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THE NIMBUS 6 DATA CATALOG
VOLUME 4

1 JANUARY 1976 THROUGH 29 FEBRUARY 1976
DATA ORBITS 2718 THROUGH 3521

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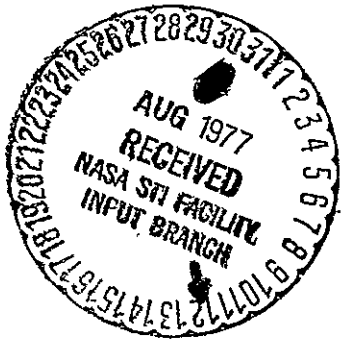

GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND

THE NIMBUS 6 DATA CATALOG

Volume 4

1 January 1976 through 29 February 1976
Data Orbits 2718 through 3521

Prepared by

Management and Technical Services Company
Beltsville, Maryland

For the

Landsat/Nimbus Project

April 1976

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland

FOREWORD

This is the fourth volume of a series of catalogs to be published by the National Aeronautics and Space Administration to document data acquired from the Nimbus 6 meteorological satellites. This volume covers the period from 1 January 1976 through 29 February 1976. Subsequent catalogs will contain documentation for succeeding periods throughout the useful lifetime of Nimbus 6.

Background information concerning the Nimbus 6 meteorological satellite system and a description of the experiments and data formats has been published separately in The Nimbus 6 User's Guide. Post-launch User's Guide information changes and corrections are included in the data catalogs. The Nimbus 6 catalogs present the type of data available, anomalies in the data, if any, and geographic location and time of the data.

The assembly and editing of this catalog was accomplished by the Management and Technical Services Company (MATSCO), Beltsville, Maryland, under contract number NAS5-20694 with the Goddard Space Flight Center, NASA, Greenbelt, Maryland.

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The pitch of the Nimbus 6 satellite has been made to alternate between +2.0 degrees, +0.6 degrees, and 0.0 degrees since launch. Table 1-2 lists the orbits when each pitch position was used.

A positive pitch angle of 0.6 degrees moves the nadir-looking position 11.5 kilometers ahead of the subsatellite point. A positive pitch angle of 2.0 degrees moves the nadir-looking position 38.3 kilometers ahead of the subsatellite point.

At these pitch angles, a scanner-type instrument no longer scans the earth along a great circle arc through the subpoint, but scans along the small circle formed by the intersection of the scan plane with the earth. Since the plane of the small circle is tilted with respect to the nominal scan plane, points on the arc are displaced farther from the great circle as the scan angle increases. As noted above, a pitch angle of 0.6 degrees causes a displacement of 11.5 kilometers at nadir, but when the scanner turns 45 degrees away from nadir the displacement increases slightly to 12.8 kilometers. Similarly, for a 2.0 degree pitch the displacement is 38.3 kilometers at nadir and increases to 42.6 kilometers at a 45 degree scan angle. Thus, although the instrument records in lines normal to the orbit plane (in the absence of yaw) the perpendicular displacement from the perfect-attitude scan line is not uniform across the scan line.

Table 1-2

Pitch Positions for Nimbus 6
Between 19 June 1975 and 1 March 1976 (orbits 96 to 3530)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
19 June	96A*	1145	X	
20 June	113R*	1745		X
21 June	117O*	0220	X	
21 June	128A	2045		X
22 June	132R	0420	X	
22 June	141A	2000		X
23 June	146R	0520	X	
23 June	151A	1405		X
23 June	154A	1915	X	
24 June	157W*	0100		X
24 June	160R	0625	X	

*A = Fairbanks, Alaska; R = Rosman, North Carolina; O = Orroral, Australia; W = Winkfield, England

SECTION 1

SUMMARY OF OPERATIONS

1.1 Introduction

Nimbus 6 was successfully launched from the Western Test Range, Vandenberg Air Force Base, California at 08 hr 12 min 00 sec GMT on 12 June 1975. The orbit was nearly circular at 1093 x 1105 km. Satellite operations from launch through 14 July (orbit 425) consisted of engineering evaluation of all spacecraft systems. As a result of that effort, data reception, accountability and processing were intermittent during that period. Therefore, Volume 1 in this catalog series mainly reflects documentation from orbit 426 (14 July) through orbit 1082 (31 August). Table 1-1 is a summary of the documentation for each Nimbus 6 Data Catalog volume.

Because the spacecraft power is limited, all experiments are not on at the same time. During this catalog period the HIRS, THIR, SCAMS, and PMR data were recorded for almost all orbits. The TWERLE was on during the daylight portions of almost all orbits and during a part of the nighttime portion of many orbits. The ERB and ESMR experiments normally split their operating time; the ERB was on for two days while the ESMR was off, followed by the ESMR being on for two days while the ERB was off. Due to the depletion of the methane in the cryogenic cooler, the last useable data from the LRIR experiment was received during orbit 2801 (7 January). The T&DRE operated during all, or parts, of 13 days, with the power load adjusted when it was on. The on-off cycle for each experiment cycle for each experiment is shown in Table 2-2 in Section 2 of this catalog.

Because of an anomaly in the functioning of the High Data Range Storage subsystem (HDRSS) B, first noted during orbit 33 (14 June), HDRSS B has been limited to 65 minutes of record capability (out of a possible 120 minutes). With only HDRSS A available for full-time use, there are occasional periods when global experiment coverage is not obtained. (These occur when the Orroral, Australia STDN station is not available for playback of recorded experiment data.) The areas not covered are usually over the western part of the Pacific Ocean and/or the eastern part of the Atlantic Ocean.

Table 1-1

Nimbus 6 Catalog Documentation Summary

Volume	Dates	Orbits
1	12 June 75-31 Aug. 75	1-1082
2	1 Sept 75-31 Oct. 75	1083-1900
3	1 Nov. 75-31 Dec. 75	1901-2717
4	1 Jan. 76-29 Feb. 76	2718-3521

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
24 June	168A	2020		X
25 June	173R	0540	X	
25 June	182A	2120		X
26 June	186R	0455	X	
26 June	194A	1855		X
27 June	198W	0215	X	
27 June	208A	1955		X
28 June	211W	0130	X	
28 June	222A	2055		X
29 June	226R	0430	X	
29 June	235A	2015		X
30 June	241R	0715	X	
1 July	251W	0110		X
1 July	255A	0810	X	
1 July	263A	2215		X
2 July	267R	0550	X	
2 July	277W	2320		X
3 July	282A	0830	X	
4 July	291O	0135		X
4 July	296A	0930	X	
5 July	306W	0325		X
5 July	311A	1220	X	
6 July	321R	0625		X
6 July	326A	1505	X	
7 July	334R	0540		X
7 July	338A	1240	X	
8 July	347R	0455		X
8 July	351A	1155	X	
8 July	357A	2225		X
9 July	362A	0735	X	
9 July	371W	2350		X
10 July	375R	0700	X	
10 July	383A	2055		X
11 July	387R	0430	X	
11 July	393A	1500		X
11 July	395A	1825	X	

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
12 July	403A	0900		X
12 July	405A	1230	X	
14 July	434A	1620		X
15 July	439W	0130	X	
15 July	449A	1900		X
16 July	453W	0230	X	
18 July	487A	1510		X
19 July	495R	0540	X	
19 July	505A	2310		X
20 July	509R	0645	X	
20 July	518A	2225		X
21 July	522R	0600	X	
21 July	525A	1115		X
21 July	527A	1445	X	
25 July	581A	1520		X
26 July	586O	0120	X	
26 July	599A	2320		X
27 July	604A	0835	X	
27 July	612A	2235		X
28 July	621A	1455	X	
30 July	648A	1510		X
31 July	654W	0200	X	
31 July	665A	2130		X
1 Aug.	669R	0500	X	
1 Aug.	679A	2225		X
2 Aug.	683R	0600	X	
4 Aug.	715A	1505		X
5 Aug.	720O	0105	X	
5 Aug.	731A	1930		X
6 Aug.	734O	0210	X	
9 Aug.	774W	0050		X
9 Aug.	778A	0755	X	
10 Aug.	788O	0250		X
10 Aug.	793A	1045	X	
10 Aug.	800A	2300		X
11 Aug.	801O	0200	X	

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
12 Aug.	822A	1435		X
13 Aug.	828O	0025	X	
13 Aug.	840A	2240		X
14 Aug.	844R	0615	X	
16 Aug.	876A	1515		X
17 Aug.	881O	0120	X	
17 Aug.	893A	2130		X
18 Aug.	898R	0650	X	
20 Aug.	930A	1550		X
21 Aug.	937R	0440	X	
21 Aug.	947A	2210		X
22 Aug.	951R	0540	X	
24 Aug.	976O	0320		X
24 Aug.	981A	1115	X	
25 Aug.	989W	0140		X
25 Aug.	994A	1030	X	
25 Aug.	1001A	2245		X
26 Aug.	1003W	0240	X	
28 Aug.	1037A	1525		X
29 Aug.	1042O	0125	X	
29 Aug.	1055A	2330		X
30 Aug.	1059R	0655	X	
31 Aug.	1070O	0335		X
31 Aug.	1072R	0615	X	
1 Sept.	1091A	1600		X
2 Sept.	1096O	0205	X	
3 Sept.	1113A	0730		X
3 Sept.	1117A	1435	X	
5 Sept.	1138R	0425		X
5 Sept.	1139R	0610	X	
5 Sept.	1147A	2005		X
6 Sept.	1151W	0330	X	
6 Sept.	1161A	2110		X
7 Sept.	1165R	0440	X	
9 Sept.	1198A	1530		X
10 Sept.	1204O	0320	X	

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
11 Sept.	1220R	0705		X
11 Sept.	1224A	1405	X	
13 Sept.	1252A	1610		X
13 Sept.	1256A	2310	X	
14 Sept.	1269A	2225		X
15 Sept.	1272R	0410	X	
26 Sept.	1427A	1720		X
27 Sept.	1431O	0140	X	
28 Sept.	1450A	1040		X
28 Sept.	1453A	1600	X	
30 Sept.	1479A	1435		X
30 Sept.	1484A	2315	X	
4 Oct.	1533A	1515		X
5 Oct.	1538O	0110	X	
5 Oct.	1541R	0545		X
5 Oct.	1543A	0910	X	
12 Oct.	1638A	1115		X
12 Oct.	1639A	1300	X	
13 Oct.	1655A	1730		X
14 Oct.	1660W	0240	X	
16 Oct.	1689R	0640		X
16 Oct.	1692A	1155	X	
17 Oct.	1712A	2325		X
18 Oct.	1714W	0320	X	
20 Oct.	1740W	0155		X
20 Oct.	1744A	0900	X	
26 Oct.	1828A	1520		X
27 Oct.	1833O	0120	X	
30 Oct.	1885A	2115		X
31 Oct.	1889R	0445	X	
5 Nov.	1957R	0630		X
5 Nov.	1960A	1140	X	
11 Nov.	2046A	2130		X
12 Nov.	2050R	0505	X	
6 Dec.	2376A	1240		X
6 Dec.	2377A	1420	X	

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1975)	Orbit and STDN	Time (GMT)	+0.6°	+2.0°
9 Dec.	2418A	1535		0°
9 Dec.	2420A	1915	X	
14 Dec.	2484A	1405		X
14 Dec.	2486A	1730	X	
6 Jan.	2796A	2045		X
7 Jan.	2801R	0600	X	
7 Jan.	2804A	1115		X
7 Jan.	2806A	1445	X	

Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	0.0°
8 Jan.	2819A	1400		X
8 Jan.	2822A	1915	X	
10 Jan.	2846A	1425		X
12 Jan.	2875A	1815	X	
13 Jan.	2881R	0520		X
16 Jan.	2931A	2230	X	
17 Jan.	2937A	0930		X
17 Jan.	2940A	1445	X	
17 Jan.	2945A	2335		X
18 Jan.	2958A	2250	X	
19 Jan.	2965A	1140		X
21 Jan.	2993A	1345	X	
23 Jan.	3020A	1410		X
25 Jan.	3046A	1245	X	
27 Jan.	3074A	1450		X
29 Jan.	3100A	1325	X	
2 Feb.	3155A	1555		X
4 Feb.	3180A	1245	X	
6 Feb.	3209A	1635		X
7 Feb.	3220A	1230	X	
9 Feb.	3249A	1620		X
13 Feb.	3302A	1515	X	

Table 1-2 (continued)

Pitch Change			Pitch Bias	
Date (1976)	Orbit and STDN	Time (GMT)	+0.6°	0.0°
16 Feb.	3343A	1640		X
18 Feb.	3369A	1520	X	
20 Feb.	3396A	1545		X
22 Feb.	3423A	1605	X	
24 Feb.	3449A	1440		X
26 Feb.	3476A	1505	X	
28 Feb.	3503A	1525		X
1 Mar.	3530A	1545	X	

Subsections 1.2 through 1.10 of this catalog summarize the operational highlights of the individual experiments, present preliminary experiment results, and call attention to known data anomalies. Section 2 lists the on-off times for each experiment and provides a method for determining the geographical coverage of each experiment. Section 3 shows selected HIRS, SCAMS and ESMR images, and Section 4 presents THIR montages. Section 5 presents corrections to The Nimbus 6 User's Guide.

The user is referred to The Nimbus 6 User's Guide for a complete description of each experiment and to Section 1.7 of that Guide for the requesting procedure and sources for all data. Sections 2, 3, and 4 of this Data Catalog should help users select data to meet their needs.

1.2 The Temperature Humidity Infrared Radiometer (THIR) Subsystem

The quality of the THIR data from both channels (11.5 μm and 6.7 μm) and telemetry have been good since launch. Daily world montages of the THIR are presented in Section 4 of this catalog. All processed THIR film is archived and available through the National Space Science Data Center, as is all available THIR digital data. The THIR digital products are processed to final format only on request. Users should refer to Section 4 of this catalog, and to Sections 1.7 and 2.4 of The Nimbus 6 User's Guide for a discussion of the formats and procedure to order these products.

1.3 The High Resolution Infrared Radiation Sounder (HIRS) Experiment

The HIRS operated continuously during this catalog period. The data are still affected, by continuing instrument problems. Two of these problems are optics contamination, which is lessened by periodic outgassing, and a higher-than-expected patch

temperature. Also, the format of the bit stream from the HIRS continued to have errors, which affected at least ten percent of the data. HIRS software modifications may remove some of the effects of this problem, thereby improving the usefulness of the data.

1.4 The Scanning Microwave Spectrometer (SCAMS) Experiment

The SCAMS instrument performance continued to be excellent during this catalog period. The instrument was on continuously. The experimenter continues to analyze the data for meteorological information.

1.5 The Electrically Scanning Microwave Radiometer (ESMR) Experiment

The ESMR performance continued to be satisfactory during this catalog period, operating with a two day on and then a two day off cycle. Data quality is good. The Gunn oscillator and the hot reference temperatures continued to run at higher-than-expected temperatures with no adverse results on the data. Selected ESMR images for this catalog period appear in Section 3.

1.6 The Earth Radiation Budget (ERB) Experiment

The solar and wide-angle earth-flux channels continued to operate normally, with the expected small degradation occuring in several solar channels. The scanning channels (15-22) did not gather data during this catalog period because of problems with the scan head.

1.7 The Limb Radiance Inversion Radiometer (LRIR) Experiment

The last useable data from the LRIR was received during orbit 2801 (7 January). By this orbit the methane used to cool the detector was depleted and the telemetry indicating the detector temperature was saturated at 73.6° K. The ammonia temperature was constant until orbit 2787 (6 January) when it began to increase and then became erratic-varying from 145.6° K to 150.0° K. At orbit 2802 (7 January) the temperature of 145.6° K began increasing and by orbit 2806 it was at 165.7° K, when the LRIR was turned off. The instrument continues to be turned on occasionally for checks of the instrument's temperature.

1.8 The Pressure Modulator Radiometer (PMR) Experiment

The PMR performance this period was satisfactory. The instrument was on continuously. Data quality was good. All acquired data was routinely transmitted from GSFC to the experimenter at Oxford, England.

Since orbit 1727 (19 October) channel 1 has only operated in the nadir-looking mode. This is necessary because in the scan mode this channel appears to operate

between ±10° from nadir rather than the normal ±15° from nadir. The data output from the nadir mode is normal.

1.9 The Tropical Wind Energy Conversion and Reference Level Experiment (TWERLE)

The TWERLE continued to operate very well during this catalog period. Determinations of locations for reference platforms indicate that most are located within 1.5 km of their true positions.

Over 600 platforms had been activated by 7 January 1976. Table 1-3 shows distribution of these platforms among the TWERLE experiments. The full address of each experimenter is given in Table 9-2 in The Nimbus 6 User's Guide. (Corrected addresses for many of these experimenters, and addresses for several new experimenters, are given in Section 5.8 of this catalog.) Anyone interested in results from a particular experiment should write to the principal investigator for that experiment.

1.10 The Tracking and Data Relay Experiment (T&DRE)

The T&DRE performance was satisfactory during this catalog period. The orbits when the T&DRE was operated are listed in Table 2-2 in Section 2. Significant accomplishments of T&DRE are discussed in Data Catalog volume 1, Section 1.10.

Table 1-3

TWERLE Platform Activity as of 7 January 1976

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Dr. Paul R. Julian Boulder, Colorado	Balloons	126	208	334
Professor Norbert Untersteiner Seattle, Washington	Ice Buoys	22	2	24
Dr. Hanson Miami, Florida	Drifting Buoys	4	29	33
Mr. Vincent Lally Boulder, Colorado	Balloons	2	19	21
Dr. P. Richardson Woods Hole, Massachusetts	Drifting Buoys	0	1	1
Arnold Gordon Palisades, New York	Drifting Buoys	3	20	23

Table 1-3 (continued)

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Tim P. Barnett La Jolla, California	Drifting Buoys	6	9	15
Mr. Robert Kee Washington, D. C.	Drifting Buoys	0	2	2
Mr. R. E. Vockeroth Ontario, Canada	Buoy	0	1	1
Mr. Jack Lentfer Anchorage, Alaska	Polar Bears	0	6	6
Mr. B. M. Buck Santa Barbara, California	Drifting Buoys	3	1	4
Fernando DeMendonca Sao Paulo, Brazil	Buoys	0	2	2
Mr. George Cresswell Cronulla, Australia	Drifting Buoys	9	4	13
Dr. A. Dyer Mordialloc, Australia	Drifting Buoys	0	3	3
Professor Lacombe Paris, France	Drifting Buoy	1	0	1
C. K. Jensen/J. Nordo Oslo, Norway	Buoys	2	0	2
T. Haegh/T. Vinje Oslo, Norway	Ice Buoys	0	5	5
Mr. Frank Anderson Congella, South Africa	Drifting Buoys	4	5	9
Professor H. Stommel Cambridge, Massachusetts	Drifting Buoys	0	5	5
Dr. A. D. Kirwan, Jr. College Station, Texas	Drifting Buoys	0	4	4
Mr. H. N. Brann Melbourne, Australia	Drifting Buoys	0	5	5

Table 1-3 (continued)

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Professor Morel Paris, France	Balloons & Buoys	0	47	47
Mr. J. Garrett Victoria, B. C. Canada	Drifting Buoys	6	4	10
Professor Tchernia Paris, France	Drifting Buoys	0	5	5
R. R. Dickson Lowestoft, Suffolk, U. K.	Drifting Buoys	1	5	6
Dr. Michael Hall Bay St. Louis, Mississippi	Buoys	2	8	10
Mr. David Thomas, Jr. Hampton, Virginia	Ocean Platforms	0	6	6
Dr. J. Williamson La Jolla, California	Balloons	0	1	1
Mr. J. C. O'Rourke Calgary, Canada	Sea Ice Platforms	2	0	2
Mr. Robert Oehlkers Madison, Wisconsin	Buoys	2	8	10
Totals		195	415	610

SECTION 2

THE ORBITAL ELEMENTS AND DATA AVAILABILITY ON-OFF TIMES

This section presents the Nimbus orbital elements for selected epochs, tabulates the time when each of the experiments was recording data, and gives procedures for determining the time and orbit when the satellite is over a given geographical area (and thus determining the location of coverage for each experiment).

The Nimbus 6 Brouwer Mean orbital elements for selected epochs during January and February 1976 are listed in Table 2-1.

As the elements indicate, the orbital period is slowly increasing and the satellite is moving into a slightly higher orbit. This effect has been attributed to the thrust given by the solid methane and ammonia sublimating from the LRIR solid cooler. The effect on the orbit is the opposite of that caused by atmospheric drag. The elements listed in Table 2-1 do not account for this effect. When these elements are used more than seven days from epoch, location errors of more than 60 km (about ten seconds of time), can be expected. If more accurate ephemeris are needed for a specific time period, write to the Nimbus Project, Code 430, Goddard Space Flight Center, Greenbelt, Maryland 20771. As of January 1976 the methane was depleted, but the ammonia is still outgassing. It may be mid-1976 before the ammonia will be completely depleted, no longer giving a thrust to the satellite.

The data availability on-off times, listed in Table 2-2, are the times when the data from each experiment was recorded on a HDRSS and processed through the Meteorological Data Handling System (MDHS) at Goddard Space Flight Center. The Table 2-2 header labels and their meaning are as follows:

INT ORBIT AND STDN

The satellite orbit number in progress when the satellite data is relayed to a ground station is called the interrogation orbit (INT ORBIT). The ground stations receiving the Nimbus 6 satellite data are part of the Spacecraft and Tracking Data Network (STDN). There are three STDN stations receiving Nimbus 6 experiment data: Fairbanks, Alaska (denoted by the letter "A"), Rosman, North Carolina (R), and Orroral, Australia (O).

HDRS

The HDRS (High Data Rate Storage System-HDRSS) is the acronym for the satellite tape recorder system. Recorder "A" or "B" (or both) is played back during each STDN station interrogation.

Table 2-1

Nimbus 6 Brouwer Mean Orbital Elements for
January and February 1976

Epoch	GMT	7 Jan. 76 00 00 00	23 Jan. 76 00 00 00	9 Feb. 76 00 00 00	23 Feb. 76 00 00 00
Semi-Major Axis	Km	7482.862	7483.232	7483.533	7483.780
Eccentricity		.000855	.000831	.000806	.000768
Inclination	Degrees	99.961	99.961	99.960	99.960
Argument of Perigee	Degrees	104.412	67.959	28.245	354.330
Right Ascension of Ascending Node	Degrees	281.880	297.604	314.312	328.067
Height of Perigee	Km	1098.30	1098.85	1099.33	1099.87
Height of Apogee	Km	1111.09	1111.28	1111.40	1111.36
Anomalistic Period	Minutes	107.36409	107.37206	107.37854	107.38385
Motion of Perigee	Deg. per Day	-2.4219	-2.4215	-2.4213	-2.4210

HDRS TIME ON-OFF

The HDRSS ON and OFF times are given in GMT to the nearest minute. The ON time is the time the (A or B) HDRSS begins recording experiment measurements; the OFF time is when it stops recording. Usually, the ON and OFF times occurs when the satellite is within acquisition range of one of the three STDN stations. The time span between each ON and OFF usually covers part of two DATA ORBITS.

LRIR, THIR, TDRE, SCAM, ERB, PMR, TWRL, HIRS

These are the acronyms for each of the experiments on Nimbus 6. (Acronyms longer than four letters have been shortened.) The column beneath each acronym contains a series of "X's" or "blanks." Each "X" in the column indicates that the data for that experiment was processed at GSFC. A "blank" usually indicates that the experiment was turned off for the HDRSS ON-OFF time in that line. A single "blank" in the middle of a series of "X's" frequently means that the experiment was on during that time span but the data has not been processed, or is unavailable for any of several reasons.

DATA ORBIT

A DATA ORBIT begins when the satellite crosses the equator heading in a northbound direction, and ends after the satellite has circled the earth and is about to cross the equator heading in a northbound direction. The DATA ORBIT number increases by one with each successive northbound equator crossing. The ASCENDING NODE and DESCENDING NODE information is referenced to the DATA ORBIT number.

ASCENDING NODE TIME (and) LONG

The ASCENDING NODE is the point in the orbit when the satellite crosses the equator heading in a northbound direction. The TIME of ASCENDING NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of ASCENDING NODE is given to the nearest tenth of a degree of east (E) or west (W) longitude. For Nimbus 6, the ascending node crossings always occur during the daytime portion of the orbit at approximately 11:45 a.m. local time.

DESCENDING NODE TIME (and) LONG

The DESCENDING NODE is the point within a DATA ORBIT when the satellite crosses the equator heading in a southbound direction. The TIME of DESCENDING NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of DESCENDING NODE is given to the nearest degree of east (E) or west (W) longitude. The descending node crossings always occur during the nighttime portion of each orbit at approximately 11:45 p.m. local time.

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 coverages and times for experiment data that the user may wish to order. The Overlay contains 14 correctly spaced satellite subpoint tracks, which end at the approximate earth day-to-night transitions. The tracks contain time ticks spaced 5 minutes apart, approximately annotated at the edge of the overlay and referenced to the equator.

A Subsatellite Tracks Overlay is correctly oriented with the World Map when the ascending or descending node line (equator) on the overlay coincides with the 0-degree latitude line (equator) of the World Map.

Orbital coverage for all orbits on any day is then determined by placing one of the orbit tracks on the overlay at its appropriate ascending node (for daytime data) or decending node (for nighttime data) longitude. (The nodes for each day are listed in Table 2-2.) The orbit track (or tracks) which covers the area of interest is readily apparent.

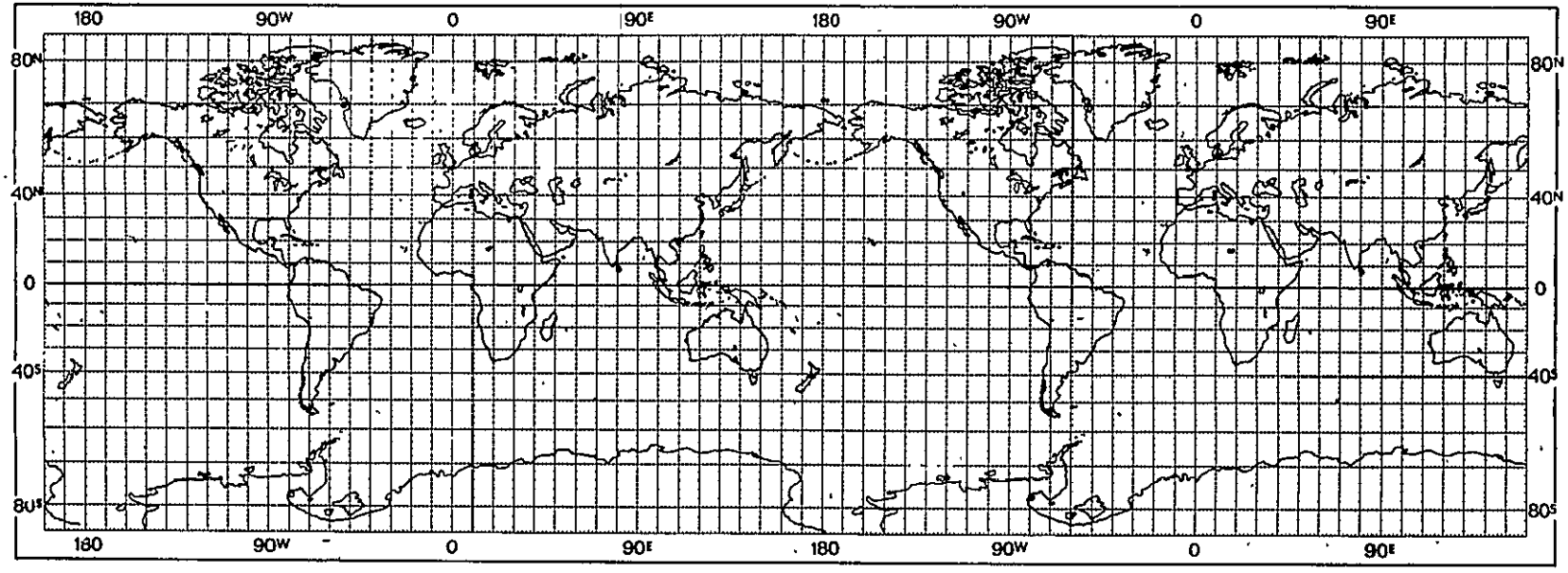


Figure 2-1. World Map

The time (GMT) of satellite passage over an area of interest is calculated by adding or subtracting the minutes from equator crossing (as determined from the overlay) to the appropriate node time (derived from Table 2-2). For daytime orbits, time is added to the ascending node for areas north of the equator, and subtracted from the ascending node for areas south of the equator. For nighttime orbits, time is subtracted from the descending node for areas north of the equator, and added to the descending node for areas south of the equator.

To determine if an experiment was ON during the calculated orbit and time of interest, the user must first "fit" the calculated time into the correct ON-OFF interval of an interrogation orbit listed in Table 2-2. Then the user must check the appropriate experiment column for that line. If an "X" is in the column, the experiment was on and the data has been processed. If the column is "blank", the experiment was off (or the data was not processed) and no data for that orbit is available.

An alternate method of determining geographic coverage and time of data is to use the method described in Section 4. The THIR montages and the vellum Location Guides (attached in the back of this catalog) are used to locate the geographical coverage of each orbit of THIR. The data coverage from other experiments will be within the limits of each THIR swath. The TIME of coverage over a particular area is obtained by using Table 4-1 and adding or subtracting this computed time to the appropriate ascending or descending node time given in Table 2-2.

Each request for data should contain, as a minimum, the name of the experiment for which data is requested, the calendar date of the data, the orbit, the time (GMT) interval of the data needed, and the geographic limits of the area of interest. The procedures described above will provide this information.

The nature and format of the data available from each experiment are explained in detail in the respective sections of The Nimbus 6 User's Guide. The appropriate sources for requesting the various data types are listed in Section 1.7 of the same manual.

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
1 JANUARY 1976

INT ORBIT AND STDN	HDRS DR S	HDRSS TIME ON HRMN	OFF HRMN	LR IR	TH IR	TD RE	SC AM	SE MR	EP RB	MR	TW RL	HR IS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
2718O	A	0032	0206			X	X		X	X	X	X	2718	003840	E166.6	013216	W026.9
2720R	A	0215	0415	X	X		X		X	X	X	X	2719	022608	E139.7	031945	W053.7
2720R	B	0414	0452	X	X		X		X	X	X	X	2720	041336	E112.8	050713	W080.6
2721R	A	0500	0639	X	X		X		X	X	X	X	2721	060104	E085.9	065441	W107.4
2722A	A	0644	0820	X	X		X		X	X	X	X	2722	074832	E059.1	084209	W134.3
2723A	A	0824	1007	X	X		X		X	X	X	X	2723	093601	E032.2	102938	W161.2
2724A	A	1011	1155	X	X		X		X	X	X	X	2724	112329	E005.4	121706	E172.0
2725A	A	1159	1338	X	X		X		X	X	X	X	2725	131057	W021.5	140434	E145.1
2726A	A	1343	1524	X	X		X		X	X	X	X	2726	145826	W048.4	155203	E118.2
2727A	A	1528	1712	X	X		X		X	X	X	X	2727	164554	W075.3	173931	E091.3
2728A	A	1716	1852	X	X		X		X	X	X	X	2728	183322	W102.1	192659	E064.5
2729A	A	1856	2040	X	X		X		X	X	X	X	2729	202050	W129.0	211427	E037.6
2730A	A	2044	2224	X	X		X		X	X	X	X	2730	220819	W155.9	230156	E010.8
2734R	B	2254	2357	X	X		X		X	X	X	X	2731	235547	E177.3	004924	W016.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
2 JANUARY 1976

INT ORBIT AND STDN	HDRS DR S	HDRSS TIME ON HRMN	OFF HRMN	LR IR	TH IR	TD RE	SC AM	SE MR	EP RB	MR	TW RL	HR IS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
2733R	A	2357	0156	X	X		X		X	X	X	X	2732	014315	E150.4	023652	W043.0
2734R	A	0416	0557	X	X		X		X	X	X	X	2733	033044	E123.5	042421	W069.9
2735A	A	0602	0738	X	X		X		X	X	X	X	2734	051812	E096.7	061149	W0 6.8
2736A	A	0742	0926	X	X		X		X	X	X	X	2735	070540	E069.8	075917	W123.6
2737A	A	0930	1111	X	X		X		X	X	X	X	2736	085309	E042.9	094646	W150.5
2738A	A	1115	1255	X	X		X		X	X	X	X	2737	104037	E016.1	113414	W177.3
2739A	A	1302	1444	X	X		X	X	X	X	X	X	2738	122805	W010.8	132142	E155.8
2740A	A	1448	1626		X		X	X		X	X	X	2739	141534	W037.7	150911	E128.9
2741A	A	1630	1812		X		X	X		X	X	X	2740	160302	W064.5	165639	E102.1
2742A	A	1816	1955		X		X	X		X	X	X	2741	175030	W091.4	184407	E075.2
2743A	A	1959	2143		X		X	X		X	X	X	2742	193759	W118.3	203135	E048.3
2744A	A	2147	2331		X		X	X		X	X	X	2743	212527	W145.2	221904	E021.4
27440	B	2336	0048				X	X		X	X	X	2744	231255	W172.0	000632	W005.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
3 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON	HDRSS TIME OFF	LR	THI	TDRE	SCAM	ESMR	EB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
27450	A	0051	0233				X	X		X	X	X	2745	010024	E161.1	015401	W032.3
2747R	A	0237	0435		X		X	X		X	X	X	2746	024752	E134.3	034129	W059.1
2747R	B	0434	0512		X		X	X		X	X	X	2747	043520	E107.4	052857	W086.0
2748R	A	0521	0701		X		X	X		X	X	X	2748	062249	E080.5	071626	W112.9
2749A	A	0706	0843		X		X	X		X	X	X	2749	081017	E053.7	090354	W139.8
2750A	A	0847	1029		X		X	X		X	X	X	2750	095745	E026.8	105122	W166.6
2751A	A	1033	1214		X		X	X		X	X	X	2751	114514	W000.1	123851	E166.5
2752A	A	1218	1401		X		X	X		X	X	X	2752	133242	W027.0	142619	E139.6
2753A	A	1405	1544		X		X	X		X	X	X	2753	152010	W053.8	161347	E112.8
2754A	A	1548	1728		X		X	X		X	X	X	2754	170739	W080.7	180116	E085.9
2755A	A	1733	1914		X		X	X		X	X	X	2755	185507	W107.5	194844	E059.0
2756A	A	1918	2100		X		X	X		X	X	X	2756	204236	W134.4	213612	E032.2
2757A	A	2105	2248		X		X	X		X	X	X	2757	223004	W161.3	232341	E005.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
4 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON	HDRSS TIME OFF	LR	THI	TDRE	SCAM	ESMR	EB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
27580	A	2252	0047				X	X		X	X	X	2758	001732	E171.8	011109	W021.6
27590	B	0049	0150				X	X		X	X	X	2759	020500	E145.0	025837	W048.4
2760R	A	0340	0435		X		X	X		X	X	X	2760	035228	E118.1	044605	W075.3
2761R	A	0433	0620		X		X	X		X	X	X	2761	053957	E091.2	063334	W102.2
2762A	A	0624	0801		X		X	X		X	X	X	2762	072725	E064.4	082102	W129.0
2763A	A	0805	0949		X		X	X		X	X	X	2763	091454	E037.5	100830	W155.9
2764A	A	0953	1132		X		X	X		X	X	X	2764	110222	E010.6	115559	E177.2
2765A	A	1136	1319		X		X	X		X	X	X	2765	124950	W016.2	134327	E150.3
2766A	A	1324	1508	X	X		X	X	X	X	X	X	2766	143719	W043.1	153056	E123.5
2767A	A	1512	1647	X	X		X		X	X	X	X	2767	162447	W070.0	171824	E096.6
2768A	A	1651	1831	X	X		X		X	X	X	X	2768	181216	W096.9	190553	E069.7
2769A	A	1835	2018	X	X		X		X	X	X	X	2769	195944	W123.7	205321	E042.8
2770A	A	2022	2203	X	X		X		X	X	X	X	2770	214713	W150.6	224049	E016.0
27710	A	2208	0005				X		X	X	X	X	2771	233441	W177.4	002818	W010.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
5 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR ER	SCA MR	ESM RB	EPM RR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
27720	B	0006	0104				X	X	X	X	X	2772	012209	E155.7	021546	W037.7
27720	A	0113	0254				X	X	X	X	X	2773	030938	E128.8	040315	W064.6
2774R	A	0259	0457	X	X		X	X	X	X	X	2774	045706	E101.9	055043	W091.5
2774R	B	0457	0532	X	X		X	X	X	X	X	2775	064435	E075.1	073812	W118.4
2775R	A	0540	0723	X	X		X	X	X	X	X	2776	083203	E048.2	092540	W145.2
2776A	A	0727	0903	X	X		X	X	X	X	X	2777	101932	E021.3	111308	W172.1
2777A	A	0907	1049	X	X		X	X	X	X	X	2778	120700	W005.6	130037	E161.1
2778A	A	1054	1235	X	X		X	X	X	X	X	2779	135429	W032.4	144805	E134.2
2779A	A	1240	1421	X	X		X	X	X	X	X	2780	154157	W059.3	163534	E107.3
2780A	A	1426	1607	X	X		X	X	X	X	X	2781	172925	W086.1	182302	E080.5
2781A	A	1611	1751	X	X		X	X	X	X	X	2782	191654	W113.0	201031	E053.6
2782A	A	1755	1934	X	X		X	X	X	X	X	2783	210422	W139.9	215759	E026.7
2783A	A	1938	2121	X	X		X	X	X	X	X	2784	225151	W166.8	234528	W000.2
2784A	A	2125	2308	X	X		X	X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
6 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR ER	SCA MR	ESM RB	EPM RR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
27850	A	0009	0210				X	X	X	X	X	2785	003919	E166.4	013256	W027.0
2788R	A	0341	0540	X	X		X	X	X	X	X	2786	022648	E139.5	032025	W053.9
2788R	B	0539	0642	X	X		X	X	X	X	X	2787	041416	E112.6	050753	W080.8
2789A	A	0648	0821	X	X		X	X	X	X	X	2788	060145	E085.8	065522	W107.6
2790A	A	0826	1010	X	X		X	X	X	X	X	2789	074913	E058.9	084250	W134.5
2791A	A	1014	1156	X	X		X	X	X	X	X	2790	093642	E032.0	103019	W161.4
2792A	A	1200	1342	X	X		X	X	X	X	X	2791	112410	E005.2	121747	E171.8
2793A	A	1347	1526	X	X	X	X	X		X	X	2792	131139	W021.7	140516	E144.9
2794A	A	1531	1707	X	X	X	X	X		X	X	2793	145907	W048.6	155244	E118.0
2795A	A	1711	1851	X	X	X	X	X		X		2794	164636	W075.4	174013	E091.2
2796A	A	1855	2041	X	X	X	X	X		X		2795	183404	W102.3	192741	E064.3
2797A	A	2045	2225	X	X		X	X		X		2796	202133	W129.2	211510	E037.4
27980	B	2223	2327				X	X		X	X	2797	220901	W156.1	230238	E010.5
												2798	235630	E177.1	005007	W016.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
7 JANUARY 1976

INT ORBIT AND STDN	H D R S	HORSS TIME ON HRMN	HORSS TIME OFF HRMN	LR IR	TH IR	TD RE	SC AM	SE MR	EB	PM RR	TW RL	HI RS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
27980	A	2327	0125				X	X		X	X	X	2799	014358	E150•2	023735	W043•2
27990	A	0138	0314				X	X		X	X	X	2800	033127	E123•3	042504	W070•0
2801R	A	0326	0509	X	X		X	X		X	X	X	2801	051855	E096•5	061232	W096•9
2801R	B	0508	0601	X	X		X	X		X	X	X	2802	070624	E069•6	080001	W123•8
2802A	A	0602	0738	X	X		X	X		X	X	X	2803	085352	E042•8	094729	W150•7
2803A	A	0742	0928	X	X		X	X		X	X	X	2804	104121	E015•9	113458	W177•5
2804A	A	0932	1114	X	X		X	X		X	X	X	2805	122849	W011•0	132226	E155•6
2805A	A	1118	1258	X	X		X	X		X	X	X	2806	141618	W037•9	150955	E128•7
2806A	A	1302	1445	X	X		X	X		X	X	X	2807	160347	W064•7	165723	E101•8
2807A	A	1449	1626		X		X	X		X	X	X	2808	175115	W091•6	184452	E075•0
2808A	A	1631	1810		X		X	X		X	X	X	2809	193844	W118•5	203220	E048•1
2809A	A	1815	1957		X		X	X		X	X	X	2810	212612	W145•4	221949	E021•2
2810A	A	2001	2143		X		X	X		X	X	X	2811	231341	W172•2	000718	W005•6
2811A	A	2147	2330		X		X	X		X	X	X					
28110	B	2328	0029		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
8 JANUARY 1976

INT ORBIT AND STDN	H D R S	HORSS TIME ON HRMN	HORSS TIME OFF HRMN	LR IR	TH IR	TD RE	SC AM	SE MR	EB	PM RR	TW RL	HI RS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28120	A	0032	0231		X		X	X		X	X	X	2812	010109	E160•9	015446	W032•5
2815R	A	0403	0601		X		X	X		X	X	X	2813	024838	E134•0	034215	W059•3
2815R	B	0601	0705		X		X	X		X	X	X	2814	043606	E107•2	052943	W086•2
2816A	A	0706	0844		X		X	X		X	X	X	2815	062335	E080•3	071712	W113•1
2817A	A	0848	1028		X		X	X		X	X	X	2816	081104	E053•5	090440	W140•0
2818A	A	1032	1217		X		X	X		X	X	X	2817	095832	E026•6	10520°	W166•8
2819A	A	1221	1400		X		X	X		X	X	X	2818	114601	W000•3	123938	E166•3
2820A	A	1404	1544		X		X	X		X	X	X	2819	133229	W027•2	142706	E139•4
2821A	A	1548	1728	X	X		X		X	X	X	X	2820	152058	W054•0	161435	E112•5
2822A	A	1733	1913	X	X		X		X	X	X	X	2821	170827	W080•9	180203	E085•7
2823A	A	1917	2101	X	X		X		X	X	X	X	2822	185555	W107•8	194932	E058•8
2824A	A	2105	2247	X	X		X		X	X	X	X	2823	204324	W134•7	213701	E031•9
28250	B	2245	2348	X	X		X		X	X	X	X	2824	223052	W161•5	23242°	E005•1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
9 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THIR	TDRE	SCAM	EMRB	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28250	A	2348	0146	X	X		X		X	X	X	X	2825	001821	E171.6	011158	W021.8
28260	A	0156	0335	X	X		X		X	X	X	X	2826	020550	E144.7	025926	W048.7
2828R	A	0343	0531	X	X		X		X	X	X	X	2827	035318	E117.9	044655	W075.5
2828R	B	0529	0624	X	X		X		X	X	X	X	2828	054047	E091.0	063424	W102.4
2829A	A	0625	0800	X	X		X		X	X	X	X	2829	072815	E064.1	082152	W129.3
2830A	A	0804	0948	X	X		X		X	X	X	X	2830	091544	E037.3	100921	W156.1
2831A	A	0952	1131	X	X		X		X	X	X	X	2831	110313	E010.4	115649	E177.0
2832A	A	1135	1320	X	X		X		X	X	X	X	2832	125041	W016.5	134418	E150.1
2833A	A	1324	1503	X	X		X		X	X	X	X	2833	143810	W043.3	153147	E123.3
2834A	A	1507	1648	X	X		X		X	X	X	X	2834	162538	W070.2	171915	E096.4
2835A	A	1652	1830	X	X		X		X	X	X	X	2835	181307	W097.1	190644	E069.5
2836A	A	1834	2018	X	X		X		X	X	X	X	2836	200036	W124.0	205413	E042.6
2837A	A	2022	2204	X	X		X		X	X	X	X	2837	214804	W150.8	224141	E015.8
28380	B	2202	2305	X	X		X		X	X	X	X	2838	233533	W177.7	002910	W011.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THIR	TDRE	SCAM	EMRB	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28380	A	2305	0104	X	X		X		X	X	X	X	2839	012302	E155.5	021638	W038.0
28390	A	0113	0253	X	X		X		X	X	X	X	2840	031030	E128.6	040407	W064.8
2840R	B	0253	0353	X	X		X		X	X	X	X	2841	045759	E101.7	055136	W091.7
2841R	A	0353	0537	X	X		X		X	X	X	X	2842	064528	E074.8	073904	W118.6
2842R	A	0542	0725	X	X		X		X	X	X	X	2843	083256	E047.9	092633	W145.4
2843A	A	0729	0903	X	X		X		X	X	X	X	2844	102025	E021.1	111402	W172.3
2844A	A	0907	1047	X	X		X		X	X	X	X	2845	120754	W005.8	130130	E160.8
2845A	A	1055	1237	X	X		X		X	X	X	X	2846	135522	W032.6	144859	E134.0
2846A	A	1241	1423	X	X		X		X	X	X	X	2847	154251	W059.5	163628	E107.1
2847A	A	1427	1606		X		X	X		X	X	X	2848	173020	W086.4	182356	E080.2
2848A	A	1610	1751		X		X	X		X	X	X	2849	191748	W113.2	201125	E053.4
2849A	A	1755	1938		X		X	X		X	X	X	2850	210517	W140.1	215854	E026.5
2850A	A	1940	2108		X		X	X		X	X	X	2851	225246	W167.0	234623	W000.4
2851A	A	2125	2308		X		X	X		X	X	X					
28510	B	2307	0011				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 JANUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28520	A	0011	0209				X	X		X	X	X	2852	004014	E166.2	013351	W027.3
2854R	A	0218	0401		X		X	X		X	X	X	2853	022743	E139.3	032120	W054.2
2854R	B	0400	0500		X		X	X		X	X	X	2854	041512	E112.4	050849	W081.0
2855R	A	0500	0641		X		X	X		X	X	X	2855	060240	E085.5	065617	W107.9
2856A	A	0645	0823		X		X	X		X	X	X	2856	075009	E058.7	084346	W134.8
2857A	A	0827	1011		X		X	X		X	X	X	2857	093738	E031.8	103115	W161.6
2858A	A	1015	1155		X		X	X		X	X	X	2858	112507	E004.9	121843	E171.5
2859A	A	1159	1340		X		X	X		X	X	X	2859	131235	W022.0	140612	E144.6
2860A	A	1344	1523		X		X	X		X	X	X	2860	150004	W048.8	155341	E117.8
2861A	A	1527	1710		X		X	X		X	X	X	2861	164733	W075.7	174110	E090.9
2862A	A	1714	1853		X		X	X		X	X	X	2862	183501	W102.6	192838	E064.0
2863A	A	1857	2038		X		X	X		X	X	X	2863	202230	W129.5	211607	E037.2
2864A	A	2043	2226		X		X	X		X	X	X	2864	220959	W156.3	230336	E010.3
28650	B	2224	2327		X		X	X		X	X	X	2865	235728	E176.8	005104	W016.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 JANUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28650	A	2328	0126		X		X	X		X	X	X	2866	014456	E149.9	023833	W043.5
28660	A	0134	0315		X		X	X		X	X	X	2867	033225	E123.1	042602	W070.4
2867R	B	0315	0416		X		X	X		X	X	X	2868	051954	E096.2	061331	W097.2
2868R	A	0414	0559		X		X	X		X	X	X	2869	070723	E069.3	080059	W124.1
2869A	A	0604	0740		X		X	X		X	X	X	2870	085451	E042.4	094828	W151.0
2870A	A	0744	0926		X		X	X		X	X	X	2871	104220	E015.6	113557	W177.8
2871A	A	0930	1113		X		X	X		X	X	X	2872	122949	W011.3	132326	E155.3
2872A	A	1118	1258		X		X	X		X	X	X	2873	141718	W038.2	151054	E128.4
2873A	A	1303	1445		X		X	X	X	X	X	X	2874	160446	W065.0	165823	E101.6
2874A	A	1449	1629		X		X		X	X	X	X	2875	175215	W091.9	184552	E074.7
2875A	A	1633	1812		X		X		X	X	X	X	2876	193944	W118.8	203321	E047.8
2876A	A	1816	1956		X		X		X	X	X	X	2877	212713	W145.7	222050	E021.0
2877A	A	2000	2141		X		X		X	X	X	X	2878	231442	W172.5	000818	W005.9
2878A	A	2145	2332		X		X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 JANUARY 1976

INT ORBIT AND STDN	HDRS R	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR I R	TH I R	TD R E	SC A M	EM R	ER B	PM R	TW R L	HI R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28780	B	2338	0032		X		X			X	X	X	2879	010210	E160.6	015547	W032.8
28790	A	0033	0231		X		X			X	X	X	2880	024939	E133.7	034316	W059.7
2881R	A	0240	0424		X		X			X	X	X	2881	043708	E106.9	053045	W086.5
2881R	B	0423	0521		X		X			X	X	X	2882	062437	E080.0	071813	W113.4
2882R	A	0522	0703		X		X			X	X	X	2883	081205	E053.1	090542	W140.3
2883A	A	0708	0845		X		X			X	X	X	2884	095934	E026.3	105311	W167.1
2884A	A	0849	1033		X		X			X	X	X	2885	114703	W000.6	124040	E166.0
2885A	A	1037	1217		X		X			X	X	X	2886	133432	W027.5	142829	E139.1
2886A	A	1221	1401		X		X			X	X	X	2887	152201	W054.4	161537	E112.3
2887A	A	1405	1546		X		X			X	X	X	2888	170929	W081.2	180306	E085.4
2888A	A	1550	1730		X		X			X	X	X	2889	185658	W108.1	195035	E058.5
2889A	A	1734	1914	X	X		X			X	X	X	2890	204427	W135.0	213804	E031.6
2890A	A	1918	2100		X		X			X	X	X	2891	223156	W161.8	232533	E004.8
2891A	A	2104	2249		X		X			X	X	X					
28920	B	2246	2349		X		X			X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 JANUARY 1976

INT ORBIT AND STDN	HDRS R	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR I R	TH I R	TD R E	SC A M	EM R	ER B	PM R	TW R L	HI R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
28920	A	2350	0147		X		X			X	X	X	2892	001925	E171.3	011301	W022.1
28930	A	0156	0336		X		X			X	X	X	2893	020653	E144.4	030030	W049.0
2894R	B	0336	0437		X		X			X	X	X	2894	035422	E117.6	044759	W075.8
2895R	A	0434	0620		X		X			X	X	X	2895	054151	E090.7	063528	W102.7
2896A	A	0625	0804		X		X			X	X	X	2896	072920	E063.8	082257	W129.6
2897A	A	0808	0949		X		X			X	X	X	2897	091649	E037.0	101026	W156.5
2898A	A	0953	1136		X		X			X	X	X	2898	110418	E010.1	115754	E176.7
2899A	A	1140	1321		X		X			X	X	X	2899	125146	W016.8	134523	E149.8
2900A	A	1325	1505		X		X			X	X	X	2900	143915	W043.7	153252	E122.9
2901A	A	1509	1650		X		X	X		X	X	X	2901	162644	W070.5	172021	E096.1
2902A	A	1655	1832		X		X	X		X	X	X	2902	181413	W097.4	190750	E069.2
2903A	A	1836	2018		X		X	X		X	X	X	2903	200142	W124.3	205519	E042.3
2904A	A	2022	2209		X		X	X		X	X	X	2904	214911	W151.1	224248	E015.5
2905A	A	2213	2354		X		X	X		X	X	X	2905	233640	W178.0	003016	W011.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
2907R	A	0056	0255		X		X	X		X	X	X	2906	012409	E155.1	021746	W038.3
2908R	B	0254	0359		X								2907	031137	E128.3	040514	W065.2
2908R	A	0400	0540		X		X	X		X	X	X	2908	045906	E101.4	055243	W092.0
2909A	A	0543	0719		X								2909	064635	E074.5	074012	W118.9
2910A	A	0721	0906		X								2910	083404	E047.6	092741	W145.8
2911A	A	0911	1054		X		X	X		X	X	X	2911	102133	E020.8	111510	W172.6
2912A	A	1058	1238		X		X	X		X	X	X	2912	120902	W006.1	130239	E160.5
2913A	A	1242	1423		X		X	X		X	X	X	2913	135631	W033.0	145007	E133.6
2914A	A	1427	1606		X		X	X		X	X	X	2914	154359	W059.9	163736	E106.8
2915A	A	1610	1751		X		X	X		X	X	X	2915	173128	W086.7	182505	E079.9
2916A	A	1755	1937		X		X	X		X	X	X	2916	191857	W113.6	201234	E053.0
2917A	A	1941	2125		X		X	X		X	X	X	2917	210626	W140.5	220003	E026.1
2918A	A	2129	2312		X		X	X		X	X	X	2918	225355	W167.3	234732	W000.7
2918O	B	2309	0012				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
2919O	A	0012	0210				X	X		X	X	X	2919	004124	E165.8	013501	W027.6
2921R	A	0219	0403		X		X	X		X	X	X	2920	022853	E138.9	032230	W054.5
2921R	B	0401	0500		X		X	X		X	X	X	2921	041622	E112.1	050959	W081.4
2922R	A	0500	0642		X		X	X		X	X	X	2922	060351	E085.2	065728	W108.2
2923A	A	0646	0823		X		X	X		X	X	X	2923	075120	E058.3	084457	W135.1
2924A	A	0827	1010		X		X	X		X	X	X	2924	093848	E031.4	103225	W162.0
2925A	A	1014	1155		X		X	X		X	X	X	2925	112617	E004.6	121954	E171.2
2926A	A	1200	1342		X		X	X		X	X	X	2926	131346	W022.3	140723	E144.3
2927A	A	1346	1527		X		X	X		X	X	X	2927	150115	W049.2	155452	E117.4
2928A	A	1531	1709		X		X	X		X	X	X	2928	164844	W076.0	174221	E090.6
2929A	A	1713	1856		X		X	X		X	X	X	2929	183613	W102.9	192950	E063.7
2930A	A	1900	2041		X		X	X		X	X	X	2930	202342	W129.8	211719	E036.8
2931A	A	2045	2228		X		X	X		X	X	X	2931	221111	W156.7	230448	E010.0
2932A	A	2233	0015		X		X	X		X	X	X	2932	235840	E176.5	005217	W016.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 JANUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
2934R	3	0016	0120		X		X	X		X	X	X	2933	014609	E149.6	023946	W043.8
2934R	A	0213	0412		X		X	X		X	X	X	2934	033338	E122.7	042715	W070.7
2935R	A	0420	0601		X		X	X		X	X	X	2935	052108	E095.9	061444	W097.5
2936A	A	0605	0742		X		X	X		X	X	X	2936	070836	E069.0	080213	W124.4
2937A	A	0746	0928		X		X	X		X	X	X	2937	085605	E042.1	094942	W151.3
2938A	A	0931	1115		X								2938	104334	E015.3	113711	W178.2
2939A	A	1118	1300		X								2939	123103	W011.6	132440	E155.0
2940A	A	1304	1444		X		X	X		X	X	X	2940	141832	W038.5	151209	E128.1
2941A	A	1448	1629		X		X	X		X	X	X	2941	160601	W065.4	165938	E101.2
2942A	A	1633	1815		X		X	X		X	X	X	2942	175330	W092.2	184707	E074.4
2943A	A	1819	1958		X		X	X		X	X	X	2943	194059	W119.1	203436	E047.5
2944A	A	2002	2144		X		X	X		X	X	X	2944	212828	W146.0	222205	E020.6
2945A	A	2148	2332		X		X	X		X	X	X	2945	231557	W172.8	000934	W006.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 JANUARY 1976

INT ORBIT AND STDN	H D R S	HURSS TIME ON HRMN	HURSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
29450	3												2946	010326	E160.3	015703	W033.1
29460	A												2947	025055	E133.4	034432	W060.0
2948R	3	0211	0316		X		X	X		X	X	X	2948	043824	E106.5	053201	W086.9
2948R	A	0316	0515		X		X	X		X	X	X	2949	062552	E079.7	071930	W113.7
2949R	A	0522	0704		X		X	X		X	X	X	2950	081322	E052.8	090659	W140.6
2950A	A	0708	0845		X		X	X		X	X	X	2951	100051	E025.9	105428	W167.5
2951A	A	0849	1031		X		X	X		X	X	X	2952	114820	W000.9	124157	E165.7
2952A	A	1035	1217		X		X	X		X	X	X	2953	133549	W027.8	142926	E138.8
2953A	A	1222	1404		X		X	X		X	X	X	2954	152318	W054.7	161655	E111.9
2954A	A	1408	1547		X		X	X		X	X	X	2955	171047	W081.6	180424	E085.0
2955A	A	1551	1732		X		X	X		X	X	X	2956	185816	W108.4	195153	E058.2
2956A	A	1735	1916		X								2957	204545	W135.3	213922	E031.3
2957A	A	1918	2103		X								2958	223314	W162.2	232651	E004.4
2958A	A	2105	2252		X												
29590	3	2247	2350		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
2959O	A	2351	0149		X		X	X		X	X	X	2959	002043	E171.0	011420	W022.4
2960O	A	0158	0337		X		X	X		X	X	X	2960	020812	E144.1	030149	W049.3
2961R	B	0337	0437		X		X	X		X	X	X	2961	035541	E117.2	044919	W076.2
2962R	A	0438	0622		X		X	X		X	X	X	2962	054310	E090.4	063647	W103.1
2963A	A	0627	0803		X		X	X		X	X	X	2963	073039	E063.5	082416	W129.9
2964A	A	0807	0949		X		X	X		X	X	X	2964	091808	E036.6	101145	W156.8
2965A	A	0953	1136		X		X	X		X	X	X	2965	110537	E009.7	115914	E176.3
2966A	A	1141	1323		X		X	X		X	X	X	2966	125306	W017.1	134643	E149.5
2967A	A	1327	1507		X		X	X		X	X	X	2967	144035	W044.0	153412	E122.6
2968A	A	1511	1650		X		X	X		X	X	X	2968	162804	W070.9	172141	E095.7
2969A	A	1654	1836		X		X	X		X	X	X	2969	181533	W097.8	190910	E068.8
2970A	A	1840	2021		X		X	X		X	X	X	2970	200302	W124.6	205639	E042.0
2971A	A	2025	2207		X		X	X		X	X	X	2971	215031	W151.5	224409	E015.1
2972O	B	2205	2306		X		X	X		X	X	X	2972	233800	W178.4	003139	W011.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
2972O	A	2309	0105		X		X	X		X	X	X	2973	012529	E154.8	021907	W038.6
2973O	A	0116	0255		X		X	X		X	X	X	2974	031259	E127.9	040636	W065.5
2974R	B	0256	0356		X		X	X		X	X	X	2975	050032	E101.0	055409	W092.4
2975R	A	0355	0539		X		X	X		X	X	X	2976	064801	E074.1	074138	W119.3
2976A	A	0543	0728		X		X	X		X	X	X	2977	083530	E047.3	092907	W146.1
2977A	A	0732	0907		X		X	X		X	X	X	2978	102259	E020.4	111636	W173.0
2978A	A	0911	1054		X		X	X		X	X	X	2979	121028	W006.5	130406	E160.1
2979A	A	1059	1240		X		X	X		X	X	X	2980	135757	W033.4	145135	E133.2
2980A	A	1244	1425		X		X	X		X	X	X	2981	154527	W060.2	163904	E106.4
2981A	A	1429	1609		X		X	X		X	X	X	2982	173256	W087.1	182633	E079.5
2982A	A	1613	1754		X		X	X		X	X	X	2983	192025	W114.0	201402	E052.6
2983A	A	1758	1938		X		X	X		X	X	X	2984	210754	W140.8	220131	E025.8
2984A	A	1942	2124		X		X	X		X	X	X	2985	225523	W167.7	234900	W001.1
2985A	A	2128	2311		X		X	X		X	X	X					
2986O	A	2311	0011		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 JANUARY 1976

INT ORBIT AND STDN	HDRSS DIR	TIME ON HRMN	TIME OFF HRMN	LIR	THR	TDRE	SCAM	ESMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
29850	B	0013	0209		X		X	X		X	X	X	2986	004252	E165.4	013629	W028.0
2988R	A	0219	0358		X		X	X		X	X	X	2987	023021	E138.6	032359	W054.9
2988R	B	0358	0501		X		X	X		X	X	X	2988	041751	E111.7	051128	W081.7
2989R	A	0501	0644		X		X	X		X	X	X	2989	060520	E084.8	065857	W108.6
2990A	A	0648	0824		X		X	X		X	X	X	2990	075249	E057.9	084626	W135.5
2991A	A	0828	1011		X		X	X		X	X	X	2991	094018	E031.1	103355	W162.3
2992A	A	1015	1157		X		X	X		X	X	X	2992	112747	E004.2	122124	E170.8
2993A	A	1201	1344		X		X	X		X	X	X	2993	131516	W022.7	140854	E143.9
2994A	A	1348	1528		X		X		X	X	X	X	2994	150245	W049.6	155623	E117.0
2995A	A	1532	1711		X		X		X	X	X	X	2995	165015	W076.4	174352	E090.2
2996A	A	1715	1856		X		X		X	X	X	X	2996	183744	W103.3	193121	E063.3
2997A	A	1900	2043		X		X		X	X	X	X	2997	202513	W130.2	211850	E036.4
2998A	A	2047	2232		X		X		X	X	X	X	2998	221242	W157.0	230619	E009.6
29990	B	2230	2330		X		X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 JANUARY 1976

INT ORBIT AND STDN	HDRSS DIR	TIME ON HRMN	TIME OFF HRMN	LIR	THR	TDRE	SCAM	ESMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
29990	A	2331	0129		X		X		X	X	X	X	2999	000011	E176.1	005349	W017.3
30000	A	0136	0317		X		X		X	X	X	X	3000	014741	E149.2	024118	W044.2
3001R	B	0317	0417		X		X		X	X	X	X	3001	033510	E122.3	042847	W071.1
3002R	A	0417	0601		X		X		X	X	X	X	3002	052239	E095.5	061616	W097.9
3003A	A	0606	0742		X		X		X	X	X	X	3003	071008	E068.6	080345	W124.8
3004A	A	0746	0929		X		X		X	X	X	X	3004	085737	E041.7	095115	W151.7
3005A	A	0933	1115		X		X		X	X	X	X	3005	104506	E014.9	113844	W178.6
3006A	A	1120	1302		X		X		X	X	X	X	3006	123236	W012.0	132613	E154.6
3007A	A	1306	1447		X		X		X	X	X	X	3007	142005	W038.9	151342	E127.7
3008A	A	1451	1629		X		X		X	X	X	X	3008	160734	W065.8	170111	E100.8
3009A	A	1634	1814		X		X		X	X	X	X	3009	175503	W092.6	184841	E074.0
3010A	A	1818	2000		X		X		X	X	X	X	3010	194233	W119.5	203610	E047.1
3011A	A	2004	2146		X		X		X	X	X	X	3011	213002	W146.4	222339	E020.2
3012A	A	2151	2334		X		X		X	X	X	X	3012	231731	W173.3	001108	W006.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR	TDR E	SCA M	SEM R	EB	PR	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30120	B	2333	0036		X		X		X	X	X	X	3013	010500	E159.9	015838	W033.5
30130	A	0037	0235		X		X		X	X	X	X	3014	025229	E133.0	034607	W060.4
3015R	A	0241	0428		X		X		X	X	X	X	3015	043959	E106.1	053336	W087.3
3015R	B	0427	0525		X		X		X	X	X	X	3016	062714	E079.3	072052	W114.1
3016R	A	0525	0706		X		X		X	X	X	X	3017	081443	E052.5	090821	W141.0
3017A	A	0710	0847		X		X		X	X	X	X	3018	100213	E025.6	105550	W167.8
3018A	A	0851	1034		X		X		X	X	X	X	3019	114942	W001.3	124319	E165.3
3019A	A	1038	1219		X		X		X	X	X	X	3020	133711	W028.2	143048	E138.4
3020A	A	1223	1407		X		X	X	X	X	X	X	3021	152440	W055.0	161817	E111.6
3021A	A	1411	1549		X		X	X		X	X	X	3022	171209	W081.9	180546	E084.7
3022A	A	1553	1734		X		X	X		X	X	X	3023	185938	W108.8	195315	E057.8
3023A	A	1738	1918		X								3024	204707	W135.6	214044	E031.0
3024A	A	2922	2104		X		X	X		X	X	X	3025	223436	W162.5	230813	E004.1
3025A	A	2108	2251		X		X	X		X	X	X					
30260	B	2249	2351				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR	TDR E	SCA M	SEM R	EB	PR	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30260	A	2353	0151				X	X		X	X	X	3026	002205	E170.6	011542	W022.8
30270	A	0201	0339				X	X		X	X	X	3027	020934	E143.7	030311	W049.7
3028R	B	0339	0440		X		X	X		X	X	X	3028	035703	E116.9	045040	W076.5
3029R	A	0438	0623		X		X	X		X	X	X	3029	054432	E090.0	063809	W103.4
3030A	A	0627	0805		X	X	X	X		X	X	X	3030	073201	E063.1	082538	W130.3
3031A	A	0809	0953		X	X	X	X		X		X	3031	091930	E036.3	101307	W157.2
3032A	A	0957	1140		X	X	X	X		X	X	X	3032	110659	E009.4	120036	E176.0
3033A	A	1145	1322		X		X	X		X	X	X	3033	125428	W017.5	134805	E149.1
3034A	A	1327	1509		X		X	X		X	X	X	3034	144157	W044.4	153534	E122.2
3035A	A	1513	1652		X		X	X		X	X	X	3035	162926	W071.2	172303	E095.4
3036A	A	1656	1836		X		X	X		X	X	X	3036	181655	W098.1	191032	E068.5
3037A	A	1840	2022		X		X	X		X	X	X	3037	200424	W125.0	205801	E041.6
3038A	A	2026	2206		X		X	X		X	X	X	3038	215153	W151.8	224531	E014.8
30390	B	2206	2309				X	X		X	X	X	3039	233922	W178.7	003300	W012.1
30390	A	2310	0108				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THI R	TDR E	SCA M	ESM R	EBR	EPM R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30400	A	0117	0257				X	X		X	X	X	3040	012651	E154.4	022029	W039.0
3041R	B	0258	0357		X		X	X		X	X	X	3041	031420	E127.5	040758	W065.9
3042R	A	0356	0543		X		X	X		X	X	X	3042	050149	E100.7	055527	W092.7
3043R	A	0547	0729		X		X	X		X	X	X	3043	064919	E073.8	074256	W119.6
3044A	A	0733	0909		X		X	X		X	X	X	3044	083648	E046.9	090025	W146.5
3045A	A	0913	1055		X		X	X		X	X	X	3045	102417	E020.1	111754	W173.4
3046A	A	1059	1241		X		X	X		X	X	X	3046	121146	W006.8	130523	E159.8
3047A	A	1245	1430		X		X	X	X	X	X	X	3047	135915	W033.7	145252	E132.9
3048A	A	1434	1611		X		X		X	X	X	X	3048	154644	W060.6	164021	E106.0
3049A	A	1615	1754		X		X		X	X	X	X	3049	173413	W087.4	182750	E079.2
3050A	A	1758	1940		X		X		X	X	X	X	3050	192142	W114.3	201519	E052.3
3051A	A	1944	2125		X		X		X	X	X	X	3051	210911	W141.2	220248	E025.4
3052A	A	2129	2313		X		X		X	X	X	X	3052	225640	W168.0	235018	W001.4
30520	B	2312	0015				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 JANUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THI R	TDR E	SCA M	ESM R	EBR	EPM R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30530	A	0016	0214				X		X	X	X	X	3053	004409	E165.1	013747	W028.3
3055R	A	0222	0407		X		X		X	X	X	X	3054	023138	E138.2	032516	W055.2
3055R	B	0405	0504		X		X		X	X	X	X	3055	041907	E111.4	051245	W082.1
3056R	A	0503	0645		X		X		X	X	X	X	3056	060636	E084.5	070014	W108.9
3057A	A	0650	0828		X		X		X	X	X	X	3057	075406	E057.6	084743	W135.8
3058A	A	0832	1013		X		X		X	X	X	X	3058	094135	E030.7	103512	W162.7
3059A	A	1017	1159		X		X		X	X	X	X	3059	112904	E003.9	122241	E170.5
3060A	A	1203	1345		X		X		X	X	X	X	3060	131633	W023.0	141010	E143.6
3061A	A	1349	1530		X		X		X	X	X	X	3061	150402	W050.0	155739	E116.7
3062A	A	1534	1713		X		X		X	X	X	X	3062	165131	W076.8	174508	E089.8
3063A	A	1718	1857		X		X		X	X	X	X	3063	183900	W103.6	193238	E063.0
3064A	A	1901	2043		X		X		X	X	X	X	3064	202629	W130.5	212007	E036.1
3065A	A	2047	2230		X		X		X	X	X	X	3065	221358	W157.4	230736	E009.2
30660	B	2229	2332				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRS TIME ON HRMN	HDRS TIME OFF HRMN	LIR	THIR	TDRE	SCAM	ESMR	EB	PR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30660	A	2333	0131			X			X	X	X	X	3066	000127	E175.8	005505	W017.6
30670	A	0148	0319			X			X	X	X	X	3067	014856	E148.9	024234	W044.5
3068R	B	0319	0420	X	X		X		X	X	X	X	3068	033626	E122.0	040003	W071.4
3069R	A	0417	0604	X	X		X		X	X	X	X	3069	052355	E095.2	061732	W098.3
3070A	A	0608	0744		X		X		X	X	X	X	3070	071124	E068.3	080501	W125.1
3071A	A	0748	0931		X		X		X	X	X	X	3071	085853	E041.4	095230	W152.0
3072A	A	0935	1118		X		X		X	X	X	X	3072	104622	E014.5	114000	W178.9
3073A	A	1122	1303		X		X		X	X	X	X	3073	123351	W012.3	132729	E154.3
3074A	A	1307	1449		X		X		X	X	X	X	3074	142120	W039.2	151458	E127.4
3075A	A	1453	1632		X		X	X		X	X	X	3075	160849	W066.1	170227	E100.5
3076A	A	1636	1817		X		X	X		X	X	X	3076	175618	W093.0	184956	E073.6
3077A	A	1822	2001		X		X	X		X	X	X	3077	194348	W119.8	203725	E046.8
3078A	A	2005	2149		X		X	X		X	X	X	3078	213117	W146.7	222454	E019.9
3079A	A	2153	2336		X		X	X		X	X	X	3079	231846	W173.6	001223	W007.0
30790	B	2335	0038				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 JANUARY 1976

INT ORBIT AND STDN	HDR S	HDRS TIME ON HRMN	HDRS TIME OFF HRMN	LIR	THIR	TDRE	SCAM	ESMR	EB	PR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30800	A	0038	0236				X	X		X	X	X	3080	010615	E159.6	015953	W033.9
3082R	A	0244	0428		X		X	X		X	X	X	3081	025344	E132.7	034722	W060.7
3082R	B	0427	0525		X		X	X		X	X	X	3082	044113	E105.8	053451	W087.6
3083R	A	0524	0708		X		X	X		X	X	X	3083	062842	E079.0	072220	W114.5
3084A	A	0712	0850		X		X	X		X	X	X	3084	081611	E052.1	090949	W141.3
3085A	A	0854	1035		X		X	X		X	X	X	3085	100341	E025.2	105718	W168.2
3086A	A	1039	1221		X		X	X		X	X	X	3086	115110	W001.7	124447	E164.9
3087A	A	1225	1405		X		X	X		X	X	X	3087	133839	W028.5	143217	E138.1
3088A	A	1409	1549		X		X	X		X	X	X	3088	152608	W055.4	161946	E111.2
3089A	A	1553	1734		X		X	X		X	X	X	3089	171337	W082.3	180715	E084.3
3090A	A	1738	1919		X		X	X		X	X	X	3090	190106	W109.2	195444	E057.4
3091A	A	1923	2104		X		X	X		X	X	X	3091	204835	W136.0	214213	E030.6
3092A	A	2108	2252		X		X	X		X	X	X	3092	223605	W162.9	232942	E003.7
30930	B	2251	2354				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 JANUARY 1976

INT ORBIT AND STDN	HDR	HDRSS TIME ON	HDRSS TIME OFF	LR IR	THR IR	TDR ER	SCA MR	ESM BR	EPR MR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
30930	A	2355	0153				X	X		X	X X	3093	002334	E170.2	011711	W023.2
30940	A	0201	0341				X	X		X	X X	3094	021103	E143.4	030441	W050.1
3095R	B	0341	0443		X		X	X		X	X X	3095	035832	E116.5	045210	W076.9
3096R	A	0438	0628		X	X	X	X		X	X X	3096	054601	E089.6	063939	W103.8
3097A	A	0632	0806		X	X	X	X		X	X	3097	073330	E062.7	082708	W130.7
3098A	A	0810	0953		X	X	X	X		X	X X	3098	092059	E035.9	101437	W157.5
3099A	A	0957	1140		X	X	X	X		X	X X	3099	110829	E009.0	120206	E175.6
3100A	A	1144	1325		X		X	X		X	X X	3100	125558	W017.9	134936	E148.7
3101A	A	1329	1509		X		X		X	X	X X	3101	144327	W044.7	153705	E121.9
3102A	A	1514	1631		X		X		X	X	X X	3102	163056	W071.6	172434	E095.0
3103A	A	1657	1841		X		X		X	X	X X	3103	181825	W098.5	190203	E068.1
3104A	A	1845	2025		X		X		X	X	X X	3104	200554	W125.4	205932	E041.2
3105A	A	2029	2209		X		X		X	X	X X	3105	215324	W152.2	224701	E014.4
												3106	234053	W179.1	003431	W012.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
30 JANUARY 1976

INT ORBIT AND STDN	HDR	HDRSS TIME ON	HDRSS TIME OFF	LR IR	THR IR	TDR ER	SCA MR	ESM BR	EPR MR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3108R	A	0100	0259		X		X		X	X	X X	3107	012822	E154.0	022200	W039.4
3109R	B	0257	0401		X		X		X	X	X X	3108	031551	E127.2	040929	W066.3
3109R	A	0403	0541		X		X		X	X	X X	3109	050320	E100.3	055658	W093.1
3110A	A	0546	0724		X		X		X	X	X X	3110	065049	E073.4	074427	W120.0
3111A	A	0728	0909		X		X		X	X	X X	3111	083819	E046.5	093156	W146.9
3112A	A	0914	1057		X		X		X	X	X X	3112	102548	E019.7	111926	W173.7
3113A	A	1101	1243		X		X		X	X	X X	3113	121317	W007.2	130655	E159.4
3114A	A	1259	1428		X		X		X	X	X X	3114	140046	W034.1	145424	E132.5
3115A	A	1432	1612		X		X		X	X	X X	3115	154815	W061.0	164153	E105.6
3116A	A	1616	1757		X		X		X	X	X X	3116	173545	W087.8	182922	E078.8
3117A	A	1801	1942		X		X		X	X	X X	3117	192314	W114.7	201652	E051.9
3118A	A	1946	2128		X		X		X	X	X X	3118	211043	W141.6	220421	E025.0
3119A	A	2132	2315		X		X		X	X	X X	3119	225812	W168.4	235150	W001.8
31190	B	2314	0017				X		X	X	X X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
31 JANUARY 1976

INT ORBIT AND STDN	HDRS R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR R	TH IH R	TDRE	SCAM	ESMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
31200	A	0017	0215				X		X	X	X	X	3120	004541	E164.7	013919	W028.7
3122R	A	0225	0408		X		X		X	X	X	X	3121	023311	E137.8	032648	W055.6
3122R	B	0407	0506		X		X		X	X	X	X	3122	042040	E111.0	051418	W082.5
3123R	A	0504	0647		X		X		X	X	X	X	3123	060809	E084.1	070147	W109.3
3124A	A	0651	0827		X		X		X	X	X	X	3124	075538	E057.2	084916	W136.2
3125A	A	0831	1014		X		X		X	X	X	X	3125	094307	E030.3	100645	W163.1
3126A	A	1019	1201		X		X		X	X	X	X	3126	113036	E003.5	122414	E170.1
3127A	A	1205	1349		X	X	X		X	X	X	X	3127	131806	W023.4	141144	E143.2
3128A	A	1353	1531		X	X	X		X	X	X	X	3128	150535	W050.3	155913	E116.3
3129A	A	1535	1714		X	X	X		X	X	X	X	3129	165304	W077.2	174642	E089.4
3130A	A	1719	1902		X	X	X		X	X	X	X	3130	184033	W104.0	193411	E062.6
3131A	A	1911	2051		X	X	X		X	X	X	X	3131	202803	W130.9	212141	E035.7
3132A	A	2055	2234		X	X	X		X	X	X	X	3132	221532	W157.8	230910	E008.8
31330	B	2235	2335			X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
1 FEBRUARY 1976

INT ORBIT AND STDN	HDRS R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR R	TH IH R	TDRE	SCAM	ESMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
31330	A	2335	0133			X	X		X	X	X	X	3133	000301	E175.4	005639	W018.1
31340	A	0142	0320			X	X		X	X	X	X	3134	015030	E148.5	024408	W044.9
3135R	B	0323	0421		X	X	X		X	X	X	X	3135	033759	E121.6	043137	W071.8
3136R	A	0420	0605		X	X	X		X	X	X	X	3136	052529	E094.7	061907	W098.7
3137A	A	0609	0747		X	X	X		X	X	X	X	3137	071258	E067.9	080636	W125.5
3138A	A	0751	0934		X	X	X		X	X	X	X	3138	090027	E041.0	095405	W152.4
3139A	A	0938	1119		X	X	X		X	X	X	X	3139	104756	E014.1	114134	W179.3
3140A	A	1123	1307		X	X	X		X	X	X	X	3140	123525	W012.8	132904	E153.8
3141A	A	1311	1448		X	X	X		X	X	X	X	3141	142255	W039.6	151633	E127.0
3142A	A	1453	1632		X	X	X		X	X	X	X	3142	161024	W066.5	170402	E100.1
3143A	A	1637	1816		X	X	X		X	X	X	X	3143	175753	W093.4	185131	E073.2
3144A	A	1821	2006		X	X	X		X	X	X	X	3144	194522	W120.2	203900	E046.4
3145A	A	2010	2149		X	X	X		X	X	X	X	3145	213252	W147.1	222630	E019.5
3146A	A	2153	2339		X	X	X		X	X	X	X	3146	232021	W174.0	001359	W007.4
31470	B	2337	0040			X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
2 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	ESM R	EMR B	EPM R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
31470	A	0041	0239			X	X		X	X	X	X	3147	010750	E159.2	020128	W034.3
3149R	A	0245	0432		X	X	X		X	X	X	X	3148	025519	E132.3	034857	W061.1
3149R	B	0430	0527		X		X		X	X	X	X	3149	044249	E105.4	053627	W088.0
3150R	A	0527	0709		X		X		X	X	X	X	3150	063018	E078.5	072356	W114.9
3151A	A	0713	0851		X		X		X	X	X	X	3151	081747	E051.7	091125	W141.8
3152A	A	0855	1036		X		X		X	X	X	X	3152	100516	E024.8	105854	W168.6
3153A	A	1040	1222		X		X		X	X	X	X	3153	115246	W002.1	124624	E164.5
3154A	A	1227	1408		X		X		X	X	X	X	3154	134015	W029.0	143353	E137.6
3155A	A	1412	1554		X		X		X	X	X	X	3155	152744	W055.8	162122	E110.8
3156A	A	1558	1735		X		X	X		X	X	X	3156	171513	W082.7	180851	E083.9
3157A	A	1739	1921		X		X	X		X	X	X	3157	190243	W109.6	195621	E057.0
3158A	A	1925	2108		X		X	X		X	X	X	3158	205012	W136.4	214350	E030.2
3159A	A	2112	2257		X		X	X		X	X	X	3159	223741	W163.3	233119	E003.3
31600	B	2253	2356				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
3 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	ESM R	EMR B	EPM R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
31600	A	2356	0155				X	X		X	X	X	3160	002510	E169.8	011849	W023.6
31610	A	0204	0344				X	X		X	X	X	3161	021240	E142.9	030618	W050.5
3162R	B	0343	0444		X		X	X		X	X	X	3162	040009	E116.1	045347	W077.3
3163R	A	0441	0626		X		X	X		X	X	X	3163	054738	E089.2	064116	W104.2
3164A	A	0630	0806		X		X	X		X	X	X	3164	073507	E062.3	082846	W131.1
3165A	A	0811	0953		X		X	X		X	X	X	3165	092237	E035.5	101615	W158.0
3166A	A	0958	1139		X		X	X		X	X	X	3166	111006	E008.6	120344	W175.2
3167A	A	1144	1326		X		X	X		X	X	X	3167	125735	W018.3	135113	E148.3
3168A	A	1331	1511		X		X	X		X	X	X	3168	144504	W045.2	153843	E121.4
3169A	A	1515	1654		X		X	X		X	X	X	3169	163234	W072.0	172612	E094.6
3170A	A	1658	1837		X		X	X		X	X	X	3170	182003	W098.9	191341	E067.7
3171A	A	1841	2024		X		X	X		X	X	X	3171	200732	W125.8	210111	E040.8
3172A	A	2028	2213		X		X	X		X	X	X	3172	215502	W152.7	224840	E013.9
3173A	A	2217	2342		X		X	X		X	X	X	3173	234231	W179.5	003609	W012.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
4 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWIRL	HIRS
31730	B	0002	0105				X	X		X	X	X
31740	A	0105	0303				X	X		X	X	X
3175R	B	0301	0402		X		X	X		X	X	X
3176R	A	0400	0543		X		X	X		X	X	X
3177A	A	0547	0727		X		X	X		X	X	X
3178A	A	0731	0912		X		X	X		X	X	X
3179A	A	0916	1056		X		X	X		X	X	X
3180A	A	1100	1243		X		X	X		X	X	X
3181A	A	1247	1432		X		X	X		X	X	X
3182A	A	1436	1613		X		X		X	X	X	X
3183A	A	1617	1759		X		X		X	X	X	X
3184A	A	1803	1945		X		X		X	X	X	X
3185A	A	1950	2130		X		X		X	X	X	X
3186A	A	2134	2319		X		X		X	X	X	X
31860	B	2316	0019				X		X	X	X	X

DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3174	013000	E153.6	022338	W039.8
3175	031729	E126.7	041108	W066.7
3176	050459	E099.9	055837	W093.6
3177	065228	E073.0	074606	W120.4
3178	083957	E046.1	093336	W147.3
3179	102727	E019.2	112105	W174.2
3180	121456	W007.6	130834	E159.0
3181	140225	W034.5	145604	E132.1
3182	154954	W061.4	164333	E105.2
3183	173724	W088.3	183102	E078.3
3184	192453	W115.1	201831	E051.5
3185	211222	W142.0	220601	E024.6
3186	225952	W168.9	235330	W002.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
5 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWIRL	HIRS
31870	A	0019	0217				X		X	X	X	X
3189R	A	0227	0409		X		X		X	X	X	X
3189R	B	0408	0507		X		X		X	X	X	X
3190R	A	0508	0649		X		X		X	X	X	X
3191A	A	0653	0828		X		X		X	X	X	X
3192A	A	0832	1013		X		X		X	X	X	X
3193A	A	1018	1200		X		X		X	X	X	X
3194A	A	1204	1346		X		X		X	X	X	X
3195A	A	1351	1533		X		X		X	X	X	X
3196A	A	1537	1716		X		X		X	X	X	X
3197A	A	1720	1859		X		X		X	X	X	X
3199A	A	1902	2105		X		X		X	X	X	X

DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3187	004721	E164.3	014059	W029.1
3188	023450	E137.4	032829	W056.0
3189	042220	E110.5	051558	W082.9
3190	060949	E083.7	070327	W109.8
3191	075718	E056.8	085057	W136.6
3192	094447	E029.9	103826	W163.5
3193	113217	E003.0	122555	E169.6
3194	131946	E023.8	141325	W142.8
3195	150715	W050.7	160054	E115.9
3196	165445	W077.6	174823	E089.0
3197	184214	W104.5	193553	E062.1
3198	202943	W131.3	212322	E035.3
3199	221713	W158.2	231051	E008.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
6 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON	HDRSS TIME OFF	LR IR	THR IR	TDR ER	SCA MR	ESM RB	EPM RR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3202R	B	0323	0424		X		X		X	X	X	3200	000442	E174.9	005821	W018.5
3203R	A	0420	0607		X		X		X	X	X	3201	015211	E148.1	024550	W045.4
3204A	A	0611	0747		X		X		X	X	X	3202	033941	E121.2	043319	W072.2
3205A	A	0752	0934		X		X		X	X	X	3203	052710	E094.3	062049	W099.1
3206A	A	0939	1121		X		X		X	X	X	3204	071439	E067.4	080818	W126.0
3207A	A	1125	1306		X		X		X	X	X	3205	090209	E040.6	095547	W152.9
3208A	A	1310	1452		X		X		X	X	X	3206	104938	E013.7	114317	W179.7
3209A	A	1456	1635		X		X	X		X	X	3207	123707	W013.2	133047	E153.4
3210A	A	1640	1825		X		X	X		X	X	3208	142437	W040.1	151815	E126.5
3211A	A	1829	2004		X		X	X		X	X	3209	161206	W066.9	170545	E099.7
3212A	A	2008	2152		X		X	X		X	X	3210	175935	W093.8	185314	E072.8
3213A	A	2157	2340		X		X	X		X	X	3211	194705	W120.7	204043	E045.9
												3212	213434	W147.6	222813	E019.0
												3213	232203	W174.4	001542	W007.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
7 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON	HDRSS TIME OFF	LR IR	THR IR	TDR ER	SCA MR	ESM RB	EPM RR	TWR LR	HIR SR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32130	B	0011	0042				X	X		X	X	X	3214	010933	E158.7	020312	W034.7
3216R	A	0307	0433		X		X	X		X	X	X	3215	025702	E131.8	035041	W061.6
3218A	B	0432	0529		X		X	X		X	X	X	3216	044431	E105.0	053810	W088.5
3217R	A	0536	0713		X		X	X		X	X	X	3217	063201	E078.1	072540	W155.3
3218A	A	0717	0852		X		X	X		X	X	X	3218	081930	E051.2	091309	W142.2
3219A	A	0856	1041		X		X	X		X	X	X	3219	100700	E024.4	110038	W169.1
3220A	A	1045	1228		X		X	X	X	X	X	X	3220	115429	W002.5	124808	E164.1
3221A	A	1232	1413		X	X	X		X	X	X	X	3221	134158	W029.4	143537	E137.2
3222A	A	1417	1557		X	X	X		X	X	X	X	3222	152928	W056.3	162306	E110.3
3223A	A	1601	1739		X	X	X		X	X	X	X	3223	171657	W083.1	181036	E083.5
3224A	A	1743	1928		X	X	X		X	X	X	X	3224	190426	W110.0	195805	E056.6
3225A	A	1932	2110		X	X	X		X	X	X	X	3225	205156	W136.9	214535	E029.7
3226A	A	2114	2258		X	X	X		X	X	X	X	3226	223925	W163.8	233304	E002.8
32270	B	2255	2352			X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
8 FEBRUARY 1976

INT ORBIT AND STDN	H O R S	HORSS TIME ON HRMN	HORSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32270	A	2359	0151			X	X		X	X	X	X	3227	002657	E169.4	012036	W024.1
3229R	A	0204	0350		X	X	X		X	X	X	X	3228	021426	E142.5	030805	W050.9
3230R	B	0349	0448		X	X	X		X	X	X	X	3229	040156	E115.6	045535	W077.8
3230R	A	0449	0629		X	X	X		X	X	X	X	3230	054925	E088.7	064304	W104.7
3231A	A	0633	0812		X	X	X		X	X	X	X	3231	073655	E061.9	083034	W131.6
3232A	A	0816	0958		X	X	X		X	X	X	X	3232	092424	E035.0	101803	W158.4
3233A	A	1001	1143		X	X	X		X	X	X	X	3233	111153	E008.1	120532	W174.7
3234A	A	1147	1330		X	X	X		X	X	X	X	3234	125923	W018.8	135302	E147.8
3235A	A	1334	1514		X	X	X		X	X	X	X	3235	144652	W045.6	154031	E121.0
3236A	A	1518	1655		X	X	X		X	X	X	X	3236	163422	W072.5	172801	E094.1
3237A	A	1659	1841		X	X	X		X	X	X	X	3227	182151	W099.4	191530	E067.2
3238A	A	1845	2028		X	X	X		X	X	X	X	3238	200921	W126.3	210300	E040.3
3239A	A	2030	2214		X								2339	215650	W153.1	225029	E013.5
													3240	234419	W180.0	003758	W013.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
9 FEBRUARY 1976

INT ORBIT AND STDN	H O R S	HORSS TIME ON HRMN	HORSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32400	A	2316	0114			X	X		X	X	X	X	3241	013149	E153.1	022528	W040.3
32410	A	0123	0306			X	X		X	X	X	X	3242	031918	E126.3	041257	W067.2
3242R	B	0306	0403		X	X	X		X	X	X	X	2343	050648	E099.4	060027	W094.0
3243R	A	0402	0549		X		X		X	X	X	X	3244	065417	E072.5	074756	W120.9
3244A	A	0554	0729		X		X		X	X	X	X	3245	084146	E045.6	093526	W147.8
3245A	A	0733	0915		X		X		X	X	X	X	3246	102916	E018.8	112255	W174.7
3246A	A	0919	1101		X		X		X	X	X	X	3247	121645	W008.1	131024	E158.5
3247A	A	1106	1245	X	X		X		X	X	X	X	3248	140415	W035.0	145754	E131.6
3248A	A	1249	1432		X		X		X	X	X	X	2349	155144	W061.9	164523	E104.7
3249A	A	1436	1619		X		X	X	X	X	X	X	3250	173914	W088.7	183253	E077.9
3250A	A	1623	1800		X		X	X		X	X	X	3251	192643	W115.6	202022	E051.0
3251A	A	1804	1944		X		X	X		X	X	X	3252	211413	W142.5	220752	E024.1
3252A	A	1948	2134		X		X	X		X	X	X	3253	230142	W169.3	235521	W002.8
3253A	A	2138	2320		X		X	X		X	X	X					
32530	B	2319	0021		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 FEBRUARY 1976

INT ORBIT AND STDN	HDR STS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	ESMR R	EB	PMR R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32540	A	0023	0221		X		X	X		X	X	X	3254	004911	E163.8	014251	W029.6
3256R	A	0227	0413		X		X	X		X	X	X	3255	023641	E136.9	033020	W056.5
3256R	B	0412	0509		X		X	X		X	X	X	3256	042410	E110.0	051749	W083.4
3257R	A	0509	0650		X		X	X		X	X	X	3257	061140	E083.2	070519	W110.3
3258A	A	0655	0831		X		X	X		X	X	X	3258	075909	E056.3	085248	W137.1
3259A	A	0835	1020		X		X	X		X	X	X	3259	094639	E029.4	104018	W164.0
3260A	A	1024	1204		X		X	X		X	X	X	3260	113408	E002.6	122747	E169.1
3261A	A	1208	1350		X		X	X		X	X	X	3261	132138	W024.3	141517	E142.3
3262A	A	1354	1535		X		X	X		X	X	X	3262	150907	W051.2	160246	E115.4
3263A	A	1540	1718		X		X	X		X	X	X	3263	165636	W078.1	175016	E088.5
3264A	A	1722	1904		X		X	X		X	X	X	3264	184406	W105.0	193745	E061.6
3265A	A	1908	2049		X		X	X		X	X	X	3265	203135	W131.8	212515	E034.8
3266A	A	2053	2234		X		X	X		X	X	X	3266	221905	W158.7	231244	E007.9
32670	B	2233	2336				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 FEBRUARY 1976

INT ORBIT AND STDN	HDR STS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	ESMR R	EB	PMR R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32670	A	2337	0135				X	X		X	X	X	3267	000634	E174.4	010014	W019.0
32680	A	0145	0323				X	X		X	X	X	3268	015404	E147.6	024743	W045.9
3269R	B	0323	0421		X		X	X		X	X	X	3269	034133	E120.7	043513	W072.7
3270R	A	0422	0610		X		X	X		X	X	X	3270	052903	E093.8	062242	W099.6
3271A	A	0616	0748		X		X	X		X	X	X	3271	071632	E066.9	081012	W126.5
3272A	A	0752	0934		X		X	X		X	X	X	3272	090402	E040.1	095741	W153.3
3273A	A	0938	1122		X		X	X		X	X	X	3273	105131	E013.2	114511	E179.8
3274A	A	1126	1308		X		X	X		X	X	X	3274	123901	W013.7	133240	E152.9
3275A	A	1312	1450		X		X	X		X	X	X	3275	142630	W040.6	152010	E126.0
3276A	A	1455	1636		X		X	X		X	X	X	3276	161430	W067.4	170739	E099.2
3277A	A	1640	1821		X		X	X		X	X	X	3277	180129	W094.3	185508	E072.3
3278A	A	1825	2005		X		X	X		X	X	X	3278	194859	W121.2	204238	E045.4
3279A	A	2009	2153		X		X	X		X	X	X	3279	213628	W148.0	223007	E018.6
3280A	A	2157	2341		X		X	X		X	X	X	3280	232358	W174.9	001737	W008.3
32800	B	2340	0042				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 FEBRUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32810	A	0051	0241				X	X		X	X	X	3281	011127	E158.2	020506	W035.2
3283R	A	0249	0435		X		X	X		X	X	X	3282	025857	E131.3	035236	W062.1
3283R	B	0434	0527		X		X	X		X	X	X	3283	044626	E104.5	054006	W089.0
3284R	A	0528	0712		X		X	X		X	X	X	3284	063355	E077.6	072735	W115.8
3285A	A	0716	0853		X		X	X		X	X	X	3285	082125	E050.7	091505	W142.7
3286A	A	0857	1041		X		X	X		X	X	X	3286	100854	E023.9	110234	W169.6
3287A	A	1046	1225		X		X	X		X	X	X	3287	115624	W003.0	125004	E163.6
3288A	A	1229	1410		X		X	X		X	X	X	3288	134353	W029.9	143733	E136.7
3289A	A	1414	1554		X		X	X		X	X	X	3289	153123	W056.8	162503	E109.8
3290A	A	1559	1739		X		X	X		X	X	X	3290	171853	W083.6	181232	E082.9
3291A	A	1743	1924		X		X	X		X	X	X	3291	190622	W110.5	200002	E056.1
3292A	A	1928	2109		X		X	X		X	X	X	3292	205352	W137.4	214731	E029.2
3293A	A	2113	2258		X		X	X		X	X	X	3293	224121	W164.3	233501	E002.3
32940	B	2257	2359				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 FEBRUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
32940	A	0000	0157				X	X		X	X	X	3294	002851	E168.9	012230	W024.6
32950	A	0207	0345				X	X		X	X	X	3295	021620	E142.0	031000	W051.4
3296R	B	0347	0444		X		X	X		X	X	X	3296	040350	E115.1	045729	W078.3
3297R	A	0444	0631		X		X	X		X	X	X	3297	055119	E088.2	064459	W105.2
3298A	A	0635	0813		X		X	X		X	X	X	3298	073849	E061.4	083228	W132.1
3299A	A	0817	0959		X		X	X		X	X	X	3299	092618	E034.5	101958	W158.9
3300A	A	1003	1145		X		X	X		X	X	X	3300	111348	E007.6	120727	E174.2
3301A	A	1149	1327		X		X	X		X	X	X	3301	130117	W019.3	135457	E147.3
3302A	A	1331	1515		X		X	X		X	X	X	3302	144847	W046.1	154226	E120.5
3303A	A	1519	1657		X		X		X	X	X	X	3303	163616	W073.0	172956	E093.6
3304A	A	1702	1842		X		X		X	X	X	X	3304	182346	W099.9	191726	E066.7
3305A	A	1846	2028		X		X		X	X	X	X	3305	201115	W126.7	210455	E039.8
3306A	A	2032	2216		X		X		X	X	X	X	3306	215845	W153.6	225225	E013.0
33070	B	2212	2316		X		X		X	X	X	X	3307	234614	E179.5	003954	W013.9
33070	A	2317	0106		X		X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 FEBRUARY 1976

INT ORBIT AND STDN	HDR STS	HDRS TIME ON HRMN	HDRS TIME OFF HRMN	LR IR	THR IR	TDRE IR	SCAM IR	ESMR IR	EREB IR	EPMR IR	TWRL IR	HIRS IR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
33080	A	0128	0302		X		X		X	X	X	X	3308	013344	E152.6	022724	W040.8
3309R	B	0303	0403		X		X		X	X	X	X	3309	032113	E125.8	041453	W067.7
3310R	A	0402	0549		X		X		X	X	X	X	3310	050843	E098.9	060223	W094.5
3311A	A	0553	0728		X		X		X	X	X	X	3311	065613	E072.0	074952	W121.4
3312A	A	0731	0916		X		X		X	X	X	X	3312	084342	E045.2	093722	W148.3
3313A	A	0920	1101		X		X		X	X	X	X	3313	103112	E018.3	112451	W175.1
3314A	A	1106	1249		X	X	X		X	X	X	X	3314	121841	W008.6	131221	E158.0
3315A	A	1254	1436		X	X	X		X	X	X	X	3315	140611	W035.5	145951	E131.1
3316A	A	1440	1617		X	X	X		X	X	X	X	3316	155340	W062.3	164720	E104.2
3317A	A	1621	1801		X	X	X		X	X	X	X	3317	174110	W089.2	183450	E077.4
3318A	A	1805	1946		X	X	X		X	X	X	X	3318	192839	W116.1	202219	E050.5
3319A	A	1949	2136		X	X	X		X	X	X	X	3319	211609	W143.0	220949	E023.6
3320A	A	2140	2320		X	X	X		X	X	X	X	3320	230339	W169.8	235718	W003.3
33200	B	2319	0022		X	X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 FEBRUARY 1976

INT ORBIT AND STDN	HDR STS	HDRS TIME ON HRMN	HDRS TIME OFF HRMN	LR IR	THR IR	TDRE IR	SCAM IR	ESMR IR	EREB IR	EPMR IR	TWRL IR	HIRS IR	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
33210	A	0023	0221		X	X	X		X	X	X	X	3321	005108	E163.3	014448	W030.1
3323R	A	0227	0415		X	X	X		X	X	X	X	3322	023838	E136.4	033218	E057.0
3324R	B	0413	0511		X	X	X		X	X	X	X	3323	042607	E109.5	051947	W083.9
3324R	A	0512	0652		X	X	X		X	X	X	X	3324	061337	E082.7	070717	W110.8
3325A	A	0655	0832		X	X	X		X	X	X	X	3325	080106	E055.8	085446	W137.6
3326A	A	0836	1019		X	X	X		X	X	X	X	3326	094836	E028.9	104216	W164.5
3327A	A	1023	1207		X	X	X		X	X	X	X	3327	113606	E002.1	122946	E168.6
3328A	A	1211	1351		X	X	X		X	X	X	X	3328	132335	W024.8	141715	E141.8
3329A	A	1355	1534		X	X	X		X	X	X	X	3329	151105	W051.7	160445	E114.9
3330A	A	1538	1718		X	X	X		X	X	X	X	3330	165834	W078.6	175214	E088.0
3331A	A	1722	1905		X	X	X		X	X	X	X	3331	184604	W105.5	193944	E061.1
3332A	A	1909	2052		X	X	X		X	X	X	X	3332	203333	W132.3	212713	E034.3
3333A	A	2056	2237		X	X	X		X	X	X	X	3333	222103	W159.2	231443	E007.4
33340	B	2235	2338			X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 FEBRUARY 1976

INT ORBIT AND STDN	HDR	HDRSS TIME ON	HDRSS TIME OFF	LRI	THR	TDRE	SCAM	SEMR	EB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME	ASCENDING NODE LONG	DESCENDING NODE TIME	DESCENDING NODE LONG
	S	HRMN	HRMN	R	R	E	M	R	B	R	L	S		HRMNSS	DEGREE	HRMNSS	DEGREE
33340	A	2339	0136		X	X	X		X	X	X	X	3334	000833	E173.9	010213	W019.5
33350	A	0146	0328		X	X	X		X	X	X	X	3335	015602	E147.1	024942	W046.4
3336R	B	0327	0425		X		X		X	X	X	X	3336	034332	E120.2	043712	W073.2
3337R	A	0424	0610		X		X		X	X	X	X	3337	053101	E093.3	062441	W100.1
3338A	A	0615	0753		X		X		X	X	X	X	3338	071831	E066.4	081211	W127.0
3339A	A	0757	0938		X		X		X	X	X	X	3339	090601	E039.6	095941	W153.9
3340A	A	1054	1123		X		X		X	X	X	X	3340	105330	E012.7	114710	W179.3
3341A	A	1127	1308		X		X		X	X	X	X	3341	124100	W014.2	133440	E152.4
3342A	A	1312	1454		X		X		X	X	X	X	3342	142829	W041.1	152209	E125.5
3343A	A	1458	1641		X		X		X	X	X	X	3343	161559	W067.9	170939	E098.7
3344A	A	1645	1822		X		X	X		X	X	X	3344	180329	W094.8	185709	E071.8
3345A	A	1826	2007		X		X	X		X	X	X	3345	195058	W121.7	204438	E044.9
3346A	A	2012	2156		X		X	X		X	X	X	3346	213828	W148.6	223208	E018.0
3347A	A	2200	2345		X		X	X		X	X	X	3347	232557	W175.4	001938	W008.8
33470	B	2341	0045		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 FEBRUARY 1976

INT ORBIT AND STDN	HDR	HDRSS TIME ON	HDRSS TIME OFF	LRI	THR	TDRE	SCAM	SEMR	EB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME	ASCENDING NODE LONG	DESCENDING NODE TIME	DESCENDING NODE LONG
	S	HRMN	HRMN	R	R	E	M	R	B	R	L	S		HRMNSS	DEGREE	HRMNSS	DEGREE
33480	A	0045	0244		X		X	X		X	X	X	3348	011327	E157.7	020707	W035.7
3350R	A	0252	0437		X		X	X		X	X	X	3349	030057	E130.8	035437	W062.6
3350R	B	0435	0532		X		X	X		X	X	X	3350	044826	E104.0	054206	W089.5
3351R	A	0532	0714		X		X	X		X	X	X	3351	063556	E077.1	072936	W116.3
3352A	A	0718	0856		X		X	X		X	X	X	3352	082325	E050.2	091706	W143.2
3353A	A	0900	1043		X		X	X		X	X	X	3353	101055	E023.3	110435	W170.1
3354A	A	1047	1228		X		X	X		X	X	X	3354	115825	W003.5	125205	E163.0
3355A	A	1232	1413		X		X	X		X	X	X	3355	134554	W030.4	143935	E136.2
3356A	A	1417	1558		X		X	X		X	X	X	3356	153324	W057.3	162704	E109.3
3357A	A	1602	1740		X		X	X		X	X	X	3357	172054	W084.2	181434	E082.4
3358A	A	1744	1925		X		X	X		X	X	X	3358	190823	W111.0	200204	E055.5
3359A	A	1929	2114		X		X	X		X	X	X	3359	205553	W137.9	214933	E028.7
3360A	A	2119	2303		X		X	X		X	X	X	3360	224322	W164.8	233703	E001.8
33610	B	2257	0001		X		X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 FEBRUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
33610	A	0001	0200		X		X	X		X	X	X	3361	003052	E168.4	012432	W025.1
33620	A	0207	0348				X	X		X	X	X	3362	021822	E141.5	031202	W051.9
3363R	B	0348	0447		X		X	X		X	X	X	3363	040551	E114.6	045932	W078.8
3364R	A	0445	0632		X		X	X		X	X	X	3364	055321	E087.7	064701	W105.7
3365A	A	0637	0813		X		X	X		X	X	X	3365	074051	E060.9	083431	W132.6
3366A	A	0817	1002		X		X	X		X	X	X	3366	092820	E034.0	102201	W159.4
3367A	A	1006	1147		X		X	X		X	X	X	3367	111550	E007.1	120930	E173.7
3368A	A	1152	1332		X		X	X		X	X	X	3368	130320	W019.8	135700	E146.8
3369A	A	1336	1516		X		X	X		X	X	X	3369	145049	W046.6	154430	E119.9
3370A	A	1520	1659		X		X		X	X	X	X	3370	163819	W073.5	173159	E093.1
3371A	A	1703	1845		X		X		X	X	X	X	3371	182548	W100.4	191929	E066.2
3372A	A	1849	2030		X		X		X	X	X	X	3372	201318	W127.3	210659	E039.3
3373A	A	2034	2217		X		X		X	X	X	X	3373	220048	W154.1	225428	E012.4
33740	B	2215	2318				X		X	X	X	X	3374	234817	E179.0	004158	W014.4
33740	A	2319	0116				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 FEBRUARY 1976

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
33750	A	0124	0307				X		X	X	X	X	3375	013547	E152.1	022928	W041.3
3376R	B	0307	0407		X		X		X	X	X	X	3376	032317	E125.2	041657	W068.2
3377R	A	0404	0550		X		X		X	X	X	X	3377	051046	E098.4	060427	W095.1
3378A	A	0554	0730		X		X		X	X	X	X	3378	065816	E071.5	075157	W121.9
3379A	A	0734	0918		X		X		X	X	X	X	3379	084546	E044.6	093926	W148.8
3380A	A	0923	1106		X		X		X	X	X	X	3380	103315	E017.7	112656	W175.7
3381A	A	1110	1250		X		X		X	X	X	X	3381	122045	W009.1	131426	E157.5
3382A	A	1254	1435		X		X		X	X	X	X	3382	140815	W036.0	150155	E130.6
3383A	A	1439	1620		X		X		X	X	X	X	3383	155544	W062.9	164925	E103.7
3384A	A	1624	1804		X		X		X	X	X	X	3384	174314	W089.8	183655	E076.8
3385A	A	1808	1948		X		X		X	X	X	X	3385	193044	W116.6	202424	E050.0
3386A	A	1952	2135		X		X		X	X	X	X	3386	211813	W143.5	221154	E023.1
3387A	A	2140	2323		X		X		X	X	X	X	3387	230543	W170.4	235924	W003.8
33870	B	2321	0024				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
33880	A	0025	0223				X		X	X	X	X	3388	005313	E162.8	014654	W030.7
3390R	A	0231	0416		X		X		X	X	X	X	3389	024043	E135.9	033423	W057.5
3390R	B	0415	0512		X		X		X	X	X	X	3390	042812	E109.0	052153	W084.4
3391R	A	0512	0655		X		X		X	X	X	X	3391	061542	E082.1	070923	W111.3
3392A	A	0700	0838		X		X		X	X	X	X	3392	080312	E055.3	085652	W138.2
3393A	A	0842	1023	X	X		X		X	X	X	X	3393	095041	E028.4	104422	W165.0
3394A	A	1027	1210		X		X		X	X	X	X	3394	113811	E001.5	123152	W168.1
3395A	A	1214	1355		X		X		X	X	X	X	3395	132541	W025.4	141921	E141.2
3396A	A	1359	1541		X		X		X	X	X	X	3396	151310	W052.2	160651	E114.4
3397A	A	1545	1721		X		X	X		X	X	X	3397	170040	W079.1	175421	E087.5
3398A	A	1724	1904		X		X	X		X	X	X	3398	184810	W106.0	194151	E060.6
3399A	A	1912	2054		X		X	X		X	X	X	3399	203539	W132.9	212920	E033.7
3400A	A	2059	2237		X		X	X		X	X	X	3400	222309	W159.7	231650	E006.9
34010	B	2237	2340				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 FEBRUARY1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
34010	A	2341	0139				X	X		X	X	X	3401	001039	E173.4	010420	W020.3
34020	A	0147	0329				X	X		X	X	X	3402	015809	E146.5	025149	W046.9
3403R	B	0330	0429		X		X	X		X	X	X	3403	034538	E119.6	043919	W073.8
3404R	A	0426	0613		X		X	X		X	X	X	3404	053308	E092.8	062649	W100.7
3405A	A	0617	0754		X		X	X		X	X	X	3405	072038	E065.9	081419	W127.5
3406A	A	0758	0941		X		X	X		X	X	X	3406	090807	E039.0	100148	W154.4
3407A	A	0945	1123		X		X	X		X	X	X	3407	105537	E012.2	114918	E178.7
3408A	A	1127	1311		X		X	X		X	X	X	3408	124307	W014.7	133648	E151.9
3409A	A	1316	1456		X		X	X		X	X	X	3409	143037	W041.6	152418	E125.0
3410A	A	1500	1641		X		X	X		X	X	X	3410	161806	W068.5	171147	E098.1
3411A	A	1646	1825		X		X	X		X	X	X	3411	184536	W095.3	185917	E071.3
3412A	A	1829	2009		X		X	X		X	X	X	3412	195306	W122.2	204647	E044.4
3413A	A	2013	2159		X		X	X		X	X	X	3413	214035	W149.1	223417	E017.5
3414A	A	2203	2346		X		X	X		X	X	X	3414	232805	W176.0	002146	W009.4
34140	B	2344	0045				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3415O	A	0048	0246				X	X		X	X	X	3415	011535	E157.2	020916	W036.3
3417R	A	0254	0439		X		X	X		X	X	X	3416	030305	E130.3	035645	W063.1
3417R	B	0437	0533		X		X	X		X	X	X	3417	045034	E103.4	054415	W090.0
3418R	A	0533	0715		X		X	X		X	X	X	3418	063804	E076.5	073145	W116.9
3419A	A	0719	0858		X		X	X		X	X	X	3419	082534	E049.7	091915	W143.7
3420A	A	0902	1044		X		X	X		X	X	X	3420	101304	E022.8	110645	W170.6
3421A	A	1048	1227		X		X	X		X	X	X	3421	120033	W004.1	125414	E162.5
3422A	A	1235	1415		X		X	X		X	X	X	3422	134803	W030.9	144144	E135.6
3423A	A	1419	1601		X		X	X		X	X	X	3423	153533	W057.8	162914	E108.8
3424A	A	1605	1744		X		X		X	X	X	X	3424	172303	W084.7	181644	E081.9
3425A	A	1748	1928		X		X		X	X	X	X	3425	191032	W111.6	200414	E055.0
3426A	A	1932	2114		X		X		X	X	X	X	3426	205802	W138.5	215143	E028.1
3427A	A	2119	2302		X		X		X	X	X	X	3427	224532	W165.3	233913	E001.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LRIR	THIR	TDRE	SCAM	ESMR	ERB	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3428O	A	0004	0202				X		X	X	X	X	3428	003302	E167.8	012643	W025.6
3429O	A	0211	0351				X		X	X	X	X	3429	022031	E140.9	031413	W052.5
3430R	B	0352	0447		X								3430	040801	E114.1	050142	W079.4
3431R	A	0448	0634		X		X		X	X	X	X	3431	055531	E087.2	064912	W106.3
3432A	A	0639	0816		X		X		X	X	X	X	3432	074301	E060.3	083642	W133.1
3433A	A	0820	1002		X		X		X	X	X	X	3433	093030	E033.4	102412	W160.0
3434A	A	1007	1147		X		X		X	X	X	X	3434	111800	E006.6	121141	E173.1
3435A	A	1151	1336		X		X		X	X	X	X	3435	130530	W020.3	135911	E146.3
3436A	A	1340	1518		X		X		X	X	X	X	3436	145300	W047.2	154641	E119.4
3437A	A	1522	1702		X		X		X	X	X	X	3437	164029	W074.0	173411	E092.5
3438A	A	1706	1848		X		X		X	X	X	X	3438	182759	W100.9	192141	E065.7
3439A	A	1852	2031		X		X		X	X	X	X	3439	201529	W127.8	210910	E038.8
3440A	A	2035	2220		X		X		X	X	X	X	3440	220259	W154.7	225640	E011.9
3441O	B	2217	2320				X		X	X	X	X	3441	235029	E178.5	004410	W015.0
3441O	A	2321	0119				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 FEBRUARY 1976

INT ORBIT AND STDN	HDRS DR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LIR	THR	TDRE	SCAM	SEMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
34420	A	0130	0308				X		X	X	X	X	3442	013750	E151.6	023131	W041.9
3443R	B	0308	0408		X		X		X	X	X	X	3443	032520	E124.7	041901	W068.7
3444R	A	0407	0552		X		X		X	X	X	X	3444	051249	E097.8	060631	W095.6
3445A	A	0557	0733		X		X		X	X	X	X	3445	070019	E071.0	075400	W122.5
3446A	A	0737	0920		X		X		X	X	X	X	3446	084749	E044.1	094130	W149.3
3447A	A	0924	1104		X		X		X	X	X	X	3447	103519	E017.3	112900	W176.2
3448A	A	1108	1253		X		X		X	X	X	X	3448	122248	W009.6	131630	E157.0
3449A	A	1257	1439		X		X		X	X	X	X	3449	141018	W036.5	150359	E130.1
3450A	A	1443	1620		X		X	X		X	X	X	3450	155748	W063.4	165129	E103.2
3451A	A	1624	1804		X		X	X		X	X	X	3451	174518	W090.3	183859	E076.3
3452A	A	1808	1947		X		X	X		X	X	X	3452	193247	W117.1	202629	E049.4
3453A	A	1951	2137		X		X	X		X	X	X	3453	212017	W144.0	221359	E022.6
3454A	A	2141	2325		X		X	X		X	X	X	3454	230747	W170.9	000128	W004.3
34540	B	2324	0026				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 FEBRUARY 1976

INT ORBIT AND STDN	HDRS DR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LIR	THR	TDRE	SCAM	SEMR	EBR	PMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
34550	A	0027	0224				X	X		X	X	X	3455	005517	E162.2	014858	W031.2
3457R	A	0235	0417		X		X	X		X	X	X	3456	024246	E135.4	033628	W058.1
3457R	B	0417	0514		X		X	X		X	X	X	3457	043016	E108.5	052358	W084.9
3458R	A	0514	0656		X		X	X		X	X	X	3458	061746	E081.6	071127	W111.8
3459A	A	0700	0836		X		X	X		X	X	X	3459	080516	E054.7	085857	W138.7
3460A	A	0840	1021		X		X	X		X	X	X	3460	095246	E027.9	104627	W165.6
3461A	A	1025	1211		X		X	X		X	X	X	3461	114015	E001.0	123357	E167.6
3462A	A	1215	1356		X		X	X		X	X	X	3462	132745	W025.9	142127	E140.7
3463A	A	1359	1541		X		X	X		X	X	X	3463	151515	W052.7	160856	E113.8
3464A	A	1545	1724		X		X	X		X	X	X	3464	170245	W079.6	175626	E087.0
3465A	A	1729	1908		X		X	X		X	X	X	3465	185014	W106.5	194356	E060.1
3466A	A	1913	2052		X		X	X		X	X	X	3466	203744	W133.4	213126	E033.2
3467A	A	2057	2242		X		X	X		X	X	X	3467	222514	W160.2	231856	E006.3
34680	B	2239	2342				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR	TDRE	SCAMR	ESMRB	EPMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3468O	A	2343	0140				X	X		X	X	X	3468	001244	E172.9	010625	W020.5
3469O	A	0153	0329				X	X		X	X	X	3469	020014	E146.0	025355	W047.4
3470R	B	0329	0429		X		X	X		X	X	X	3470	034743	E119.1	044125	W074.3
3471R	A	0429	0615		X		X	X		X	X	X	3471	053513	E092.3	062855	W101.2
3472A	A	0619	0757		X		X	X		X	X	X	3472	072243	E065.4	081625	W128.1
3473A	A	0801	0942		X		X	X		X	X	X	3473	091013	E038.5	100354	W154.9
3474A	A	0947	1125		X		X	X		X	X	X	3474	105743	E011.6	115124	E178.2
3475A	A	1129	1314		X		X	X		X	X	X	3475	124512	W015.3	133854	E151.3
3476A	A	1318	1501		X		X	X	X	X	X	X	3476	143242	W042.1	152624	E124.4
3477A	A	1506	1643		X		X		X	X	X	X	3477	162012	W069.0	171354	E097.6
3478A	A	1647	1827		X		X		X	X	X	X	3478	180742	W095.9	190123	E070.7
3479A	A	1831	2009		X		X		X	X	X	X	3479	195512	W122.8	204853	E043.8
3480A	A	2013	2159		X		X		X	X	X	X	3480	214241	W149.6	223623	E017.0
3481A	A	2204	2347		X		X		X	X	X	X	3481	233011	W176.5	002353	W009.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 FEBRUARY 1976

INT ORBIT AND STDN	HDRS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR	TDRE	SCAMR	ESMRB	EPMR	TWRL	HIRS	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
3484R	B	0043	0147		X		X		X	X	X	X	3482	011741	E156.7	021123	W036.8
3483R	A	0147	0345		X		X		X	X	X	X	3483	030511	E129.8	035853	W063.7
3484R	A	0352	0522		X		X		X	X	X	X	3484	045241	E102.9	054627	W090.5
3485R	A	0534	0720	X	X		X		X	X	X	X	3485	064010	E076.0	073352	W117.4
3486A	A	0725	0900	X	X		X		X	X	X	X	3486	082740	E049.1	092122	W144.3
3487A	A	0904	1043		X		X		X	X	X	X	3487	101510	E022.3	110852	W171.2
3488A	A	1047	1233		X		X		X	X	X	X	3488	120240	W004.6	125622	E162.0
3489A	A	1237	1419		X		X		X	X	X	X	3489	135010	W031.5	144352	E135.1
3490A	A	1423	1602		X		X		X	X	X	X	3490	153740	W058.4	163121	E108.2
3491A	A	1606	1747		X		X		X	X	X	X	3491	172509	W085.2	181851	E081.3
3492A	A	1751	1927		X		X		X	X	X	X	3492	191239	W112.1	200621	E054.5
3493A	A	1931	2118		X		X		X	X	X	X	3493	210009	W139.0	215351	E027.6
3494A	A	2122	2304		X		X		X	X	X	X	3494	224739	W165.9	234121	E000.7
34950	B	2301	0005				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 FEBRUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	SEM R	EMR B	PMR R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
34950	A	0005	0204				X		X	X	X	X	3495	003509	E167.3	012851	W026.2
3497R	A	0212	0356		X		X		X	X	X	X	3496	022239	E140.4	031620	W053.0
3497R	B	0355	0453		X		X		X	X	X	X	3497	041008	E113.5	050350	W079.9
3498R	A	0454	0633		X		X		X	X	X	X	3498	055738	E086.6	065120	W106.8
3499A	A	0641	0817		X		X		X	X	X	X	3499	074508	E059.8	083850	W133.7
3502A	B	1000	1105		X		X		X	X	X	X	3500	093238	E032.9	102620	W160.6
3502A	A	1052	1304		X		X		X	X	X	X	3501	112008	E006.0	121350	E172.6
3503A	A	1341	1522		X		X		X	X	X	X	3502	130738	W020.9	140120	E145.7
3504A	A	1526	1704		X		X	X		X	X	X	3503	145507	W047.7	154849	E118.8
3505A	A	1708	1847		X		X	X		X	X	X	3504	164237	W074.6	173619	E092.0
3506A	A	1851	2034		X		X	X		X	X	X	3505	183007	W101.5	192349	E065.1
3507A	A	2039	2223		X		X	X		X	X	X	3506	201737	W128.3	211119	E038.2
35080	B	2218	2322				X	X		X	X	X	3507	220507	W155.2	225849	E011.3
35080	A	2323	0115				X	X		X	X	X	3508	235237	E177.9	004619	W015.5

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 FEBRUARY 1976

INT ORBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR	THR IR	TDR E	SCA M	SEM R	EMR B	PMR R	TWR L	HIR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
35090	A	0132	0310				X	X		X	X	X	3509	014007	E151.0	023349	W042.4
3510R	B	0311	0411		X		X	X		X	X	X	3510	032736	E124.2	042118	W069.3
3511R	A	0409	0555		X		X	X		X	X	X	3511	051506	E097.3	060848	W096.1
3512A	A	0559	0736		X		X	X		X	X	X	3512	070236	E070.4	075618	W123.0
3513A	A	0740	0925		X		X	X		X	X	X	3513	085006	E043.5	094348	W149.9
3514A	A	0930	1105		X		X	X		X	X	X	3514	103736	E016.7	113118	W176.8
3515A	A	1109	1254		X		X	X		X	X	X	3515	122506	W010.2	131848	E156.4
3516A	A	1258	1439		X		X	X		X	X	X	3516	141236	W037.1	150618	E129.5
3517A	A	1443	1625		X		X	X		X	X	X	3517	160005	W064.0	165348	E102.6
3518A	A	1629	1808		X		X	X		X	X	X	3518	174735	W090.9	184117	E075.7
3519A	A	1812	1951		X		X	X		X	X	X	3519	193505	W117.7	202847	E048.9
3520A	A	1955	2140		X		X	X		X	X	X	3520	212235	W144.6	221617	E022.0
3521A	A	2144	2326		X		X	X		X	X	X	3521	231005	W171.5	000347	W004.9
35210	B	2324	0028				X	X		X	X	X					

SECTION 3

ORBIT DISPLAYS OF HIRS, SCAMS, AND ESMR

This section briefly describes the HIRS, SCAMS and ESMR experiments, explains the formats of the image displays derived from the data of these three experiments, and presents image examples from each of them. Complete descriptions of the HIRS, SCAMS and ESMR experiments are found in Sections 3, 4, and 5, respectively, of The Nimbus 6 User's Guide.

The HIRS is a 17-channel radiometer. Sixteen channels have central wavelengths between 3.7 μm and 15 μm, and one is centered at 0.69 μm to measure reflected sunlight. Spatial resolution at the nadir on the earth's surface is about 25 km (13 n. m.).

The SCAMS is a 5-channel scanning radiometer. Channel 1 lies on a water vapor line near 22 GHz. Channel 2 is on an atmospheric window near 32 GHz. Channels 3, 4, and 5 are within the oxygen band near 54 GHz. Spatial resolution varies from about 145 km (80 n. m.) near nadir to about 330 km (180 n. m.) at the scan limits.

The ESMR is a two-channel scanning radiometer receiving microwave radiation in a 250 MHz band centered at 37 GHz. One channel is used to measure the vertical polarization of the radiation, and the other measures the horizontal polarization. The antenna beam scans ahead of the spacecraft along a conical surface with a constant angle of 45 degrees with respect to the antenna axis. Spatial resolution of each element is about 20 km in the cross-track direction by 45 km in the direction parallel to the subpoint track.

All HIRS, SCAMS, and ESMR data are converted to 4" X 5" black and white images. Selected images from each experiment from January and February 1976 are presented in this section. Complete coverage times for each experiment are listed in the Data Availability On-Off Times in Table 2-2.

Sections 3, 4, and 5 of The Nimbus 6 User's Guide describe in detail the image formats of the HIRS, SCAMS, and ESMR. The following is a summary of the format, detailing changes to the User's Guide where needed. Each display contains the following similar items:

- NIMBUS 6 (HIRS, SCAMS, or ESMR)

  This identifies the satellite and the experiment

- (DATE)

  This identifies the Greenwich month, day, and year the data were recorded on board the satellite.

- SCALE F

  All data from the three experiments have been displayed in the F (full-scale) mode. For each experiment the data from each interrogation orbit is displayed on a single image. Each HIRS scan line is displayed once. Each of the 42 scan-spot elements across a scan is displayed four times. Each SCAMS scan line is displayed three times in succession. Each of the 13 scan-spot elements across a scan line is displayed ten times. Each ESMR scan line is displayed twice. Each of the 71 scan-spot elements is displayed once.

- INT ORBIT

  The interrogation orbit number identifies the orbit in progress when the recorded data is transmitted to a STDN station. Usually parts of two data orbits are on the same display. The interrogation orbit number will only identify the last orbit of each display.

- TIME (and) SUBPOINT

  Satellite time and latitude-longitude information are presented along the vertical line down the center of each display. The line represents the satellite subpoint track, which is located down the center of each of the swaths on each display. Time is GMT with ticks along the left side of the line at each five minute mark (on the five minutes). Time is annotated (hour and minute) every 15 minutes (on the quarter hour).

  Subpoint information presents latitude and longitude positions of the satellite subpoint. Each tick mark on the right side of the vertical line is annotated with the subpoint latitude and longitude (to the nearest degree). Latitude is labeled N (north) or S (south). Longitude is labeled E (east) or W (west).

- GRAY SCALE

  Each image has an 18-step gray scale along the bottom of the display. The gray scales are used to define parameter value intervals for each image swath of each display by assigning different parameter values to the gray scale for each swath. Tables 3-1 through 3-4 define the parameter values versus gray scale for each HIRS, SCAMS, and ESMR image swath.

- 3200

  This identifies the computer used to process the data. All data was processed by the Control Data Corporation (CDC) 3200.

Table 3-1

Temperature Range of Gray Scale and Channel of HIRS Data for each Swath on each HIRS Image Display Between Orbits 748 and 3521 (7 August 1975 through 29 February 1976)

	Swath Number									
	1	2	3	4	5	6	7	8	9	10
HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
Temperature Range (°K) (black-white)	310-230	310-230	310-270	0-50	100-900	280-210	300-210	300-210 **	240-185	300-185 ***

*The HIRS channel number is number before the hyphen. The number after the hyphen is the computer program table used to display the data from each channel as temperatures (°K). The range of temperatures displayed in each swath is given beneath each "HIRS Channel Display". The 18 steps of the gray scale are used to represent the division of each temperature range into 18 approximately equal temperature intervals. The central wavelength (in μm) of each channel on these displays is: channel 3 = 14.4, 8 = 11.0, 9 = 8.2, 10 = 6.7, 12 = 4.52, 14 = 4.40, 15 = 4.24, 16 = 3.71, 17 = 0.61, and 18 is the temperature difference between channel 16 and channel 8. The values of channel 17-17 are albedo, represented as "counts" between 100 (blackest) and 900 (whitest). The values for 16-21 represent a second temperature range for channel 16 data. Table 3-1 on page 39 in the User's Guide provides detailed spectral information and the purpose of each of the HIRS channels.

**14-14 temperature range changed to 270-210 on orbit 3166A (26 January 1976)

***15-15 temperature range changed to 275-210 on orbit 3166A (26 January 1976)

Table 3-2

Parameter Value for each Step of the Gray Scale on the SCAMS Image Displays for Parameters 2, 3, 11, 12, and 16 Between Orbits 478 and 3521 (17 July 1975 through 29 February 1976)

Gray Scale Number		Parameters					
		2 (31.65 GHz T_A) (°K)	3 (52.85 GHz T_A) (°K)	11 (Integrated water vapor) (g/mm^2)	12* (Integrated) liquid water) (g/mm^2)	12** (Integrated liquid water) (g/mm^2)	16 (param. 2) minus (param. 3) (°K)
(black)	1	> 320	> 280	> 60	>2.0	> 1.5	> 10
	2	306 - 320	276 - 280	56 - 60	1.9 - 2.0	1.4 - 1.5	08 - 10
	3	293 - 306	271 - 276	53 - 56	1.8 - 1.9	1.3 - 1.4	06 - 08
	4	279 - 293	267 - 271	49 - 53	1.6 - 1.8	1.2 - 1.3	04 - 06
	5	265 - 279	263 - 267	45 - 49	1.5 - 1.6	1.1 - 1.2	02 - 04
	6	251 - 265	258 - 263	41 - 45	1.4 - 1.5	1.0 - 1.1	00 - 02
	7	238 - 251	254 - 258	38 - 41	1.3 - 1.4	0.9 - 1.0	-02 - 00
	8	224 - 238	248 - 254	34 - 38	1.1 - 1.3	0.8 - 0.9	-04(-) - 02
	9	210 - 224	245 - 248	30 - 34	1.0 - 1.1	0.7 - 0.8	-06(-) - 04
	10	196 - 210	241 - 245	26 - 30	0.9 - 1.0	0.6 - 0.7	-08(-) - 06
	11	183 - 196	236 - 241	23 - 26	0.8 - 0.9	0.5 - 0.6	-10(-) - 08
	12	169 - 183	232 - 236	19 - 23	0.6 - 0.8	0.4 - 0.5	-12(-) - 10
	13	155 - 169	228 - 232	15 - 19	0.5 - 0.6	0.3 - 0.4	-14(-) - 12
	14	141 - 155	223 - 228	11 - 15	0.4 - 0.5	0.2 - 0.3	-16(-) - 14
	15	128 - 141	219 - 223	08 - 11	0.3 - 0.4	0.1 - 0.2	-18(-) - 16
	16	114 - 128	214 - 219	04 - 08	0.1 - 0.3	0.0 - 0.1	-20(-) - 18
	17	100 - 114	210 - 214	00 - 04	0.0 - 0.1	-0.1 - 0.0	-22(-) - 20
(white)	18	< 100	< 210	< 00	<0.0	<-0.1	< -22

*valid between orbits 1426 and 3521
**valid between orbits 478 and 1425

While the preceeding format information is similar for HIRS, SCAMS, and ESMR, the swath displays of the data from each experiment are different. Therefore, the following information describes the swath displays for each experiment for this catalog period.

HIRS CHANNEL - RANGE DISPLAYS

Each of the ten swaths on the HIRS displays is described by a "CHANNEL (and) RANGE". The CHANNEL is the HIRS channel number (1 through 17), and the RANGE is the computer program table used to display the data from each channel as temperatures (°K). The CHANNEL-RANGE program used during this catalog period is listed in Table 3-1. The HIRS displays shown in Section 3.1 are examples of the data displayed from each orbit during this period.

Table 3-3

Contour Program Options used for Parameters 13, 14, and 15
on the SCAMS Image Displays Between Orbit 426 and 3521
(14 July 1975 through 29 February 1976)

Contour options	Parameters			Valid for orbits
	13 Mean temperature between 1000 mb and 500 mb	14 Mean temperature between 500 mb and 250 mb	15 Mean temperature between 250 mb and 100 mb	
Contour interval	4°K	4°K	4°K	426-851
Contour thickness	1°K	1°K	1°K	(14 July - 14 Aug. 1975)
Contour interval	4°K	4°K	4°K	852-3521
Contour thickness	2°K	2°K	2°K	(14 Aug. 1975 - 29 Feb. 1976)

The HIRS displays through orbit 1140 (5 September) are similar to the example shown in Volume 2 Section 3.1 for orbit 1114 (3 September). Starting with orbit 1141, however, excessive bit slips began occurring and have continued through the end of this catalog period. These bit slips and increasing HIRS system noise make the imagery after orbit 1140 of limited usefulness. Therefore, only two images are included to illustrate the effects of these problems on the imagery. (Revised computer processing techniques, to handle these problems, should improve the usefulness of the HIRS digital data - especially from the shortwave and visible channels.)

SCAMS PARAMETER DISPLAYS

The SCAMS displays currently contain eight vertical swaths of data, as shown in the SCAMS figures in Section 3.2. Each swath is labeled with a parameter number. All the displays for this catalog period display the same parameters. All swaths contain the same coverage information, but each contains different spectral or temperature information. The values of the gray scale for each image swath are shown in Table 3-2. The parameter values for the contoured swaths are given in Table 3-3.

Parameters 2, 3, and 16 represent uninverted antenna temperatures. Parameters 2 and 3 represent the antenna temperatures (T_A) for channels 2 (31.65 GHz) and 3 (52.85 GHz). Parameter 16 is the temperature difference between channel 2 and 3.

Parameters 16 and 2 are sensitive to surface characteristics such as ice and snow cover and soil moisture content, as well as the obvious difference in emissivity between land and water. Parameter 3 is principally a measure of lower tropospheric temperature, but is significantly perturbed by surface emissivity and to some extent by atmospheric water vapor and precipitation.

Parameters 11 and 12 represent inverted antenna temperatures. Parameter 11 portrays the integrated atmospheric water vapor and parameter 12 portrays the integrated liquid water from clouds or precipitation. These two parameters are valid only over the oceans. Only SCAMS channels 1 and 2 were used to estimate these two parameters. The data is inverted by a statistical method and the parameters are computed by linear operations on the antenna temperatures for each scan angle separately.

Parameters 13, 14, and 15 are mean temperatures (averaged over the logarithm of pressure) for the atmospheric layers between 1000 mb and 500 mb, 500 mb and 250 mb, and 250 mb and 100 mb, respectively. These temperatures are displayed by contour bands. The bands are spaced 4 degrees K apart, with alternate bands a darker shade of gray (although in some cases problems in photographic processing caused both shades to be saturated white). Prior to orbit 852, (14 August) the bands were approximately 1 degree thick. After this orbit, the thickness was increased to about 2 degrees, so that contour boundaries (between black and gray or white) are evenly spaced at about 2 degree intervals. Each band is labeled, space permitting, with the lowest temperature value within it, i.e., its lower boundary. Prior to orbit 778, (9 August) parameters 13, 14, and 15 were estimated using only the data from SCAMS channels 3, 4, and 5. The coefficients used in the calculations were determined under the assumption of an ocean surface, so the resulting values were incorrect over land. Starting with orbit 778, channels 1 and 2 were also incorporated into the inversion to correct for the effects of surface emissivity and water vapor. However, there is no correction for surface elevation, so mountains and plateaus still introduce errors in the estimated values.

ESMR CHANNEL - RANGE DISPLAYS

The ESMR displays contain 20 swaths of data, as shown in the ESMR figures in Section 3.3. Swath number 1 is on the far left, with the swath numbers incrementing to swath number 20 on the far right. The left set of ten swaths and their SUBPOINT-TIME line have the same geographic coverage. However, each swath displays either horizontally or vertically polarized data and a temperature range as listed in Table 3-4. The right set of ten swaths and their SUBPOINT-TIME line have a similar format. The right ten swaths display the earliest recorded data. If these swaths were cut and placed above the group on the left, the new display would show the continuous coverage recorded for that orbit. While the geographic coverage is different for each set of ten swaths, the temperature and polarization information are similar. That is, the temperature range and the polarization for swath 1 are the same as for swath 11; similarly, swaths 2 and 12 are the same, etc. Table 3-4 is set up to show this duplication.

Table 3-4

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 828 through 3521 (13 August 1975 through 29 February 1976)
(Brightness Temperatures are in °K)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\left(\frac{T_H+T_V}{2}\right)$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\left(\frac{T_H+T_V}{2}\right)$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\left(\frac{T_H+T_V}{2}\right)$	10 and 20 (T_V-0.6T_H)
(black)	1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	>140
	2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
	3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
	4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
	5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
	6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
	7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
	8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
	9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
	10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
	11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
	12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
	13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
	14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
	15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
	16	134-139	174-178	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
	17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white)	18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 240	< 80

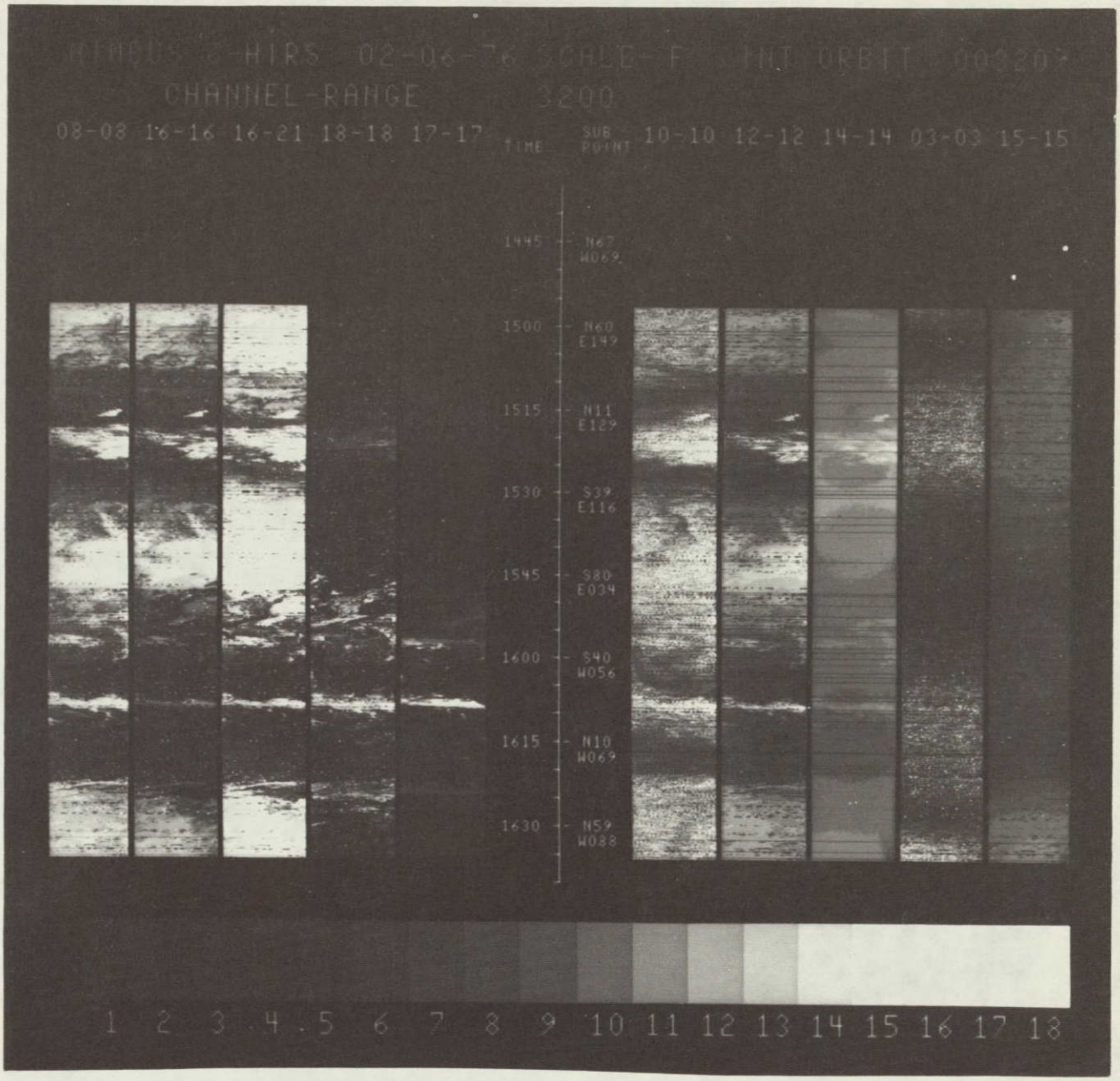
T_H = Brightness temperature derived from the ESMR horizontal polarization data

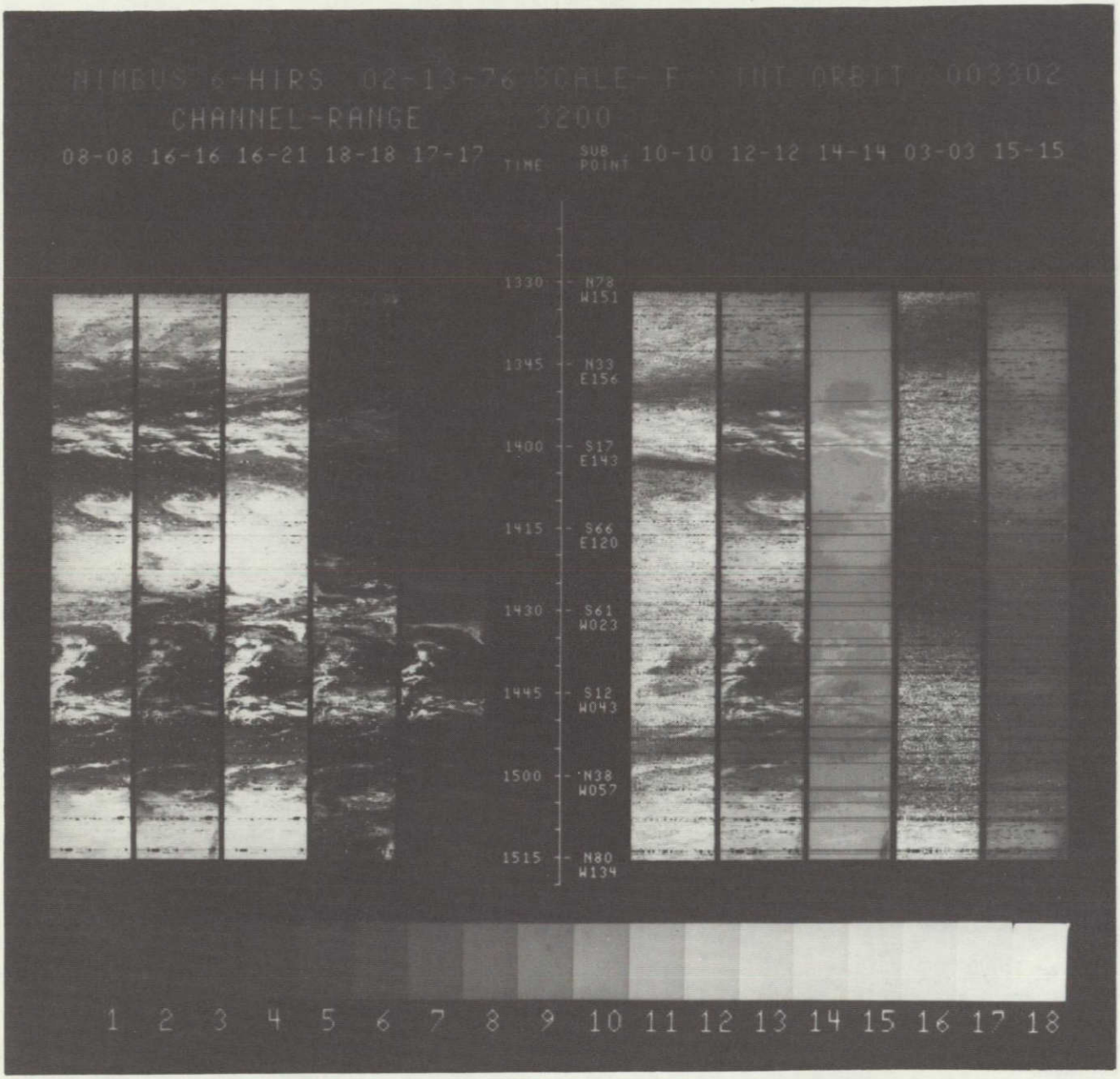
T_V = Brightness temperature derived from the ESMR vertical polarization data

SECTION 3.1

SELECTED HIRS IMAGE DISPLAYS

Only two displays of HIRS are shown here. Because of an instrument problem, displays after orbit 1140 (5 September) have limited usefulness. These displays are presented as examples of the information available in displays for orbits after 1140.

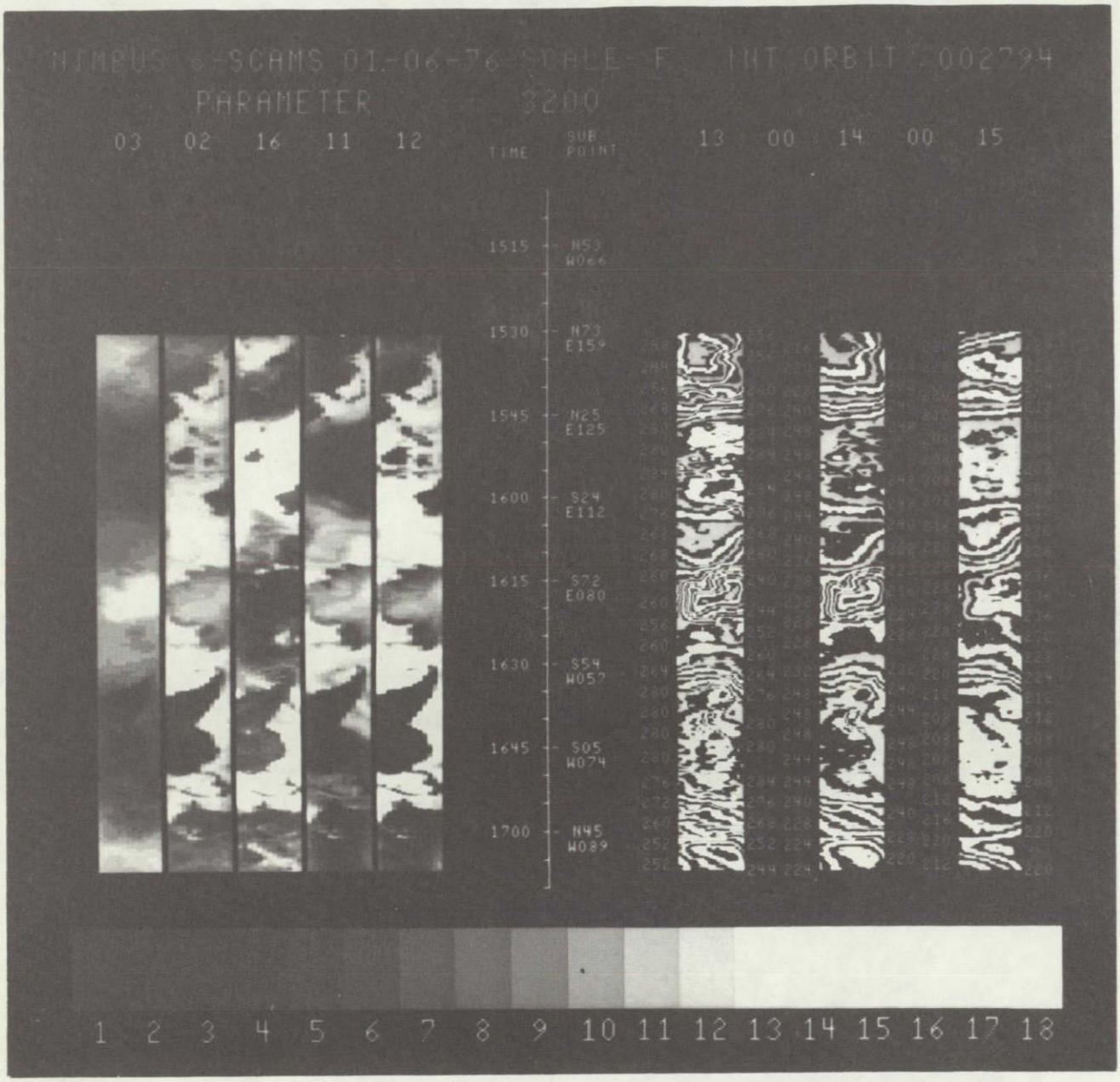

CHANNEL-RANGE 3200
08-08 16-16 16-21 18-18 17-17
TIME
SUB POINT
10-10 12-12 14-14 03-03 15-15
1445 N67 W069
1500 N60 E149
1515 N11 E129
1530 S39 E116
1545 S80 E034
1600 S40 W056
1615 N10 W069
1630 N59 W088
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

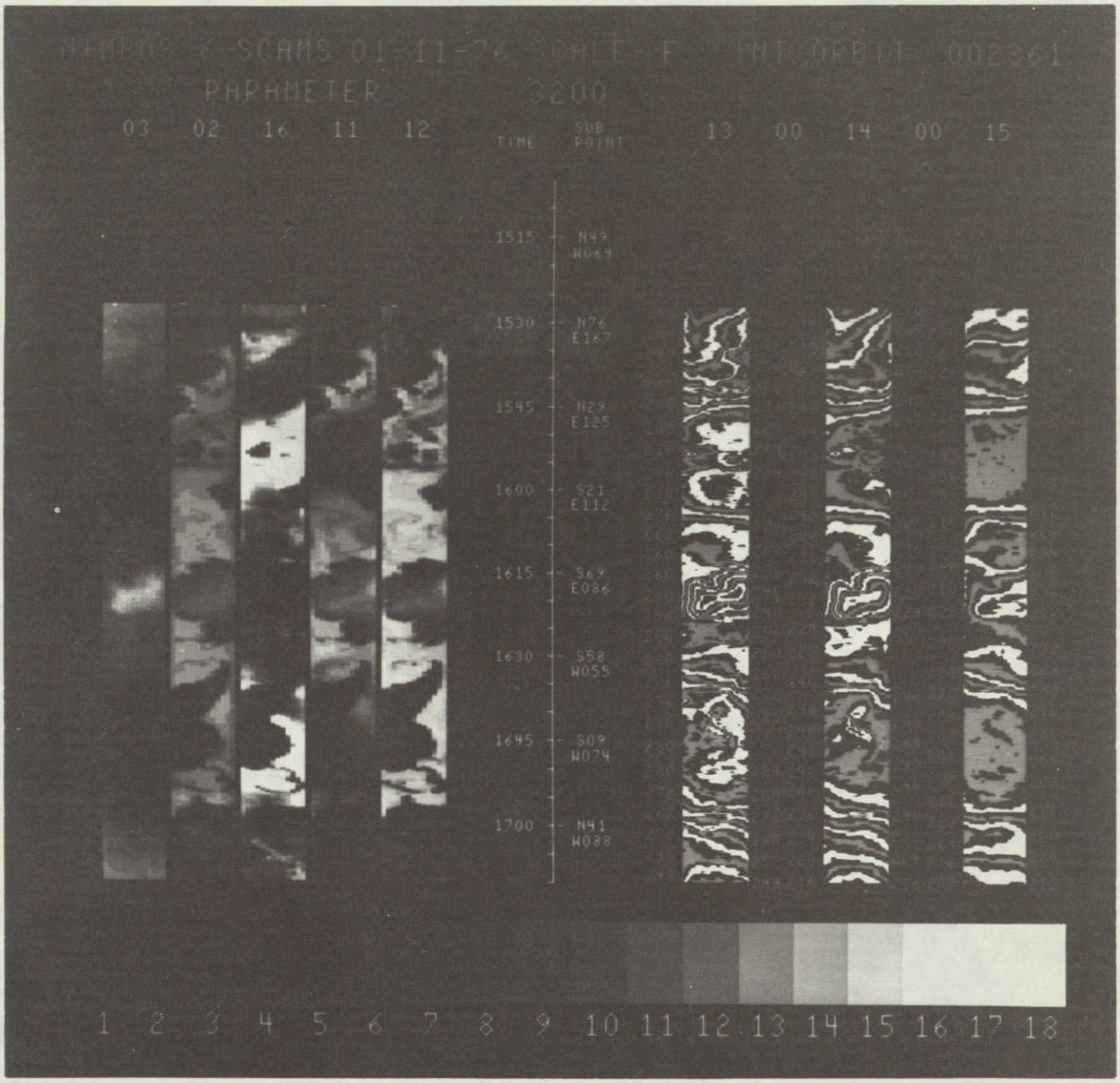


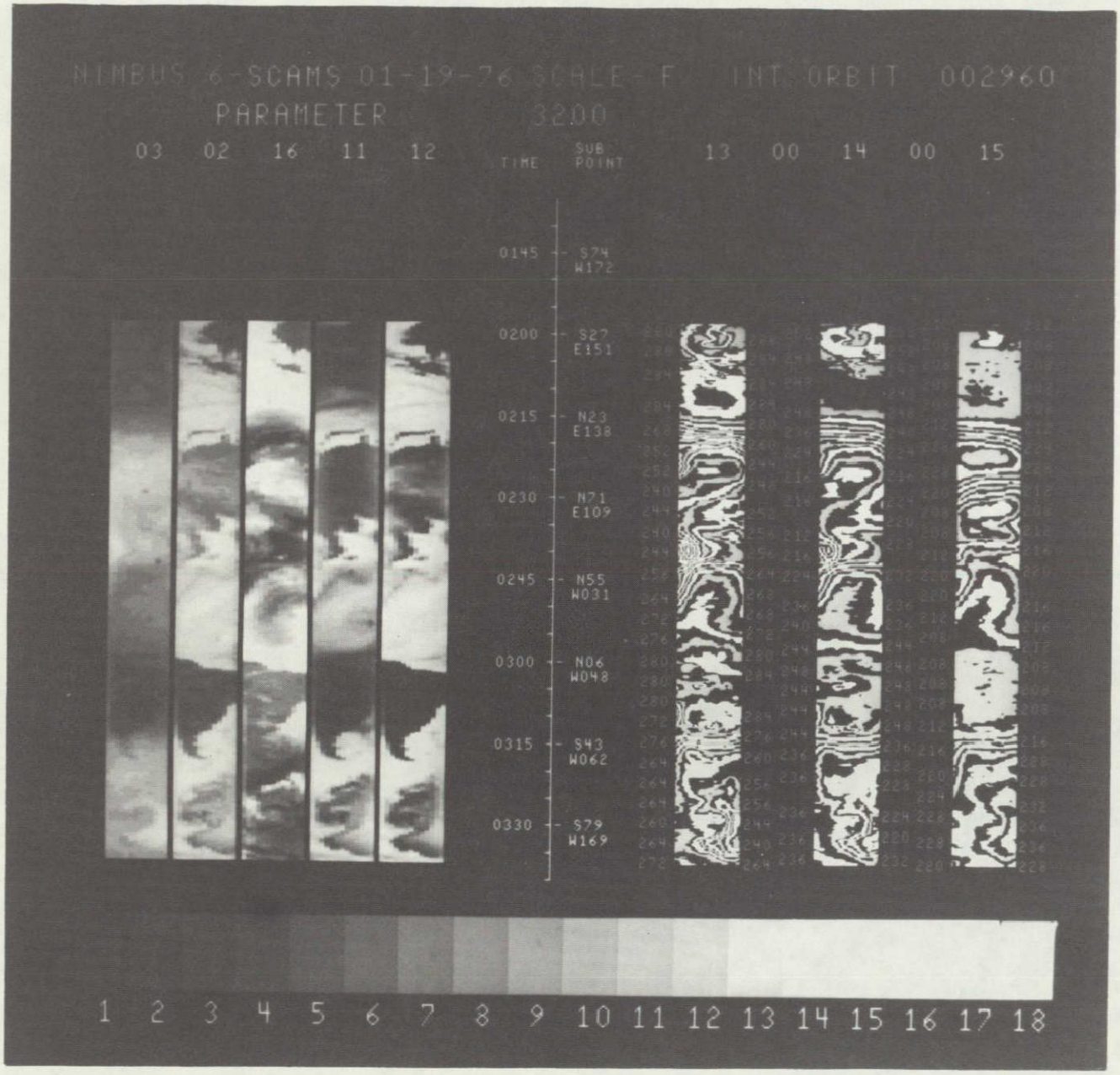
SECTION 3.2

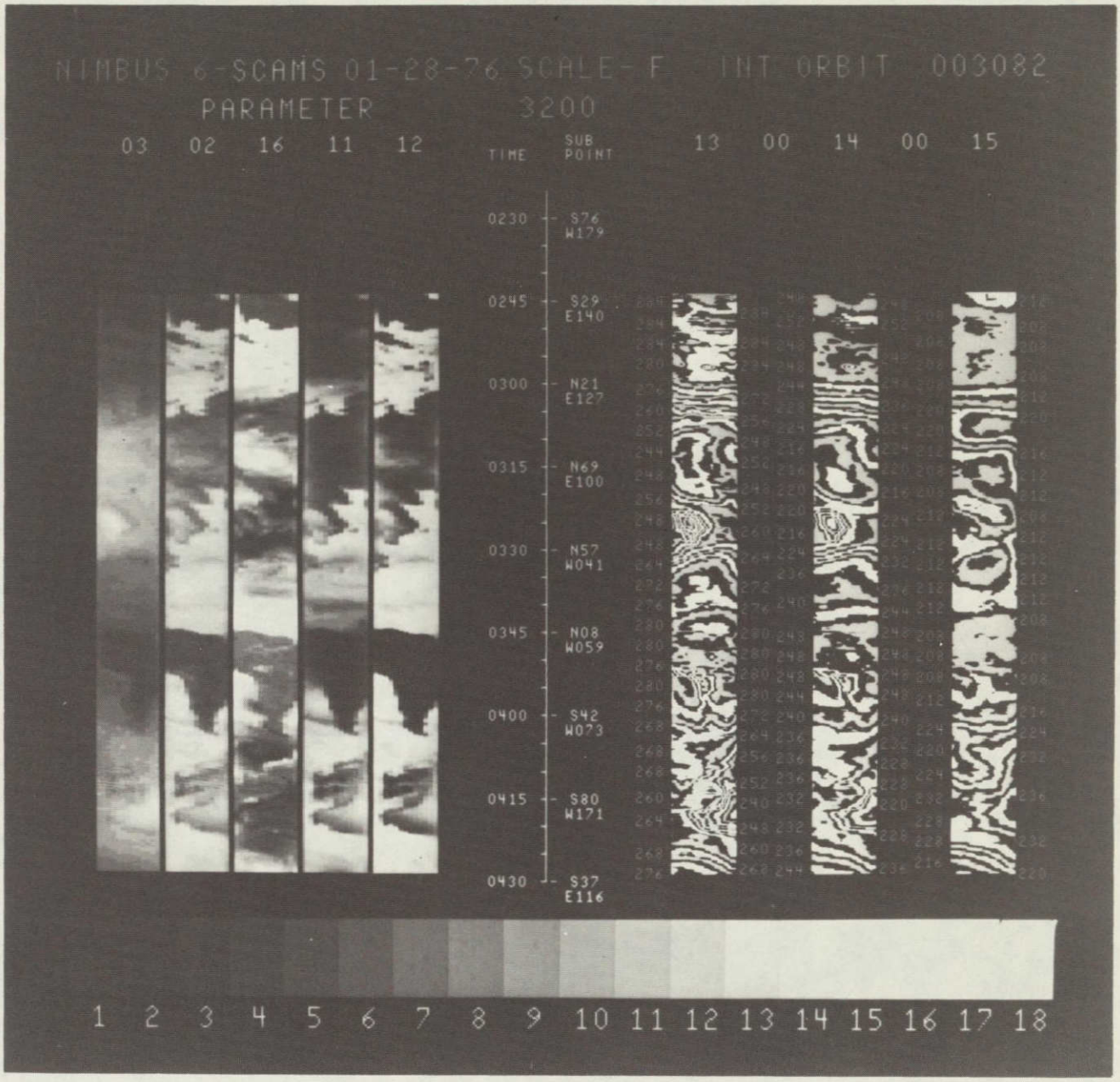
SELECTED SCAMS IMAGE DISPLAYS

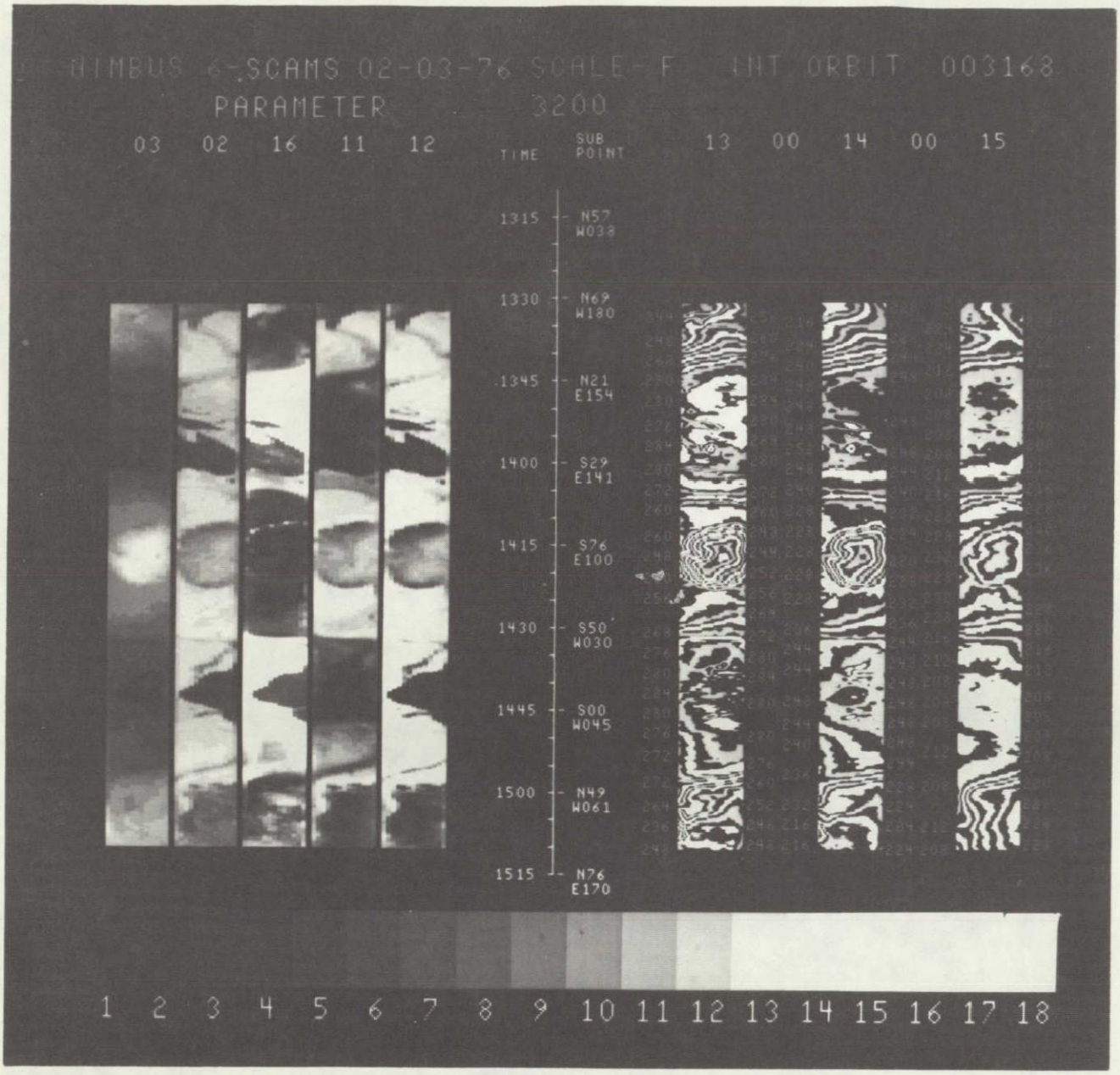
(The same orbits of ESMR images are shown in Section 3.3).

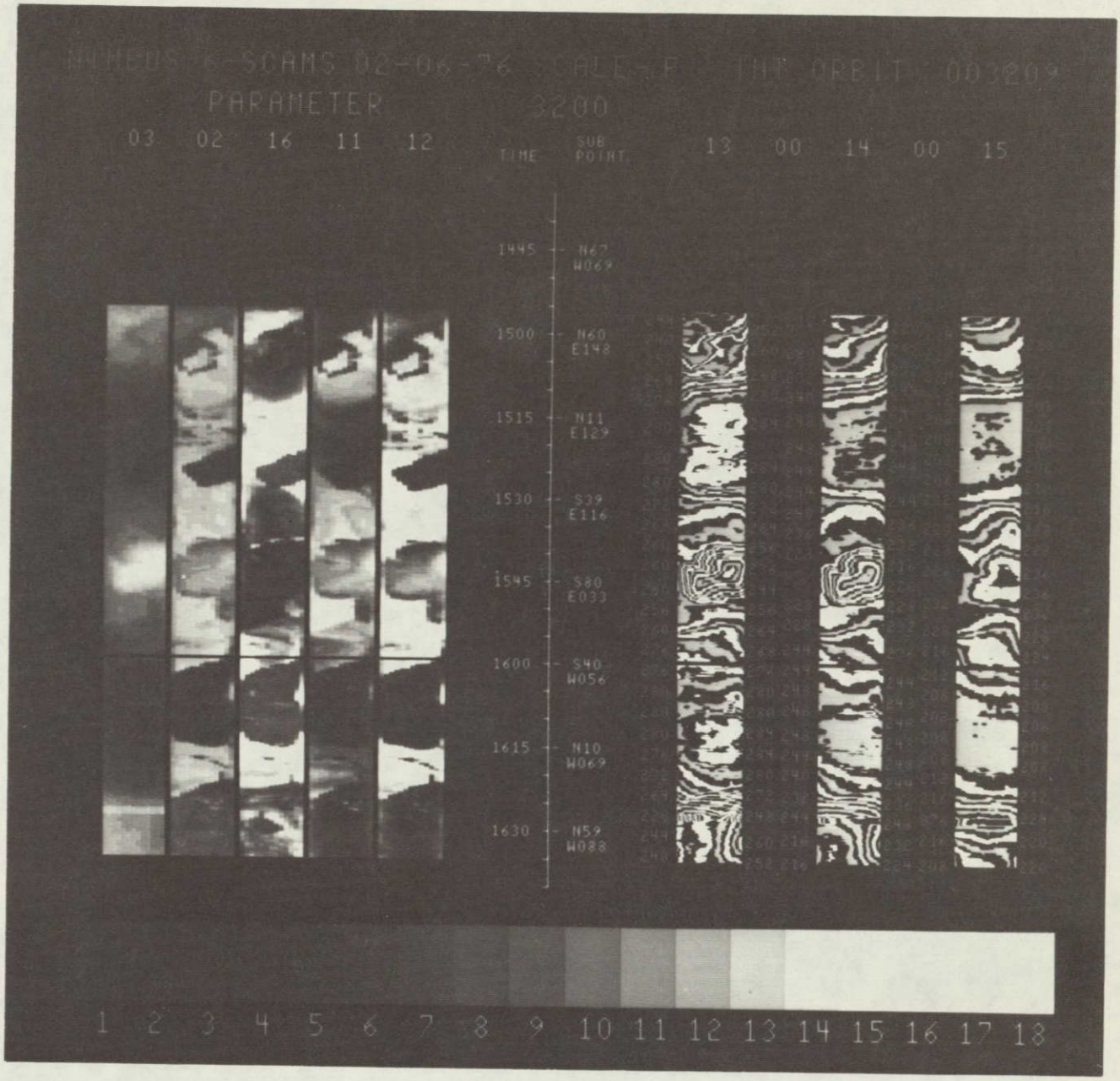


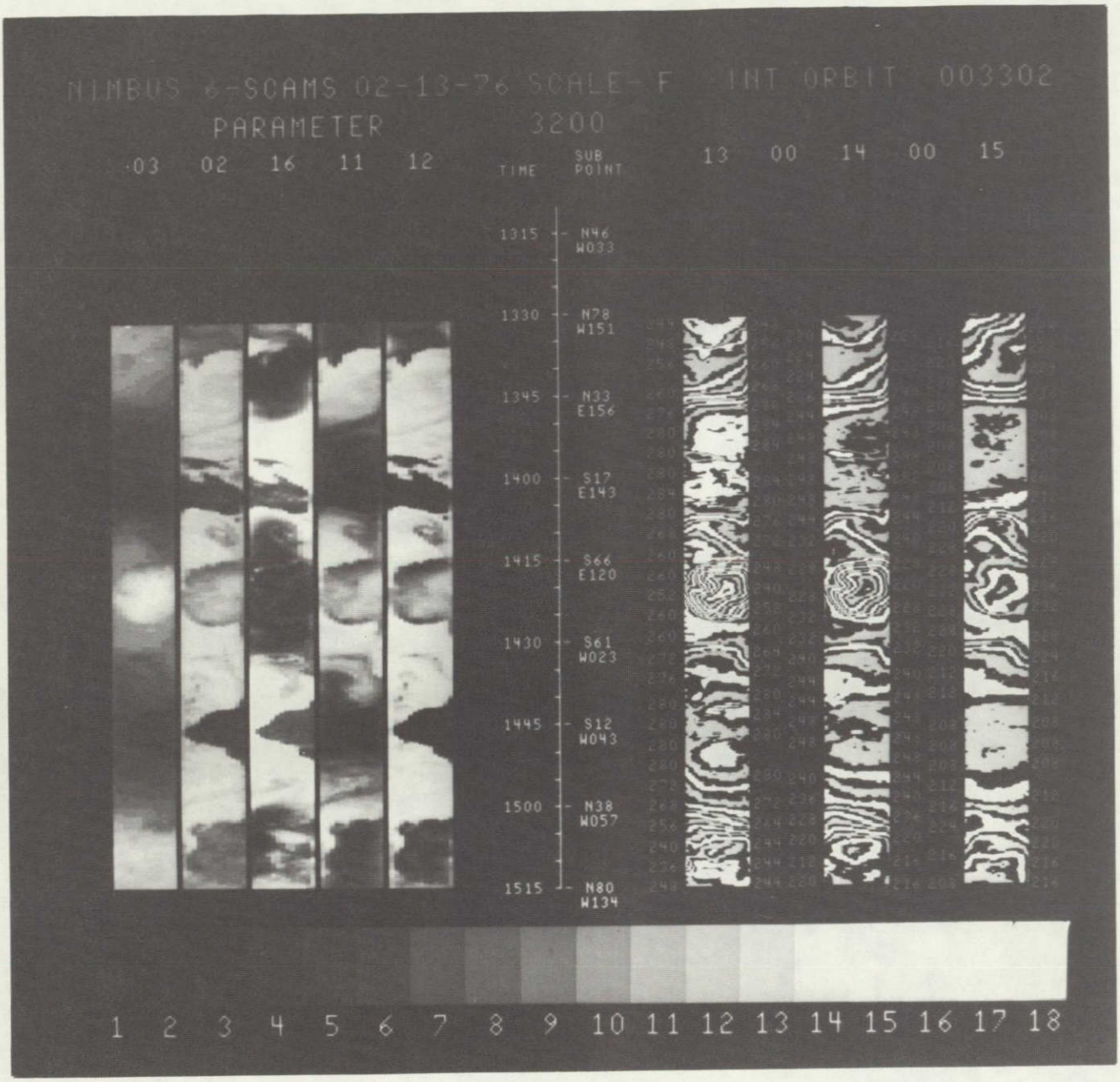


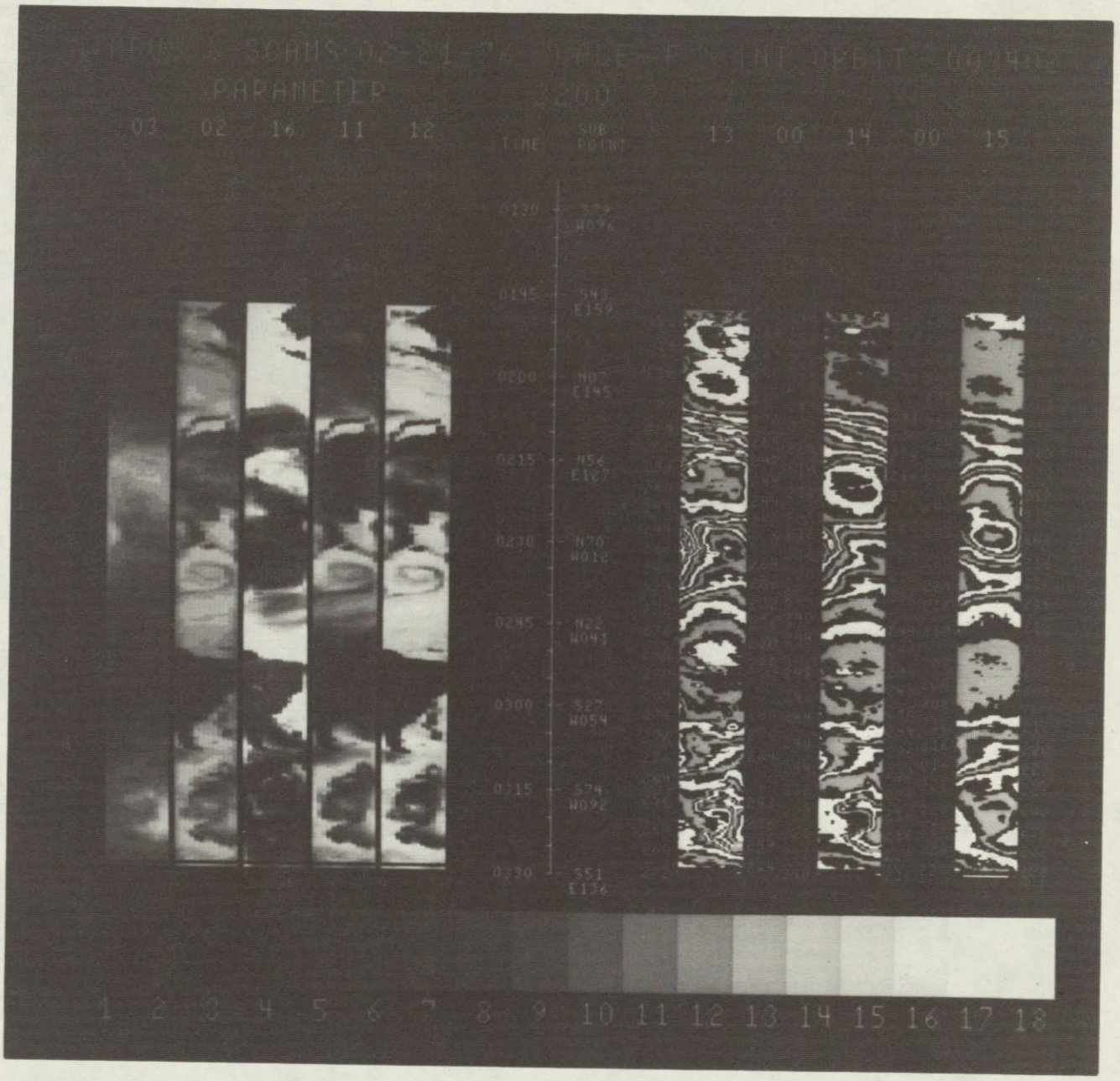

NIMBUS 6-SCAMS 01-19-76 SCALE-F INT ORBIT 002960
PARAMETER 3200
03 02 16 11 12
TIME
SUB POINT
13 00 14 00 15
0145 S74 W172
0200 S27 E151
0215 N23 E138
0230 N71 E109
0245 N55 W031
0300 N06 W048
0315 S43 W062
0330 S79 W169
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

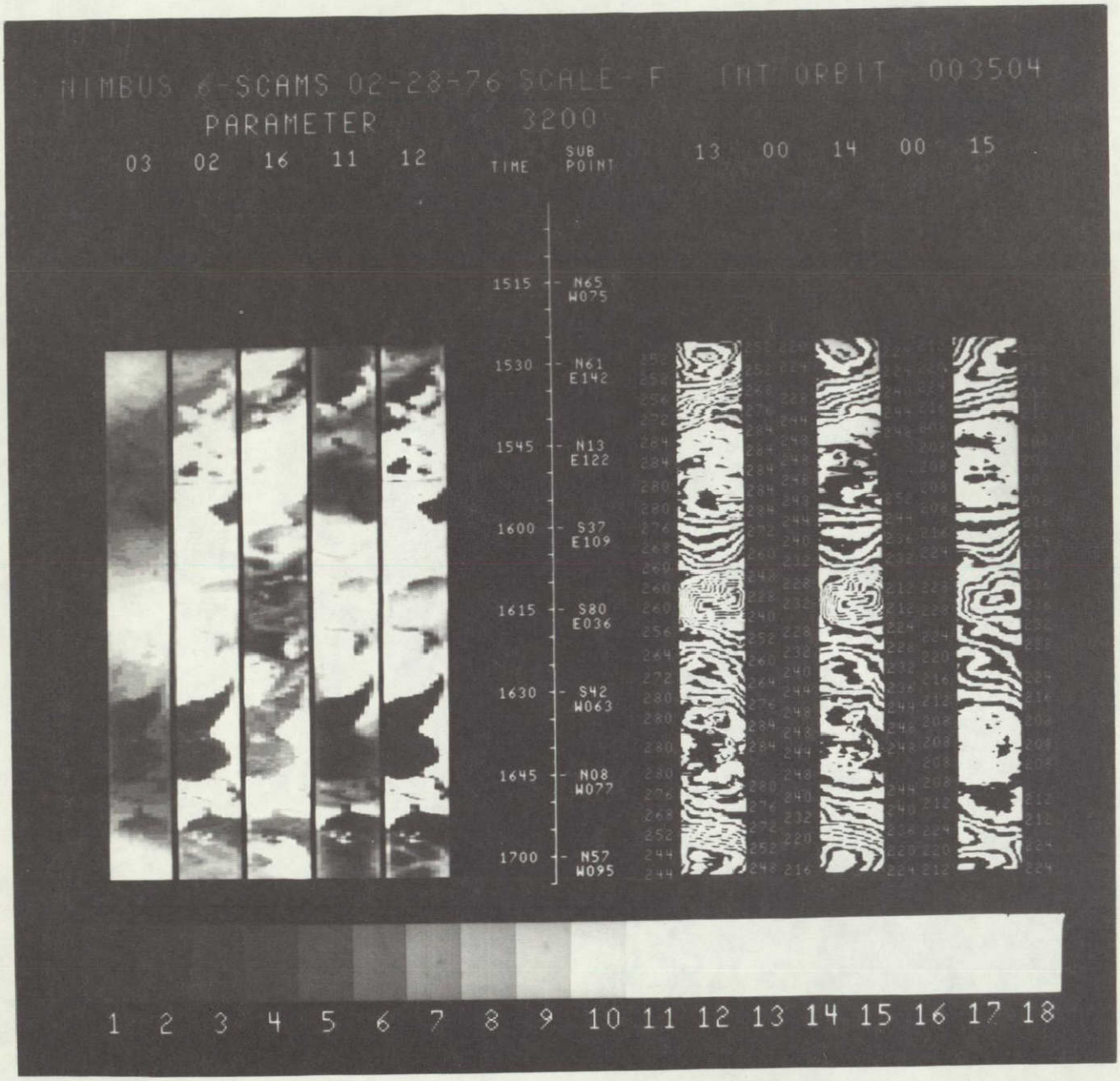

NIMBUS 6-SCAMS 01-28-76 SCALE-F INT ORBIT 003082
PARAMETER 3200
03 02 16 11 12
TIME
SUB POINT
13 00 14 00 15
0230 S76 W179
0245 S29 E140
0300 N21 E127
0315 N69 E100
0330 N57 W041
0345 N08 W059
0400 S42 W073
0415 S80 W171
0430 S37 E116
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18






NIMBUS 6-SCAMS 02-13-76 SCALE-F INT ORBIT 003302
PARAMETER 3200
03 02 16 11 12
TIME
SUB POINT
13 00 14 00 15
1315 N46 W033
1330 N78 W151
1345 N33 E156
1400 S17 E143
1415 S66 E120
1430 S61 W023
1445 S12 W043
1500 N38 W057
1515 N80 W134
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

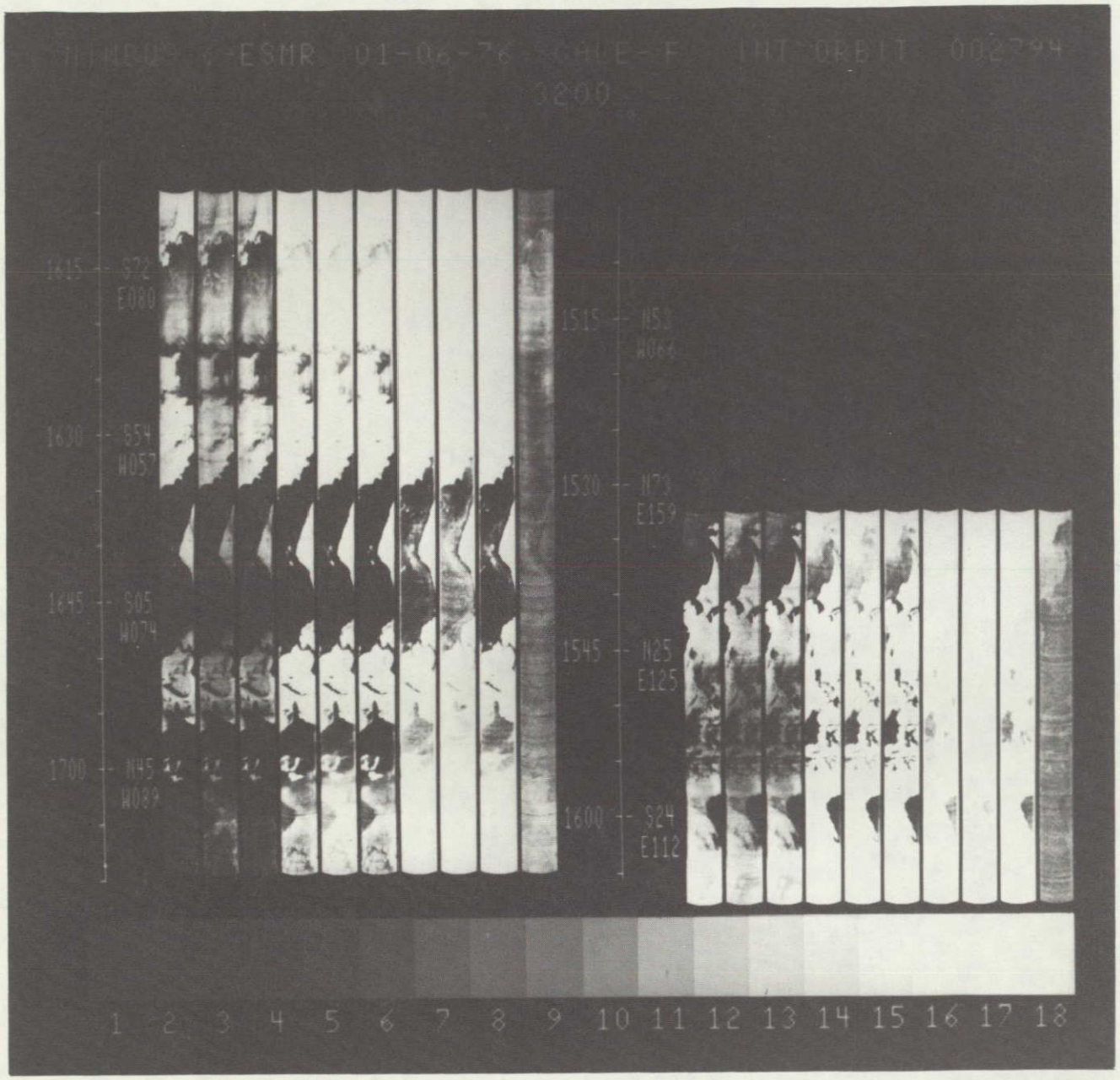

PARAMETER
-2200
03 02 16 11 12
TIME
SUB POINT
13 00 14 00 15
0130
0145
0200
0215
0230
0245
0300
0315
0330
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

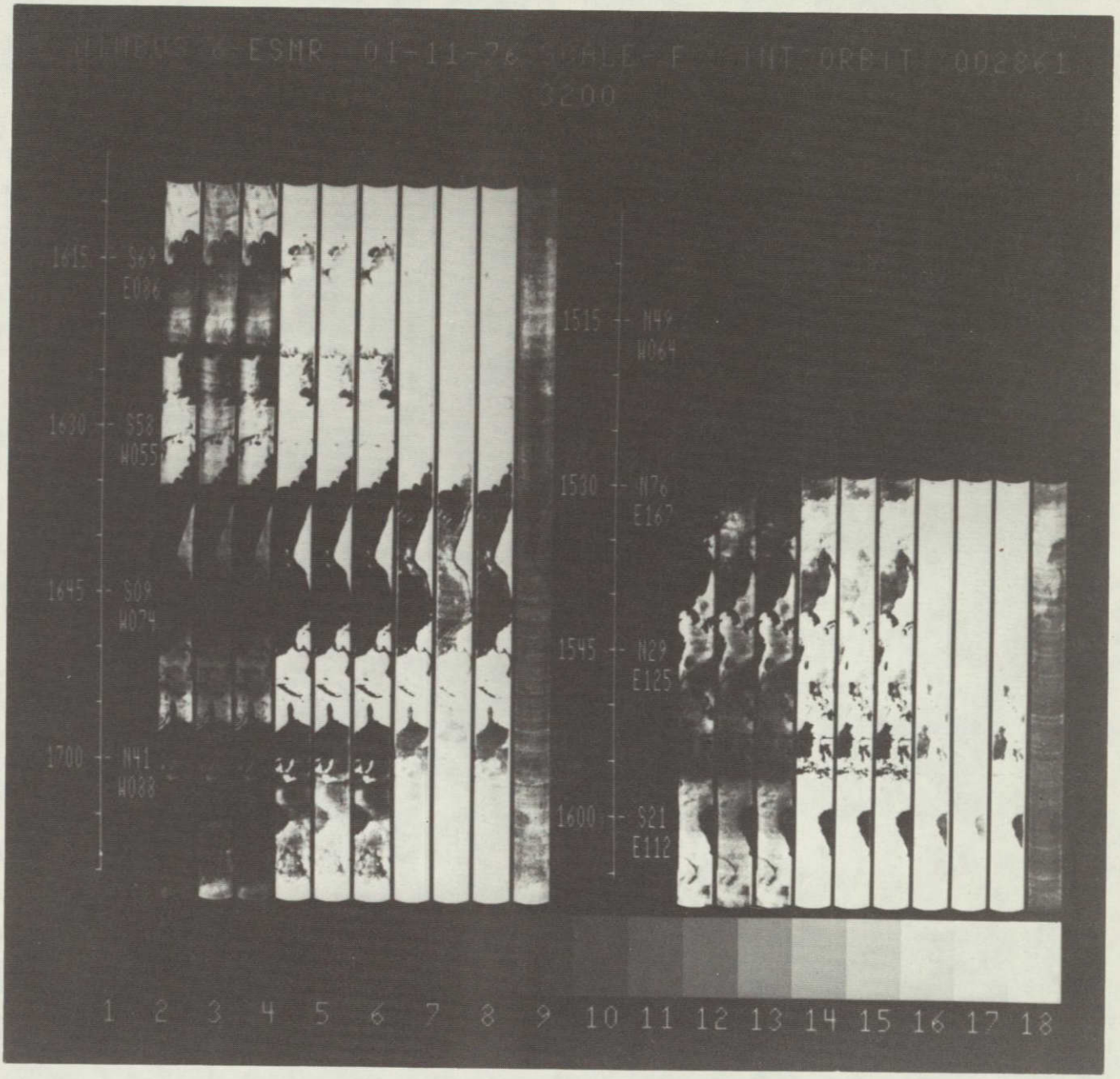


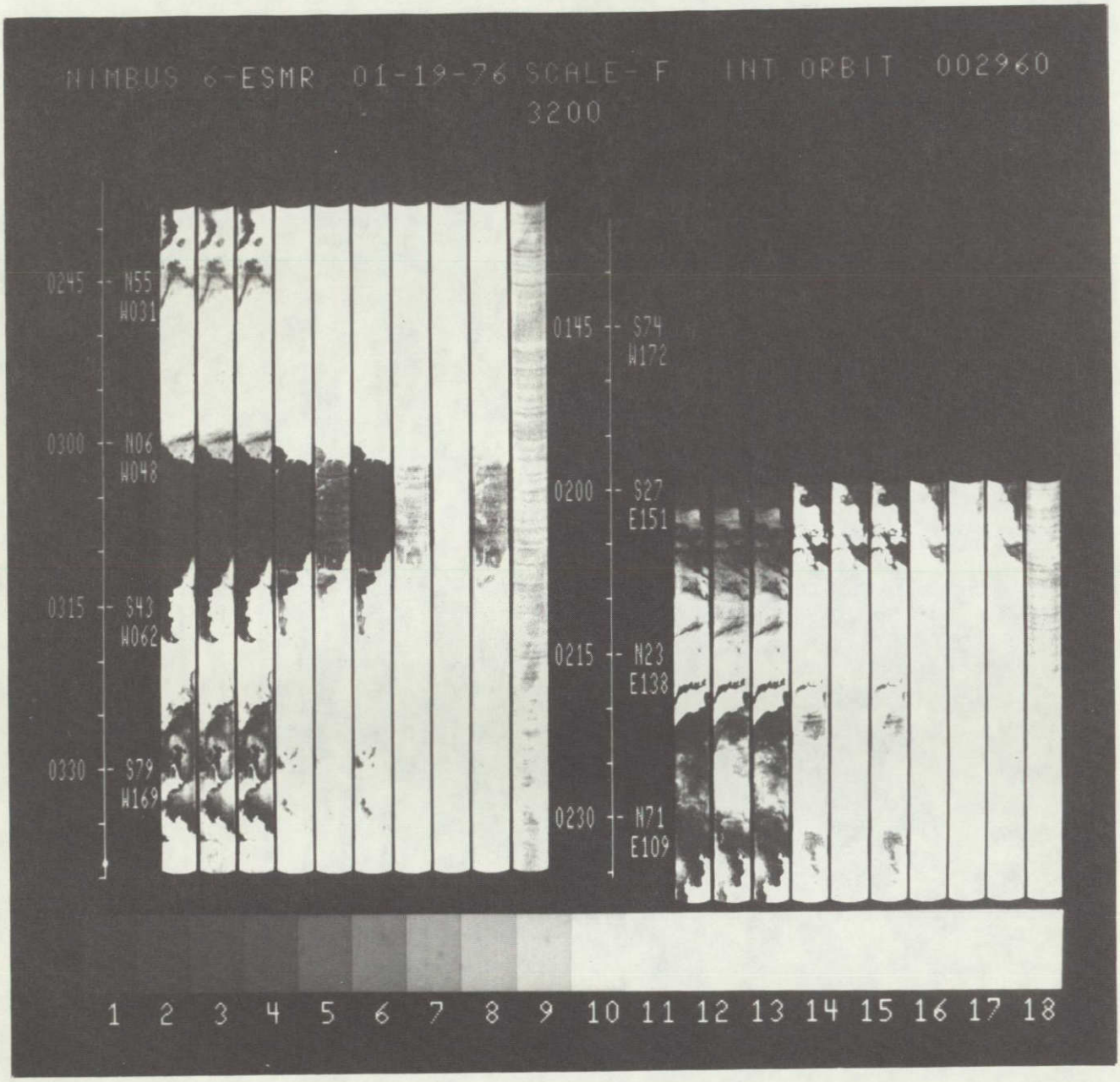
SECTION 3.3

SELECTED ESMR IMAGE DISPLAYS

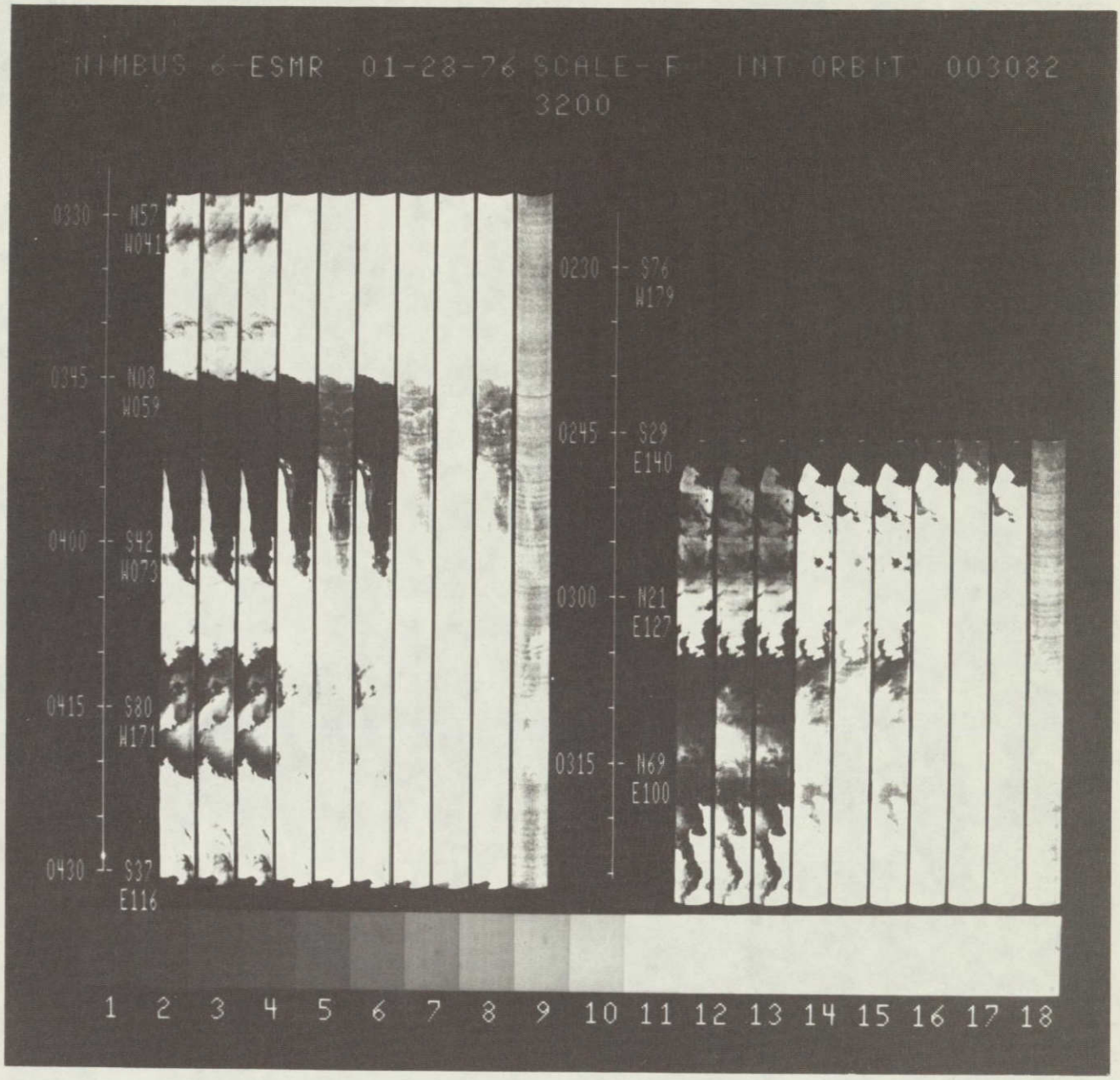
(The same orbits of SCAMS images are shown in Section 3.2.)

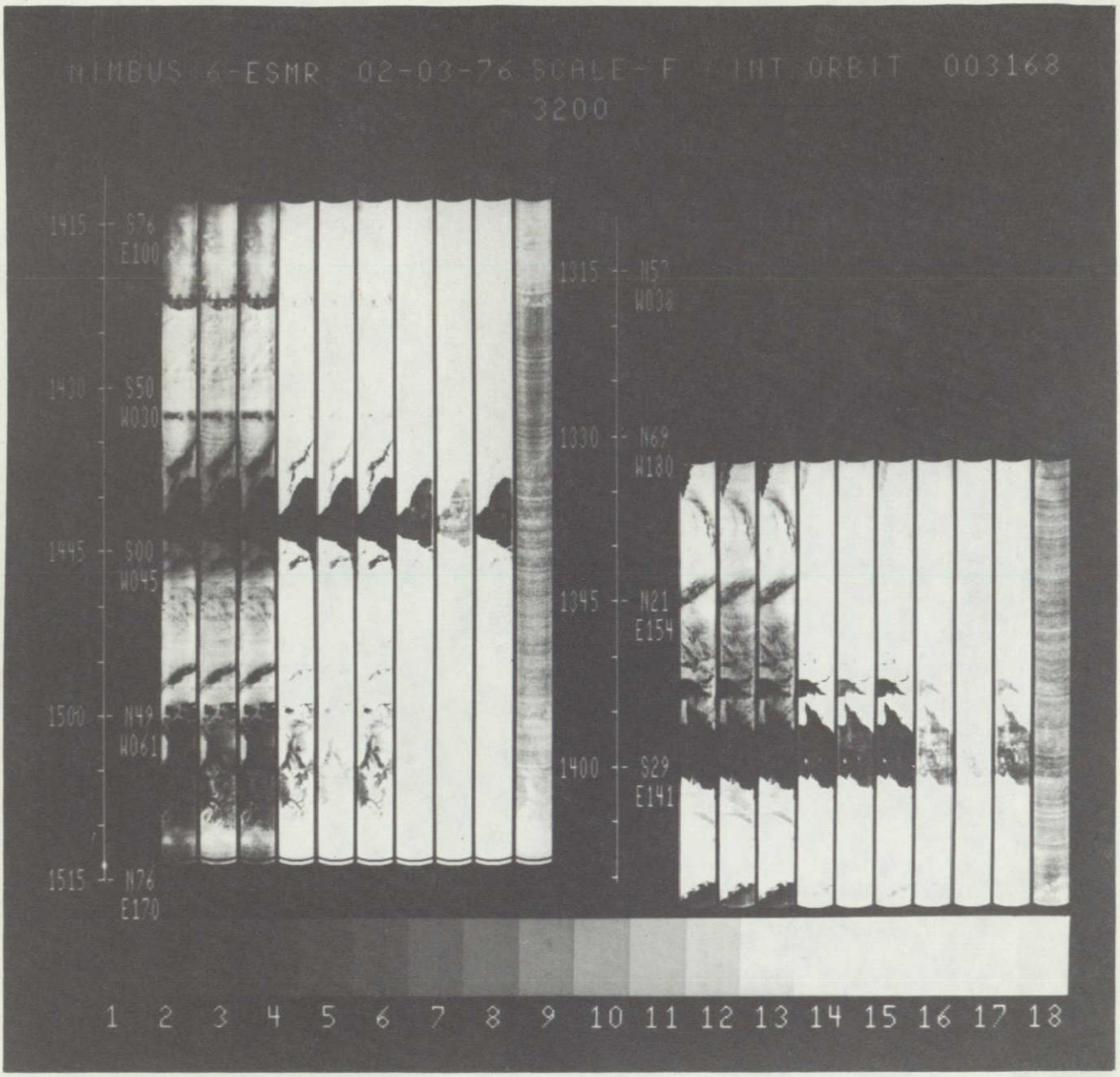

NIMBUS 6-ESMR 01-06-76 CALE-F INT ORBIT 002794
3200
1615 S72 E080
1630 S54 W057
1645 S05 W074
1700 N45 W089
1515 N53 W064
1530 N73 E159
1545 N25 E125
1600 S24 E112
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

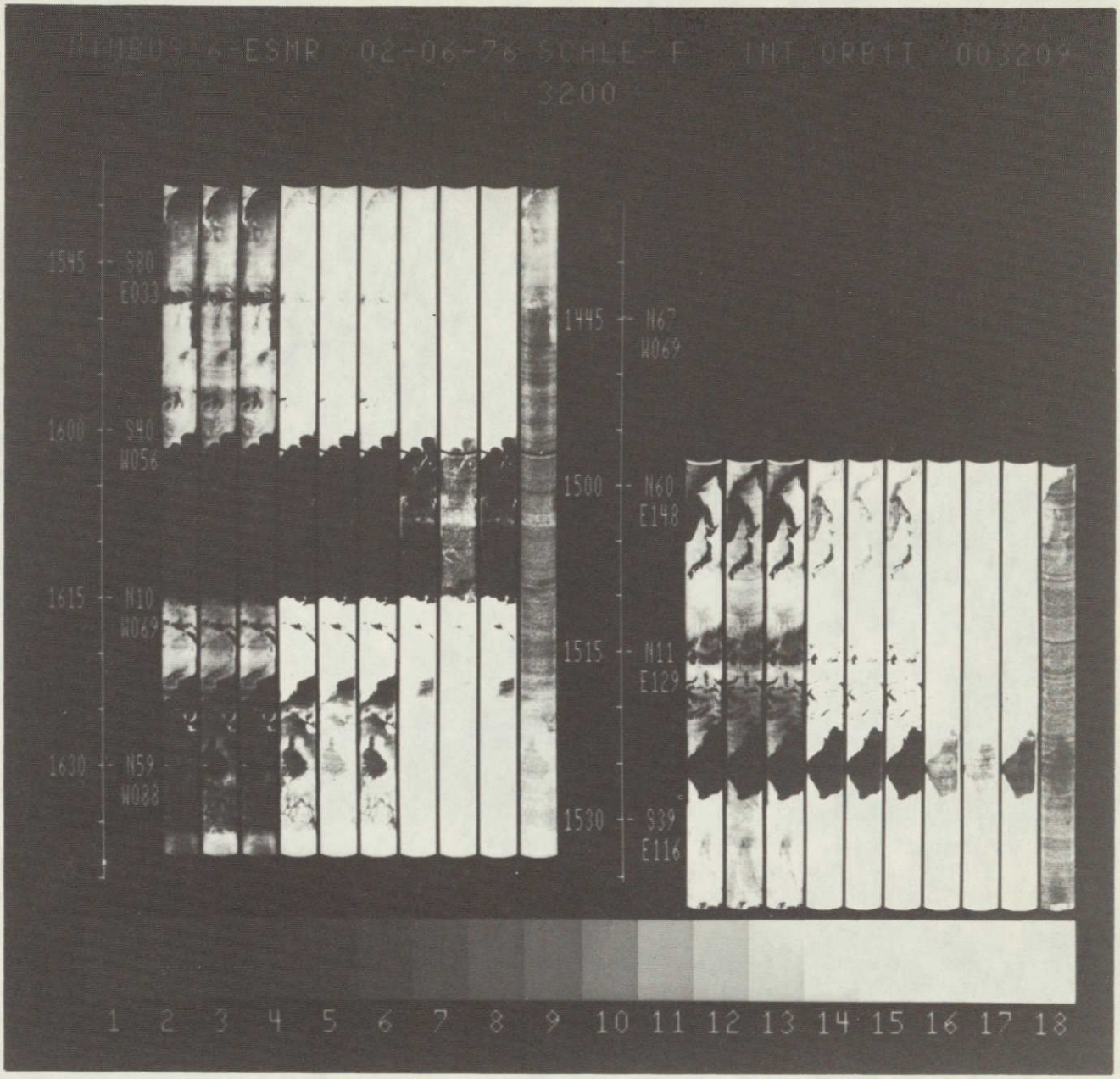

NIMBUS 6 ESMR 01-11-76 SCALE-F INT ORBIT 002861
3200
1615 S69 E096
1630 S58 W055
1645 S09 W074
1700 N41 W088
1515 N49 W064
1530 N76 E167
1545 N29 E125
1600 S21 E112
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

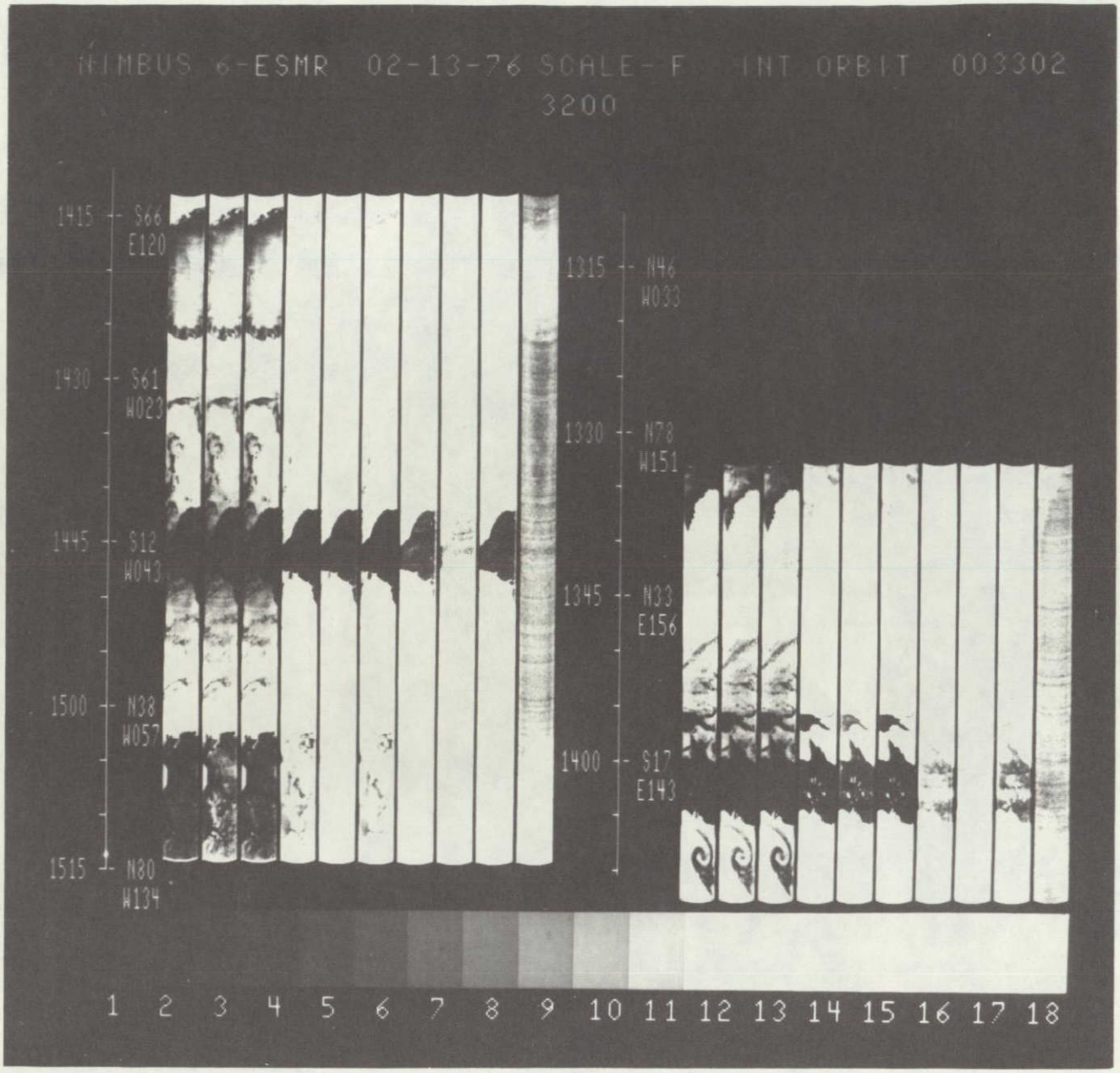


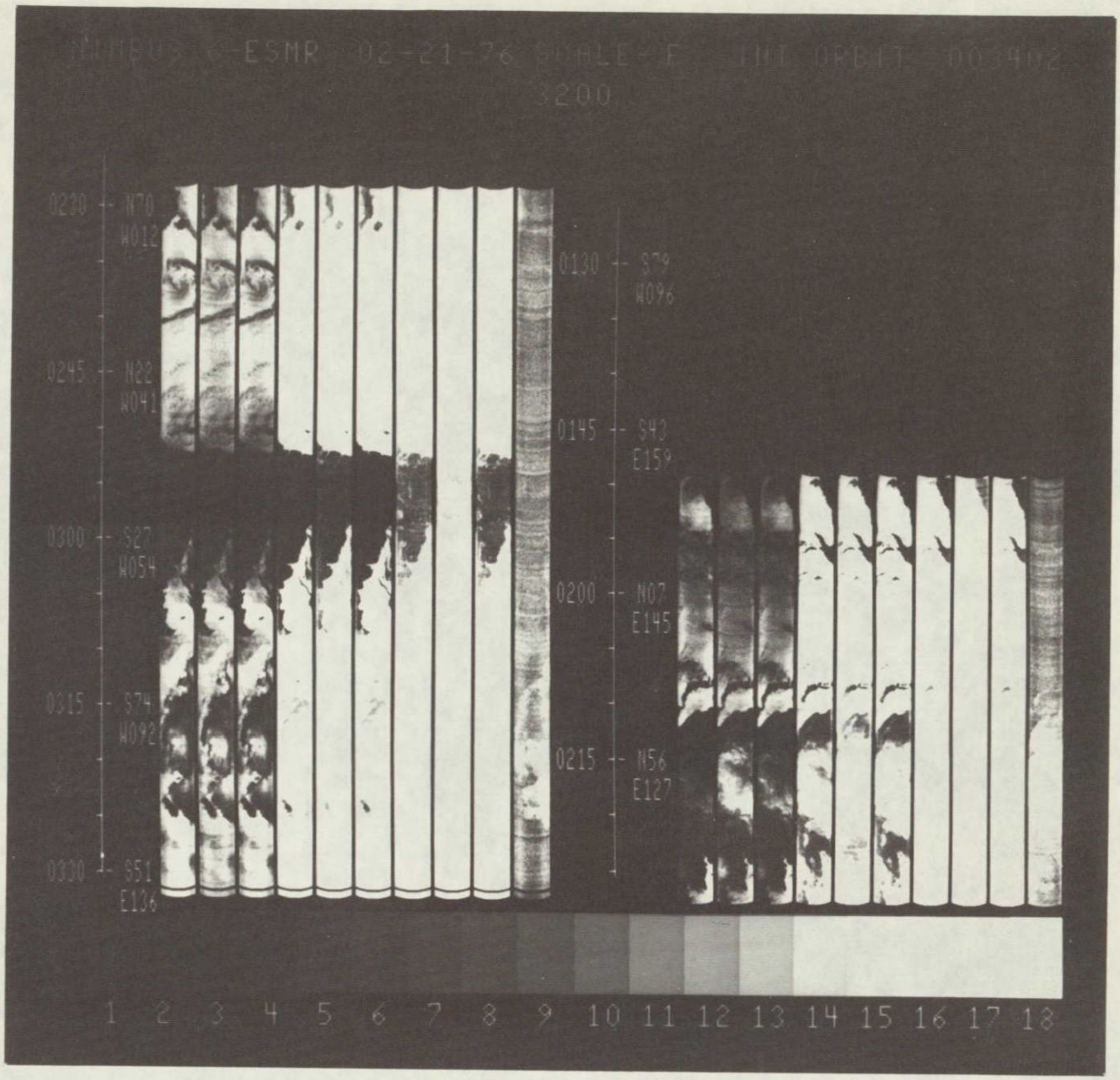
ORIGINAL PAGE IS
OF POOR QUALITY

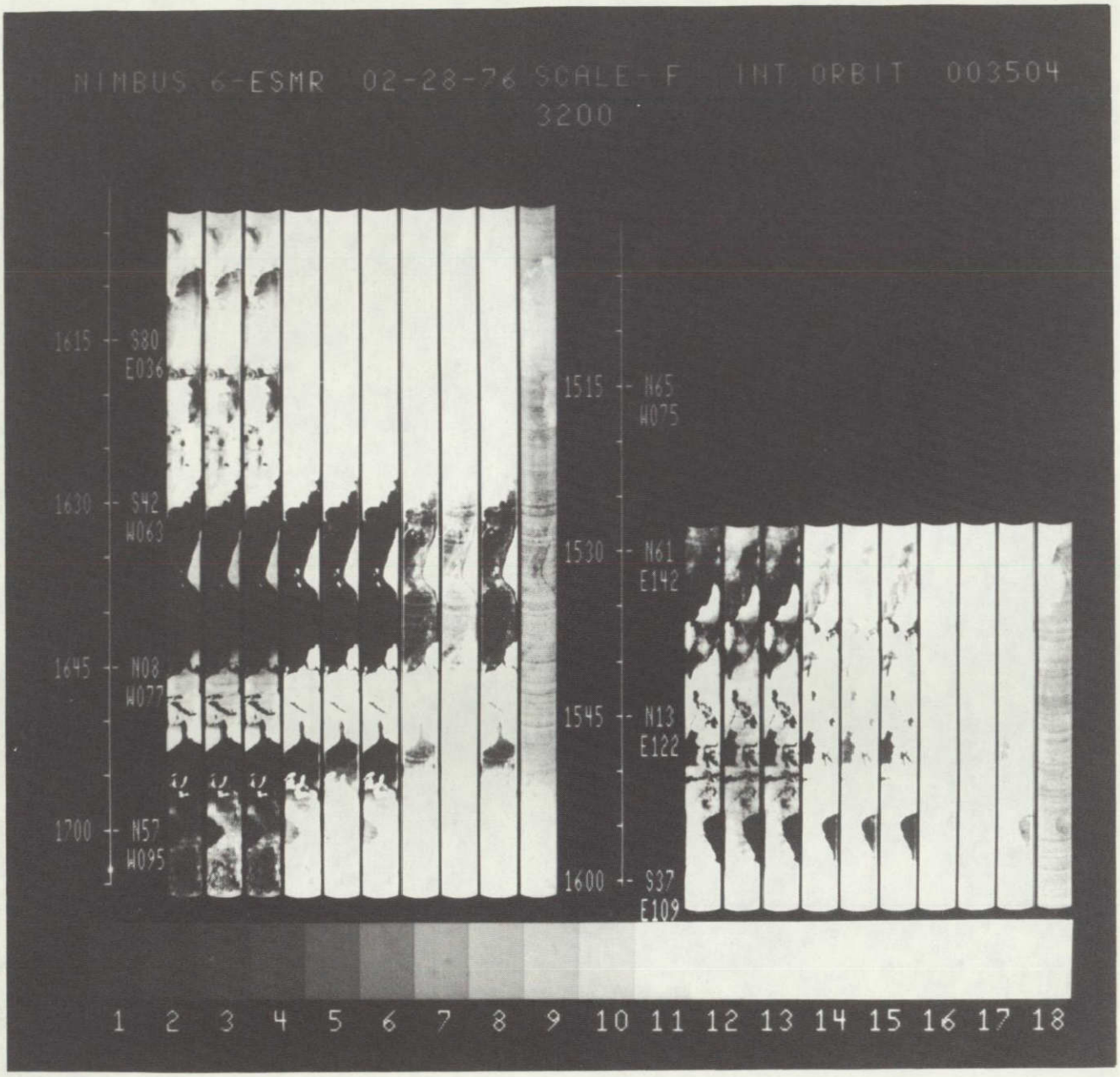

NIMBUS 6-ESMR 01-28-76 SCALE-F INT ORBIT 003082
3200
0330 N57 W041
0345 N08 W059
0400 S42 W073
0415 S80 W171
0430 S37 E116
0230 S76 W179
0245 S29 E140
0300 N21 E127
0315 N69 E100
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18






NIMBUS 6-ESMR 02-13-76 SCALE-F INT ORBIT 003302
3200
1415 S66 E120
1430 S61 W023
1445 S12 W043
1500 N38 W057
1515 N80 W134
1315 N46 W033
1330 N78 W151
1345 N33 E156
1400 S17 E143
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18





SECTION 4

TEMPERATURE HUMIDITY INFRARED RADIOMETER MONTAGES

The Nimbus 6 Temperature Humidity Infrared Radiometer (THIR) subsystem is of the same design and operation as the THIR flown on Nimbus 4 and 5. The two-channel scanning radiometer measures earth radiation in two spectral bands. A 10.3 μm to 12.5 μm (11.5 μm) window channel provides an image of the cloud cover, and temperatures of the cloud tops, land, and ocean surfaces. A 6.5 μm to 7.1 μm (6.7 μm) channel provides information on the moisture content of the upper troposphere and stratosphere, and the location of jet streams and frontal systems. Ground resolution at the satellite subpoint is 8.2 km for the 11.5 μm channel and 22.5 km for the 6.7 μm channel. Both channels operate continuously to provide day and night global coverage. However, with only HDRSS recorder (A) available for full-time use on the satellite, gaps in global coverage occur over "blind" orbit areas, and sometimes over the Rosman and Alaska STDN stations, when the tape data are being transmitted to the ground. The blind orbits occur during a daytime pass over the western part of the Pacific Ocean and during a nighttime pass over the eastern part of the Atlantic Ocean. These blind orbit areas happen when the Orroral, Australia is not available for playback of recorded data. Then the time between successive playbacks of the tape recorder becomes longer than the record capability of the good HDRSS A plus the reduced capability of HDRSS B.

This section pictorially documents the data from the THIR. Section 4.1 contains all nighttime THIR 11.5 μm and 6.7 μm montages and Section 4.2 contains all daytime THIR 11.5 μm and 6.7 μm montages, arranged in chronological order. Key latitudes can be read from the superimposed grids. Grid points are identified where each swath crosses 60°N, 30°N, EQUATOR, 30°S and 60°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.

THIR photographic data and/or digital data can be ordered through the National Space Science Data Center (NSSDC), Code 601, Goddard Space Flight Center, Greenbelt, Maryland 20771.

THIR photographic data consist of 70 mm film strips produced from the radiometer output signals. The gray shades in each image correspond to temperature variations of the land, sea, and clouds. On a film positive the lightest tones represent cold temperatures, while the darkest tones represent warm temperatures. THIR photographic data are archived in separate 6.7 μm and 11.5 μm daytime and nighttime swaths. The approximate coverage of a full swath is from pole to pole.

When ordering THIR photographic data from NSSDC the following information should be given:

- Satellite (e. g. Nimbus 6)
- Date of data
- Data orbit number, channel (11. 5 μm or 6. 7 μm), and whether day or night data
- Data format, i. e. , positive or negative transparencies, or prints
- Area of interest defined by latitude and longitude

In addition to the THIR film strips, photographic copies of the daily day or night montages prepared from film strips can be obtained.

Quantitative digital data are obtained when the original analog signals are digitized with full fidelity, and processed by an IBM 360 computer, where calibration and geographic referencing are applied. Each reduced radiation data tape prepared by the IBM 360 is called a Nimbus Meteorological Radiation Tape-THIR (NMRT-THIR). The NMRT can be used to generate grid print maps or to accomplish special scientific analyses. The format of this tape may be found in The Nimbus 6 User's Guide, Section 2.

Due to the large volume and the long computer running time required for processing THIR into NMRTs, Nimbus 6 THIR digital data are not routinely reduced to final NMRT format. Only those data which are specifically requested by the user will be processed. Requests should be made through NSSDC. It is anticipated that requested NMRT-THIR will begin to be available through NSSDC six months after launch. The user is urged to make full use of the film strips which are abundantly available in nearly real time from the NSSDC.

A series of programs at GSFC produce printed and contoured data referenced to a grid on Polar Stereographic or Mercator map bases. These are called grid print maps. The advantages of the grid print map presentation are the display of absolute values of temperatures in their approximate location and geographical rectification of the data. Grid print maps may be produced for either a single orbit or a composite of several orbits. The following standard options are available and should be specified when requesting grid print maps from NSSDC.

- Map and Approximate Scale

  a. Polar Stereographic, 1:30 million

  b. Polar Stereographic, 1:10 million

c. Multi-resolution Mercator maps are available down to 1:1 million scale.

- Maximum Scan Angle (50 degrees is practical limit)

- Field Values and Contouring. Unless otherwise specified, all maps will include field values and contouring except Mercator maps of scales larger than 1:20 million. A data population map, indicating the number of individual measurements contained in each grid point average, as well as a latitude-longitude description for geographically locating the data, will be provided along with each grid print map.

When ordering grid print map data, the following identifying information should be given:

- Satellite (e. g. , Nimbus 6)

- Sensor (THIR)

- Channel (6. 7 μm or 11. 7 μm)

- Data Orbit Number

- Calendar Date of Equator Crossing

- Beginning and Ending Times of Data in GMT

- Latitude and Longitude Limits of Area of Interest

- Map Type and Map Scale

- Scan Angle Limits

- Contouring or No Contouring of Data Points

When ordering NMRTs, the "Calendar Date of Equator Crossing" and "Map type and Map Scale" can be omitted.

Beginning and ending times of data in GMT can be interpolated using Table 4-1 which gives the elapsed time from either ascending or descending node as a function of latitude. These elapsed time values can be appropriately added or subtracted from node times given in Table 2-2.

A complete description of the THIR experiment may be found in The Nimbus 6 User's Guide, Section 2.

Table 4-1

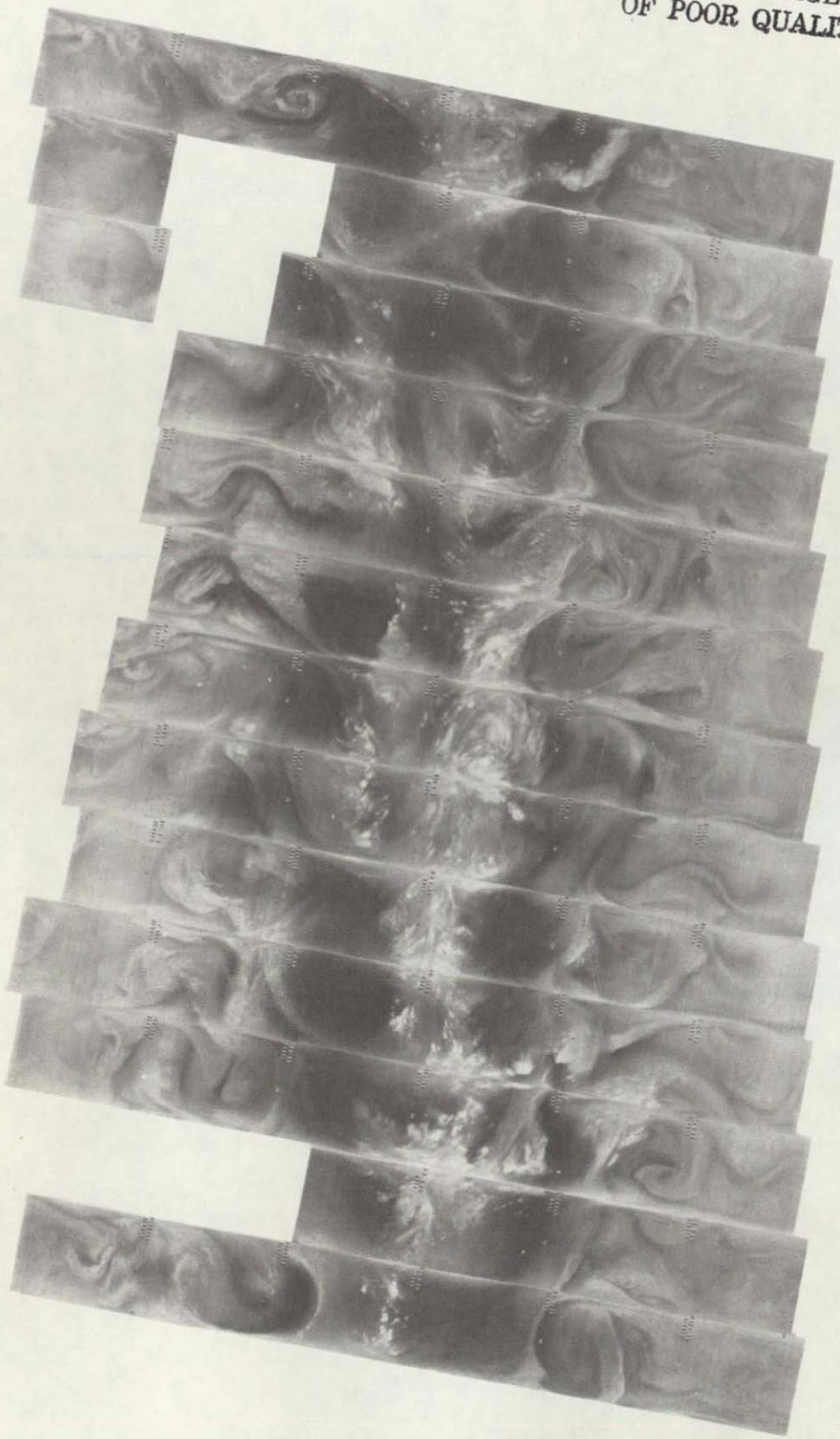
Latitude Versus Minutes From
Ascending or Descending Node

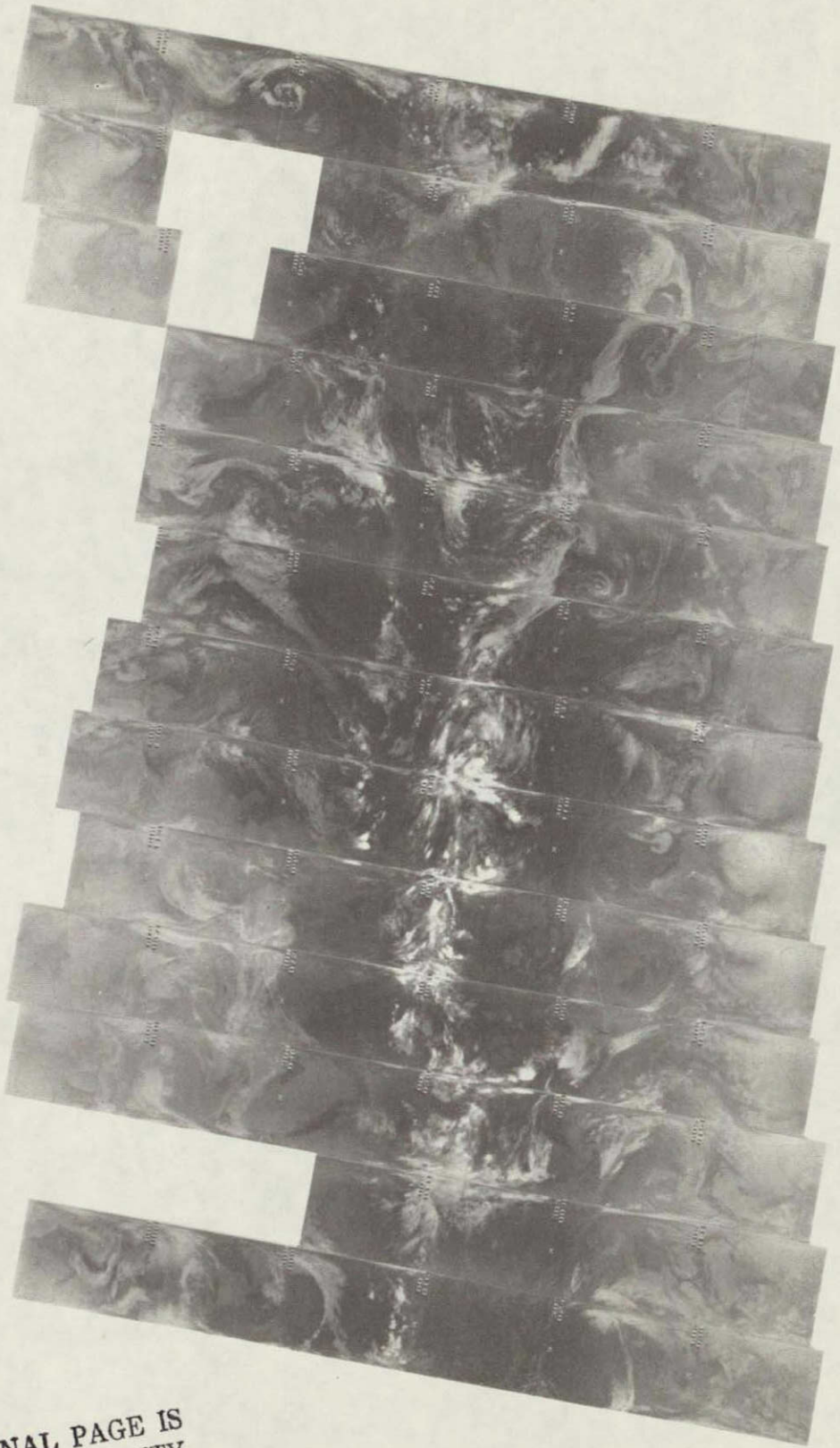
Latitude from AN or DN	Minutes and Seconds from AN or DN
0	0:00
5	1:31
10	3:02
15	4:33
20	6:03
25	7:34
30	9:05
35	10:36
40	12:08
45	13:40
50	15:12
55	16:44
60	18:18
65	19:52
70	21:33
75	23:26
78	24:44
80.1	26:49
78	29:00
75 ——	30:09
70	31:51
65	33:35

SECTION 4.1

TEMPERATURE HUMIDITY INFRARED RADIOMETER

NIGHTTIME MONTAGES

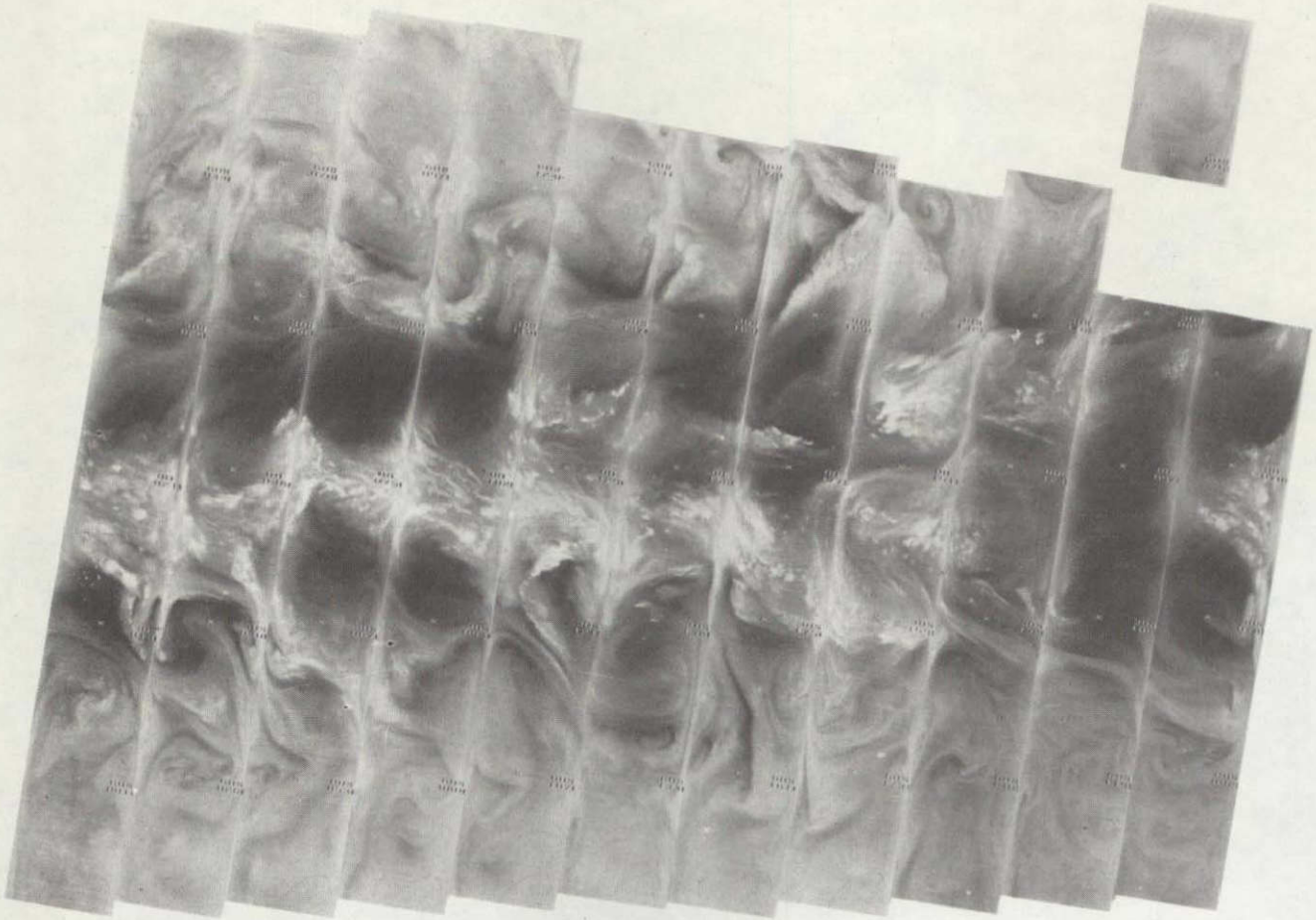




2731 2730 2729 2728 2727 2726 2725 2724 2723 2722 2721 2720 2719 2718

1 JANUARY 1976

11.5 μm



2744 2743 2742 2741 2740 2739 2738 2737 2736 2735 2734 2733 2732

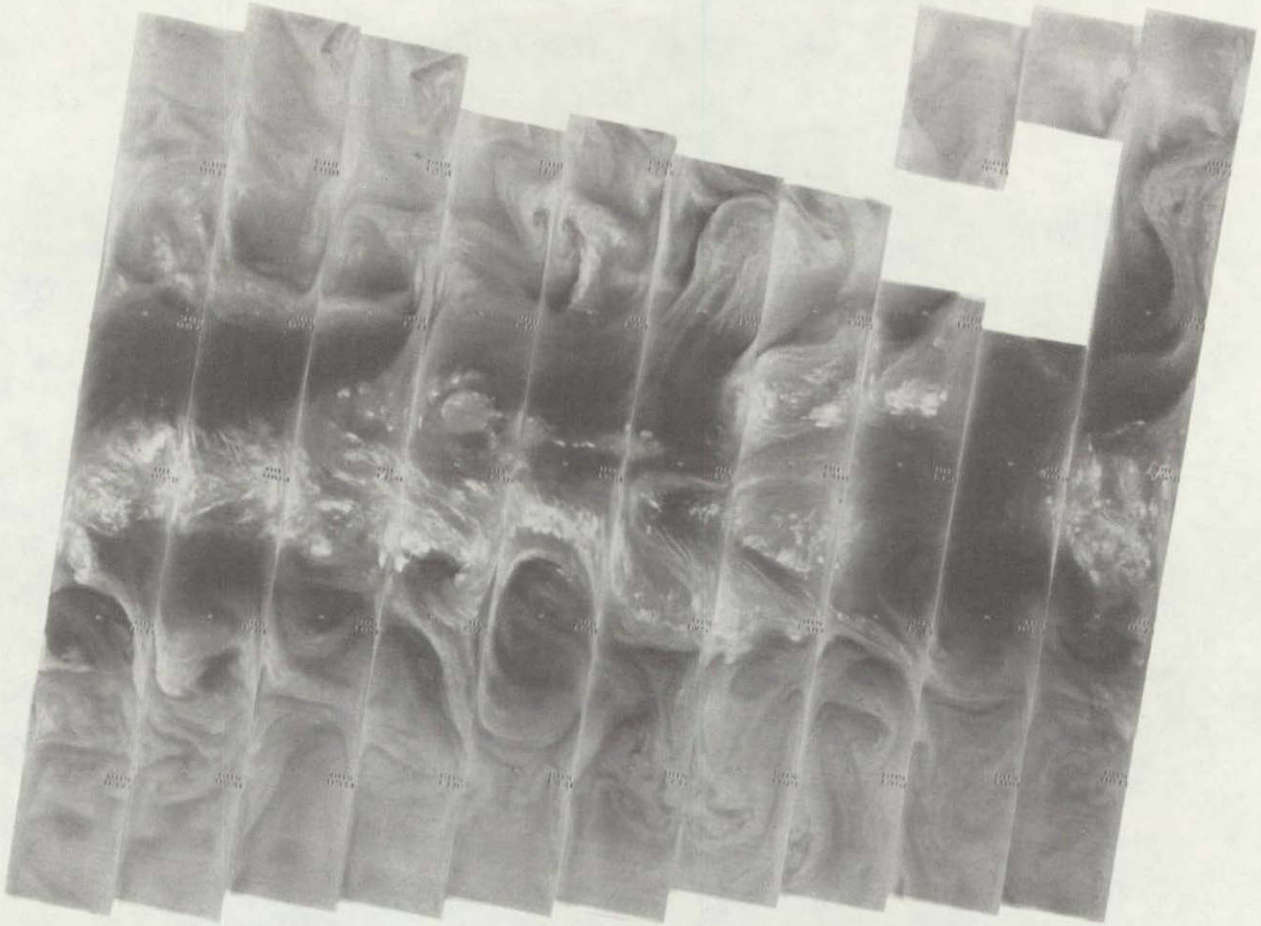
2 JANUARY 1976

6.7 μm

2744 2743 2742 2741 2740 2739 2738 2737 2736 2735 2734 2733 2732

2 JANUARY 1976

11.5μm



2757 2756 2755 2754 2753 2752 2751 2750 2749 2748 2747 2746 2745

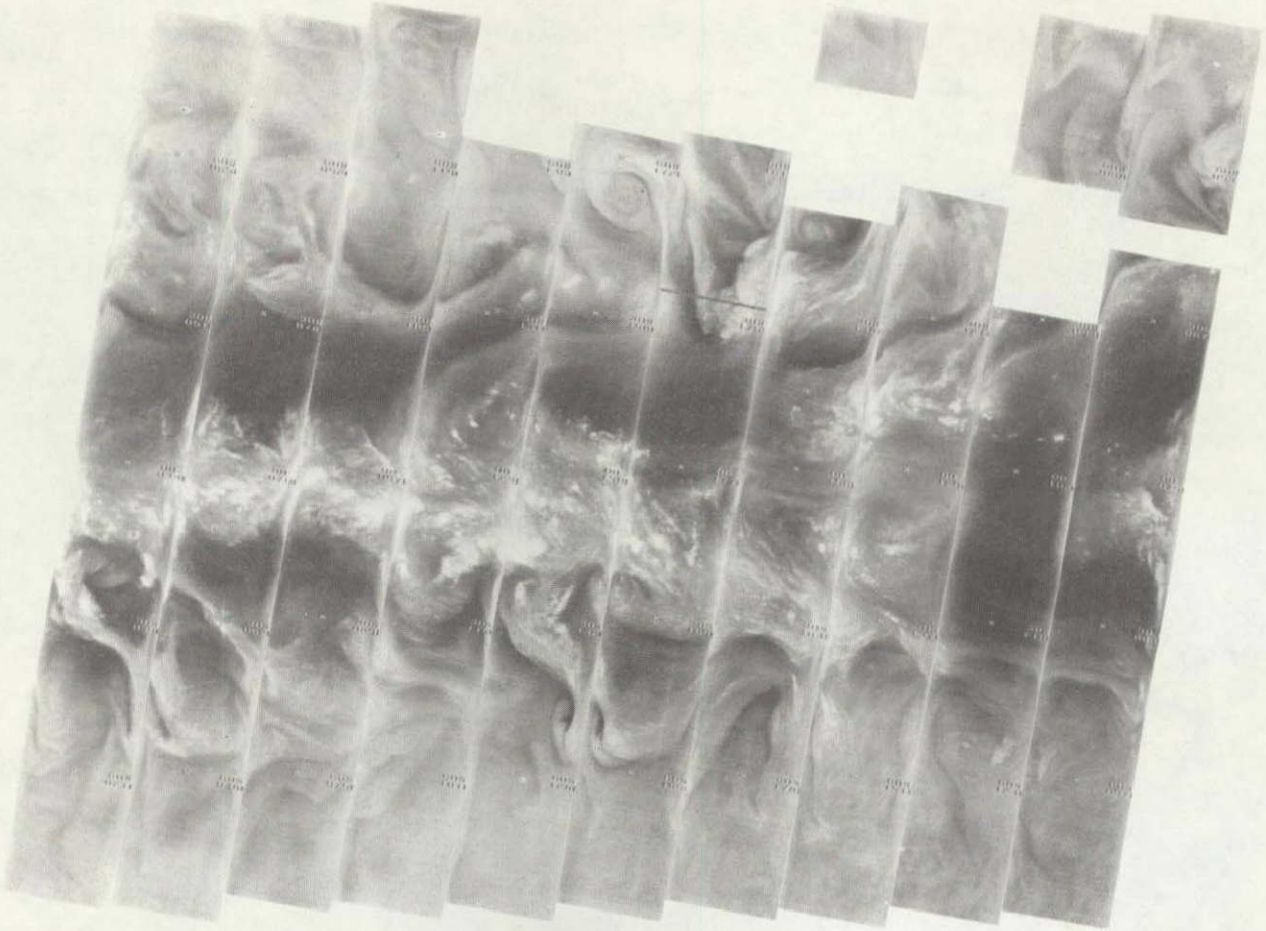
3 JANUARY 1976

6.7 μm

2757 2756 2755 2754 2753 2752 2751 2750 2749 2748 2747 2746 2745

3 JANUARY 1976

11.5 μm



2771 2770 2769 2768 2767 2766 2765 2764 2763 2762 2761 2760 2759 2758

4 JANUARY 1976

6.7μm

2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771

4 JANUARY 1976

11.5 μm

C-2

2784 2783 2782 2781 2780 2779 2778 2777 2776 2775 2774 2773 2772

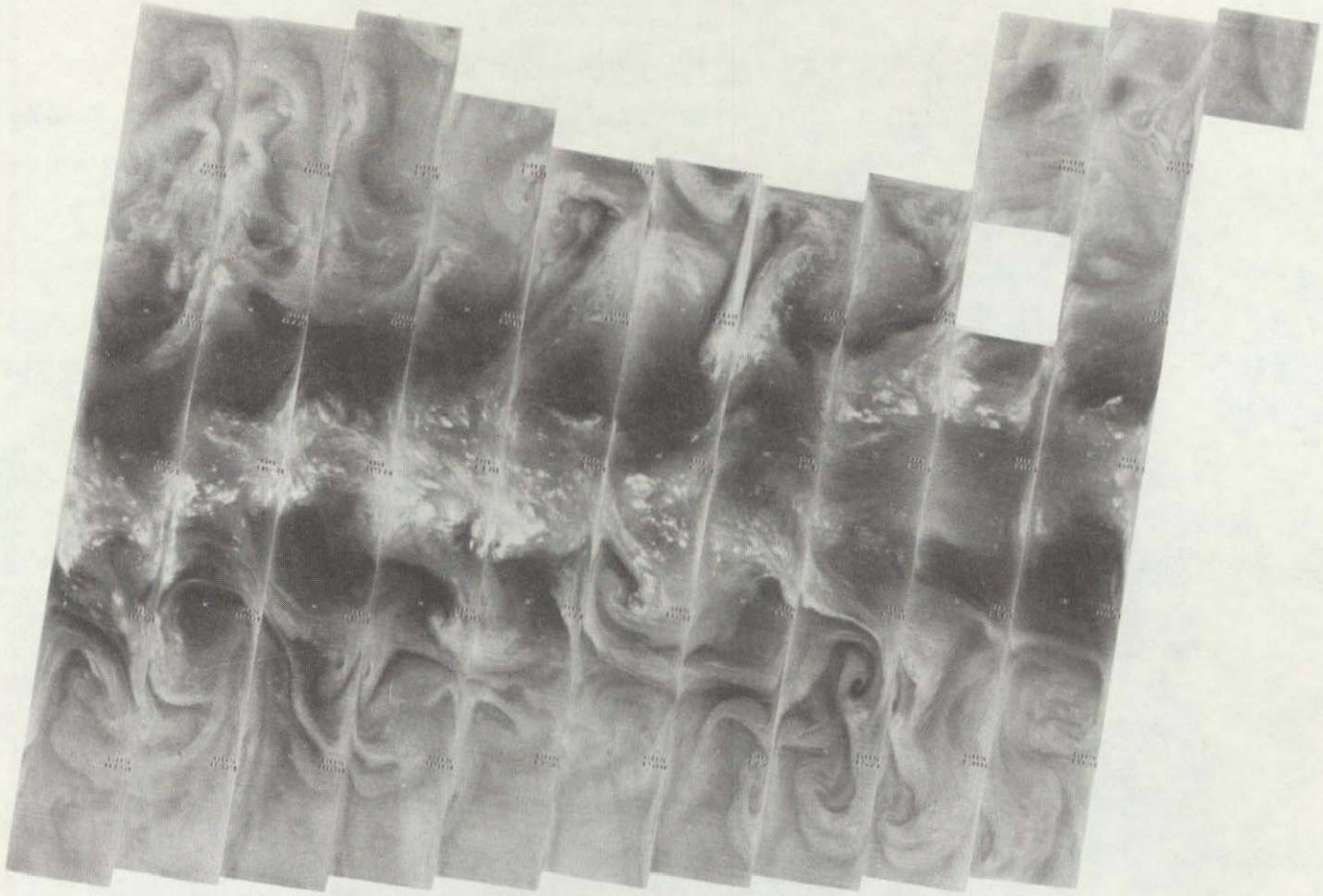
5 JANUARY 76

6.7 μm

2784 2783 2782 2781 2780 2779 2778 2777 2776 2775 2774 2773 2772

5 JANUARY 1976

11.5μm



2798 2797 2796 2795 2794 2793 2792 2791 2790 2789 2788 2787 2786 2785

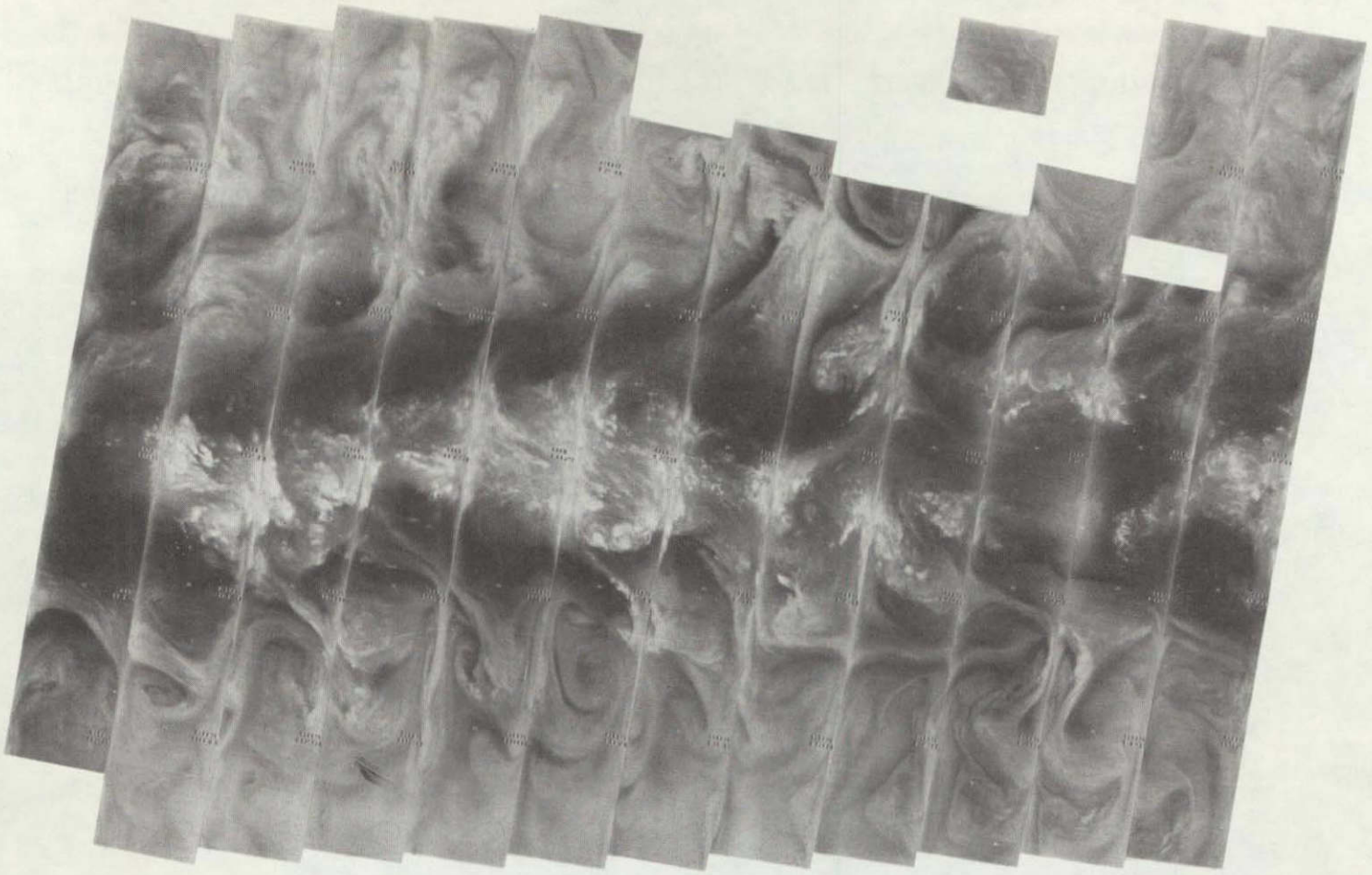
6 JANUARY 1976

6.7μm

2798 2797 2796 2795 2794 2793 2792 2791 2790 2789 2788 2787 2786 2785

6 JANUARY 1976

11.5 μm



2811 2810 2809 2808 2807 2806 2805 2804 2803 2802 2801 2800 2799

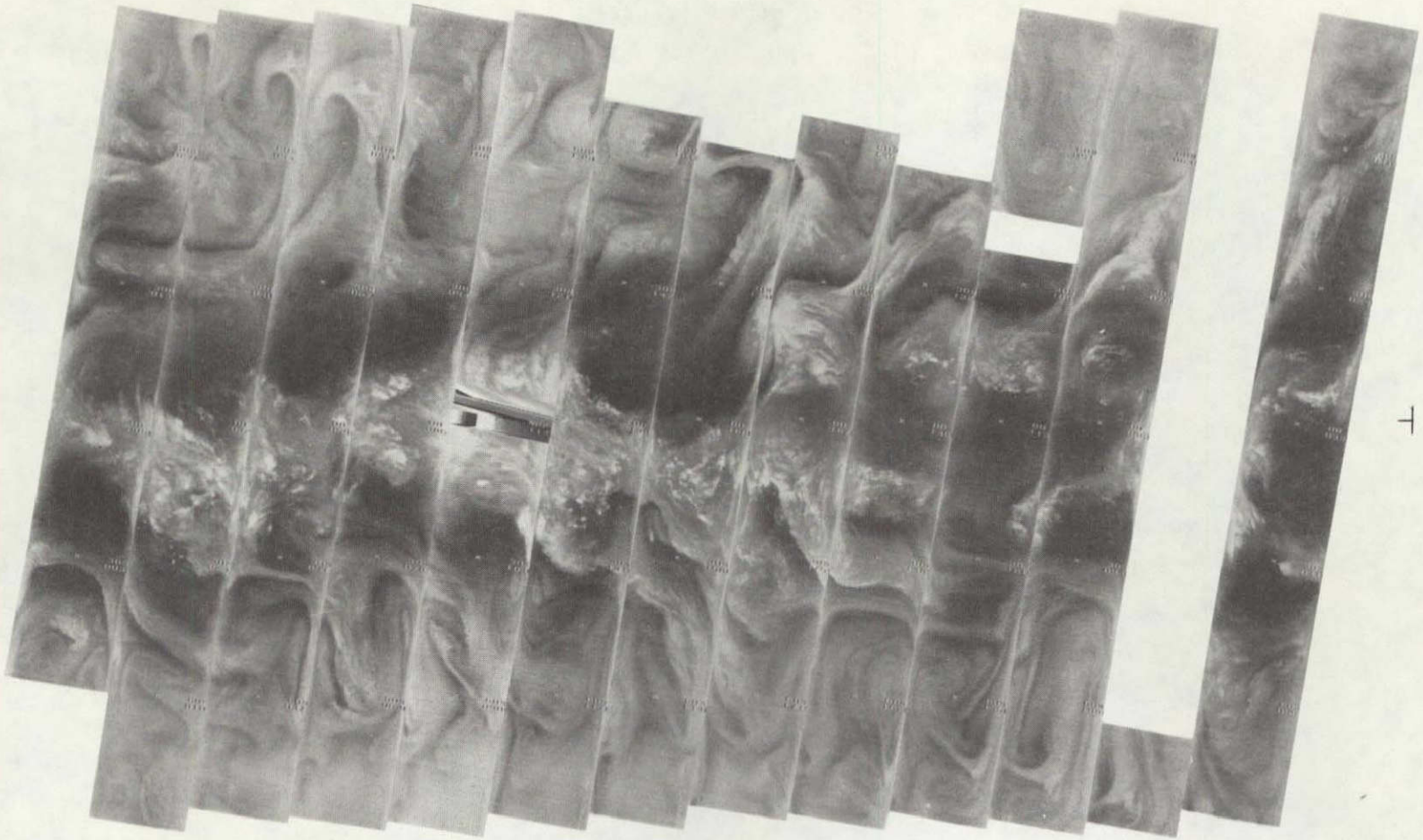
7 JANUARY 1976

6.7 μm

2811 2810 2809 2808 2807 2806 2805 2804 2803 2802 2801 2800 2799

7 JANUARY 1976

11.5 μm



2824 2823 2822 2821 2820 2819 2818 2817 2816 2815 2814 2813 2812

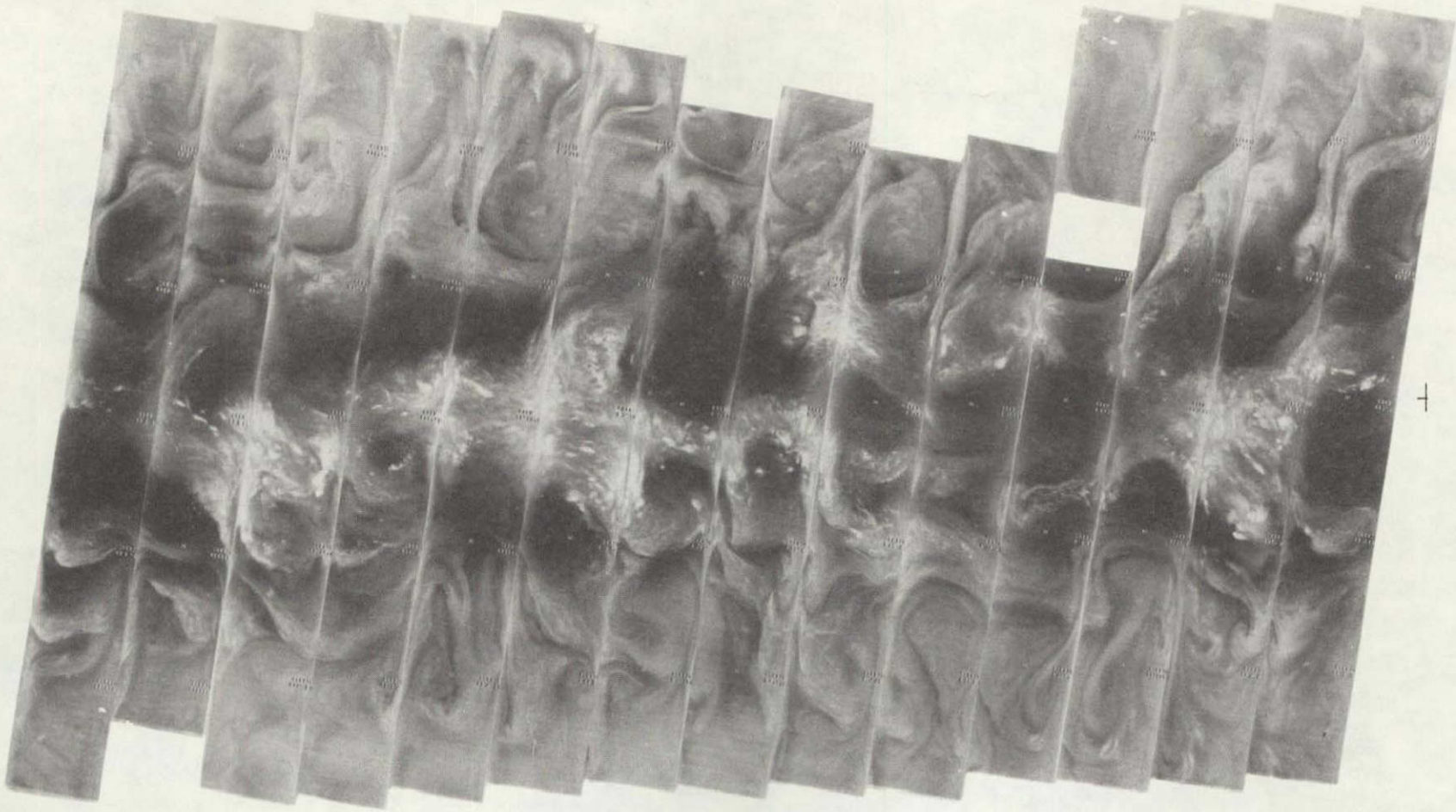
8 JANUARY 1976

6.7 μm

2824 2823 2822 2821 2820 2819 2818 2817 2816 2815 2814 2813 2812

8 JANUARY 1976

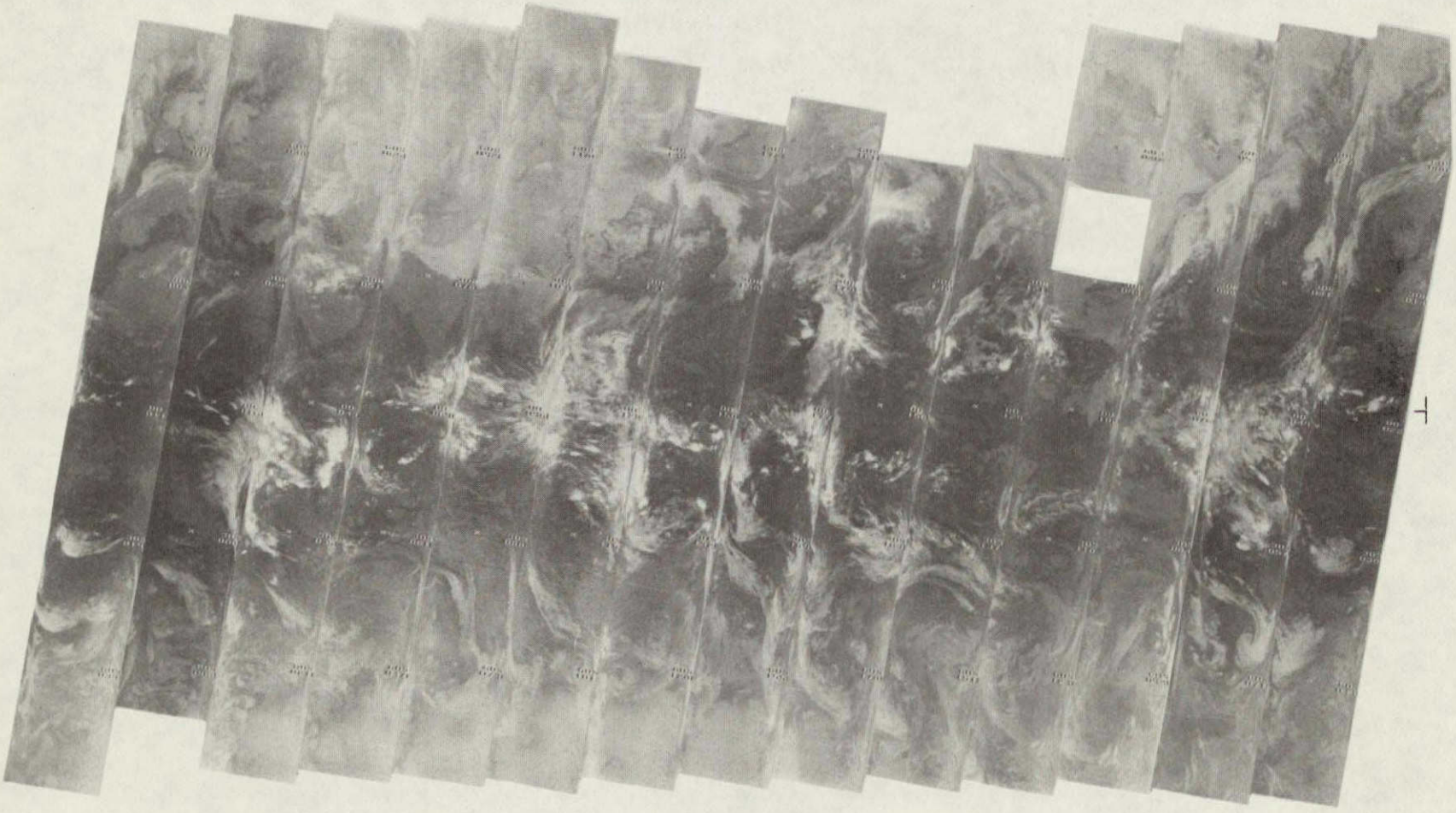
11.5μm



2838 2837 2836 2835 2834 2833 2832 2831 2830 2829 2828 2827 2826 2825

9 JANUARY 1976

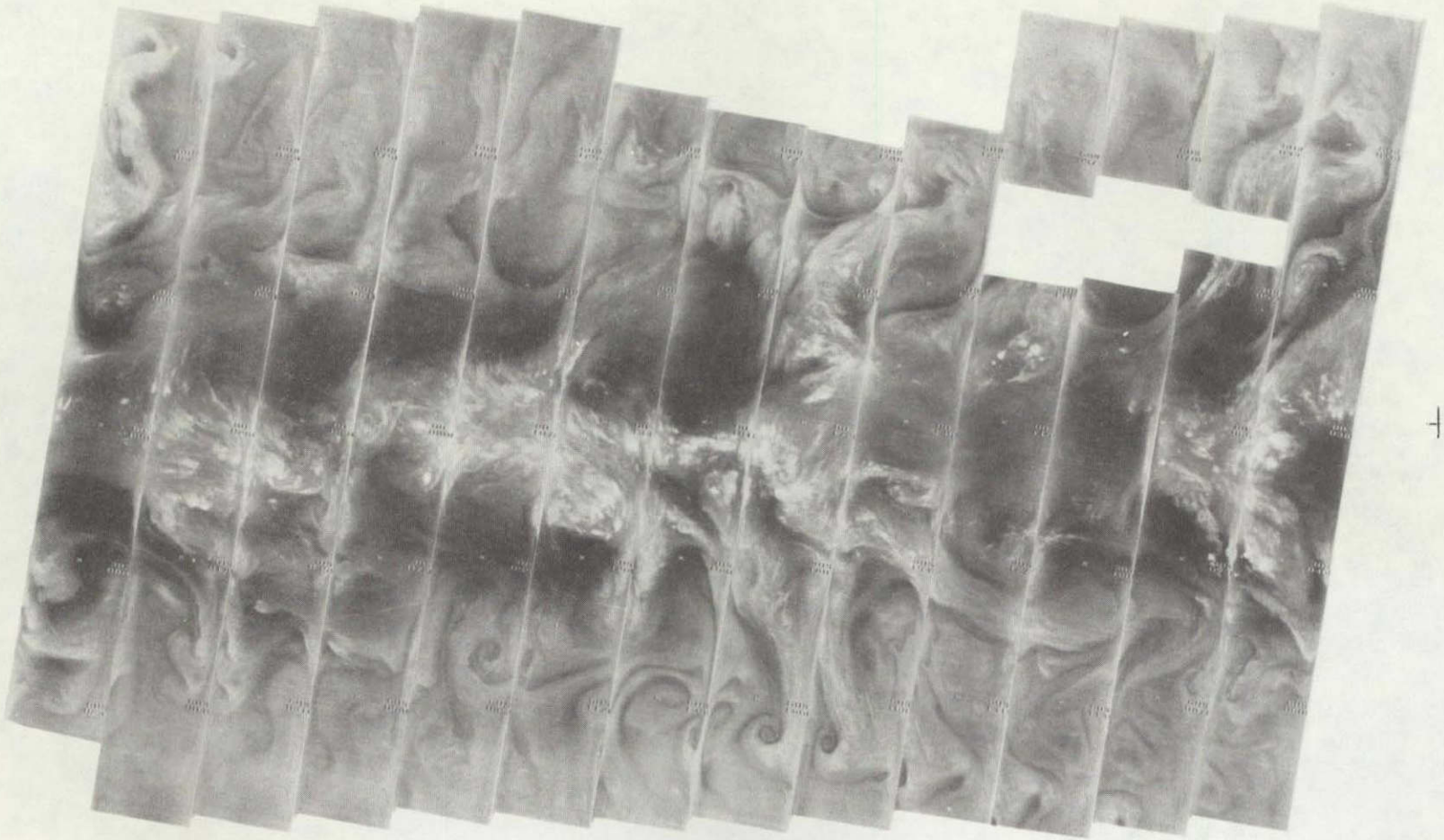
6.7 μm



2838 2837 2836 2835 2834 2833 2832 2831 2830 2829 2828 2827 2826 2825

9 JANUARY 1976

11.5μm



2851 2850 2849 2848 2847 2846 2845 2844 2843 2842 2841 2840 2839

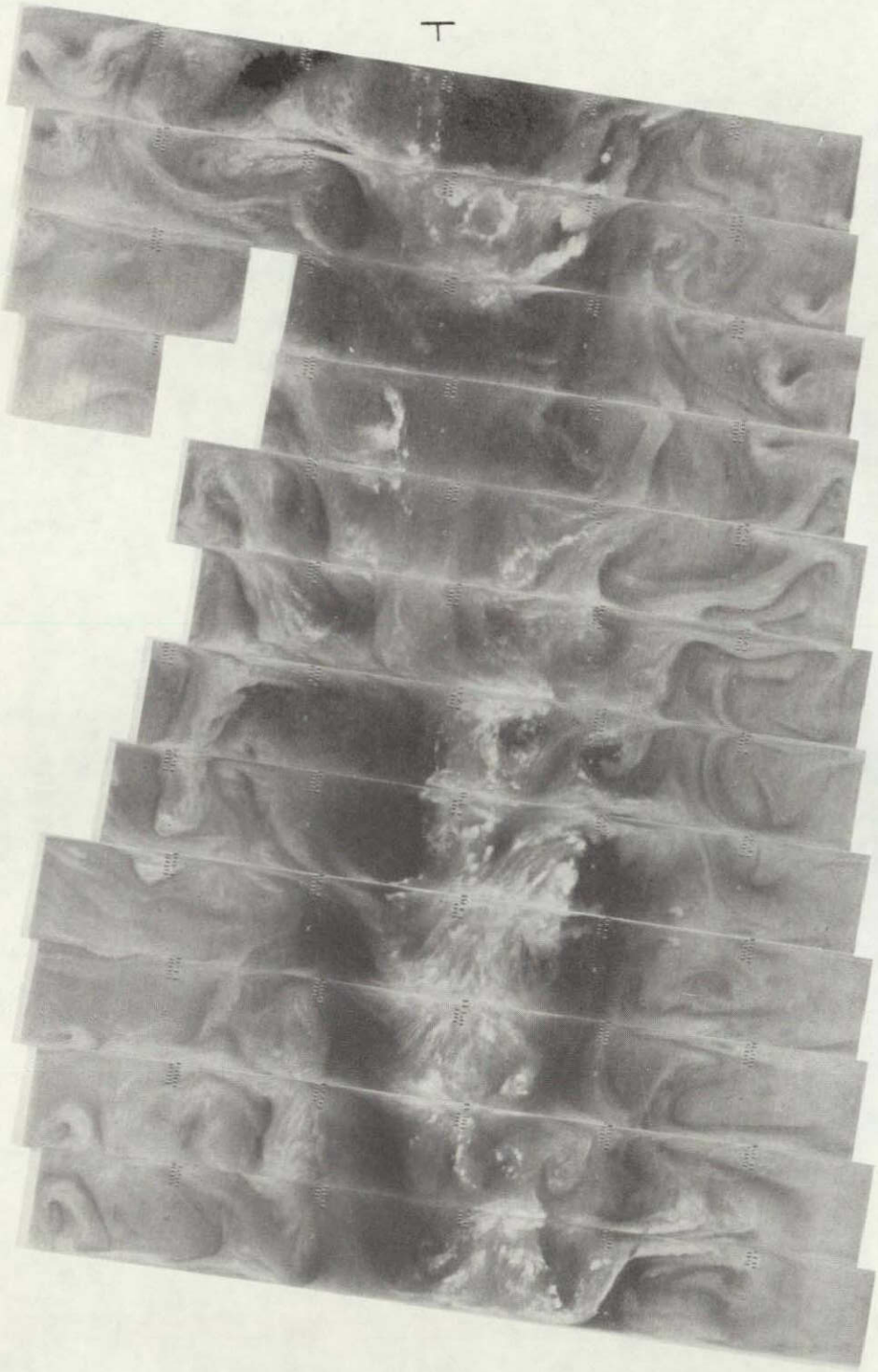
10 JANUARY 1976

6.7 μm

2851 2850 2849 2848 2847 2846 2845 2844 2843 2842 2841 2840 2839

10 JANUARY 1976

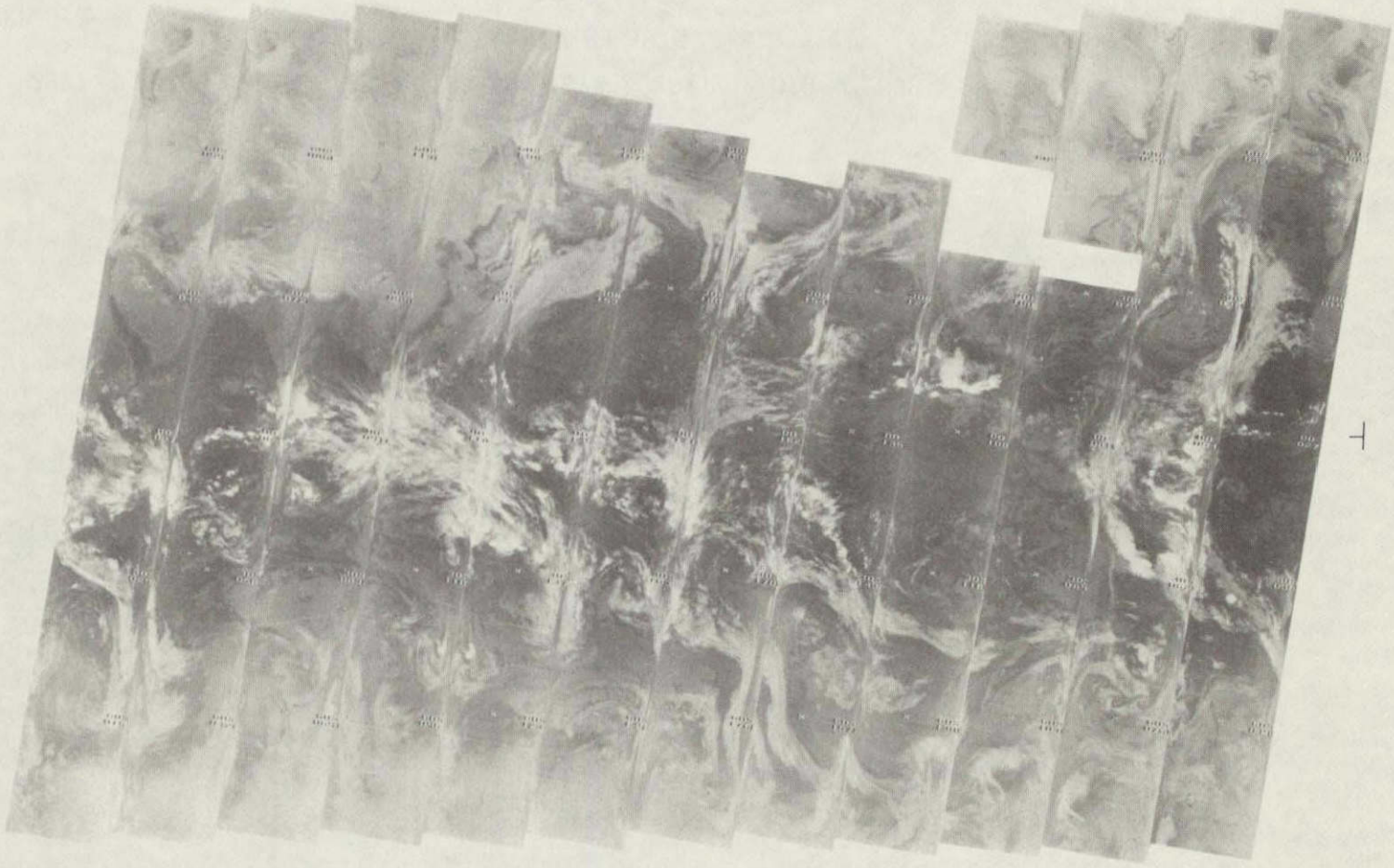
11.5μm



2852 2853 2854 2855 2856 2857 2858 2859 2860 2861 2862 2863 2864 2865

11 JANUARY 1976

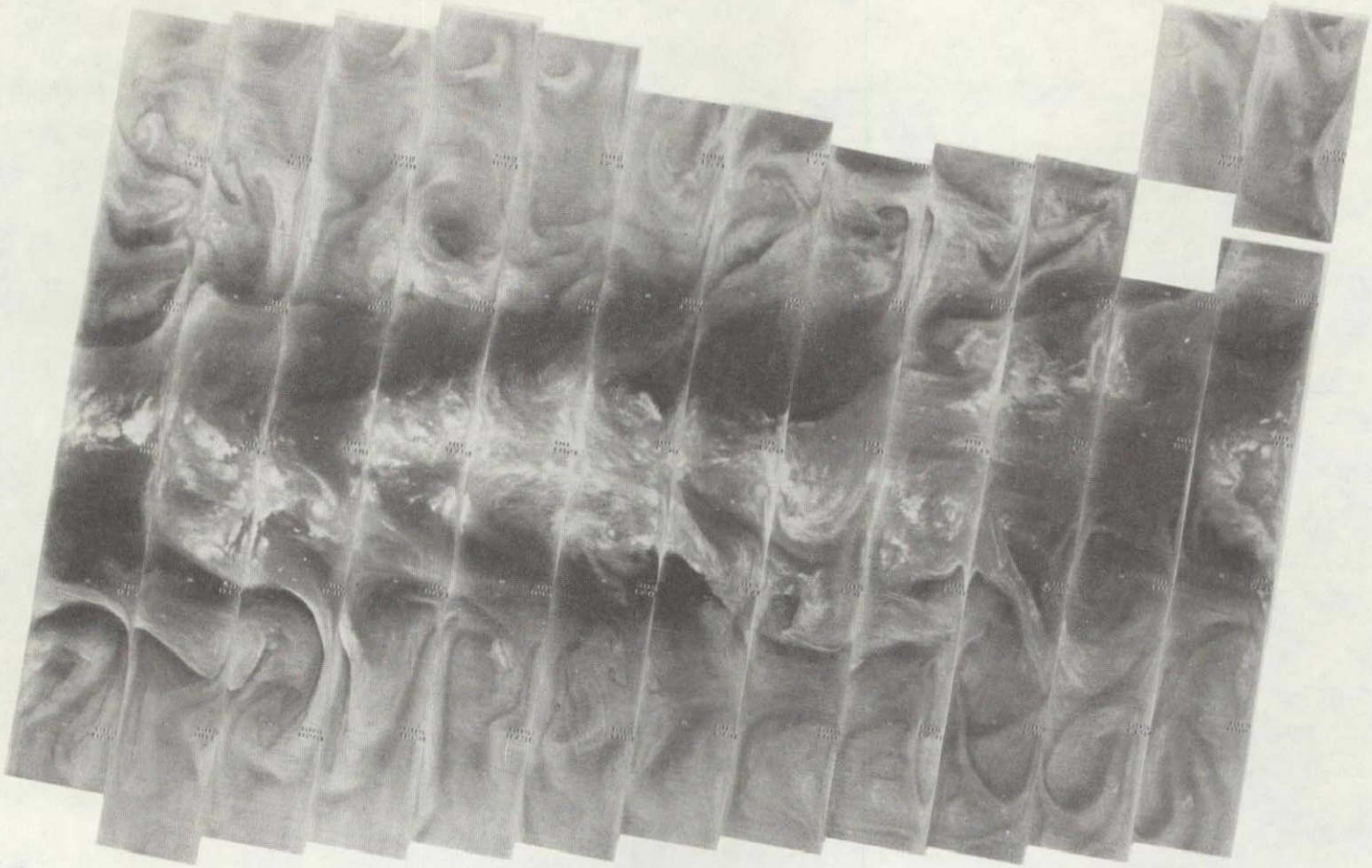
6.7 μm



2865 2864 2863 2862 2861 2860 2859 2858 2857 2856 2855 2854 2853 2852

11 JANUARY 1976

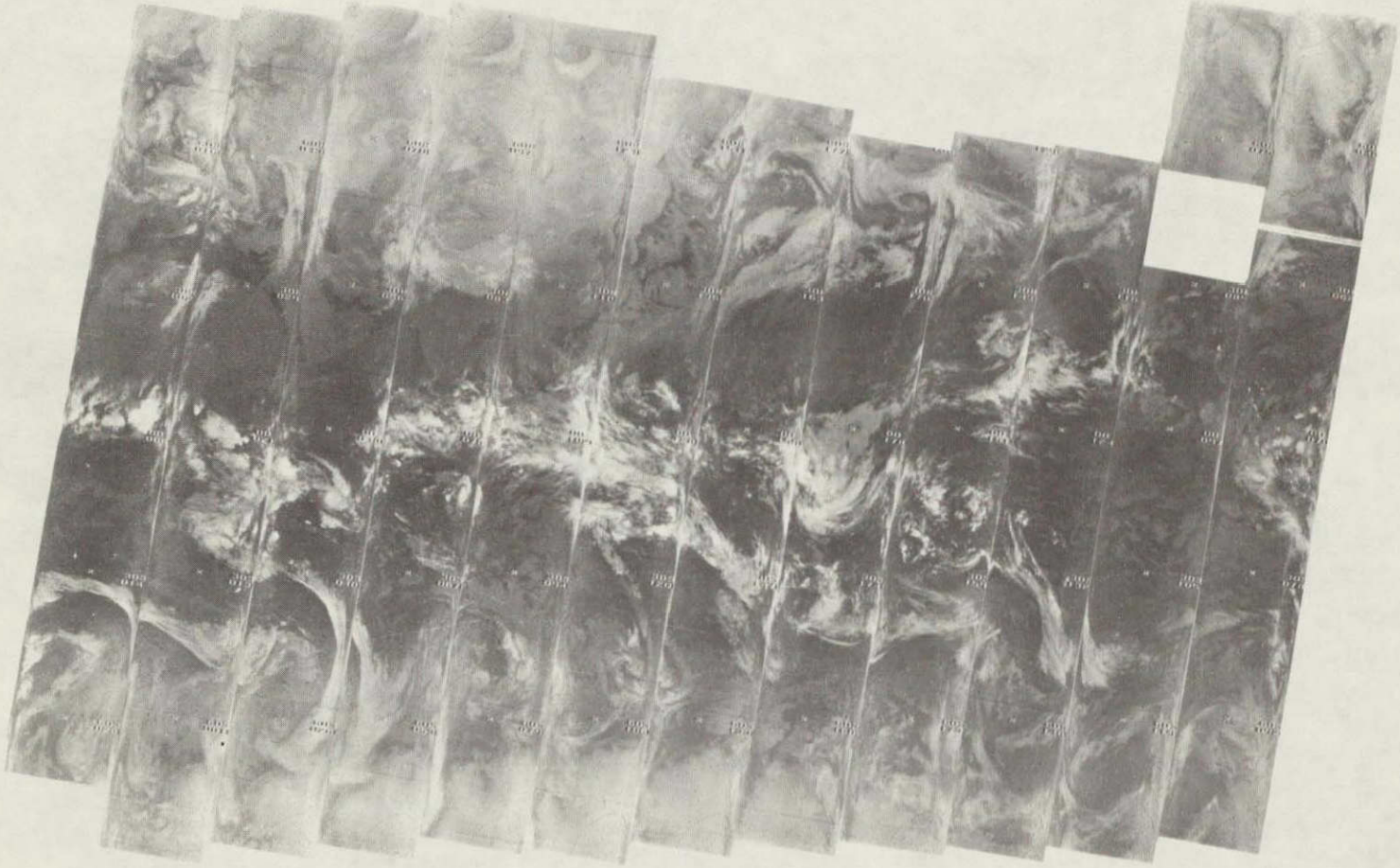
11.5μm



2878 2877 2876 2875 2874 2873 2872 2871 2870 2869 2868 2867 2866

12 JANUARY 1976

6.7 μm



2878 2877 2876 2875 2874 2873 2872 2871 2870 2869 2868 2867 2866

12 JANUARY 1976

11.5 μm

2879 2880 2881 2882 2883 2884 2885 2886 2887 2888 2889 2890 2891

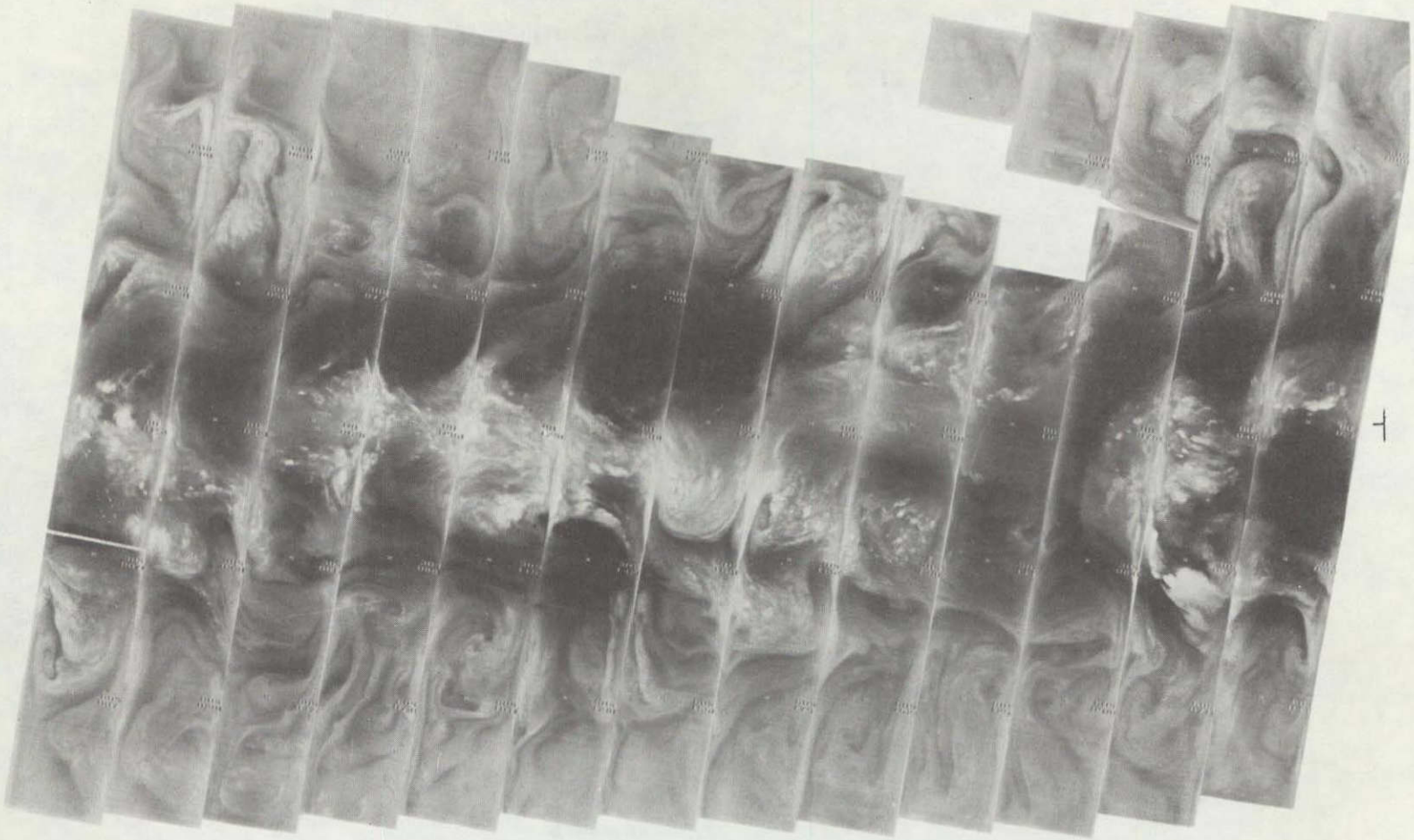
13 JANUARY 1976

6.7 μm

2891 2890 2889 2888 2887 2886 2885 2884 2883 2882 2881 2880 2879

13 JANUARY 1976

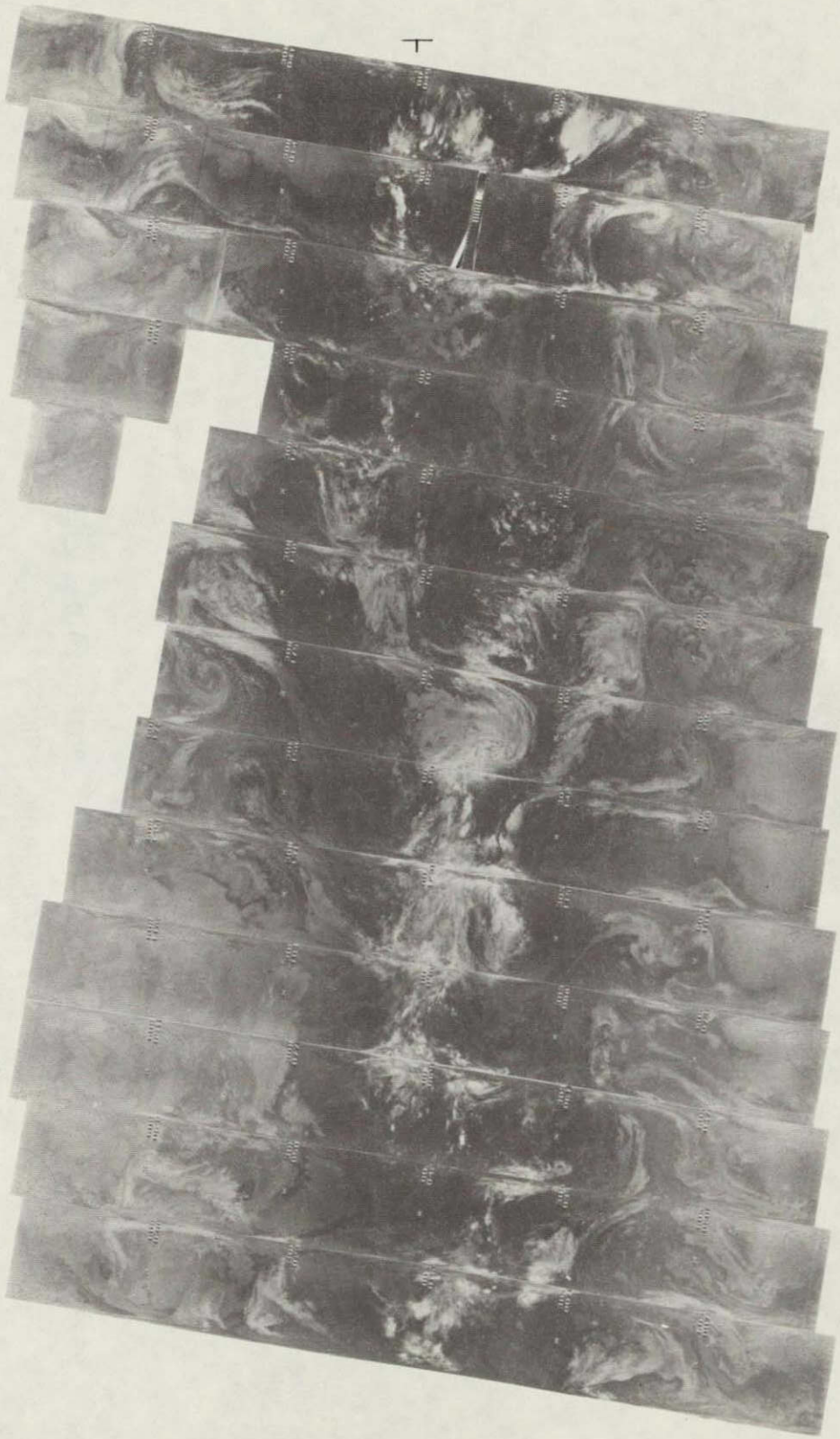
11.5μm

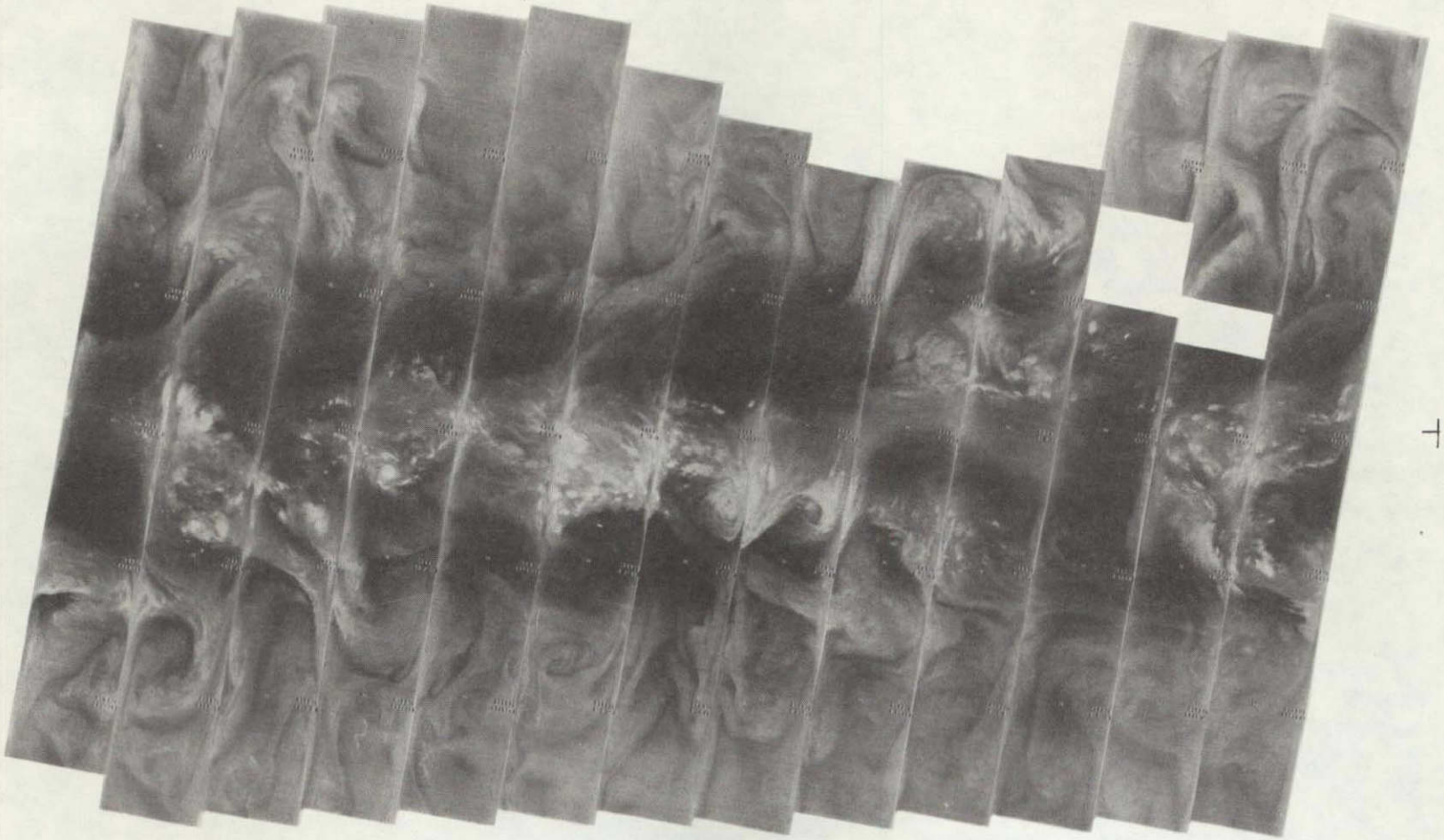


2905 2904 2903 2902 2901 2900 2899 2898 2897 2896 2895 2894 2893 2892

14 JANUARY 1976

6.7 μm





2918 2917 2916 2915 2914 2913 2912 2911 2910 2909 2908 2907 2906

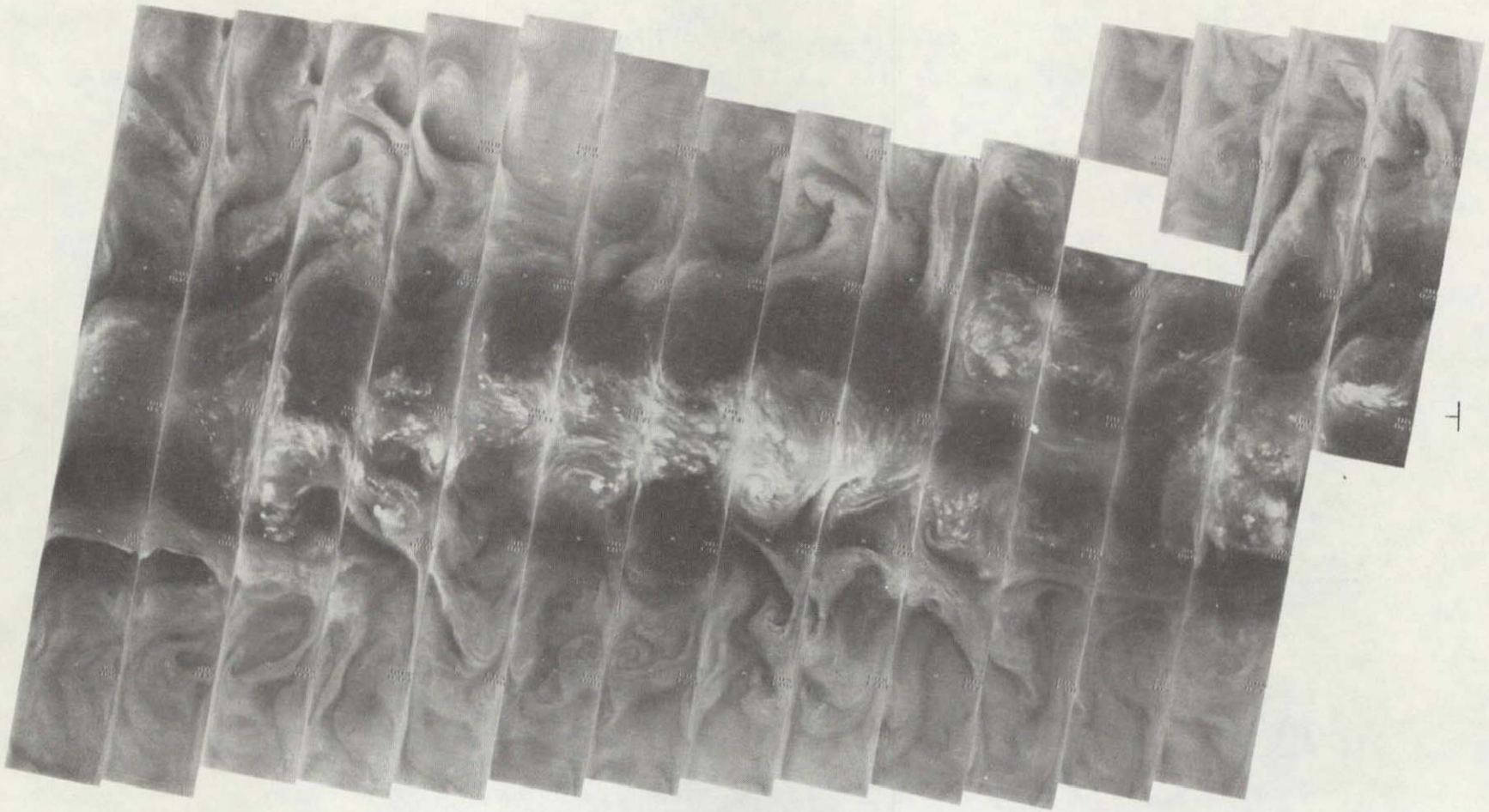
15 JANUARY 1976

6.7 μm

2918 2917 2916 2915 2914 2913 2912 2911 2910 2909 2908 2907 2906

15 JANUARY 1976

11.5 μm



2932 2931 2930 2929 2928 2927 2926 2925 2924 2923 2922 2921 2920 2919

16 JANUARY 1976

6.7μm

2919 2920 2921 2922 2923 2924 2925 2926 2927 2928 2929 2930 2931 2932

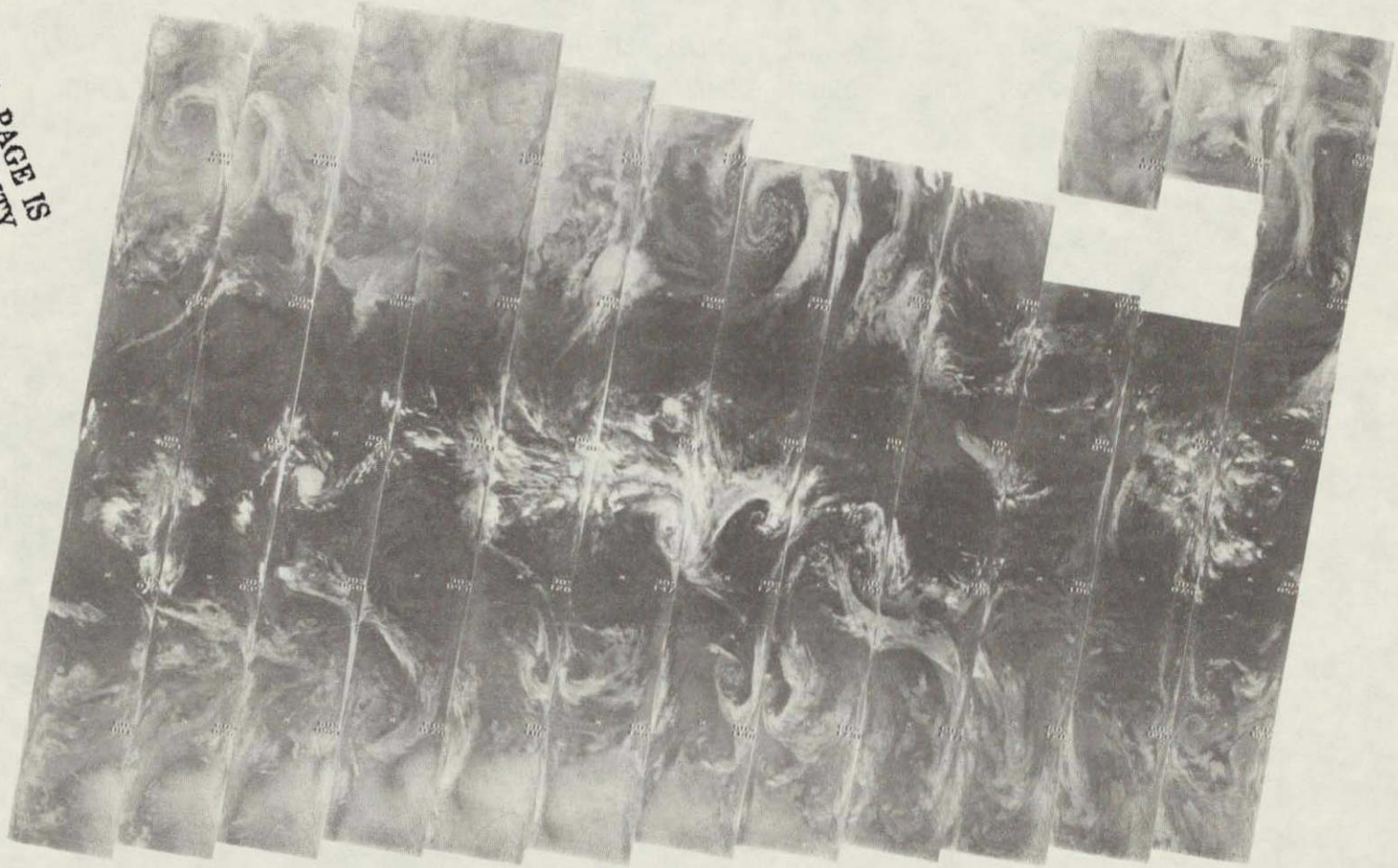
16 JANUARY 1976

11.5 μm

2945 2944 2943 2942 2941 2940 2939 2938 2937 2936 2935 2934 2933

17 JANUARY 1976

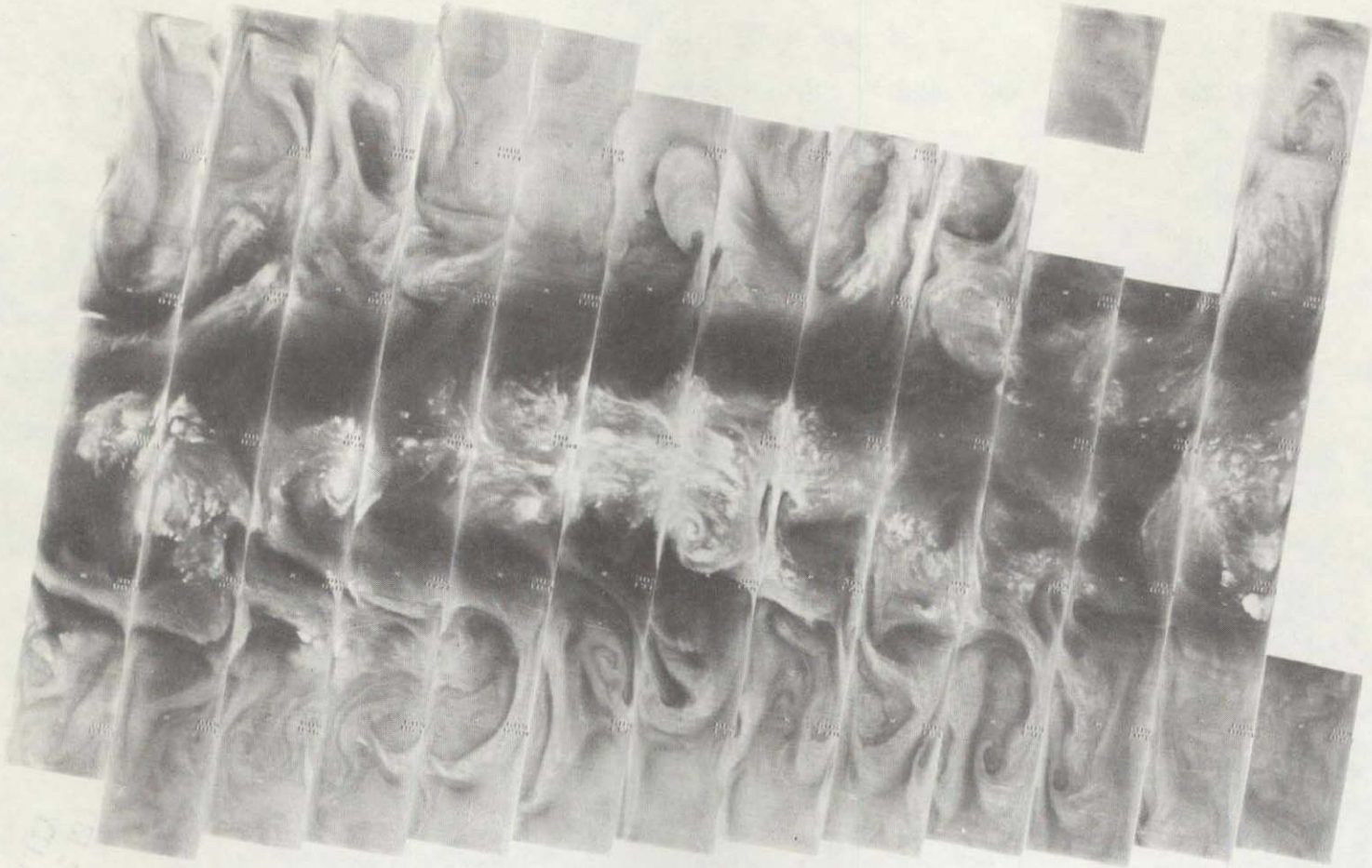
6.7 μm



2945 2944 2943 2942 2941 2940 2939 2938 2937 2936 2935 2934 2933

17 JANUARY 1976

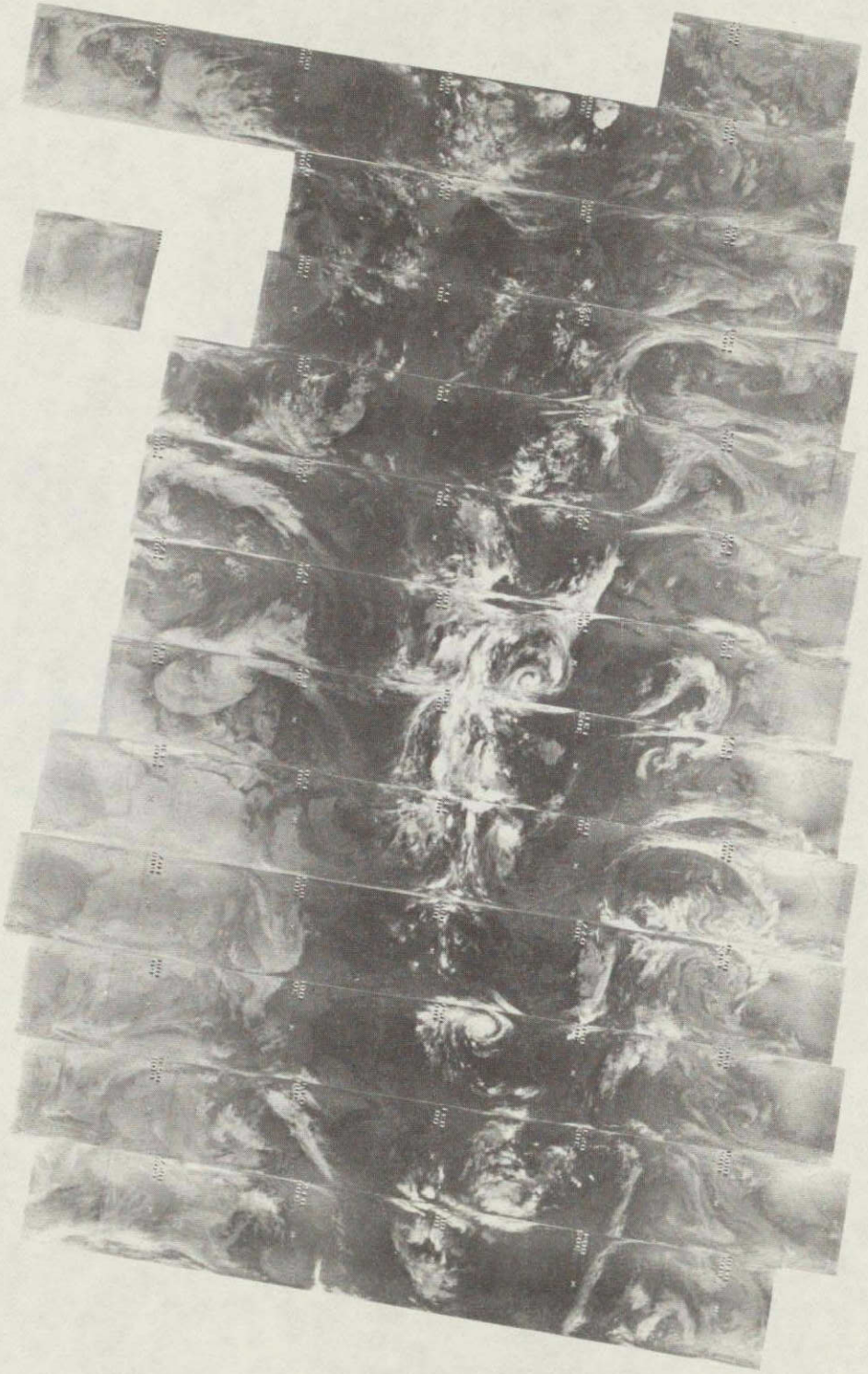
11.5μm

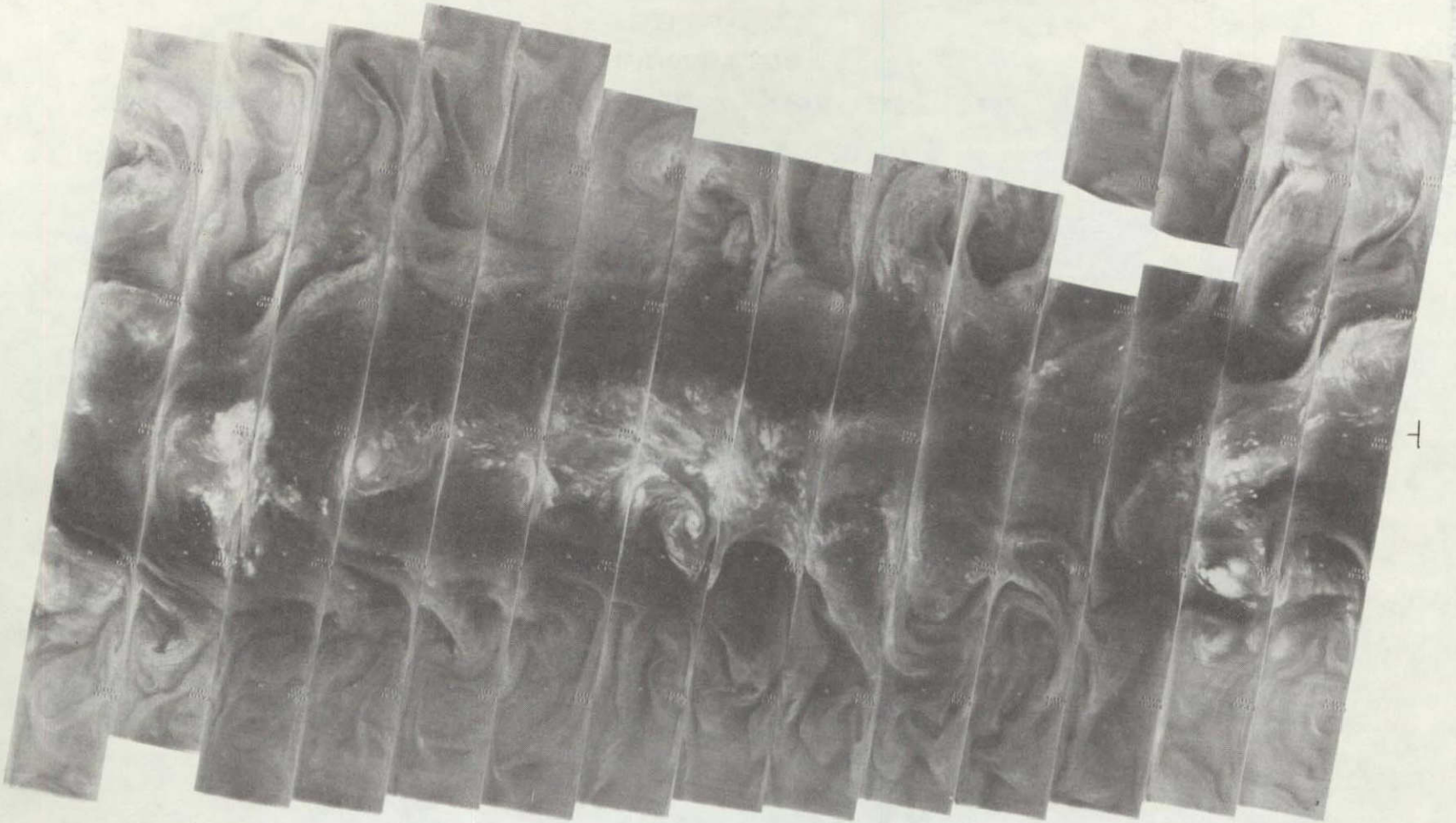


2958 2957 2956 2955 2954 2953 2952 2951 2950 2949 2948 2947 2946

18 JANUARY 1976

6.7 μm

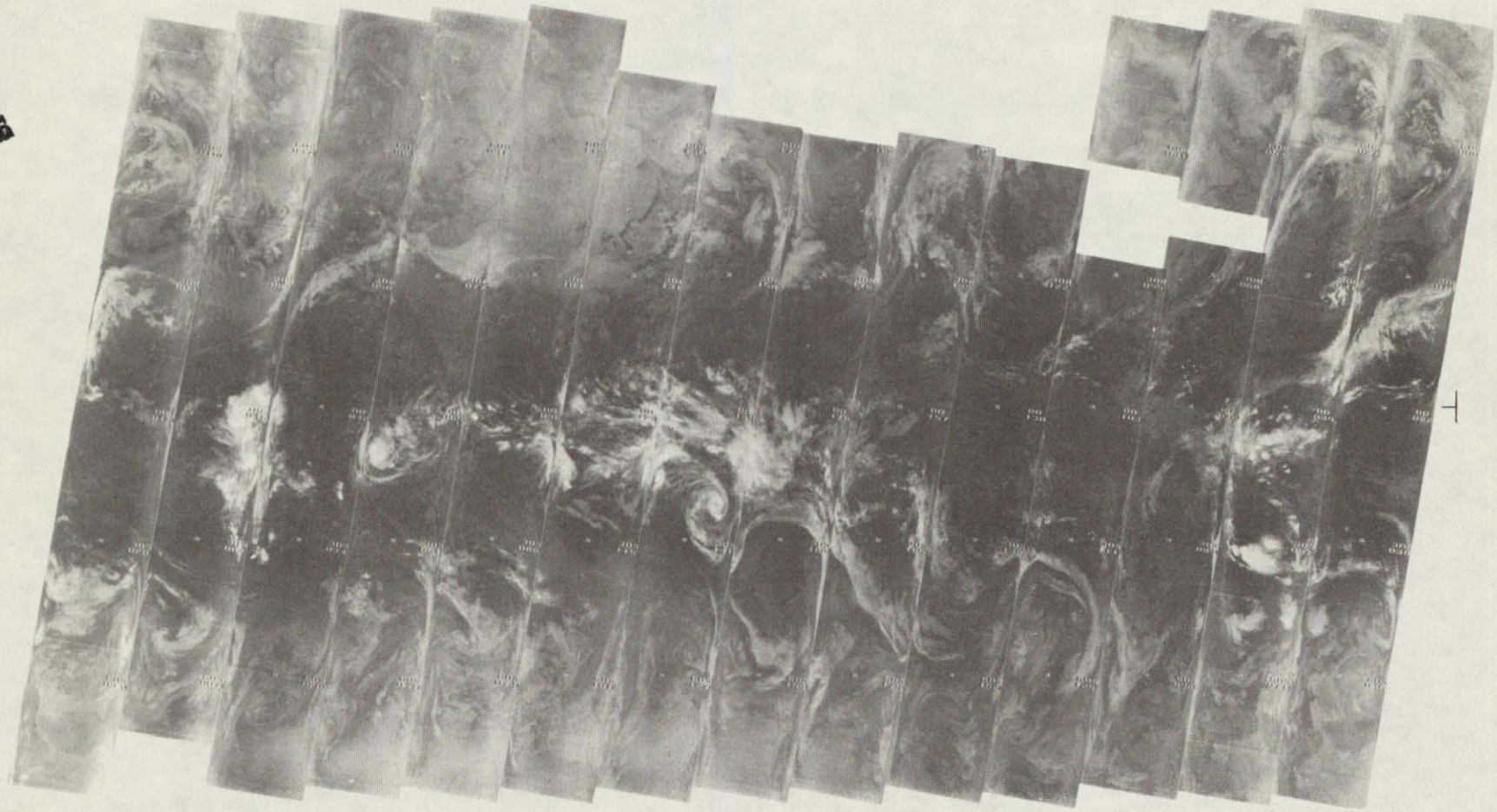




2972 2971 2970 2969 2968 2967 2966 2965 2964 2963 2962 2961 2960 2959

19 JANUARY 1976

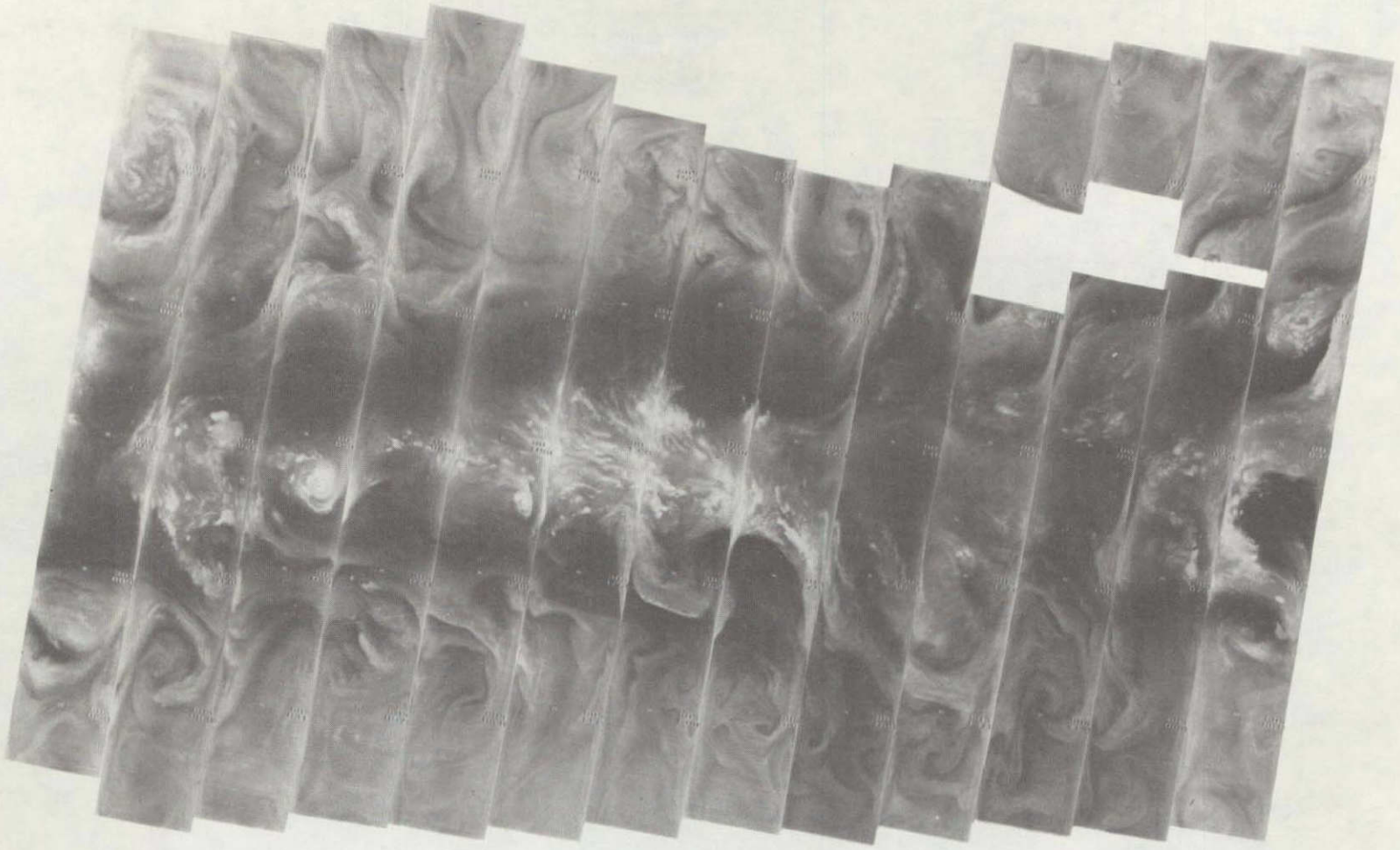
6.7 μm



2972 2971 2970 2969 2968 2967 2966 2965 2964 2963 2962 2961 2960 2959

19 JANUARY 1976

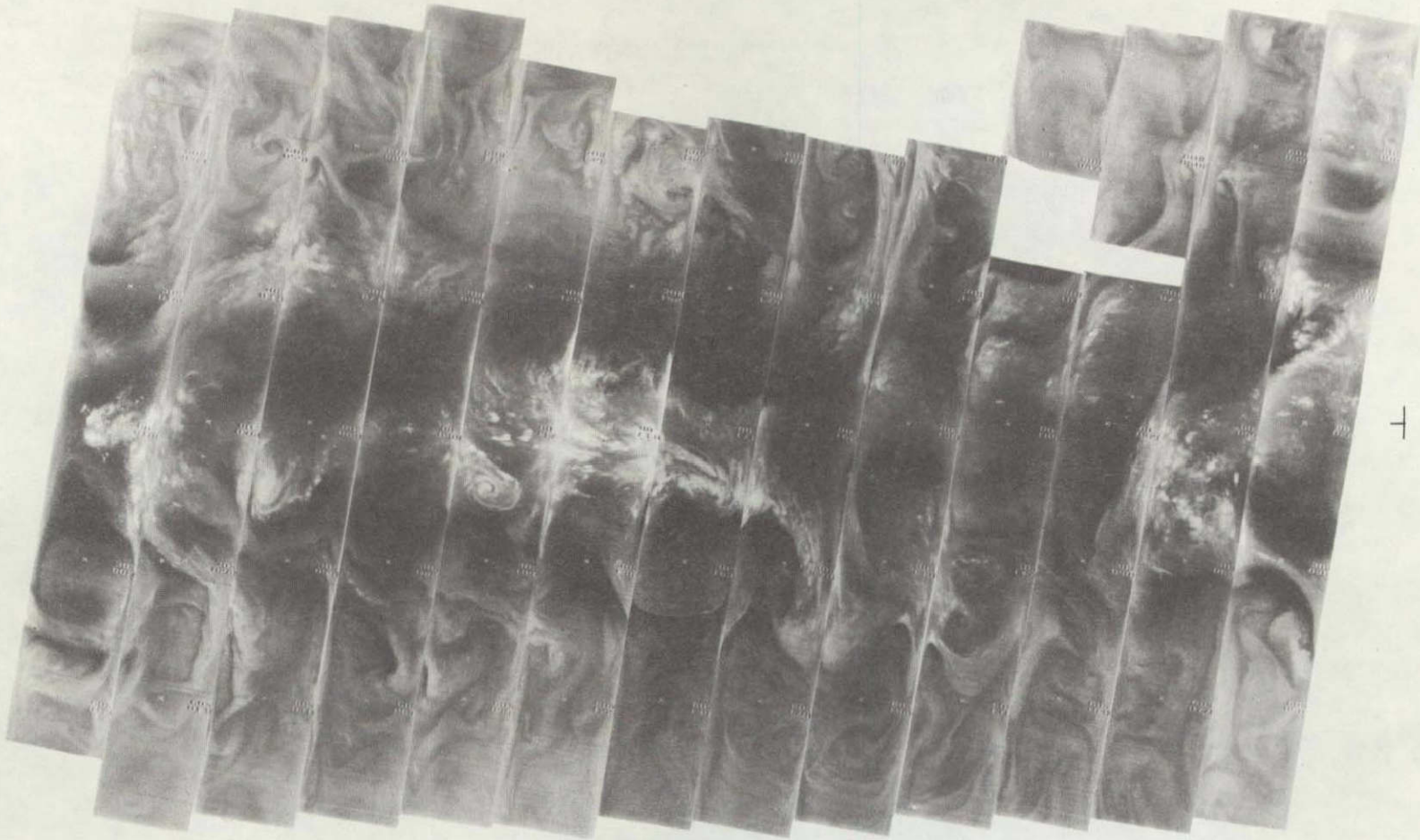
11.5μm



2985 2984 2983 2982 2981 2980 2979 2978 2977 2976 2975 2974 2973

20 JANUARY 1976

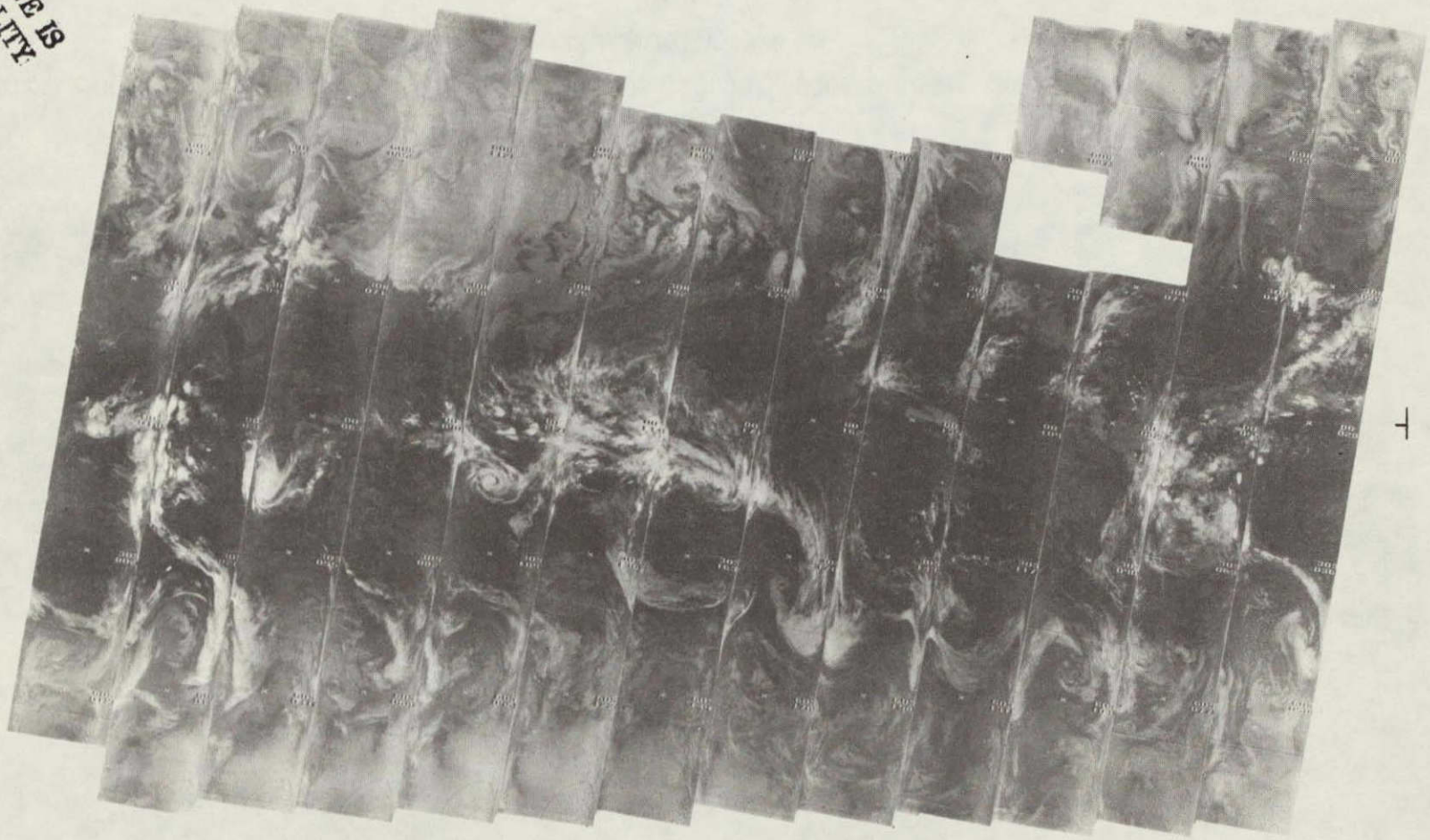
6.7 μm



2998 2997 2996 2995 2994 2993 2992 2991 2990 2989 2988 2987 2986

21 JANUARY 1976

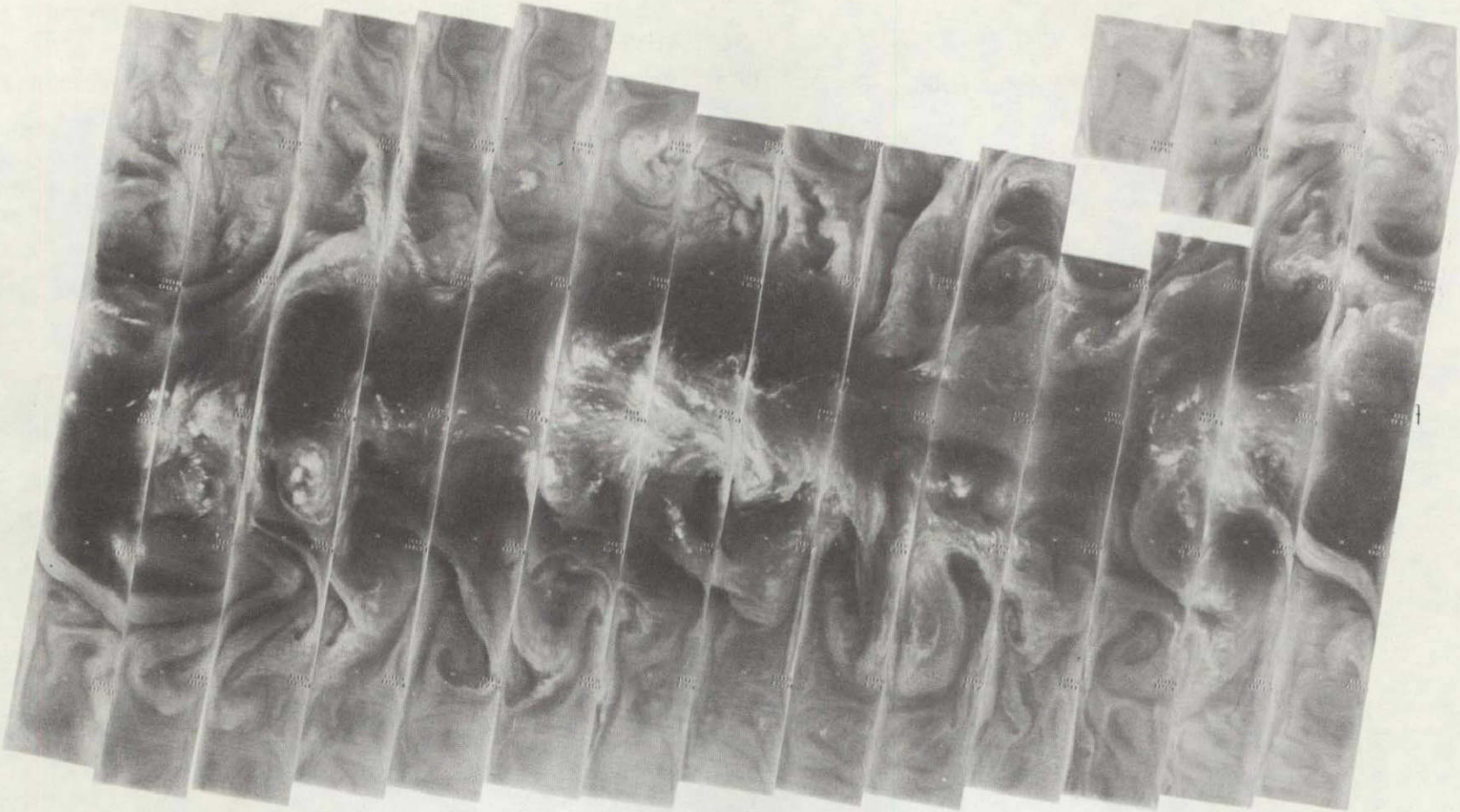
6.7 μm



2998 2997 2996 2995 2994 2993 2992 2991 2990 2989 2988 2987 2986

21 JANUARY 1976

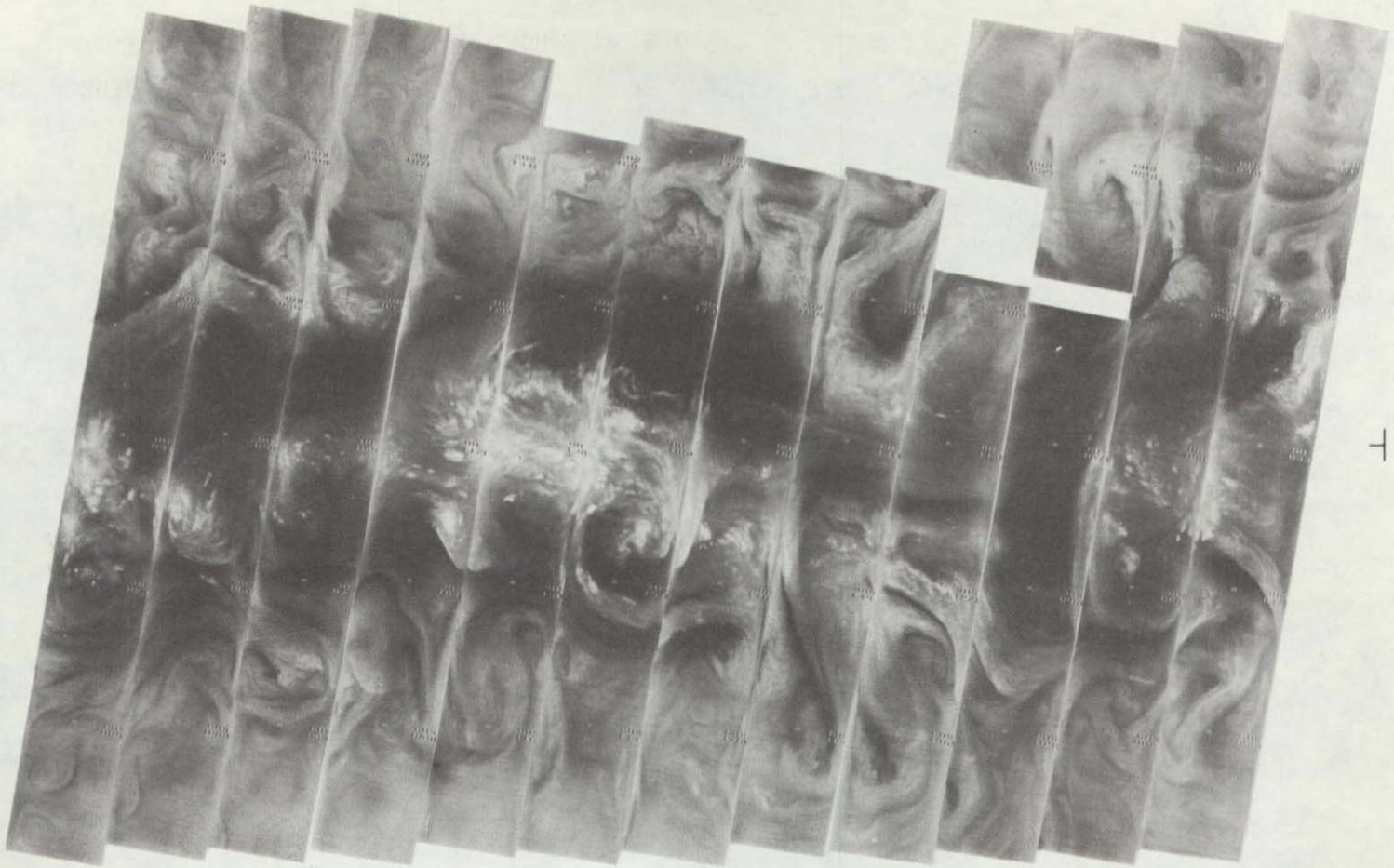
11.5μm



3012 3011 3010 3009 3008 3007 3006 3005 3004 3003 3002 3001 3000 2999

22 JANUARY 1976

6.7 μm



3025 3024 3023 3022 3021 3020 3019 3018 3017 3016 3015 3014 3013

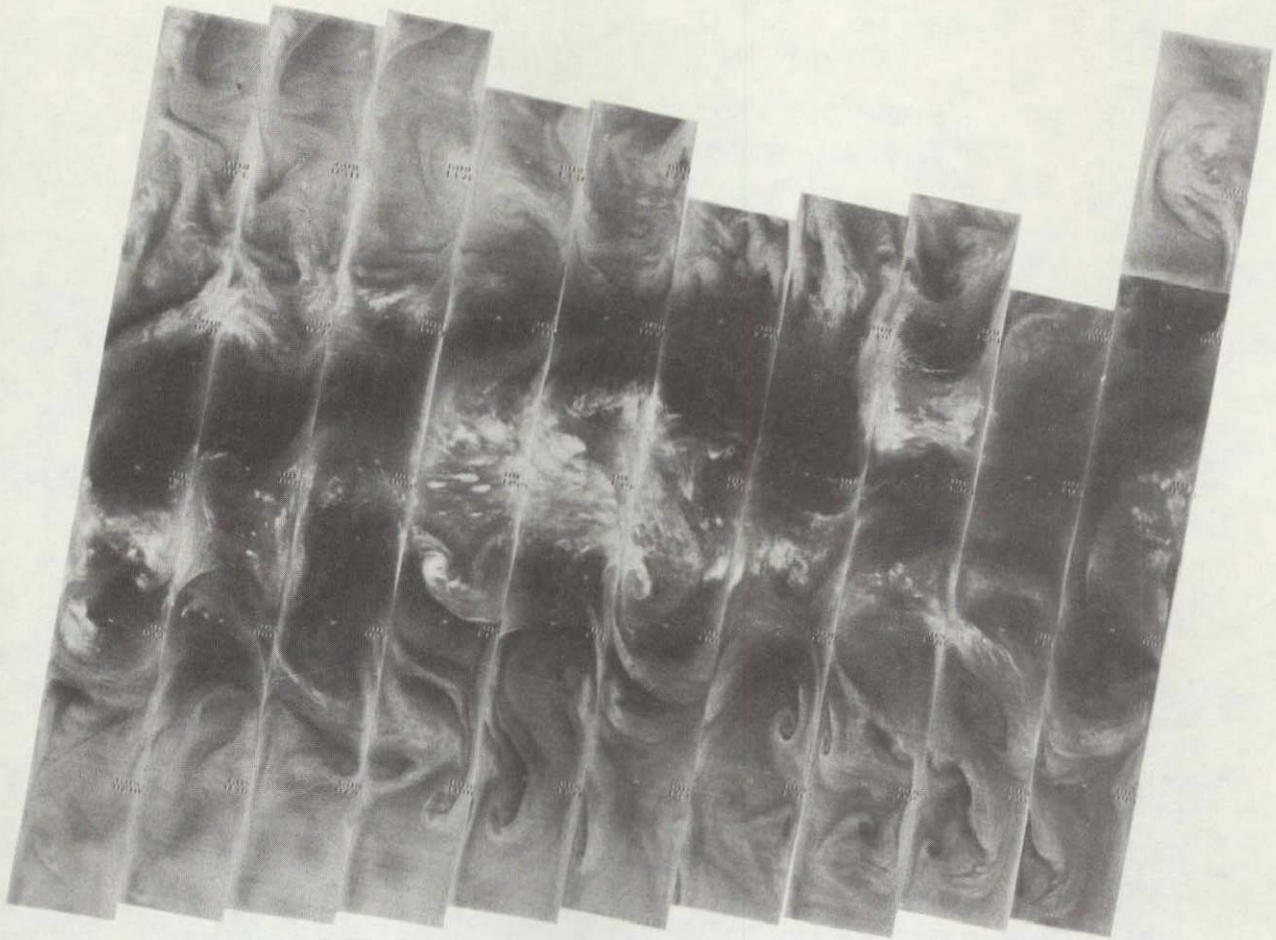
23 JANUARY 1976

6.7 μm

3025 3024 3023 3022 3021 3020 3019 3018 3017 3016 3015 3014 3013

23 JANUARY 1976

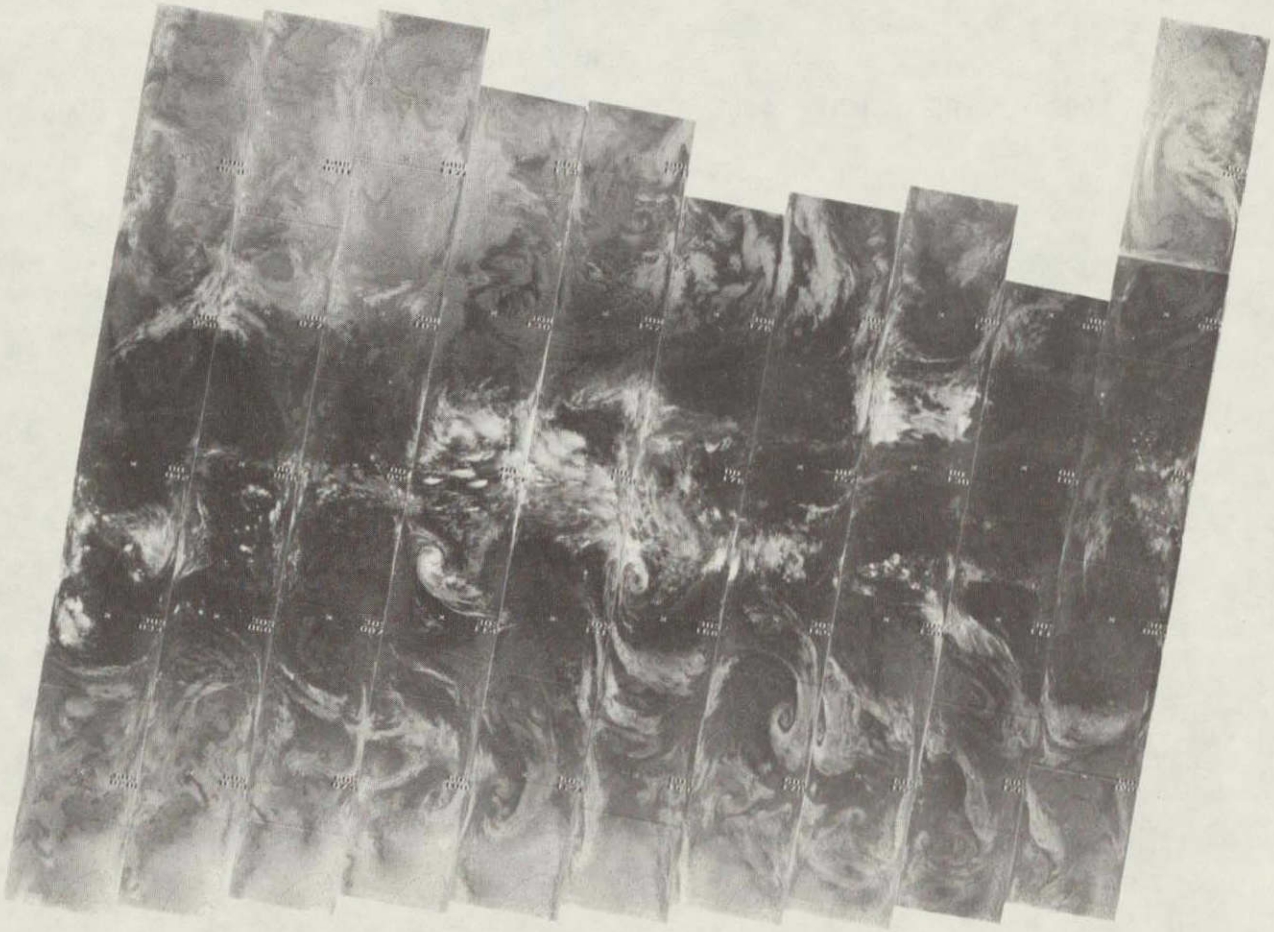
11.5 μm



3039 3038 3037 3036 3035 3034 3033 3032 3031 3030 3029 3028 3027 3026

24 JANUARY 1976

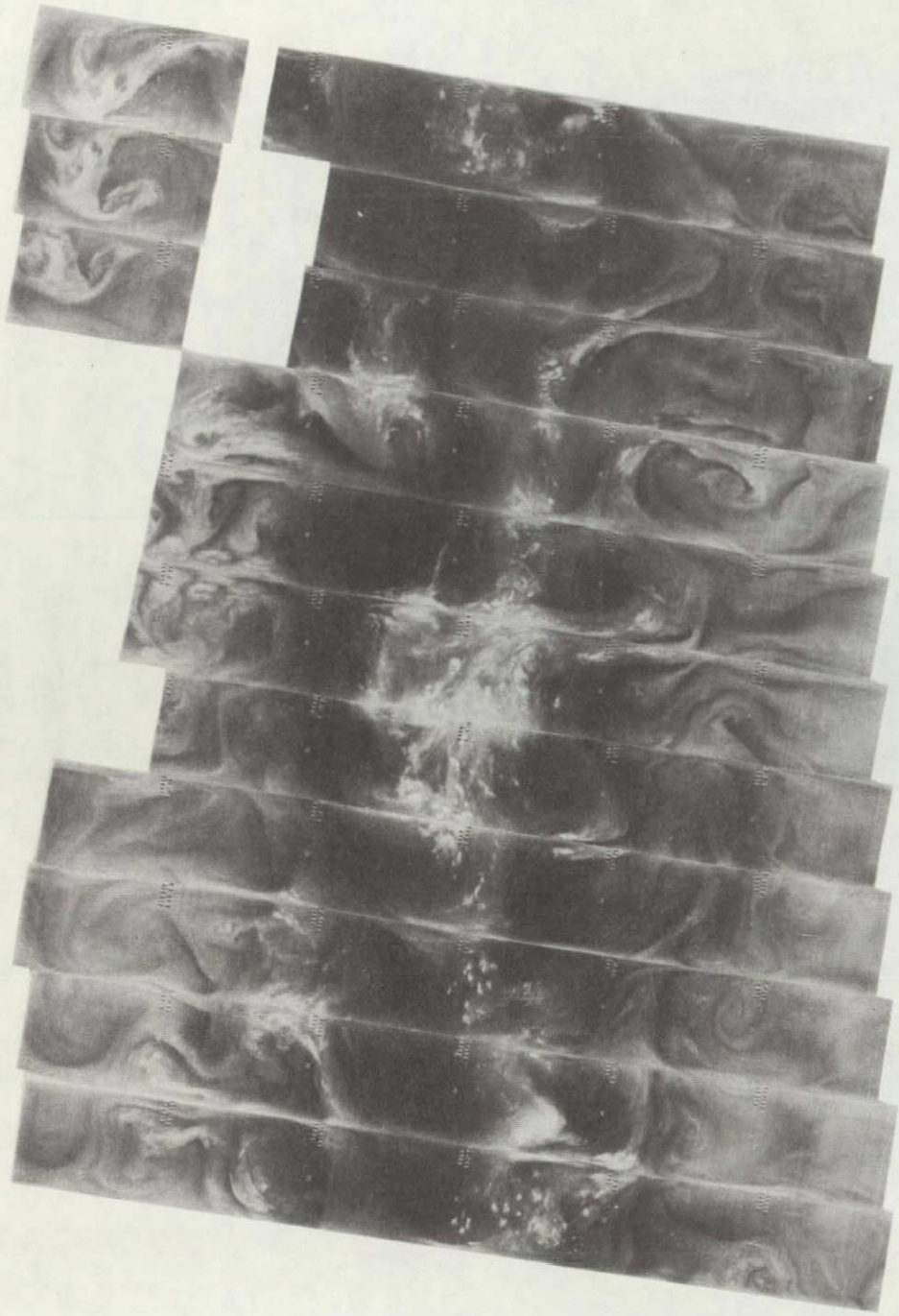
6.7μm



3039 3038 3037 3036 3035 3034 3033 3032 3031 3030 3029 3028 3027 3026

24 JANUARY 1976

11.5μm



3040 3041 3042 3043 3044 3045 3046 3047 3048 3049 3050 3051 3052

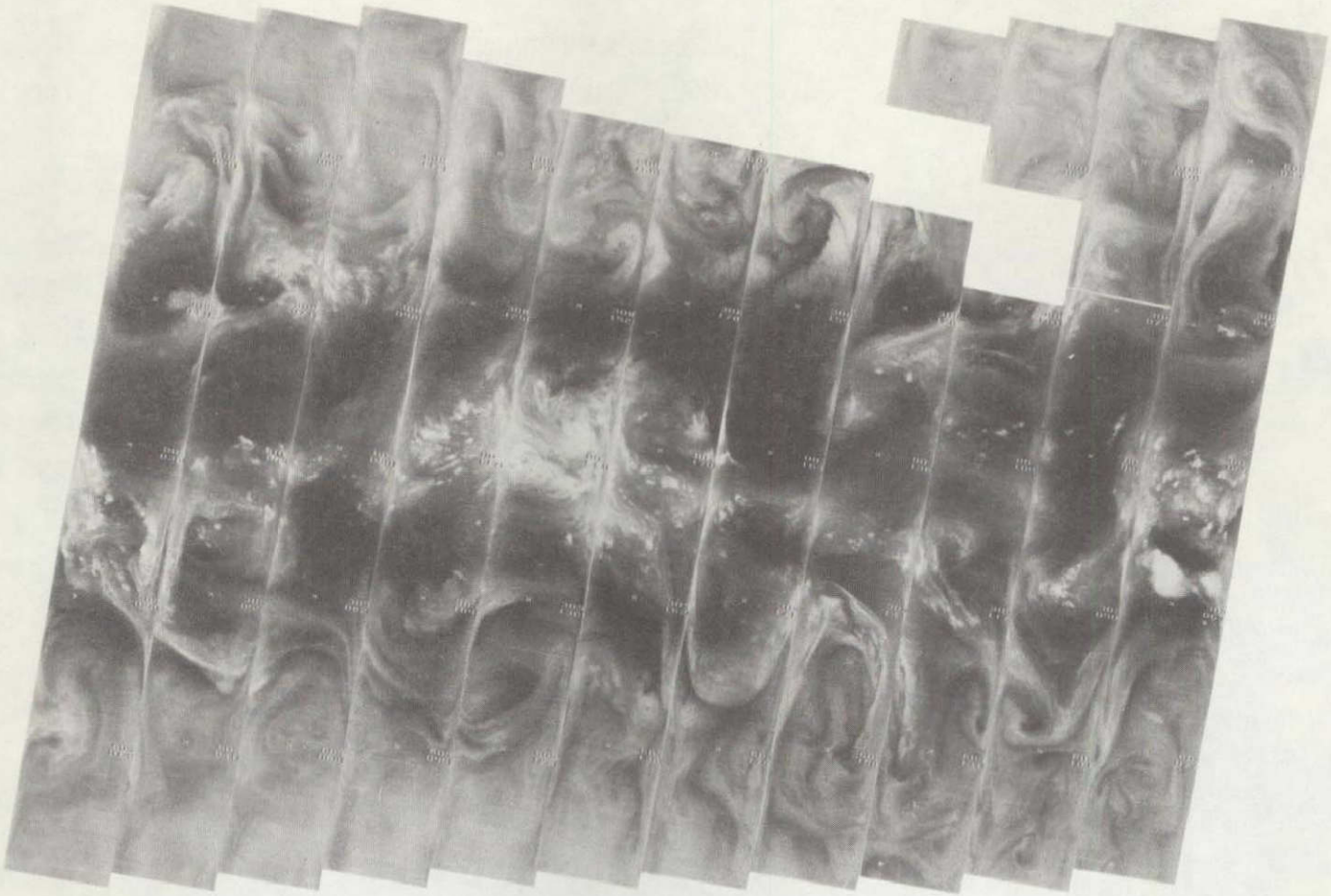
25 JANUARY 1976

6.7 μm

3052 3051 3050 3049 3048 3047 3046 3045 3044 3043 3042 3041 3040

25 JANUARY 1976

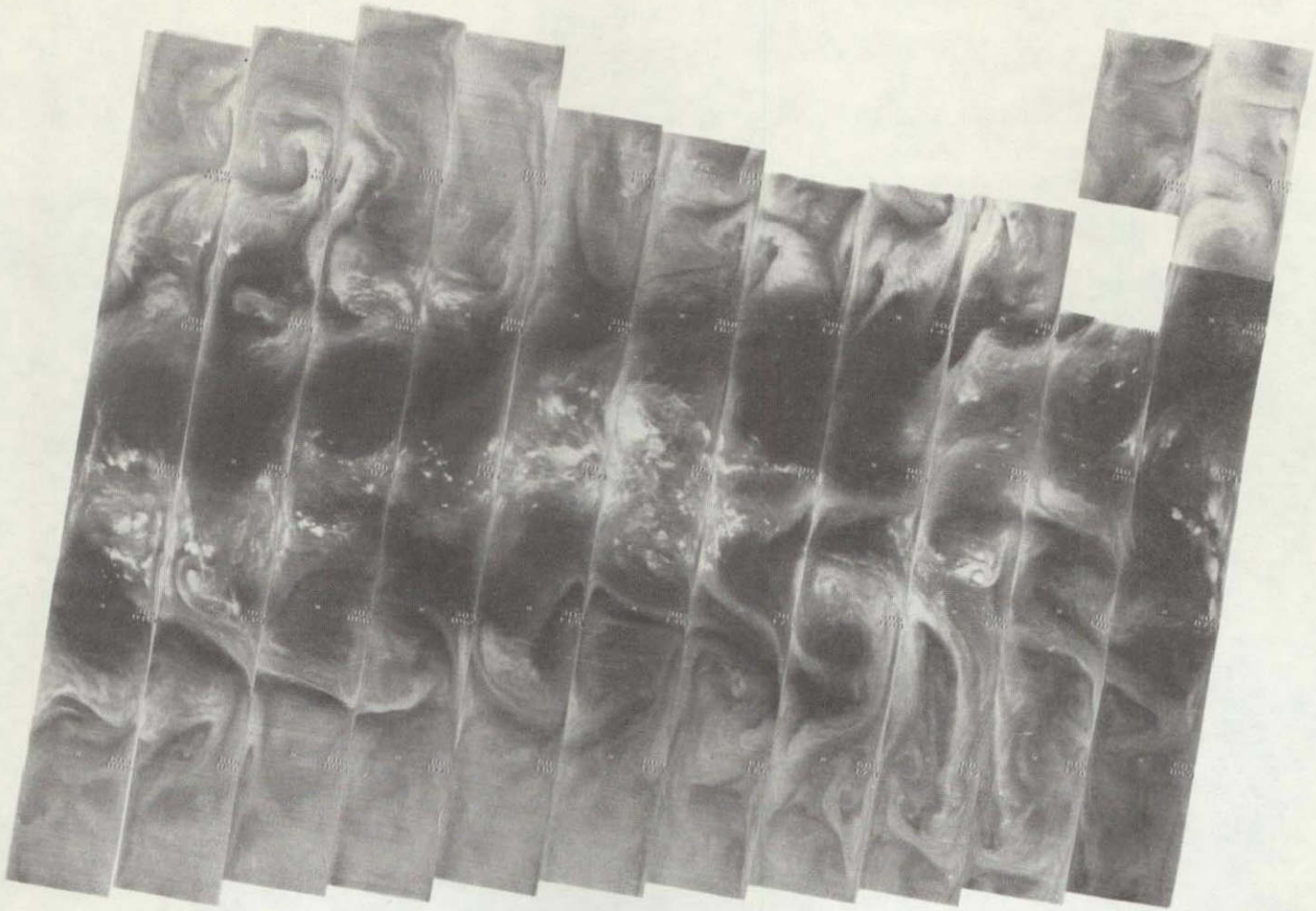
11.5μm



3065 3064 3063 3062 3061 3060 3059 3058 3057 3056 3055 3054 3053

26 JANUARY 1976

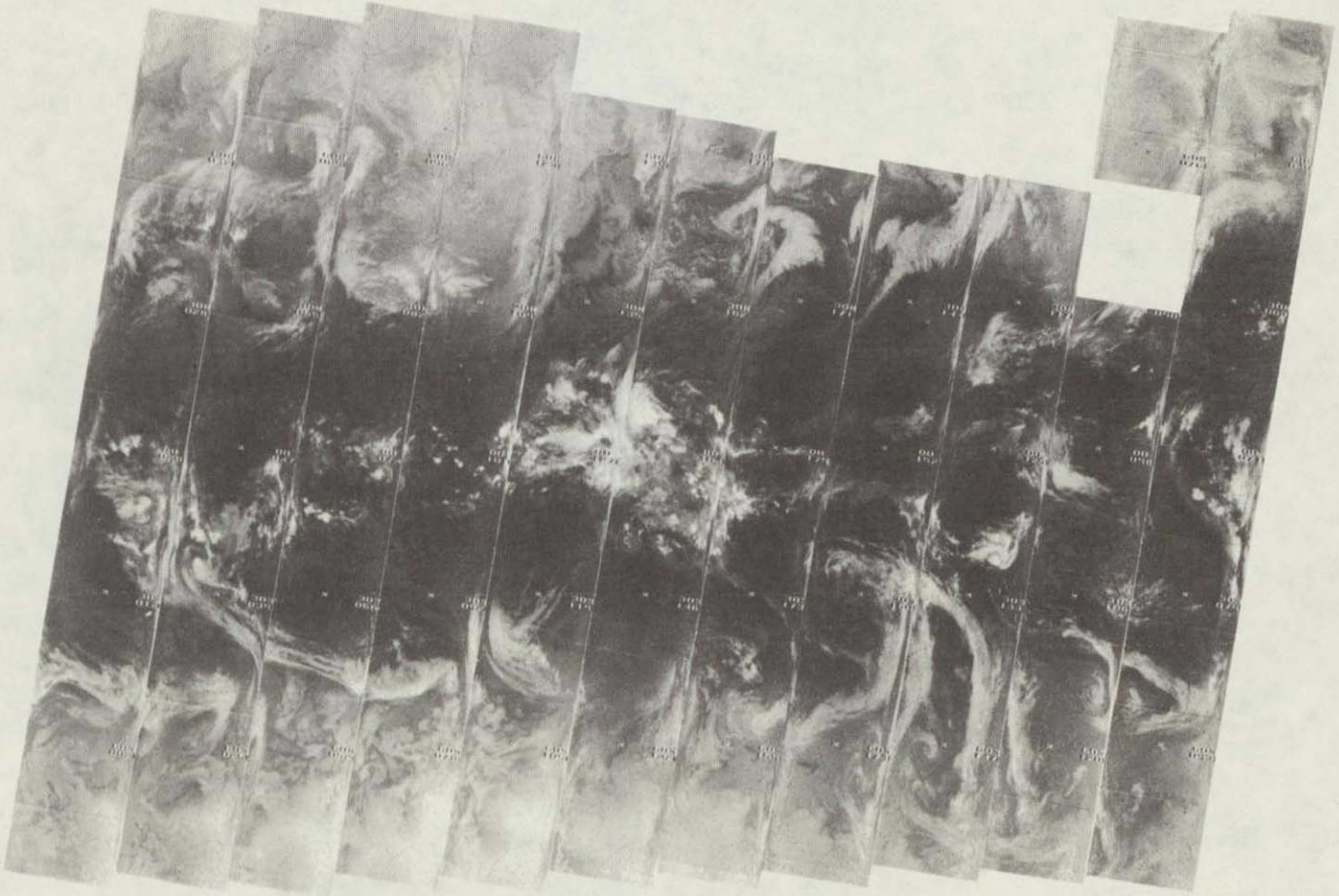
6.7μm



3079 3078 3077 3076 3075 3074 3073 3072 3071 3070 3069 3068 3067 3066

27 JANUARY 1976

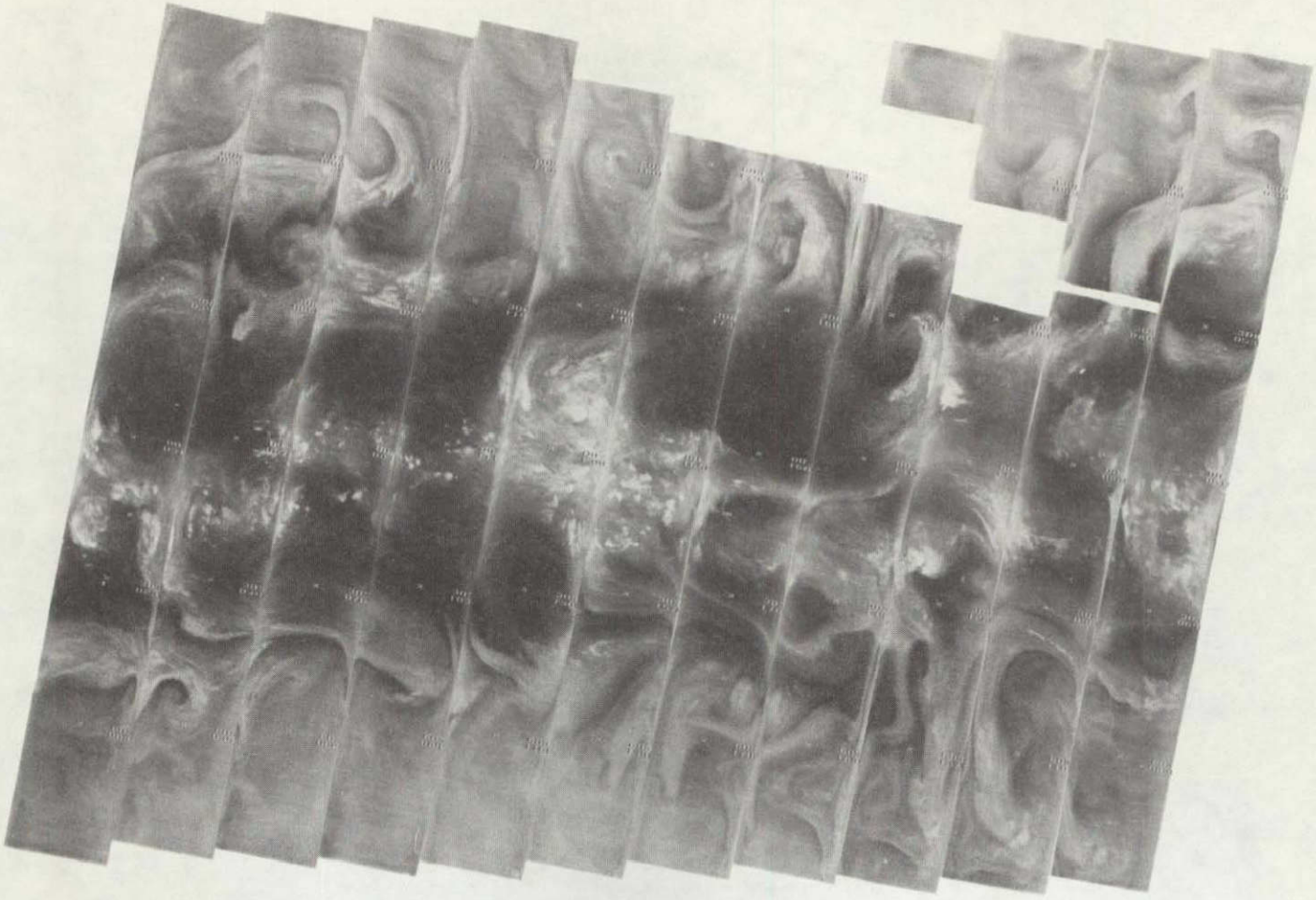
6.7 μm



3079 3078 3077 3076 3075 3074 3073 3072 3071 3070 3069 3068 3067 3066

27 JANUARY 1976

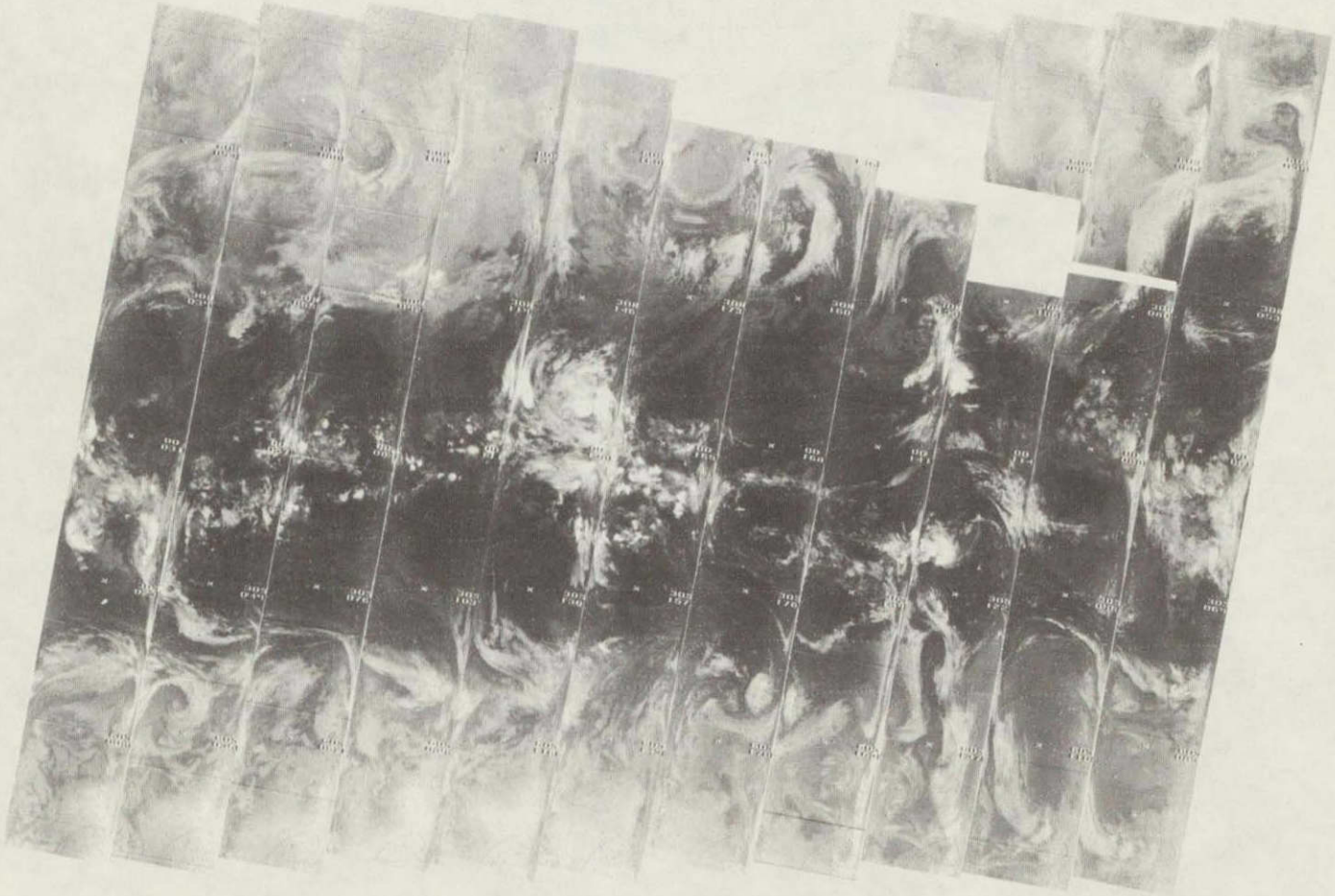
11.5 μm



3092 3091 3090 3089 3088 3087 3086 3085 3084 3083 3082 3081 3080

28 JANUARY 1976

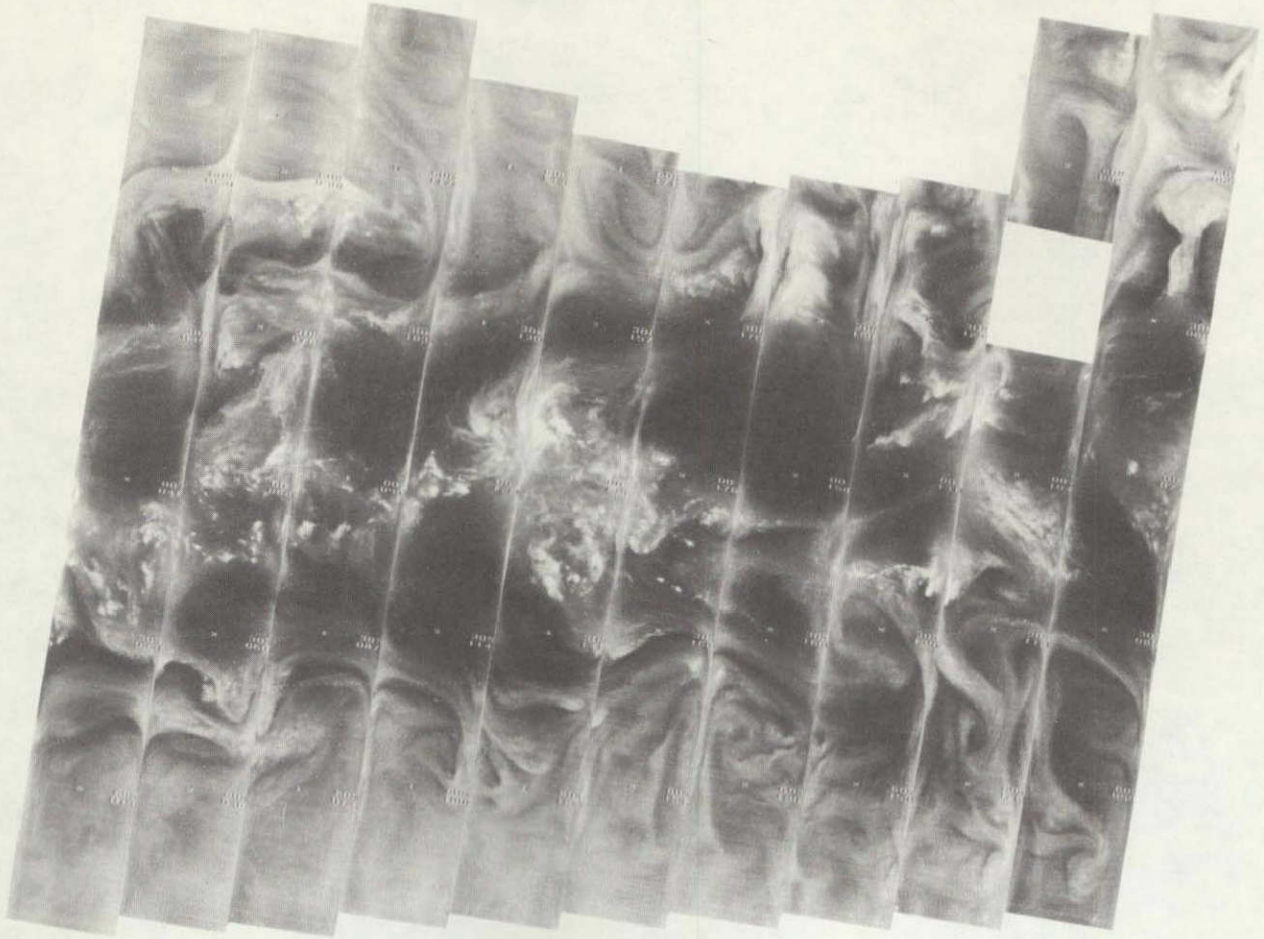
6.7 μm



3092 3091 3090 3089 3088 3087 3086 3085 3084 3083 3082 3081 3080

28 JANUARY 1976

11.5 μm



3106 3105 3104 3103 3102 3101 3100 3099 3098 3097 3096 3095 3094 3093

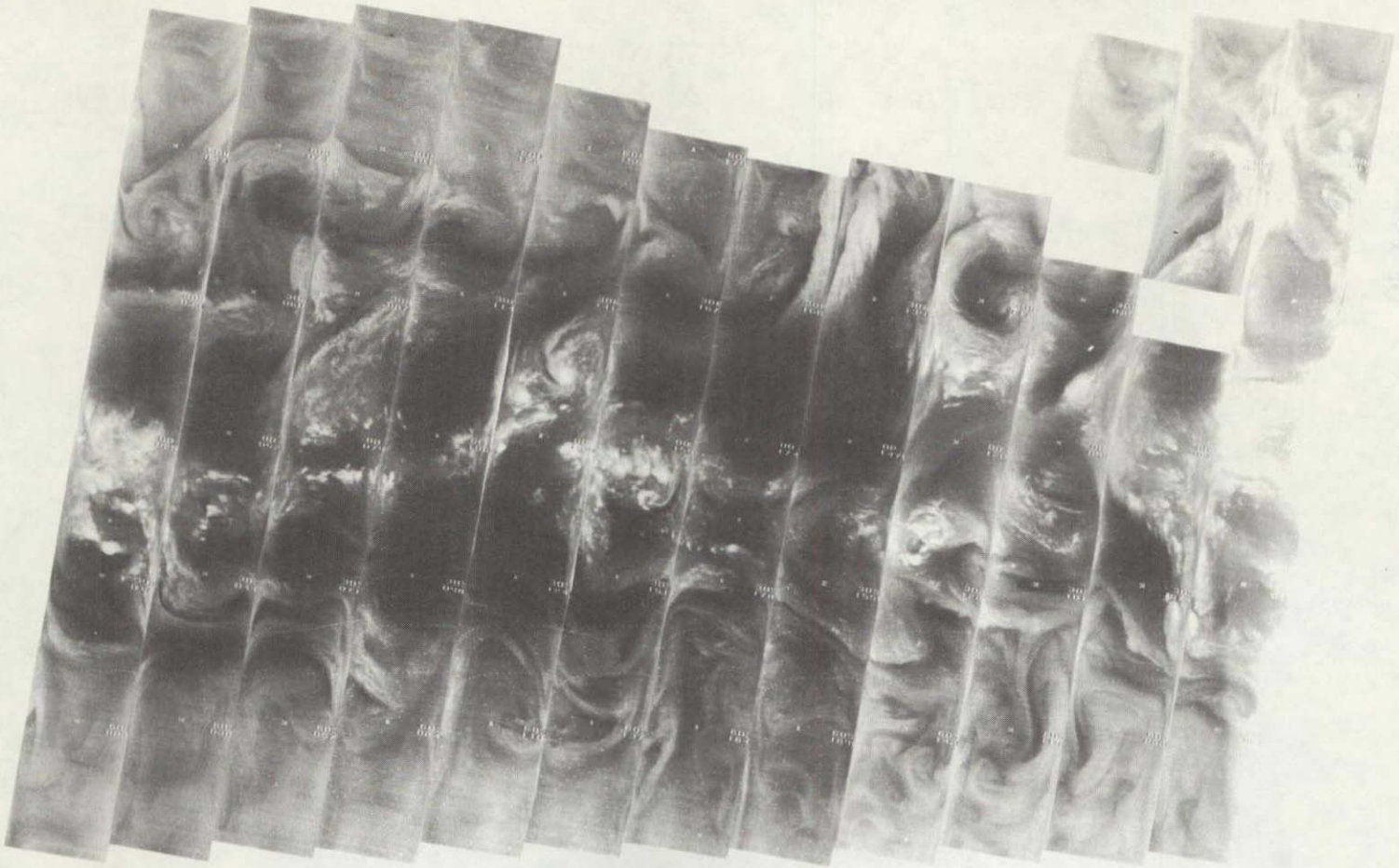
29 JANUARY 1976

6.7μm

3106 3105 3104 3103 3102 3101 3100 3099 3098 3097 3096 3095 3094 3093

29 JANUARY 1976

11.5μm



3119 3118 3117 3116 3115 3114 3113 3112 3111 3110 3109 3108 3107

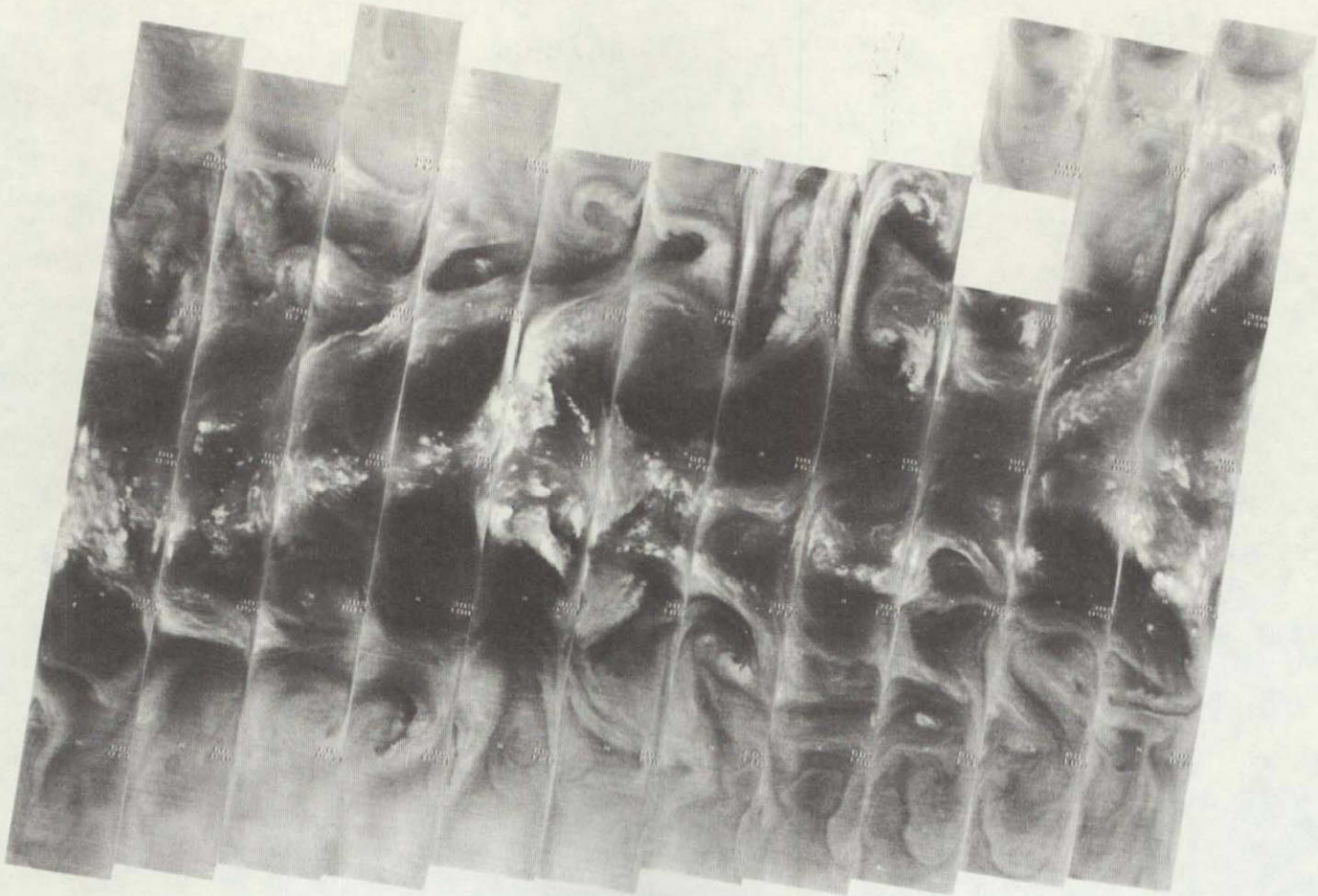
30 JANUARY 1976

6.7μm

3119 3118 3117 3116 3115 3114 3113 3112 3111 3110 3109 3108 3107

30 JANUARY 1976

11.5 μm



3132 3131 3130 3129 3128 3127 3126 3125 3124 3123 3122 3121 3120

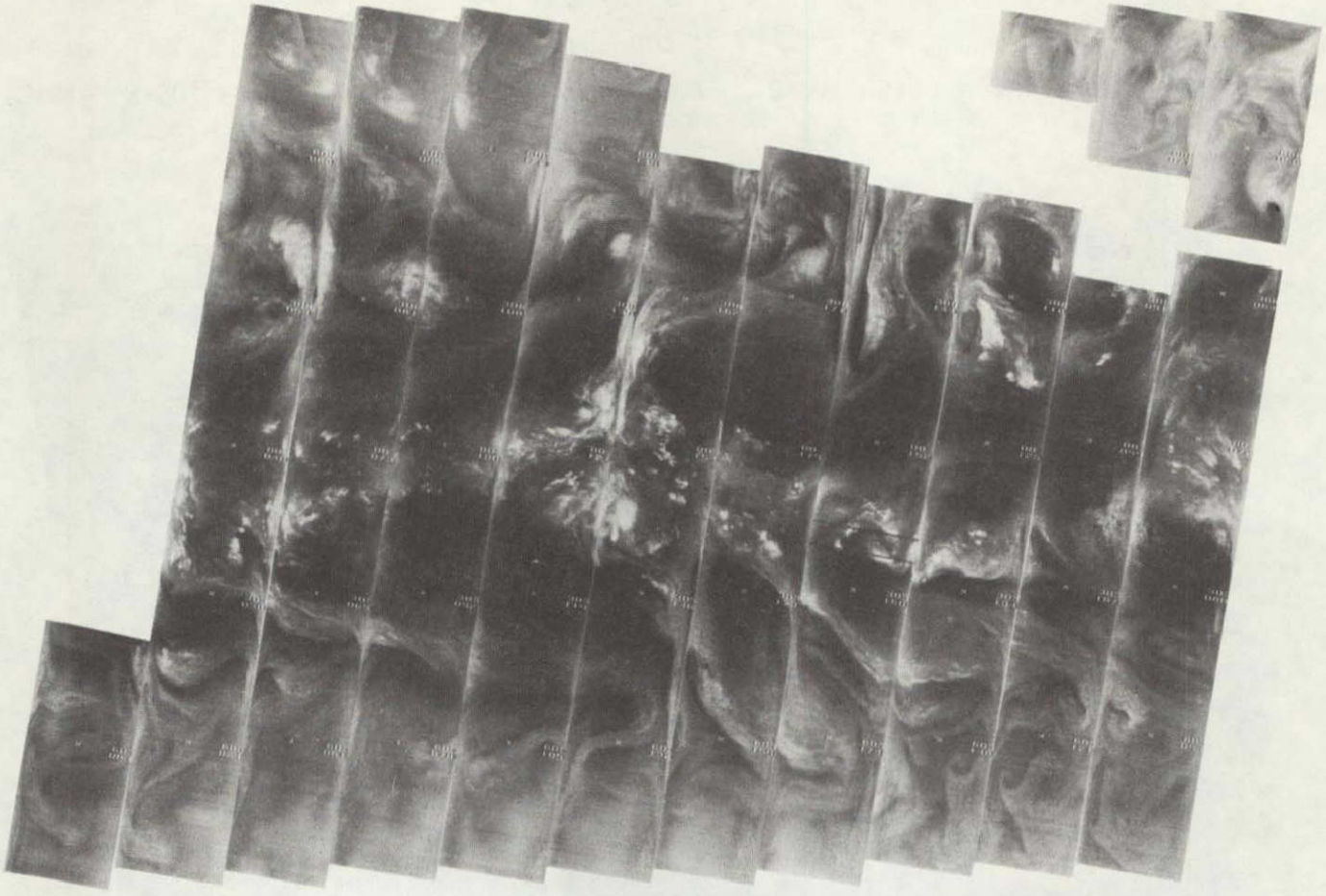
31 JANUARY 1976

6.7μm

3132 3131 3130 3129 3128 3127 3126 3125 3124 3123 3122 3121 3120

31 JANUARY 1976

11.5μm



3146 3145 3144 3143 3142 3141 3140 3139 3138 3137 3136 3135 3134 3133

1 FEBRUARY 1976

6.7 μm

3146 3145 3144 3143 3142 3141 3140 3139 3138 3137 3136 3135 3134 3133

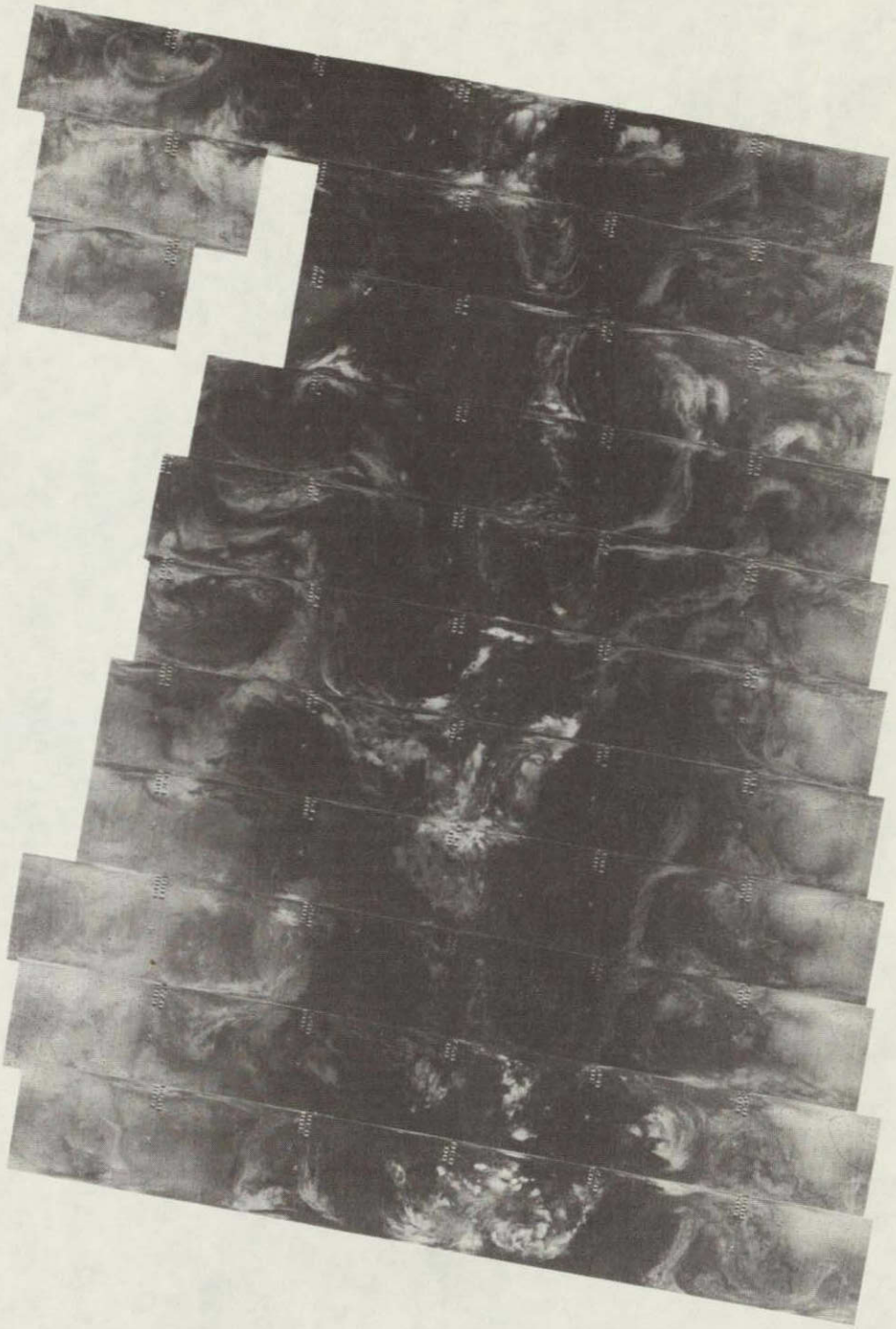
1 FEBRUARY 1976

11.5μm

3159 3158 3157 3156 3155 3154 3153 3152 3151 3150 3149 3148 3147

2 FEBRUARY 1976

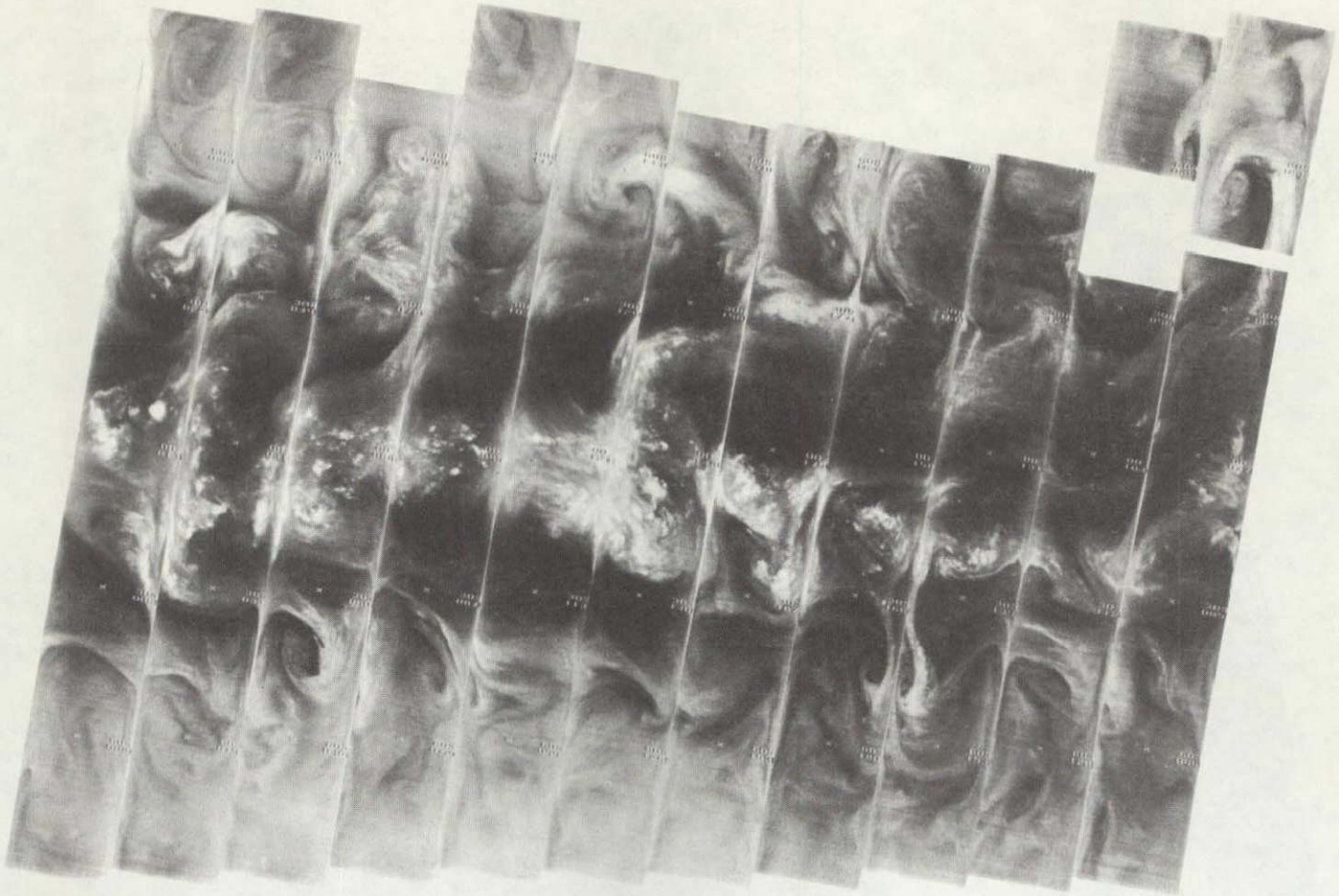
6.7μm



3159 3158 3157 3156 3155 3154 3153 3152 3151 3150 3149 3148 3147

2 FEBRUARY 1976

11.5 μm



3173 3172 3171 3170 3169 3168 3167 3166 3165 3164 3163 3162 3161 3160

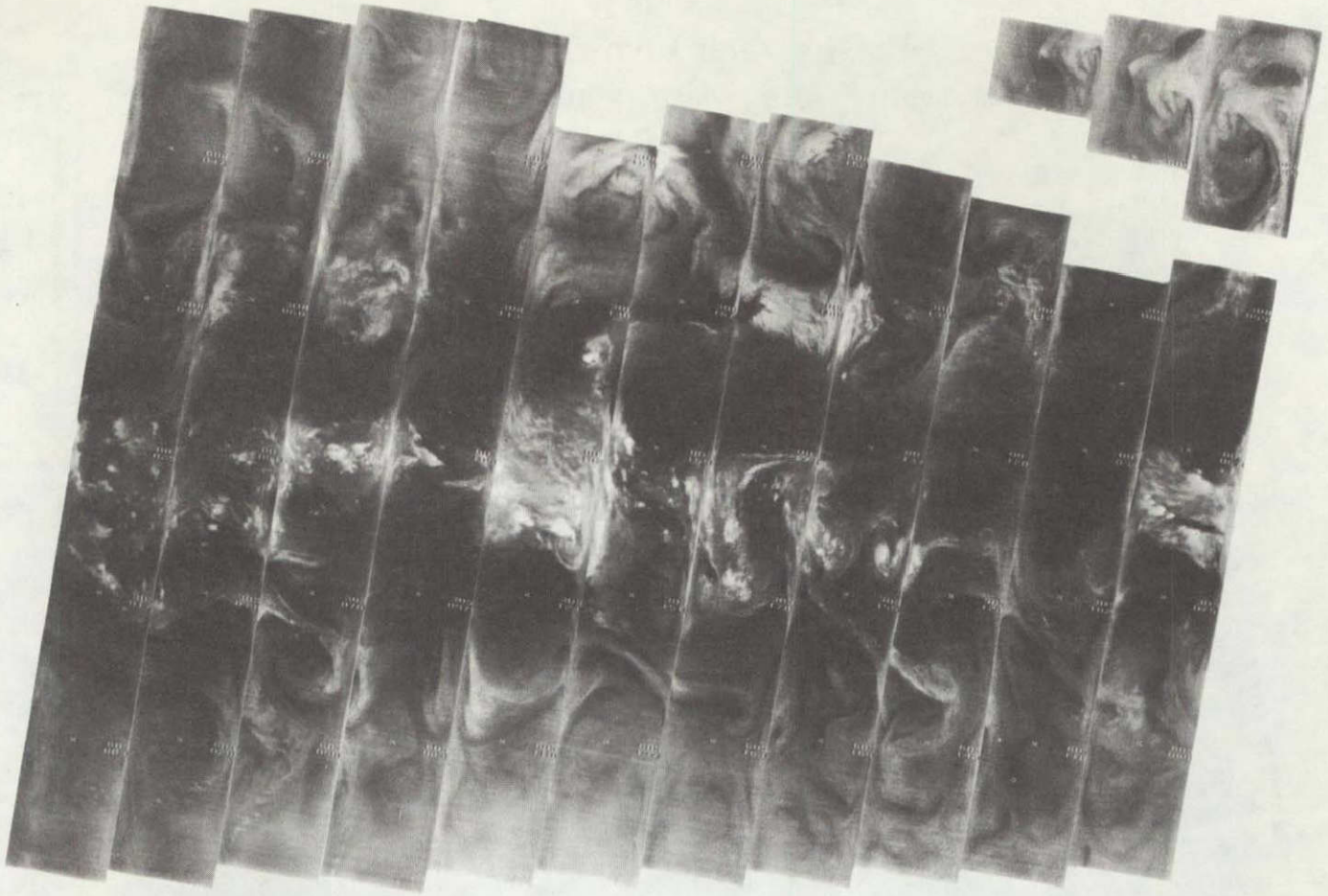
3 FEBRUARY 1976

6.7 μm

3160 3161 3162 3163 3164 3165 3166 3167 3168 3169 3170 3171 3172 3173

3 FEBRUARY 1976

11.5 μm



3186 3185 3184 3183 3182 3181 3180 3179 3178 3177 3176 3175 3174

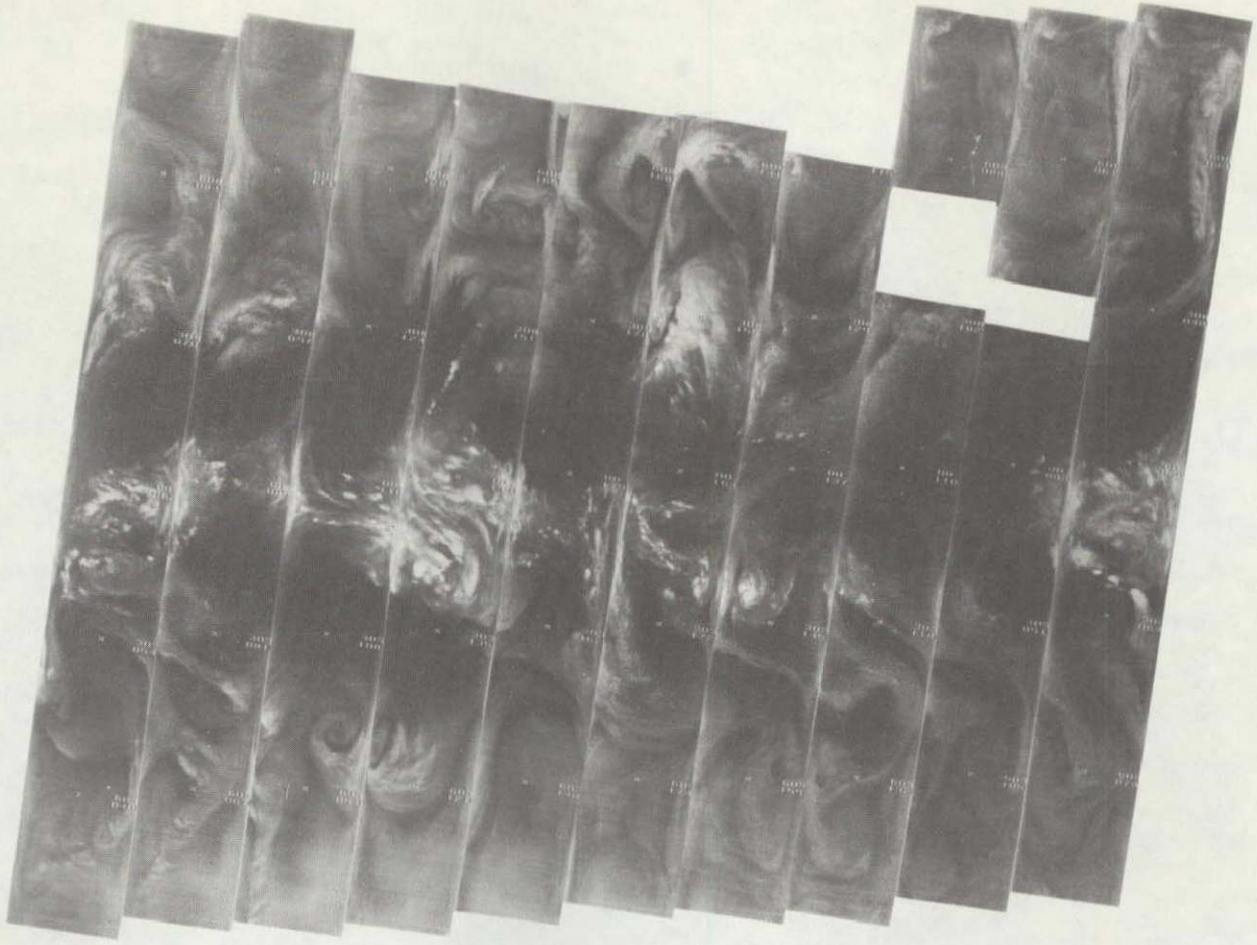
4 FEBRUARY 1976

6.7 μm

3186 3185 3184 3183 3182 3181 3180 3179 3178 3177 3176 3175 3174

4 FEBRUARY 1976

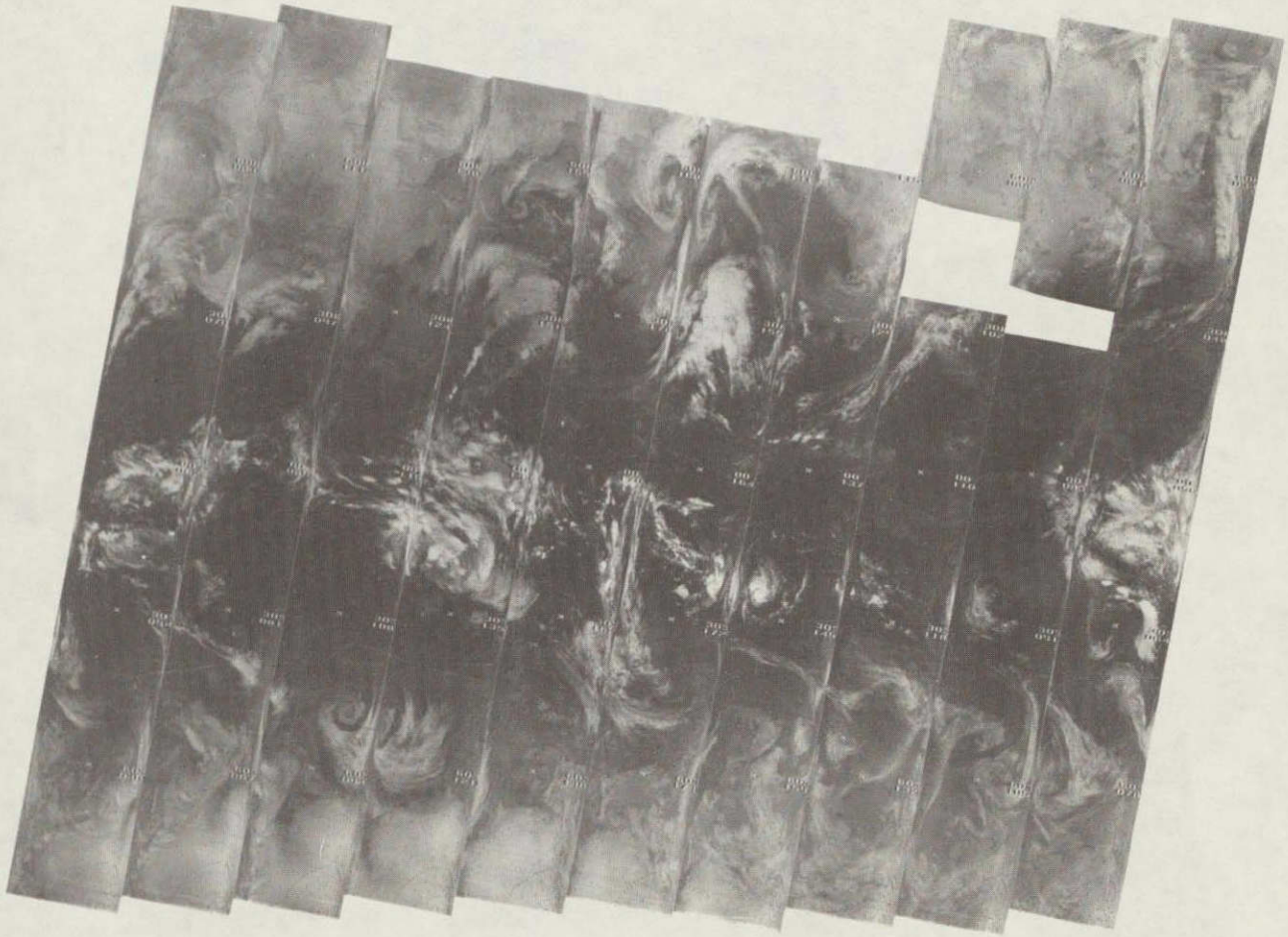
11.5μm



3199 3198 3197 3196 3195 3194 3193 3192 3191 3190 3189 3188 3187

5 FEBRUARY 1976

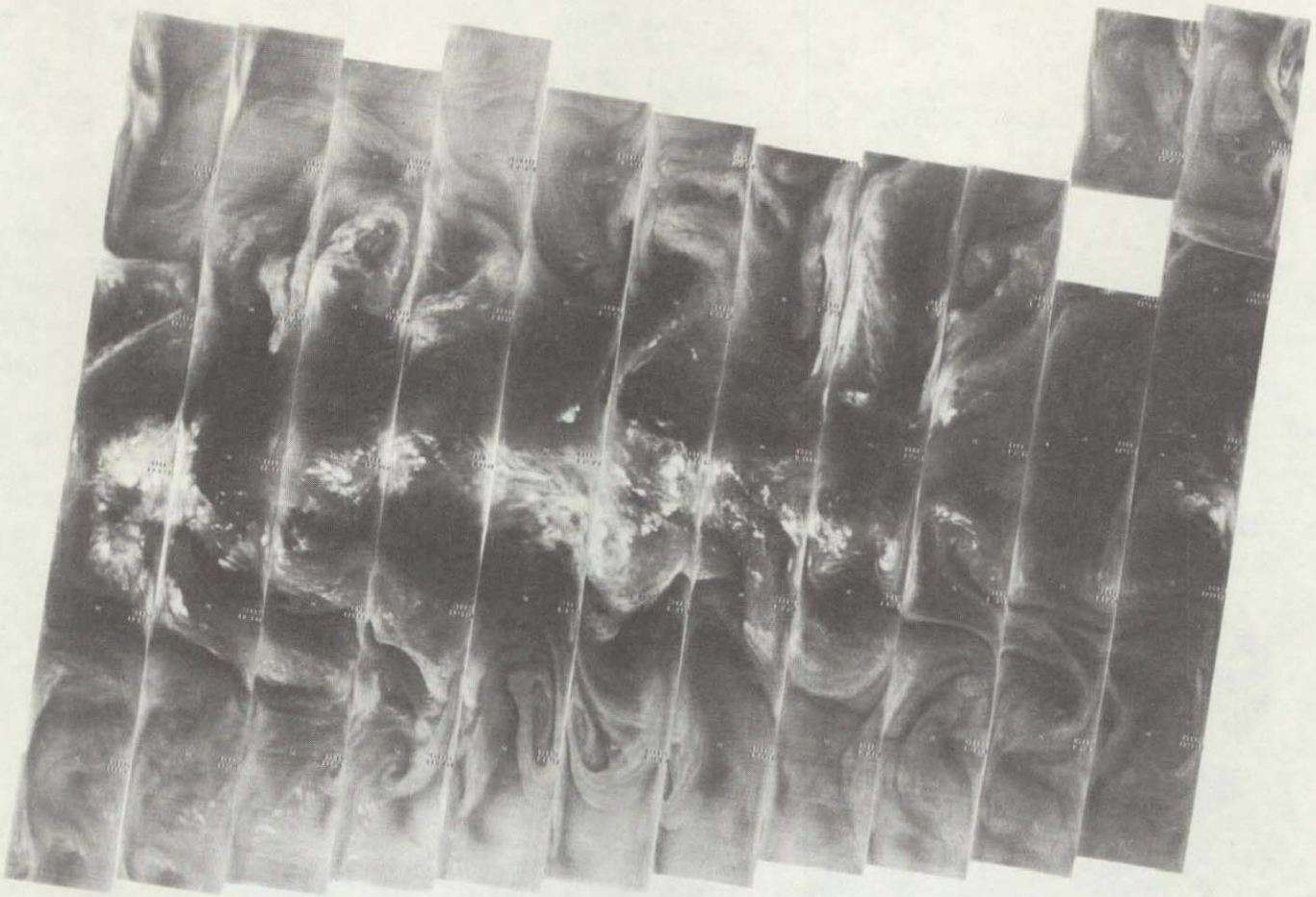
6.7μm



3199 3198 3197 3196 3195 3194 3193 3192 3191 3190 3189 3188 3187

5 FEBRUARY 1976

11.5μm



3213 3212 3211 3210 3209 3208 3207 3206 3205 3204 3203 3202 3201 3200

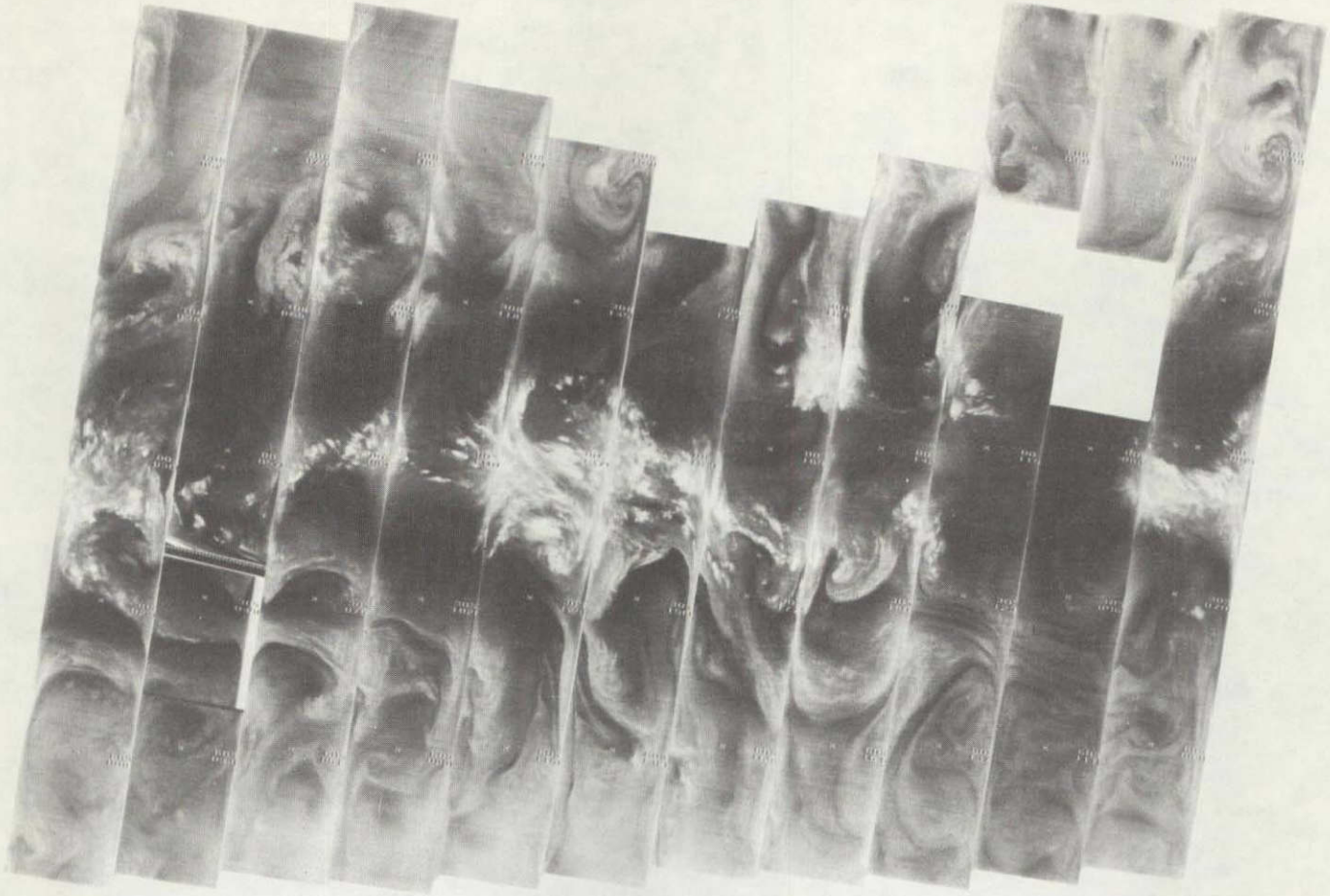
6 FEBRUARY 1976

6.7 μm

3213 3212 3211 3210 3209 3208 3207 3206 3205 3204 3203 3202 3201 3200

6 FEBRUARY 1976

11.5μm



3226 3225 3224 3223 3222 3221 3220 3219 3218 3217 3216 3215 3214

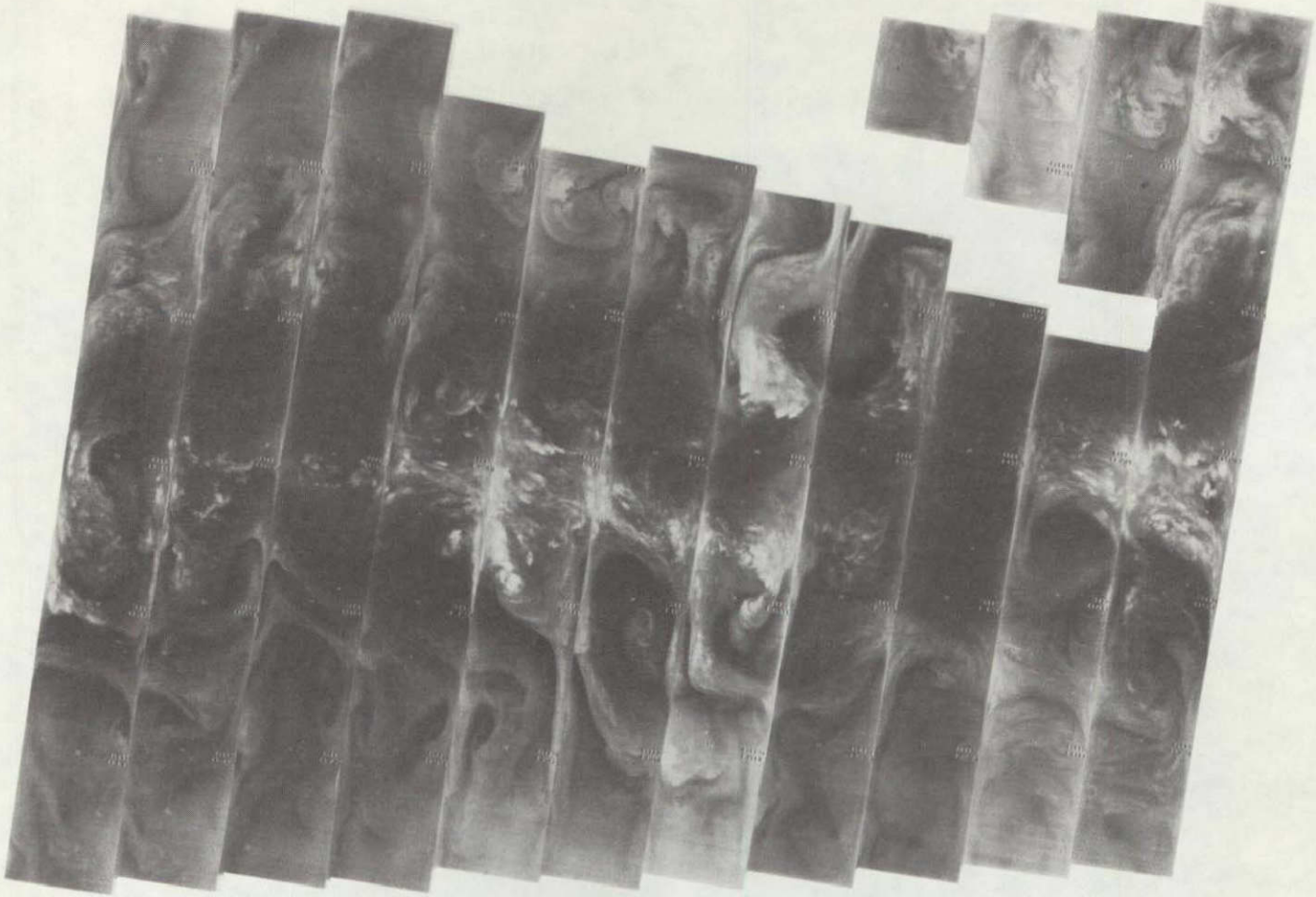
7 FEBRUARY 1976

6.7 μm

3226 3225 3224 3223 3222 3221 3220 3219 3218 3217 3216 3215 3214

7 FEBRUARY 1976

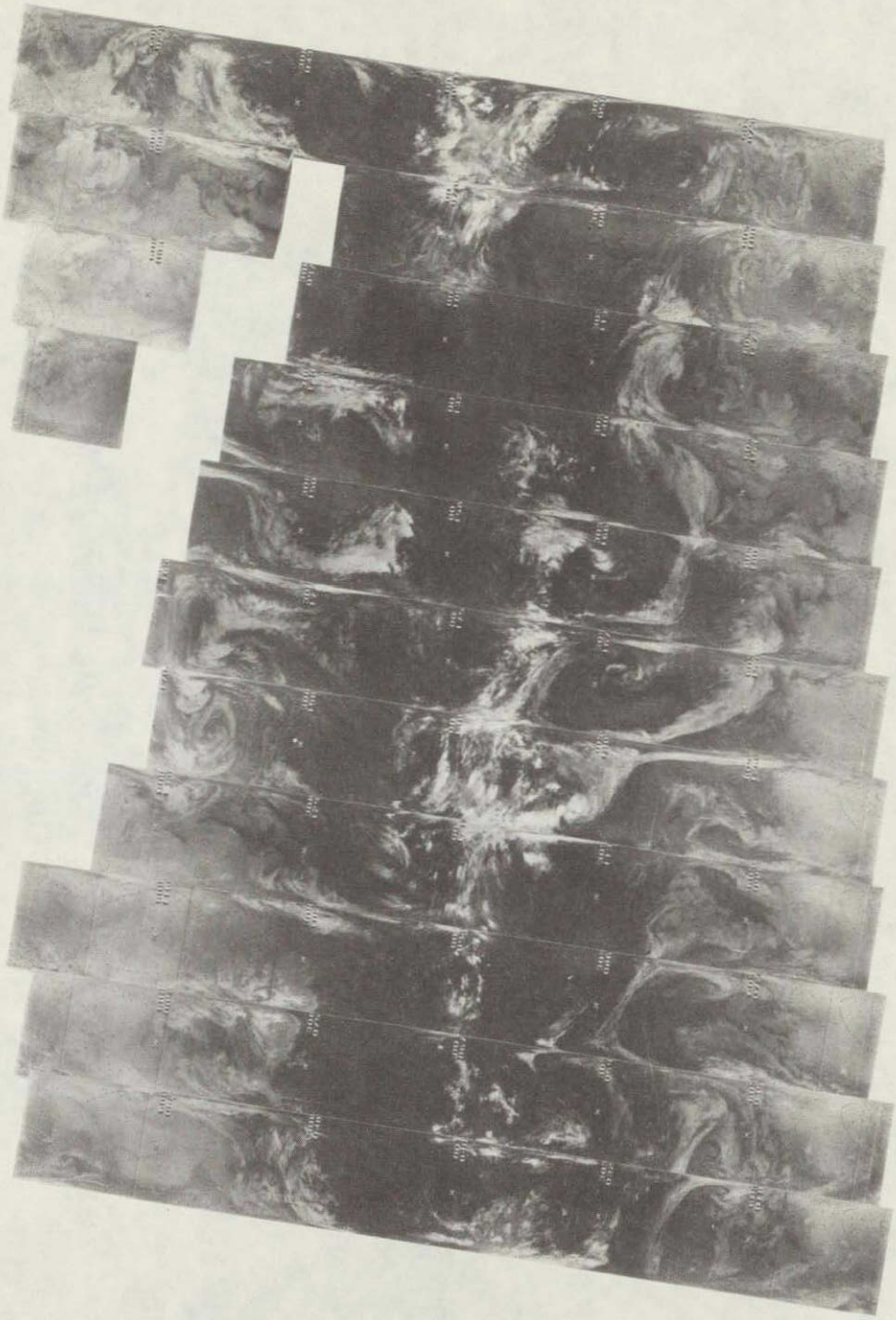
11.5 μm

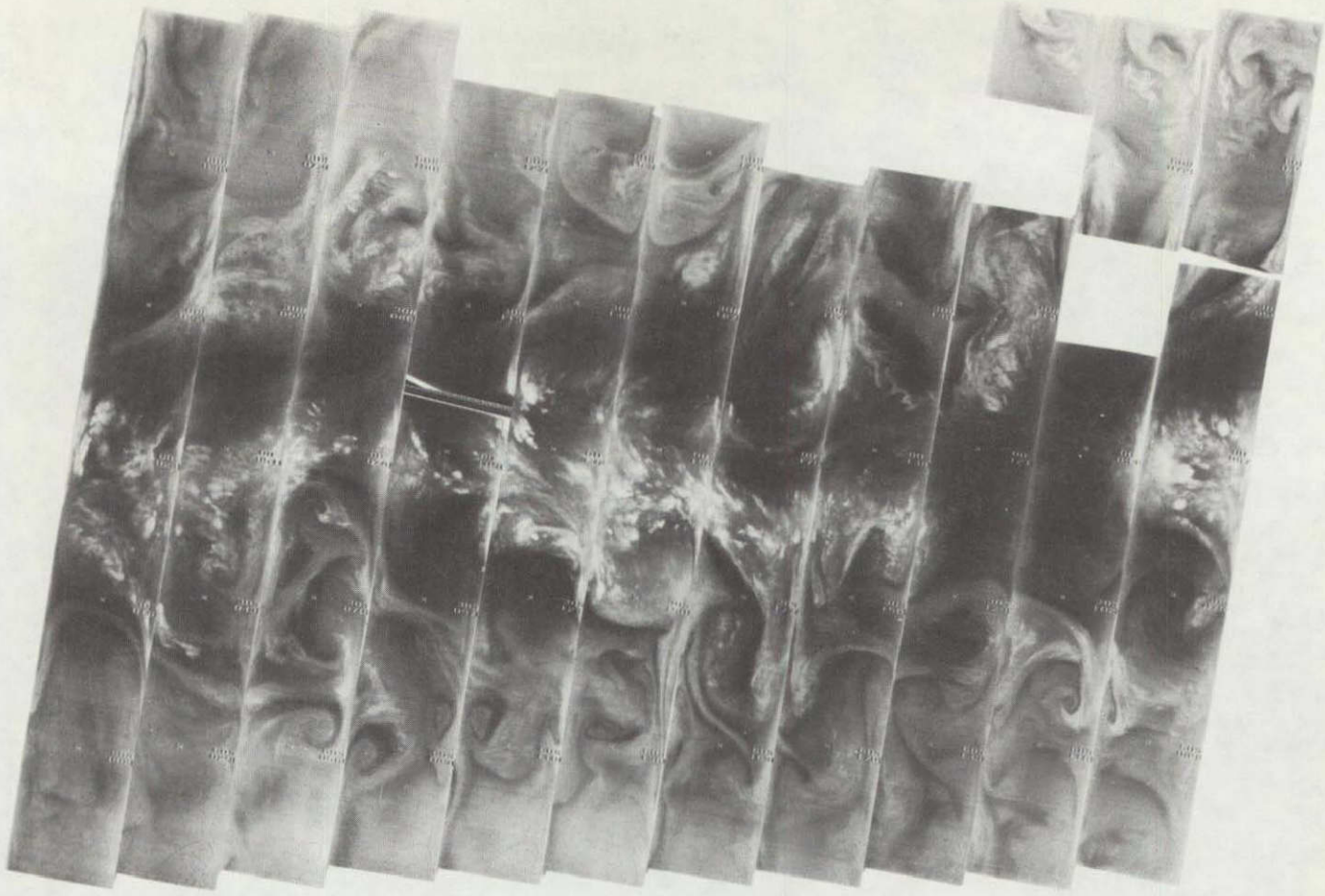


3240 3239 3238 3237 3236 3235 3234 3233 3232 3231 3230 3229 3228 3227

8 FEBRUARY 1976

6.7 μm

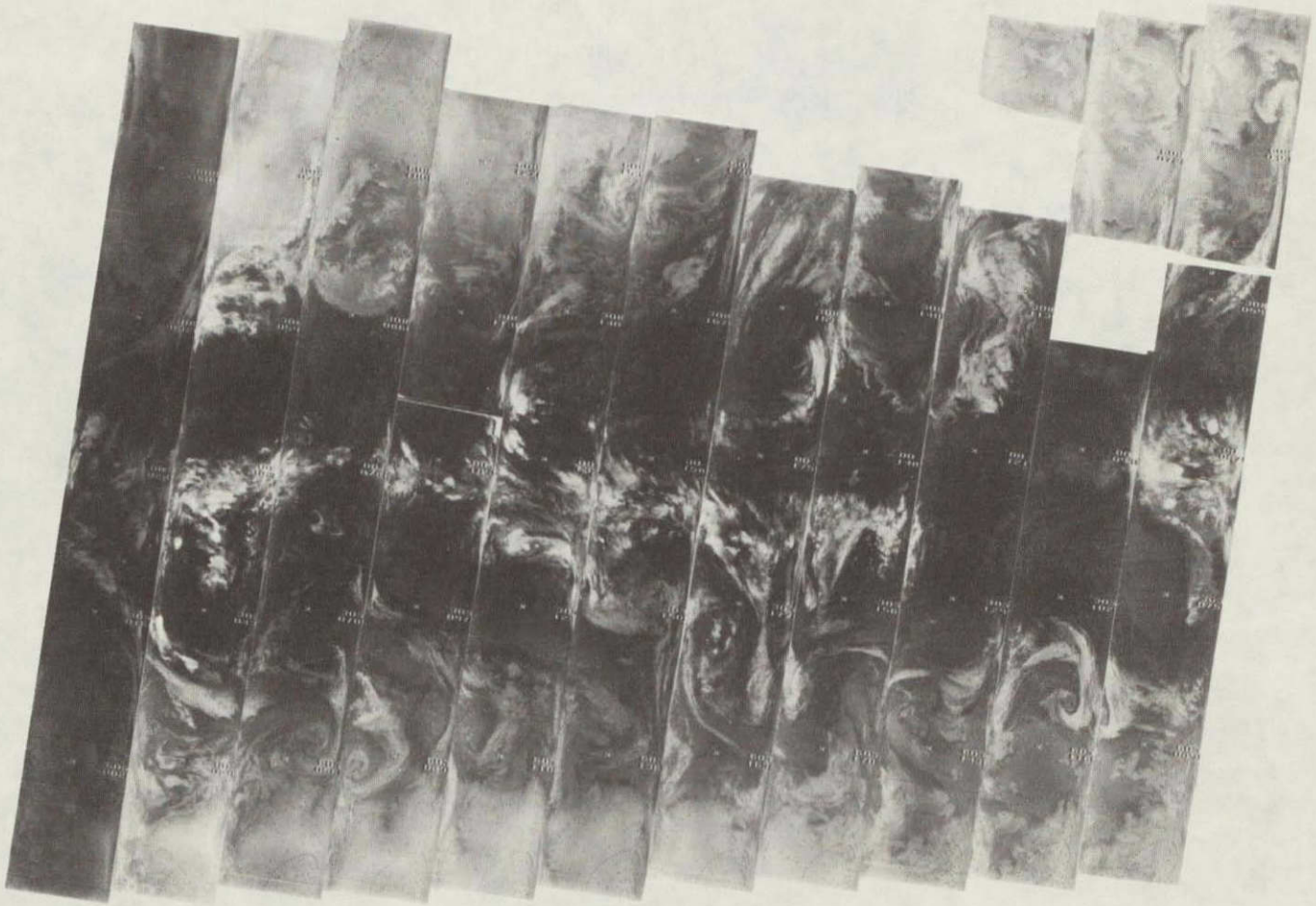




3253 3252 3251 3250 3249 3248 3247 3246 3245 3244 3243 3242 3241

9 FEBRUARY 1976

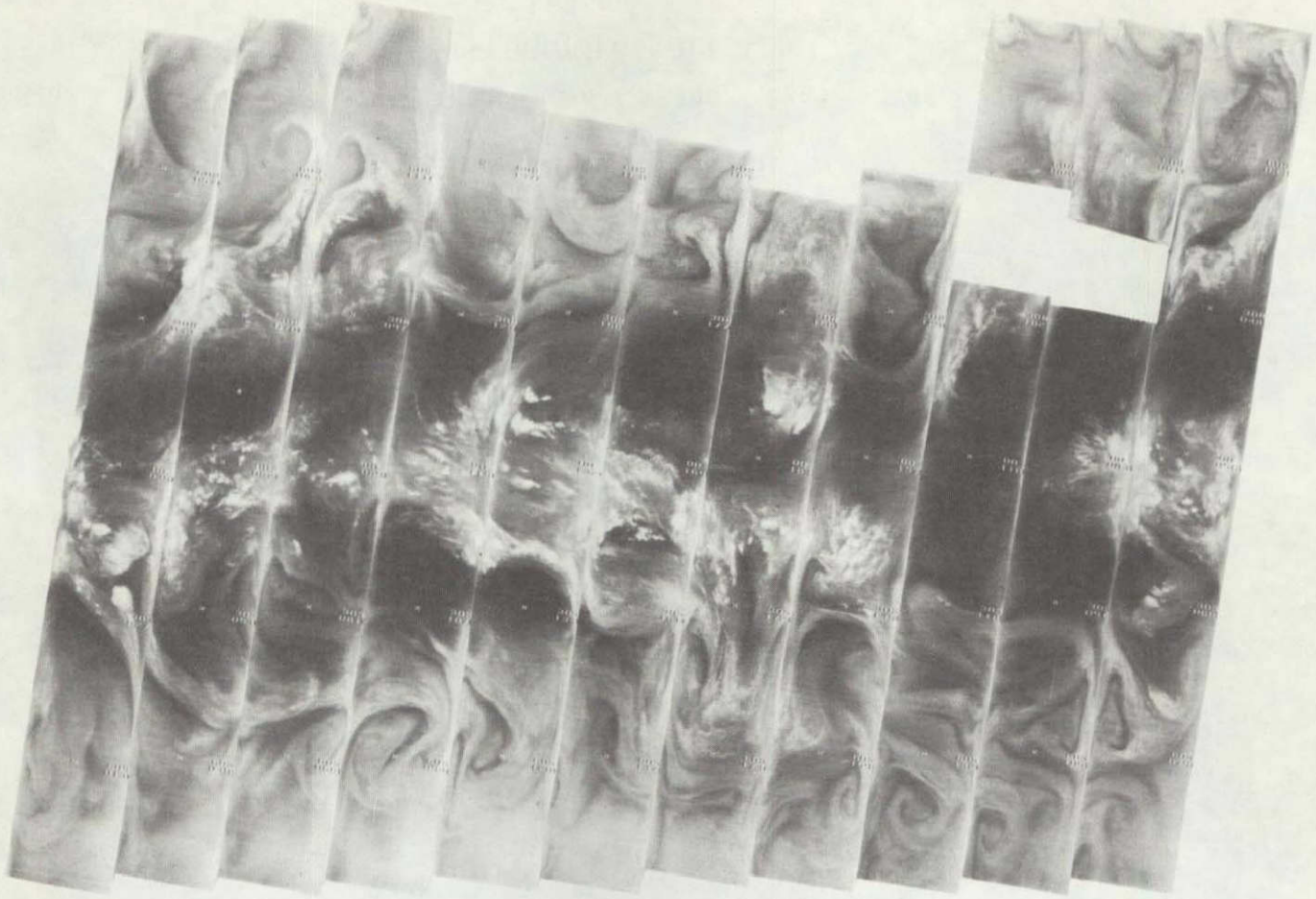
6.7μm



3253 3252 3251 3250 3249 3248 3247 3246 3245 3244 3243 3242 3241

9 FEBRUARY 1976

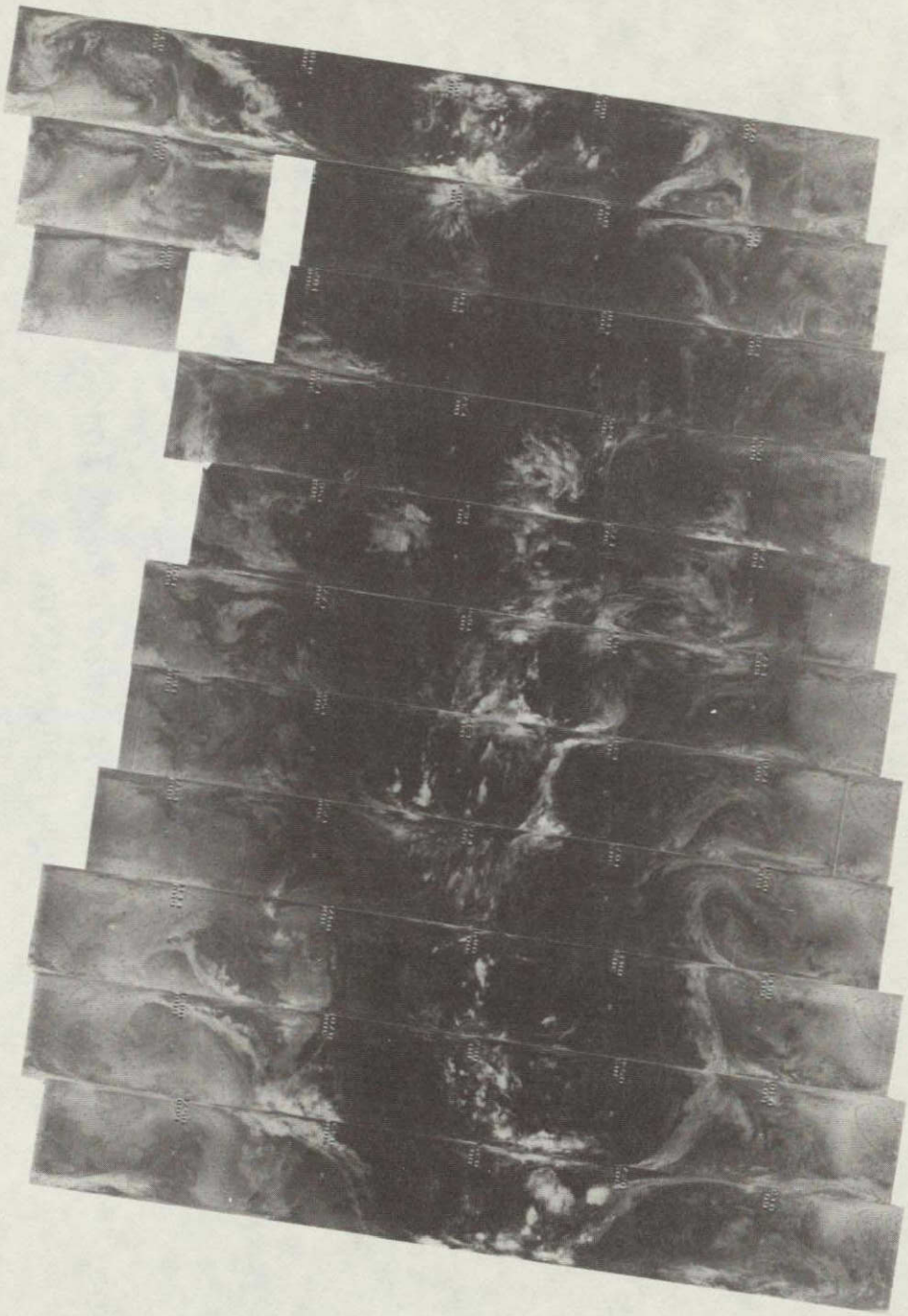
11.5μm

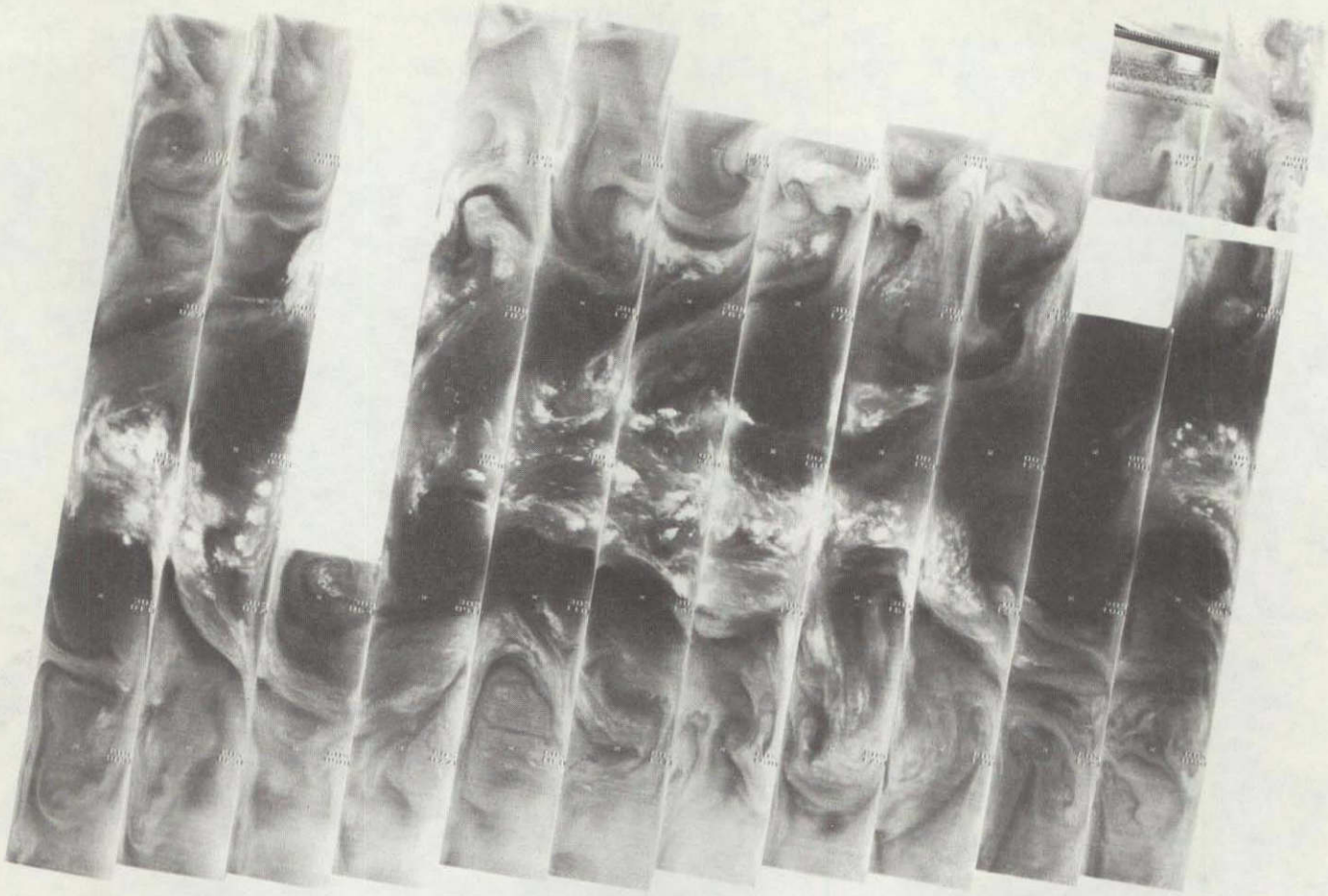


3266 3265 3264 3263 3262 3261 3260 3259 3258 3257 3256 3255 3254

10 FEBRUARY 1976

6.7 μm

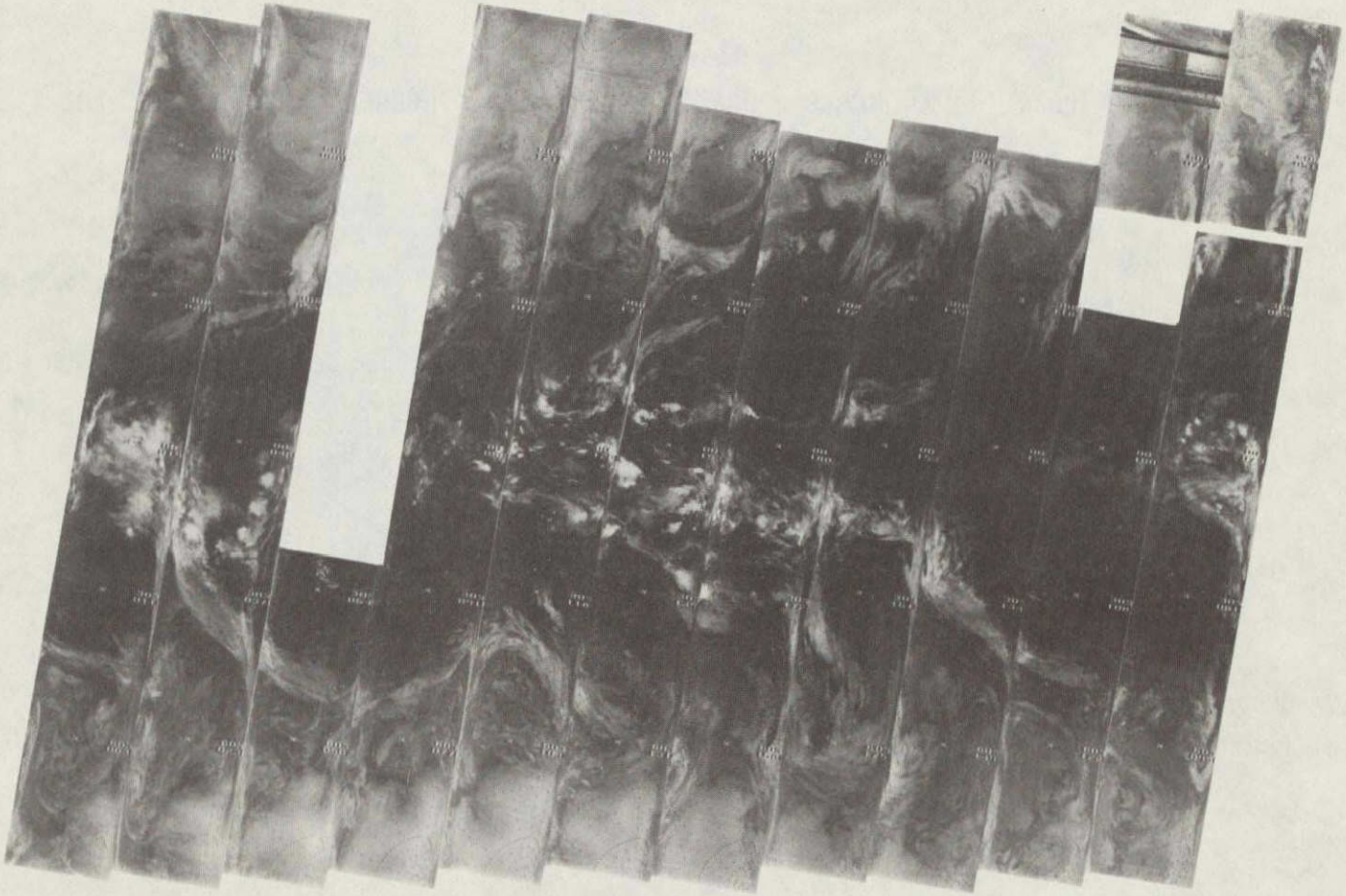




3280 3279 3278 3277 3276 3275 3274 3273 3272 3271 3270 3269 3268 3267

11 FEBRUARY 1976

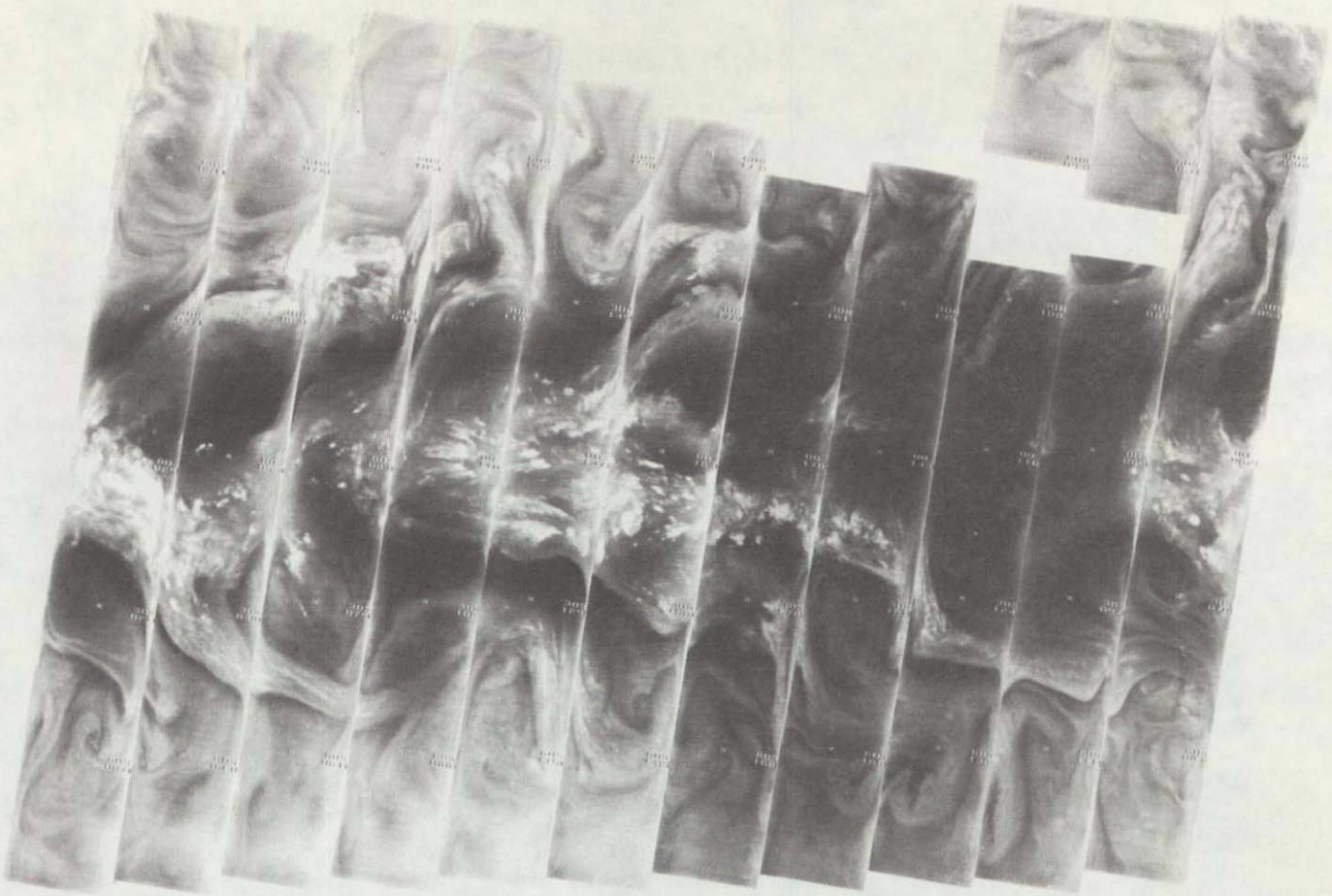
6.7μm



3280 3279 3278 3277 3276 3275 3274 3273 3272 3271 3270 3269 3268 3267

11 FEBRUARY 1976

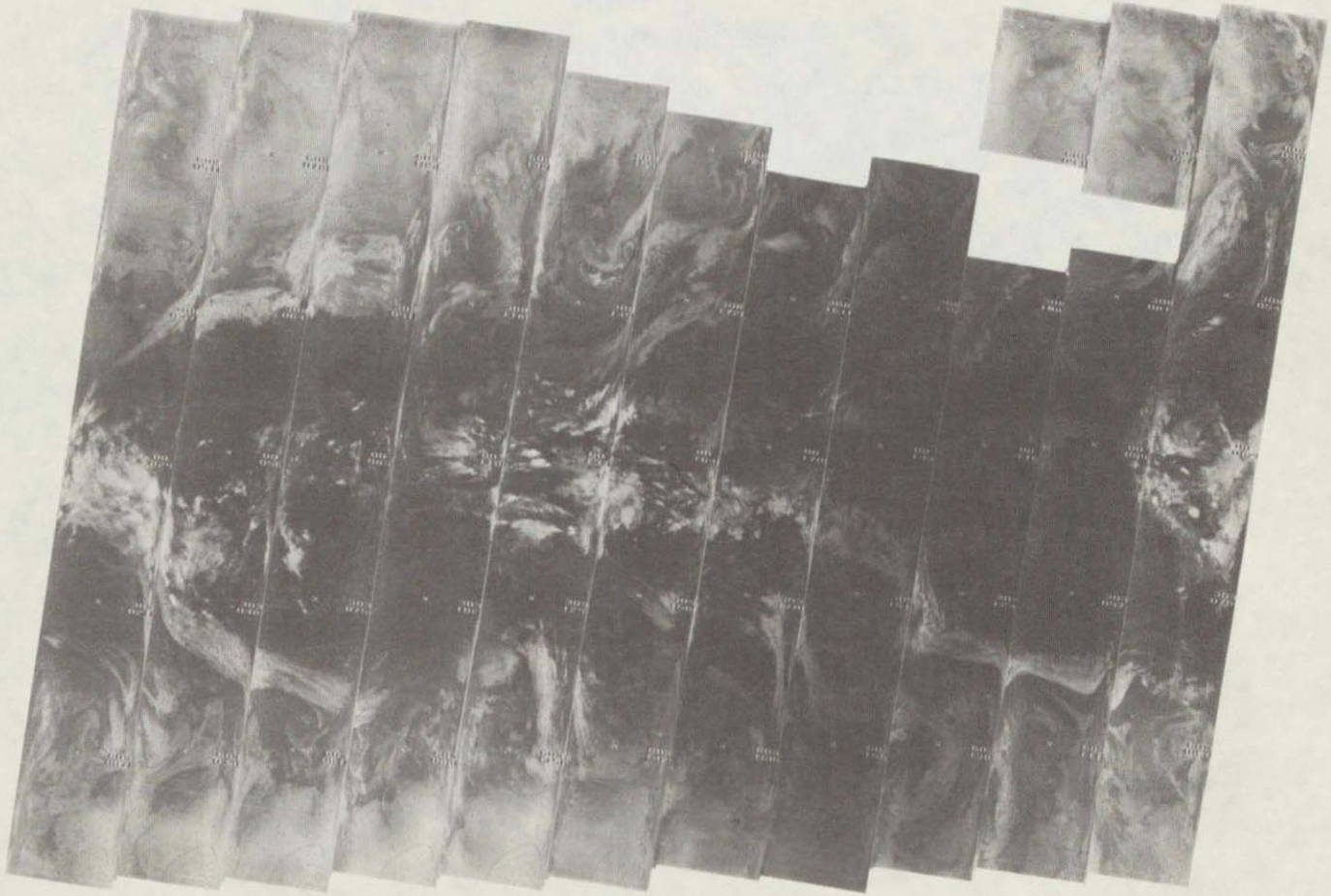
11.5μm



3293 3292 3291 3290 3289 3288 3287 3286 3285 3284 3283 3282 3281

12 FEBRUARY 1976

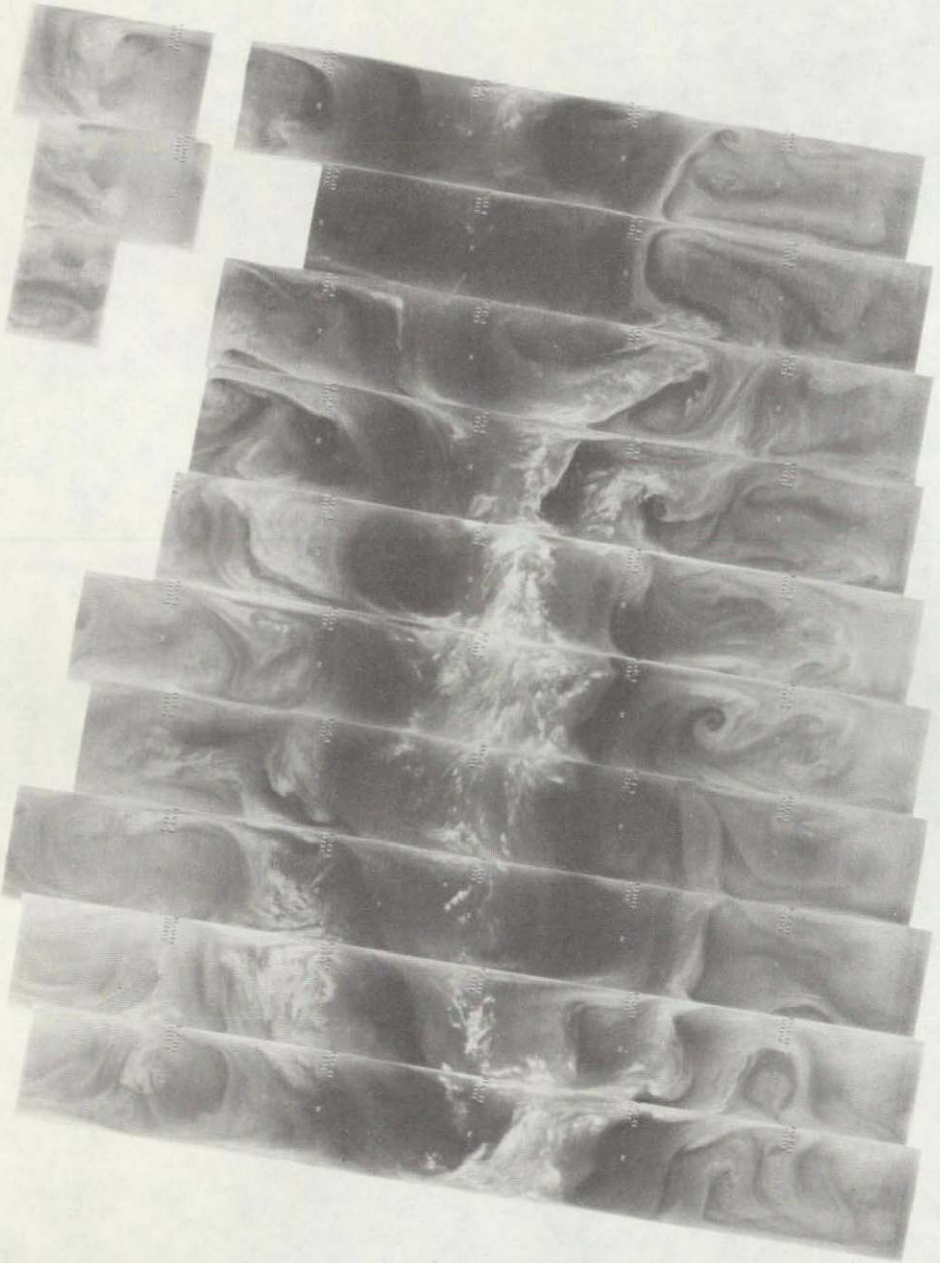
6.7μm

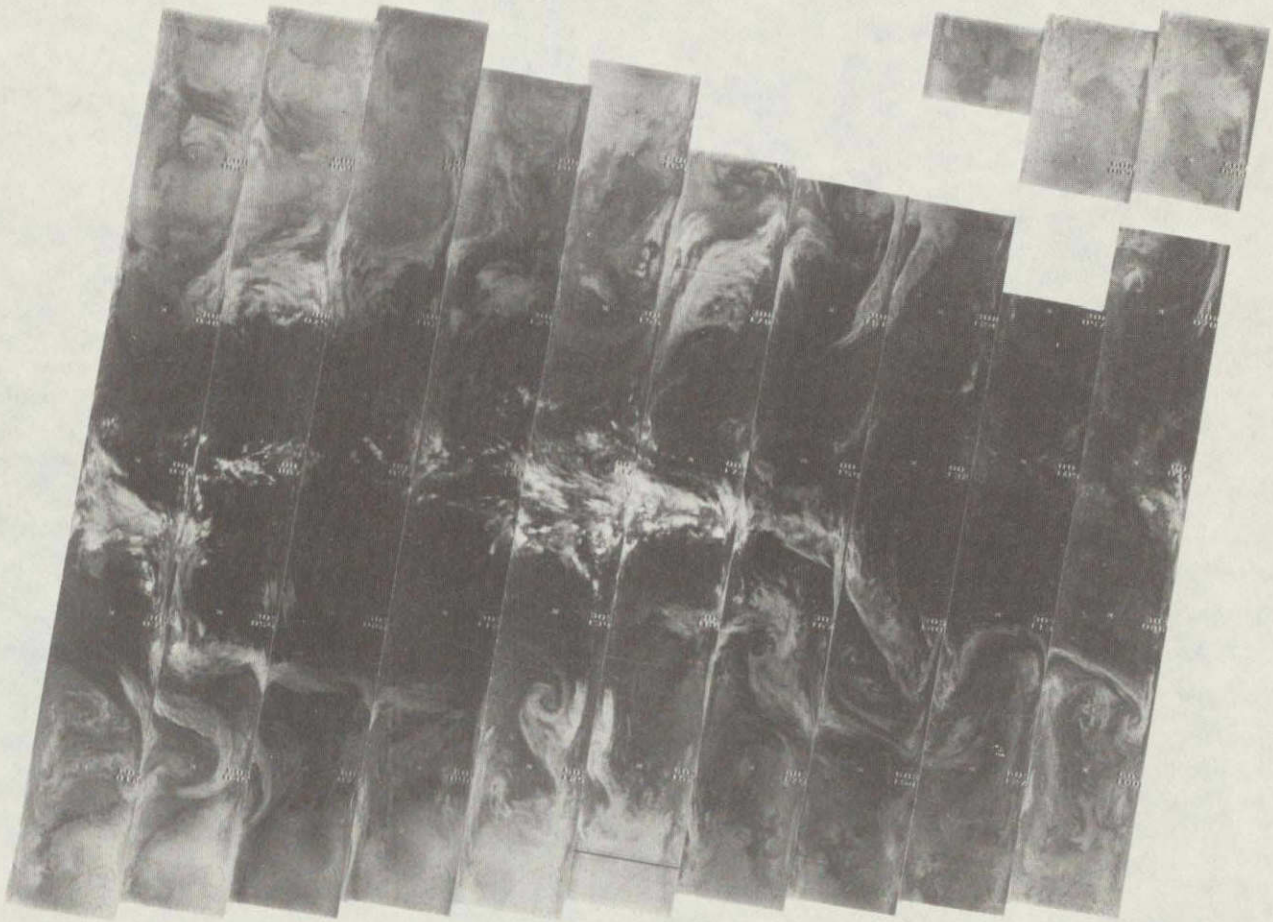


3293 3292 3291 3290 3289 3288 3287 3286 3285 3284 3283 3282 3281

12 FEBRUARY 1976

11.5μm





3307 3306 3305 3304 3303 3302 3301 3300 3299 3298 3297 3296 3295 3294

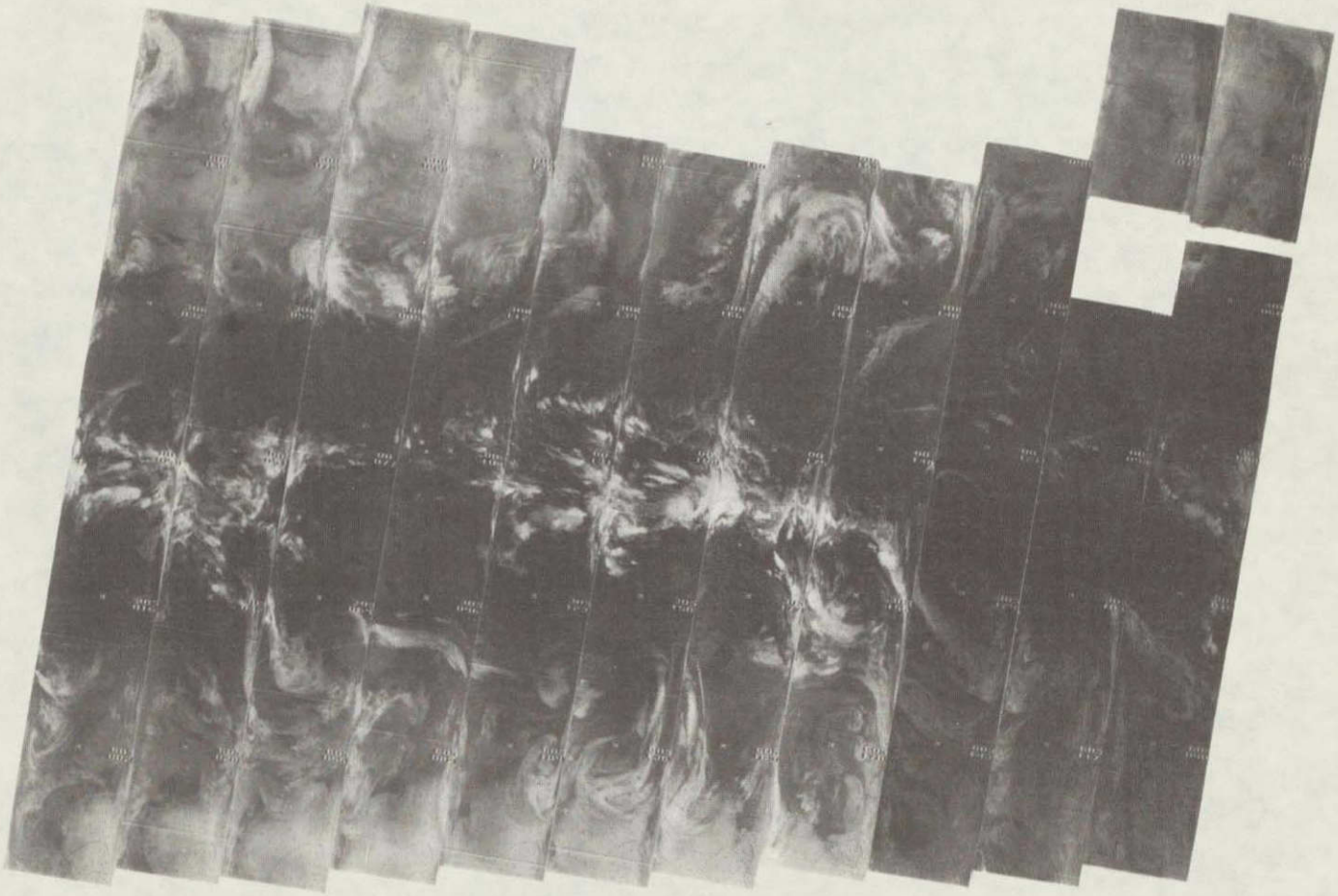
13 FEBRUARY 1976

11.5μm

3320 3319 3318 3317 3316 3315 3314 3313 3312 3311 3310 3309 3308

14 FEBRUARY 1976

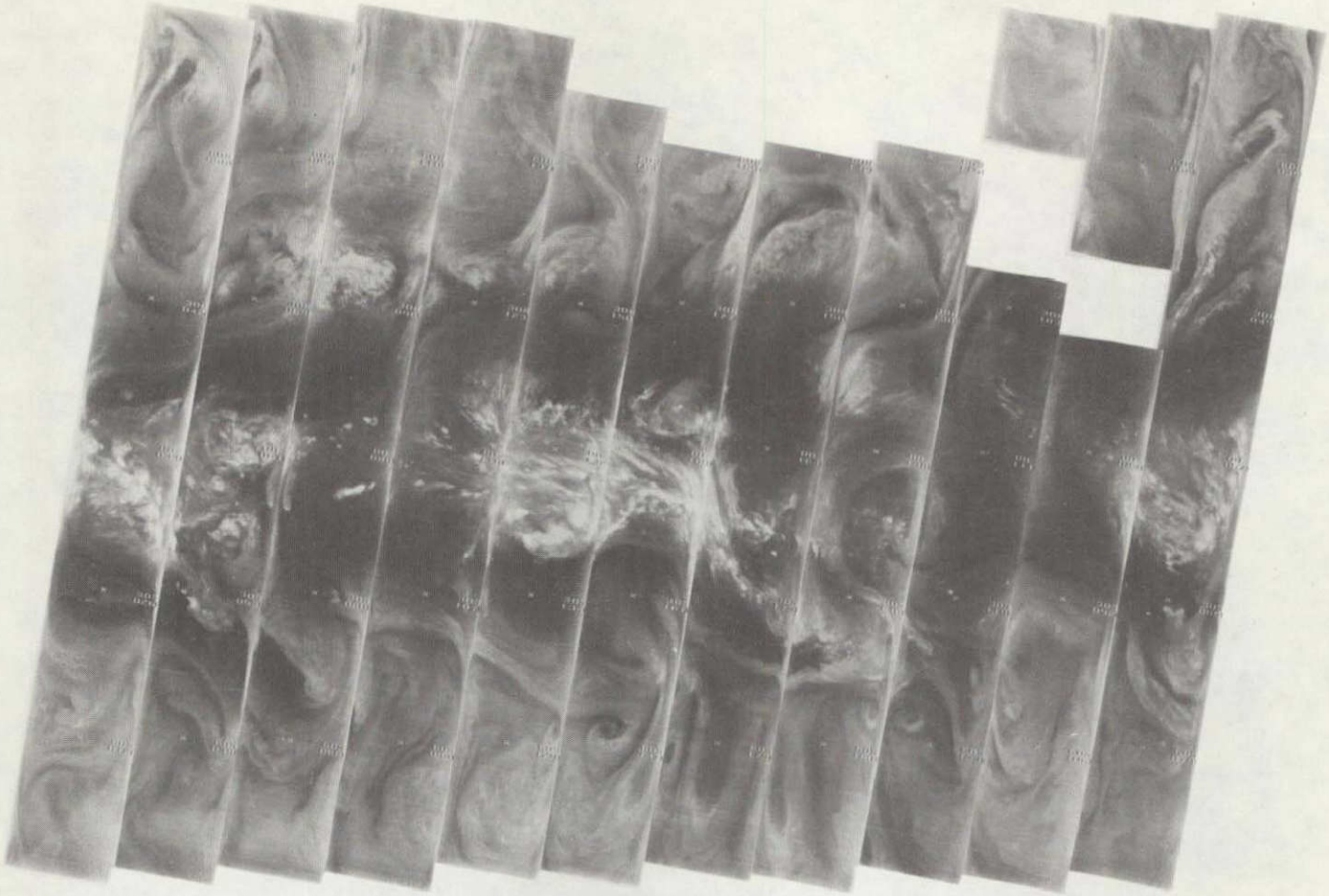
6.7 μm



3320 3319 3318 3317 3316 3315 3314 3313 3312 3311 3310 3309 3308

14 FEBRUARY 1976

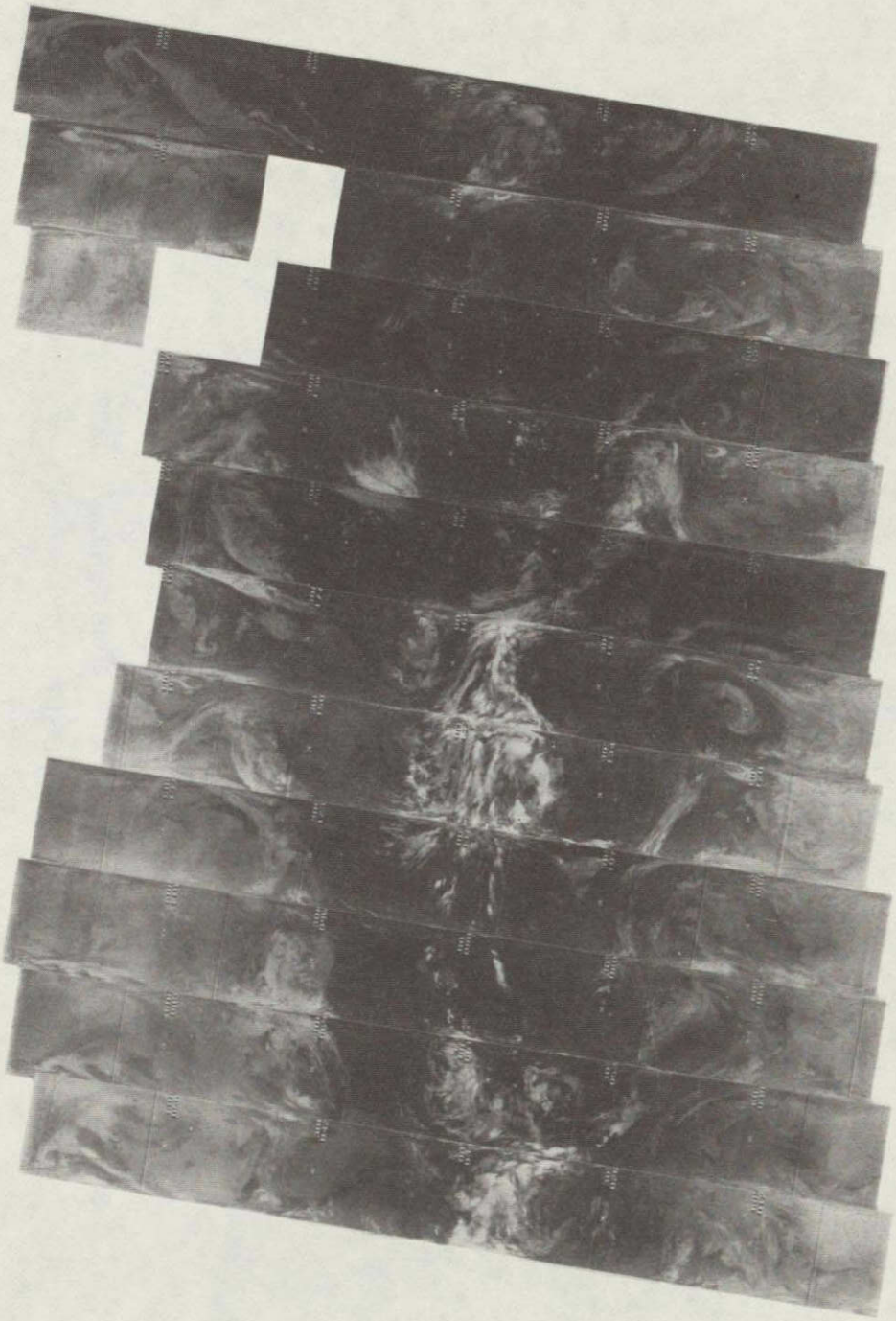
11.5μm



3333 3332 3331 3330 3329 3328 3327 3326 3325 3324 3323 3322 3321

15 FEBRUARY 1976

6.7 μm



3333 3332 3331 3330 3329 3328 3327 3326 3325 3324 3323 3322 3321

15 FEBRUARY 1976

11.5μm

3347 3346 3345 3344 3343 3342 3341 3340 3339 3338 3337 3336 3335 3334

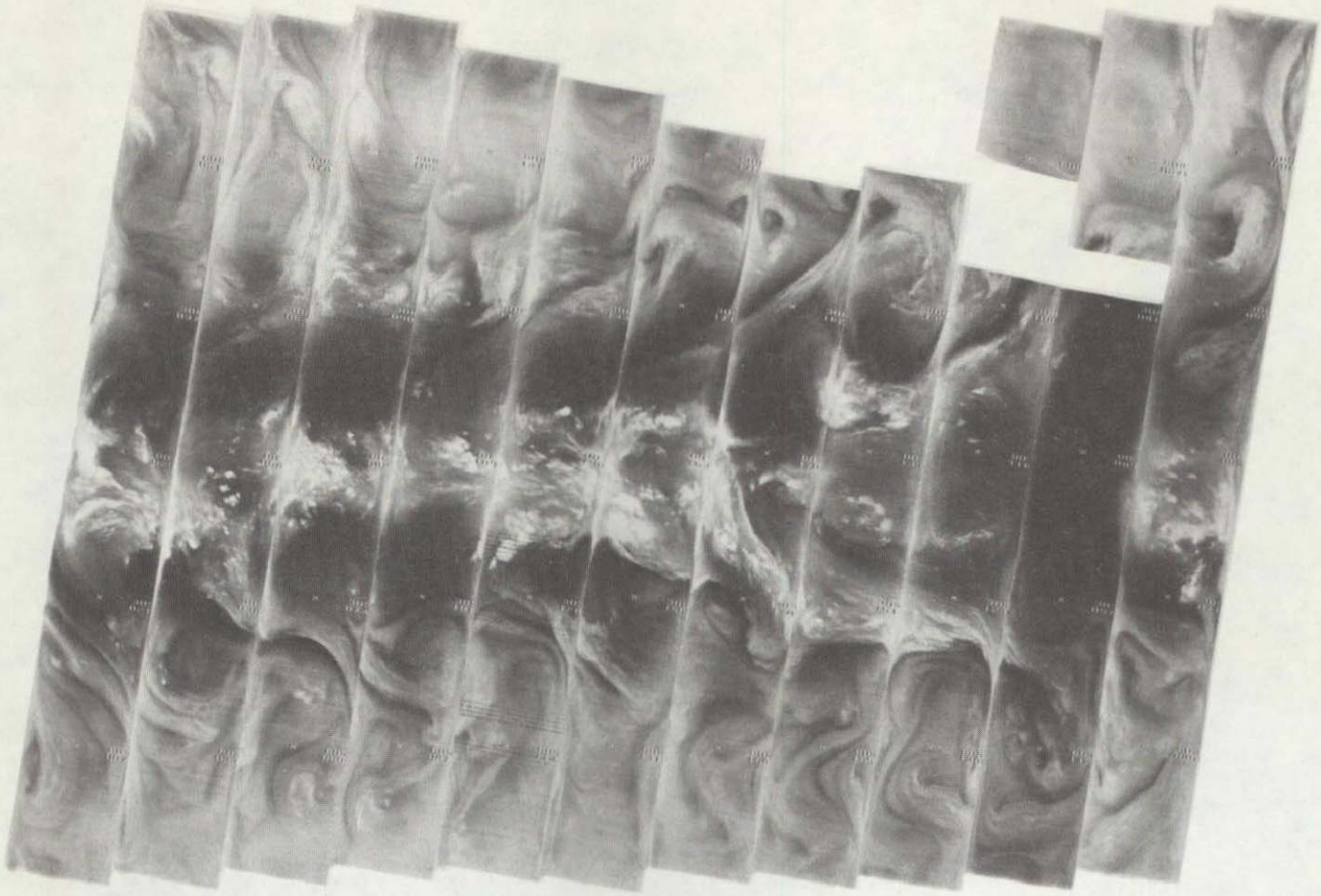
16 FEBRUARY 1976

6.7 μm

3347 3346 3345 3344 3343 3342 3341 3340 3339 3338 3337 3336 3335 3334

16 FEBRUARY 1976

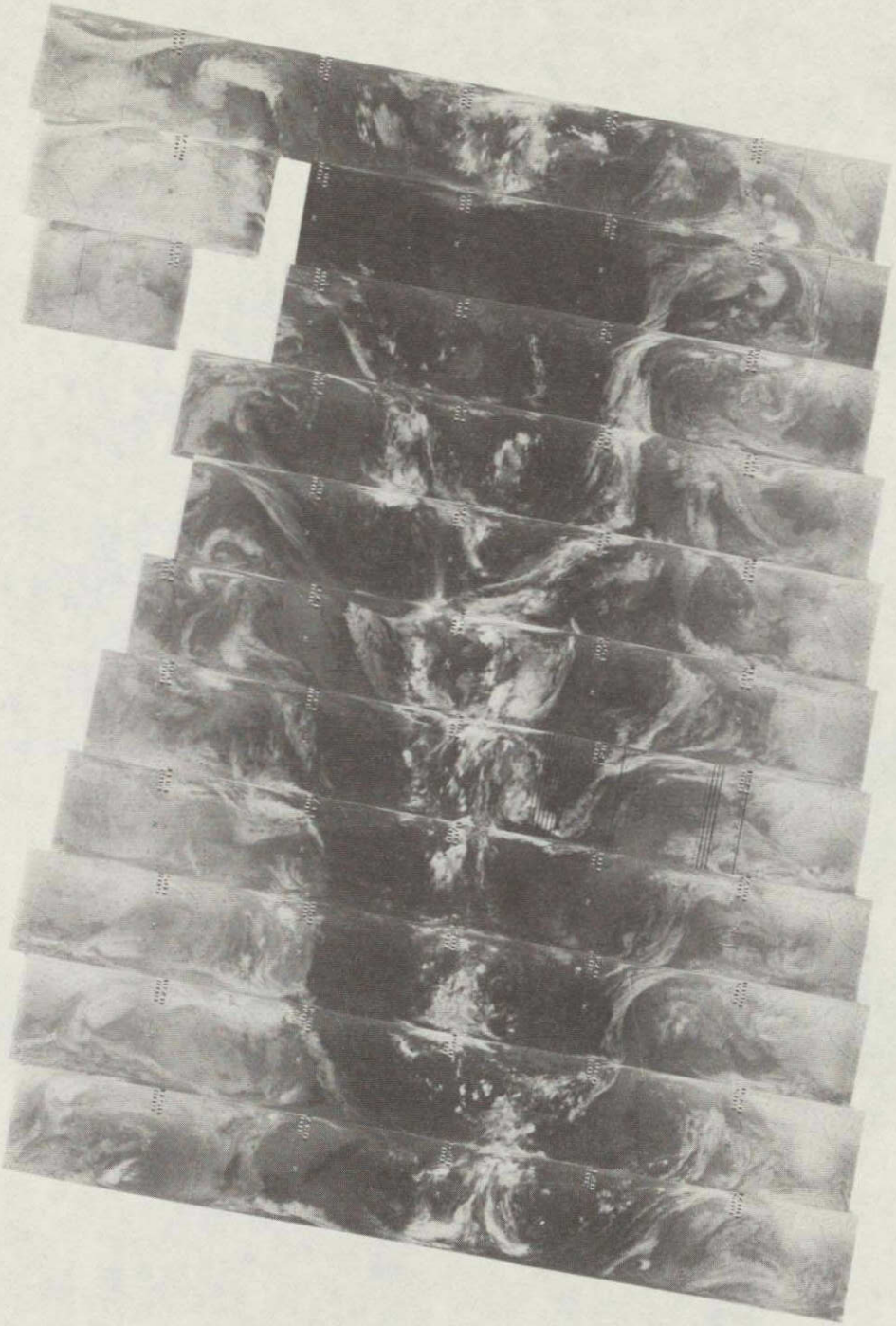
11.5μm

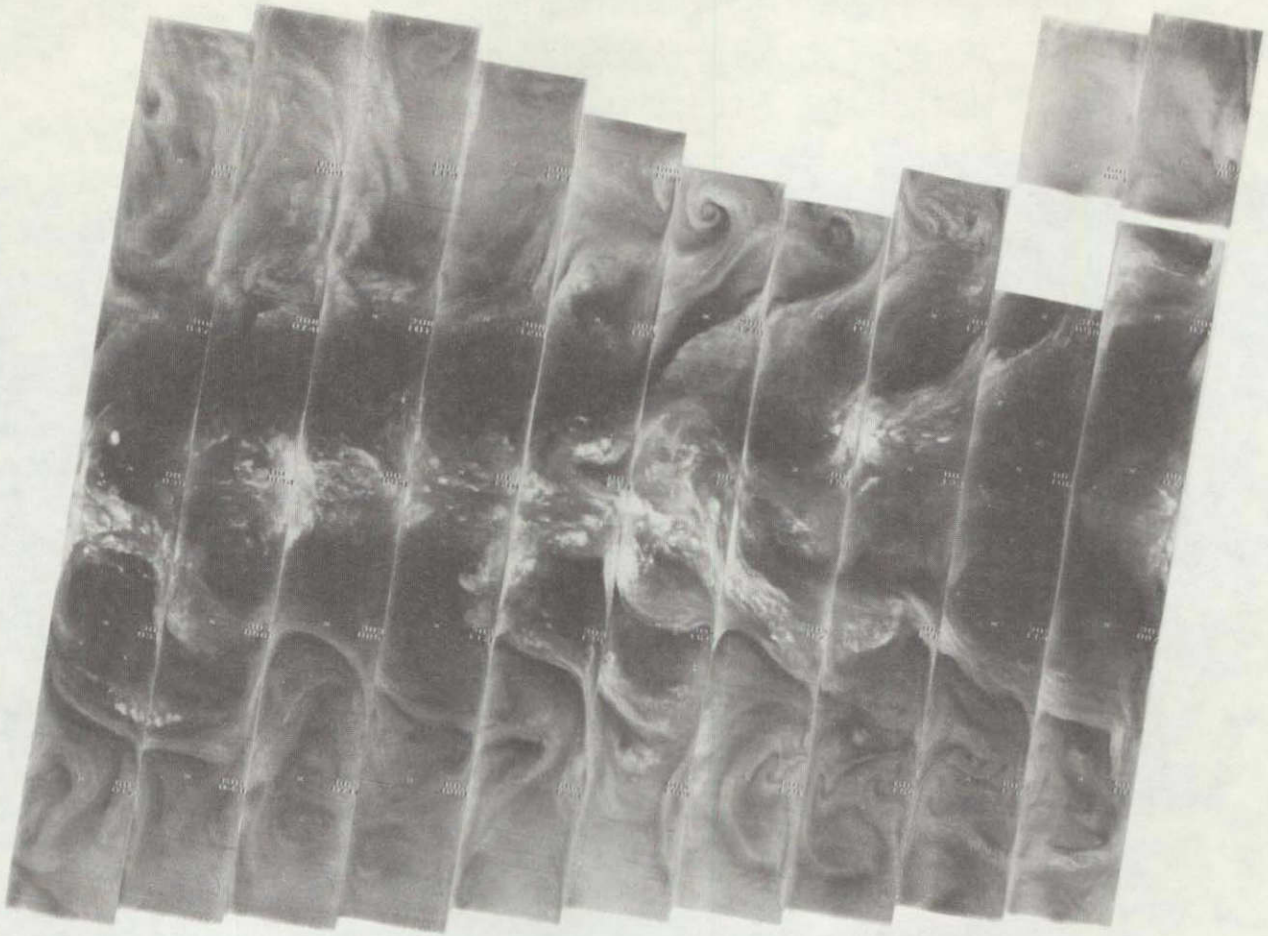


3360 3359 3358 3357 3356 3355 3354 3353 3352 3351 3350 3349 3348

17 FEBRUARY 1976

6.7μm

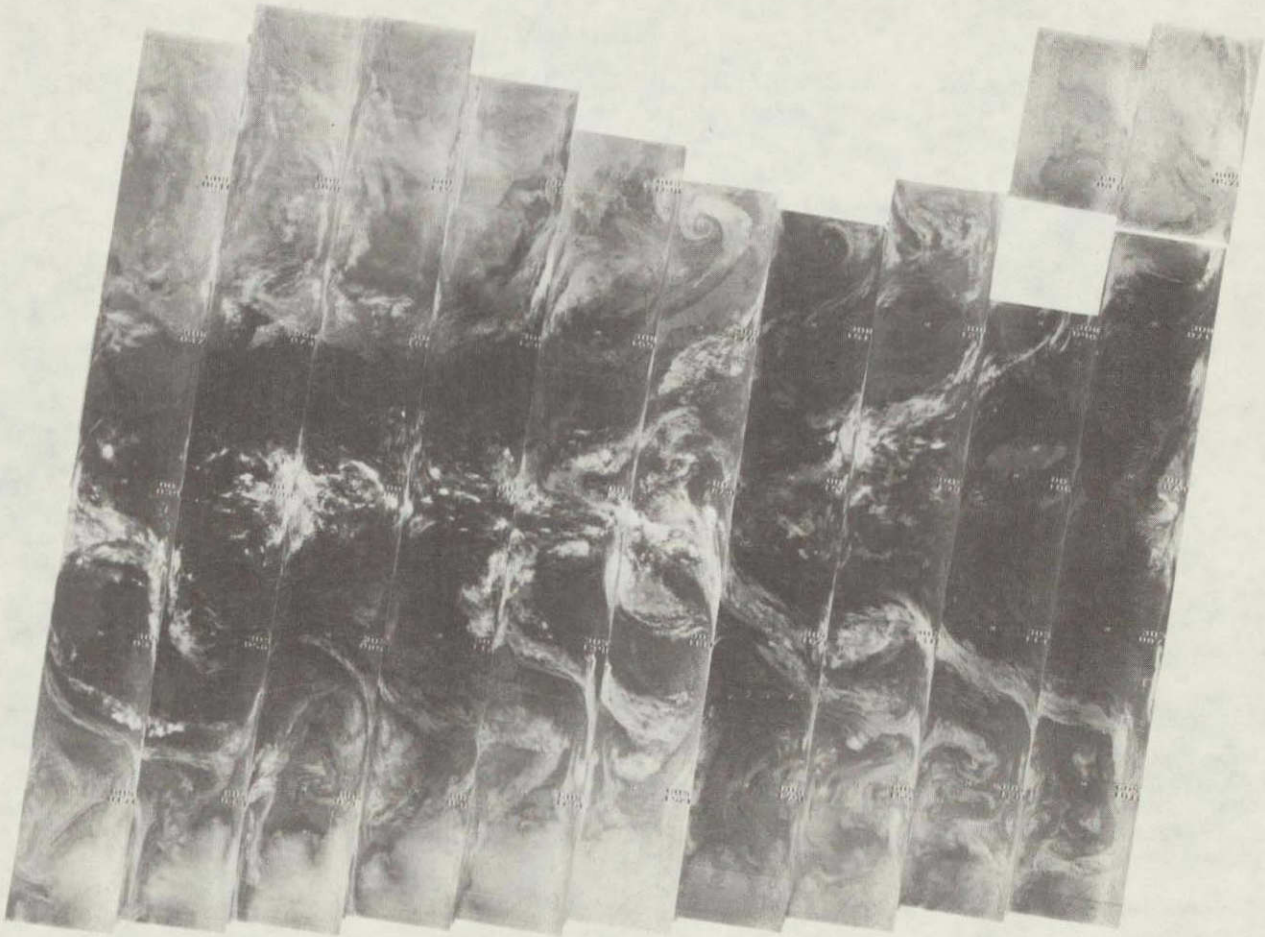




3374 3373 3372 3371 3370 3369 3368 3367 3366 3365 3364 3363 3362 3361

18 FEBRUARY 1976

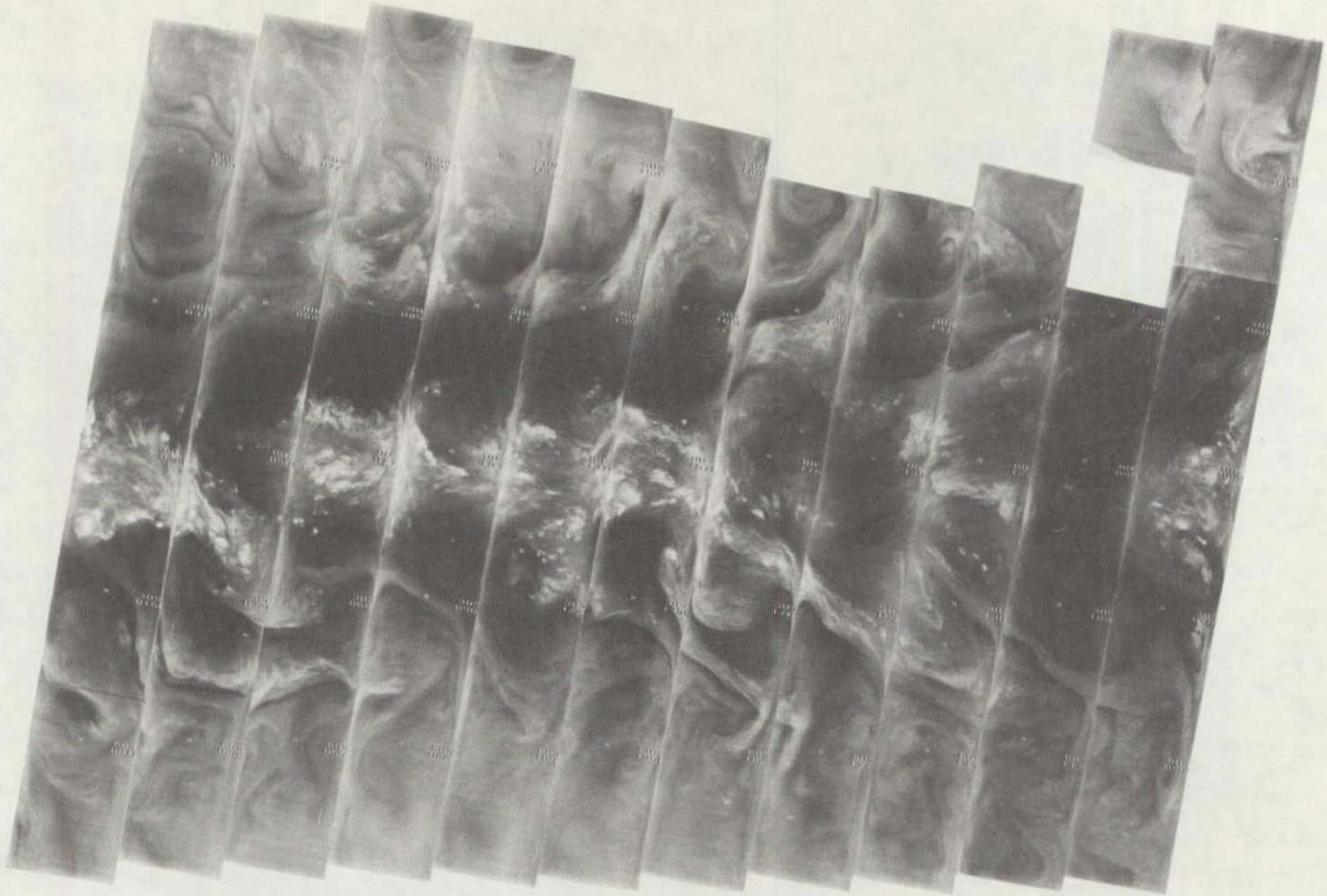
6.7 μm



3374 3373 3372 3371 3370 3369 3368 3367 3366 3365 3364 3363 3362 3361

18 FEBRUARY 1976

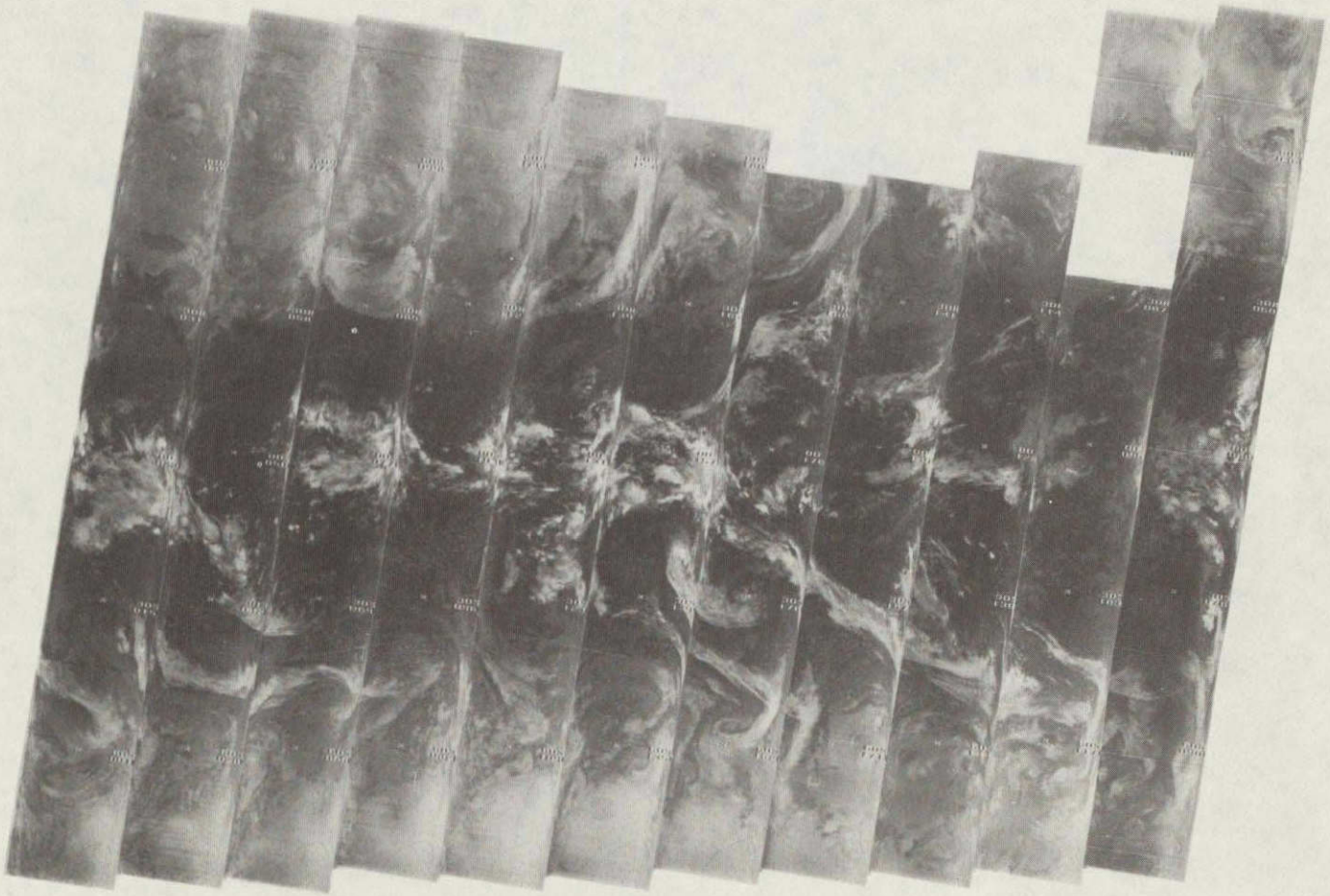
11.5μm



3387 3386 3385 3384 3383 3382 3381 3380 3379 3378 3377 3376 3375

19 FEBRUARY 1976

6.7μm



3387 3386 3385 3384 3383 3382 3381 3380 3379 3378 3377 3376 3375

19 FEBRUARY 1976

11.5μm

3400 3399 3398 3397 3396 3395 3394 3393 3392 3391 3390 3389 3388

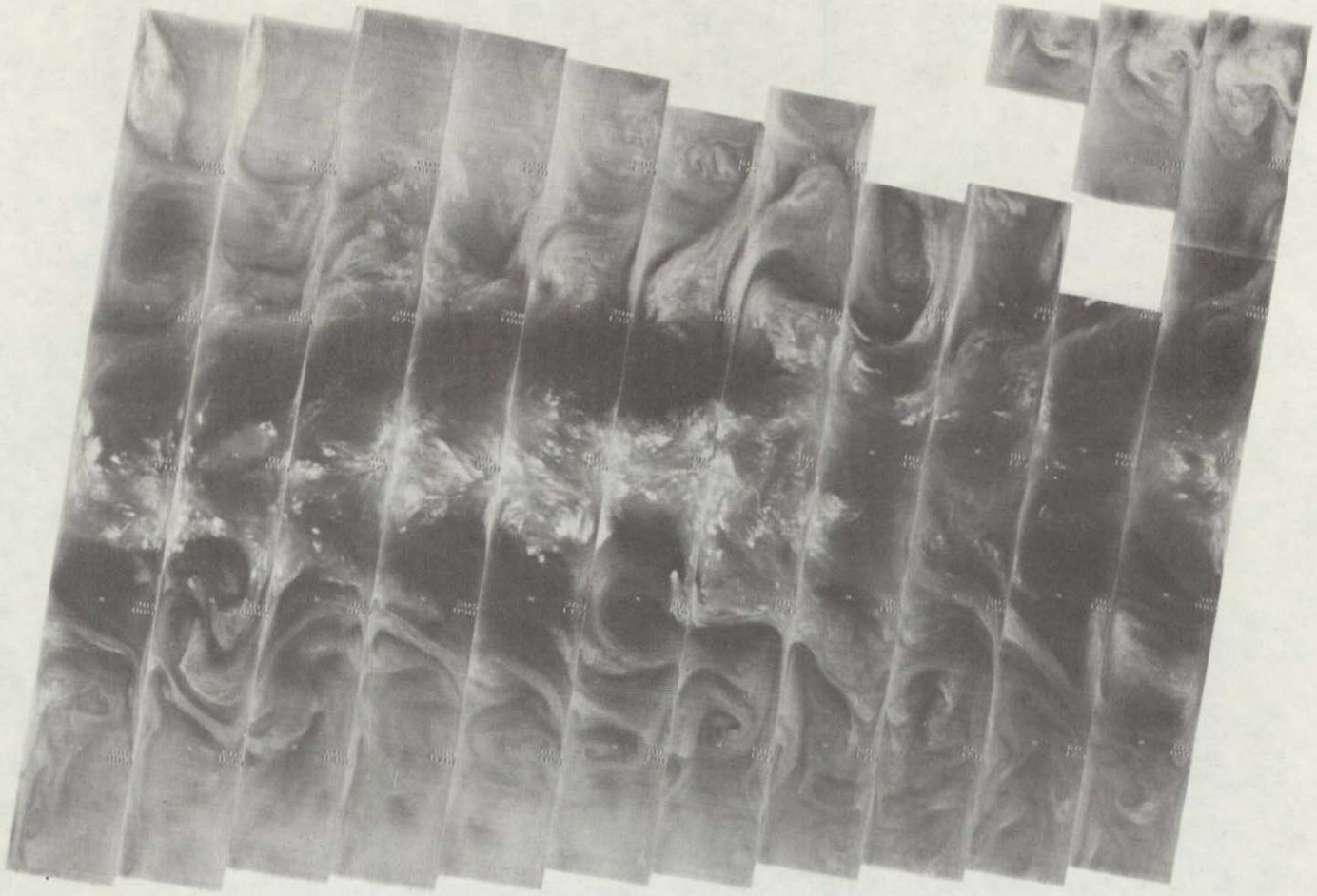
20 FEBRUARY 1976

6.7 μm

3400 3399 3398 3397 3396 3395 3394 3393 3392 3391 3390 3389 3388

20 FEBRUARY 1976

11.5μm



3414 3413 3412 3411 3410 3409 3408 3407 3406 3405 3404 3403 3402 3401

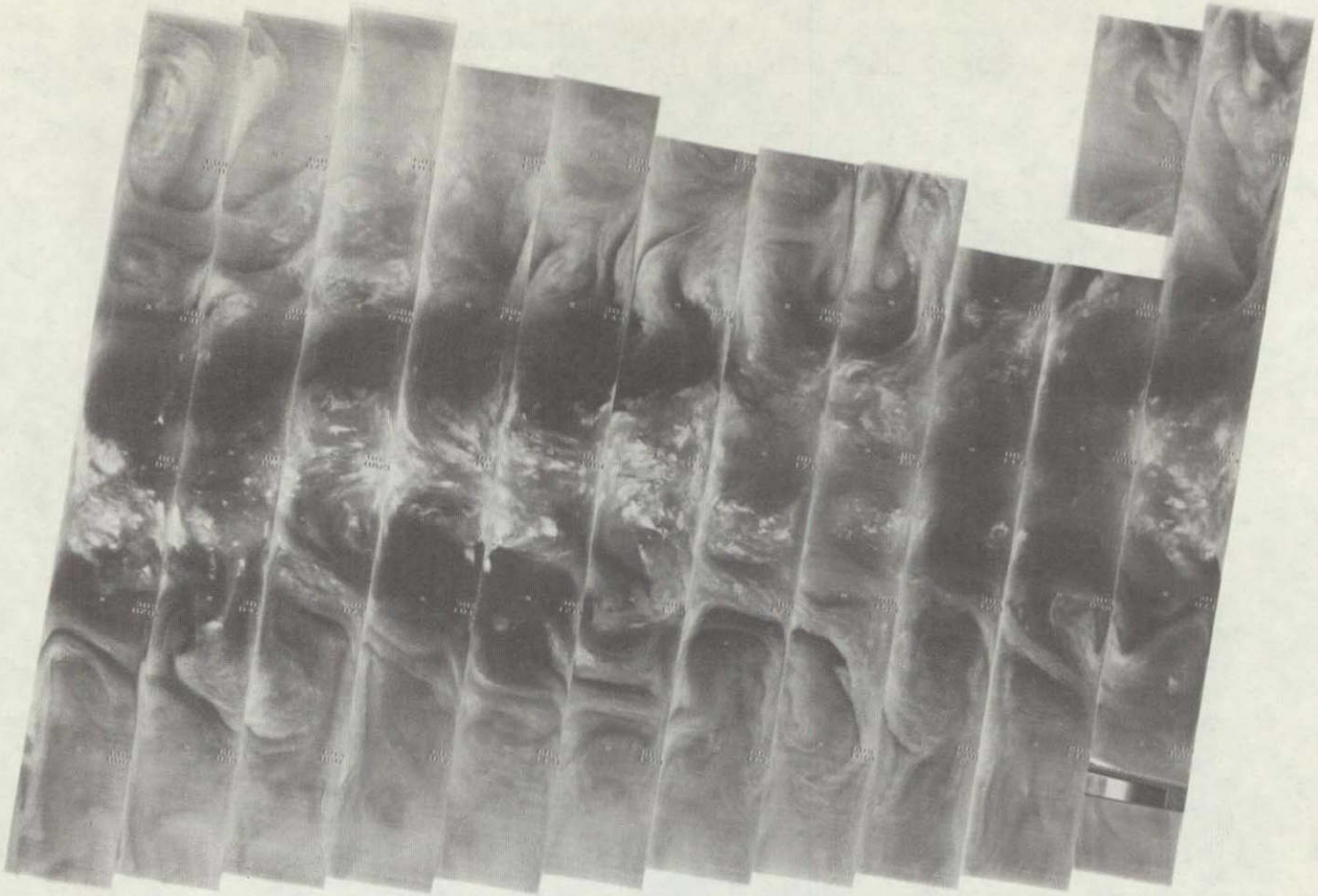
21 FEBRUARY 1976

6.7 μm

3414 3413 3412 3411 3410 3409 3408 3407 3406 3405 3404 3403 3402 3401

21 FEBRUARY 1976

11.5 μm



3427 3426 3425 3424 3423 3422 3421 3420 3419 3418 3417 3416 3415

22 FEBRUARY 1976

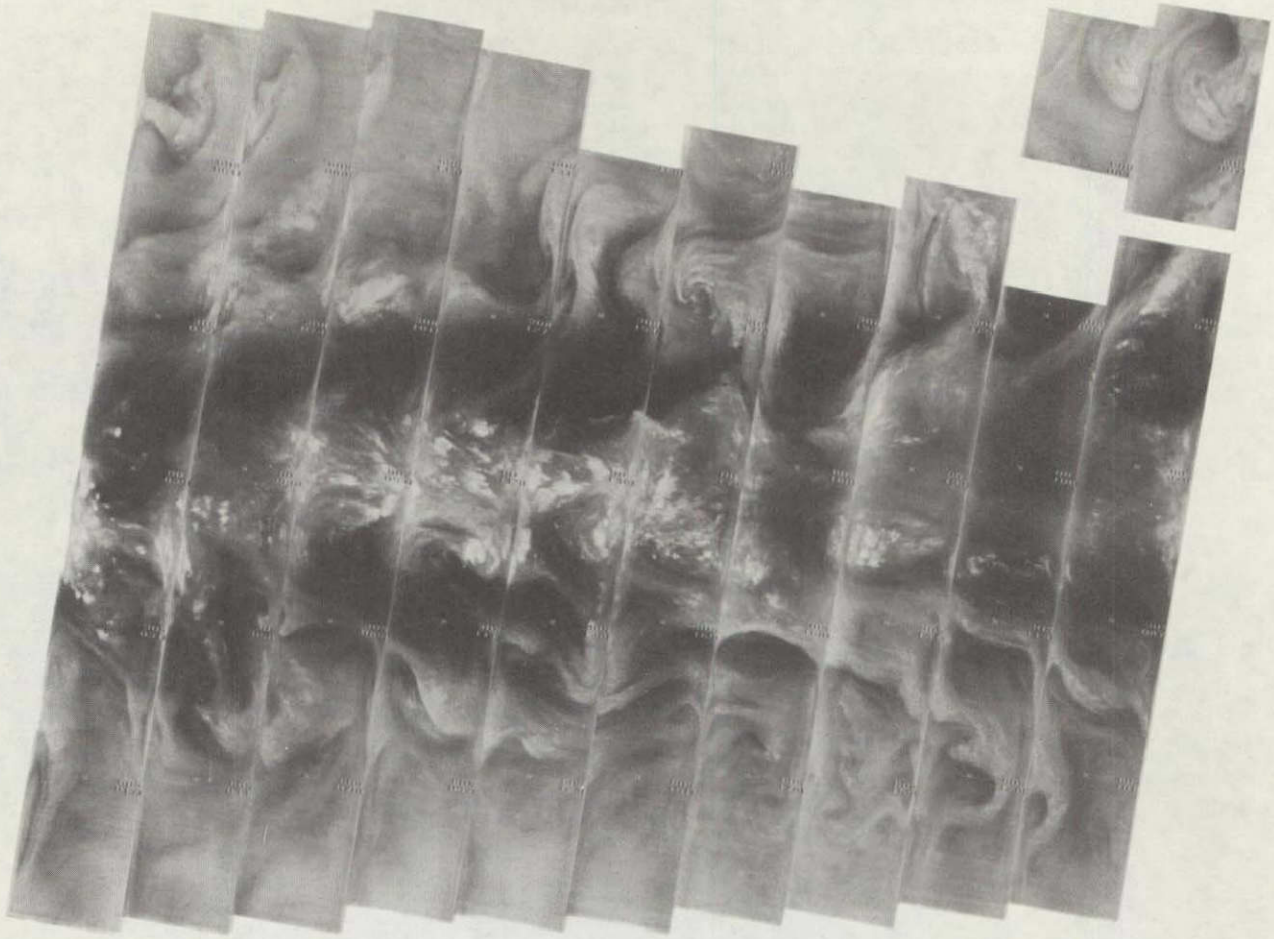
6.7 μm

C-3

3427 3426 3425 3424 3423 3422 3421 3420 3419 3418 3417 3416 3415

22 FEBRUARY 1976

11.5μm

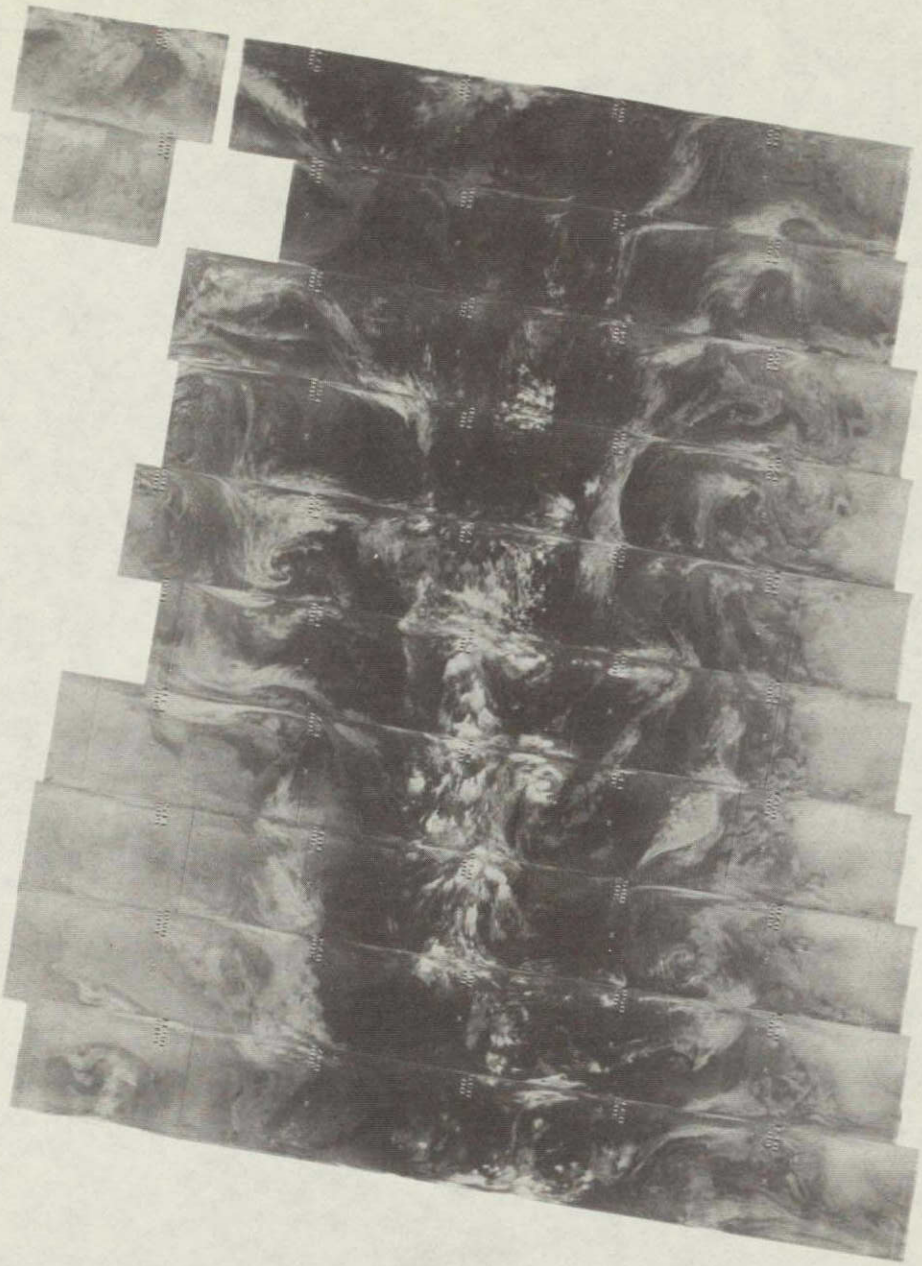


3441 3440 3439 3438 3437 3436 3435 3434 3433 3432 3431 3430 3429 3428

23 FEBRUARY 1976

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY



3441 3440 3439 3438 3437 3436 3435 3434 3433 3432 3431 3430 3429 3428

23 FEBRUARY 1976

11.5μm

3554 3553 3552 3551 3550 3449 3448 3447 3446 3445 3444 3443 3442

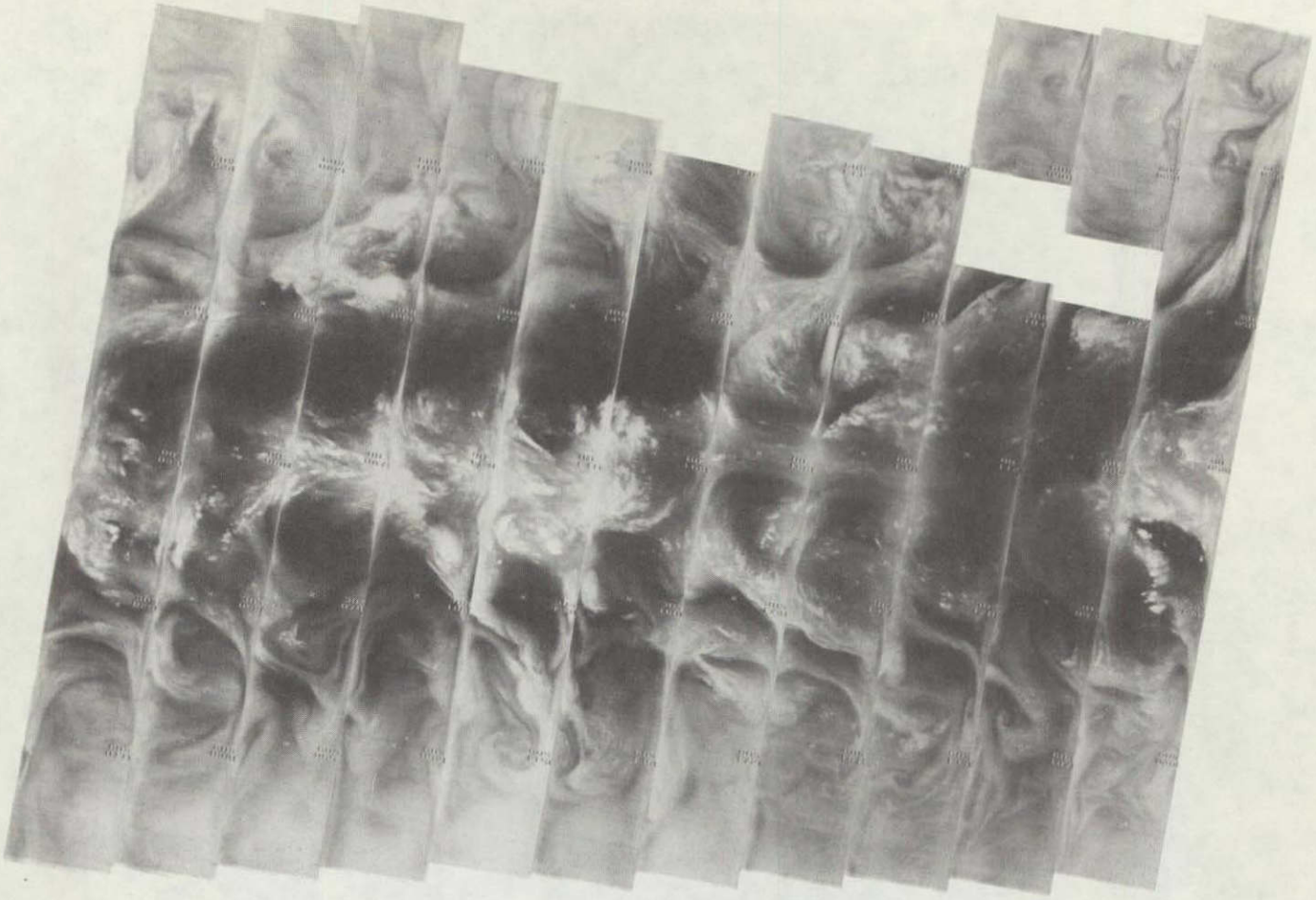
24 FEBRUARY 1976

6.7 μm

3454 3453 3452 3451 3450 3449 3448 3447 3446 3445 3444 3443 3442

24 FEBRUARY 1976

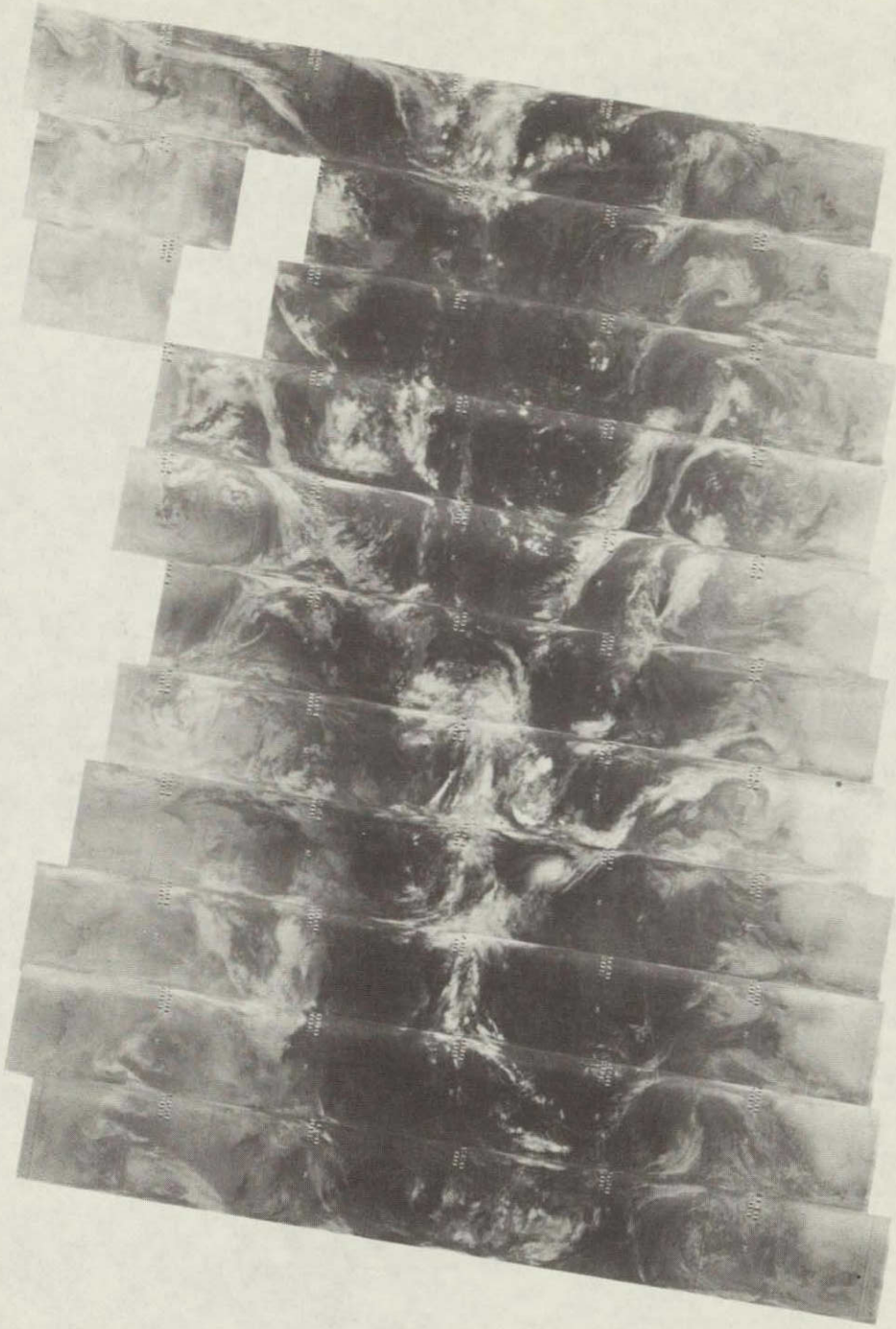
11.5μm



3467 3466 3465 3464 3463 3462 3461 3460 3459 3458 3457 3456 3455

25 FEBRUARY 1976

6.7 μm



3455 3456 3457 3458 3459 3460 3461 3462 3463 3464 3465 3466 3467

25 FEBRUARY 1976

11.5 μm

3481 3480 3479 3478 3477 3476 3475 3474 3473 3472 3471 3470 3469 3468

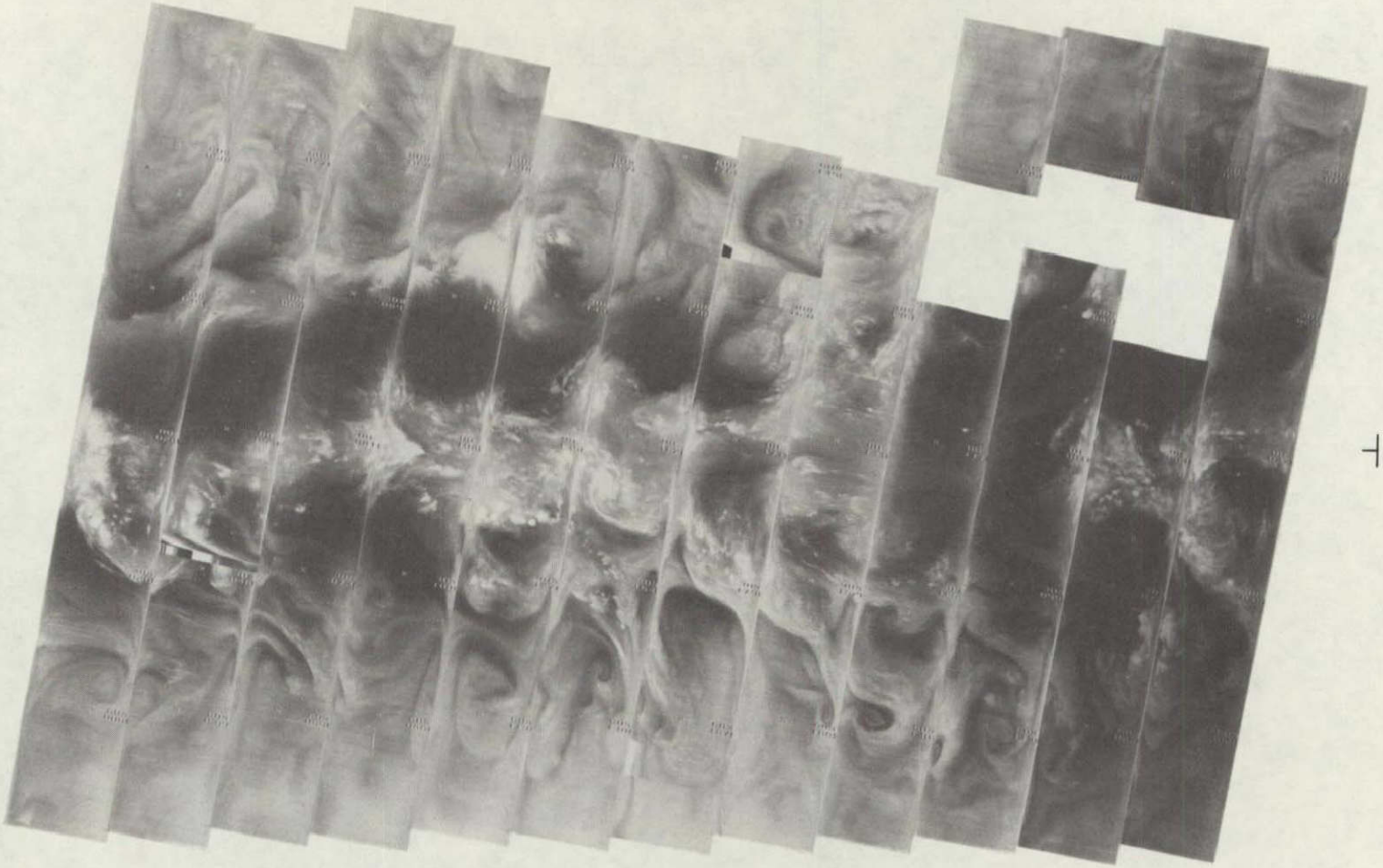
26 FEBRUARY 1976

6.7μm

3481 3480 3479 3478 3477 3476 3475 3474 3473 3472 3471 3470 3469 3468

26 FEBRUARY 1976

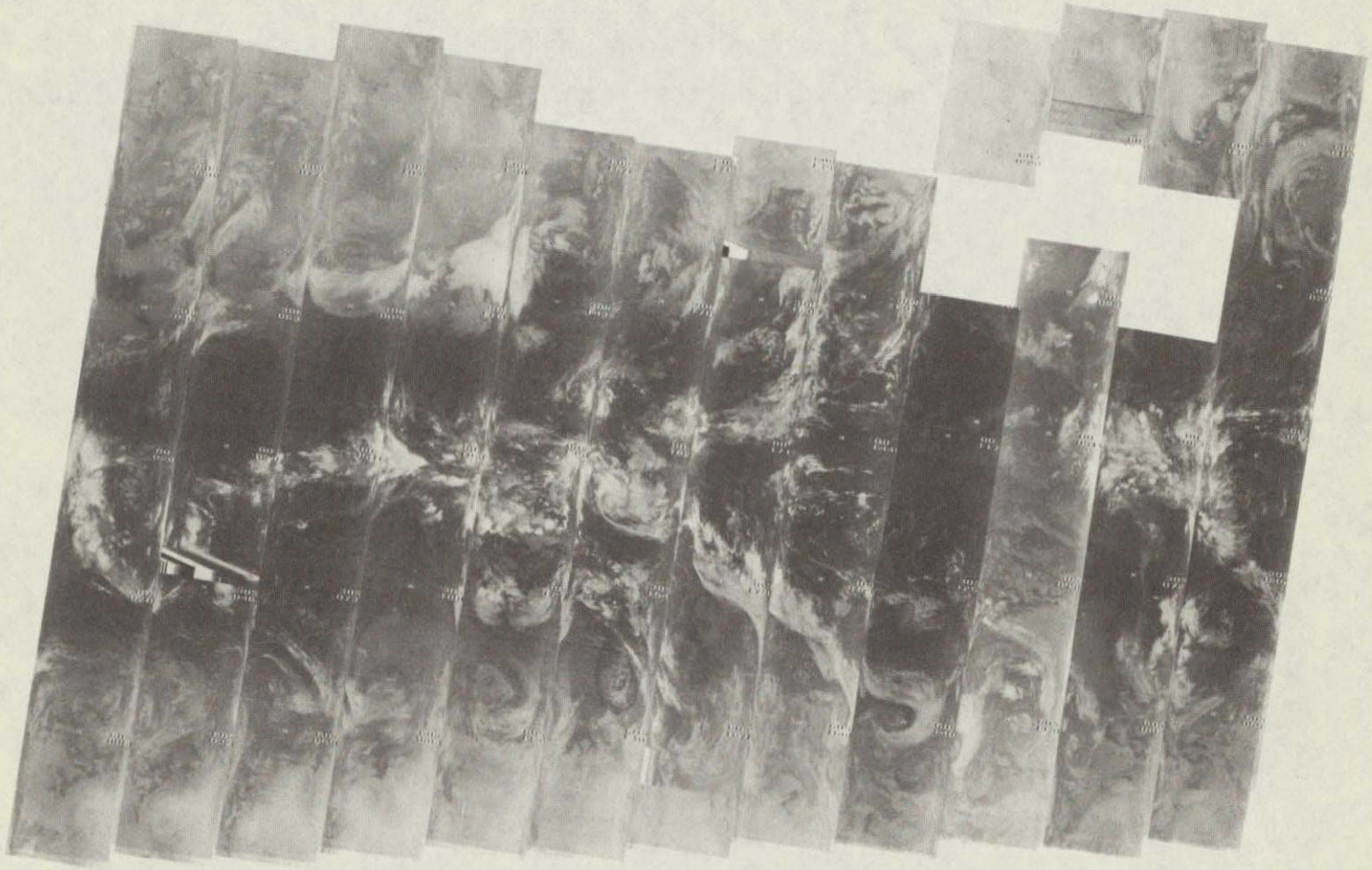
11.5μm



3494 3493 3492 3491 3490 3489 3488 3487 3486 3485 3484 3483 3482

27 FEBRUARY 1976

6.7μm



3494 3493 3492 3491 3490 3489 3488 3487 3486 3485 3484 3483 3482

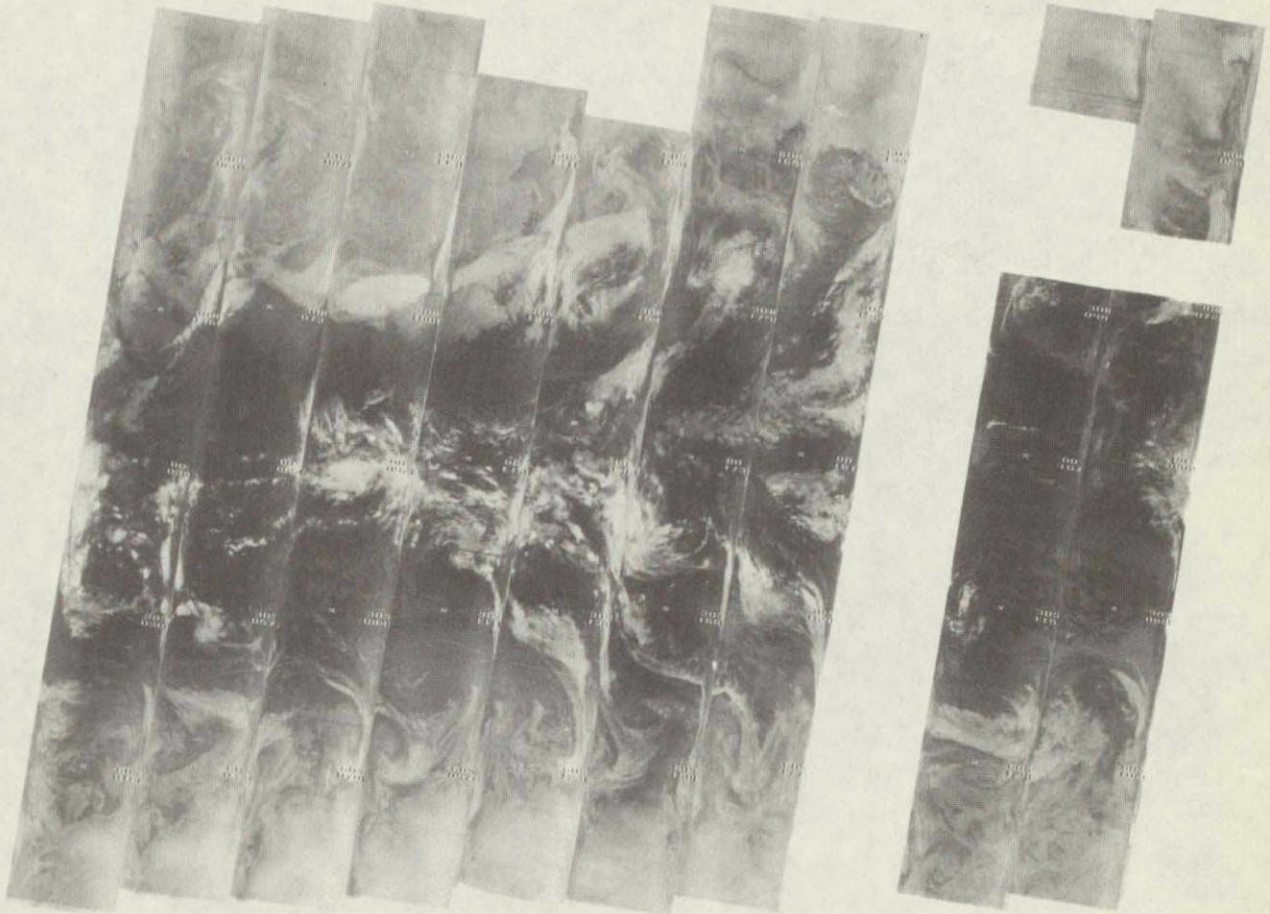
27 FEBRUARY 1976

11.5μm

3508 3507 3506 3505 3504 3503 3502 3501 3500 3499 3498 3497 3496 3495

28 FEBRUARY 1976

6.7 μm



3508 3507 3506 3505 3504 3503 3502 3501 3500 3499 3498 3497 3496 3495

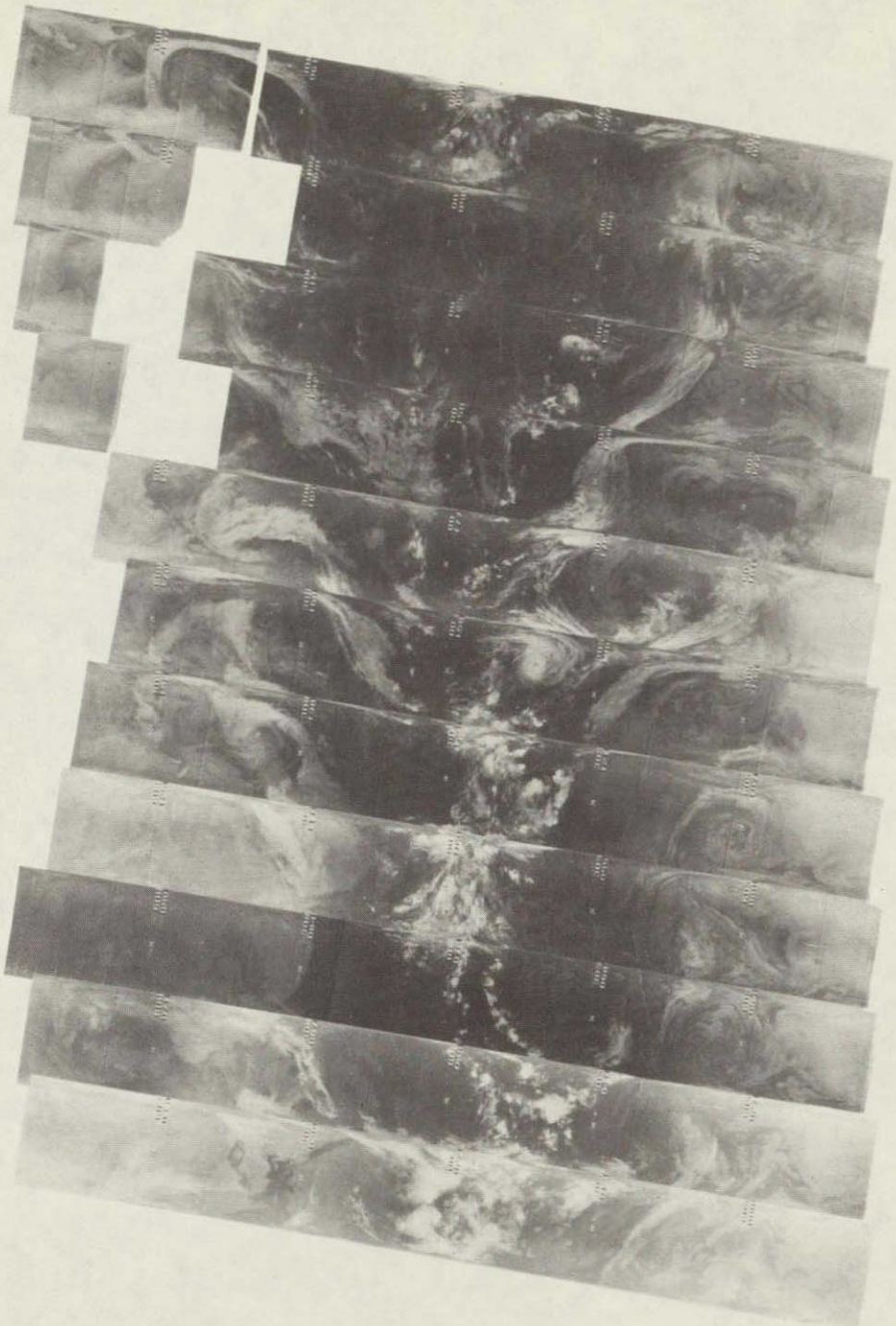
28 FEBRUARY 1976

11.5μm

3521 3520 3519 3518 3517 3516 3515 3514 3513 3512 3511 3510 3509

29 FEBRUARY 1976

6.7 μm



3521 3520 3519 3518 3517 3516 3515 3514 3513 3512 3511 3510 3509

29 FEBRUARY 1976

11.5 μm

SECTION 4.2

TEMPERATURE HUMIDITY INFRARED RADIOMETER
DAYTIME MONTAGES

2731 2730 2729 2728 2727 2726 2725 2724 2723 2722 2721 2720 2719 2718

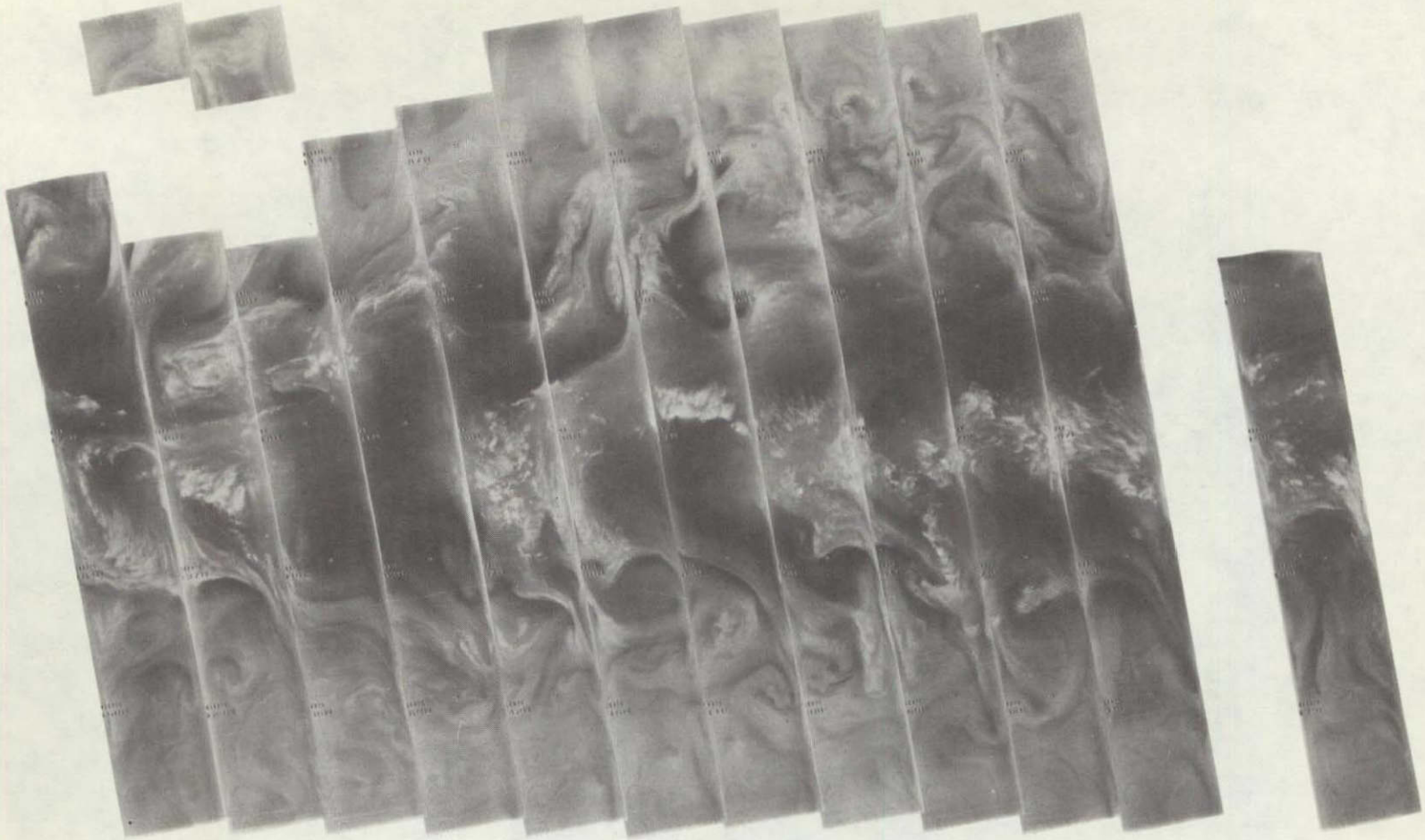
1 JANUARY 1976

6.7μm

2731 2730 2729 2728 2727 2726 2725 2724 2723 2722 2721 2720 2719 2718

1 JANUARY 1976

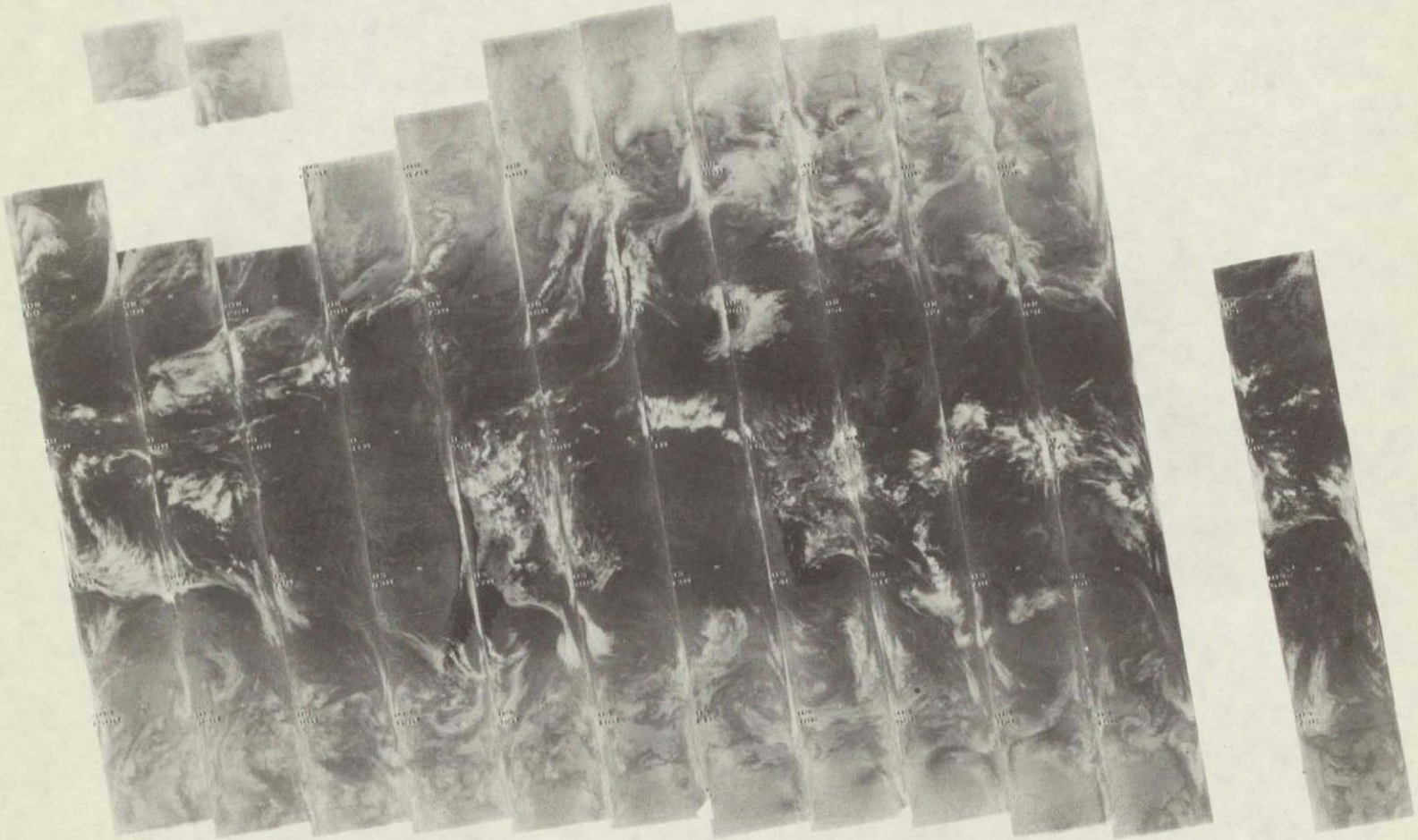
11.5μm



2744 2743 2742 2741 2740 2739 2738 2737 2736 2735 2734 2733 2732

2 JANUARY 1976

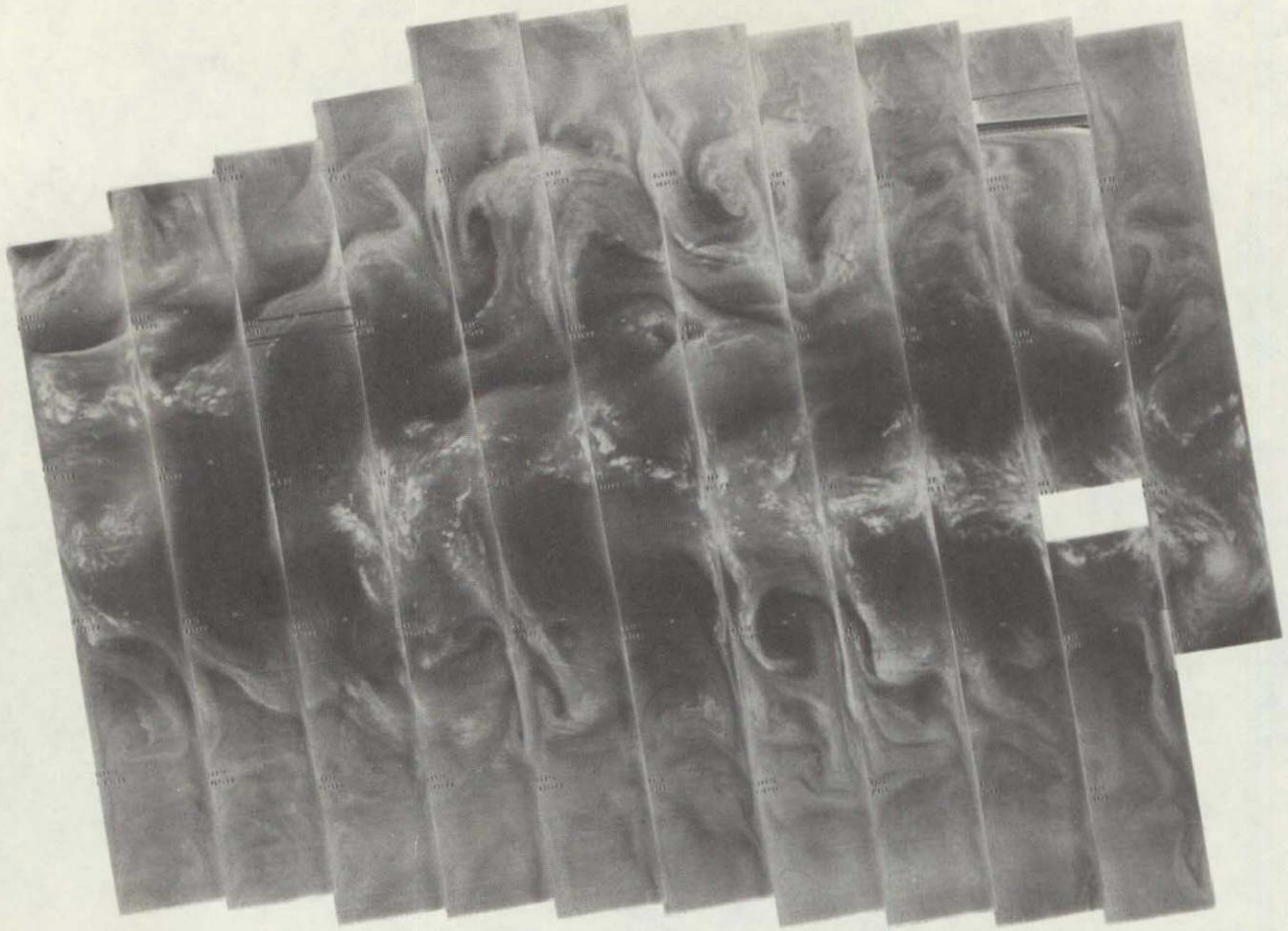
6.7 μm



2744 2743 2742 2741 2740 2739 2738 2737 2736 2735 2734 2733 2732

2 JANUARY 1976

11.5μm



2757 2756 2755 2754 2753 2752 2751 2750 2749 2748 2747 2746 2745

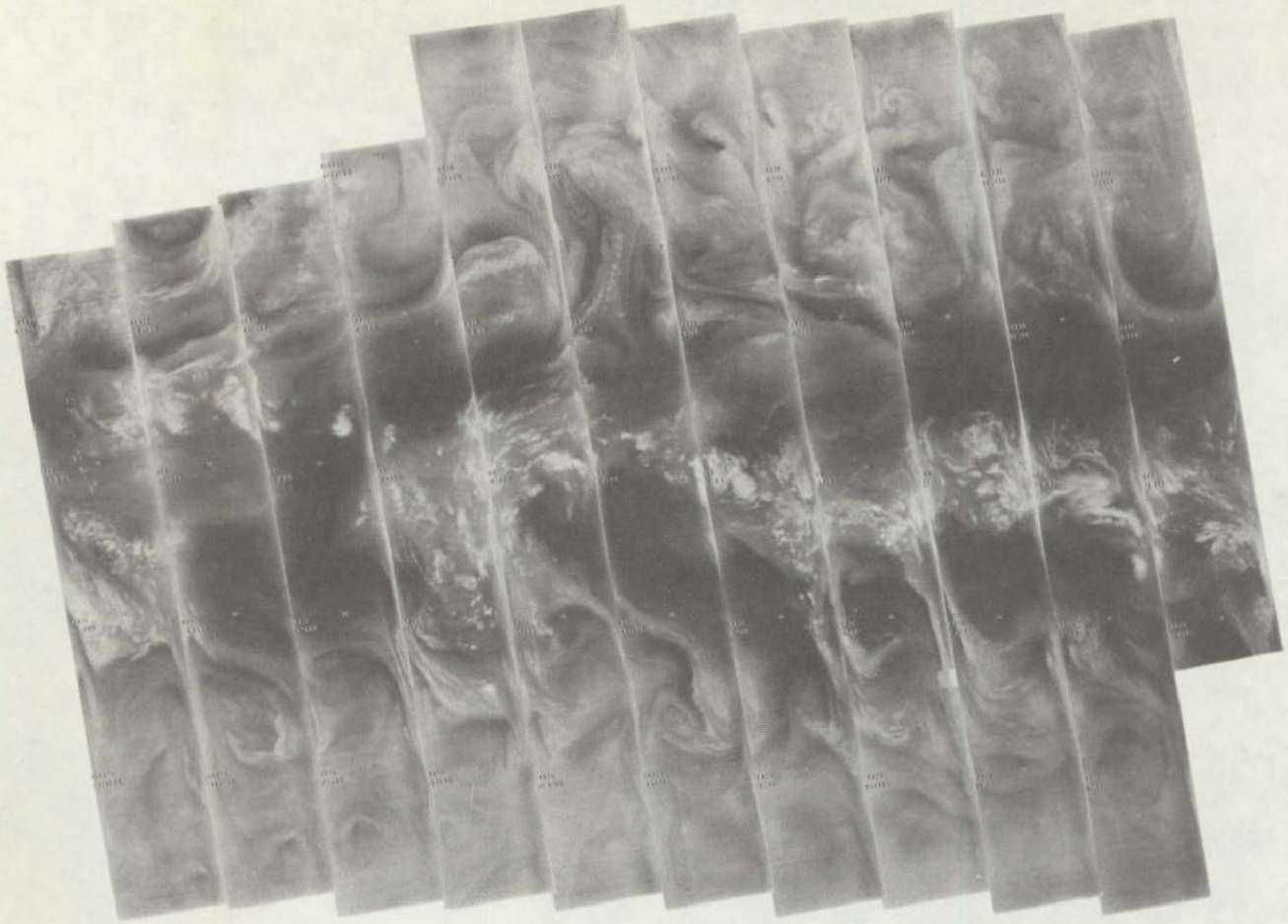
3 JANUARY 1976

6.7 μm

2757 2756 2755 2754 2753 2752 2751 2750 2749 2748 2747 2746 2745

3 JANUARY 1976

11.5μm



2771 2770 2769 2768 2767 2766 2765 2764 2763 2762 2761 2760 2759 2758

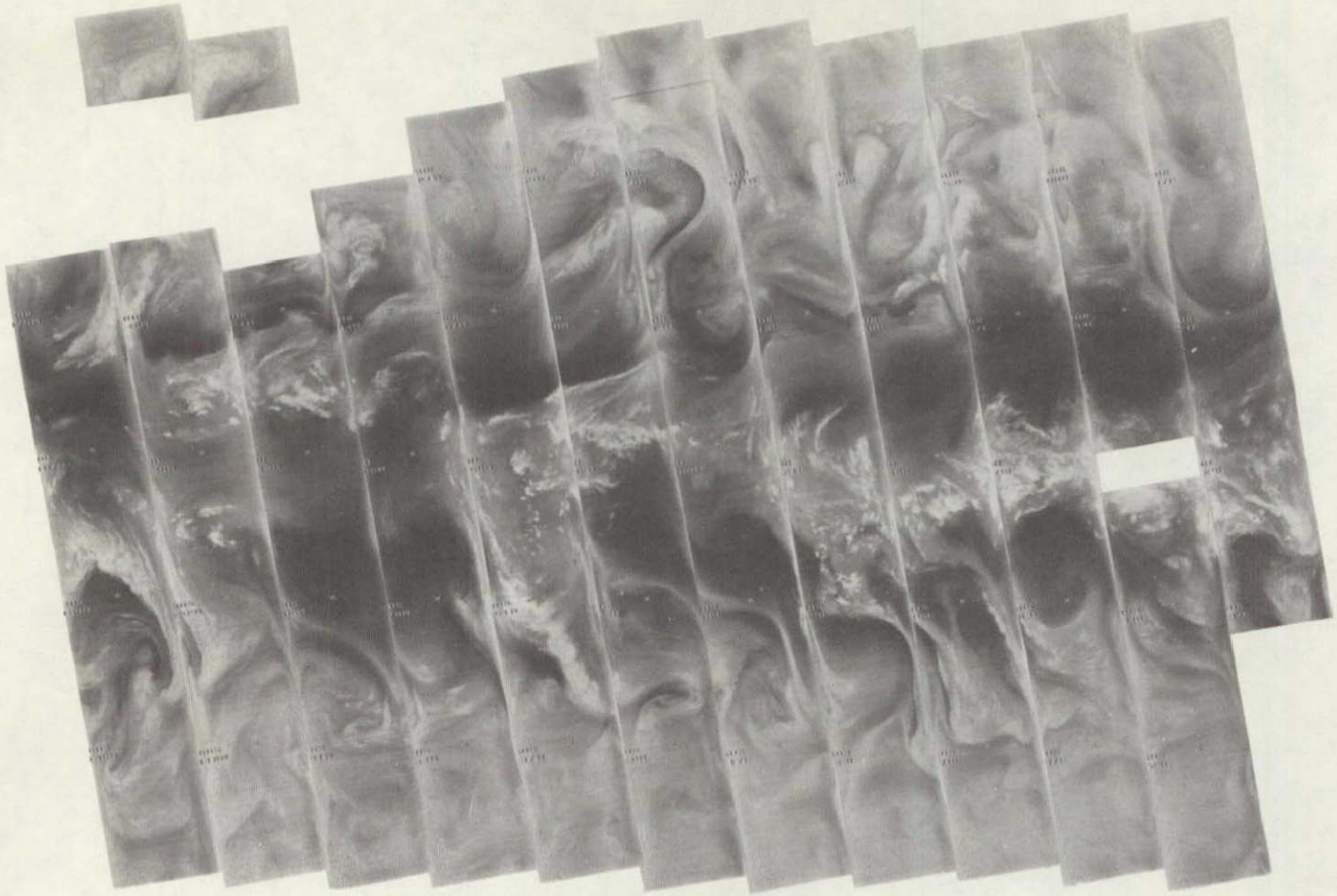
4 JANUARY 1976

6.7 μm

2771 2770 2769 2768 2767 2766 2765 2764 2763 2762 2761 2760 2759 2758

4 JANUARY 1976

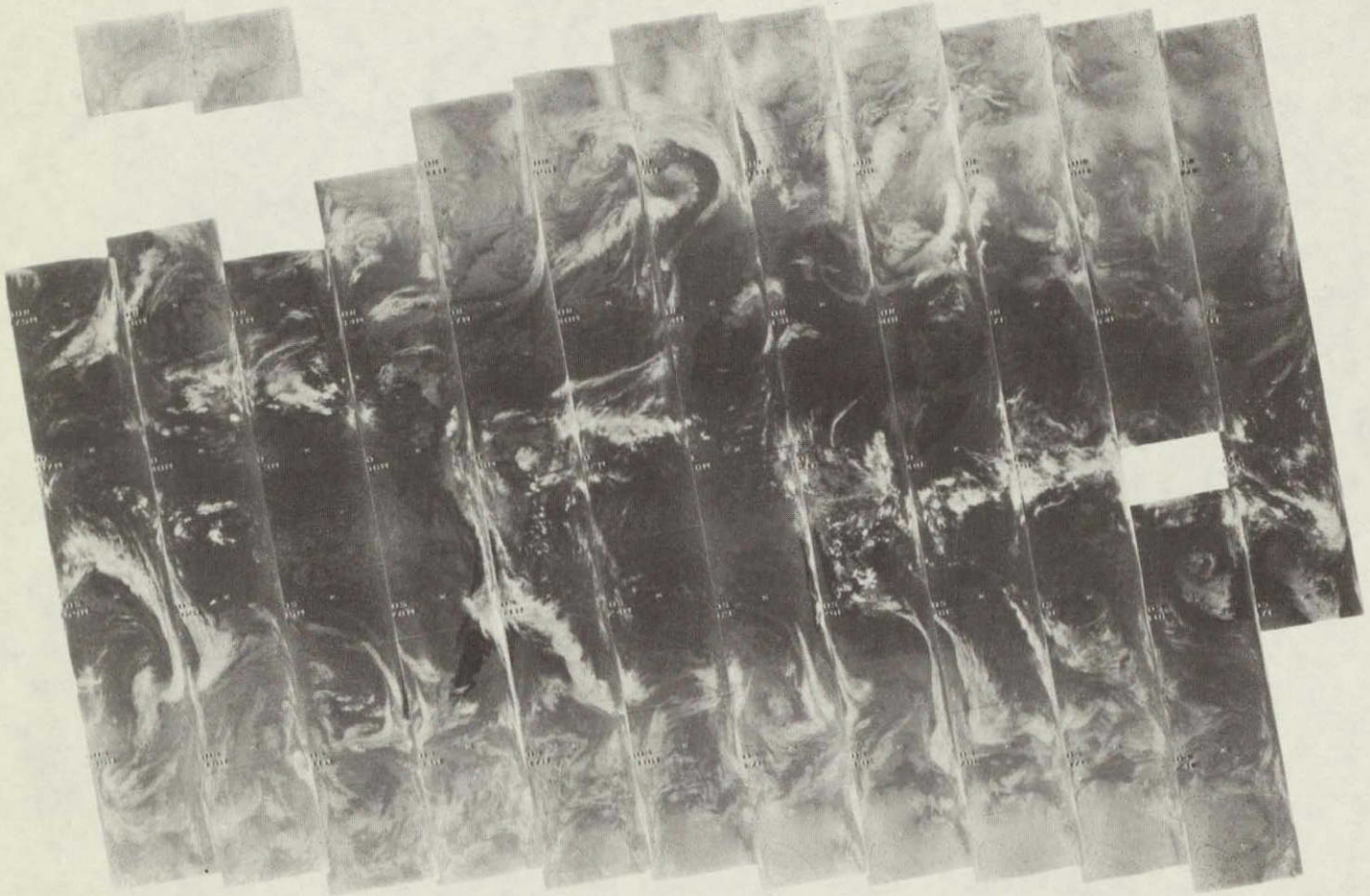
11.5μm



2784 2783 2782 2781 2780 2779 2778 2777 2776 2775 2774 2773 2772

5 JANUARY 1976

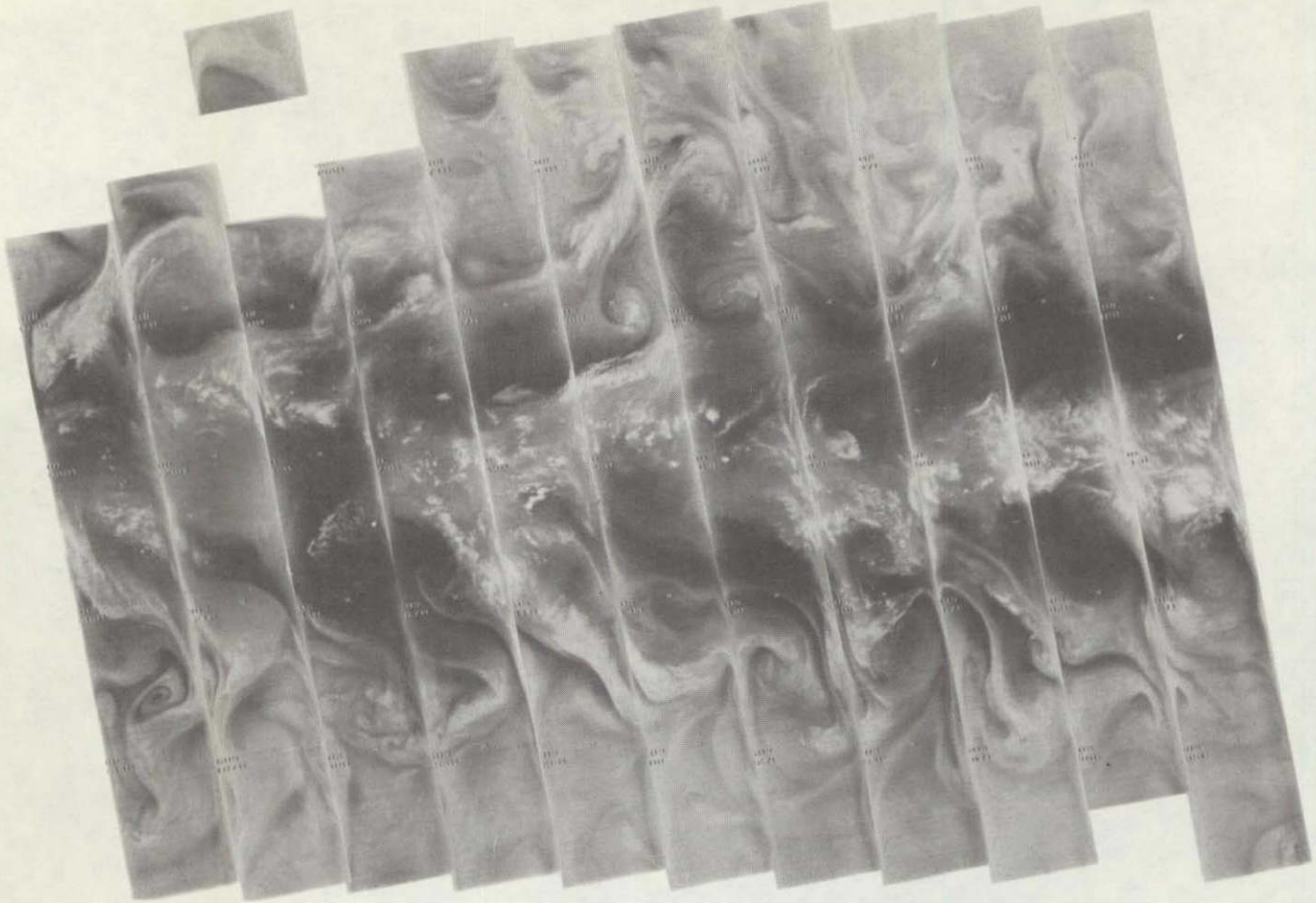
6.7 μm



2784 2783 2782 2781 2780 2779 2778 2777 2776 2775 2774 2773 2772

5 JANUARY 1976

11.5μm



2798 2797 2796 2795 2794 2793 2792 2791 2790 2789 2788 2787 2786 2785

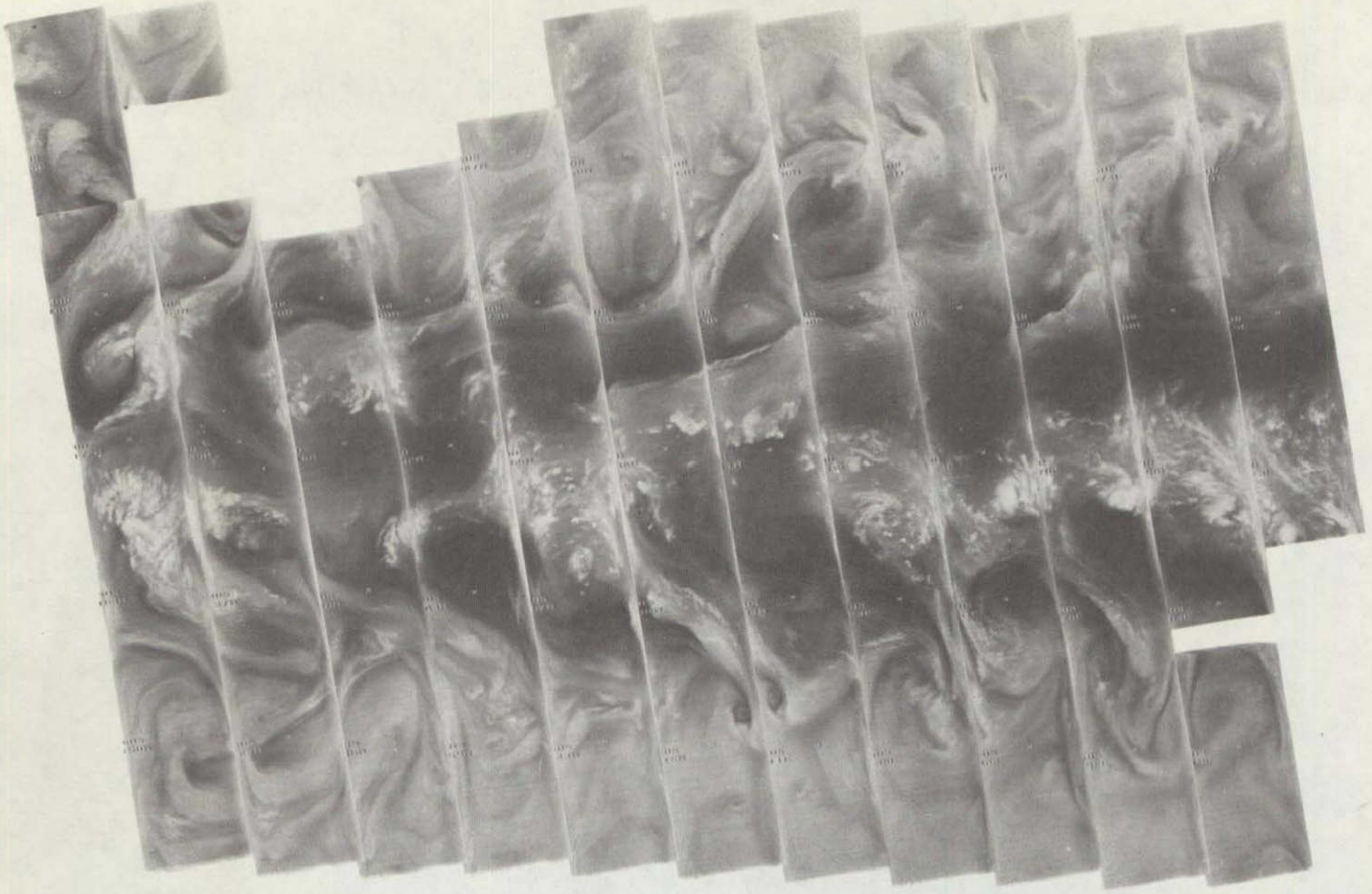
6 JANUARY 1976

6.7 μm

2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798

6 JANUARY 1976

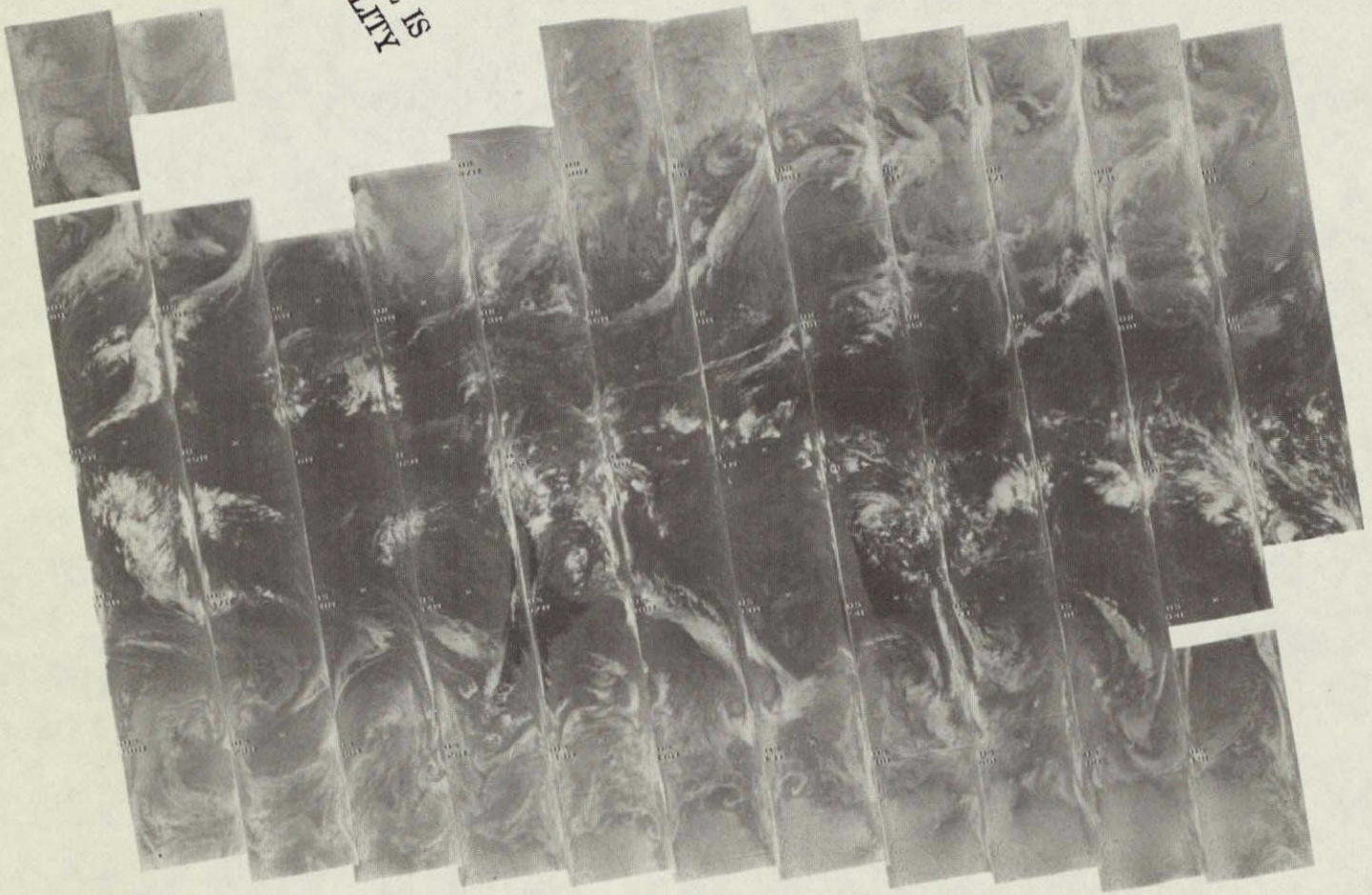
11.5μm



2811 2810 2809 2808 2807 2806 2805 2804 2803 2802 2801 2800 2799

7 JANUARY 1976

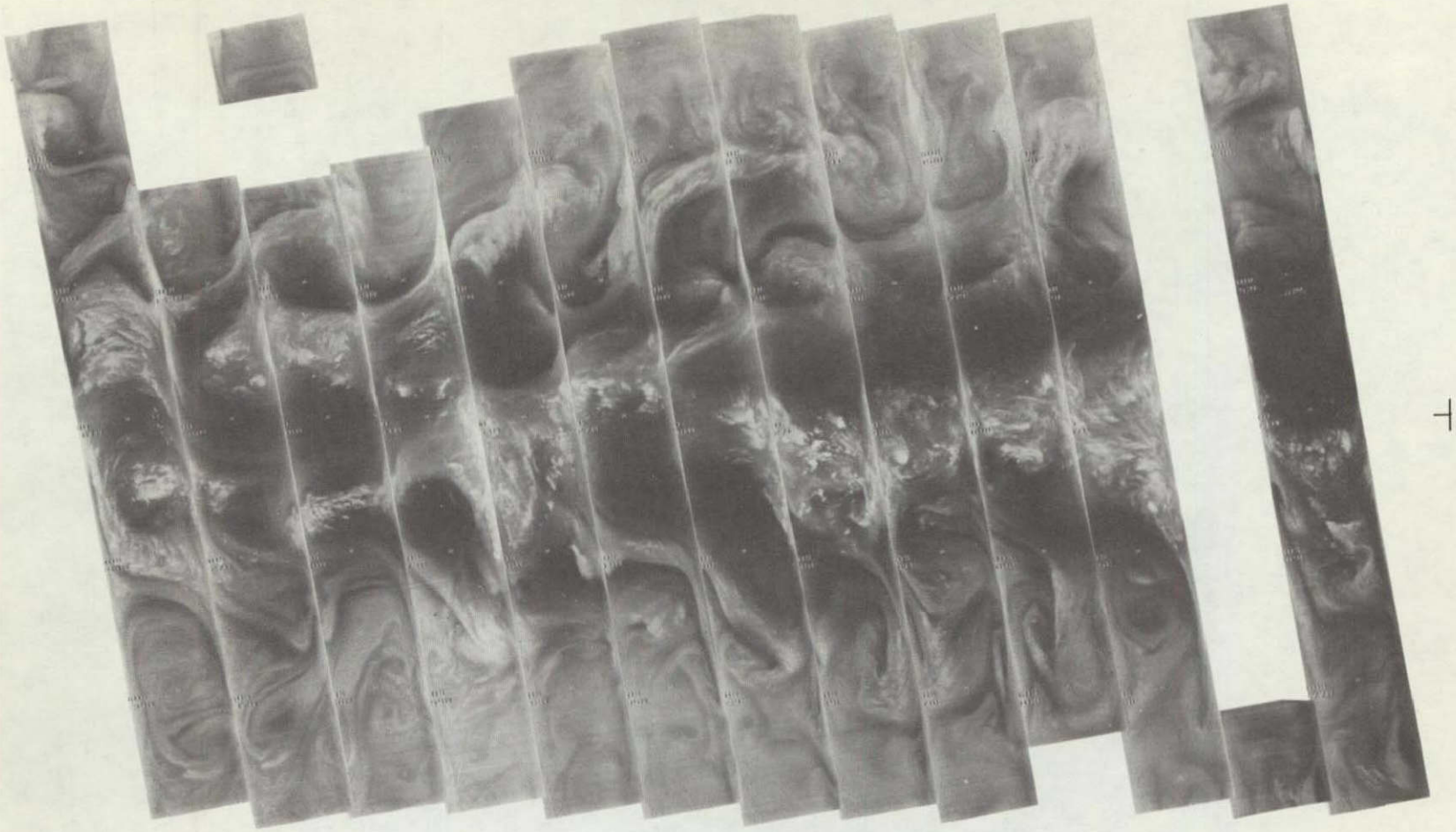
6.7 μm



2811 2810 2809 2808 2807 2806 2805 2804 2803 2802 2801 2800 2799

7 JANUARY 1976

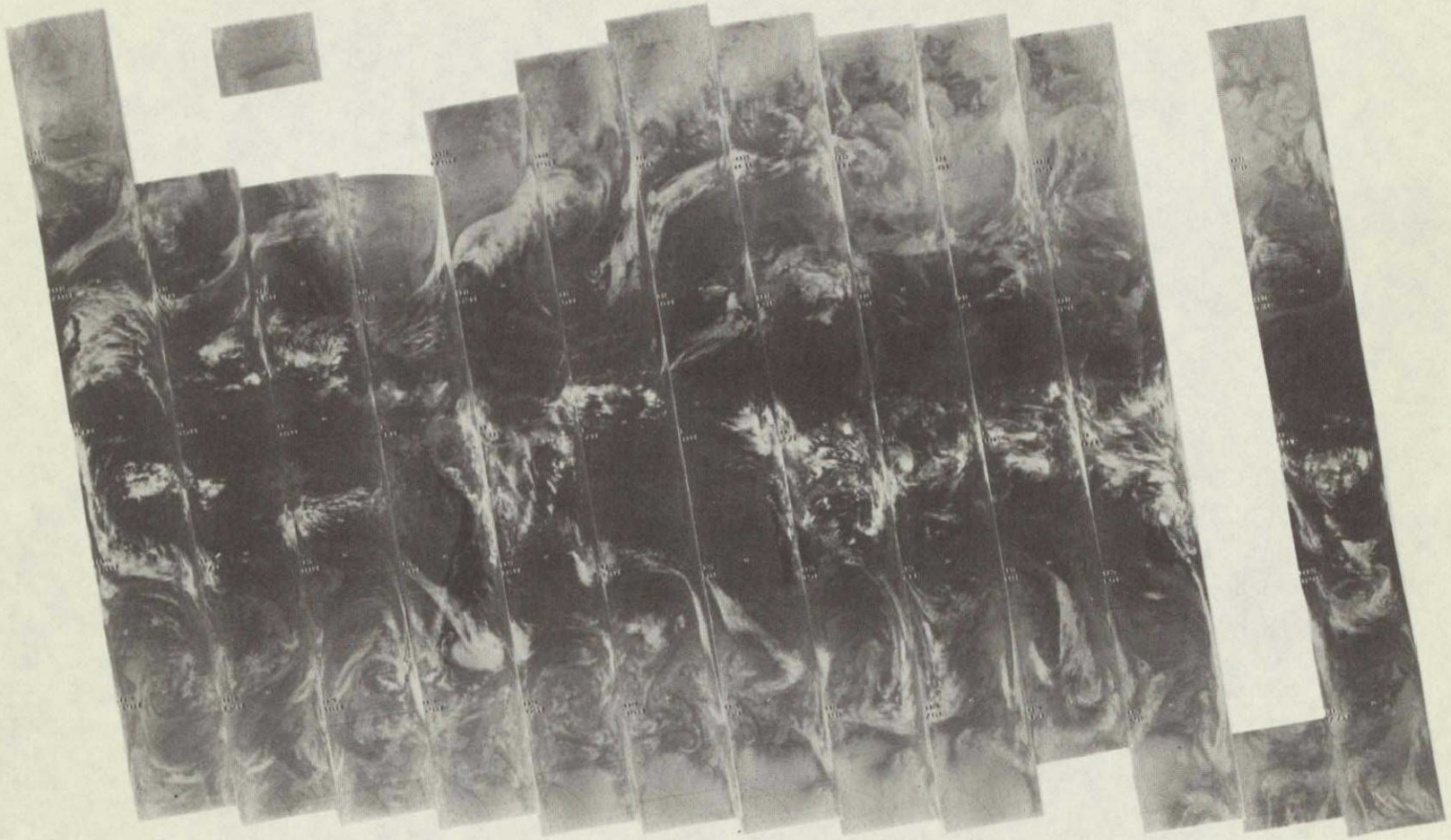
11.5μm



2824 2823 2822 2821 2820 2819 2818 2817 2816 2815 2814 2813 2812

8 JANUARY 1976

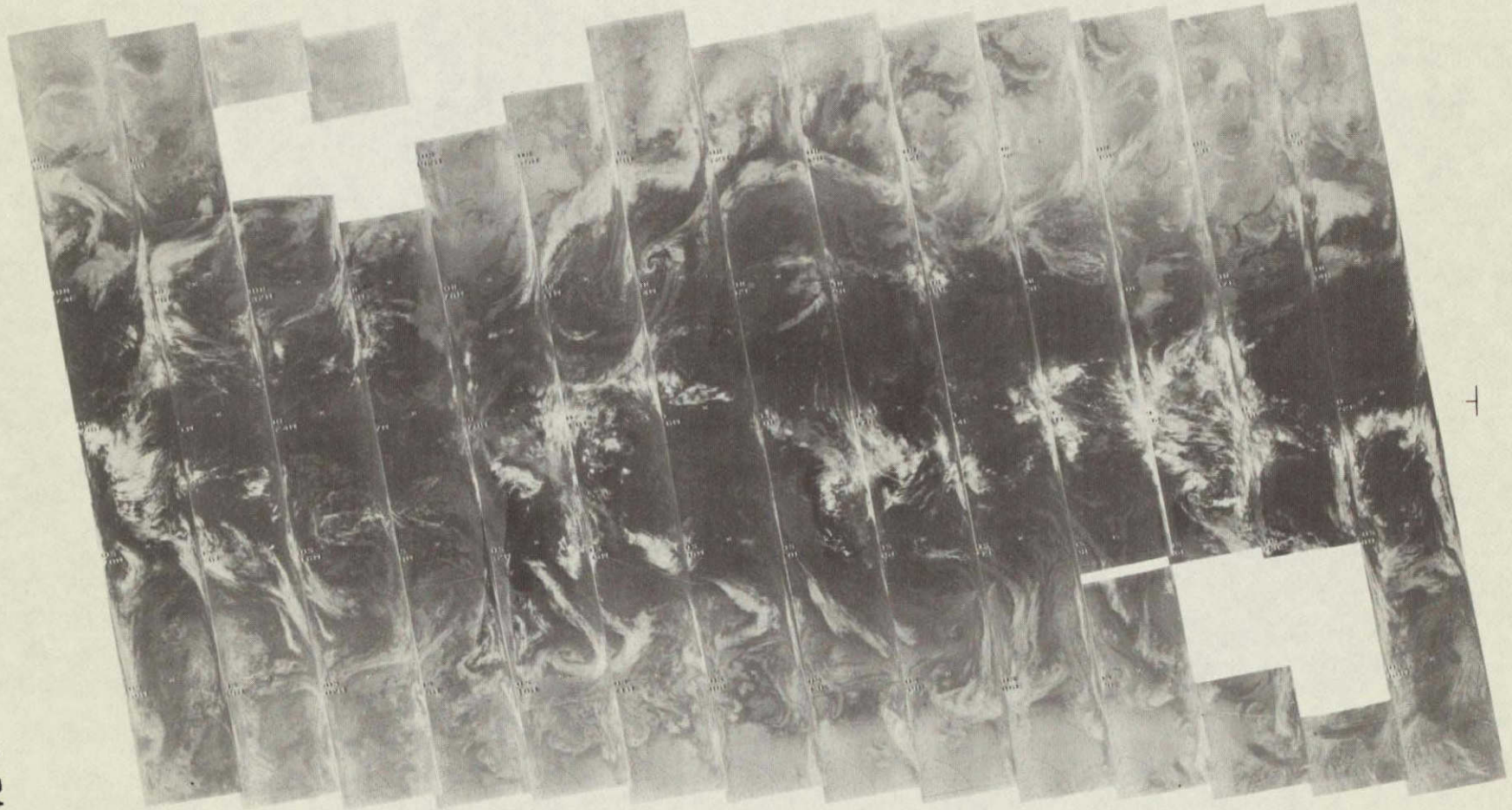
6.7 μm



2824 2823 2822 2821 2820 2819 2818 2817 2816 2815 2814 2813 2812

8 JANUARY 1976

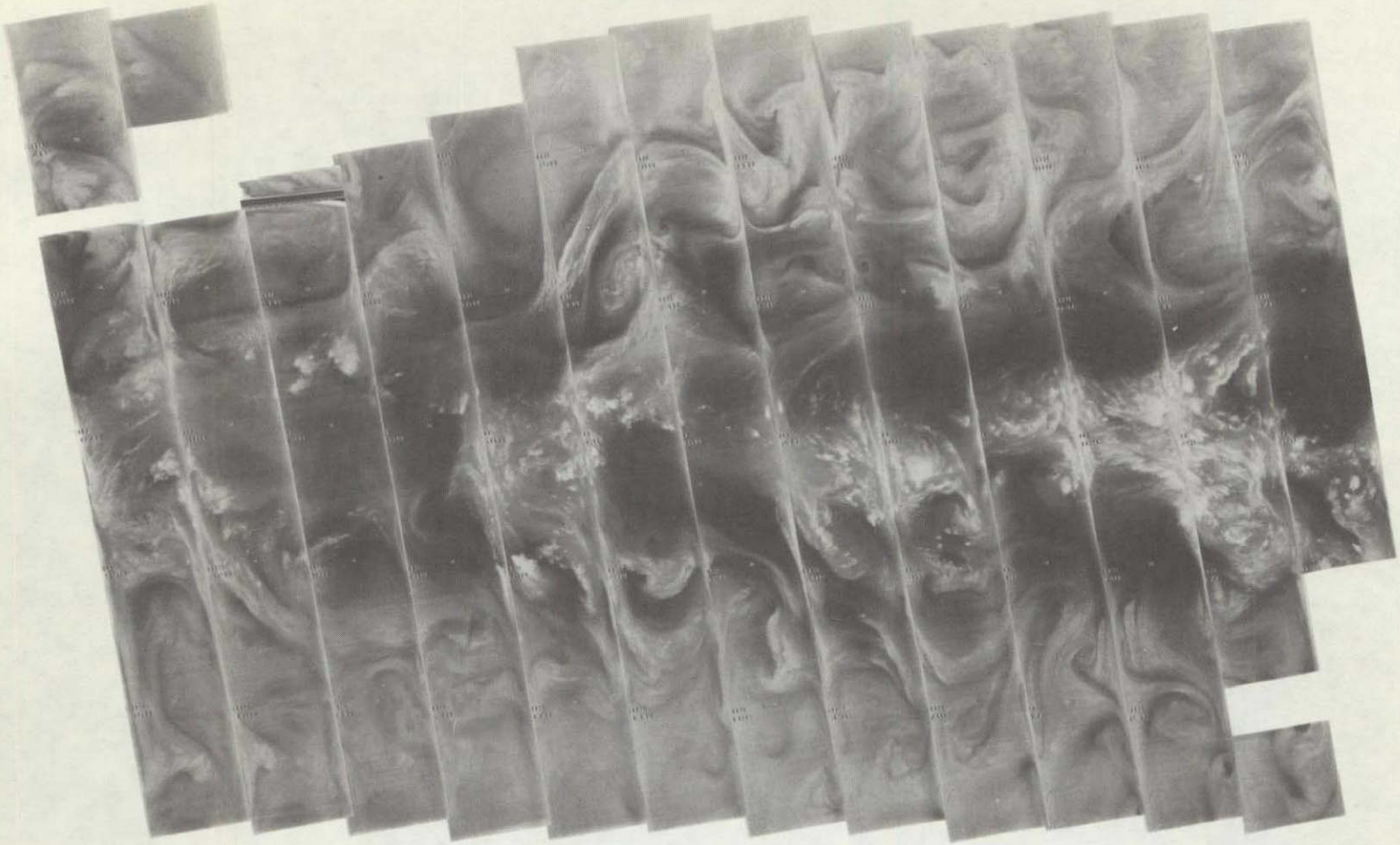
11.5μm



2838 2837 2836 2835 2834 2833 2832 2831 2830 2829 2828 2827 2826 2825

9 JANUARY 1976

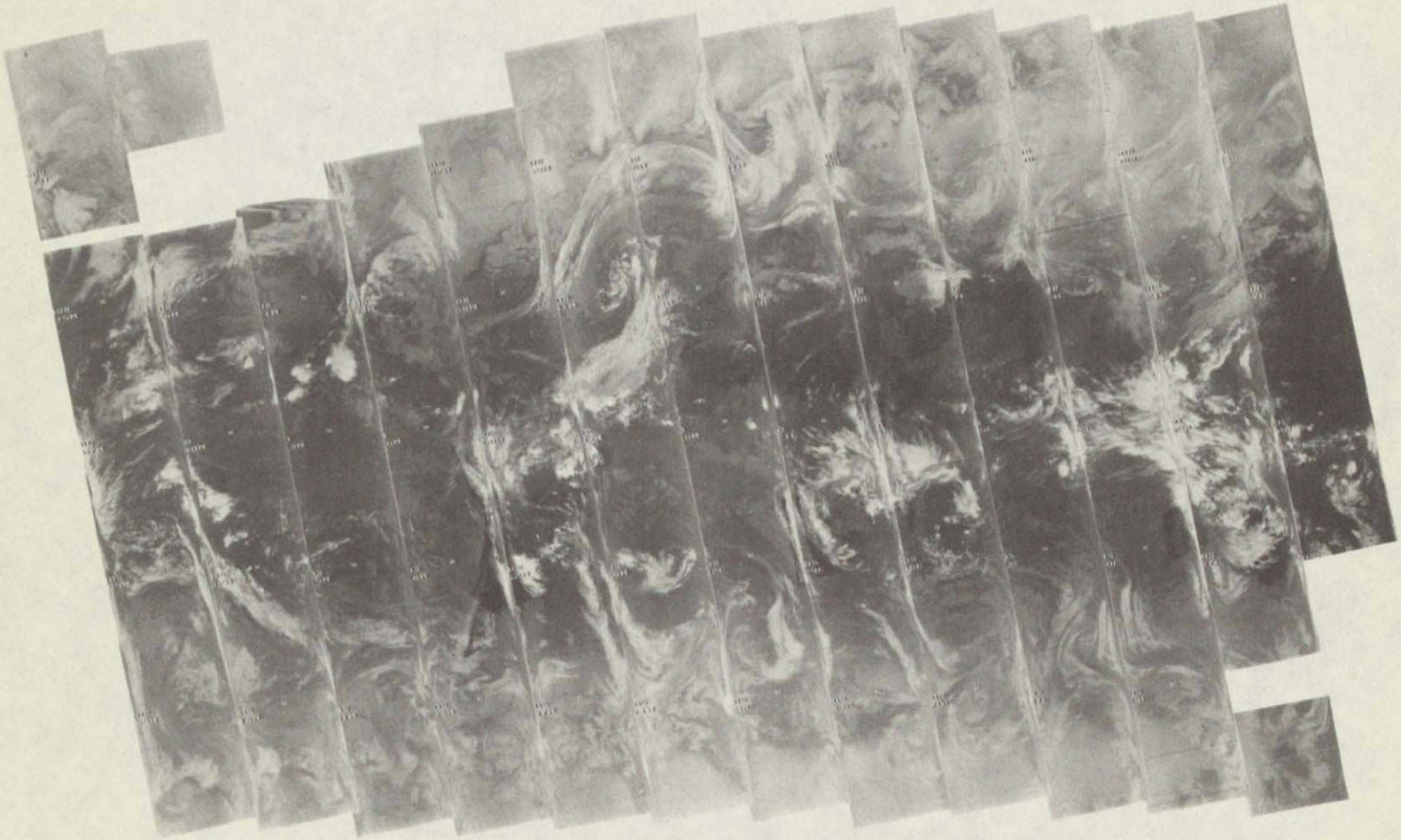
11.5μm



2851 2850 2849 2848 2847 2846 2845 2844 2843 2842 2841 2840 2839

10 JANUARY 1976

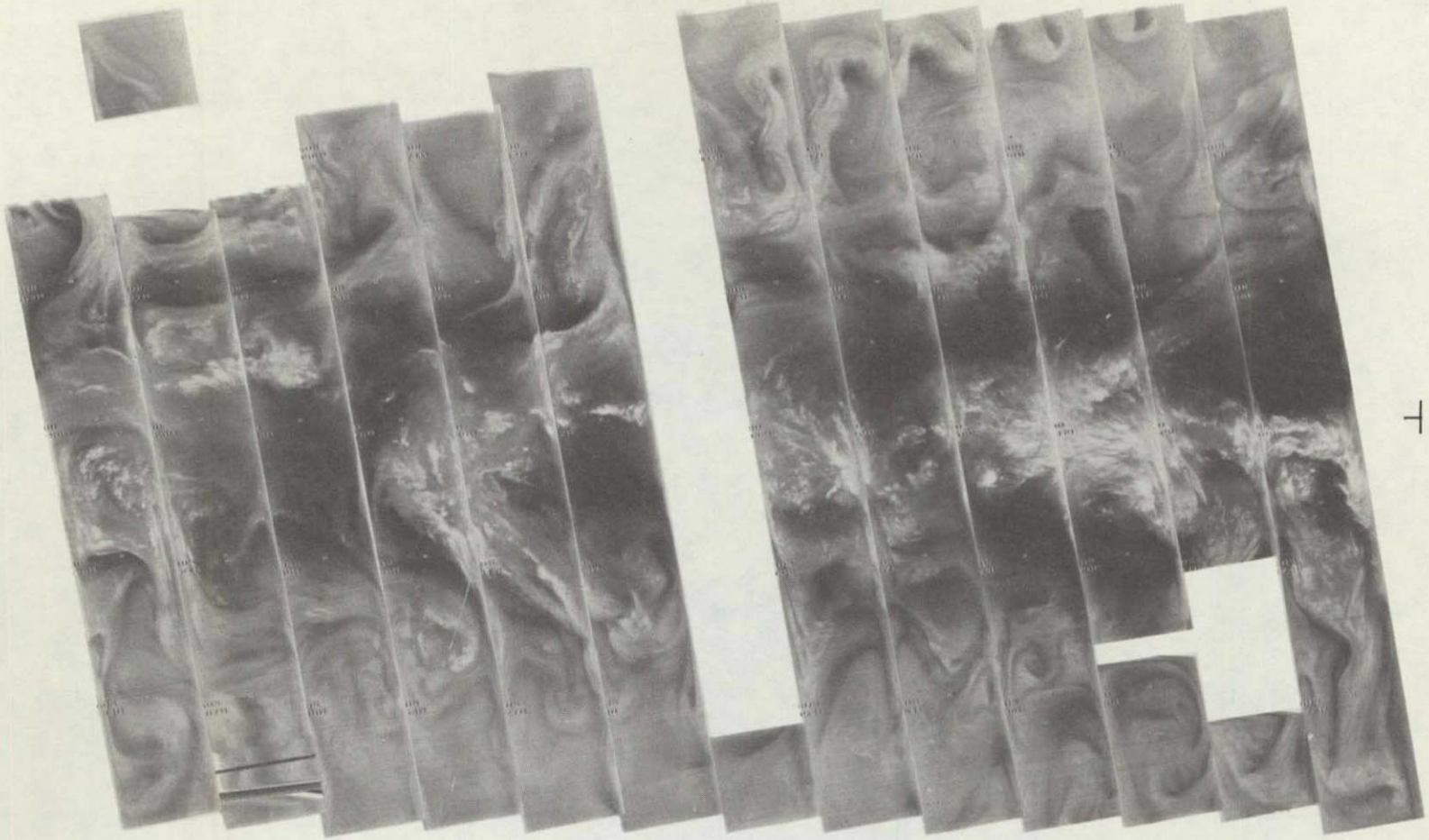
6.7 μm



2851 2850 2849 2848 2847 2846 2845 2844 2843 2842 2841 2840 2839

10 JANUARY 1976

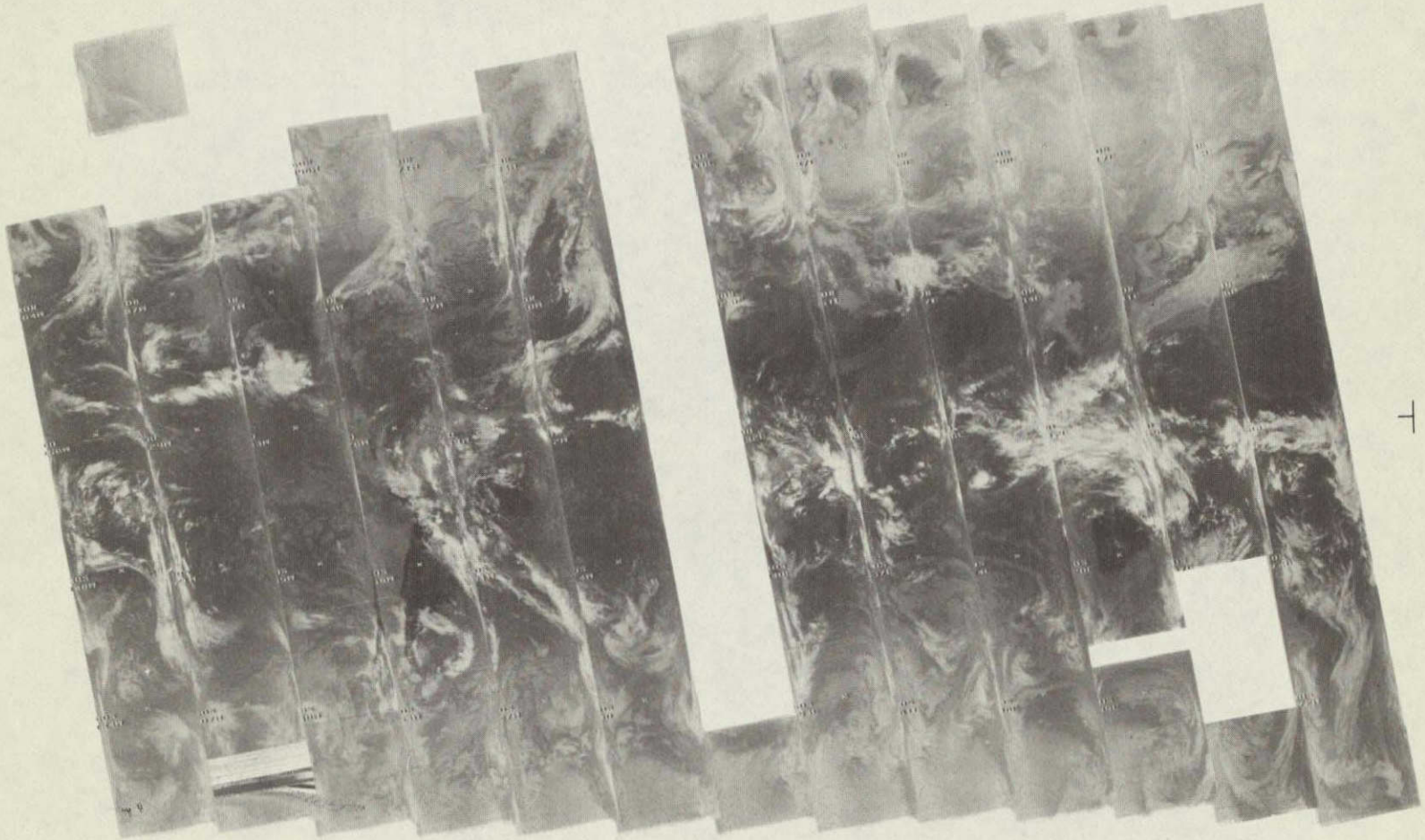
11.5μm



2865 2864 2863 2862 2861 2860 2859 2858 2857 2856 2855 2854 2853 2852

11 JANUARY 1976

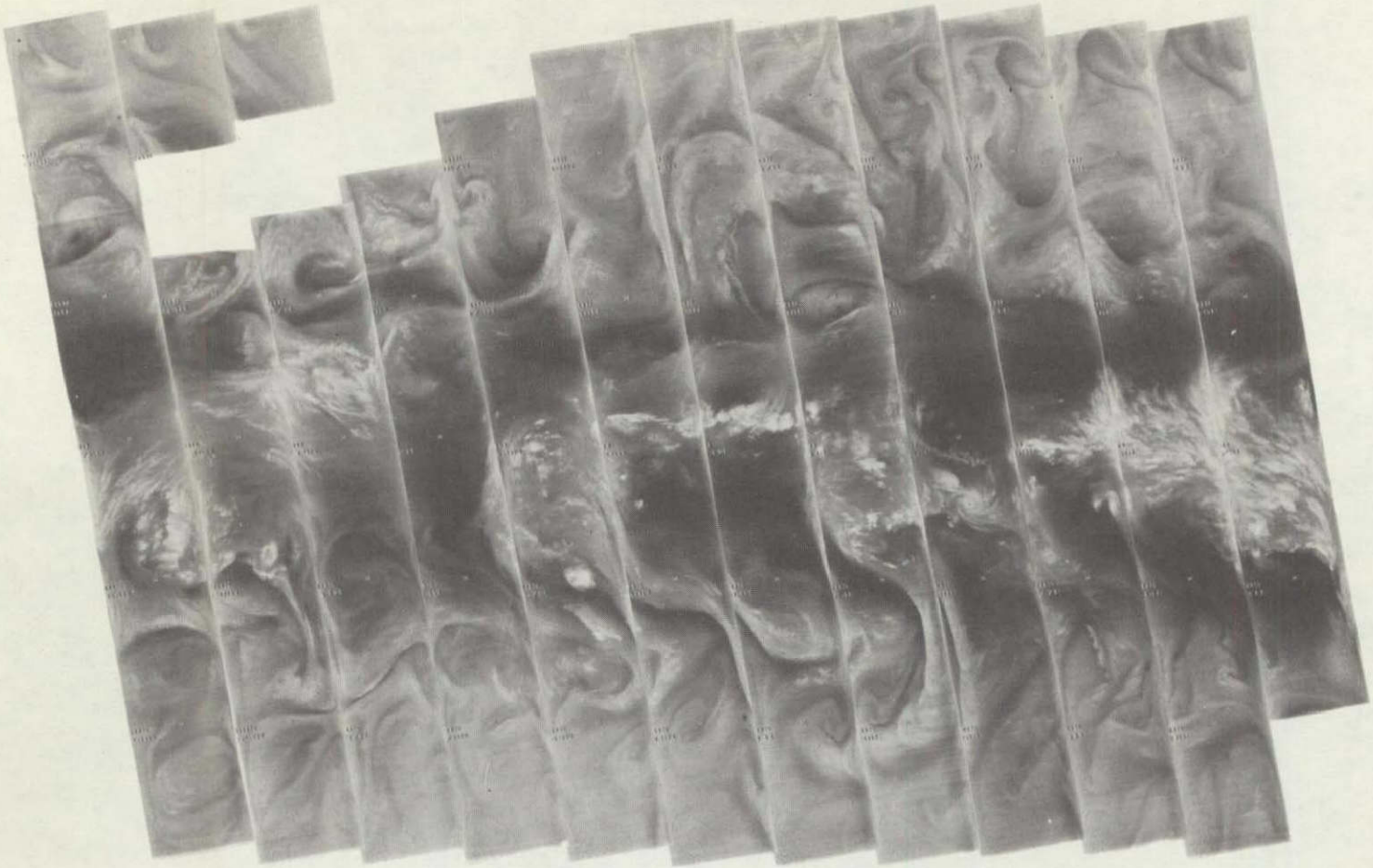
6.7 μm



2865 2864 2863 2862 2861 2860 2859 2858 2857 2856 2855 2854 2853 2852

11 JANUARY 1976

11.5μm



2878 2877 2876 2875 2874 2873 2872 2871 2870 2869 2868 2867 2866

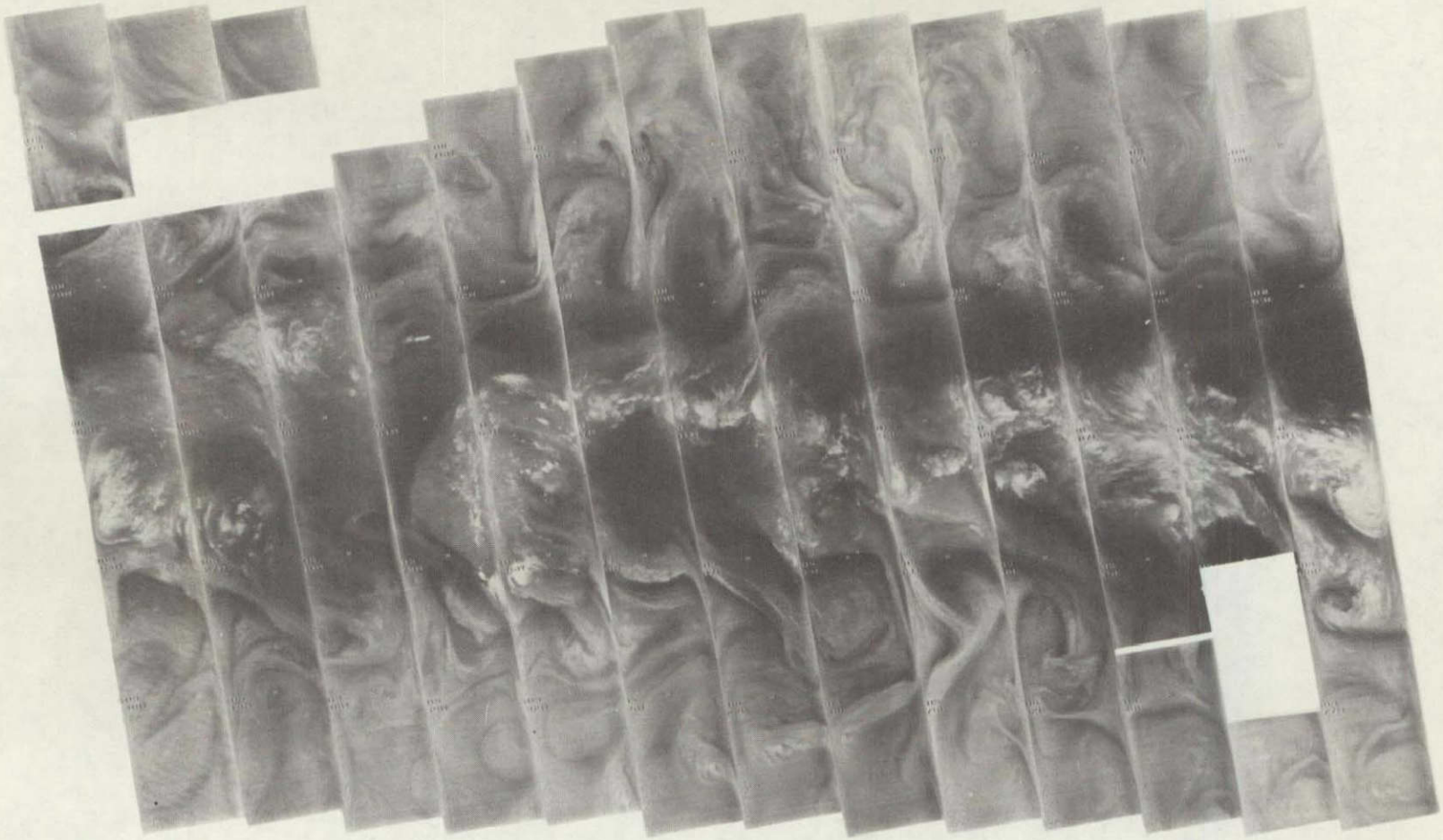
12 JANUARY 1976

6.7 μm

2866 2867 2868 2869 2870 2871 2872 2873 2874 2875 2876 2877 2878

12 JANUARY 1976

11.5μm



2891 2890 2889 2888 2887 2886 2885 2884 2883 2882 2881 2880 2879

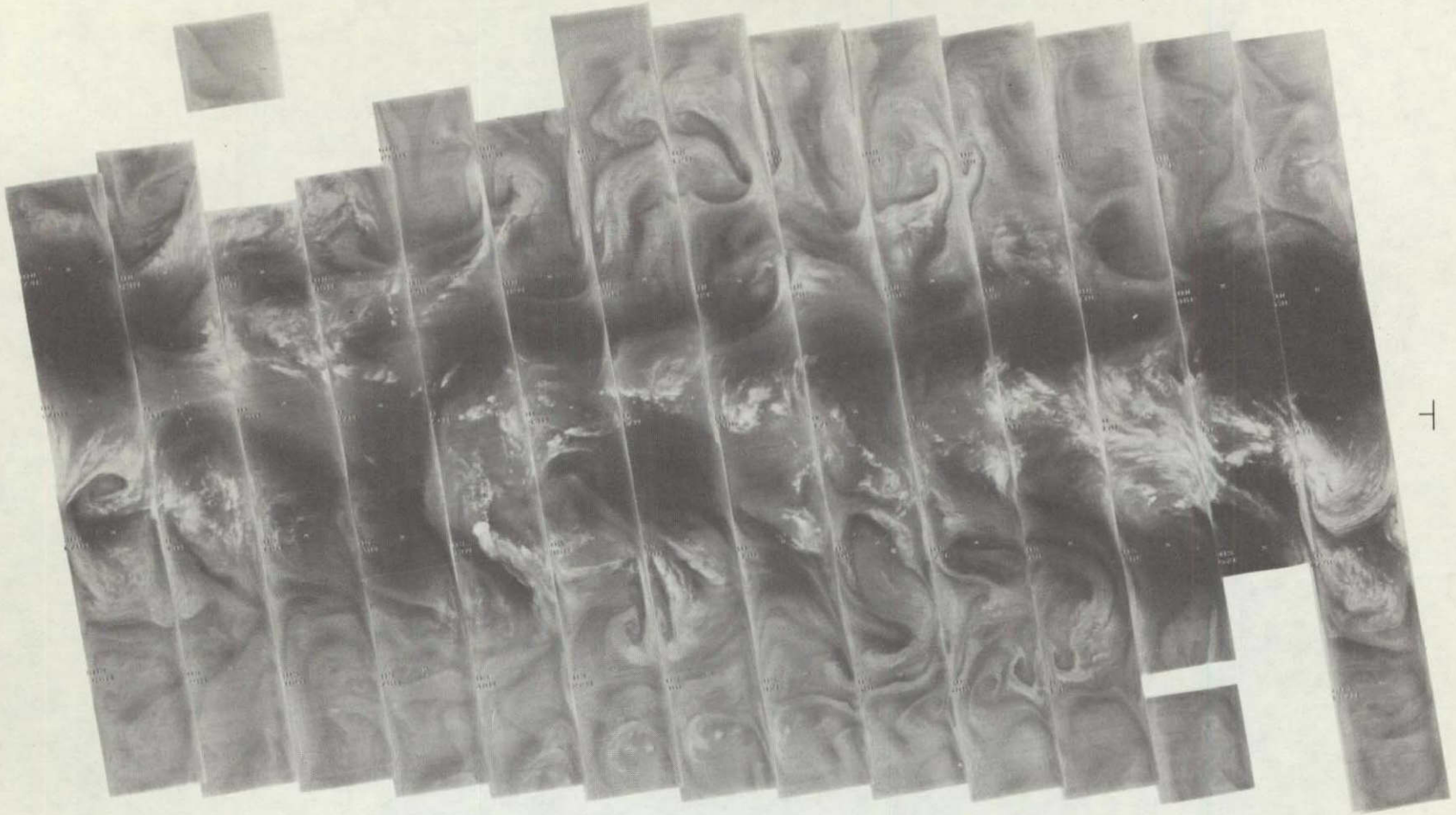
13 JANUARY 1976

6.7 μm

2891 2890 2889 2888 2887 2886 2885 2884 2883 2882 2881 2880 2879

13 JANUARY 1976

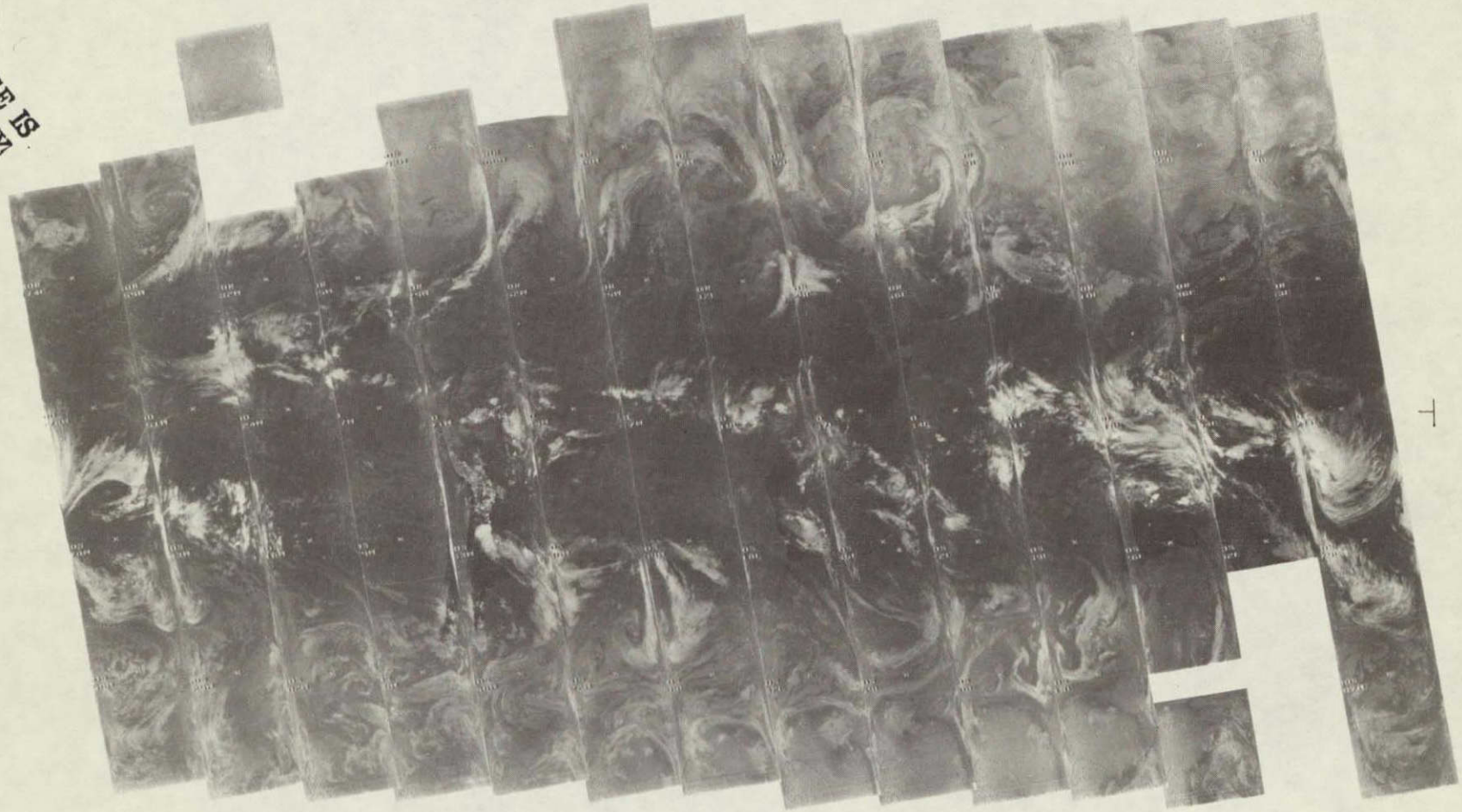
11.5μm



2905 2904 2903 2902 2901 2900 2899 2898 2897 2896 2895 2894 2893 2892

14 JANUARY 1976

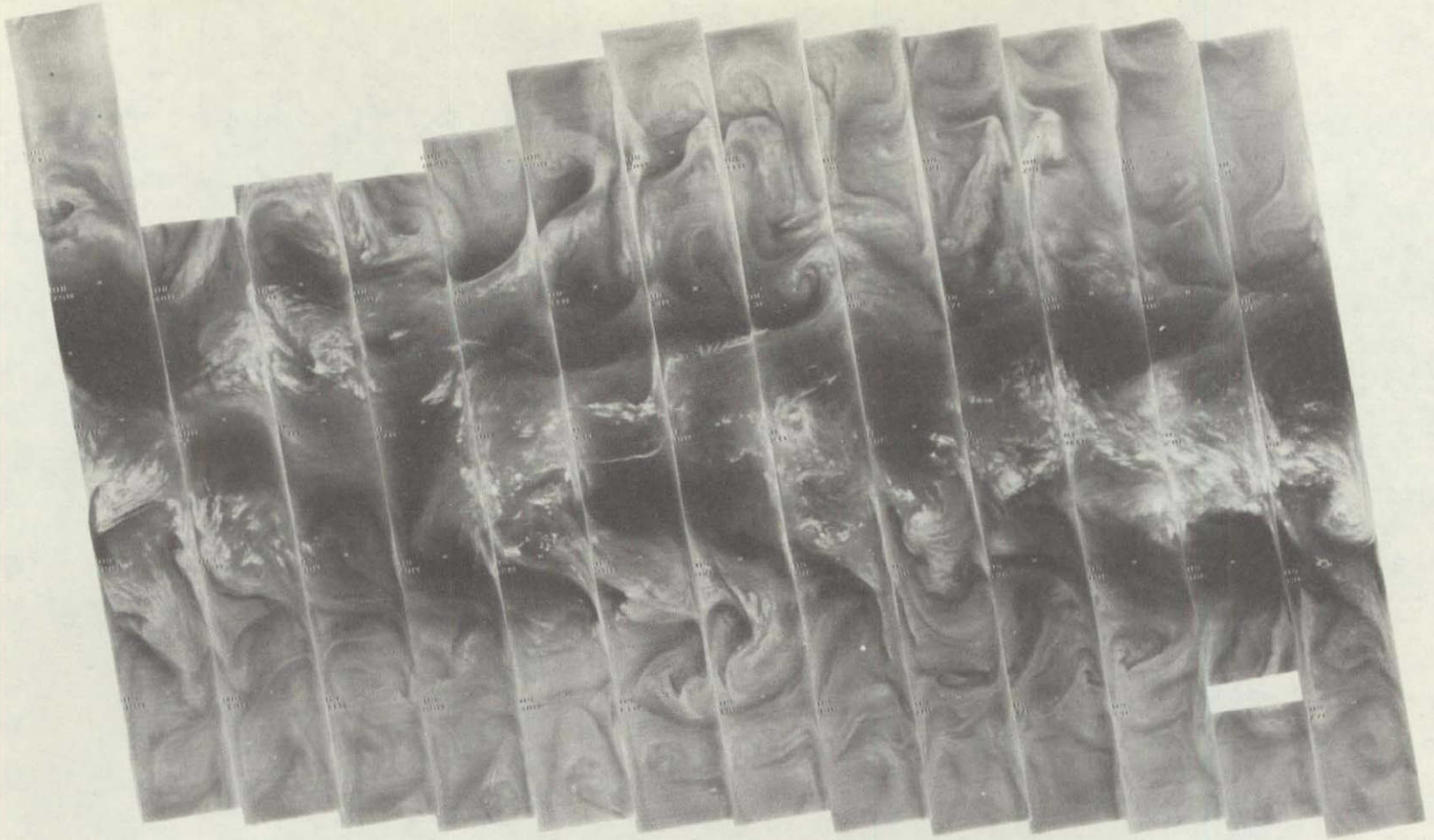
6.7 μm



2905 2904 2903 2902 2901 2900 2899 2898 2897 2896 2895 2894 2893 2892

14 JANUARY 1976

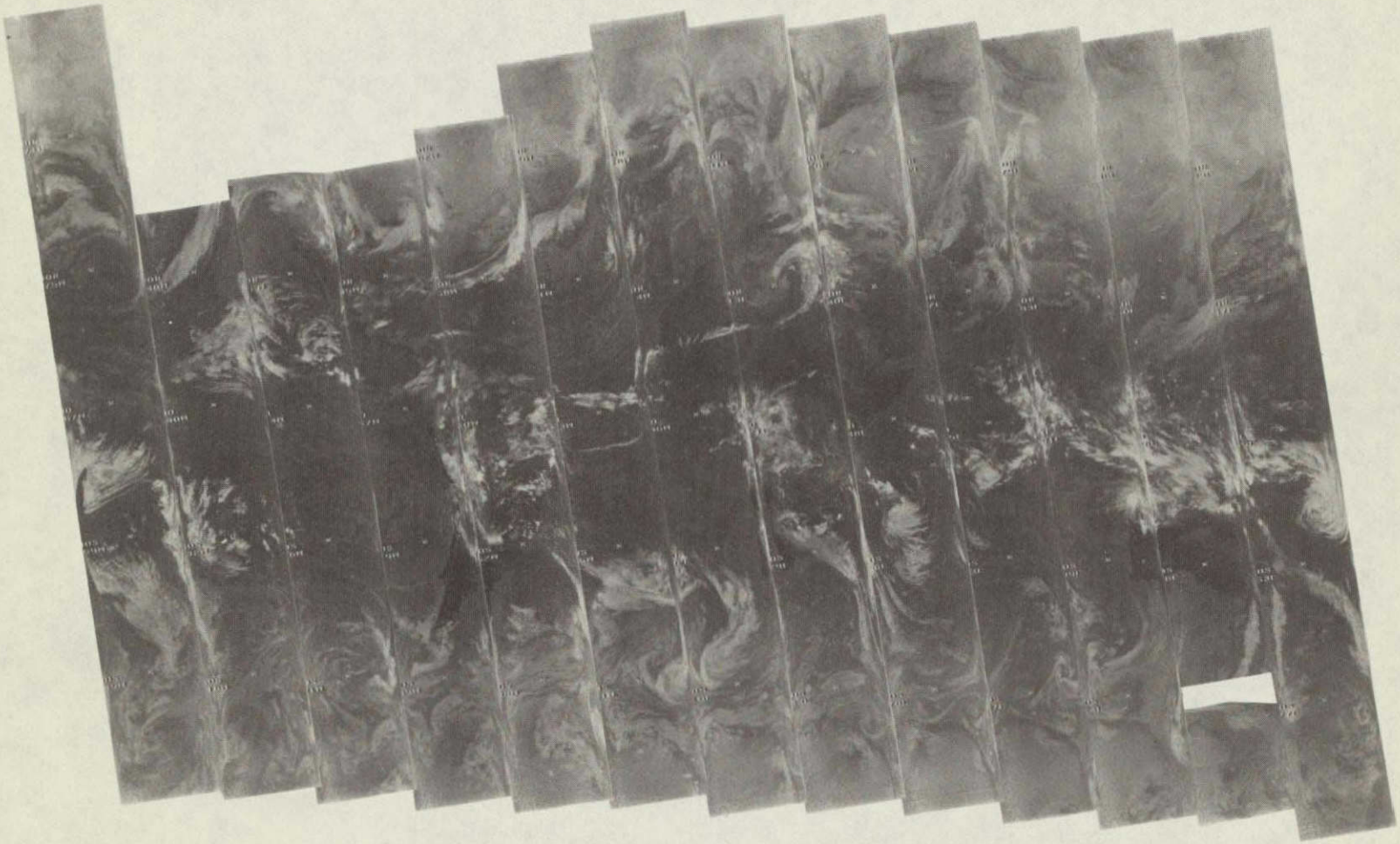
11.5μm



2918 2917 2916 2915 2914 2913 2912 2911 2910 2909 2908 2907 2906

15 JANUARY 1976

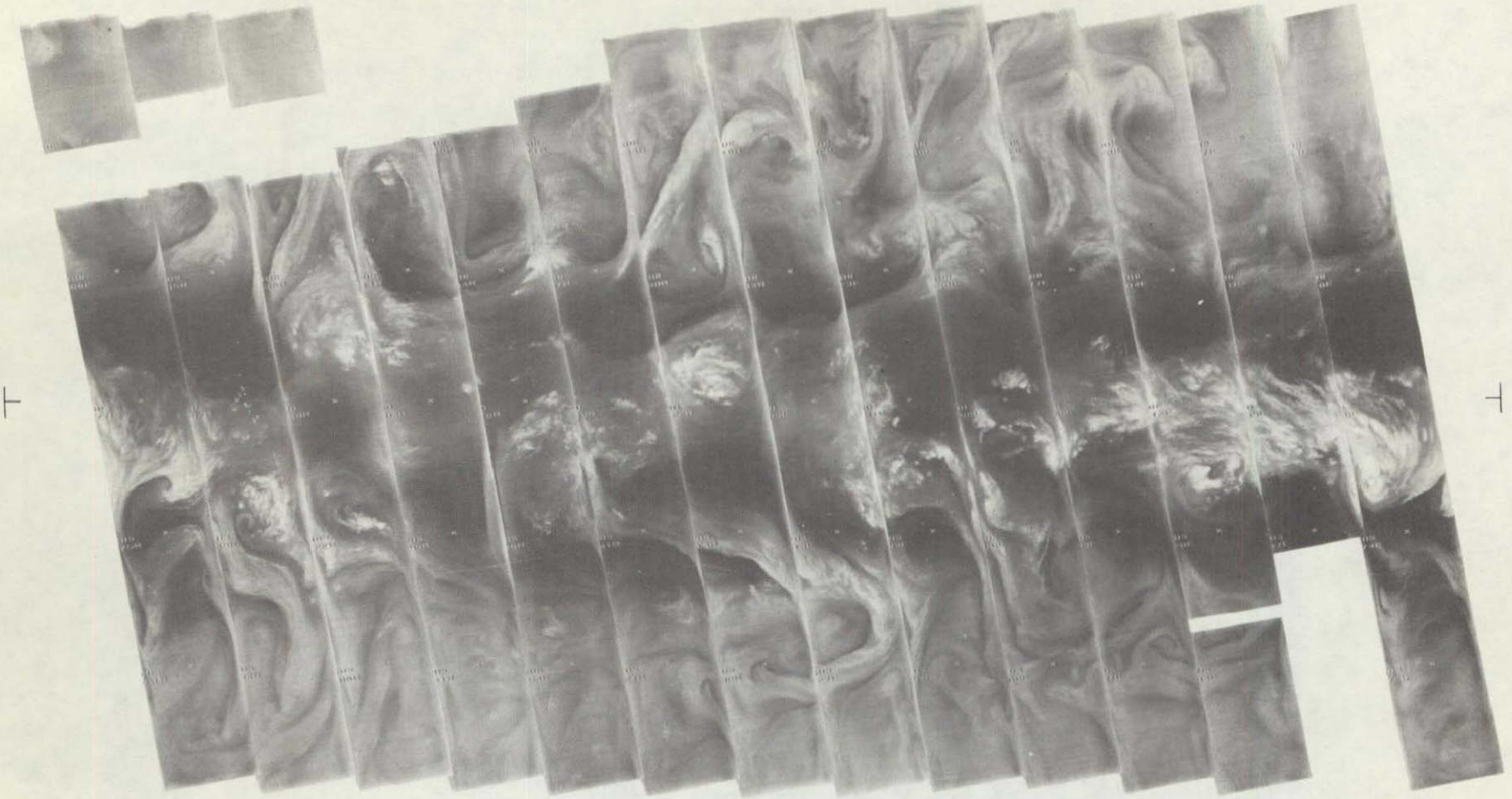
6.7 μm



2918 2917 2916 2915 2914 2913 2912 2911 2910 2909 2908 2907 2906

15 JANUARY 1976

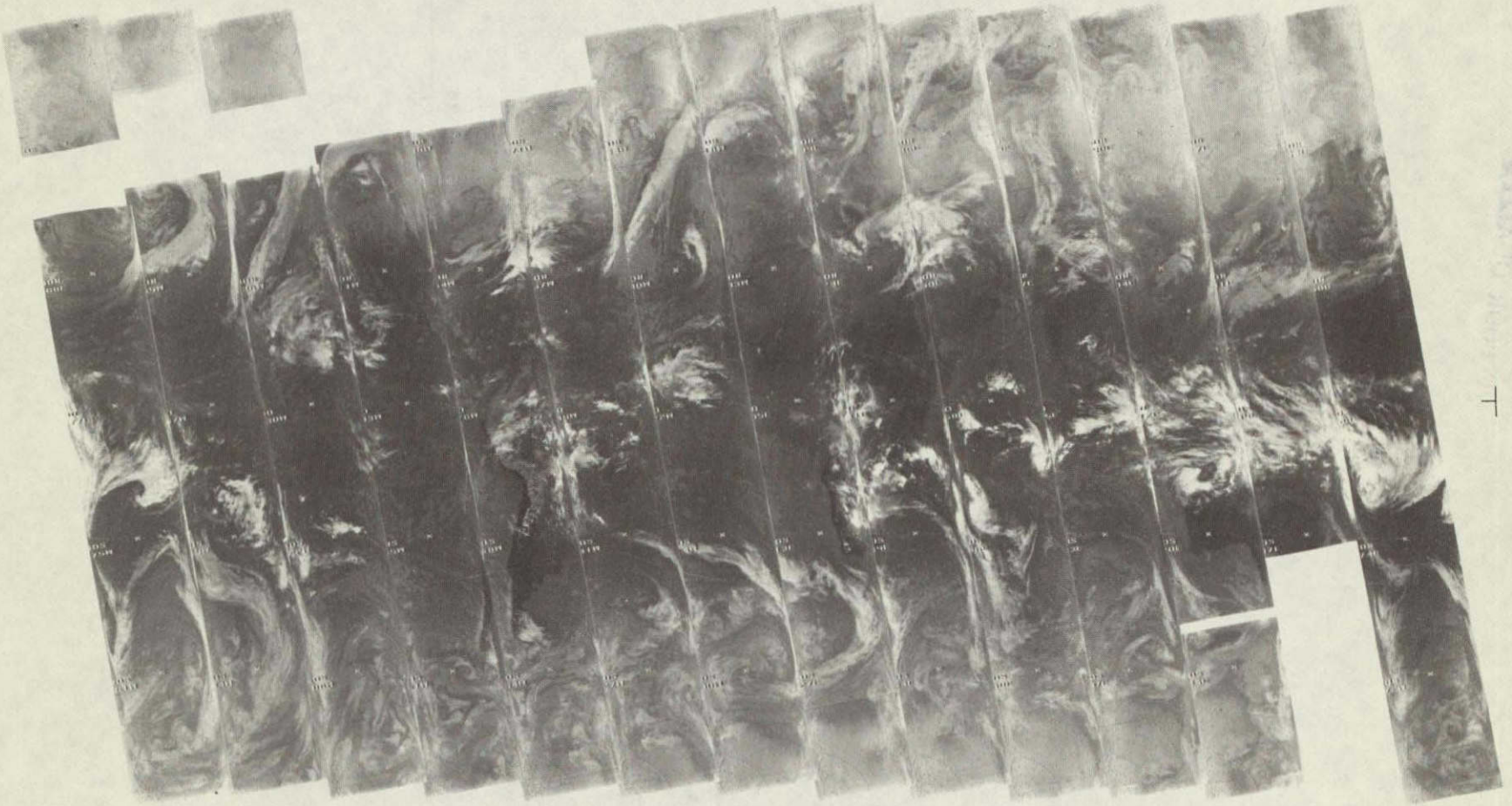
11.5μm



2932 2931 2930 2929 2928 2927 2926 2925 2924 2923 2922 2921 2920 2919

16 JANUARY 1976

6.7 μm



2932 2931 2930 2929 2928 2927 2926 2925 2924 2923 2922 2921 2920 2919

16 JANUARY 1976

11.5μm

2945 2944 2943 2942 2941 2940 2939 2938 2937 2936 2935 2934 2933

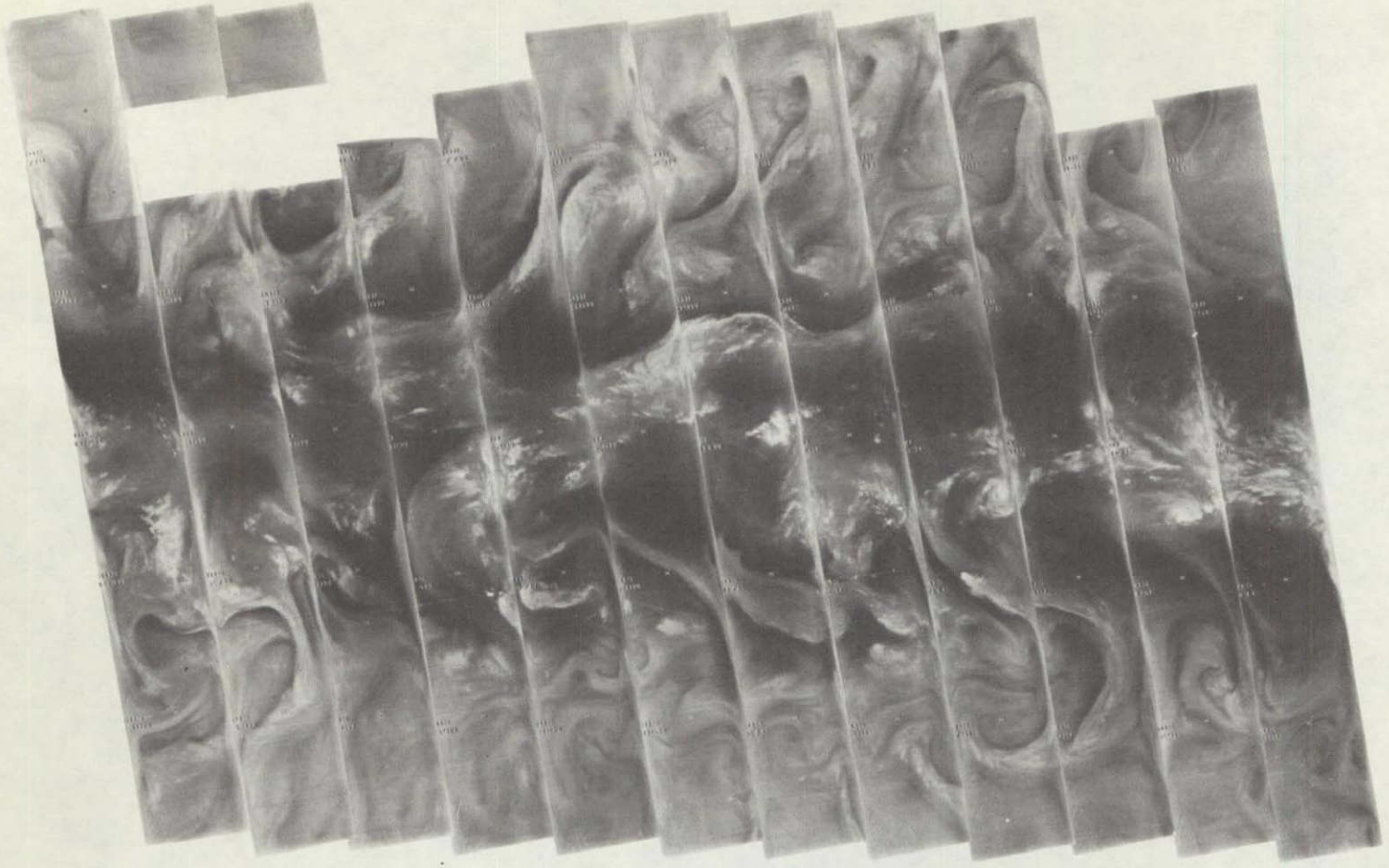
17 JANUARY 1976

6.7 μm

2945 2944 2943 2942 2941 2940 2939 2938 2937 2936 2935 2934 2933

17 JANUARY 1976

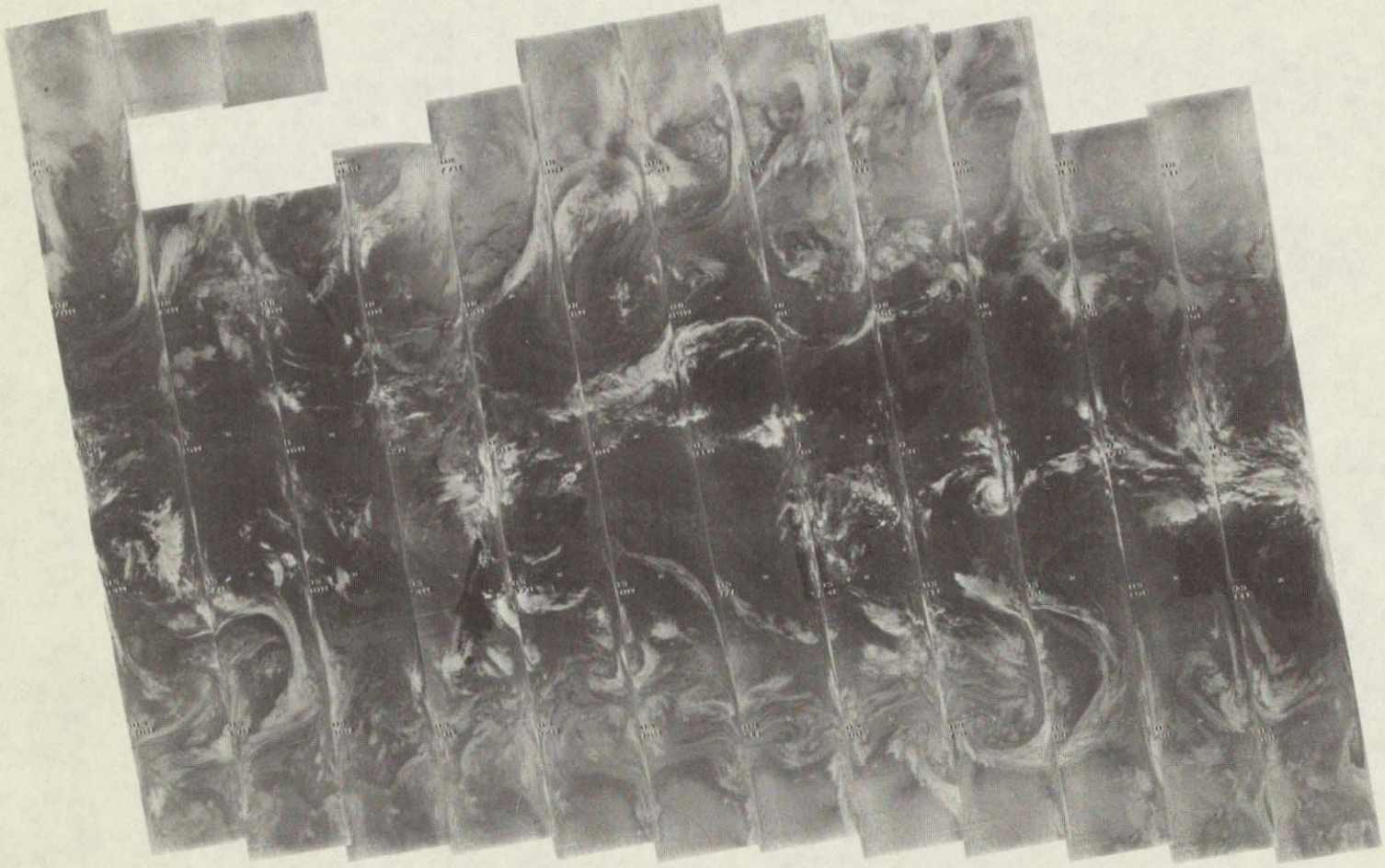
11.5μm



2958 2957 2956 2955 2954 2953 2952 2951 2950 2948 4948 2947 2946

18 JANUARY 1976

6.7 μm



2958 2957 2956 2955 2954 2953 2952 2951 2950 2949 2948 2947 2946

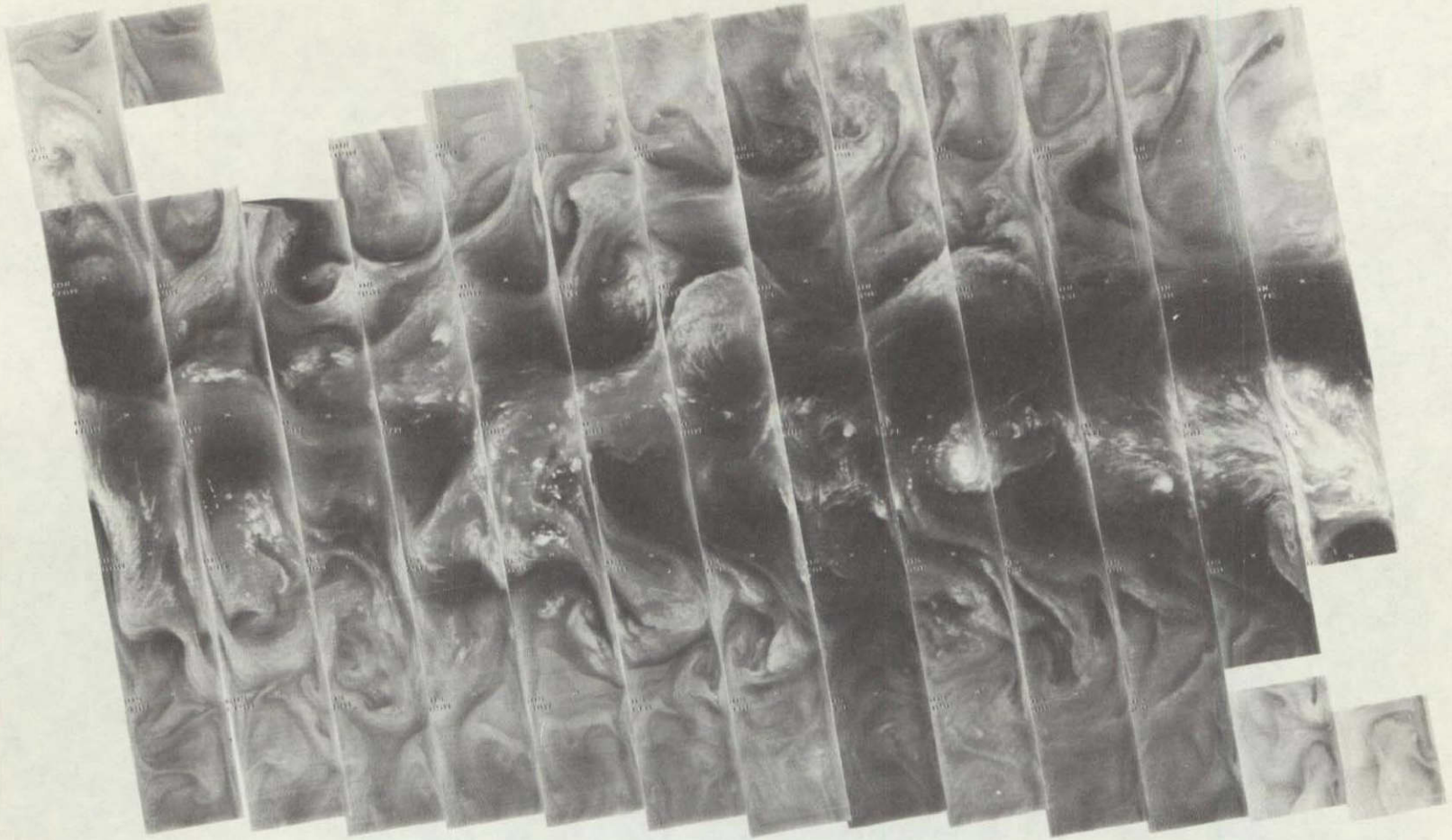
18 JANUARY 1976

11.5μm

2972 2971 2970 2969 2968 2967 2966 2965 2964 2963 2962 2961 2960 2959

19 JANUARY 1976

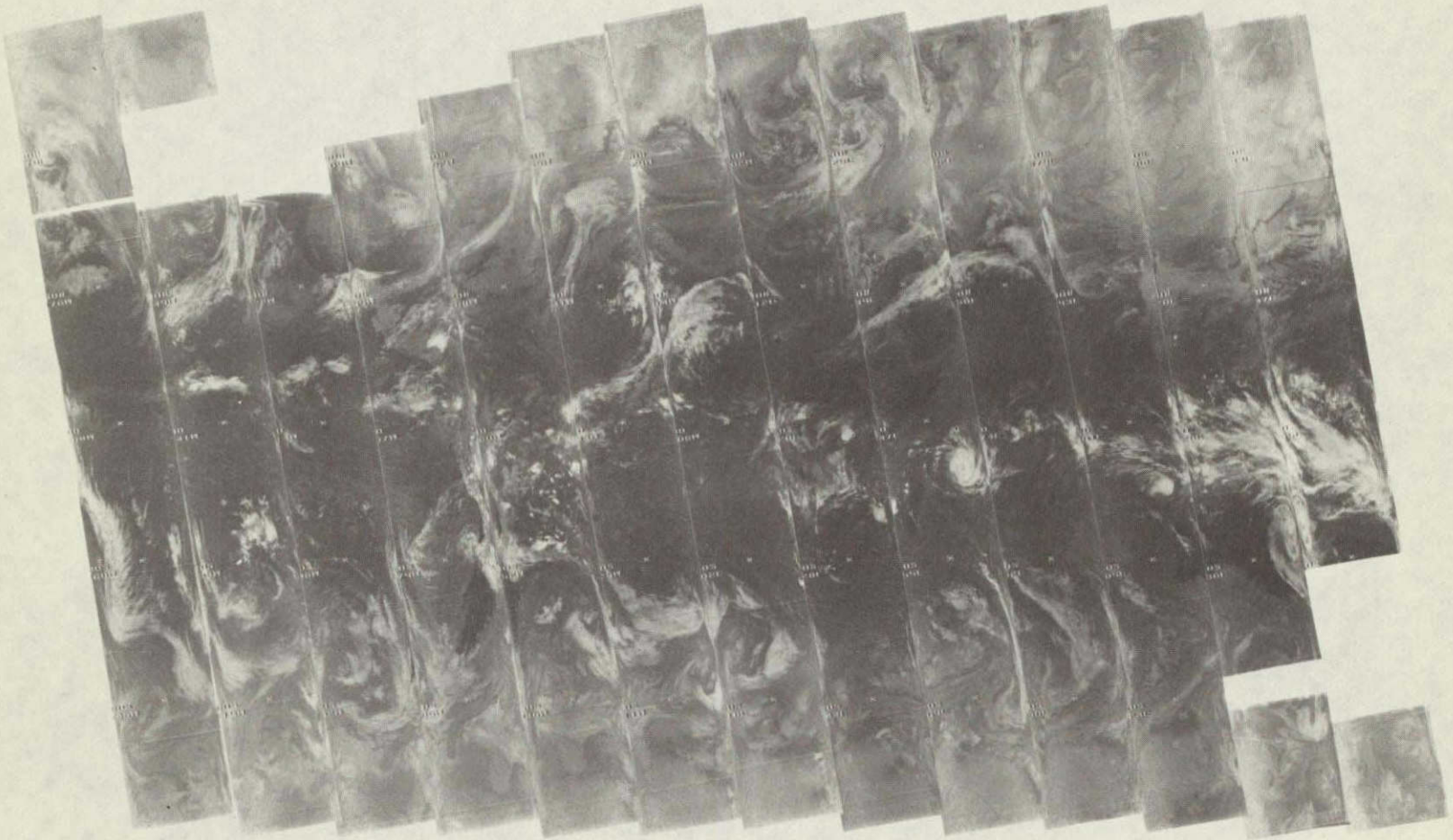
11.5μm



2985 2984 2983 2982 2981 2980 2979 2978 2977 2976 2975 2974 2973

20 JANUARY 1976

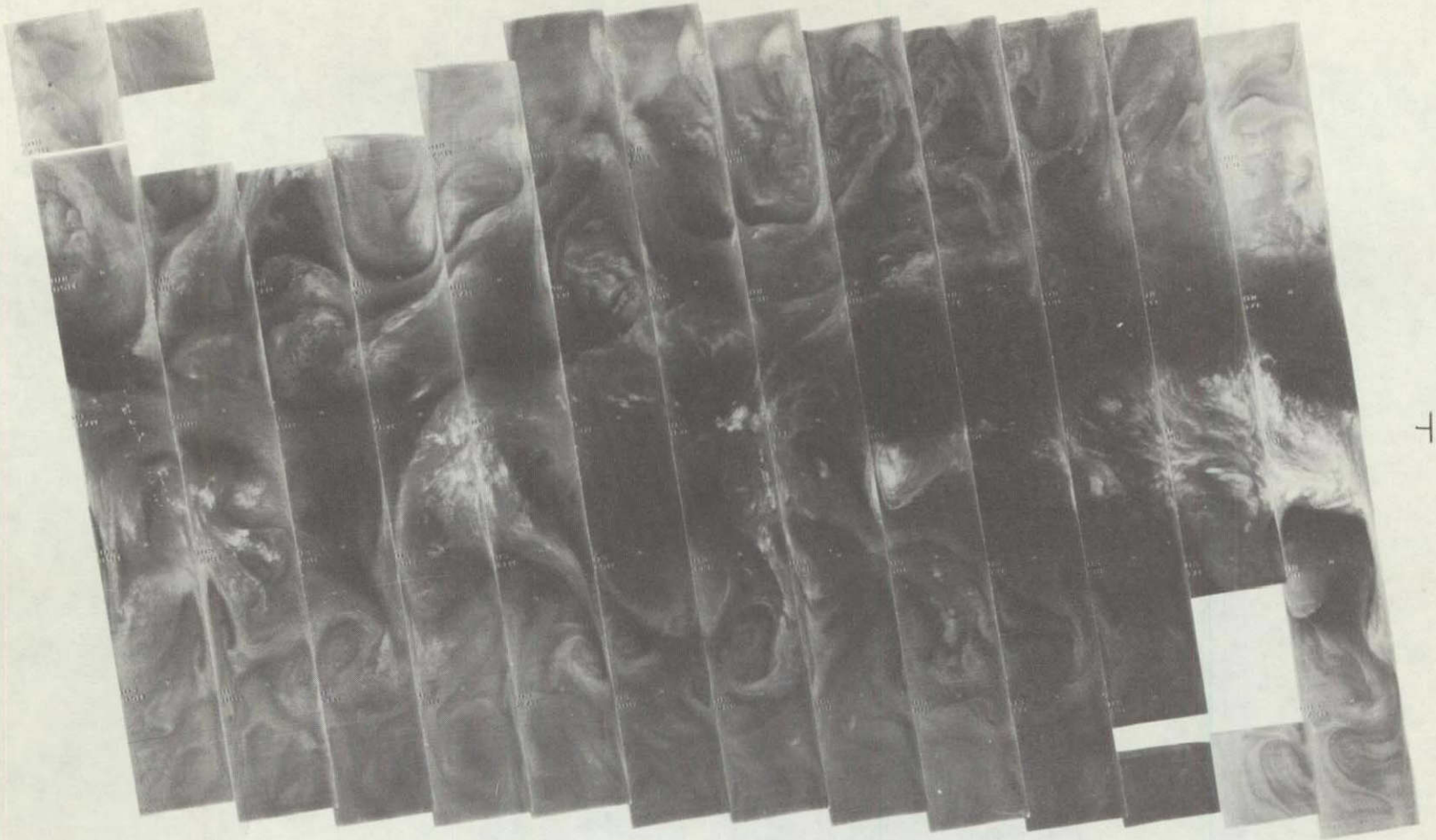
6.7 μm



2985 2984 2983 2982 2981 2980 2979 2978 2977 2976 2975 2974 2973

20 JANUARY 1976

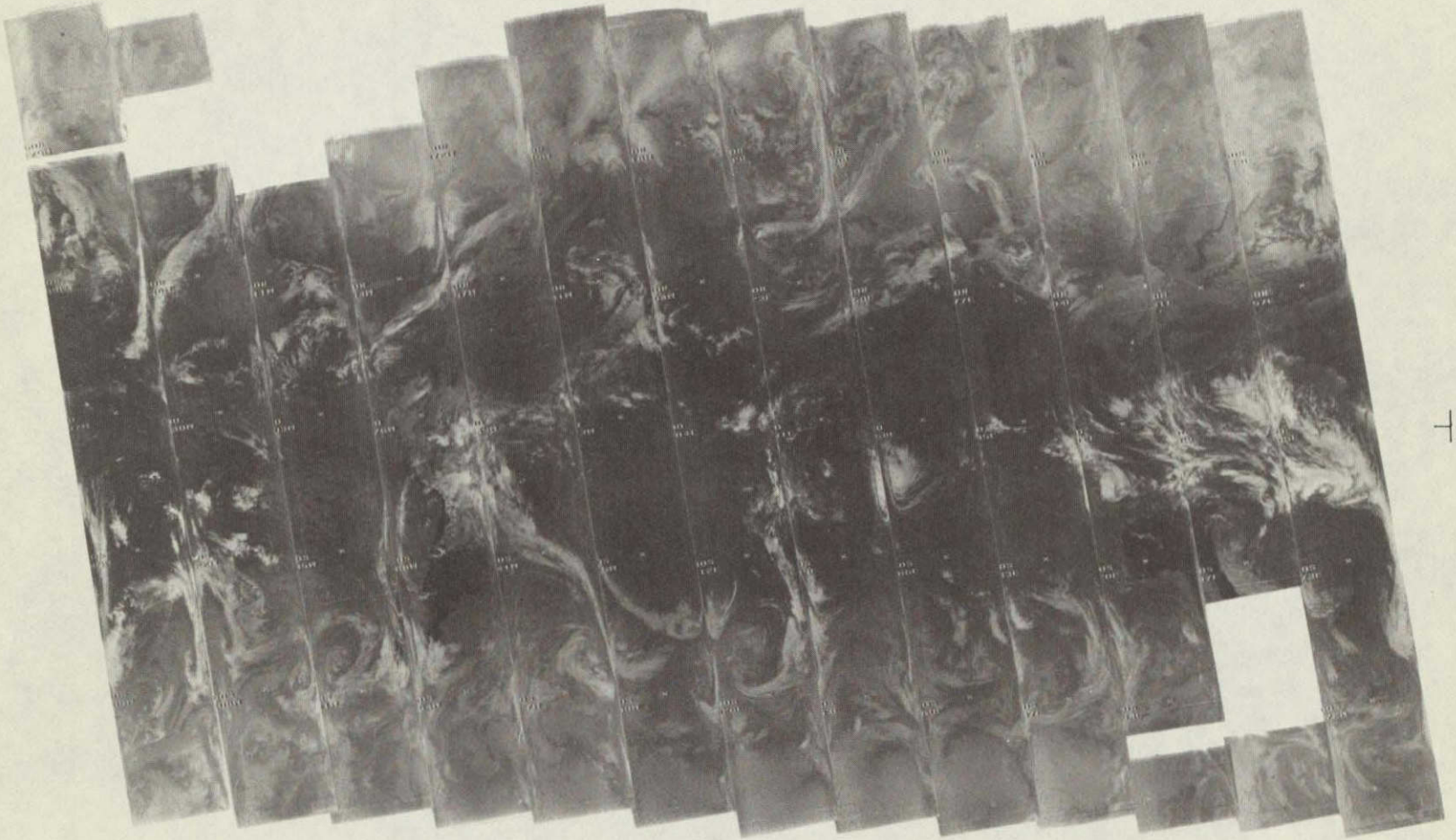
11.5μm



2998 2997 2996 2995 2994 2993 2992 2991 2990 2989 2988 2987 2986

21 JANUARY 1976

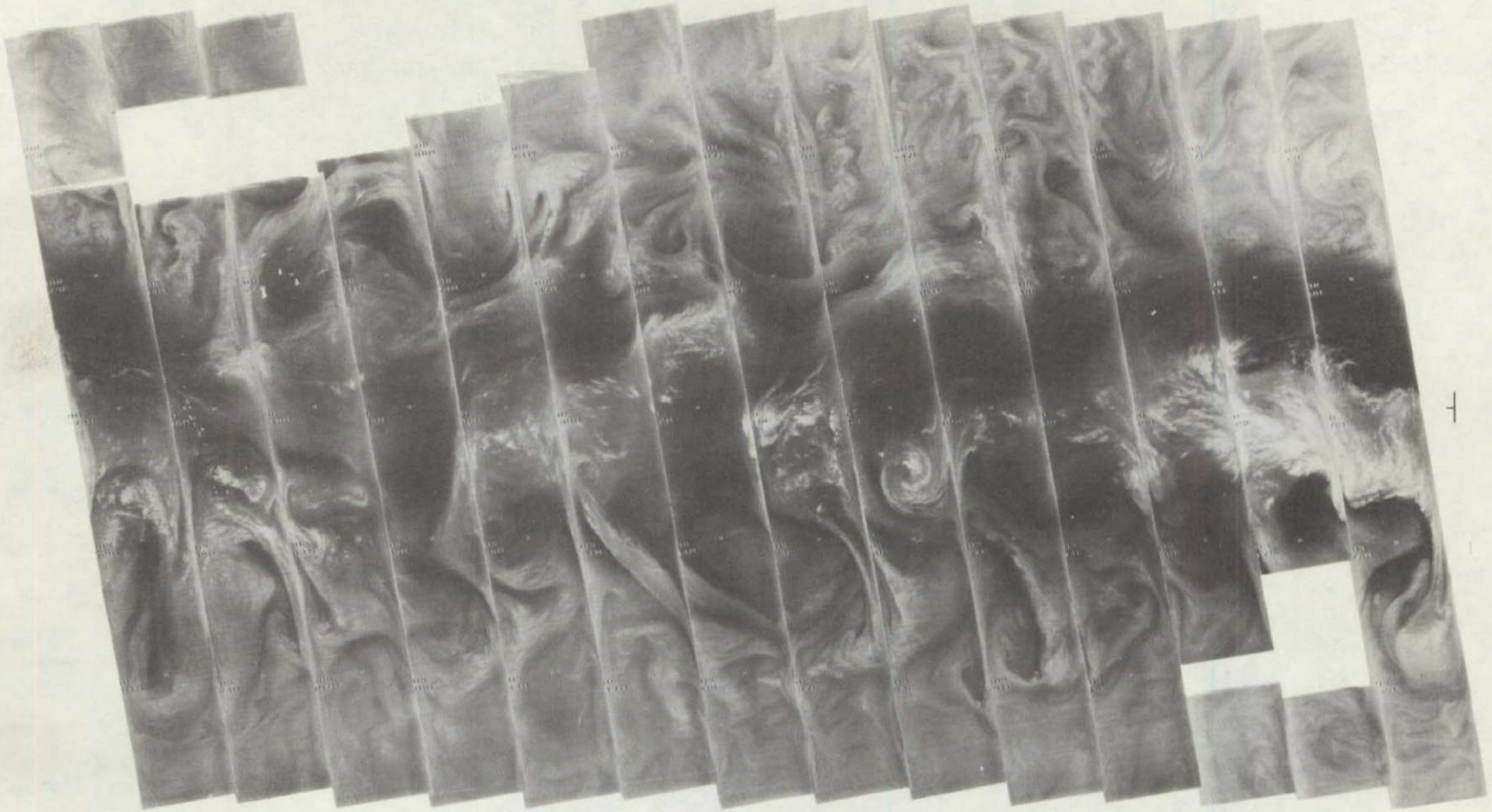
6.7 μm



2998 2997 2996 2995 2994 2993 2992 2991 2990 2989 2988 2987 2986

21 JANUARY 1976

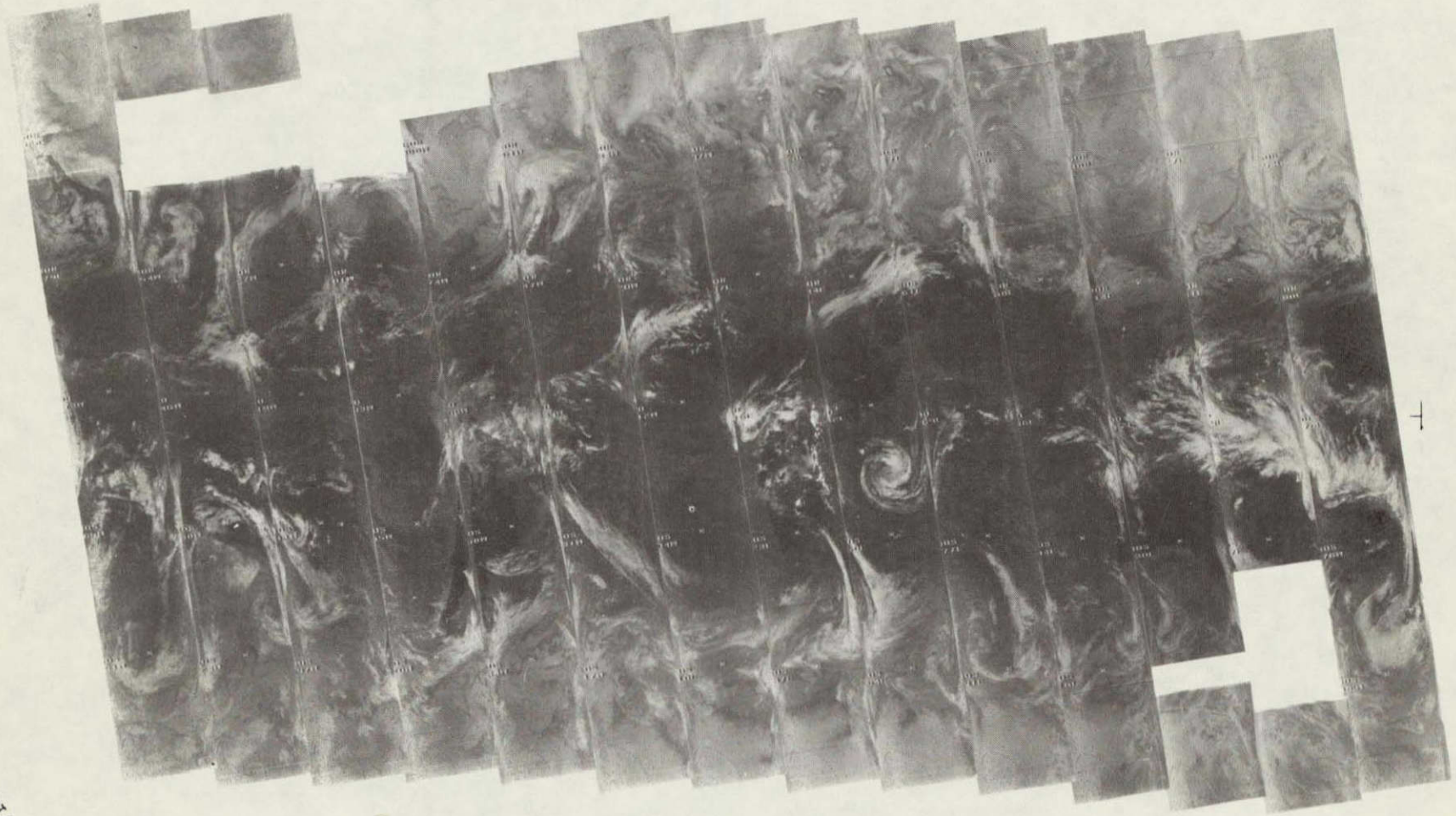
11.5μm



3012 3011 3010 3009 3008 3007 3006 3005 3004 3003 3002 3001 3000 2999

22 JANUARY 1976

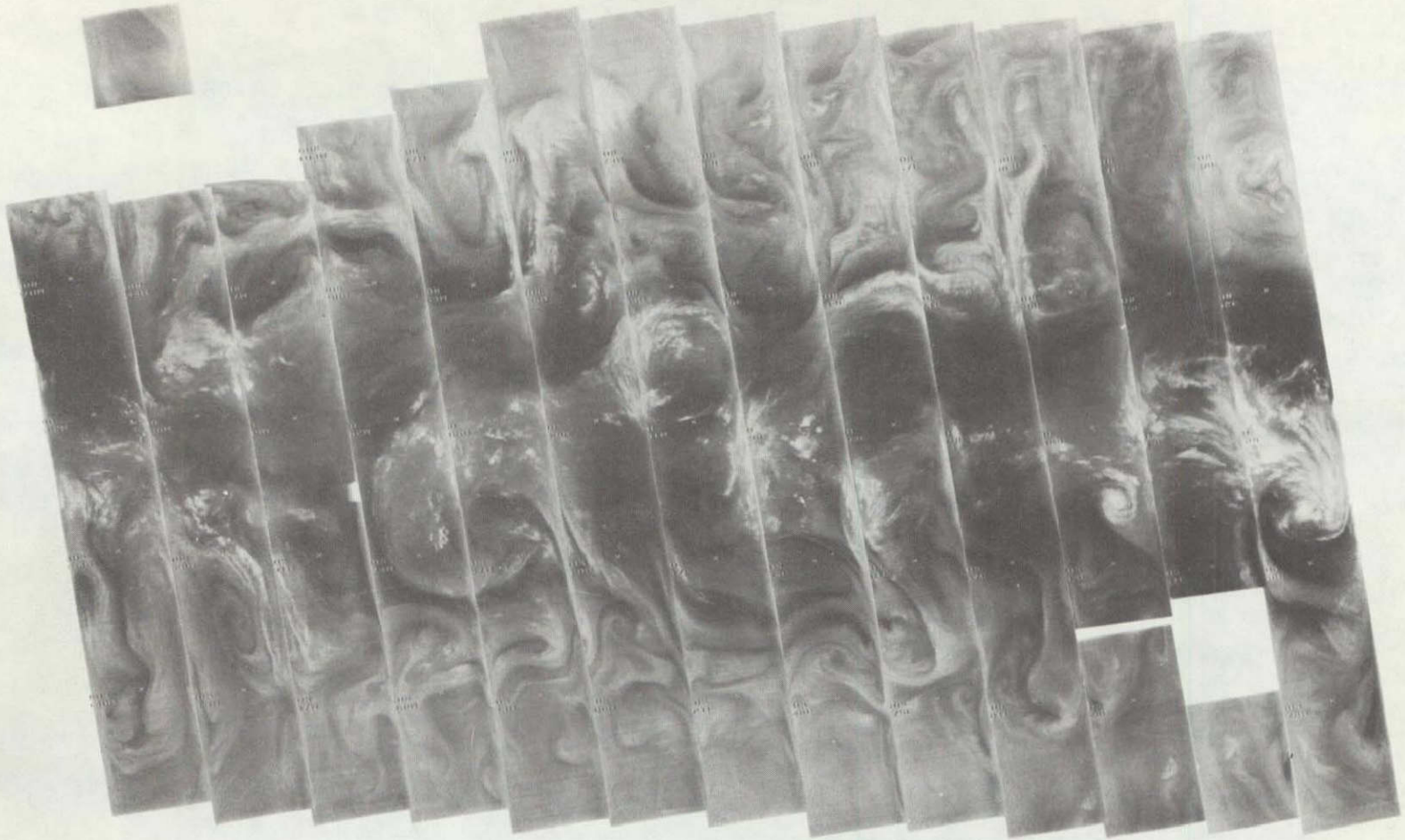
6.7 μm



3012 3011 3010 3009 3008 3007 3006 3005 3004 3003 3002 3001 3000 2999

22 JANUARY 1976

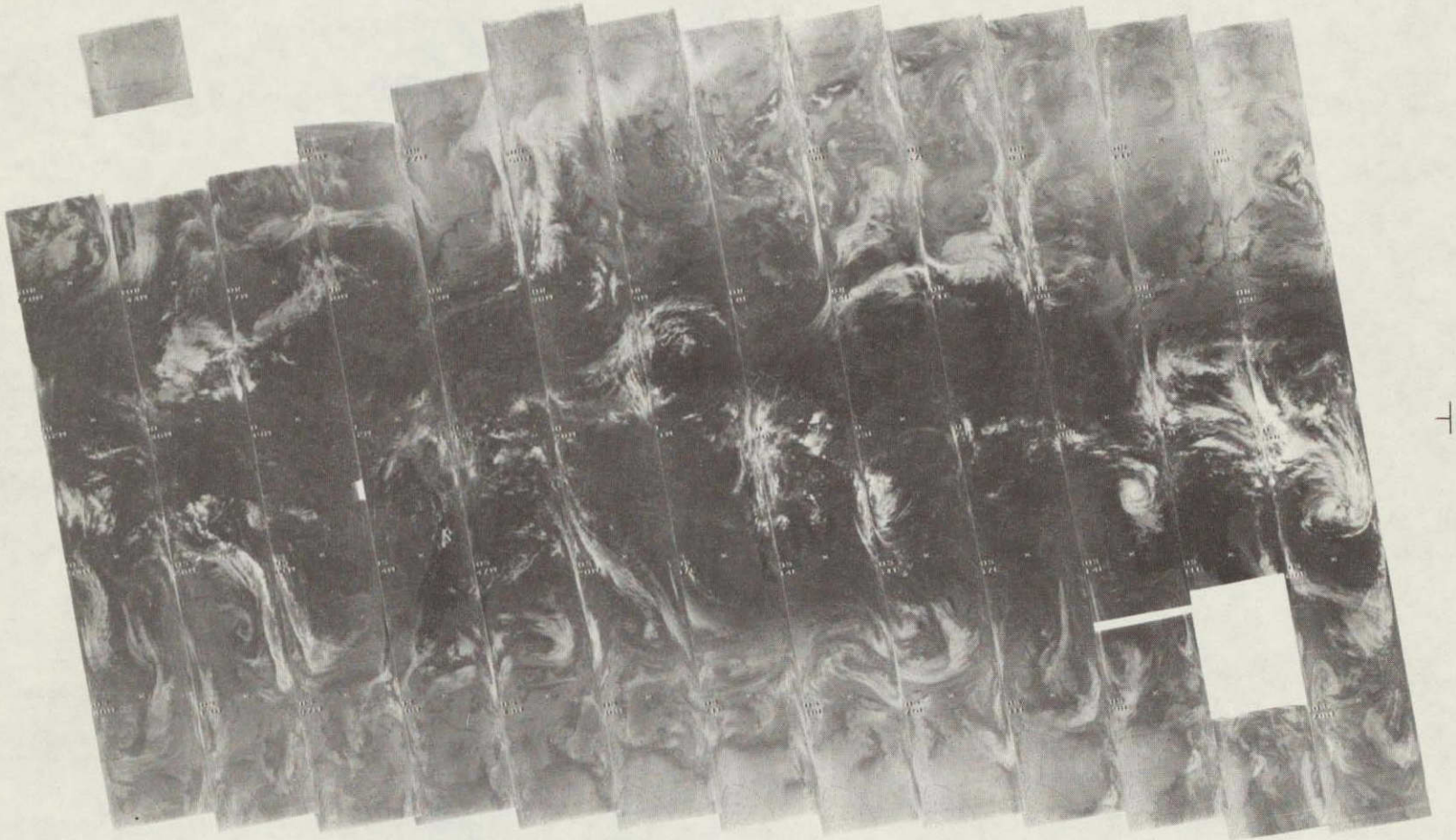
11.5μm



3025 3024 3023 3022 3021 3020 3019 3018 3017 3016 3015 3014 3013

23 JANUARY 1976

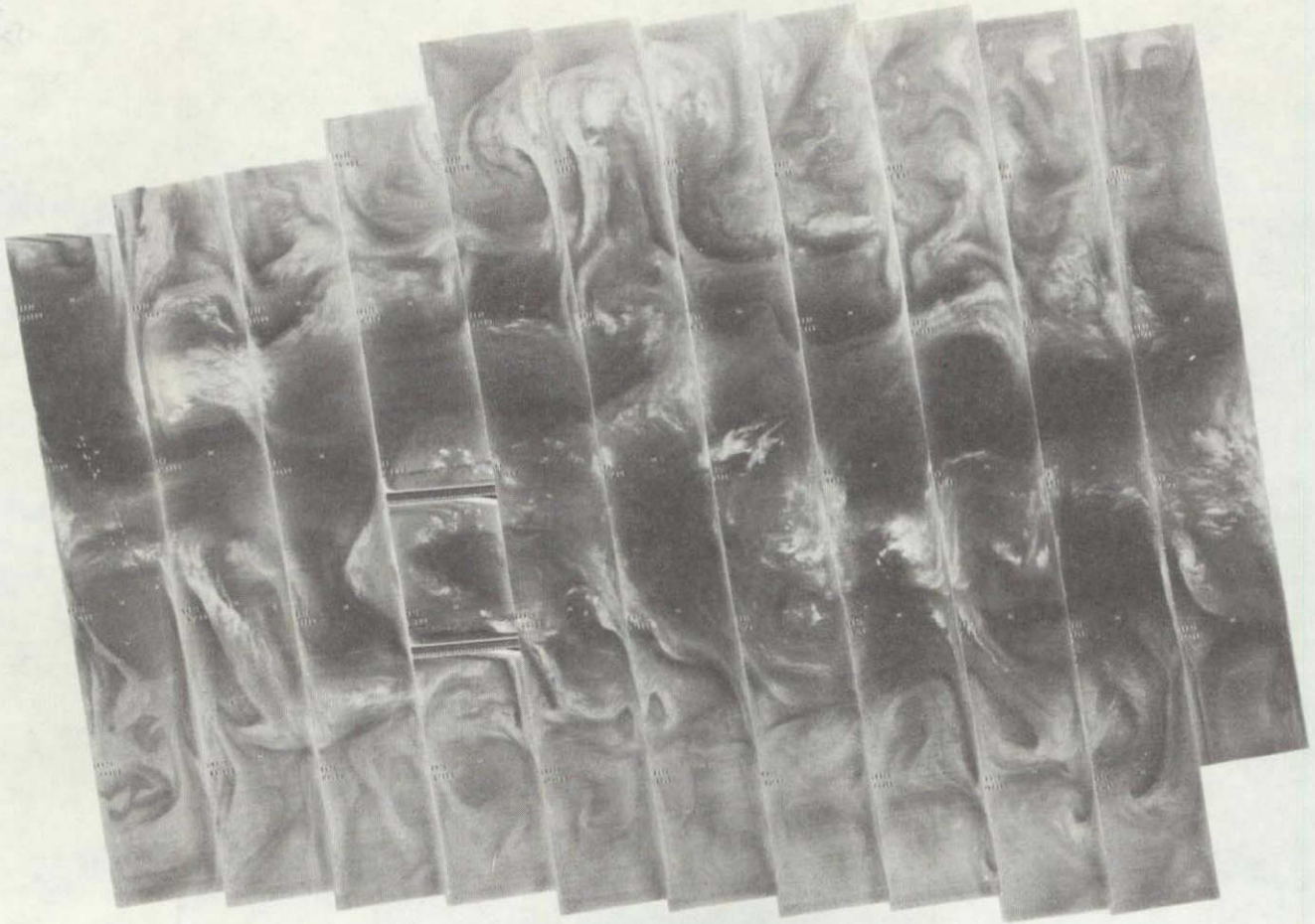
6.7 μm



3025 3024 3023 3022 3021 3020 3019 3018 3017 3016 3015 3014 3013

23 JANUARY 1976

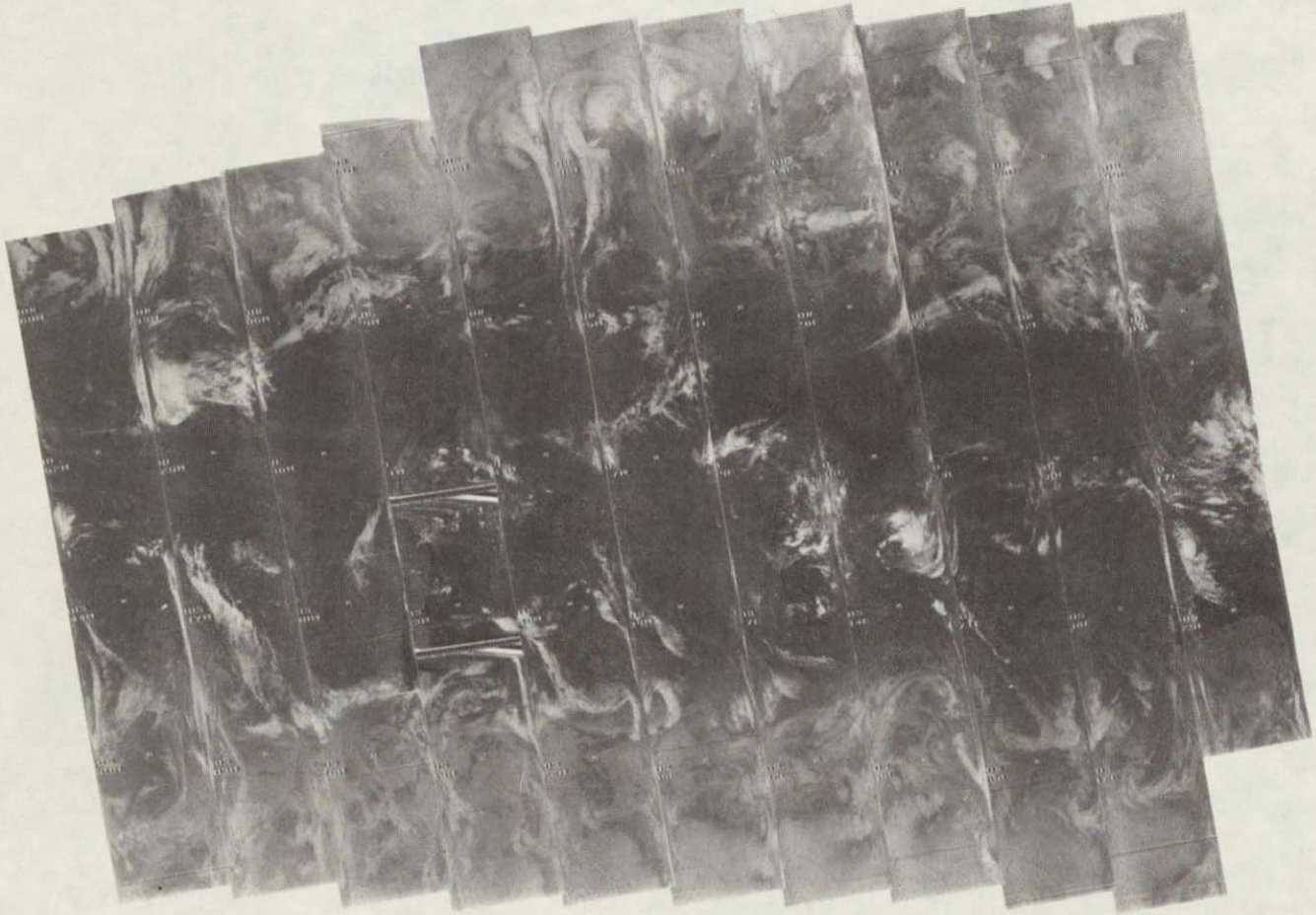
11.5μm



3039 3038 3037 3036 3035 3034 3033 3032 3031 3030 3029 3028 3027 3026

24 JANUARY 1976

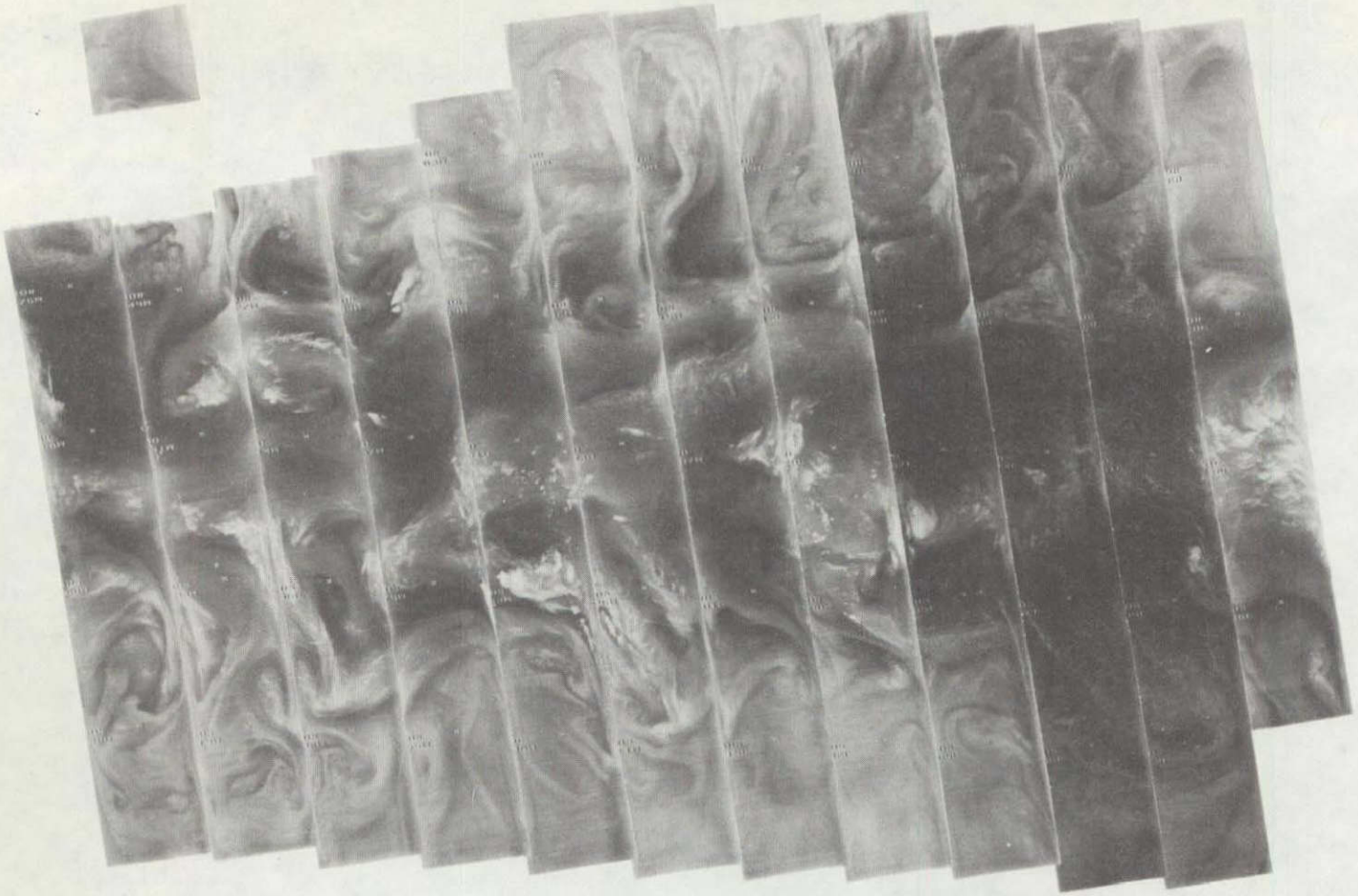
6.7 μm



3039 3038 3037 3036 3035 3034 3033 3032 3031 3030 3029 3028 3027 3026

24 JANUARY 1976

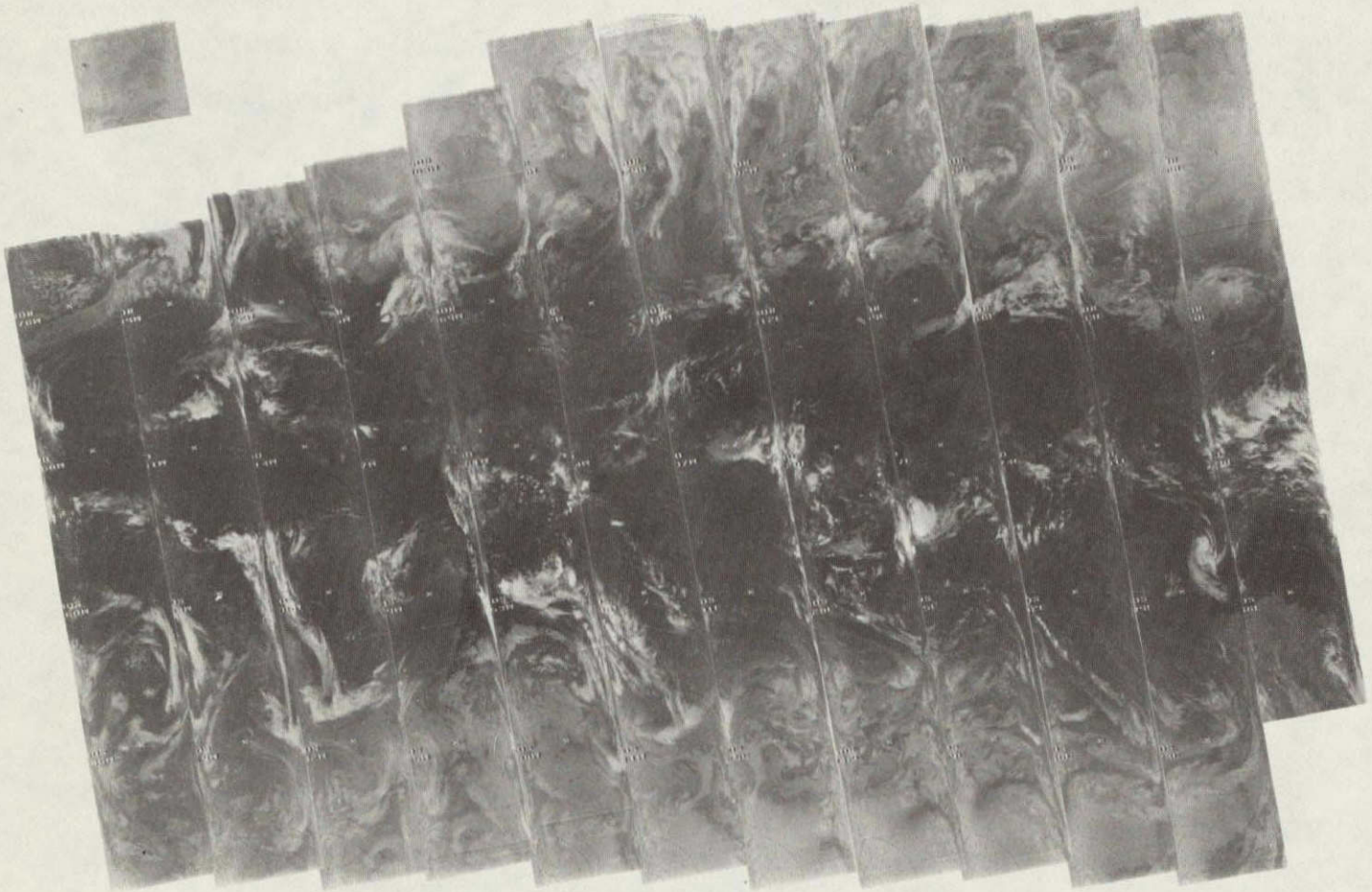
11.5μm



3052 3051 3050 3049 3048 3047 3046 3045 3044 3043 3042 3041 3040

25 JANUARY 1976

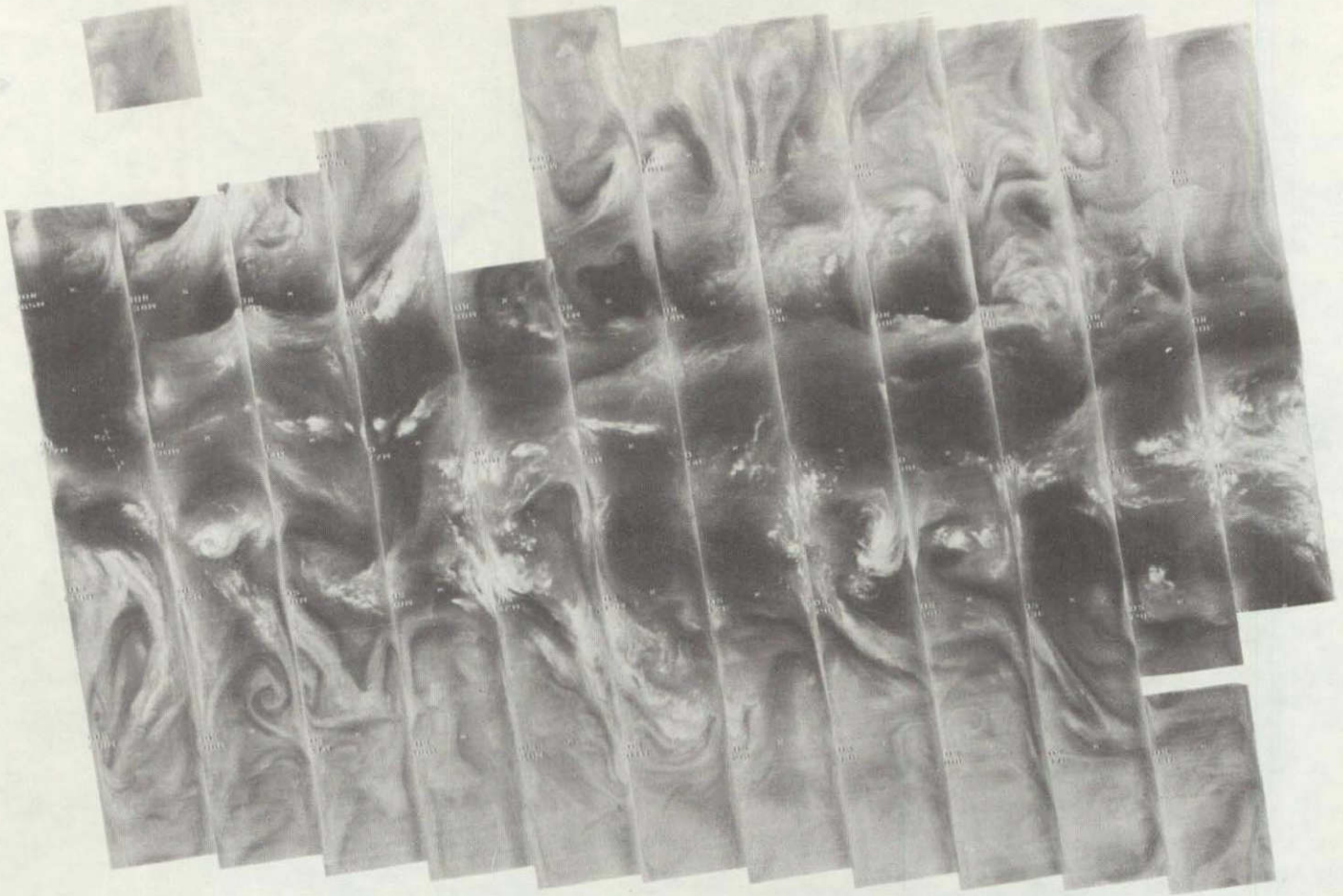
6.7 μm



3052 3051 3050 3049 3048 3047 3046 3045 3044 3043 3042 3041 3040

25 JANUARY 1976

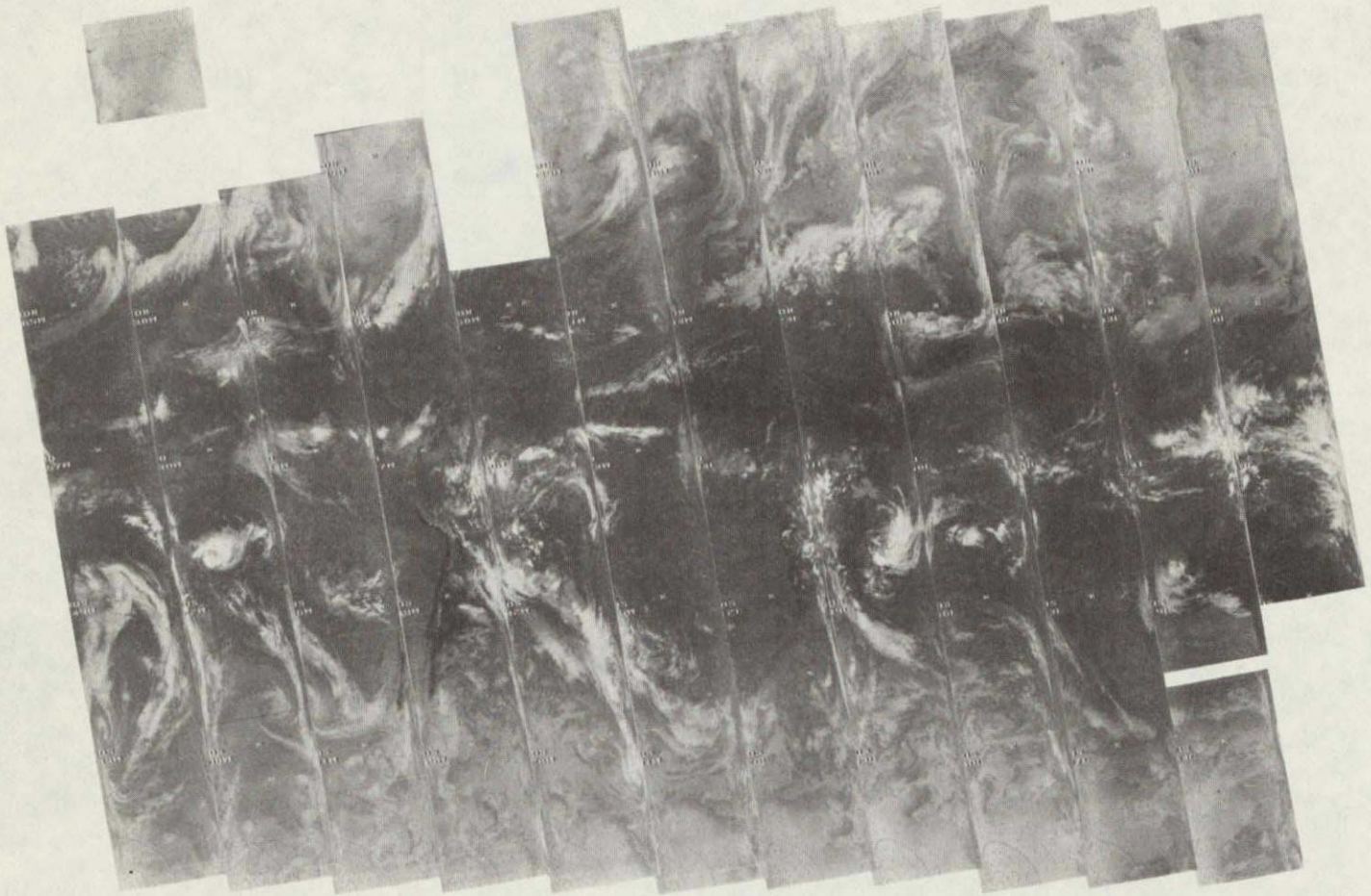
11.5μm



3065 3064 3063 3062 3061 3060 3059 3058 3057 3056 3055 3054 3053

26 JANUARY 1976

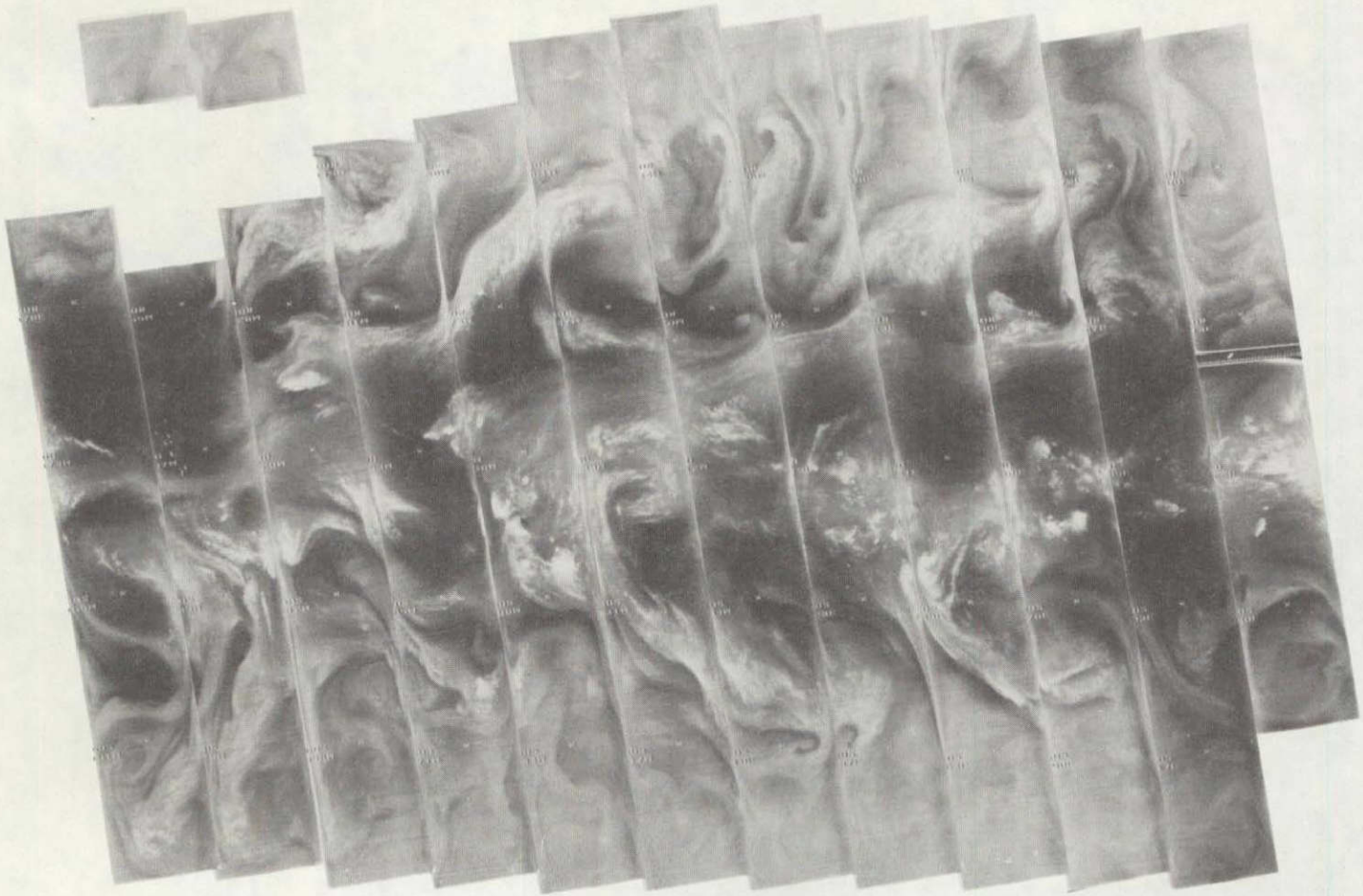
6.7 μm



3065 3064 3063 3062 3061 3060 3059 3058 3057 3056 3055 3054 3053

26 JANUARY 1976

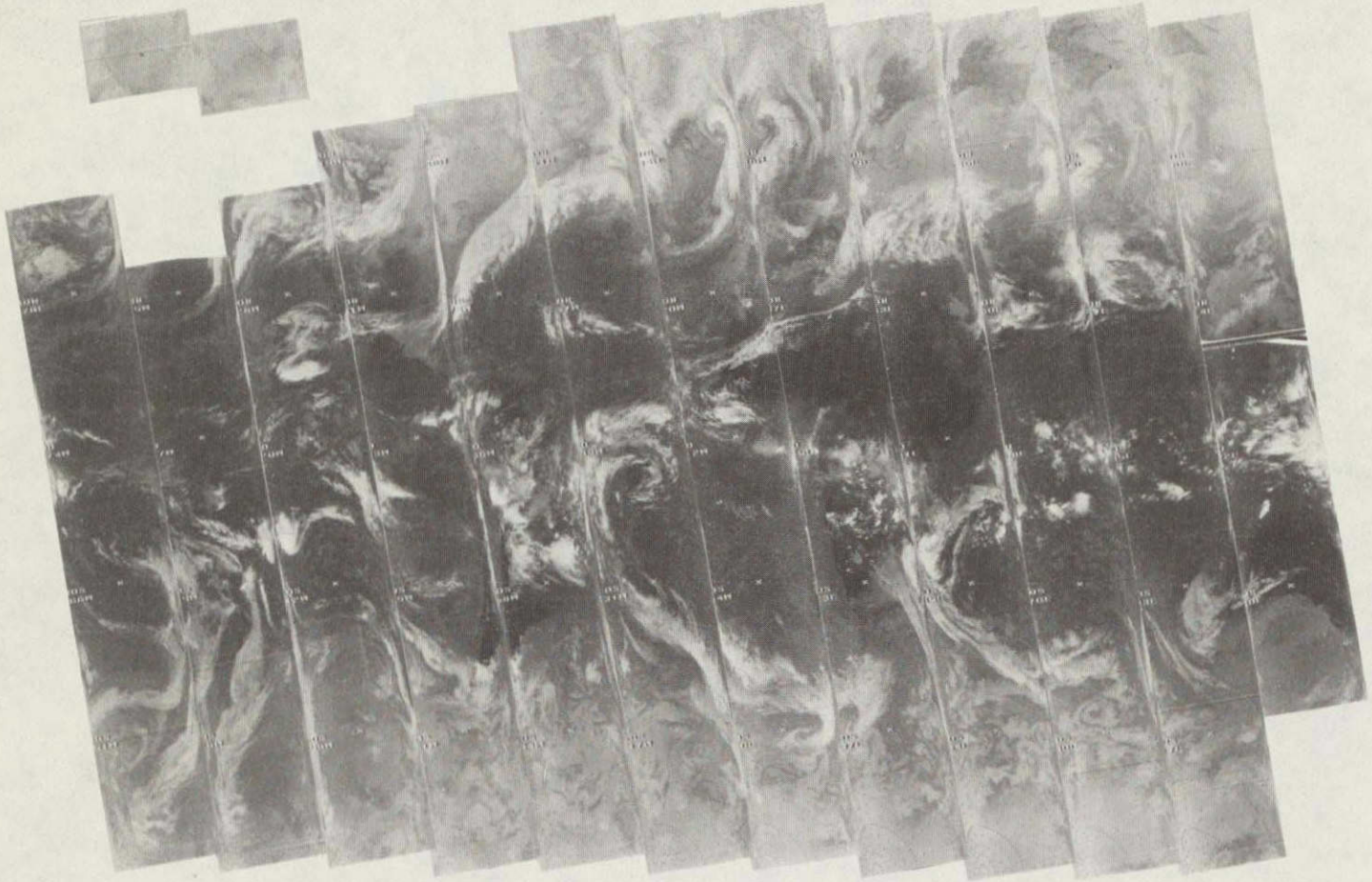
11.5μm



3079 3078 3077 3076 3075 3074 3073 3072 3071 3070 3069 3068 3067 3066

27 JANUARY 1976

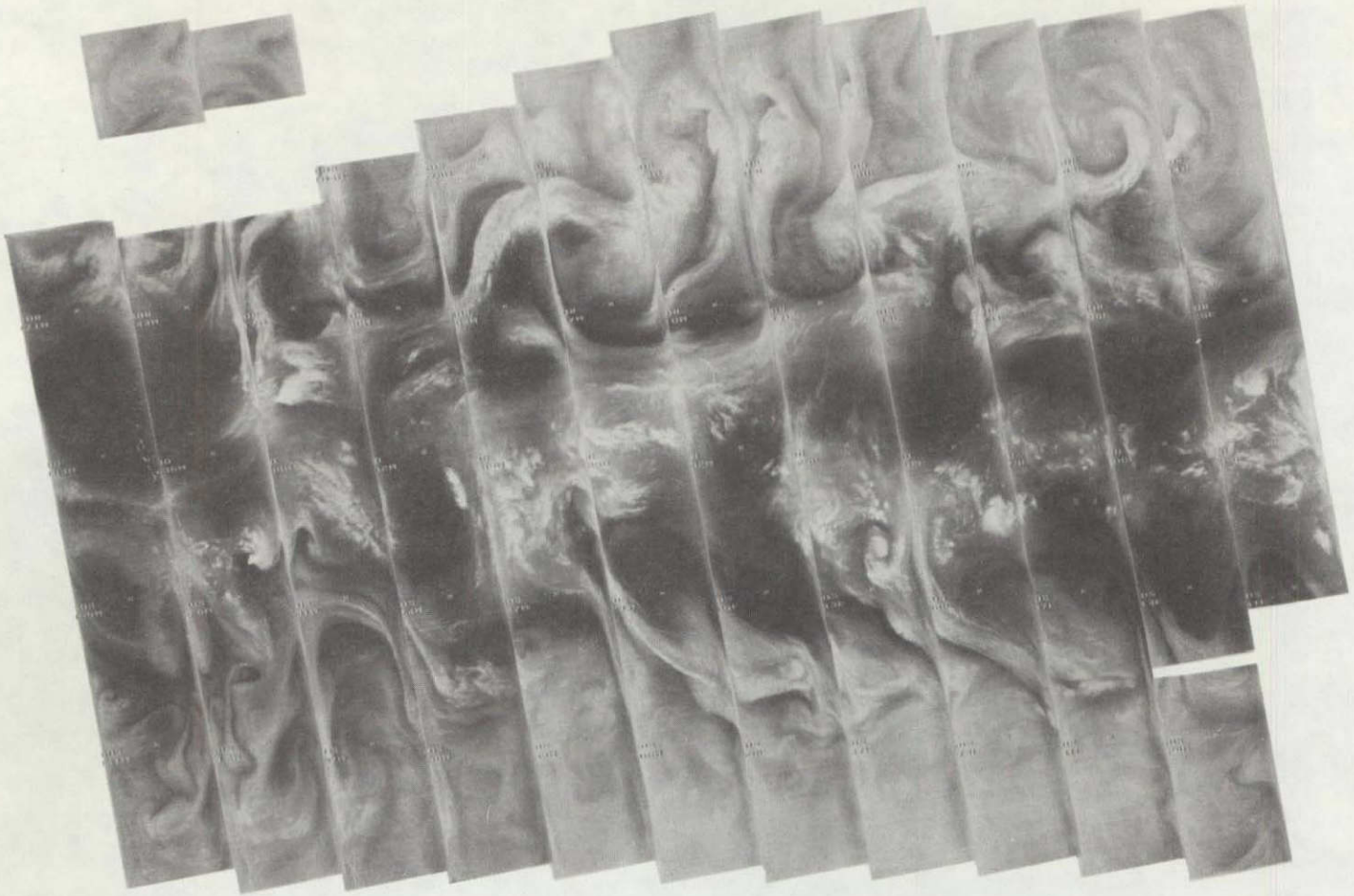
6.7μm



3079 3078 3077 3076 3075 3074 3073 3072 3071 3070 3069 3068 3067 3066

27 JANUARY 1976

11.5 μm



3092 3091 3090 3089 3088 3087 3086 3085 3084 3083 3082 3081 3080

28 JANUARY 1976

6.7 μm

3092 3091 3090 3089 3088 3087 3086 3085 3084 3083 3082 3081 3080

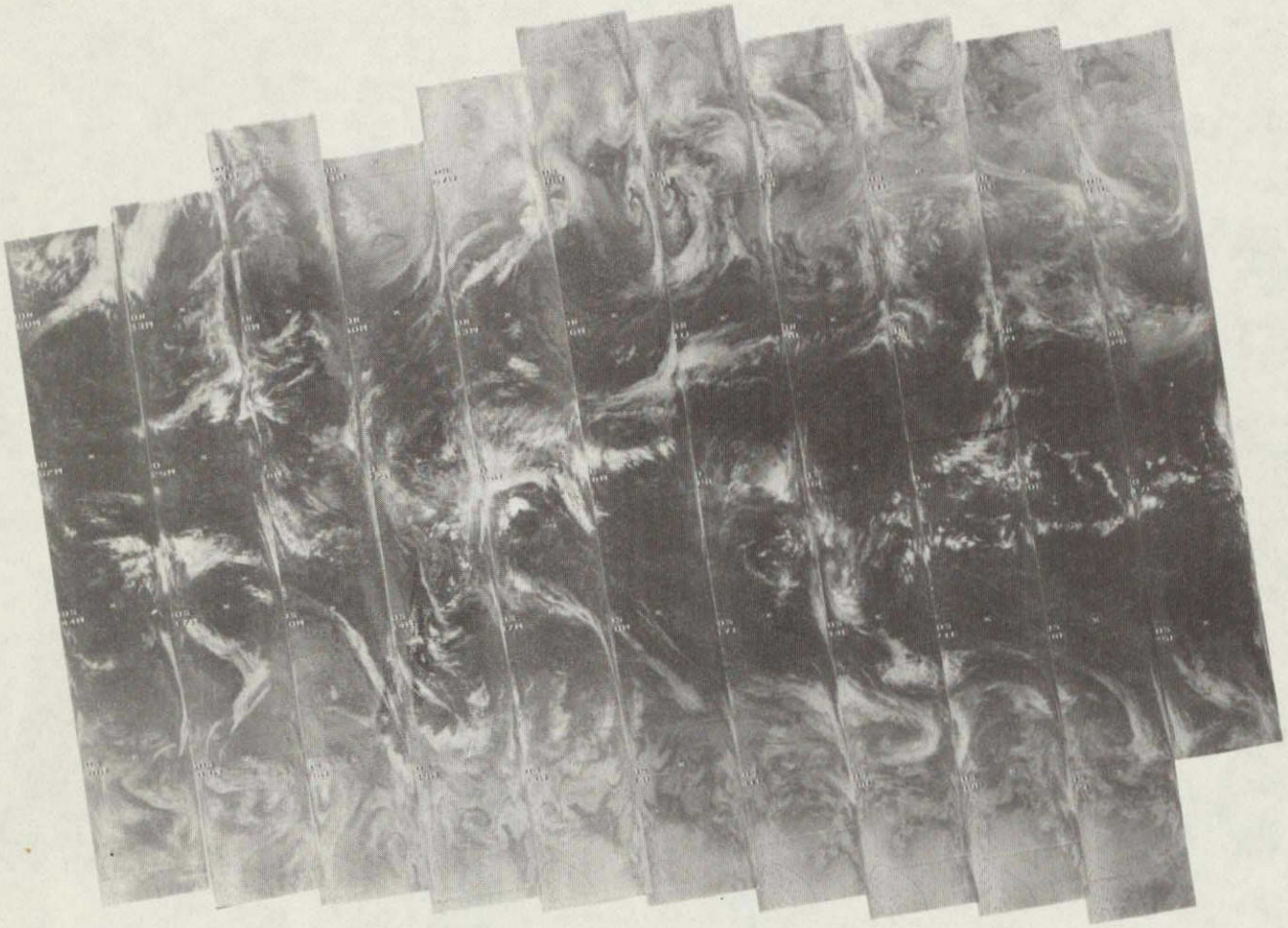
28 JANUARY 1976

11.5μm

3106 3105 3104 3103 3102 3101 3100 3099 3098 3097 3096 3095 3094 3093

29 JANUARY 1976

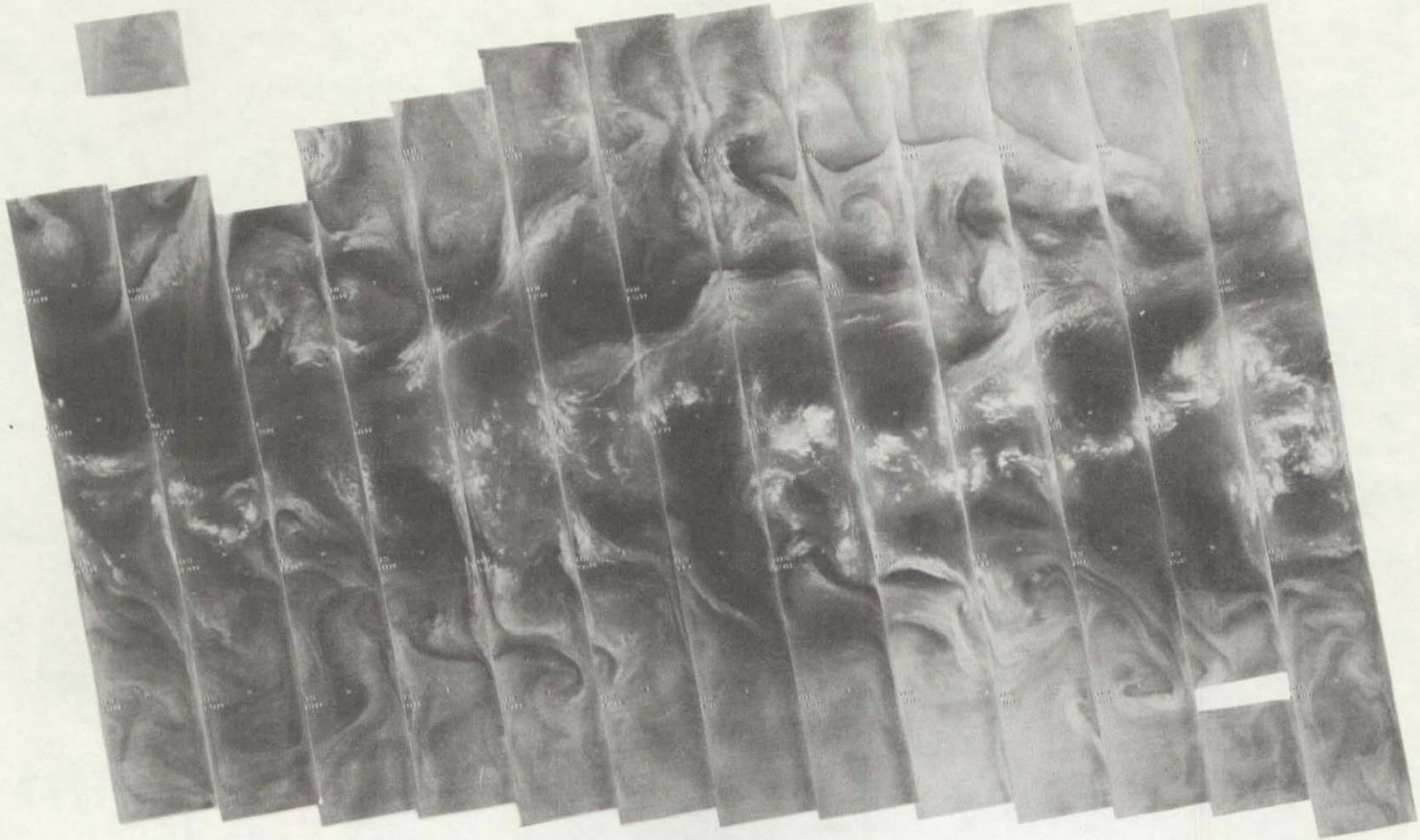
6.7μm



3106 3105 3104 3103 3102 3101 3100 3099 3098 3097 3096 3095 3094 3093

29 JANUARY 1976

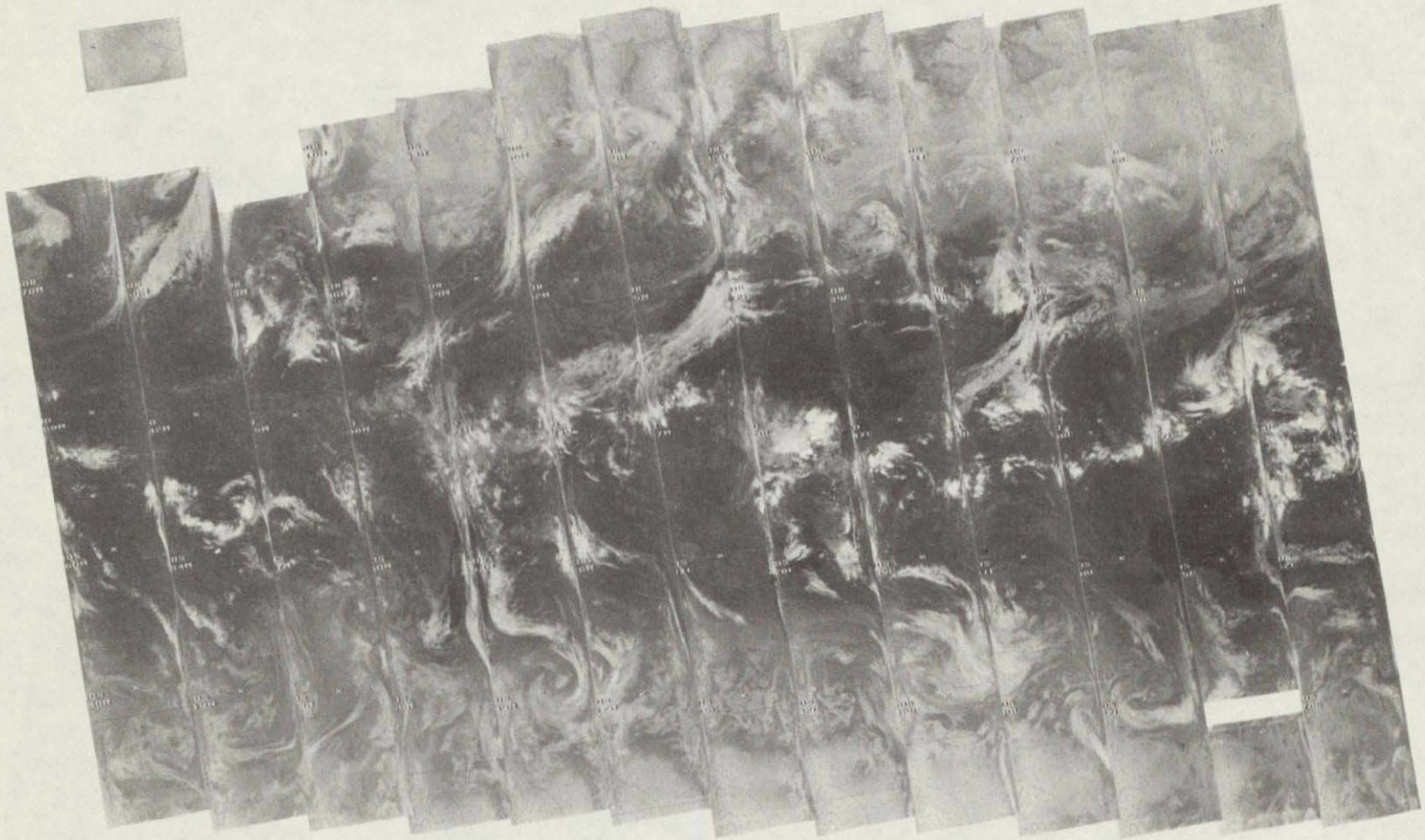
11.5μm



3119 3118 3117 3116 3115 3114 3113 3112 3111 3110 3109 3108 3107

30 JANUARY 1976

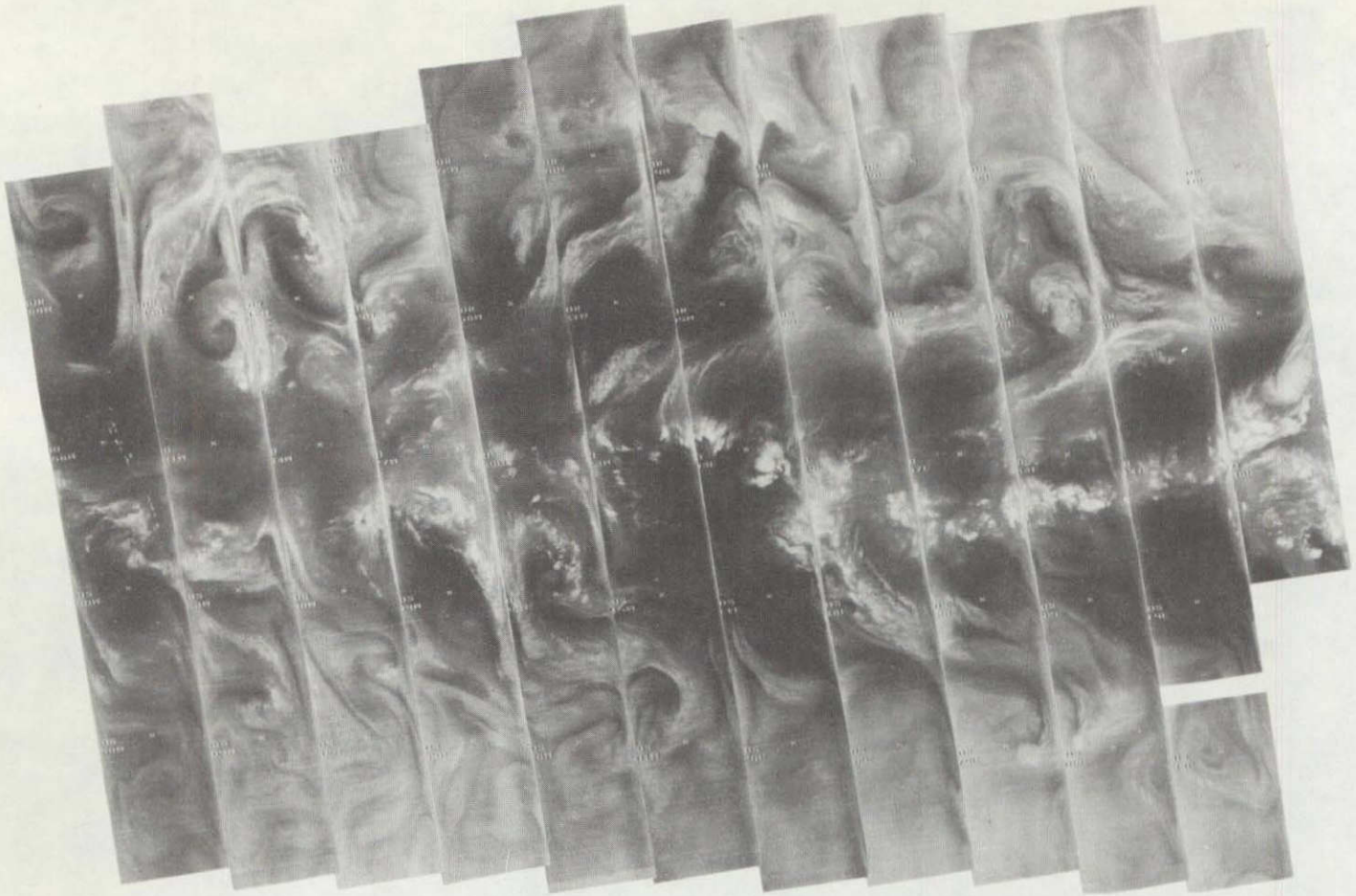
6.7 μm



3119 3118 3117 3116 3115 3114 3113 3112 3111 3110 3109 3108 3107

30 JANUARY 1976

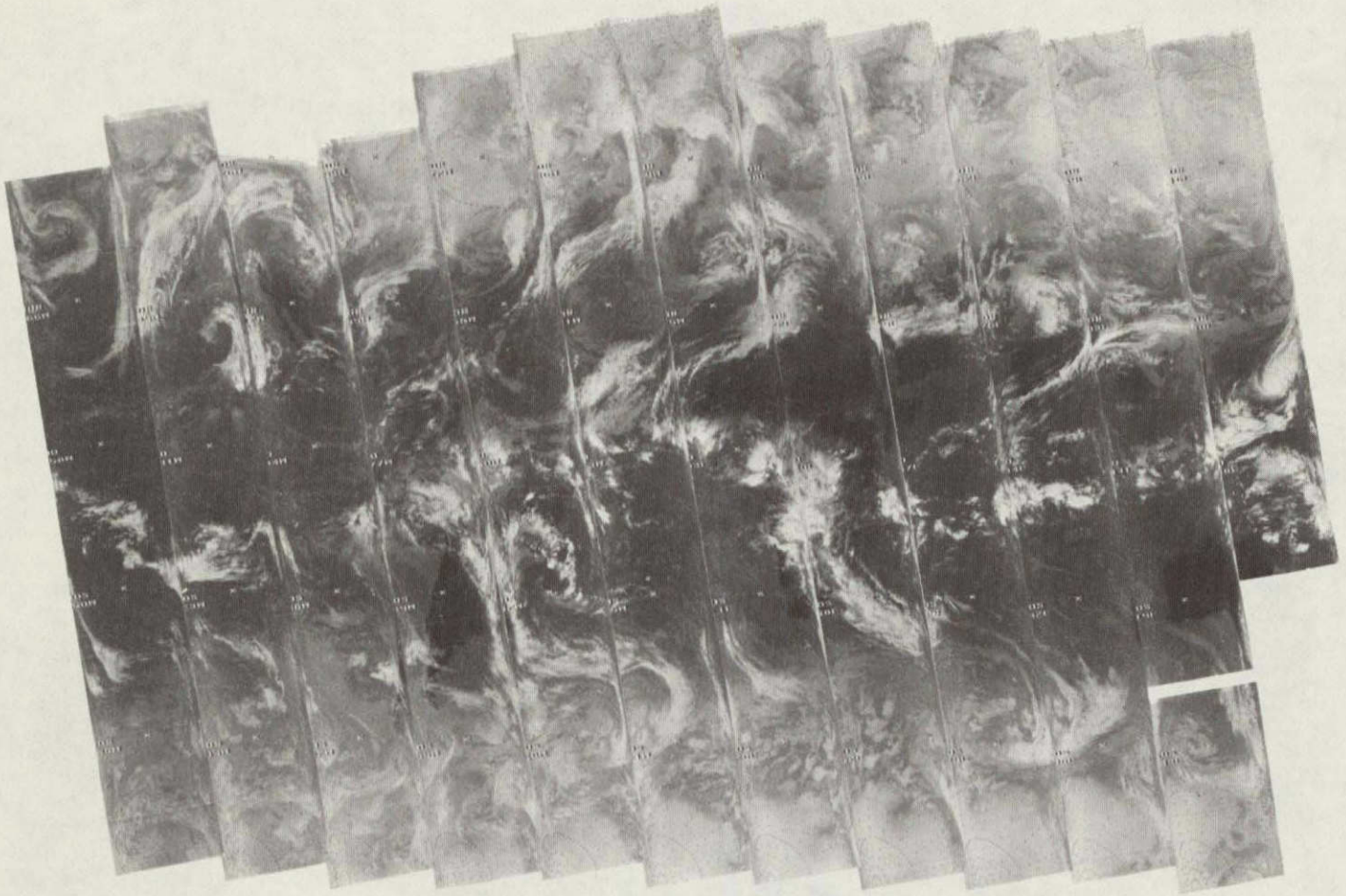
11.5μm



3132 3131 3130 3129 3128 3127 3126 3125 3124 3123 3122 3121 3120

31 JANUARY 1976

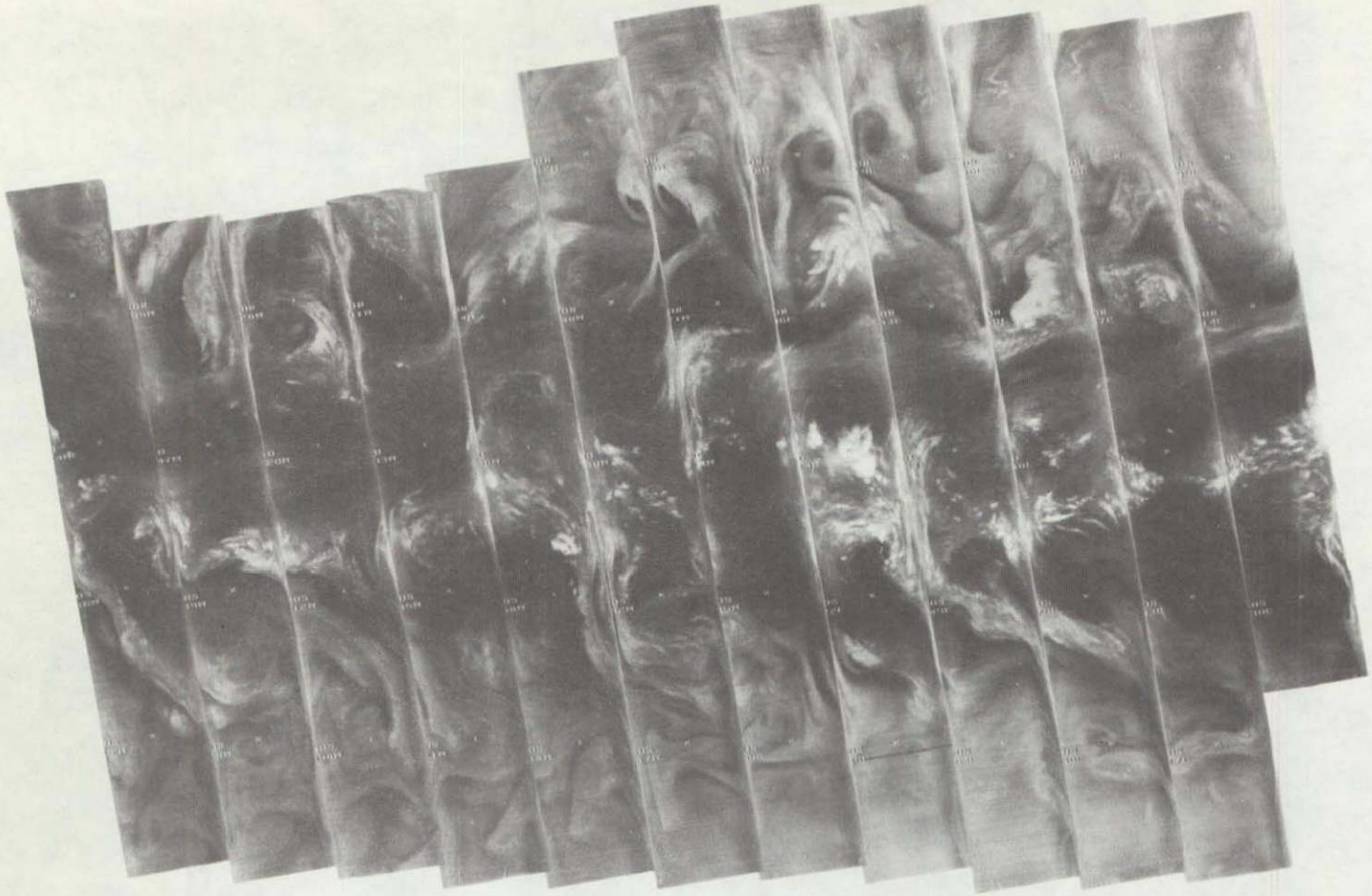
6.7 μm



3132 3131 3130 3129 3128 3127 3126 3125 3124 3123 3122 3121 3120

31 JANUARY 1976

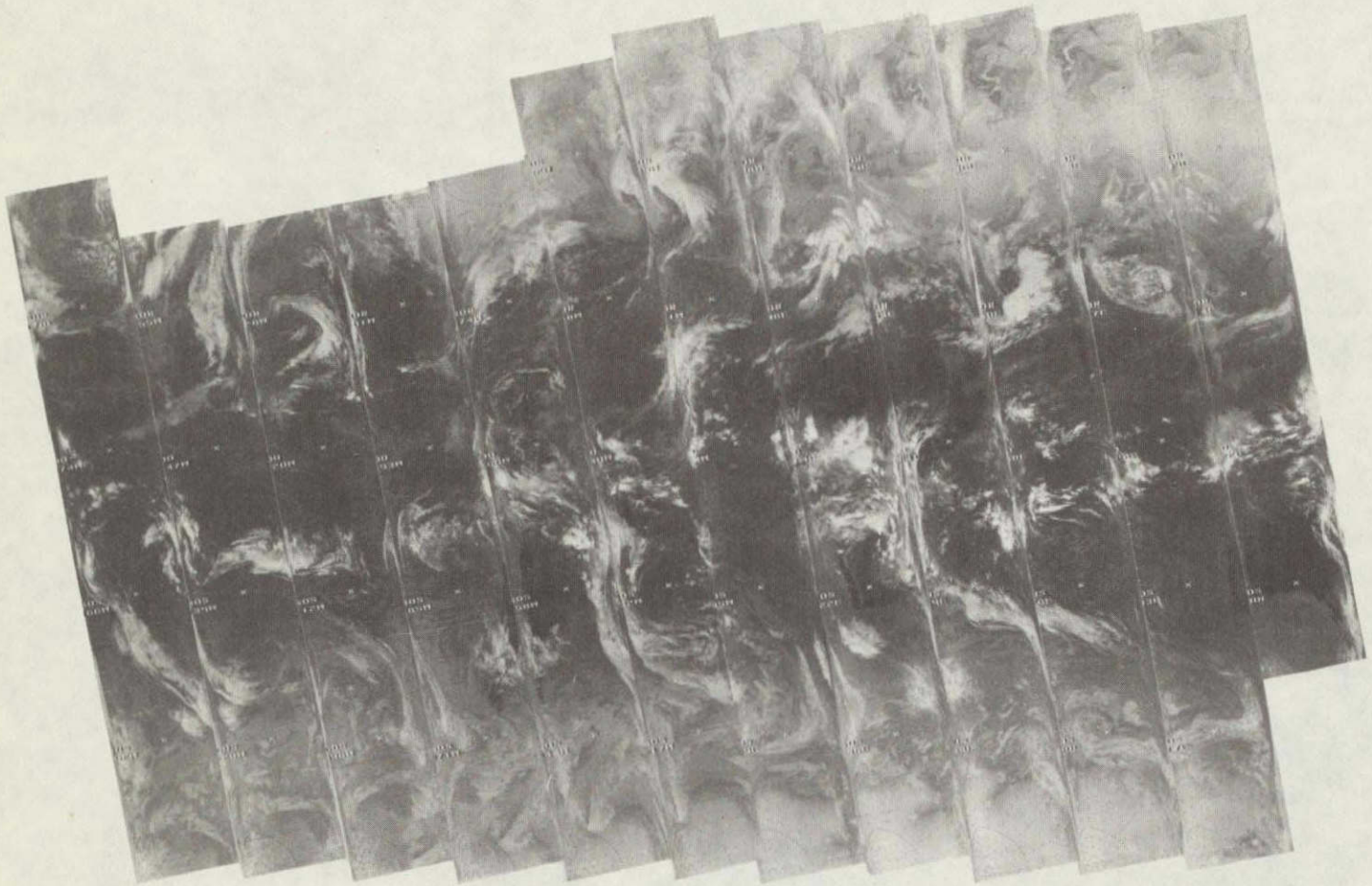
11.5μm



3146 3145 3144 3143 3142 3141 3140 3139 3138 3137 3136 3135 3134 3133

1 FEBRUARY 1976

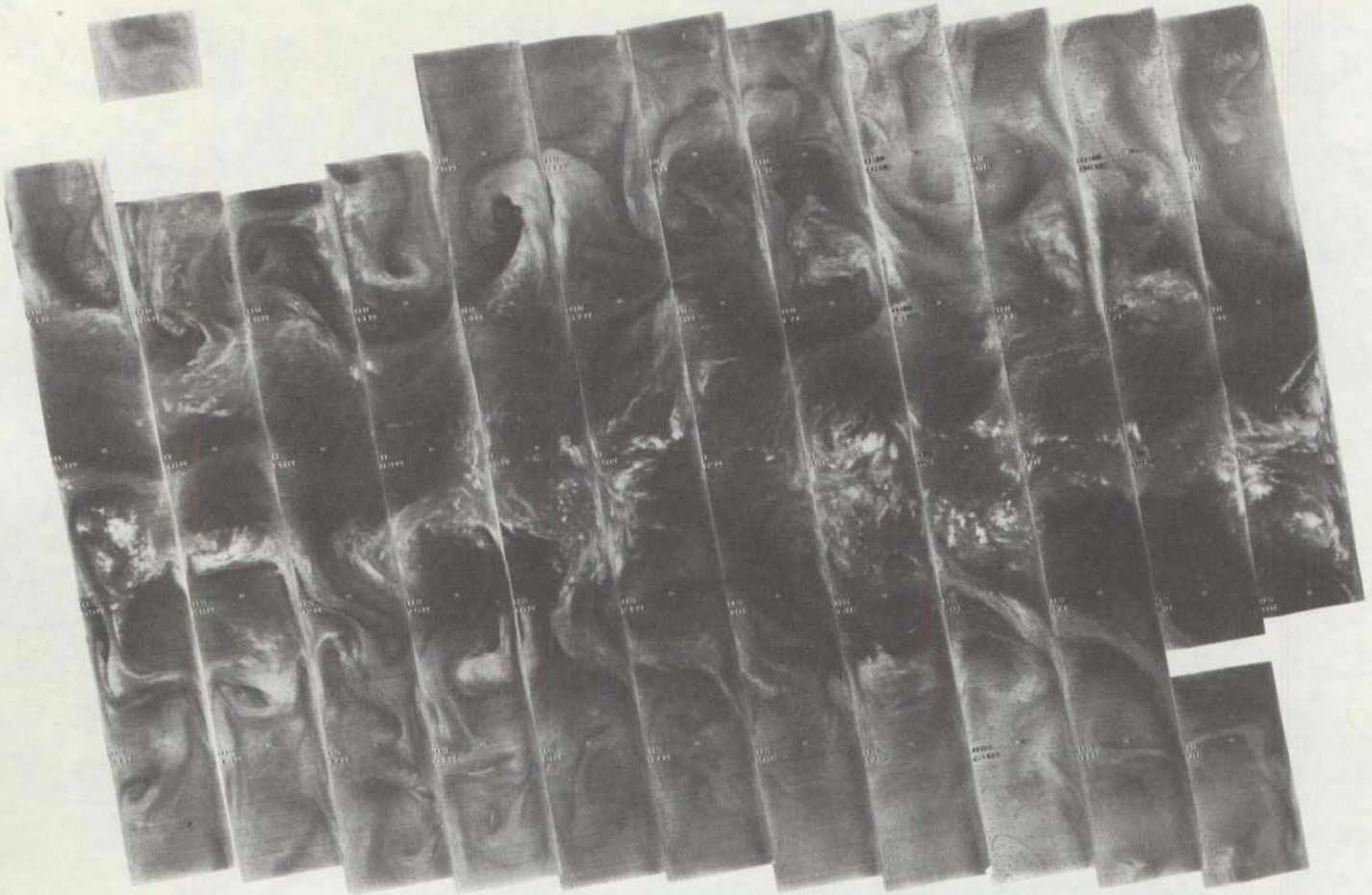
6.7 μm



3146 3145 3144 3143 3142 3141 3140 3139 3138 3137 3136 3135 3134 3133

1 FEBRUARY 1976

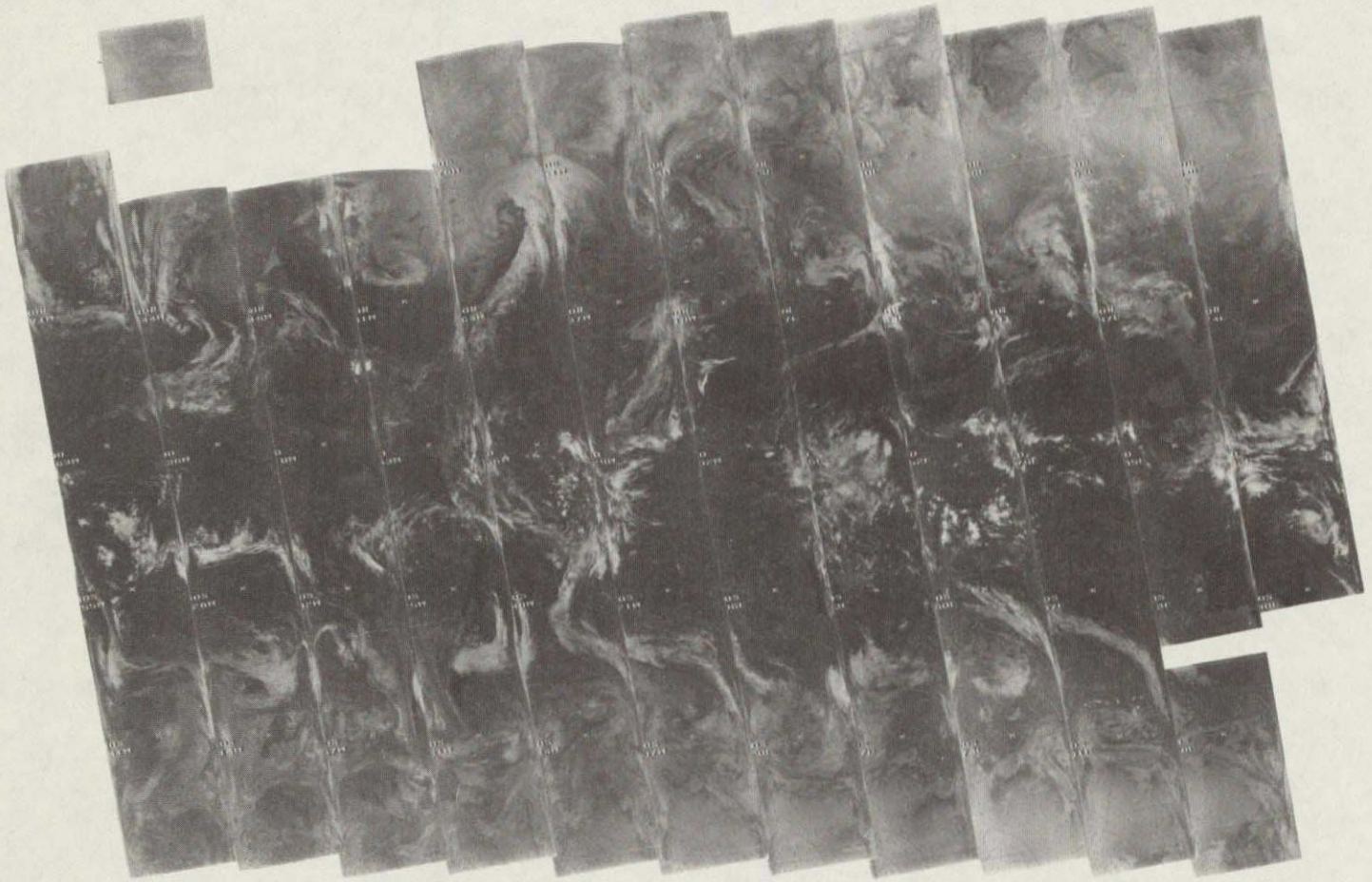
11.5 μm



3159 3158 3157 3156 3155 3154 3153 3152 3151 3150 3149 3148 3147

2 FEBRUARY 1976

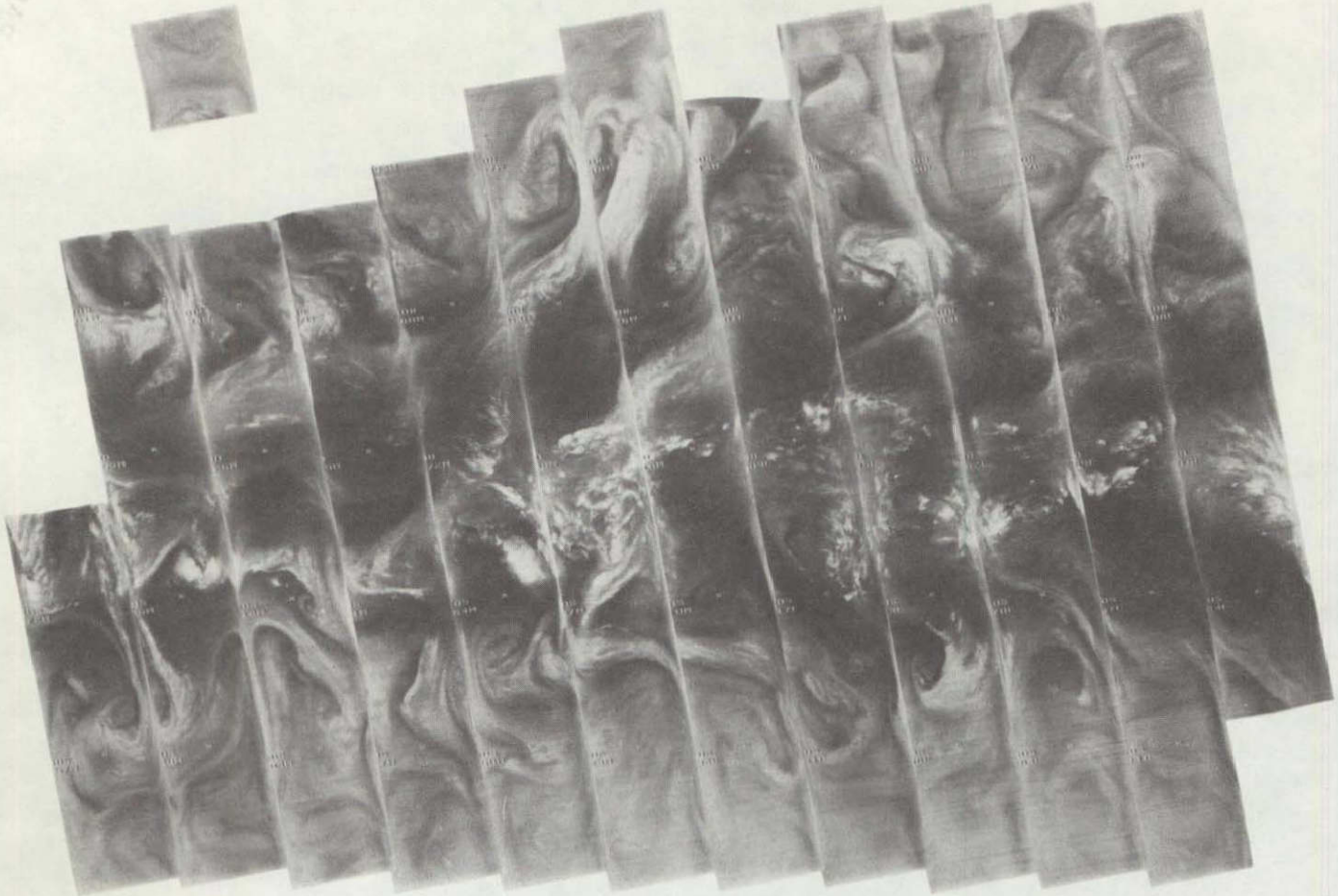
6.7 μm



3159 3158 3157 3156 3155 3154 3153 3152 3151 3150 3149 3148 3147

2 FEBRUARY 1976

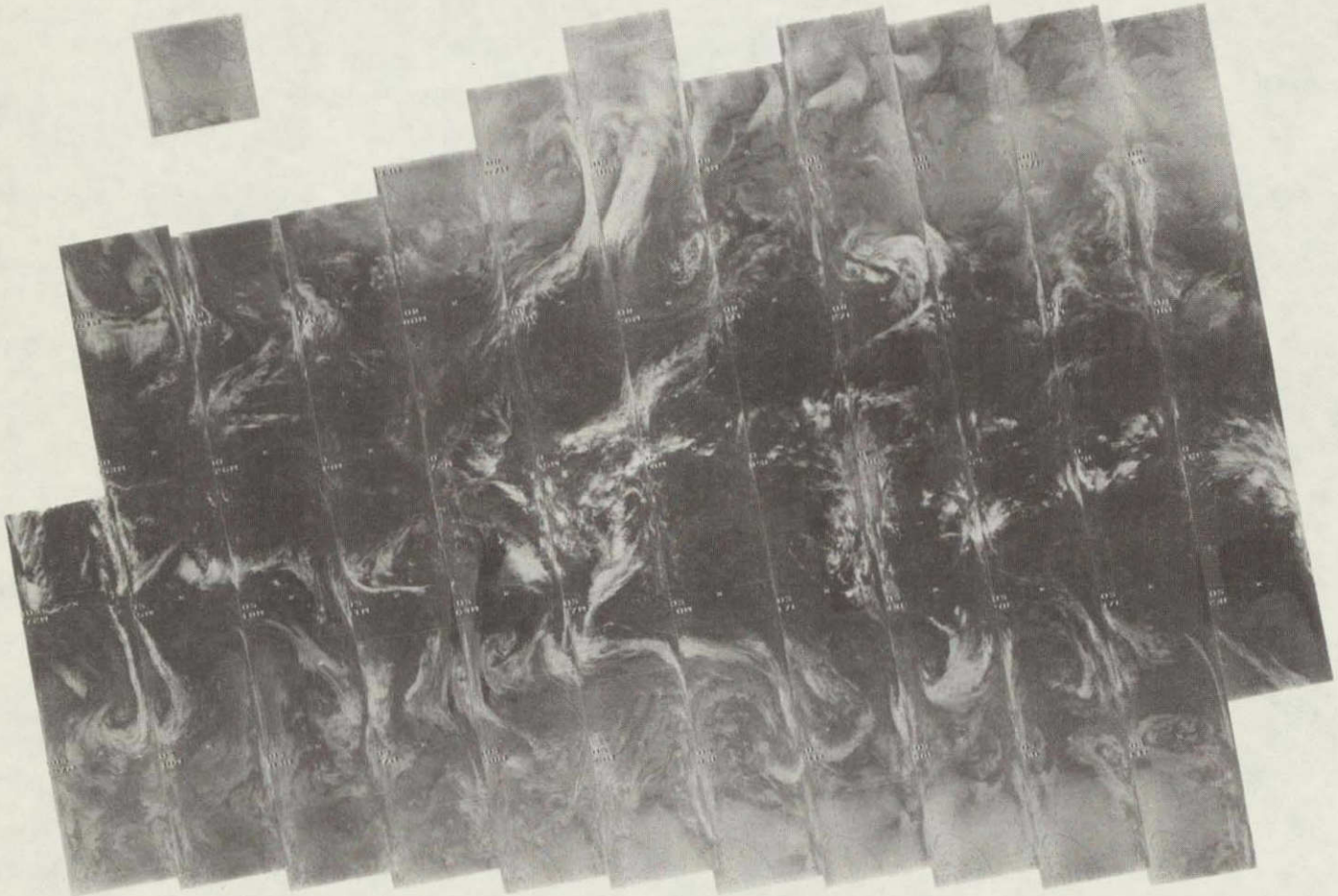
11.5μm



3173 3172 3171 3170 3169 3168 3167 3166 3165 3164 3163 3162 3161 3160

3 FEBRUARY 1976

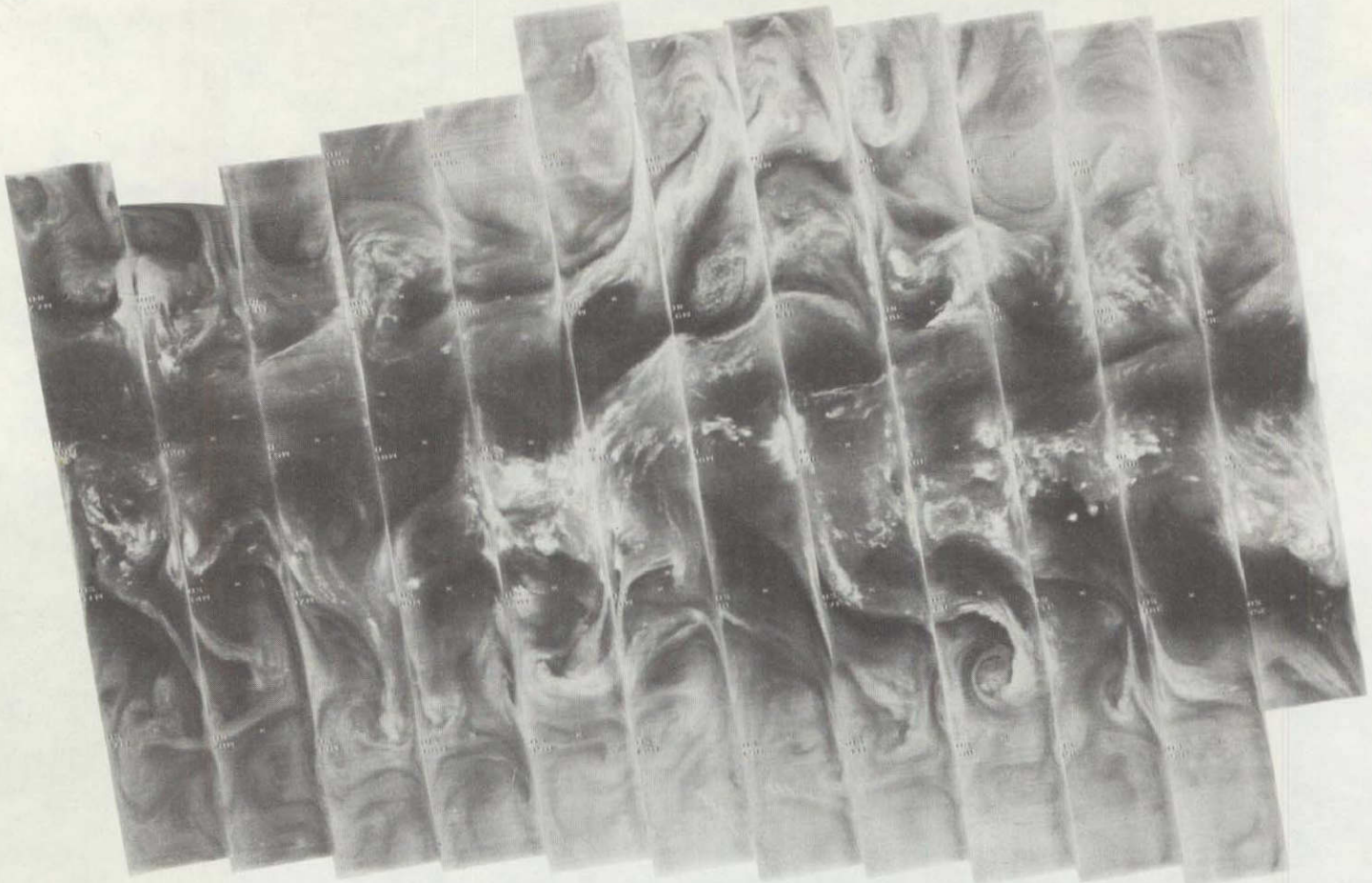
6.7 μm



3173 3172 3171 3170 3169 3168 3167 3166 3165 3164 3163 3162 3161 3160

3 FEBRUARY 1976

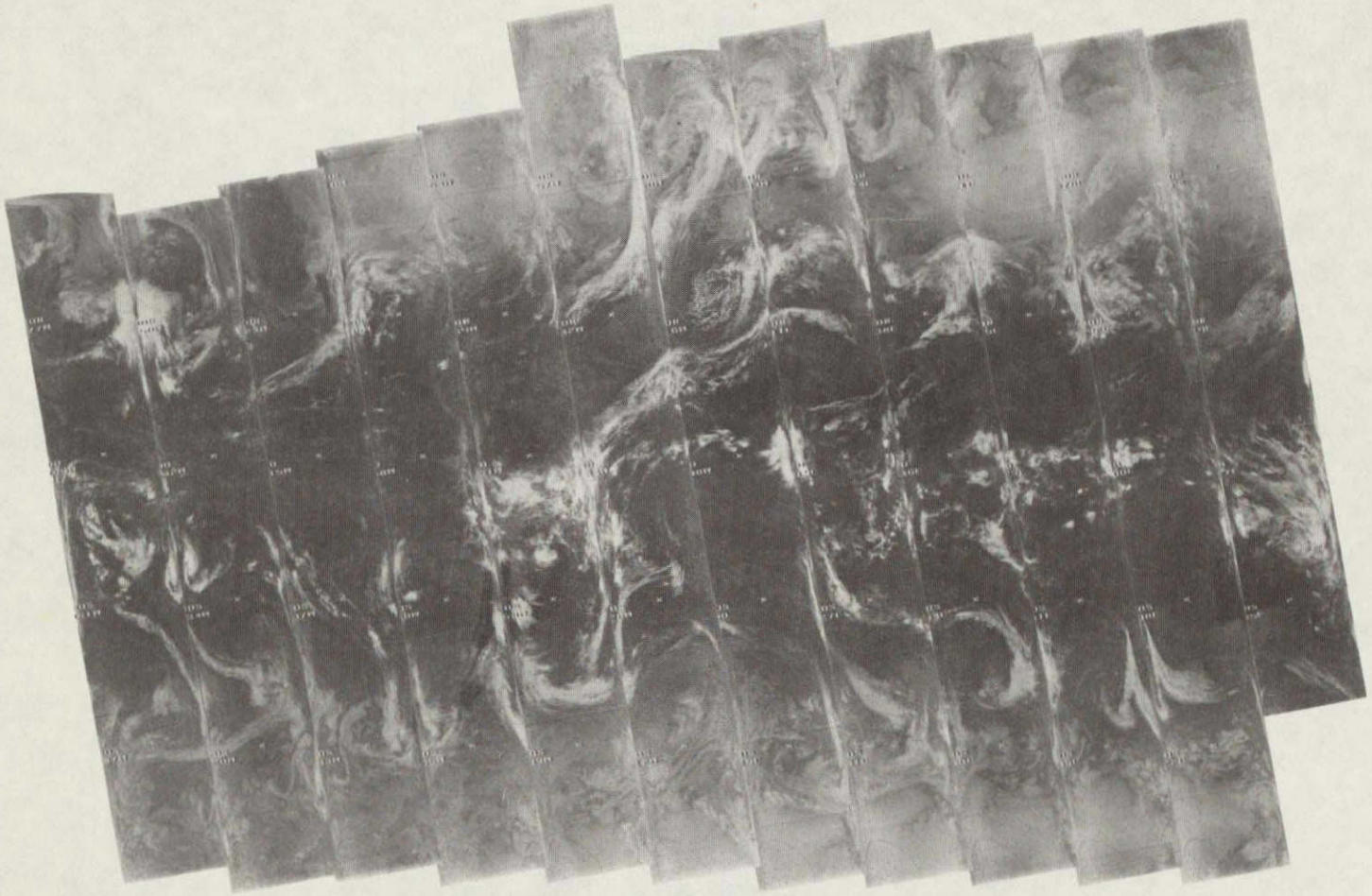
11.5μm



3186 3185 3184 3183 3182 3181 3180 3179 3178 3177 3176 3175 3174

4 FEBRUARY 1976

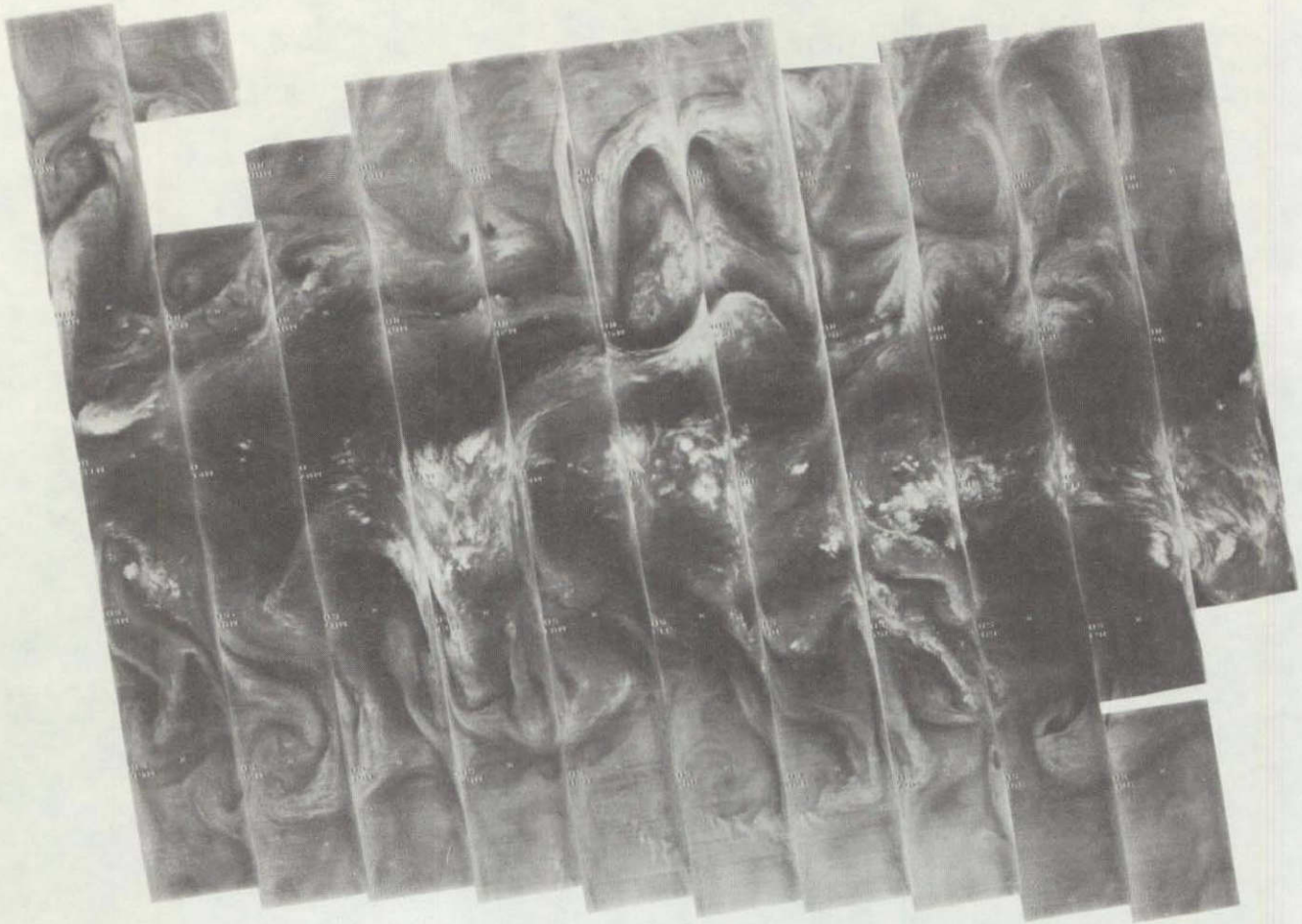
6.7 μm



3186 3185 3184 3183 3182 3181 3180 3179 3178 3177 3176 3175 3174

4 FEBRUARY 1976

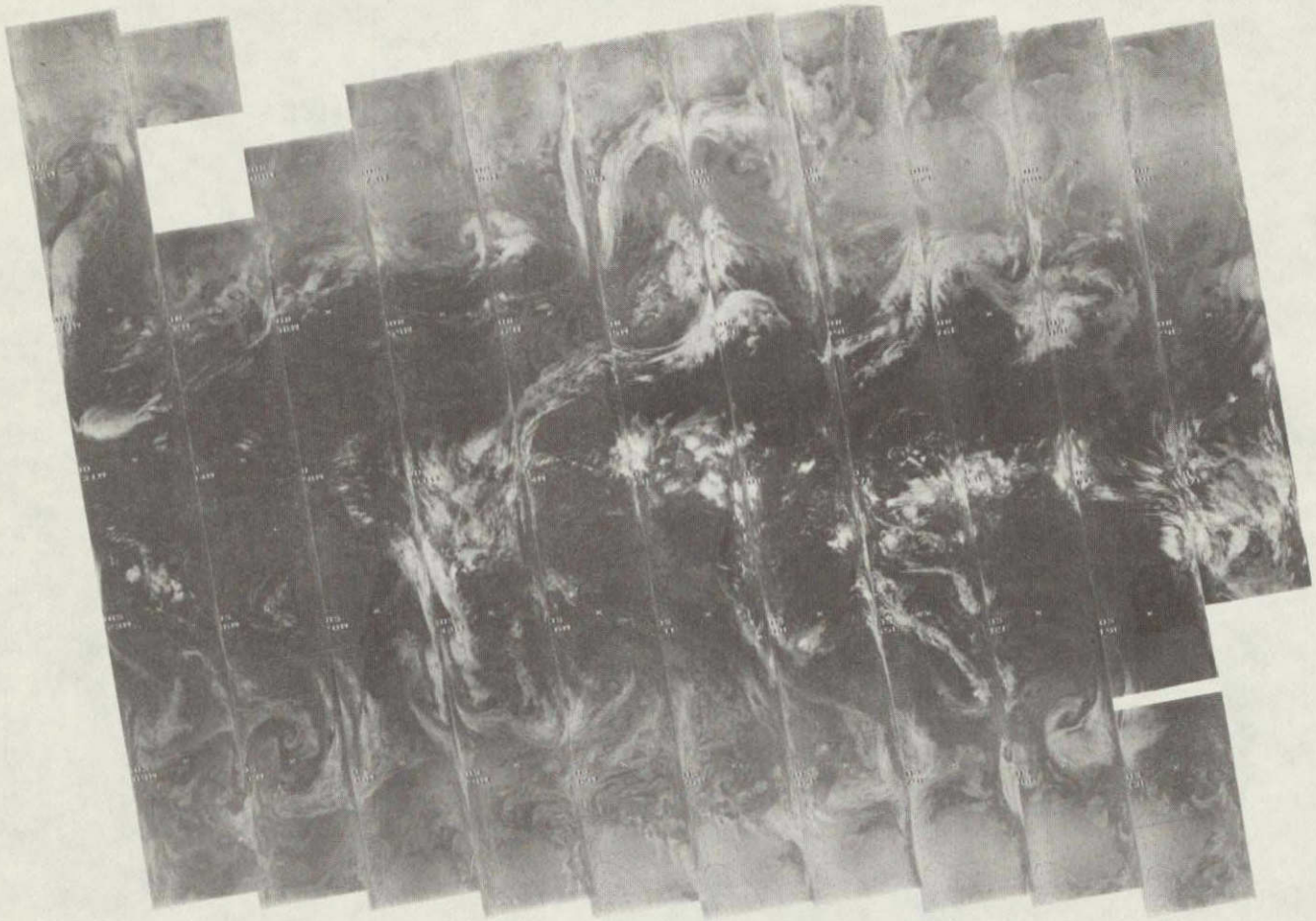
11.5μm



3199 3198 3197 3196 3195 3194 3193 3192 3191 3190 3189 3188 3187

5 FEBRUARY 1976

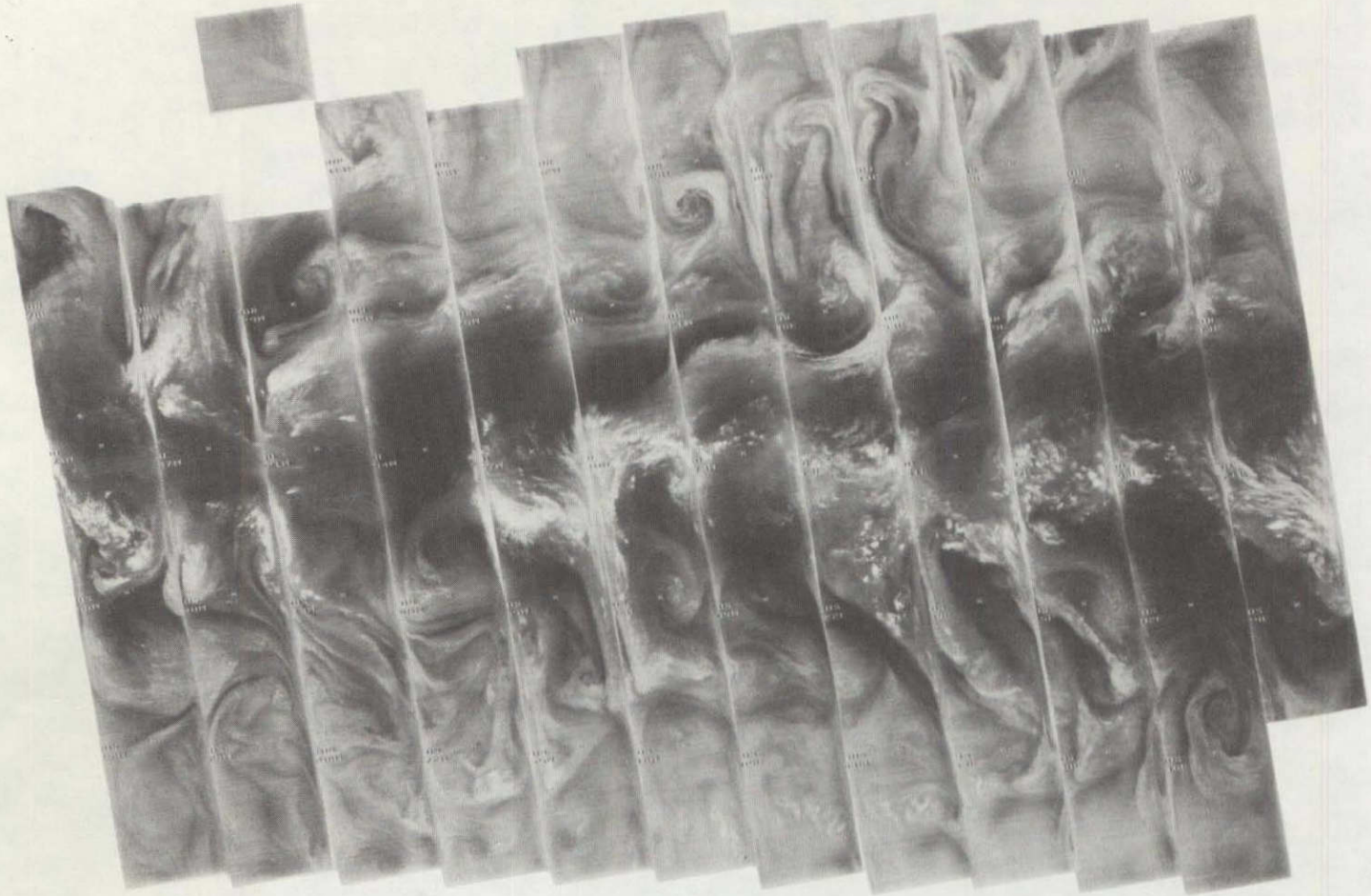
6.7 μm



3199 3198 3197 3196 3195 3194 3193 3192 3191 3190 3189 3188 3187

5 FEBRUARY 1976

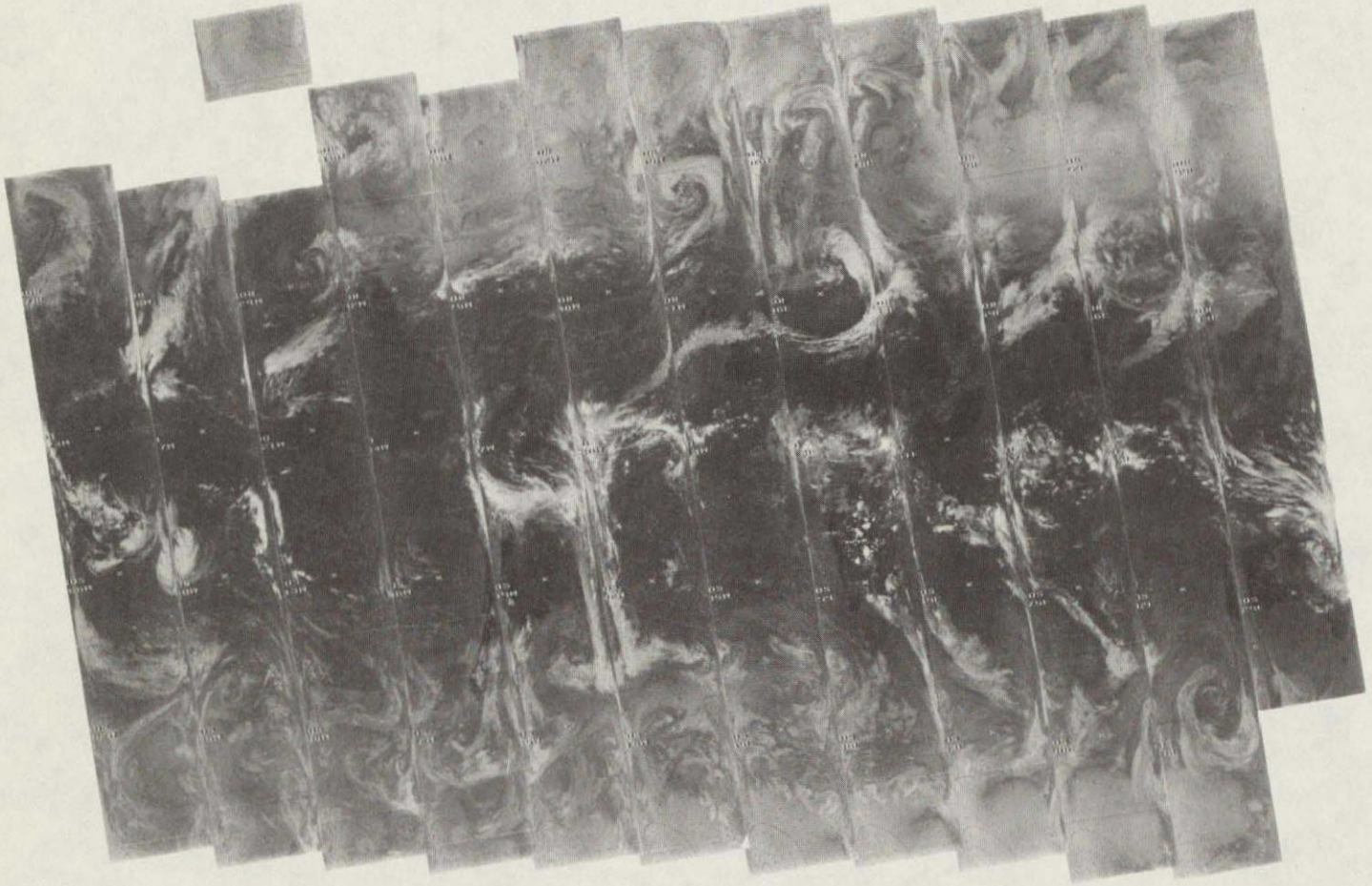
11.5μm



3213 3212 3211 3210 3209 3208 3207 3206 3205 3204 3203 3202 3201 3200

6 FEBRUARY 1976

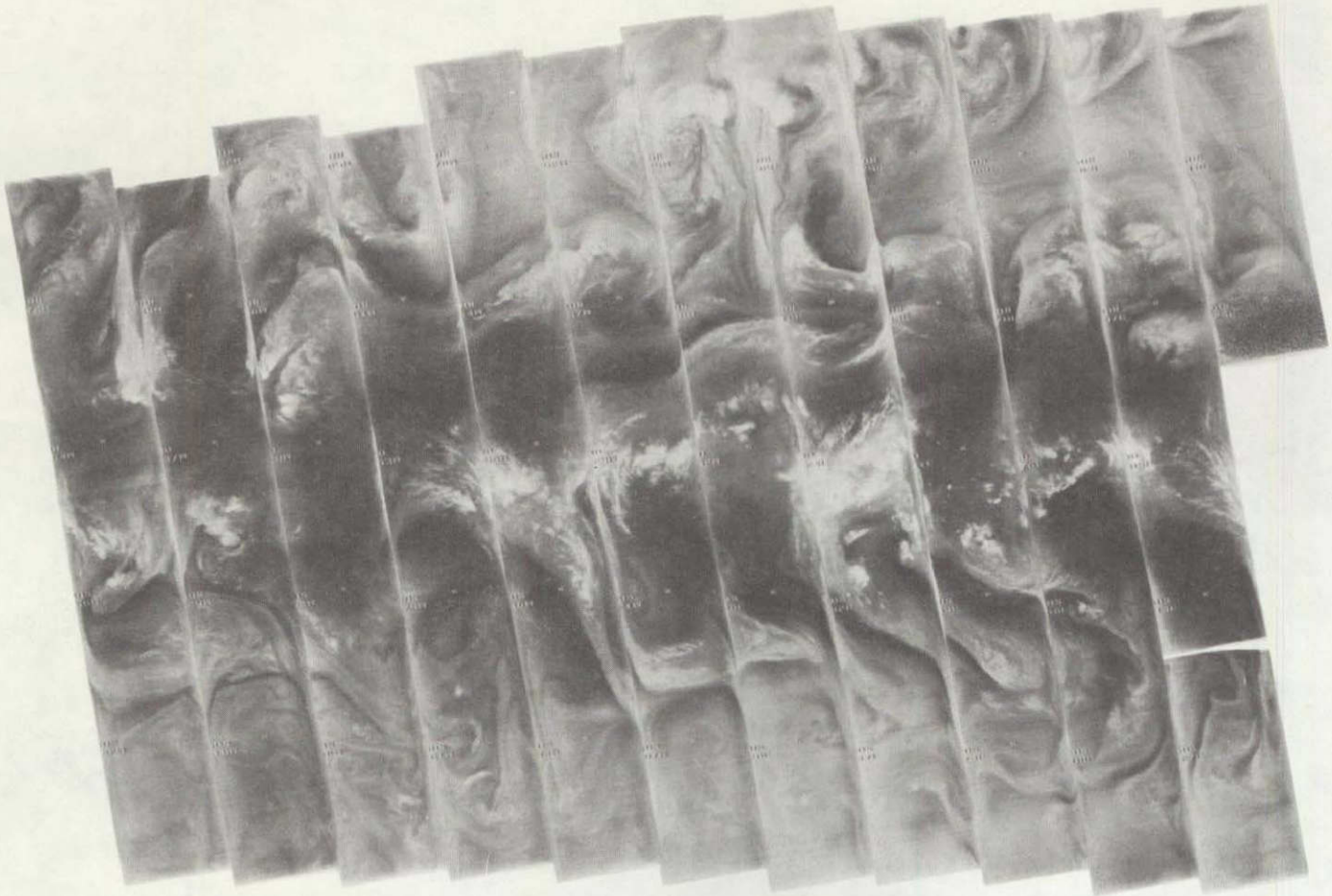
6.7 μm



3213 3212 3211 3210 3209 3208 3207 3206 3205 3204 3203 3202 3201 3200

6 FEBRUARY 1976

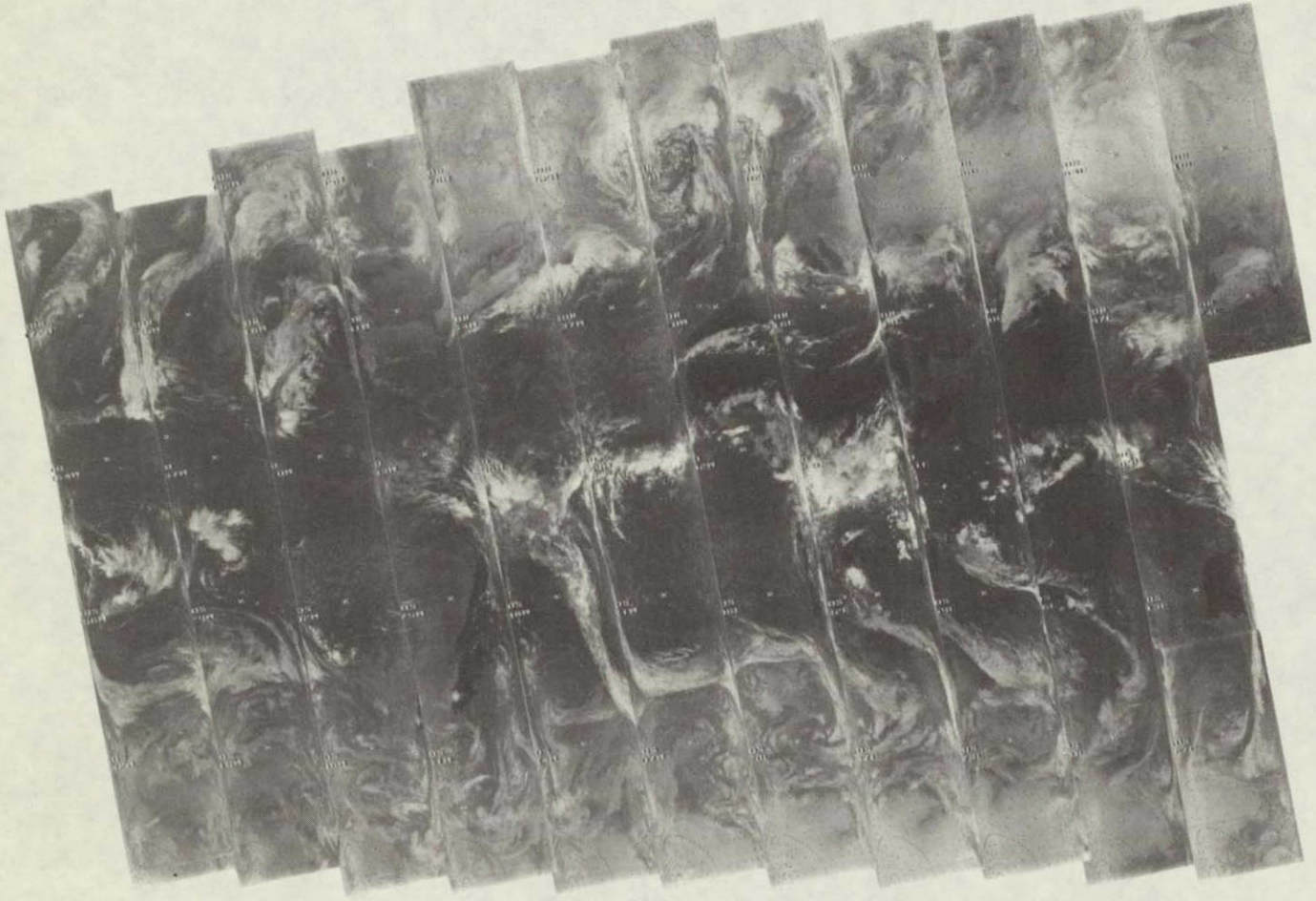
11.5μm



3226 3225 3224 3223 3222 3221 3220 3219 3218 3217 3216 3215 3214

7 FEBRUARY 1976

6.7μm



3226 3225 3224 3223 3222 3221 3220 3219 3218 3217 3216 3215 3214

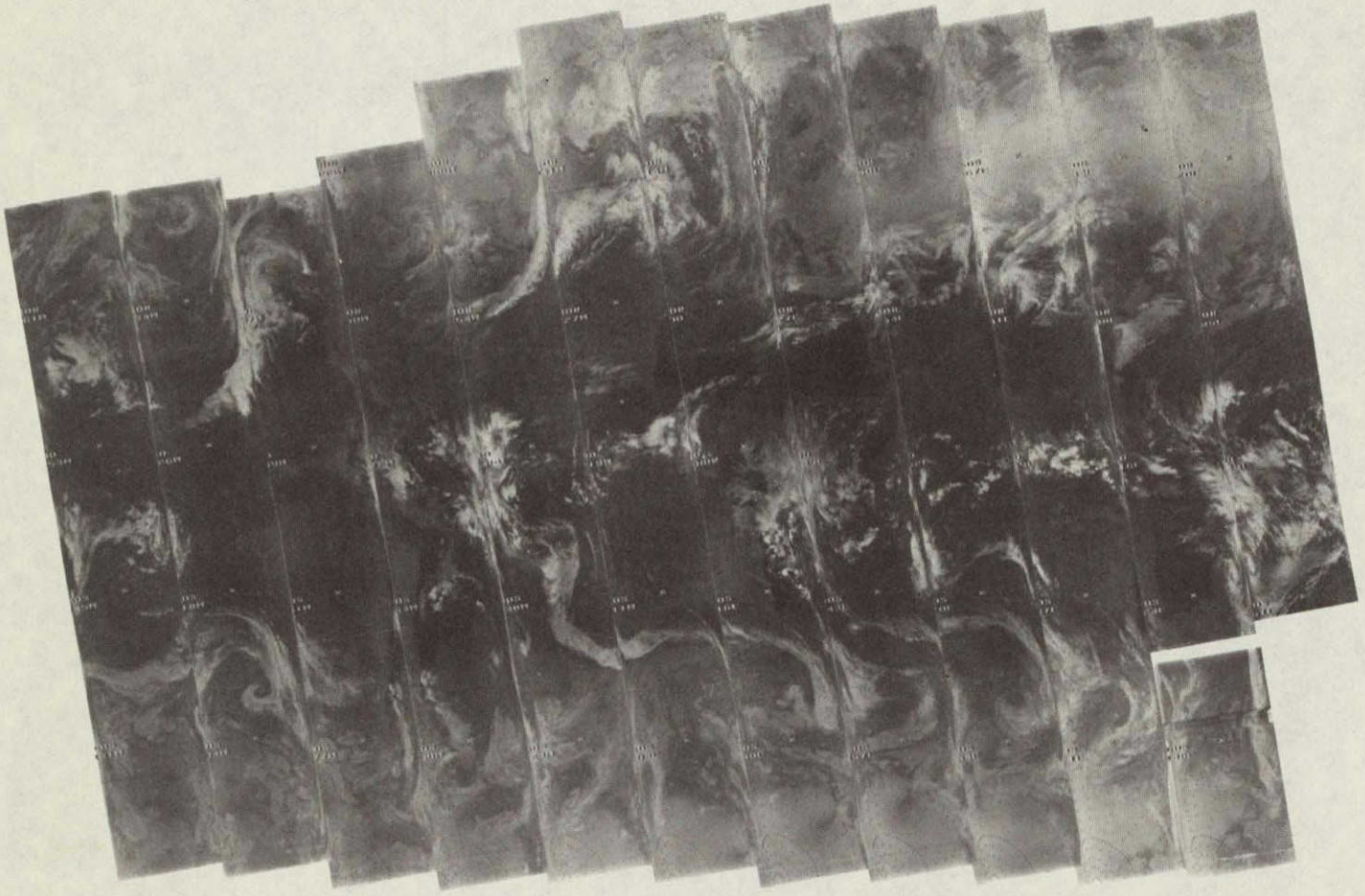
7 FEBRUARY 1976

11.5μm

3240 3239 3238 3237 3236 3235 3234 3233 3232 3231 3230 3229 3228 3227

8 FEBRUARY 1976

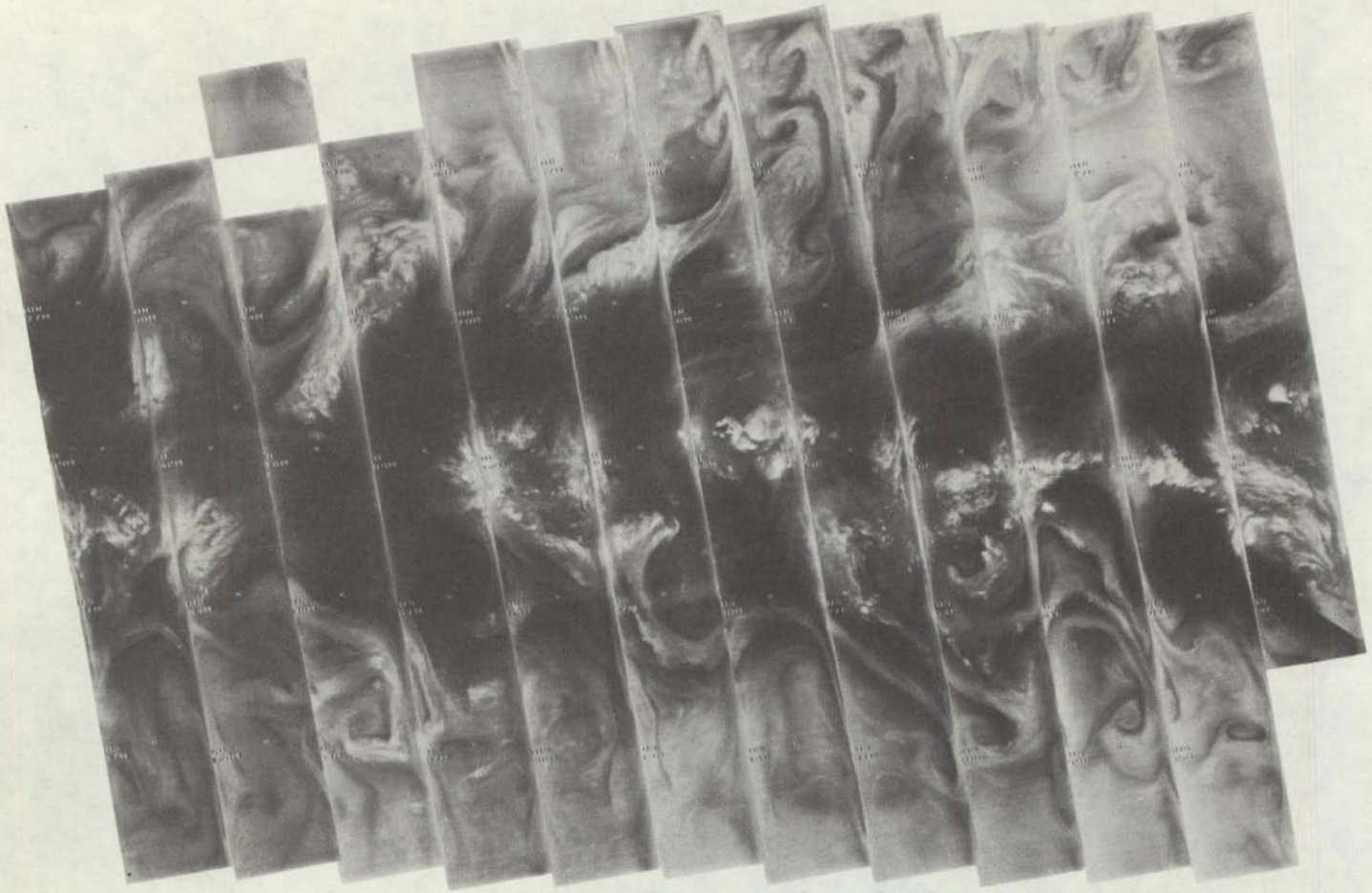
6.7 μm



3240 3239 3238 3237 3236 3235 3234 3233 3232 3231 3230 3229 3228 3227

8 FEBRUARY 1976

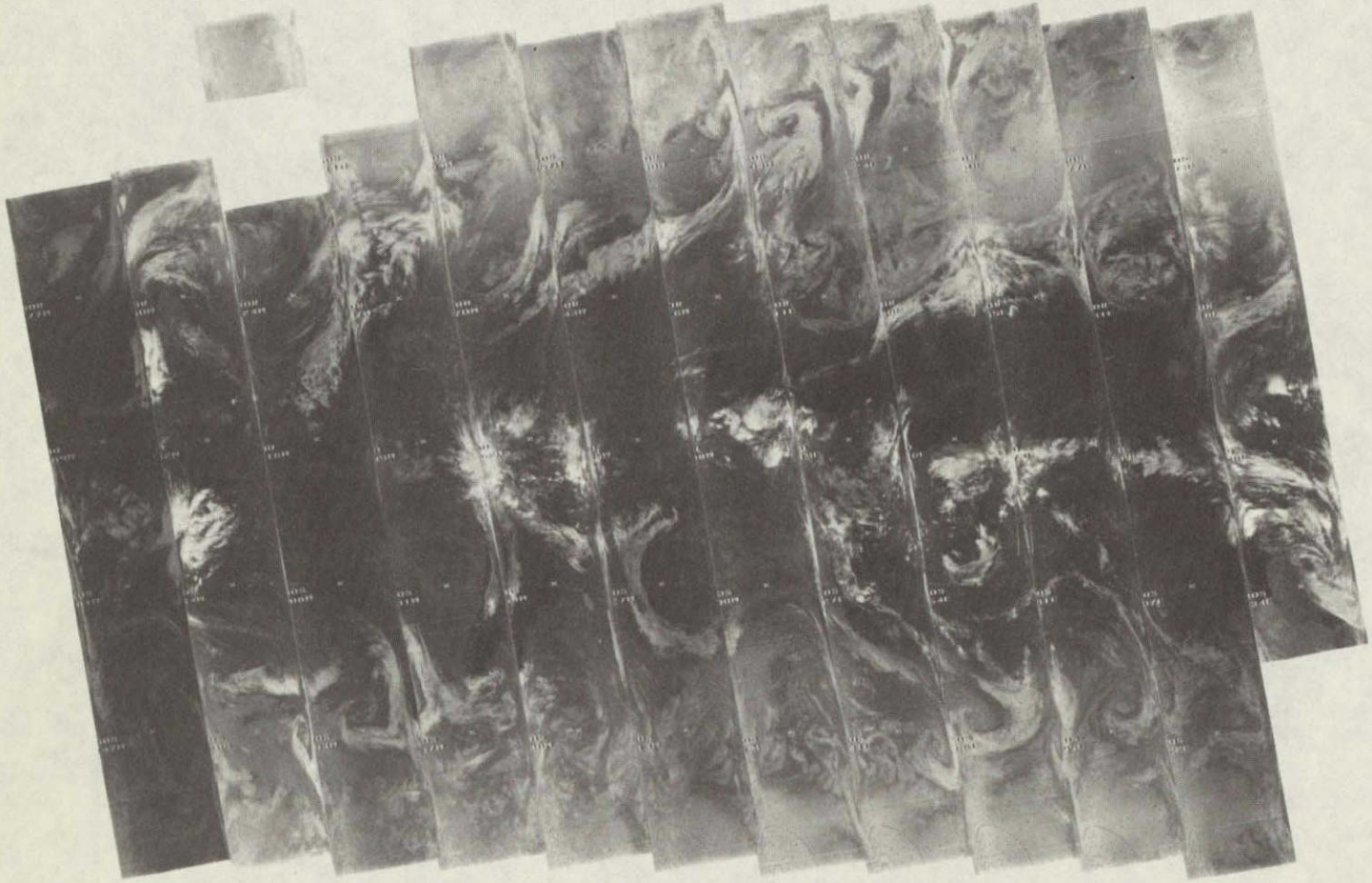
11.5μm



3253 3252 3251 3250 3249 3248 3247 3246 3245 3244 3243 3242 3241

9 FEBRUARY 1976

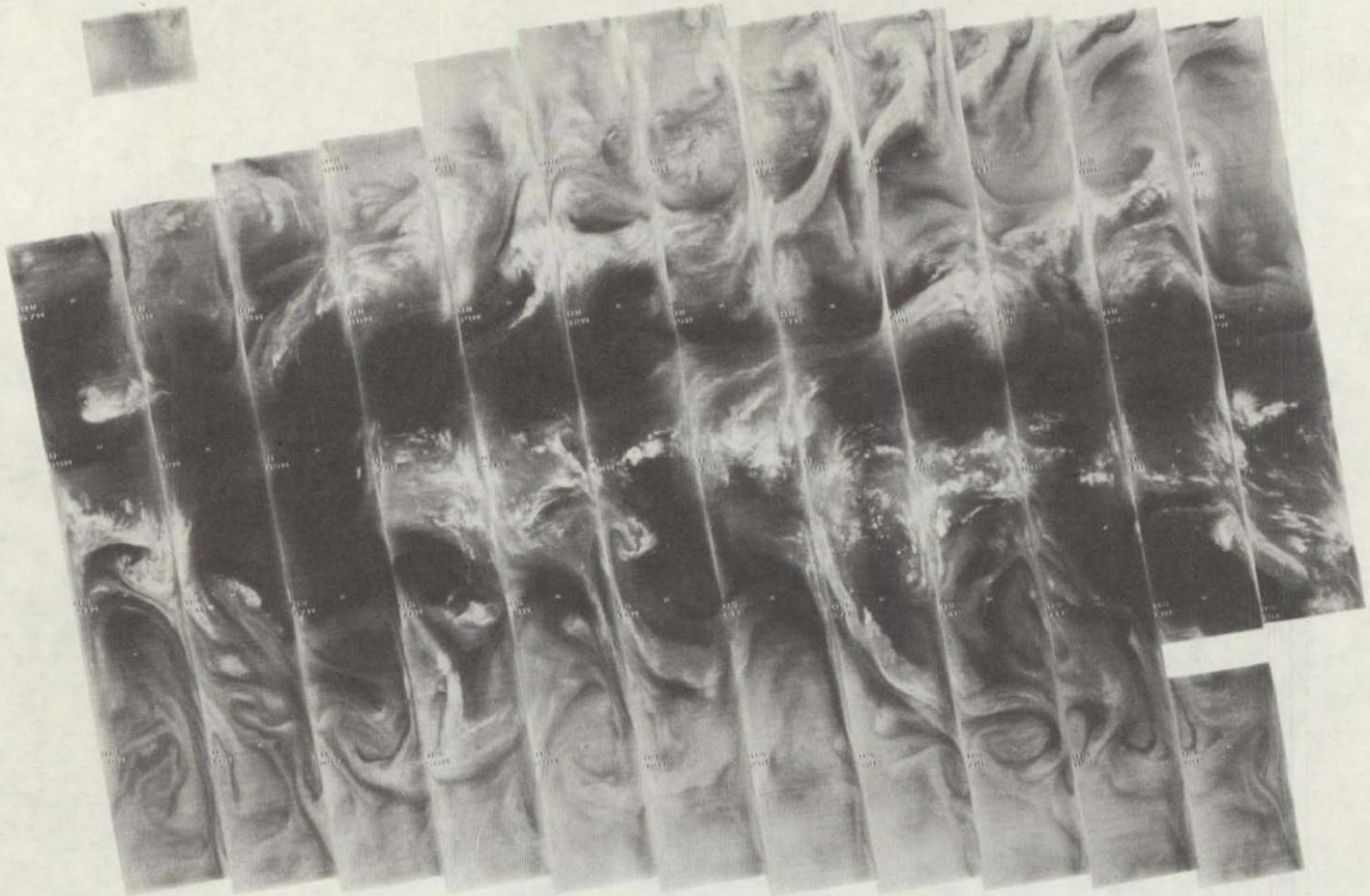
6.7 μm



3253 3252 3251 3250 3249 3248 3247 3246 3245 3244 3243 3242 3241

9 FEBRUARY 1976

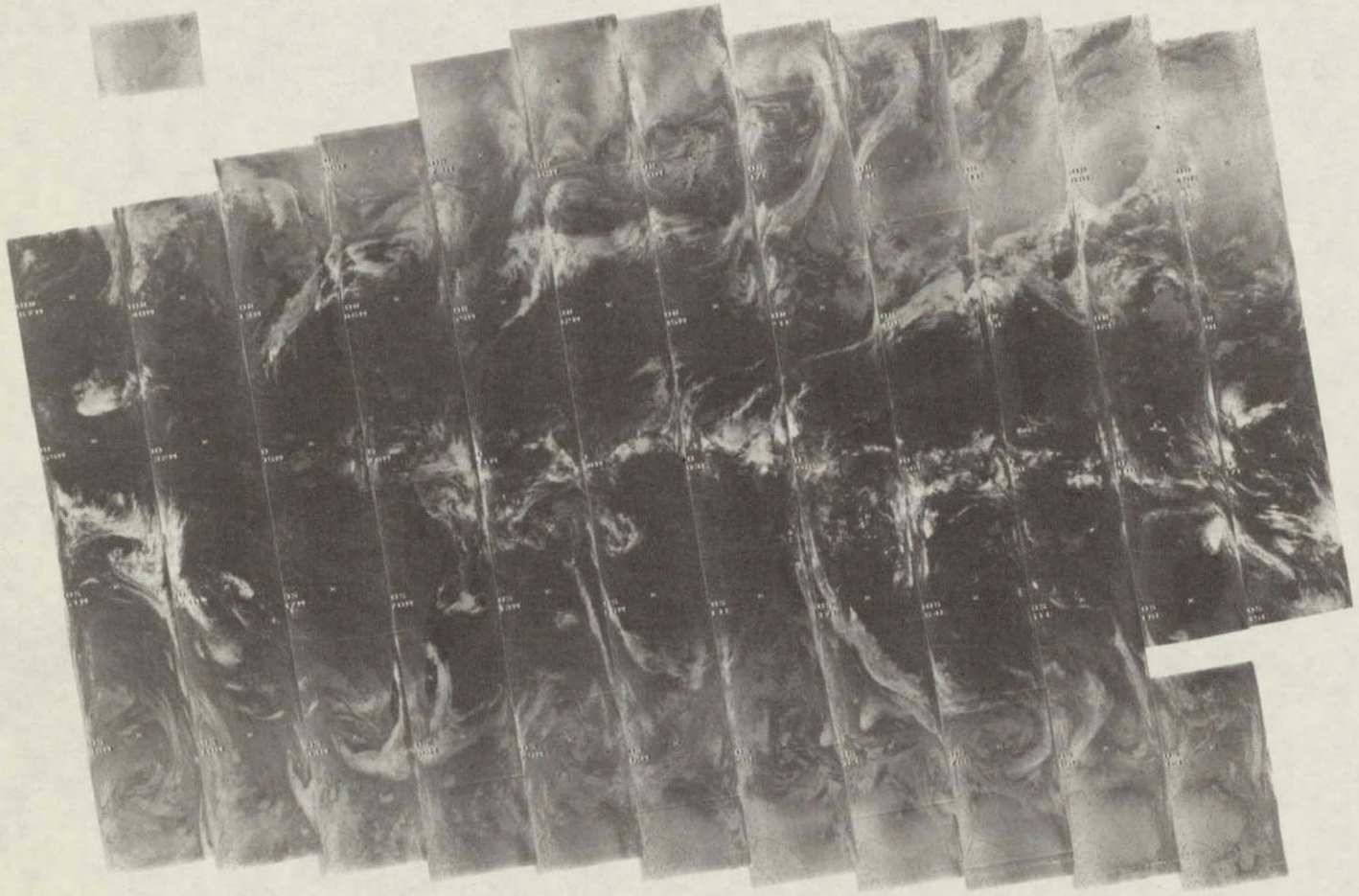
11.5μm



3266 3265 3264 3263 3262 3261 3260 3259 3258 3257 3256 3255 3254

10 FEBRUARY 1976

6.7 μm

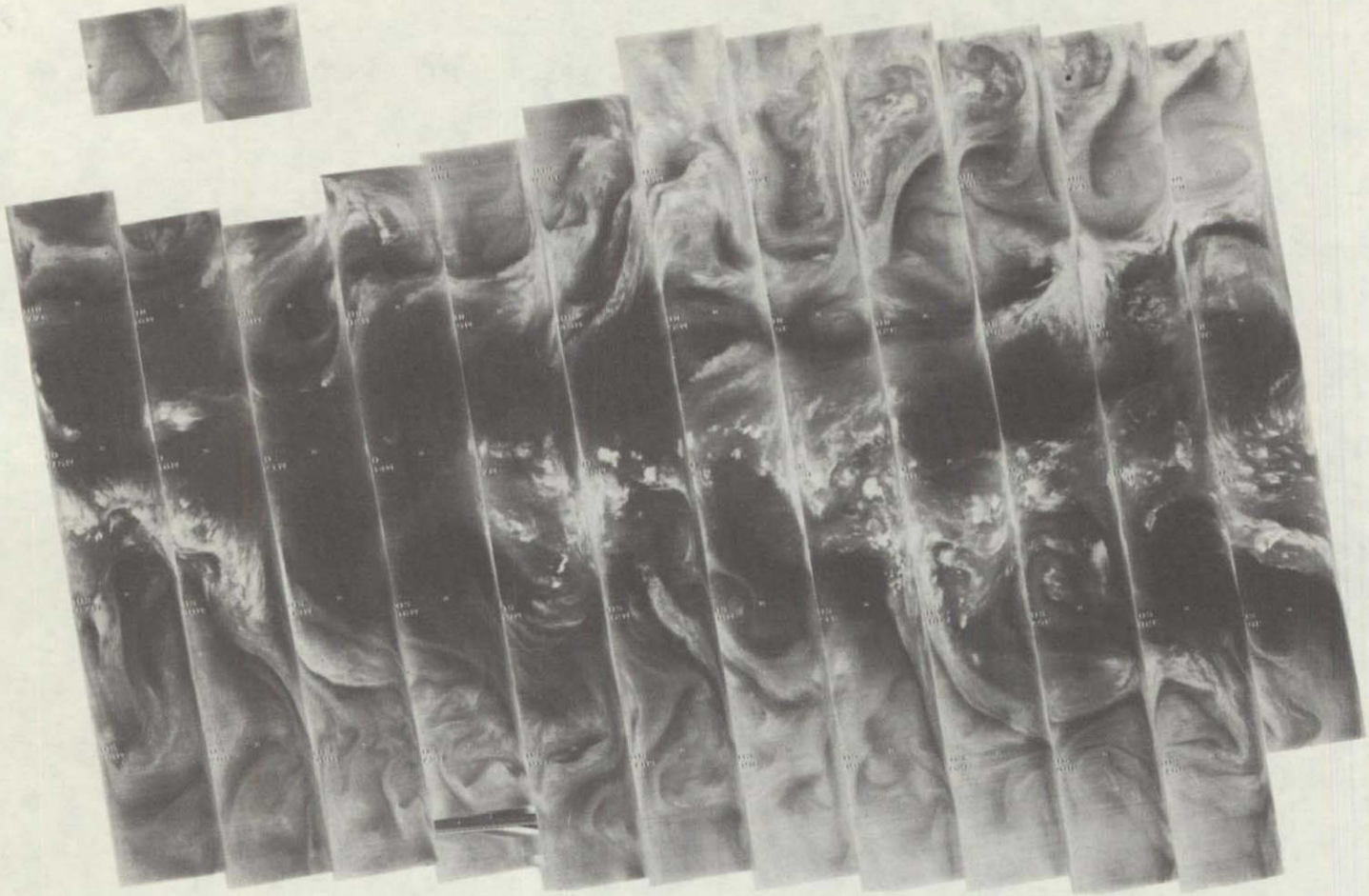


3266 3265 3264 3263 3262 3261 3260 3259 3258 3257 3256 3255 3254

10 FEBRUARY 1976

11.5μm

C-4

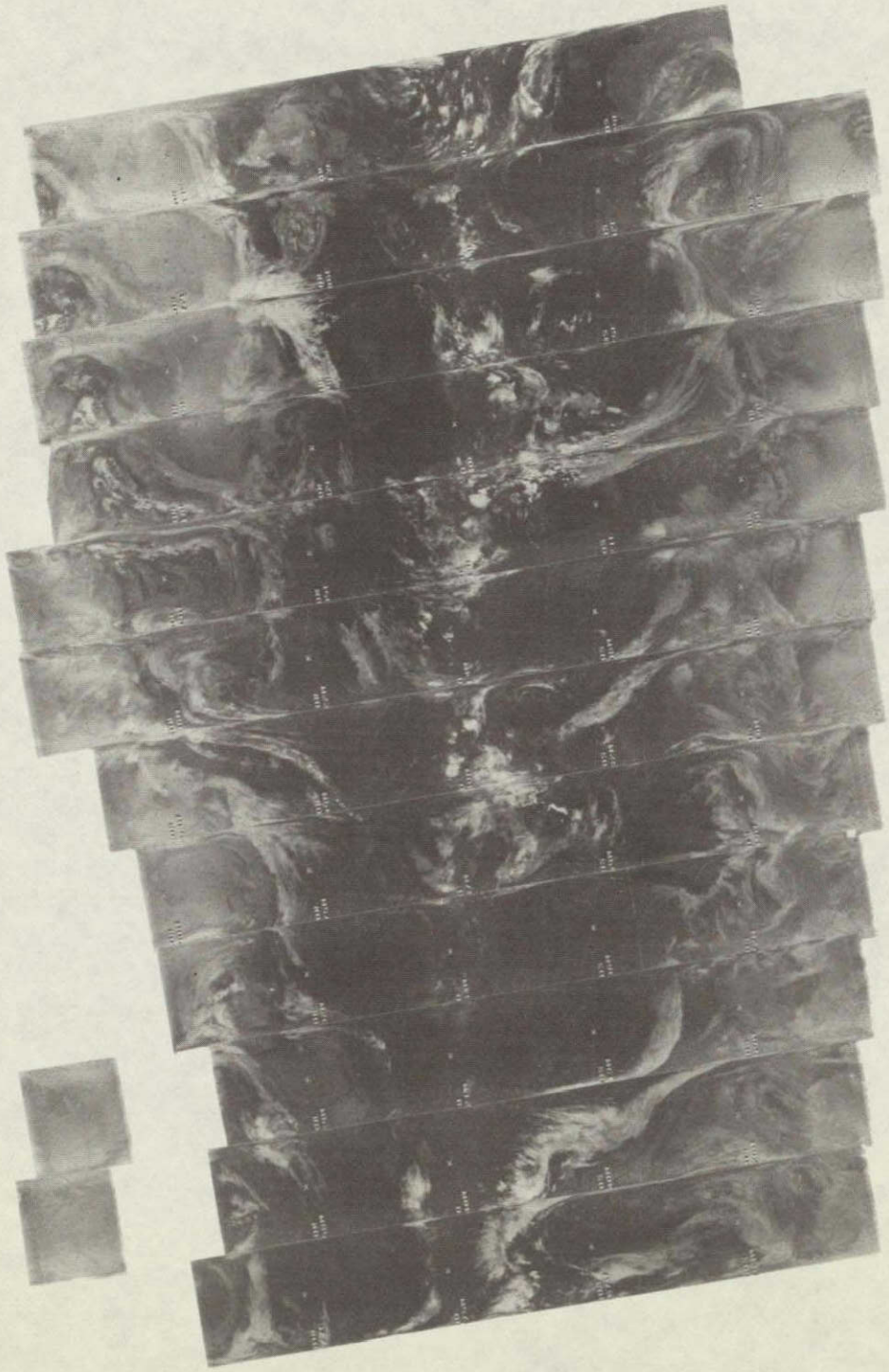


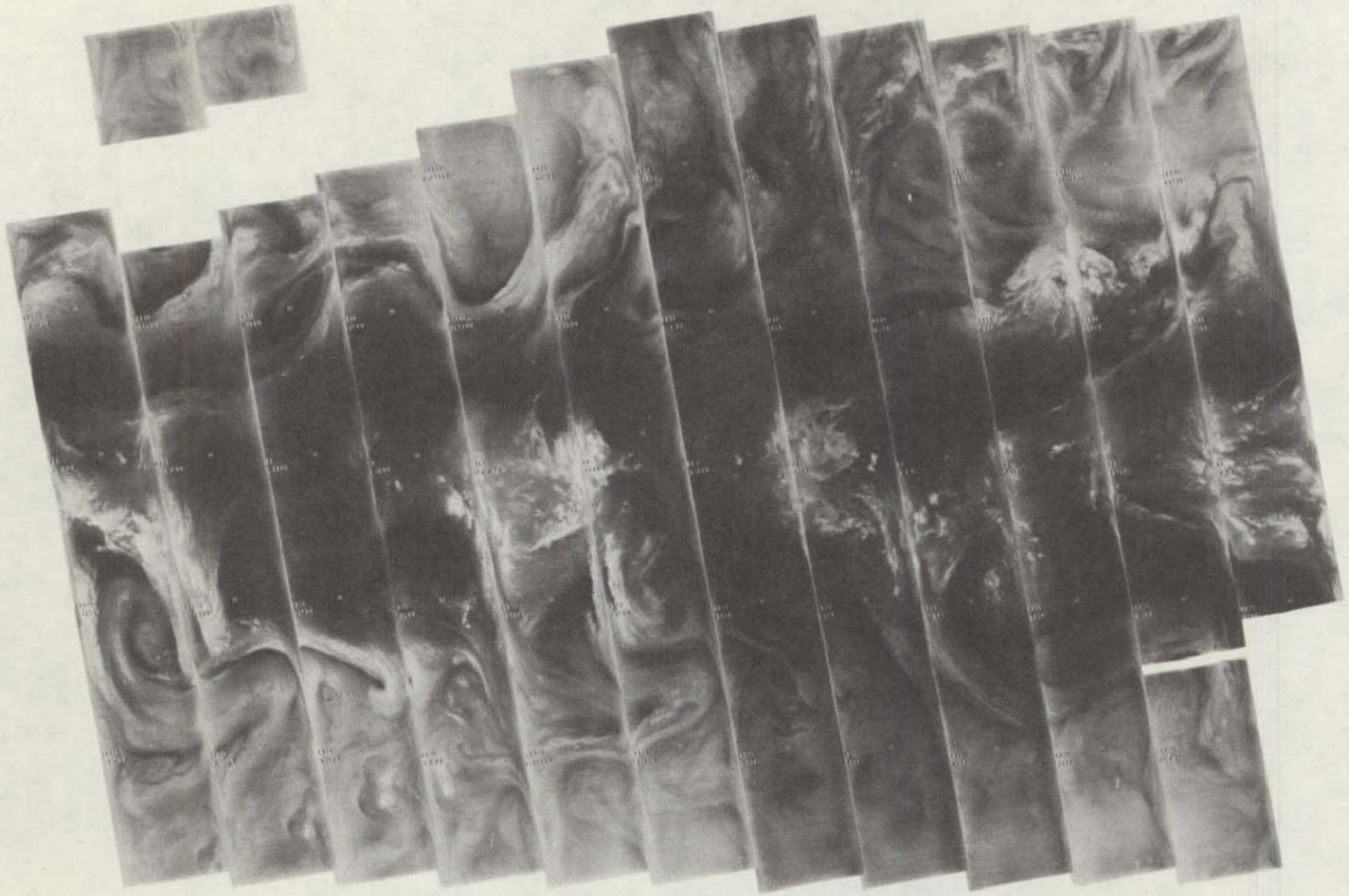
3280 3279 3278 3277 3276 3275 3274 3273 3272 3271 3270 3269 3268 3267

11 FEBRUARY 1976

6.7 μm

4-210





3293 3292 3291 3290 3289 3288 3287 3286 3285 3284 3283 3282 3281

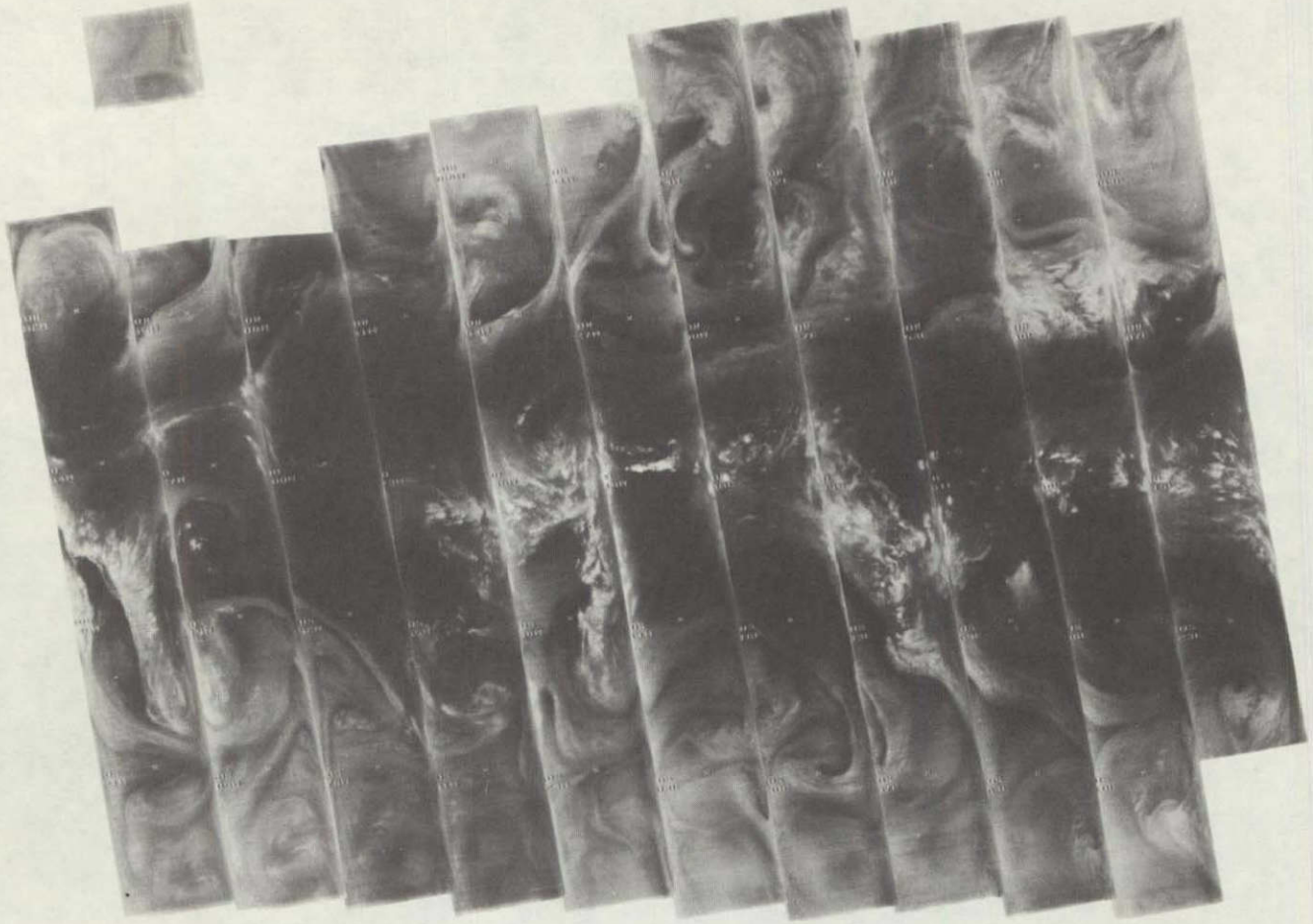
12 FEBRUARY 1976

6.7 μm

3293 3292 3291 3290 3289 3288 3287 3286 3285 3284 3283 3282 3281

12 FEBRUARY 1976

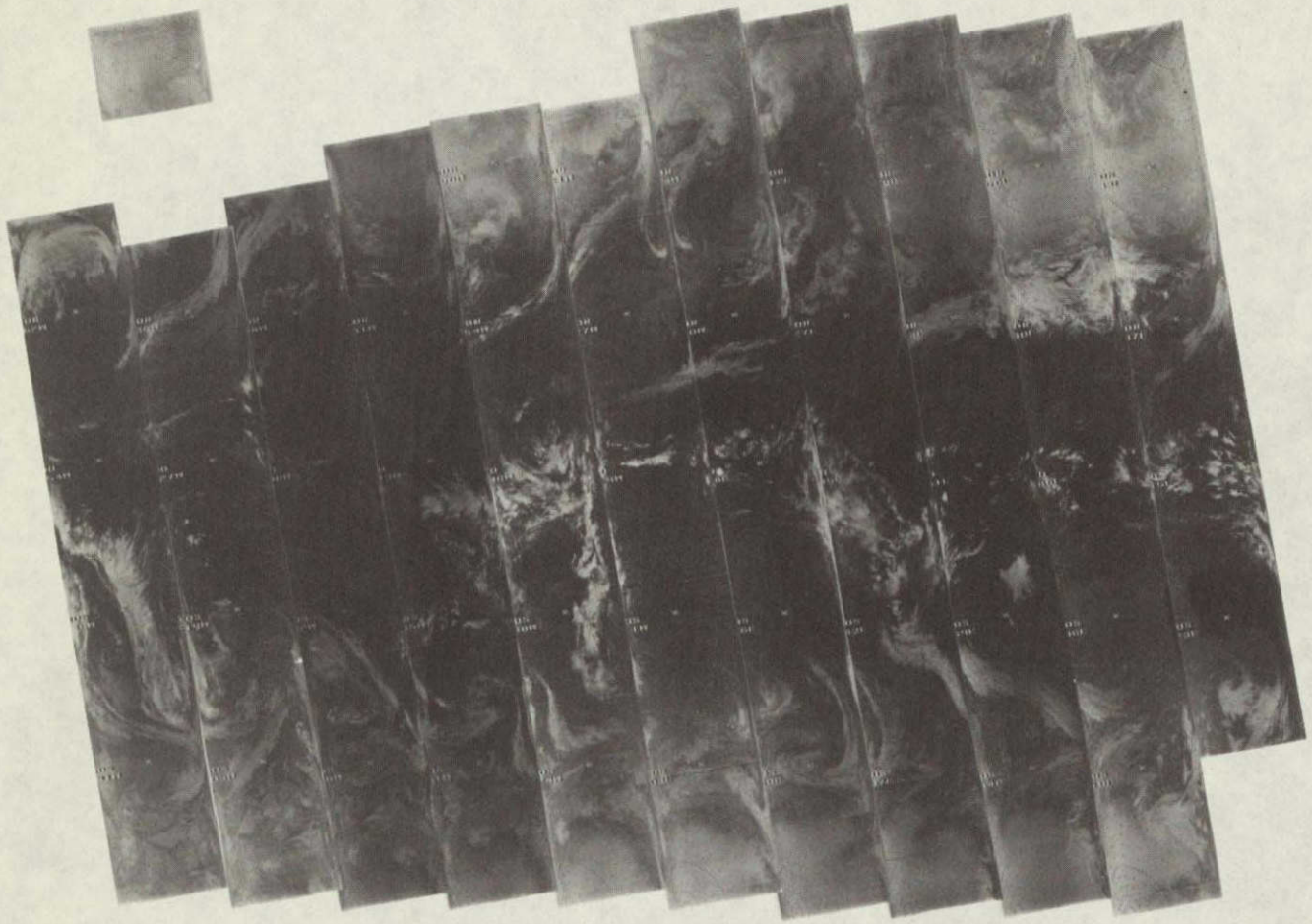
11.5μm



3307 3306 3305 3304 3303 3302 3301 3300 3299 3298 3297 3296 3295 3294

13 FEBRUARY 1976

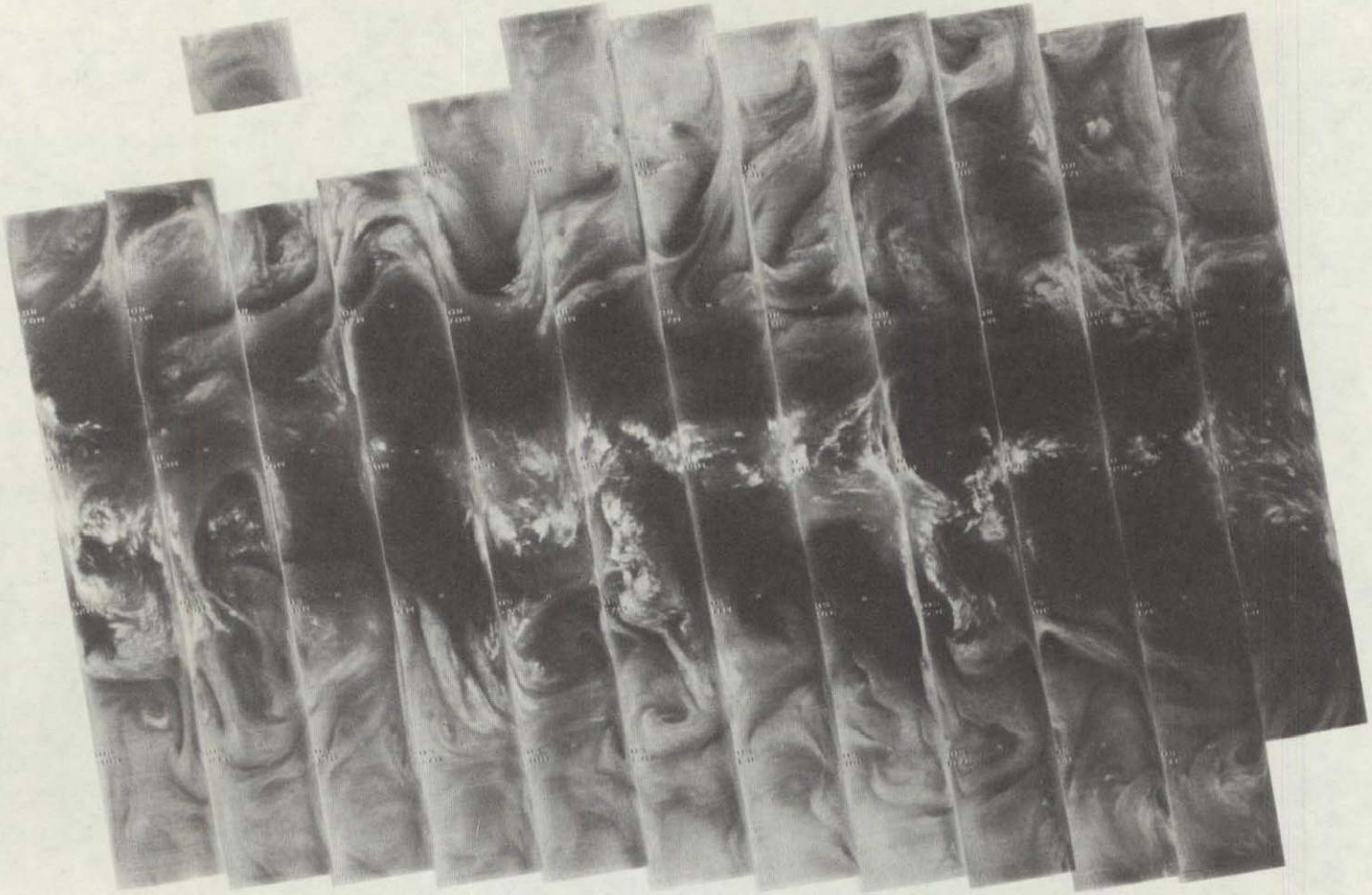
6.7μm



3307 3306 3305 3304 3303 3302 3301 3300 3299 3298 3297 3296 3295 3294

13 FEBRUARY 1976

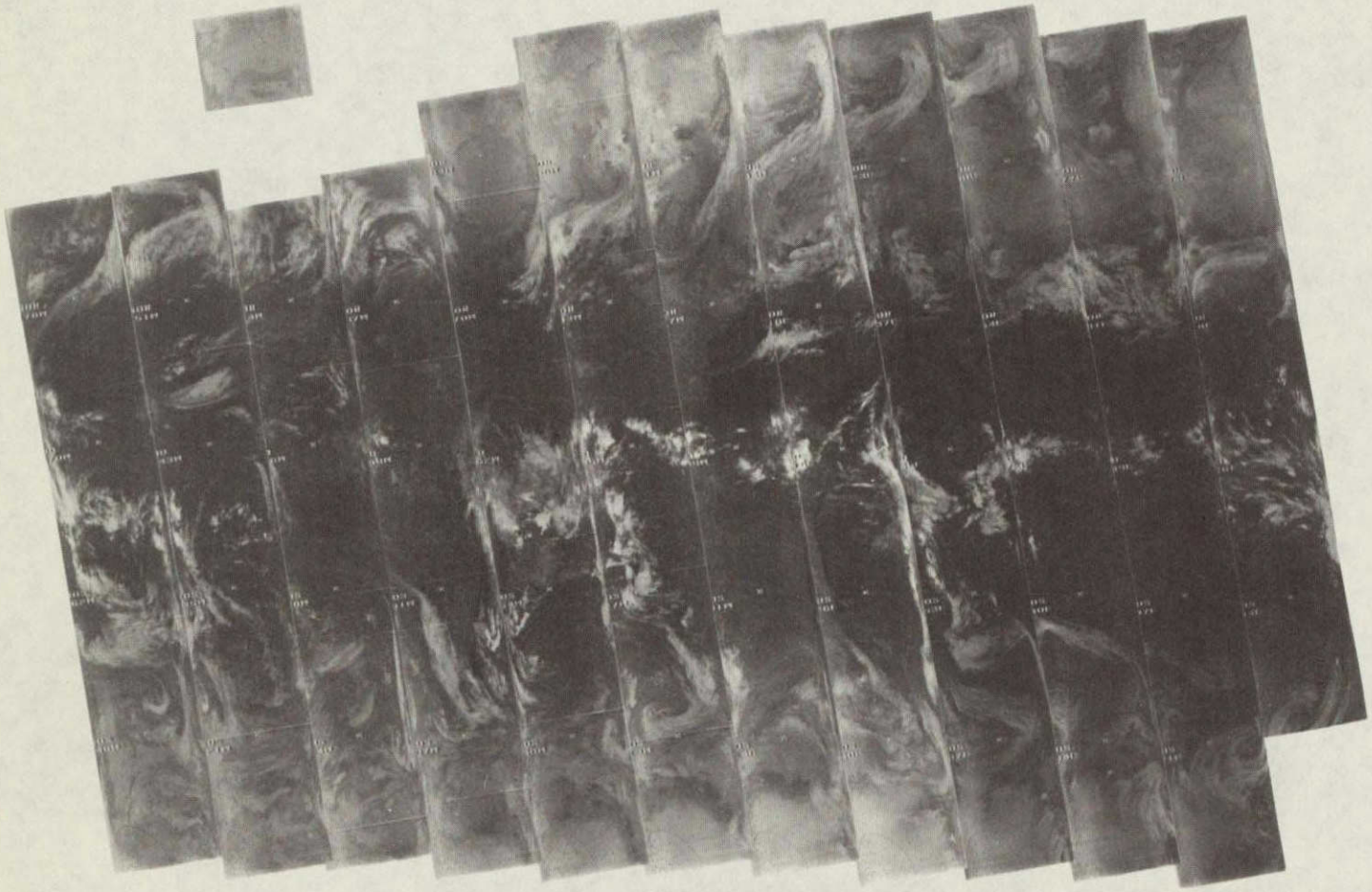
11.5μm



3320 3319 3318 3317 3316 3315 3314 3313 3312 3311 3310 3309 3308

14 FEBRUARY 1976

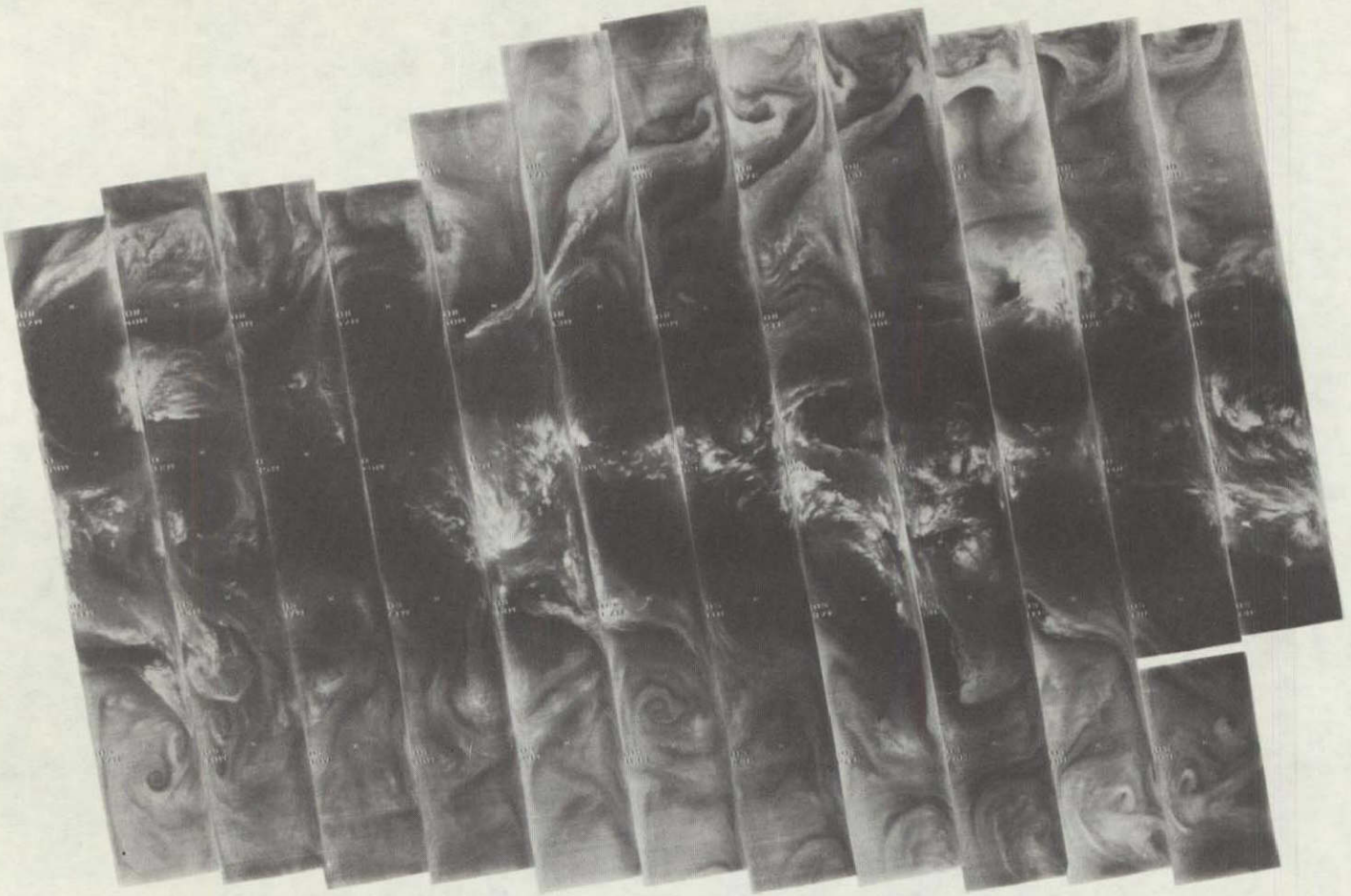
6.7 μm



3320 3319 3318 3317 3316 3315 3314 3313 3312 3311 3310 3309 3308

14 FEBRUARY 1976

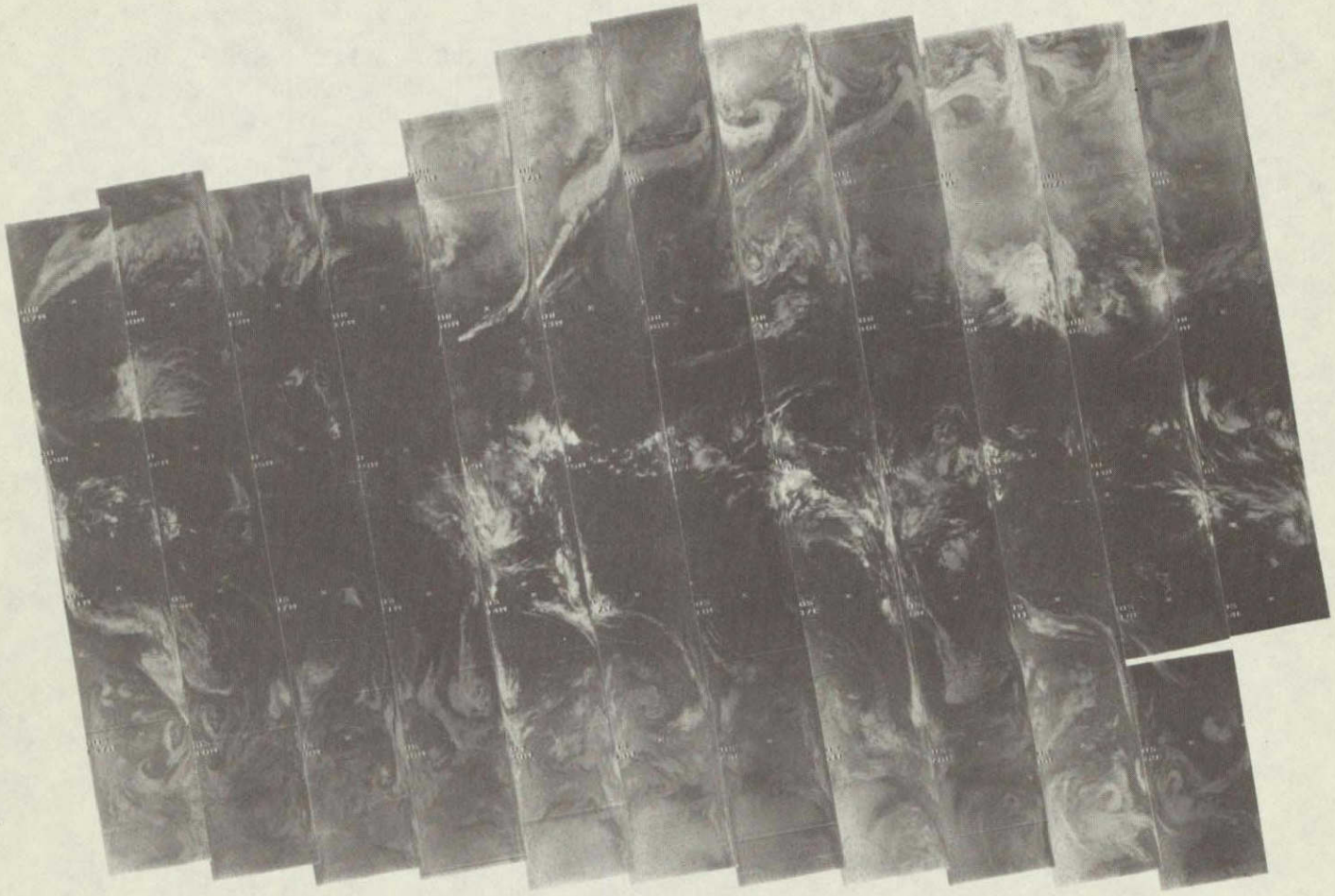
11.5μm



3333 3332 3331 3330 3329 3328 3327 3326 3325 3324 3323 3322 3321

15 FEBRUARY 1976

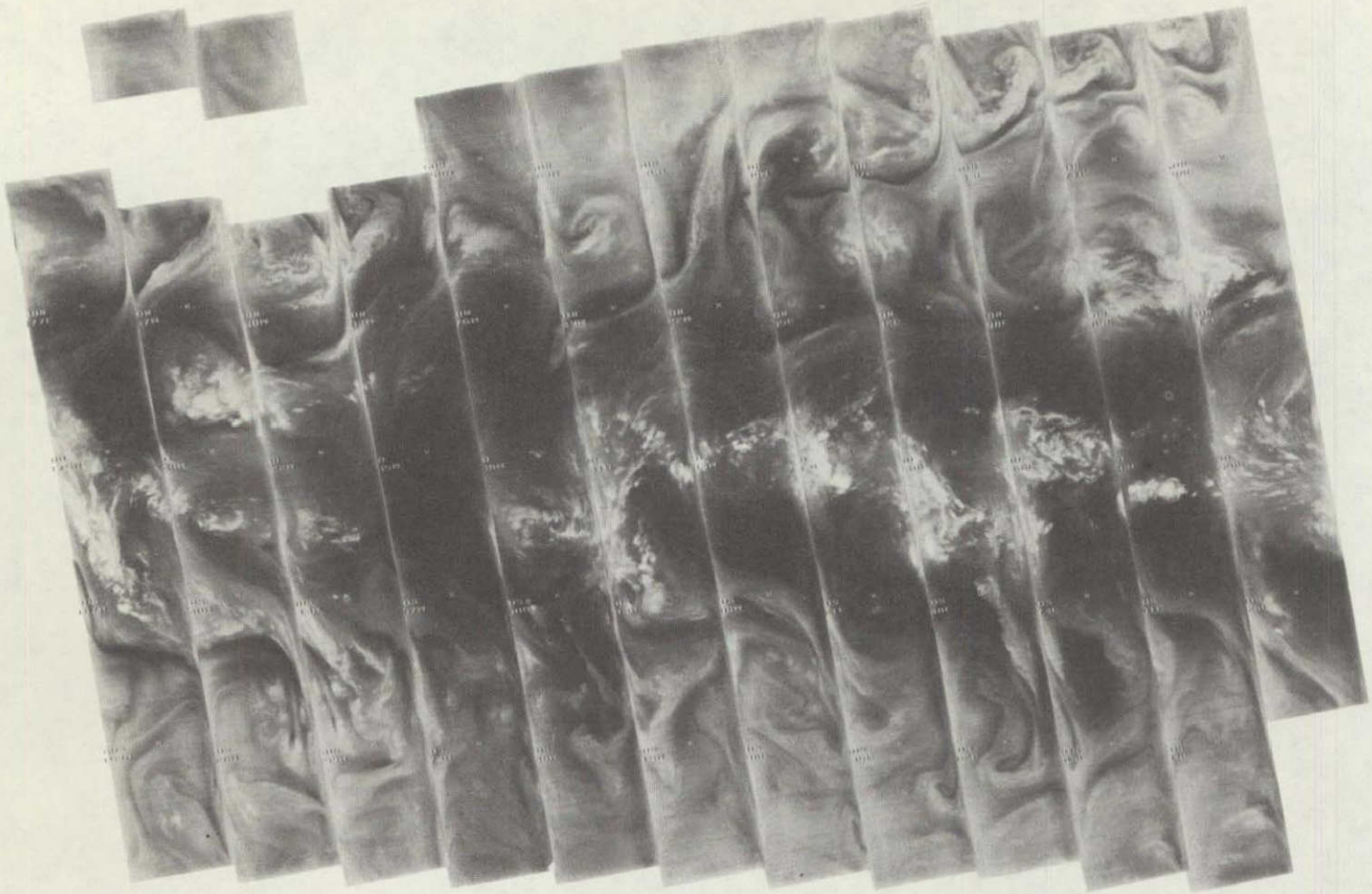
6.7 μm



3333 3332 3331 3330 3329 3328 3327 3326 3325 3324 3323 3322 3321

15 FEBRUARY 1976

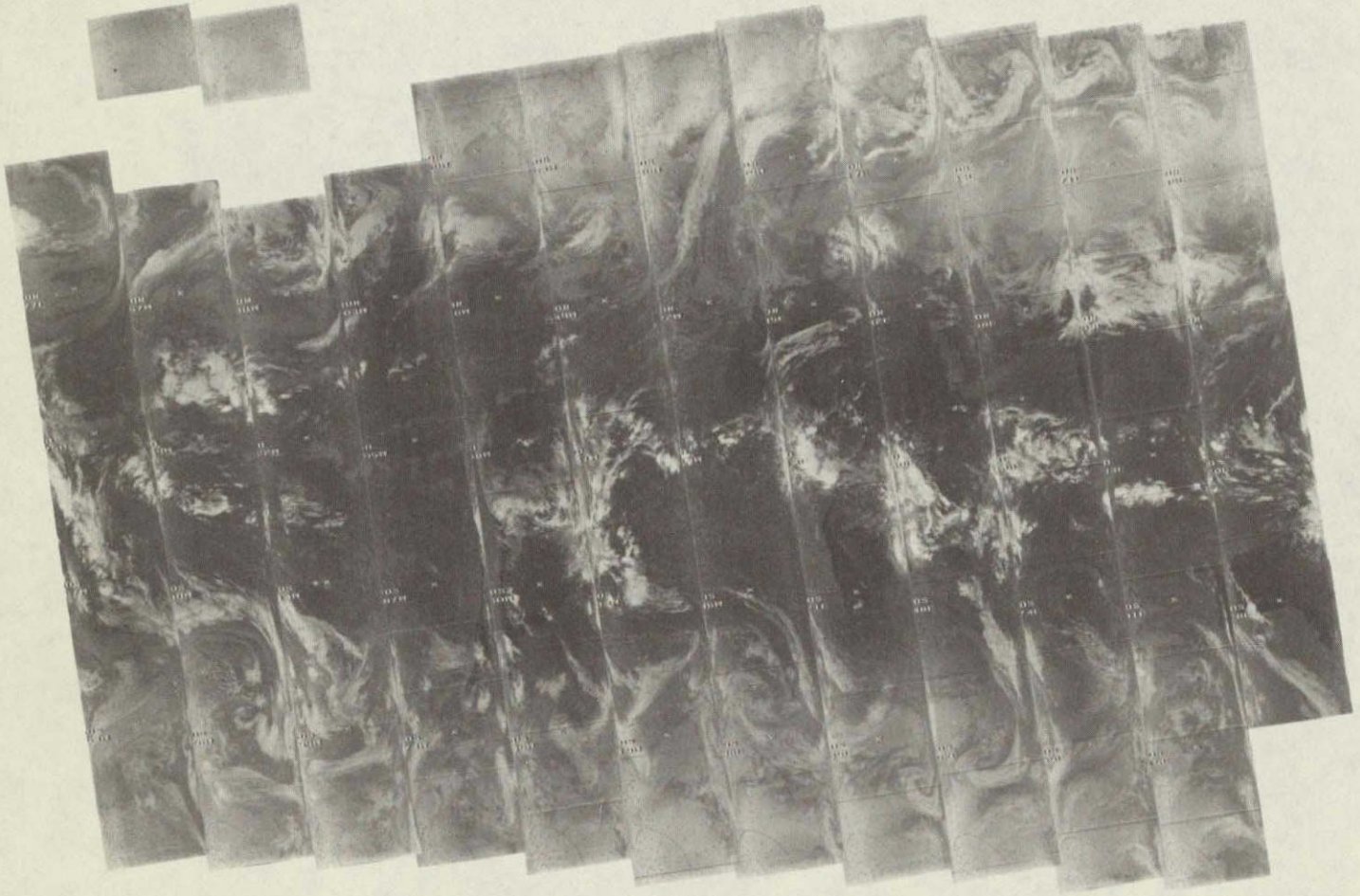
11.5μm



3347 3346 3345 3344 3343 3342 3341 3340 3339 3338 3337 3336 3335 3334

16 FEBRUARY 1976

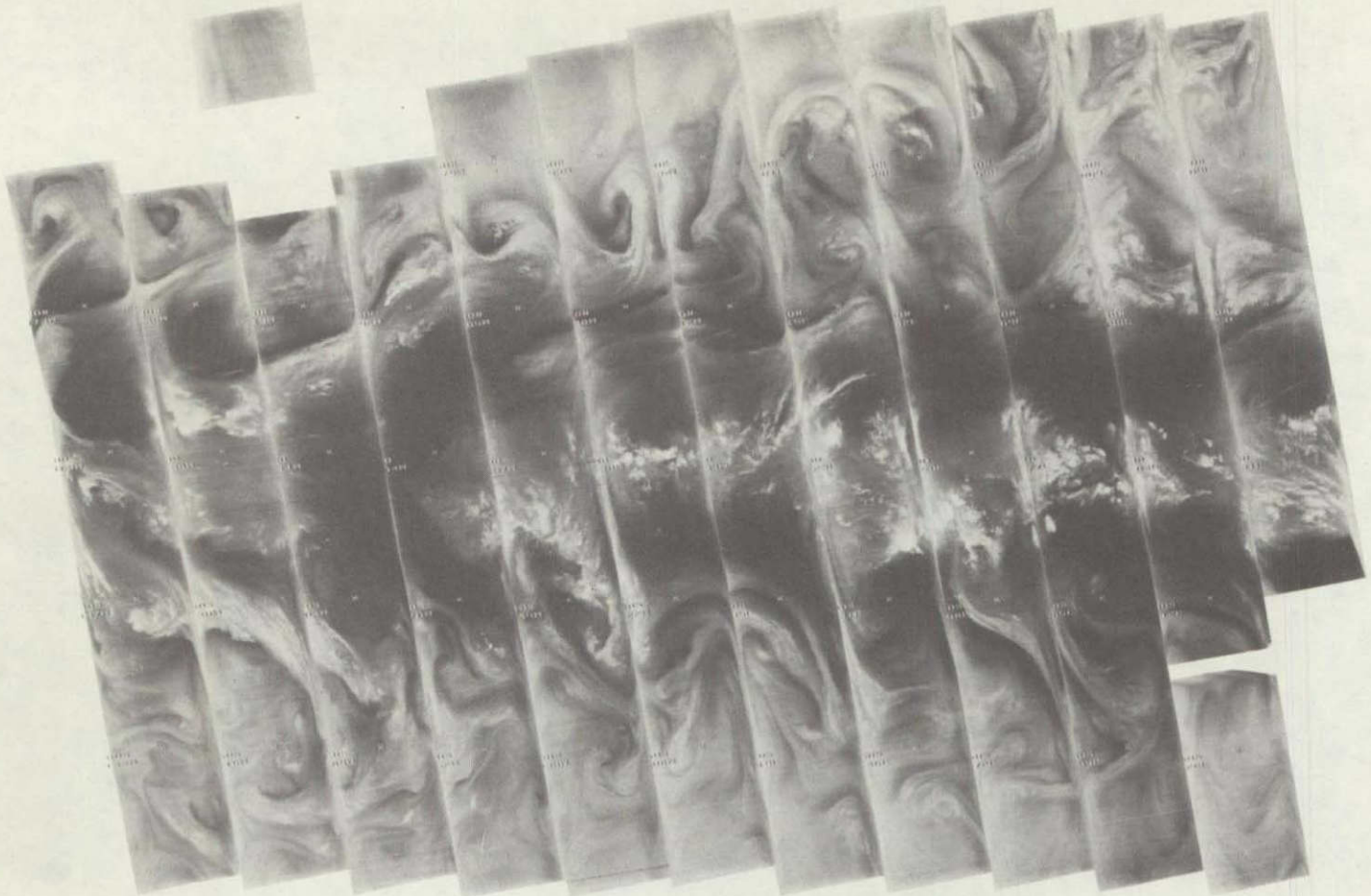
6.7 μm



3347 3346 3345 3344 3343 3342 3341 3340 3339 3338 3337 3336 3335 3334

16 FEBRUARY 1976

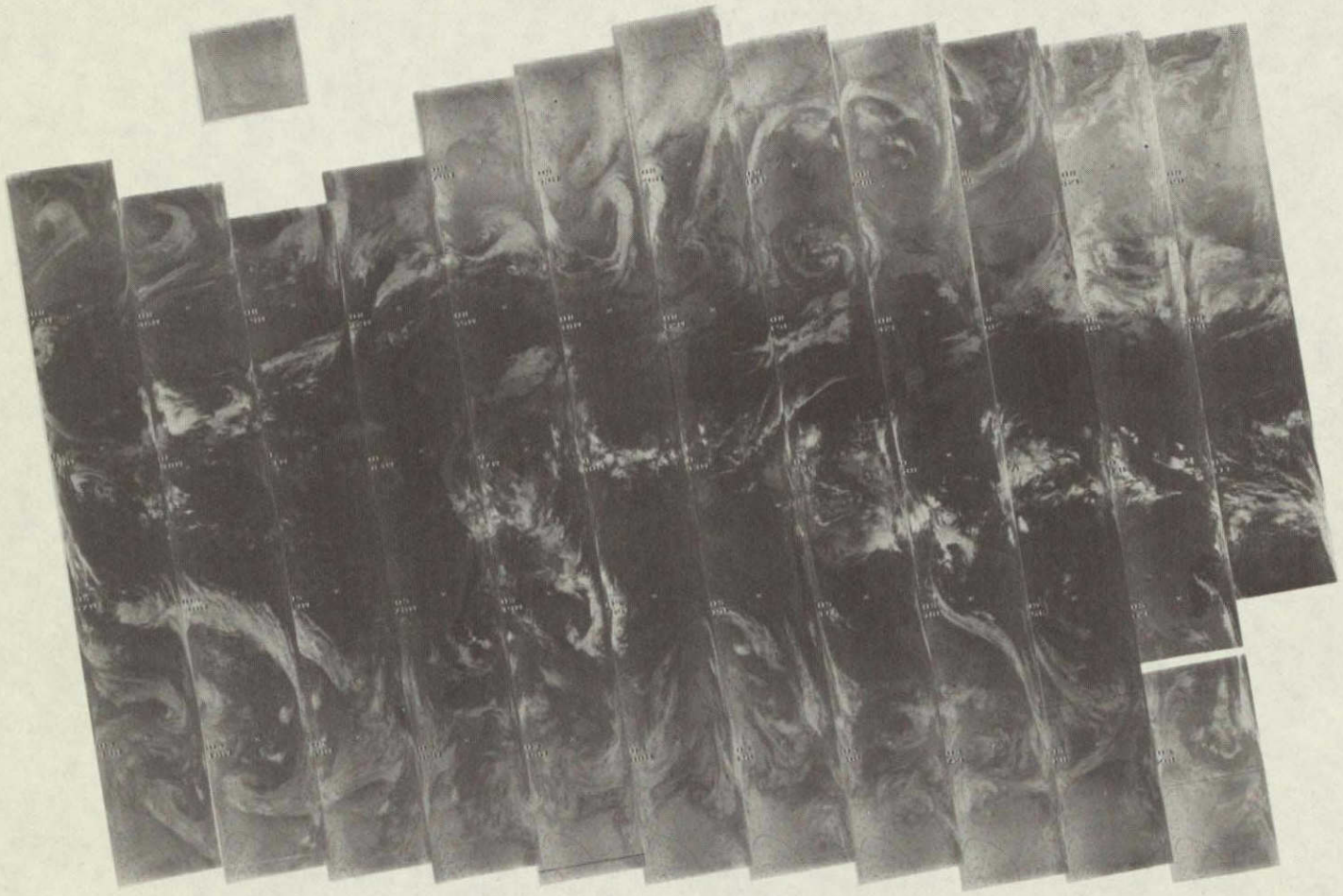
11.5μm



3360 3359 3358 3357 3356 3355 3354 3353 3352 3351 3350 3349 3348

17 FEBRUARY 1976

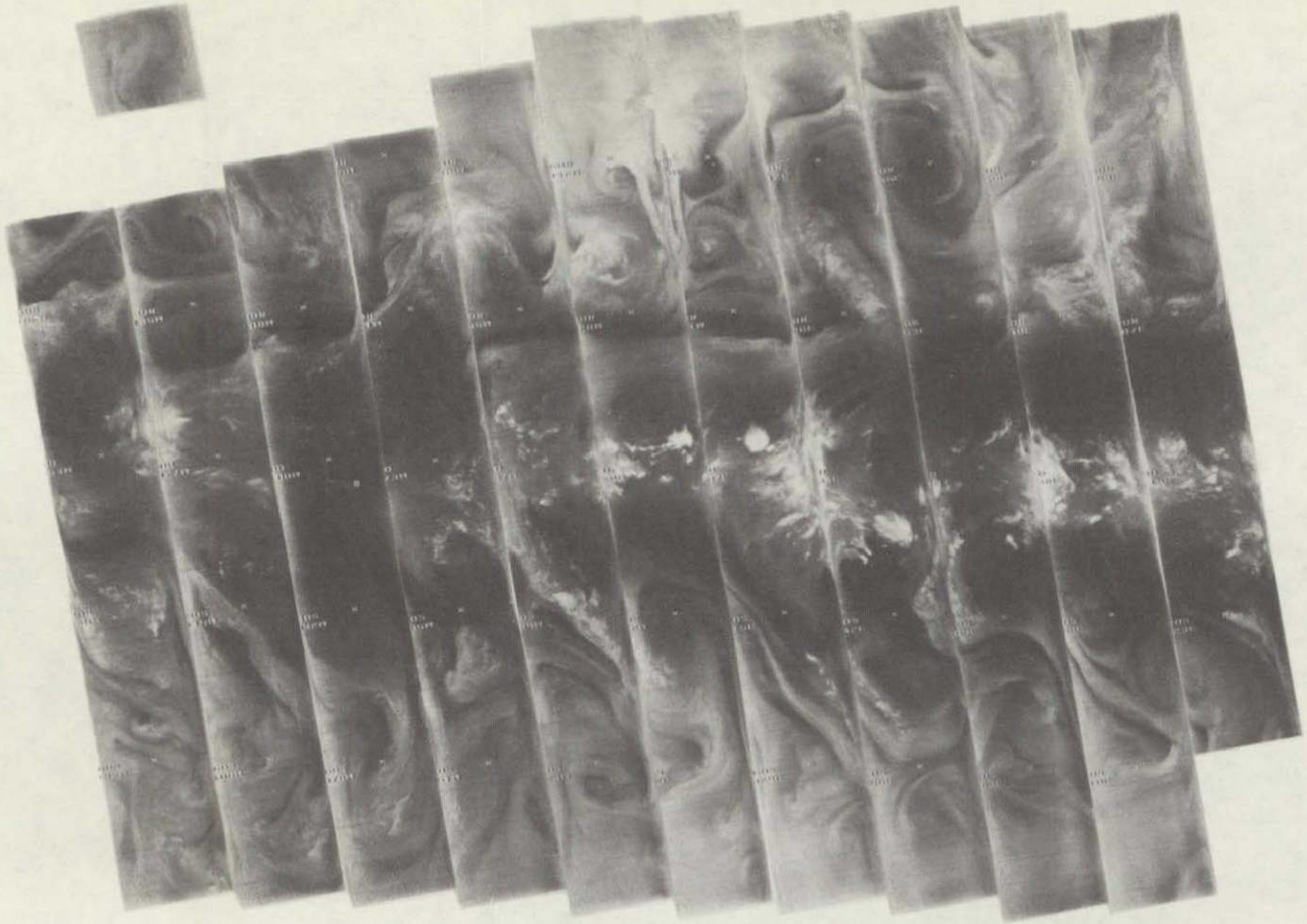
6.7 μm



3360 3359 3358 3357 3356 3355 3354 3353 3352 3351 3350 3349 3348

17 FEBRUARY 1976

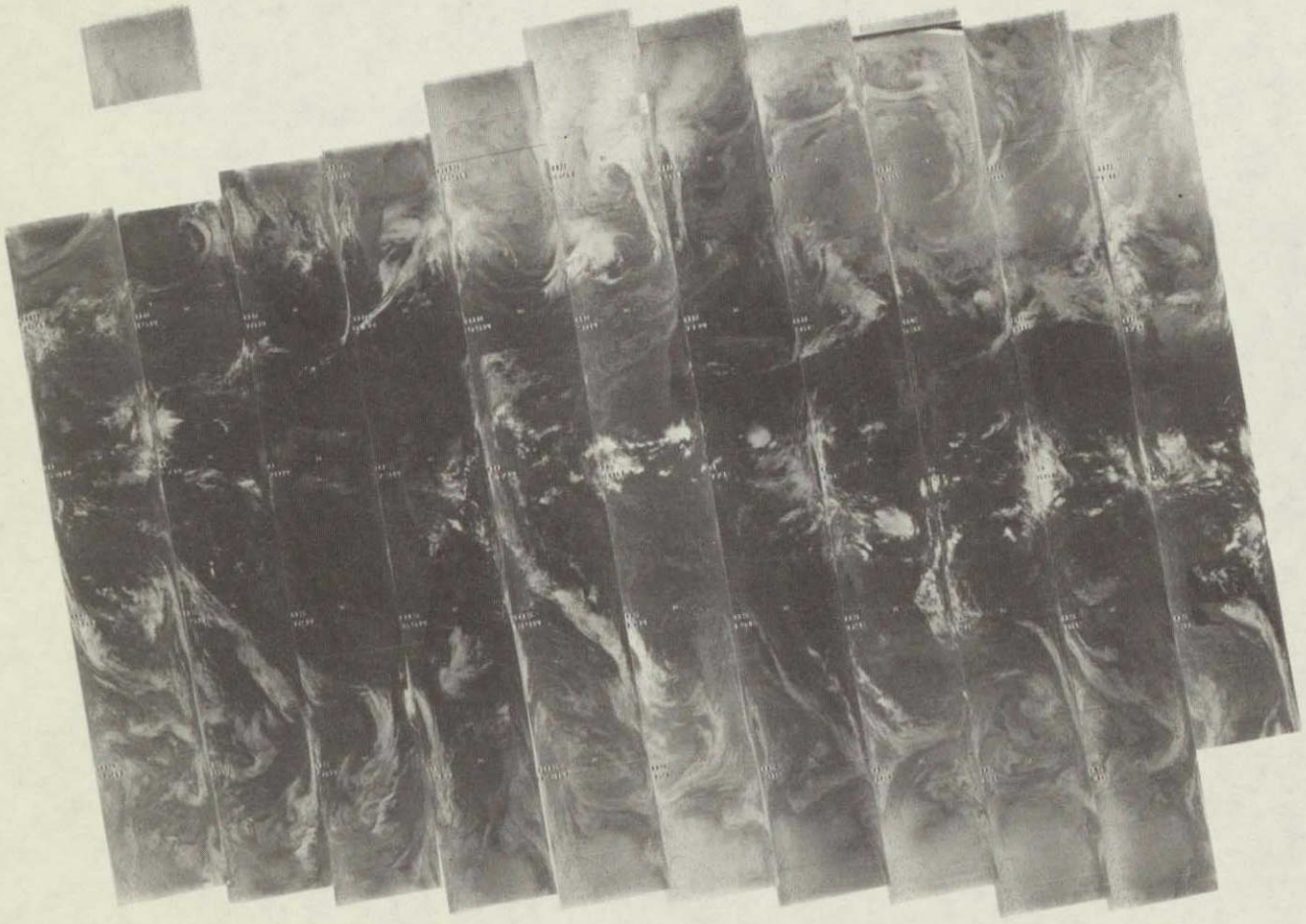
11.5μm



3374 3373 3372 3371 3370 3369 3368 3367 3366 3365 3364 3363 3362 3361

18 FEBRUARY 1976

6.7 μm



3374 3373 3372 3371 3370 3369 3368 3367 3366 3365 3364 3363 3362 3361

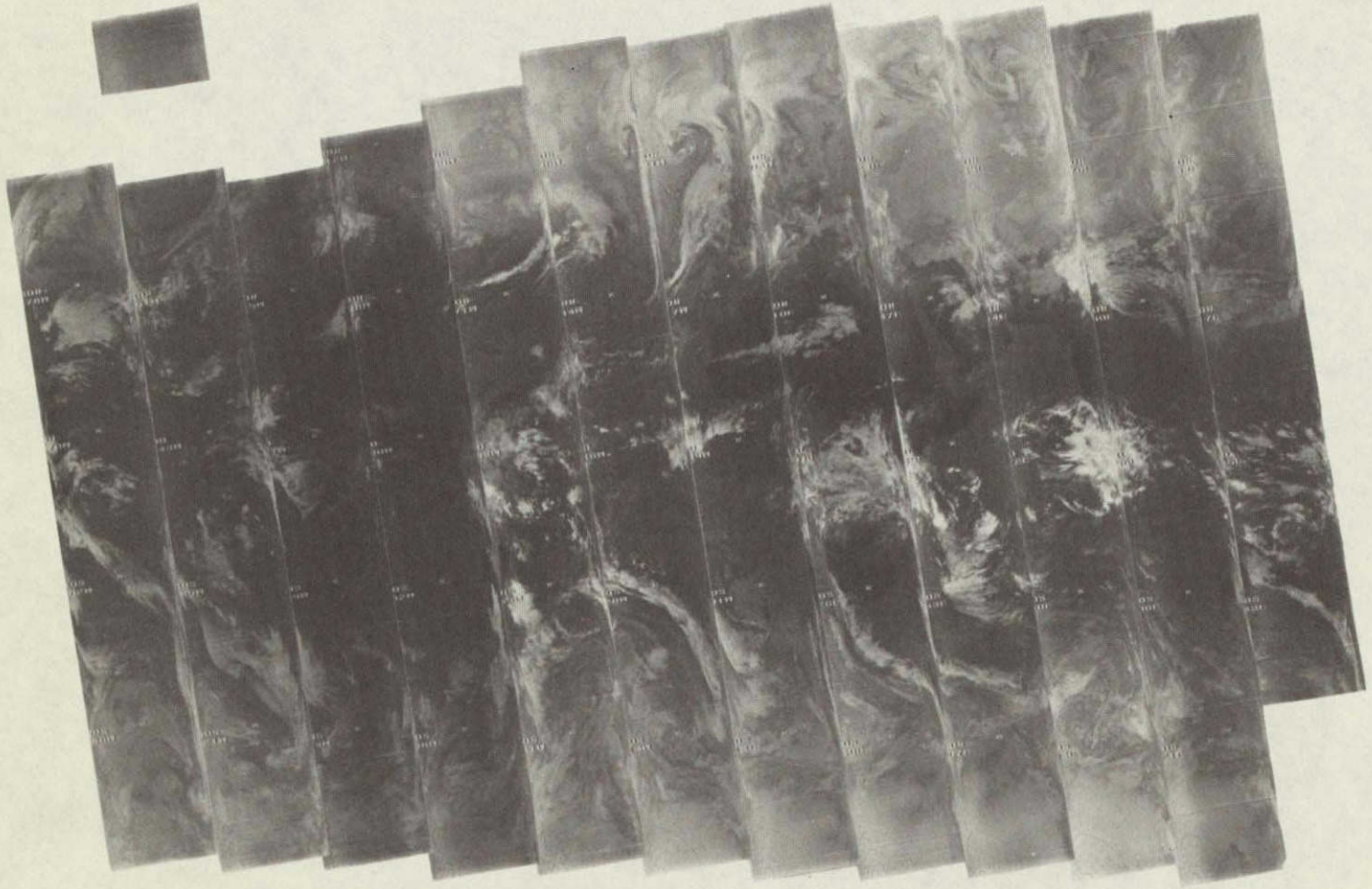
18 FEBRUARY 1976

11.5μm

3387 3386 3385 3384 3383 3382 3381 3380 3379 3378 3377 3376 3375

19 FEBRUARY 1976

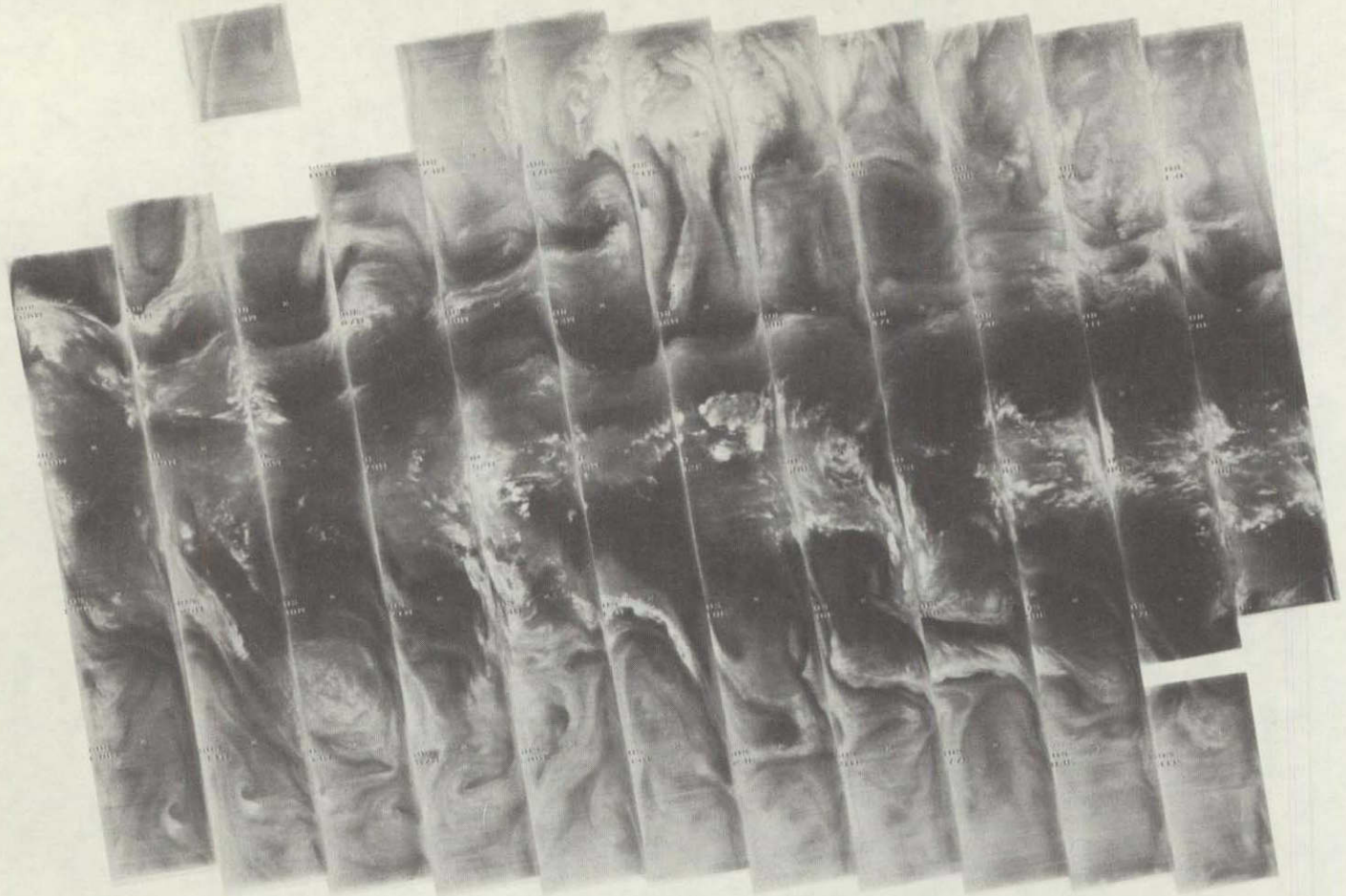
6.7 μm



3387 3386 3385 3384 3383 3382 3381 3380 3379 3378 3377 3376 3375

19 FEBRUARY 1976

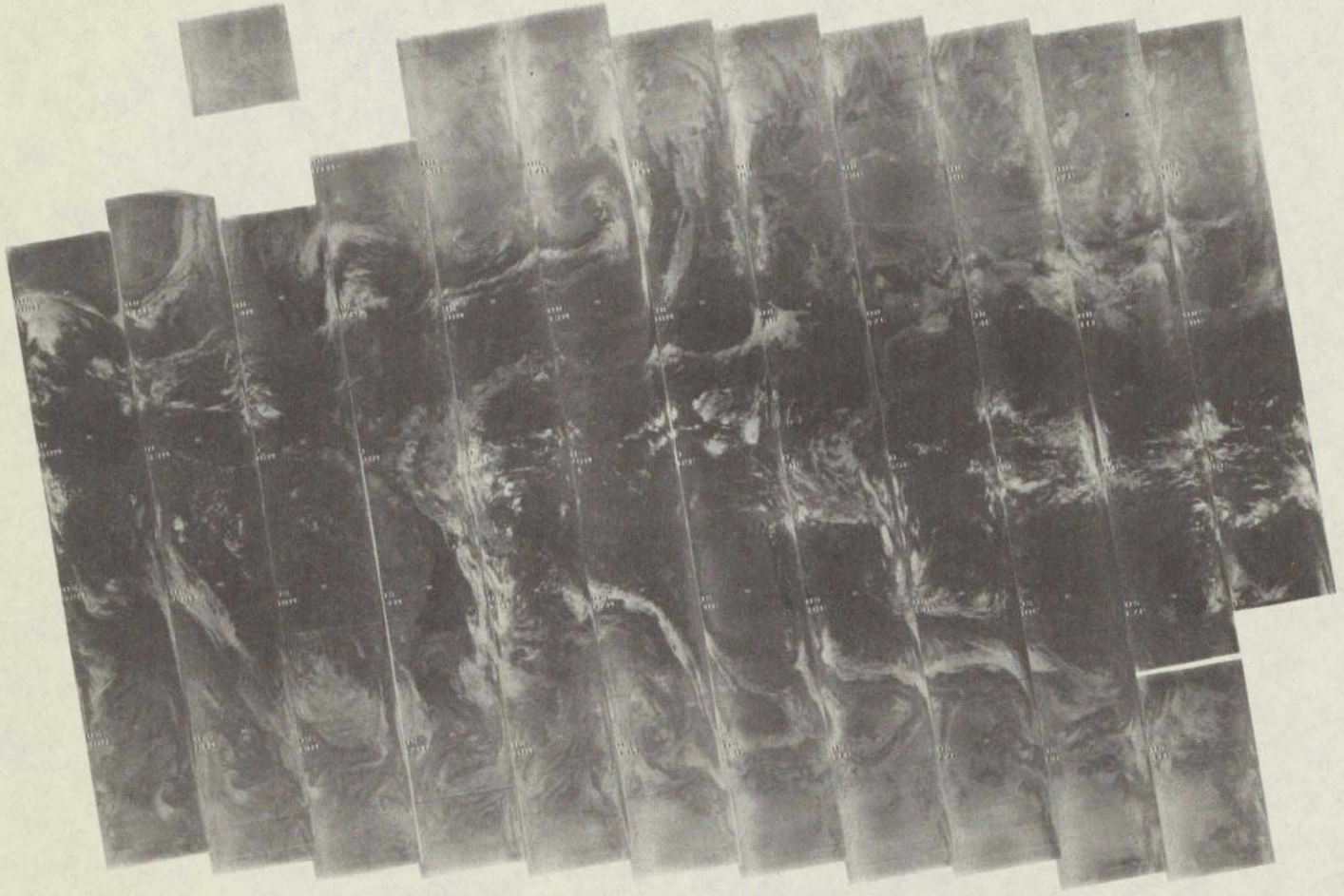
11.5μm



3400 3399 3398 3397 3396 3395 3394 3393 3392 3391 3390 3389 3388

20 FEBRUARY 1976

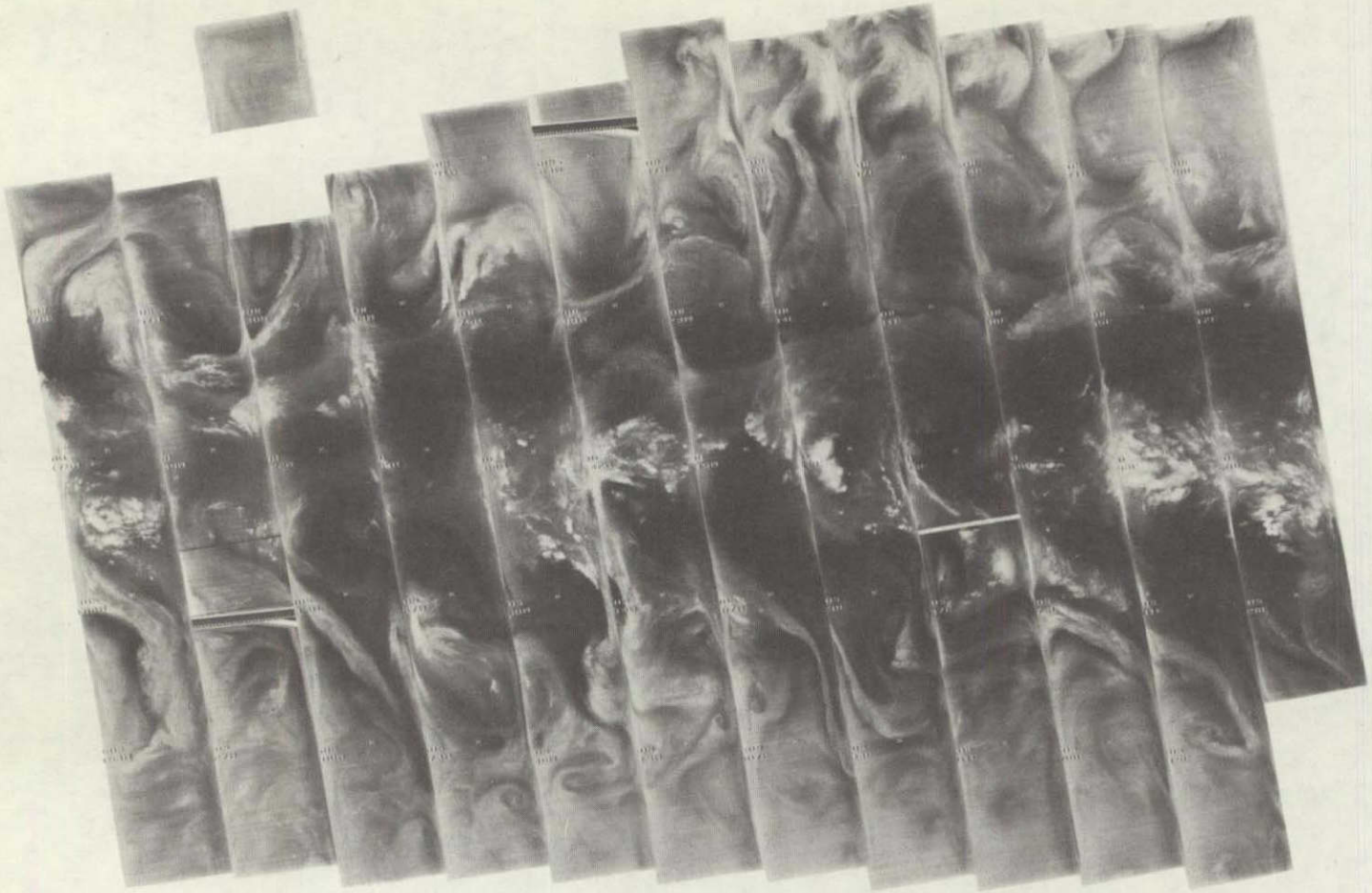
6.7 μm



3400 3399 3398 3397 3396 3395 3394 3393 3392 3391 3390 3389 3388

20 FEBRUARY 1976

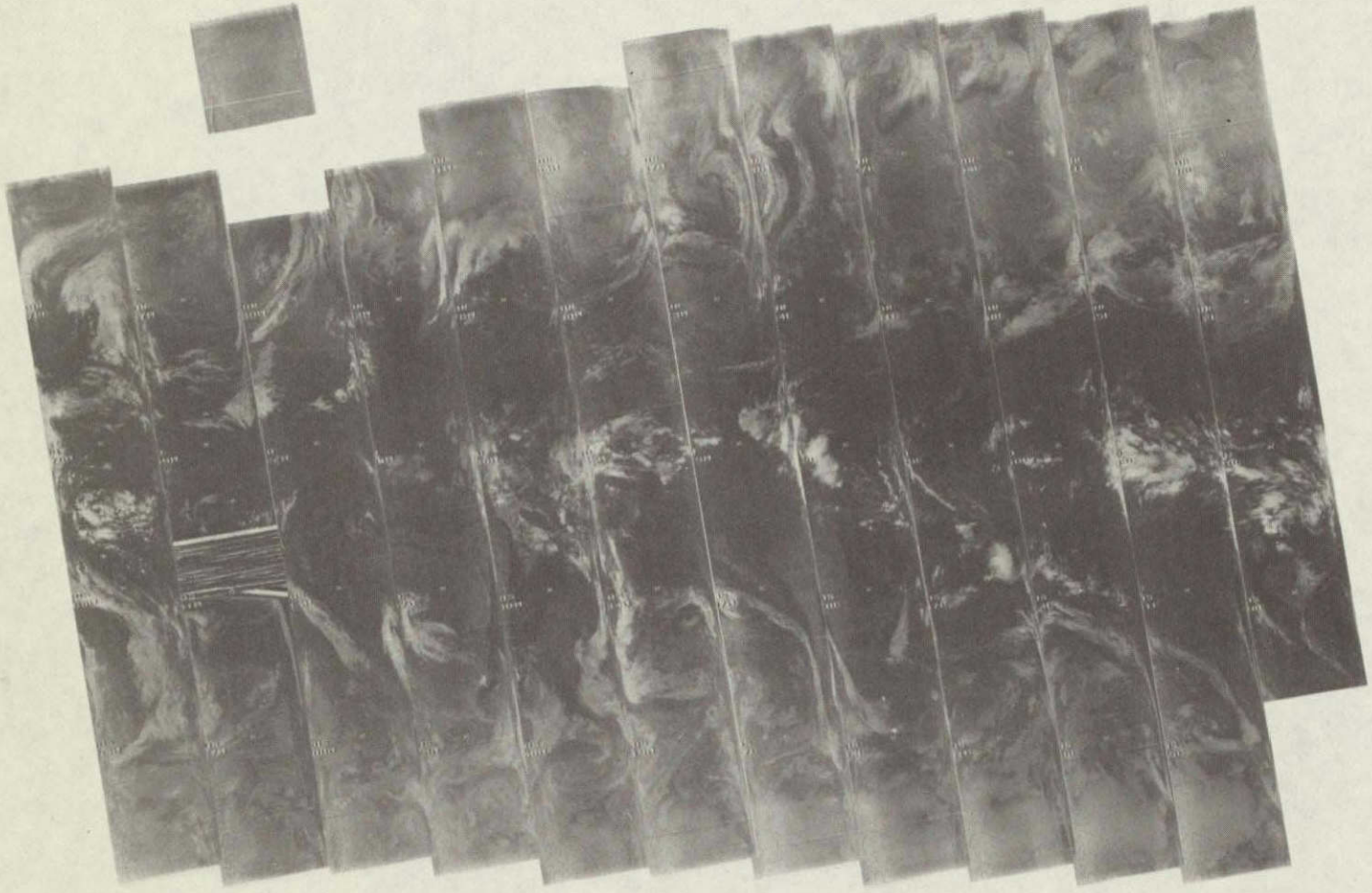
11.5μm



3414 3413 3412 3411 3410 3409 3408 3407 3406 3405 3404 3403 3402 3401

21 FEBRUARY 1976

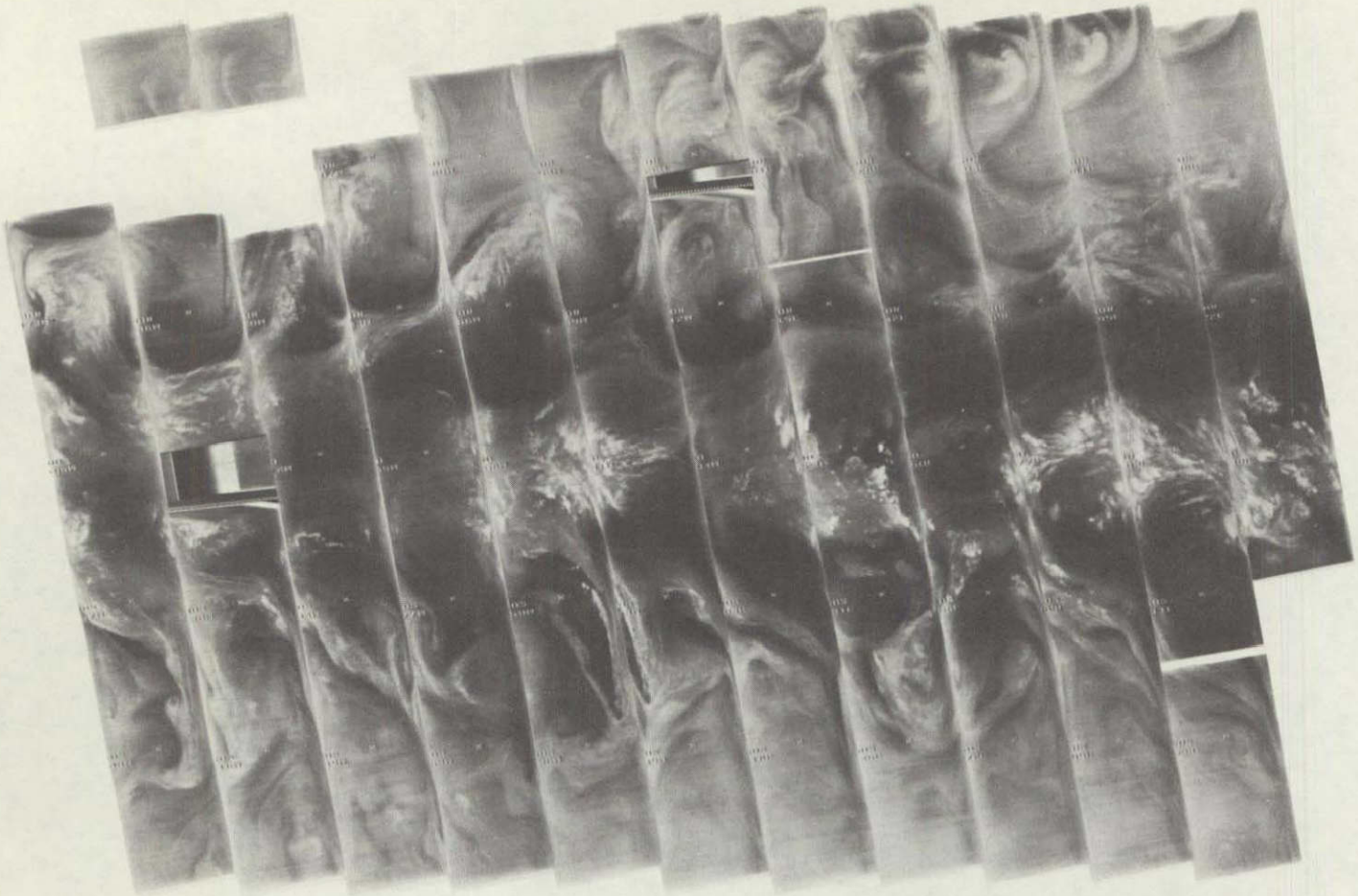
6.7 μm



3414 3413 3412 3411 3410 3409 3408 3407 3406 3405 3404 3403 3402 3401

21 FEBRUARY 1976

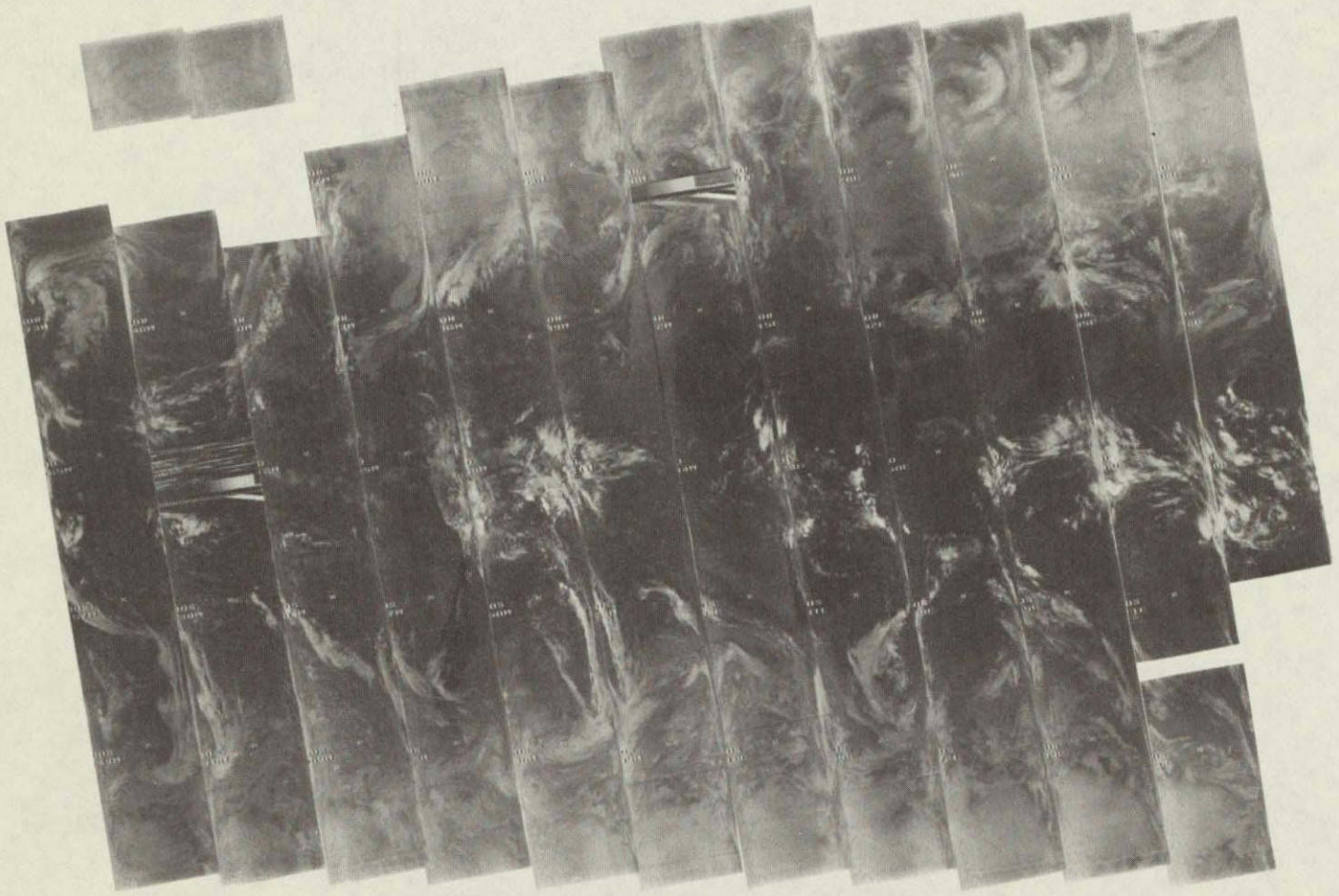
11.5μm



3427 3426 3425 3424 3423 3422 3421 3420 3419 3418 3417 3416 3415

22 FEBRUARY 1976

6.7 μm



3427 3426 3425 3424 3423 3422 3421 3420 3419 3418 3417 3416 3415

22 FEBRUARY 1976

11.5μm

3441 3440 3439 3438 3437 3436 3435 3434 3433 3432 3431 3430 3429 3428

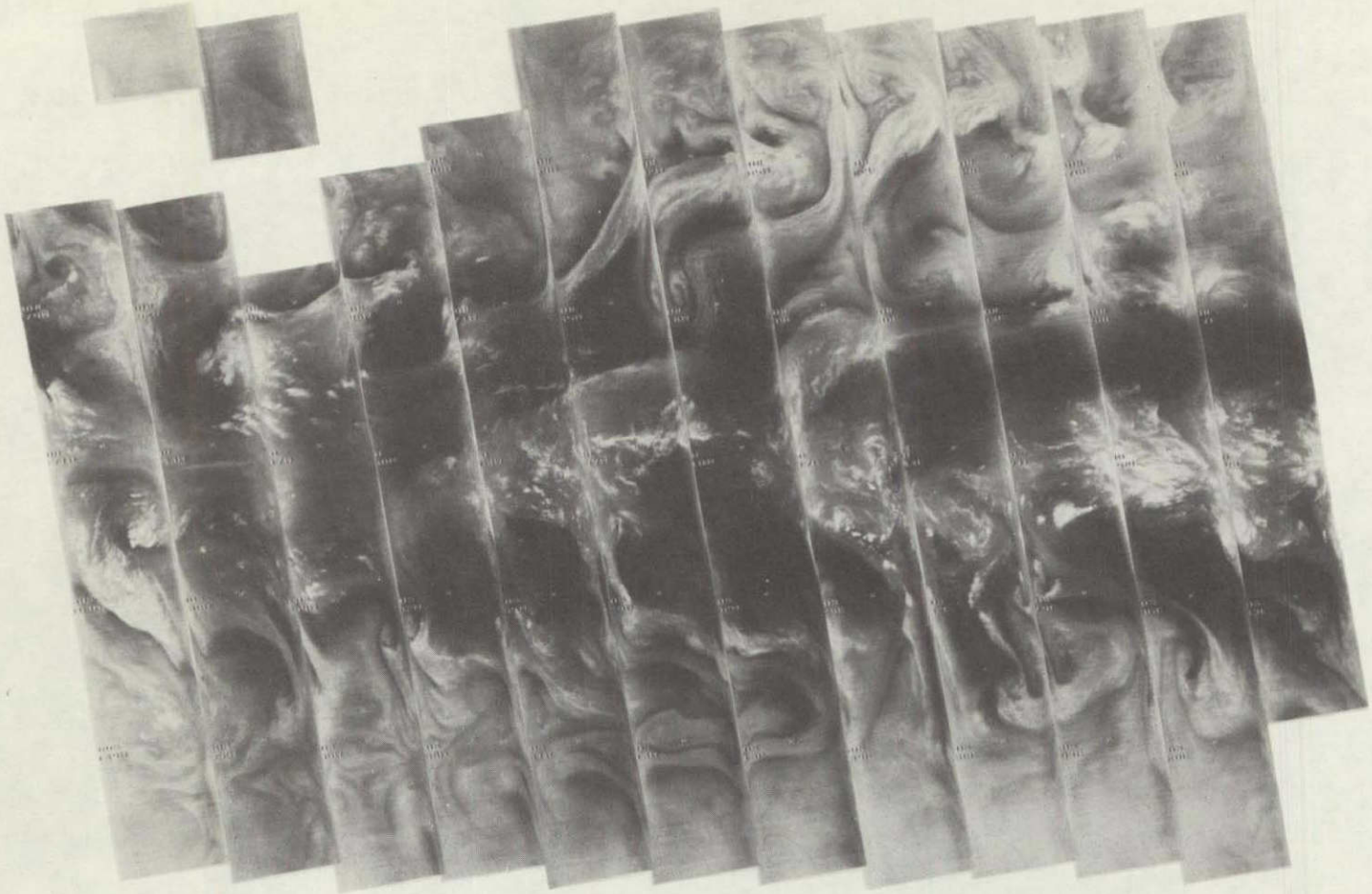
23 FEBRUARY 1976

6.7 μm

3441 3440 3439 3438 3437 3436 3435 3434 3433 3432 3431 3430 3429 3428

23 FEBRUARY 1976

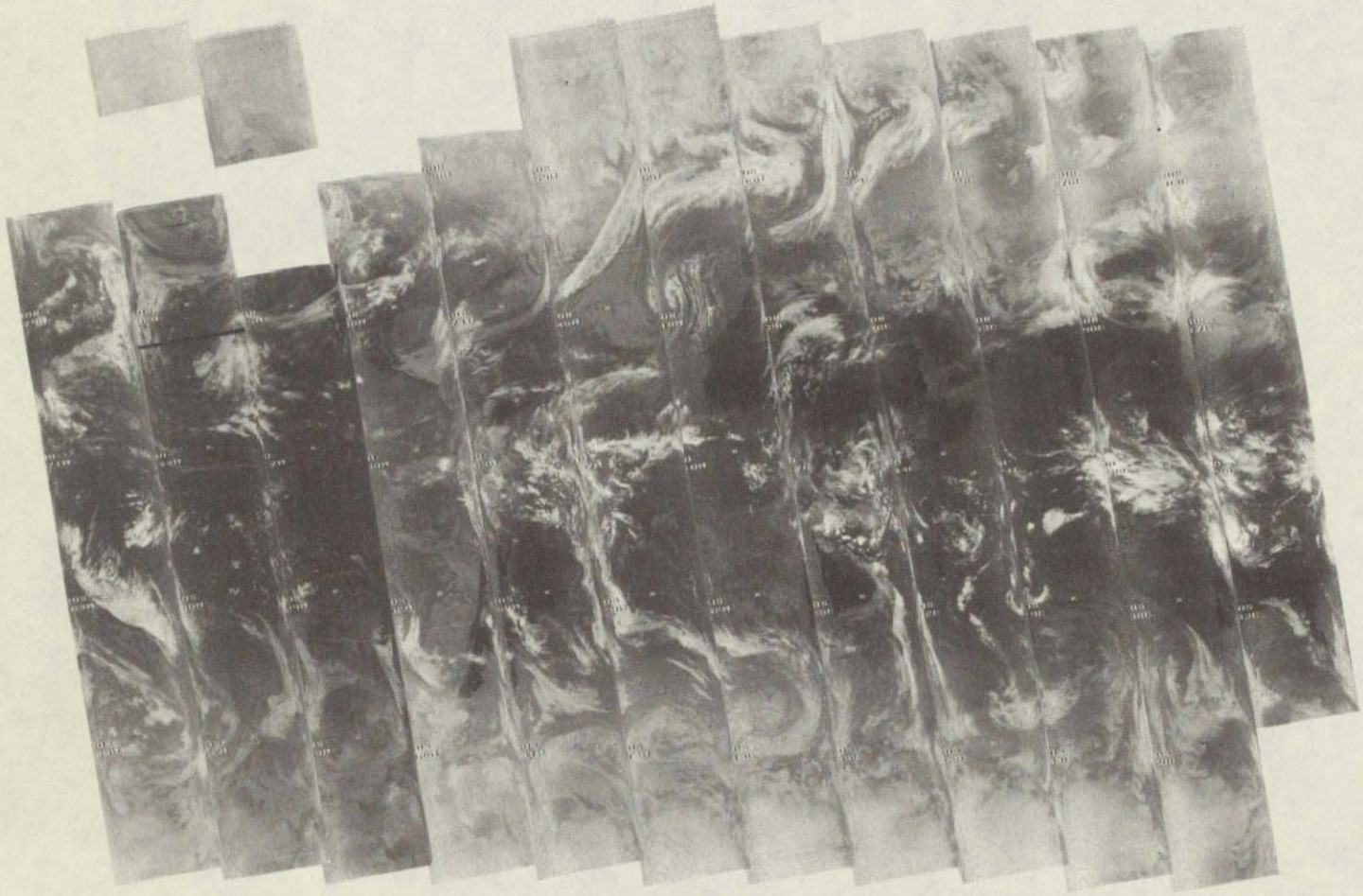
11.5μm



3454 3453 3452 3451 3450 3449 3448 3447 3446 3445 3444 3443 3442

24 FEBRUARY 1976

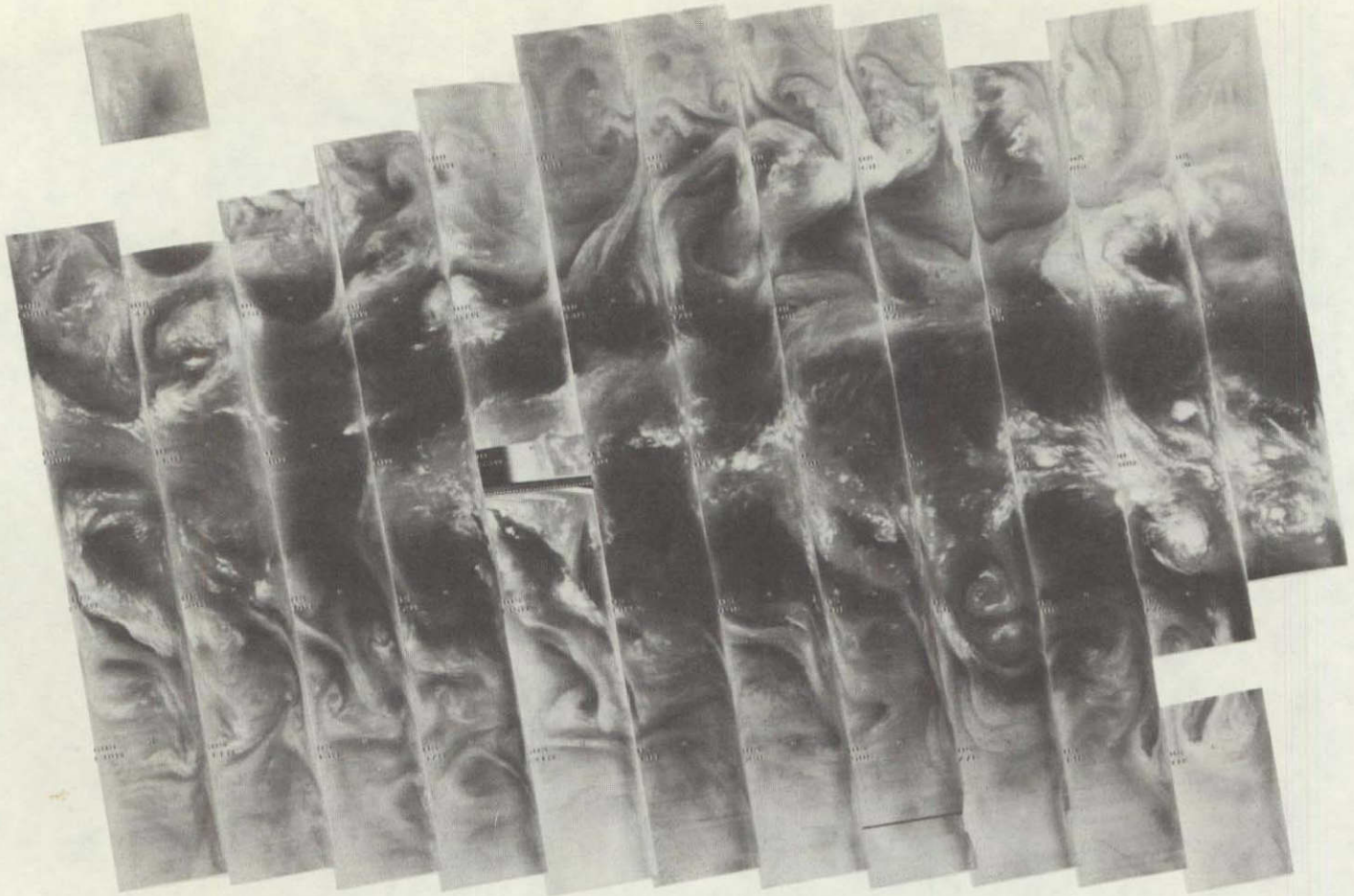
6.7 μm



3454 3453 3452 3451 3450 3449 3448 3447 3446 3445 3444 3443 3442

24 FEBRUARY 1976

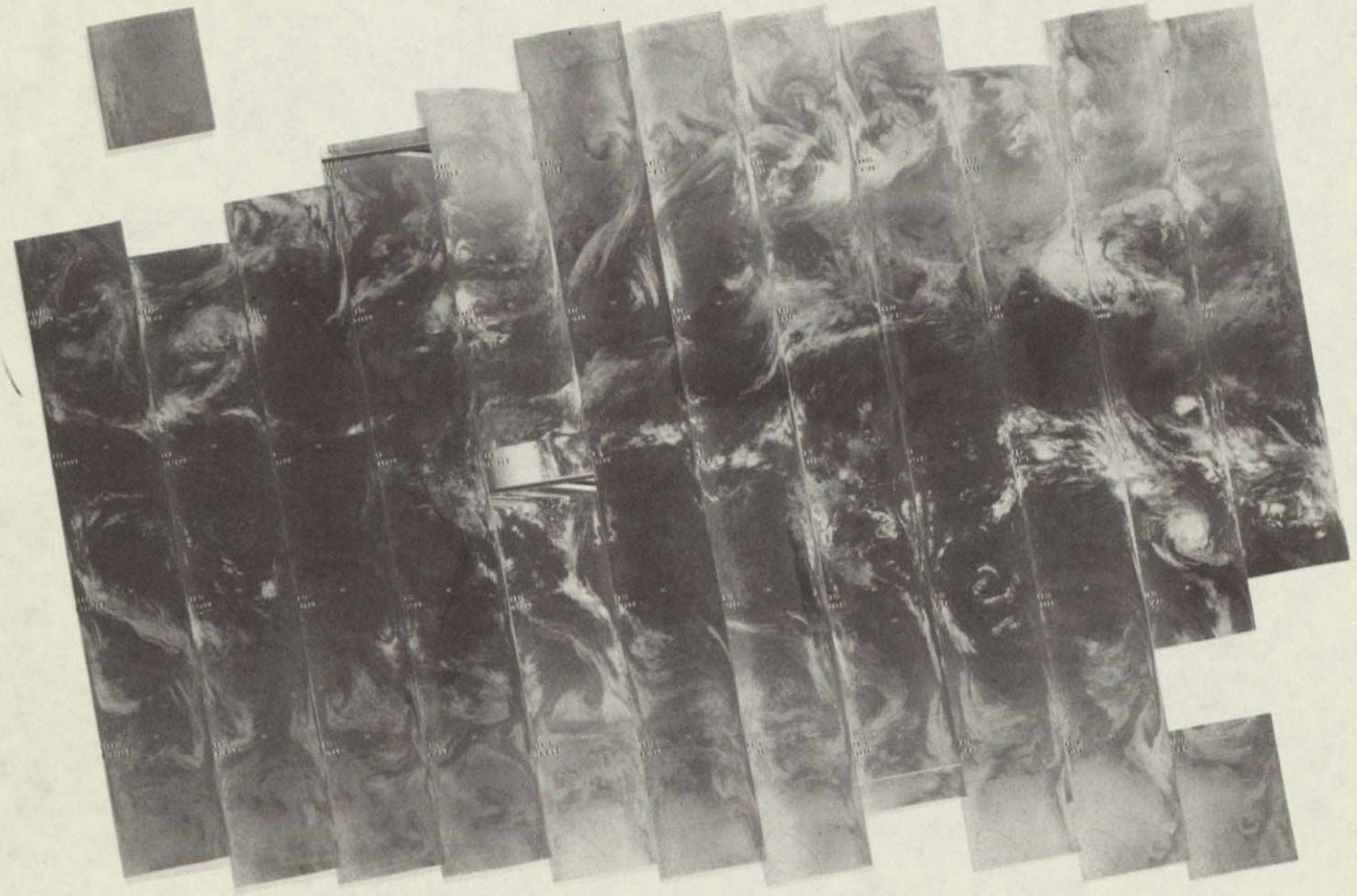
11.5μm



3467 3466 3465 3464 3463 3462 3461 3460 3459 3458 3457 3456 3455

25 FEBRUARY 1976

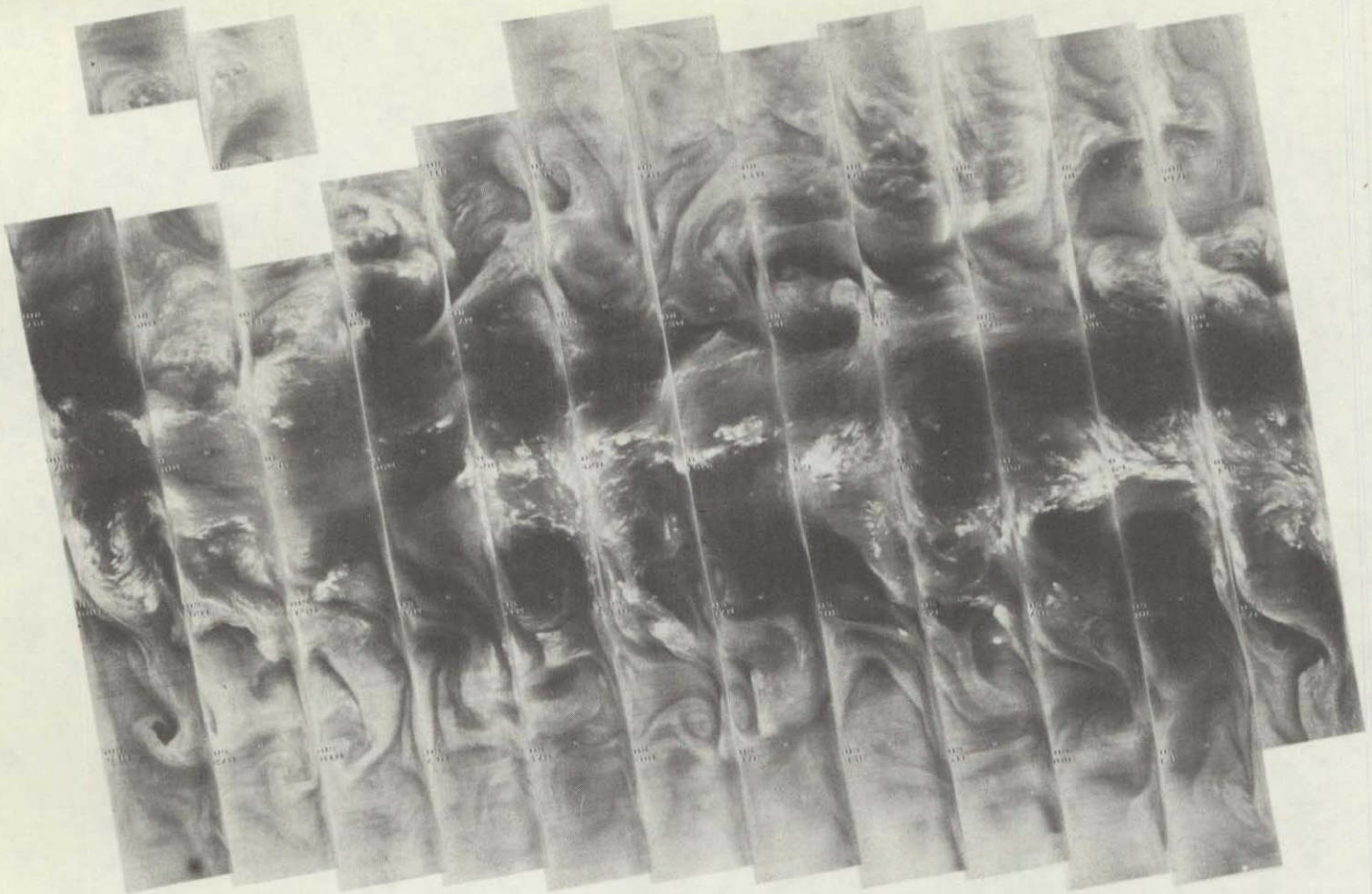
6.7 μm



3467 3466 3465 3464 3463 3462 3461 3460 3459 3458 3457 3456 3455

25 FEBRUARY 1976

11.5μm



3481 3480 3479 3478 3477 3476 3475 3474 3473 3472 3471 3470 3469 3468

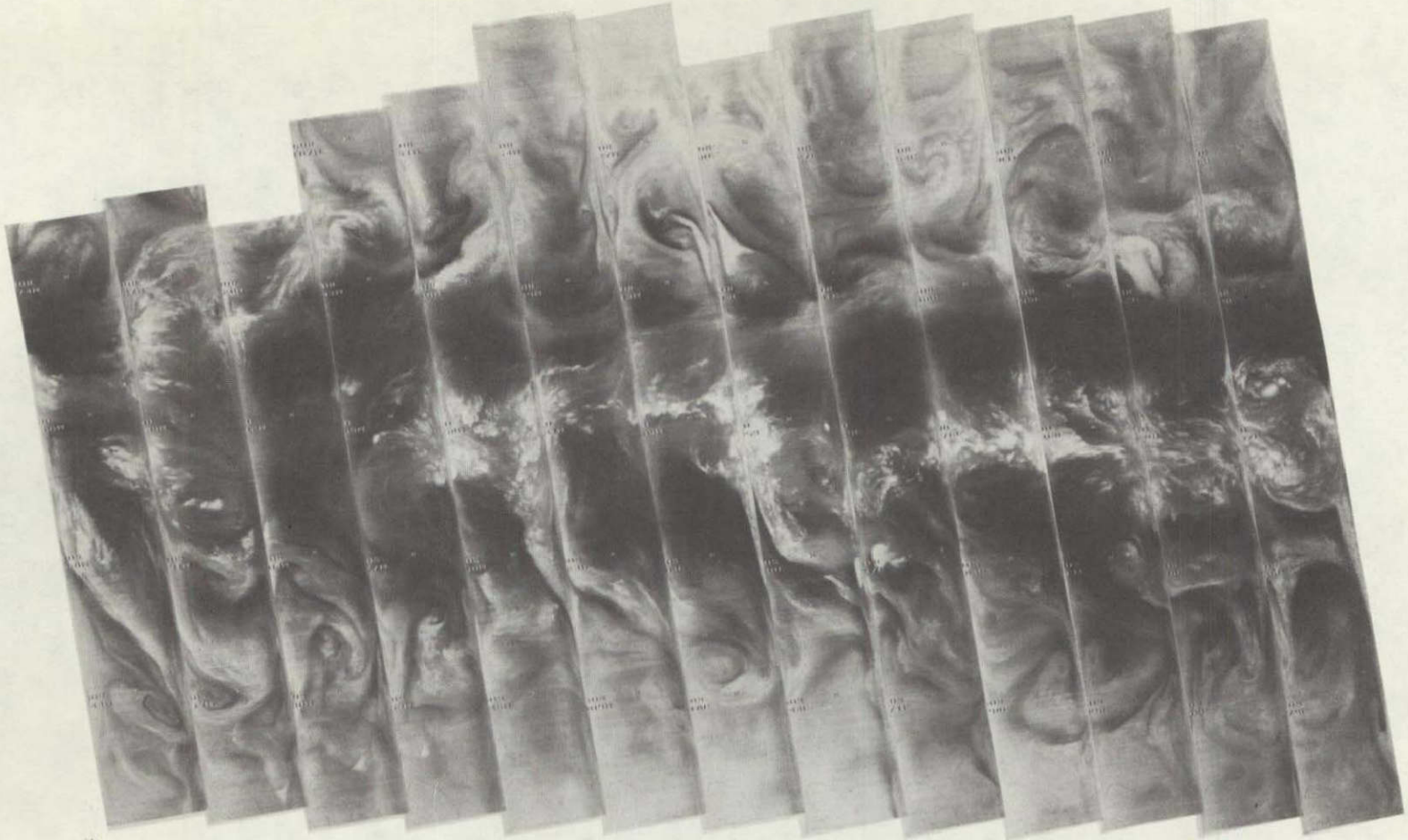
26 FEBRUARY 1976

6.7 μm

3481 3480 3479 3478 3477 3476 3475 3474 3473 3472 3471 3470 3469 3468

26 FEBRUARY 1976

11.5μm



3494 3493 3492 3491 3490 3489 3488 3487 3486 3485 3484 3483 3482

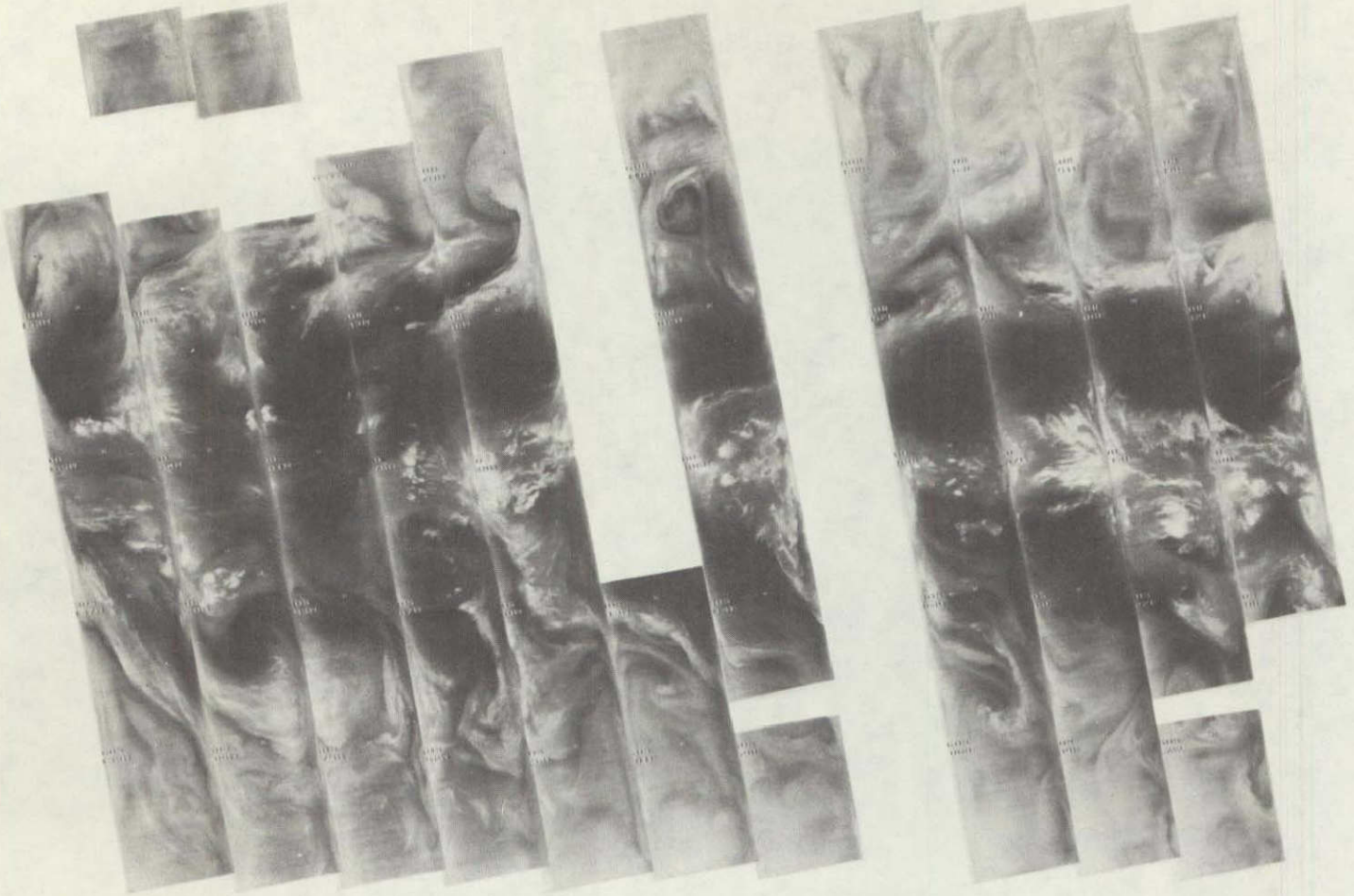
27 FEBRUARY 1976

6.7 μm

3494 3493 3492 3491 3490 3489 3488 3487 3486 3485 3484 3483 3482

27 FEBRUARY 1976

11.5μm



3508 3507 3506 3505 3504 3503 3502 3501 3500 3499 3498 3497 3496 3495

28 FEBRUARY 1976

6.7 μm

3508 3507 3506 3505 3504 3503 3502 3501 3500 3499 3498 3497 3496 3495

28 FEBRUARY 1976

11.5μm

3521 3520 3519 3518 3517 3516 3515 3514 3513 3512 3511 3510 3509

29 FEBRUARY 1976

6.7 μm

3521 3520 3519 3518 3517 3516 3515 3514 3513 3512 3511 3510 3509

29 FEBRUARY 1976

11.5μm

SECTION 5

CORRECTIONS TO THE NIMBUS 6 USER'S GUIDE

This section presents all corrections or additions to The Nimbus 6 User's Guide, which now are known to be necessary. If additional corrections are required, they will appear in a subsequent catalog. All corrections will be carried forward cumulatively into each new catalog.

5.1 THIR Corrections to the User's Guide

The THIR mirror on Nimbus 6 rotates counter clockwise. Therefore, replace lines one through four on page 14 with the following:

> ". . . rotation is such that, when combined with the velocity vector of the satellite, a left-hand spiral results. Therefore, the mirror scans across the earth from west to east in the daytime when traveling northward, and from east to west at night when traveling southward."

The information in Figure 2-4 on page 17 is correct. However, the direction of scan is counter clockwise, and not clockwise as shown.

5.2 HIRS Corrections to the User's Guide

On page 40, Table 3-2, under "Detector Summary" change LnSe to LnSb.

The CHANNEL (and) RANGE information in the swath displays for HIRS has been changed since launch, making Table 3-5 on pages 54 and 55 in the User's Guide incorrect. The table below labeled Table 3-5 provides the correct information.

On page 44, Figure 3-3, the SCAMS elements are shown with a right-to-left (clockwise) stepping pattern when looking in the direction of satellite motion. The SCAMS elements should be corrected to show a left-to-right (counterclockwise) stepping pattern.

5.3 SCAMS Corrections to the User's Guide

The information contents of the image in the swath displays for SCAMS has been changed since launch, making Tables 4-5, 4-6, and 4-7 in the User's Guide incorrect. Thus, the table below labeled Table 4-5 and 6 replaces Tables 4-5 and 4-6 in the User's Guide, and the table labeled 4-7 replaces Table 4-7 in the User's Guide. All the images display the same parameters. Therefore, these new tables do not list all the possible displays, as were listed in the old Tables 4-5, 4-6, and 4-7.

Section 4.5.3 "Tape Format" on page 83 of the User's Guide states that each tape will have "five files, i.e., a short header file. . . and four data files, . . ." There will not be a header file on the archival tape. The sentence should be changed to read: "The tapes will be standard 9-track 1600 BPI tapes, each containing four data files, one for each of four days."

Table 5-1
This table replaces Table 3-5 on pages 54 and 55 in The Nimbus 6 User's Guide

Table 3-5

Temperature Range of Gray Scale, and Channel of HIRS Data for each Swath on each HIRS Image Display Between Orbit 426 and 3521 (14 July 1975 through 29 February 1976)

		SWATH NUMBER									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 14 July-20 July Orbits 426-513	HIRS Channel Display (channel-range)*	08-08	09-09	10-10	16-16	17-17	18-18	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black to white)	300-200	290-210	260-210	310-270	100-900	0-30	290-210	260-210	240-210	280-210
Coverage Period 22 July-31 July Orbits 538-545 548-549 600-613 615-647 651-657 659	HIRS Channel Display (channel-range)*	08-08	09-09	10-10	16-16	17-17	17-17	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	290-210	260-230	310-270	100-900	100-900	280-200	280-200	280-200	280-200
Coverage Period 23 July-6 Aug. Orbits 546-547 553-599 614 648-650 658 660-747	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	310-270	300-200	0-30	100-900	260-230	280-200	280-200	280-200	280-200

Table 3-5 (Continued)

		SWATH NUMBER									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 7 Aug.-31 Dec. Orbits 748-2717	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	310-230	310-230	310-270	0-50	100-900	280-210	300-210	300-210 **	240-185	300-185 ***

*The HIRS channel number is number before the hyphen. The number after the hyphen is the computer program table used to display the data from each channel as temperatures (°K). The range of temperatures displayed in each swath is given beneath each "HIRS Channel Display." The 18 steps of the scale are used to represent the division of each temperature range into 18 approximately equal temperature intervals. The central wavelength (in μm) of each channel on these displays is: channel 3 = 14.4, 8 = 11.0, 9 = 8.2, 10 = 6.7, 12 = 4.52, 14 = 4.40, 15 = 4.24, 16 = 3.71, 17 = 0.61, and 18 is the temperature difference between channel 16 and channel 8. The values of channel 17-17 are albedo, represented as "counts" between 100 (blackest) and 900 (whitest). The values for 16-21 represent a second temperature range for channel 16 data. Table 3-1 on page 39 of the User's Guide provides detailed spectral information and the purpose of each of the HIRS channels.

**14-14 temperature range changed to 270-210 on orbit 3166A (26 January 1976)

***15-15 temperature range changed to 275-210 on orbit 3166A (26 January 1976)

Table 5-2

This table replaces Tables 4-5 and 4-6 (on pages 79 through 81) in The Nimbus 6 User's Guide

Table 4-5 and 6

Parameter Value for each Step of the Gray Scale on the SCAMS Image Displays for Parameters 2, 3, 11, 12 and 16 (valid between orbit 426, 14 July 1975, and orbit 3521, 29 February 1976)

Gray Scale Number		Parameters						
		2 (31.65 GHz T_A) (°K)	3 (52.85 GHz T_A) (°K)	11 (Integrated water vapor) (g/mm^2)	12* (Integrated liquid water) (g/mm^2)	12** (Integrated liquid water) (g/mm^2)	12*** (Integrated liquid water) (g/mm^2)	16 (param. 2) minus (param. 3) (°K)
(black)	1	> 320	> 280	> 60	> 1.6	> 1.5	> 2.0	> 10
	2	306 - 320	276 - 280	56 - 60	1.5 - 1.6	1.4 - 1.5	1.9 - 2.0	08 - 10
	3	293 - 306	271 - 276	53 - 56	1.4 - 1.5	1.3 - 1.4	1.8 - 1.9	06 - 08
	4	279 - 293	267 - 271	49 - 53	1.3 - 1.4	1.2 - 1.3	1.6 - 1.8	04 - 06
	5	265 - 279	263 - 267	45 - 49	1.2 - 1.3	1.1 - 1.2	1.5 - 1.6	02 - 04
	6	251 - 265	258 - 263	41 - 45	1.1 - 1.2	1.0 - 1.1	1.4 - 1.5	00 - 02
	7	238 - 251	254 - 258	38 - 41	1.0 - 1.1	0.9 - 1.0	1.3 - 1.4	-02 - 00
	8	224 - 238	249 - 254	34 - 38	0.9 - 1.0	0.8 - 0.9	1.1 - 1.3	-04(-) - 02
	9	210 - 224	245 - 249	30 - 34	0.8 - 0.9	0.7 - 0.8	1.0 - 1.1	-06(-) - 04
	10	196 - 210	241 - 245	26 - 30	0.7 - 0.8	0.6 - 0.7	0.9 - 1.0	-08(-) - 06
	11	183 - 196	236 - 241	23 - 26	0.6 - 0.7	0.5 - 0.6	0.8 - 0.9	-10(-) - 08
	12	169 - 183	232 - 236	19 - 23	0.5 - 0.6	0.4 - 0.5	0.6 - 0.8	-12(-) - 10
	13	155 - 169	228 - 232	15 - 19	0.4 - 0.5	0.3 - 0.4	0.5 - 0.6	-14(-) - 12
	14	141 - 155	223 - 228	11 - 15	0.3 - 0.4	0.2 - 0.3	0.4 - 0.5	-16(-) - 14
	15	128 - 141	219 - 223	08 - 11	0.2 - 0.3	0.1 - 0.2	0.3 - 0.4	-18(-) - 16
	16	114 - 128	214 - 219	04 -08	0.1 - 0.2	0.0 - 0.1	0.1 - 0.3	-20(-) - 18
	17	100 - 114	210 - 214	00 - 04	0.0 - 0.1	-0.1 - 0.0	0.0 - 0.1	-22(-) - 20
(white)	18	< 100	< 210	< 00	< 0.0	< -0.1	< 0.0	< -22

*valid between orbits 426 and 477
**valid between orbits 478 and 1425
***valid between orbits 1426 and 3521

Table 5-3
This table replaces Table 4-7 (on pages 82 and 83)
in The Nimbus 6 User's Guide

Table 4-7

Contour Program Options used for Parameters 13, 14, and 15 on the SCAMS Image Displays

Contour options	Parameters			Valid for orbits
	13 Mean temperature between 1000 mb and 500 mb	14 Mean temperature between 500 mb and 250 mb	15 Mean temperature between 250 mb and 100 mb	
Contour interval	4°K	4°K	4°K	426-851 (14 July-14 Aug. 1975)
Contour thickness	1°K	1°K	1°K	
Contour interval	4°K	4°K	4°K	852-3521 (14 Aug.-1975-29 Feb. 1976)
Contour thickness	2°K	2°K	2°K	

In Table 4-8 on page 80 the "Pitch error" and "Roll error" "Dimensional Units" should be changed to counts (from Deg) and the "Multiplier Used" should be changed to 1 (from 32). In the same table the "Playback orbit" should be followed by one "I*2 Spare", and then by the "Reference orbit", which should be changed to I*4 (rather than I*2). (Reference orbit = year * 100,00 + day * 100+finish hour.) The "Dimensional Units" for the "Geopotential thicknesses" on page 85 of the same table should be changed to "°K" (from DM).

The following information, describing how the antenna temperatures are computed from the SCAMS instrument digital data, should be added after SCAMS Section 4.5 of the User's Guide.

4.6 Post-launch Calibration

Antenna temperatures are computed from the SCAMS instrument digital data for each of the five channels by the equation

$$T_A = T_{AS} + \frac{T_{AC} - T_{AS}}{d_{T_c} - d_s} (d - d_s)$$

where T_A is antenna temperature for the earth (positions 0-12), T_{AS} is the space antenna temperature (position 13), T_{AC} is the calibration target antenna temperature (position 14), d is earth data in counts, d_s is space data in counts, and d_c is calibration target data in counts. The digital data matrix is described in Table 4-2 of the Nimbus 6 User's Guide. The space calibration antenna temperature is assumed constant at 3°K for all five channels. The target antenna temperature is computed by

$$T_{AC} = T_C + T_{CO}$$

The constant offset T_{CO} is currently assumed to be zero for all channels, and the target temperatures (T_C) are given by

$$T_C = a_0 + a_1 (R - R_{25}) + a_2 (R - R_{25})^2$$

where the thermistor resistances (R) are computed by

$$R = R_1 + \frac{R_2 - R_1}{d_{R2} - d_{R1}} (d_R - d_{R1})$$

and values of the other constants are listed in Table 4-9. Note that channels 3, 4, and 5 share the same calibration target. Also listed in Table 4-9 are word numbers in the digital data matrix containing data values d_R, d_{R1}, and d_{R2}.

5.4 ESMR Corrections to the User's Guide

The following are corrected equations for the ESMR Section of the User's Guide:

page 90

$$X\ (km) = (636 + 10.8P = 0.32P^2)\ R_j$$

page 96

$$T_B = T_A - (T_A - T_C)\ \frac{(C - C_A)}{(C_C - C_A)}$$

page 101

$$T_{\substack{\text{Horizontal} \\ \text{True}}} = 1 + a\ T_{\substack{\text{Horizontal} \\ \text{Nominal}}} - T_{\substack{\text{Vertical} \\ \text{Nominal}}}$$

Table 5-4

This table accompanies Section 4.6 "Post-launch Calibration", and should be added to the end of the SCAMS section of the User's Guide.

Table 4-9

Thermistor Calibration Constants
used to Calculate the SCAMS Target Temperatures

constant \ channel	1	2	3,4,5
a_0	298.16		
a_1	.46485	.46535	.46814
a_2	$3.0 \cdot 10^{-5}$	$2.9 \cdot 10^{-5}$	$3.0 \cdot 10^{-5}$
R_{25}	603.75	602.98	599.71
R_1	495.6		
R_2	603.4		
d_R (word no.)	1	11	2
d_{R1} (word no.)	61		62
d_{R2} (word no.)	71		72

$$T_{\substack{\text{Vertical} \\ \text{True}}} = 1 + b\, T_{\substack{\text{Vertical} \\ \text{Nominal}}} - b\, T_{\substack{\text{Horizontal} \\ \text{Nominal}}}$$

page 106

$$N_i = 256\ (T_{Hi} - 100) + T_{Vi} - 100$$

The following information supplements Section 5.3.2 in the User's Guide.

The display format and temperature ranges of the images in the swath displays for ESMR has been changed since launch. Only the full vertical scale (SCALE-F) is used, and its format has been changed to provide a better aspect ratio to each image. Each scan line of ESMR data is displayed twice (rather than once, as stated on the last line on page 103 of the User's Guide) and each of the 71 scan-spot elements across a scan is only displayed once (rather than twice, as stated on line three on page 104 of the User's Guide).

By displaying each of the 71 scan-spot elements only once the width of each swath is half the planned width. Therefore, the display format now contains 20 swaths in two groups of ten, each with its own TIME (and) SUBPOINT line. Each group of ten contains the same geographic coverage. The swaths within each group contain different temperature and polarization information. However, the temperature and polarization information for each group is similar. That is, the range of temperatures and the polarization for swath 1 is the same as for swath 11; similarly, swaths 2 and 12 are the same, etc. The swaths are not labeled, as planned. On these displays swath number 1 is on the far left, with numbers incrementing to swath number 20 on the far right. The tables here labeled 5-5 and 5-5a replace Table 5-5 on page 105 of the User's Guide. The new tables give the new brightness temperature values versus steps of the gray scale for each of the 20 swaths.

The ten swaths on the right half of each display show the earliest recorded data, and the ten on the left half show the latest recorded data. If the right set of ten swaths were cut and placed above the left set, the modified display would show the continuous coverage recorded for that orbit.

5.5 ERB Corrections to the User's Guide

Post-launch calibration procedures are described below. While some numbers are for the period of this catalog, the calibration procedure is valid for all data. This information can be added as Section 6.5a to the User's Guide and would fit on page 134.

6.5a Post-launch Calibration

The observations from the wide-angle channels (11 and 12), which measure the total energy ($< 0.2\,\mu m$ to $> 50\,\mu m$) emitted and reflected by the earth, depend on the prelaunch calibration and pertinent instrument temperatures. Assuming unit emissivity for the target scene, the irradiance from the scene is given by,

$$H_T = [\Delta W - \epsilon_s F_s \sigma T_s^4 + \epsilon_d F_d \sigma (T_d + K\,v)^4]$$

where

ΔW = effective thermopile irradiance ($w\ m^{-2}$)

$\sigma = 5.6697 \times 10^{-8}\ w\ m^{-2}\ (deg.\ K)^{-4}$

ϵ_s = emissivity of FOV stop = 0.965

F_s = view factor of the FOV stop = 0.18892

T_s = temperature (°K) of the FOV stop

Table 5-5
This table replaces Table 5-5 on page 105 in the User's Guide

Table 5-5

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 426 through 827 (14 July through 12 August 1975)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 (T_V-T_H)
(black)	1	> 200			> 250			> 300			> 50
	2	196-200	same	same	246-250	same	same	296-300	same	same	46-50
	3	193-196	as	as	243-246	as	as	293-296	as	as	43-46
	4	190-193	1 and 11	1 and 11	240-243	4 and 14	4 and 14	290-293	7 and 17	7 and 17	40-43
	5	187-190			237-240			287-290			37-40
	6	184-187			234-237			284-287			34-37
	7	181-184			231-234			281-284			31-34
	8	178-181			228-231			278-281			28-31
	9	175-178			225-228			275-278			25-28
	10	171-175			221-225			271-275			21-25
	11	168-171			218-221			268-271			18-21
	12	165-168			215-218			265-268			15-18
	13	162-165			212-215			262-265			12-15
	14	159-162			209-212			259-262			09-12
	15	156-159			206-209			256-259			06-09
	16	153-156			203-206			253-256			03-06
	17	150-153			200-203			250-253			00-03
(white)	18	< 150			< 200			< 250			< 00

T_H = Brightness temperature derived from the ESMR horizontal polarization channel data

T_V = Brightness temperature derived from the ESMR vertical polarization channel data

Table 5-6
This table follows the new Table 5-5 (above), which replaced
Table 5-5 on page 105 in the User's Guide

Table 5-5a

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays
for Orbits 828 through 3521 (13 August 1975 through 29 February 1976)
(Brightness Temperatures are in °K)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 ($T_V-0.6T_H$)
(black)	1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	> 140
	2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
	3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
	4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
	5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
	6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
	7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
	8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
	9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
	10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
	11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
	12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
	13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
	14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
	15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
	16	134-139	174-175	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
	17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white)	18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 260	< 80

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

ϵ_d = emissivity of the thermopile = 0.977

F_d = view factor of the thermopile = 0.80461

T_d = temperature (°K) of the thermopile base

K = factor relating thermopile base temperature to thermopile surface temperature = 0.0031°K per count

v = thermopile output in digital counts

The effective thermopile irradiance (ΔW) is obtained from the thermopile output (v) as follows:

$$\Delta W = a_o\ (T_m) + a_1\ (T_m) \cdot v$$

where

$$a_o = C_o + C_1\ T_m,$$

and

$$a_1 = d_o + d_1\ T_m$$

are derived from prelaunch calibrations and depend on the module temperature (T_m, °C). The coefficients C_o, C_1, d_o, d_1 are given below. In calibrating channel 11 and channel 12 (W) with the FOV stop out, the quantity F_s in the equation for H_T is set to zero.

	Ch. 11	Ch. 12 (W)	Ch. 12 (N)
C_o:	9.86	10.4	8.38
C_1:	0.18358	0.23235	0.18483
d_o:	0.6042	0.6035	0.6014
d_1:	-8.254×10^{-4}	-6.109×10^{-4}	-5.879×10^{-4}

The observations from the other two wide-angle channels (13 and 14), which measure the shortwave radiation (0.2 μm to 4.0 μm), and (0.7 μm to 3.0 μm), are transformed to irradiance (H) by,

$$H = \frac{(V-V_o)}{S_T}$$

where V is the digital counts, V_o is the offset (in counts) observed from dark FOV's, and S_T is the sensitivity (w m^{-2} $count^{-1}$) obtained from the equation: $S_T + S_o(1+(0.01) \cdot (T-25) \cdot STC)$, where S_o is the sensitivity at 25°C, T is the detector temperature (°C), and STC is the sensitivity temperature coefficient (percent per degree C). These constants are given below:

Ch	V_o	S	STC
13	-41	2.004	0.04
14	-44	3.989	0.03

The interpretation of digital counts (V) from the shortwave scanning channels (15-18) gives the radiance (w m^{-2} sr^{1}) of the scene (N_s) by,

$$N = \frac{(V-V_o)}{S_T}$$

where V_o is the offset (counts) obtained during views of the internal blackbody or space. The sensitivity S_T at temperature T(°C) is obtained using the equation for S_T described above, and the constants given below.

Ch	V_o	S	STC
15	-3	3.155	0.0
16	0	3.275	0.03
17	-1	3.116	-0.01
18	15	2.963	-0.05

A series of checks on the sensitivity of these channels, using the on-board diffuse target, indicated no noticeable degradation over the July-August period of operation.

The longwave scanning channels (19-22) have had numerous inflight calibrations which have remained essentially unchanged since 3 July. The calibration coefficients, a_o and a_1 relate digital counts (V) to the scene radiance N (w m^{-2} sr^{-1}) as follows:

$$N_s = N_m + a_o + a_1 \cdot V$$

where N_m is the radiance of the detector module. The radiance N_s is the actual radiance measured within the spectral limits of the filter (4.5 μm to 50 μm). The calibration coefficients, obtained from inflight calibrations on 3 July, are as follows:

Ch	a_o	a_1
19	-0.82	0.09583
20	-0.60	0.10535
21	-1.26	0.10168
22	-0.29	0.10338

The deviations of these calibration coefficients as derived from inflight calibrations from 29 July to 20 August are shown in Table 6-6a. The only change which indicates a need for updating the calibration coefficients is the change in the intercept of channel 20.

Periodic checks of the electronic gains of channels 1 through 14 have shown that the electronic gains have remained within 0.5 percent of the prelaunch values, with few exceptions. Table 6-6a shows the percentage of maximum deviation in the gain ratios (current/prelaunch) for the three steps in the calibration staircase voltage. The 6.5 percent change in the high-level gain of channel 2 and the gain changes in channels 6, 7, and 8 are believed to be caused by radio-frequency interference with the electronic calibration circuit and is neither a real change in the electronic gain nor nonlinearities of the channels.

Table 5-7

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6a

Stability of Calibration of the
ERB Longwave Scanning Channels
(between 29 July and 20 August 1975)

	Channel 19		Channel 20		Channel 21		Channel 22	
Date	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1
7/29	-0.07	-0.4	1.12	0.5	-0.07	-0.4	0.36	-0.3
8/5	0.50	-0.3	1.22	0.1	0.08	-0.3	0.11	-0.2
8/8	0.68	-0.4	1.33	0.1	0.04	-0.2	-0.003	-0.1
8/12	-0.06	-0.2	0.74	-0.4	-0.09	-0.3	0.17	-0.2
8/17	0.69	-0.3	1.49	0.2	0.20	-0.3	0.16	-0.2
8/20	-0.22	-0.3	1.53	0.2	0.04	-0.2	0.13	-0.4

Δa_o = change in intercept (w m^{-2} sr^{-1})

$= (a_o)_{current} - (a_o)_{7/3/75}$

Δa_1 = change in slope (% w m^{-2} sr^{-1} ct^{-1})

$$= \frac{[(a_1)_{current} - (a_1)_{7/3/75}]}{(a_1)_{7/3/75}} \times 100$$

Table 5-8

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6b

Percentage Change of the Maximum Deviation in the Gain Ratio between Post-launch and Prelaunch Gain Values for ERB channels 1 through 14 (20 June and 17 August 1975)

Ch	G_{0-39}	G_{30-60}	G_{60-90}
1	-0.2	0.2	-0.1
2	0.1	-0.3	-6.5
3	±0.1	-0.1	-0.2
4	±0.1	-0.2	-0.1
5	±0.1	-0.2	0.2
6	2.6	1.8	-2.1
7	1.3	2.1	-0.6
8	1.6	1.3	-0.9
9	0.4	-0.6	±0.1
10	0.7	-0.5	±0.2
11	-0.4	0.3	0.4
12	0.2	-0.2	0.4
13	-0.3	0.2	0.3
14	+0.2	-0.1	0.3

Table 6-7, the ERB Compacted Archival Tape Format, on pages 136 through 139 of the User's Guide, should be changed as follows:

Directory Record (Page 136)

Delete last line of section A which reads:

"135-340	Zero fill	1"

and add the following:

135-149	Orbital Elements	
135	Day of Epoch	1
136	Year of Epoch	1
137	Hours	1
138	Minutes (including fraction)	100
139	Eccentricity	10^5
140	Argument of Perigee (integer part)	1
141	Argument of Perigee (fraction part)	10^3
142	Right Ascension (integer part)	1
143	Right Ascension (fraction part)	10^3
144	Inclination (integer part)	1
145	Inclination (fraction part)	10^3
146	Semimajor Axis (km, integer part)	1
147	Semimajor Axis (km, fraction part)	10^3
148	Mean Anomaly (integer part)	1
149	Mean Anomaly (fraction part)	10^3
150	Sun-Earth Distance (A. U.)	10^4
151-340	Zero fill	1

Orbital Summary Record (Page 139)

Delete last line of table, which reads:

17-340	Zero fill	1"

and add the following:

17-26	Solar Irradiances (Chs. 1-10) Normalized to mean sun-earth distance	Chs. 1-5:10 Chs. 6-10:100
27	Solar Channels Assembly Gamma Angle (positive to right of track)	1
28-340	Zero fill	1

5.6 LRIR Corrections to the User's Guide

Table 5-9

Post-launch analysis of relative spectral response data and orbital data leads to the following corrected values for Table 7-2, on page 154 of the User's Guide.

Table 7-2

Optical Characteristics of LRIR Channels

Channel		Band Pass (50% Peak Response)	Field-of-view (km)		Random noise in orbit* $\pm 1\sigma$(watts/m^2-sr)
No.	Abbrev.		Vertical	Horizontal	
1	NCO_2	649-672 cm^{-1} (14.9-15.4 μm)	2.0	20	0.0023
2	BCO_2	592-700 cm^{-1} (14.3-16.9 μm)	2.0	20	0.0040
3	O_3	984-1169 cm^{-1} (8.6-10.2 μm)	2.0	20	0.011
4	H_2O	412-446 cm^{-1} (22.4-24.3 μm)	2.5	25	0.008

*Noise will gradually increase as the detector temperature increases during the useful life of the experiment.

5.7 PMR Corrections to the User's Guide

There are no PMR corrections to the User's Guide.

5.8 TWERLE Corrections to the User's Guide

Table 5-10

The following are address changes to Table 9-2
on page 186 in the User's Guide.

Table 9-2

Nimbus RAMS Experiments - Address Changes

Address Changes

OLD	NEW
Mr. G. R. Cresswell Division of Fisheries & Oceanography Commonwealth Scientific & Industrial Research Organization Melbourne, Australia	Mr. G. R. Cresswell Division of Fisheries & Oceanography CSIRO P. O. Box 21 Cronulla, N. S. W. 2230 Australia
A. J. Dyer CSIRO P. O. Box 77 Mordialloc, Vic 3195 Australia	Dr. A. J. Dyer Division of Atmospheric Physics CSIRO Station Street ASPENDALE 3195 Victoria, Australia
Professor Pierre Lacombe, Director Laboratory d'Oceanographic Museau Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor Pierre Lacombe, Director Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France
Professor P. Tchernia Museum d'Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor P. Tchernia Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France

Table 9-2 (Continued)

Dr. Norbert Untersteiner, Program Director Project AIDJEX 4059 Roosevelt Wave, N. E. Seattle, WA 98105	Dr. Norbert Untersteiner AIDJEX Coordinator University of Washington 4059 Roosevelt Way, N. E. Seattle, Washington 98105
Dr. Donald V. Hansen, Director Physical Oceanography AOWL NOAA U. S. Department of Commerce Miami, Florida	Dr. Donald V. Hansen, Director Physical Oceanography Laboratory AOML/NOAA 15 Rickenbacker Causeway Virginia Key Miami, Florida 33149
Vincent E. Lally National Center for Atmospheric Research P. O. Box 1470 Boulder, Colordao 80302	Mr. Vincent E. Lally National Center for Atmospheric Research P. O. Box 3000 Boulder, Colorado 80302
J. Lentfer Wildlife Research U. S. Department of Interior 813 D. Street Anchorage, Alaska	Mr. Jack W. Lentfer Fish and Wildlife Service Department of Interior 4454 Business Park Blvd. Anchorage, Alaska 99503
H. Brann Bureau of Meteorology Melbourne, Victoria Australia	Mr. H. N. Brann Bureau of Meteorology P. O. Box 1289K Melbourne, Victoria 3001 Australia
Robert Kee Development Engineering Division Code 6201 U. S. Naval Oceanographic Office Washington, D. C. 20390	Mr. Robert Kee Code 6220 U. S. Naval Oceanographic Office Washington, D. C. 20373

Table 9-2 (Concluded)

F. Anderson South African Council for Scientific & Industrial Research Congella, Natal, South Africa	Mr. Frank P. Anderson CSIR, Institute for Technology P. O. Box 17001 Congella 4013 South Africa
H. Stommel Professor of Oceanography MIT Cambridge, Massachusetts	Professor Henry Stommel Department of Meteorology Room 54-1416 Massachusetts Institute of Technology Cambridge, Massachusetts 02139
B. Buck Polar Research Lab. Santa Barbara California 93101	Mr. B. M. Buck, President Polar Research Laboratory, Inc. 123 Santa Barbara Street Santa Barbara, California 93101
John A. Knauss Graduate School of Oceanography University of Rhode Island Kingston, Rhode Island 02881	Dr. P. L. Richardson Woods Hole Ocean Institute Woods Hole, Massachusetts 02543

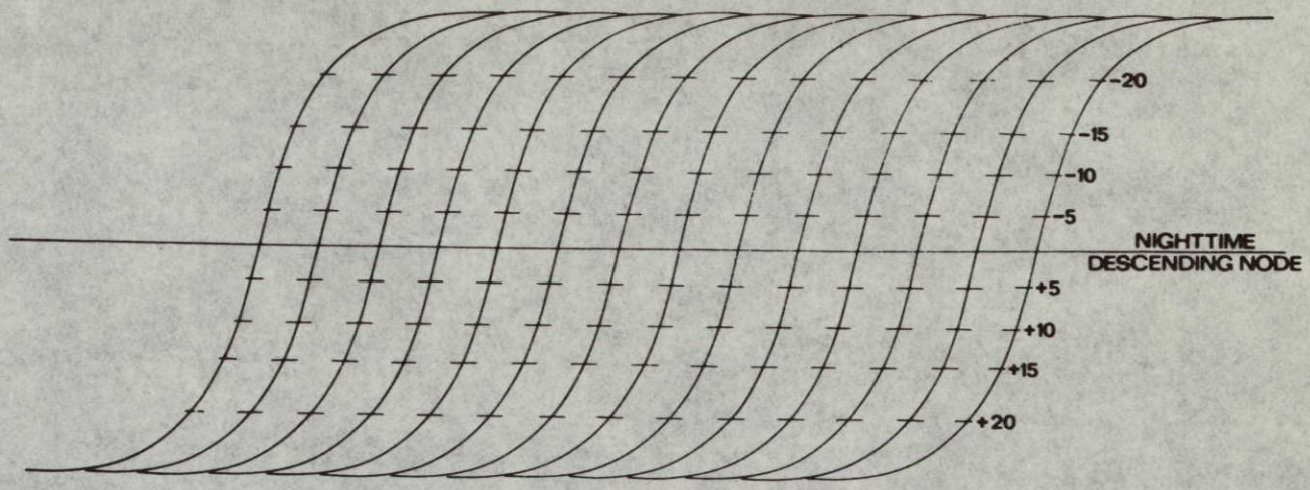
5.9 T&DRE Corrections to the User's Guide

There are no T&DRE corrections to the User's Guide.

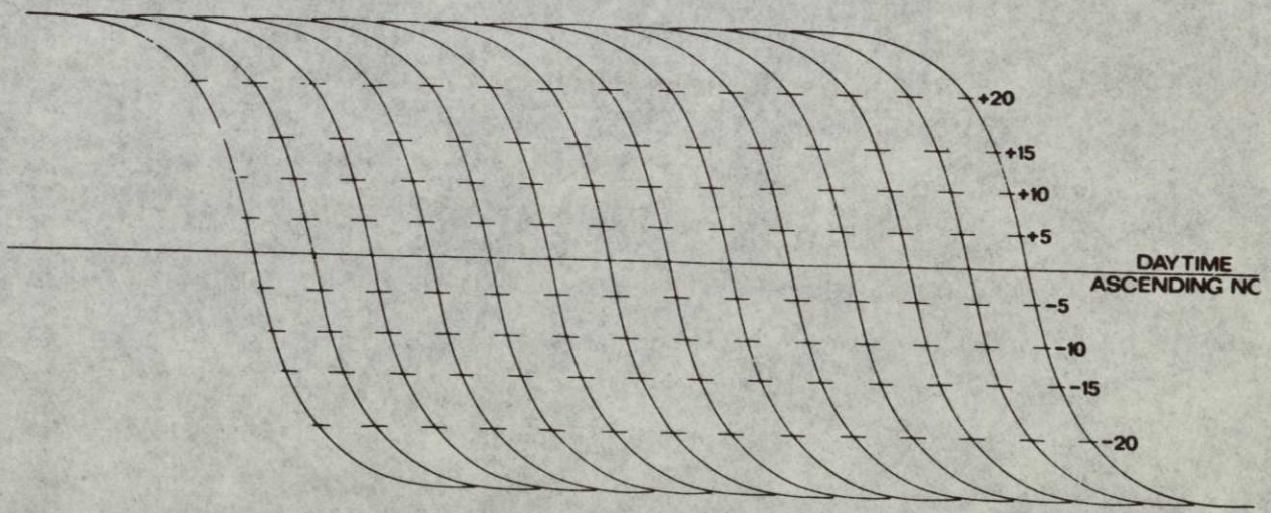
Table 5-11

The following are new TWERLE users, added since launch.
This information should be added to Table 9-2
(Nimbus RAMS Experiments) on page 186 in the User's Guide.

Principal Investigator	Experiment Title	Platform		
		Number	Type	Deployment Area
Dr. A. D. Kirwan, Jr. Department of Oceanography College of Geosciences Texas A & M University College Station, Texas 77843	Anomaly Dynamics Study (ADS)	32	Drifting Buoys	North Pacific
Mr. David F. Thomas, Jr. SATD-MEB-SDS, Mail Stop 322 NASA Langley Research Center Hampton, Virginia 23665	Air-droppable In Situ Platforms for Long Duration Measurements near Hurricanes	10	Ocean Platforms	Western Atlantic near North America
Dr. P. Roger Williamson Department of Applied Physics & Information Science University of California – San Diego La Jolla, California 92037	Stratospheric Monitoring with Longterm Balloon Flights	3	Super-pressure Balloons	Southern Hemisphere
Mr. J. C. O'Rourke Canadian Marine Drilling Ltd. P. O. Box 200 Calgary, Canada T2P 2H8	Arctic Ice Dynamics	2-4	Sea Ice Platforms	Beaufort Sea
Dr. J. Michael Hall NOAA Data Buoy Office National Space Tech Office Bay St. Louis, Mississippi 39520	East Coast Drifting Experiment	24	Drifting Buoys	Atlantic Ocean
	High Impact Detection and Determination on Large Buoys	10	Buoy	Atlantic Ocean, Gulf of Mexico, & North Pacific Ocean
	Reliability Enhancement Experiment	3	Buoy	Santa Barbara, California & Arctic Ocean
Mr. Robert Oehlkers University of Wisconsin Space Science and Engineering Center 1225 W. Dayton St. Madison, Wisconsin 53706	Buoy Experiments in Lake Michigan	10	Buoy	Lake Michigan



NIMBUS SUBSATELLITE TRACKS OVERLAY



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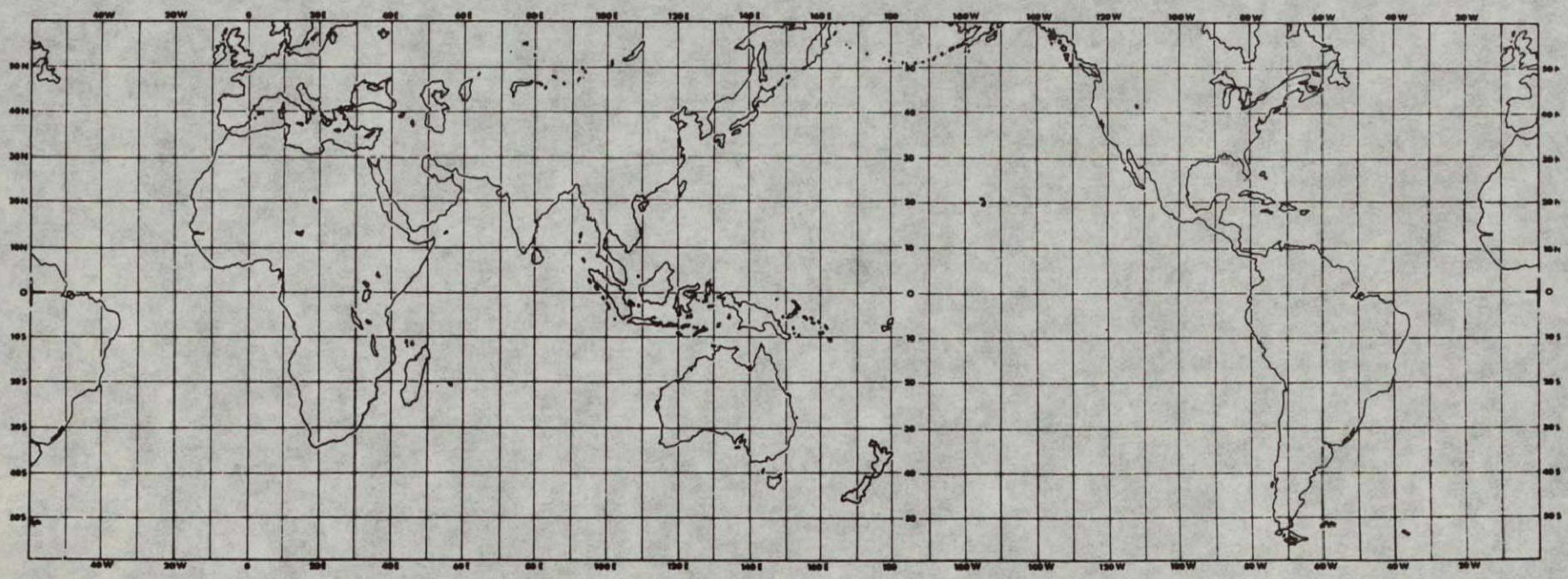
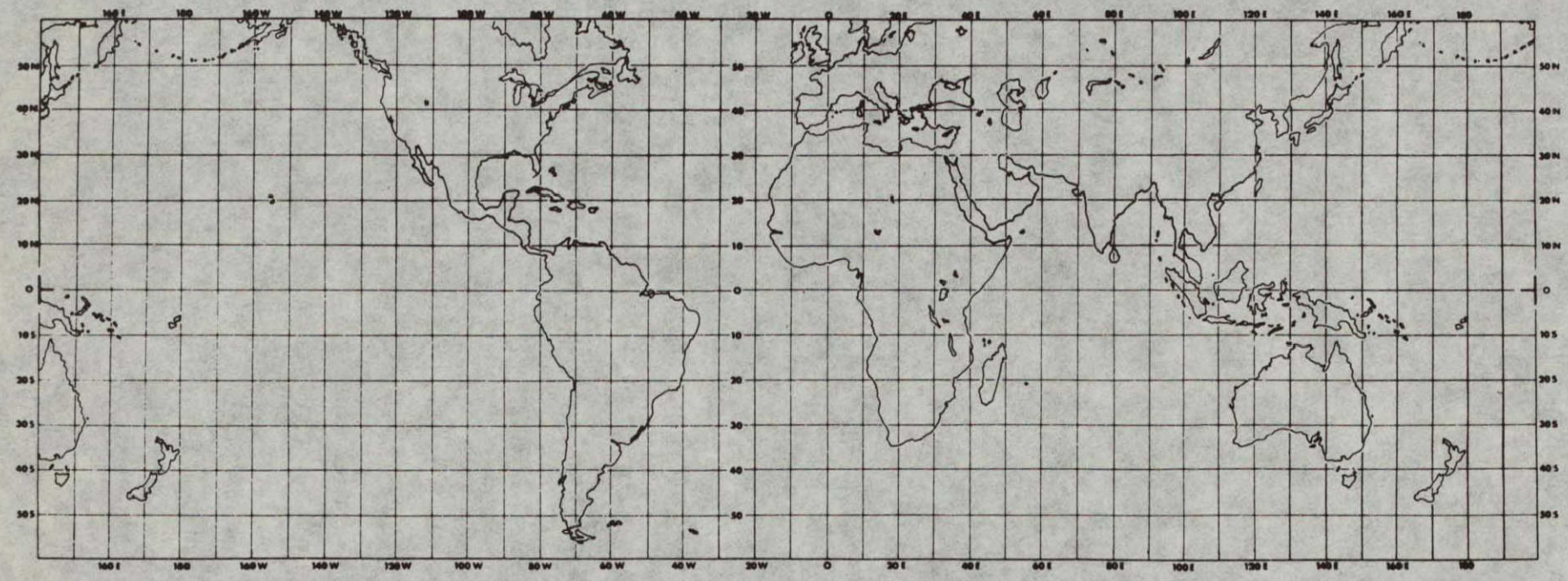


Location Guide
Average Scale for Nimbus
THIR Nighttime Montages



Location Guide
Average Scale for Nimbus
THIR Daytime Montages