



Illinois' Digital Past

The Application of On-Line Historical Aerial Photography for Assessing Landscape Changes

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Illinois Department of Natural Resources

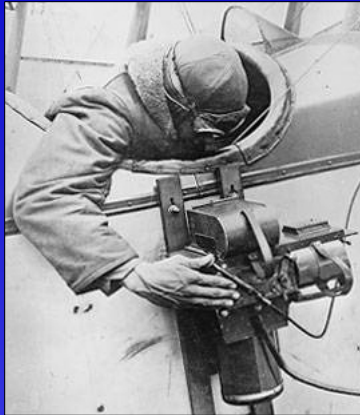
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Governor's Conference on the Management of the
Illinois River System

October 4-6, 2005



Illinois' Digital Past – Introduction

“Through the aerial photograph, the landscape revealed to the camera lens is translated into visual language. The visual message is universal, direct, immediate, easily understood, always available for re-examination, and independent of secondary sources. The aerial photograph captures scenes and events that have vanished with time, and the testimony it embodies is unassailable...The scene that appears in a single aerial photograph is a link in the chain of the landscape's ever-changing and ever-evolving history; there is a story that preceded it, and another one that followed it.”

From: Historical Aerial Photograph Collection of Israel,
Department of Geography, The Hebrew University of Jerusalem

Illinois' Digital Past – Introduction



On May 12, 1933, President Franklin Roosevelt signed into law the Agriculture Adjustment Act, which was originally administered by the United States Department of Agriculture, Agricultural Adjustment Administration (now the USDA-FSA).

Since the mid-1930s, the USDA has periodically acquired statewide aerial photography. In the 1980s, all of the original 7x9 and 9x9-inch silver nitrate negatives for Illinois' oldest aerial photography were destroyed at the National Archives.

Prior to the destruction of the original negatives, the National Archives did make copy negatives, but these are of very poor quality and essentially useless. Therefore, photographic paper prints made from the original negatives remain as the only primary record of this earliest aerial photography for Illinois.

1938 Pulaski County, Illinois
Example of a contact photographic print
made from the original nitrate negative

AAA-120,000 BHA-1-81

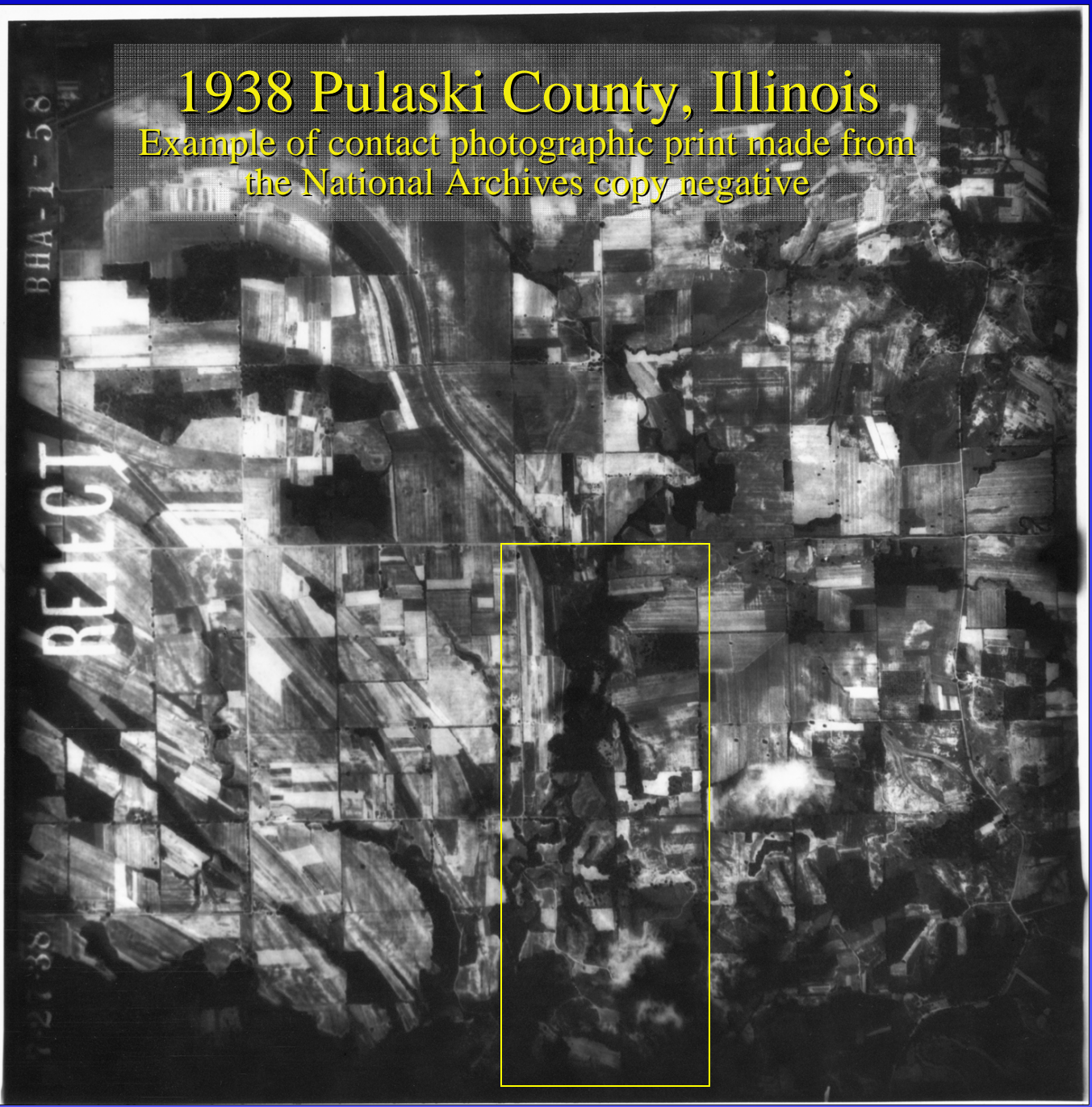
8-23-38 10.55



Full Scale Enlargement



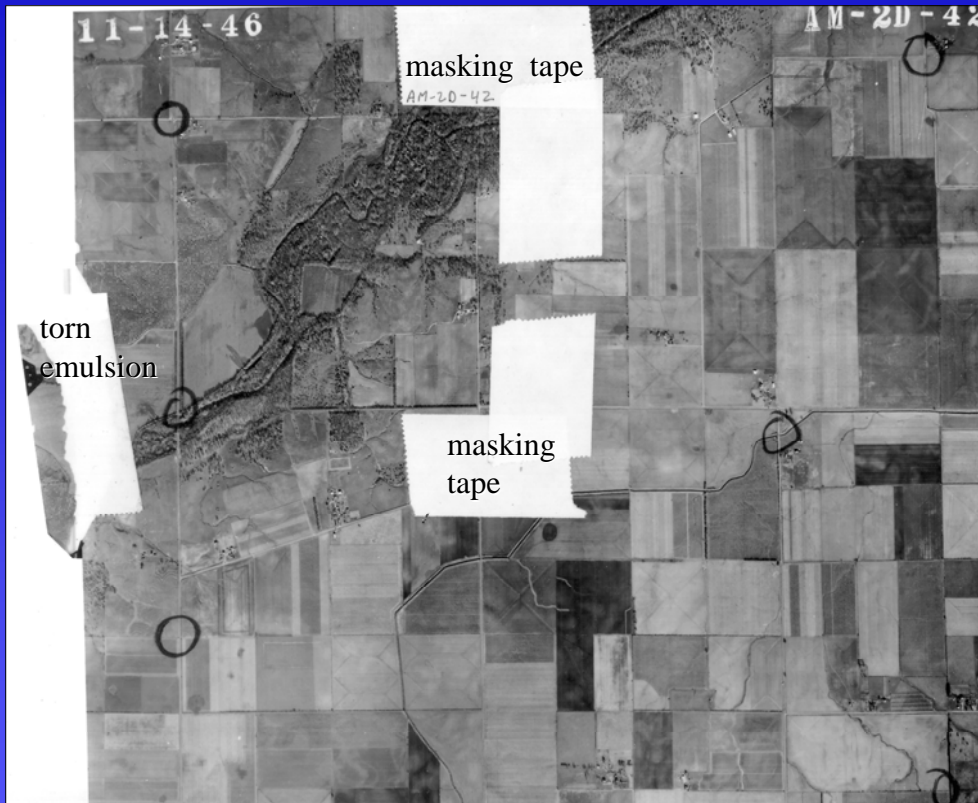
1938 Pulaski County, Illinois
Example of contact photographic print made from
the National Archives copy negative



Full Scale Enlargement



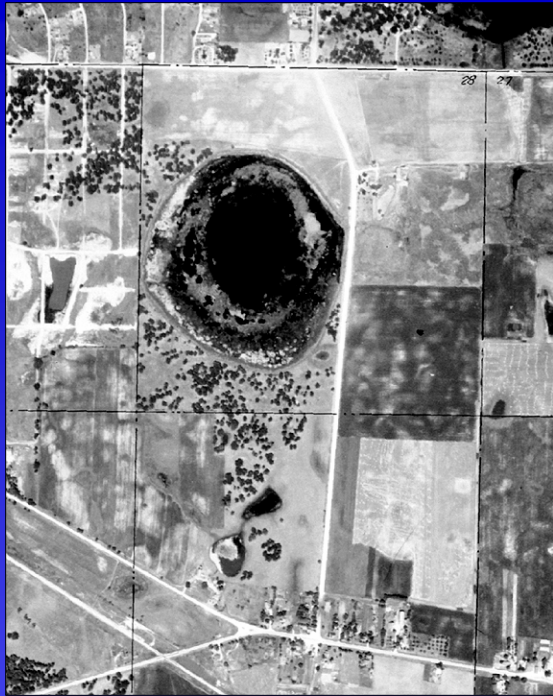
Illinois' Digital Past



Masking tape affixed to a 1946 aerial photograph, resulting in tearing away of the emulsion when it was removed.



Portion of a 1939 aerial photograph defaced with numerous pencil lines and annotation.



Cranberry Lake and Marsh
Round Lake Beach
Lake County, Illinois

July 1939

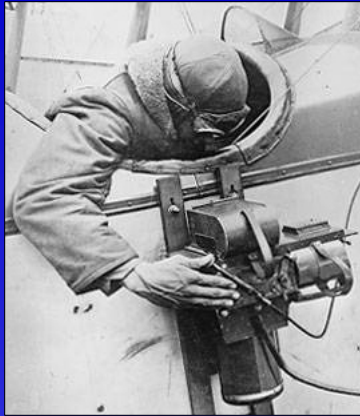


April 1999

In Illinois, the first-time, statewide coverage of the USDA-AAA aerial photography was acquired primarily during the period of 1938-1941. It is now widely recognized as a unique record of the cultural and physical landscapes of Illinois.

USDA-AAA aerial photography is intensively used by government agencies, surveyors, planners, consulting scientists and engineers, and other individuals for diverse purposes ranging from determination of past land uses, as a foundation for restoration projects of natural areas, assessing historical changes, and a variety of other resource applications.

A detailed state listing of federal aerial photography is available on-line at the USDA Aerial Photography Field Office, and the original film for Illinois statewide aerial photography extending back to 1955 is also archived at the USDA-APFO (<http://www.apfo.usda.gov/>).



Sample county listing from the USDA-APFO Film Catalog. Digitization of the original aerial photography film listed below is a standard APFO data product and is made available for a fee on CD, DVD and other media. (<http://www.apfo.usda.gov/filmcatalogs/il.pdf>)

ALEXANDER COUNTY

FRONT AND WEST; TAMMS, IL 62988-0158

Telephone Number: (618) 747-2305

17003 (BFZ) Square Mile Land Use: 248

PROG	%COV	YEAR	RES SCL	BND FILM FMT	QTY	RECT	REMARKS
NAPP3	100	1998	40	BW		N	
NAPP2	100	1996	40	BW		N	
NRCS	100	1993	40	BW	LI	1	N PROJECT SHEET 7
NAPP1	100	1988	40	CIRP	SI	1	Y
NHAP1	100	1982	60	CIRP			N
FSA	100	1980	40	BW	PI	4	N 2320
FSA	100	1971	20	BW	PI	2	N 2319
FSA	100	1965	20	BW	PI	4	N 2318
SCS	100	1960	8	BW	PI	1	N HORSESHOE LAKE
SCS	100	1960	10	BW	PI	1	N BROWNSVILLE CREEK
FSA	100	1959	20	BW	PI	1	N 2317
FSA	100	1956	20	BW	PI	1	N 2316

Illinois Historical Aerial Photography Digital Archive Project

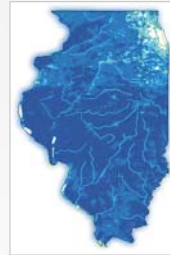
2001: Digital preservation project initiated by the Illinois Department of Natural Resources and the Illinois Department of Transportation to scan the 1936-1941 aerial photography for 25 Illinois counties.



Office of Realty and Environmental Planning



Office of Resource Conservation



Office of Water Resources



Illinois Department of Transportation



US Army Corps of Engineers®

2003: USACE-Rock Island District provided funding to develop the Illinois Historical Aerial Photography (ILHAP) website, establishing on-line access to the digital archive.

2004-2005: Federal IMLS National Leadership Grant awarded to ISL and ISGS for extending the ILHAP digital archive and website enhancements, and to establish standards.

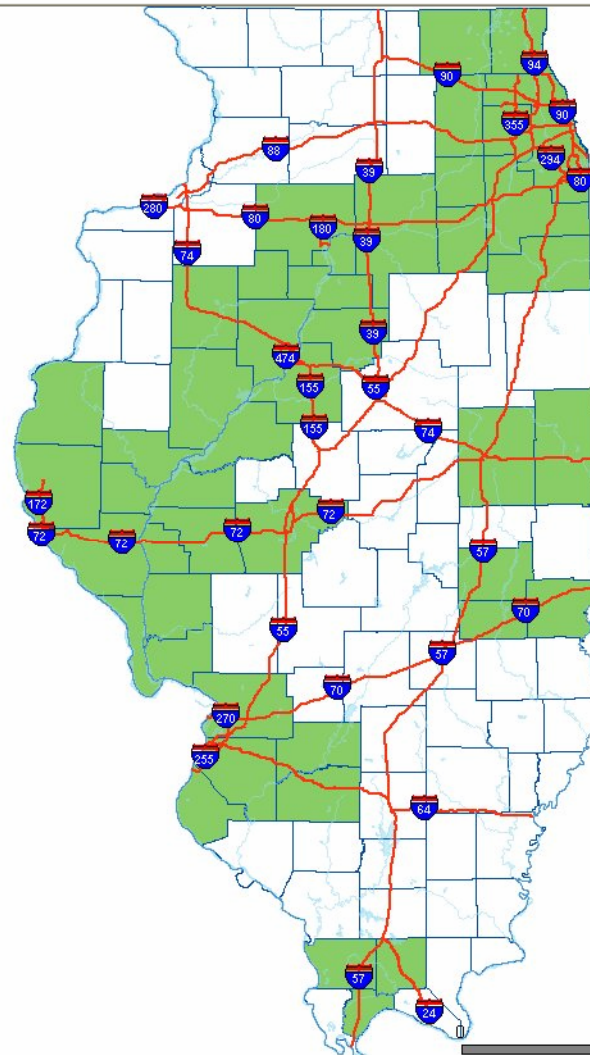


July 15, 2005: Submission of proposal to NEH Grants to Preserve and Create Access to Humanities Collections.

- Overview Map
- Zoom In
- Zoom Out
- Pan
- Previous Extent
- Zoom Full Extent
- Select Multiple
- View One Photo
- Clear Selection
- Print
- Legend or Layers

ILHAP Project Status

- Digitization completed for 15,915 of Illinois' oldest statewide aerial photographs (45 counties)
- On-line Internet access is available through the ISGS Clearinghouse website at the URL address shown below
- Since the ILHAP website was established in late 2003, there have been over 2 million photos viewed or downloaded
- Digitization of 5,300 additional photos (14 counties) is needed to complete a digital archive of the oldest statewide aerial photographs for the entire Illinois River Basin



Layers

Visible Active

- Interstates
- Rivers & Streams
- Project Counties
- Open Water

Refresh Map

Access Illinois Historical Aerial Photography by County

Digital versions of ILHAP photographic paper prints are available by county as MrSID compressed <filename>.sid files, which can be saved to your desktop. Alternatively, the .sid files may be viewed either with your Web browser, after the installation of a plug-in, or an image viewer. LizardTech [MrSID Plug-Ins and Viewers](#) are available free of charge; download the ExpressView Browser Plug-in or the MrSID Viewer. Please read the Illinois DNR digital data [License Agreement](#) before you proceed.

You will also need [ihapmeta.zip](#), which contains the following:

- [ihap_gen](#), overall metadata for the county aerial photograph collections.
- [ihap_nav](#), generic metadata for the county index data layers.
- [l_index](#), metadata for the schematic (line) indexes.
- [p_index](#), metadata for the photo mosaic indexes.

Individual prints are organized in tables by county; table cells containing the files which best delineate the county boundary are highlighted in light blue. Flight lines for each county are oriented either west to east or north to south. Identical exposure numbers occur within a table because exposures are further classified in the file name by roll number.

Links for each scanned print are displayed in the county tables by exposure number; the shape of the county will be distorted in the flight line direction. Prints located well outside the county boundary were not scanned; refer to the adjacent county to obtain photographs of the subject area. Prints that are unavailable within a county boundary were missing from all known photograph collections at the time of scanning.

ILHAP Scanned Prints are Available for Viewing and Download for 45 Counties

- 1938 - [Adams](#)
- 1938 - [Brown](#)
- 1941 - [Bureau](#)
- 1940 - [Calhoun](#)
- 1938 - [Cass](#)
- 1940 - [Champaign](#)
- 1938 & 1939 - [Clark](#)
- 1938 - [Clinton](#)
- 1938 & 1939 - [Coles](#)
- 1938 & 1939 - [Cook](#)
- 1939 - [Cumberland](#)
- 1939 - [DuPage](#)
- 1938 - [Fulton](#)
- 1937 - [Greene](#)
- 1940 - [Grundy](#)
- 1938 - [Hancock](#)
- 1941 - [Jersey](#)
- 1938 - [Johnson](#)
- 1939 - [Kane](#)
- 1939 - [Kankakee](#)
- 1939 - [Kendall](#)
- 1940 - [Knox](#)
- 1939 - [Lake](#)
- 1939 - [LaSalle](#)
- 1939 - [McHenry](#)
- 1941 - [Madison](#)
- 1939 - [Marshall](#)
- 1939 - [Mason](#)
- 1940 - [Monroe](#)
- 1941 - [Morgan](#)
- 1939 - [Peoria](#)
- 1939 - [Pike](#)
- 1938 - [Pulaski](#)
- 1939 - [Putnam](#)
- 1940 - [St. Clair](#)
- 1938 & 1939 - [Sangamon](#)
- 1938 - [Schuyler](#)
- 1941 - [Scott](#)
- 1938 - [Stark](#)
- 1939 - [Tazewell](#)
- 1938 - [Union](#)
- 1940 - [Vermilion](#)
- 1938 - [Washington](#)
- 1939 - [Will](#)
- 1939 - [Woodford](#)



Reference indexes for each county are housed at the University of Illinois Map and Geography Library. These indexes are either hand-drawn representations of approximate print locations (line index), or photograph-mosaics of the prints flown for a single county (photo index). Compressed digital versions of these indexes are available for download or viewing on the Web Pages listed above. These indexes can be difficult to interpret. The majority of counties are depicted on one index sheet, but some counties are divided into multiple sheets.

Index data layers for each county are also offered in ESRI Shapefile format on the Web Pages listed above. These indexes contain record-level metadata for each photograph, including digital file name, flight line, county name, USDA county code, roll and exposure numbers, agency which contributed the original photographic paper print for scanning, date flown, time flown (if available), CD-ROM on which the original file is stored at the ISGS, and any additional notes.

This clearinghouse is maintained by the Illinois State Geological Survey.

Historical Aerial Photography for Peoria County, Illinois



ILHAP County Code: BXF
Flightline Orientation: West to East
Number of Flightlines: 17
Year of Photography: 1939

Line Index: [Peoria](#) (8.9 Mb)
Photo Index: [Peoria NW](#) (4.1 Mb)
Photo Index: [Peoria NE](#) (3.7 Mb)
Photo Index: [Peoria S](#) (3.7 Mb)

Index Data: [peoria.zip](#)

- Highlighted table cells indicate files that best delineate the county boundary.
- The shape of the county is distorted in the flight line direction.
- Links are displayed by exposure number.
- File names include codes for county, roll number, and exposure number.

Flightline	West to East																																
1	153	152	151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123		
2	154	155	156	157	158	159	160	161	162	163	164	165	163	162	161	160	159	158	157	156	155	122	121	120	119	118	117	116	115	114	113	112	
3	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	62	63	64	65	66	67			
4	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	54	55	56	57	58	59	60	61	71	70	69	68	67	66	65		
5	27	28	29	30	31	32	33	34	35	36	37	38	39	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64				
6	50	49	48	47	46	45	44	43	42	41	40	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113		
7	96	97	98	99	100	101	102	21	22	23	24	25	26	103	104	105	106	107	108	109	110	111	112	113	114	115							
8	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70							
9	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1								
10	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69								
11	171	170	169	168	167	166	165	164	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133							
12	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48										
13	14	13	12	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	
14	11	10	9	8	7	6	5	4	3	2	1	25	24	23	22	21	20	19	18	17	16												
15																																	
16																																	
17																																	

This clearinghouse is maintained by the Illinois State Geological Survey.

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UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL ADJUSTMENT ADMINISTRATION
 NORTH CENTRAL DIVISION

PEORIA COUNTY, ILLINOIS

SHEET 2 OF 3

DESIGNATING SYMBOL BXF * CONTRACT NO. 19146
 ITEM 4 - USDA 5053

DATE OF COMPLETION AUGUST 23, 1939

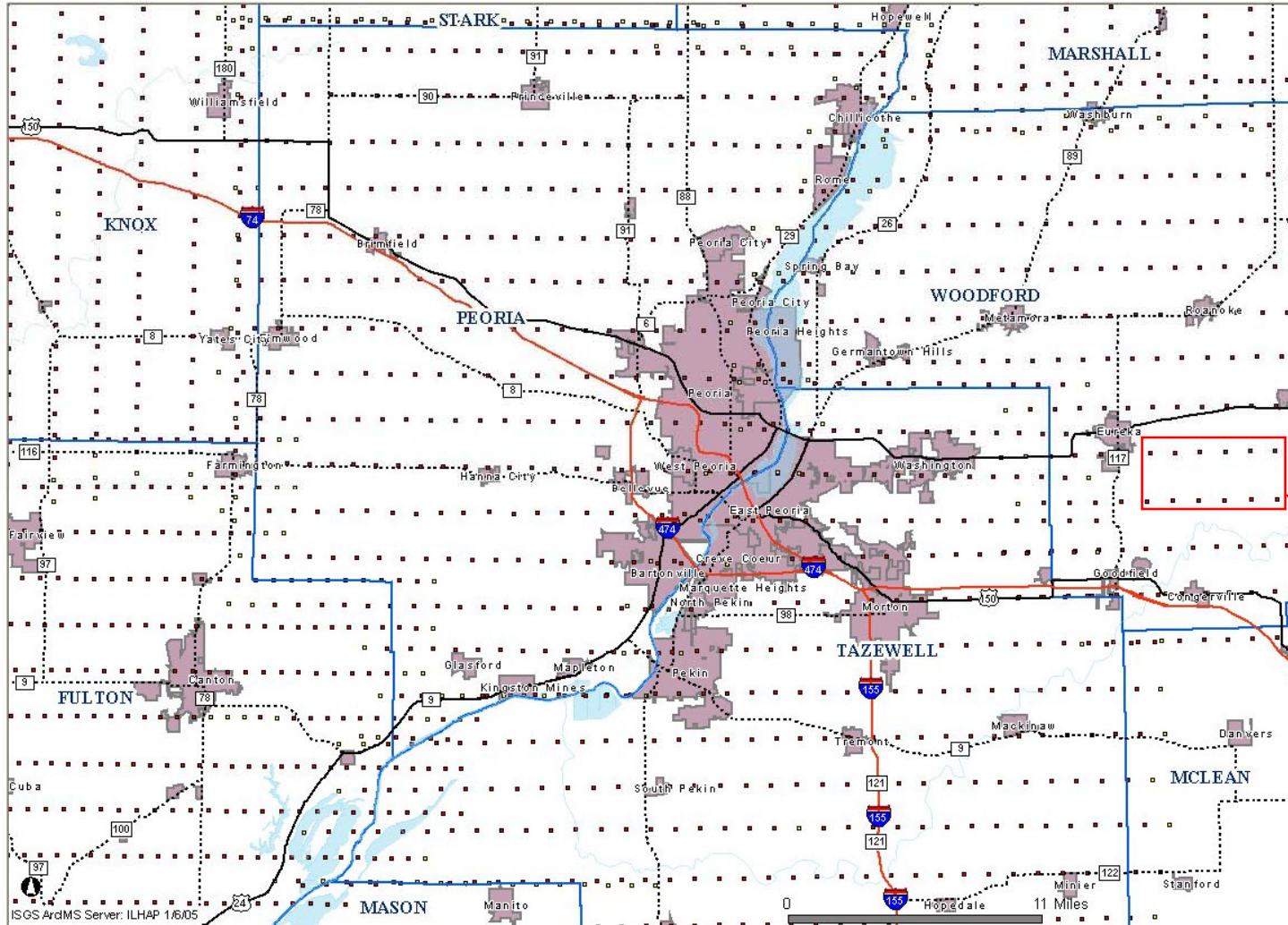
CONTRACTOR-IOWA AERIAL SURVEYS, DES MOINES.
 SUBCONTRACTOR-MIDWEST AERIAL SURVEYS, INC.
 DES MOINES, IOWA



SCALE OF PHOTOGRAPHY 1:20,000

DATE INDEX COPIED-9-1-39

- Overview Map
- Zoom In
- Zoom Out
- Pan
- Previous Extent
- Zoom Full Extent
- Select Multiple
- View One Photo
- Clear Selection
- Print
- Legend or Layers



Layers

Visible Active

- Interstates
- US Highways
- State Routes
- Rivers & Streams
- Counties
- 1938-1941 Photo Centers
- Open Water
- Municipalities
- USGS Topo Map Index

Refresh Map

Photo Centers

1938-1941 Photo Centers is now the Active Layer

ArcIMS interactive webpage from ILHAP website

<http://www.isgs.uiuc.edu/nsdihome/webdocs/ilhap/>

Peoria Lake and Environs — April 1998 and July 1939



1938-1941 Photo Centers

(yyyymmdd)	Image Time	Flight Line	Roll-Exposure	Collection	CD Number	View or Download
	no stamp	3	4-97	DWR	4	tazewell/flight3/0bxi04097
	no stamp	11	1-135	P. Co.	20	peoria/flight11/0bxi01135

[Zoom to these records](#)

Peoria Lake and Environs, Peoria-Tazewell Counties
July 8, 1939

7-8-39SECRET



Rice Lake State Fish & Wildlife Area — April 1998 and July 1939

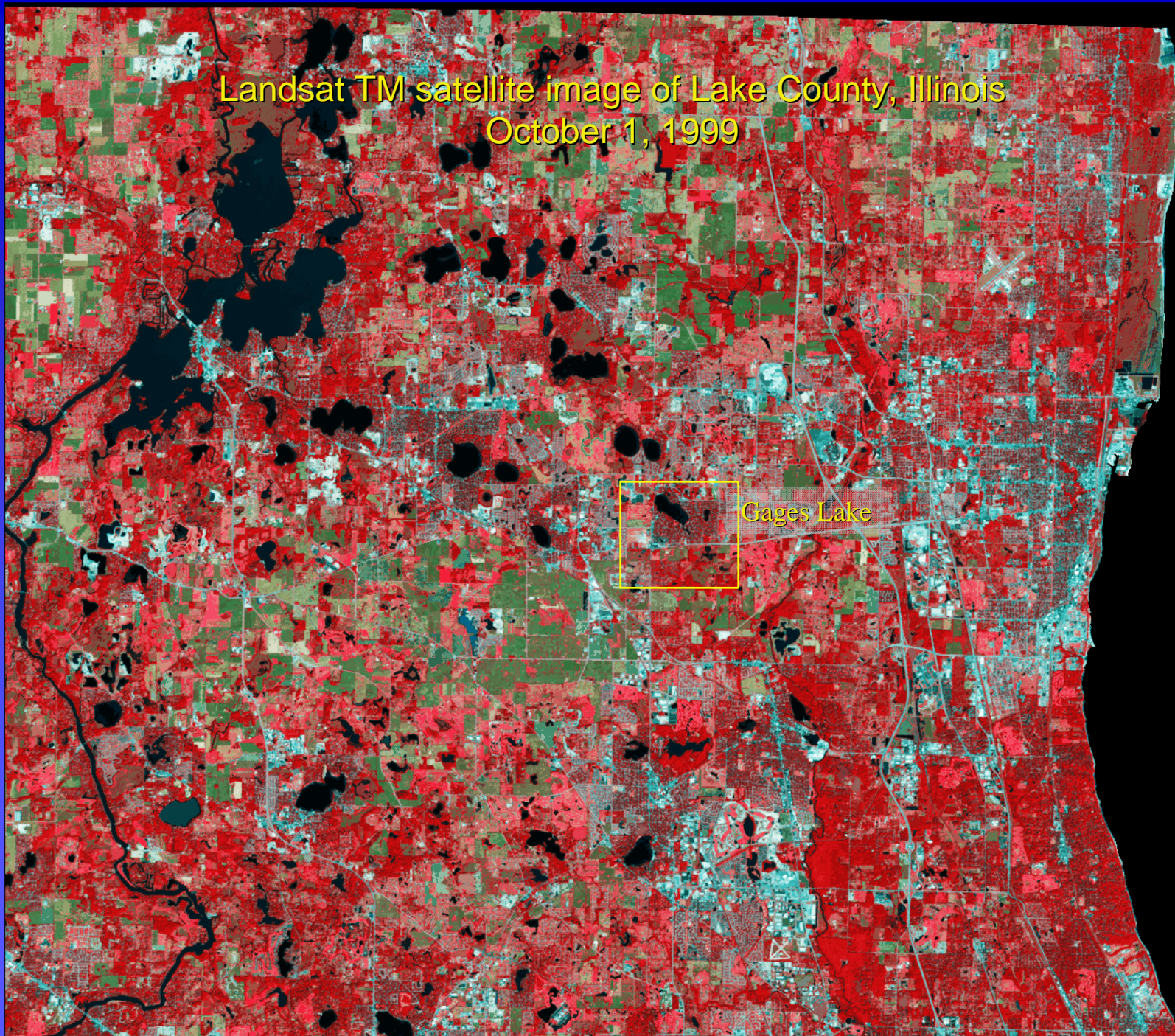


Rice Lake State Fish & Wildlife Area — July 1939



Landsat TM satellite image of Lake County, Illinois
October 1, 1999

Gages Lake

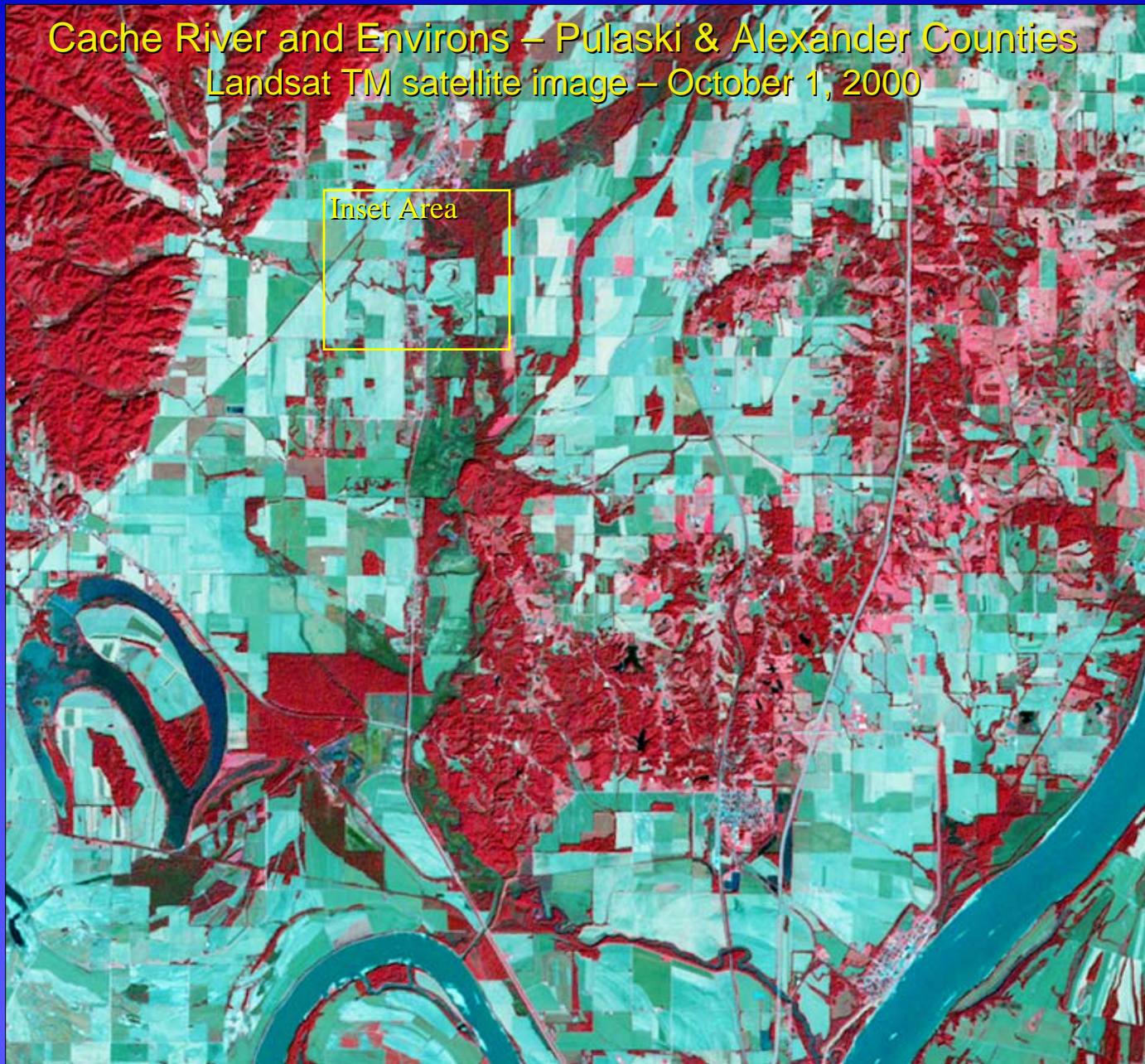


Gages Lake and Environs – Lake County, Illinois

1939-1999 Comparison



Cache River and Environs – Pulaski & Alexander Counties
Landsat TM satellite image – October 1, 2000

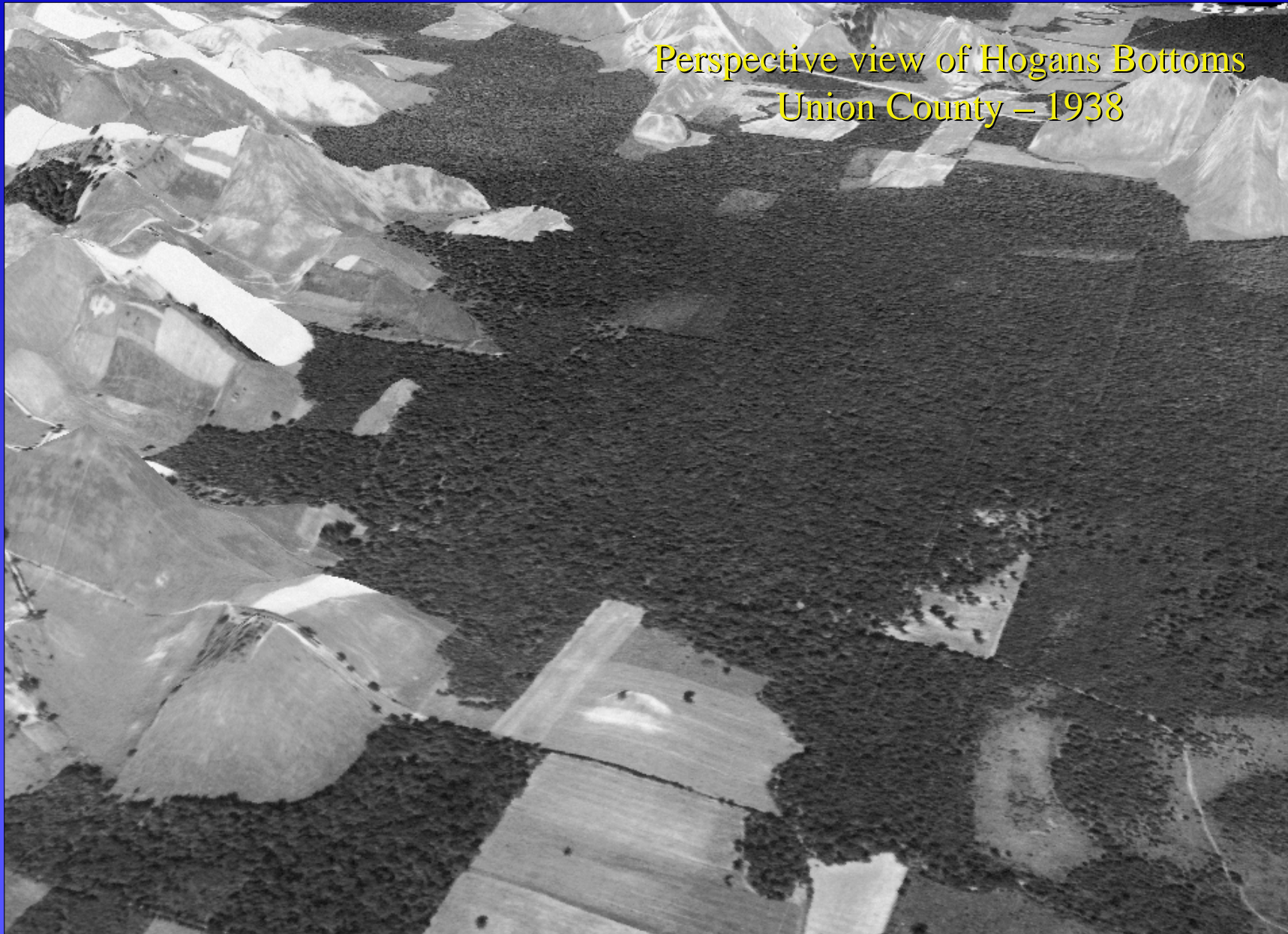


Cache River and Environs – Pulaski & Alexander Counties
August 23, 1938



Perspective view of Hogans Bottoms
Union County – 1998





“The rate of deforestation in southern Illinois during the early part of the 20th century rivals, and in some areas surpasses that of tropical deforestation occurring today.” (Illinois Department of Natural Resources)