

CROP IDENTIFICATION TECHNOLOGY ASSESSMENT
FOR REMOTE SENSING (CITARS)

VOLUME III

THE FIRST EARTH RESOURCES TECHNOLOGY SATELLITE (ERTS-1)
MULTISPECTRAL SCANNER DATA ACQUISITION

SUPPLEMENT

ERTS-1 IMAGERY USED FOR DATA QUALITY ASSESSMENT



National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas

January 1975

CROP IDENTIFICATION TECHNOLOGY ASSESSMENT
FOR REMOTE SENSING (CITARS)

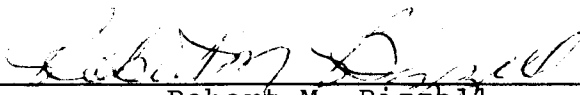
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MULTISPECTRAL SCANNER DATA ACQUISITION

SUPPLEMENT

ERTS-1 IMAGERY USED FOR DATA QUALITY ASSESSMENT

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER
HOUSTON, TEXAS

January 1975

CONTENTS

Section	Page
Objectives	1
Description of Imagery	1
Definition of Terms.	2
Designated Usage Data, By County	3
Huntington County, Indiana.	5
Shelby County, Indiana.	15
White County, Indiana	23
Livingston County, Illinois	31
Fayette County, Illinois.	41
Lee County, Illinois.	55
References	63

Page iv is blank

TABLES

Table		Page
I	HUNTINGTON COUNTY, INDIANA.	5
II	SHELBY COUNTY, INDIANA.	15
III	WHITE COUNTY, INDIANA	23
IV	LIVINGSTON COUNTY, ILLINOIS	31
V	FAYETTE COUNTY, ILLINOIS.	41
VI	LEE COUNTY, ILLINOIS.	55

FIGURES

Figure		Page
Huntington County, Indiana		
1	ERTS-1 frame 1320-15534 (1:250,000).	6
1a	ERTS-1 frame 1320-15534 (enlargement).	7
2	ERTS-1 frame 1321-15593 (1:250,000).	8
2a	ERTS-1 frame 1321-15593 (enlargement).	9
3	ERTS-1 frame 1357-15590 (1:250,000).	10
3a	ERTS-1 frame 1357-15590 (enlargement).	11
4	ERTS-1 frame 1428-15520 (1:250,000).	12
4a	ERTS-1 frame 1428-15520 (enlargement).	13
Shelby County, Indiana		
5	ERTS-1 frame 1320-15541 (1:250,000).	16
5a	ERTS-1 frame 1320-15541 (enlargement).	17
6	ERTS-1 frame 1411-15581 (1:250,000).	18
6a	ERTS-1 frame 1411-15581 (enlargement).	19
7	ERTS-1 frame 1428-15523 (1:250,000).	20
7a	ERTS-1 frame 1428-15523 (enlargement).	21
White County, Indiana		
8	ERTS-1 frame 1321-15593 (1:250,000).	24
8a	ERTS-1 frame 1321-15593 (enlargement).	25
9	ERTS-1 frame 1394-16042 (1:250,000).	26
9a	ERTS-1 frame 1394-16042 (enlargement).	27

Figure		Page
10	ERTS-1 frame 1411-15581 (1:250,000).	28
10a	ERTS-1 frame 1411-15581 (enlargement).	29
Livingston County, Illinois		
11	ERTS-1 frame 1322-16051 (1:250,000).	32
11a	ERTS-1 frame 1322-16051 (enlargement).	33
12	ERTS-1 frame 1341-16104 (1:250,000).	34
12a	ERTS-1 frame 1341-16104 (enlargement).	35
13	ERTS-1 frame 1358-16045 (1:250,000).	36
13a	ERTS-1 frame 1358-16045 (enlargement).	37
14	ERTS-1 frame 1376-16043 (1:250,000).	38
14a	ERTS-1 frame 1376-16043 (enlargement).	39
Fayette County, Illinois		
15	ERTS-1 frame 1322-16054 (1:250,000).	42
15a	ERTS-1 frame 1322-16054 (enlargement).	43
16	ERTS-1 frame 1323-16112 (1:250,000).	44
16a	ERTS-1 frame 1323-16112 (enlargement).	45
17	ERTS-1 frame 1341-16111 (1:250,000).	46
17a	ERTS-1 frame 1341-16111 (enlargement).	47
18	ERTS-1 frame 1358-16051 (1:250,000).	48
18a	ERTS-1 frame 1358-16051 (enlargement).	49
19	ERTS-1 frame 1359-16105 (1:250,000).	50
19a	ERTS-1 frame 1359-16105 (enlargement).	51

Figure		Page
20	ERTS-1 frame 1394-16044 (1:250,000).	52
20a	ERTS-1 frame 1394-16044 (enlargement).	53
Lee County, Illinois		
21	ERTS-1 frame 1359-16100 (1:250,000).	56
21a	ERTS-1 frame 1359-16100 (enlargement).	57
22	ERTS-1 frame 1360-16155 (1:250,000).	58
22a	ERTS-1 frame 1360-16155 (enlargement).	59
23	ERTS-1 frame 1378-16153 (1:250,000).	60
23a	ERTS-1 frame 1378-16153 (enlargement).	61

ERTS-1 IMAGERY UTILIZED FOR
DATA QUALITY ASSESSMENT OF CITARS
(Supplement to CITARS Data Acquisition)

Objectives

This supplement was prepared to provide additional insight on the data quality assessment phase of the Crop Identification Technology Assessment for Remote Sensing (CITARS). Specifically, the imagery in this addendum is expected to represent the imagery to be acquired during the Large Area Crop Inventory Experiment (LACIE).

Description of Imagery

The imagery consists of color contact prints of (1) frames taken by the first Earth Resources Technology Satellite (ERTS-1) and produced by the Goddard Space Flight Center and (2) enlargements containing the defined study segments of the frame area. The study areas shown in these photographs include three counties in Indiana (Huntington, Shelby, and White) and three in Illinois (Livingston, Fayette, and Lee). The selected enlargement factor produces imagery at a scale similar to that of the film imagery for the ERTS-1 electronic data collected at the Data Analysis Station (about 1:250,000).

The scenes represent the ones selected during the initial quality assessment activity for subsequent data processing, including base data sets that are used as references for registration processing and that may subsequently be dropped from the analyses because of extensive cloud coverage or unacceptable signal/noise ratios (ref. 1).

Definition of Terms

The anticipated roles of each scene are tabulated for each segment. In general, they can be categorized into one or more of the following:

(a) Base data set: This category applies to a reference data set for a particular segment to which all other data sets for that segment are registered to automatic correlation/registration processing by the Laboratory for Applications of Remote Sensing (ref. 2).

(b) Local recognition: This term defines a data set that has been selected for complete analyses to provide classification performances to be used in the CITARS analyses of variance processing (ref. 2).

(c) Non-local recognition: A subset from the local recognition set was selected to provide classification performances for analyses of variance, and the statistics used for class signatures were provided by a different data set within the same ERTS-1 cycle (ref. 2).

(d) Non-local training: This designation applies to data sets that provide the statistics for non-local recognition of the data sets.

(e) Other: Data not selected for processing data that are not usable because of cloud coverage or incomplete coverage are included in this category.

Designated Usage Data, By County

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Huntington County, Indiana

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of Huntington County, Indiana, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE I.- HUNTINGTON COUNTY, INDIANA

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1320-15534	8 Jun 73	I/1	Base reference		
1321-15593	9 Jun 73	I/2	Second day of opportunity Cloud-free pass		
1357-15590	7 Jul 73	III/2	Local recognition	Fayette/1359-16105 Lee/1360-16155	Livingston/1358-16045 Lee/1360-16155
1428-15520	24 Sep 73	VII/1	Local recognition	Shelby/1428-15523	Shelby/1428-15523

HUNTINGTON CO., INDIANA
1320-15534
8 JUN 73



Figure 1.- ERTS-1 frame 1320-15534 (1:250,000).

HUNTINGTON CO., INDIANA
1320-15534
8 JUN 73

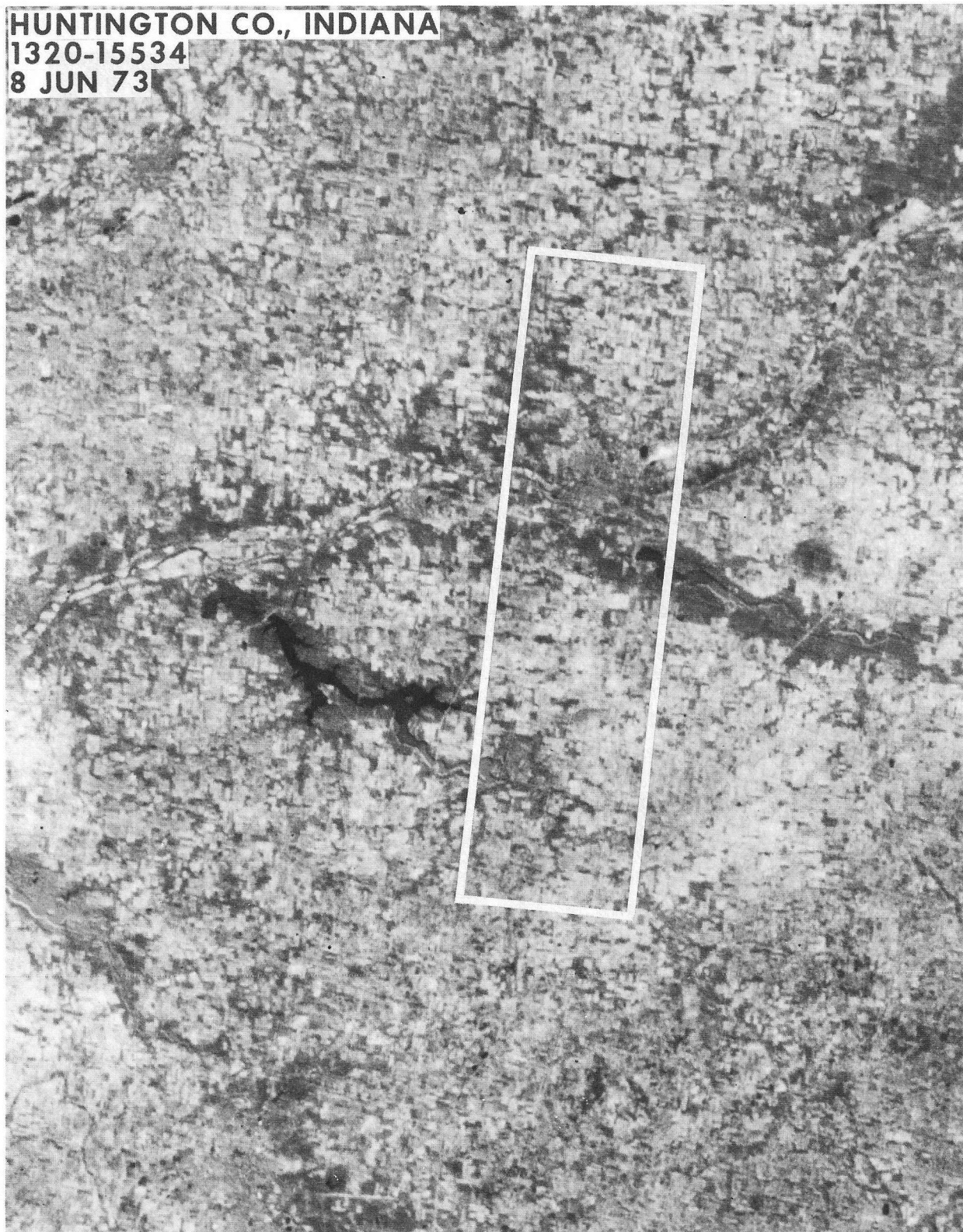


Figure 1a.- ERTS-1 frame 1320-15534 (enlargement).

HUNTINGTON CO., INDIANA
1321-15593
9 JUN 73



Figure 2.- ERTS-1 frame 1321-15593 (1:250,000).

HUNTINGTON CO., INDIANA
1321-15593
9 JUN 73

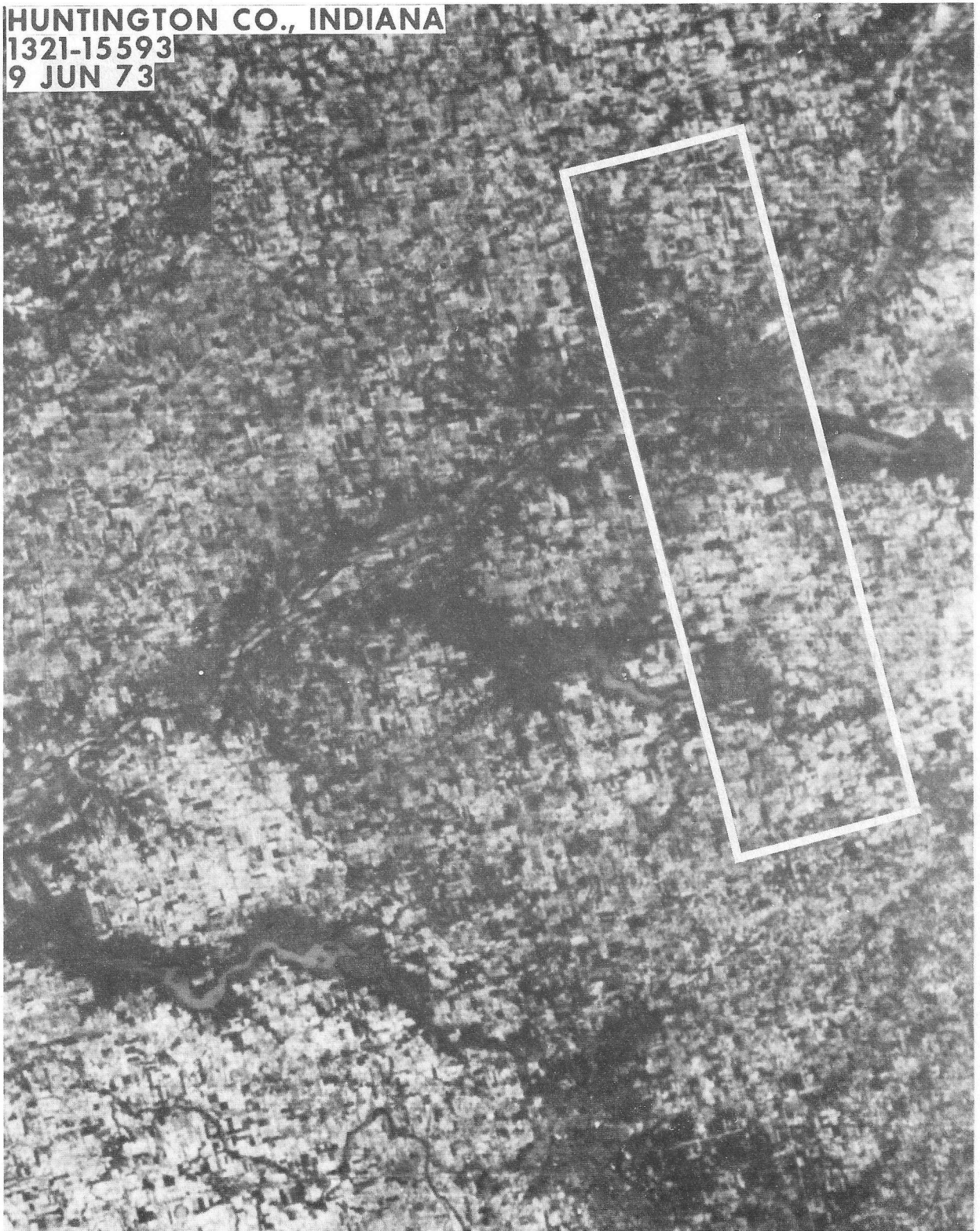


Figure 2a.- ERTS-1 frame 1321-15593 (enlargement).

HUNTINGTON CO., INDIANA
1357-15590
7 JUL 73



Figure 3.- ERTS-1 frame 1357-15590 (1:250,000).

HUNTINGTON CO., INDIANA
1357-15590
7 JUL 73

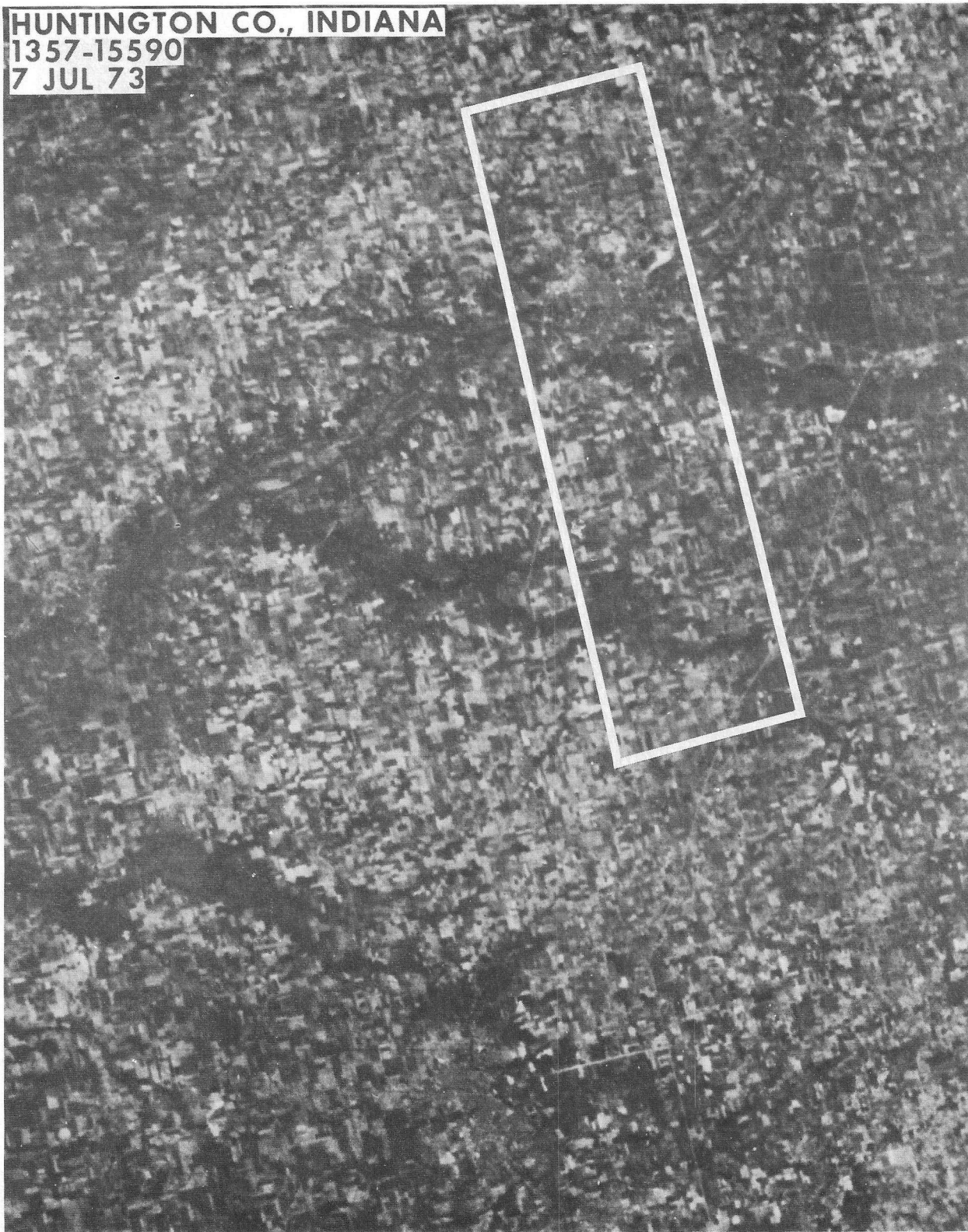


Figure 3a.- ERTS-1 frame 1357-15590 (enlargement).

HUNTINGTON CO., INDIANA
1428-15520
24 SEP 73



Figure 4.- ERTS-1 frame 1428-15520 (1:250,000).

HUNTINGTON CO., INDIANA
1428-15520
24 SEP 73

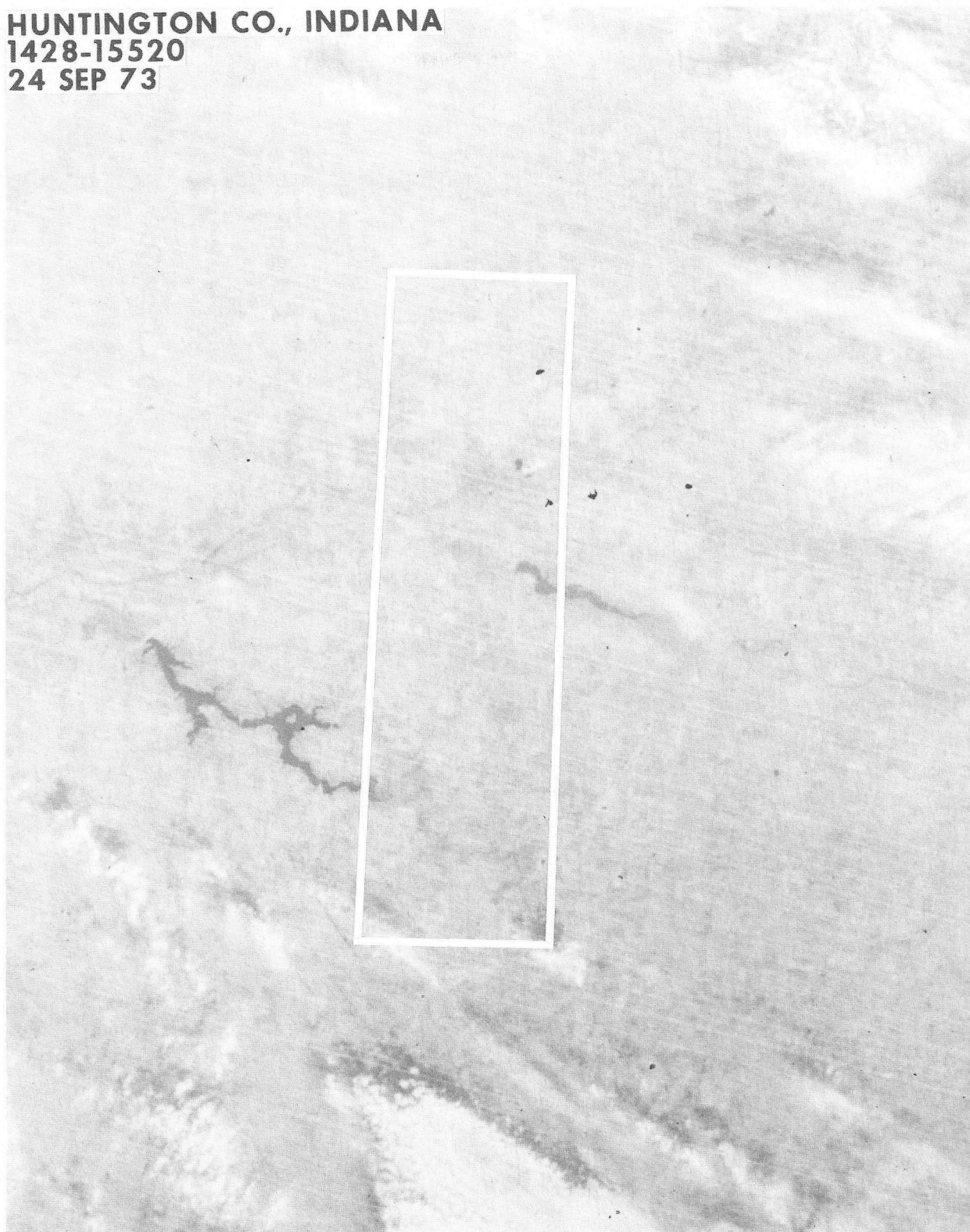


Figure 4a.- ERTS-1 frame 1428-15520 (enlargement).

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Shelby County, Indiana

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of Shelby County, Indiana, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE II.- SHELBY COUNTY, INDIANA

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1320-15541	8 Jun 73	I/1	Local recognition (wheat only)	Fayette/1322-16054	Fayette/1322-16054
1411-15581	7 Sep 73	VI/2	Local recognition	White/1411-15581	White/1411-15581
1428-15523	24 Sep 73	VII/1	Local recognition	Huntington/1428-15520	Huntington/1428-15520

SHELBY CO., INDIANA
1320-15541
8 JUN 73

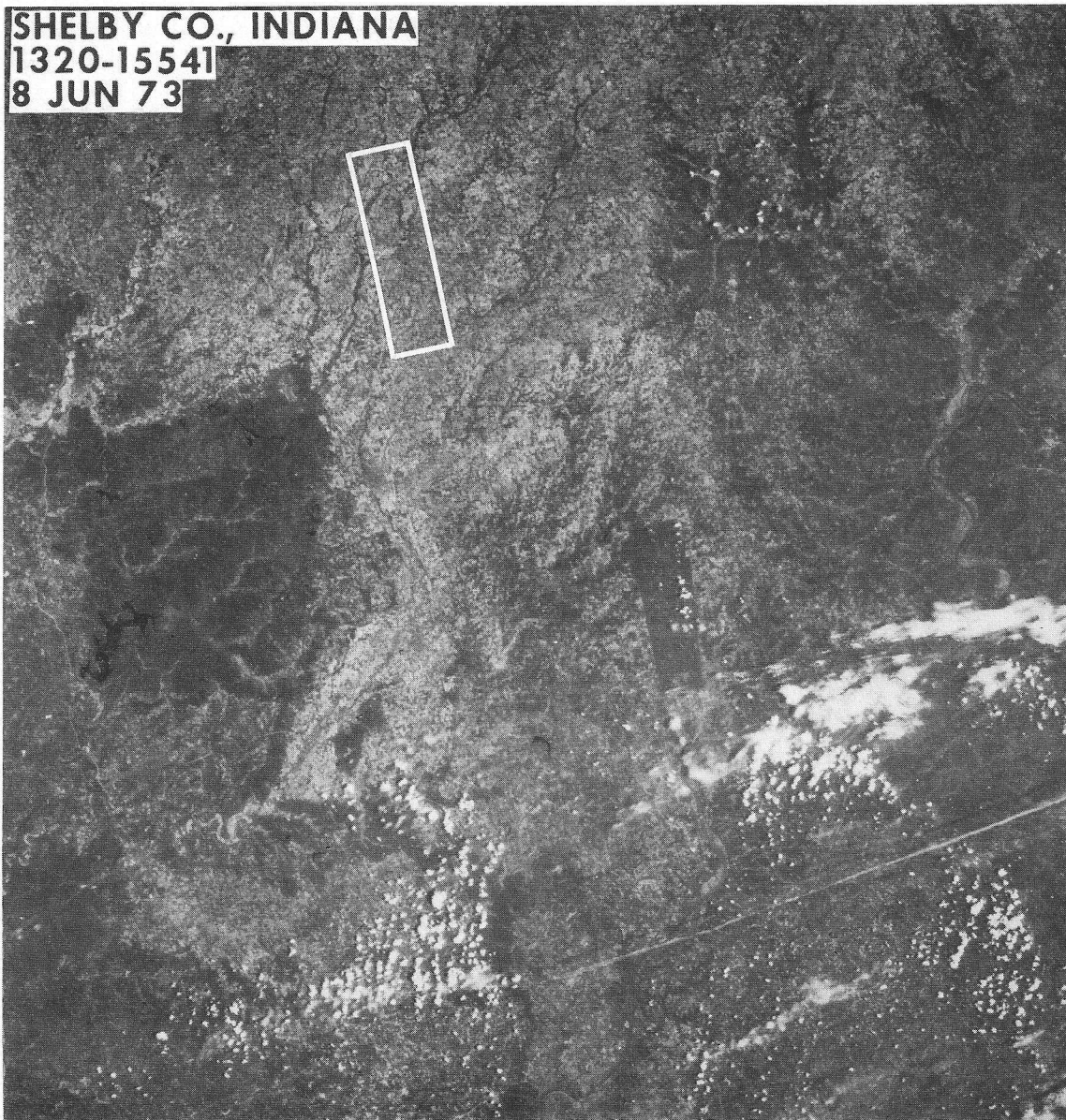


Figure 5.- ERTS-1 frame 1320-15541 (1:250,000).

SHELBY CO., INDIANA
1320-15541
8 JUN 73

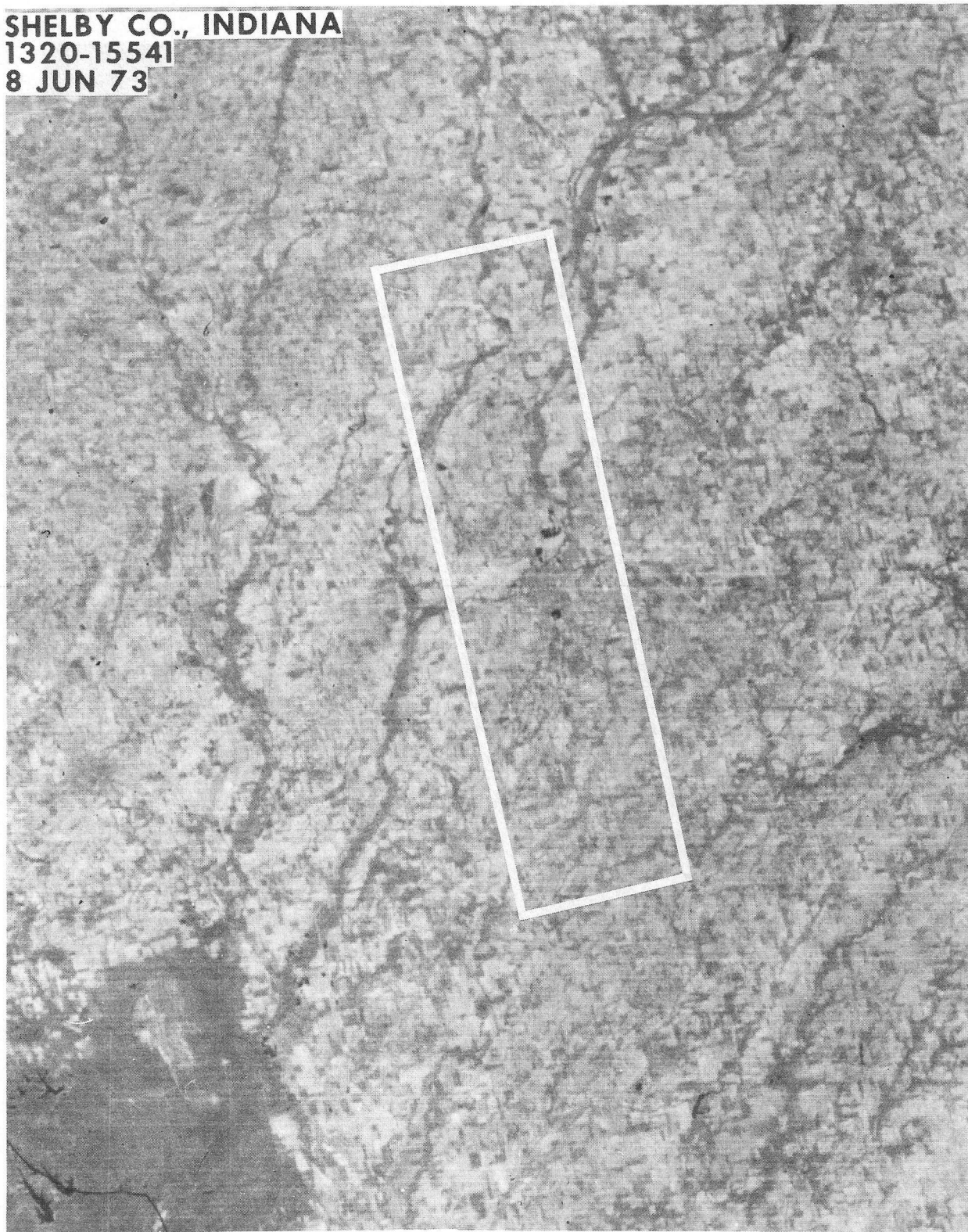


Figure 5a.- ERTS-1 frame 1320-15541 (enlargement).

SHELBY CO., INDIANA
1411-15581
7 SEP 73



Figure 6.- ERTS-1 frame 1411-15581 (1:250,000).

SHELBY CO., INDIANA
1411-15581
7 SEP 73

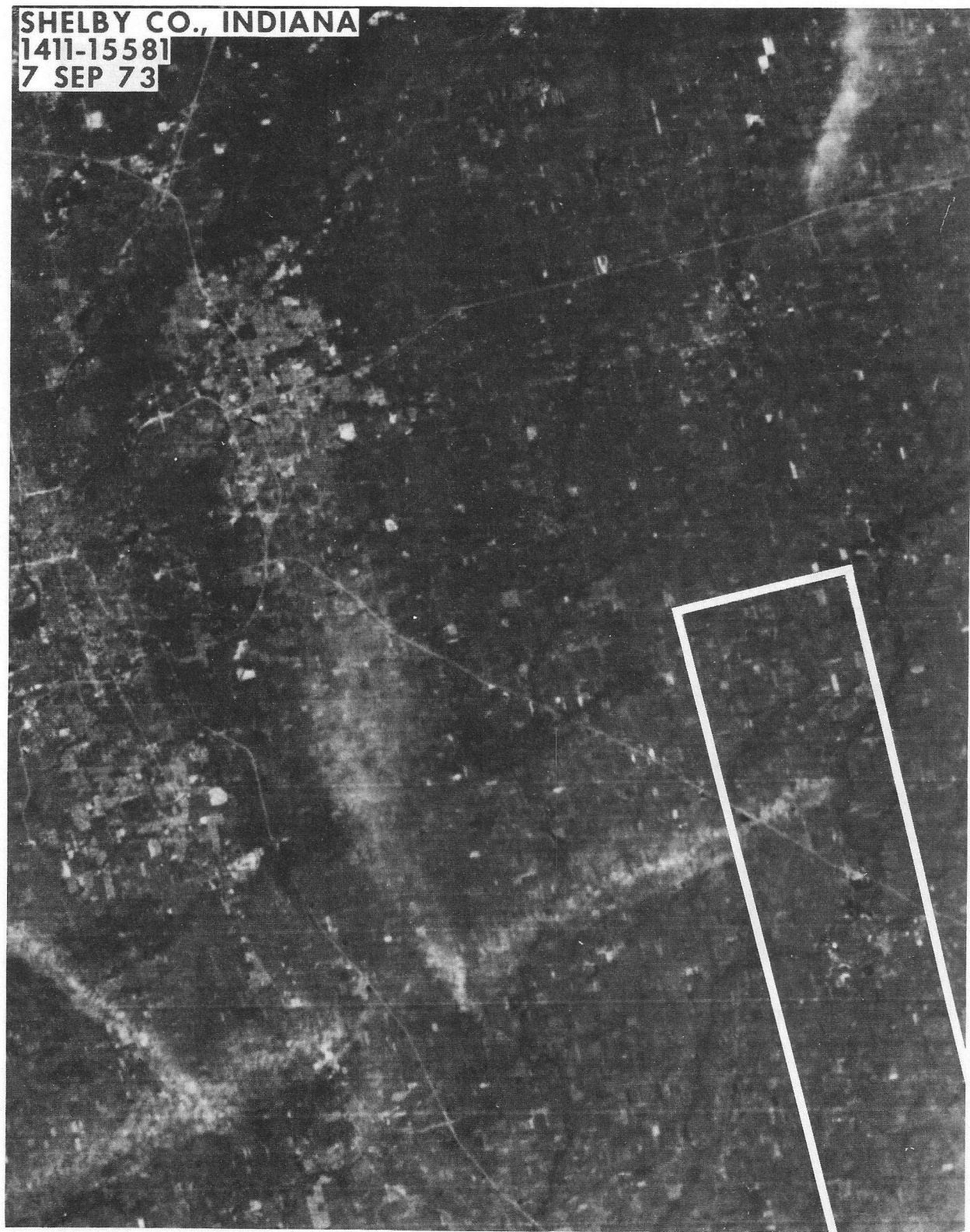


Figure 6a.- ERTS-1 frame 1411-15581 (enlargement).

SHELBY CO., INDIANA
1428-15523
24 SEP 73

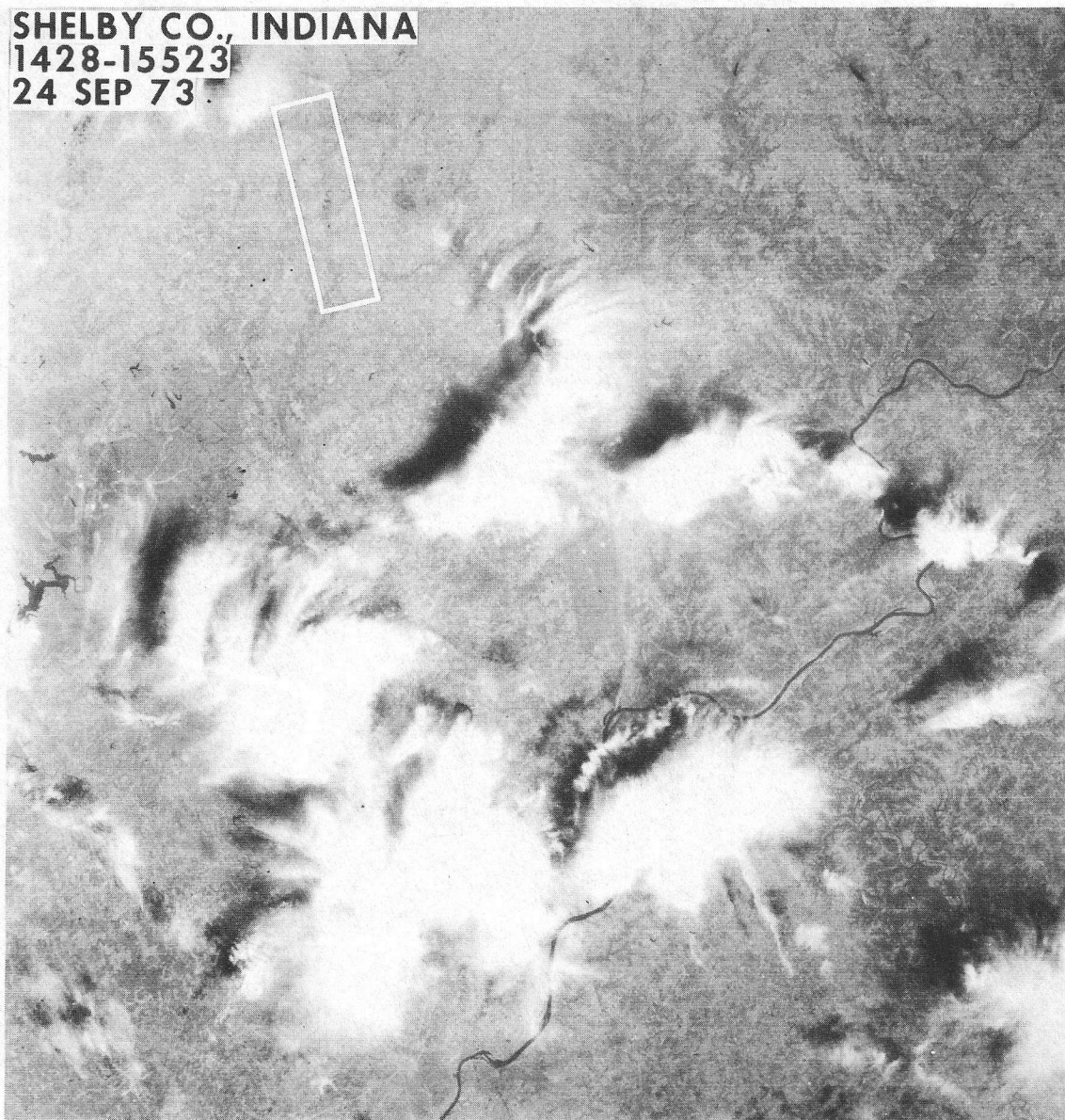


Figure 7.- ERTS-1 frame 1428-15523 (1:250,000).

SHELBY CO., INDIANA
1428-15523
24 SEP 73

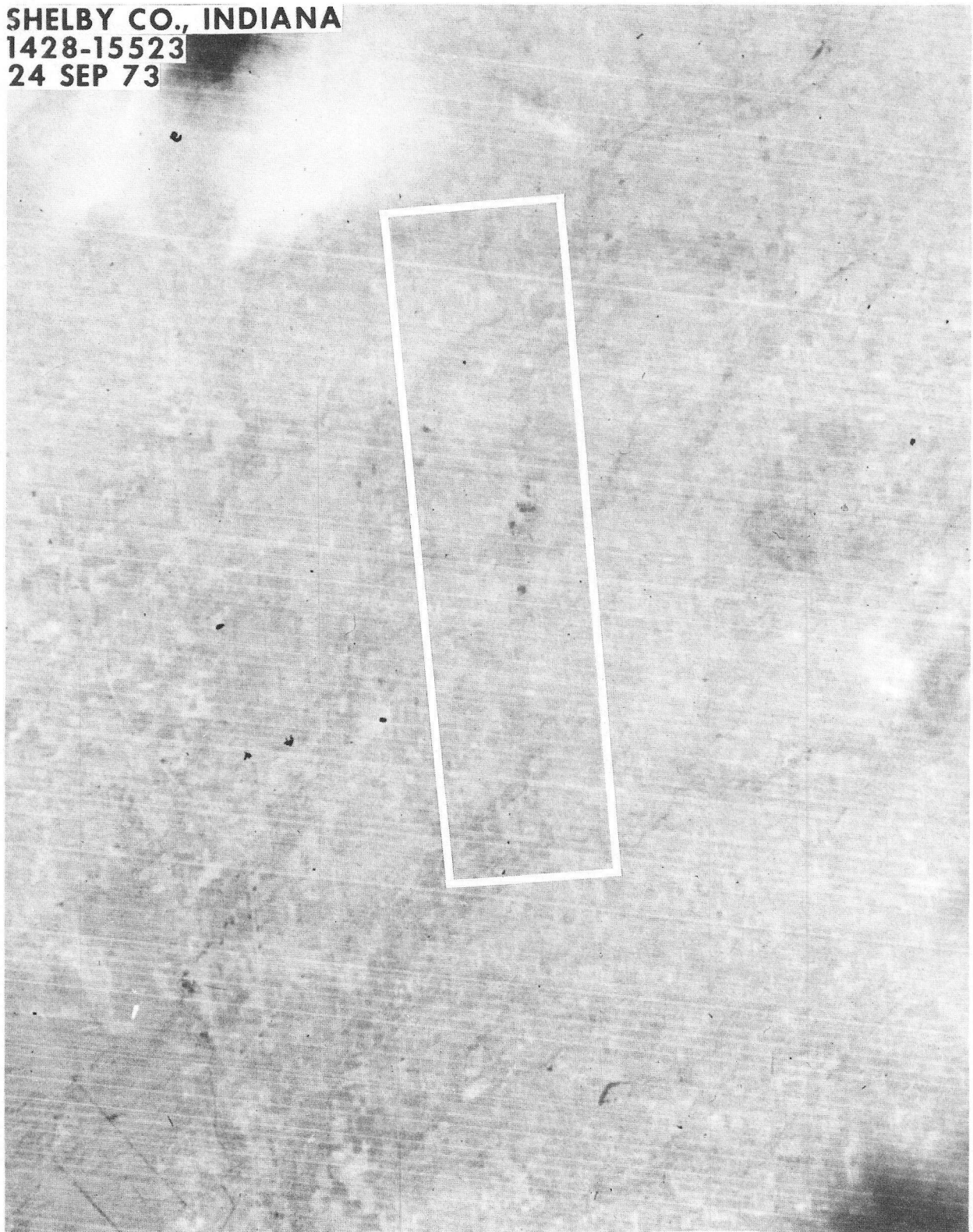


Figure 7a.- ERTS-1 frame 1428-15523 (enlargement).

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White County, Indiana

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of White County, Indiana, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE III.- WHITE COUNTY, INDIANA

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1321-15593	9 Jun 73	I/1	Base reference set		
1394-16042	21 Aug 73	V/2	Local recognition	Fayette/1394-16044	Fayette/1394-16044
1411-15581	7 Sep 73	VI/1	Local recognition	Shelby/1411-15581	Shelby/1411-15581

WHITE CO., INDIANA
1321-15593
9 JUN 73



Figure 8.- ERTS-1 frame 1321-15593 (1:250,000).

WHITE CO., INDIANA
1321-15593
9 JUN 73

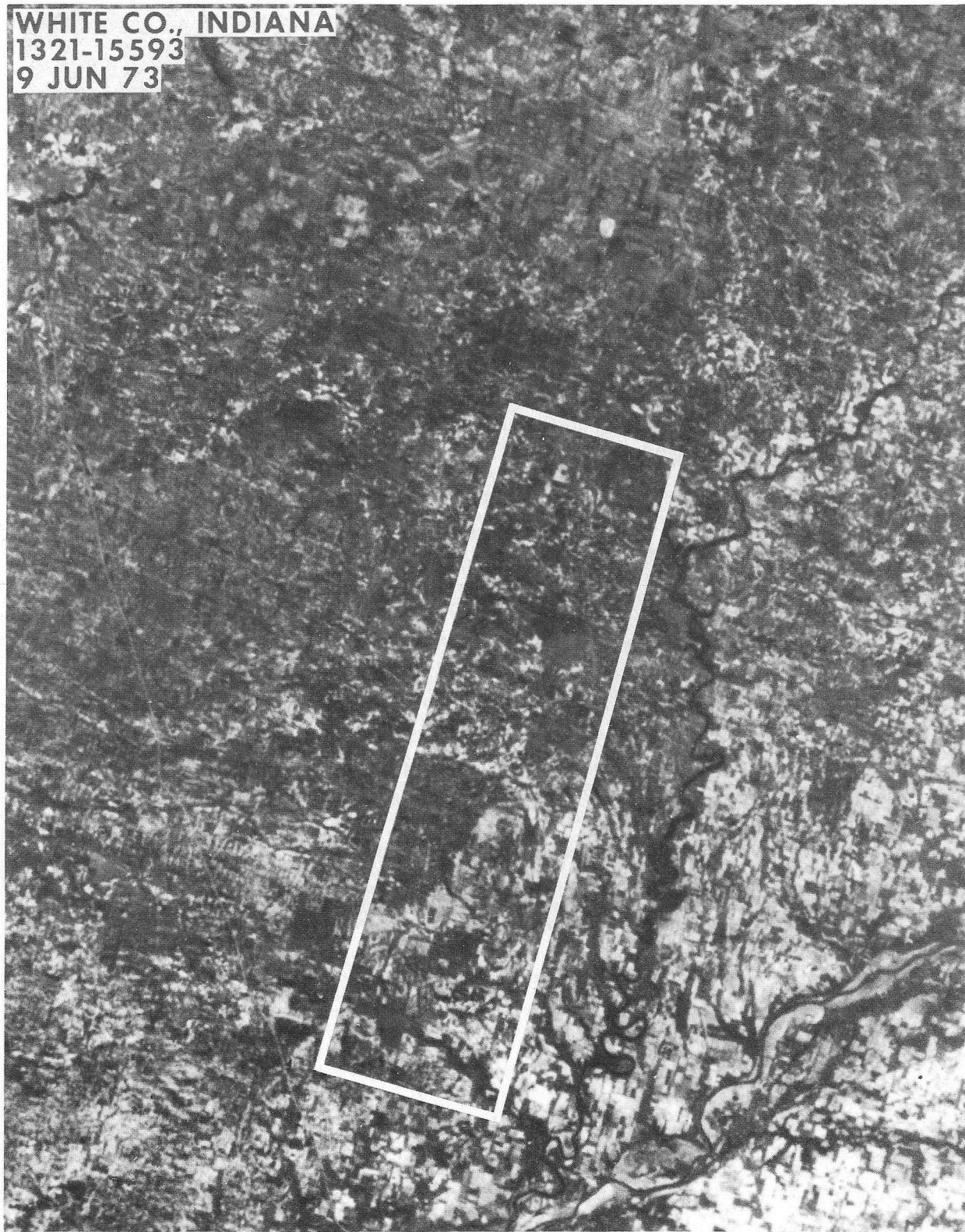


Figure 8a.- ERTS-1 frame 1321-15593 (enlargement).

WHITE CO., INDIANA
1394-16042
21 AUG 73



Figure 9.- ERTS-1 frame 1394-16042 (1:250,000).

WHITE CO., INDIANA
1394-16042
21 AUG 73

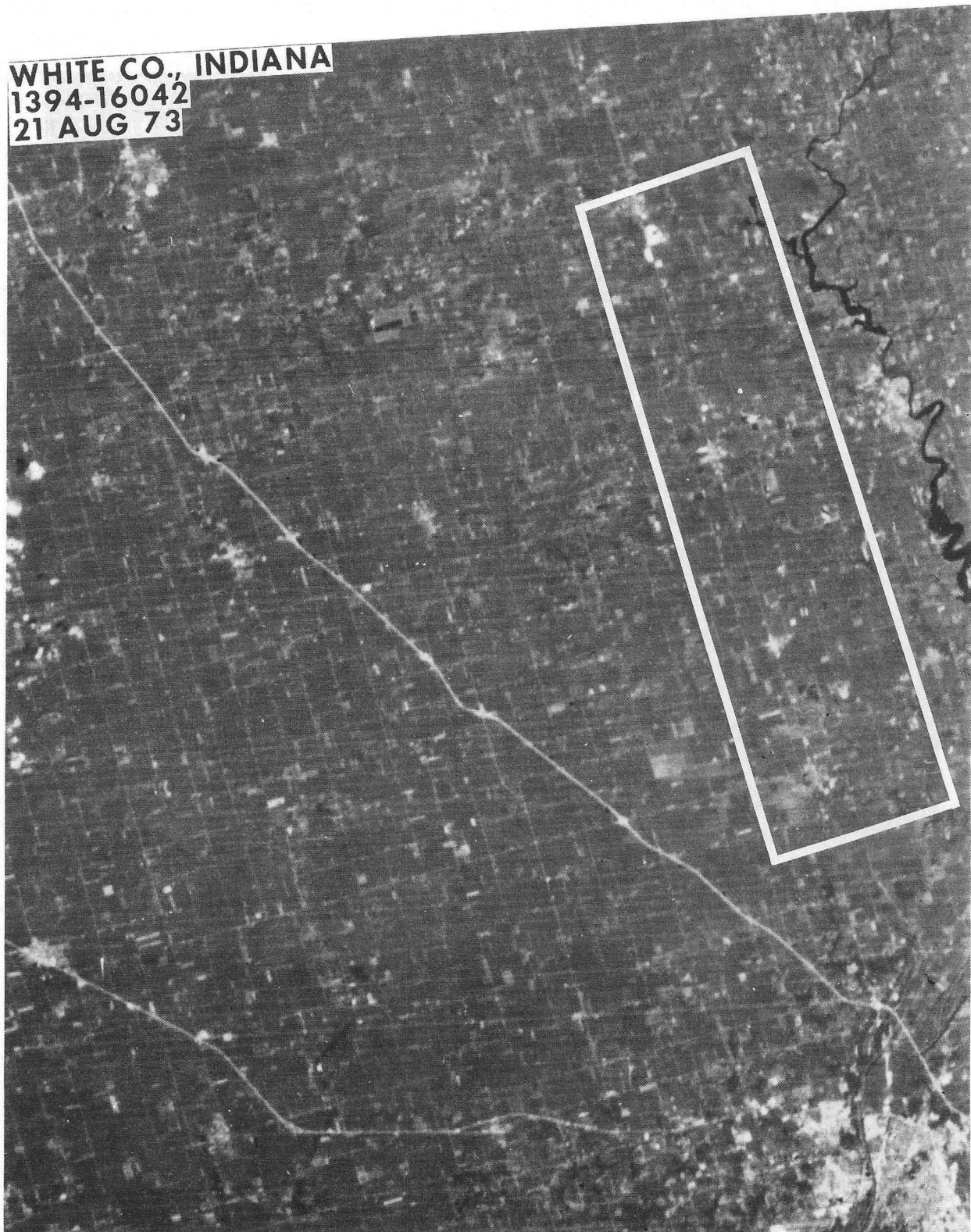


Figure 9a.- ERTS-1 frame 1394-16042 (enlargement).

WHITE CO., INDIANA
1411-15581
7 SEP 73

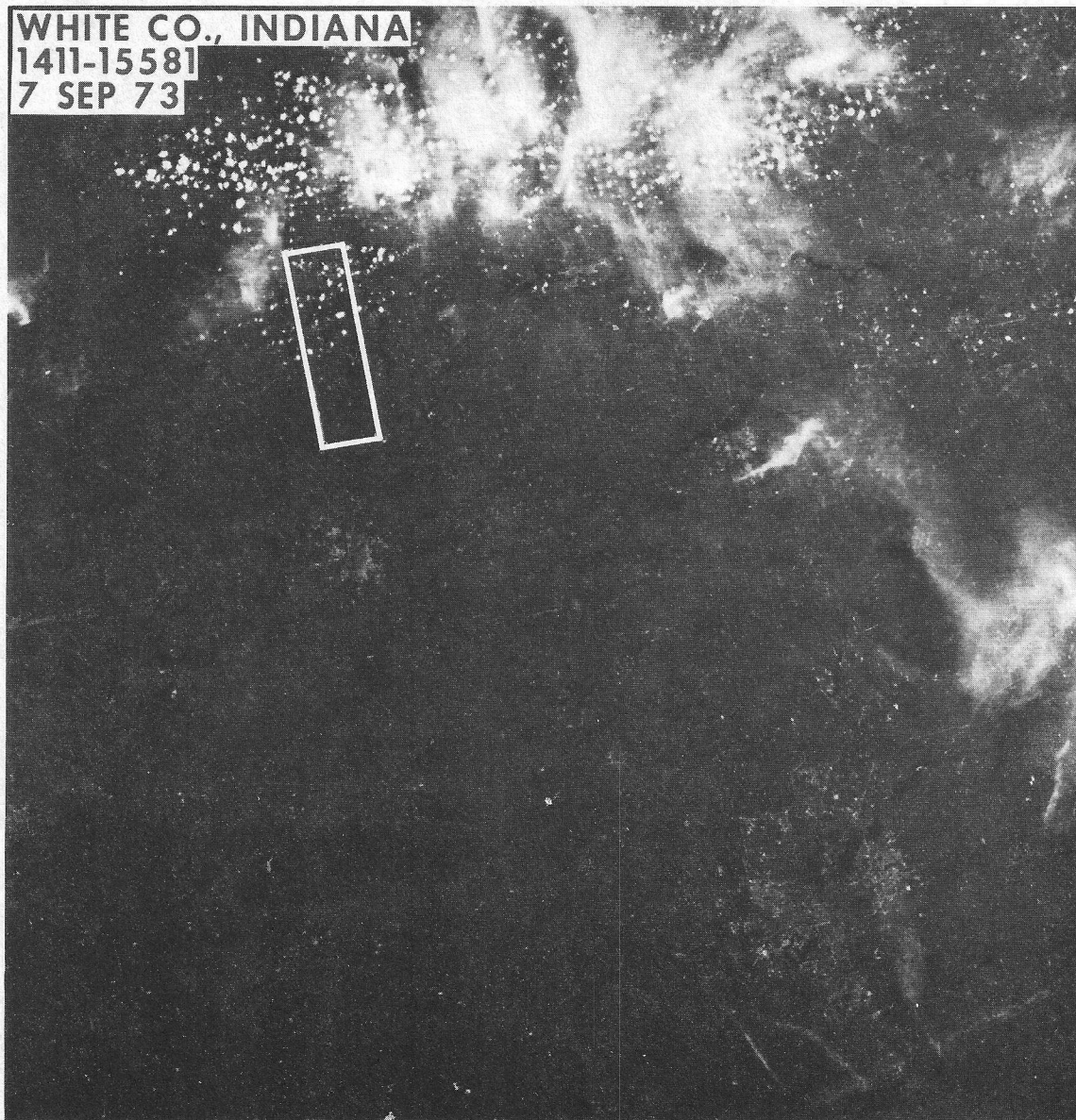


Figure 10.- ERTS-1 frame 1411-15581 (1:250,000).

WHITE CO., INDIANA
1411-15581
7 SEP 73

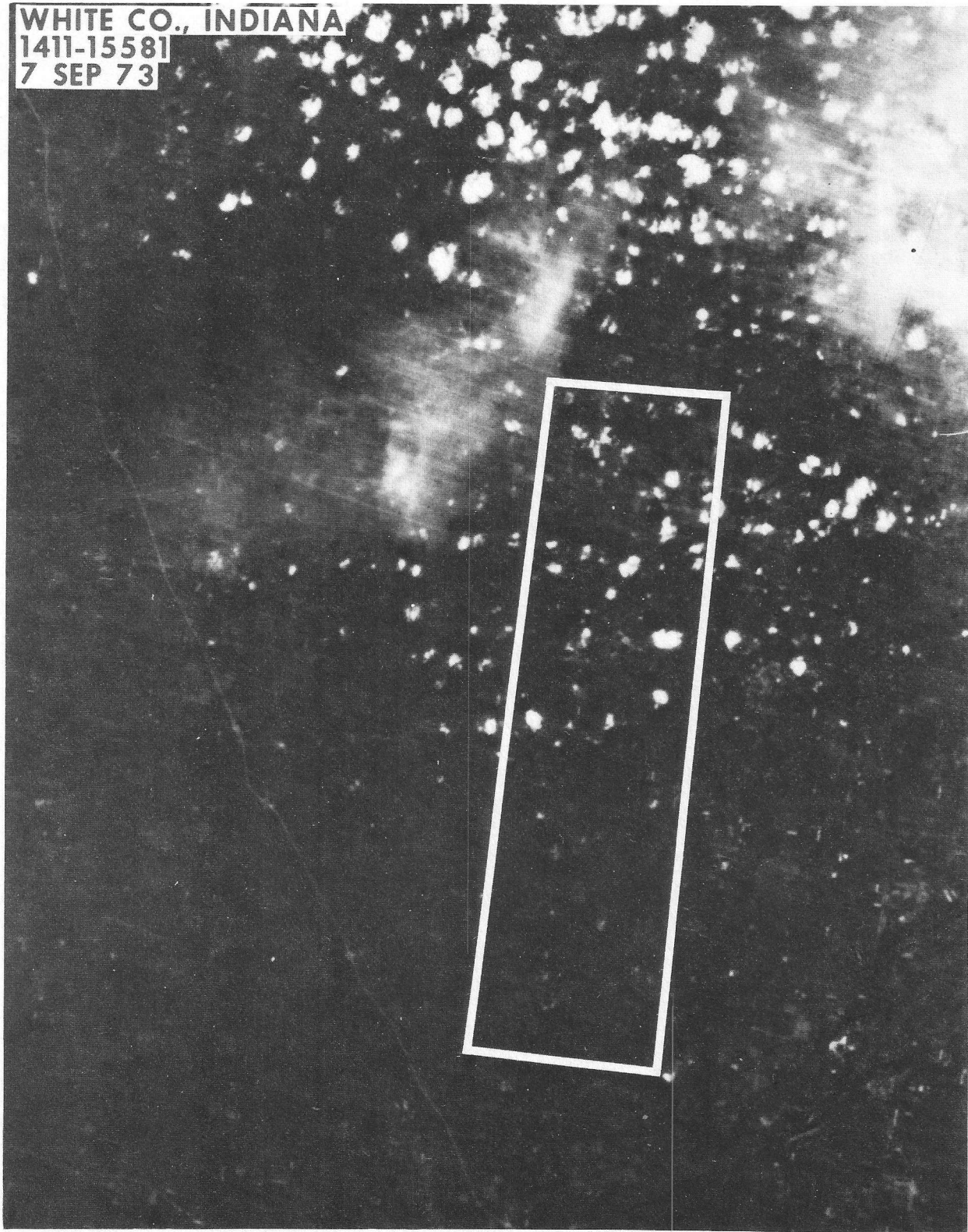


Figure 10a.- ERTS-1 frame 1411-15581 (enlargement).

Livingston County, Illinois

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of Livingston County, Illinois, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE IV.- LIVINGSTON COUNTY, ILLINOIS

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1322-16051	10 Jun 73	I/1	Base reference set		
1341-16104	29 Jun 73	II/2	Local recognition (cloud-free sections only)		
1358-16045	16 Jul 73	III/1	Local recognition	Fayette/1358-16051	Fayette/1358-16051
1376-16043	3 Aug 73	IV/1	Local recognition	Lee/1378-16153	Lee/1378-16153

LIVINGSTON CO., ILLINOIS
1322-16051
10 JUN 73



Figure 11.- ERTS-1 frame 1322-16051 (1:250,000).

LIVINGSTON CO., ILLINOIS
1322-16051
10 JUN 73

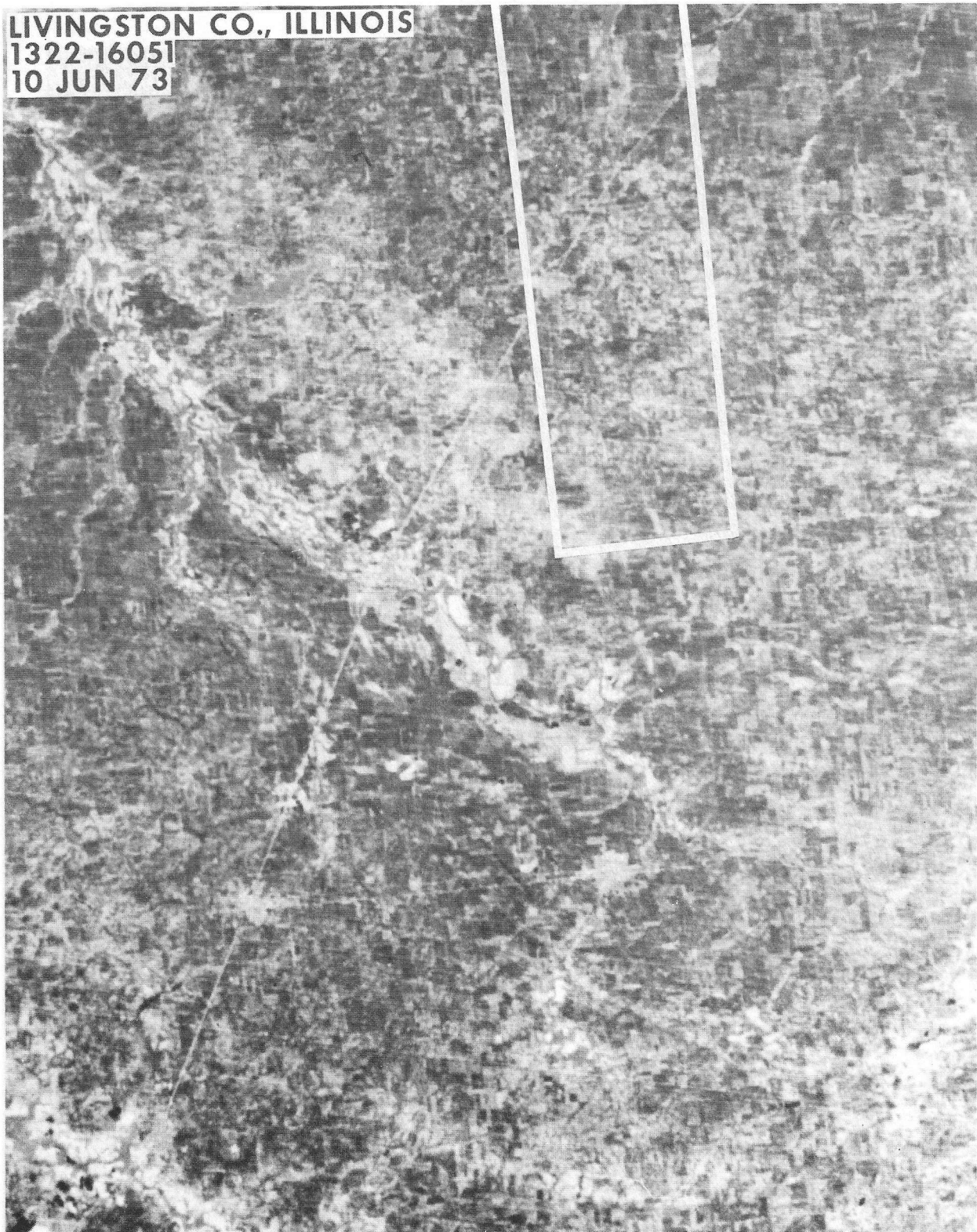


Figure 11a.- ERTS-1 frame 1322-16051 (enlargement).

LIVINGSTON CO., ILLINOIS
1341-16104
29 JUN 73



Figure 12.- ERTS-1 frame 1341-16104 (1:250,000).

LIVINGSTON CO., ILL
1341-16104
29 JUN 73

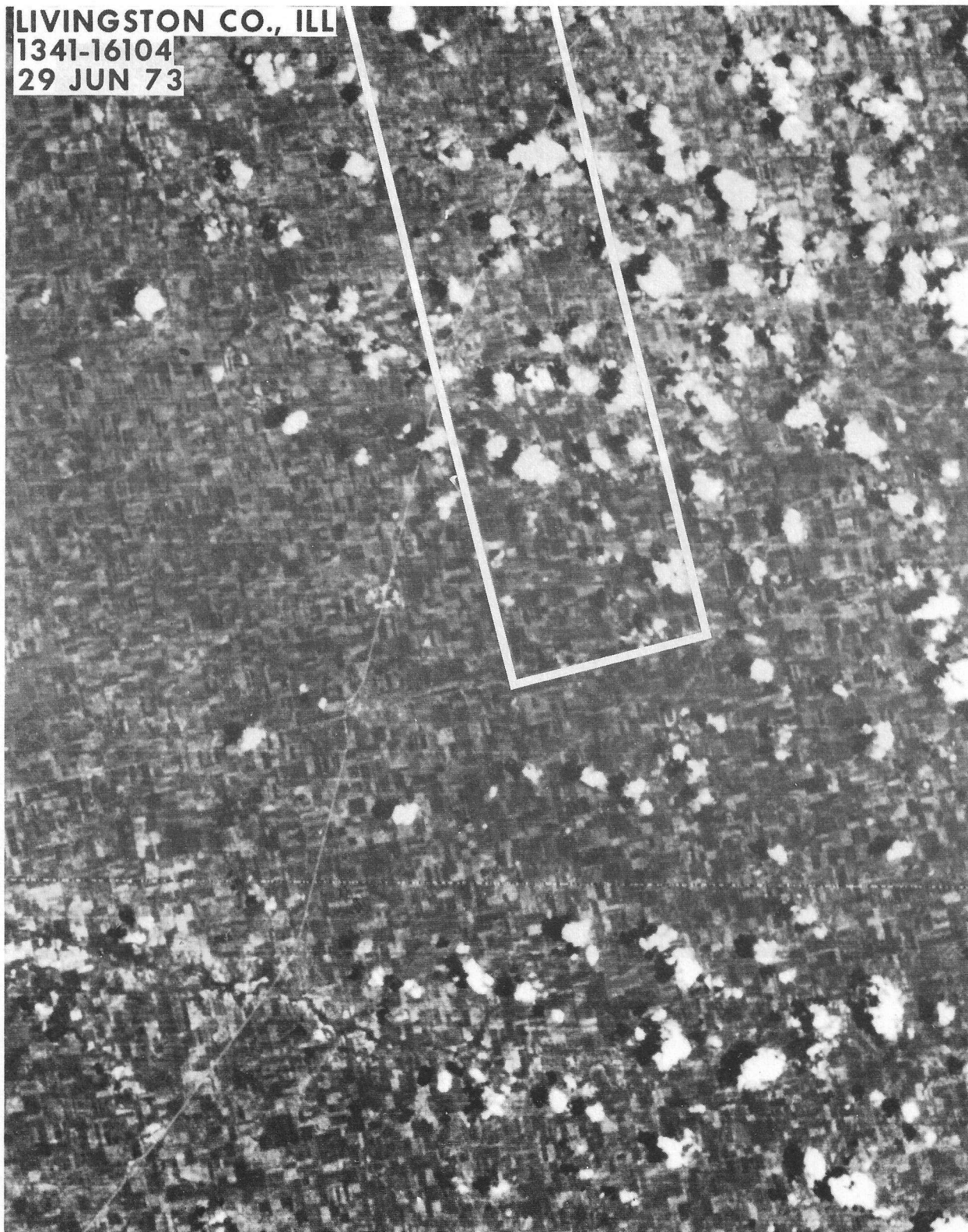


Figure 12a.- ERTS-1 frame 1341-16104 (enlargement).

LIVINGSTON CO., ILLINOIS
1358-16045
16 JUL 73



Figure 13.- ERTS-1 frame 1358-16045 (1:250,000).

LIVINGSTON CO., ILLINOIS
1358-16045
16 JUL 73

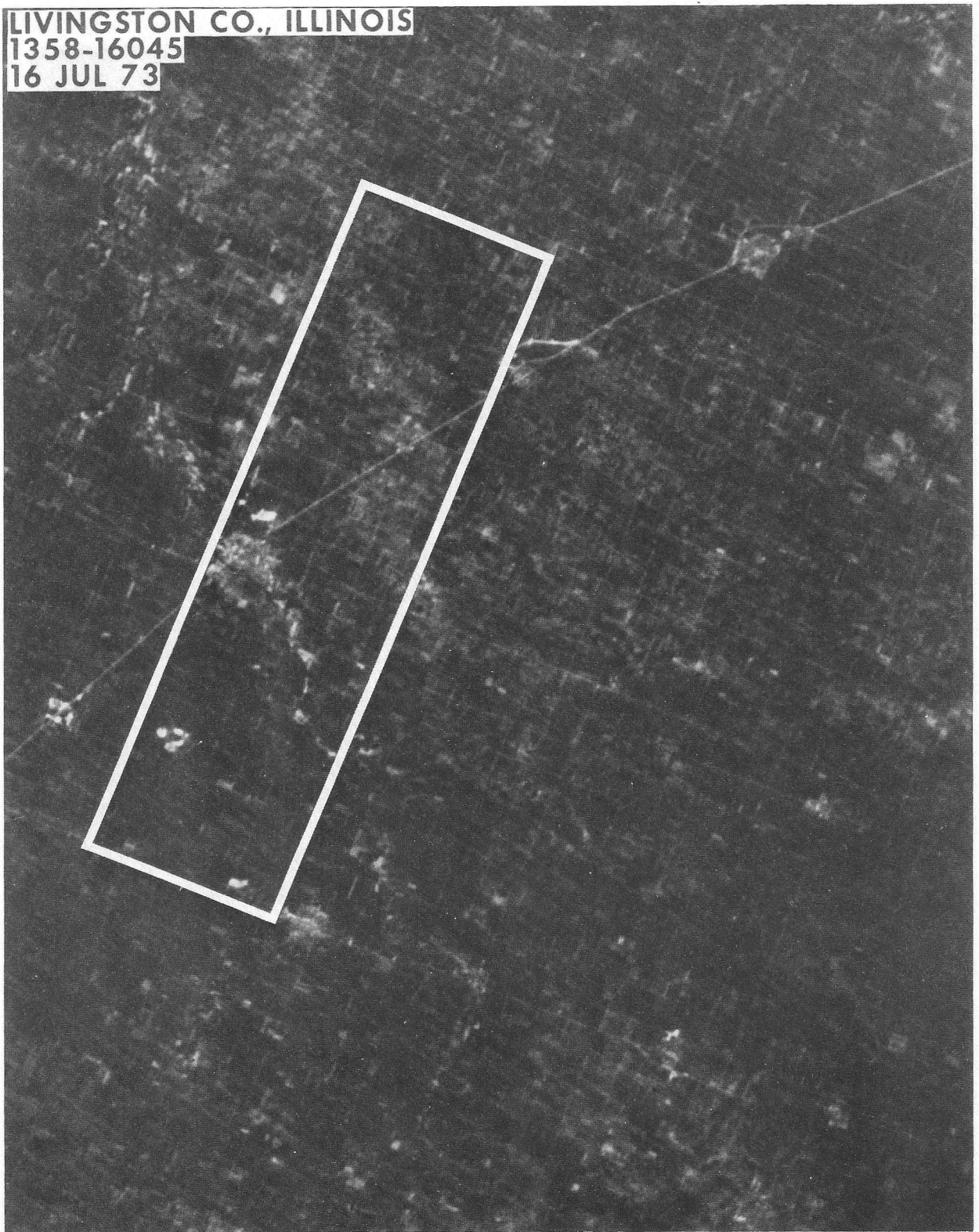


Figure 13a.- ERTS-1 frame 1358-16045 (enlargement).

LIVINGSTON CO., ILLINOIS
1376-16043
3 AUG 73



Figure 14.- ERTS-1 frame 1376-16043 (1:250,000).

LIVINGSTON CO., ILLINOIS
1376-16043
3 AUG 73

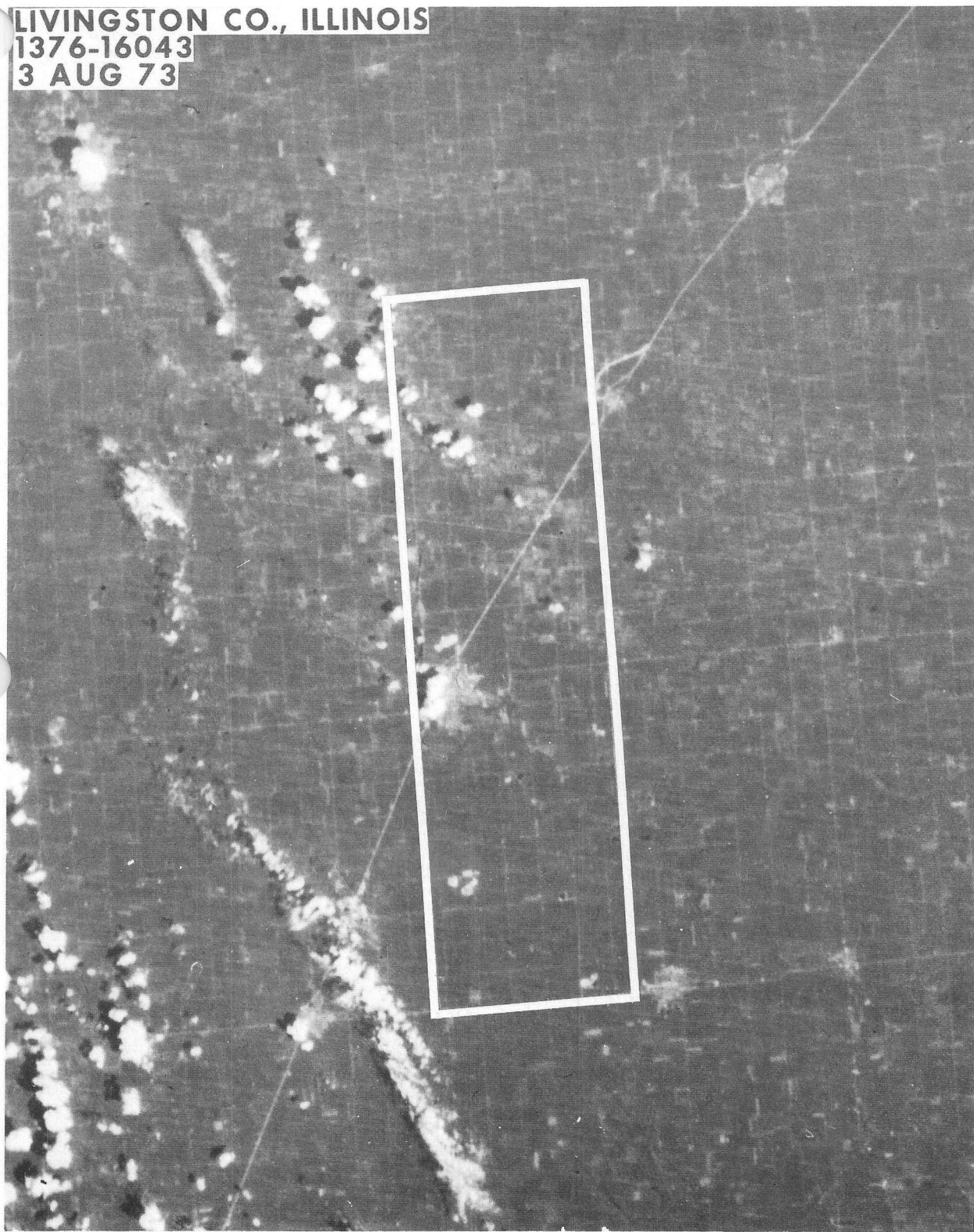


Figure 14a.- ERTS-1 frame 1376-16043 (enlargement).

Fayette County, Illinois

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of Fayette County, Illinois, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE V.- FAYETTE COUNTY, ILLINOIS

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1322-16054	10 Jun 73	I/1	Local recognition	Fayette/1323-16112 Shelby/1320-15541	Fayette/1323-16112 Shelby/1350-15541
1323-16112	11 Jun 73	I/2	Local recognition	Fayette/1322-16054	Fayette/1322-16054
1341-16111	29 Jun 73	II/2	Local recognition		
1358-16051	16 Jul 73	III/1	Local recognition	Fayette/1359-16105 Livingston/1358-16045	Fayette/1359-16105 Livingston/1358-16045
1359-16105	17 Jul 73	III/2	Local recognition	Fayette/1358-16051 Huntington/1357-15590	Fayette/1358-16051 Huntington/1357-15590
1394-16044	21 Aug 73	V/1	Local recognition	White/1394-16042	White/1394-16042

FAYETTE CO., ILLINOIS
1322-16054
10 JUN 73



Figure 15.- ERTS-1 frame 1322-16054 (1:250,000).

FAYETTE CO., ILLINOIS
1322-16054
10 JUN 73

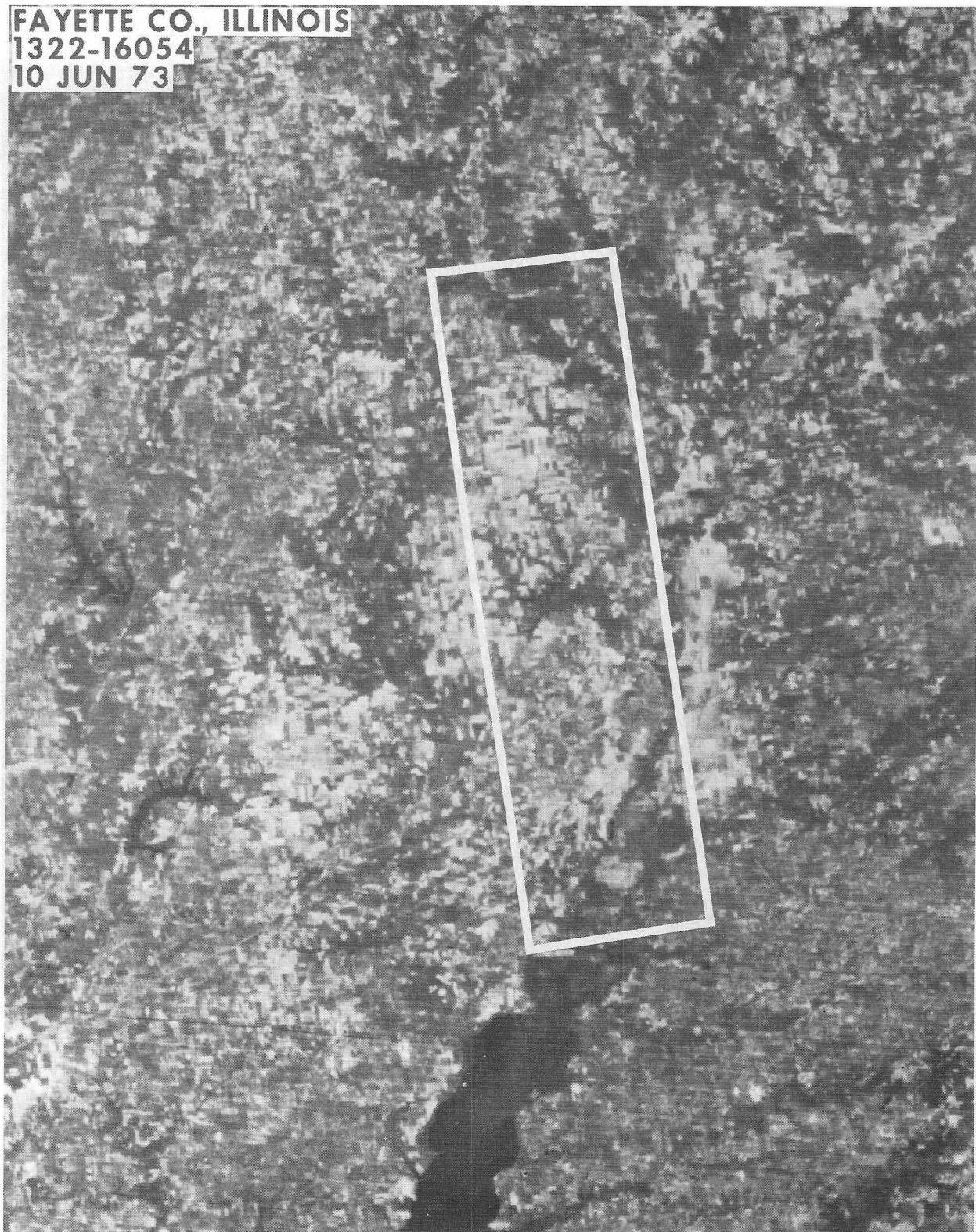


Figure 15a.- ERTS-1 frame 1322-16054 (enlargement).

FAYETTE CO., ILLINOIS
1323-16112
11 JUN 73



Figure 16.- ERTS-1 frame 1323-16112 (1:250,000).

FAYETTE CO., ILLINOIS
1323-16112
11 JUN 73

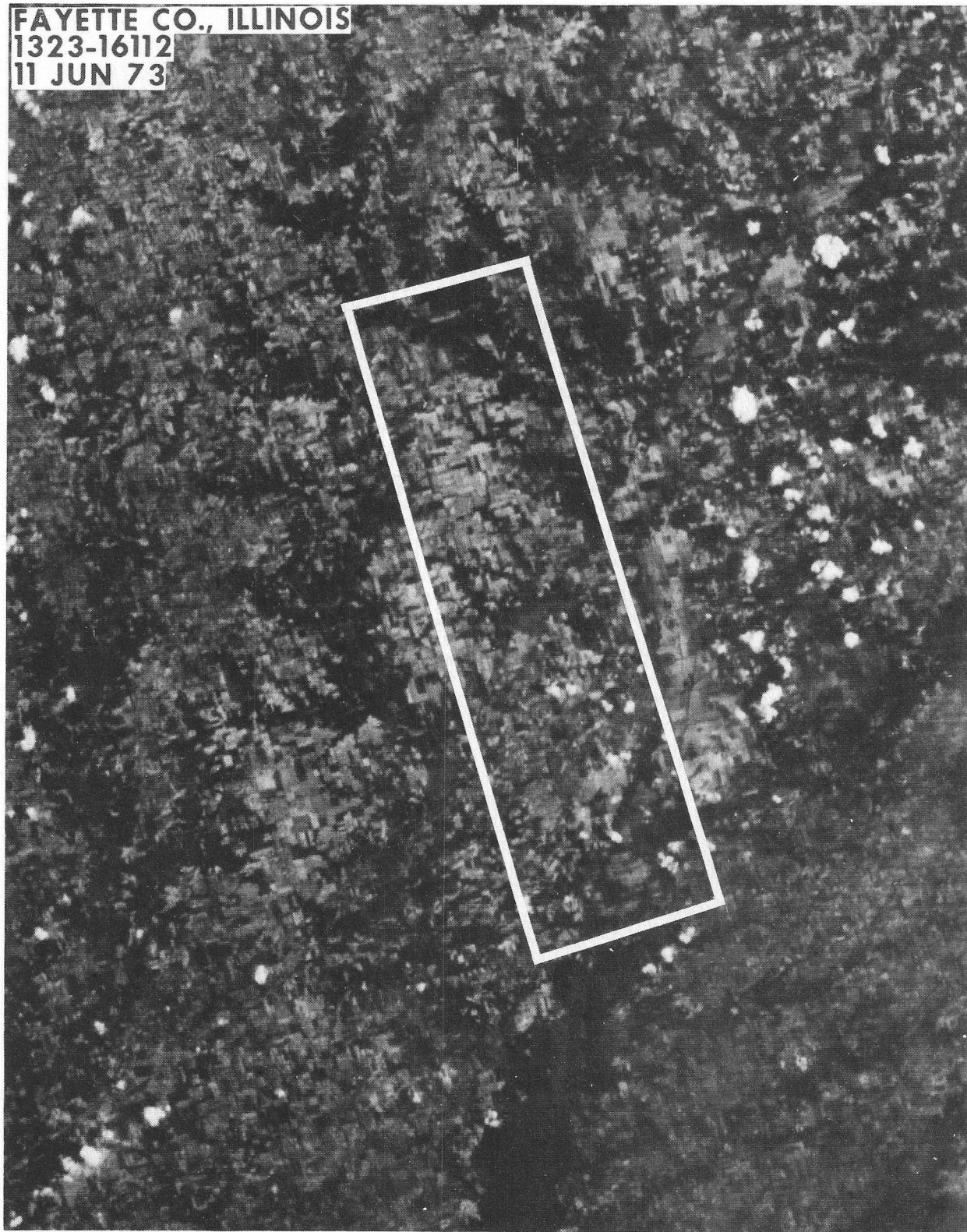


Figure 16a.- ERTS-1 frame 1323-16112 (enlargement).

FAYETTE CO., ILLINOIS
1341-16111
29 JUN 73

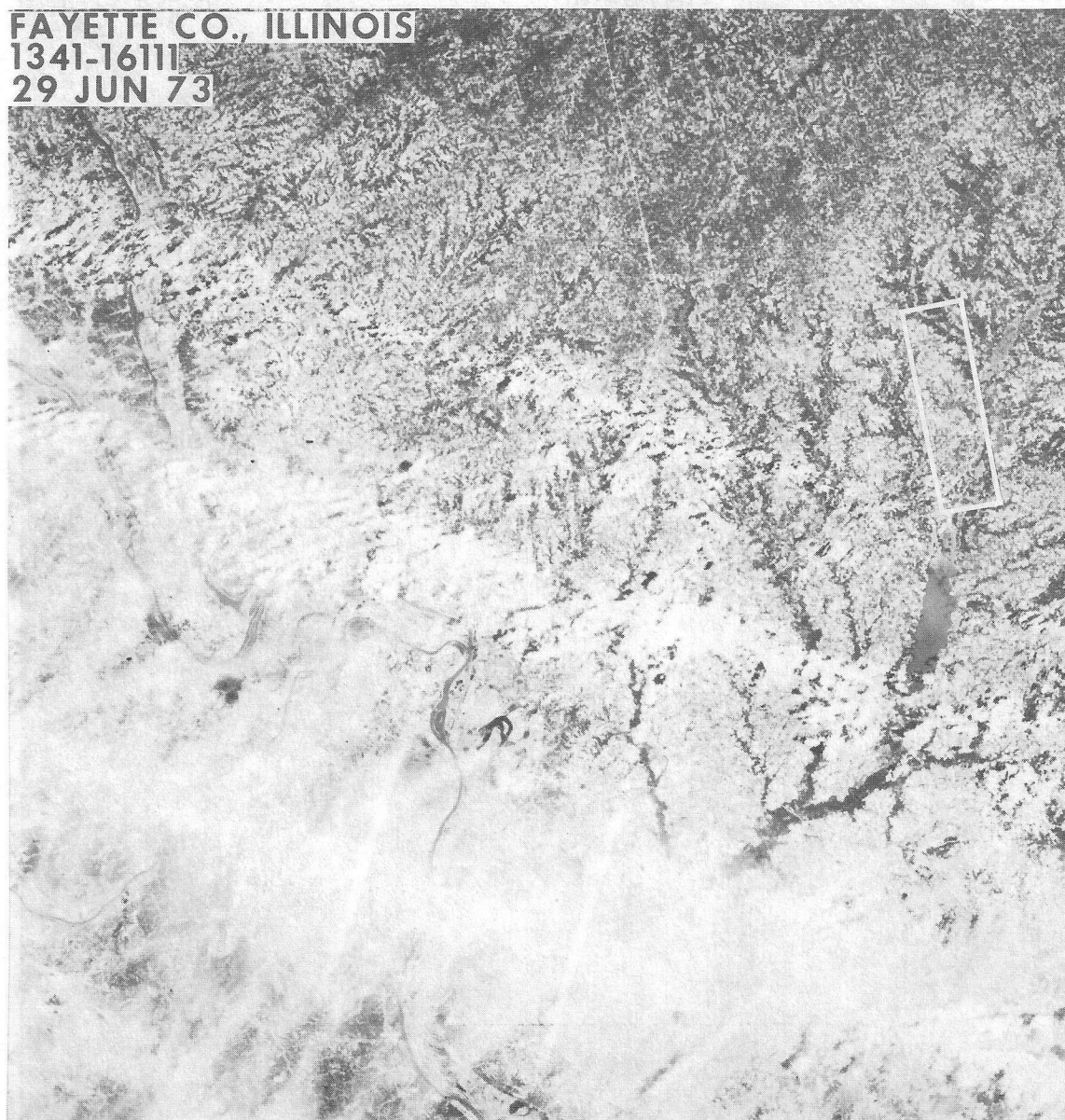


Figure 17.- ERTS-1 frame 1341-16111 (1:250,000).

FAYETTE CO., ILLINOIS
1341-16111
29 JUN 73

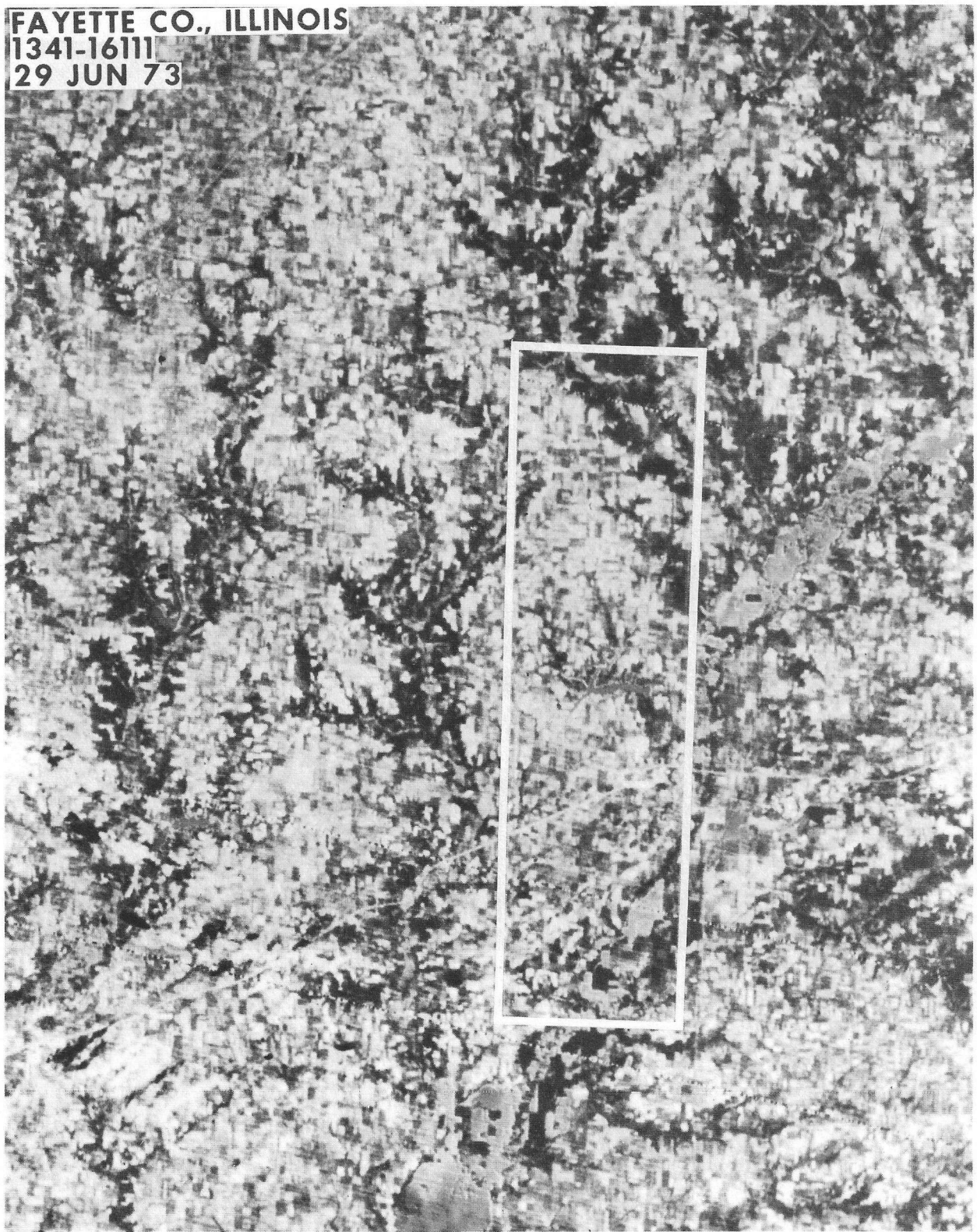


Figure 17a.- ERTS-1 frame 1341-16111 (enlargement).

FAYETTE CO., ILLINOIS
1358-16051
16 JUL 73



Figure 18.- ERTS-1 frame 1358-16051 (1:250,000).

FAYETTE CO., ILLINOIS
1358-16051
16 JUL 73

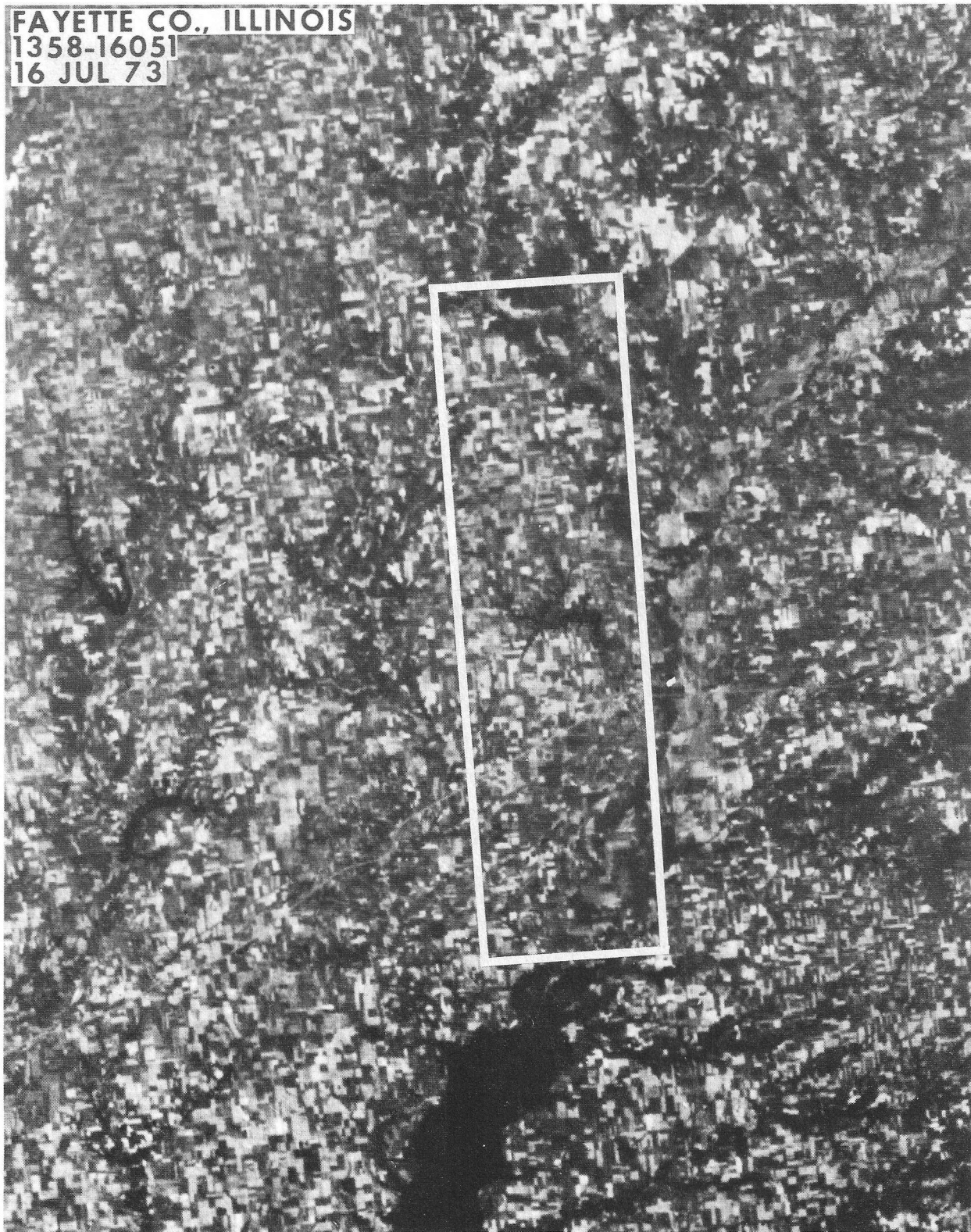


Figure 18a.- ERTS-1 frame 1358-16051 (enlargement).

FAYETTE CO., ILLINOIS
1359-16105
17 JUL 73



Figure 19.- ERTS-1 frame 1359-16105 (1:250,000).

FAYETTE CO., ILLINOIS
1359-16105
17 JUL 73

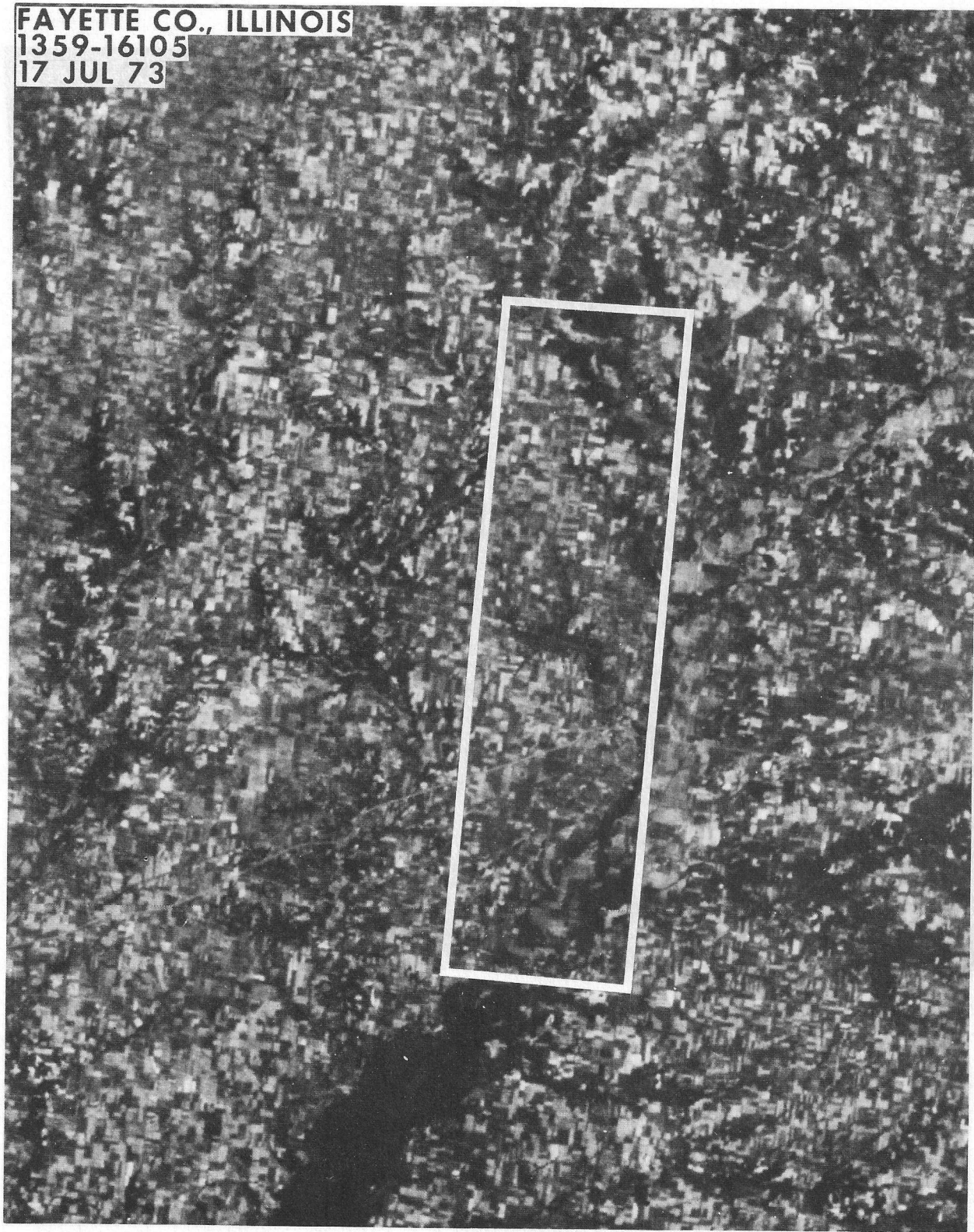


Figure 19a.- ERTS-1 frame 1359-16105 (enlargement).

FAYETTE CO., ILLINOIS
1394-16044
21 AUG 73



Figure 20.- ERTS-1 frame 1394-16044 (1:250,000).

FAYETTE CO., ILLINOIS
1394-16044
21 AUG 73

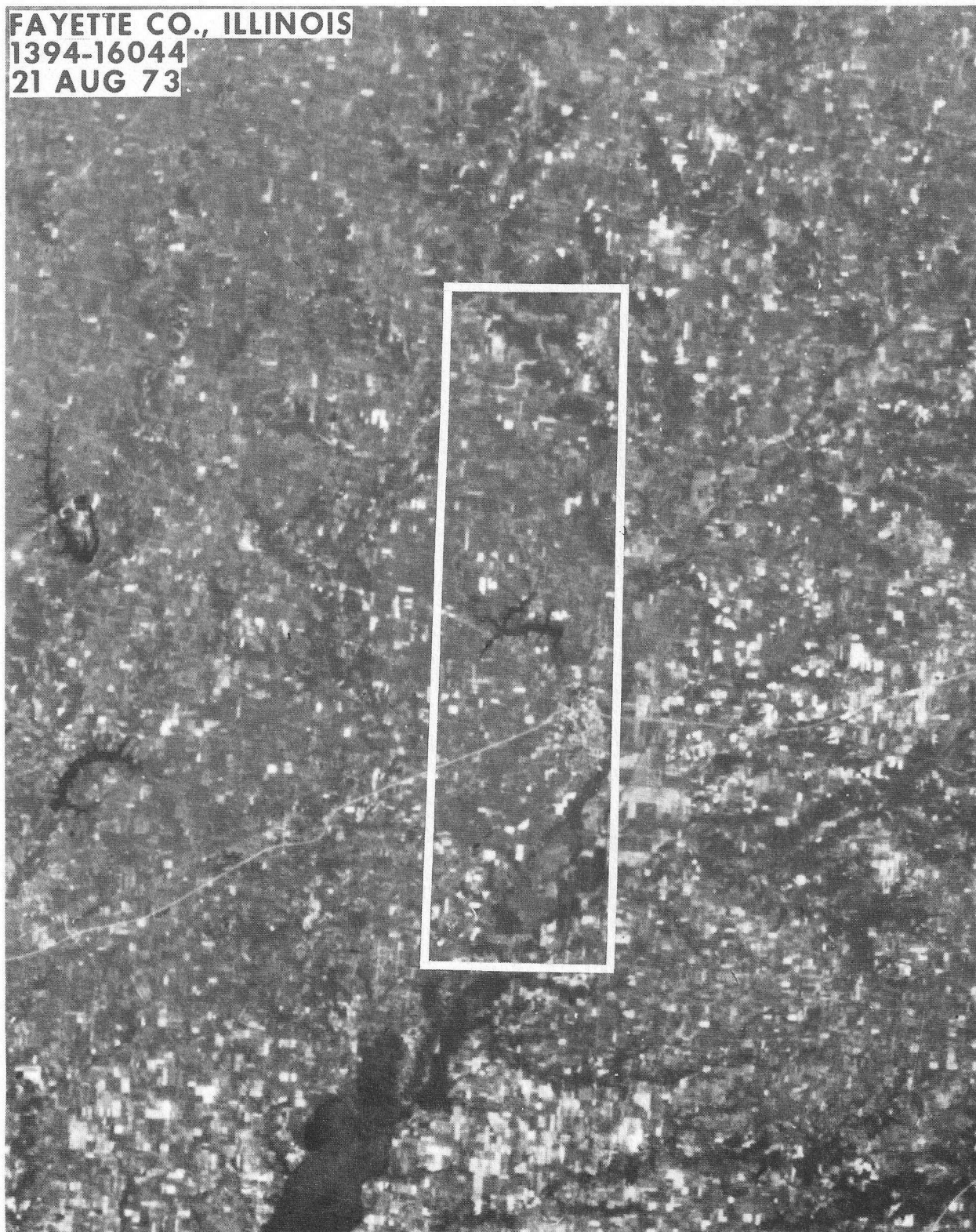


Figure 20a.- ERTS-1 frame 1394-16044 (enlargement).

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Lee County, Illinois

The ERTS-1 images tabulated below are shown as standard 1:250,000-scale prints of Lee County, Illinois, on the left-hand pages of this section. Enlargements of the area of interest are shown on facing pages.

TABLE VI.- LEE COUNTY, ILLINOIS

ERTS-1 identification	Date	Period/ pass	Designated usage		
			Local recognition/ other	Non-local recognition/ segment-frame	Non-local training/ segment-frame
1359-16100	17 Jul 73	III/1	Local recognition/ base reference set	Lee/1360-16155	Lee/1360-16155
1360-16155	18 Jul 73	III/2	Local recognition	Lee/1359-16100 Huntington/1357-15590	Lee/1359-16100 Huntington/1357-15590
1378-16153	5 Aug 73	IV/2	Local recognition	Livingston/1376-16043	Livingston/1376-16043

LEE CO., ILLINOIS
1359-16100
17 JUL 73

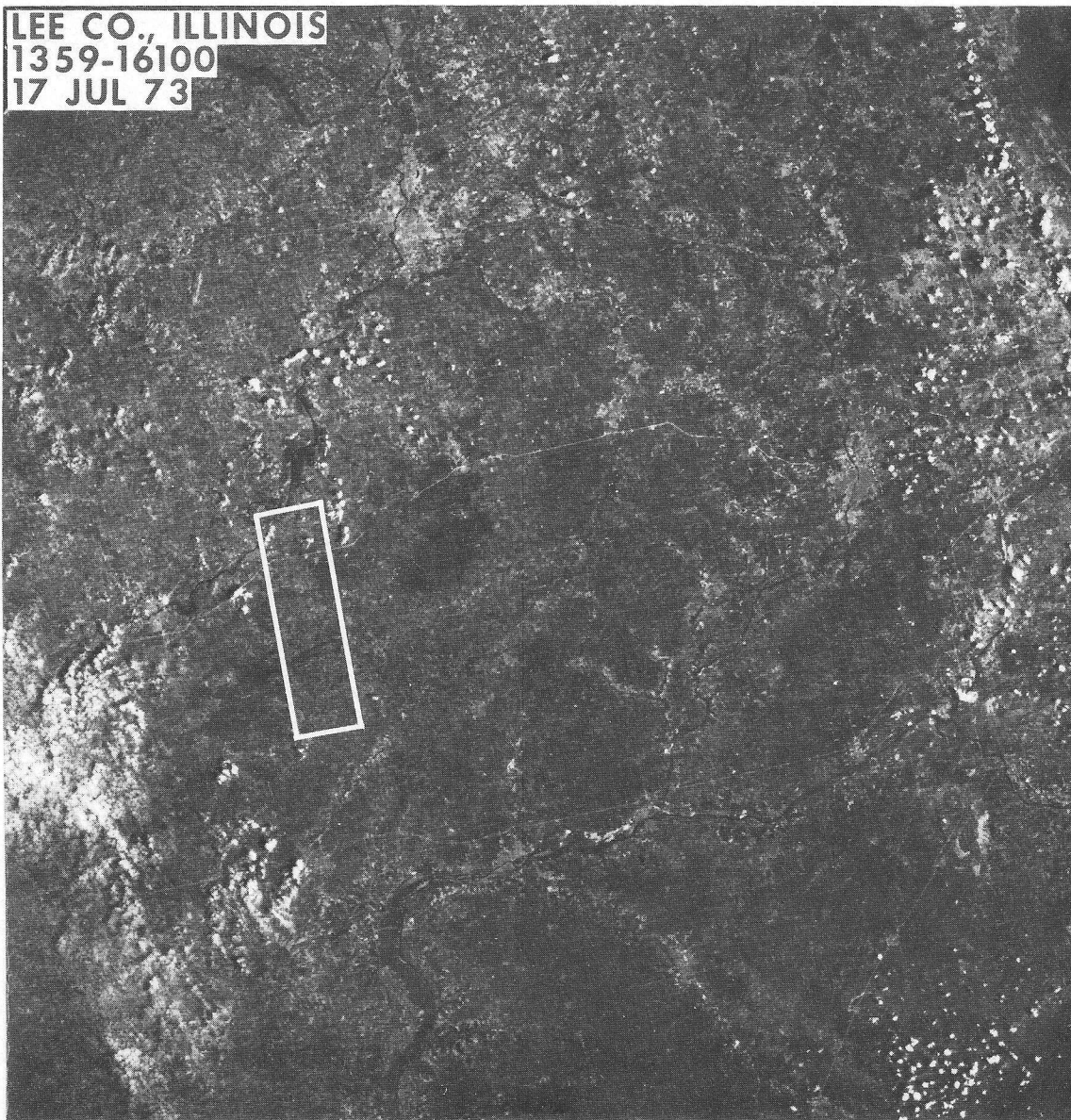


Figure 21.- ERTS-1 frame 1359-16100 (1:250,000).

LEE CO., ILLINOIS
1359-16100
17 JUL 73

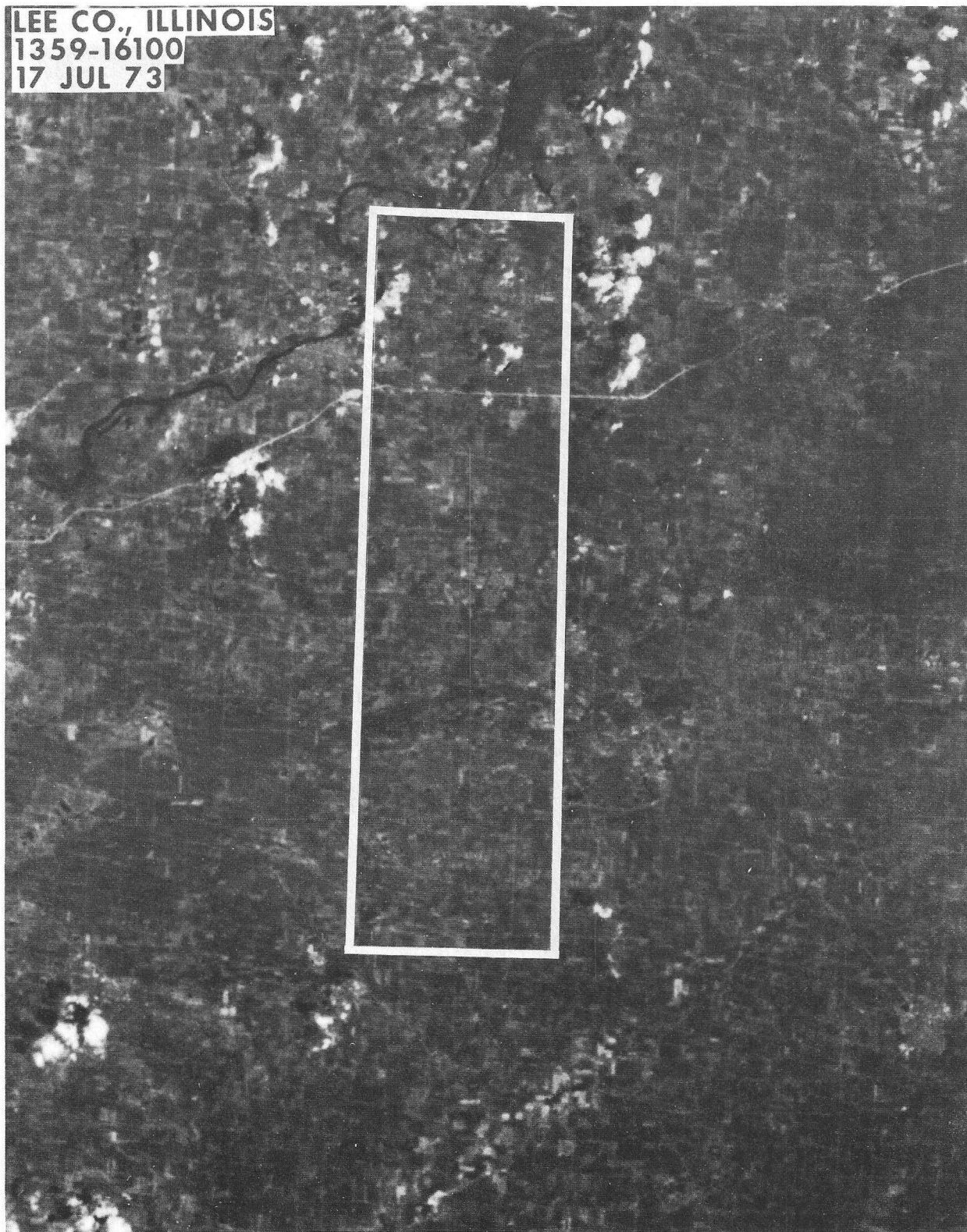


Figure 21a.- ERTS-1 frame 1359-16100 (enlargement).

LEE CO., ILLINOIS
1360-16155
18 JUL 73



Figure 22.- ERTS-1 frame 1360-16155 (1:250,000).

LEE CO., ILLINOIS
1360-16155
18 JUL 73

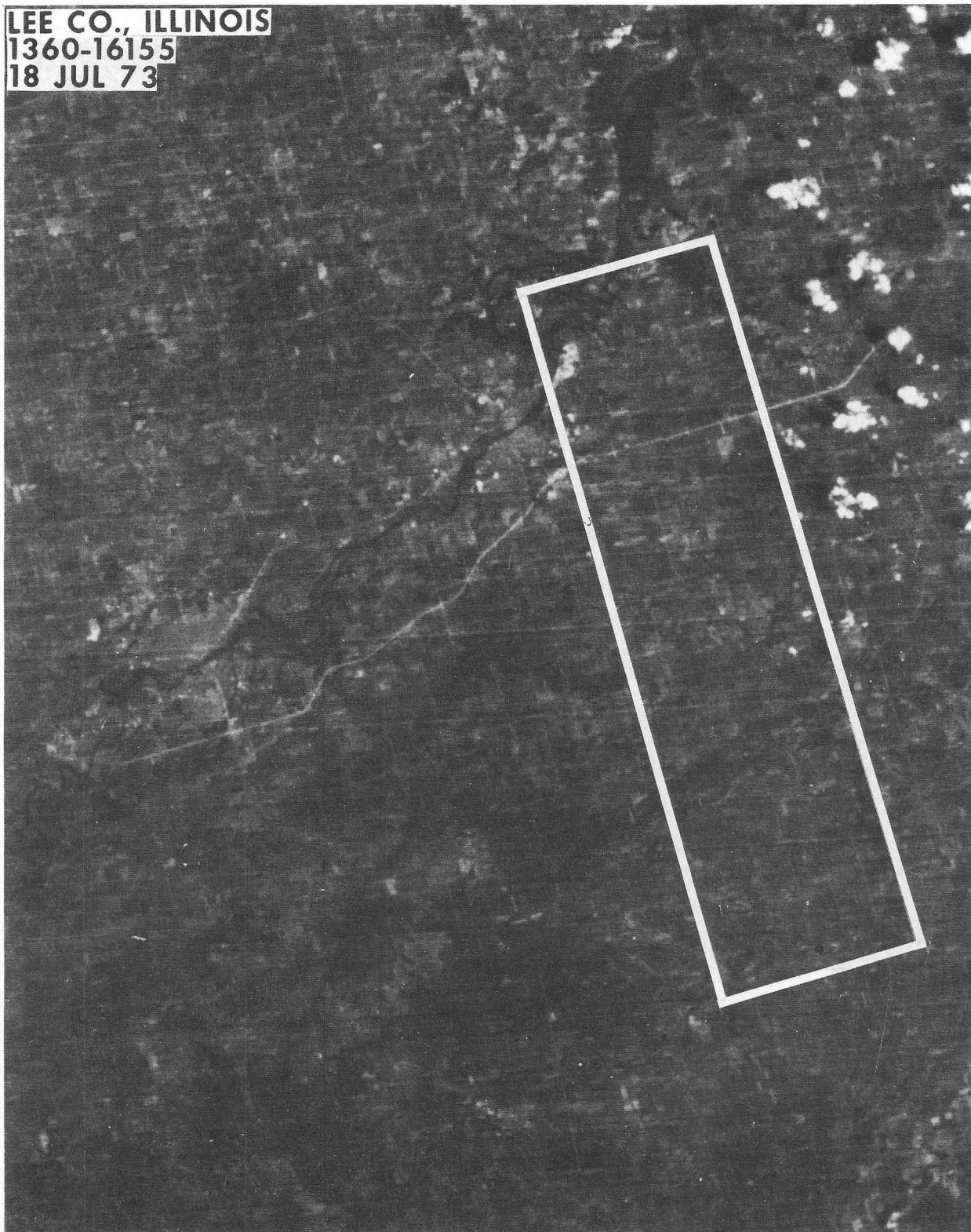


Figure 22a.- ERTS-1 frame 1360-16155 (enlargement).

LEE CO., ILLINOIS
1378-16153
5 AUG 73

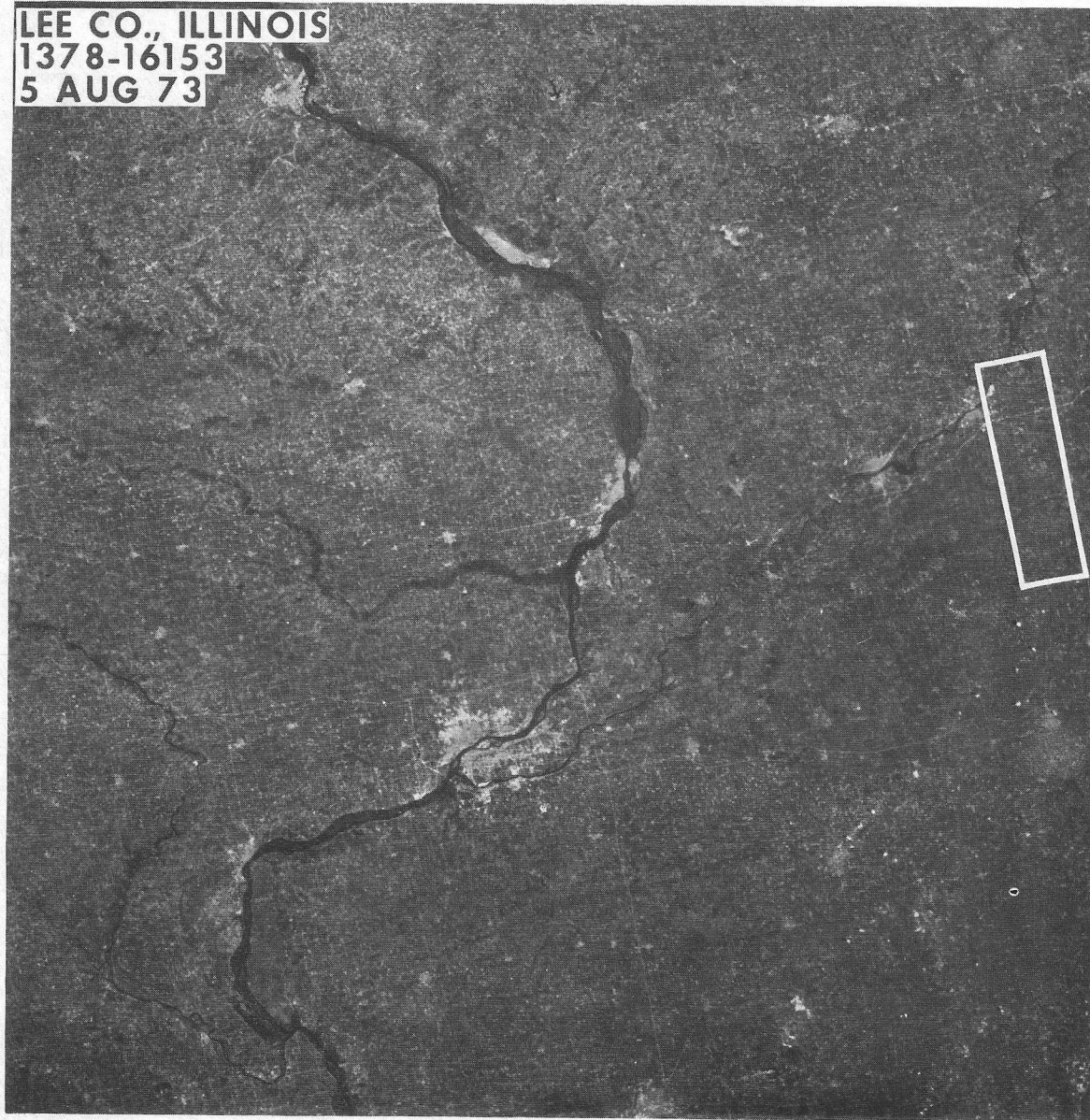


Figure 23.- ERTS-1 frame 1378-16153 (1:250,000).

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1378-16153
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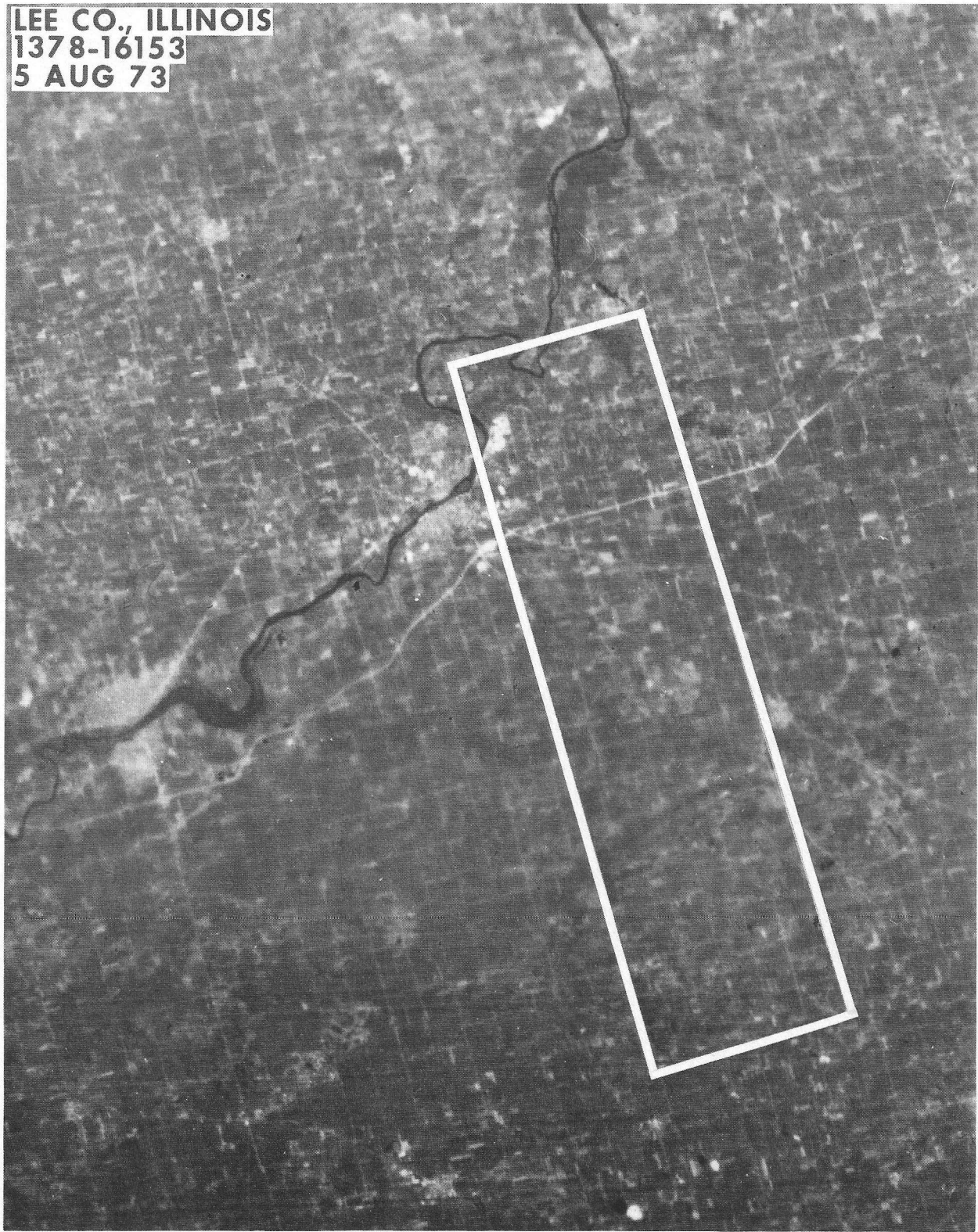


Figure 23a.- ERTS-1 frame 1378-16153 (enlargement).

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