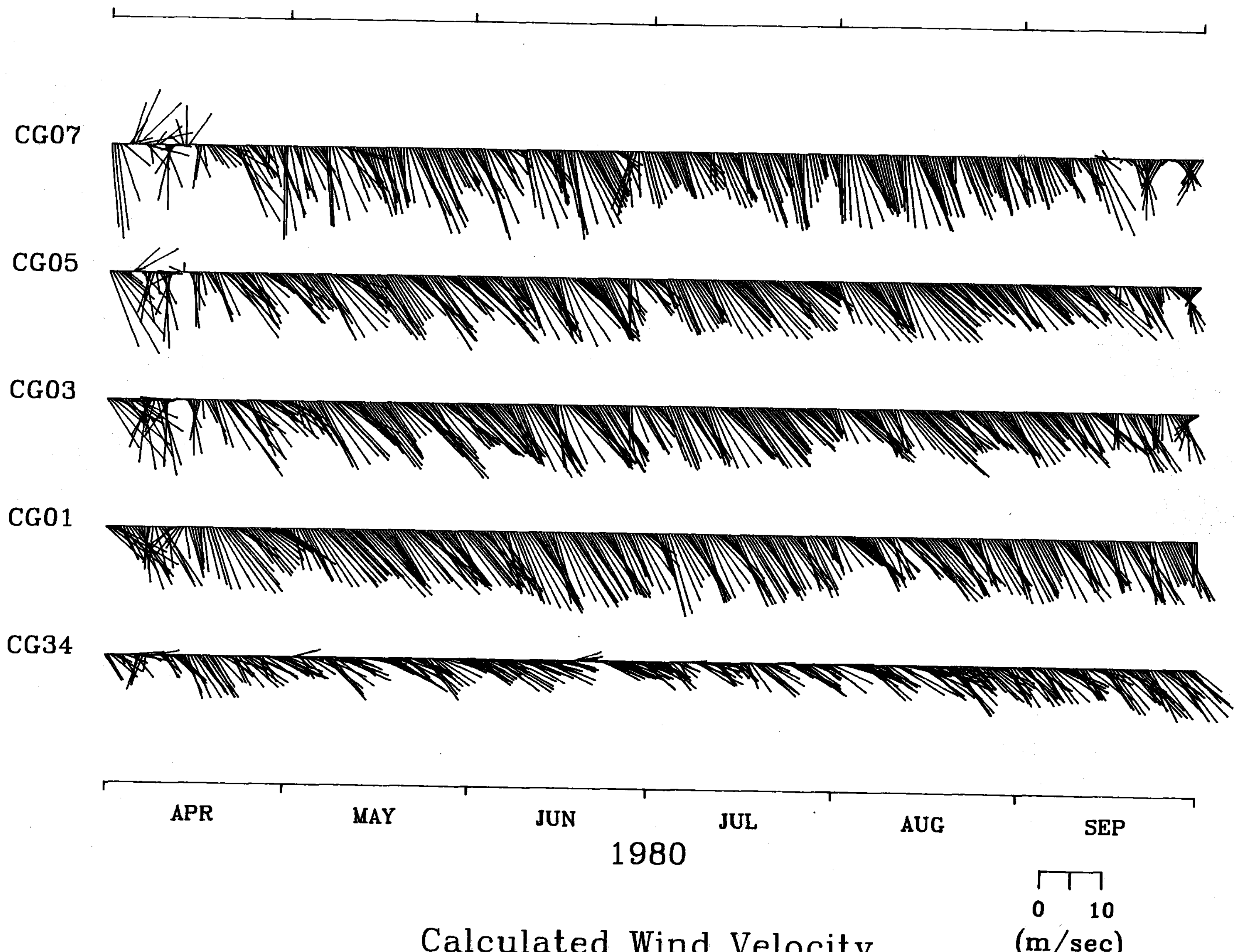


Calculated Wind Velocity



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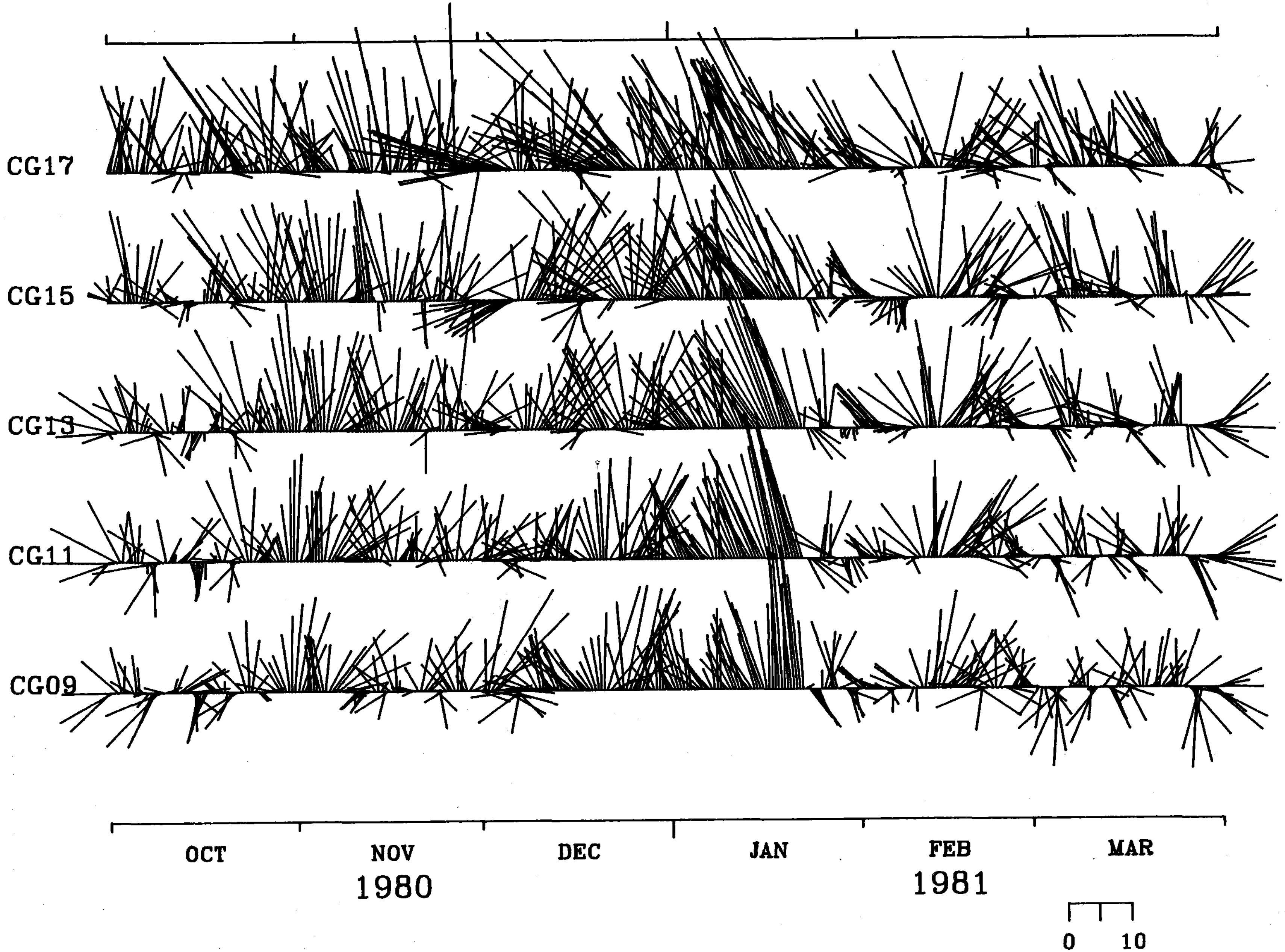

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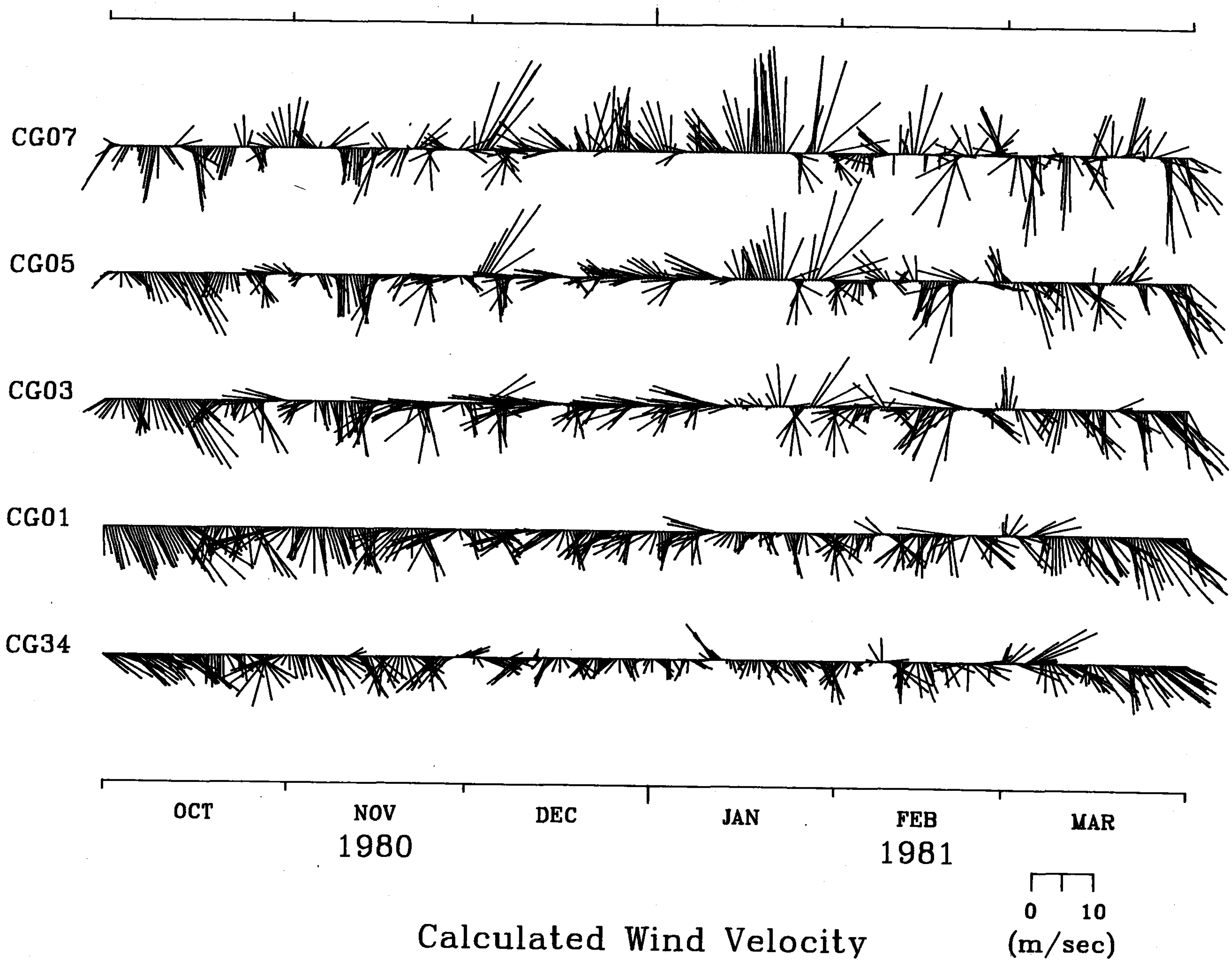

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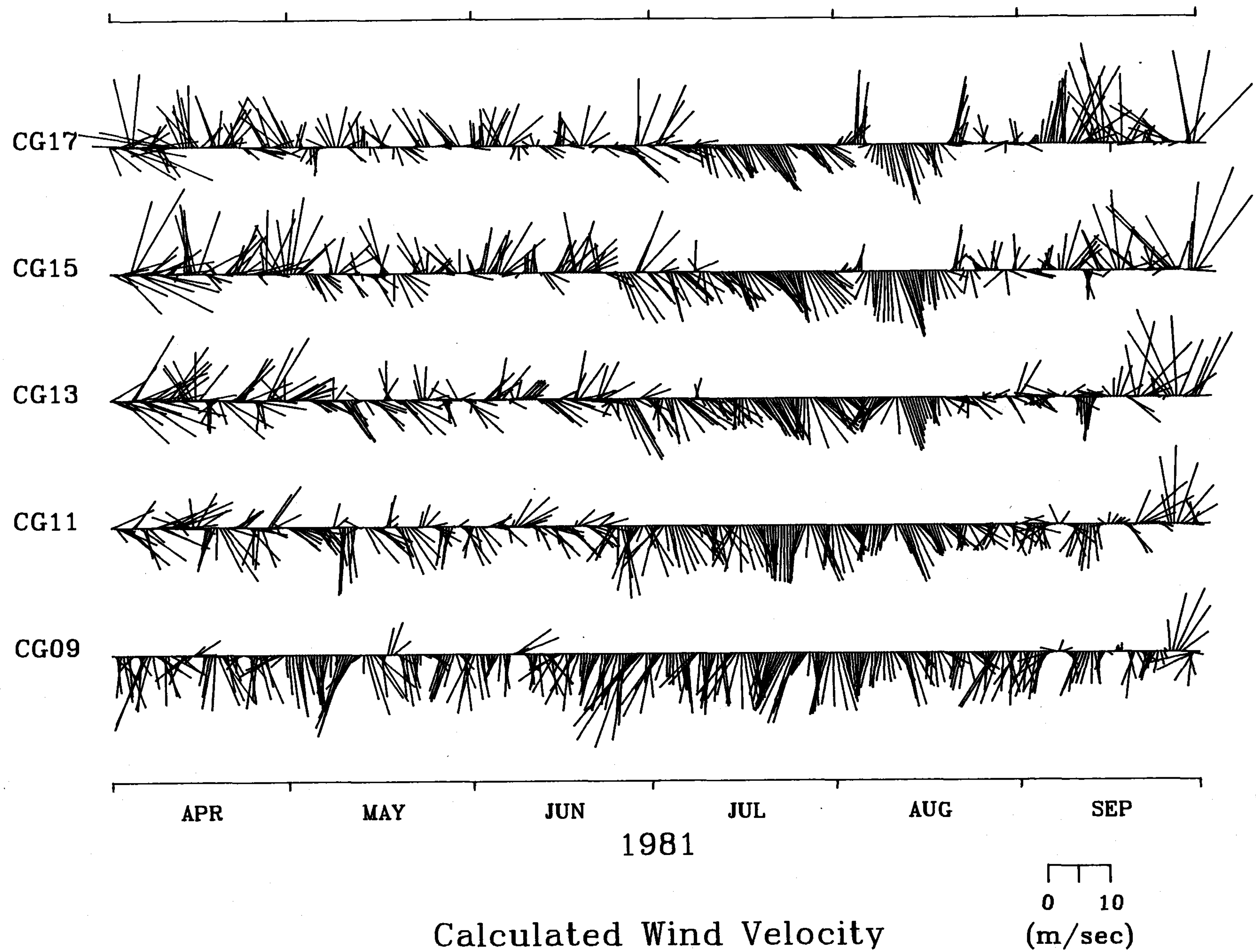

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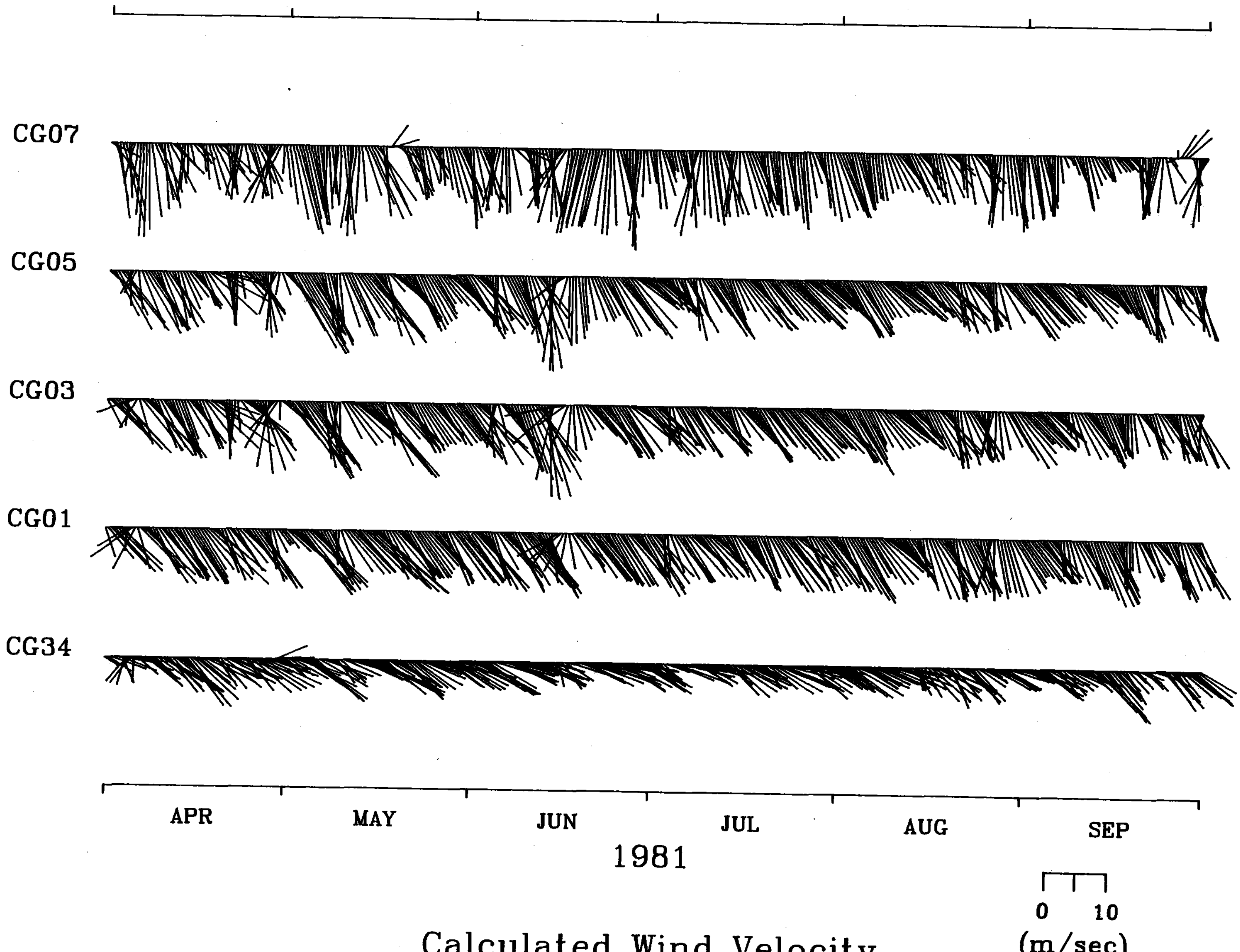

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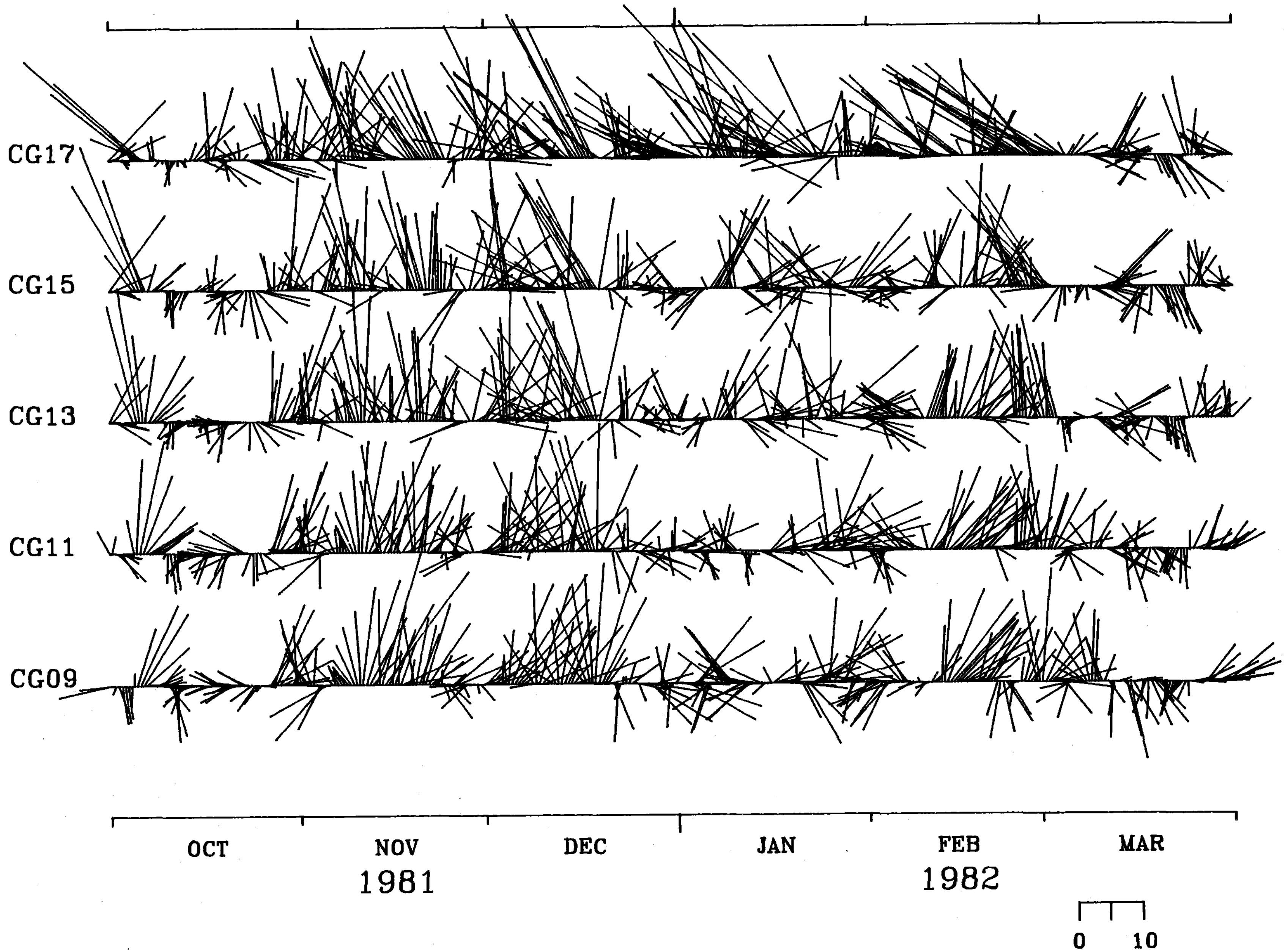

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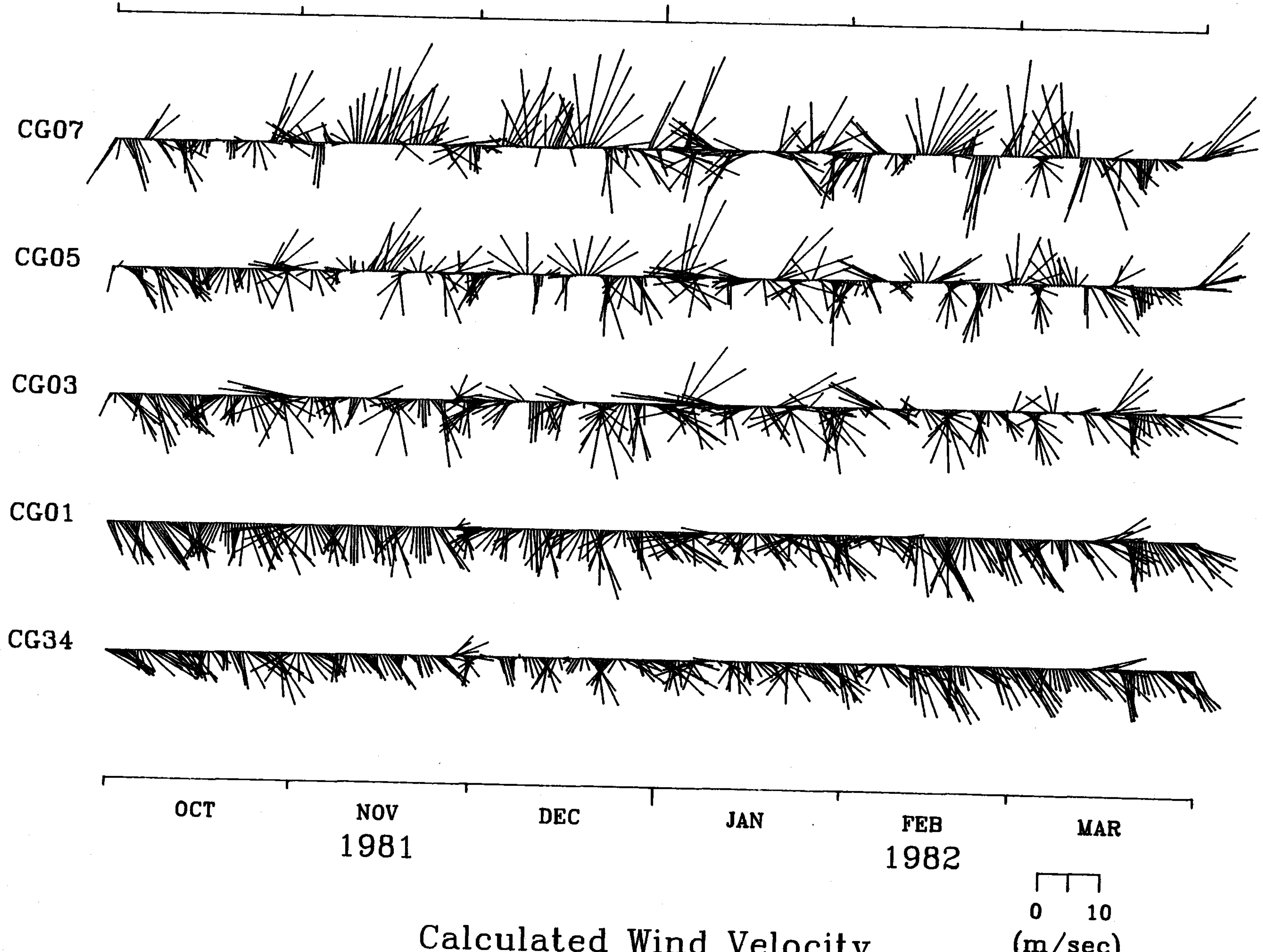

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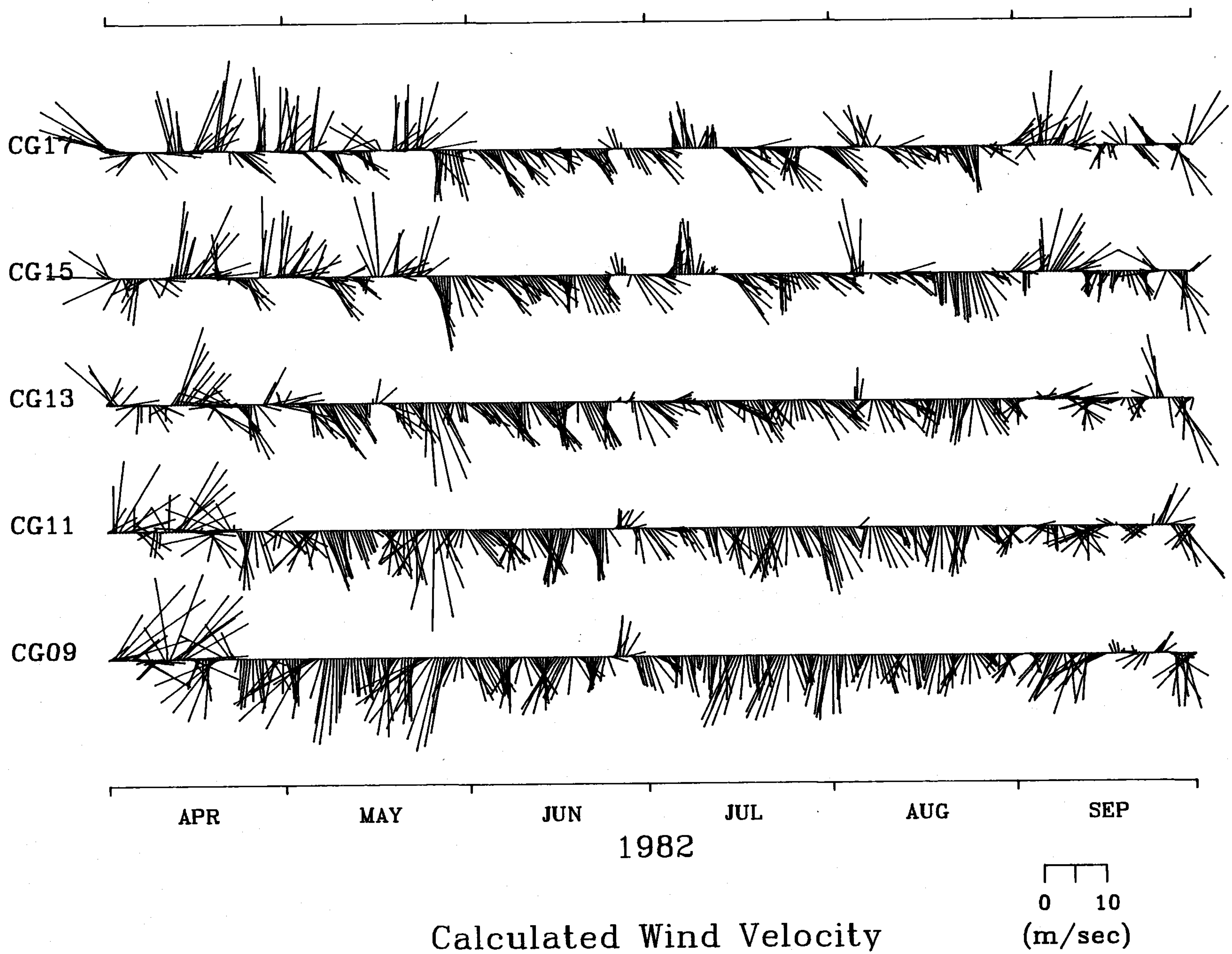

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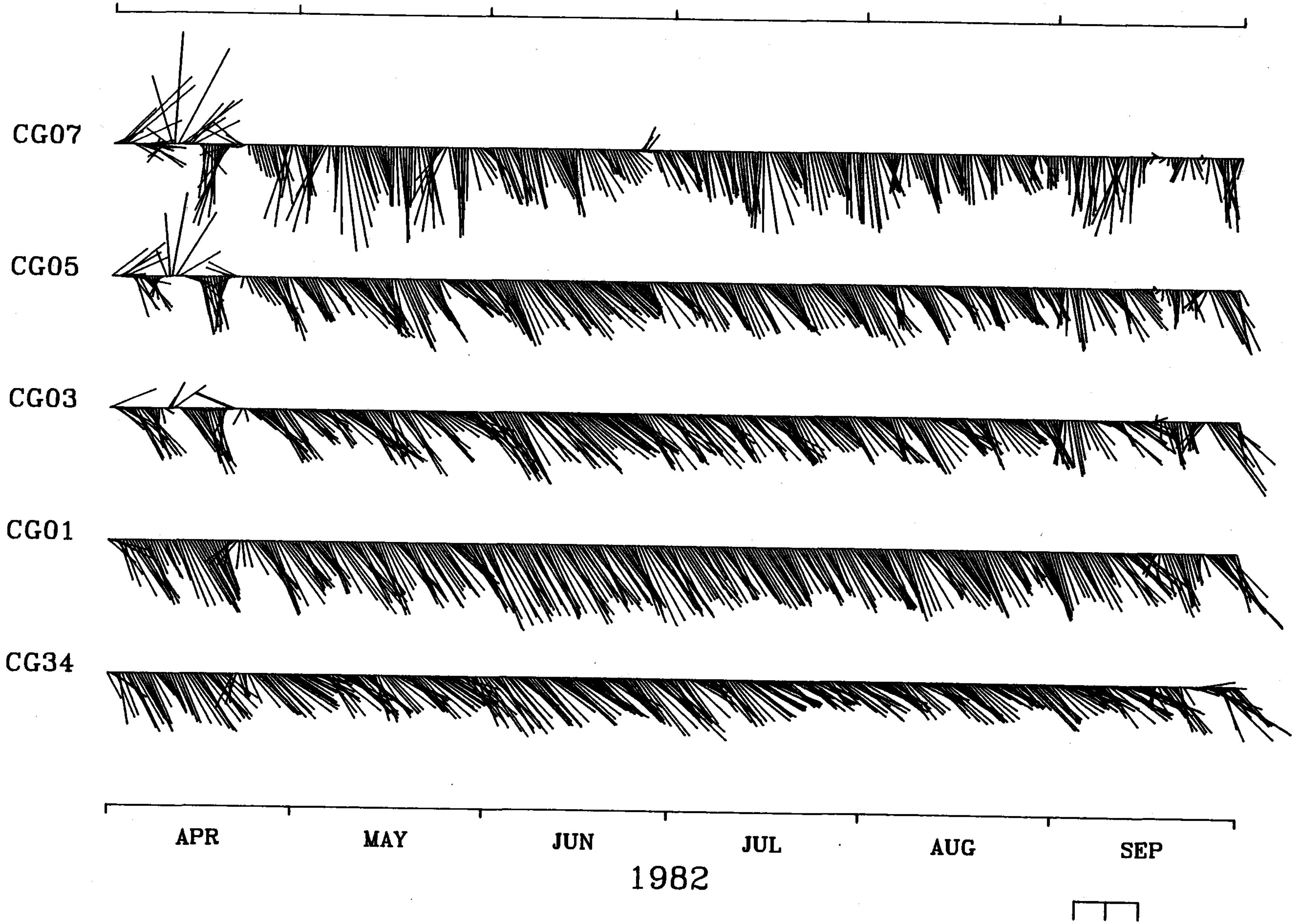

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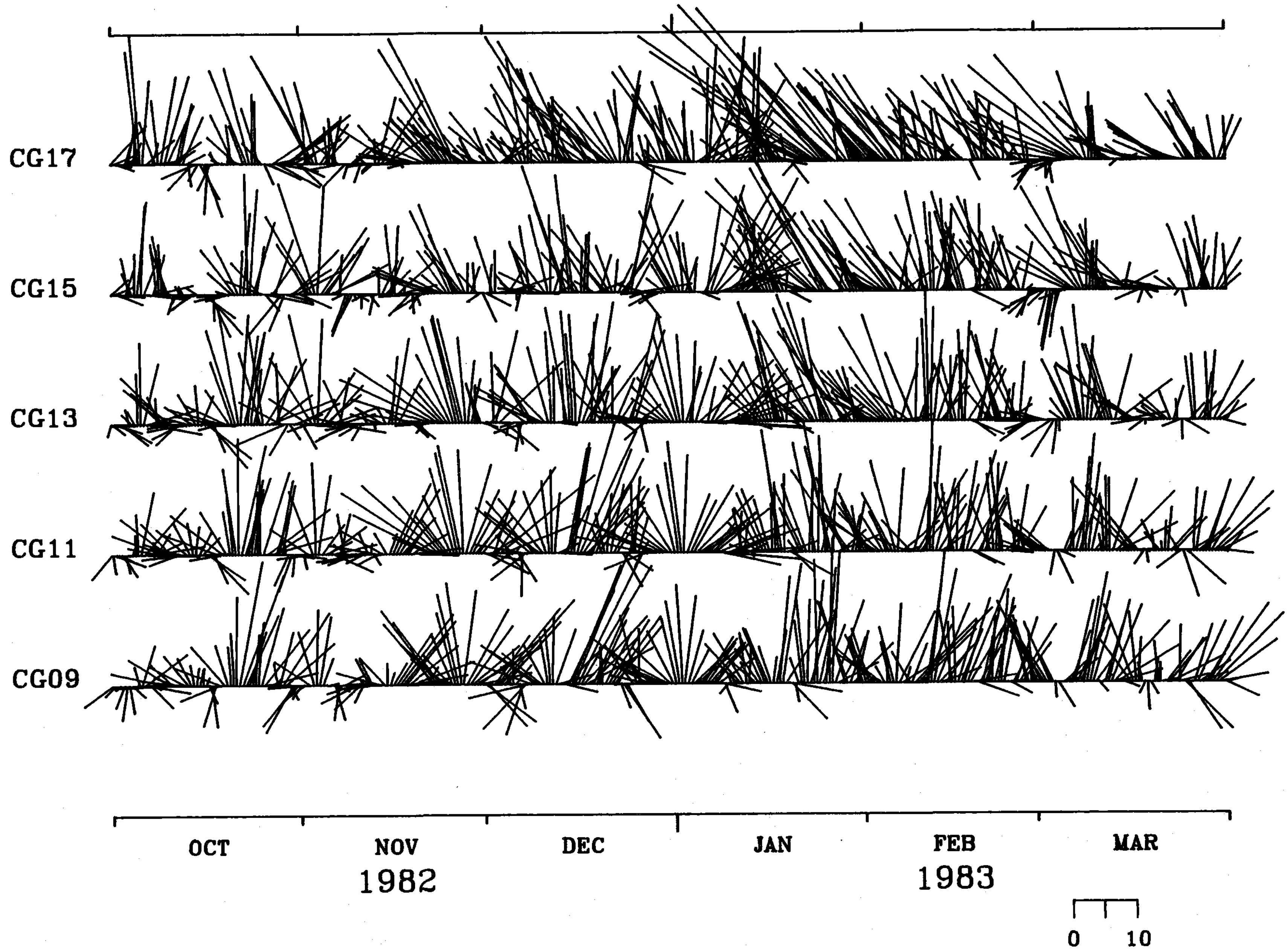
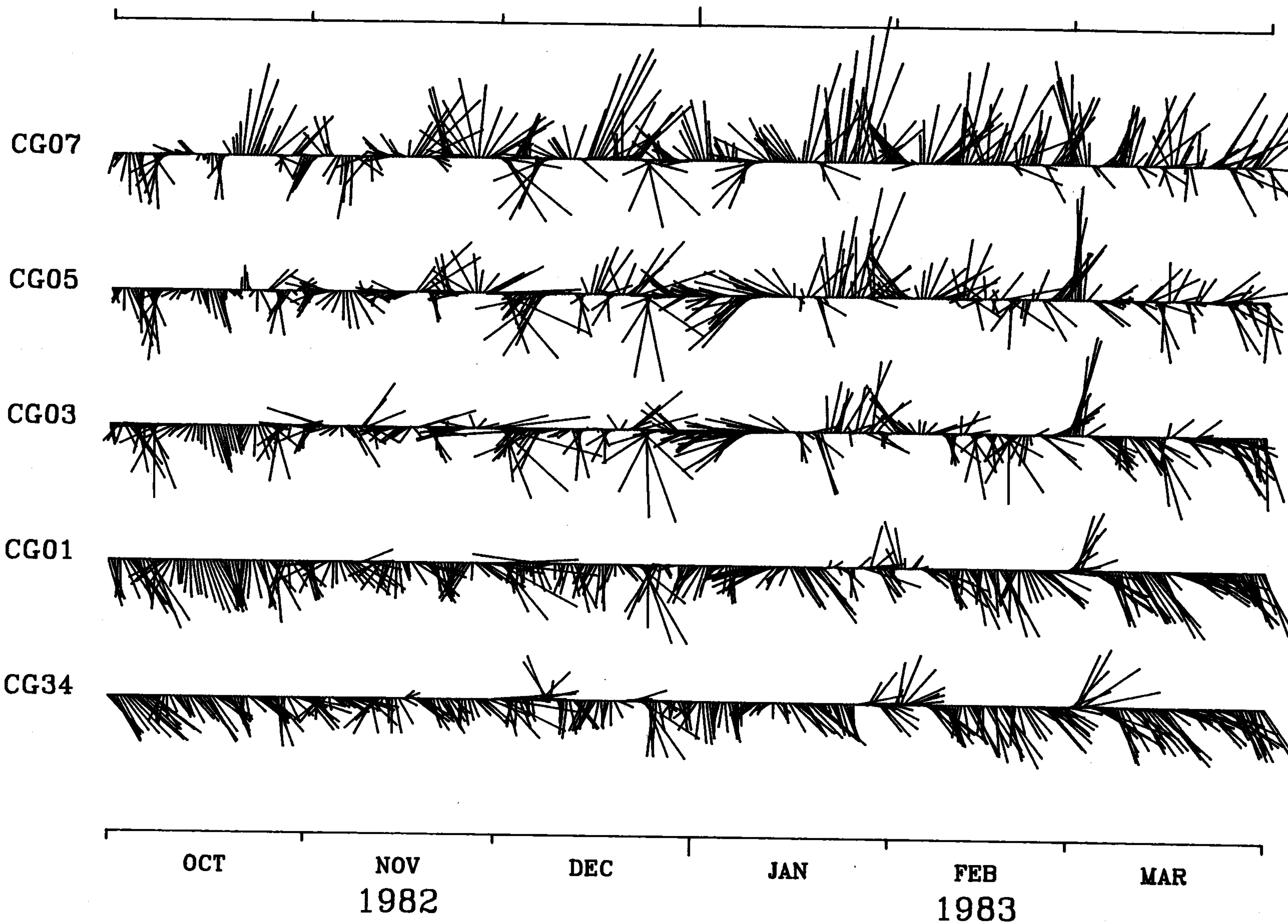


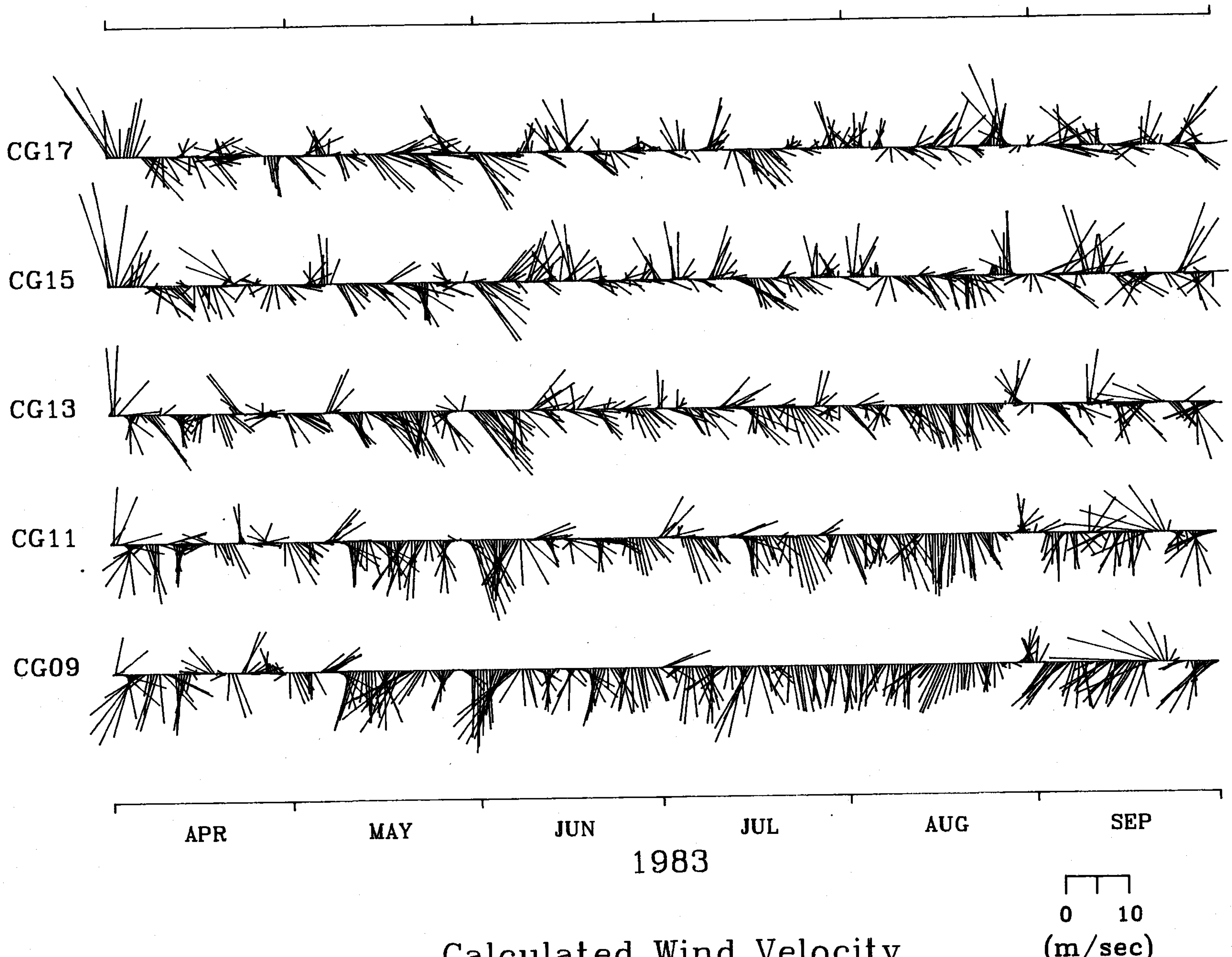
Calculated Wind Velocity

6.15

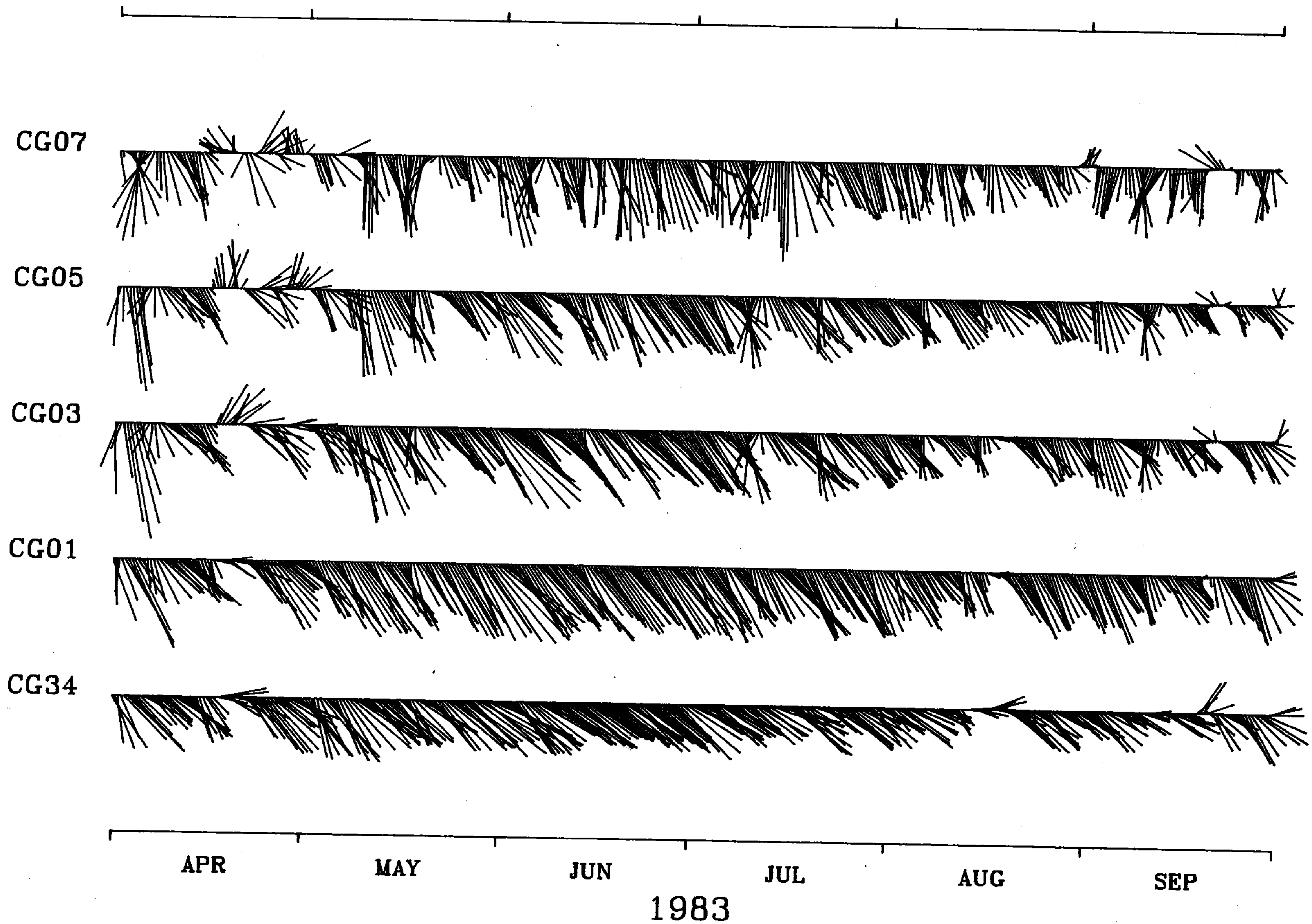


0 10
(m/sec)

Calculated Wind Velocity

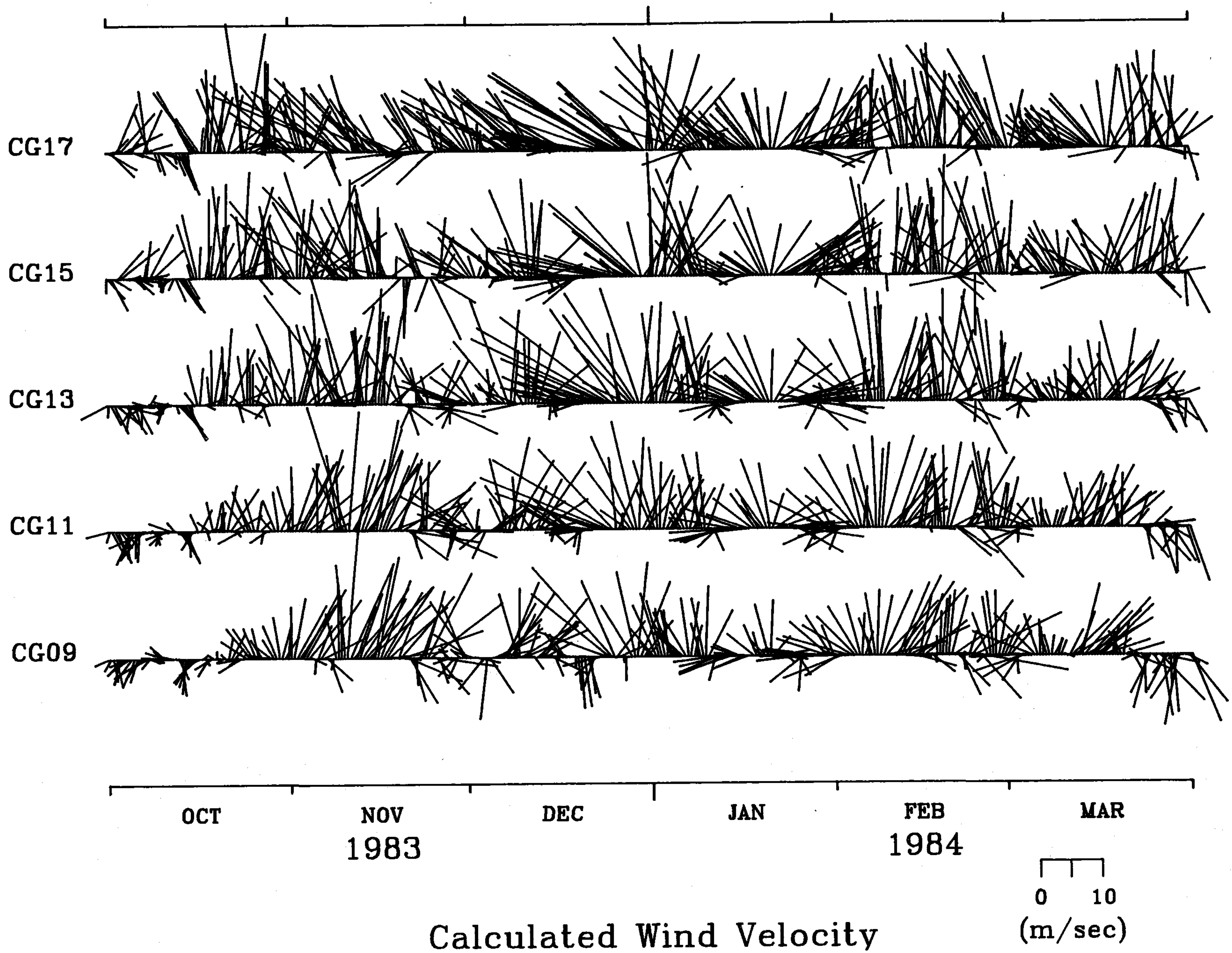


Calculated Wind Velocity

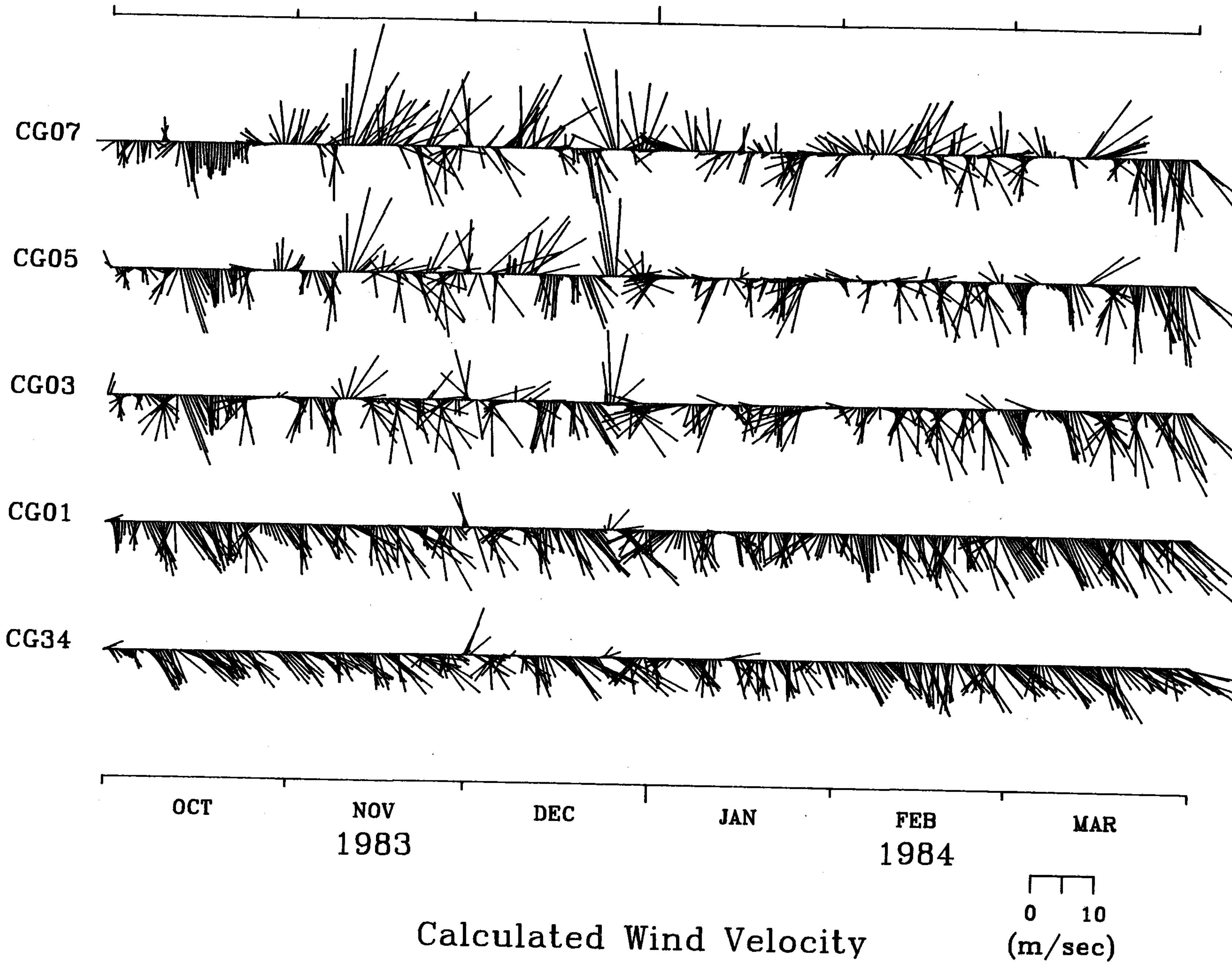


0 10
(m/sec)

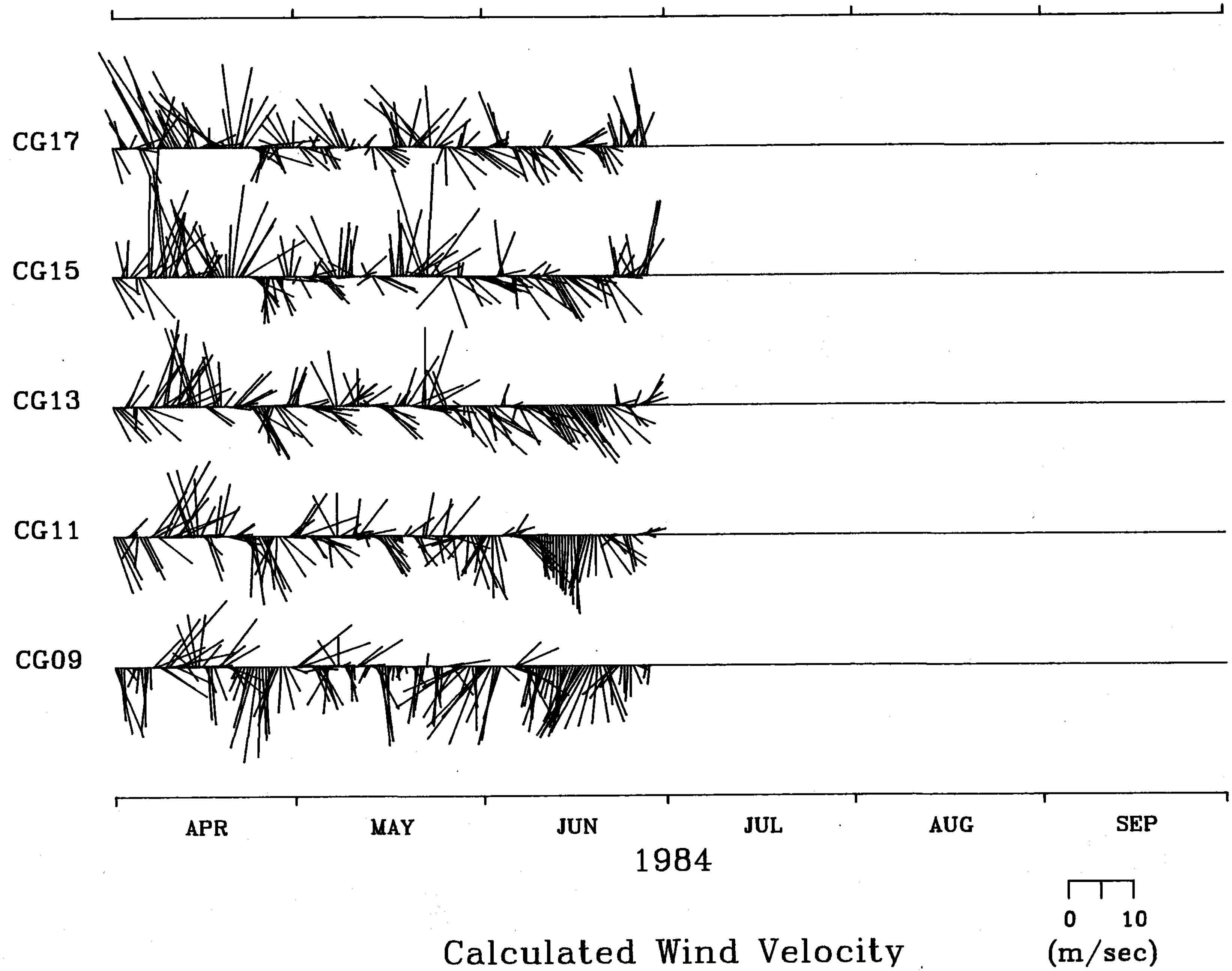
Calculated Wind Velocity



Calculated Wind Velocity

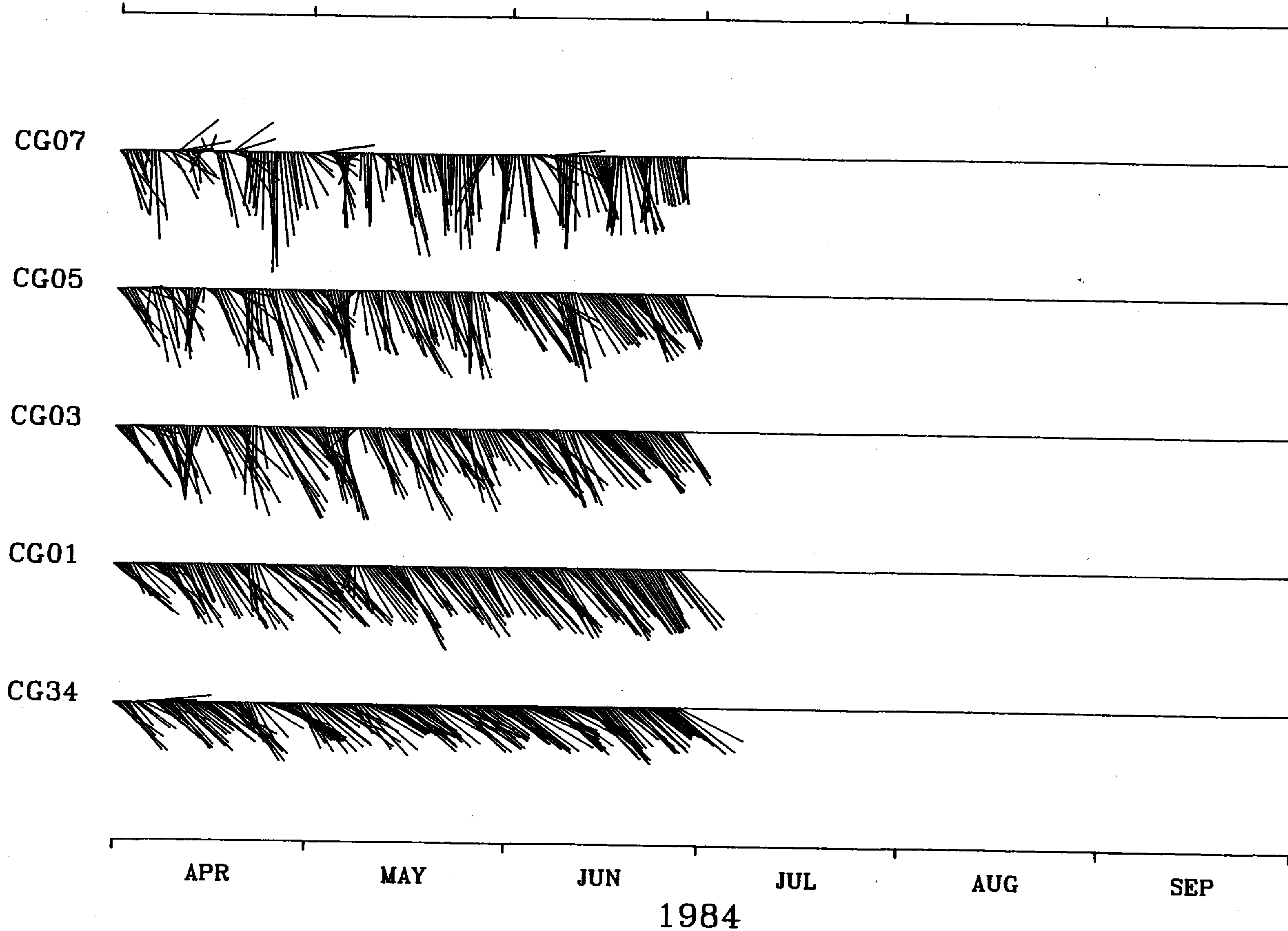


Calculated Wind Velocity



Calculated Wind Velocity

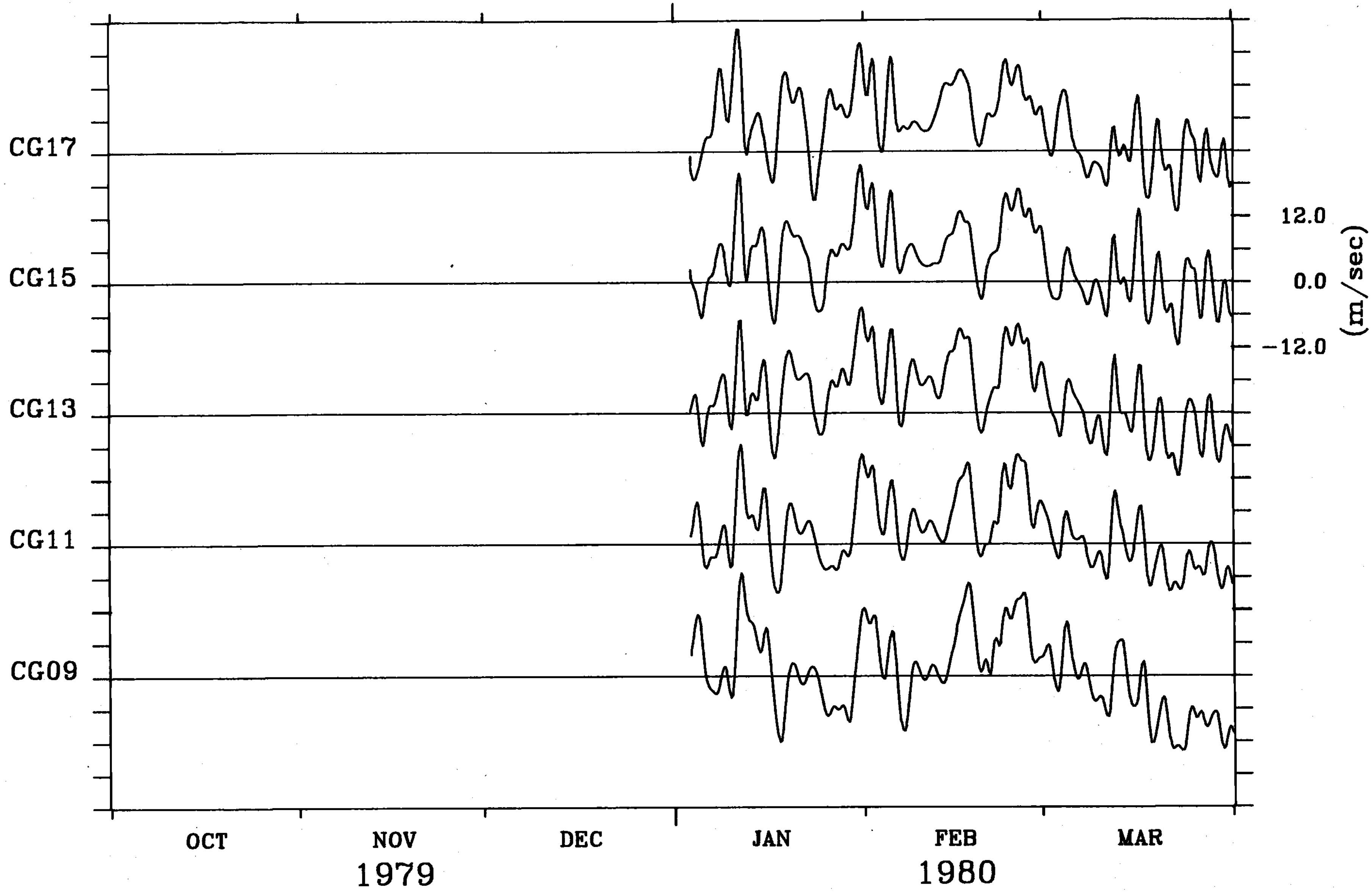
6.21



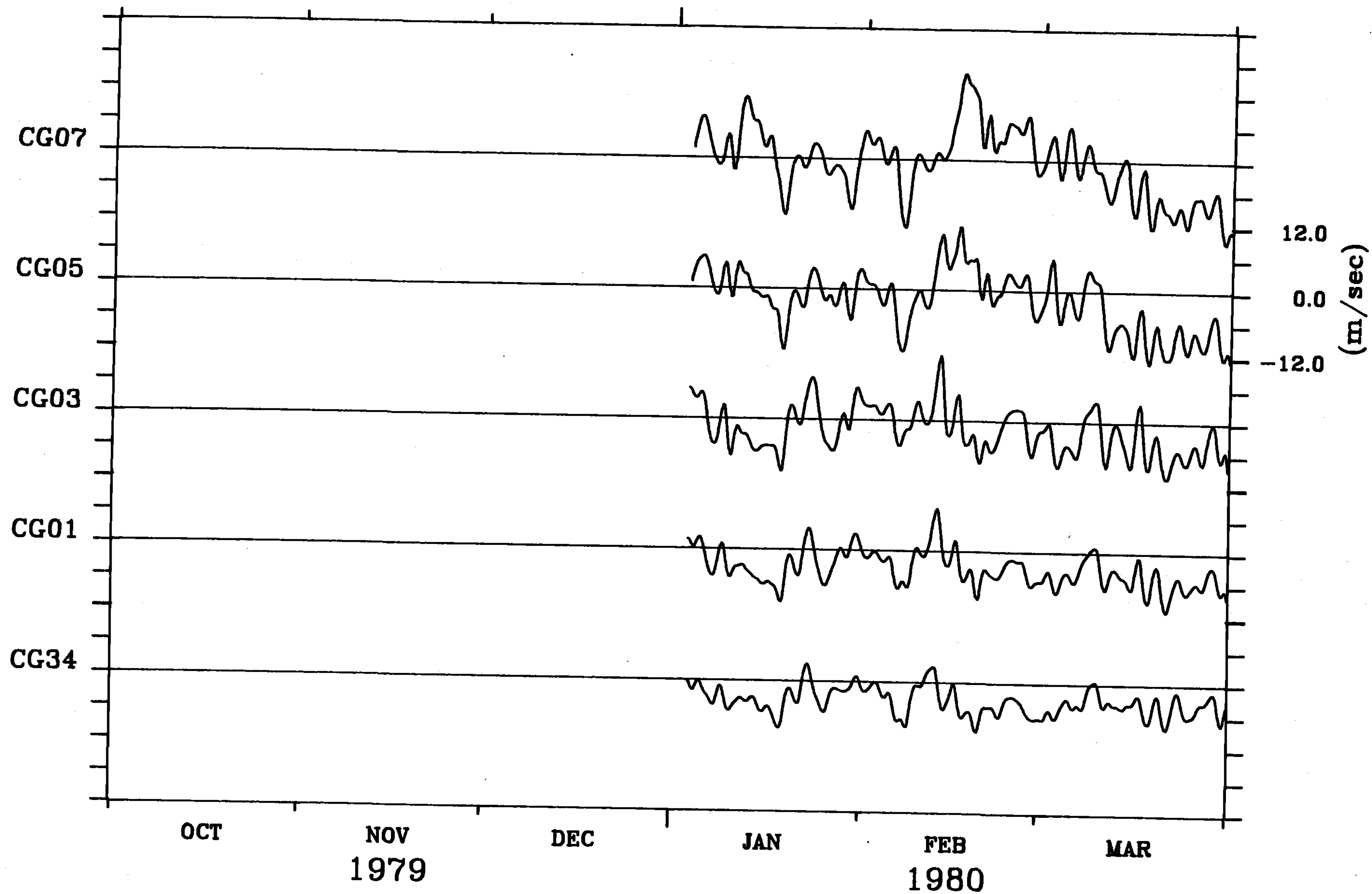
0 10
(m/sec)

Calculated Wind Velocity

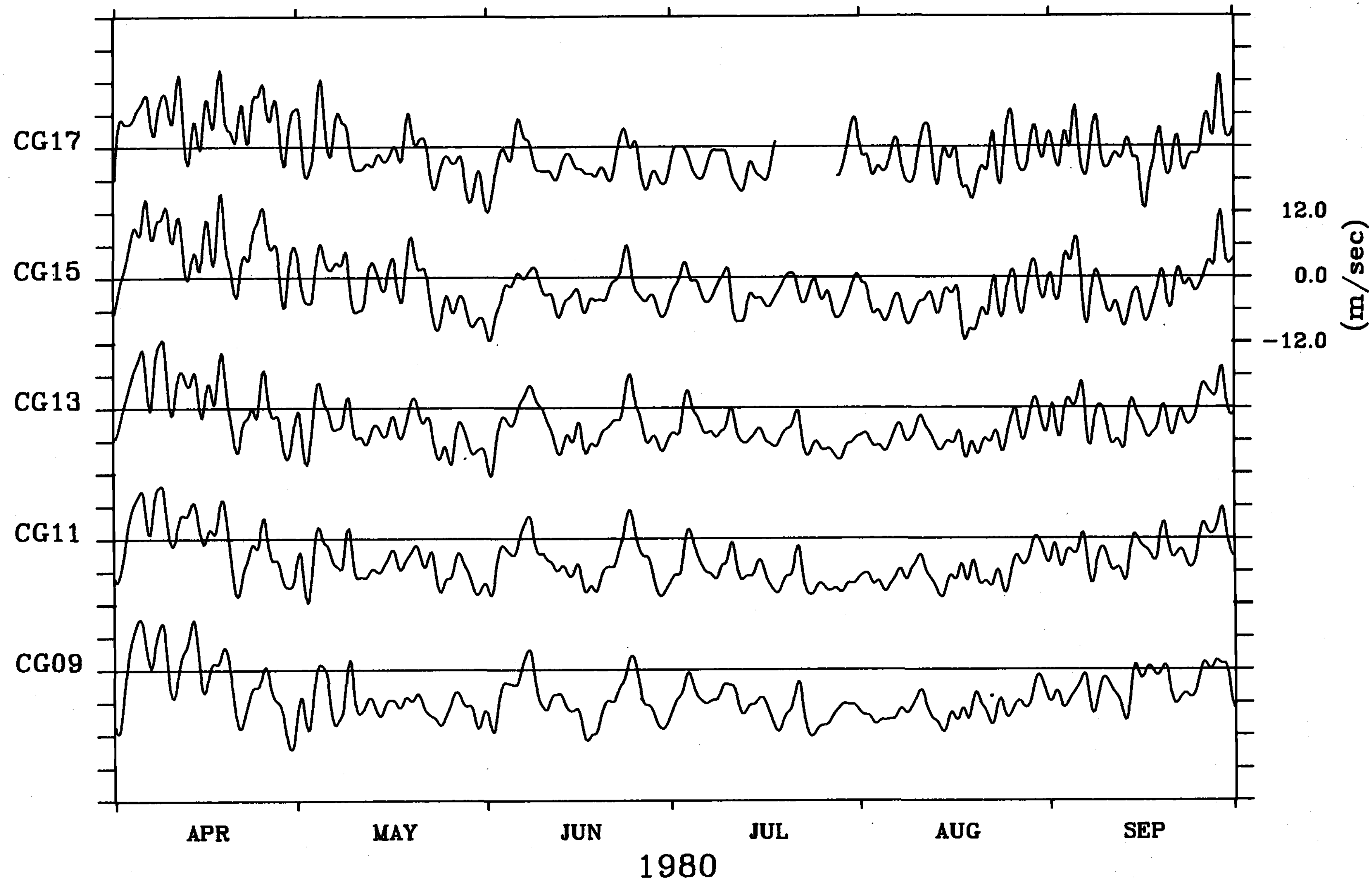
7. LLP Calculated Wind Major Axis Component Plots.



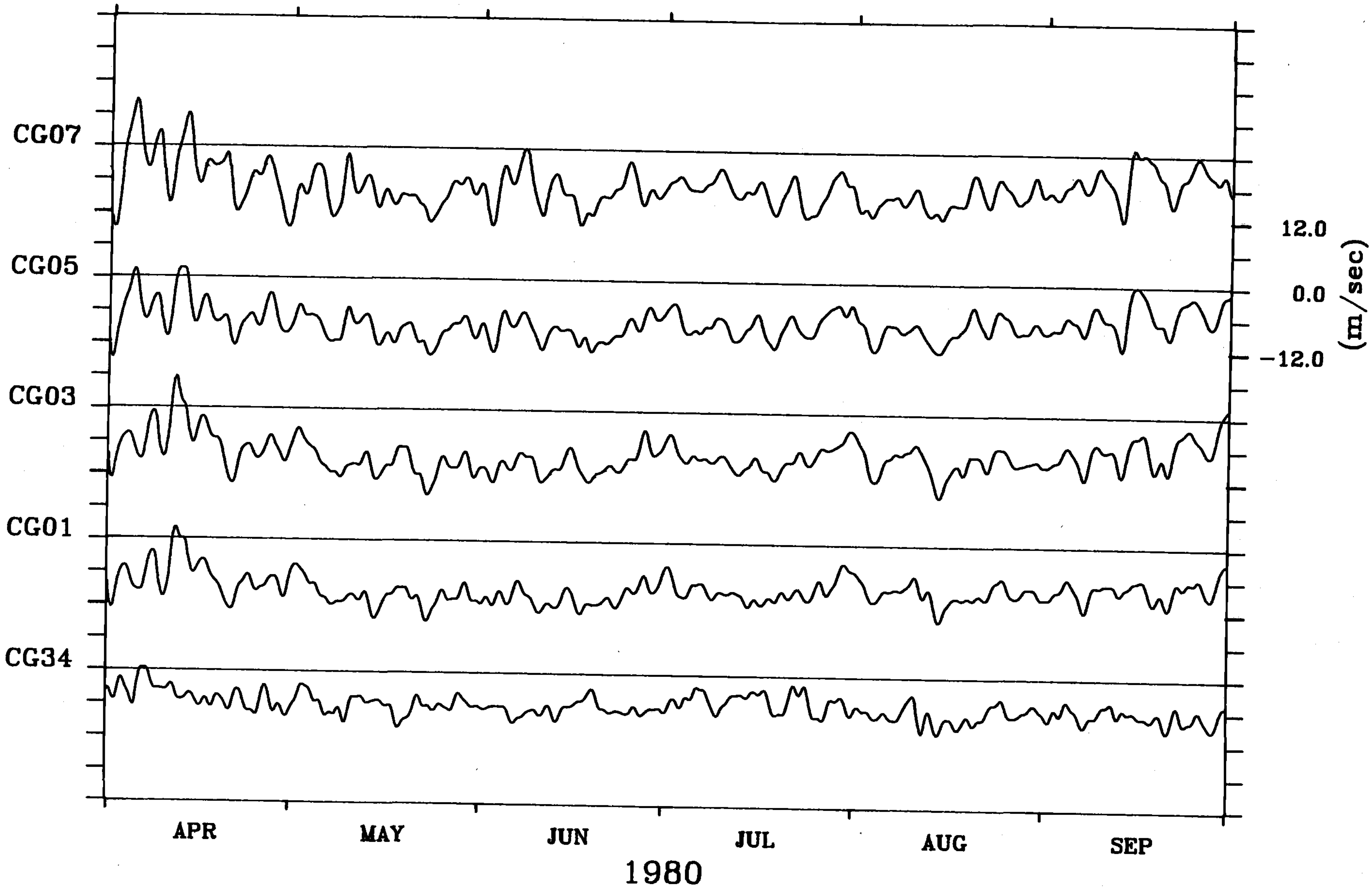
Calculated Major Axis Wind Component



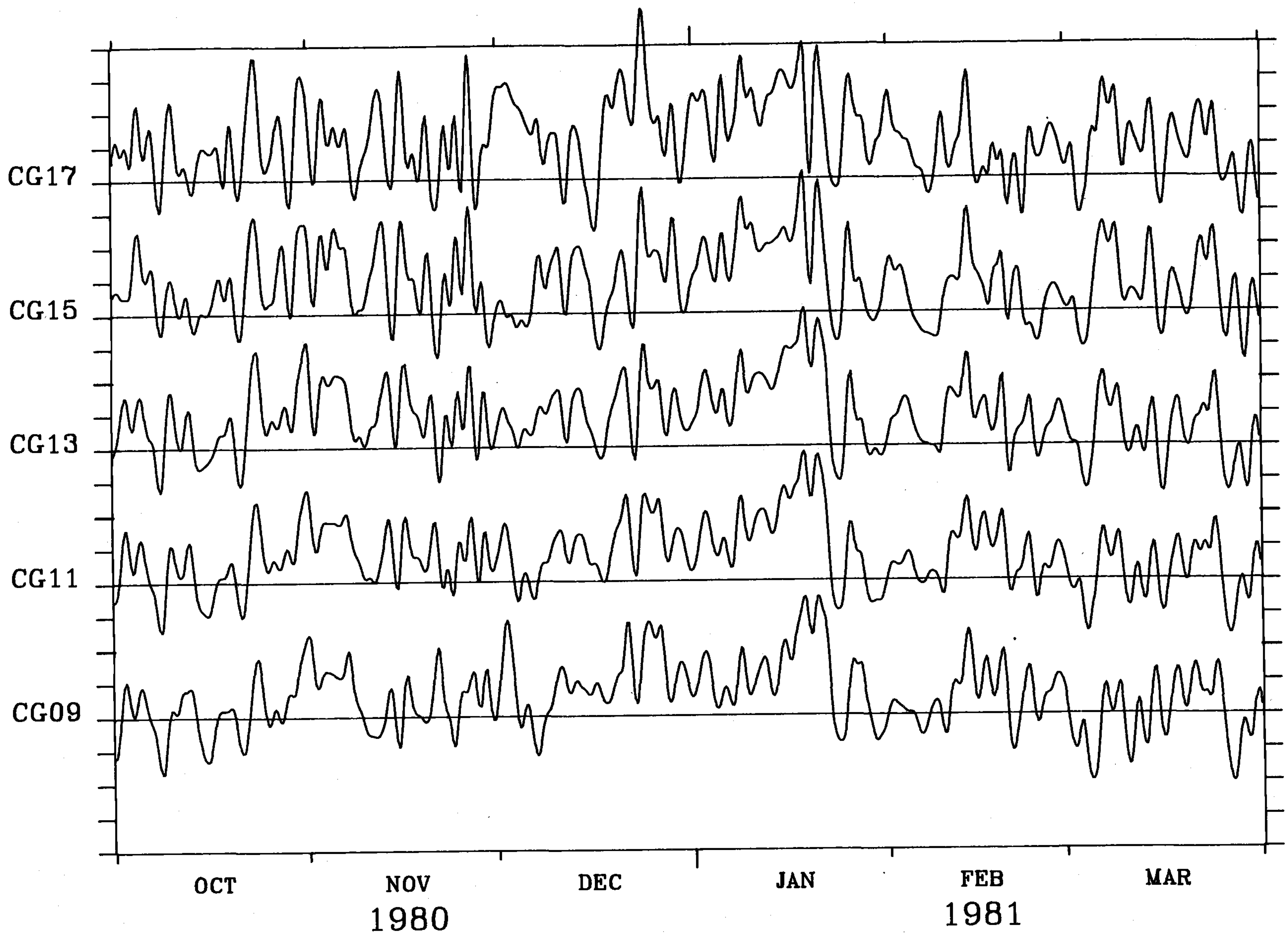
Calculated Major Axis Wind Component



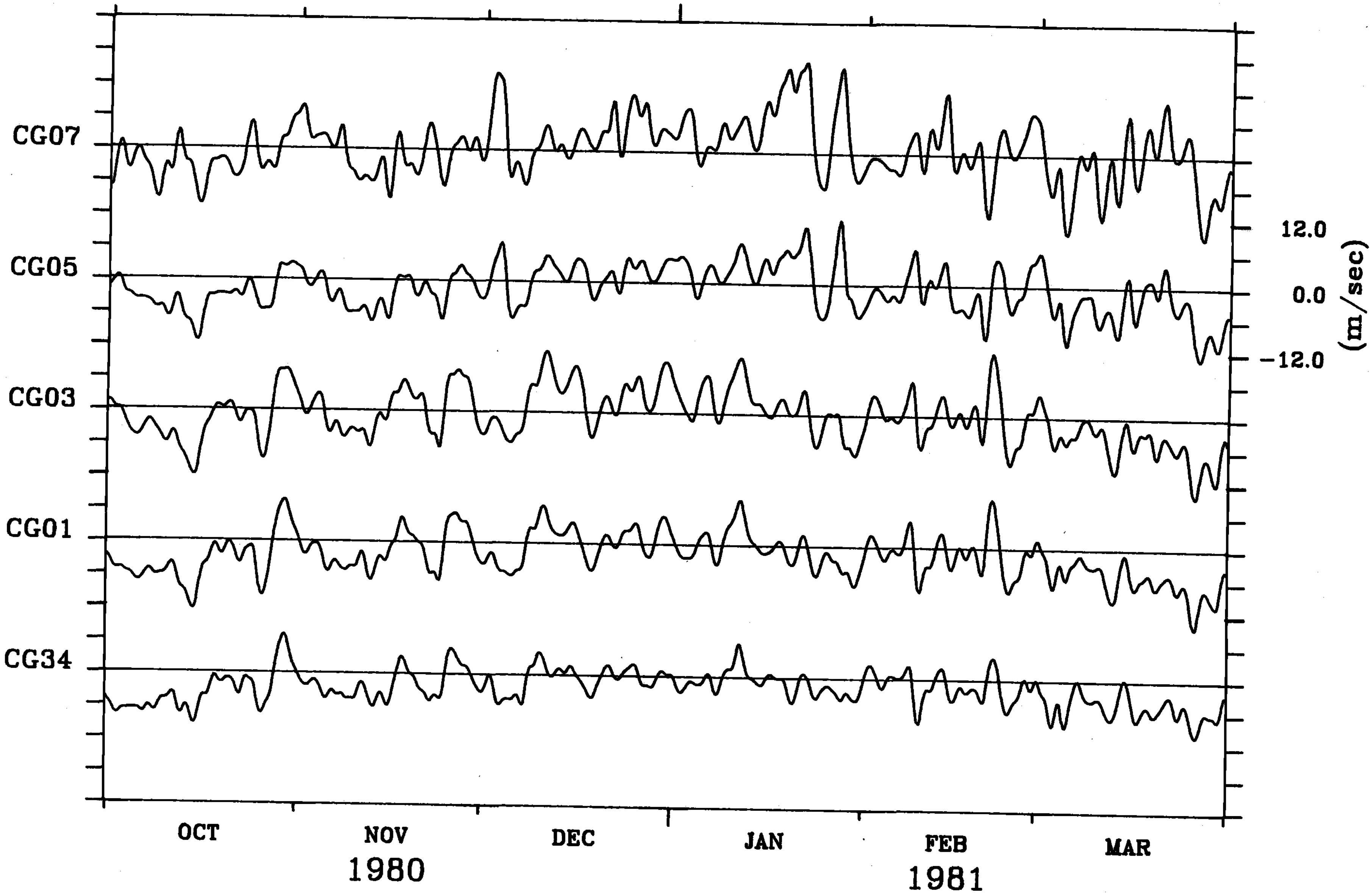
Calculated Major Axis Wind Component



Calculated Major Axis Wind Component



Calculated Major Axis Wind Component



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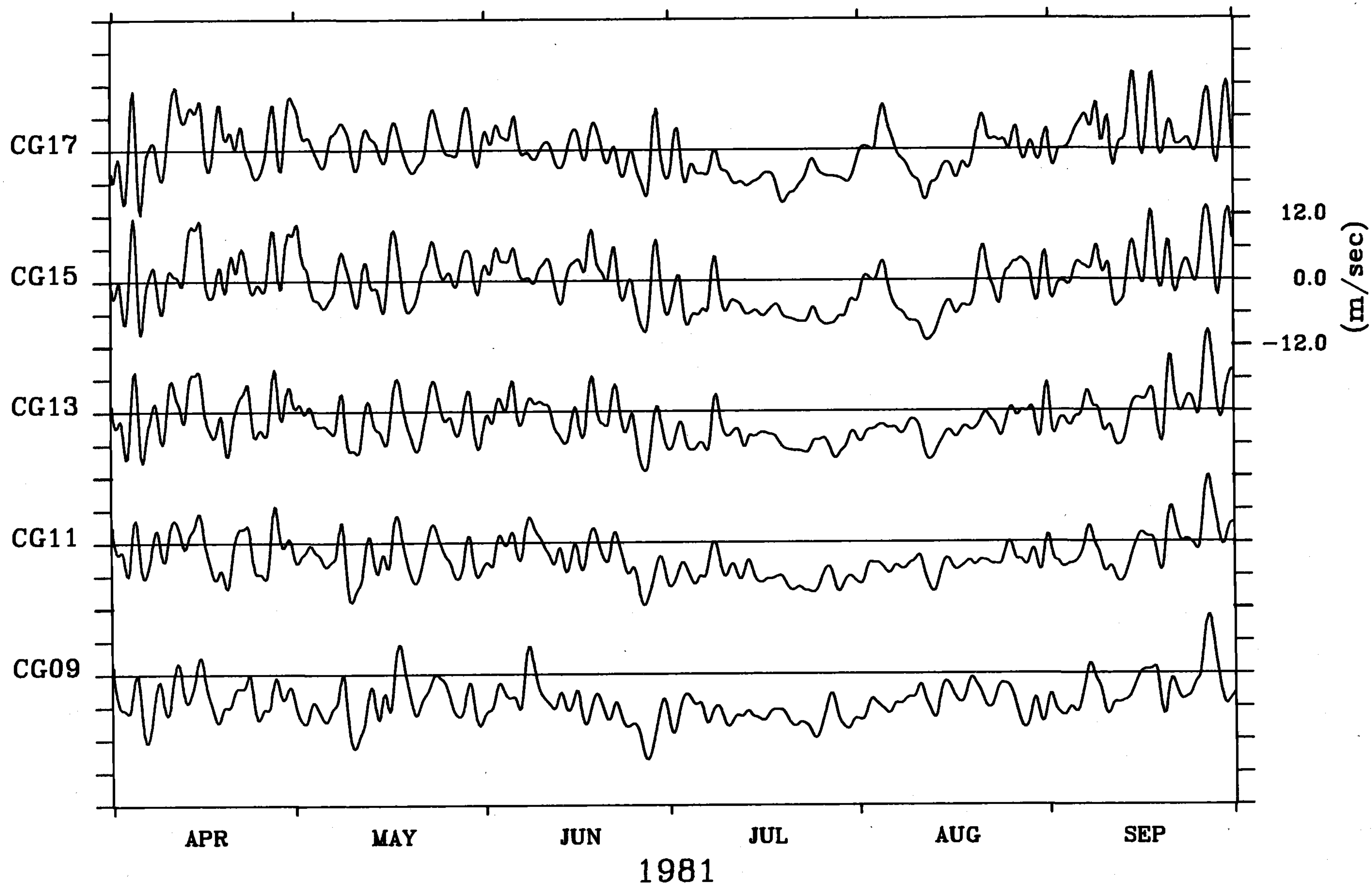

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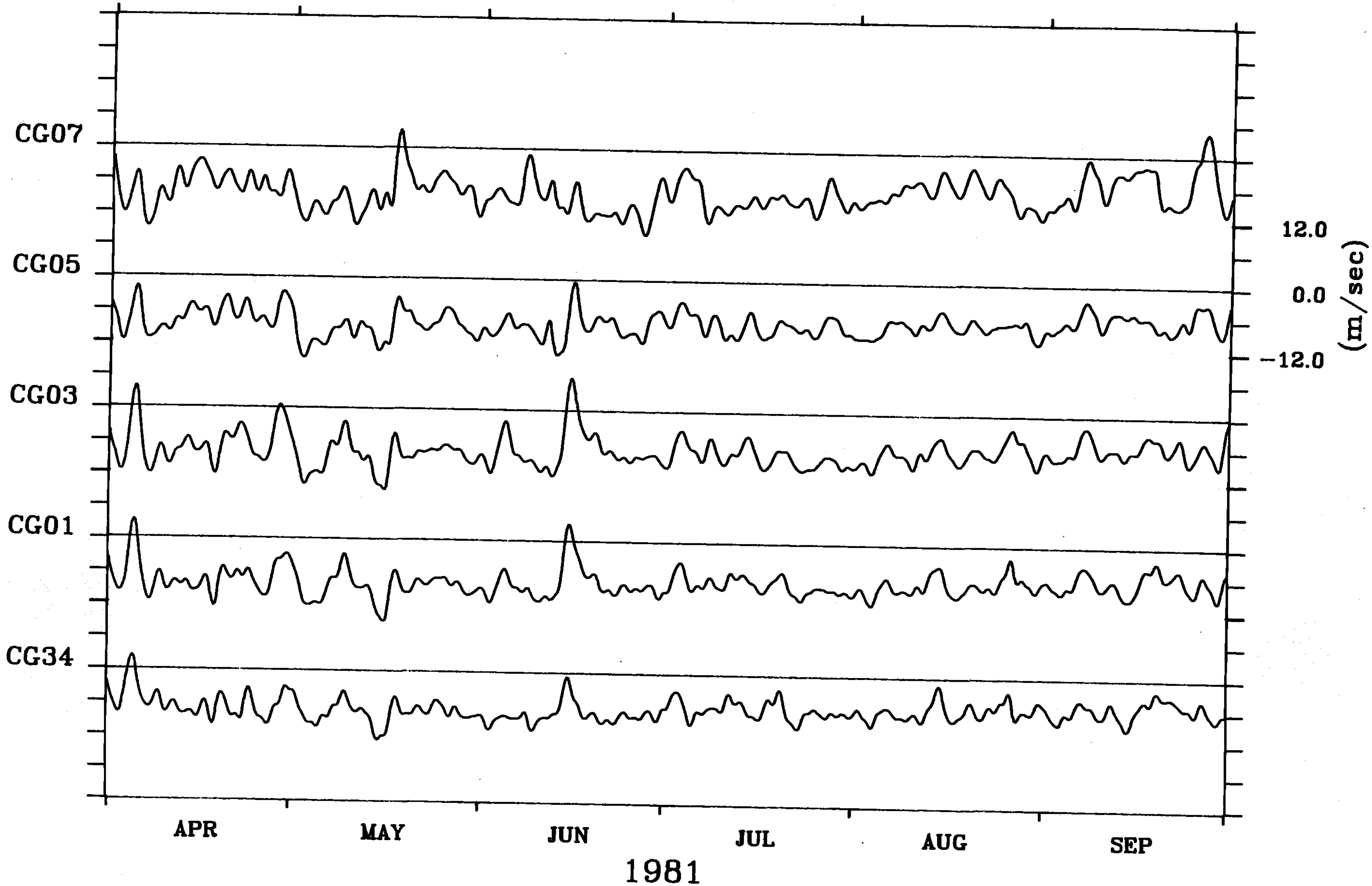

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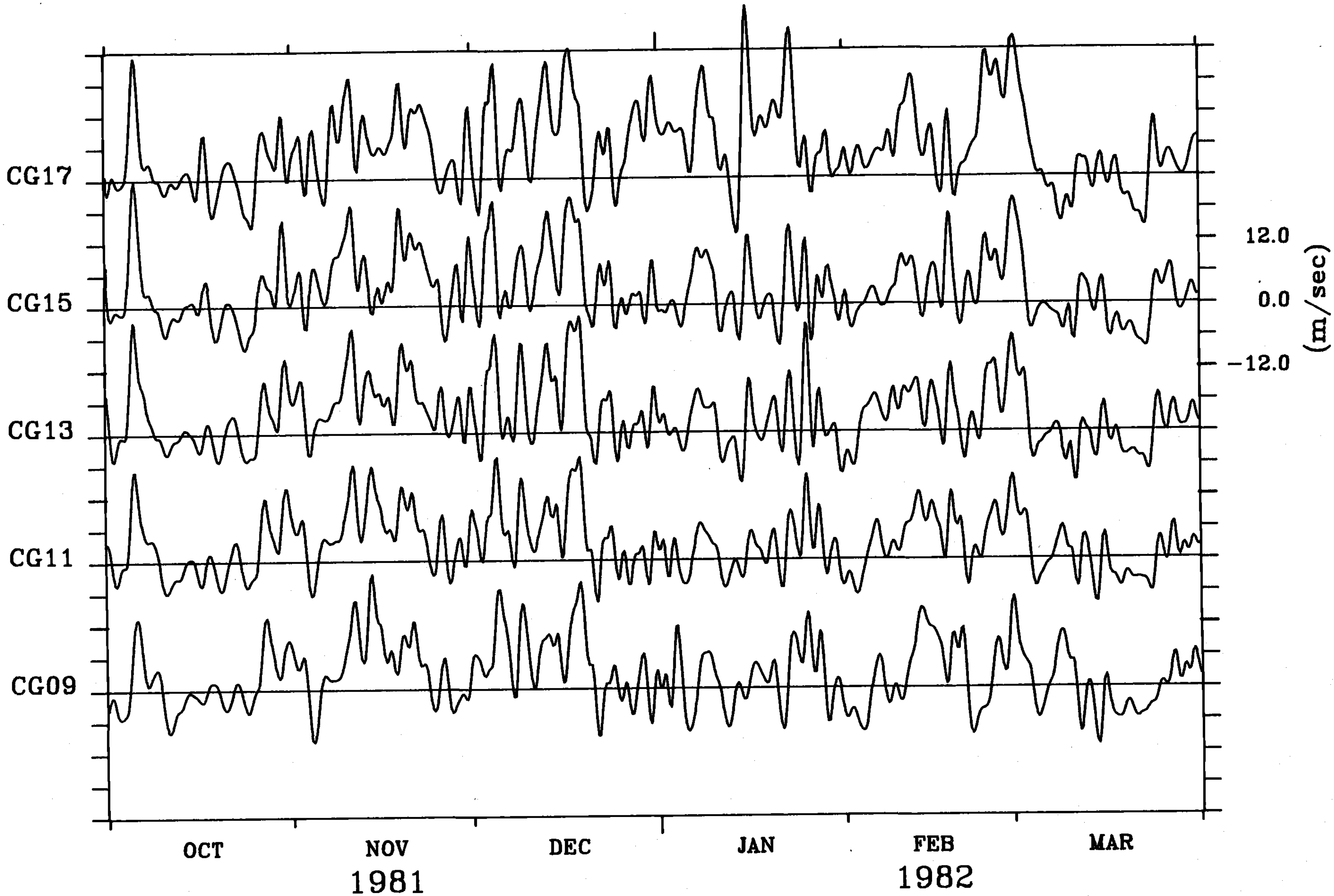

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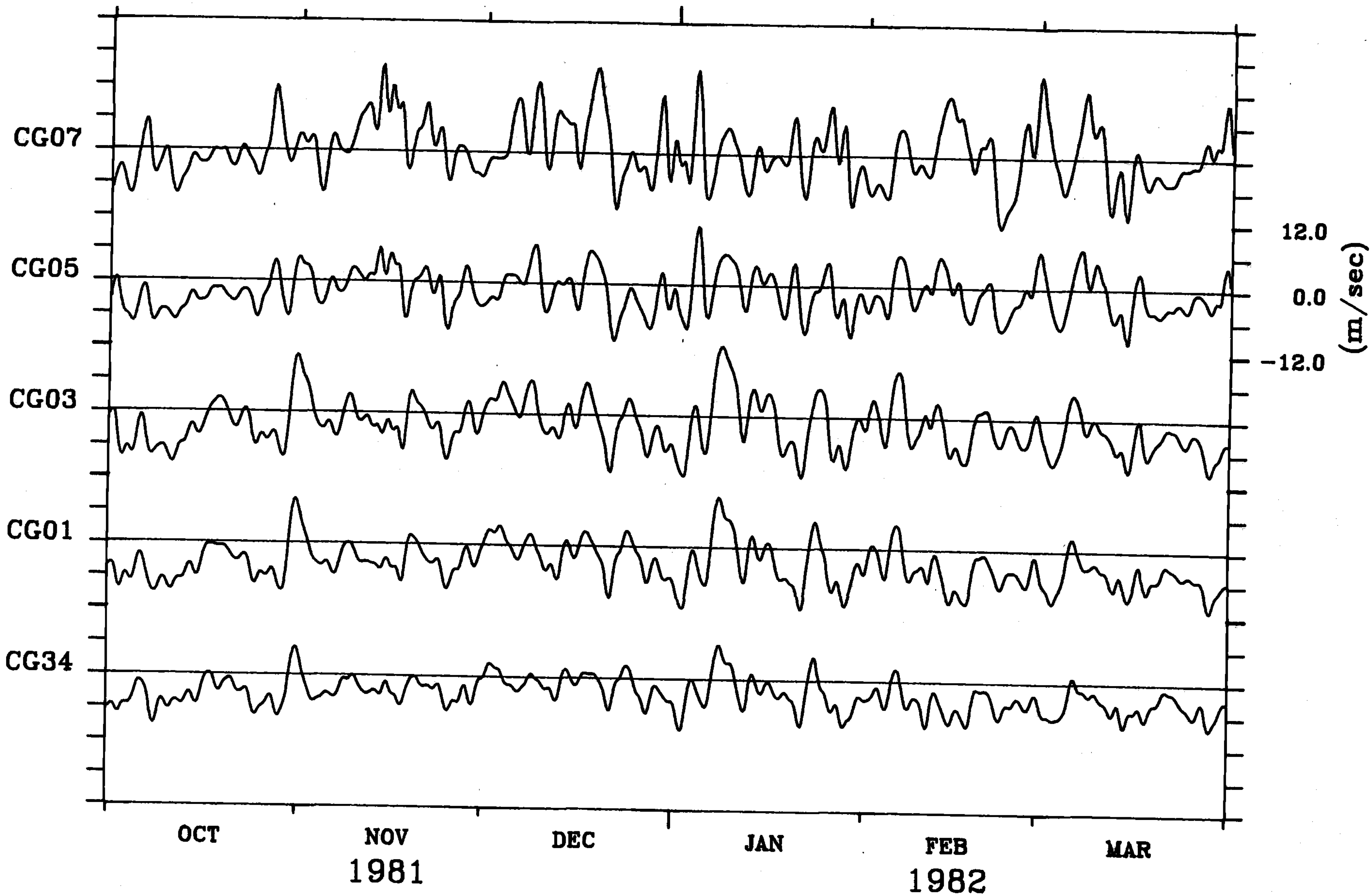

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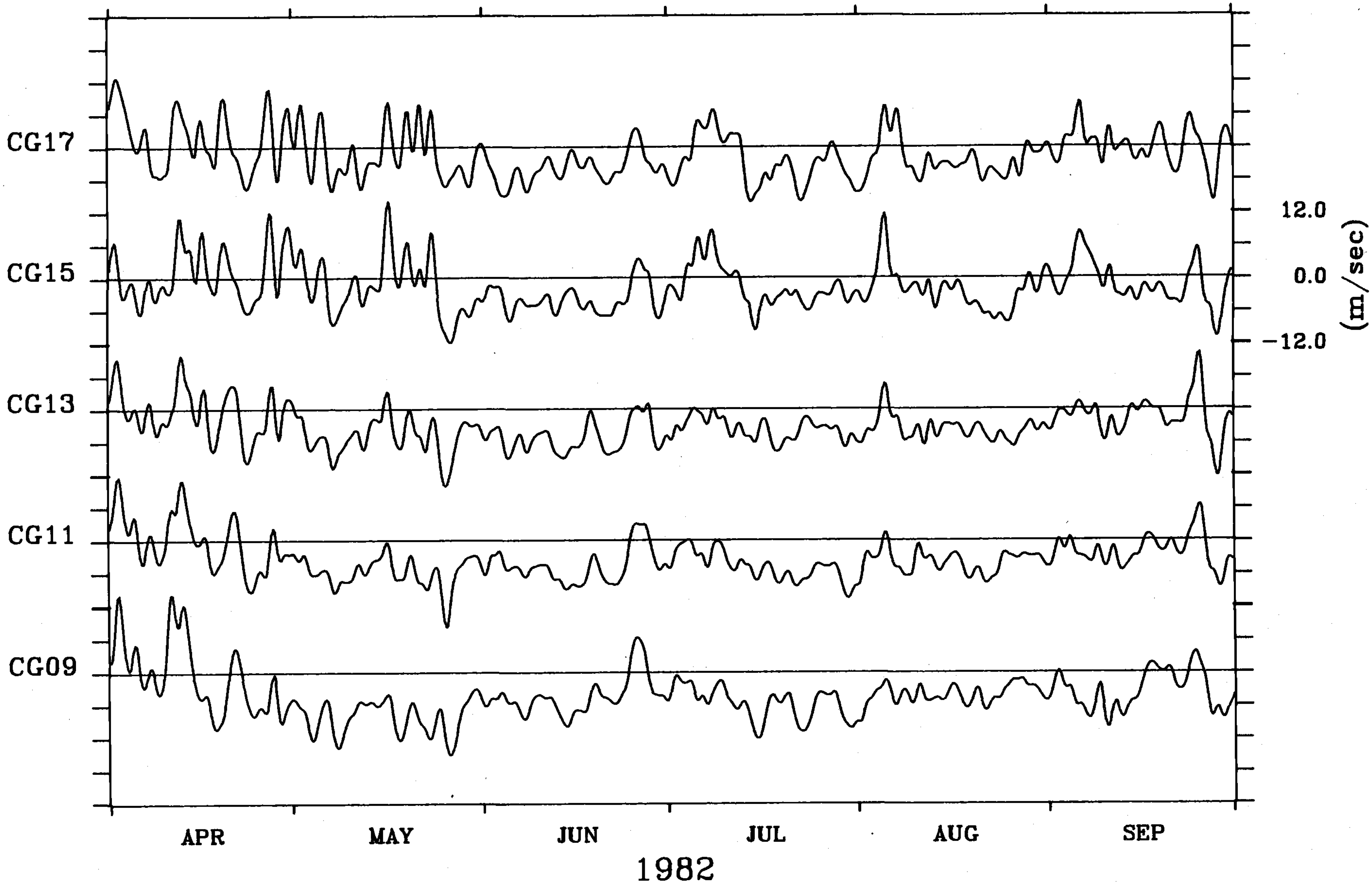

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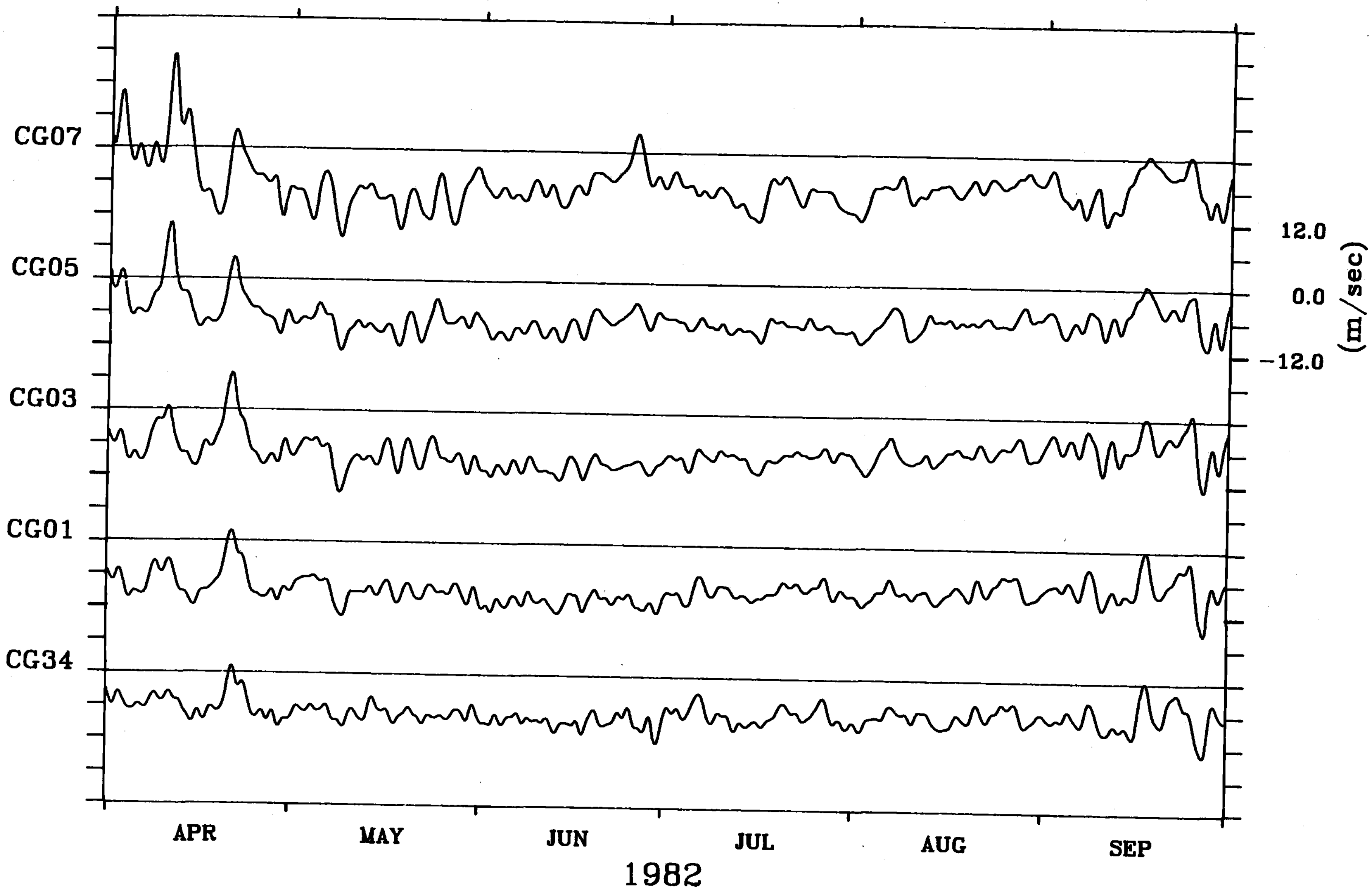

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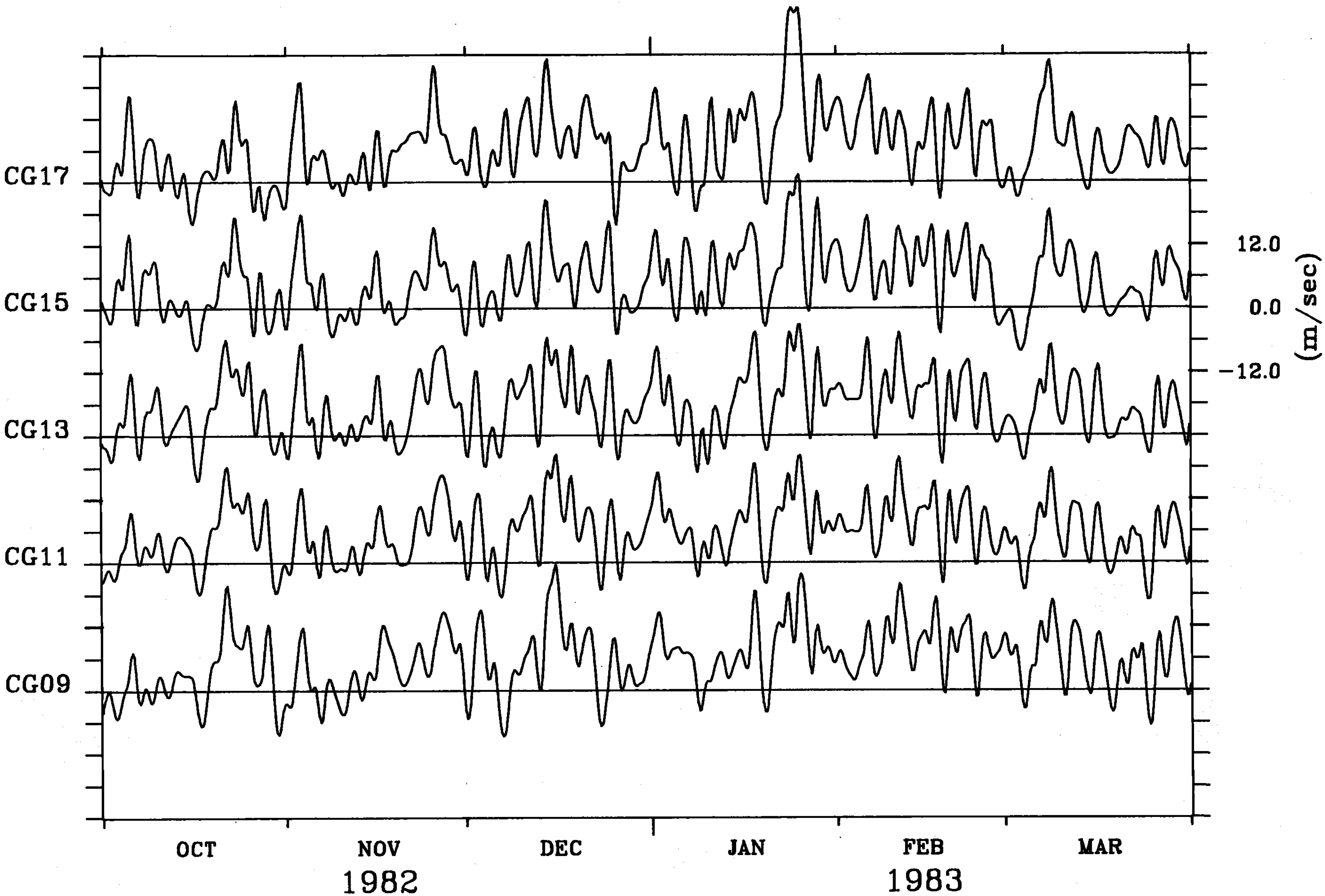

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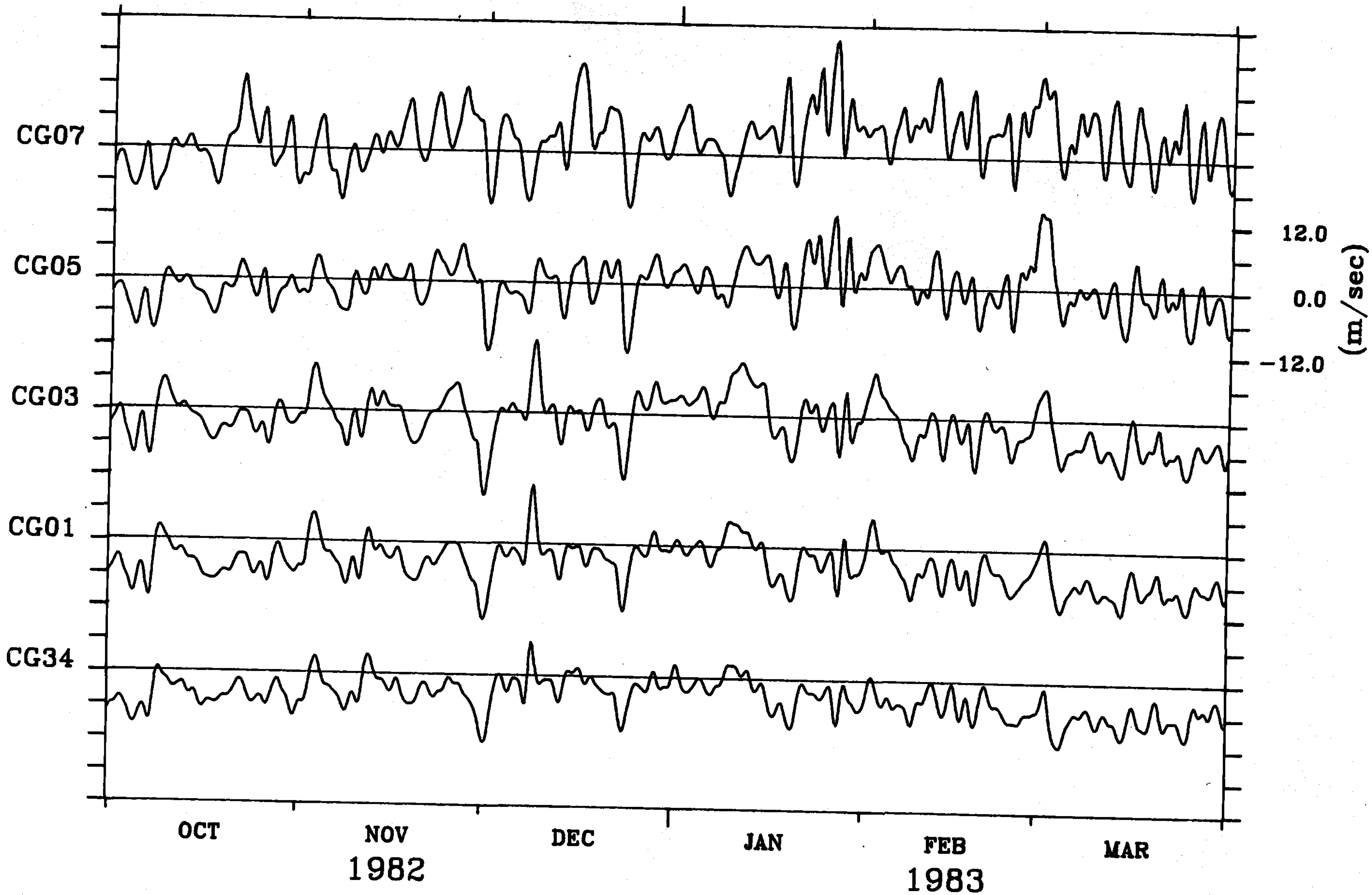

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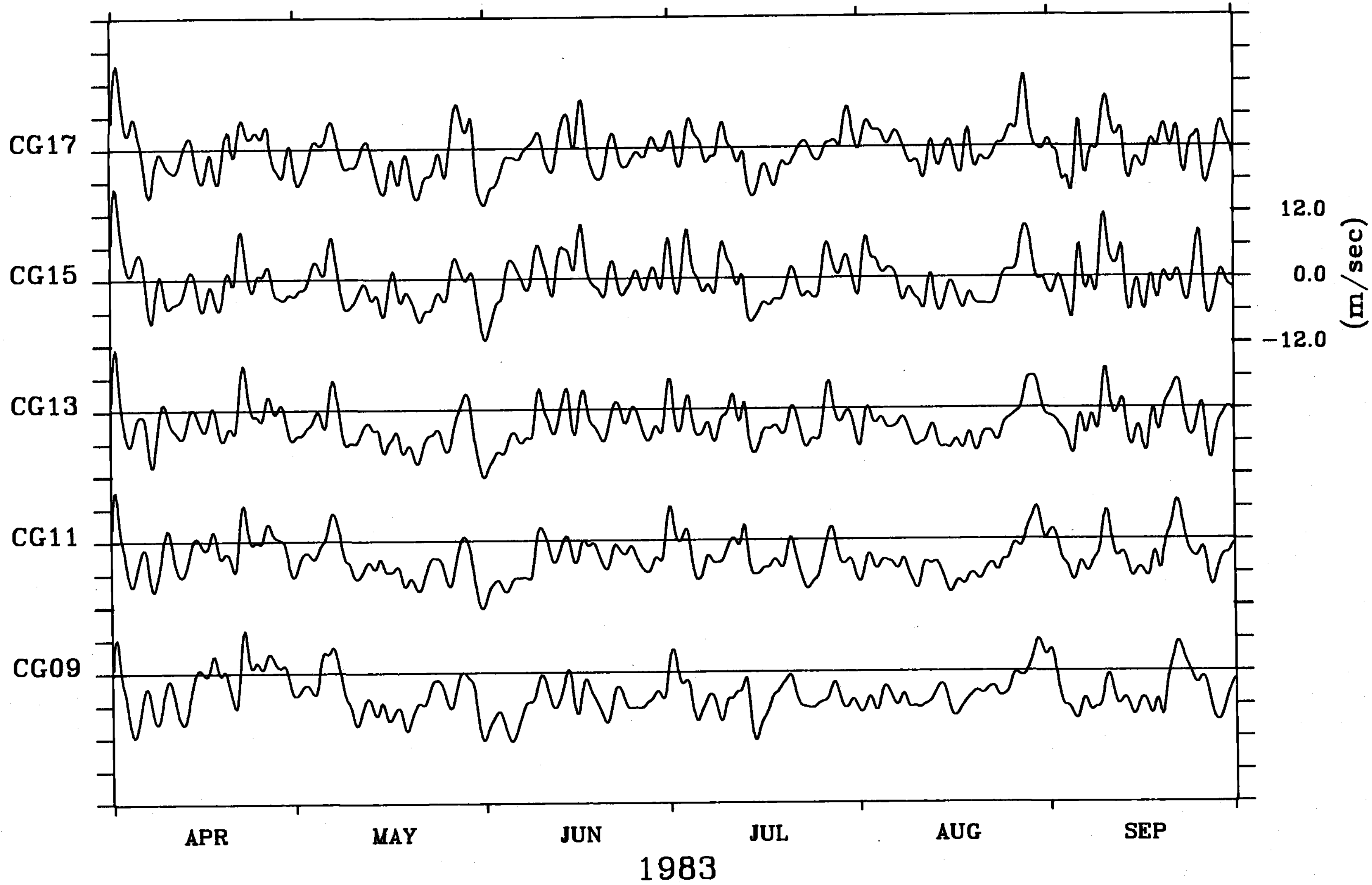

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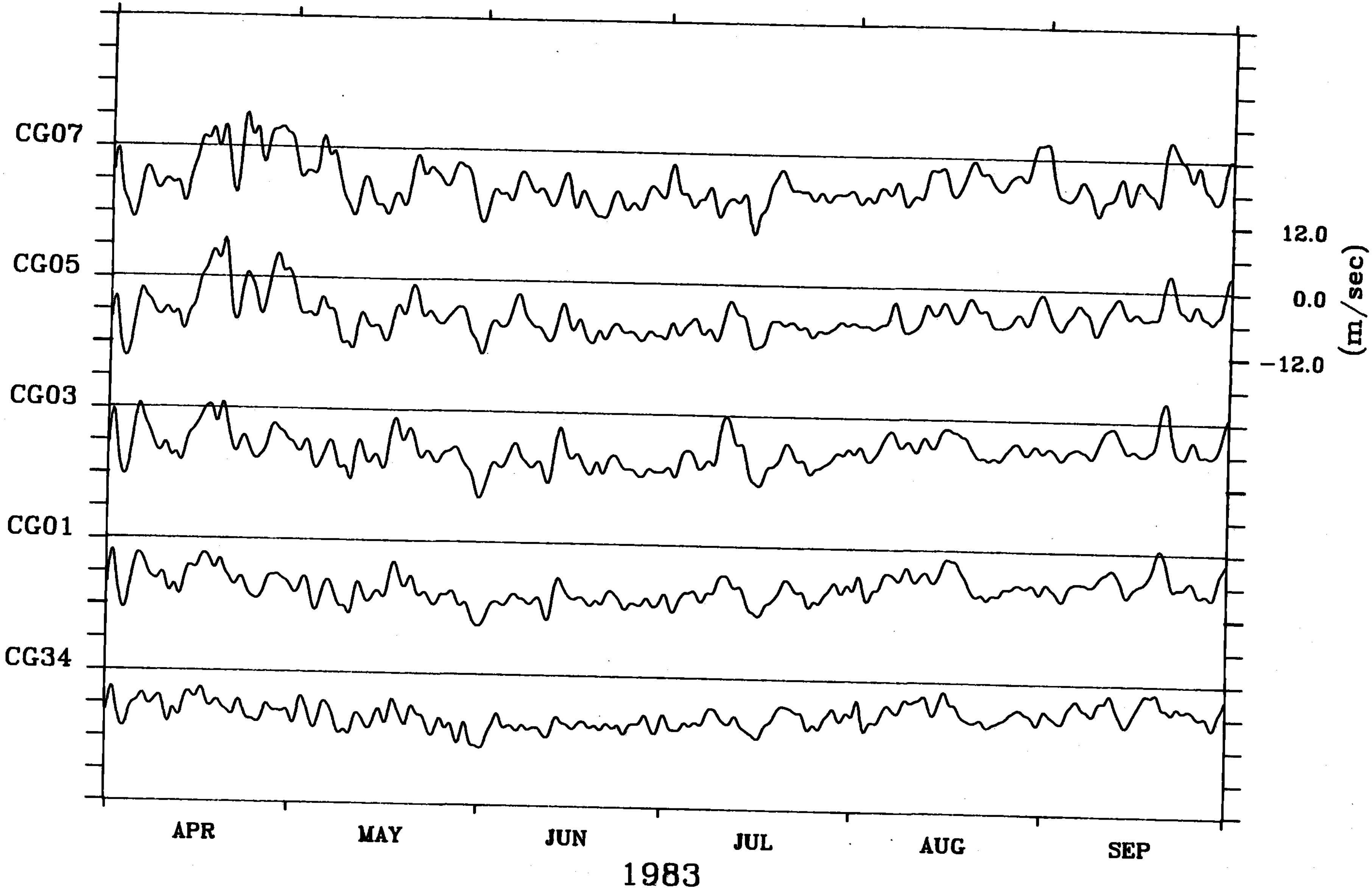
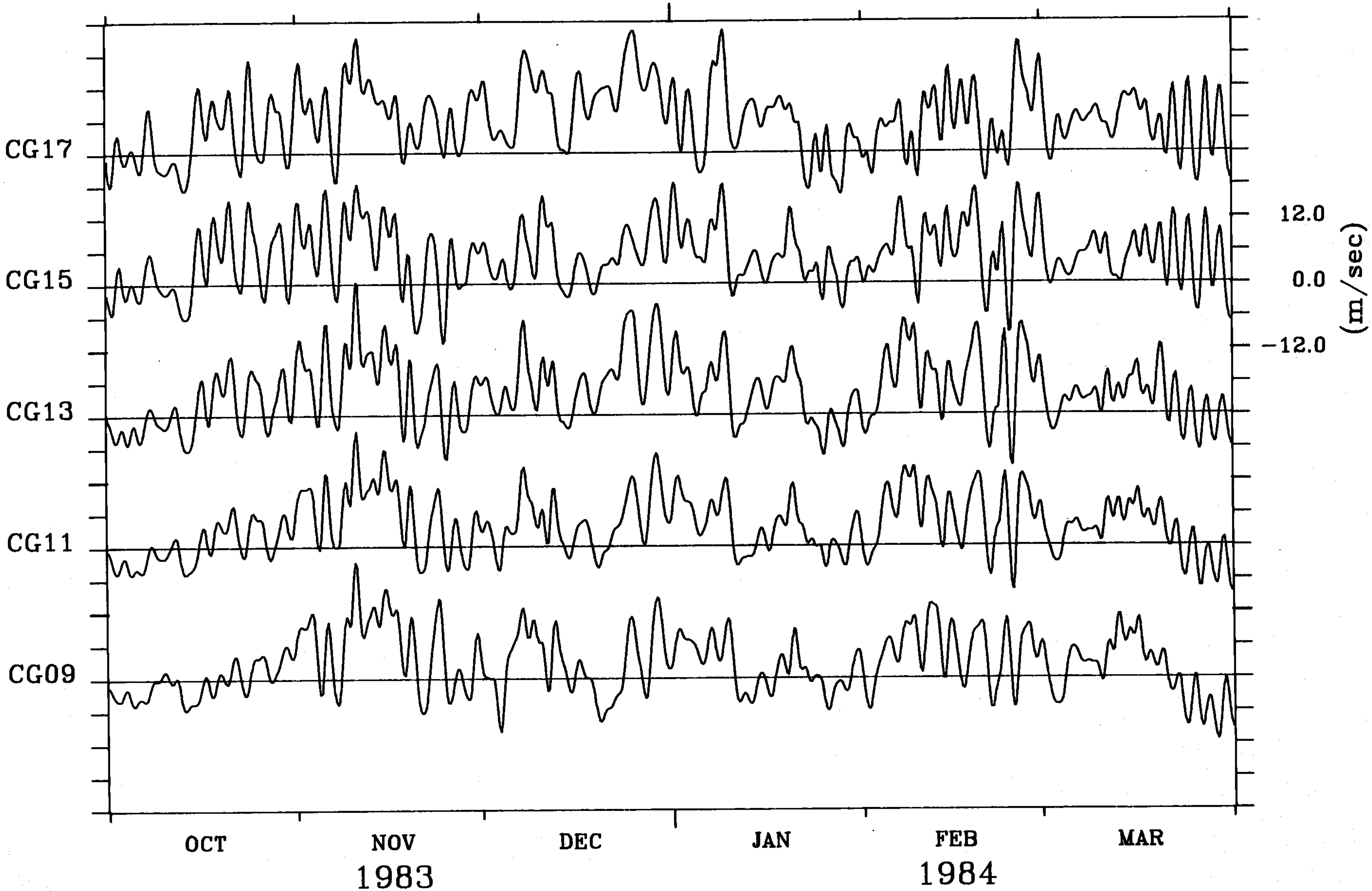
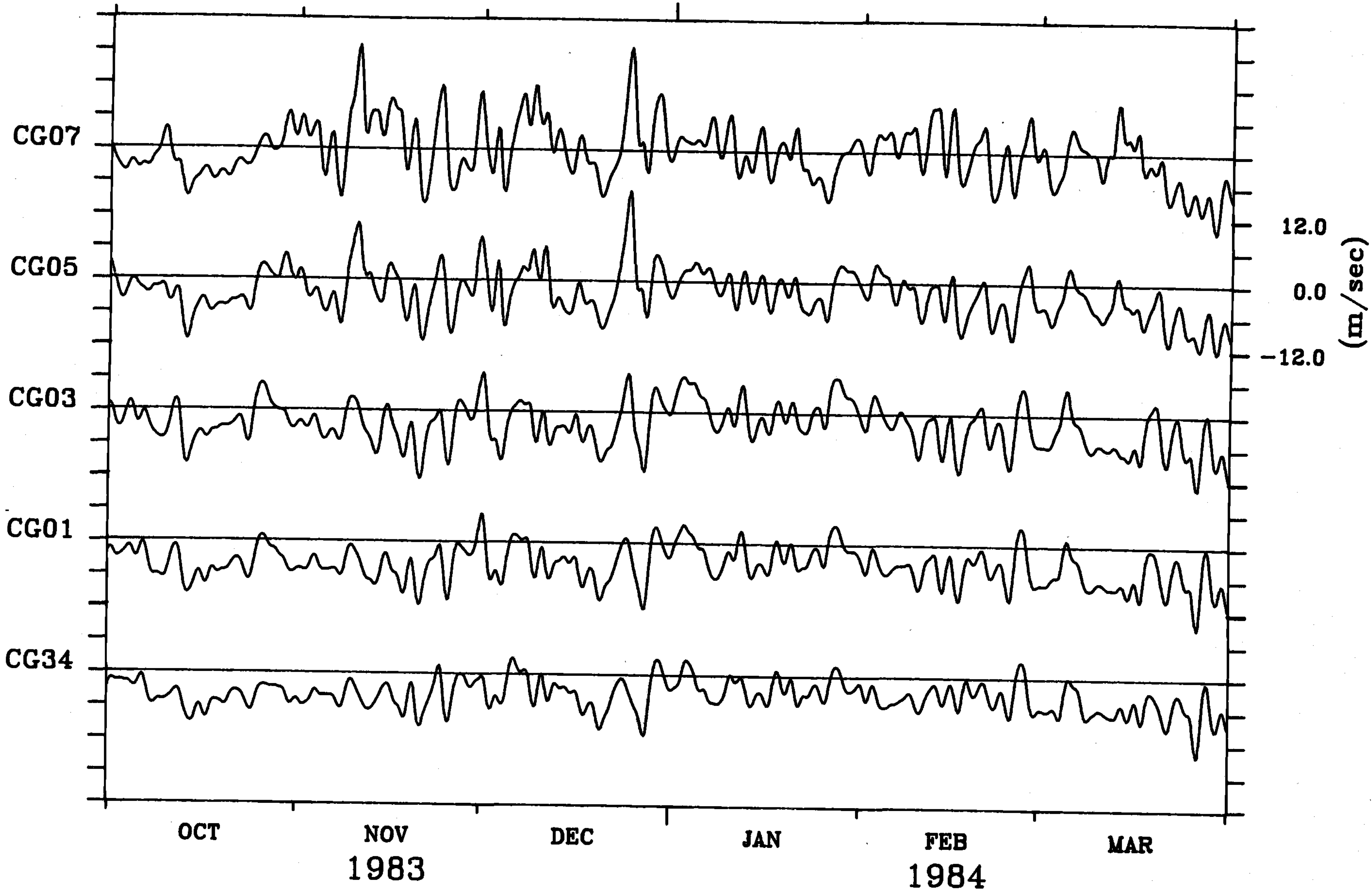


Calculated Major Axis Wind Component

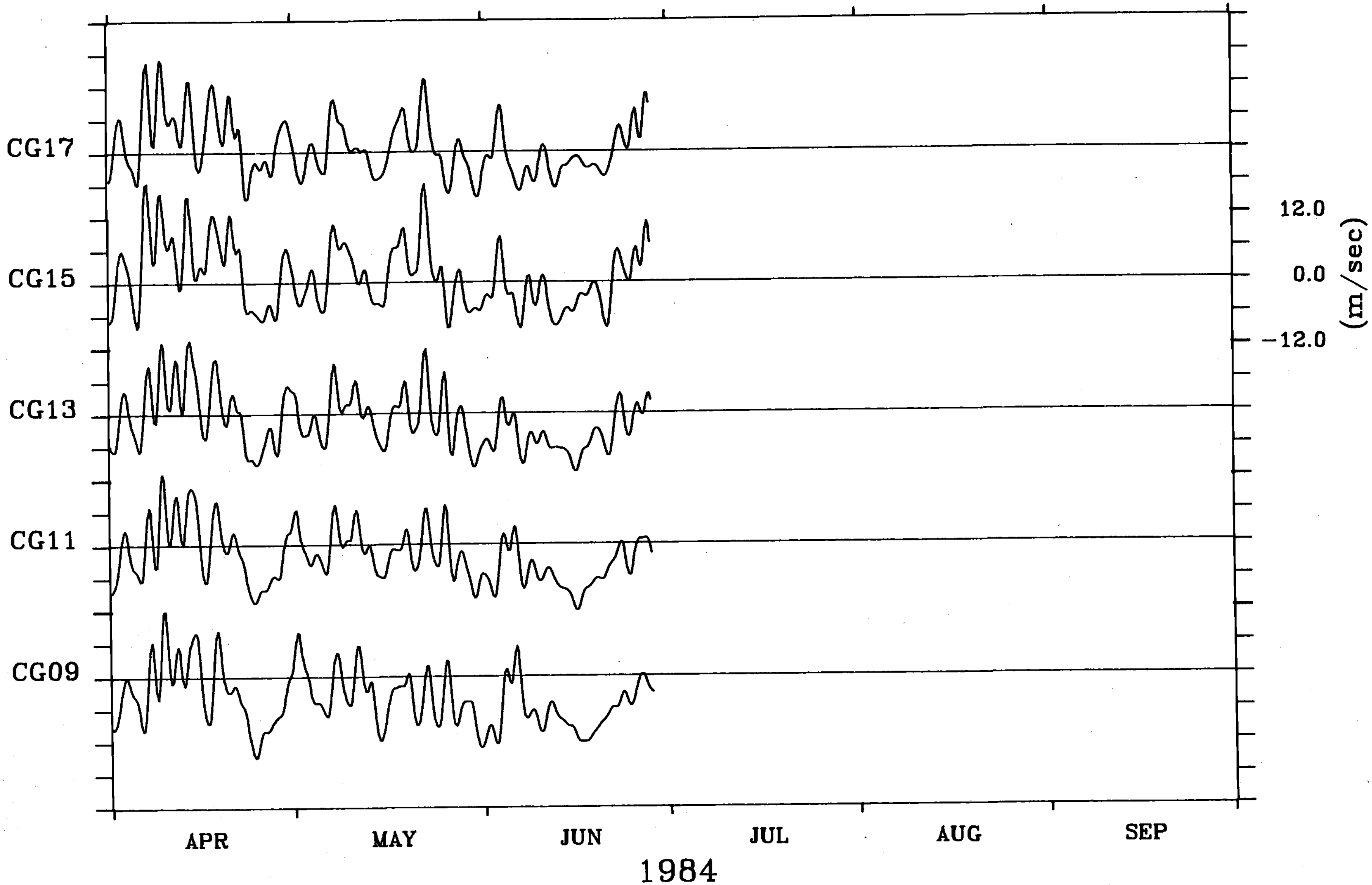


Calculated Major Axis Wind Component

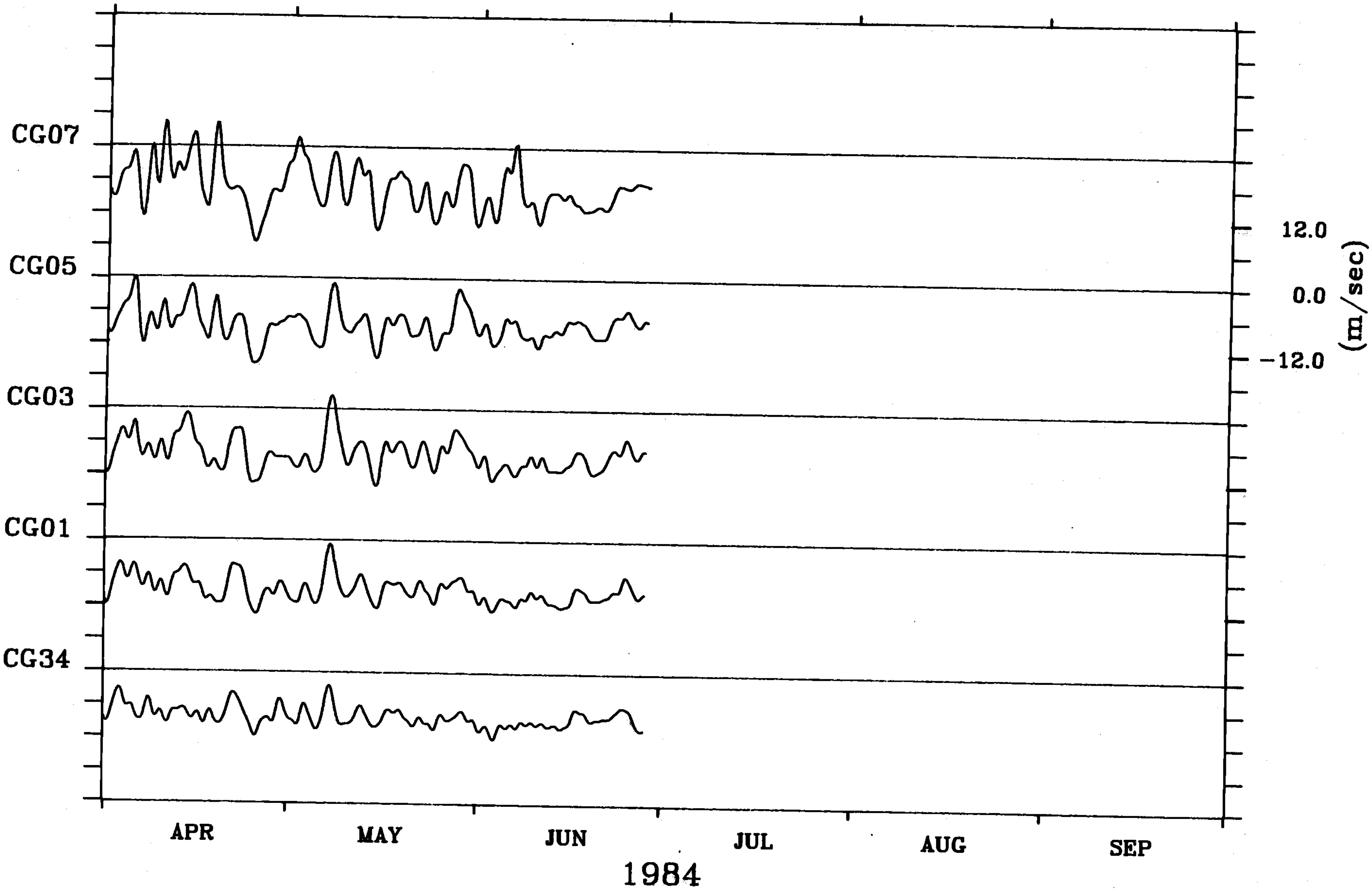
7.19



Calculated Major Axis Wind Component

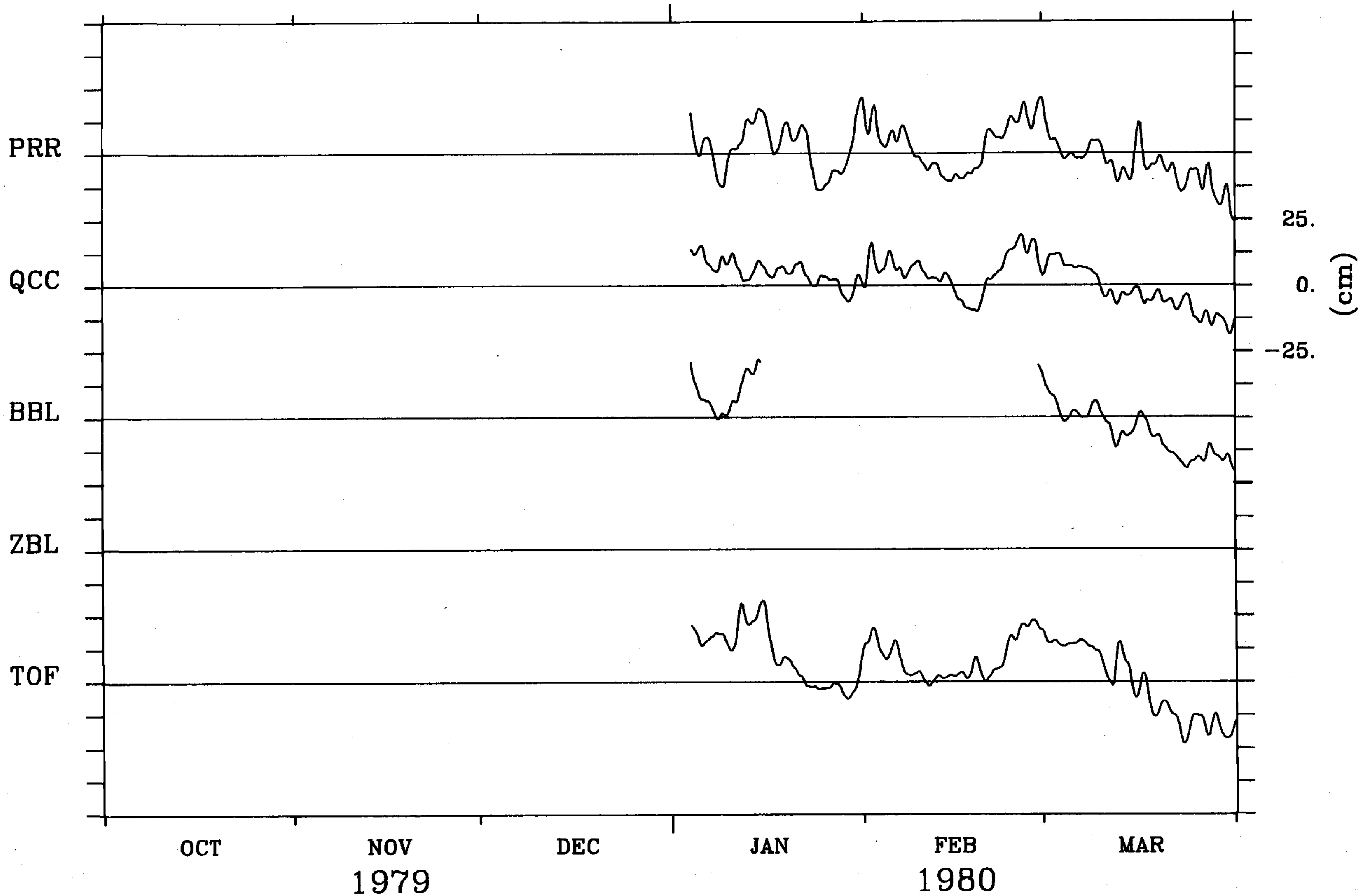


Calculated Major Axis Wind Component

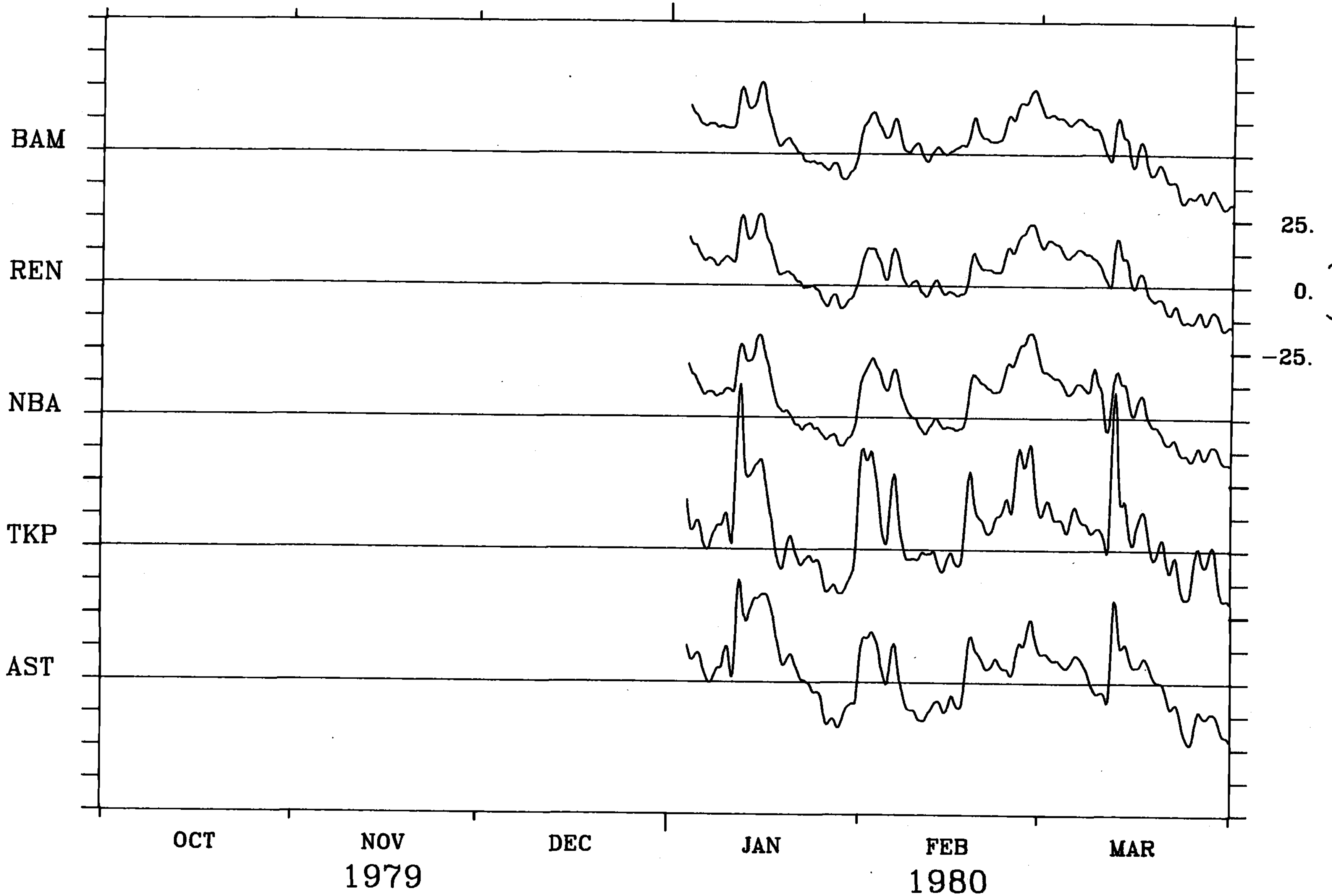


Calculated Major Axis Wind Component

8. LLP Adjusted Sea Level Plots.



Adjusted Sea Level



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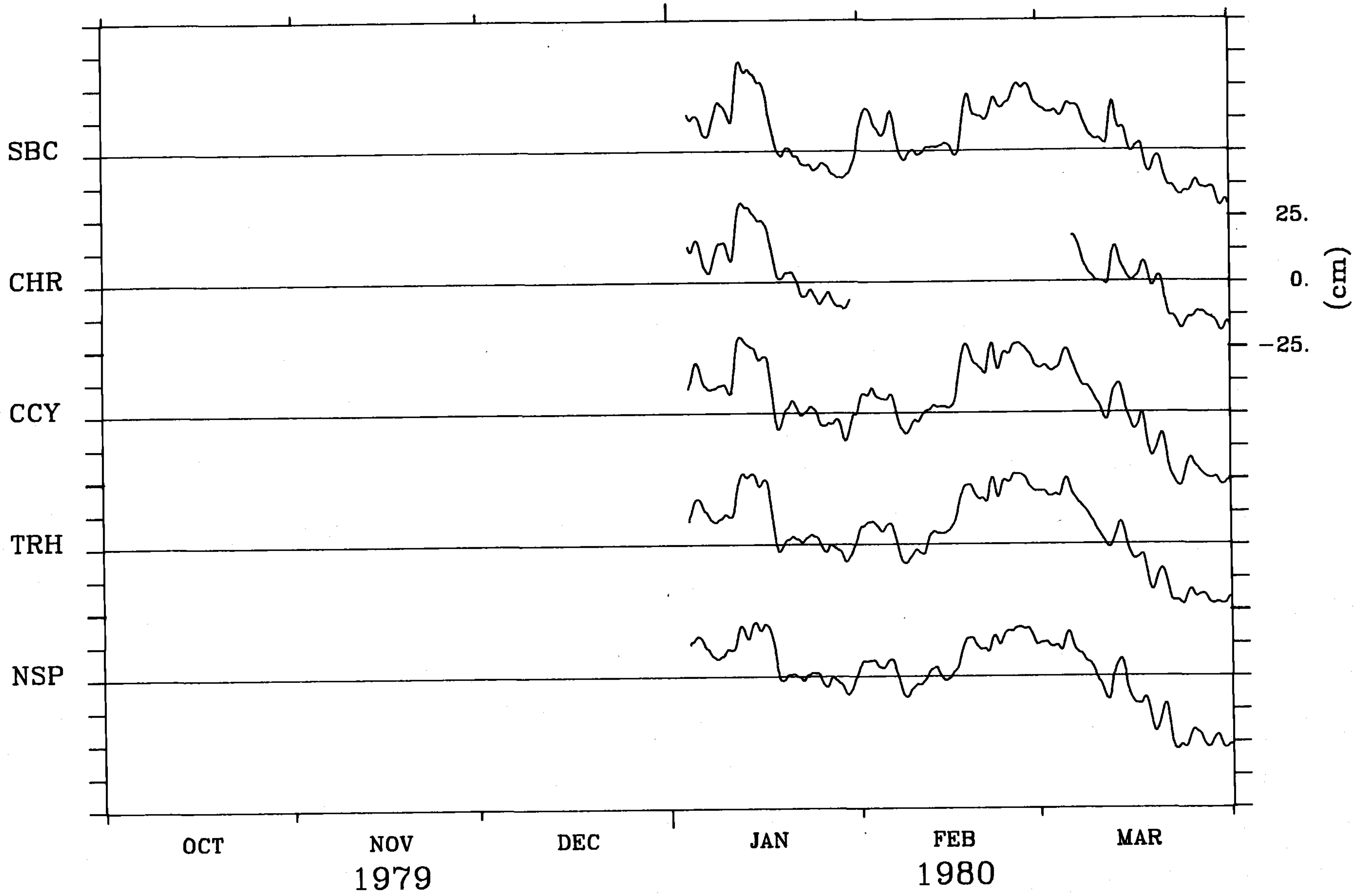
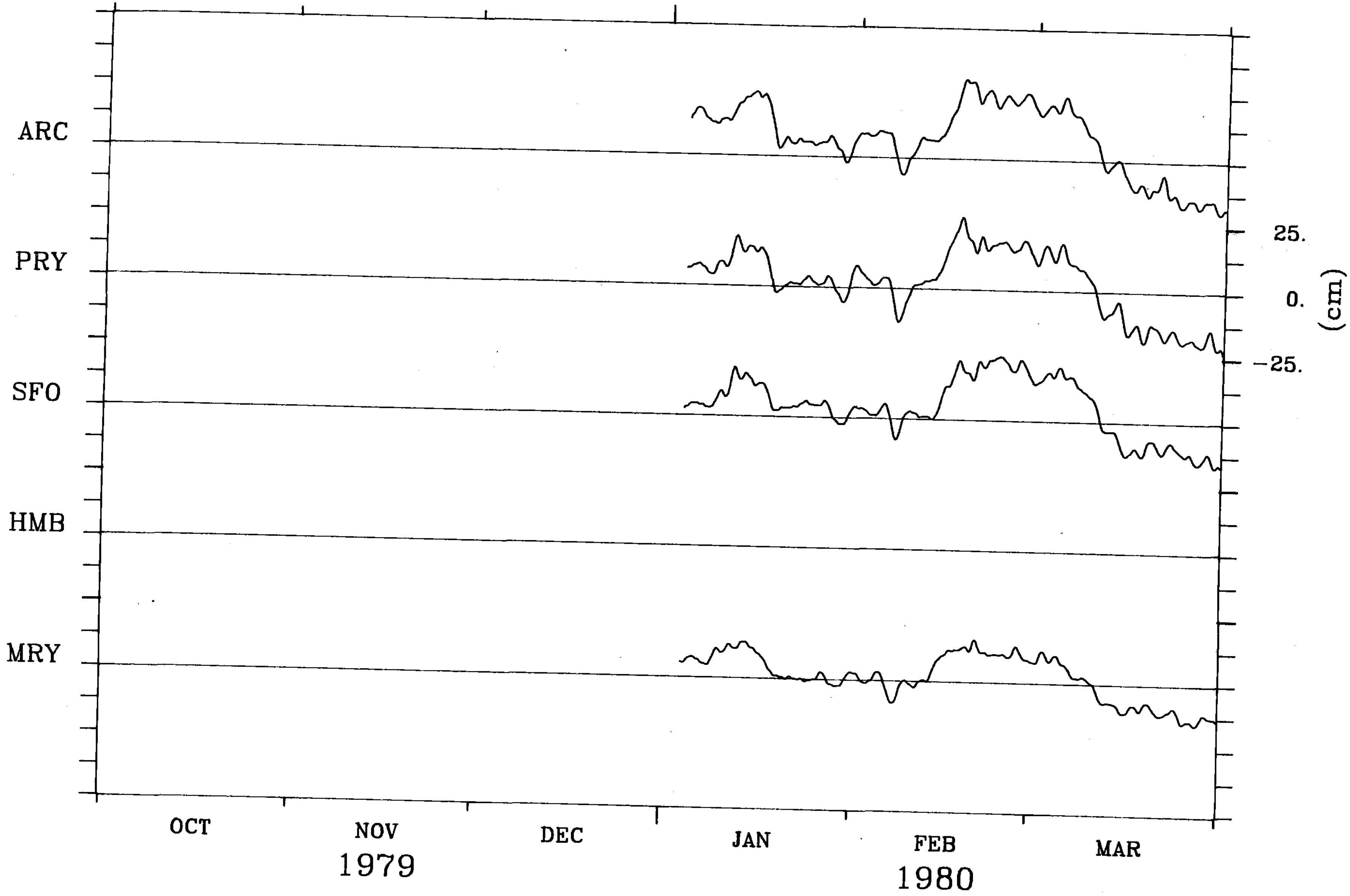
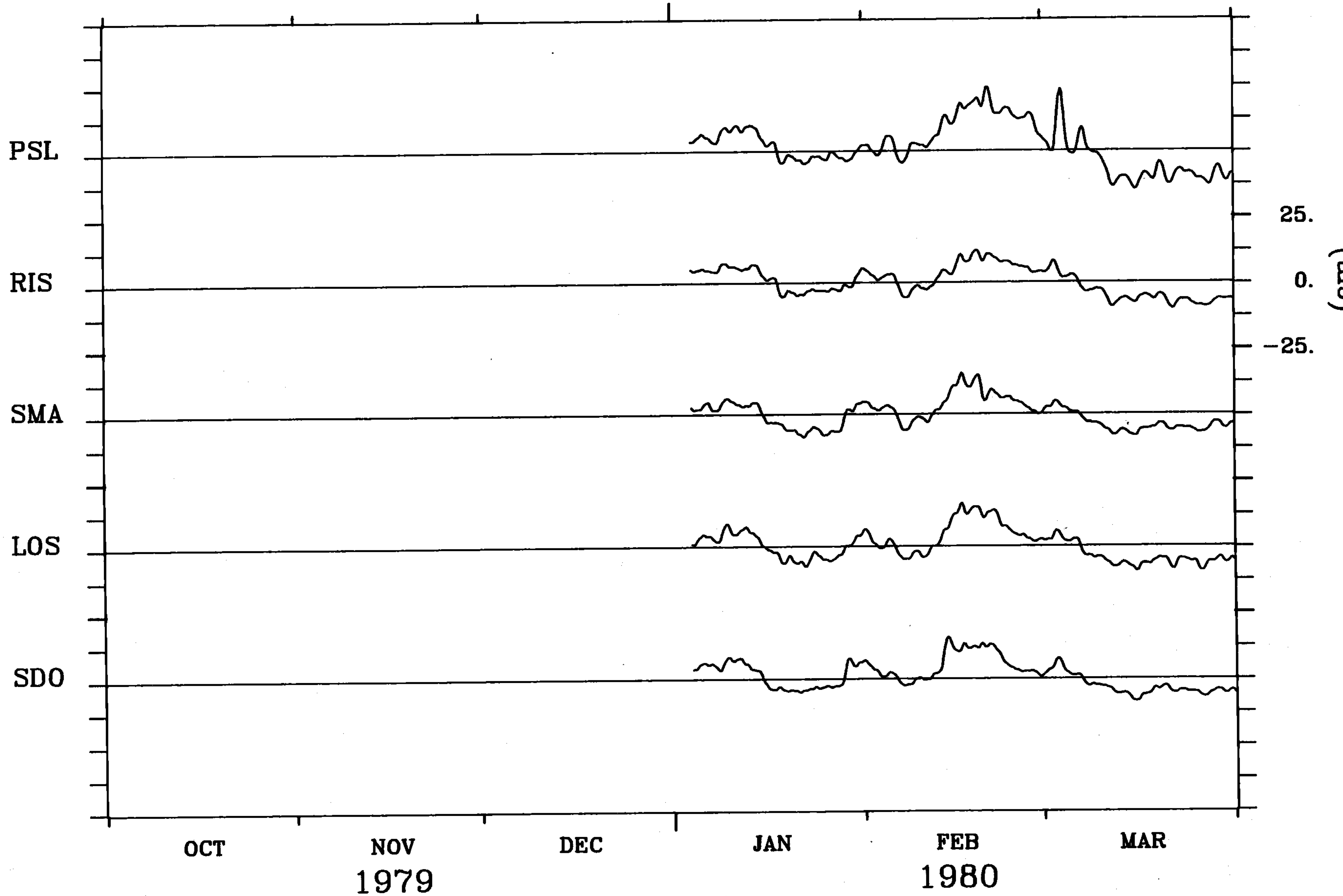


Adjusted Sea Level

8.5



Adjusted Sea Level



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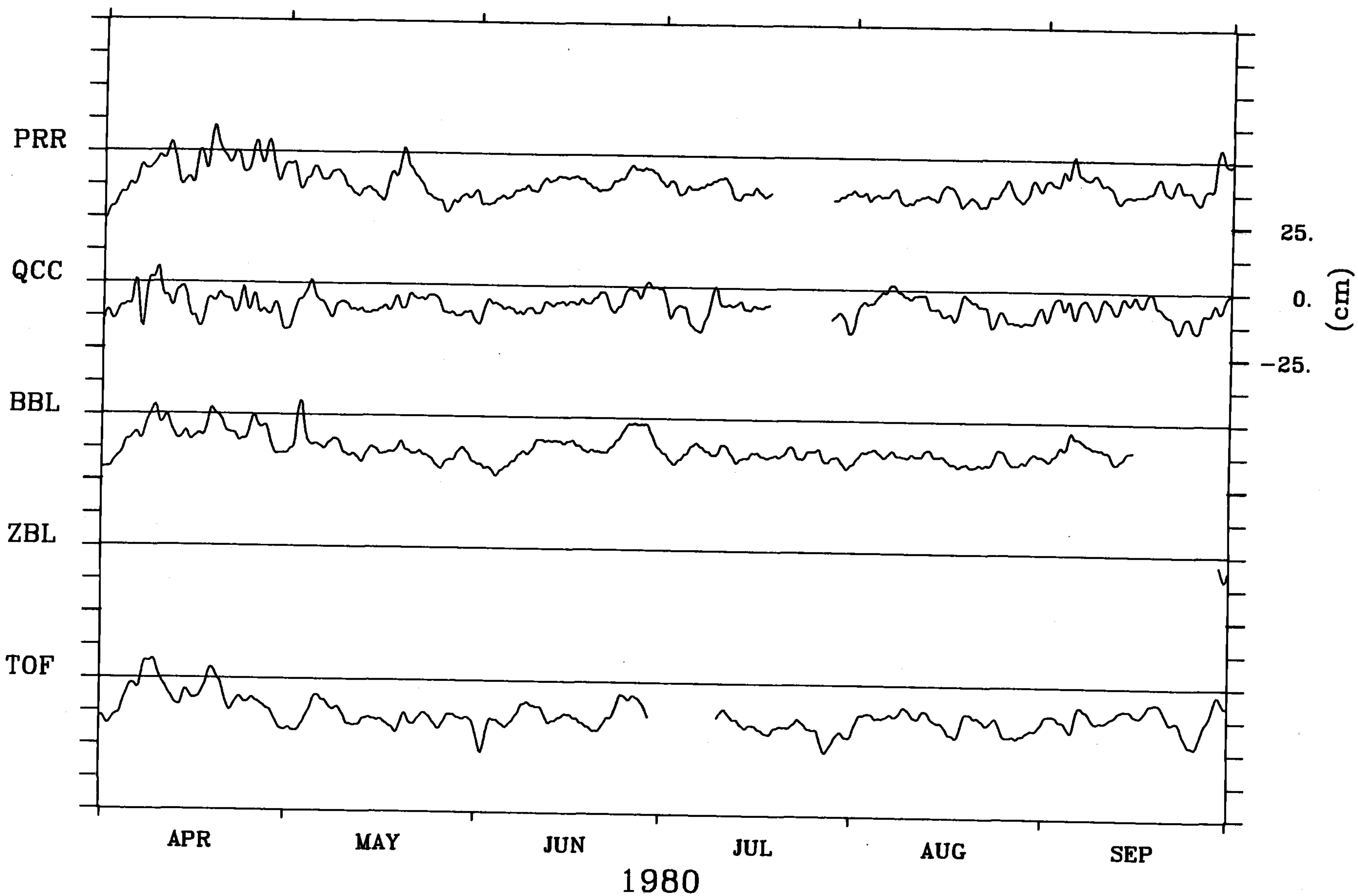

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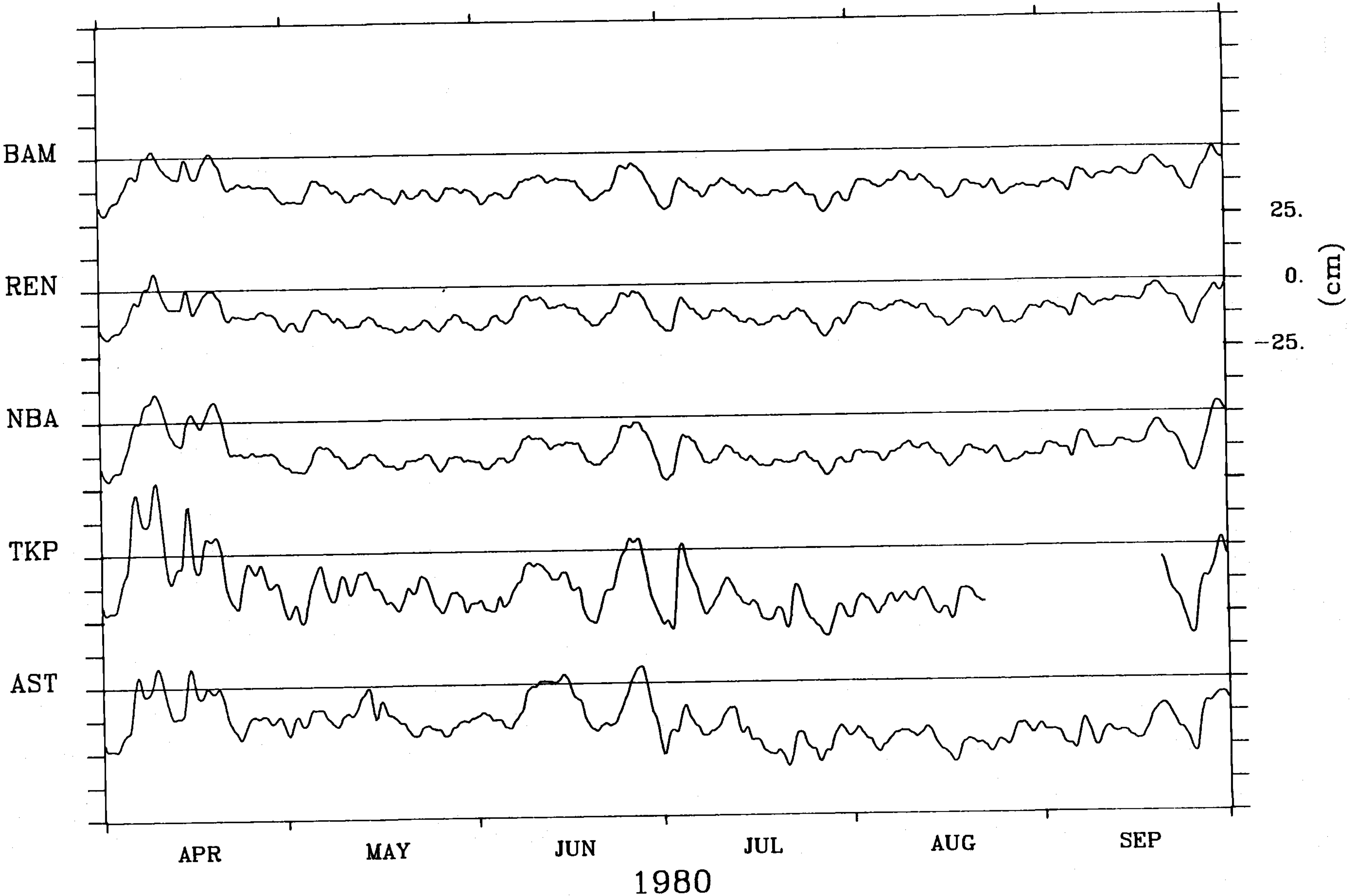

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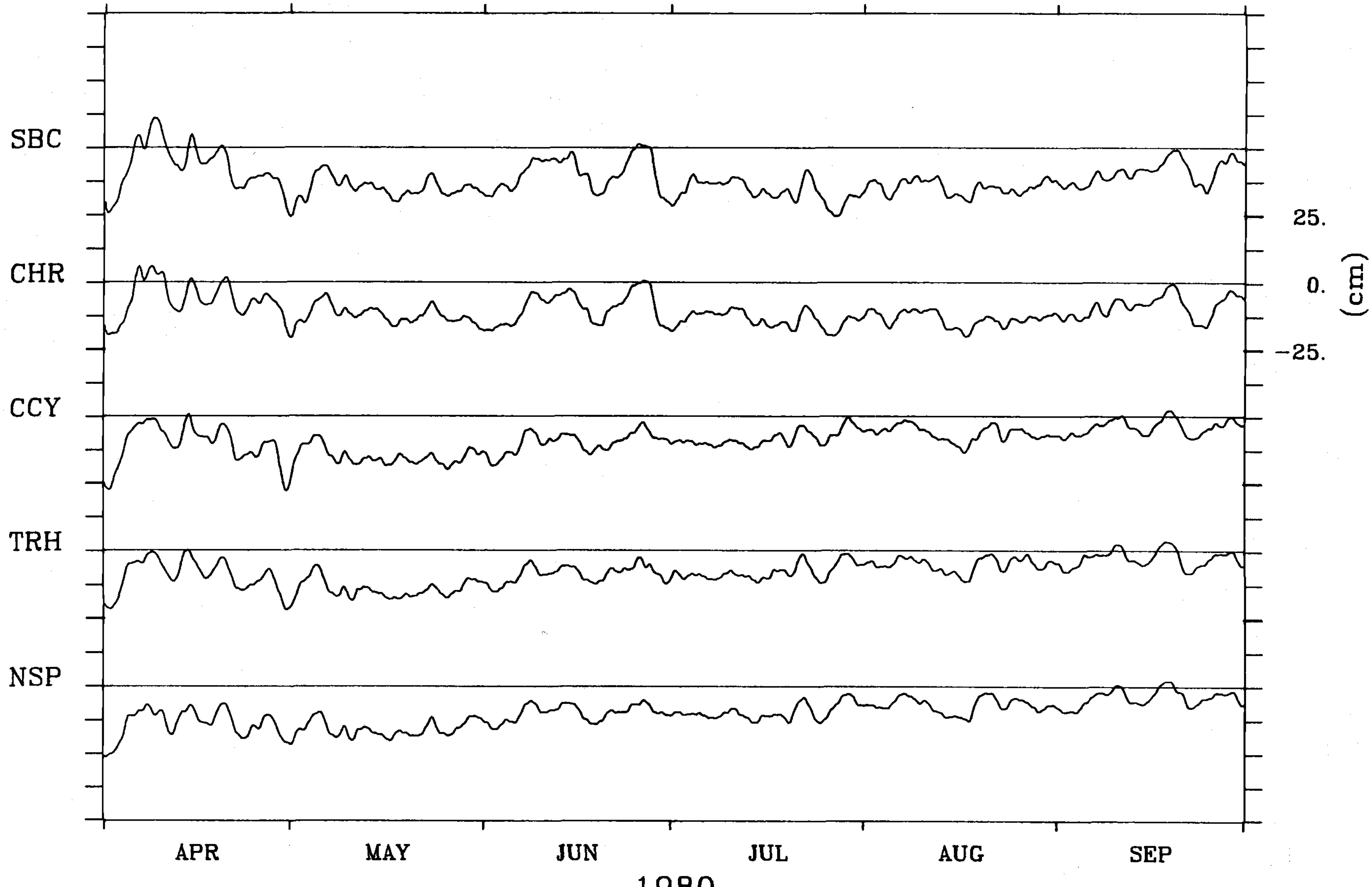

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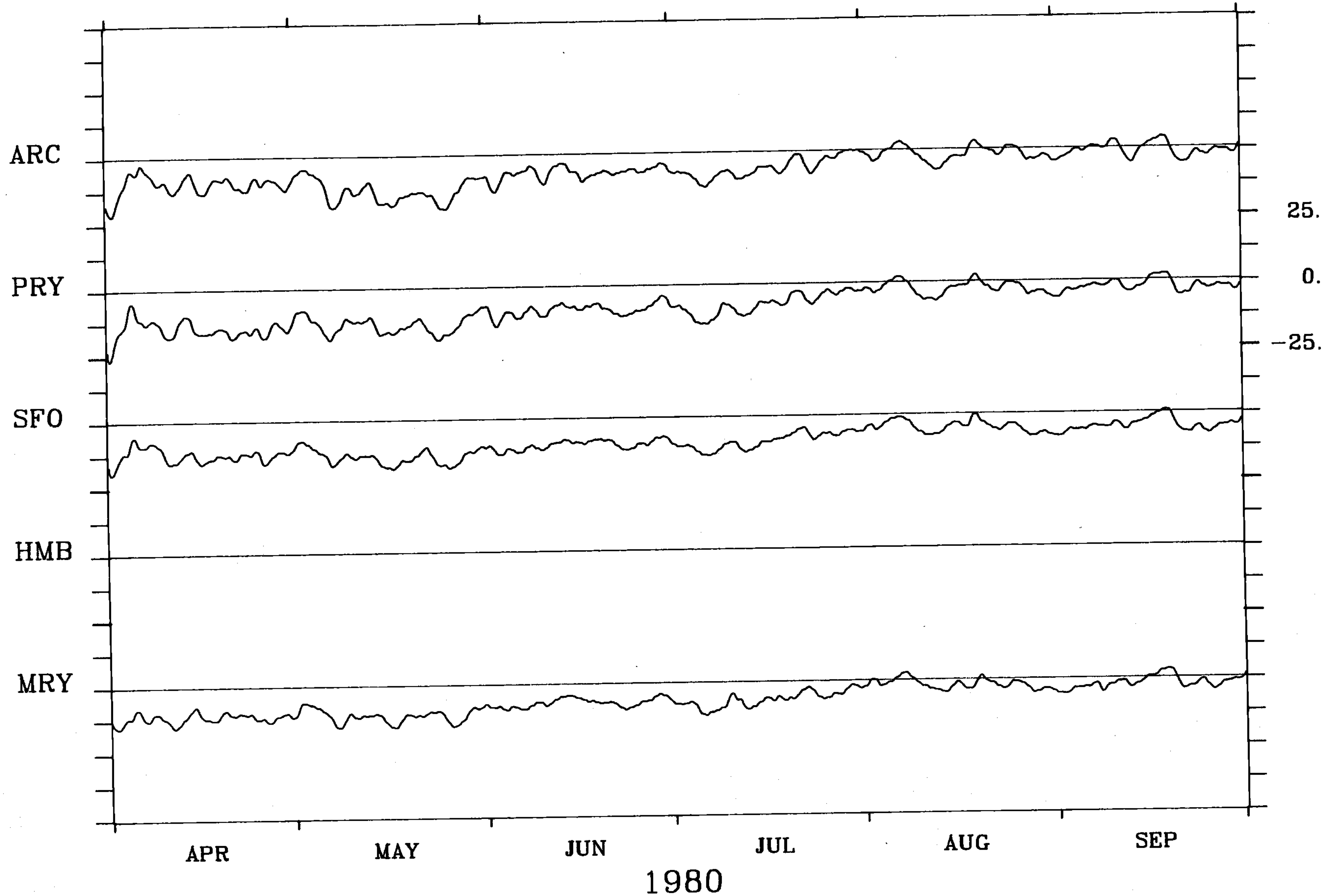

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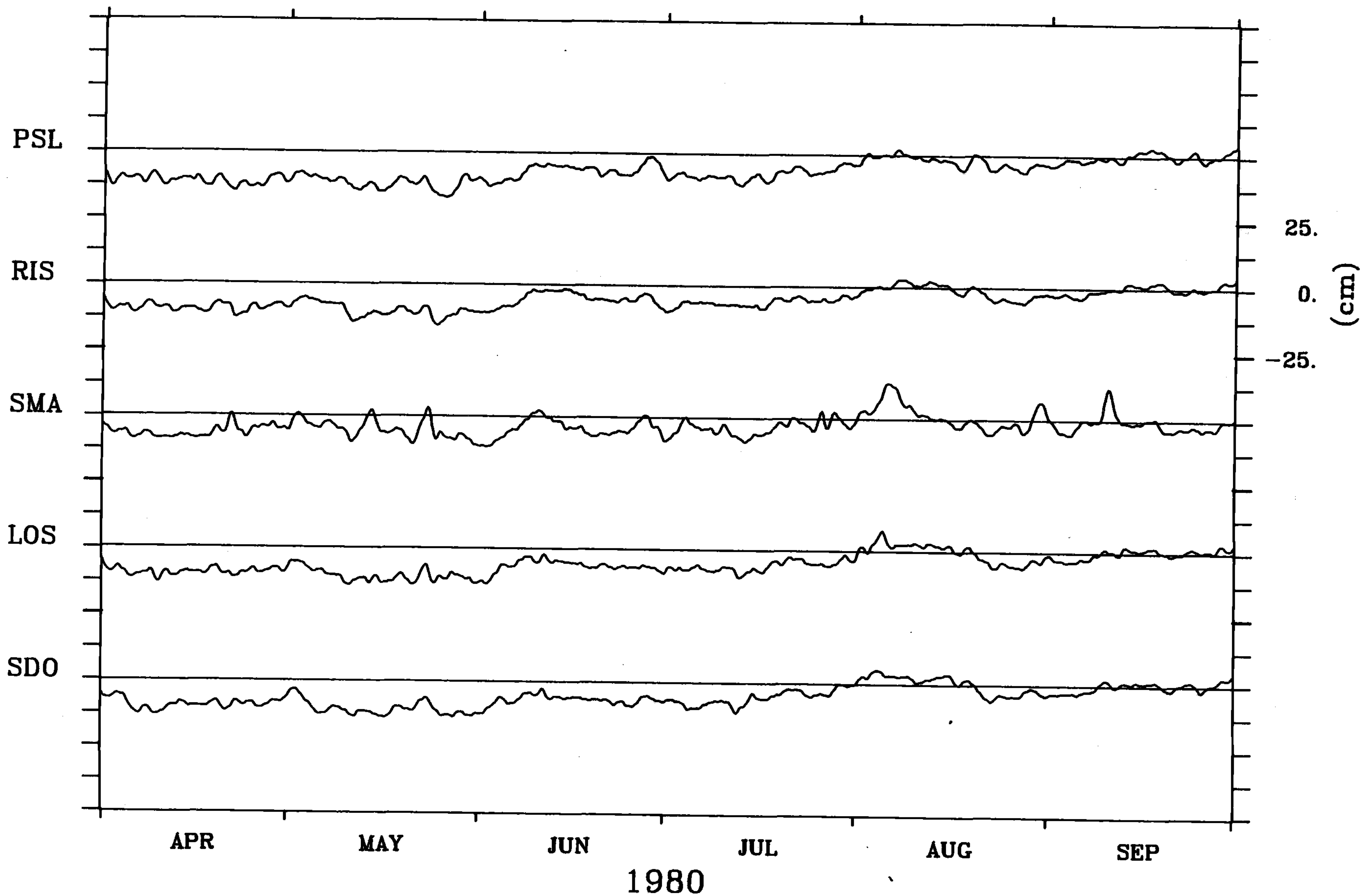

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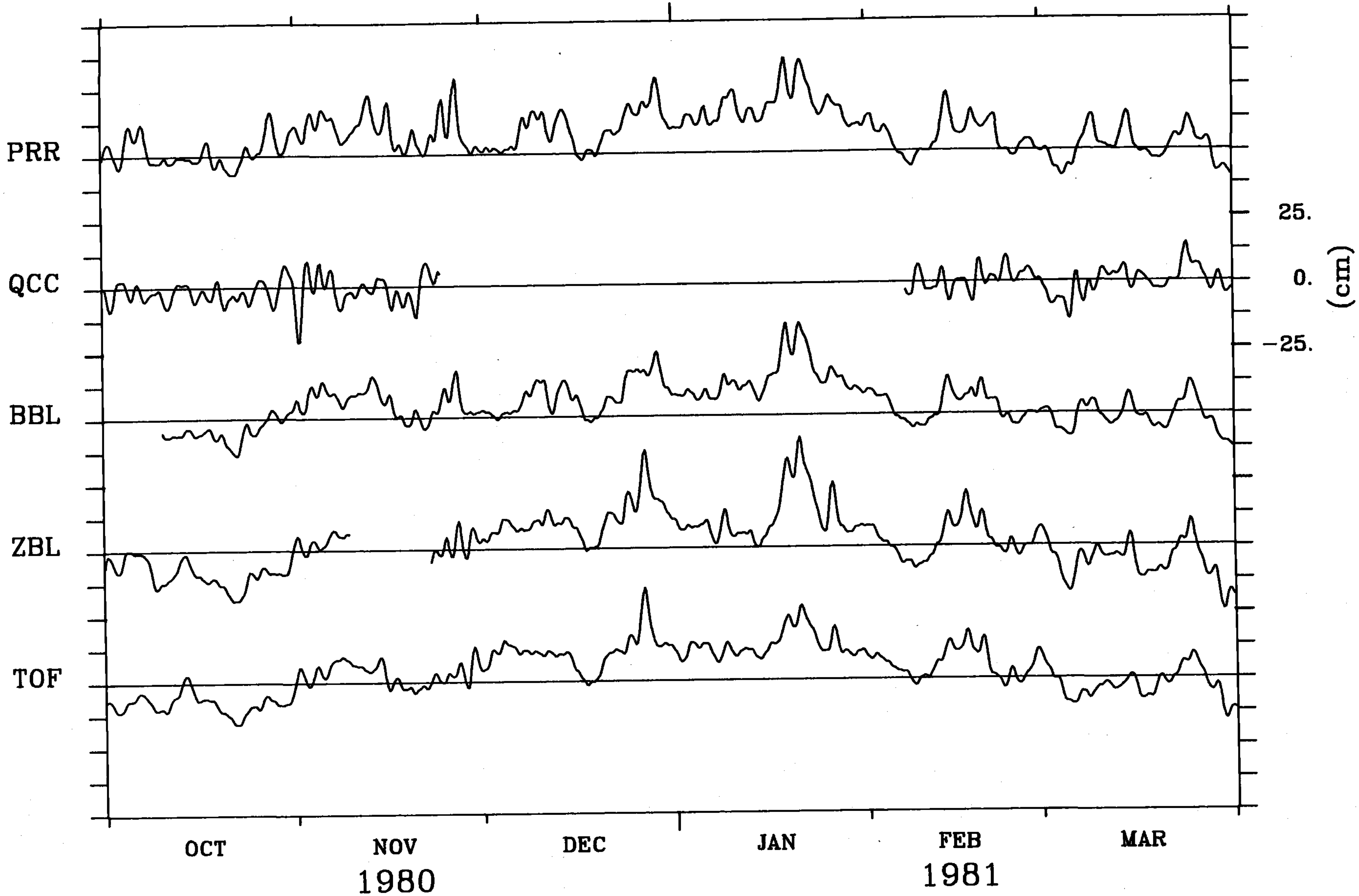
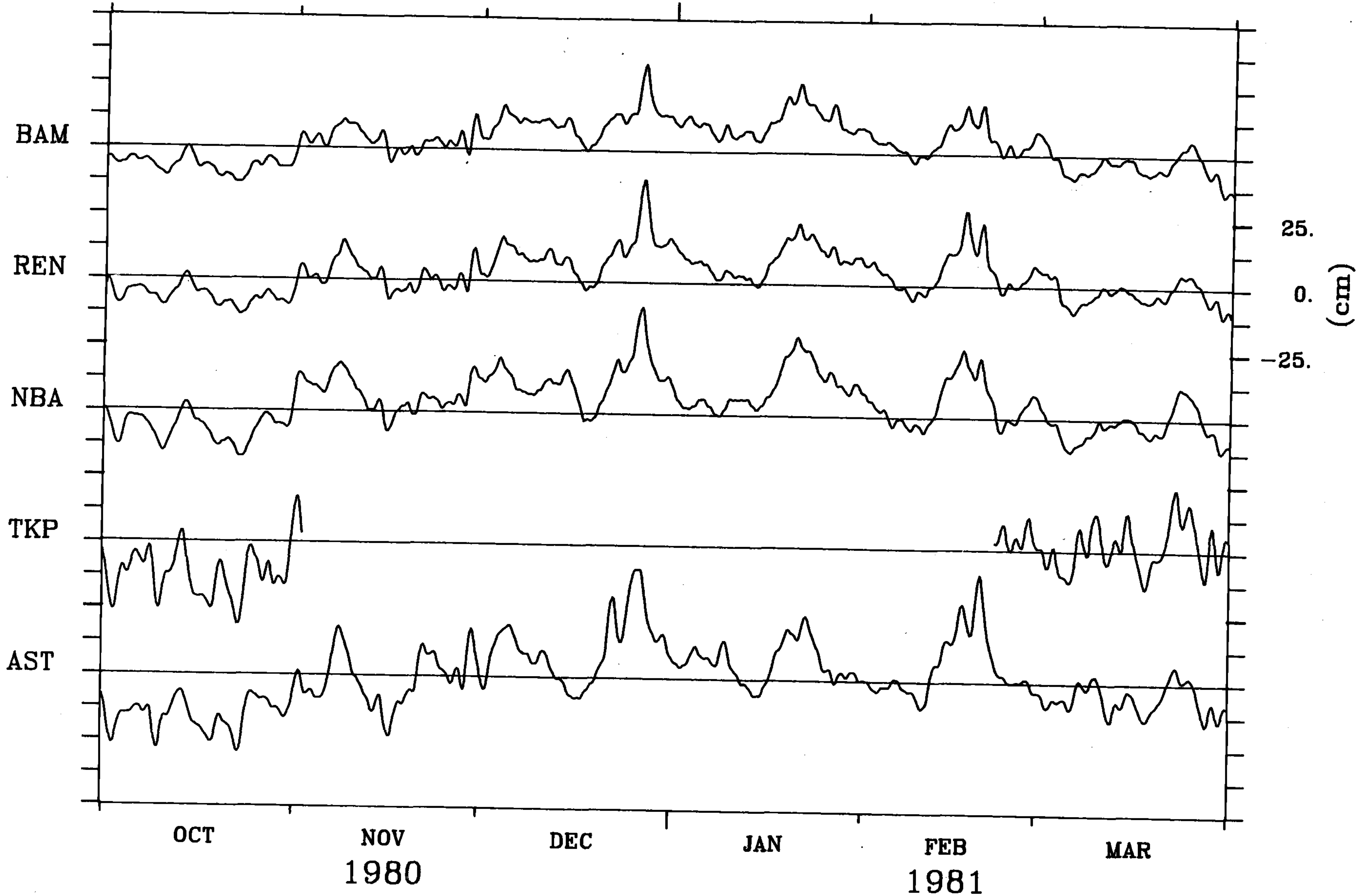
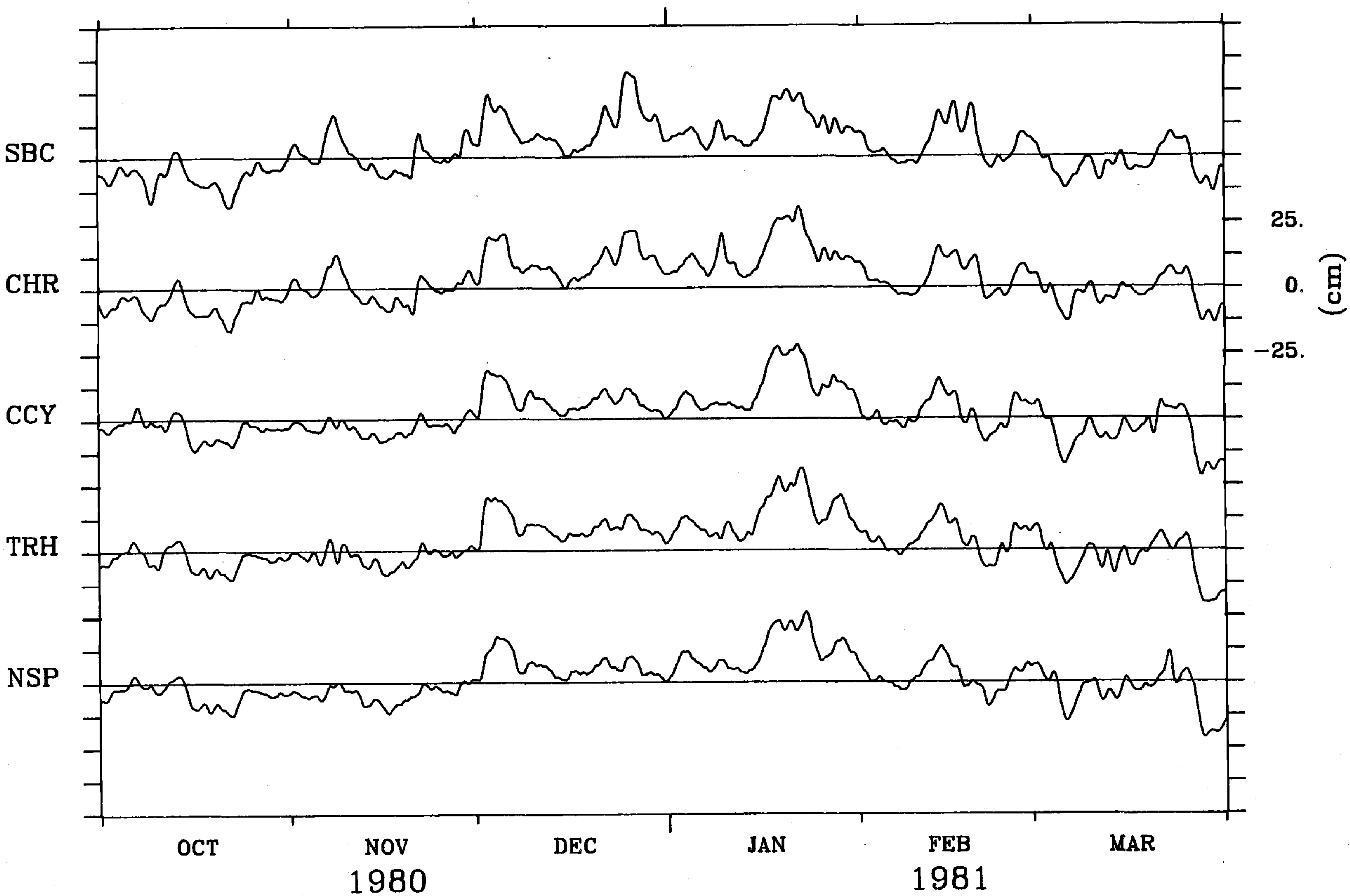


Adjusted Sea Level

8.13

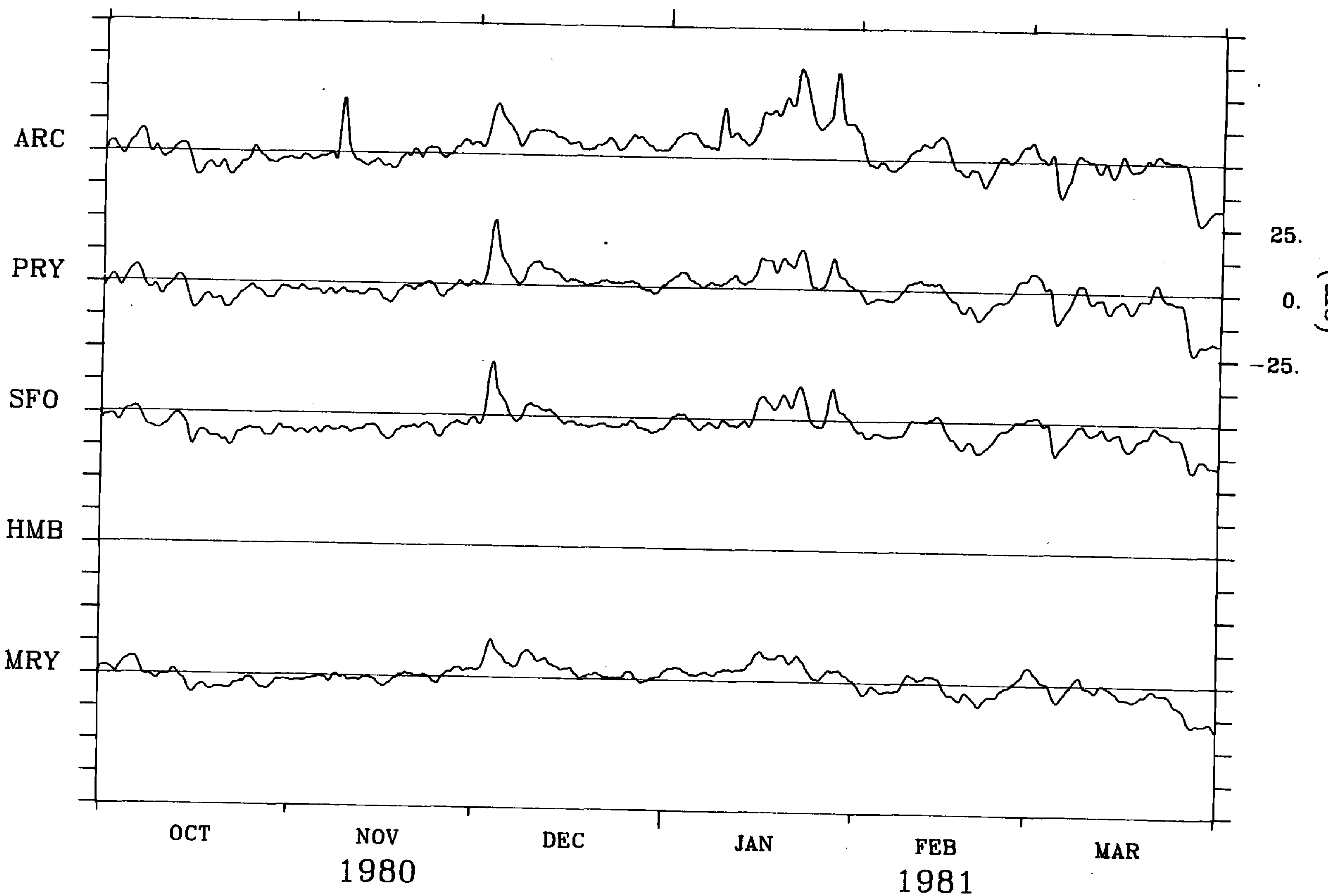


Adjusted Sea Level

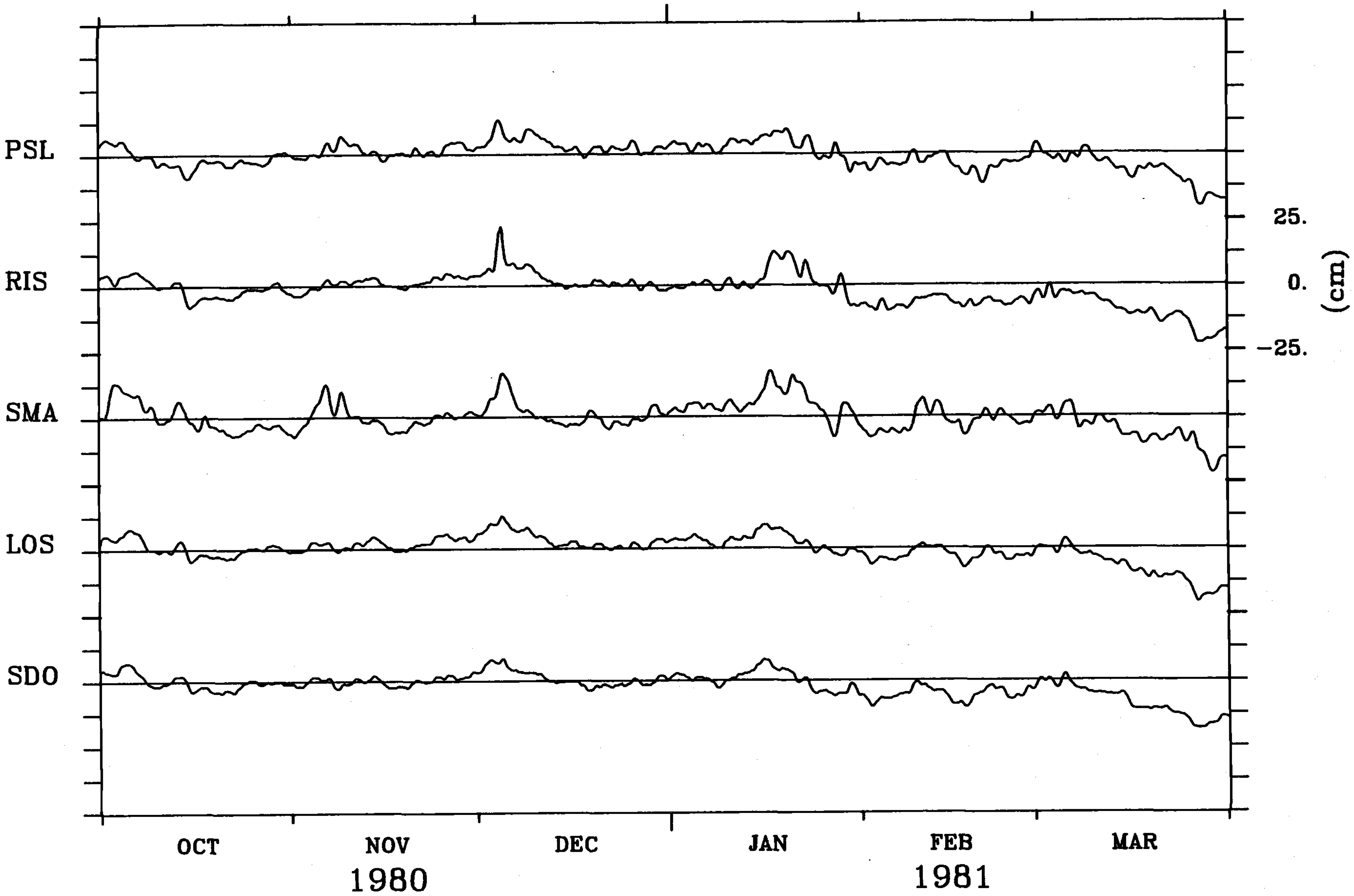


Adjusted Sea Level

8.15



Adjusted Sea Level



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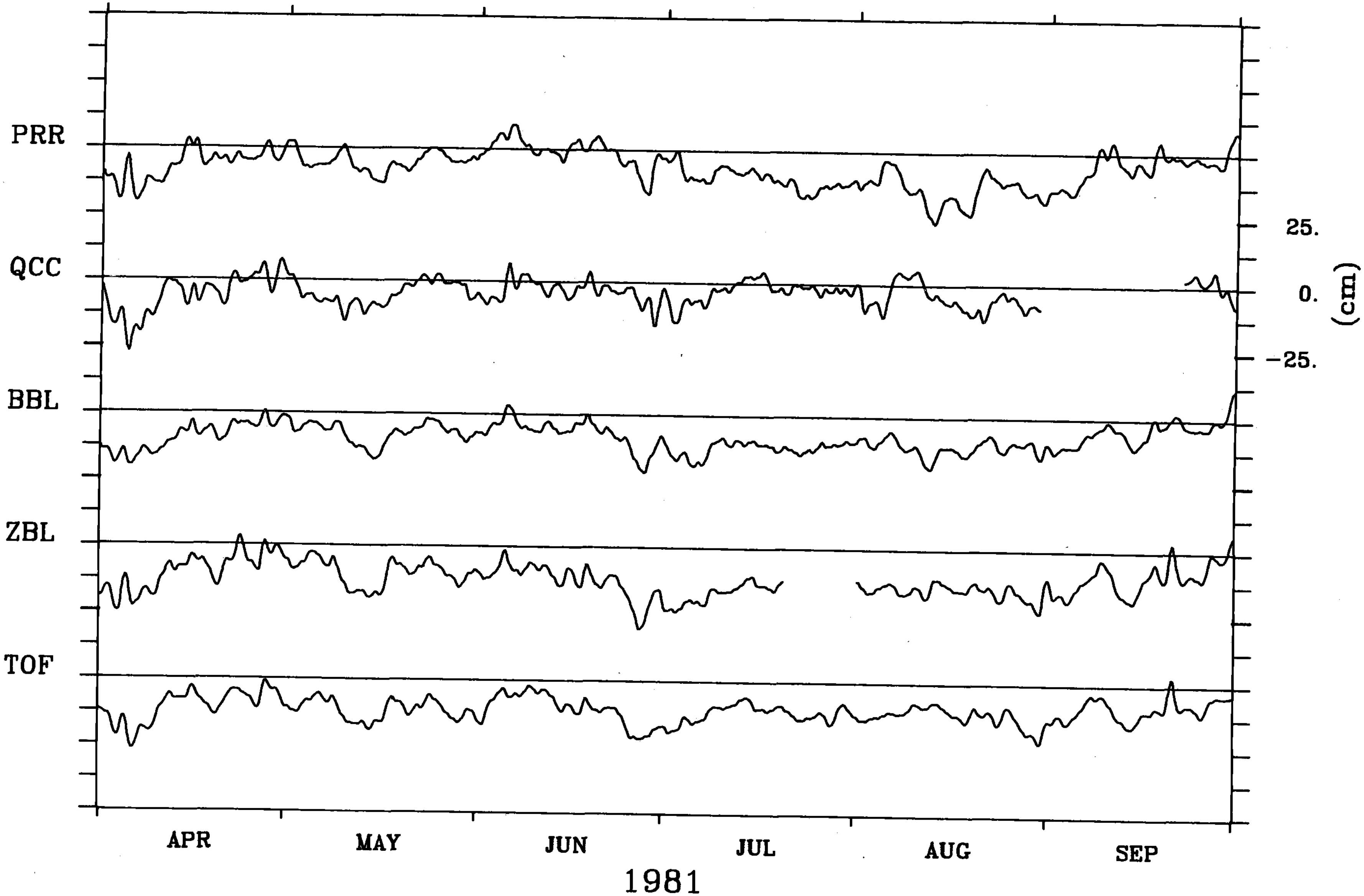

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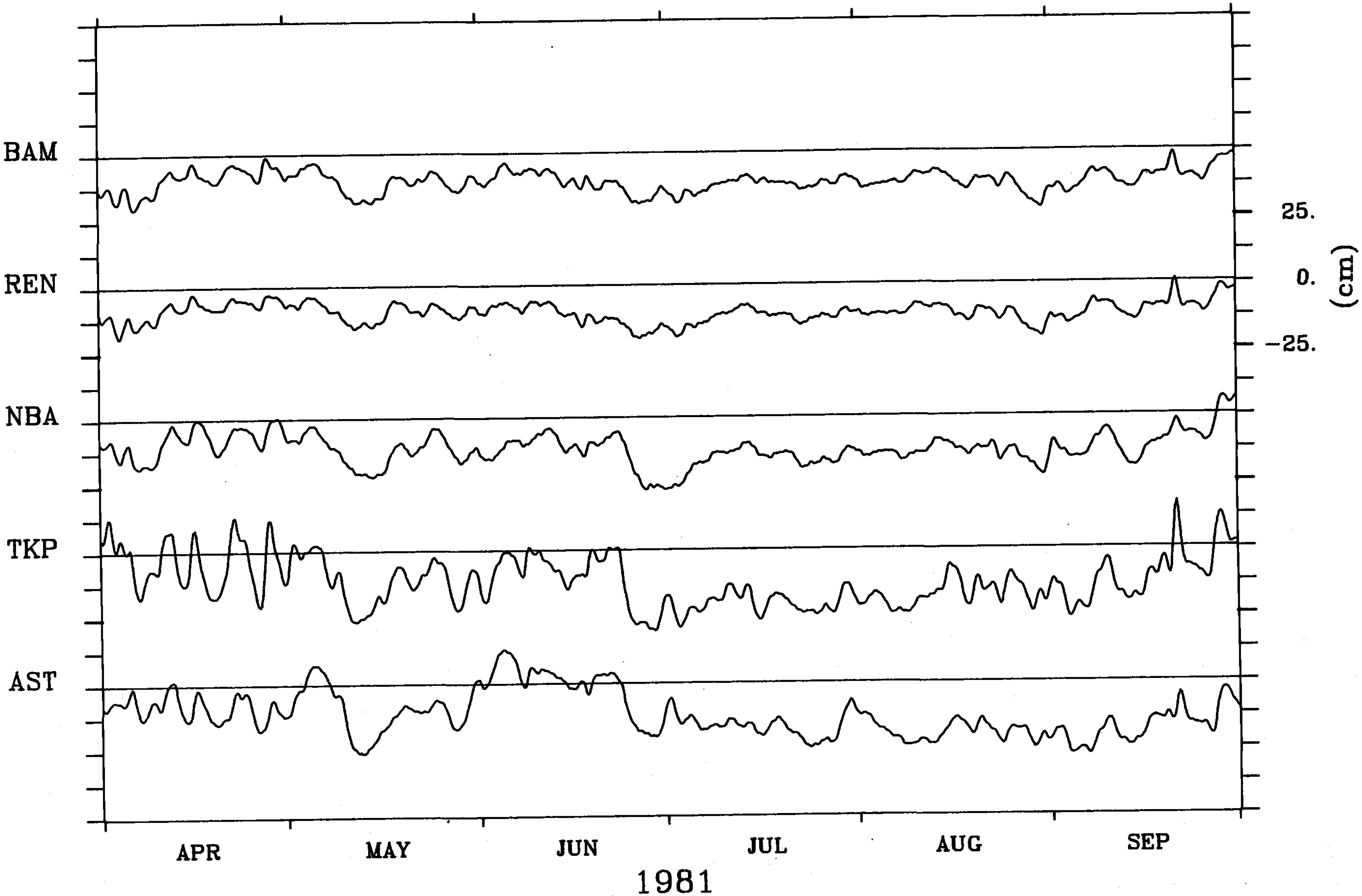

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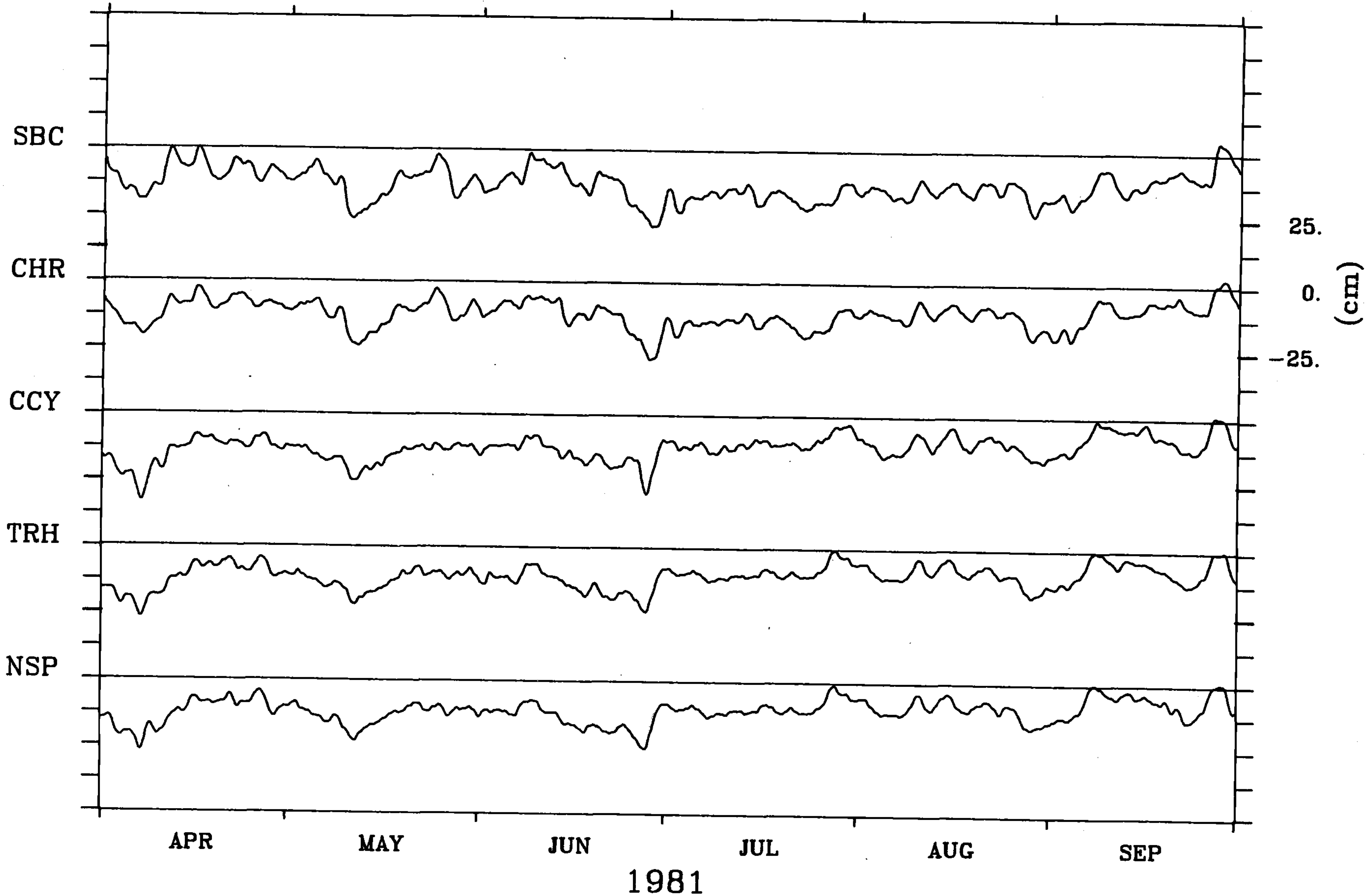

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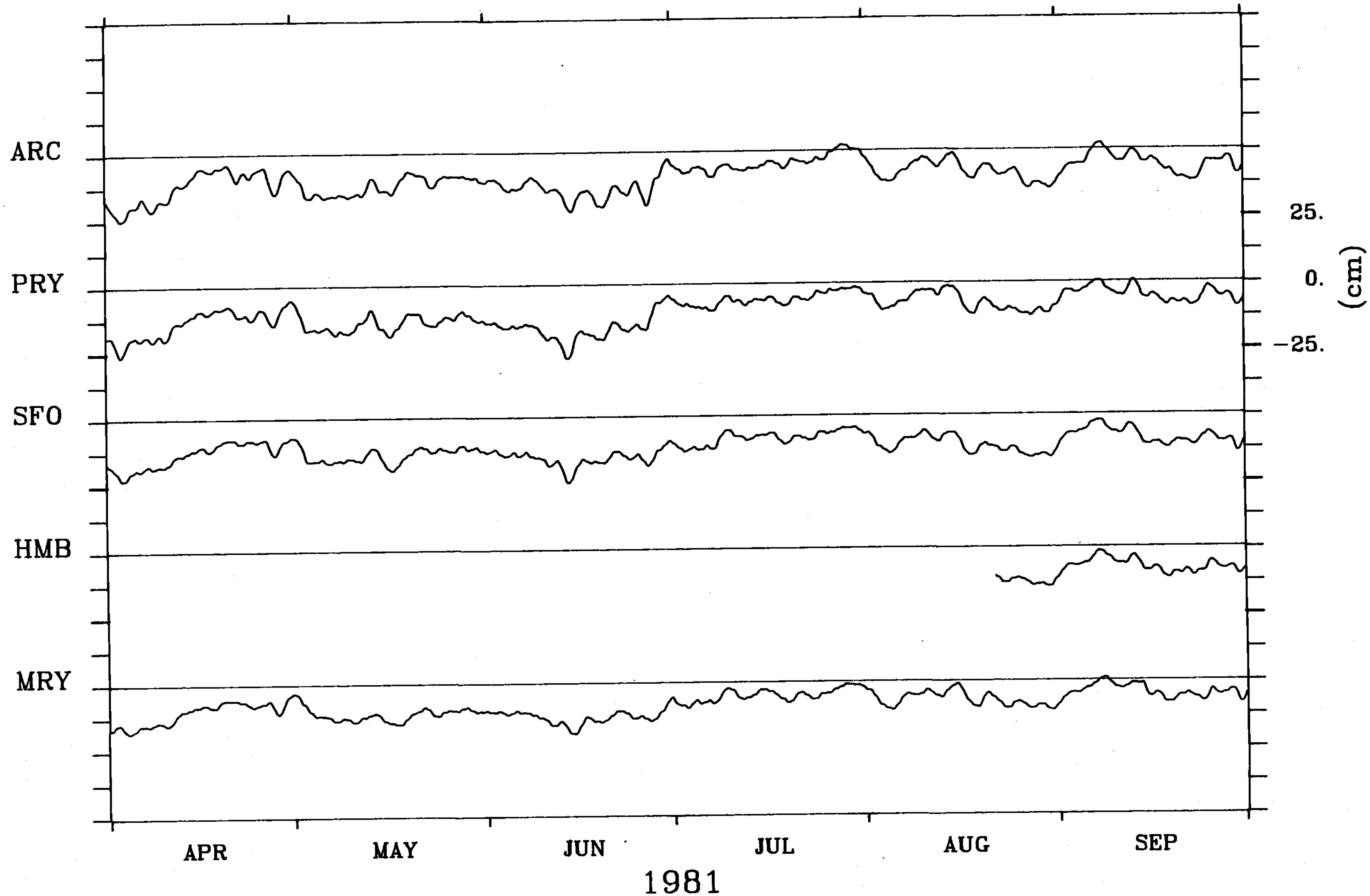

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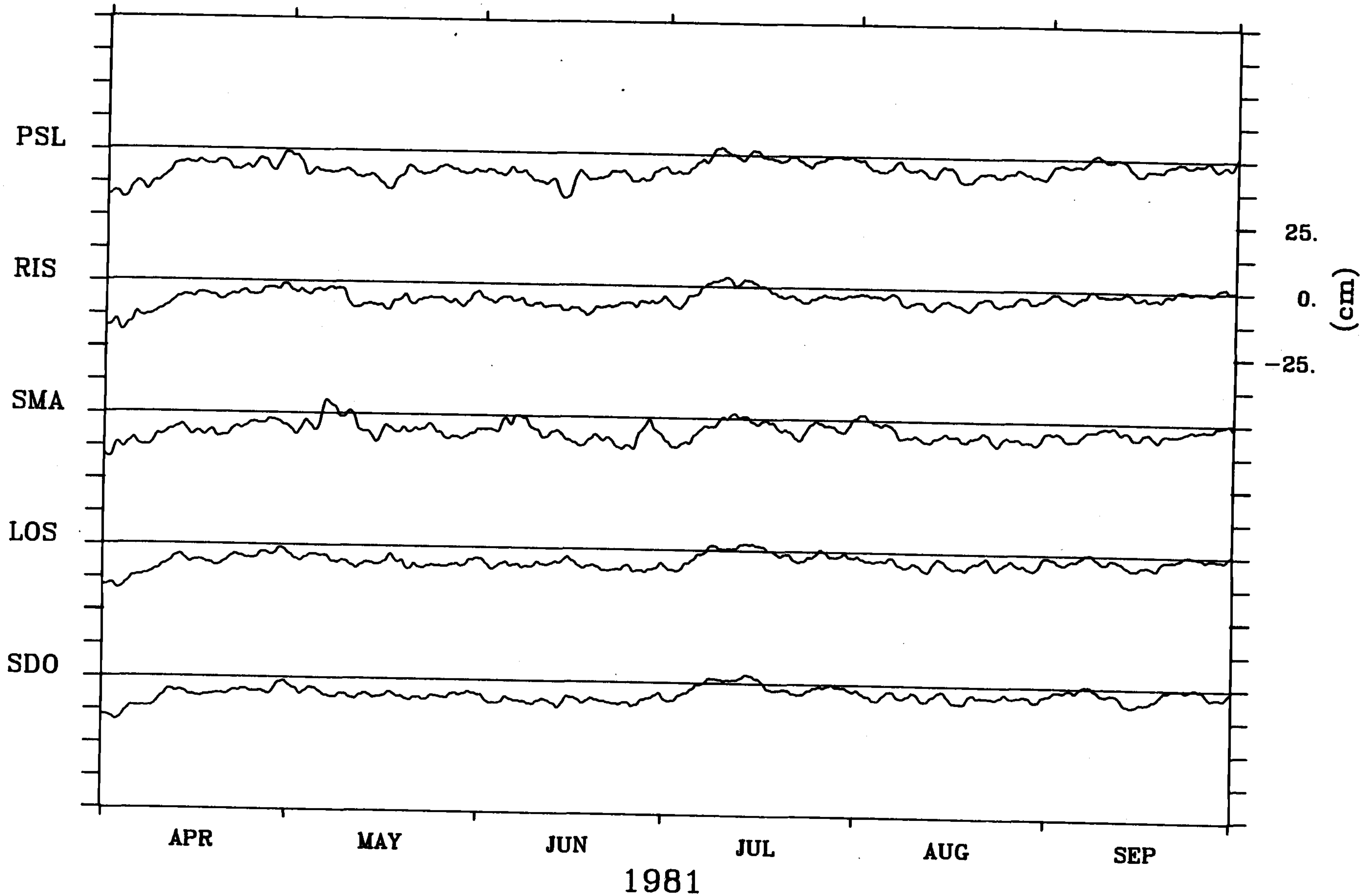

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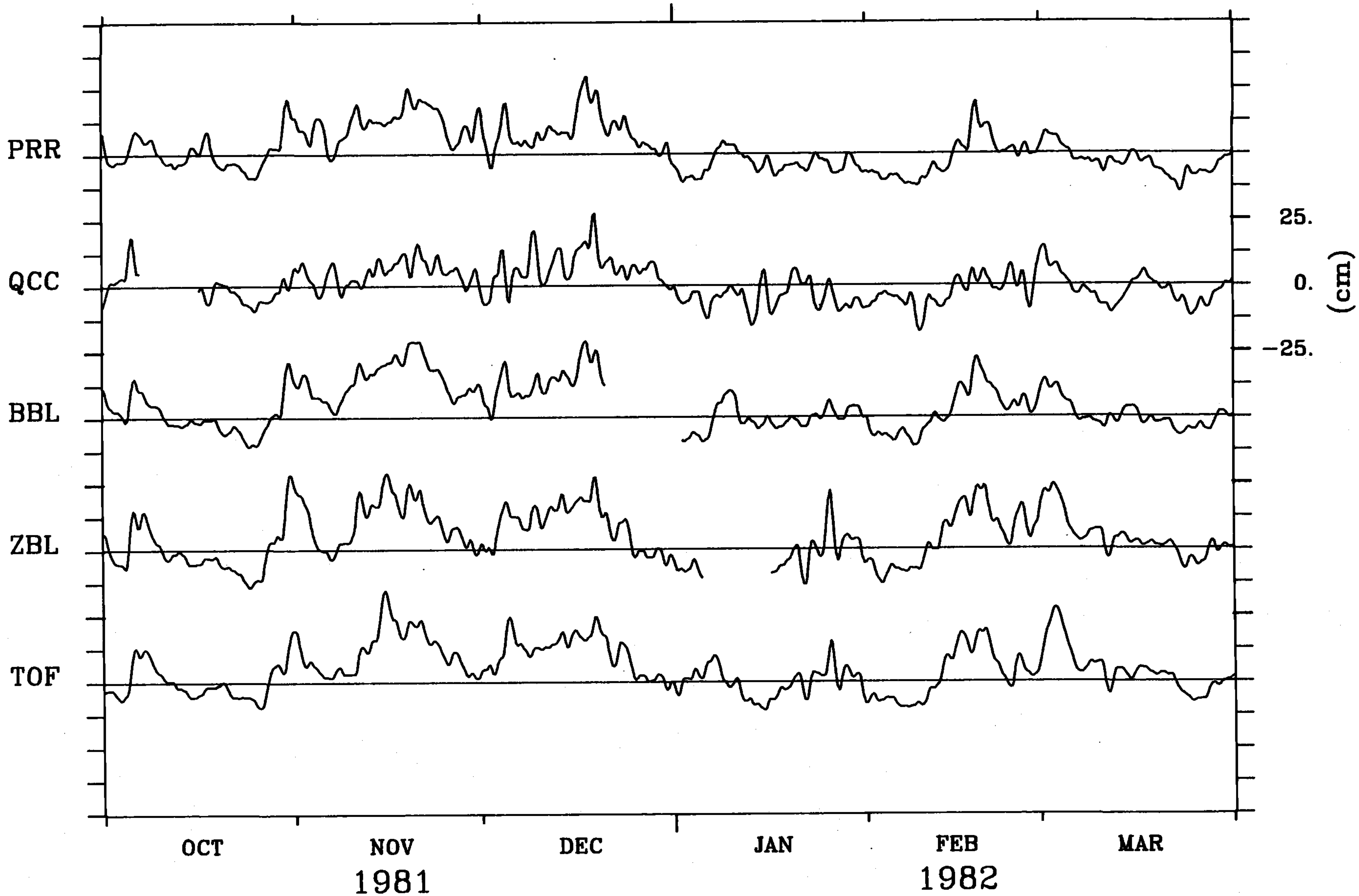

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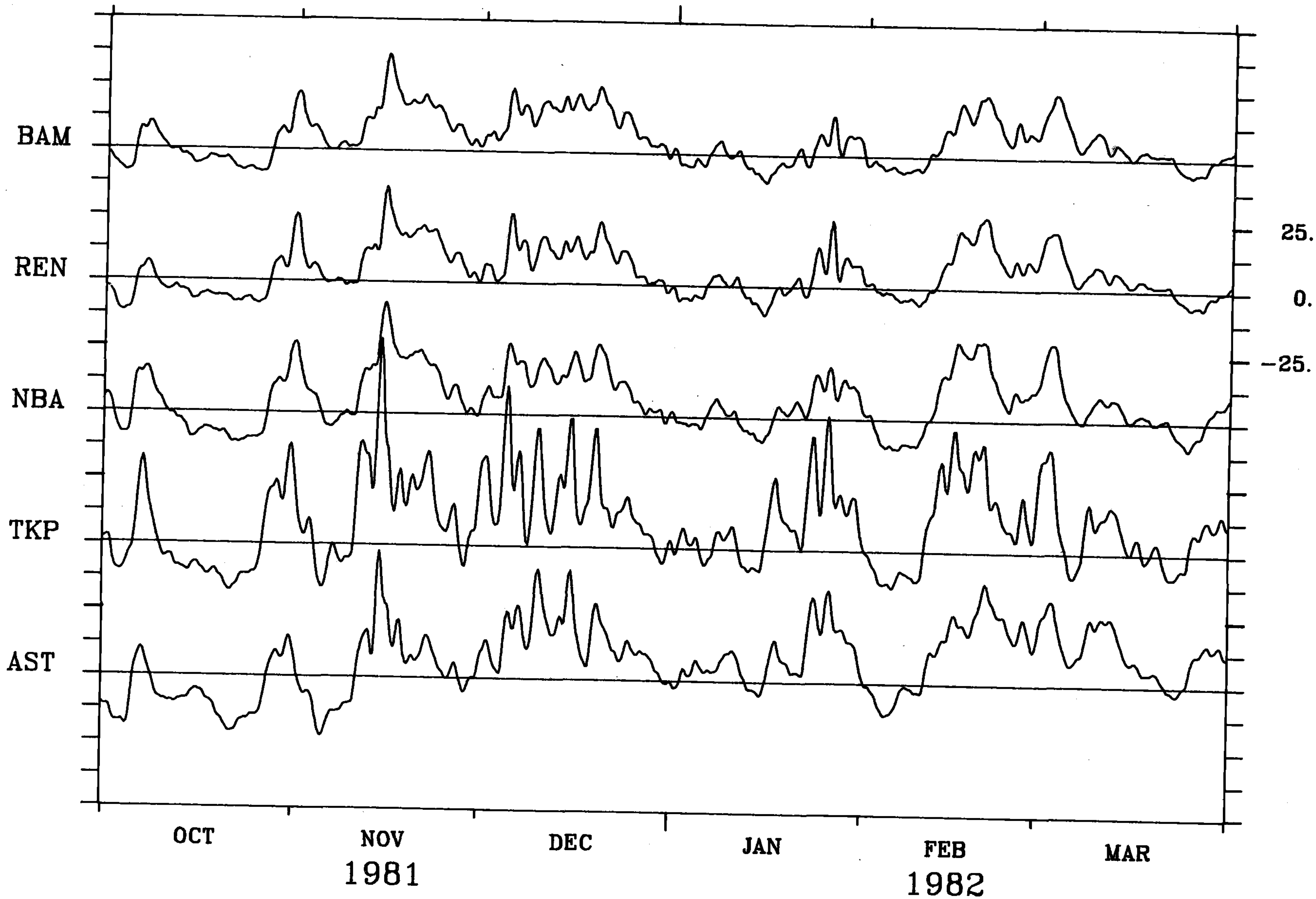

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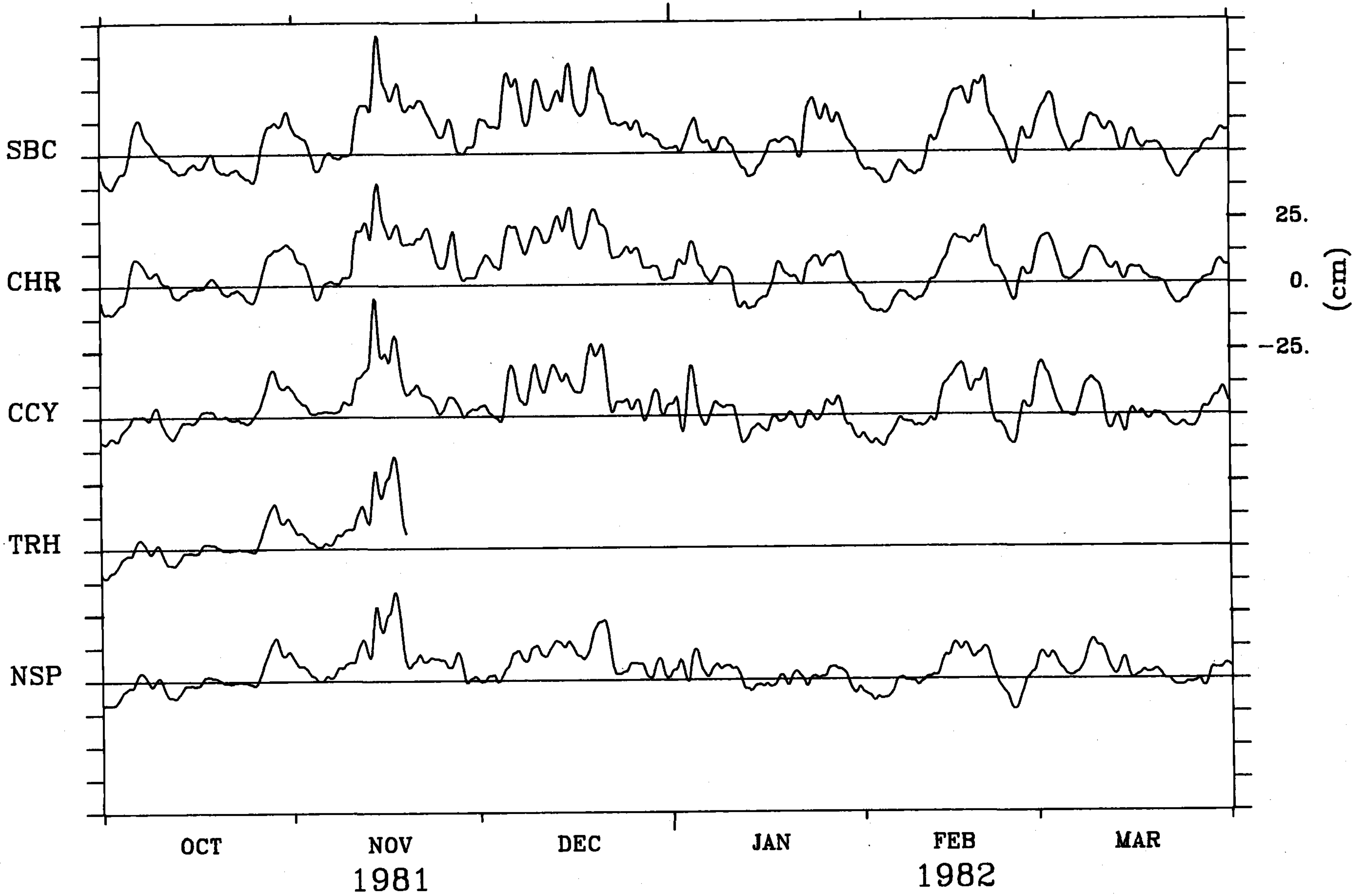

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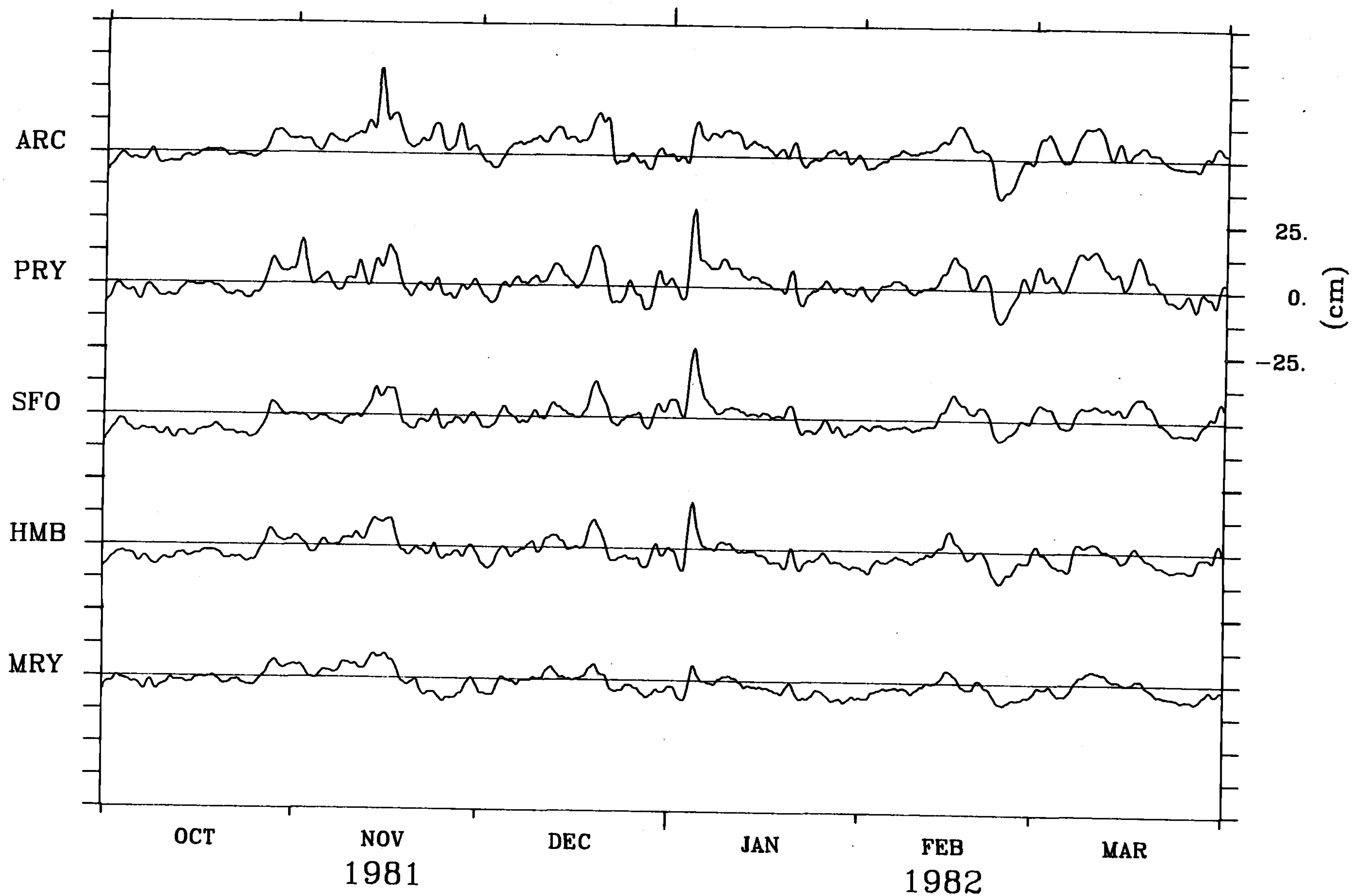

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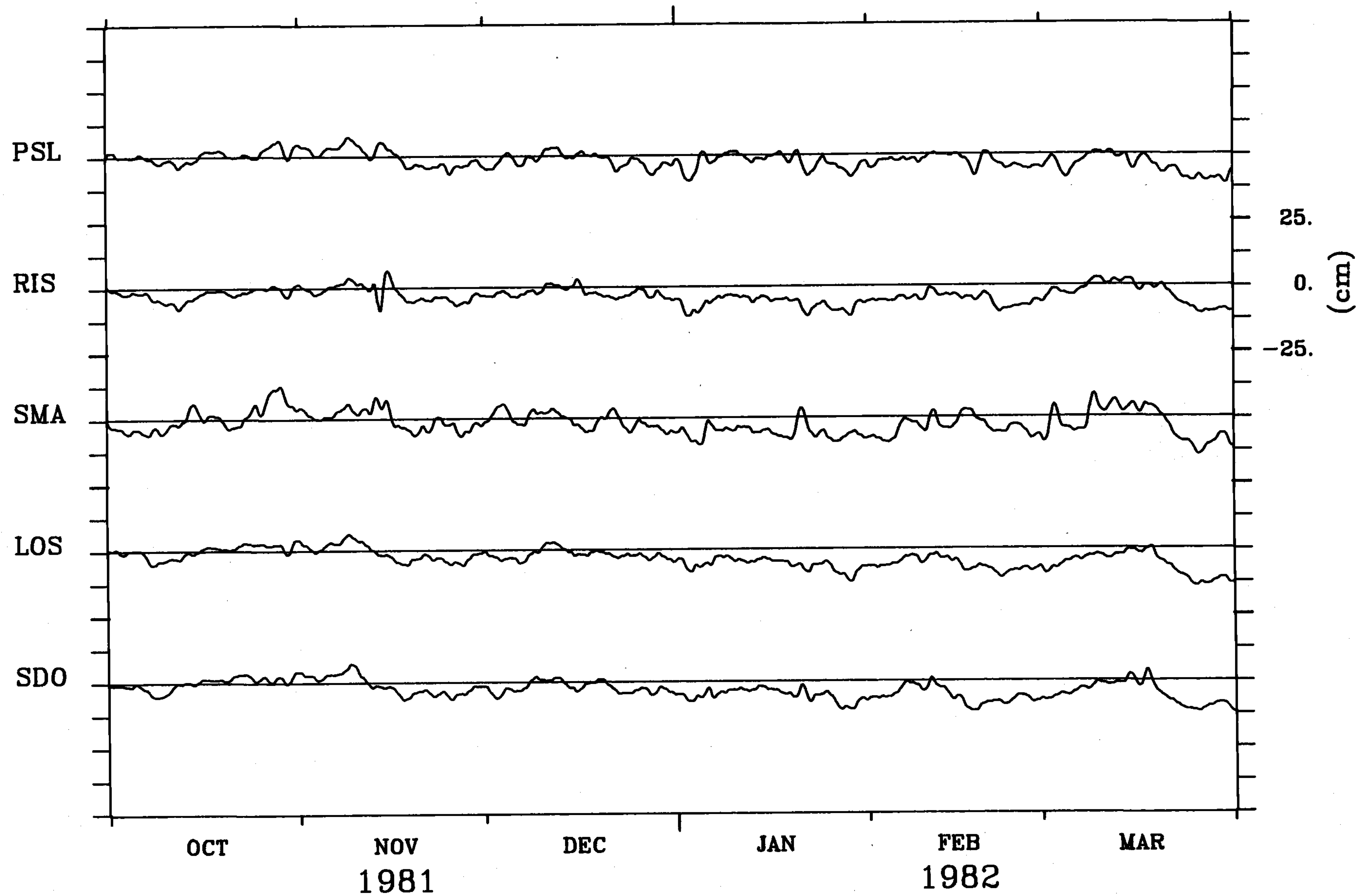

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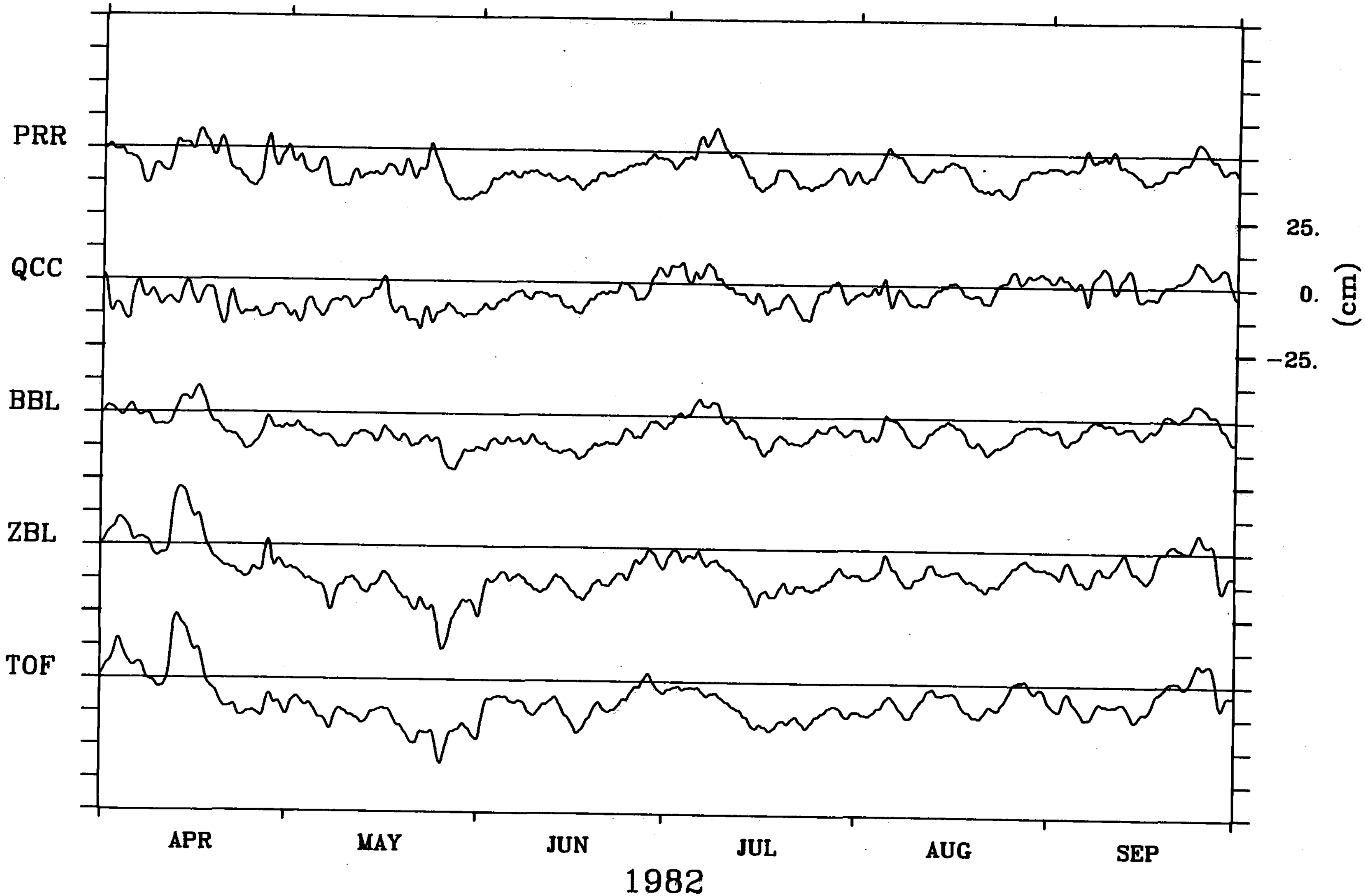

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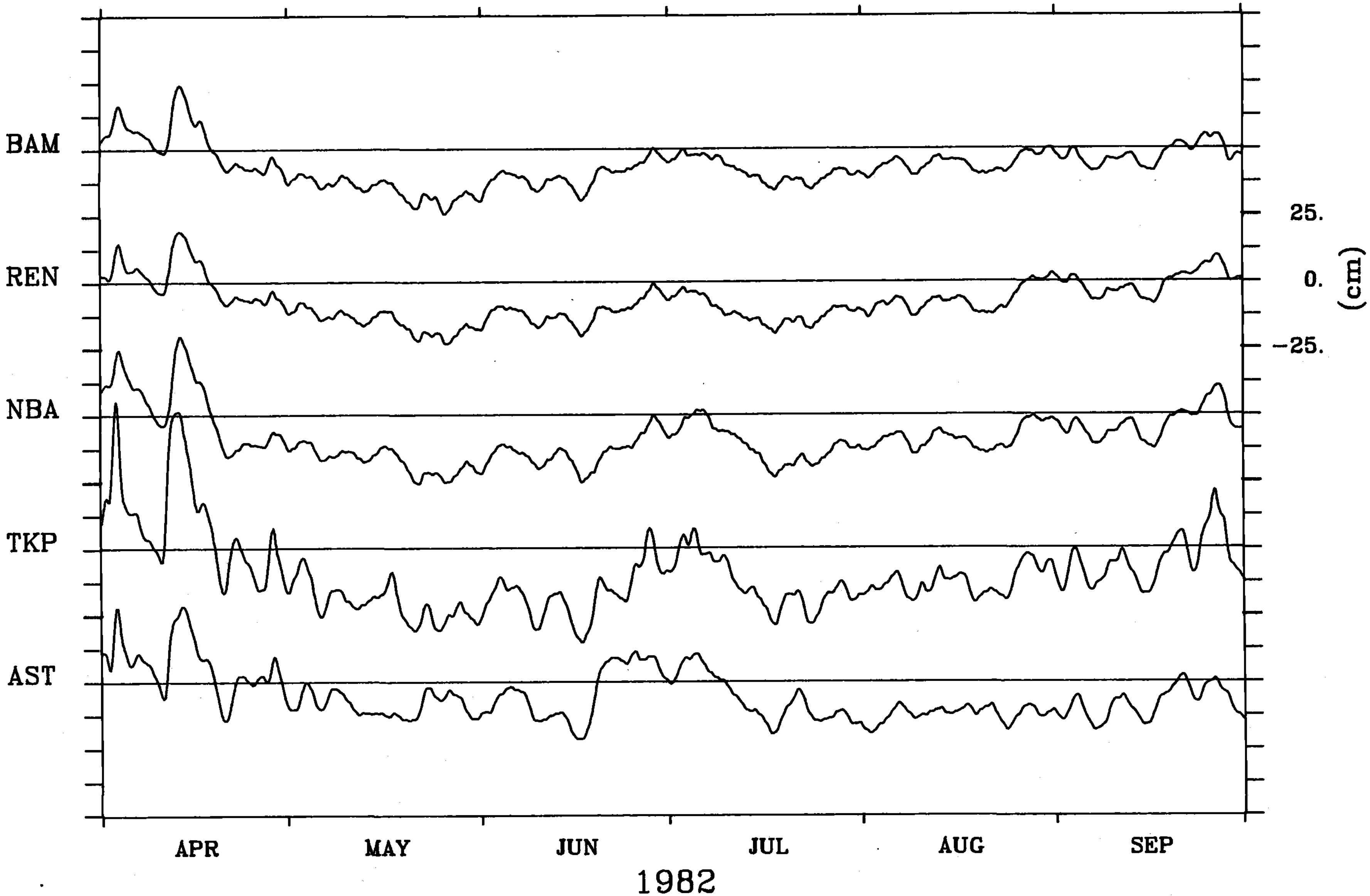

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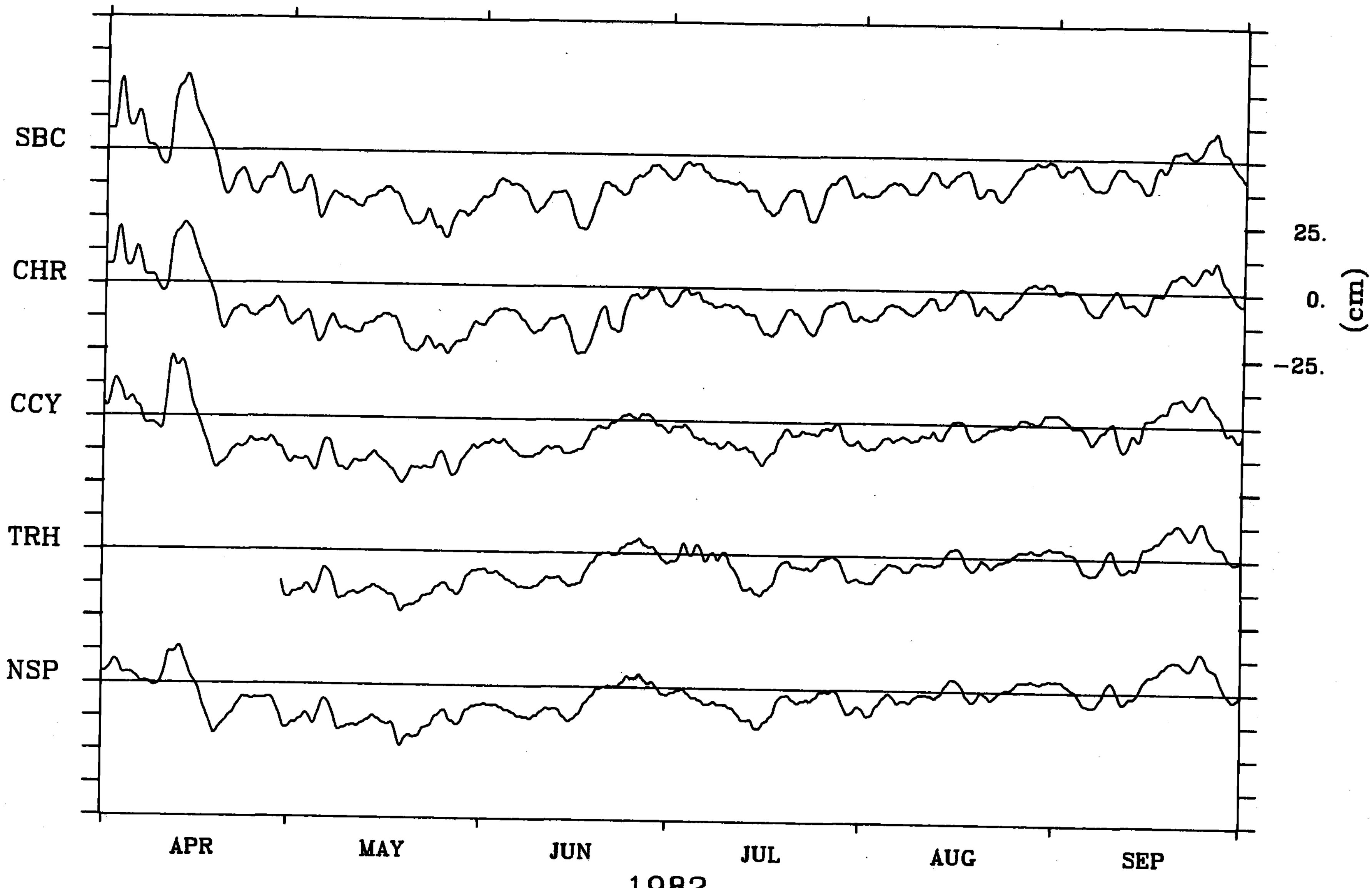

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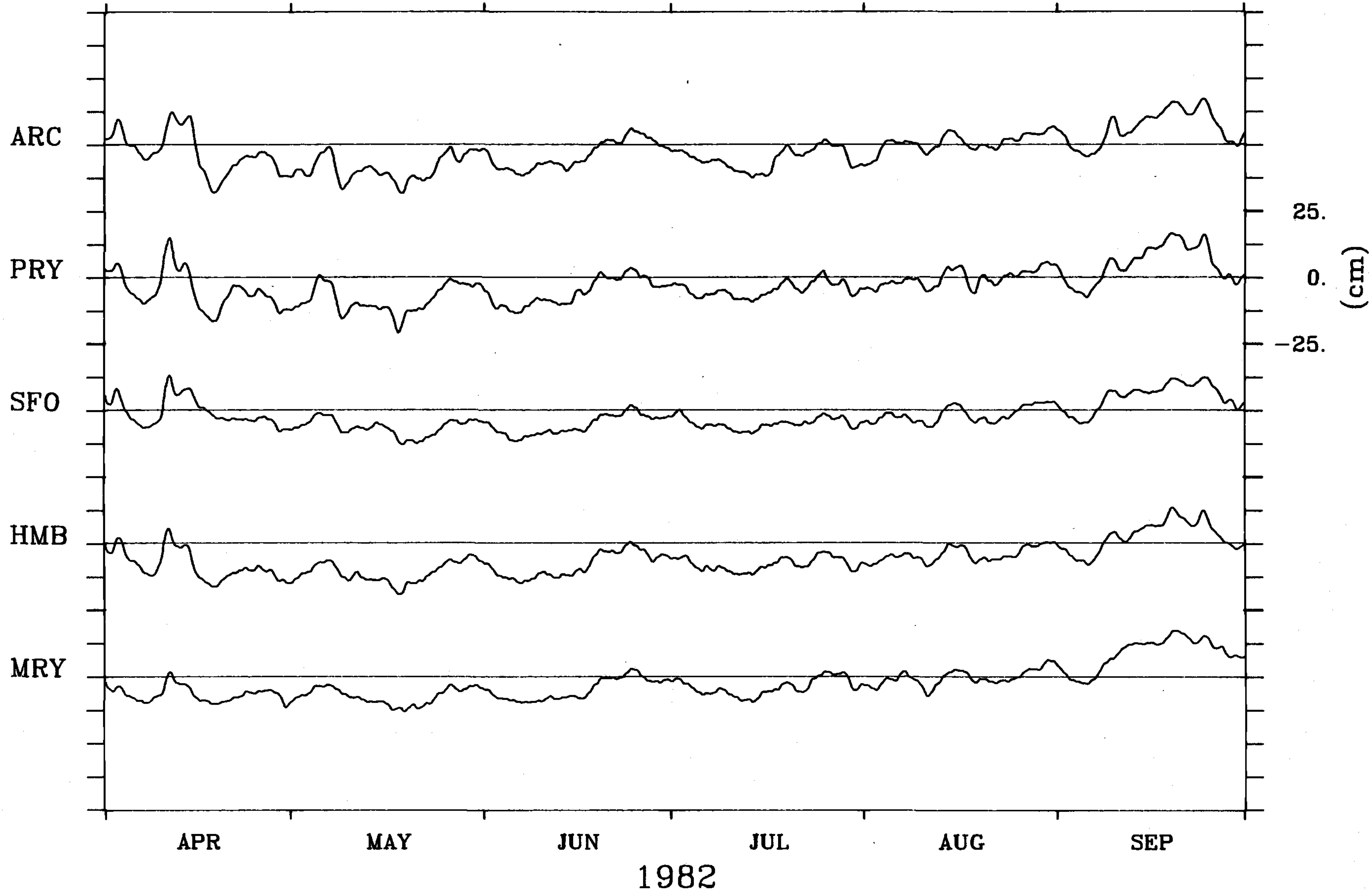

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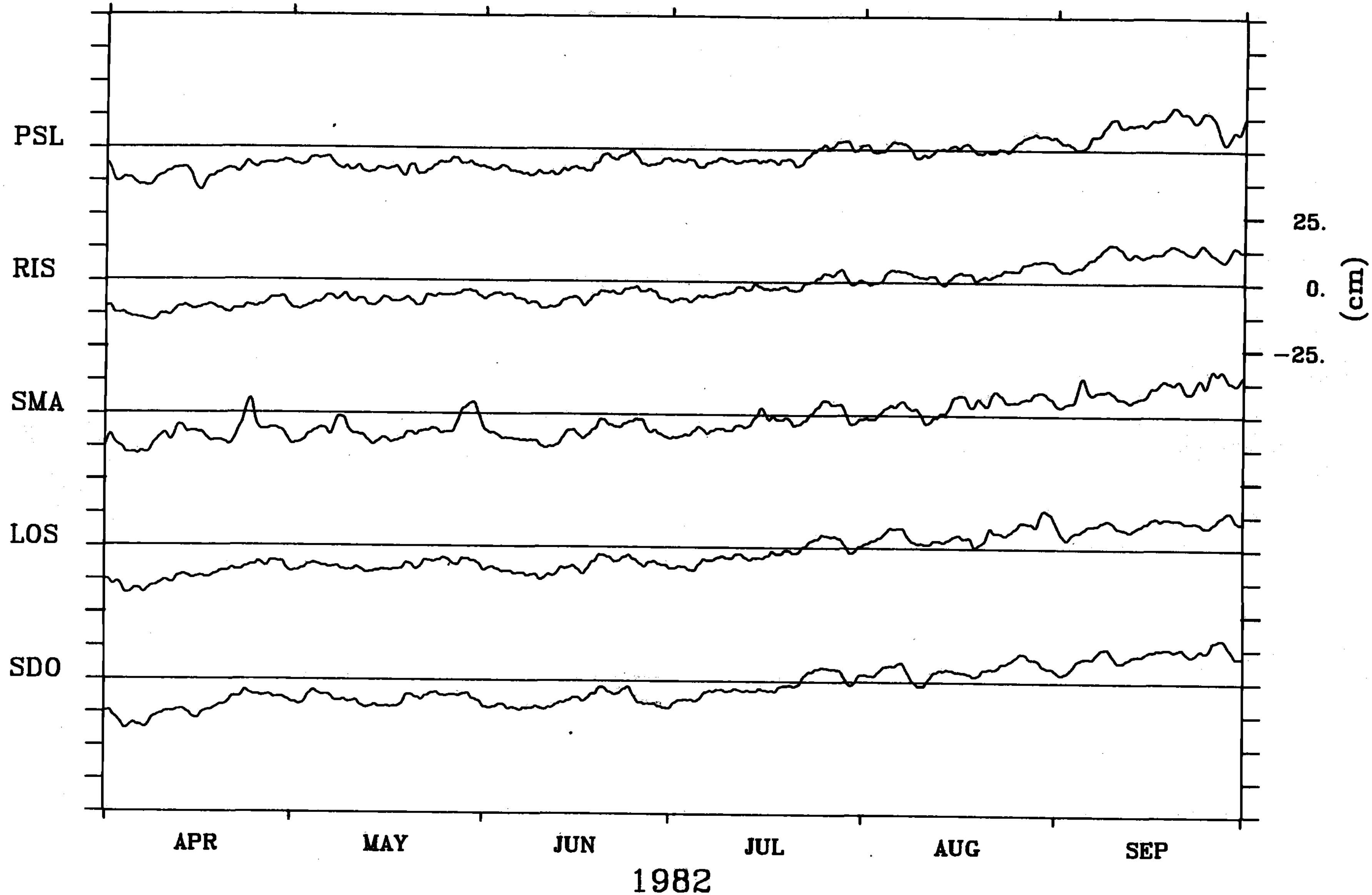

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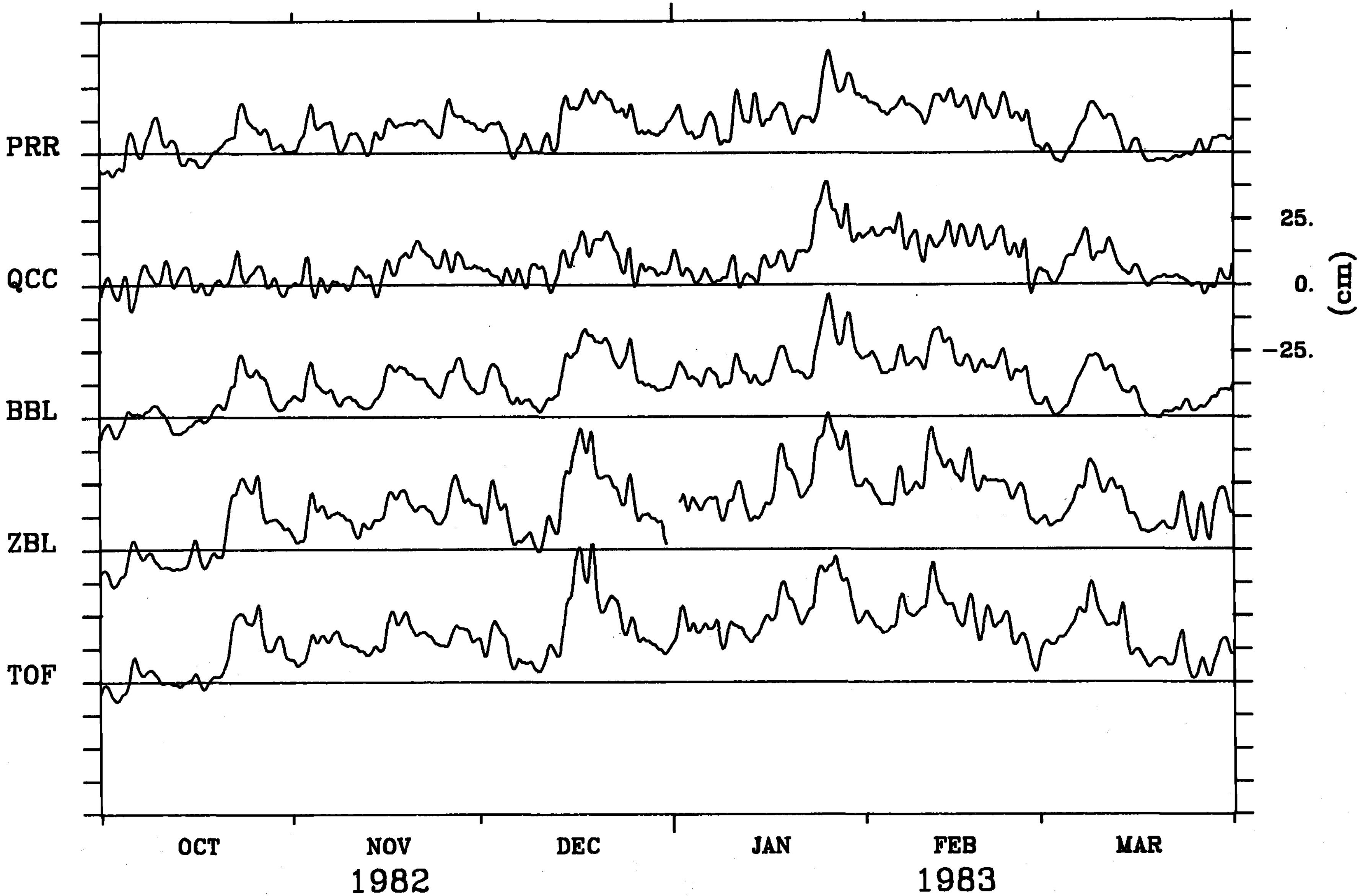

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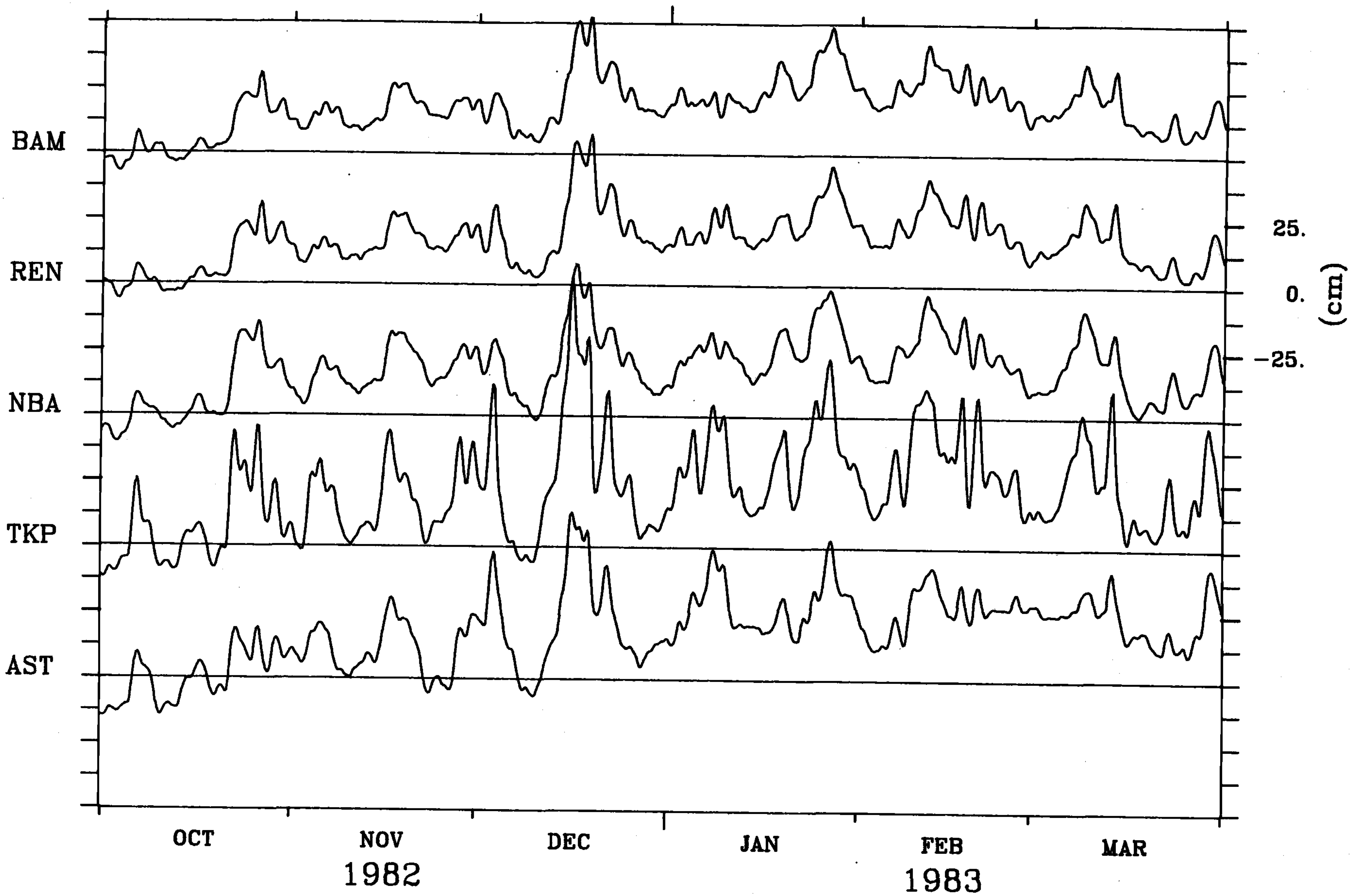

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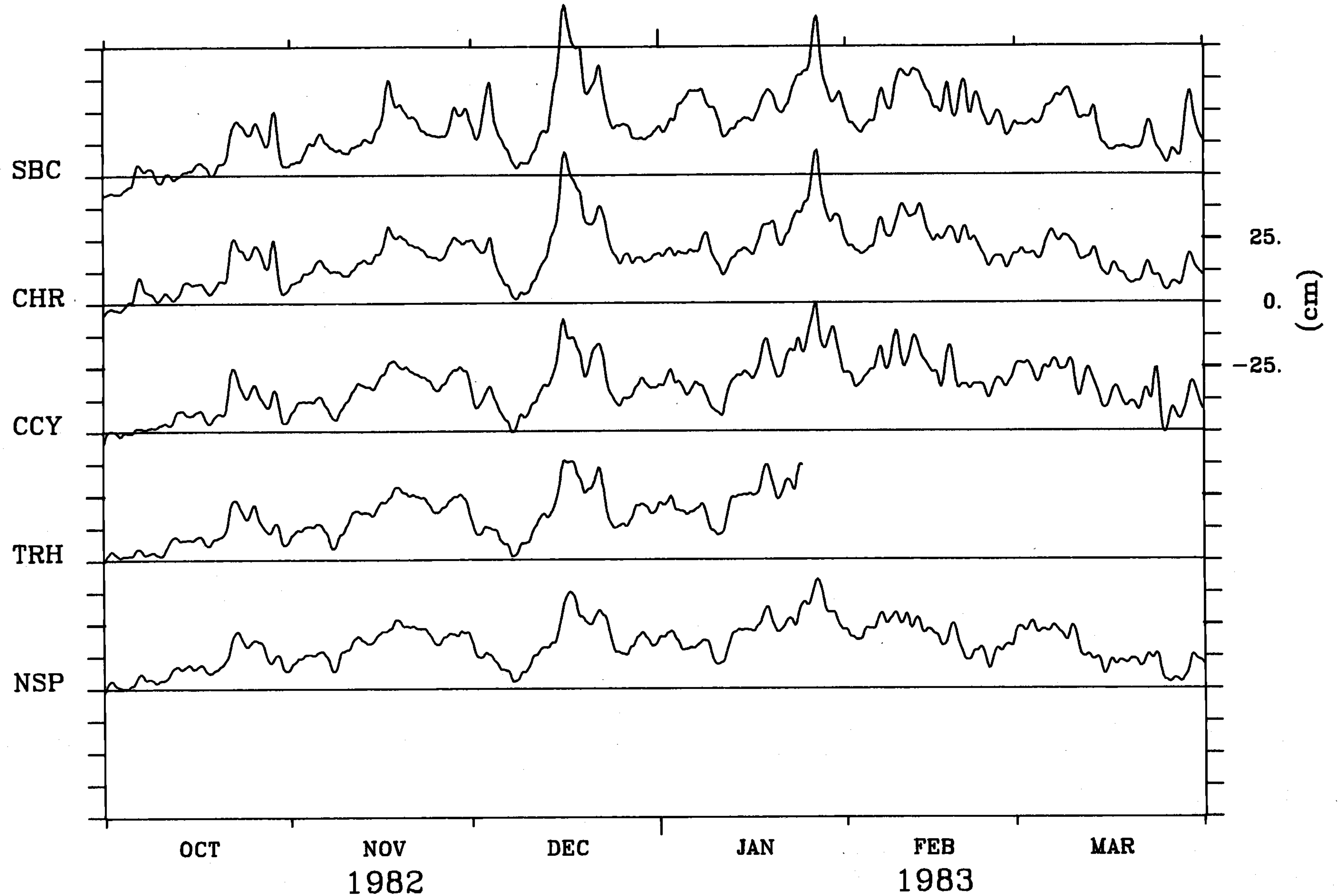

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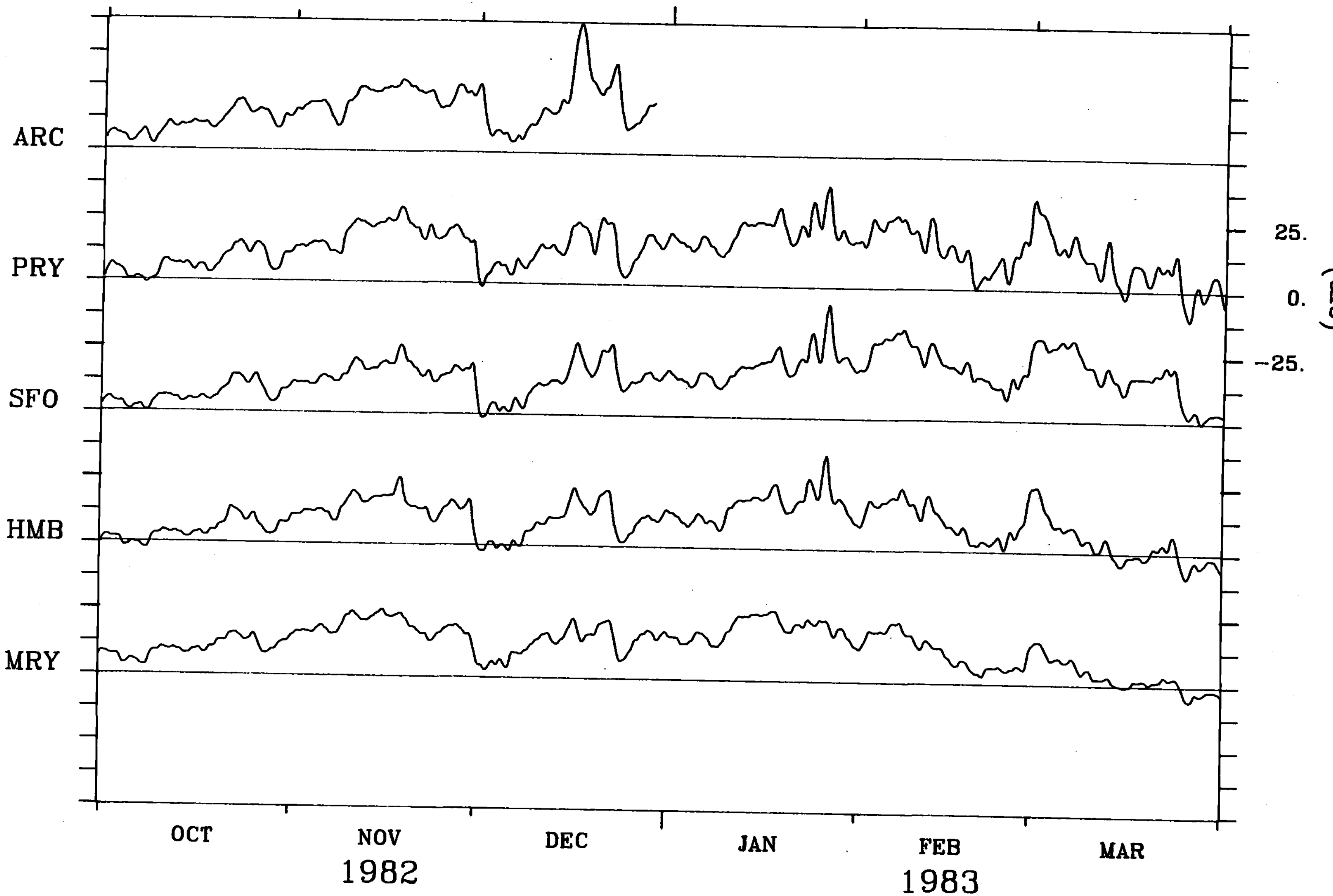

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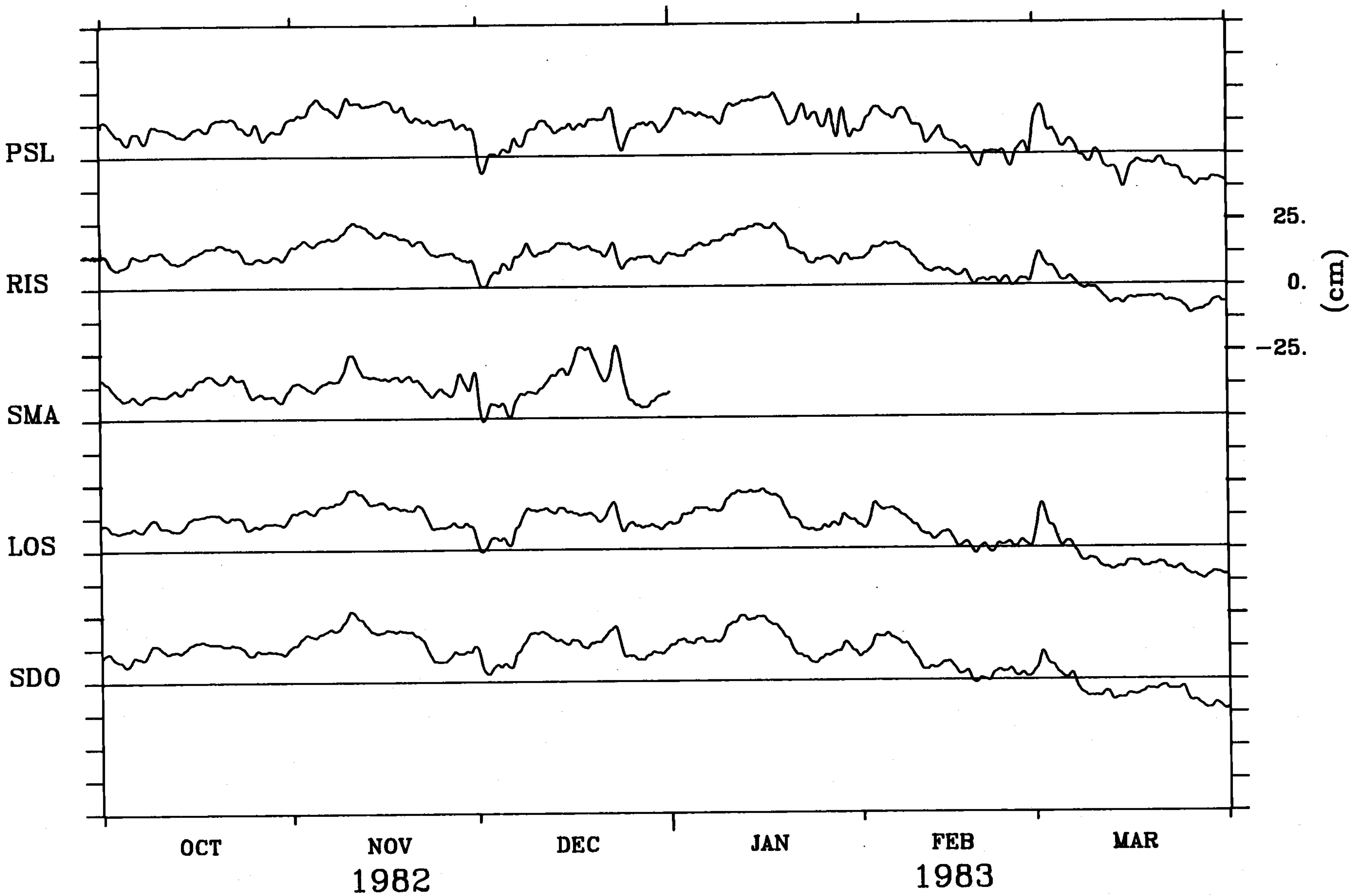

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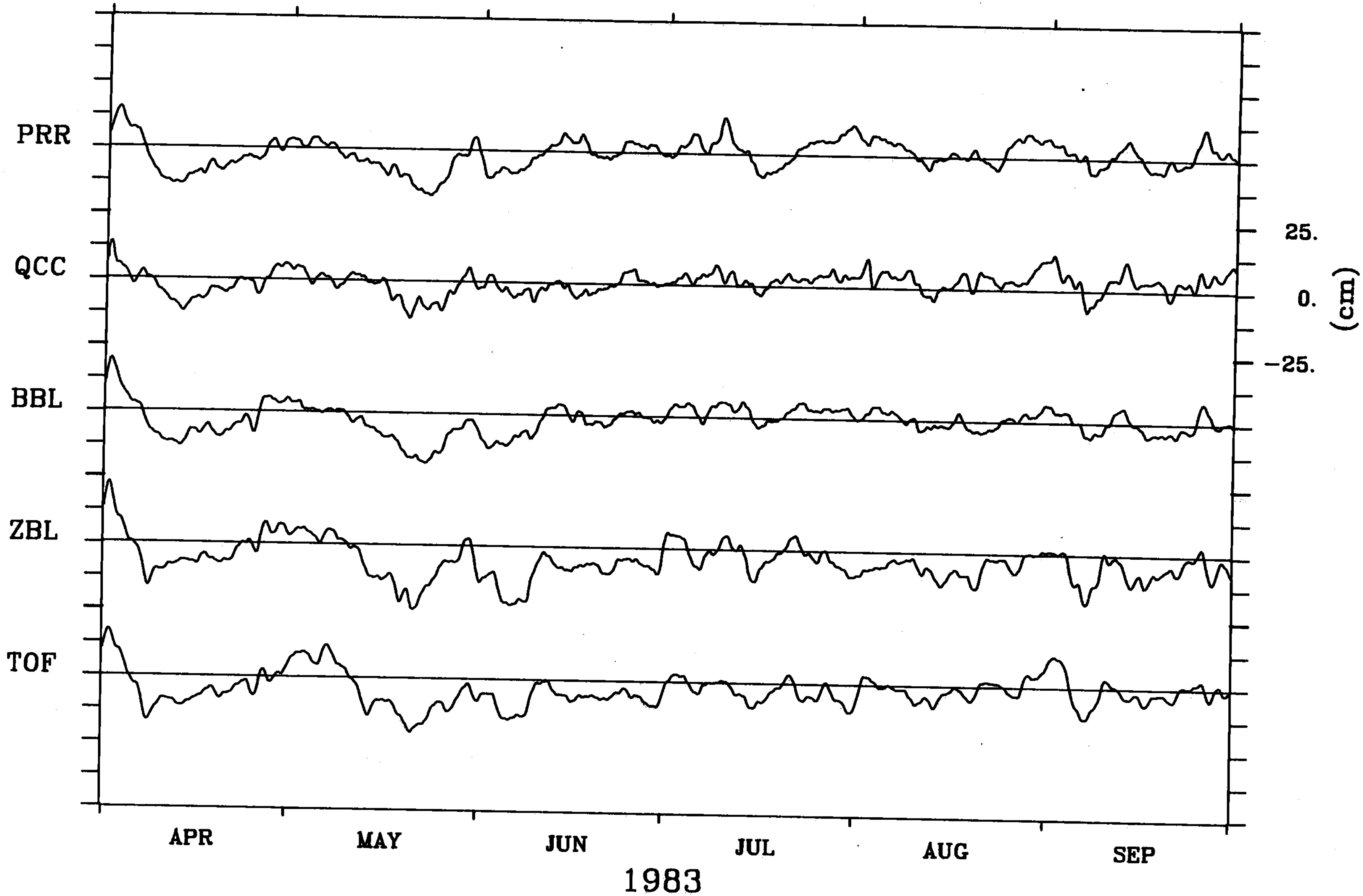

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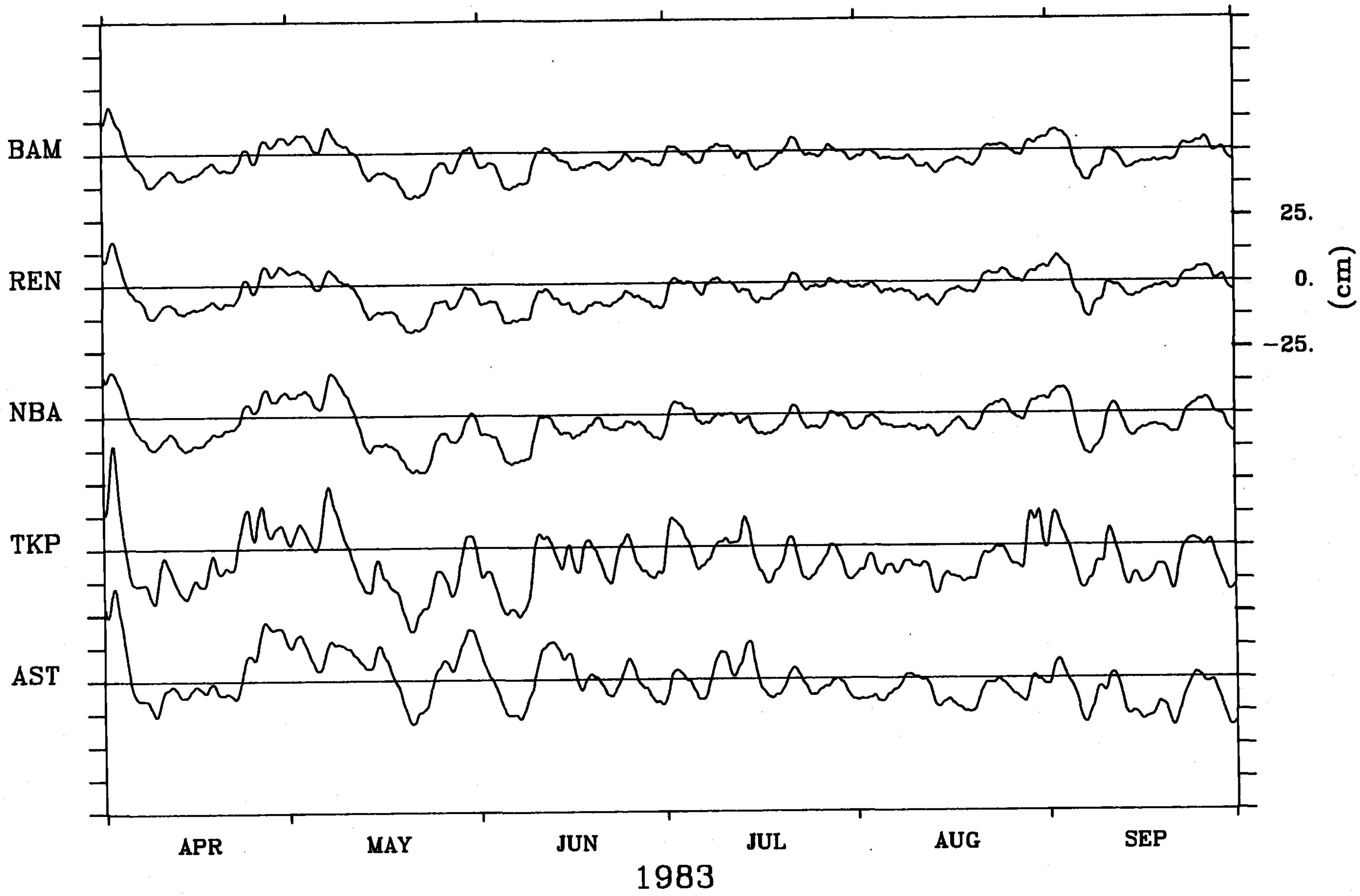

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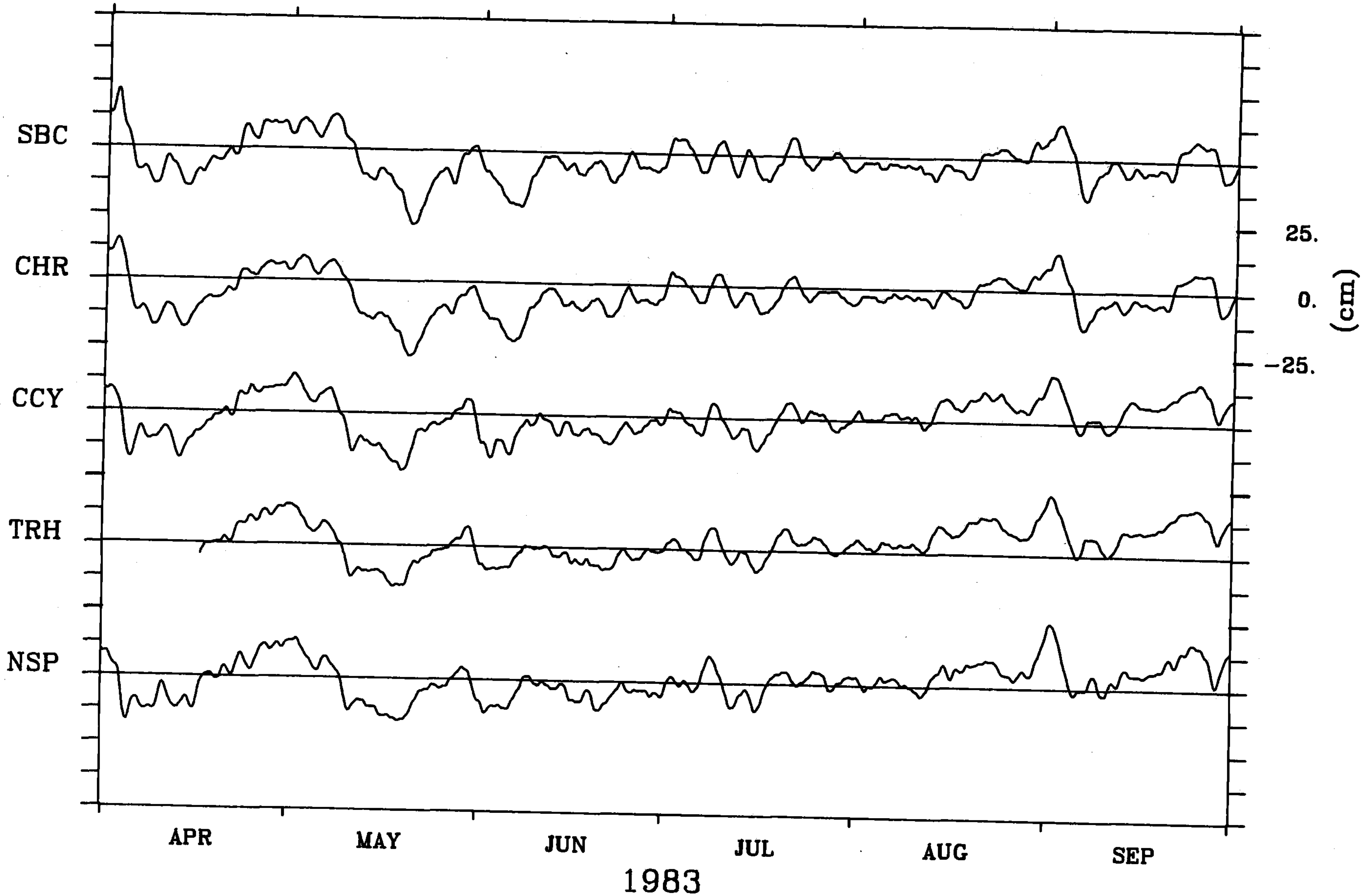

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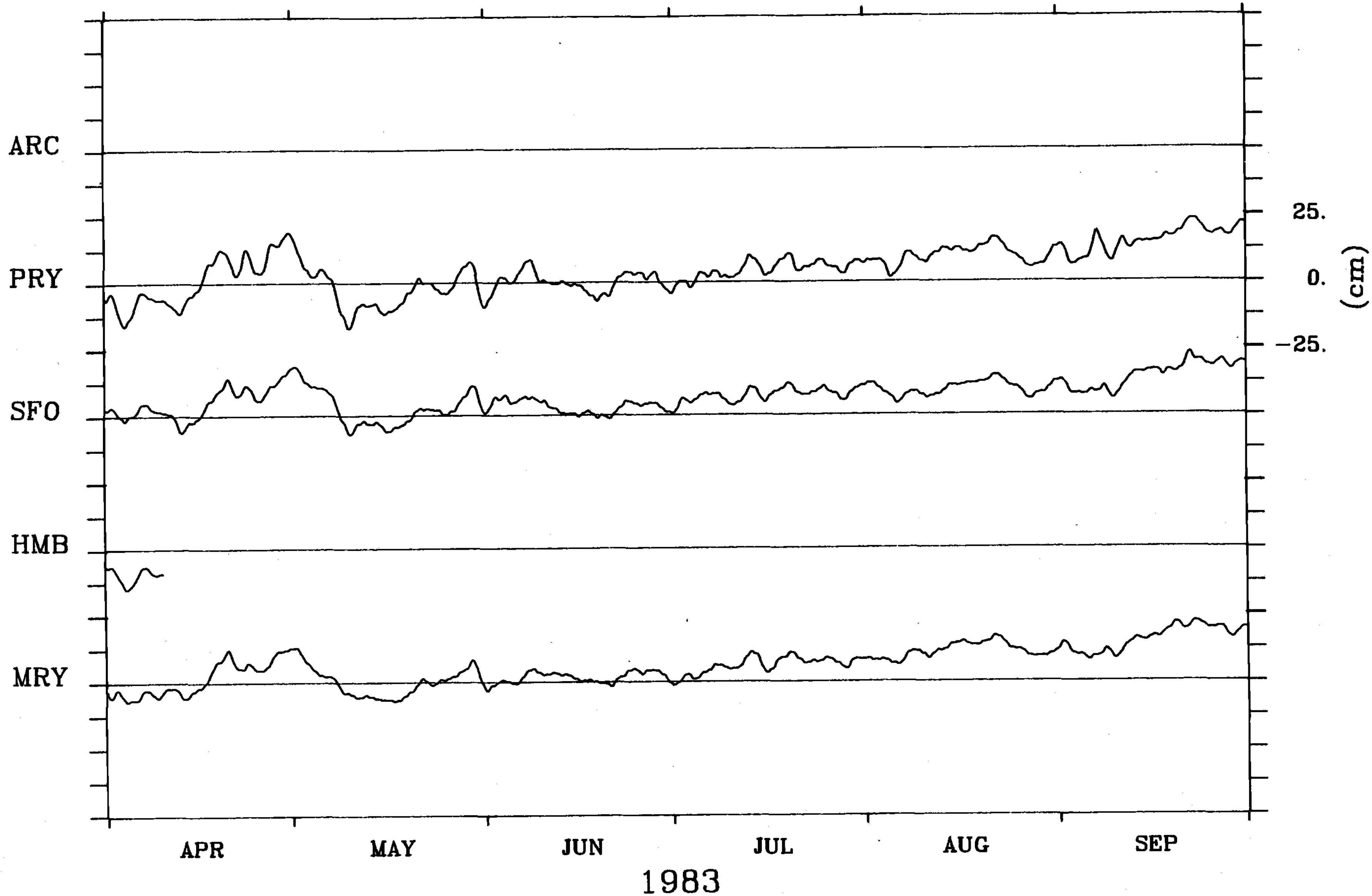

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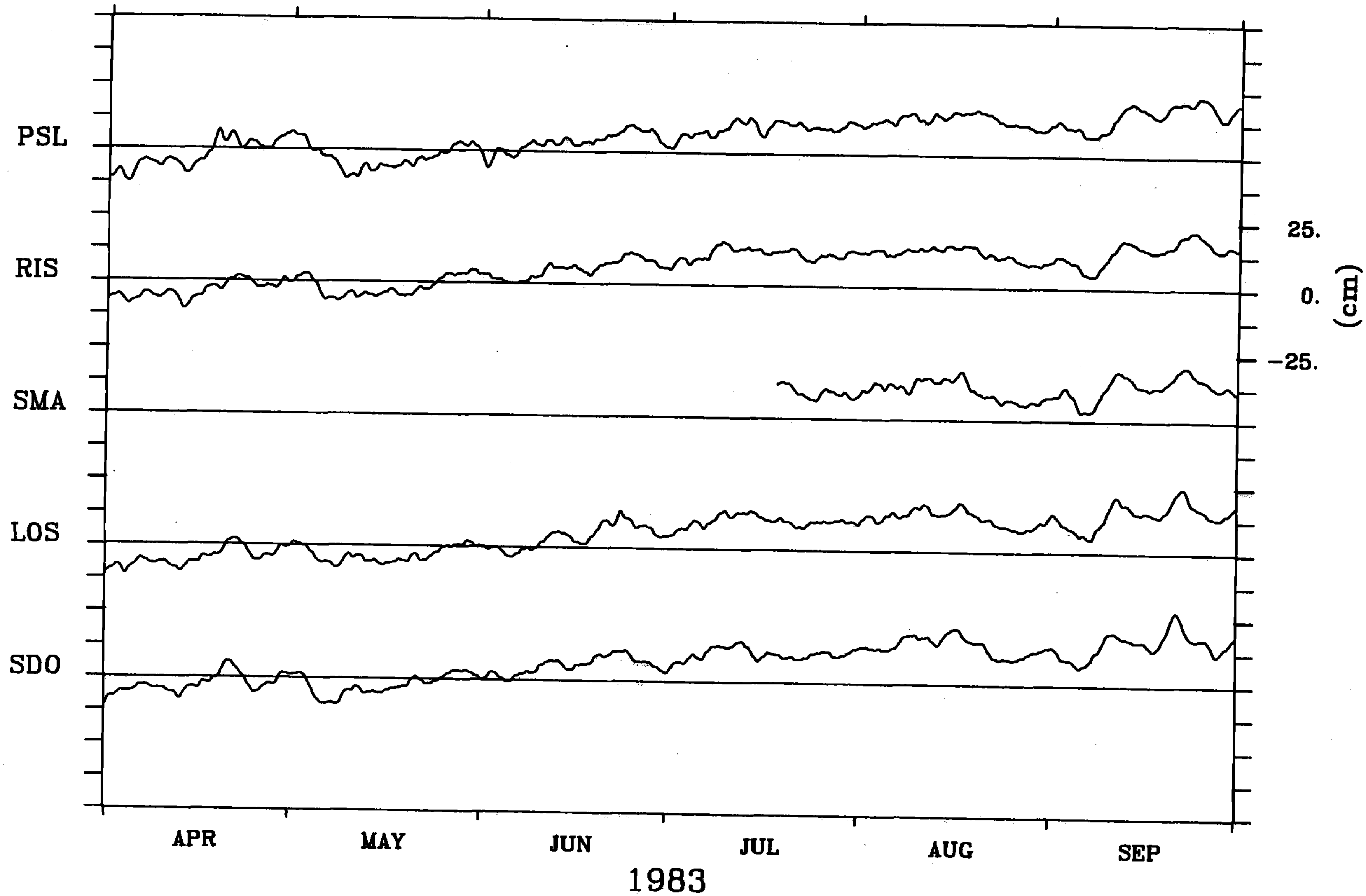

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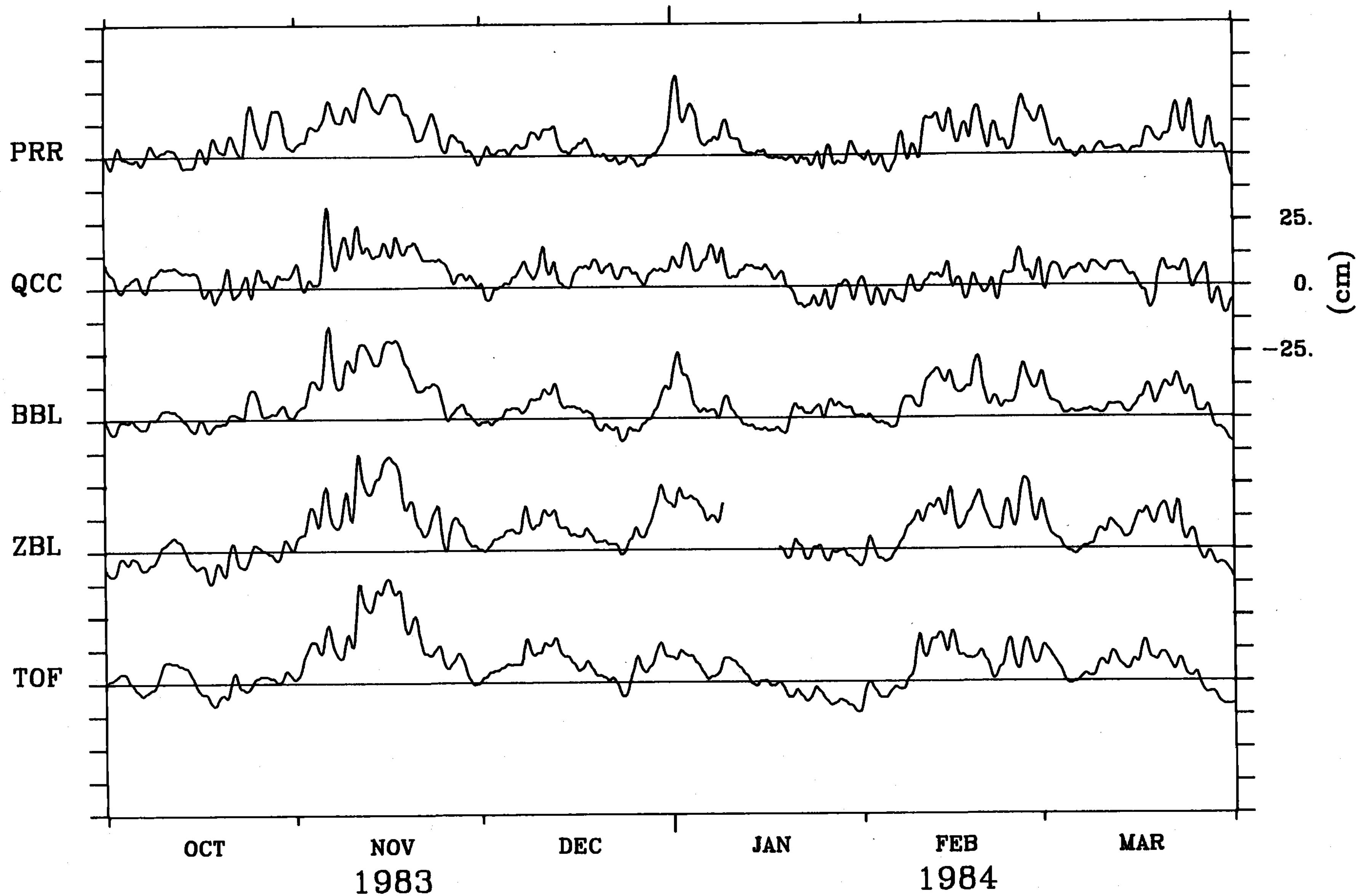

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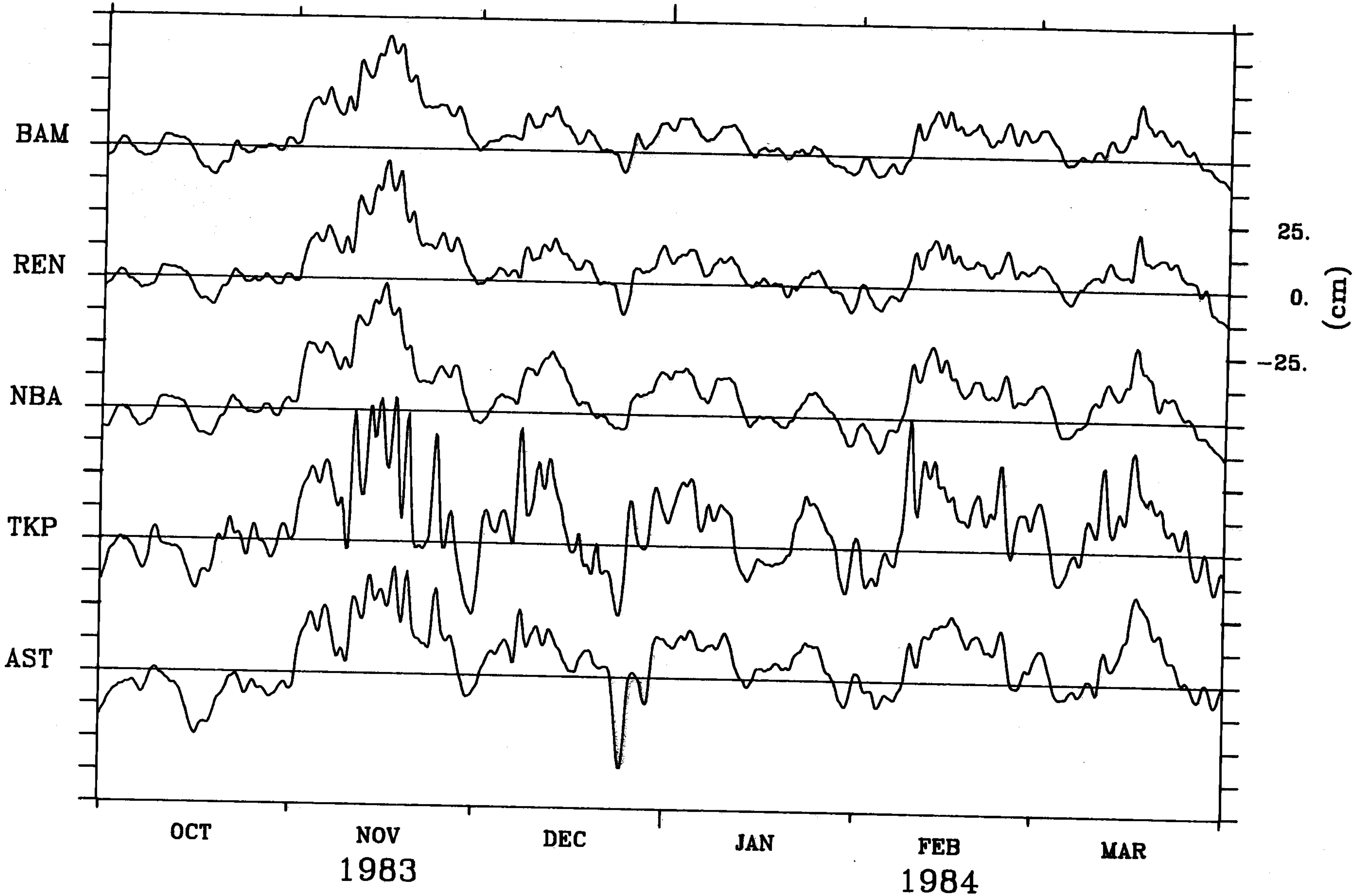

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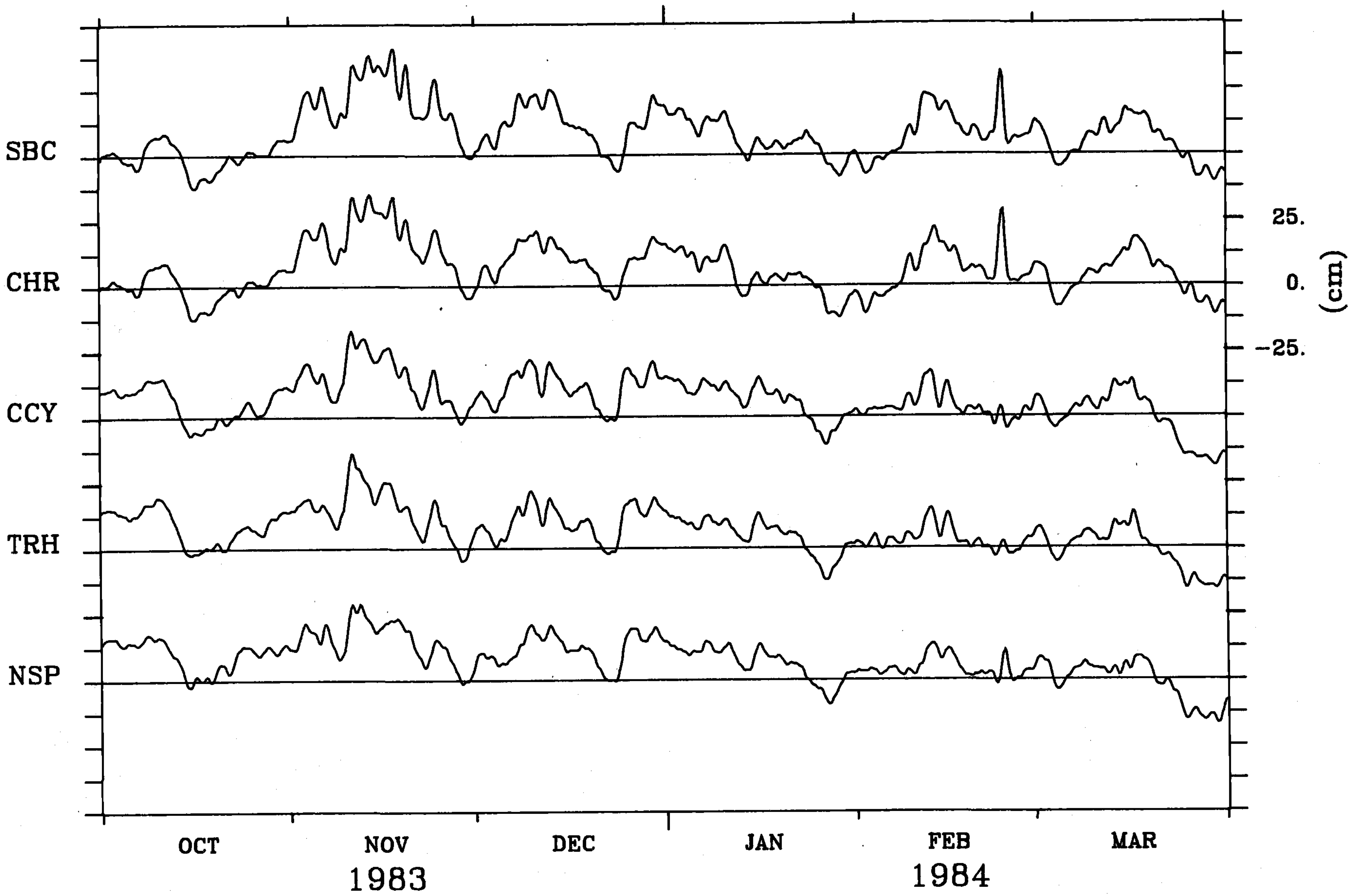

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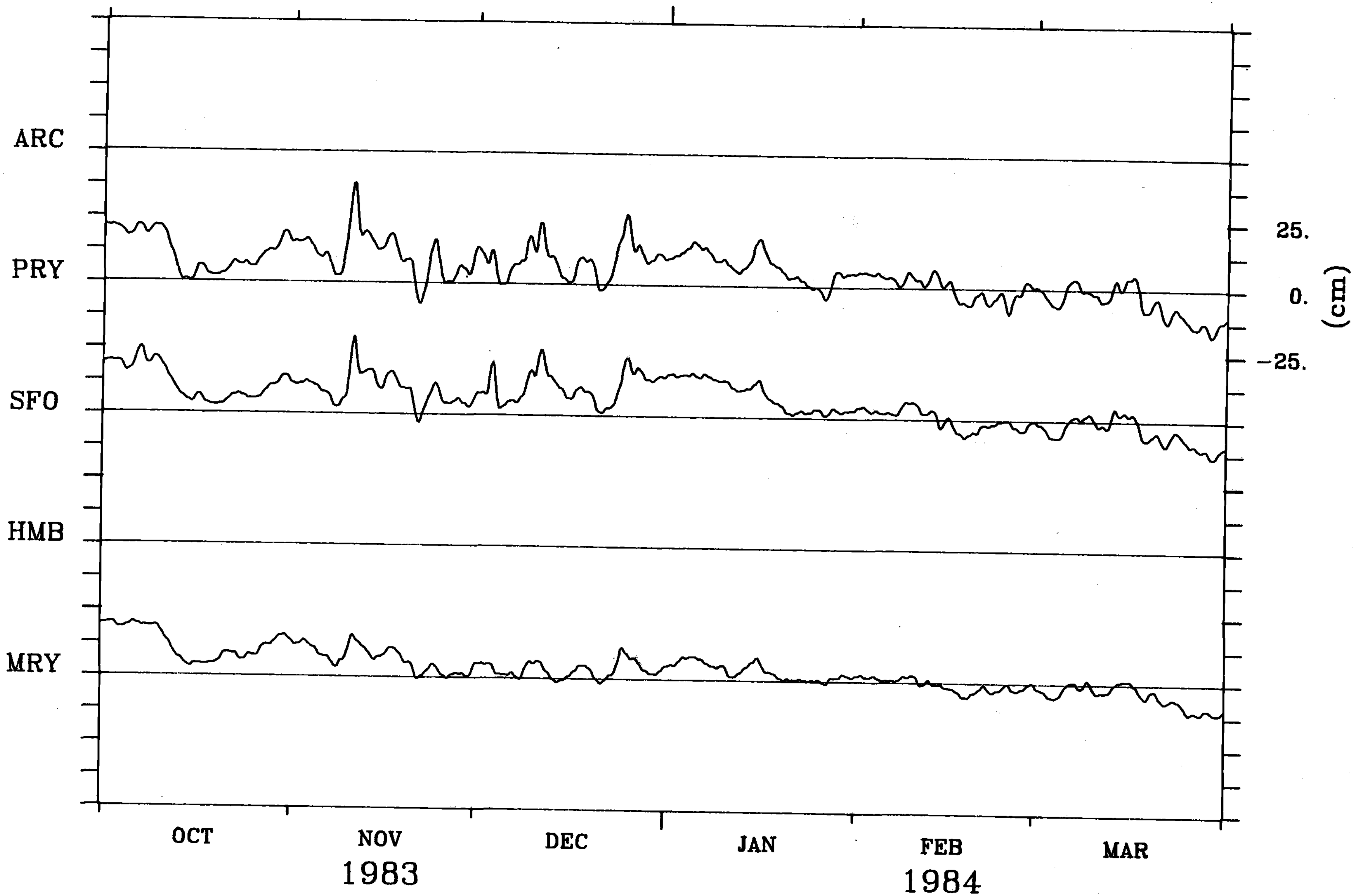

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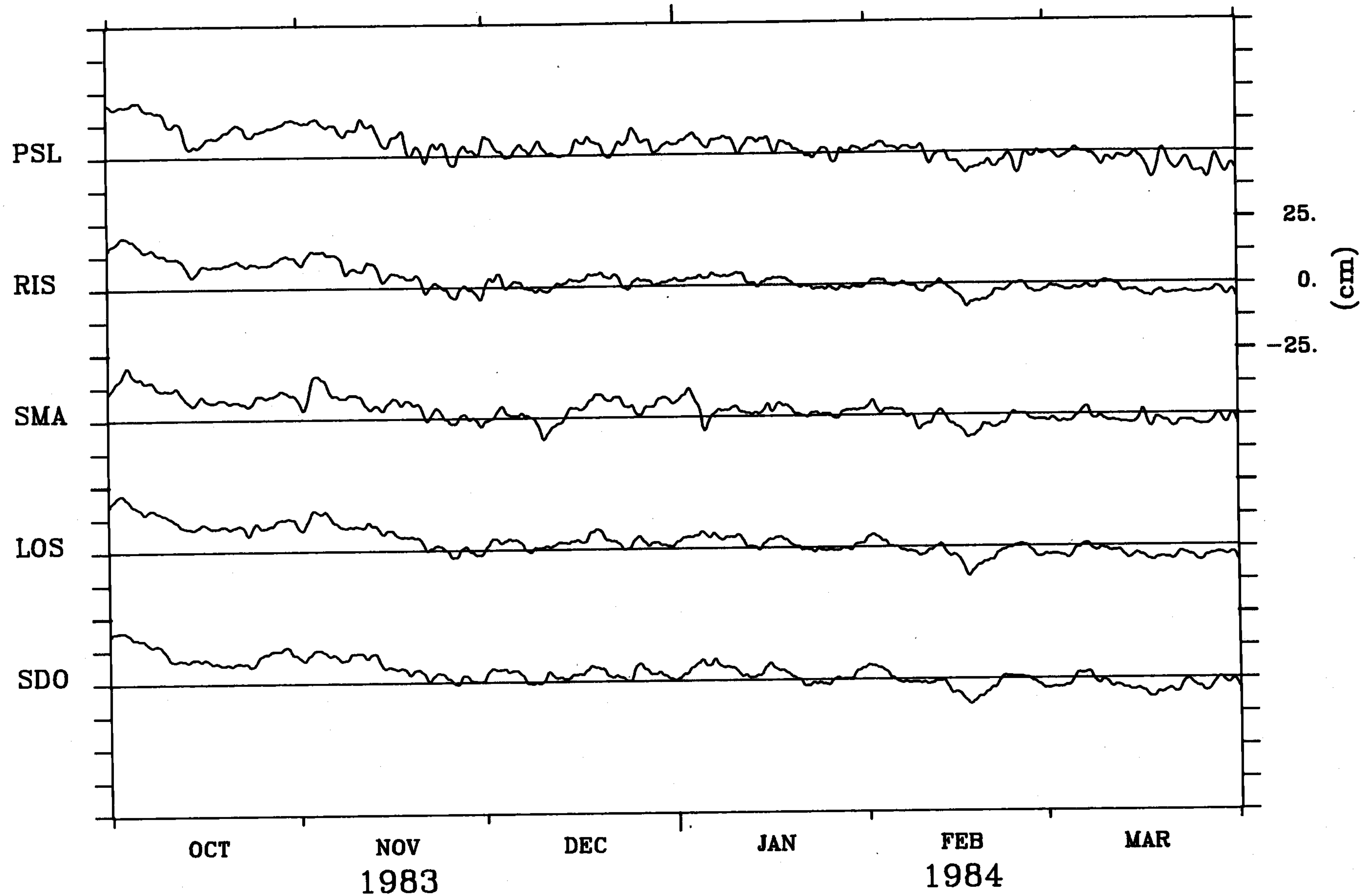

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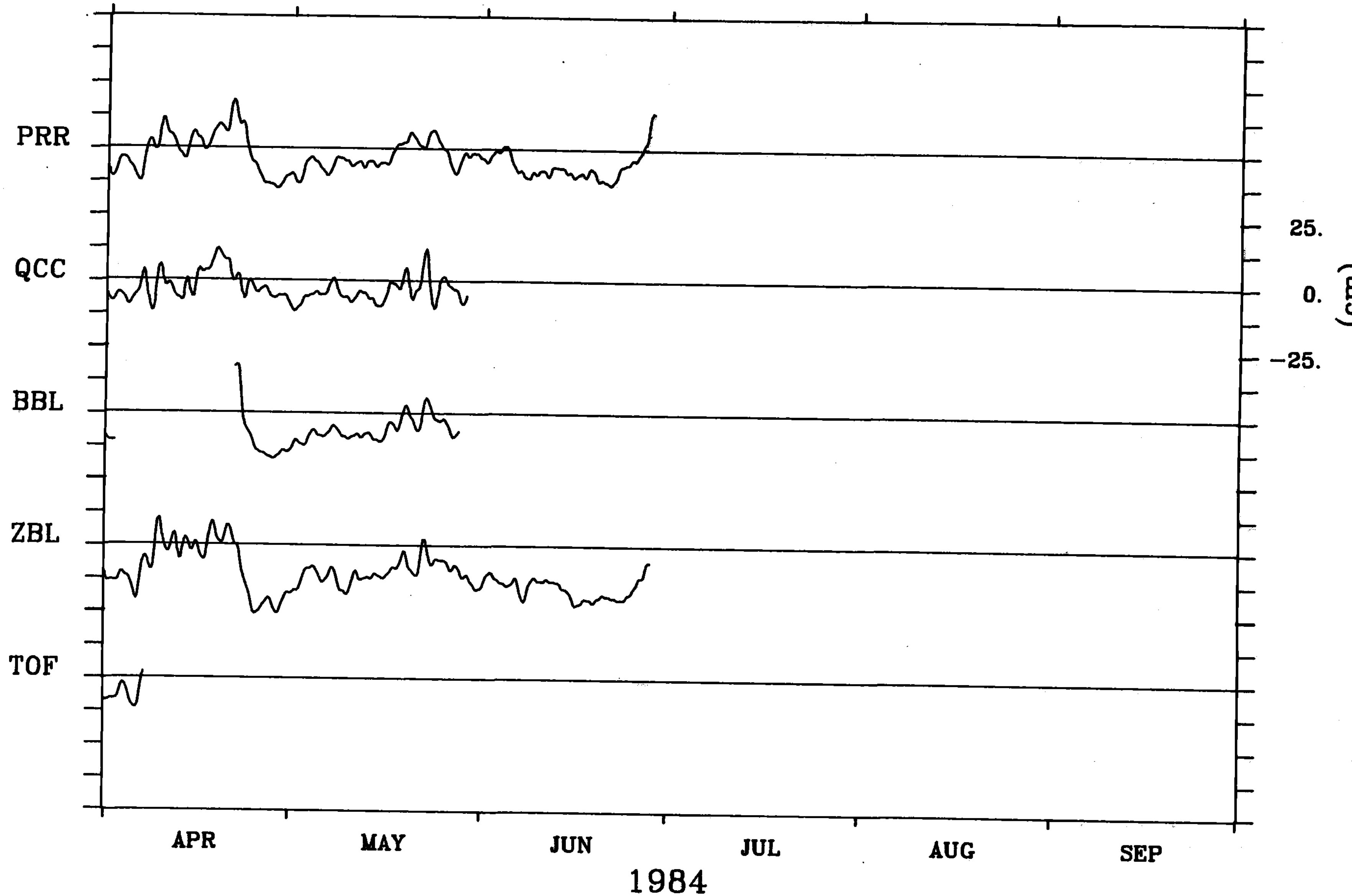

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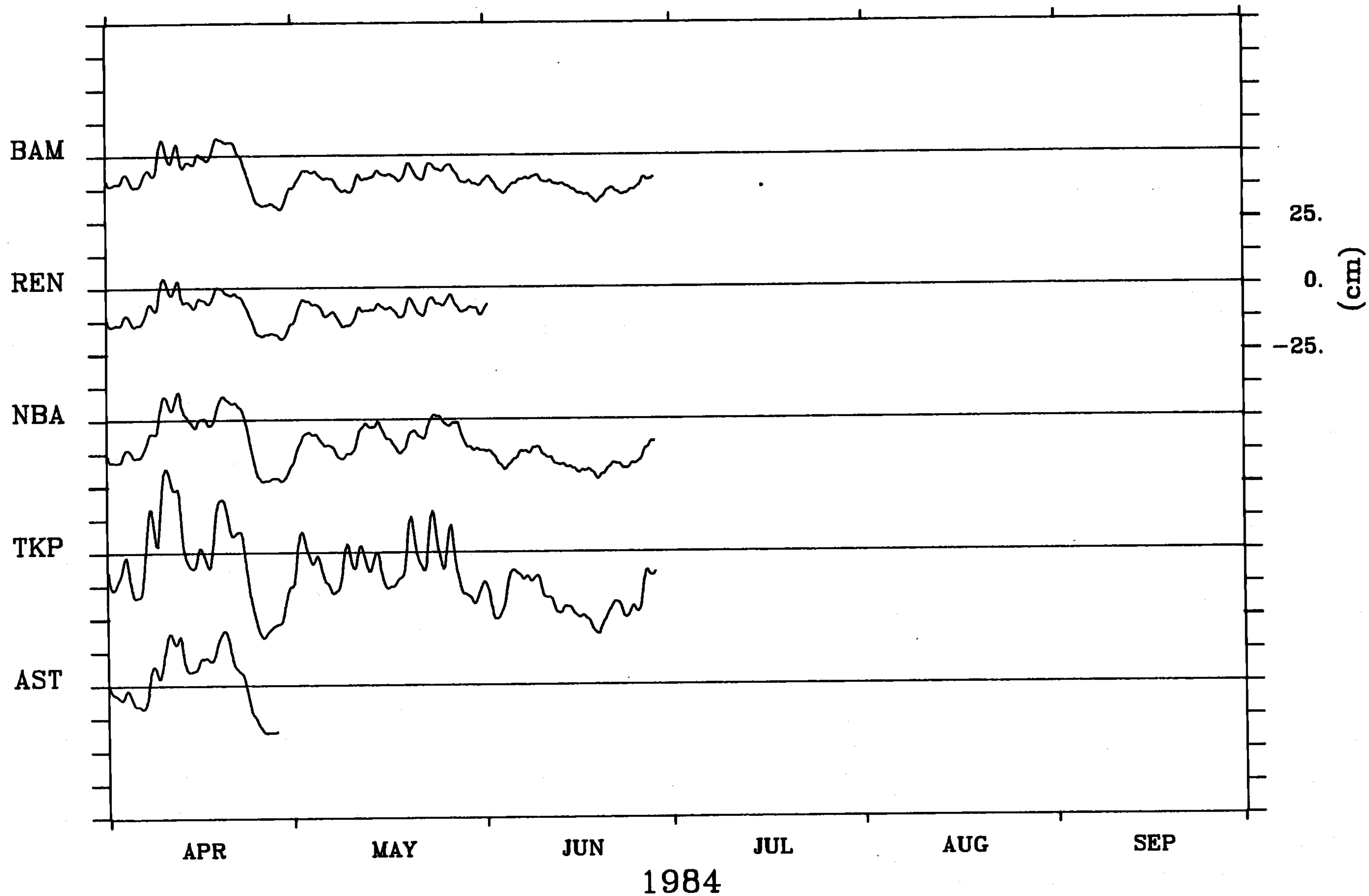
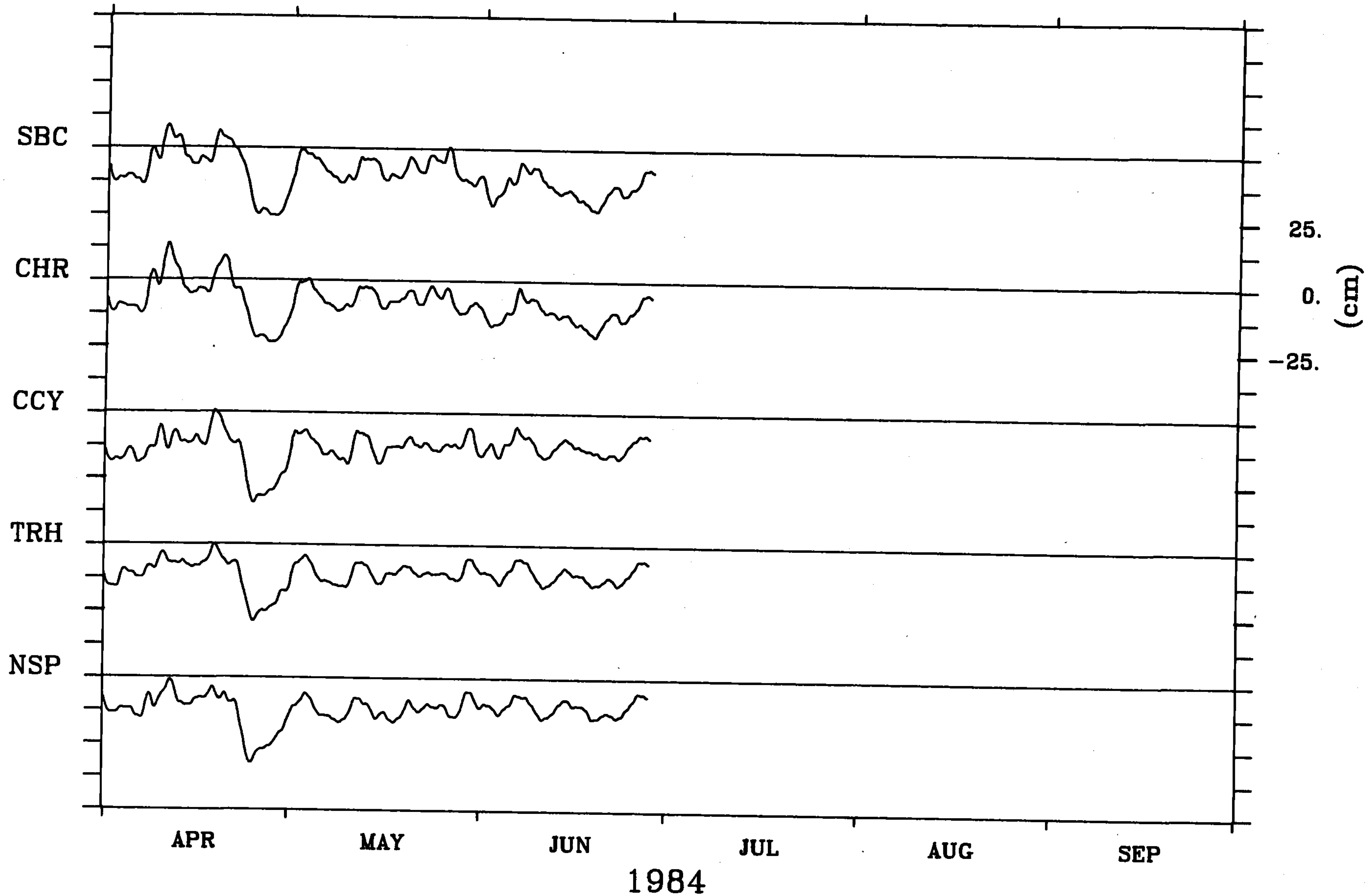


Adjusted Sea Level

8.50



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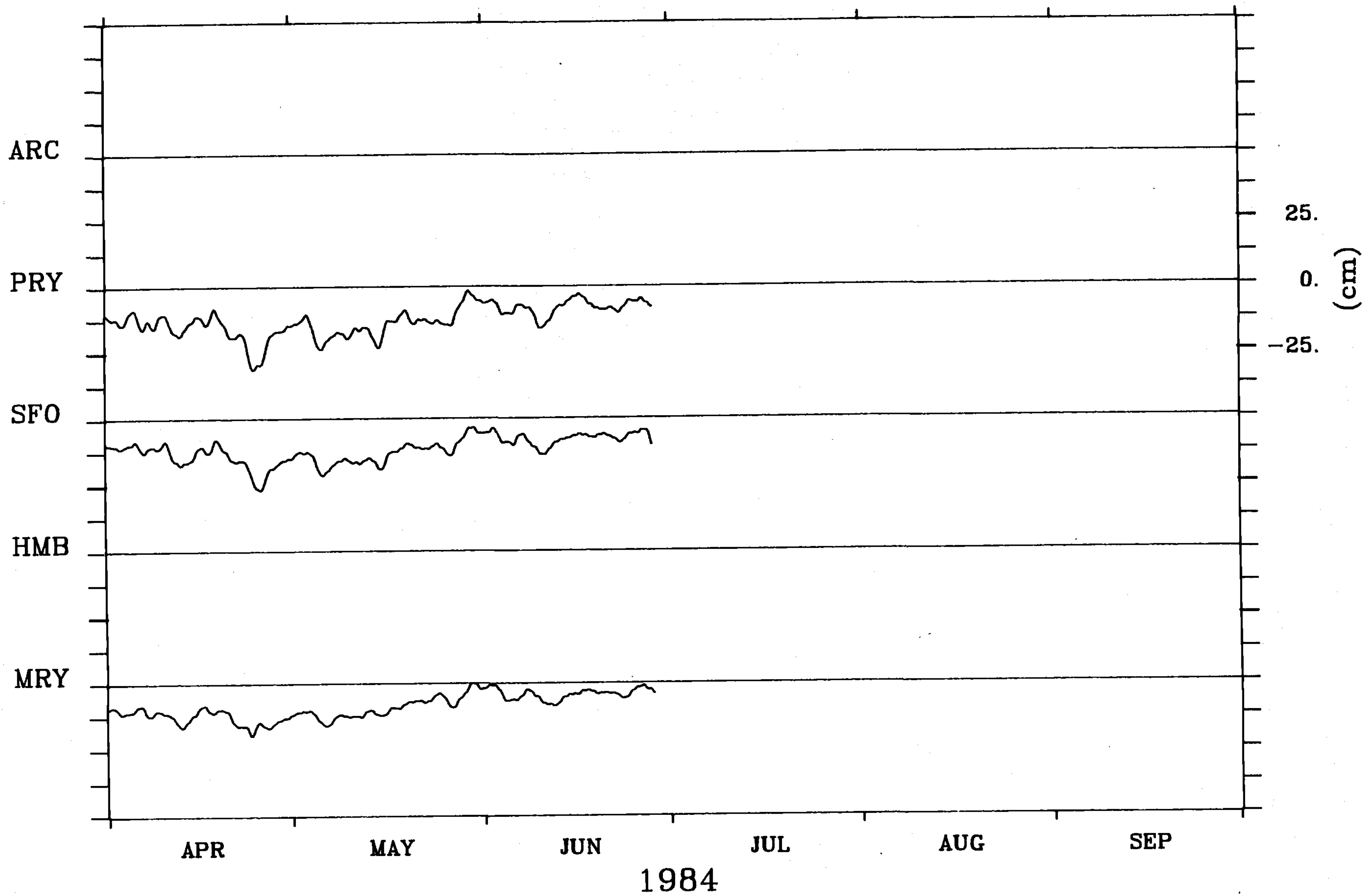
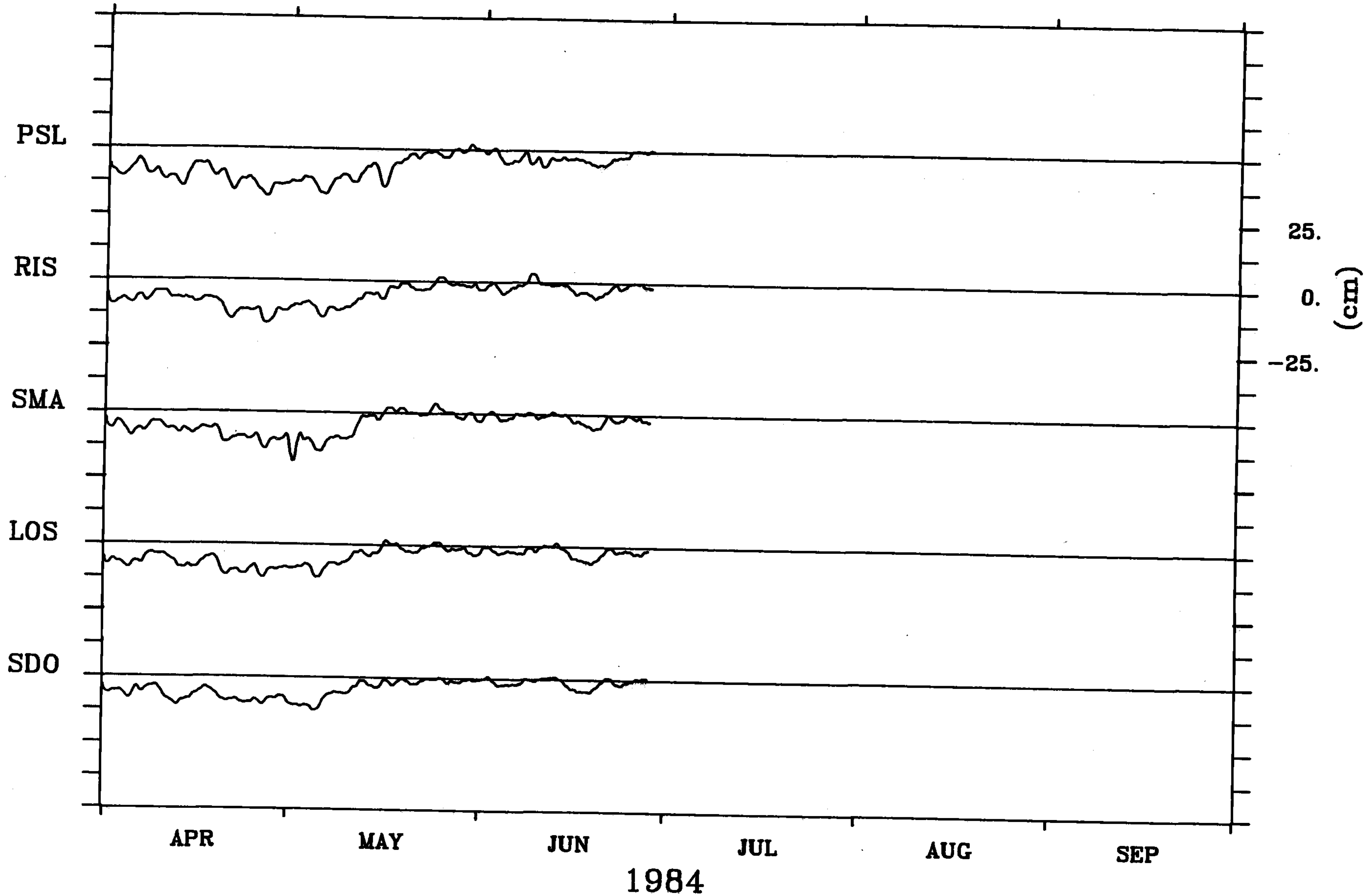
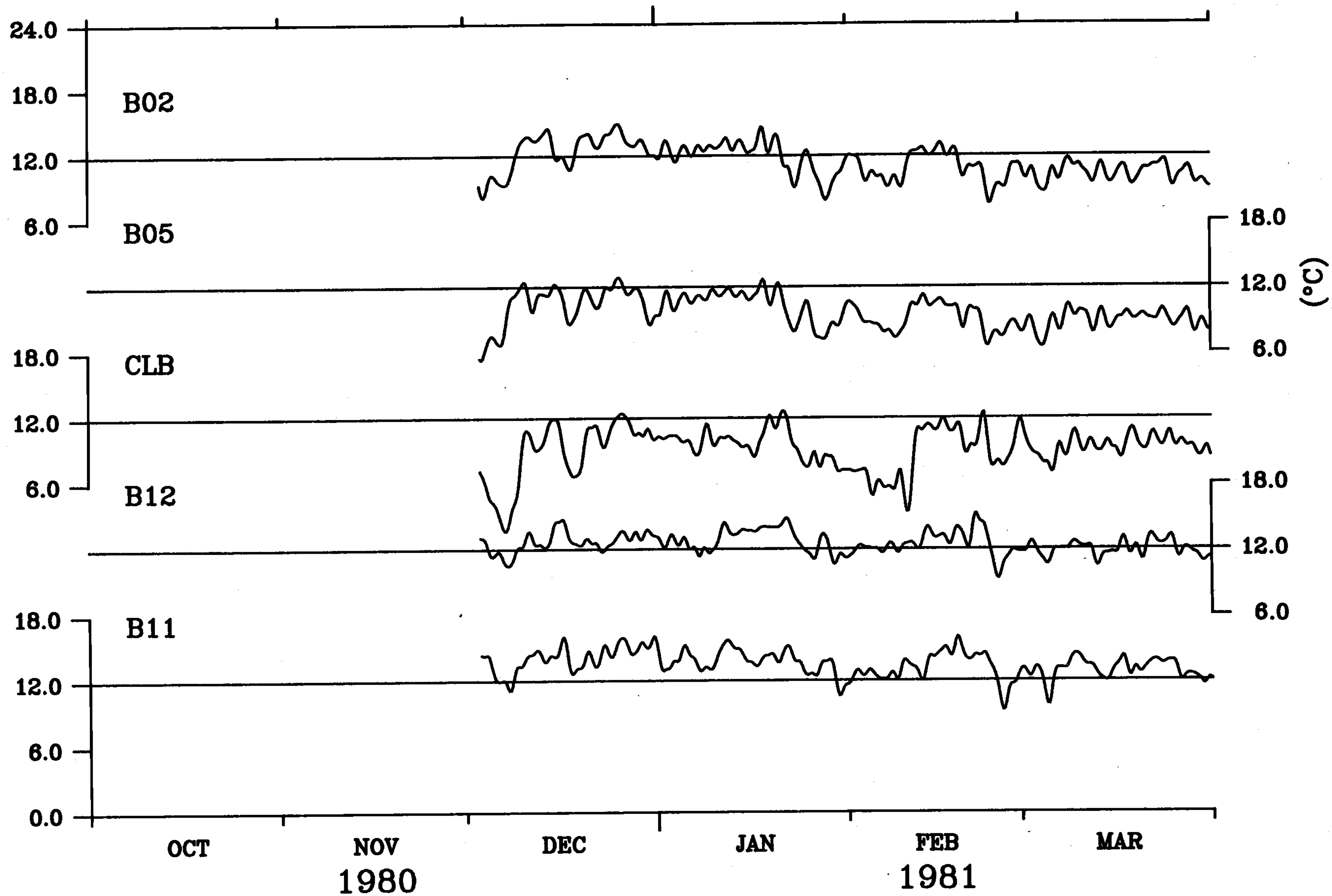


Adjusted Sea Level

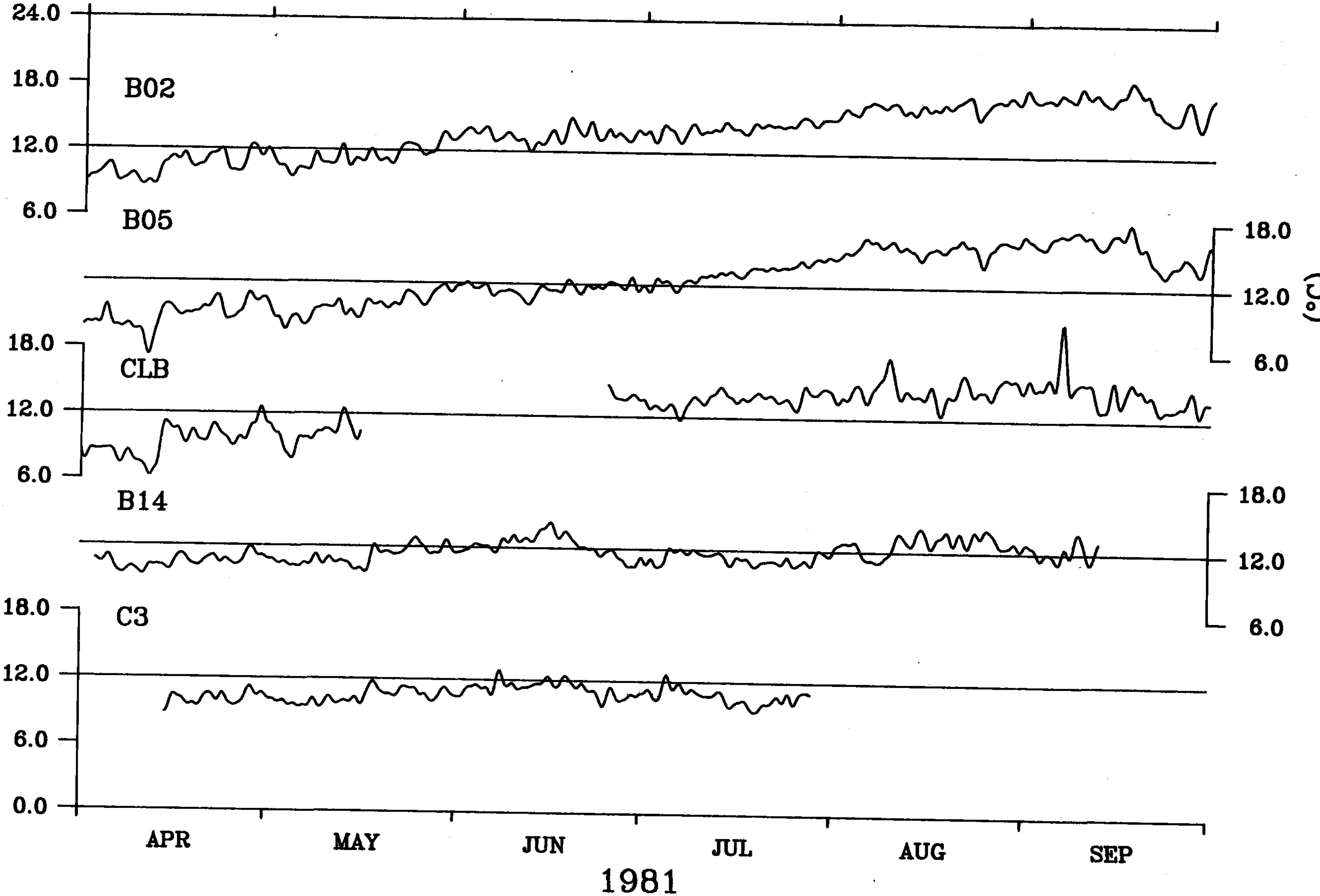


Adjusted Sea Level

9. LLP Temperature Plots.



Air Temperature



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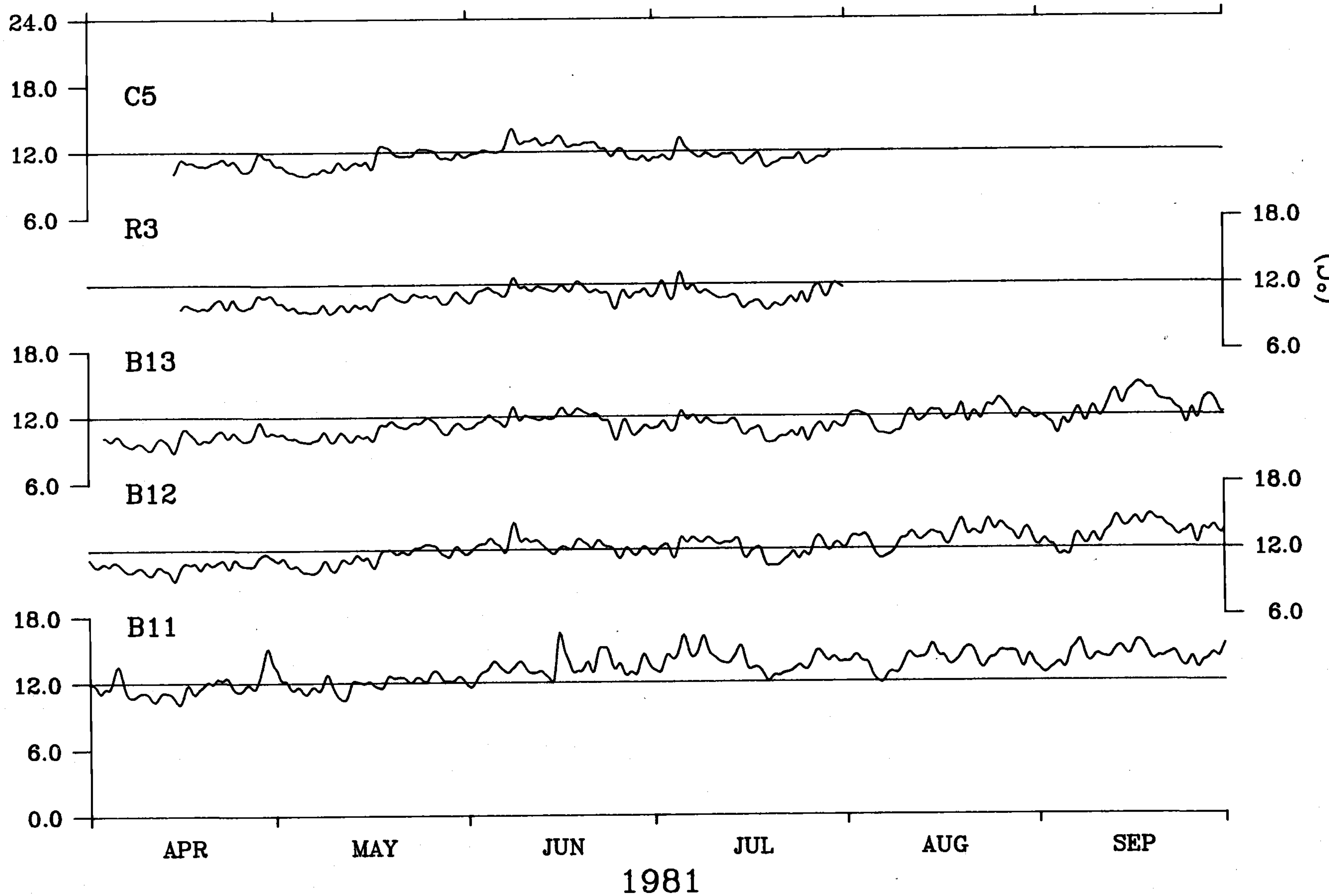
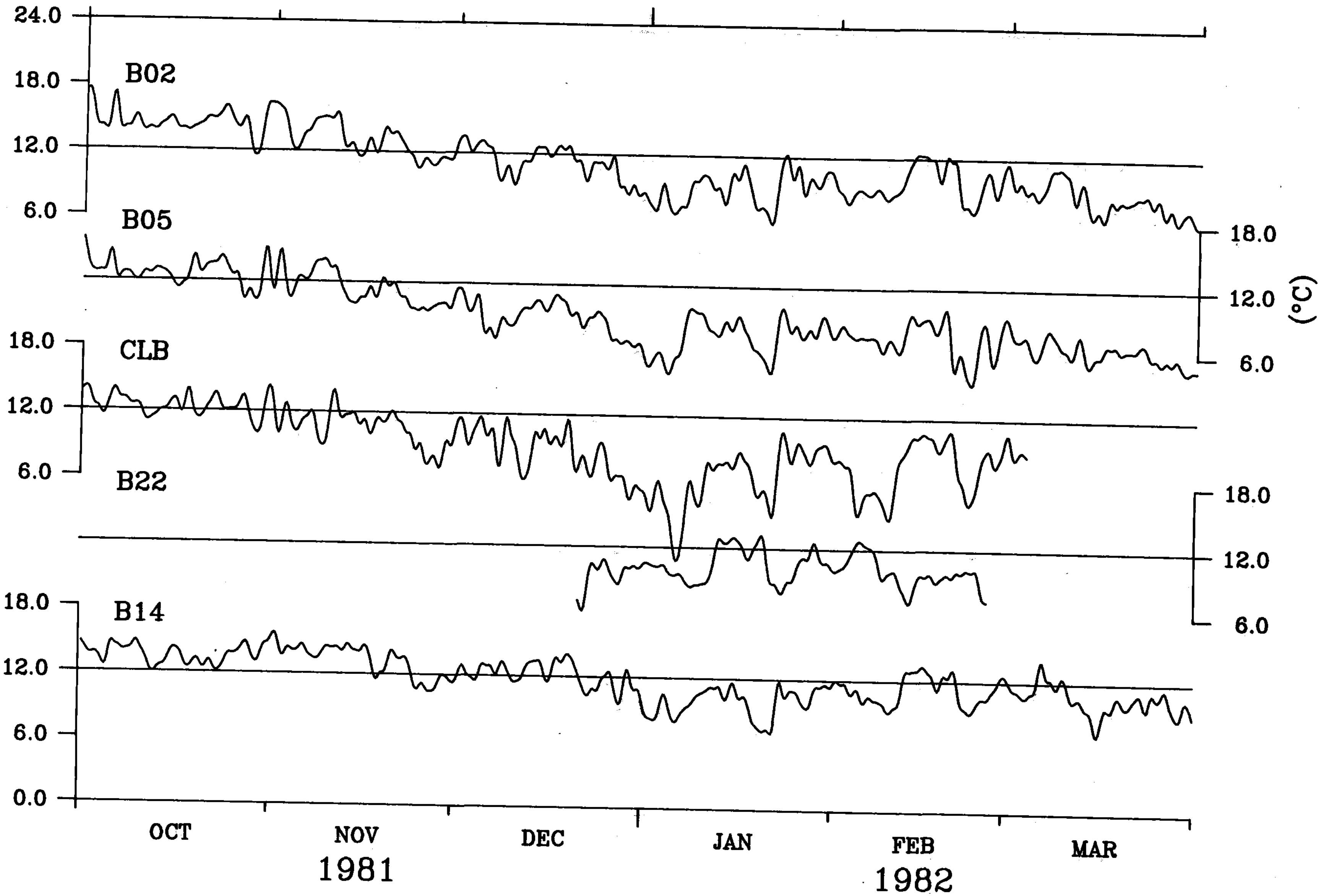


Air Temperature



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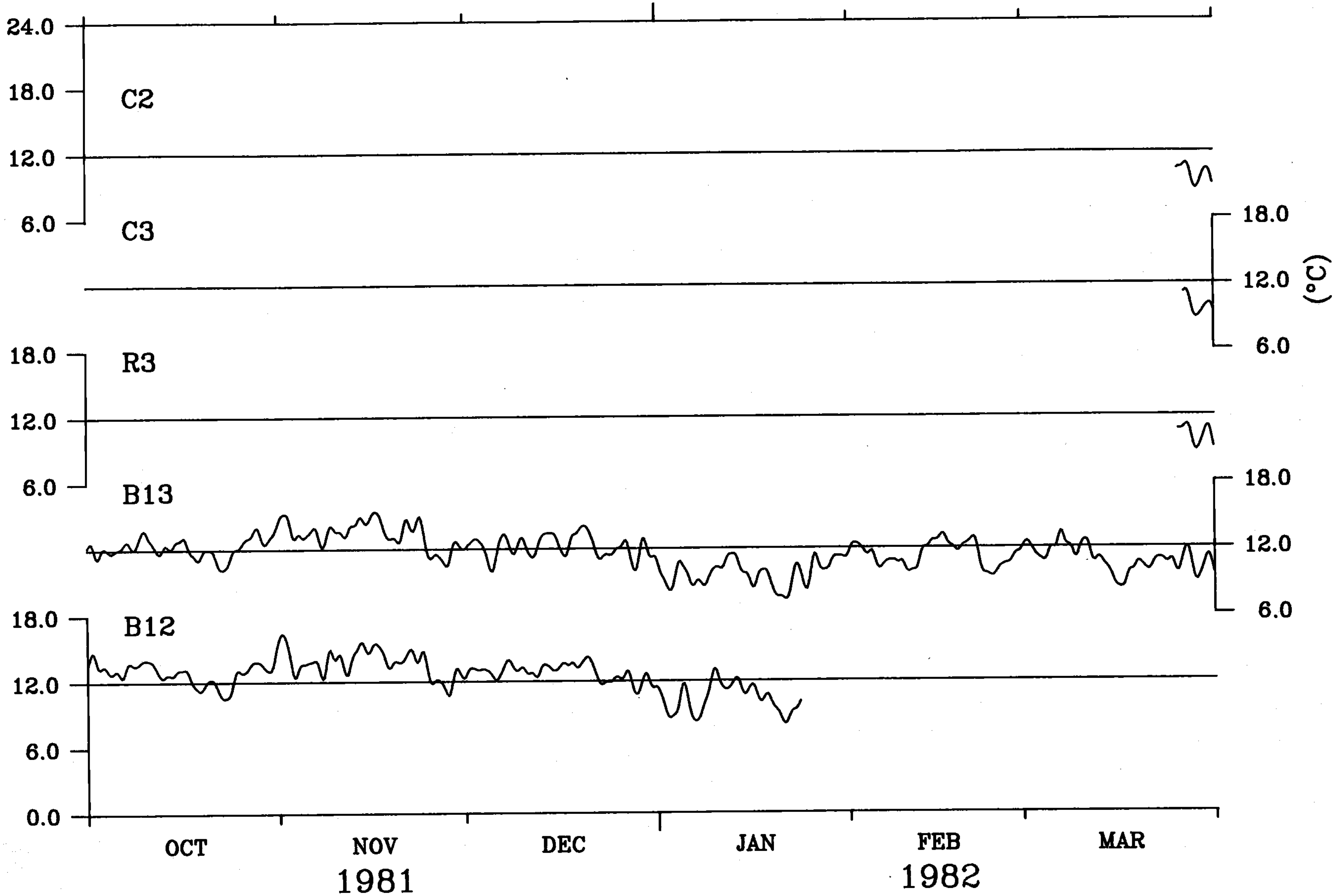

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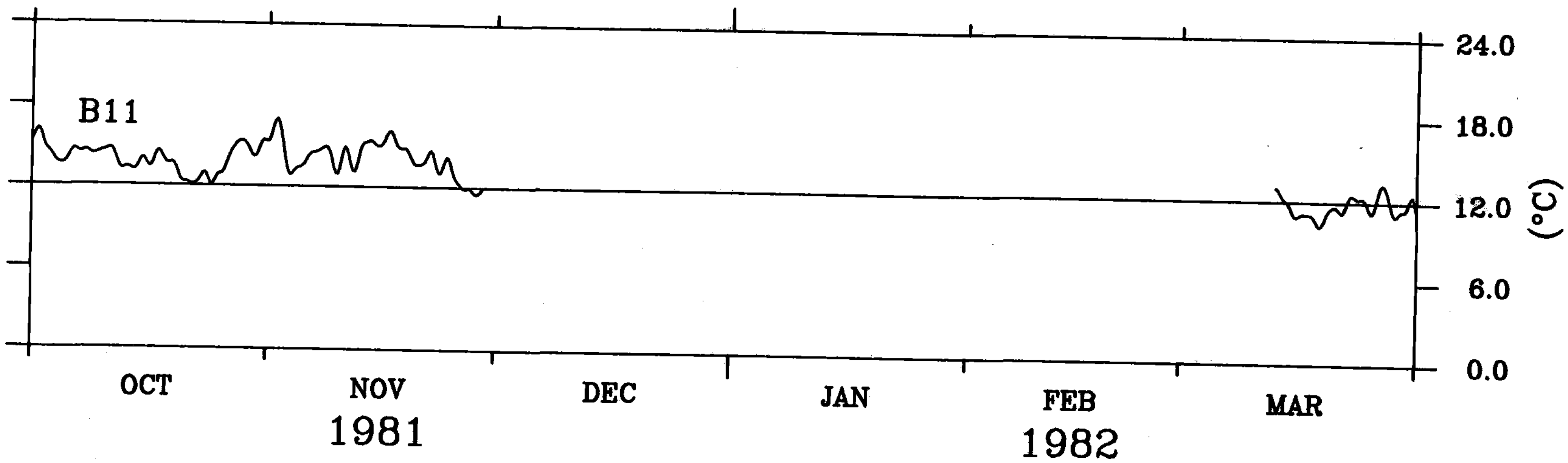

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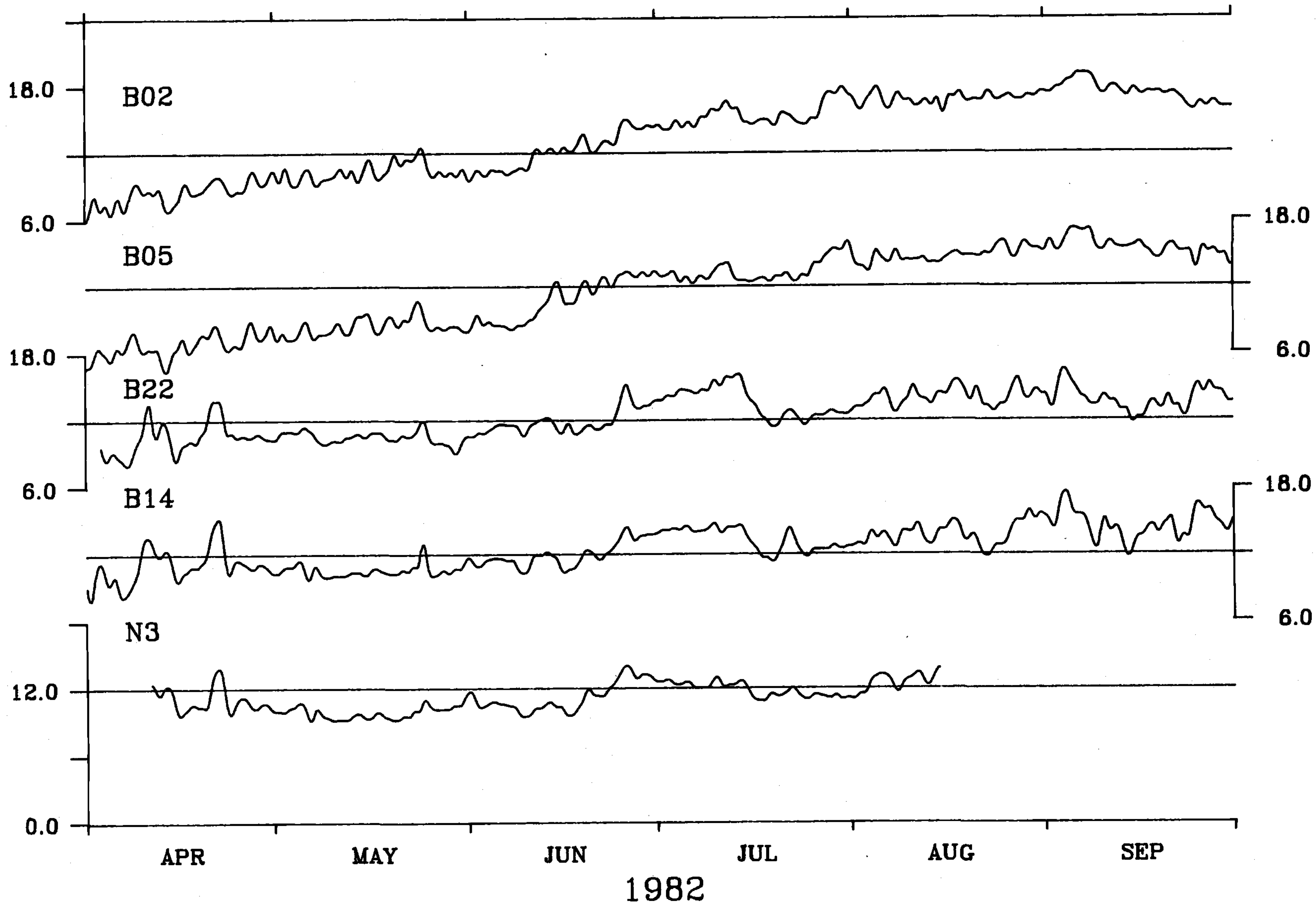

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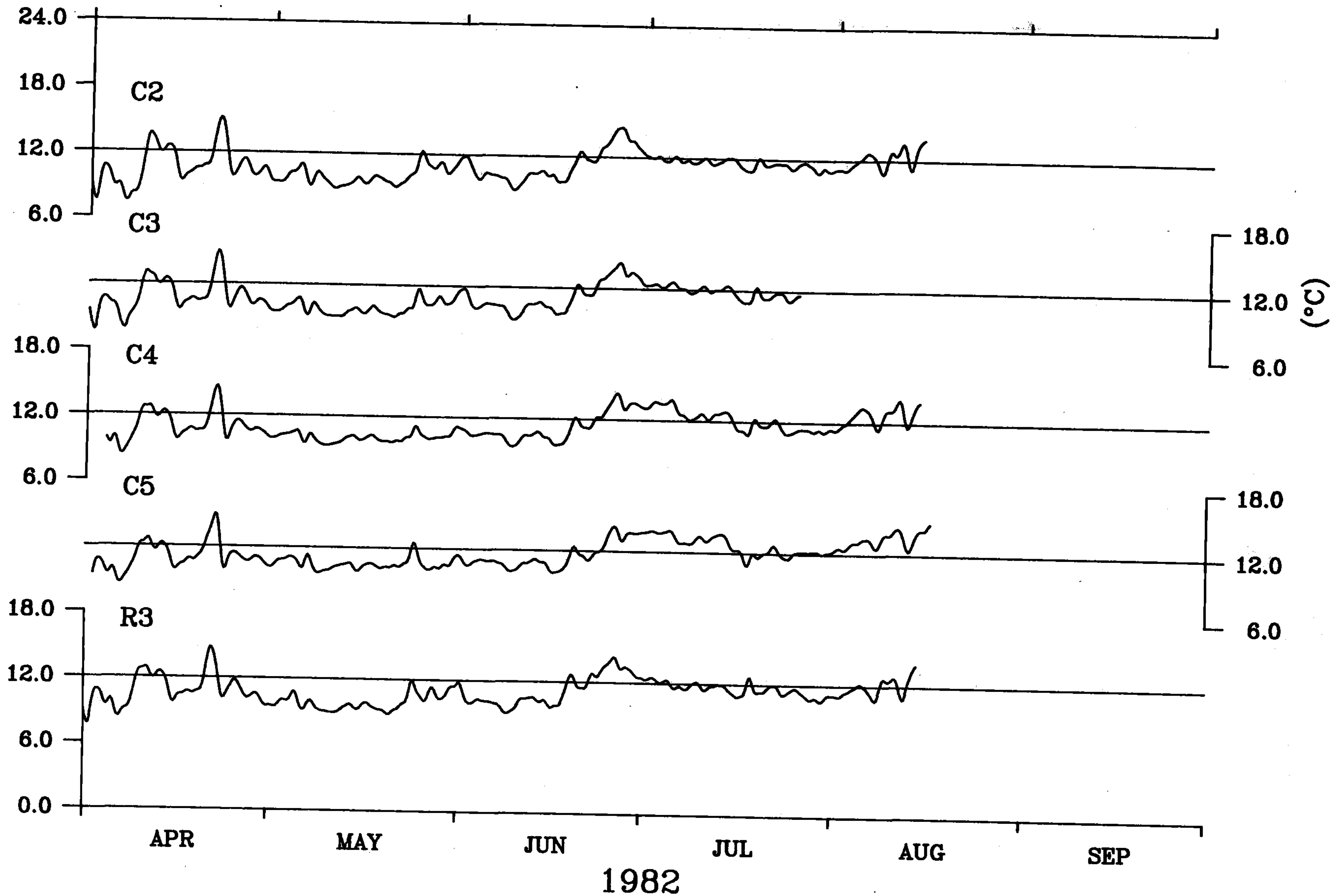

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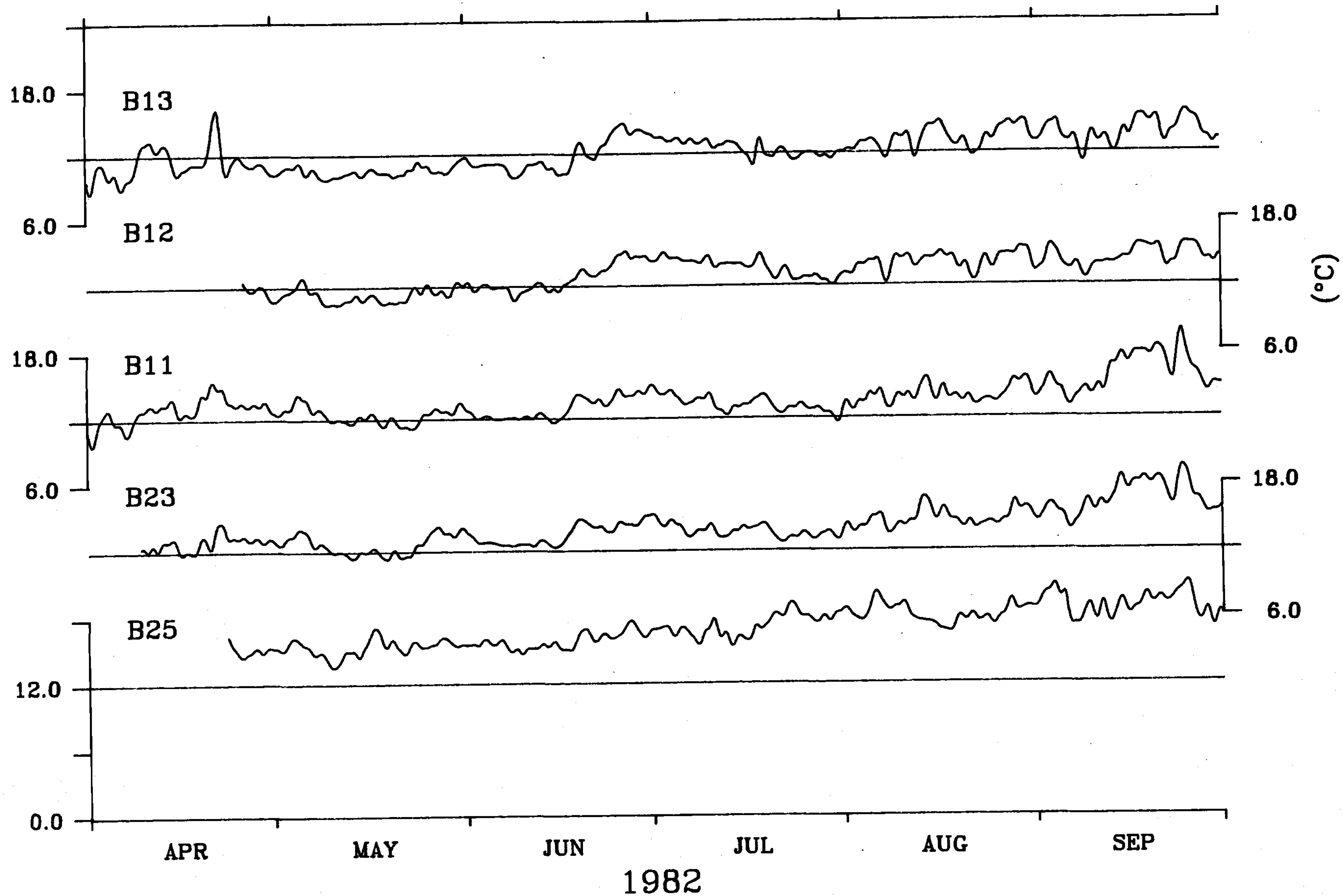

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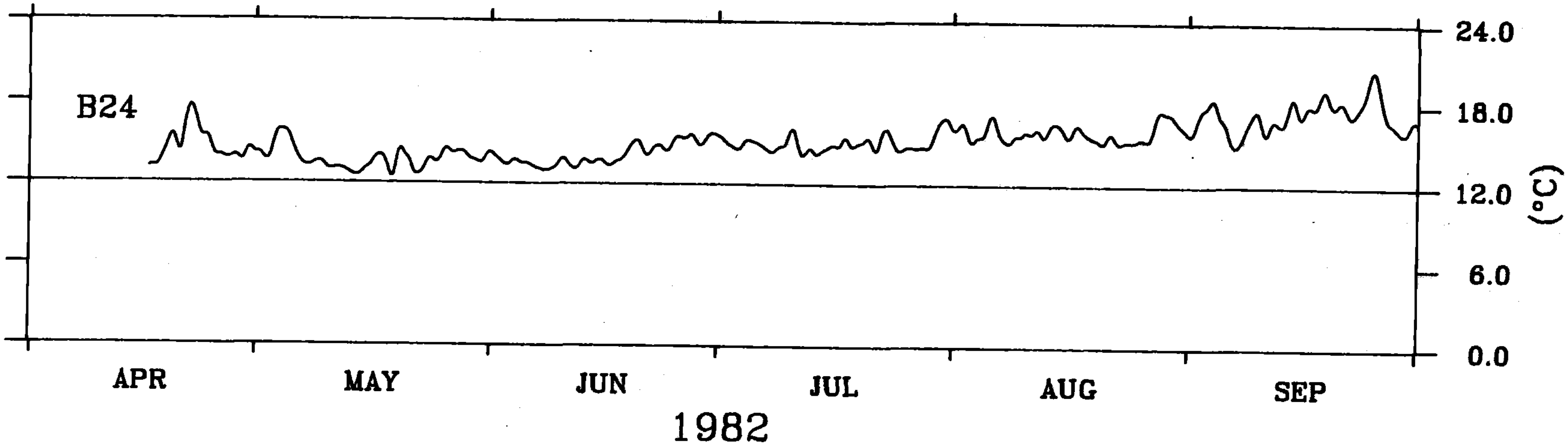

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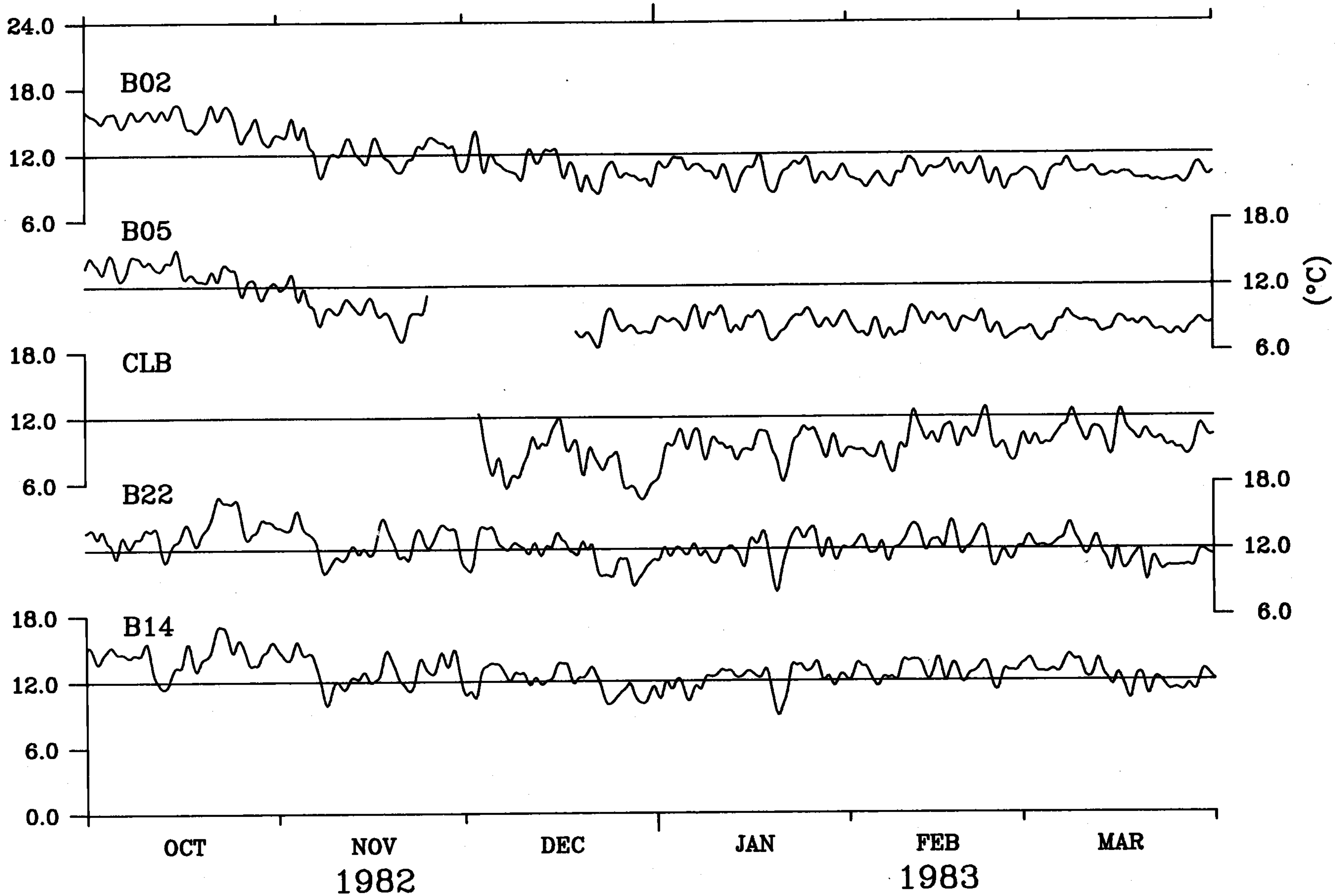

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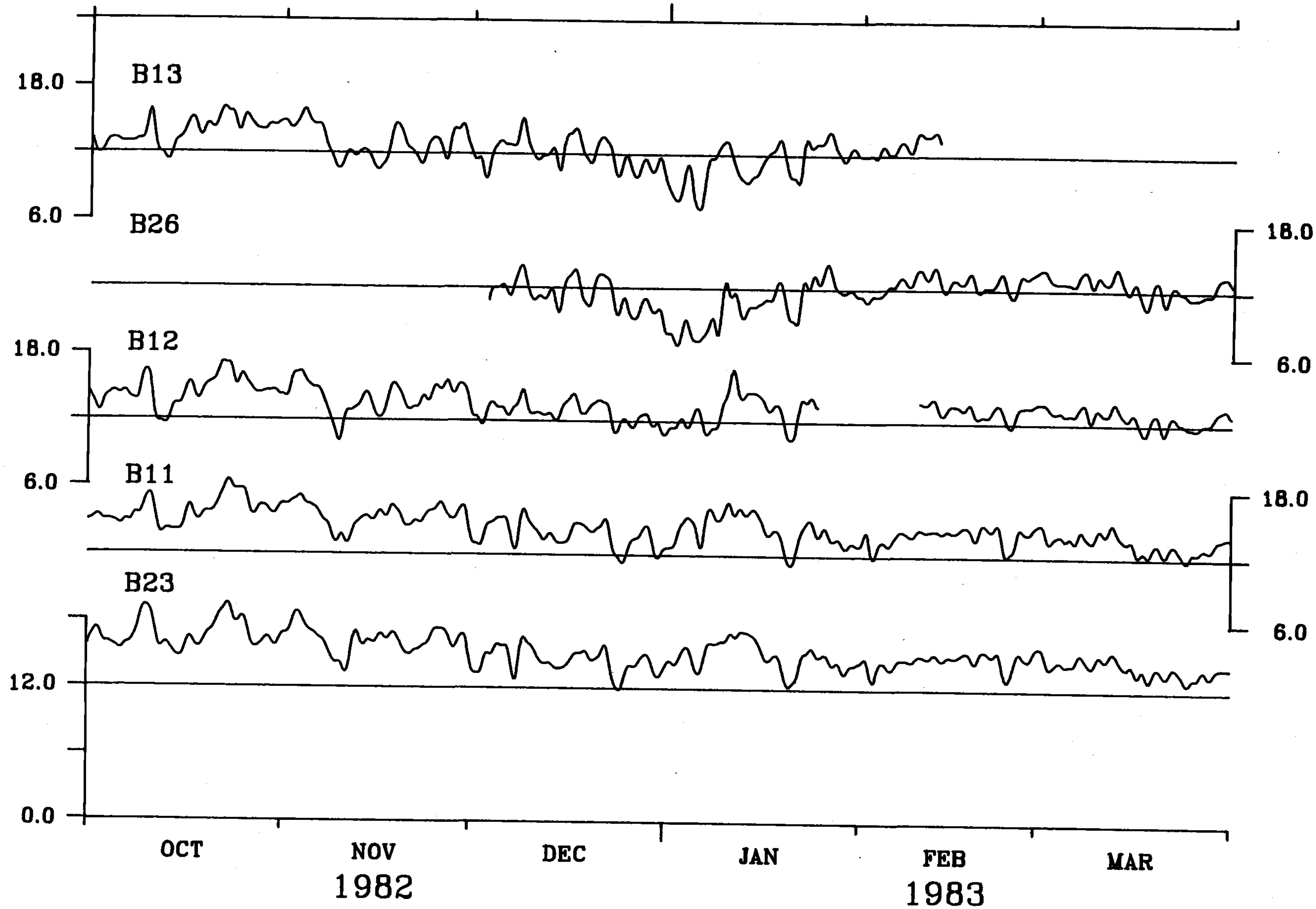

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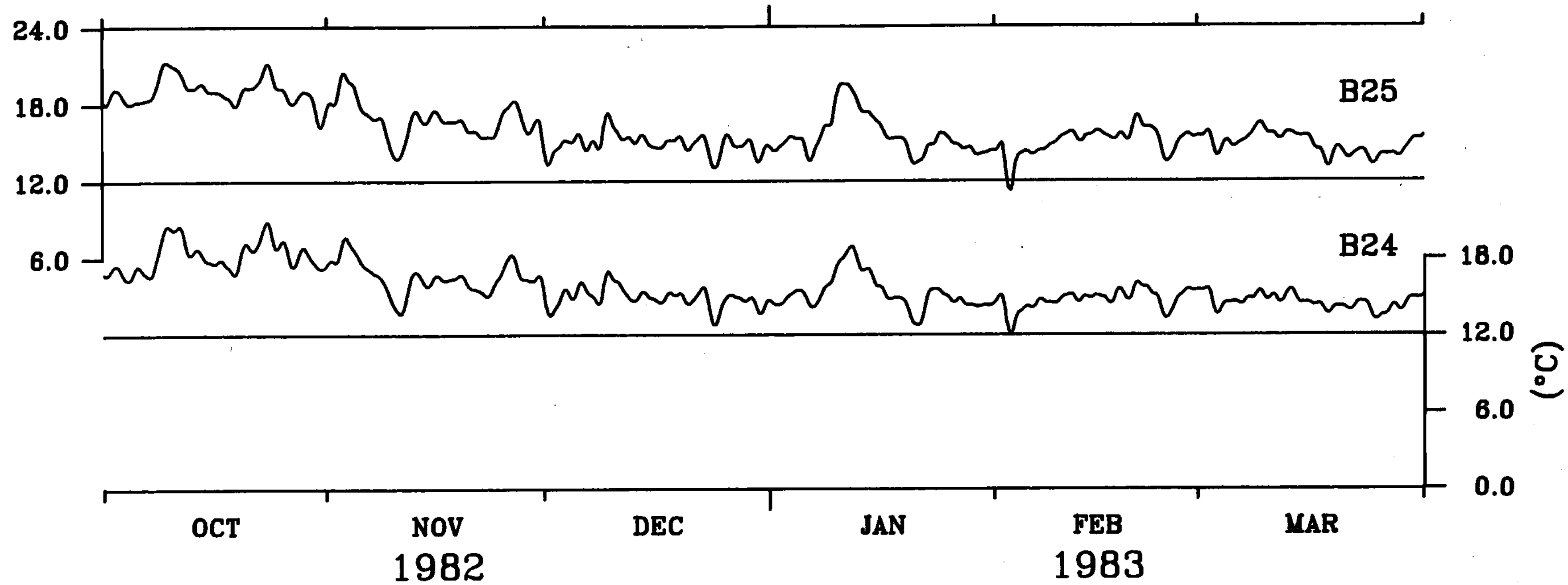

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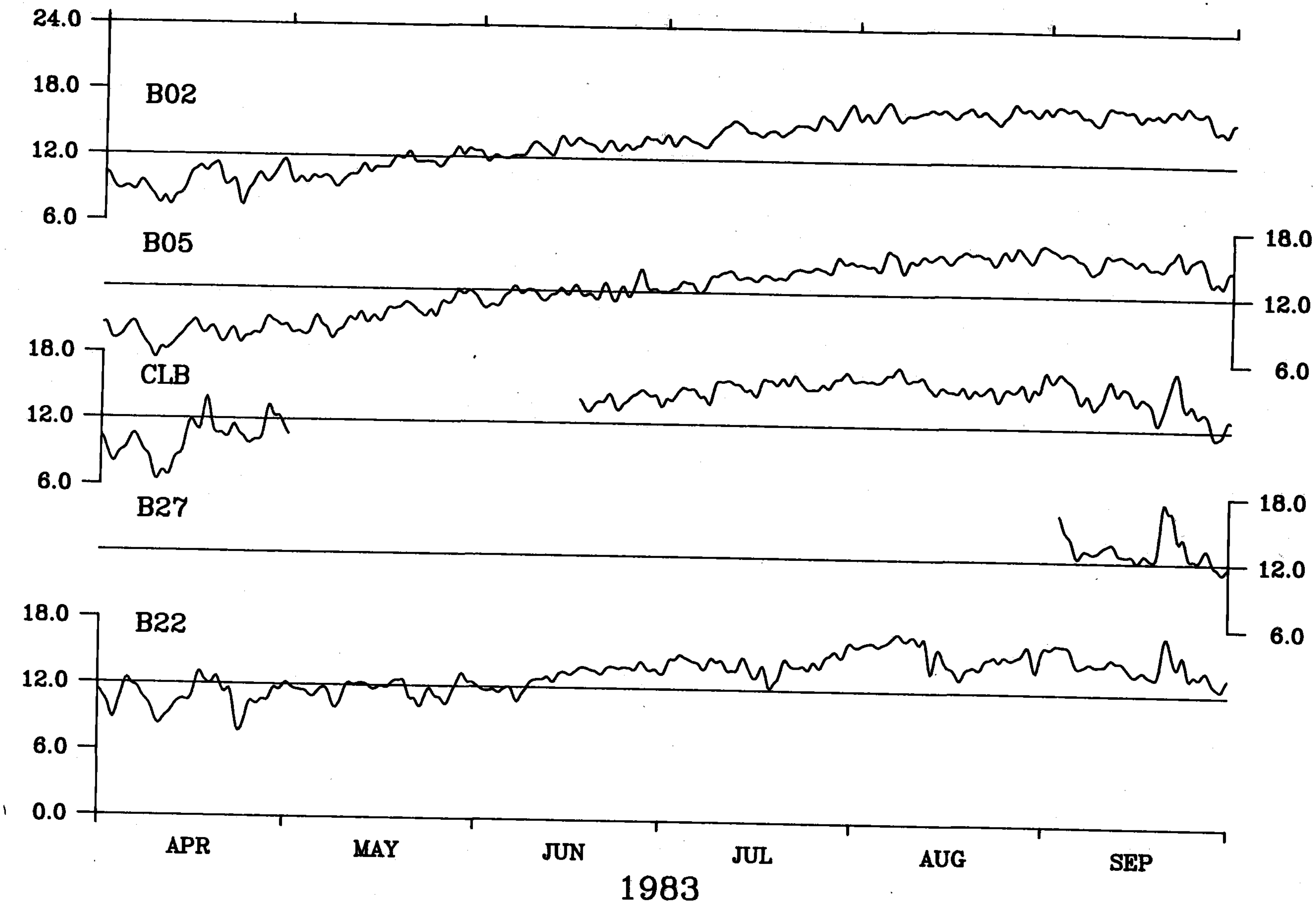
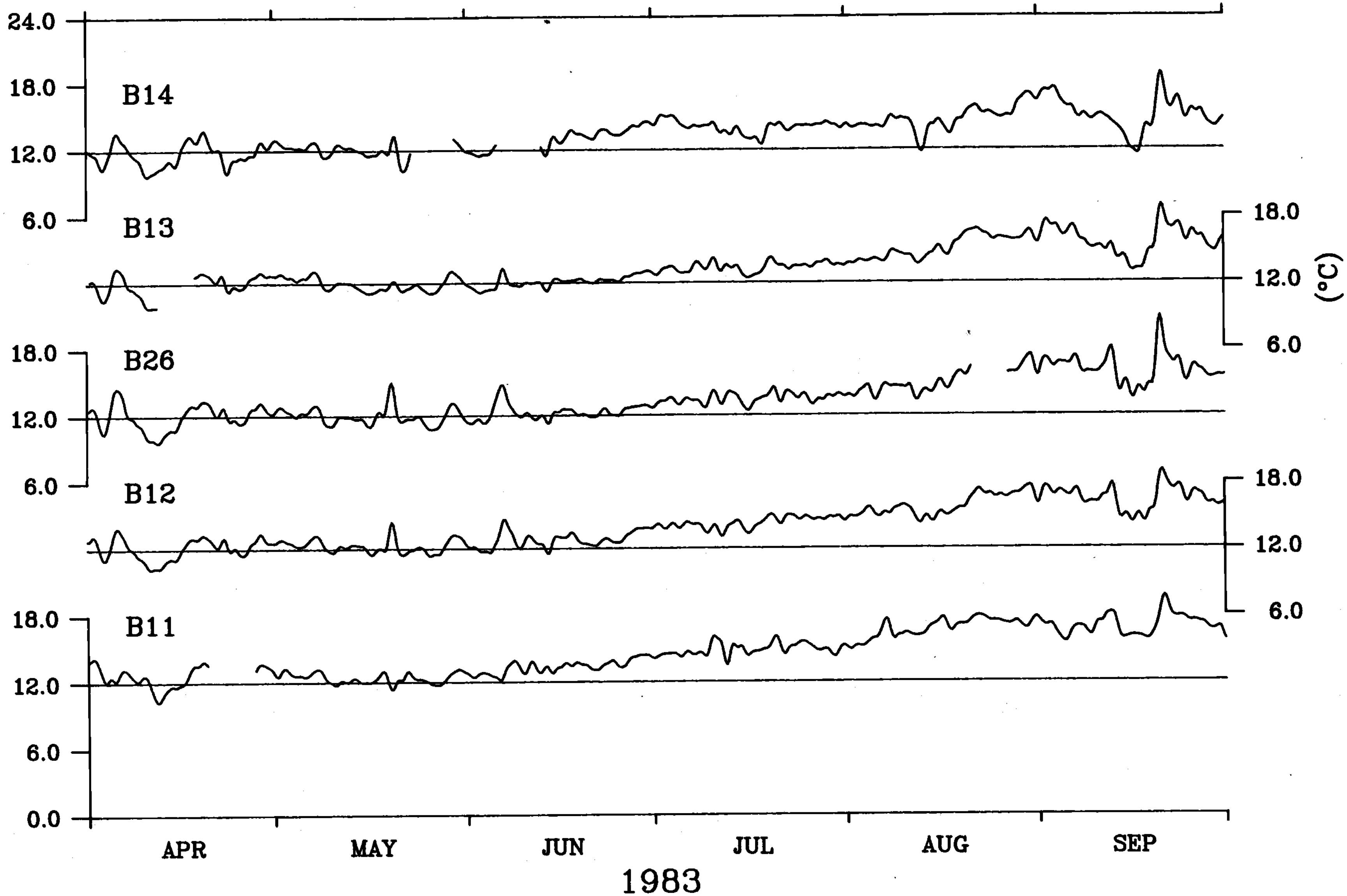
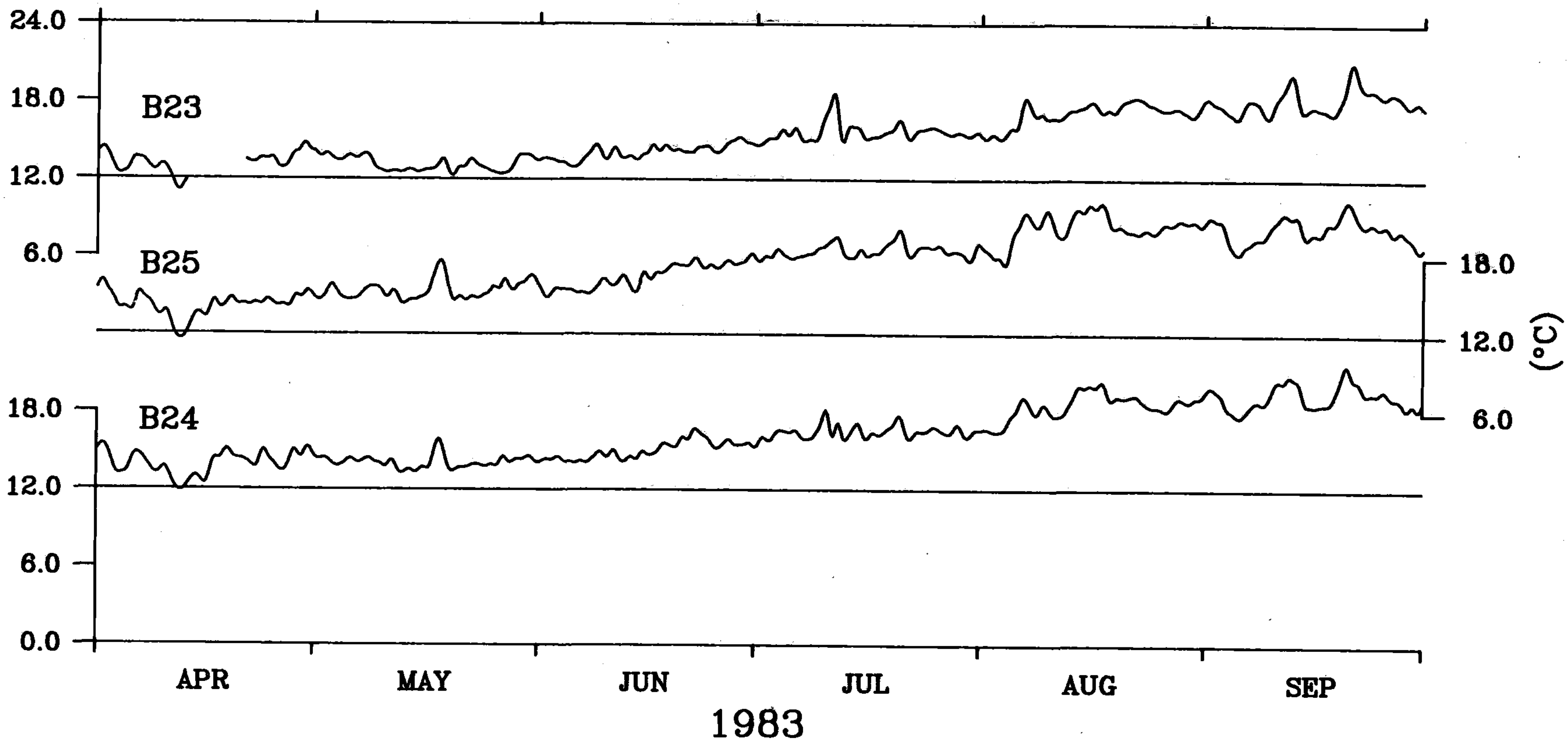


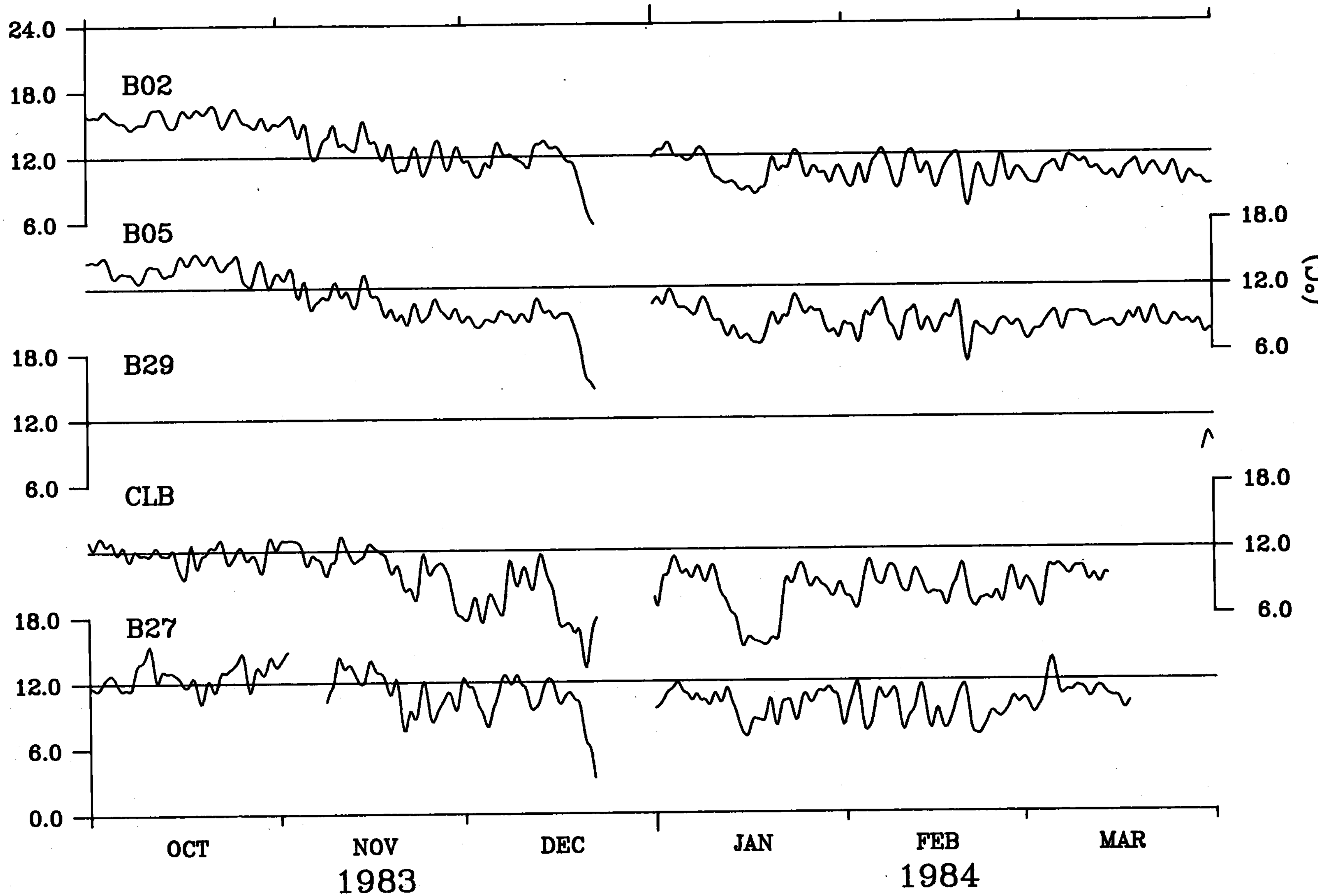
Air Temperature



Air Temperature



Air Temperature



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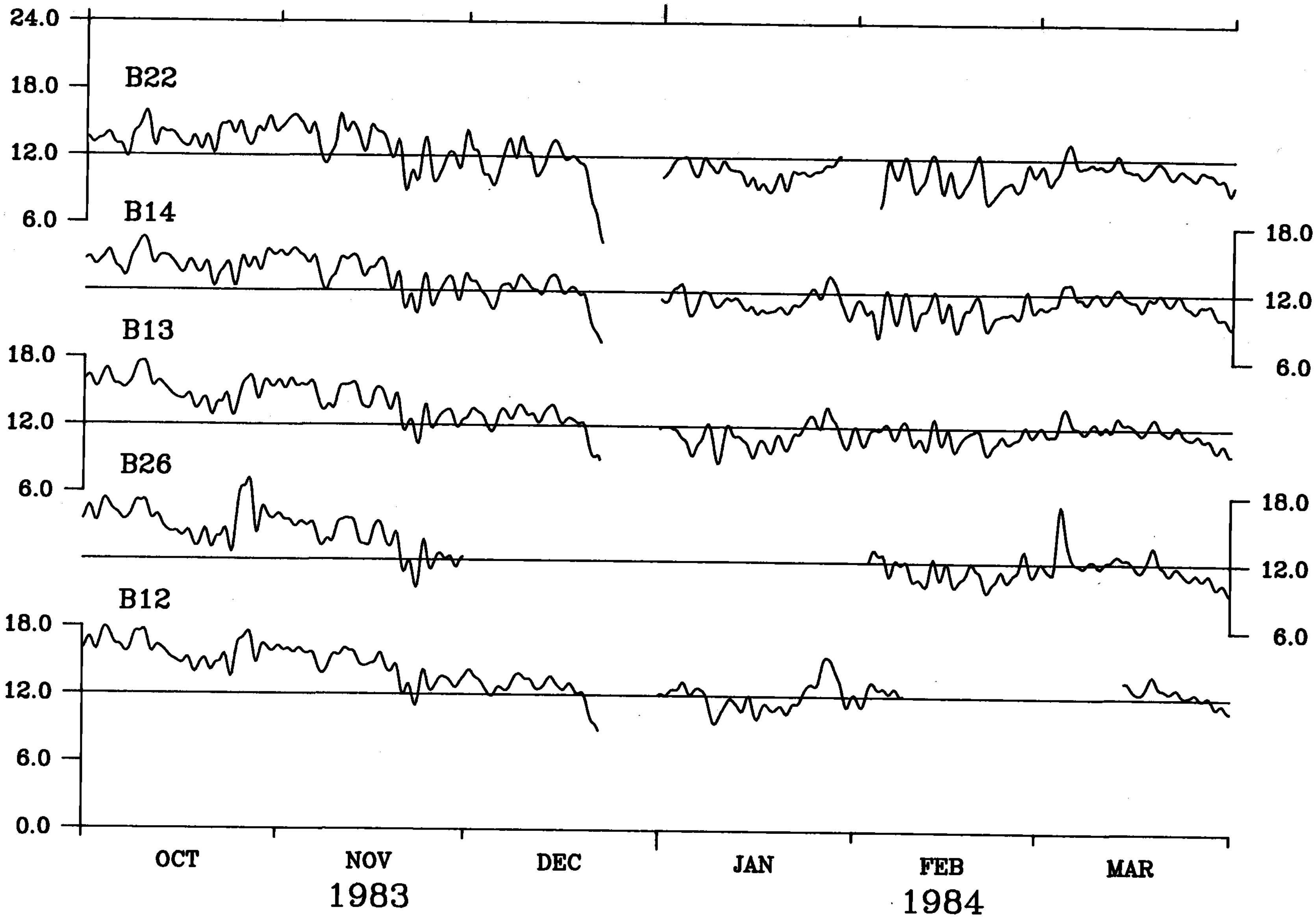

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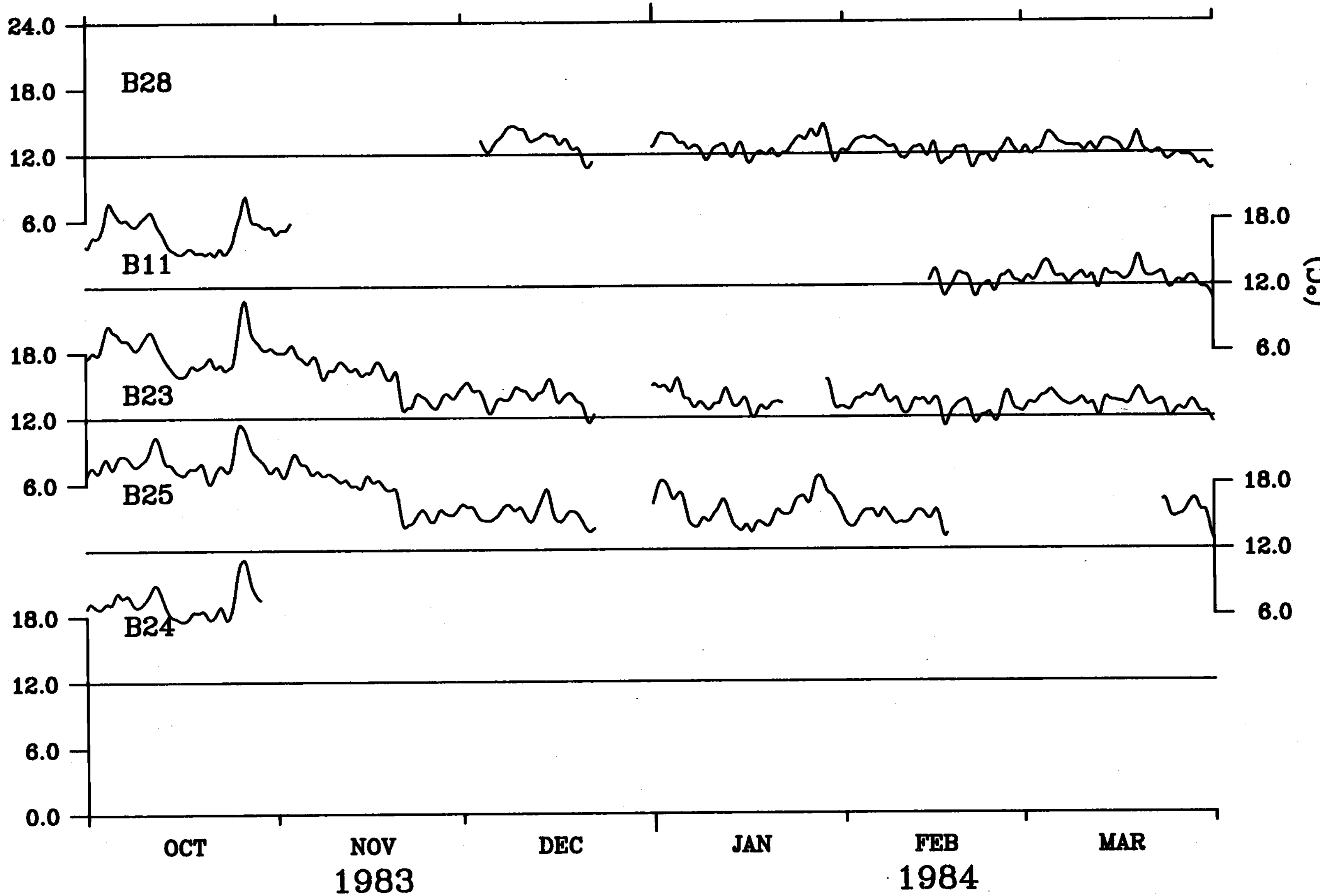

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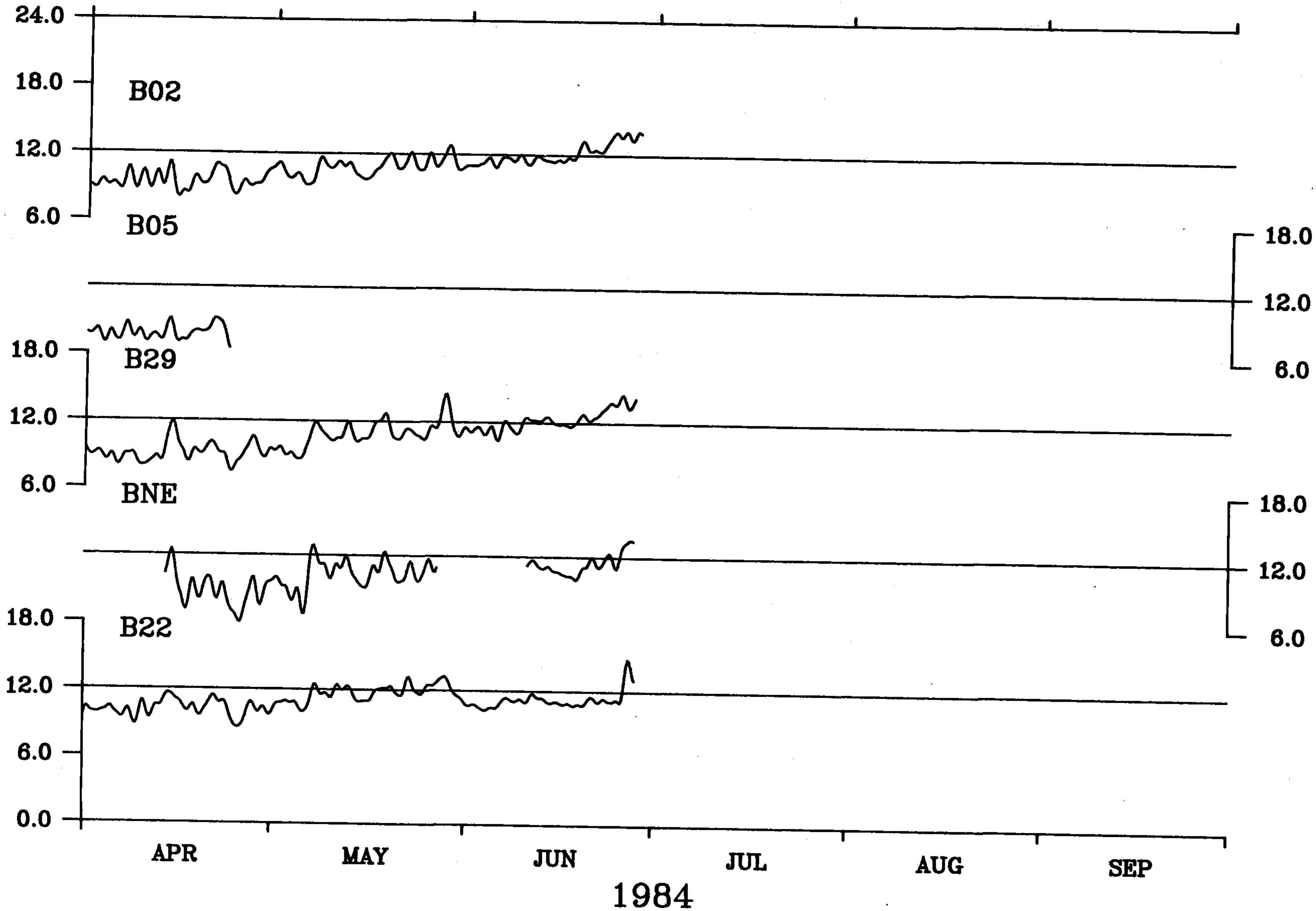
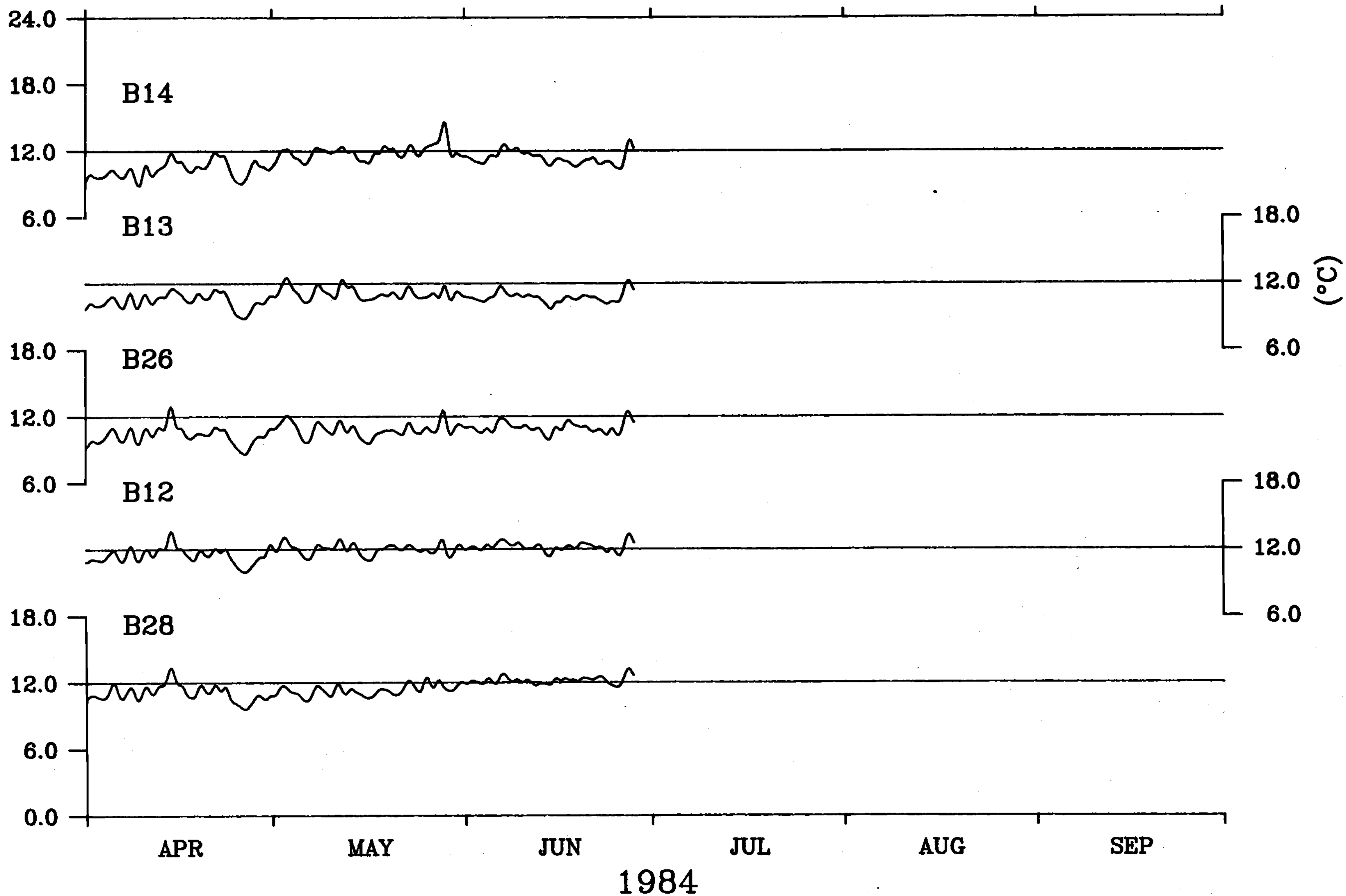
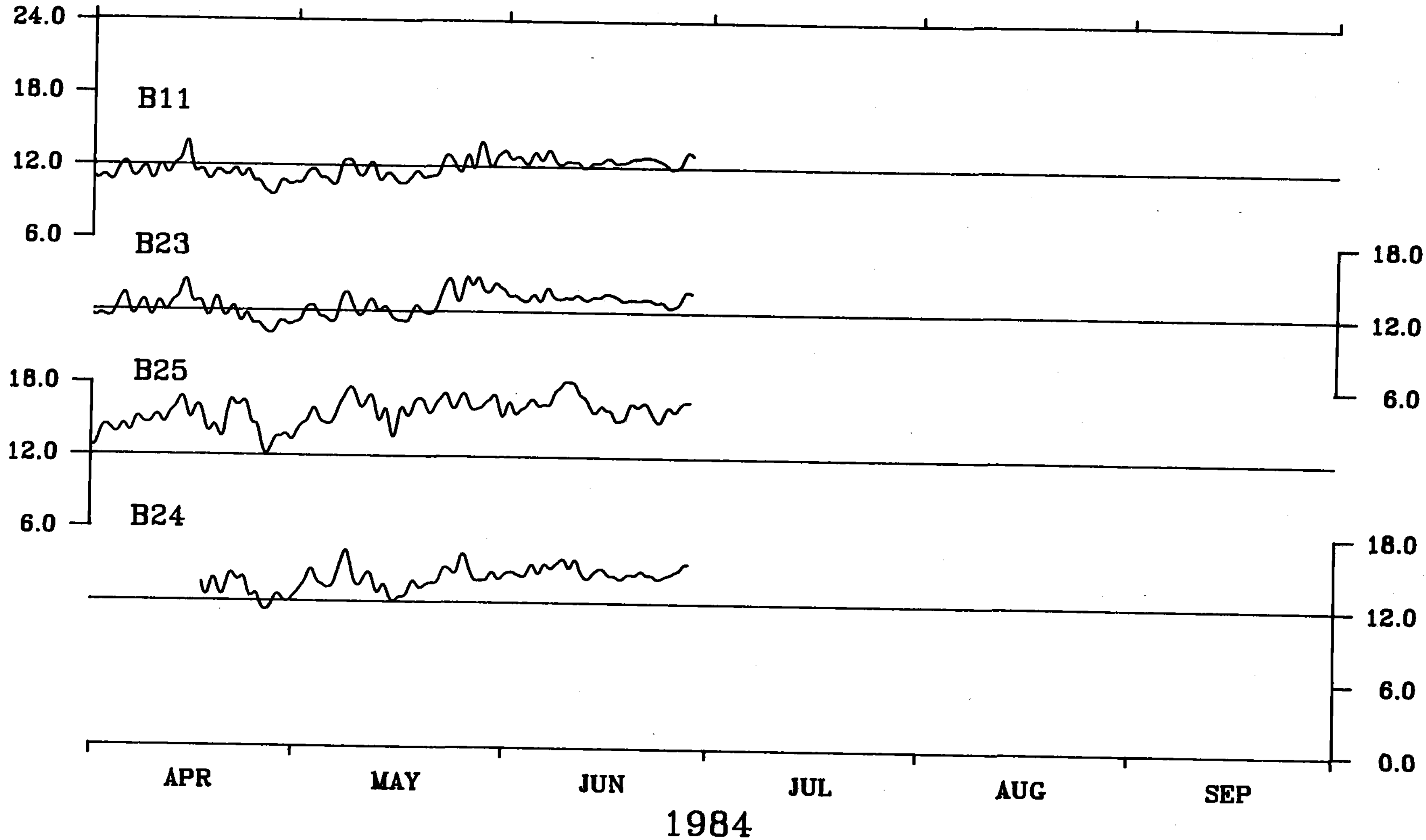


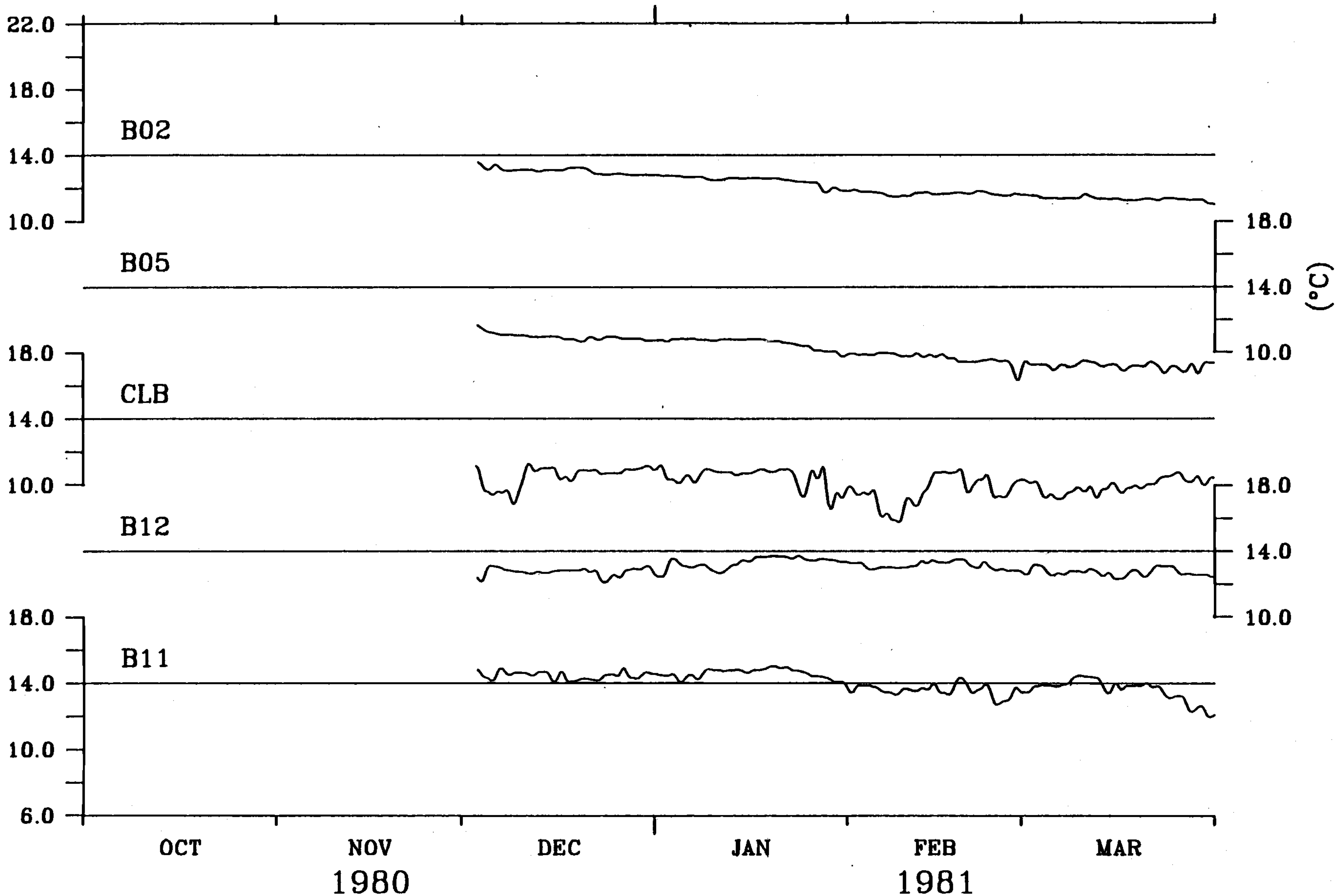
Air Temperature



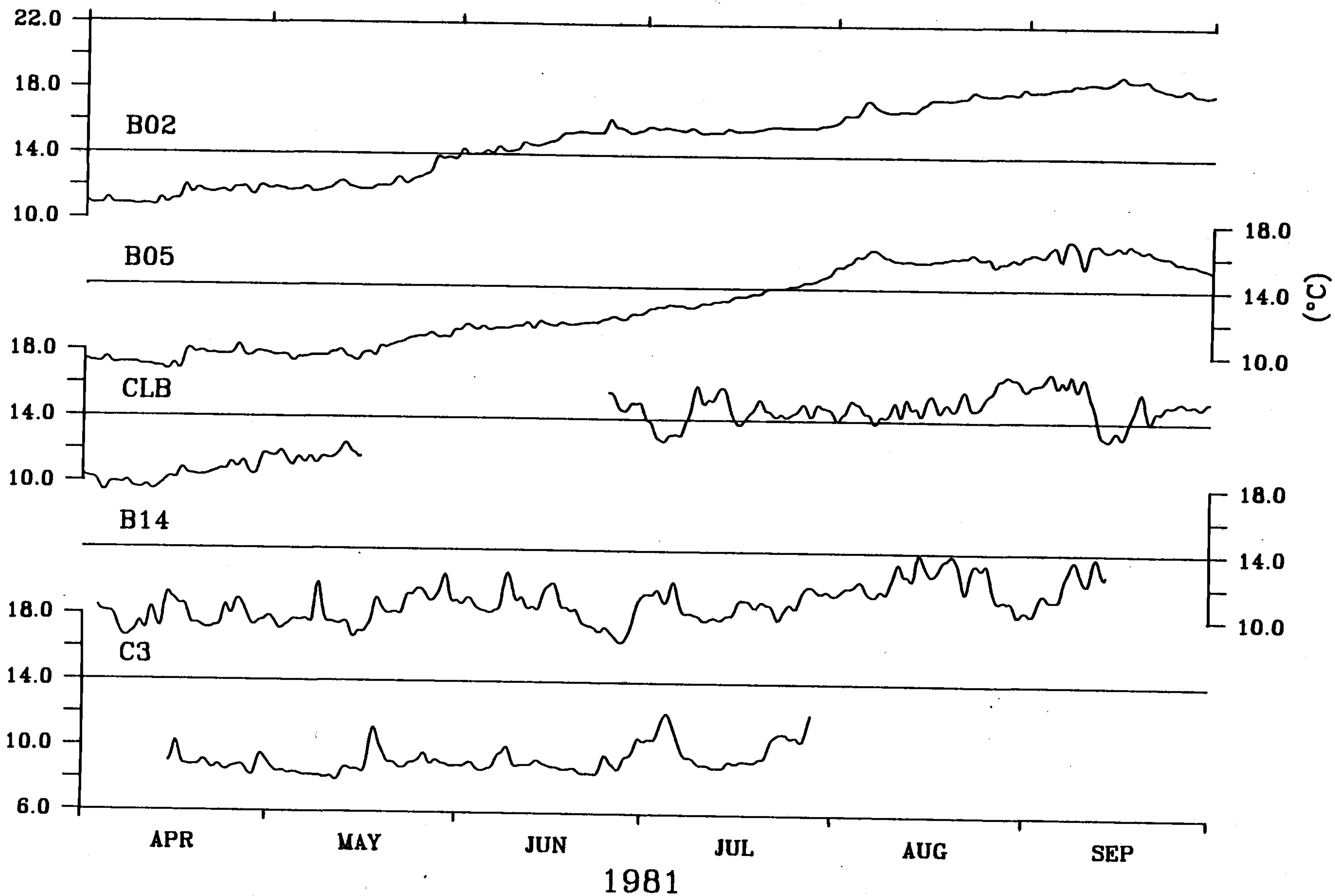
Air Temperature



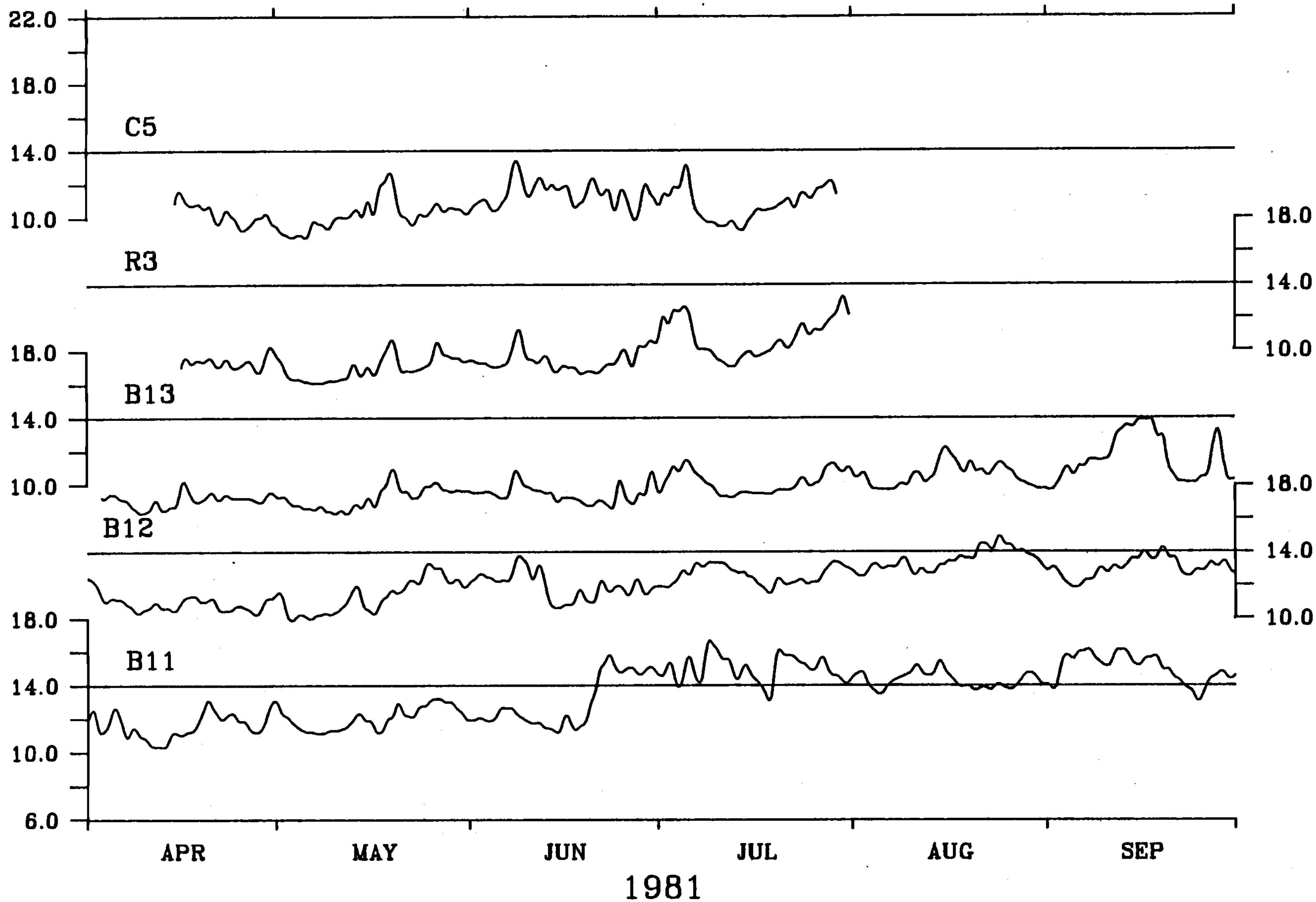
Air Temperature



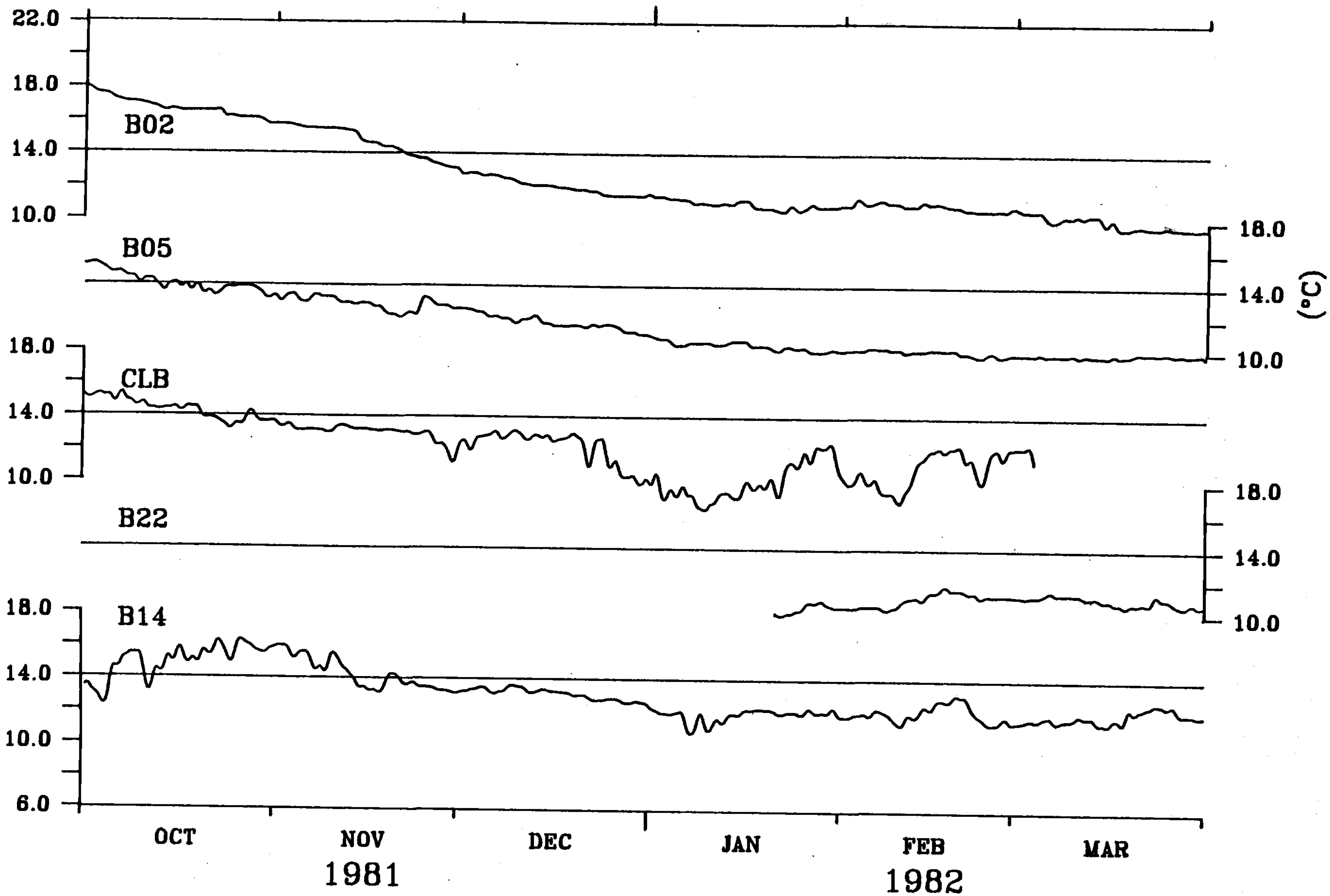
Sea Surface Temperature



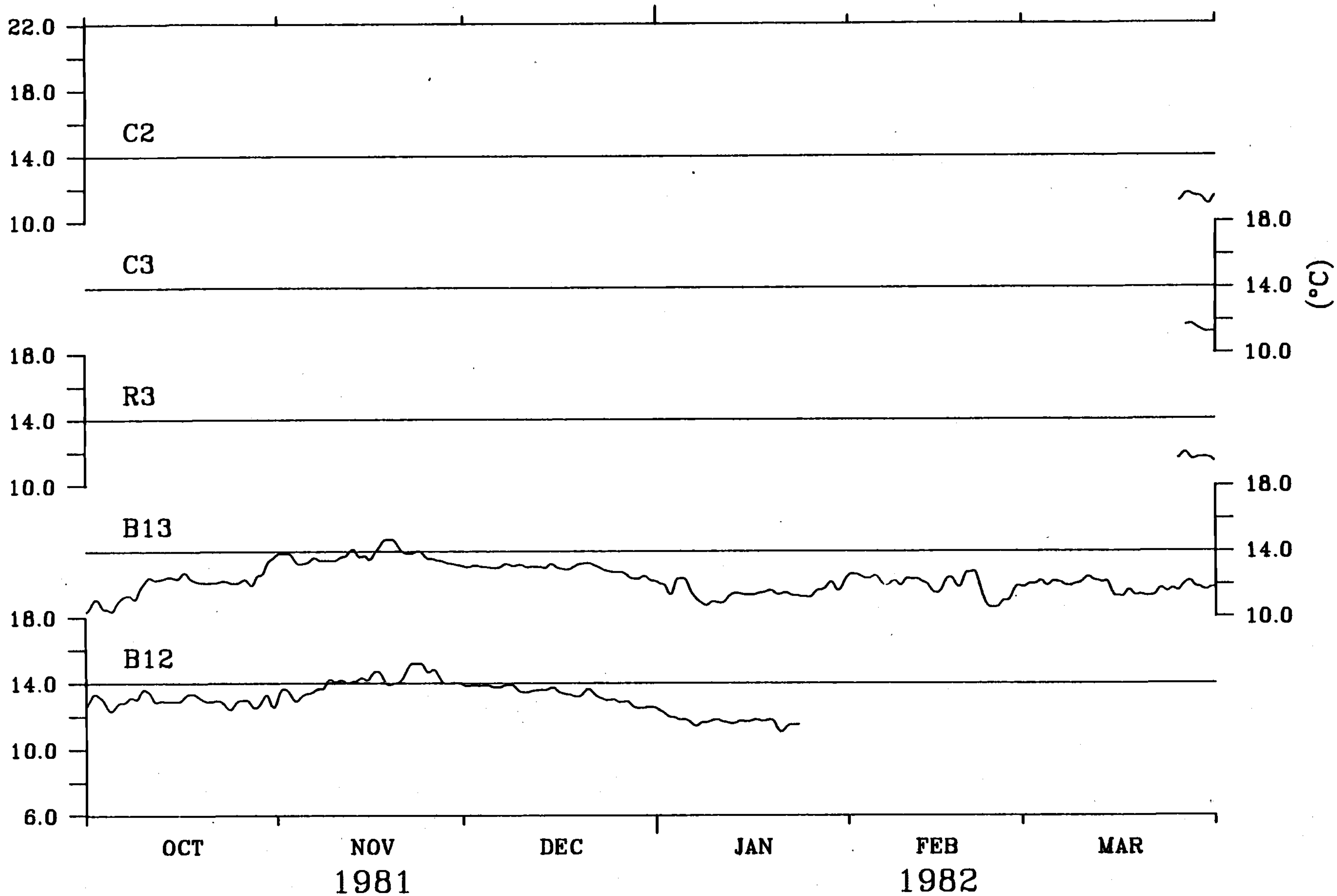
Sea Surface Temperature



Sea Surface Temperature

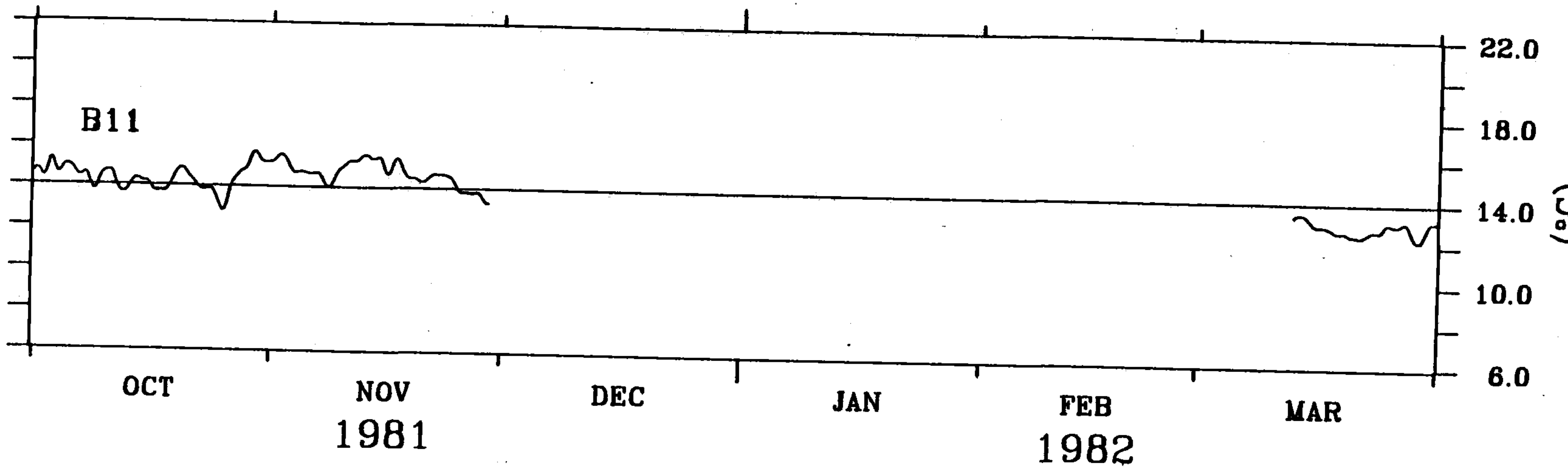


Sea Surface Temperature



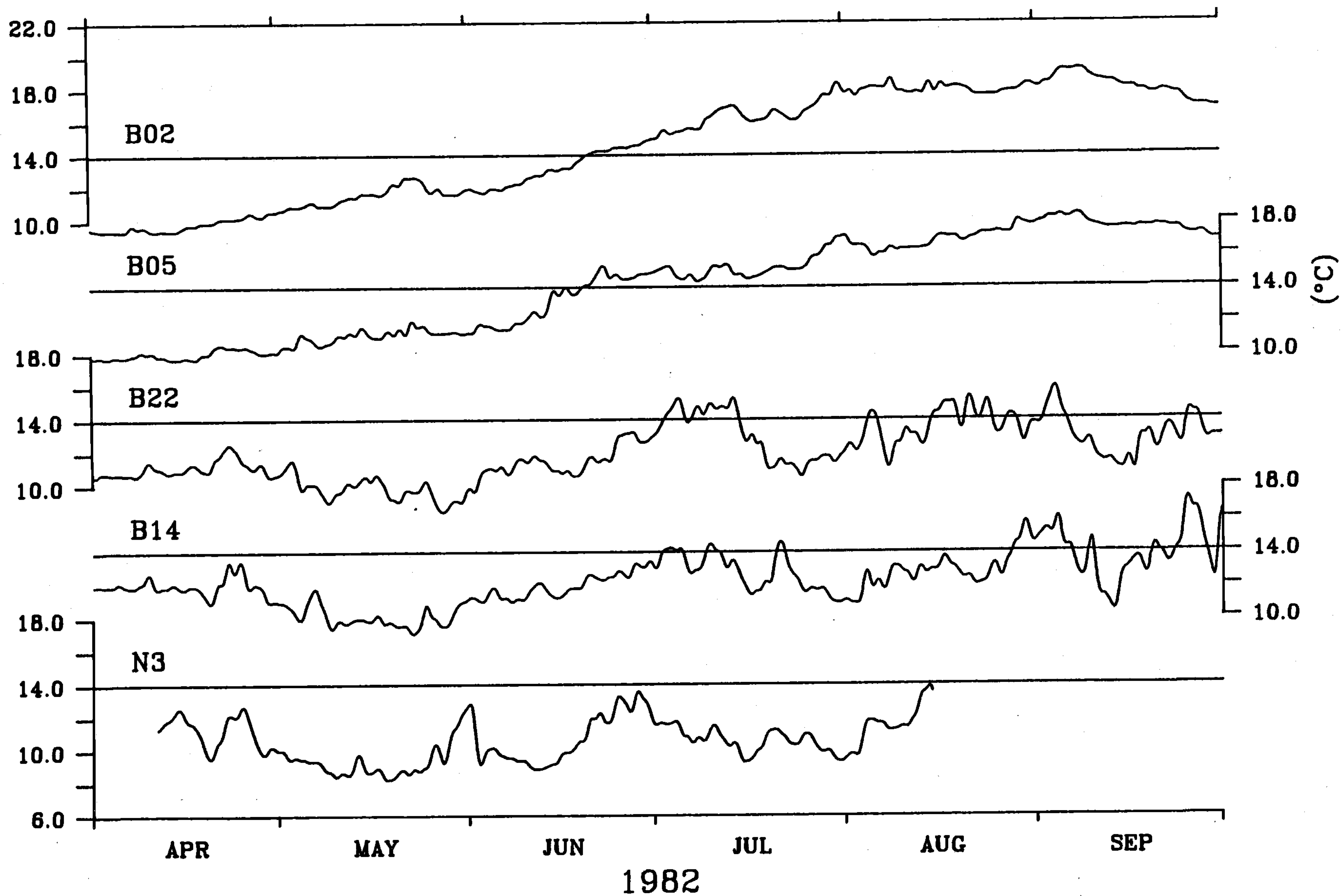
Sea Surface Temperature

9.29

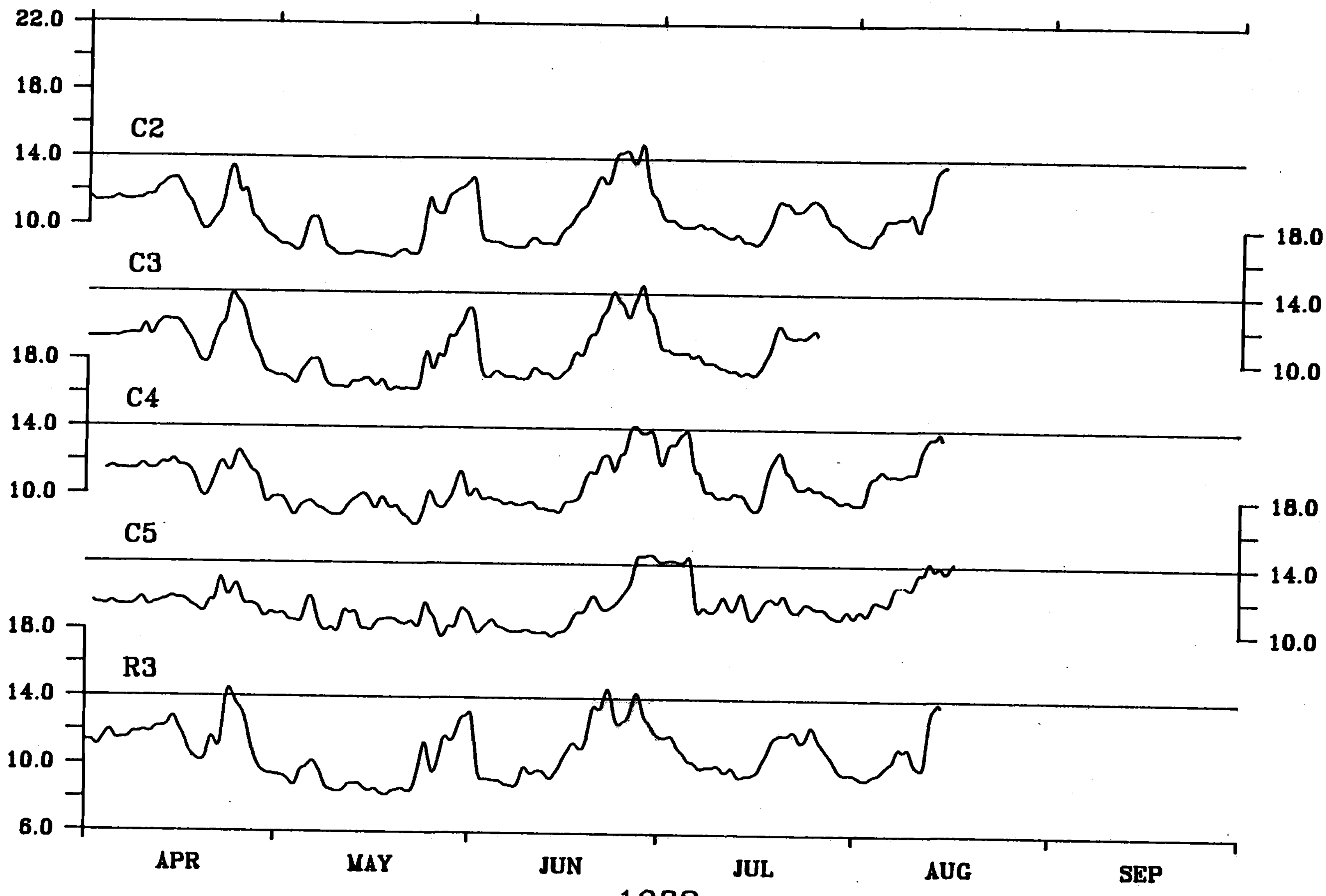


Sea Surface Temperature

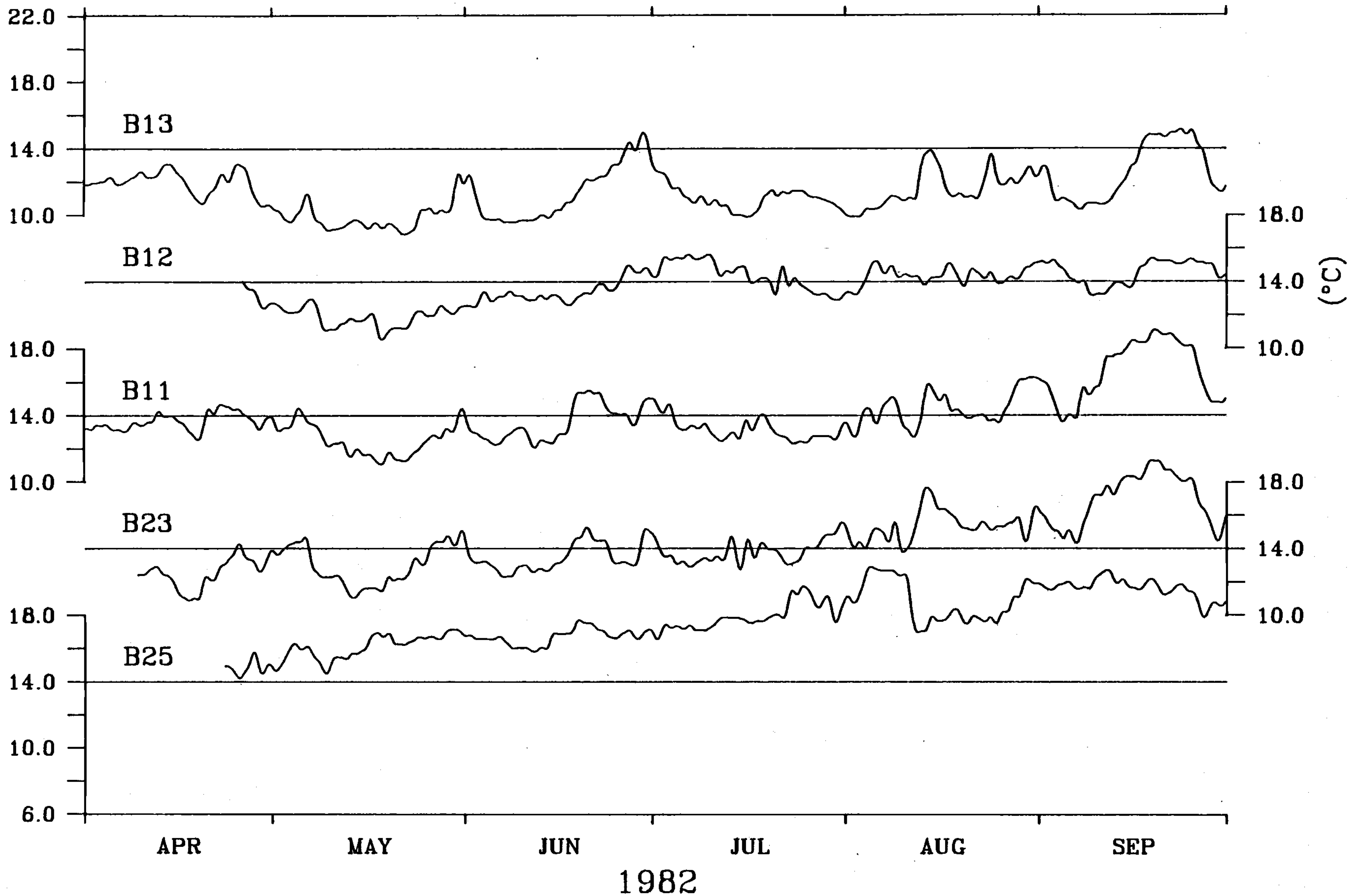
9.30



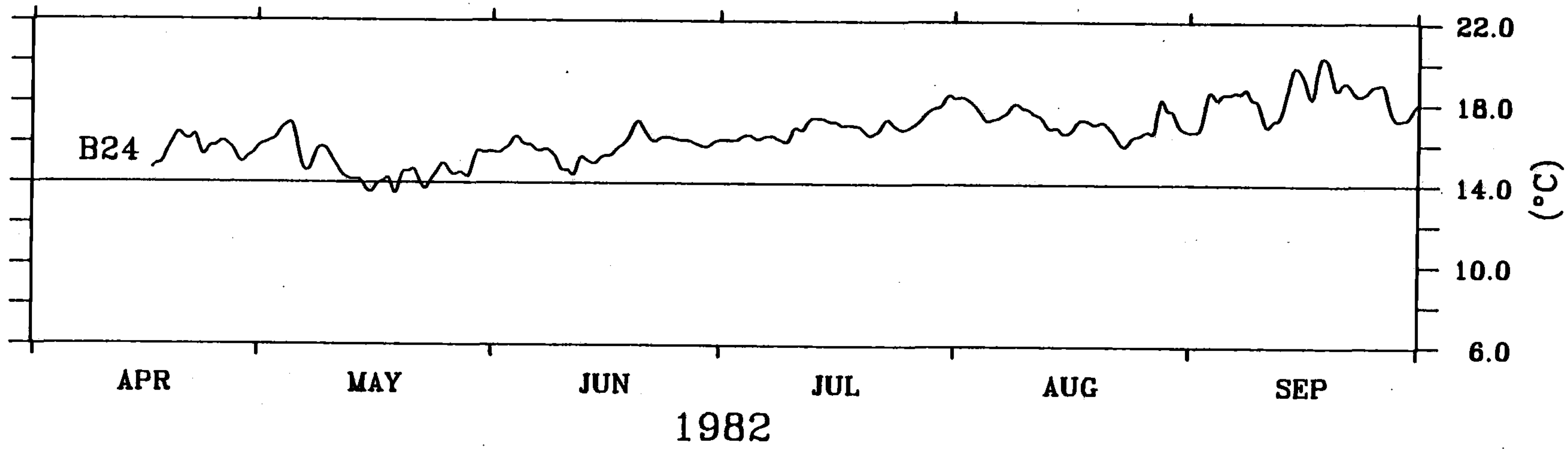
Sea Surface Temperature



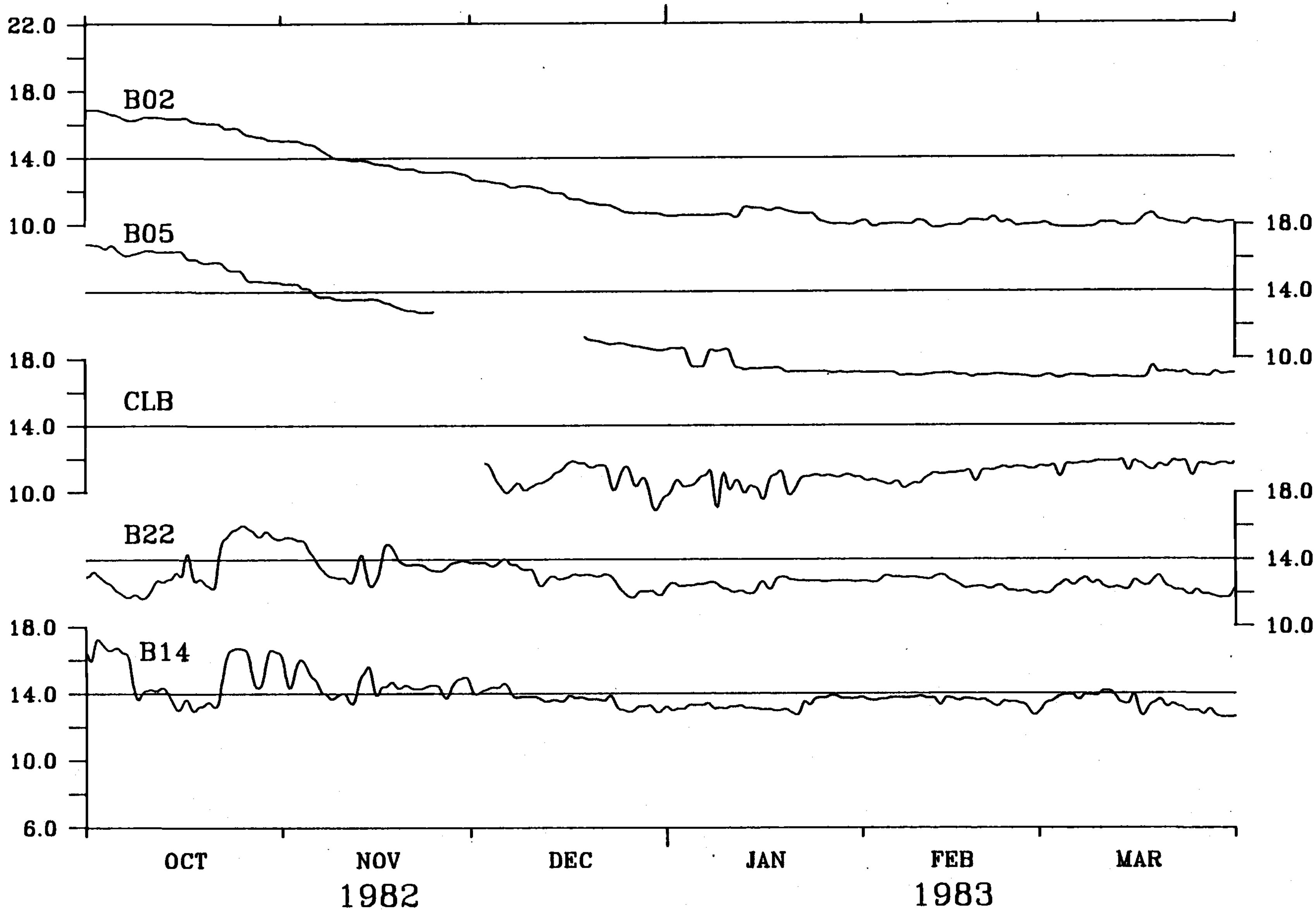
Sea Surface Temperature



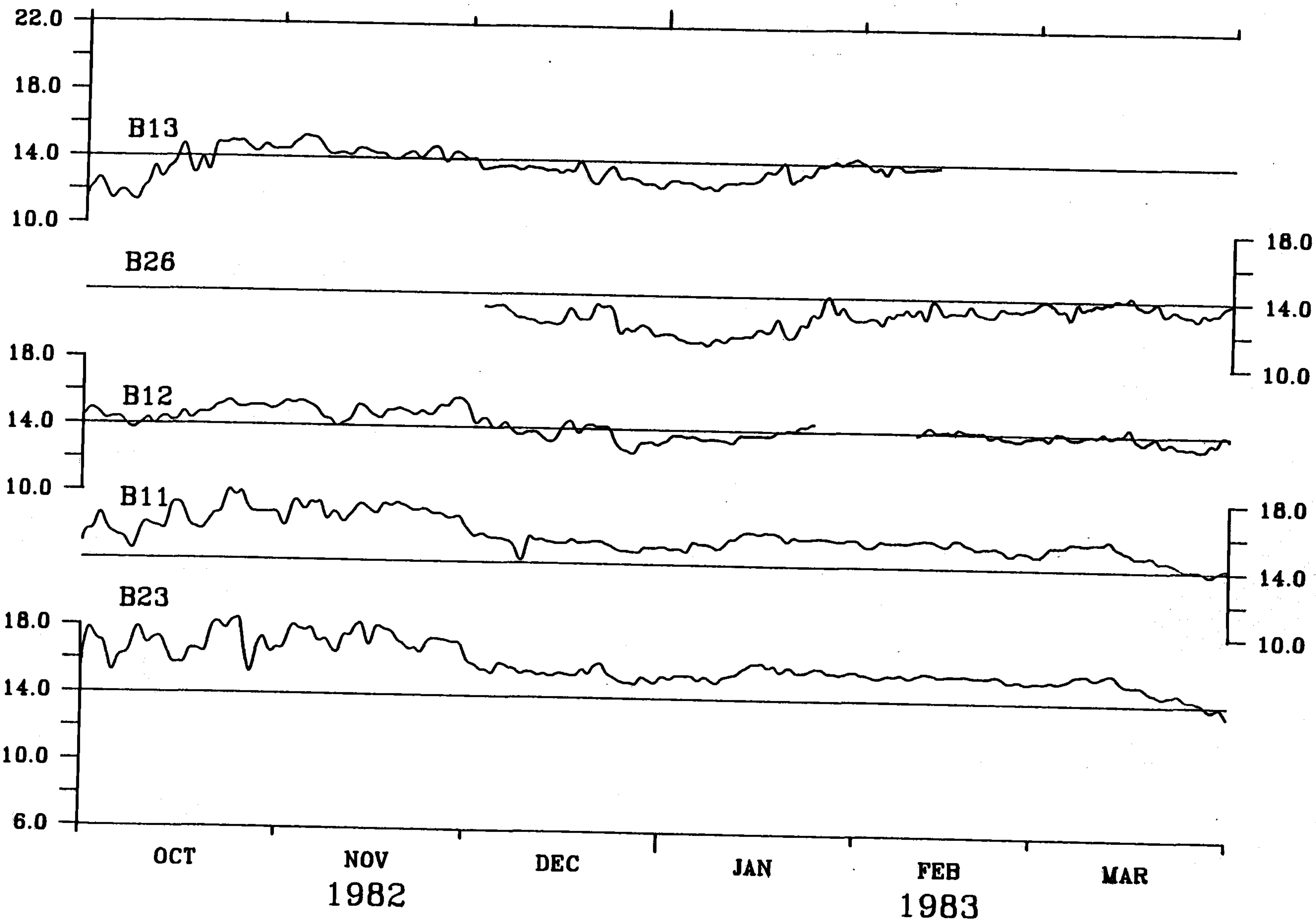
Sea Surface Temperature



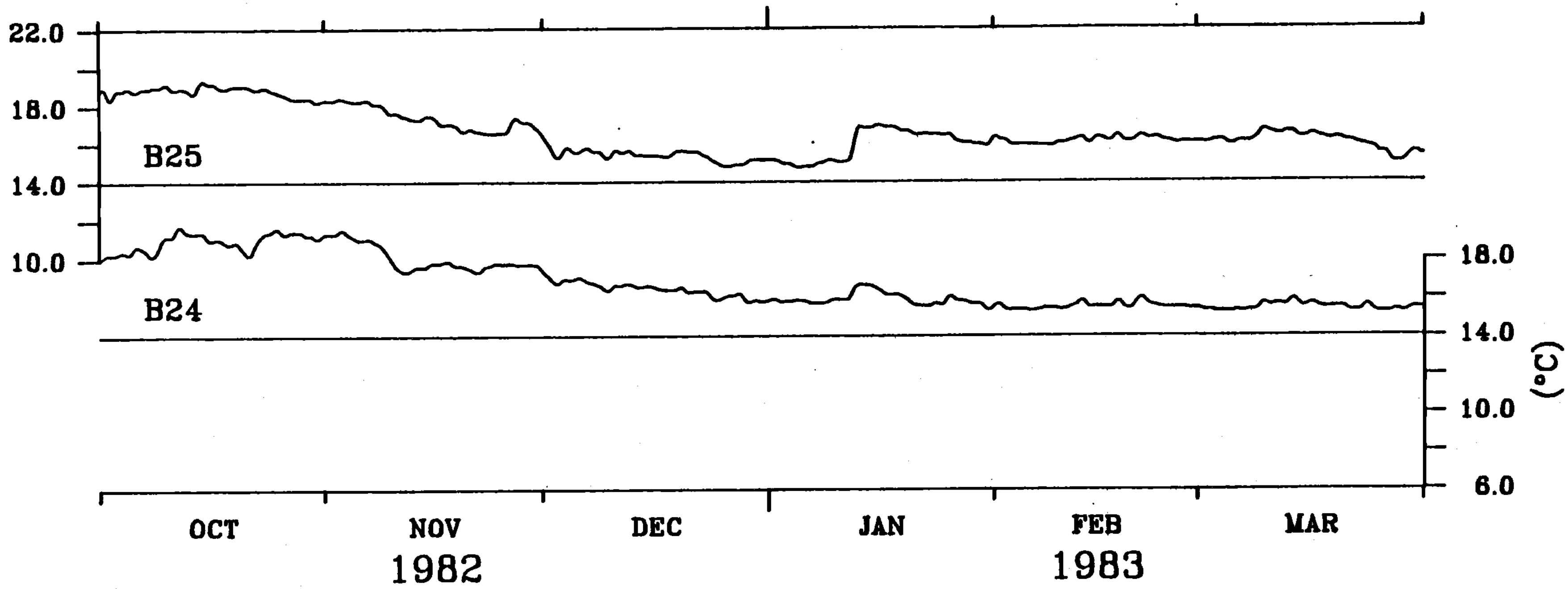
Sea Surface Temperature



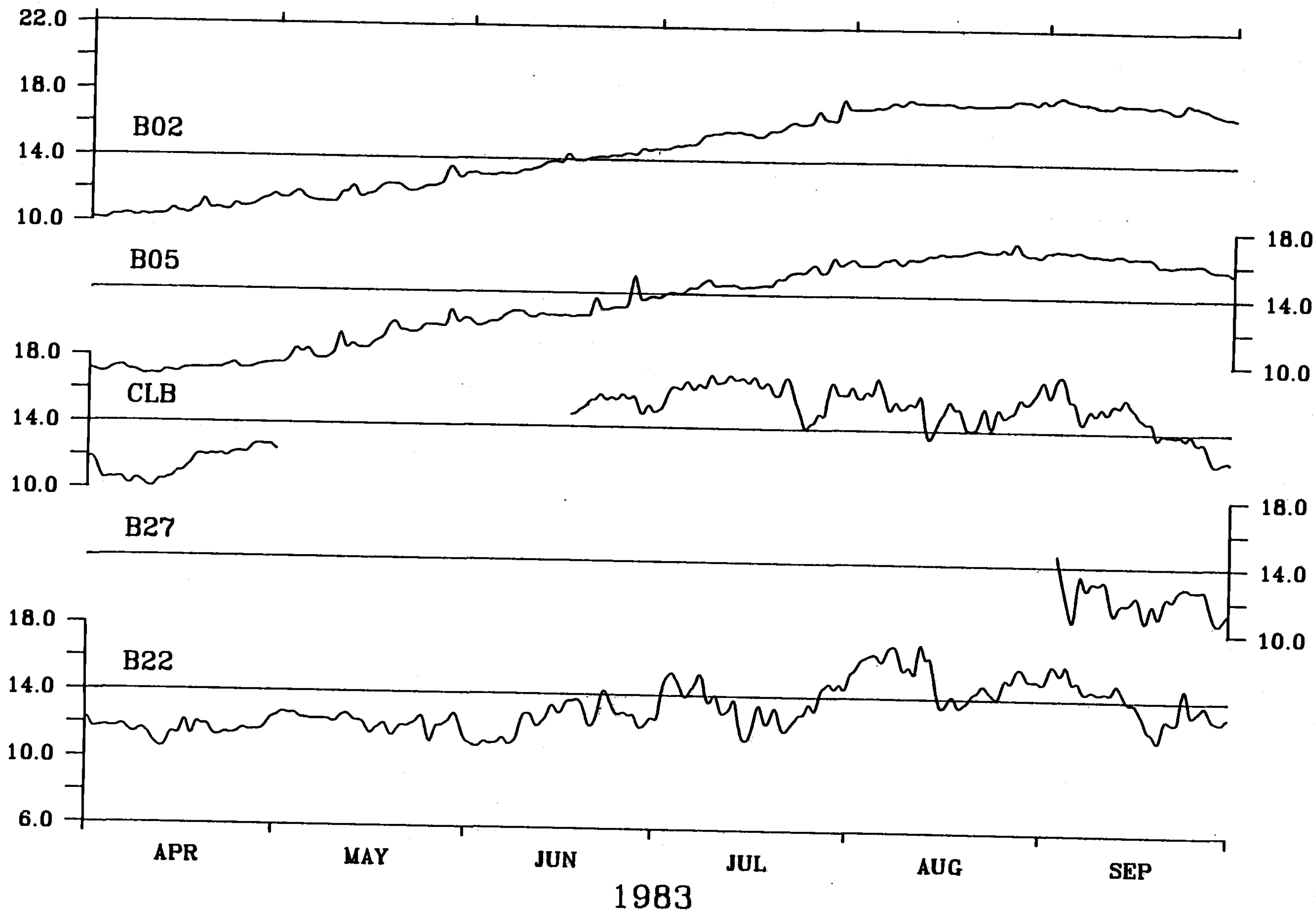
Sea Surface Temperature



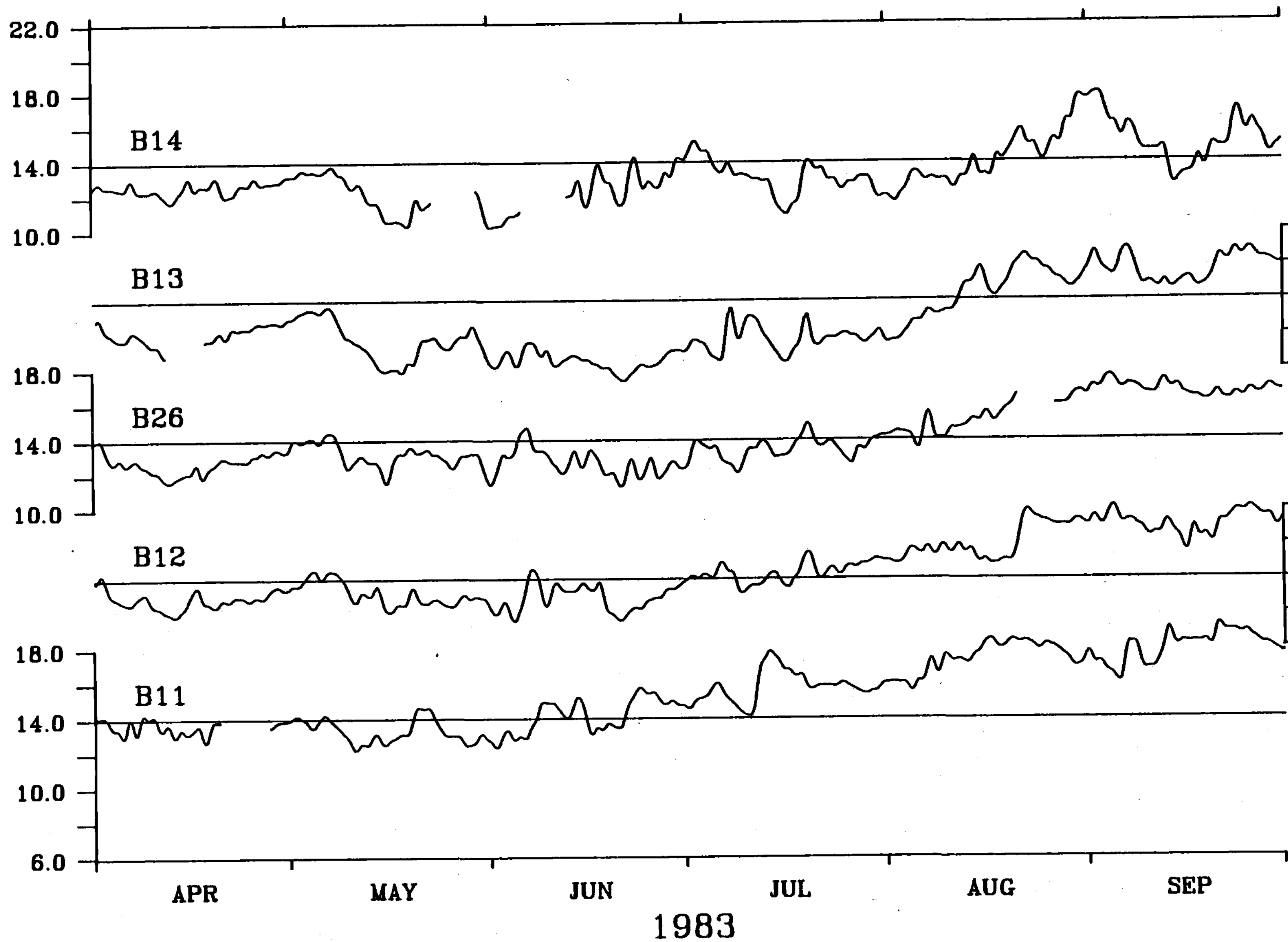
Sea Surface Temperature



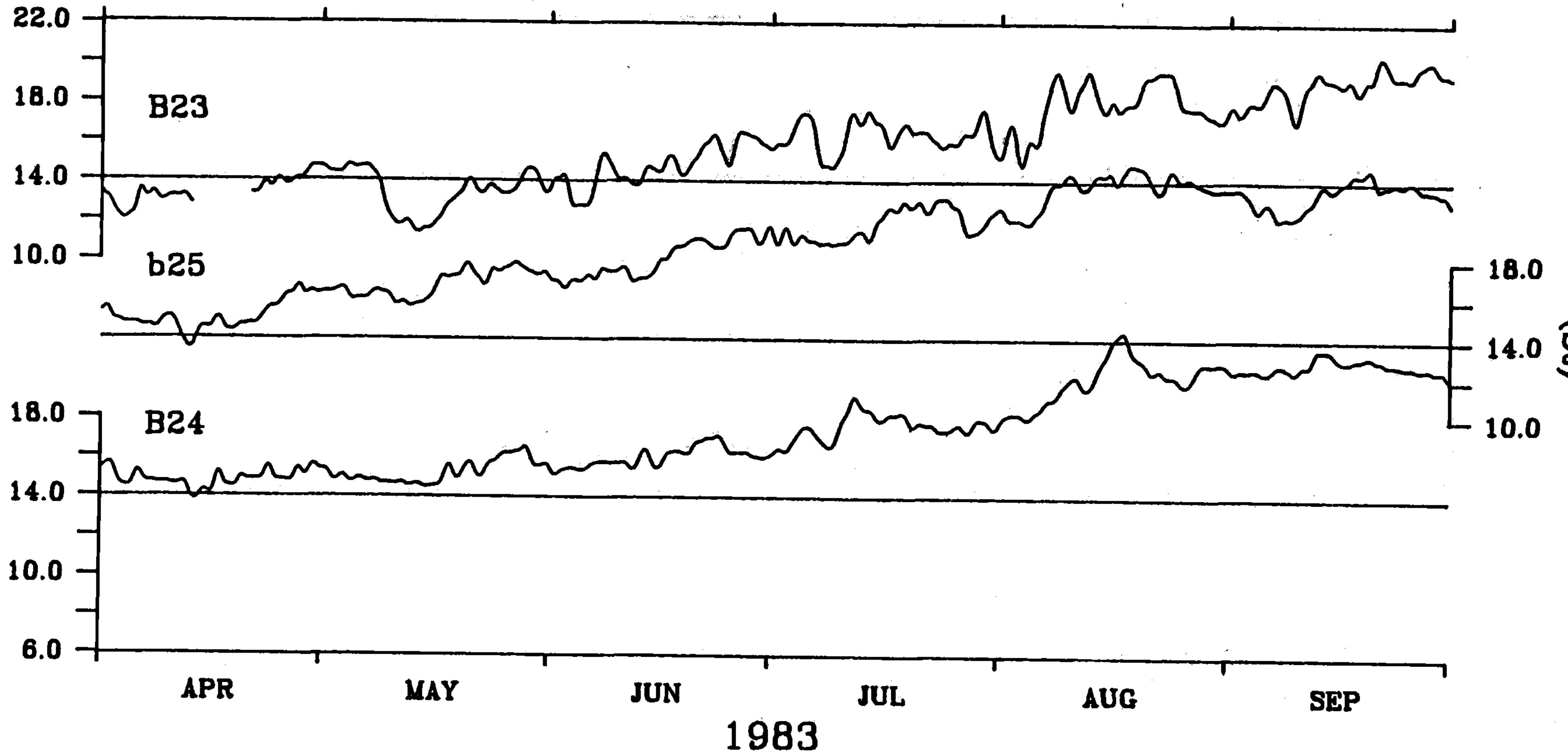
Sea Surface Temperature



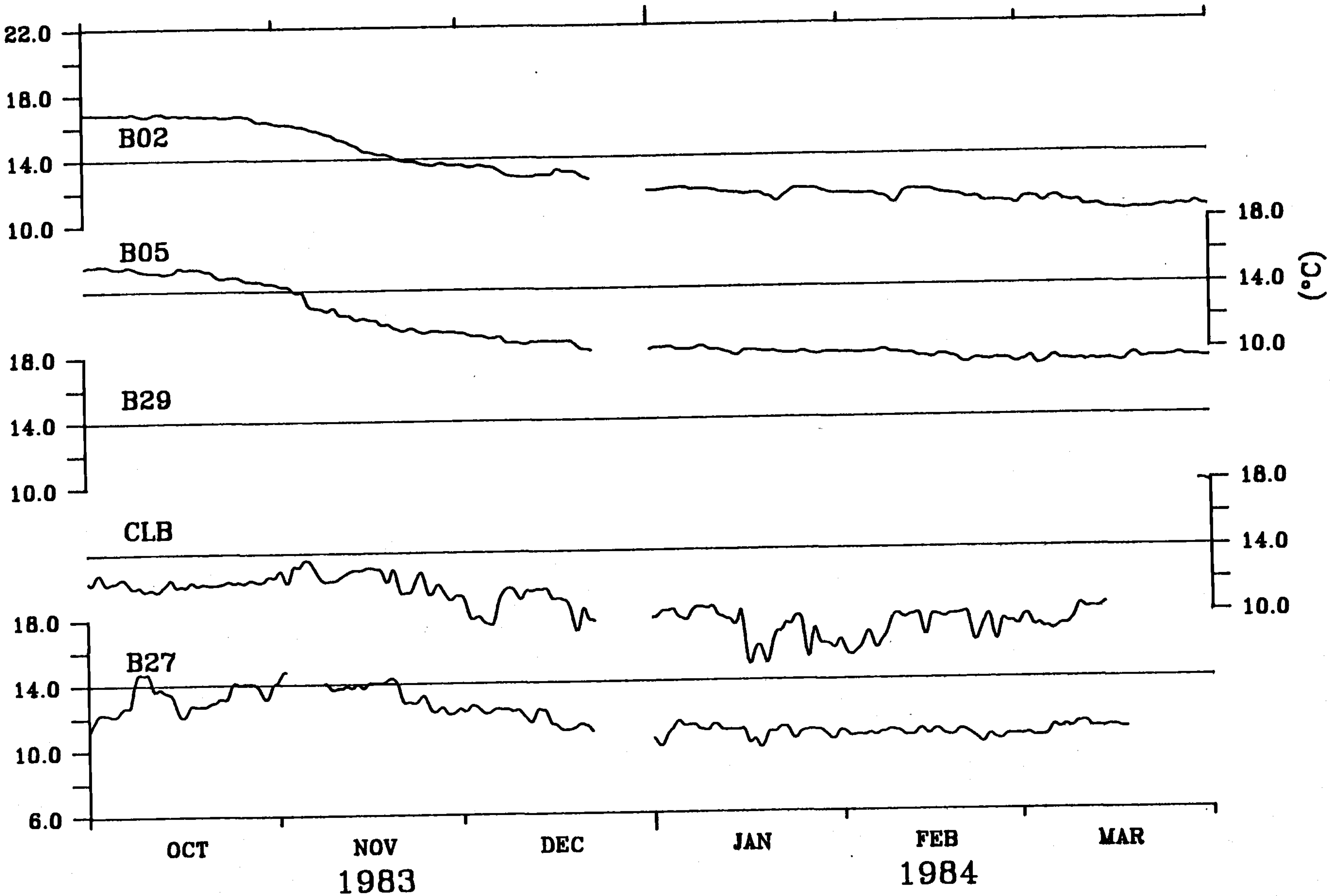
Sea Surface Temperature



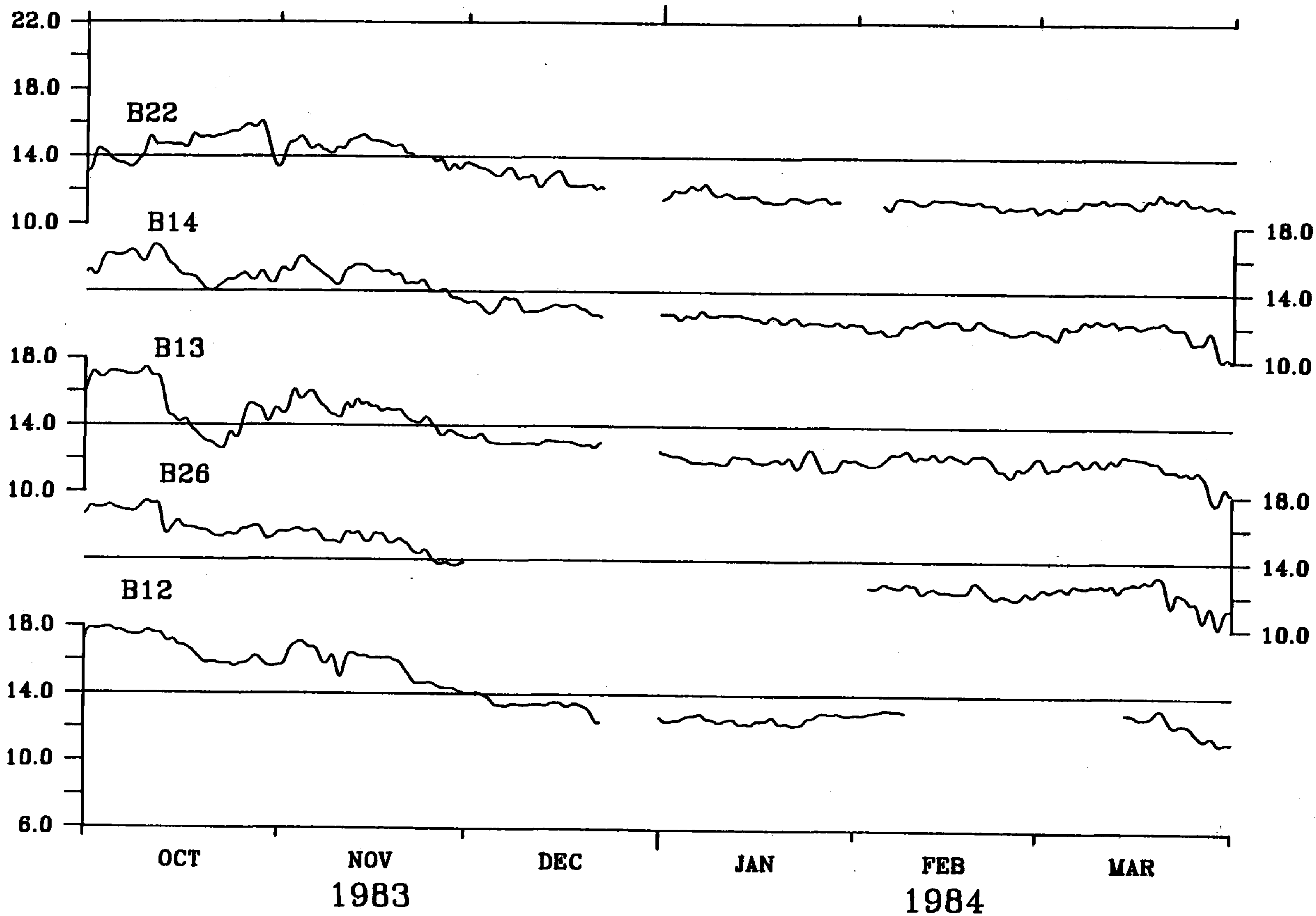
Sea Surface Temperature



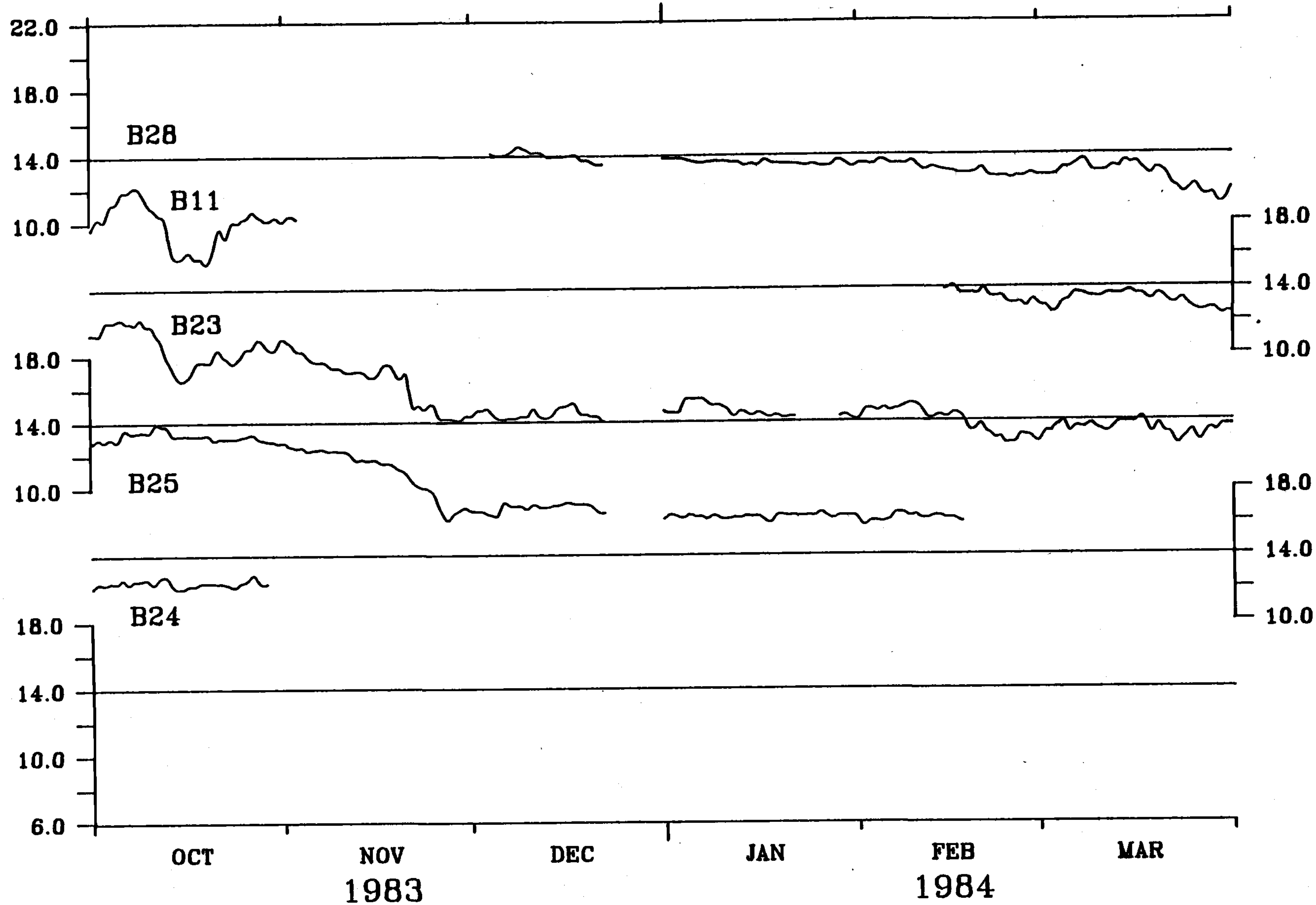
Sea Surface Temperature



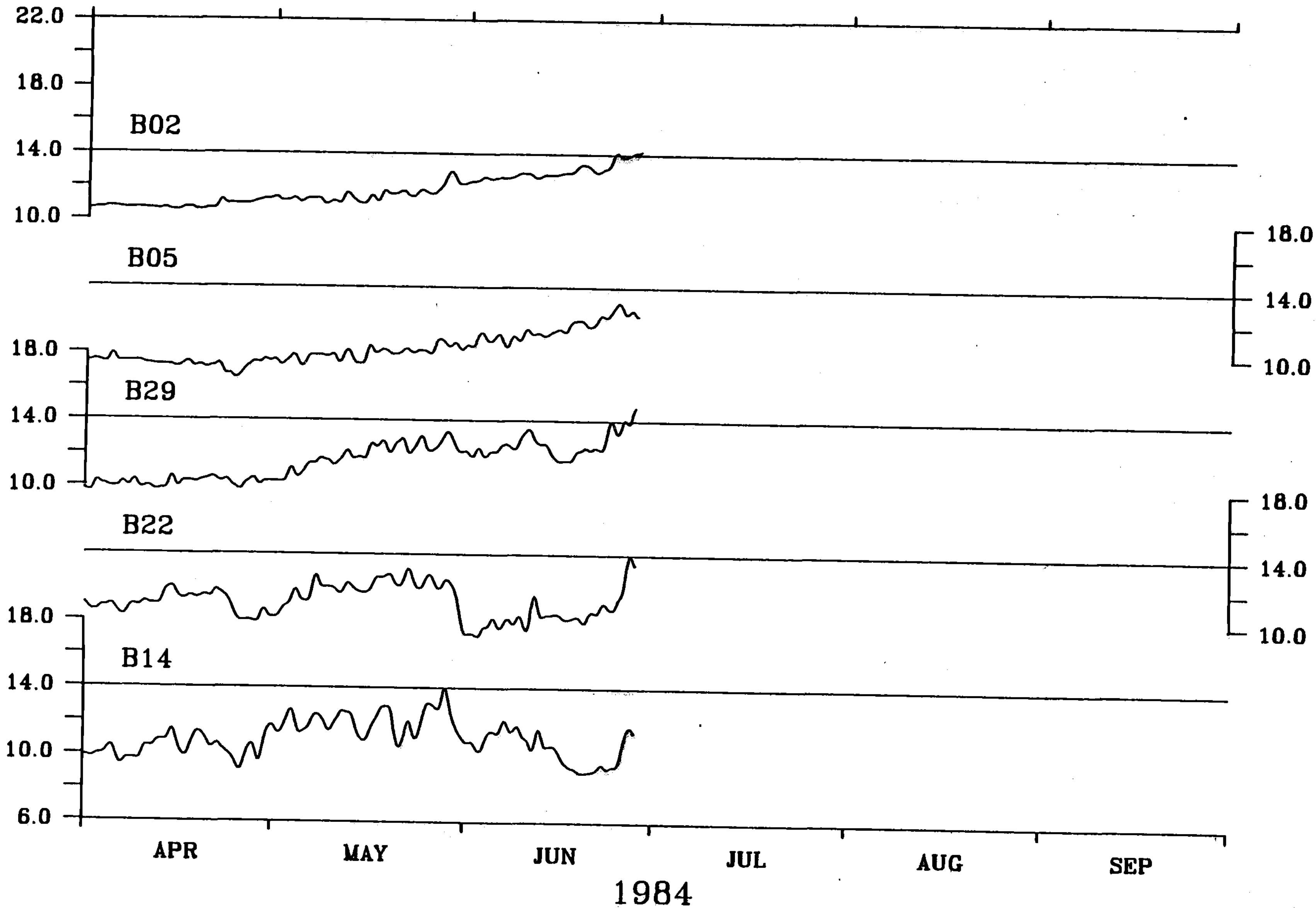
Sea Surface Temperature



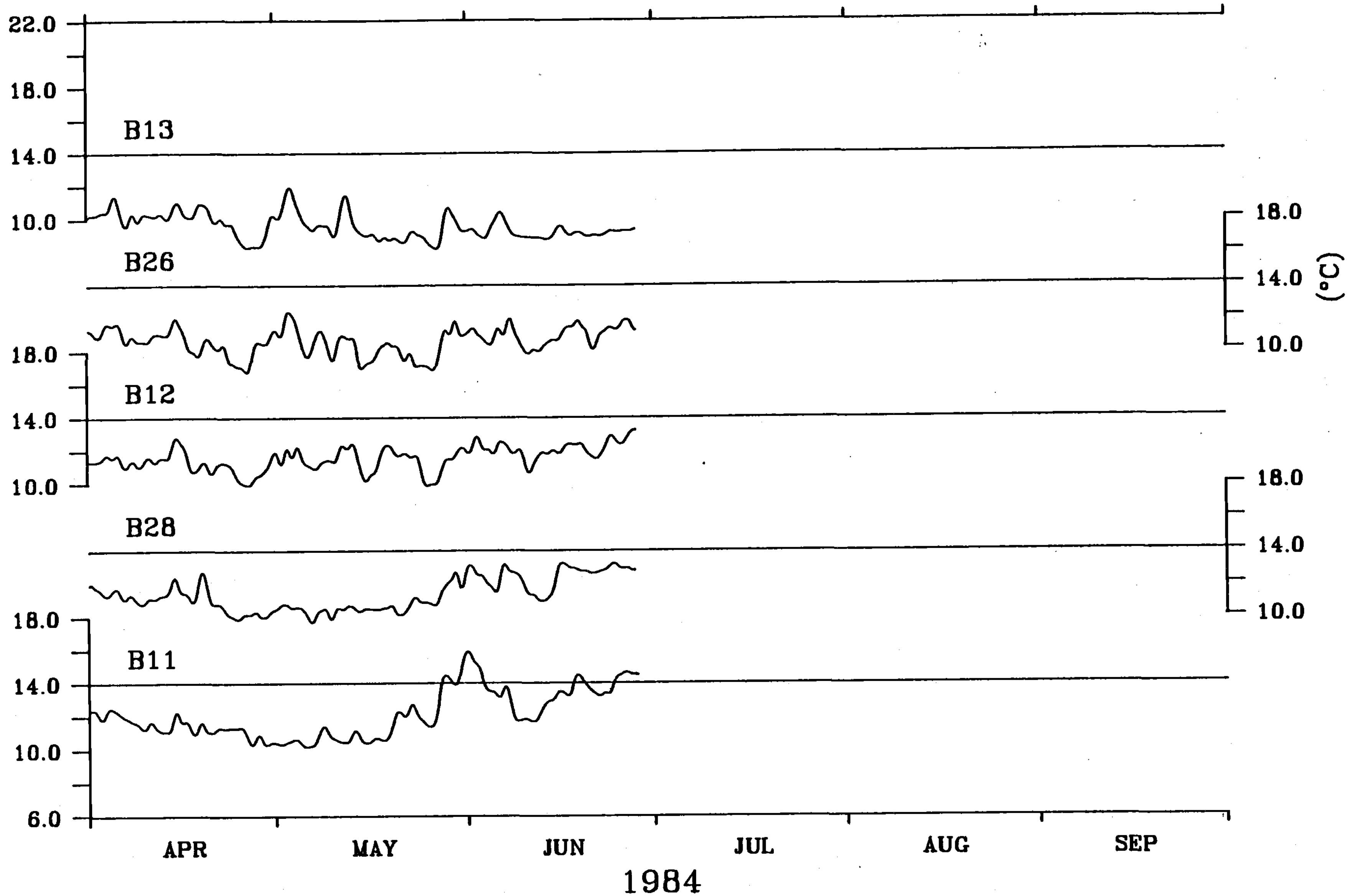
Sea Surface Temperature



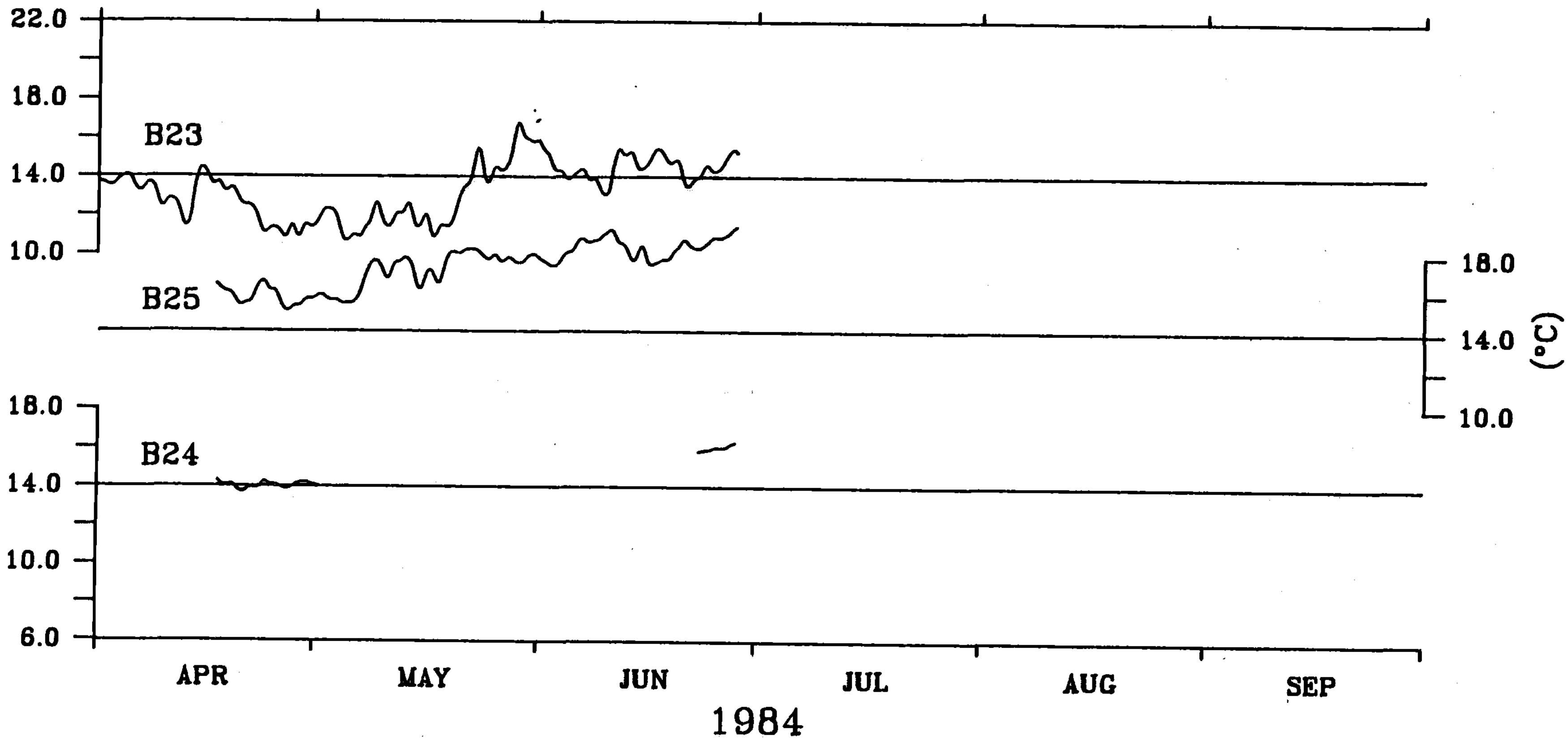
Sea Surface Temperature



Sea Surface Temperature

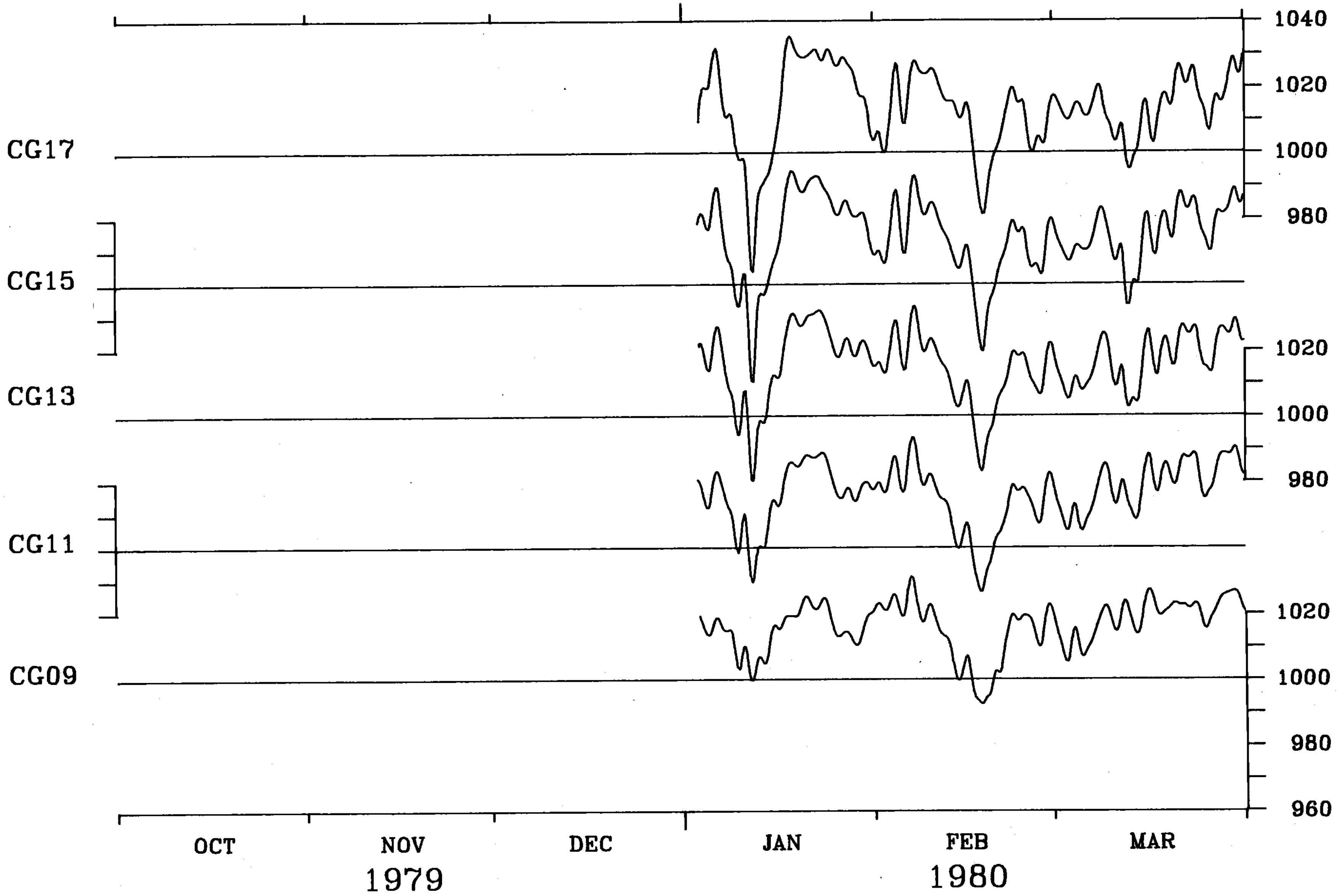


Sea Surface Temperature

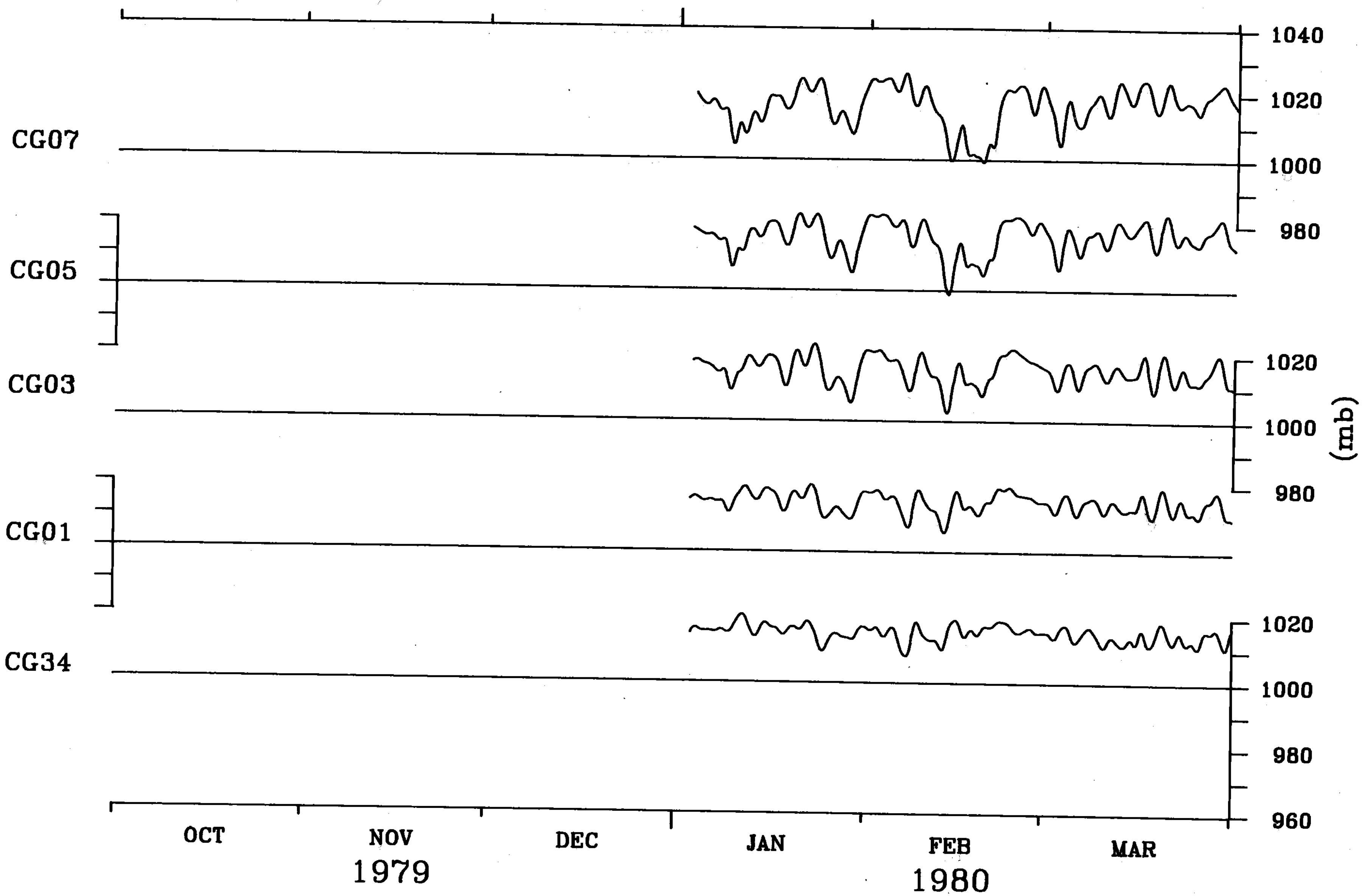


Sea Surface Temperature

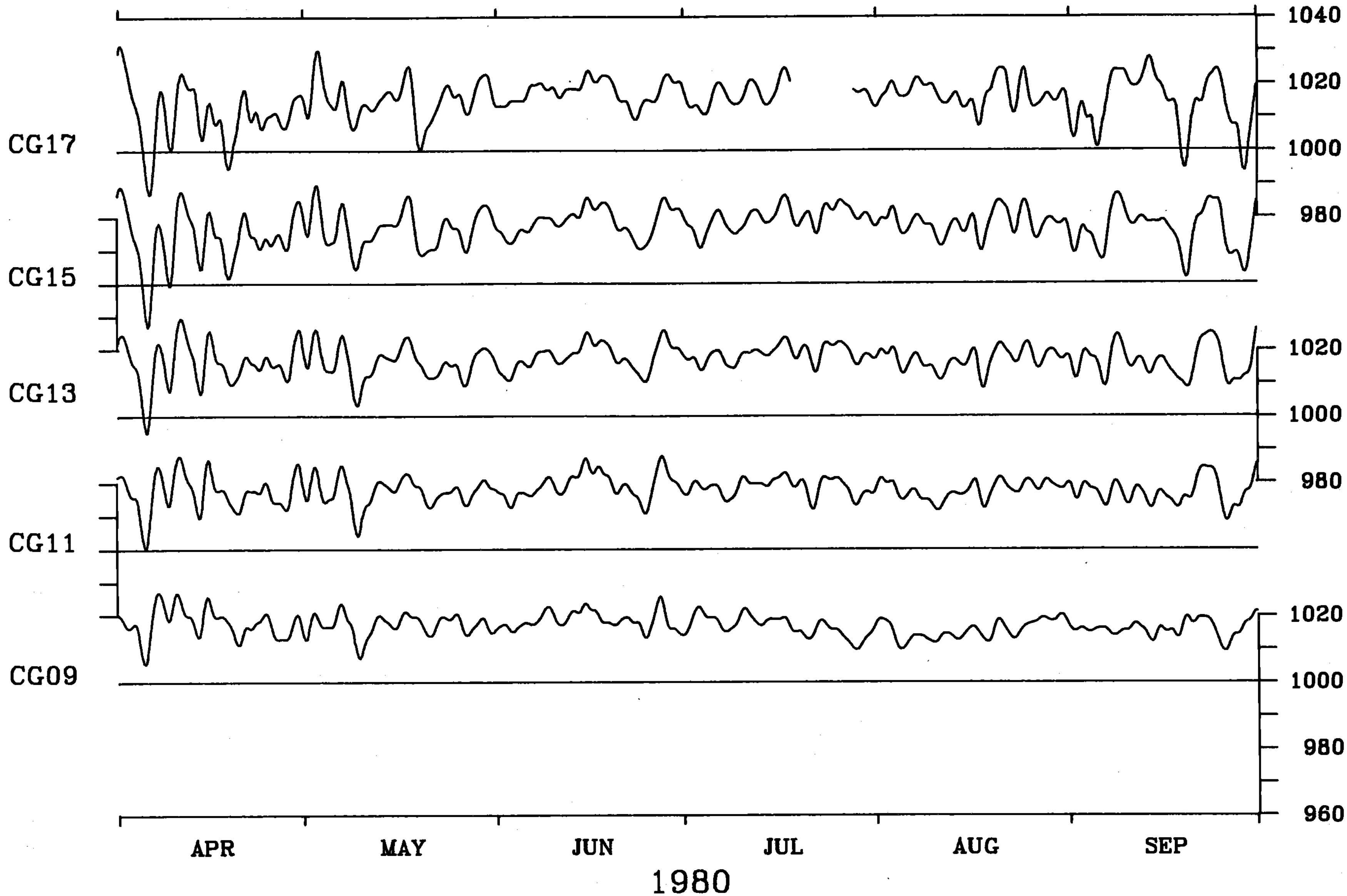
10. LLP Calculated Atmospheric Pressure Plots.



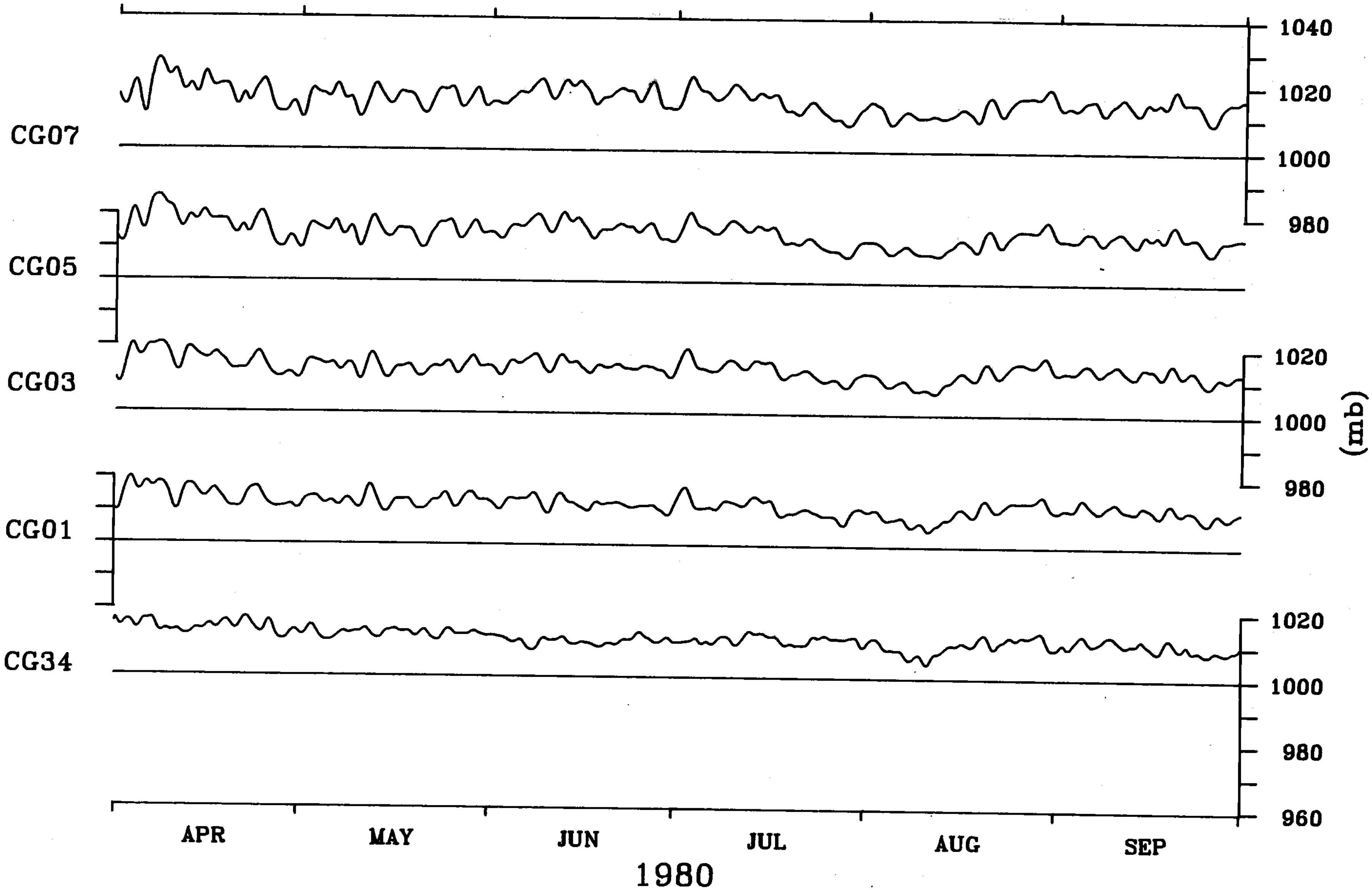
Calculated Atmospheric Pressure



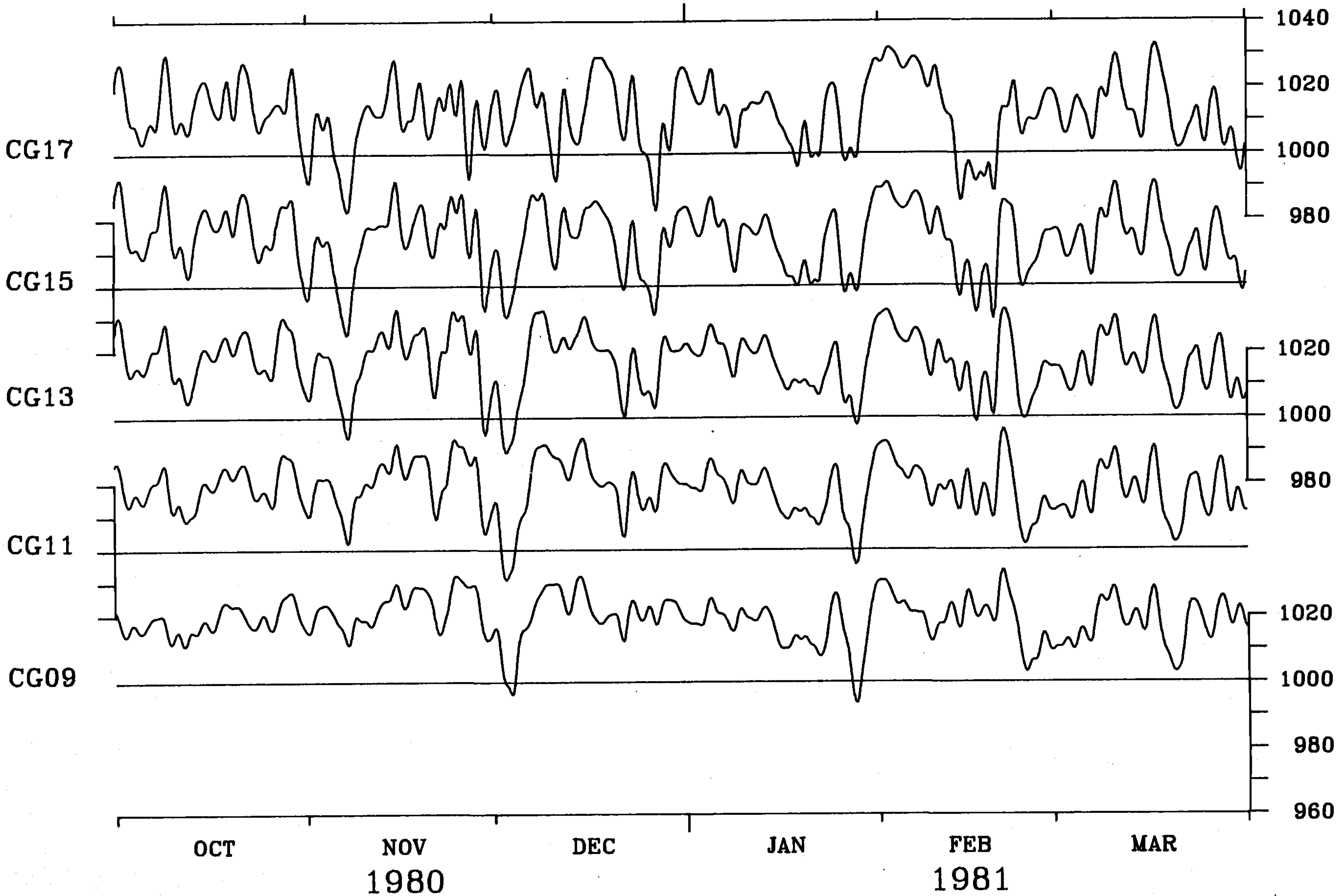
Calculated Atmospheric Pressure



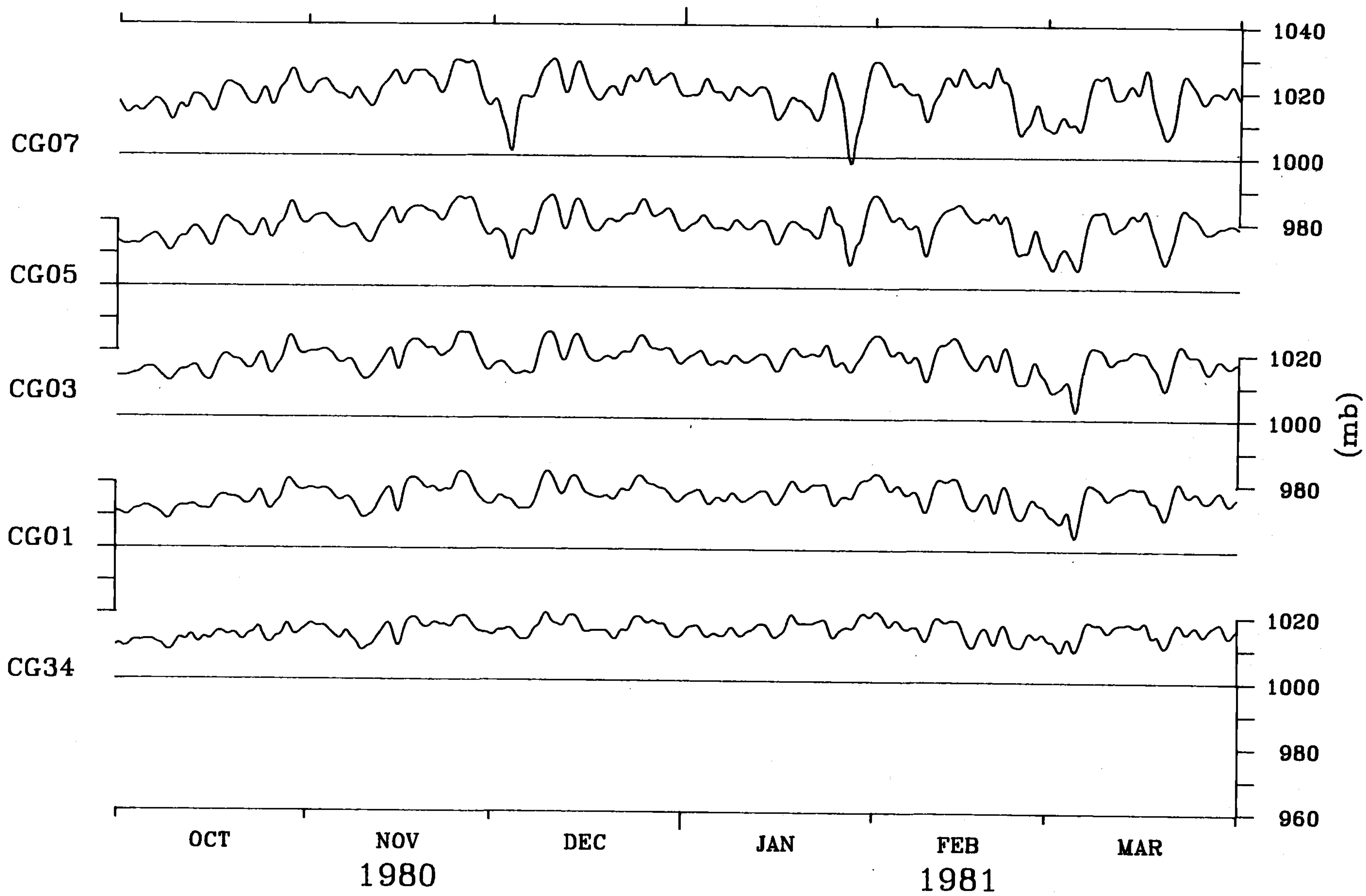
Calculated Atmospheric Pressure



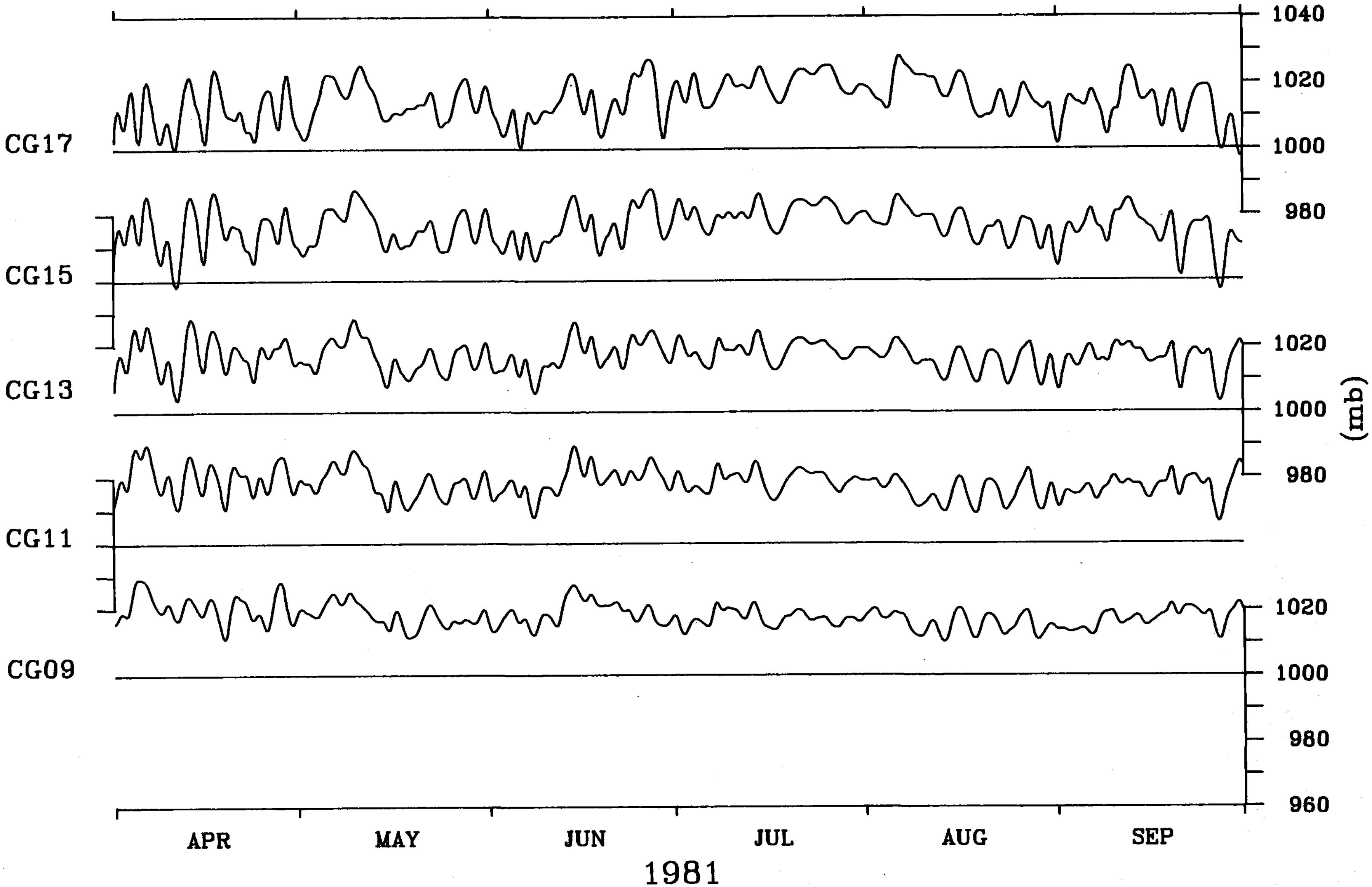
Calculated Atmospheric Pressure



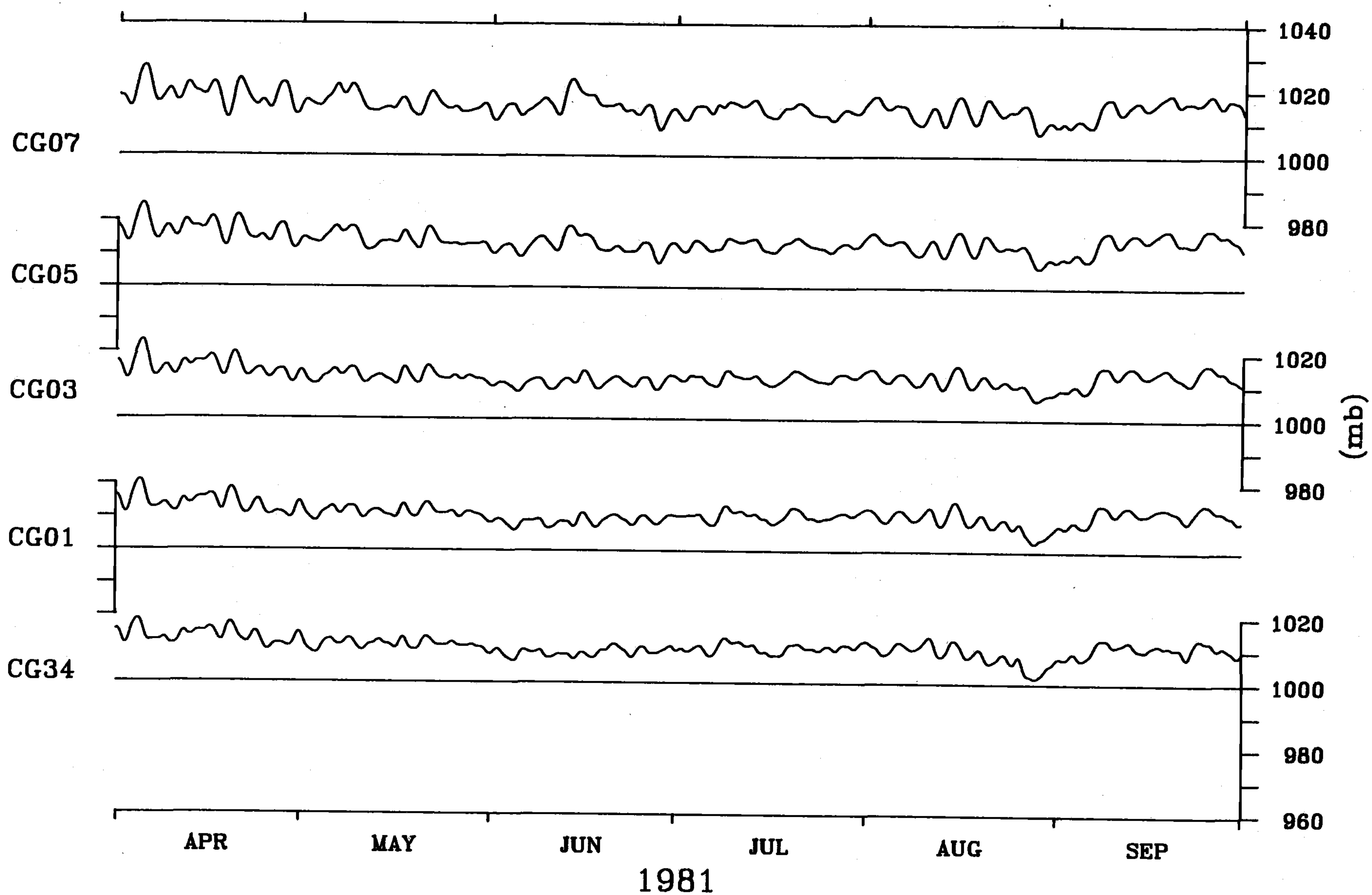
Calculated Atmospheric Pressure



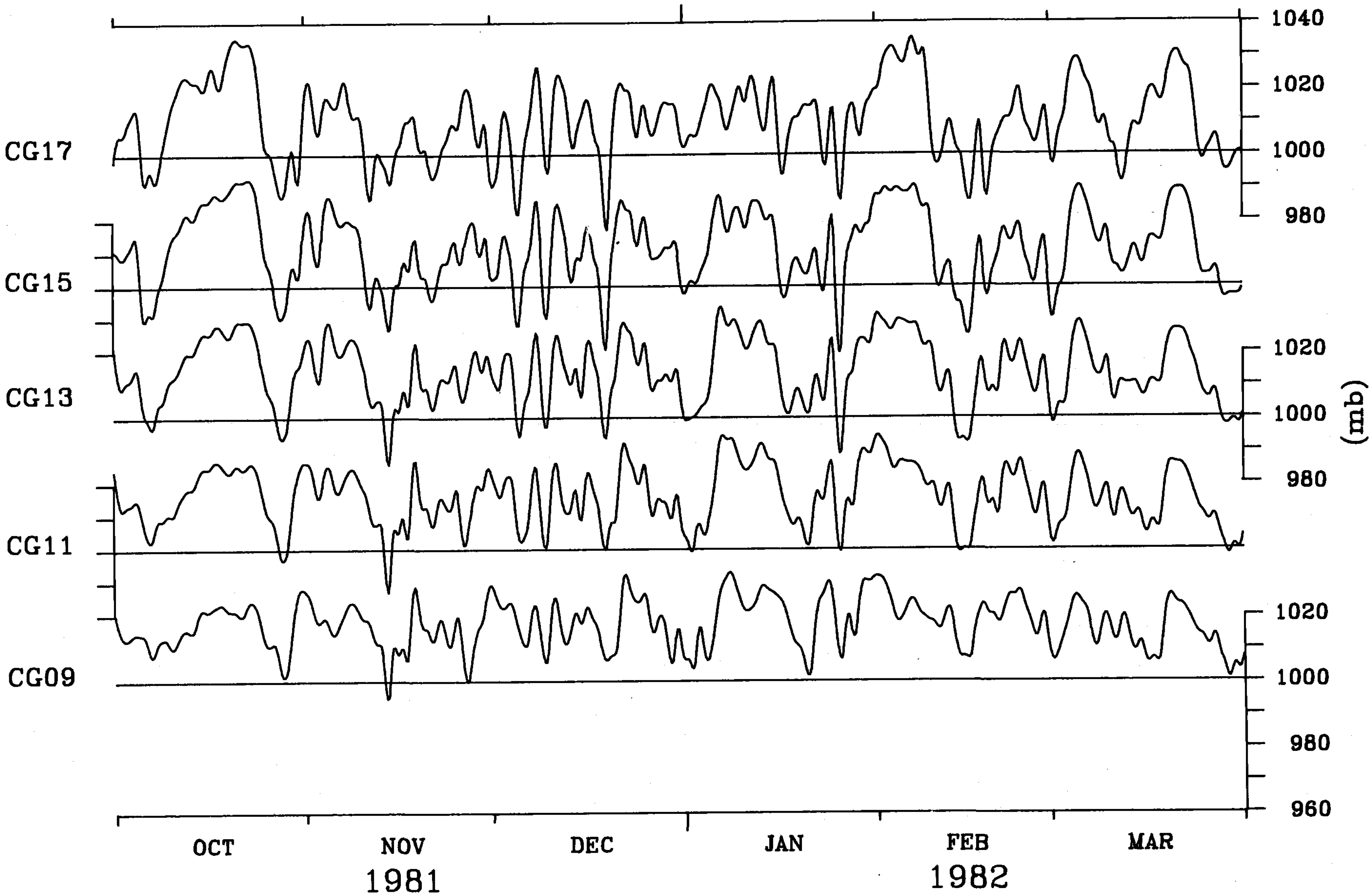
Calculated Atmospheric Pressure



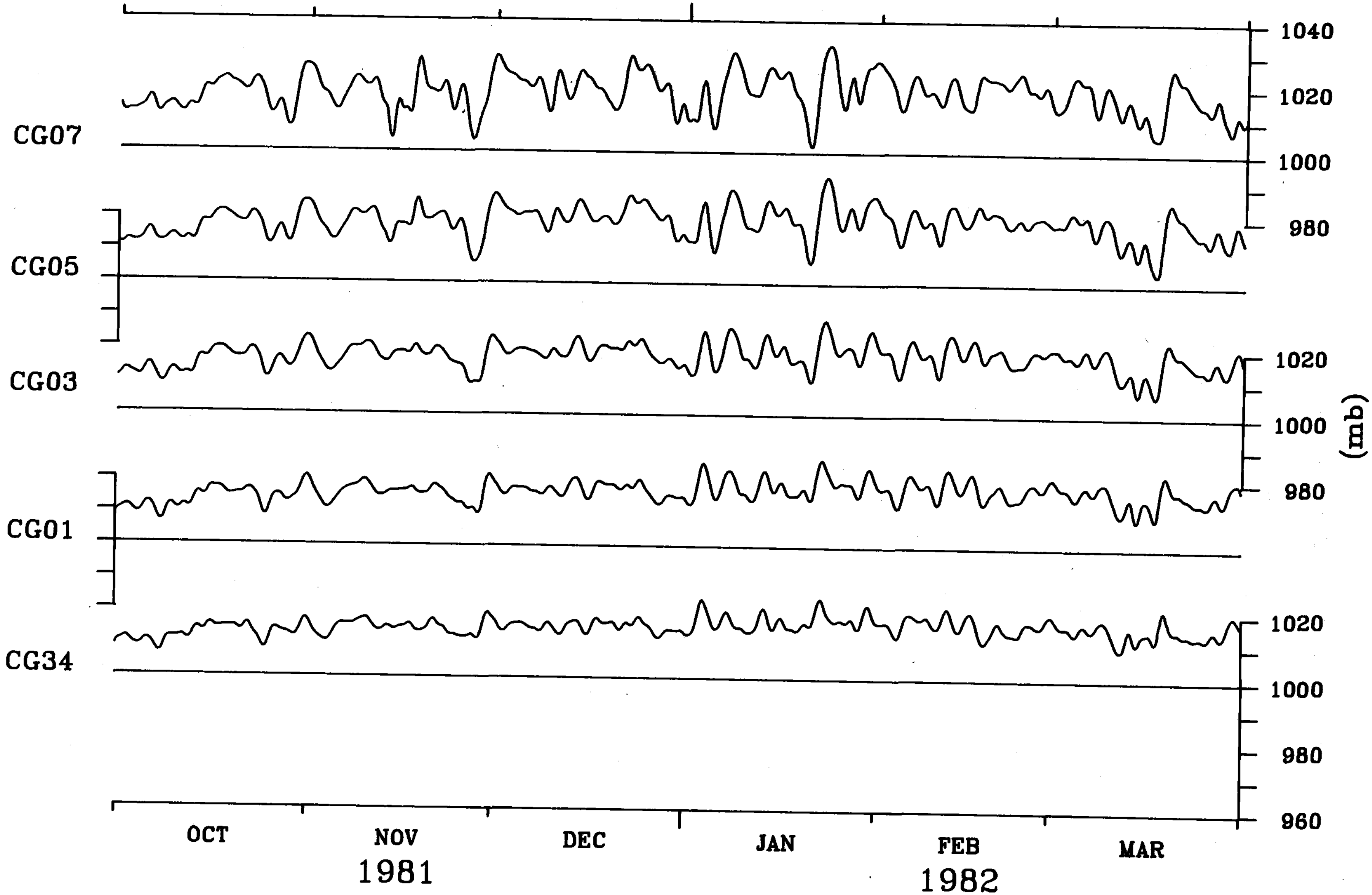
Calculated Atmospheric Pressure



Calculated Atmospheric Pressure

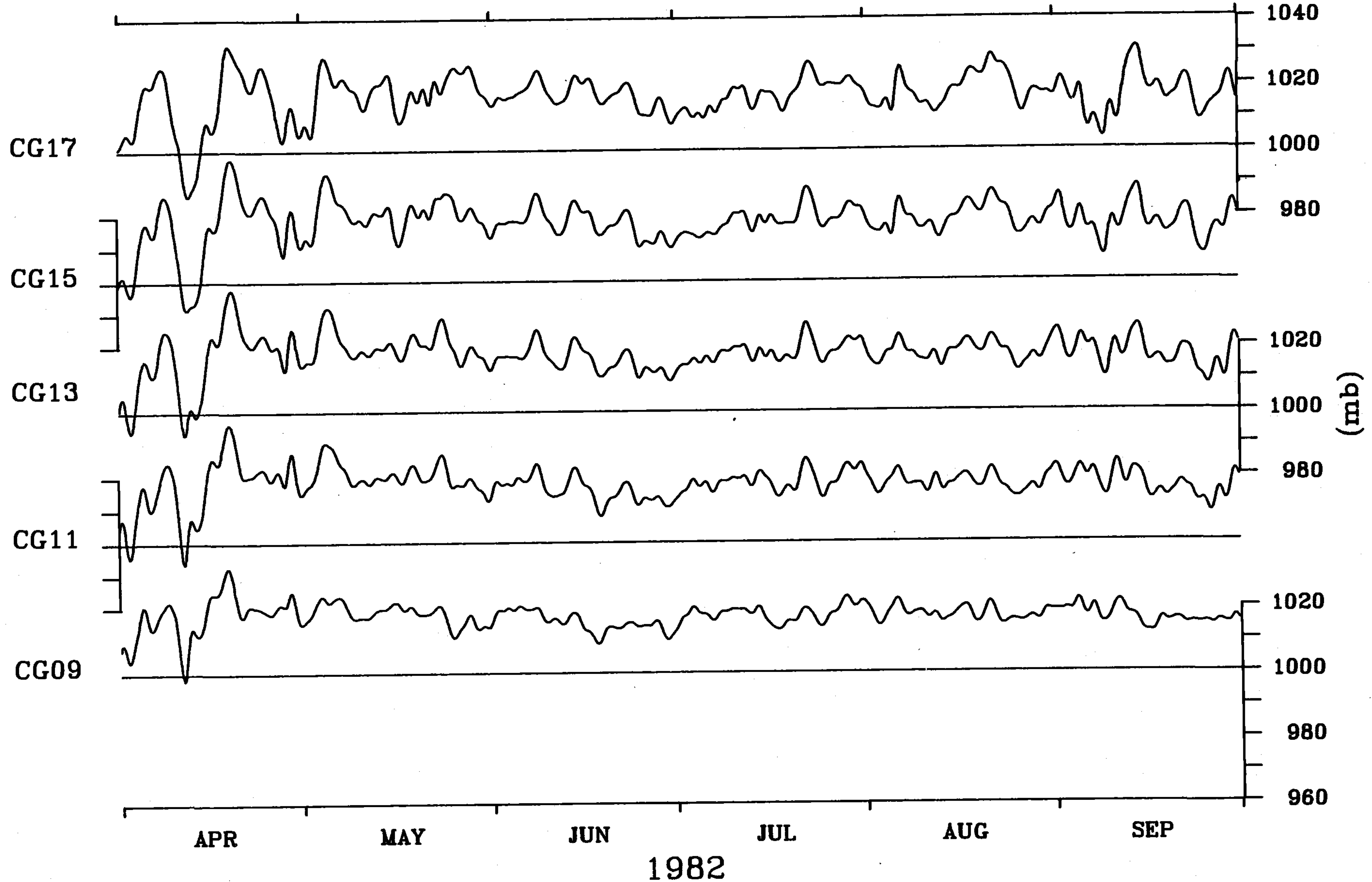


Calculated Atmospheric Pressure

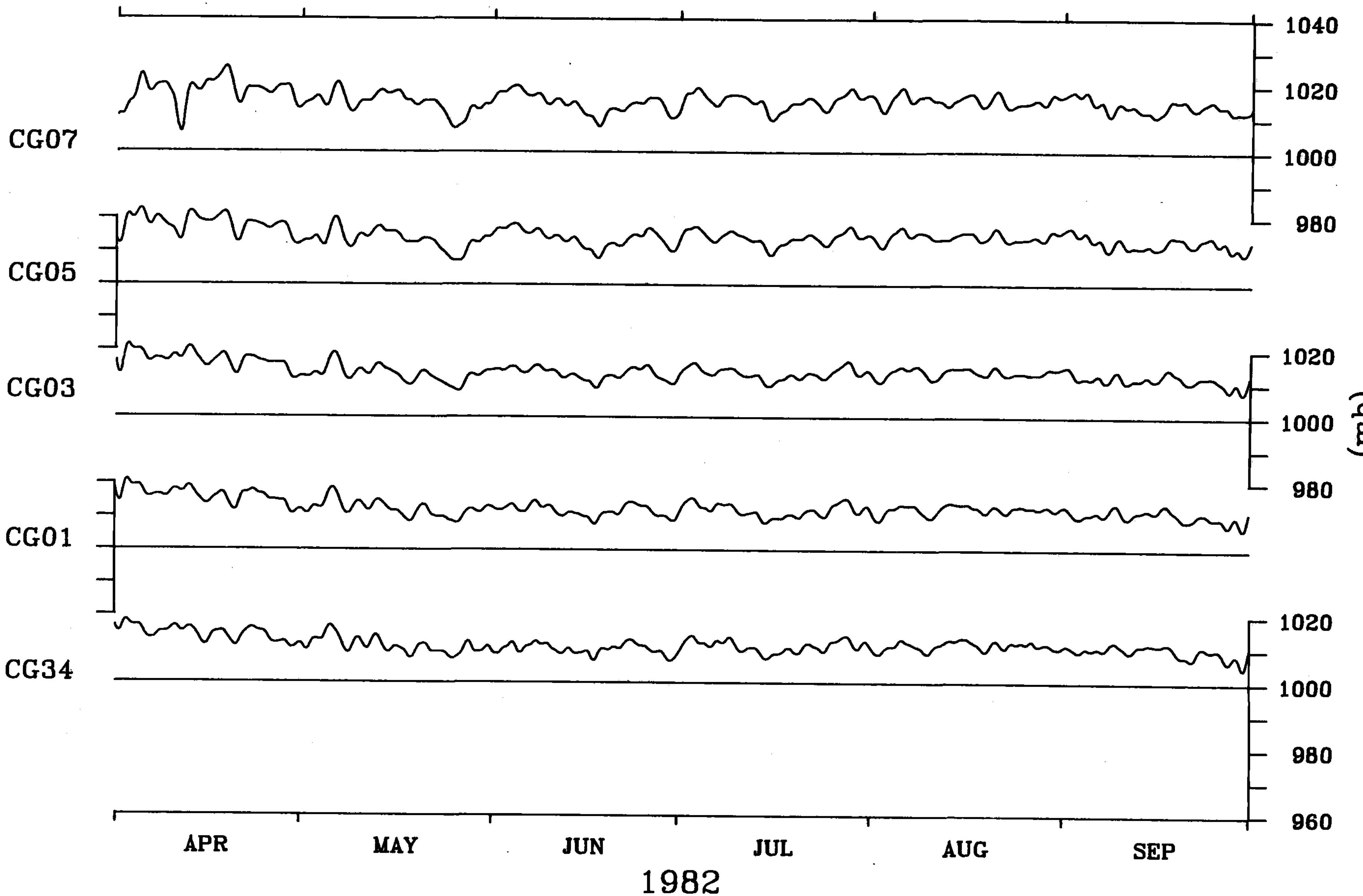


Calculated Atmospheric Pressure

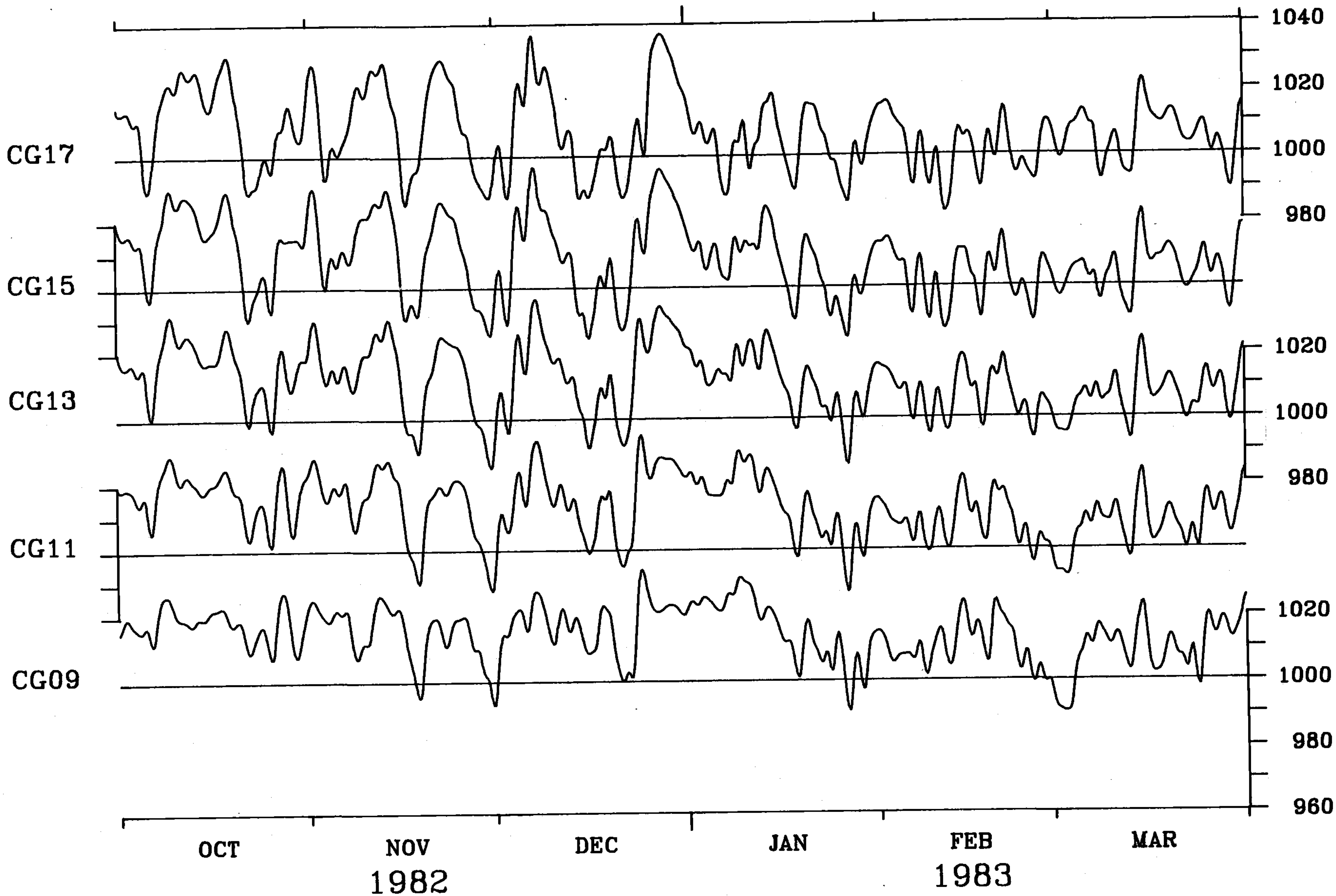
10.12



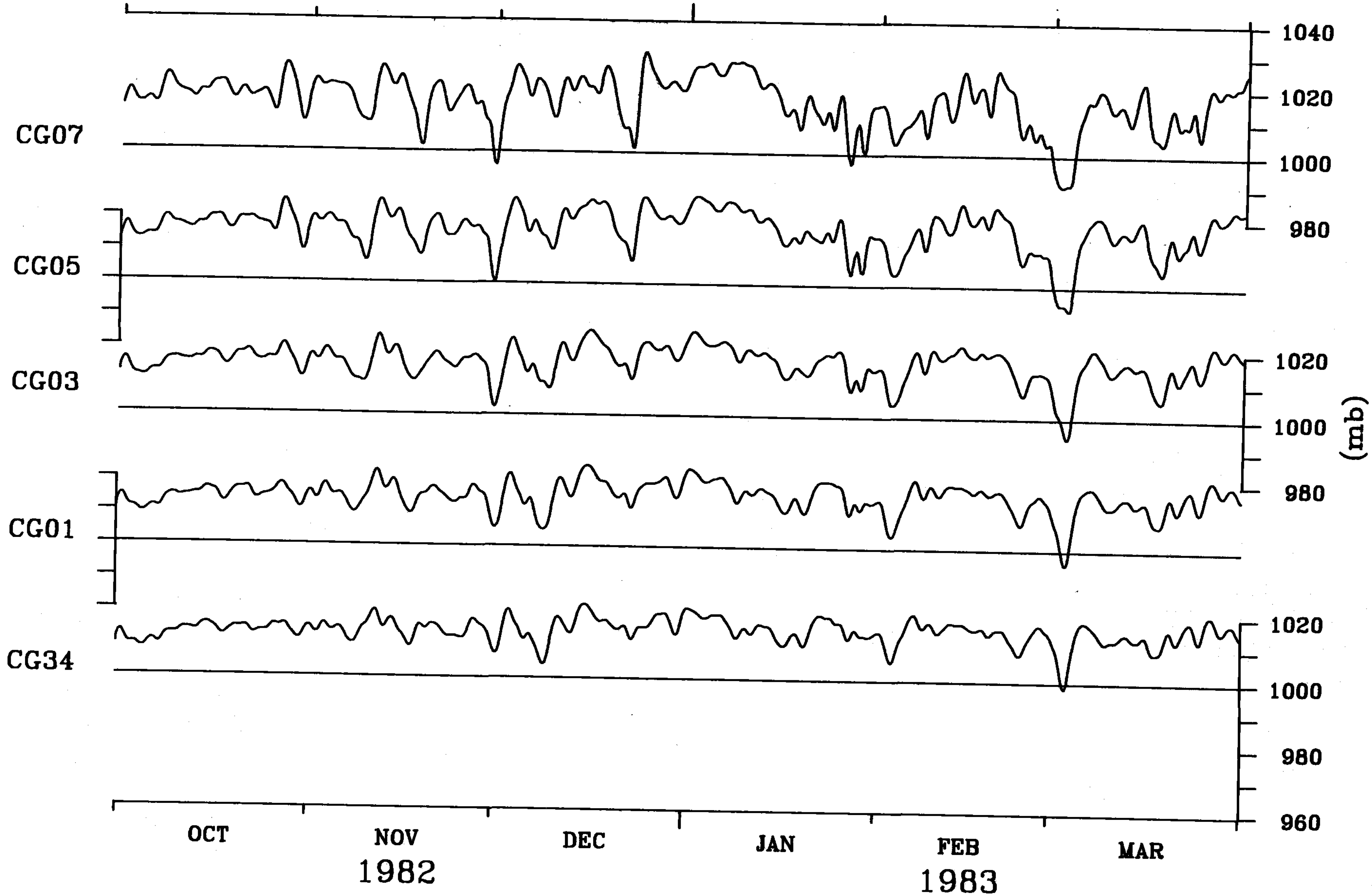
Calculated Atmospheric Pressure



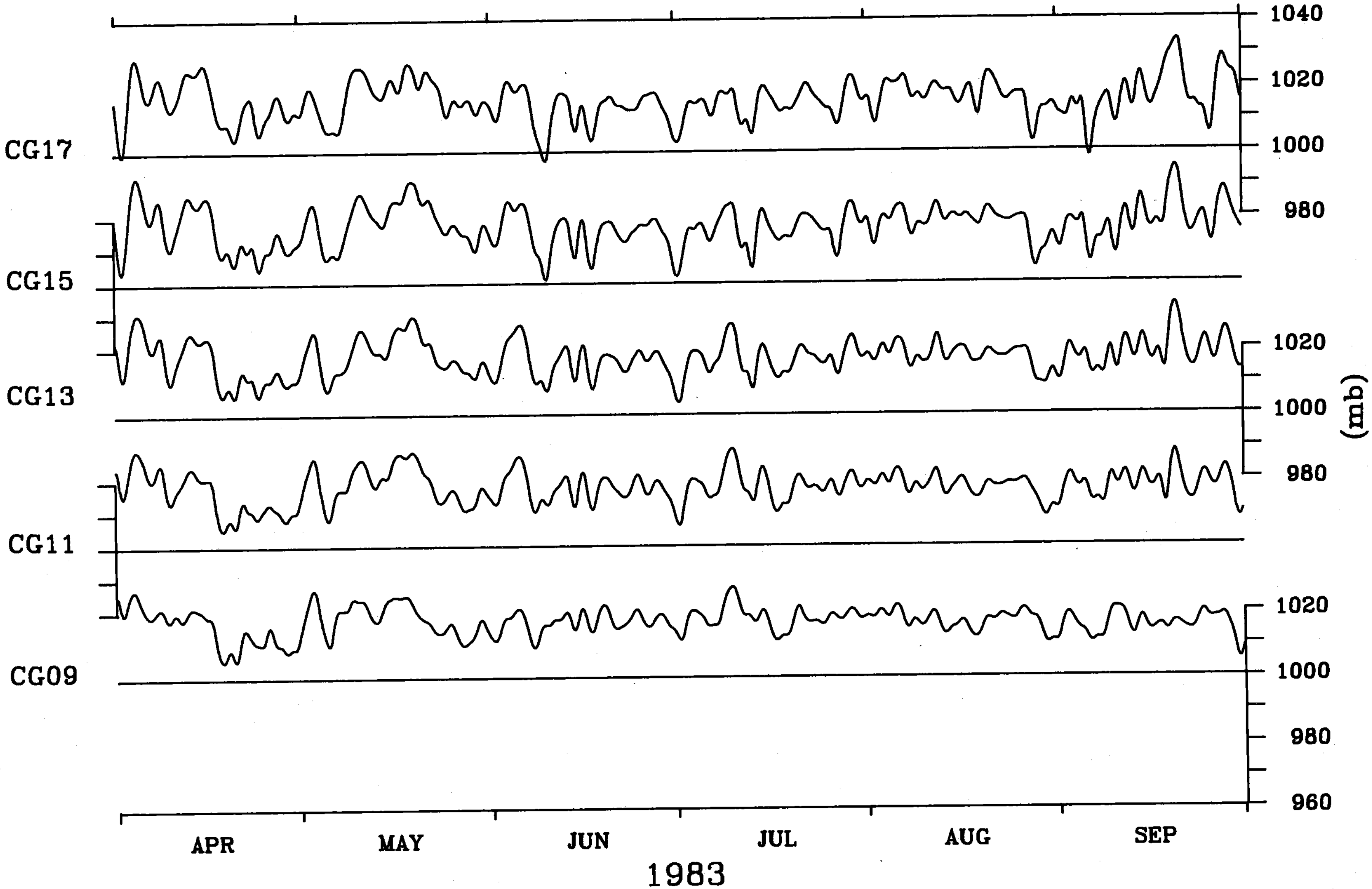
Calculated Atmospheric Pressure



Calculated Atmospheric Pressure

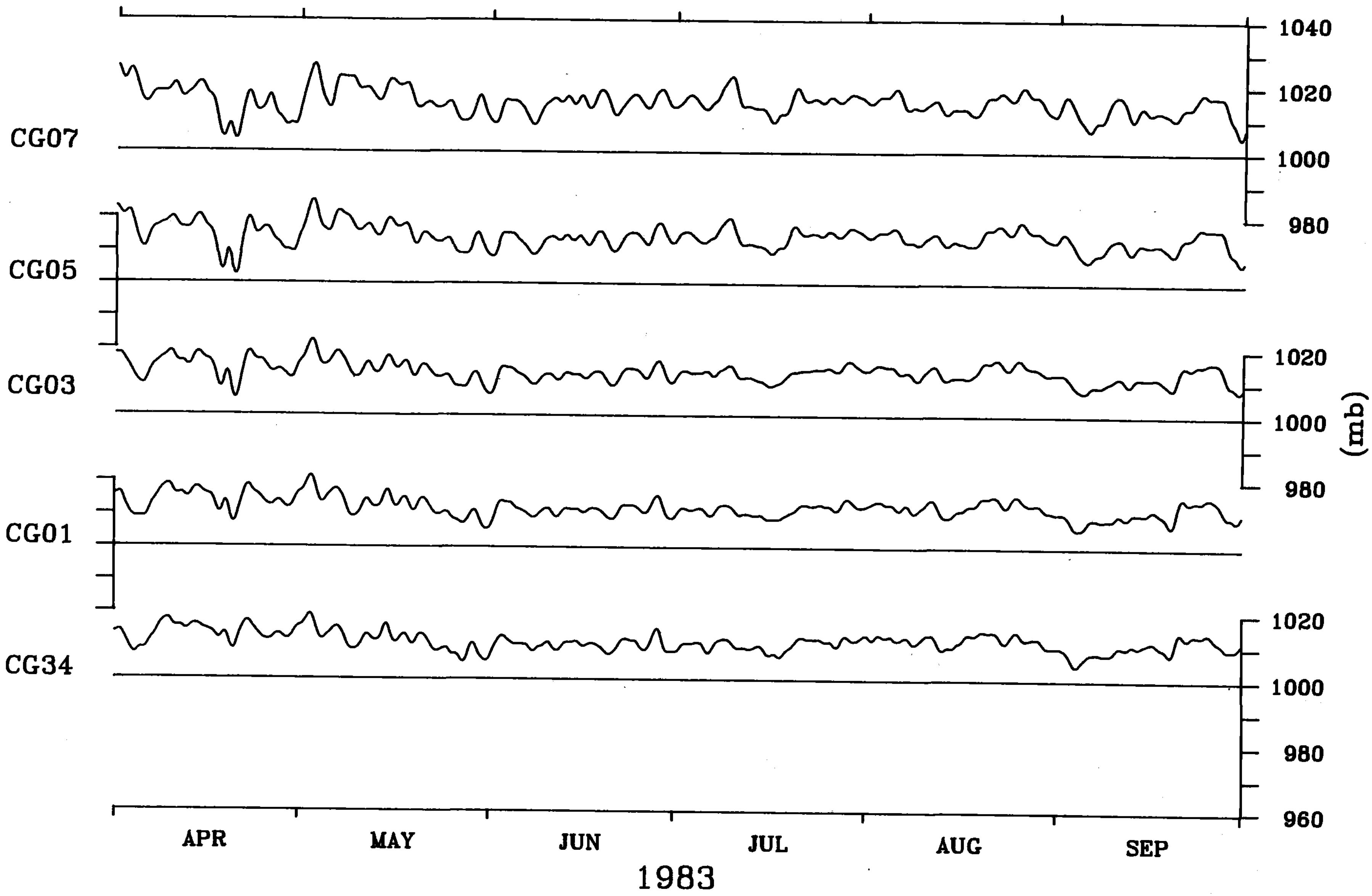


Calculated Atmospheric Pressure

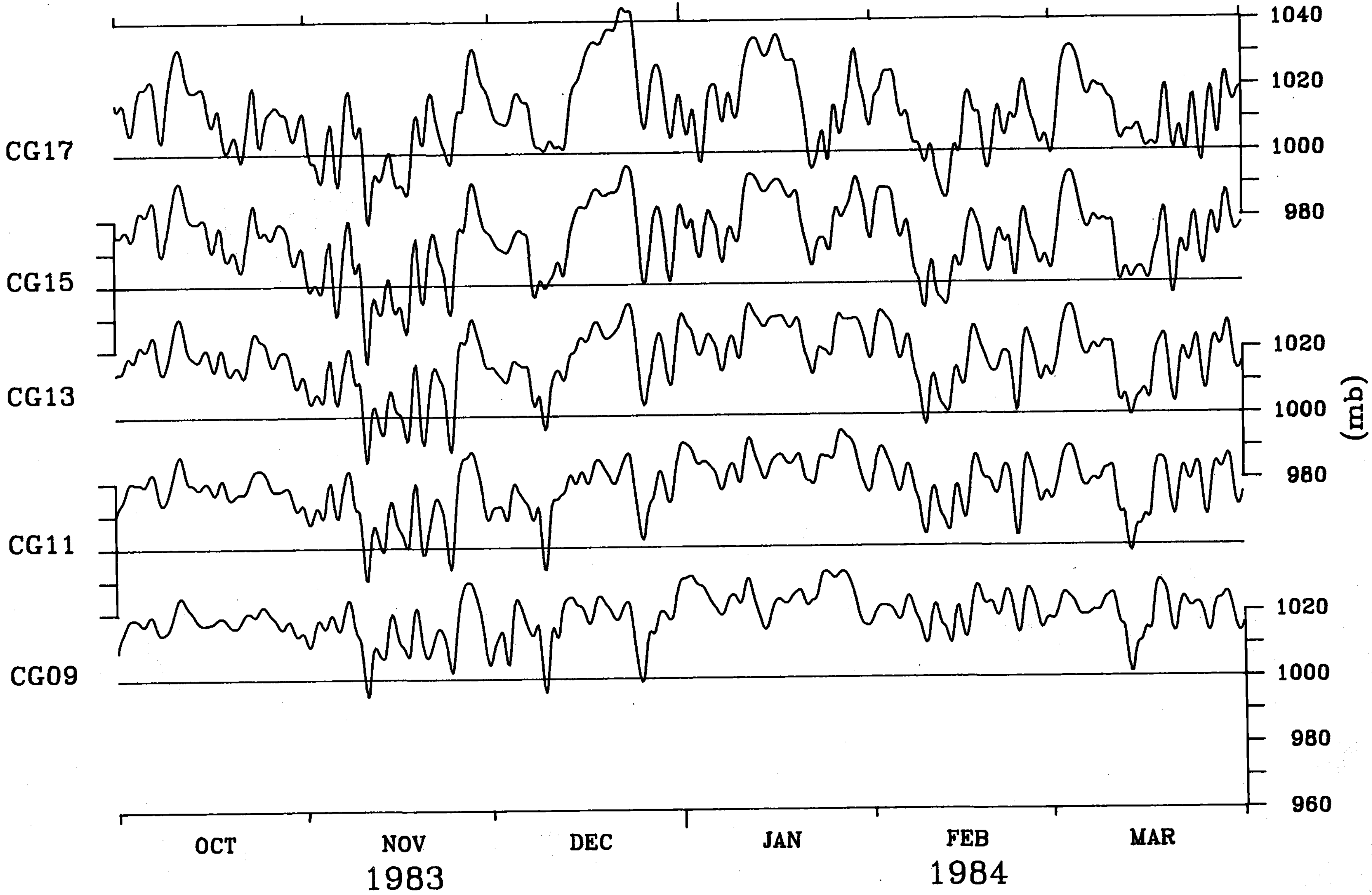


Calculated Atmospheric Pressure

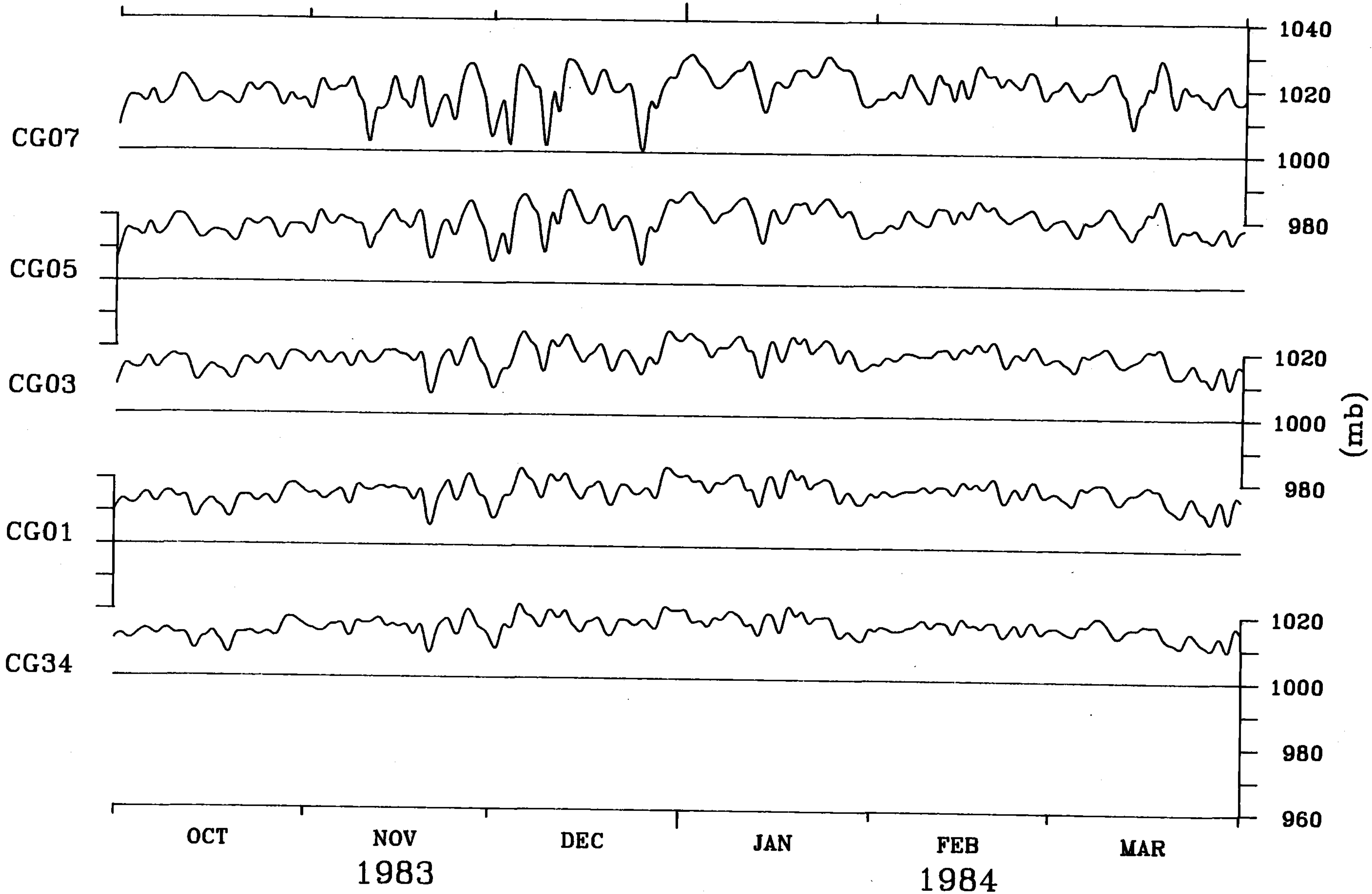
10.17



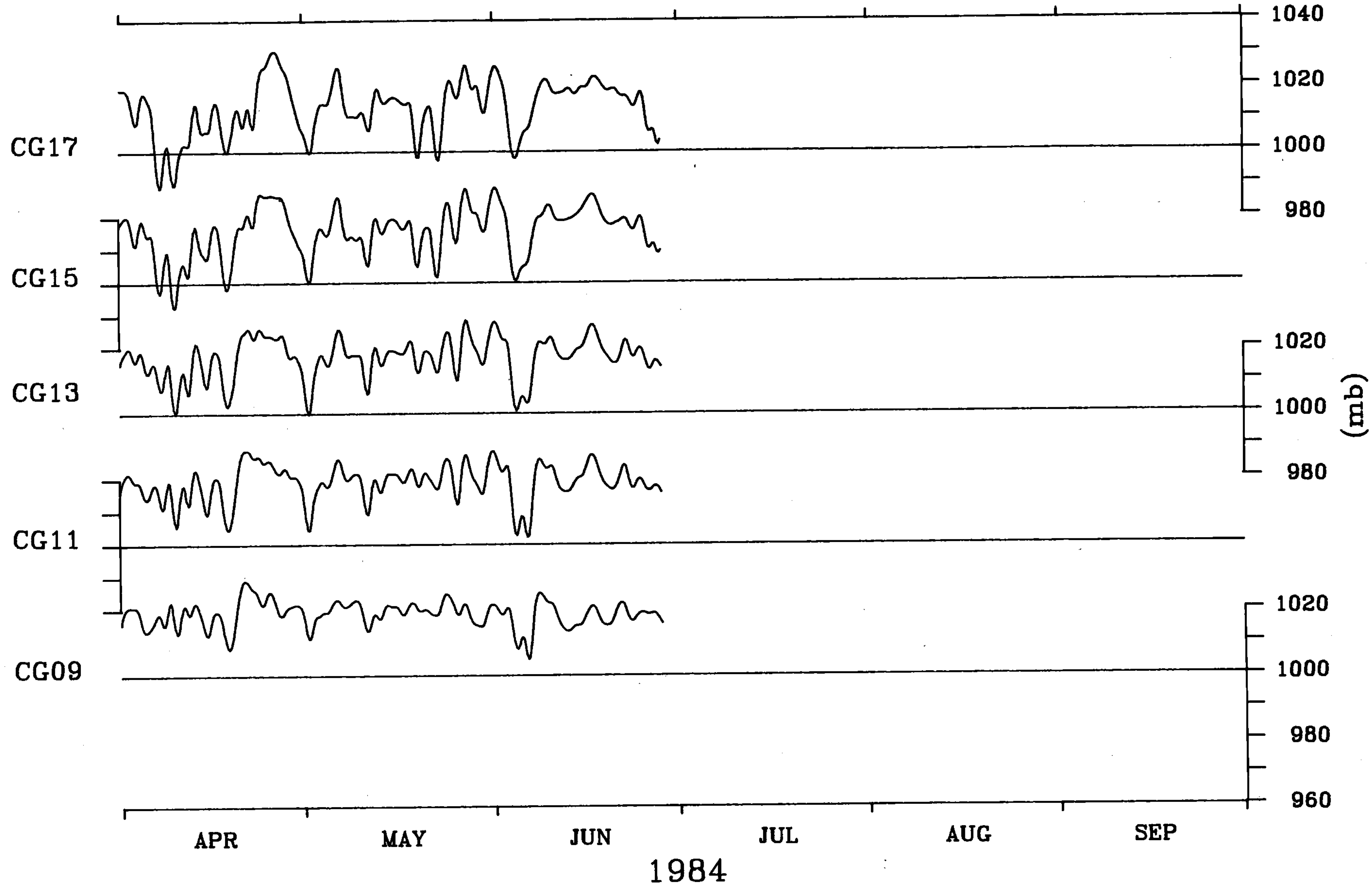
Calculated Atmospheric Pressure



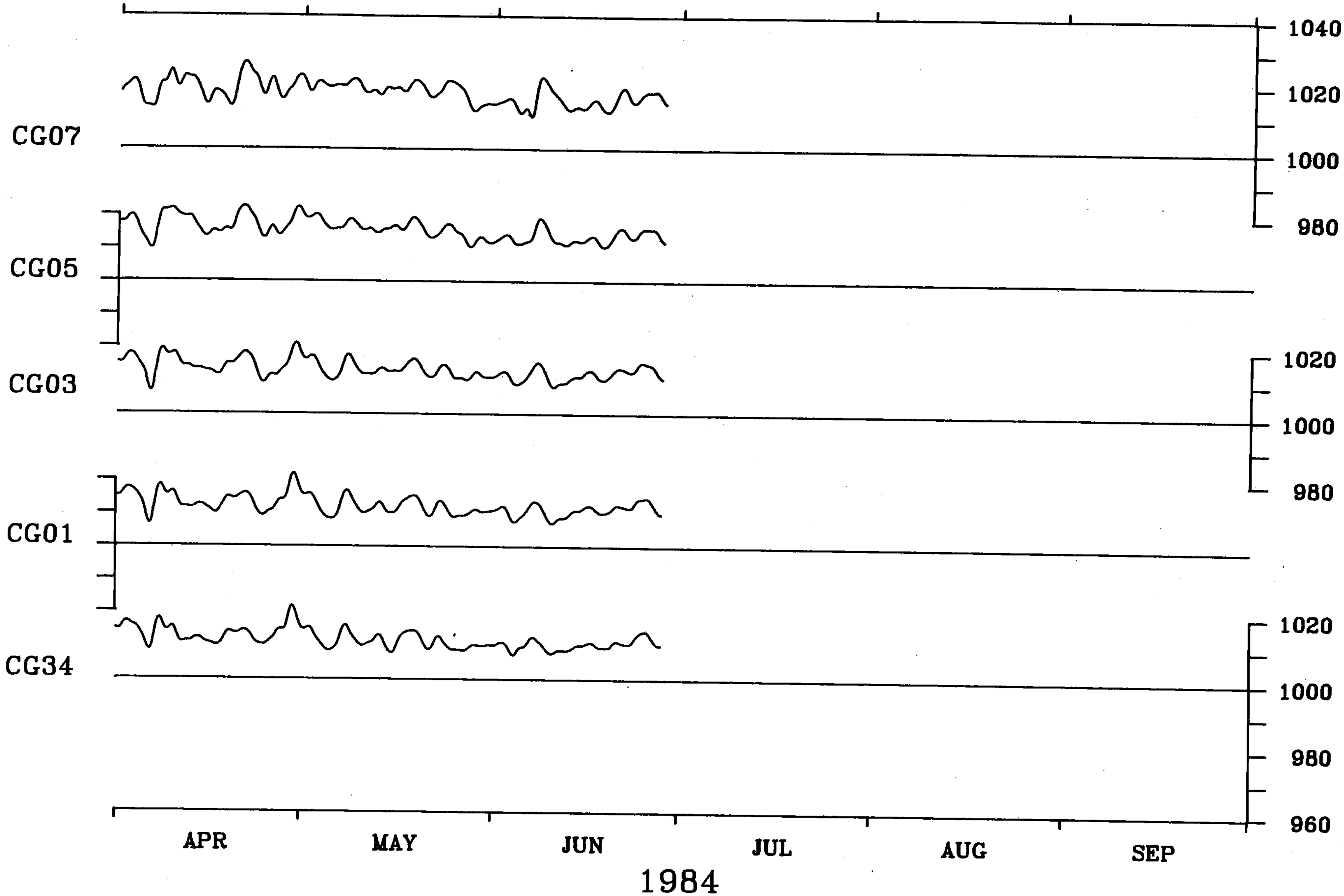
Calculated Atmospheric Pressure



Calculated Atmospheric Pressure

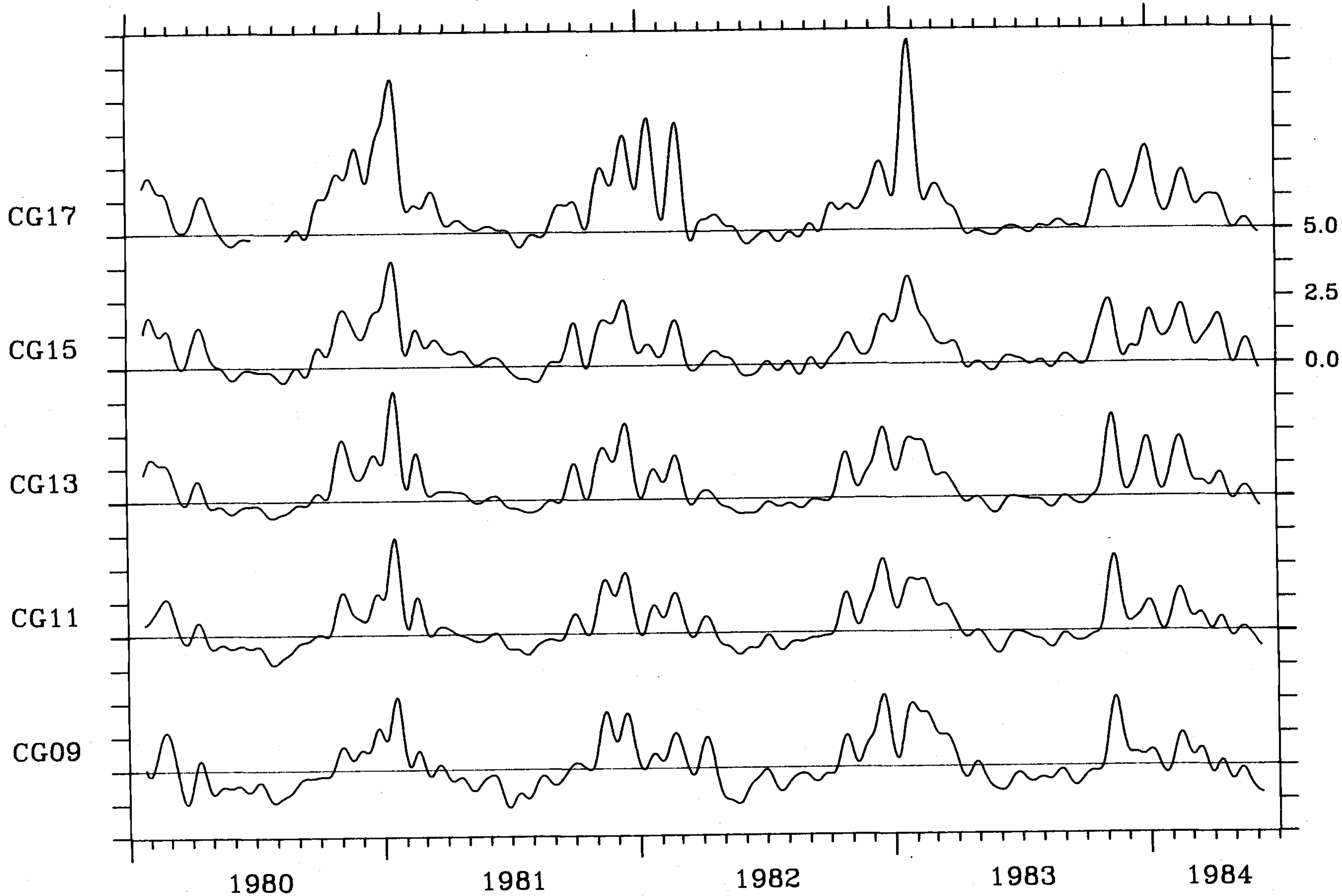


Calculated Atmospheric Pressure



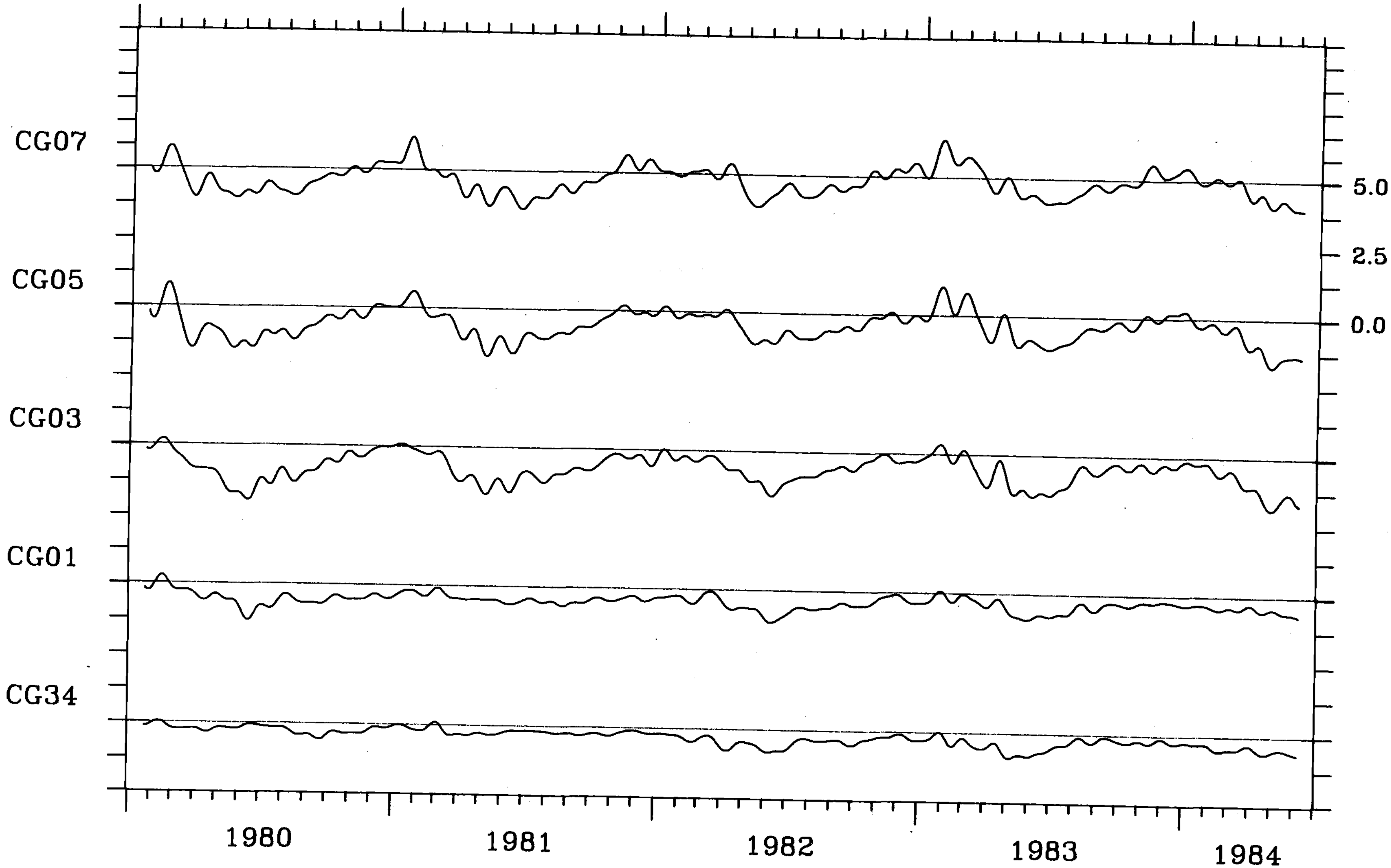
Calculated Atmospheric Pressure

11. VLP Time Series Plots.

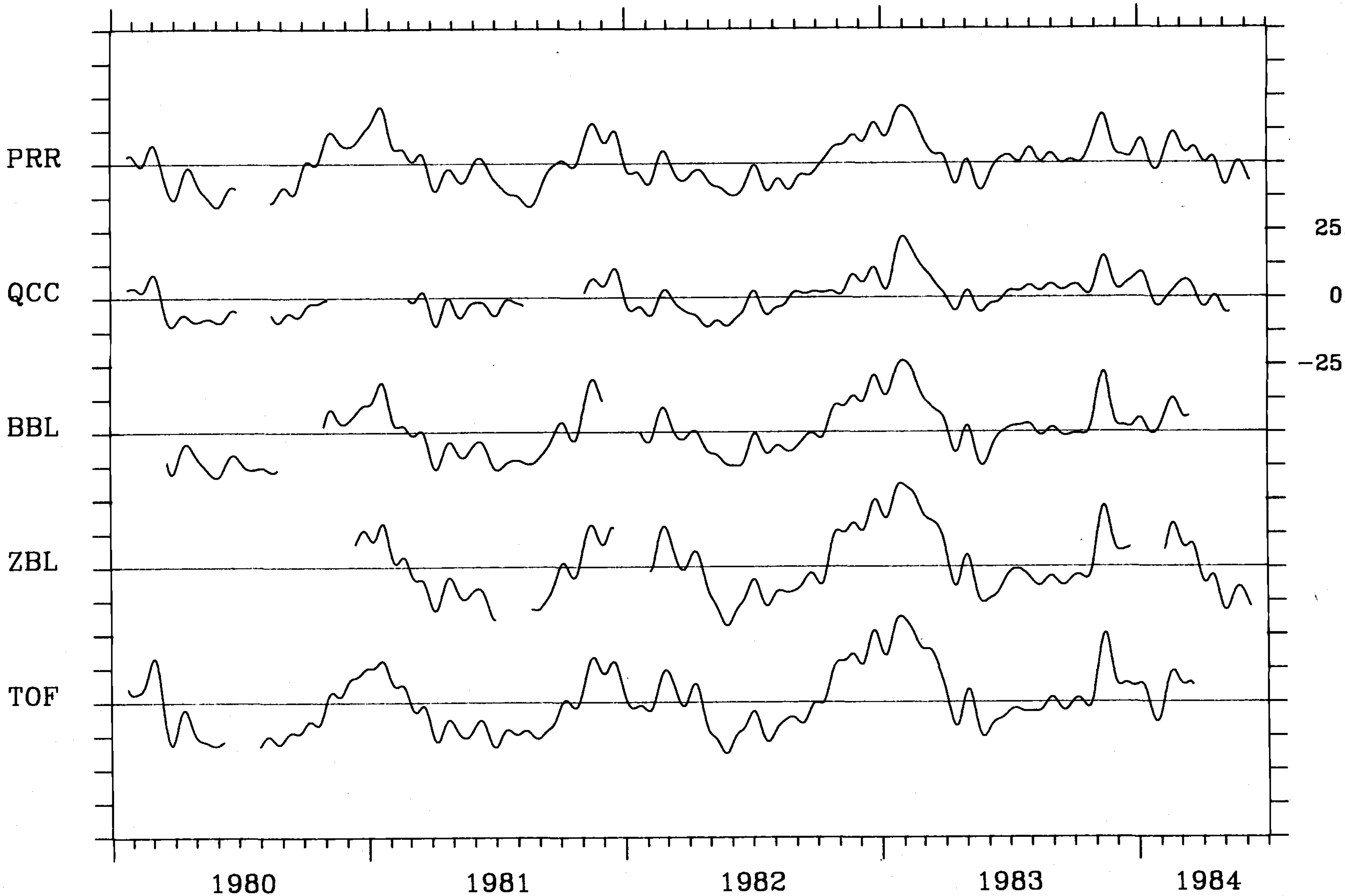


VLP Calculated Alongshore Wind Stress

11.3

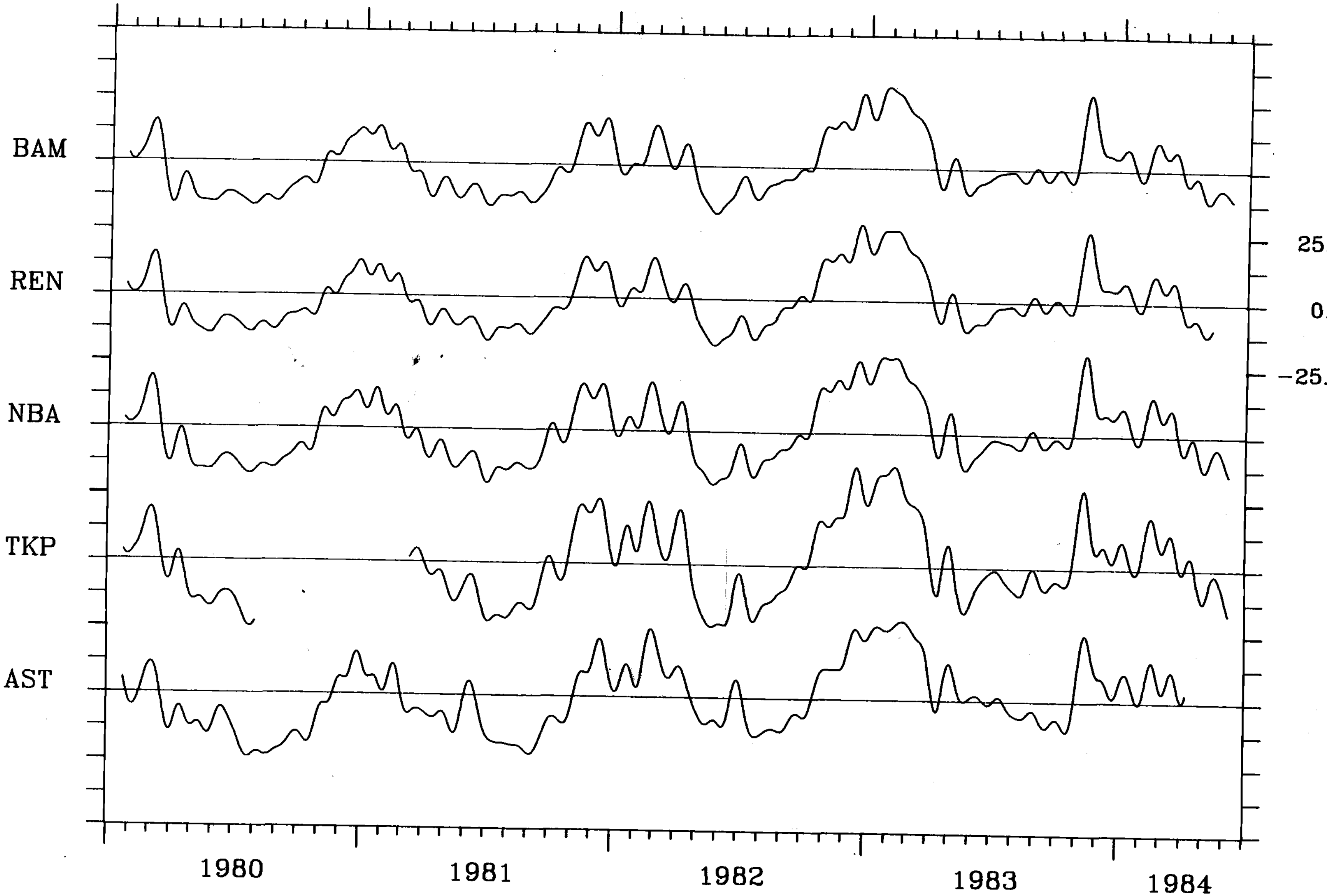


VLP Calculated Alongshore Wind Stress

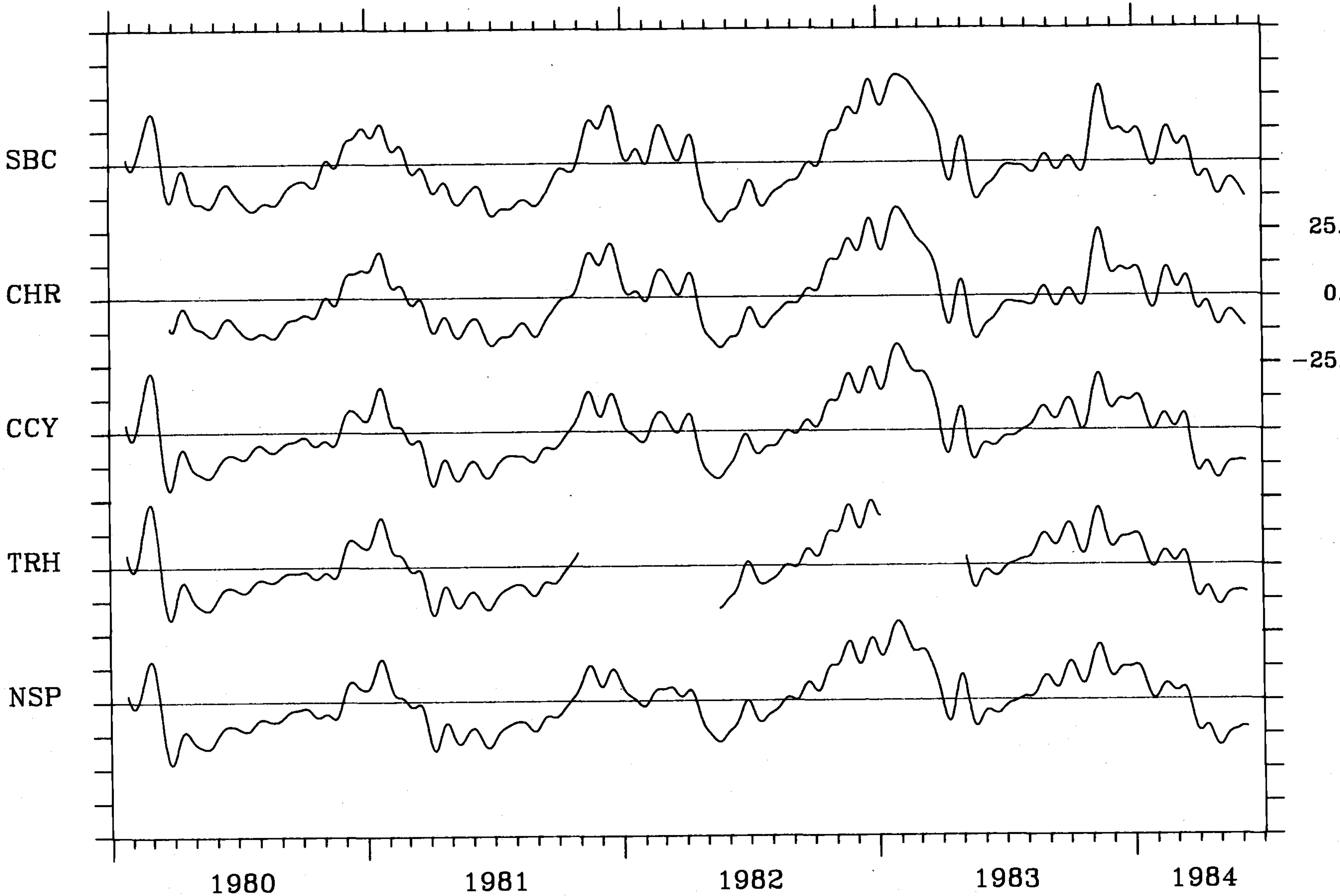


VLP Adjusted Sea Level

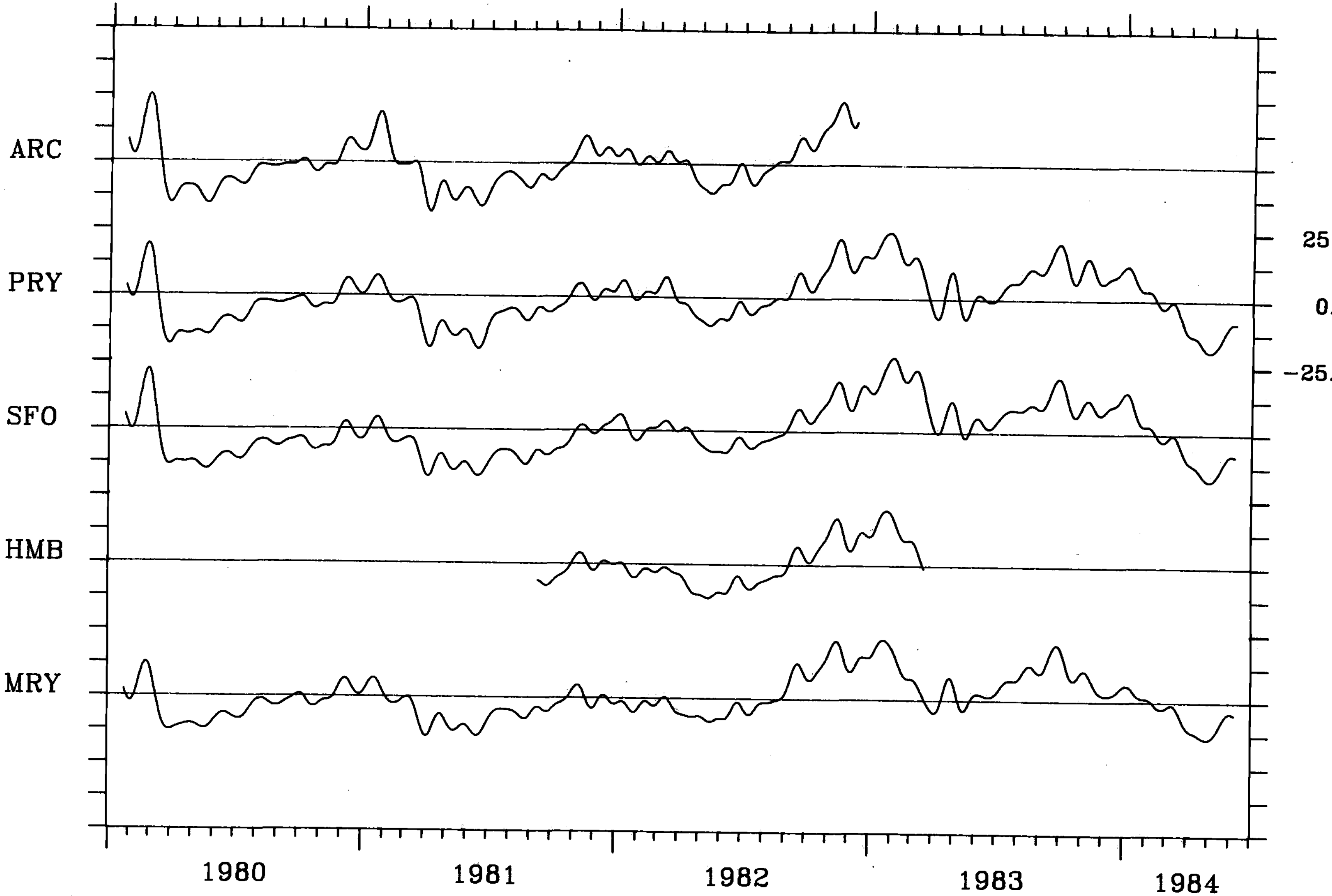
11.6



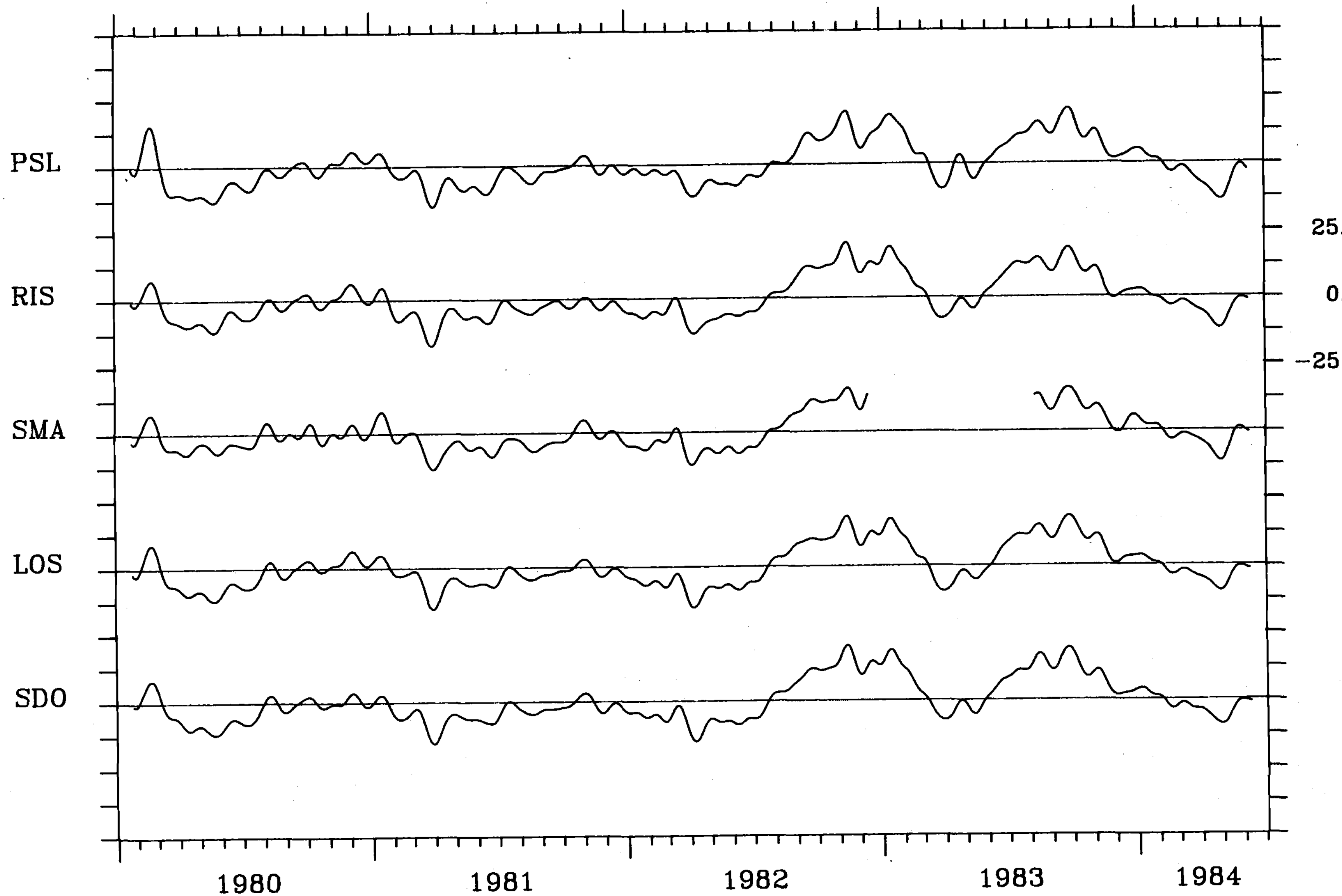
VLP Adjusted Sea Level



VLP Adjusted Sea Level



VLP Adjusted Sea Level



VLP Adjusted Sea Level