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NASA TMX-69888

THE NIMBUS 4 DATA CATALOG

VOLUME 1

18 APRIL THROUGH 22 MAY 1970

DATA ORBITS 131–600

GODDARD SPACE FLIGHT CENTER

GREENBELT, MARYLAND

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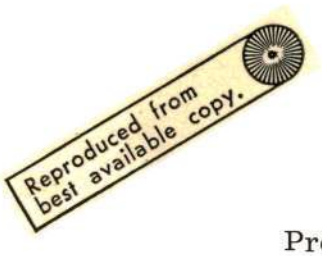

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Concord, Massachusetts

For the

Nimbus Project

August 1970

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland

FOREWORD

This is the first volume of a series of catalogs published by the National Aeronautics and Space Administration to document data acquired from the Nimbus 4 Meteorological Satellite. This volume covers the period from 18 April through 22 May 1970. It is anticipated that Volume 2 will contain documentation from 23 May through 30 June 1970 with subsequent catalogs containing documentation for succeeding calendar months throughout the useful lifetime of Nimbus 4.

The Nimbus 4 catalogs present the type of data available, anomalies in the data, if any, and geographic location and time of the data. In addition, this first volume presents some preliminary results from various Nimbus 4 experiments.

Background information concerning the Nimbus 4 Meteorological Satellite system and a description of the experiments and data formats have been published separately in the Nimbus IV User's Guide, with post-launch User's Guide information changes and corrections included in this volume.

The assembly and editing of this catalog was accomplished by the Geophysics and Aerospace Division of Allied Research Associates, Inc. (ARA), Concord, Massachusetts under contract number NAS 5-10343 with the Goddard Space Flight Center, NASA, Greenbelt, Maryland.

Harry Press
Nimbus Project Manager
Goddard Space Flight Center

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SECTION 1

PRELIMINARY EVALUATIONS OF THE NIMBUS 4 EXPERIMENTS

1.1 Introduction

1.1.1 General

Nimbus 4 was successfully launched from the Western Test Range at Vandenberg AFB, California, into a near circular orbit (587 X 593 n. mi.) at 08hr 17m 57 sec Universal Time on 8 April 1970.

All subsystems have been performing satisfactorily, resulting in a very high data rate collection. From launch (8 April 1970) through 17 April 1970 the Nimbus 4 spacecraft operation consisted of spacecraft system check-out and engineering and data evaluation. As a result of this effort, data reception, accountability, and processing were intermittent during this period. This catalog reflects documentation from 18 April 1970 through 22 May 1970.

The sensory data output and total operating time from orbit 131 on 18 April through orbit 600 on 22 May were as follows:

IDCS	6403 frames (pictures)
THIR	782 hours
SIRS	782 hours
FWS	782 hours
SCR	782 hours
MUSE	782 hours
IRIS	782 hours
BUV	782 hours
IRLS	874 frames (data)

Gridding of the Nimbus 4 pictorial data (IDCS and THIR) is generally accurate to within ± 1 degree of great circle arc at the satellite subpoint. Mean satellite attitude errors have been less than 0.5 degree of nadir.

Data from the High Data Rate Storage Subsystem (HDRSS) B has been excellent. However, a flutter in the HDRSS A, at approximately 100 Hz, has affected both the analog and digital IDCS, THIR and IRIS data. This flutter was first observed around orbit 450.

Quality of the sensory data varies from satisfactory to excellent. The following subsections 1.2 to 1.11 summarize the operational highlights of the experiments and call attention to known data anomalies in this catalog period.

The user is referred to the Nimbus IV User's Guide for a complete description of the Nimbus 4 experiments.

1.1.2 Corrections to Section 1 of the Nimbus IV User's Guide

The National Weather Records Center (NWRC) has been renamed National Climatic Center (NCC). Requests for IDCS photographic data and SIRS digital data should henceforth be addressed to the National Climatic Center, Environmental Science Services Administration, Federal Building, Asheville, North Carolina 28801.

The following paragraphs should be added to Section 1.7 on page 10:

When ordering data from either the National Space Science Data Center or the World Data Center, a user should specify why the data are needed, the subject of his work, the name of the organization with which he is connected, and any Government contracts he may have for performing his study.

When a user requests data on magnetic tapes, he should provide additional information concerning his plans for using the data, e.g., what computers and operating systems will be used. In this context, the National Space Science Data Center is compiling a library of routines which can unpack or transform the contents of many of the data sets into formats which are more appropriate for the user's computer. NSSDC will provide upon request information concerning its services.

When requesting data on magnetic tape, the user must specify whether he will:

1. Supply new tapes prior to the processing, or
2. Return the original NSSDC tapes after the data have been copied.

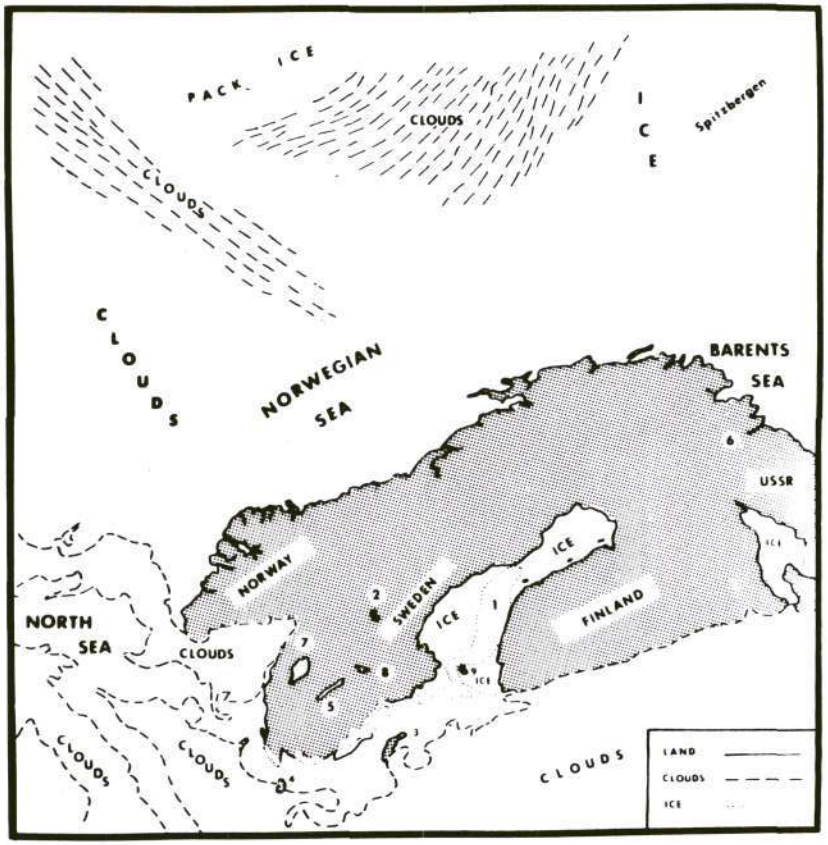
1.2 The Image Dissector Camera System (IDCS) Experiment

The Image Dissector Camera System performance has been satisfactory. Pictures from HDRSS B are of good quality (see Figure 1-1). HDRSS A video playbacks, with 100Hz flutter interference, have a somewhat reduced image quality.

The resolution of the IDCS (2 to 3 n. miles at the subsatellite point) and the system transfer function which tends to favor gray scale tonal rendition near the white end of the gray scale, are well suited for the IDCS intended purpose of cloud mapping.

THIR 6.7 micrometer data have been substituted for IDCS for four orbits per day over the United States between 27 April (orbit 260) and 22 May (orbit 600) and for one to two orbits per day between 40^{o} and 70^{o} East longitude beginning with orbit 430 on 10 May, to satisfy special applications requiring the 6.7 micrometer data.

1.3 The Temperature-Humidity Infrared Radiometer (THIR) Experiment



IDCS ORBIT 68 13 APRIL 1970

1 - GULF of BOTHNIA
2 - L. SILJAN
3 - GOTLAND
4 - BORNHOLM
5 - L. VATTERN
6 - MURMANSK
7 - L. VANERN
8 - L. HJALMEREN
9 - AHVENANMAA
10 - WHITE SEA

Figure 1-1. Nimbus 4 IDCS Picture of Scandinavia

1.3.1 General

The quality of the THIR data from both channels (6.7 micrometers and 11.5 micrometers) has been good with no anomalies. Figures 1-2 and 1-3 show typical THIR pictures. The bolometer, housing and electronic temperatures were maintained at about 19°C, 19°C, and 23°C respectively through the first 600 orbits.

1.3.2 Corrections to Section 3 of the Nimbus IV User's Guide

The following should be added as item number "5" to Section 3.4.1.5 (p. 52) and as item number "8" on page 57:

5. General area of interest (e.g. Gulf of Oman) and latitude-longitude coordinate limits of area desired.

1.4 The Infrared Interferometer Spectrometer (IRIS) Experiment

The Nimbus 4 IRIS experiment has returned excellent data for the objectives[1] for which it was designed.

Exceptionally good data (interferograms) have been recorded and telemetered (see Figure 1-4). Of approximately 400 interferograms recorded per orbit, typically 2 to 15 are bad due to sync errors. Typical radiances at 3 different latitudes and surface conditions (reduced from data of orbit 29) are shown in Figure 1-5.

Comparison of responsivity, $K(\nu)$, and noise equivalent radiance (N.E.R.) of the instrument between orbits 33 and 617 show no detectable degradation of these two important parameters (see Figures 1-6 and 1-7). The absence of degradation indicates that optical alignment has not changed. The neon reference amplitude continues to decrease by approximately 40 millivolts per day. From the initial value of 2.8 volts, it has dropped 0.35 volts to its present value of 2.45 volts (see Figure 1-8).

The IRIS has been in passive thermal control since turn-on. Temperatures of the bolometer detector, on-board blackbody, beam splitter and radiating surface monitored during each orbit (or each interferogram) show that each component is operating within its specified temperature limits without the use of the heaters (active control). Figure 1-9 shows these temperature curves.

1.5 The Satellite Infrared Spectrometer (SIRS) Experiment

1.5.1 Instrument Performance

Shortly after activation during orbit 3, a wavelength calibration of the SIRS instrument was performed and showed no misalignment in the optical path had occurred during launch. The data obtained after the scan was initiated showed that the measurements

(1) Nimbus IV User's Guide, p. 66.

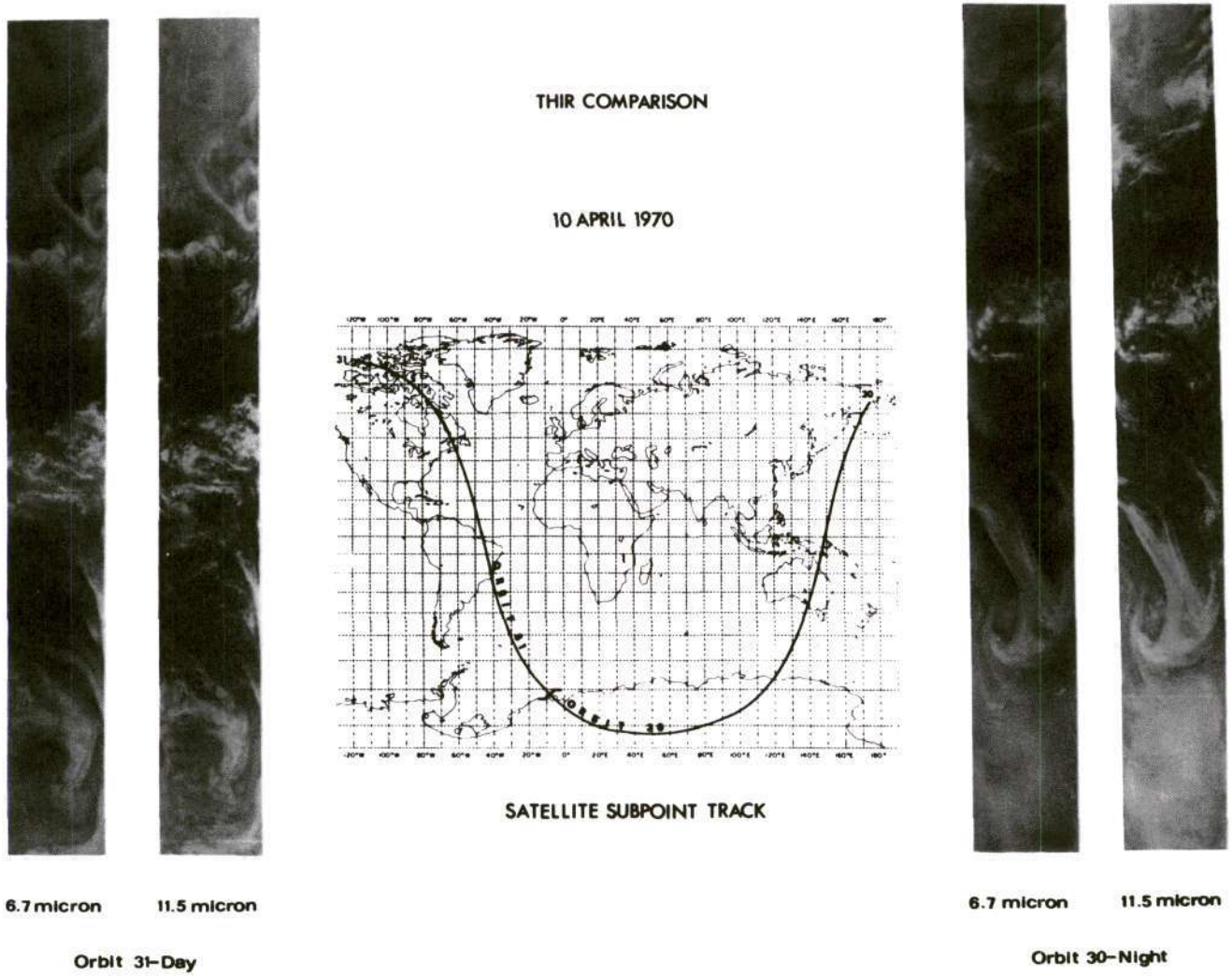


Figure 1-2. Nimbus 4 THIR Temperature and Humidity Channel Comparison

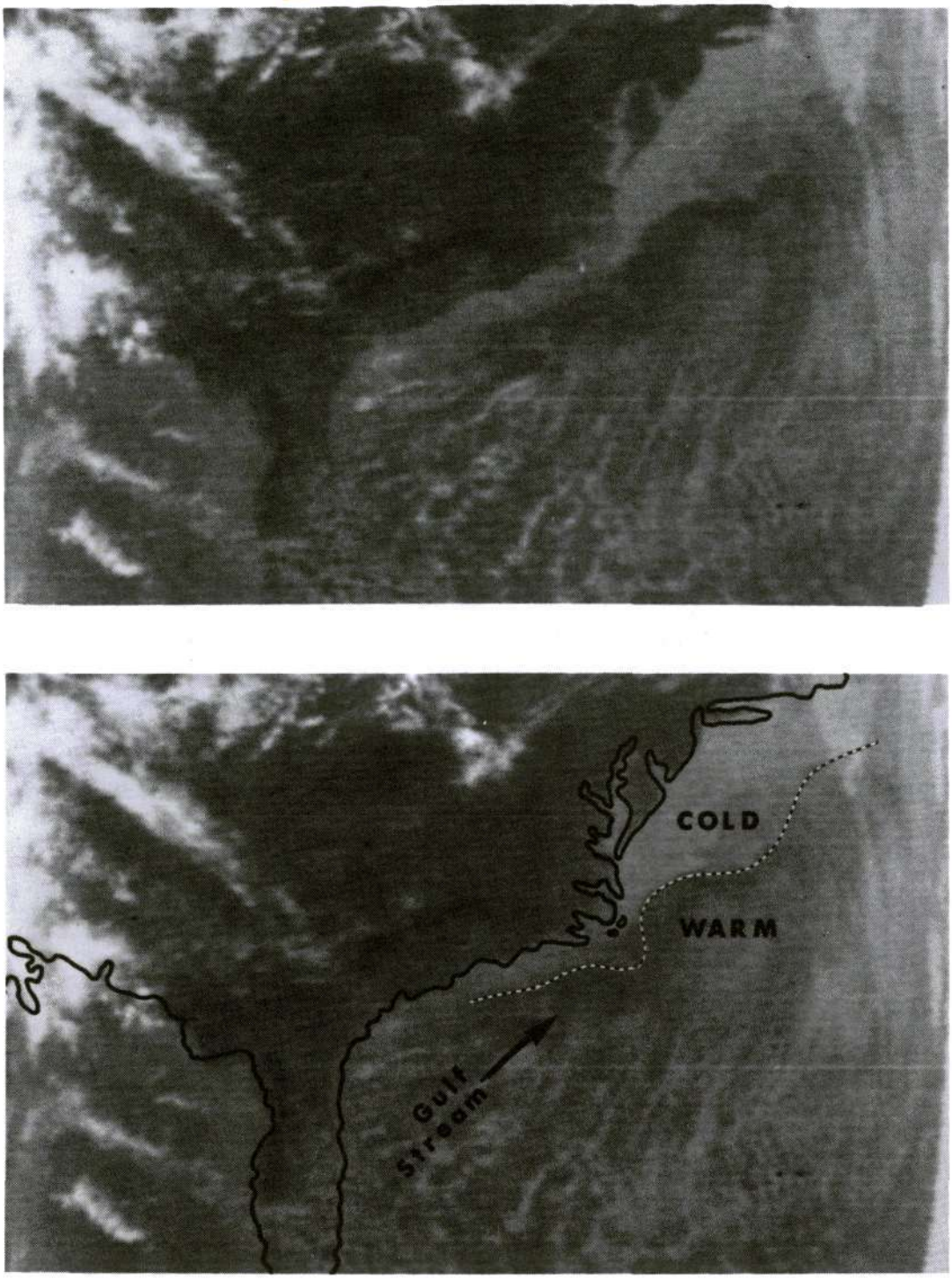


Figure 1-3. Nimbus 4 THIR (11.5 mic. channel) Showing the Gulf Stream Thermal Boundary

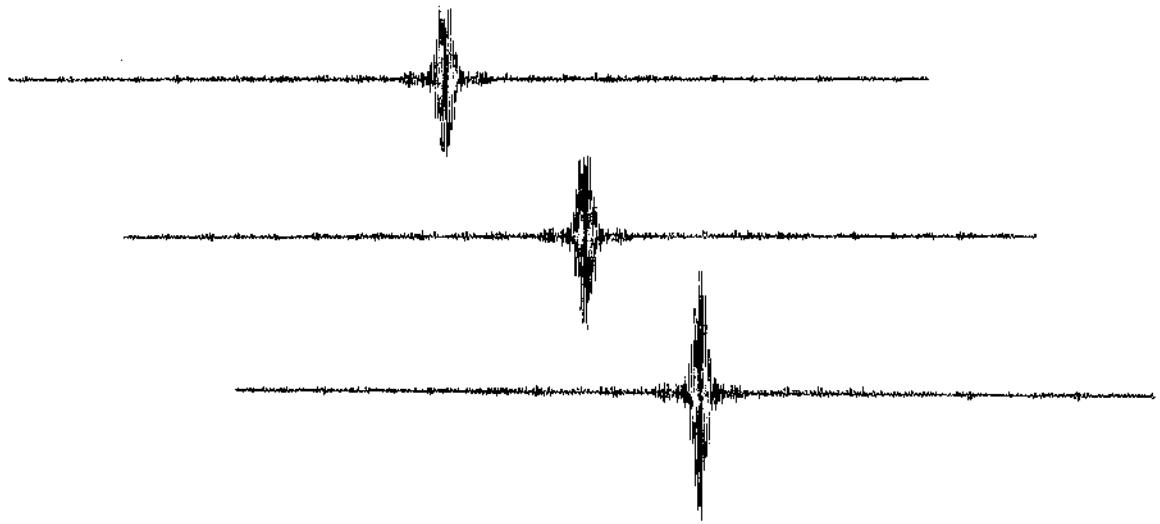


Figure 1-4. Typical Nimbus 4 IRIS Interferogram (from 4 May 1970, orbit 357)

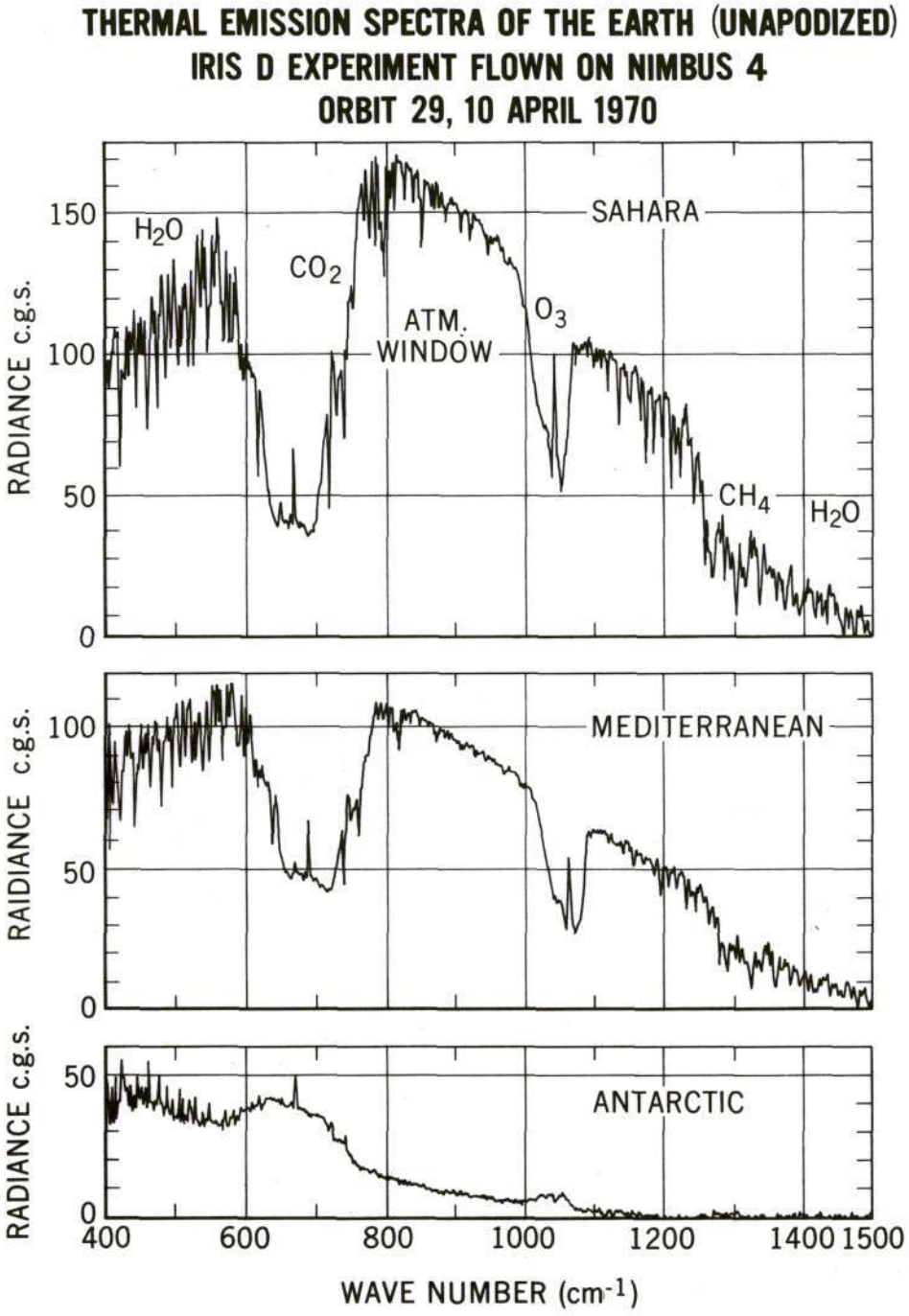


Figure 1-5. Nimbus 4 IRIS Thermal Emission Spectra of the Earth

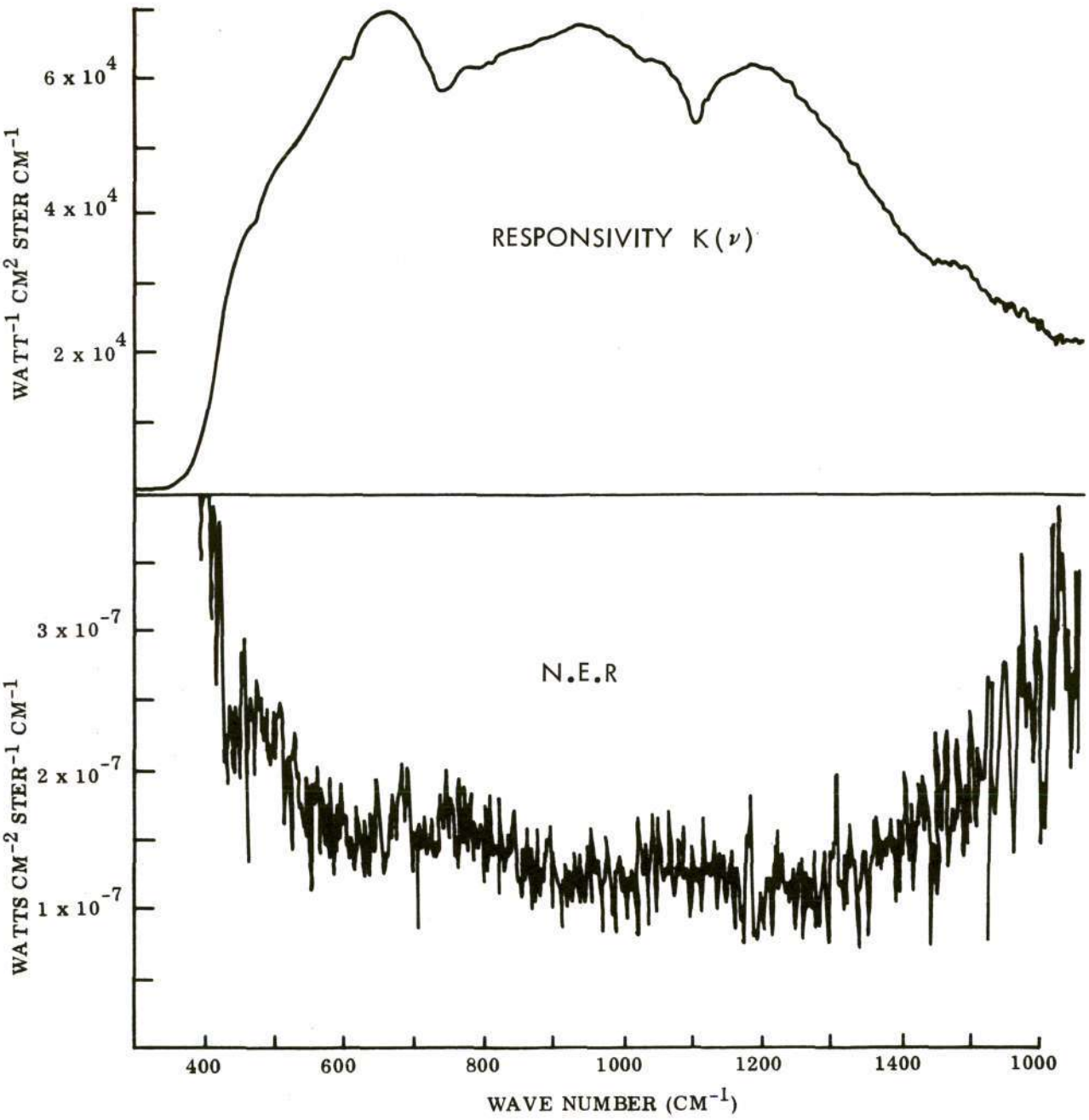


Figure 1-6. IRIS Responsivity and Noise Equivalent Radiance for Orbit 33

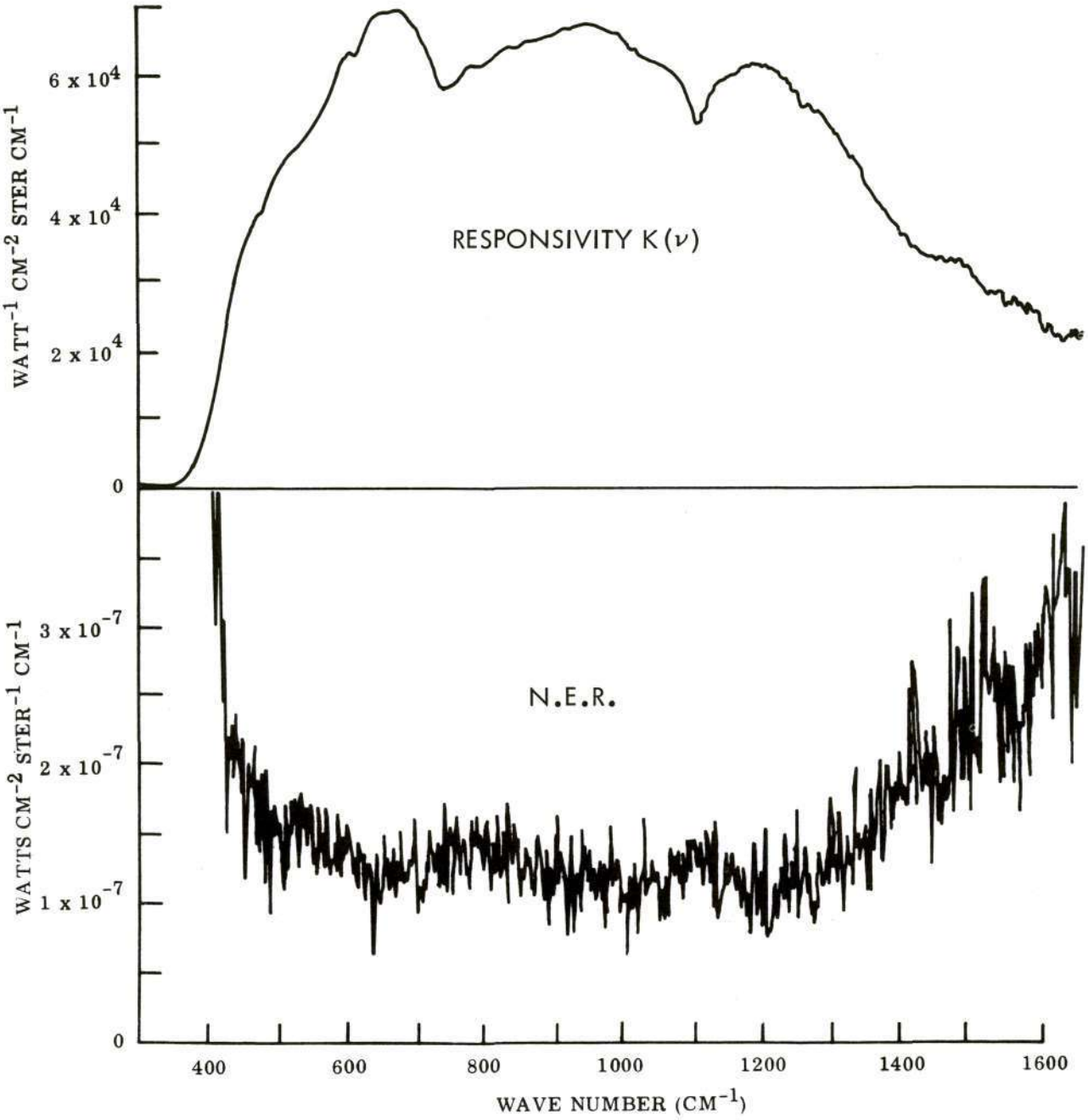


Figure 1-7. IRIS Responsivity and Noise Equivalent Radiance for Orbit 617

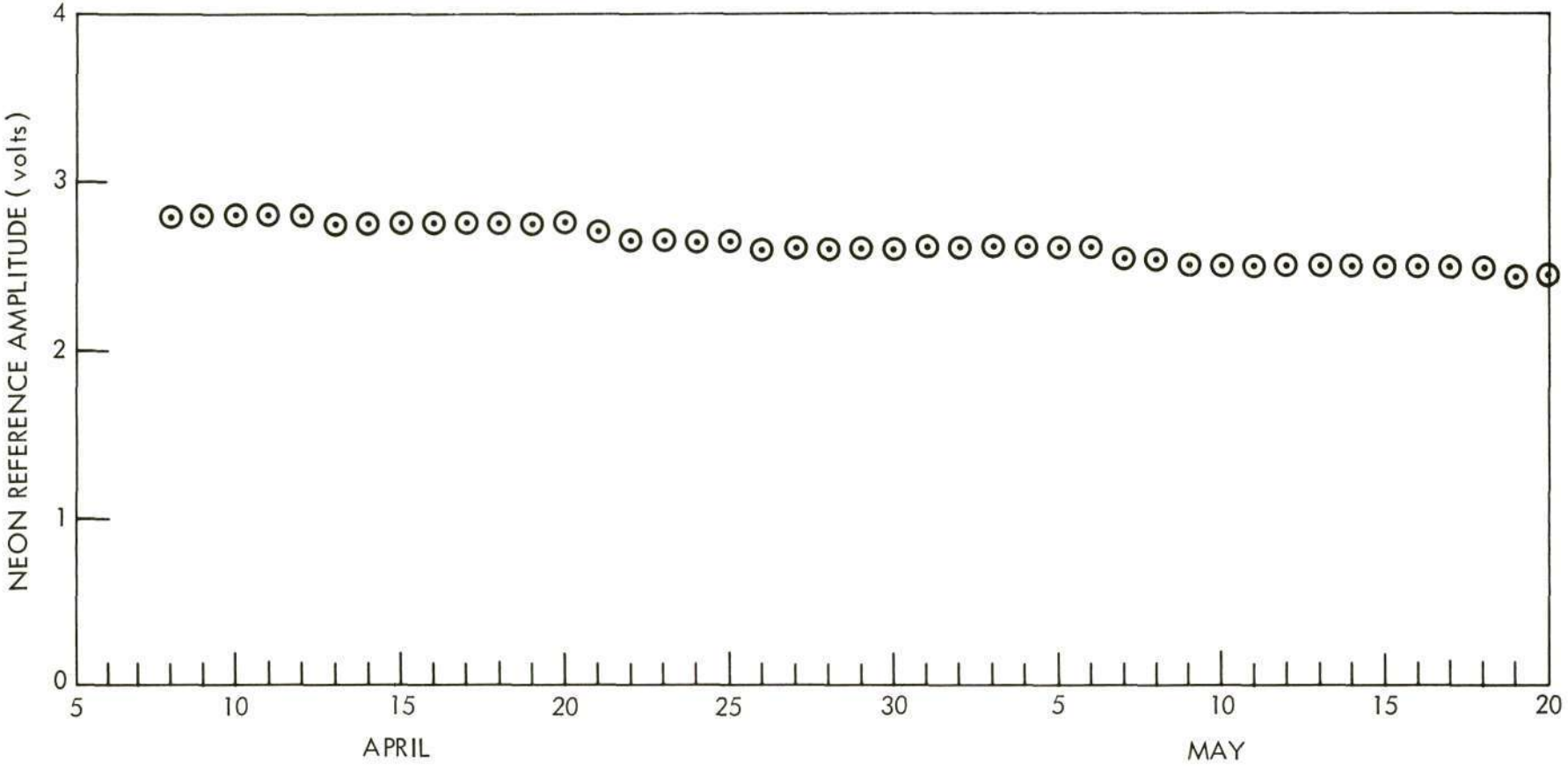


Figure 1-8. IRIS Neon Reference Signal Decay

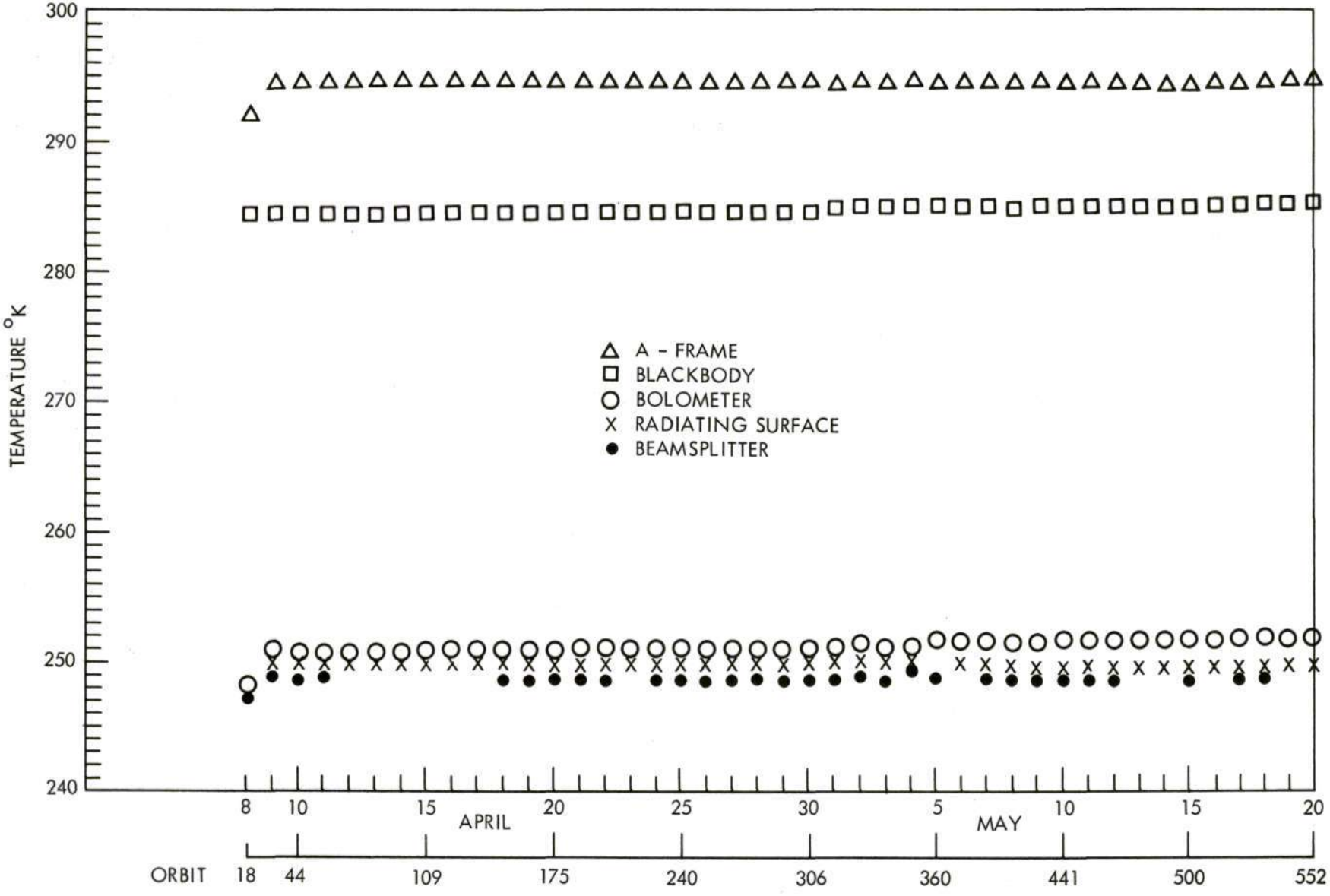


Figure 1-9. IRIS Optics Temperatures

from the right-viewed positions of 34.2°, 36.0°, and 37.8° were systematically biased. This effect has been traced to the inadvertent viewing of the earth beam baffle at these angles. The data affected by this interference have been deleted from the archival tapes.

The low-order bits of information (1, 2, 4, 8, 16) of channel 6 failed to function satisfactorily after orbit 34. Consequently, each datum from channel 6 acquired after that time is in error by a varying amount and the use of these data is not recommended.

A few of the channels (1, 9, and 12) have shown irregularities in their performance characterized by a sudden decrease or increase in signal to near zero or full scale levels. These data can be deleted from computer processing by placing upper and lower bounds of acceptance on all data. Limits of 8 and 200 ergs $(cm^2$ sec strdn $cm^{-1})^{-1}$ have been applied and quality flags for each channel appear with each data set on the archival tape. This procedure identifies only that data exceeding the above limits. The several values, obtained immediately before or after the limits are exceeded, are often unusable also. Similarly, where the signal level of a channel may be altered by an instrumental effect, but does not exceed the above tolerance levels, the quality flag will not identify the data as unusable. Beginning near orbit 480, Channel 14 indicated a level of instability which caused the sensitivity of that channel to vary from approximately 4.70 to 4.95 bits/erg $(cm^2$ sec strdn $cm^{-1})^{-1}$. Occasionally, significant variations in the radiance levels measured by this channel have been detected. The use of the data from this channel is not recommended except where ample precautions have been made to screen the data for instrumental effects.

1.5.2 Data Utilization

The user should become familiar with the basic instrument and its operation before attempting to process the radiance measurements objectively. The following section 1.5.3 on the archival tape format and the Nimbus IV User's Guide provide the necessary information for a basic understanding of the data.

Radiance values are generated by computer from the digital data presented by the SIRS. These data are located in time and space and transformed to equivalent energy measurements by the application of the proper calibration factors. Frequent in-flight calibrations provide the necessary monitoring of the instrument response in each of the 14 channels.

The data presented on the archival tapes stored at the National Space Science Data Center have undergone a screening process where the unusable data have been deleted. Most of the deleted data are from those periods immediately after the instrument has scanned to a new field-of-view and the outputs from the various channels have not yet stabilized. Inability to locate the data correctly also resulted in the deletion of some data. All data appearing on the archival tapes are usable, subject to the restrictions mentioned above.

The data on the NSSDC archival tapes have been compacted in order to minimize the number of tapes required to archive the experimental data and yet to retain

the information needed by the users. All engineering and supporting data have been deleted from these archival tapes. Complete archival tapes with all experimental data are being retained by the National Environmental Satellite Center.

1.5.3 NSSDC Archival Tape Structure

Each set of radiances with associated supporting information is archived in fifteen 24-bit words. Upon inspection of the data the user will note that the normal 2-second interval between data sets is frequently interrupted due to data deletions as mentioned in the above sections. Each record contains 85 sets of data and each day comprises one file of data. A double end of file is written at the end of tape.

The following table describes the format of the data.

TABLE 1-1 NIMBUS 4 SIRS DATA FORMAT

Record Length = 1275 24 bit words
Record Length = 510 60 bit words

Word (24 bit)	Format	Description
1	SPEC 1	Cal. code, quality flags
2	I	Day
3	I	Month
4	I	Year
5	I	Time-sec. (G. M. T.)
6	F2	Principal Point Latitude
7	F2	Principal Point Longitude
8	F2	Zenith Angle
9-15	SPEC 2	Radiance, Channels 1-14

Format Description

SPEC 1 — bits 2^0 - 2^{13} channels 1-14 quality flags (channel 14 quality flag in bit 2^0; 13 in bit 2^1, etc.).

bits 2^{20} - 2^{23} calibration code, right adjusted.

SPEC 2 — Two 12 bit words packed in each 24 bit word. Word 9 contains channel 1 in bits 2^{23} - 2^{12}, channel 2 in bits 2^{11} - 2^0. Word 10 contains channel 3 in bits 2^{23} - 2^{12}, etc.

I — right adjusted integer

F2 — right adjusted integer - decimal point is understood to be between 2nd and 3rd decimal digits - i.e., 1.70 is stored as 252_8 right adjusted - when read as 170_{10} is multiplied by 10^{-2} to retrieve the original value 1.70.

Incomplete records will be zero filled.

1.6 The Monitor of Ultraviolet Solar Energy (MUSE) Experiment

The Nimbus 4 MUSE was turned on prior to launch, kept on through the activation period, and the first data were received in real time during orbit 1. Since then the MUSE subsystem has performed satisfactorily in both the manual and automatic modes. The functional telemetry monitors have indicated a steady and stable electrometer operation. There has been no indication of electrometer drift. The subsystem electronics and feedback resistor temperatures were maintained at nominal levels of $24^{o}C$ and $30^{o}C$, respectively, throughout this period. The solar aspect monitor (ATA) has indicated continuous degradation in the cell output. This is attributed to decreased sensitivity of the ATA cell due to radiation damage which causes a decrease in the maximum current flow in the cell at the day terminator.

All sensors except #4 have exhibited a gradual decrease with time (see Table 1.2) which is at a rate considerably less than was observed on Nimbus 3 MUSE. The gradual increase in output of the 2100Å sensor is approaching an asymptotic value. The increase appears to be due to a change in bandwidth of the interference filter. A discussion of the long term sensor characteristics will be presented in a later volume.

Figures 1-10 to 1-14 present the MUSE sensors calibration curves.

TABLE 1-2

MUSE Data at Day Terminator

	ORBIT				
FUNCTION	1	250	398	410	505
Pitch Aspect Angle (Degree)*	0	1.09	1.09	1.09	1.09
Yaw Aspect Angle (Degree)*	4.5	4.71	4.71	3.98	4.71
ATA (Telemetered Volts-TMV)	0	0.27	0.44	0.44	0.52
Sensor 1 (2600Å) (TMV)	2.26(5)	1.54(5)	1.39(5)	1.34(5)	1.24(5)
Sensor 2 (1216Å) (TMV)	4.62(2)	2.76(2)	3.06(2)	3.01(2)	2.98(2)
Sensor 3 (1800Å) (TMV)	1.91(4)	1.64(4)	1.54(4)	1.51(4)	5.94(3)
Sensor 4 (2100Å) (TMV)	3.03(6)	4.70(6)	5.40(6)	5.44(6)	5.80(6)
Sensor 5 (2800Å) (TMV)	1.91(6)	1.94(6)	1.94(6)	1.94(6)	1.91(6)

* Angles are average values over the time period of 25 seconds during which all five sensor outputs are sampled. Numbers in parentheses are ranges.

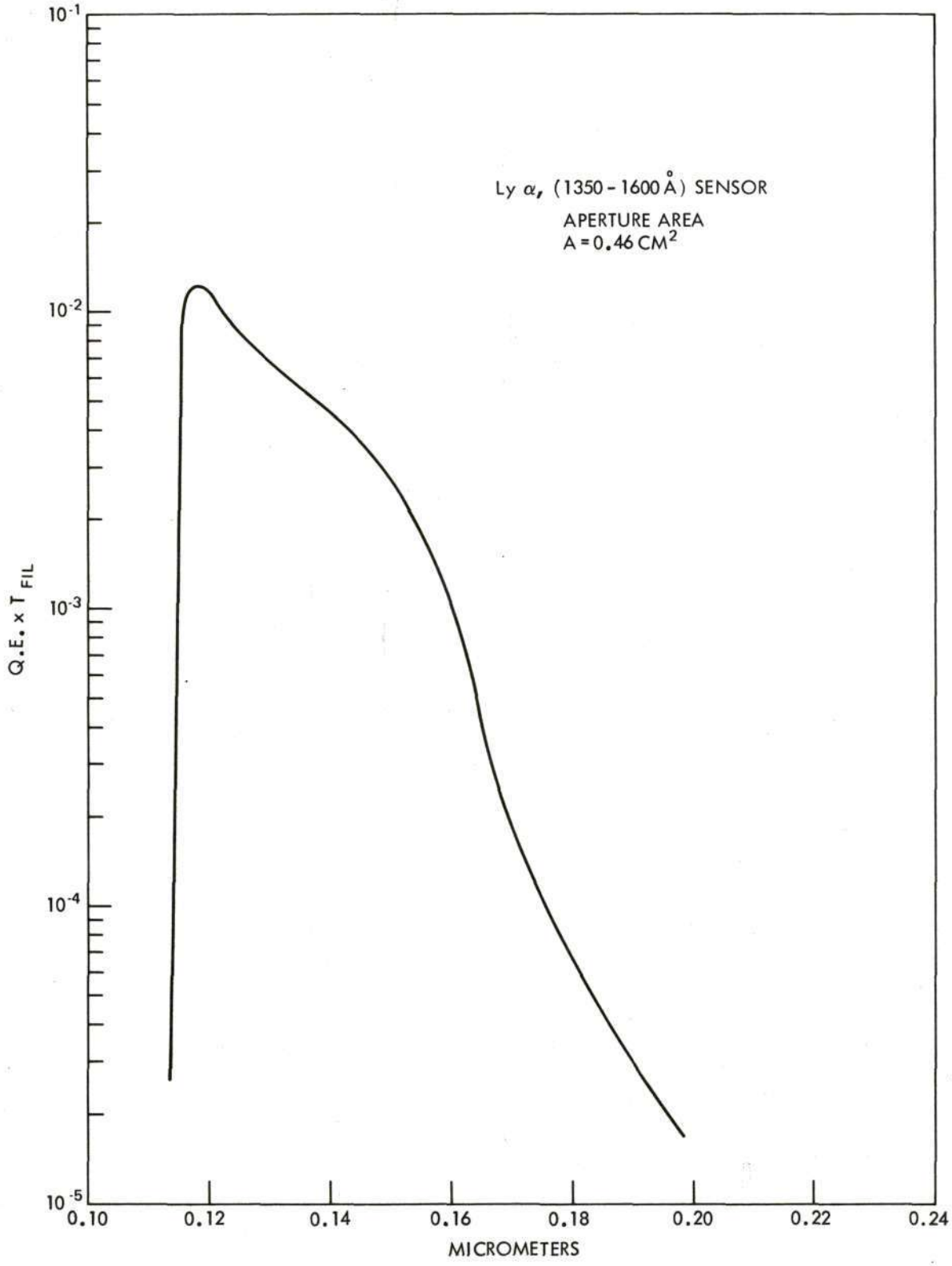


Figure 1-10. Quantum Efficiency x Transmittance of Filters for the 1216Å, (1350 - 1600Å) MUSE Sensor (SN - D1053)

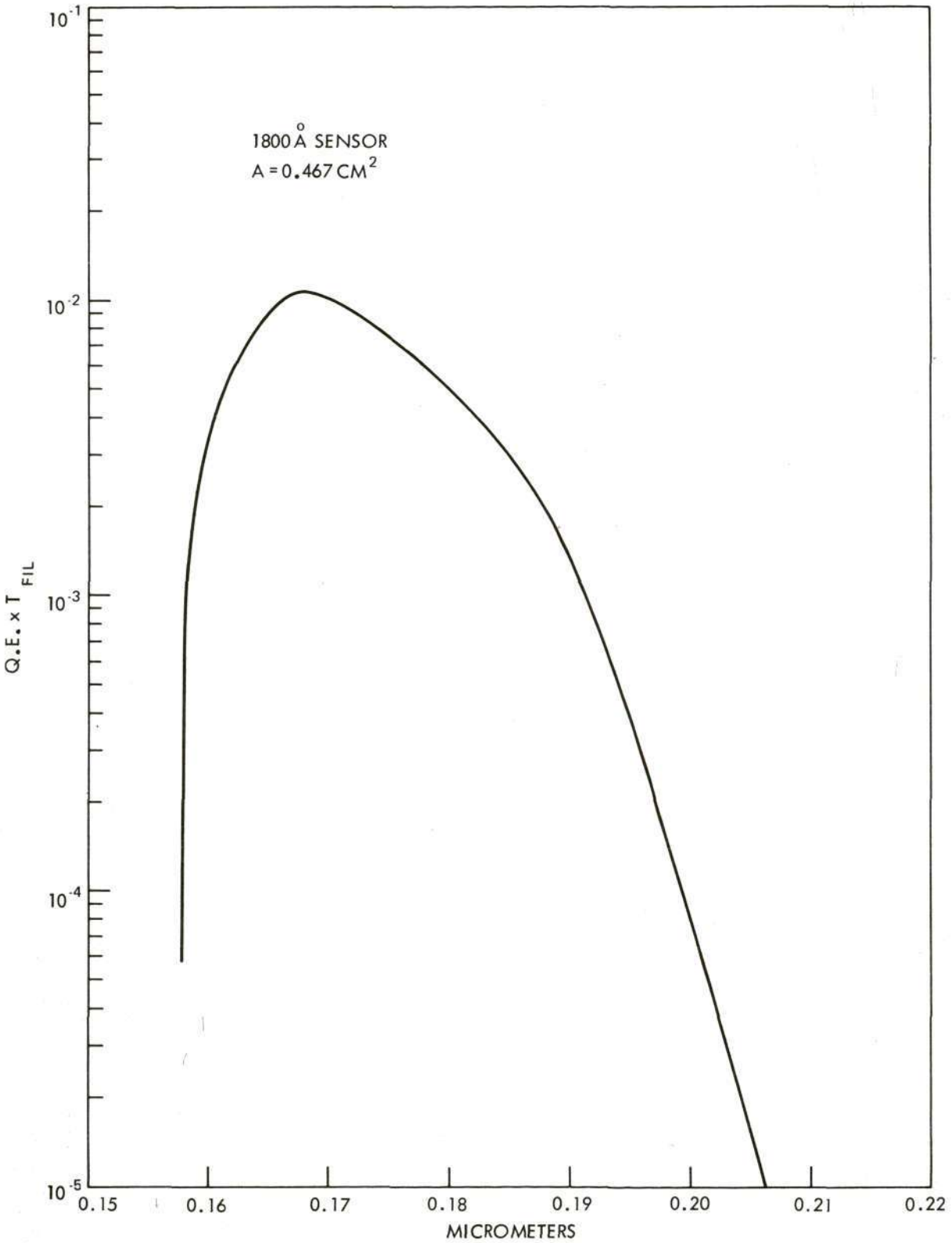


Figure 1-11. Quantum Efficiency x Transmittance of Filters for the 1800Å MUSE Sensor (SN - D78A)

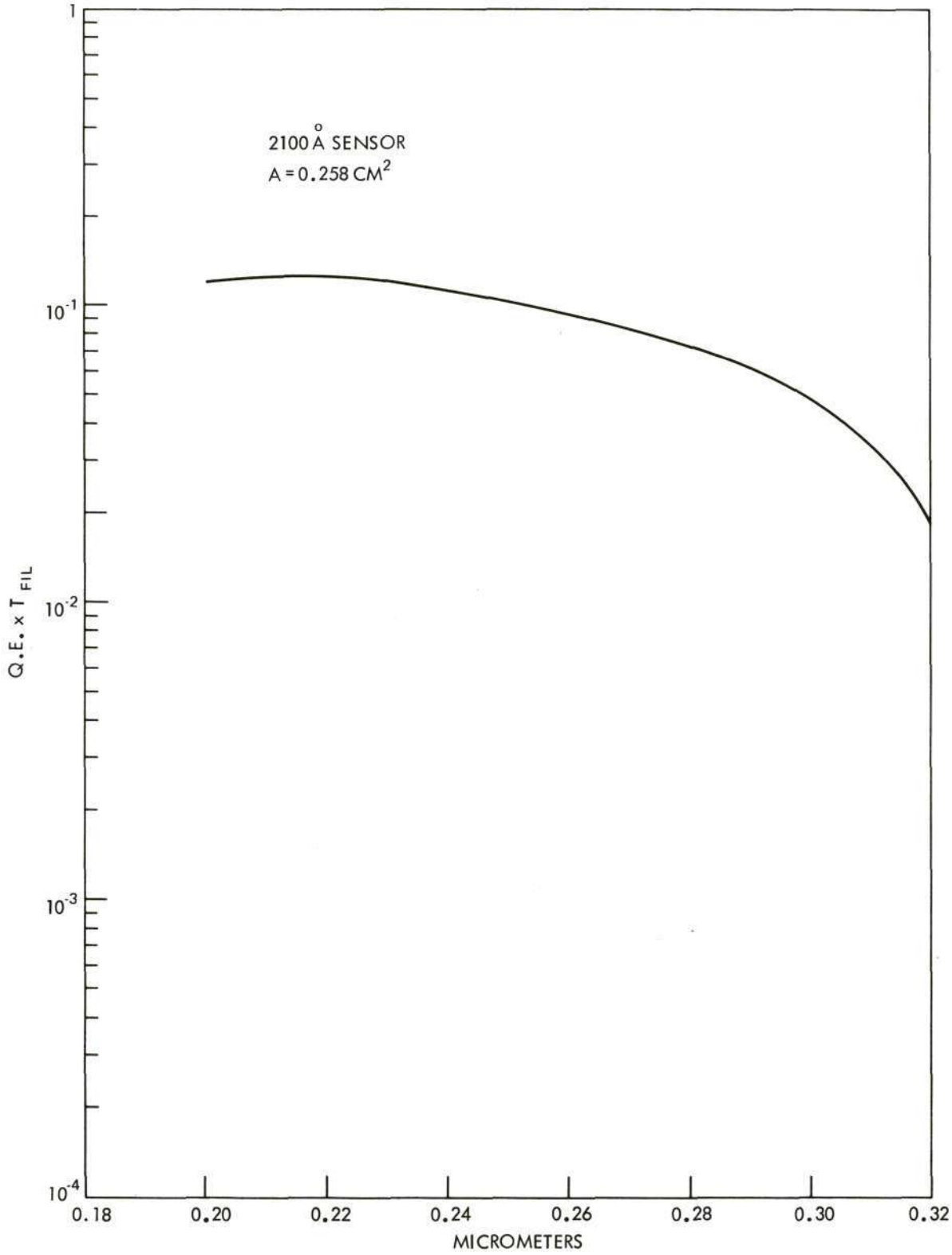


Figure 1-12. Quantum Efficiency x Transmittance of Filters for the 2100Å MUSE Sensor (SN - 14004)

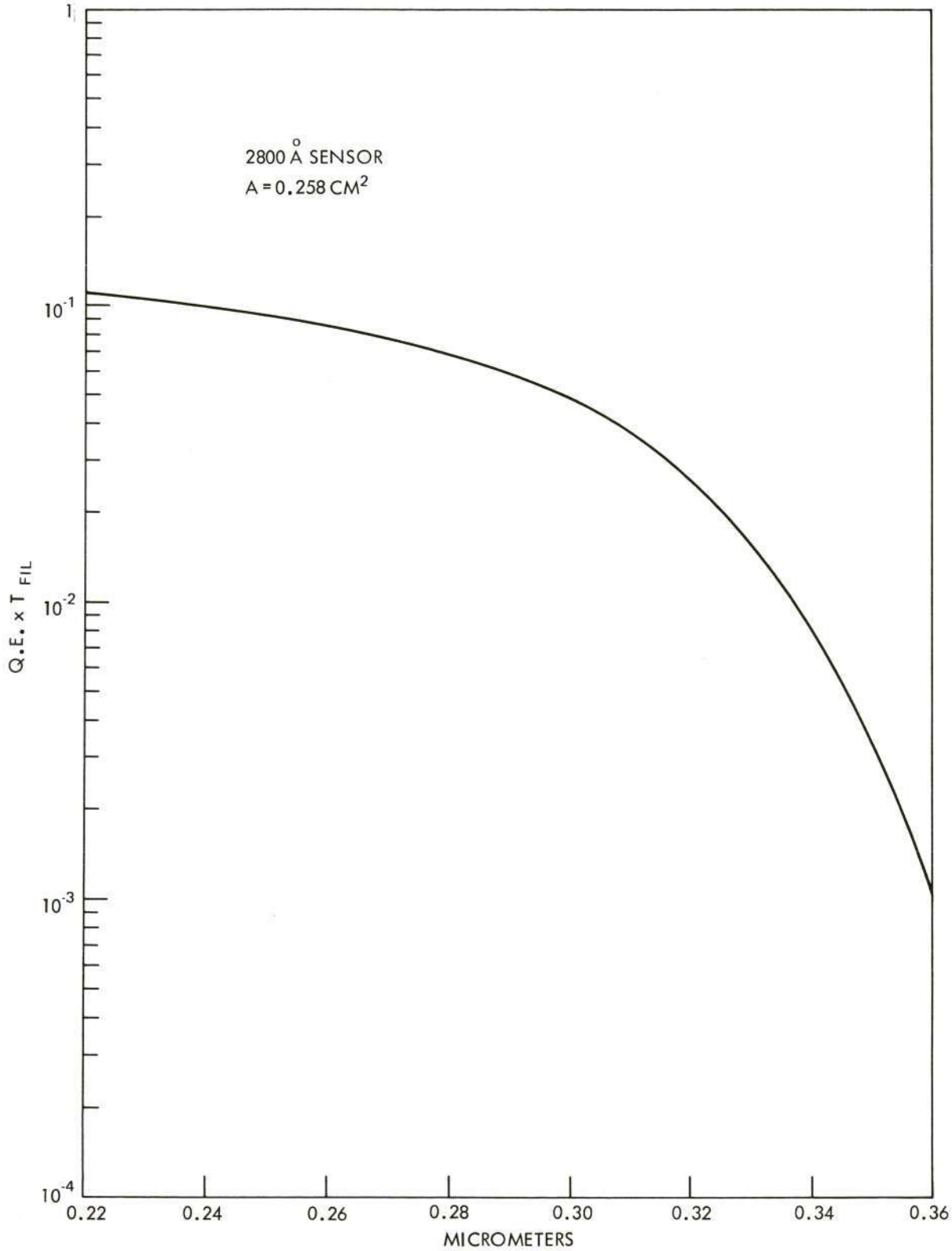


Figure 1-13. Quantum Efficiency x Transmittance of Filters for the 2800Å MUSE Sensor (SN - D167)

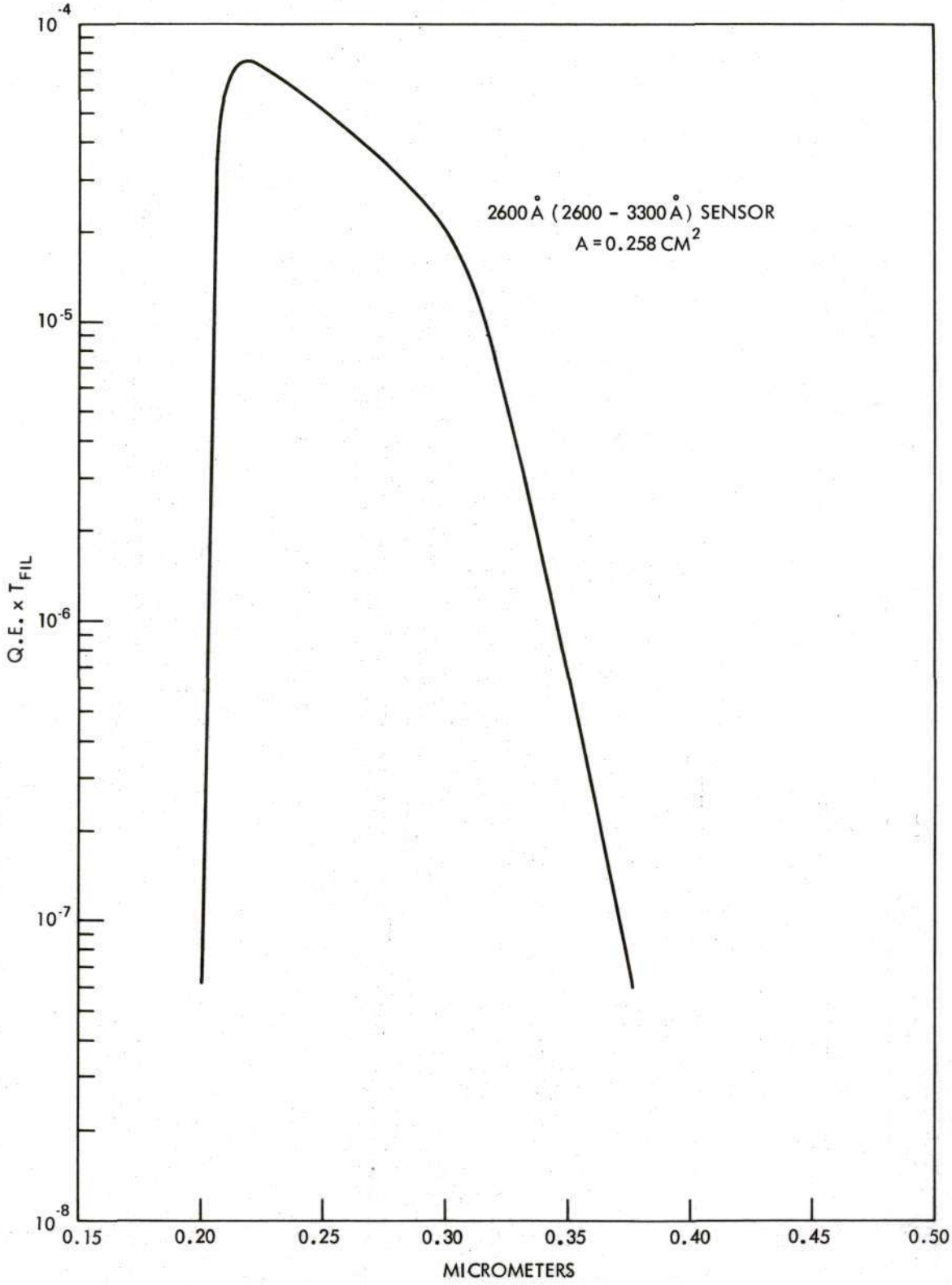


Figure 1-14. Quantum Efficiency x Transmittance of Filters for the 2600Å (2600 - 3300Å) MUSE Sensor (SN - 14005)

1.7 The Backscatter Ultraviolet Spectrometer (BUV) Experiment

1.7.1 Performance

The BUV Prototype model P103 was successfully activated for normal operations on orbit 33. Telemetry indicated that the alignment of the optical elements was not damaged by vibration during launch or by post launch temperature changes. All telemetry indications from full time sensor have been normal. There has been little change in subsystem temperature. Evaluation of the Master Calibration Sequence MCS-D indicates that the mercury strong line value has remained constant at 2535.3A.

The MCS-B and C calibrations are affected by high levels of free space radiation, especially from the South Atlantic Anomaly Zone. Measurements taken from this zone are not used for subsystem analysis.

The analog dark current measurement from MCS-A is a factor of five higher than selected pre-launch readings. The orbital average for an MCS-A cycle dark current is affected by the high energy particle count, especially from the South Atlantic Anomaly. A map of the high energy particle counts is shown in Figure 1-15 for the period of June 1-7, 1970. The energetic particle count map indicates the geographic extent of possible enhancement of the dark current by the South Atlantic Anomaly radiation. The increase in dark current does not have a deleterious effect on the instrument, but will have to be taken into consideration by the user when evaluating payload readings from both channels.

The diffuser was successfully deployed during orbit 33 and automatically stored within 64 seconds. Subsequent deployments (to view the sun) over the northern terminator for measurements of the solar flux have occurred without incident. Over the southern terminator the telemetry did not always indicate full deployment.

A comparison between the BUV measurements of solar flux and the recently revised ultraviolet solar flux distribution is shown in Figure 1-16. Note that the solid curve is smoothed over 100Å intervals, whereas the BUV measured flux values are over a 10Å bandpass interval.

To date the only evidence of degradation has been a change in gain of the photomultiplier tube (PMT) with time. Prelaunch calibration data are presented in Table 1-3. In order to evaluate the BUV data, one must multiply the prelaunch calibration data by the ratio of gain-at-launch/gain-at-time-T-after-launch. The PMT gains for the photometer channel and the monochromator channel are shown in Figure 1-17.

1.7.2 Schedule of Special Orbits

Two special types of data orbits have been initiated to date. The first was the series for lunar diffuser deployments. The second was a series in which the diffuser plates were deployed for a complete orbit. The tabulations are contained in Tables 1-3 and 1-4.

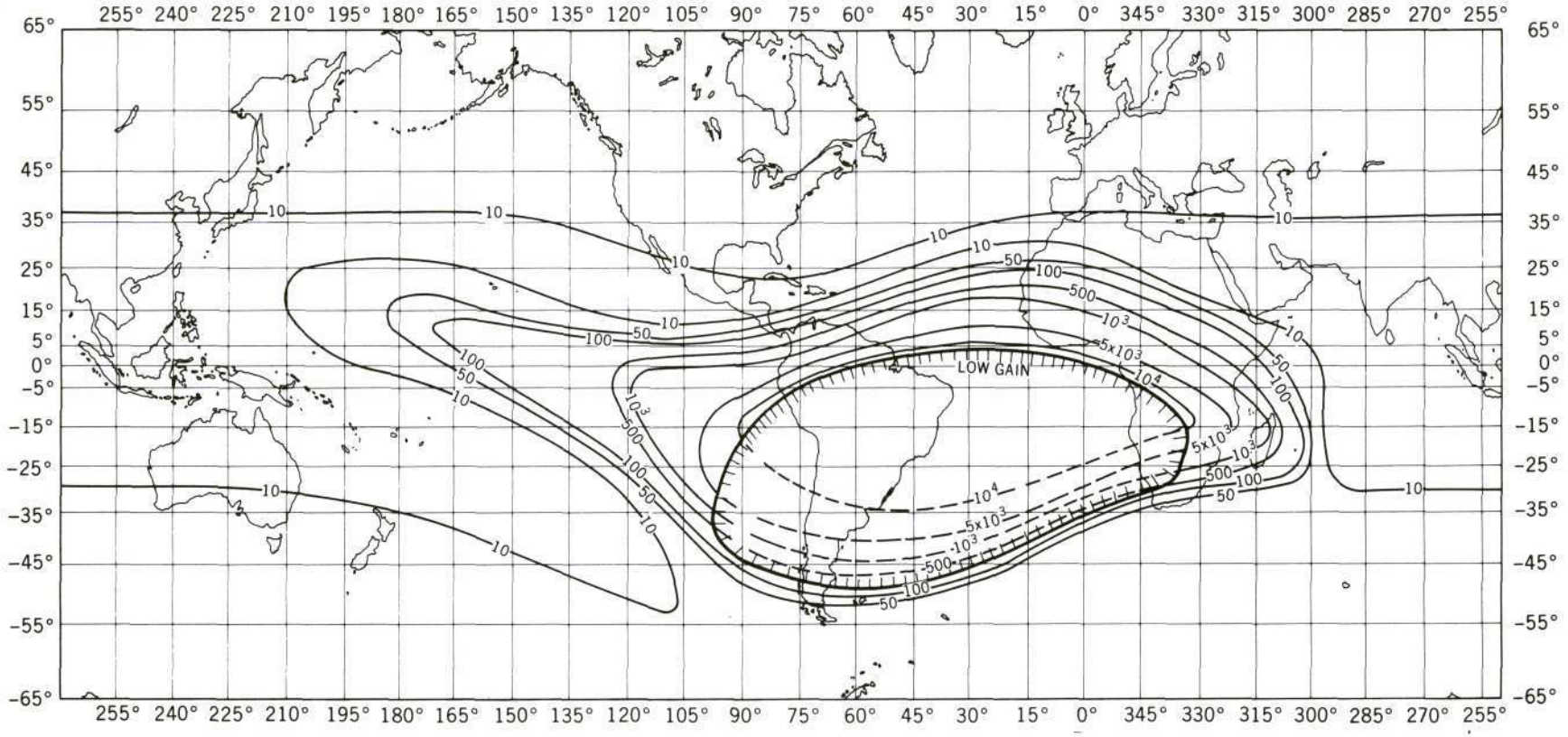


Figure 1-15. Map of High Energy Particle Counts

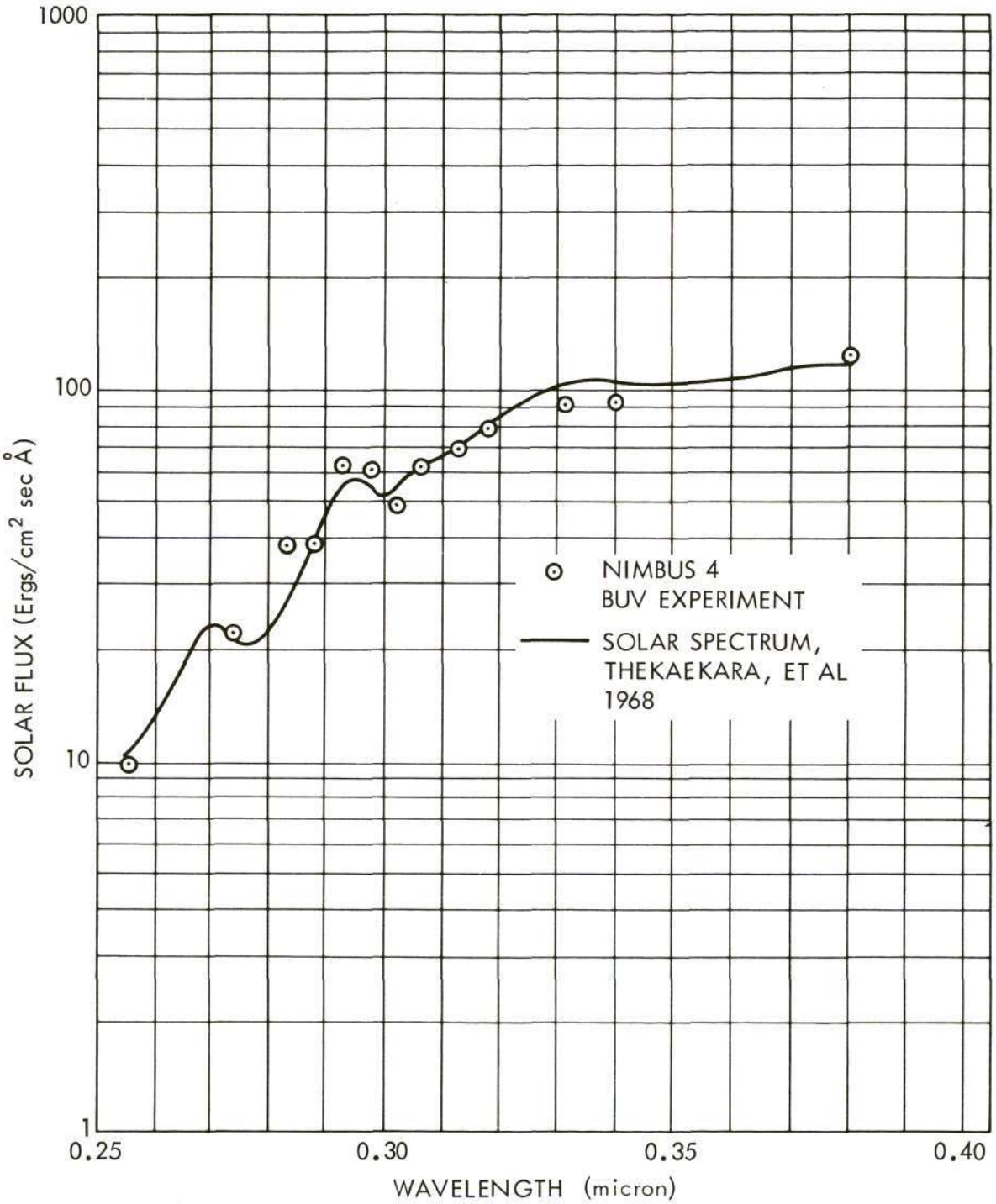


Figure 1-16. Comparison Between the BUV Measurements and Ultraviolet Solar Flux

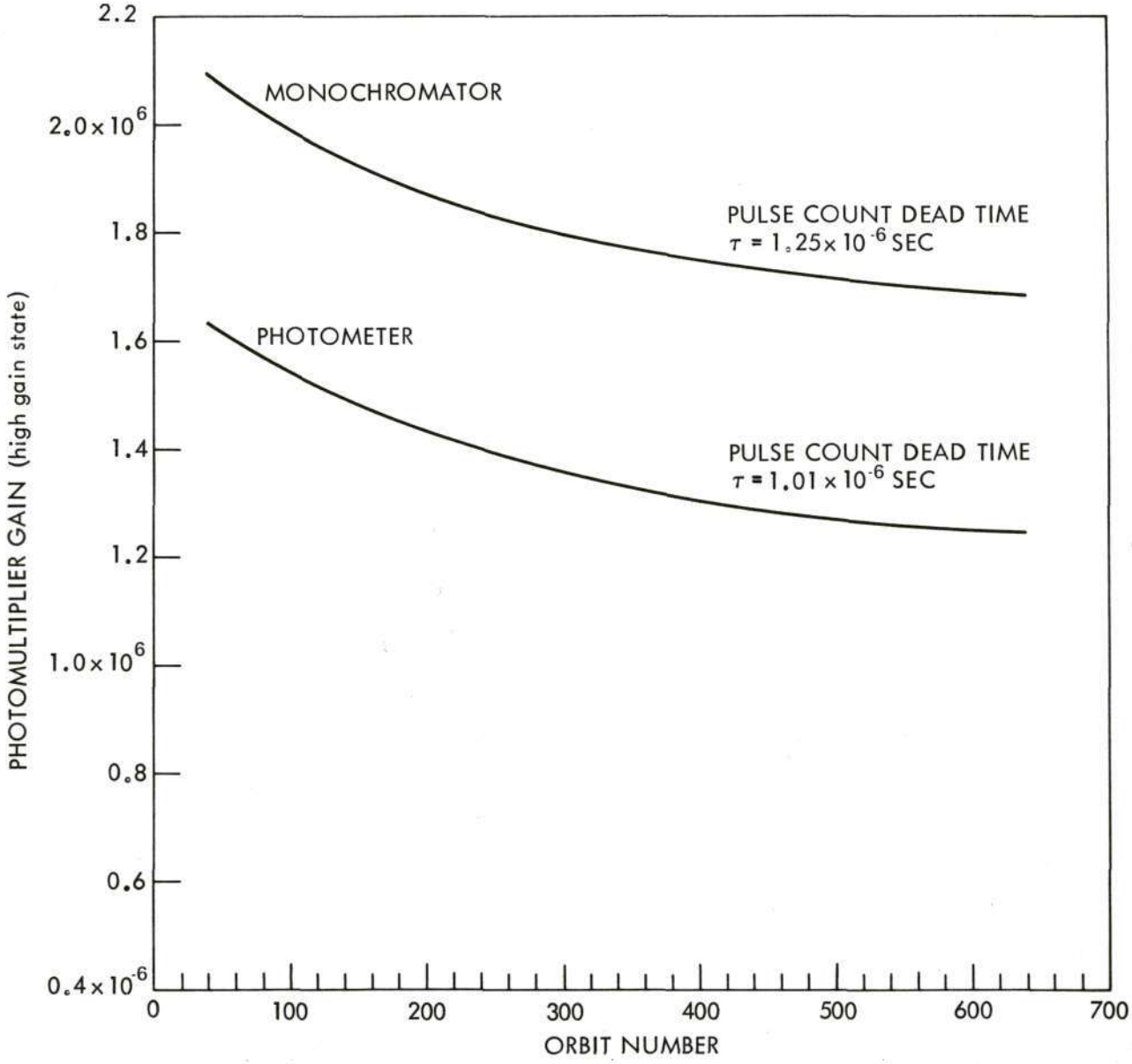


Figure 1-17. BUV Photomultiplier Gains versus Orbit Number

TABLE 1-3

BUV Prelaunch Calibration

Parameter	Monochromator	Photometer
Photomultiplier Tube Gain		
Low Voltage State	1243	45.5
High Voltage State	2.216×10^6	1.884×10^6
Electrometer Feedback Resistance		
$10^7\ \Omega$ State	$1.000 \times 10^7\ \Omega$	$1.000 \times 10^7\ \Omega$
$2 \times 10^9\ \Omega$ State	$1.876 \times 10^9\ \Omega$	$1.870 \times 10^9\ \Omega$
$3 \times 10^{10}\ \Omega$ State	$3.047 \times 10^{10}\ \Omega$	$3.050 \times 10^{10}\ \Omega$

TABLE 1-4

Orbits Containing Lunar BUV Diffuser Deployment

Orbit #	Orbit #
107-112	186-187
114-115	189-196
127	200-210
129	213-223
132-138	226-237
141	240-250
143	253-254
146-147	256-264
149-156	267
159	
161-170	
173-174	
176-183	

TABLE 1-5

Orbits Containing Full Orbit BUV Diffuser Deployment

Orbit #	Orbit #
492	599
505	612
518*	626
558*	639
572	652
585	666

* The diffuser was repetitively deployed two minutes and then stored two minutes for these orbits

1.7.3 Calibration

The calibrations for transforming the cathode currents into either the earth radiance (ergs/cm^2-sec-Å-ster) or incident flux (ergs/cm^2-sec-Å) for either solar or lunar fluxes are contained in Table 1-6. These data are for the model P103 flown on Nimbus 4. This transformation must use the procedure outlined in paragraph 1.7.1 in order to compensate for the changing PMT gain with time. Future updating of the gain decay curve (Figure 1-17) will be given in the succeeding editions of the Nimbus 4 Data Catalog.

The curve showing the residual polarization properties of the spectrometer is given in Figure 1-18 where $P = \frac{I_{\parallel} - I_{\perp}}{I_{\parallel} + I_{\perp}}$

where $\perp$ and $\parallel$ refer to the direction of the electric vector with respect to the length of the slit.

The diffuser plate correction factors for either the monochromator or photometer channels are given in Figure 1-19 where True Signal = Measured Signal x Angular Function.

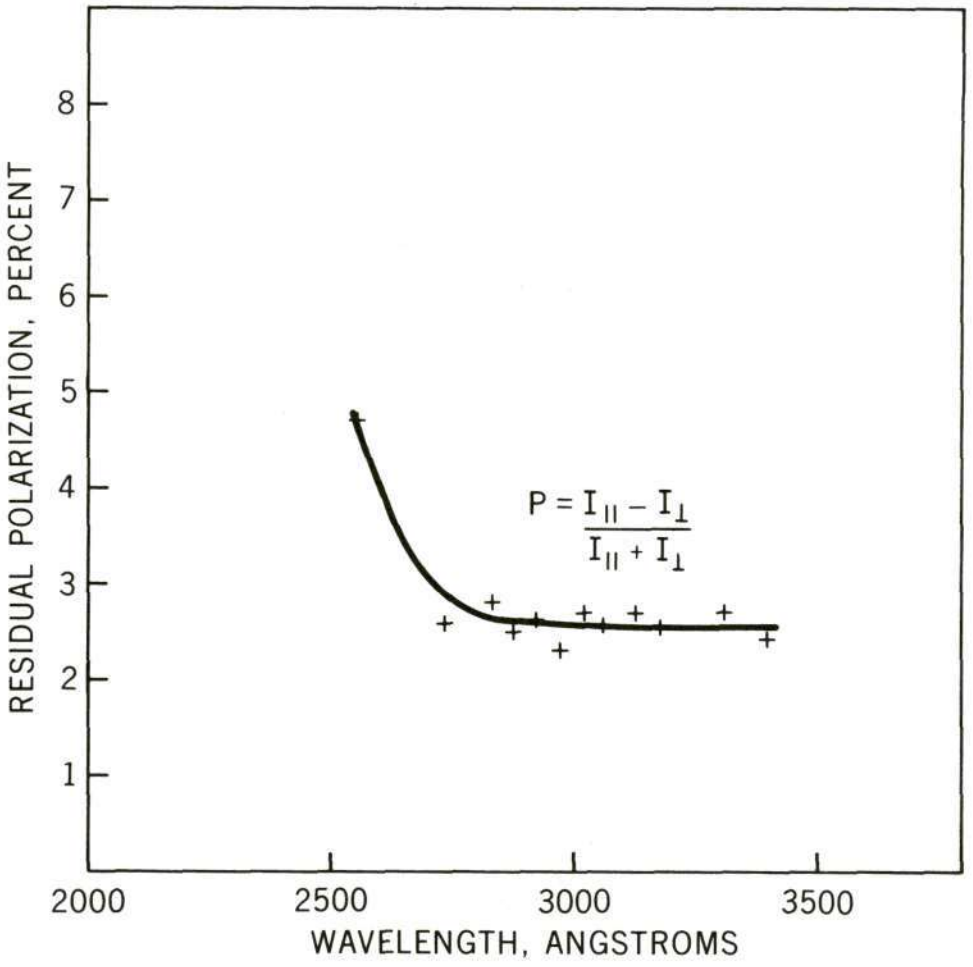


Figure 1-18. Residual Polarization Sensitivity with Depolarizer

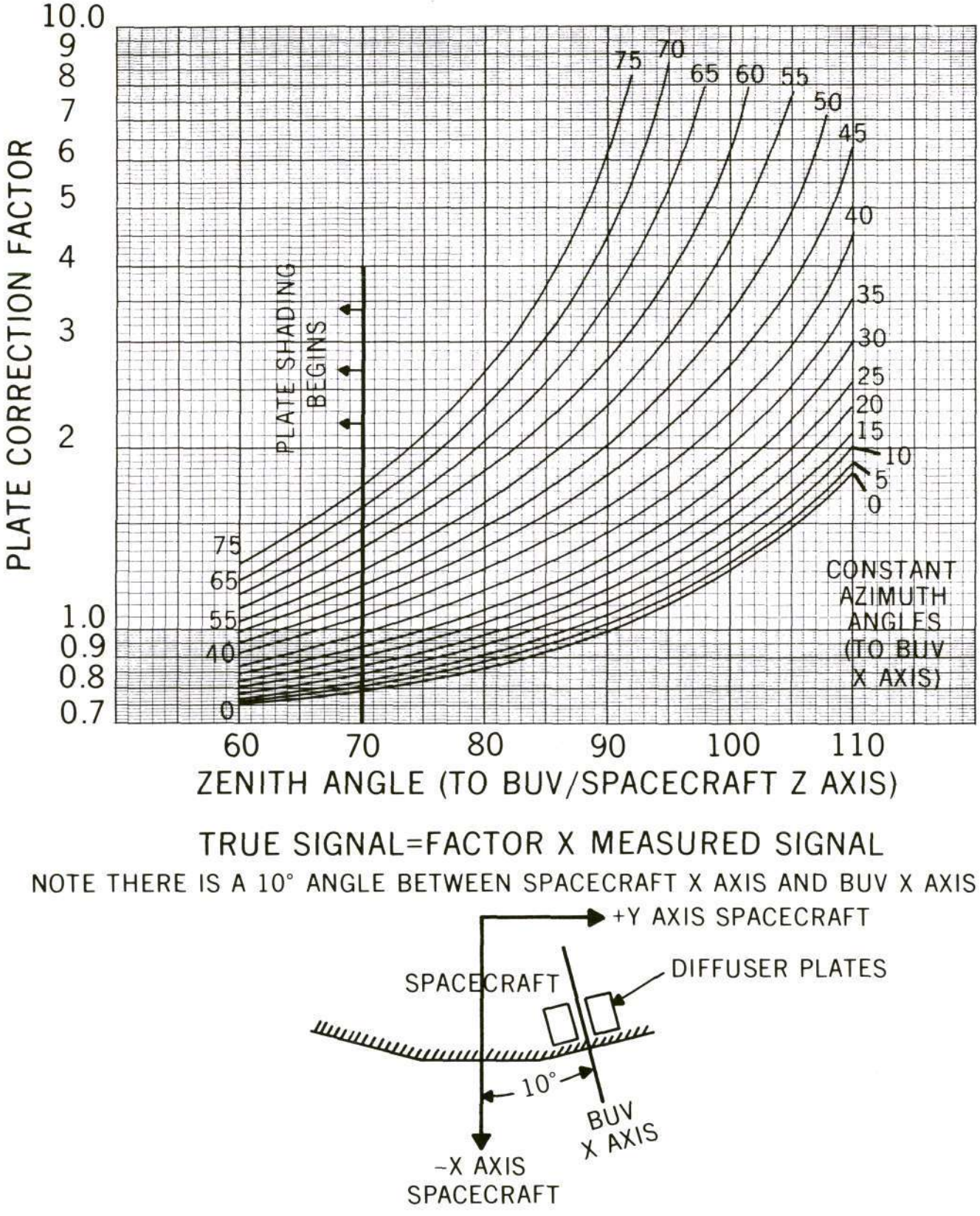


Figure 1-19. BUV Diffuser Plate Angle Correction Factor

TABLE 1-6

Calibration Factors for the BUV Instrument (Model P103)
Flux = $I_{cathode}$ x Cal. Factor

	Normal Mode	Diffuser Deployed
Wavelength	ergs/amp cm^2 sec Å ster	ergs/amp cm^2 sec Å
3800Å	9.21×10^{9}	4.64×10^{10}
3398Å	3.63×10^{11}	1.875×10^{12}
3312Å	2.047×10^{11}	1.073×10^{12}
3175Å	1.058×10^{11}	5.59×10^{11}
3125Å	8.58×10^{10}	4.45×10^{11}
3058Å	6.77×10^{10}	3.59×10^{11}
3019Å	6.06×10^{10}	3.21×10^{11}
2975Å	5.34×10^{10}	2.855×10^{11}
2922Å	4.73×10^{10}	2.55×10^{11}
2876Å	4.36×10^{10}	2.33×10^{11}
2830Å	4.06×10^{10}	2.18×10^{11}
2735Å	3.907×10^{10}	2.035×10^{11}
2555Å	4.89×10^{10}	2.61×10^{11}

1.7.4 BUV Archive Tape Format

The BUV archive tapes stored at the National Space Science Data Center consist of 200 36-bit floating-point binary-word records.

The first and subsequent records will be DATA RECORDS and will be written according to the DATA RECORD FORMAT given in Table 1-7. Each data record will contain data for a BUV instrument wavelength scan, which may refer to backscattered UV measurements, to diffuser plate measurements, or to one of the calibration scans. The scans will be numbered consecutively within each orbit, regardless of their type. Scans not written on the tape will not be assigned a number.

The last record for each orbit will be a SUMMARY RECORD - DOCUMENTATION & HISTORY according to the format given in Table 1-8.

The first word of each record will be a record-type identifier according to the code given in Note 4 of the DATA RECORD FORMAT.

An "end of file" mark will be written after the last record pertaining to a given satellite orbit.

In order to conserve tape space, each physical record on a BUV archive tape shall comprise two 200-word records. If there are an odd number of records for a given orbit, the last 200 words of the last physical record shall consist of -77.0 fill data. Each tape will contain several orbits.

The experiment sensory data is monitored via a 5 sample per second VIP Digital A Channel. In each BUV frame, seven types of data are monitored via the Digital A telemetry. The BUV word definitions are as follows:

a.	Photometer Analog Data	BUV Word 1
b.	Photometer Housekeeping Data	BUV Word 2
c.	Monochromator Analog Data	BUV Word 3
d.	Monochromator Housekeeping Data	BUV Word 4
e.	Photometer Pulse Count Data	BUV Word 5
f.	Monochromator Pulse Count Data	BUV Word 6
g.	Monochromator Energetic Particle Data	BUV Word 7

The data and calibration sequences and timing are described in the Nimbus IV User's Guide.

TABLE 1-7

BUV DATA RECORD FORMAT

Word	Units	Contents
1	-	Record type identifier (see Note 6)
2	-	Orbit number
3	-	BUV Scan number within this orbit
4	Days	Day of year at beginning of scan
5	Seconds	Seconds of day at beginning of scan
6	Degrees	Geodetic Latitude at beginning of scan
7	Degrees	Geodetic Longitude at beginning of scan
8	kms	Satellite height at beginning of scan
(See Note 1 re words 9 and 10.)		
9	Degrees	Solar or lunar zenith angle at beginning of scan
10	Degrees	Solar or lunar azimuth angle at beginning of scan
11	Degrees	MUSE solar aspect-elevation or Satellite pitch at beginning of scan
12	Degrees	MUSE solar aspect-azimuth or Satellite yaw at beginning of scan
13	Degrees	Satellite roll at beginning of scan or -99.0 if MUSE data in words 11 and 12.
(MUSE data are to be used in words 11 and 12, when available.)		
14	Volts	Photometer PMT high voltage - 1st value for scan
15	Volts	Monochromator PMT high voltage - 1st value for scan
16	-	Day (0) - Night (2) - Twilight (1) Code
17-29	Same as words 4-16, inclusive, but for end of scan. For words 14-15, second values for scan.	
30	Degrees C	PMT - Temperature
31	Degrees C	Housing Temperature
32	Degrees C	Arm Gradient
33	Degrees C	Housing Gradient
		Average of the 2 values for this scan.
34	Angstroms	Nominal wavelength for data following. (3398 Å for first)
35		Spare.
(See Note 2 re words 36-46.)		
36-39	Amperes	Photometer PMT cathode current for the four values in BUV Word 1.
40	Amperes	Photometer PMT cathode current from pulse count in BUV Word 5.
41-44	Amperes	Monochromator PMT cathode current for the four values in BUV Word 3.

TABLE 1-7

BUV DATA RECORD FORMAT (Continued)

45	Amperes	Monochromator PMT cathode current from pulse count in BUV Word 6.
46	-	Number of pulse counts in BUV Word 7 (-99.0 if no BUV Word 7 for this wavelength).

47-59, 60-72, . . . , 177-189, same as 34-46, but for remaining wavelengths in order 3312, 3175, . . . , 2555Å. These word blocks are referred to as λ - blocks 1 through 12, respectively.

Sub-Record for MCSA calibrations

	Units	Quantity
190	Amperes	Mean of the 12 photometer PMT cathode currents given in BUV Word 1 in λ -blocks 4, 5, and 6, incl.
191	Amperes	Standard deviation of quantities used to obtain preceding mean.
192	Amperes	Mean of the 4 photometer PMT cathode currents in BUV Word 5.
193	Amperes	Standard deviation of quantities used to obtain preceding mean.
194-197	Same as words 1-4,	but for monochromator data (BUV Words 3, 6)
198	-	Mean of 2 pulse counts in BUV Word 7 in λ -blocks 3 and 5. (This mean is subtracted from pulse count total in BUV Word 7 in λ -block 7 before these latter counts are accumulated for the statistics in the header record.)

Sub-Record for MCSD calibrations

190	Ångstroms	Apparent position of Hg2537 Å line computed from BUV Word 3 data in λ -blocks 5, 6, 7, 8.
191	Ångstroms	Apparent position of Hg2537 Å line computed from BUV word 6 data in λ -blocks 5, 6, 7, 8.
192	Amperes	Central Intensity from BUV Word 3 calculation
193	Amperes	Central Intensity from BUV Word 6 calculation

(1) If words 9 and 10 refer to lunar values (re sub-satellite point on dark side of terminator), 1000 shall be added to the zenith angle and azimuth.

TABLE 1-7

BUV DATA RECORD FORMAT (Continued)

(2) If data are not available for the Nimbus major frame corresponding to one-half of a scan, the corresponding cathode currents are given as -99.0 in words 36-46, 49-59, . . . , 179-189. If the corresponding PMT is not in high gain mode, words 40 or 45 (etc.), shall be given as 0.0; if the photometer or monochromator pulse counter has overflowed, words 40 or 45 (etc.), respectively, shall be given as -999.0.

(3) When Electrometer data word is full scale, value is set = -999

(4) When Electrometer data word is zero, value is set = 000

(5) Data for a scan are not processed or written on the BUV archive tape if:

  (a) BUV power is off for both major frames of the scan, OR
  (b) there is loss of SYNC for both major frames of the scan.

(6) Record type identifiers are as follows:

Record Type	Word 1 of Record
SUMMARY RECORD	-111.0
MCSA DATA RECORD	-222.0
MCSB, C DATA RECORD	-333.0
MCSD DATA RECORD	-444.0
DIFFUSER PLATE DATA RECORD	-555.0
BACKSCATTERED UV DATA RECORD	-666.0
MCSE DATA RECORD	-777.0

(7) In the calibration scans, part of the data do not apply to the calibration per se. However, since these "irrelevant" data may be useful in monitoring instrument performance, they are written on the tape in the usual way, taking account of Note 2 above.

(8) Spare locations, including those of words 190-200, which may not be used for a particular type of record, are filled with -77.0.

(9) In normal data records only, words 190-192 will contain the spacecraft velocity components $\dot{x}$, $\dot{y}$ and $\dot{z}$.

TABLE 1-8

BUV SUMMARY RECORD-DOCUMENTATION & HISTORY

Word	Unit	Contents
1	-	Record Type identifier = -111.0 (see list).
2	-	Satellite ID = 4 for Nimbus 4.
3	-	Orbit number
4	Days	Day of year orbit begins
5	Seconds	Second of day orbit begins
6	Days	Day of year orbit ends
7	Seconds	Second of day orbit ends
8	Volts	Mean value of analog housekeeping +4 Volt Monitor for orbit
9	Volts	Standard deviation of quantities used to get mean in word 8
10	Volts	Minimum value
11	Volts	Maximum value
12	-	Number of quantities in data sample
13-17	Volts	As 8-12 above, but for -6.375 Volt Monitor
18-22	Degrees C	As 8-12 above, but for Housing Absolute Temp.
23-27	Degrees C	" " Photomultiplier Tube Temp.
28-32	"	" " Sensor Module Electronics Temp.
33-37	"	" " Motor Current Limiter Temp.
38-42	"	" " Static Inverter I Temp.
43-47	"	" " Static Inverter II Temp.
48-52	"	" " Arm Temp Gradient
53-57	"	" " Housing Temp. Gradient
The following words 58-142 are derived from MCSA sub records:		
58	Amperes	Average photometer PMT dark current (cathode) from BUV Word 1.
59	Amperes	Standard Deviation of quantities used to get this average.
60	Amperes	Minimum value
61	Amperes	Maximum value
62	-	Number of quantities in data sample.
63-67	Amperes	As 58-62 above, but for data obtained from BUV Word 5.
68-72	"	" " Word 3
73-77	"	" " Word 6
78-82	Counts	As 58-62 above, but for data obtained from BUV Word 7.(100Hz pulses at 2 times High Level Discriminator threshold.)

TABLE 1-8

BUV SUMMARY RECORD-DOCUMENTATION & HISTORY (Continued)

83-87	Counts	As 58-62 above, but for data obtained from BUV Word 5 (125KHz pulses at 0.5 times High Level Discriminator threshold.)
88-92	Counts	As 58-62 above, but for data obtained from BUV Word 6 (125KHz pulses at 0.5 times High Level Discriminator threshold.)
93-97	Counts	As 58-62 above, but for data obtained from BUV Word 5 (125KHz pulses at 2 times Low Level Discriminator threshold.)
98-102	Counts	As 58-62 above, but for data obtained from BUV Word 6 (125KHz pulses at 2 times Low Level Discriminator threshold.)
103-107	Amperes	As 58-62 above, but for last 3 BUV Word 1's (constant current 9×10^{-11} amperes, photometer PMT low gain.)
108-112	Amperes	As 58-62 above, but for last 3 BUV Word 1's (constant current 9×10^{-11} amperes, photometer PMT high gain.)
113-117	Amperes	As 58-62 above, but for BUV Word 3's (constant current 9×10^{-11} amperes, monochromator PMT low gain.)
118-122	Amperes	As 58-62 above, but for BUV Word 3's (constant current 9×10^{-11} amperes, monochromator PMT high gain.)
123-142	Amperes	Same as 103-122 but for constant current calibration 5×10^{-10} amperes
143	-	Number of MCSB, C calibrations this orbit
144	-	Number of MCSD calibrations this orbit
145	-	Number of diffuser plate scans this orbit
146	-	Time of ED/EN Terminator
147-200	Spare, use -77.0 as fill	

1.8 Filter Wedge Spectrometer (FWS) Experiment

At FWS activation (orbit 5), the data output was degraded, showing typical ice absorption patterns in both channels (1.2 - 2.3 micrometer and 3.2 - 6.4 micrometer). This apparent ice collection on the detector and cooling patch rapidly degraded the long wavelength channel sensitivity so that by orbit 89 these readings were meaningless (See Figure 1-20). Data from the short wavelength channel is still usable and shows a notch at about 1.48 micrometers indicating detector ice absorption. Figures 1-21 and 1-22 show different FWS short wavelength spectral response curves for two different cloud types.

1.9 The Selective Chopper Radiometer (SCR) Experiment

The performance of the SCR has been satisfactory for the first 600 orbits. Figure 1-23 is the first SCR sounding and Figure 1-24 is a preliminary comparison of SCR values and those obtained by conventional sounding devices. Housekeeping telemetry were nominal and sensory telemetry provided adequate data for the experimenter. No malfunctions in experiment hardware were observed.

Calibration tables and data format of the SCR tape are being completed by the experimenter and will be published in a later catalog.

1.10 The Interrogation, Recording and Location System (IRLS) Experiment

The IRLS subsystem was activated on 10 April during orbit 32 at Rosman, North Carolina. All telemetry functions indicated nominal conditions. The first IRLS interrogation (orbit 33) was of an elk package located in Yellowstone National Park, Wyoming. Subsequently, other platforms have been successfully interrogated.

A major post launch activity has been a systematic checkout of the Nimbus 4 IRLS software package. The location computation program was verified by comparing solutions obtained with Nimbus 3 and 4 ranging data. Location accuracies were almost identical. Ranging data were obtained from an IRLS platform on a balloon launched from New Zealand as well as fixed station platforms in Montana and at Goddard Space Flight Center in Greenbelt, Maryland.

On 29 May 1970, the first Ascension Island balloon will be launched with weekly launchings thereafter until 15 balloons have been launched. Six values will be recorded and transmitted from each balloon package. These are:

1. Ambient temperature
2. Solar panel temperature
3. Balloon strain gauge value (relates to balloon pressure level)
4. Battery temperature

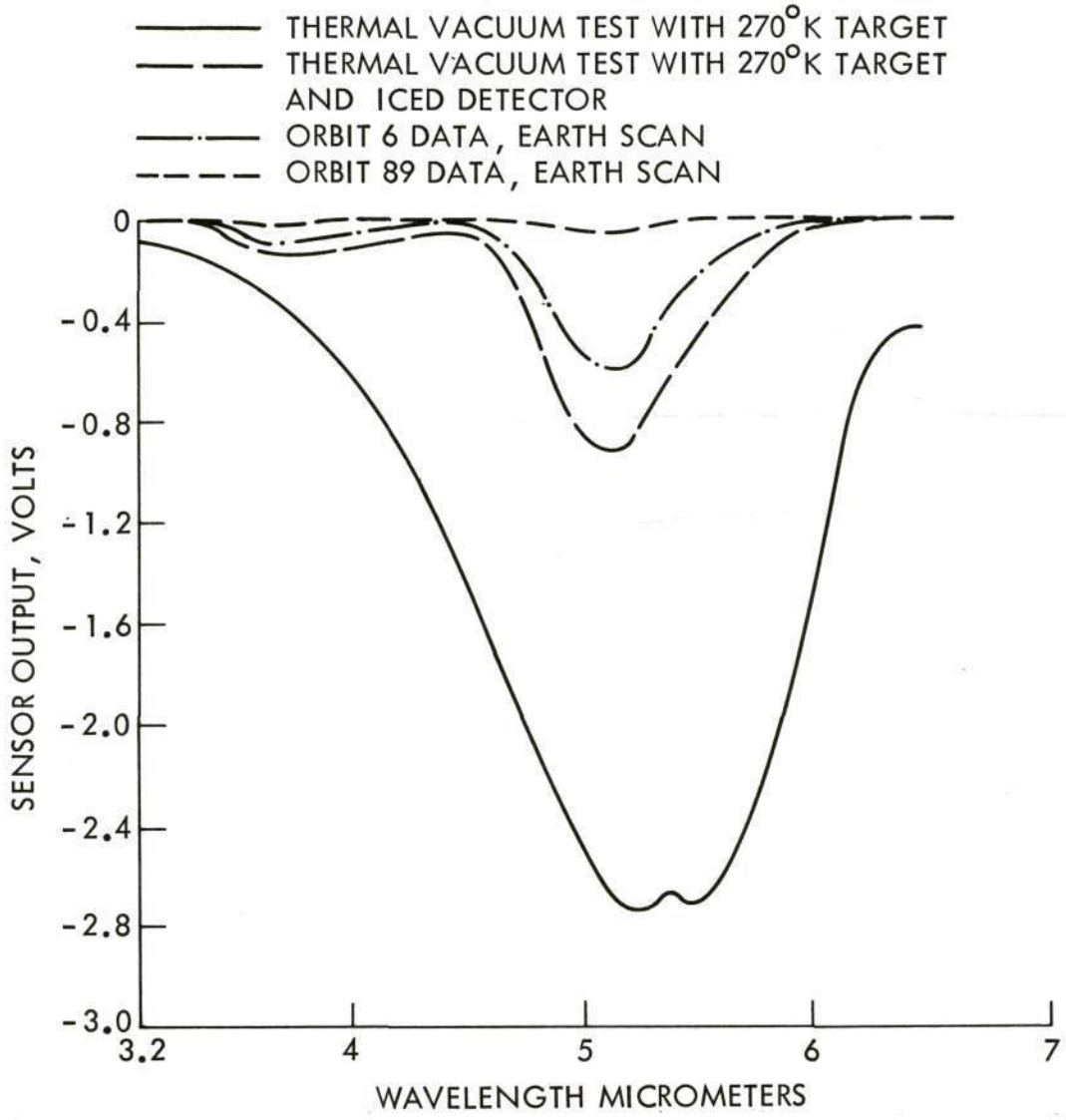


Figure 1-20. FWS Long Wavelength Data Degradation Comparison

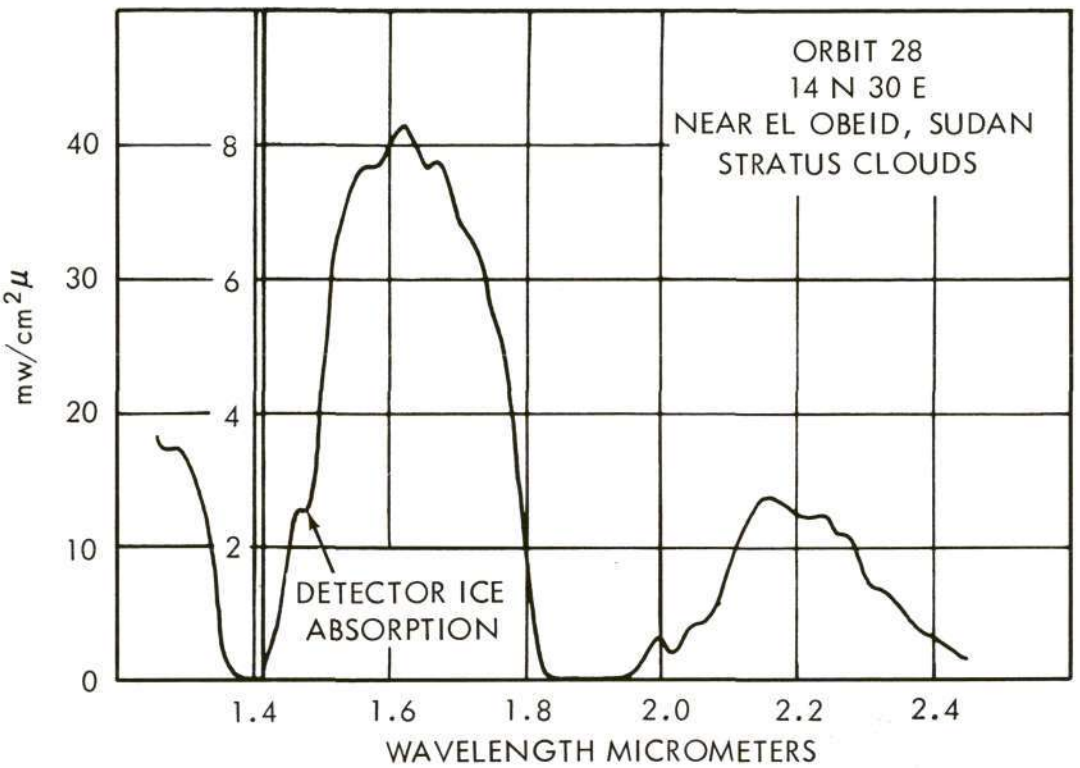


Figure 1-21. FWS Short Wavelength Data, Orbit 28

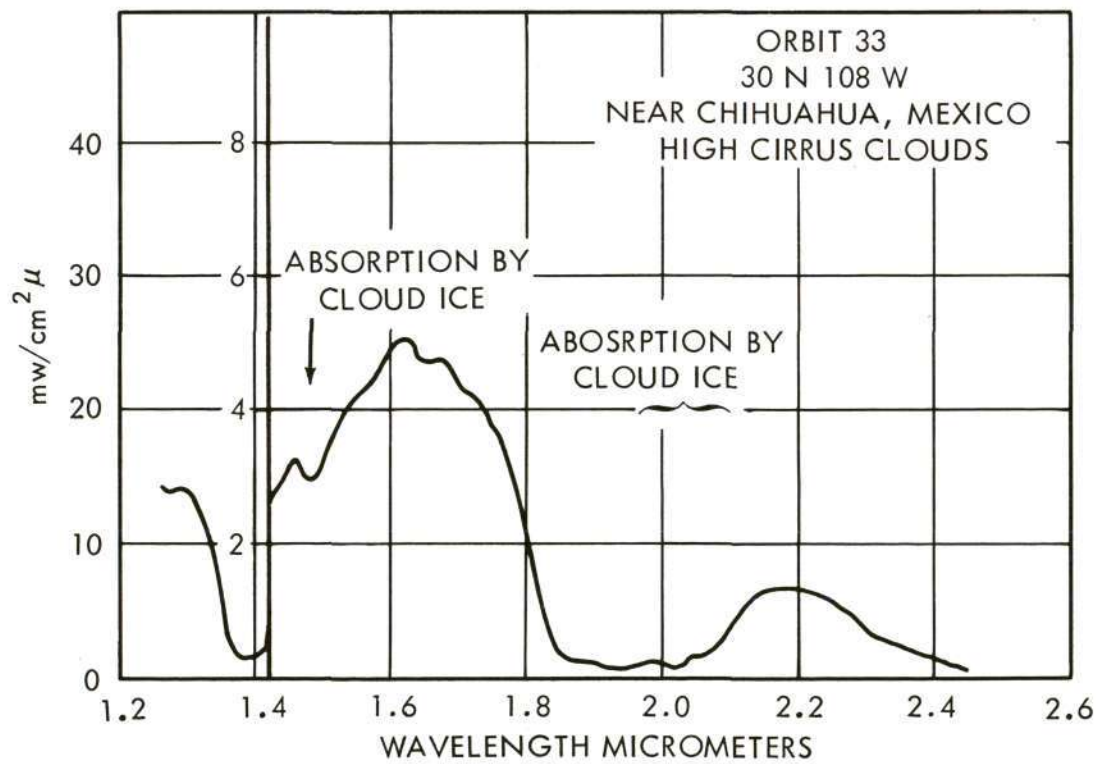


Figure 1-22. FWS Short Wavelength Data, Orbit 33

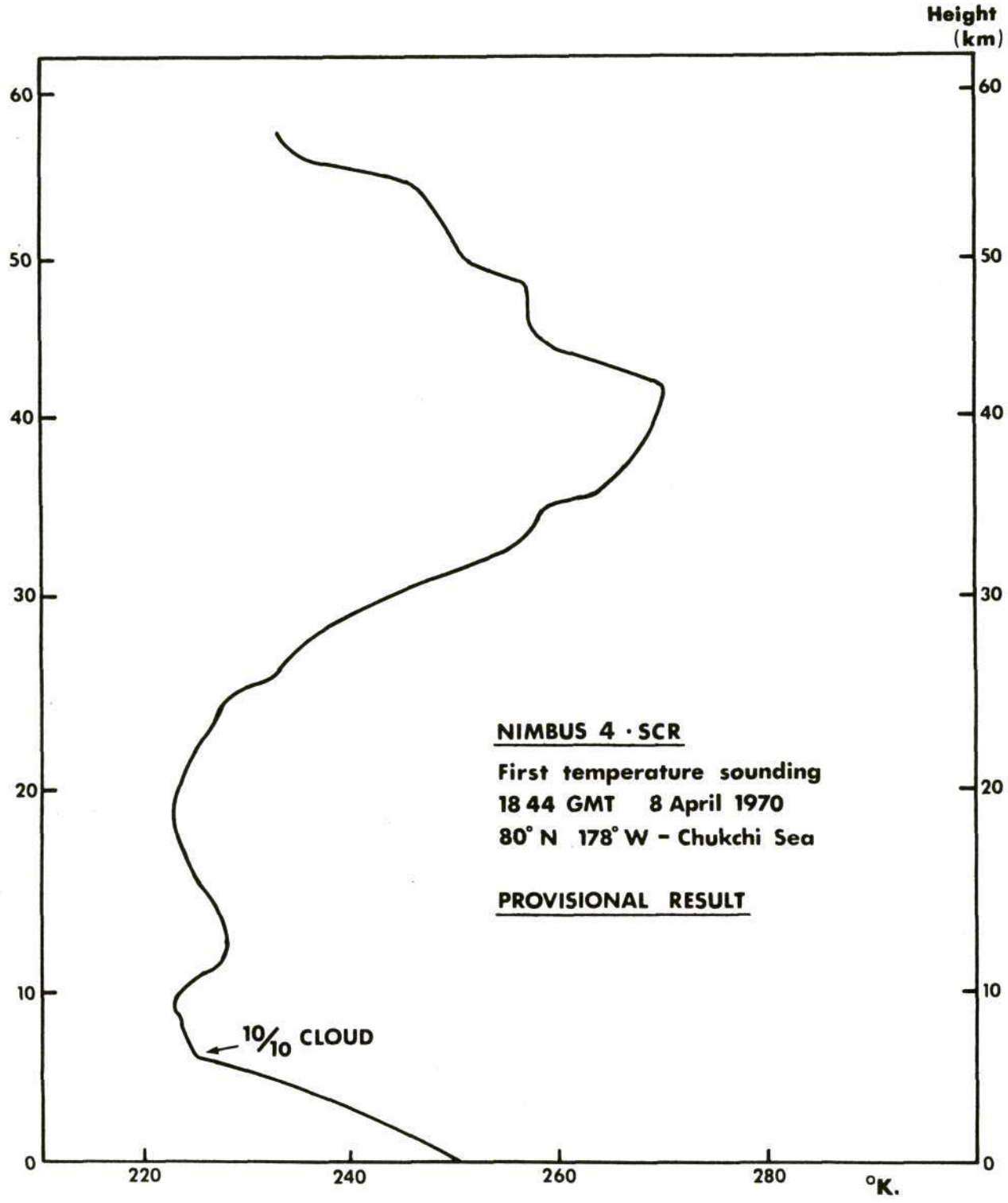


Figure 1-23. First SCR Temperature Sounding

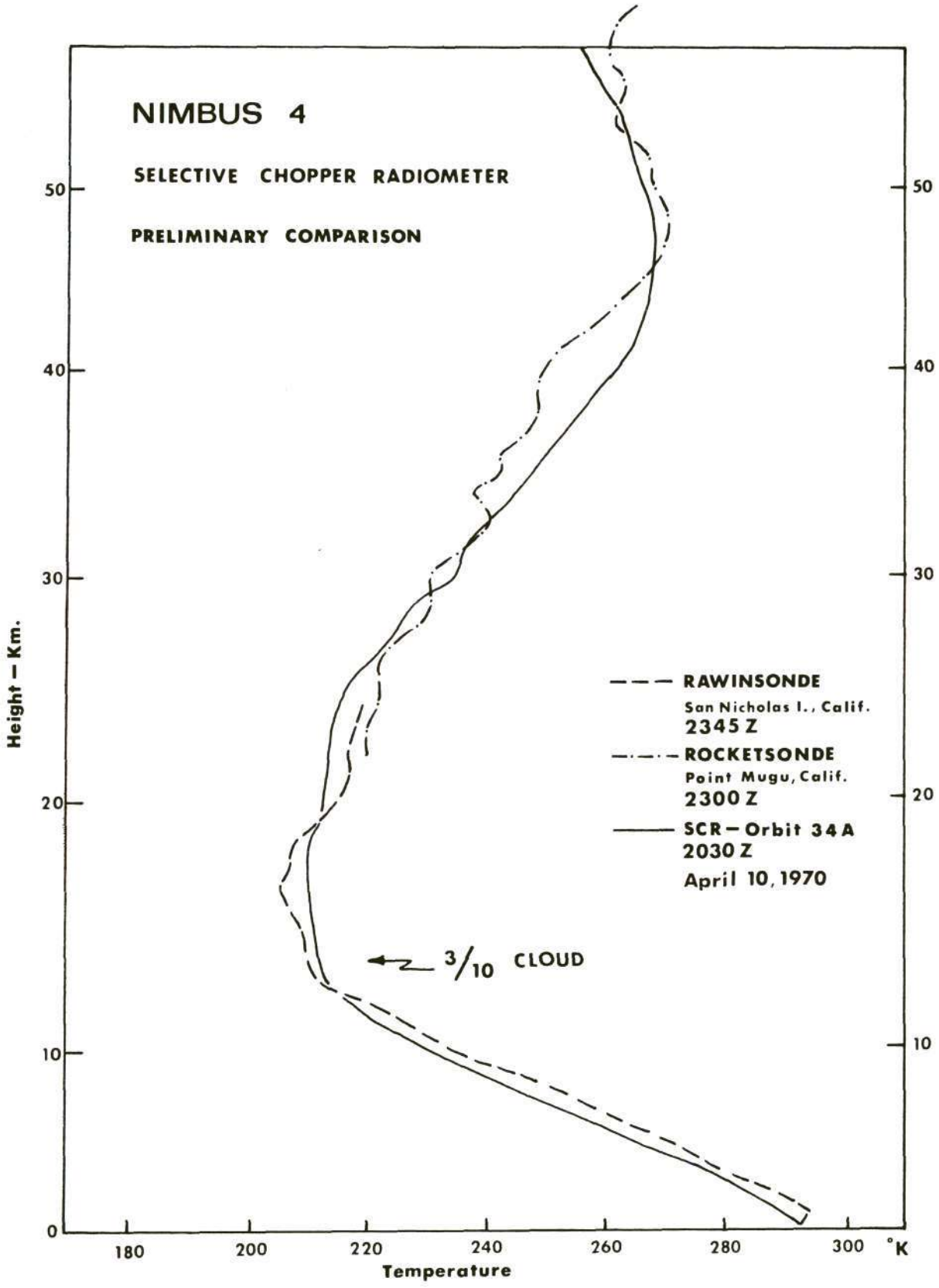


Figure 1-24. SCR Temperature Comparison with Conventional Sounding Devices

5. 4.8 V Battery voltage

6. 12 V Battery voltage

Figure 1-25 is the track of the first Nimbus 4 IRLS balloon package launched from Christchurch, New Zealand on 22 April 1970 and still operating on 22 May, the end of this catalog reporting period. A diagram of the balloon flight train used is shown in Figure 1-26. Other balloons will have a similar configuration. The total payload weight was 4.763 kg with the gross weight of the entire system being 27.633 kg.

1.11 The Real Time Transmission Systems (RTTS) Experiment

The Nimbus 4 RTTS is not routinely transmitted because it interferes with the IRIS experiment. Except for initial activation during the early orbits, RTTS has been turned on for only one brief period, from orbit 353 through 356. Nimbus 3 RTTS still functions properly and is transmitted routinely.

Figure 1-27 shows high quality Nimbus 4 DRID and DRIR data from a RTTS station in Bochum, West Germany.

Distribution of the Nimbus IV Real Time Transmission System (DRID and DRIR) manual was made, prior to launch, to all known active APT ground stations. Gridding techniques and grid accuracies described in the manual were checked with actual data after launch. No gridding problems were encountered and grid accuracies were nominal to those listed in the manual.

As of 1 May 1970, there were over 395 active RTTS ground stations which could receive the Nimbus transmissions. Over 195 of these were in operation in 65 foreign counties. (Another 267 known locations were in various stages of RTTS ground station construction.) About 287 stations had only APT (DRID) reception capability while the remainder (108) had both APT (DRID) and DRIR capability.

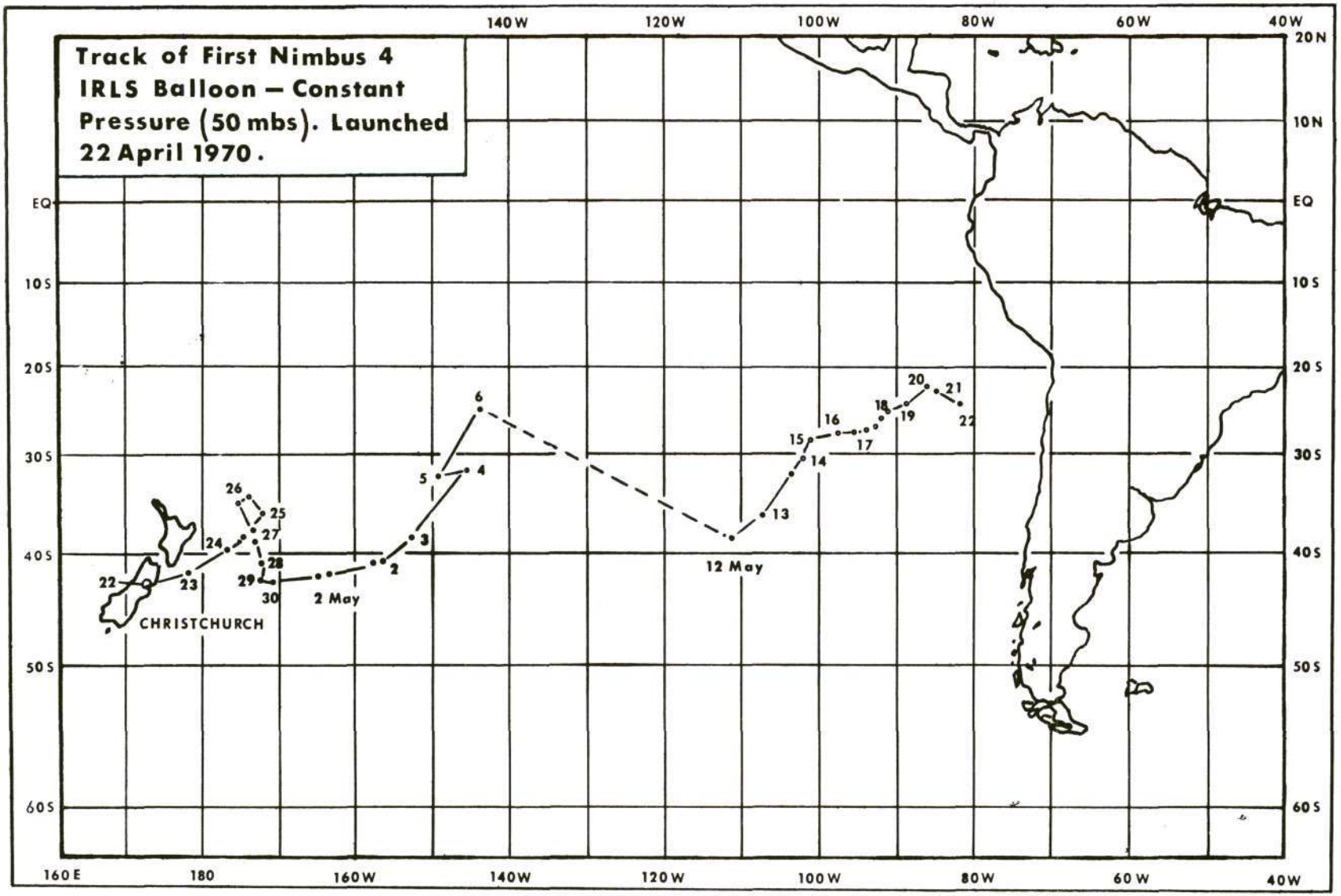


Figure 1-25. Track of First Nimbus 4 IRLS Balloon Package

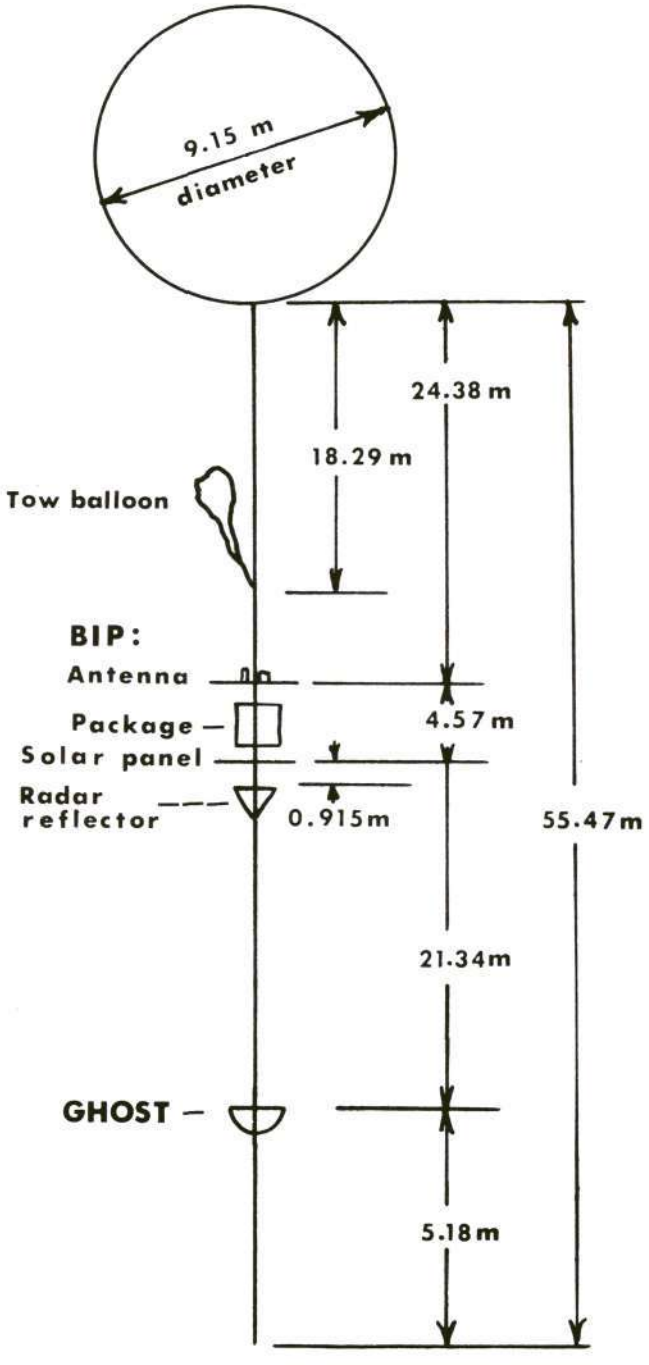


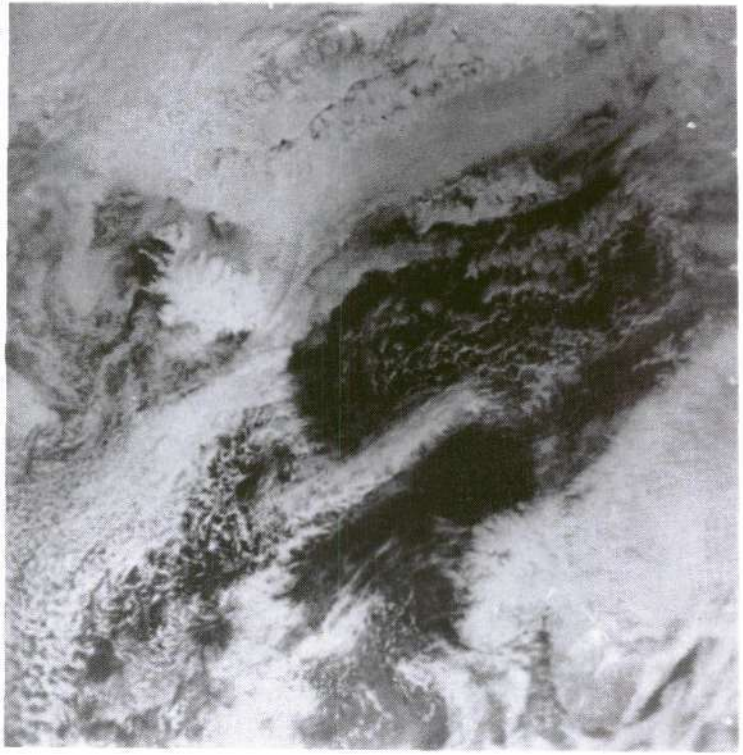
Figure 1-26. Typical Numbus 4 IRLS Balloon Flight Train

THESE DIRECT-READOUT IMAGES WERE RECORDED BY THE STERNWARTE DER STADT BOCHUM (OBSERVATORY OF THE CITY OF BOCHUM), WEST GERMANY. THE OBSERVATORY IS ONE OF MORE THAN 400 STATIONS THROUGHOUT THE WORLD WITH REAL TIME TRANSMISSION SYSTEM (RTTS) CAPABILITY. THESE PICTURES WERE OBTAINED DURING NIMBUS 4'S FIRST AND SECOND DAYS IN SPACE.

DIRECT READOUT IMAGE DISSECTOR CAMERA SYSTEM (DRID) AND DIRECT READOUT INFRARED RADIOMETER (DRIR) PICTURES MAY BE ACQUIRED BY PROPERLY EQUIPPED STATIONS WHEN THE SATELLITE PASSES WITHIN RANGE OF THE RECEIVING ANTENNA (nominally as far as 1800 n. miles for the Nimbus 600 mile altitude)

NIMBUS 4
RTTS

9 APRIL 1970
DRID
ORBIT 15
GREENLAND
ICELAND
SCANDINAVIA



ORBIT 9
WESTERN EUROPE

8 APRIL 1970
11.5 MICRON DRIR(N)

Figure 1-27. Nimbus 4 DRID and DRIR from RTTS Station in West Germany

SECTION 2

ORBITAL ELEMENTS AND DAILY SENSORS "ON" TABLES

The Nimbus 4 Brouwer Mean orbital elements for April and May 1970 are listed in Table 2-1.

The Daily Sensors "On" Table (Table 2-2) lists the times during which the IRIS, IDCS and THIR subsystems were turned on and off. The other subsystems (FWS, BUV, MUSE, SCR and SIRS) were on continuously during this catalog period and, therefore, are not individually listed.

Orbital sensor coverage in Table 2-2 is divided between daytime (D) and nighttime (N) data. The tabulation includes both the Universal Time (UT) and longitude of orbital equator crossings for the ascending nodes for daytime (D) data and descending nodes for nighttime (N) data. The tape recorder HDRSS (A or B) used to record the data is also listed. If both are used on the same orbit, the one with the longer record time is listed first.

Table 2-2 together with the World Map (Figure 2-1) and the vellum Subsatellite Tracks Overlay attached to the back of this catalog can be used to determine approximate geographic sensor coverages.

A Subsatellite Tracks Overlay is correctly oriented with the World Map when the ascending or descending node line on the overlay lays over the 0 degree latitude (equator) line of the World Map. Orbital sensor coverage is determined by placing an orbit track on the world map at the appropriate ascending node (for daytime) or descending node (for nighttime) longitude for the orbit(s) of interest.

The Subsatellite Tracks Overlay contains 14 correctly spaced tracks which end at the approximate earth day/night transitions. The tracks contain time ticks spaced 5 minutes apart, appropriately annotated at the edge of the overlay, referenced from the Equator. Minutes from equator crossings for all or part of a particular orbit are calculated by adding or subtracting from the ascending or descending node time listed for that orbit in the Daily Sensors "On" Table.

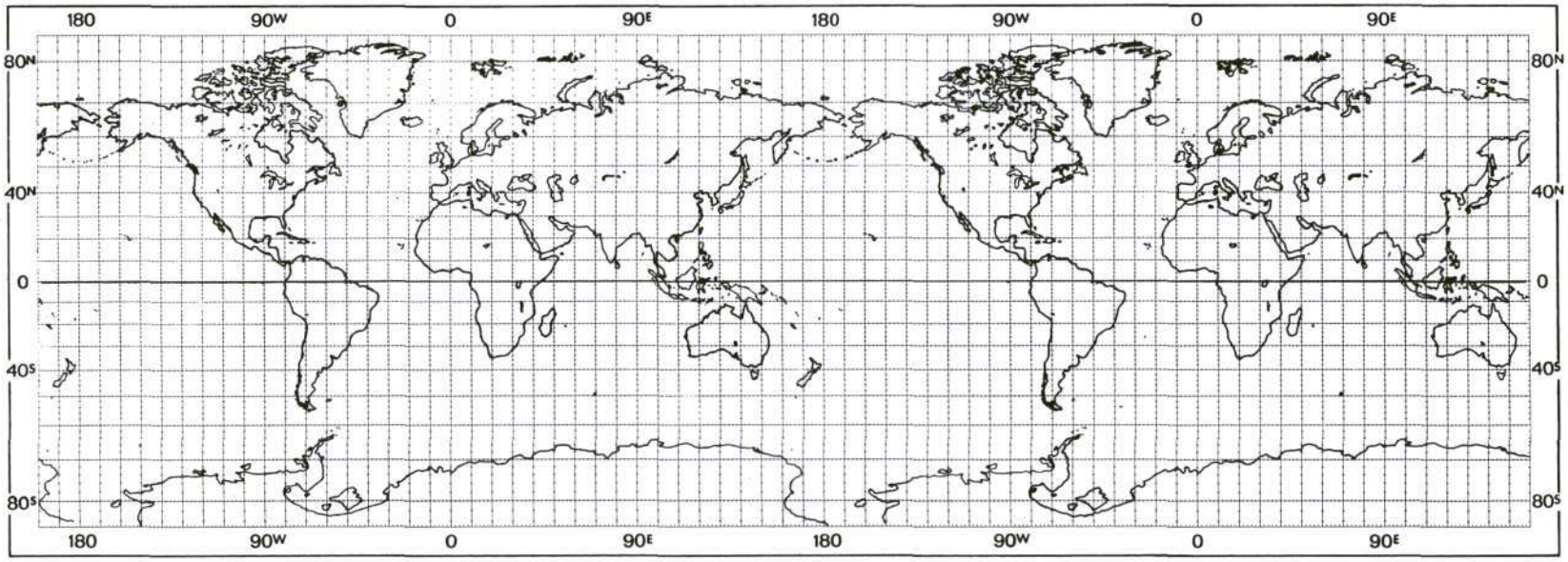


Figure 2-1. World Map

TABLE 2-1

NIMBUS 4 BROUWER MEAN ORBITAL ELEMENTS FOR APRIL AND MAY 1970

Epoch	Universal Time	22 April 1970 00 00 00	27 April 1970 00 00 00	01 May 1970 00 00 00	06 May 1970 00 00 00	08 May 1970 00 00 00
Validity Period	Universal Time	Fr 18 April 70 00 00 00 To 22 April 70 23 50 00	Fr 23 April 70 00 00 00 To 27 April 70 23 50 00	Fr 27 April 70 00 00 00 To 01 May 70 23 50 00	Fr 2 May 70 00 00 00 To 6 May 70 23 50 00	Fr 4 May 70 00 00 00 To 22 May 70 23 50 00
Semi-Major Axis	Km	7471.7224	7471.7212	7471.7220	7471.7218	7471.6770
Eccentricity		.0006992	.0005984	.0004096	.0002435	.0000167
Inclination	Degrees	99.8869	99.8869	99.8900	99.8829	99.8789
Argument of Perigee	Degrees	306.0343	299.7071	308.1896	149.0439	123.5602
Right Ascension of Ascending Node	Degrees	27.7135	32.6183	36.5407	41.4480	43.4092
Mean Anomaly	Degrees	327.02850	24.30153	272.59502	122.63428	96.59011
Height of Perigee	Km	1088.33	1089.08	1090.50	1091.74	1093.38
Height of Apogee	Km	1098.78	1098.03	1096.62	1095.37	1093.64
Anomalistic Period	Minutes	107.1244	107.1244	107.1244	107.1244	107.1234

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 18 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
131 D	01	42	24	E 152.50	B	01 21	02 09			01 21	02 09	01 20	02 05
131 N	02	35	59	W040.90	B	02 09	02 25	03 03	03 20				
132 D	03	29	38	E 125.69									
132 N	04	23	13	W067.71	A	04 17	04 55	04 17	04 51	04 16	04 55		
133 D	05	16	52	E 098.88	A	04 55	05 44			04 55	05 44	04 55	05 40
133 N	06	10	27	W094.52	B	05 44	05 53	05 41	05 52	05 58	06 42		
133 N	06	10	27	W094.52	B	05 59	06 42	05 59	06 38				
134 D	07	04	06	E 072.07	B	06 42	07 31			06 42	07 30	06 42	07 27
134 N	07	57	41	W121.32	A/B	07 31	08 30	07 28	08 26	07 30	08 29		
135 D	08	51	21	E 045.26	A	08 30	09 18			08 29	09 18	08 29	09 14
135 N	09	44	55	W148.13	B	09 18	10 17	09 21	10 13	09 21	10 17		
136 D	10	38	35	E 018.45	B	10 17	11 05			10 17	11 05	10 17	11 02
136 N	11	32	10	W174.94	A	11 05	12 04	11 07	12 00	11 07	12 04		
137 D	12	25	49	W008.36	A	12 04	12 52			12 04	12 53	12 03	12 49
137 N	13	19	24	E 158.25	B	12 52	13 51	12 53	13 47	12 53	13 51		
138 D	14	13	03	W035.17	B	13 51	14 40			13 51	14 39	13 51	14 36
138 N	15	06	38	E 131.44	A	14 40	15 38			14 40	15 39		
139 D	16	00	17	W061.98	A	15 38	16 27			15 39	16 20		
139 N	16	53	52	E 104.63	B	16 27	17 26	16 24	17 21	16 27	17 26		
140 D	17	47	31	W088.79	B/A	17 26	18 14			17 26	18 14	17 25	18 03
140 N	18	41	06	E 077.82	A	18 14	19 13	18 17	19 15	18 14	19 13		
141 D	19	34	47	W115.60	A	19 13	19 49			19 13	19 48	19 12	19 47
141 N	20	28	20	E 051.01	B	20 05	21 00			20 05	21 00		
142 D	21	22	00	W142.40	B/A	21 00	21 49			21 00	21 49	21 00	21 41
142 N	22	15	35	E 024.20	A	21 49	22 47	21 49	22 45	21 49	22 48		
143 D	23	09	14	W169.22	A	22 47	23 36			22 48	23 23	22 47	23 22
143 N	00	02	49	W002.61		23 36	00 35						

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 19 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
144 D	00	56	28	E 163.98		00 35	01 23						
144 N	01	50	03	W029.42	A/B	01 23	02 22	01 23	02 19	01 23	02 22		
145 D	02	43	42	E 137.17	A	02 22	03 10			02 22	03 11	02 21	03 10
145 N	03	37	17	W056.23	A	03 10	03 24	03 10	03 26	03 11	03 25		
146 D	04	30	56	E 110.36									
146 N	05	24	31	W083.04	A	05 14	05 56	05 14	05 53	05 14	05 57		
147 D	06	18	11	E 083.55	A	05 56	06 45			05 57	06 45	05 56	06 41
147 N	07	11	45	W109.85	B/A	06 45	06 55	06 44	07 41	06 45	07 44		
148 D	08	05	25	E 056.74	B					07 44	08 32	07 43	08 28
148 N	08	59	00	W136.66	A	08 31	09 31	08 36	09 28	08 36	09 31		
149 D	09	52	39	E 029.93	A	09 31	10 19			09 31	10 20	09 30	10 11
149 N	10	46	14	W163.47	B	10 19	11 18	10 22	11 18	10 21	11 15		
150 D	11	39	53	E 003.12	B	11 18	12 07			11 18	12 06	11 18	12 03
150 N	12	33	28	E 169.72	A	12 07	13 05	12 07	13 02	12 07	13 06		
151 D	13	27	07	W023.69	A	13 05	13 54			13 06	13 51	13 05	13 50
151 N	14	20	42	E 142.92	B	13 54	14 53	13 53	14 49	13 54	14 53		
152 D	15	14	21	W050.50	B	14 53	15 41			14 53	15 36	14 52	15 34
152 N	16	07	56	E 116.10	A	15 41	16 40	15 40	16 36	15 41	16 40		
153 D	17	01	36	W077.31	A	16 40	17 28			16 40	17 19	16 39	17 17
153 N	17	55	11	E 089.30	B	17 28	18 27	17 27	18 24	17 28	18 27		
154 D	18	48	50	W104.12	B/A	18 27	19 16			18 27	19 16	18 27	19 01
154 N	19	42	25	E 062.49	A	19 16	20 14	19 14	20 10	19 16	20 14		
155 D	20	36	04	W130.93	A/B	20 14	21 03			20 14	21 03	20 14 20 52	20 45 20 59
155 N	21	29	37	E 035.68	B	21 03	22 02	21 04	21 58	21 03	22 02		
156 D	22	23	18	W157.74	B	22 02	22 50			22 02	22 26	22 01	22 36
156 D	22	23	18	W157.74	A					22 39	22 50		
156 N	23	16	53	E 008.87	A	22 50	23 49	22 48	23 33	22 50	23 49		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 20 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
157 D	00	10	32	E 175.45	A	23 49	00 37			23 49	00 37	23 48	00 33
157 N	01	04	07	W017.94	B	00 37	01 36	00 38	01 32	00 49	01 36		
158 D	01	57	46	E 148.65	B	01 36	02 25			01 36	02 25	01 36	02 21
158 N	02	51	21	W044.75	B	02 25	02 40	02 24	02 40	02 25	02 36		
159 D	03	45	01	E 121.63									
159 N	04	38	36	W071.56	B	04 33	05 11	04 33	05 06	04 33	05 11		
160 D	05	32	15	E 095.03	B	05 11	05 59			05 11	05 59	05 10	05 58
160 N	06	25	50	W098.37	A/B	05 59	06 13	05 56	06 12	06 22	06 58		
160 N	06	25	50	W098.37	A			06 21	06 53				
161 D	07	19	29	E 068.22	A	07 23	07 47			06 58	07 46	06 57	07 42
161 N	08	13	04	W125.18	B	07 56	08 45	07 55	08 40	07 56	08 45		
162 D	09	06	43	E 041.41	B	08 45	09 34			08 45	09 33	08 44	09 33
162 N	10	00	18	W151.99	A	09 40	10 32	09 40	10 27	09 39	10 32		
163 D	10	53	57	E 014.60	A	10 32	11 21			10 32	11 20	10 31	11 16
163 N	11	47	32	W178.80	B	11 21	12 20	11 21	12 14	11 22	12 20		
164 D	12	41	11	W012.21	B	12 20	13 08			12 20	13 06	12 19	13 07
164 N	13	34	46	E154.39	A	13 08	14 07	13 08	14 02	13 08	14 07		
165 D	14	28	26	W039.02	A	14 07	14 55			14 07	14 52	14 06	14 51
165 N	15	22	01	E 127.58	B	14 55	15 54	14 53	15 49	14 55	15 54		
166 D	16	15	40	W065.83	A	15 54	16 43			15 54	16 36	15 53	16 35
166 N	17	09	15	E 100.77	A	16 43	17 41	16 39	17 36	16 43	17 41		
167 D	18	02	54	W092.64	B	17 41	18 30			17 41	18 12	17 40	18 15
167 N	18	56	29	E 073.90	B	18 30	19 29	18 26	19 23	18 30	19 29		
168 D	19	50	08	W119.45	B/A	19 29	20 17			19 29	20 17	19 28	20 09
168 N	20	43	43	E 047.15	A	20 17	21 16	20 13	21 10	20 17	21 16		
169 D	21	37	22	W146.26	A	21 16	22 04			21 16	21 50	21 15	22 00
169 N	22	30	57	E 020.34	B	22 04	23 03	22 00	22 57	22 04	23 03		
170 D	23	24	36	W178.07	B/A	23 03	23 52			23 03	23 52	23 02	23 40
170 N	00	18	12	W006.47	A	23 52	00 50	00 37	00 44	23 52	00 50		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 21 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
171 D	01	11	51	E 160.12	A	00 50	01 39			00 50	01 39	00 49	01 31
171 N	02	05	26	W033.27	B	01 39	02 38	01 40	02 31	01 40	02 38		
172 D	02	59	05	E 133.31	B	02 38	03 26			02 38	03 26	02 37	03 18
172 N	03	52	40	W060.08	B	03 26	03 38	03 22	03 42	03 26	03 39		
173 D	04	46	19	E 106.50									
173 N	05	39	54	W086.69	B	05 21	06 12	05 29	06 05	05 29	06 12		
174 D	06	33	33	E 079.69	B	06 12	07 01			06 12	07 01	06 11	06 53
174 N	07	27	08	W113.70	B	07 01	07 59	06 56	07 15				
175 D	08	20	47	E 052.88		07 59	08 48						
175 N	09	14	22	W140.61	B	08 48	09 47	08 53	09 39	08 54	09 47		
176 D	10	08	01	E 026.07	B	09 47	10 35			09 47	10 35	09 45	10 27
176 N	11	01	37	W167.32	A	10 35	11 34	10 38	11 27	10 38	11 34		
177 D	11	55	16	W000.73	A	11 34	12 21			11 34	12 22	11 33	12 14
177 N	12	48	51	E 165.87	B			12 23	13 14	12 24	13 21		
178 D	13	42	30	W027.54	B	13 21	14 10			13 21	14 07	13 20	14 02
178 N	14	36	05	E 139.06	A	14 10	15 08	14 09	15 01	14 10	15 08		
179 D	15	29	44	W054.35	A	15 08	15 55			15 08	15 53	15 07	15 49
179 N	16	23	19	E 112.25	B			15 59	16 48	15 59	16 56		
180 D	17	16	58	W081.16	B	17 11	17 44			16 56	17 34	16 54	17 29
180 N	18	10	33	E 085.44	A	17 44	18 43	17 38	18 35	17 44	18 43		
181 D	19	04	12	W107.97	A	18 43	19 18			18 43	19 18	18 42	19 16
181 N	19	57	47	E 058.63	B	19 41	20 30	19 26	20 22	19 31	30 30		
182 D	20	51	26	W134.78	B	20 30	21 19			20 30	21 04	20 29	21 04
182 N	21	43	02	E 031.82	A	21 19	22 17	21 13	22 09	21 19	22 17		
183 D	22	38	41	W161.59	A	22 17	22 53			22 17	22 52	22 16	22 51
183 N	23	32	16	E 005.01	B			23 00	23 56	23 06	00 05		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 22 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
184 D	00	25	55	E 171.60	B	00 06	00 56			00 05	00 53	00 04	00 45
184 N	01	19	30	W021.80	A			00 52	01 43	00 53	01 52		
185 D	02	13	09	E 144.80	A					01 52	02 40	01 51	02 32
185 N	03	06	44	W048.60	A	02 49	02 55	02 34	02 54	02 40	02 54		
186 D	04	00	23	E 117.99									
186 N	04	53	58	W075.41	A			04 45	05 18	04 44	05 26		
187 D	05	47	37	E 091.18	A	05 58	06 15			05 26	06 15	05 25	06 07
187 N	06	41	13	W102.22	A/B	06 15	07 14	06 08	07 05	06 15	07 14		
188 D	07	34	51	E 064.37	B	07 14	08 02			07 14	08 01	07 12	07 54
188 N	08	28	27	W129.03	A	08 02	09 01	08 06	08 52	08 06	09 01		
189 D	09	22	06	E 037.56	A	09 01	09 49			09 01	09 49	09 00	09 41
189 N	10	15	41	W155.84	B	09 49	10 48	10 15	10 39	09 51	10 48		
190 D	11	09	20	E 010.75	B	10 48	11 37			10 49	11 36	10 47	11 28
190 N	12	02	55	E 177.35	A	11 37	12 35	11 38	12 26	11 38	12 35		
191 D	12	56	34	W016.06	A	12 35	13 24			12 35	13 19	12 34	13 16
191 N	13	50	09	E 150.54	B	13 24	14 23	13 21	14 13	13 24	14 23		
192 D	14	43	48	W042.87	B	14 23	15 07			14 23	15 07	14 21	15 03
192 N	15	37	23	E 123.73	A	15 11	16 10	15 06	16 00	15 11	16 10		
193 D	16	31	02	W069.68	A	16 10	16 58			16 10	16 48	16 09	16 47
193 N	17	24	38	E 096.93	B	16 58	17 57	16 51	17 47	16 58	17 57		
194 D	18	18	18	W096.40	B/A	17 57	18 45			17 57	18 45	17 56	18 34
194 N	19	11	53	E 070.12	A	18 45	19 45	18 38	19 34	18 45	19 44		
195 D	20	05	31	W123.39	A/B	19 44	20 19			19 44	20 33	19 43	20 18
195 N	20	59	06	E 043.31	B	20 33	21 31	20 32	21 22	20 33	21 31		
196 D	21	52	45	W150.11	B/A	21 31	22 06			21 31	22 20	21 30	22 05
196 N	22	46	20	E 016.50	A			22 12	23 08	22 20	23 19		
197 D	23	39	59	W176.92	A					23 19	00 07		
197 N	00	33	34	W010.31	B/A	00 14	01 06	23 59	00 56	00 07	01 06		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 23 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
198 D	01	27	13	E 156.23	B	01 06	01 54			01 06	01 54	01 05	01 43
198 N	02	20	48	W037.12	B	01 54	02 07			01 54	02 08		
199 D	03	14	27	E 129.46									
199 N	04	08	03	W063.93									
200 D	05	01	41	E 102.55									
200 N	05	55	17	W090.74	B			05 46	06 17	05 45	06 28		
201 D	06	48	56	E 075.85	B					06 28	07 16	06 27	07 05
201 N	07	42	31	W127.55	A/B	07 21	08 15	07 11	08 04	07 16	08 15		
202 D	08	36	10	E 049.04	A	08 15	09 05			08 15	09 03	08 14	08 52
202 N	09	29	45	W144.36	B			09 06	09 51	09 07	10 02		
203 D	10	23	24	E 022.23	B	10 15	10 51			10 02	10 51	10 01	10 39
203 N	11	16	59	W171.17	A	10 51	11 49	10 52	11 38	10 52	11 49		
204 D	12	10	38	W004.53	A	11 49	12 35			11 49	12 36	11 48	12 26
204 N	13	04	13	E 162.12	B	12 49	13 37	12 38	13 25	12 44	13 37		
205 D	13	57	52	W031.39	B	13 37	14 21			13 37	14 21	13 36	14 14
205 N	14	51	28	E 135.21	A			14 24	15 13	14 25	15 24		
206 D	15	45	06	W058.29	A	15 49	15 56			15 24	16 06	15 23	16 01
206 N	16	38	42	E 108.40	B			16 07	17 00	16 12	17 11		
207 D	17	32	21	W085.01	B	17 45	18 00			17 11	17 51	17 10	17 48
207 N	18	25	55	E 081.59	A	18 00	18 58	17 53	18 43	18 00	18 58		
208 D	19	19	35	W111.82	A/B	18 58	19 47			18 58	19 47	18 57	19 32
208 N	20	13	10	E 054.78	B	19 47	20 46	19 43	20 34	19 47	20 46		
209 D	21	06	49	W138.63	B/A	20 46	21 34			20 46	21 34	20 44	21 19
209 N	22	00	24	E 027.97	A	21 34	22 33	21 31	22 21	21 34	22 33		
210 D	22	54	00	W165.44	A/B	22 33	23 21			22 33	23 21	22 32	23 06
210 N	23	47	38	E 001.16	B	23 21	00 20	23 21	00 08	23 21	00 20		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 24 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
211 D	00	41	17	E 167.75	B	00 20	01 09			00 20	01 09	00 19	00 57
211 N	01	34	53	W025.64	A	01 09	02 07	01 08	01 55	01 09	02 07		
212 D	02	28	31	E 140.94	A	02 07	02 56			02 07	02 56	02 06	02 44
212 N	03	22	07	W052.46	A	02 56	03 10	02 52	03 10	02 56	03 09		
213 D	04	15	46	E 114.13									
213 N	05	09	21	W079.26	A	05 01	05 42	05 01	05 49	05 01	05 42		
214 D	06	03	00	E 087.32	A	05 42	06 30			05 42	06 30	05 41	06 19
214 N	06	56	35	W106.17	A	06 30	07 29			06 30	06 41		
214 N	06	56	35	W106.17	B			06 43	07 17	06 48	07 29		
215 D	07	50	14	E 060.51	B	07 29	08 23			07 29	08 18	07 28	08 06
215 N	08	43	40	W132.88	A	08 55	09 15	08 22	09 04	08 22	09 16		
216 D	09	37	28	E 033.70	A	09 15	10 00			09 16	10 05	09 15	09 53
216 N	10	31	04	W159.69	B	10 08	11 04	10 08	10 51	10 09	11 04		
217 D	11	24	42	E 006.96	B	11 04	11 52			11 04	11 51	11 02	11 41
217 N	12	18	17	E 173.50	A	11 52	12 51			11 53	12 51		
218 D	13	11	56	W019.91	A	12 51	13 39			12 51	13 35	12 50	13 24
218 N	14	05	32	E 146.89	B	13 39	14 38	13 37	14 25	13 39	14 38		
219 D	14	59	11	W046.72	A	14 38	15 27			14 38	15 20	14 37	15 12
219 N	15	52	46	E 119.88	A	15 27	16 25	15 22	16 12	15 27	16 25		
220 D	16	46	25	W073.53	A	16 25	17 14			16 25	17 04	16 24	16 59
220 N	17	40	00	E 093.17	B	17 14	18 13	17 13	17 59	17 14	18 13		
221 D	18	33	39	W100.34	B/A	18 13	19 01			18 13	19 01	18 12	18 46
221 N	19	27	14	E 066.26	A	19 01	20 00	19 01	19 58	19 01	20 00		
222 D	20	20	53	W127.15	A/B	20 00	20 48			20 00	20 48	20 02	20 33
222 N	21	14	29	E 039.45	B	20 48	21 47	20 48	21 45	20 48	21 47		
223 D	22	08	07	W153.96	B	21 47	22 36			21 47	22 20		
223 N	23	01	43	E 012.64	A	22 36	23 34	22 35	23 34	22 36	23 34		
224 D	23	55	21	E 179.23	A	23 34	00 23			23 34 23 54	23 41 00 23	23 37	00 18
224 N	00	48	57	W014.17	B	00 23	01 22	00 22	01 20	00 23	01 22		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 25 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
225 D	01	42	36	E 152.43	B	01 22	02 10			01 22	02 10	01 24	02 05
225 N	02	36	11	W040.98	B	02 10	02 22	02 09	02 23	02 10	02 21		
226 D	03	29	50	E 125.61									
226 N	04	23	25	W067.79	B	04 19	04 56	04 19	04 54	04 18	04 56		
227 D	05	17	04	E 098.80	B	04 56	05 45			04 56	05 45	04 58	05 36
227 N	06	10	39	W094.69	B	05 45	05 53	06 00	06 41	06 00	06 43		
227 N	06	10	39	W094.69	B	06 00	06 43						
228 D	07	04	28	E 070.99	B	06 43	07 32			06 43	07 27	06 42	07 27
228 N	07	57	54	W121.41	B	07 32	07 40	07 42	08 28	07 42	08 31		
229 D	08	51	32	E 045.18	B					08 31	09 19	08 30	09 14
229 N	09	45	08	W148.22	A	09 21	10 18	09 21	10 13	09 21	10 18		
230 D	10	38	46	E 018.37	A	10 18	11 06			10 18	11 06	10 17	11 02
230 N	11	32	22	W175.02	A	11 06	12 05	11 07	12 02	11 08	12 05		
231 D	12	26	01	W008.44	A	12 05	12 53			12 05	12 52	12 04	12 49
231 N	13	19	36	E 158.16	B	13 05	13 52	12 54	13 52	12 54	13 52		
232 D	14	13	15	W035.25	B	13 52	14 41			13 52	14 37	13 51	14 36
232 N	15	06	50	E 131.36	A	14 41	15 40	14 39	15 37	14 41	15 40		
233 D	16	00	29	W062.05	A	15 40	16 28			15 40	16 18	15 39	16 20
233 N	16	54	04	E 104.55	B	16 28	17 27	16 26	17 24	16 28	17 27		
234 D	17	47	43	W088.87	B/A	17 27	18 04			17 27	18 15	17 26	18 04
234 N	18	41	19	E 077.74	A	18 38	19 14	18 13	19 11	18 15	19 14		
235 D	19	34	57	W115.67	A/B	19 14	20 02			19 14	20 02	19 13	19 47
235 N	20	28	33	E 050.93	A	20 02	21 01	20 04	20 58	20 02	21 01		
236 D	21	22	12	W142.48	A/B	21 01	21 50			21 01	21 50	21 00	21 28
236 N	22	15	47	E 024.12	B	21 50	22 48	21 48	22 45	21 50	22 48		
237 D	23	09	26	W169.29	B	22 48	23 23			22 48	23 28		
237 N	00	03	01	W002.69	B			23 56	00 32	23 57	00 36		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 26 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
238 D	00	56	40	E 163.90	B					00 36	01 24	00 35	01 20
238 N	01	50	15	W029.50	A	01 24	02 23	01 24	02 20	01 24	02 23		
239 D	02	43	54	E 137.09	A	02 23	03 11			02 23	03 11	02 22	03 07
239 N	03	37	29	W056.31	A	03 11	03 26	03 09	03 26				
240 D	04	31	08	E 110.28									
240 N	05	24	44	W083.12	A	05 17	05 57	05 17	05 53	05 17	05 57		
241 D	06	18	22	E 083.47	A	05 57	06 46			05 57	06 45	05 56	06 41
241 N	07	11	58	W109.93	B/A	06 46	06 55	06 43	07 37	06 45	07 45		
242 D	08	05	37	E 056.66	B	07 56	08 33			07 45	08 33	07 44	08 29
242 N	08	59	12	W136.74	A	08 33	09 32	08 36	09 27	08 36	09 32		
243 D	09	52	51	E 029.85	A	09 32	10 20			09 32	10 20	09 31	10 16
243 N	10	46	26	W163.55	B	10 20	11 19	10 22	11 15	10 22	11 19		
244 D	11	40	05	E 003.94	B	11 19	12 08			11 19	12 06	11 18	12 03
244 N	12	33	40	E 169.64	A	12 08	13 06	12 07	13 03	12 08	13 06		
245 D	13	27	19	W023.77	A	13 06	13 51			13 06	13 50	13 05	13 50
245 N	14	20	55	E 142.83	B			13 52	14 49	13 55	14 54		
246 D	15	14	33	W050.53	B	15 11	15 42			14 54	15 35	14 53	15 34
246 N	16	08	09	E 116.02	A	15 42	16 41	15 39	16 36	15 42	16 41		
247 D	17	01	47	W077.39	A/B	16 41	17 29			16 41	17 29	16 40	17 14
247 N	17	55	23	E 089.21	B	17 29	18 28	17 26	18 23	17 29	18 28		
248 D	18	49	02	W104.20	B/A	18 28	19 17			18 28	19 17	18 27	19 02
248 N	19	42	38	E 062.41	A	19 17	20 15	19 13	20 11	19 17	20 15		
249 D	20	36	16	W131.00	A	20 15	21 04			20 15	20 50	20 14	20 49
249 D	20	36	16	W131.00	B					20 54	21 04		
249 N	21	29	51	E 035.60	B	21 04	22 03	21 05	21 58	21 04	22 03		
250 D	22	23	30	W157.82	B/A	22 03	22 51			22 03	22 51	22 02	22 36
250 N	23	17	05	E 008.79	A	22 51	23 50	22 47	23 45	22 51	23 50		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 27 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
251 D	00	10	44	E 175.38	A	23 50	00 38			23 50	00 38	23 49	00 34
251 N	01	04	20	W018.02	B	00 38	01 37	00 37	01 31	00 38	01 37		
252 D	01	57	58	E 148.56	B	01 37	02 26			01 37	02 26	01 36	02 21
252 N	02	51	34	W044.83	B	02 26	02 39	02 22	02 38	02 26	02 38		
253 D	03	45	12	E 121.75									
253 N	04	38	48	W071.64	B	04 32	05 12	04 32	05 06	04 32	05 11		
254 D	05	32	27	E 094.95	B	05 12	06 00			05 11	05 59	05 11	05 56
254 N	06	26	03	W098.45	B	06 00	06 09	05 56	06 08	05 59	06 09		
254 N	06	26	03	W098.45	B	06 16	06 59	06 16	06 53	06 15	06 59		
255 D	07	19	41	E 068.14	B	06 59	07 47			06 59	07 47	06 58	07 36
255 N	08	13	16	W125.26	A	07 47	08 46	07 42	08 41	07 52	08 46		
256 D	09	06	55	E 041.38	A	08 46	09 36			08 46	09 35		
256 N	10	00	30	W152.07	B			09 42	10 28	09 42	10 32		
257 D	10	54	09	E 014.52	B	11 14	11 22			10 32	11 19	10 32	11 14
257 N	11	47	45	W178.88	A	11 22	12 21	11 22	12 15	11 22	12 20		
258 D	12	41	23	W012.29	A	12 21	13 09			12 20	13 04	12 20	13 01
258 N	13	34	59	E 154.31	B	13 09	14 08	13 08	14 02	13 09	14 08		
259 D	14	28	37	W039.10	B	14 08	14 56			14 08	14 53	14 07	14 48
259 N	15	22	13	E 127.50	A	14 56	15 55	14 54	15 49	14 56	15 55		
260 D	16	15	51	W065.91	A	15 55	16 35	16 13	16 35	15 55	16 34		
260 N	17	09	27	E 100.69	B	17 26	17 42	16 39	17 36	16 44	17 42		
261 D	18	03	06	W092.72	B	17 42	18 31	18 00	18 19	17 42	18 19	17 41	17 55
261 N	18	56	41	E 073.88	A	18 31	19 30	18 26	19 23	18 31	19 30		
262 D	19	50	20	W119.53	A/B	19 30	20 18	19 47	20 06	19 30	20 18	19 29	19 42
262 N	20	43	55	E 047.07	B	20 18	21 17	20 13	21 11	20 18	21 17		
263 D	21	37	34	W146.34	B/A	21 17 21 52	21 43 22 05	21 35	21 51	21 17	22 05	21 16	21 33
263 N	22	31	10	E 020.26	A	22 05	23 04	22 00	22 58	22 05	23 04		
264 D	23	24	48	W173.15	A	23 04	23 41			23 04	23 40	23 03	23 38
264 N	00	18	24	W006.55	B			23 59	00 45	23 58	00 51		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 28 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
265 D	01	12	02	E 160.04	B	01 14	01 40			00 51	01 40	00 50	01 32
265 N	02	05	38	W033.35	A	01 40	02 39	01 40	02 32	01 40	02 39		
266 D	02	59	17	E 133.23	A	02 39	03 27			02 39	03 27	02 38	03 19
266 N	03	52	52	W060.17	A	03 27	03 43	03 22	03 41	03 27	03 42		
267 D	04	46	31	E 106.43									
267 N	05	40	06	W086.97	A	05 32	06 13	05 31	06 06	05 31	06 12		
268 D	06	33	45	E 079.62	A	06 13	07 02			06 12	07 02	06 12	06 53
268 N	07	27	20	W113.78	B/A	07 02	07 11	06 56	07 54	07 02	08 00		
269 D	08	20	59	E 052.81	B					08 00	08 49	08 00	08 41
269 N	09	14	35	W140.59	A	08 50	09 48	08 51	09 41	08 51	09 48		
270 D	10	08	13	E 026.00	A	09 48	10 30			09 48	10 36	09 47	10 28
270 N	11	01	49	W167.40	B	10 46	11 35	10 47	11 28	10 47	11 35		
271 D	11	55	27	W000.81	B	11 35	12 23			11 35	12 22	11 34	12 15
271 N	12	49	03	E 165.79	A	13 01	13 22	12 23	13 12				
272 D	13	42	42	W027.62	A	13 22	14 07					13 21	14 02
272 N	14	36	17	E 138.98	B			14 08	15 01	14 09	15 09		
273 D	15	29	56	W054.43	B/A	15 13	15 58	15 27	15 50	15 09	15 58	15 09	15 25
273 N	16	23	31	E 112.17	A	15 58	16 56	15 54	16 49	15 58	16 56		
274 D	17	17	10	W081.24	A/B	16 56	17 45	17 14	17 34	16 56	17 45	16 56	17 13
274 N	18	10	45	E 085.36	B	17 45	18 44	17 45	18 42	17 45	18 43		
275 D	19	04	24	W108.05	B/A	18 44	19 32	19 01	19 17	18 43	19 32	18 46	19 00
275 N	19	58	00	E 058.55	A	19 32	20 31	19 32	20 29	19 32	20 30		
276 D	20	51	38	W134.86	A/B	20 31	21 19	20 49	21 06	20 30	21 19	20 33	20 47
276 N	21	45	14	E 031.74	B	21 19	22 18	21 19	22 16	21 19	22 18		
277 D	22	38	52	W161.67	B/A	22 18	23 07			22 18	23 07	22 21	22 52
277 N	23	32	28	E 004.93	A	23 07	00 05	23 07	00 03	23 07	00 05		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 29 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
278 D	00	26	07	E 171.52	A	00 05	00 54			00 05	00 54	00 08	00 49
278 N	01	19	42	W021.88	B	00 54	01 53	00 53	01 51	00 54	01 53		
279 D	02	13	21	E 144.71	B	01 53	02 41			01 53	02 41	01 55	02 37
279 N	03	06	56	W048.59	B	02 41	02 55	02 40	02 54	02 41	02 55		
280 D	04	00	35	E 117.90									
280 N	04	54	11	W075.50	B	04 46	05 27	04 46	05 25	04 45	05 27		
281 D	05	47	49	E 091.09	B	05 27	06 16			05 27	06 16	05 29	06 11
281 N	06	41	25	W102.31	A/B	06 16	06 27	06 14	07 12	06 16	07 14		
282 D	07	35	03	E 064.28	A	08 01	08 04			07 14	08 03	07 13	07 58
282 N	08	28	39	W129.11	B	08 43	09 02	08 07	08 59	08 07	09 02		
283 D	09	22	17	E 037.47	B	09 02	09 49			09 02	09 50	09 04	09 42
283 N	10	15	53	W155.92	A	09 52	10 49	09 52	10 46	09 52	10 49		
284 D	11	09	32	E 010.66	A	10 49	11 38			10 49	11 37	10 48	11 30
284 N	12	03	07	E 177.27	B			11 39	12 34	11 39	12 36		
285 D	12	56	46	W016.15	B					12 36	13 17	12 35	13 20
285 N	13	50	21	E 150.46	A			13 23	14 21	13 25	14 23		
286 D	14	43	40	W042.95	A	14 42	15 07			14 23	15 06	14 23	15 04
286 N	15	37	36	E 123.65	B	15 20	16 11	15 10	16 08	15 12	16 11		
287 D	16	31	14	W069.76	B	16 11	16 59	16 27	16 50	16 11	16 47	16 10	16 27
287 N	17	24	50	E 096.84	A	16 59	17 58	16 57	17 55	16 59	17 58		
288 D	18	18	28	W096.57	A	17 58	18 33	18 15	18 33	17 58	18 46	17 57	18 14
288 N	19	12	04	E 070.03	B			18 44	19 42	18 46	19 45		
289 D	20	05	42	W123.38	B	20 08	20 20	20 03	20 20	19 45	20 20	19 44	20 01
289 N	20	59	18	E 043.22	A			20 32	21 29	20 34	21 32		
290 D	21	52	56	W150.19	A/B	22 02	22 21	21 50	22 07	21 32	22 21	21 32	21 49
290 N	22	46	32	E 016.41	B	22 21	23 20	22 19	23 16	22 21	23 20		
291 D	23	40	11	W177.00	B	23 20	00 08			23 20	00 08	23 19	00 04
291 N	00	33	46	W010.40	A	00 08	01 07	00 07	01 04	00 08	01 07		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 30 APRIL 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
292 D	01	27	25	E 156.19	A	01 07	01 55			01 07	01 55	01 06	01 51
292 N	02	21	10	W037.21	A	01 55	02 10	01 53	02 09	01 55	02 09		
293 D	03	14	39	E 129.38									
293 N	04	08	15	W064.02									
294 D	05	01	53	E 102.57									
294 N	05	55	29	W090.83	A			05 45	06 25	05 45	06 29		
295 D	06	49	07	E 075.76	A					06 29	07 17	06 28	07 13
295 N	07	42	43	W117.64	B	07 26	08 16	07 26	08 12	07 26	08 16		
296 D	08	36	22	E 048.95	B	08 16	09 04			08 16	09 03	08 15	09 00
296 N	09	29	57	W144.45	A	09 04	10 03	09 08	09 58	09 09	10 03		
297 D	10	23	36	E 022.14	A	10 03	10 52			10 03	10 52	10 02	10 47
297 N	11	17	11	W171.26	B	10 52	11 50	10 51	11 46	10 52	11 50		
298 D	12	10	50	W004.67	B	11 50	12 37			11 50	12 37	11 49	12 34
298 N	13	04	23	E 161.93	A	12 38	13 38	12 38	13 33	12 38	13 38		
299 D	13	58	04	W031.43	A	13 38	14 24			13 38	14 24	13 37	14 18
299 N	14	51	40	E 135.12	B	15 03	15 25	14 25	15 21	14 26	15 25		
300 D	15	45	18	W058.29	B	15 25	16 06	15 43	16 05	15 25	16 05	15 24	15 41
300 N	16	38	54	E 108.31	A			16 10	17 07	16 13	17 12		
301 D	17	32	32	W085.10	A	17 23	18 01	17 31	17 51	17 12	17 51	17 11	17 28
301 N	18	26	08	E 081.51	B	18 01	18 59	18 01	18 57	18 02	18 59		
302 D	19	19	47	W111.93	B/A	18 59	19 48	19 17	19 33	18 59	19 48	19 02	19 12
302 N	20	13	22	E 054.70	A	19 48	20 47	19 48	20 44	19 48	20 47		
303 D	21	07	01	W138.71	A/B	20 47	21 35	21 07	21 19	20 47	21 35	20 49	21 06
303 N	22	00	36	E 027.89	B	21 35	22 34	21 35	22 32	21 35	22 34		
304 D	22	54	15	W165.52	B/A	22 34	22 49			22 34	23 22	22 36	23 07
304 N	23	47	51	E 001.08	A			23 22	00 17	23 22	00 21		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 1 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
305 D	00	41	29	E 167.67	A					00 21	01 10	00 20	01 09
305 N	01	35	05	W025.73	B	01 10	02 08	01 10	02 06	01 10	02 08		
306 D	02	28	44	E 140.86	B	02 08	02 57			02 08	02 56	02 07	02 56
306 N	03	22	19	W052.54		02 57	03 10						
307 D	04	15	58	E 114.95									
307 N	05	09	33	W079.35	B	04 59	05 43	04 59	05 40	04 59	05 43		
308 D	06	03	12	E 087.24	B	05 43	06 31			05 43	06 31	05 42	06 31
308 N	06	56	48	W106.16	A	06 31	07 30	06 40	07 28	06 40	07 30		
309 D	07	50	26	E 060.43	A	07 30	08 18			07 30	08 18	07 29	08 17
309 N	08	44	02	W132.97	B	08 18	09 17	08 21	09 15	08 21	09 17		
310 D	09	37	40	E 033.62	B	09 17	10 06			09 17	10 06	09 16	10 05
310 N	10	31	16	W159.78	A	10 06	11 04	10 09	11 02	10 09	11 04		
311 D	11	24	54	E 006.81	A	11 04	11 53			11 04	11 53	11 04	11 52
311 N	12	18	30	E 173.41	B	11 53	12 52	11 54	12 49	11 54	12 52		
312 D	13	12	08	W020.00	B	12 52	13 40			12 52	13 34	12 51	13 36
312 N	14	05	44	E146.60	A	13 40	14 39	13 40	14 37	13 40	14 39		
313 D	14	59	23	W046.81	A	14 39	15 27			14 39	15 21	14 38	15 23
313 N	15	52	59	E 119.79	B	15 27	16 26	15 26	16 24	15 30	16 26		
314 D	16	46	37	W073.62	B	16 26	17 15	16 44	17 04	16 26	17 04	16 25	16 39
314 N	17	40	13	E 092.98	A	17 15	18 13	17 19	18 . 11	17 15	18 13		
315 D	18	33	51	W100.43	A/B	18 13	19 02	18 31	18 48	18 13	19 02	18 13	18 30
315 N	19	27	27	E 066.17	B	19 02	20 01	19 02	19 58	19 02	20 01		
316 D	20	21	05	W127.24	B/A	20 01	20 49	20 18	20 37	20 01	20 49	20 00	20 17
316 N	21	14	41	E 039.36	A	20 49	21 48	20 49	21 45	20 49	21 48		
317 D	22	08	20	W154.05	A/B	21 48	22 36	22 05	22 21	21 48	22 36	21 47	22 04
317 N	23	01	55	E 012.56	B	22 36	23 35	22 36	23 32	22 36	23 35		
318 D	23	55	34	E 179.15	B	23 35	00 24			23 35	00 24	23 34	00 19
318 N	00	49	09	W014.26	A	00 24	01 22	00 23	01 20	00 24	01 22		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 2 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
319 D	01	42	47	E 152.33	A	01 22	02 11			01 22	02 11	01 22	02 10
319 N	02	36	23	W041.06	A	02 11	02 24	02 10	02 24	02 11	02 24		
320 D	03	30	02	E 125.53									
320 N	04	23	37	W067.87									
321 D	05	17	16	E 098.72									
321 N	06	10	51	W094.68	A	06 01	06 44	06 01	06 39	06 01	06 44		
322 D	07	04	30	E 071.91	A	06 44	07 33			06 44	07 33	06 43	07 32
322 N	07	58	06	W121.49	B/A	07 33	08 31	07 32	08 28	07 33	08 31		
323 D	08	51	44	E 045.10	B	08 31	09 20			08 31	09 17	08 34	09 19
323 N	09	45	20	W148.30	A	09 20	10 19	09 21	10 16	09 21	10 19		
324 D	10	38	58	E 018.29	A	10 19	11 07			10 19	11 06	10 21	11 06
324 N	11	32	34	W175.11	B	11 08	12 06	11 07	12 02	11 08	12 05		
325 D	12	26	12	W008.52	B	12 06	12 54			12 05	12 51	12 08	12 50
325 N	13	19	48	E158.08	A	12 54	13 53	12 53	13 50	12 54	13 52		
326 D	14	13	27	W035.33	A	13 53	14 42			13 52	14 37	13 55	14 37
326 N	15	07	02	E 131.27	B	14 42	15 40	14 41	15 35	14 42	15 40		
327 D	16	00	40	W062.14	B	15 40	16 21	15 58	16 20	15 40	16 20	15 43	15 53
327 N	16	54	16	E 104.46	A			16 27	17 25	16 29	17 28		
328 D	17	47	55	W088.95	A/B	18 05	18 16	17 45	18 04	17 28	18 16	17 27	17 44
328 N	18	41	31	E 077.65	B	18 16	19 15	18 15	19 11	18 16	19 14		
329 D	19	35	09	W115.76	B/A	19 15	20 03	19 32	20 03	19 14	20 03	19 14	19 24
329 N	20	28	45	E 050.84	A	20 03	21 02	20 03	21 00	20 03	21 02		
330 D	21	22	23	W142.57	A	21 02	21 37	21 18	21 36	21 02	21 36	21 01	21 15
330 N	22	15	59	E 024.03	B			21 49	22 46				
331 D	23	09	37	W169.38	B/A	23 25	23 38			22 49	23 38	22 49	23 23
331 N	00	03	13	W002.78	A	23 38	00 37	23 36	00 33	23 38	00 37		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 3 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
332 D	00	56	52	E 163.81	A	00 37	01 25			00 37	01 25	00 35	01 21
332 N	01	50	28	W029.59	B	01 25	02 24	01 25	02 20	01 25	02 24		
333 D	02	44	06	E 137.00	B	02 24	03 12			02 24	03 12	02 23	03 08
333 N	03	37	41	W056.41	B	03 12	03 27	03 11	03 26	03 12	03 26		
334 D	04	31	19	E 110.10									
334 N	05	24	55	W083.21	B			05 15	05 55	05 15	05 57		
335 D	06	18	33	E 083.38	B					05 57	06 47	05 57	06 39
335 N	07	12	09	W110.01	A/B	06 57	07 46	06 46	07 42	06 47	07 46		
336 D	08	05	47	E 056.53	A	07 46	08 34			07 46	08 34	07 45	08 30
336 N	08	59	23	W136.82	B	08 34	09 33	08 36	09 29	08 36	09 33		
337 D	09	53	01	E 029.77	B	09 33	10 21			09 33	10 22	09 32	10 17
337 N	10	46	37	W163.82	A	10 21	11 20	10 23	11 17	10 23	11 20		
338 D	11	40	16	E 002.96	A	11 20	12 09			11 20	12 07	11 19	11 56
338 N	12	33	51	E 169.56	B	12 09	13 07	12 09	13 04	12 09	13 07		
339 D	13	27	31	W023.85	B	13 07	13 56			13 07	13 53	13 06	13 48
339 N	14	21	06	E 142.75	A	13 56	14 55	13 55	14 51	13 56	14 55		
340 D	15	14	44	W050.66	A	14 55	15 43	15 12	15 37	14 55	15 37	14 54	15 11
340 N	16	08	20	E 115.94	B	15 43	16 42	15 43	16 38	15 42	16 42		
341 D	17	01	58	W077.47	B/A	16 42	17 30	16 59	17 19	16 42	17 30	16 41	16 58
341 N	17	55	34	E 089.13	A	17 30	18 29	17 29	18 25	17 30	18 29		
342 D	18	49	12	W104.28	A/B	18 29	19 18	18 46	19 05	18 29	19 17	18 28	18 42
342 N	19	42	48	E 062.22	B	19 18	20 16	19 18	20 13				
343 D	20	36	26	W131.09	B/A	20 16	21 05	20 37	20 51	20 52	21 05	20 15	20 29
343 N	21	30	02	E 035.51	A	21 05	22 03	21 03	22 00	21 05	22 03		
344 D	22	23	42	W157.90	A	22 03	22 38			22 03	22 38	22 03	22 34
344 N	23	17	18	E 008.71	B	23 00	23 51	22 56	23 47	22 57	23 51		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 4 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
345 D	00	10	56	E 175.29	B	23 51	00 39			23 51	00 39	23 50	00 34
345 N	01	04	32	W018.11	A	00 39	01 38	00 38	01 34	00 39	01 38		
346 D	01	56	10	E 148.48	A	01 38	02 26			01 38	02 26	01 37	02 22
346 N	02	51	46	W044.92	A	02 26	02 38			02 26	02 39		
347 D	03	45	24	E 121.67									
347 N	04	39	00	W071.73	A	04 31	05 12	04 32	05 08	04 31	05 12		
348 D	05	32	38	E 094.86	A	05 12	06 01			05 12	06 01	05 12	05 57
348 N	06	26	14	W098.54	B/A	06 01	06 09	05 59	06 56	06 01	07 00		
349 D	07	19	52	E 068.15	B					07 00	07 48	07 02	07 44
349 N	08	13	28	W125.35	B	07 54	08 47	07 54	08 43	07 48	08 47		
350 D	09	07	07	E 041.24	B	08 47	09 35			08 47	09 35	08 46	09 31
350 N	10	00	42	W152.16	A	09 35	10 34	09 37	10 30	09 37	10 34		
351 D	10	54	21	E 014.43	A	10 34	11 23			10 34	11 21	10 33	11 18
351 N	11	47	57	W178.97	B	11 23	12 21	11 23	12 18	11 23	12 21		
352 D	12	41	35	W012.38	B	12 21	13 10			12 21	13 07	12 21	13 05
352 N	13	35	11	E 154.23	A	13 10	14 09	13 09	14 05	13 10	14 09		
353 D	14	28	49	W039.19	B	14 09	14 57			14 09	14 53	14 08	14 53
353 N	15	22	25	E 127.41	A	14 57	15 56	14 55	15 51	14 57	15 56		
354 D	16	16	03	W065.99	A/B	15 56	16 44	16 13	16 36	15 56	16 44	15 55	16 12
354 N	17	09	39	E 100.61	A	16 44	17 43	16 43	17 39	16 44	17 43		
355 D	18	03	17	W092.80	A/B	17 43	18 32	18 00	18 21	17 43	18 32	17 42	17 56
355 N	18	56	53	E 073.80	B	18 32	19 30	18 30	19 25	18 32	19 30		
356 D	19	50	32	W119.61	B/A	19 30	20 19	19 48	20 06	19 30	20 19	19 30	19 47
356 N	20	44	07	E 046.99	A	20 19	21 18	20 17	21 13	20 19	21 18		
357 D	21	37	46	W146.42	A	21 18	22 06	21 35	21 51	21 18	22 06	21 17	21 34
357 N	22	31	22	E 020.18	A	22 06	23 05	22 04	23 01	22 06	23 05		
358 D	23	25	00	W173.23	A/B	23 05	23 53			23 05	23 53	23 04	23 39
358 N	00	18	36	W006.63	B	23 53	00 52	23 51	00 48	23 53	00 52		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 5 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
359 D	01	12	14	E 159.96	A	00 52	01 41			00 52	01 41	00 51	01 36
359 N	02	05	50	W033.44	A	01 41	02 39	01 40	02 35	01 41	02 39		
360 D	02	59	28	E 133.15	A	02 39	03 28			02 39	03 28	02 39	03 23
360 N	03	53	04	W060.25	A	03 28	03 42	03 26	03 42	03 28	03 42		
361 D	04	46	42	E 106.34									
361 N	05	40	18	W087.06	A	05 51	06 14	05 50	06 09	05 50	06 14		
362 D	06	33	57	E 079.53	A	06 14	07 02			06 14	07 02	06 13	06 58
362 N	07	27	32	W113.87	A	07 02	08 01	07 00	07 11	07 02	07 11		
362 N	07	27	32	W113.87	B			07 22	07 56	07 12	08 01		
363 D	08	21	11	E 052.72	B	08 01	08 50			08 01	08 50	08 00	08 45
363 N	09	14	47	W140.68	A	08 50	09 48	08 52	09 44	08 52	09 48		
364 D	10	08	25	E 025.91	A	09 48	10 37			09 48	10 36	09 48	10 32
364 N	11	02	01	W167.49	B	10 37	11 36	10 37	11 31	10 37	11 36		
365 D	11	55	39	W000.90	B	11 36	12 24			11 36	12 22	11 35	12 20
365 N	12	49	15	E 165.70	A	12 24	13 23	12 23	13 18	12 24	13 23		
366 D	13	42	53	W027.71	A	13 23	14 11			13 23	14 08	13 22	14 07
366 N	14	36	29	E 138.89	B	14 11	15 10	14 09	15 05	14 17	15 10		
367 D	15	30	07	W054.52	B	15 10	15 59	15 27	15 51	15 10	15 51	15 09	15 23
367 N	16	23	43	E 112.08	A	15 59	16 57	15 56	16 53	15 59	16 57		
368 D	17	17	22	W081.33	A	16 57	17 46	17 14	17 33	16 57	17 35	16 56	17 10
368 N	18	10	57	E 085.27	B	17 46	18 45	17 43	18 40	17 46	18 45		
369 D	19	04	36	W108.14	B	18 45	19 33	19 02	19 21	18 45	19 21	18 44	19 01
369 N	19	58	12	E 058.46	A	19 33	20 32	19 35	20 32	19 33	20 32		
370 D	20	51	50	W134.94	A/B	20 32	21 20	20 49	21 05	20 32	21 20	20 31	20 48
370 N	21	45	26	E 031.66	B	21 20	22 19	21 18	22 14	21 20	22 19		
371 D	22	39	04	W161.75	B/A	22 19	22 53			22 19	23 08	22 18	22 53
371 N	23	32	40	E 004.85	A	23 13	00 06	23 04	00 02	23 08	00 06		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 6 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
372 D	00	26	18	E 171.44	A	00 06	00 55			00 06	00 55	00 05	00 50
372 N	01	19	54	W021.96	B	01 04	01 54	00 55	01 49	00 55	01 54		
373 D	02	13	32	E 144.64	B	01 54	02 42			01 54	02 42	01 53	02 38
373 N	03	07	08	W048.76	B	02 42	02 56	02 40	02 56	02 42	02 55		
374 D	04	00	47	E 117.82									
374 N	04	54	22	W075.58	B	04 49	05 28	04 50	05 23	04 50	05 28		
375 D	05	48	01	E 091.02	B	05 28	06 16			05 28	06 16	05 27	06 12
375 N	06	41	37	W102.38	B	06 16	06 23	06 14	06 24	06 16	06 22		
375 N	06	41	37	W102.38	B/A	06 41	07 15	06 31	07 10	06 31	07 15		
376 D	07	35	14	E 064.21	B	07 15	08 04			07 15	08 04	07 14	07 59
376 N	08	28	51	W129.19	A	08 04	09 02	08 07	08 58	08 07	09 02		
377 D	09	22	29	E 037.40	A	09 02	09 50			09 02	09 51	09 01	09 46
377 N	10	16	05	W156.00	B	10 22	10 50	09 52	10 44	09 52	10 50		
378 D	11	09	43	E 010.59	B	10 50	11 38			10 50	11 36	10 49	11 34
378 N	12	03	19	E 177.19	A	11 38	12 37	11 38	12 32	11 38	12 37		
379 D	12	56	57	W016.22	A	12 37	13 25			12 37	13 23	12 36	13 21
379 N	13	50	33	E 150.38	B	13 25	14 24	13 26	14 19	13 26	14 24		
380 D	14	44	12	W043.03	B	14 24	15 13			14 24	15 07	14 33	15 05
380 N	15	37	47	E 123.57	A	15 13	16 11	15 10	16 06	15 13	16 11		
381 D	16	31	26	W069.84	A	16 11	16 53	16 28	16 51	16 11	16 52	16 11	16 21
381 N	17	25	02	E 096.76	B	17 54	17 59	16 57	17 53	17 00	17 59		
382 D	18	18	40	W096.65	B/A	17 59	18 47	18 16	18 34	17 59	18 47	17 58	18 11
382 N	19	12	16	E 069.95	A	18 47	19 46	18 44	19 40	18 47	19 46		
383 D	20	05	54	W123.46	A/B	19 46 20 31	20 20 20 34	20 03	20 19	19 46	20 34	19 45	20 02
383 N	20	59	30	E 043.14	B	20 34	21 33	20 34	21 31	20 34	21 33		
384 D	21	53	08	W150.27	B/A	21 33	22 09	21 50	22 09	21 33	22 22	21 35	21 46
384 N	22	45	44	E 016.33	A	23 06	23 20	22 21	23 18	22 22	23 20		
385 D	23	40	22	W177.08	A	23 20	00 10			23 20	00 09	23 23	00 05
385 N	00	33	58	W010.48	B	01 00	01 08	00 09	01 06	00 09	01 08		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 7 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
386 D	01	27	36	E 156.11	B	01 08	01 56			01 08	01 56	01 10	01 55
386 N	02	21	12	W037.29	B	01 56	02 11	01 55	02 06	01 56	02 10		
387 D	03	14	51	E 129.30									
387 N	04	08	27	W064.10									
388 D	05	02	05	E 102.49									
388 N	05	55	41	W090.91	B	06 07	06 29	05 45	06 27	05 45	06 29		
389 D	06	49	19	E 075.68	B	06 29	07 18			06 29	07 18	06 29	07 13
389 N	07	42	55	W117.71	A/B	07 18	08 17	07 17	08 14	07 18	08 17		
390 D	08	36	33	E 048.87	A	08 17	09 06			08 17	09 05	08 19	09 01
390 N	09	30	09	W144.53	B			09 13	10 08	09 07	10 04		
391 D	10	23	47	E 022.07	B	10 42	10 52			10 04	10 52	10 03	10 48
391 N	11	17	23	W171.33	A	10 52	11 51	10 53	11 49	10 55	11 51		
392 D	12	11	01	W004.75	A	11 51	12 35			11 51	12 38	11 50	12 35
392 N	13	04	37	E 161.86	B			12 39	13 35	12 40	13 38		
393 D	13	58	16	W031.55	B/A	14 00	14 27			13 38	14 27	13 38	14 22
393 N	14	51	51	E 135.05	A	14 27	15 26	14 26	15 24	14 27	15 26		
394 D	15	45	30	W058.36	A	15 26	16 14	15 42	16 05	15 26	16 05	15 25	15 38
394 N	16	39	06	E 108.24	A	16 14	17 13	16 13	17 10	16 14	17 13		
395 D	17	32	44	W085.17	A	17 13	18 01	17 31	17 50	17 13	17 51	17 12	17 29
395 N	18	26	20	E 081.43	A	18 01	19 00	18 00	18 58	18 01	19 00		
396 D	19	19	58	W111.98	A	19 00	19 36	19 18	19 37	19 00	19 49	18 59	19 16
396 N	20	13	34	E 054.62	B	20 33	20 47	19 47	20 45	19 49	20 47		
397 D	21	07	12	W138.79	B	20 47	21 36	21 02	21 20	20 47	21 36	20 47	21 00
397 N	22	00	48	E 027.81	A	21 36	22 35	21 34	22 32	21 36	22 35		
398 D	22	54	26	W165.60	B	22 35	23 23			22 35	23 23	22 34	23 12
398 N	23	48	02	E 001.00	B	23 23	00 22	23 22	00 19	23 23	00 22		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 8 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
399 D	00	41	41	E 167.59	B	00 22	01 10			00 22	01 10	00 21	01 06
399 N	01	35	16	W025.81	A	01 10	01 14	01 11	02 06	01 11	02 09		
400 D	02	28	55	E 140.78	A					02 09	02 58	02 08	02 53
400 N	03	22	31	W052.62	A			02 56	03 13	02 58	03 13		
401 D	04	16	09	E 113.97									
401 N	05	09	45	W079.43	A	05 03	05 44	05 03	05 41	05 02	05 44		
402 D	06	03	23	E 087.16	A	05 44	06 37			05 44	06 32	05 43	06 28
402 N	06	56	59	W106.24	A	06 45	07 31	06 45	07 27	06 44	07 31		
403 D	07	50	37	E 060.35	A	07 31	08 19			07 31	08 17	07 30	08 15
403 N	08	44	13	W133.05	B	08 19	08 26	08 26	09 17	08 26	09 18		
404 D	09	37	51	E 033.54	B	09 35	10 07			09 18	10 05	09 17	10 02
404 N	10	31	27	W159.86	A	10 07	11 05	10 10	11 03	10 10	11 05		
405 D	11	25	06	E 006.73	A	11 05	11 54			11 05	11 53	11 04	11 49
405 N	12	18	41	E 173.33	B			11 54	12 50	11 54	12 52		
406 D	13	12	20	W020.08	B	13 02	13 39			12 52	13 38	12 52	13 37
406 N	14	05	56	E 146.52	B	13 46	14 40	13 47	14 37	13 47	14 40		
407 D	14	59	34	W046.88	B	14 40	15 28			14 40	15 23	14 39	15 24
407 N	15	53	10	E 119.72	B	15 28	16 27	15 27	16 24	15 28	16 27		
408 D	16	46	48	W073.70	B	16 27	17 08	16 44	17 07	16 27	17 09	16 26	16 44
408 N	17	40	24	E 092.90	B			17 14	18 11	17 15	18 14		
409 D	18	34	02	W100.50	B/A	18 38	19 03	18 31	18 49	18 14	19 03	18 13	18 27
409 N	19	27	38	E 066.10	A	19 03	20 01	19 01	19 59	19 03	20 01		
410 D	20	21	16	W127.31	A/B	20 01	20 50	20 18	20 36	20 01	20 50	20 01	20 14
410 N	21	14	52	E 039.29	B	20 50	21 49	20 48	21 46	20 50	21 49		
411 D	22	08	31	W154.12	B/A	21 49	22 37	22 05	22 25	21 49	22 37	21 48	22 01
411 N	23	02	06	E 012.48	A	22 37	23 36	22 35	23 33	22 37	23 36		
412 D	23	55	44	E 179.07	A	23 36	00 24			23 36	00 24	23 35	00 20
412 N	00	49	21	W014.33	B	00 24	01 23	00 25	01 19	00 26	01 23		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 9 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
413 D	01	42	59	E 152.26	B	01 23	02 12			01 23	02 12	01 22	02 07
413 N	02	36	34	W041.14	B	02 12	02 28	02 07	02 25	02 12	02 28		
414 D	03	30	13	E 125.45									
414 N	04	23	49	W067.95	B	04 17	04 58	04 16	04 54	04 16	04 58		
415 D	05	17	27	E 098.64	B	04 58	05 46			04 58	05 46	04 57	05 45
415 N	06	11	03	W094.76	B	05 46 06 00	05 53 06 45	06 00	06 43	06 00	06 45		
416 D	07	04	41	E 071.83	B	06 45	07 33			06 45	07 33	06 43	07 29
416 N	07	58	17	W121.57	A/B	07 33	08 32	07 31	08 29	07 37	08 32		
417 D	08	51	56	E 045.02	A	08 32	09 22			08 32	09 20	08 31	09 16
417 N	09	45	31	W148.38	B			09 22	10 16	09 22	10 19		
418 D	10	39	10	E 018.21	B	11 00	11 05			10 19	11 05	10 19	11 02
418 N	11	32	46	W175.19	A			11 07	12 04	11 08	12 07		
419 D	12	26	24	W008.60	A	12 12	12 55			12 07	12 52	12 06	12 51
419 N	13	20	00	E 158.00	B	12 55	13 54	12 54	13 51	12 58	13 54		
420 D	14	13	38	W035.41	B	13 54	14 42			13 54	14 37	13 53	14 35
420 N	15	07	14	E 131.19	A	14 42	15 41	14 40	15 38	14 42	15 41		
421 D	16	00	52	W062.22	A	15 41	16 30	15 58	16 19	15 41	16 15	15 40	15 54
421 D	16	00	52	W062.22	B					16 21	16 30		
421 N	16	54	28	E 104.38	B	16 30	17 28	16 28	17 25	16 30	17 28		
422 D	17	48	06	W089.03	B/A	17 28	18 17	17 46	18 06	17 28	18 17	17 27	17 41
422 N	18	41	42	E 077.57	A	18 17	19 16	18 14	19 12	18 17	19 16		
423 D	19	35	21	W115.84	A/B	19 16	19 52	19 32	19 53	19 16	20 04	19 15	19 29
423 N	20	28	56	E 050.77	B	20 55	21 03	20 02	20 59	20 04	21 03		
424 D	21	22	35	W142.65	B	21 03	21 36	21 19	21 35	21 03	21 36	21 02	21 16
424 N	22	15	11	E 023.95	A	21 50	22 50	21 49	22 46	21 50	22 50		
425 D	23	09	49	W169.45	A/B	22 50	23 39			22 50	23 39	22 49	23 27
425 N	00	03	25	W002.85	B	23 39	00 37	23 36	00 34	23 39	00 37		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 10 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HORSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
426 D	00	57	03	E 163.74	B	00 37	01 26			00 37	01 26	00 37	01 21
426 N	01	50	39	W029.67	A	01 26	02 25	01 27	02 21	01 36	02 25		
427 D	02	44	17	E 136.93	A	02 25	03 13			02 25	03 13	02 24	03 09
427 N	03	37	53	W056.47	A	03 13	03 29	03 10	03 29	03 13	03 29		
428 D	04	31	31	E 110.12									
428 N	05	25	07	W083.28	A	05 16	05 59	05 16	05 55	05 15	05 59		
429 D	06	18	46	E 083.31	A	05 59	06 48			05 59	06 47	05 58	06 40
429 N	07	12	21	W110.09	B/A	06 48	07 46	06 56	07 42	06 47	07 46		
430 D	08	06	00	E 056.50	B	07 46	08 31	08 03	08 35	07 46	08 31	07 46	07 59
430 N	08	59	36	W136.90	A	08 36	09 34	08 36	09 30	08 36	09 34		
431 D	09	53	14	E 029.69	A	09 34	10 20			09 34	10 20	09 33	10 17
431 N	10	46	50	W163.71	B	11 12	11 21	10 22	11 17	10 22	11 21		
432 D	11	40	28	E 002.88	B	11 21	12 09			11 21	12 06	11 20	12 05
432 N	12	34	04	E 169.48	A	12 09	13 08	12 08	13 04	12 09	13 08		
433 D	13	27	42	W023.93	A	13 08	13 57			13 08	13 53	13 07	13 52
433 N	14	21	18	E 142.67	B	13 57	14 55	13 54	14 51	13 57	14 55		
434 D	15	14	56	W050.74	B	14 55	15 44	15 03	15 27	14 55	15 38	14 54	15 08
434 N	16	08	32	E 115.86	A	15 44	16 43	15 41	16 39	15 44	16 43		
435 D	17	02	11	W077.55	A/B	16 43	17 31	17 00	17 21	16 43	17 31	16 42	16 55
435 N	17	55	46	E 089.05	B	17 31	18 30	17 28	18 26	17 31	18 30		
436 D	18	49	25	W104.36	B/A	18 30	19 18	18 46	19 06	18 30	19 18	18 29	18 39
436 N	19	43	01	E 062.24	A	19 18	20 17	19 15	20 13	19 18	20 17		
437 D	20	36	38	W131.17	A/B	20 17	21 05	20 34	20 50	20 17	21 05	20 16	20 30
437 N	21	30	15	E 035.43	B	21 05	22 04	21 02	22 00	21 05	22 04		
438 D	22	23	53	W157.98	B/A	22 04	22 53			22 04	22 53	22 03	22 34
438 N	23	17	29	E 008.62	A	22 53	23 51	22 50	23 47	22 53	23 51		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 11 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
439 D	00	11	07	E 175.21	A	23 51	00 40			23 51	00 40	23 50	00 35
439 N	01	04	43	W018.19	B	00 40	01 39	00 40	01 35	00 40	01 39		
440 D	01	58	21	E 148.40	B	01 39	02 27			01 39	02 27	01 38	02 23
440 N	02	51	57	W045.00	B	02 27	02 42			02 27	02 41		
441 D	03	45	36	E 121.60									
441 N	04	39	11	W071.81	B	04 31	05 13	04 31	05 09	04 31	05 13		
442 D	05	32	50	E 094.78	B	05 13	06 02			05 13	06 02	05 12	05 57
442 N	06	26	26	W098.61	A/B	06 02	07 00	05 59	06 56	06 02	07 00		
443 D	07	20	04	E 067.98	A	07 00	07 50	07 17	07 47	07 00	07 49	06 59	07 13
443 N	08	13	40	W125.42	B	08 03	08 48	07 51	08 34	07 52	08 48		
444 D	09	07	18	E 041.17	B	08 48	09 36	09 04	09 35	08 48	09 33	08 47	09 00
444 N	10	00	54	W152.23	A	09 37	10 35	09 37	10 30	09 37	10 35		
445 D	10	54	32	E 014.36	A	10 35	11 23			10 35	11 22	10 34	11 19
445 N	11	48	08	W179.04	B			11 24	12 18	11 24	12 22		
446 D	12	41	46	W012.45	B	12 34	13 08			12 22	13 09	12 21	13 06
446 N	13	35	22	E 154.15	A			13 09	14 05	13 11	14 09		
447 D	14	29	01	W039.26	A	14 40	14 56			14 09	14 56	14 09	14 50
447 N	15	22	36	E 127.34	B	14 58	15 57	14 58	15 52	14 58	15 57		
448 D	16	16	15	W066.07	B/A	15 57	16 45	16 12	16 32	15 57	16 45	15 56	16 09
448 N	17	09	51	E 100.53	A	16 45	17 44	16 42	17 39	16 45	17 44		
449 D	18	03	29	W092.88	A	17 44	18 22	18 00	18 21	17 44	18 21	17 43	17 57
449 N	18	57	05	E 073.72	B	18 33	19 31	18 29	19 26	18 32	19 31		
450 D	19	50	43	W119.69	B/A	19 31	20 20	19 48	20 06	19 31	20 20	19 31	19 48
450 N	20	44	19	E 046.91	A	20 20	21 18	20 16	21 14	20 20	21 18		
451 D	21	37	57	W146.50	A/B	21 18	21 53	21 35	21 54	21 18	22 07	21 18	21 32
451 N	22	31	33	E 020.10	B	22 58	23 06	22 03	23 01	22 07	23 06		
452 D	23	25	11	W173.31	B/A	23 06	23 54			23 06	23 54	23 05	23 39
452 N	00	18	47	W006.71	A	23 54	00 53	23 51	00 48	23 54	00 53		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 12 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
453 D	01	12	26	E 159.88	A	00 53	01 41			00 53	01 41	00 52	01 37
453 N	02	06	01	W033.52	B	01 41	02 40	01 41	02 37	01 41	02 40		
454 D	02	59	40	E 133.07	B	02 40	03 29			02 40	03 29	02 39	03 24
454 N	03	53	15	W060.33	B	03 29	03 43	03 25	03 42	03 29	03 43		
455 D	04	46	54	E 106.26									
455 N	05	40	30	W087.14	B	05 30	06 15	05 36	06 10	05 30	06 15		
456 D	06	34	08	E 079.45	B	06 15	07 03			06 15	07 03	06 14	06 55
456 N	07	27	44	W113.95	A/B	07 03	08 02	06 59	07 57	07 03	08 02		
457 D	08	21	22	E 052.64	A	08 02	08 48	08 18	08 50	08 02	08 50	08 01	08 15
457 N	09	14	58	W140.76	B			08 52	09 44	08 52	09 49		
458 D	10	08	36	E 025.83	B	10 02	10 38			09 49	10 36	09 48	10 33
458 N	11	02	12	W167.56	A	10 38	11 36	10 37	11 31	10 38	11 36		
459 D	11	55	51	W000.97	A	11 36	12 22			11 36	12 22	11 36	12 20
459 N	12	49	26	E 165.63	B			12 23	13 19	12 25	13 24		
460 D	13	43	05	W027.79	B	13 36	14 12			13 24	14 07	13 23	14 08
460 N	14	36	40	E 138.82	A	14 12	15 11	14 08	15 06	14 12	15 11		
461 D	15	30	19	W054.59	A/B	15 11	15 59	15 27	15 53	15 11	15 59	15 10	15 24
461 N	16	23	55	E 112.01	B	15 59	16 58	15 55	16 53	15 59	16 58		
462 D	17	17	33	W081.40	B/A	16 58	17 47	17 15	17 38	16 58	17 47	16 57	17 14
462 N	18	11	09	E 085.20	A	17 47	18 45	17 47	18 43	17 47	18 45		
463 D	19	04	47	W108.21	A/B	18 45	19 34	19 02	19 22	18 45	19 34	18 48	18 58
463 N	19	58	23	E 058.39	B	19 34	20 33	19 34	20 30	19 34	20 33		
464 D	20	52	01	W135.02	B/A	20 33	21 21	20 49	21 05	20 33	21 21	20 35	20 46
464 N	21	45	37	E 031.58	A	21 21	22 20	21 21	22 18	21 21	22 20		
465 D	22	39	16	W161.83	A	22 20	22 51			22 20	22 53	22 22	22 53
465 N	23	32	51	E 004.77	B	23 09	00 07	23 09	00 05	23 09	00 07		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 13 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
466 D	00	26	30	E 171.36	B	00 07	00 56			00 07	00 56	00 09	00 54
466 N	01	20	05	W022.04	A	00 56	01 54	00 56	01 52	00 56	01 54		
467 D	02	13	44	E 144.55	A	01 54	02 43			01 54	02 43	01 57	02 43
467 N	03	07	20	W048.85	A	02 43	02 55	02 43	02 55	02 43	02 55		
468 D	04	00	58	E 117.74									
468 N	04	54	34	W075.66	A	04 46	05 29	04 46	05 27	04 46	05 29		
469 D	05	48	12	E 090.93	A	05 29	06 17			05 29	06 17	05 31	06 16
469 N	06	41	48	W102.47	B/A	06 17	07 16	06 17	07 14	06 17	07 16		
470 D	07	35	26	E 064.12	B	07 16	08 04	07 32	08 05	07 16	08 04	07 15	07 25
470 N	08	29	02	W129.28	A	08 04	09 03	08 06	09 01	08 05	09 03		
471 D	09	22	41	E 037.31	A	09 03	09 52			09 03	09 50	09 06	09 51
471 N	10	16	16	W156.09	B	09 52	10 50	09 52	10 48	09 51	10 50		
472 D	11	09	55	E 010.50	B	10 50	11 39			10 50	11 34	10 53	11 35
472 N	12	03	30	E 177.10	A	11 39	12 38	11 39	12 36	11 39	12 38		
473 D	12	57	09	W016.31	A	12 38	13 26			12 38	13 23	12 40	13 22
473 N	13	50	45	E 150.29	B	13 26	14 25	13 26	14 23	13 26	14 25		
474 D	14	44	23	W043.12	B	14 25	15 13			14 25	15 08	14 27	15 04
474 N	15	37	59	E 123.48	A	15 13	16 12	15 13	16 07	15 13	16 12		
475 D	16	31	37	W069.93	A	16 12	17 01	16 26	16 50	16 12	16 50	16 15	16 27
475 N	17	25	13	E 096.67	B	17 01	17 59	17 01	17 54	17 01	17 59		
476 D	18	18	51	W096.74	B/A	17 59	18 36	18 16	18 35	17 59	18 48	18 01	18 13
476 N	19	12	27	E 069.87	A			18 48	19 43	18 48	19 47		
477 D	20	06	06	W123.54	A	20 20	20 35	20 02	20 19	19 47	20 12	19 49	19 59
477 D	20	06	06	W123.54	B					20 20	20 35		
477 N	20	59	41	E 043.06	B	20 35	21 34	20 35	21 32	20 35	21 34		
478 D	21	53	24	W150.35	B/A	21 34	22 22	21 51	22 07	21 34	22 22	21 36	21 46
478 N	22	46	55	E 016.25	A	22 22	23 21	22 22	23 19	22 22	23 21		
479 D	23	40	34	W177.16	A	23 21	00 10			23 21	00 10	23 23	00 08
479 N	00	34	10	W010.56	B	00 10	01 08	00 10	01 06	00 10	01 08		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 14 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
480 D	01	27	48	E 156.08	B	01 08	01 57			01 08	01 57	01 10	01 56
480 N	02	21	24	W037.37	B	01 57	02 09	01 59	02 10	01 57	02 08		
481 D	03	15	02	E 129.22									
481 N	04	08	37	W064.18									
482 D	05	02	16	E 102.41									
482 N	05	55	52	W090.99	B	05 46	06 30	05 46	06 28	05 45	06 30		
483 D	06	49	30	E 075.60	B	06 30	07 19	06 46	07 19	06 30	07 19	06 29	06 43
483 N	07	43	06	W117.80	A/B	07 19	08 17	07 19	08 15	07 19	08 17		
484 D	08	36	45	E 048.79	A	08 17	09 09	08 34	09 09	08 17	09 04	08 16	08 30
484 N	09	30	20	W144.61	B			09 09	10 02	09 10	10 05		
485 D	10	23	59	E 021.98	B	10 16	10 53			10 05	10 52	10 04	10 52
485 N	11	17	35	W171.42	A	10 53	11 52	10 53	11 50	10 54	11 52		
486 D	12	11	13	W004.83	A	11 52	12 40			11 52	12 38	11 54	12 39
486 N	13	04	49	E 161.77	B	12 40	13 39	12 40	13 37	12 40	13 39		
487 D	13	58	27	W031.64	B	13 39	14 28			13 39	14 26	13 41	14 26
487 N	14	52	03	E 134.96	A	14 28	15 26	14 28	15 24	14 29	15 26		
488 D	15	45	41	W058.45	A	15 26	15 52	15 43	16 07	15 26	16 05	15 25	15 39
488 N	16	39	17	E 108.15	B			16 14	17 11	16 15	17 14		
489 D	17	32	55	W085.26	B/A			17 29	17 52	17 14	18 02	17 16	17 26
489 N	18	26	31	E 081.34	A			18 00	18 57	18 02	19 01		
490 D	19	20	10	W112.07	A/B			19 17	19 28	19 01	19 49	19 00	19 14
490 N	20	13	45	E 054.53	B			19 51	20 45	19 49	20 47		
491 D	21	07	24	W138.88	B/A			21 03	21 22	20 47	21 37	20 47	21 01
491 N	22	00	59	E 027.73	A			21 36	22 33	21 37	22 35		
492 D	22	54	38	W165.88	A/B					22 35	23 24	22 34 23 02	22 55 23 09
492 N	23	48	14	E 000.92	B	23 37	00 23	23 24	00 20	23 24	00 23		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 15 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
493 D	00	41	52	E 167.51	B	00 23	01 11			00 23	01 11	00 22	01 10
493 N	01	35	28	W025.89	A	01 11	02 10	01 11	02 07	01 11	02 10		
494 D	02	29	06	E 140.70	A	02 10	02 58			02 10	02 58	02 09	02 57
494 N	03	22	42	W052.70	A	02 58	03 11			02 58	03 11		
495 D	04	16	20	E 113.89									
495 N	05	09	56	W079.51	A			05 02	05 42	05 02	05 44		
496 D	06	03	35	E 087.48	A					05 44	06 33	05 44	06 32
496 N	06	57	10	W106.32	B/A			06 42	07 29	06 33	07 31		
497 D	07	50	49	E 060.27	B	07 51	08 20	07 48	08 21	07 31	08 18	07 31	07 45
497 N	08	44	24	W133.13	A	08 20	09 19	08 23	09 15	08 26	09 19		
498 D	09	38	03	E 033.46	A	09 19	10 07			09 19	10 04	09 18	10 06
498 N	10	31	39	W159.94	B	10 07	11 06	10 08	11 04	10 08	11 06		
499 D	11	25	17	E 006.65	B	11 06	11 53			11 06	11 53	11 05	11 53
499 N	12	18	53	E 173.25	A	11 56	12 53	11 56	12 51	11 56	12 53		
500 D	13	12	31	W020.16	A	12 53	13 40			12 53	13 39	12 52	13 37
500 N	14	06	07	E 146.44	B			13 42	14 37	13 42	14 40		
501 D	14	59	44	W046.97	B	14 51	15 21	14 56	15 23	14 40	15 24	14 40	14 53
501 N	15	53	21	E 119.63	A			15 31	16 25	15 29	16 28		
502 D	16	47	00	W073.78	A	16 35	17 08	16 43	17 07	16 28	17 07	16 27	16 41
502 N	17	40	35	E 092.82	B	17 35	18 15	17 16	18 13	17 16	18 15		
503 D	18	34	14	W100.59	B	18 15	19 03	18 31	18 49	18 15	18 49	18 14	18 28
503 N	19	27	49	E 066.01	A	19 03	20 02	19 03	19 58	19 03	20 02		
504 D	20	21	28	W127.40	A/B	20 02	20 36	20 18	20 32	20 02	20 51	20 01	20 15
504 N	21	15	04	E 039.20	B	20 51	21 49	20 50	21 47	20 51	21 49		
505 D	22	08	42	W154.21	B/A	21 49	22 38			21 49	22 38	21 49	22 20
505 N	23	02	18	E 012.39	A	22 38	23 37	22 38	23 34	22 38	23 37		
506 D	23	55	56	W178.98	A	23 37	00 25			23 37	00 25	23 36	00 24
506 N	00	49	32	W014.42	B	00 25	01 24	00 25	01 22	00 25	01 24		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 16 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
507 D	01	43	10	E 152.17	B	01 24	02 12			01 24	02 12	01 23	02 12
507 N	02	36	46	W041.23	B	02 12	02 24	02 12	02 24	02 12	02 24		
508 D	03	30	25	E 125.37									
508 N	04	24	00	W068.03	B	04 19	04 58	04 19	04 56	04 19	04 58		
509 D	05	17	39	E 098.55	B	04 58	05 44			04 58	05 47	04 58	05 46
509 N	06	11	14	W094.83	A	06 03	06 46	05 47	05 53	05 47	05 53		
509 N	06	11	14	W094.83	B			06 03	06 43	06 03	06 46		
510 D	07	04	53	E 071.76	B	06 46	07 34	07 01	07 34	06 46	07 34	06 45	06 59
510 N	07	58	29	W121.65	A/B	07 34	08 33	07 34	08 31	07 34	08 33		
511 D	08	52	07	E 044.94	A	08 33	09 21	08 49	09 21	08 33	09 21	08 32	08 46
511 N	09	45	43	W148.45	B	09 21	10 20	09 23	10 18	09 23	10 20		
512 D	10	39	21	E 018.14	B	10 20	11 08			10 20	11 08	10 19	11 08
512 N	11	32	57	W175.27	A	11 10	12 07	11 08	12 05	11 10	12 07		
513 D	12	26	35	W008.68	A	12 07	12 56			12 07	12 52	12 07	12 51
513 N	13	20	11	E 157.93	B	12 56	13 55	12 55	13 52	12 56	13 55		
514 D	14	13	50	W035.48	B	13 55	14 43			13 35	14 37	13 54	14 35
514 N	15	07	25	E 131.11	A	14 43	15 42	14 43	15 40	14 43	15 42		
515 D	16	01	04	W062.29	A/B	15 42	16 30	15 58	16 21	15 42	16 30	15 41	15 55
515 N	16	54	39	E 104.31	B	16 30	17 29	16 30	17 27	16 30	17 29		
516 D	17	48	18	W089.10	B/A	17 29	18 18	17 45	18 04	17 29	18 18	17 31	17 42
516 N	18	41	53	E 077.49	A	18 18	19 16	18 17	19 14	18 18	19 16		
517 D	19	35	32	W115.91	A/B	19 16	19 51	19 33	19 51	19 16	20 05	19 19	19 32
517 N	20	29	08	E 050.69	B	20 41	21 04	20 05	21 01	20 05	21 04		
518 D	21	22	46	W142.72	B/A	21 04	21 52	21 20	21 37	21 04	21 52	21 03	21 16
518 N	22	16	22	E 023.87	A	21 52	22 51	21 52	22 48	21 52	22 51		
519 D	23	10	00	W169.53	A/B	22 51	23 39			22 51	23 39	22 50	23 25
519 N	00	03	36	W002.93	B	23 39	00 38	23 39	00 36	23 39	00 38		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 17 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
520 D	00	57	15	E 163.66	A	00 38	01 25			00 38	01 27	00 37	01 26
520 N	01	50	50	W029.74	A	01 29	02 25	01 26	02 23	01 27	02 25		
521 D	02	44	29	E 136.85	A	02 25	03 14			02 25	03 14	02 25	03 13
521 N	03	38	04	W056.55	A	03 14	03 28	03 14	03 27	03 14	03 27		
522 D	04	31	43	E 110.05									
522 N	05	25	18	W083.36	A	05 16	06 00	05 16	05 57	05 16	06 00		
523 D	06	18	57	E 083.23	A	06 00	06 48			06 00	06 48	05 59	06 47
523 N	07	12	33	W110.17	B/A	06 48	06 56	06 57	07 44	06 48	07 47		
524 D	08	06	11	E 056.43	B	08 29	08 33	08 03	08 34	07 47	08 34	07 46	07 56
524 N	08	59	47	W136.98	A	08 36	09 34	08 36	09 32	08 36	09 34		
525 D	09	53	25	E 029.61	A	09 34	10 20			09 34	10 22		
525 N	10	47	01	W163.78	B	10 23	11 21	10 23	11 19	10 23	11 21		
526 D	11	40	40	E 002.81	B	11 21	12 06			11 21	12 06	11 21	12 06
526 N	12	34	15	E 169.40	A	12 13	13 09	12 13	13 06	12 10	13 09		
527 D	13	27	54	W024.01	A	13 09	13 57			13 09	13 44	13 08	13 49
527 N	14	21	29	E 142.60	B	13 57	14 56	13 57	14 53	13 57	14 56		
528 D	15	15	08	W050.81	B	14 56	15 44	15 12	15 37	14 56	15 35	14 55	15 09
528 N	16	08	43	E 115.78	A	15 44	16 43	15 44	16 41	15 44	16 43		
529 D	17	02	22	W077.63	A	16 43	17 32			16 43	17 19	16 42	17 17
529 N	17	55	58	E 088.98	B	17 32	18 30	17 32	18 28	17 32	18 30		
530 D	18	49	36	W104.43	B/A	18 30	19 19	18 47	19 04	18 30	19 19	18 30	18 43
530 N	19	43	12	E 062.16	A	19 19	20 18	19 19	20 15	19 19	20 18		
531 D	20	36	50	W131.25	A/B	20 18	20 52	20 34	20 51	20 18	21 06	20 20	20 30
531 N	21	30	26	E 035.36	B			21 06	22 02	21 06	22 05		
532 D	22	24	05	W158.05	B/A	22 11	22 53			22 05	22 53	22 04	22 35
532 N	23	17	40	E 008.54	A	22 53	23 52	22 53	23 50	22 53	23 52		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 18 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
533 D	00	11	19	E 175.13	A	23 52	00 41			23 52	00 41	23 51	00 36
533 N	01	04	54	W018.26									
534 D	01	58	33	E 148.33									
534 N	02	52	08	W045.08									
535 D	03	45	47	E 121.52									
535 N	04	39	23	W071.88	B	04 28	05 14	04 28	05 11	04 27	05 14		
536 D	05	33	01	E 094.71	B	05 14	06 02			05 14	05 59	05 13	05 58
536 N	06	26	37	W098.70	A/B	06 02	07 01	06 02	06 58	06 12	07 01		
537 D	07	20	15	E 067.90	A	07 01	07 49			07 01	07 50	07 03	07 45
537 N	08	13	51	W125.50	B	07 51	08 48	07 52	08 46	07 52	08 48		
538 D	09	07	29	E 041.09	B	08 48	09 37			08 48	09 35	08 48	09 32
538 N	10	01	05	W152.31	A	09 37	10 36	09 38	10 34	09 38	10 36		
539 D	10	54	44	E 014.28	A	10 36	11 24			10 36	11 23	10 35	11 20
539 N	11	48	19	W179.42	B	11 24	12 23	11 24	12 20	11 24	12 23		
540 D	12	41	58	W012.52	B	12 23	13 11			12 23	13 09	12 22	13 07
540 N	13	35	33	E 154.07	A	13 11	14 10	13 11	14 07	13 11	14 10		
541 D	14	29	12	W039.34	A	14 10	14 59			14 10	14 51	14 12	14 50
541 N	15	22	47	E 127.26	B	14 59	15 57	14 58	15 55	14 59	15 57		
542 D	16	16	26	W066.14	B	15 57	16 46			15 57	16 37	15 59	16 37
542 N	17	10	02	E 100.45	A	16 46	17 45	16 46	17 42	16 46	17 45		
543 D	18	03	40	W092.96	A/B	17 45	18 33			17 45	18 33	17 43	18 18
543 N	18	57	16	E 073.64	B	18 33	19 32	18 33	19 29	18 33	19 32		
544 D	19	50	54	W119.76	B/A	19 32	20 20			19 32	20 20	19 31	20 05
544 N	20	44	30	E 046.83	A	20 20	21 19	20 20	21 17	20 20	21 19		
545 D	21	38	09	W146.58	A/B	21 19	21 51			21 19	22 08	21 18	21 49
545 N	22	31	44	E 020.03	B	23 01	23 06	22 07	23 03	22 08	23 06		
546 D	23	25	23	W173.38	B/A	23 06	23 55			23 06	23 55	23 05	23 40
546 N	00	18	53	W006.79	A	23 55	00 54	23 54	00 51	23 55	00 54		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 19 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
547 D	01	12	37	E 159.80	A	00 54	01 42			00 54	01 42	00 52	01 37
547 N	02	06	12	W033.59	B	01 42	02 41	01 42	02 38	01 42	02 41		
548 D	02	59	51	E 133.00	B	02 41	03 29			02 41	03 29	02 40	03 28
548 N	03	53	27	W060.41	B	03 29	03 40	03 29	03 42	03 29	03 41		
549 D	04	47	05	E 106.18									
549 N	05	40	41	W087.21	B	05 32	06 15	05 32	06 13	05 32	06 15		
550 D	06	34	19	E 079.38	B	06 15	07 04			06 15	07 04	06 14	07 03
550 N	07	27	55	W114.03	A/B	07 04	08 03	07 03	08 00	07 04	08 03		
551 D	08	21	34	E 052.56	A	08 03	08 51			08 03	08 49	08 02	08 50
551 N	09	15	09	W140.83	B	08 51	09 50	08 52	09 47	08 52	09 50		
552 D	10	08	48	E 025.76	A	09 50	10 38			09 50	10 38	09 49	10 34
552 N	11	02	23	W167.65	A	10 38	11 37	11 40	11 34	10 40	11 37		
553 D	11	56	02	W001.06	A	11 37	12 22			11 37	12 22	11 36	12 21
553 N	12	49	37	E 165.55	A	12 28	13 24	12 28	13 21	12 28	13 24		
554 D	13	43	16	W027.86	A	13 24	14 13			13 24	14 09	13 23	14 08
554 N	14	36	52	E 138.74	B	14 13	15 11	14 12	15 09	14 13	15 11		
555 D	15	30	30	W054.67	B	15 11	16 00	15 28	15 53	15 11	15 53	15 11	15 24
555 N	16	24	06	E 111.93	A	16 00	16 59	16 00	16 56	16 00	16 59		
556 D	17	17	44	W081.48	A	16 59	17 47	17 15	17 35	16 59	17 35	16 58	17 11
556 N	18	11	20	E 085.12	B	17 47	18 46	17 47	18 43	17 47	18 46		
557 D	19	04	59	W108.29	B/A	18 46	19 34	19 02	19 20	18 46	19 34	18 45	18 52
557 N	19	58	34	E 058.31	A	19 34	20 33	19 34	20 30	19 34	20 33		
558 D	20	52	13	W135.10	A/B	20 33	21 22	20 48	21 07	20 33	21 22	20 32	20 46
558 N	21	45	48	E 031.50	B	21 22	22 20	21 22	22 18	21 22	22 20		
559 D	22	39	27	W161.91	B/A	22 20	23 09			22 20	23 09	22 20	22 47
559 N	23	33	02	E 004.70	A	23 09	00 08	23 09	00 05	23 09	00 08		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 20 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
560 D	00	26	41	E 171.29	B	00 08	00 56			00 08	00 56	00 07	00 55
560 N	01	20	16	W022.12	B	00 56	01 55	00 56	01 53	00 56	01 55		
561 D	02	13	55	E 144.48	B	01 55	02 43			01 55	02 43	01 54	02 43
561 N	03	07	31	W048.92	B	02 43	02 55	02 43	02 55	02 43	02 54		
562 D	04	01	09	E 117.67									
562 N	04	54	45	W075.73	B	04 47	05 29	04 47	05 27	04 47	05 29		
563 D	05	48	24	E 090.86	B	05 29	06 18			05 29	06 18	05 29	06 17
563 N	06	41	59	W102.54	A/B	06 18	07 17	06 18	07 14	06 18	07 17		
564 D	07	35	38	E 064.06	A	07 17	08 05			07 17	08 05	07 16	08 04
564 N	08	29	13	W129.35	B	08 05	09 04	08 07	09 02	08 07	09 04		
565 D	09	22	52	E 037.24	B	09 04	09 52			09 04	09 52	09 03	09 51
565 N	10	16	27	W156.15	A	09 52	10 51	09 55	10 49	09 55	10 51		
566 D	11	10	06	E 010.44	A	10 51	11 37			10 51	11 34	10 50	11 35
566 N	12	03	41	E 177.03	A	11 43	12 38	11 43	12 36	11 43	12 38		
567 D	12	57	20	W016.38	A	12 38	13 29			12 38	13 20	12 41	13 22
567 N	13	50	56	E 150.23	B			13 27	14 23	13 27	14 26		
568 D	14	44	34	W043.18	B	14 50	15 14			14 26	15 08	14 28	15 10
568 N	15	38	10	E 123.41	A	15 14	16 13	15 16	16 11	15 14	16 13		
569 D	16	31	49	W070.00	A	16 13	16 52	16 29	16 51	16 13	16 49	16 12	16 26
569 N	17	25	23	E 096.61	B	17 49	18 00	17 03	17 58	17 01	18 00		
570 D	18	19	03	W096.80	B/A	18 00	18 49	18 16	18 35	18 00	18 49	17 59	18 13
570 N	19	12	38	E 069.79	A	18 49	19 47	18 49	19 45	18 49	19 47		
571 D	20	06	17	W123.62	A/B	19 47	20 36	20 03	20 19	19 47	20 36	19 47	20 00
571 N	20	59	52	E 042.90	B	20 36	21 35	20 36	21 32	20 36	21 35		
572 D	21	53	31	W150.42	B	21 35	22 23	21 51	22 07	21 35	22 23	21 37	21 47
572 N	22	47	06	E 016.19	B	22 23	23 22	22 23	23 19	22 23	23 22		
573 D	23	40	45	W177.23	B	23 22	00 10			23 22	00 10	23 24	00 06
573 N	00	34	21	W010.63	B	00 10	01 09	00 10	01 07	00 10	01 09		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 21 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
574 D	01	27	59	E 155.96	B	01 09	01 58			01 09	01 58	01 08	01 57
574 N	02	21	35	W037.43	B	01 58	02 07	01 58	02 09	01 58	02 09		
575 D	03	15	14	E 129.15									
575 N	04	08	49	W064.25									
576 D	05	02	28	E 102.34									
576 N	05	56	03	W091.05	B	06 05	06 31	06 04	06 29	06 05	06 31		
577 D	06	49	42	E 075.53	B	06 31	07 19			06 31	07 19	06 33	07 18
577 N	07	43	17	W117.87	B	07 19	07 27	07 19	07 26	07 19	07 26		
577 N	07	43	17	W117.87	A	08 00	08 18	07 34	08 16	07 34	08 18		
578 D	08	36	56	E 048.73	A	08 18	09 06	08 34	09 07	08 18	09 06	08 17	08 31
578 N	09	30	31	W144.67	B			09 08	10 03	09 08	10 05		
579 D	10	24	10	E 021.91	B	10 14	10 52			10 05	10 52	10 07	10 52
579 N	11	17	45	W171.49	A			10 54	11 50	10 54	11 52		
580 D	12	11	24	W004.89	A	12 35	12 39			11 52	12 38	11 52	12 37
580 N	13	05	00	E 161.71	B			12 41	13 38	12 41	13 40		
581 D	13	58	38	W031.71	B	13 37	14 28			13 40	14 14	13 39	14 24
581 N	14	52	14	E 134.89	A	14 28	15 27	14 31	15 25	14 28	15 27		
582 D	15	45	53	W058.51	A	15 27	16 15	15 43	16 07	15 27	16 07	15 26	15 40
582 N	16	39	28	E 108.09	B	16 15	17 14	16 15	17 12	16 15	17 14		
583 D	17	33	07	W085.33	B/A	17 14 17 57	17 50 18 03	17 30	17 49	17 14	18 03	17 13	17 27
583 N	18	26	42	E 081.28	A	18 03	19 01	18 02	18 59	18 03	19 01		
584 D	19	20	21	W112.13	A/B	19 01	19 50	19 17	19 34	19 01	19 50	19 01	19 14
584 N	20	13	56	E 054.47	B	19 50	20 49	19 50	20 46	19 50	20 49		
585 D	21	07	35	W138.95	B/A	20 49	21 37	21 05	21 21	20 49	21 37	20 48	21 02
585 N	22	01	10	E 027.66	A	21 37	22 36	21 37	22 34	21 37	22 36		
586 D	22	54	49	W165.75	A/B	22 36	23 24			22 36	23 24	22 35	23 10
586 N	23	48	25	E 000.85	B	23 24	00 23	23 24	00 21	23 24	00 23		

TABLE 2-2
SENSOR ON-OFF TIMES
DATE 22 MAY 1970

DATA ORBIT	ASCEND/DESCEND NODE				HDRSS	IRIS		THIR HUMIDITY		THIR TEMP		IDCS	
	TIME			LONG		ON	OFF	ON	OFF	ON	OFF	ON	OFF
	HR	MIN	SEC	DEG		HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN	HR MIN
587 D	00	42	03	E 167.43	B	00 23	01 12			00 23	01 12	00 22	01 11
587 N	01	35	39	W025.96	A	01 12	02 10	01 12	02 08	01 12	02 10		
588 D	02	29	18	E 140.63	A	02 10	02 59			02 10	02 59	02 10	02 58
588 N	03	22	53	W052.77	A	02 59	03 13	02 59	03 11	02 59	03 11		
589 D	04	16	32	E 113.81									
589 N	05	10	07	W079.58	A	05 04	05 45	05 04	05 36	05 03	05 45		
590 D	06	03	46	E 087.81	A	05 45	06 33			05 45	06 33	05 44	06 29
590 N	06	57	21	W106.38	B	06 33 06 47	06 40 07 32	06 47	07 30	06 47	07 32		
591 D	07	51	00	E 060.19	B	07 32	08 21	07 51	08 21	07 32	08 21	07 31	07 49
591 N	08	44	35	W133.20	A	08 21	09 19	08 22	09 17	08 22	09 19		
592 D	09	38	14	E 033.39	A	09 19	10 08			09 19	10 05	09 19	10 07
592 N	10	31	49	W160.00	B	10 09	11 07	10 09	11 04	10 09	11 07		
593 D	11	25	28	E 006.58	B	11 07	11 54			11 07	11 54	11 06	11 54
593 N	12	19	04	E 173.18	A			11 55	12 52	11 55	12 54		
594 D	13	12	43	W020.23	A	13 26	13 42			12 54	13 39	12 53	13 38
594 N	14	06	18	E 146.38	B	13 42	14 41	13 43	14 39	13 42	14 41		
595 D	14	59	57	W047.04	B	14 41	15 23	14 57	15 22	14 41	15 20	14 40	14 51
595 N	15	53	32	E 119.56	A			15 29	16 26	15 30	16 28		
596 D	16	47	10	W073.85	A/B	17 07	17 17	16 44	17 06	16 28	17 17	16 28	16 41
596 N	17	40	46	E 092.76	B	17 17	18 16	17 17	18 13	17 17	18 16		
597 D	18	34	25	W100.56	B/A	18 16	19 04	18 31	18 50	18 16	19 04	18 15	18 28
597 N	19	28	00	E 065.94	A	19 04	20 03	19 04	20 00	19 04	20 03		
598 D	20	21	39	W127.46	A/B	20 03	20 51	20 19	20 36	20 03	20 51	20 02	20 16
598 N	21	15	14	E 039.14	B	20 51	21 50	20 51	21 47	20 51	21 50		
599 D	22	08	53	W154.28	B/A	21 50 22 27	22 22 22 39			21 50	22 39	21 49	22 24
599 N	23	02	29	E 012.33	A	22 39	23 37	22 38	23 35	22 39	23 37		
600 D	23	56	08	E 178.92	A	23 37	00 26			23 37	00 25	23 37	00 25
600 N	00	49	43	W014.48	B	00 26	01 25	00 26	01 22	00 26	01 25		

SECTION 3

IMAGE DISSECTOR CAMERA SYSTEM MONTAGES

This section depicts the data from the Image Dissector Camera System (IDCS) experiment carried on the Nimbus 4 Meteorological Satellite. The pictorial montage presentation facilitates perusal and search of the IDCS data for preliminary research and also enables the user to determine his specific IDCS film data requirements.

The montages shown represent the daytime television pictures obtained for each day (UT) and are arranged in chronological order in a world montage format. Complete daylight orbital coverage was obtained with 15 consecutive pictures. Successive orbits, displaced about 27 degrees westward in longitude at the equator, provide adjacent pictorial data, with increasing overlap from the equator toward the poles. Data orbit number is indicated below each swath.

A vellum IDCS grid overlay (Daytime Location Guide), attached to the back of this catalog, is to be used for approximate location and orientation of the montage data. Proper alignment of the grid is accomplished by matching the grid indices on the equator with the two "T" marks on each montage.

The data area, 6" x 7" in size, has been reduced from the original montage size of 22" x 32". This reduction, required for convenient catalog dimensions, still permits recognition of major cloud and land features.

A description of the IDCS experiment and instructions for ordering IDCS data may be found in the Nimbus IV User's Guide, Section 2.

143 142 141 140 139 138 137 136 135 134 133 132 131

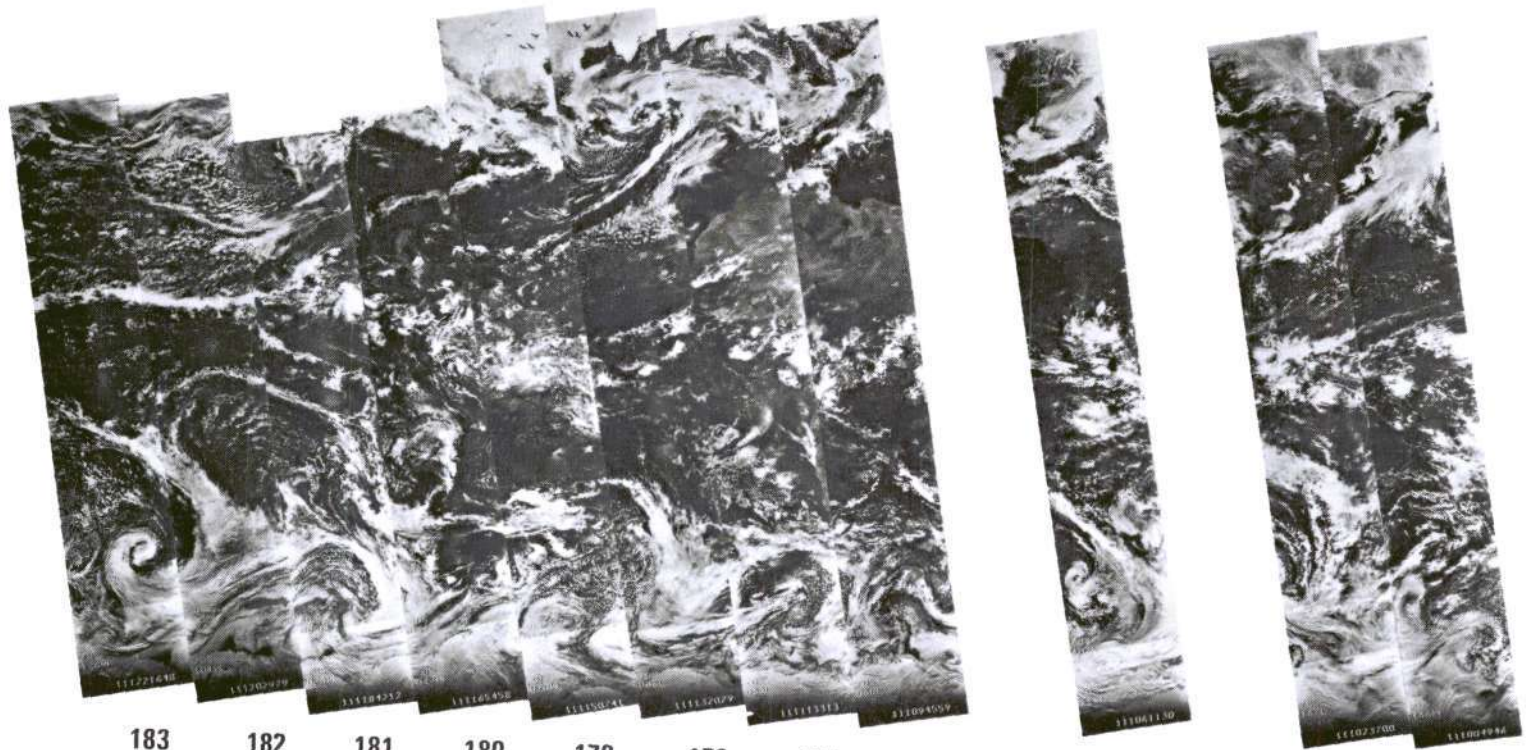
18 APRIL 1970

156 155 154 153 152 151 150 149 148 147 146 145 144

19 APRIL 1970

170 169 168 167 166 165 164 163 162 161 160 159 158 157

20 APRIL 1970

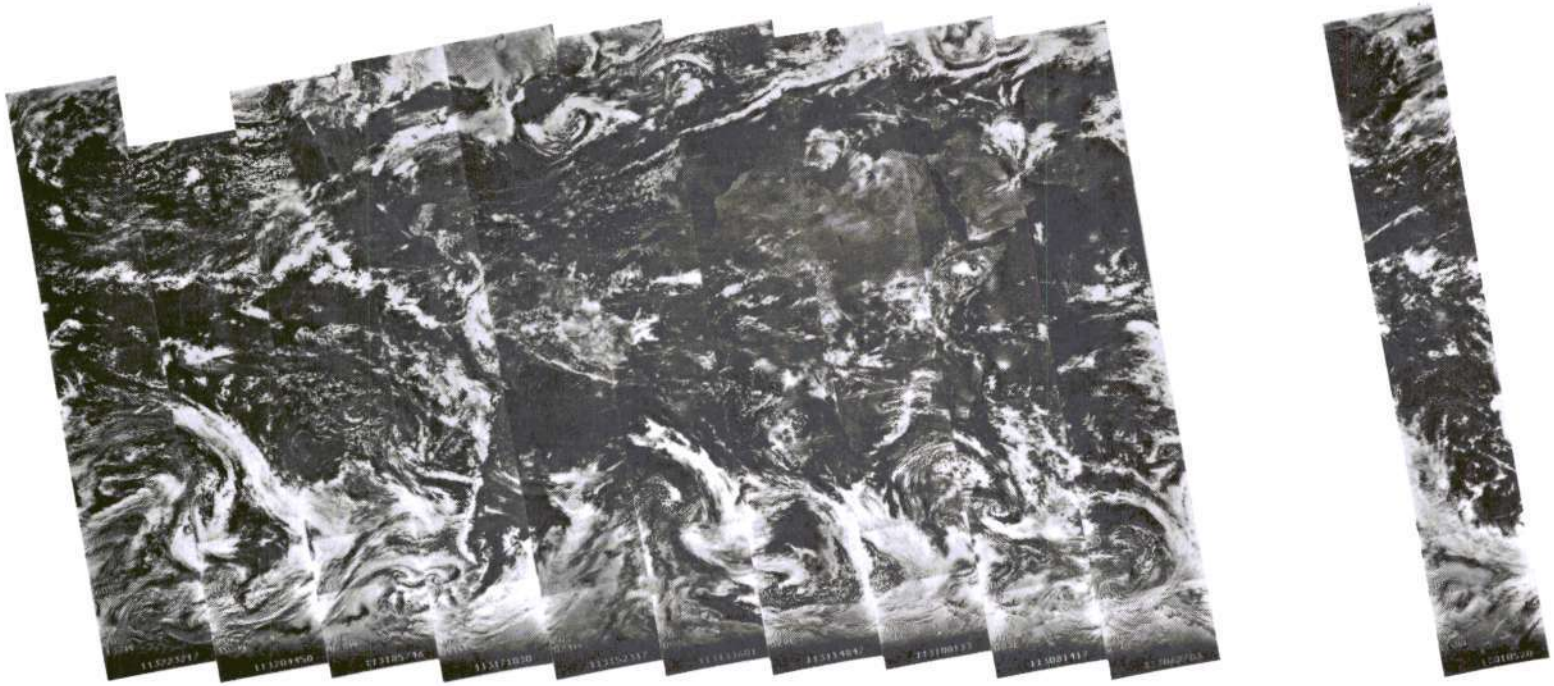


183 182 181 180 179 178 177 176 175 174 173 172 171

21 APRIL 1970

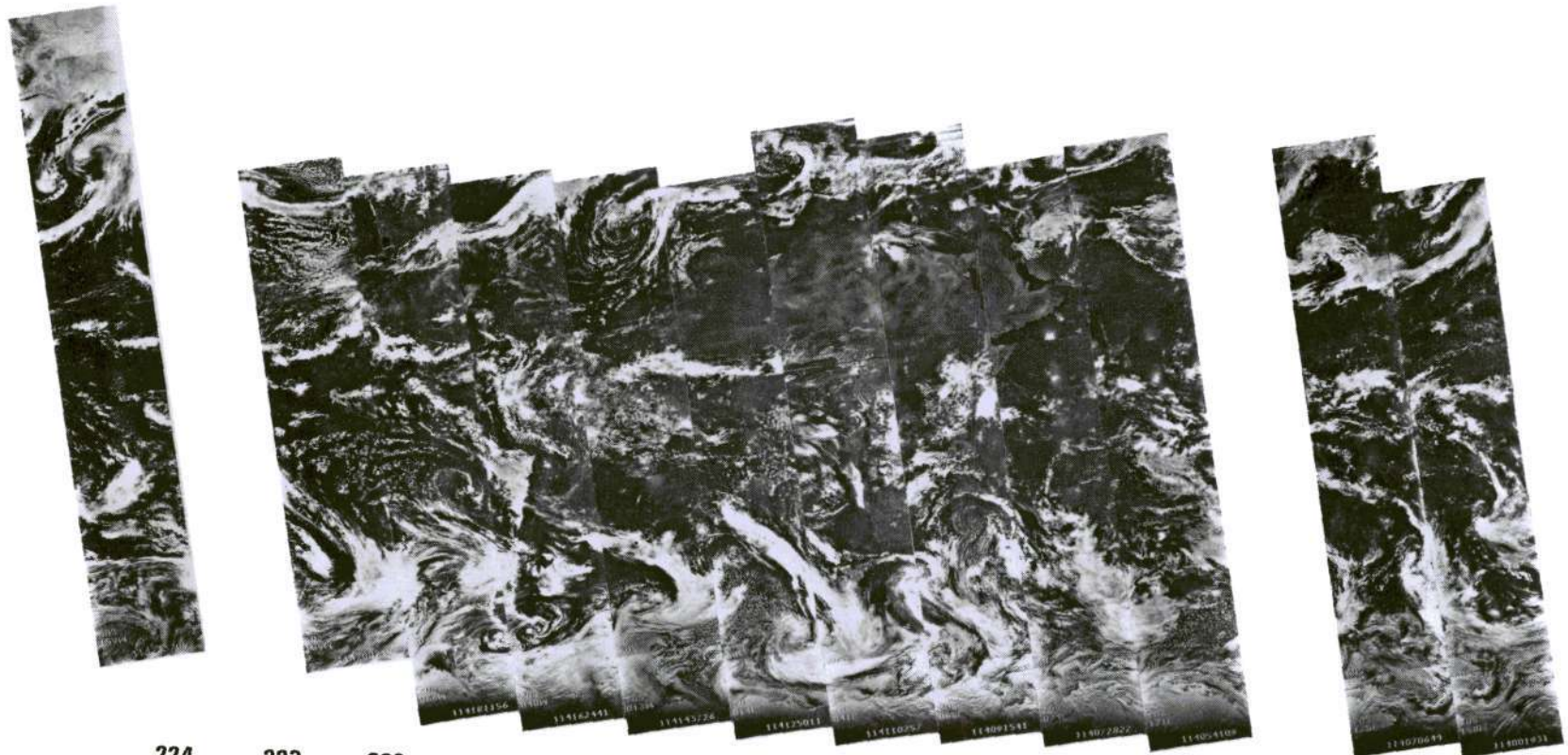
197 196 195 194 193 192 191 190 189 188 187 186 185 184

22 APRIL 1970



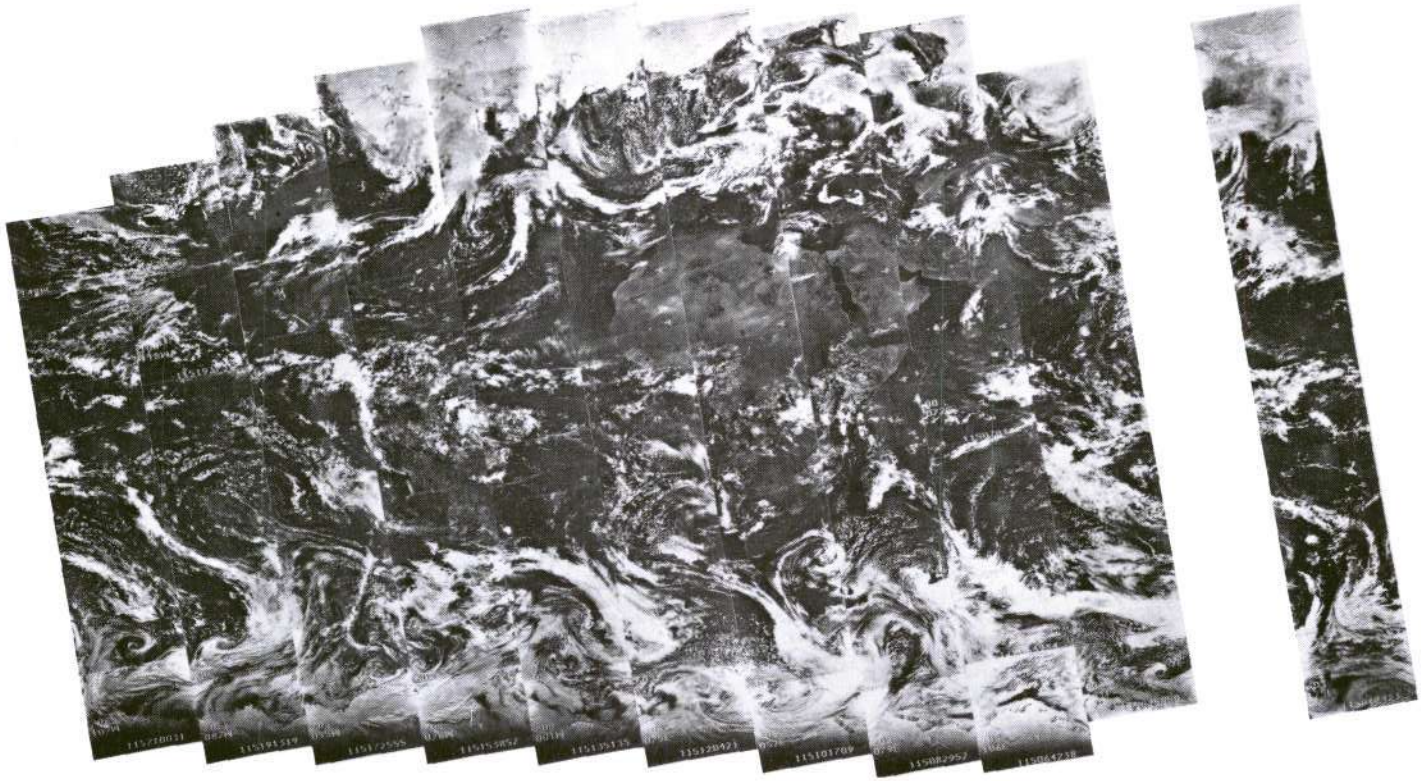
210 209 208 207 206 205 204 203 202 201 200 199 198

23 APRIL 1970



224 223 222 221 220 219 218 217 216 215 214 213 212 211

24 APRIL 1970



237 236 235 234 233 232 231 230 229 228 227 226 225

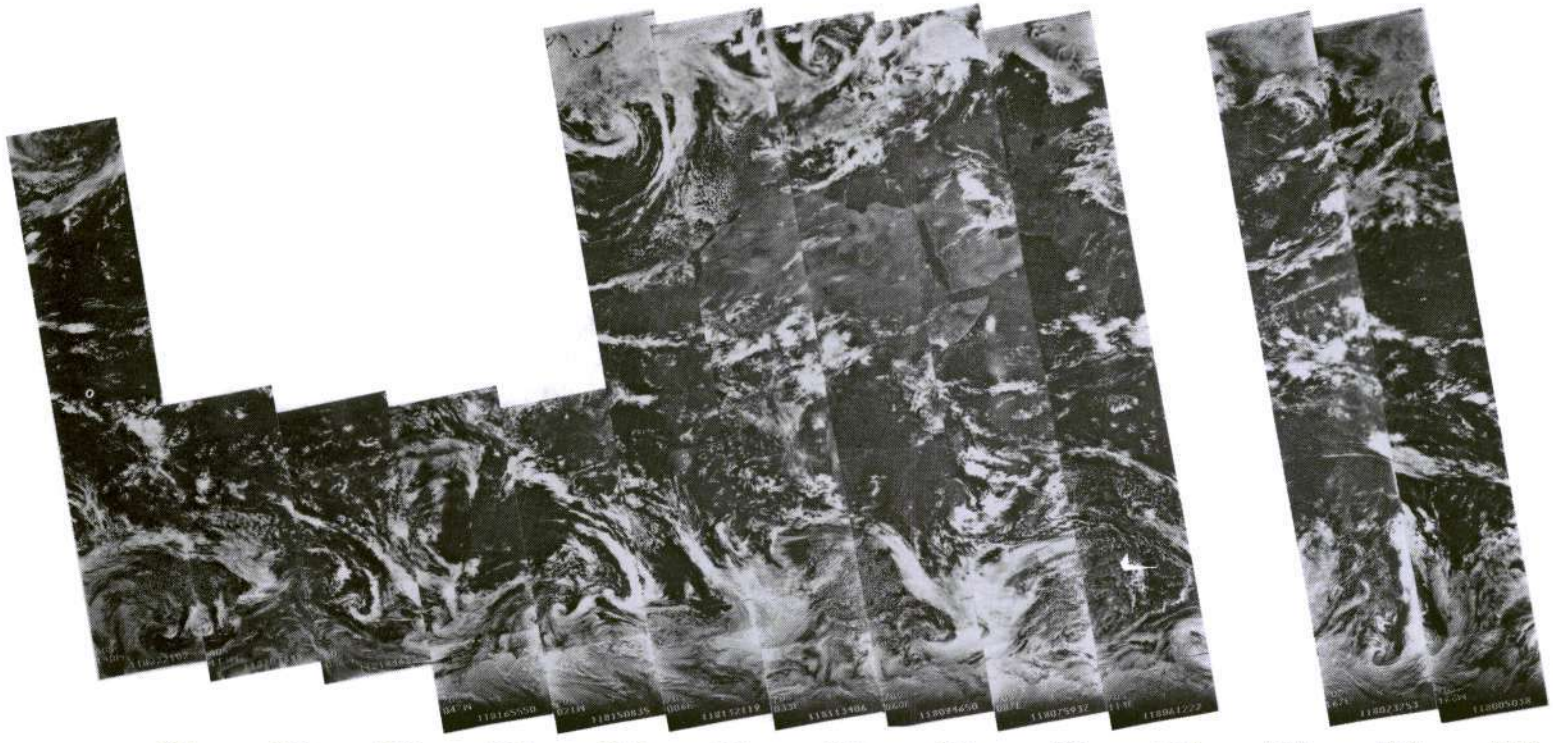
25 APRIL 1970

26 APRIL 1970

C-2

264 263 262 261 260 259 258 257 256 255 254 253 252 251

27 APRIL 1970

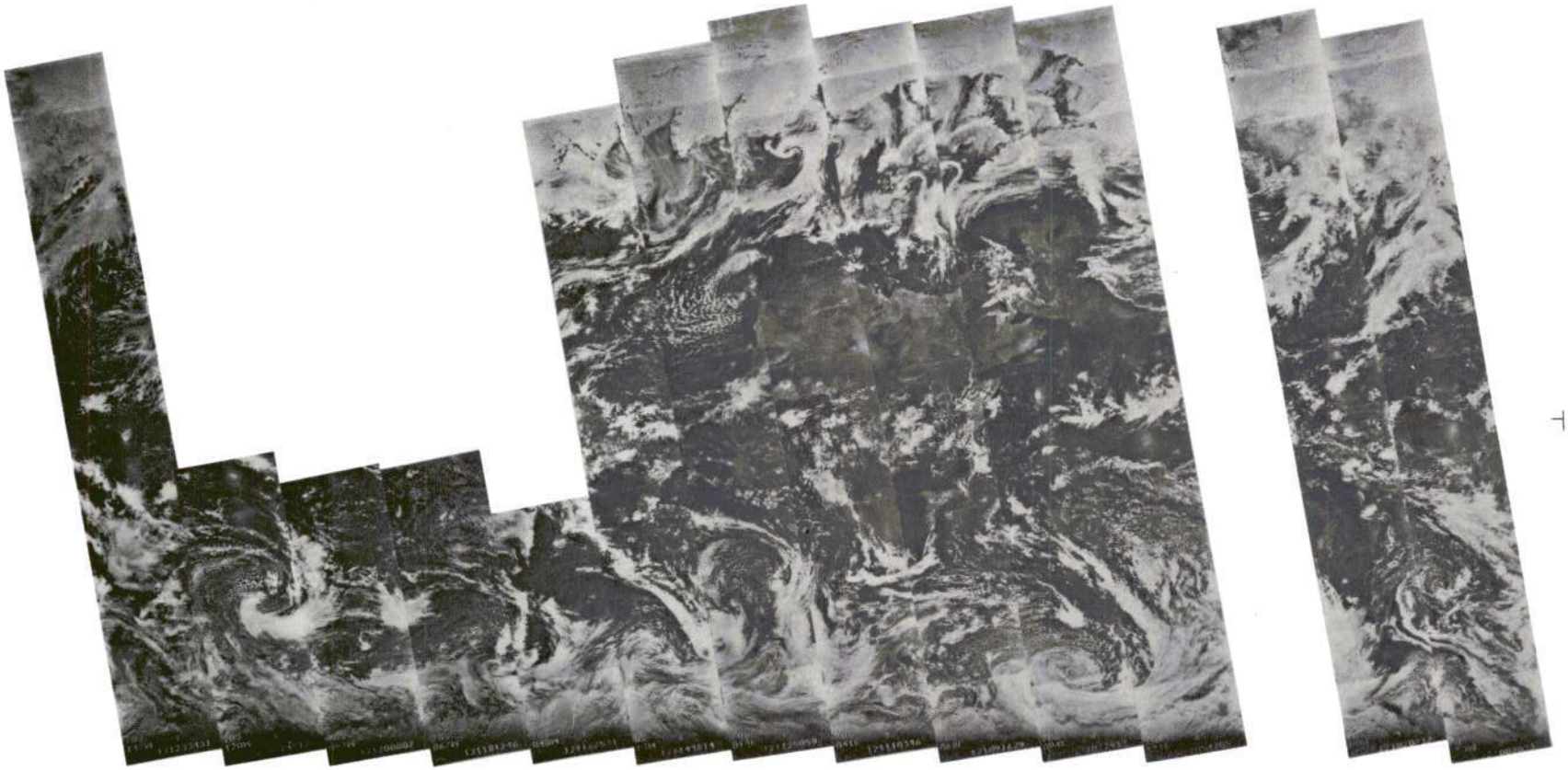


277 276 275 274 273 272 271 270 269 268 267 266 265

28 APRIL 1970

304 303 302 301 300 299 298 297 296 295 294 293 292

30 APRIL 1970



1 MAY 1970

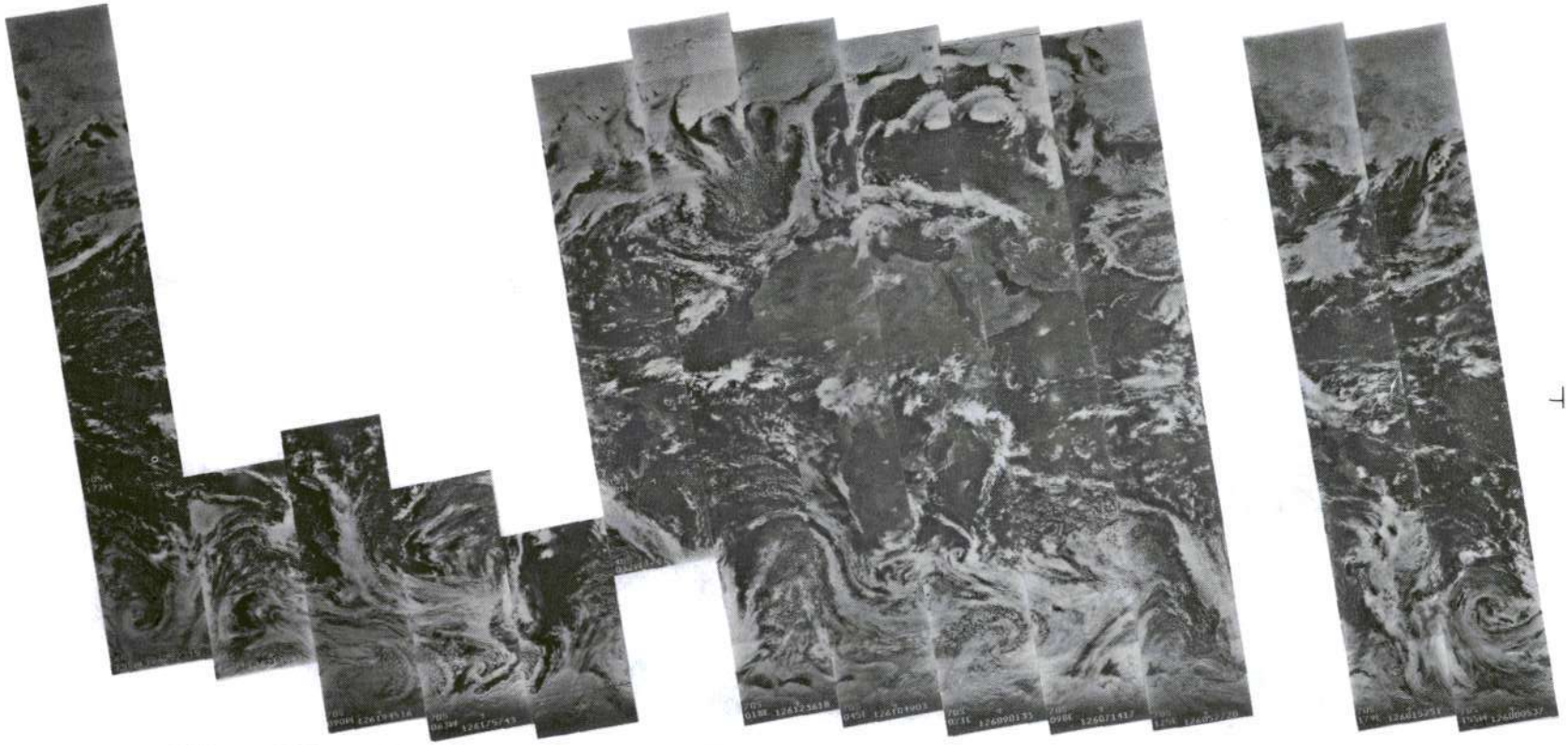
331 330 329 328 327 326 325 324 323 322 321 320 319

2 MAY 1970

3 MAY 1970

4 MAY 1970

5 MAY 1970



6 MAY 1970

7 MAY 1970

412 411 410 409 408 407 406 405 404 403 402 401 400 399

8 MAY 1970

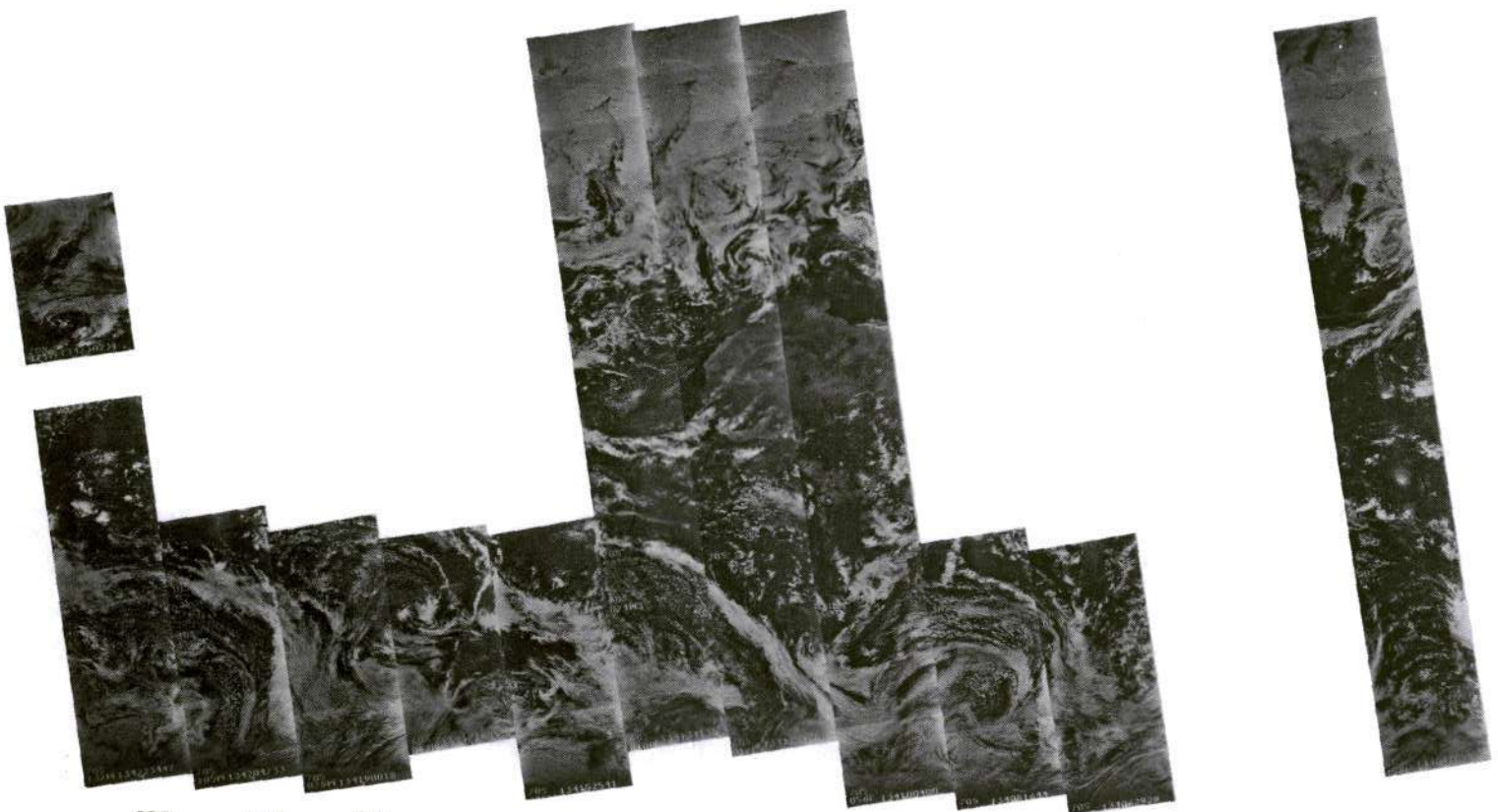
9 MAY 1970


438
437
436
435
434
433
432
431
430
429
428
427
426
10 MAY 1970

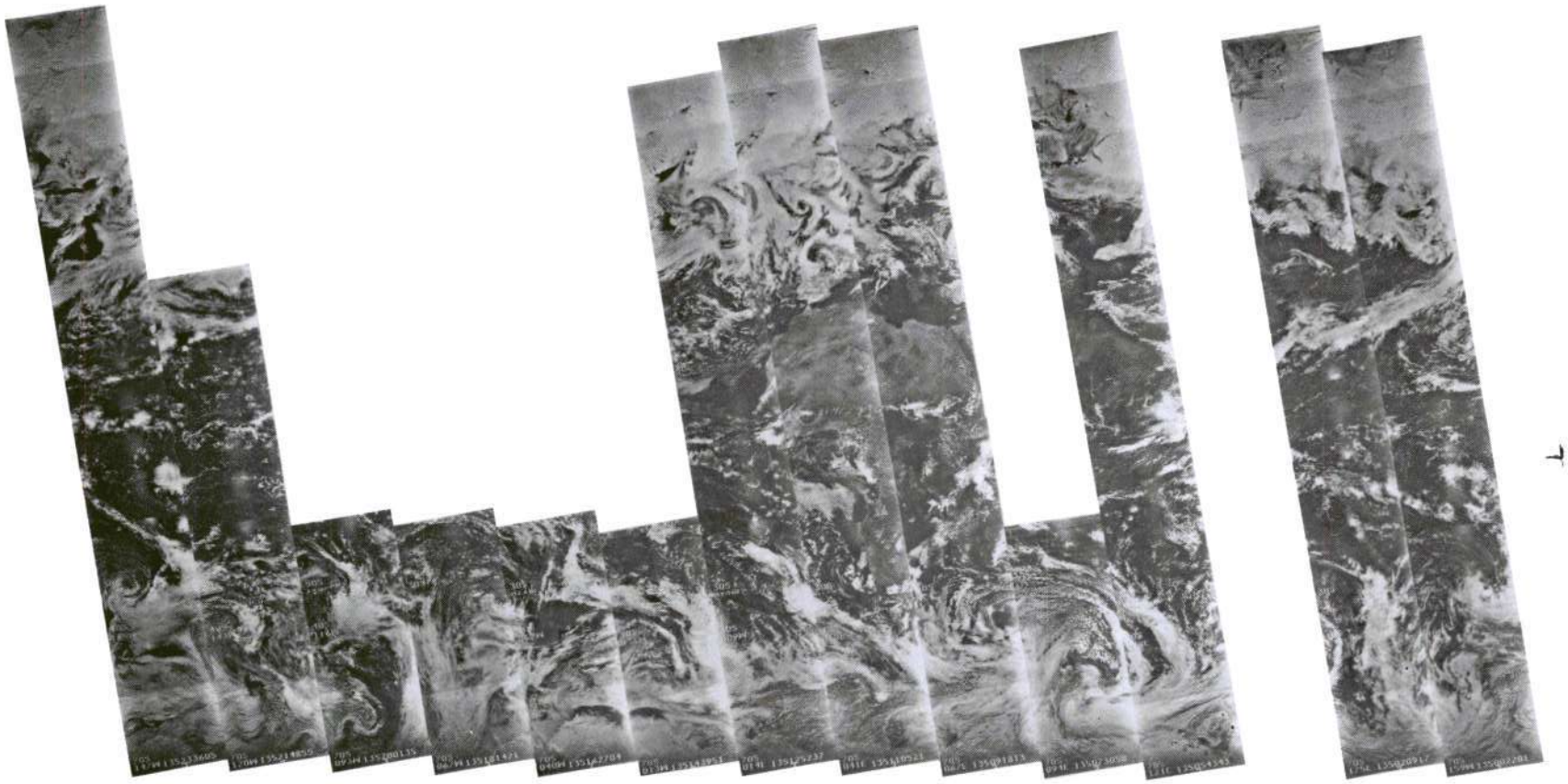
11 MAY 1970

465
464
463
462
461
460
459
458
457
456
455
454
453
12 MAY 1970

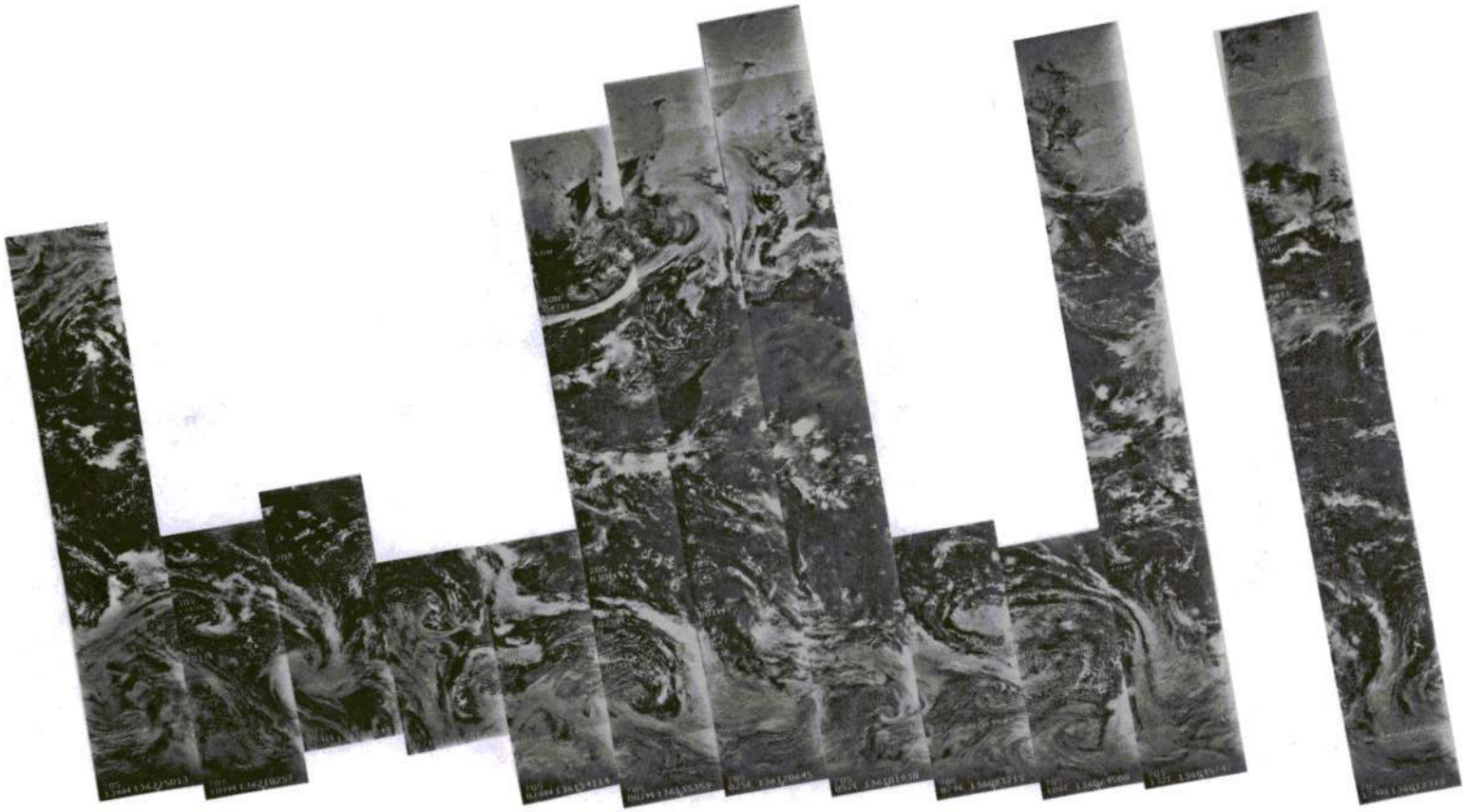

479
478
477
476
475
474
473
472
471
470
469
468
467
466
13 MAY 1970



14 MAY 1970

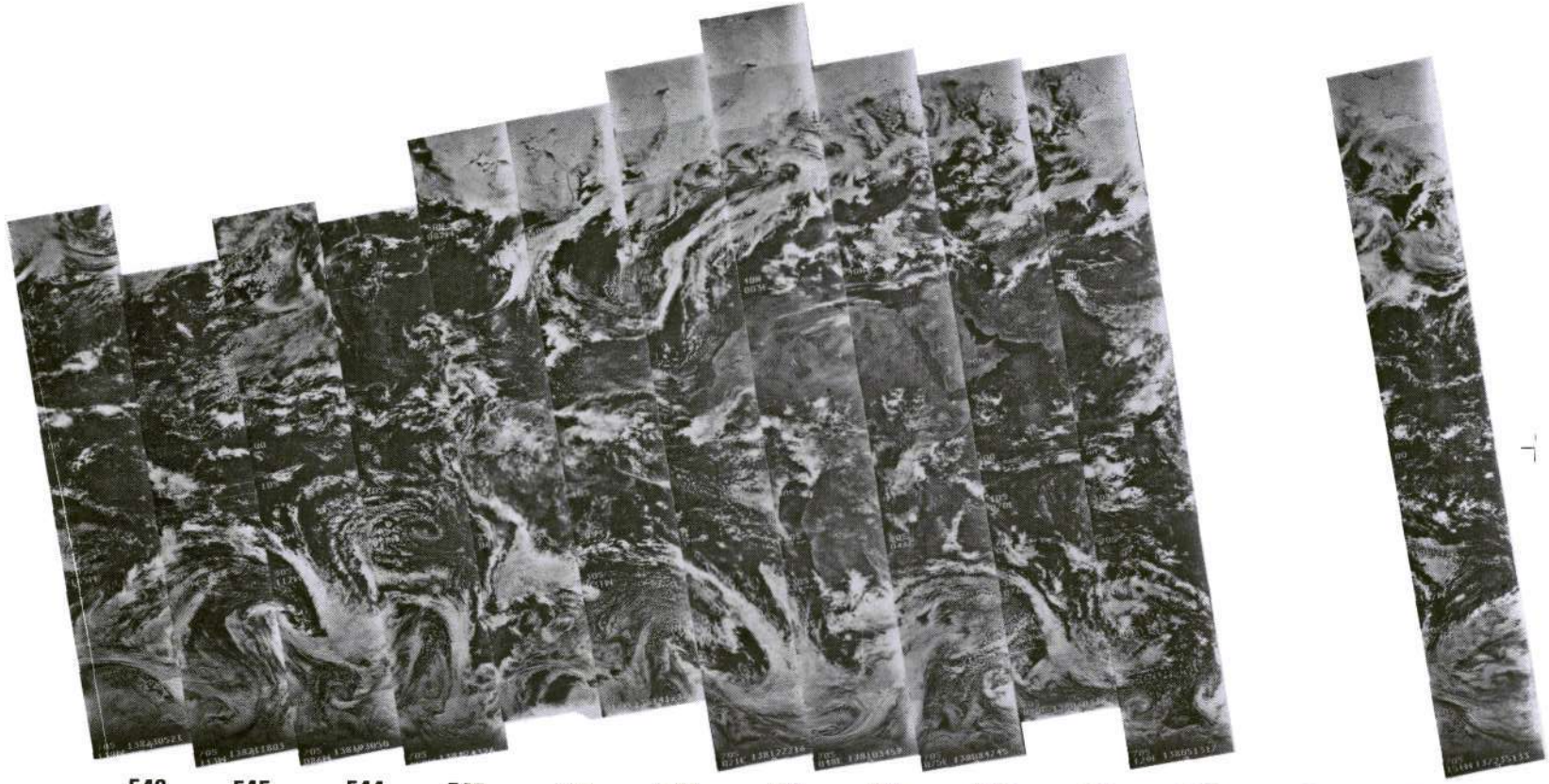


15 MAY 1970

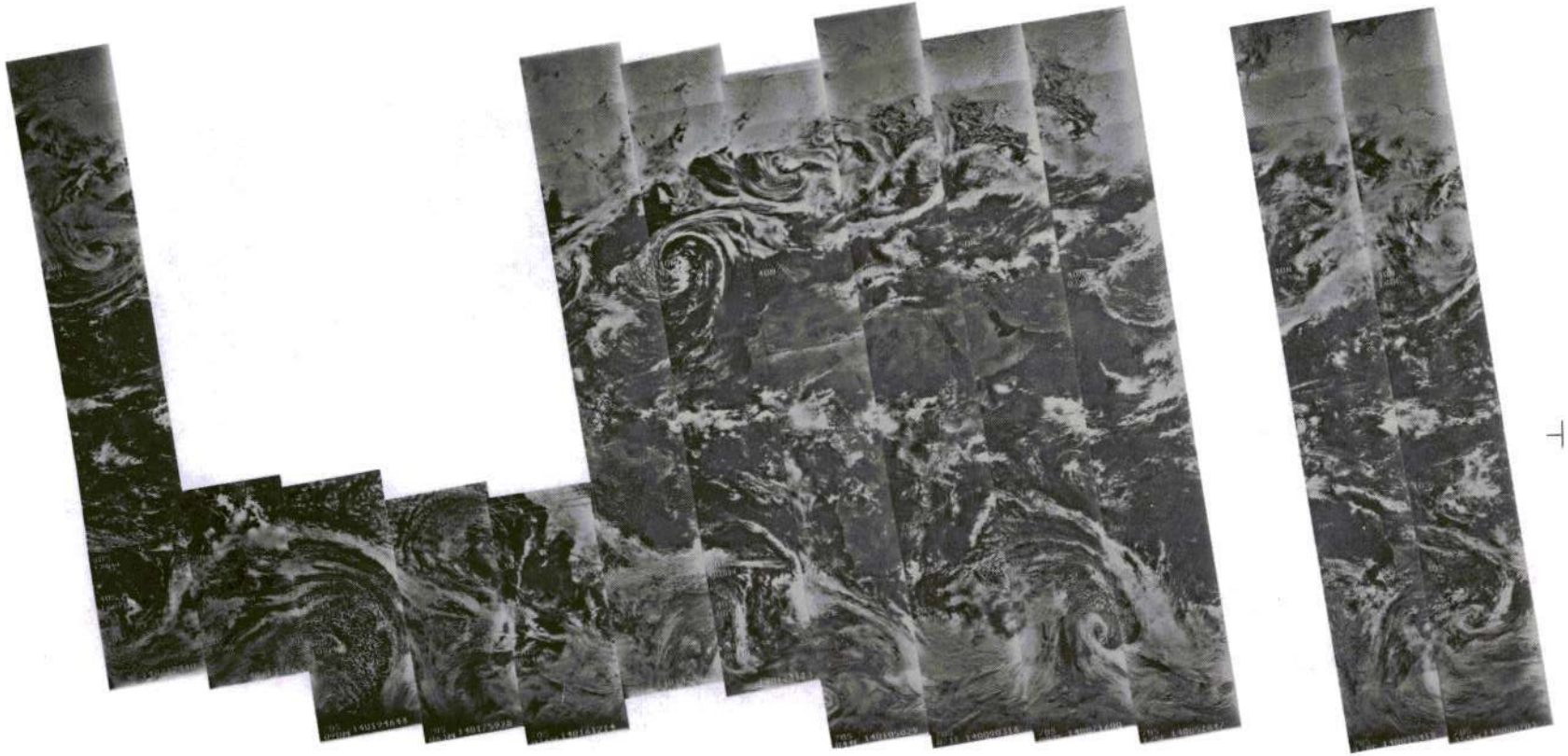


16 MAY 1970

17 MAY 1970



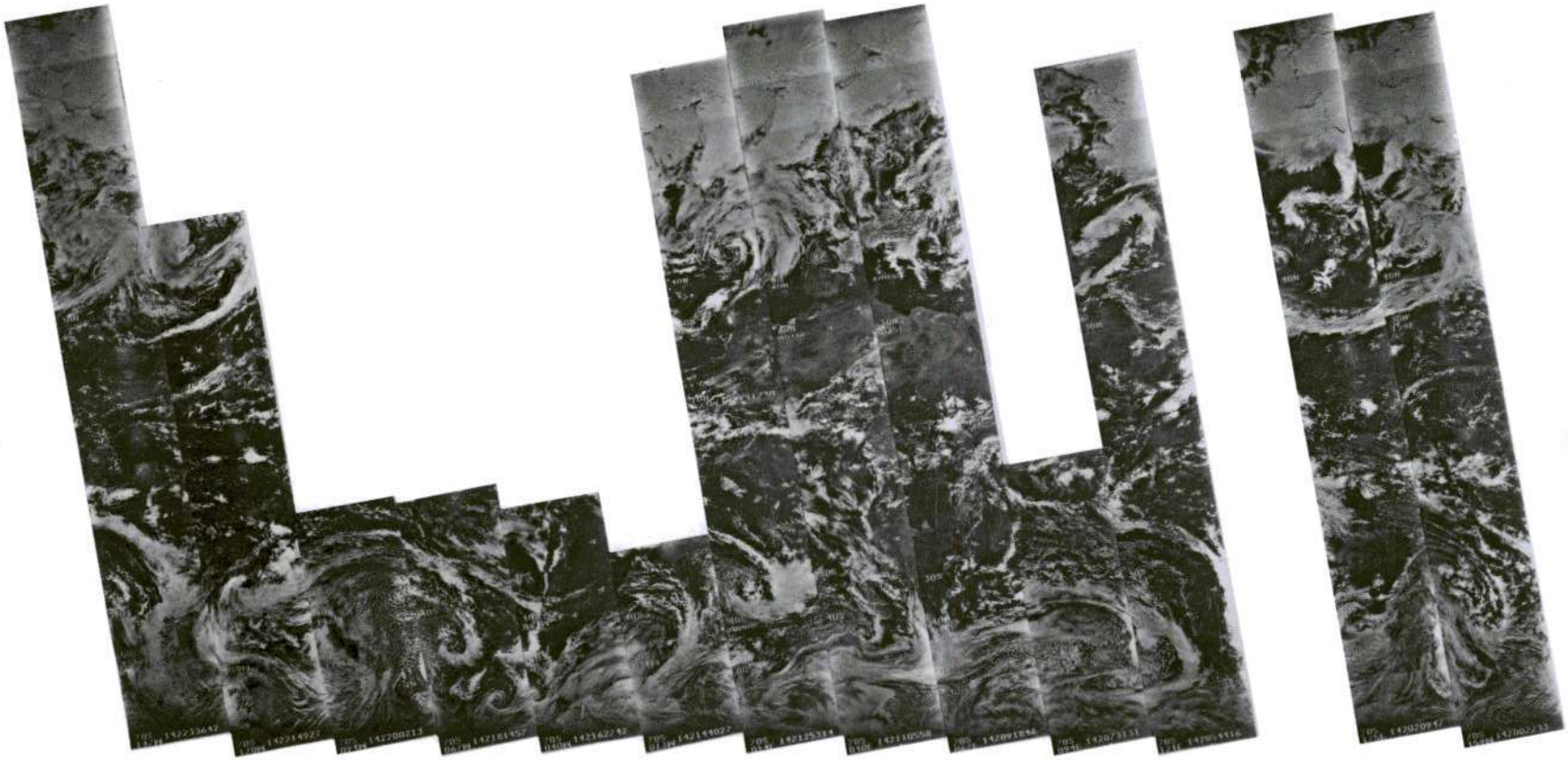
18 MAY 1970



20 MAY 1970

586 585 584 583 582 581 580 579 578 577 576 575 574

21 MAY 1970



22 MAY 1970

SECTION 4

TEMPERATURE-HUMIDITY INFRARED RADIOMETER MONTAGES

This section pictorially documents the data from the Temperature-Humidity Infrared Radiometer experiment carried on the Nimbus 4 Meteorological Satellite. The THIR 11.5 and 6.7 micrometer channel montages shown represent the nighttime data (Section 4.1), and the daytime data (Section 4.2), arranged in chronological order. Key latitudes can be read from the superposed grids. Grid points are identified where each swath crosses 60^{o} N, 30^{o} N, EQUATOR, 30^{o} S and 60^{o} S.

Vellum Location Guide overlays, attached to the back of this document, are to be used for general orientation with the data presented in each THIR montage. Proper alignment of the overlay grid is accomplished by matching the grid indices on the equator with the two "T" marks on each montage.

Each THIR montage is provided with a time scale to determine the Universal Time limits required to order processed THIR grid print maps (see p. 57, Nimbus IV User's Guide). The time scale determines the number of minutes from ascending (daytime data) or descending (nighttime data) node time for the interval of data required. To obtain the Universal Time for daytime data, the measured time is to be added to the ascending node time in the northern hemisphere and subtracted in the southern hemisphere. For nighttime data, the measured time is to be subtracted from the descending node time in the northern himisphere and added in the southern hemiphere. The ascending and descending node times are given in Section 2.

The following alternate procedure also establishes Universal Time limits. Knowing the latitude limits of the study area, the minutes from ascending or descending node can be directly interpolated from Table 4-1. These time values can then be added to or subtracted from node times given in Section 2.

A description of the THIR experiment and instructions for ordering THIR data may be found in the Nimbus IV User's Guide, Section 3.

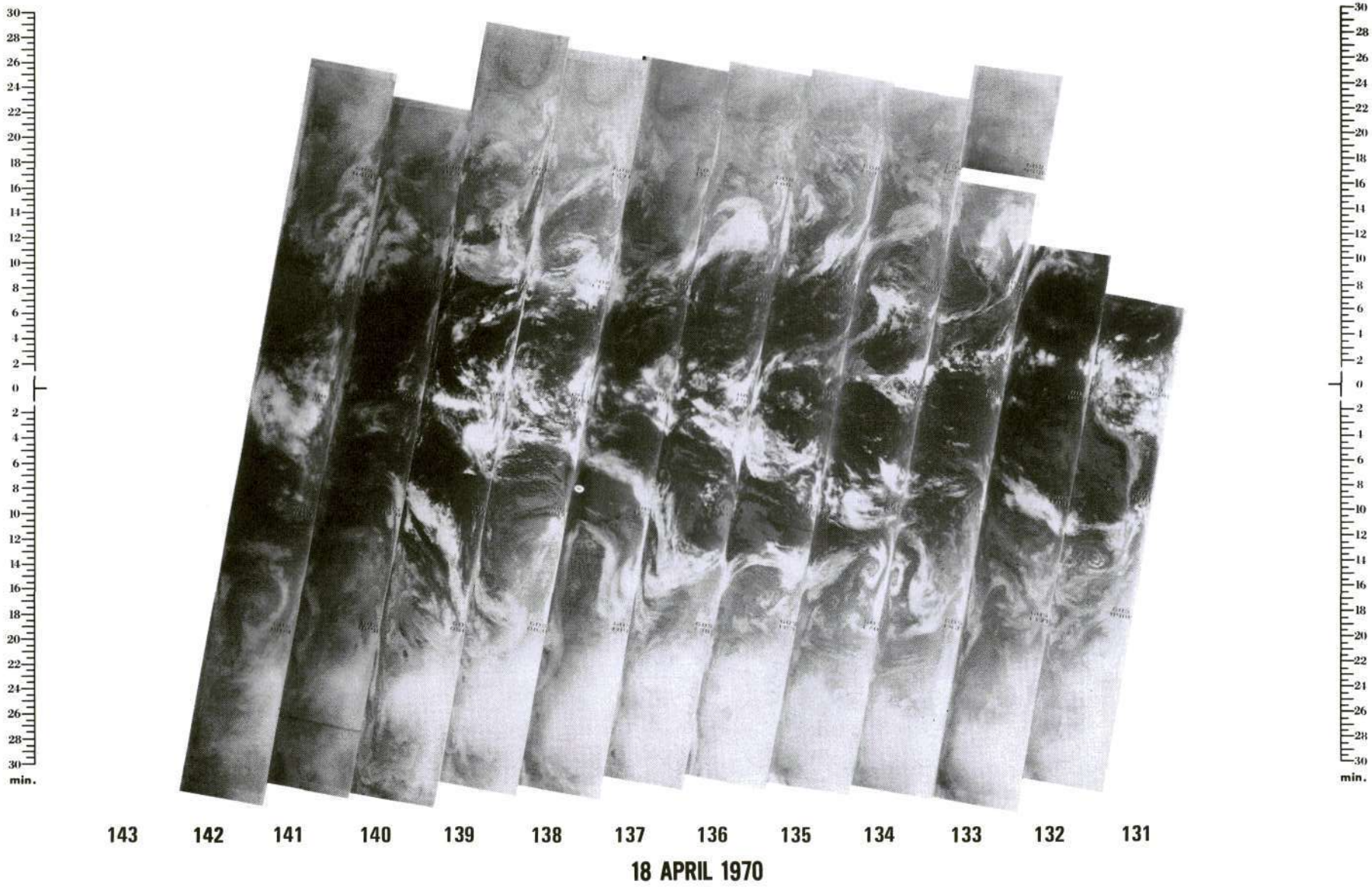
TABLE 4-1

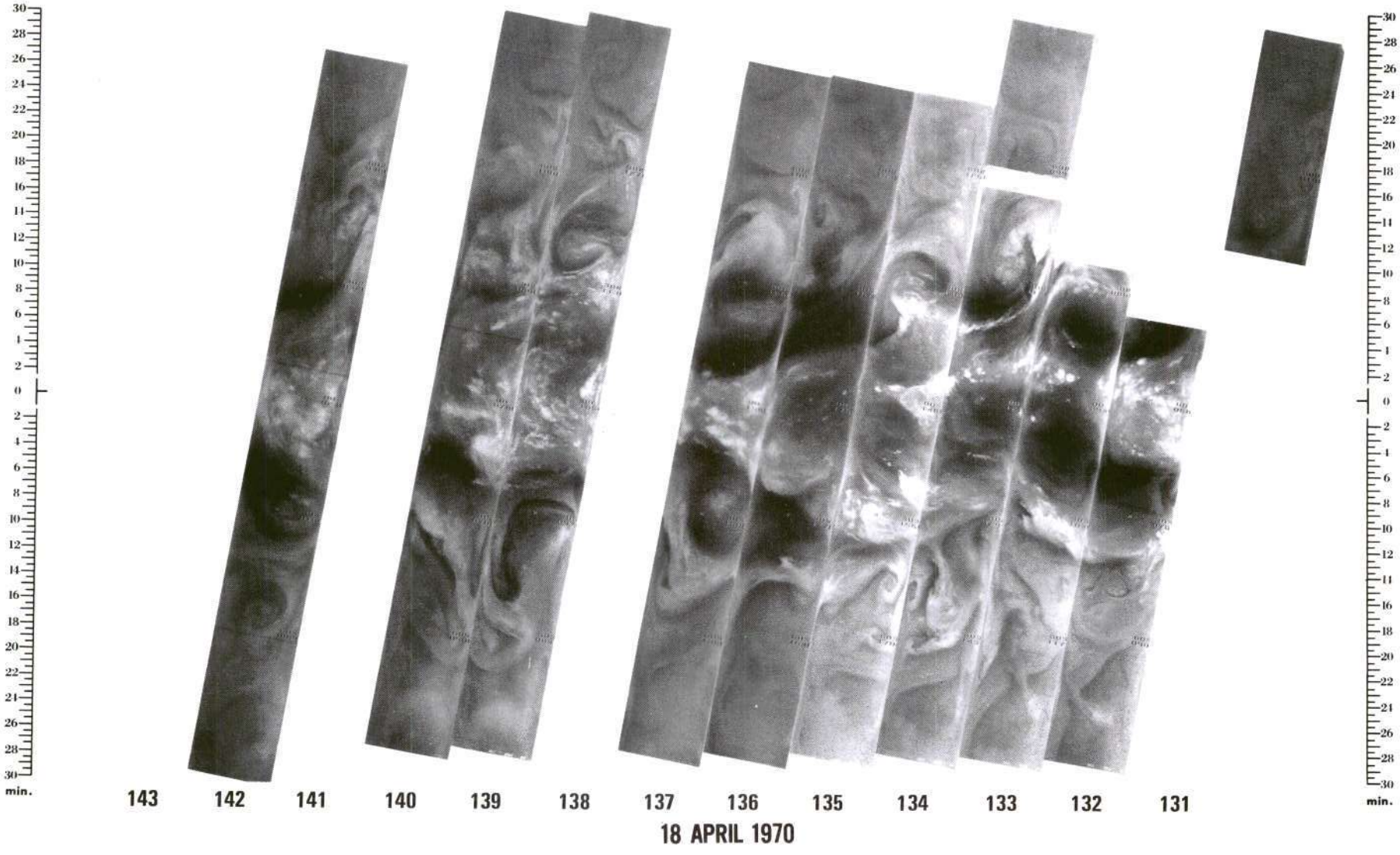
LATITUDE VERSUS MINUTES FROM
ASCENDING OR DESCENDING NODE

Latitude from AN or DN	Minutes and Seconds from AN or DN
0	0:00
5	1:31
10	3:02
15	4:33
20	6:03
25	7:34
30	9:05
35	10:36
40	12:08
45	13:40
50	15:12
55	16:44
60	18:18
65	19:52
70	21:33
75	23:26
78	24:44
80.1	26:49
78	29:00
75	30:09
70	31:51
65	33:35

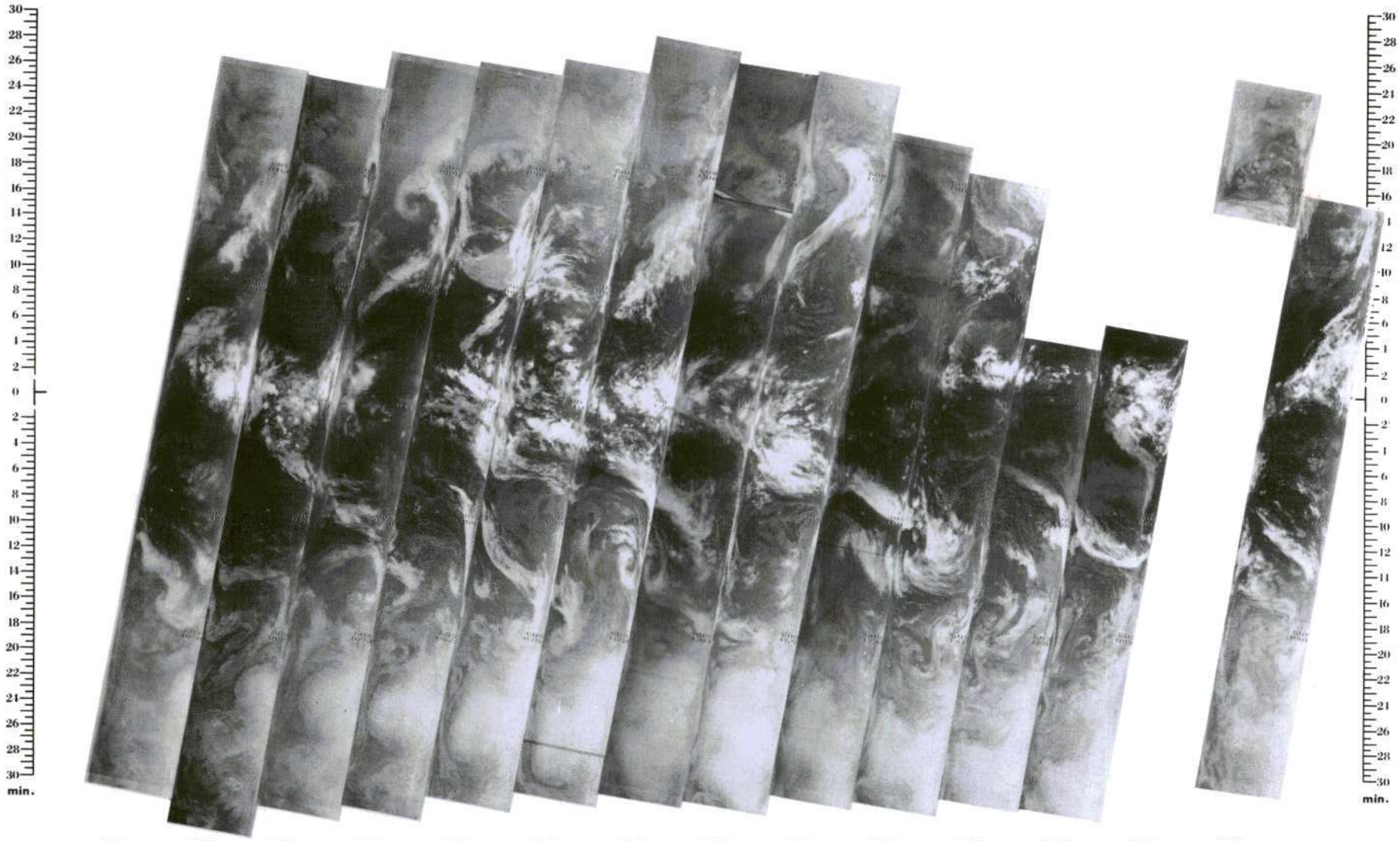
SECTION 4.1

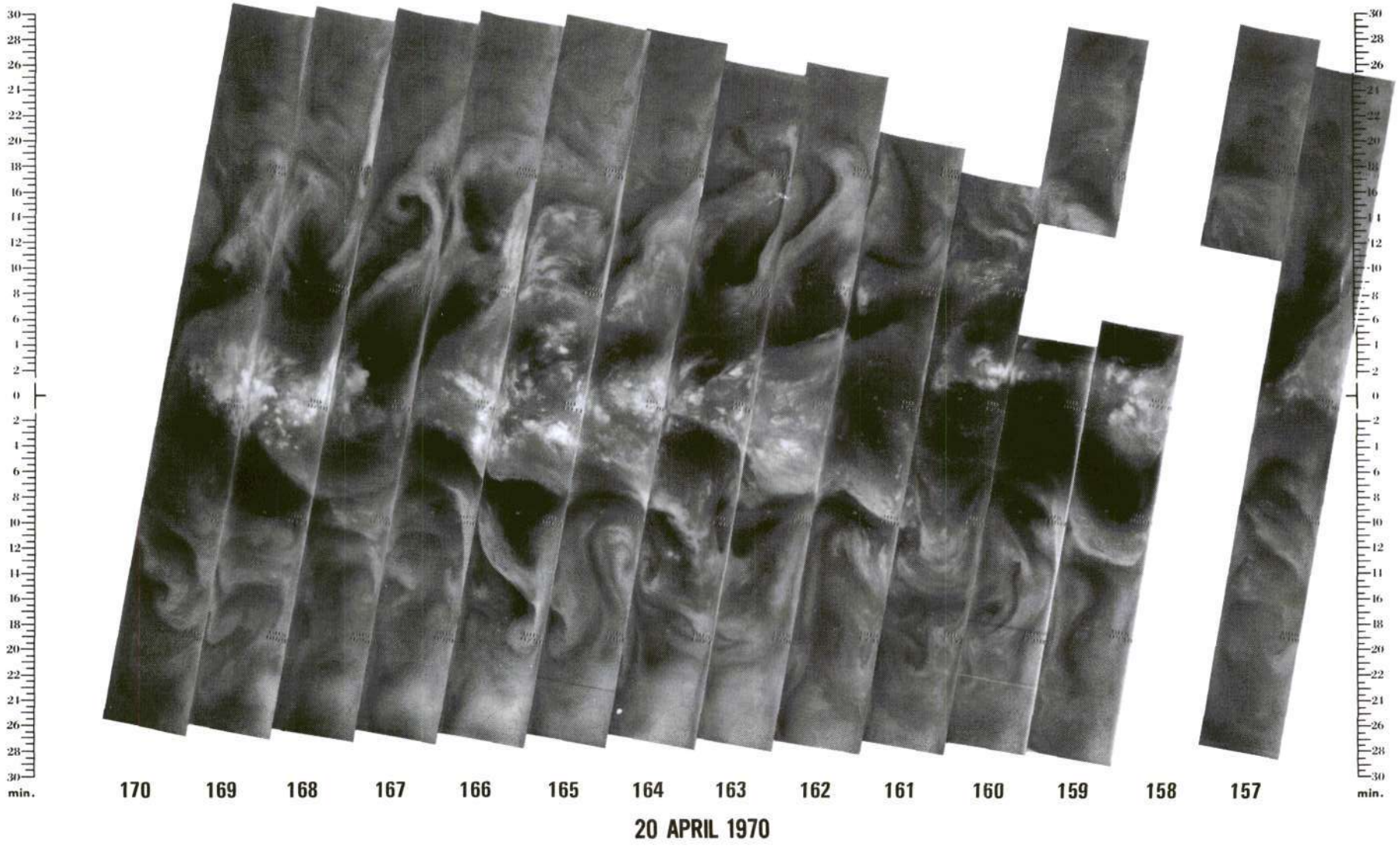
TEMPERATURE HUMIDITY INFRARED RADIOMETER NIGHTTIME MONTAGES


30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
143 142 141 140 139 138 137 136 135 134 133 132 131
18 APRIL 1970
11.5 N


min.
143
142
141
140
139
138
137
136
135
134
133
132
131
18 APRIL 1970
6.7N
min.


min.
min.
156
155
154
153
152
151
150
149
148
147
146
145
144
19 APRIL 1970
11.5N


min.
min.
170
169
168
167
166
165
164
163
162
161
160
159
158
157
20 APRIL 1970
11.5N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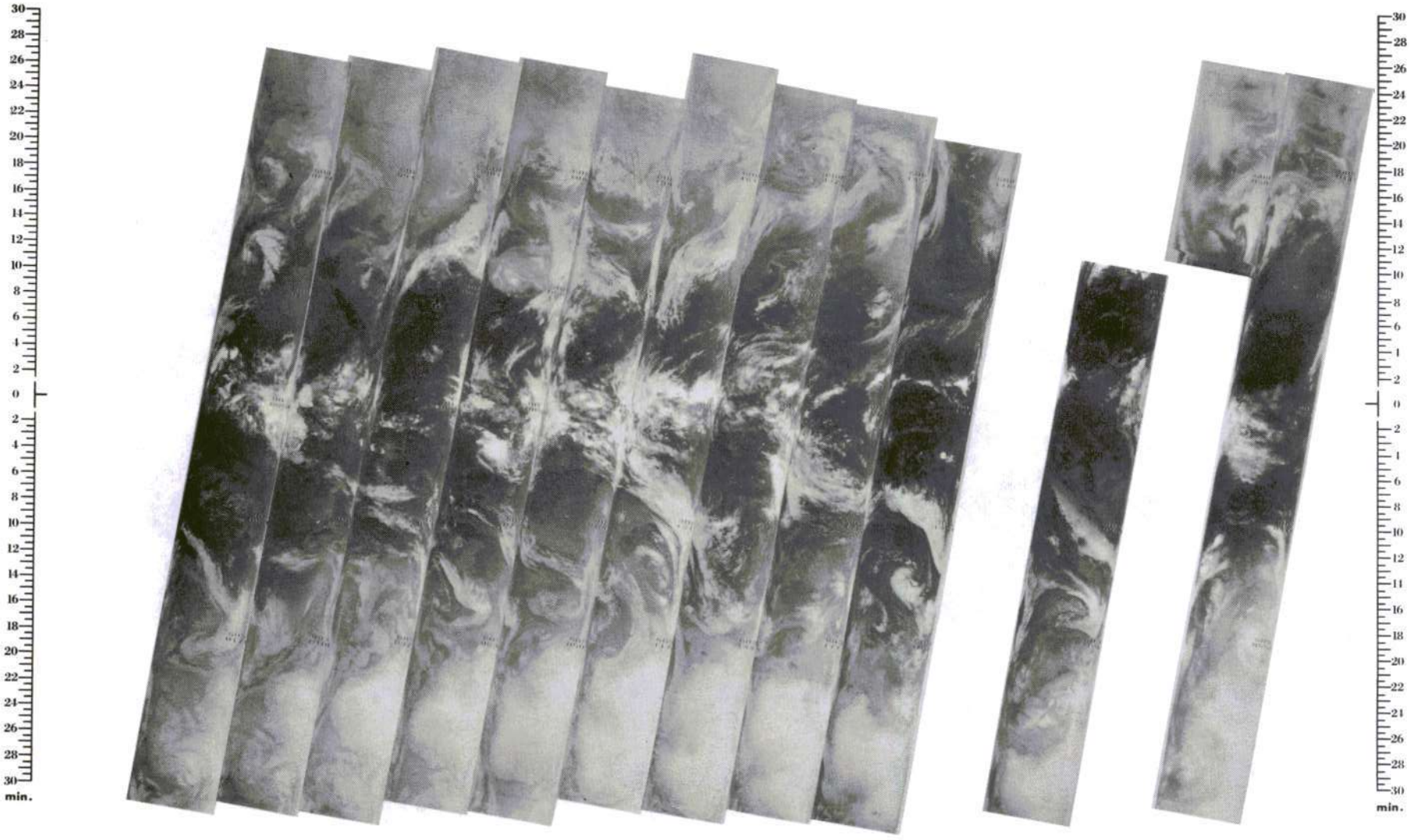
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21 APRIL 1970
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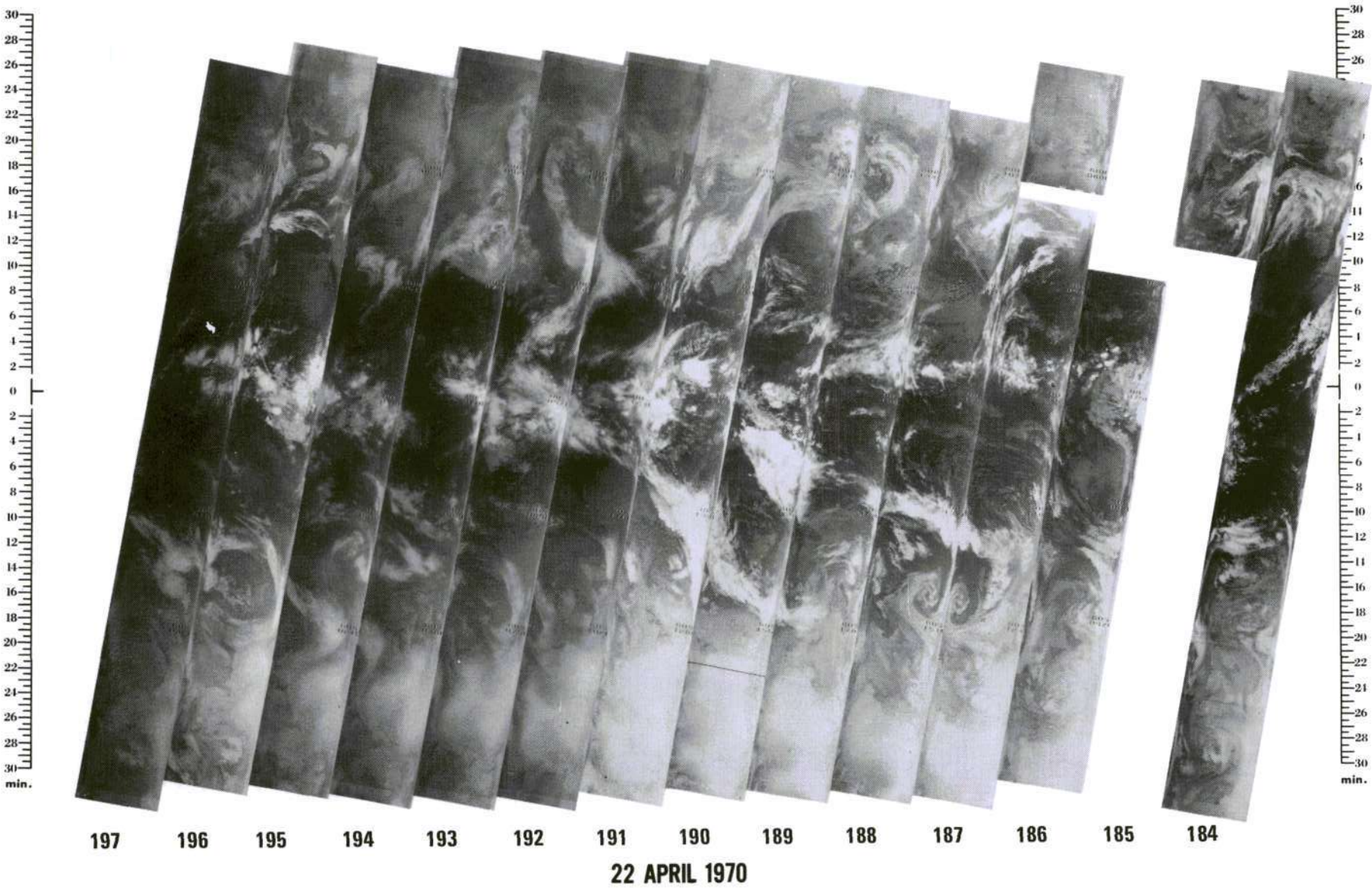
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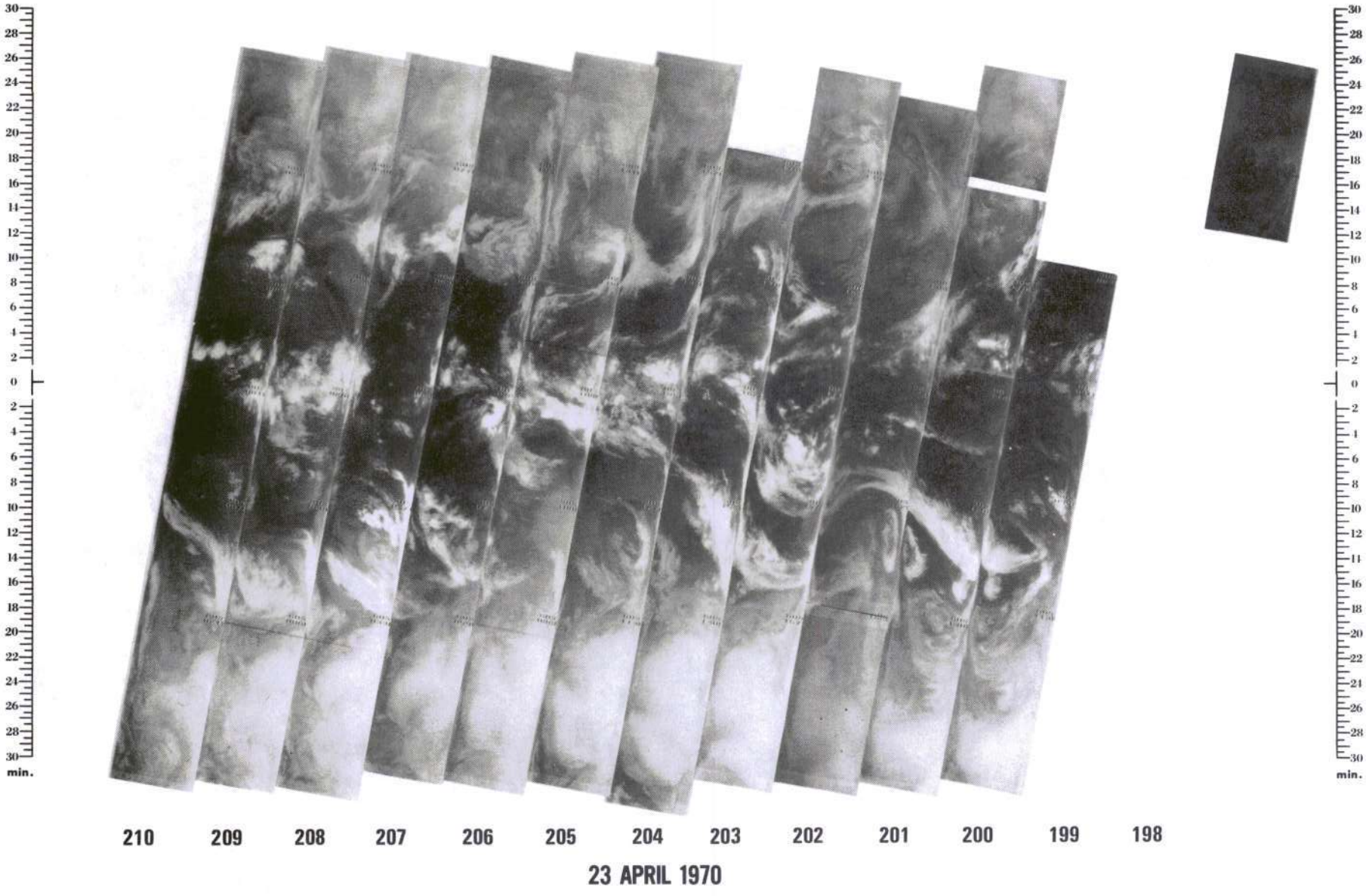
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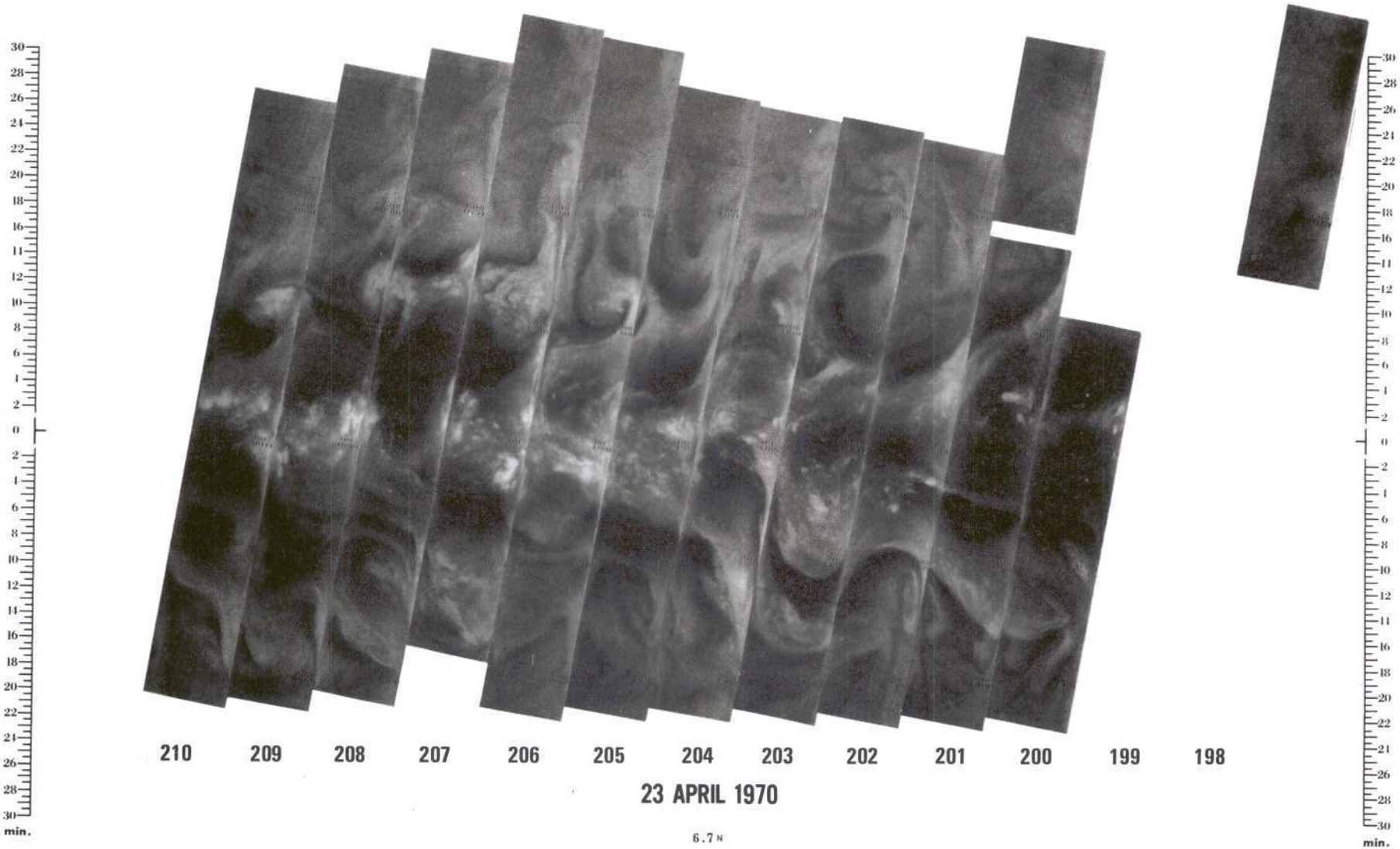
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23 APRIL 1970
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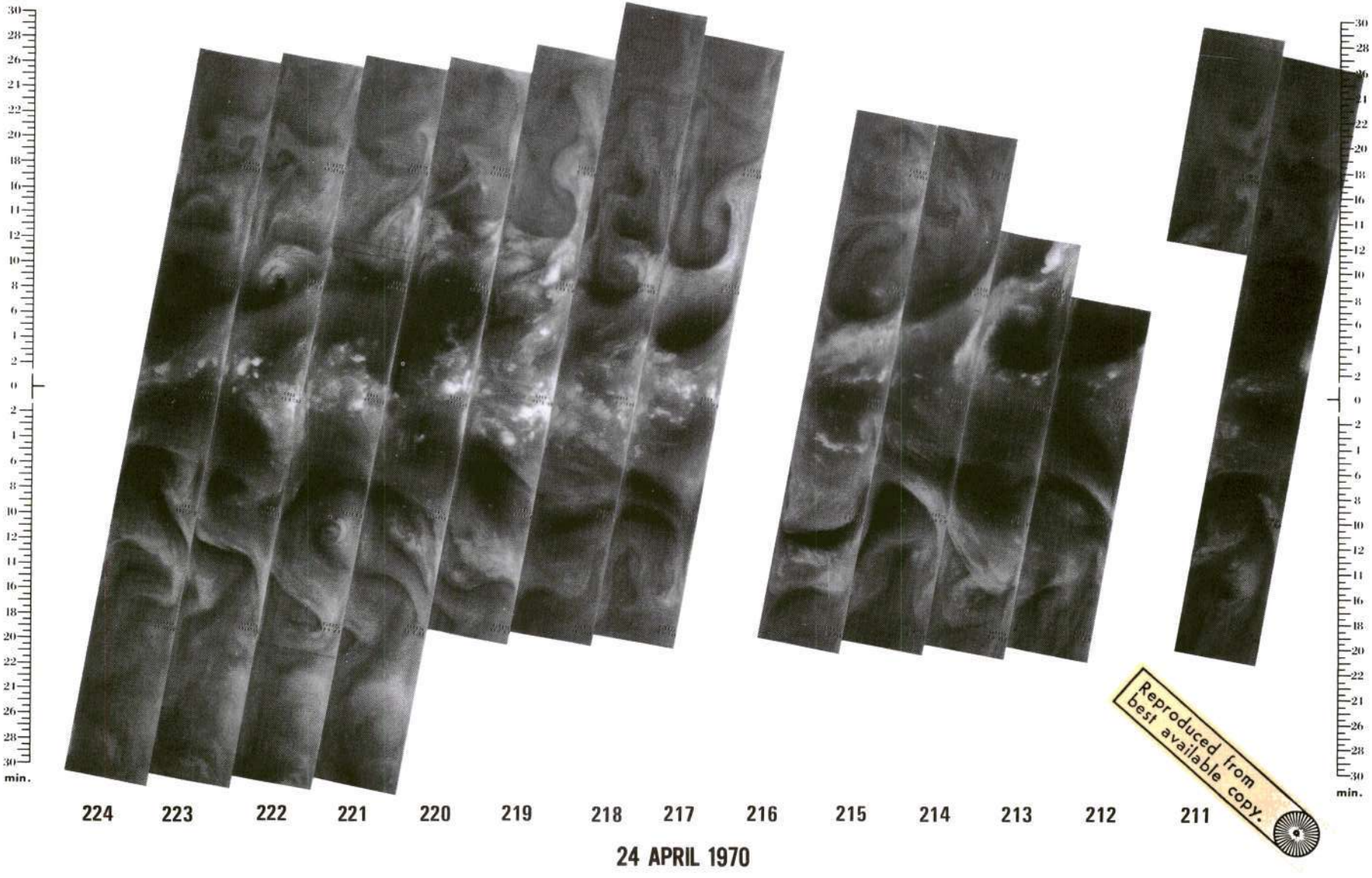

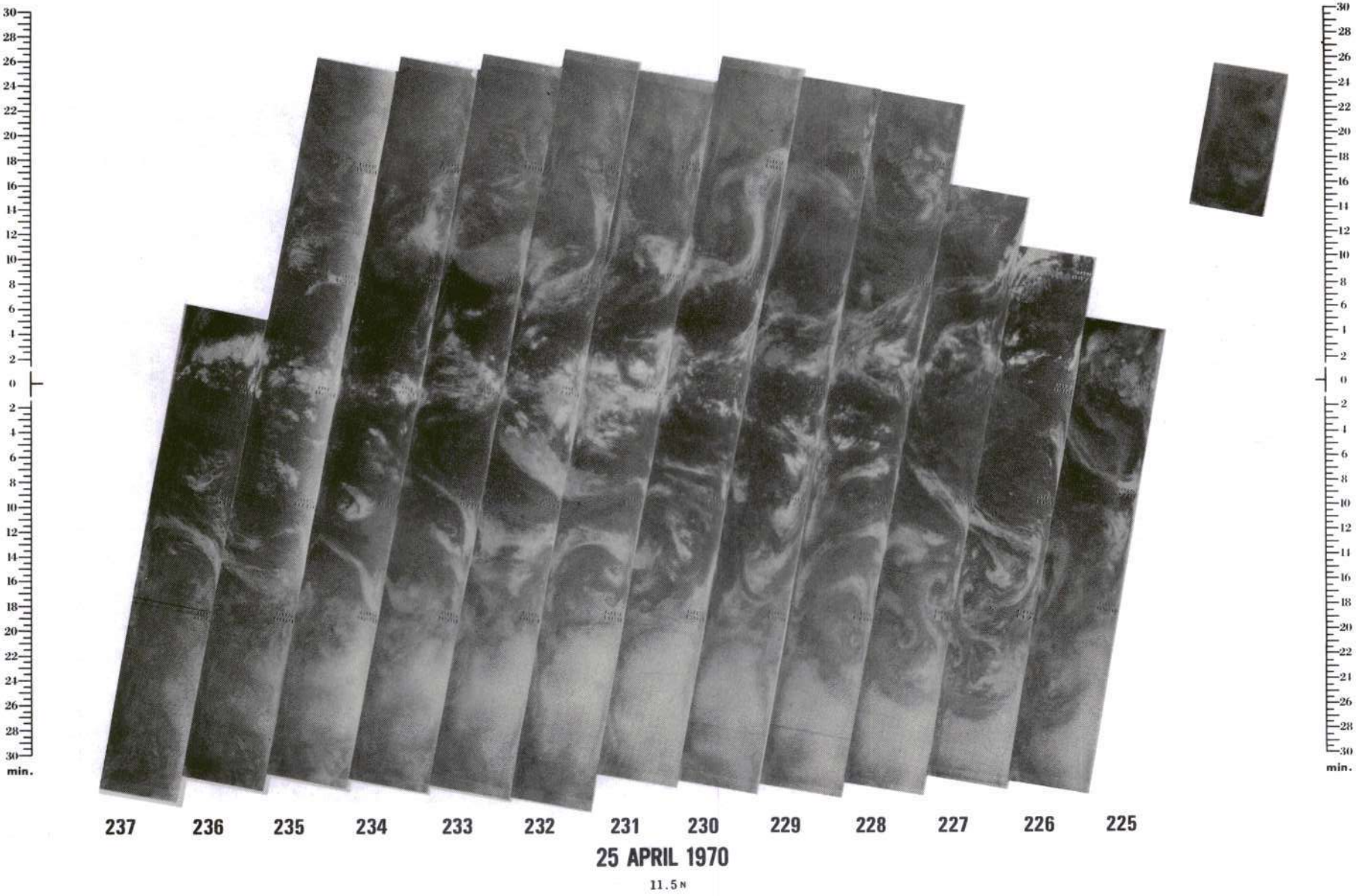
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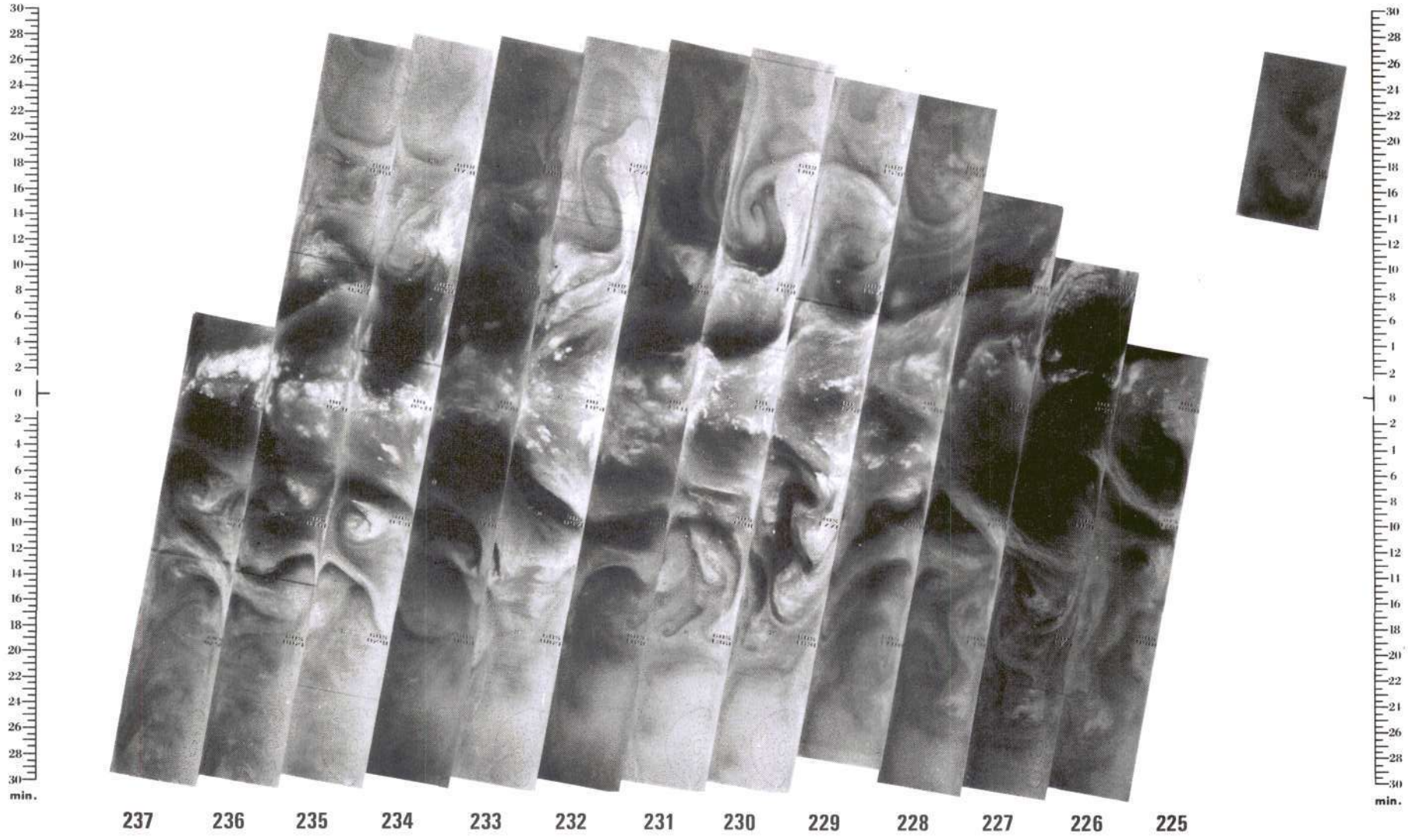
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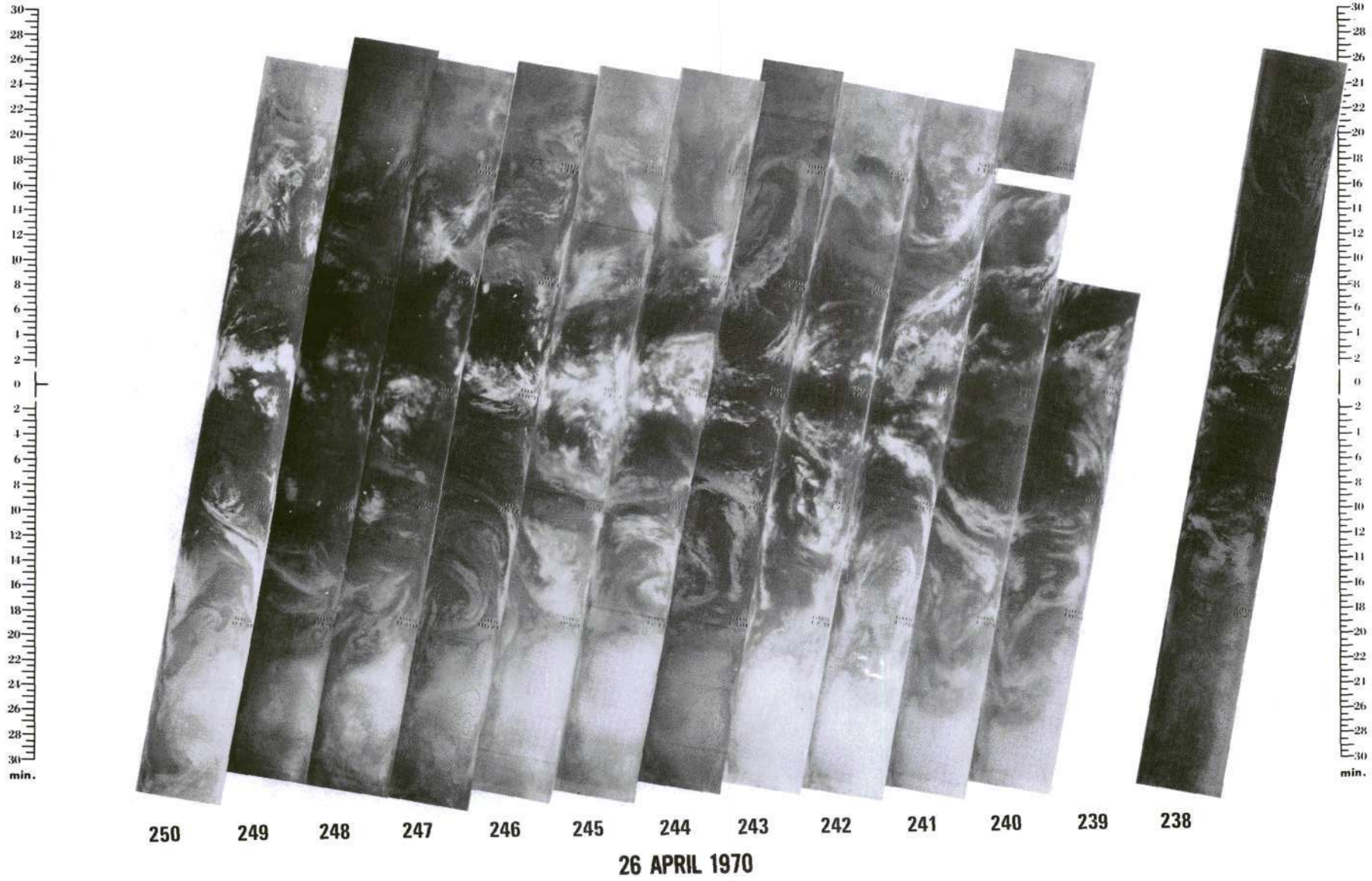
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26 APRIL 1970

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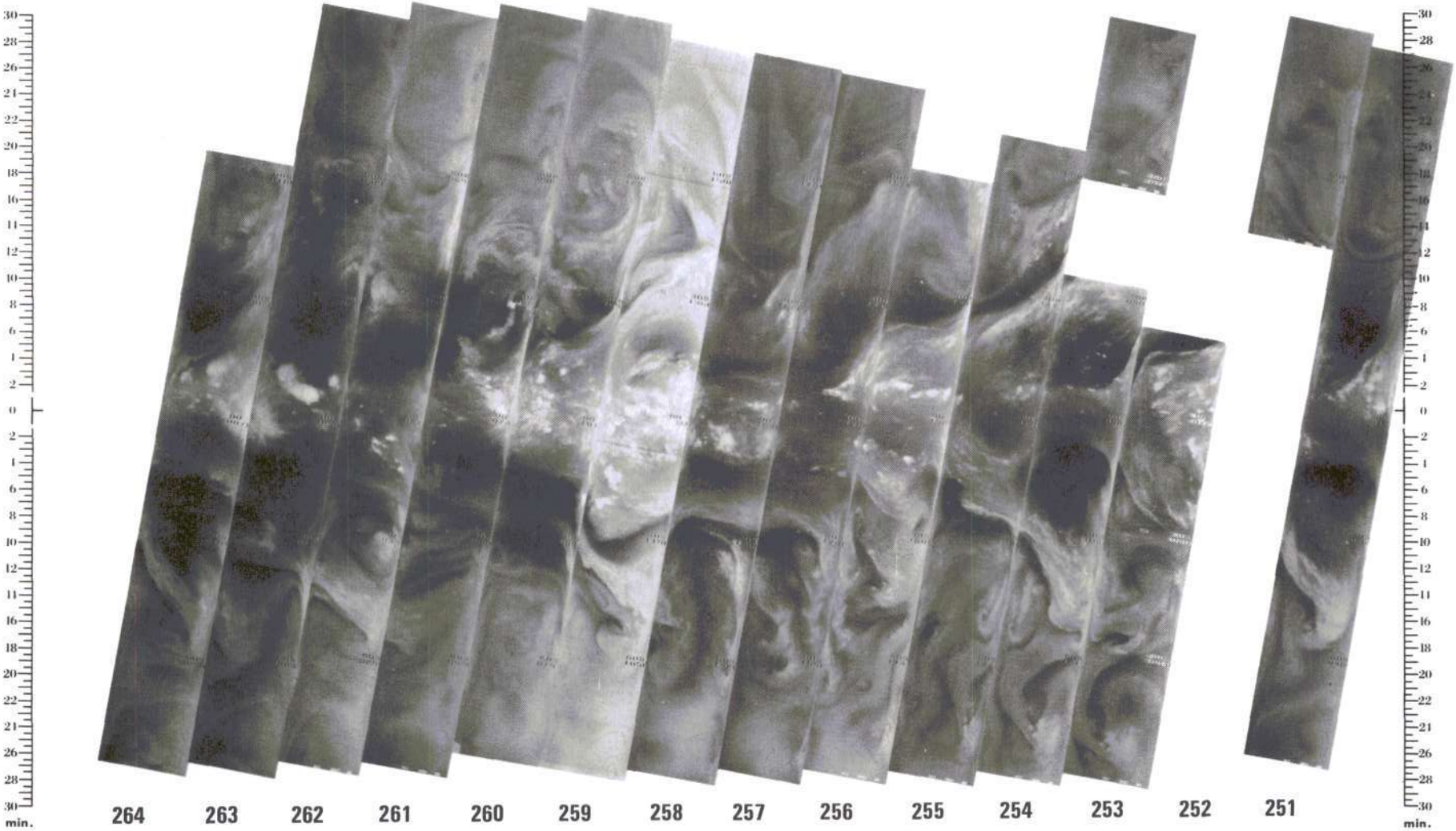

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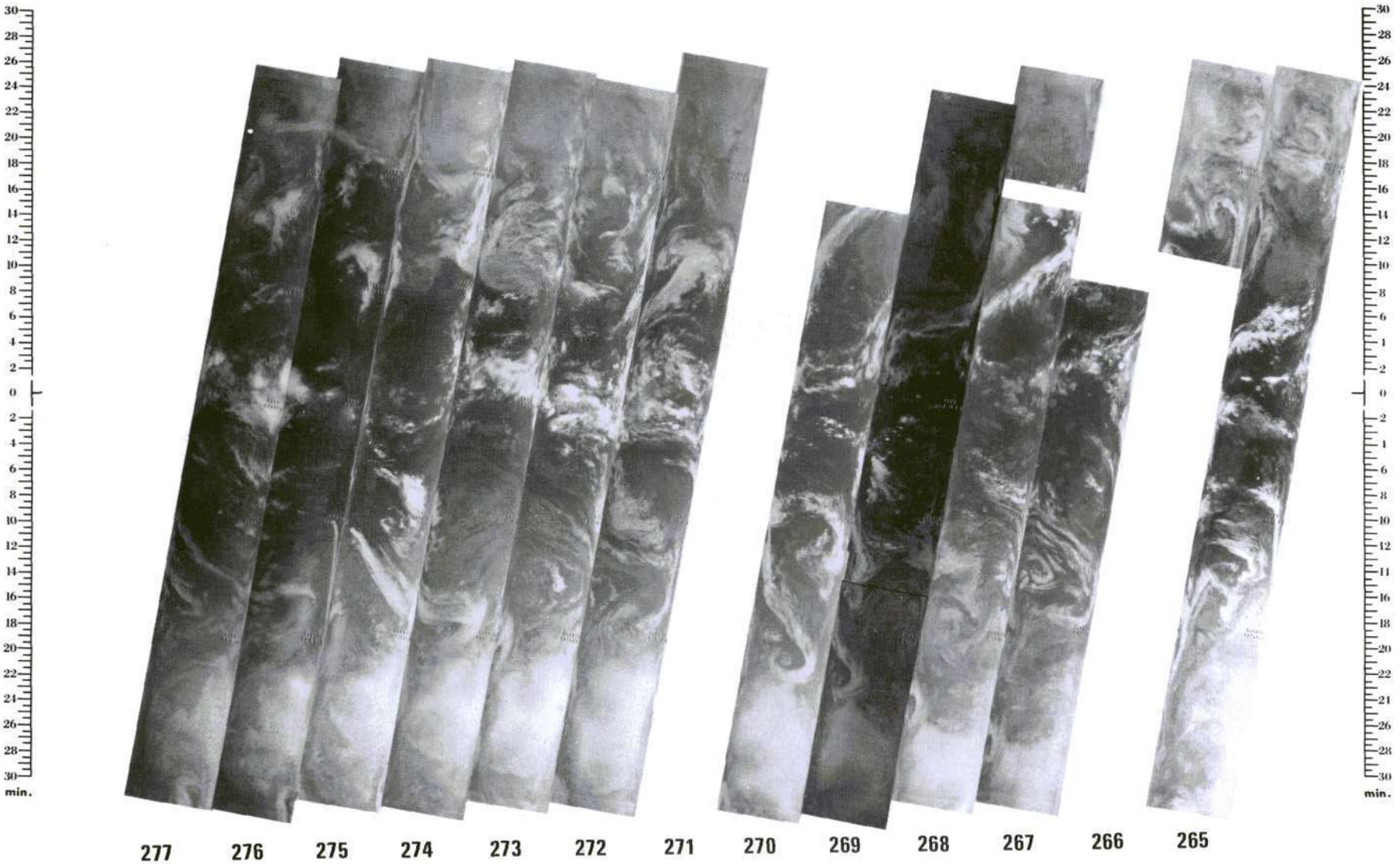
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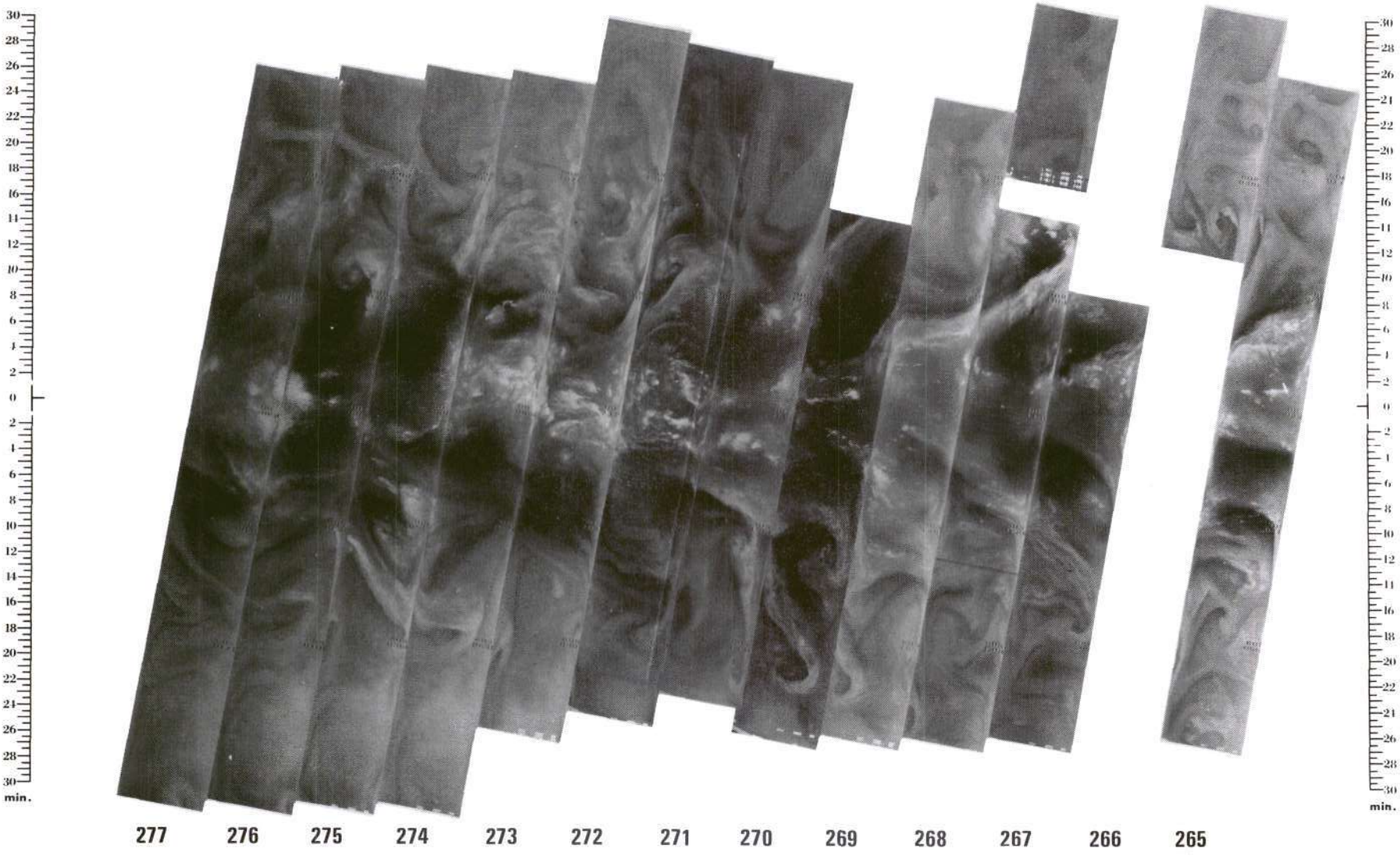
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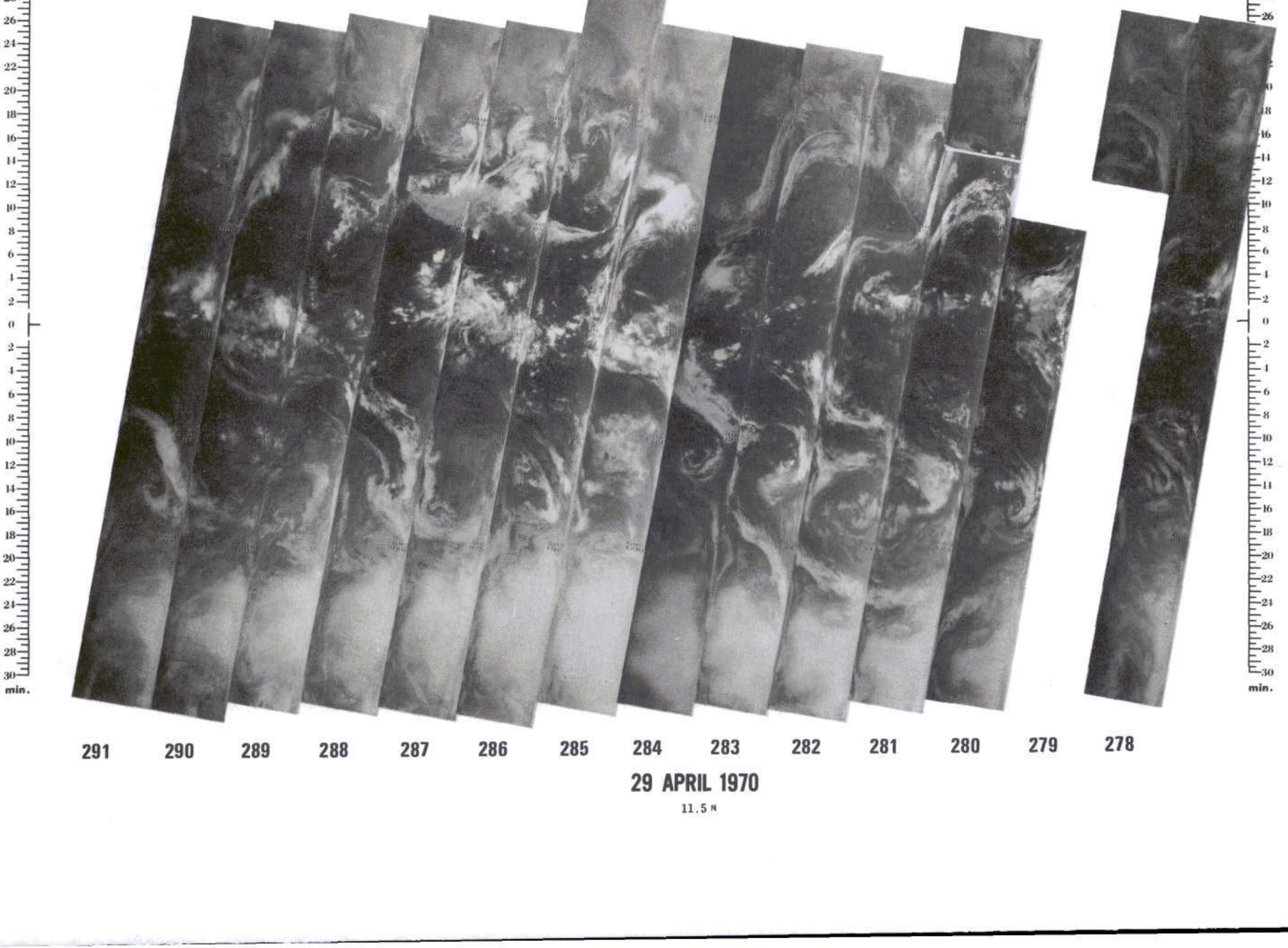
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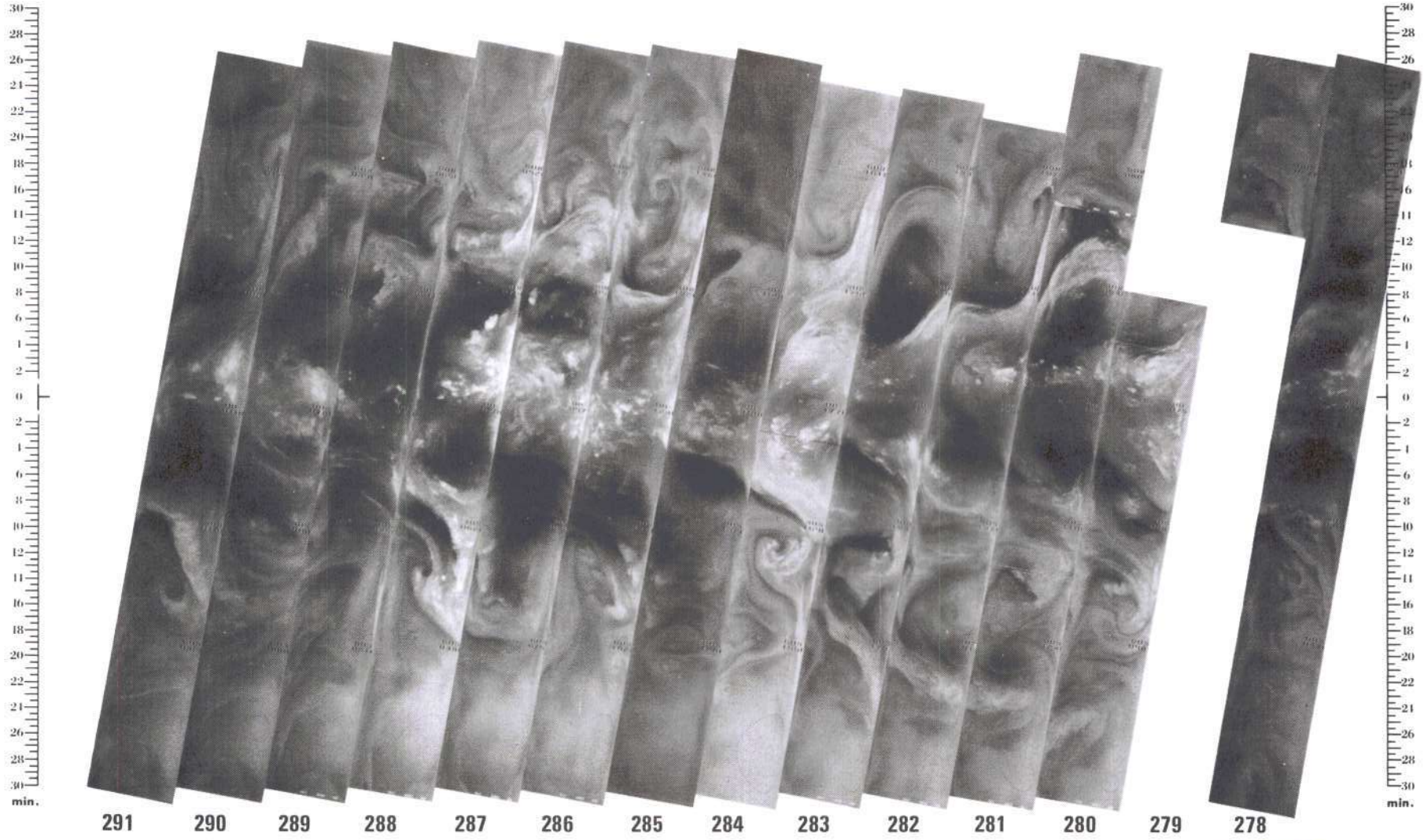

29 APRIL 1970

67 N

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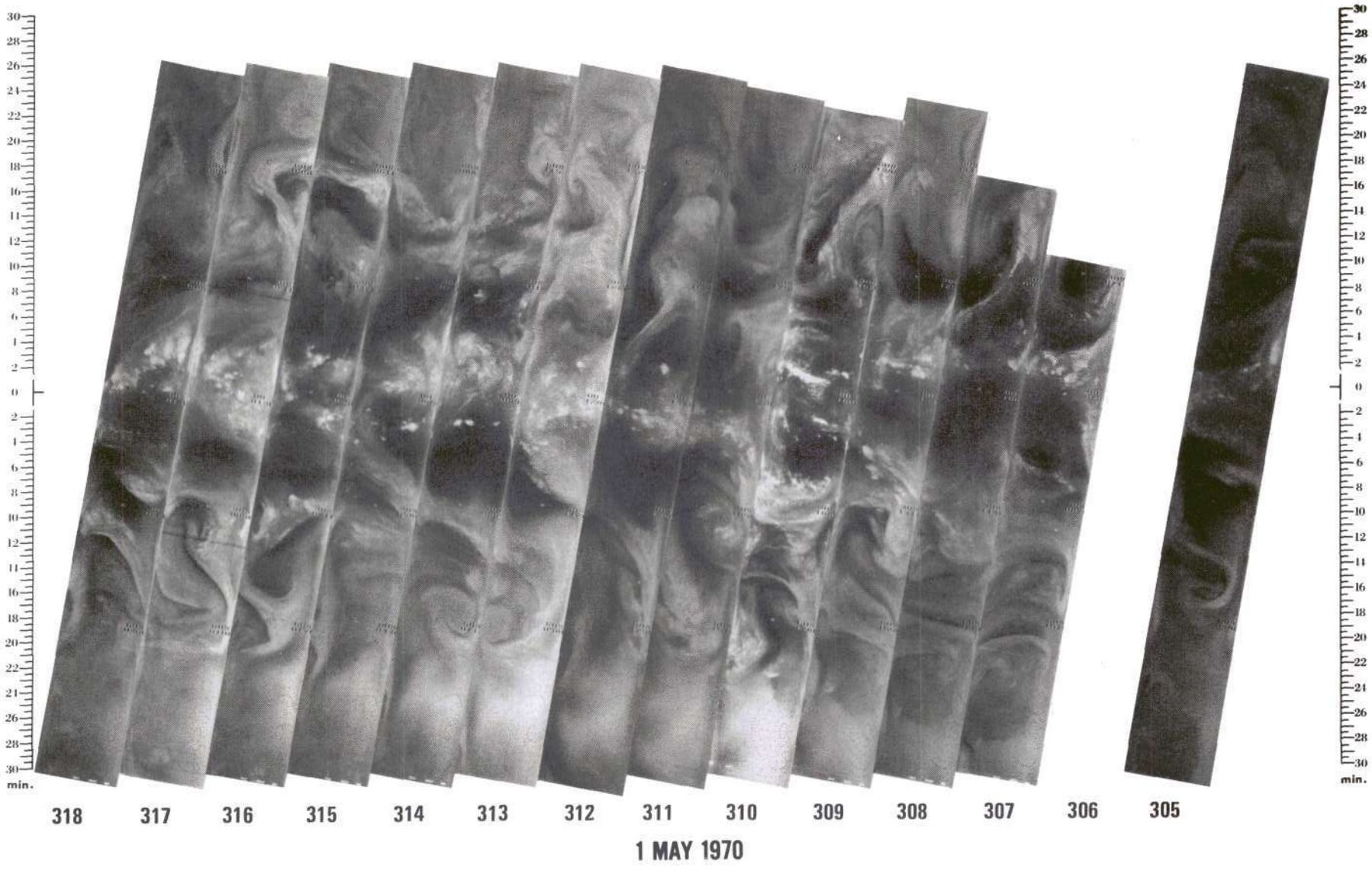
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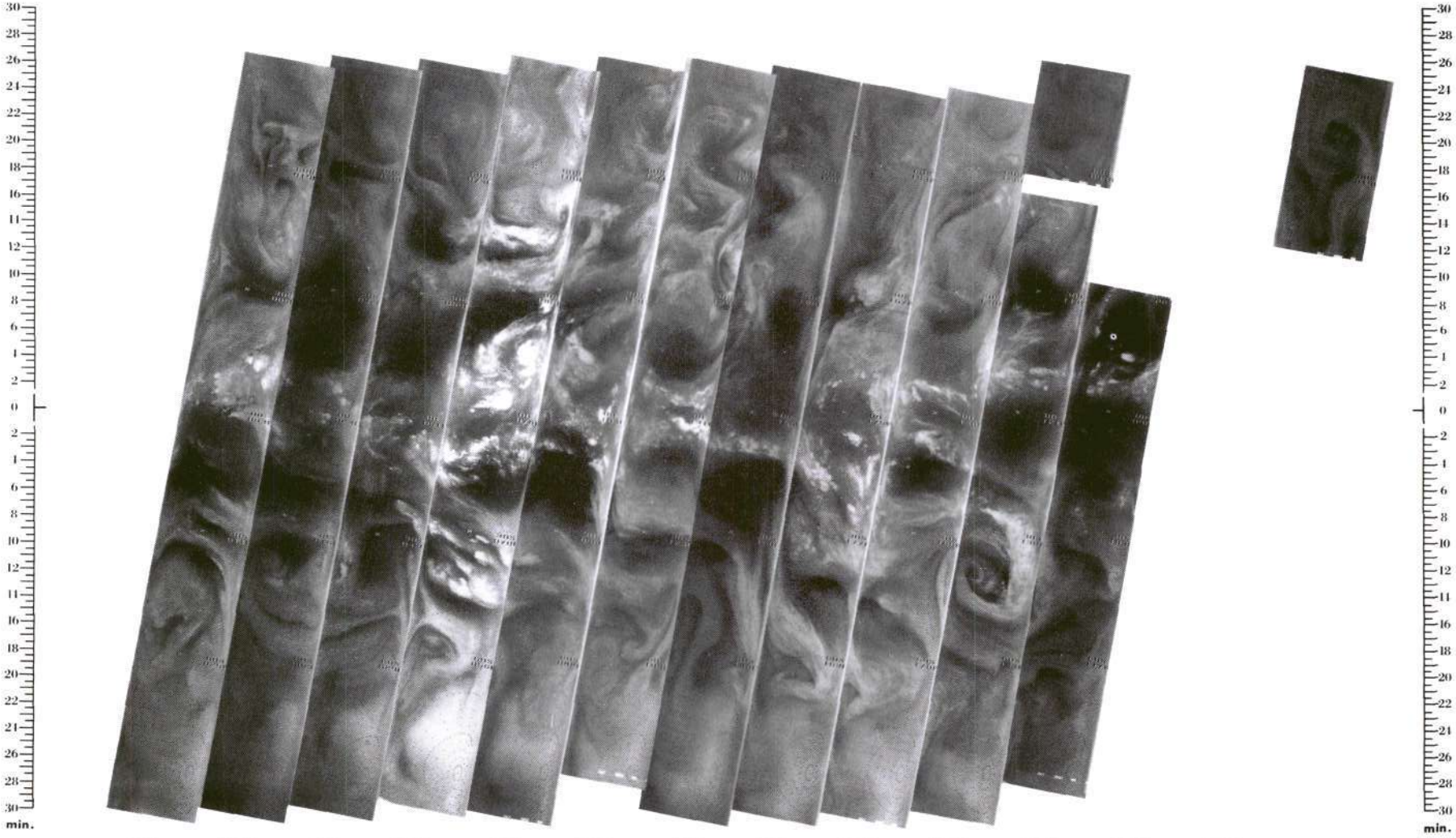
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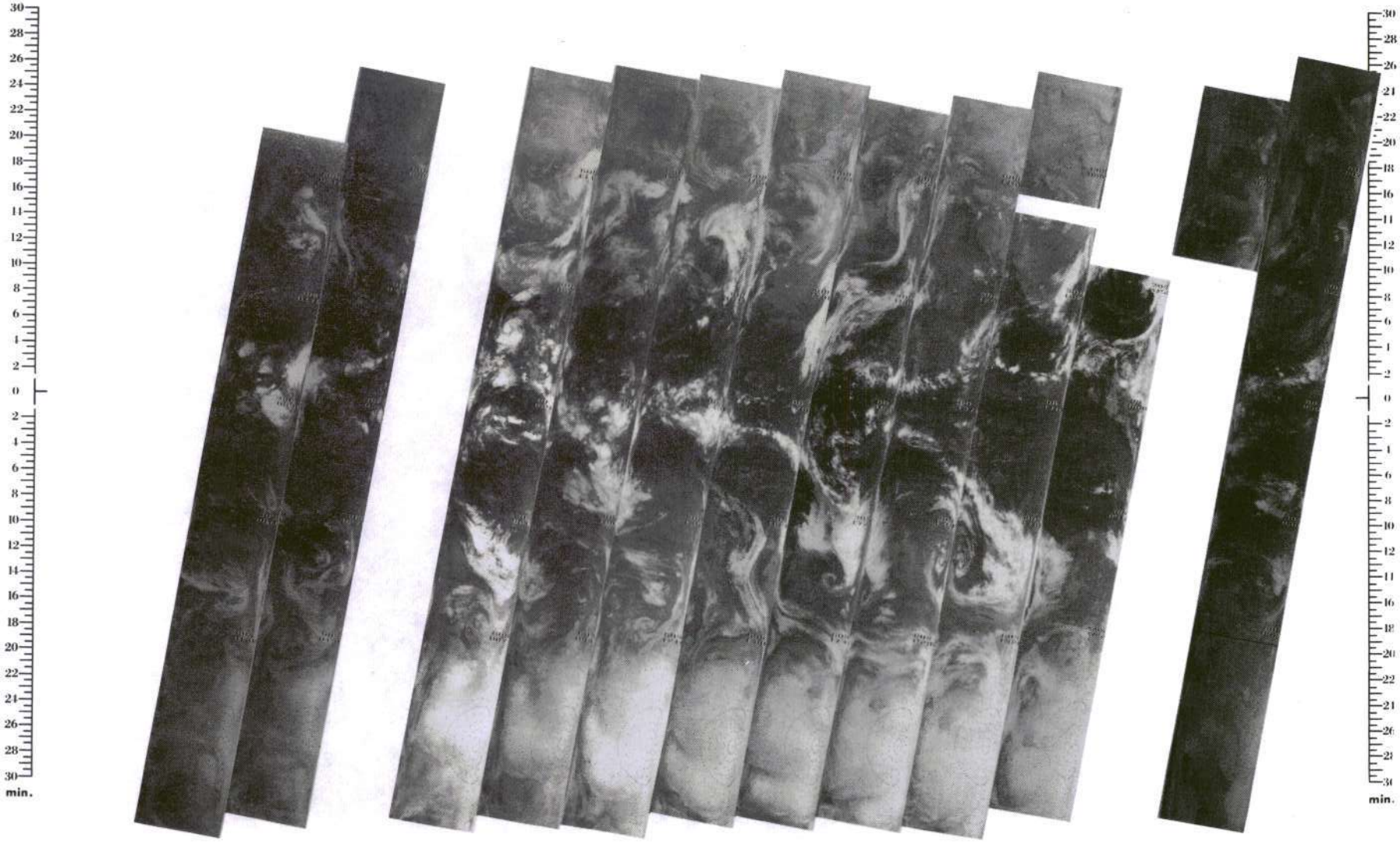

3 MAY 1970

11.5 N

3 MAY 1970

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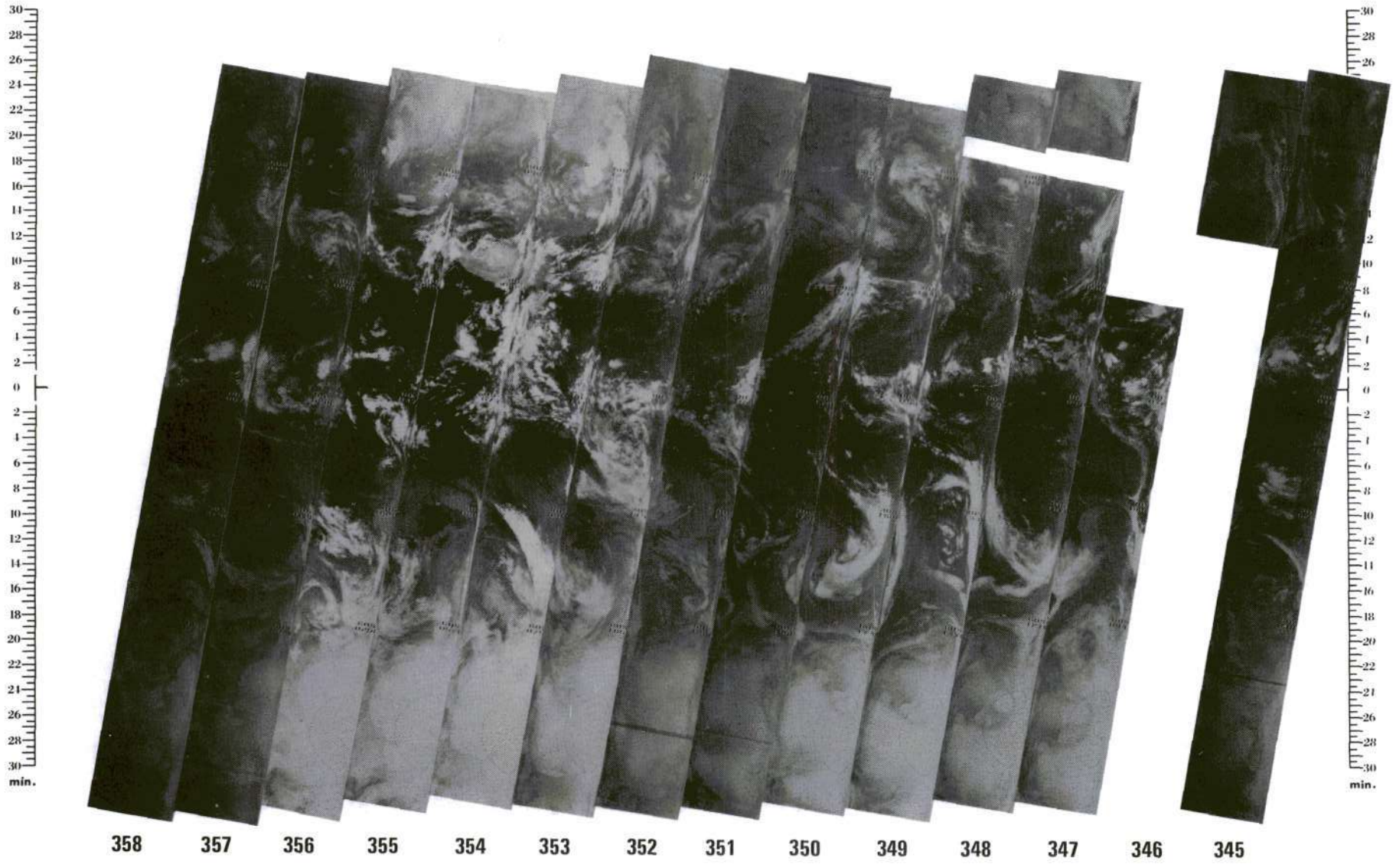
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4 MAY 1970
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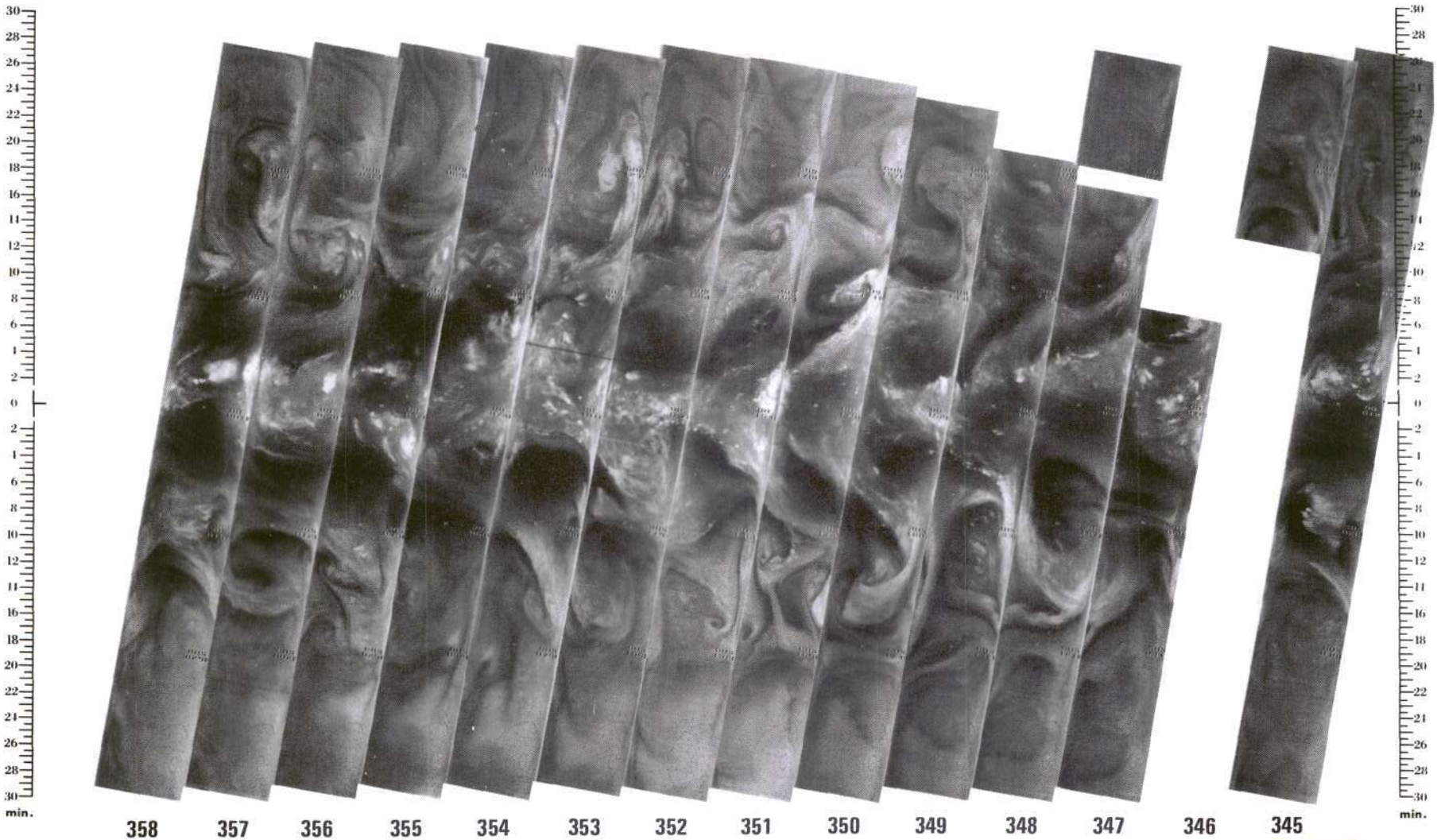

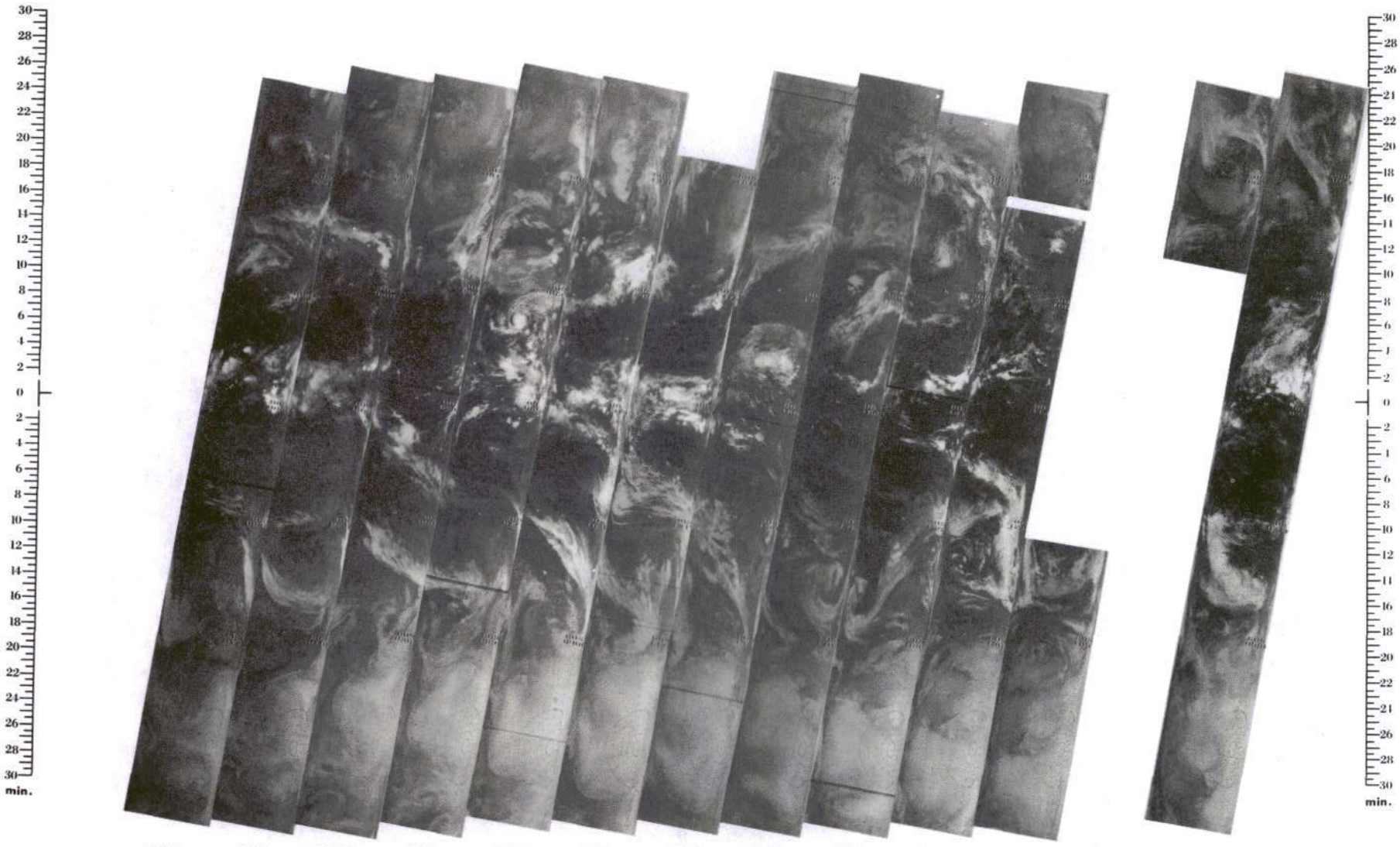
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5 MAY 1970
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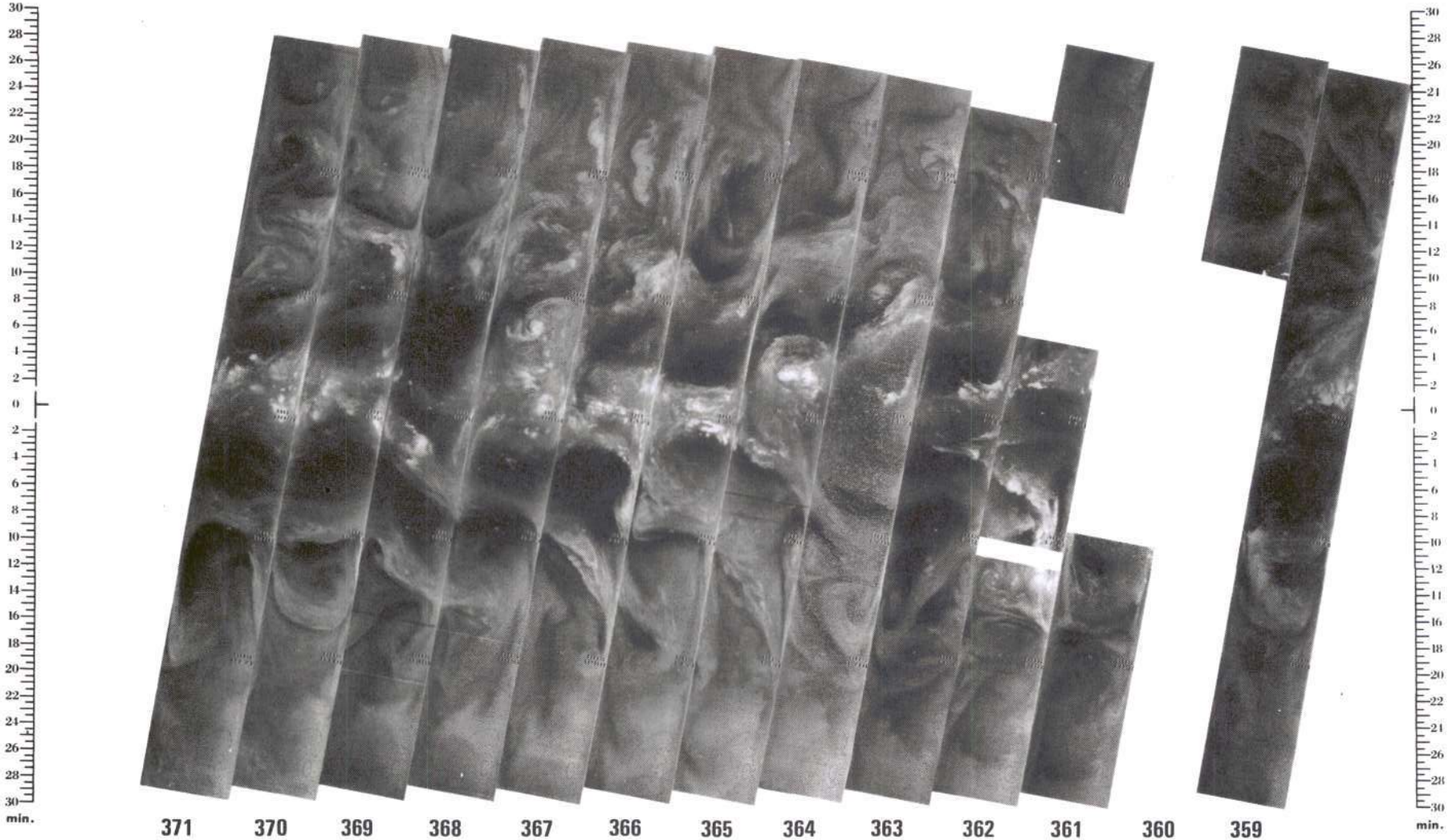

5 MAY 1970

67 N


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6 MAY 1970
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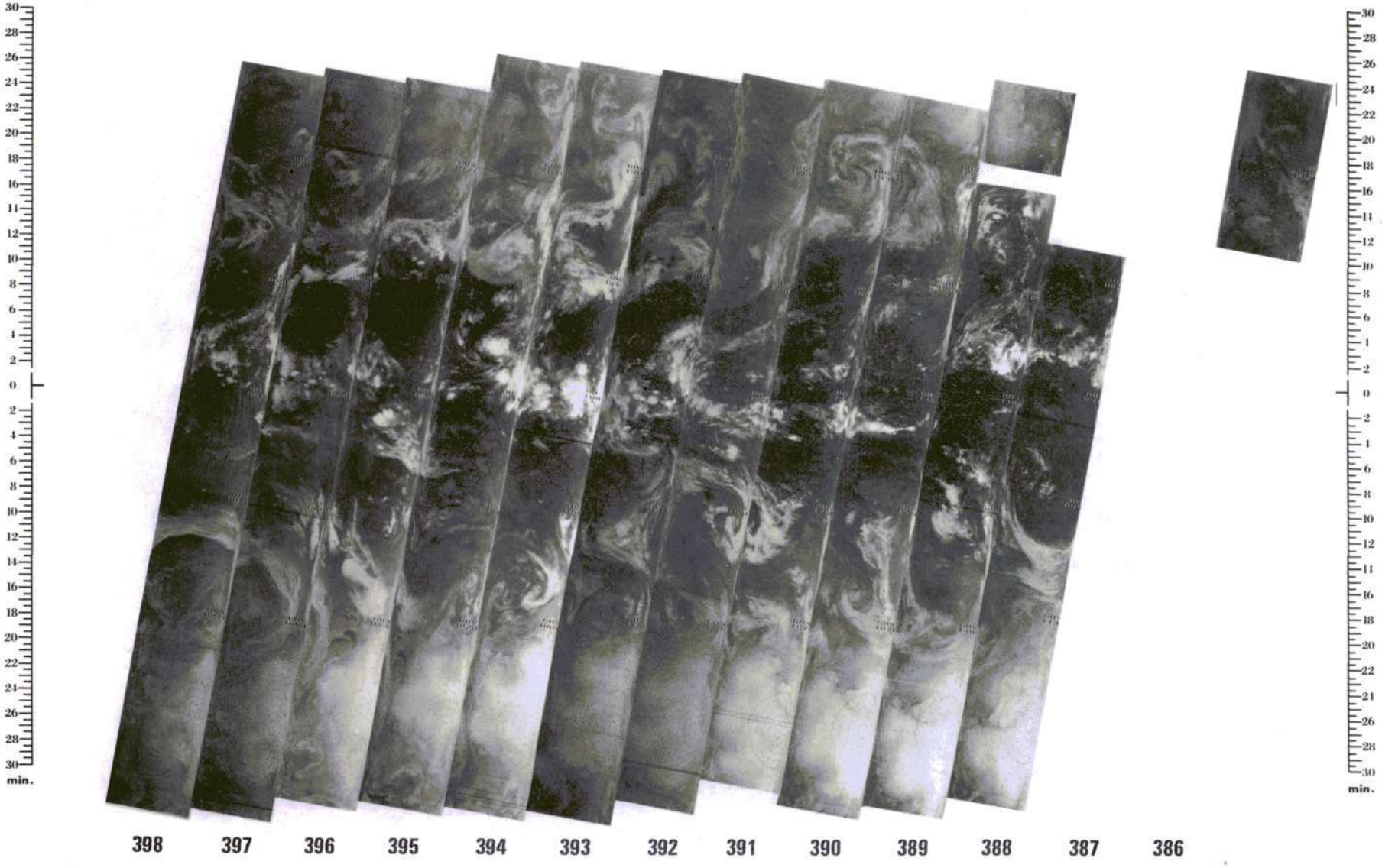
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7 MAY 1970
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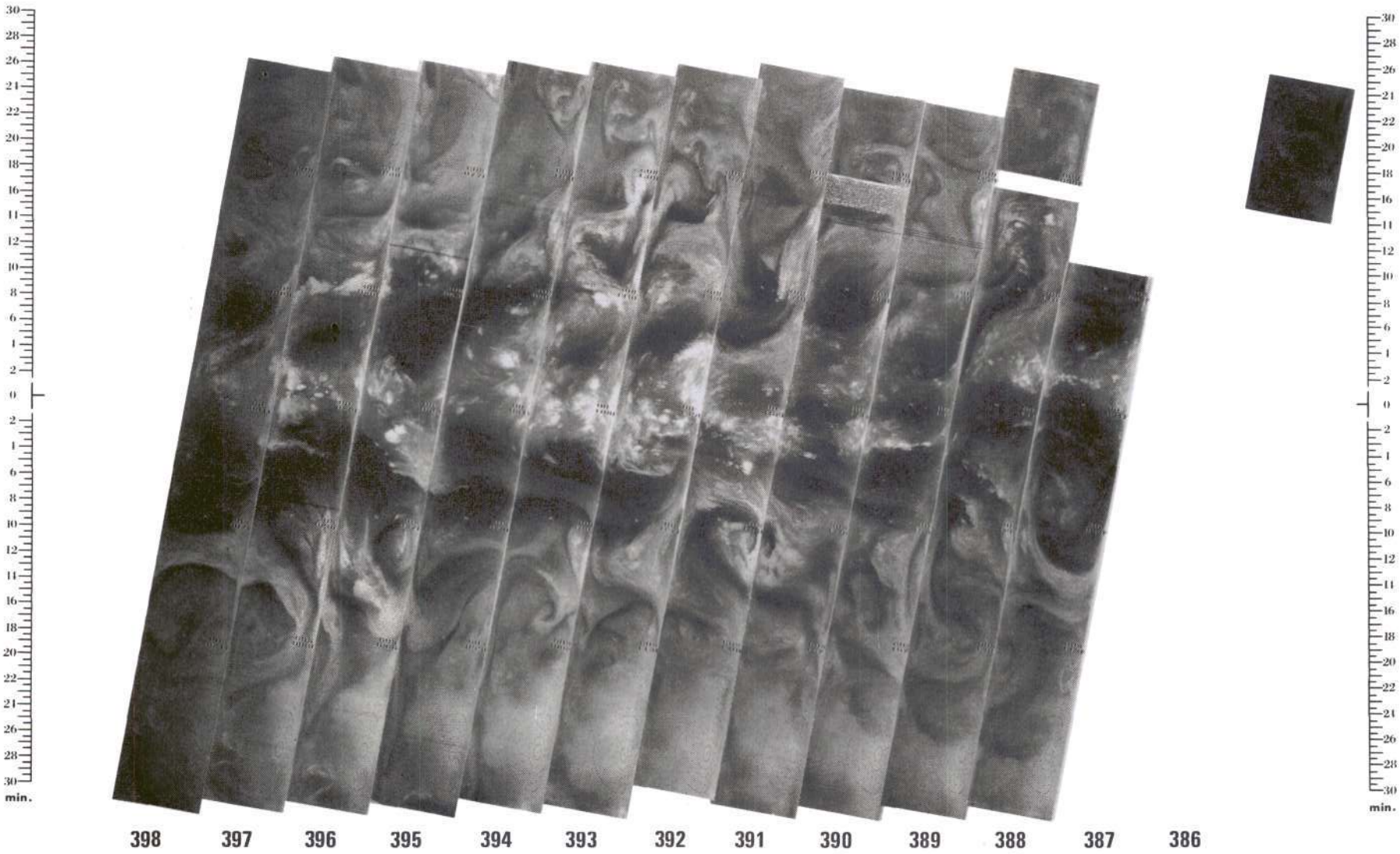
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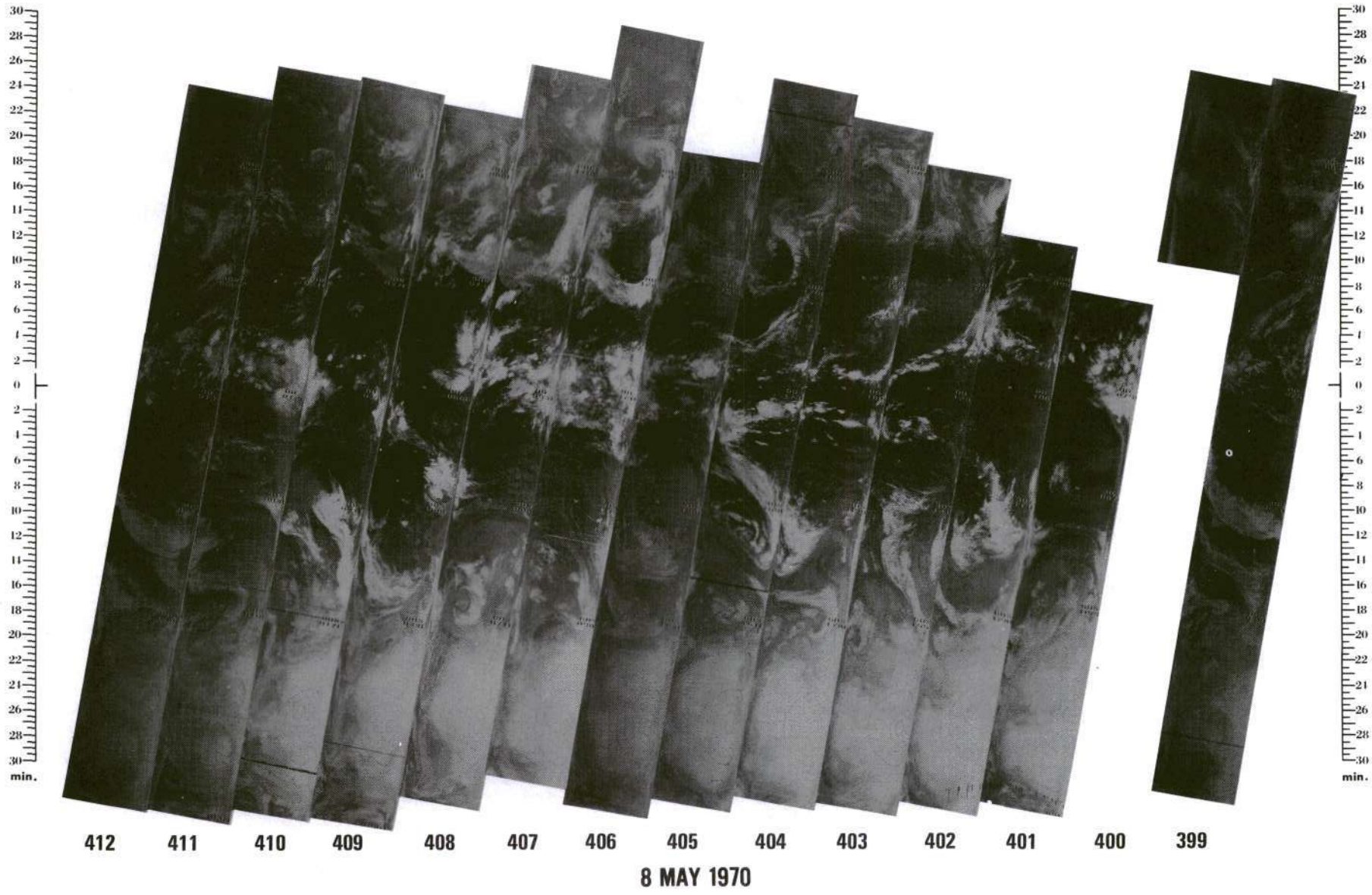
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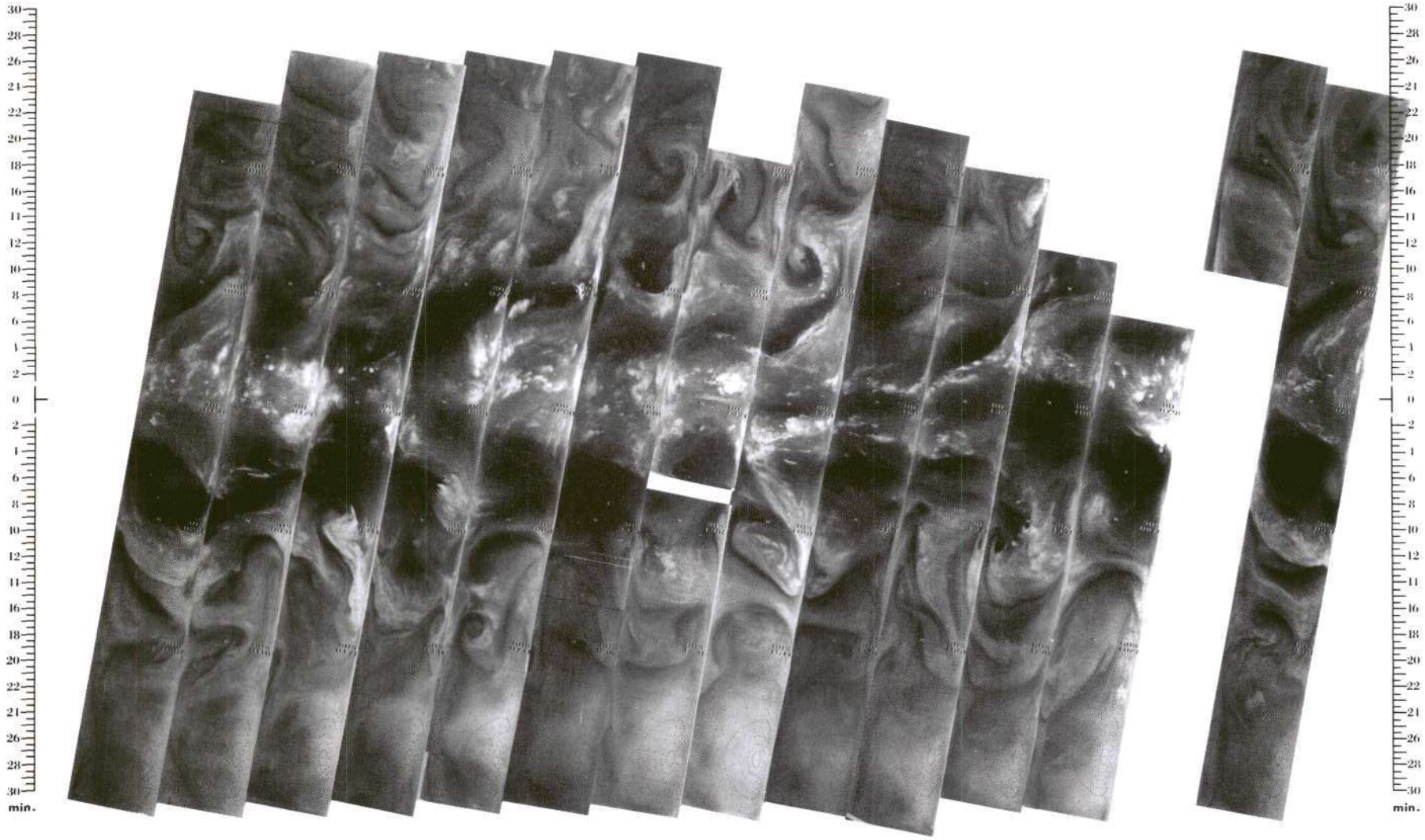
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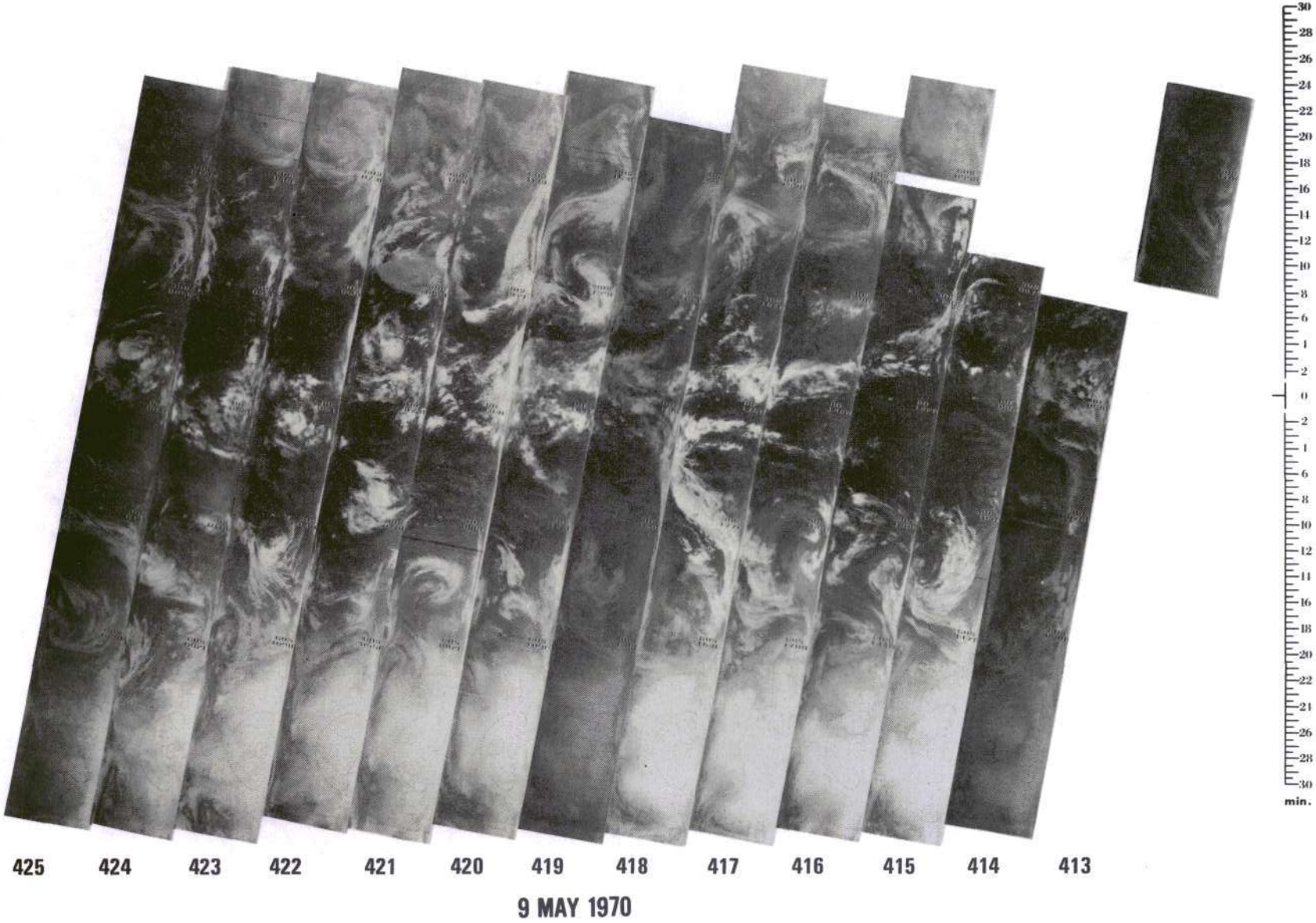
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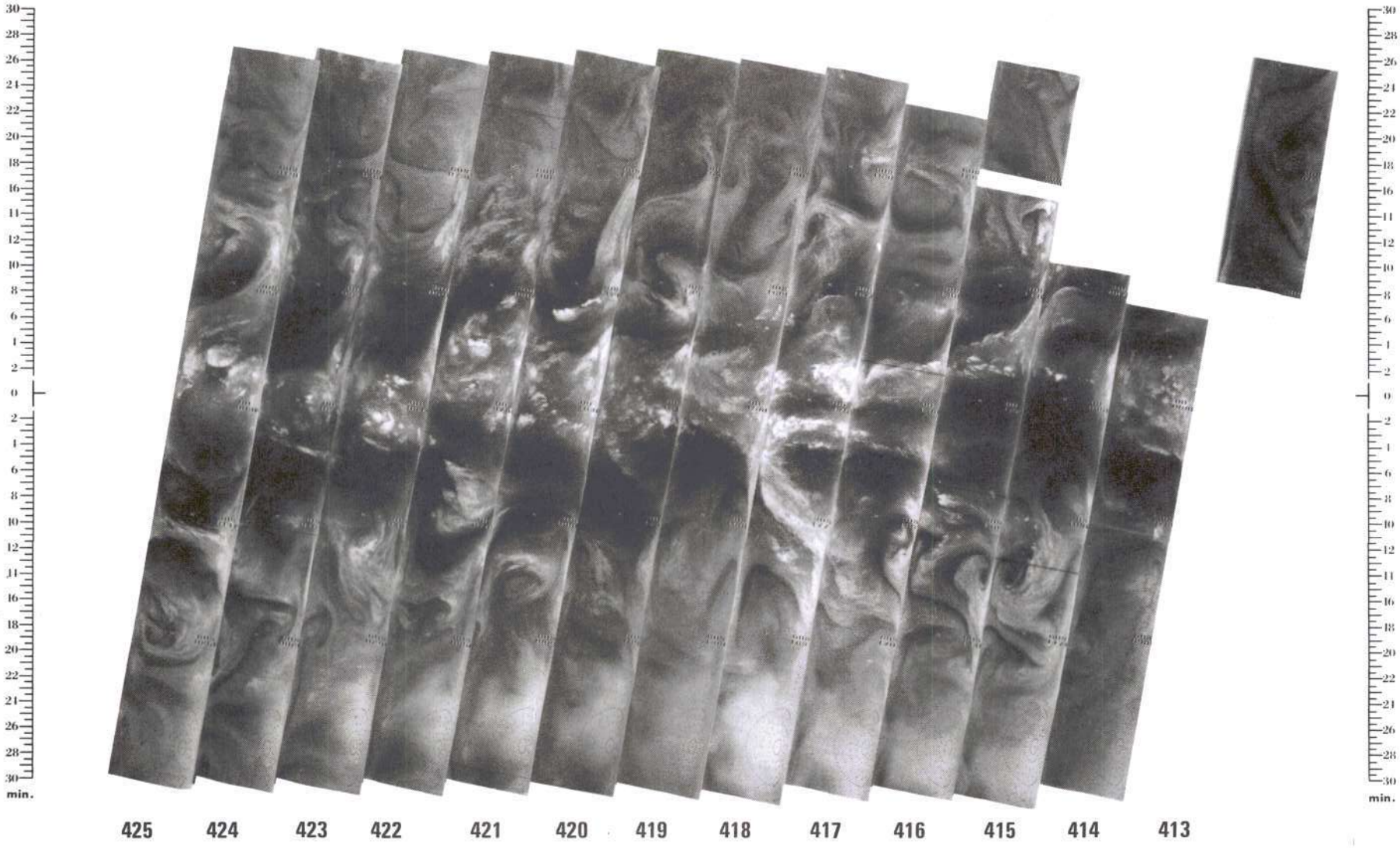

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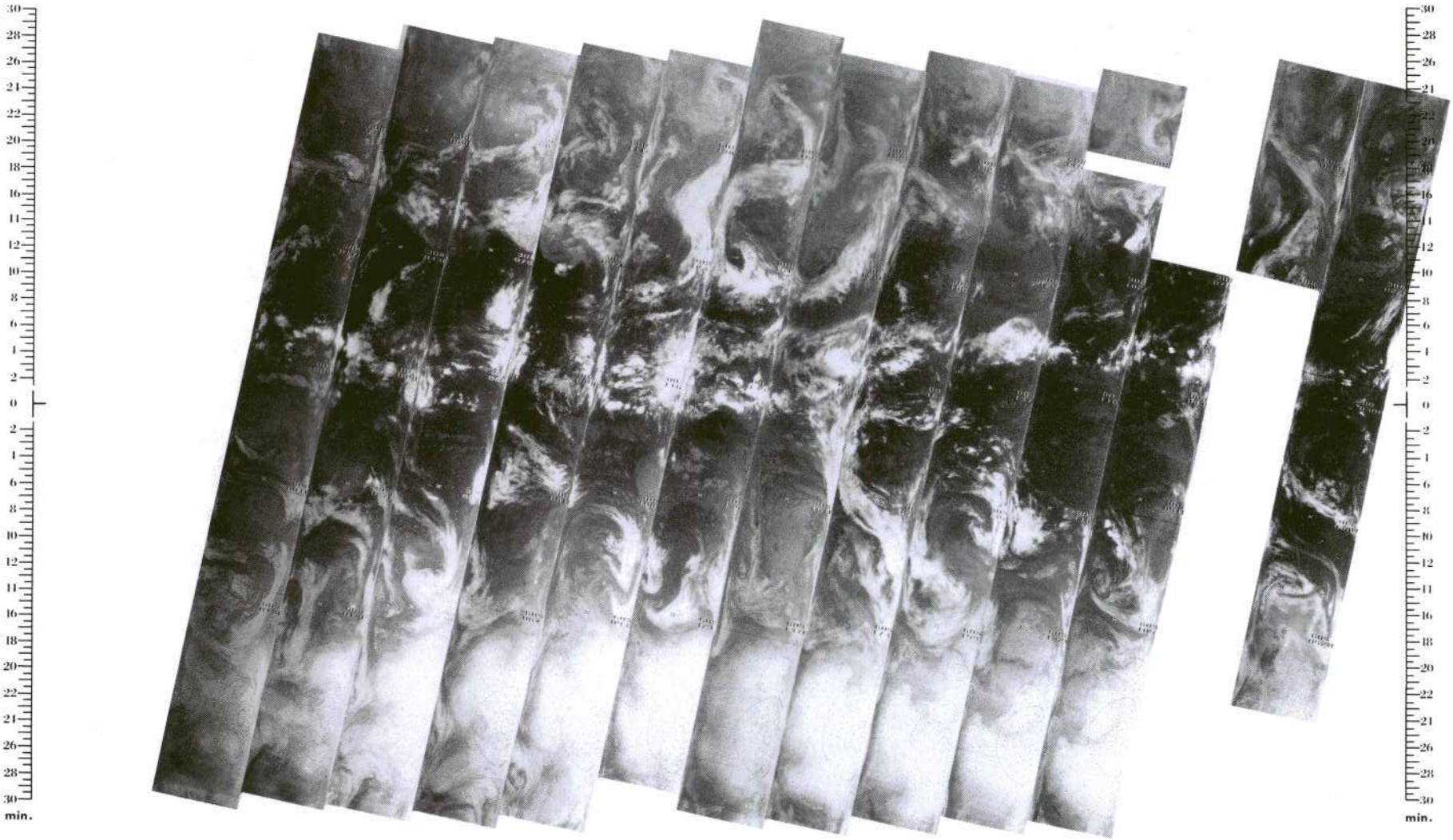
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10 MAY 1970
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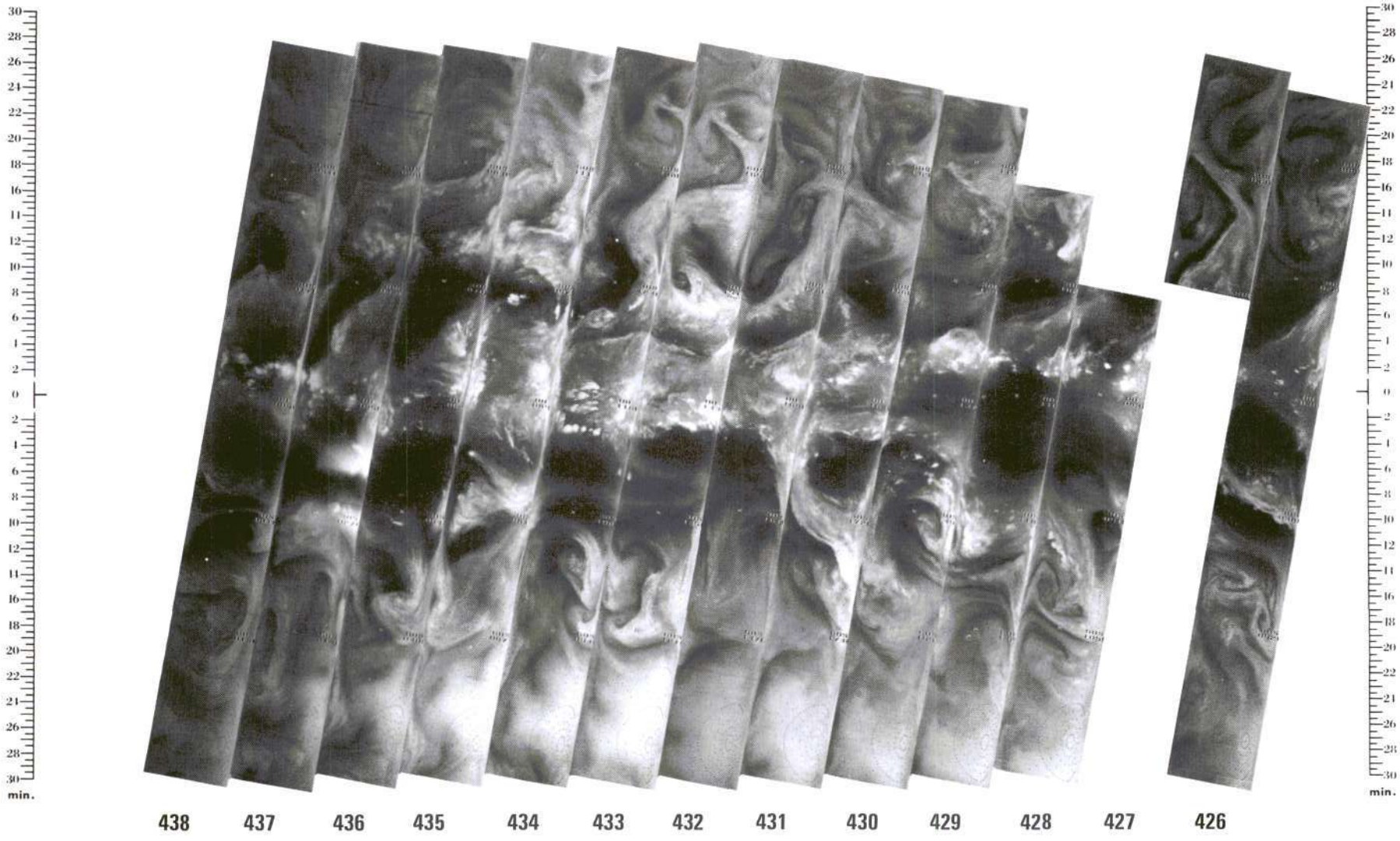
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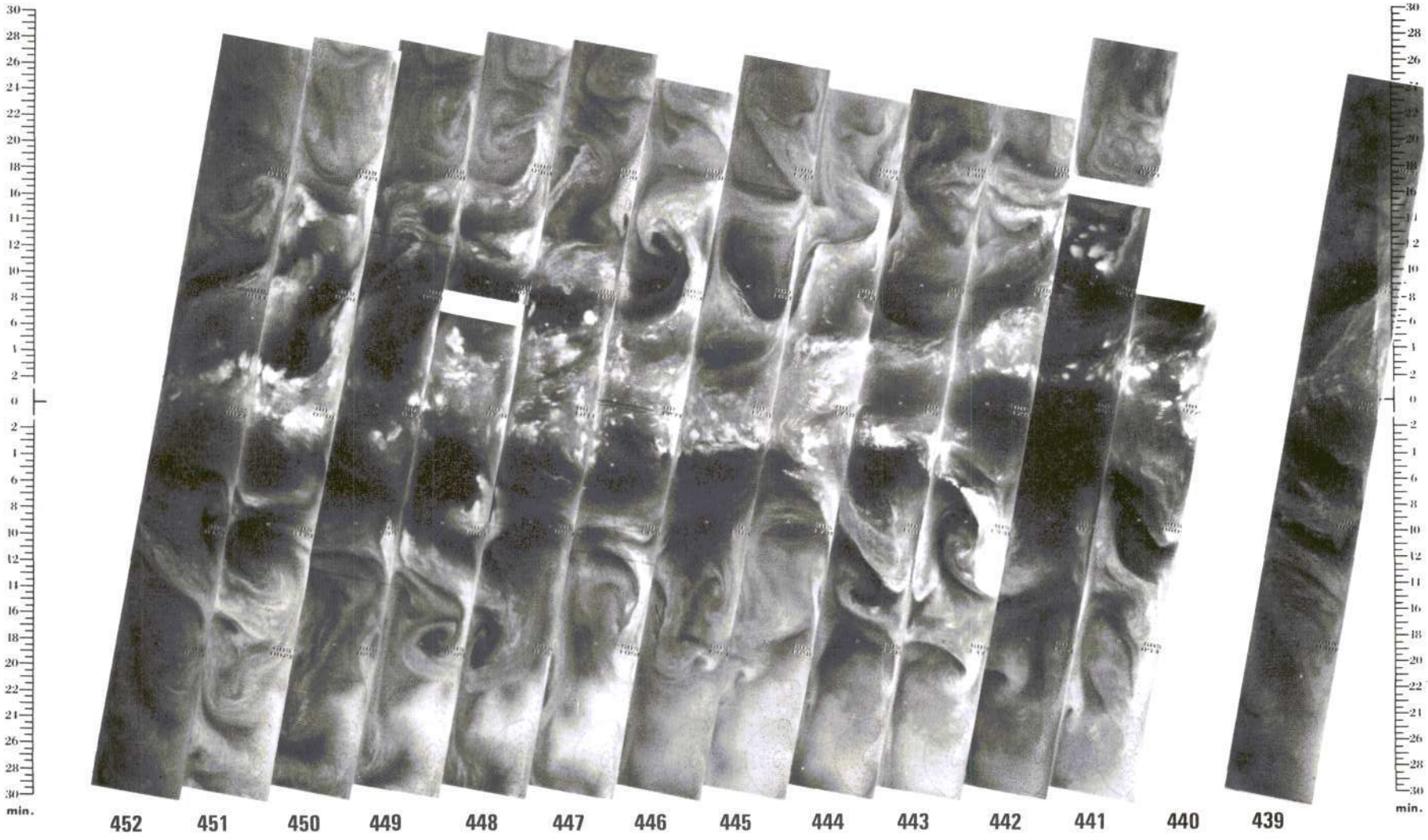

11 MAY 1970

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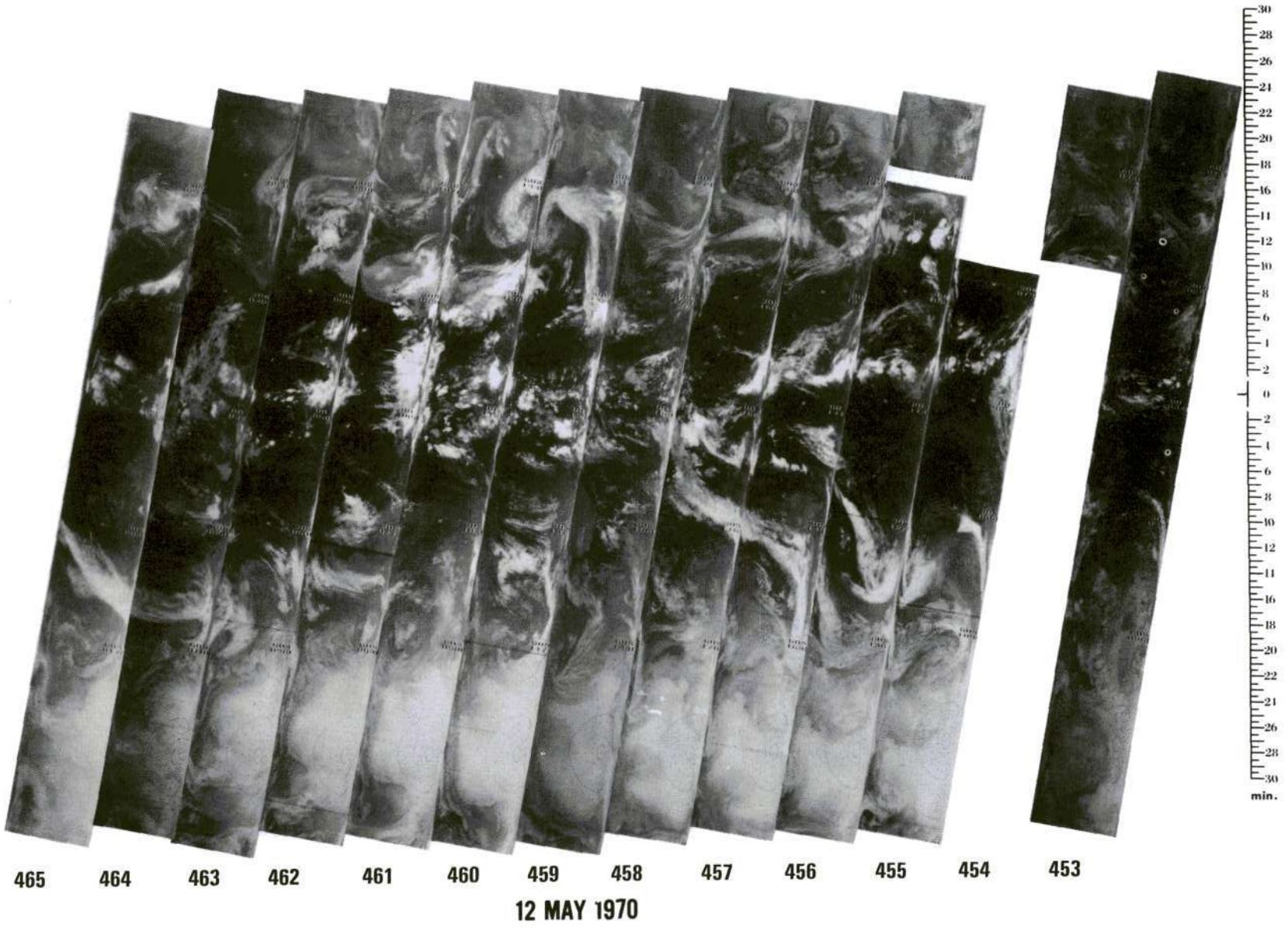
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12 MAY 1970
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12 MAY 1970

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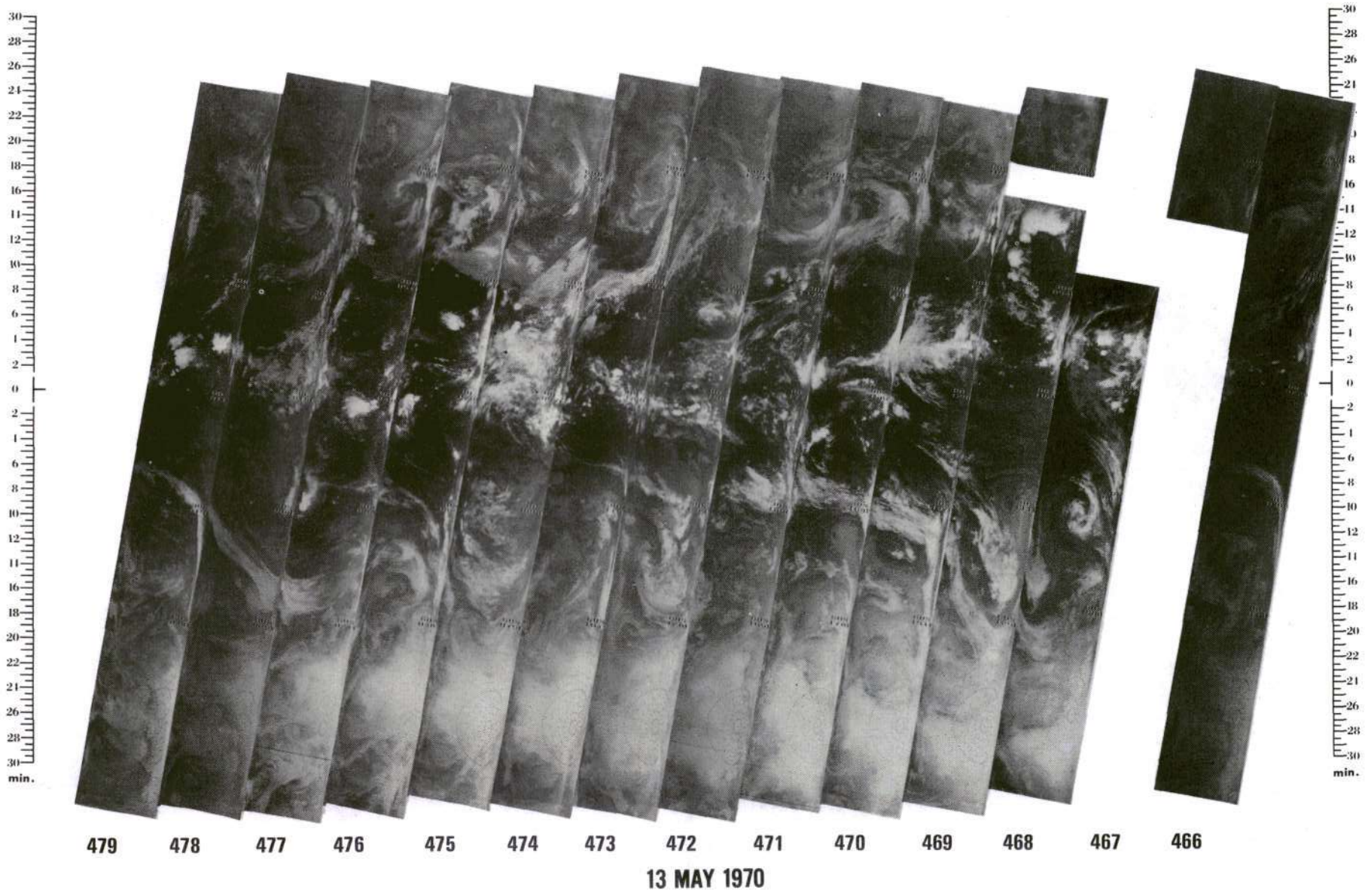
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13 MAY 1970

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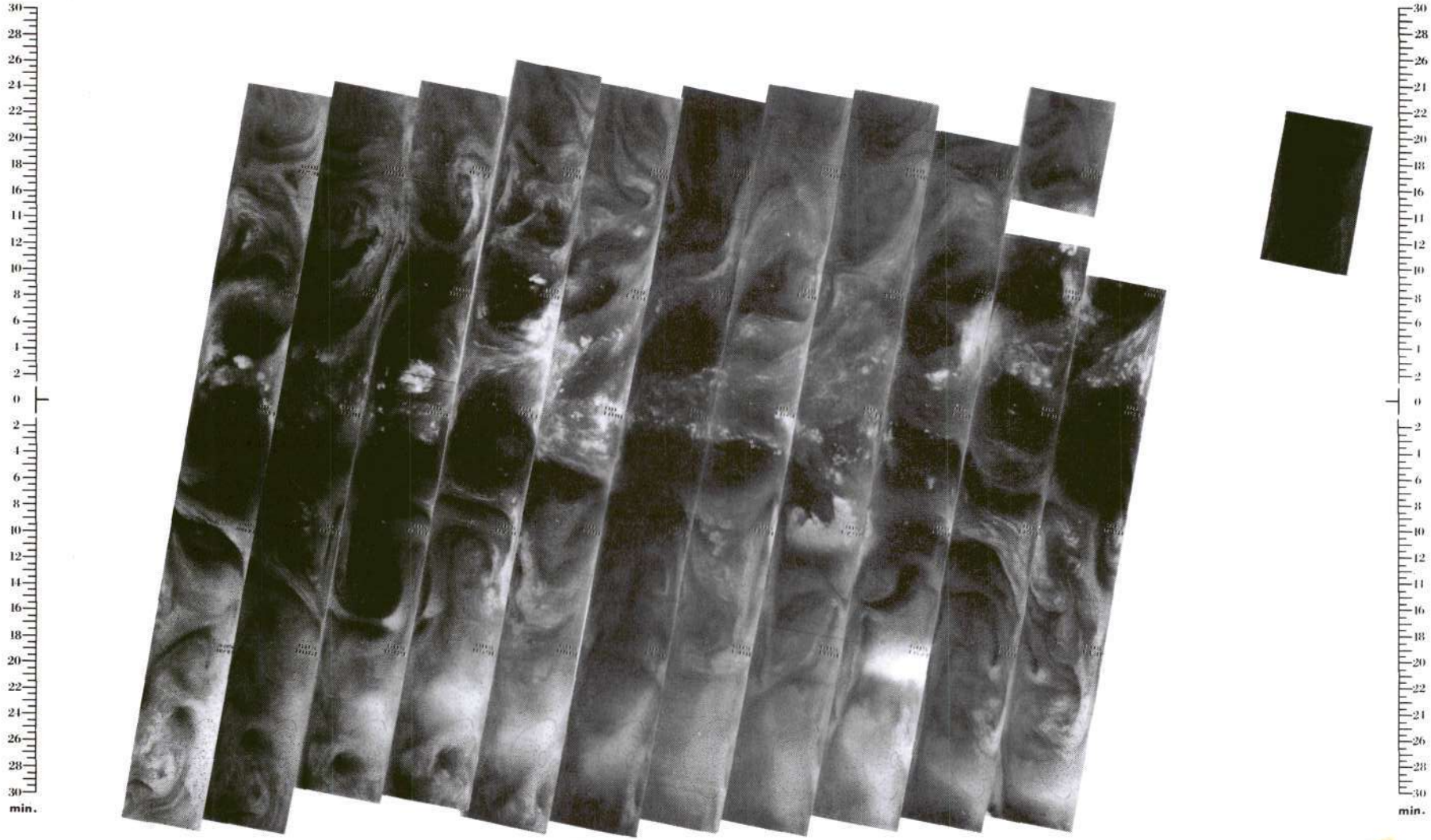

14 MAY 1970

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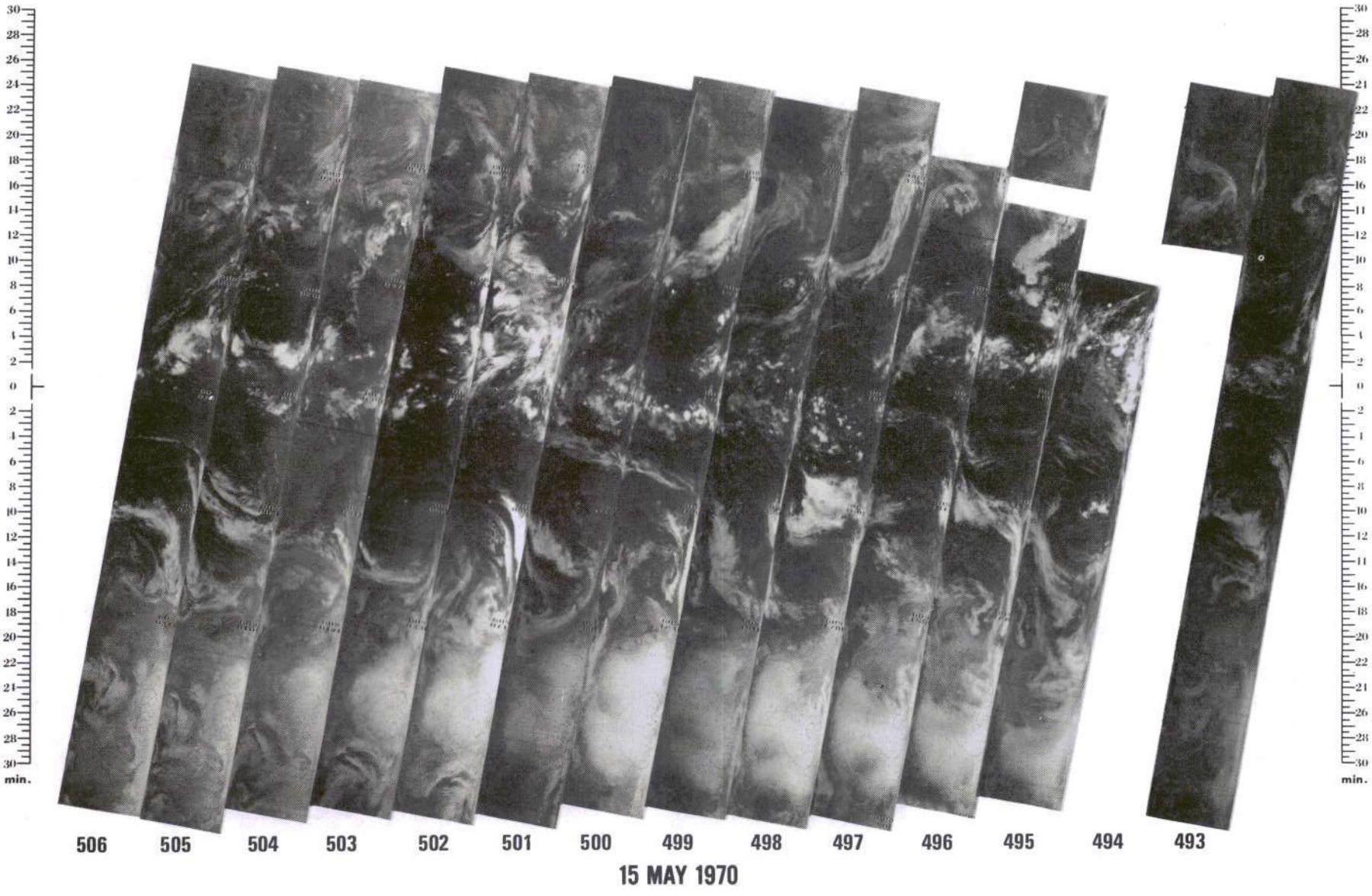
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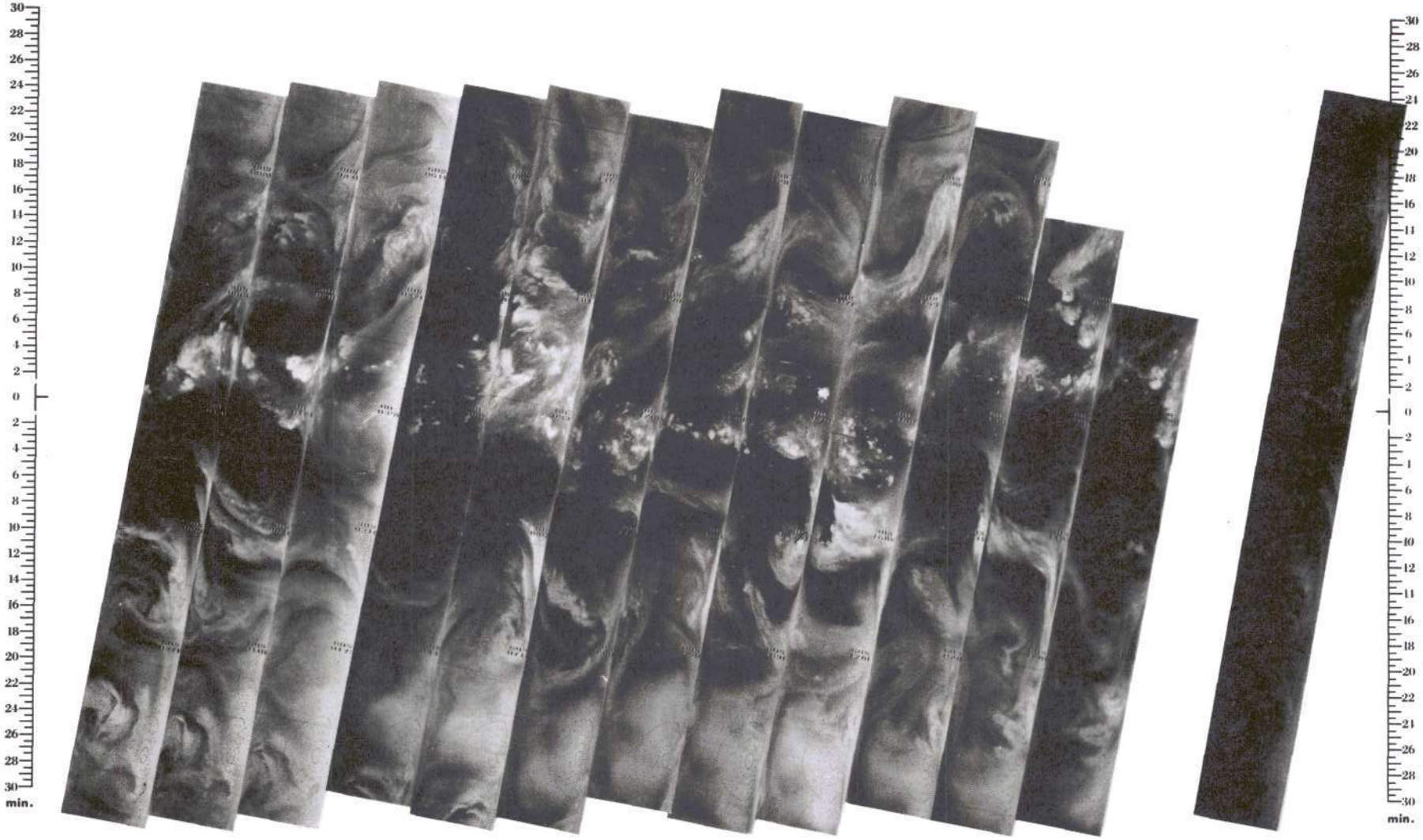
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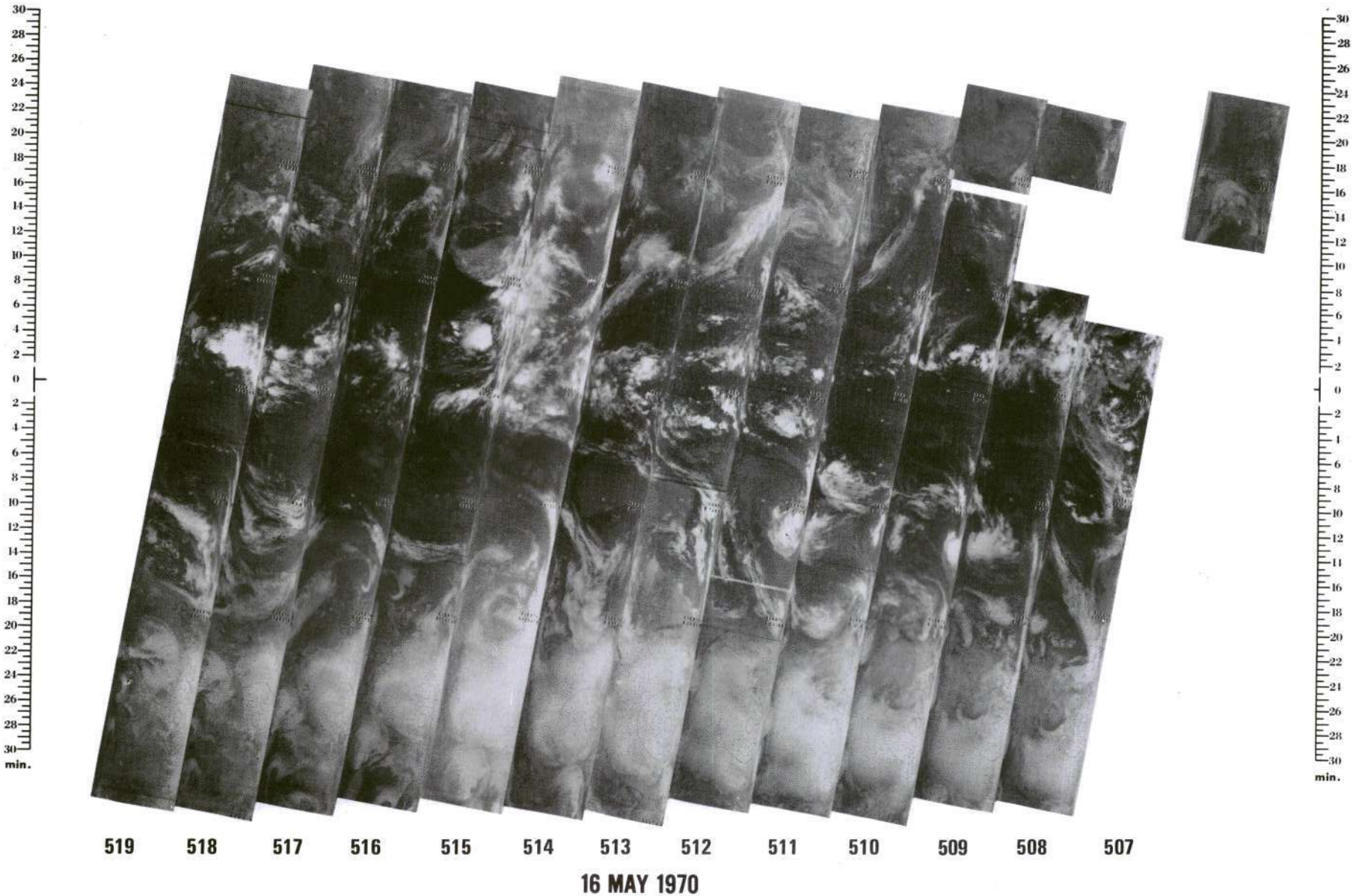
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16 MAY 1970
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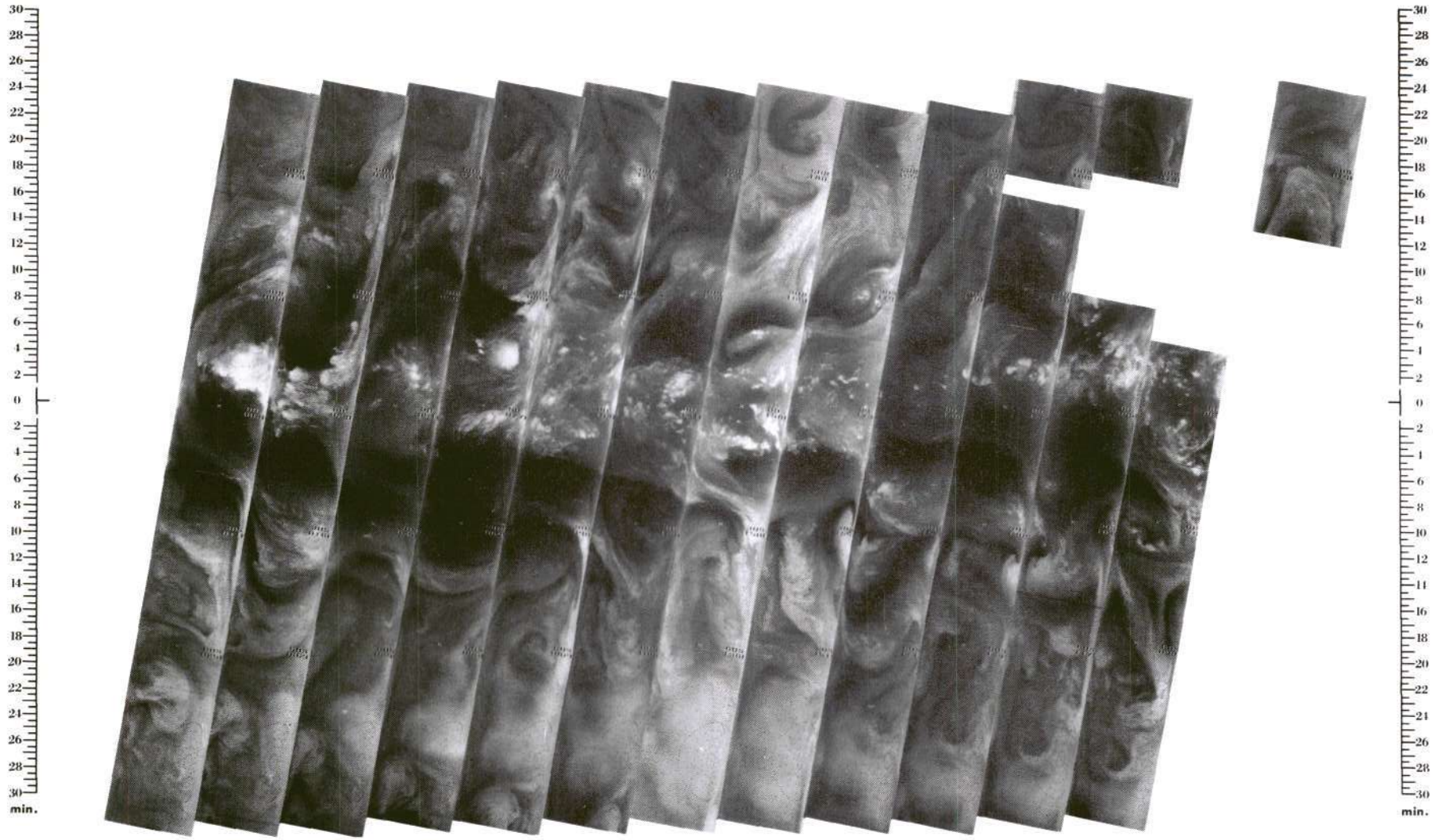

16 MAY 1970

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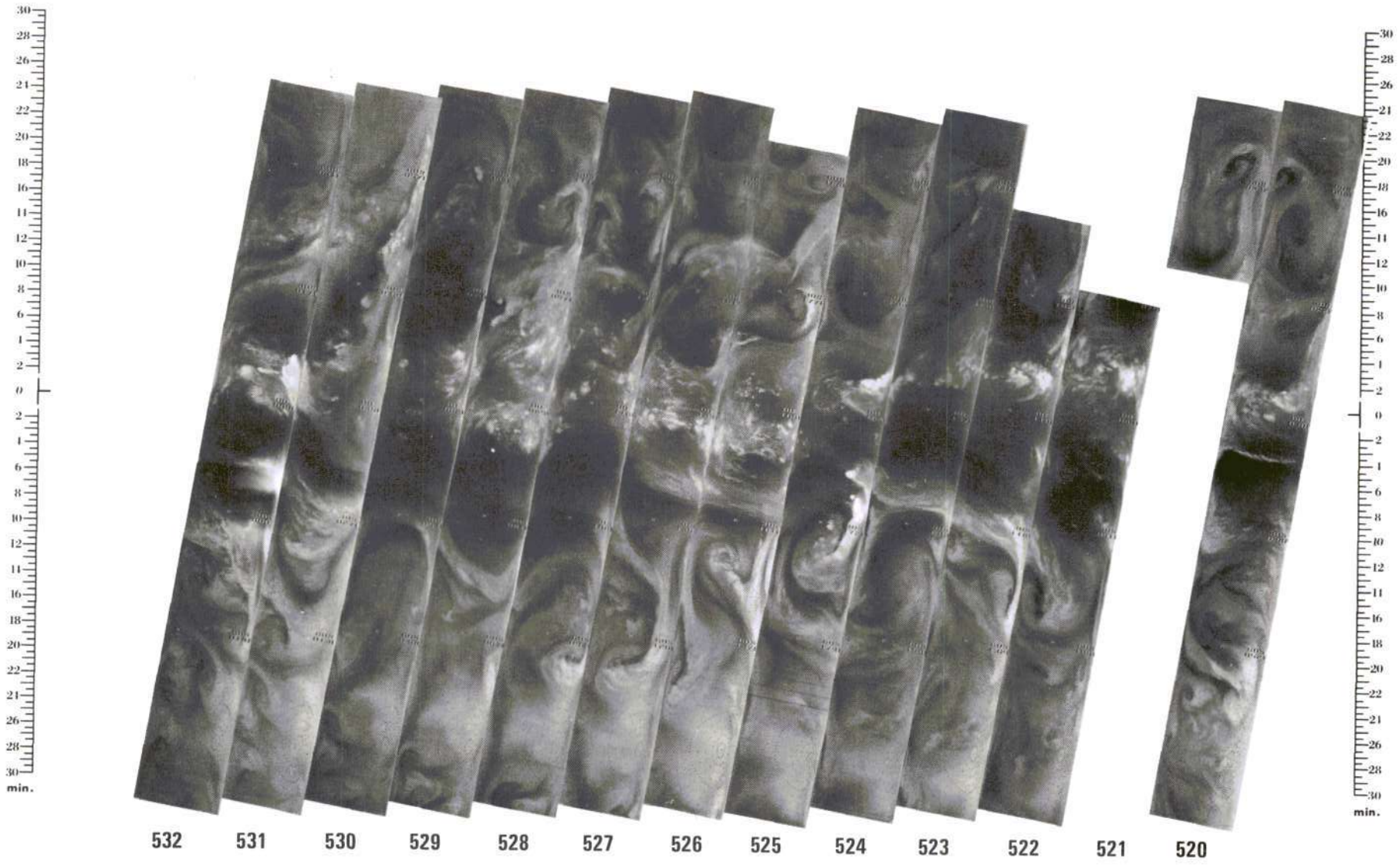

17 MAY 1970

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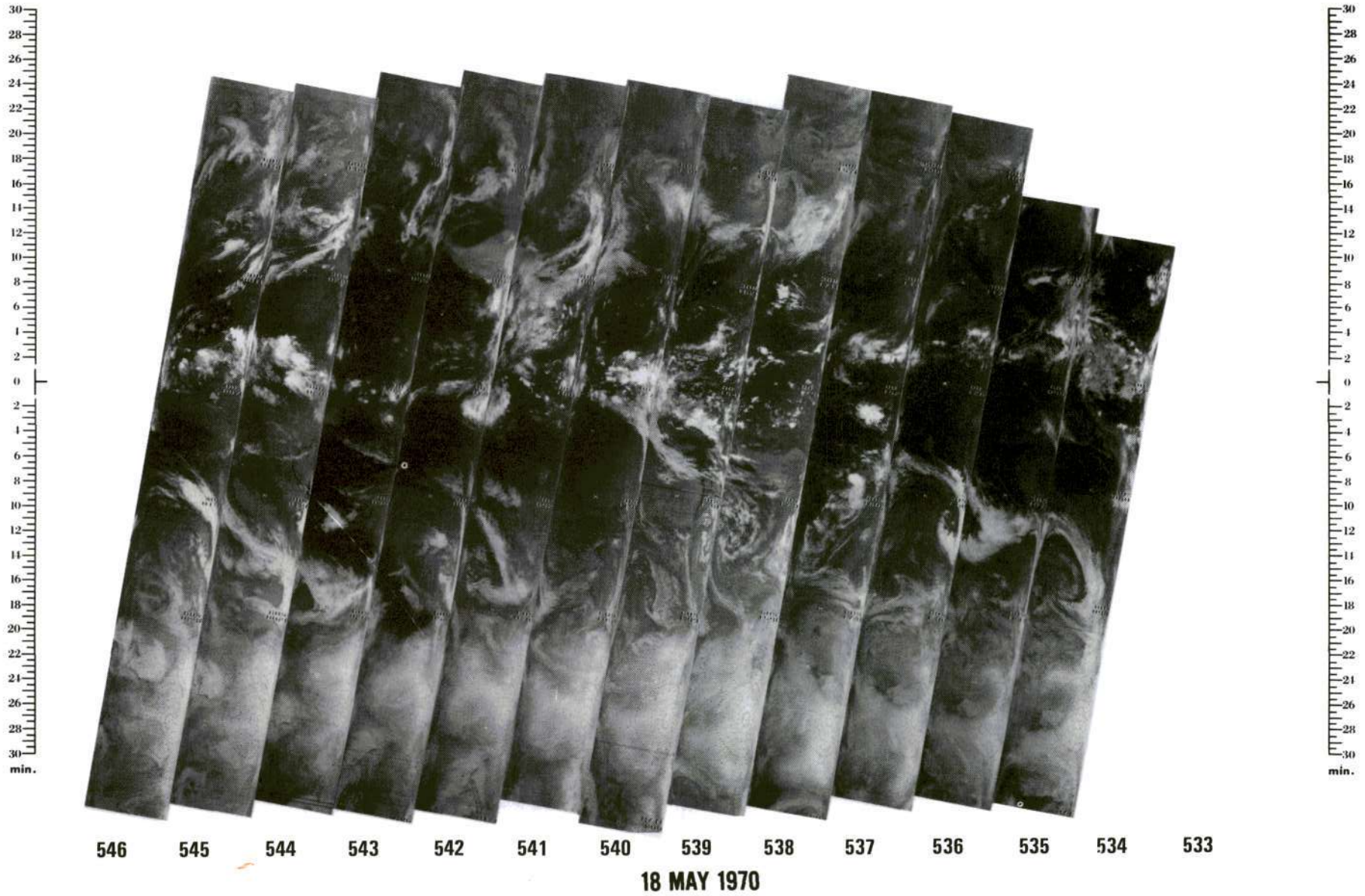
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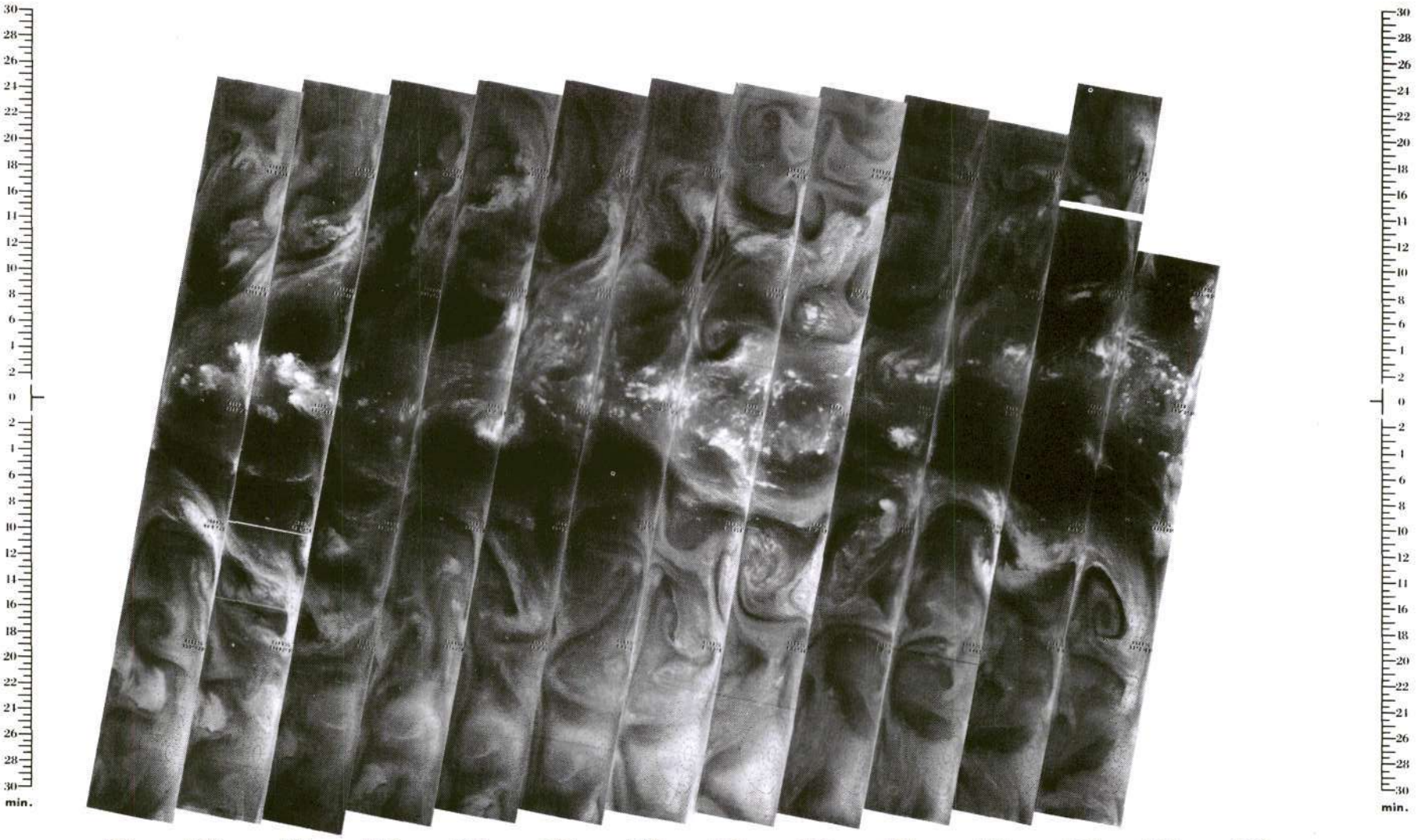
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18 MAY 1970
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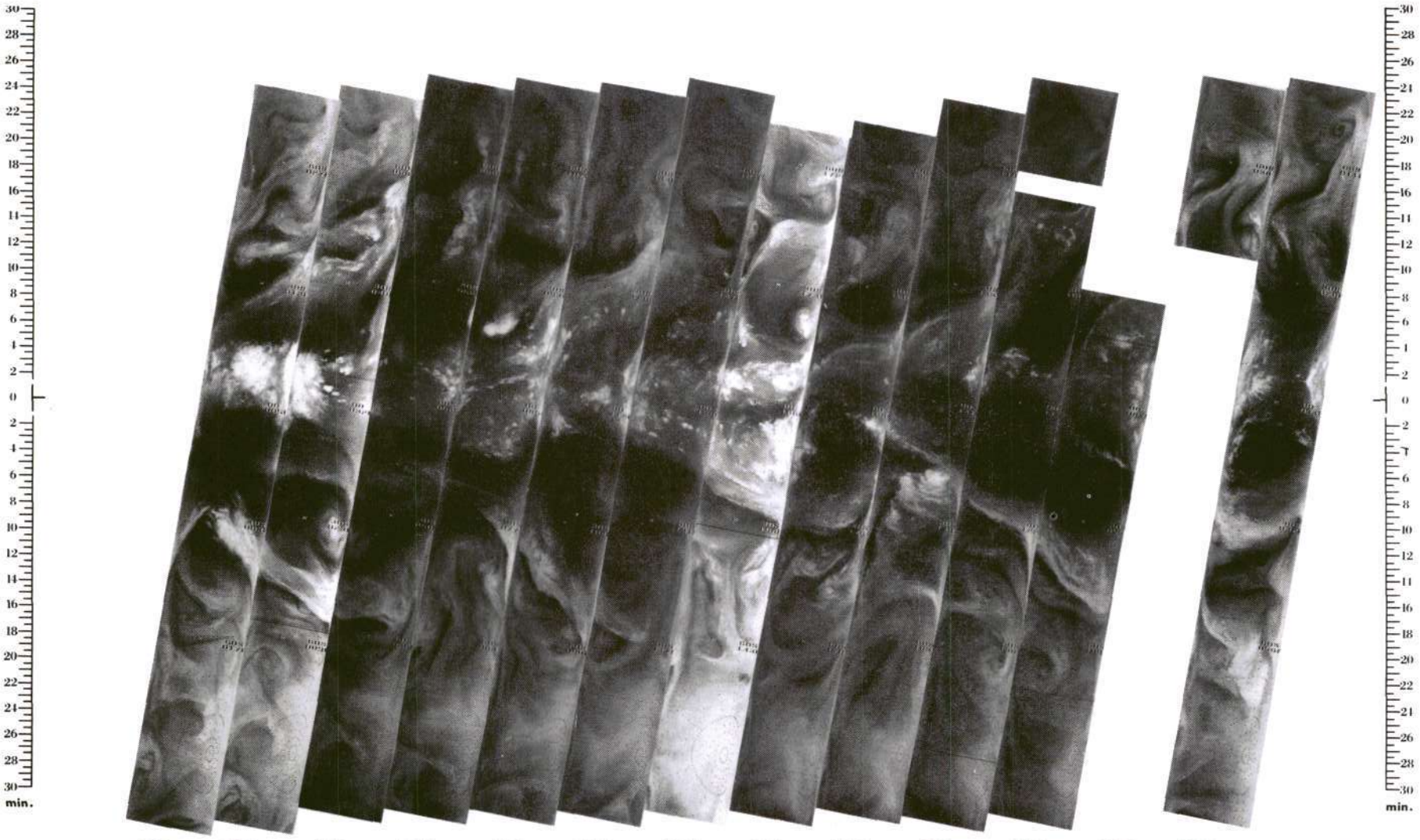

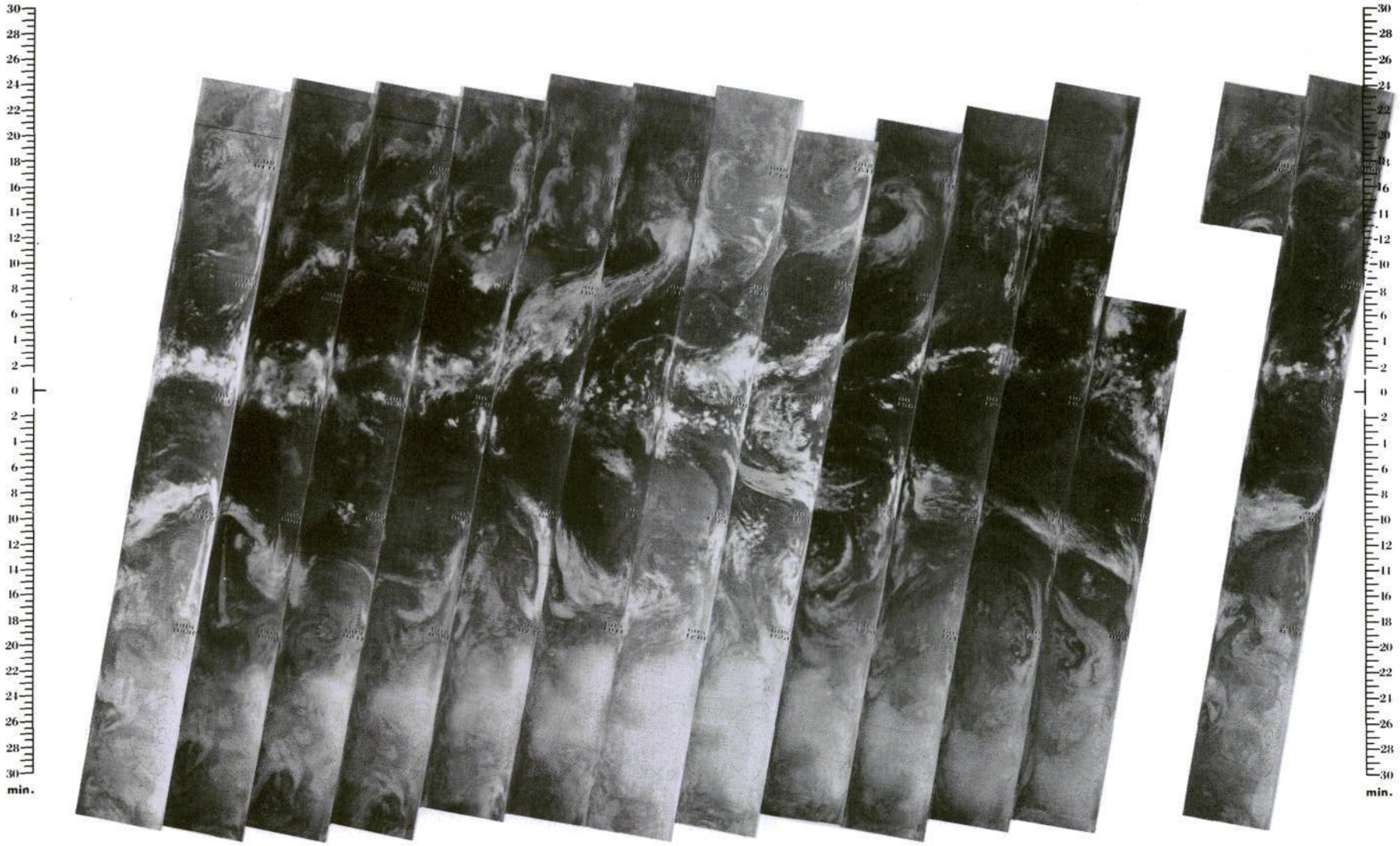
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20 MAY 1970
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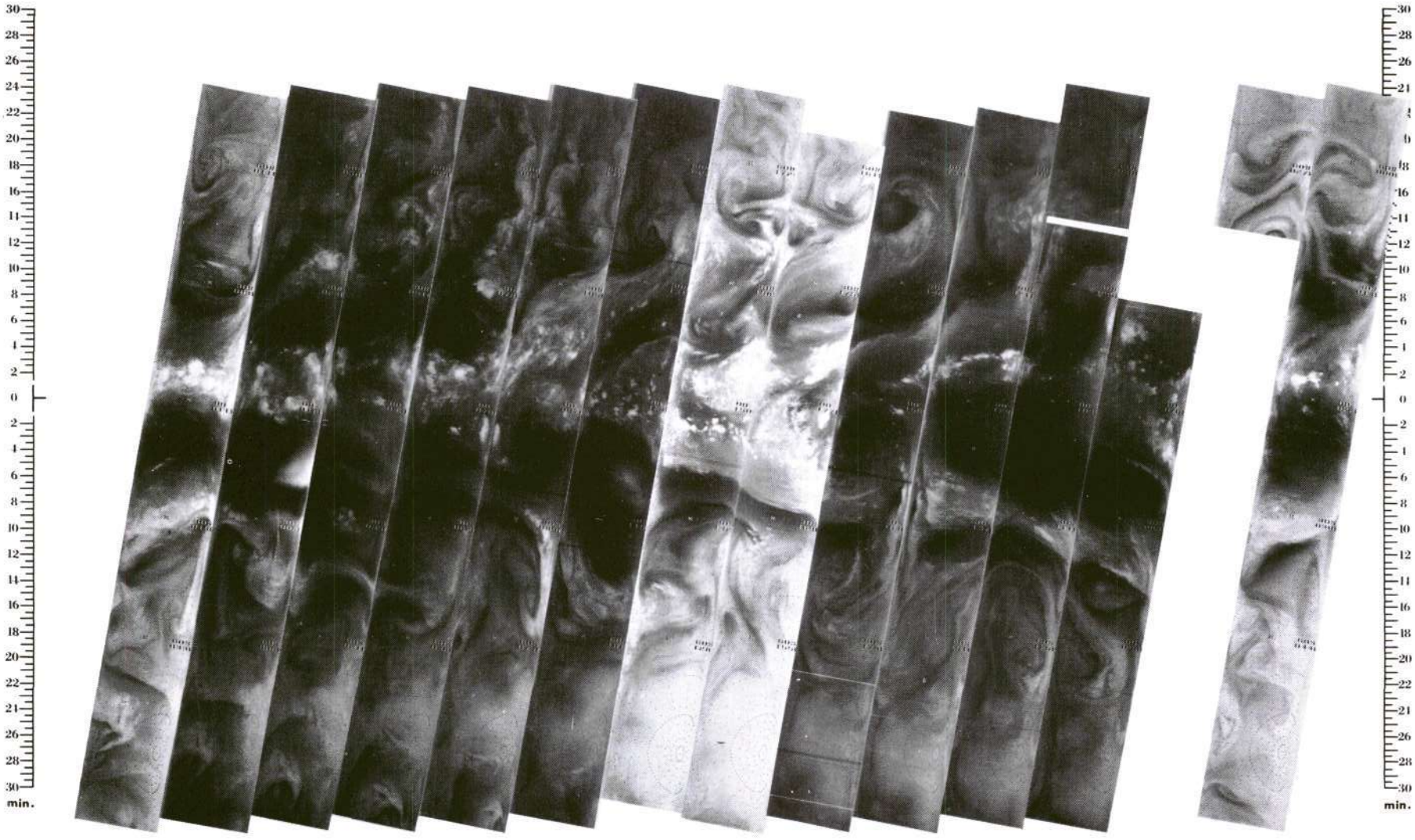
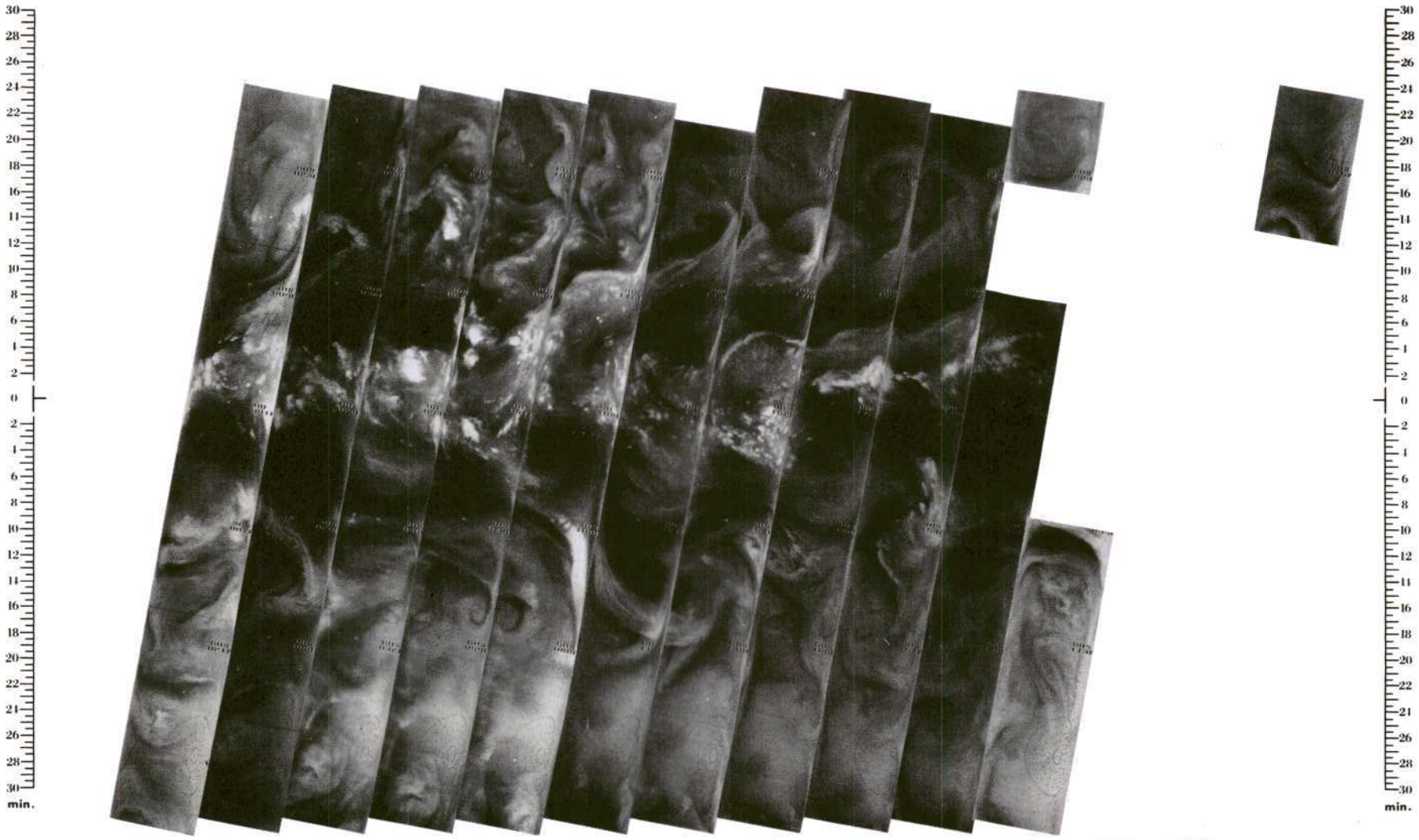


20 MAY 1970

6.7 s


30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
586 585 584 583 582 581 580 579 578 577 576 575 574
21 MAY 1970
11.5N


30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
586
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584
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581
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574
21 MAY 1970

6.78

C-3

min.
600
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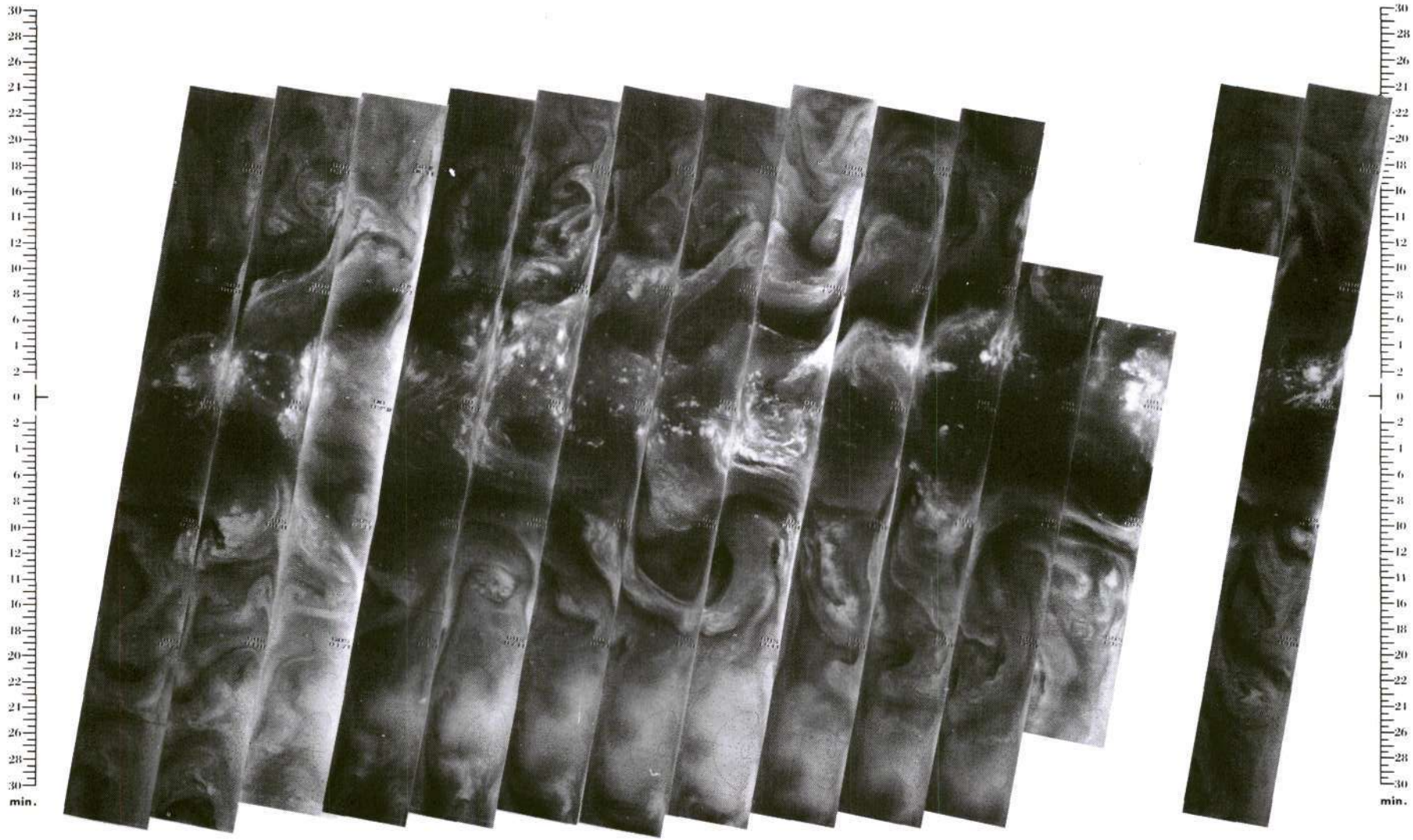
587
22 MAY 1970
11.5N
min.

4-72


min.
600
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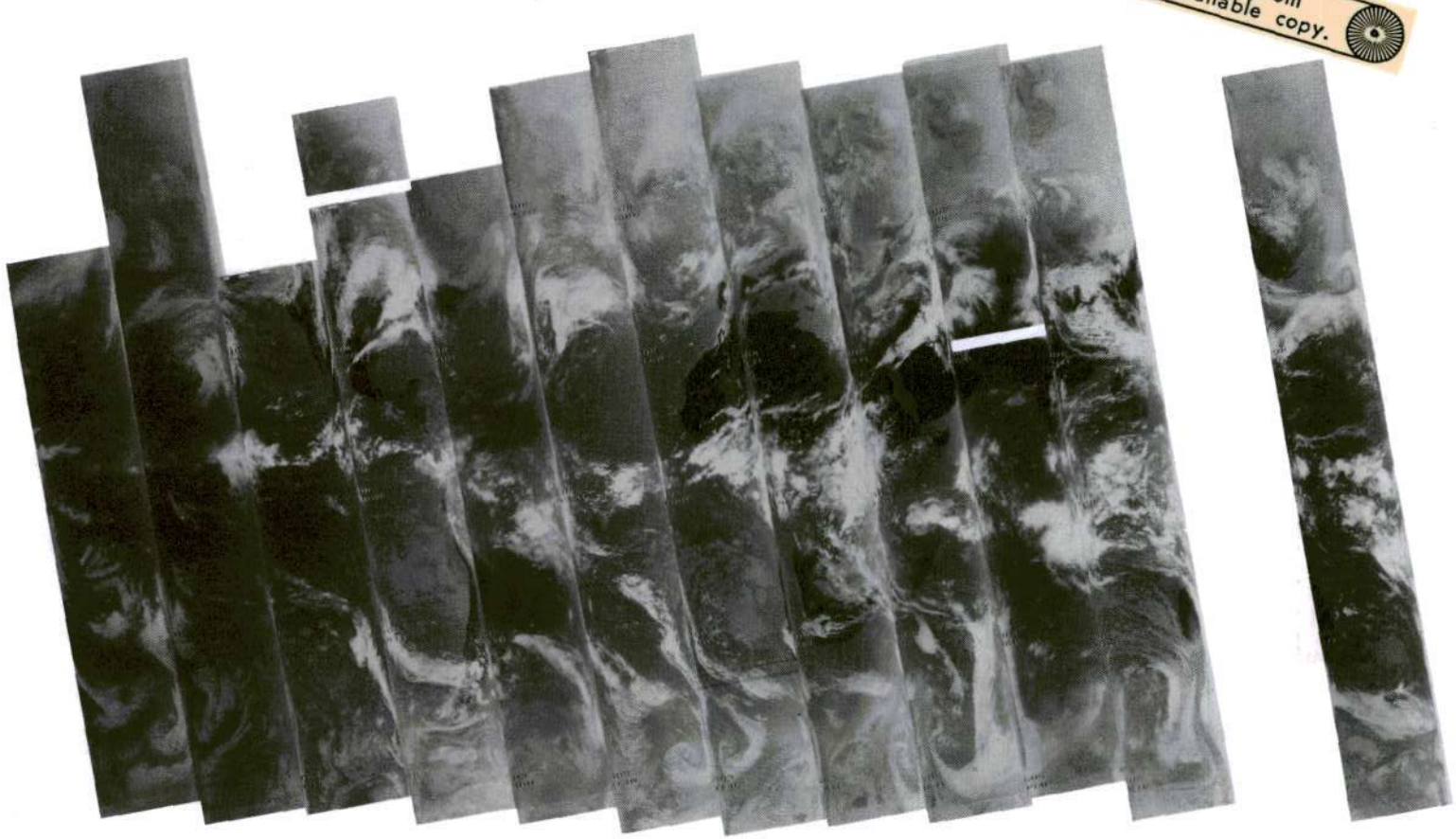
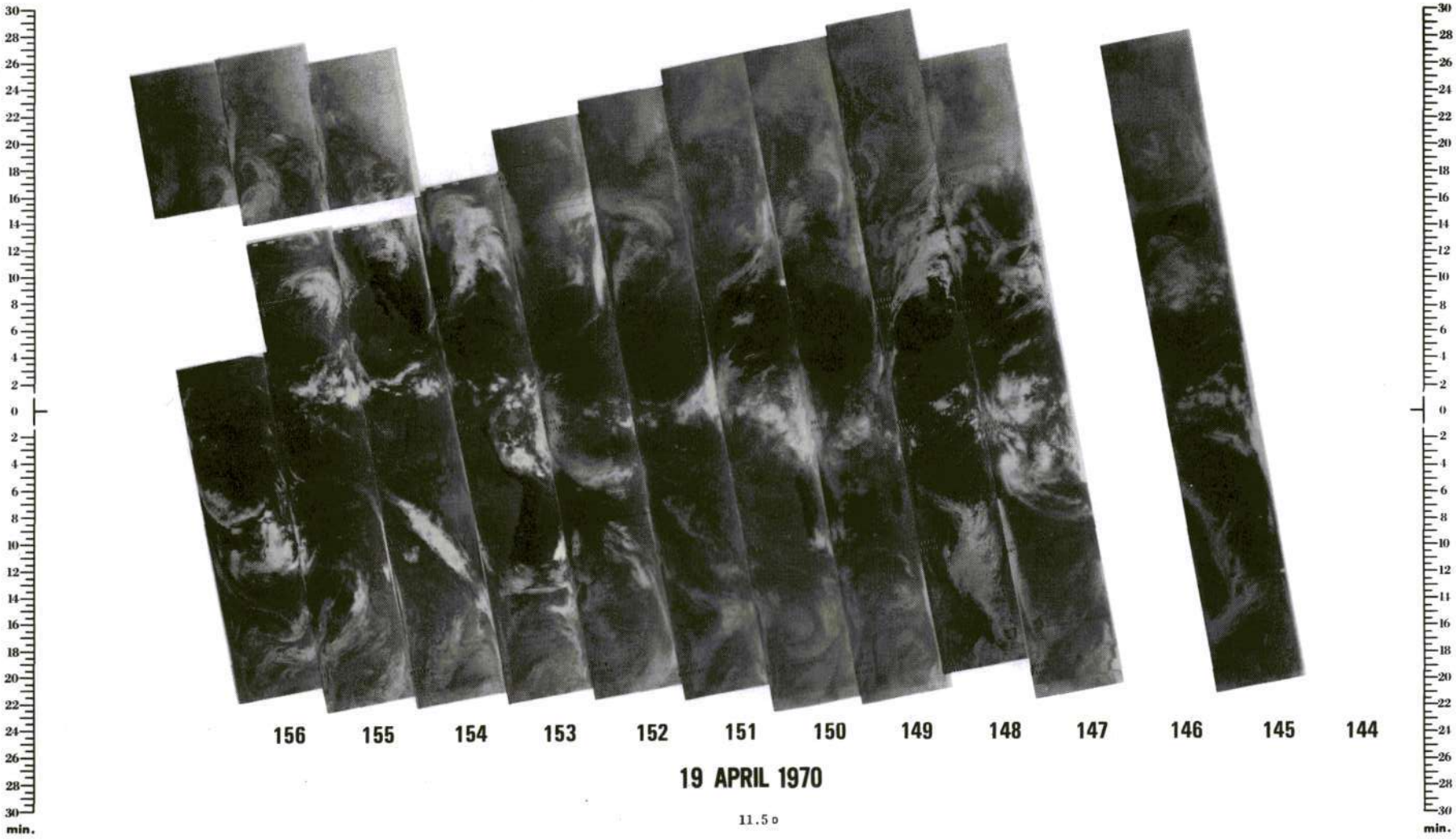
588
587
22 MAY 1970
6.7N

SECTION 4.2

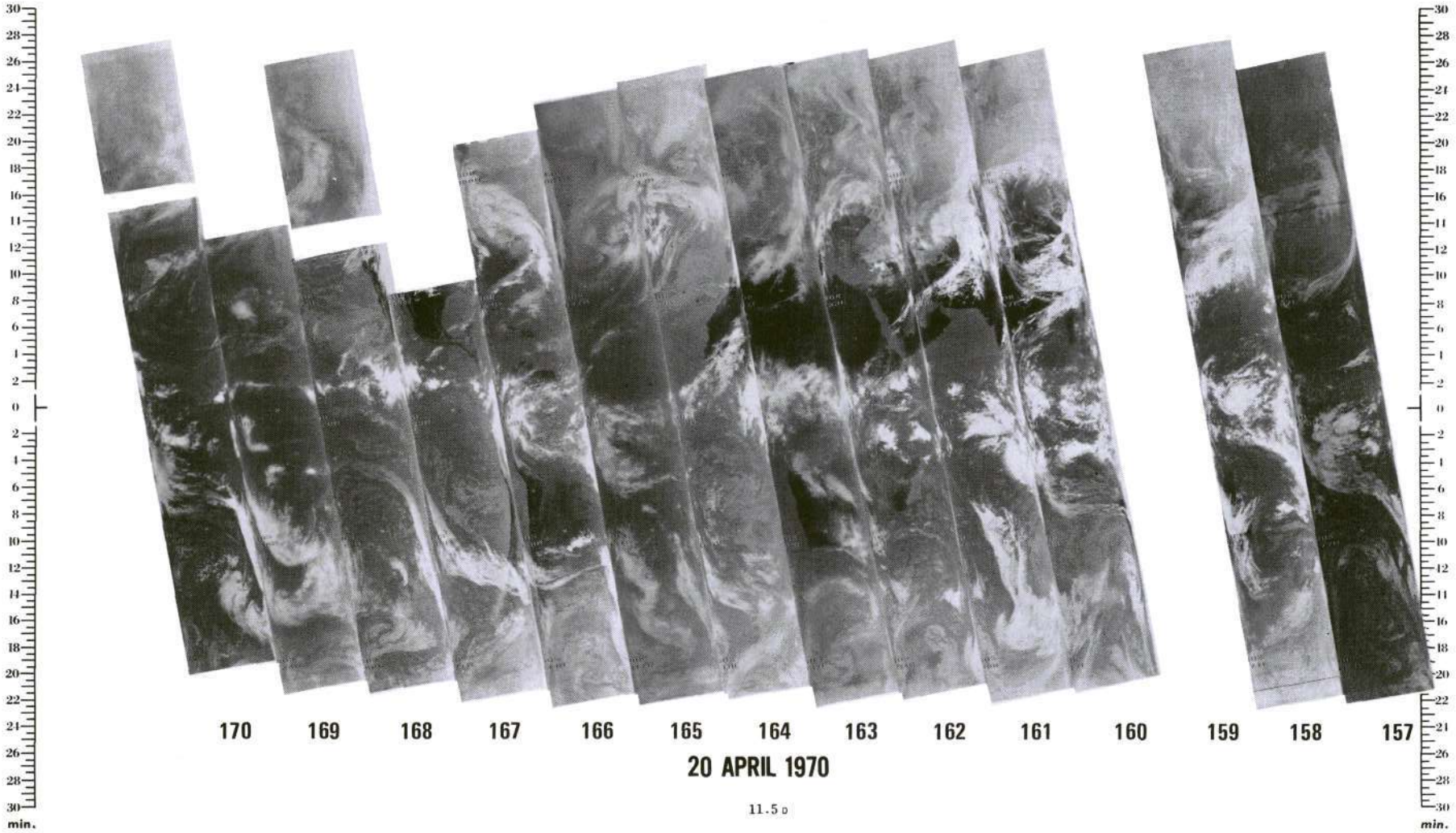
TEMPERATURE HUMIDITY INFRARED RADIOMETER DAYTIME MONTAGES



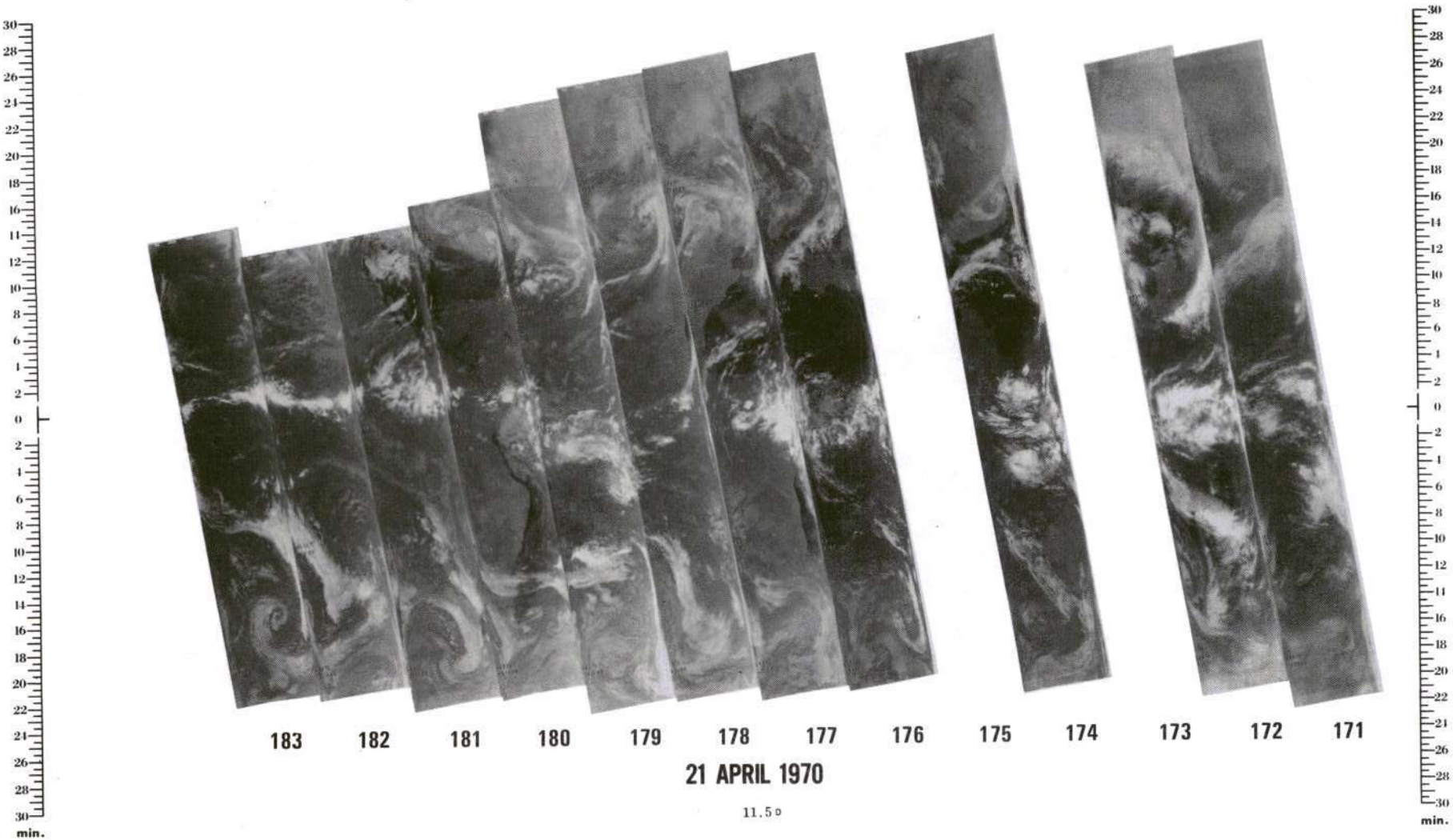
18 APRIL 1970 NO DATA 6.7 μm


156
155
154
153
152
151
150
149
148
147
146
145
144
19 APRIL 1970
11.5 o
min.
min.

19 APRIL 1970 NO DATA 6.7 μm


170
169
168
167
166
165
164
163
162
161
160
159
158
157
20 APRIL 1970
11.5 D
min.
min.

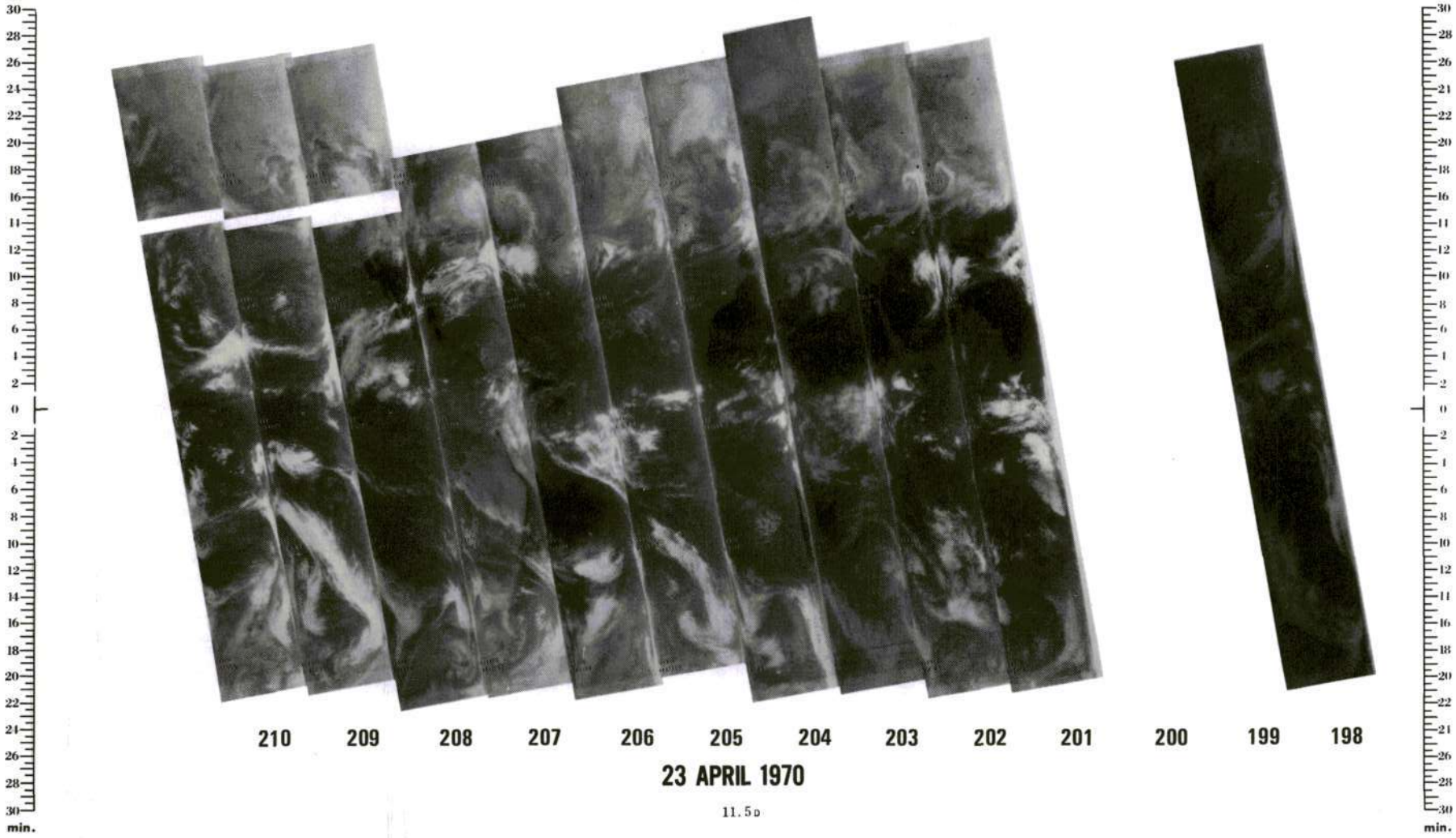
20 APRIL 1970 NO DATA 6.7 μm


183
182
181
180
179
178
177
176
175
174
173
172
171
21 APRIL 1970
11.5°
min.
min.

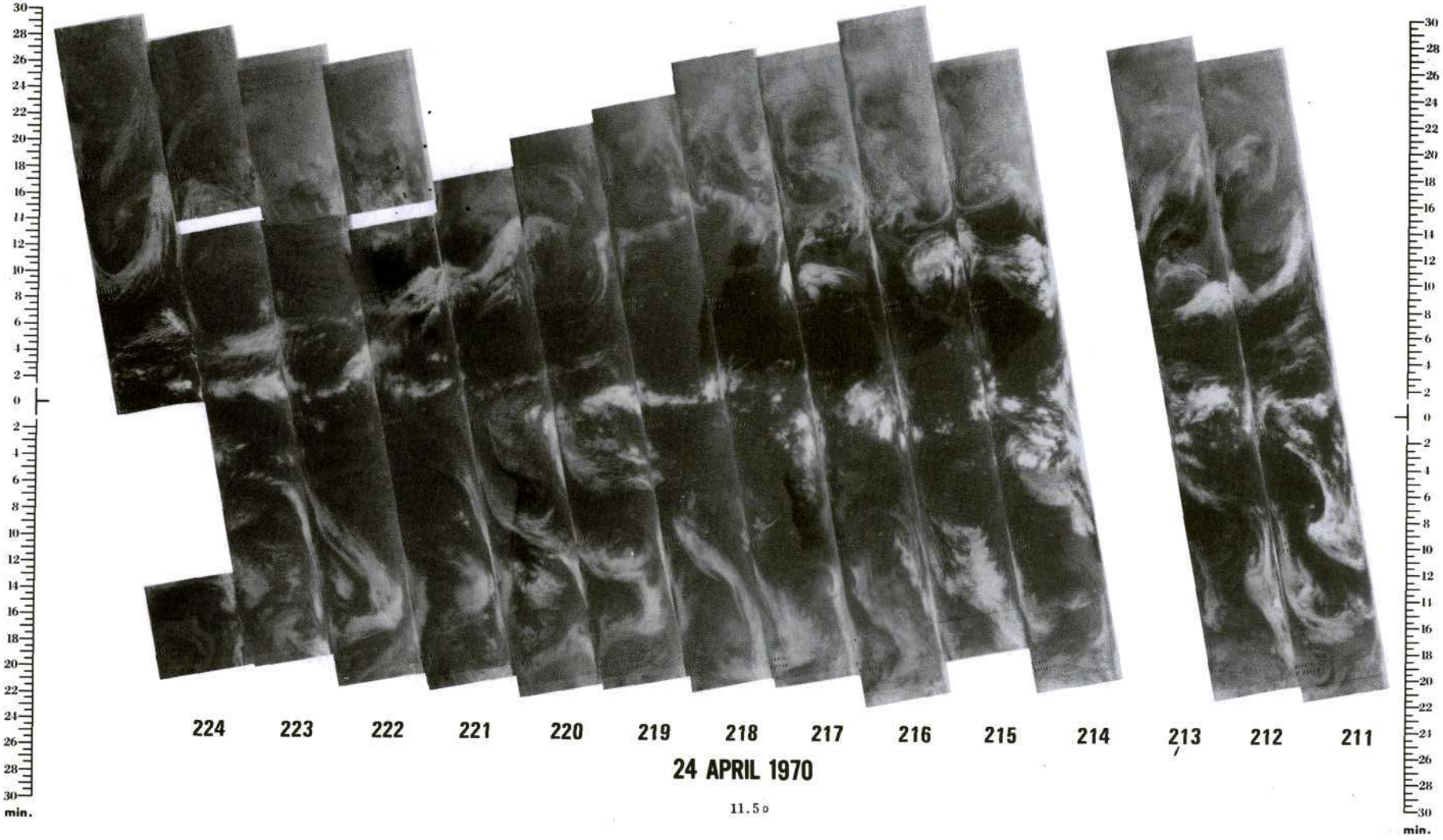
21 APRIL 1970 NO DATA 6.7 μm

min.
197
196
195
194
193
192
191
190
189
188
187
186
185
184
22 APRIL 1970
11.5 g
min.

22 APRIL 1970 NO DATA 6.7 μm



23 APRIL 1970 NO DATA 6.7 μm


224
223
222
221
220
219
218
217
216
215
214
213
212
211
24 APRIL 1970
11.5o
min.
min.

24 APRIL 1970 NO DATA 6.7 μm

25 APRIL 1970

115D

25 APRIL 1970 NO DATA 6.7 μm

26 APRIL 1970

115D

26 APRIL 1970 NO DATA 6.7 μm

27 APRIL 1970

115D

264 263 262 261 260 259 258 257 256 255 254 253 252 251

27 APRIL 1970

67D

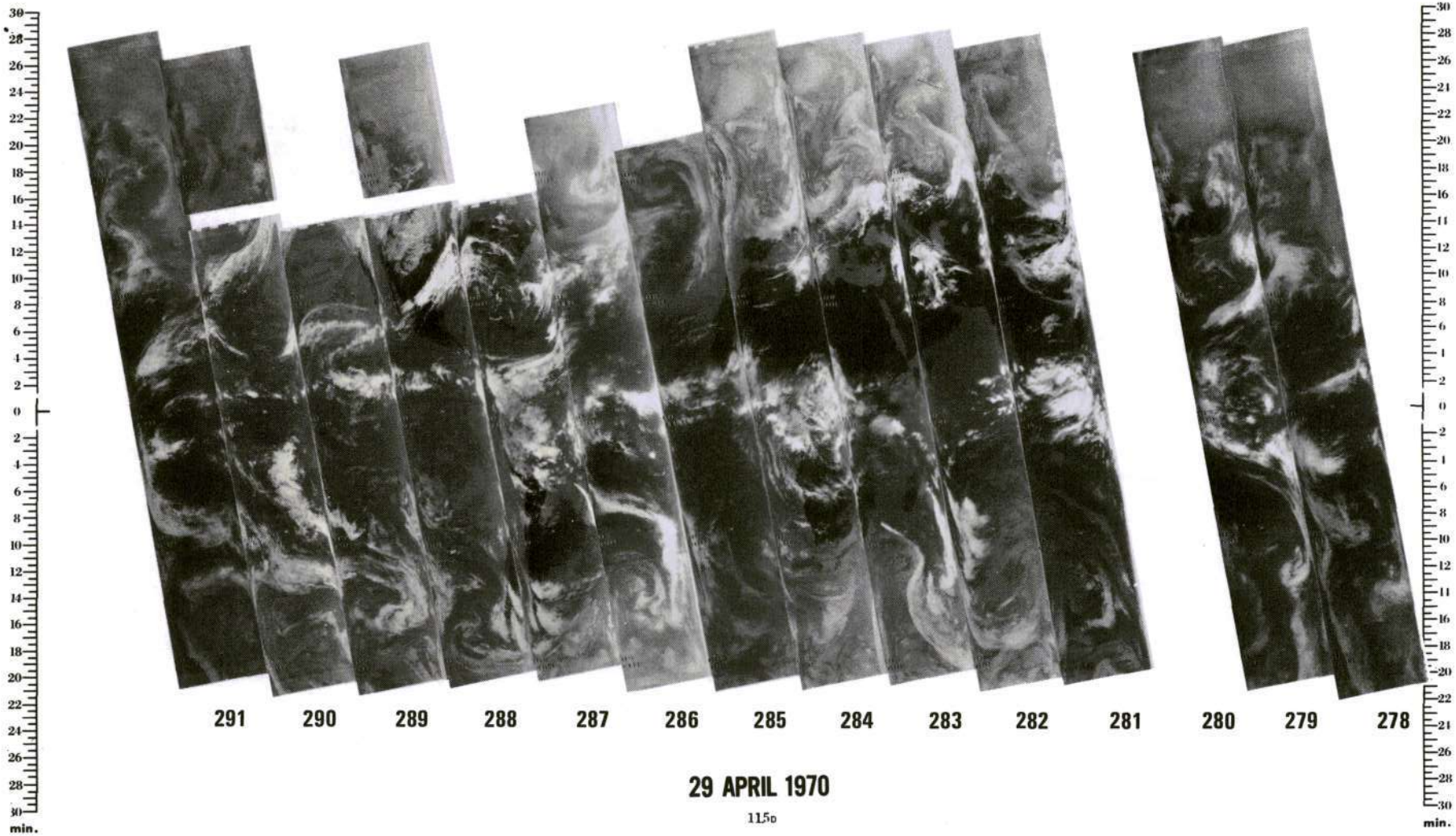
28 APRIL 1970

115D

277 276 275 274 273 272 271 270 269 268 267 266 265

28 APRIL 1970

67D

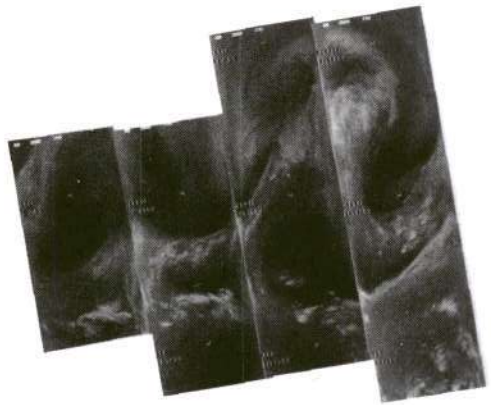

291
290
289
288
287
286
285
284
283
282
281
280
279
278
29 APRIL 1970
115D
min.
min.

291 290 289 288 287 286 285 284 283 282 281 280 279 278

29 APRIL 1970

67 D

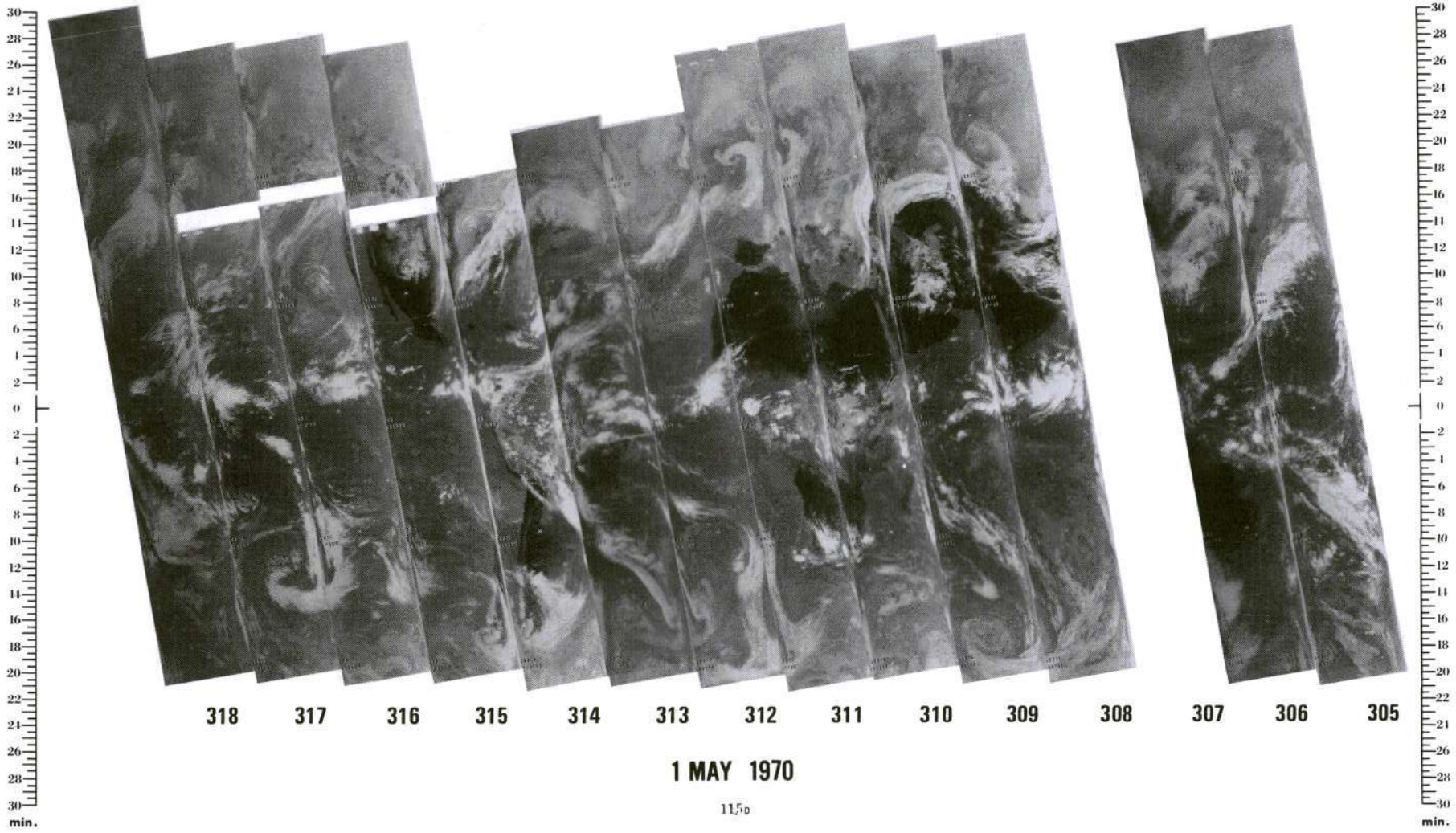
304
303
302
301
300
299
298
297
296
295
294
293
292
30 APRIL 1970
11,50
min.
min.



304 303 302 301 300 299 298 297 296 295 294 293 292

30 APRIL 1970

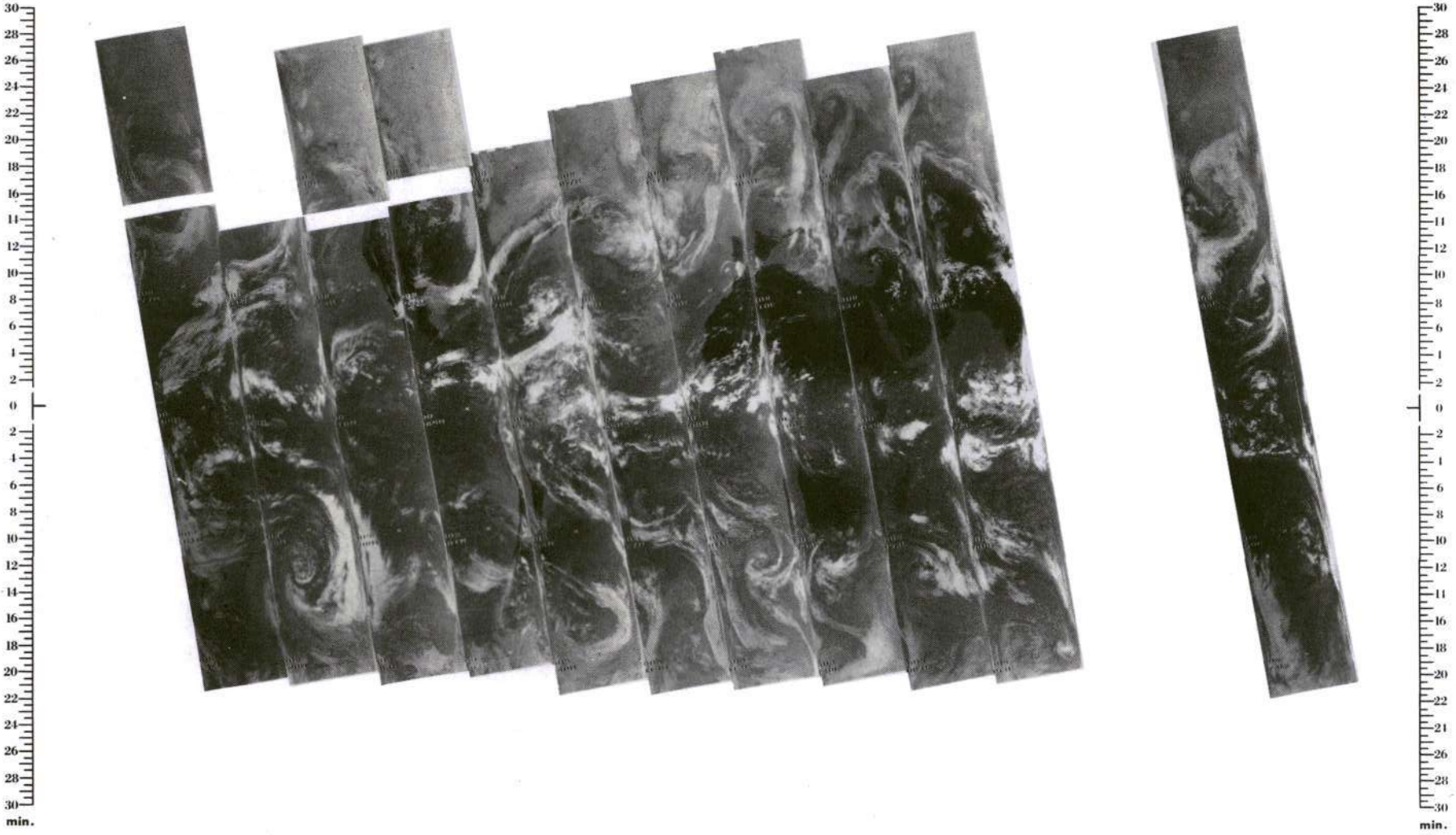
670


318
317
316
315
314
313
312
311
310
309
308
307
306
305
1 MAY 1970
1150
min.
min.

318 317 316 315 314 313 312 311 310 309 308 307 306 305

1 MAY 1970

67D



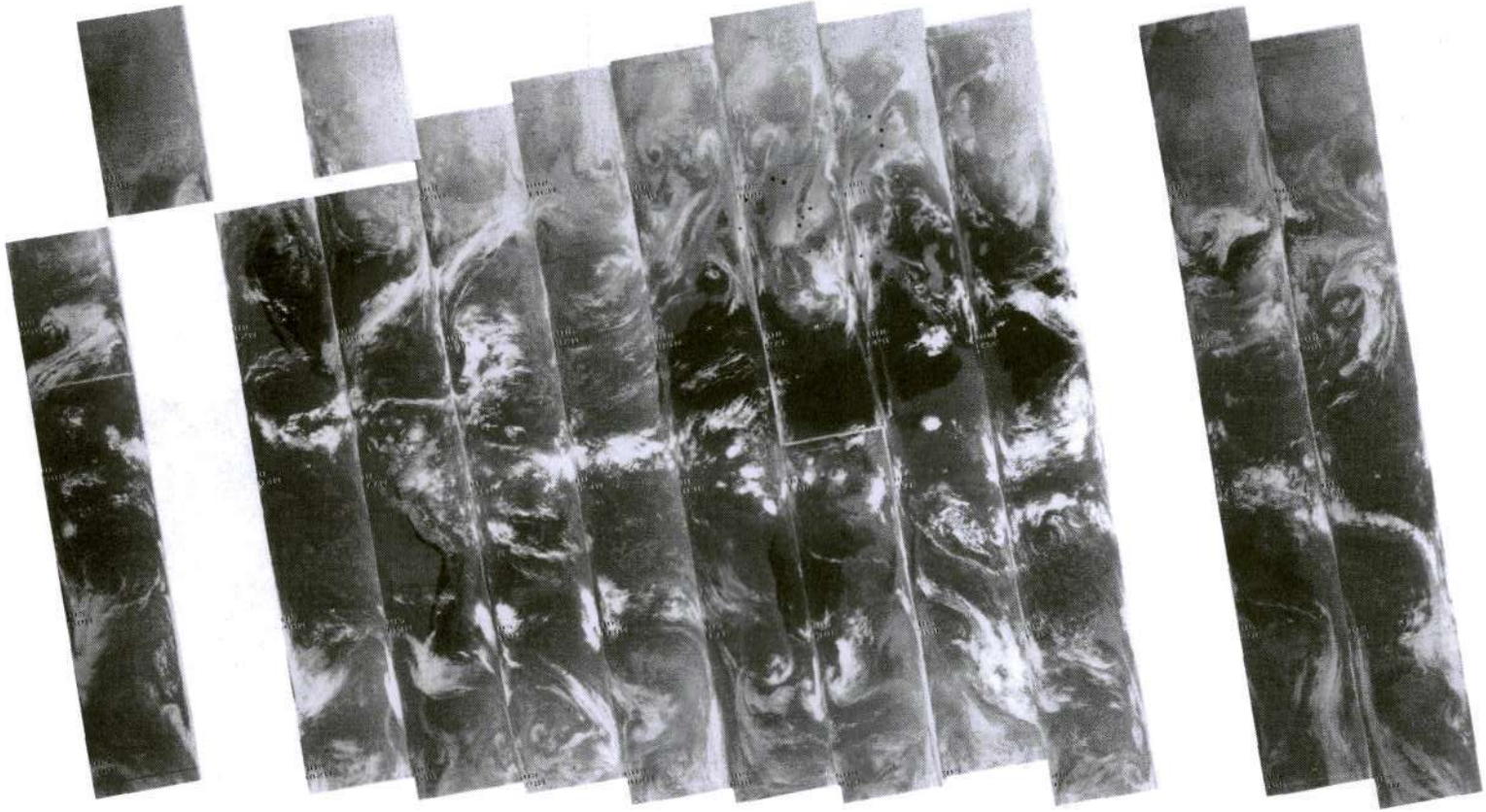
2 MAY 1970

115D

331 330 329 328 327 326 325 324 323 322 321 320 319

2 MAY 1970

6.7D



3 MAY 1970

115D

344 343 342 341 340 339 338 337 336 335 334 333 332

3 MAY 1970

6.7D

358
357
356
355
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353
352
351
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349
348
347
346
345
4 MAY 1970
115p
min.
min.

358 357 356 355 354 353 352 351 350 349 348 347 346 345

4 MAY 1970

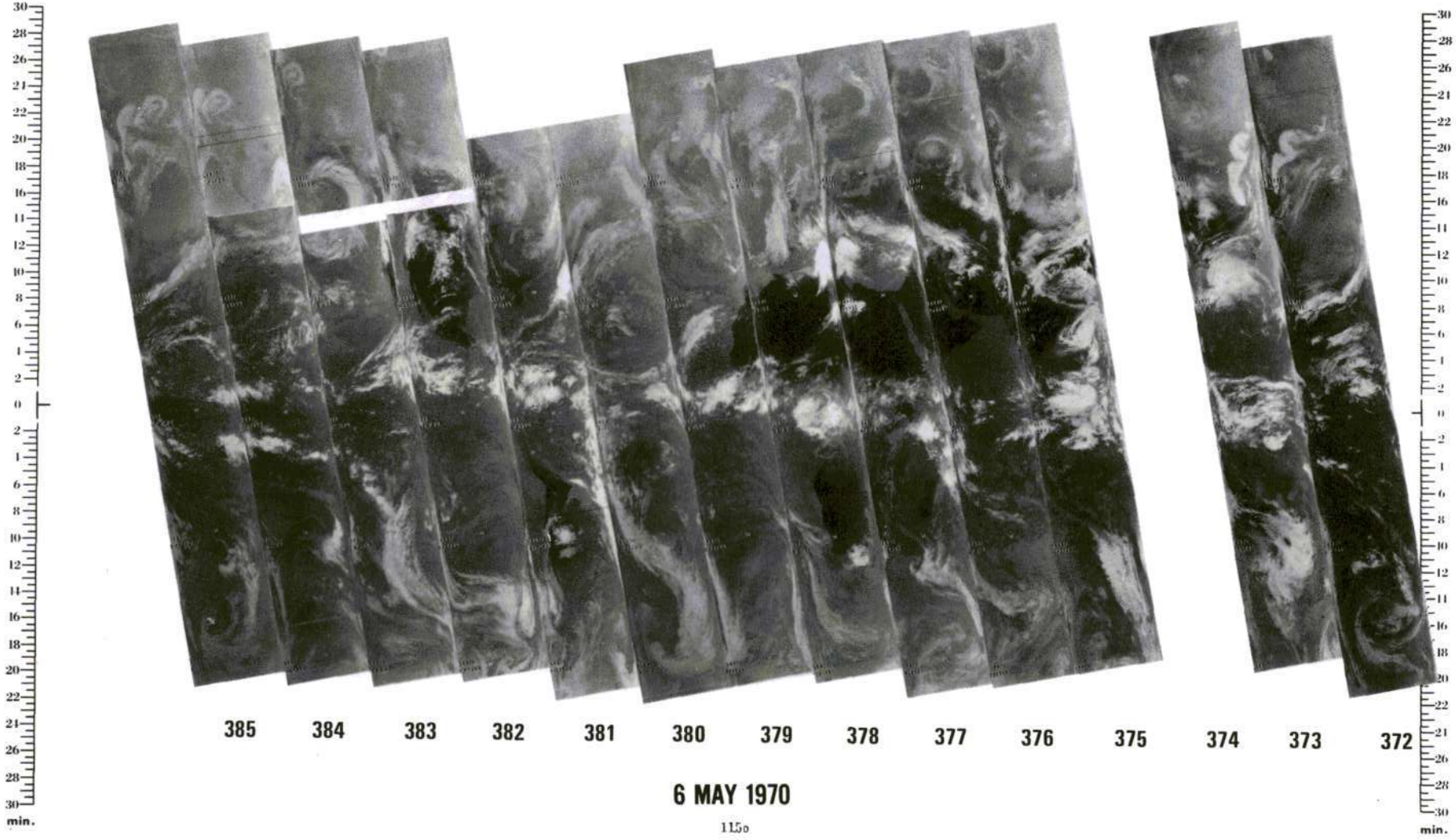
6.7D

371
370
369
368
367
366
365
364
363
362
361
360
359
5 MAY 1970
115D
min.
min.

371 370 369 368 367 366 365 364 363 362 361 360 359

5 MAY 1970

67 D


385
384
383
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374
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372
6 MAY 1970
1150
min.
min.

385 384 383 382 381 380 379 378 377 376 375 374 373 372

6 MAY 1970

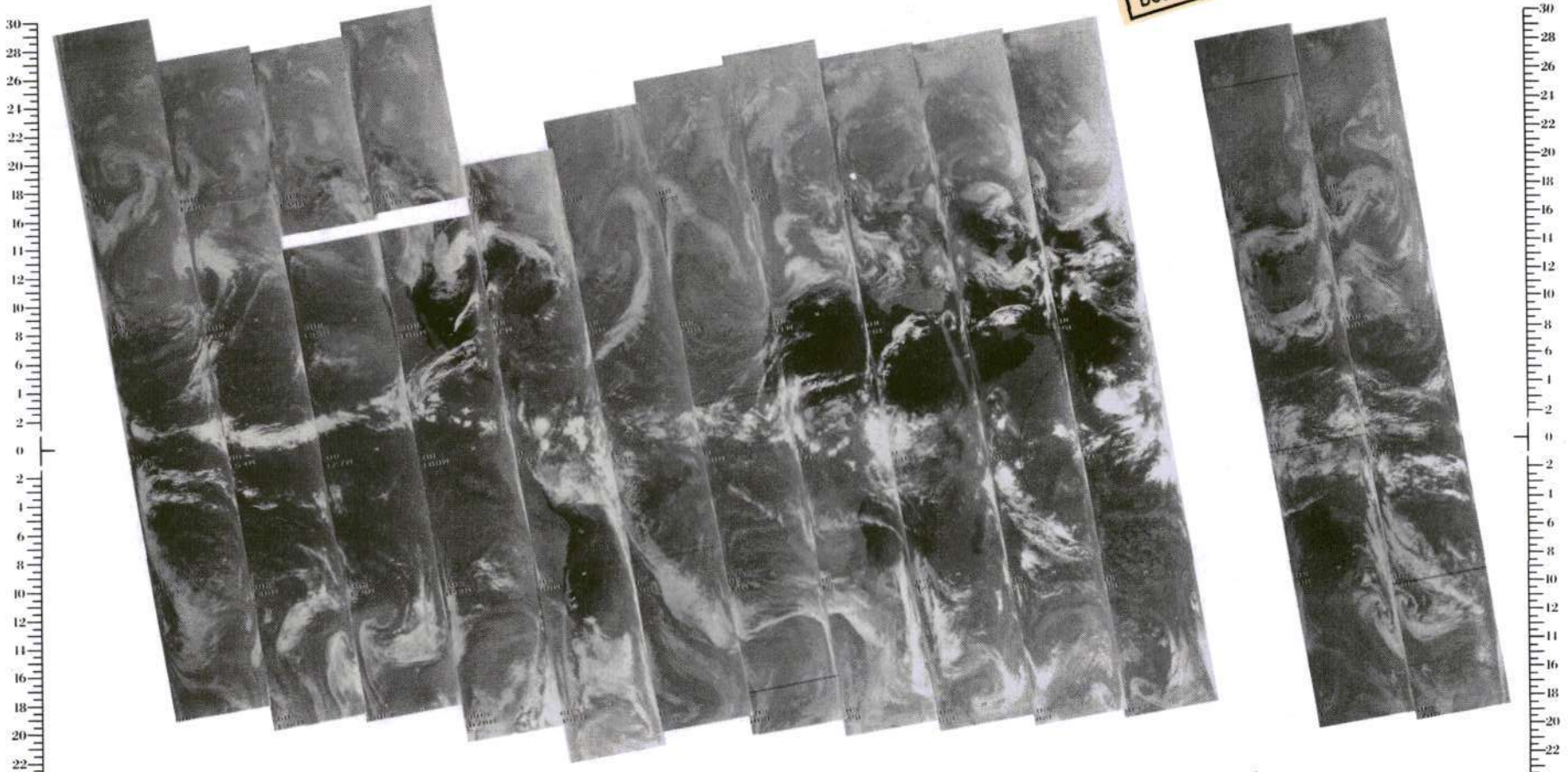
6.7 D

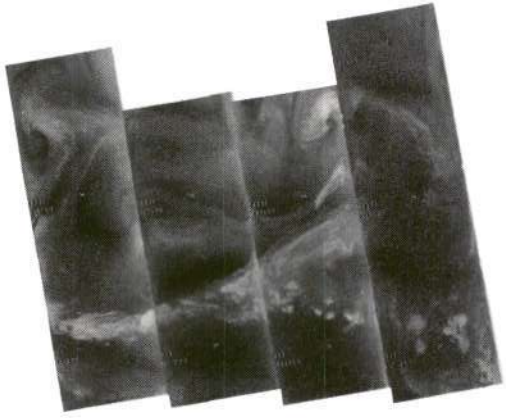
30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
398 397 396 395 394 393 392 391 390 389 388 387 386
7 MAY 1970
1150
30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.

398 397 396 395 394 393 392 391 390 389 388 387 386

7 MAY 1970

67 D





412 411 410 409 408 407 406 405 404 403 402 401 400 399

8 MAY 1970

67 D

425
424
423
422
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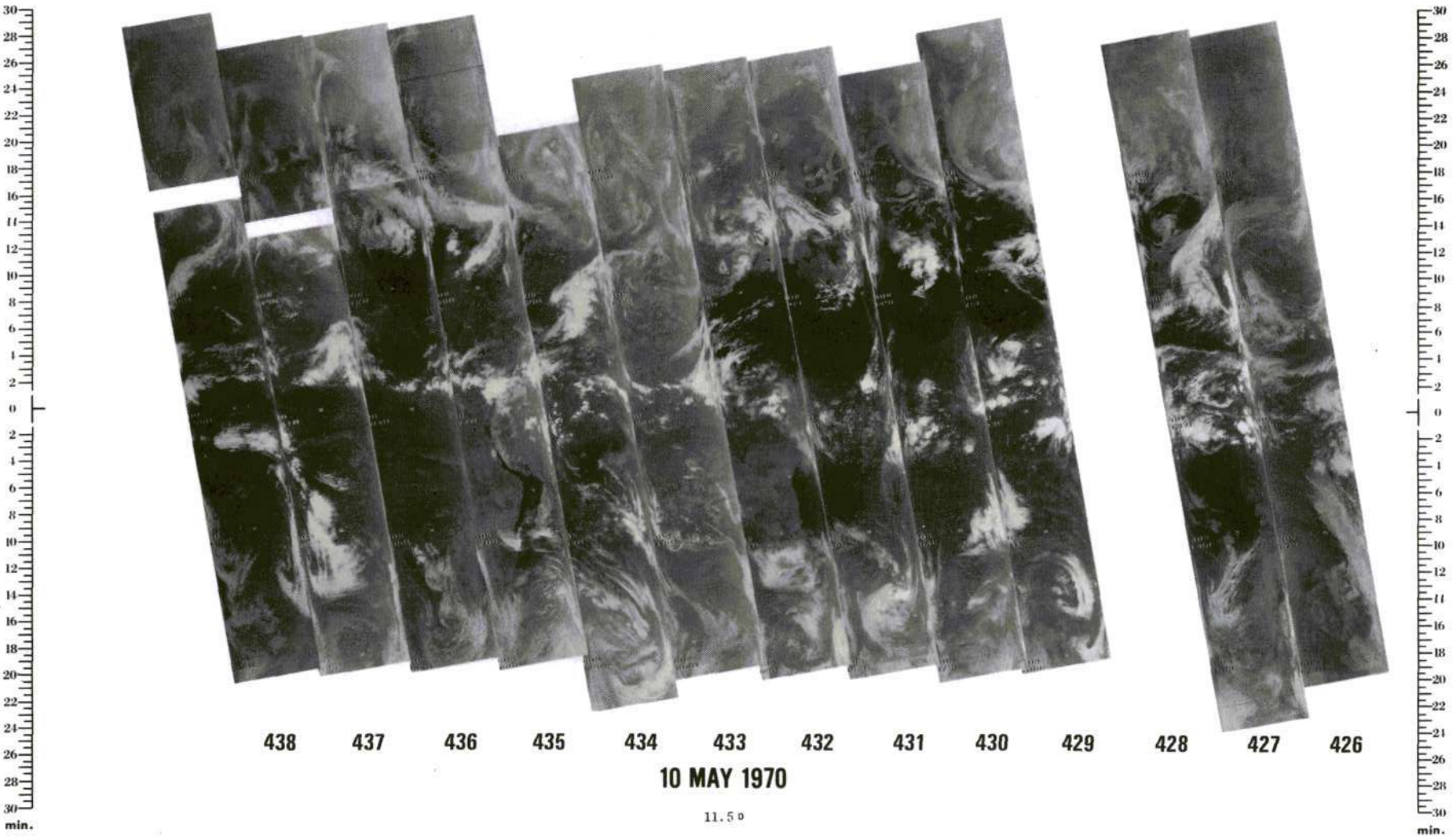
413
9 MAY 1970
11.5o
min.
min.

425 424 423 422 421 420 419 418 417 416 415 414 413

9 MAY 1970

6.7D


438
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427
426
10 MAY 1970
11.5 o
min.
min.

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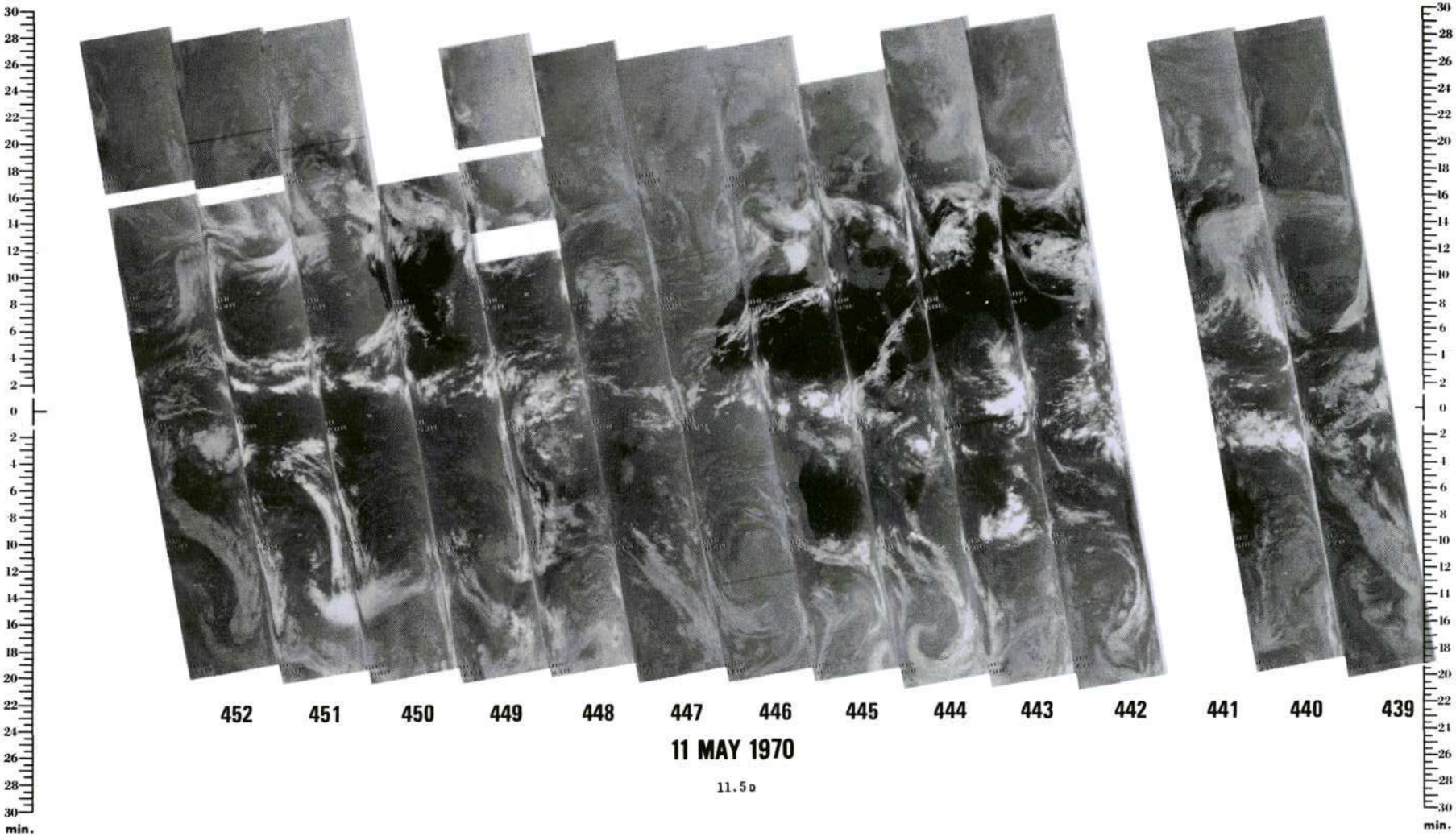
427
426
10 MAY 1970
6.7μ
min.
min.


452
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11 MAY 1970
11.5D
min.
min.

452
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446
445
444
443
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440
439
11 MAY 1970
6.7o
min.
min.

30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.
465 464 463 462 461 460 459 458 457 456 455 454 453
12 MAY 1970
11.5o
30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
min.

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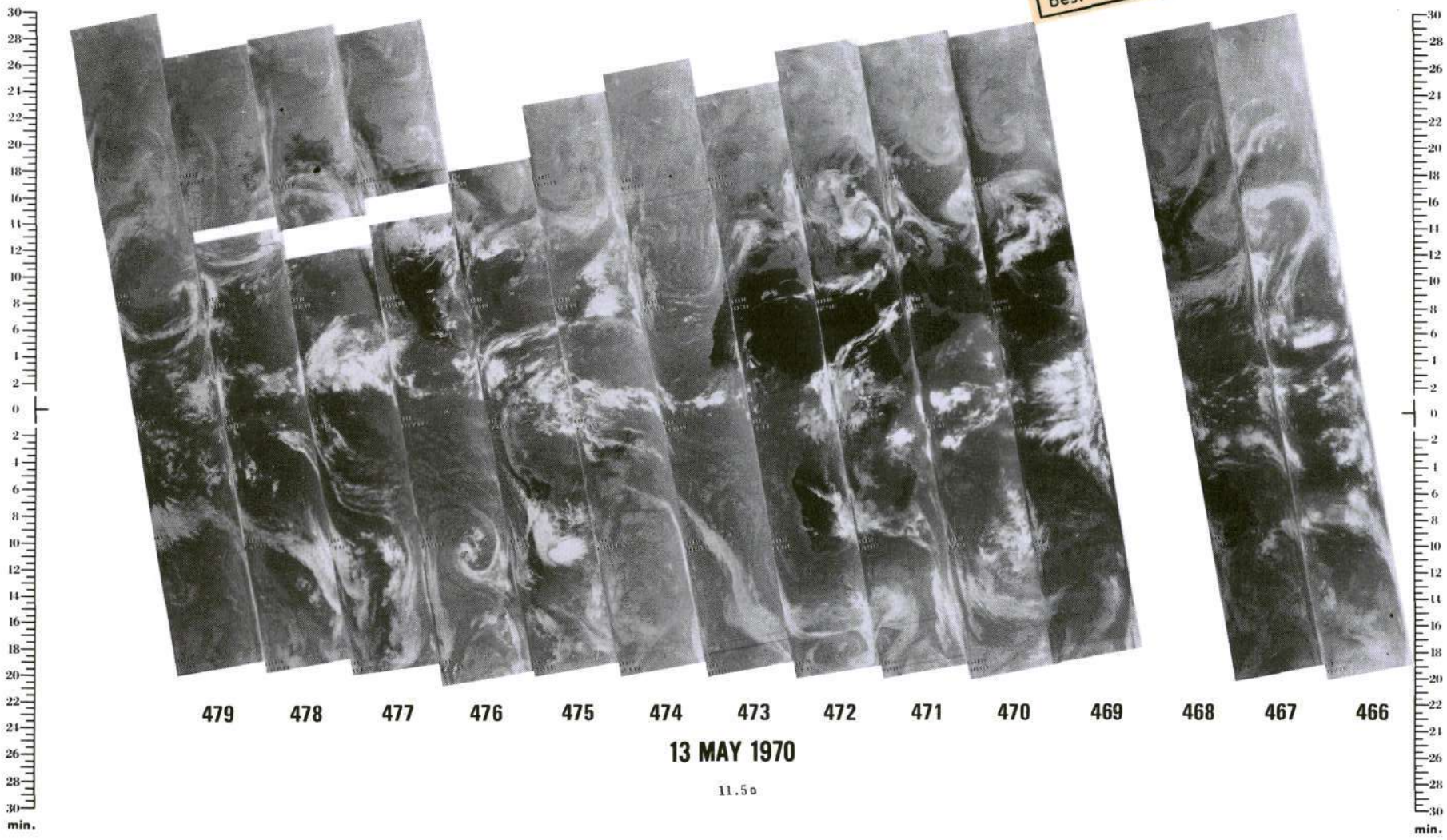
min.
465 464 463 462 461 460 459 458 457 456 455 454 453
12 MAY 1970
6.7



479
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472
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468
467
466
13 MAY 1970
6.7D
min.
min.

492
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487
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485
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483
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481
480
14 MAY 1970
11.5o
min.
min.

492
491
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488
487
486
485
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483
482
481
480
14 MAY 1970
6.7u
min.
min.

506
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504
503
502
501
500
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498
497
496
495
494
493
15 MAY 1970
11.5D
min.
min.

506
505
504
503
502
501
500
499
498
497
496
495
494
493
15 MAY 1970
6.7D
min.
min.

519
518
517
516
515
514
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512
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510
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16 MAY 1970
11.5o
min.
min.

519
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512
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510
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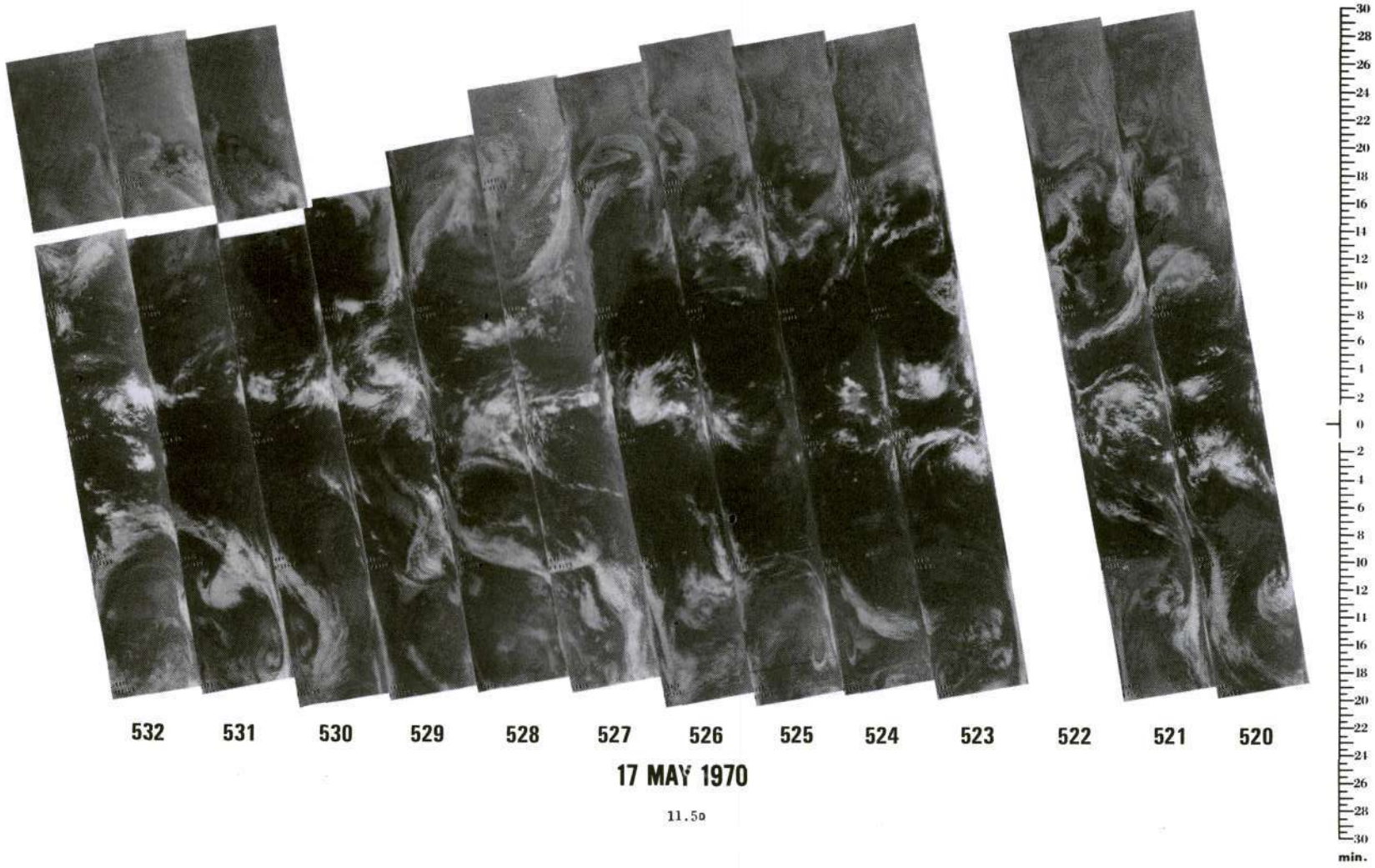
508
507
16 MAY 1970
6.7D
min.
min.


532
531
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520
17 MAY 1970
11.5o
min.
min.

532
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530
529
528
527
526
525
524
523
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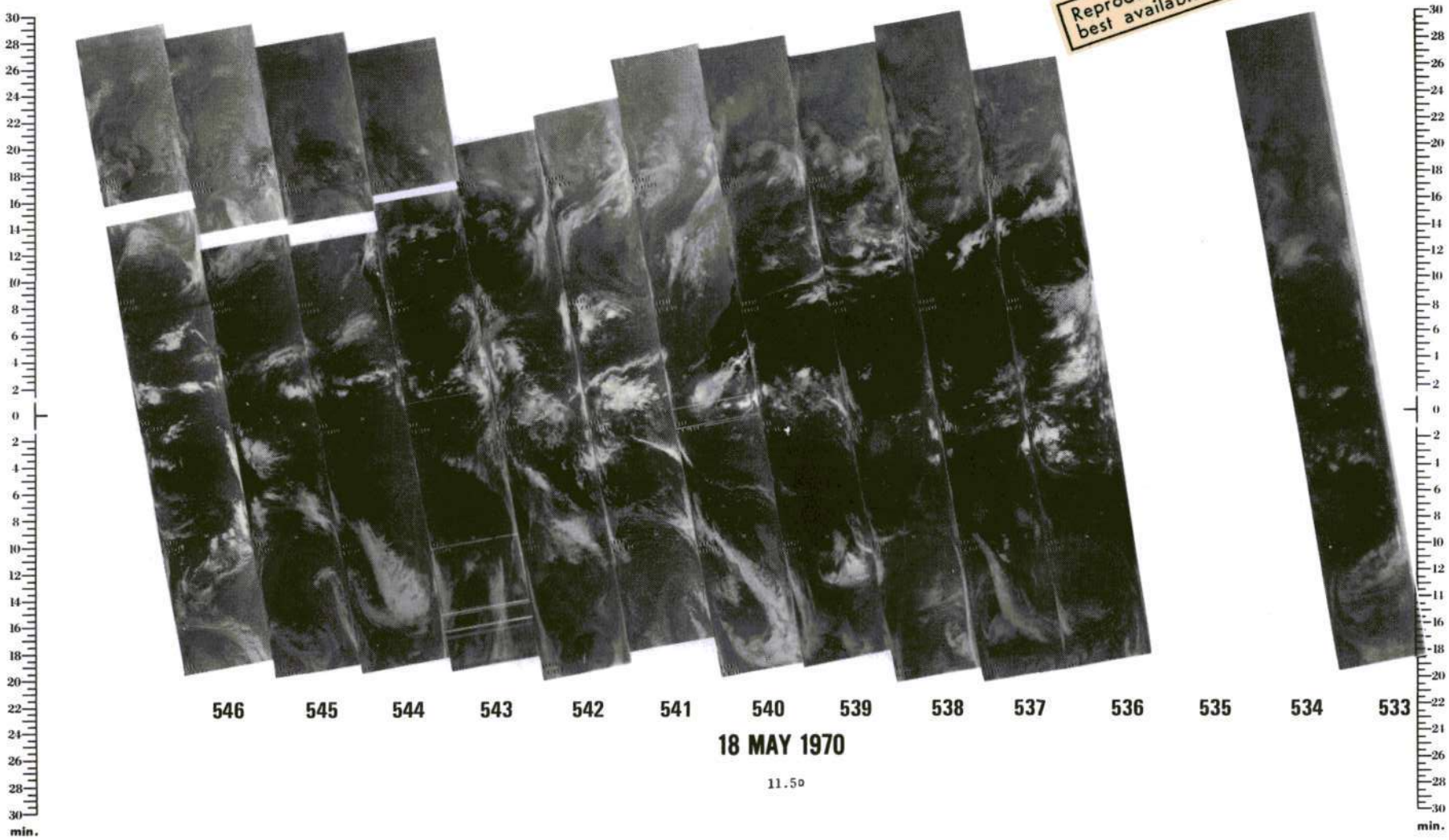
521
520
17 MAY 1970
6.7D
min.
min.



18 MAY 1970 NO DATA 6.7 μm

559
558
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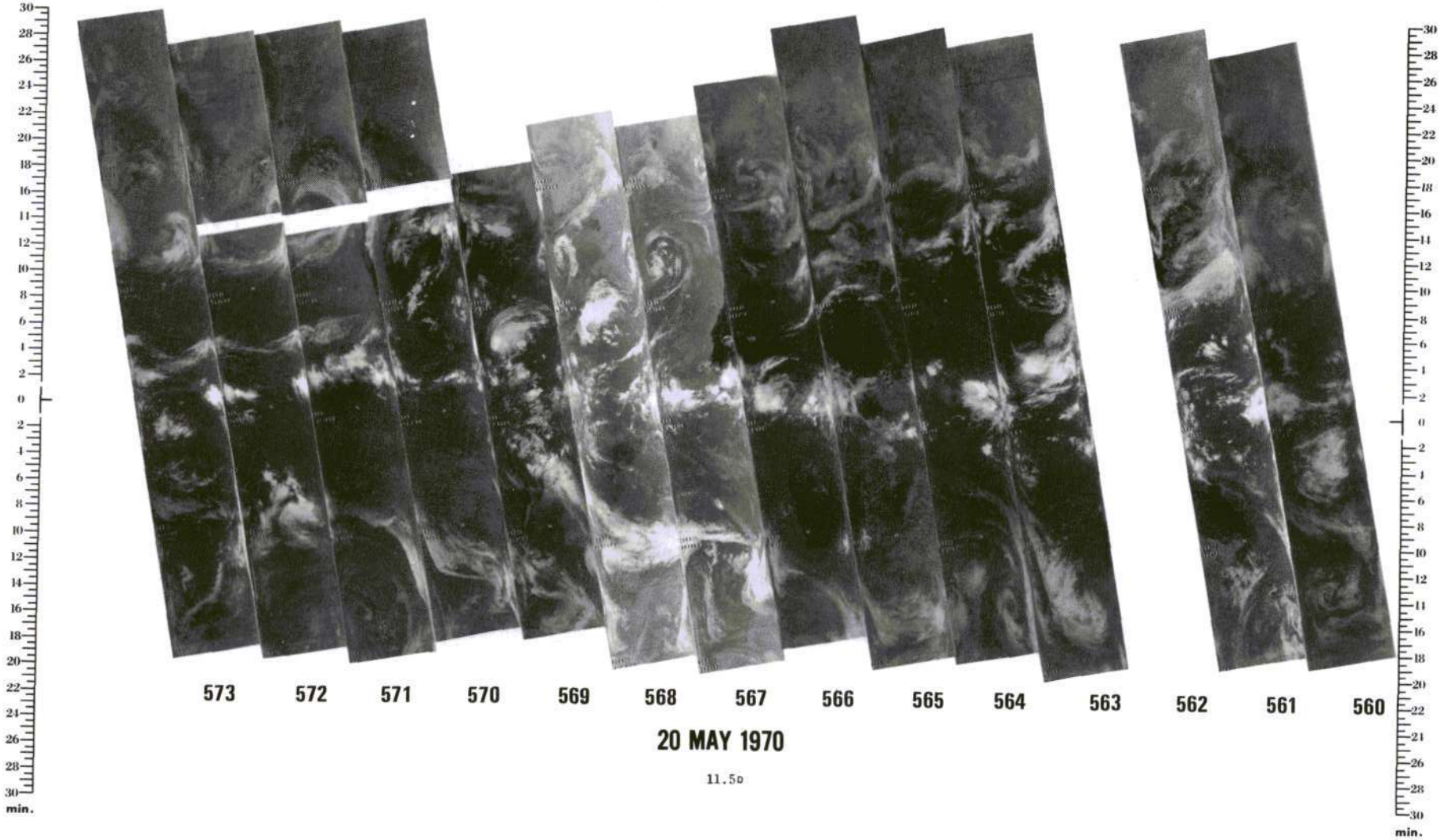
547
19 MAY 1970
11.5D
min.
min.

559 558 557 556 555 554 553 552 551 550 549 548 547

19 MAY 1970

6.7D


573
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565
564
563
562
561
560
20 MAY 1970
11.5o
min.
min.

573 572 571 570 569 568 567 566 565 564 563 562 561 560

20 MAY 1970

6.7b

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584
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582
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575
574
21 MAY 1970
11.5o
min.
min.

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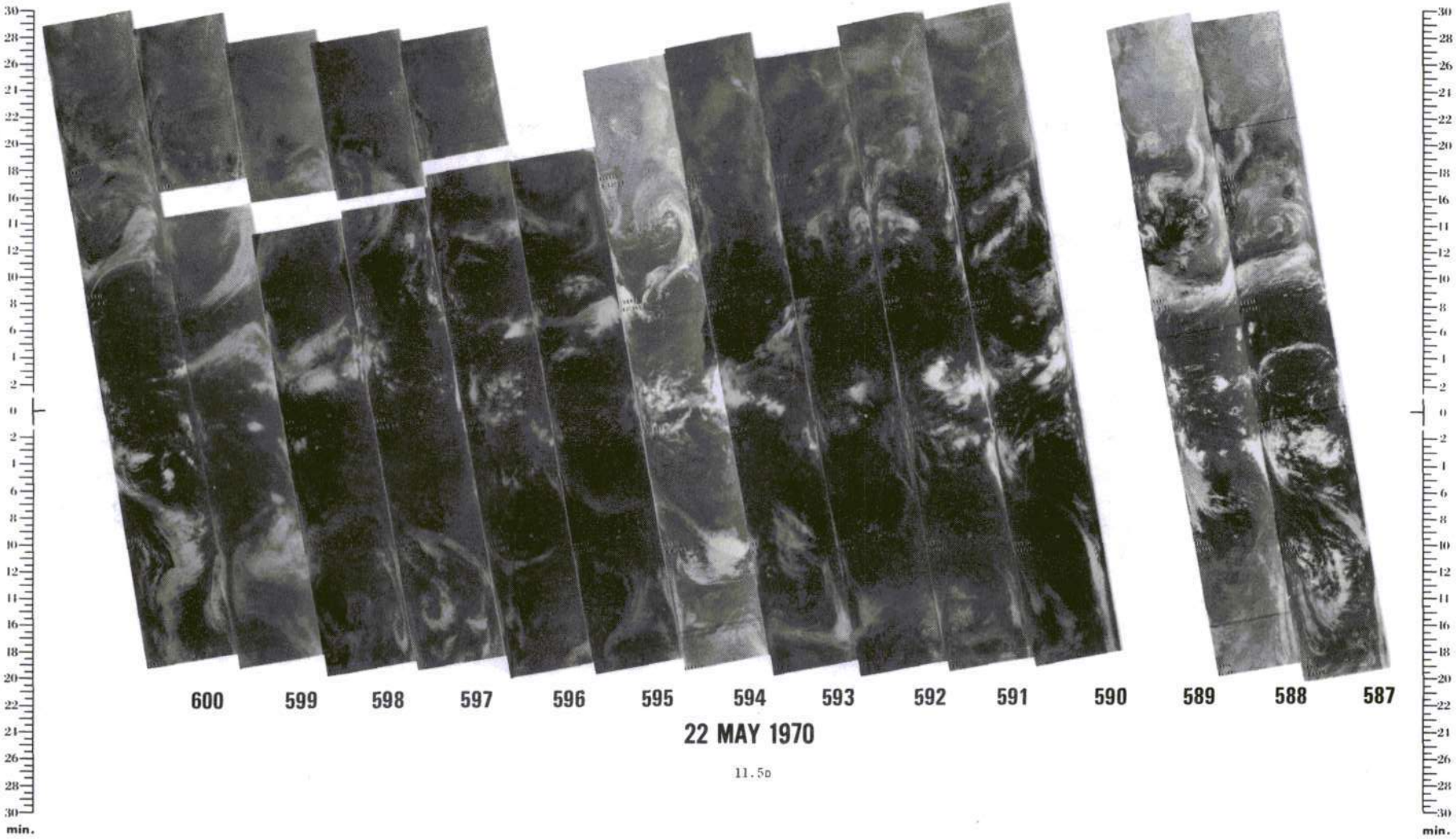
575
574
21 MAY 1970
6.7D
min.
min.


600
599
598
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596
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594
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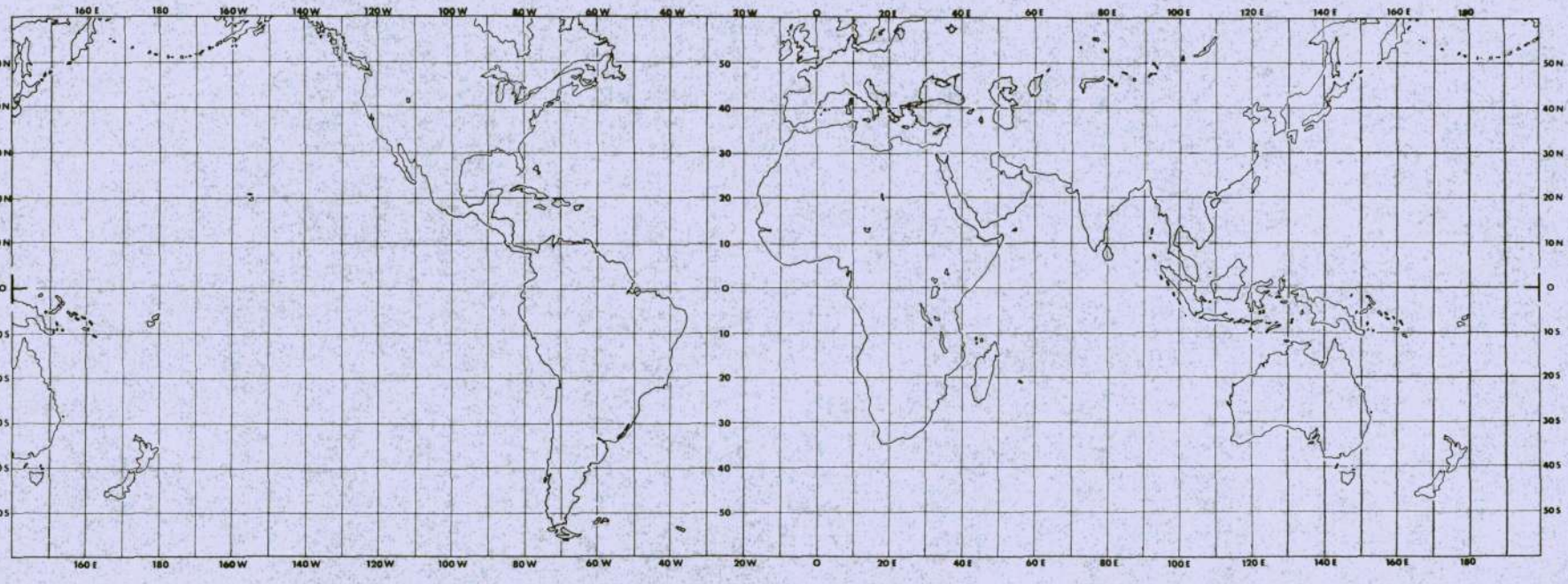
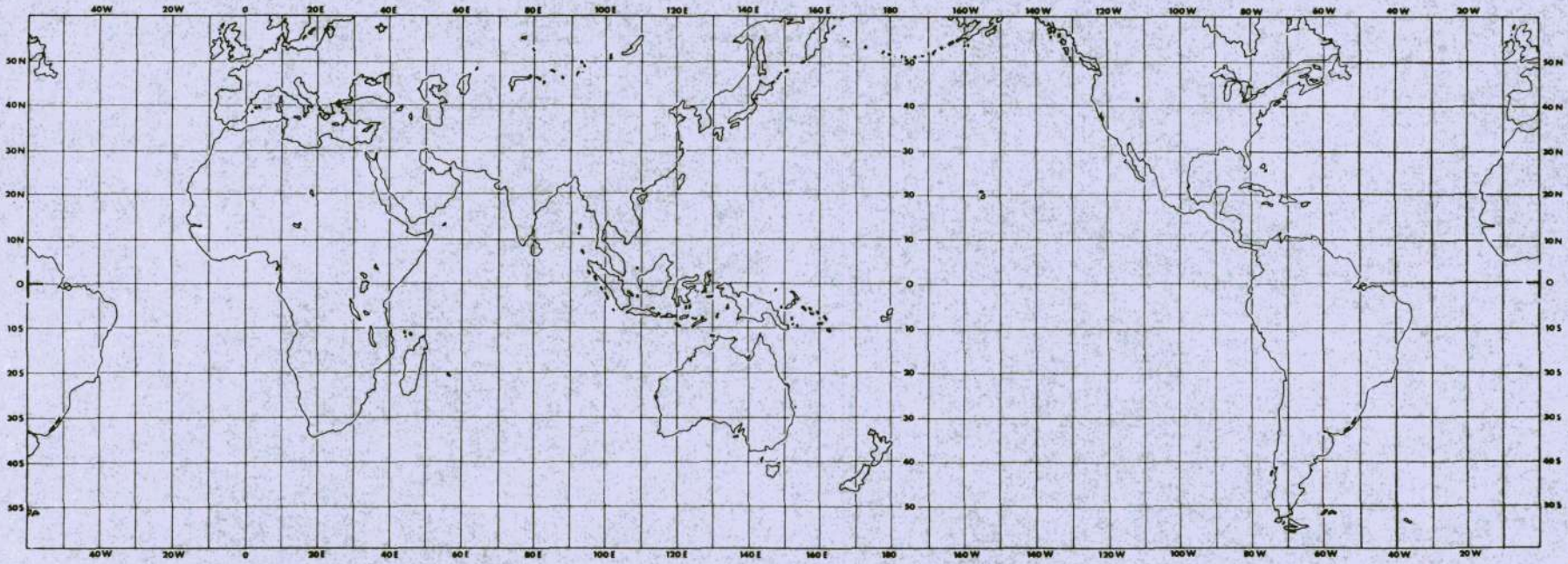
592
591
590
589
588
587
22 MAY 1970
11.5D
min.
min.

22 MAY 1970

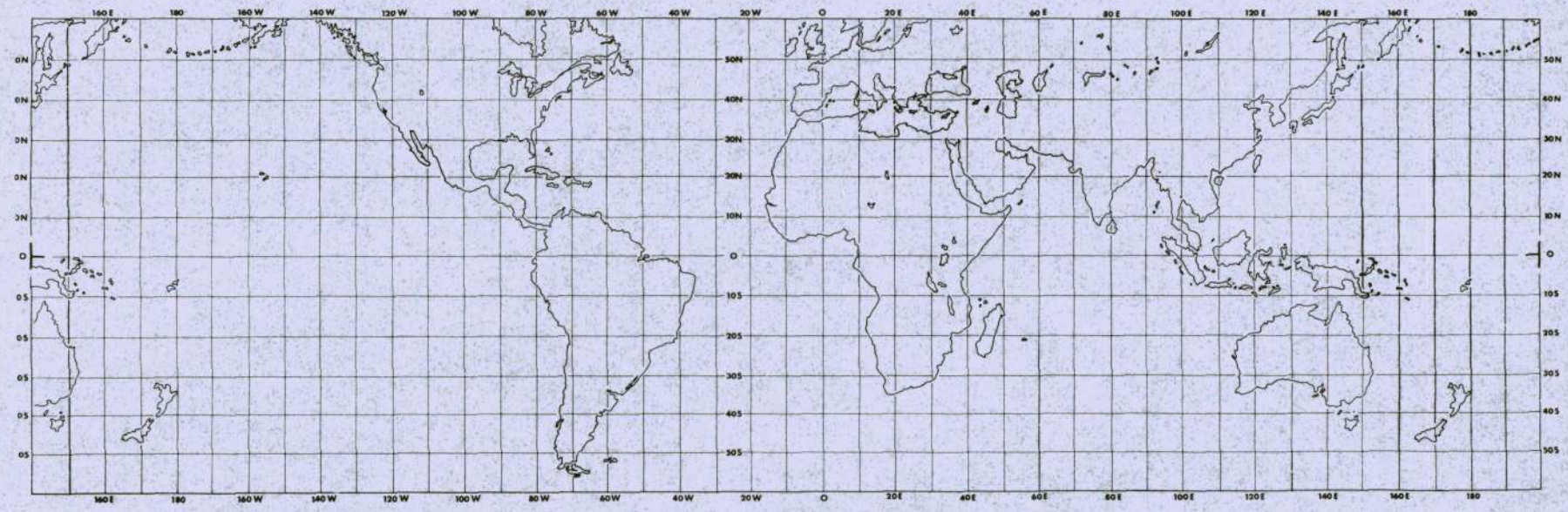
6.7b



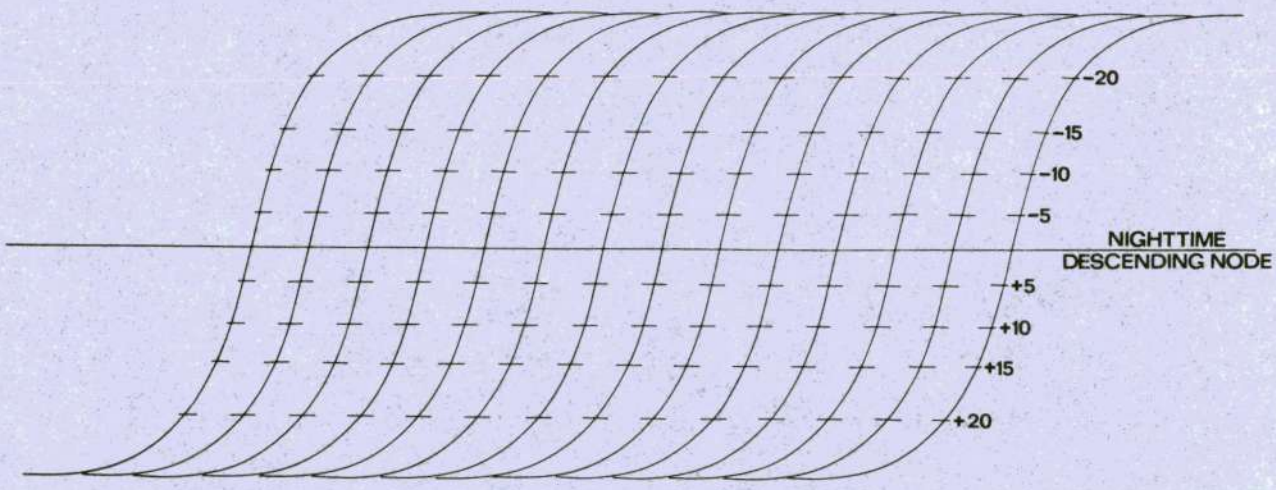
Location Guide
Average Scale for Nimbus 4
THIR Daytime Montages



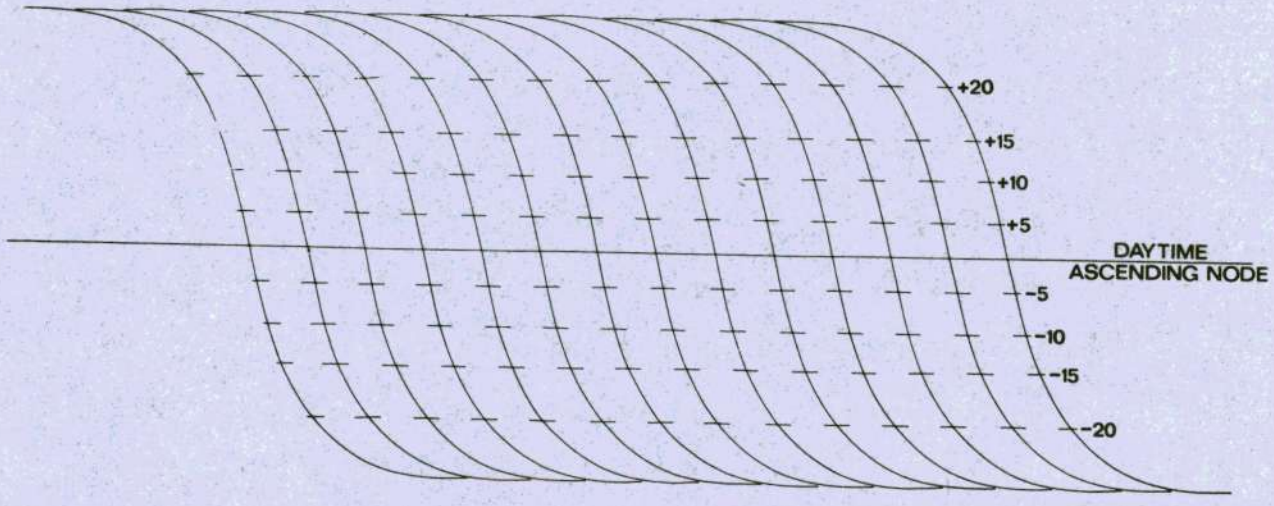
Location Guide
Average Scale for Nimbus 4
THIR Nighttime Montages



Location Guide
Average Scale for Nimbus 4
IDCS Montages



NIMBUS 4 SUBSATELLITE TRACKS OVERLAY



NIMBUS 4 SUBSATELLITE TRACKS OVERLAY